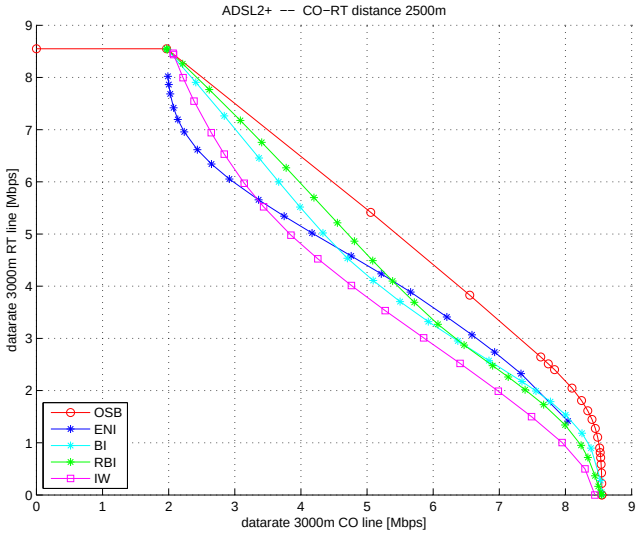
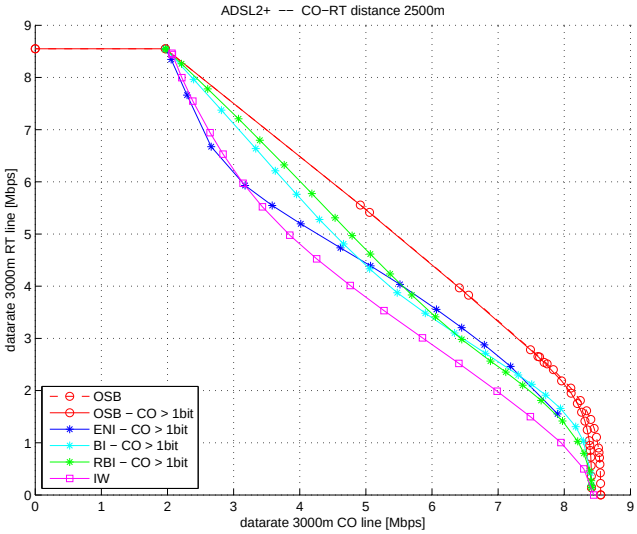
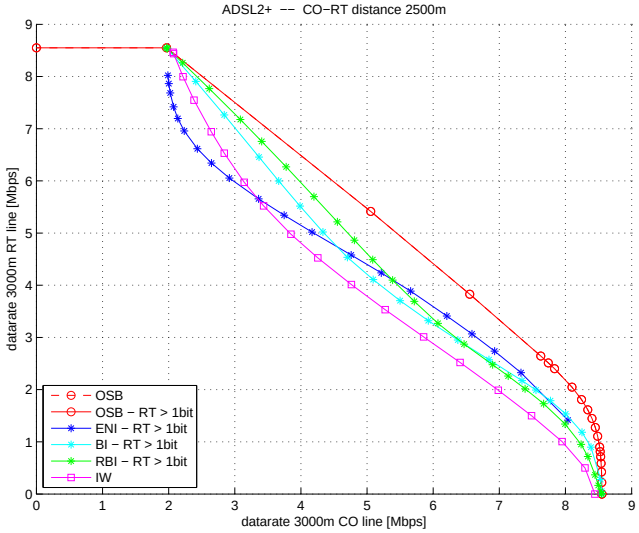
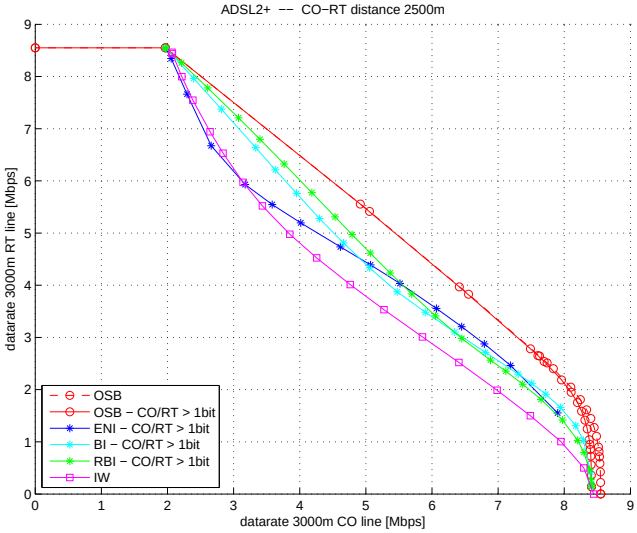
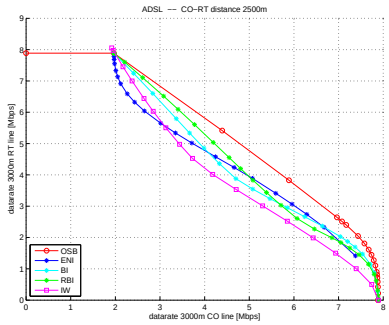

3000m
CO
2500m
500m
RT
3000m

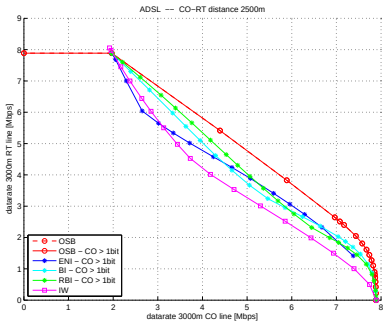

ADSL2+ -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

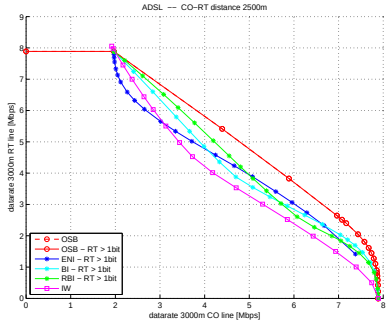

ADSL2+ -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

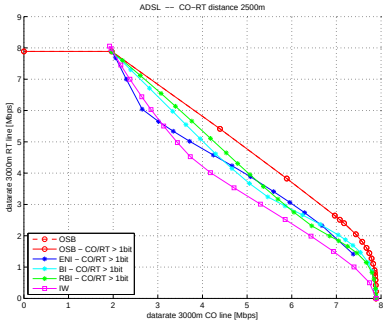

ADSL2+ -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

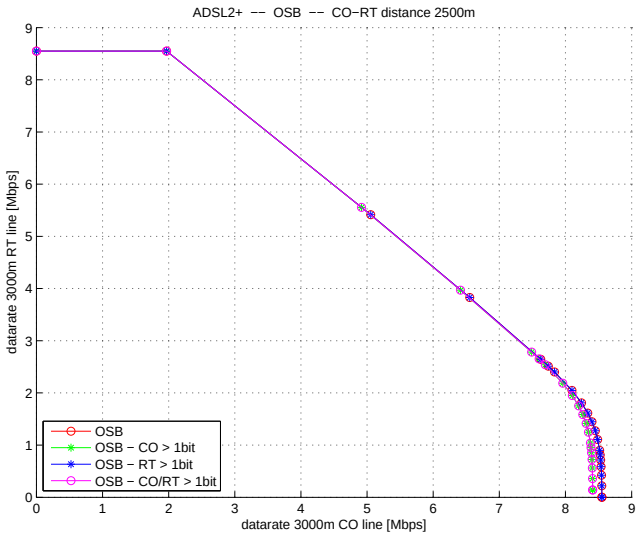

ADSL2+ -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

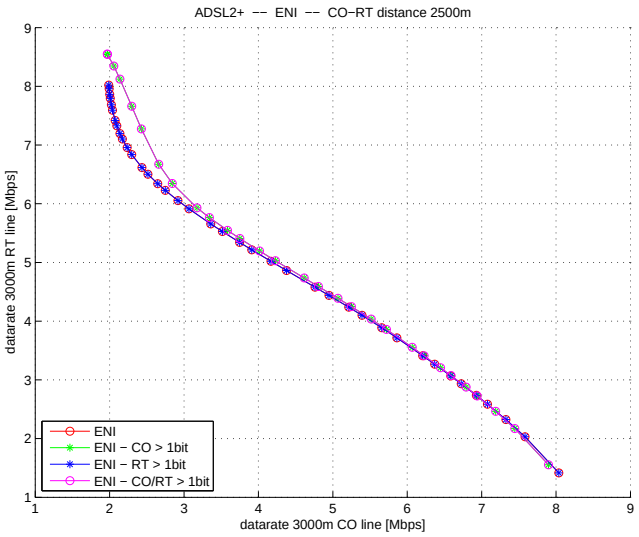

ADSL -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

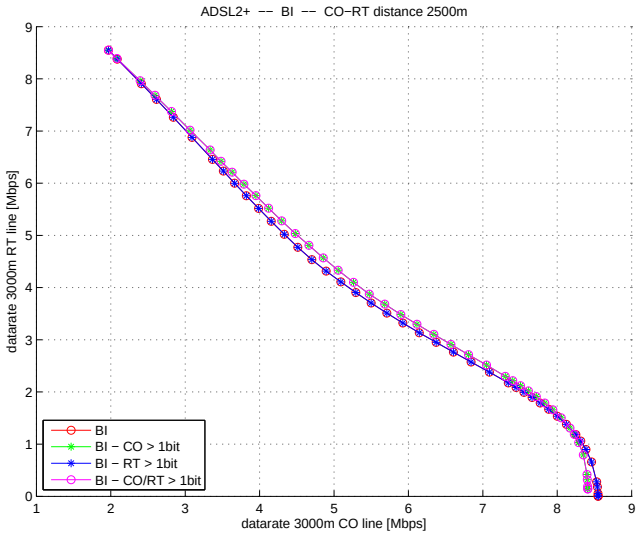

ADSL -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

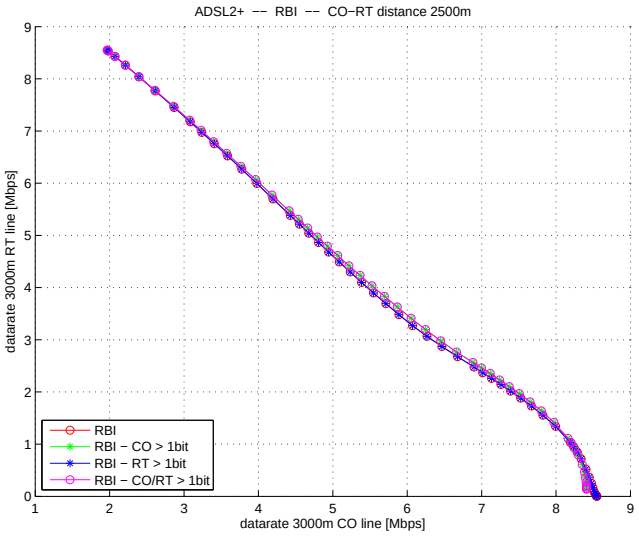

ADSL -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

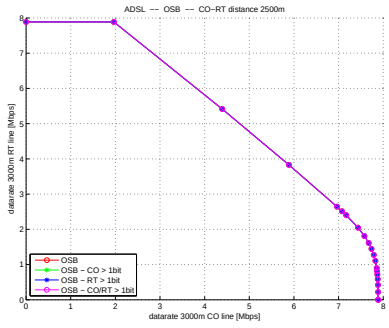

ADSL -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

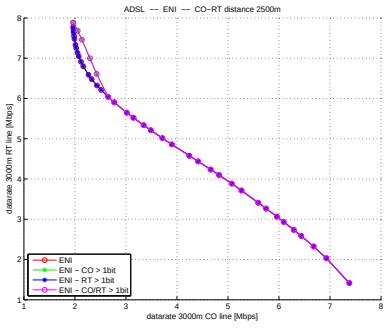

ADSL2+ -- OSB -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

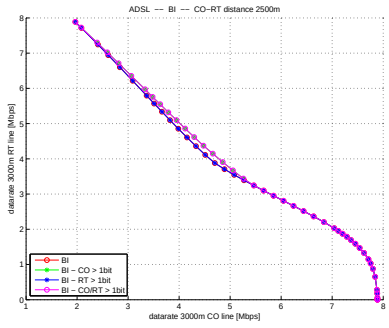

ADSL2+ -- ENI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

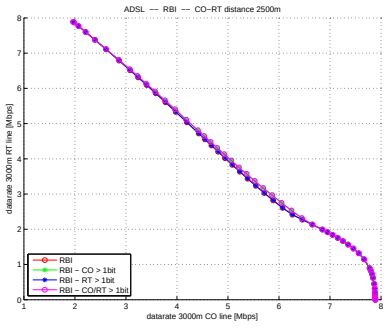

ADSL2+ -- BI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

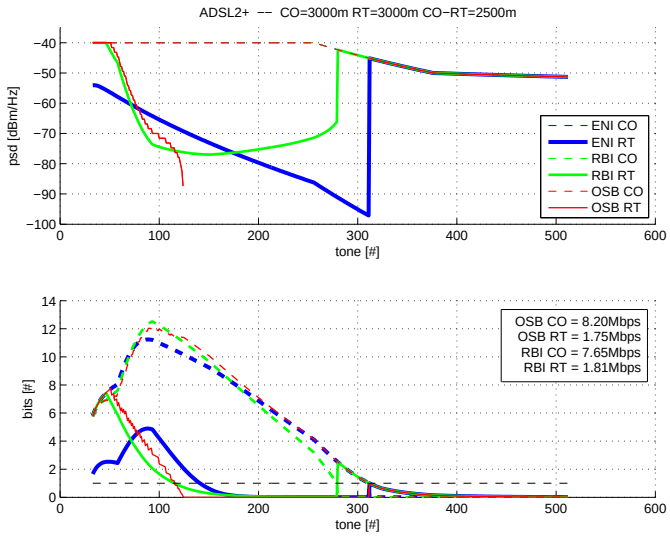

ADSL2+ -- RBI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

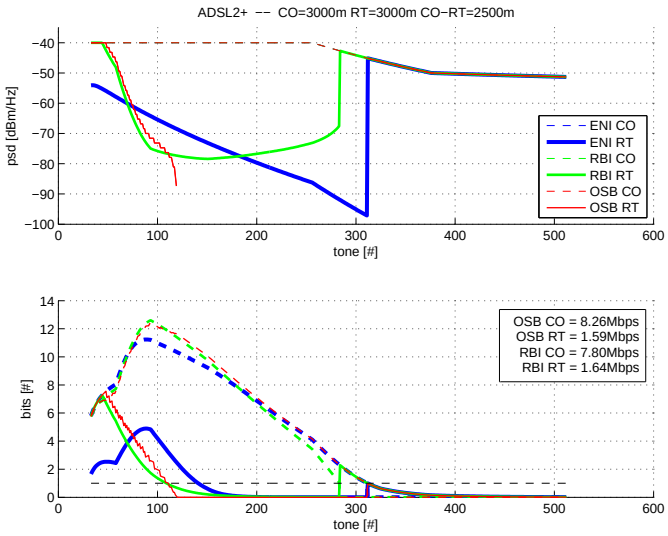

ADSL -- OSB -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

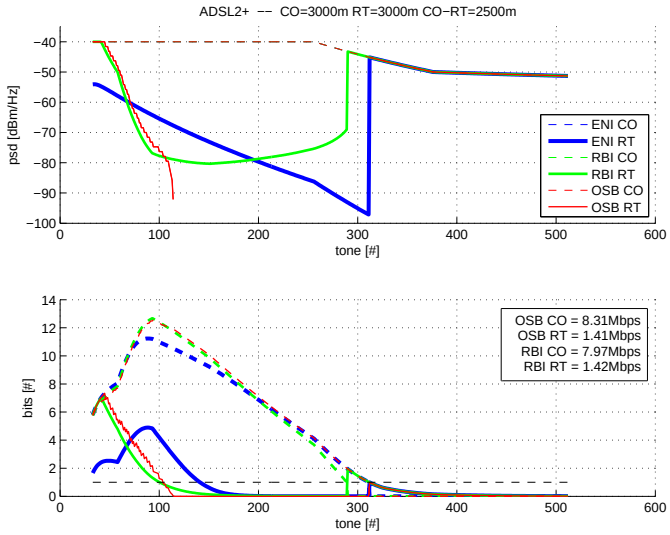

ADSL -- ENI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

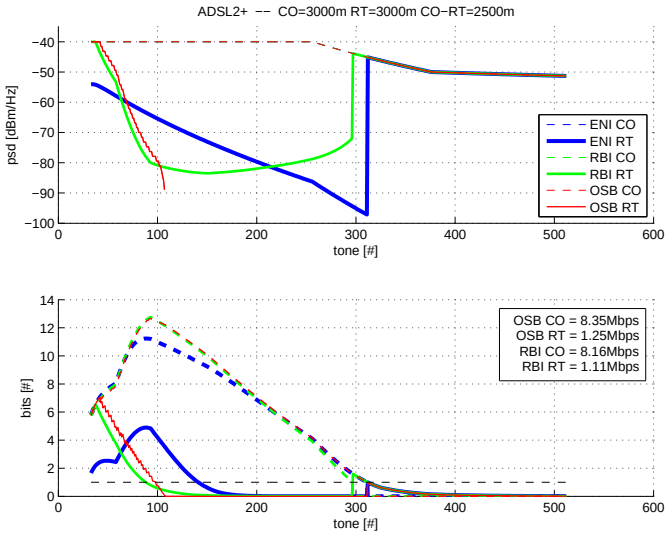

ADSL -- BI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

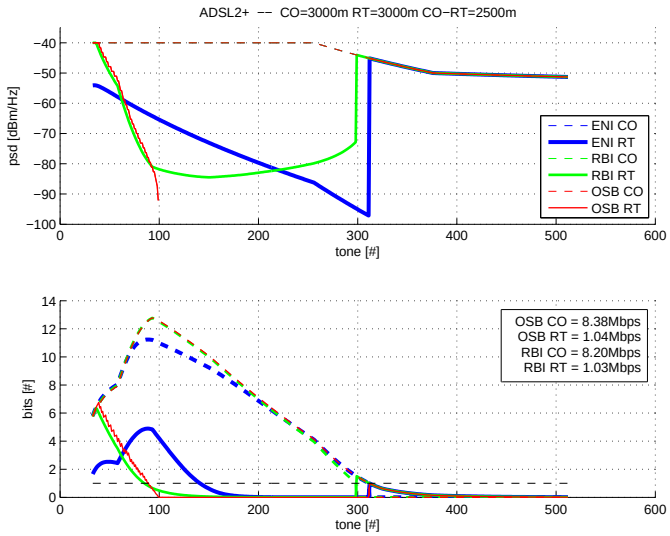

ADSL -- RBI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

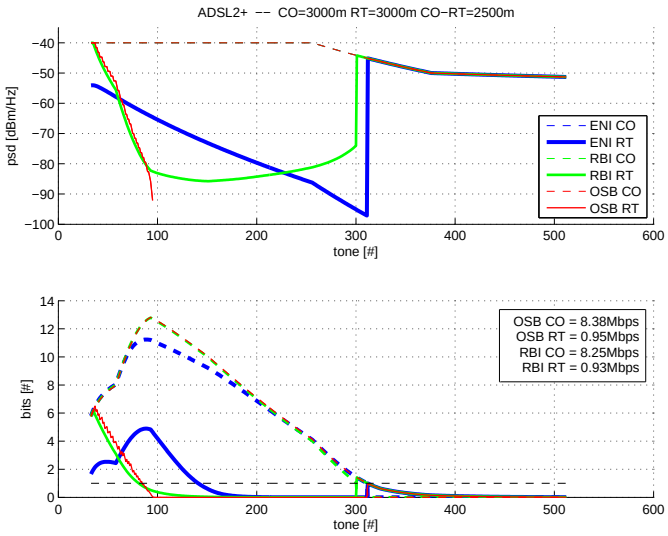

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.20Mbps
OSB RT = 1.75Mbps
RBI CO = 7.65Mbps
RBI RT = 1.81Mbps

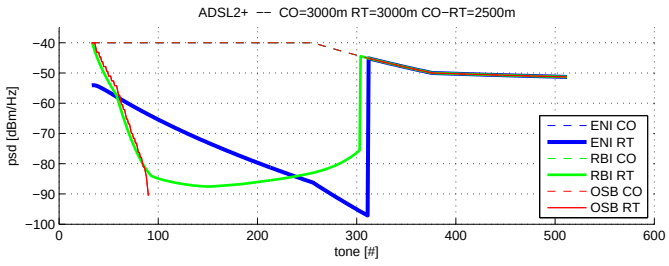

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.26Mbps
OSB RT = 1.59Mbps
RBI CO = 7.80Mbps
RBI RT = 1.64Mbps

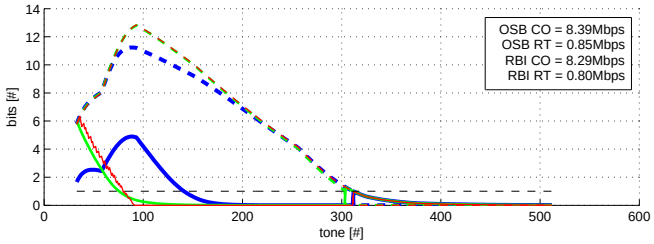

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.31Mbps
OSB RT = 1.41Mbps
RBI CO = 7.97Mbps
RBI RT = 1.42Mbps

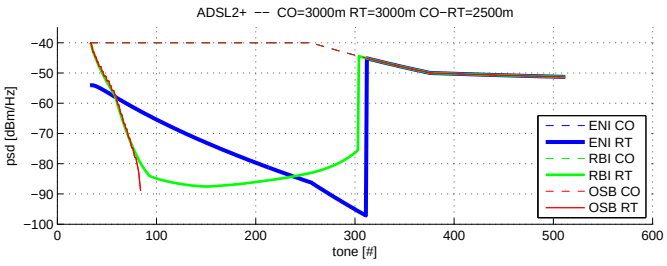

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.35Mbps
OSB RT = 1.25Mbps
RBI CO = 8.16Mbps
RBI RT = 1.11Mbps

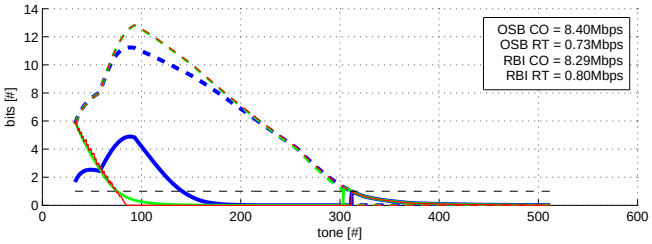

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.38Mbps
OSB RT = 1.04Mbps
RBI CO = 8.20Mbps
RBI RT = 1.03Mbps

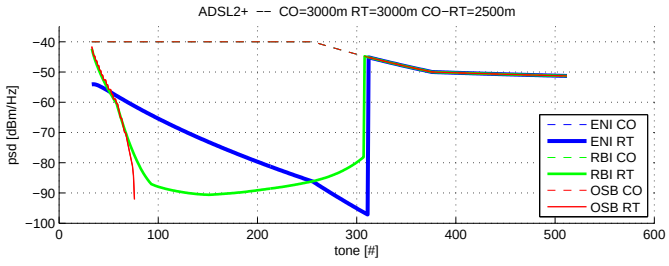

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.38Mbps
OSB RT = 0.95Mbps
RBI CO = 8.25Mbps
RBI RT = 0.93Mbps

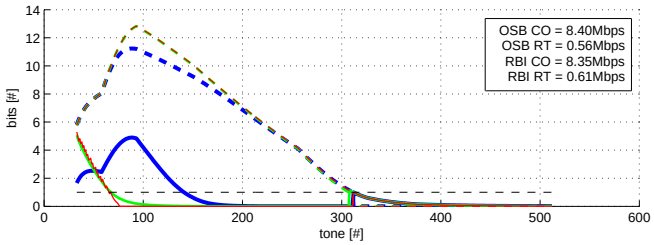

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

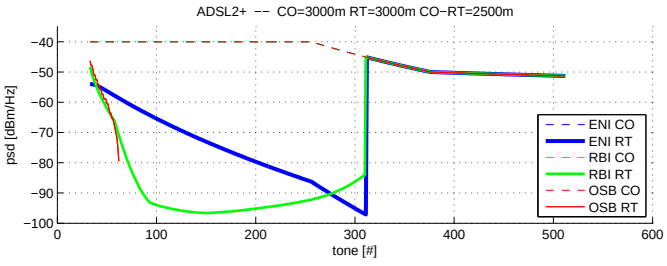

bits [#]
tone [#]
OSB CO = 8.39Mbps
OSB RT = 0.85Mbps
RBI CO = 8.29Mbps
RBI RT = 0.80Mbps

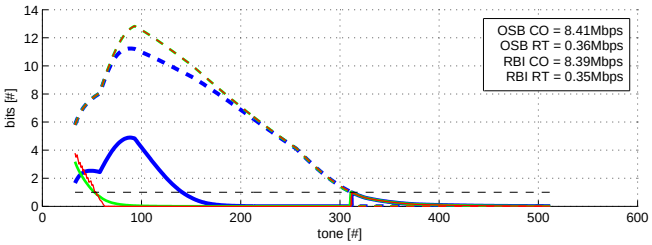

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

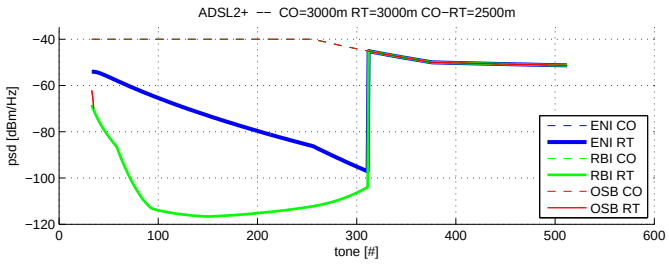

bits [#]
tone [#]
OSB CO = 8.40Mbps
OSB RT = 0.73Mbps
RBI CO = 8.29Mbps
RBI RT = 0.80Mbps

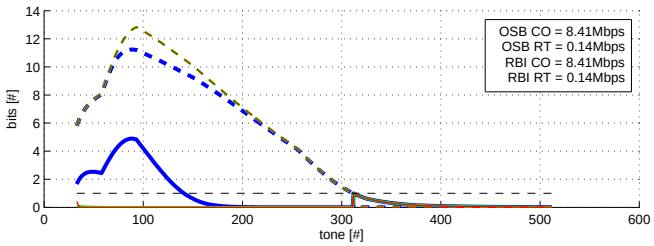

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

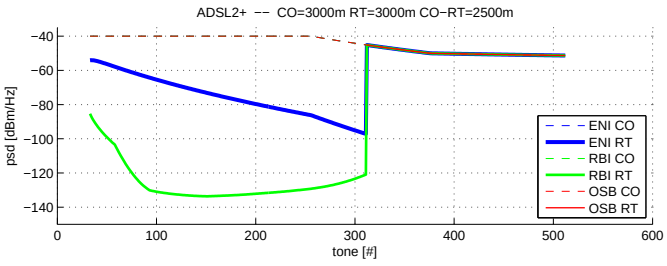

bits [#]
tone [#]
OSB CO = 8.40Mbps
OSB RT = 0.56Mbps
RBI CO = 8.35Mbps
RBI RT = 0.61Mbps

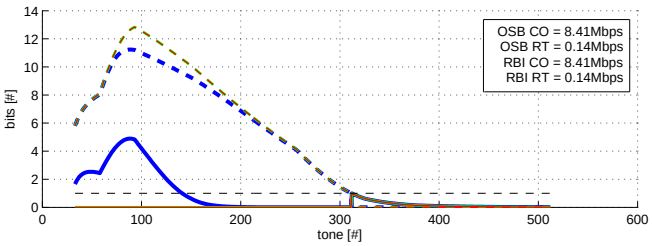

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

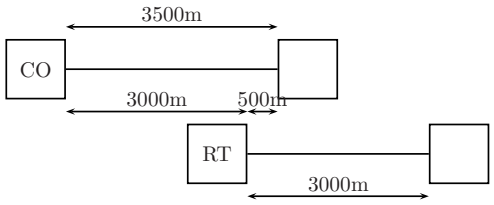

bits [#]
tone [#]
OSB CO = 8.41Mbps
OSB RT = 0.36Mbps
RBI CO = 8.39Mbps
RBI RT = 0.35Mbps

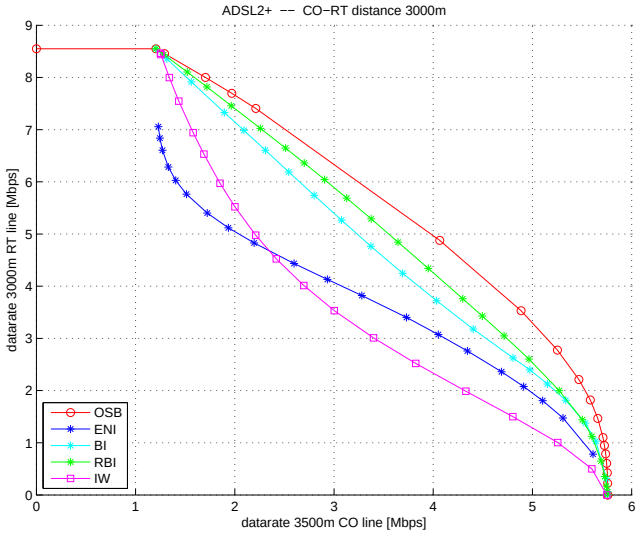

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

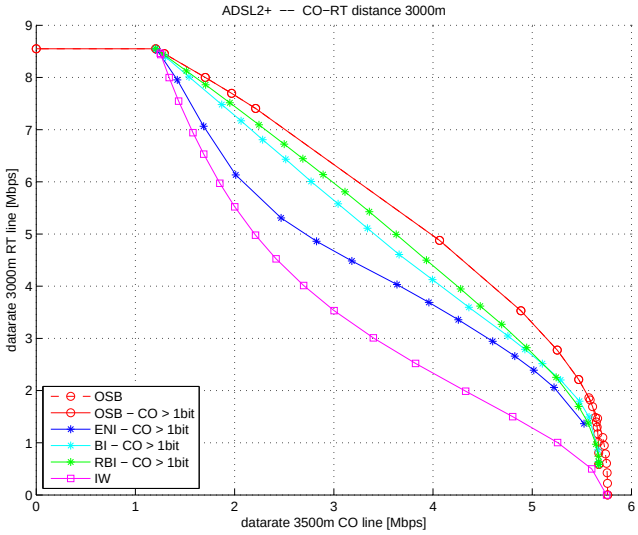

bits [#]
tone [#]
OSB CO = 8.41Mbps
OSB RT = 0.14Mbps
RBI CO = 8.41Mbps
RBI RT = 0.14Mbps

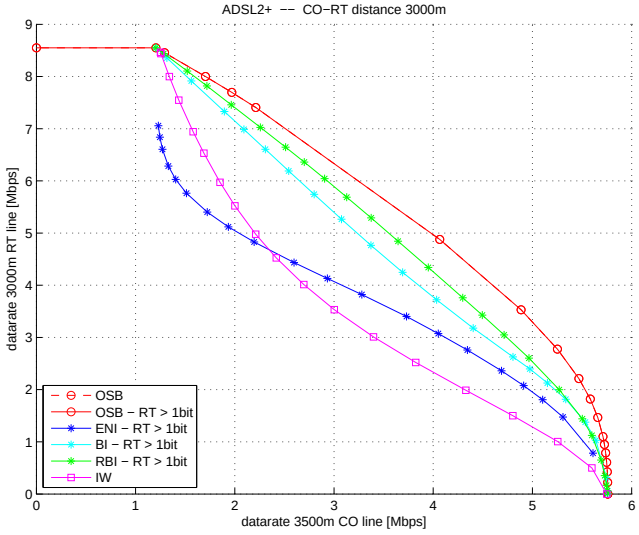

ADSL2+ -- CO=3000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

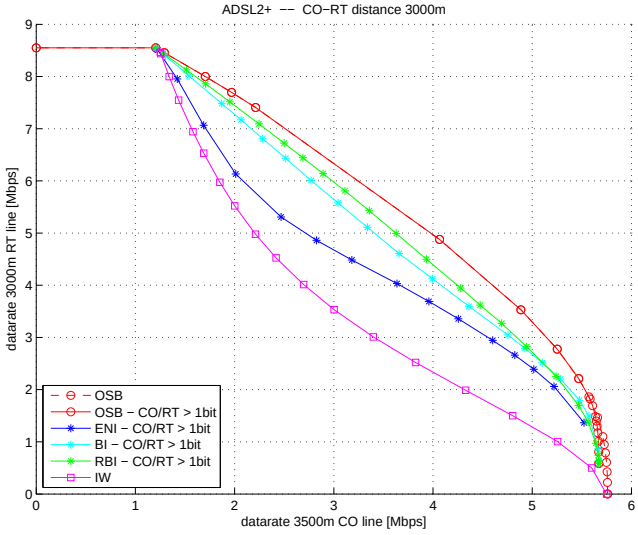

bits [#]
tone [#]
OSB CO = 8.41Mbps
OSB RT = 0.14Mbps
RBI CO = 8.41Mbps
RBI RT = 0.14Mbps

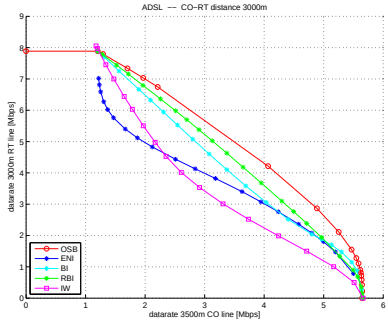

3500m
CO
3000m
500m
RT
3000m

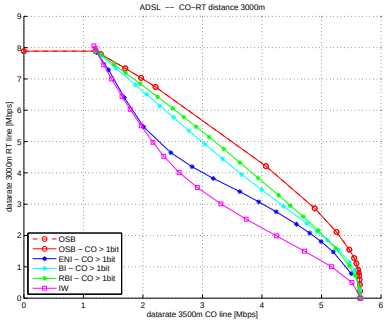

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

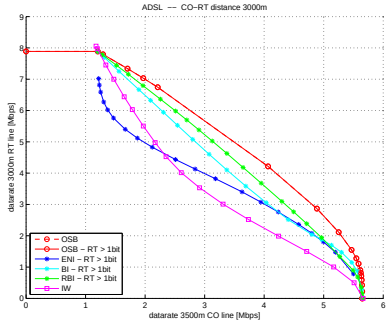

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

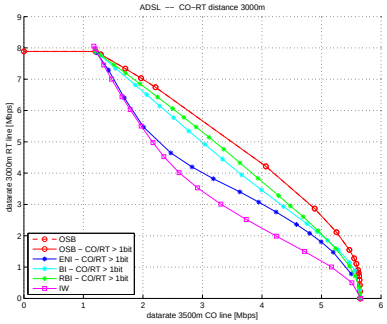

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

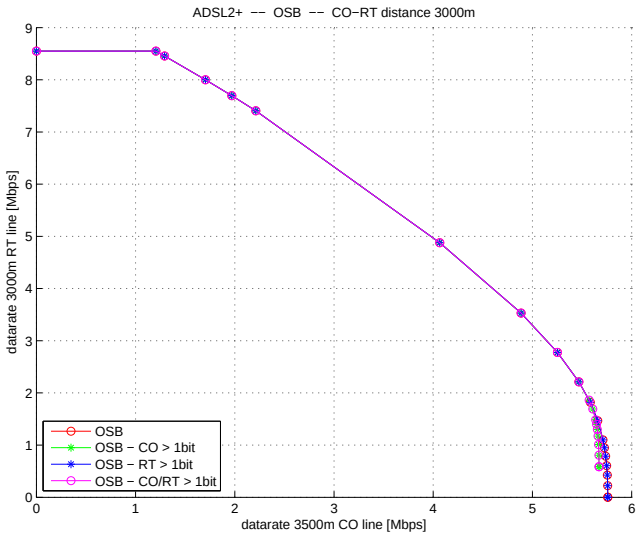

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

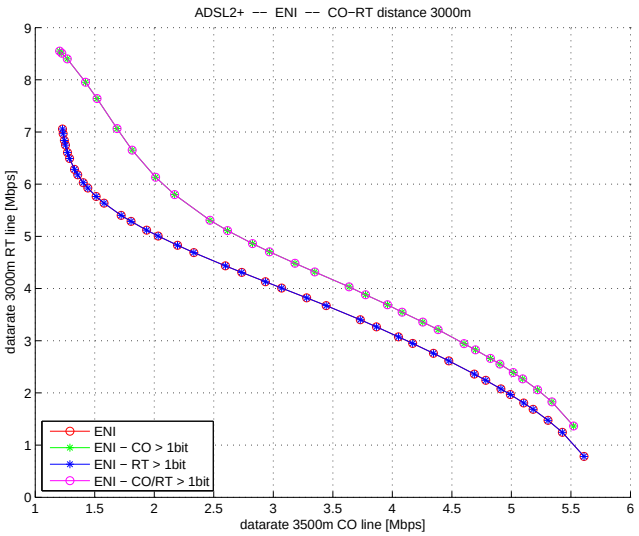

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

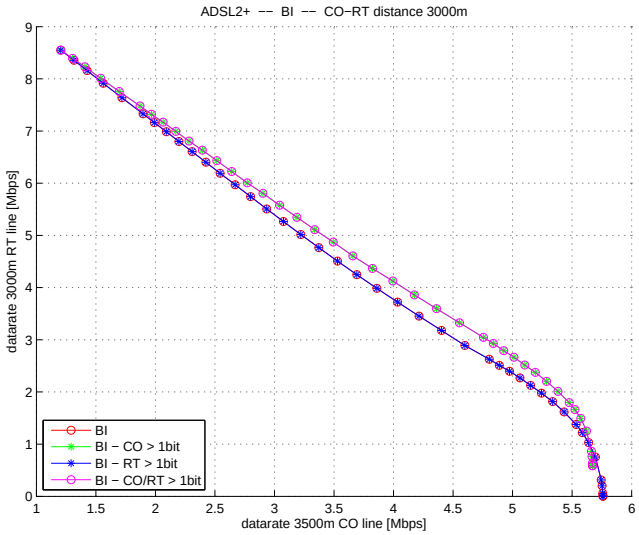

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

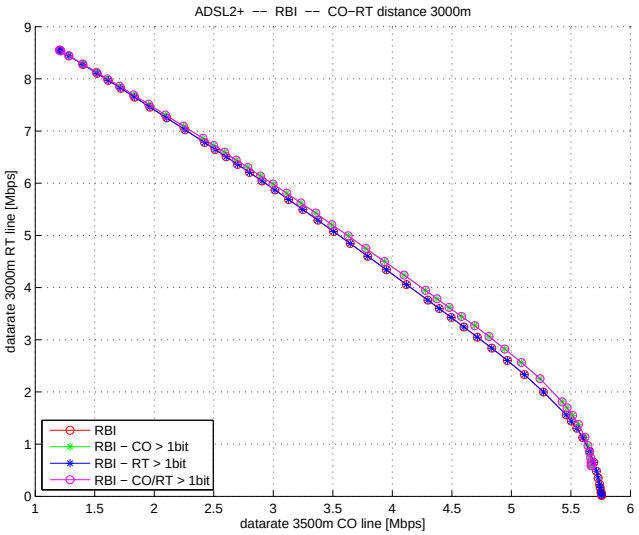

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

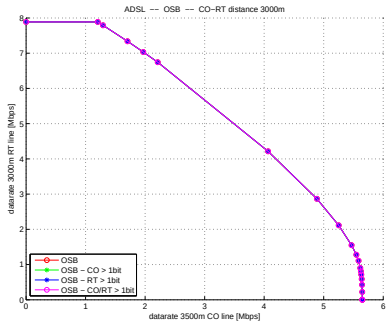

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

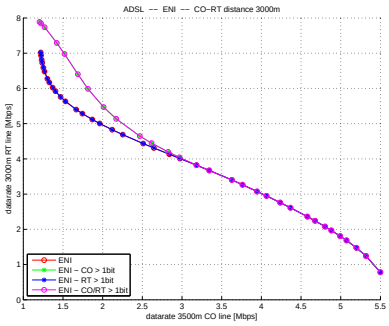

ADSL2+ -- OSB -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

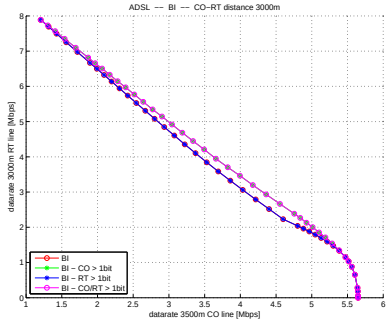

ADSL2+ -- ENI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

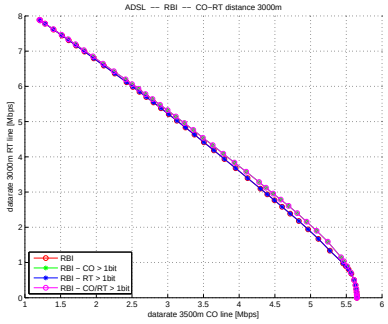

ADSL2+ -- BI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

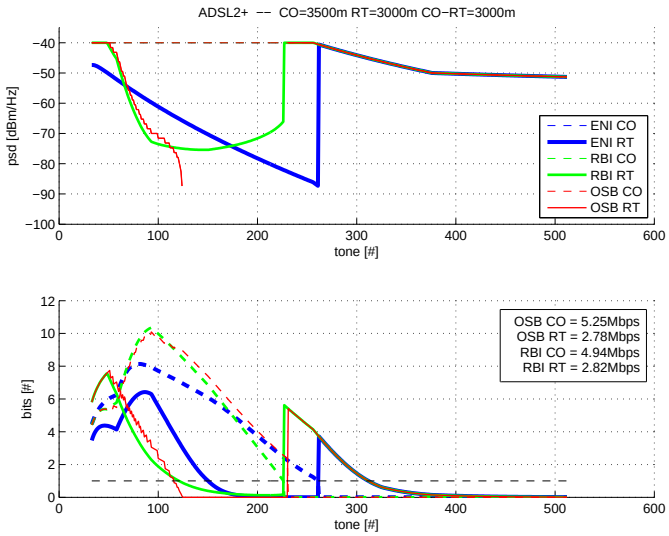

ADSL2+ -- RBI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

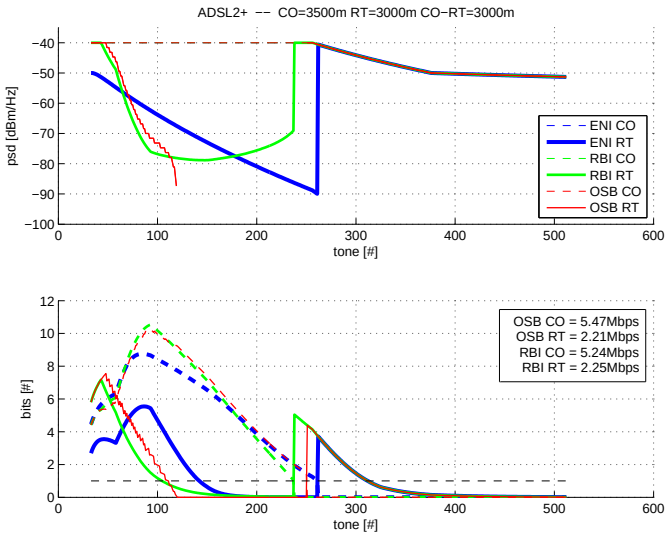

ADSL -- OSB -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

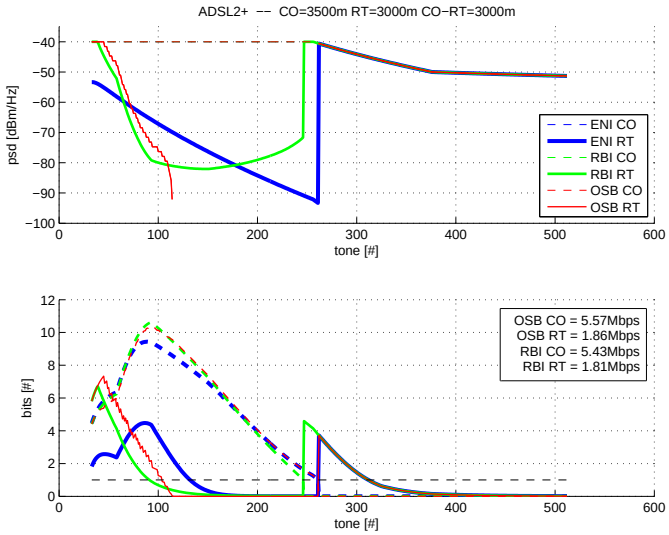

ADSL -- ENI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

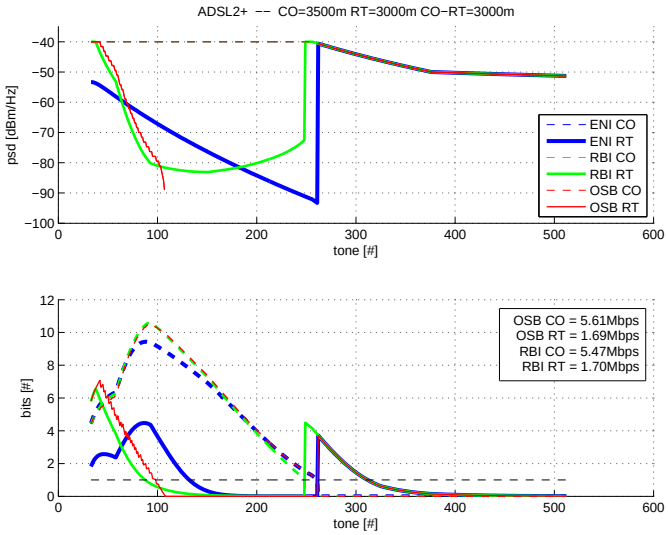

ADSL -- BI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

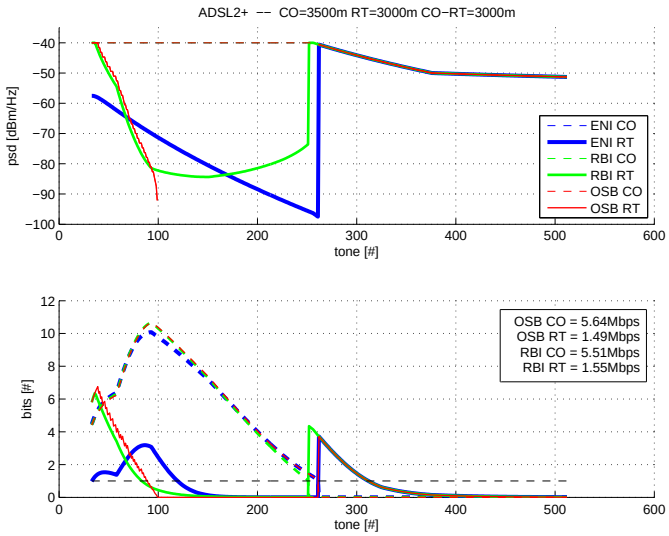

ADSL -- RBI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

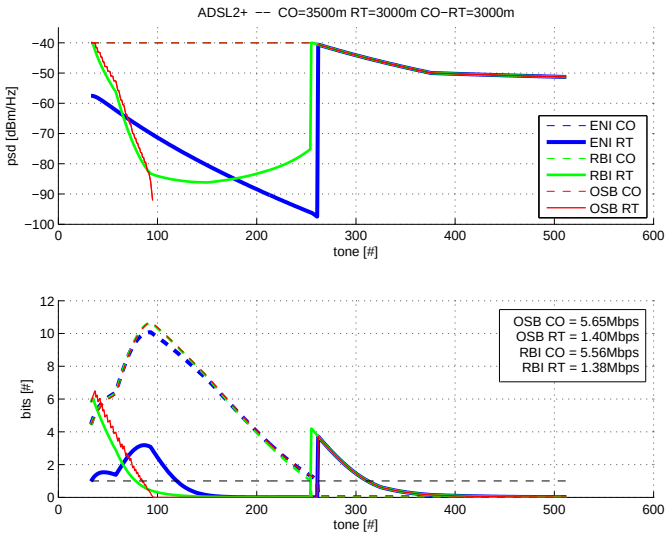

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.25Mbps
OSB RT = 2.78Mbps
RBI CO = 4.94Mbps
RBI RT = 2.82Mbps

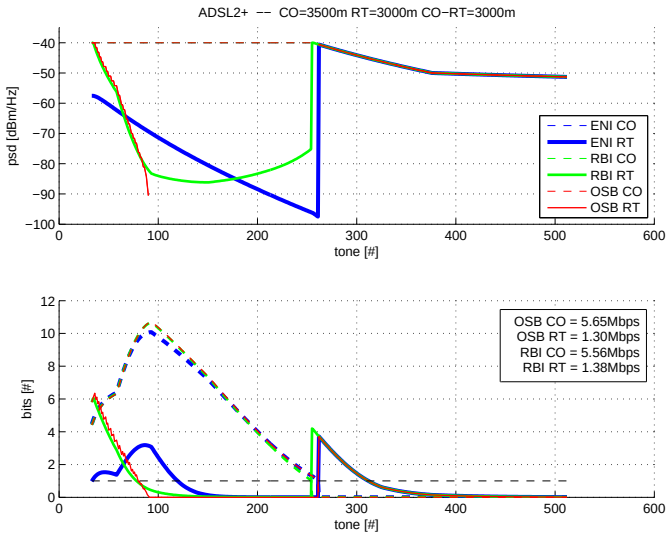

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.47Mbps
OSB RT = 2.21Mbps
RBI CO = 5.24Mbps
RBI RT = 2.25Mbps

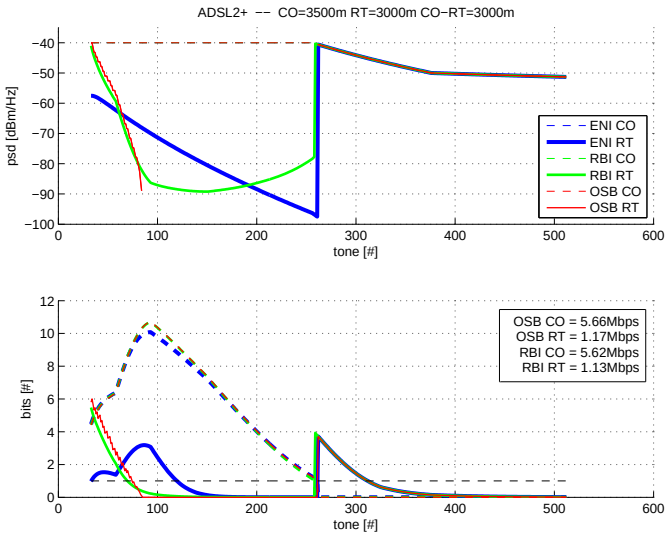

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.57Mbps
OSB RT = 1.86Mbps
RBI CO = 5.43Mbps
RBI RT = 1.81Mbps

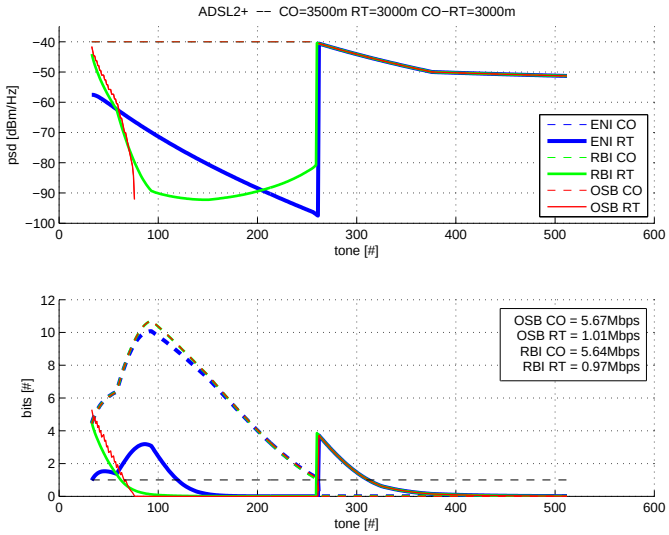

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.61Mbps
OSB RT = 1.69Mbps
RBI CO = 5.47Mbps
RBI RT = 1.70Mbps

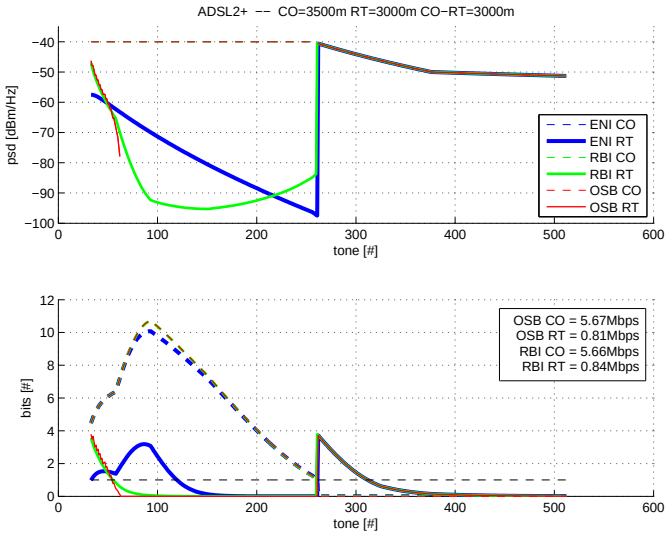

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.64Mbps
OSB RT = 1.49Mbps
RBI CO = 5.51Mbps
RBI RT = 1.55Mbps

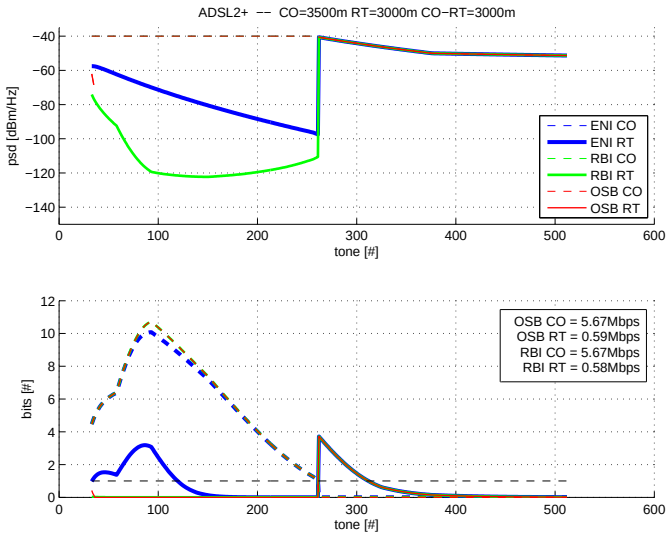

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.65Mbps
OSB RT = 1.40Mbps
RBI CO = 5.56Mbps
RBI RT = 1.38Mbps

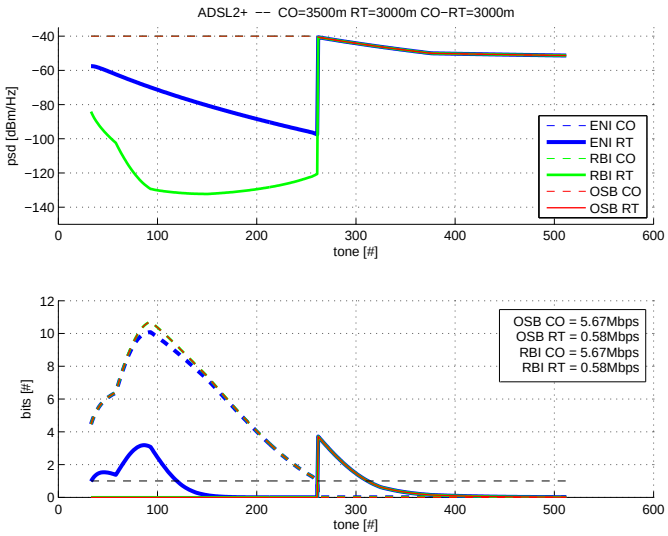

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.65Mbps
OSB RT = 1.30Mbps
RBI CO = 5.56Mbps
RBI RT = 1.38Mbps

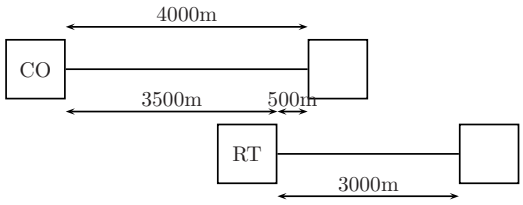

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.66Mbps
OSB RT = 1.17Mbps
RBI CO = 5.62Mbps
RBI RT = 1.13Mbps

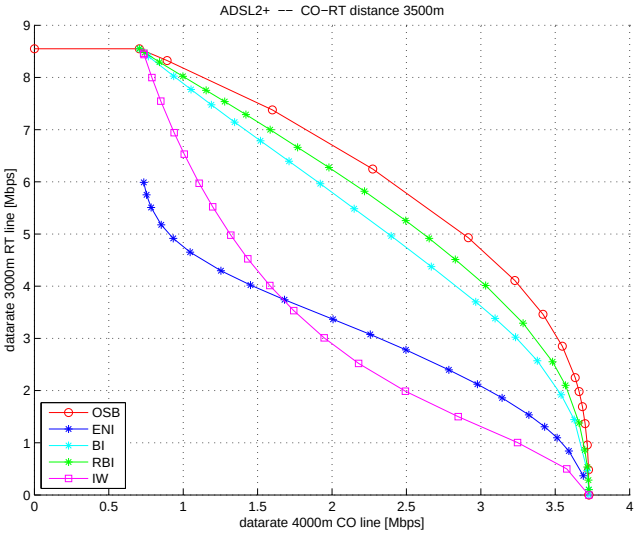

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.67Mbps
OSB RT = 1.01Mbps
RBI CO = 5.64Mbps
RBI RT = 0.97Mbps

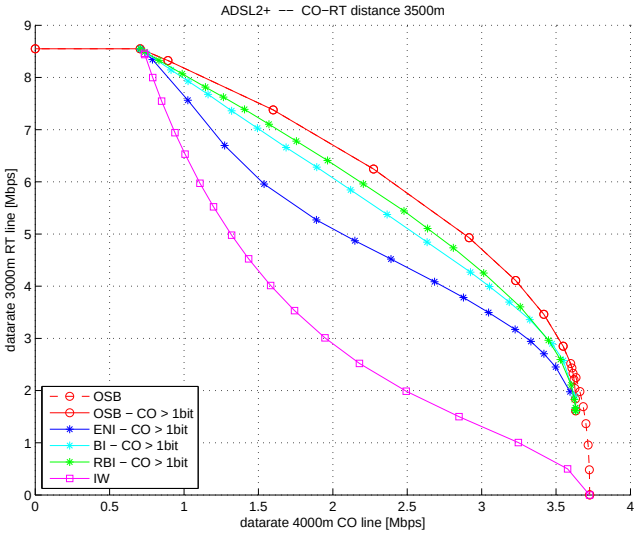

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.67Mbps
OSB RT = 0.81Mbps
RBI CO = 5.66Mbps
RBI RT = 0.84Mbps

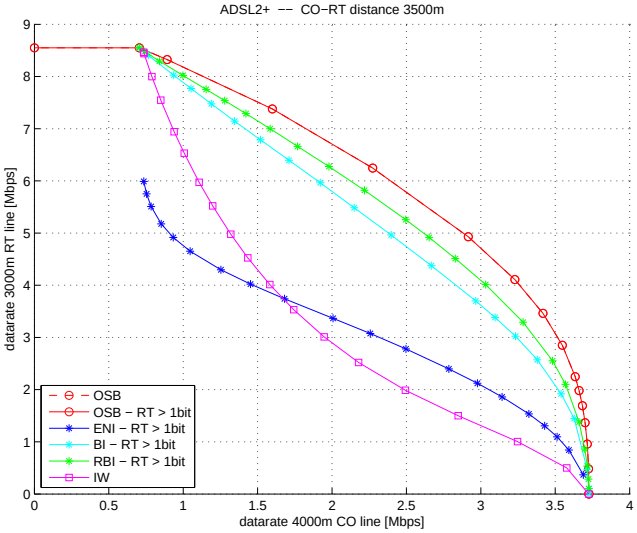

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.67Mbps
OSB RT = 0.59Mbps
RBI CO = 5.67Mbps
RBI RT = 0.58Mbps

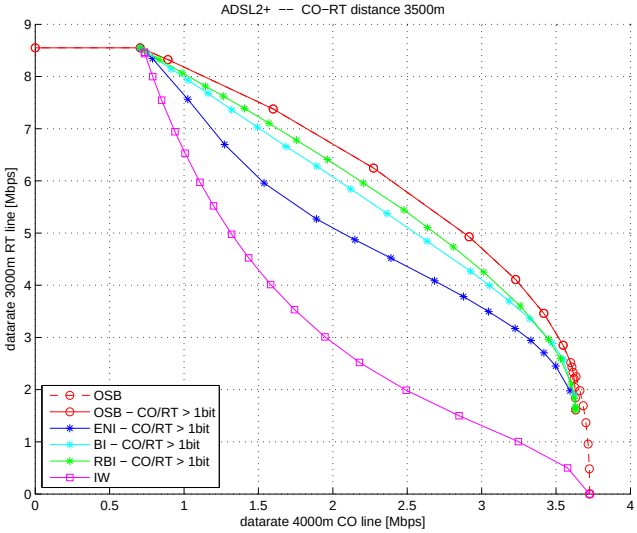

ADSL2+ -- CO=3500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.67Mbps
OSB RT = 0.58Mbps
RBI CO = 5.67Mbps
RBI RT = 0.58Mbps

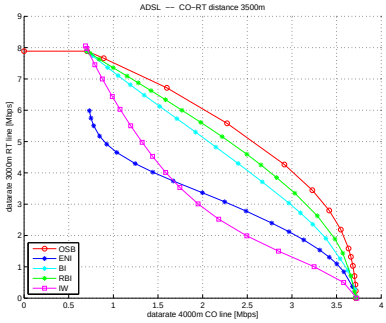

4000m
CO
3500m
500m
RT
3000m

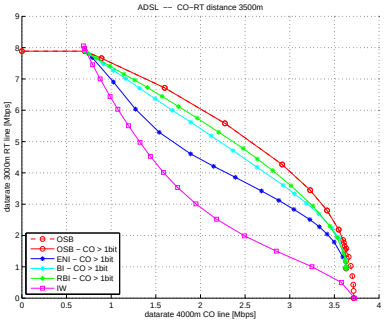

ADSL2+ -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

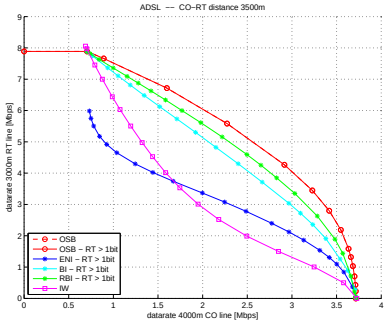

ADSL2+ -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

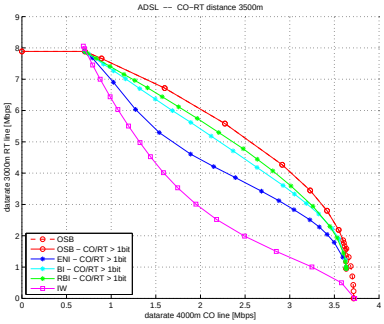

ADSL2+ -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

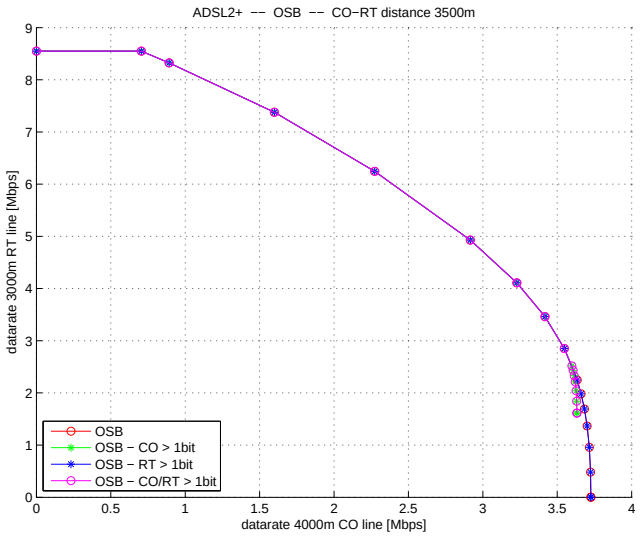

ADSL2+ -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

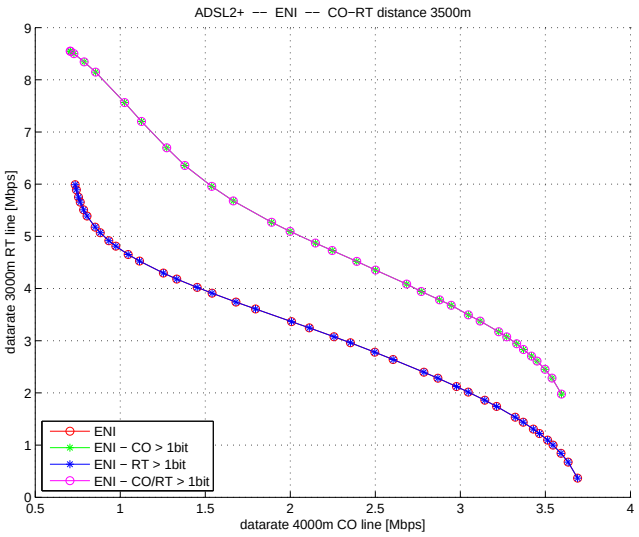

ADSL -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

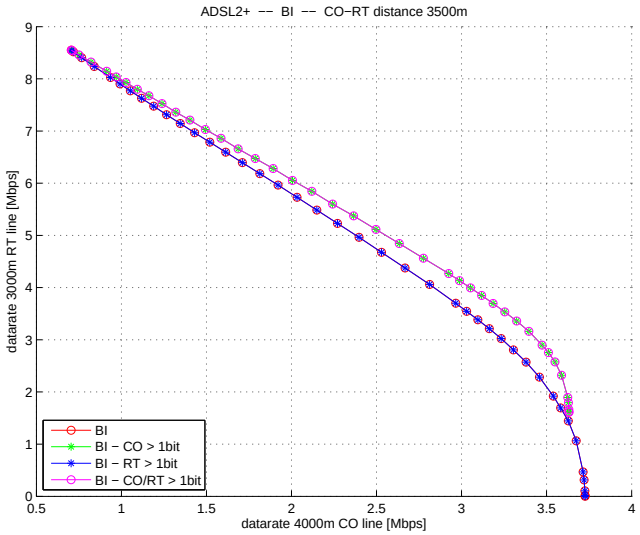

ADSL -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

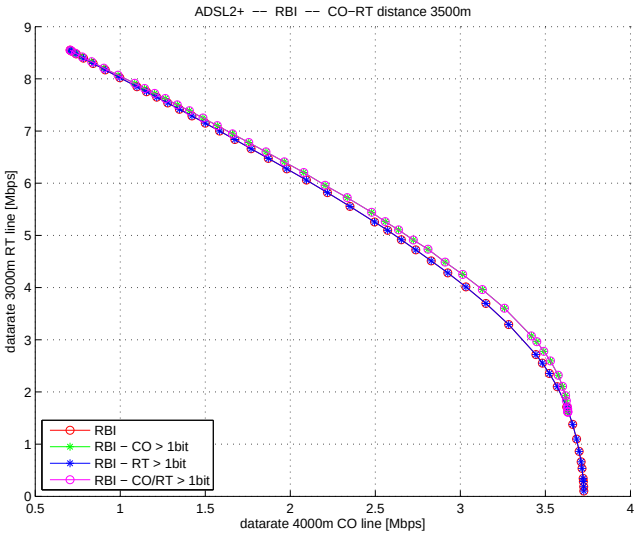

ADSL -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

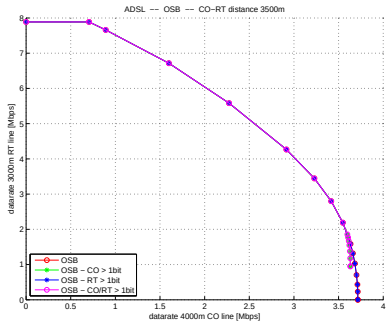

ADSL -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

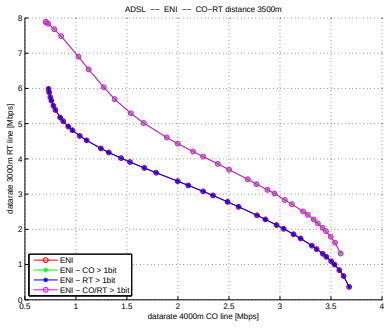

ADSL2+ -- OSB -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

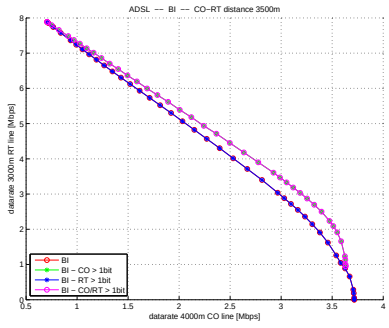

ADSL2+ -- ENI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

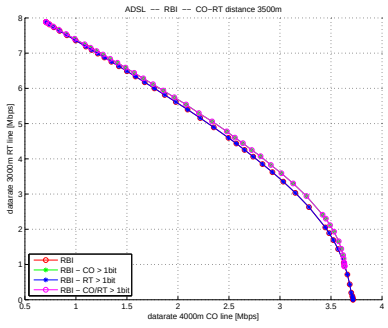

ADSL2+ -- BI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

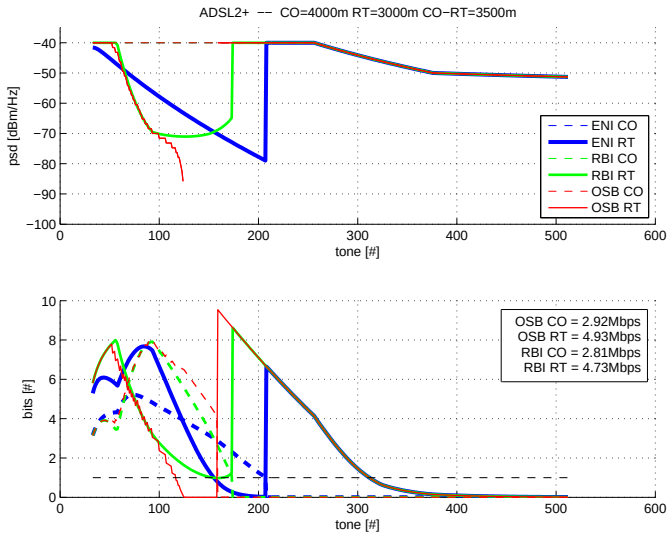

ADSL2+ -- RBI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

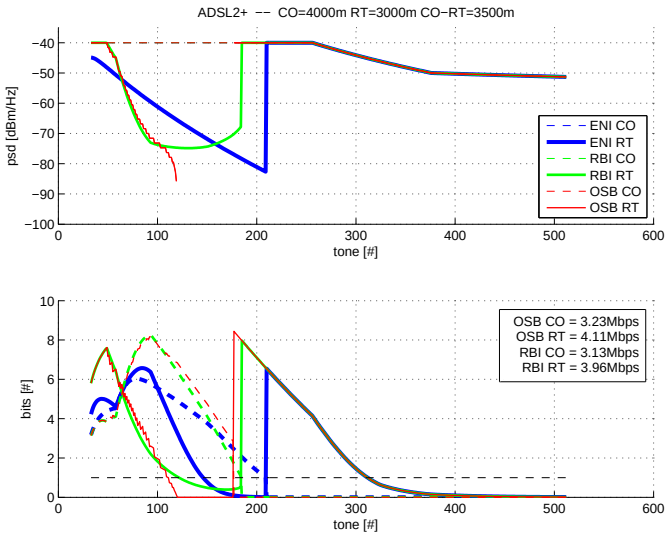

ADSL -- OSB -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

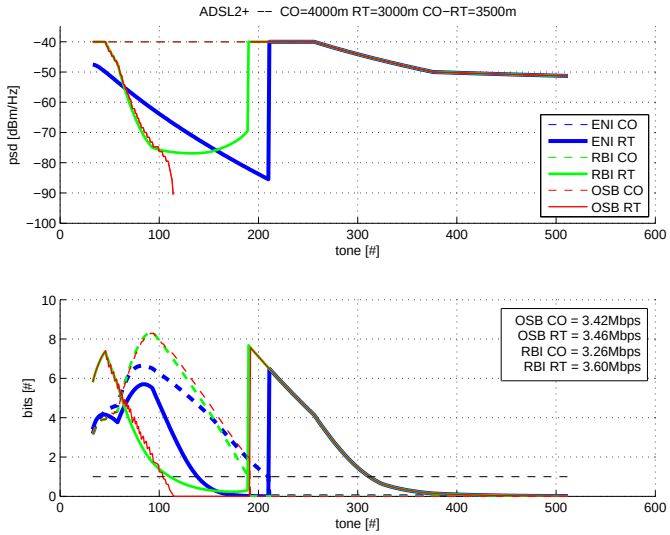

ADSL -- ENI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

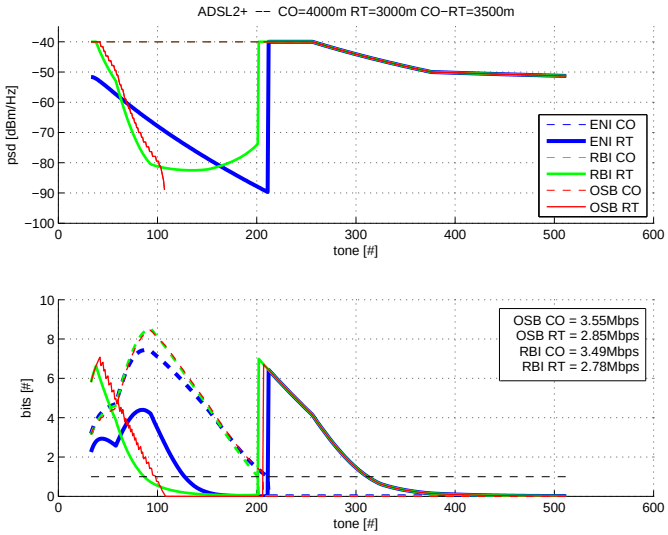

ADSL -- BI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

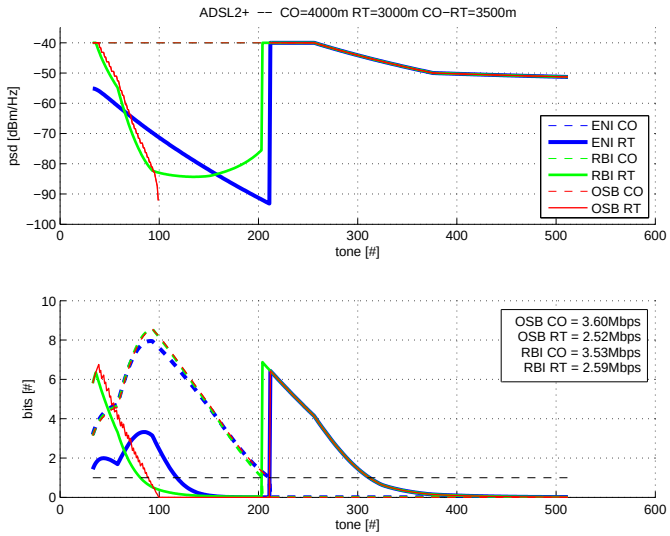

ADSL -- RBI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

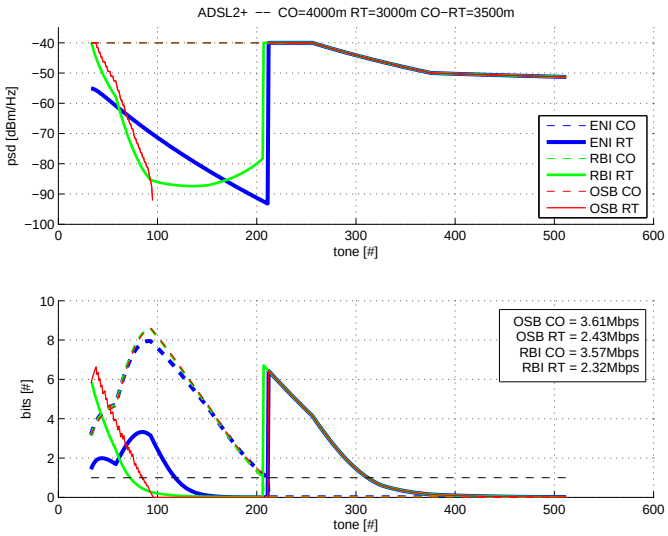

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.92Mbps
OSB RT = 4.93Mbps
RBI CO = 2.81Mbps
RBI RT = 4.73Mbps

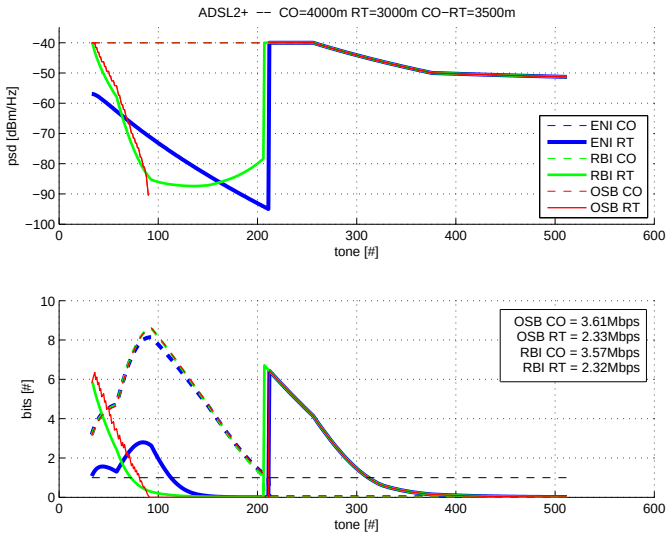

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.23Mbps
OSB RT = 4.11Mbps
RBI CO = 3.13Mbps
RBI RT = 3.96Mbps

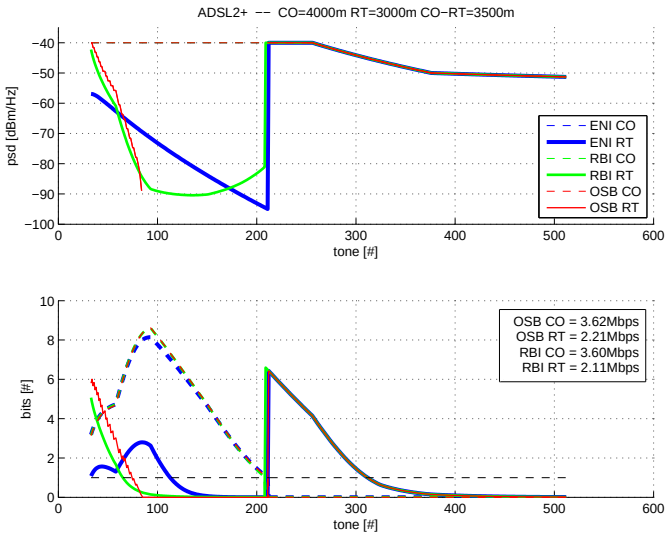

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.42Mbps
OSB RT = 3.46Mbps
RBI CO = 3.26Mbps
RBI RT = 3.60Mbps

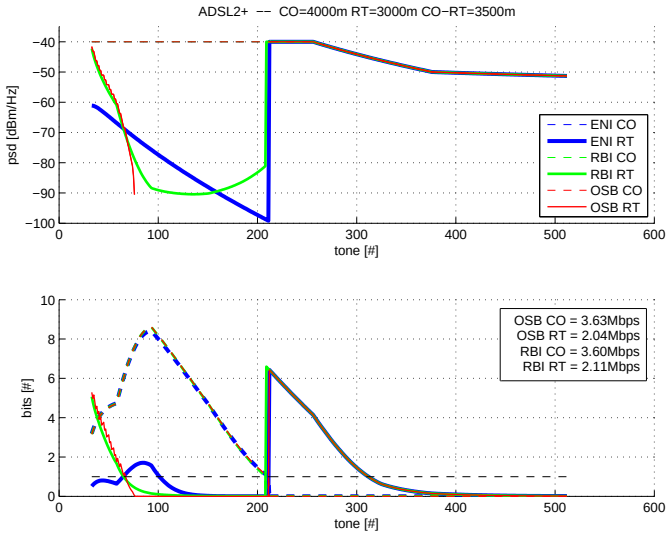

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.55Mbps
OSB RT = 2.85Mbps
RBI CO = 3.49Mbps
RBI RT = 2.78Mbps

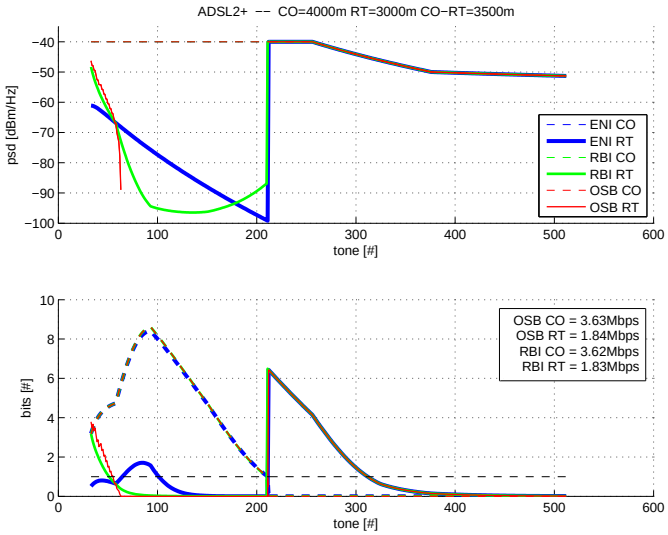

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.60Mbps
OSB RT = 2.52Mbps
RBI CO = 3.53Mbps
RBI RT = 2.59Mbps

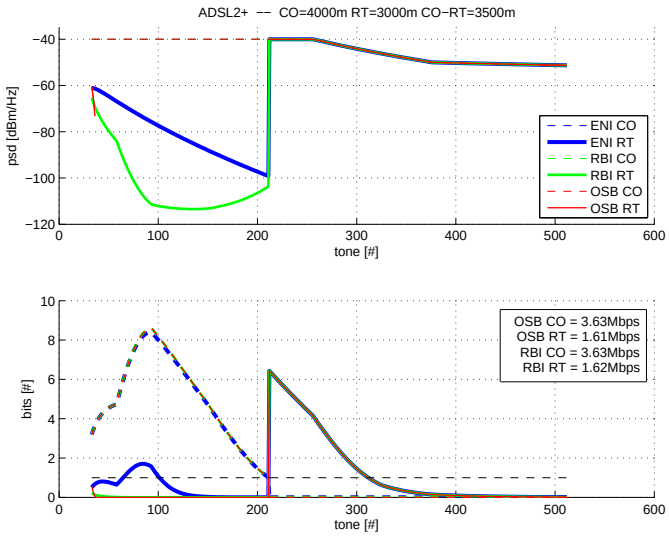

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.61Mbps
OSB RT = 2.43Mbps
RBI CO = 3.57Mbps
RBI RT = 2.32Mbps

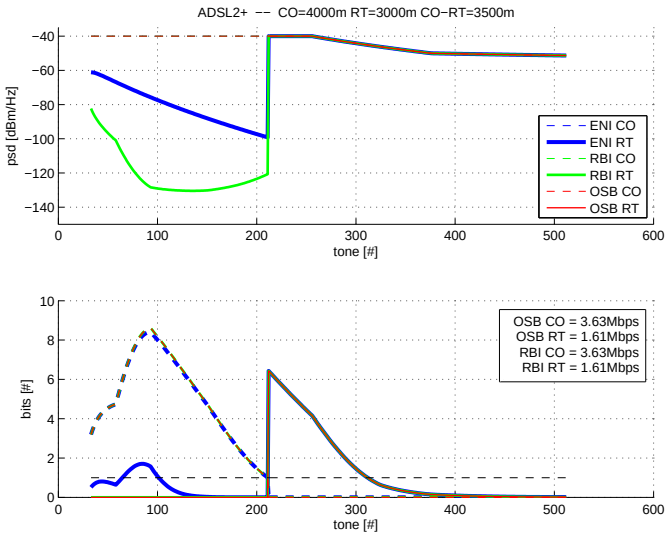

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.61Mbps
OSB RT = 2.33Mbps
RBI CO = 3.57Mbps
RBI RT = 2.32Mbps

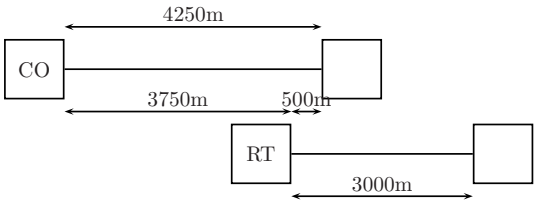

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.62Mbps
OSB RT = 2.21Mbps
RBI CO = 3.60Mbps
RBI RT = 2.11Mbps

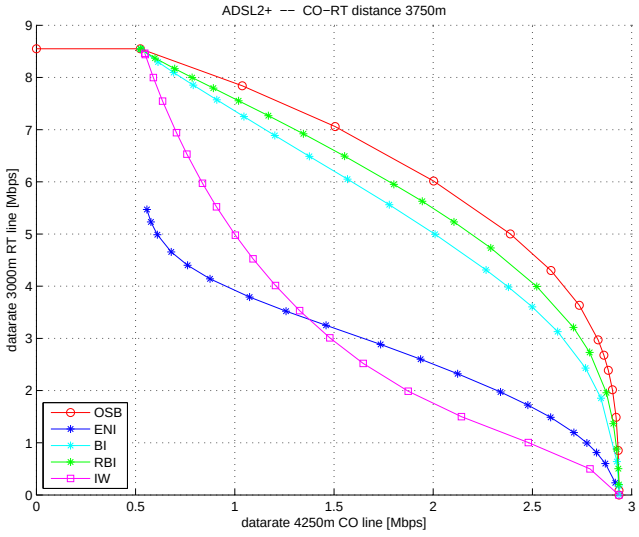

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.63Mbps
OSB RT = 2.04Mbps
RBI CO = 3.60Mbps
RBI RT = 2.11Mbps

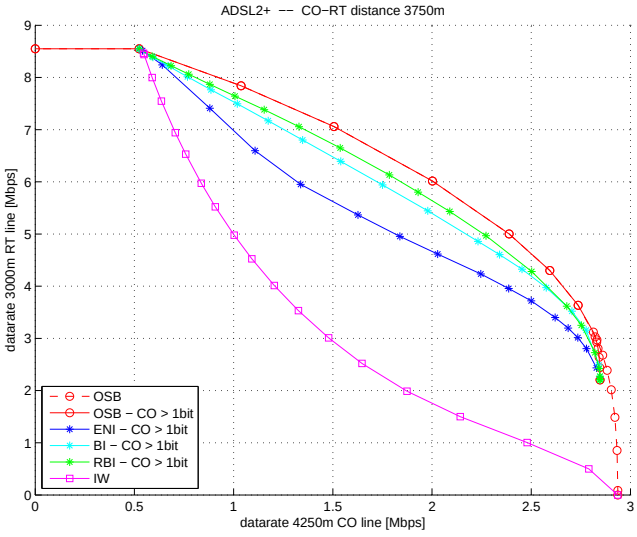

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.63Mbps
OSB RT = 1.84Mbps
RBI CO = 3.62Mbps
RBI RT = 1.83Mbps

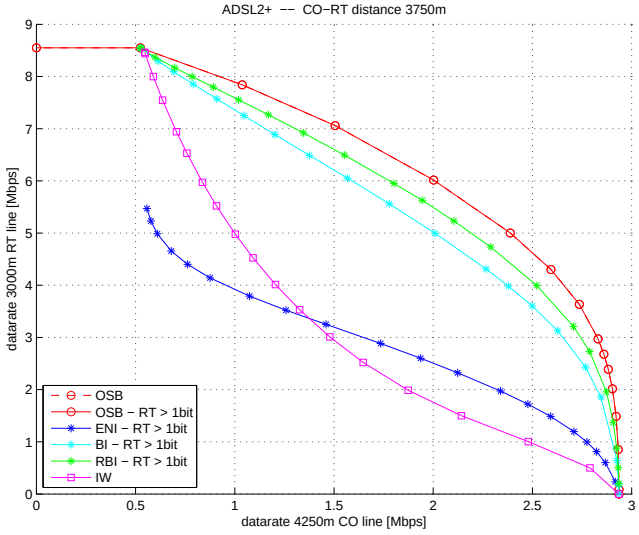

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.63Mbps
OSB RT = 1.61Mbps
RBI CO = 3.63Mbps
RBI RT = 1.62Mbps

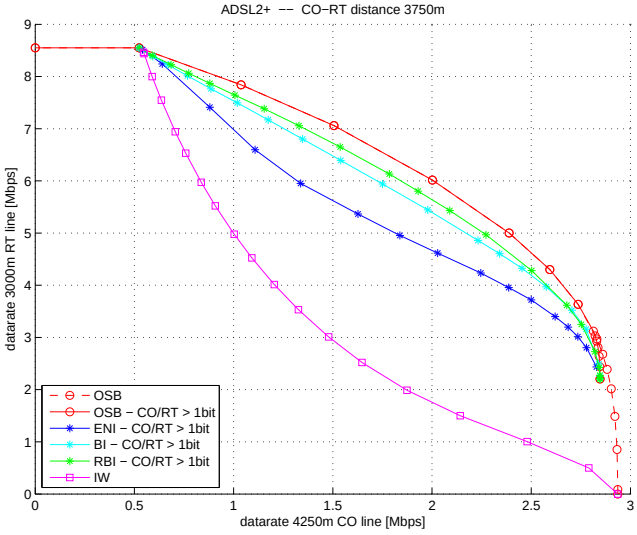

ADSL2+ -- CO=4000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.63Mbps
OSB RT = 1.61Mbps
RBI CO = 3.63Mbps
RBI RT = 1.61Mbps

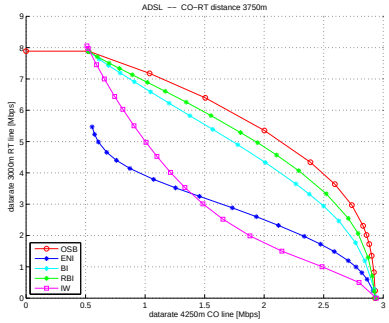

4250m
CO
3750m
500m
RT
3000m

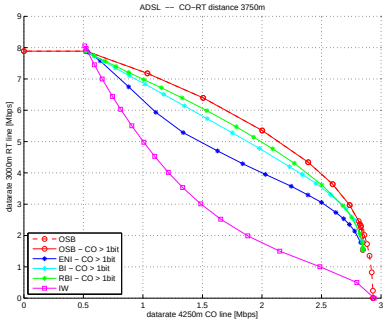

ADSL2+ -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

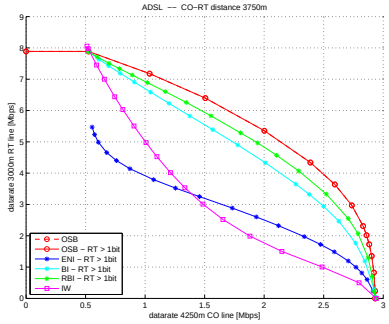

ADSL2+ -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

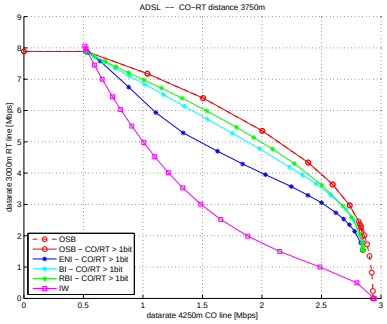

ADSL2+ -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

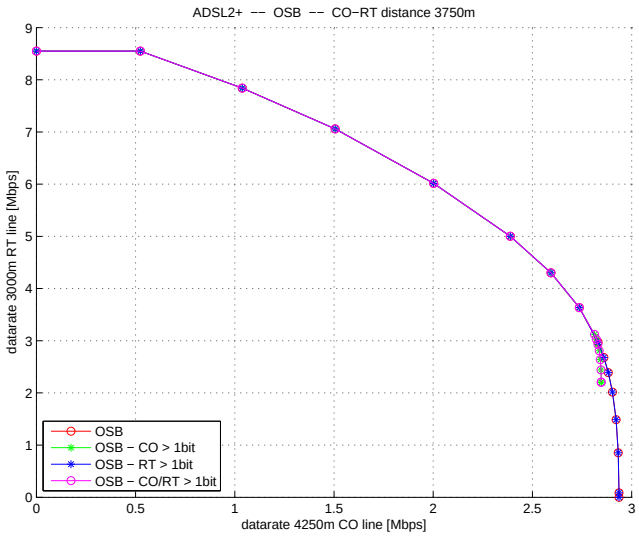

ADSL2+ -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

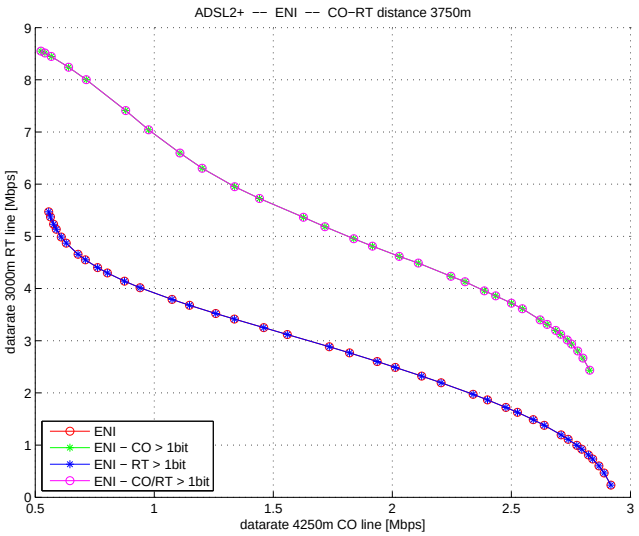

ADSL -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

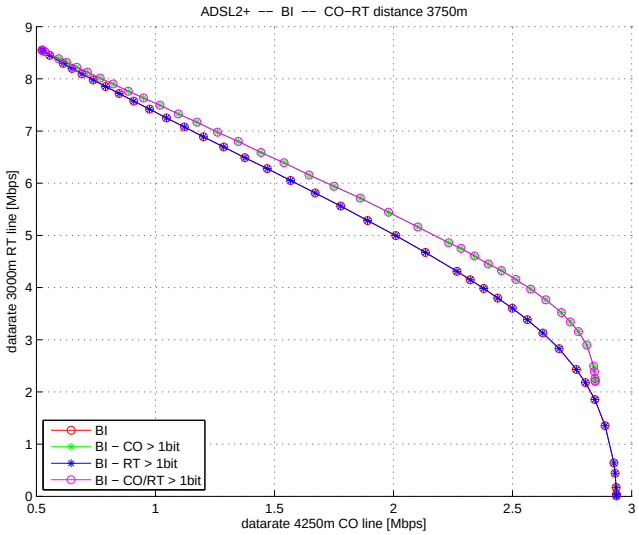

ADSL -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

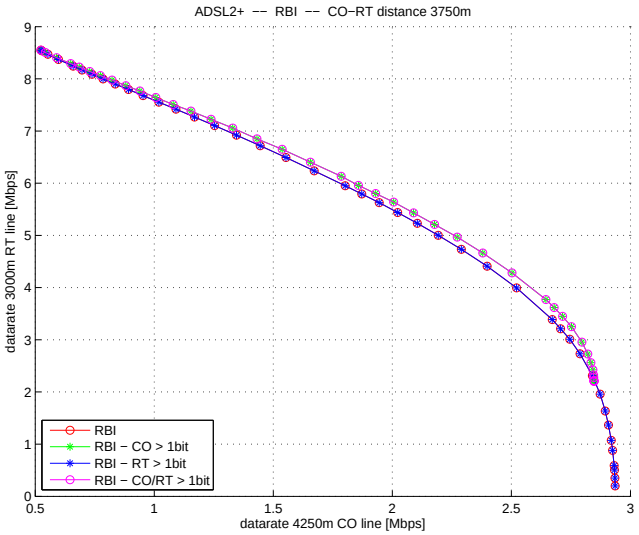

ADSL -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

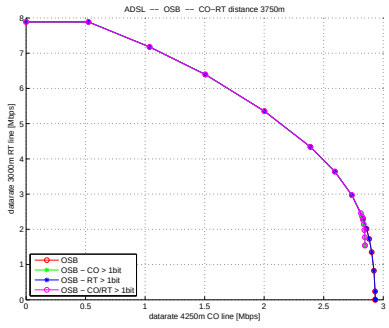

ADSL -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

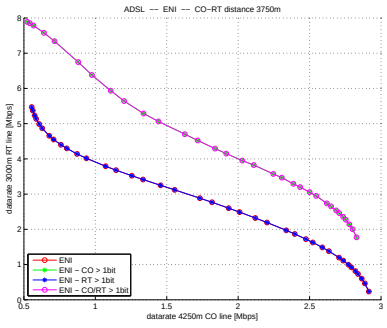

ADSL2+ -- OSB -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

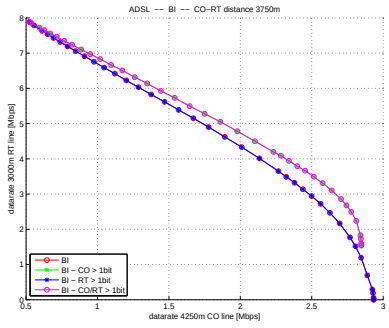

ADSL2+ -- ENI -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

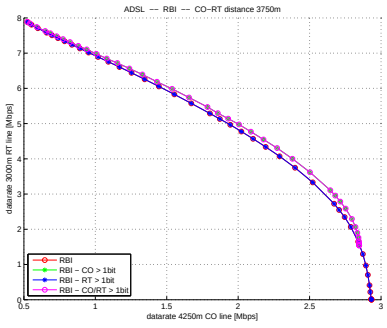

ADSL2+ -- BI -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

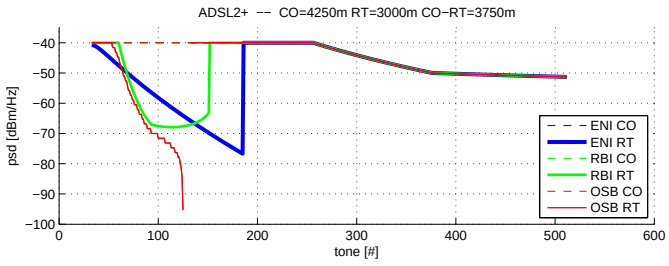

ADSL2+ -- RBI -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

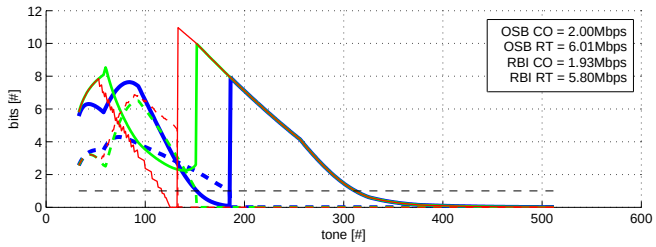

ADSL -- OSB -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

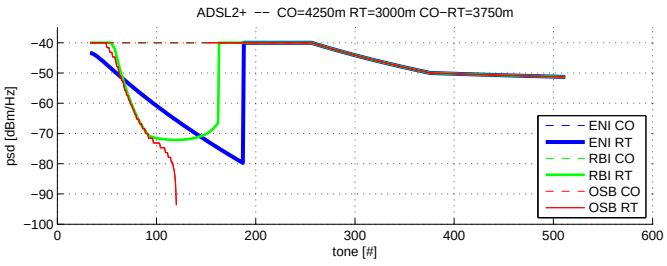

ADSL -- ENI -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

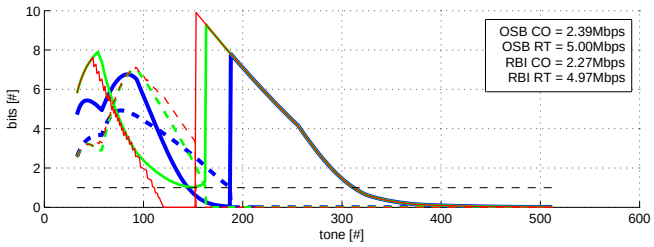

ADSL -- BI -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

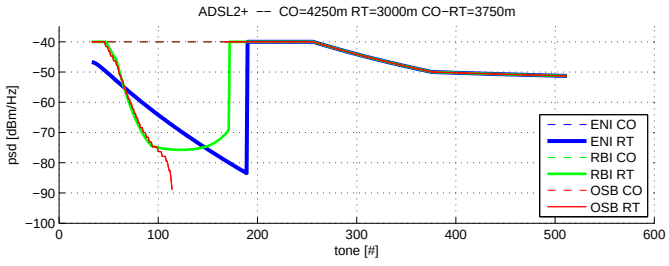

ADSL -- RBI -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

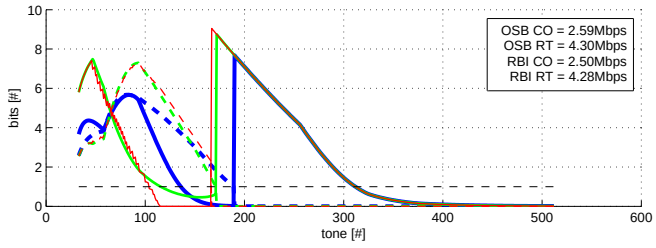

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

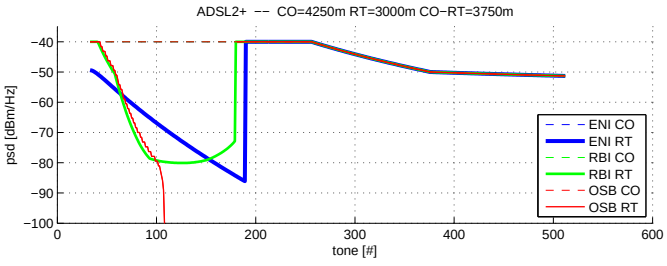

bits [#]
tone [#]
OSB CO = 2.00Mbps
OSB RT = 6.01Mbps
RBI CO = 1.93Mbps
RBI RT = 5.80Mbps

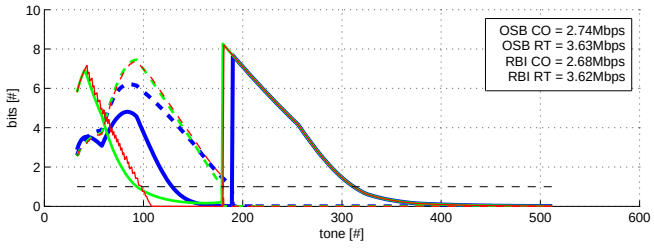

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

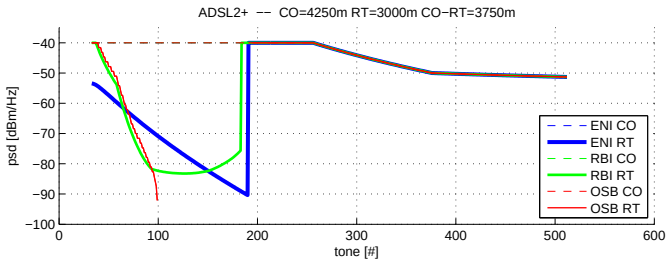

bits [#]
tone [#]
OSB CO = 2.39Mbps
OSB RT = 5.00Mbps
RBI CO = 2.27Mbps
RBI RT = 4.97Mbps

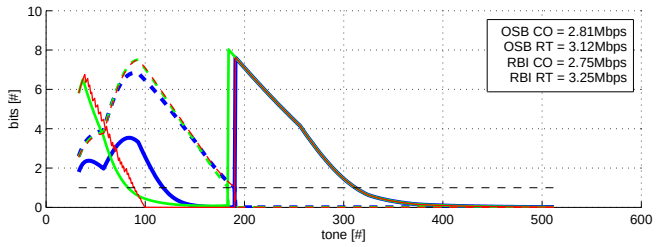

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

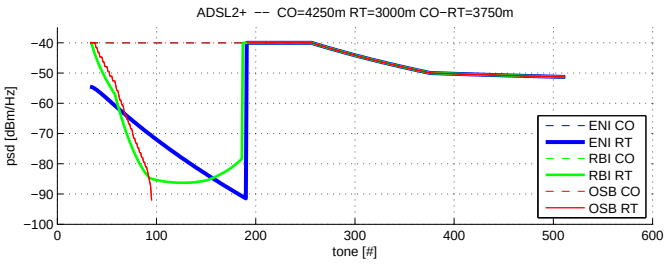

bits [#]
tone [#]
OSB CO = 2.59Mbps
OSB RT = 4.30Mbps
RBI CO = 2.50Mbps
RBI RT = 4.28Mbps

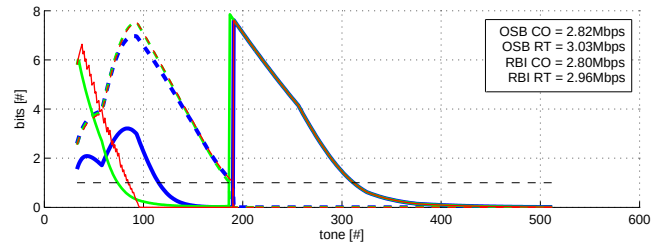

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

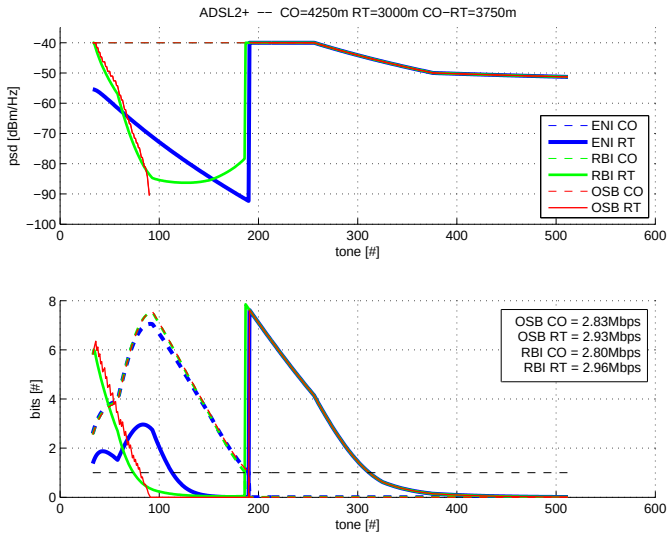

bits [#]
tone [#]
OSB CO = 2.74Mbps
OSB RT = 3.63Mbps
RBI CO = 2.68Mbps
RBI RT = 3.62Mbps

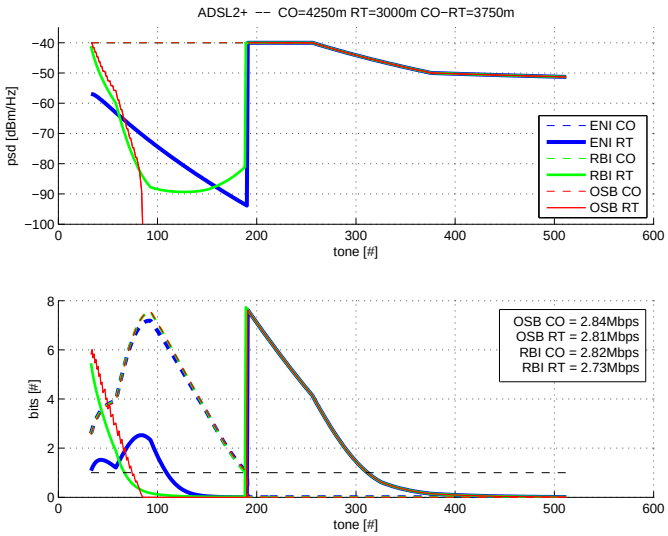

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

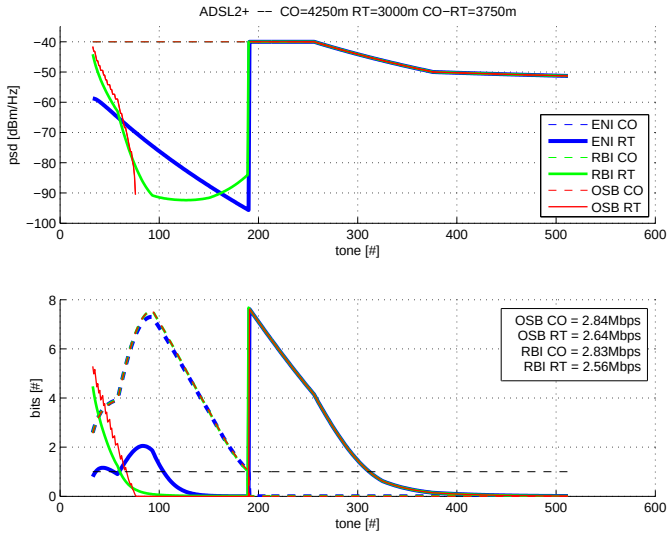

bits [#]
tone [#]
OSB CO = 2.81Mbps
OSB RT = 3.12Mbps
RBI CO = 2.75Mbps
RBI RT = 3.25Mbps

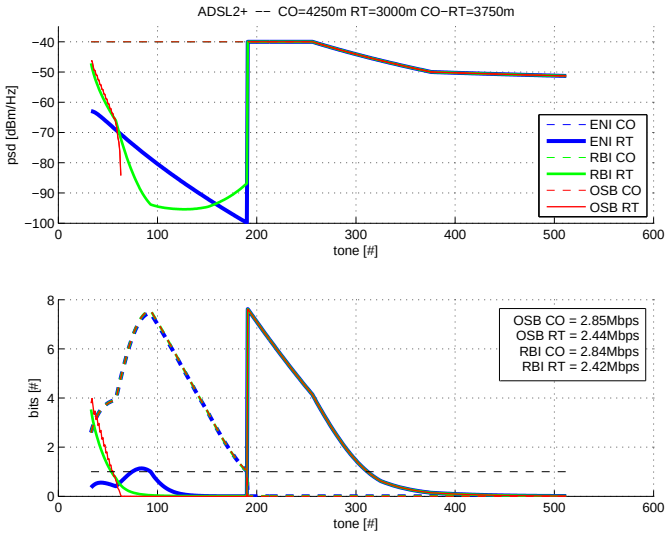

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

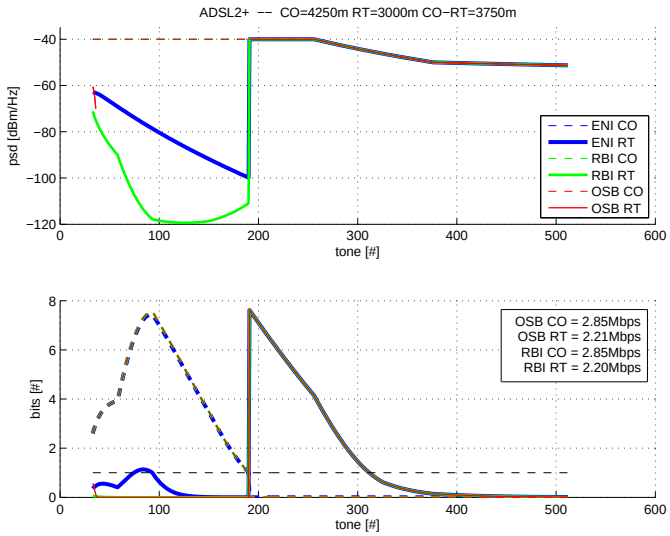

bits [#]
tone [#]
OSB CO = 2.82Mbps
OSB RT = 3.03Mbps
RBI CO = 2.80Mbps
RBI RT = 2.96Mbps

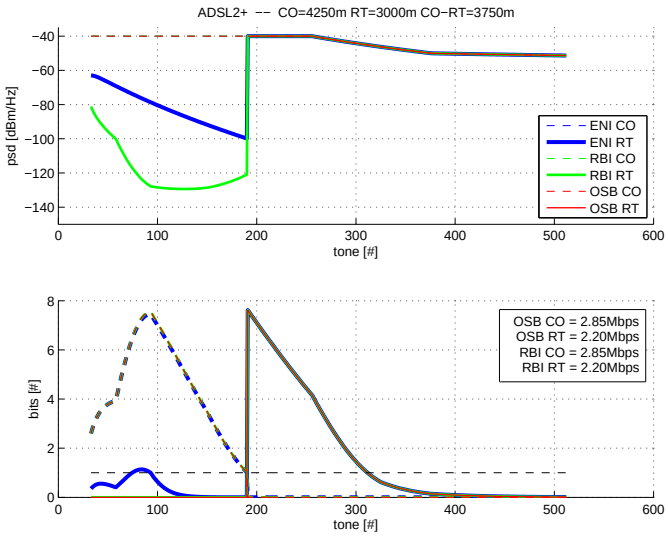

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.83Mbps
OSB RT = 2.93Mbps
RBI CO = 2.80Mbps
RBI RT = 2.96Mbps

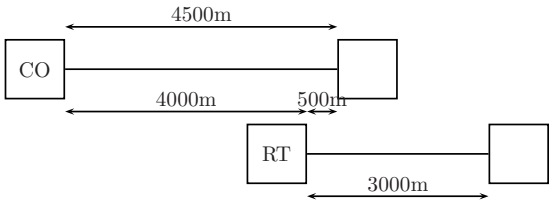

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.84Mbps
OSB RT = 2.81Mbps
RBI CO = 2.82Mbps
RBI RT = 2.73Mbps

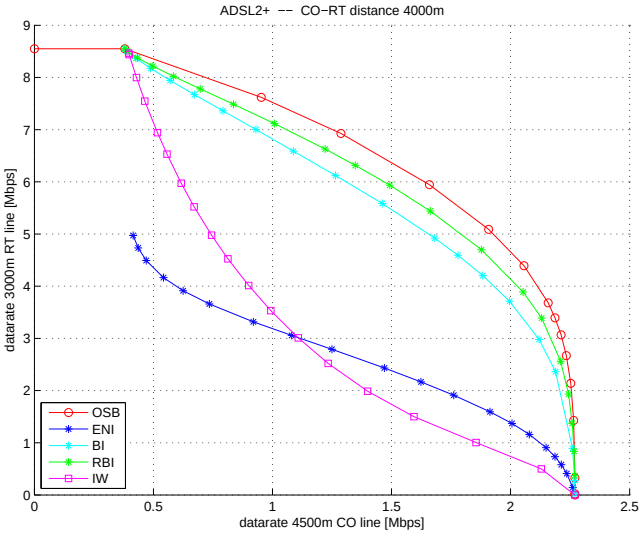

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.84Mbps
OSB RT = 2.64Mbps
RBI CO = 2.83Mbps
RBI RT = 2.56Mbps

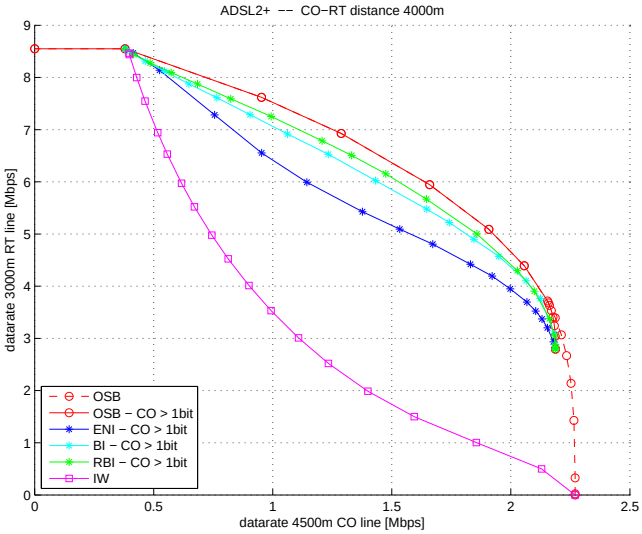

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 2.44Mbps
RBI CO = 2.84Mbps
RBI RT = 2.42Mbps

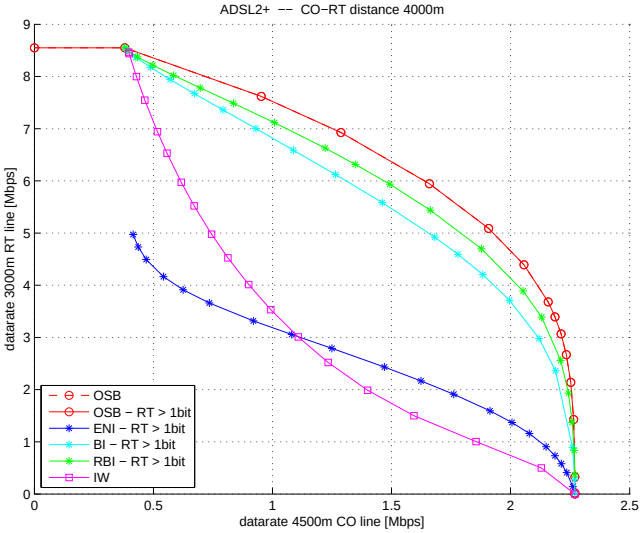

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 2.21Mbps
RBI CO = 2.85Mbps
RBI RT = 2.20Mbps

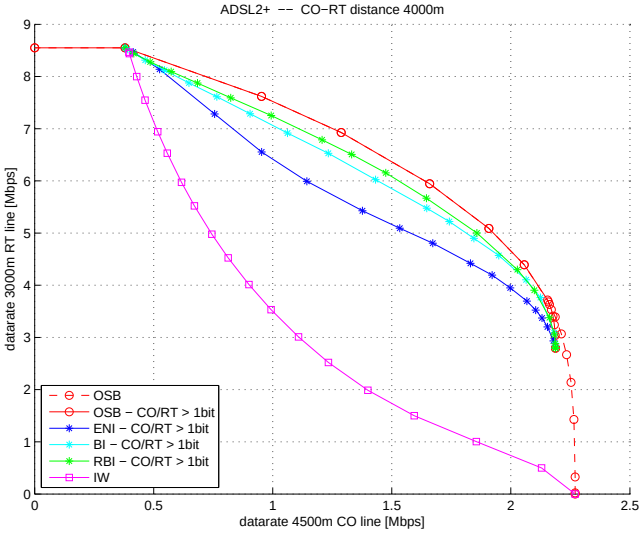

ADSL2+ -- CO=4250m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 2.20Mbps
RBI CO = 2.85Mbps
RBI RT = 2.20Mbps

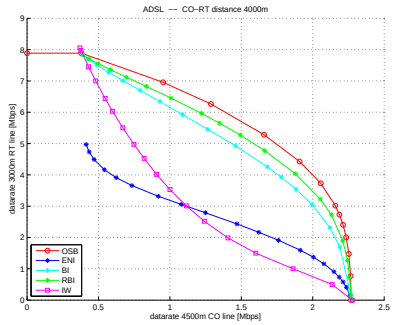

4500m
CO
4000m
500m
RT
3000m

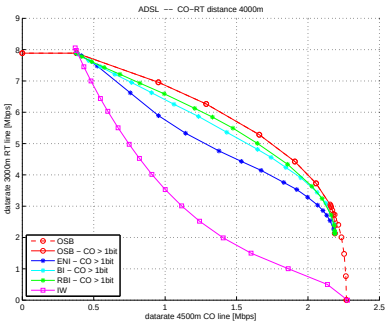

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

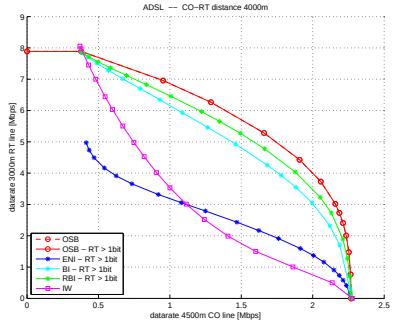

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

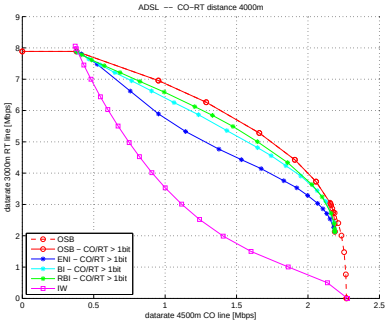

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

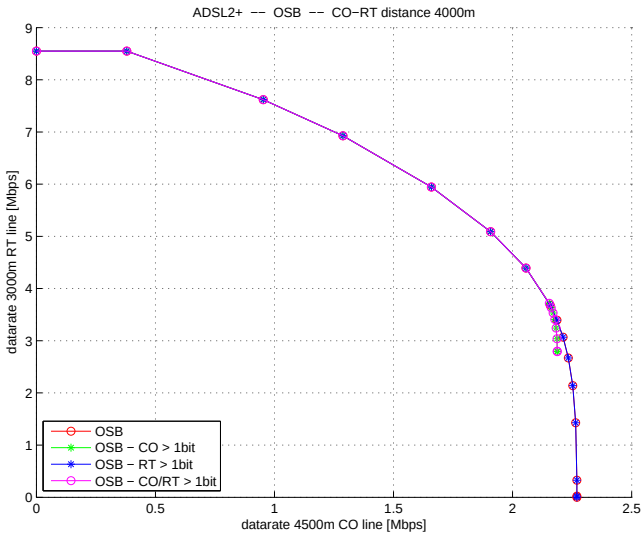

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

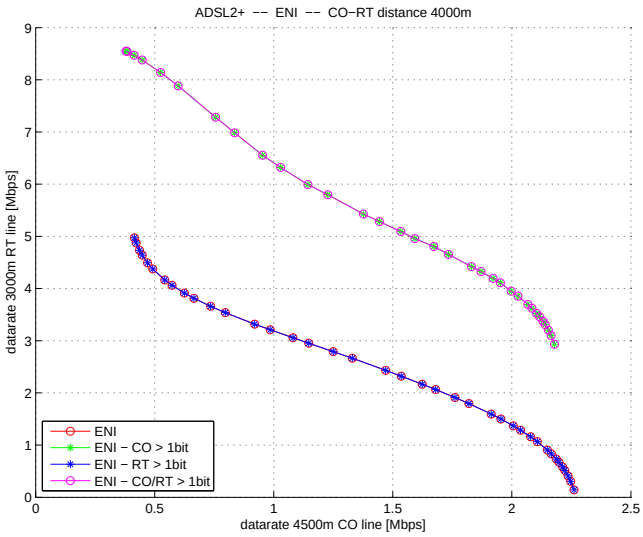

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

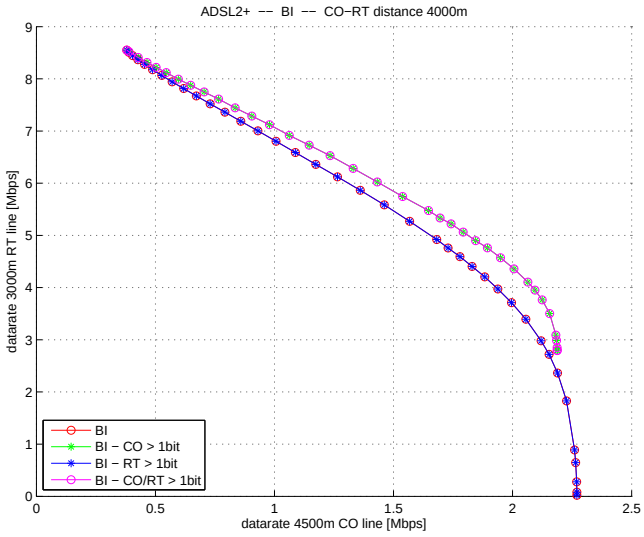

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

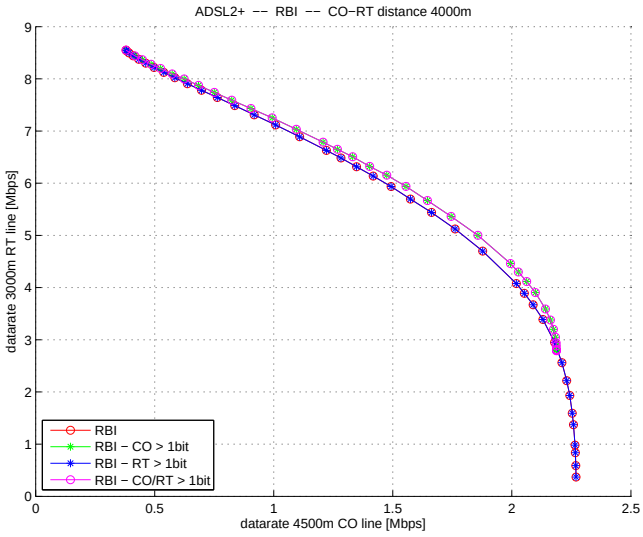

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

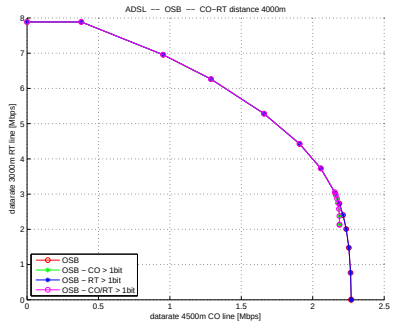

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

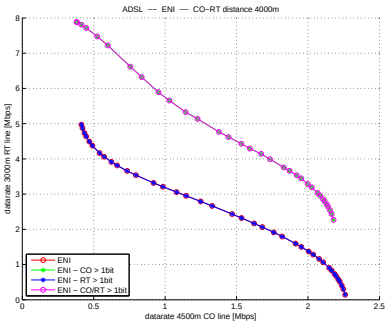

ADSL2+ -- OSB -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

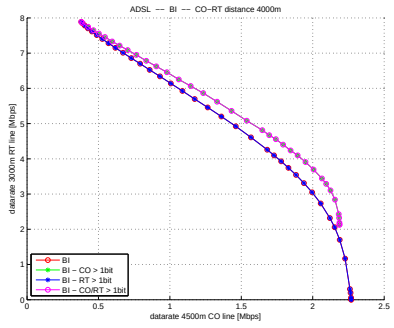

ADSL2+ -- ENI -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

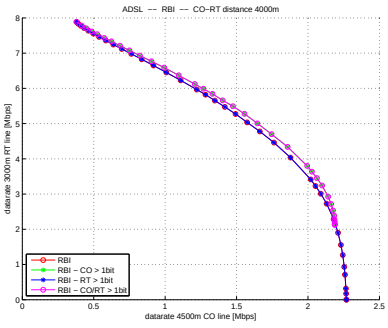

ADSL2+ -- BI -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

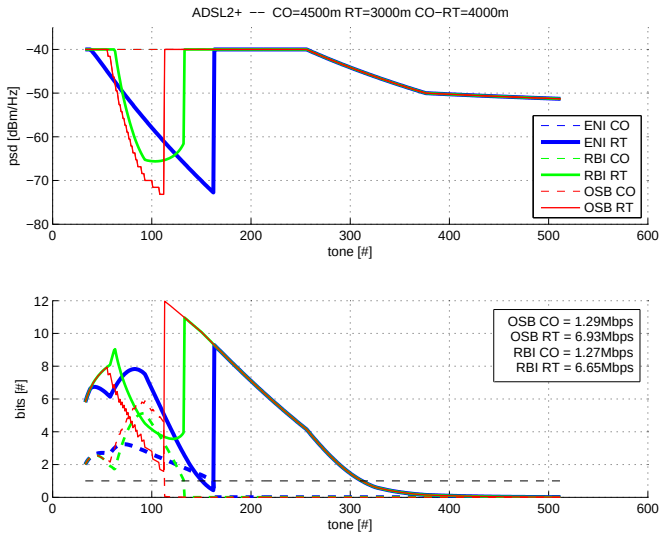

ADSL2+ -- RBI -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

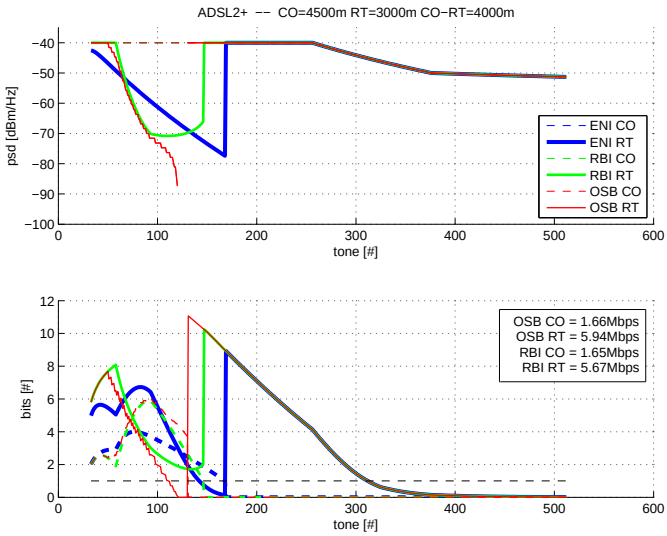

ADSL -- OSB -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

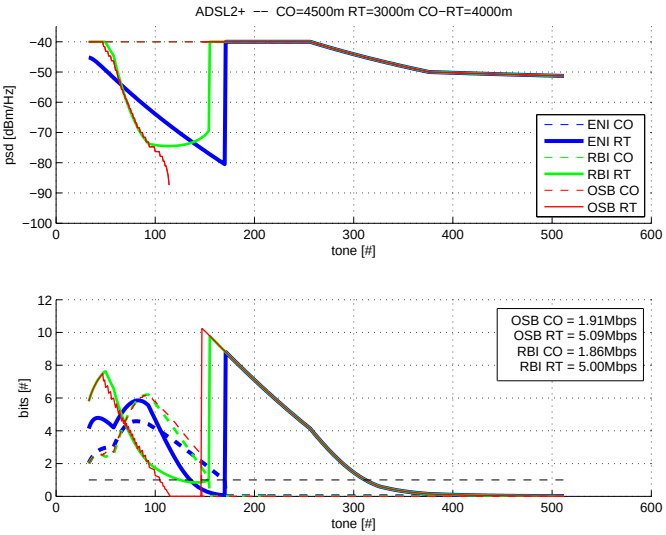

ADSL -- ENI -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

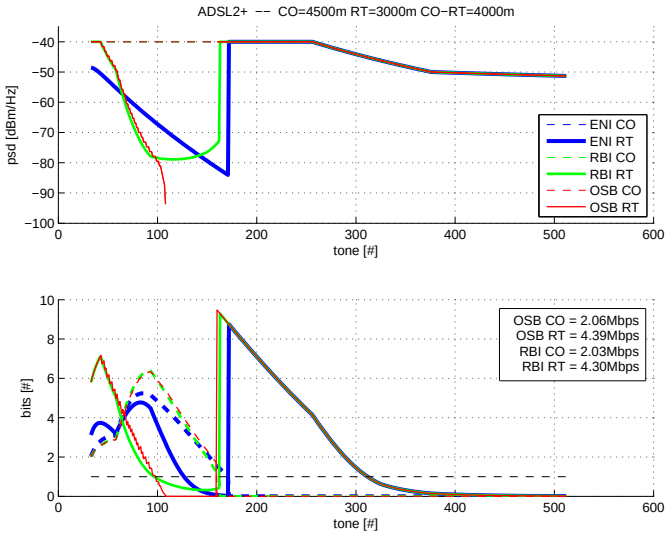

ADSL -- BI -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

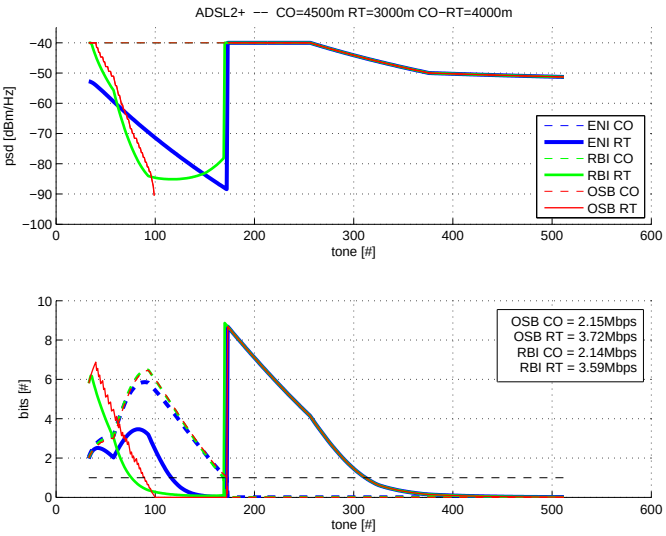

ADSL -- RBI -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

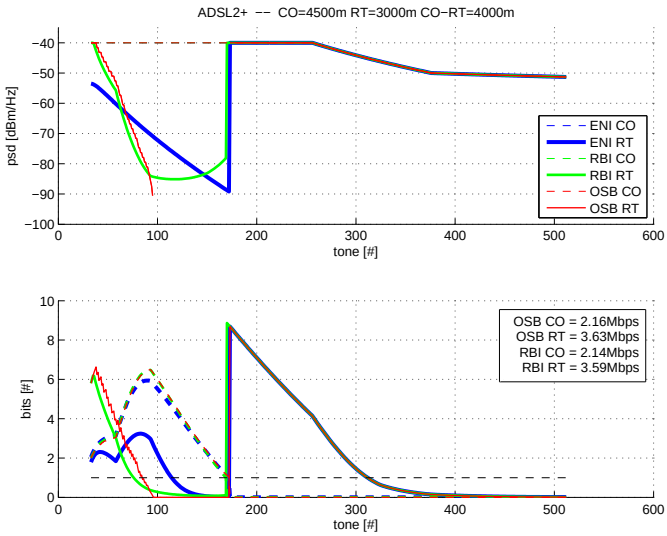

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.29Mbps
OSB RT = 6.93Mbps
RBI CO = 1.27Mbps
RBI RT = 6.65Mbps

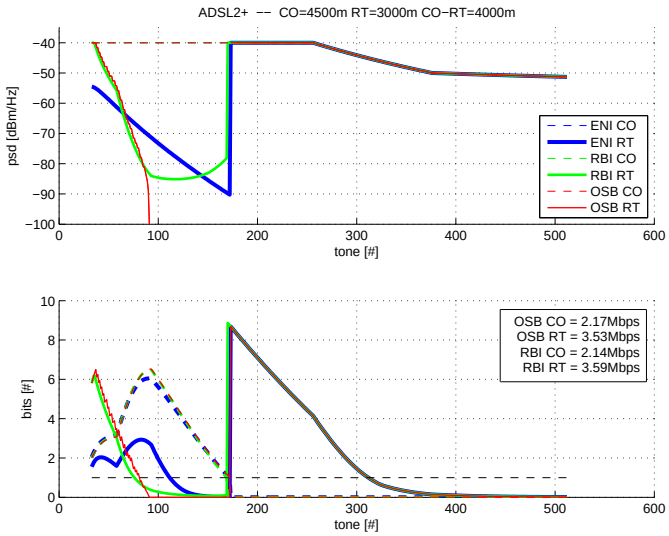

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.66Mbps
OSB RT = 5.94Mbps
RBI CO = 1.65Mbps
RBI RT = 5.67Mbps

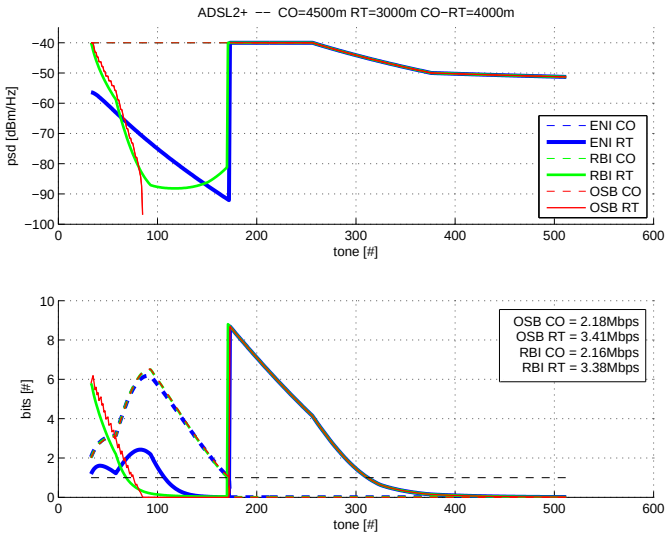

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.91Mbps
OSB RT = 5.09Mbps
RBI CO = 1.86Mbps
RBI RT = 5.00Mbps

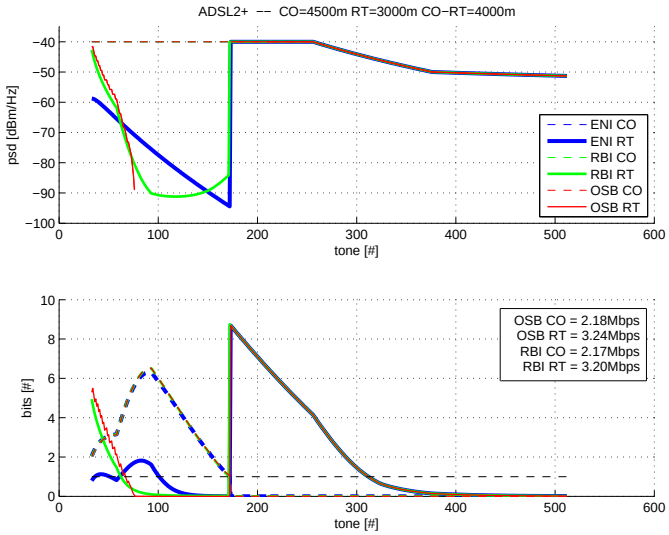

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.06Mbps
OSB RT = 4.39Mbps
RBI CO = 2.03Mbps
RBI RT = 4.30Mbps

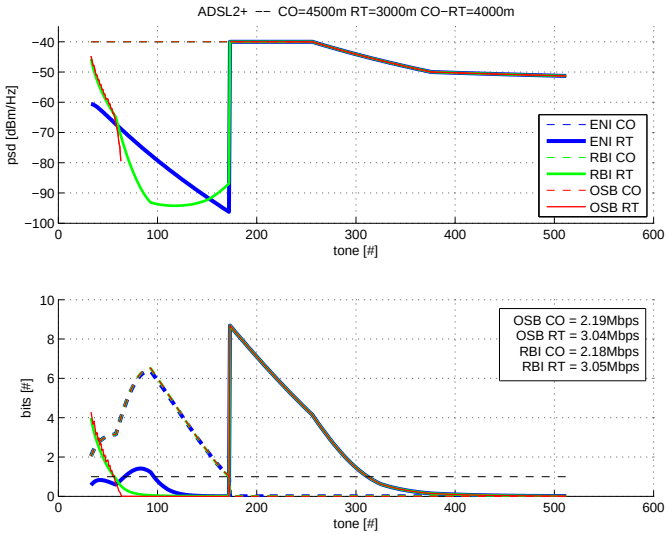

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.15Mbps
OSB RT = 3.72Mbps
RBI CO = 2.14Mbps
RBI RT = 3.59Mbps

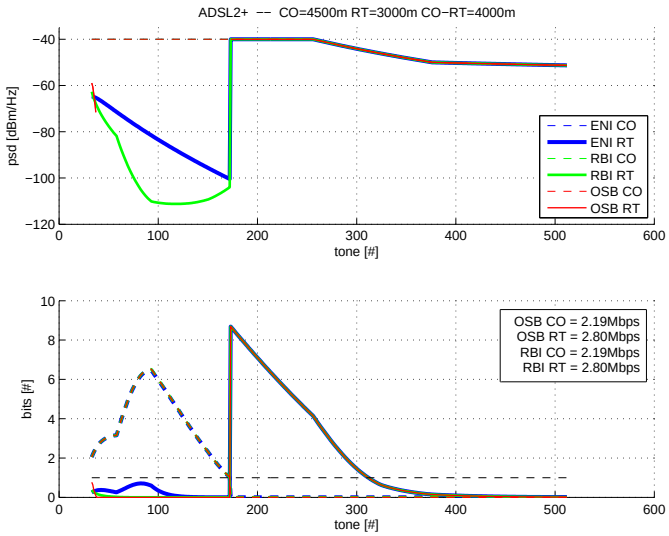

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.16Mbps
OSB RT = 3.63Mbps
RBI CO = 2.14Mbps
RBI RT = 3.59Mbps

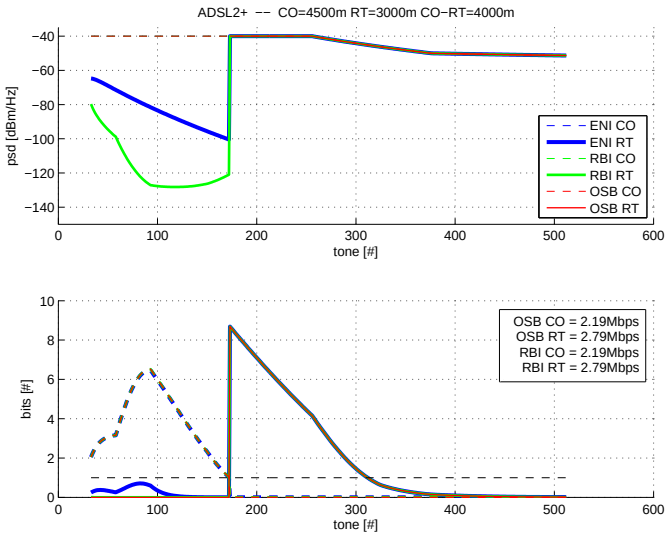

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.17Mbps
OSB RT = 3.53Mbps
RBI CO = 2.14Mbps
RBI RT = 3.59Mbps

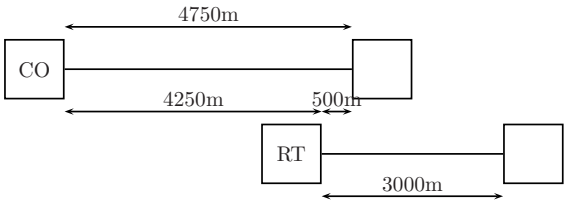

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.18Mbps
OSB RT = 3.41Mbps
RBI CO = 2.16Mbps
RBI RT = 3.38Mbps

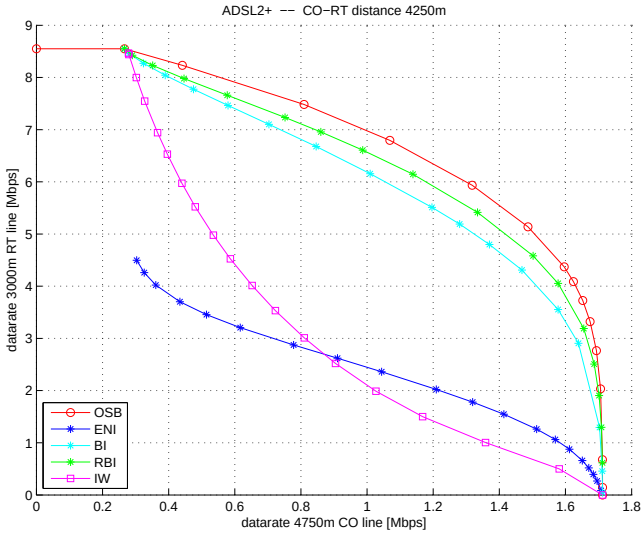

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.18Mbps
OSB RT = 3.24Mbps
RBI CO = 2.17Mbps
RBI RT = 3.20Mbps

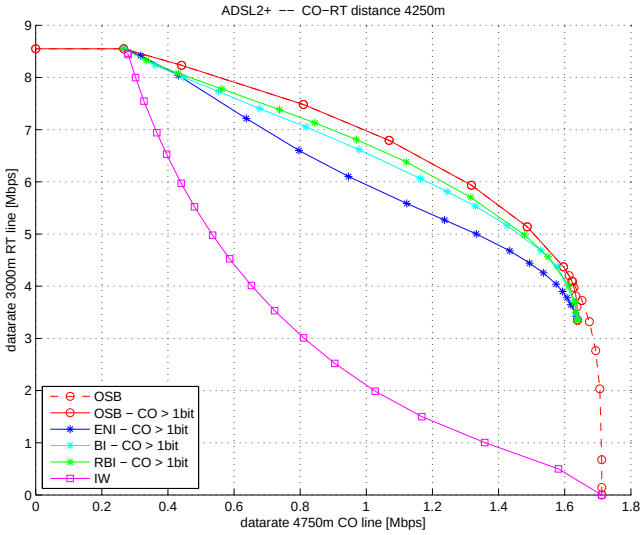

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 3.04Mbps
RBI CO = 2.18Mbps
RBI RT = 3.05Mbps

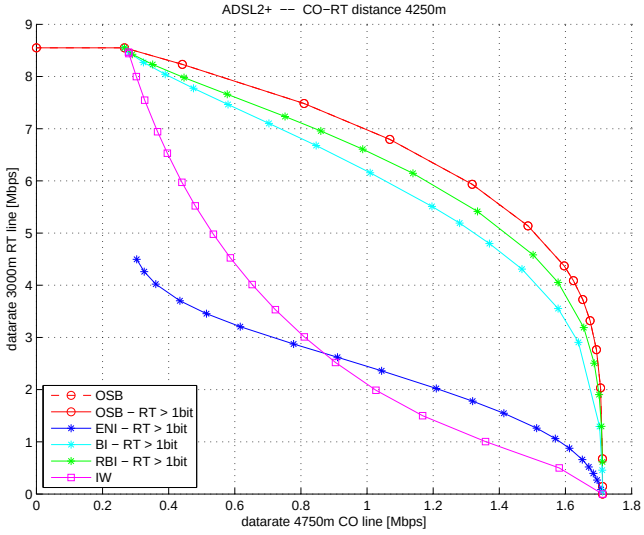

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 2.80Mbps
RBI CO = 2.19Mbps
RBI RT = 2.80Mbps

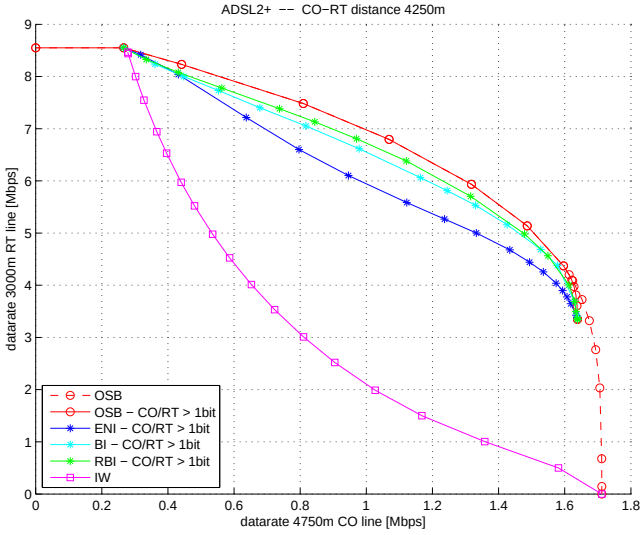

ADSL2+ -- CO=4500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 2.79Mbps
RBI CO = 2.19Mbps
RBI RT = 2.79Mbps

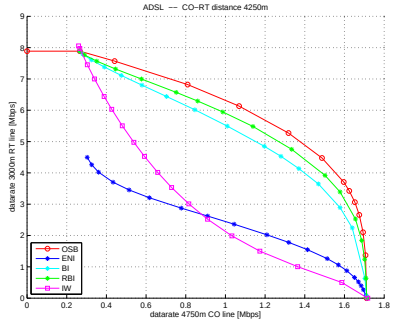

4750m
CO
4250m
500m
RT
3000m

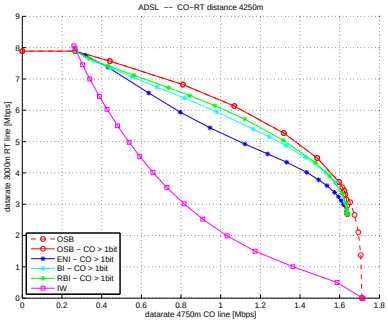

ADSL2+ -- CO-RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

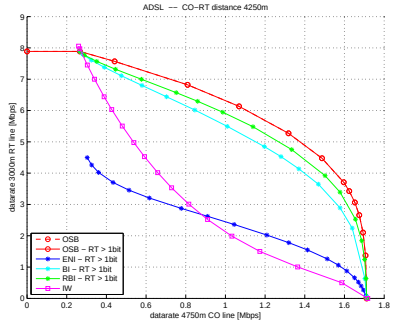

ADSL2+ -- CO-RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

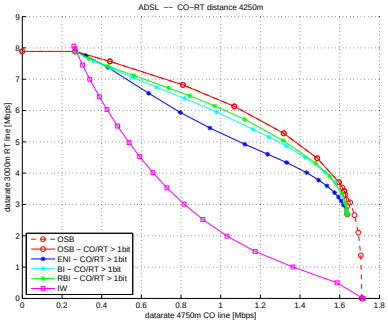

ADSL2+ -- CO-RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

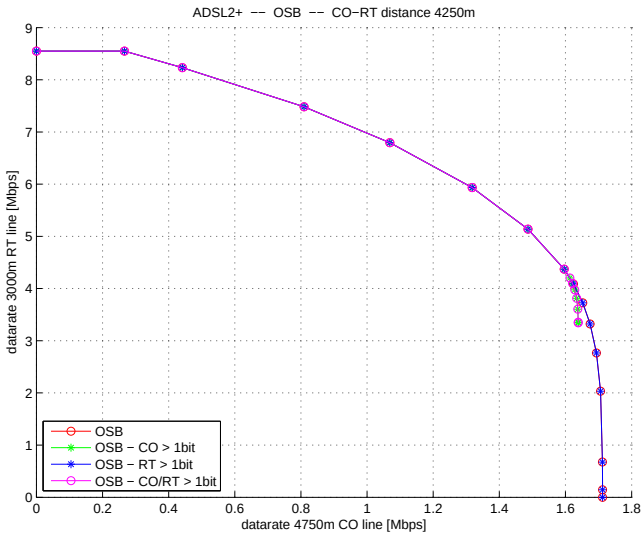

ADSL2+ -- CO-RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

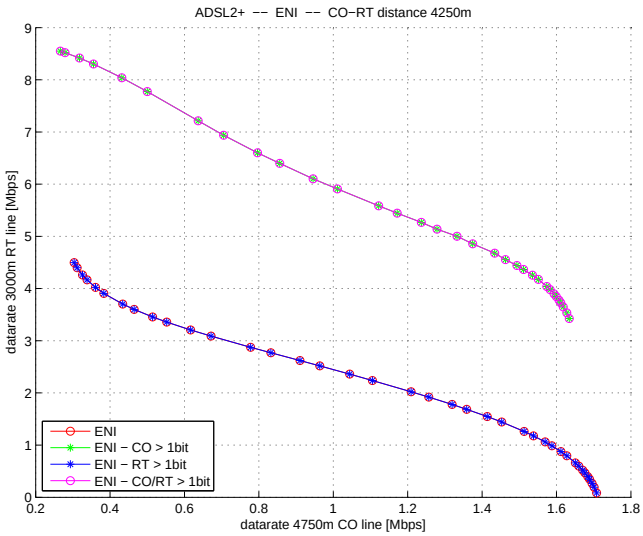

ADSL -- CO-RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

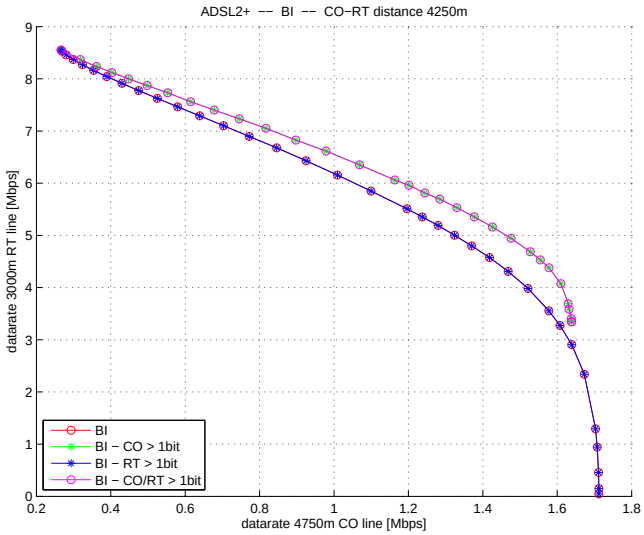

ADSL -- CO-RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

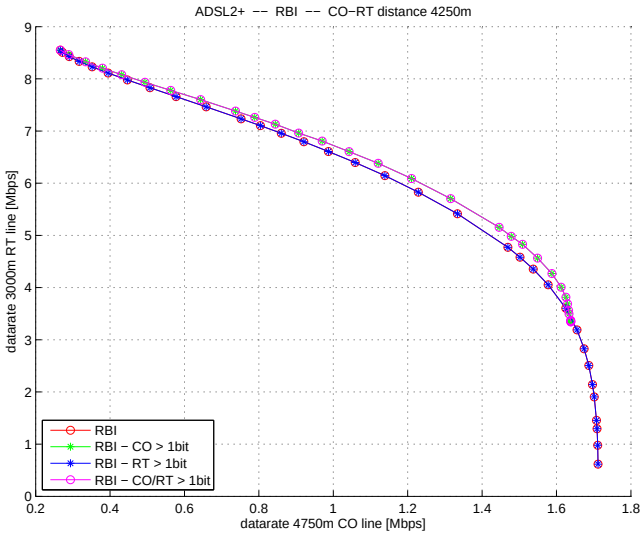

ADSL -- CO-RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

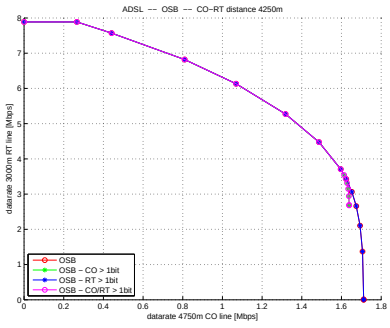

ADSL -- CO-RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

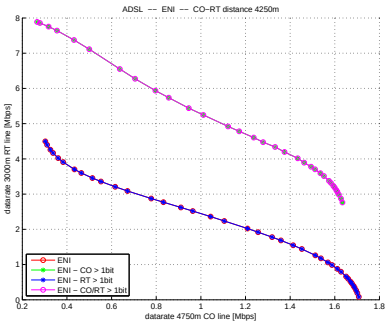

ADSL2+ -- OSB -- CO−RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

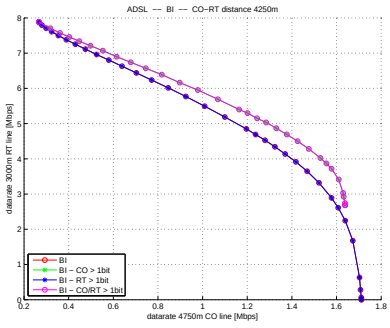

ADSL2+ -- ENI -- CO−RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

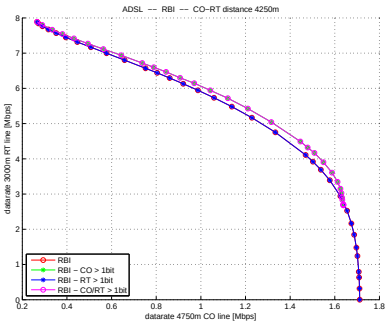

ADSL2+ -- BI -- CO−RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

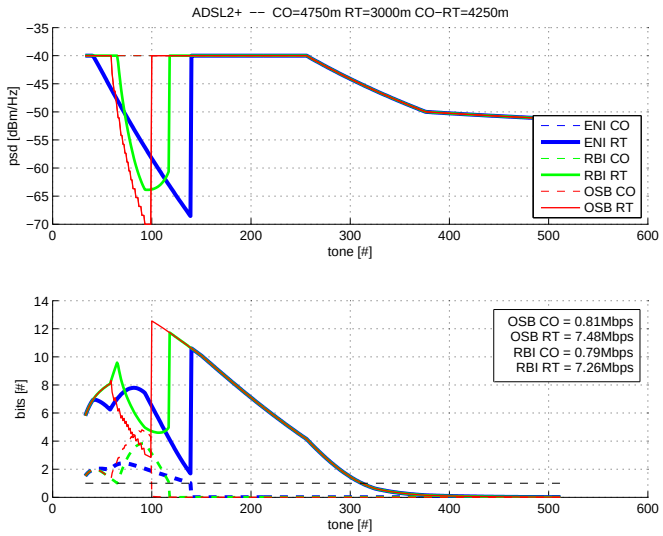

ADSL2+ -- RBI -- CO−RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

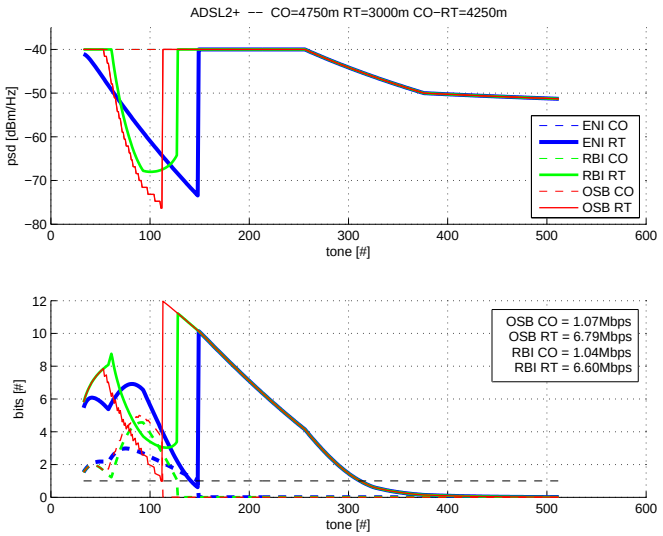

ADSL -- OSB -- CO−RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

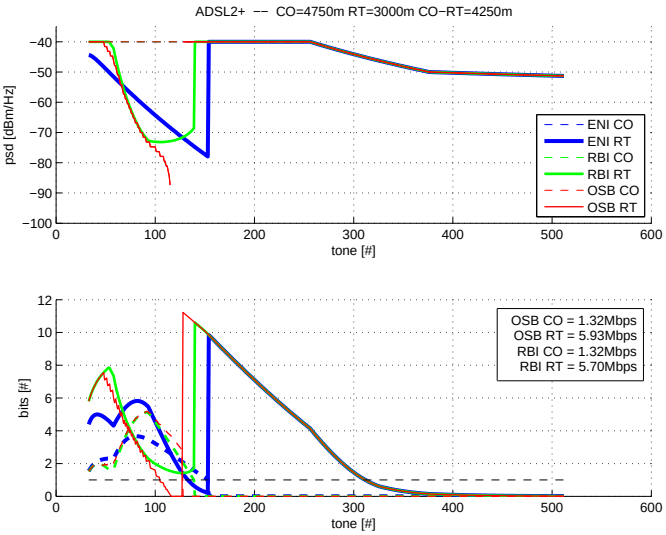

ADSL -- ENI -- CO−RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

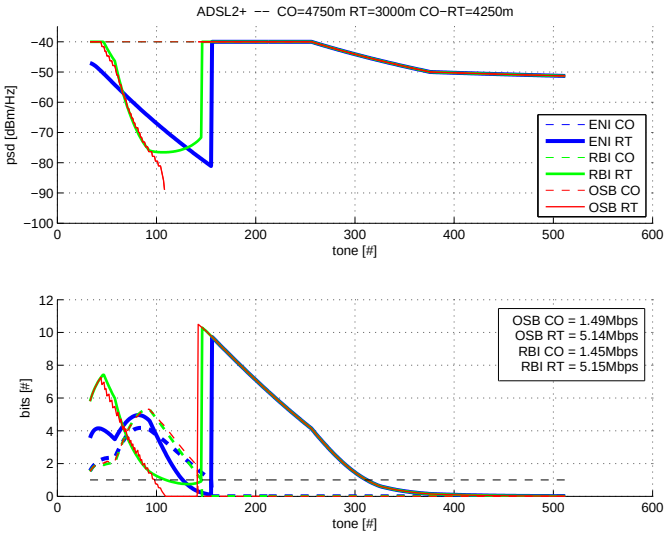

ADSL -- BI -- CO−RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

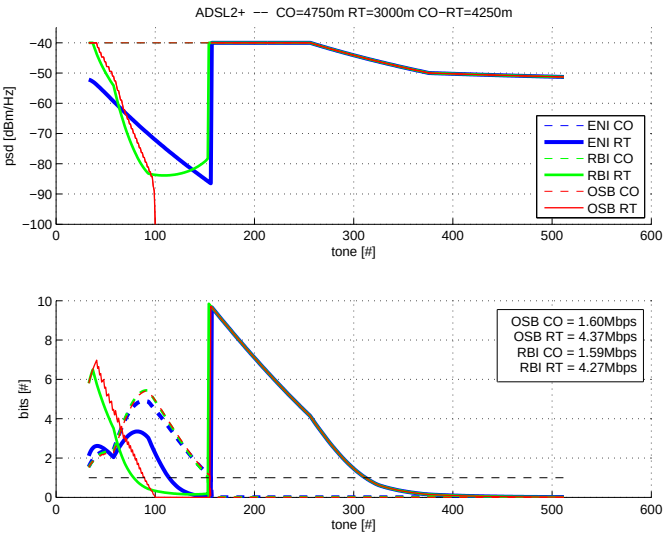

ADSL -- RBI -- CO−RT distance 4250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

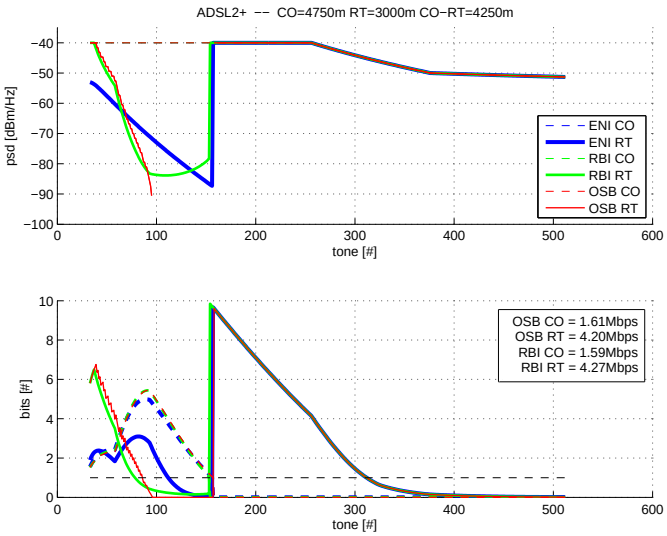

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.81Mbps
OSB RT = 7.48Mbps
RBI CO = 0.79Mbps
RBI RT = 7.26Mbps

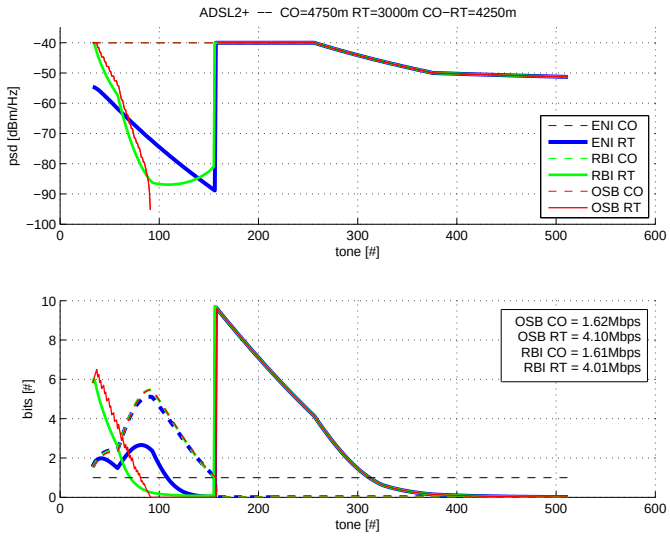

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.07Mbps
OSB RT = 6.79Mbps
RBI CO = 1.04Mbps
RBI RT = 6.60Mbps

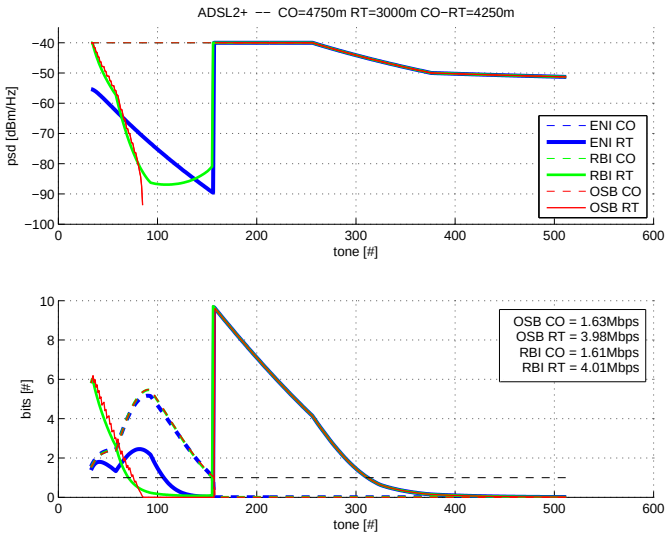

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.32Mbps
OSB RT = 5.93Mbps
RBI CO = 1.32Mbps
RBI RT = 5.70Mbps

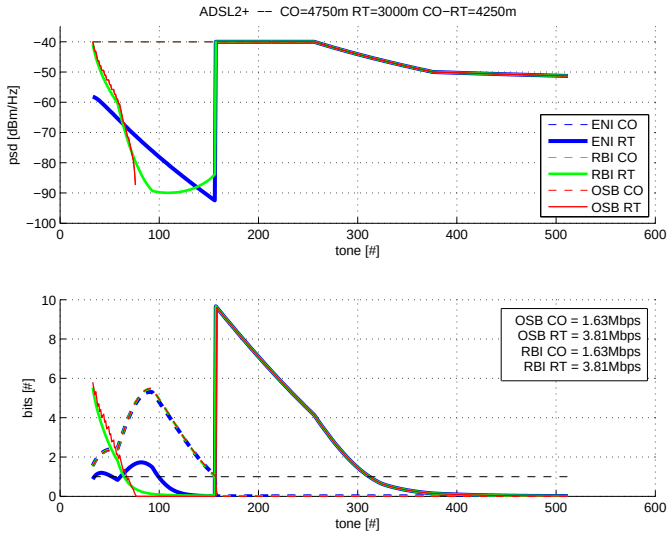

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.49Mbps
OSB RT = 5.14Mbps
RBI CO = 1.45Mbps
RBI RT = 5.15Mbps

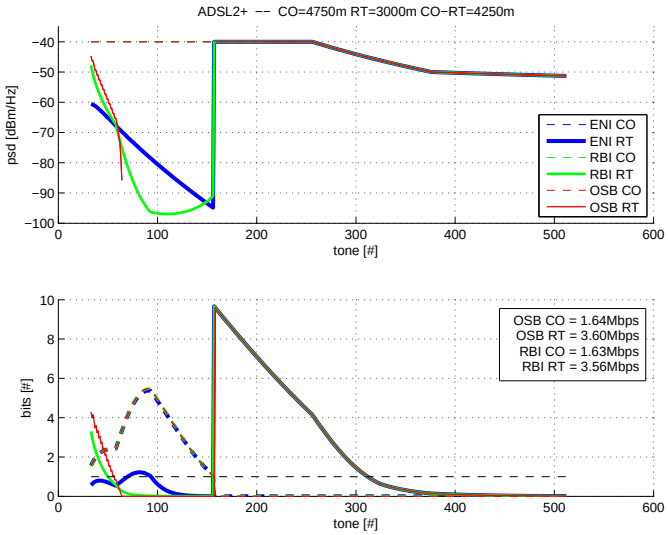

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.60Mbps
OSB RT = 4.37Mbps
RBI CO = 1.59Mbps
RBI RT = 4.27Mbps

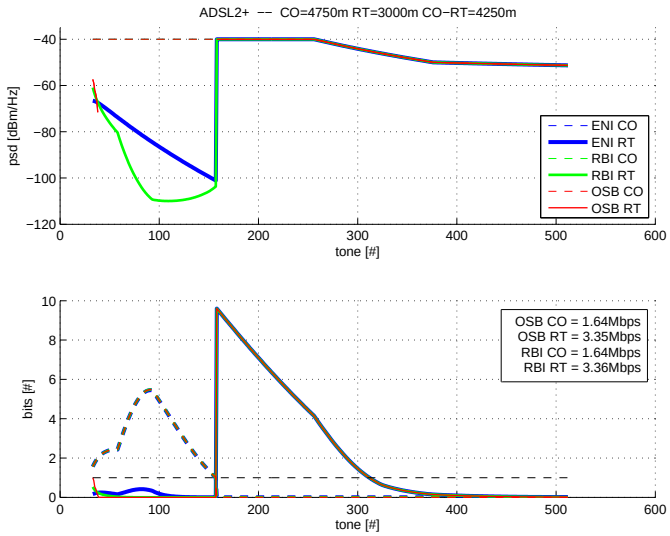

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.61Mbps
OSB RT = 4.20Mbps
RBI CO = 1.59Mbps
RBI RT = 4.27Mbps

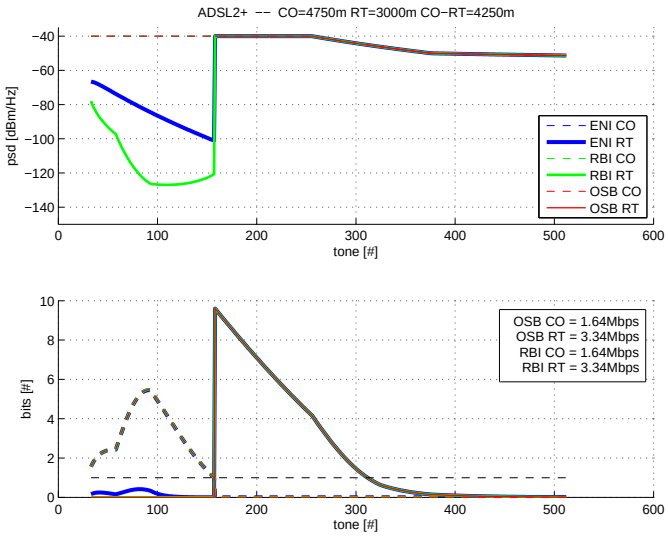

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.62Mbps
OSB RT = 4.10Mbps
RBI CO = 1.61Mbps
RBI RT = 4.01Mbps

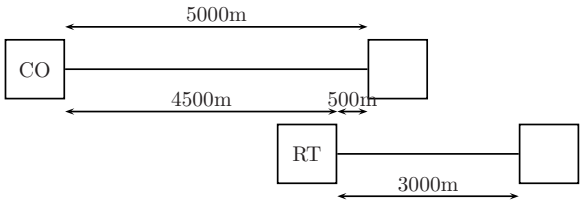

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.63Mbps
OSB RT = 3.98Mbps
RBI CO = 1.61Mbps
RBI RT = 4.01Mbps

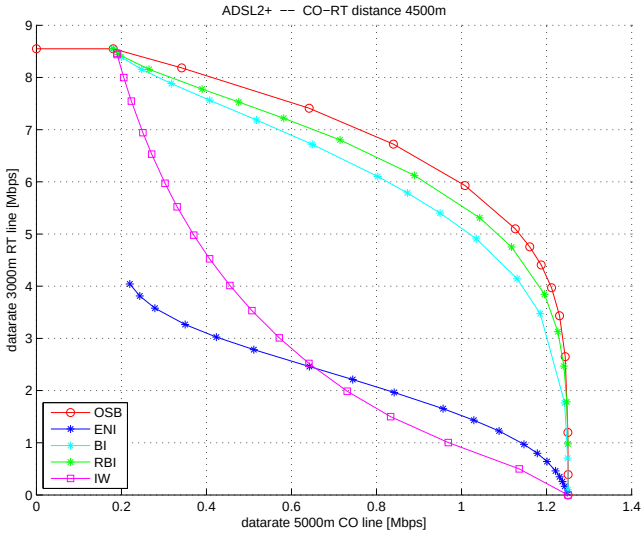

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.63Mbps
OSB RT = 3.81Mbps
RBI CO = 1.63Mbps
RBI RT = 3.81Mbps

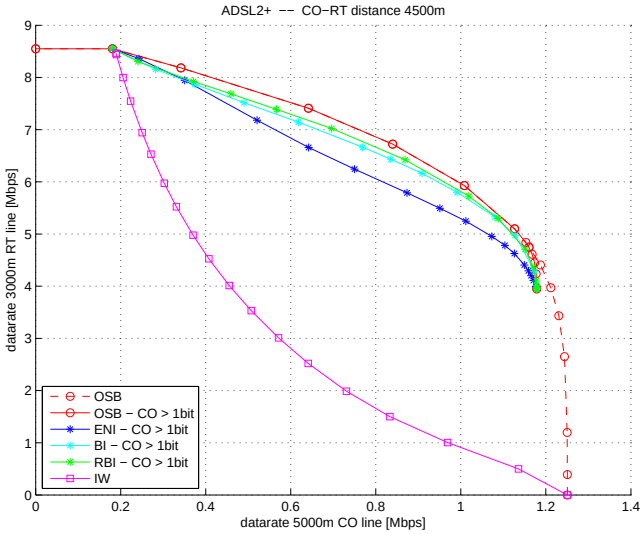

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.60Mbps
RBI CO = 1.63Mbps
RBI RT = 3.56Mbps

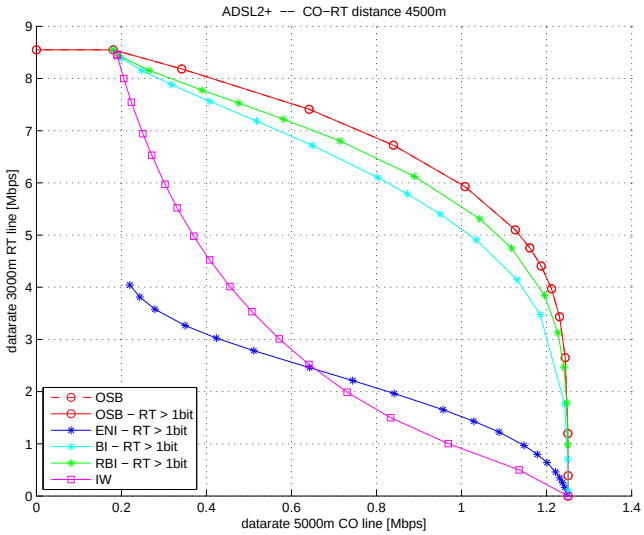

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.35Mbps
RBI CO = 1.64Mbps
RBI RT = 3.36Mbps

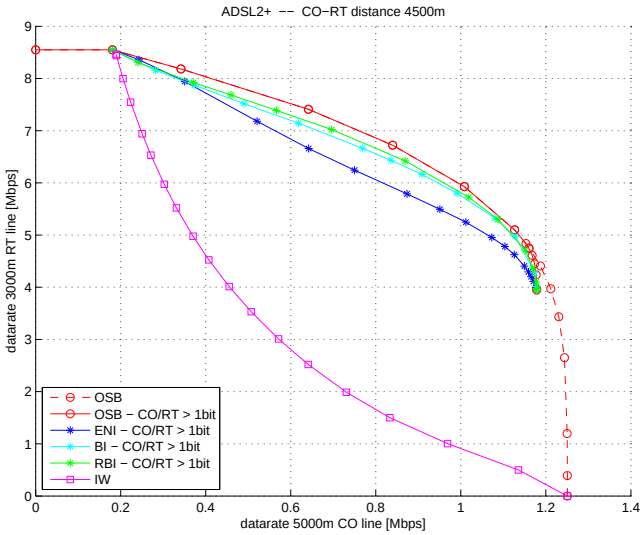

ADSL2+ -- CO=4750m RT=3000m CO-RT=4250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.34Mbps
RBI CO = 1.64Mbps
RBI RT = 3.34Mbps

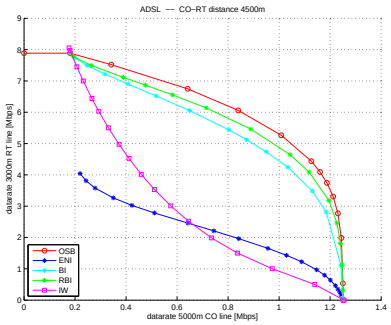

5000m
CO
4500m
500m
RT
3000m

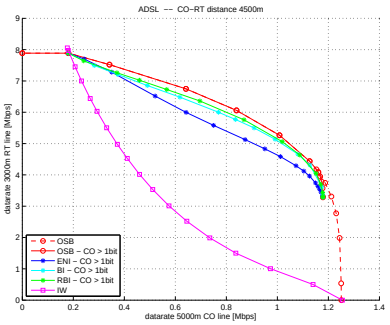

ADSL2+ -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

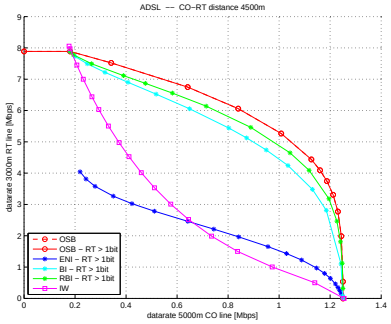

ADSL2+ -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

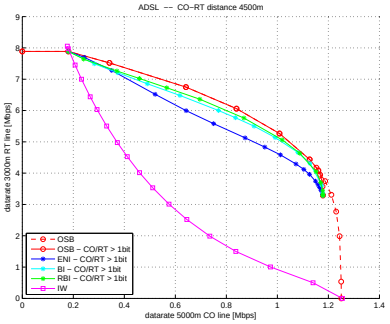

ADSL2+ -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

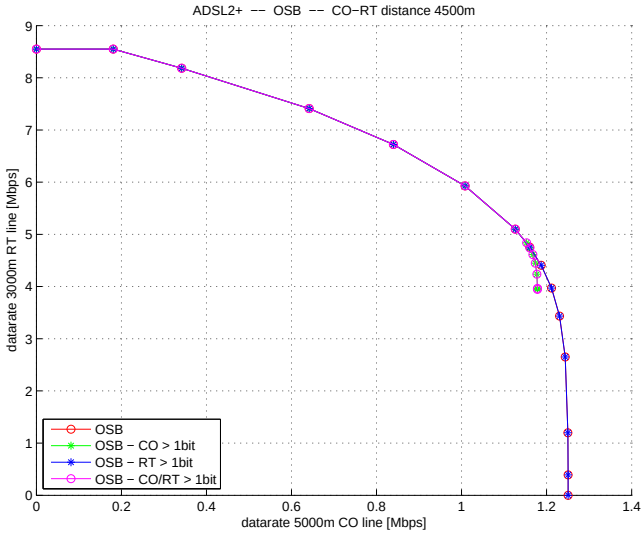

ADSL2+ -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

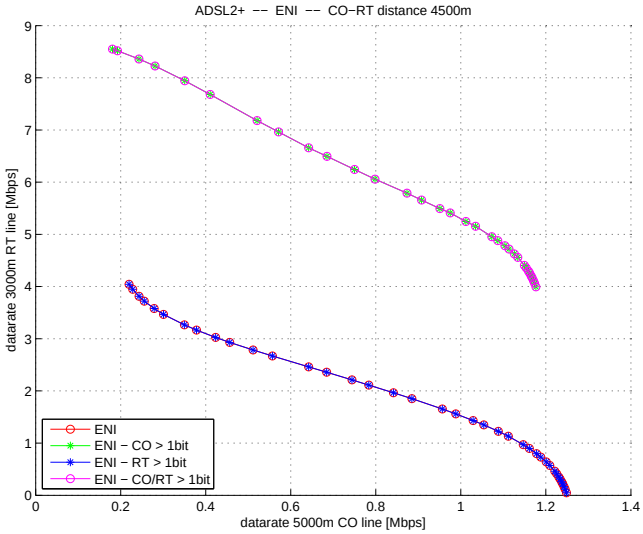

ADSL -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

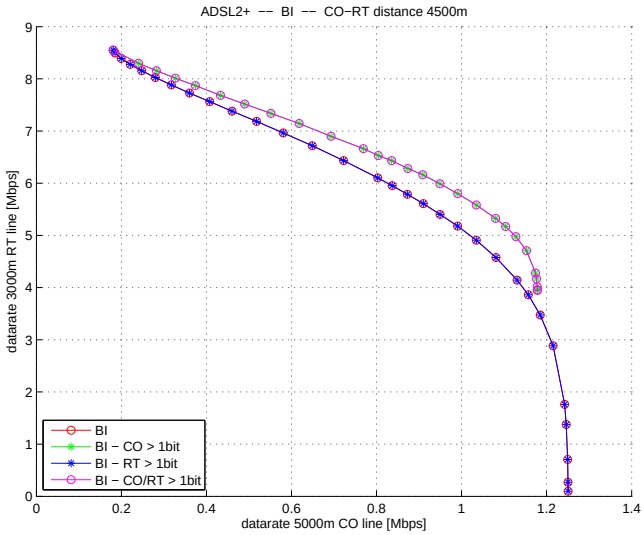

ADSL -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

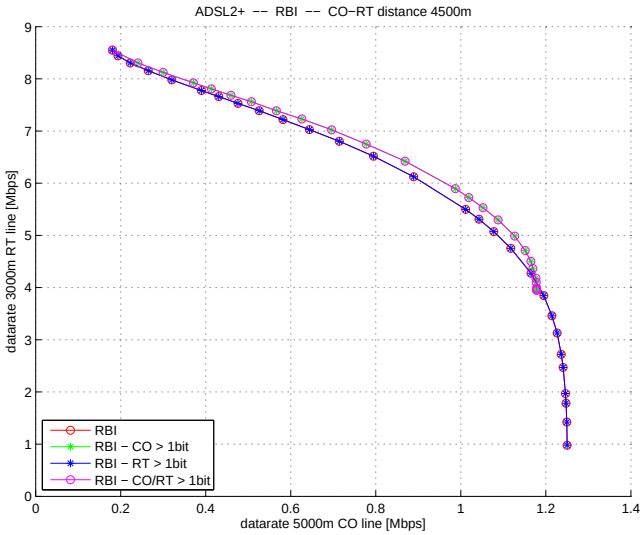

ADSL -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

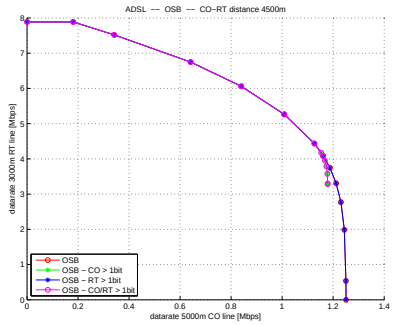

ADSL -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

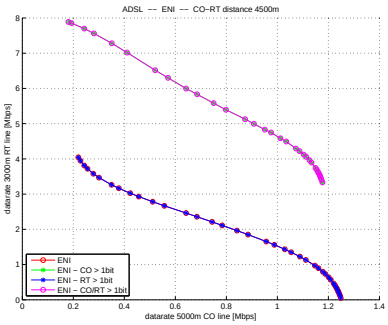

ADSL2+ −− OSB −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

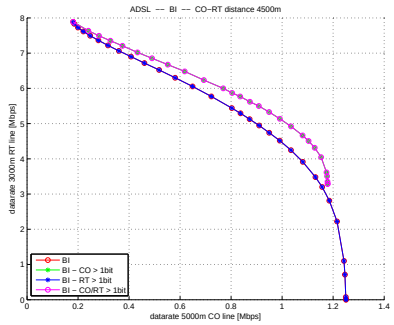

ADSL2+ −− ENI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

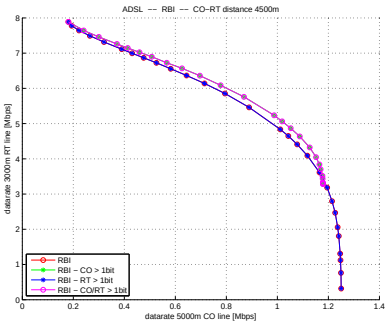

ADSL2+ −− BI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

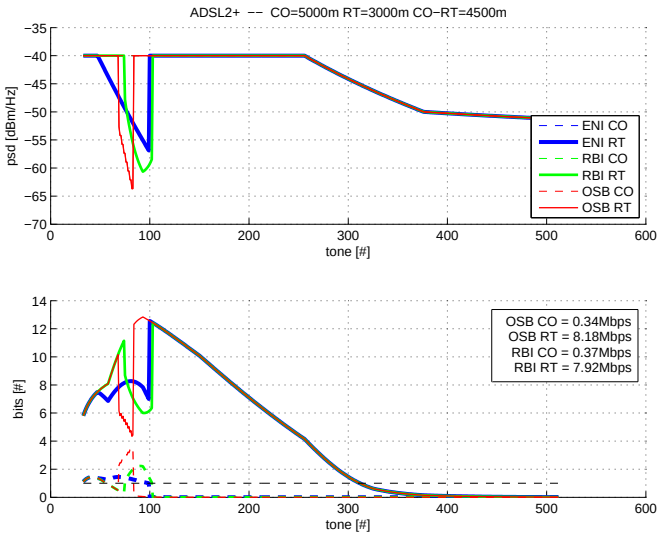

ADSL2+ −− RBI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

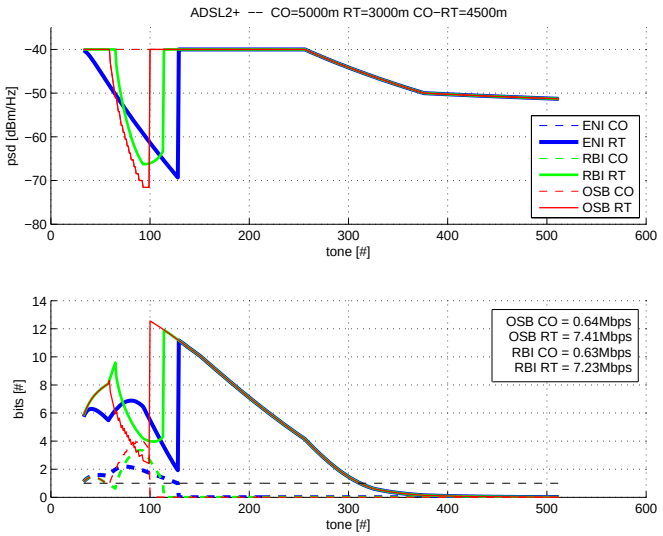

ADSL −− OSB −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

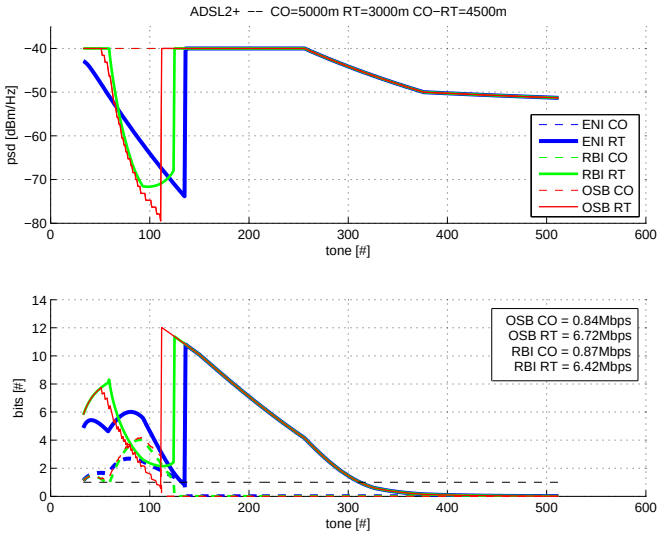

ADSL −− ENI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

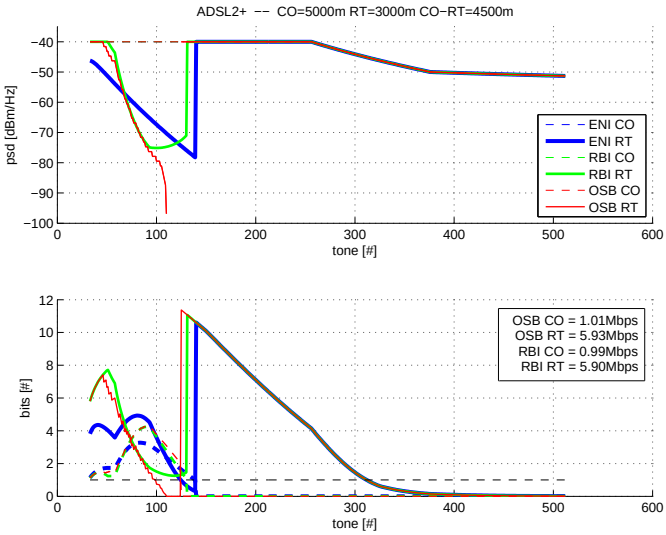

ADSL −− BI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

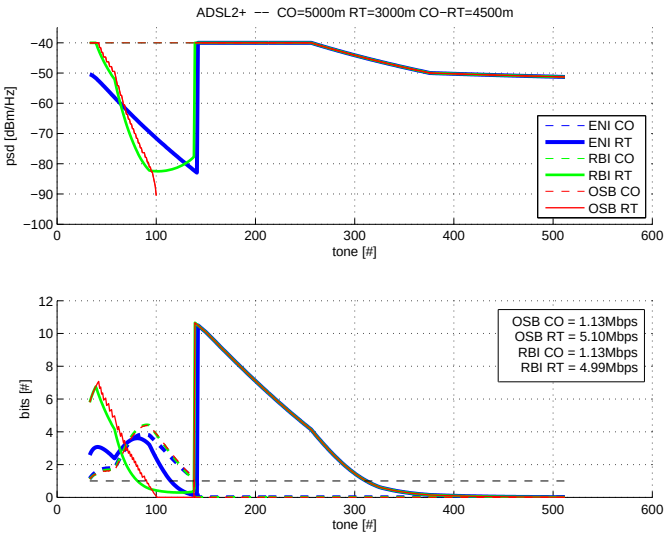

ADSL −− RBI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

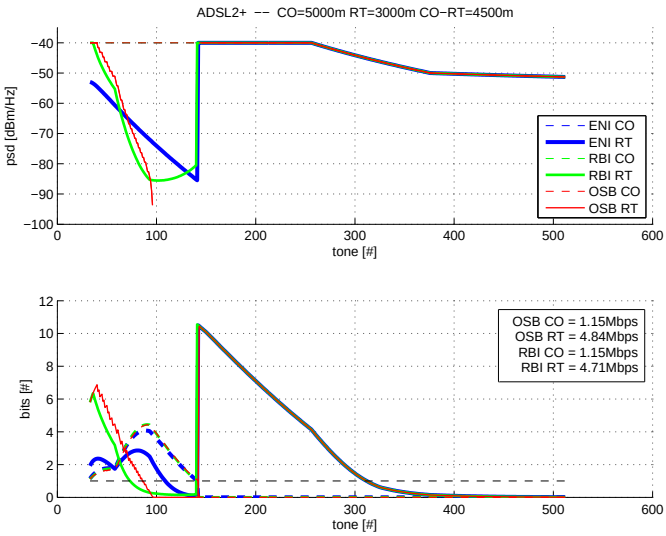

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.34Mbps
OSB RT = 8.18Mbps
RBI CO = 0.37Mbps
RBI RT = 7.92Mbps

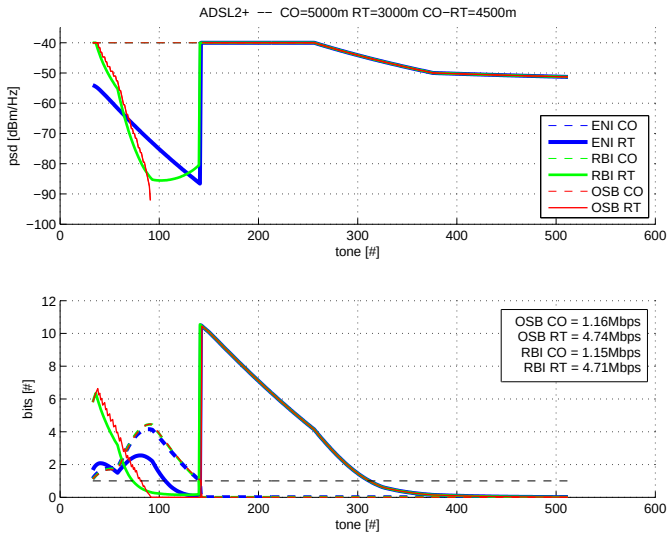

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.64Mbps
OSB RT = 7.41Mbps
RBI CO = 0.63Mbps
RBI RT = 7.23Mbps

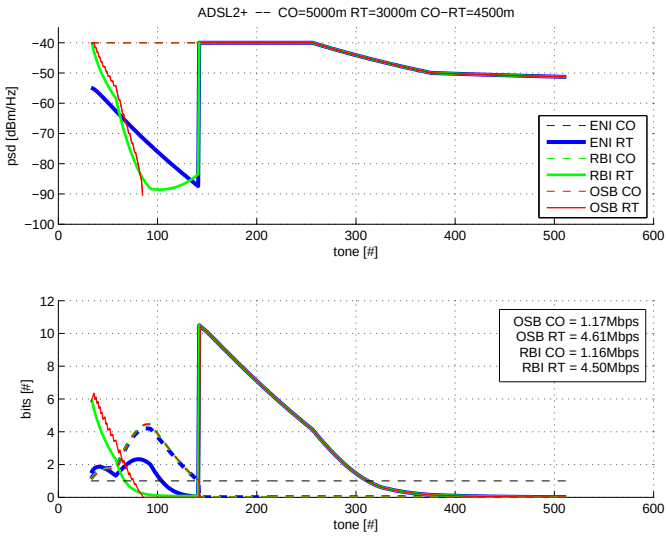

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.84Mbps
OSB RT = 6.72Mbps
RBI CO = 0.87Mbps
RBI RT = 6.42Mbps

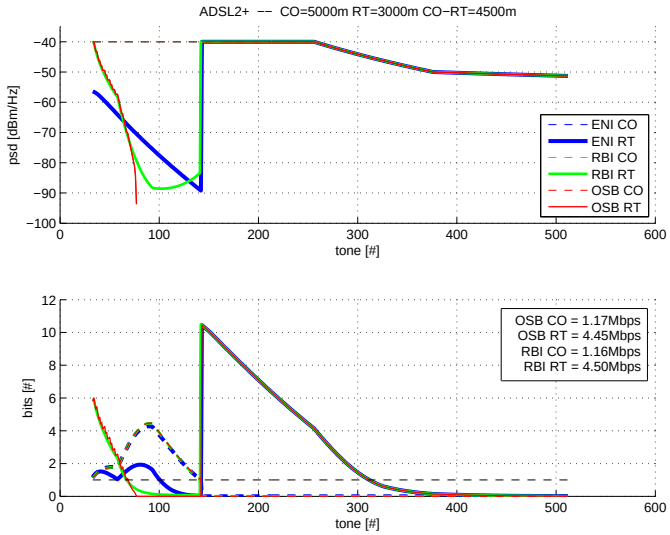

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.01Mbps
OSB RT = 5.93Mbps
RBI CO = 0.99Mbps
RBI RT = 5.90Mbps

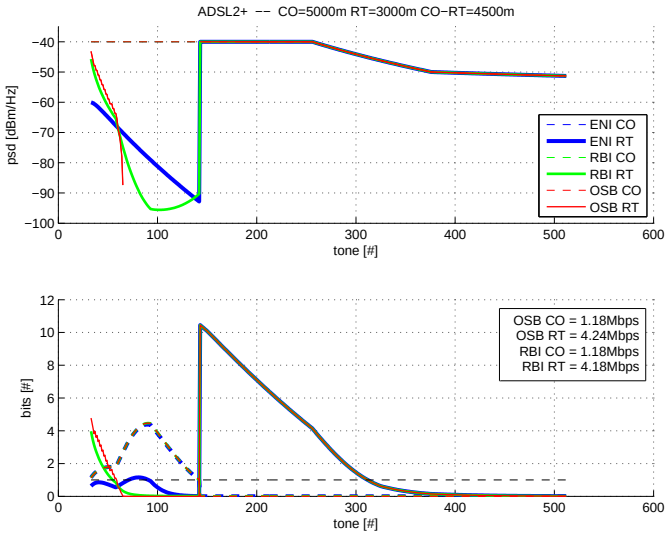

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.13Mbps
OSB RT = 5.10Mbps
RBI CO = 1.13Mbps
RBI RT = 4.99Mbps

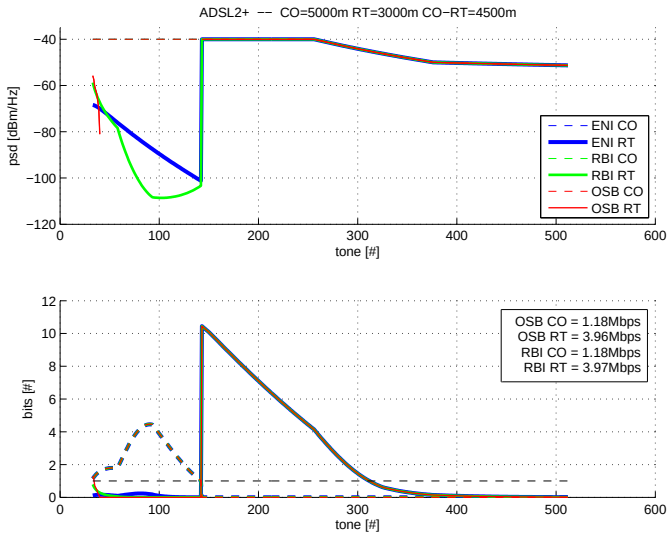

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.15Mbps
OSB RT = 4.84Mbps
RBI CO = 1.15Mbps
RBI RT = 4.71Mbps

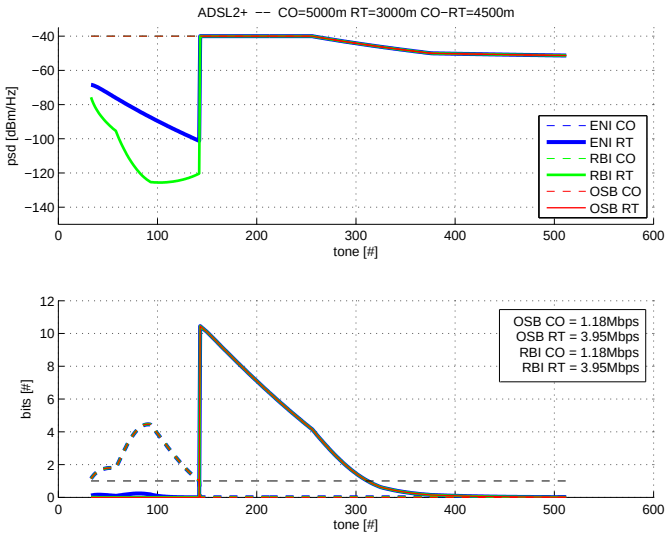

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.16Mbps
OSB RT = 4.74Mbps
RBI CO = 1.15Mbps
RBI RT = 4.71Mbps

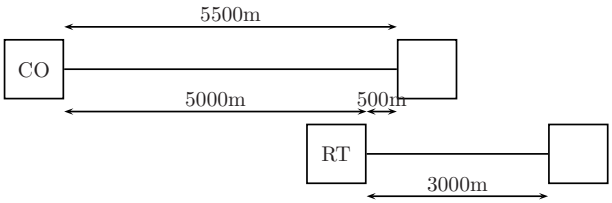

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.17Mbps
OSB RT = 4.61Mbps
RBI CO = 1.16Mbps
RBI RT = 4.50Mbps

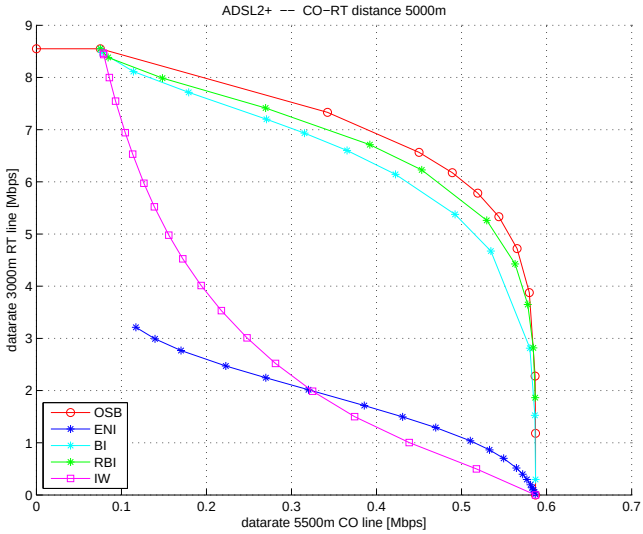

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.17Mbps
OSB RT = 4.45Mbps
RBI CO = 1.16Mbps
RBI RT = 4.50Mbps

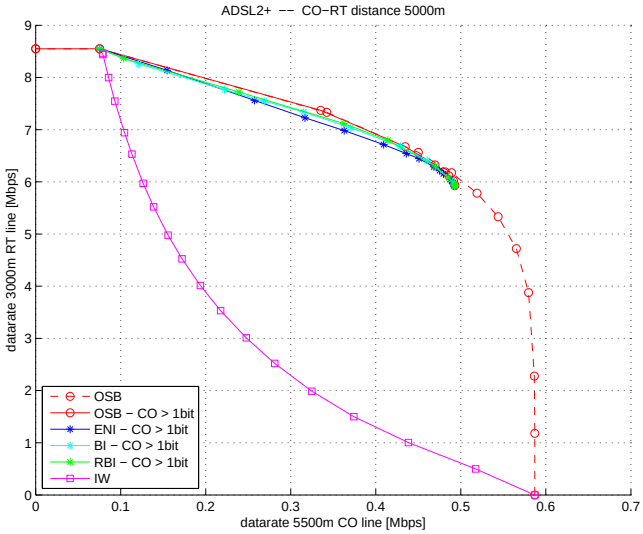

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.18Mbps
OSB RT = 4.24Mbps
RBI CO = 1.18Mbps
RBI RT = 4.18Mbps

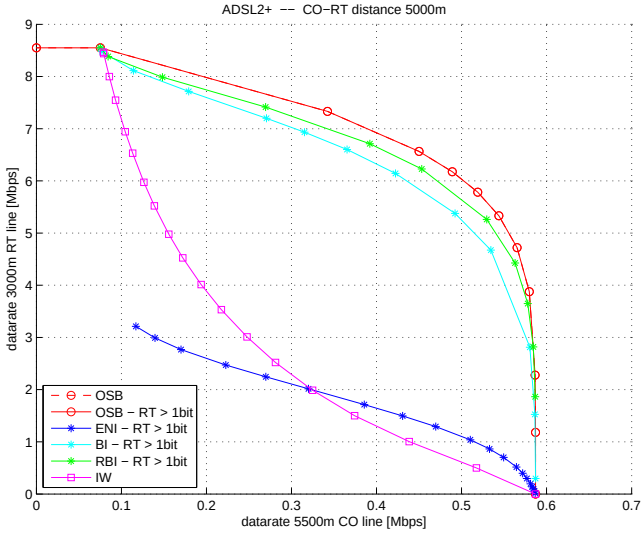

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.18Mbps
OSB RT = 3.96Mbps
RBI CO = 1.18Mbps
RBI RT = 3.97Mbps

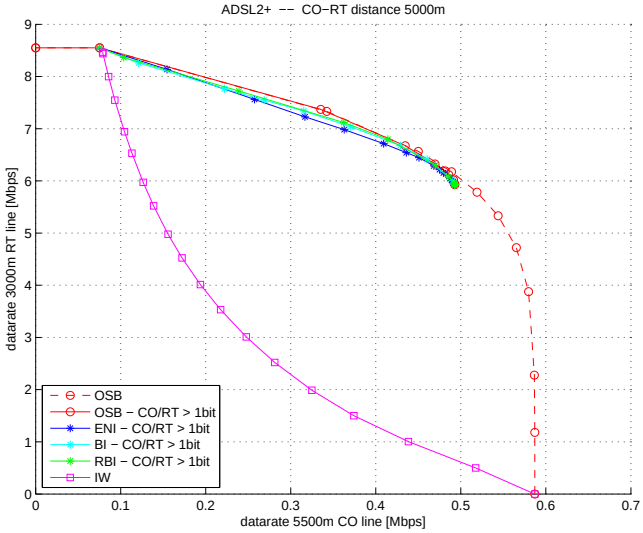

ADSL2+ -- CO=5000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.18Mbps
OSB RT = 3.95Mbps
RBI CO = 1.18Mbps
RBI RT = 3.95Mbps

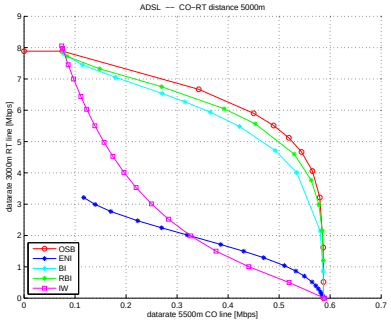

5500m
CO
5000m
500m
RT
3000m

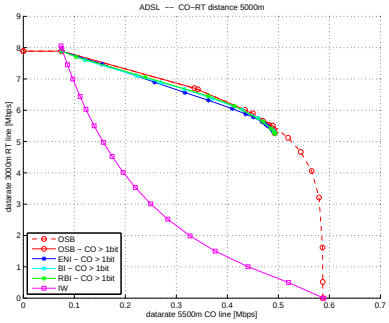

ADSL2+ −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

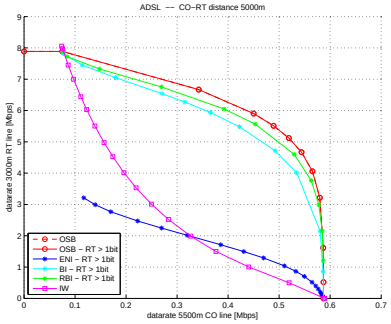

ADSL2+ −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

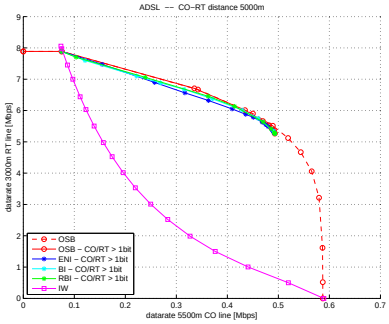

ADSL2+ −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

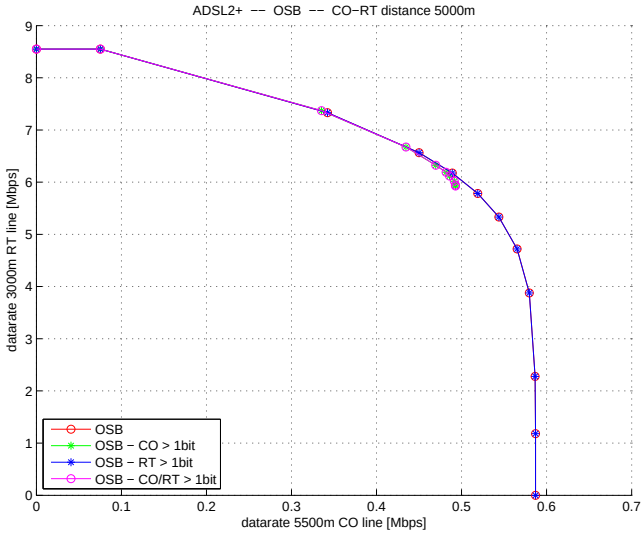

ADSL2+ −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

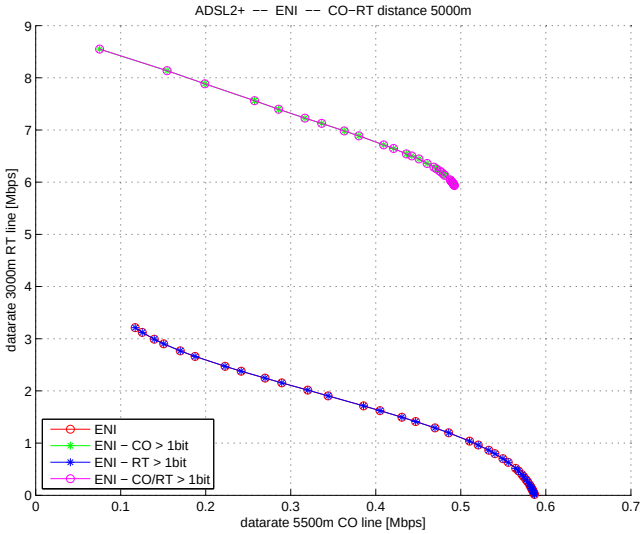

ADSL −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

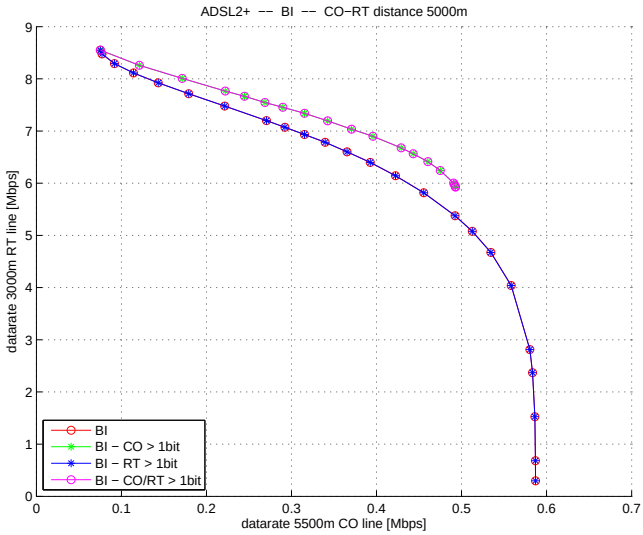

ADSL −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

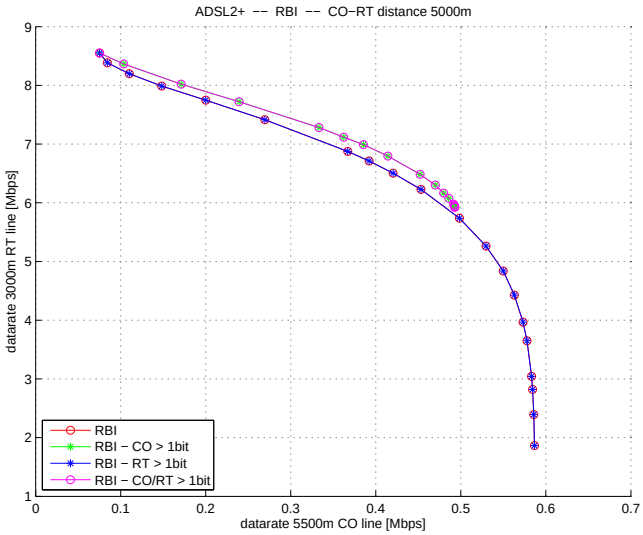

ADSL −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

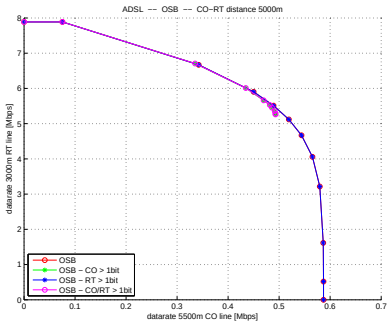

ADSL −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

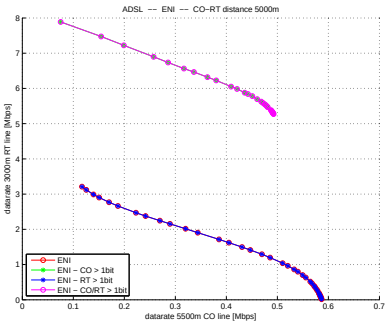

ADSL2+ -- OSB -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

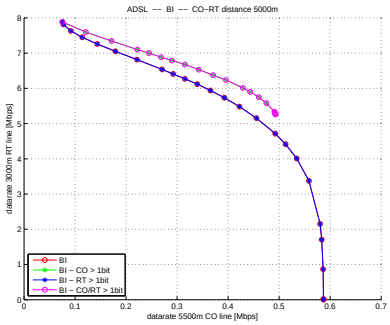

ADSL2+ -- ENI -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

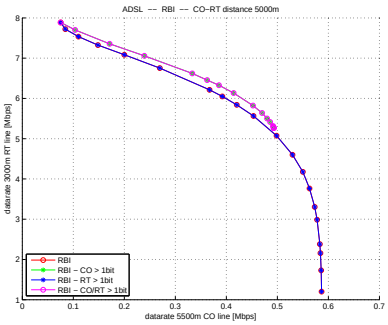

ADSL2+ -- BI -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

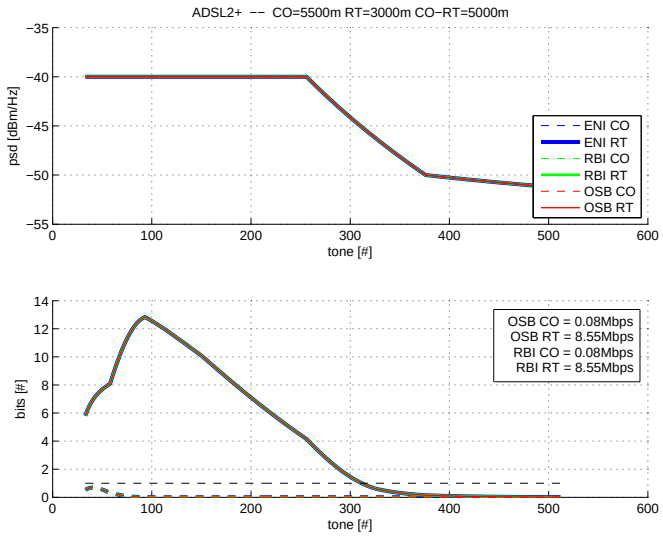

ADSL2+ -- RBI -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

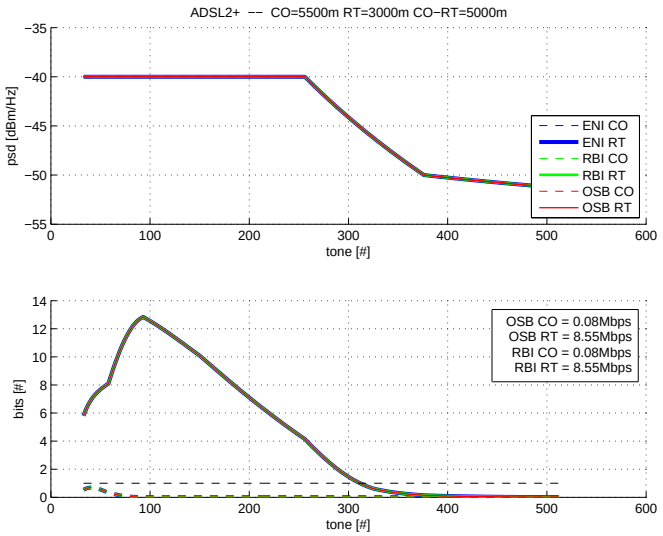

ADSL -- OSB -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

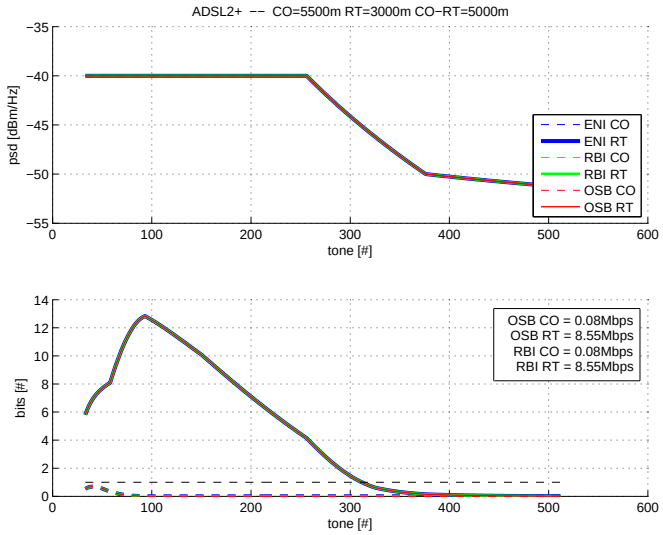

ADSL -- ENI -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

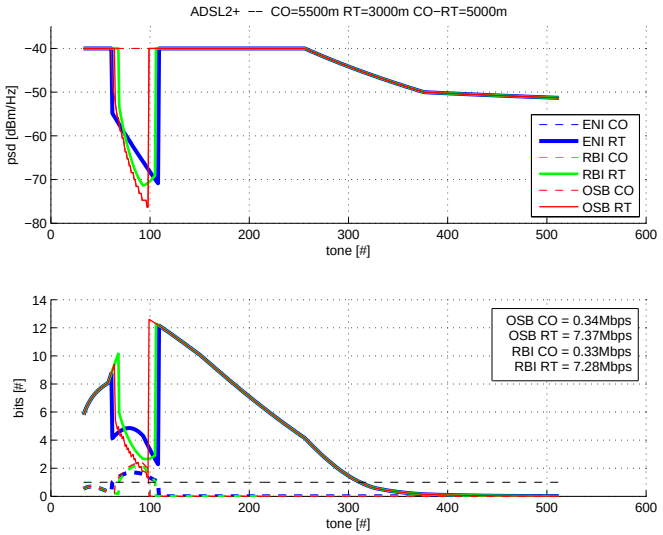

ADSL -- BI -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

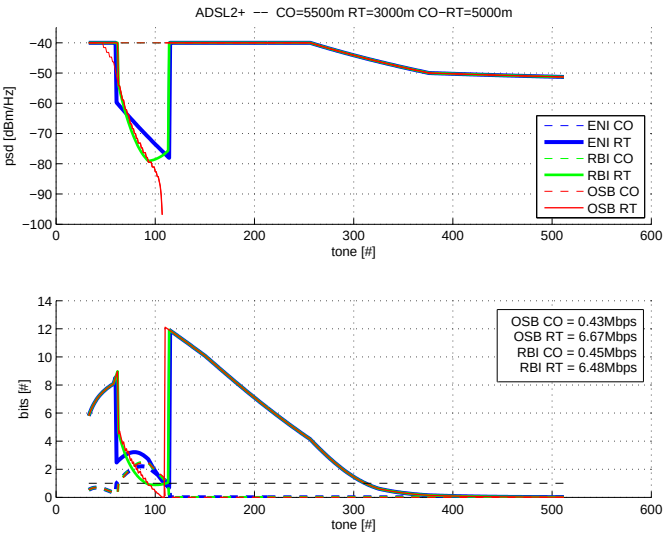

ADSL -- RBI -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

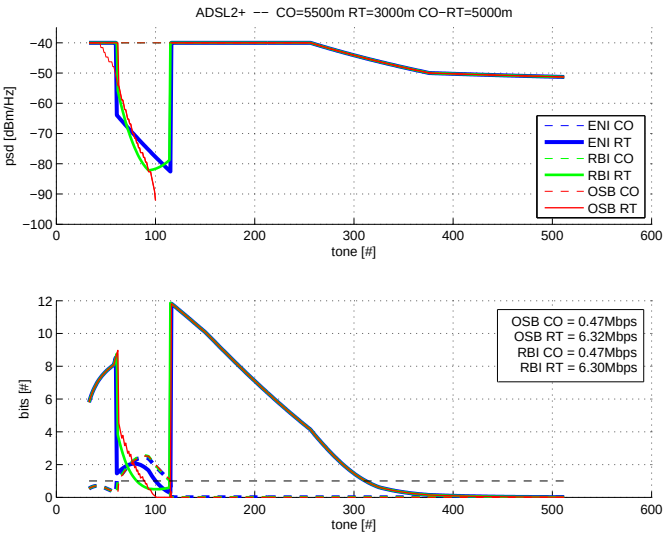

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.08Mbps
OSB RT = 8.55Mbps
RBI CO = 0.08Mbps
RBI RT = 8.55Mbps

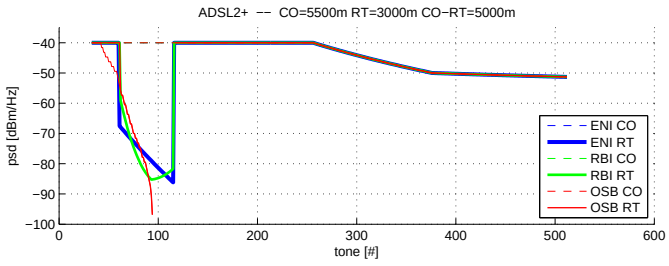

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.08Mbps
OSB RT = 8.55Mbps
RBI CO = 0.08Mbps
RBI RT = 8.55Mbps

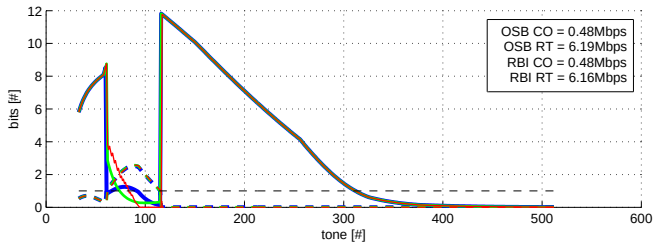

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.08Mbps
OSB RT = 8.55Mbps
RBI CO = 0.08Mbps
RBI RT = 8.55Mbps

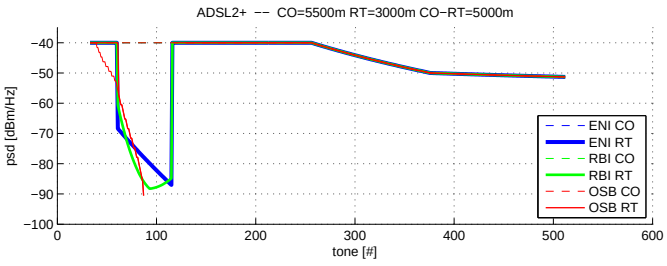

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.34Mbps
OSB RT = 7.37Mbps
RBI CO = 0.33Mbps
RBI RT = 7.28Mbps

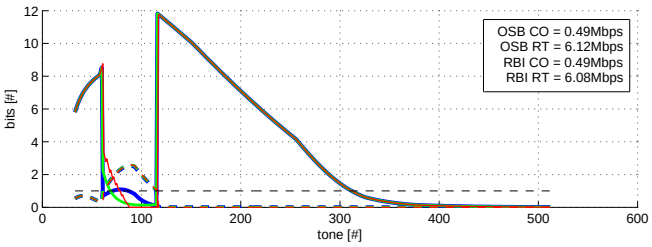

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.43Mbps
OSB RT = 6.67Mbps
RBI CO = 0.45Mbps
RBI RT = 6.48Mbps

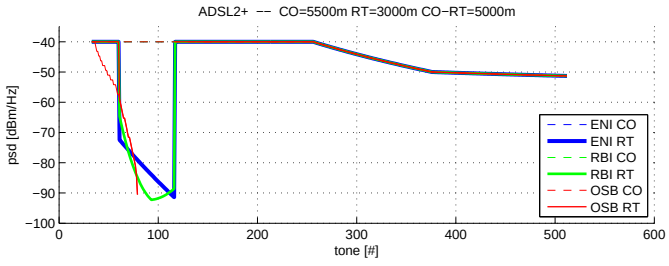

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.47Mbps
OSB RT = 6.32Mbps
RBI CO = 0.47Mbps
RBI RT = 6.30Mbps

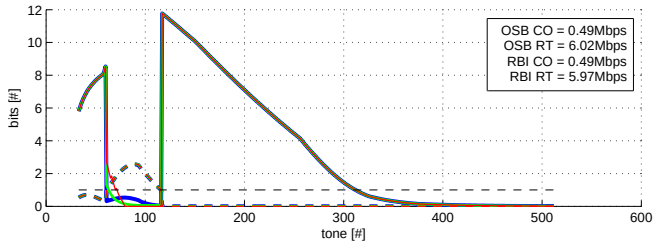

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

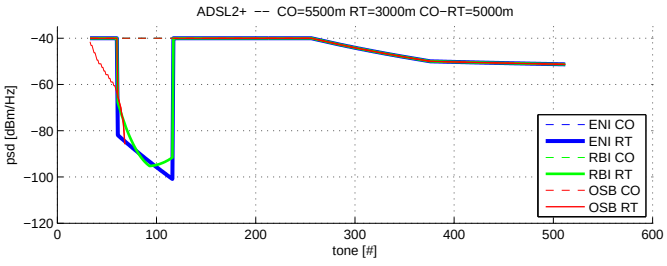

bits [#]
tone [#]
OSB CO = 0.48Mbps
OSB RT = 6.19Mbps
RBI CO = 0.48Mbps
RBI RT = 6.16Mbps

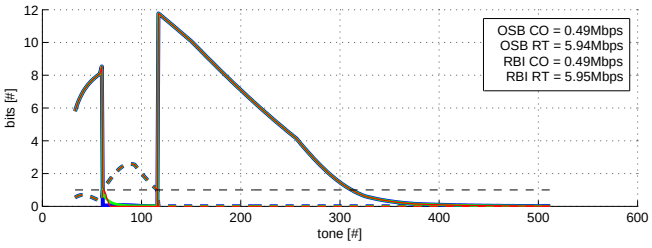

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

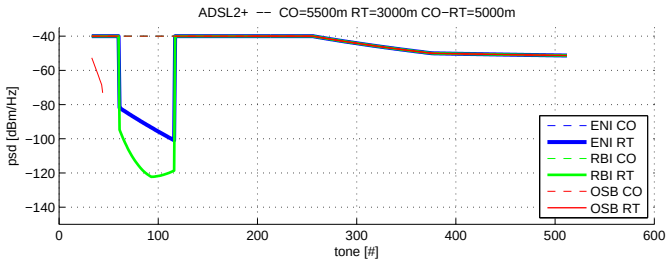

bits [#]
tone [#]
OSB CO = 0.49Mbps
OSB RT = 6.12Mbps
RBI CO = 0.49Mbps
RBI RT = 6.08Mbps

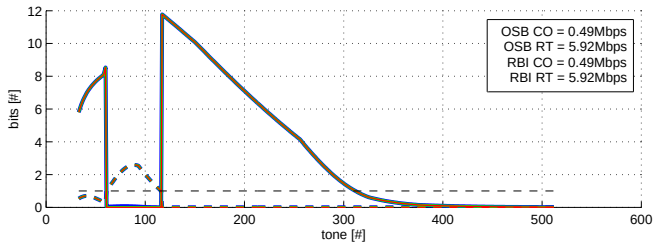

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

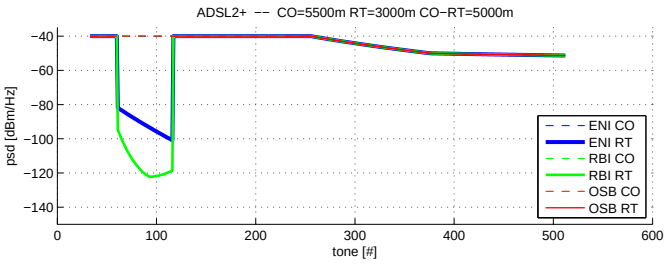

bits [#]
tone [#]
OSB CO = 0.49Mbps
OSB RT = 6.02Mbps
RBI CO = 0.49Mbps
RBI RT = 5.97Mbps

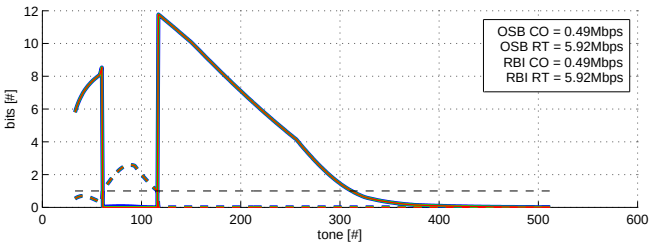

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

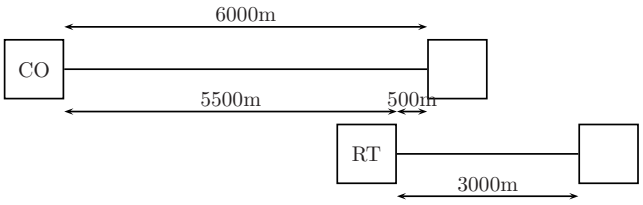

bits [#]
tone [#]
OSB CO = 0.49Mbps
OSB RT = 5.94Mbps
RBI CO = 0.49Mbps
RBI RT = 5.95Mbps

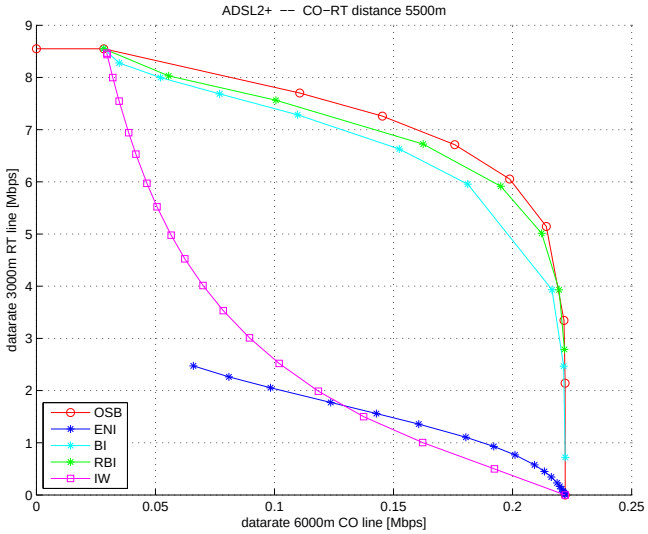

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

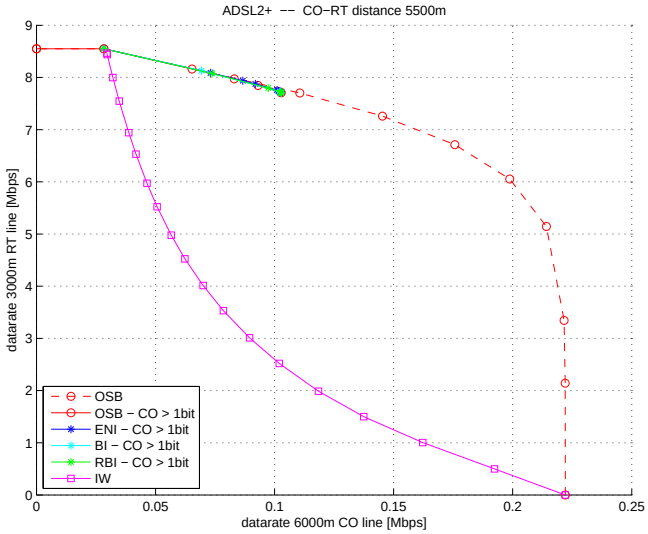

bits [#]
tone [#]
OSB CO = 0.49Mbps
OSB RT = 5.92Mbps
RBI CO = 0.49Mbps
RBI RT = 5.92Mbps

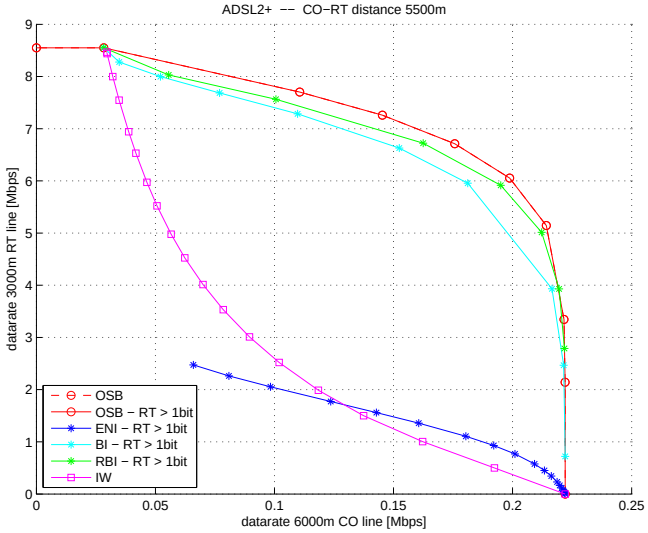

ADSL2+ -- CO=5500m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

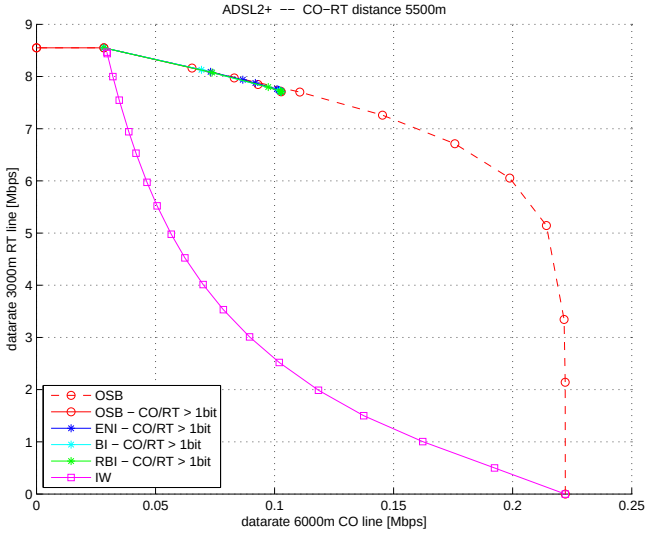

bits [#]
tone [#]
OSB CO = 0.49Mbps
OSB RT = 5.92Mbps
RBI CO = 0.49Mbps
RBI RT = 5.92Mbps

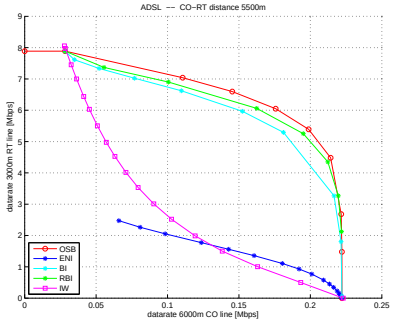

6000m
CO
5500m
500m
RT
3000m

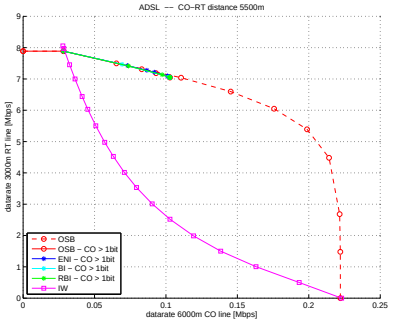

ADSL2+ -- CO-RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

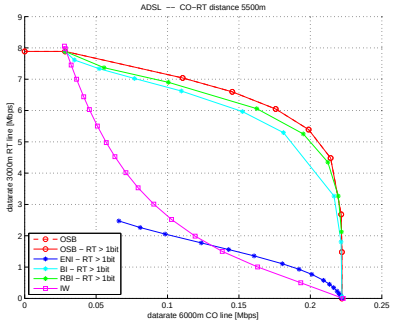

ADSL2+ -- CO-RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

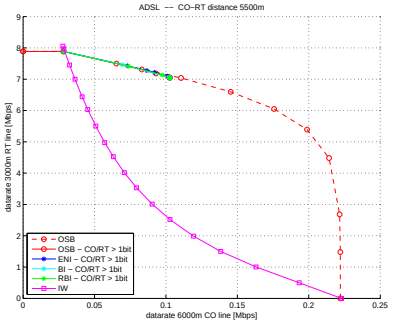

ADSL2+ -- CO-RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

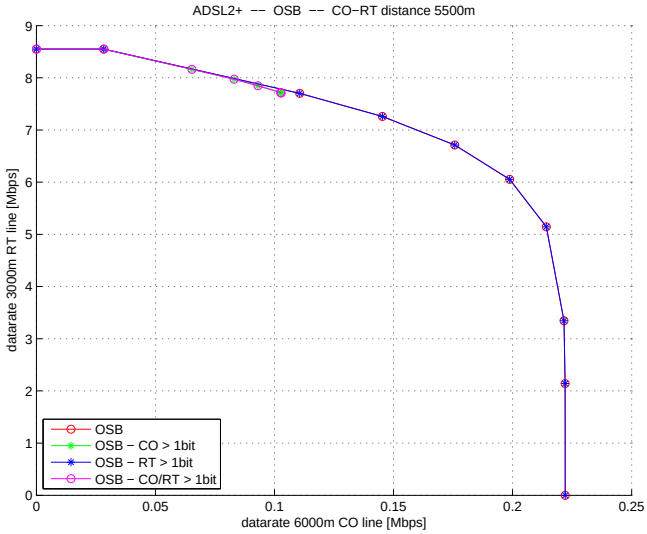

ADSL2+ -- CO-RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

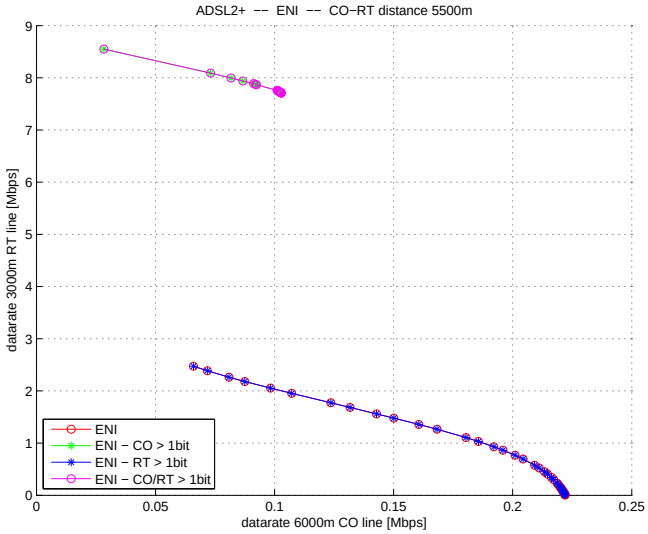

ADSL -- CO-RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

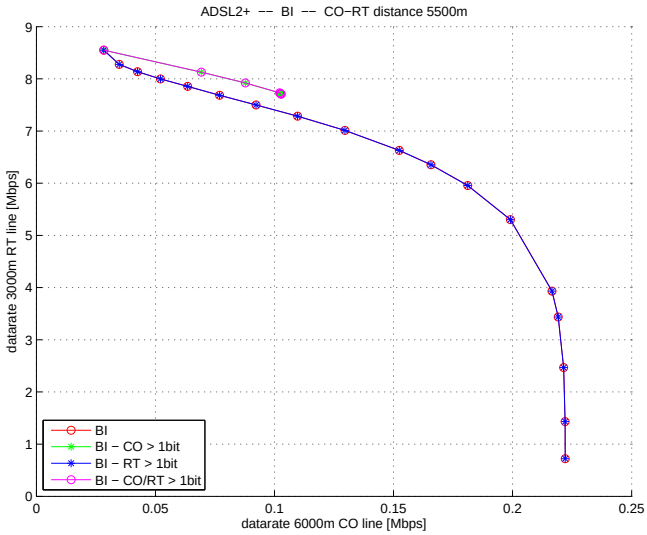

ADSL -- CO-RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

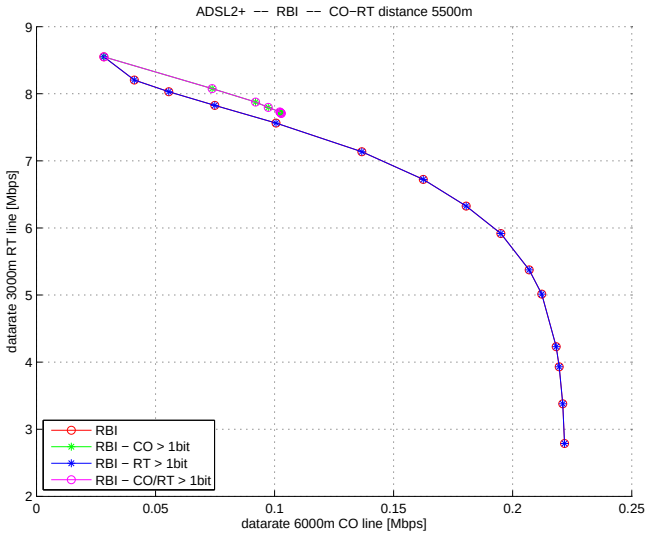

ADSL -- CO-RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

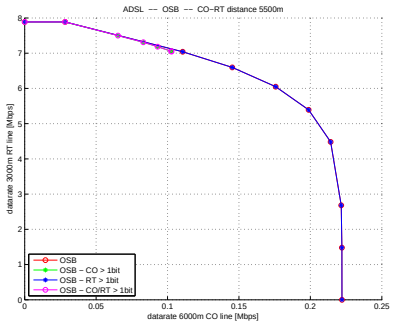

ADSL -- CO-RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

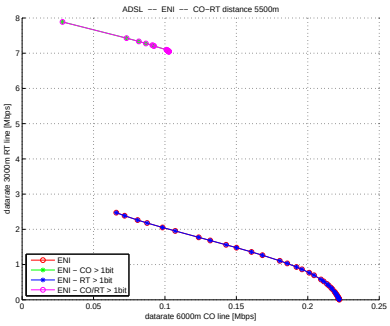

ADSL2+ −− OSB −− CO−RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

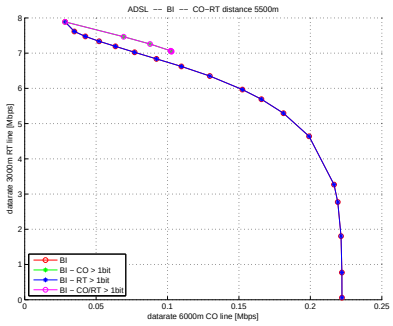

ADSL2+ −− ENI −− CO−RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

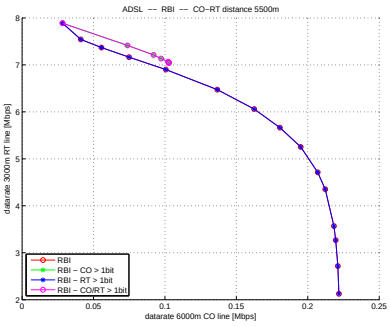

ADSL2+ −− BI −− CO−RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

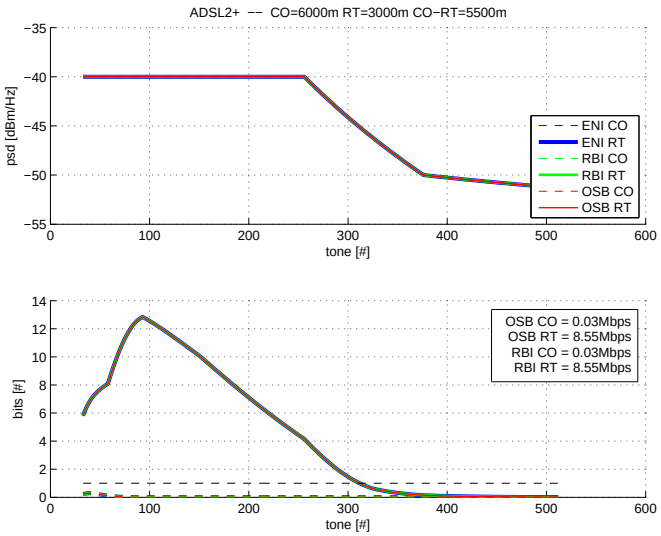

ADSL2+ −− RBI −− CO−RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

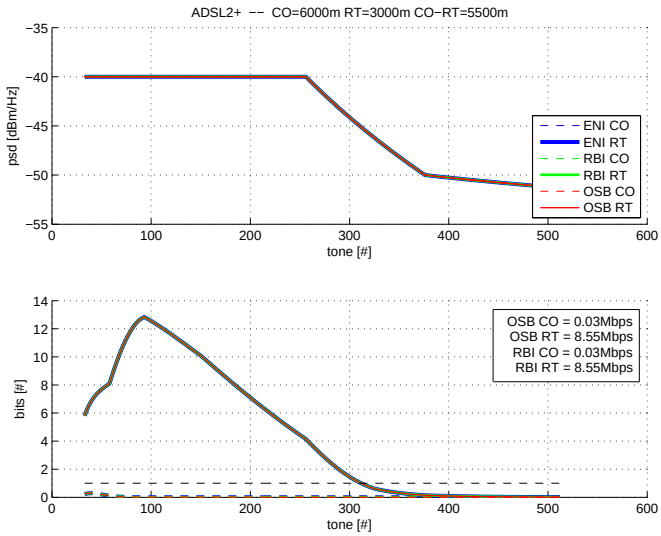

ADSL −− OSB −− CO−RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

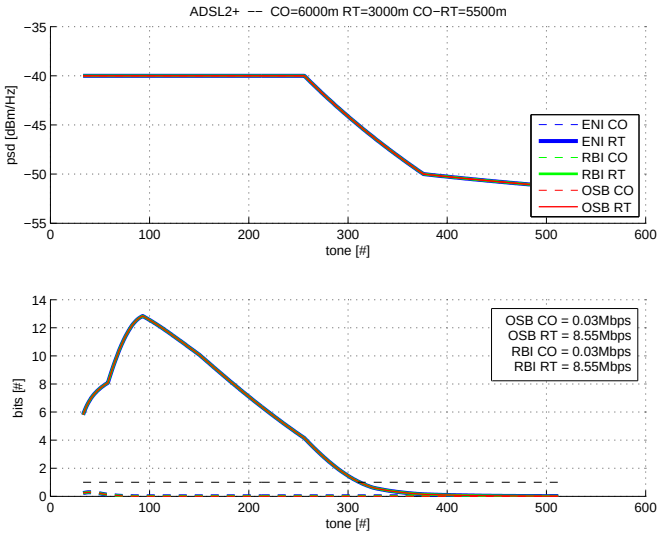

ADSL −− ENI −− CO−RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

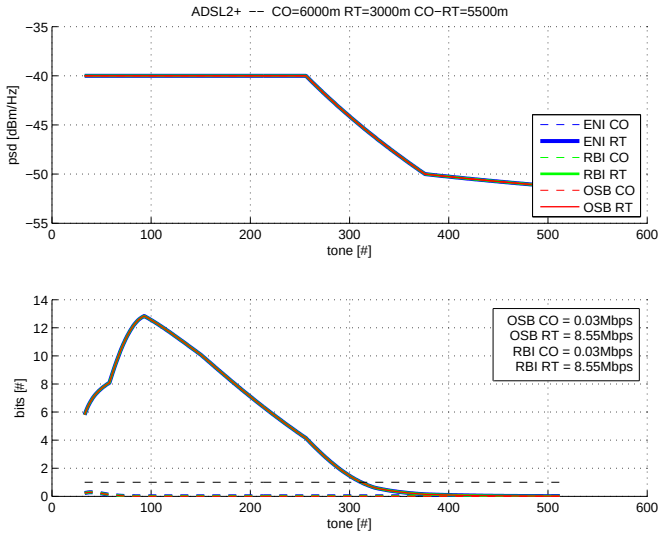

ADSL −− BI −− CO−RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

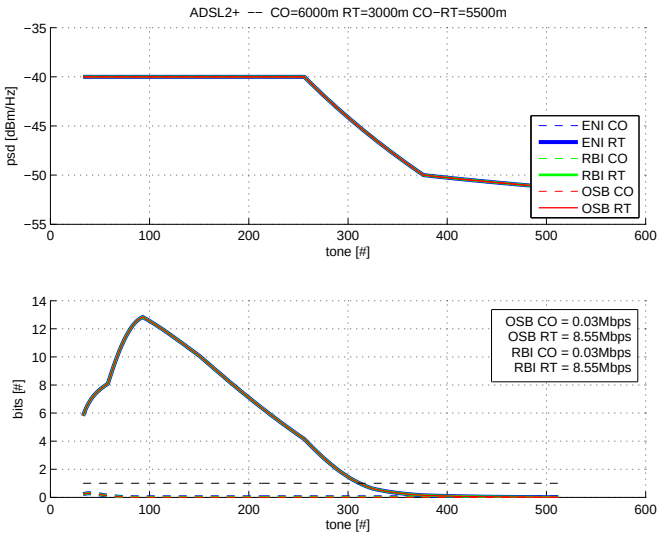

ADSL −− RBI −− CO−RT distance 5500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

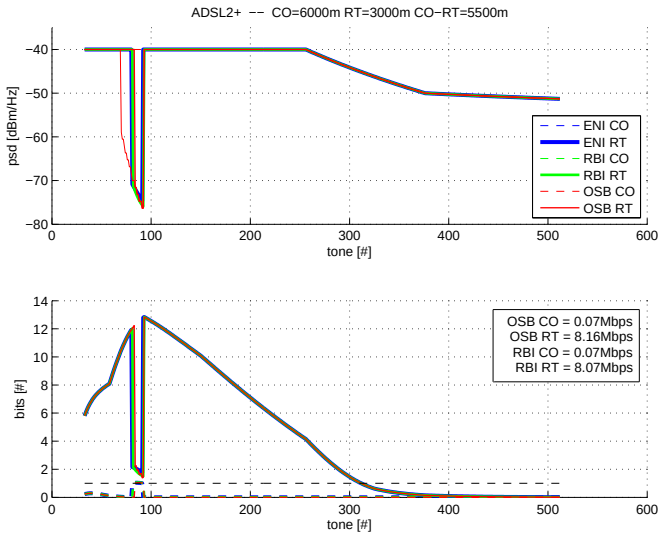

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

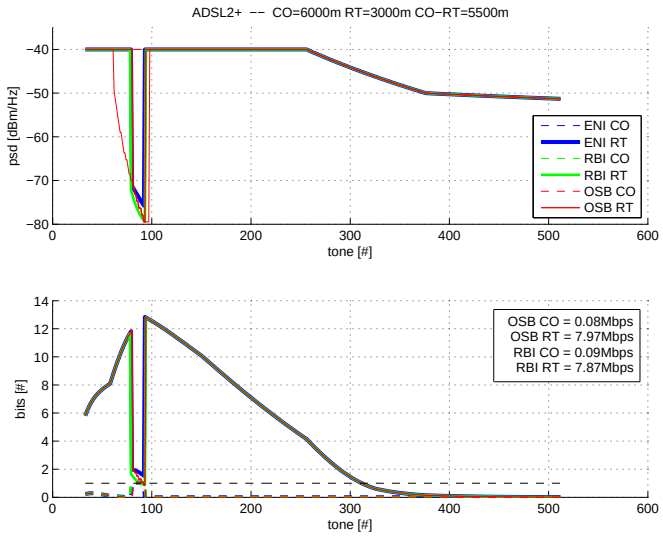

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

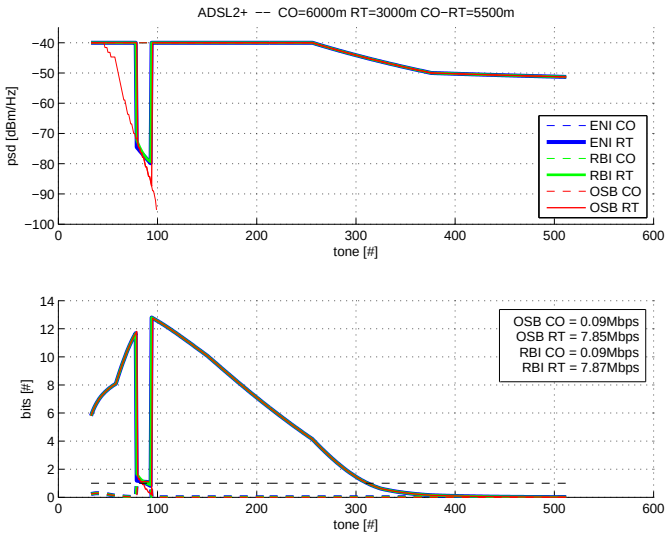

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

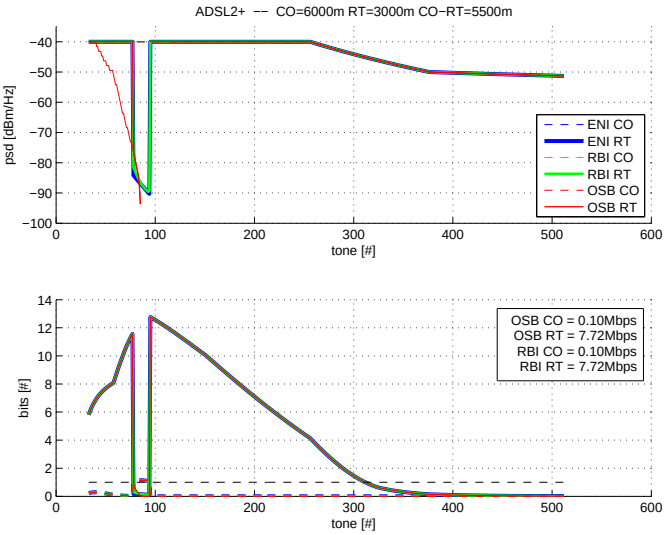

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

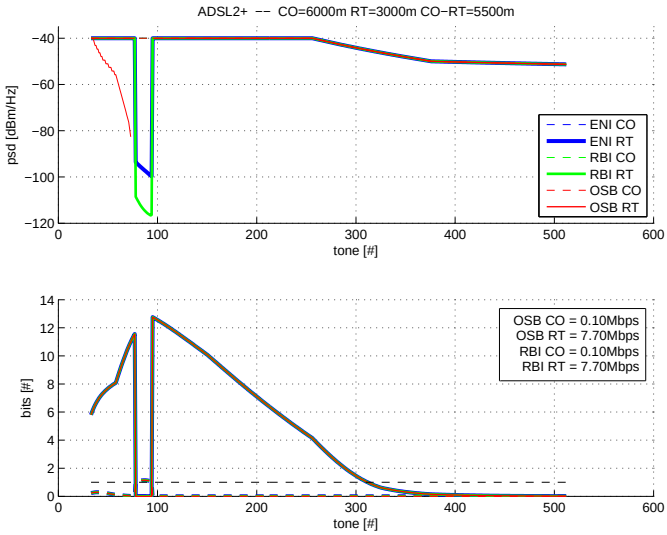

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

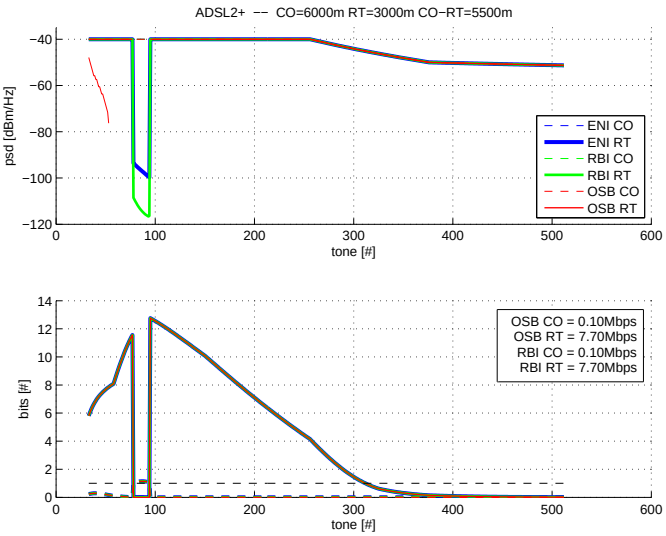

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.07Mbps
OSB RT = 8.16Mbps
RBI CO = 0.07Mbps
RBI RT = 8.07Mbps

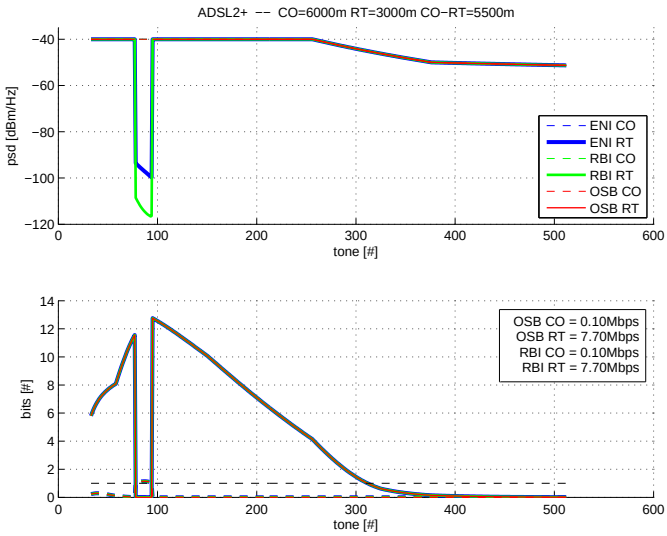

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.08Mbps
OSB RT = 7.97Mbps
RBI CO = 0.09Mbps
RBI RT = 7.87Mbps

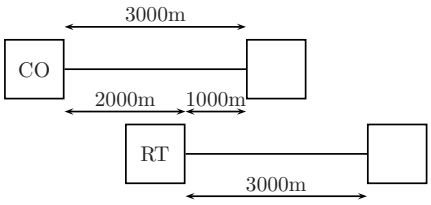

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.09Mbps
OSB RT = 7.85Mbps
RBI CO = 0.09Mbps
RBI RT = 7.87Mbps

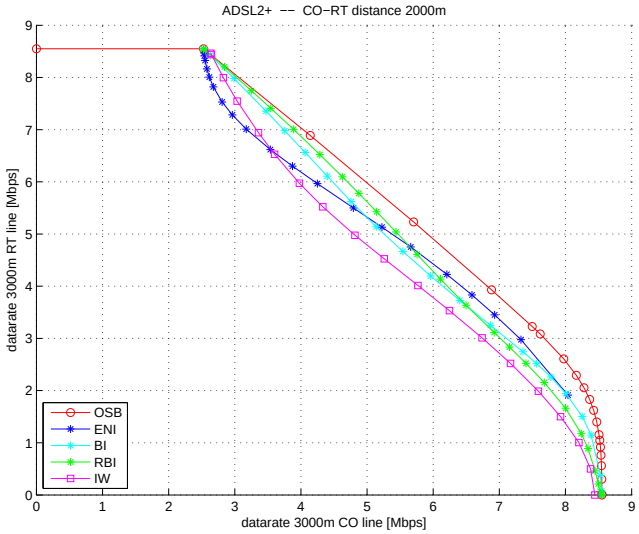

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.10Mbps
OSB RT = 7.72Mbps
RBI CO = 0.10Mbps
RBI RT = 7.72Mbps

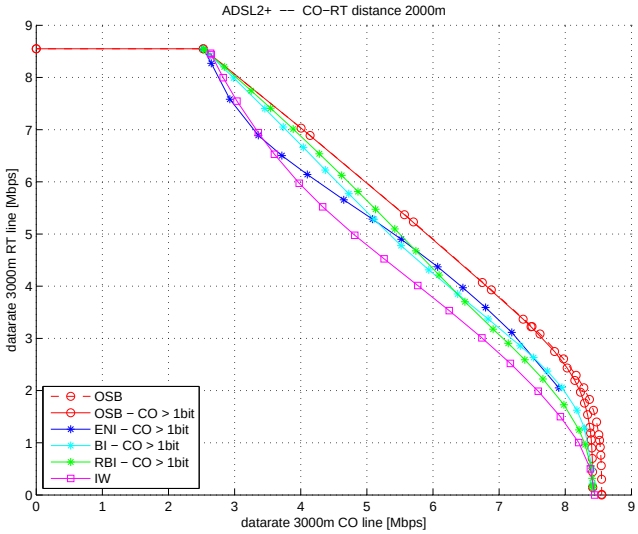

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.10Mbps
OSB RT = 7.70Mbps
RBI CO = 0.10Mbps
RBI RT = 7.70Mbps

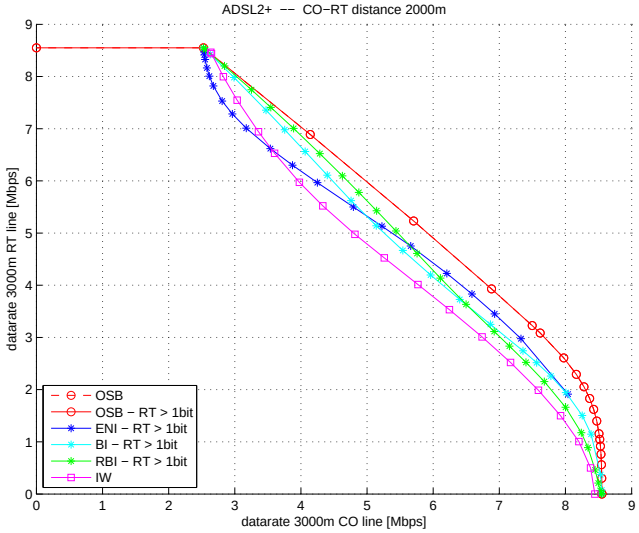

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.10Mbps
OSB RT = 7.70Mbps
RBI CO = 0.10Mbps
RBI RT = 7.70Mbps

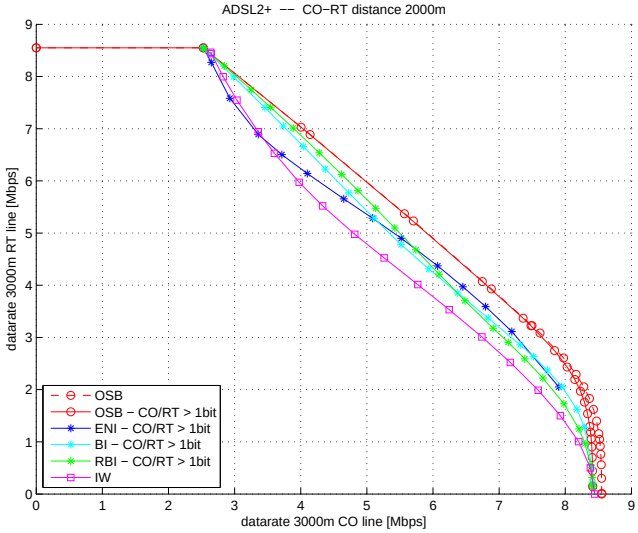

ADSL2+ -- CO=6000m RT=3000m CO-RT=5500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.10Mbps
OSB RT = 7.70Mbps
RBI CO = 0.10Mbps
RBI RT = 7.70Mbps

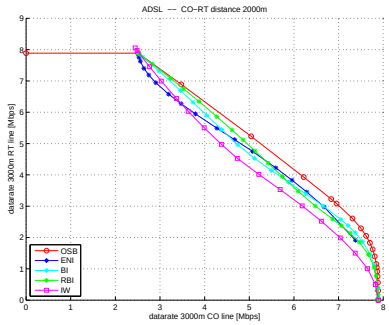

3000m
CO
2000m
1000m
RT
3000m

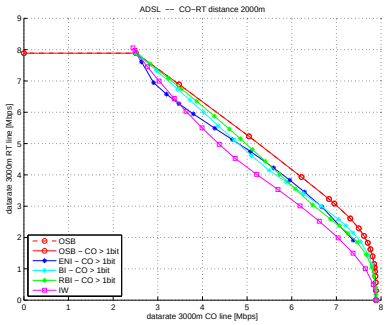

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

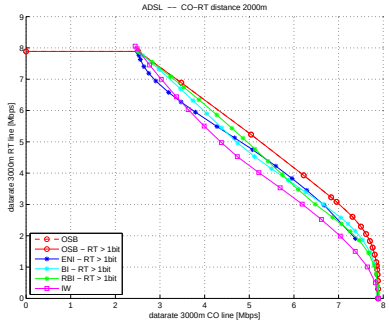

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

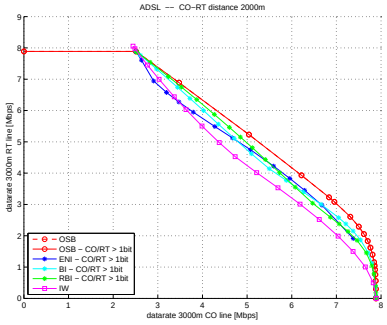

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

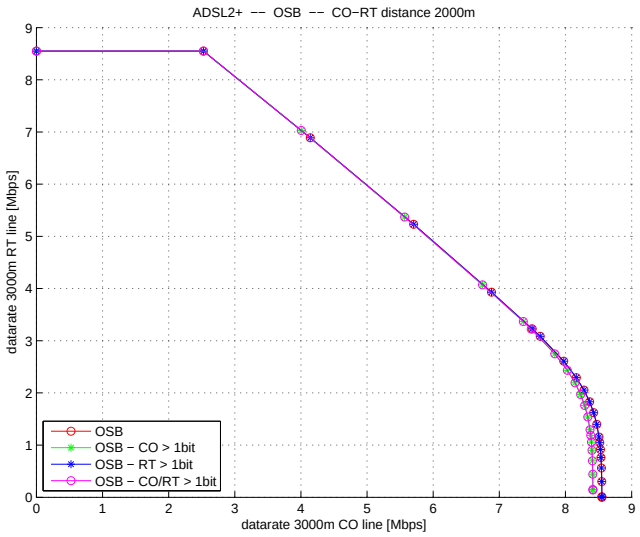

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

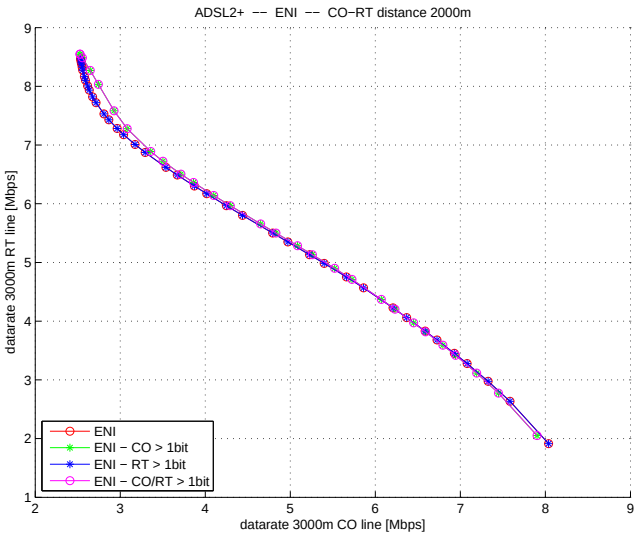

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

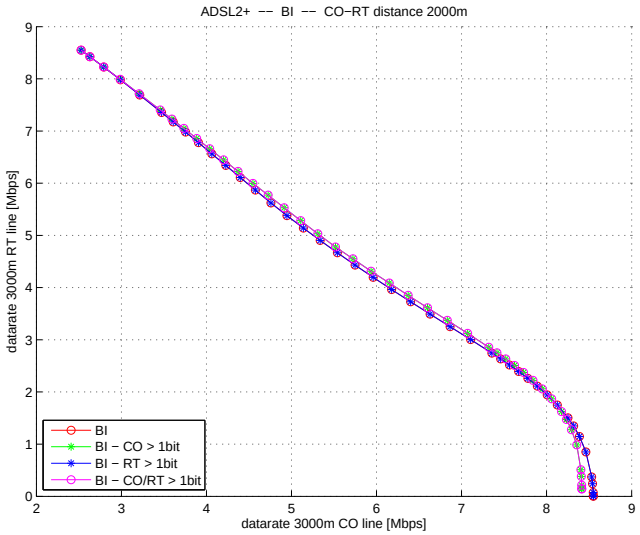

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

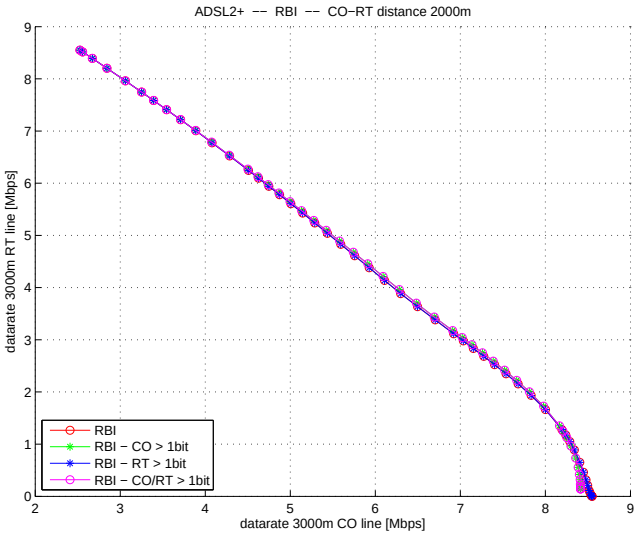

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

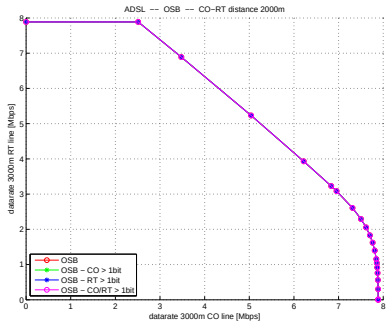

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

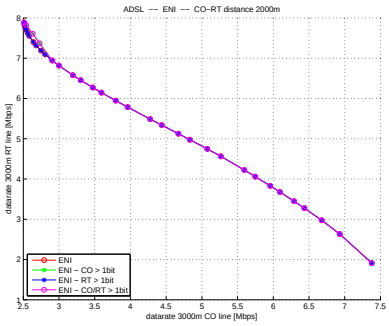

ADSL2+ −− OSB −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

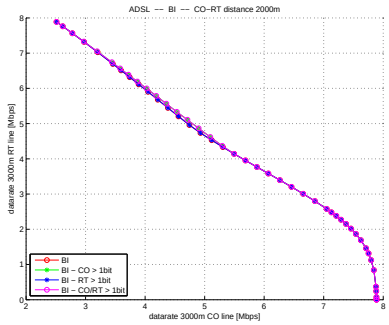

ADSL2+ −− ENI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

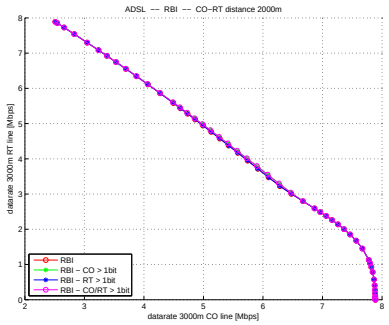

ADSL2+ −− BI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

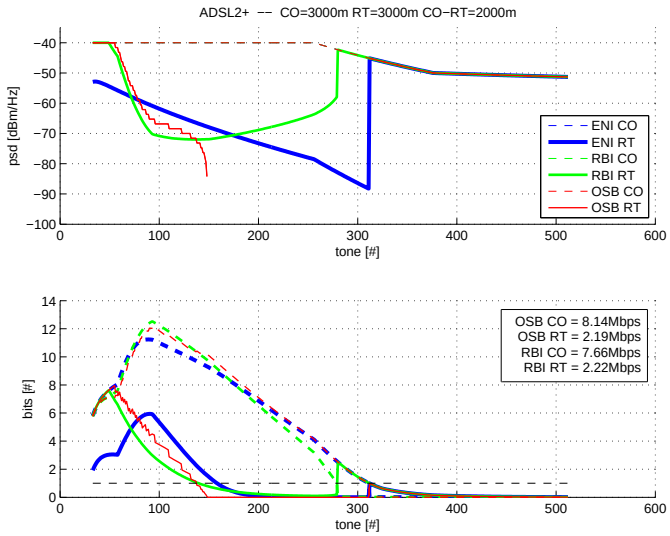

ADSL2+ −− RBI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

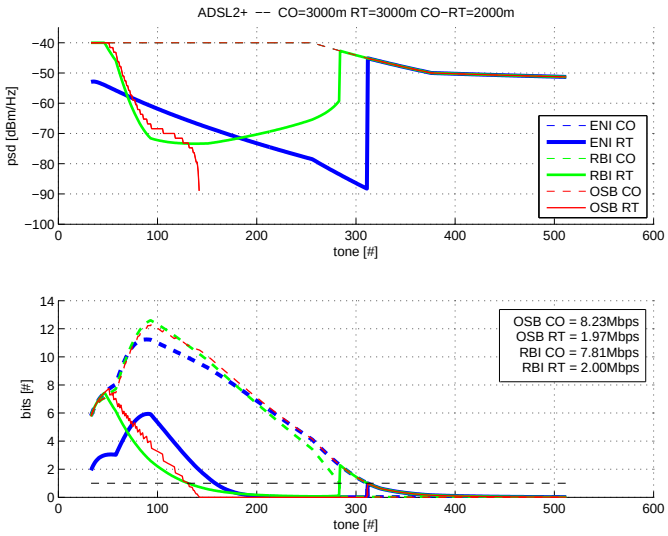

ADSL −− OSB −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

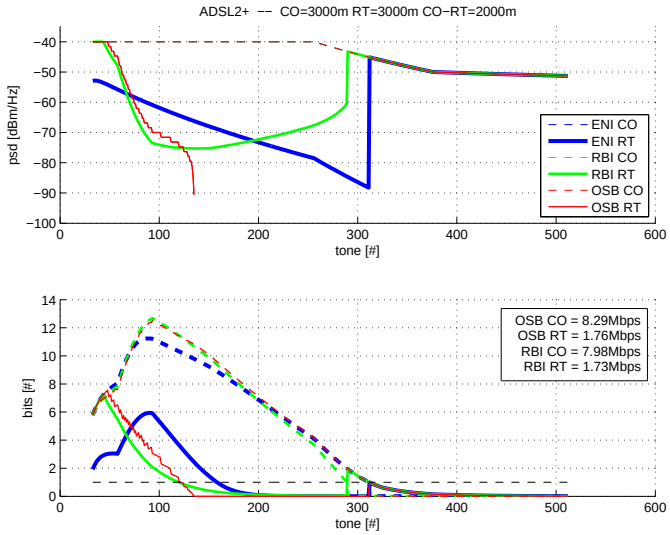

ADSL −− ENI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

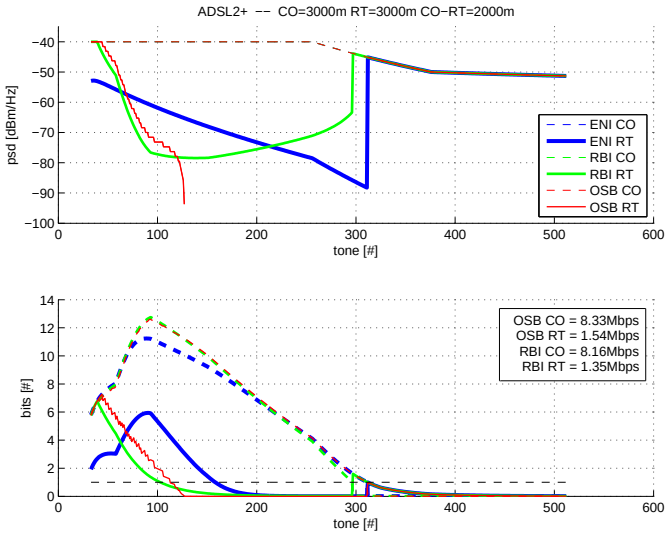

ADSL −− BI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

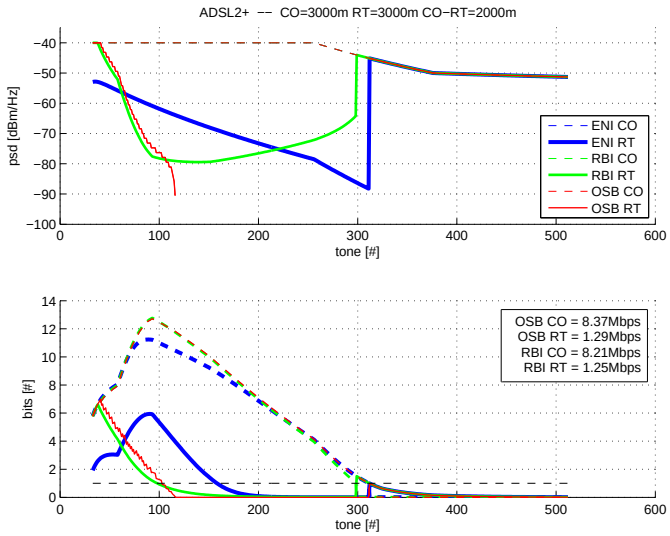

ADSL −− RBI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

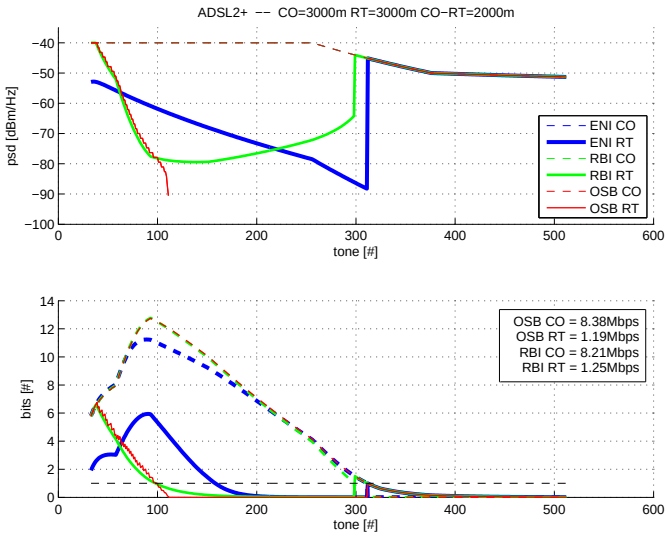

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.14Mbps
OSB RT = 2.19Mbps
RBI CO = 7.66Mbps
RBI RT = 2.22Mbps

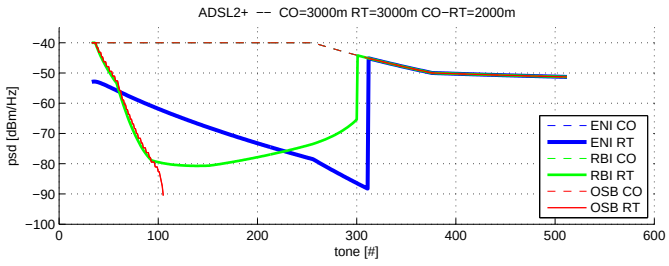

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.23Mbps
OSB RT = 1.97Mbps
RBI CO = 7.81Mbps
RBI RT = 2.00Mbps

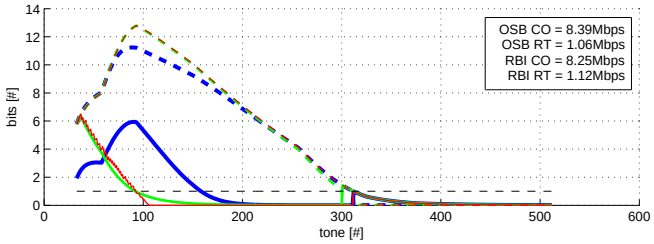

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.29Mbps
OSB RT = 1.76Mbps
RBI CO = 7.98Mbps
RBI RT = 1.73Mbps

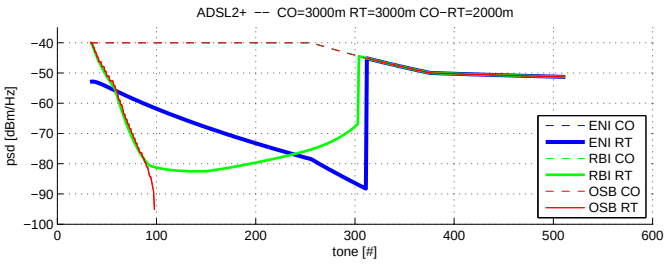

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.33Mbps
OSB RT = 1.54Mbps
RBI CO = 8.16Mbps
RBI RT = 1.35Mbps

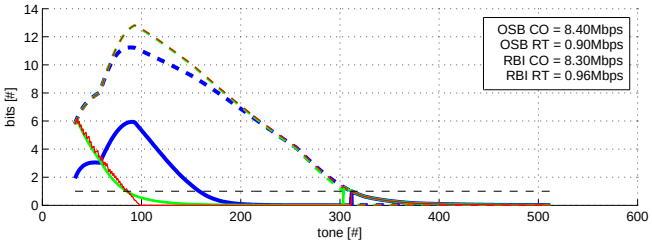

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.37Mbps
OSB RT = 1.29Mbps
RBI CO = 8.21Mbps
RBI RT = 1.25Mbps

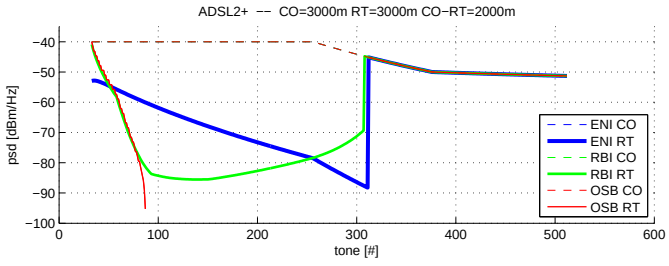

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.38Mbps
OSB RT = 1.19Mbps
RBI CO = 8.21Mbps
RBI RT = 1.25Mbps

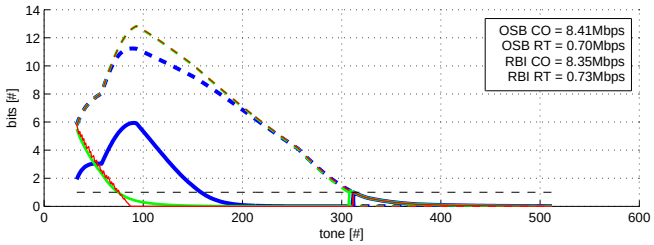

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

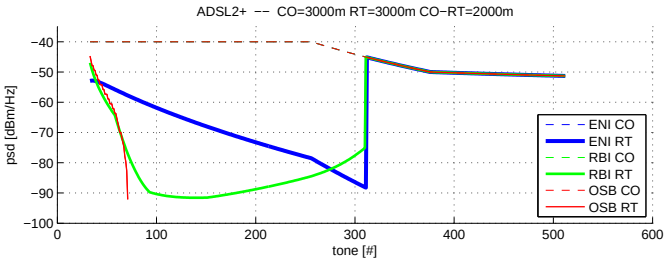

bits [#]
tone [#]
OSB CO = 8.39Mbps
OSB RT = 1.06Mbps
RBI CO = 8.25Mbps
RBI RT = 1.12Mbps

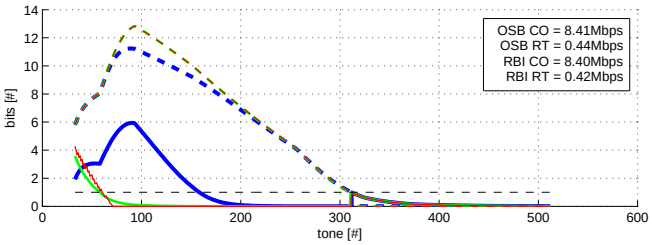

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

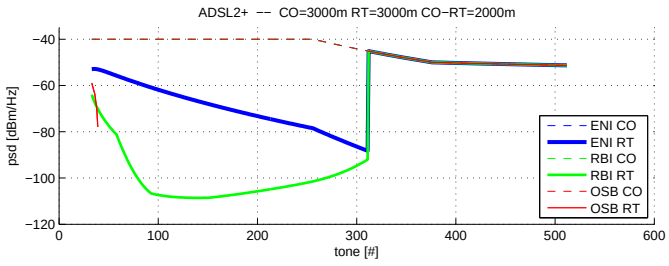

bits [#]
tone [#]
OSB CO = 8.40Mbps
OSB RT = 0.90Mbps
RBI CO = 8.30Mbps
RBI RT = 0.96Mbps

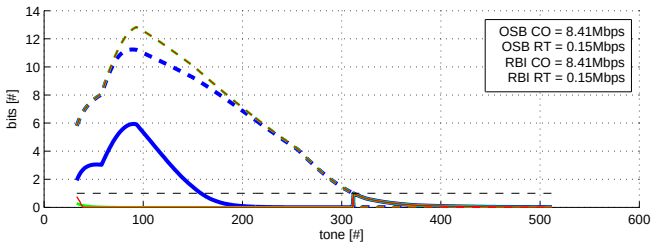

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

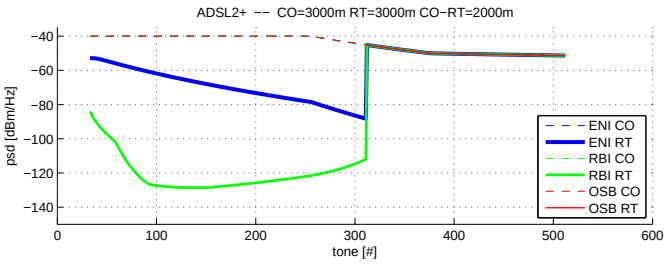

bits [#]
tone [#]
OSB CO = 8.41Mbps
OSB RT = 0.70Mbps
RBI CO = 8.35Mbps
RBI RT = 0.73Mbps

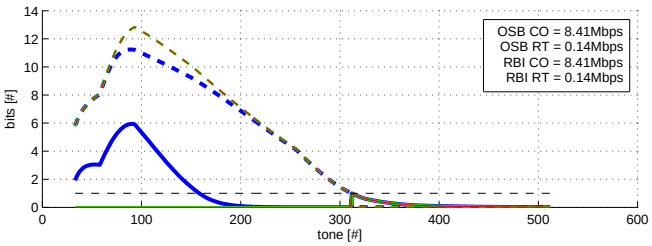

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

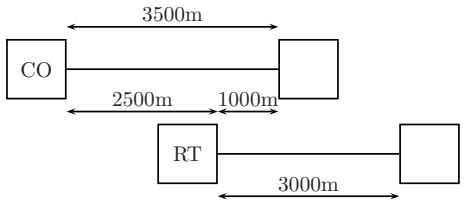

bits [#]
tone [#]
OSB CO = 8.41Mbps
OSB RT = 0.44Mbps
RBI CO = 8.40Mbps
RBI RT = 0.42Mbps

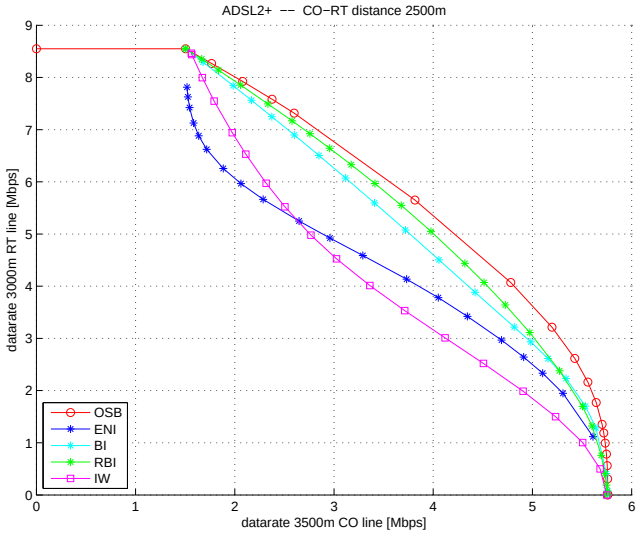

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

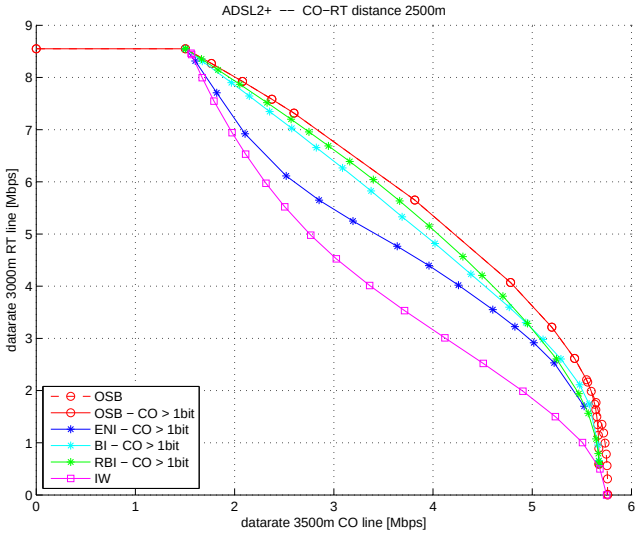

bits [#]
tone [#]
OSB CO = 8.41Mbps
OSB RT = 0.15Mbps
RBI CO = 8.41Mbps
RBI RT = 0.15Mbps

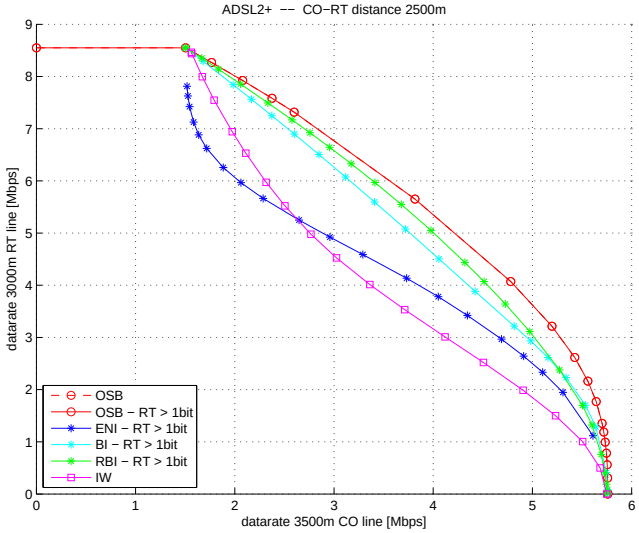

ADSL2+ -- CO=3000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

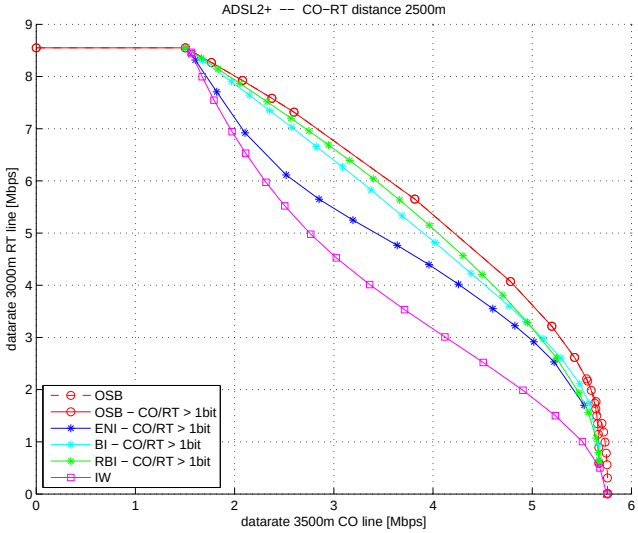

bits [#]
tone [#]
OSB CO = 8.41Mbps
OSB RT = 0.14Mbps
RBI CO = 8.41Mbps
RBI RT = 0.14Mbps

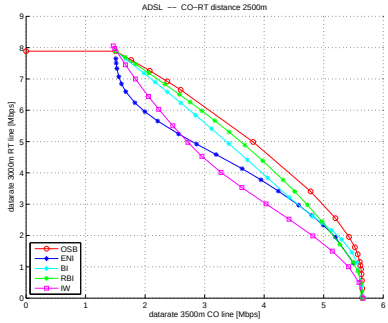

3500m
CO
2500m
1000m
RT
3000m

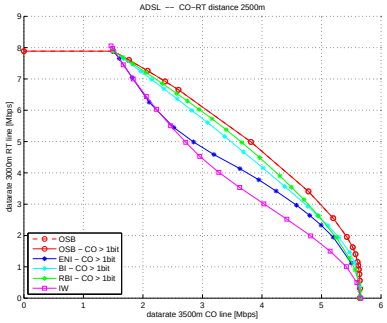

ADSL2+ -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

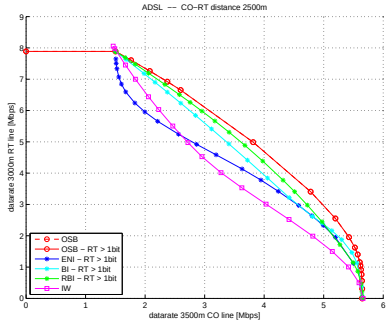

ADSL2+ -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

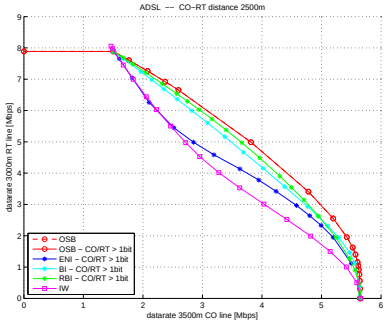

ADSL2+ -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

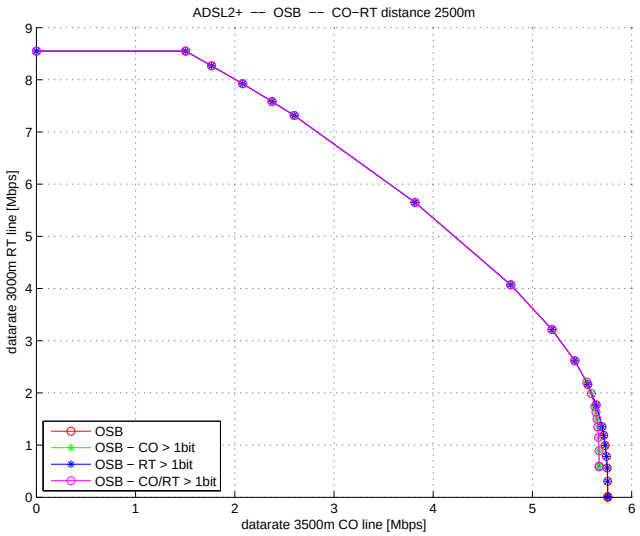

ADSL2+ -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

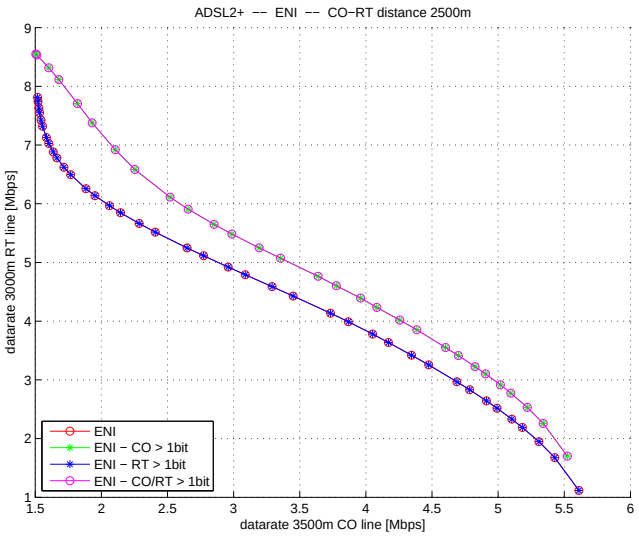

ADSL -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

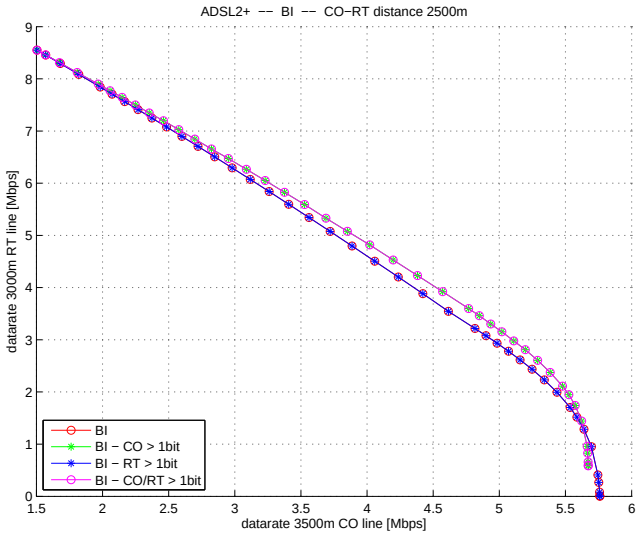

ADSL -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

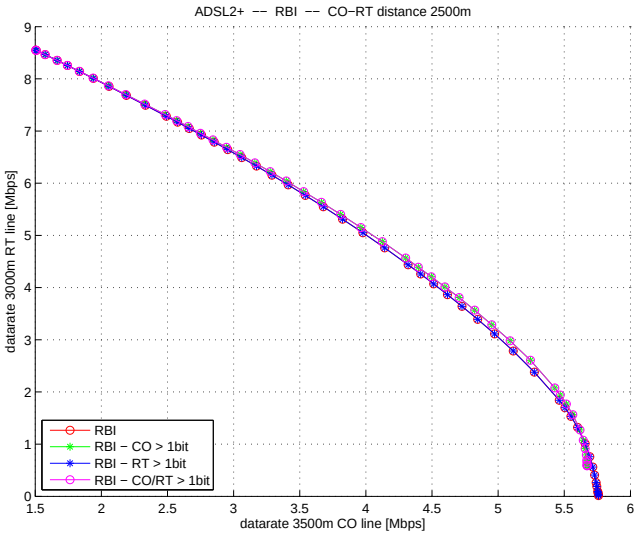

ADSL -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

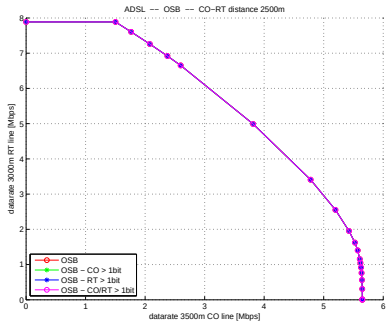

ADSL -- CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

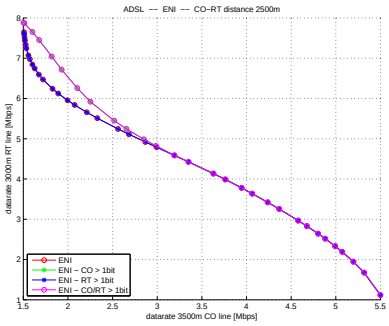

ADSL2+ −− OSB −− CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

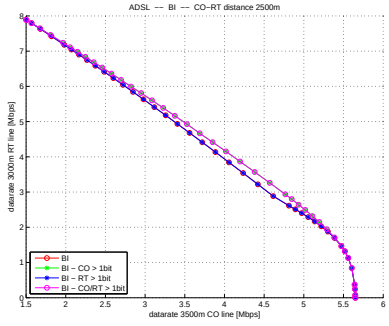

ADSL2+ −− ENI −− CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

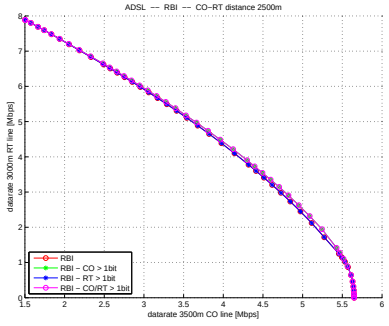

ADSL2+ −− BI −− CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

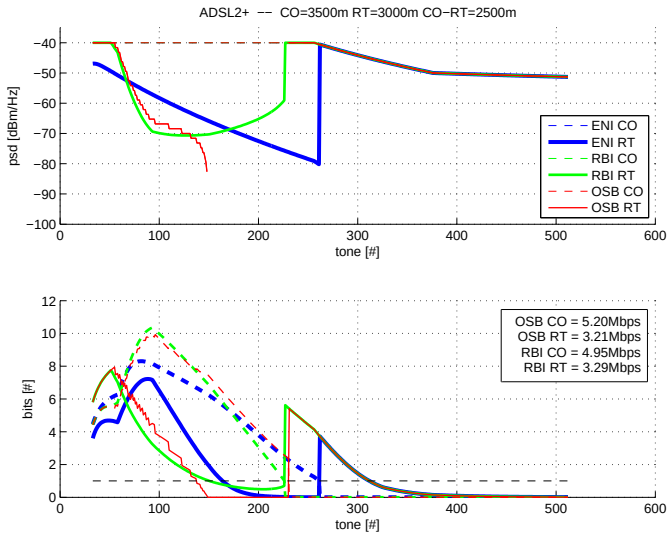

ADSL2+ −− RBI −− CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

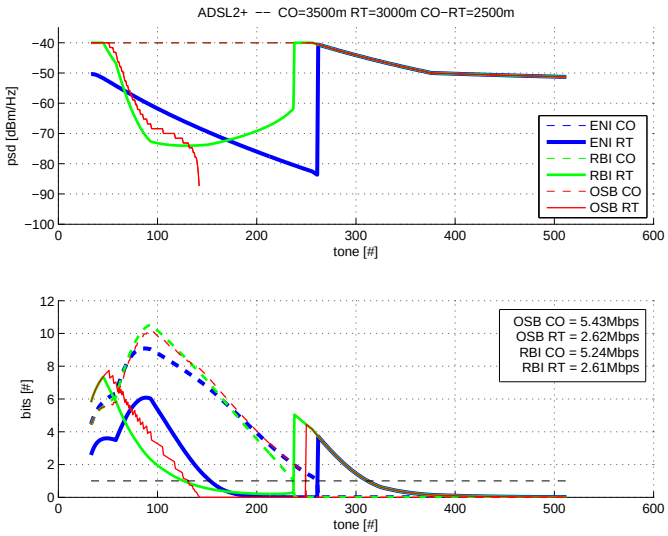

ADSL −− OSB −− CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

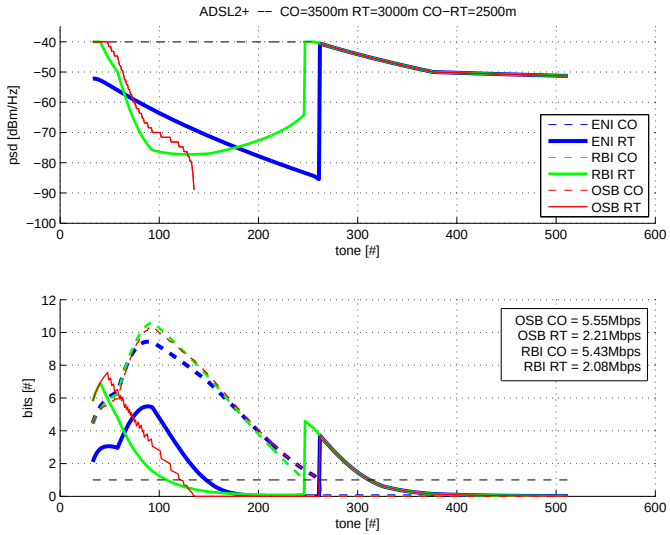

ADSL −− ENI −− CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

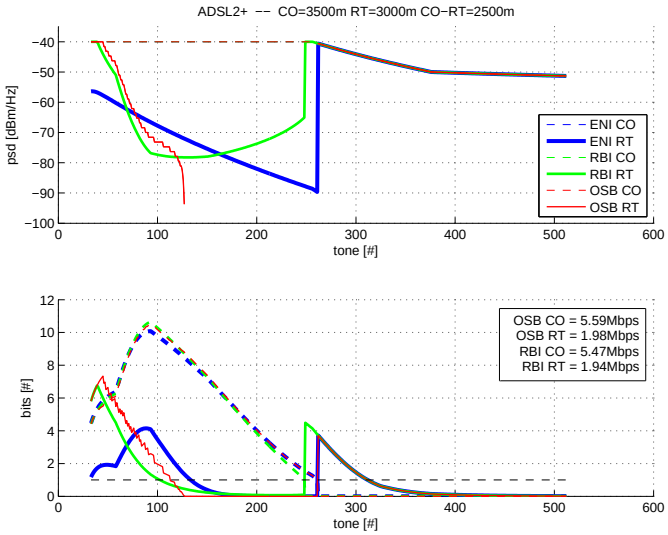

ADSL −− BI −− CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

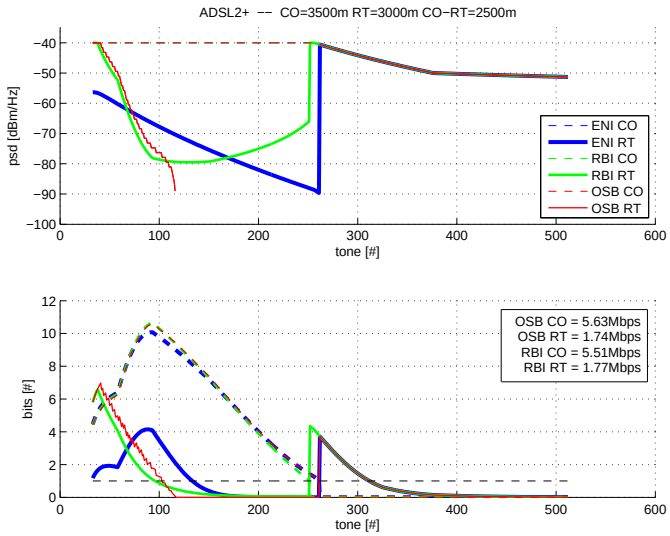

ADSL −− RBI −− CO−RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

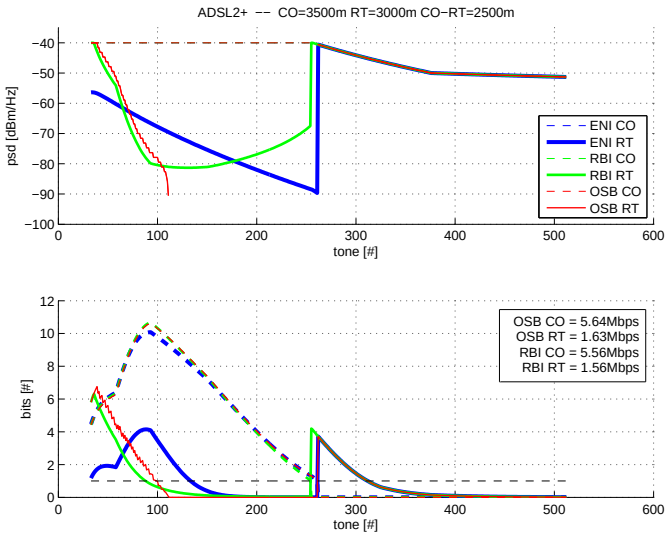

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.20Mbps
OSB RT = 3.21Mbps
RBI CO = 4.95Mbps
RBI RT = 3.29Mbps

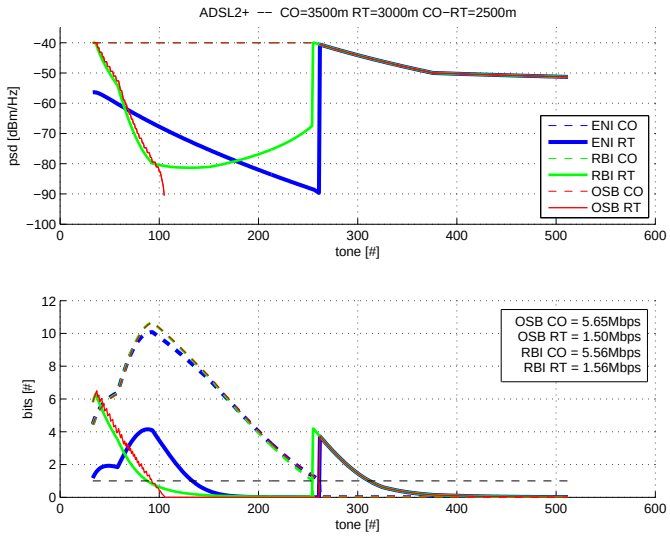

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.43Mbps
OSB RT = 2.62Mbps
RBI CO = 5.24Mbps
RBI RT = 2.61Mbps

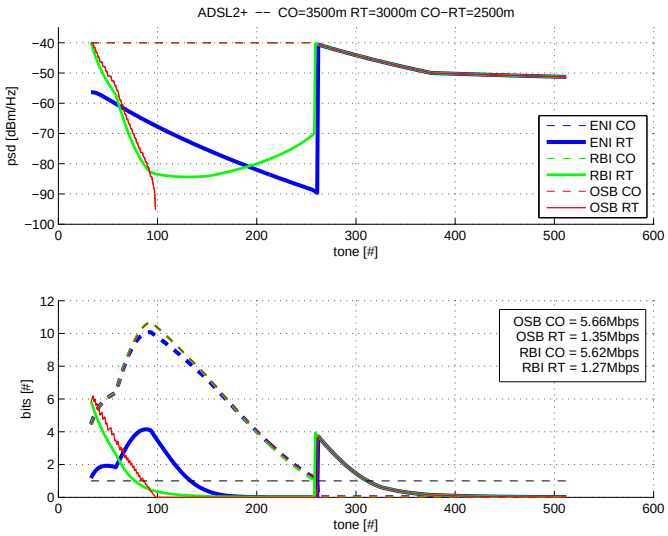

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.55Mbps
OSB RT = 2.21Mbps
RBI CO = 5.43Mbps
RBI RT = 2.08Mbps

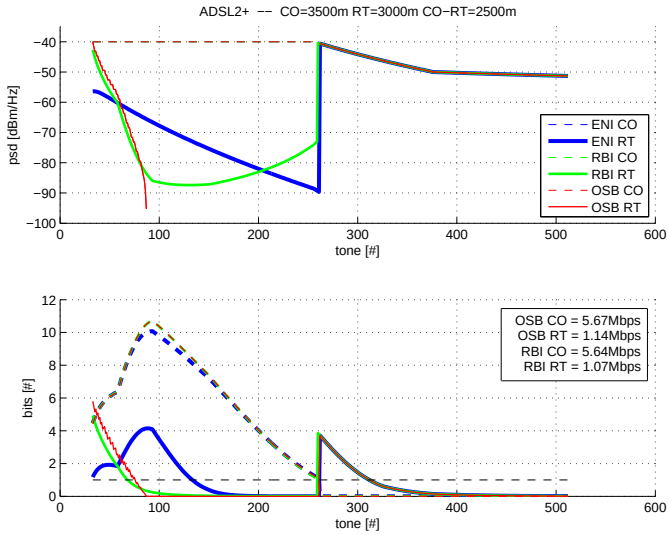

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.59Mbps
OSB RT = 1.98Mbps
RBI CO = 5.47Mbps
RBI RT = 1.94Mbps

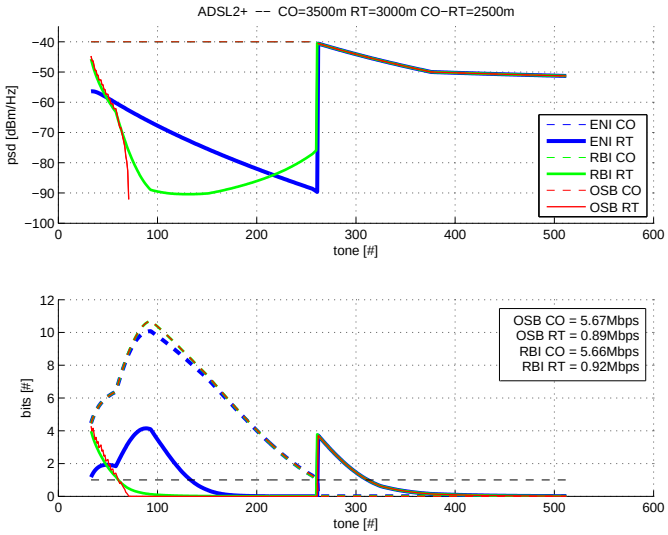

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.63Mbps
OSB RT = 1.74Mbps
RBI CO = 5.51Mbps
RBI RT = 1.77Mbps

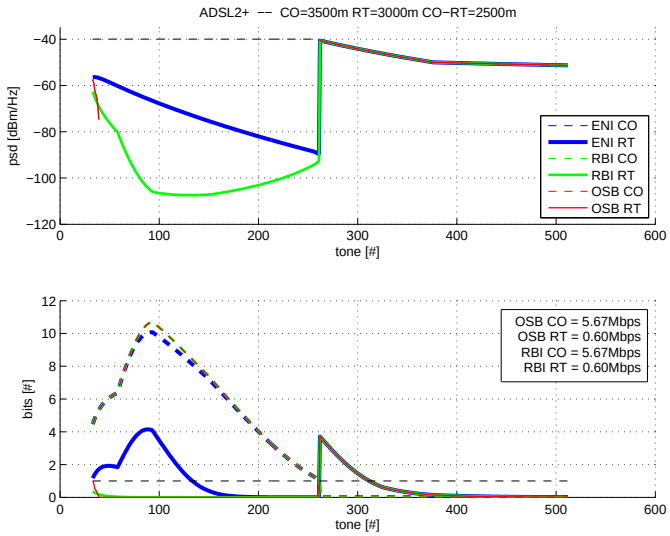

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.64Mbps
OSB RT = 1.63Mbps
RBI CO = 5.56Mbps
RBI RT = 1.56Mbps

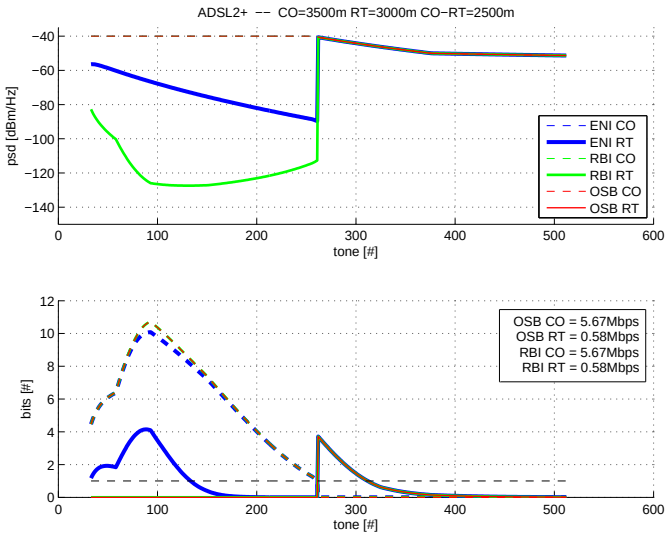

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.65Mbps
OSB RT = 1.50Mbps
RBI CO = 5.56Mbps
RBI RT = 1.56Mbps

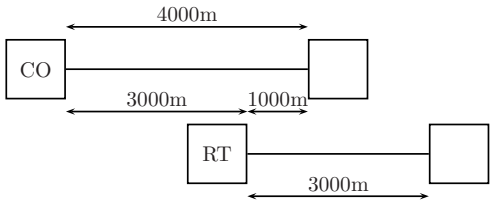

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.66Mbps
OSB RT = 1.35Mbps
RBI CO = 5.62Mbps
RBI RT = 1.27Mbps

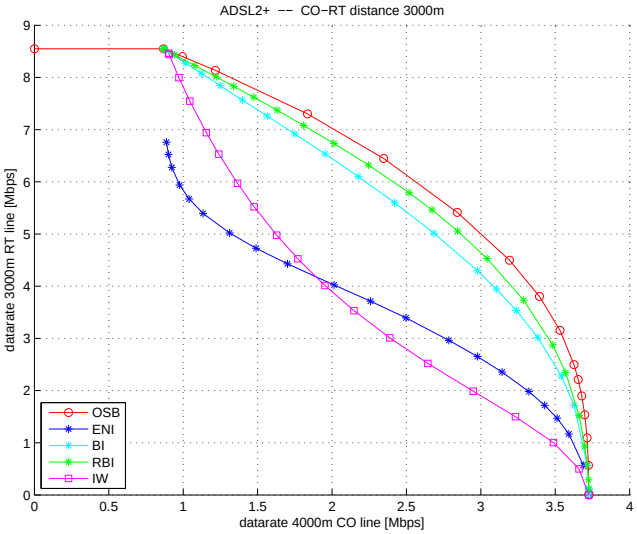

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.67Mbps
OSB RT = 1.14Mbps
RBI CO = 5.64Mbps
RBI RT = 1.07Mbps

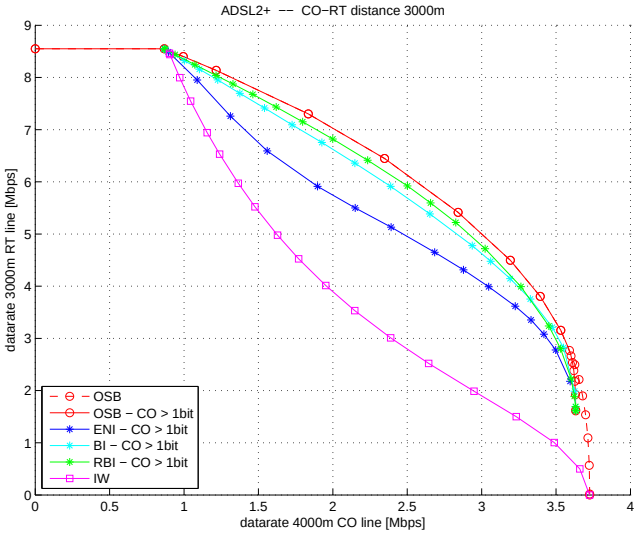

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.67Mbps
OSB RT = 0.89Mbps
RBI CO = 5.66Mbps
RBI RT = 0.92Mbps

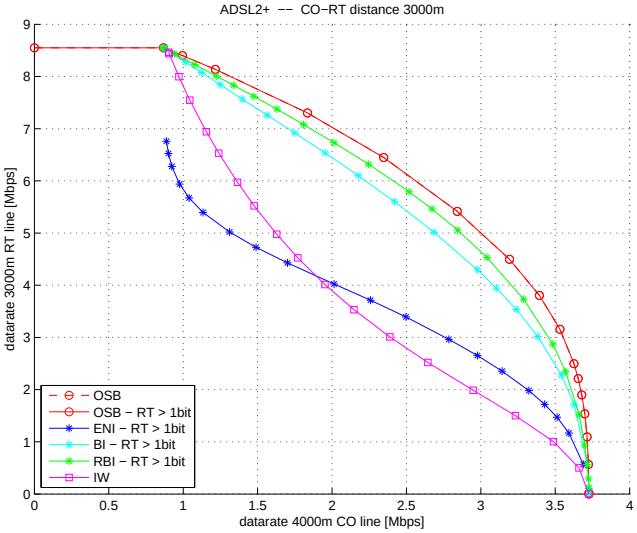

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.67Mbps
OSB RT = 0.60Mbps
RBI CO = 5.67Mbps
RBI RT = 0.60Mbps

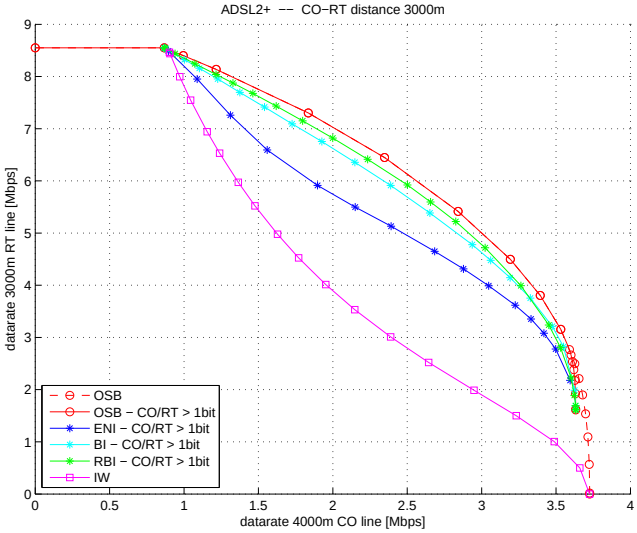

ADSL2+ -- CO=3500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.67Mbps
OSB RT = 0.58Mbps
RBI CO = 5.67Mbps
RBI RT = 0.58Mbps

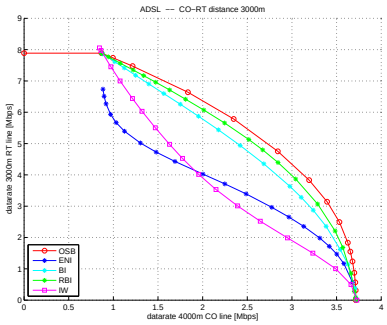

4000m
CO
3000m
1000m
RT
3000m

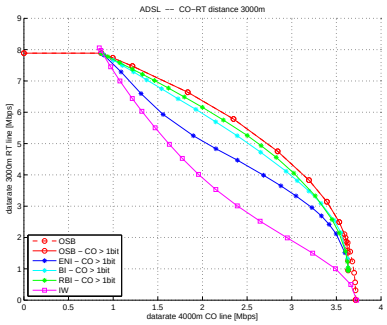

ADSL2+ −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

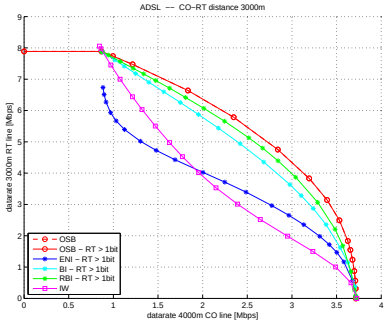

ADSL2+ −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

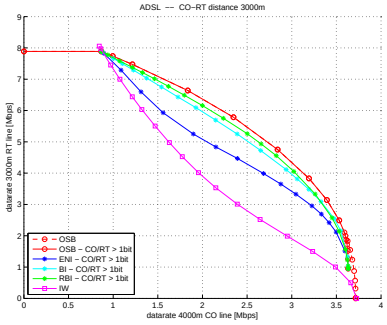

ADSL2+ −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

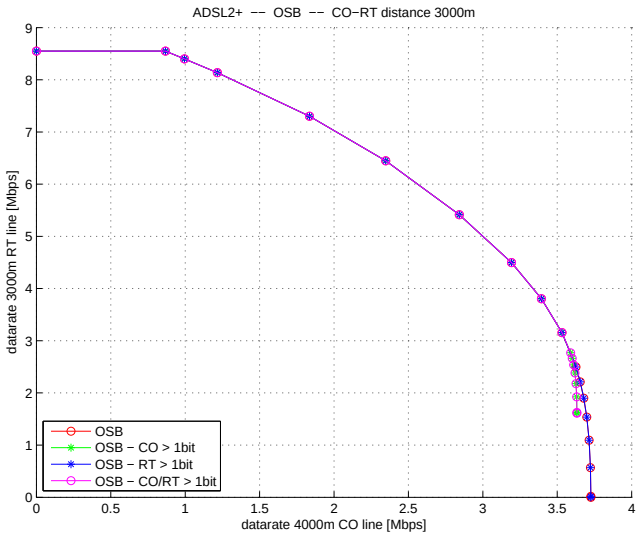

ADSL2+ −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

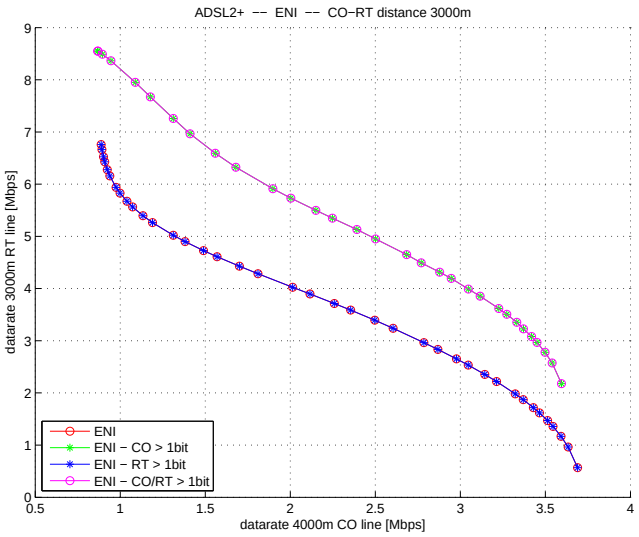

ADSL −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

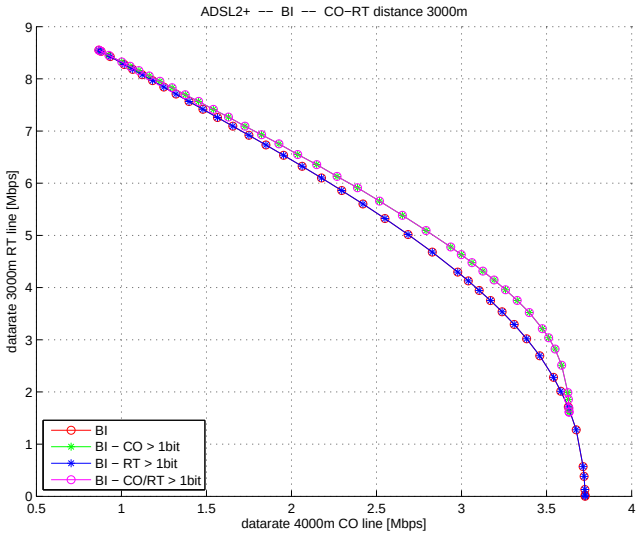

ADSL −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

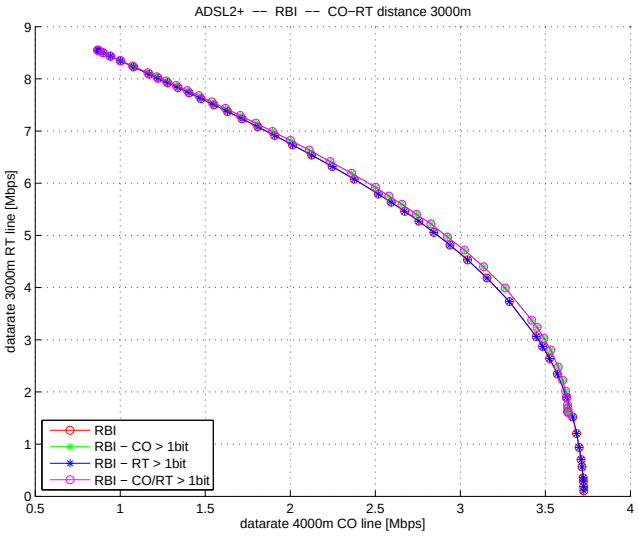

ADSL −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

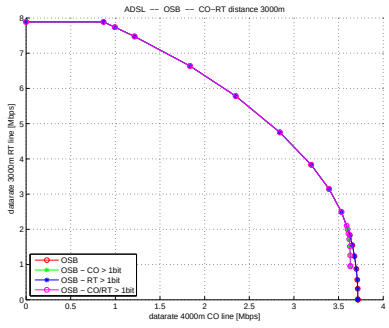

ADSL −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

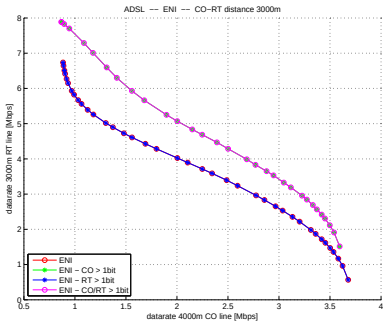

ADSL2+ −− OSB −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

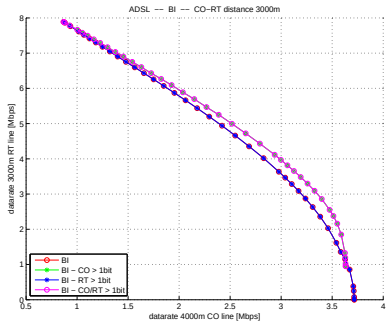

ADSL2+ −− ENI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

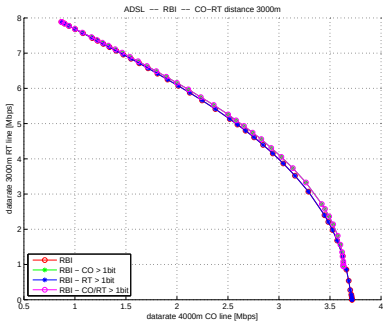

ADSL2+ −− BI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

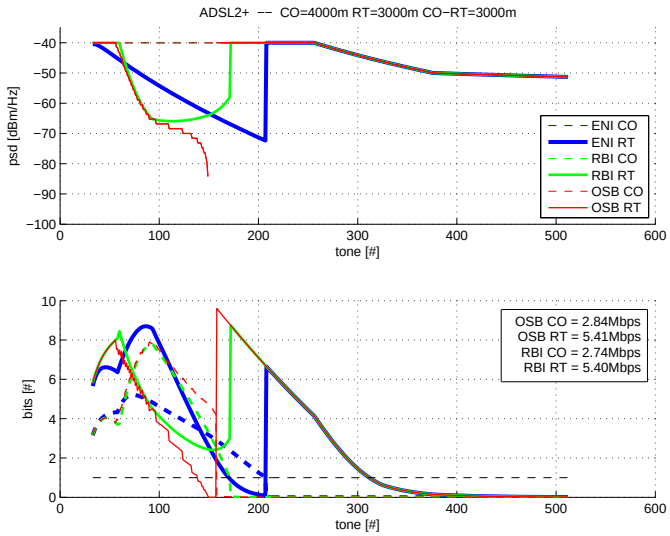

ADSL2+ −− RBI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

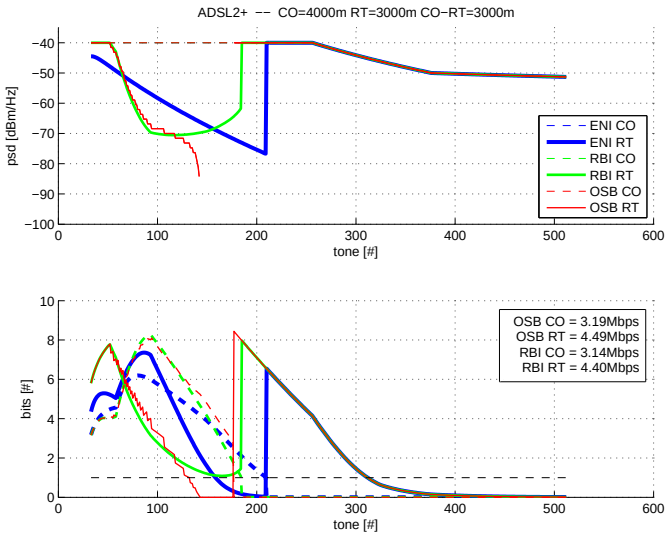

ADSL −− OSB −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

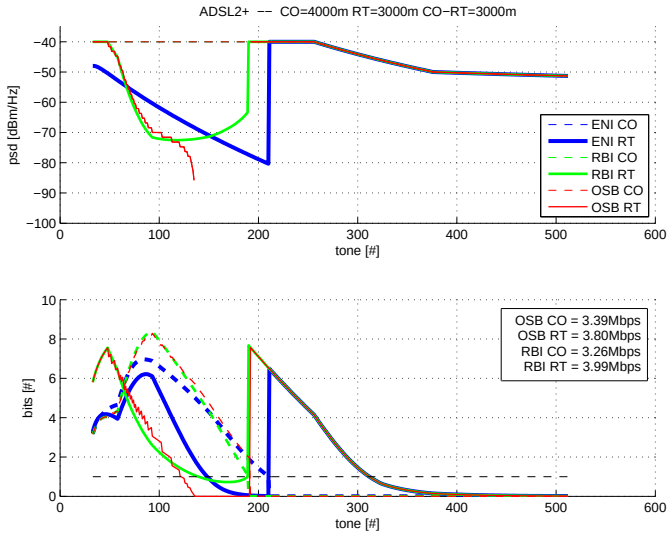

ADSL −− ENI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

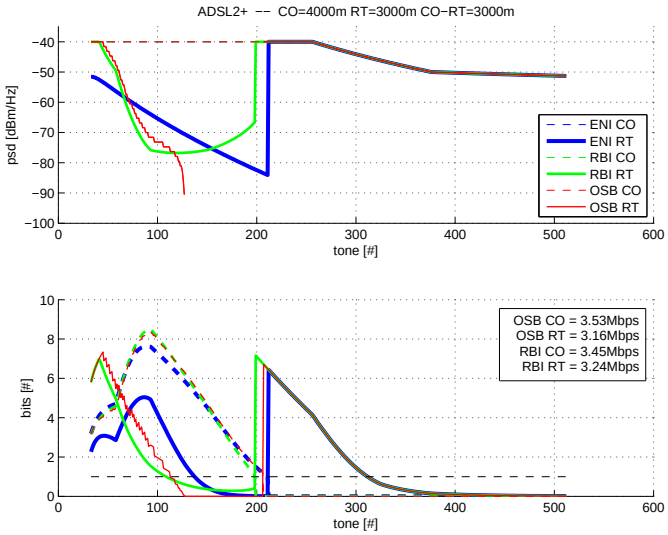

ADSL −− BI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

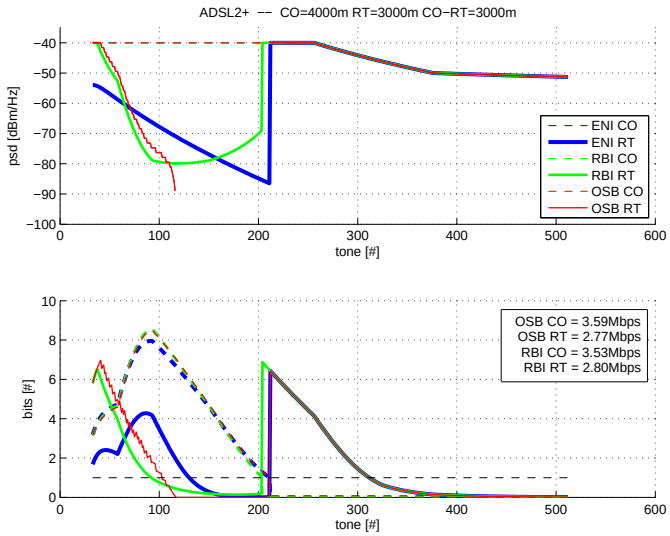

ADSL −− RBI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

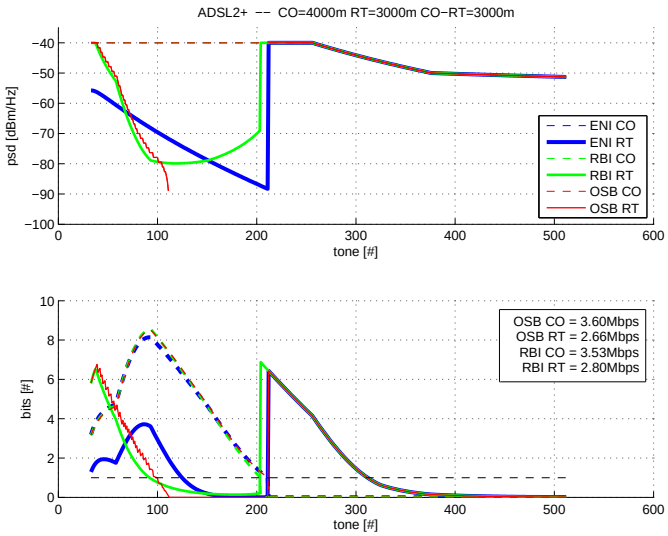

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.84Mbps
OSB RT = 5.41Mbps
RBI CO = 2.74Mbps
RBI RT = 5.40Mbps

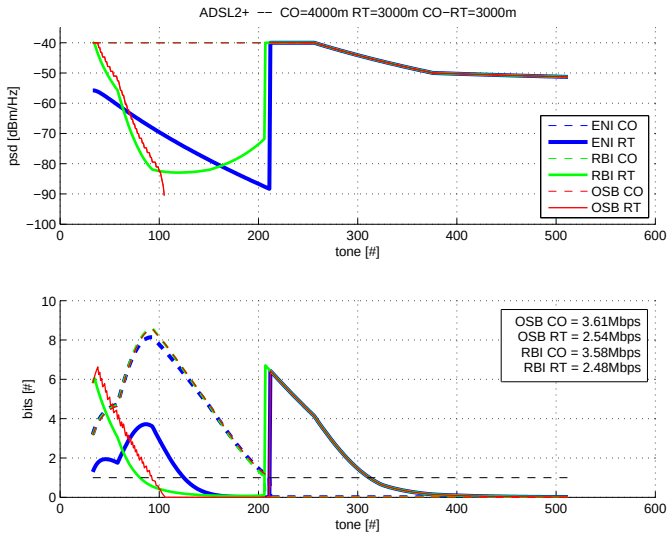

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.19Mbps
OSB RT = 4.49Mbps
RBI CO = 3.14Mbps
RBI RT = 4.40Mbps

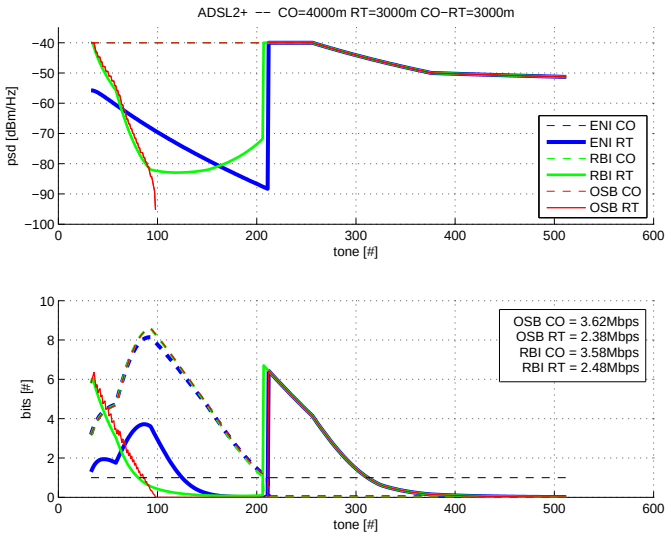

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.39Mbps
OSB RT = 3.80Mbps
RBI CO = 3.26Mbps
RBI RT = 3.99Mbps

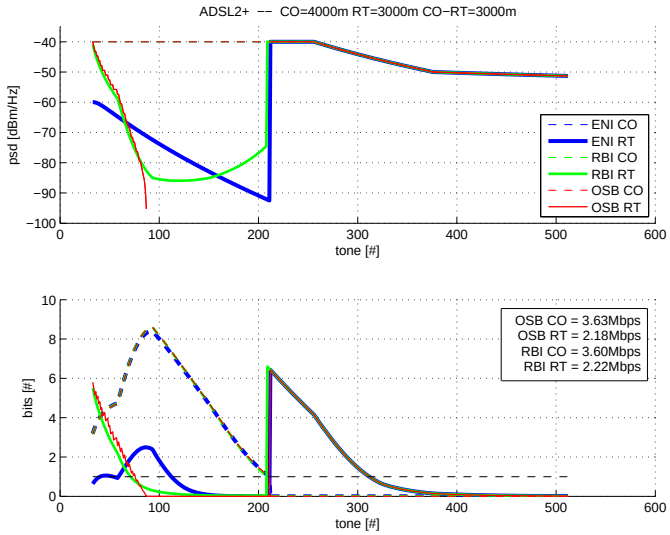

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.53Mbps
OSB RT = 3.16Mbps
RBI CO = 3.45Mbps
RBI RT = 3.24Mbps

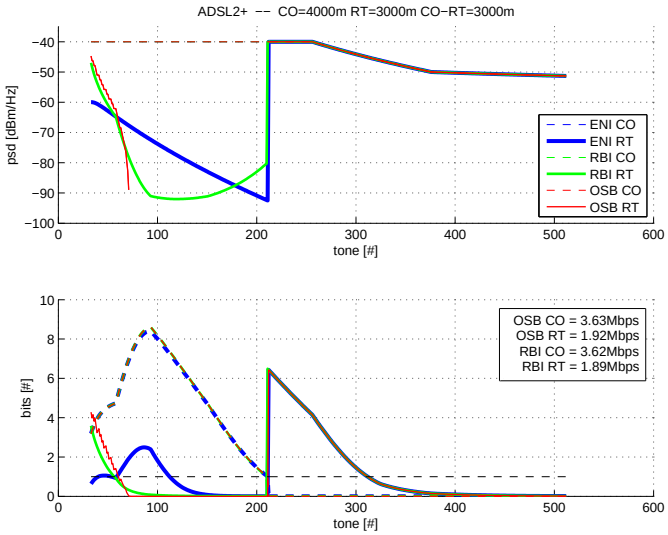

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.59Mbps
OSB RT = 2.77Mbps
RBI CO = 3.53Mbps
RBI RT = 2.80Mbps

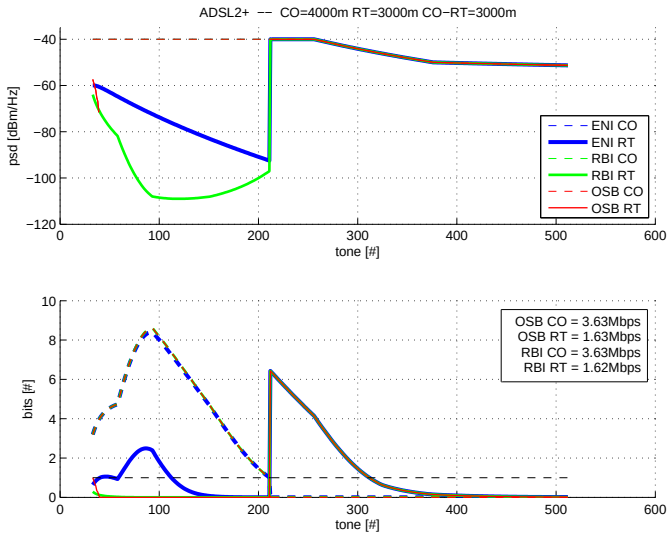

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.60Mbps
OSB RT = 2.66Mbps
RBI CO = 3.53Mbps
RBI RT = 2.80Mbps

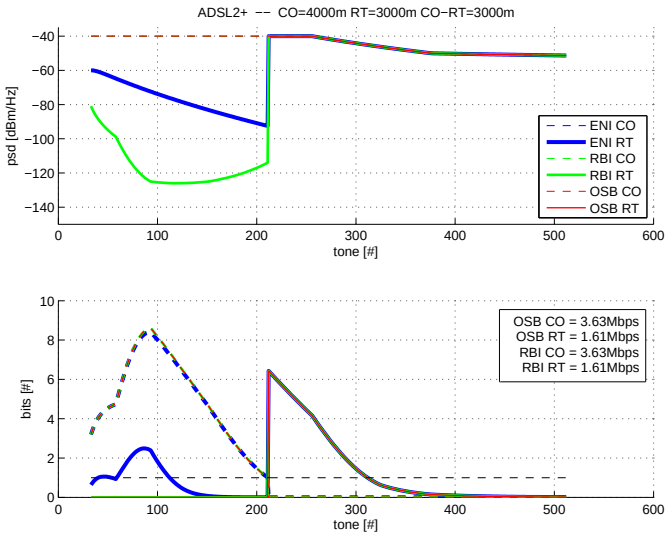

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.61Mbps
OSB RT = 2.54Mbps
RBI CO = 3.58Mbps
RBI RT = 2.48Mbps

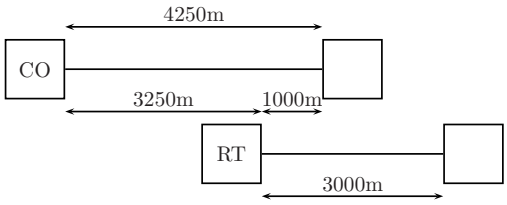

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.62Mbps
OSB RT = 2.38Mbps
RBI CO = 3.58Mbps
RBI RT = 2.48Mbps

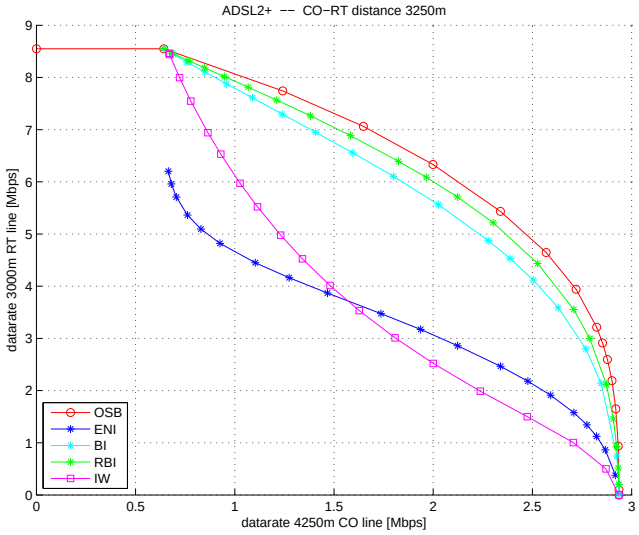

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.63Mbps
OSB RT = 2.18Mbps
RBI CO = 3.60Mbps
RBI RT = 2.22Mbps

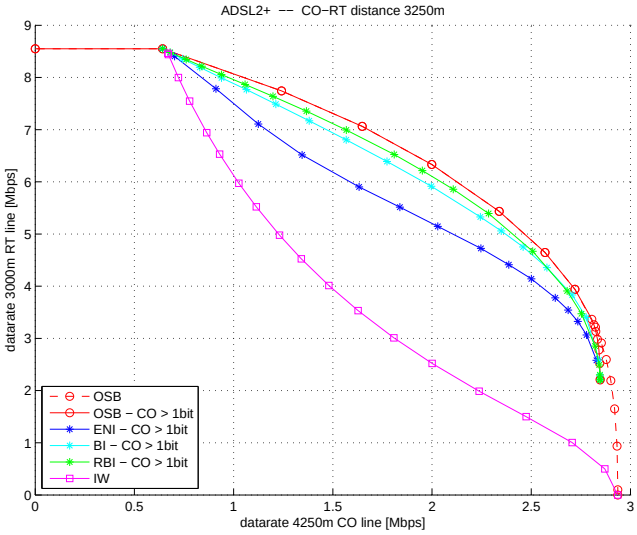

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.63Mbps
OSB RT = 1.92Mbps
RBI CO = 3.62Mbps
RBI RT = 1.89Mbps

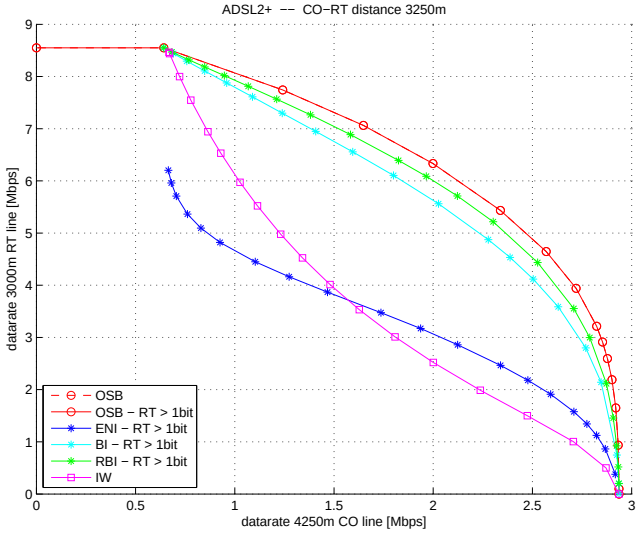

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.63Mbps
OSB RT = 1.63Mbps
RBI CO = 3.63Mbps
RBI RT = 1.62Mbps

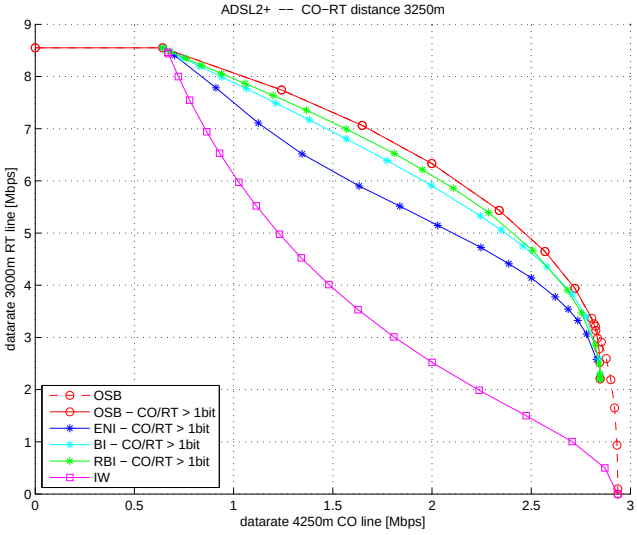

ADSL2+ -- CO=4000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.63Mbps
OSB RT = 1.61Mbps
RBI CO = 3.63Mbps
RBI RT = 1.61Mbps

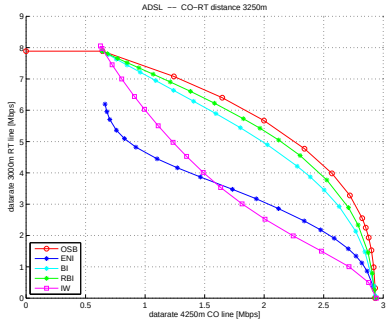

4250m
CO
3250m
1000m
RT
3000m

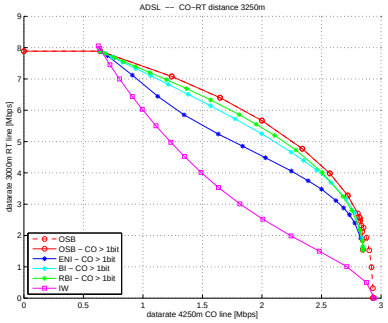

ADSL2+ -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

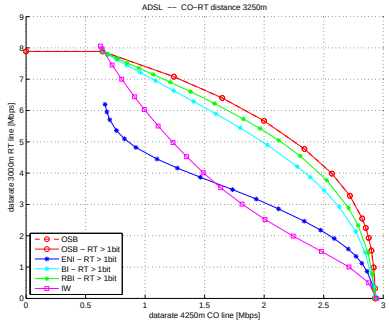

ADSL2+ -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

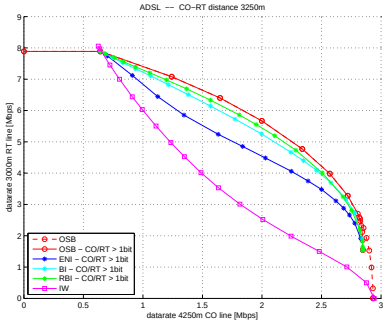

ADSL2+ -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

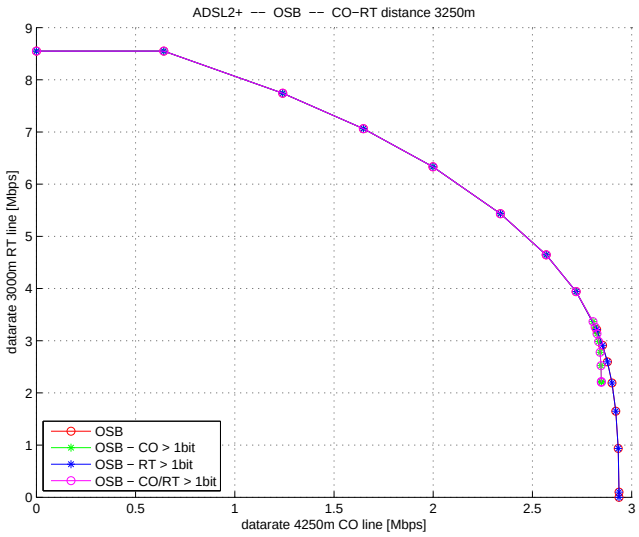

ADSL2+ -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

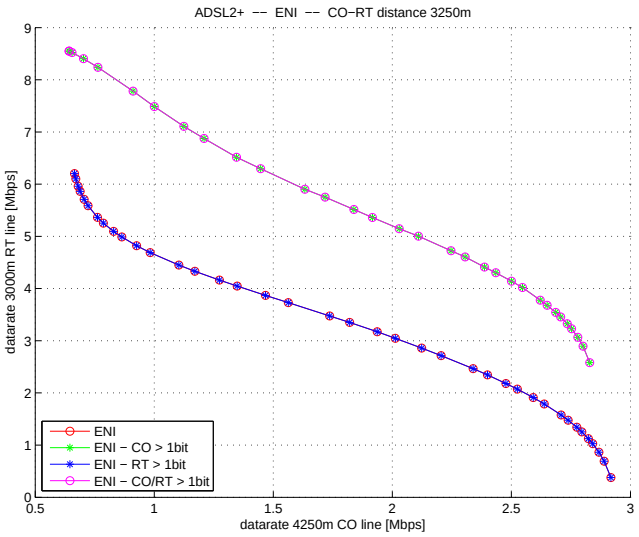

ADSL -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

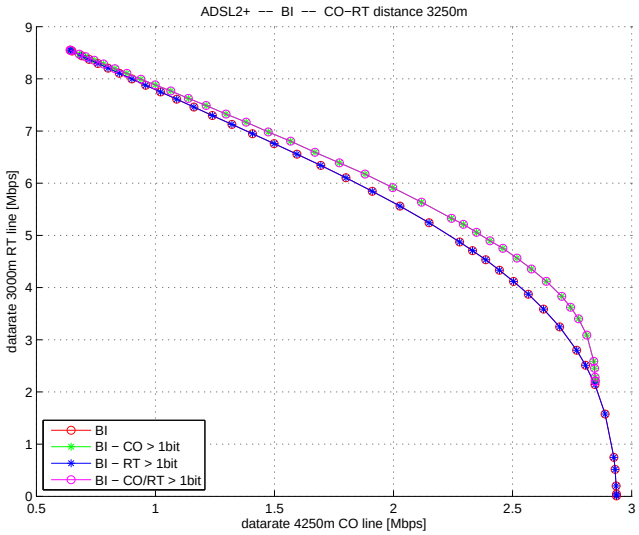

ADSL -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

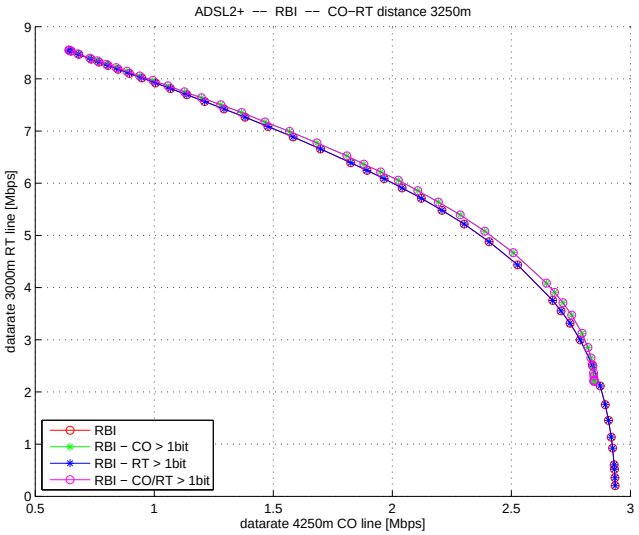

ADSL -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

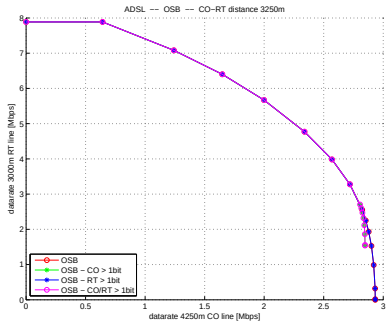

ADSL -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

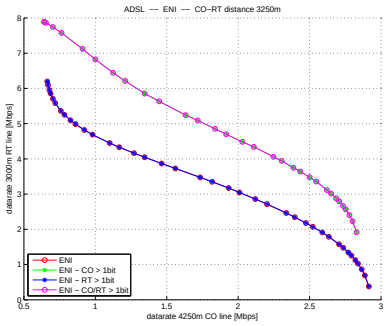

ADSL2+ −− OSB −− CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

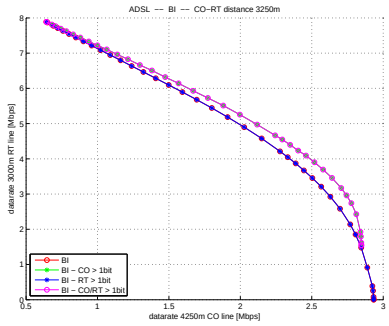

ADSL2+ −− ENI −− CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

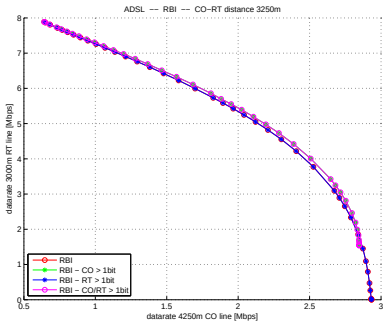

ADSL2+ −− BI −− CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

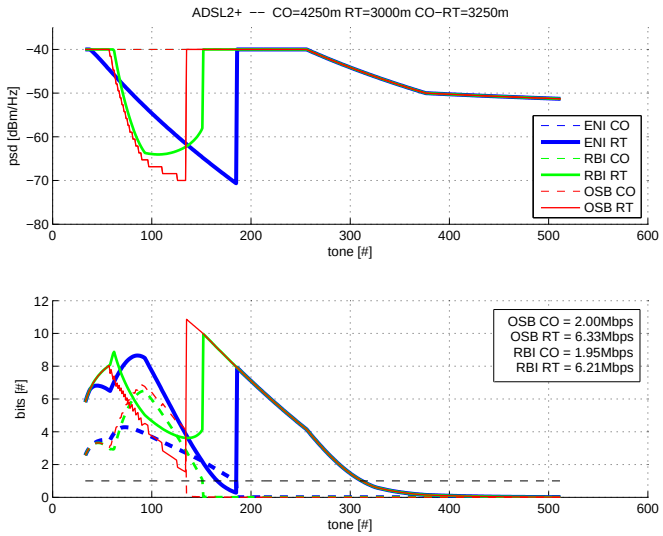

ADSL2+ −− RBI −− CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

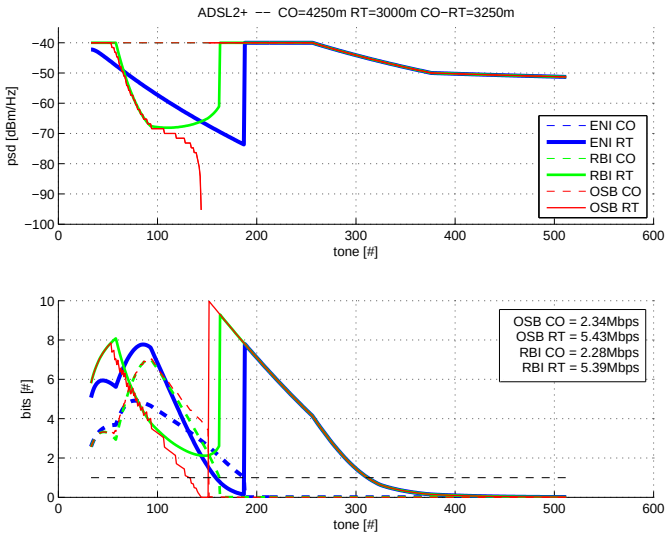

ADSL −− OSB −− CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

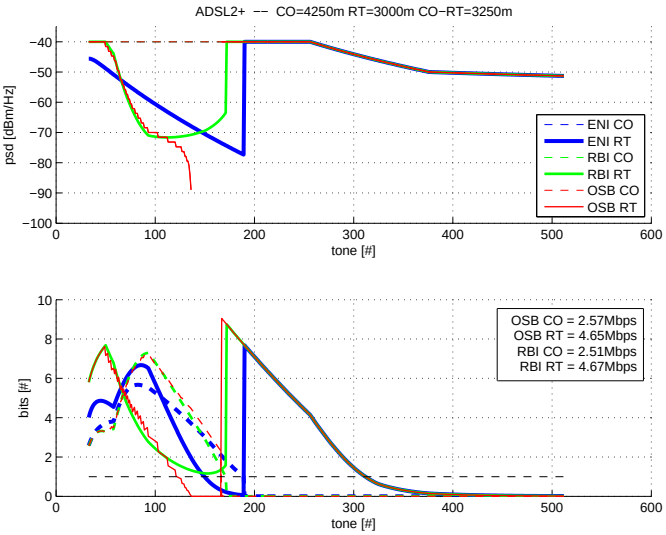

ADSL −− ENI −− CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

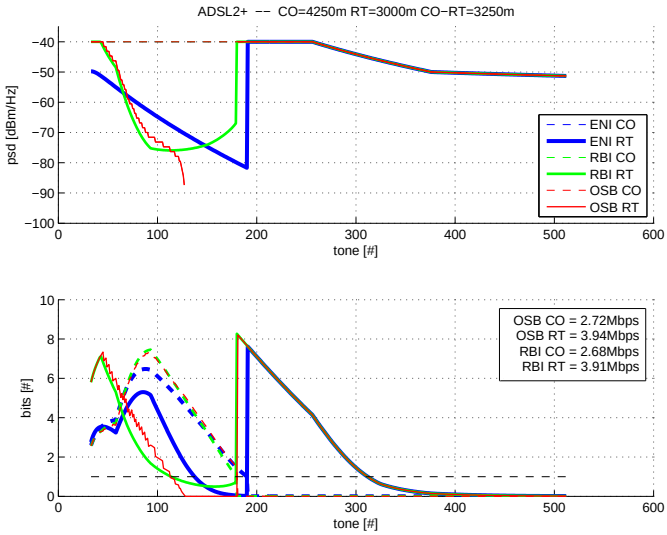

ADSL −− BI −− CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

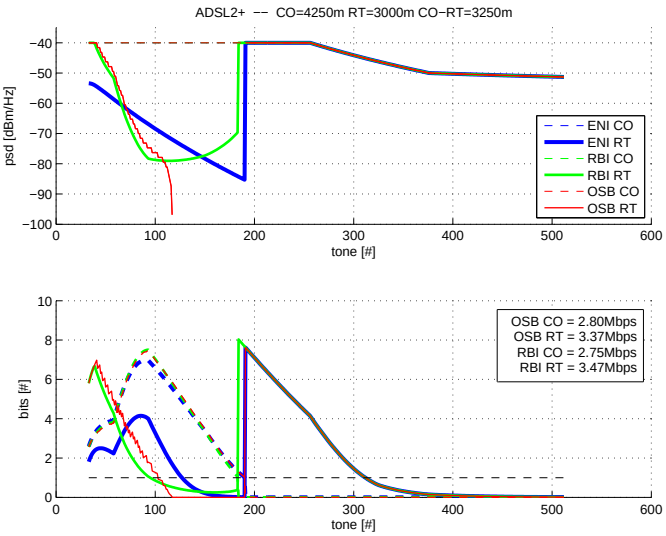

ADSL −− RBI −− CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

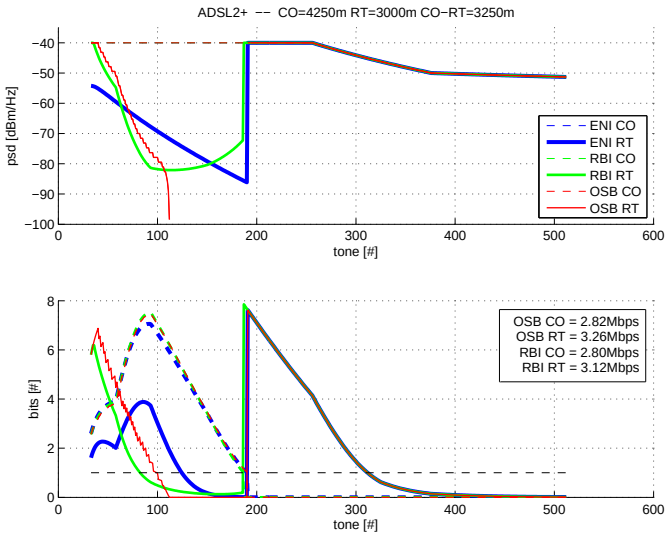

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.00Mbps
OSB RT = 6.33Mbps
RBI CO = 1.95Mbps
RBI RT = 6.21Mbps

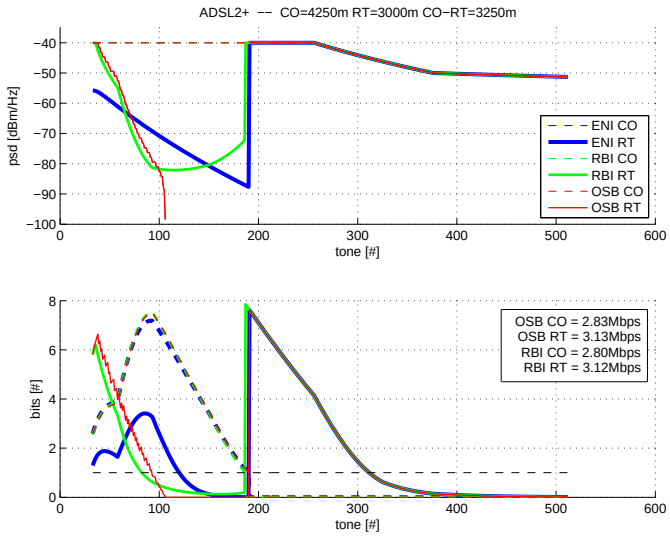

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.34Mbps
OSB RT = 5.43Mbps
RBI CO = 2.28Mbps
RBI RT = 5.39Mbps

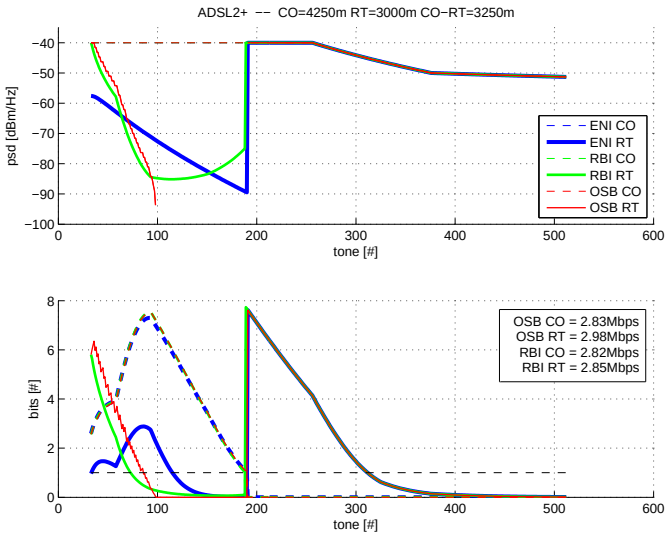

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.57Mbps
OSB RT = 4.65Mbps
RBI CO = 2.51Mbps
RBI RT = 4.67Mbps

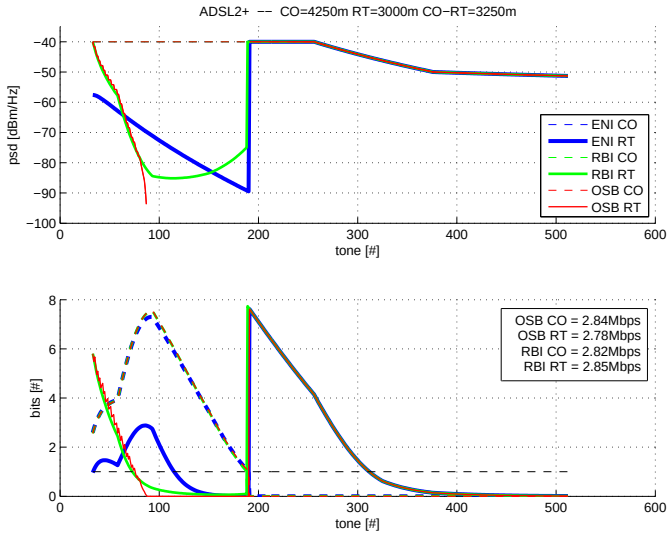

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.72Mbps
OSB RT = 3.94Mbps
RBI CO = 2.68Mbps
RBI RT = 3.91Mbps

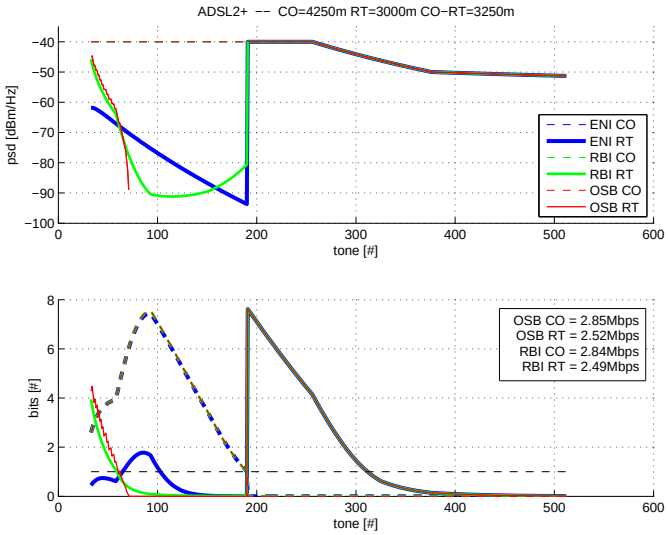

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.80Mbps
OSB RT = 3.37Mbps
RBI CO = 2.75Mbps
RBI RT = 3.47Mbps

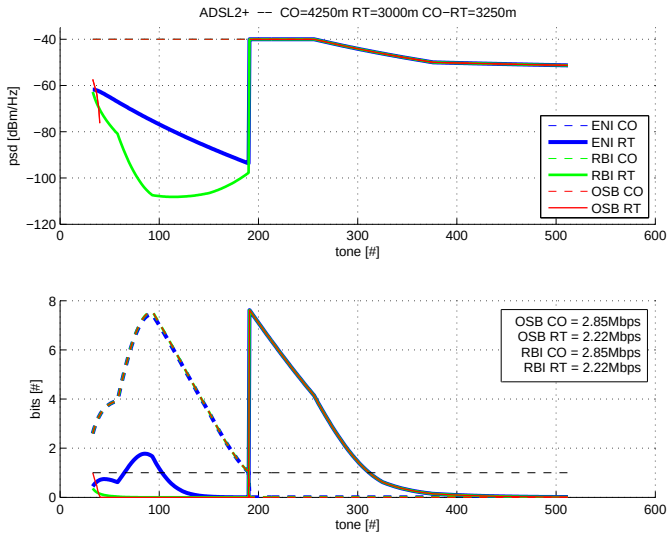

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.82Mbps
OSB RT = 3.26Mbps
RBI CO = 2.80Mbps
RBI RT = 3.12Mbps

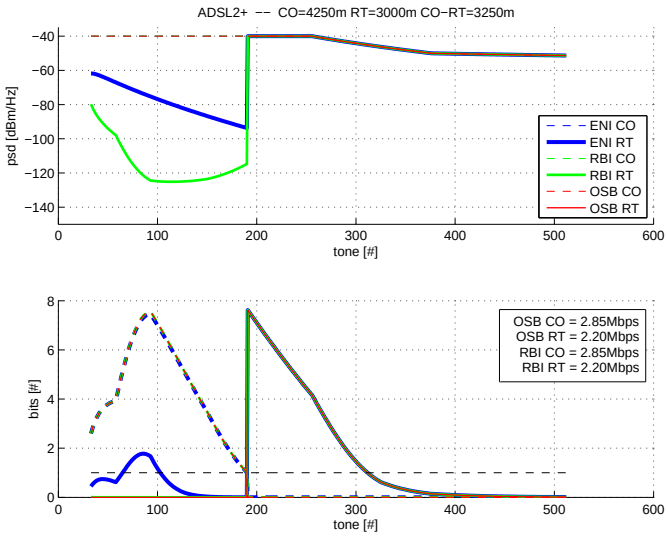

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.83Mbps
OSB RT = 3.13Mbps
RBI CO = 2.80Mbps
RBI RT = 3.12Mbps

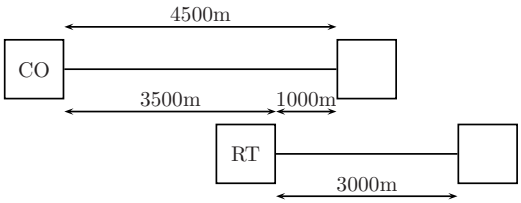

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.83Mbps
OSB RT = 2.98Mbps
RBI CO = 2.82Mbps
RBI RT = 2.85Mbps

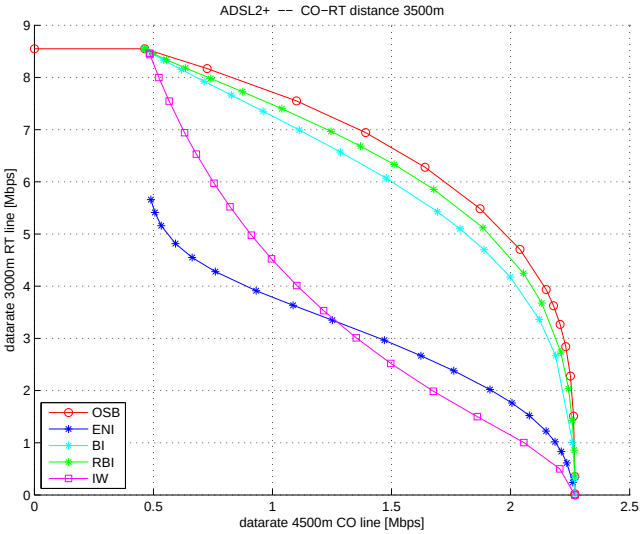

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.84Mbps
OSB RT = 2.78Mbps
RBI CO = 2.82Mbps
RBI RT = 2.85Mbps

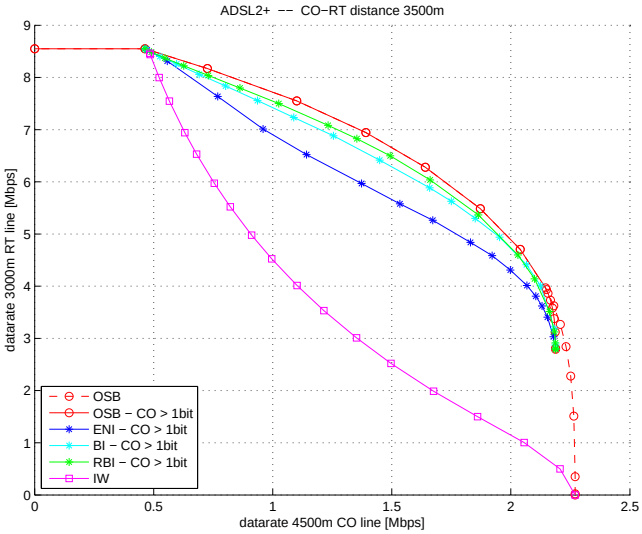

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 2.52Mbps
RBI CO = 2.84Mbps
RBI RT = 2.49Mbps

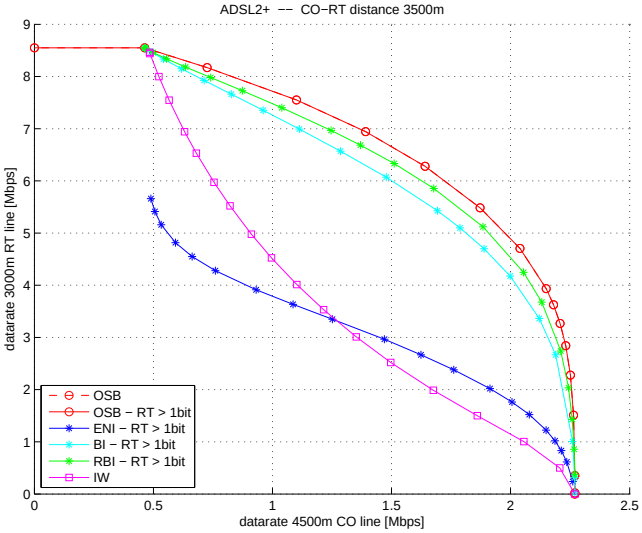

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 2.22Mbps
RBI CO = 2.85Mbps
RBI RT = 2.22Mbps

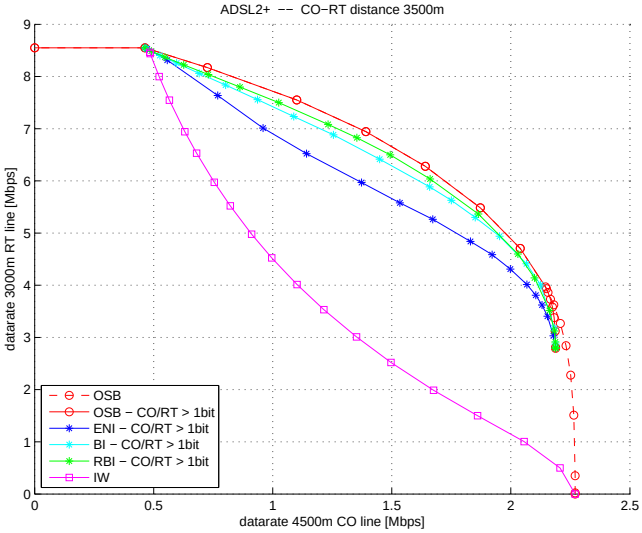

ADSL2+ -- CO=4250m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 2.20Mbps
RBI CO = 2.85Mbps
RBI RT = 2.20Mbps

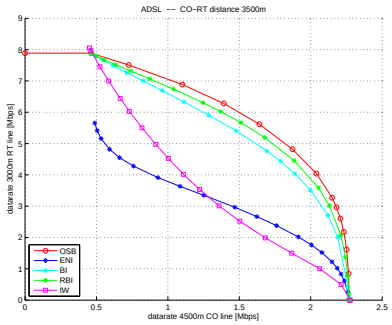

4500m
CO
3500m
1000m
RT
3000m

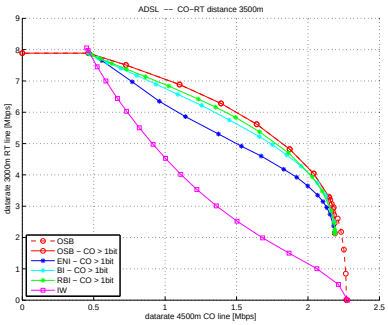

ADSL2+ -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

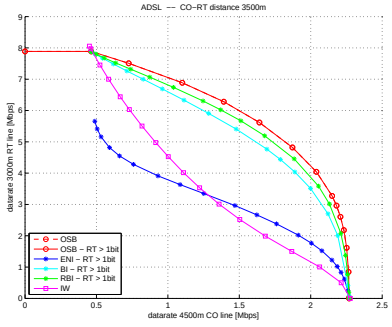

ADSL2+ -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

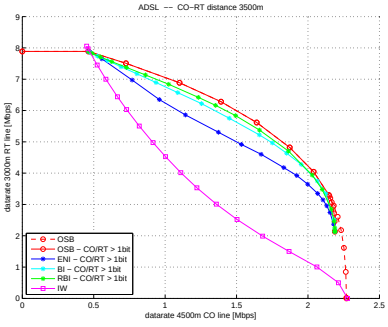

ADSL2+ -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

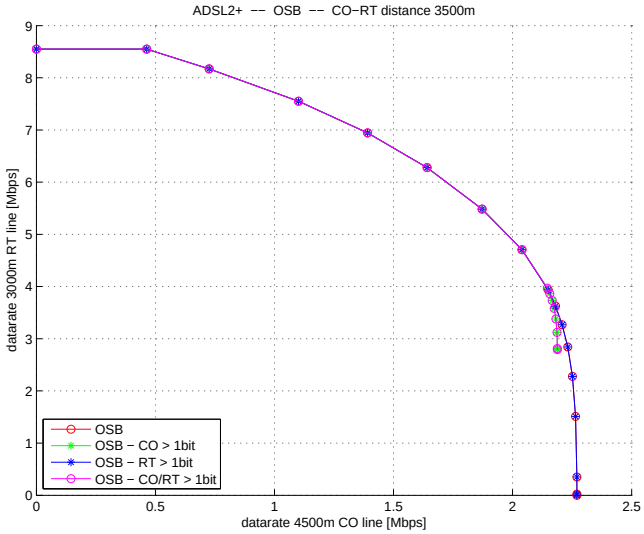

ADSL2+ -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

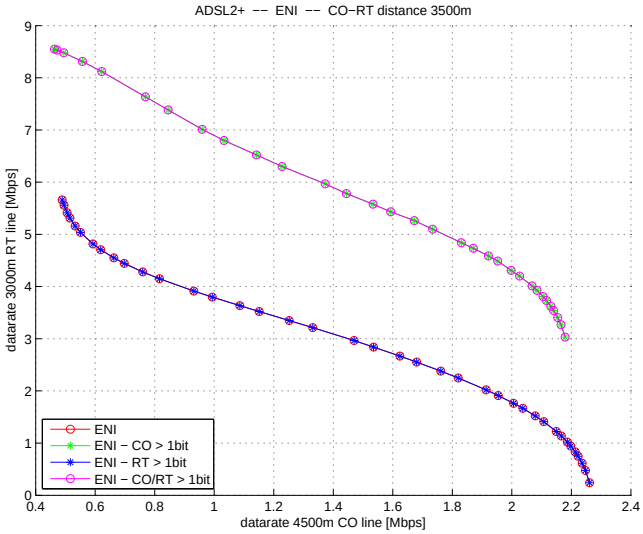

ADSL -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

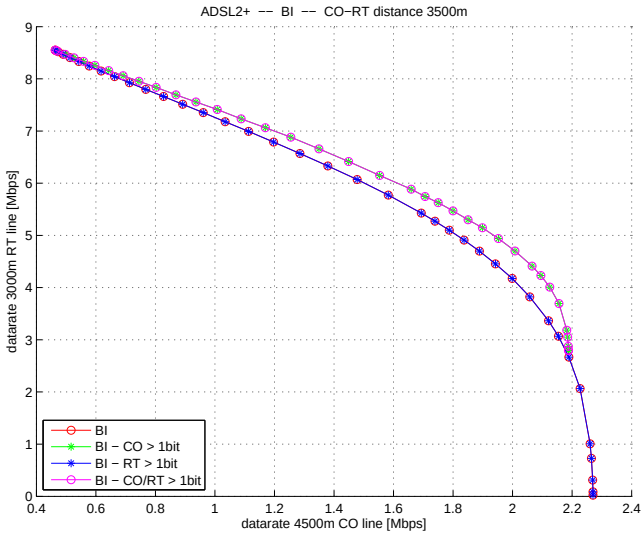

ADSL -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

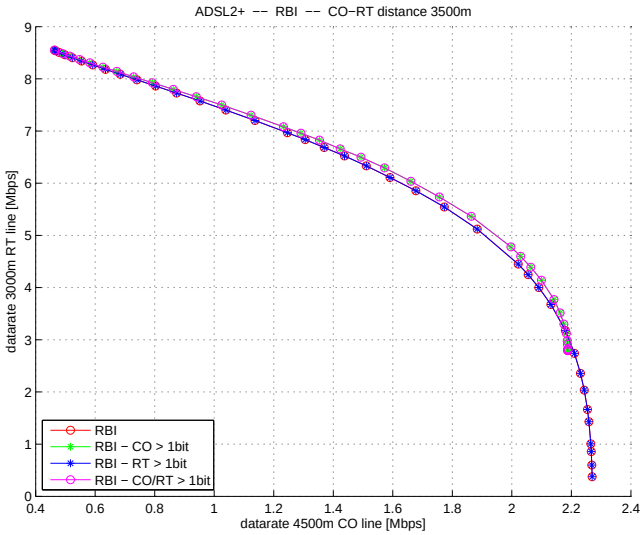

ADSL -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

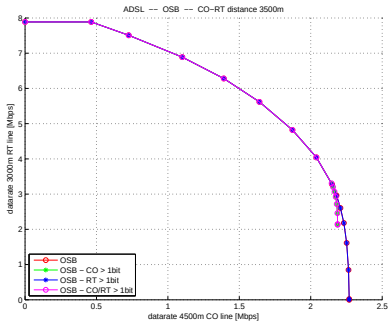

ADSL -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

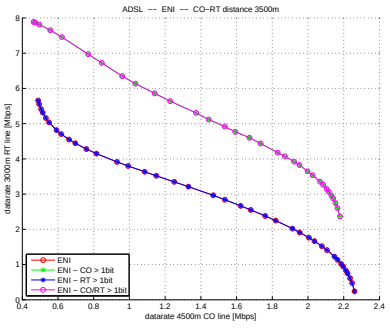

ADSL2+ −− OSB −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

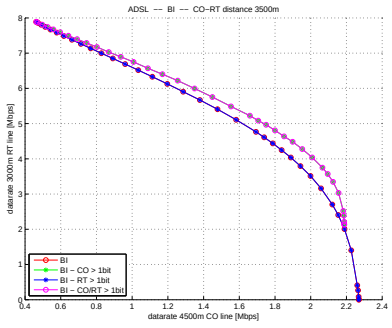

ADSL2+ −− ENI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

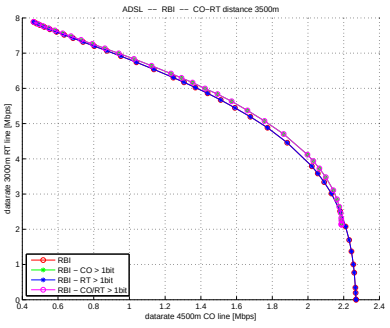

ADSL2+ −− BI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

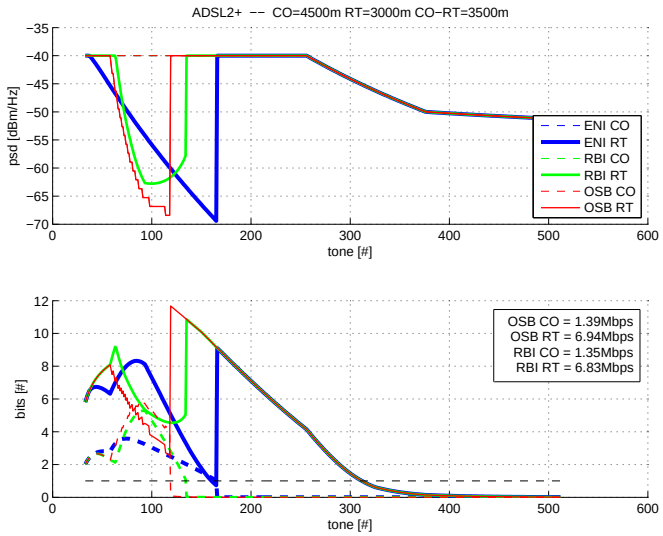

ADSL2+ −− RBI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

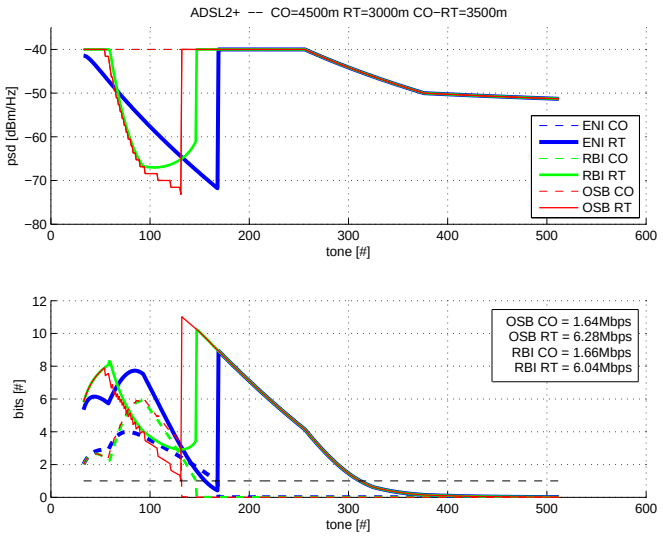

ADSL −− OSB −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

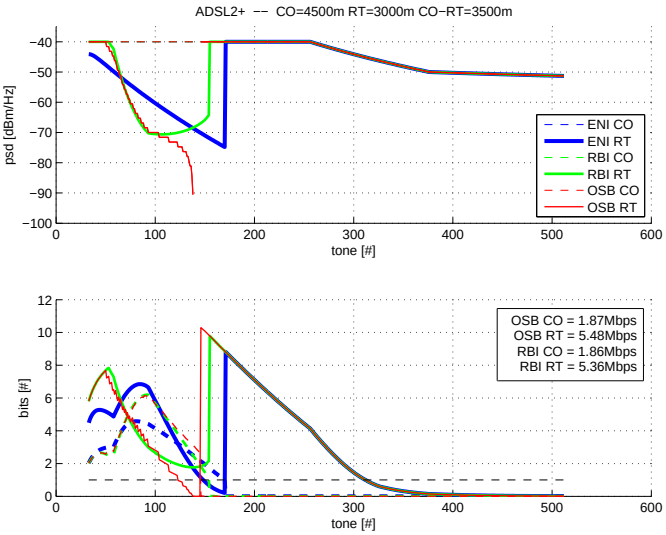

ADSL −− ENI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

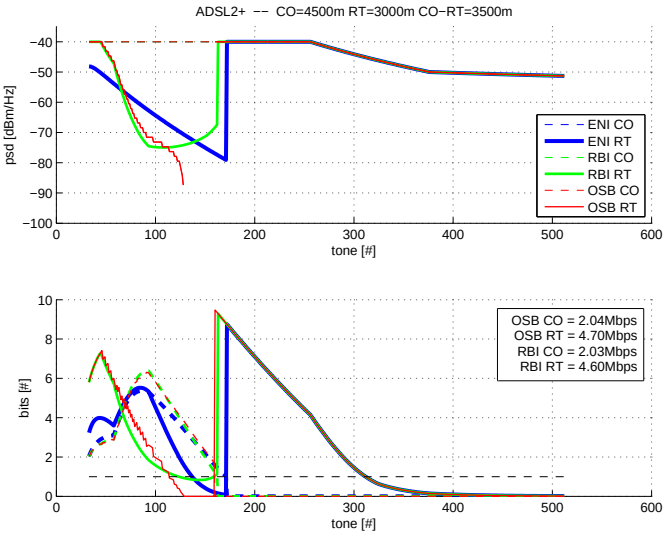

ADSL −− BI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

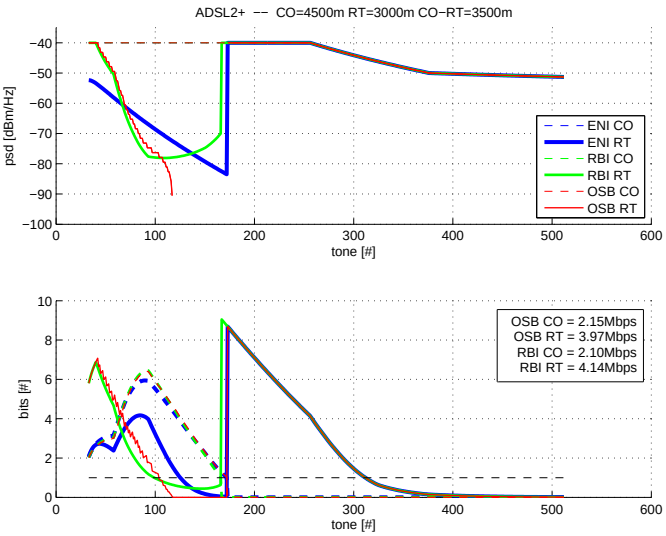

ADSL −− RBI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

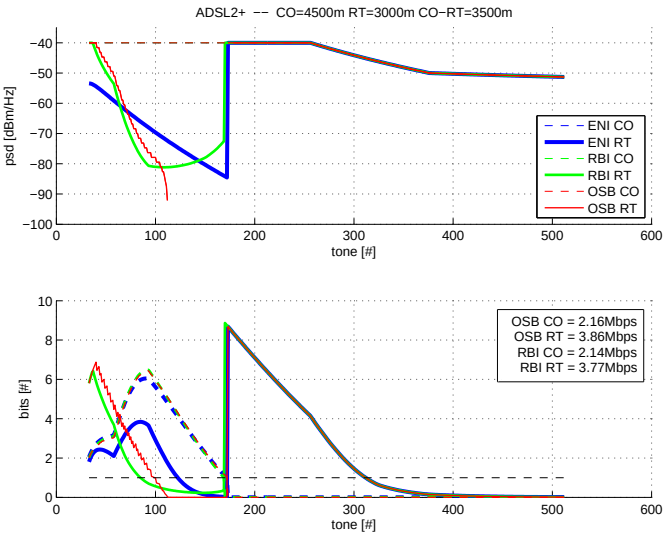

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.39Mbps
OSB RT = 6.94Mbps
RBI CO = 1.35Mbps
RBI RT = 6.83Mbps

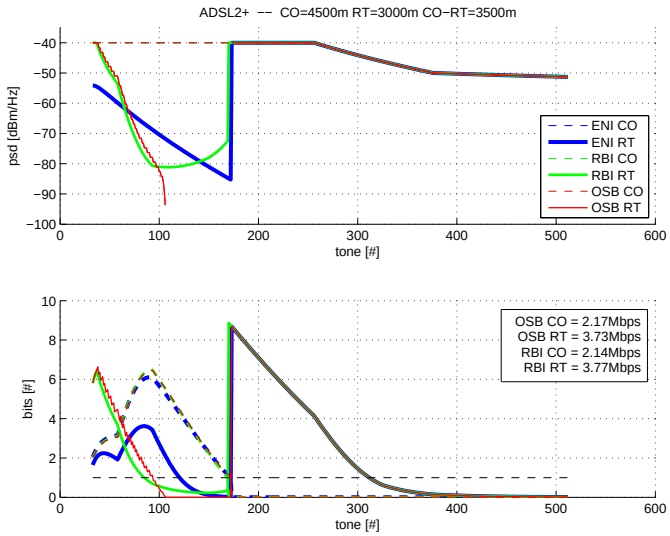

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 6.28Mbps
RBI CO = 1.66Mbps
RBI RT = 6.04Mbps

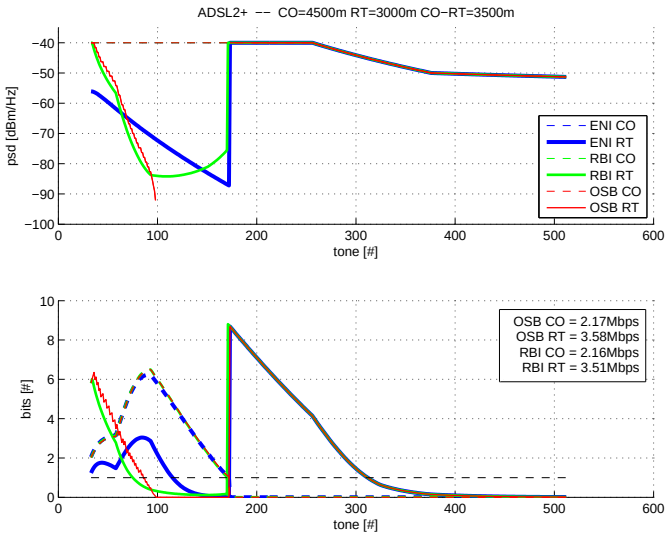

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.87Mbps
OSB RT = 5.48Mbps
RBI CO = 1.86Mbps
RBI RT = 5.36Mbps

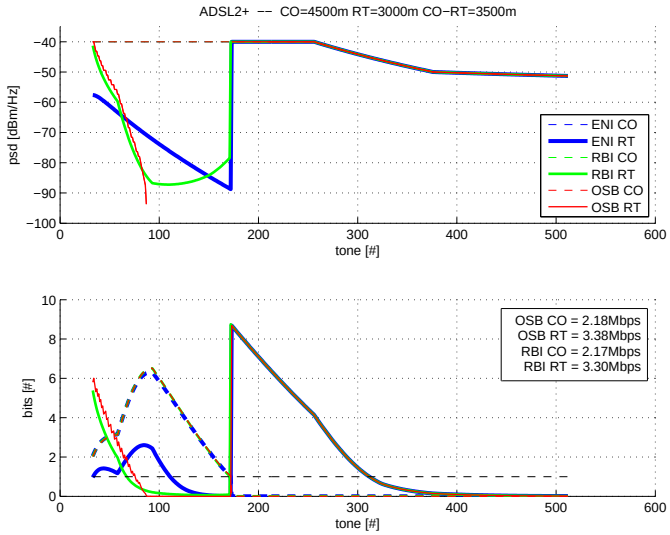

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.04Mbps
OSB RT = 4.70Mbps
RBI CO = 2.03Mbps
RBI RT = 4.60Mbps

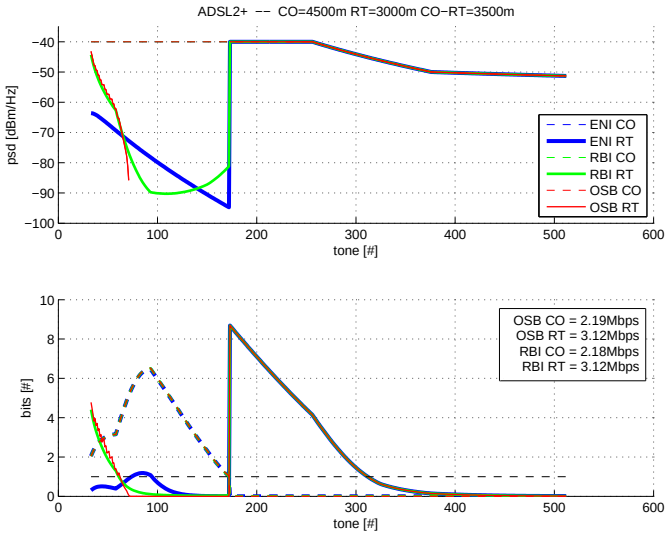

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.15Mbps
OSB RT = 3.97Mbps
RBI CO = 2.10Mbps
RBI RT = 4.14Mbps

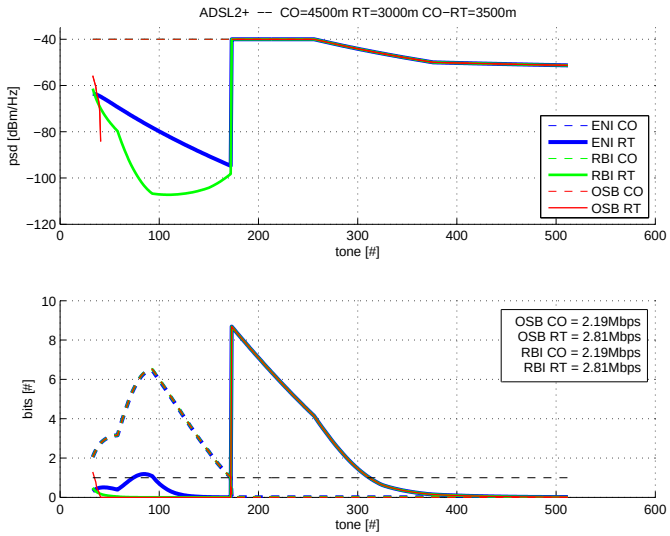

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.16Mbps
OSB RT = 3.86Mbps
RBI CO = 2.14Mbps
RBI RT = 3.77Mbps

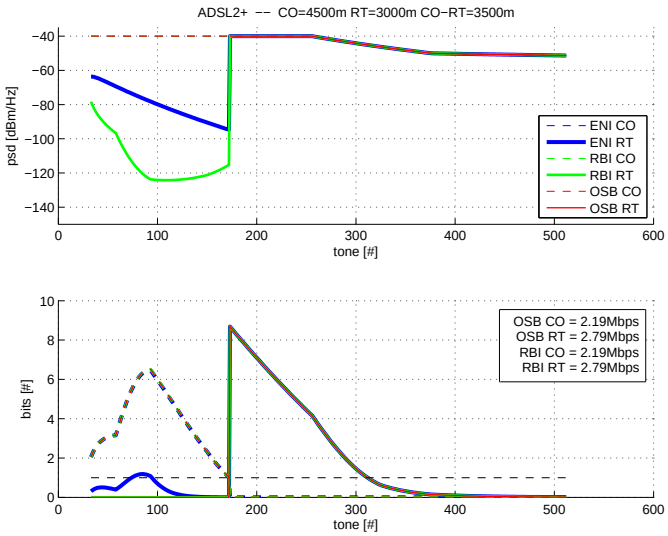

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.17Mbps
OSB RT = 3.73Mbps
RBI CO = 2.14Mbps
RBI RT = 3.77Mbps

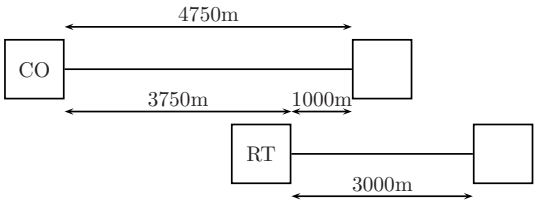

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.17Mbps
OSB RT = 3.58Mbps
RBI CO = 2.16Mbps
RBI RT = 3.51Mbps

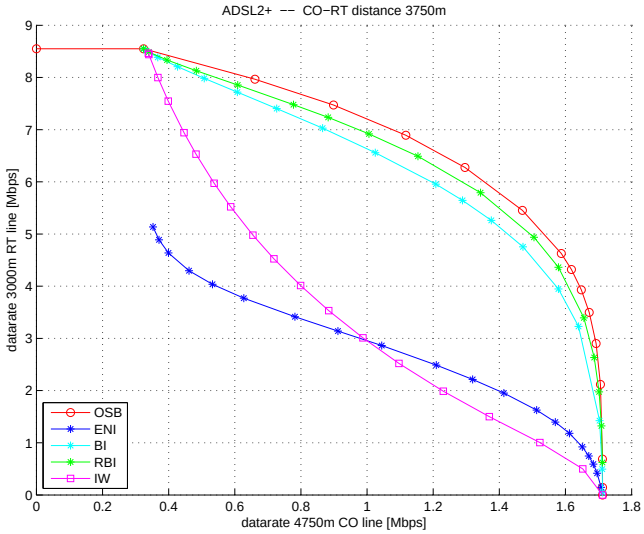

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.18Mbps
OSB RT = 3.38Mbps
RBI CO = 2.17Mbps
RBI RT = 3.30Mbps

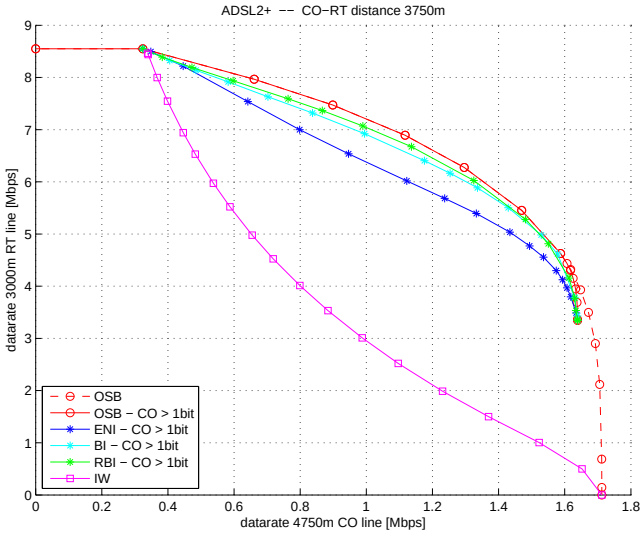

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 3.12Mbps
RBI CO = 2.18Mbps
RBI RT = 3.12Mbps

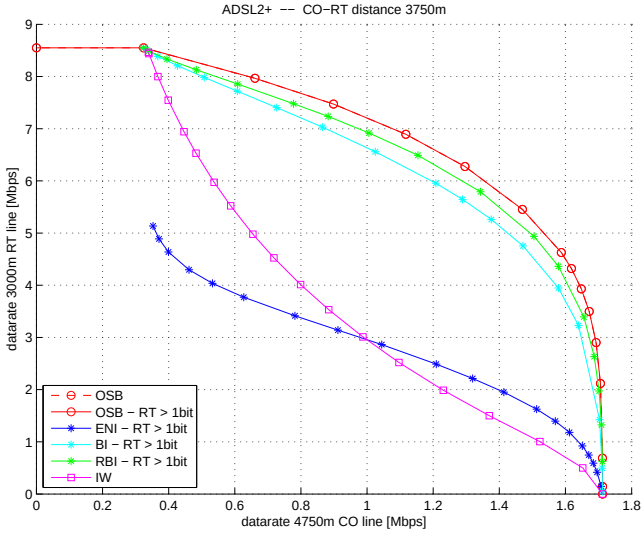

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 2.81Mbps
RBI CO = 2.19Mbps
RBI RT = 2.81Mbps

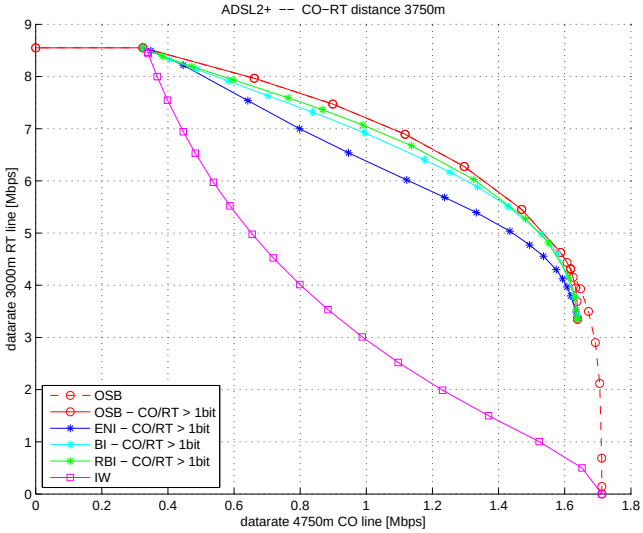

ADSL2+ -- CO=4500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 2.79Mbps
RBI CO = 2.19Mbps
RBI RT = 2.79Mbps

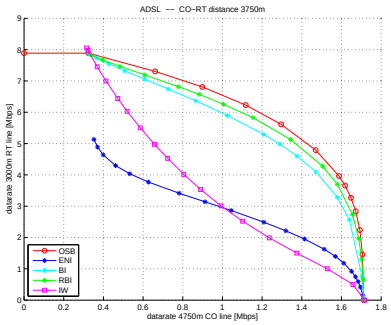

4750m
CO
3750m
1000m
RT
3000m

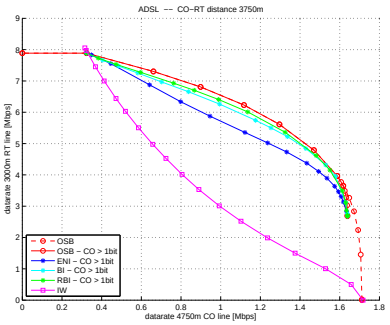

ADSL2+ -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

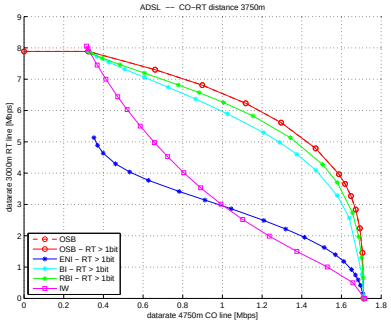

ADSL2+ -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

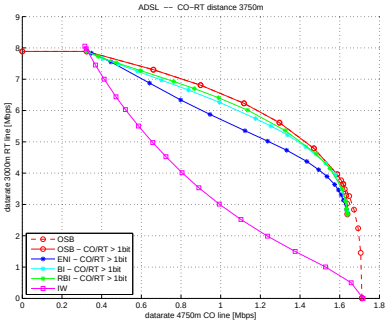

ADSL2+ -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

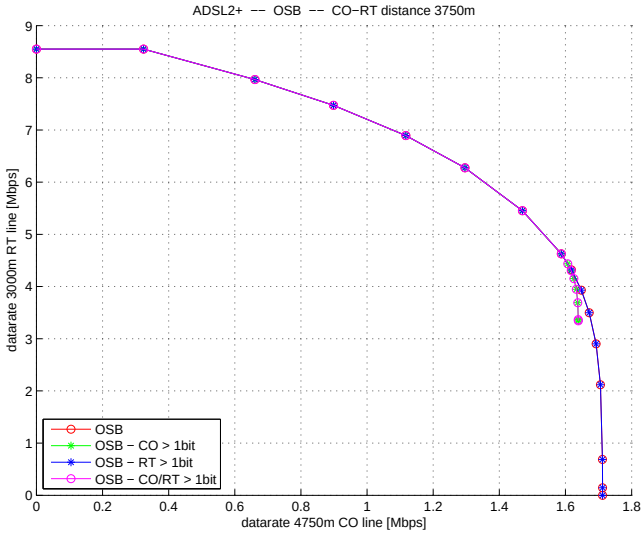

ADSL2+ -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

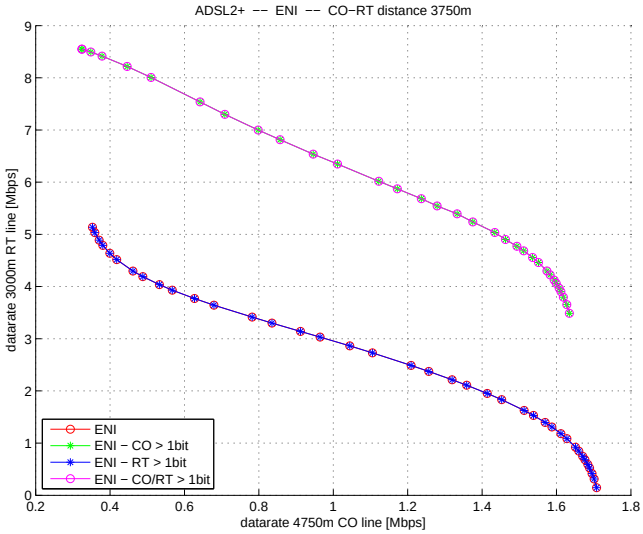

ADSL -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

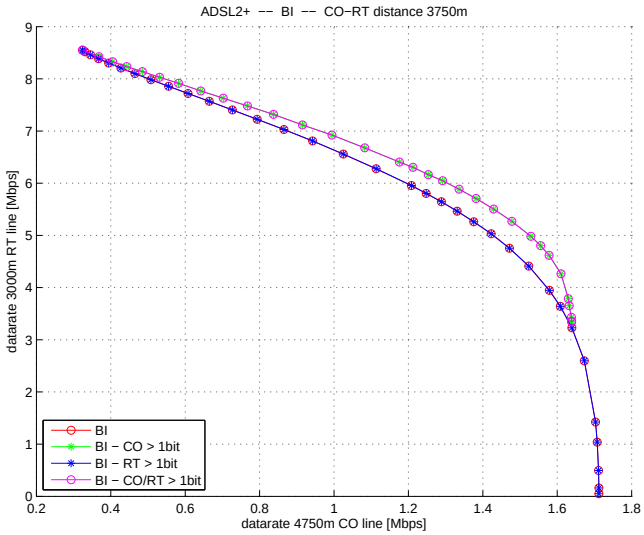

ADSL -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

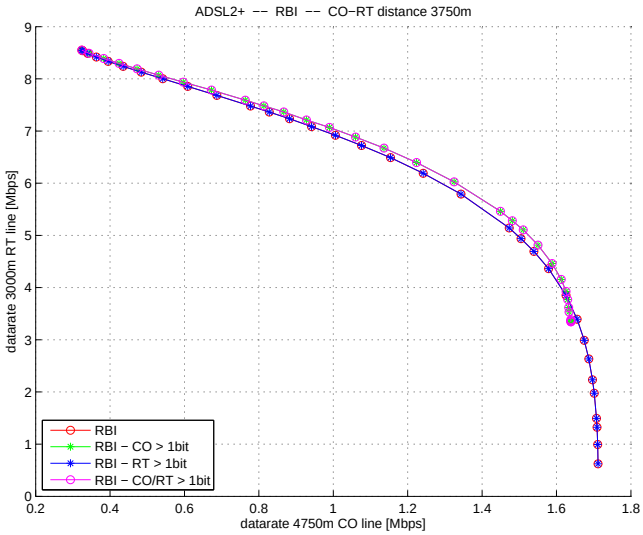

ADSL -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

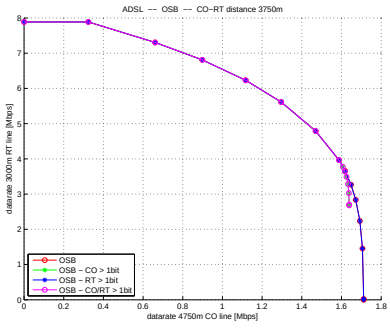

ADSL -- CO-RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

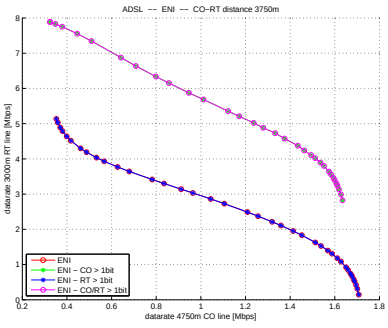

ADSL2+ -- OSB -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

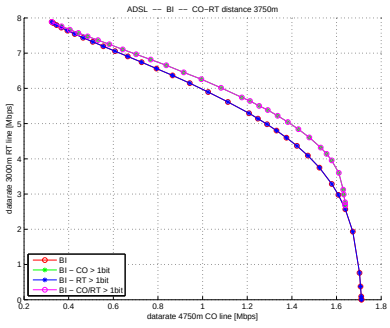

ADSL2+ -- ENI -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

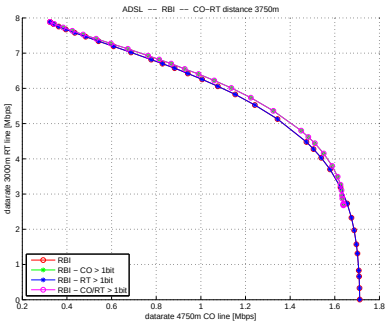

ADSL2+ -- BI -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

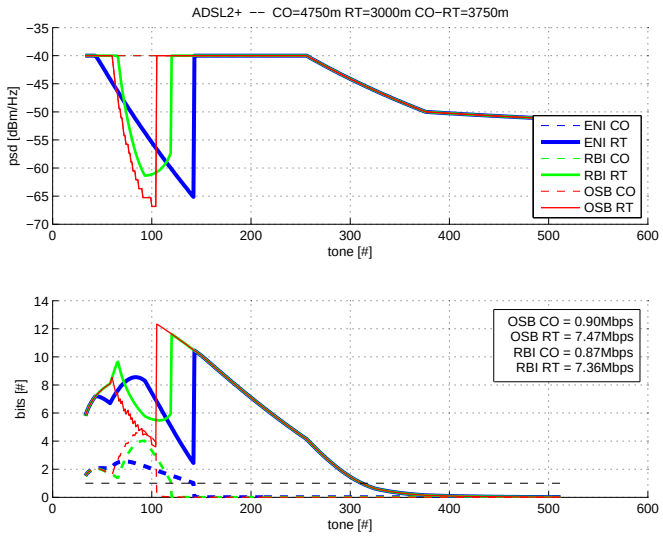

ADSL2+ -- RBI -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

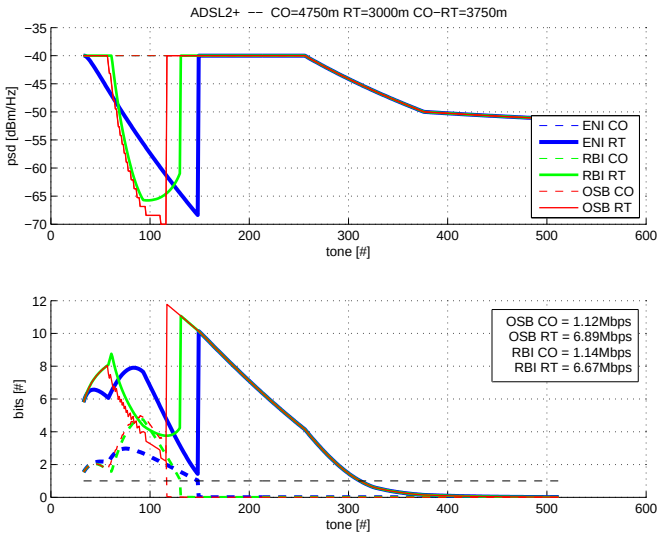

ADSL -- OSB -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

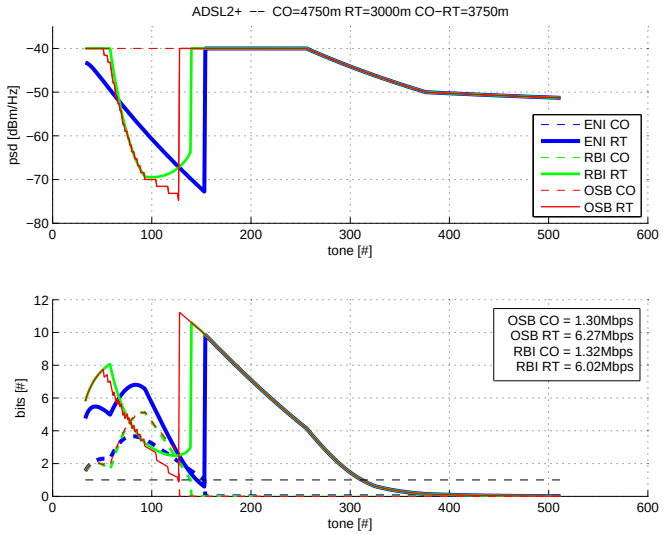

ADSL -- ENI -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

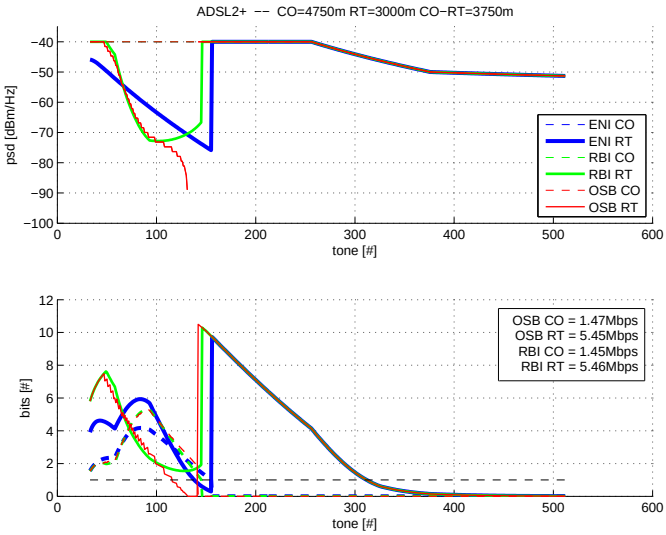

ADSL -- BI -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

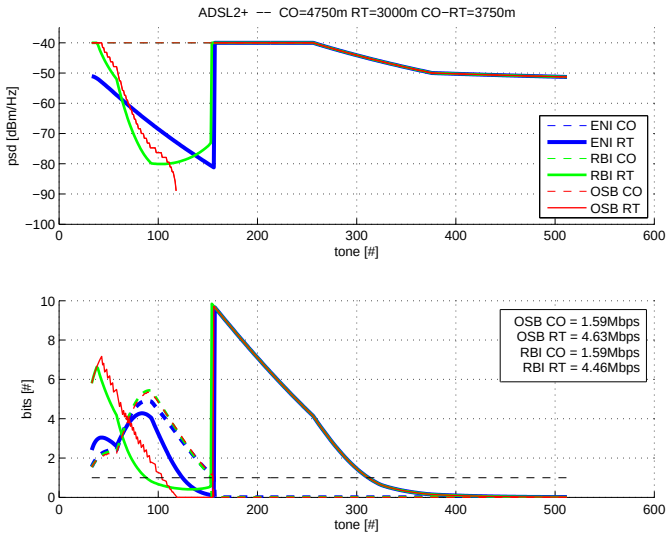

ADSL -- RBI -- CO−RT distance 3750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

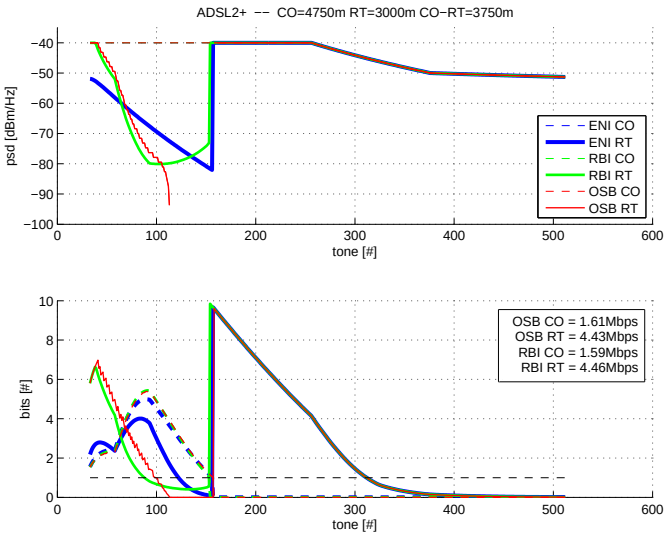

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.90Mbps
OSB RT = 7.47Mbps
RBI CO = 0.87Mbps
RBI RT = 7.36Mbps

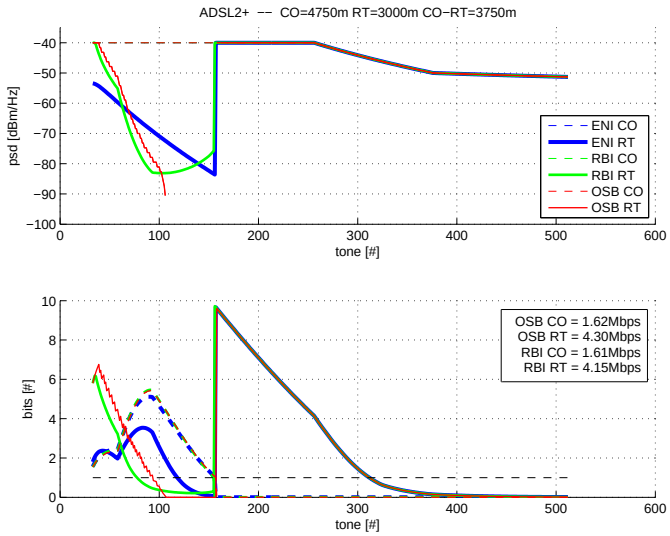

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.12Mbps
OSB RT = 6.89Mbps
RBI CO = 1.14Mbps
RBI RT = 6.67Mbps

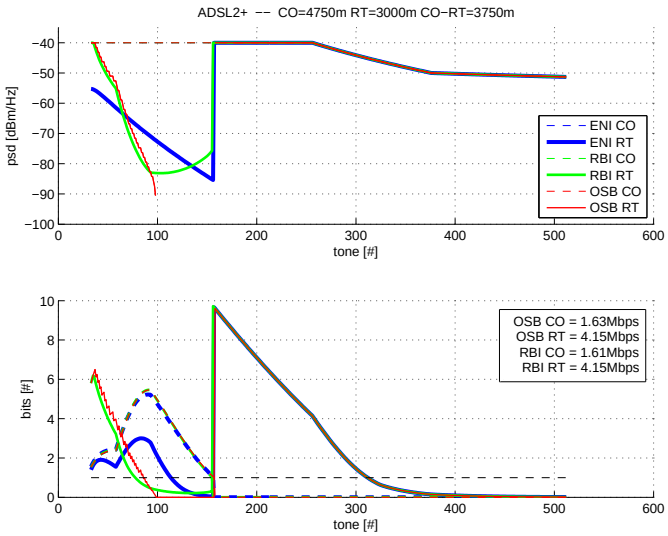

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.30Mbps
OSB RT = 6.27Mbps
RBI CO = 1.32Mbps
RBI RT = 6.02Mbps

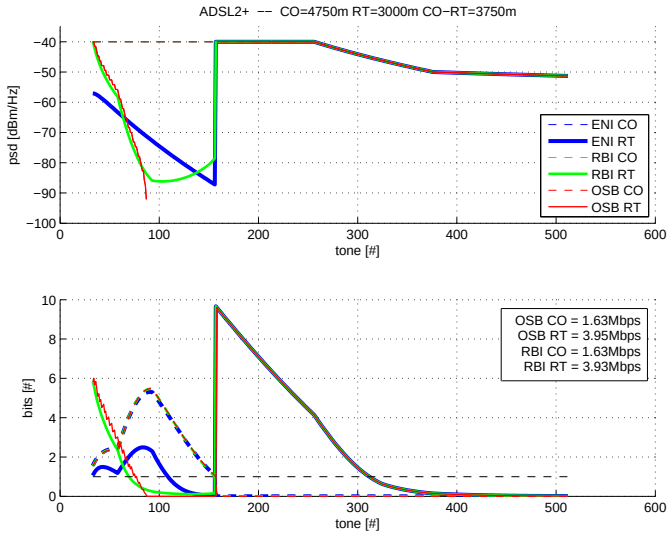

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.47Mbps
OSB RT = 5.45Mbps
RBI CO = 1.45Mbps
RBI RT = 5.46Mbps

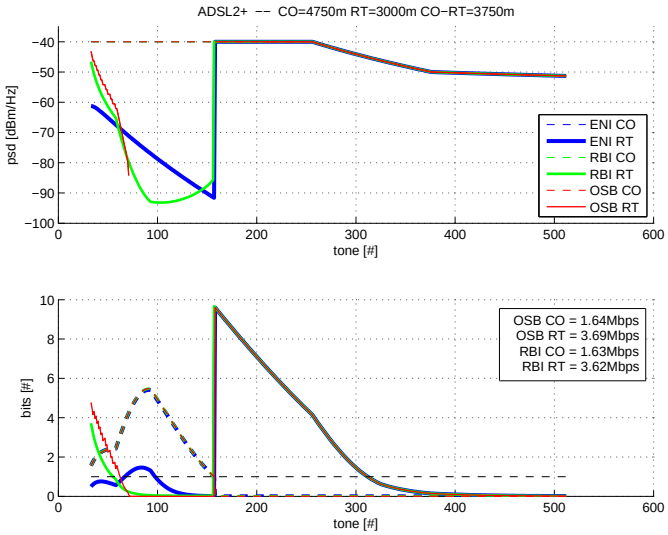

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.59Mbps
OSB RT = 4.63Mbps
RBI CO = 1.59Mbps
RBI RT = 4.46Mbps

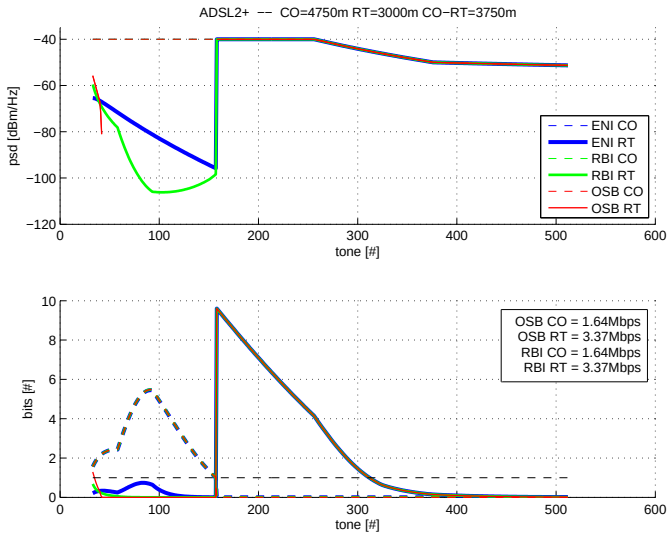

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.61Mbps
OSB RT = 4.43Mbps
RBI CO = 1.59Mbps
RBI RT = 4.46Mbps

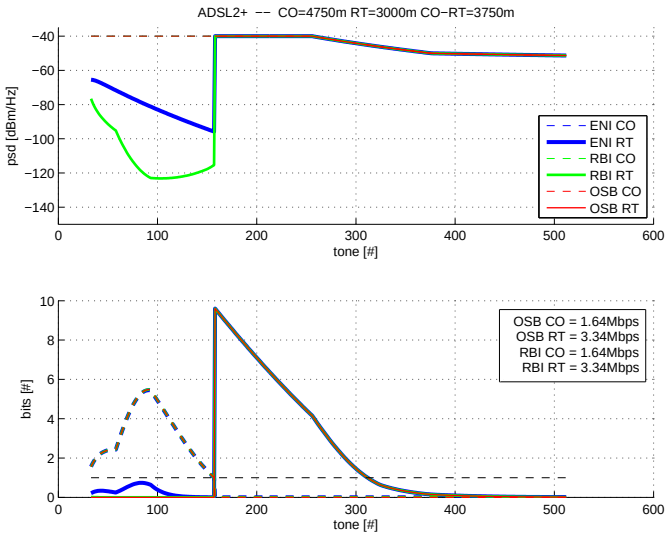

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.62Mbps
OSB RT = 4.30Mbps
RBI CO = 1.61Mbps
RBI RT = 4.15Mbps

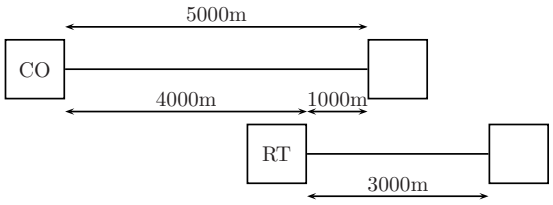

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.63Mbps
OSB RT = 4.15Mbps
RBI CO = 1.61Mbps
RBI RT = 4.15Mbps

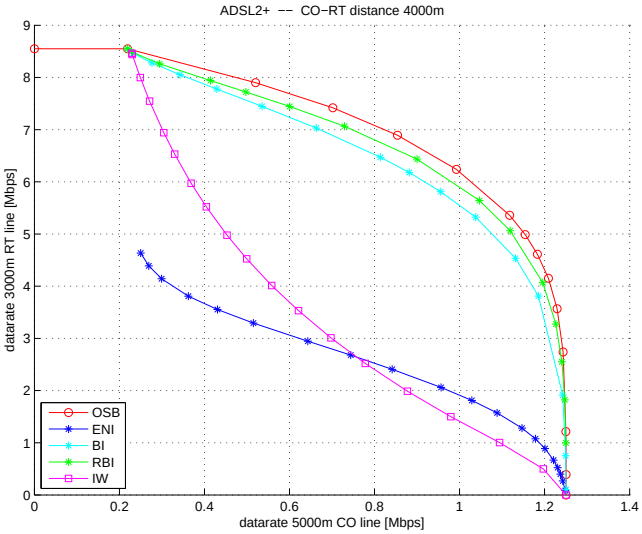

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.63Mbps
OSB RT = 3.95Mbps
RBI CO = 1.63Mbps
RBI RT = 3.93Mbps

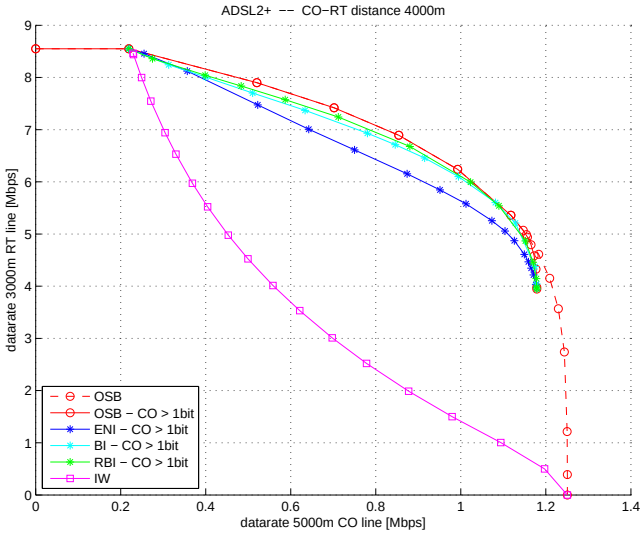

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.69Mbps
RBI CO = 1.63Mbps
RBI RT = 3.62Mbps

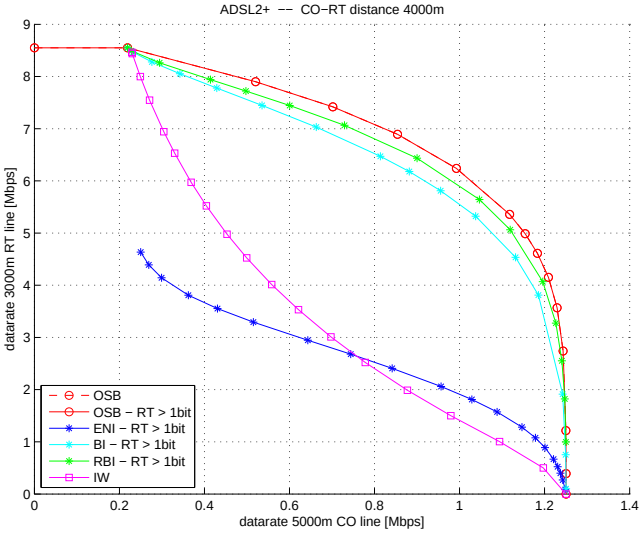

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.37Mbps
RBI CO = 1.64Mbps
RBI RT = 3.37Mbps

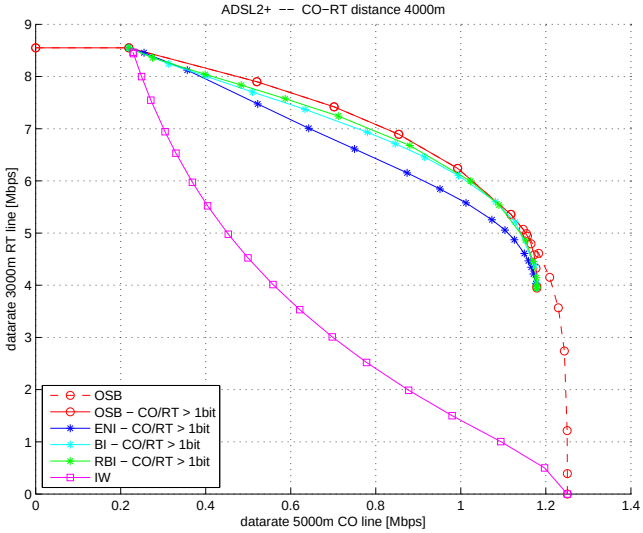

ADSL2+ -- CO=4750m RT=3000m CO-RT=3750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.34Mbps
RBI CO = 1.64Mbps
RBI RT = 3.34Mbps

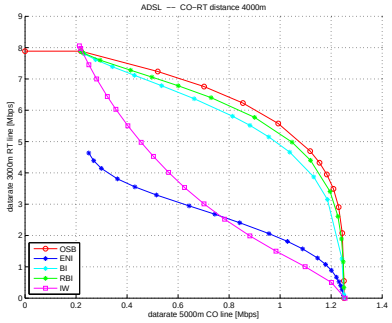

5000m
CO
4000m
1000m
RT
3000m

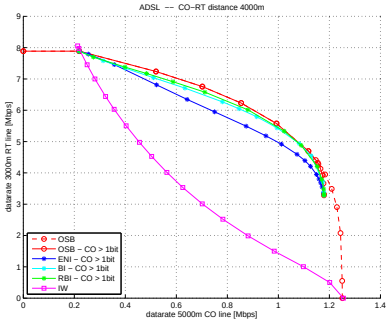

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

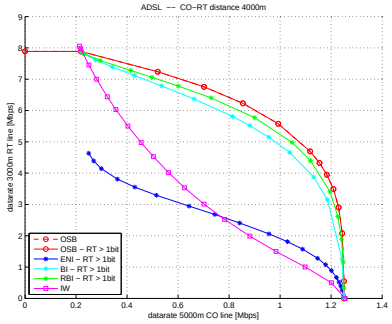

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

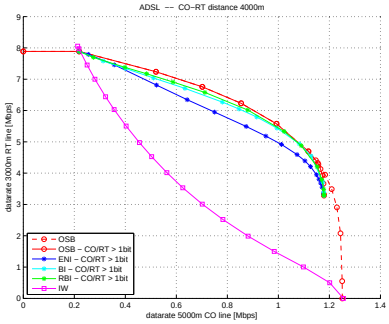

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

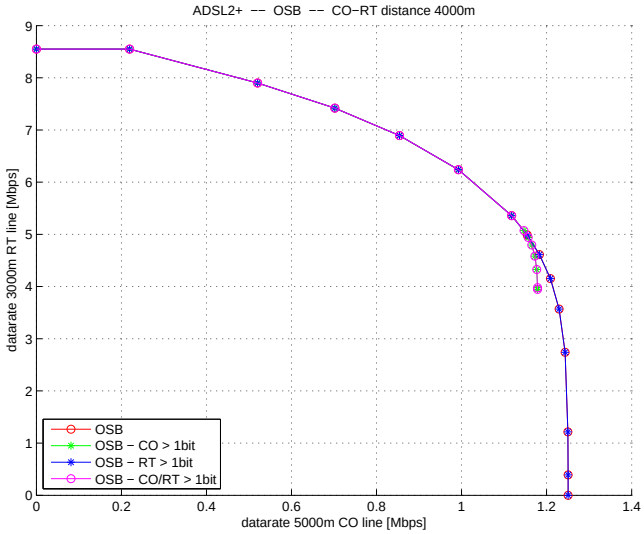

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

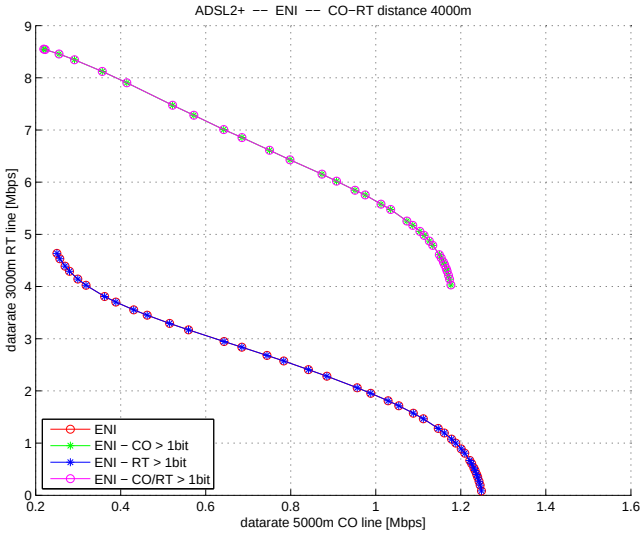

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

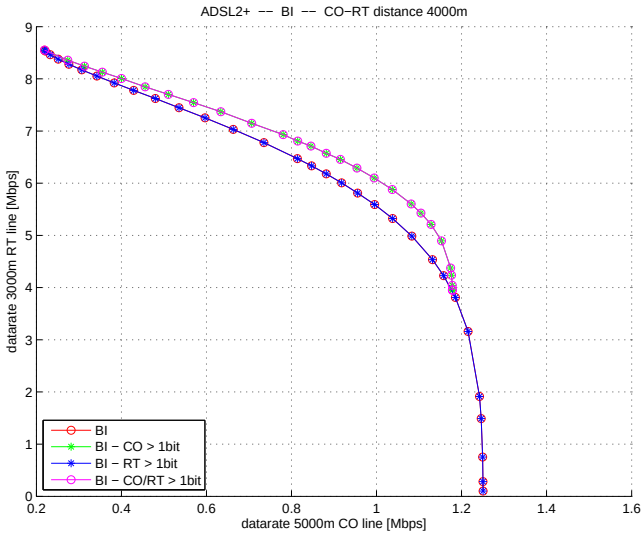

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

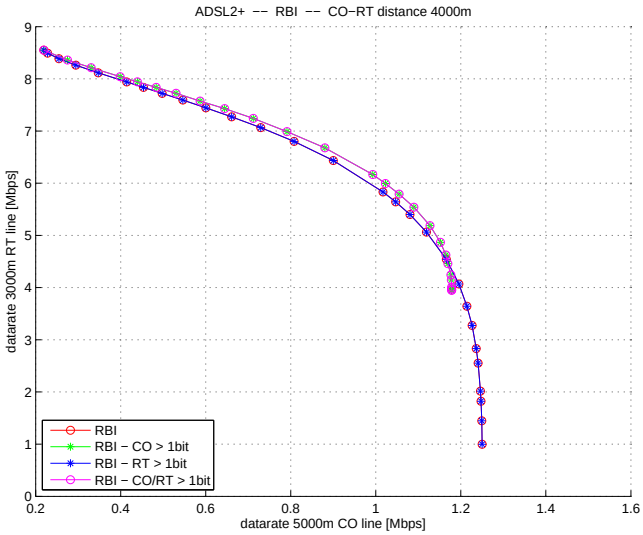

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

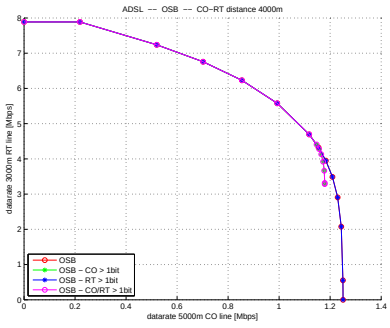

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

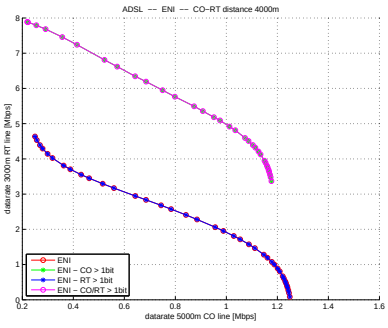

ADSL2+ −− OSB −− CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

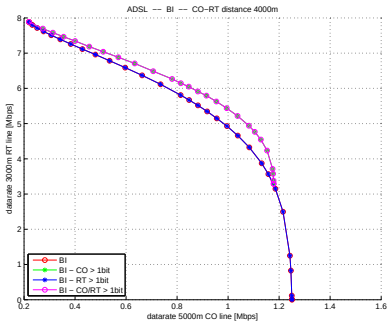

ADSL2+ −− ENI −− CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

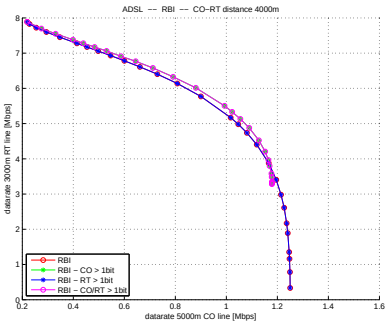

ADSL2+ −− BI −− CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

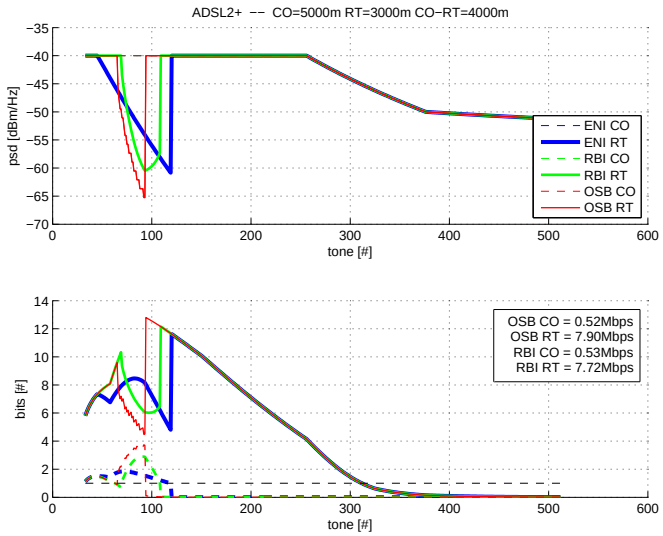

ADSL2+ −− RBI −− CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

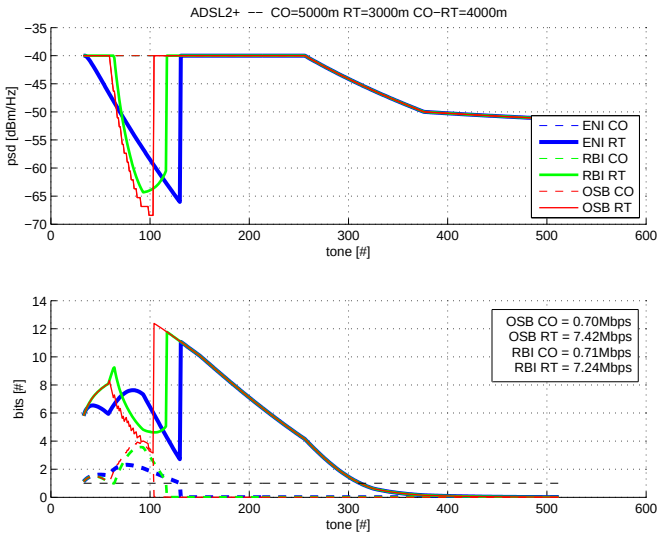

ADSL −− OSB −− CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

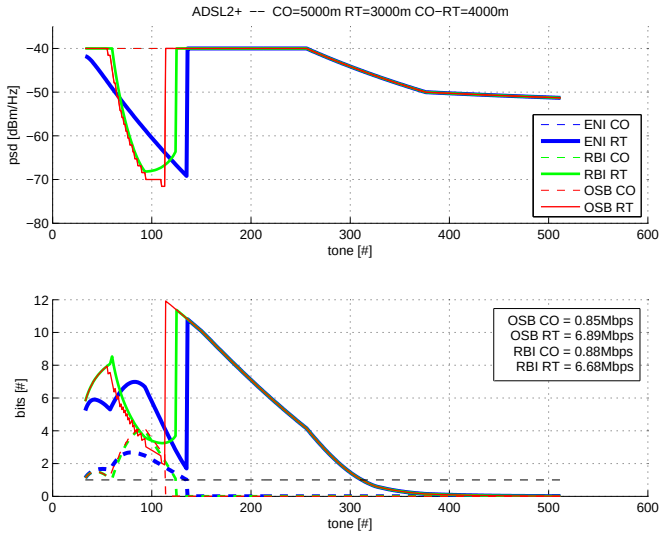

ADSL −− ENI −− CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

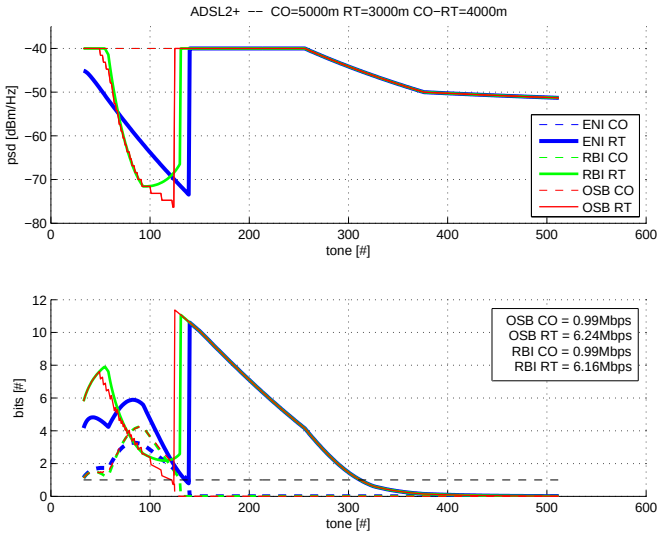

ADSL −− BI −− CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

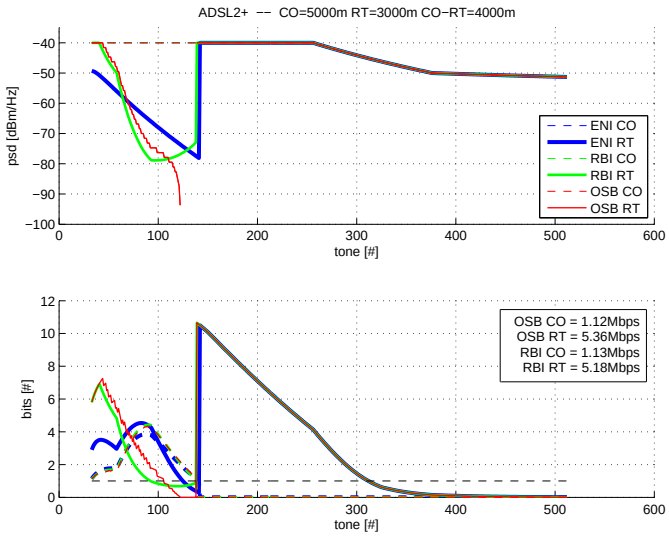

ADSL −− RBI −− CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

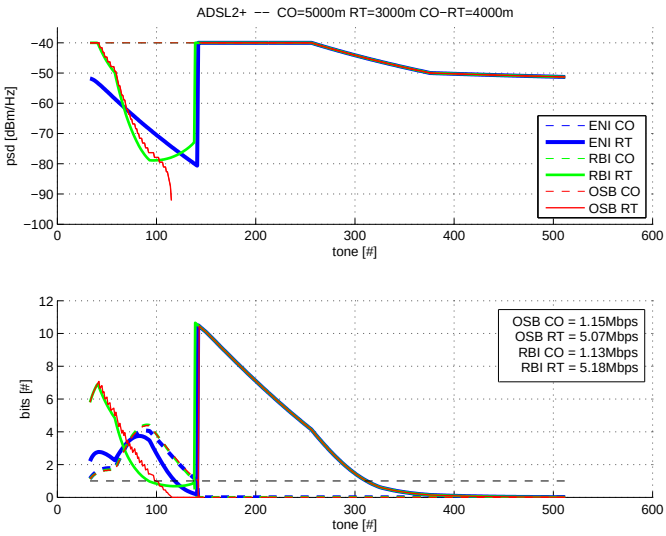

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.52Mbps
OSB RT = 7.90Mbps
RBI CO = 0.53Mbps
RBI RT = 7.72Mbps

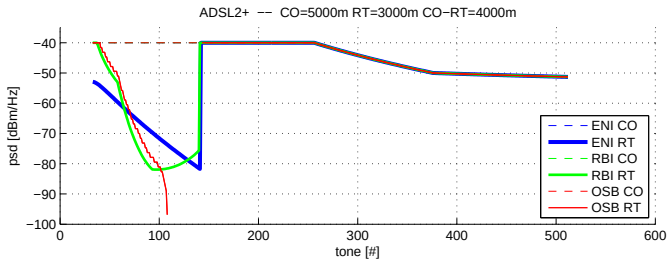

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.70Mbps
OSB RT = 7.42Mbps
RBI CO = 0.71Mbps
RBI RT = 7.24Mbps

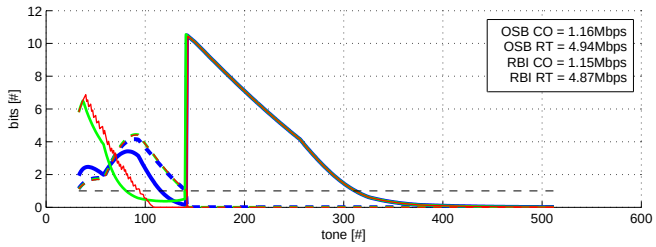

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.85Mbps
OSB RT = 6.89Mbps
RBI CO = 0.88Mbps
RBI RT = 6.68Mbps

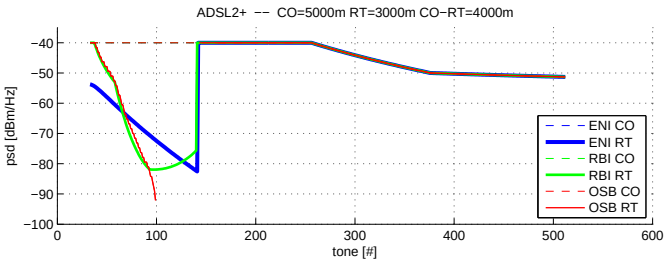

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.99Mbps
OSB RT = 6.24Mbps
RBI CO = 0.99Mbps
RBI RT = 6.16Mbps

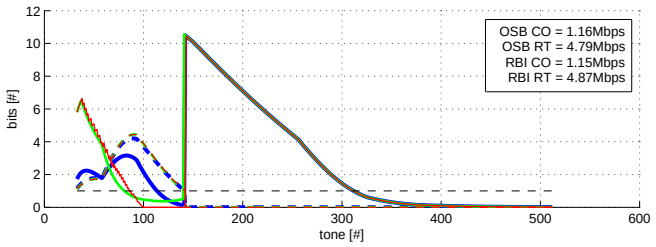

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.12Mbps
OSB RT = 5.36Mbps
RBI CO = 1.13Mbps
RBI RT = 5.18Mbps

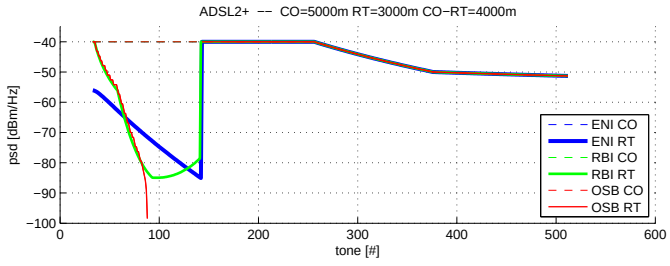

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.15Mbps
OSB RT = 5.07Mbps
RBI CO = 1.13Mbps
RBI RT = 5.18Mbps

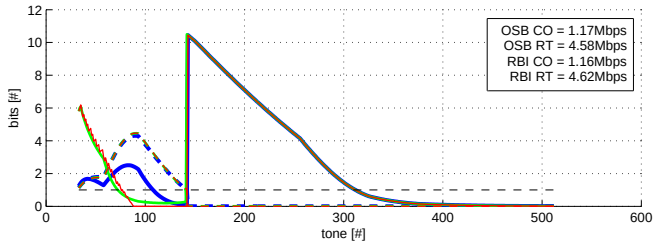

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

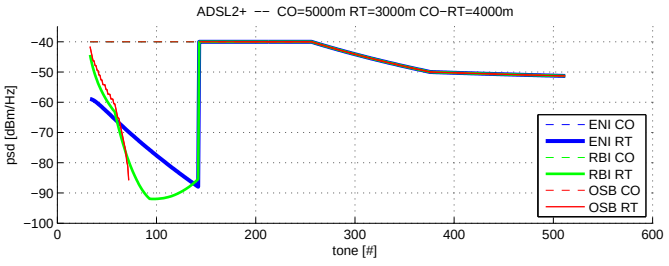

bits [#]
tone [#]
OSB CO = 1.16Mbps
OSB RT = 4.94Mbps
RBI CO = 1.15Mbps
RBI RT = 4.87Mbps

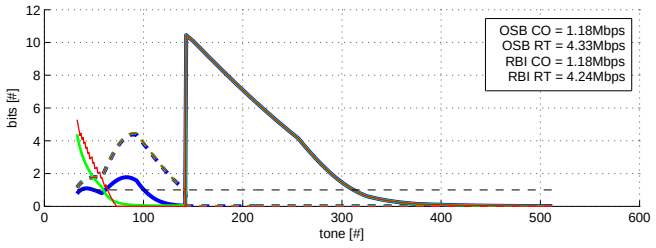

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

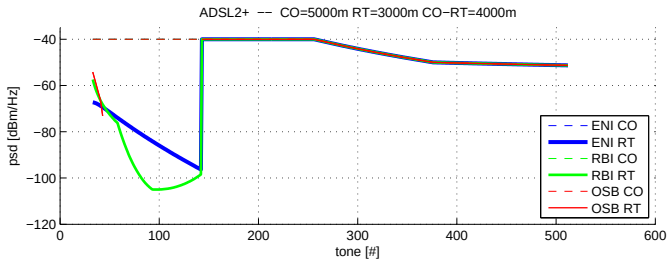

bits [#]
tone [#]
OSB CO = 1.16Mbps
OSB RT = 4.79Mbps
RBI CO = 1.15Mbps
RBI RT = 4.87Mbps

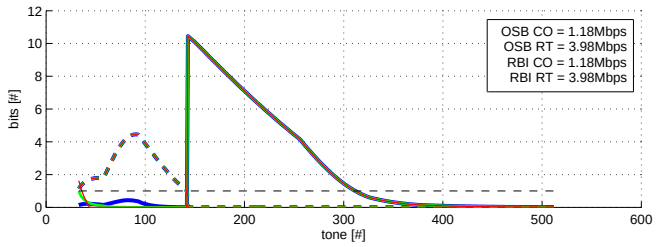

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

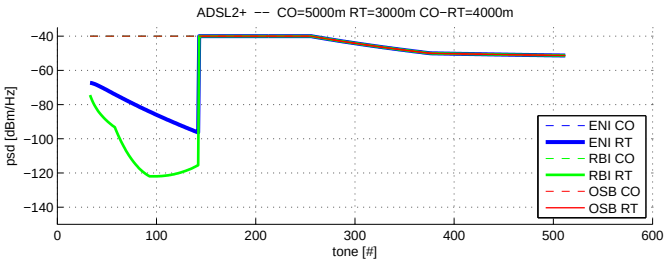

bits [#]
tone [#]
OSB CO = 1.17Mbps
OSB RT = 4.58Mbps
RBI CO = 1.16Mbps
RBI RT = 4.62Mbps

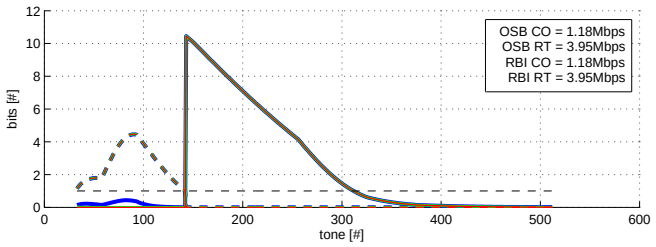

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

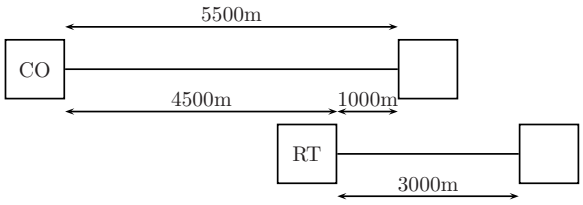

bits [#]
tone [#]
OSB CO = 1.18Mbps
OSB RT = 4.33Mbps
RBI CO = 1.18Mbps
RBI RT = 4.24Mbps

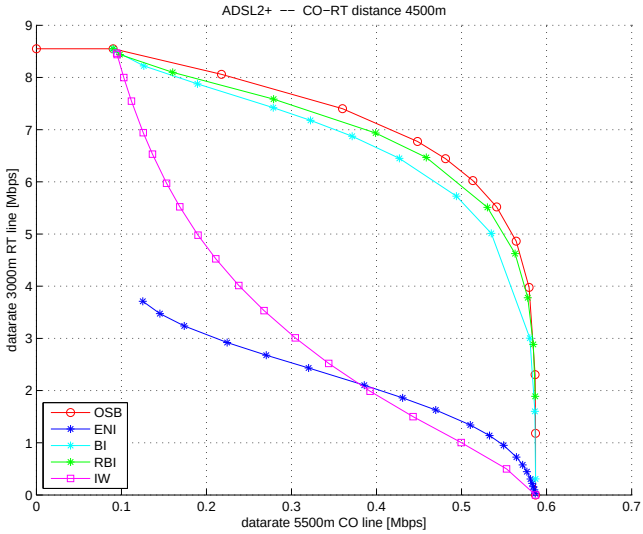

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

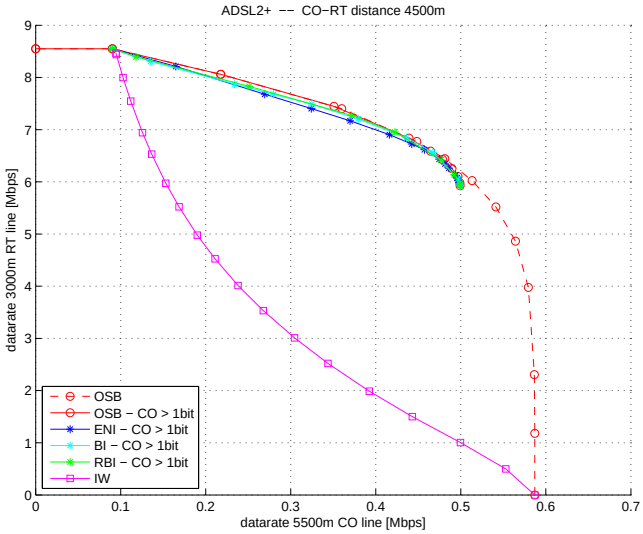

bits [#]
tone [#]
OSB CO = 1.18Mbps
OSB RT = 3.98Mbps
RBI CO = 1.18Mbps
RBI RT = 3.98Mbps

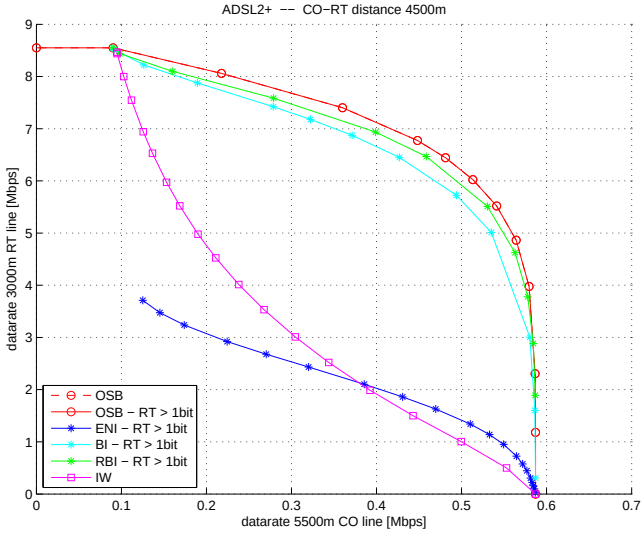

ADSL2+ -- CO=5000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

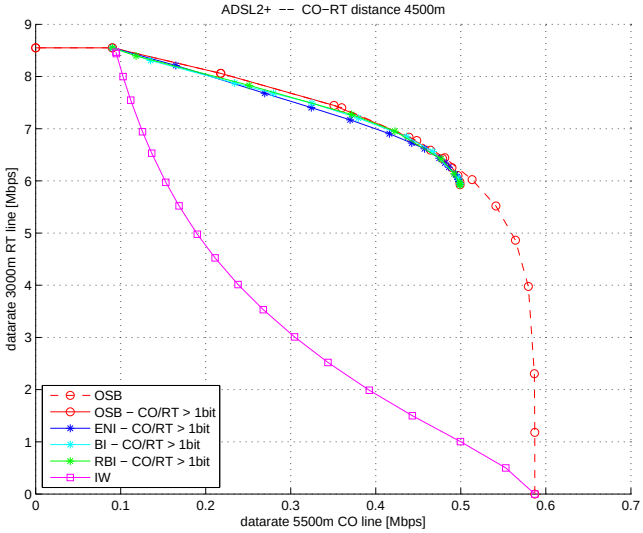

bits [#]
tone [#]
OSB CO = 1.18Mbps
OSB RT = 3.95Mbps
RBI CO = 1.18Mbps
RBI RT = 3.95Mbps

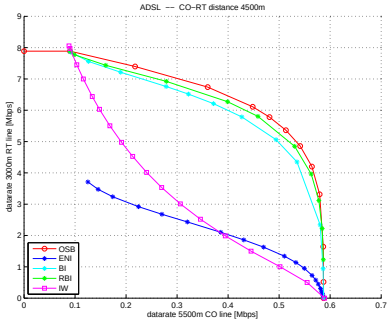

5500m
CO
4500m
1000m
RT
3000m

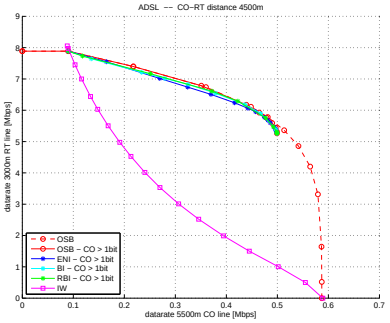

ADSL2+ -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

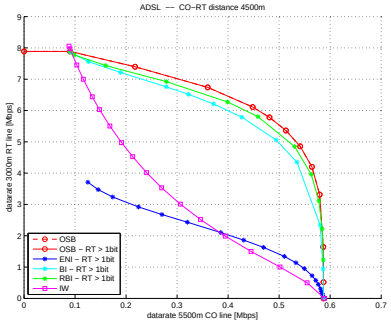

ADSL2+ -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

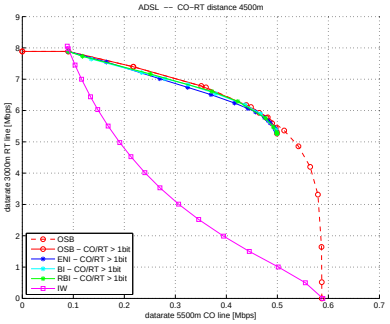

ADSL2+ -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

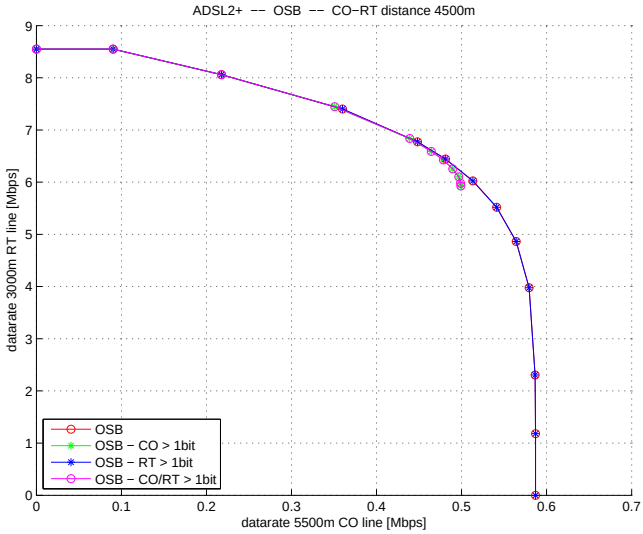

ADSL2+ -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

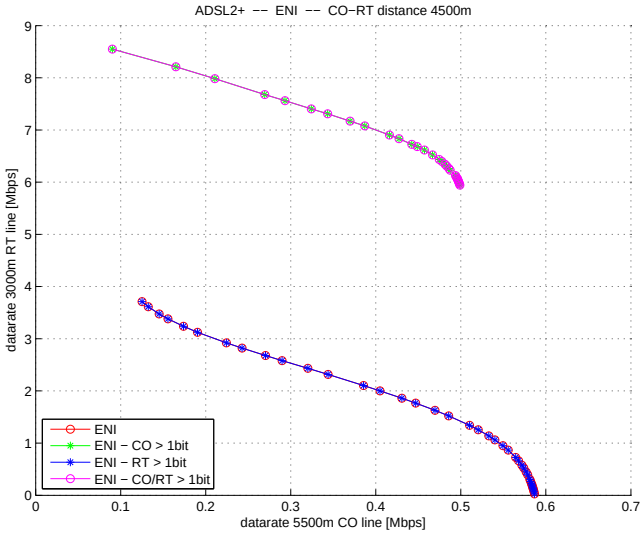

ADSL -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

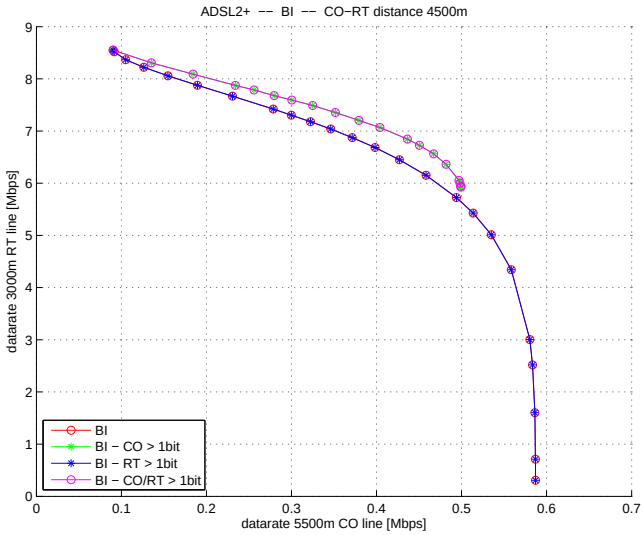

ADSL -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

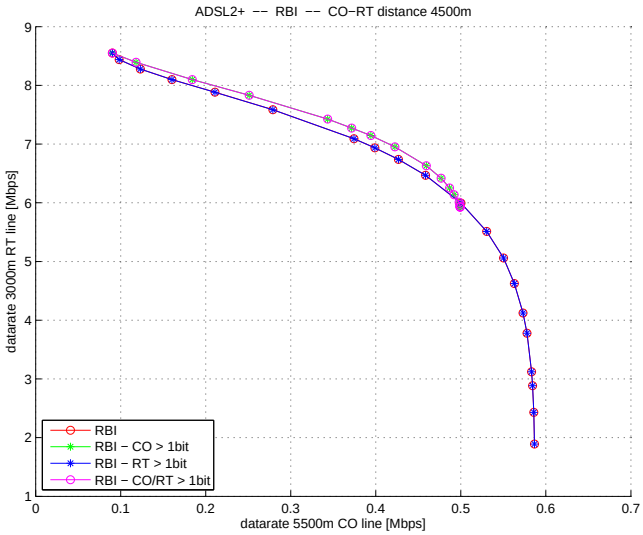

ADSL -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

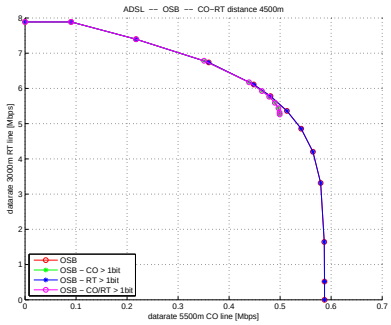

ADSL -- CO-RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

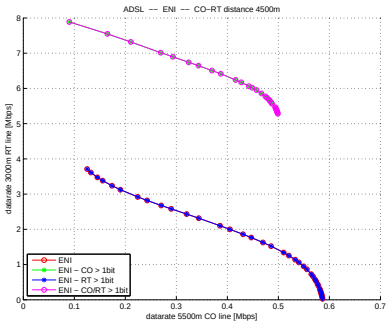

ADSL2+ -- OSB -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

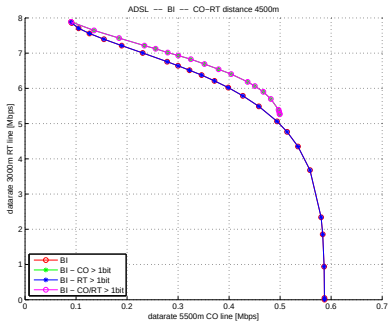

ADSL2+ -- ENI -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

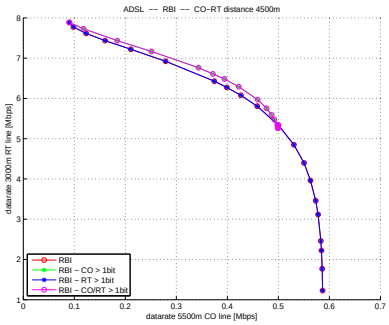

ADSL2+ -- BI -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

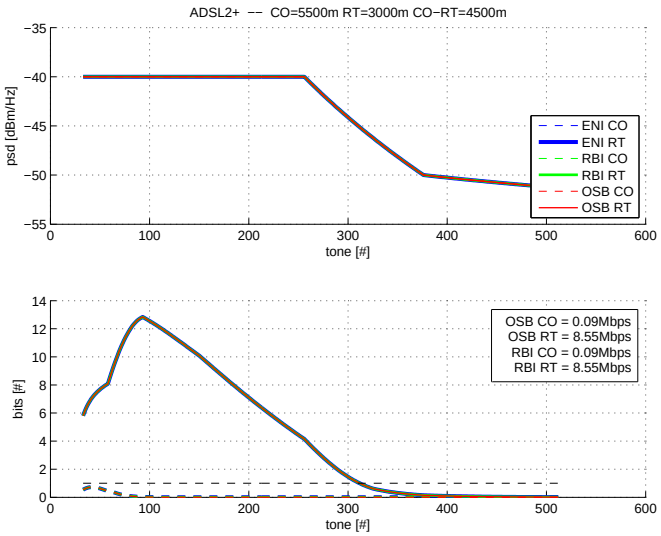

ADSL2+ -- RBI -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

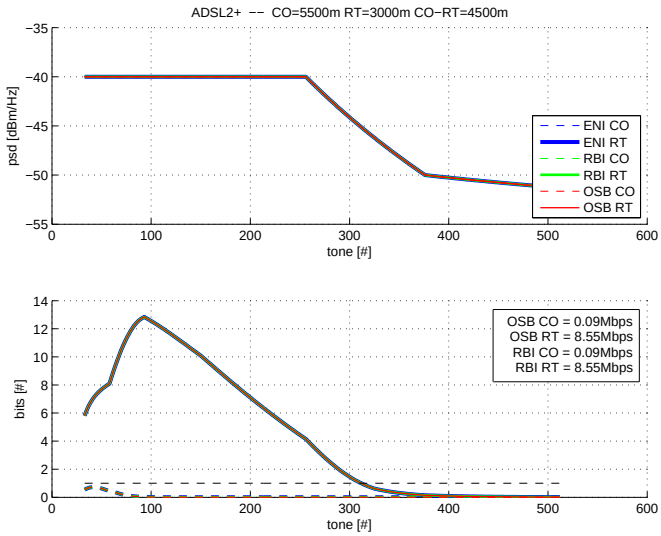

ADSL -- OSB -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

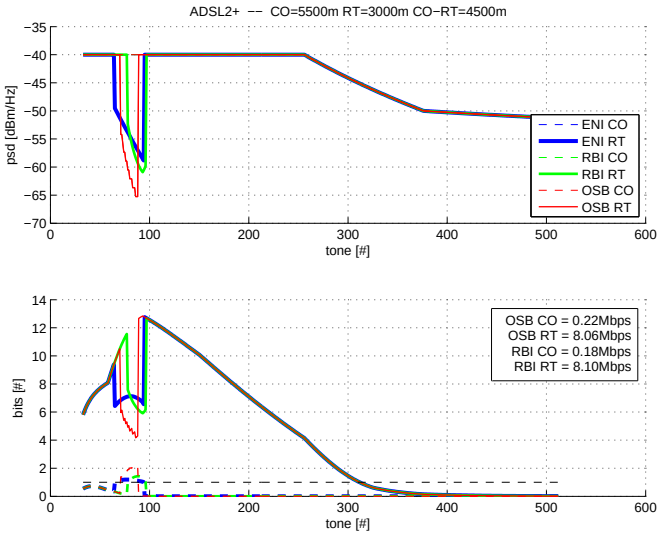

ADSL -- ENI -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

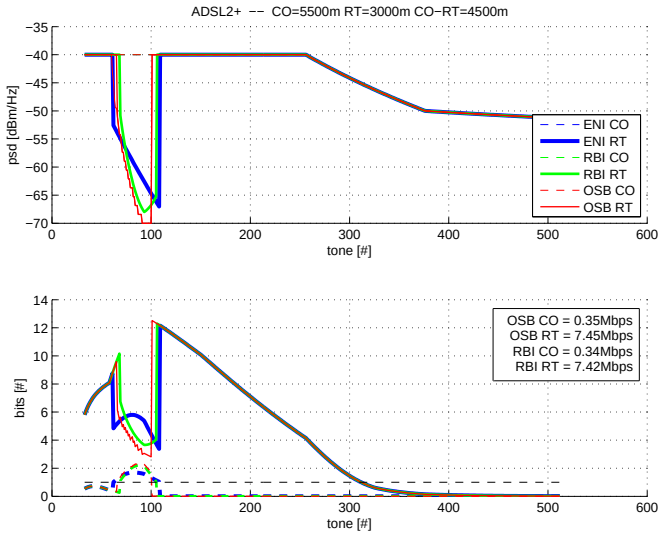

ADSL -- BI -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

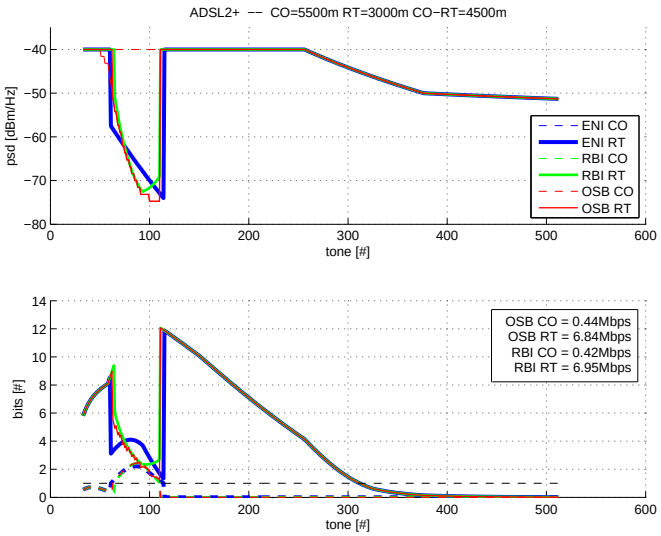

ADSL -- RBI -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

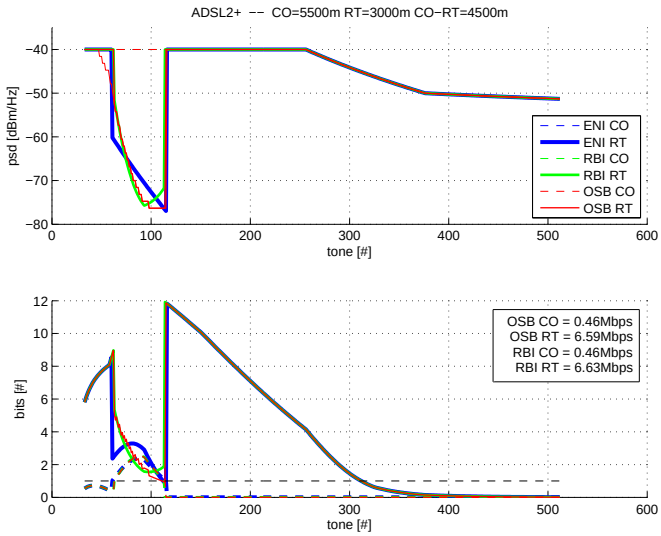

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.09Mbps
OSB RT = 8.55Mbps
RBI CO = 0.09Mbps
RBI RT = 8.55Mbps

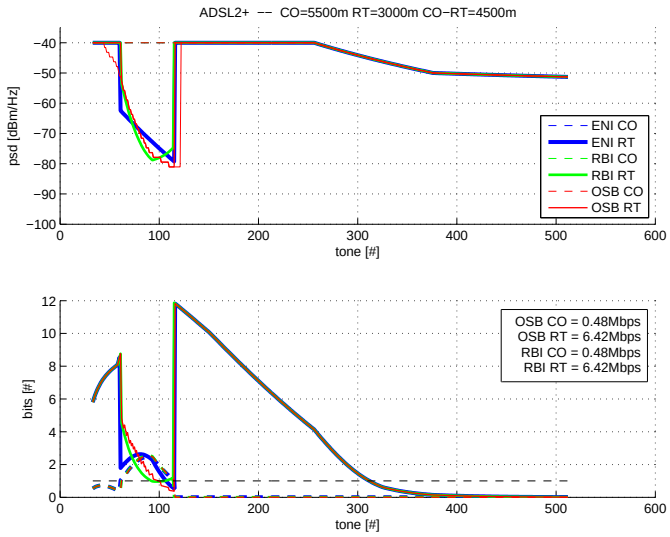

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.09Mbps
OSB RT = 8.55Mbps
RBI CO = 0.09Mbps
RBI RT = 8.55Mbps

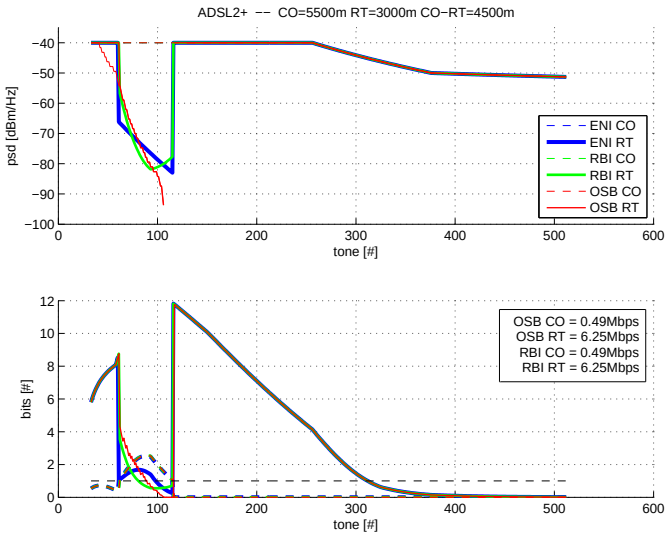

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.22Mbps
OSB RT = 8.06Mbps
RBI CO = 0.18Mbps
RBI RT = 8.10Mbps

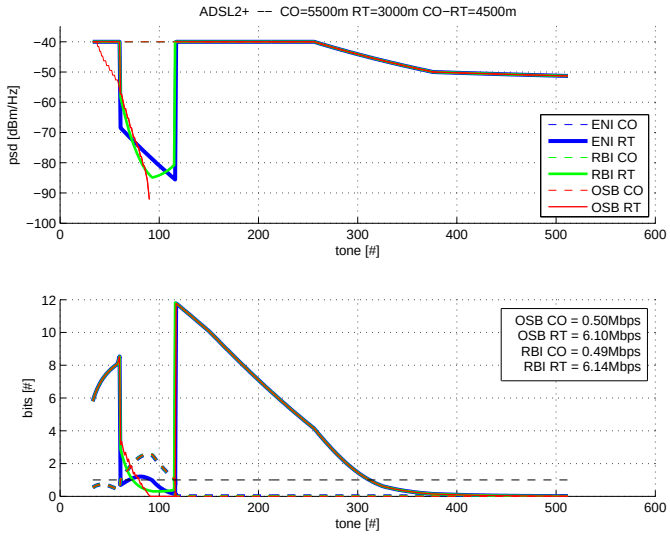

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.35Mbps
OSB RT = 7.45Mbps
RBI CO = 0.34Mbps
RBI RT = 7.42Mbps

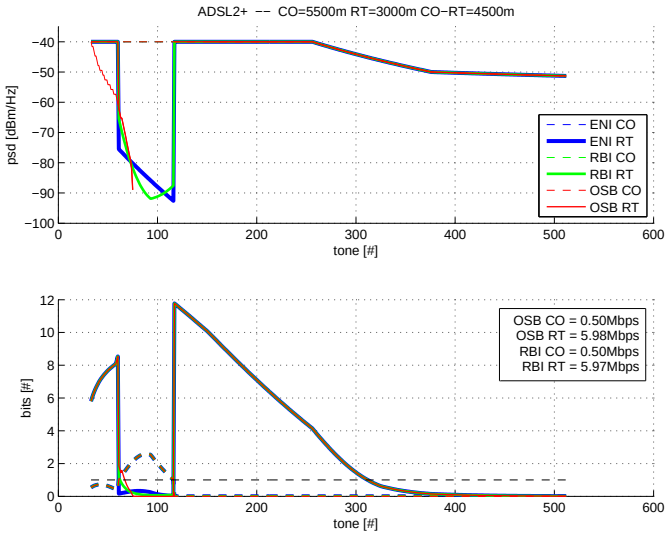

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.44Mbps
OSB RT = 6.84Mbps
RBI CO = 0.42Mbps
RBI RT = 6.95Mbps

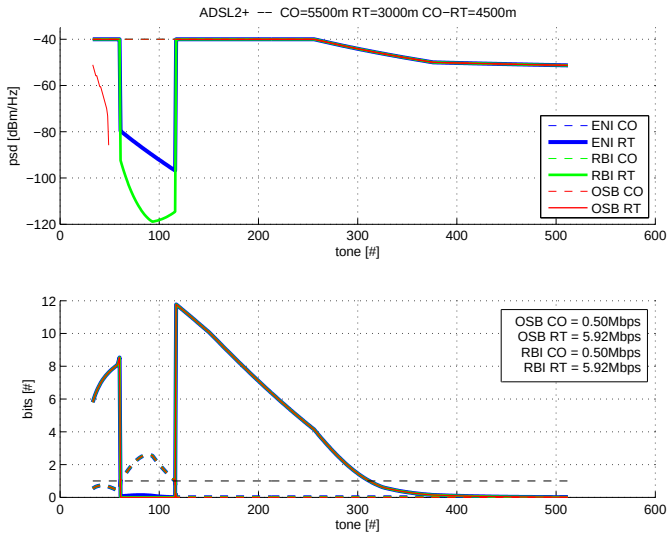

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.46Mbps
OSB RT = 6.59Mbps
RBI CO = 0.46Mbps
RBI RT = 6.63Mbps

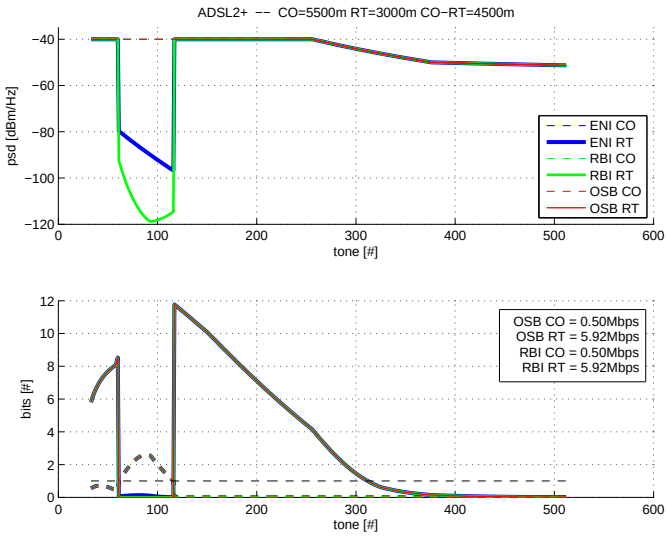

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.48Mbps
OSB RT = 6.42Mbps
RBI CO = 0.48Mbps
RBI RT = 6.42Mbps

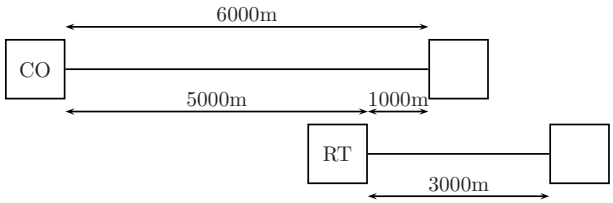

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.49Mbps
OSB RT = 6.25Mbps
RBI CO = 0.49Mbps
RBI RT = 6.25Mbps

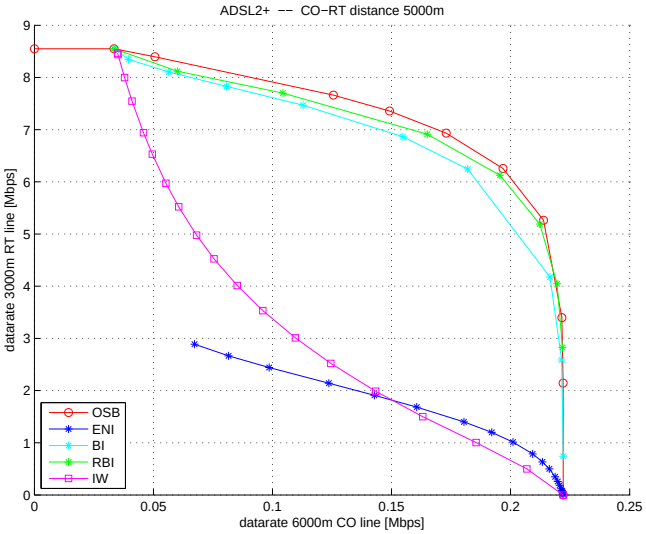

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.50Mbps
OSB RT = 6.10Mbps
RBI CO = 0.49Mbps
RBI RT = 6.14Mbps

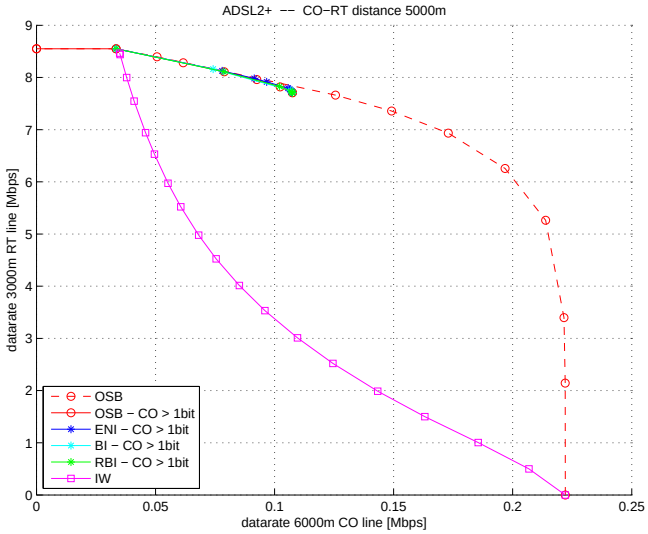

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.50Mbps
OSB RT = 5.98Mbps
RBI CO = 0.50Mbps
RBI RT = 5.97Mbps

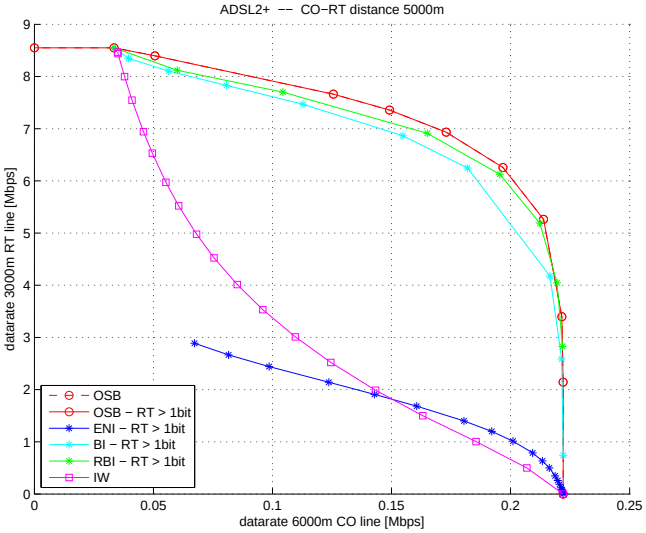

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.50Mbps
OSB RT = 5.92Mbps
RBI CO = 0.50Mbps
RBI RT = 5.92Mbps

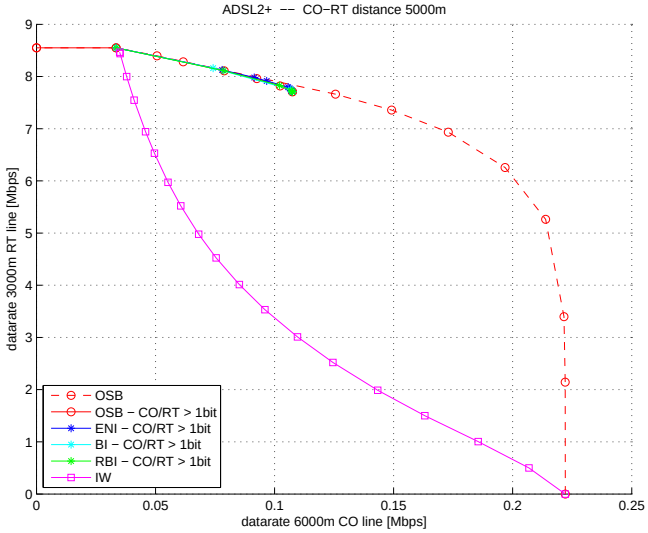

ADSL2+ -- CO=5500m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.50Mbps
OSB RT = 5.92Mbps
RBI CO = 0.50Mbps
RBI RT = 5.92Mbps

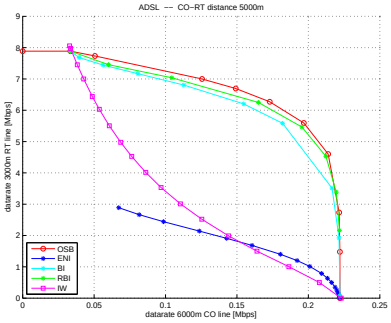

6000m
CO
5000m
1000m
RT
3000m

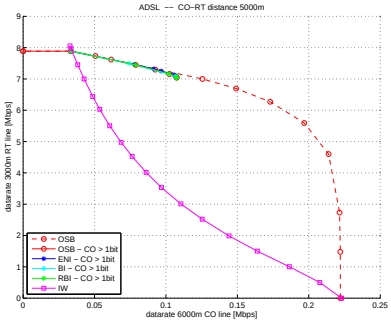

ADSL2+ -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

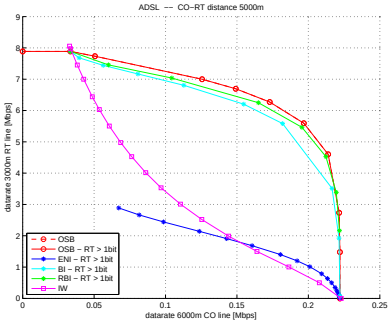

ADSL2+ -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

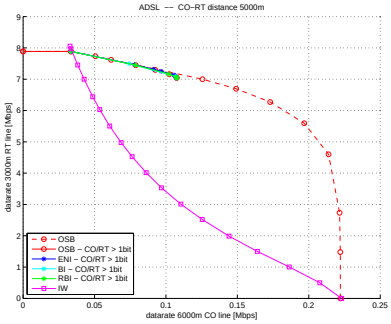

ADSL2+ -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

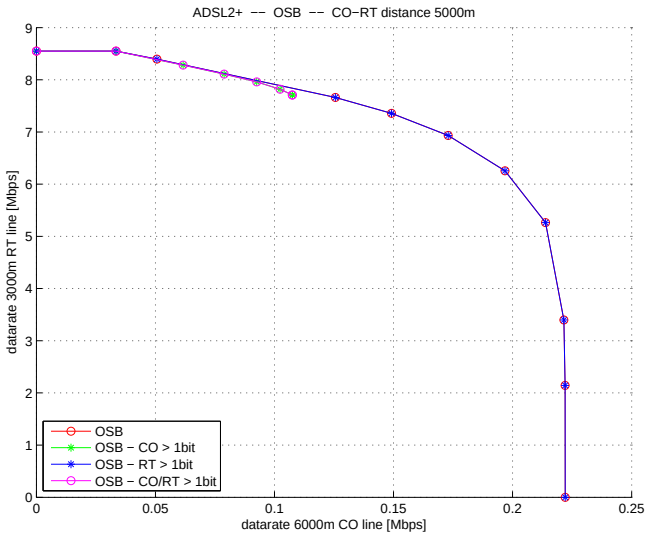

ADSL2+ -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

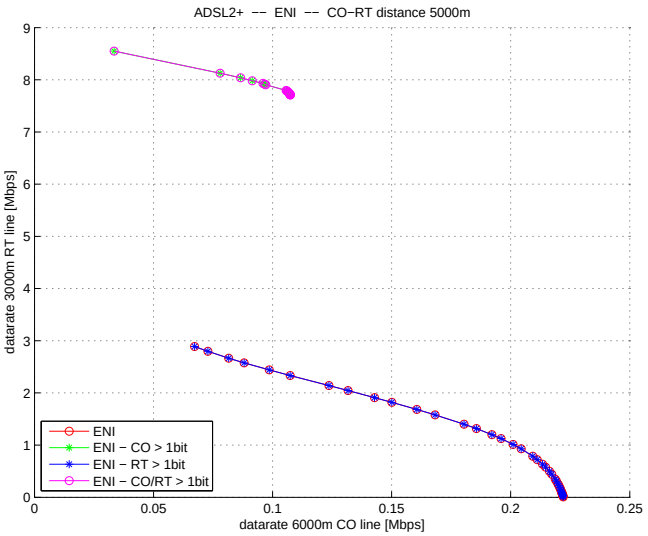

ADSL -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

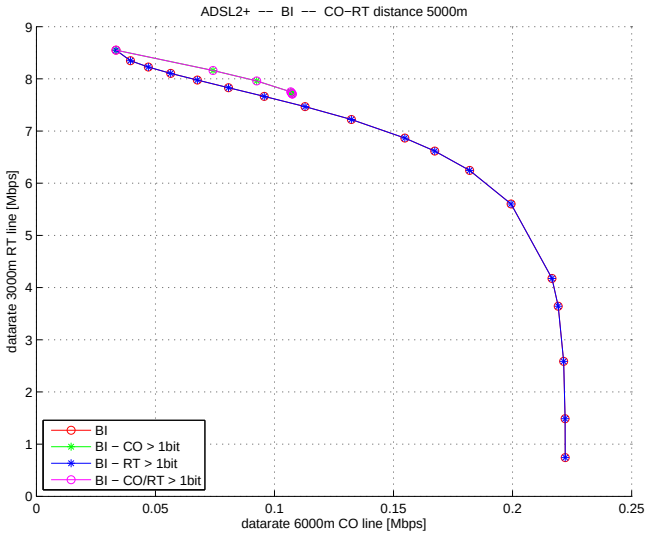

ADSL -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

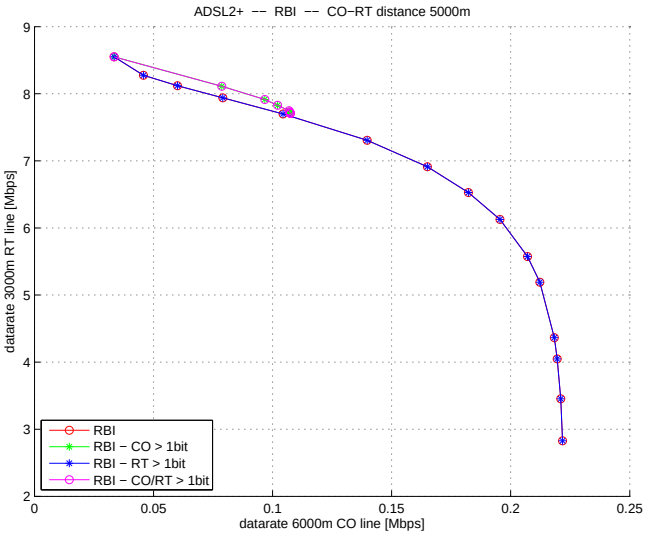

ADSL -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

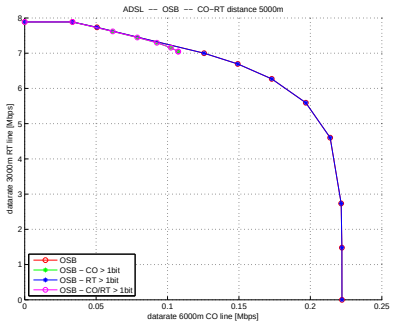

ADSL -- CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

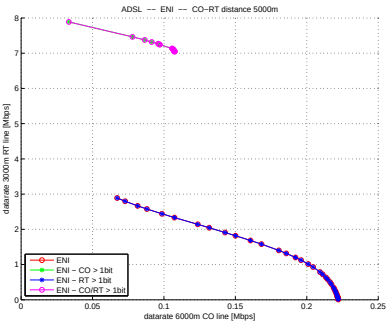

ADSL2+ −− OSB −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

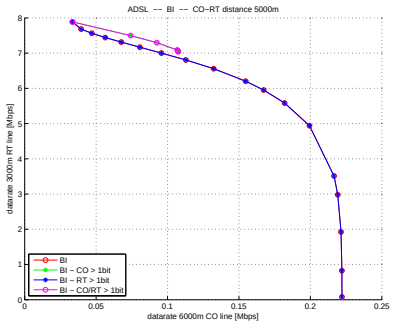

ADSL2+ −− ENI −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

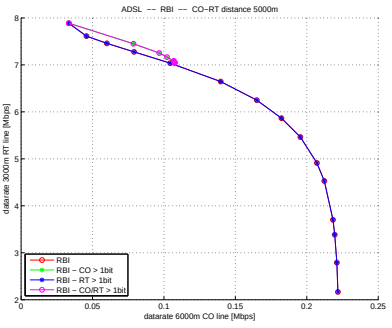

ADSL2+ −− BI −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

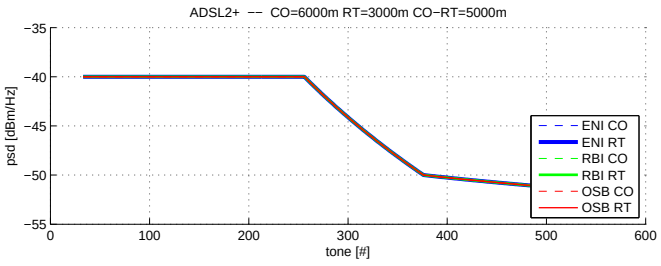

ADSL2+ −− RBI −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

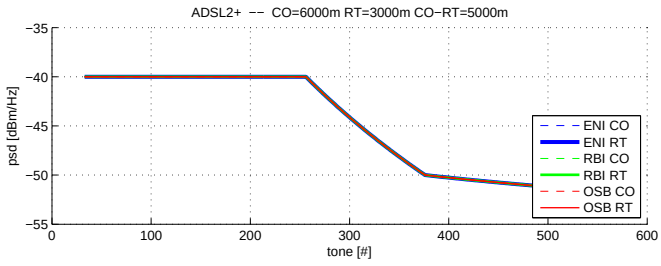

ADSL −− OSB −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

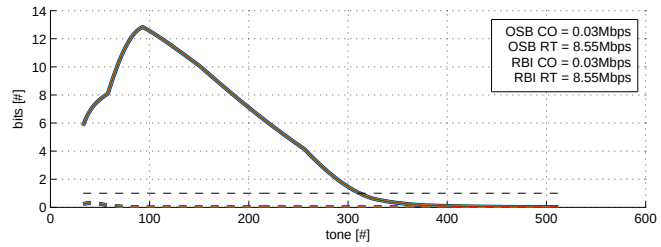

ADSL −− ENI −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

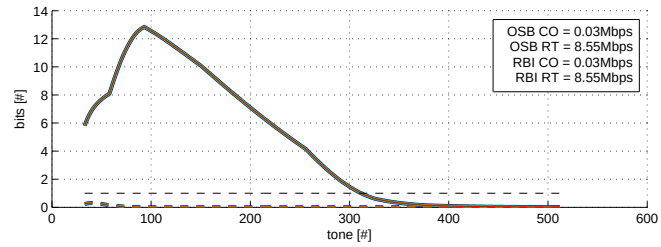

ADSL −− BI −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

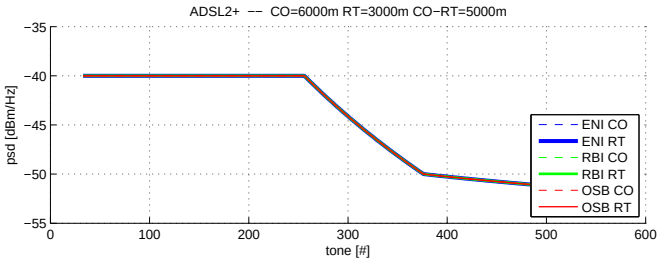

ADSL −− RBI −− CO−RT distance 5000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

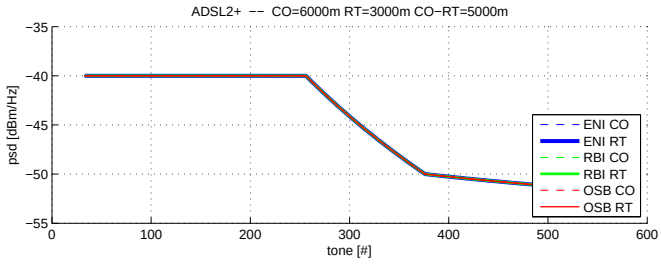

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

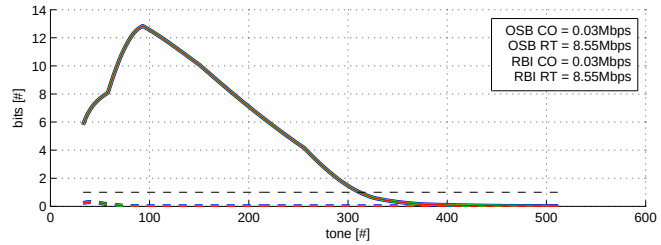

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

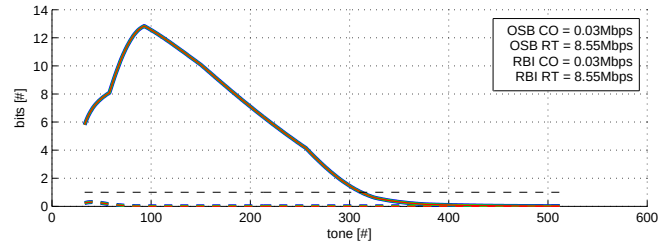

bits [#]
tone [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

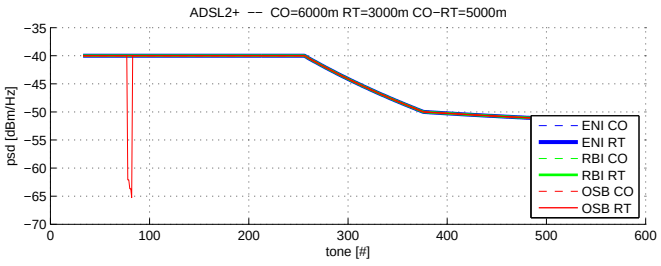

bits [#]
tone [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

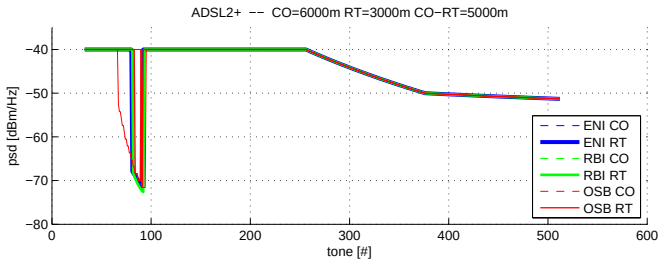

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

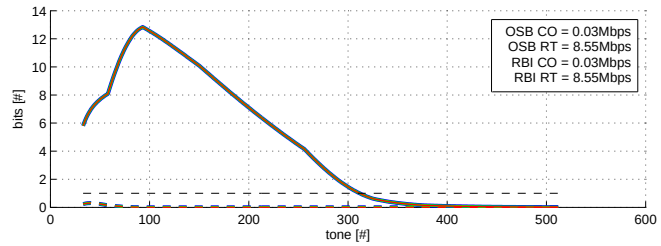

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

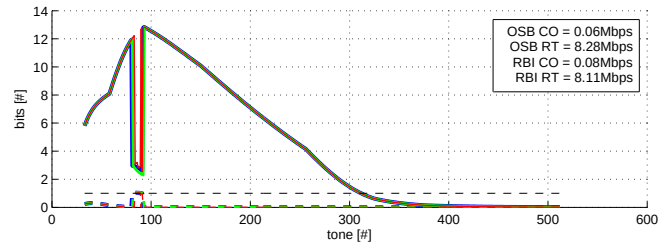

bits [#]
tone [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

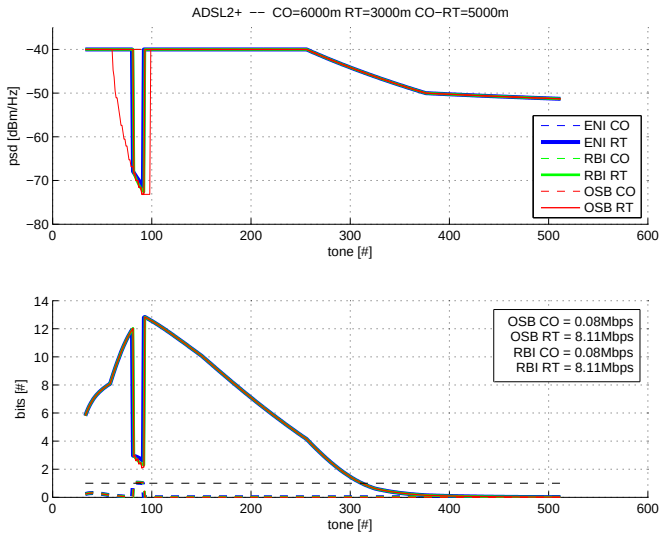

bits [#]
tone [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

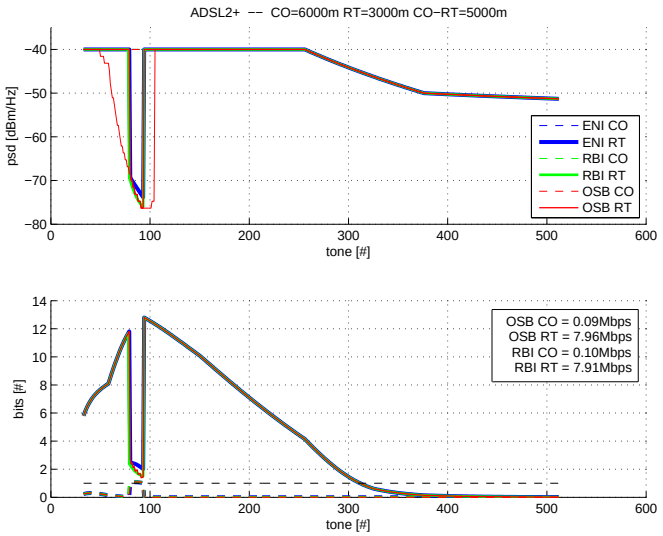

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

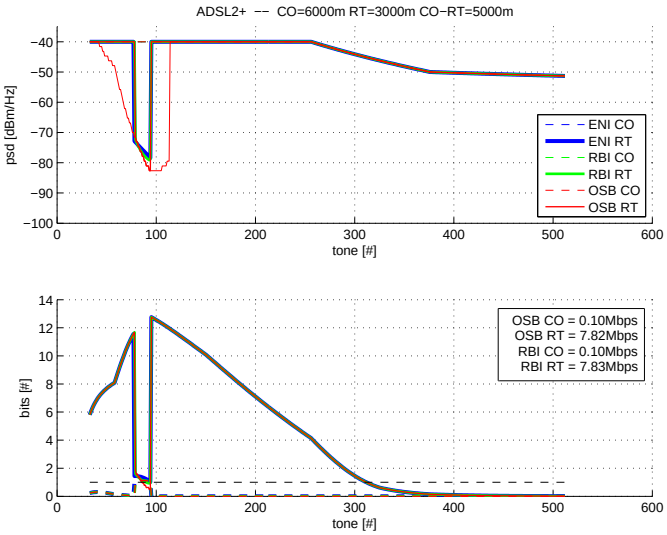

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

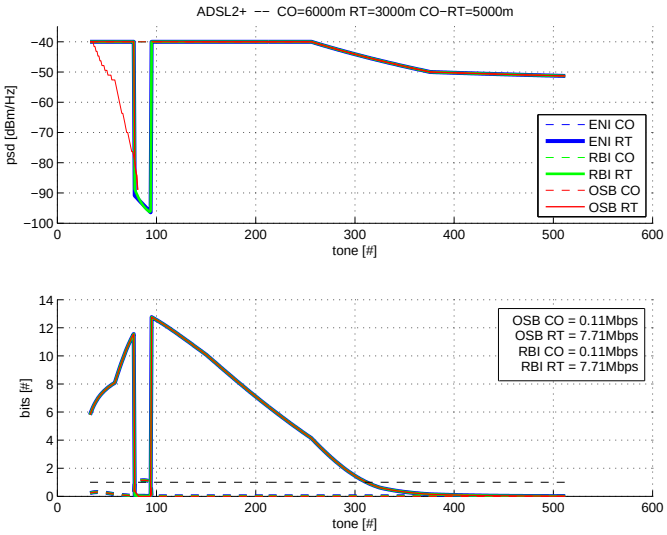

bits [#]
tone [#]
OSB CO = 0.03Mbps
OSB RT = 8.55Mbps
RBI CO = 0.03Mbps
RBI RT = 8.55Mbps

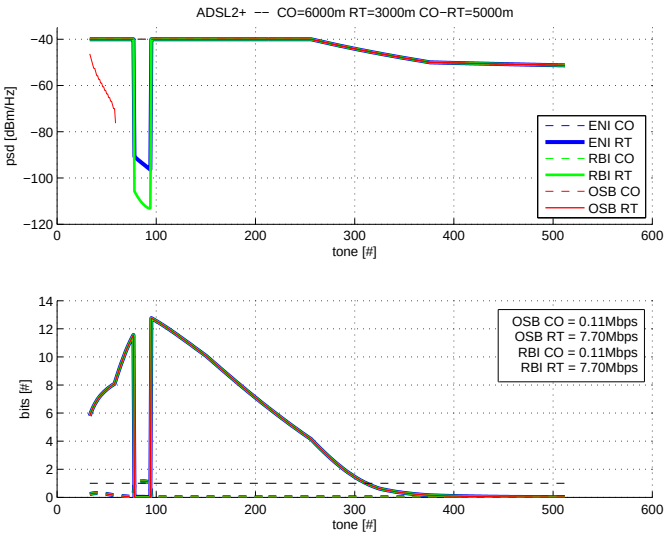

bits [#]
tone [#]
OSB CO = 0.06Mbps
OSB RT = 8.28Mbps
RBI CO = 0.08Mbps
RBI RT = 8.11Mbps

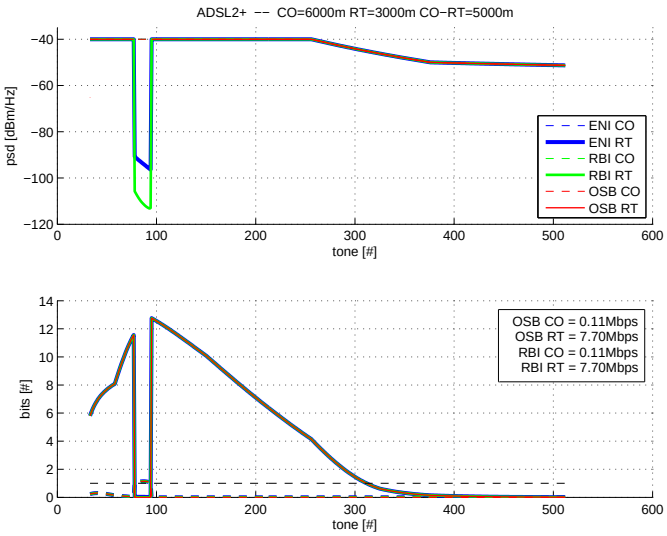

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.08Mbps
OSB RT = 8.11Mbps
RBI CO = 0.08Mbps
RBI RT = 8.11Mbps

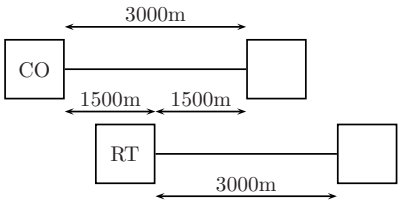

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.09Mbps
OSB RT = 7.96Mbps
RBI CO = 0.10Mbps
RBI RT = 7.91Mbps

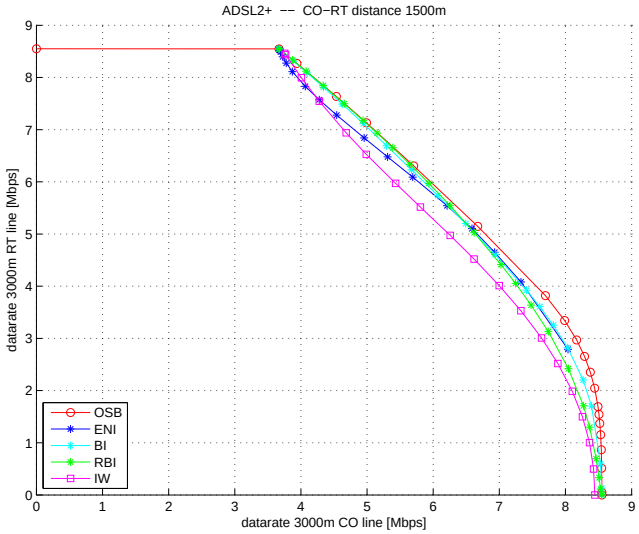

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.10Mbps
OSB RT = 7.82Mbps
RBI CO = 0.10Mbps
RBI RT = 7.83Mbps

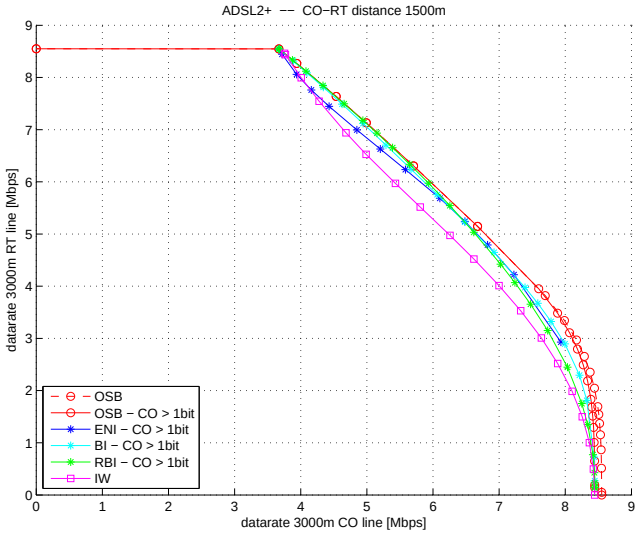

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.11Mbps
OSB RT = 7.71Mbps
RBI CO = 0.11Mbps
RBI RT = 7.71Mbps

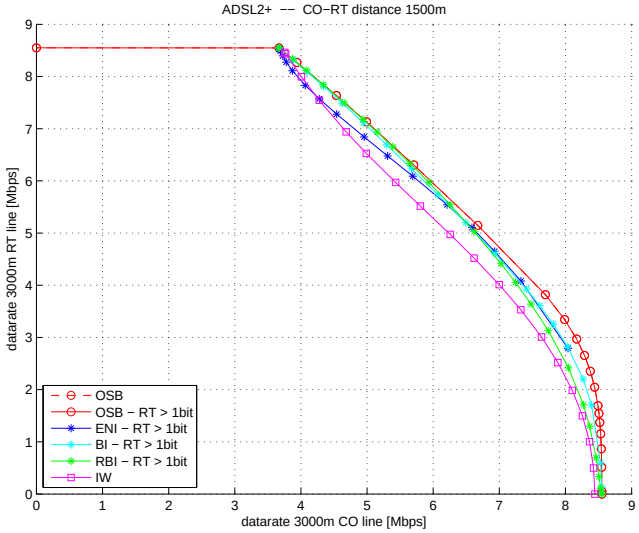

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.11Mbps
OSB RT = 7.70Mbps
RBI CO = 0.11Mbps
RBI RT = 7.70Mbps

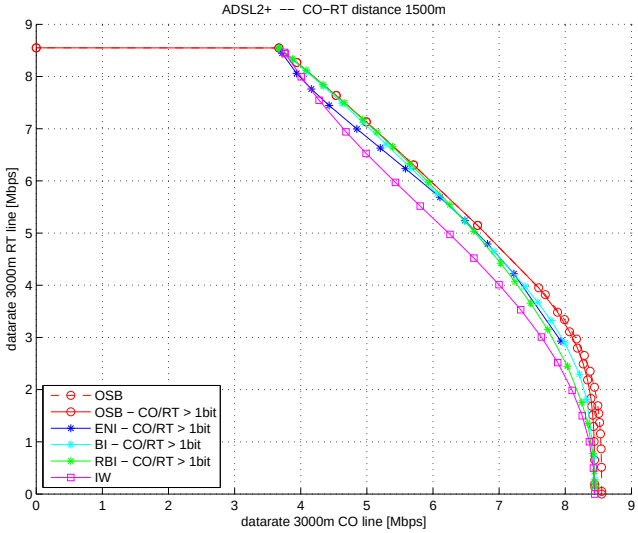

ADSL2+ -- CO=6000m RT=3000m CO-RT=5000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.11Mbps
OSB RT = 7.70Mbps
RBI CO = 0.11Mbps
RBI RT = 7.70Mbps

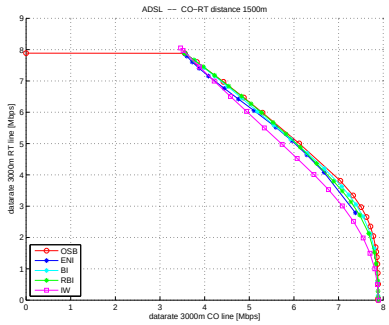

3000m
CO
1500m
1500m
RT
3000m

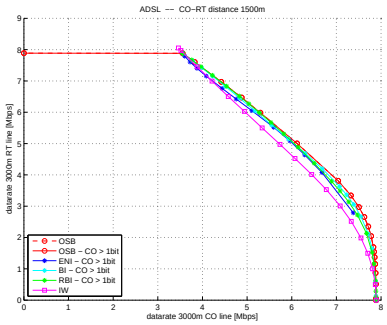

ADSL2+ −− CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

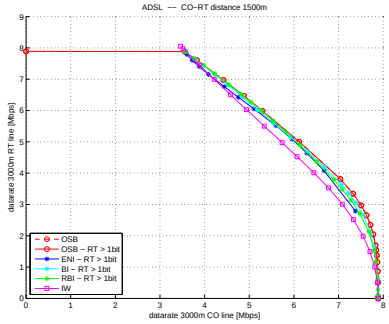

ADSL2+ −− CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

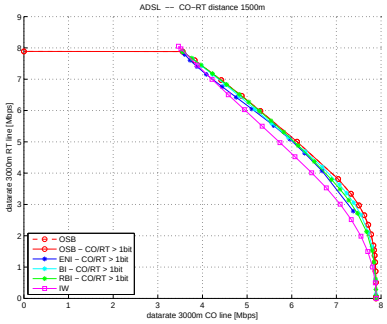

ADSL2+ −− CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

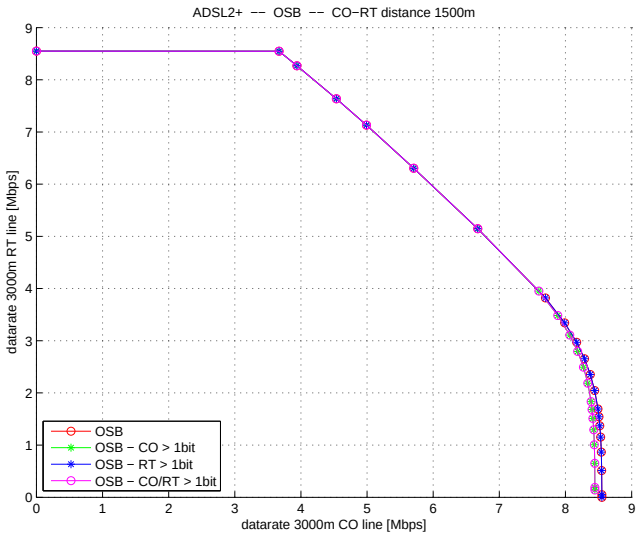

ADSL2+ −− CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

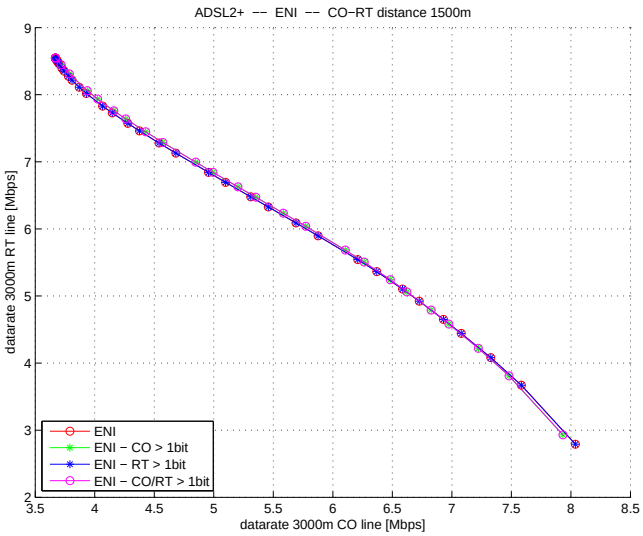

ADSL −− CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

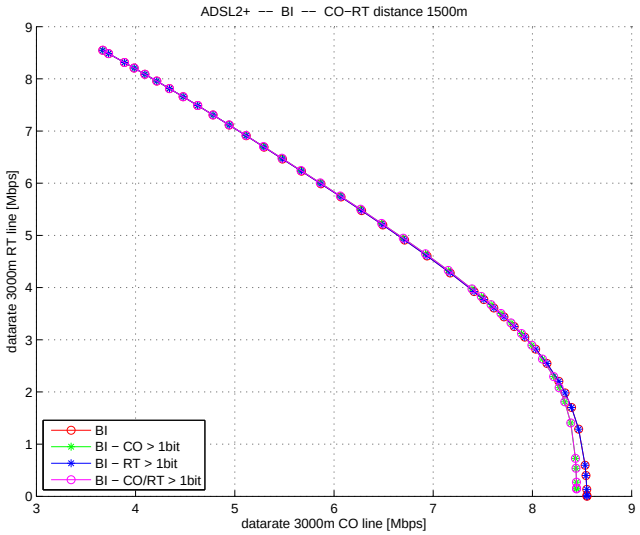

ADSL −− CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

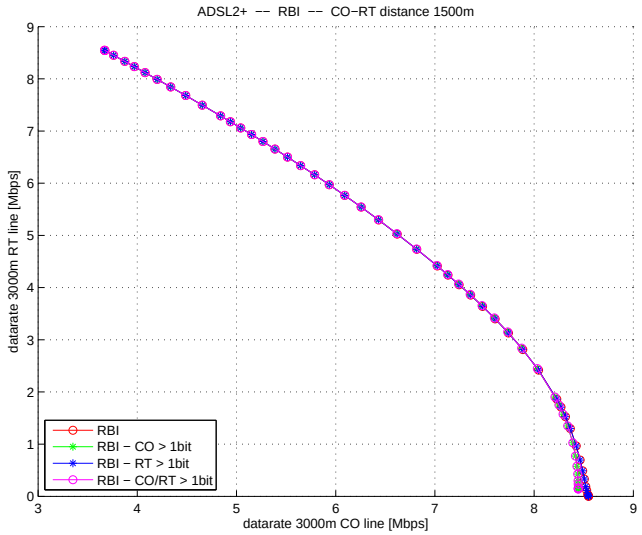

ADSL −− CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

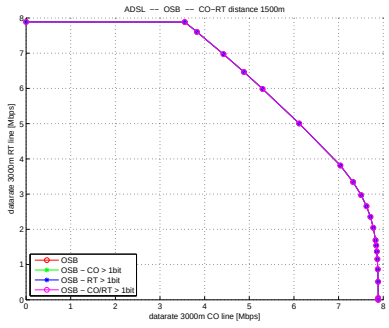

ADSL −− CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

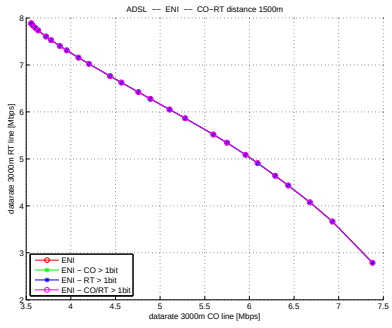

ADSL2+ -- OSB -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

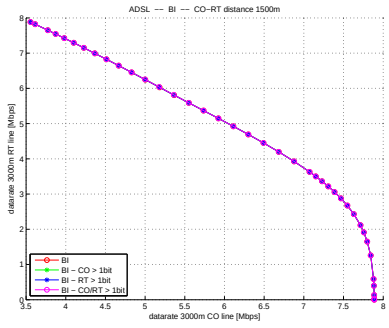

ADSL2+ -- ENI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

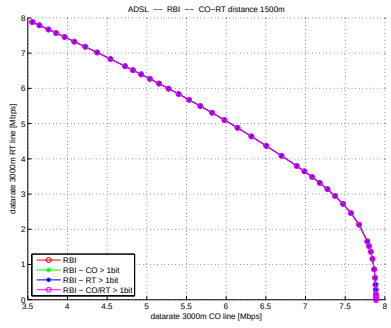

ADSL2+ -- BI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

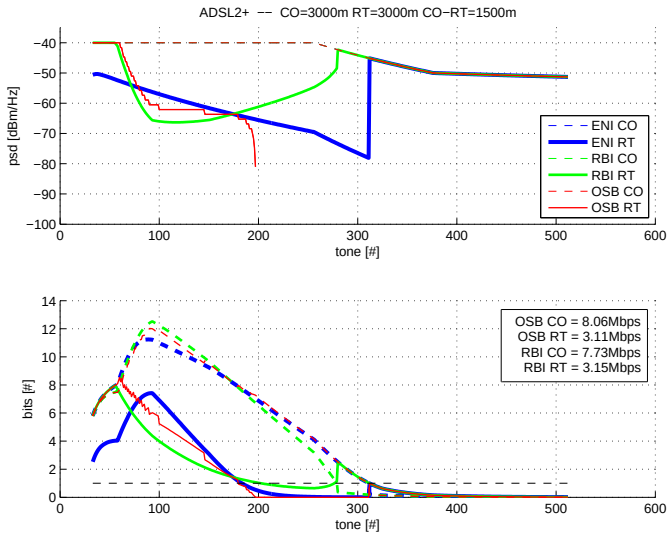

ADSL2+ -- RBI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

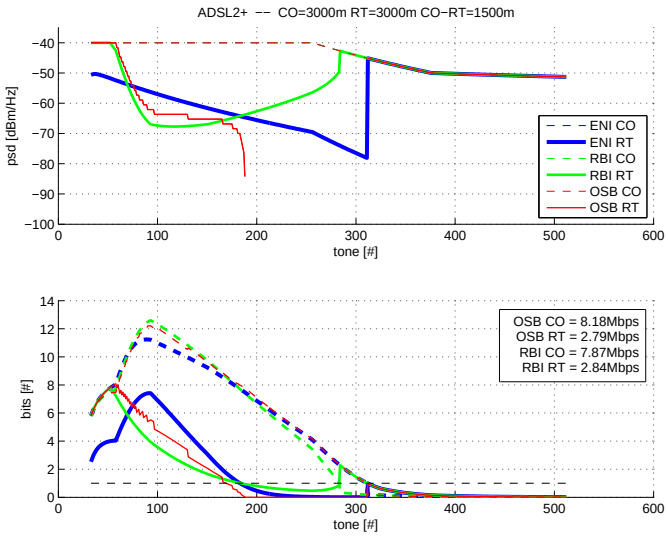

ADSL -- OSB -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

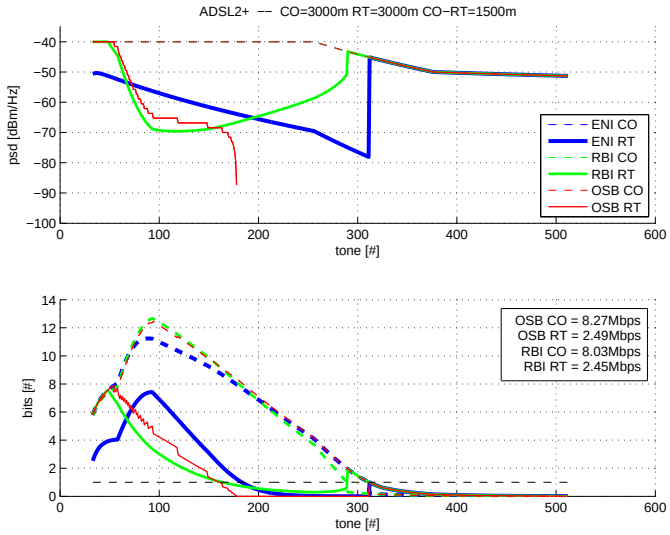

ADSL -- ENI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

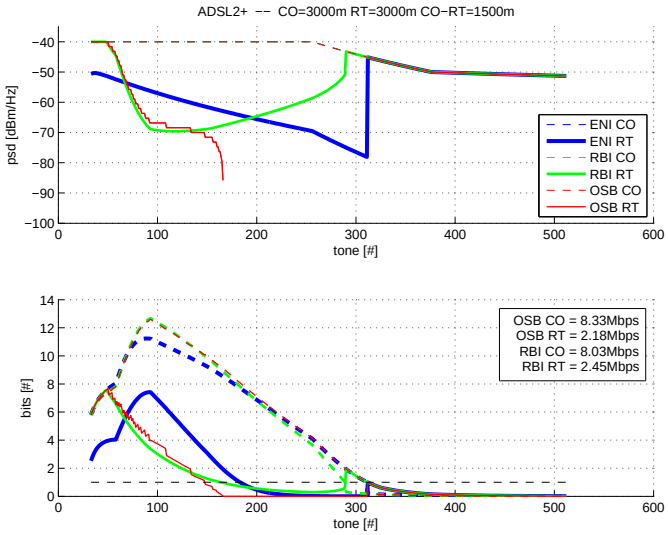

ADSL -- BI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

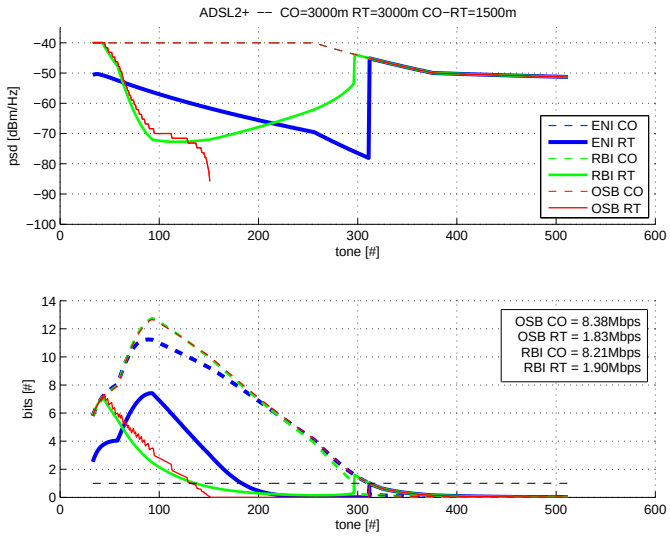

ADSL -- RBI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

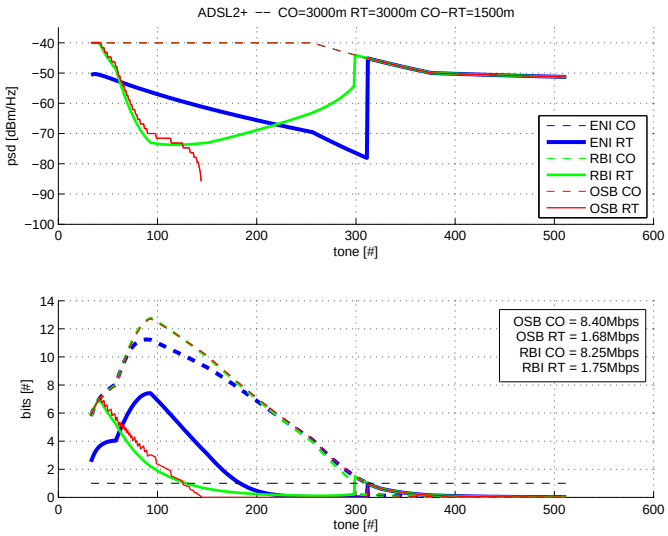

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.06Mbps
OSB RT = 3.11Mbps
RBI CO = 7.73Mbps
RBI RT = 3.15Mbps

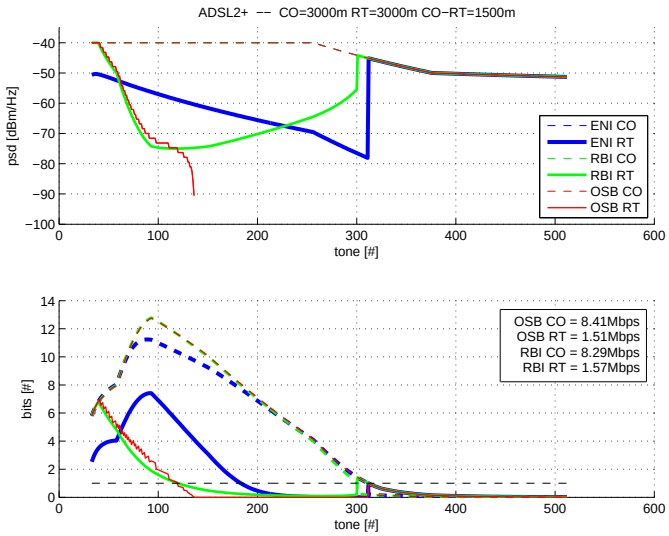

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.18Mbps
OSB RT = 2.79Mbps
RBI CO = 7.87Mbps
RBI RT = 2.84Mbps

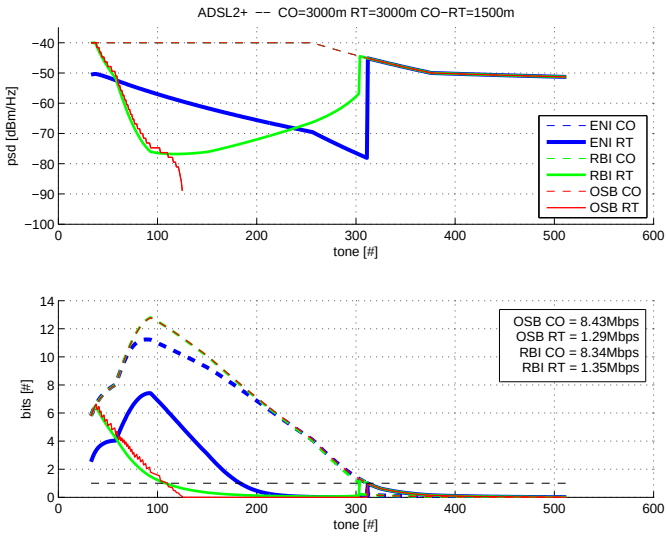

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.27Mbps
OSB RT = 2.49Mbps
RBI CO = 8.03Mbps
RBI RT = 2.45Mbps

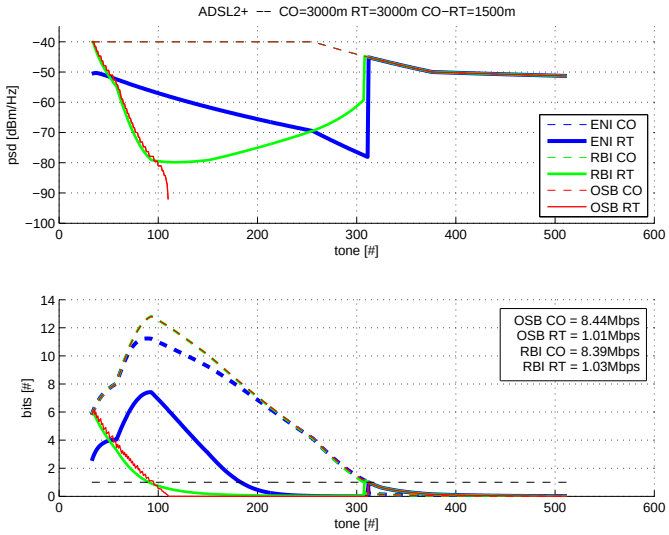

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.33Mbps
OSB RT = 2.18Mbps
RBI CO = 8.03Mbps
RBI RT = 2.45Mbps

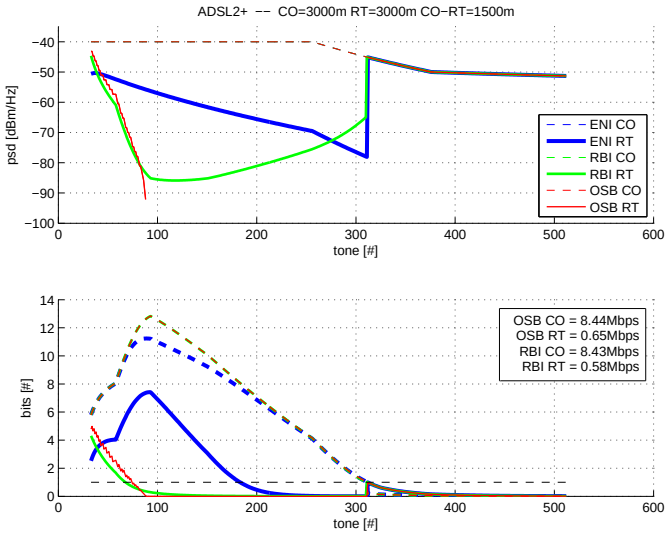

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.38Mbps
OSB RT = 1.83Mbps
RBI CO = 8.21Mbps
RBI RT = 1.90Mbps

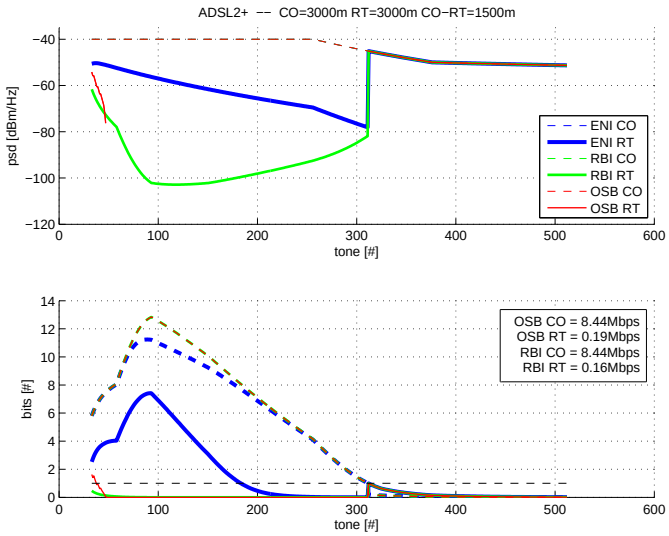

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.40Mbps
OSB RT = 1.68Mbps
RBI CO = 8.25Mbps
RBI RT = 1.75Mbps

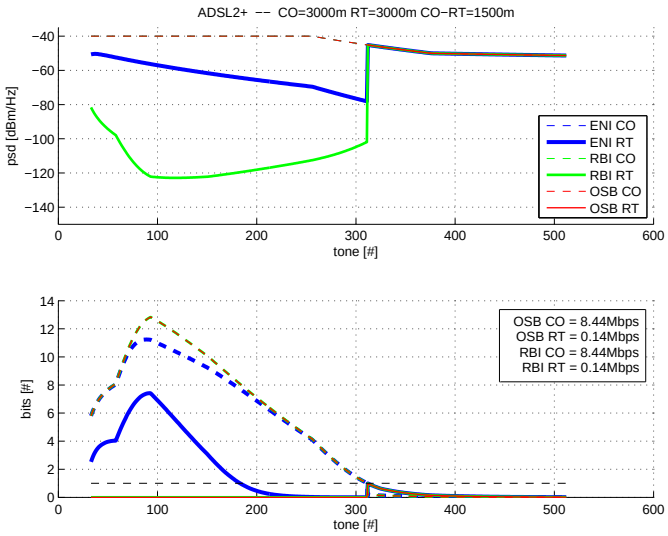

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.41Mbps
OSB RT = 1.51Mbps
RBI CO = 8.29Mbps
RBI RT = 1.57Mbps

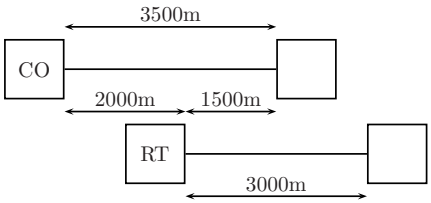

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.43Mbps
OSB RT = 1.29Mbps
RBI CO = 8.34Mbps
RBI RT = 1.35Mbps

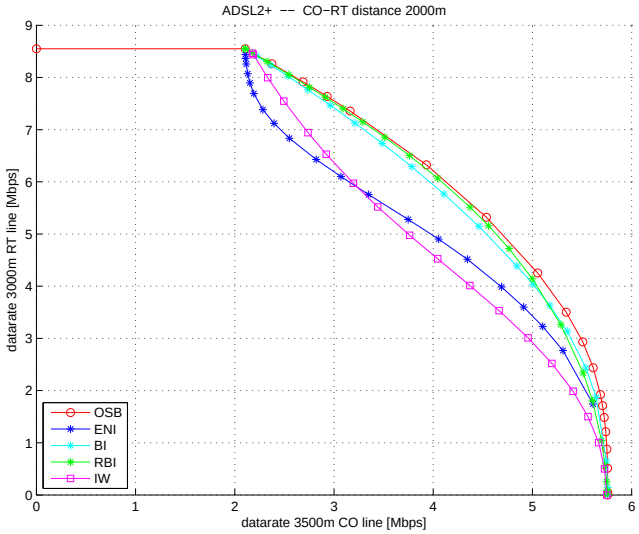

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.44Mbps
OSB RT = 1.01Mbps
RBI CO = 8.39Mbps
RBI RT = 1.03Mbps

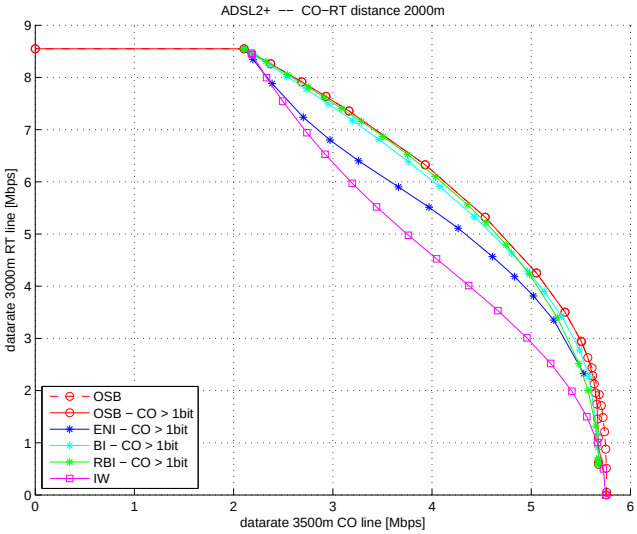

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.44Mbps
OSB RT = 0.65Mbps
RBI CO = 8.43Mbps
RBI RT = 0.58Mbps

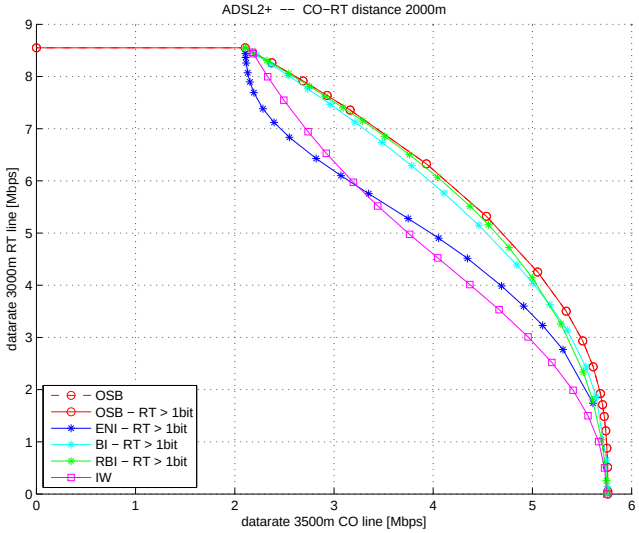

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.44Mbps
OSB RT = 0.19Mbps
RBI CO = 8.44Mbps
RBI RT = 0.16Mbps

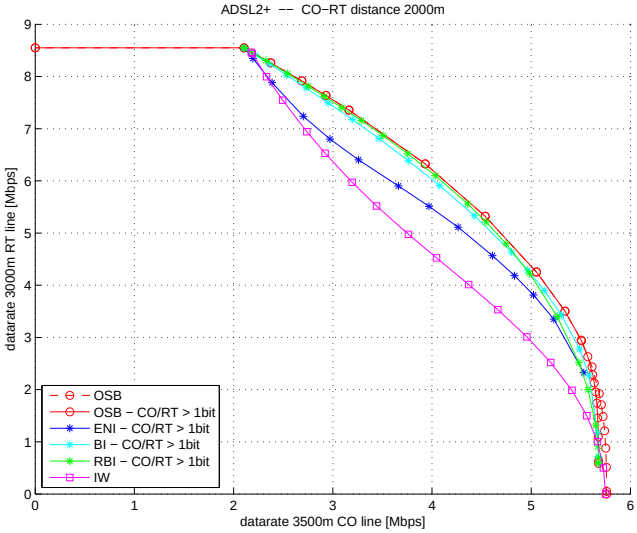

ADSL2+ -- CO=3000m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.44Mbps
OSB RT = 0.14Mbps
RBI CO = 8.44Mbps
RBI RT = 0.14Mbps

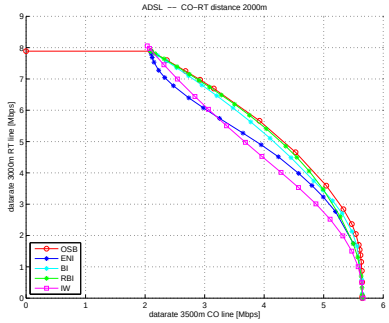

3500m
CO
2000m
1500m
RT
3000m

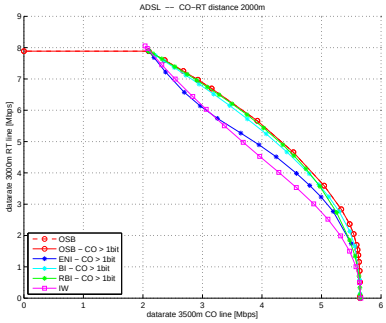

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

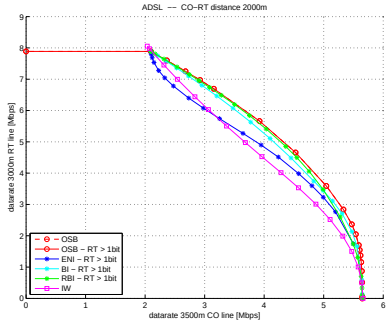

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

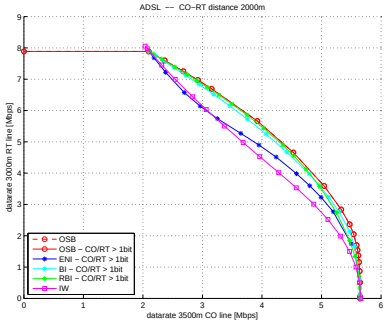

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

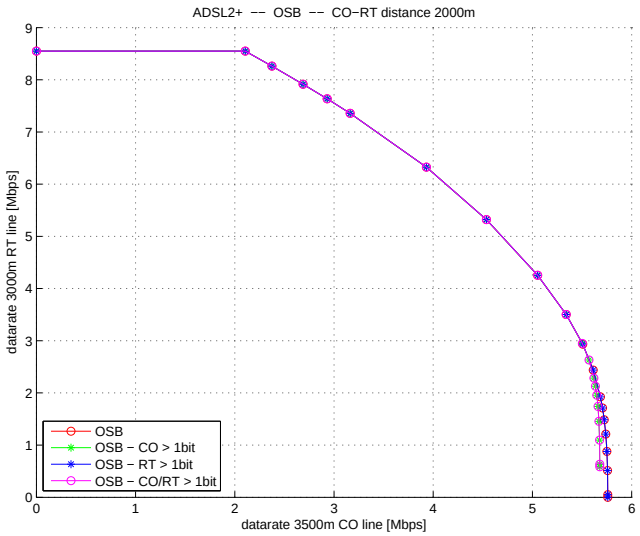

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

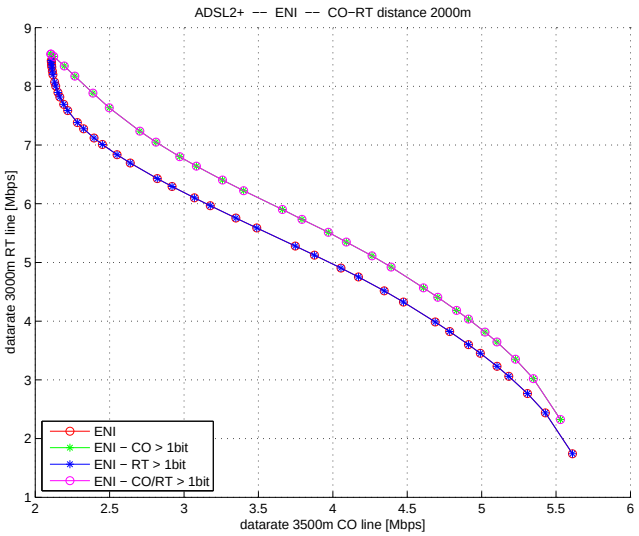

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

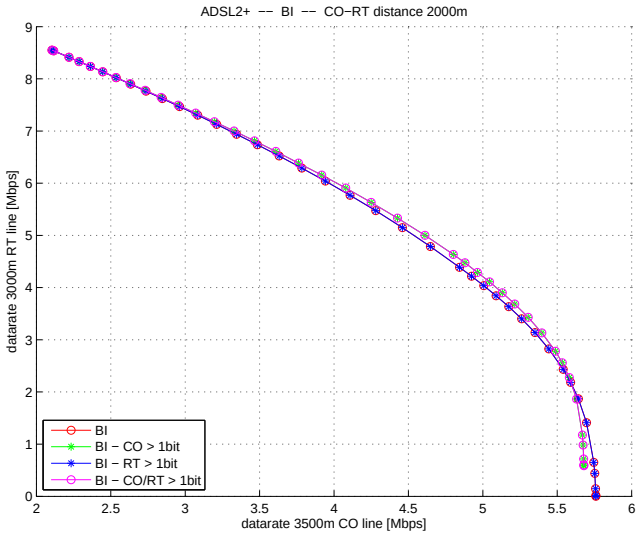

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

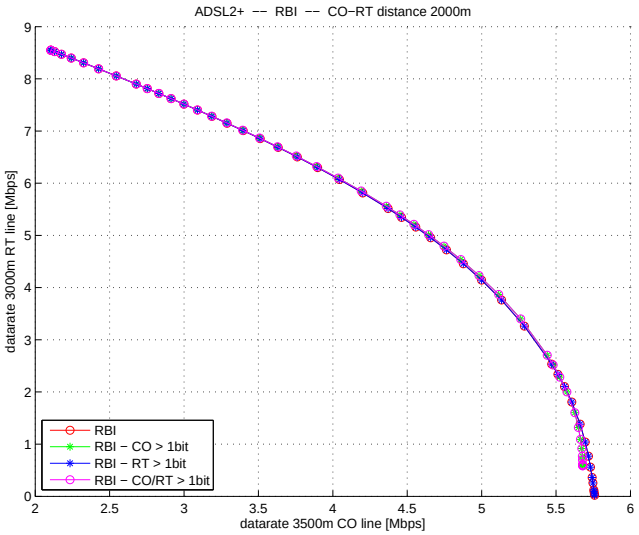

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

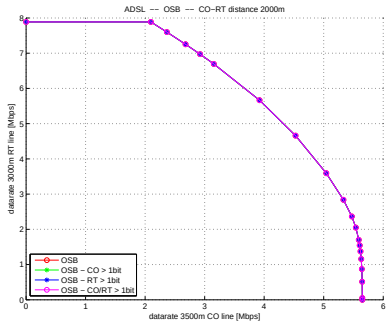

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

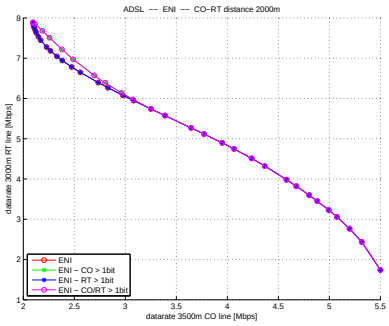

ADSL2+ -- OSB -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

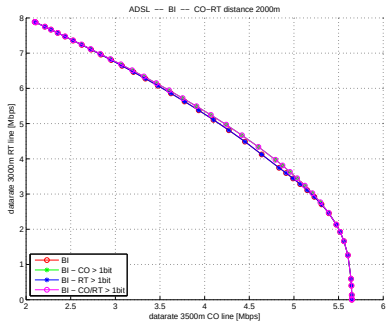

ADSL2+ -- ENI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

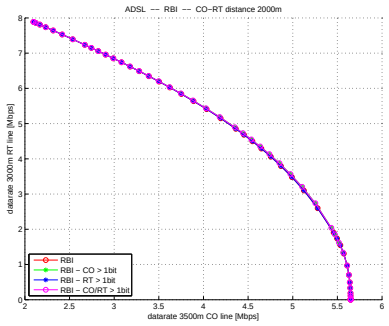

ADSL2+ -- BI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

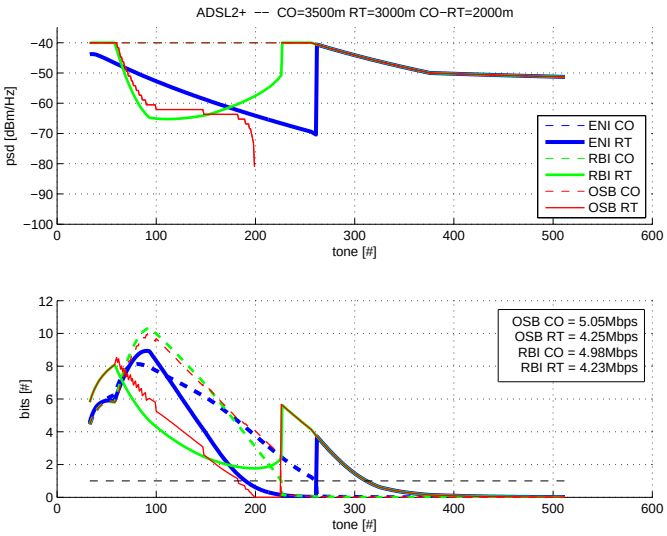

ADSL2+ -- RBI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

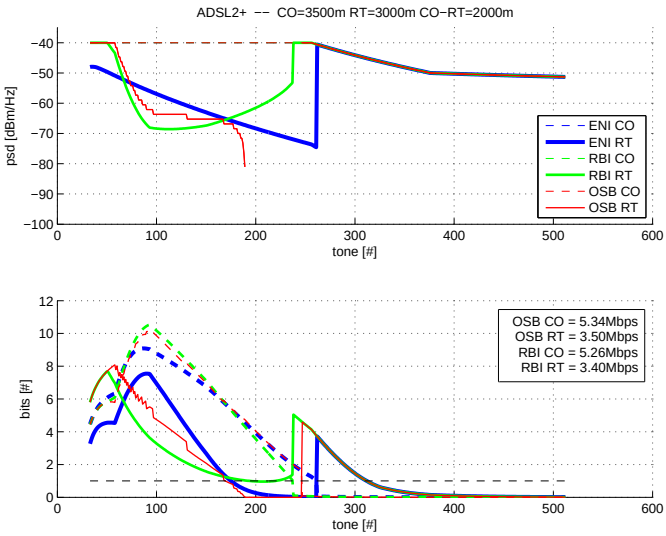

ADSL -- OSB -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

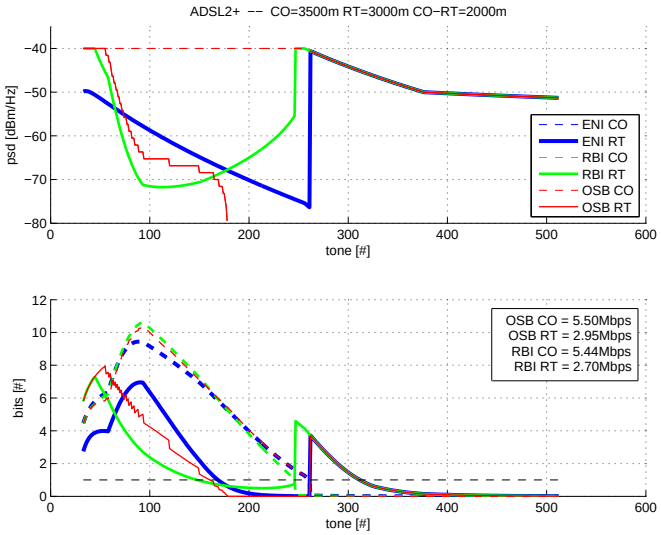

ADSL -- ENI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

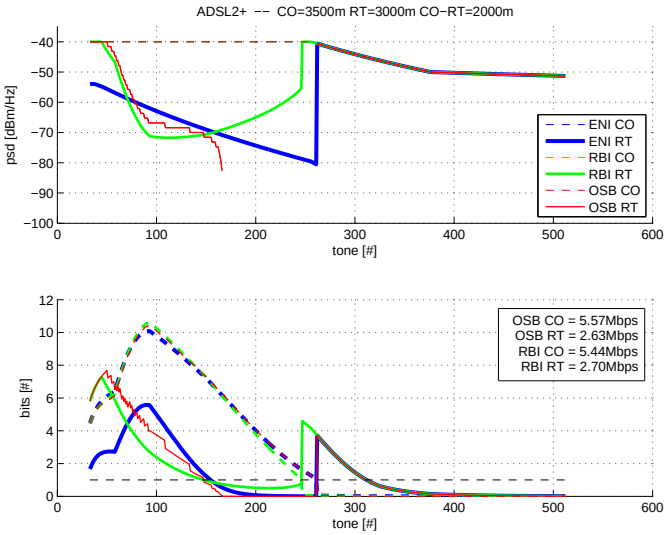

ADSL -- BI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

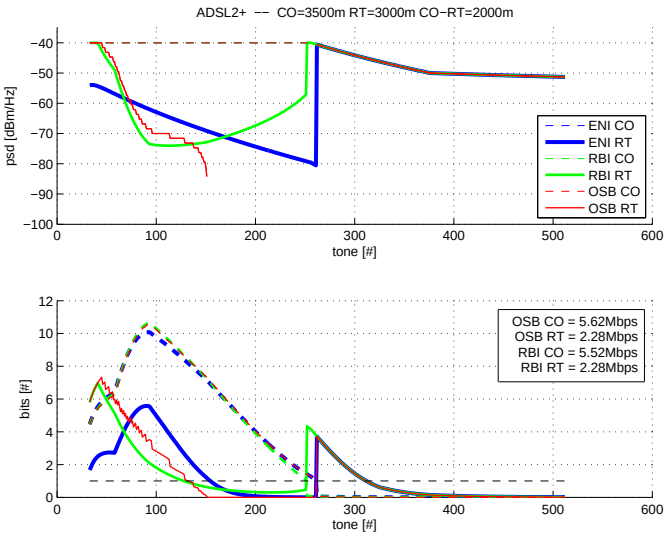

ADSL -- RBI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

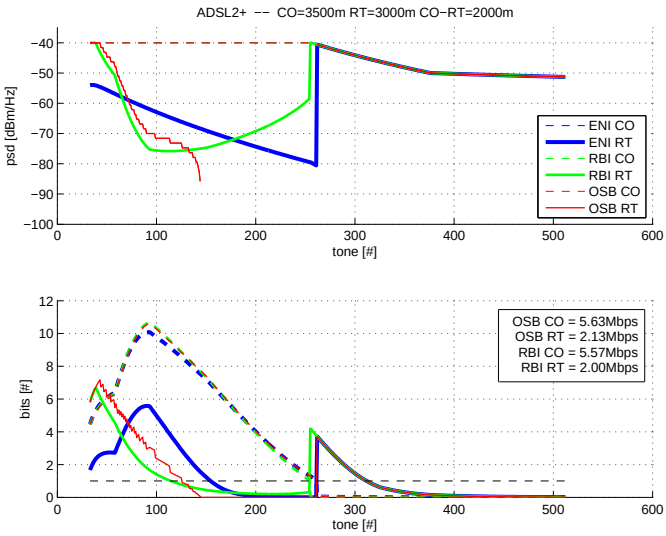

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.05Mbps
OSB RT = 4.25Mbps
RBI CO = 4.98Mbps
RBI RT = 4.23Mbps

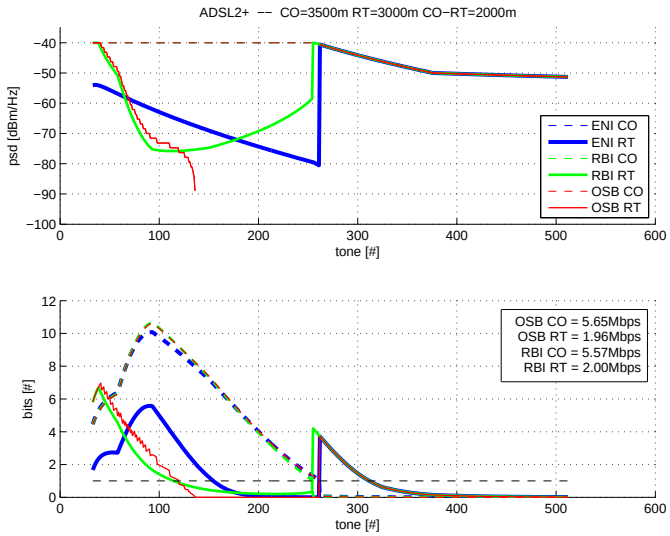

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.34Mbps
OSB RT = 3.50Mbps
RBI CO = 5.26Mbps
RBI RT = 3.40Mbps

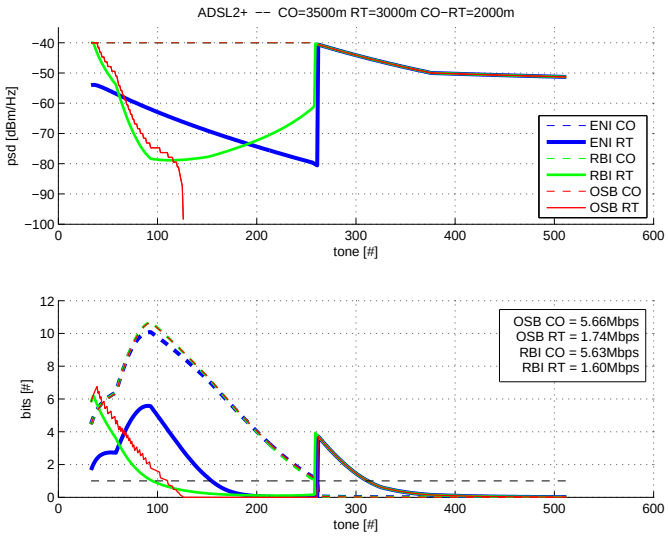

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.50Mbps
OSB RT = 2.95Mbps
RBI CO = 5.44Mbps
RBI RT = 2.70Mbps

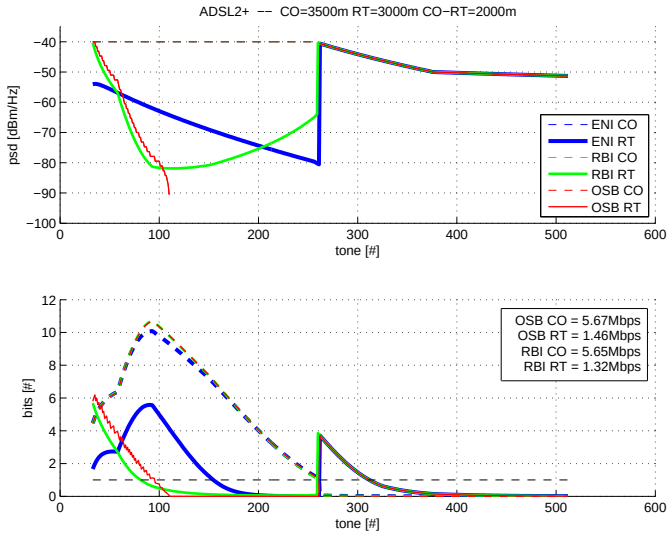

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.57Mbps
OSB RT = 2.63Mbps
RBI CO = 5.44Mbps
RBI RT = 2.70Mbps

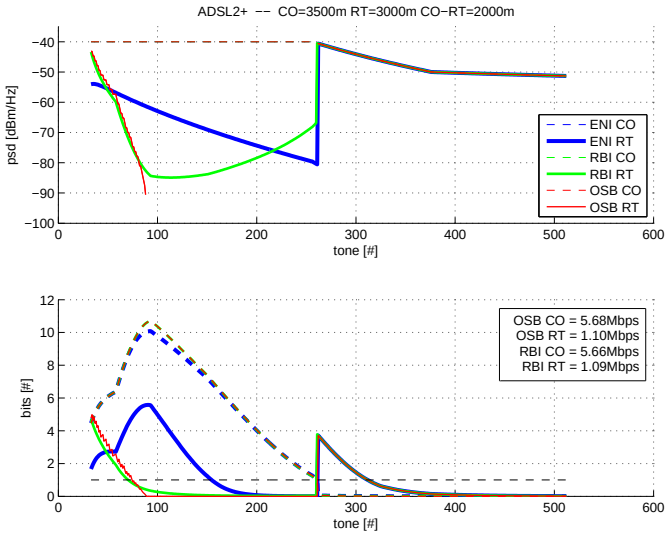

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.62Mbps
OSB RT = 2.28Mbps
RBI CO = 5.52Mbps
RBI RT = 2.28Mbps

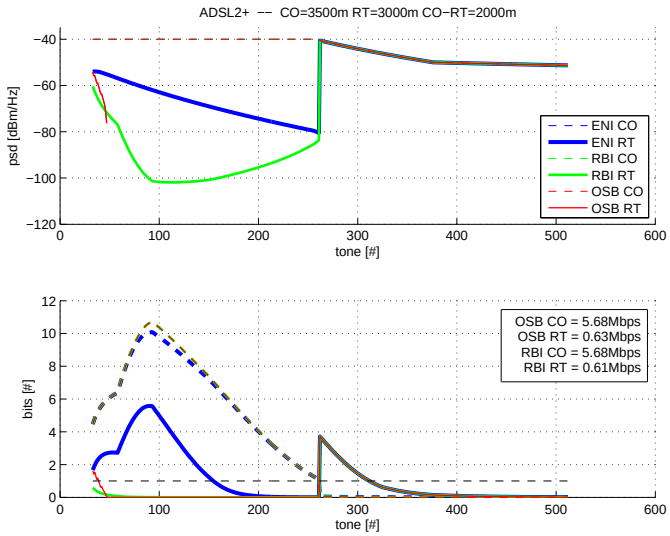

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.63Mbps
OSB RT = 2.13Mbps
RBI CO = 5.57Mbps
RBI RT = 2.00Mbps

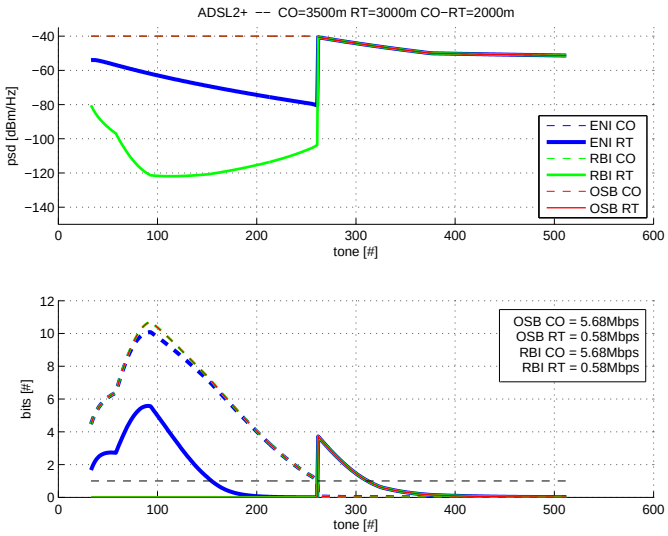

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.65Mbps
OSB RT = 1.96Mbps
RBI CO = 5.57Mbps
RBI RT = 2.00Mbps

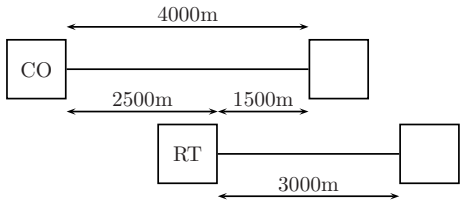

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.66Mbps
OSB RT = 1.74Mbps
RBI CO = 5.63Mbps
RBI RT = 1.60Mbps

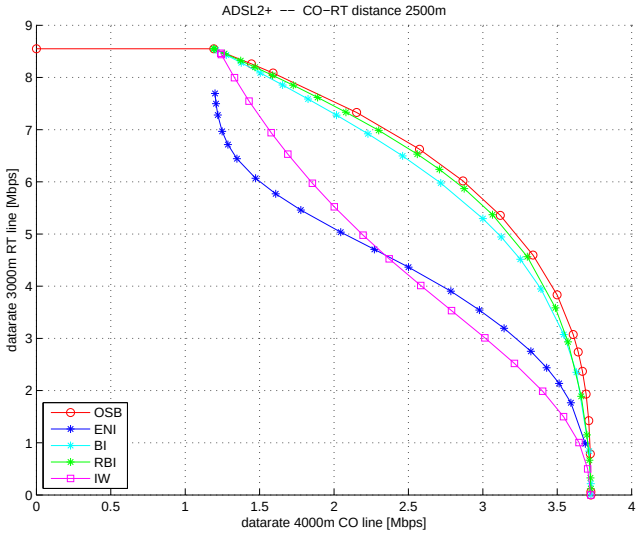

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.67Mbps
OSB RT = 1.46Mbps
RBI CO = 5.65Mbps
RBI RT = 1.32Mbps

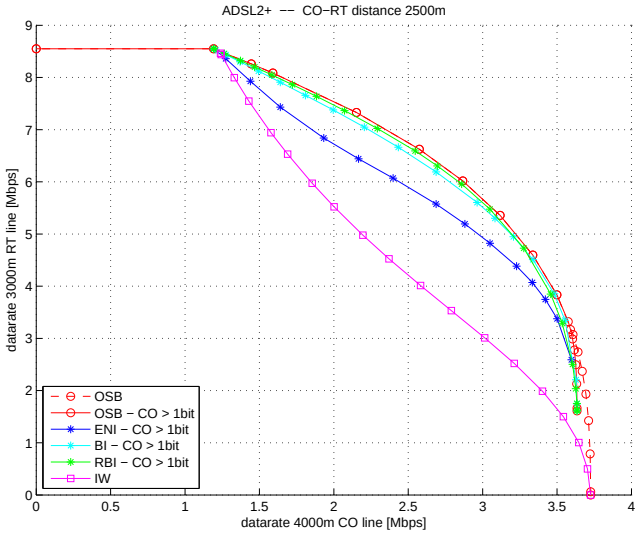

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.68Mbps
OSB RT = 1.10Mbps
RBI CO = 5.66Mbps
RBI RT = 1.09Mbps

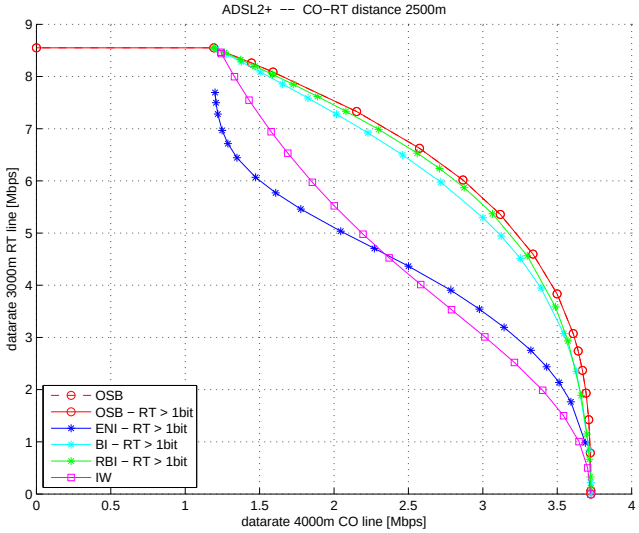

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.68Mbps
OSB RT = 0.63Mbps
RBI CO = 5.68Mbps
RBI RT = 0.61Mbps

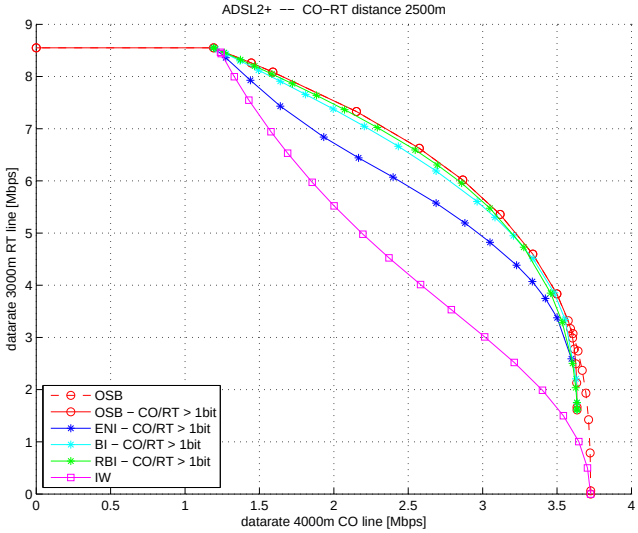

ADSL2+ -- CO=3500m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.68Mbps
OSB RT = 0.58Mbps
RBI CO = 5.68Mbps
RBI RT = 0.58Mbps

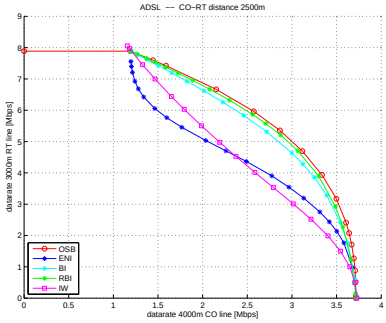

4000m
CO
2500m
1500m
RT
3000m

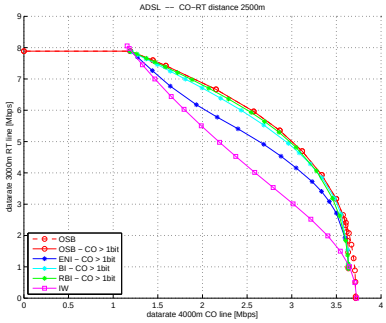

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

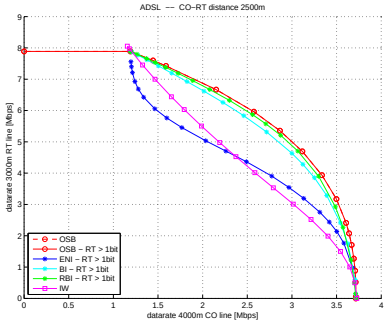

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

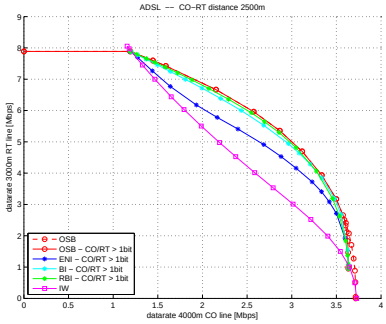

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

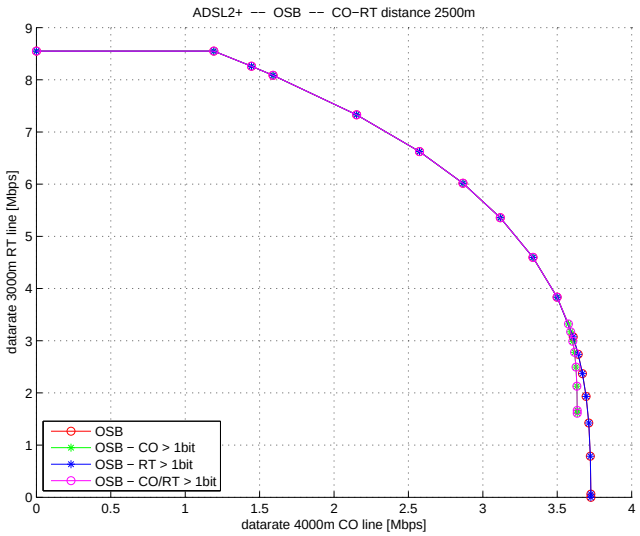

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

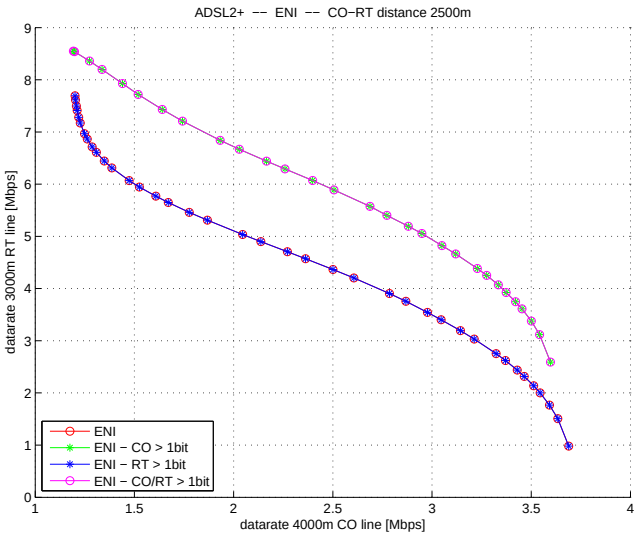


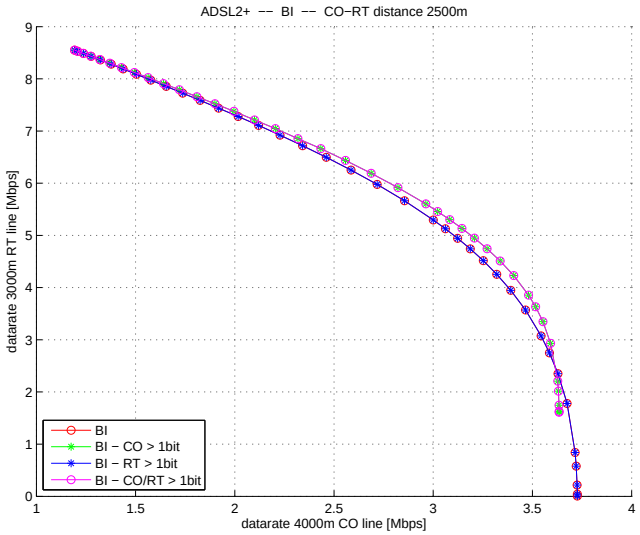


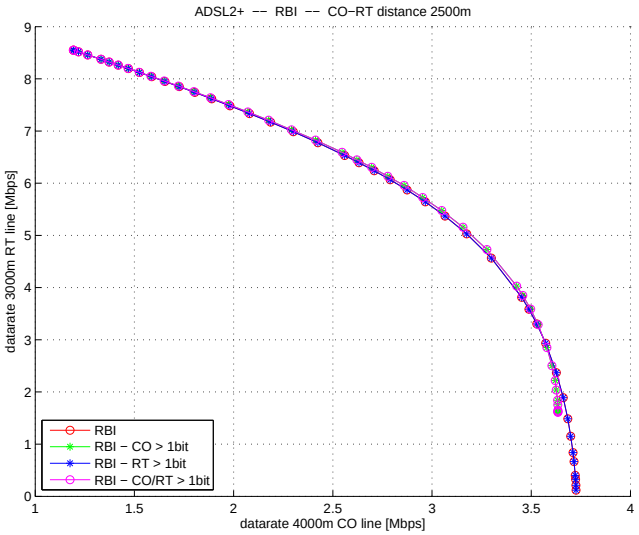


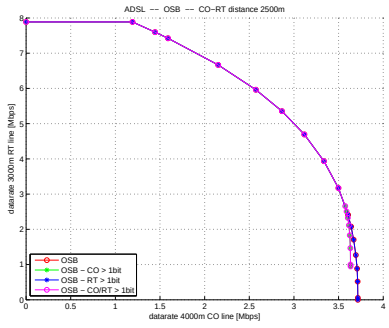


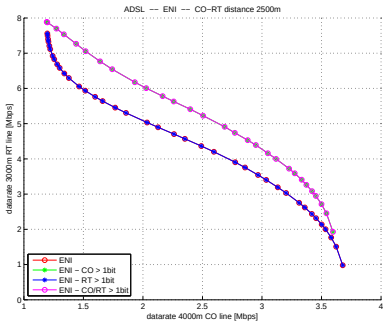

ADSL2+ -- OSB -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

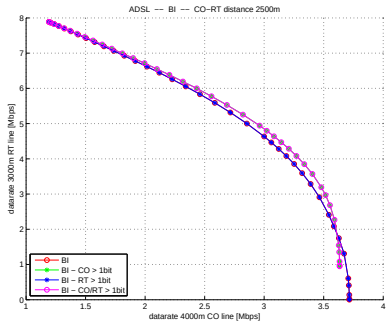

ADSL2+ -- ENI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

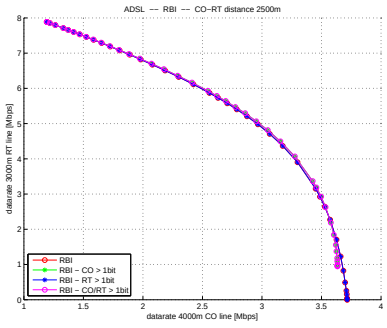

ADSL2+ -- BI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

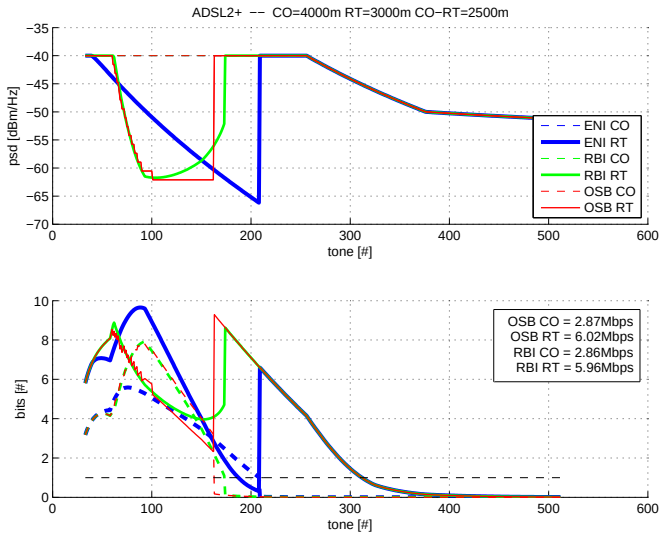

ADSL2+ -- RBI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

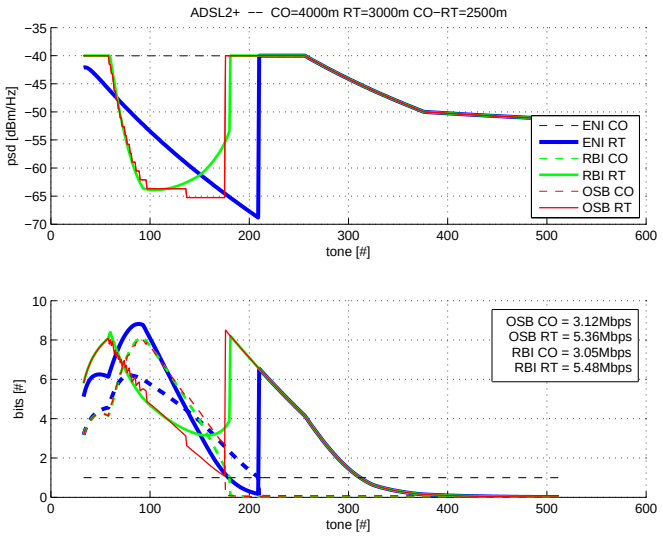

ADSL -- OSB -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

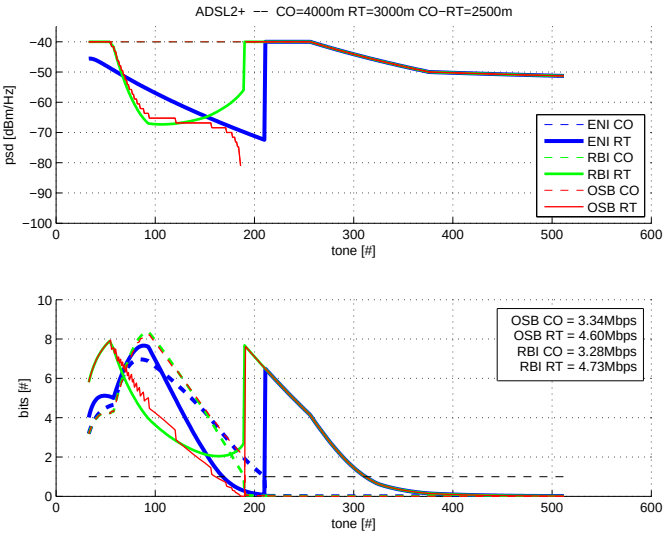

ADSL -- ENI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

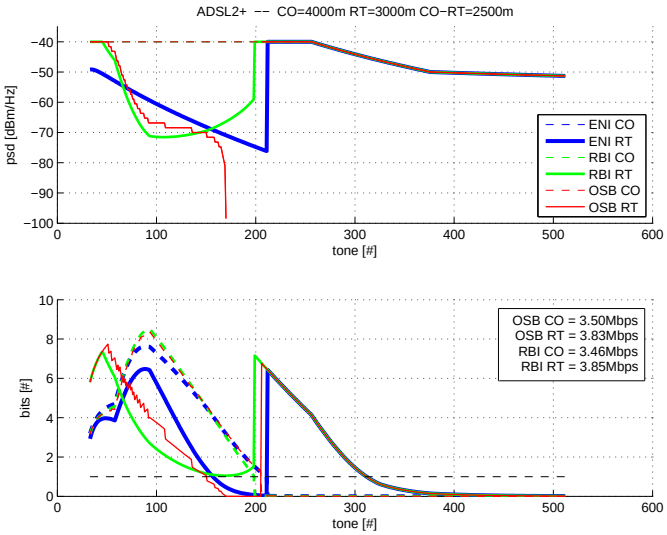

ADSL -- BI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

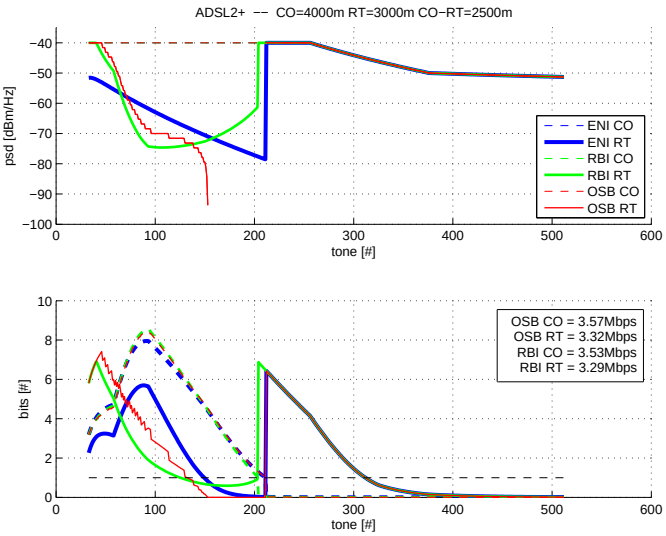

ADSL -- RBI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

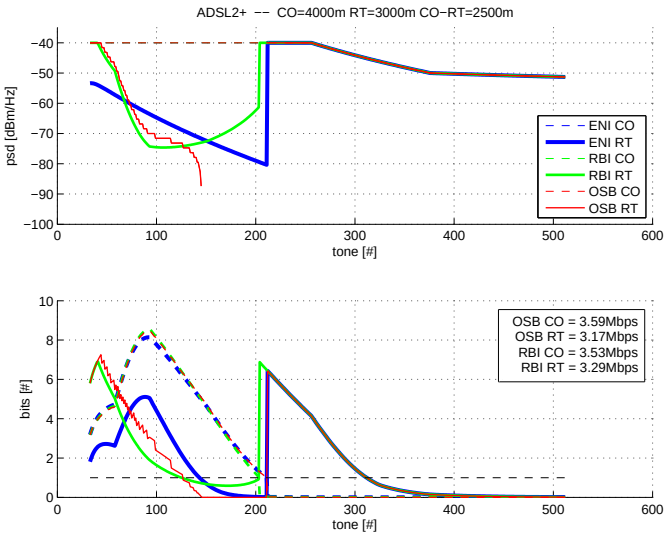

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.87Mbps
OSB RT = 6.02Mbps
RBI CO = 2.86Mbps
RBI RT = 5.96Mbps

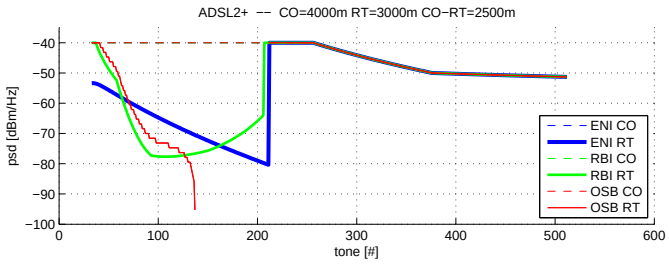

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.12Mbps
OSB RT = 5.36Mbps
RBI CO = 3.05Mbps
RBI RT = 5.48Mbps

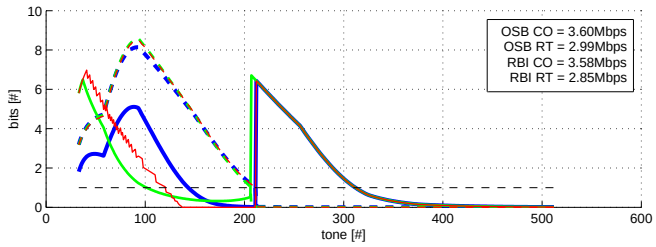

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.34Mbps
OSB RT = 4.60Mbps
RBI CO = 3.28Mbps
RBI RT = 4.73Mbps

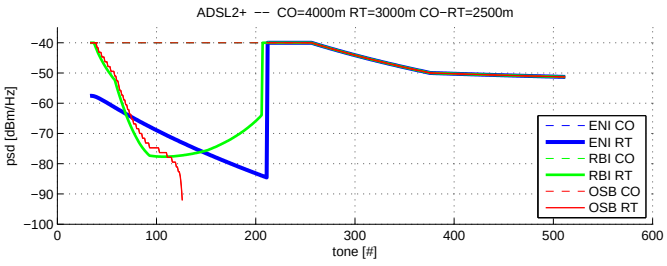

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.50Mbps
OSB RT = 3.83Mbps
RBI CO = 3.46Mbps
RBI RT = 3.85Mbps

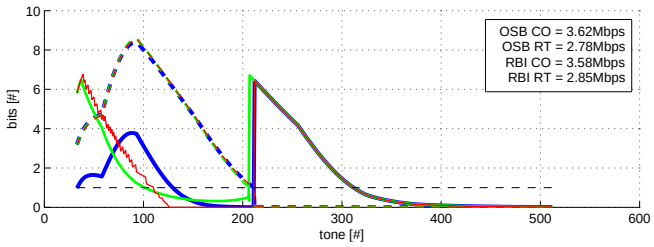

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.57Mbps
OSB RT = 3.32Mbps
RBI CO = 3.53Mbps
RBI RT = 3.29Mbps

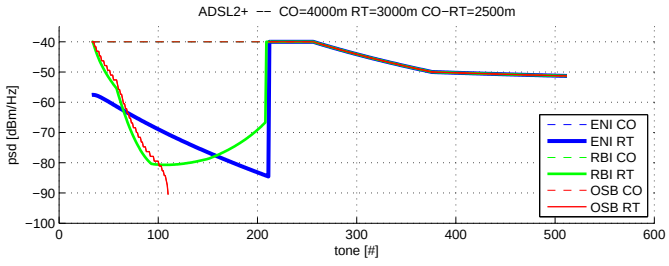

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.59Mbps
OSB RT = 3.17Mbps
RBI CO = 3.53Mbps
RBI RT = 3.29Mbps

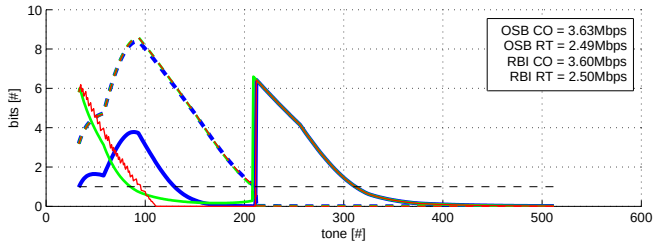

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

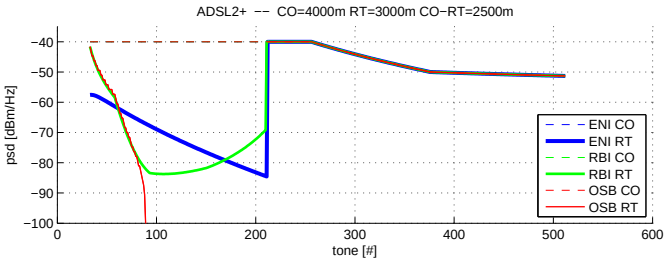

bits [#]
tone [#]
OSB CO = 3.60Mbps
OSB RT = 2.99Mbps
RBI CO = 3.58Mbps
RBI RT = 2.85Mbps

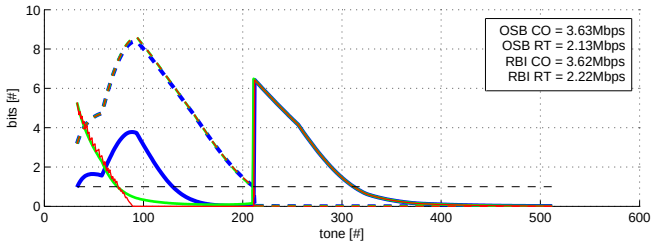

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

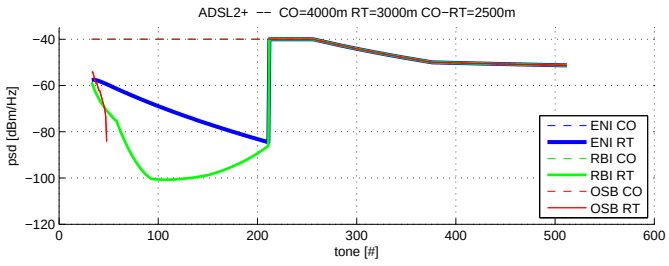

bits [#]
tone [#]
OSB CO = 3.62Mbps
OSB RT = 2.78Mbps
RBI CO = 3.58Mbps
RBI RT = 2.85Mbps

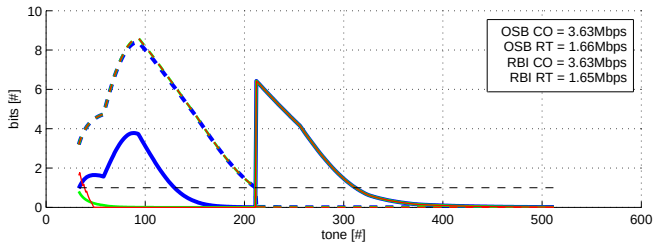

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

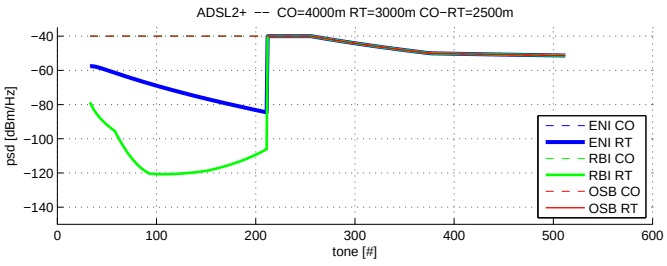

bits [#]
tone [#]
OSB CO = 3.63Mbps
OSB RT = 2.49Mbps
RBI CO = 3.60Mbps
RBI RT = 2.50Mbps

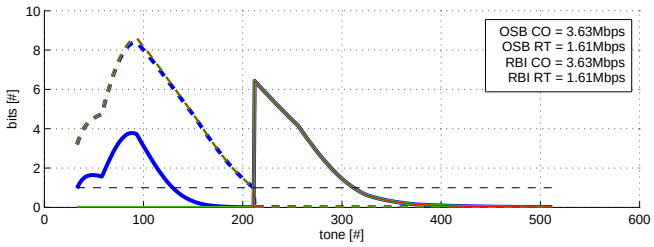

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

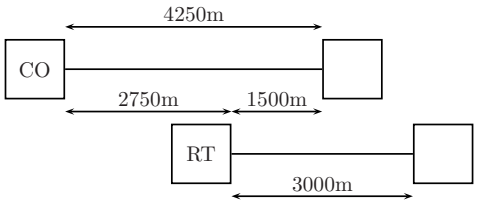

bits [#]
tone [#]
OSB CO = 3.63Mbps
OSB RT = 2.13Mbps
RBI CO = 3.62Mbps
RBI RT = 2.22Mbps

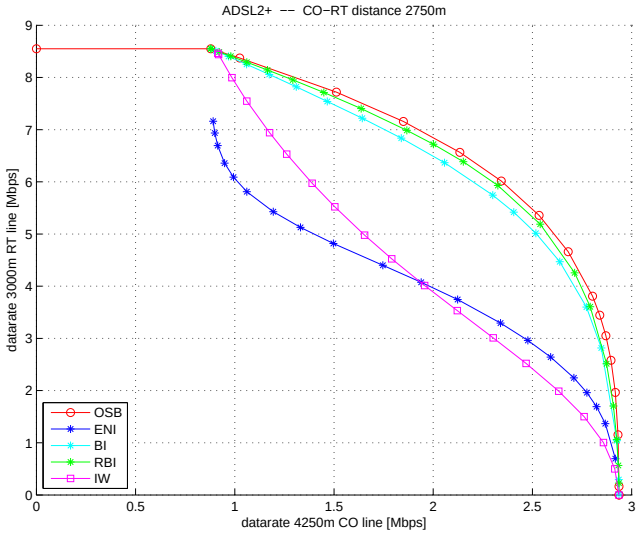

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

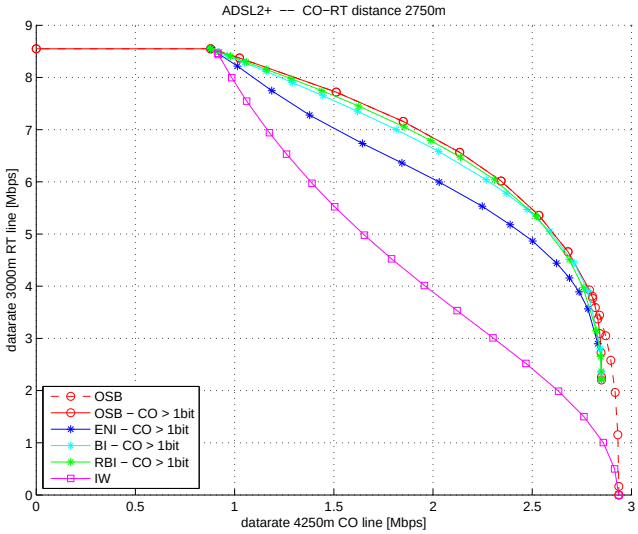

bits [#]
tone [#]
OSB CO = 3.63Mbps
OSB RT = 1.66Mbps
RBI CO = 3.63Mbps
RBI RT = 1.65Mbps

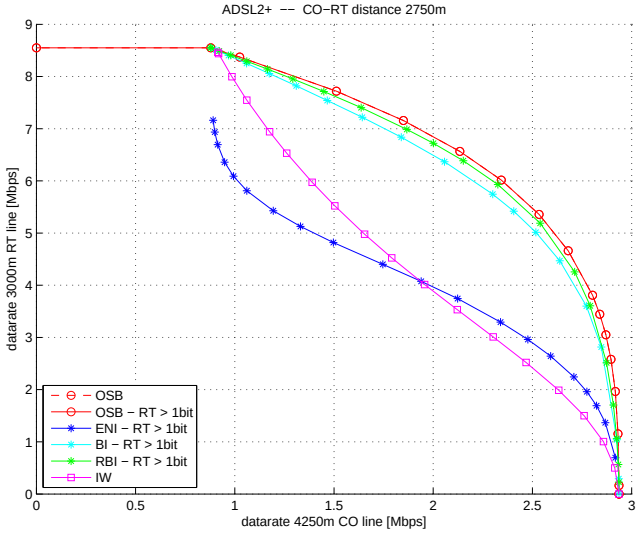

ADSL2+ -- CO=4000m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

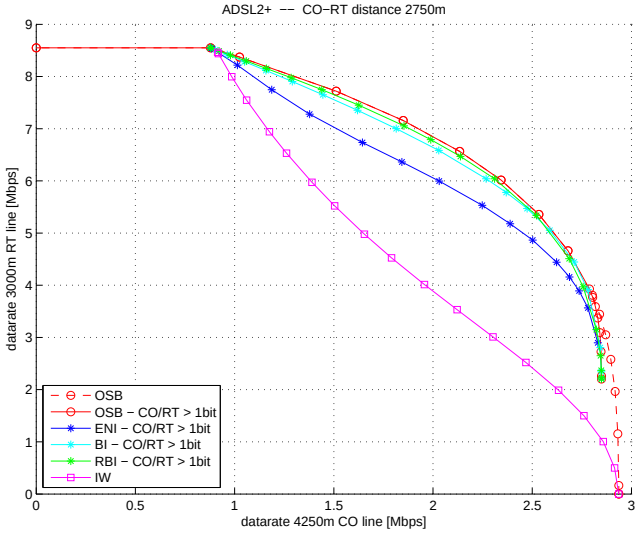

bits [#]
tone [#]
OSB CO = 3.63Mbps
OSB RT = 1.61Mbps
RBI CO = 3.63Mbps
RBI RT = 1.61Mbps

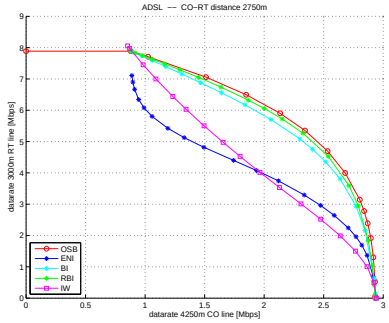

4250m
CO
2750m
1500m
RT
3000m

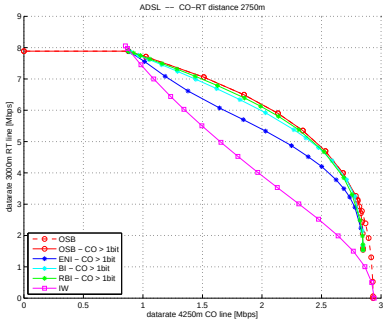

ADSL2+ -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

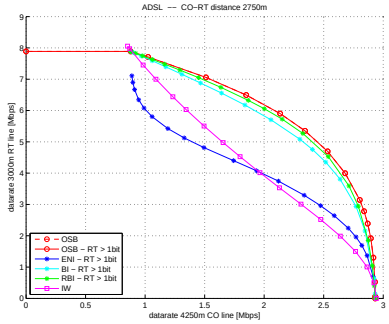

ADSL2+ -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

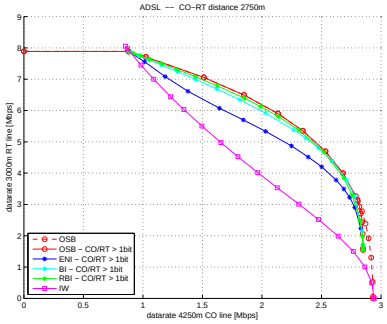

ADSL2+ -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

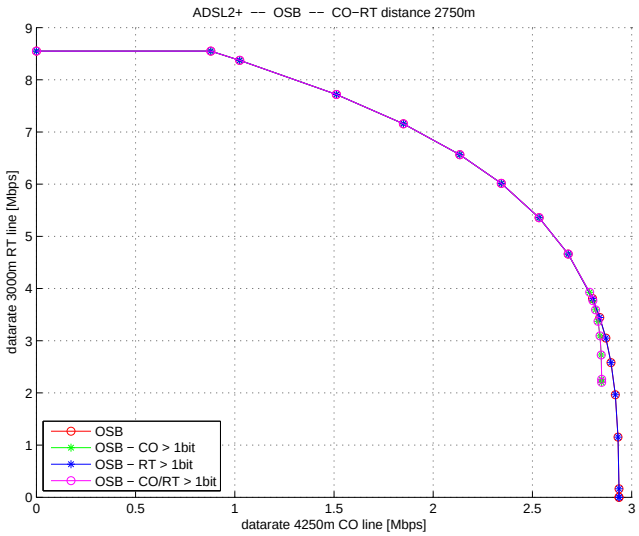

ADSL2+ -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

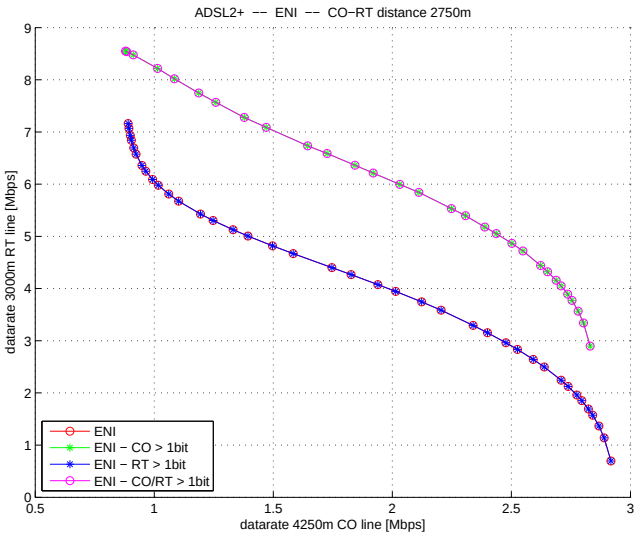

ADSL -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

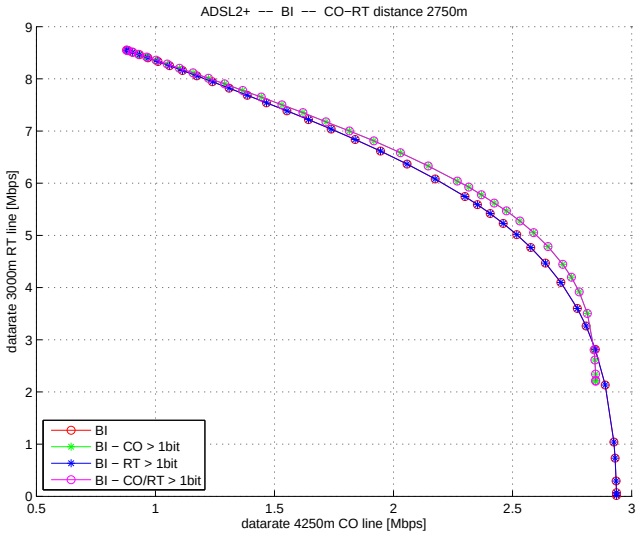

ADSL -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

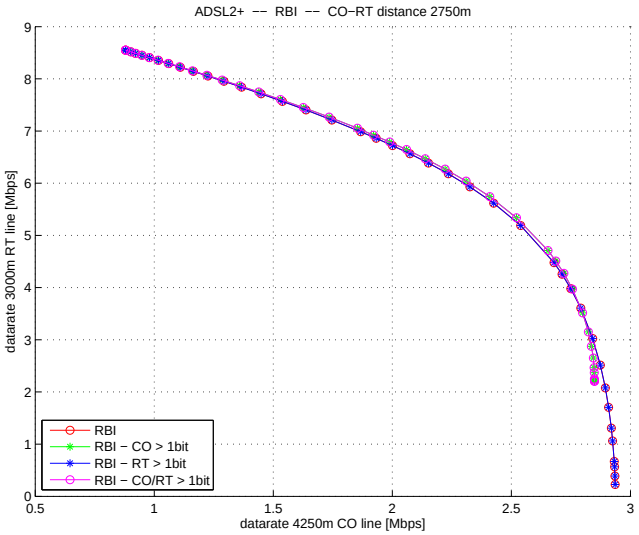

ADSL -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

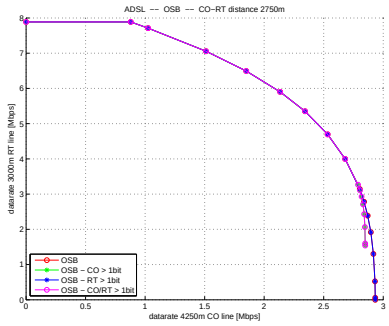

ADSL -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

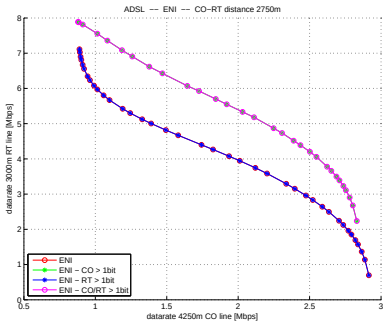

ADSL2+ −− OSB −− CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

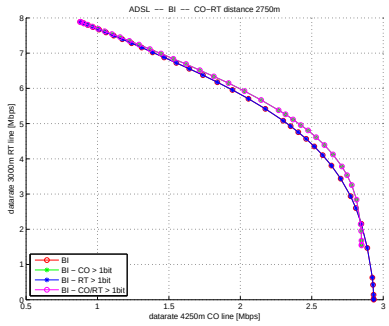

ADSL2+ −− ENI −− CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

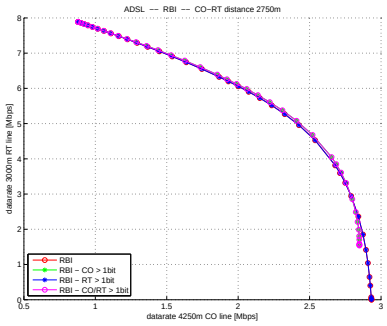

ADSL2+ −− BI −− CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

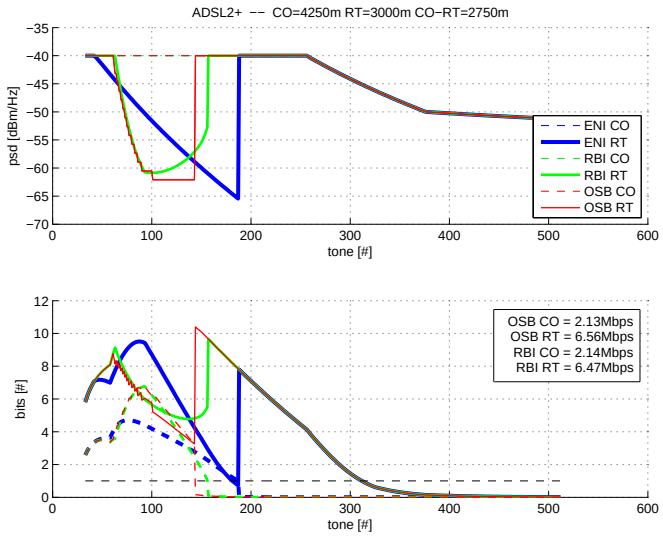

ADSL2+ −− RBI −− CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

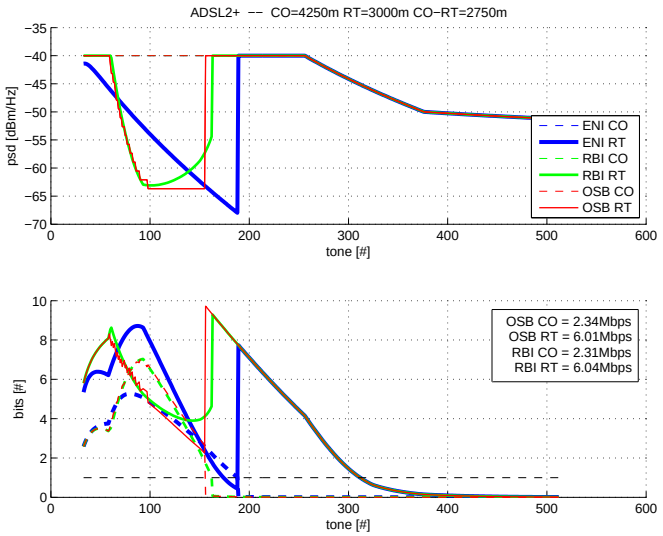

ADSL −− OSB −− CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

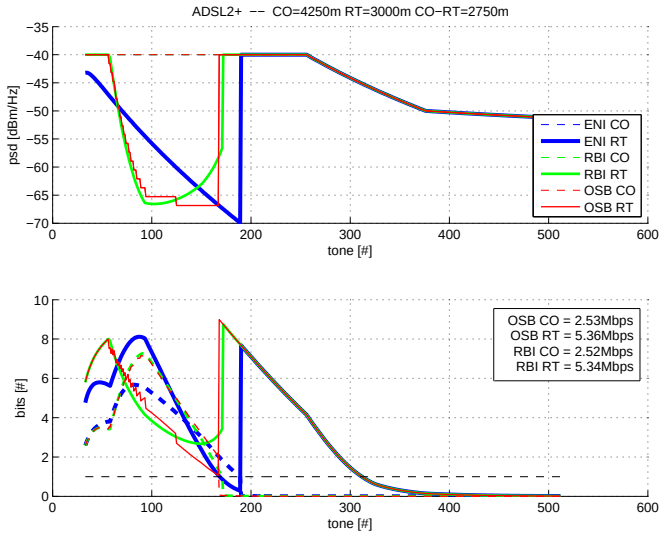

ADSL −− ENI −− CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

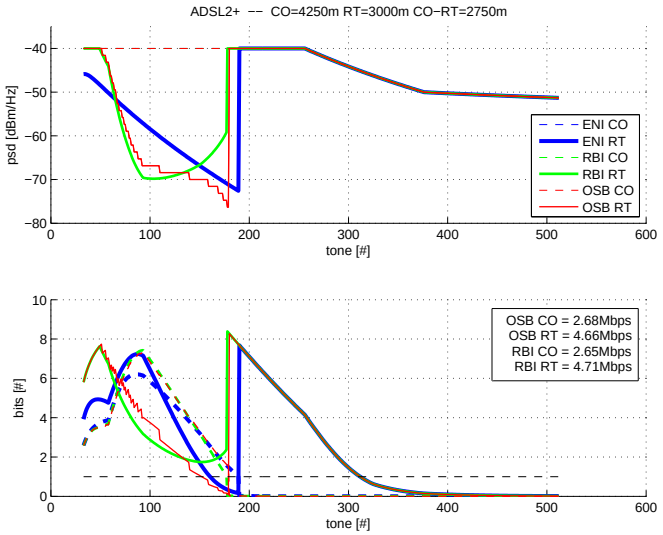

ADSL −− BI −− CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

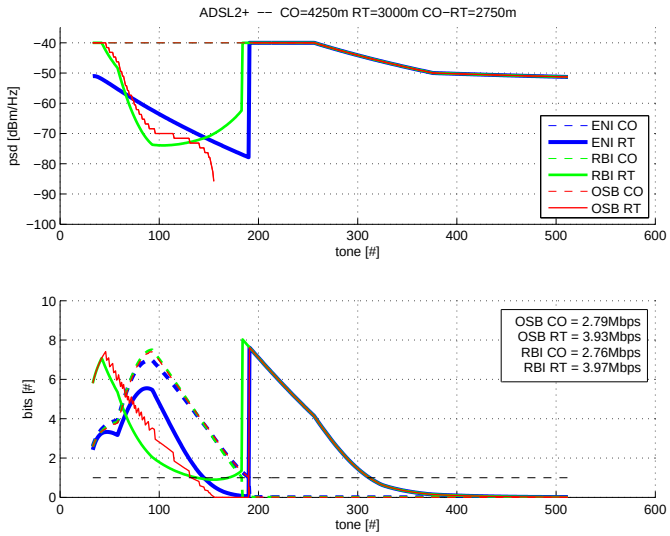

ADSL −− RBI −− CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

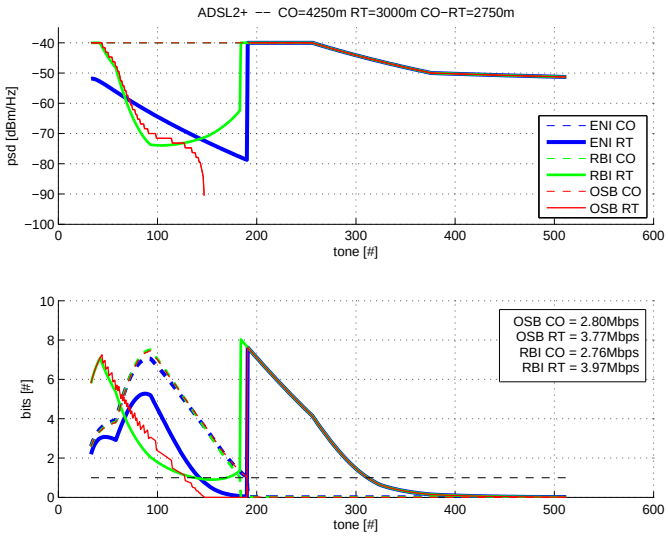

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.13Mbps
OSB RT = 6.56Mbps
RBI CO = 2.14Mbps
RBI RT = 6.47Mbps

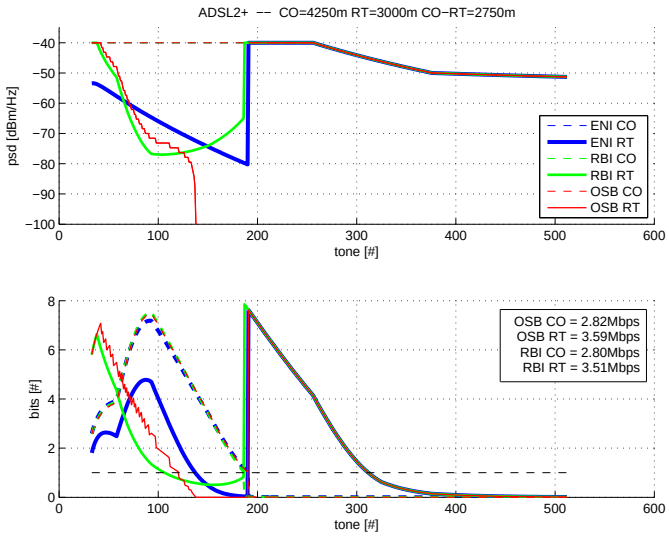

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.34Mbps
OSB RT = 6.01Mbps
RBI CO = 2.31Mbps
RBI RT = 6.04Mbps

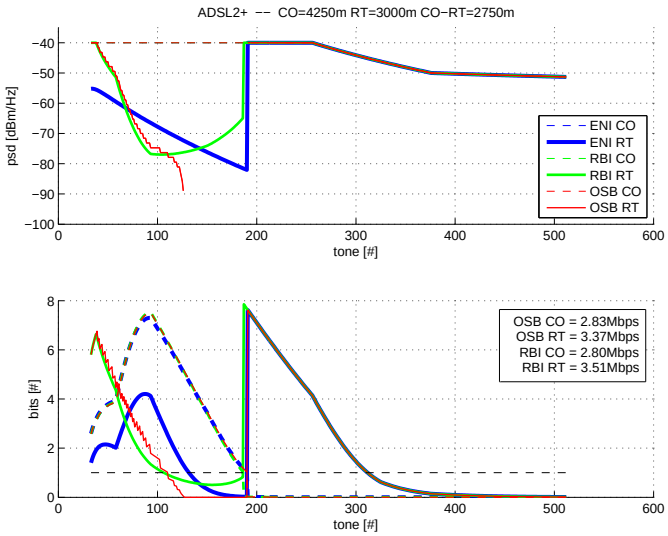

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.53Mbps
OSB RT = 5.36Mbps
RBI CO = 2.52Mbps
RBI RT = 5.34Mbps

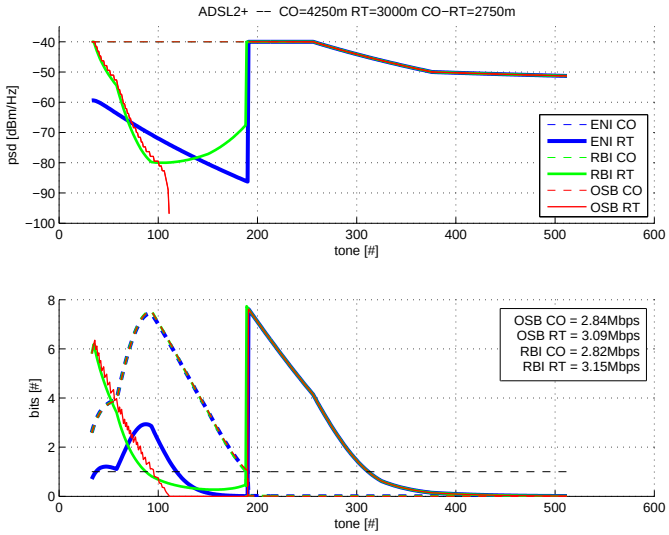

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.68Mbps
OSB RT = 4.66Mbps
RBI CO = 2.65Mbps
RBI RT = 4.71Mbps

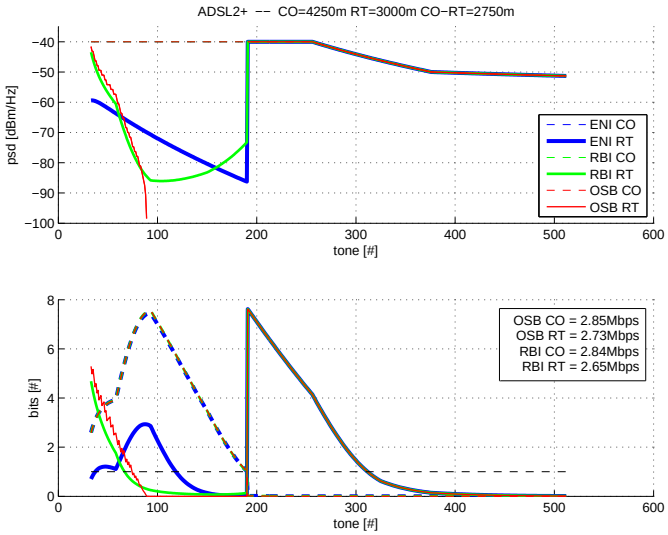

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.79Mbps
OSB RT = 3.93Mbps
RBI CO = 2.76Mbps
RBI RT = 3.97Mbps

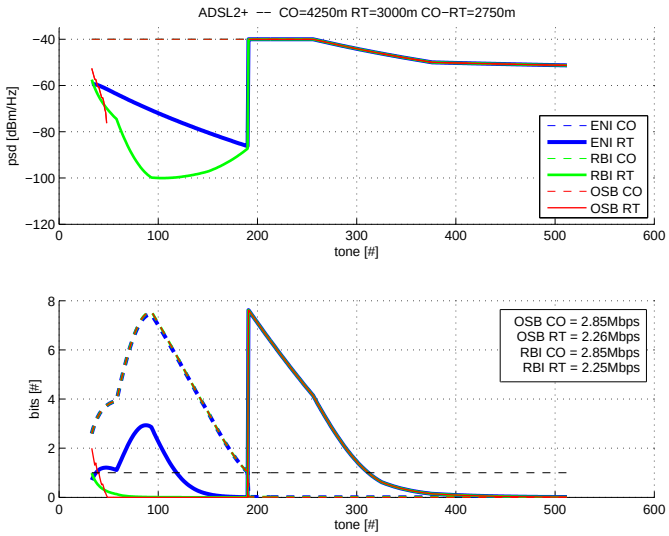

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.80Mbps
OSB RT = 3.77Mbps
RBI CO = 2.76Mbps
RBI RT = 3.97Mbps

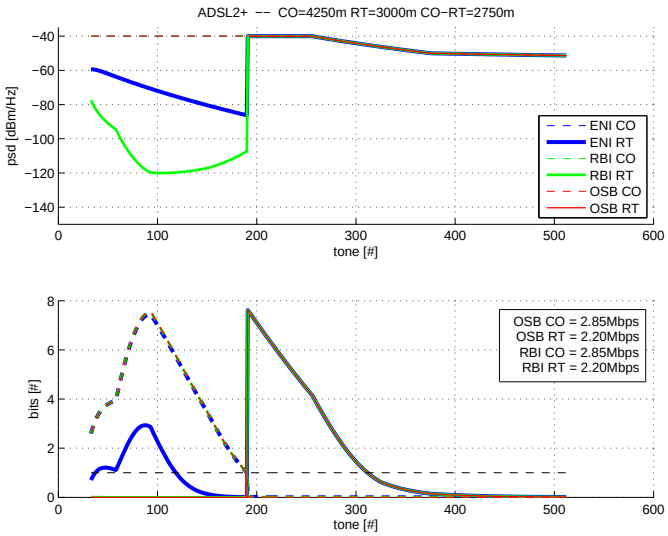

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.82Mbps
OSB RT = 3.59Mbps
RBI CO = 2.80Mbps
RBI RT = 3.51Mbps

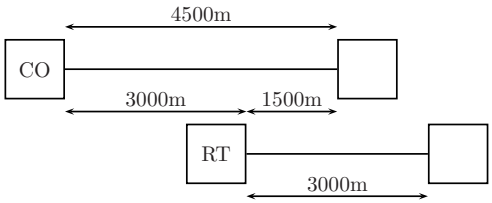

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.83Mbps
OSB RT = 3.37Mbps
RBI CO = 2.80Mbps
RBI RT = 3.51Mbps

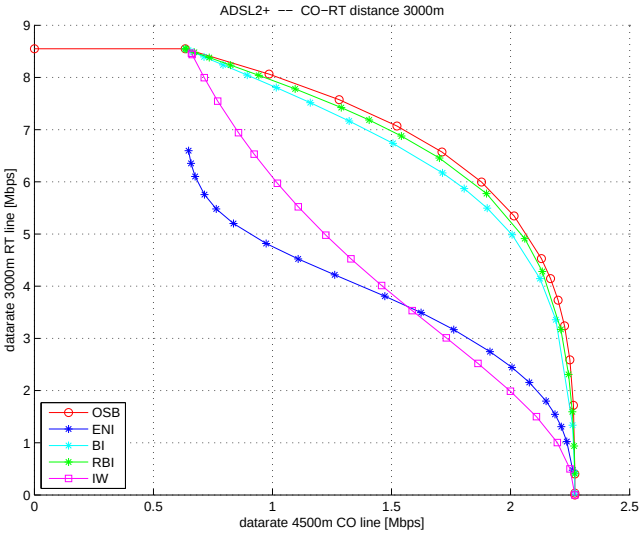

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.84Mbps
OSB RT = 3.09Mbps
RBI CO = 2.82Mbps
RBI RT = 3.15Mbps

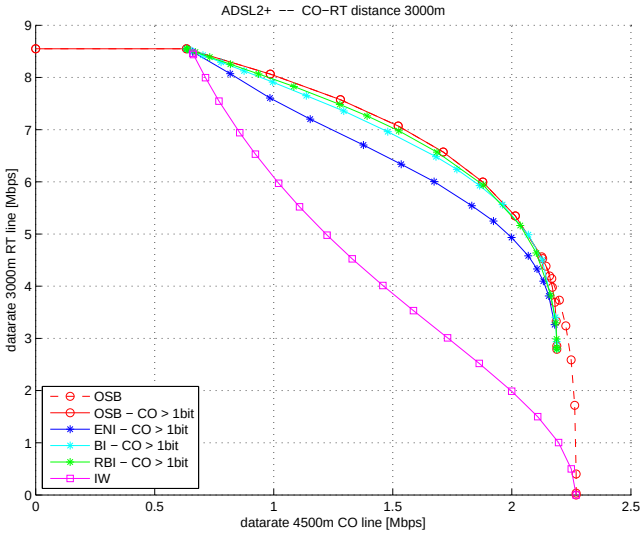

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 2.73Mbps
RBI CO = 2.84Mbps
RBI RT = 2.65Mbps

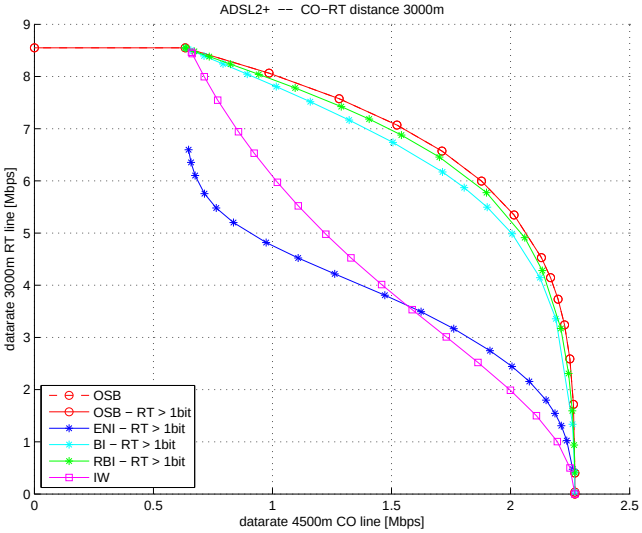

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 2.26Mbps
RBI CO = 2.85Mbps
RBI RT = 2.25Mbps

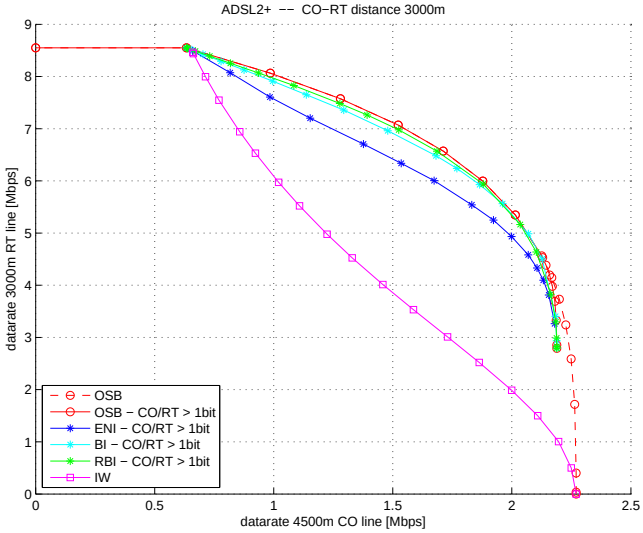

ADSL2+ -- CO=4250m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 2.20Mbps
RBI CO = 2.85Mbps
RBI RT = 2.20Mbps

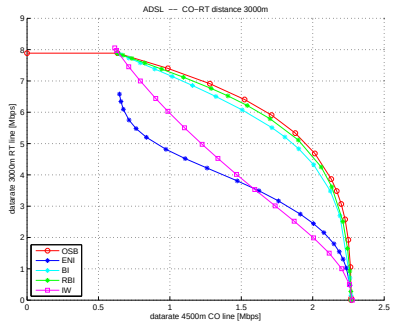

4500m
CO
3000m
1500m
RT
3000m

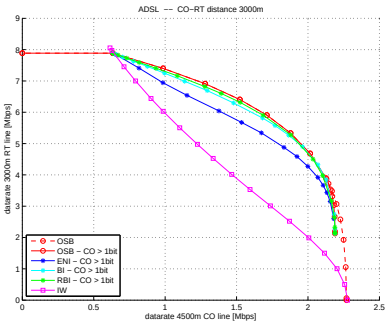

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

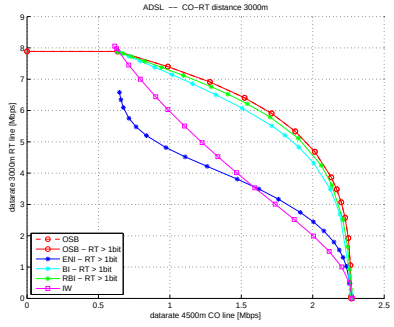

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

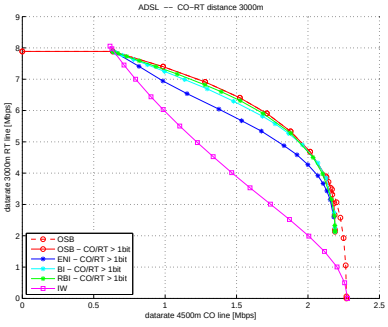

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

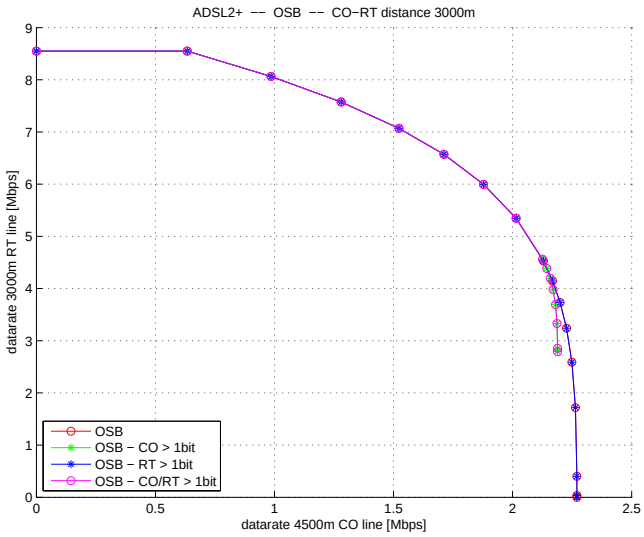

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

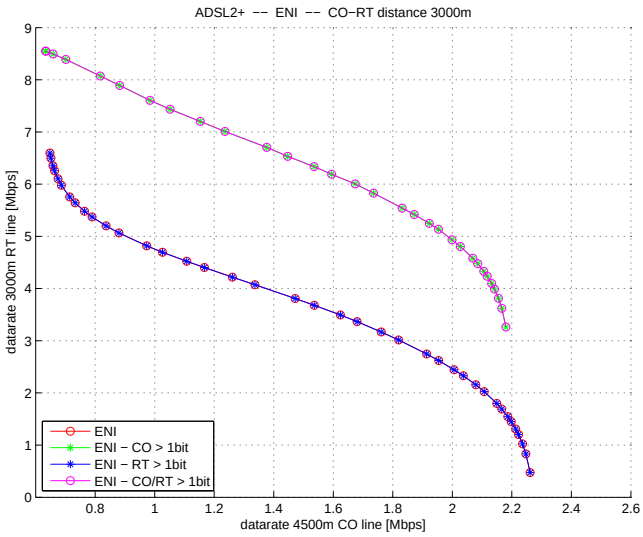

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

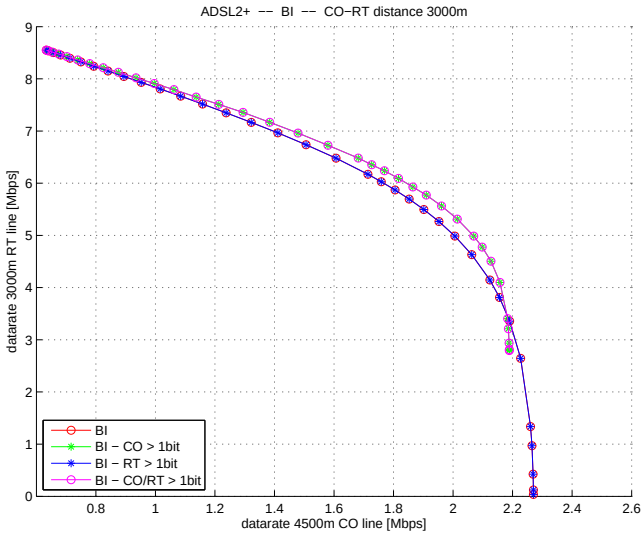

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

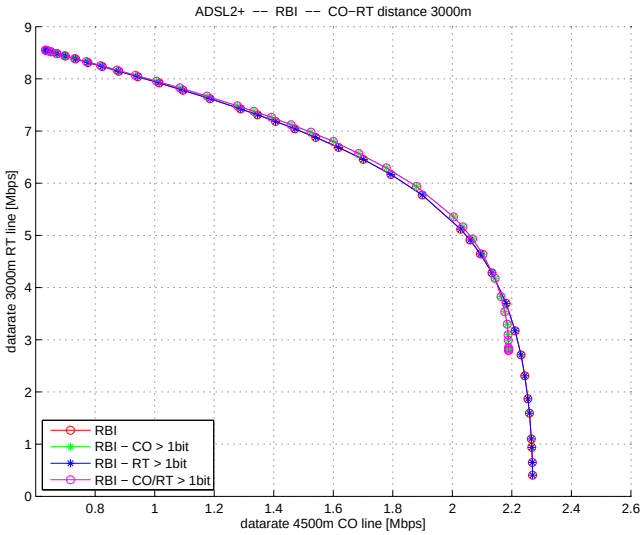

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

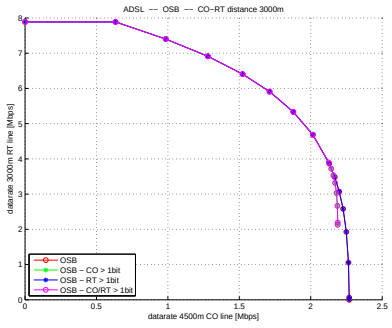

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

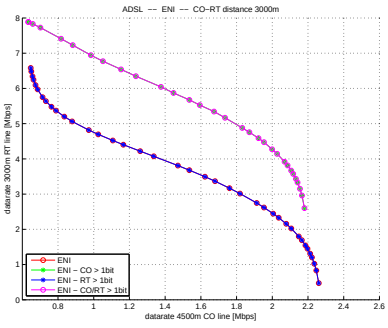

ADSL2+ −− OSB −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

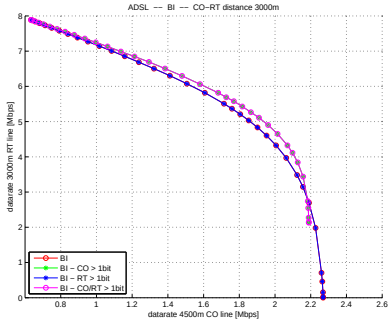

ADSL2+ −− ENI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

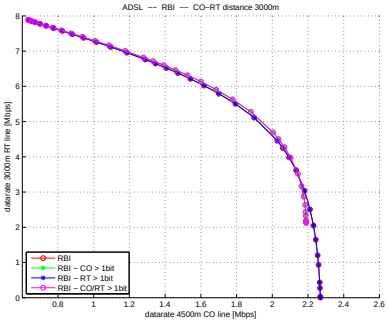

ADSL2+ −− BI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

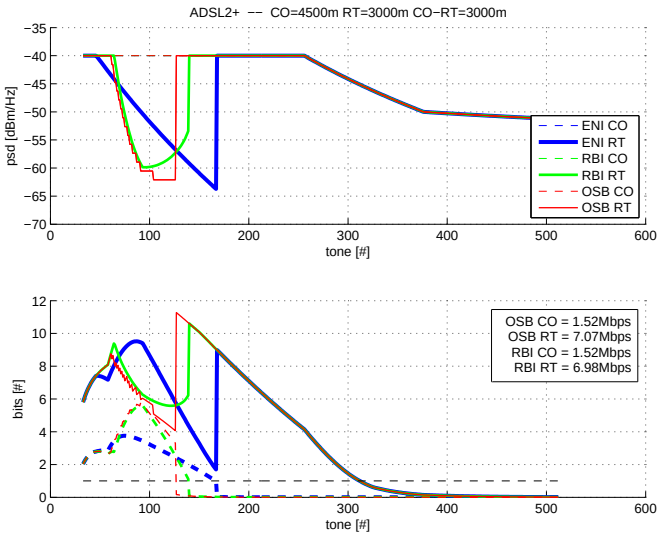

ADSL2+ −− RBI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

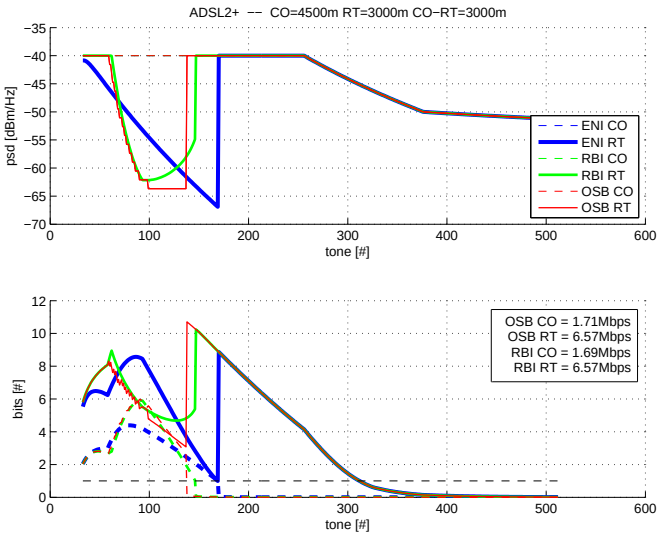

ADSL −− OSB −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

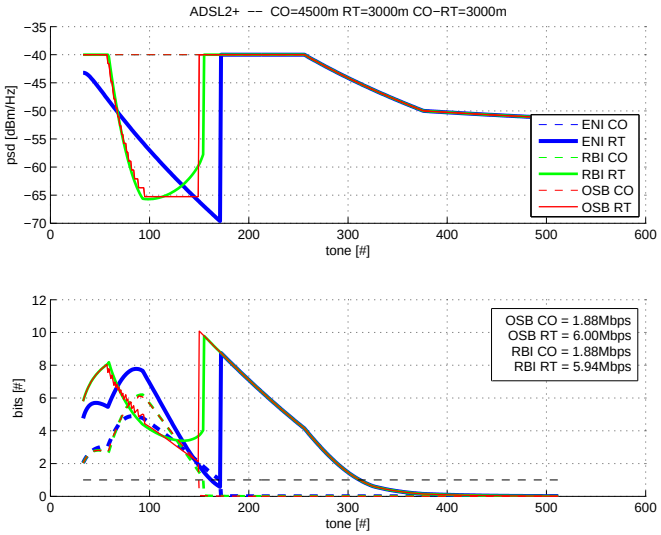

ADSL −− ENI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

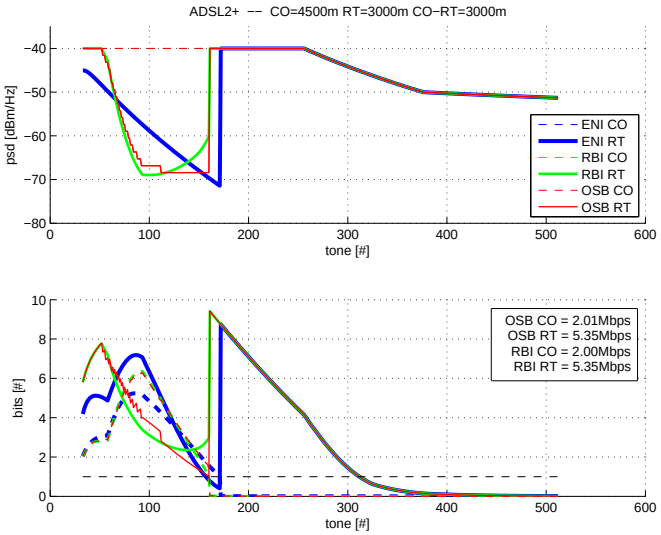

ADSL −− BI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

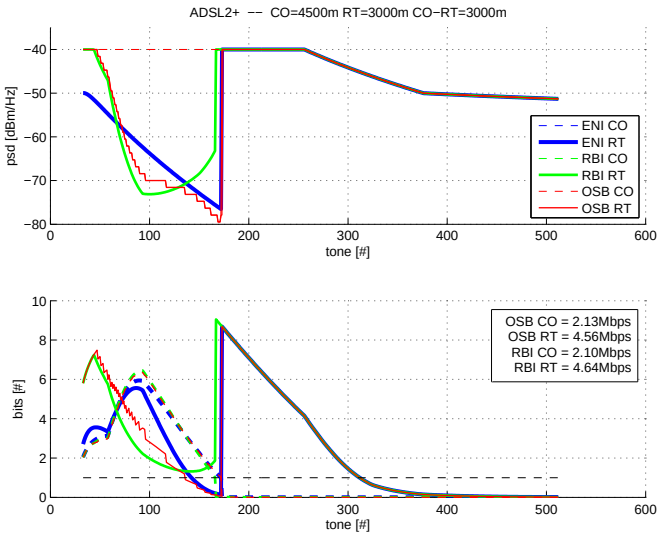

ADSL −− RBI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

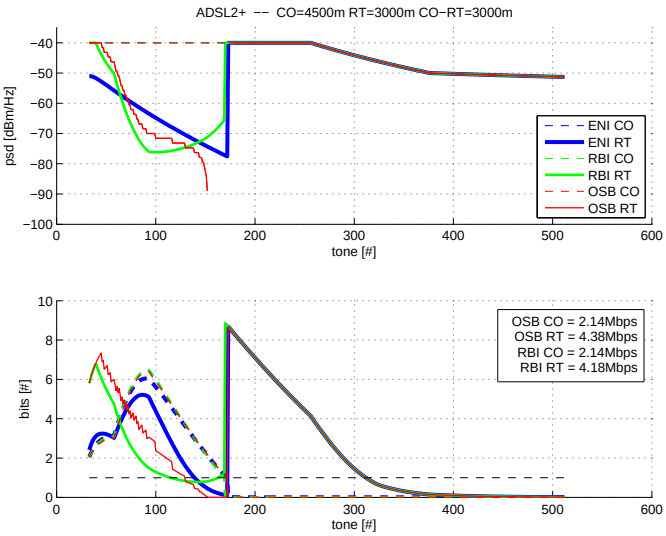

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.52Mbps
OSB RT = 7.07Mbps
RBI CO = 1.52Mbps
RBI RT = 6.98Mbps

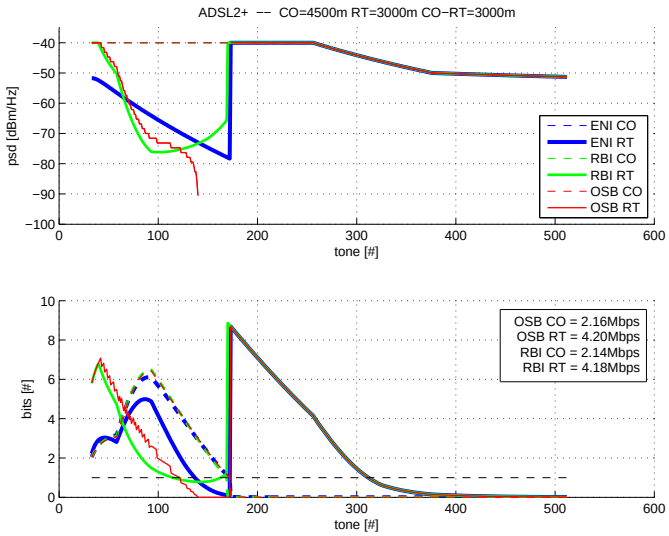

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.71Mbps
OSB RT = 6.57Mbps
RBI CO = 1.69Mbps
RBI RT = 6.57Mbps

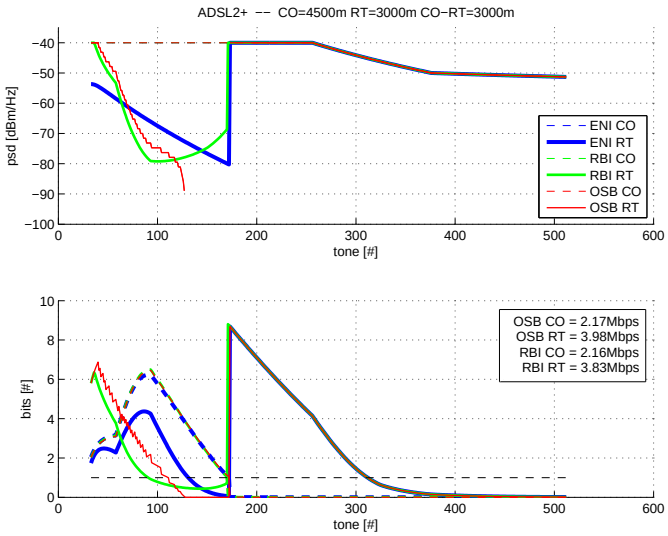

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.88Mbps
OSB RT = 6.00Mbps
RBI CO = 1.88Mbps
RBI RT = 5.94Mbps

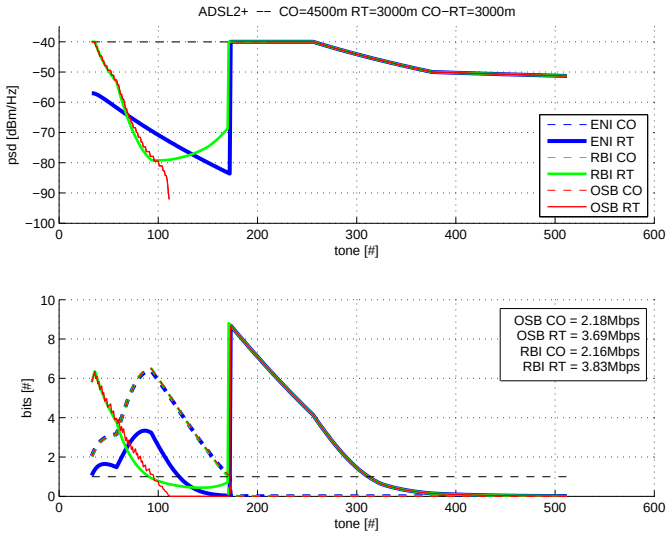

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.01Mbps
OSB RT = 5.35Mbps
RBI CO = 2.00Mbps
RBI RT = 5.35Mbps

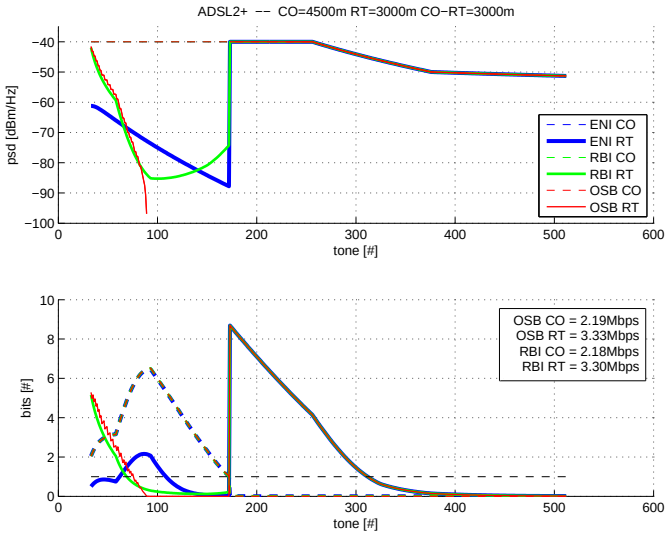

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.13Mbps
OSB RT = 4.56Mbps
RBI CO = 2.10Mbps
RBI RT = 4.64Mbps

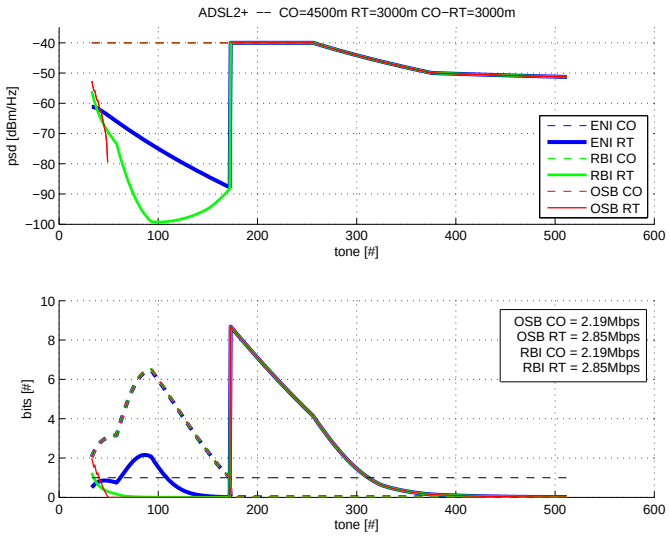

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.14Mbps
OSB RT = 4.38Mbps
RBI CO = 2.14Mbps
RBI RT = 4.18Mbps

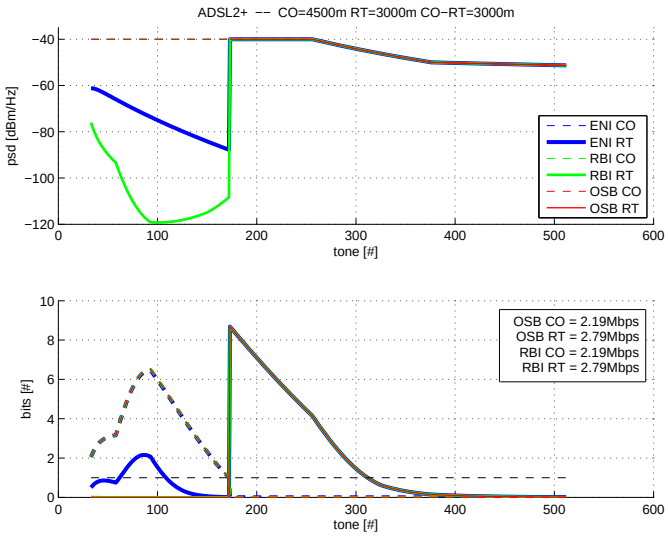

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.16Mbps
OSB RT = 4.20Mbps
RBI CO = 2.14Mbps
RBI RT = 4.18Mbps

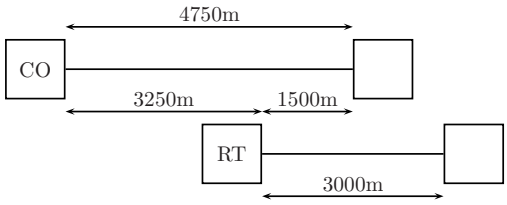

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.17Mbps
OSB RT = 3.98Mbps
RBI CO = 2.16Mbps
RBI RT = 3.83Mbps

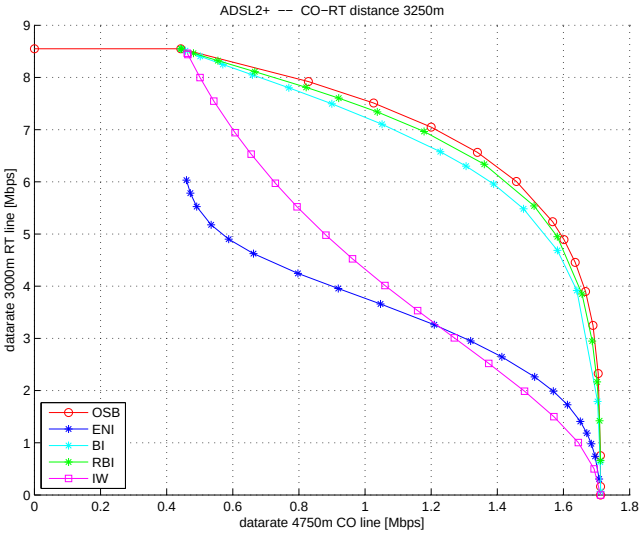

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.18Mbps
OSB RT = 3.69Mbps
RBI CO = 2.16Mbps
RBI RT = 3.83Mbps

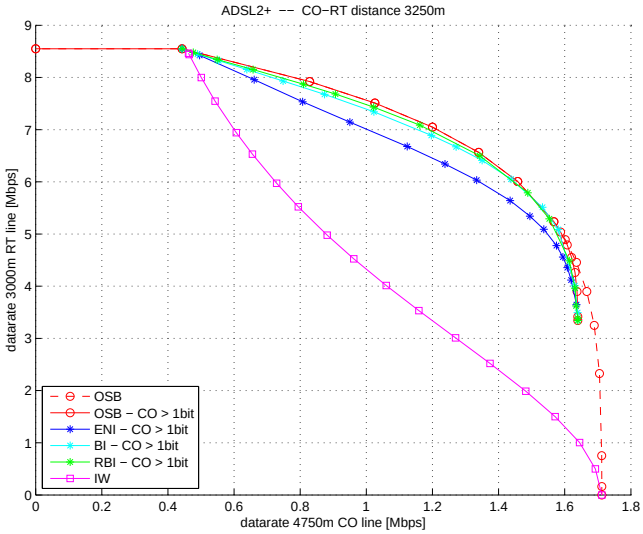

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 3.33Mbps
RBI CO = 2.18Mbps
RBI RT = 3.30Mbps

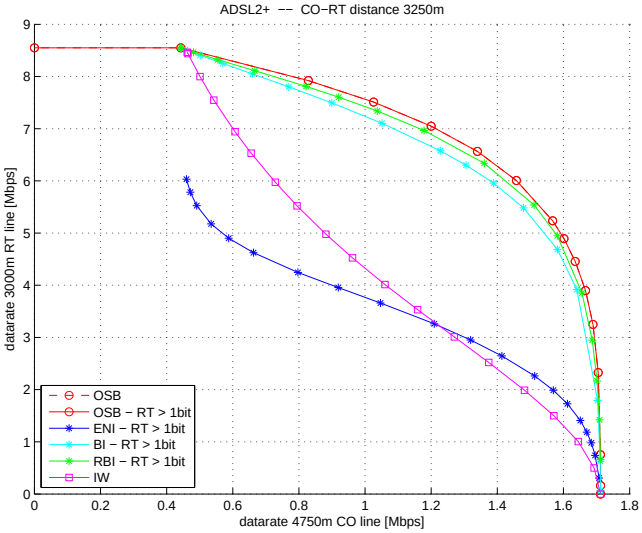

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 2.85Mbps
RBI CO = 2.19Mbps
RBI RT = 2.85Mbps

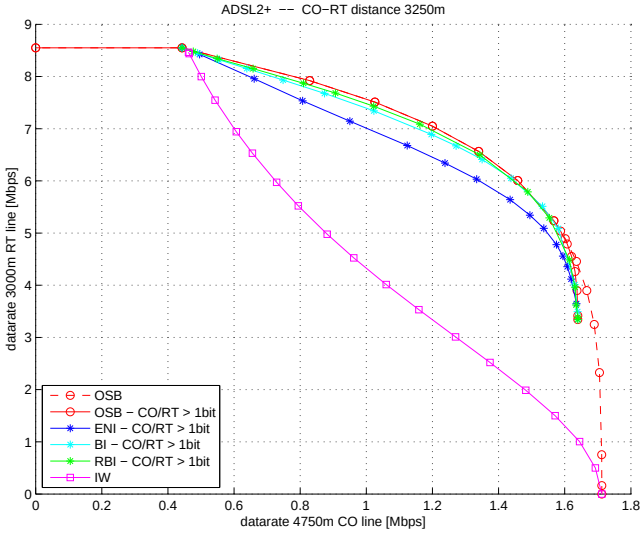

ADSL2+ -- CO=4500m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 2.79Mbps
RBI CO = 2.19Mbps
RBI RT = 2.79Mbps

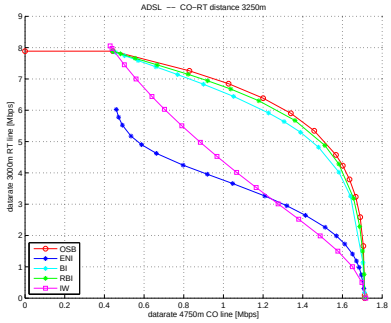

4750m
CO
3250m
1500m
RT
3000m

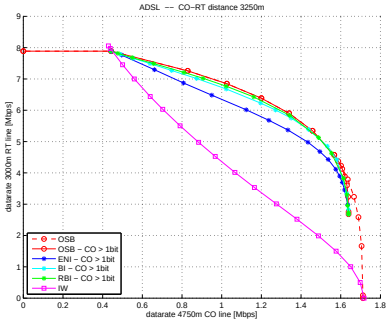

ADSL2+ -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

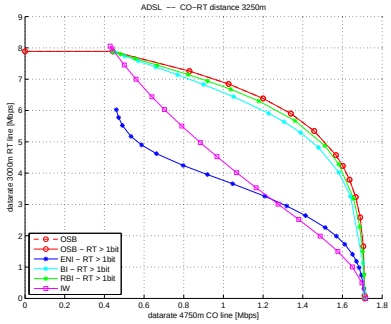

ADSL2+ -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

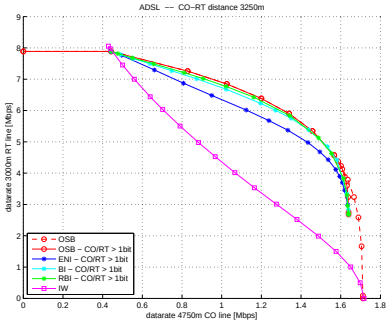

ADSL2+ -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

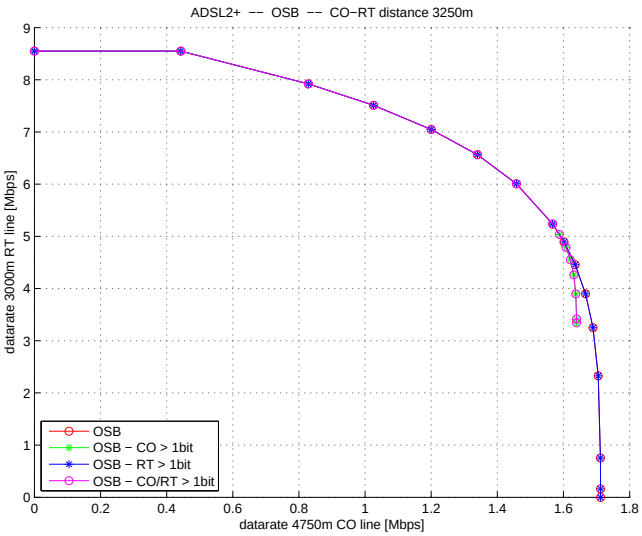

ADSL2+ -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

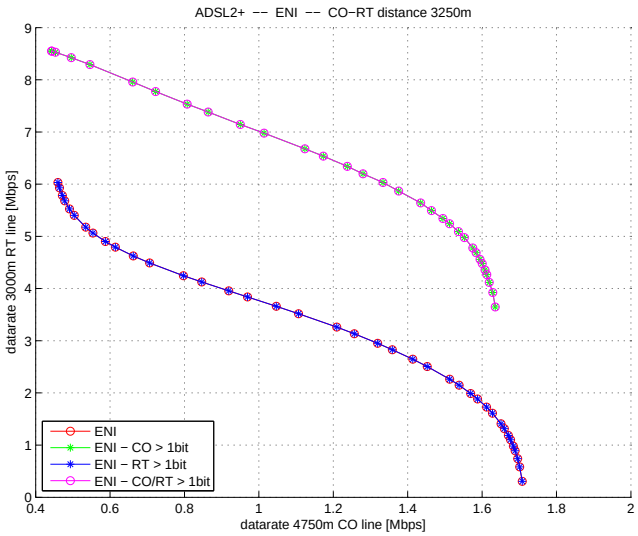

ADSL -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

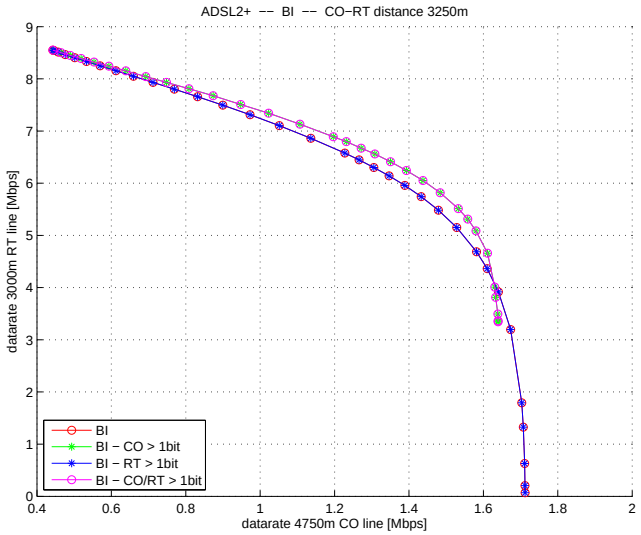

ADSL -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

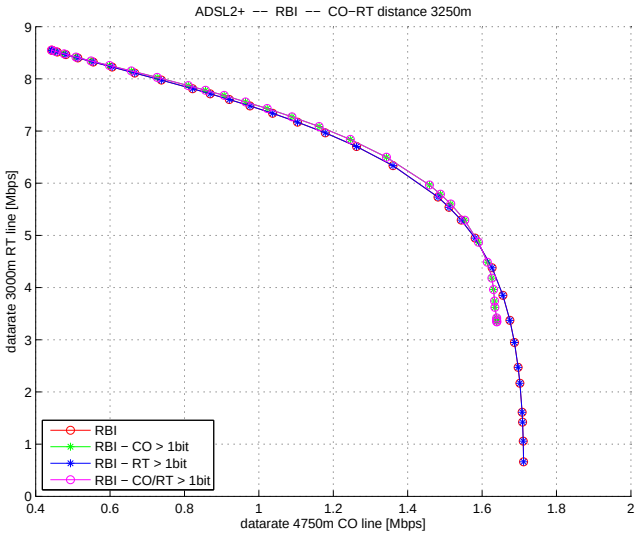

ADSL -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

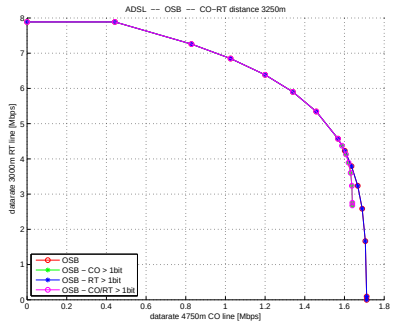

ADSL -- CO−RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

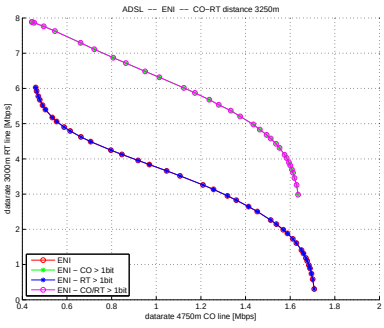

ADSL2+ -- OSB -- CO-RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

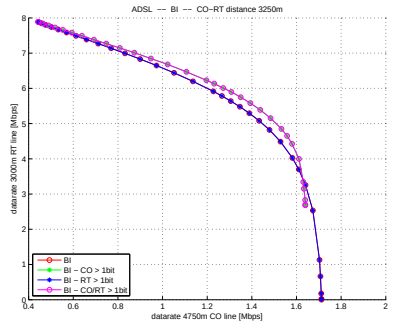

ADSL2+ -- ENI -- CO-RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

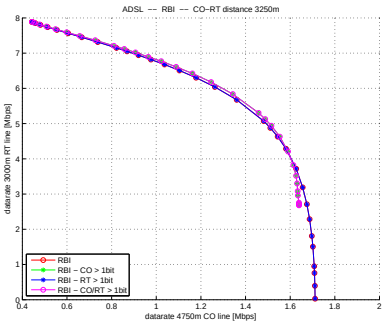

ADSL2+ -- BI -- CO-RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

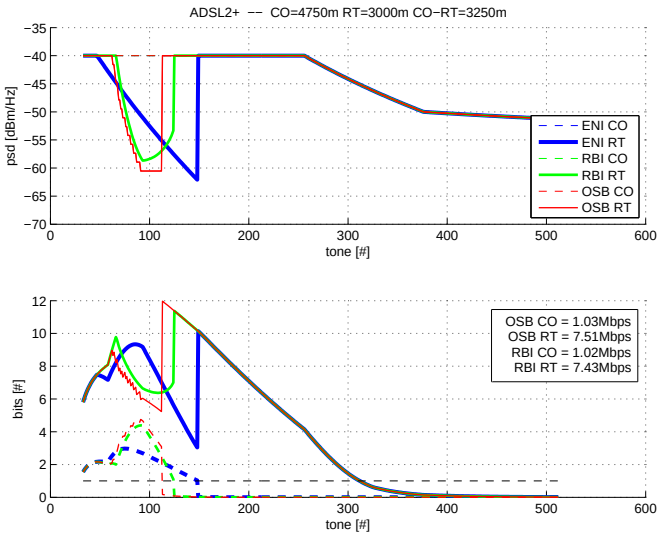

ADSL2+ -- RBI -- CO-RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

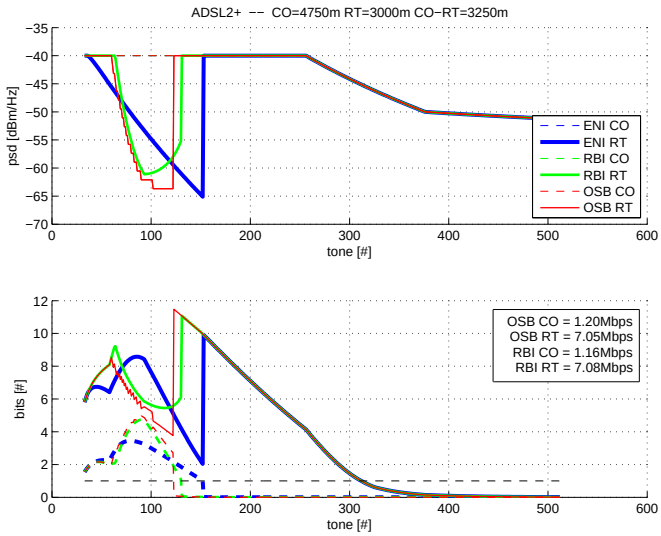

ADSL -- OSB -- CO-RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

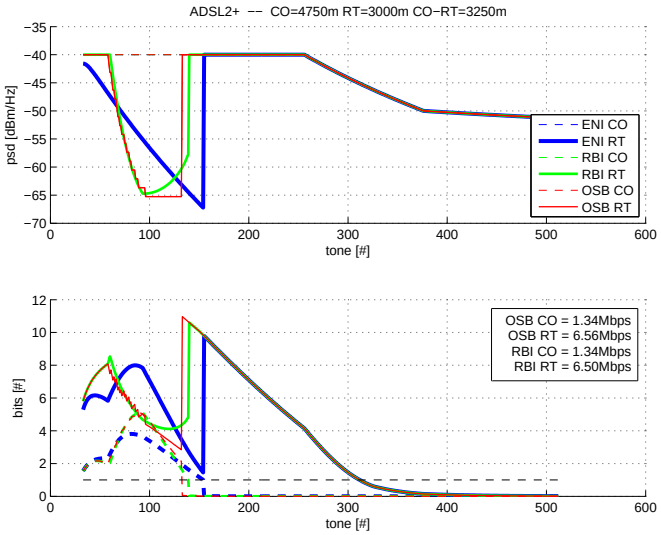

ADSL -- ENI -- CO-RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

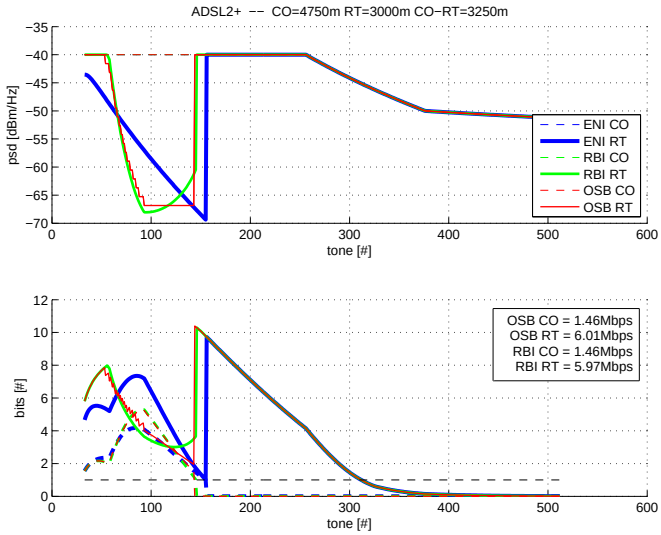

ADSL -- BI -- CO-RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

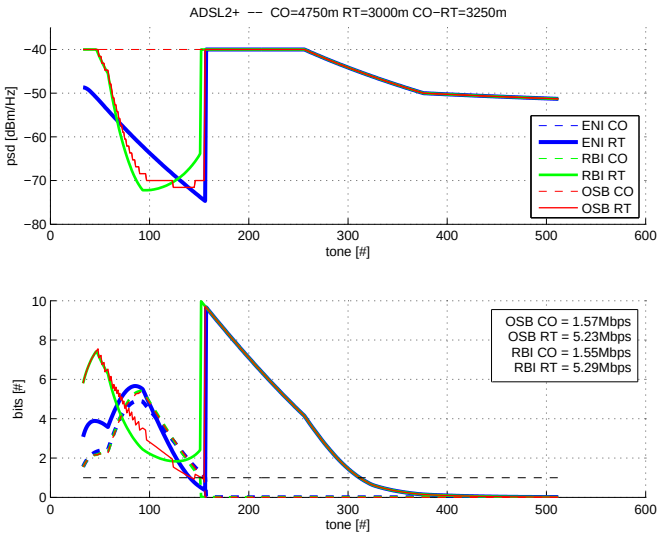

ADSL -- RBI -- CO-RT distance 3250m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

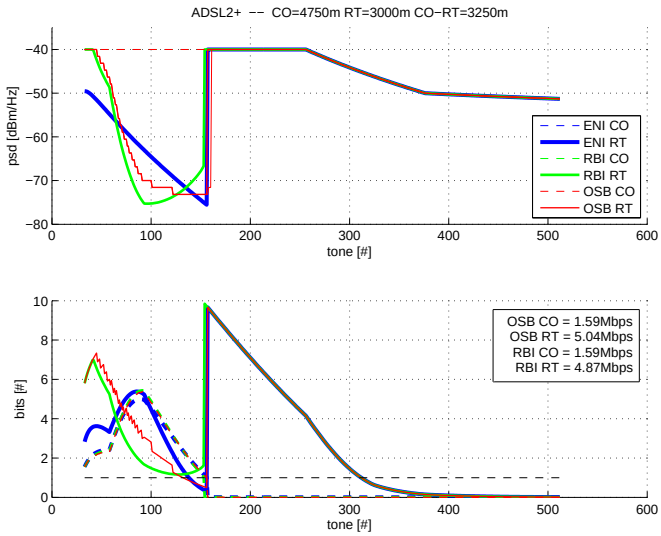

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.03Mbps
OSB RT = 7.51Mbps
RBI CO = 1.02Mbps
RBI RT = 7.43Mbps

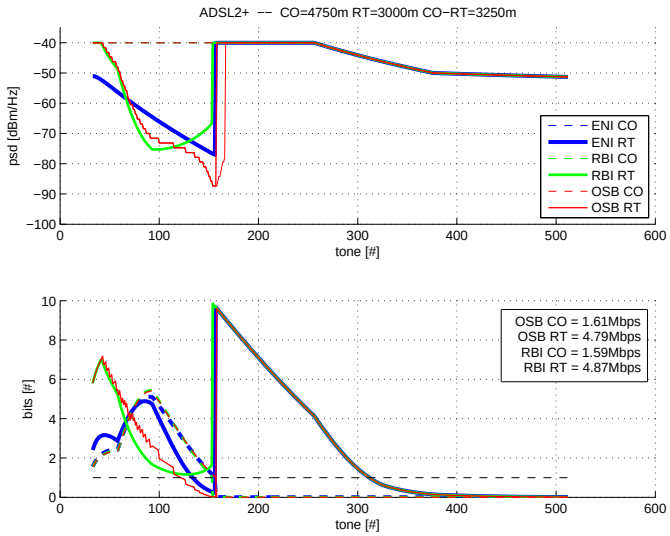

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.20Mbps
OSB RT = 7.05Mbps
RBI CO = 1.16Mbps
RBI RT = 7.08Mbps

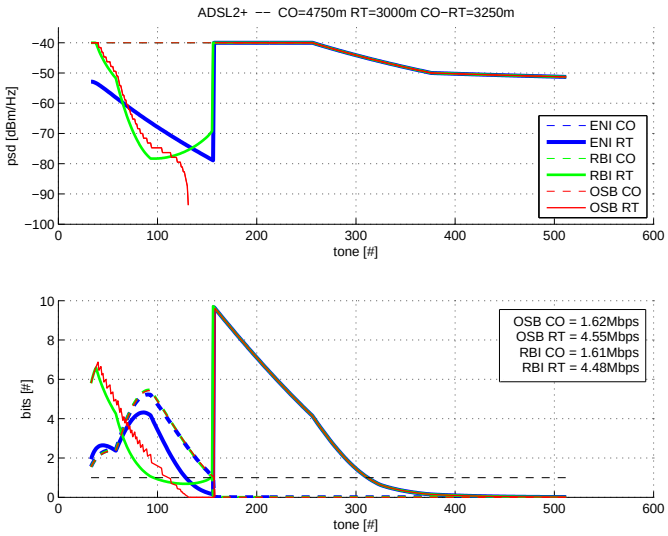

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.34Mbps
OSB RT = 6.56Mbps
RBI CO = 1.34Mbps
RBI RT = 6.50Mbps

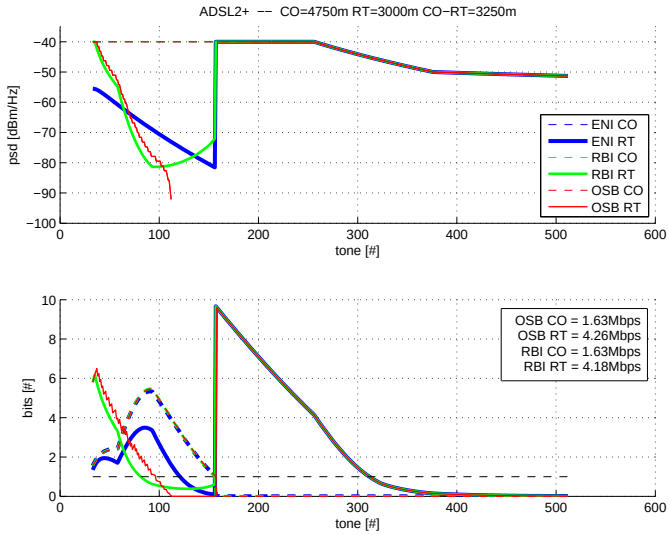

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.46Mbps
OSB RT = 6.01Mbps
RBI CO = 1.46Mbps
RBI RT = 5.97Mbps

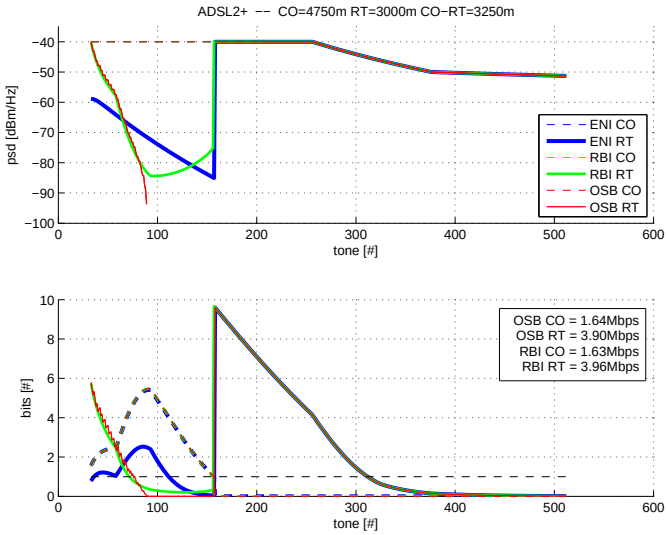

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.57Mbps
OSB RT = 5.23Mbps
RBI CO = 1.55Mbps
RBI RT = 5.29Mbps

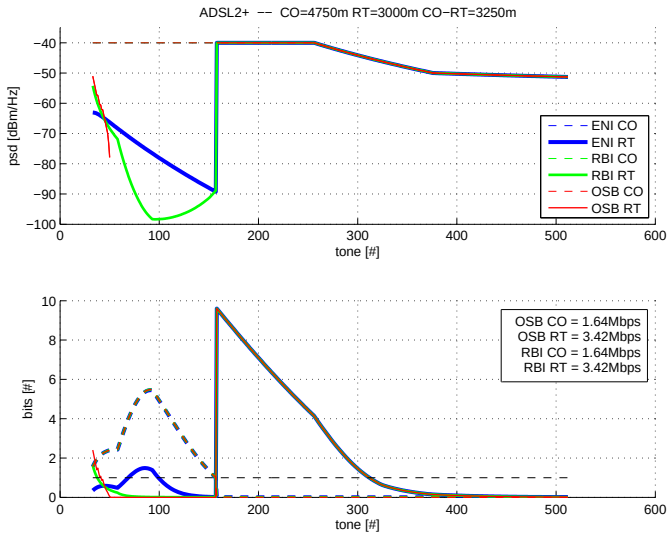

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.59Mbps
OSB RT = 5.04Mbps
RBI CO = 1.59Mbps
RBI RT = 4.87Mbps

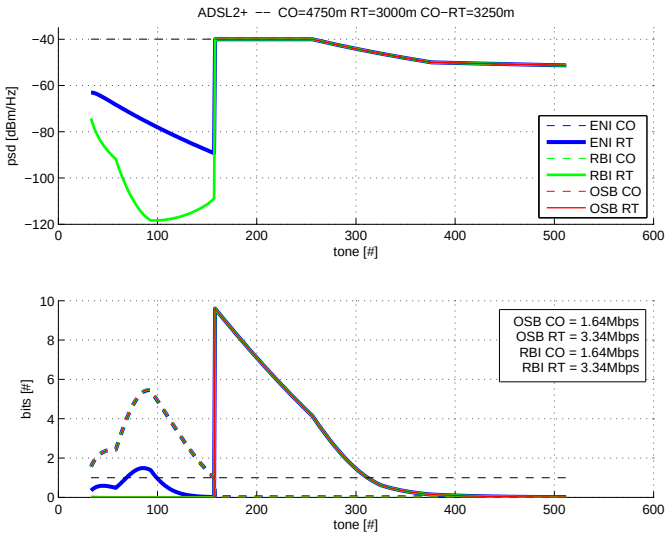

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.61Mbps
OSB RT = 4.79Mbps
RBI CO = 1.59Mbps
RBI RT = 4.87Mbps

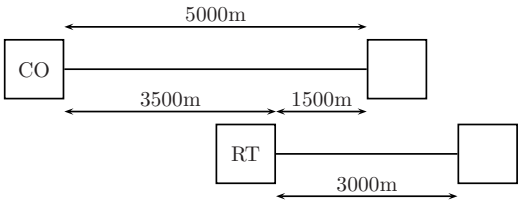

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.62Mbps
OSB RT = 4.55Mbps
RBI CO = 1.61Mbps
RBI RT = 4.48Mbps

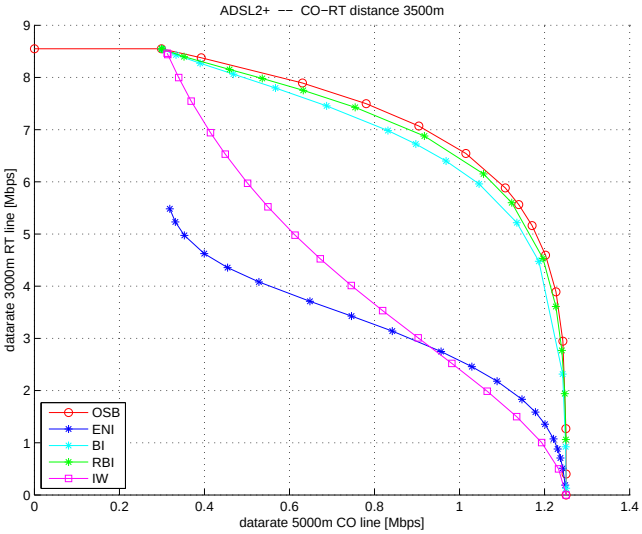

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.63Mbps
OSB RT = 4.26Mbps
RBI CO = 1.63Mbps
RBI RT = 4.18Mbps

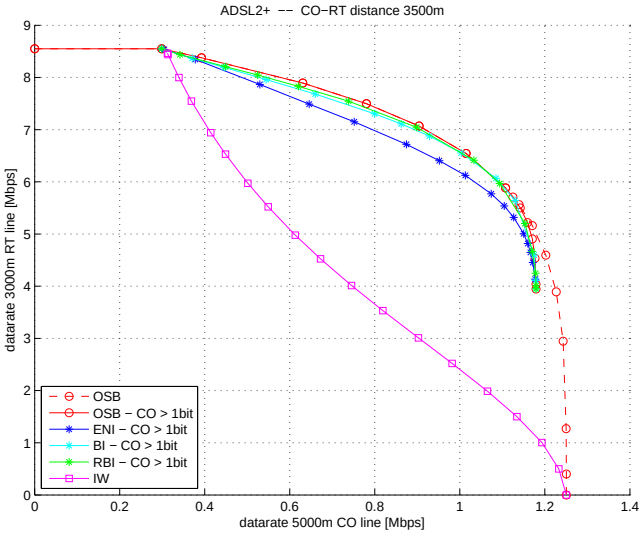

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.90Mbps
RBI CO = 1.63Mbps
RBI RT = 3.96Mbps

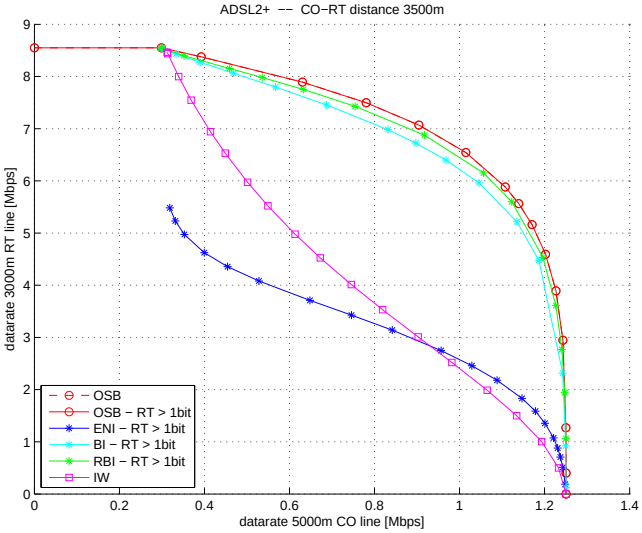

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.42Mbps
RBI CO = 1.64Mbps
RBI RT = 3.42Mbps

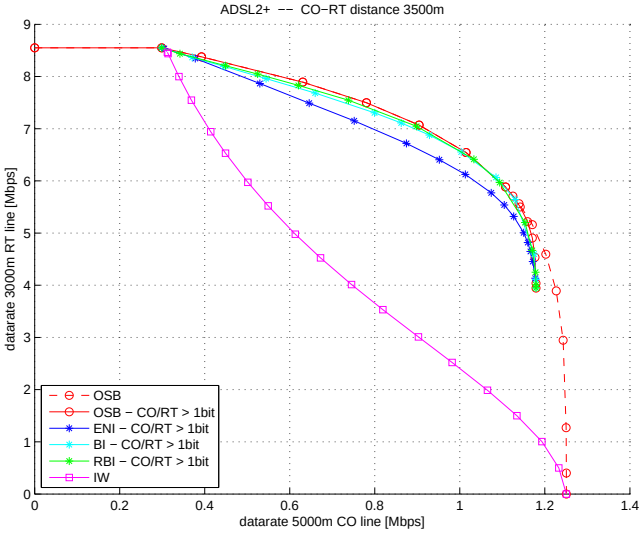

ADSL2+ -- CO=4750m RT=3000m CO-RT=3250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.34Mbps
RBI CO = 1.64Mbps
RBI RT = 3.34Mbps

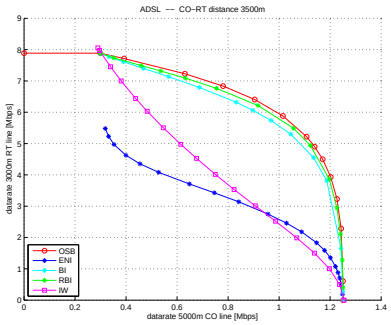

5000m
CO
3500m
1500m
RT
3000m

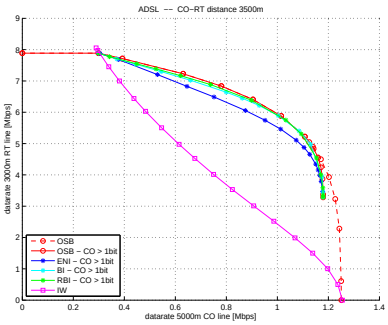

ADSL2+ -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

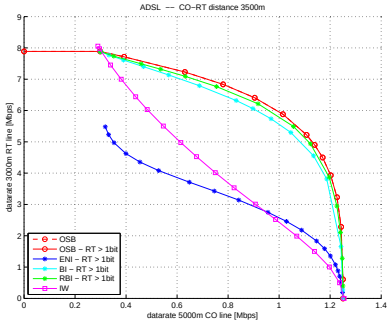

ADSL2+ -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

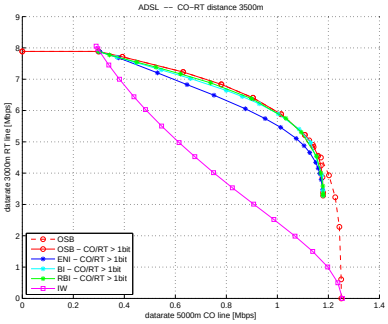

ADSL2+ -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

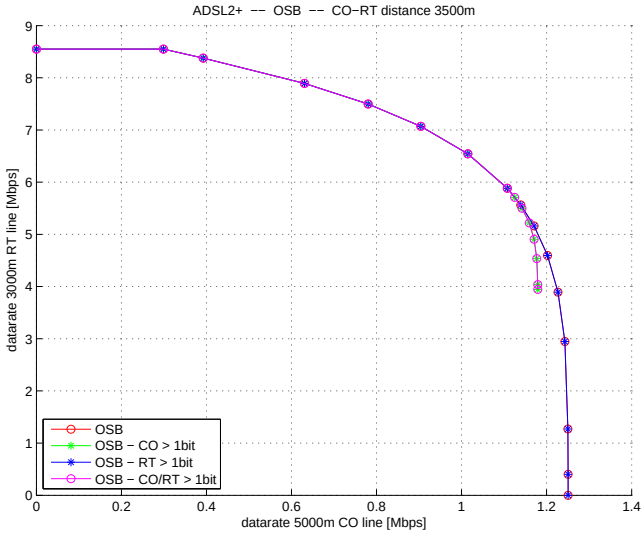

ADSL2+ -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

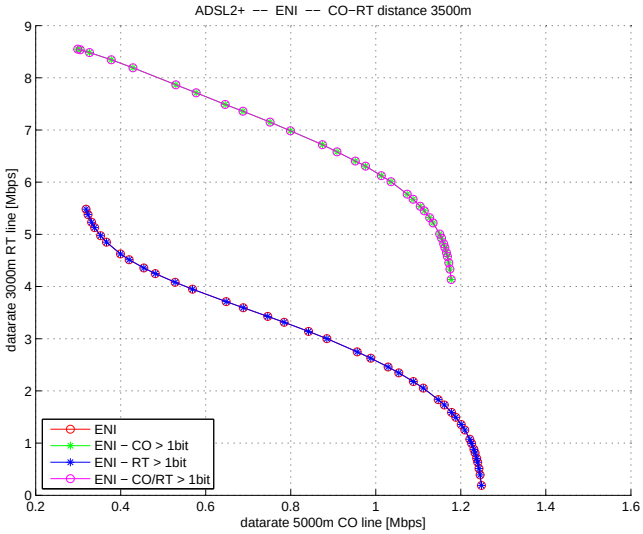

ADSL -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

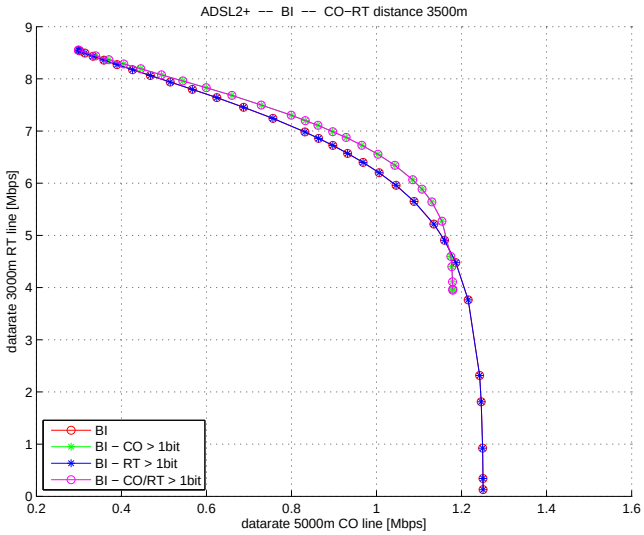

ADSL -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

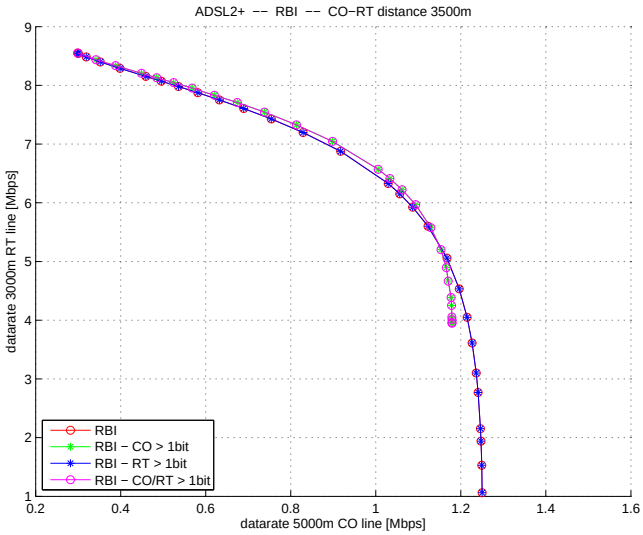

ADSL -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

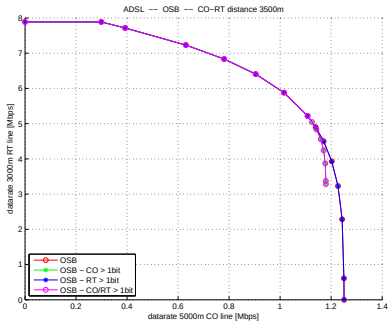

ADSL -- CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

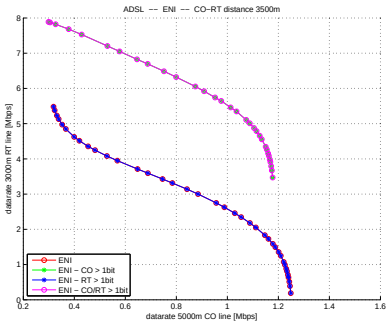

ADSL2+ -- OSB -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

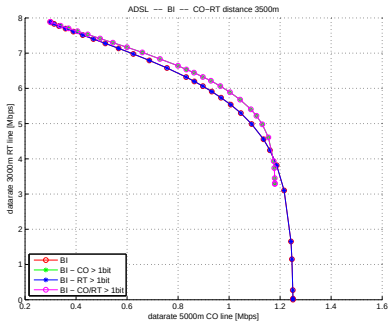

ADSL2+ -- ENI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

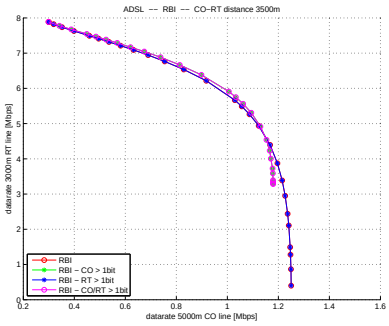

ADSL2+ -- BI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

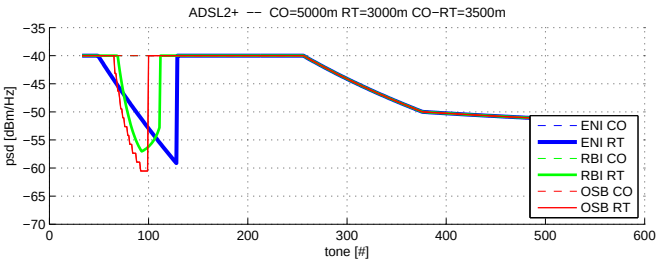

ADSL2+ -- RBI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

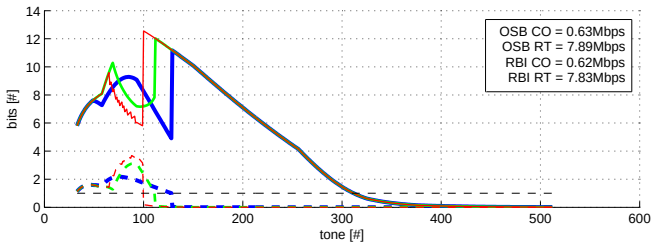

ADSL -- OSB -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

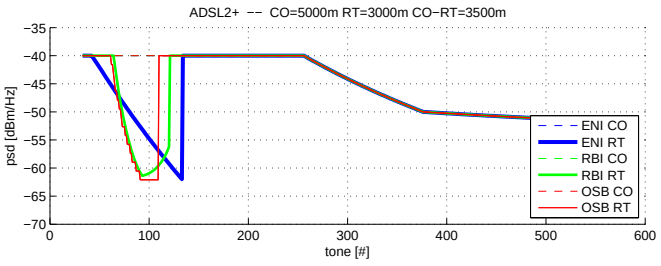

ADSL -- ENI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

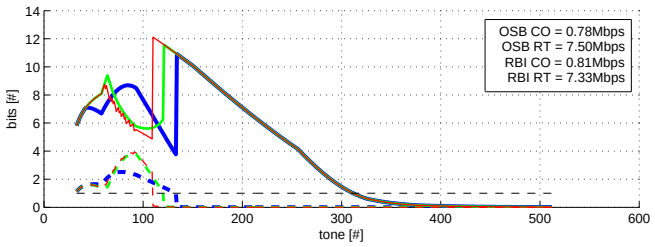

ADSL -- BI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

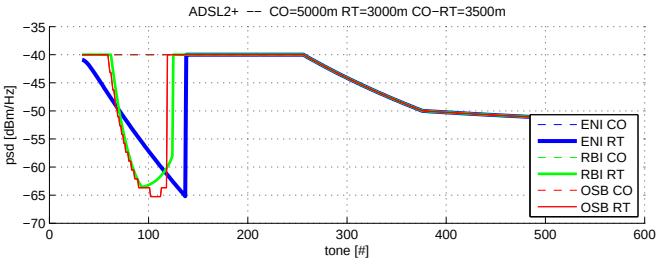

ADSL -- RBI -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

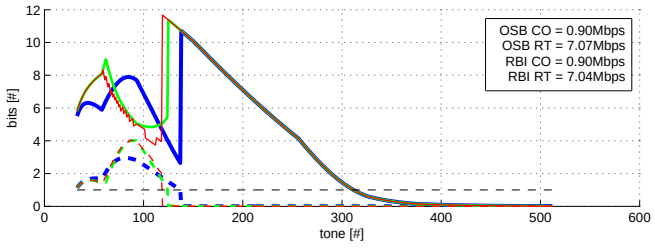

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

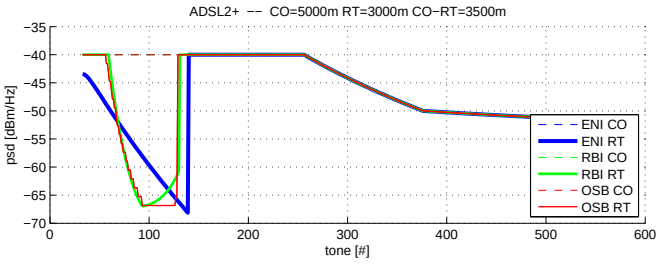

bits [#]
tone [#]
OSB CO = 0.63Mbps
OSB RT = 7.89Mbps
RBI CO = 0.62Mbps
RBI RT = 7.83Mbps

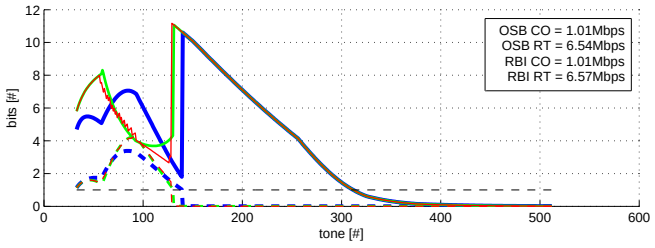

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

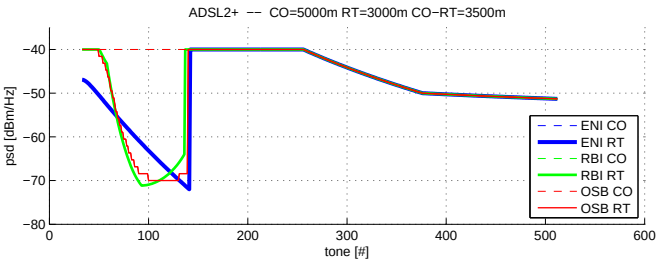

bits [#]
tone [#]
OSB CO = 0.78Mbps
OSB RT = 7.50Mbps
RBI CO = 0.81Mbps
RBI RT = 7.33Mbps

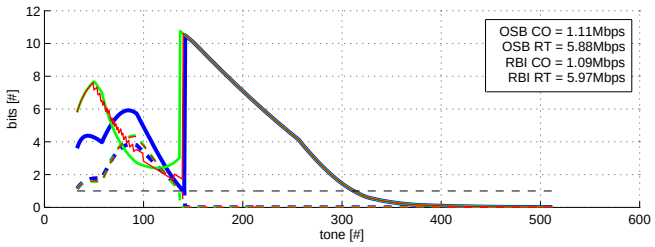

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

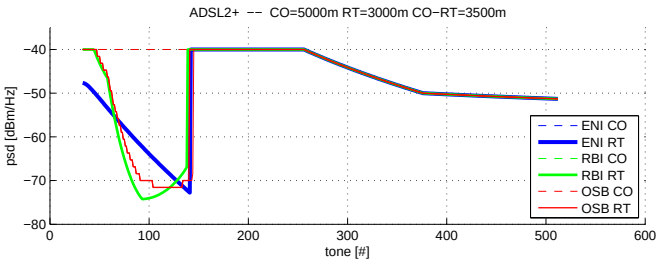

bits [#]
tone [#]
OSB CO = 0.90Mbps
OSB RT = 7.07Mbps
RBI CO = 0.90Mbps
RBI RT = 7.04Mbps

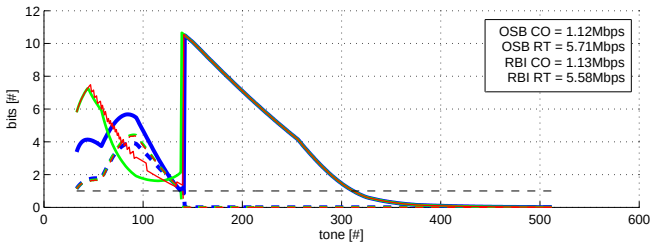

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

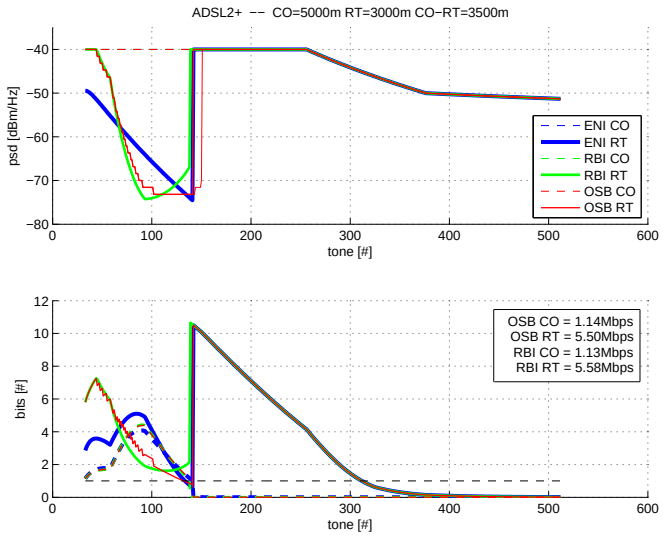

bits [#]
tone [#]
OSB CO = 1.01Mbps
OSB RT = 6.54Mbps
RBI CO = 1.01Mbps
RBI RT = 6.57Mbps

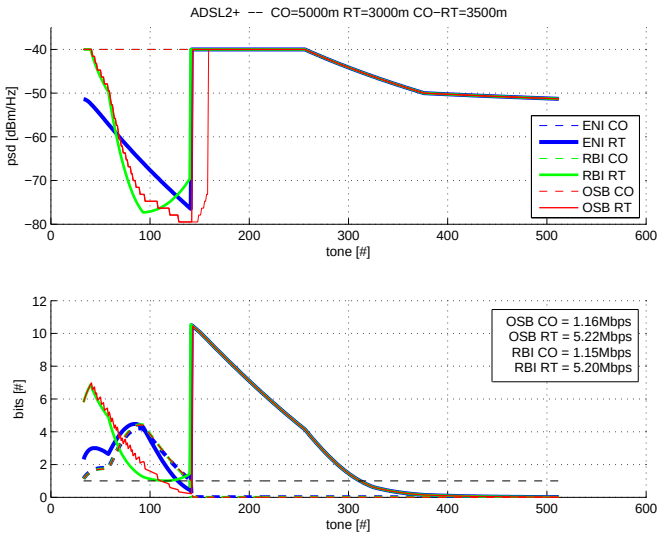

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

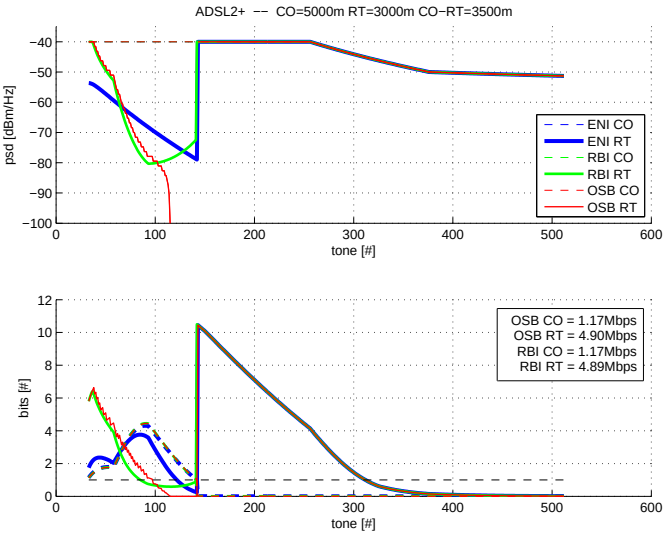

bits [#]
tone [#]
OSB CO = 1.11Mbps
OSB RT = 5.88Mbps
RBI CO = 1.09Mbps
RBI RT = 5.97Mbps

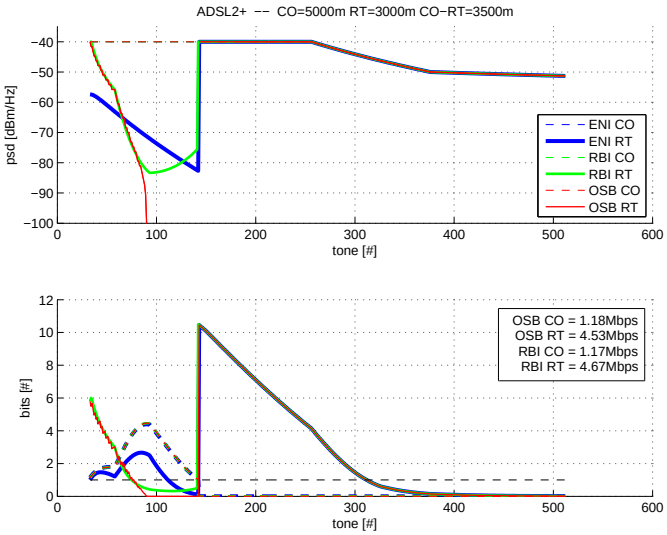

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

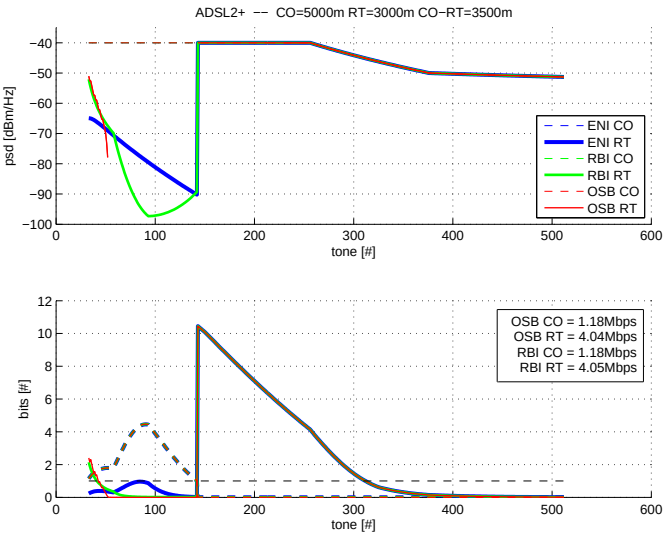

bits [#]
tone [#]
OSB CO = 1.12Mbps
OSB RT = 5.71Mbps
RBI CO = 1.13Mbps
RBI RT = 5.58Mbps

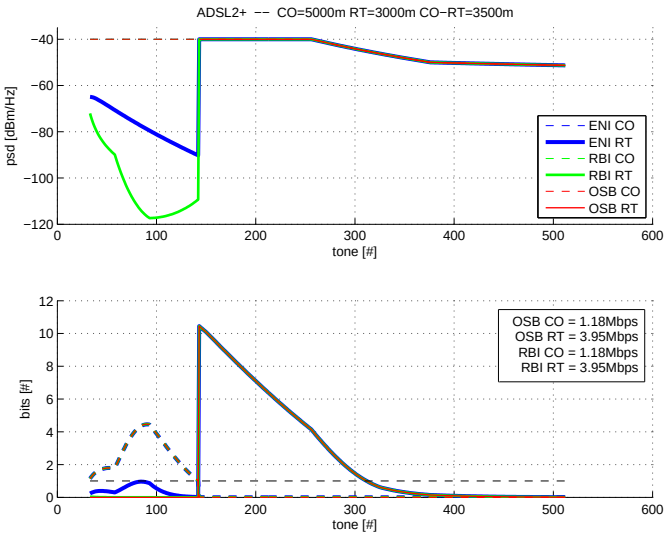

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.14Mbps
OSB RT = 5.50Mbps
RBI CO = 1.13Mbps
RBI RT = 5.58Mbps

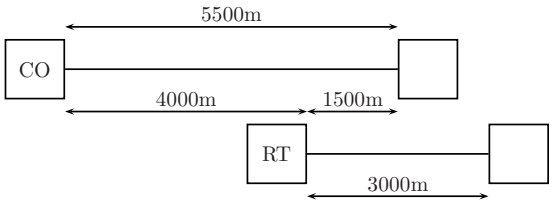

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.16Mbps
OSB RT = 5.22Mbps
RBI CO = 1.15Mbps
RBI RT = 5.20Mbps

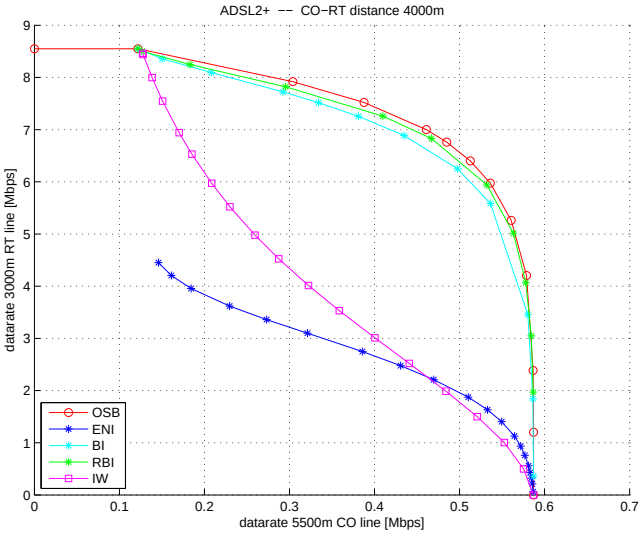

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.17Mbps
OSB RT = 4.90Mbps
RBI CO = 1.17Mbps
RBI RT = 4.89Mbps

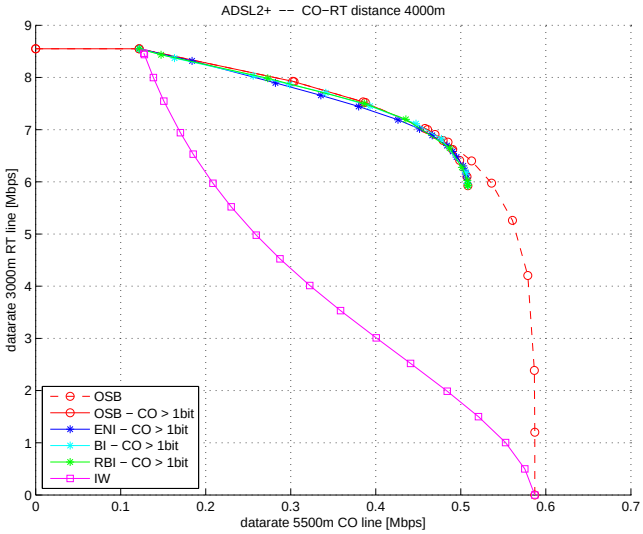

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.18Mbps
OSB RT = 4.53Mbps
RBI CO = 1.17Mbps
RBI RT = 4.67Mbps

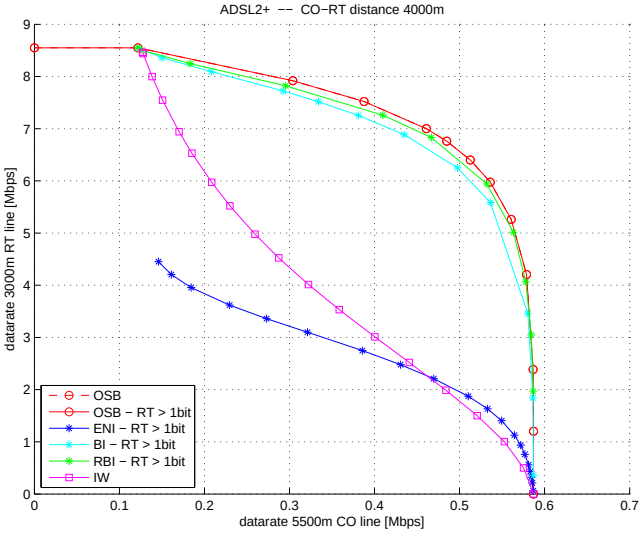

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.18Mbps
OSB RT = 4.04Mbps
RBI CO = 1.18Mbps
RBI RT = 4.05Mbps

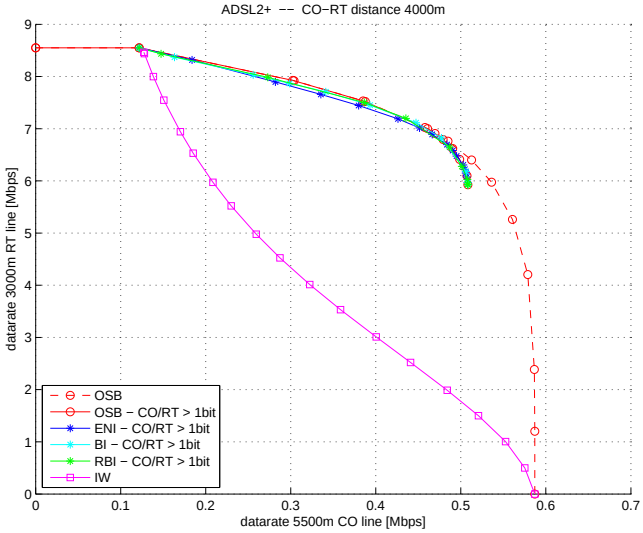

ADSL2+ -- CO=5000m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.18Mbps
OSB RT = 3.95Mbps
RBI CO = 1.18Mbps
RBI RT = 3.95Mbps

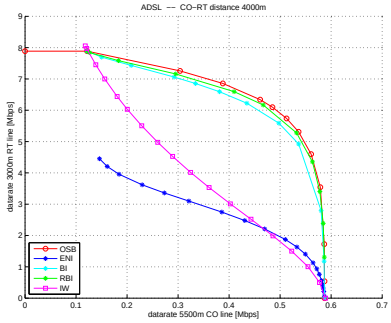

5500m
CO
4000m
1500m
RT
3000m

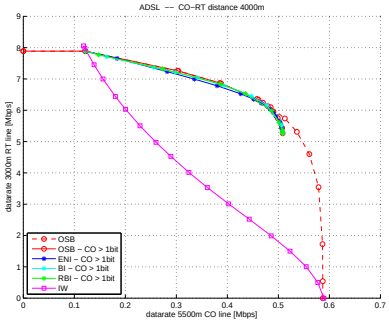

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

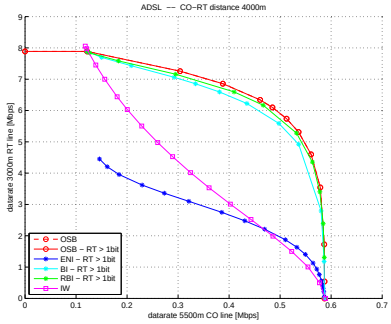

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

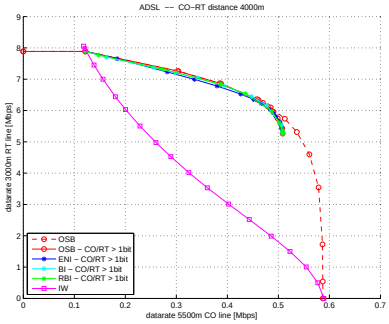

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

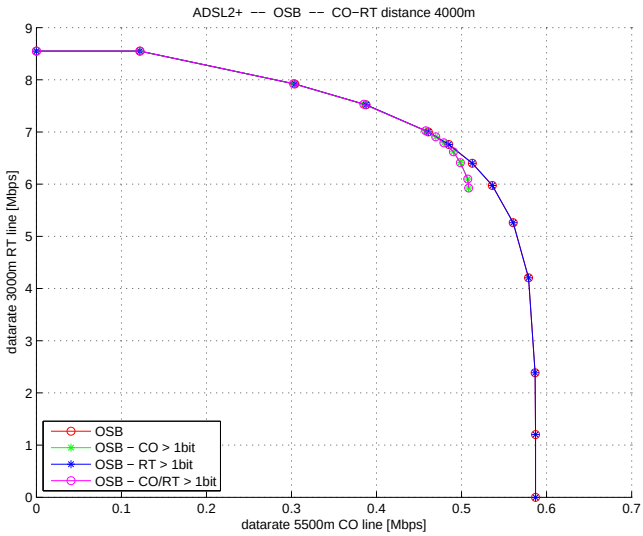

ADSL2+ -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

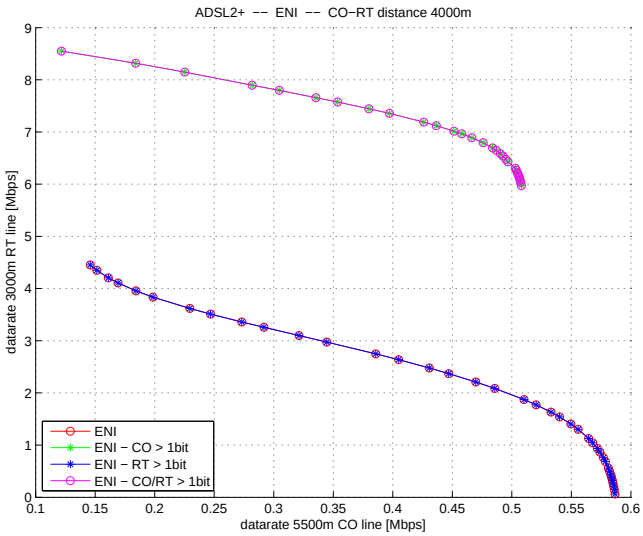

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

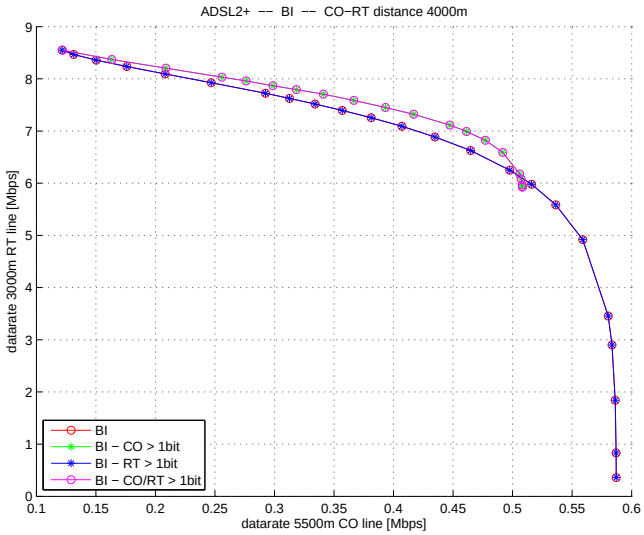

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

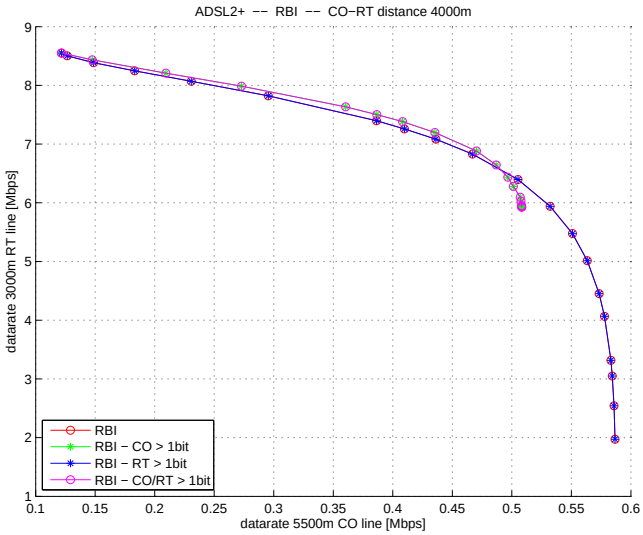

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

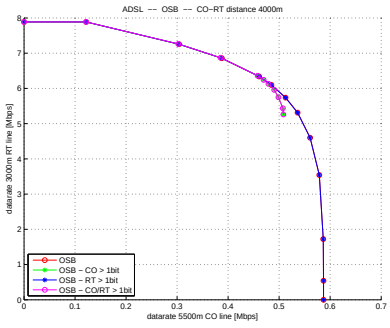

ADSL -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

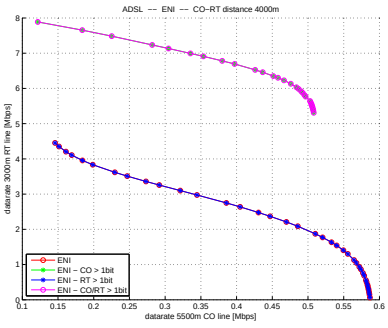

ADSL2+ -- OSB -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

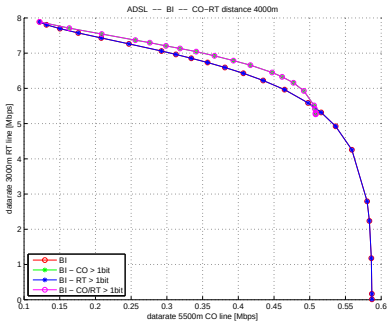

ADSL2+ -- ENI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

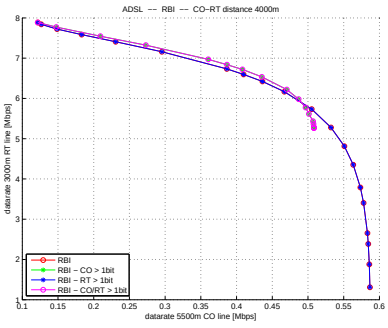

ADSL2+ -- BI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

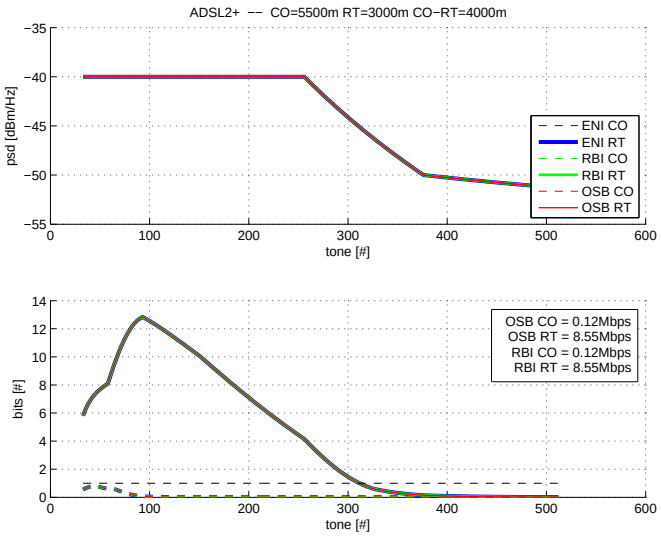

ADSL2+ -- RBI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

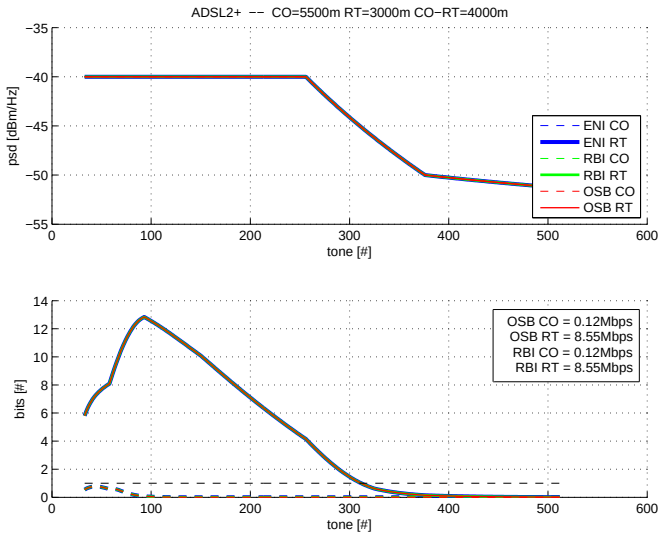

ADSL -- OSB -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

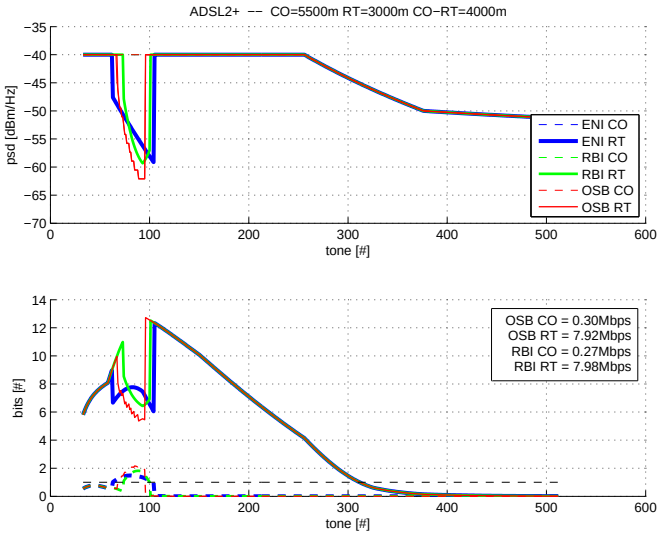

ADSL -- ENI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

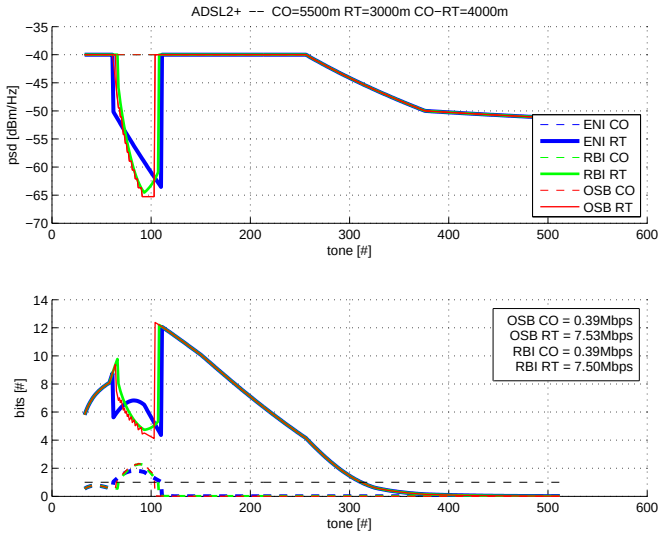

ADSL -- BI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

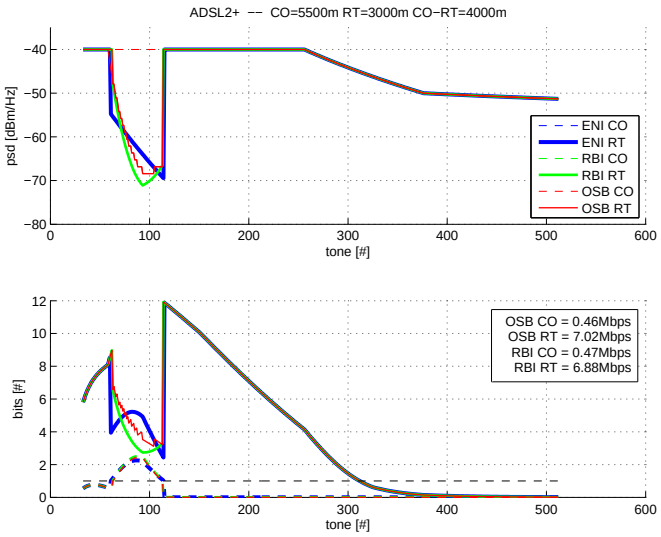

ADSL -- RBI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

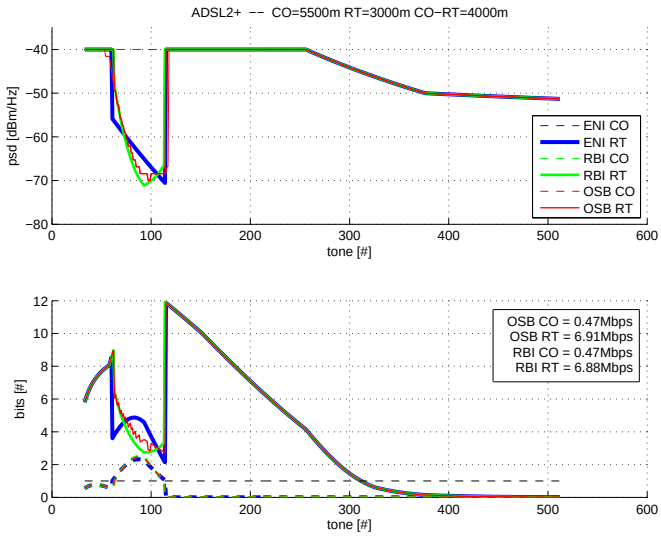

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.12Mbps
OSB RT = 8.55Mbps
RBI CO = 0.12Mbps
RBI RT = 8.55Mbps

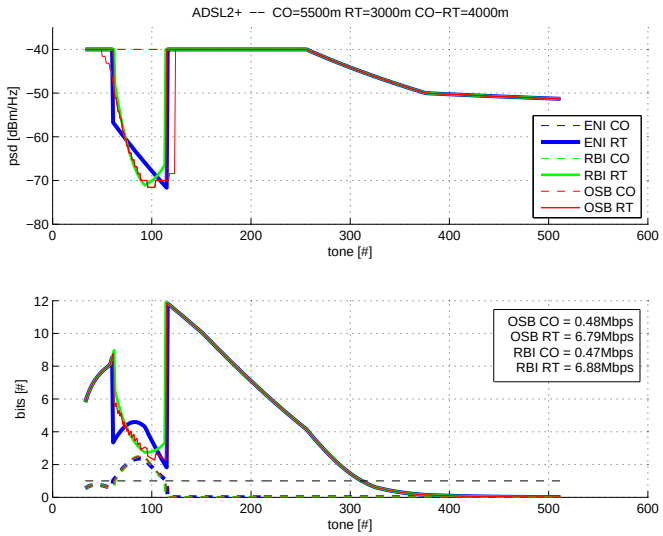

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.12Mbps
OSB RT = 8.55Mbps
RBI CO = 0.12Mbps
RBI RT = 8.55Mbps

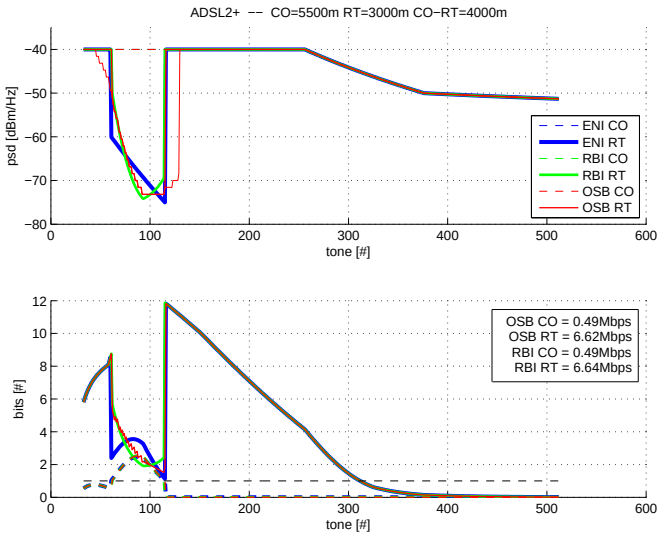

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.30Mbps
OSB RT = 7.92Mbps
RBI CO = 0.27Mbps
RBI RT = 7.98Mbps

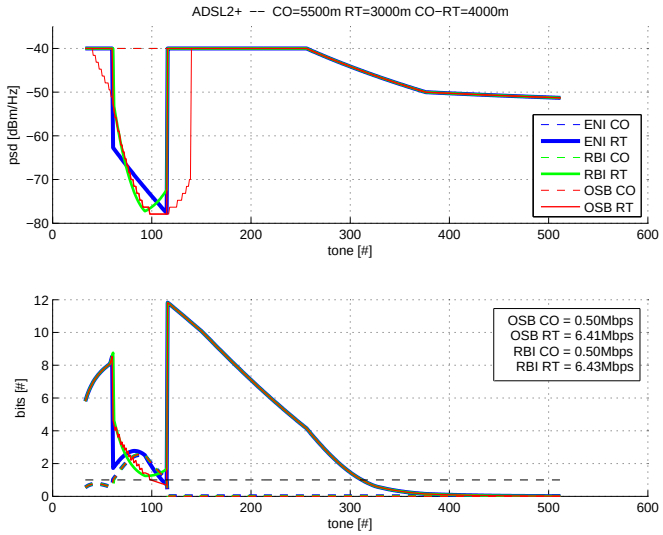

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.39Mbps
OSB RT = 7.53Mbps
RBI CO = 0.39Mbps
RBI RT = 7.50Mbps

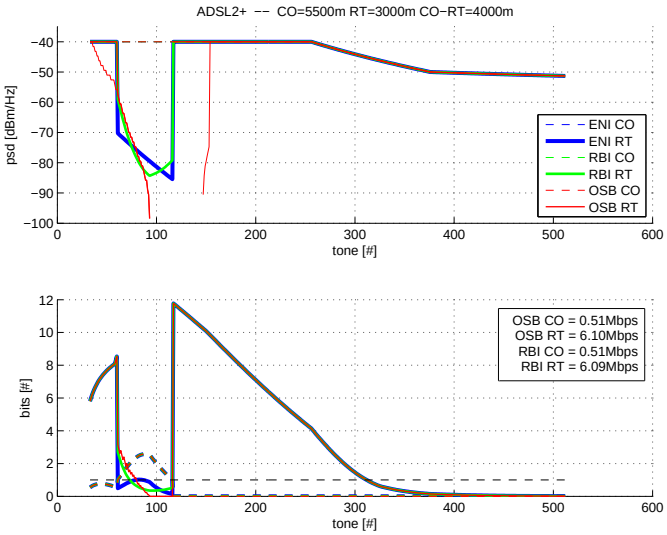

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.46Mbps
OSB RT = 7.02Mbps
RBI CO = 0.47Mbps
RBI RT = 6.88Mbps

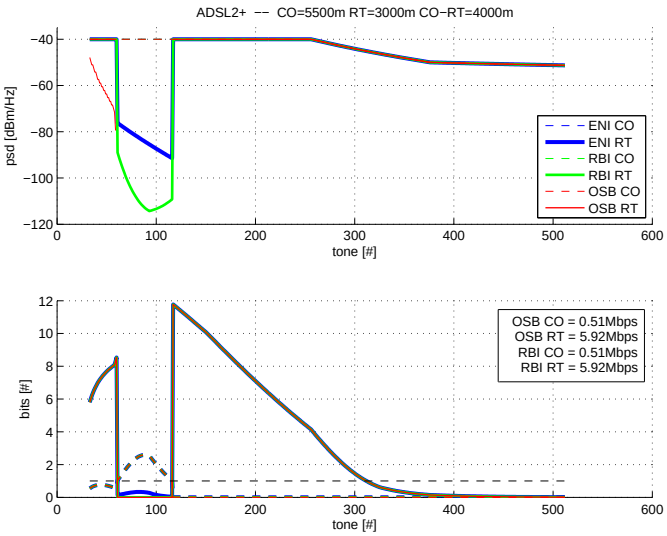

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.47Mbps
OSB RT = 6.91Mbps
RBI CO = 0.47Mbps
RBI RT = 6.88Mbps

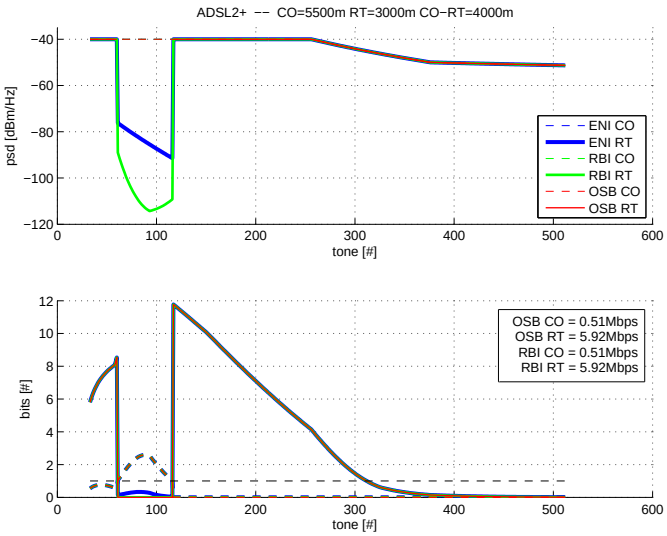

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.48Mbps
OSB RT = 6.79Mbps
RBI CO = 0.47Mbps
RBI RT = 6.88Mbps

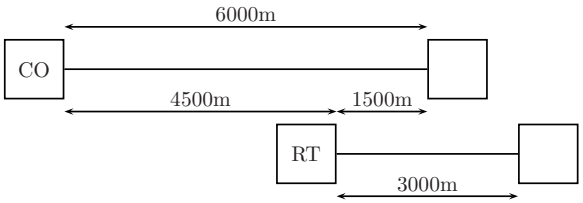

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.49Mbps
OSB RT = 6.62Mbps
RBI CO = 0.49Mbps
RBI RT = 6.64Mbps

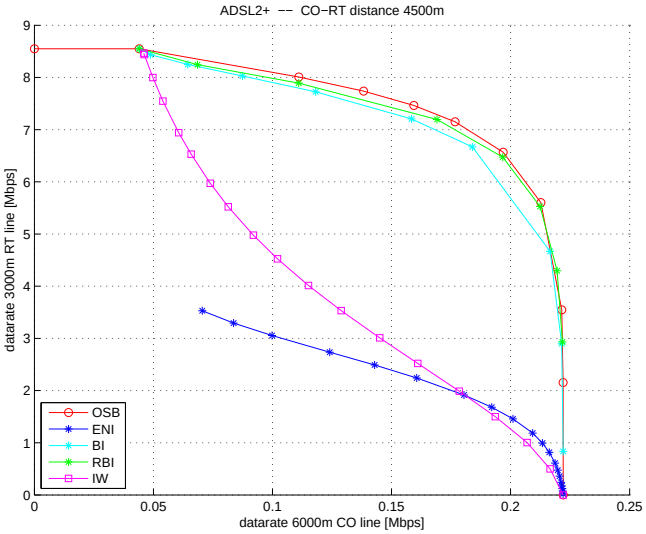

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.50Mbps
OSB RT = 6.41Mbps
RBI CO = 0.50Mbps
RBI RT = 6.43Mbps

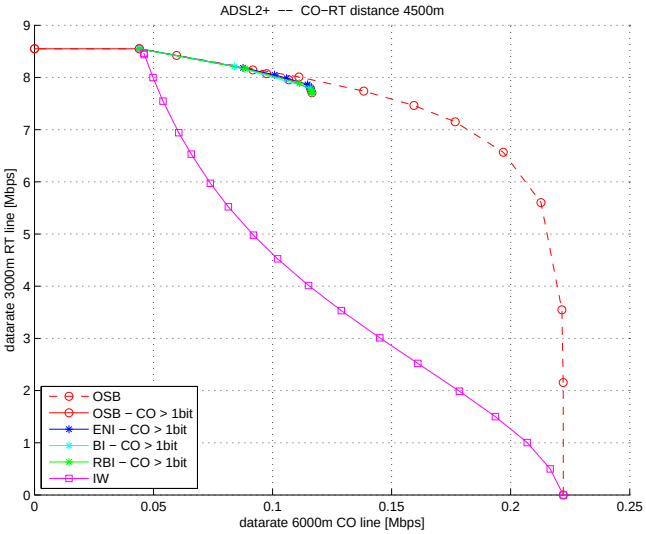

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.51Mbps
OSB RT = 6.10Mbps
RBI CO = 0.51Mbps
RBI RT = 6.09Mbps

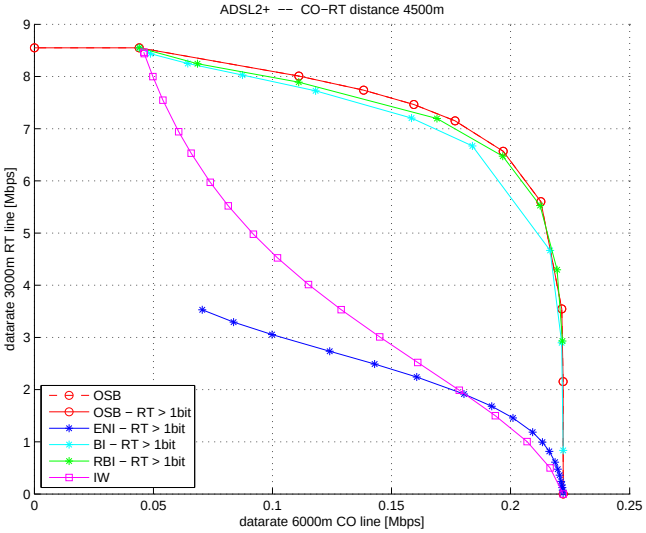

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.51Mbps
OSB RT = 5.92Mbps
RBI CO = 0.51Mbps
RBI RT = 5.92Mbps

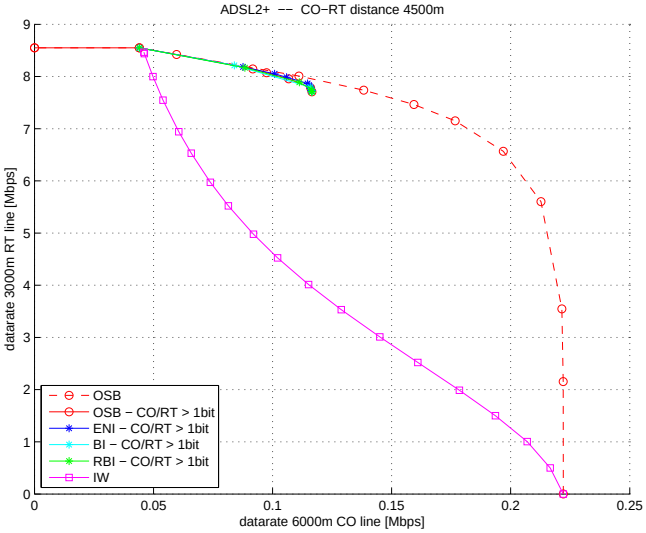

ADSL2+ -- CO=5500m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.51Mbps
OSB RT = 5.92Mbps
RBI CO = 0.51Mbps
RBI RT = 5.92Mbps

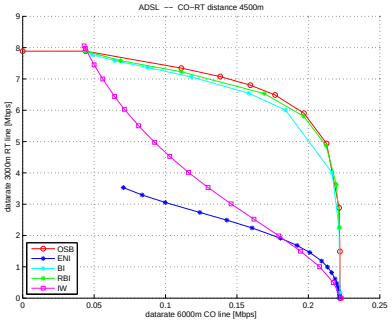

6000m
CO
4500m
1500m
RT
3000m

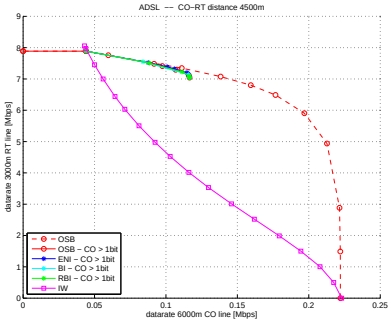

ADSL2+ -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

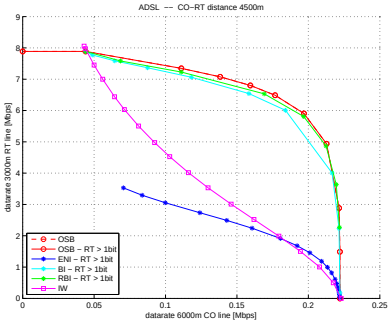

ADSL2+ -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

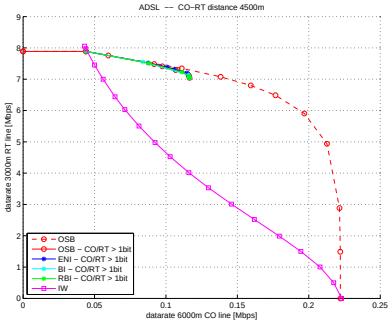

ADSL2+ -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

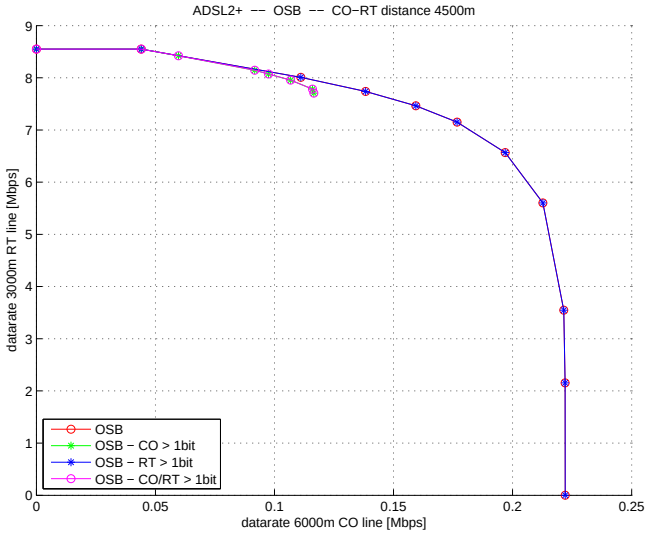

ADSL2+ -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

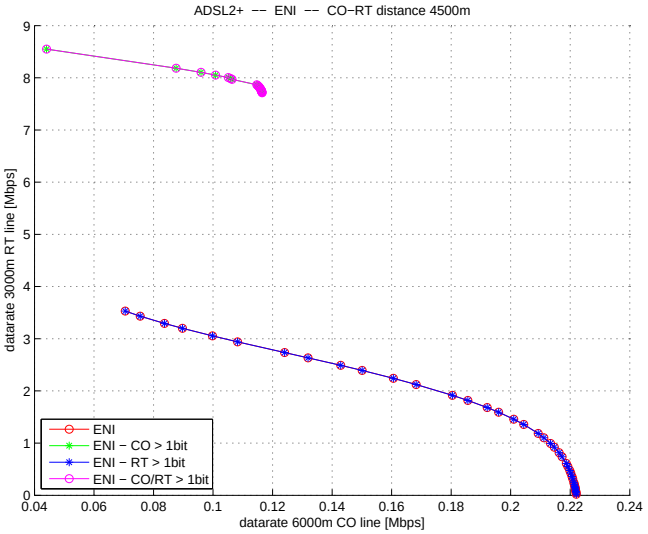

ADSL -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

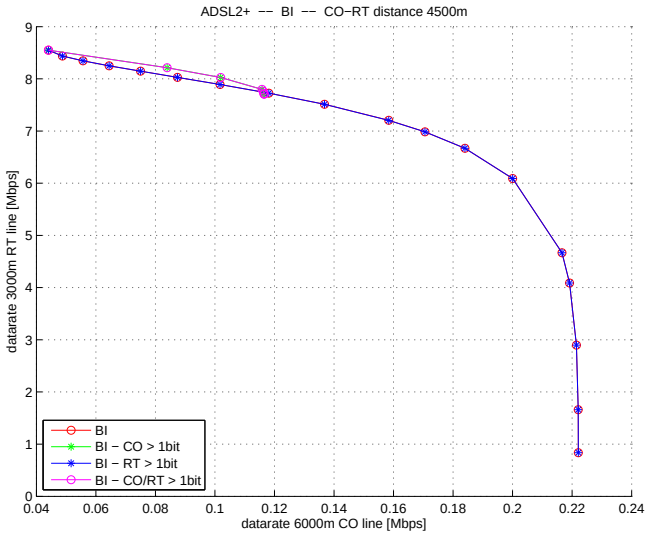

ADSL -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

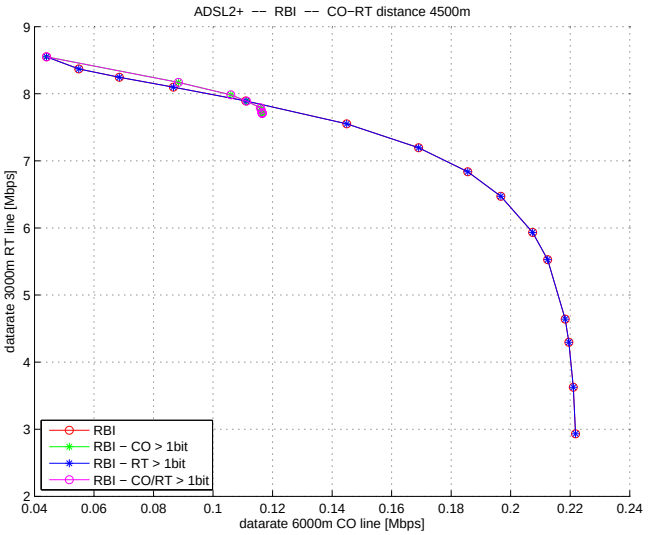

ADSL -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

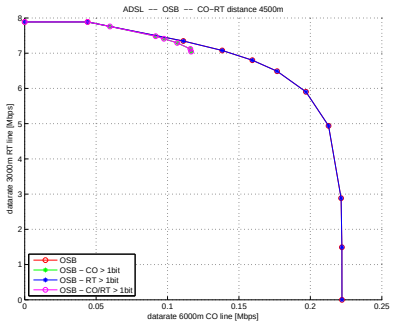

ADSL -- CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

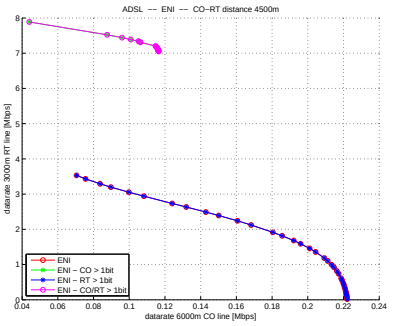

ADSL2+ −− OSB −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

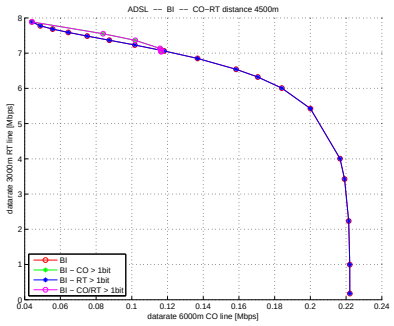

ADSL2+ −− ENI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

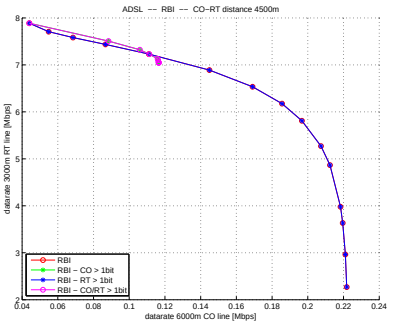

ADSL2+ −− BI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

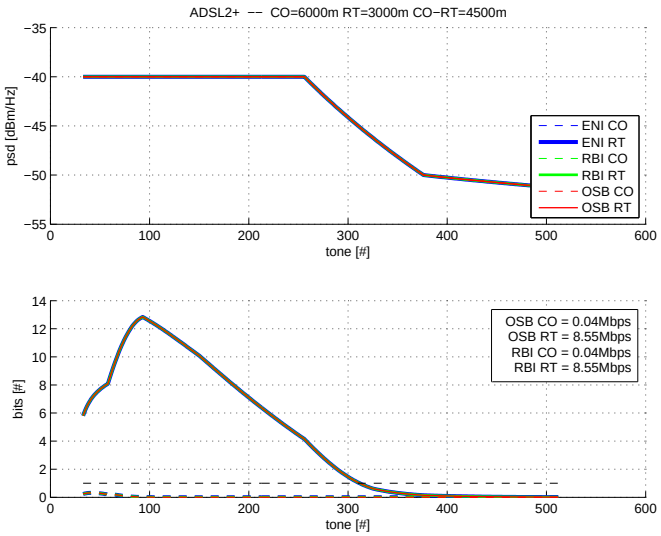

ADSL2+ −− RBI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

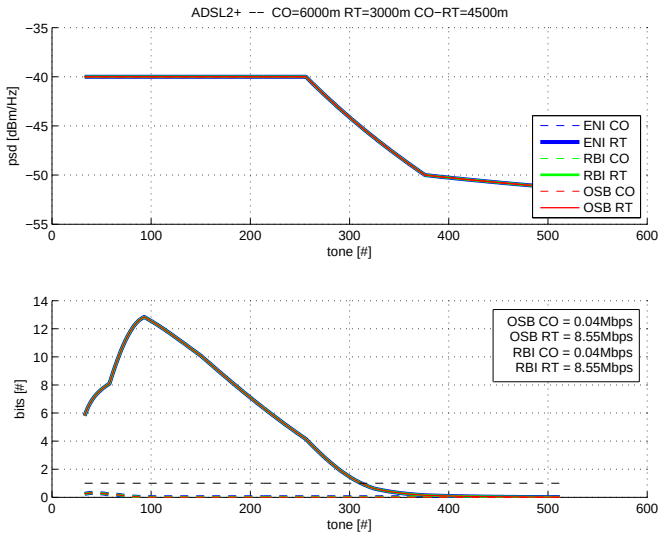

ADSL −− OSB −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

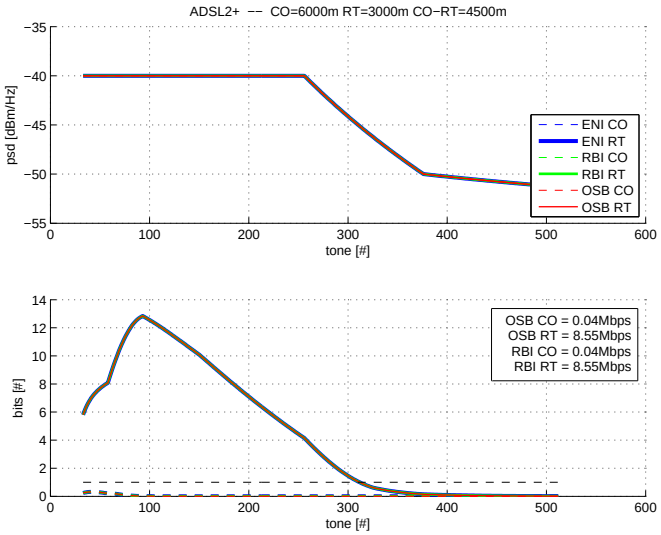

ADSL −− ENI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

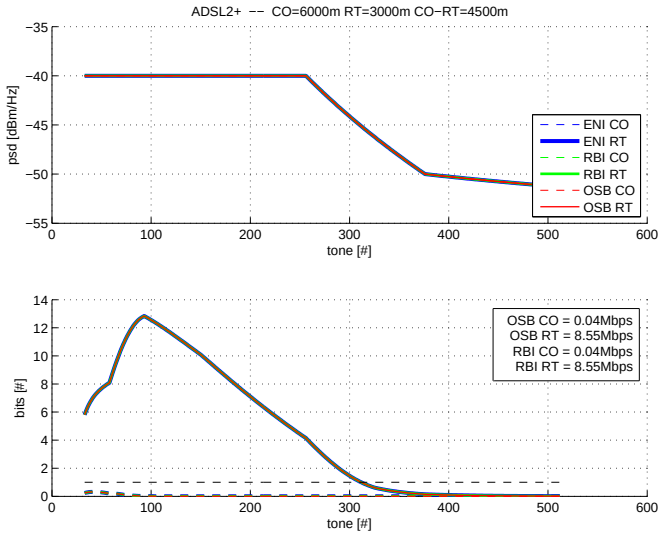

ADSL −− BI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

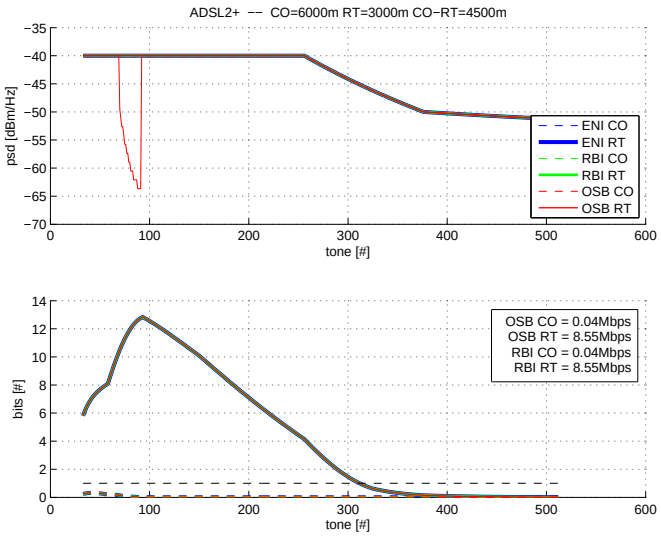

ADSL −− RBI −− CO−RT distance 4500m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

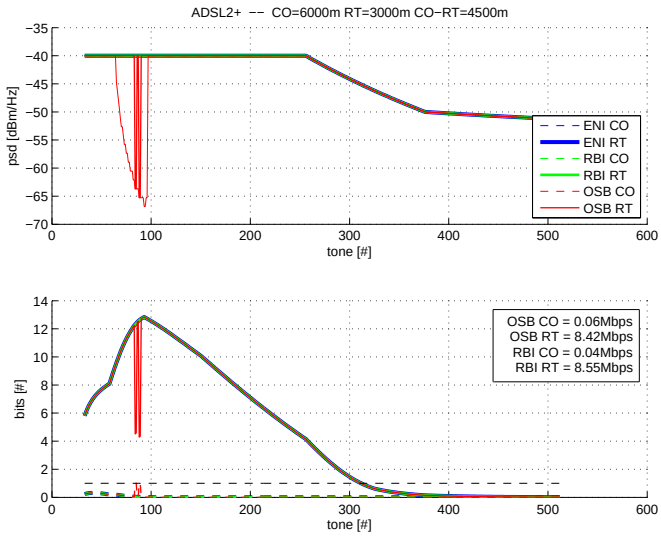

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.04Mbps
OSB RT = 8.55Mbps
RBI CO = 0.04Mbps
RBI RT = 8.55Mbps


ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.04Mbps
OSB RT = 8.55Mbps
RBI CO = 0.04Mbps
RBI RT = 8.55Mbps


ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.04Mbps
OSB RT = 8.55Mbps
RBI CO = 0.04Mbps
RBI RT = 8.55Mbps

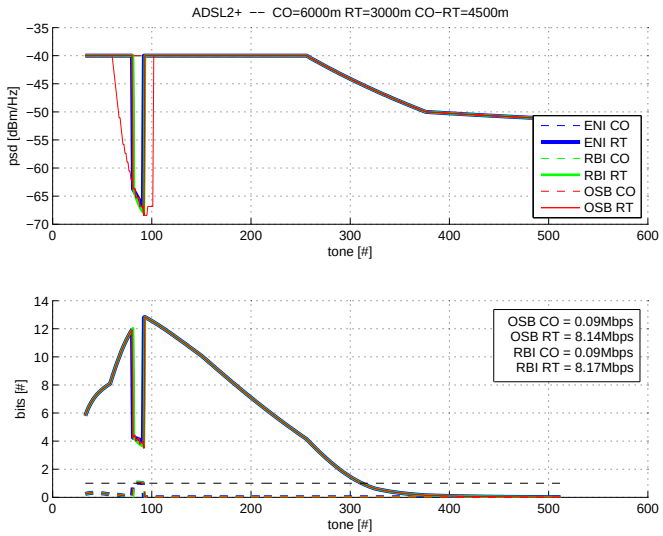

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.04Mbps
OSB RT = 8.55Mbps
RBI CO = 0.04Mbps
RBI RT = 8.55Mbps

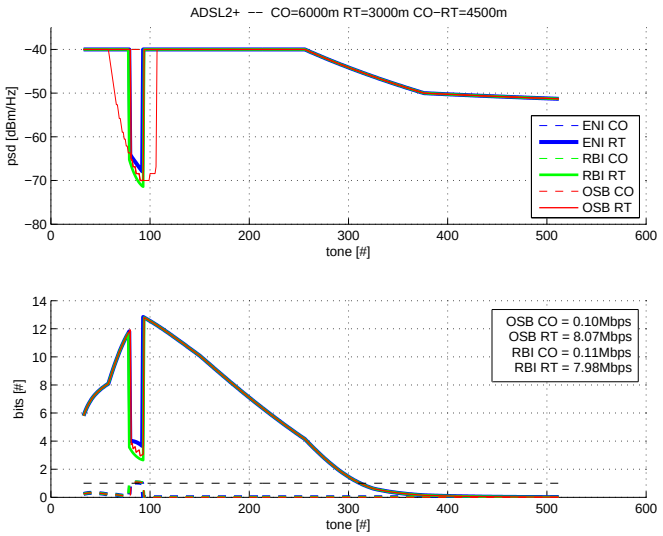

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.04Mbps
OSB RT = 8.55Mbps
RBI CO = 0.04Mbps
RBI RT = 8.55Mbps

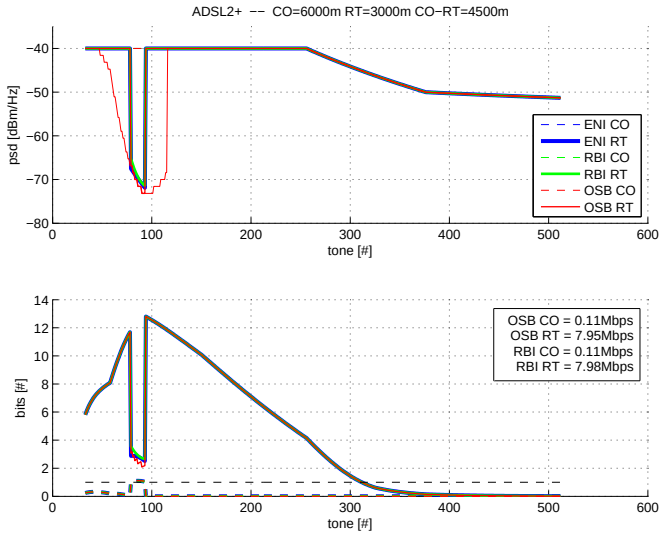

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.04Mbps
OSB RT = 8.55Mbps
RBI CO = 0.04Mbps
RBI RT = 8.55Mbps

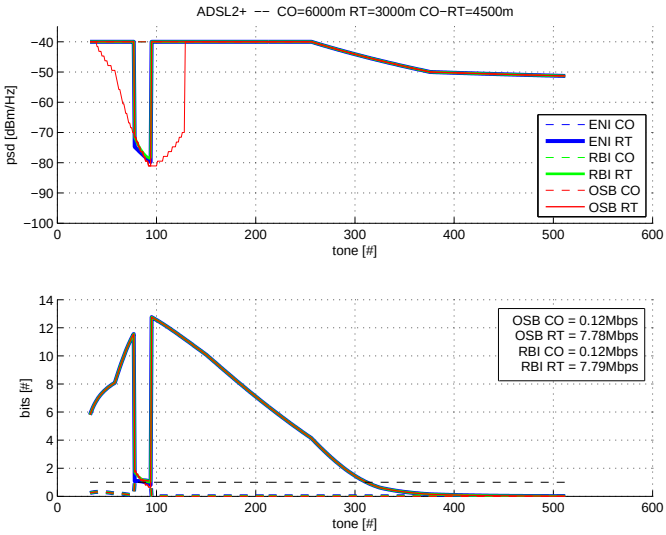
ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.04Mbps
OSB RT = 8.55Mbps
RBI CO = 0.04Mbps
RBI RT = 8.55Mbps

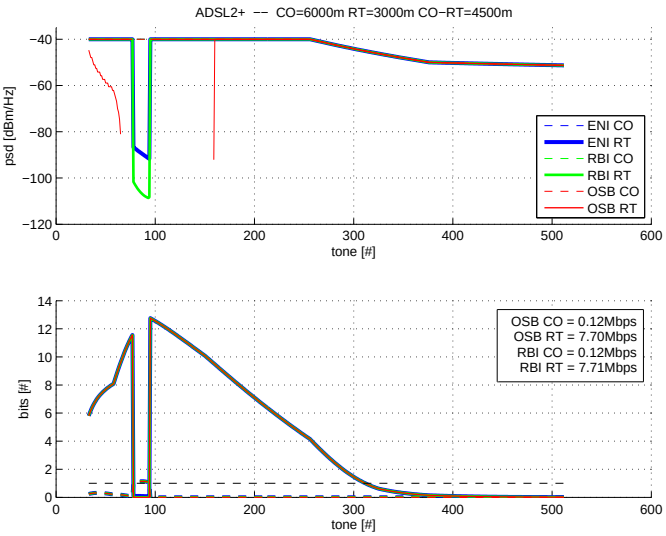
ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.06Mbps
OSB RT = 8.42Mbps
RBI CO = 0.04Mbps
RBI RT = 8.55Mbps

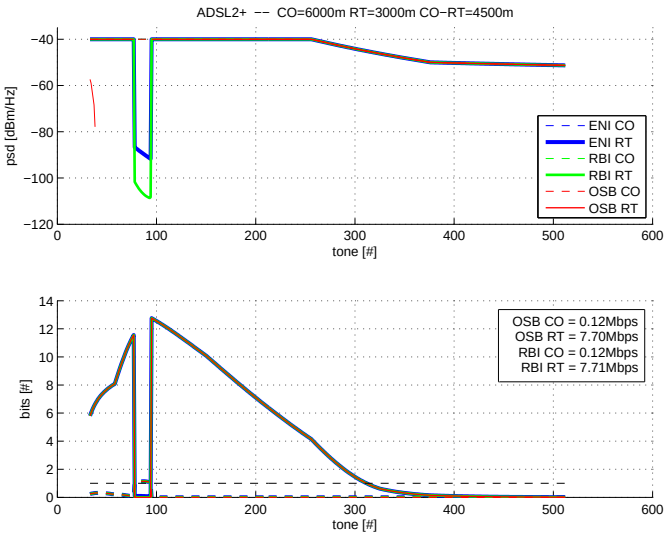

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.09Mbps
OSB RT = 8.14Mbps
RBI CO = 0.09Mbps
RBI RT = 8.17Mbps

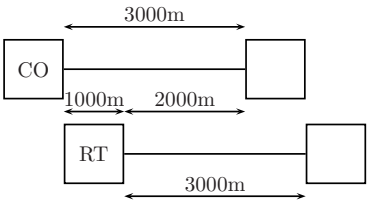

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.10Mbps
OSB RT = 8.07Mbps
RBI CO = 0.11Mbps
RBI RT = 7.98Mbps

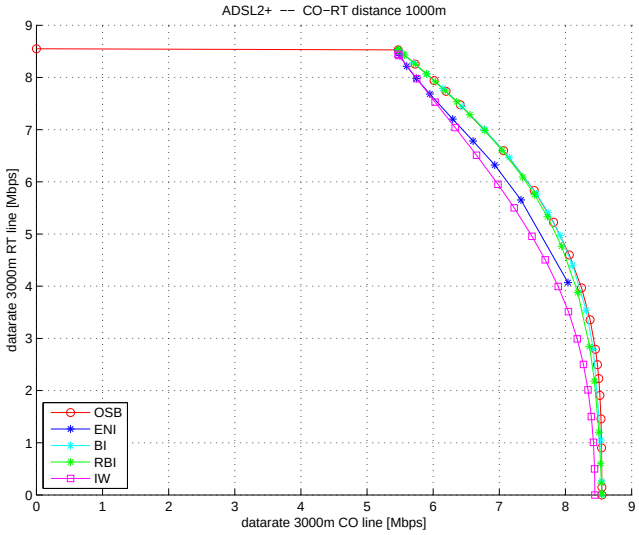

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.11Mbps
OSB RT = 7.95Mbps
RBI CO = 0.11Mbps
RBI RT = 7.98Mbps

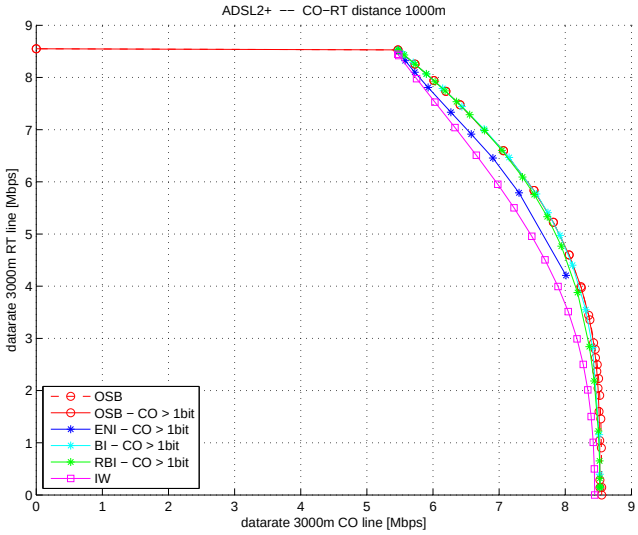

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.12Mbps
OSB RT = 7.78Mbps
RBI CO = 0.12Mbps
RBI RT = 7.79Mbps

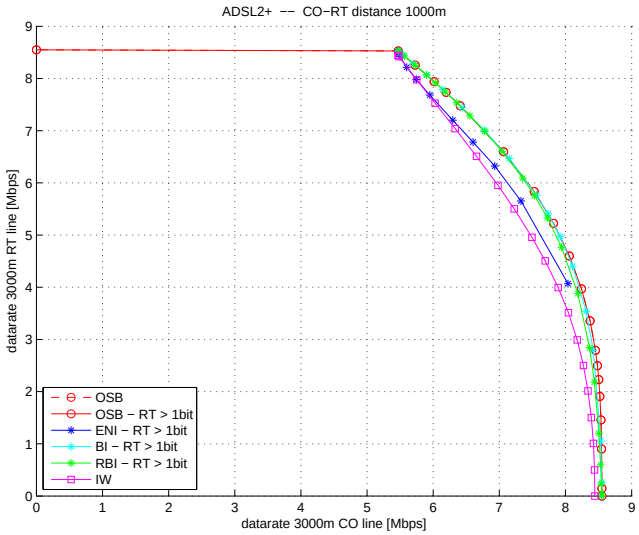

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.12Mbps
OSB RT = 7.70Mbps
RBI CO = 0.12Mbps
RBI RT = 7.71Mbps

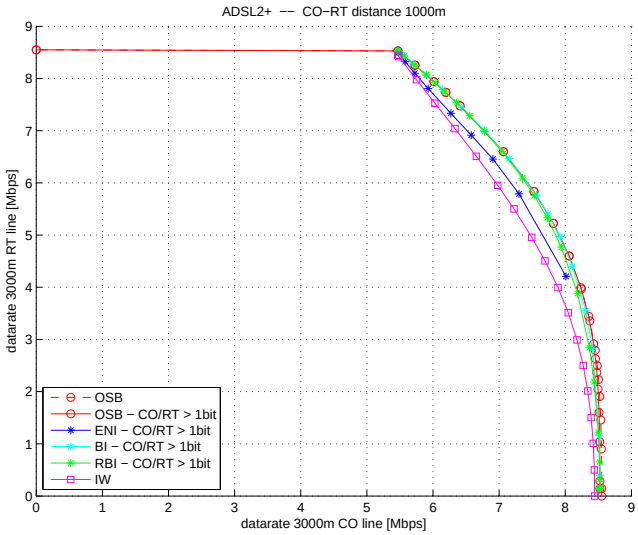

ADSL2+ -- CO=6000m RT=3000m CO-RT=4500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.12Mbps
OSB RT = 7.70Mbps
RBI CO = 0.12Mbps
RBI RT = 7.71Mbps

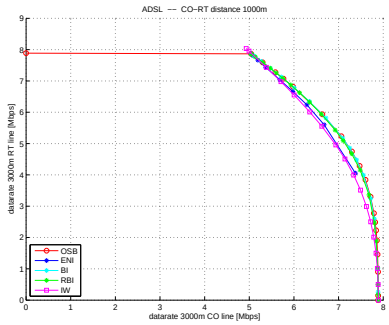

3000m
CO
1000m
2000m
RT
3000m

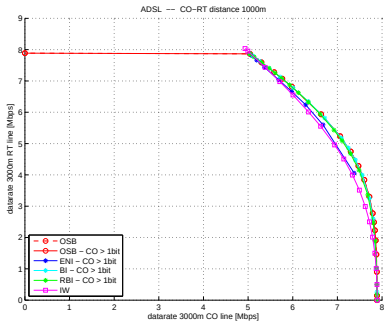

ADSL2+ -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

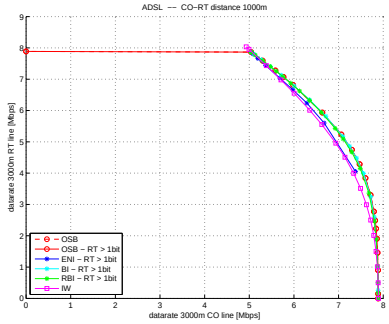

ADSL2+ -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

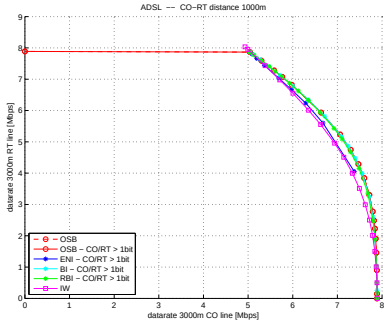

ADSL2+ -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

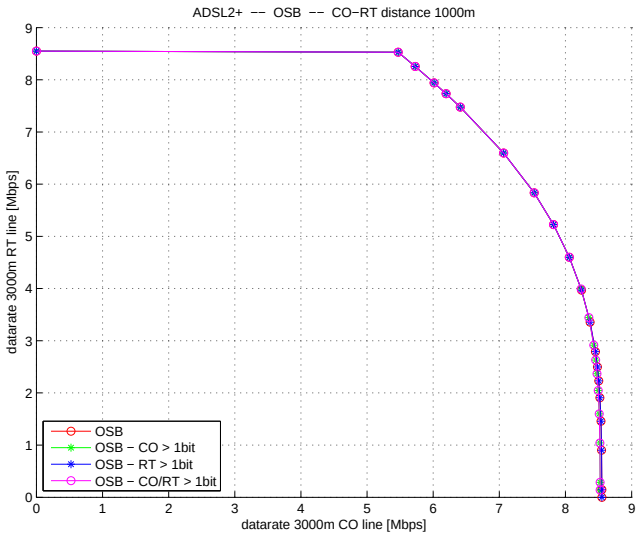

ADSL2+ -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

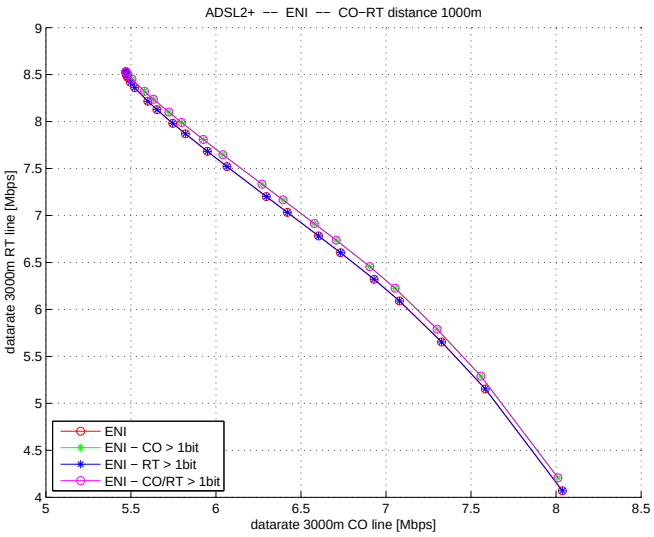

ADSL -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

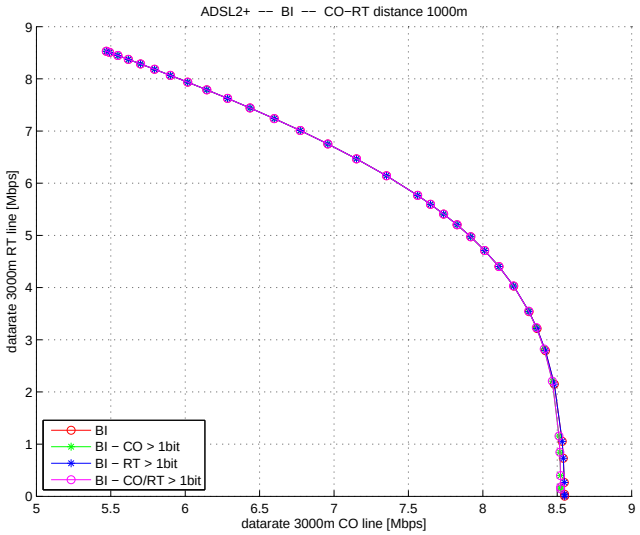

ADSL -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

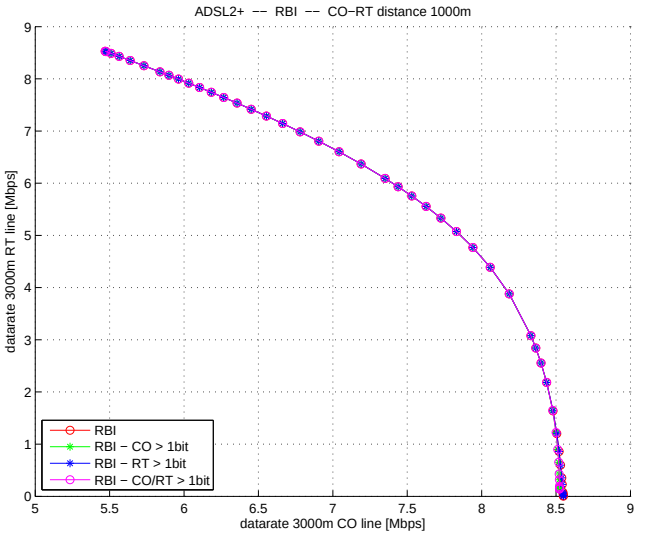

ADSL -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

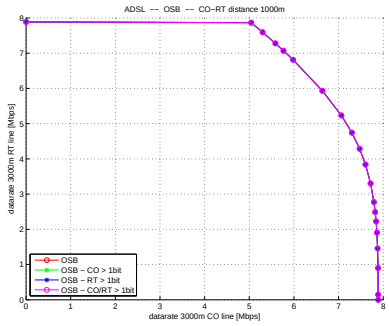

ADSL -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

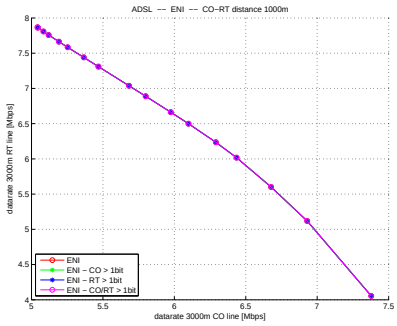

ADSL2+ −− OSB −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

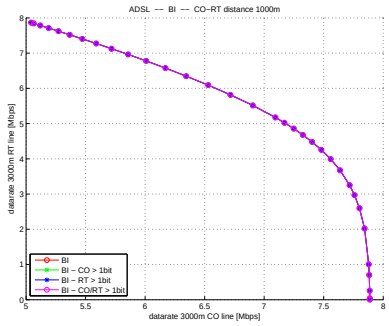

ADSL2+ −− ENI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

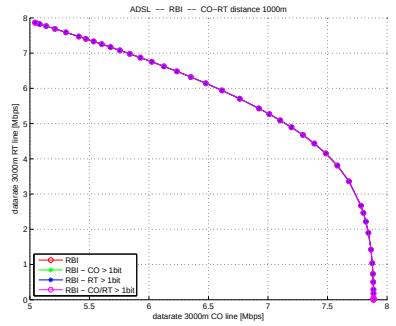

ADSL2+ −− BI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

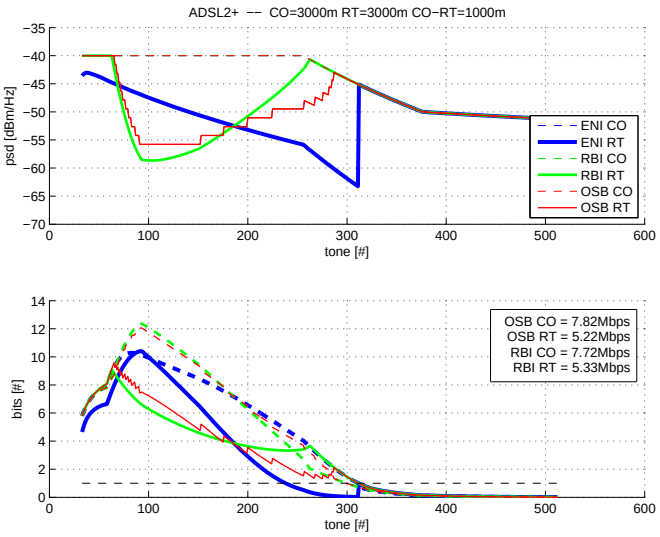

ADSL2+ −− RBI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

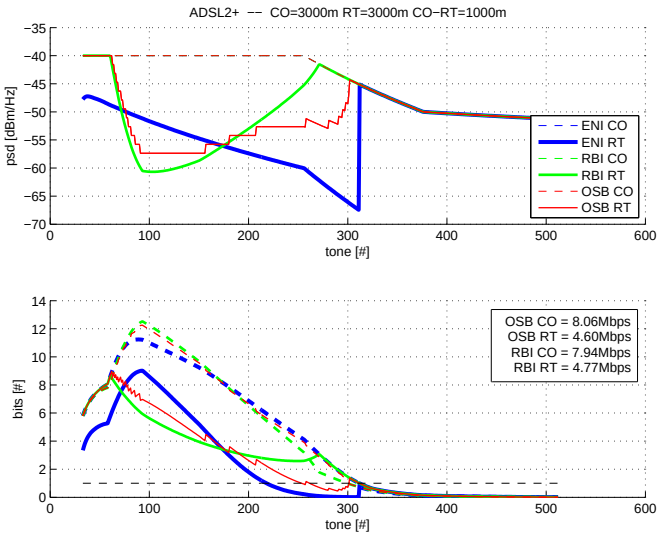

ADSL −− OSB −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

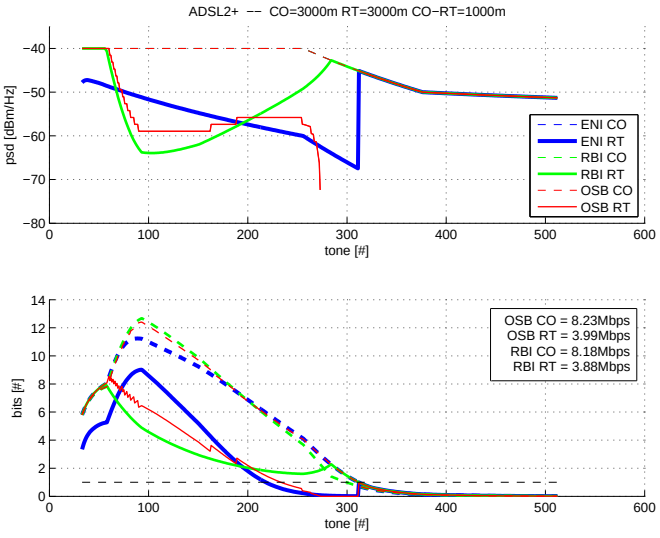

ADSL −− ENI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

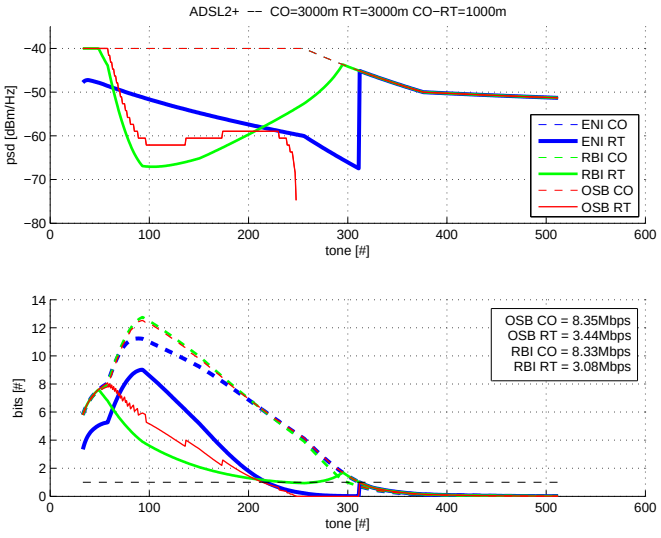

ADSL −− BI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

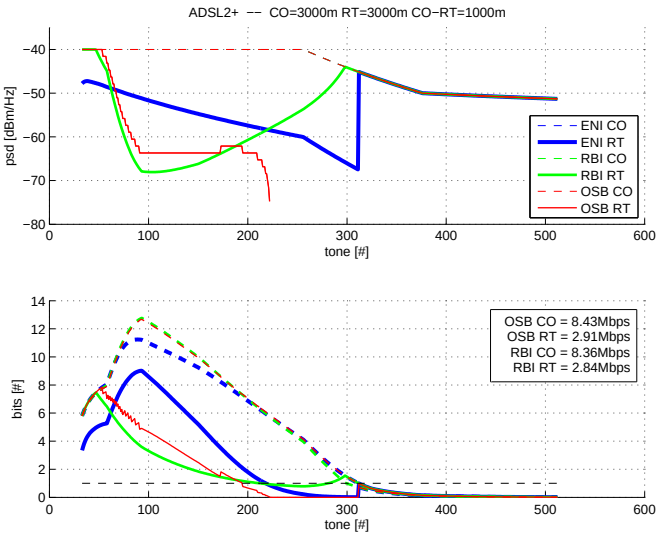

ADSL −− RBI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

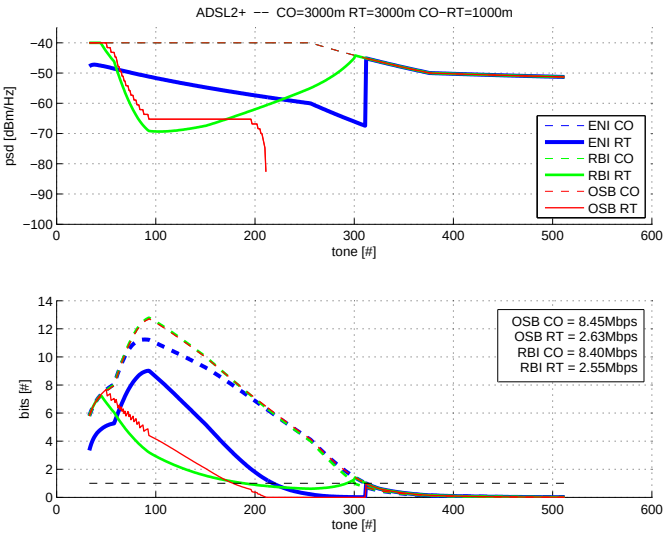

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 7.82Mbps
OSB RT = 5.22Mbps
RBI CO = 7.72Mbps
RBI RT = 5.33Mbps

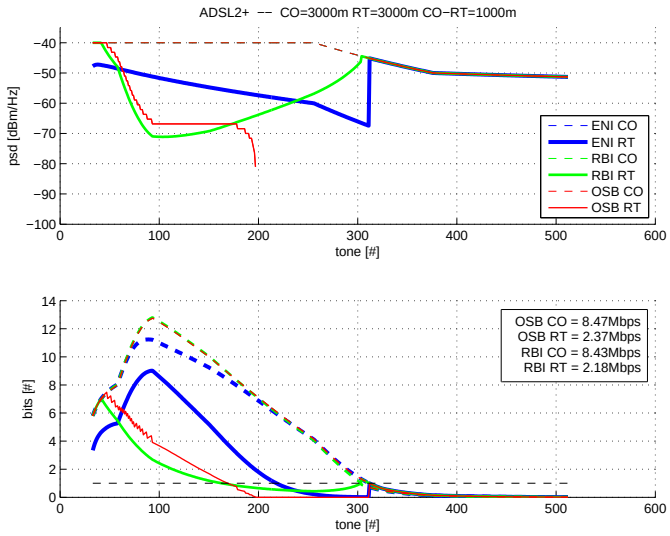

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.06Mbps
OSB RT = 4.60Mbps
RBI CO = 7.94Mbps
RBI RT = 4.77Mbps

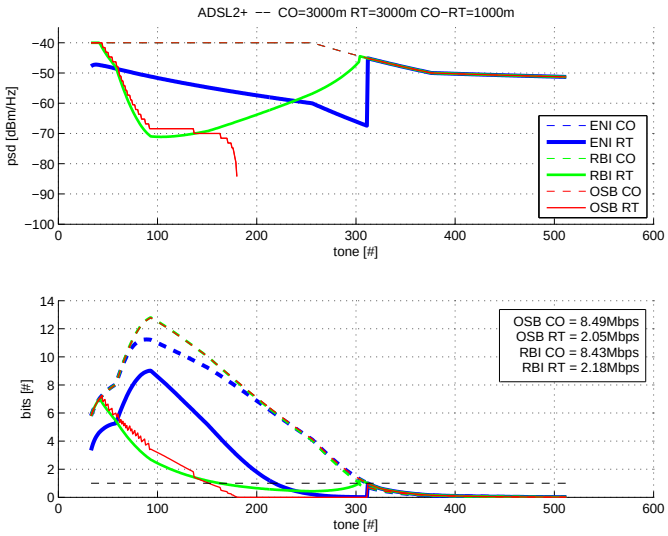

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.23Mbps
OSB RT = 3.99Mbps
RBI CO = 8.18Mbps
RBI RT = 3.88Mbps

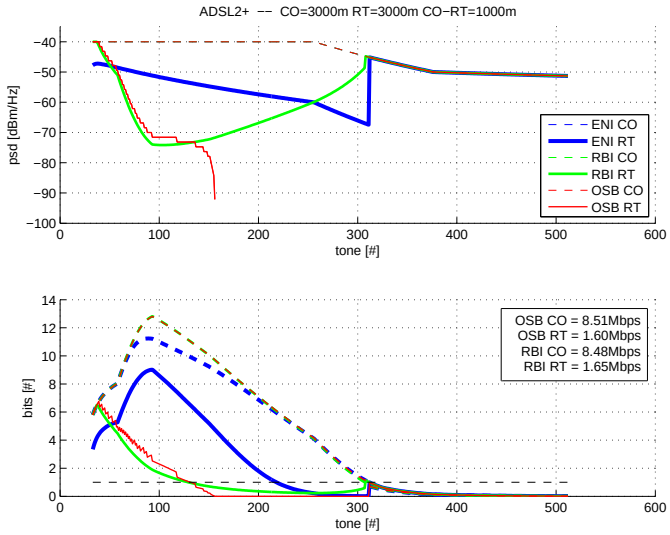

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.35Mbps
OSB RT = 3.44Mbps
RBI CO = 8.33Mbps
RBI RT = 3.08Mbps

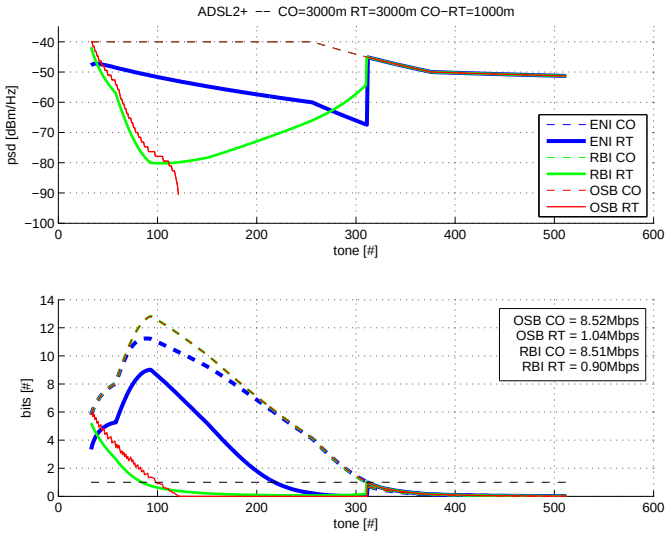

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.43Mbps
OSB RT = 2.91Mbps
RBI CO = 8.36Mbps
RBI RT = 2.84Mbps

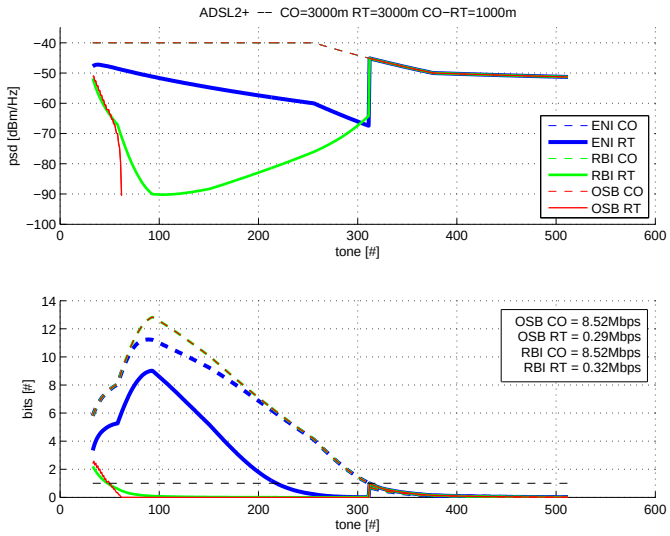

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.45Mbps
OSB RT = 2.63Mbps
RBI CO = 8.40Mbps
RBI RT = 2.55Mbps

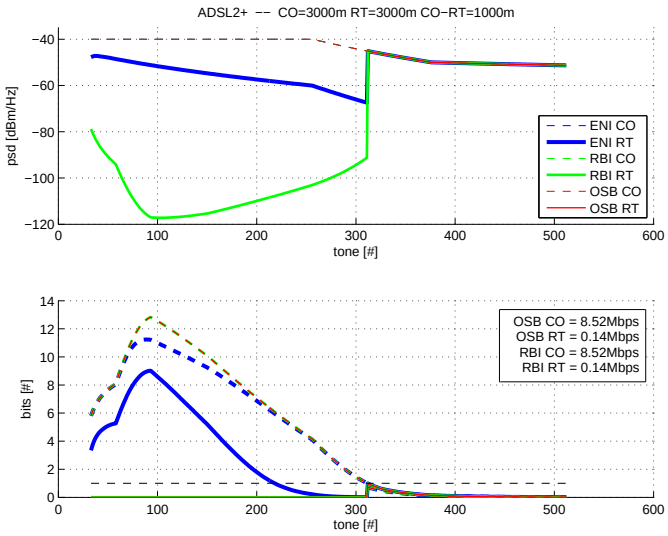

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.47Mbps
OSB RT = 2.37Mbps
RBI CO = 8.43Mbps
RBI RT = 2.18Mbps

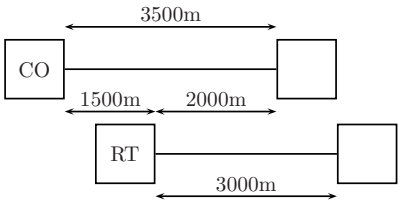

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.49Mbps
OSB RT = 2.05Mbps
RBI CO = 8.43Mbps
RBI RT = 2.18Mbps

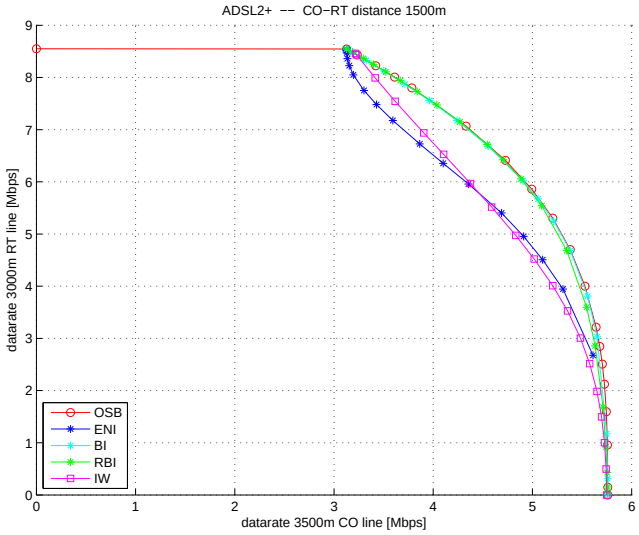

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.51Mbps
OSB RT = 1.60Mbps
RBI CO = 8.48Mbps
RBI RT = 1.65Mbps

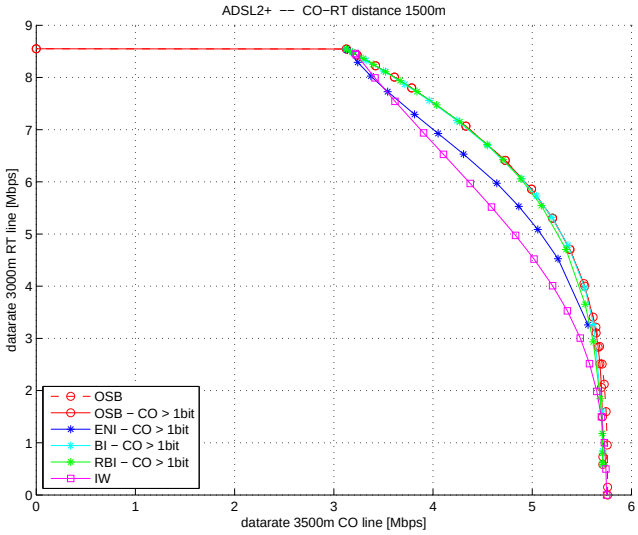

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.52Mbps
OSB RT = 1.04Mbps
RBI CO = 8.51Mbps
RBI RT = 0.90Mbps

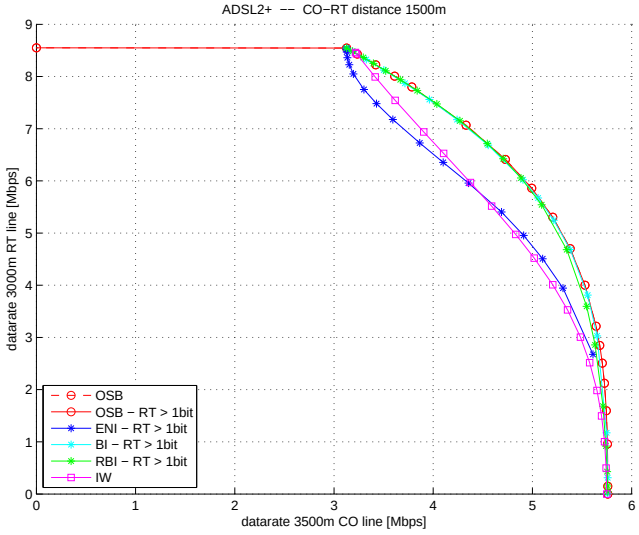

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.52Mbps
OSB RT = 0.29Mbps
RBI CO = 8.52Mbps
RBI RT = 0.32Mbps

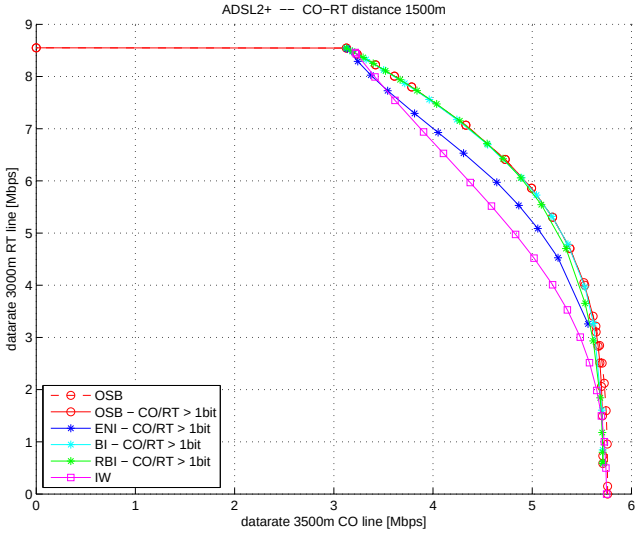

ADSL2+ -- CO=3000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.52Mbps
OSB RT = 0.14Mbps
RBI CO = 8.51Mbps
RBI RT = 0.14Mbps

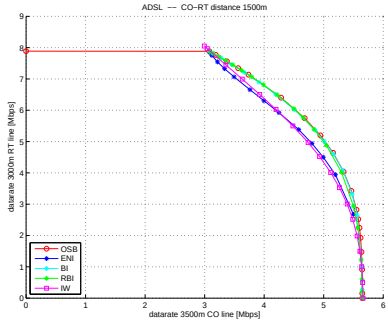

3500m
CO
1500m
2000m
RT
3000m

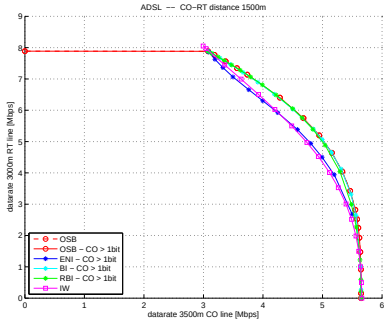

ADSL2+ -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

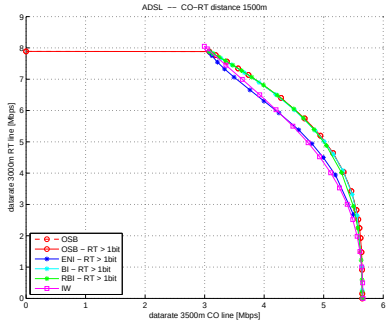

ADSL2+ -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

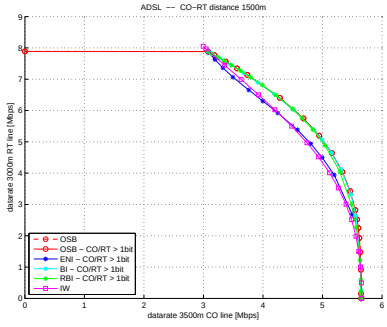

ADSL2+ -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

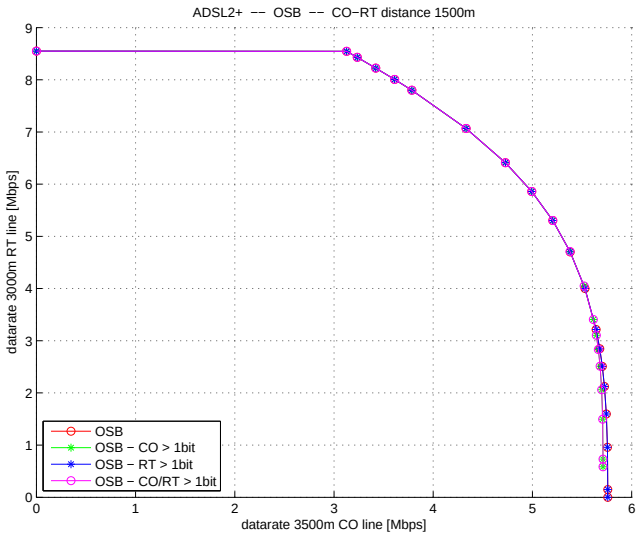

ADSL2+ -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

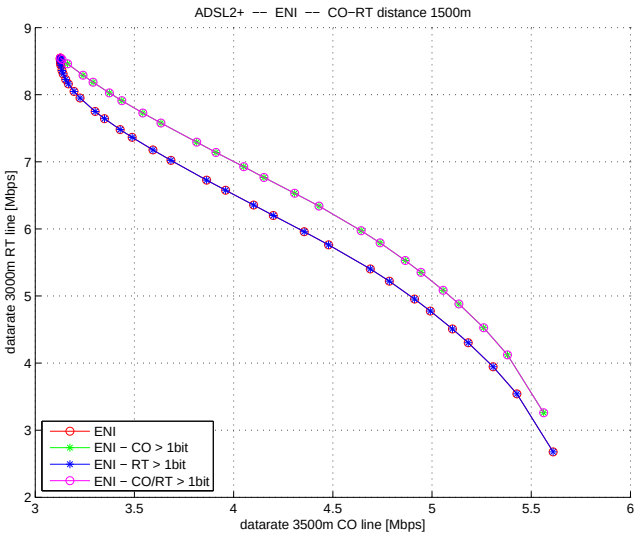

ADSL -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

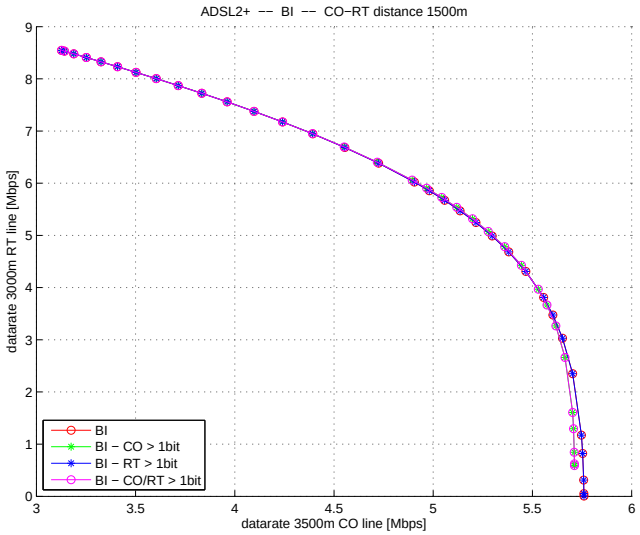

ADSL -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

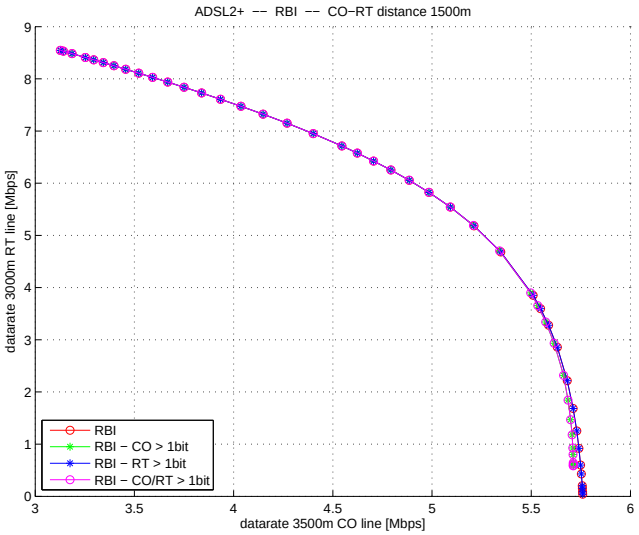

ADSL -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

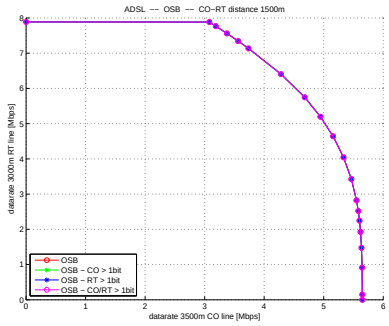

ADSL -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

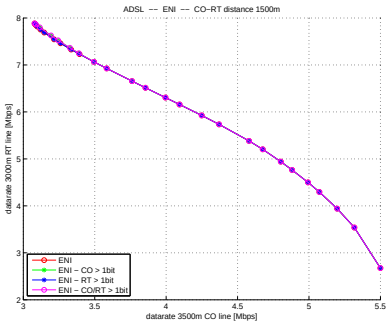

ADSL2+ -- OSB -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

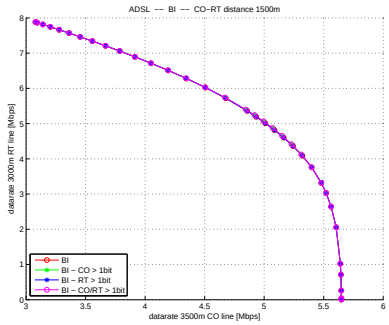

ADSL2+ -- ENI -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

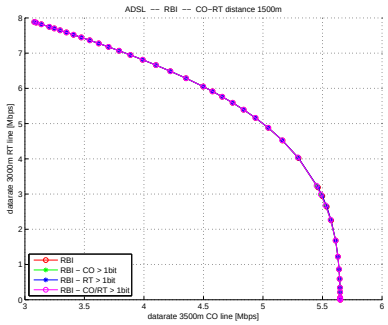

ADSL2+ -- BI -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

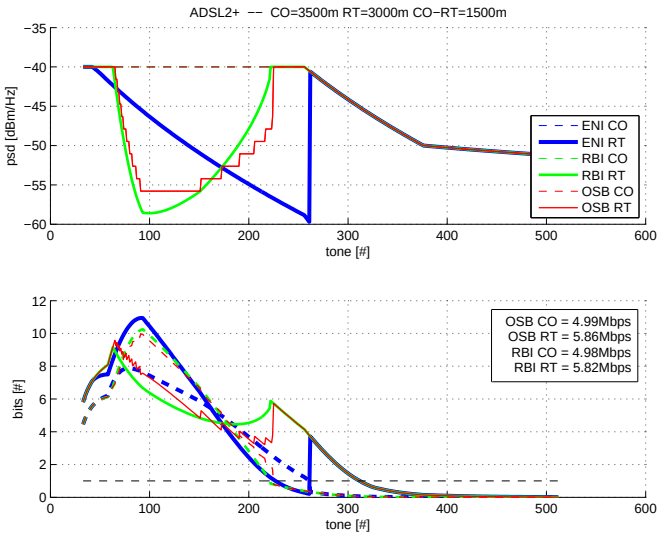

ADSL2+ -- RBI -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

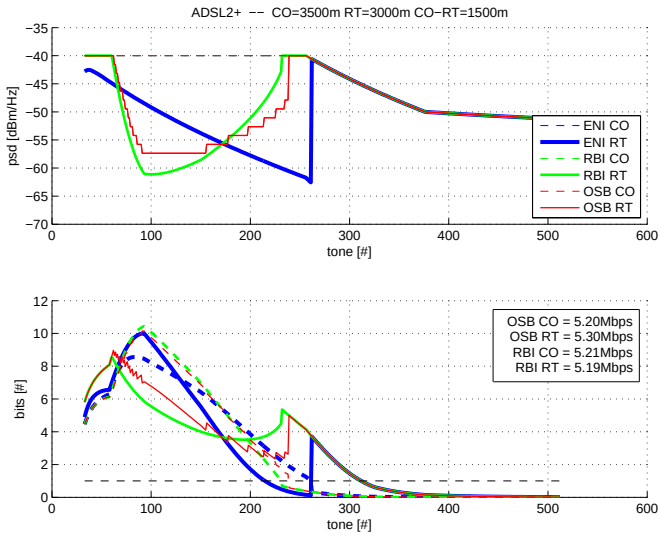

ADSL -- OSB -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

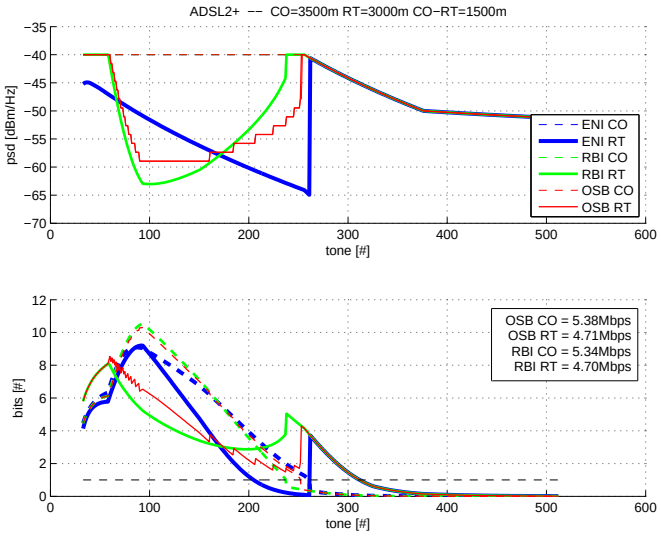

ADSL -- ENI -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

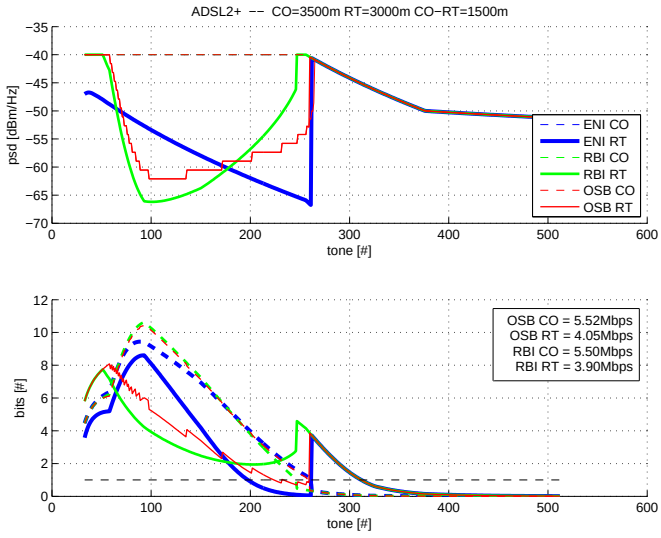

ADSL -- BI -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

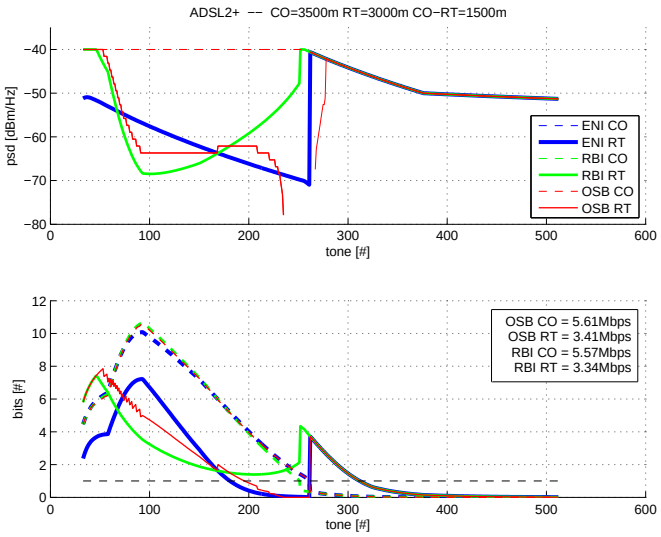

ADSL -- RBI -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

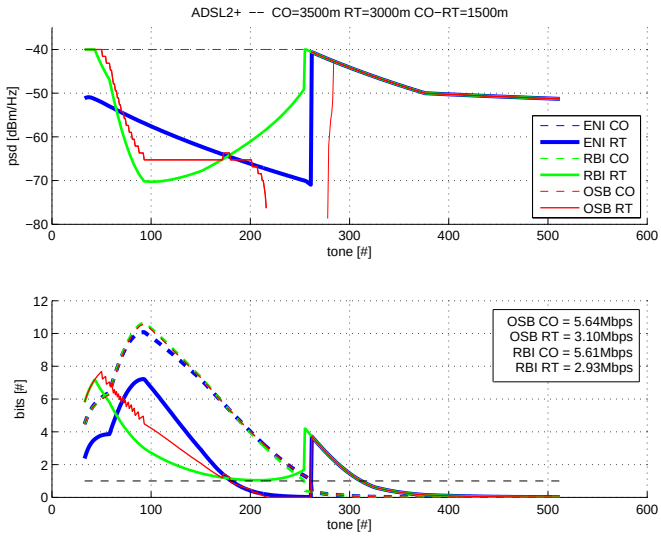

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 4.99Mbps
OSB RT = 5.86Mbps
RBI CO = 4.98Mbps
RBI RT = 5.82Mbps

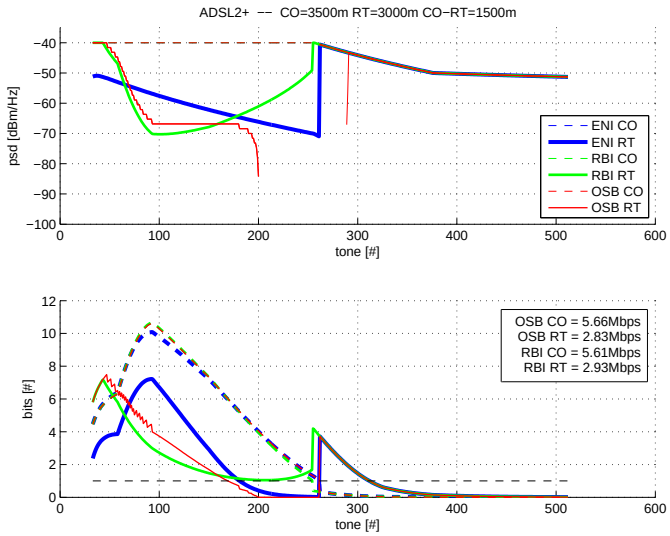

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.20Mbps
OSB RT = 5.30Mbps
RBI CO = 5.21Mbps
RBI RT = 5.19Mbps

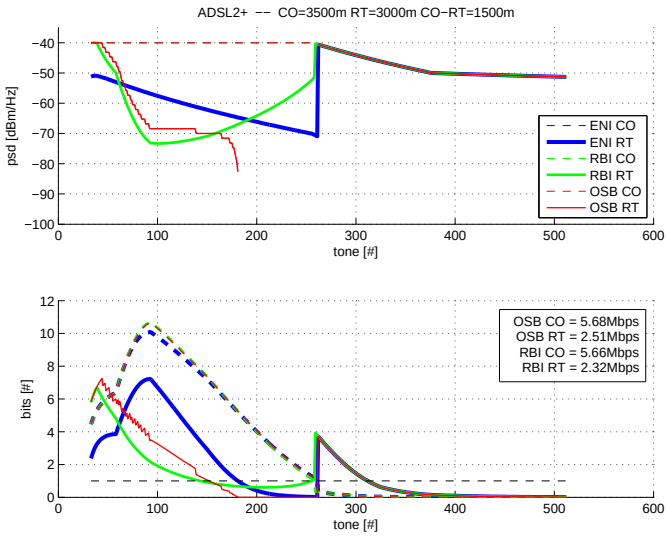

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.38Mbps
OSB RT = 4.71Mbps
RBI CO = 5.34Mbps
RBI RT = 4.70Mbps

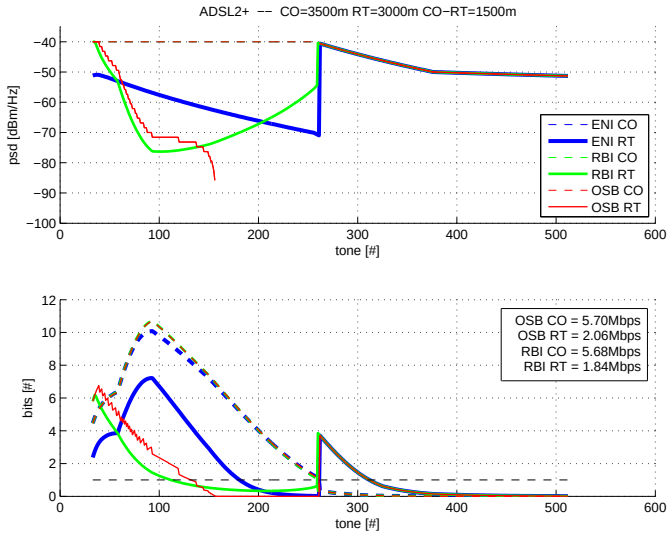

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.52Mbps
OSB RT = 4.05Mbps
RBI CO = 5.50Mbps
RBI RT = 3.90Mbps

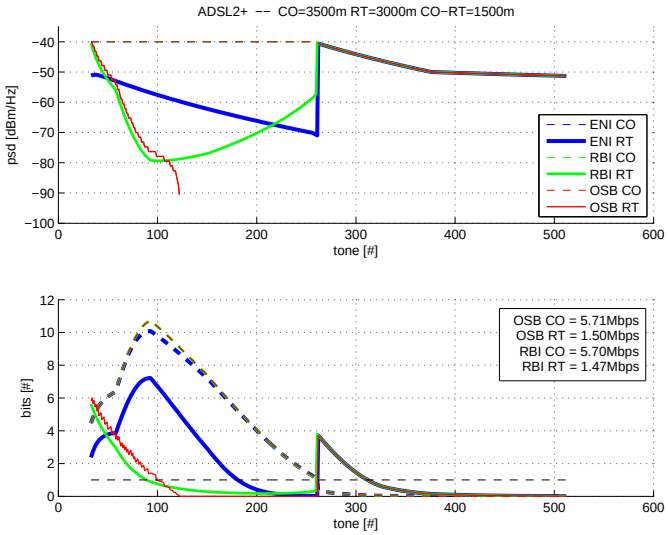

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.61Mbps
OSB RT = 3.41Mbps
RBI CO = 5.57Mbps
RBI RT = 3.34Mbps

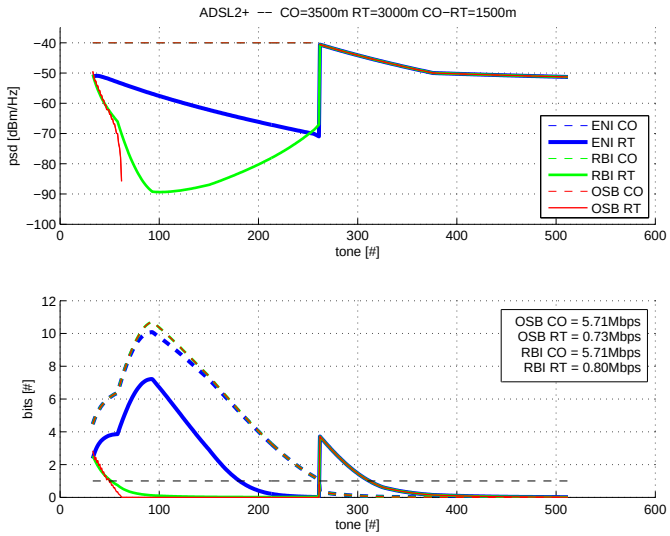

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.64Mbps
OSB RT = 3.10Mbps
RBI CO = 5.61Mbps
RBI RT = 2.93Mbps

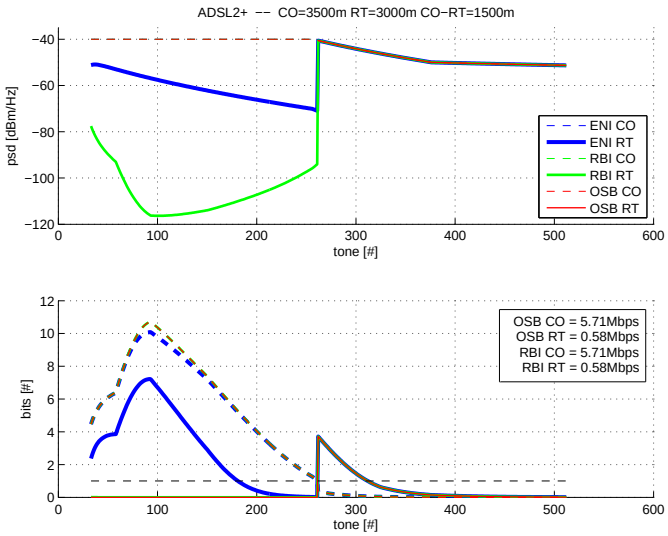

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.66Mbps
OSB RT = 2.83Mbps
RBI CO = 5.61Mbps
RBI RT = 2.93Mbps

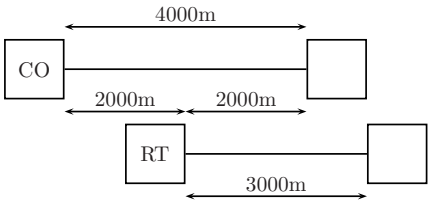

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.68Mbps
OSB RT = 2.51Mbps
RBI CO = 5.66Mbps
RBI RT = 2.32Mbps

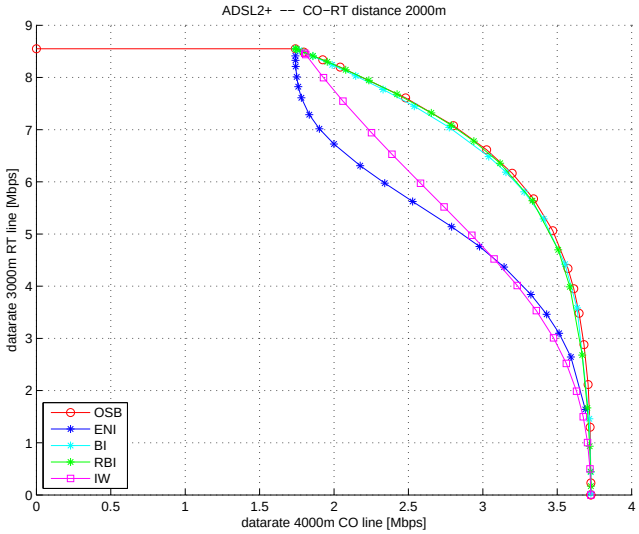

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.70Mbps
OSB RT = 2.06Mbps
RBI CO = 5.68Mbps
RBI RT = 1.84Mbps

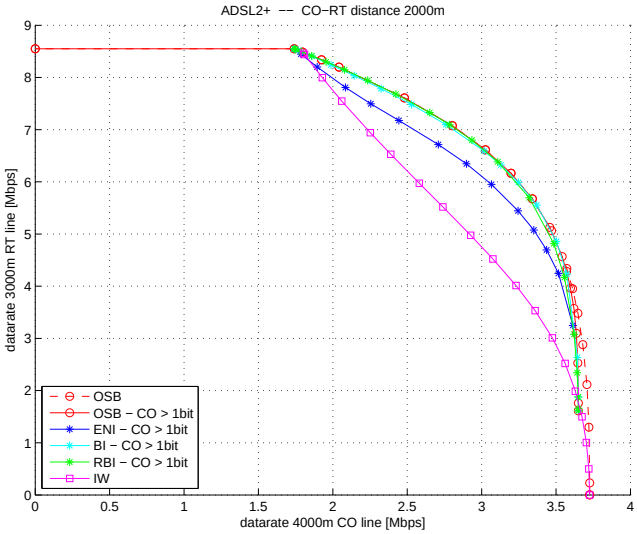

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.71Mbps
OSB RT = 1.50Mbps
RBI CO = 5.70Mbps
RBI RT = 1.47Mbps

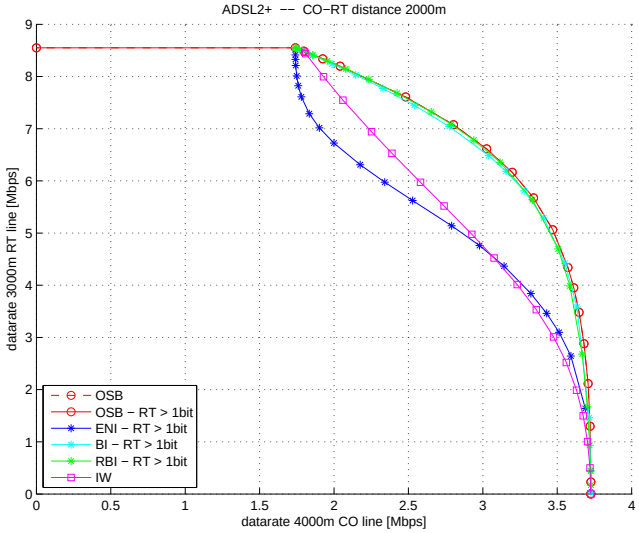

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.71Mbps
OSB RT = 0.73Mbps
RBI CO = 5.71Mbps
RBI RT = 0.80Mbps

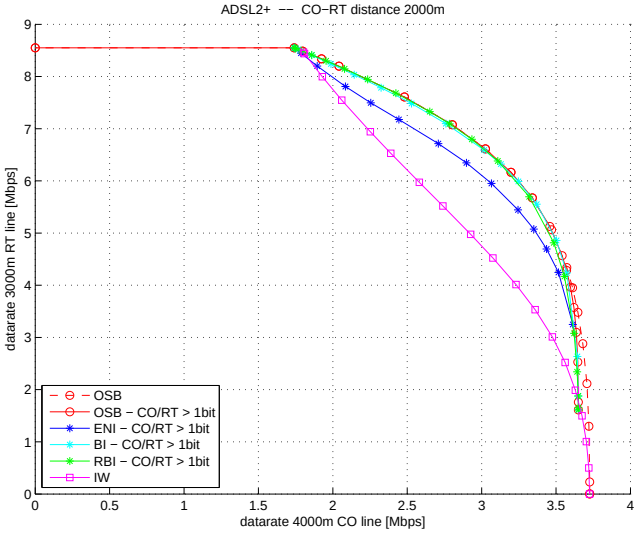

ADSL2+ -- CO=3500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.71Mbps
OSB RT = 0.58Mbps
RBI CO = 5.71Mbps
RBI RT = 0.58Mbps

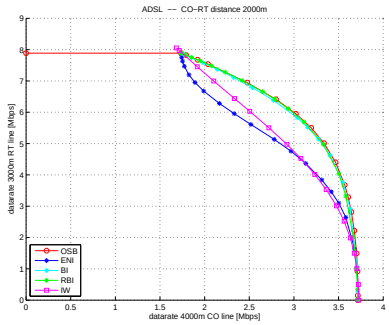

4000m
CO
2000m
2000m
RT
3000m

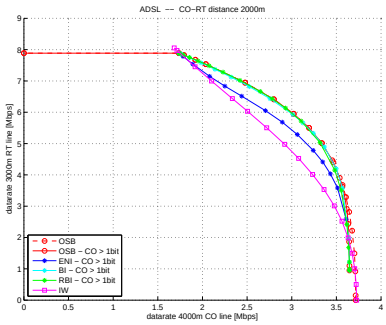

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

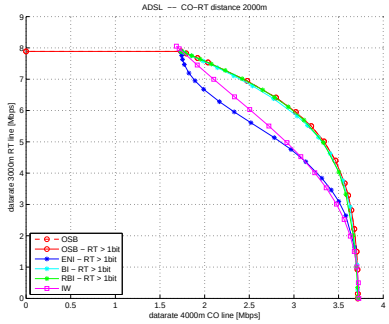

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

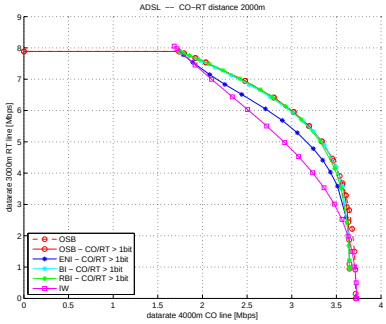

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

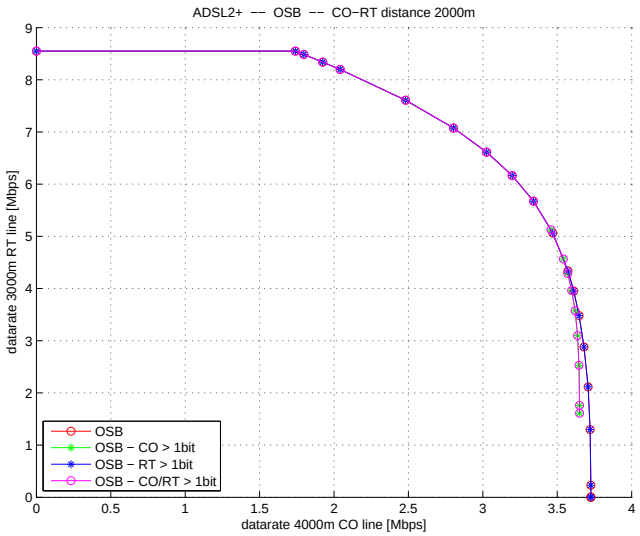

ADSL2+ -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

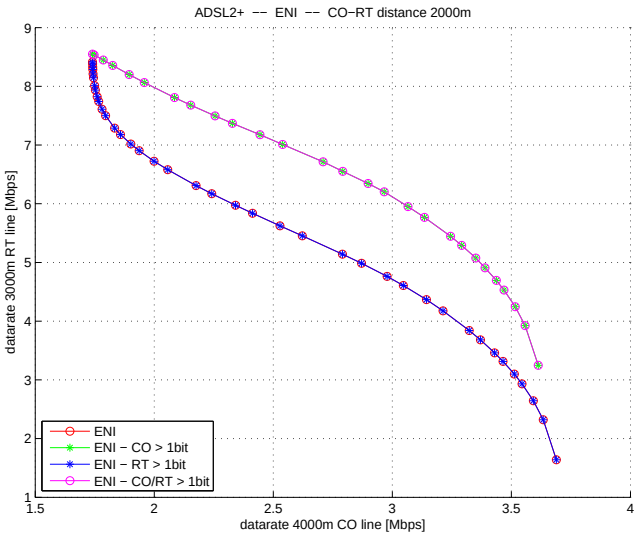

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

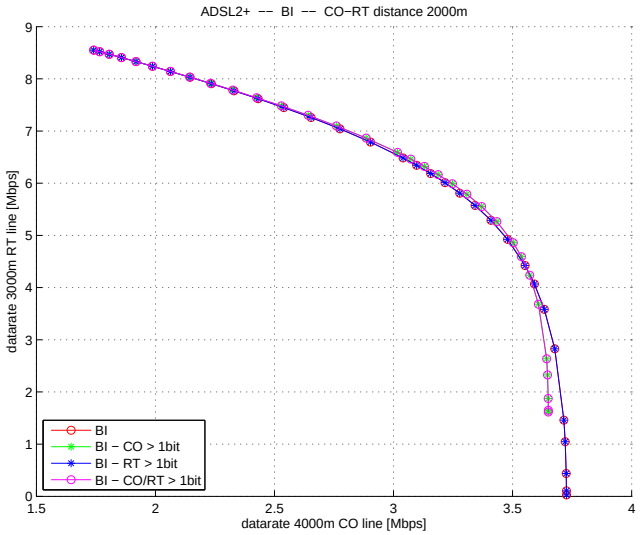

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

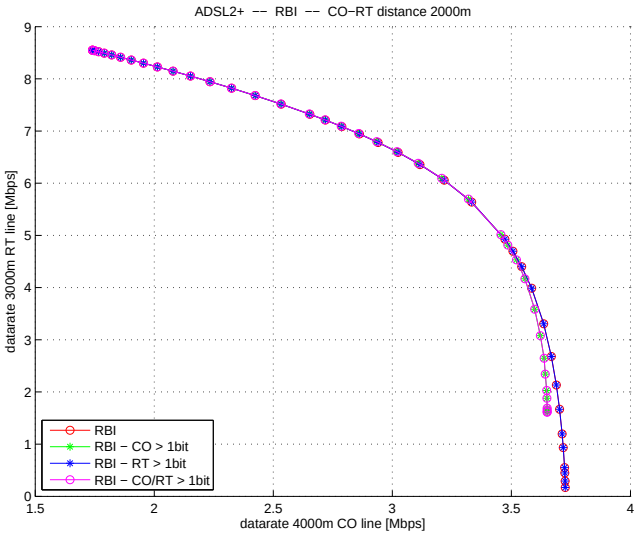

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

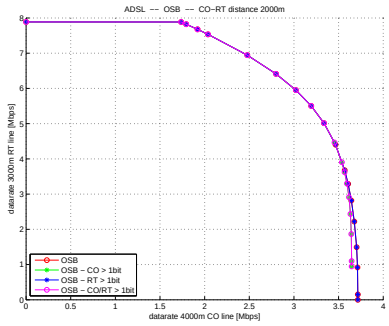

ADSL -- CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

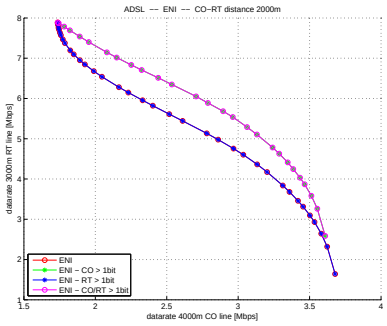

ADSL2+ -- OSB -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

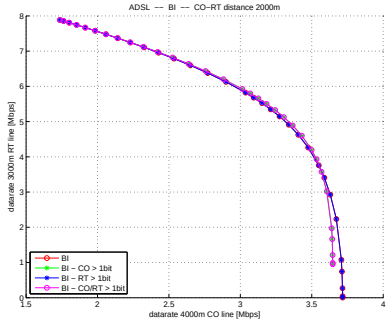

ADSL2+ -- ENI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

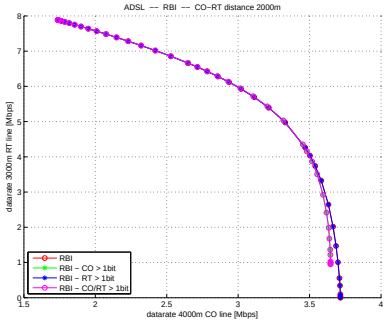

ADSL2+ -- BI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

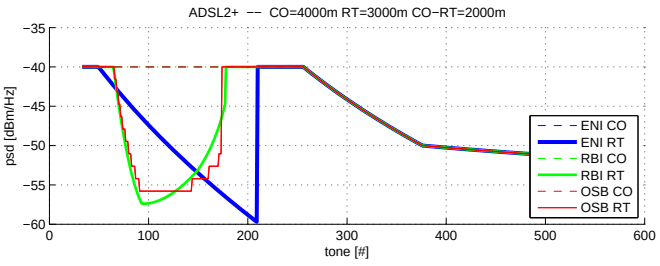

ADSL2+ -- RBI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

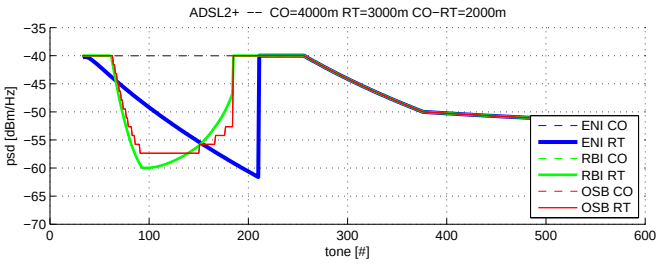

ADSL -- OSB -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

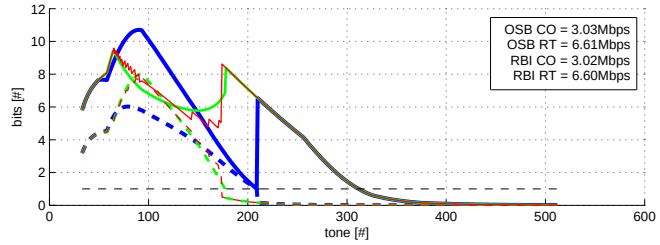

ADSL -- ENI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

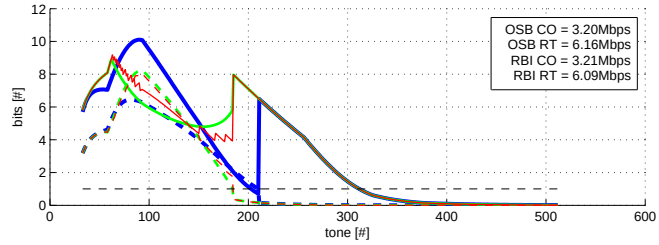

ADSL -- BI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

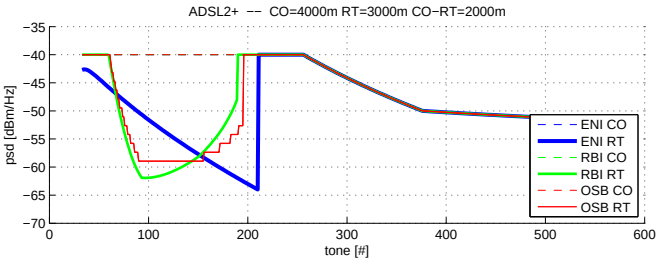

ADSL -- RBI -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

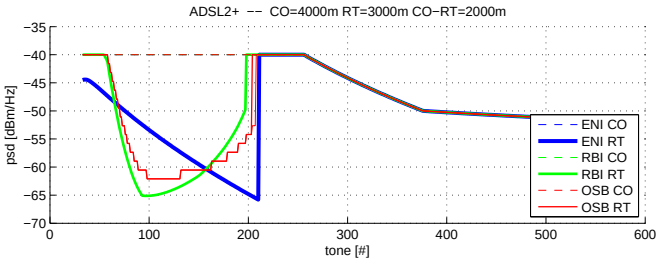

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

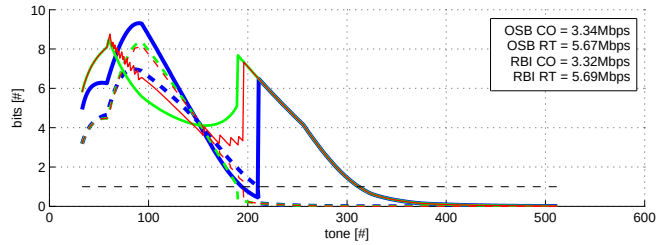

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

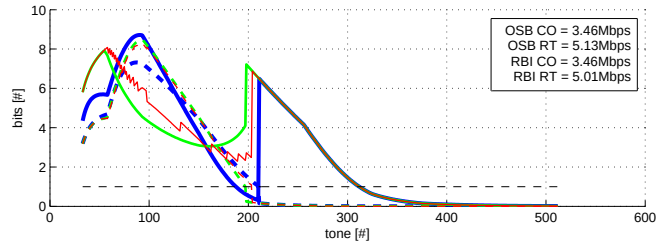

bits [#]
tone [#]
OSB CO = 3.03Mbps
OSB RT = 6.61Mbps
RBI CO = 3.02Mbps
RBI RT = 6.60Mbps

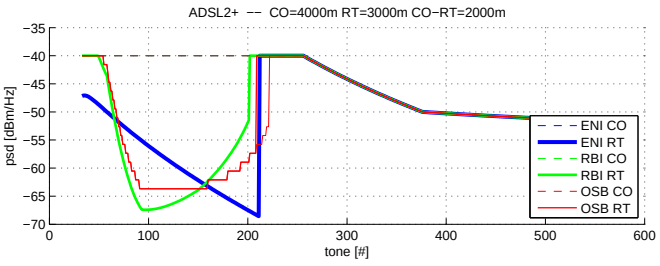

bits [#]
tone [#]
OSB CO = 3.20Mbps
OSB RT = 6.16Mbps
RBI CO = 3.21Mbps
RBI RT = 6.09Mbps

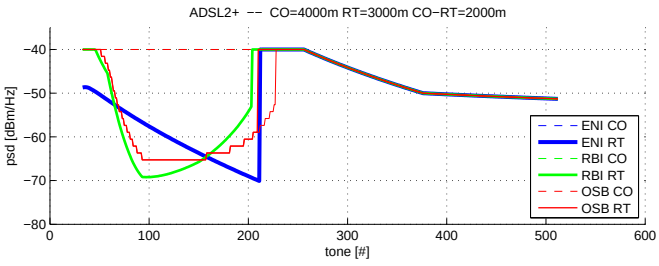

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

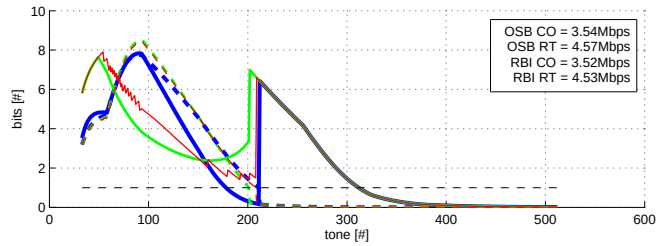

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

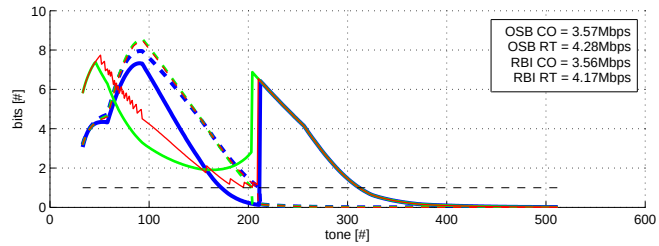

bits [#]
tone [#]
OSB CO = 3.34Mbps
OSB RT = 5.67Mbps
RBI CO = 3.32Mbps
RBI RT = 5.69Mbps

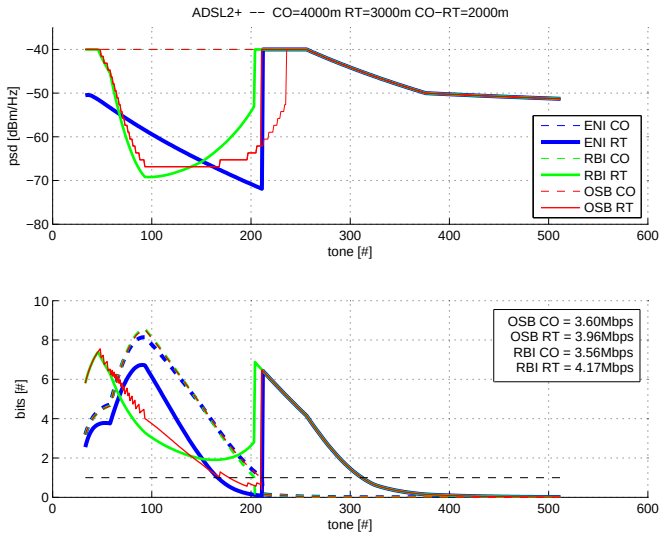

bits [#]
tone [#]
OSB CO = 3.46Mbps
OSB RT = 5.13Mbps
RBI CO = 3.46Mbps
RBI RT = 5.01Mbps

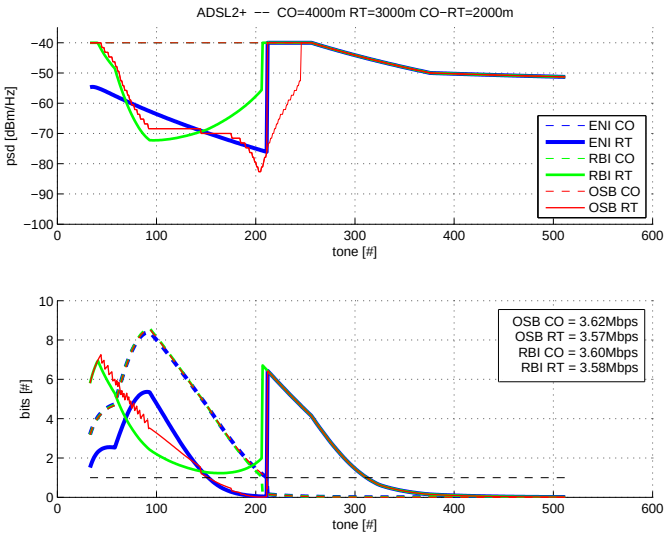

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

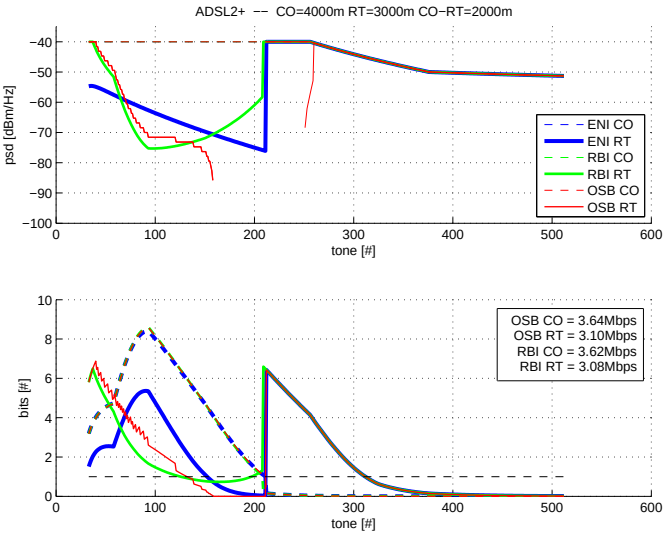

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

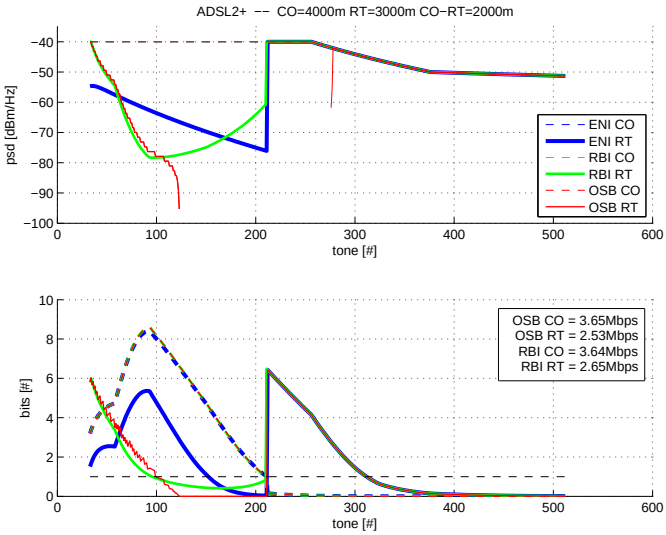

bits [#]
tone [#]
OSB CO = 3.54Mbps
OSB RT = 4.57Mbps
RBI CO = 3.52Mbps
RBI RT = 4.53Mbps

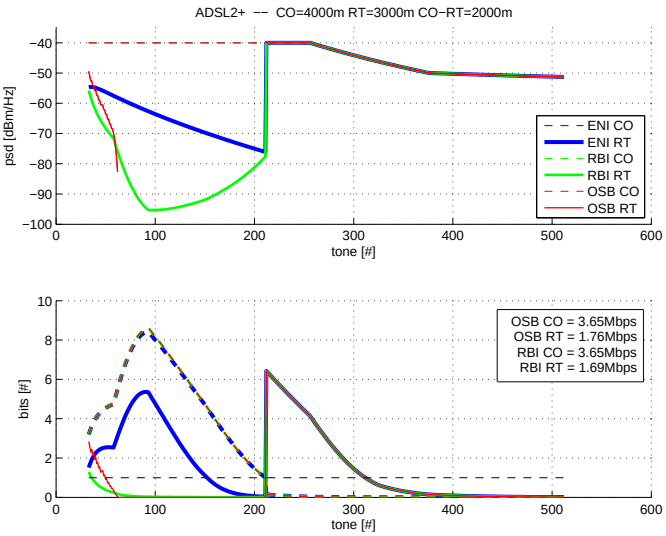

bits [#]
tone [#]
OSB CO = 3.57Mbps
OSB RT = 4.28Mbps
RBI CO = 3.56Mbps
RBI RT = 4.17Mbps

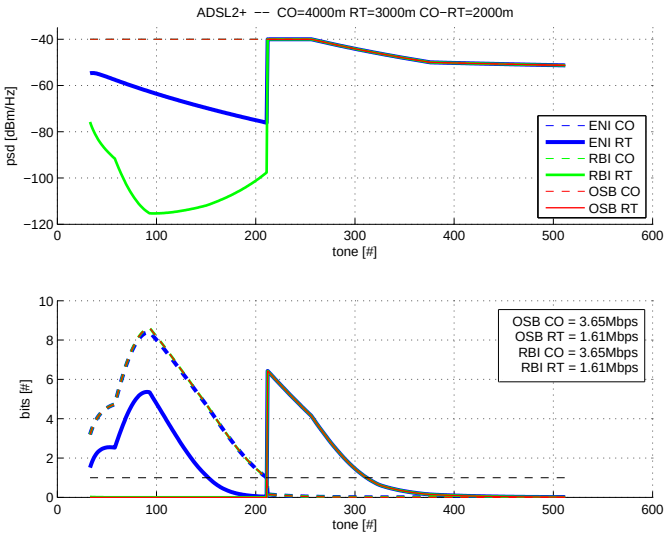

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.60Mbps
OSB RT = 3.96Mbps
RBI CO = 3.56Mbps
RBI RT = 4.17Mbps

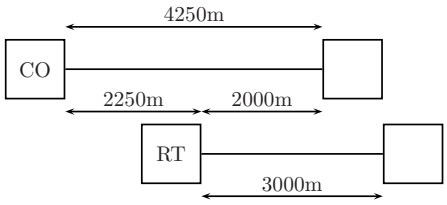

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.62Mbps
OSB RT = 3.57Mbps
RBI CO = 3.60Mbps
RBI RT = 3.58Mbps

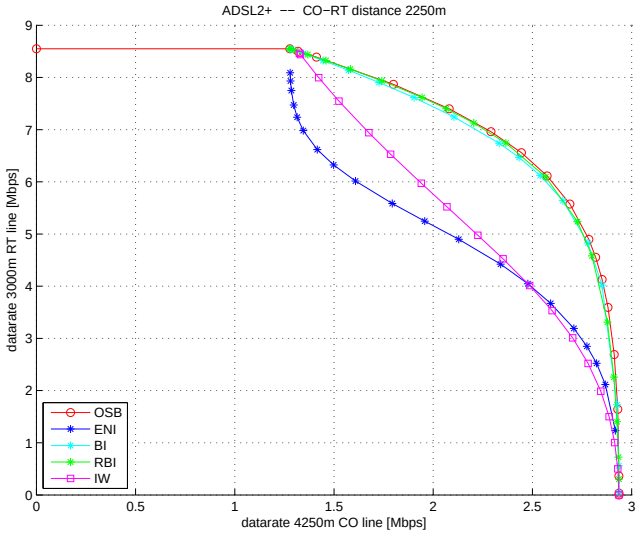

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.64Mbps
OSB RT = 3.10Mbps
RBI CO = 3.62Mbps
RBI RT = 3.08Mbps

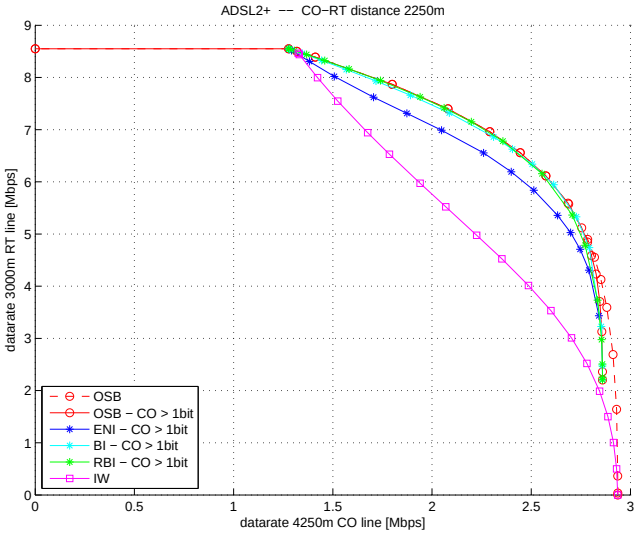

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.65Mbps
OSB RT = 2.53Mbps
RBI CO = 3.64Mbps
RBI RT = 2.65Mbps

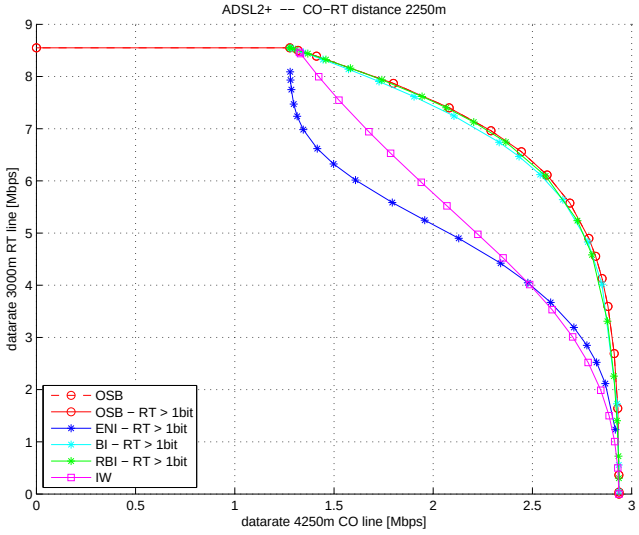

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.65Mbps
OSB RT = 1.76Mbps
RBI CO = 3.65Mbps
RBI RT = 1.69Mbps

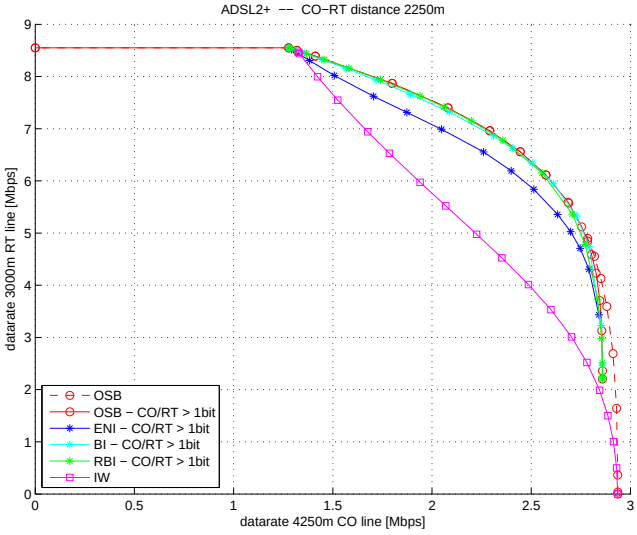

ADSL2+ -- CO=4000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.65Mbps
OSB RT = 1.61Mbps
RBI CO = 3.65Mbps
RBI RT = 1.61Mbps

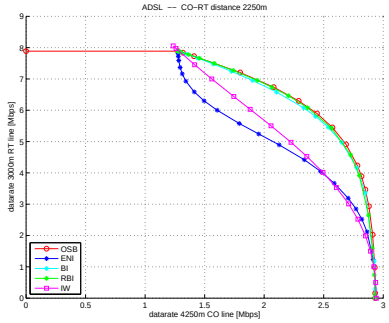

4250m
CO
2250m
2000m
RT
3000m

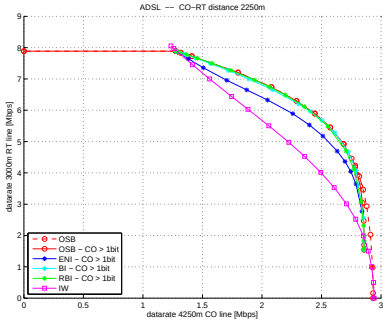

ADSL2+ -- CO−RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

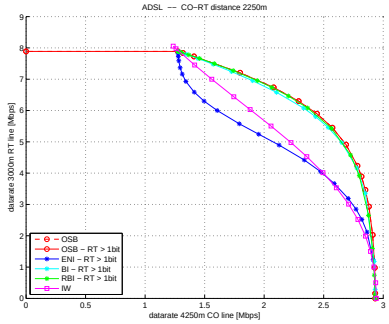

ADSL2+ -- CO−RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

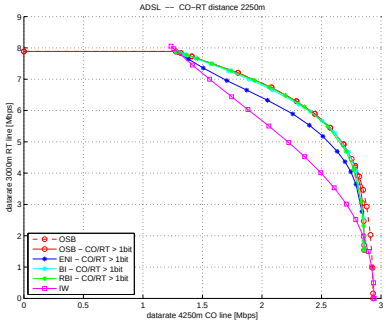

ADSL2+ -- CO−RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

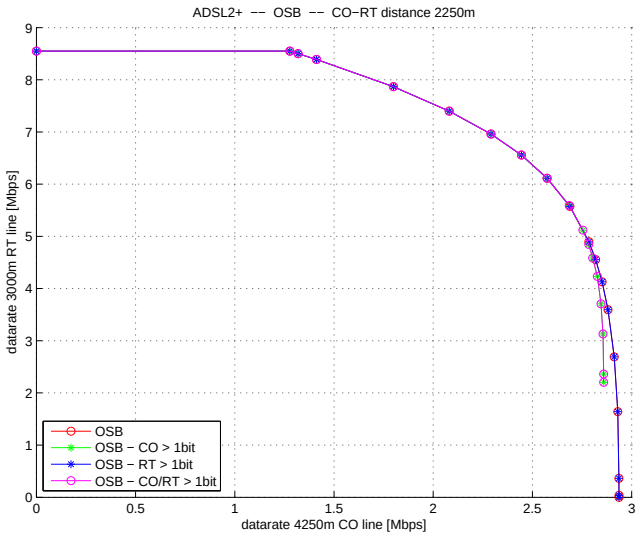

ADSL2+ -- CO−RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

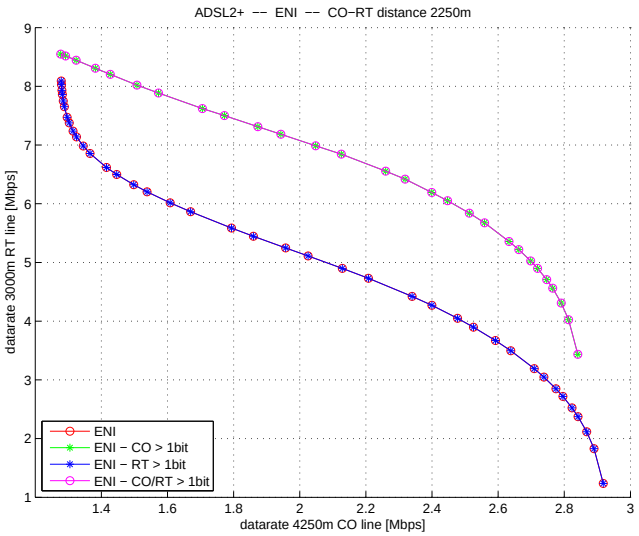

ADSL -- CO−RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

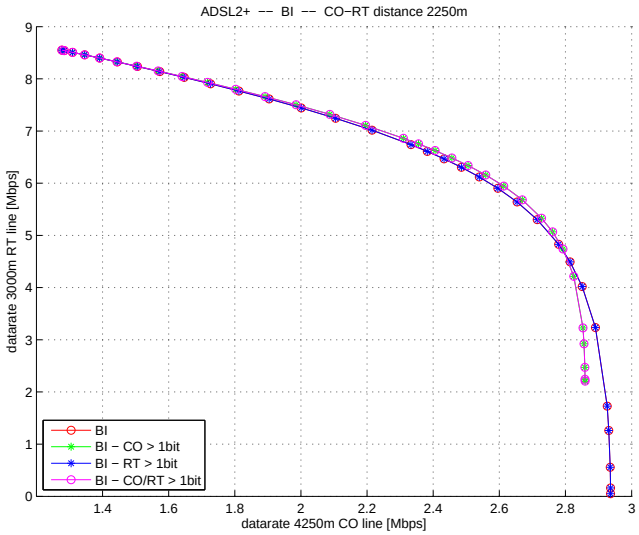

ADSL -- CO−RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

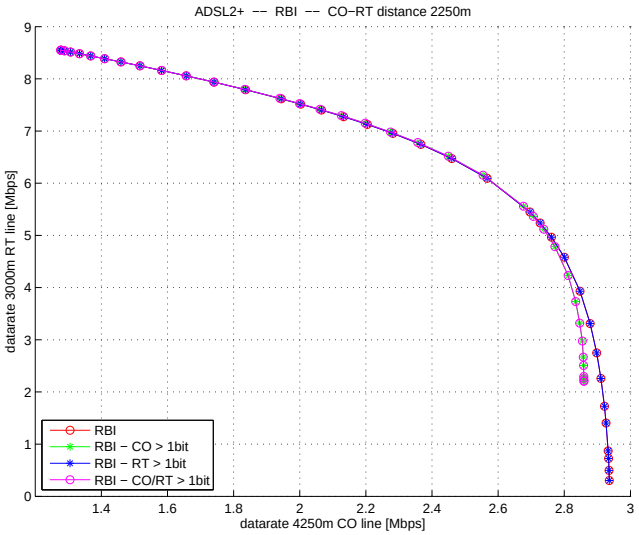

ADSL -- CO−RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

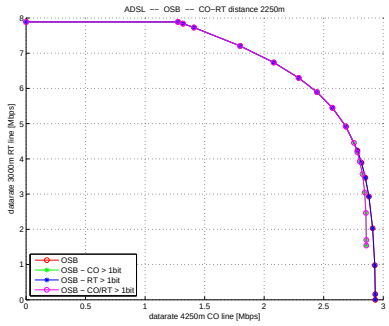

ADSL -- CO−RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

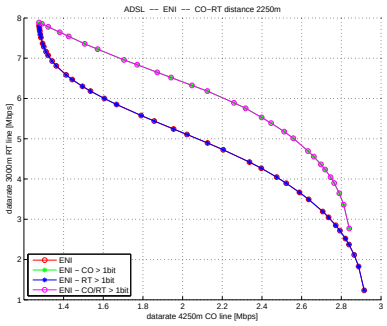

ADSL2+ -- OSB -- CO-RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

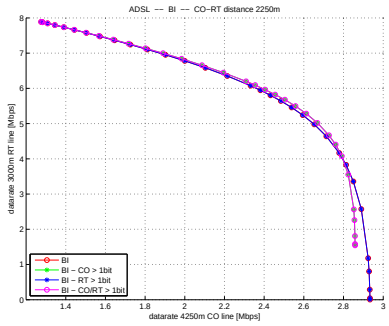

ADSL2+ -- ENI -- CO-RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

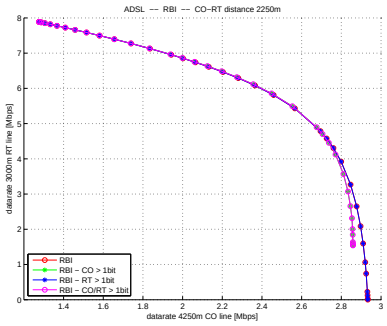

ADSL2+ -- BI -- CO-RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

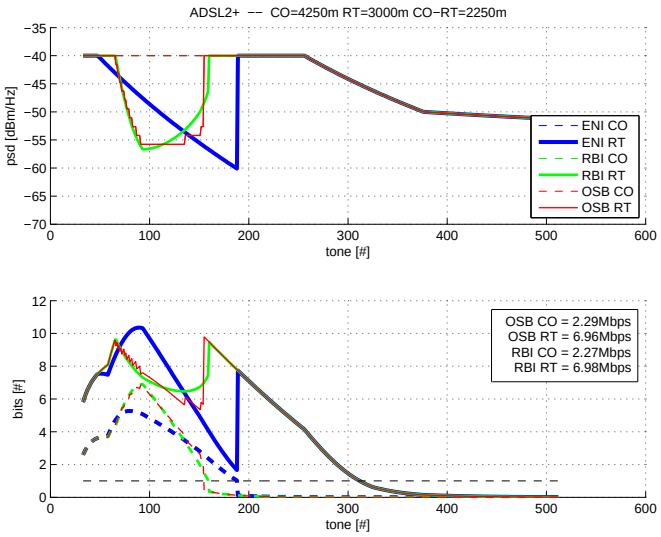

ADSL2+ -- RBI -- CO-RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

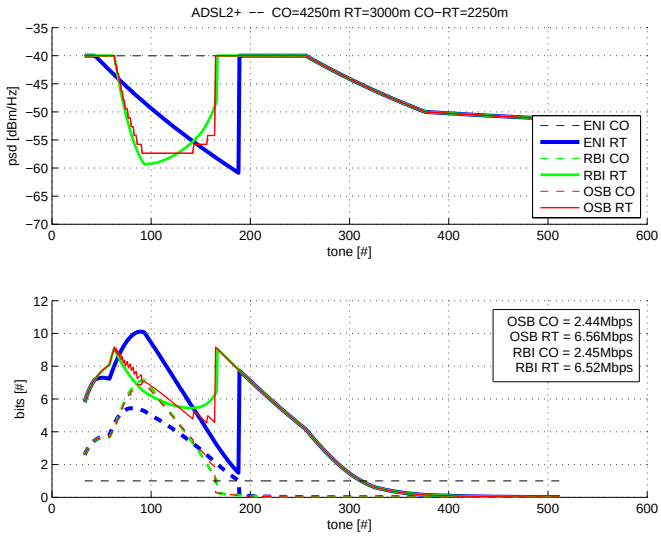

ADSL -- OSB -- CO-RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

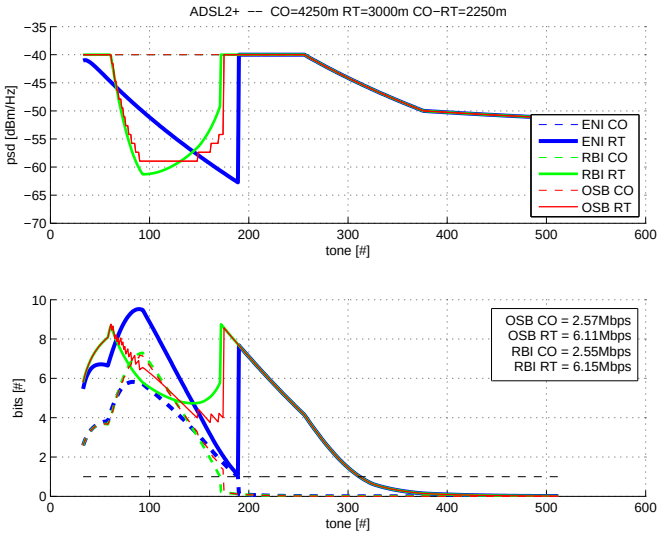

ADSL -- ENI -- CO-RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

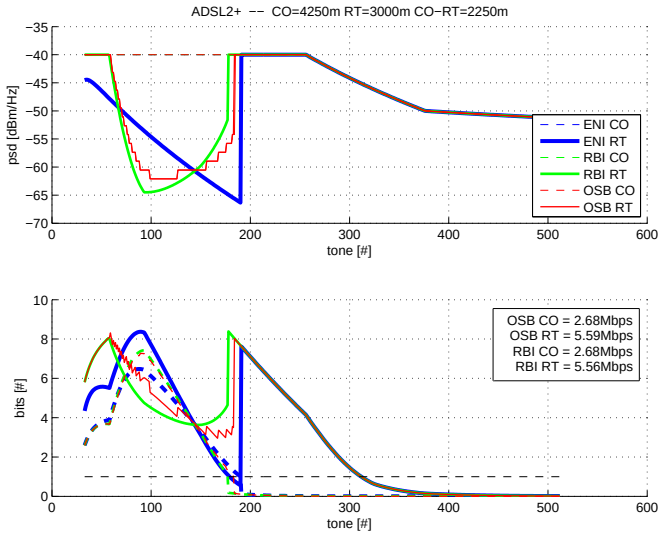

ADSL -- BI -- CO-RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

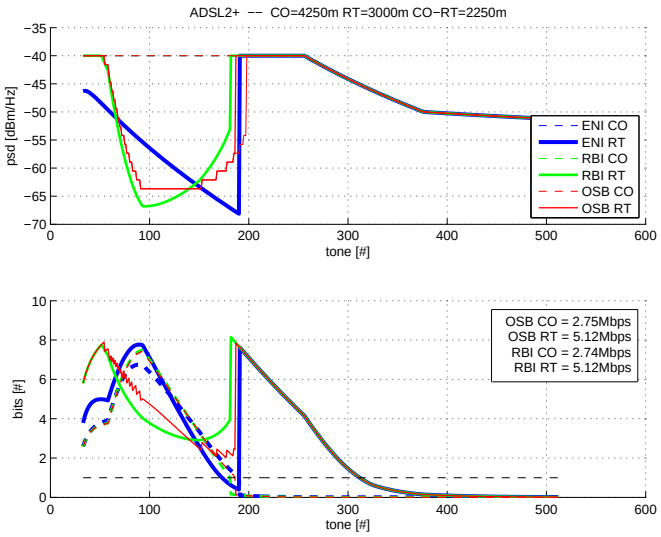

ADSL -- RBI -- CO-RT distance 2250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

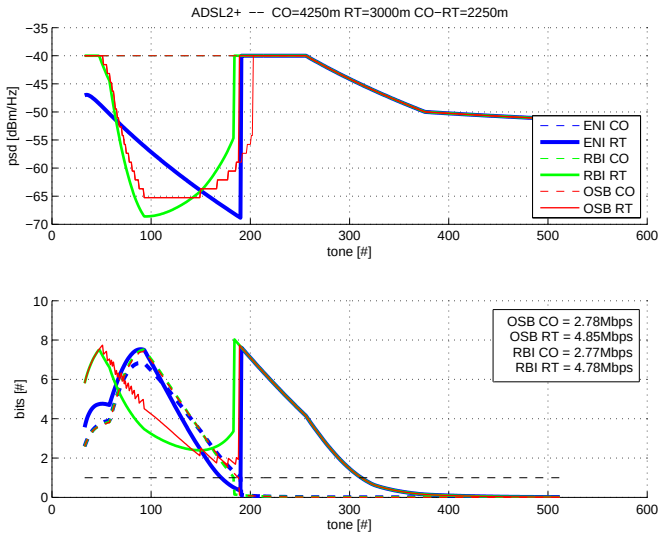

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.29Mbps
OSB RT = 6.96Mbps
RBI CO = 2.27Mbps
RBI RT = 6.98Mbps

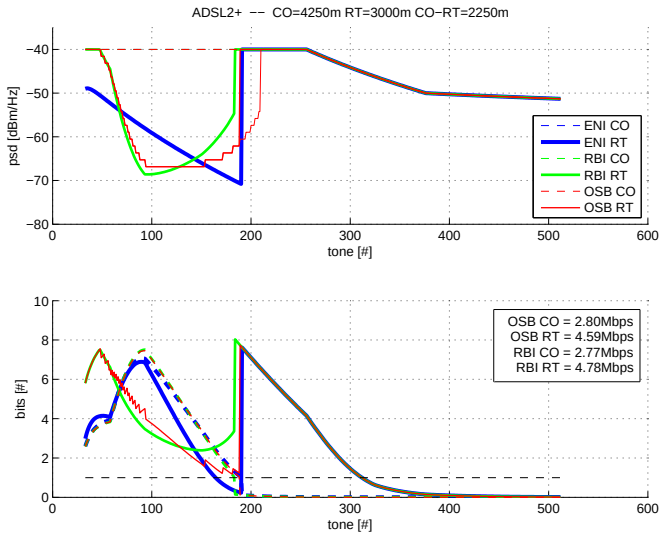

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.44Mbps
OSB RT = 6.56Mbps
RBI CO = 2.45Mbps
RBI RT = 6.52Mbps

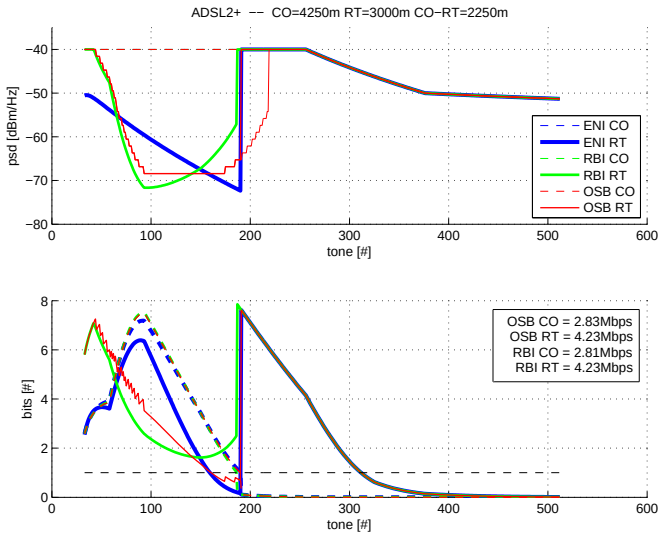

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.57Mbps
OSB RT = 6.11Mbps
RBI CO = 2.55Mbps
RBI RT = 6.15Mbps

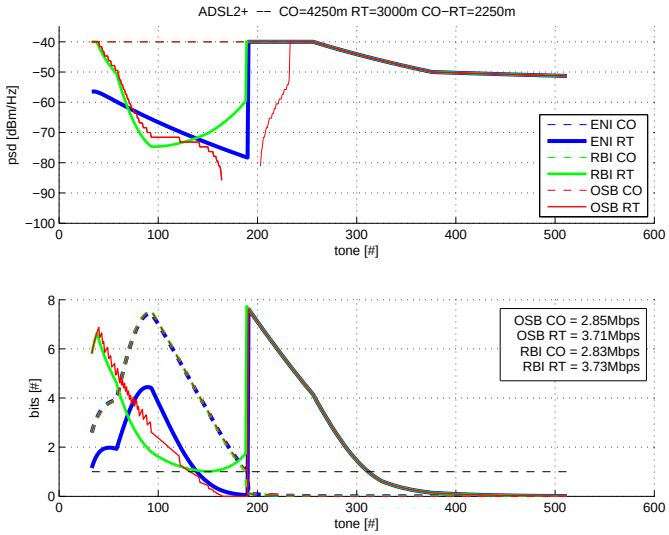

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.68Mbps
OSB RT = 5.59Mbps
RBI CO = 2.68Mbps
RBI RT = 5.56Mbps

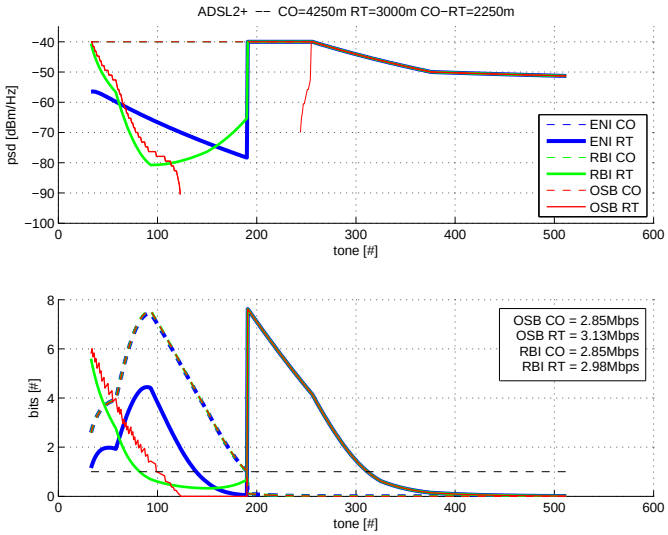

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.75Mbps
OSB RT = 5.12Mbps
RBI CO = 2.74Mbps
RBI RT = 5.12Mbps

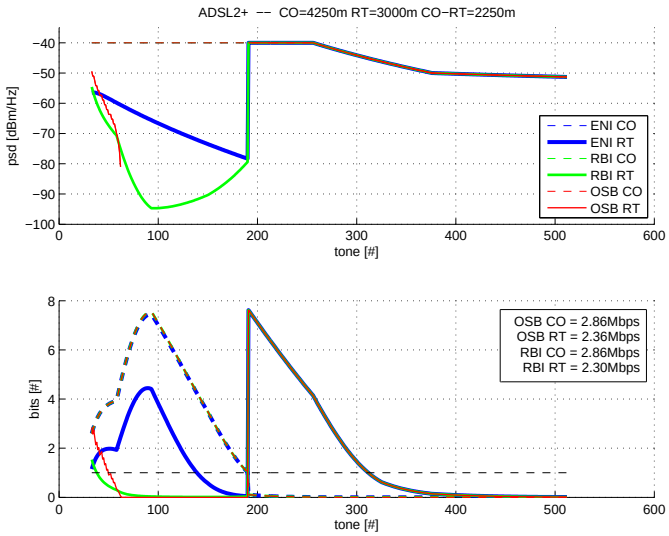

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.78Mbps
OSB RT = 4.85Mbps
RBI CO = 2.77Mbps
RBI RT = 4.78Mbps

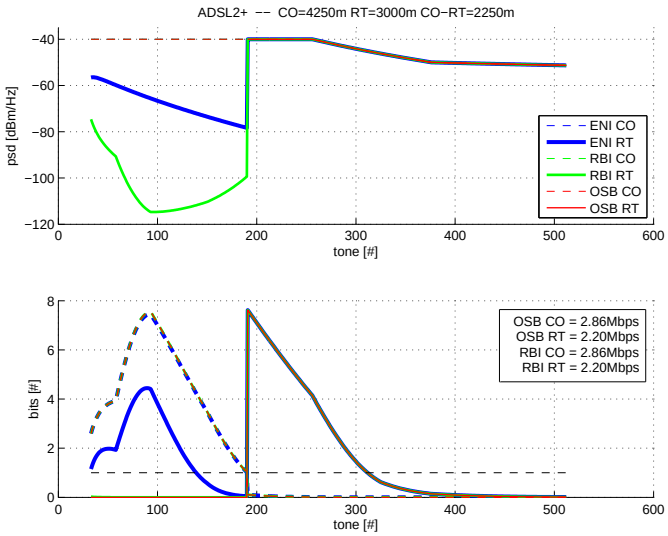

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.80Mbps
OSB RT = 4.59Mbps
RBI CO = 2.77Mbps
RBI RT = 4.78Mbps

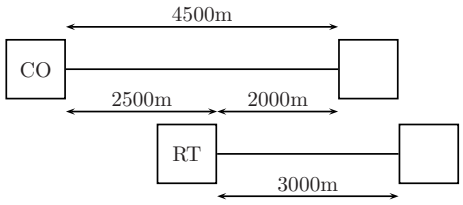

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.83Mbps
OSB RT = 4.23Mbps
RBI CO = 2.81Mbps
RBI RT = 4.23Mbps

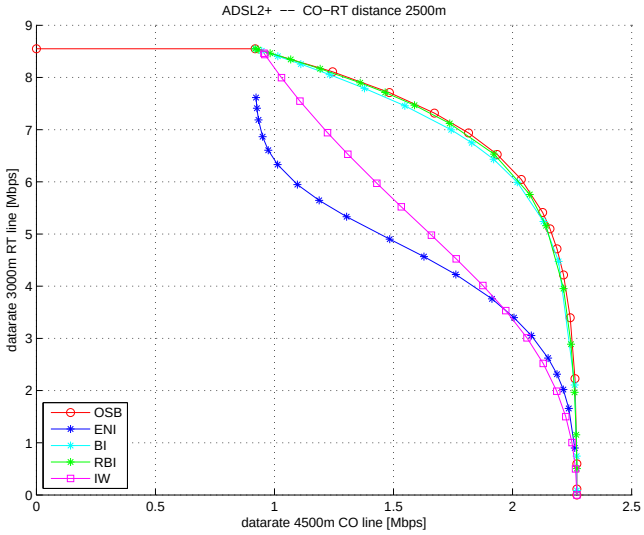

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 3.71Mbps
RBI CO = 2.83Mbps
RBI RT = 3.73Mbps

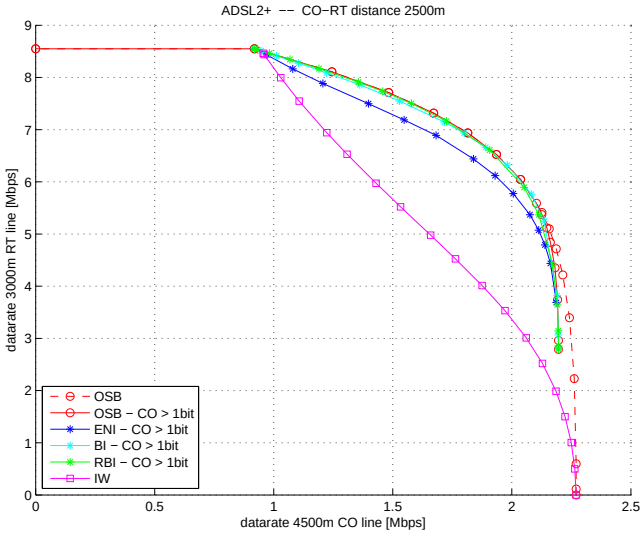

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 3.13Mbps
RBI CO = 2.85Mbps
RBI RT = 2.98Mbps

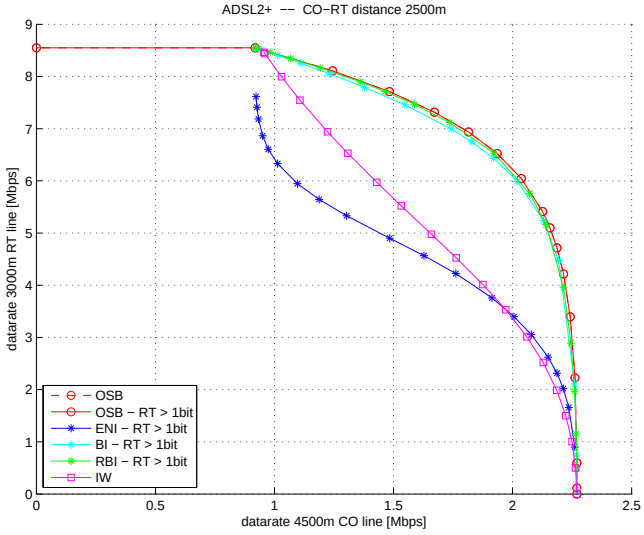

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.86Mbps
OSB RT = 2.36Mbps
RBI CO = 2.86Mbps
RBI RT = 2.30Mbps

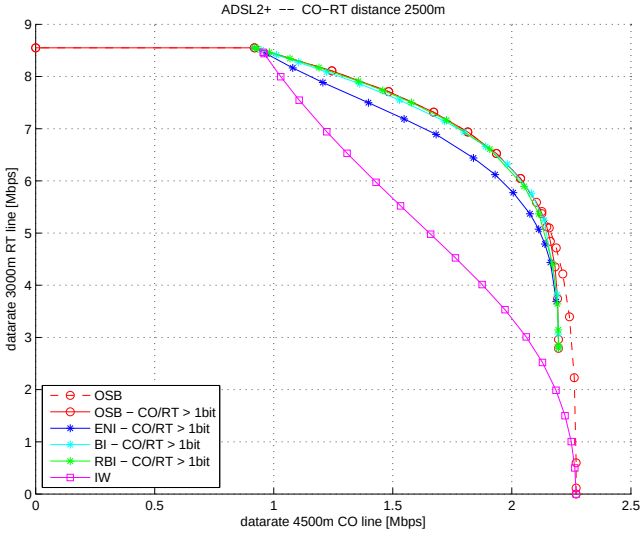

ADSL2+ -- CO=4250m RT=3000m CO-RT=2250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.86Mbps
OSB RT = 2.20Mbps
RBI CO = 2.86Mbps
RBI RT = 2.20Mbps

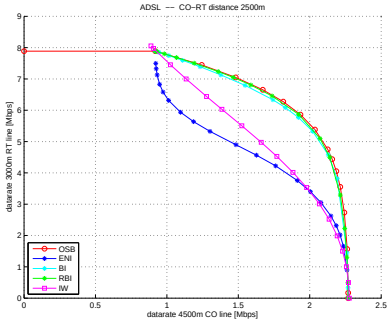

4500m
CO
2500m
2000m
RT
3000m

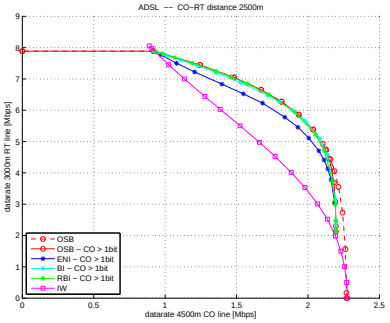

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

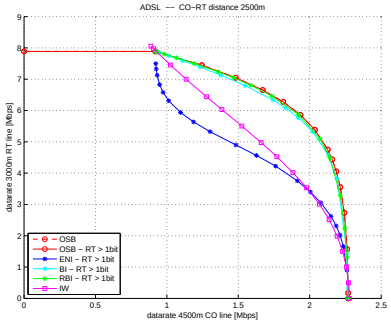

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

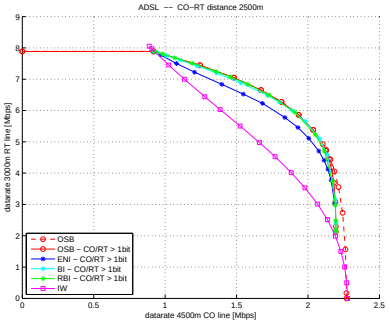

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

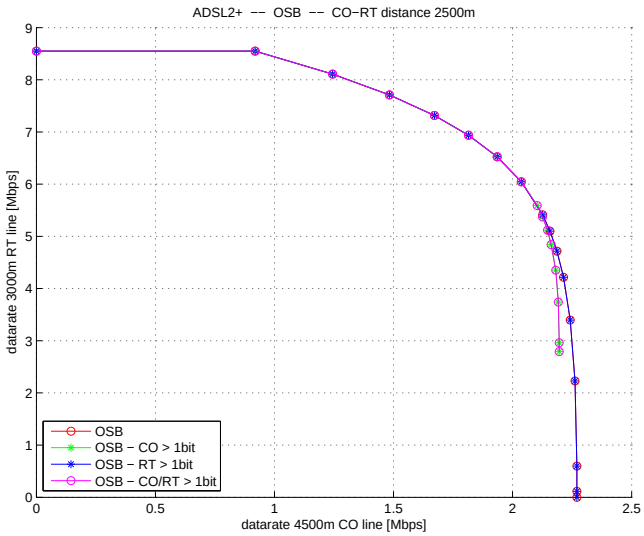

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

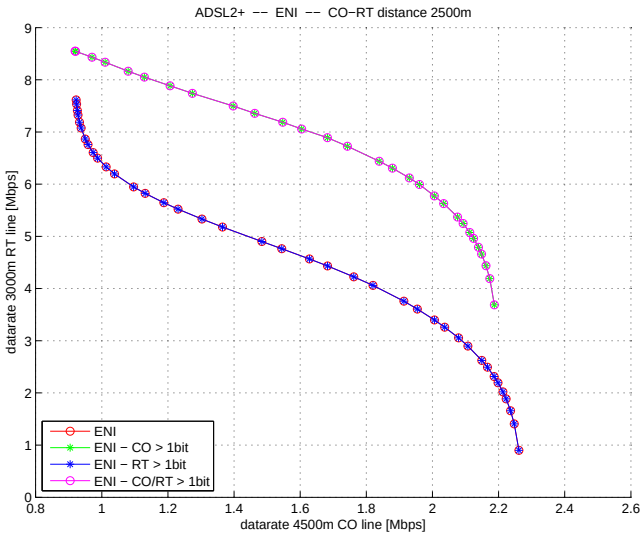

ADSL -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

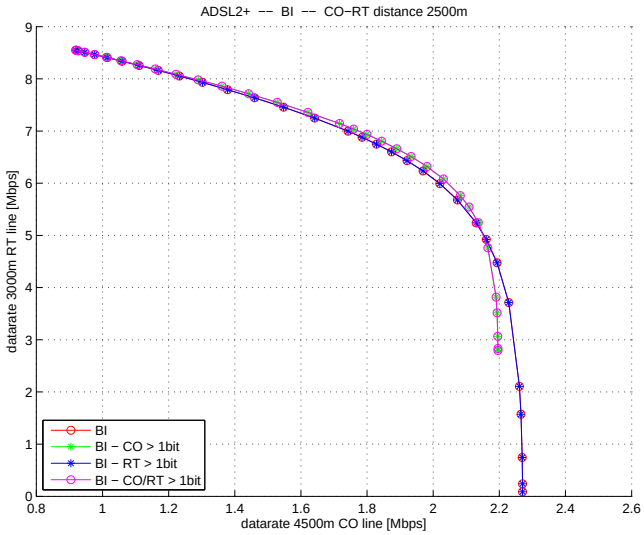

ADSL -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

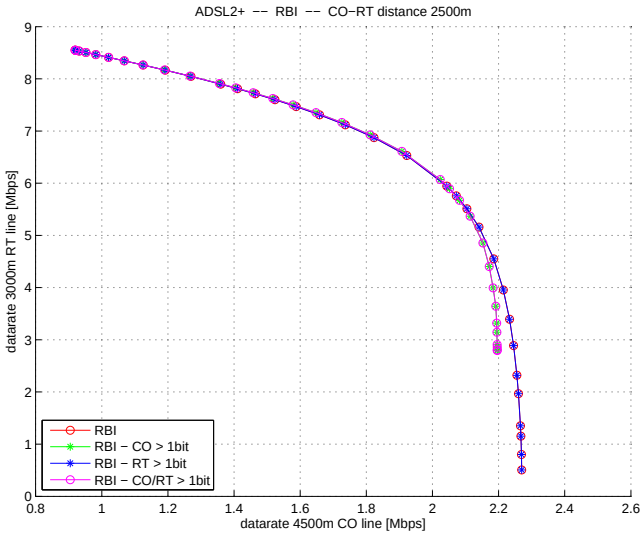

ADSL -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

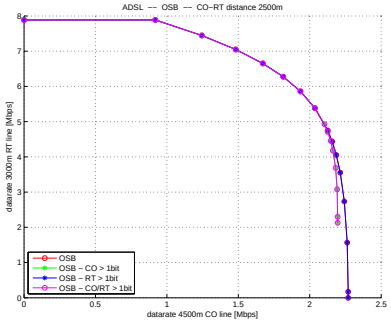

ADSL -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

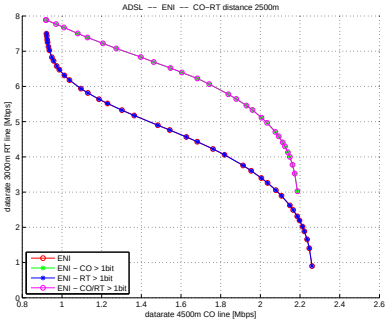

ADSL2+ -- OSB -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

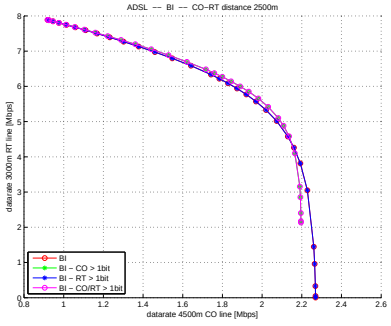

ADSL2+ -- ENI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

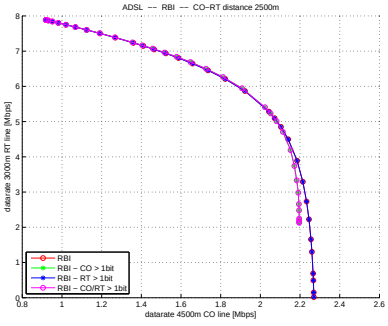

ADSL2+ -- BI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

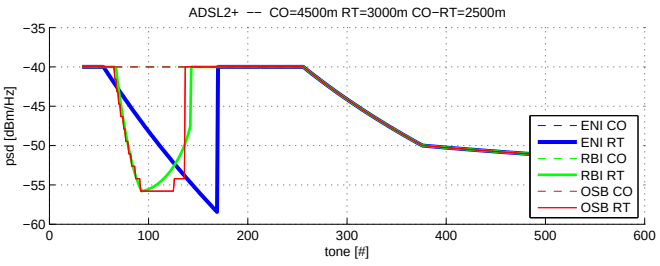

ADSL2+ -- RBI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

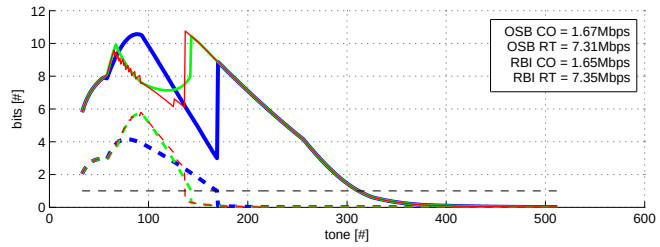

ADSL -- OSB -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

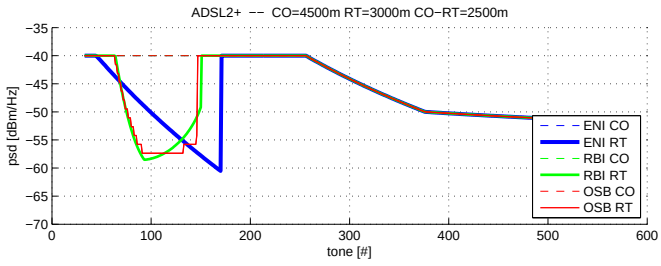

ADSL -- ENI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

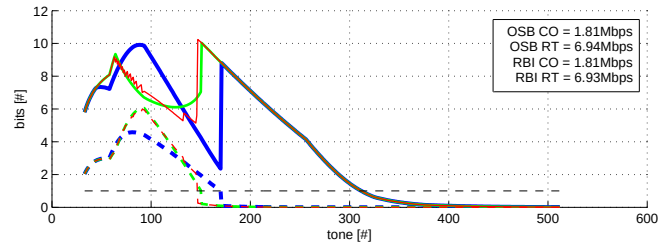

ADSL -- BI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

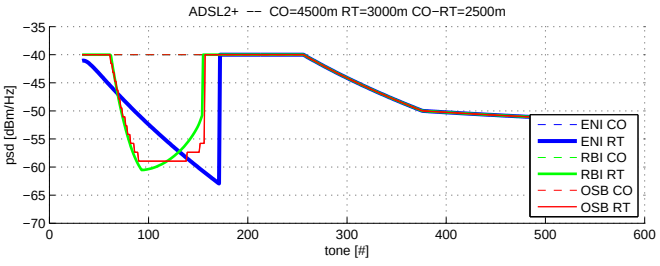

ADSL -- RBI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

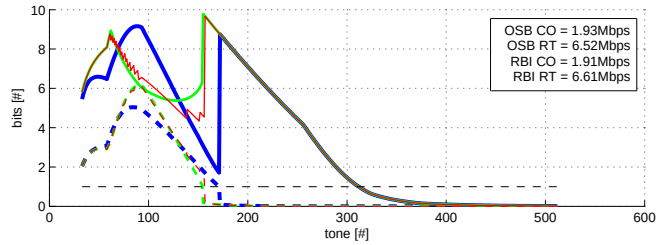

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

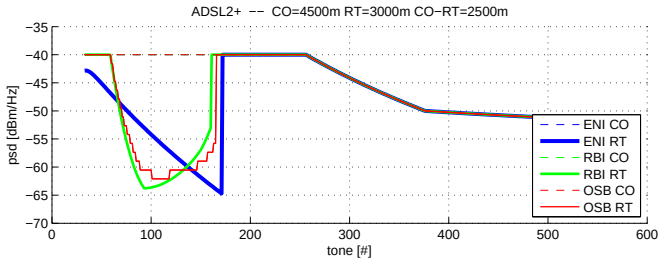

bits [#]
tone [#]
OSB CO = 1.67Mbps
OSB RT = 7.31Mbps
RBI CO = 1.65Mbps
RBI RT = 7.35Mbps

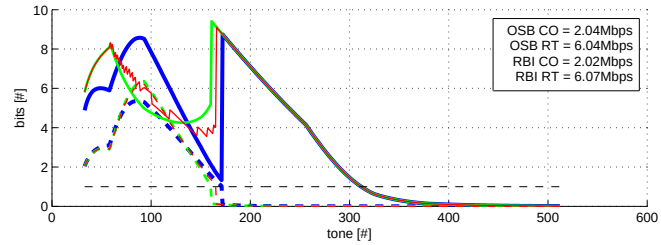

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

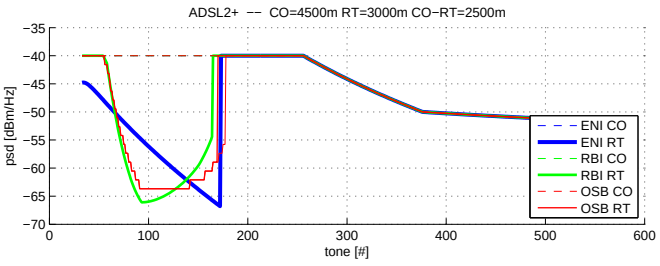

bits [#]
tone [#]
OSB CO = 1.81Mbps
OSB RT = 6.94Mbps
RBI CO = 1.81Mbps
RBI RT = 6.93Mbps

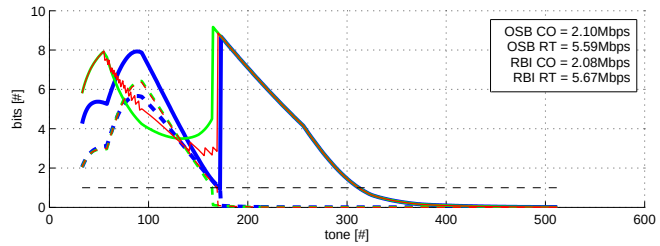

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

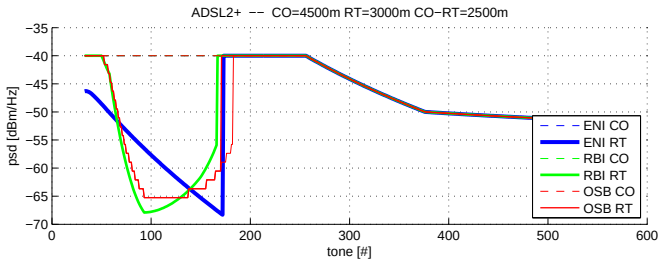

bits [#]
tone [#]
OSB CO = 1.93Mbps
OSB RT = 6.52Mbps
RBI CO = 1.91Mbps
RBI RT = 6.61Mbps

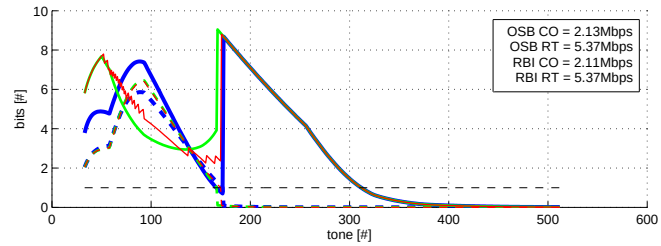

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

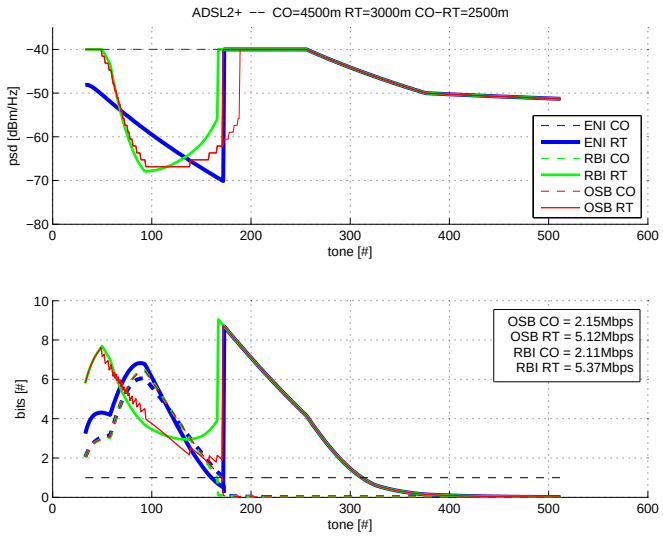

bits [#]
tone [#]
OSB CO = 2.04Mbps
OSB RT = 6.04Mbps
RBI CO = 2.02Mbps
RBI RT = 6.07Mbps

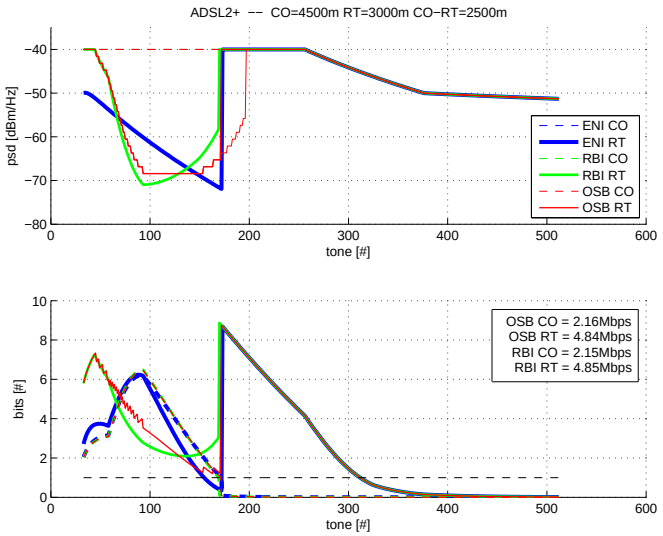

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

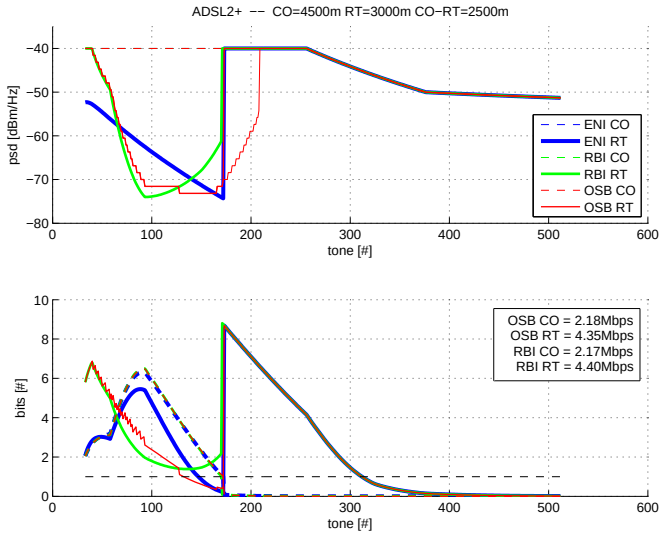

bits [#]
tone [#]
OSB CO = 2.10Mbps
OSB RT = 5.59Mbps
RBI CO = 2.08Mbps
RBI RT = 5.67Mbps

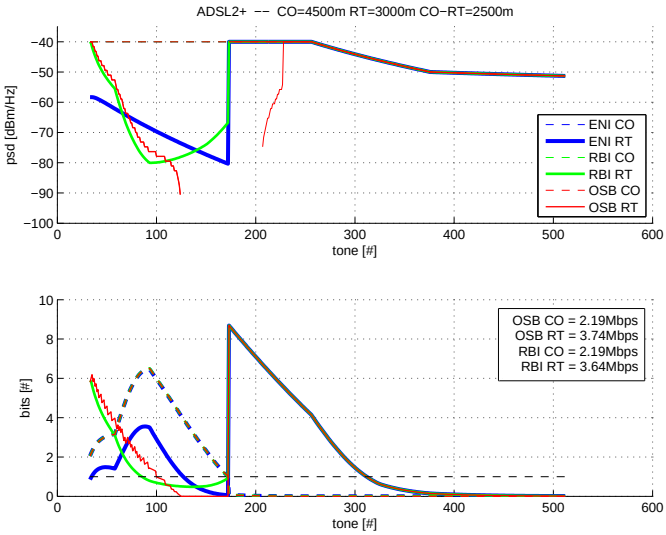

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

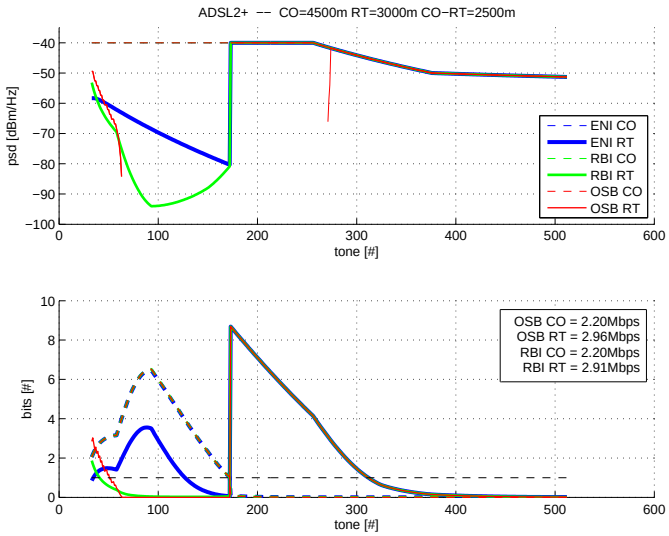

bits [#]
tone [#]
OSB CO = 2.13Mbps
OSB RT = 5.37Mbps
RBI CO = 2.11Mbps
RBI RT = 5.37Mbps

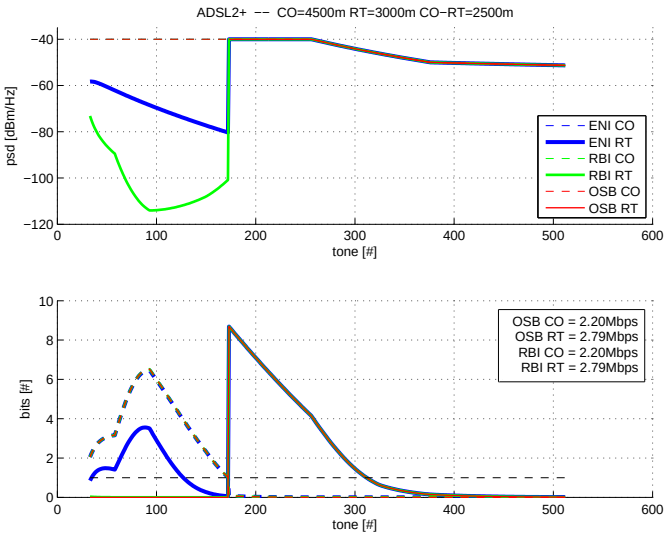

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.15Mbps
OSB RT = 5.12Mbps
RBI CO = 2.11Mbps
RBI RT = 5.37Mbps

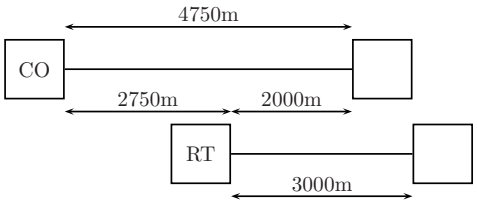

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.16Mbps
OSB RT = 4.84Mbps
RBI CO = 2.15Mbps
RBI RT = 4.85Mbps

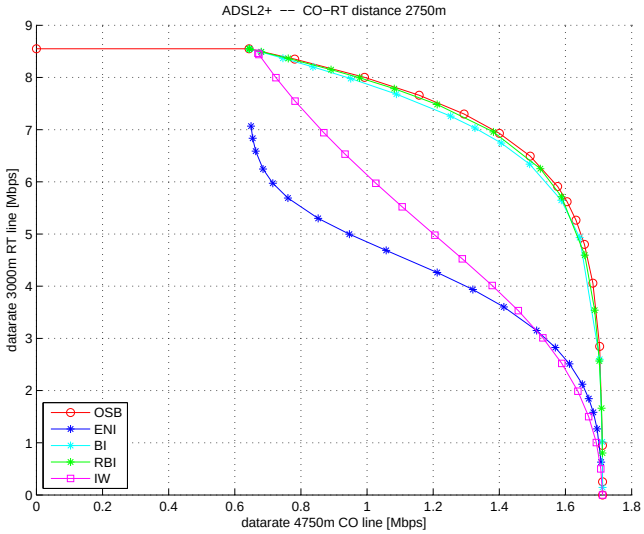

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.18Mbps
OSB RT = 4.35Mbps
RBI CO = 2.17Mbps
RBI RT = 4.40Mbps

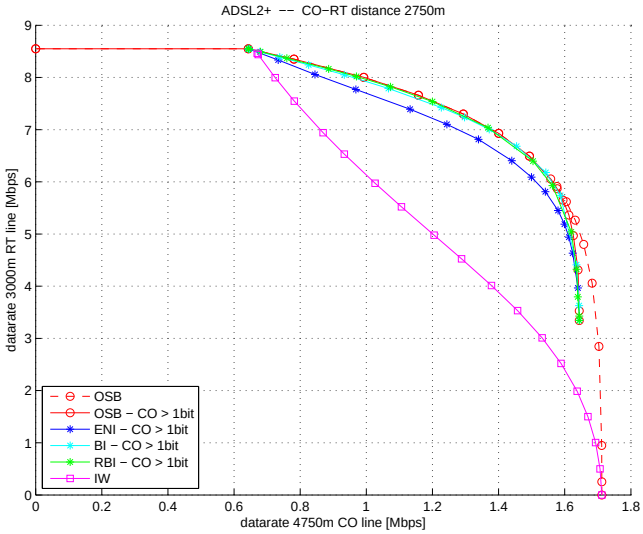

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 3.74Mbps
RBI CO = 2.19Mbps
RBI RT = 3.64Mbps

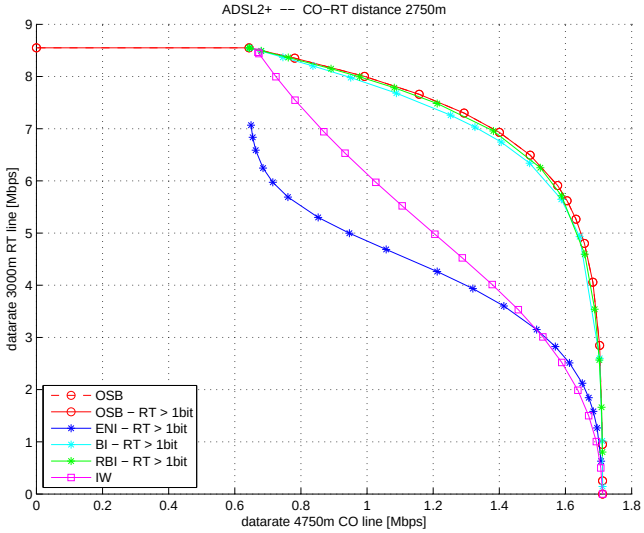

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.20Mbps
OSB RT = 2.96Mbps
RBI CO = 2.20Mbps
RBI RT = 2.91Mbps

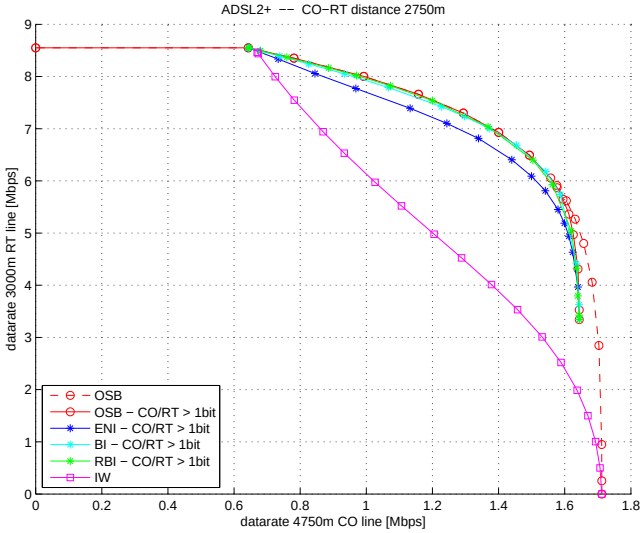

ADSL2+ -- CO=4500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.20Mbps
OSB RT = 2.79Mbps
RBI CO = 2.20Mbps
RBI RT = 2.79Mbps

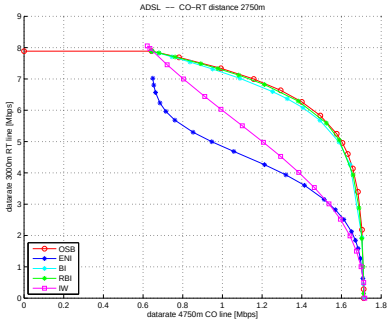

4750m
CO
2750m
2000m
RT
3000m

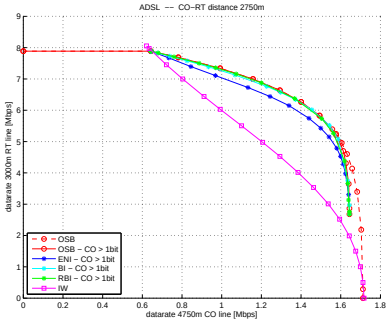

ADSL2+ -- CO-RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

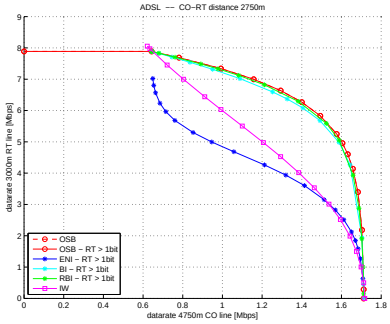

ADSL2+ -- CO-RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

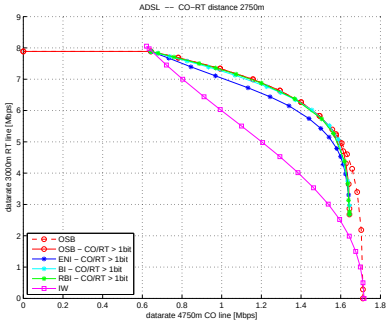

ADSL2+ -- CO-RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

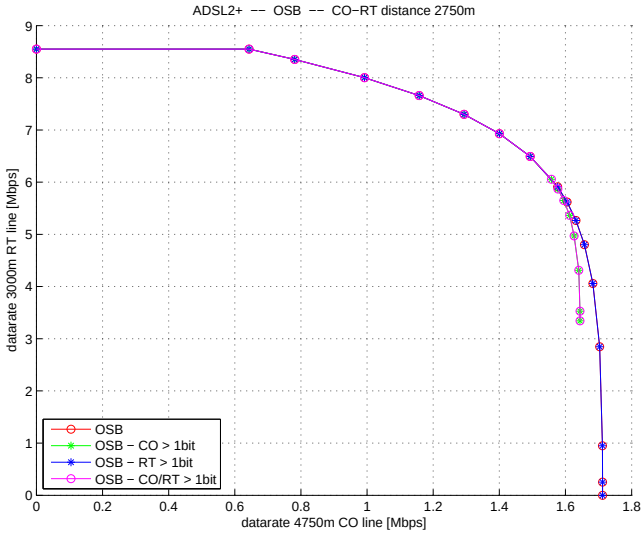

ADSL2+ -- CO-RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

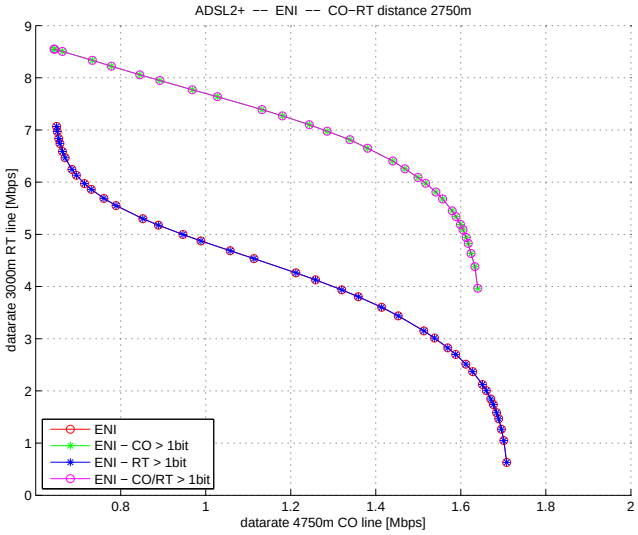

ADSL -- CO-RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

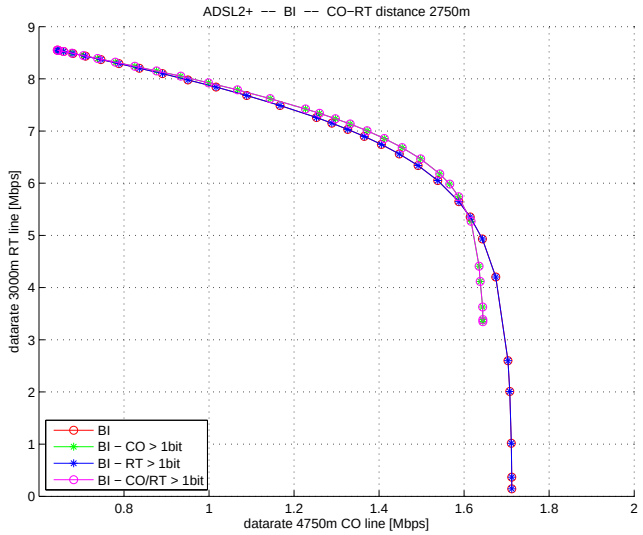

ADSL -- CO-RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

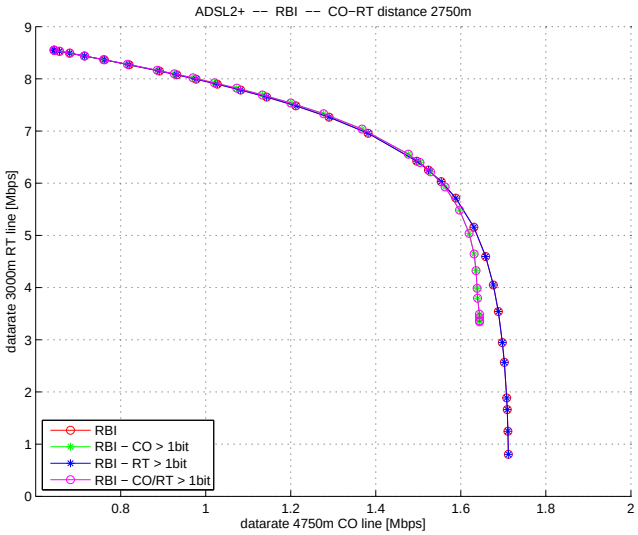

ADSL -- CO-RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

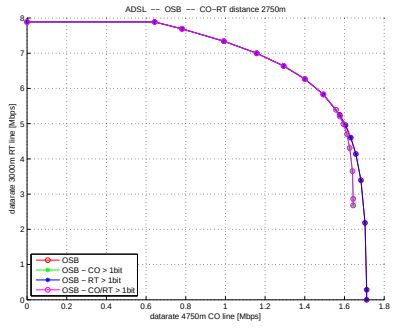

ADSL -- CO-RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

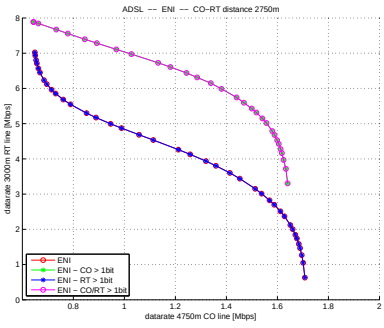

ADSL2+ -- OSB -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

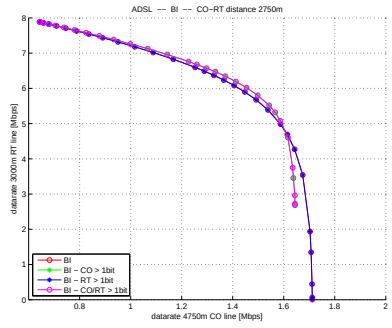

ADSL2+ -- ENI -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

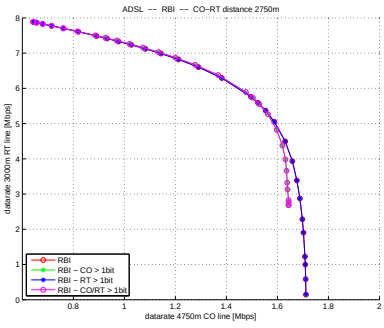

ADSL2+ -- BI -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

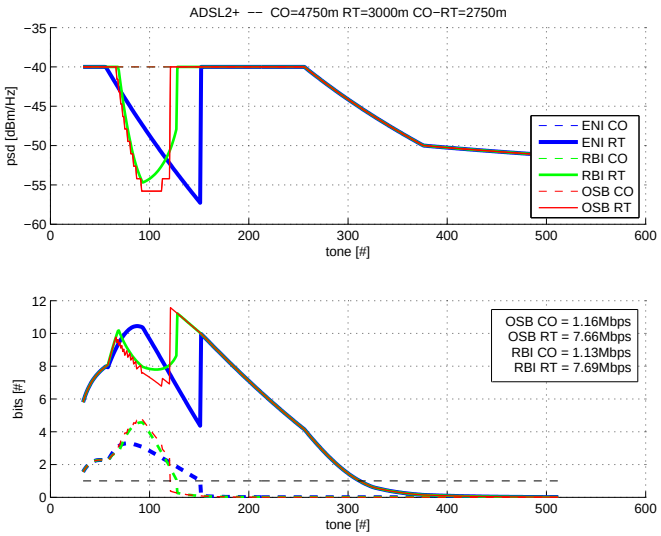

ADSL2+ -- RBI -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

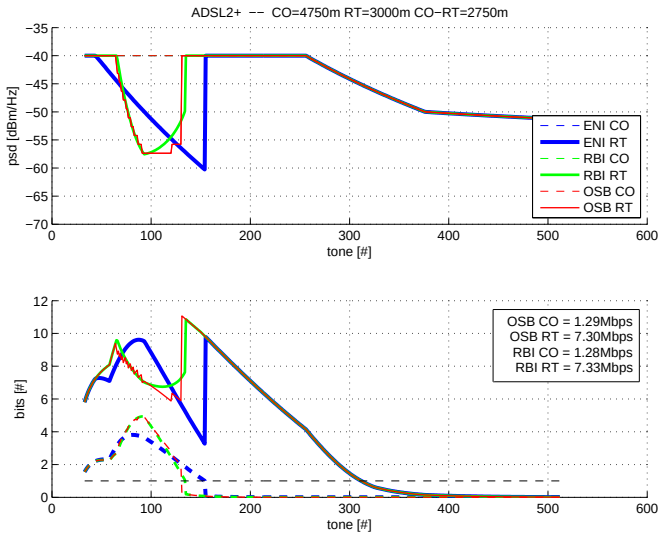

ADSL -- OSB -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

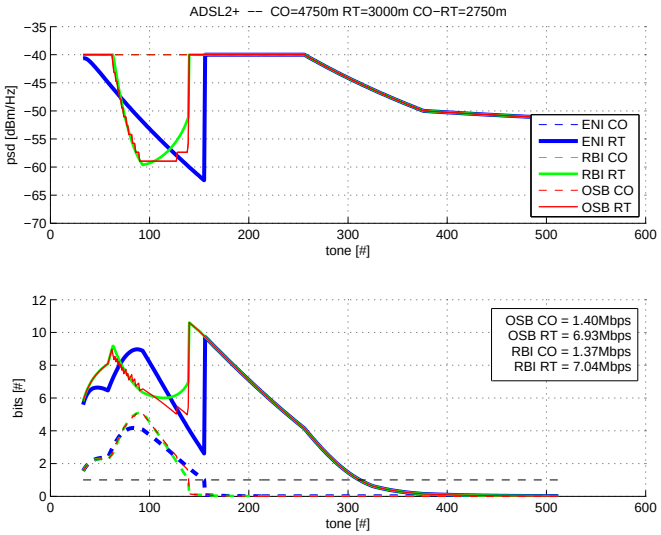

ADSL -- ENI -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

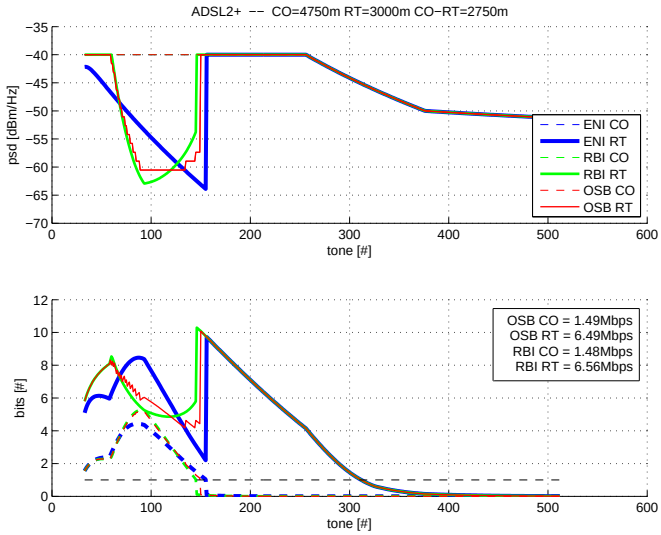

ADSL -- BI -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

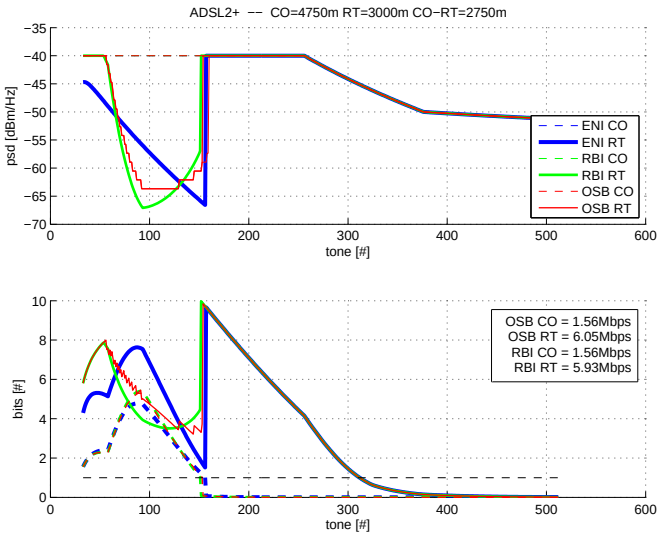

ADSL -- RBI -- CO−RT distance 2750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

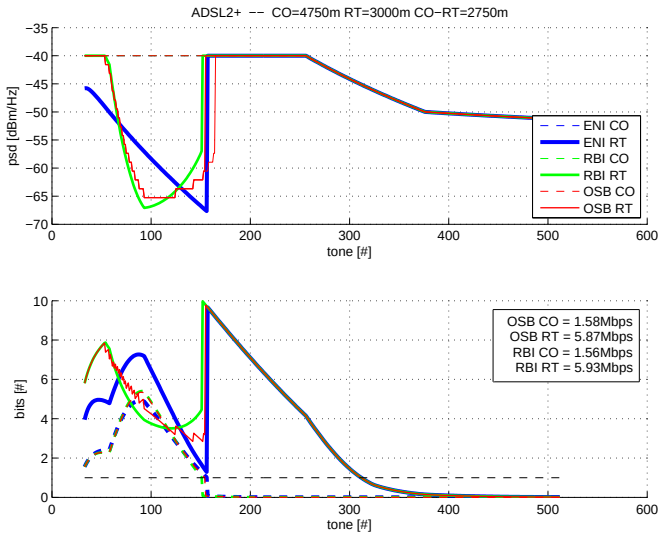

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.16Mbps
OSB RT = 7.66Mbps
RBI CO = 1.13Mbps
RBI RT = 7.69Mbps

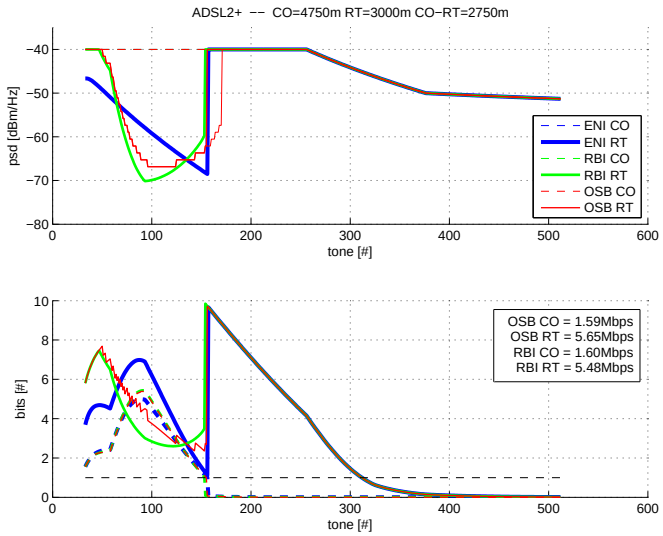

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.29Mbps
OSB RT = 7.30Mbps
RBI CO = 1.28Mbps
RBI RT = 7.33Mbps

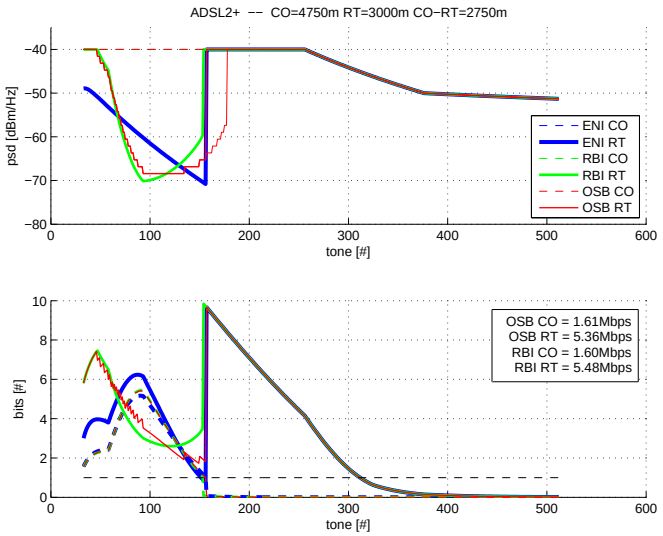

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.40Mbps
OSB RT = 6.93Mbps
RBI CO = 1.37Mbps
RBI RT = 7.04Mbps

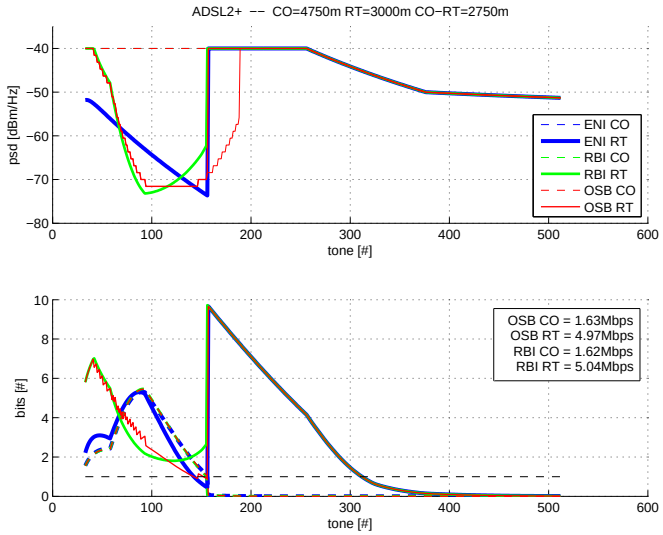

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.49Mbps
OSB RT = 6.49Mbps
RBI CO = 1.48Mbps
RBI RT = 6.56Mbps

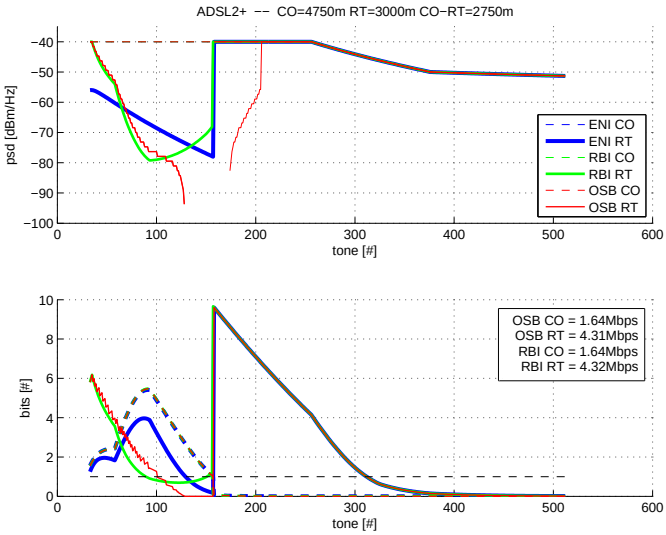

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.56Mbps
OSB RT = 6.05Mbps
RBI CO = 1.56Mbps
RBI RT = 5.93Mbps

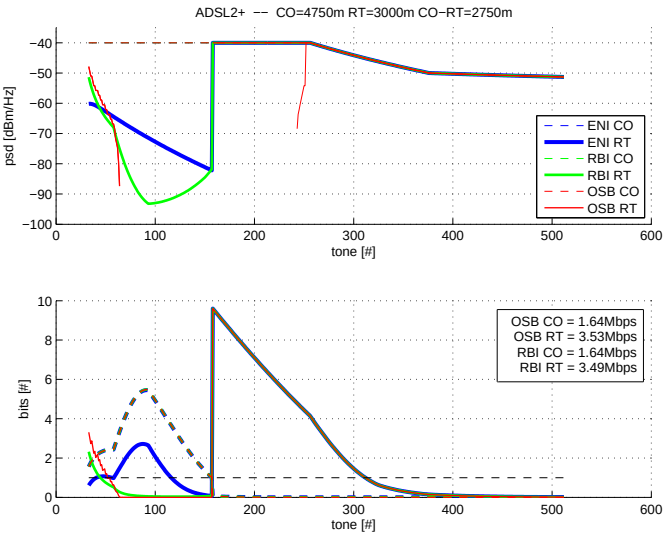

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.58Mbps
OSB RT = 5.87Mbps
RBI CO = 1.56Mbps
RBI RT = 5.93Mbps

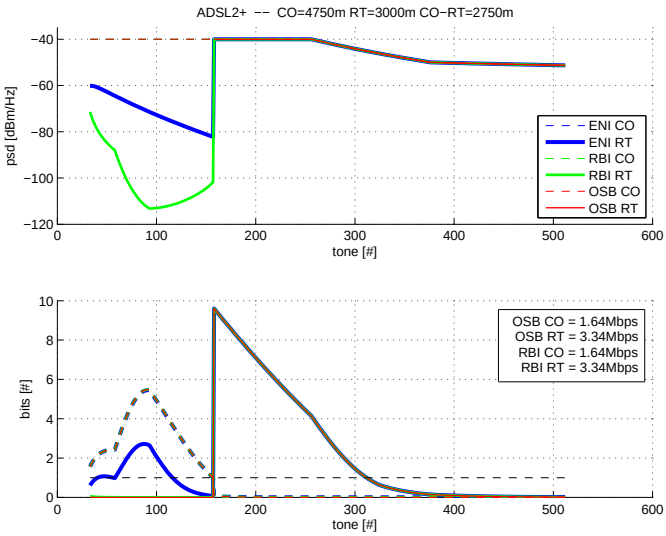

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.59Mbps
OSB RT = 5.65Mbps
RBI CO = 1.60Mbps
RBI RT = 5.48Mbps

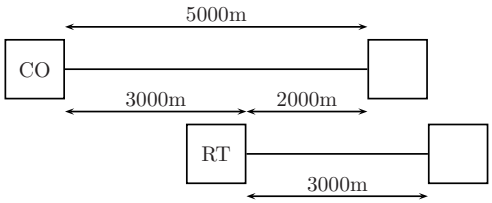

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.61Mbps
OSB RT = 5.36Mbps
RBI CO = 1.60Mbps
RBI RT = 5.48Mbps

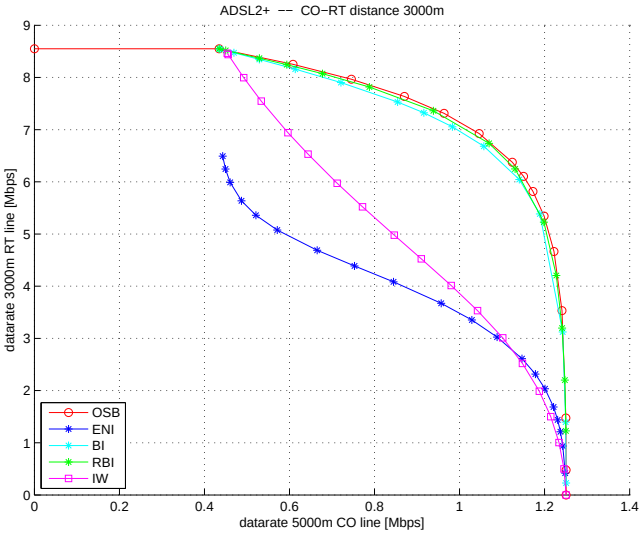

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.63Mbps
OSB RT = 4.97Mbps
RBI CO = 1.62Mbps
RBI RT = 5.04Mbps

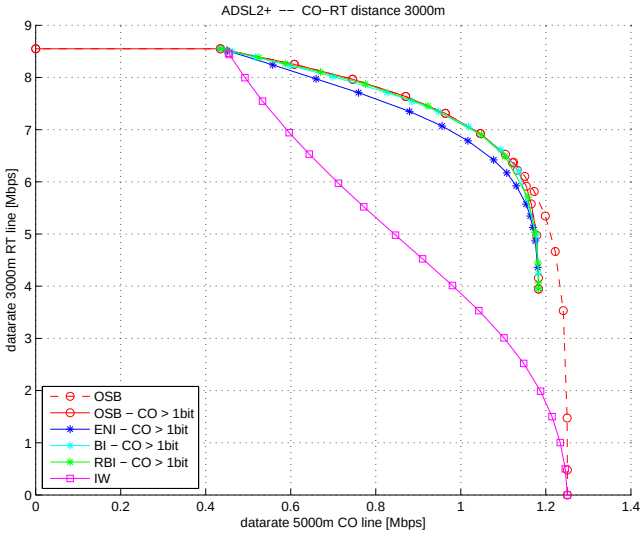

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 4.31Mbps
RBI CO = 1.64Mbps
RBI RT = 4.32Mbps

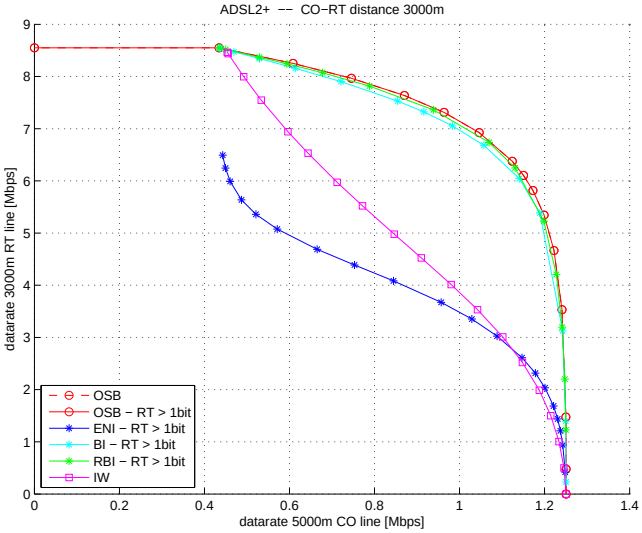

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.53Mbps
RBI CO = 1.64Mbps
RBI RT = 3.49Mbps

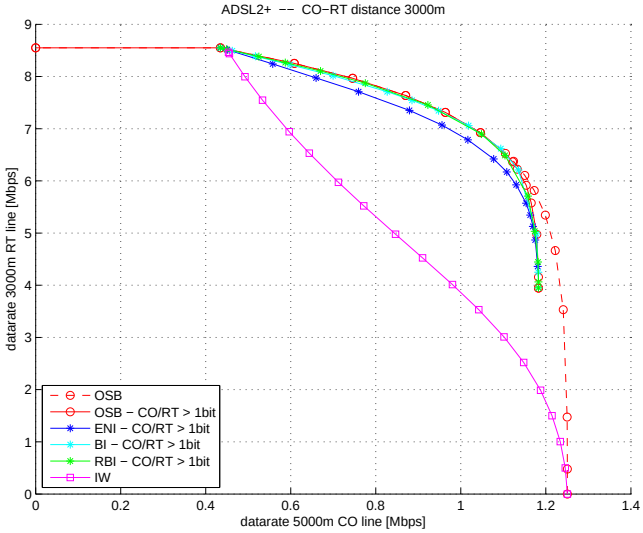

ADSL2+ -- CO=4750m RT=3000m CO-RT=2750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.64Mbps
OSB RT = 3.34Mbps
RBI CO = 1.64Mbps
RBI RT = 3.34Mbps

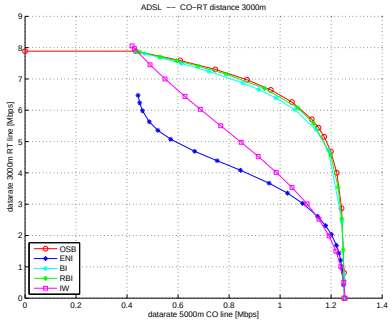

5000m
CO
3000m
2000m
RT
3000m

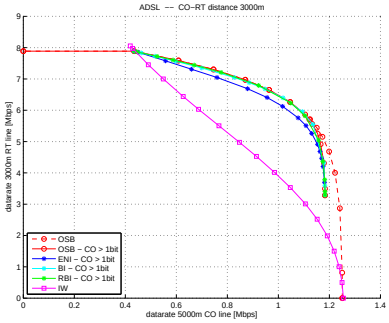

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

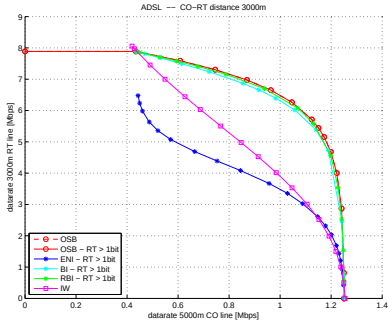

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

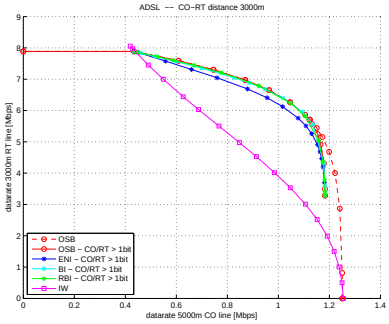

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

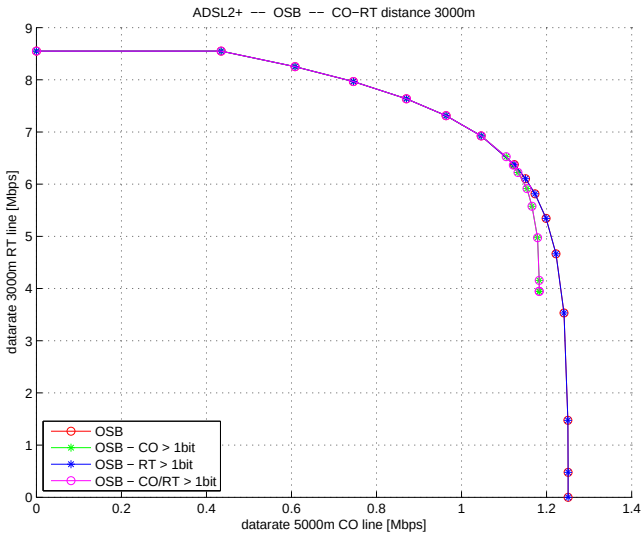

ADSL2+ -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

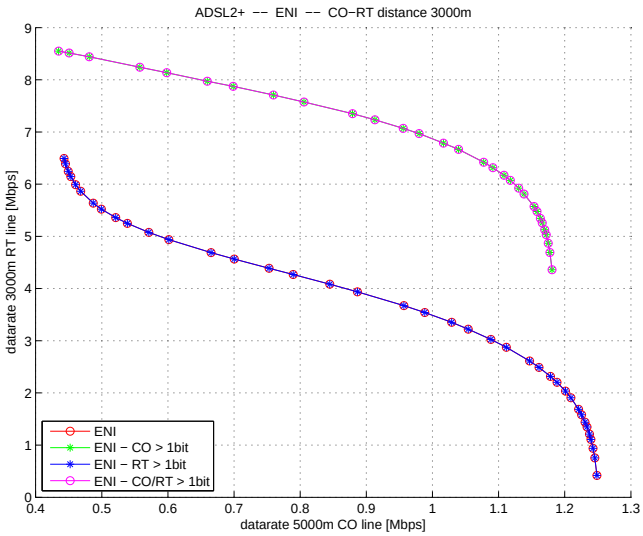

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

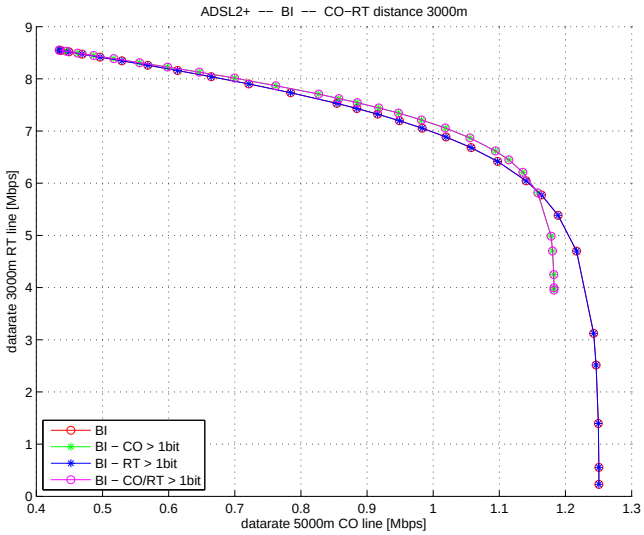

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

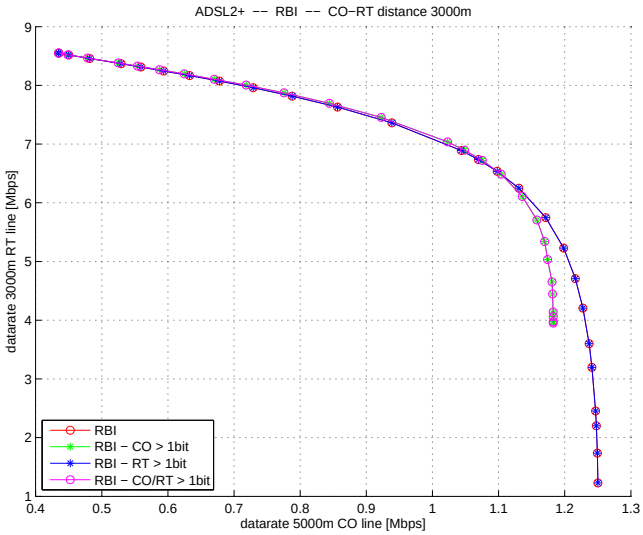

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

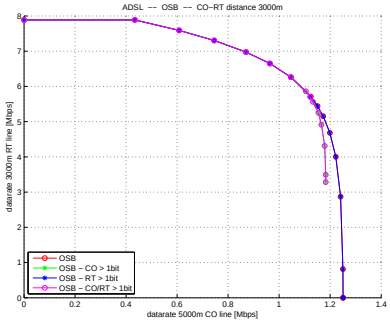

ADSL -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

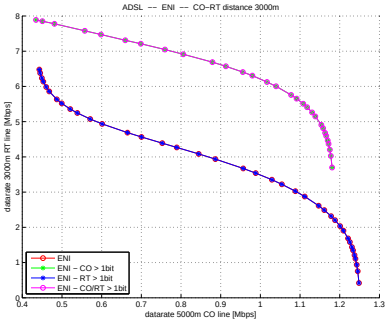

ADSL2+ -- OSB -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

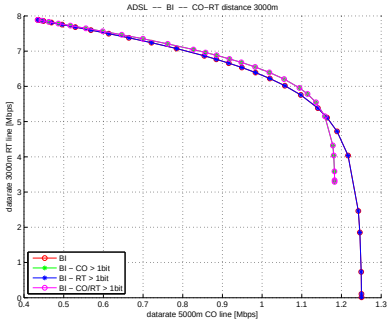

ADSL2+ -- ENI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

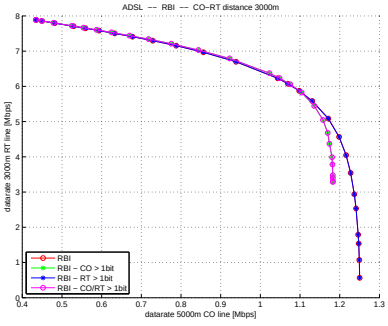

ADSL2+ -- BI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

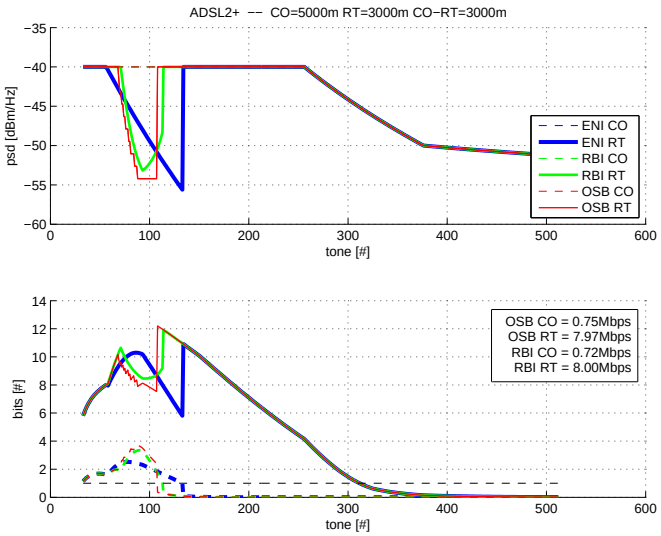

ADSL2+ -- RBI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

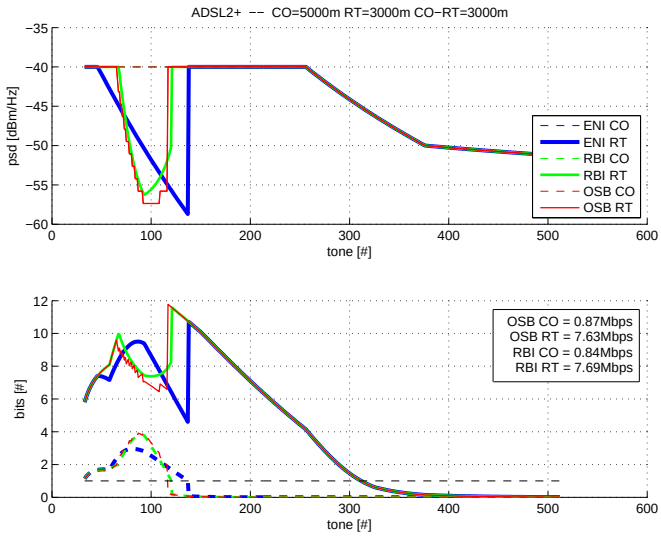

ADSL -- OSB -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

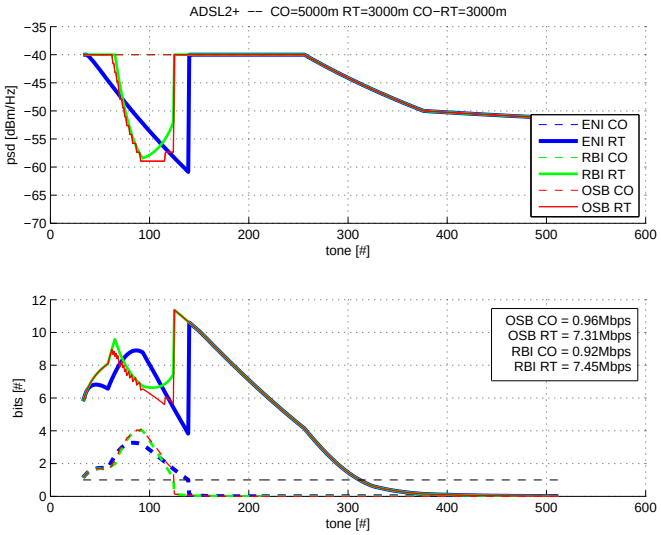

ADSL -- ENI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

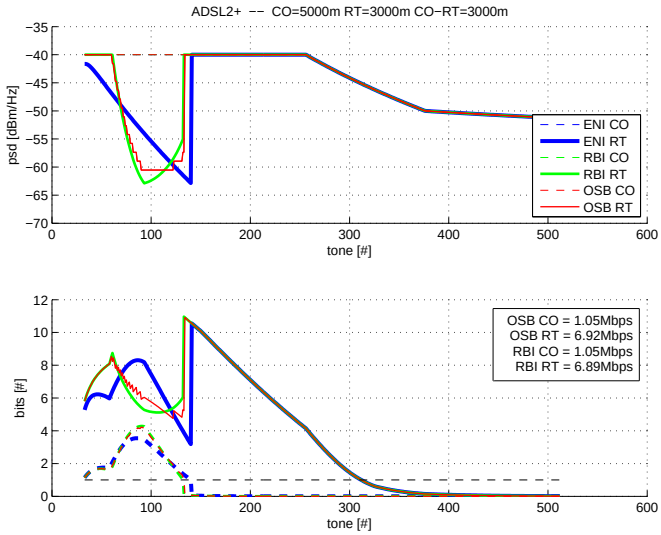

ADSL -- BI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

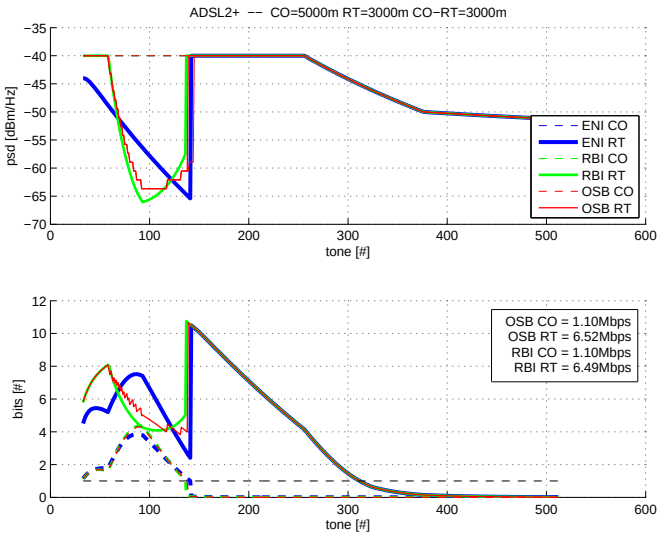

ADSL -- RBI -- CO-RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

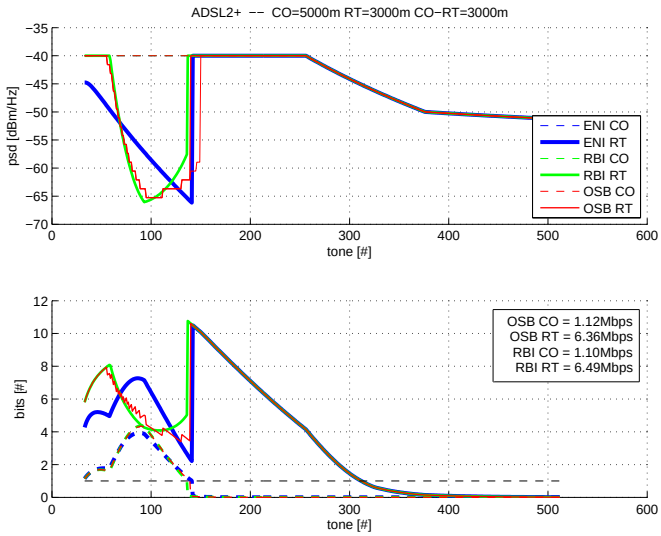

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.75Mbps
OSB RT = 7.97Mbps
RBI CO = 0.72Mbps
RBI RT = 8.00Mbps

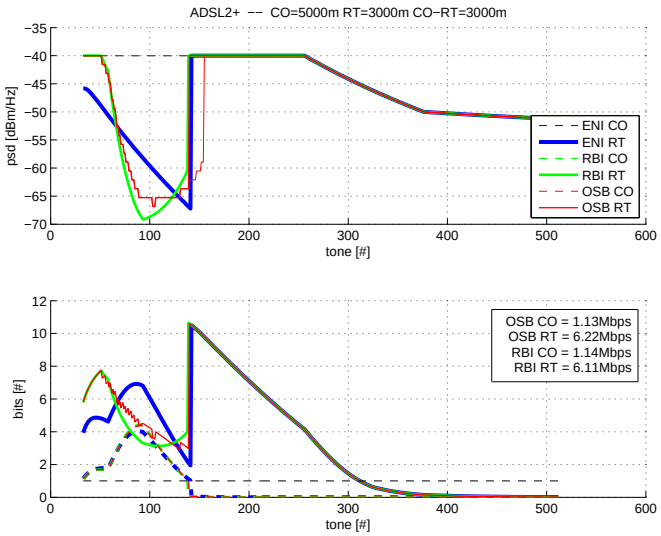

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.87Mbps
OSB RT = 7.63Mbps
RBI CO = 0.84Mbps
RBI RT = 7.69Mbps

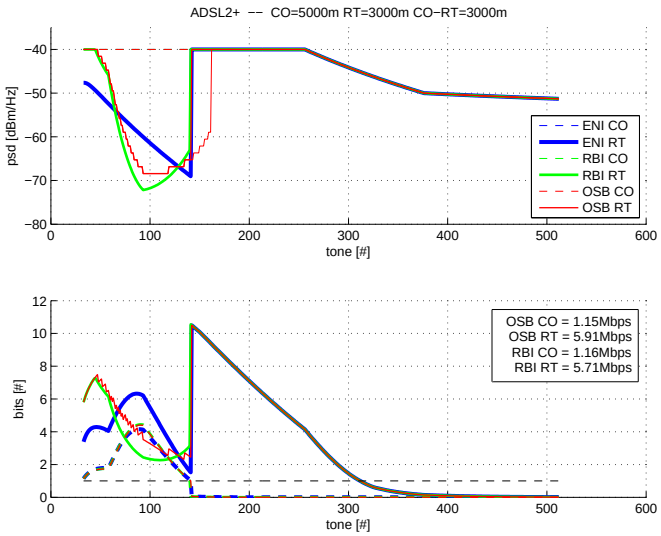

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.96Mbps
OSB RT = 7.31Mbps
RBI CO = 0.92Mbps
RBI RT = 7.45Mbps

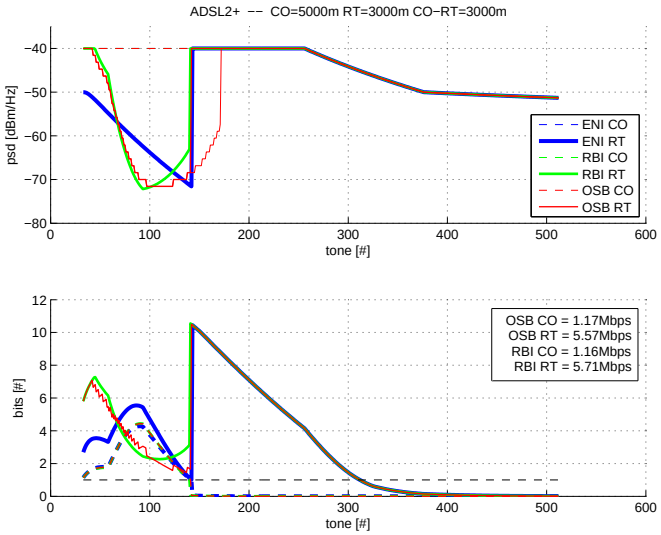

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.05Mbps
OSB RT = 6.92Mbps
RBI CO = 1.05Mbps
RBI RT = 6.89Mbps

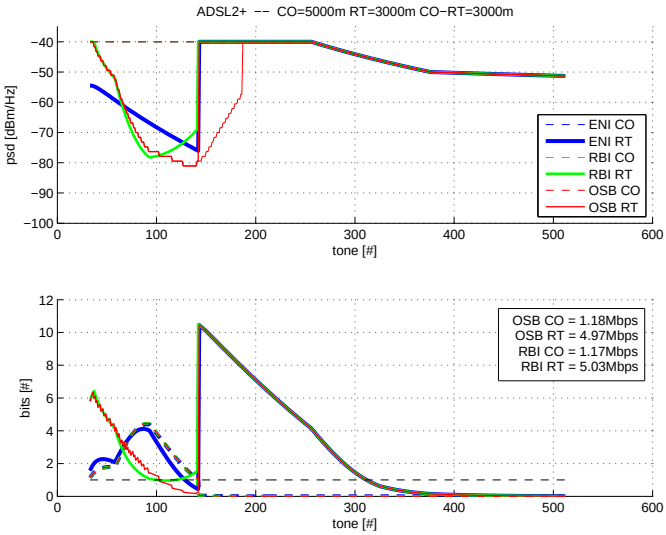

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.10Mbps
OSB RT = 6.52Mbps
RBI CO = 1.10Mbps
RBI RT = 6.49Mbps

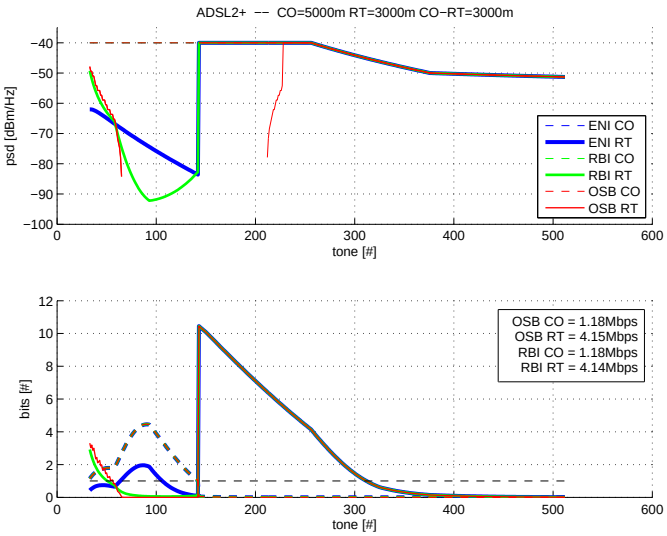

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.12Mbps
OSB RT = 6.36Mbps
RBI CO = 1.10Mbps
RBI RT = 6.49Mbps

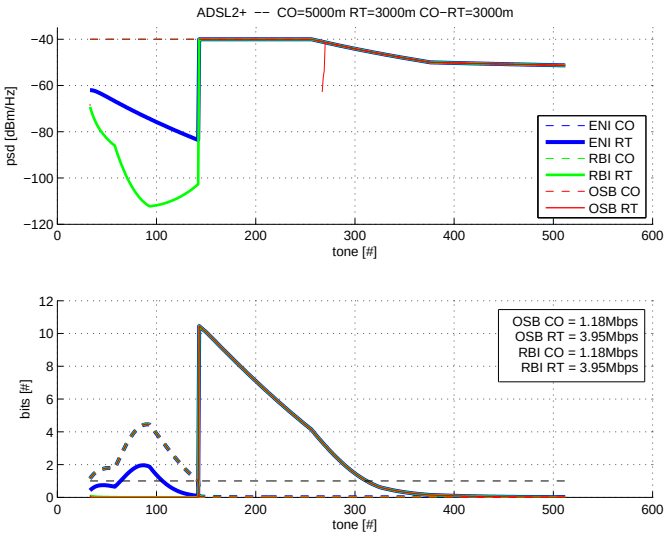

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.13Mbps
OSB RT = 6.22Mbps
RBI CO = 1.14Mbps
RBI RT = 6.11Mbps

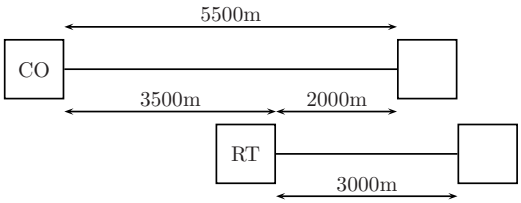

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.15Mbps
OSB RT = 5.91Mbps
RBI CO = 1.16Mbps
RBI RT = 5.71Mbps

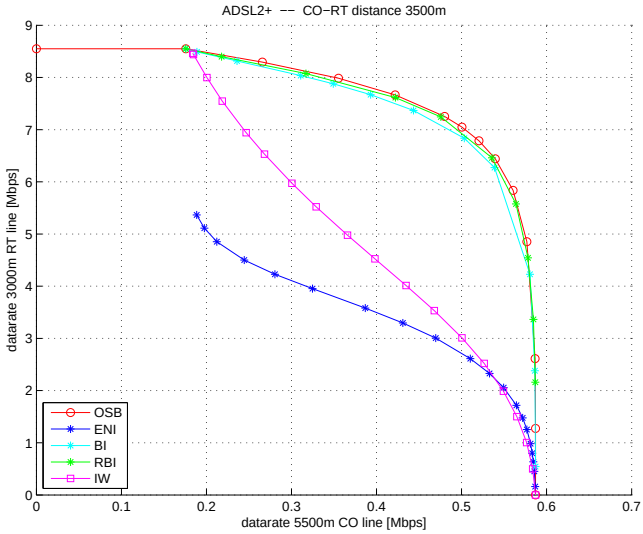

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.17Mbps
OSB RT = 5.57Mbps
RBI CO = 1.16Mbps
RBI RT = 5.71Mbps

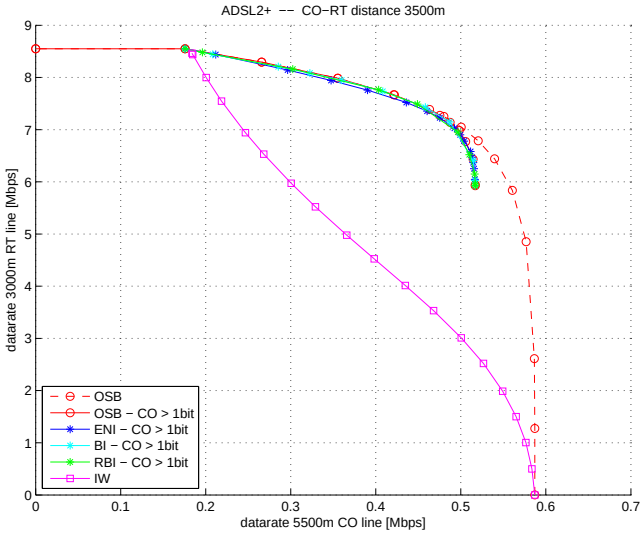

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.18Mbps
OSB RT = 4.97Mbps
RBI CO = 1.17Mbps
RBI RT = 5.03Mbps

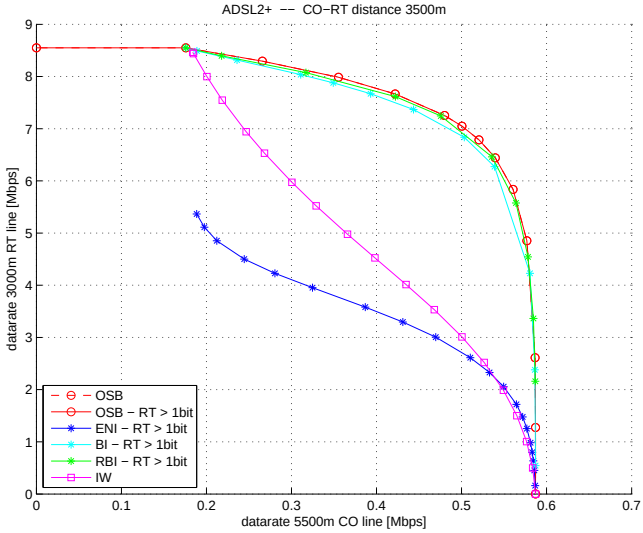

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.18Mbps
OSB RT = 4.15Mbps
RBI CO = 1.18Mbps
RBI RT = 4.14Mbps

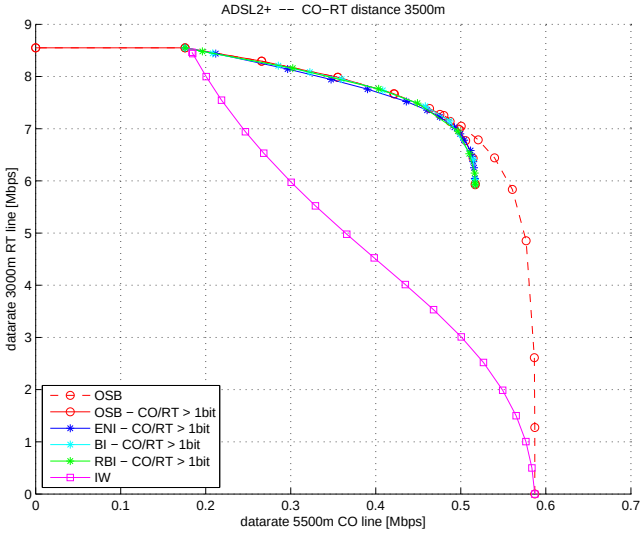

ADSL2+ -- CO=5000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.18Mbps
OSB RT = 3.95Mbps
RBI CO = 1.18Mbps
RBI RT = 3.95Mbps

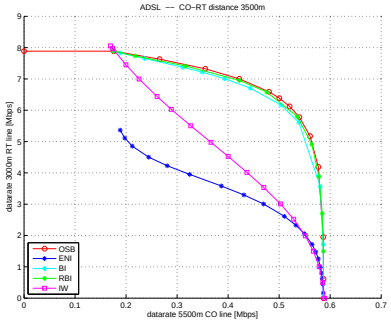

5500m
CO
3500m
2000m
RT
3000m

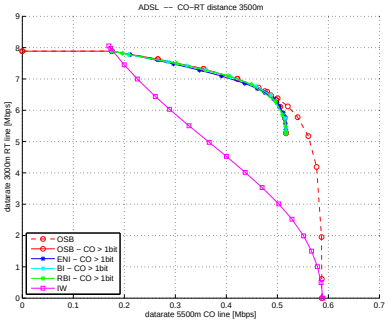

ADSL2+ -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

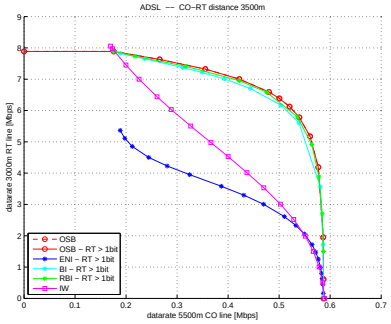

ADSL2+ -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

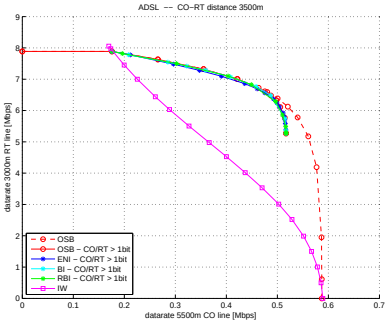

ADSL2+ -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

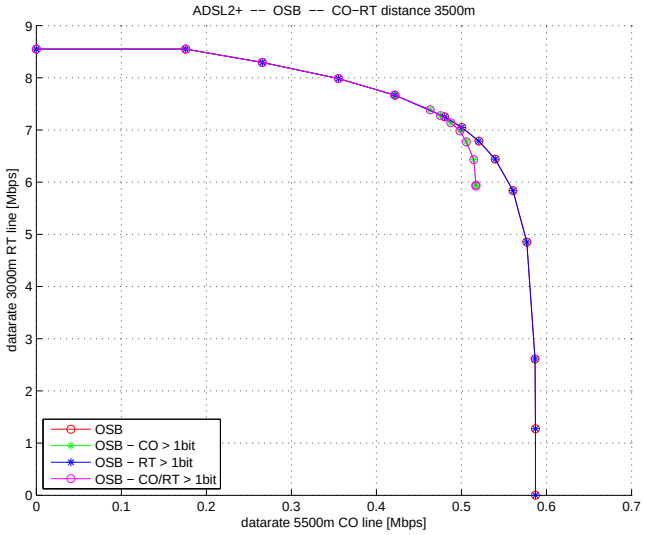

ADSL2+ -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

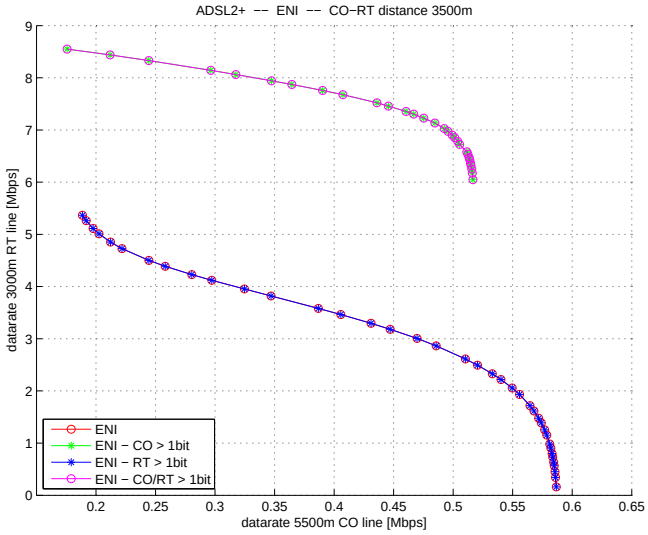

ADSL -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

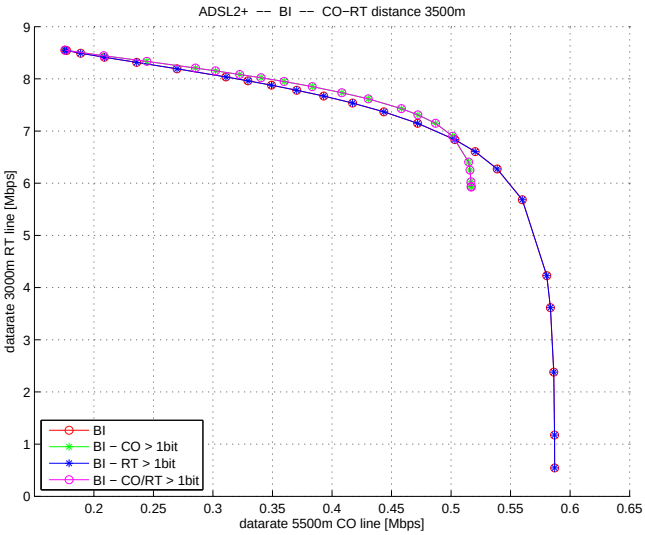

ADSL -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

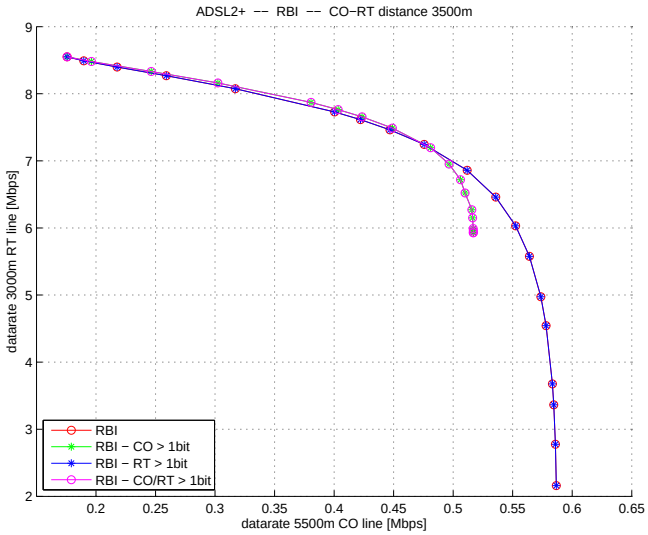

ADSL -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

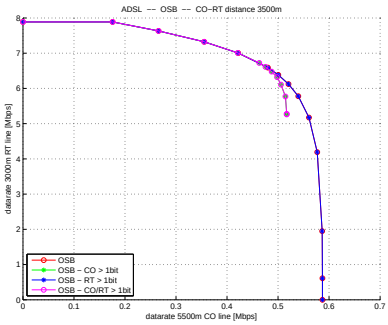

ADSL -- CO-RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

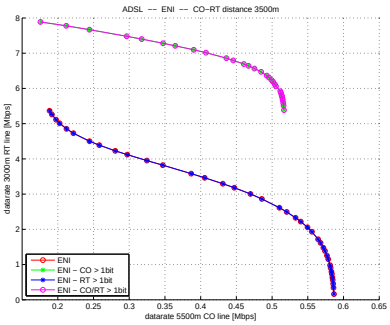

ADSL2+ −− OSB −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

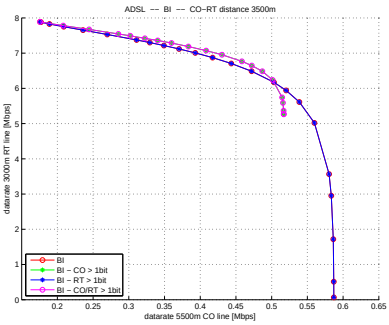

ADSL2+ −− ENI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

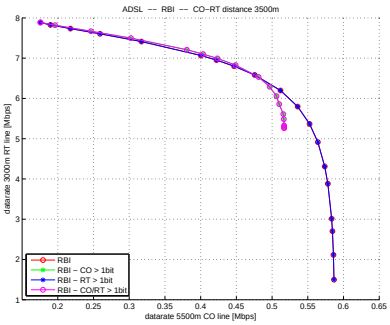

ADSL2+ −− BI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

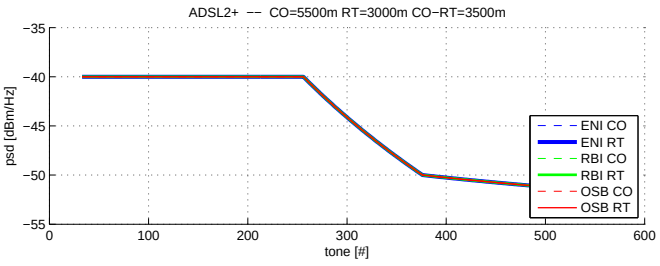

ADSL2+ −− RBI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

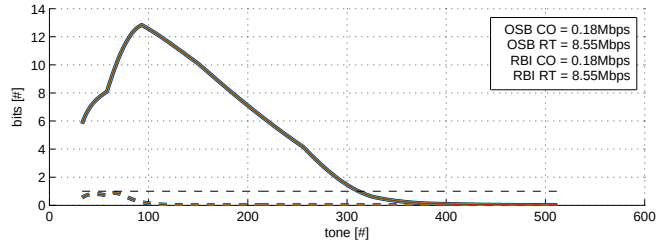

ADSL −− OSB −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

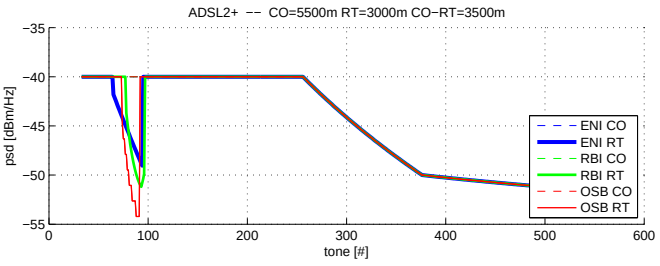

ADSL −− ENI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

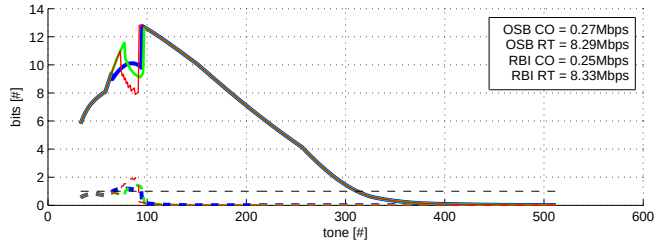

ADSL −− BI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

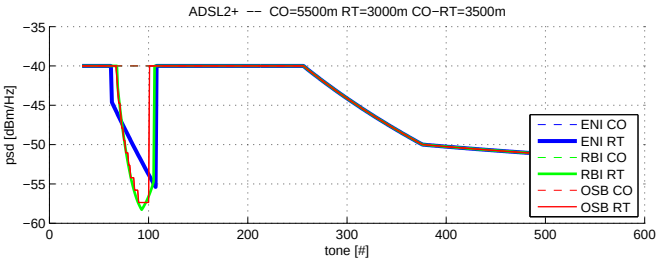

ADSL −− RBI −− CO−RT distance 3500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

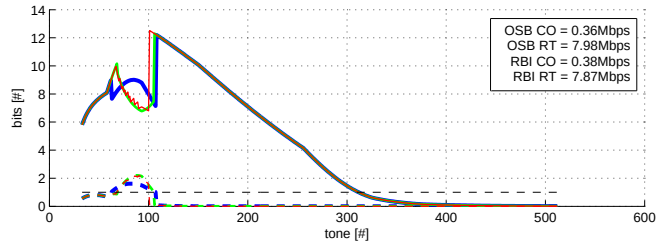

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

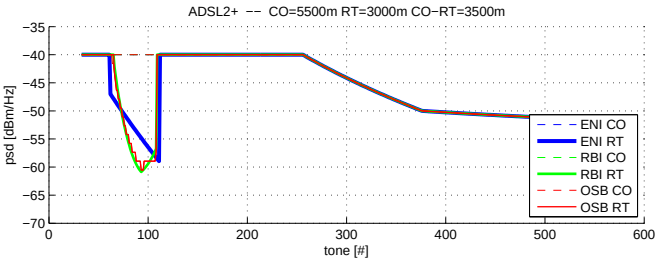

bits [#]
tone [#]
OSB CO = 0.18Mbps
OSB RT = 8.55Mbps
RBI CO = 0.18Mbps
RBI RT = 8.55Mbps

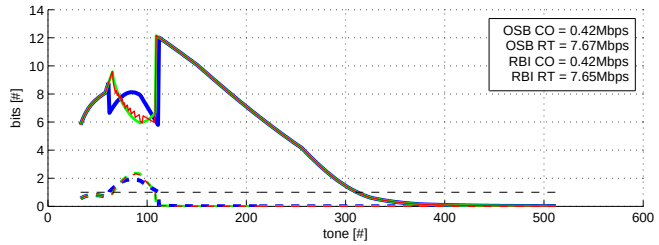

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

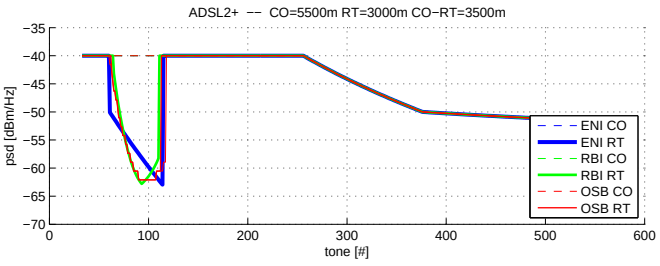

bits [#]
tone [#]
OSB CO = 0.27Mbps
OSB RT = 8.29Mbps
RBI CO = 0.25Mbps
RBI RT = 8.33Mbps

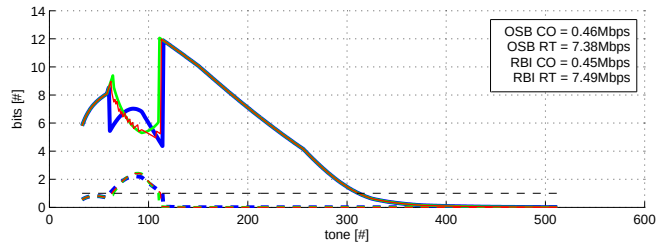

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

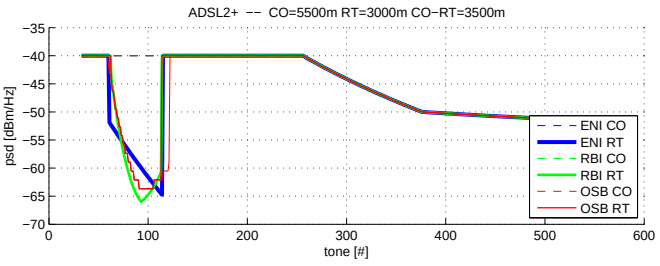

bits [#]
tone [#]
OSB CO = 0.36Mbps
OSB RT = 7.98Mbps
RBI CO = 0.38Mbps
RBI RT = 7.87Mbps

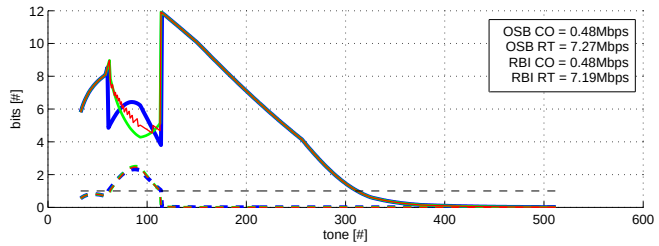

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

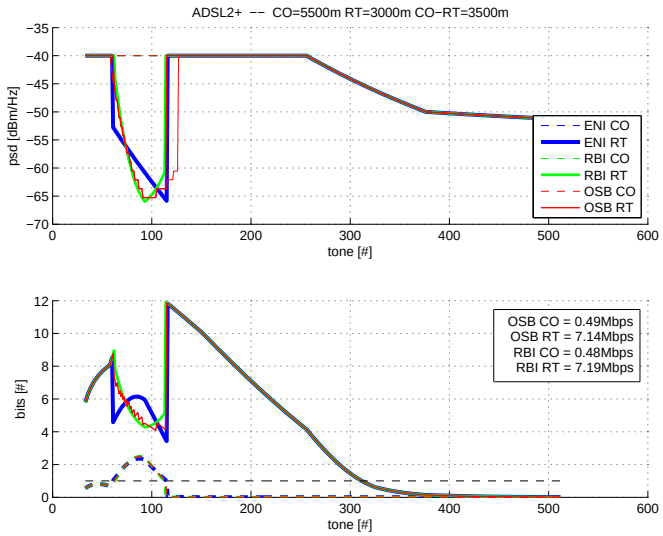

bits [#]
tone [#]
OSB CO = 0.42Mbps
OSB RT = 7.67Mbps
RBI CO = 0.42Mbps
RBI RT = 7.65Mbps

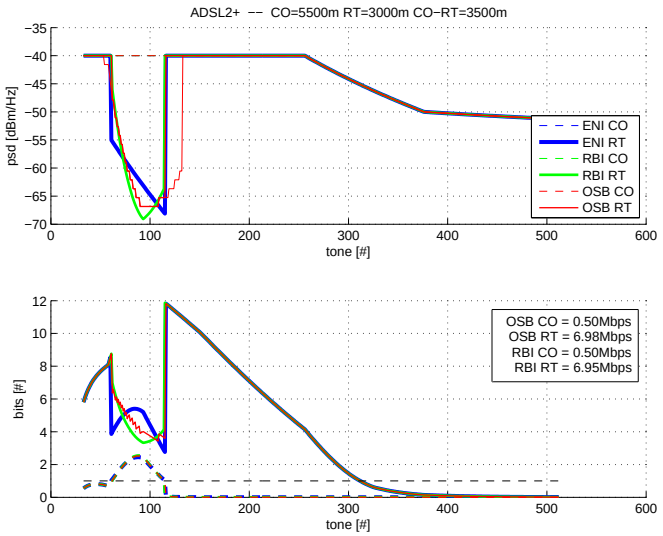

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

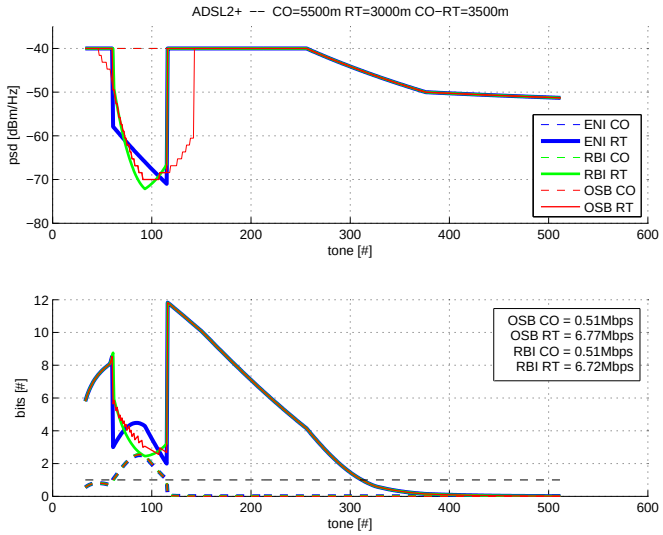

bits [#]
tone [#]
OSB CO = 0.46Mbps
OSB RT = 7.38Mbps
RBI CO = 0.45Mbps
RBI RT = 7.49Mbps

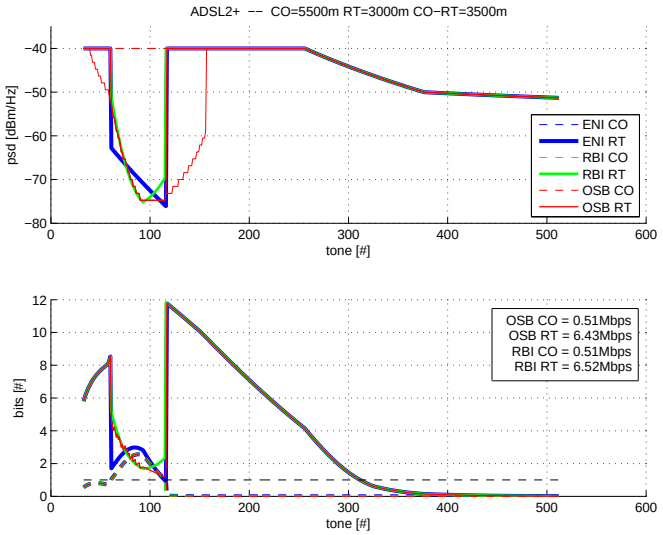

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

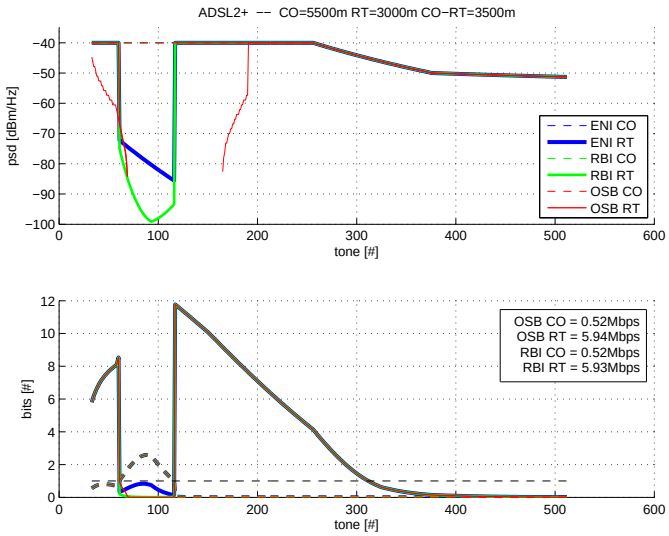

bits [#]
tone [#]
OSB CO = 0.48Mbps
OSB RT = 7.27Mbps
RBI CO = 0.48Mbps
RBI RT = 7.19Mbps

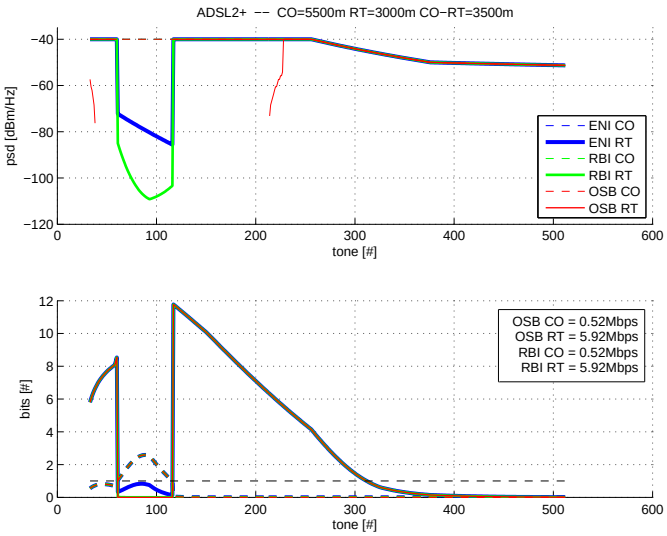

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.49Mbps
OSB RT = 7.14Mbps
RBI CO = 0.48Mbps
RBI RT = 7.19Mbps

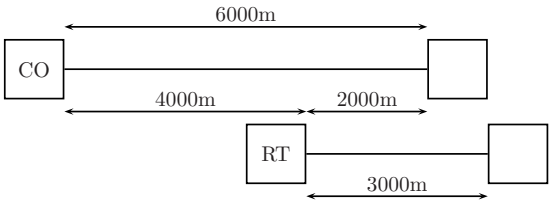

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.50Mbps
OSB RT = 6.98Mbps
RBI CO = 0.50Mbps
RBI RT = 6.95Mbps

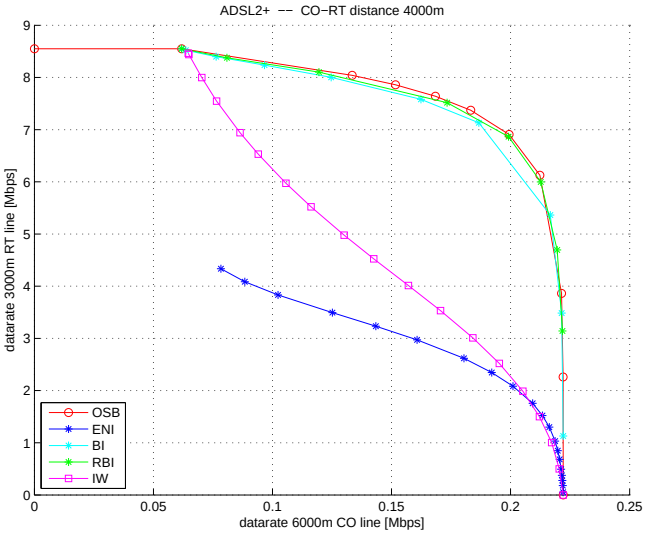

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.51Mbps
OSB RT = 6.77Mbps
RBI CO = 0.51Mbps
RBI RT = 6.72Mbps

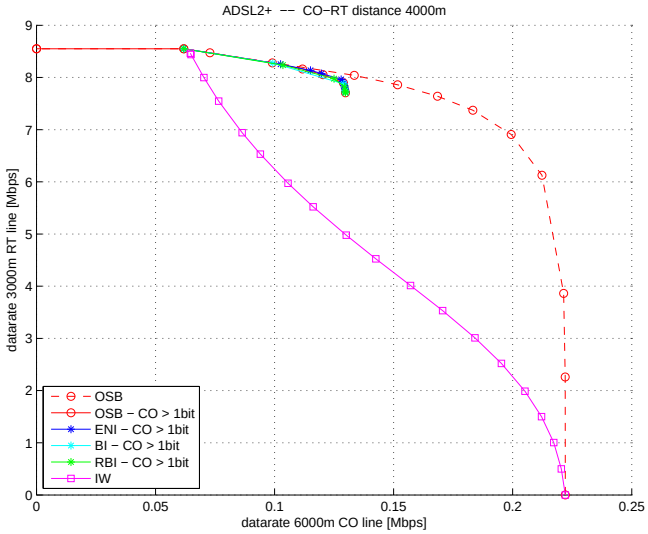

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.51Mbps
OSB RT = 6.43Mbps
RBI CO = 0.51Mbps
RBI RT = 6.52Mbps

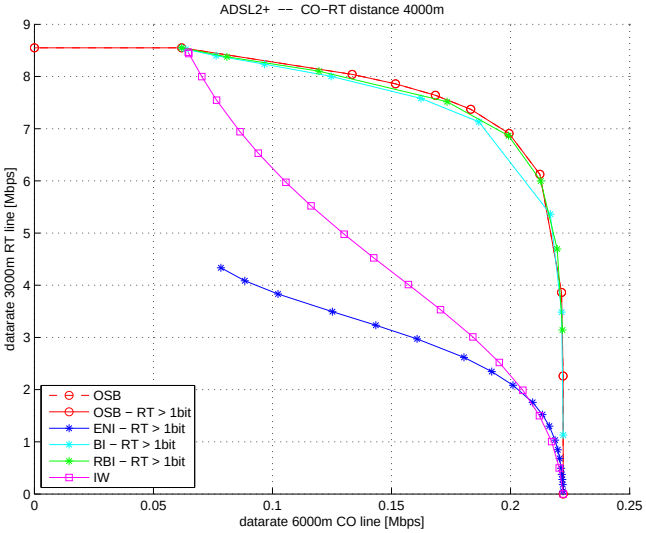

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.52Mbps
OSB RT = 5.94Mbps
RBI CO = 0.52Mbps
RBI RT = 5.93Mbps

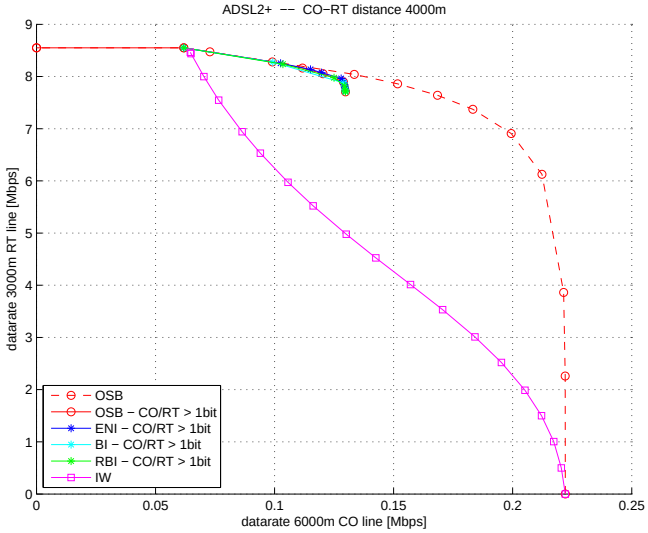

ADSL2+ -- CO=5500m RT=3000m CO-RT=3500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.52Mbps
OSB RT = 5.92Mbps
RBI CO = 0.52Mbps
RBI RT = 5.92Mbps

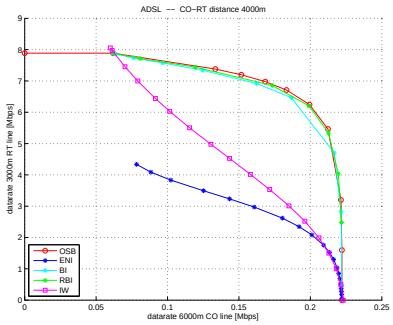

6000m
CO
4000m
2000m
RT
3000m

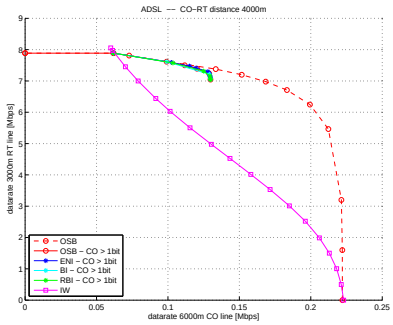

ADSL2+ -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

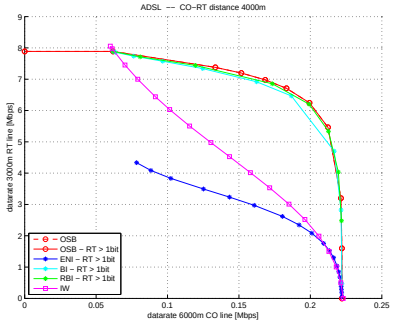

ADSL2+ -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

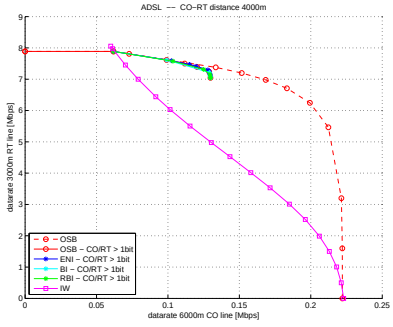

ADSL2+ -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

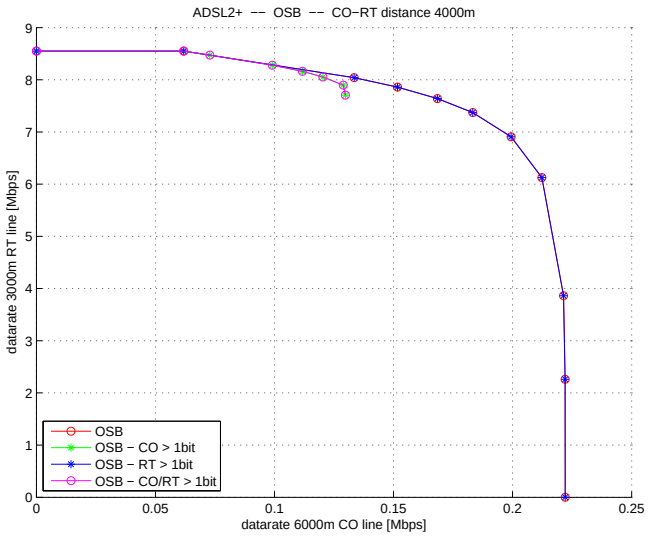

ADSL2+ -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

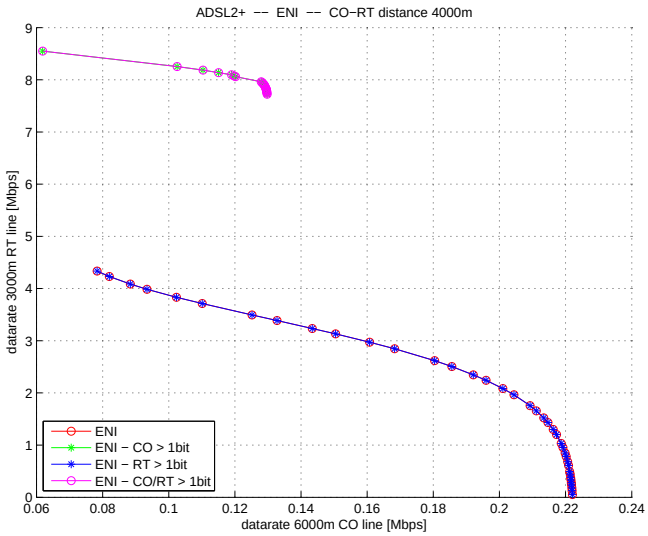

ADSL -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

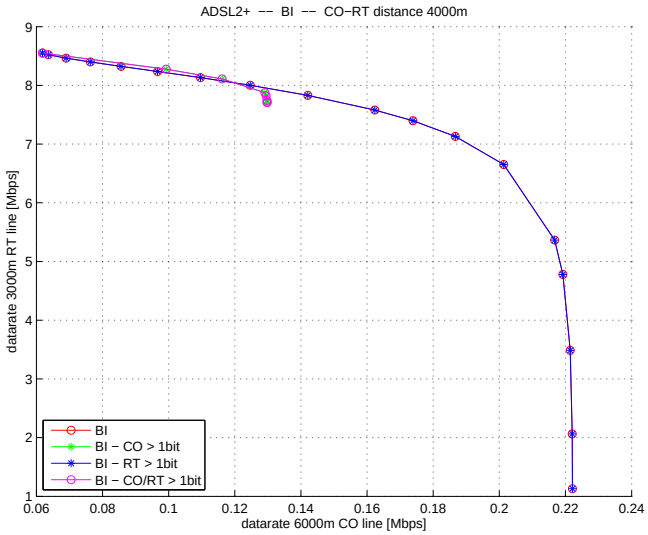

ADSL -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

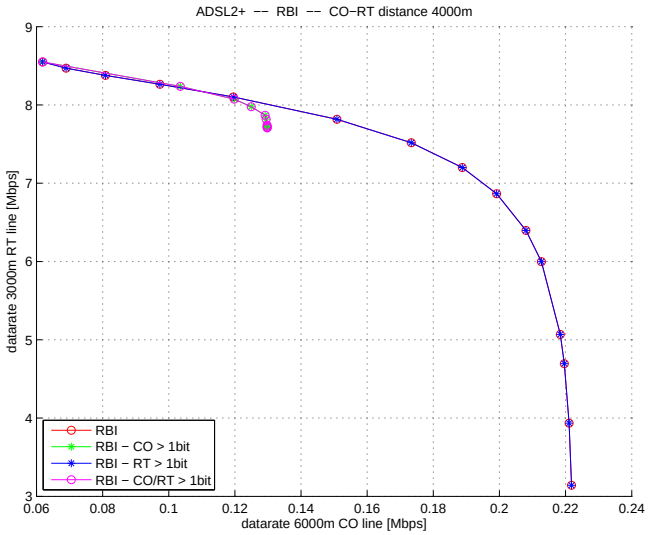

ADSL -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

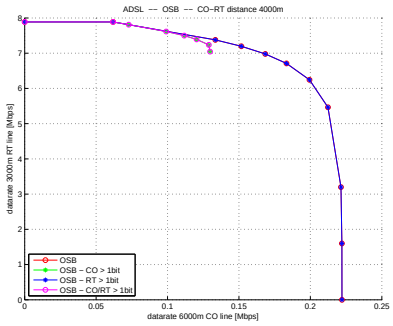

ADSL -- CO−RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

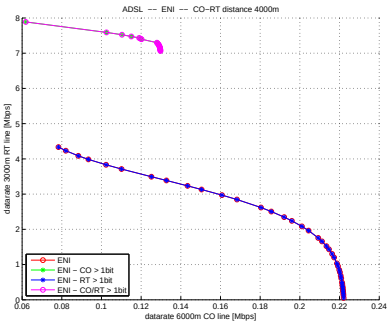

ADSL2+ -- OSB -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

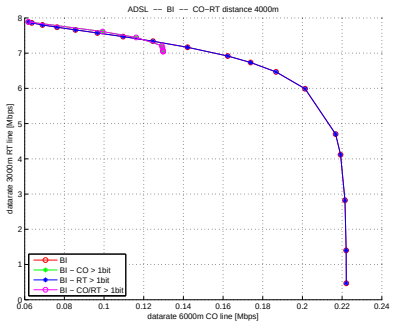

ADSL2+ -- ENI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

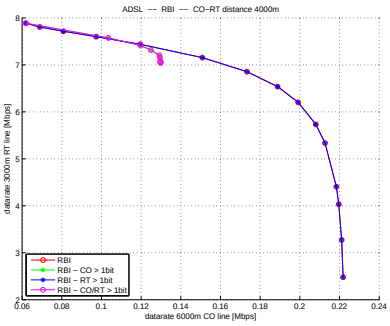

ADSL2+ -- BI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

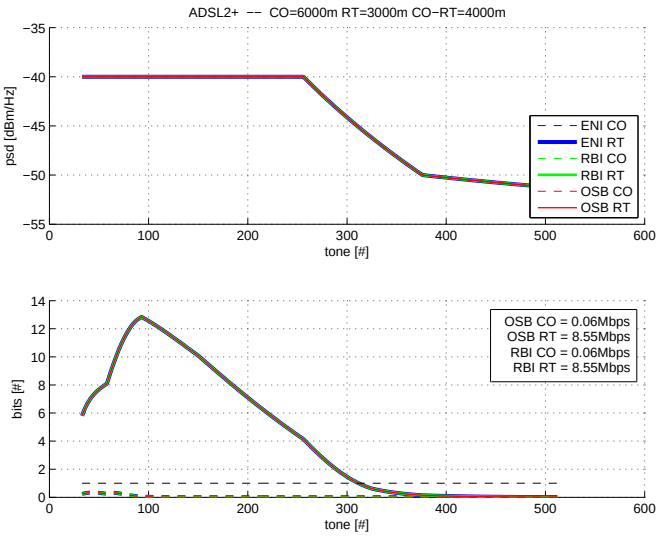

ADSL2+ -- RBI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

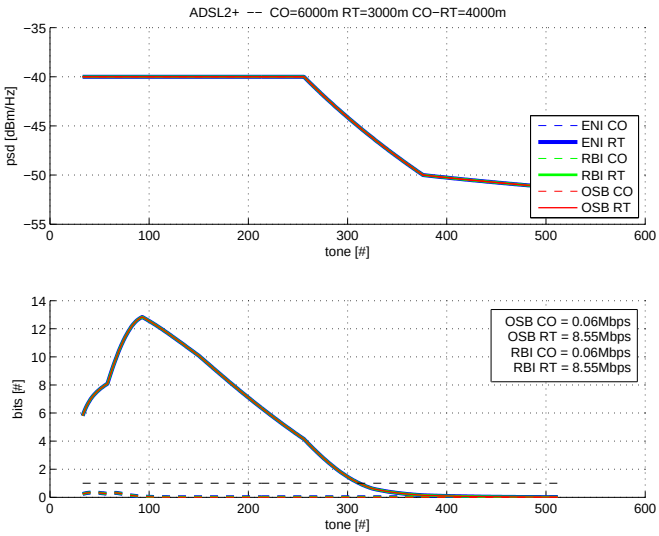

ADSL -- OSB -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

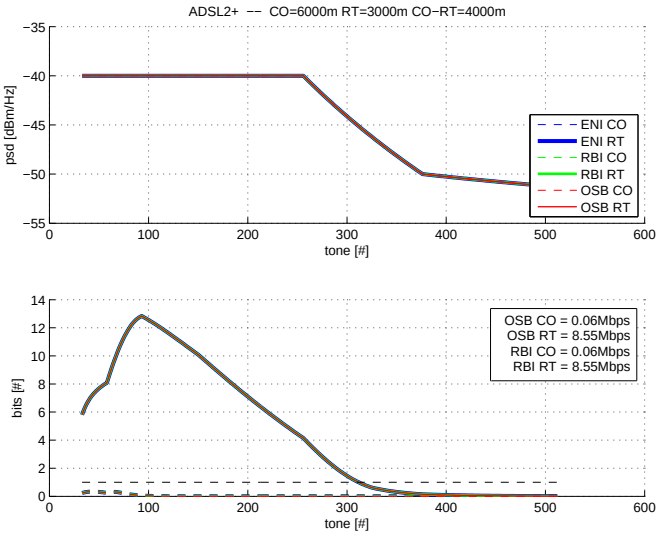

ADSL -- ENI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

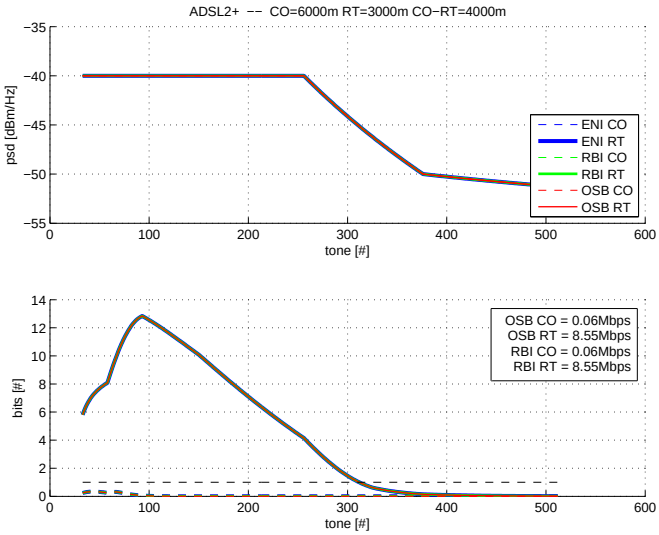

ADSL -- BI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

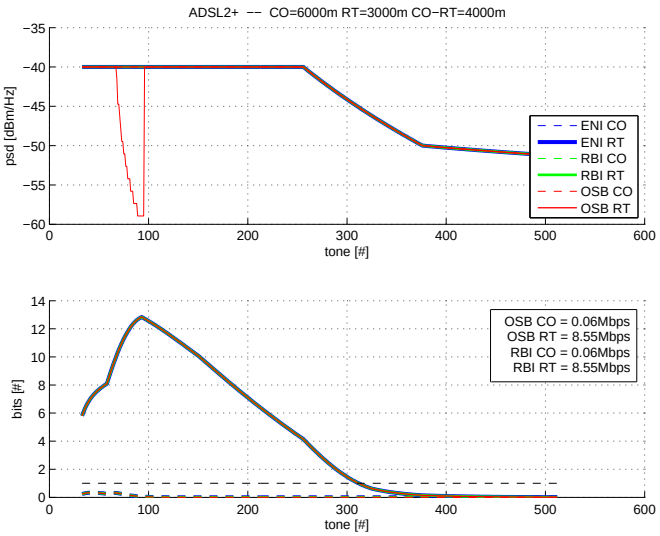

ADSL -- RBI -- CO-RT distance 4000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

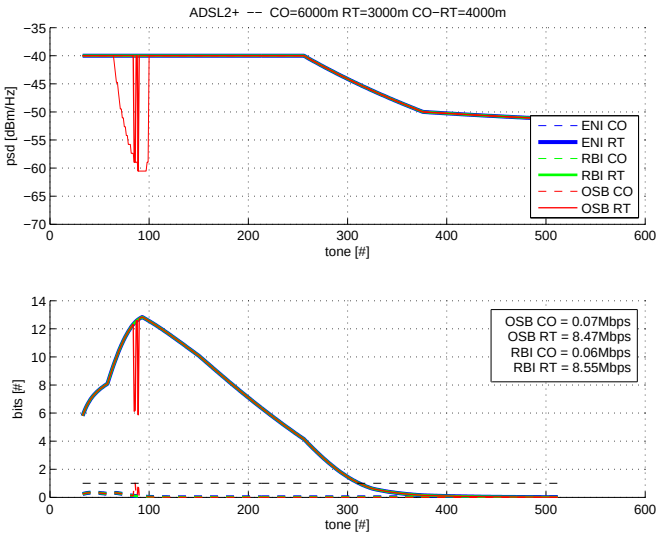

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.06Mbps
OSB RT = 8.55Mbps
RBI CO = 0.06Mbps
RBI RT = 8.55Mbps

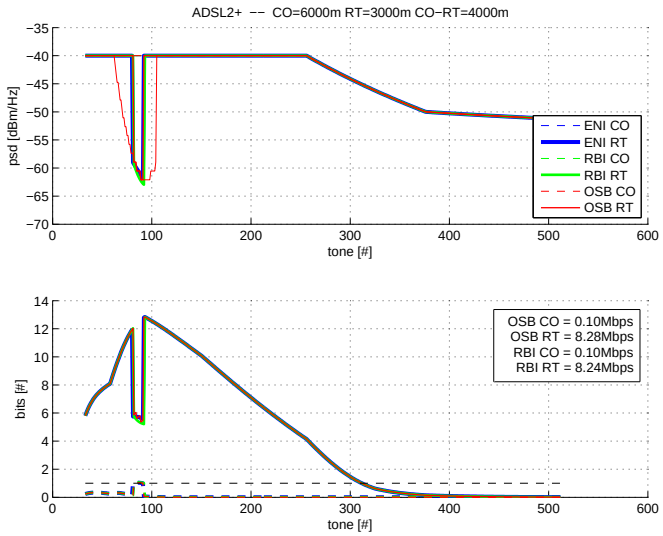

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.06Mbps
OSB RT = 8.55Mbps
RBI CO = 0.06Mbps
RBI RT = 8.55Mbps

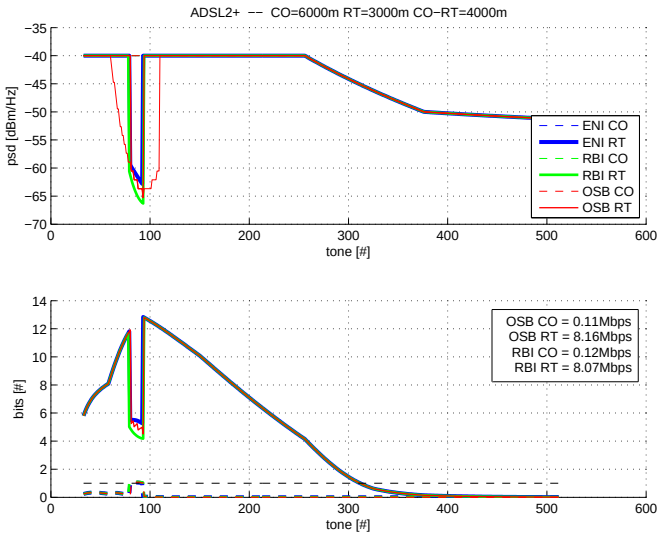

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.06Mbps
OSB RT = 8.55Mbps
RBI CO = 0.06Mbps
RBI RT = 8.55Mbps

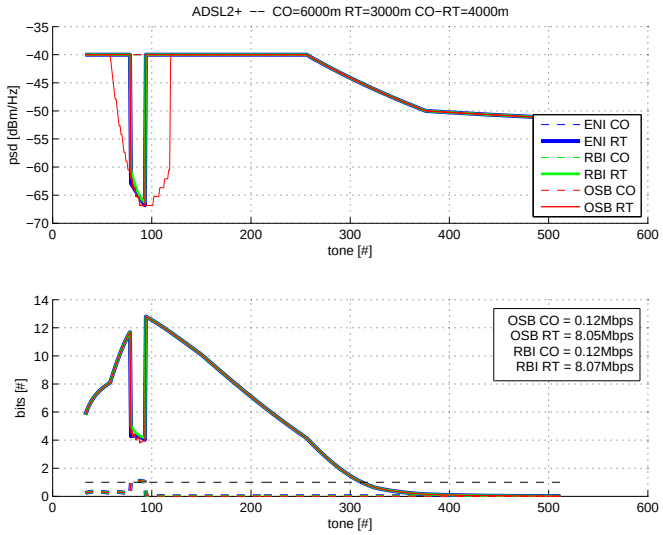

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.06Mbps
OSB RT = 8.55Mbps
RBI CO = 0.06Mbps
RBI RT = 8.55Mbps

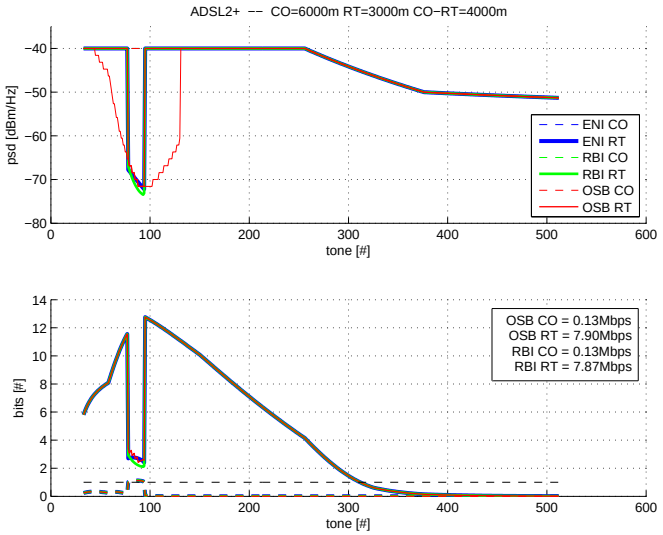

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.06Mbps
OSB RT = 8.55Mbps
RBI CO = 0.06Mbps
RBI RT = 8.55Mbps

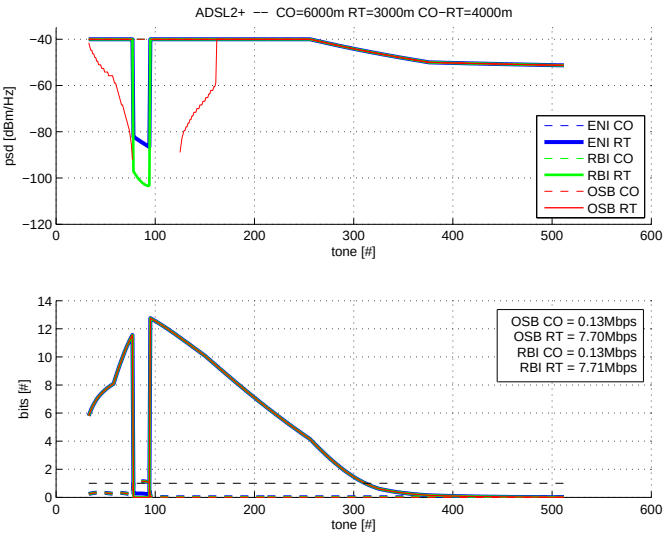

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.07Mbps
OSB RT = 8.47Mbps
RBI CO = 0.06Mbps
RBI RT = 8.55Mbps

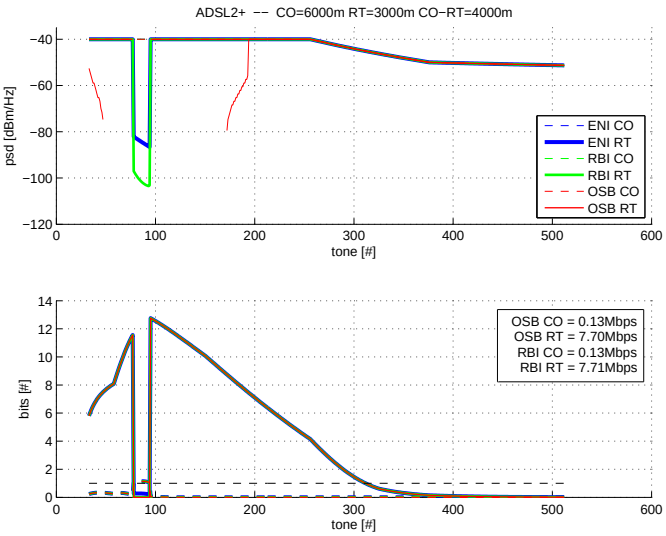

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.10Mbps
OSB RT = 8.28Mbps
RBI CO = 0.10Mbps
RBI RT = 8.24Mbps

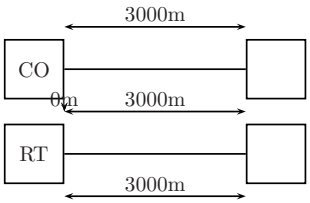

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.11Mbps
OSB RT = 8.16Mbps
RBI CO = 0.12Mbps
RBI RT = 8.07Mbps

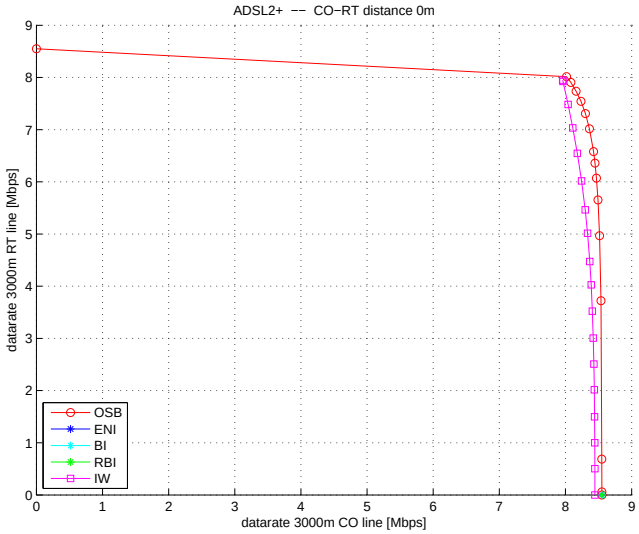

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.12Mbps
OSB RT = 8.05Mbps
RBI CO = 0.12Mbps
RBI RT = 8.07Mbps

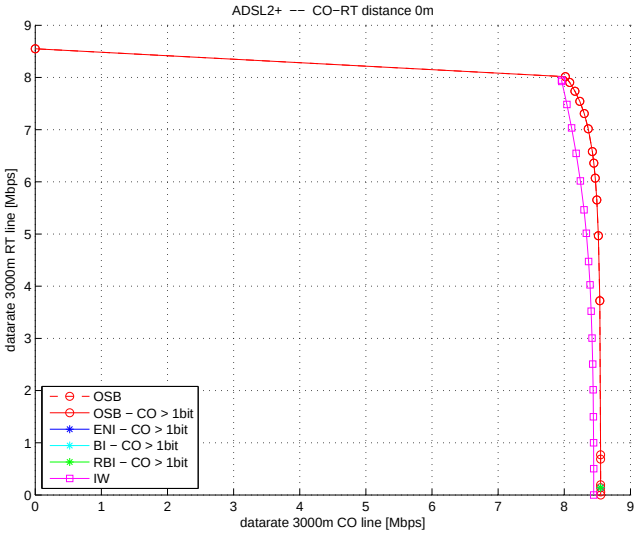

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.13Mbps
OSB RT = 7.90Mbps
RBI CO = 0.13Mbps
RBI RT = 7.87Mbps

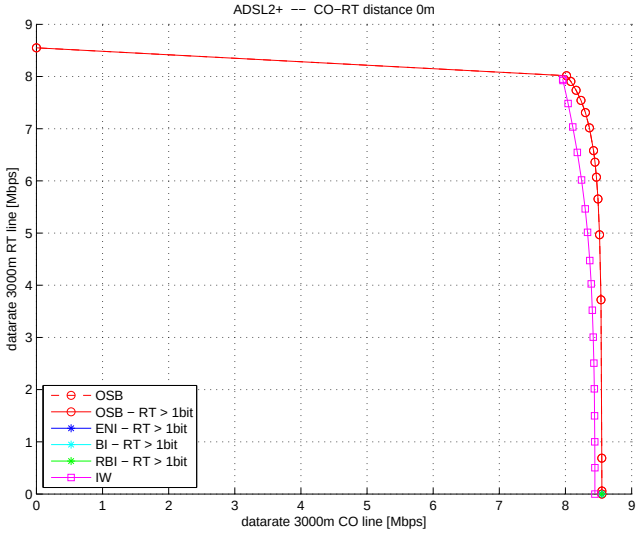

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.13Mbps
OSB RT = 7.70Mbps
RBI CO = 0.13Mbps
RBI RT = 7.71Mbps

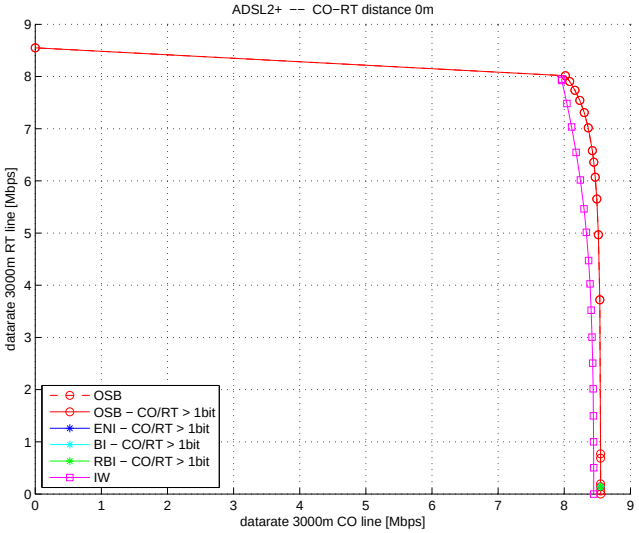

ADSL2+ -- CO=6000m RT=3000m CO-RT=4000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.13Mbps
OSB RT = 7.70Mbps
RBI CO = 0.13Mbps
RBI RT = 7.71Mbps

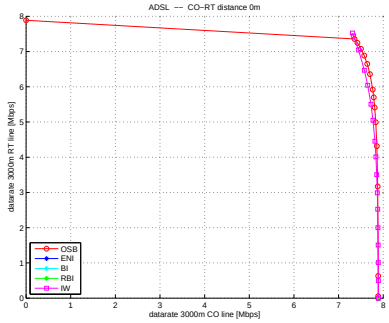

3000m
CO
0m
3000m
RT
3000m

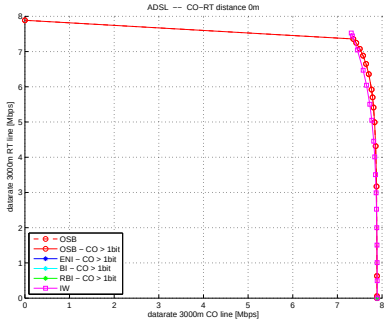

ADSL2+ -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

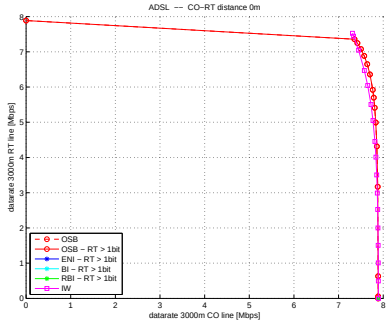

ADSL2+ -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

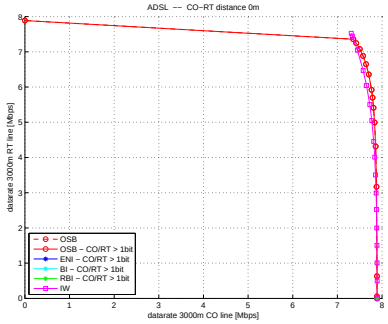

ADSL2+ -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

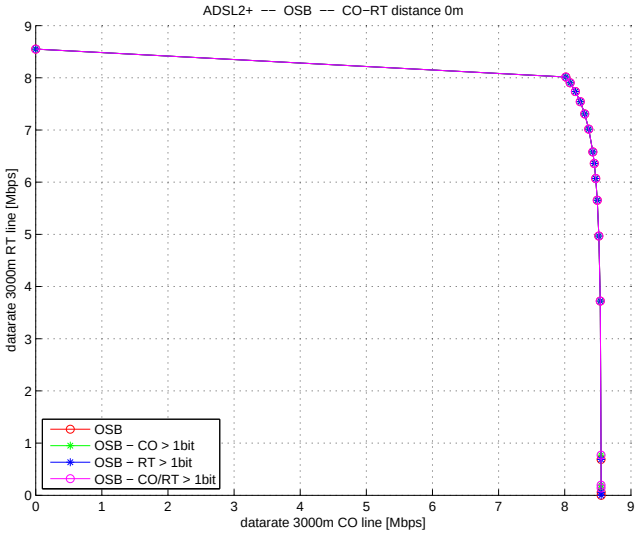

ADSL2+ -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

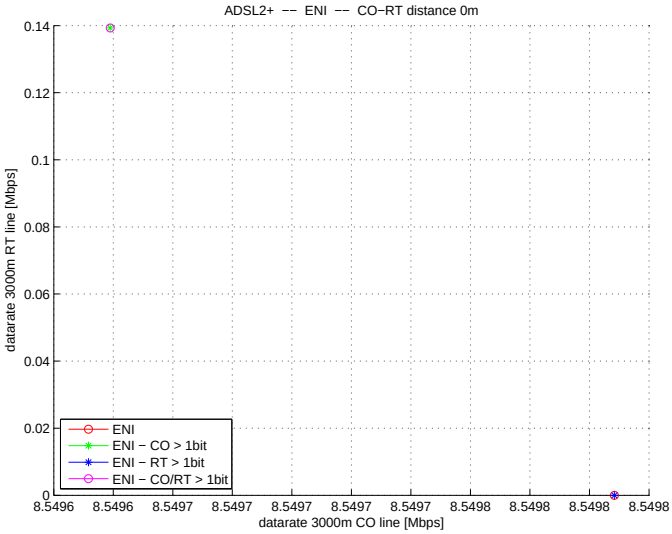

ADSL -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

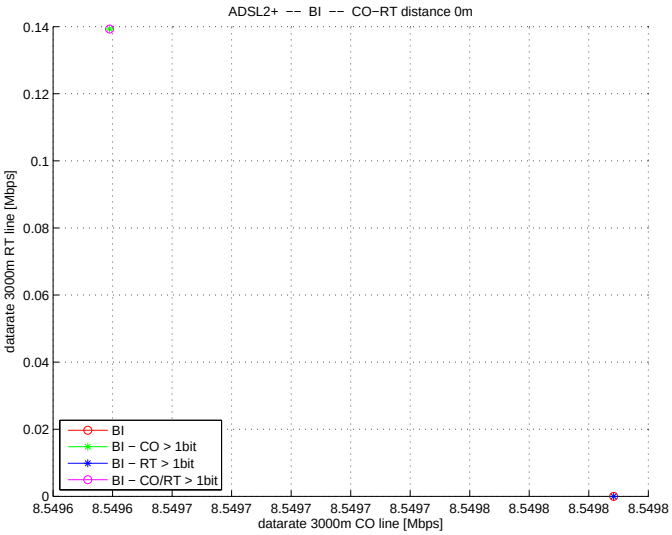

ADSL -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

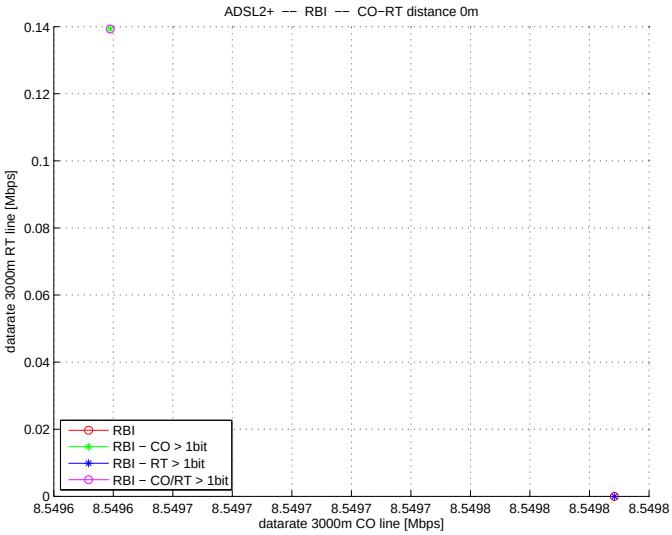

ADSL -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

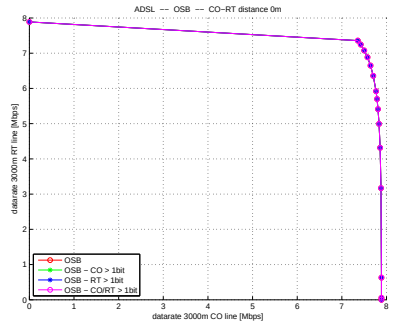

ADSL -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

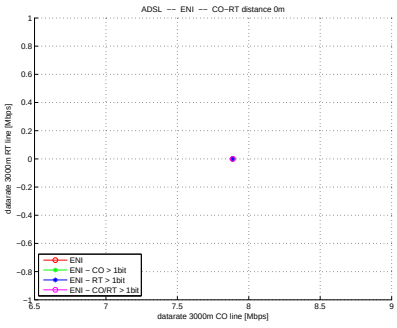

ADSL2+ -- OSB -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO > 1bit
OSB - RT > 1bit
OSB - CO/RT > 1bit

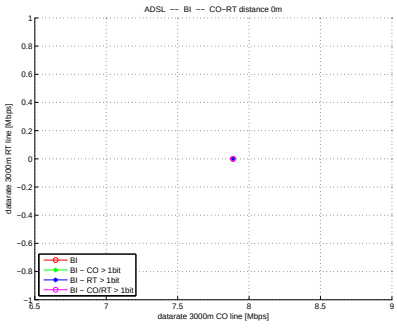

ADSL2+ -- ENI -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI - CO > 1bit
ENI - RT > 1bit
ENI - CO/RT > 1bit

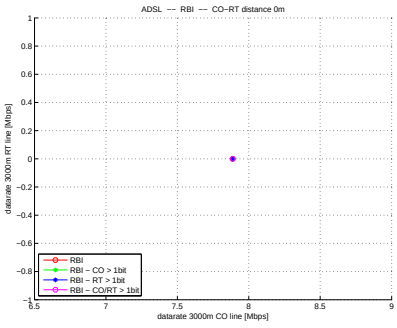

ADSL2+ -- BI -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI - CO > 1bit
BI - RT > 1bit
BI - CO/RT > 1bit

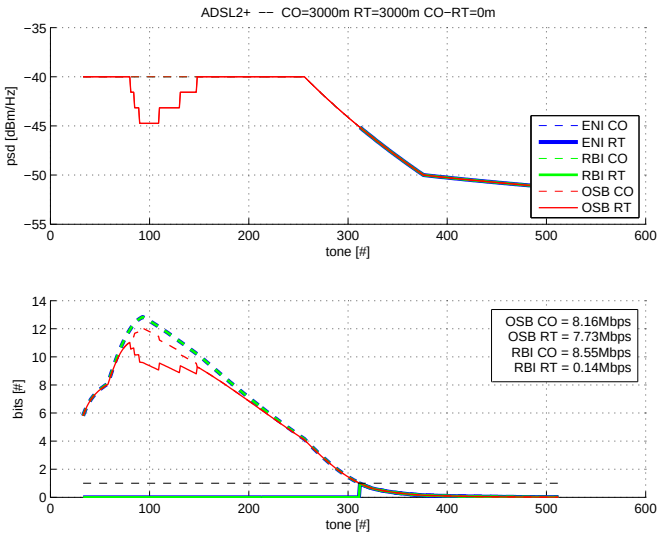

ADSL2+ -- RBI -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI - CO > 1bit
RBI - RT > 1bit
RBI - CO/RT > 1bit

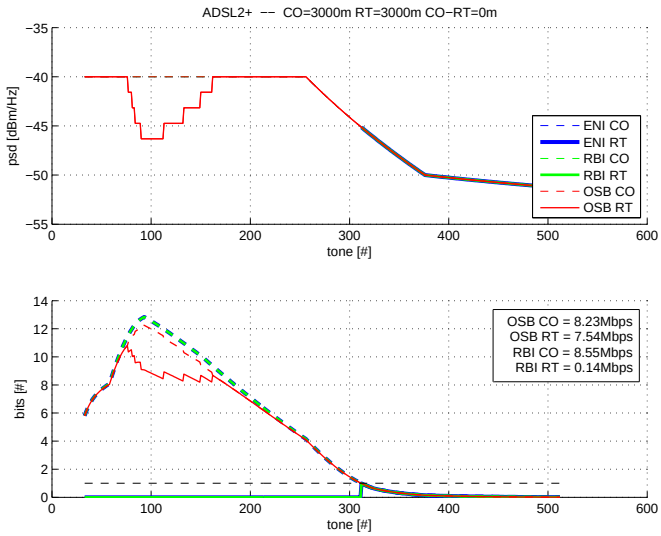

ADSL -- OSB -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
OSB
OSB - CO > 1bit
OSB - RT > 1bit
OSB - CO/RT > 1bit

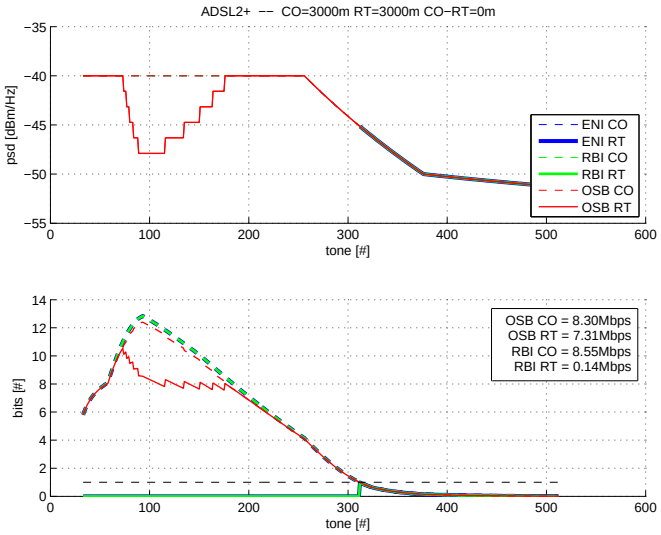

ADSL -- ENI -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
ENI
ENI - CO > 1bit
ENI - RT > 1bit
ENI - CO/RT > 1bit

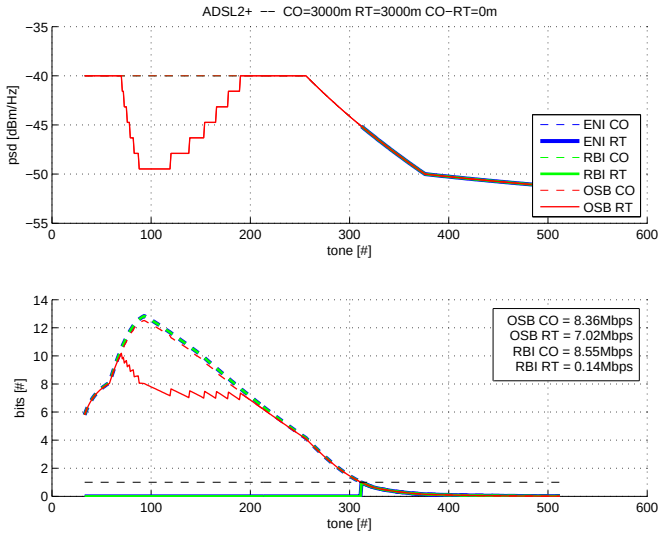

ADSL -- BI -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
BI
BI - CO > 1bit
BI - RT > 1bit
BI - CO/RT > 1bit

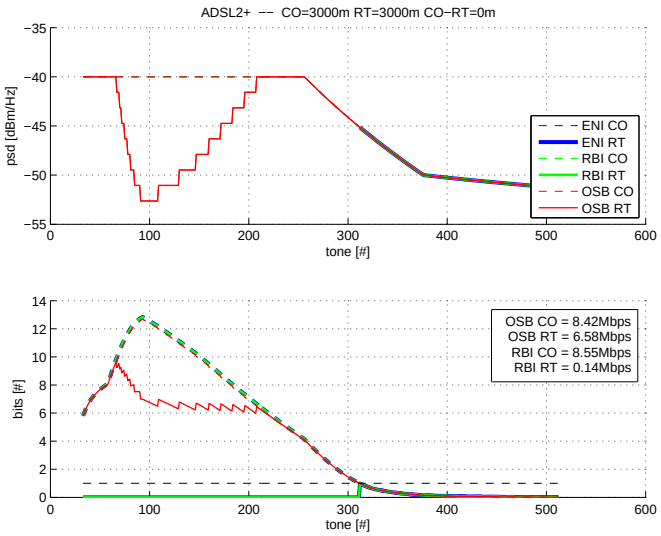

ADSL -- RBI -- CO-RT distance 0m
datarate 3000m RT line [Mbps]
datarate 3000m CO line [Mbps]
RBI
RBI - CO > 1bit
RBI - RT > 1bit
RBI - CO/RT > 1bit

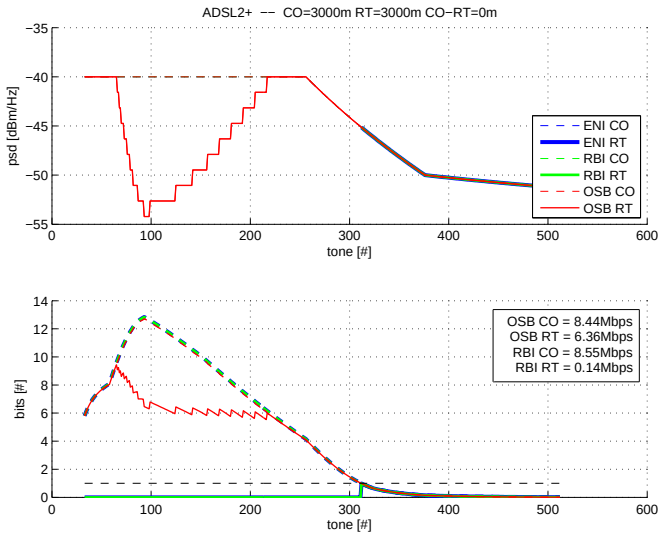

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.16Mbps
OSB RT = 7.73Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

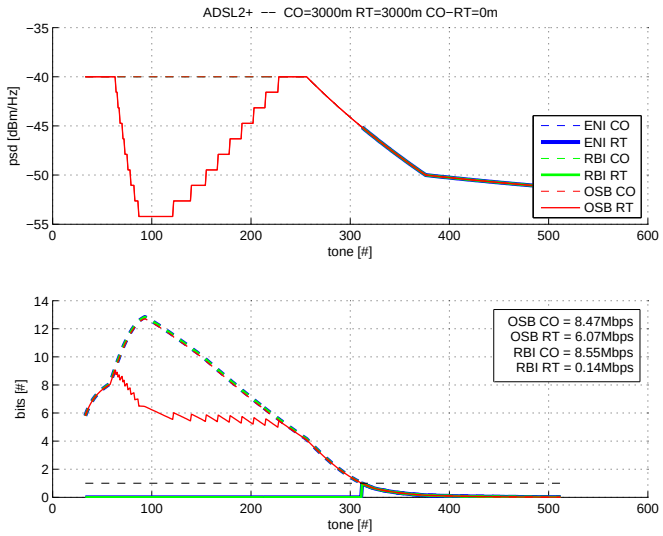

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.23Mbps
OSB RT = 7.54Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

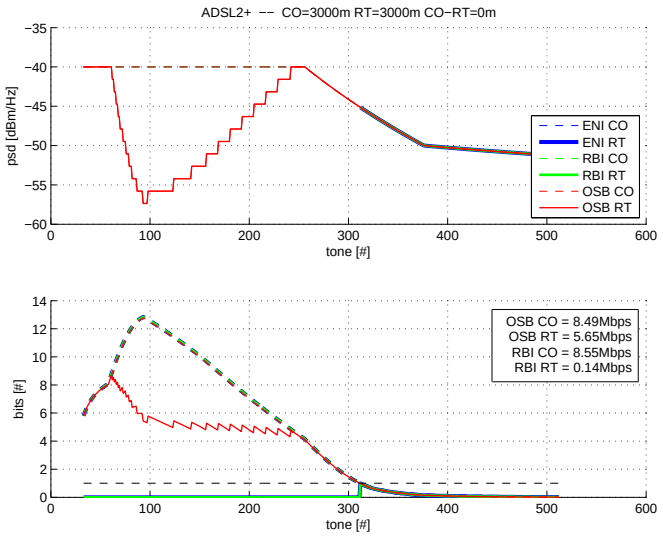

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.30Mbps
OSB RT = 7.31Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

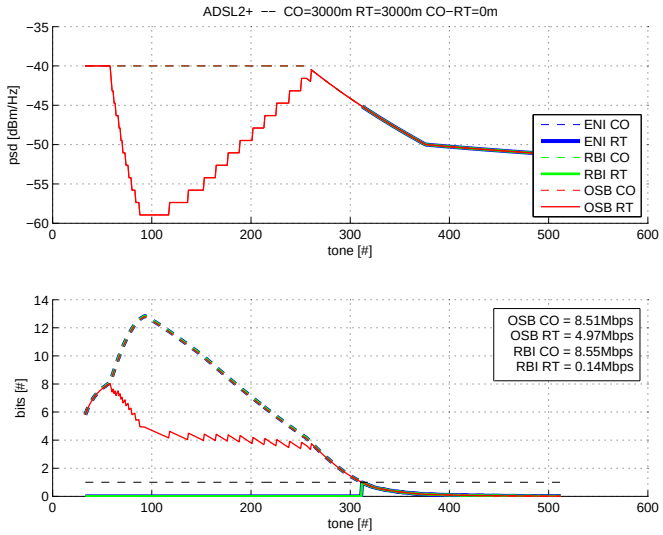

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.36Mbps
OSB RT = 7.02Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

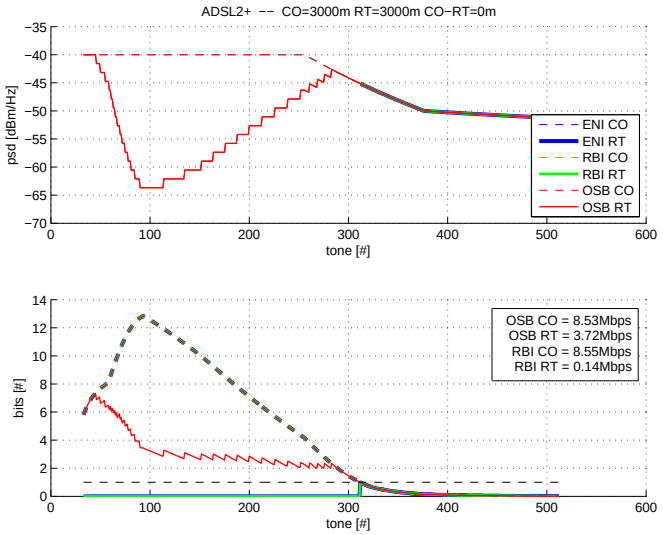

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.42Mbps
OSB RT = 6.58Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

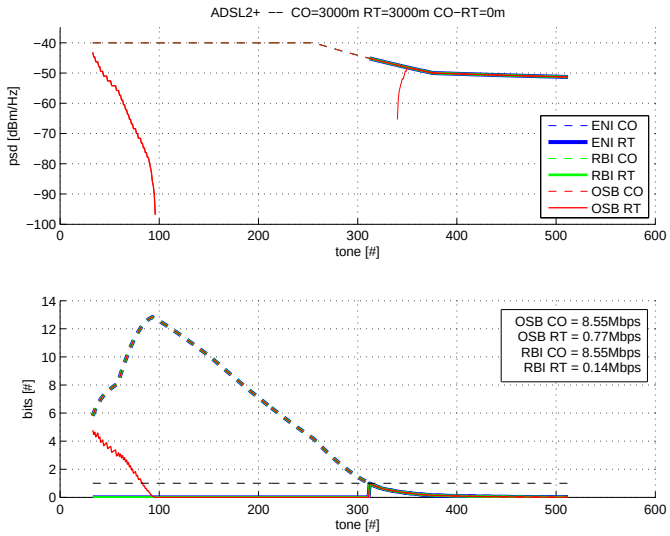

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.44Mbps
OSB RT = 6.36Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

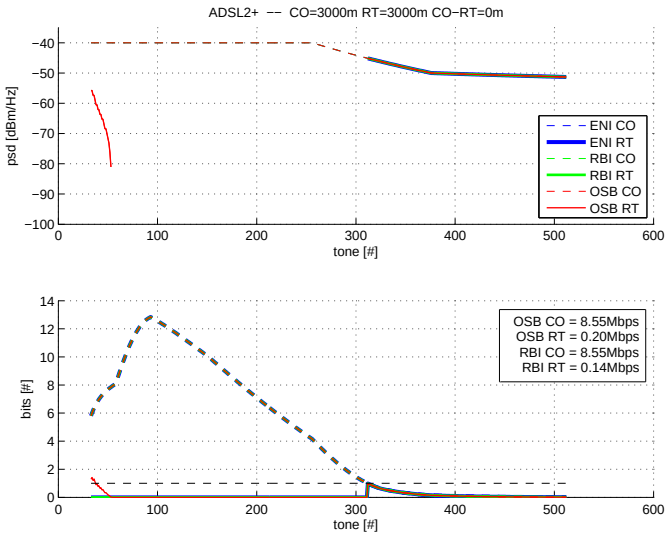

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.47Mbps
OSB RT = 6.07Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

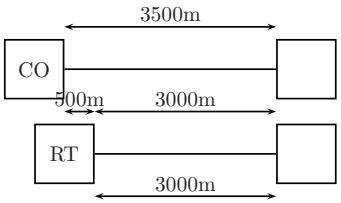

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.49Mbps
OSB RT = 5.65Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

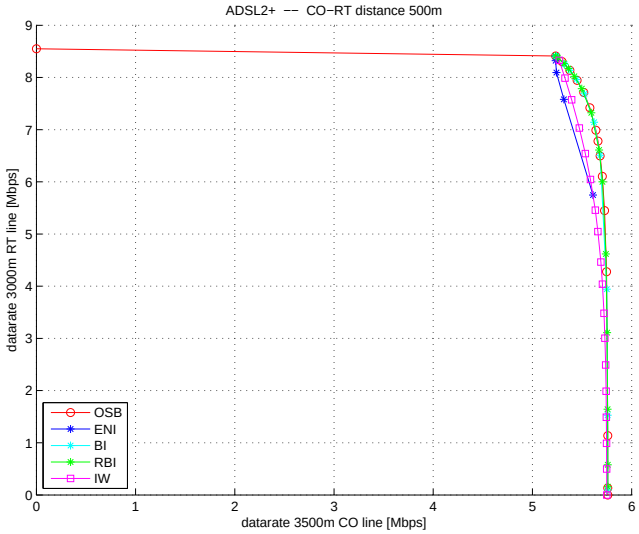

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.51Mbps
OSB RT = 4.97Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

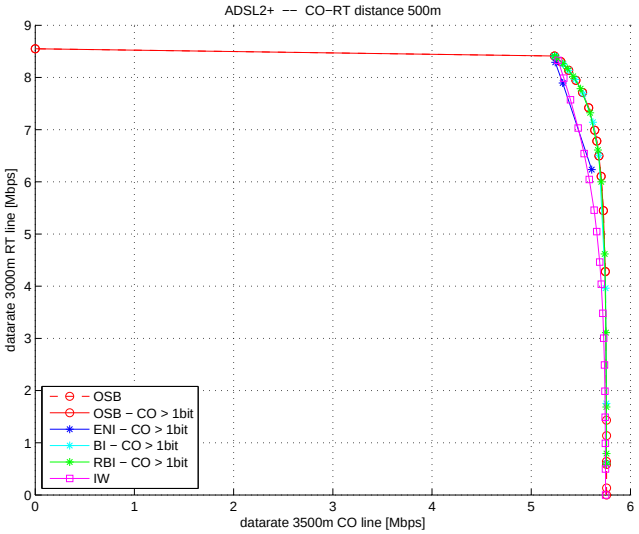

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.53Mbps
OSB RT = 3.72Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

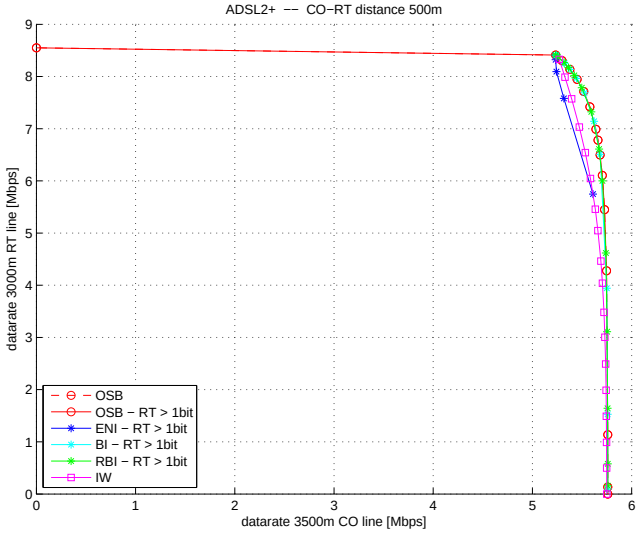

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.55Mbps
OSB RT = 0.77Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

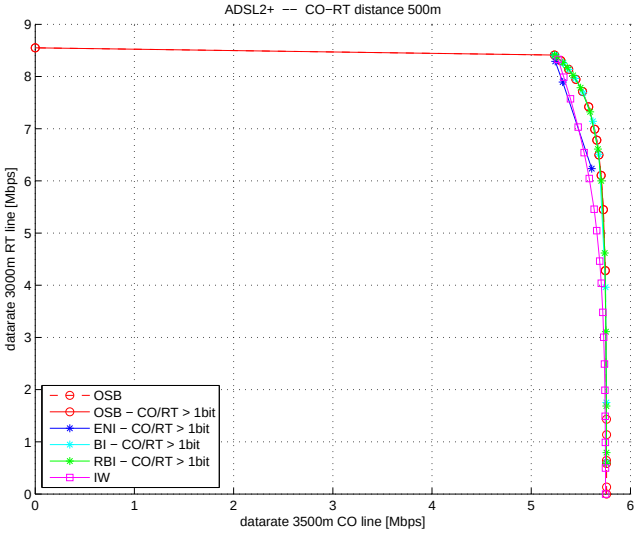

ADSL2+ -- CO=3000m RT=3000m CO-RT=0m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 8.55Mbps
OSB RT = 0.20Mbps
RBI CO = 8.55Mbps
RBI RT = 0.14Mbps

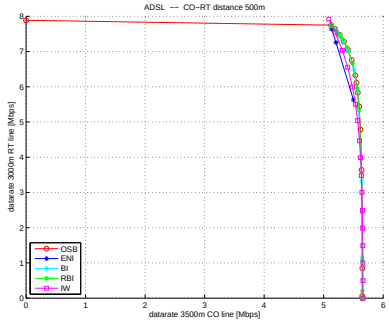

3500m
CO
500m
3000m
RT
3000m

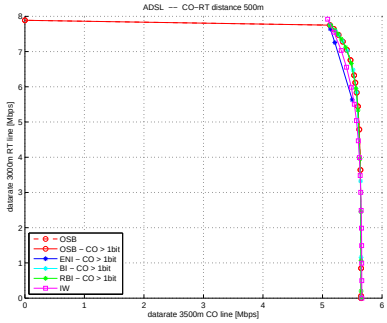

ADSL2+ – CO–RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

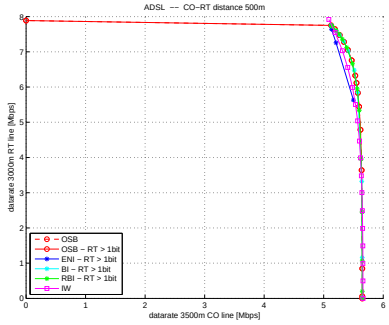

ADSL2+ – CO–RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

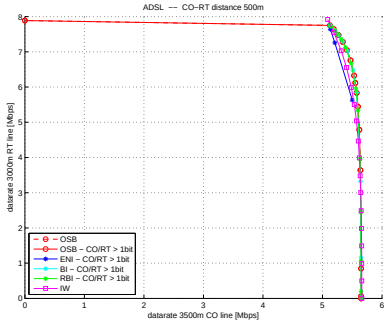

ADSL2+ – CO–RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

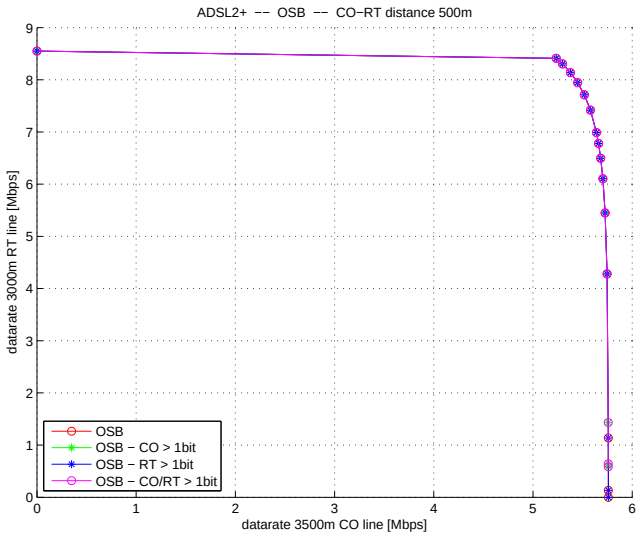

ADSL2+ – CO–RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

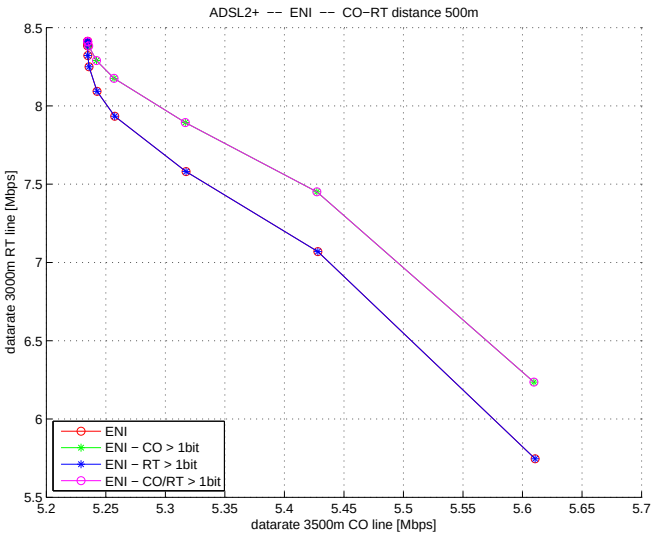

ADSL – CO–RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

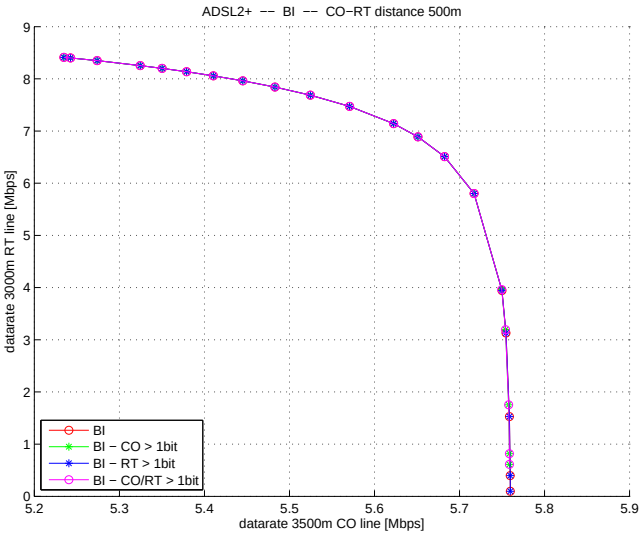

ADSL – CO–RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

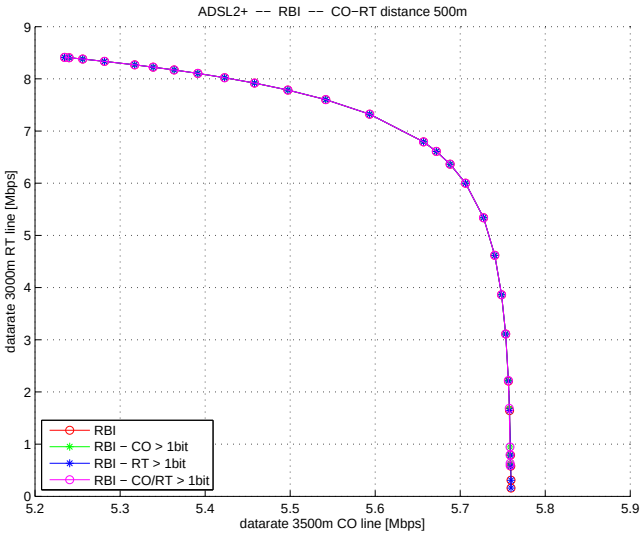

ADSL – CO–RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

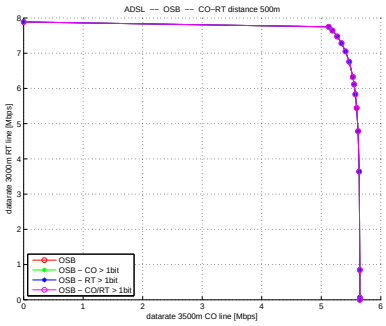

ADSL – CO–RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

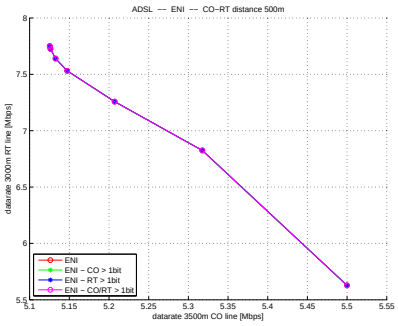

ADSL2+ −− OSB −− CO−RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

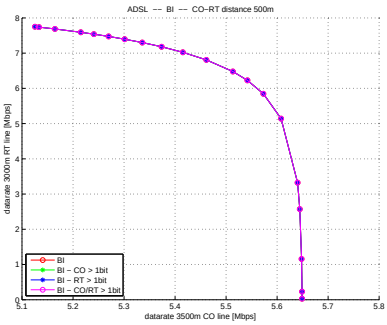

ADSL2+ −− ENI −− CO−RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

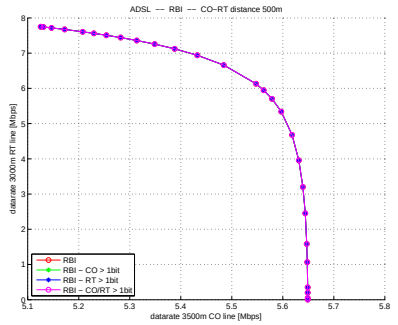

ADSL2+ −− BI −− CO−RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

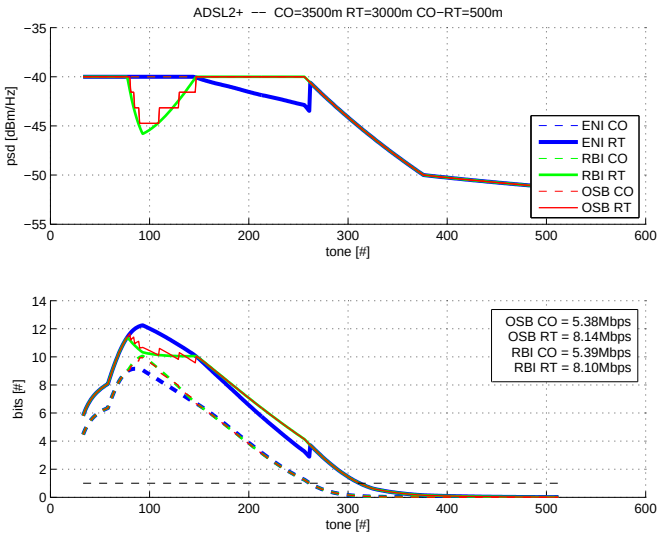

ADSL2+ −− RBI −− CO−RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

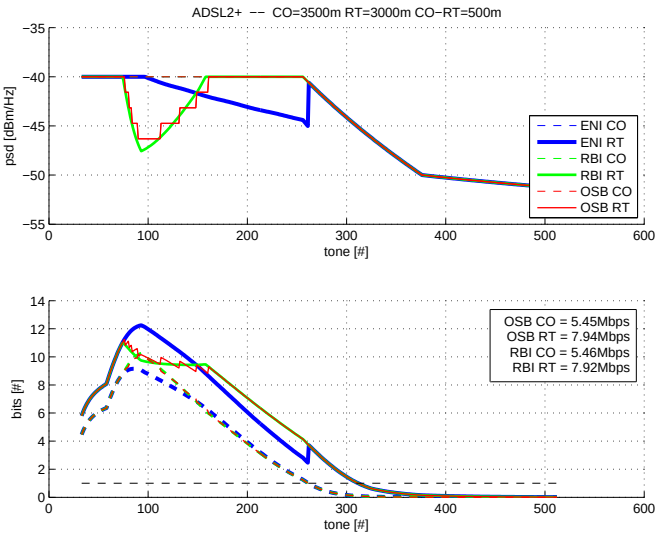

ADSL −− OSB −− CO−RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

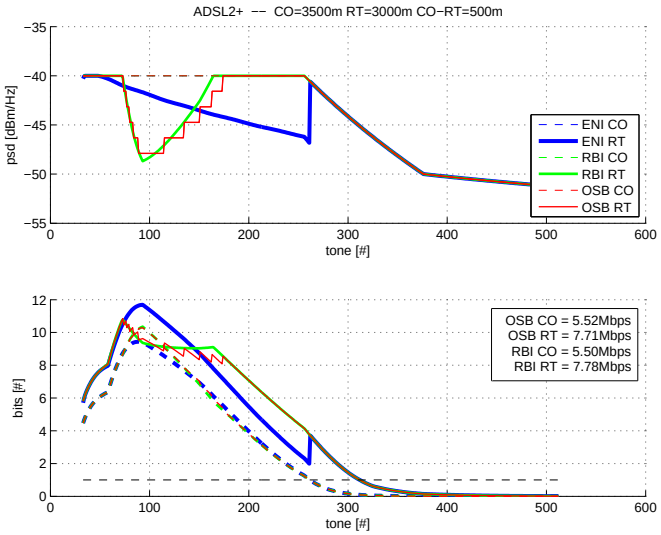

ADSL −− ENI −− CO−RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

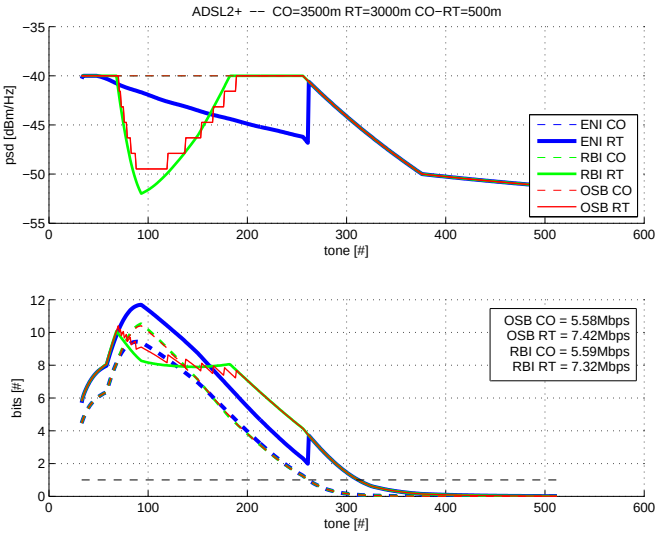

ADSL −− BI −− CO−RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

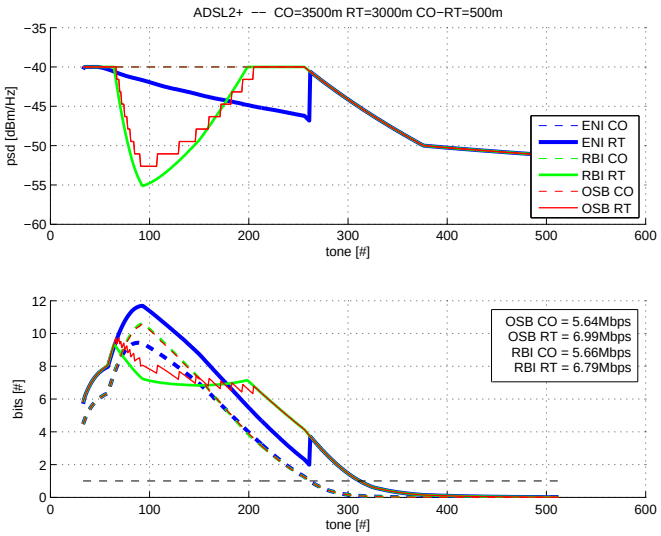

ADSL −− RBI −− CO−RT distance 500m
datarate 3000m RT line [Mbps]
datarate 3500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

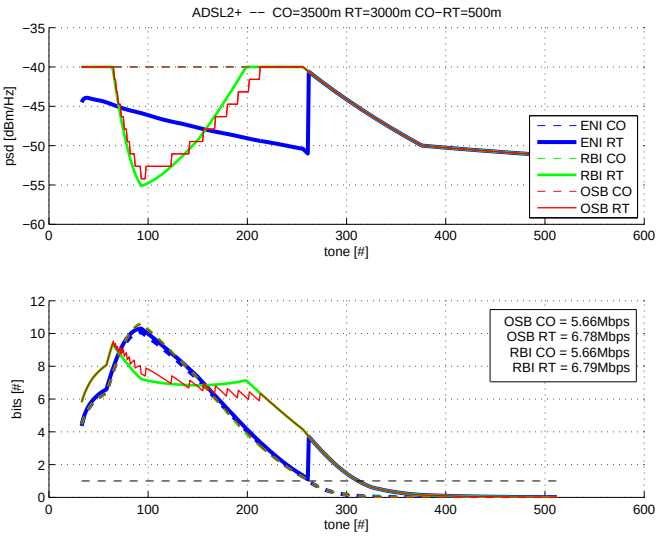

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.38Mbps
OSB RT = 8.14Mbps
RBI CO = 5.39Mbps
RBI RT = 8.10Mbps

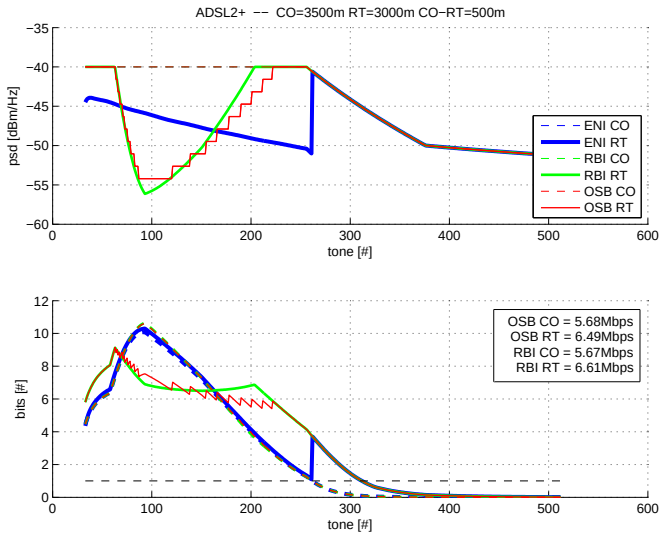

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.45Mbps
OSB RT = 7.94Mbps
RBI CO = 5.46Mbps
RBI RT = 7.92Mbps

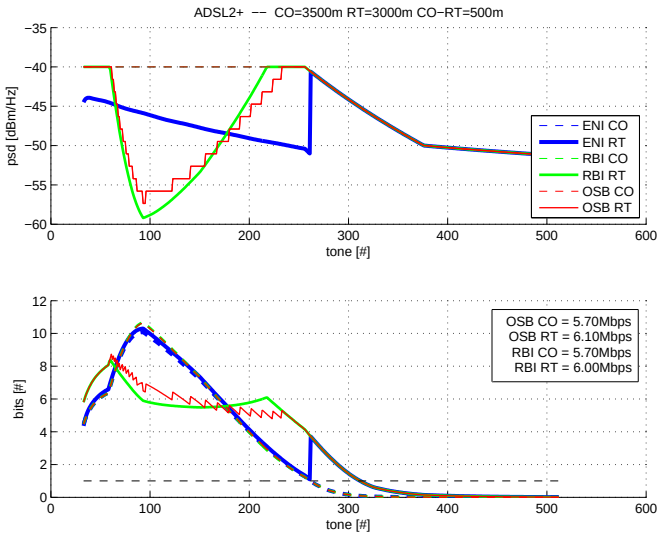

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.52Mbps
OSB RT = 7.71Mbps
RBI CO = 5.50Mbps
RBI RT = 7.78Mbps

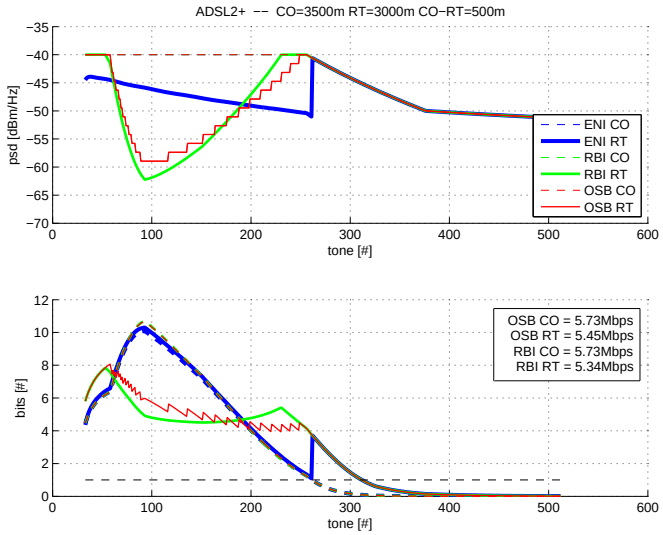

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.58Mbps
OSB RT = 7.42Mbps
RBI CO = 5.59Mbps
RBI RT = 7.32Mbps

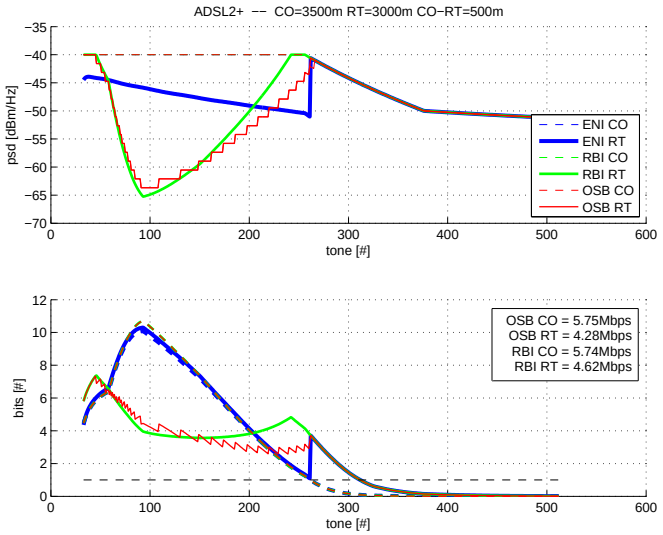

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.64Mbps
OSB RT = 6.99Mbps
RBI CO = 5.66Mbps
RBI RT = 6.79Mbps

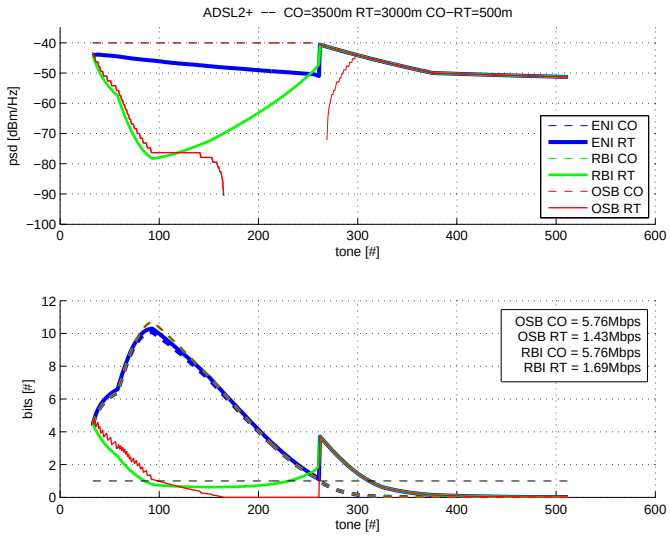

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.66Mbps
OSB RT = 6.78Mbps
RBI CO = 5.66Mbps
RBI RT = 6.79Mbps

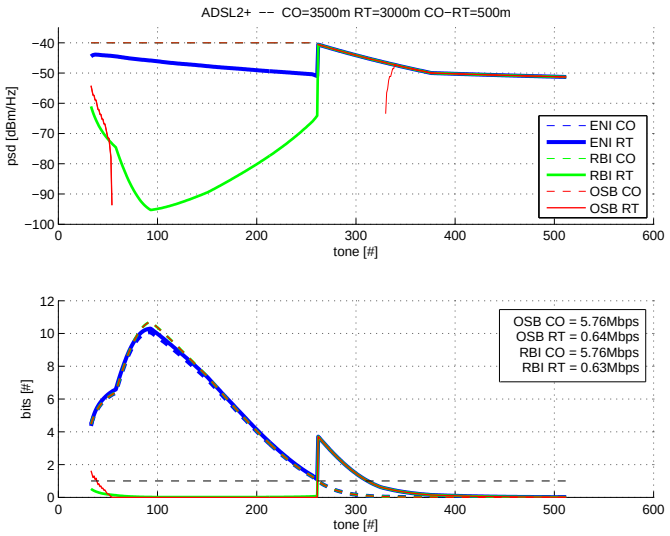

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.68Mbps
OSB RT = 6.49Mbps
RBI CO = 5.67Mbps
RBI RT = 6.61Mbps

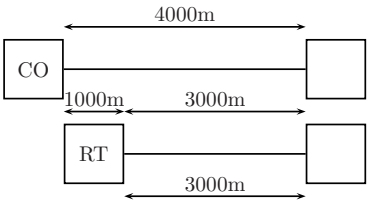

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.70Mbps
OSB RT = 6.10Mbps
RBI CO = 5.70Mbps
RBI RT = 6.00Mbps

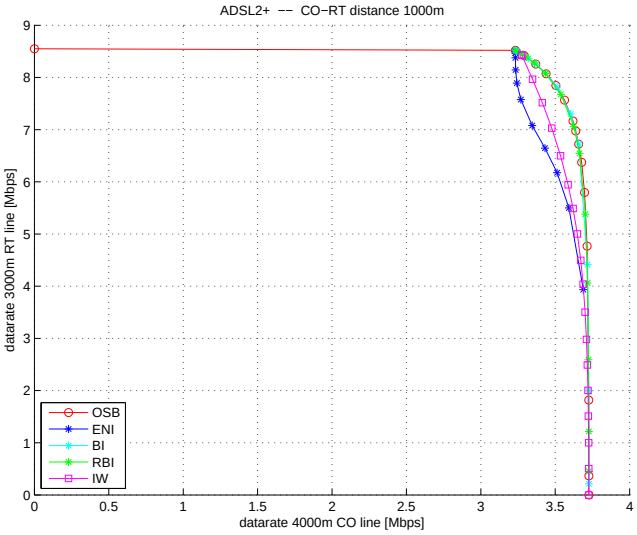

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.73Mbps
OSB RT = 5.45Mbps
RBI CO = 5.73Mbps
RBI RT = 5.34Mbps

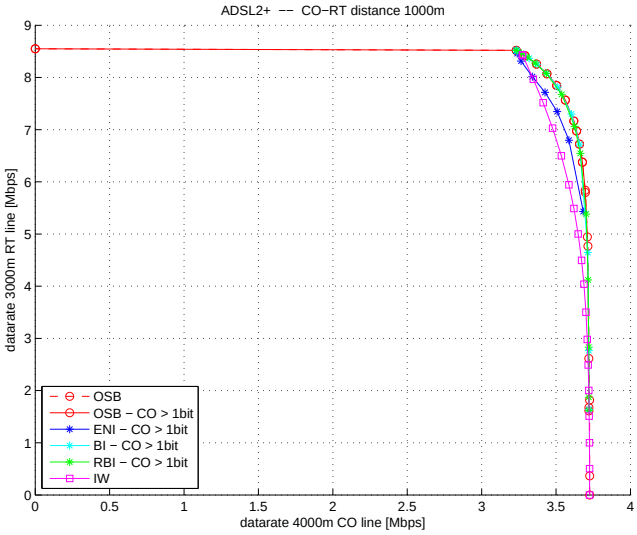

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.75Mbps
OSB RT = 4.28Mbps
RBI CO = 5.74Mbps
RBI RT = 4.62Mbps

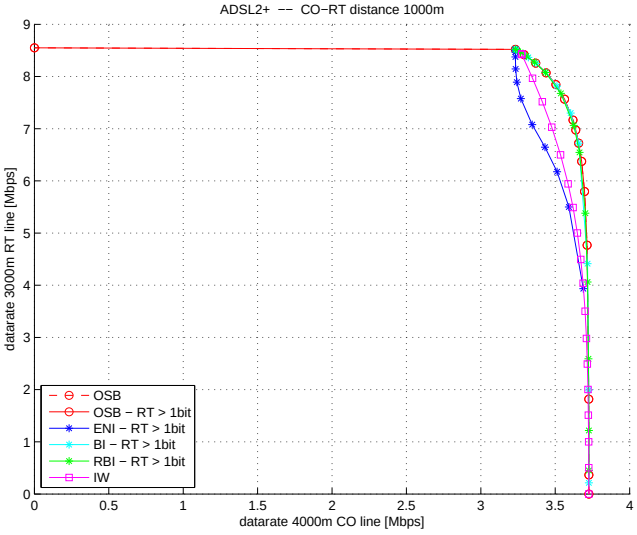

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.76Mbps
OSB RT = 1.43Mbps
RBI CO = 5.76Mbps
RBI RT = 1.69Mbps

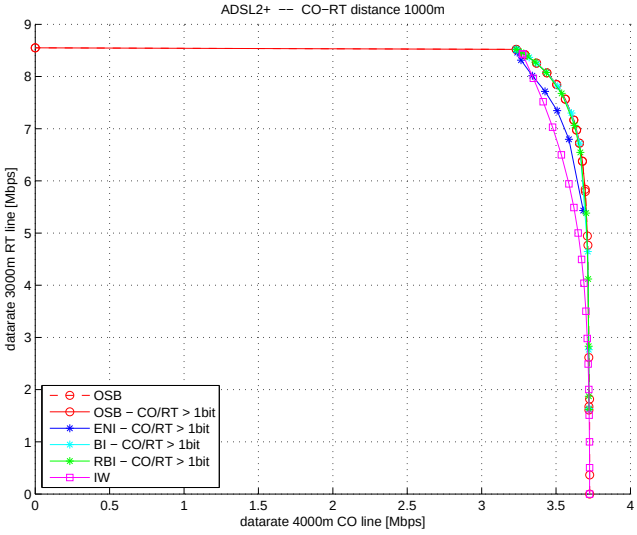

ADSL2+ -- CO=3500m RT=3000m CO-RT=500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 5.76Mbps
OSB RT = 0.64Mbps
RBI CO = 5.76Mbps
RBI RT = 0.63Mbps

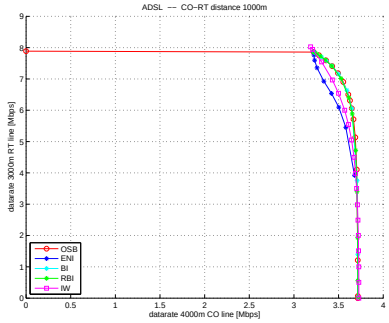

4000m
CO
1000m
3000m
RT
3000m

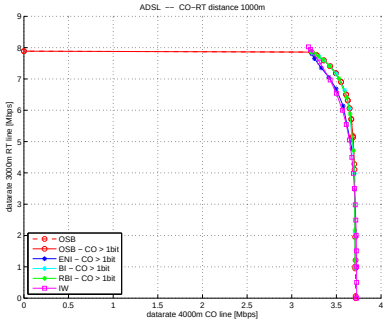

ADSL2+ -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

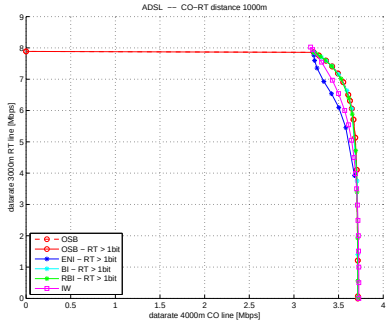

ADSL2+ -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

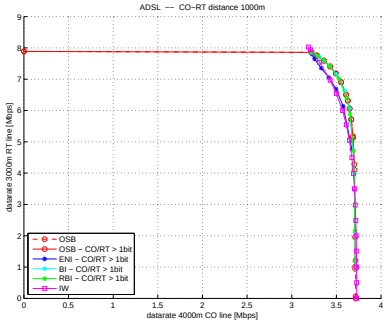

ADSL2+ -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

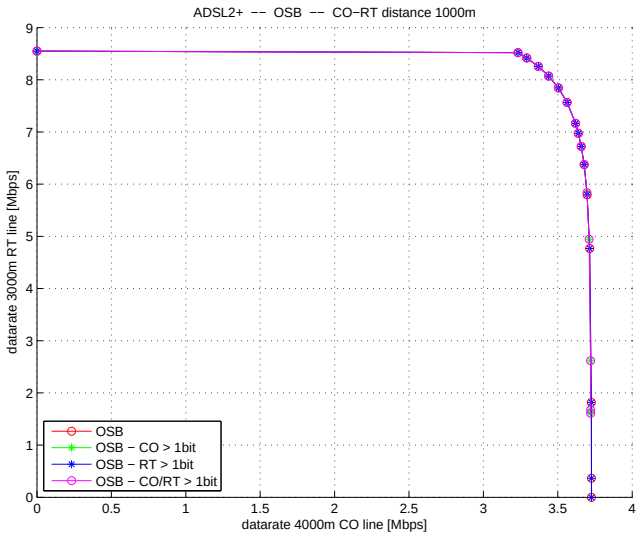

ADSL2+ -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

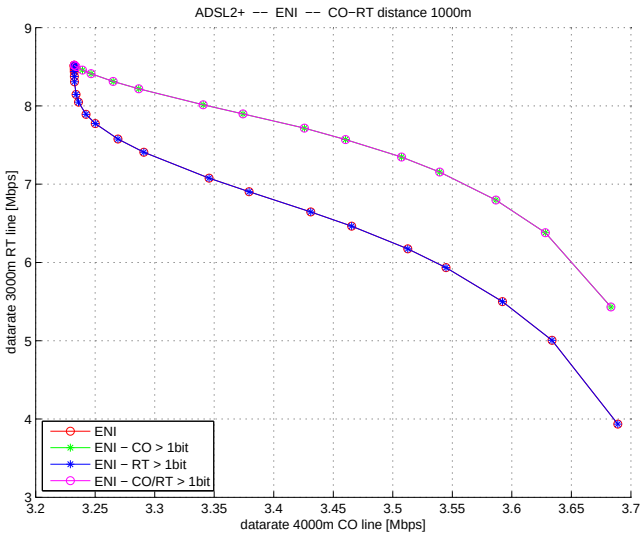

ADSL -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

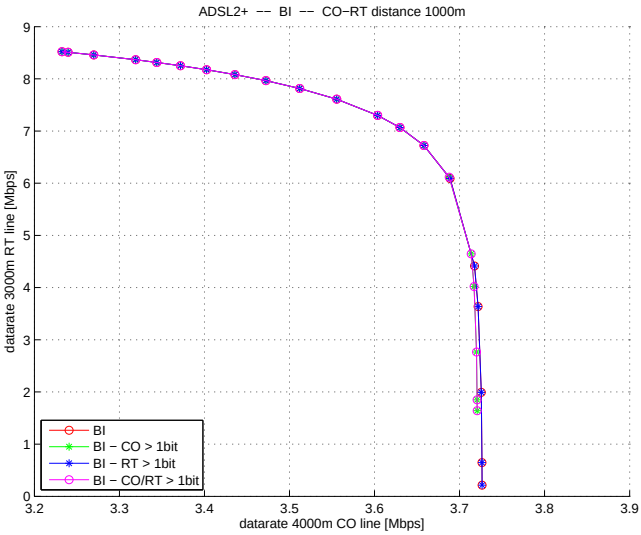

ADSL -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

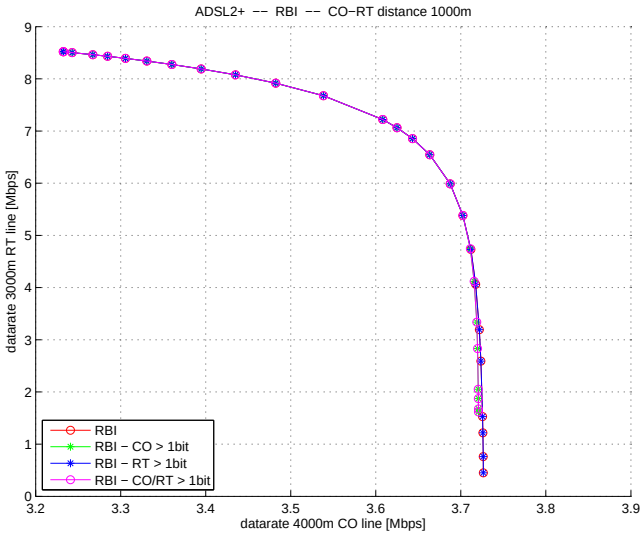

ADSL -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

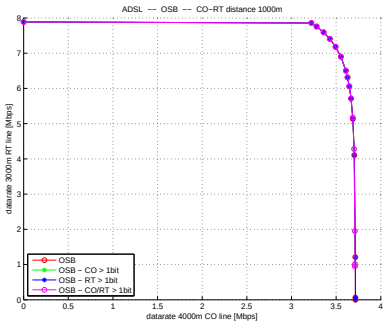

ADSL -- CO-RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

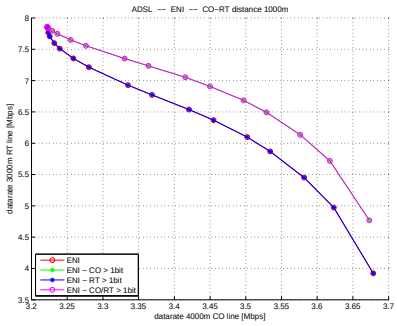

ADSL2+ −− OSB −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

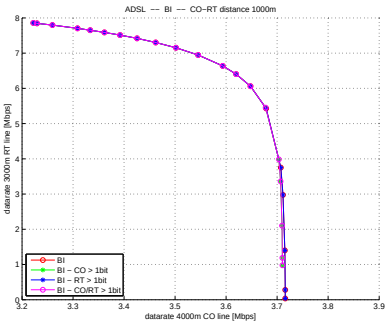

ADSL2+ −− ENI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

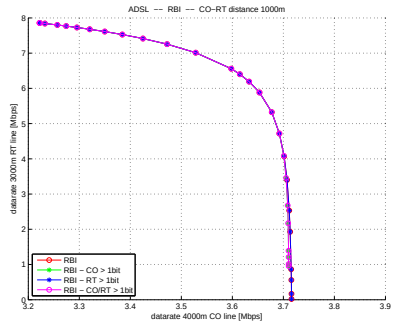

ADSL2+ −− BI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

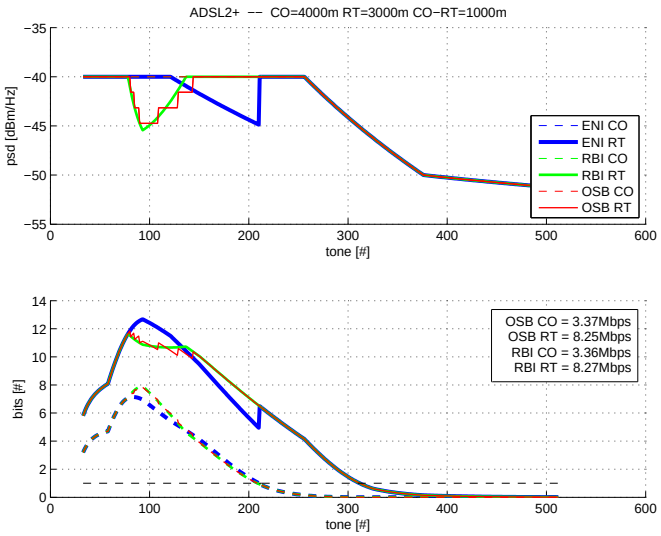

ADSL2+ −− RBI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

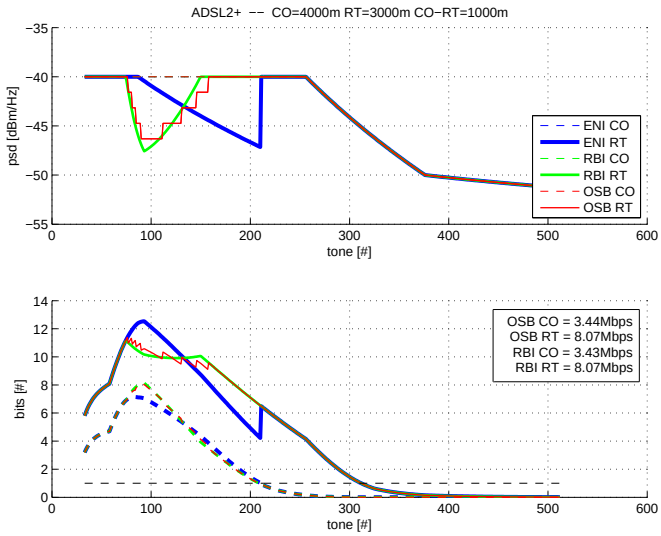

ADSL −− OSB −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

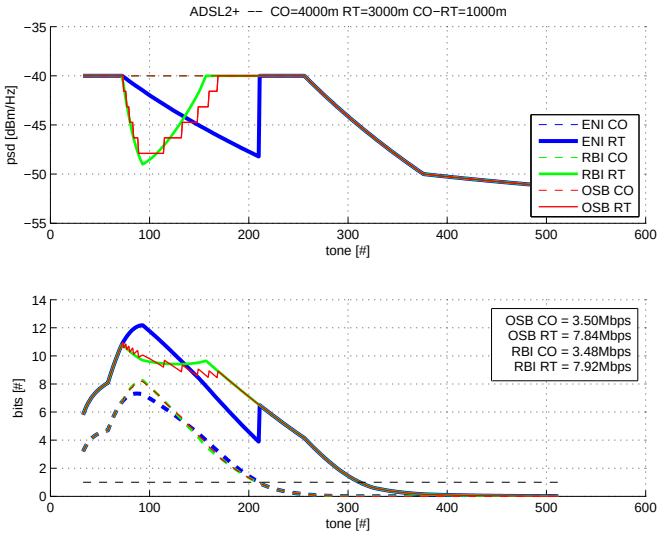

ADSL −− ENI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

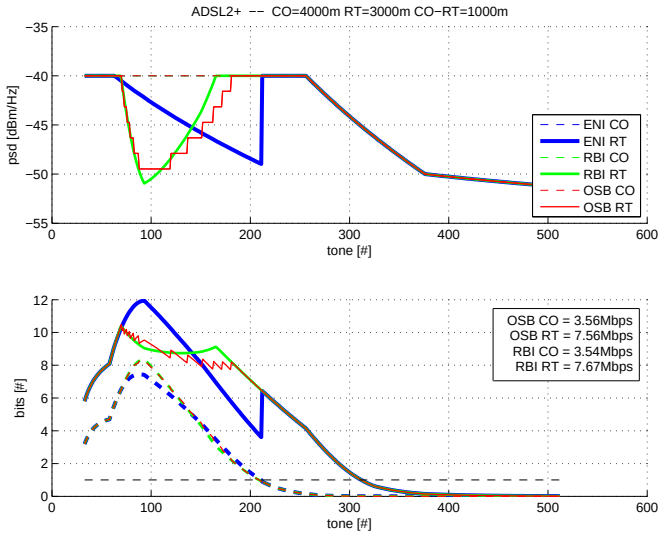

ADSL −− BI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

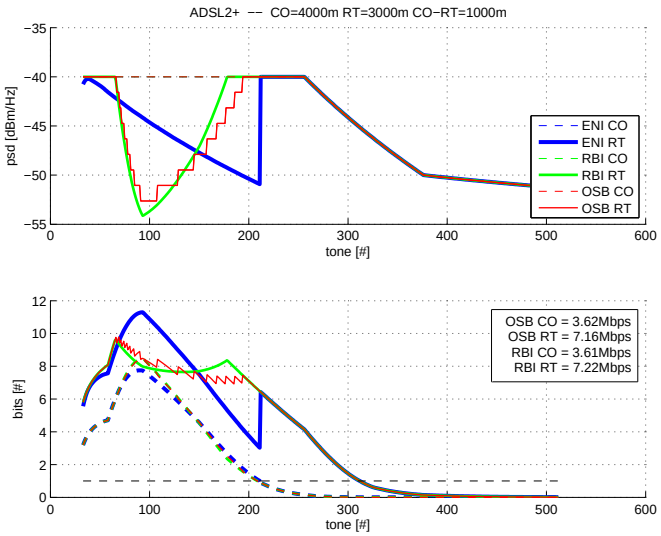

ADSL −− RBI −− CO−RT distance 1000m
datarate 3000m RT line [Mbps]
datarate 4000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

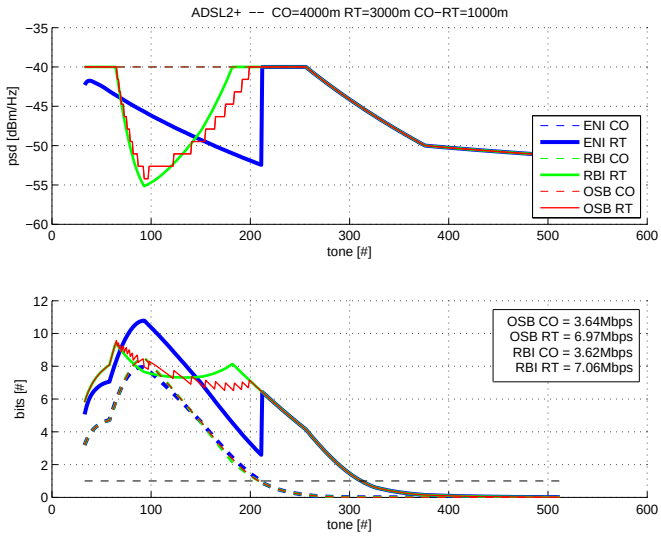

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.37Mbps
OSB RT = 8.25Mbps
RBI CO = 3.36Mbps
RBI RT = 8.27Mbps

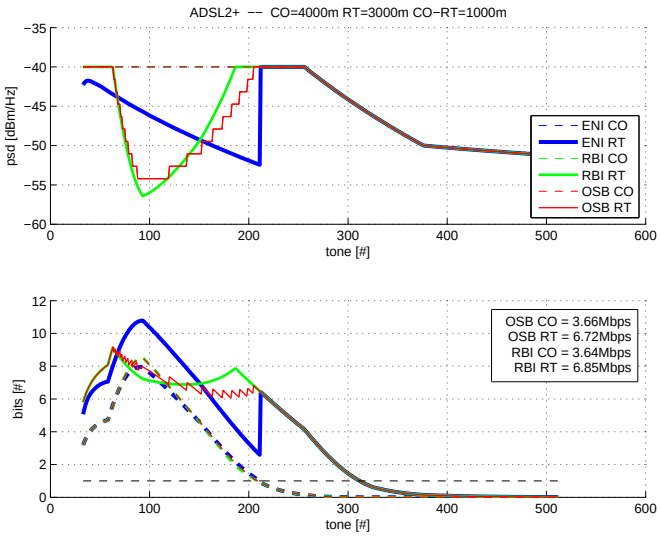

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.44Mbps
OSB RT = 8.07Mbps
RBI CO = 3.43Mbps
RBI RT = 8.07Mbps

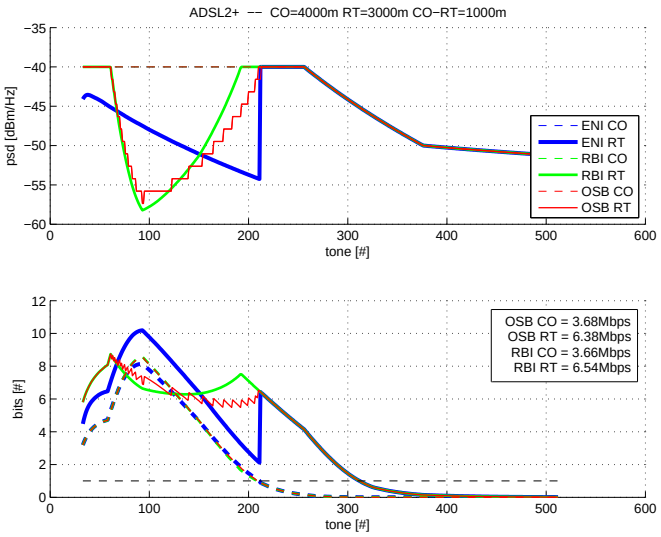

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.50Mbps
OSB RT = 7.84Mbps
RBI CO = 3.48Mbps
RBI RT = 7.92Mbps

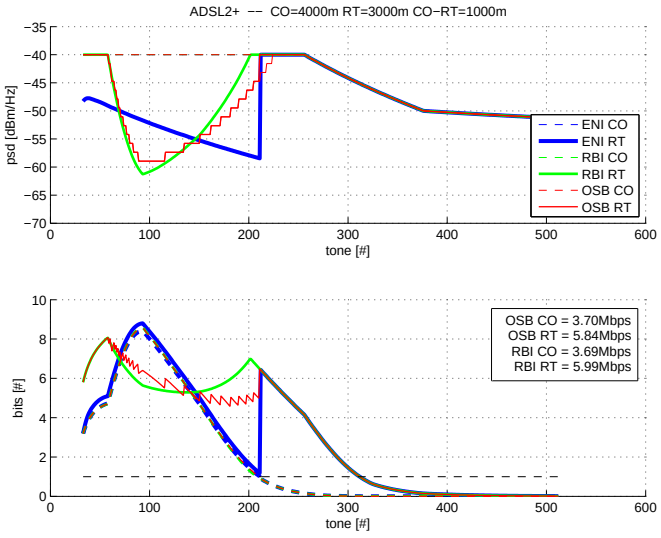

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.56Mbps
OSB RT = 7.56Mbps
RBI CO = 3.54Mbps
RBI RT = 7.67Mbps

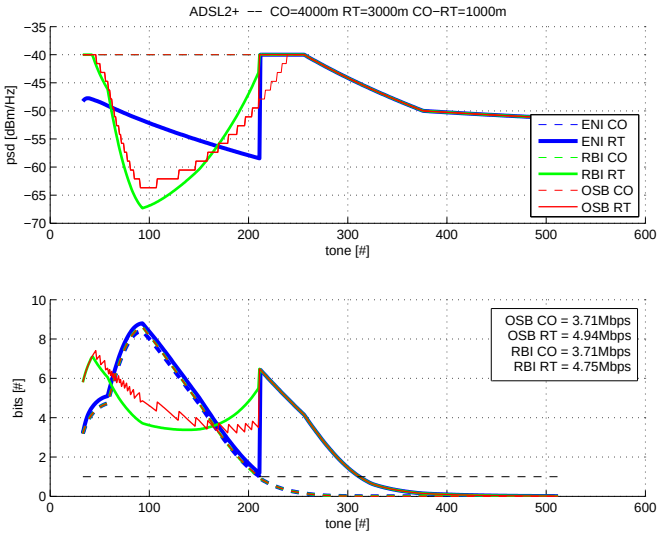

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.62Mbps
OSB RT = 7.16Mbps
RBI CO = 3.61Mbps
RBI RT = 7.22Mbps

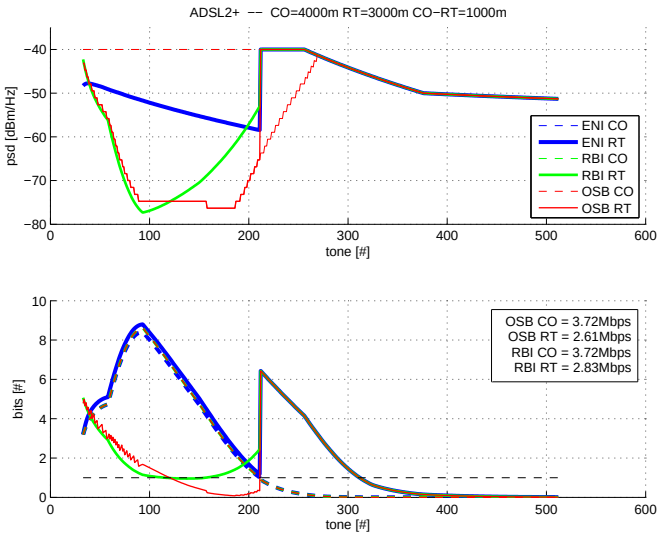

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.64Mbps
OSB RT = 6.97Mbps
RBI CO = 3.62Mbps
RBI RT = 7.06Mbps

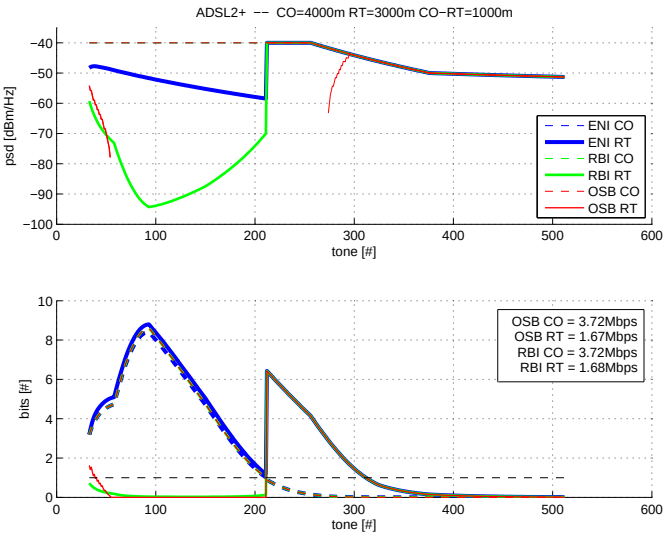

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.66Mbps
OSB RT = 6.72Mbps
RBI CO = 3.64Mbps
RBI RT = 6.85Mbps

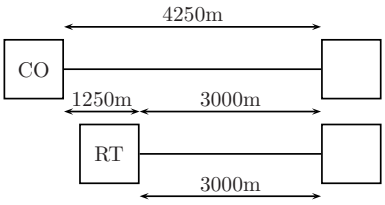

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.68Mbps
OSB RT = 6.38Mbps
RBI CO = 3.66Mbps
RBI RT = 6.54Mbps

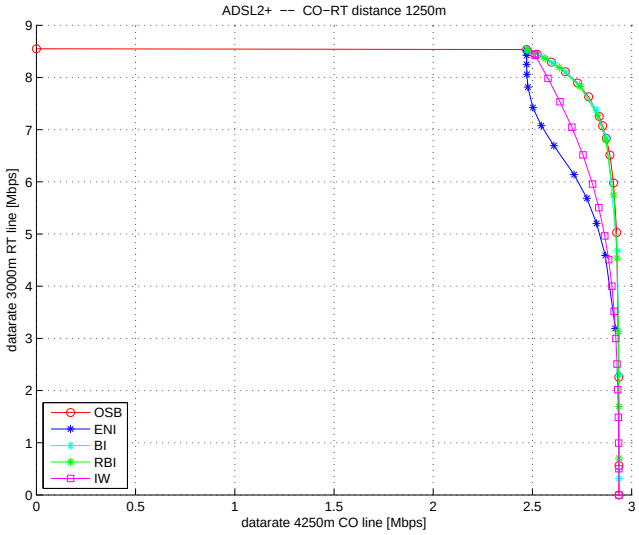

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.70Mbps
OSB RT = 5.84Mbps
RBI CO = 3.69Mbps
RBI RT = 5.99Mbps

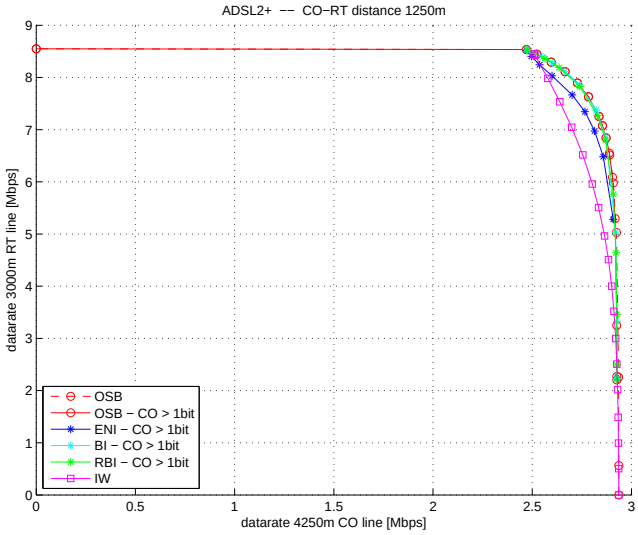

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.71Mbps
OSB RT = 4.94Mbps
RBI CO = 3.71Mbps
RBI RT = 4.75Mbps

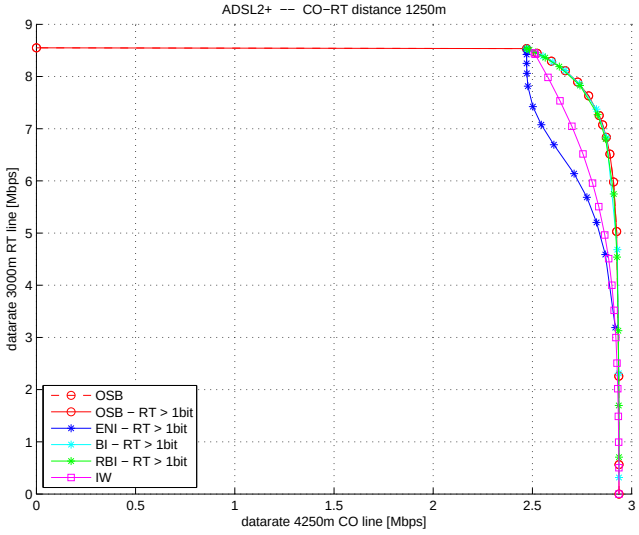

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.72Mbps
OSB RT = 2.61Mbps
RBI CO = 3.72Mbps
RBI RT = 2.83Mbps

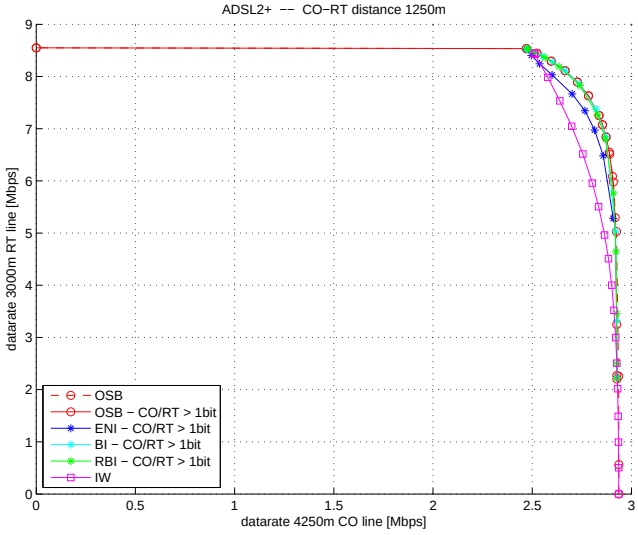

ADSL2+ -- CO=4000m RT=3000m CO-RT=1000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 3.72Mbps
OSB RT = 1.67Mbps
RBI CO = 3.72Mbps
RBI RT = 1.68Mbps

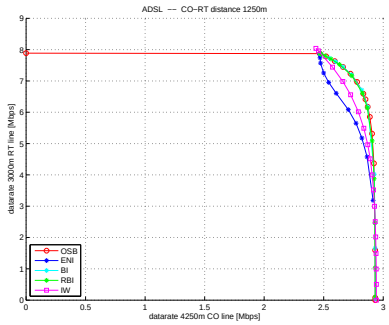

4250m
CO
1250m
3000m
RT
3000m

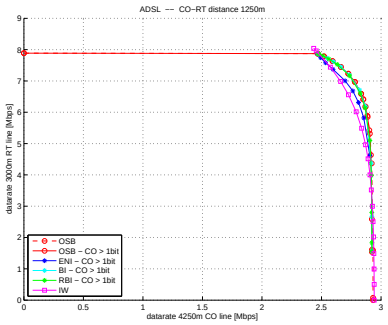

ADSL2+ -- CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

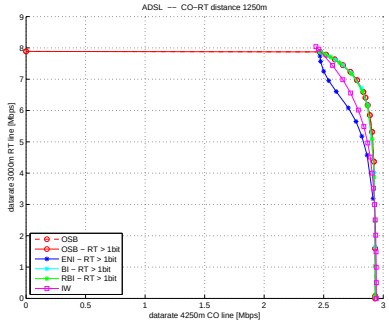

ADSL2+ -- CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

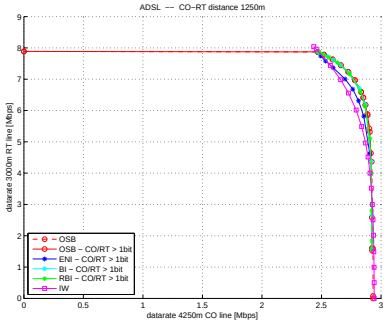

ADSL2+ -- CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

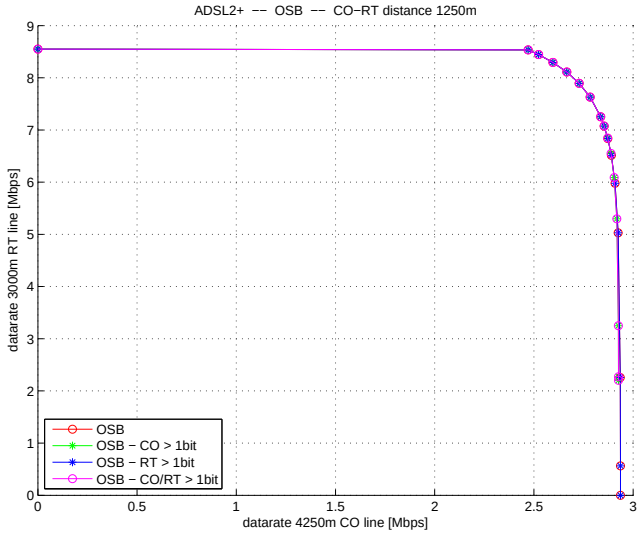

ADSL2+ -- CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

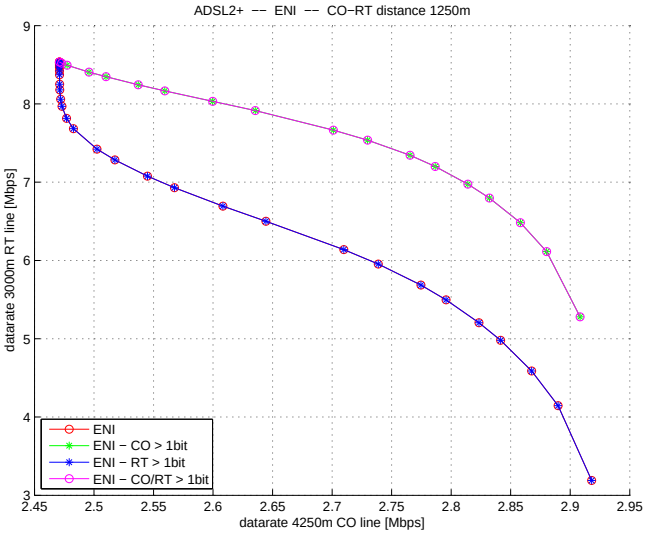

ADSL -- CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
ENI
BI
RBI
IW

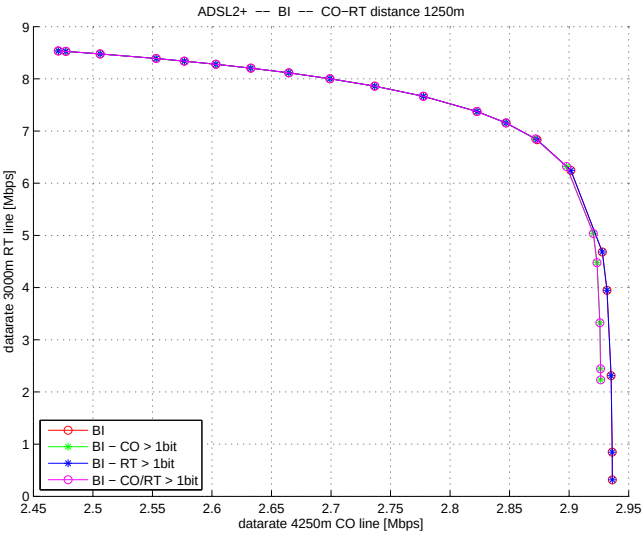

ADSL -- CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

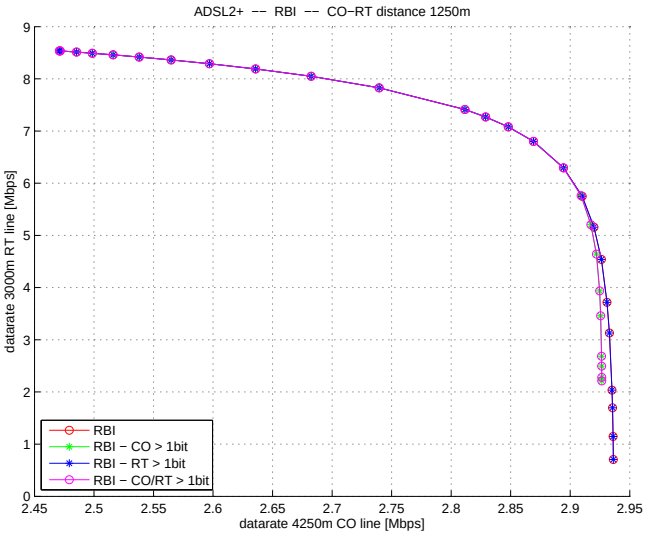

ADSL -- CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

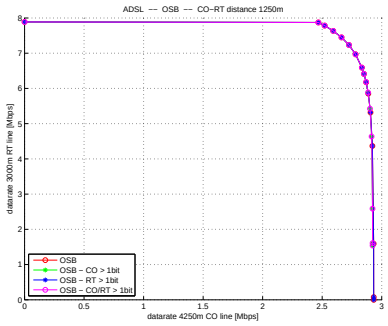

ADSL -- CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

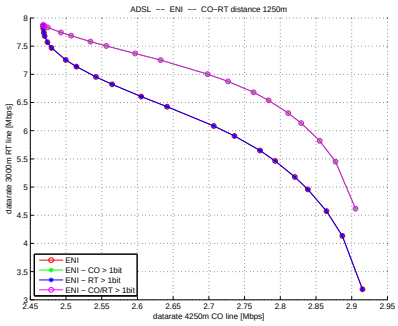

ADSL2+ −− OSB −− CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

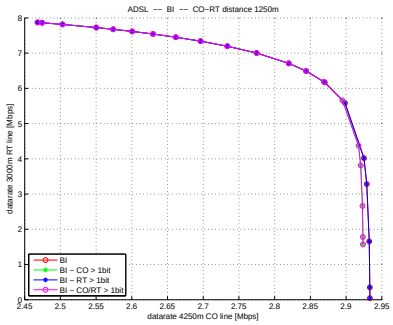

ADSL2+ −− ENI −− CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

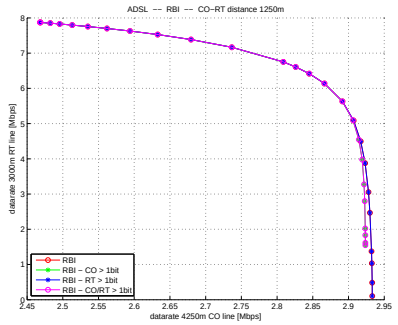

ADSL2+ −− BI −− CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

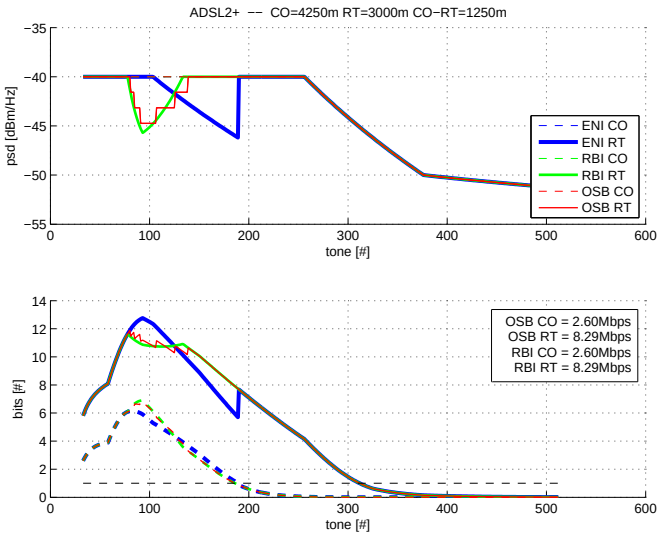

ADSL2+ −− RBI −− CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

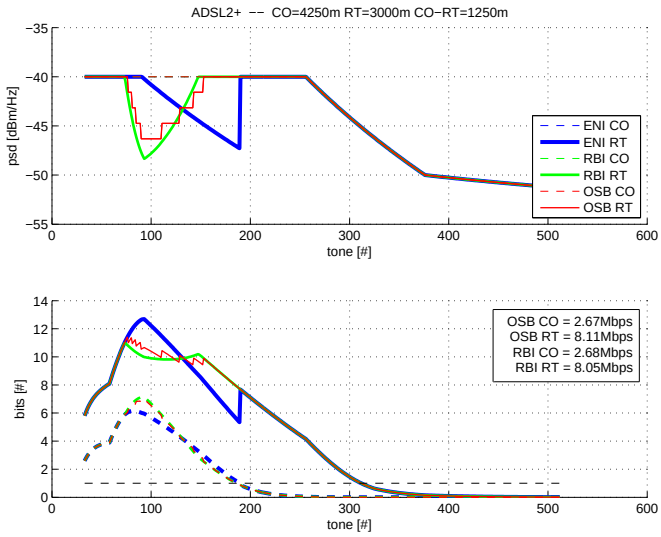

ADSL −− OSB −− CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

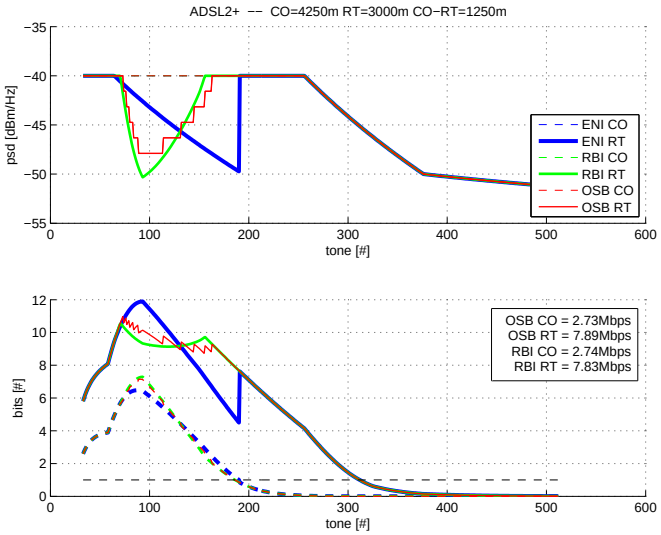

ADSL −− ENI −− CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

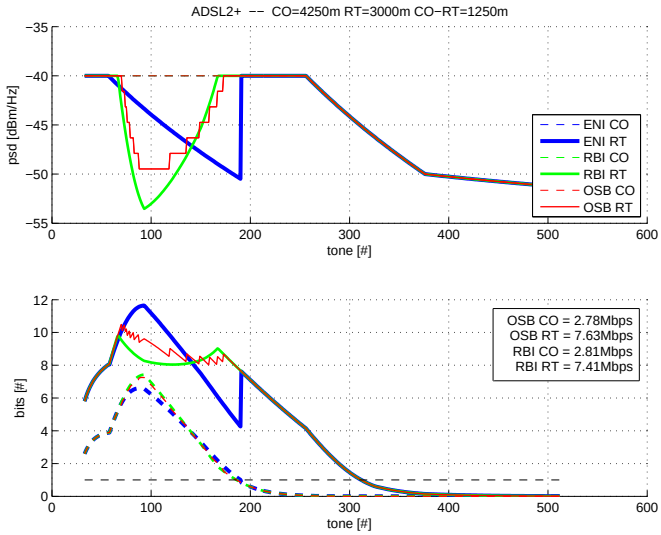

ADSL −− BI −− CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

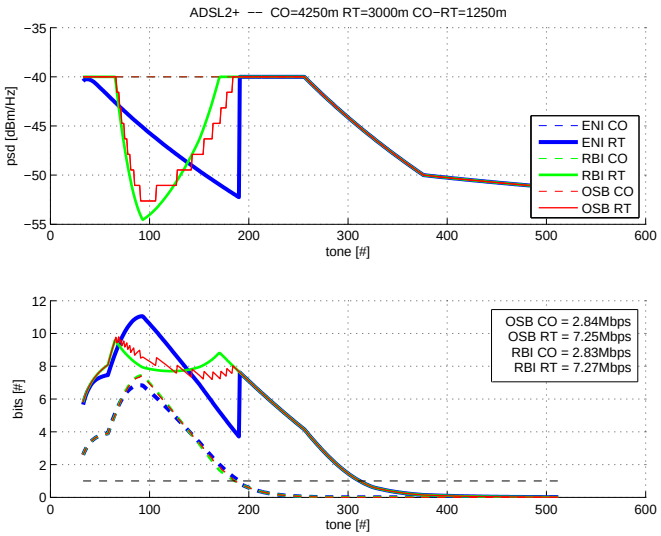

ADSL −− RBI −− CO−RT distance 1250m
datarate 3000m RT line [Mbps]
datarate 4250m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

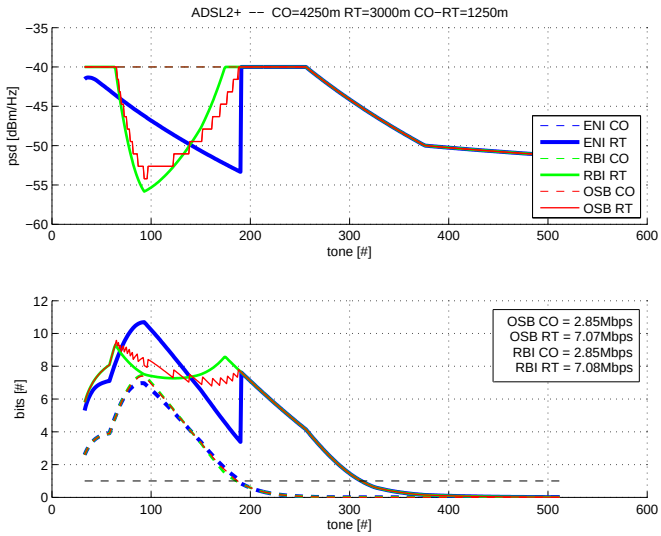

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.60Mbps
OSB RT = 8.29Mbps
RBI CO = 2.60Mbps
RBI RT = 8.29Mbps

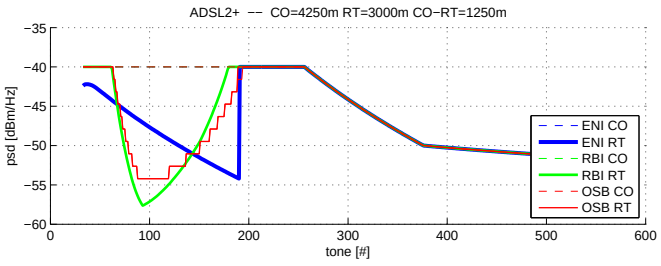

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.67Mbps
OSB RT = 8.11Mbps
RBI CO = 2.68Mbps
RBI RT = 8.05Mbps

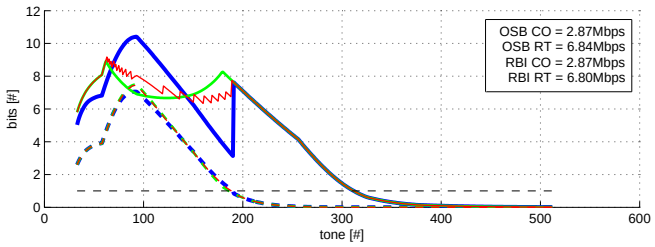

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.73Mbps
OSB RT = 7.89Mbps
RBI CO = 2.74Mbps
RBI RT = 7.83Mbps

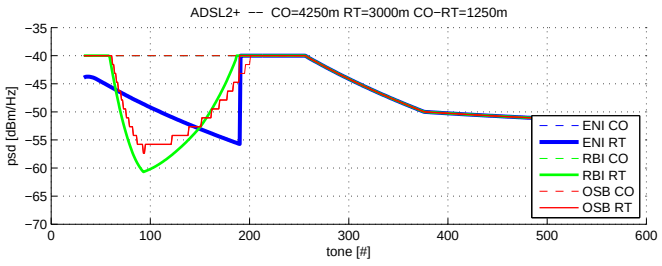

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.78Mbps
OSB RT = 7.63Mbps
RBI CO = 2.81Mbps
RBI RT = 7.41Mbps

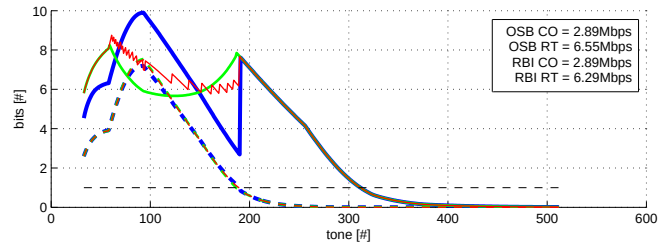

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.84Mbps
OSB RT = 7.25Mbps
RBI CO = 2.83Mbps
RBI RT = 7.27Mbps

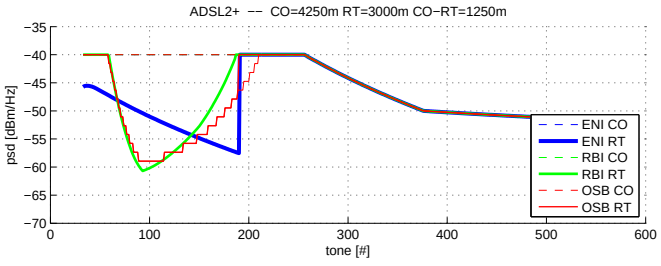

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.85Mbps
OSB RT = 7.07Mbps
RBI CO = 2.85Mbps
RBI RT = 7.08Mbps

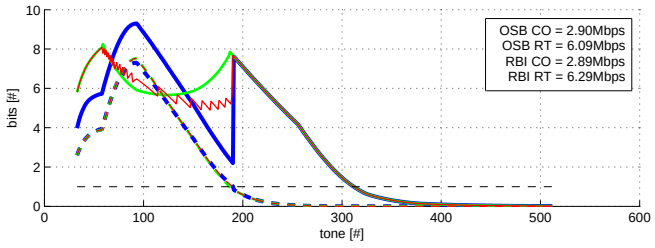

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

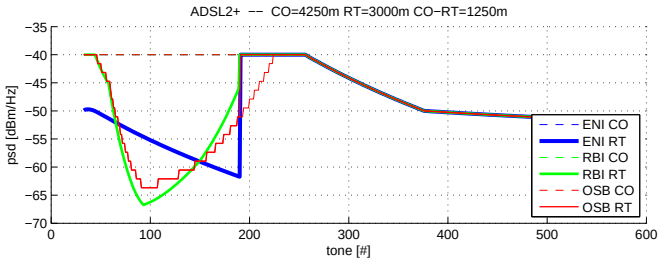

bits [#]
tone [#]
OSB CO = 2.87Mbps
OSB RT = 6.84Mbps
RBI CO = 2.87Mbps
RBI RT = 6.80Mbps

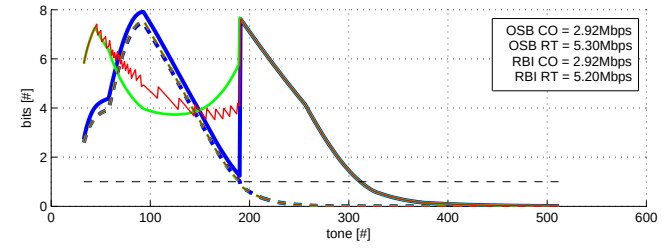

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

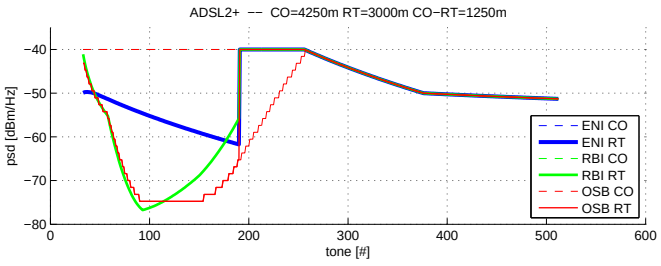

bits [#]
tone [#]
OSB CO = 2.89Mbps
OSB RT = 6.55Mbps
RBI CO = 2.89Mbps
RBI RT = 6.29Mbps

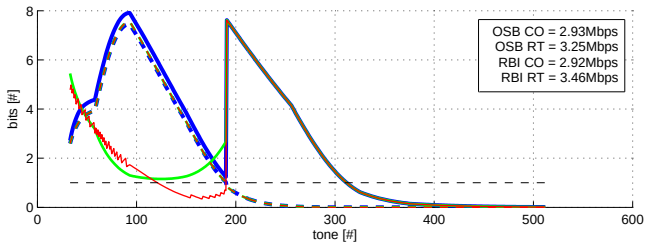

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

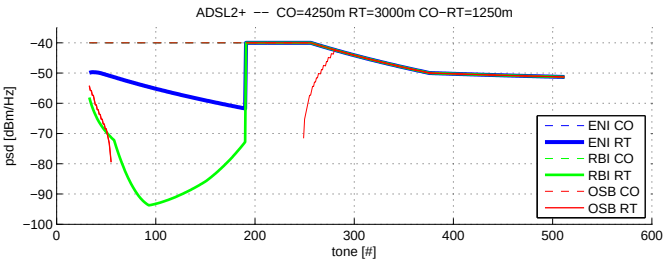

bits [#]
tone [#]
OSB CO = 2.90Mbps
OSB RT = 6.09Mbps
RBI CO = 2.89Mbps
RBI RT = 6.29Mbps

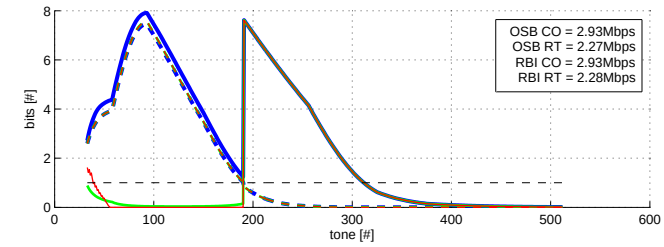

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

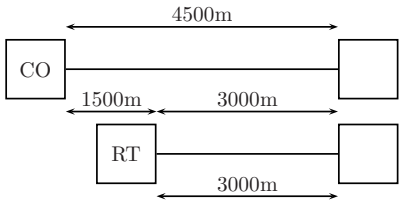

bits [#]
tone [#]
OSB CO = 2.92Mbps
OSB RT = 5.30Mbps
RBI CO = 2.92Mbps
RBI RT = 5.20Mbps

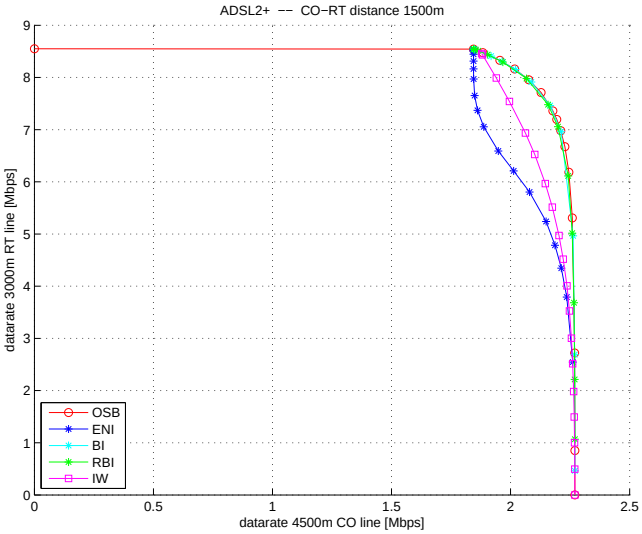

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

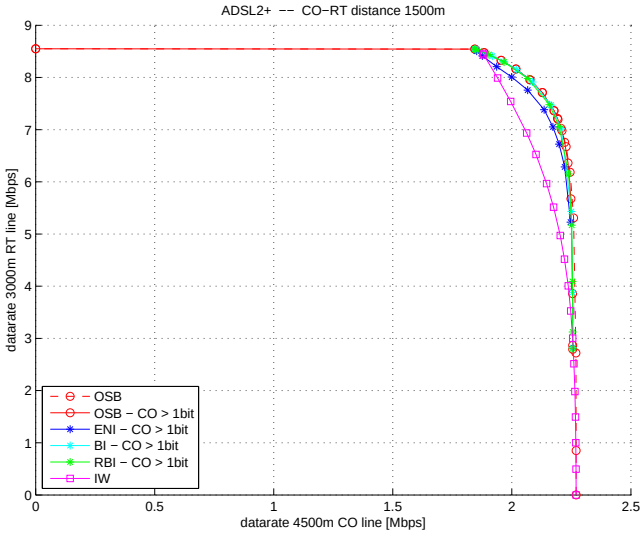

bits [#]
tone [#]
OSB CO = 2.93Mbps
OSB RT = 3.25Mbps
RBI CO = 2.92Mbps
RBI RT = 3.46Mbps

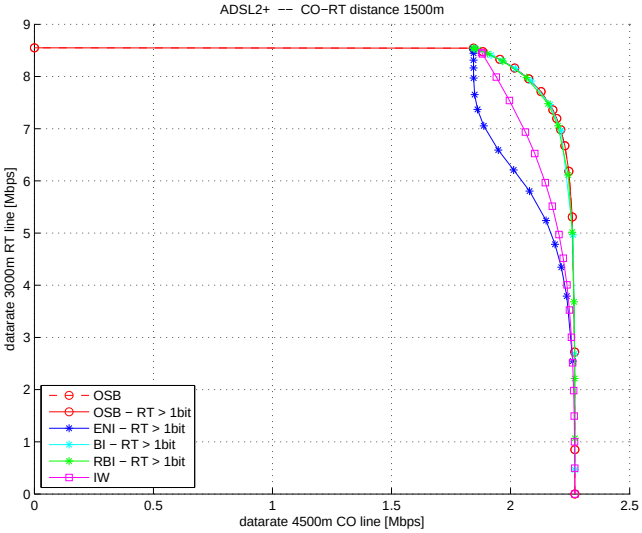

ADSL2+ -- CO=4250m RT=3000m CO-RT=1250m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT

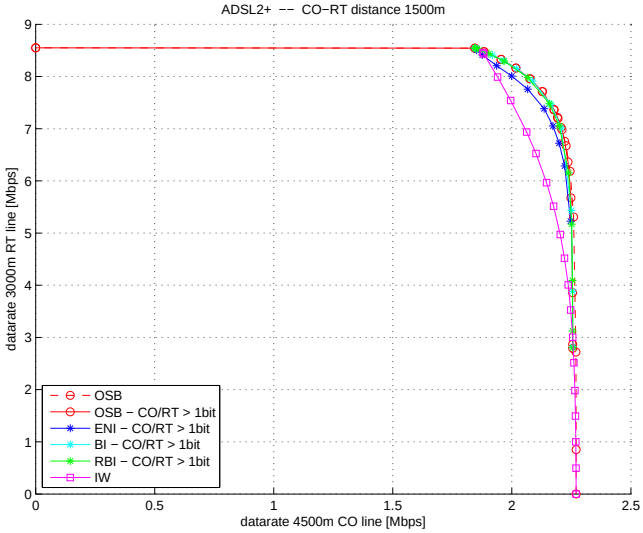

bits [#]
tone [#]
OSB CO = 2.93Mbps
OSB RT = 2.27Mbps
RBI CO = 2.93Mbps
RBI RT = 2.28Mbps

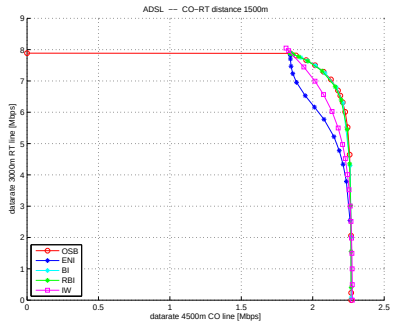

4500m
CO
1500m
3000m
RT
3000m

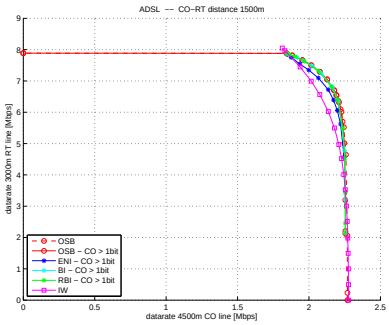

ADSL2+ -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

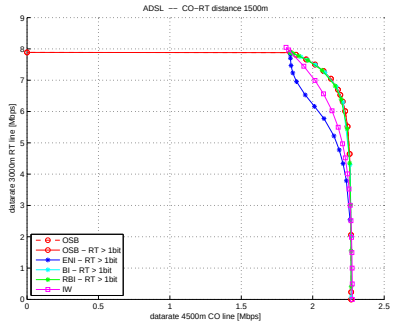

ADSL2+ -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

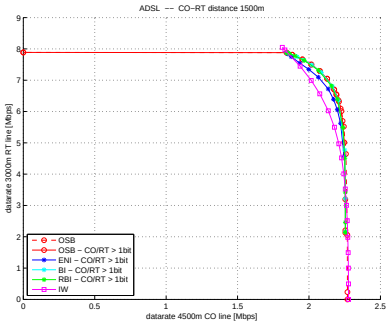

ADSL2+ -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

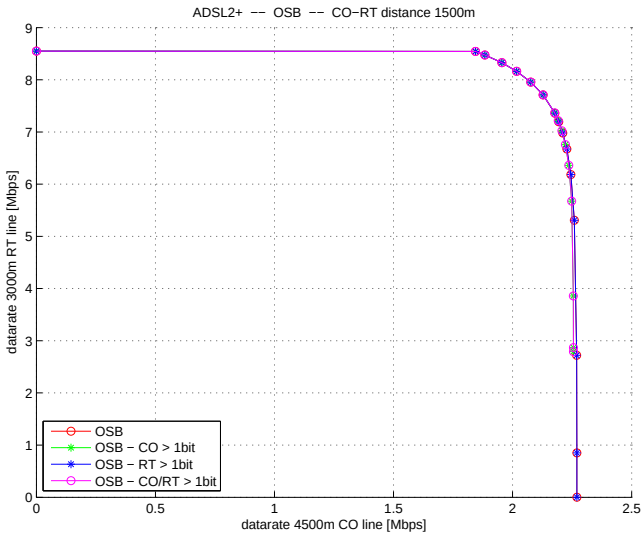

ADSL2+ -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

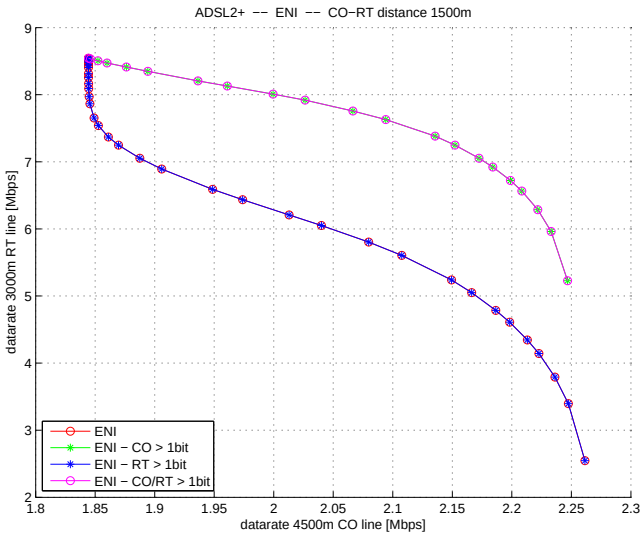

ADSL -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

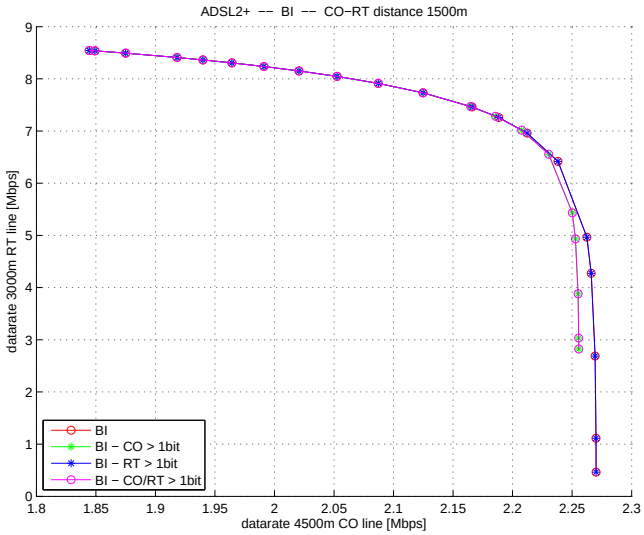

ADSL -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO > 1bit
ENI - CO > 1bit
BI - CO > 1bit
RBI - CO > 1bit
IW

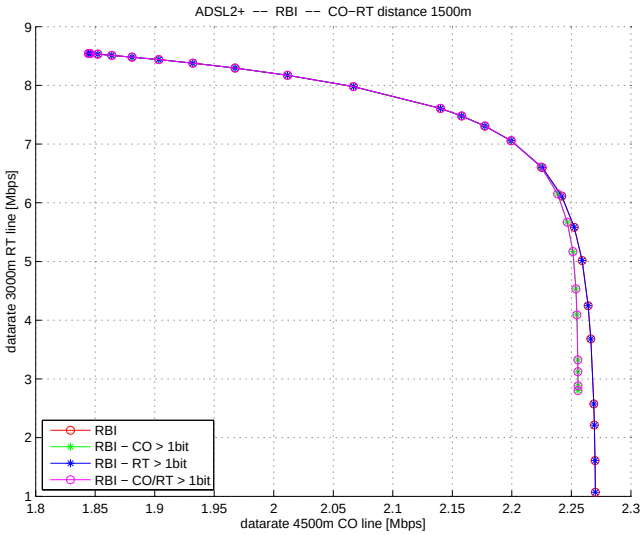

ADSL -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - RT > 1bit
ENI - RT > 1bit
BI - RT > 1bit
RBI - RT > 1bit
IW

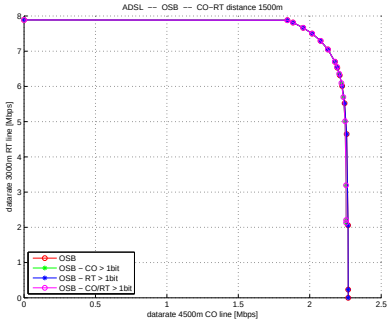

ADSL -- CO-RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB - CO/RT > 1bit
ENI - CO/RT > 1bit
BI - CO/RT > 1bit
RBI - CO/RT > 1bit
IW

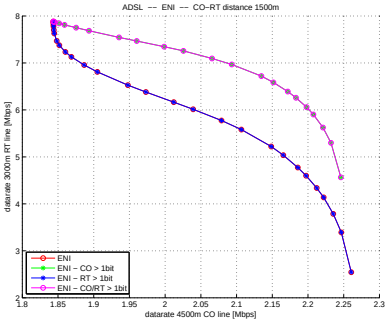

ADSL2+ -- OSB -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

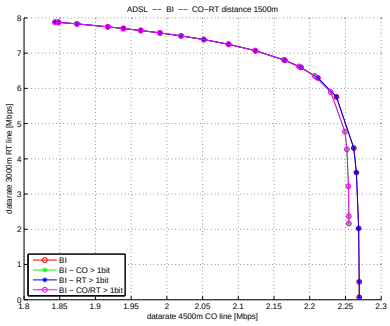

ADSL2+ -- ENI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

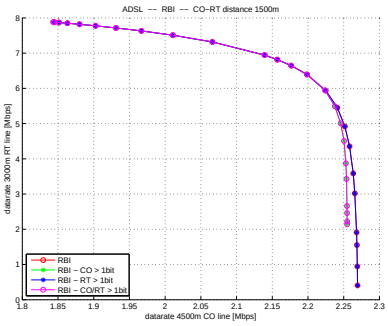

ADSL2+ -- BI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

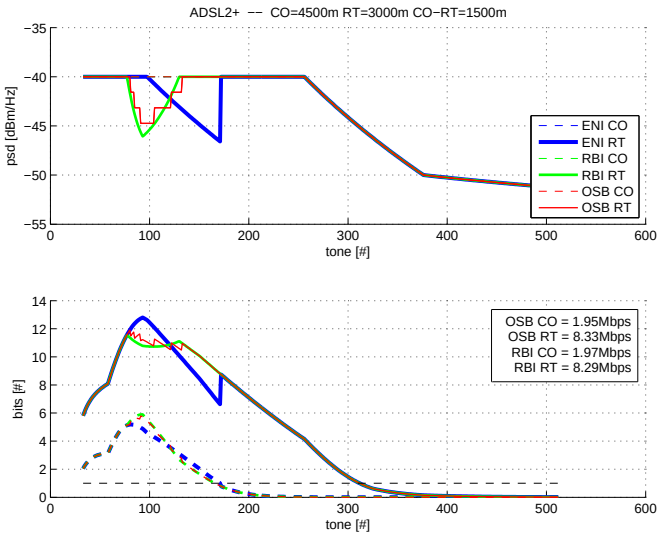

ADSL2+ -- RBI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

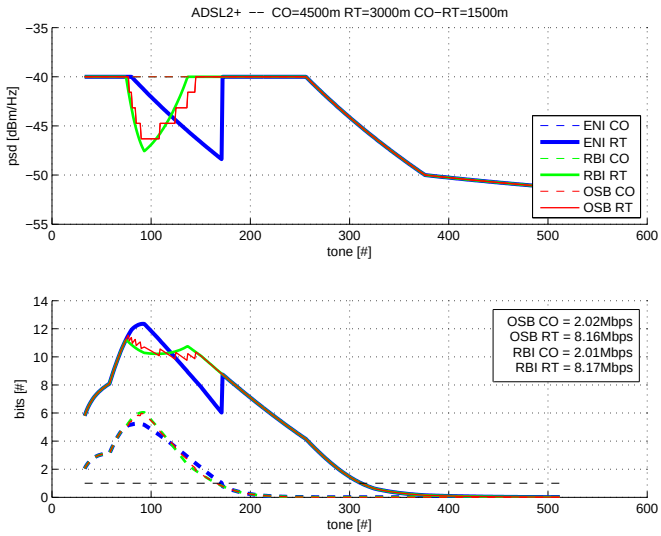

ADSL -- OSB -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

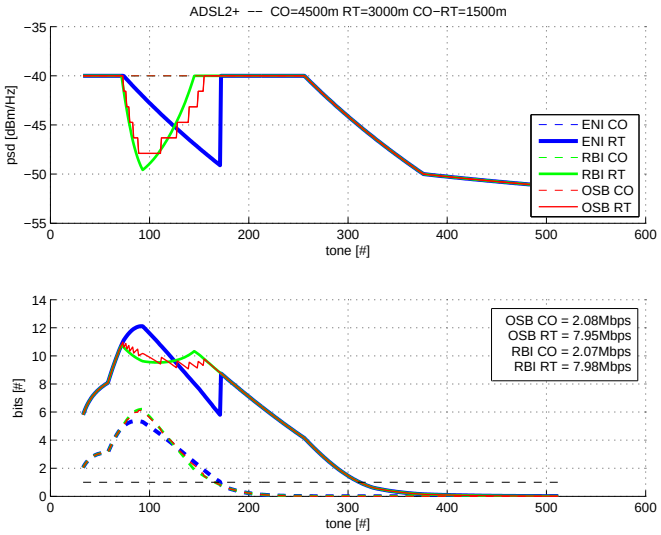

ADSL -- ENI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

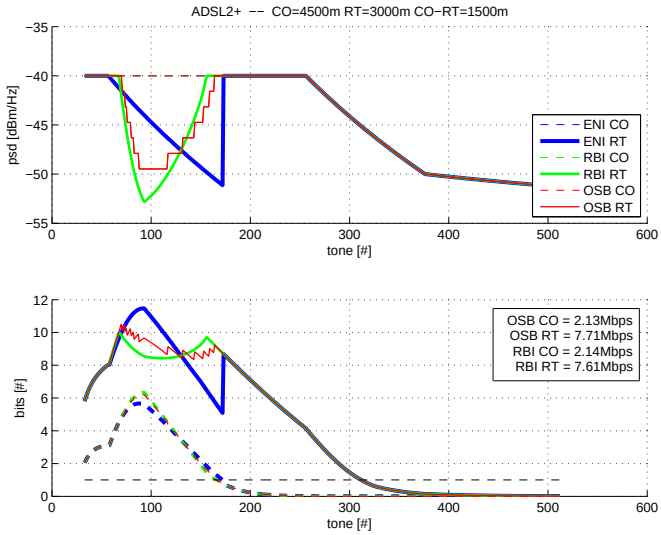

ADSL -- BI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

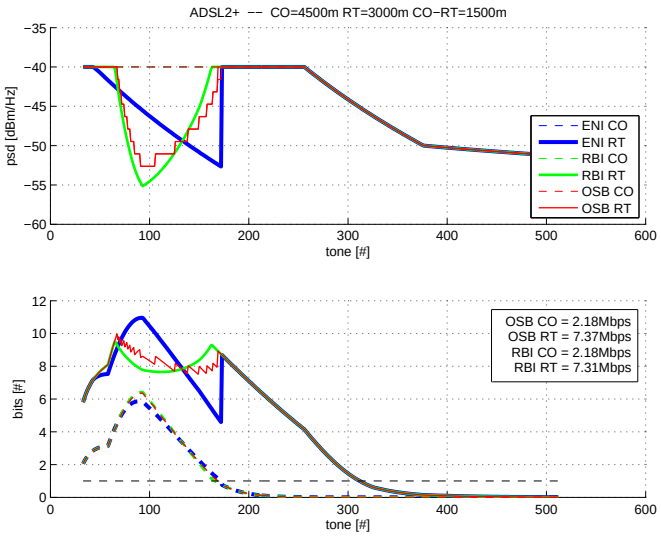

ADSL -- RBI -- CO−RT distance 1500m
datarate 3000m RT line [Mbps]
datarate 4500m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

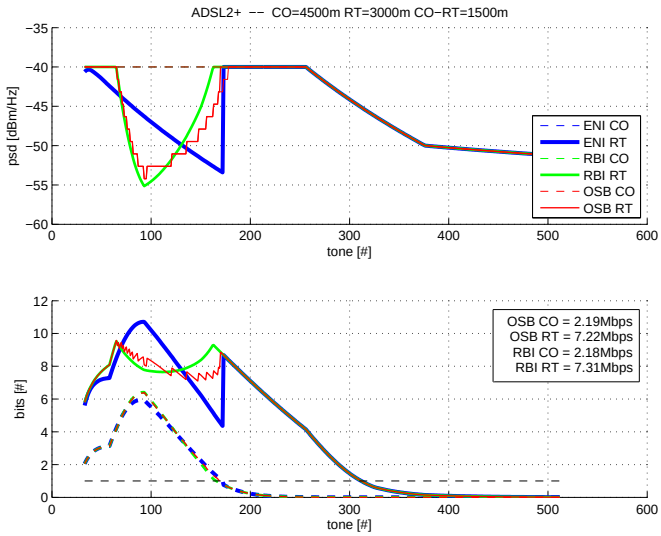

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.95Mbps
OSB RT = 8.33Mbps
RBI CO = 1.97Mbps
RBI RT = 8.29Mbps

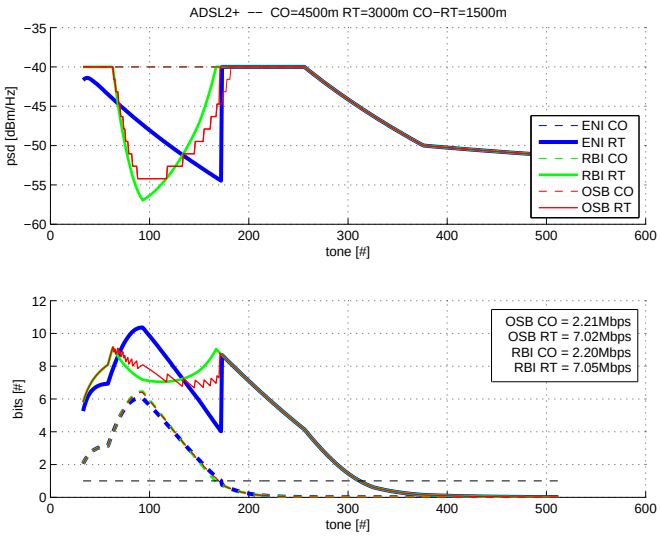

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.02Mbps
OSB RT = 8.16Mbps
RBI CO = 2.01Mbps
RBI RT = 8.17Mbps

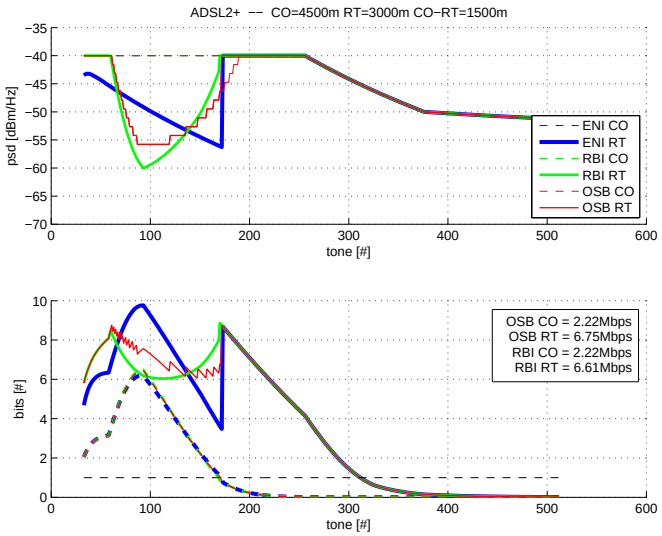

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.08Mbps
OSB RT = 7.95Mbps
RBI CO = 2.07Mbps
RBI RT = 7.98Mbps

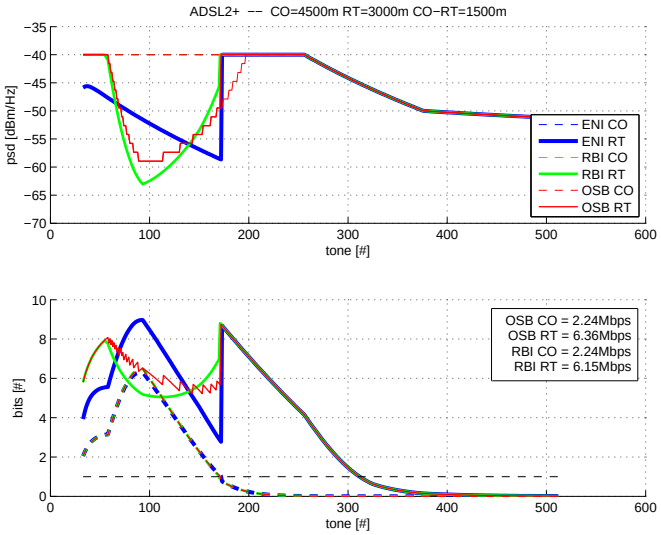

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.13Mbps
OSB RT = 7.71Mbps
RBI CO = 2.14Mbps
RBI RT = 7.61Mbps

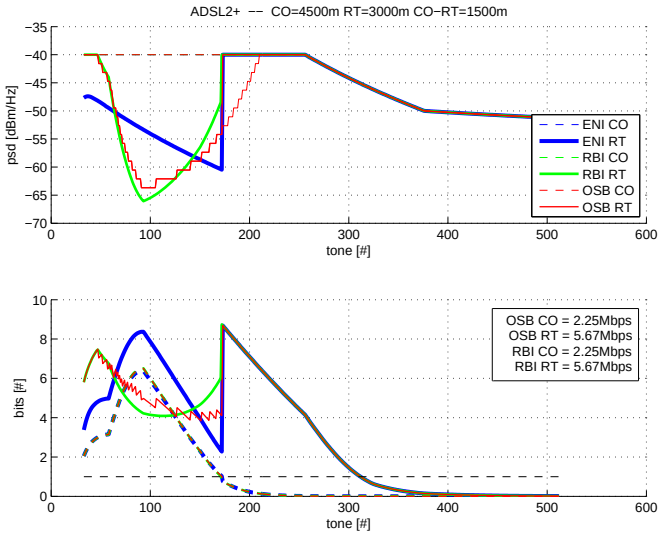

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.18Mbps
OSB RT = 7.37Mbps
RBI CO = 2.18Mbps
RBI RT = 7.31Mbps

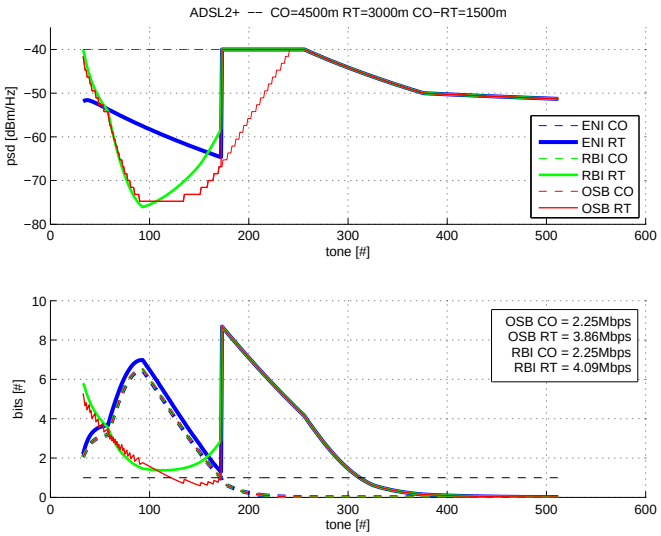

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.19Mbps
OSB RT = 7.22Mbps
RBI CO = 2.18Mbps
RBI RT = 7.31Mbps

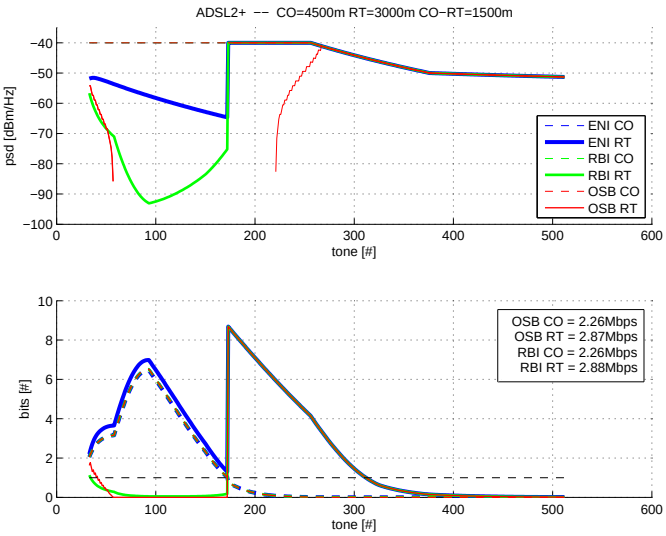

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.21Mbps
OSB RT = 7.02Mbps
RBI CO = 2.20Mbps
RBI RT = 7.05Mbps

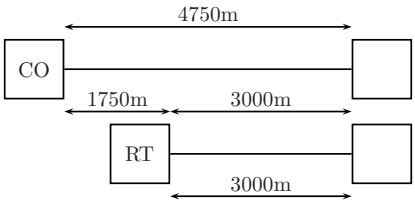

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.22Mbps
OSB RT = 6.75Mbps
RBI CO = 2.22Mbps
RBI RT = 6.61Mbps

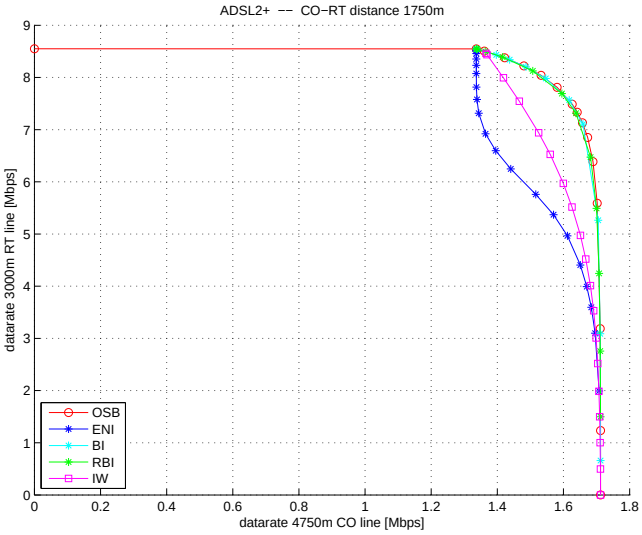

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.24Mbps
OSB RT = 6.36Mbps
RBI CO = 2.24Mbps
RBI RT = 6.15Mbps

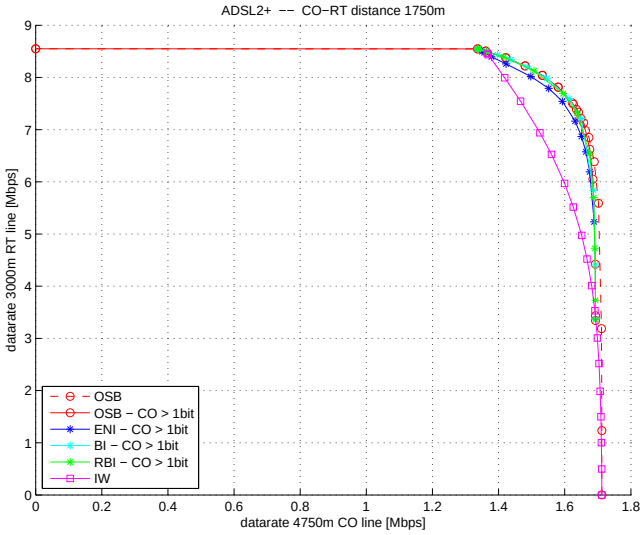

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.25Mbps
OSB RT = 5.67Mbps
RBI CO = 2.25Mbps
RBI RT = 5.67Mbps

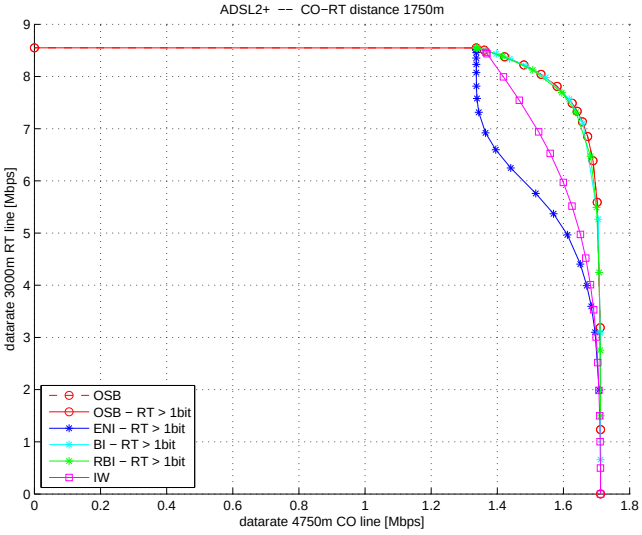

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.25Mbps
OSB RT = 3.86Mbps
RBI CO = 2.25Mbps
RBI RT = 4.09Mbps

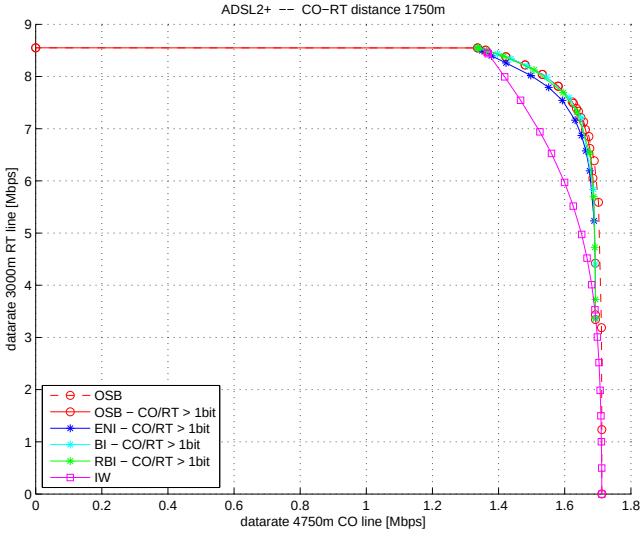

ADSL2+ -- CO=4500m RT=3000m CO-RT=1500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 2.26Mbps
OSB RT = 2.87Mbps
RBI CO = 2.26Mbps
RBI RT = 2.88Mbps

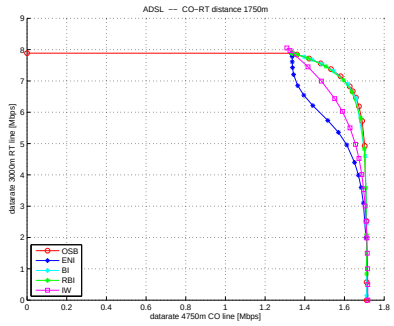

4750m
CO
1750m
3000m
RT
3000m

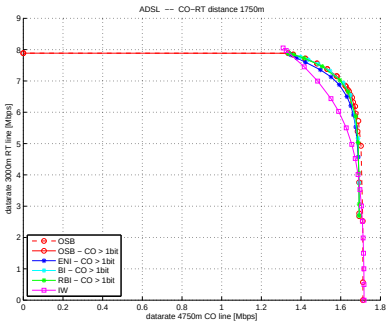

ADSL2+ -- CO-RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

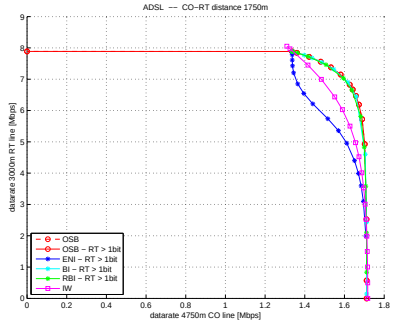

ADSL2+ -- CO-RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

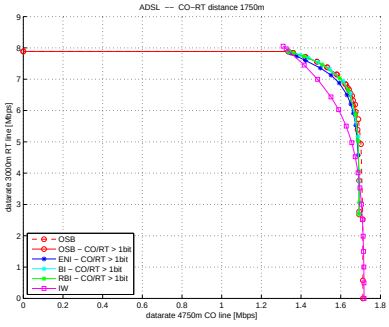

ADSL2+ -- CO-RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

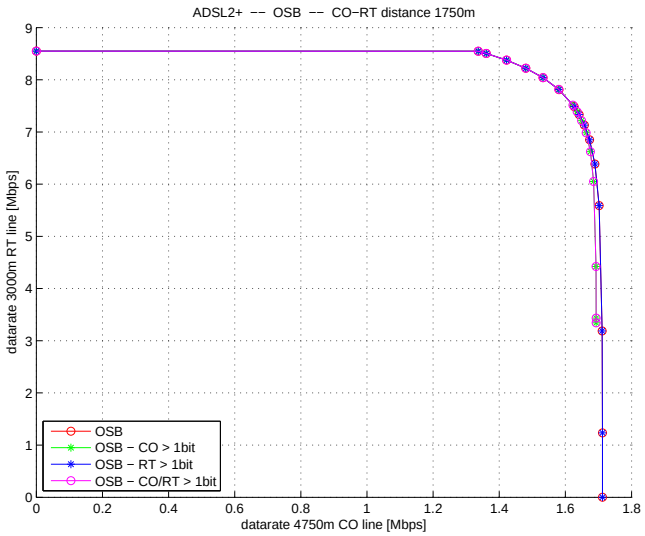

ADSL2+ -- CO-RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

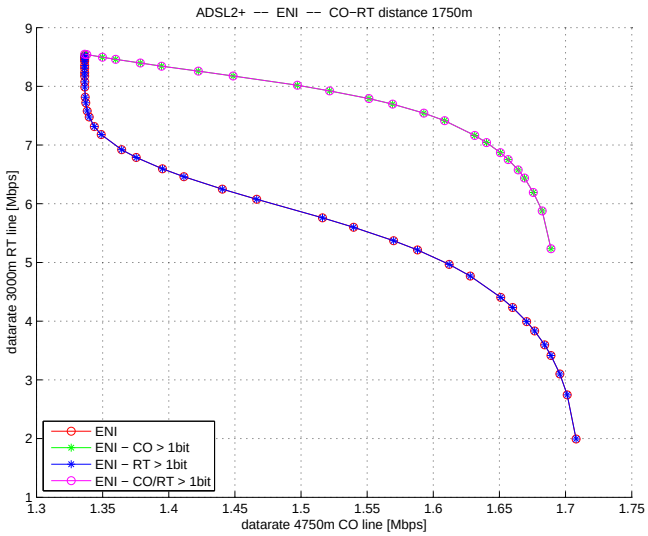

ADSL -- CO-RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
ENI
BI
RBI
IW

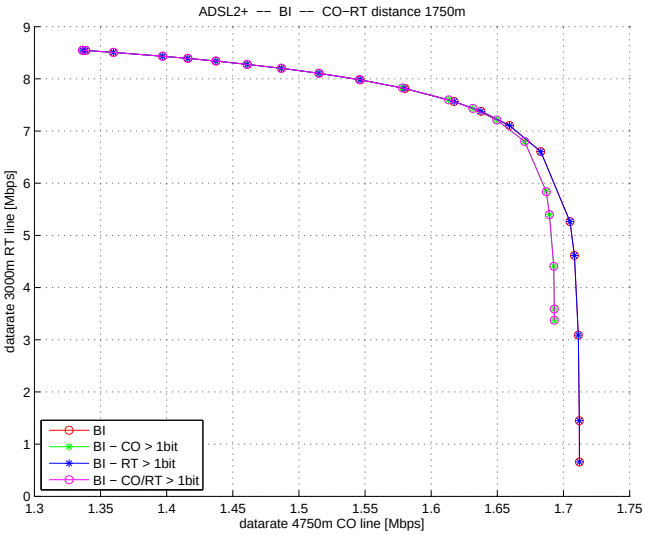

ADSL -- CO-RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

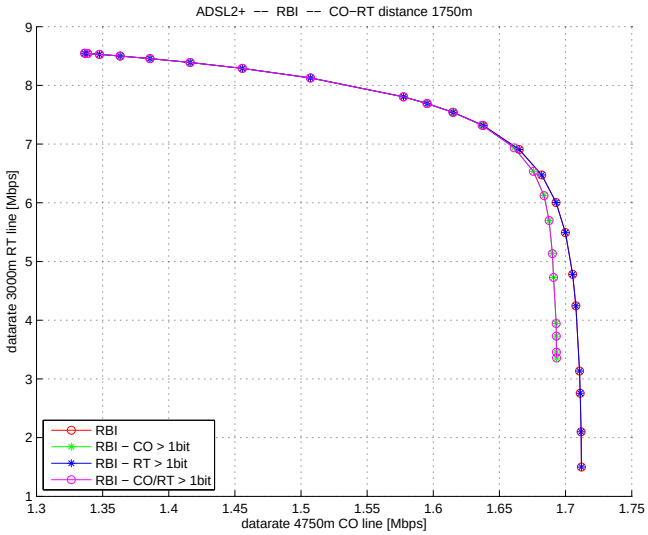

ADSL -- CO-RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

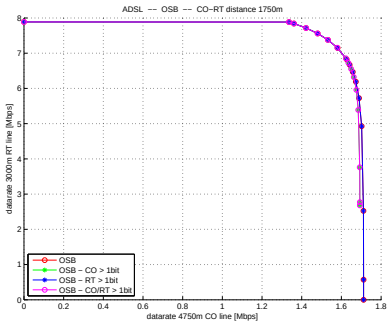

ADSL -- CO-RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

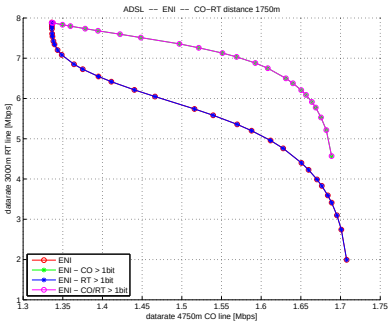

ADSL2+ −− OSB −− CO−RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

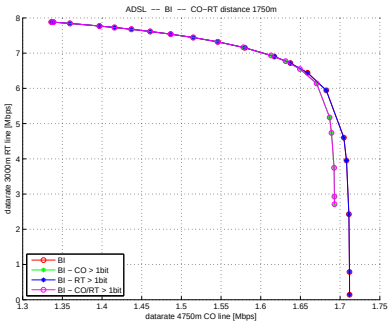

ADSL2+ −− ENI −− CO−RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

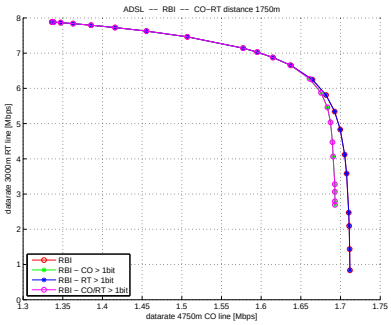

ADSL2+ −− BI −− CO−RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

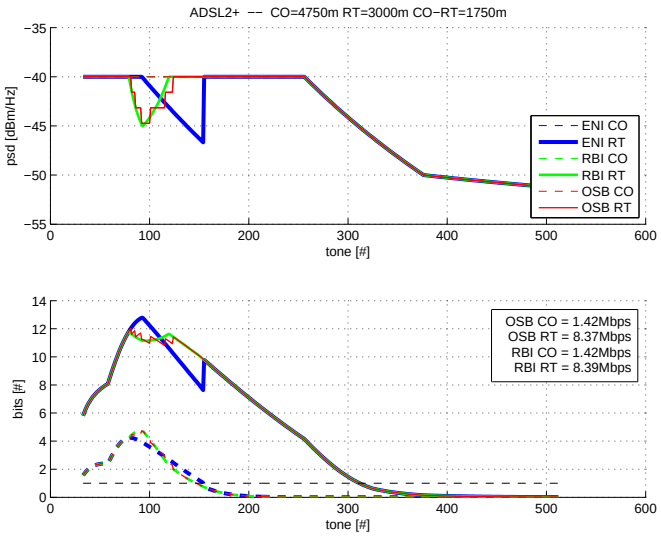

ADSL2+ −− RBI −− CO−RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

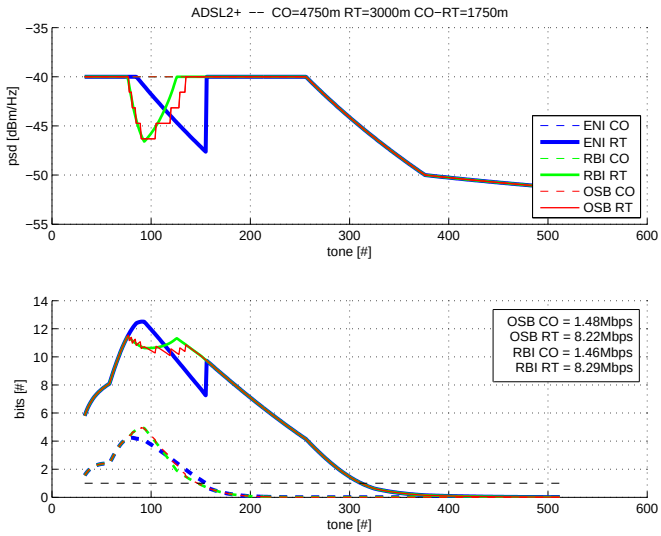

ADSL −− OSB −− CO−RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

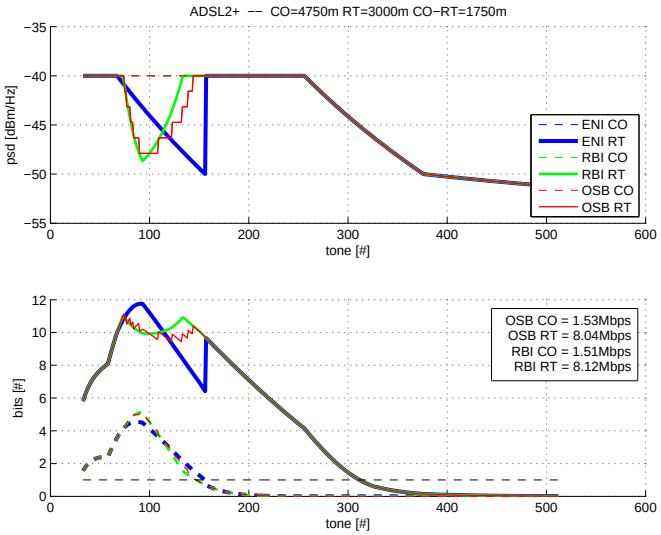

ADSL −− ENI −− CO−RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

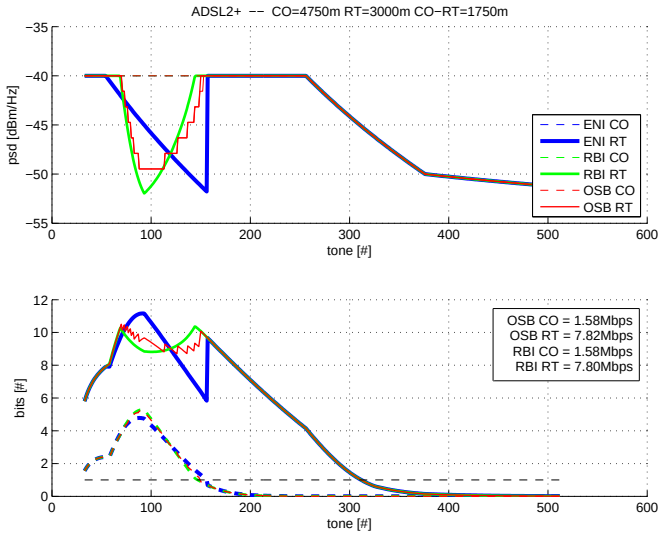

ADSL −− BI −− CO−RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

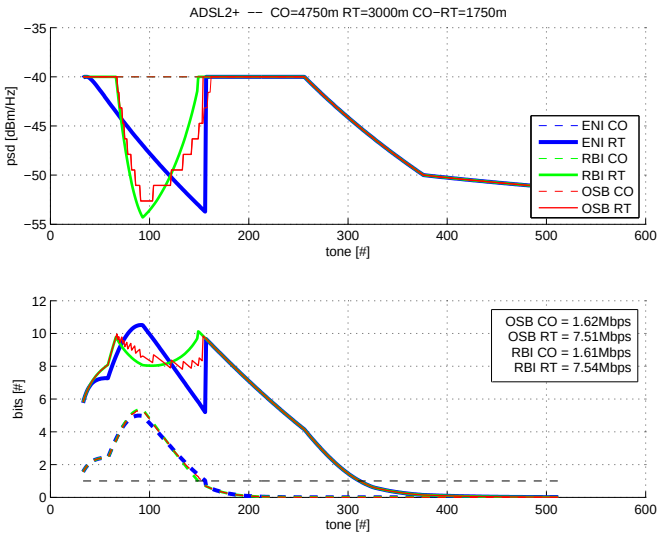

ADSL −− RBI −− CO−RT distance 1750m
datarate 3000m RT line [Mbps]
datarate 4750m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

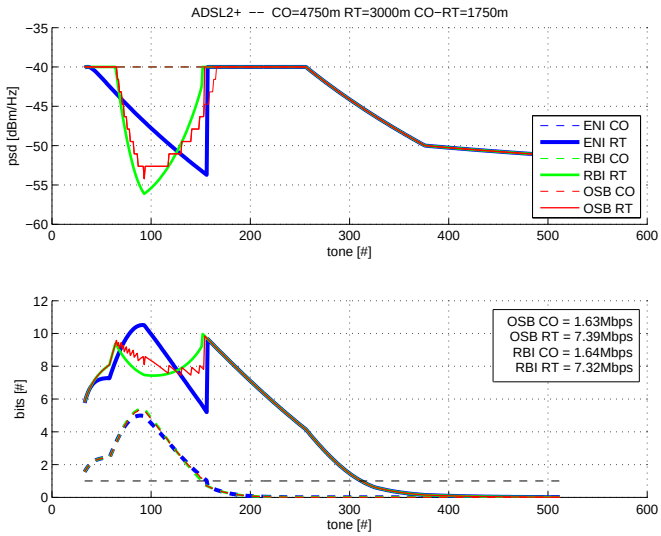

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.42Mbps
OSB RT = 8.37Mbps
RBI CO = 1.42Mbps
RBI RT = 8.39Mbps

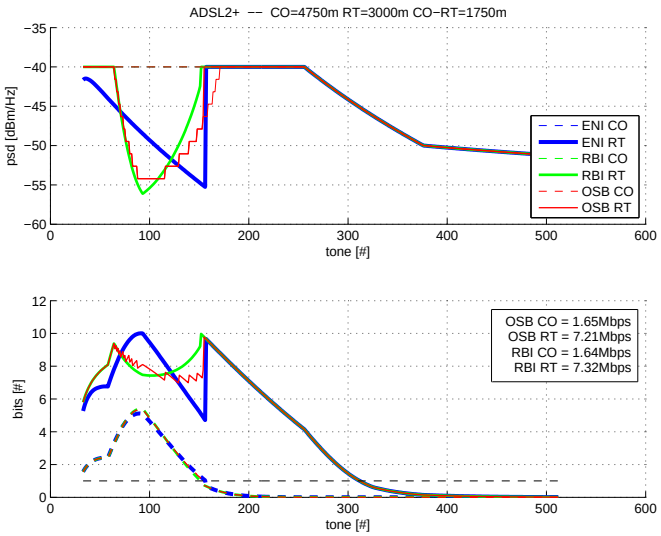

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.48Mbps
OSB RT = 8.22Mbps
RBI CO = 1.46Mbps
RBI RT = 8.29Mbps

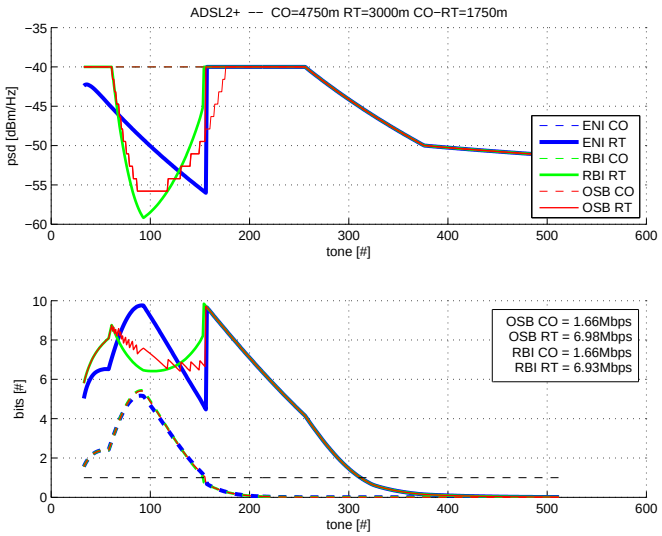

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.53Mbps
OSB RT = 8.04Mbps
RBI CO = 1.51Mbps
RBI RT = 8.12Mbps

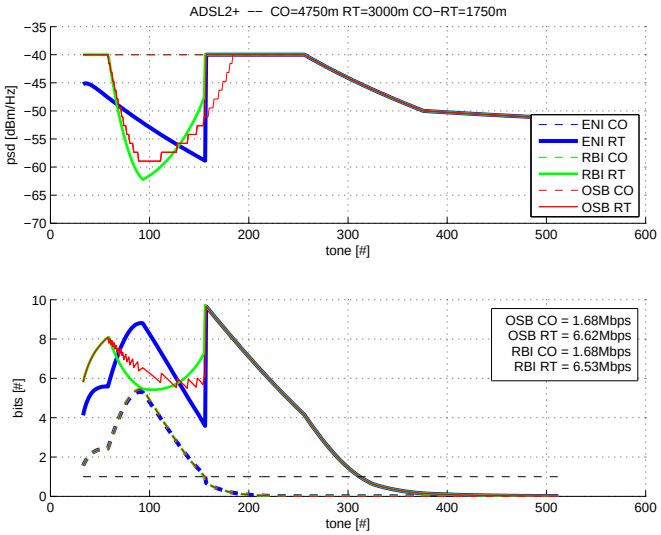

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.58Mbps
OSB RT = 7.82Mbps
RBI CO = 1.58Mbps
RBI RT = 7.80Mbps

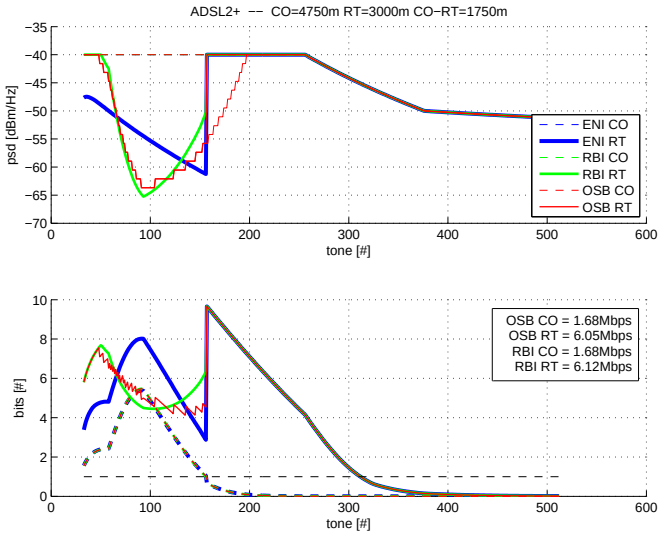

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.62Mbps
OSB RT = 7.51Mbps
RBI CO = 1.61Mbps
RBI RT = 7.54Mbps

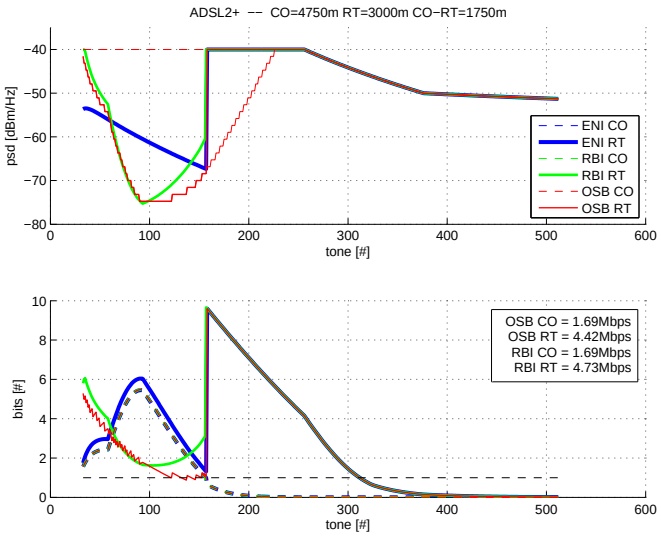

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.63Mbps
OSB RT = 7.39Mbps
RBI CO = 1.64Mbps
RBI RT = 7.32Mbps

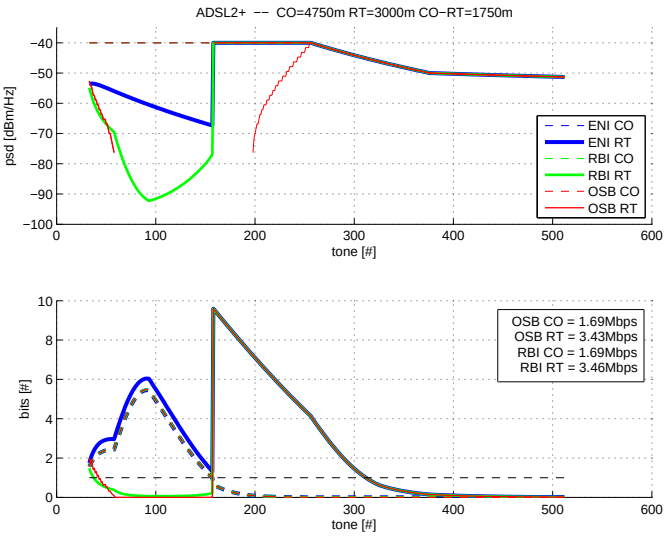

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.65Mbps
OSB RT = 7.21Mbps
RBI CO = 1.64Mbps
RBI RT = 7.32Mbps

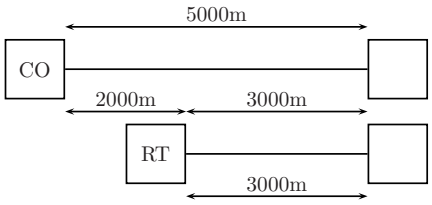

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.66Mbps
OSB RT = 6.98Mbps
RBI CO = 1.66Mbps
RBI RT = 6.93Mbps

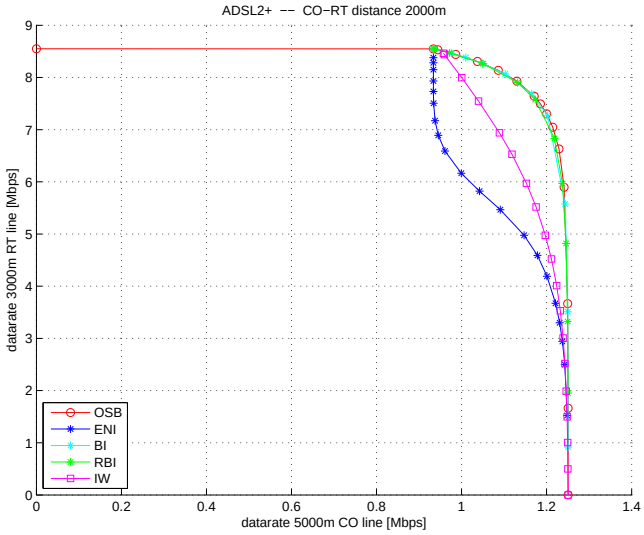

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.68Mbps
OSB RT = 6.62Mbps
RBI CO = 1.68Mbps
RBI RT = 6.53Mbps

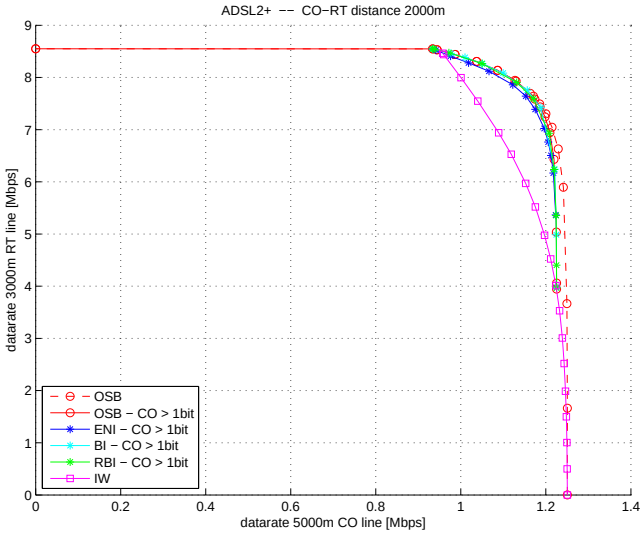

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.68Mbps
OSB RT = 6.05Mbps
RBI CO = 1.68Mbps
RBI RT = 6.12Mbps

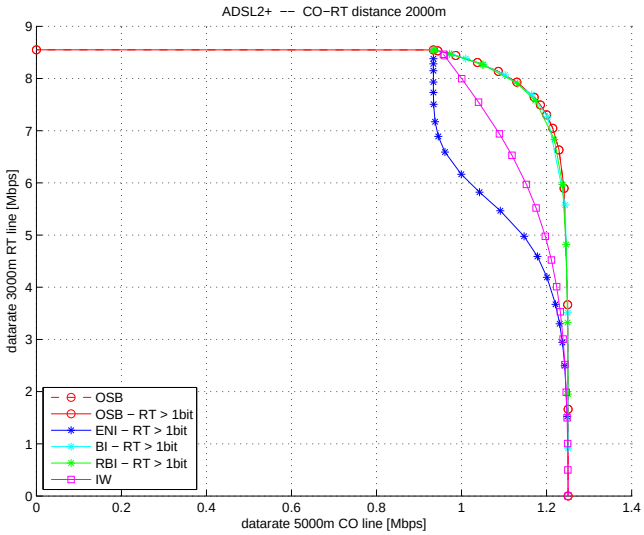

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.69Mbps
OSB RT = 4.42Mbps
RBI CO = 1.69Mbps
RBI RT = 4.73Mbps

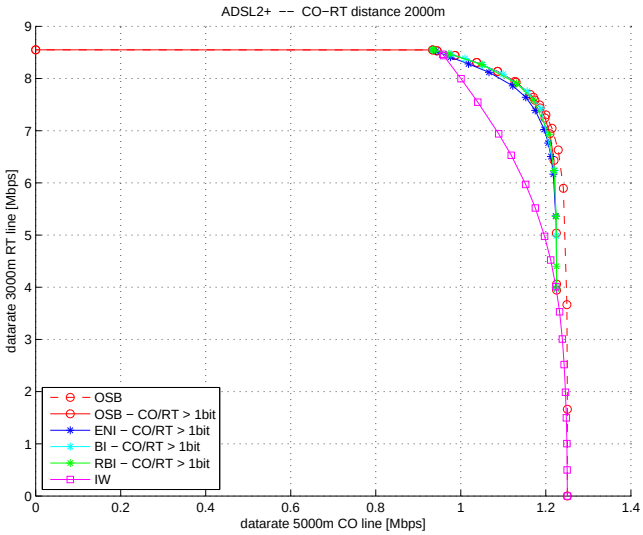

ADSL2+ -- CO=4750m RT=3000m CO-RT=1750m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.69Mbps
OSB RT = 3.43Mbps
RBI CO = 1.69Mbps
RBI RT = 3.46Mbps

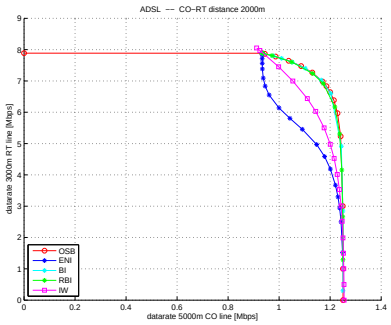

5000m
CO
2000m
3000m
RT
3000m

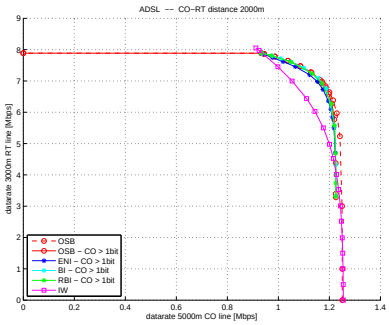

ADSL2+ -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

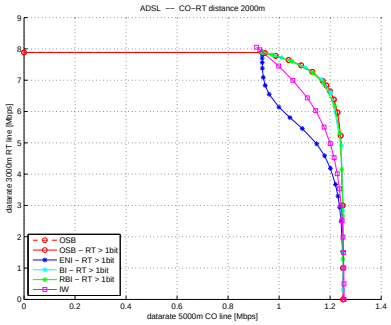

ADSL2+ -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

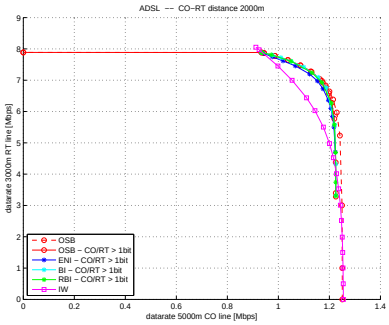

ADSL2+ -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

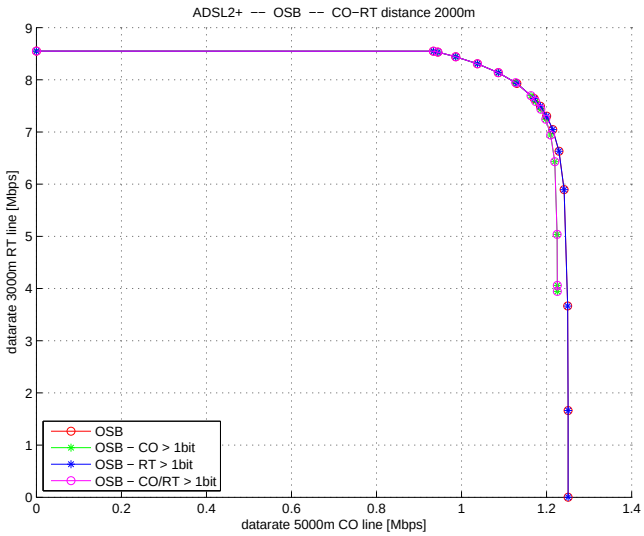

ADSL2+ -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

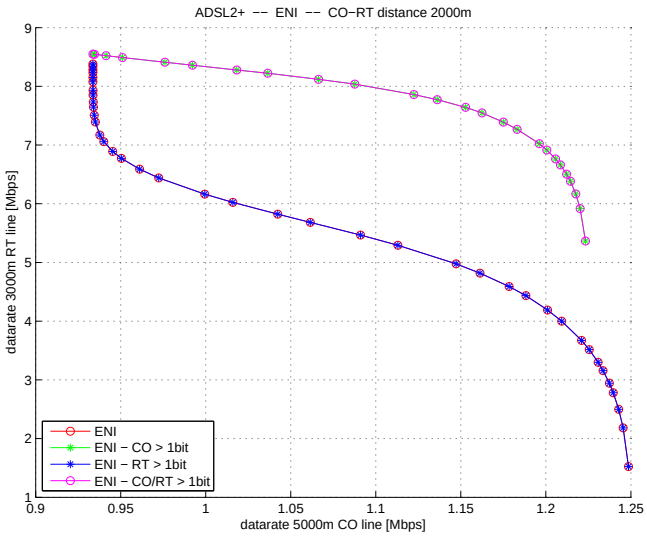

ADSL -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

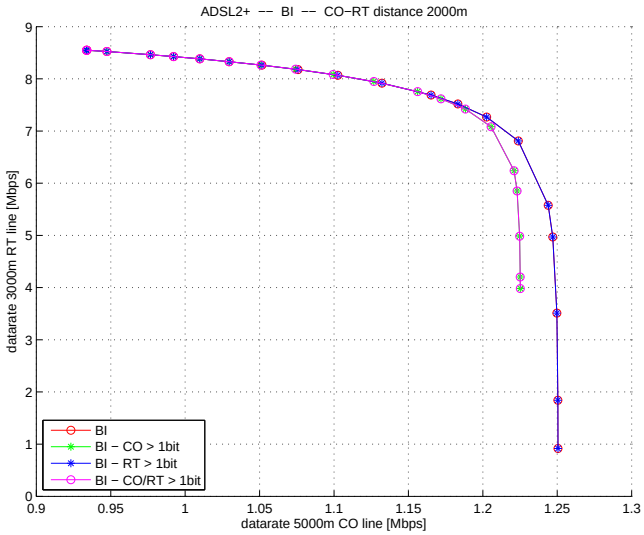

ADSL -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

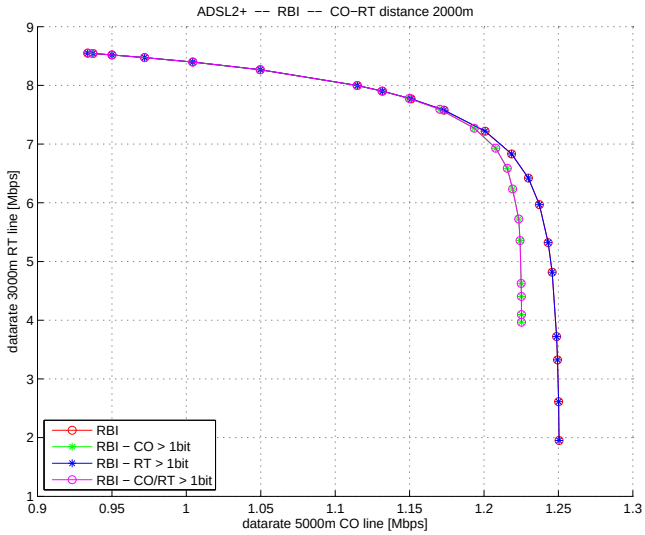

ADSL -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

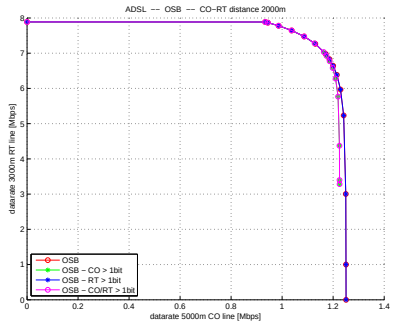

ADSL -- CO-RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

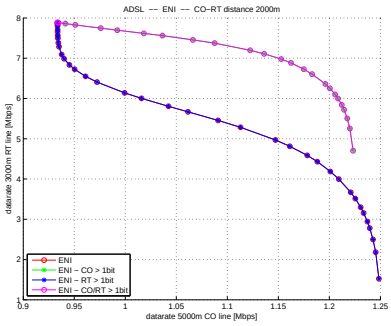

ADSL2+ −− OSB −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

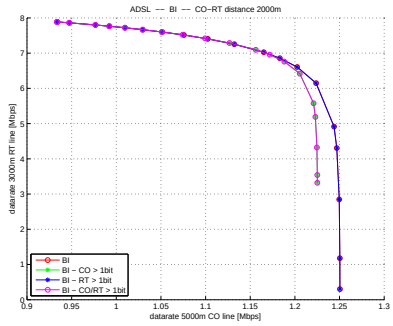

ADSL2+ −− ENI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

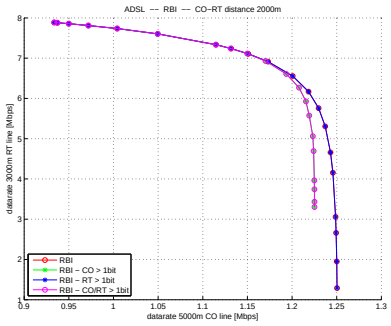

ADSL2+ −− BI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

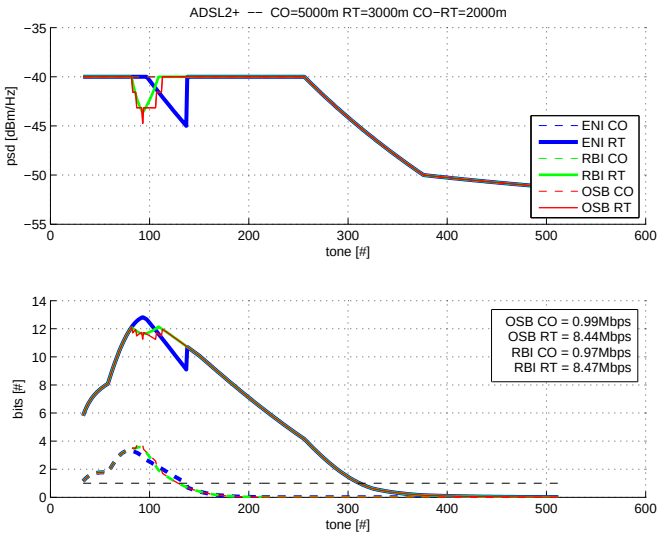

ADSL2+ −− RBI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

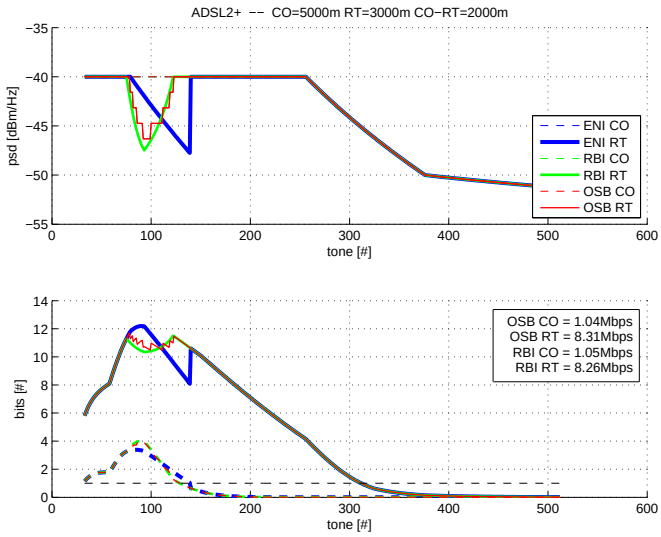

ADSL −− OSB −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

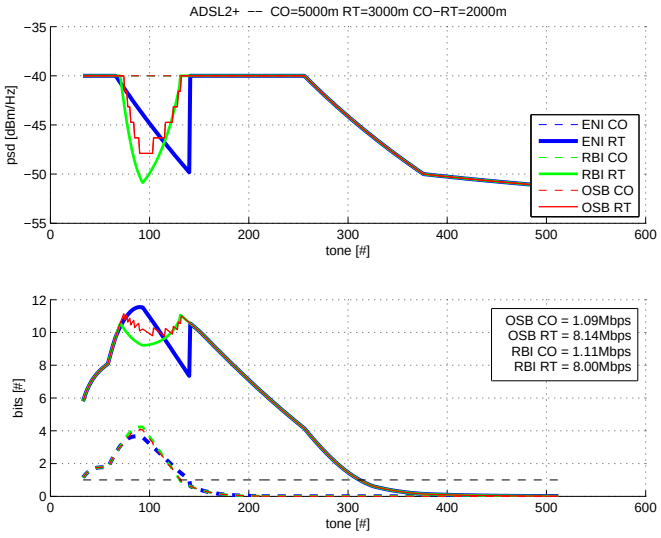

ADSL −− ENI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

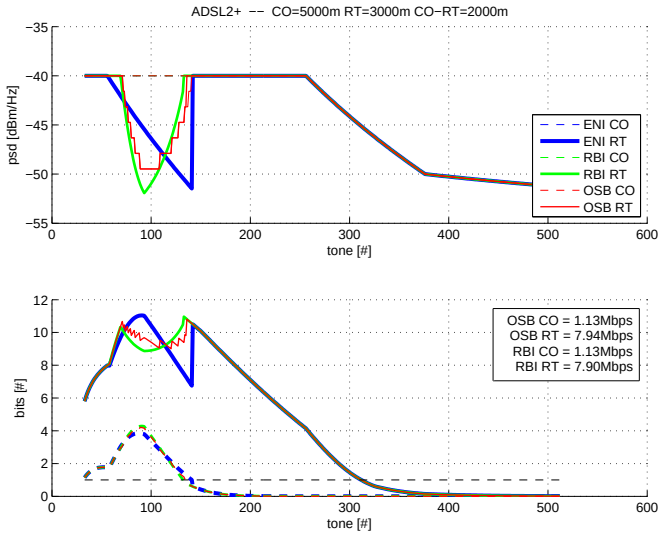

ADSL −− BI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

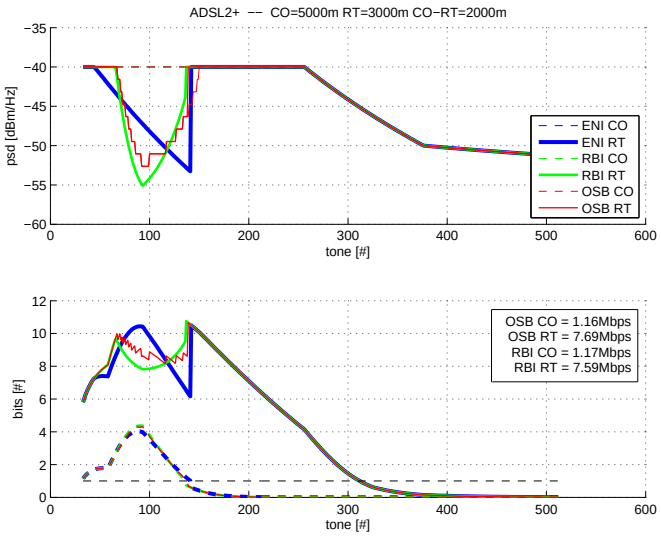

ADSL −− RBI −− CO−RT distance 2000m
datarate 3000m RT line [Mbps]
datarate 5000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

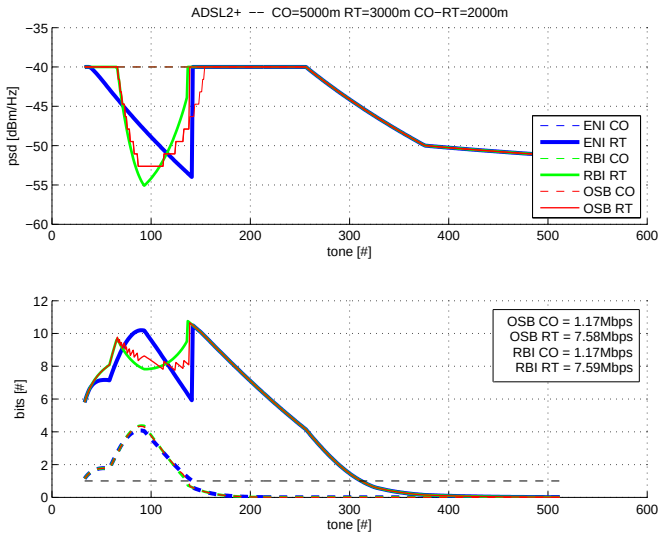

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.99Mbps
OSB RT = 8.44Mbps
RBI CO = 0.97Mbps
RBI RT = 8.47Mbps

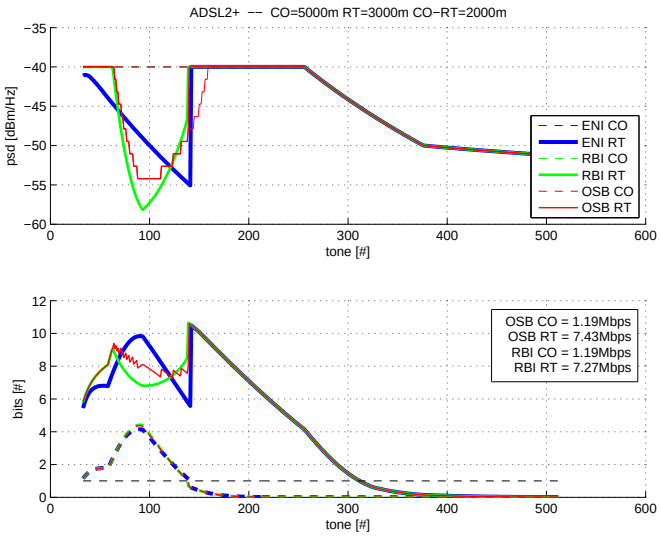

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.04Mbps
OSB RT = 8.31Mbps
RBI CO = 1.05Mbps
RBI RT = 8.26Mbps

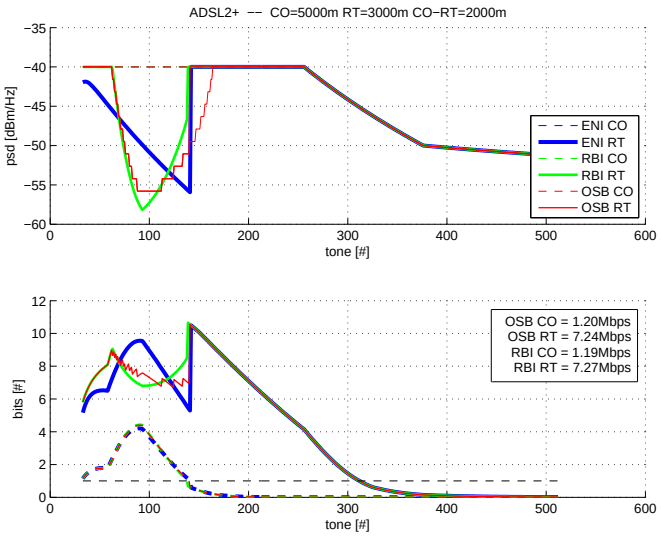

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.09Mbps
OSB RT = 8.14Mbps
RBI CO = 1.11Mbps
RBI RT = 8.00Mbps

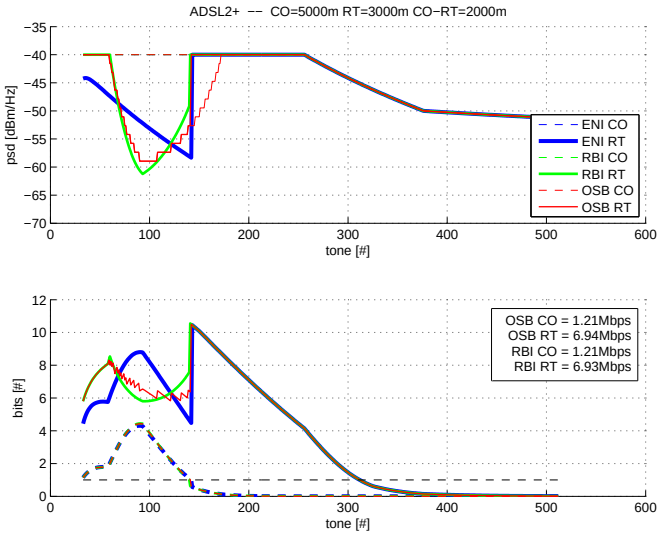

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.13Mbps
OSB RT = 7.94Mbps
RBI CO = 1.13Mbps
RBI RT = 7.90Mbps

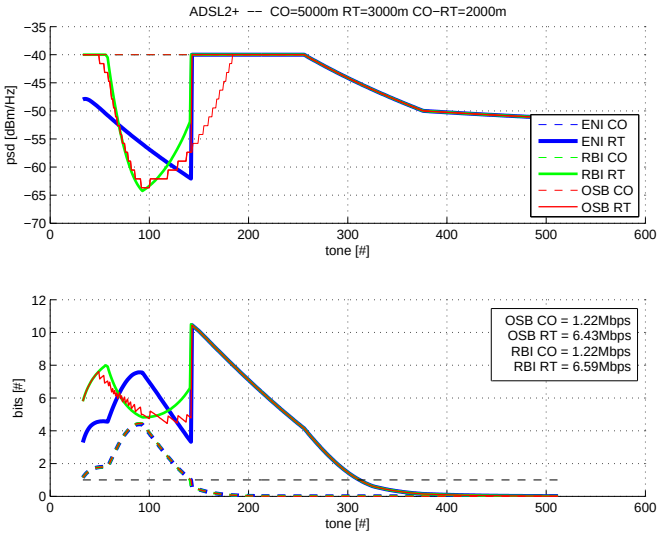

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.16Mbps
OSB RT = 7.69Mbps
RBI CO = 1.17Mbps
RBI RT = 7.59Mbps

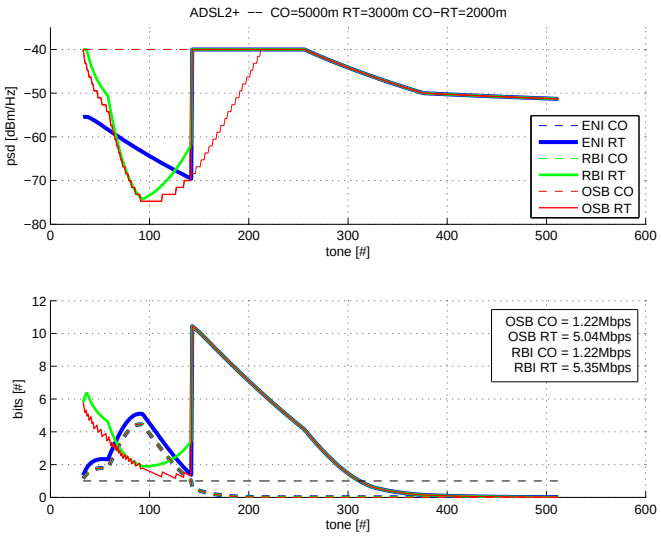

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.17Mbps
OSB RT = 7.58Mbps
RBI CO = 1.17Mbps
RBI RT = 7.59Mbps

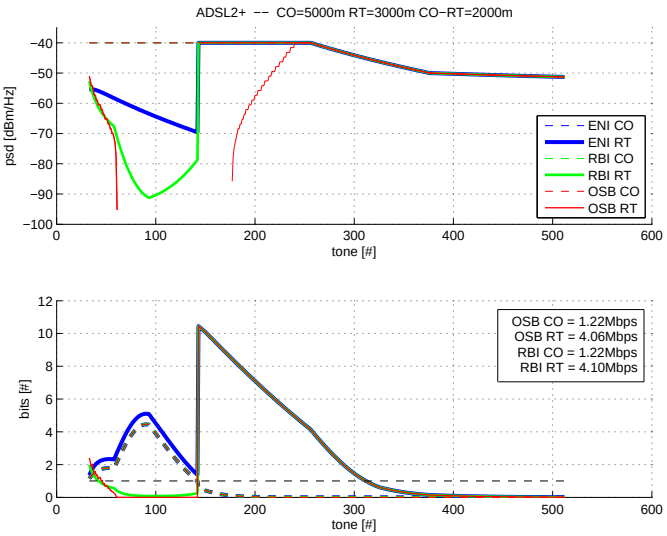

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.19Mbps
OSB RT = 7.43Mbps
RBI CO = 1.19Mbps
RBI RT = 7.27Mbps

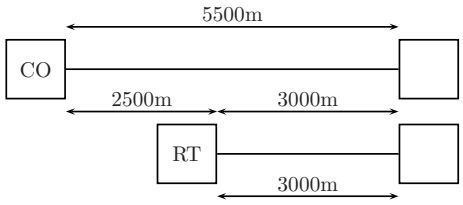

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.20Mbps
OSB RT = 7.24Mbps
RBI CO = 1.19Mbps
RBI RT = 7.27Mbps

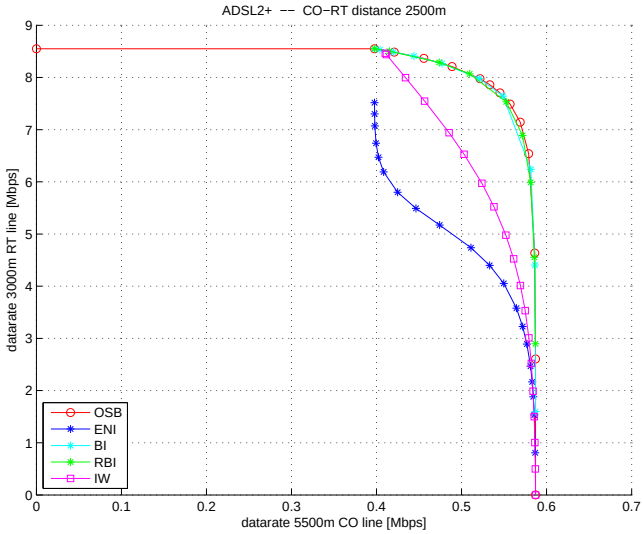

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.21Mbps
OSB RT = 6.94Mbps
RBI CO = 1.21Mbps
RBI RT = 6.93Mbps

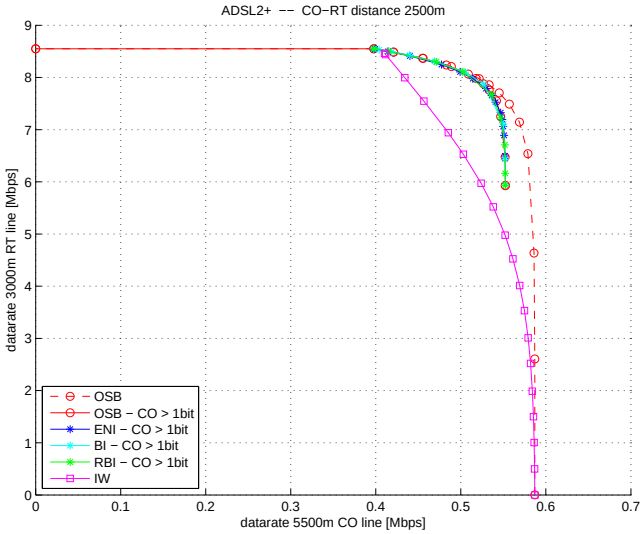

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.22Mbps
OSB RT = 6.43Mbps
RBI CO = 1.22Mbps
RBI RT = 6.59Mbps

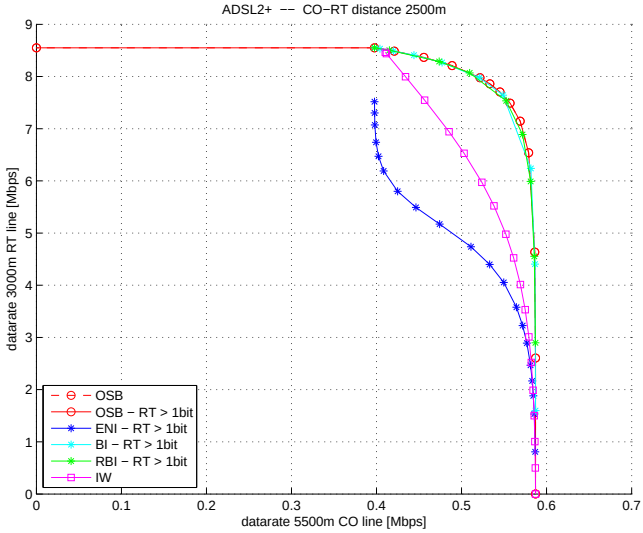

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.22Mbps
OSB RT = 5.04Mbps
RBI CO = 1.22Mbps
RBI RT = 5.35Mbps

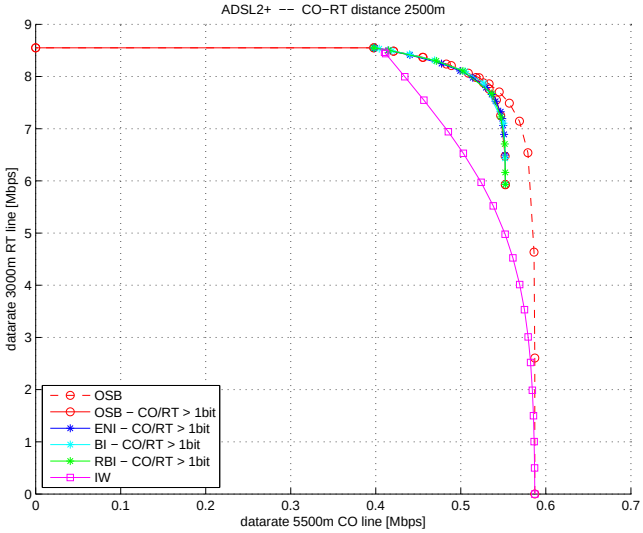

ADSL2+ -- CO=5000m RT=3000m CO-RT=2000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 1.22Mbps
OSB RT = 4.06Mbps
RBI CO = 1.22Mbps
RBI RT = 4.10Mbps

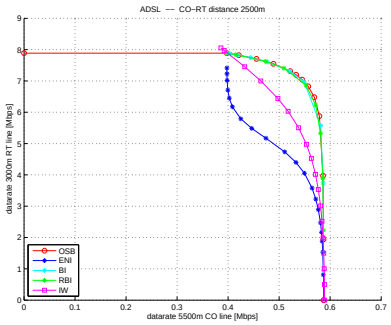

5500m
CO
2500m
3000m
RT
3000m

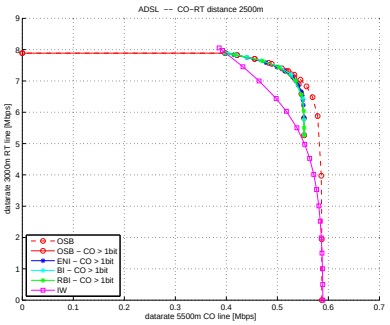

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

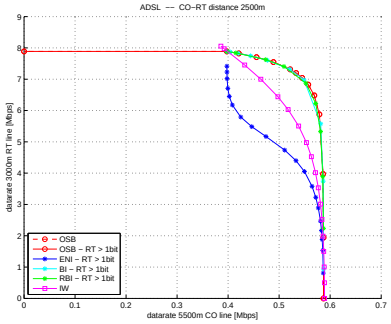

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

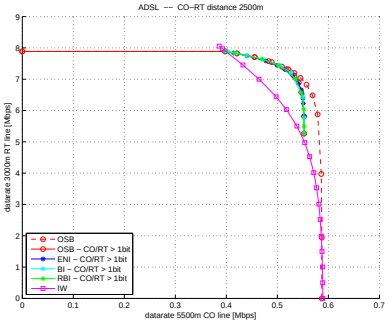

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

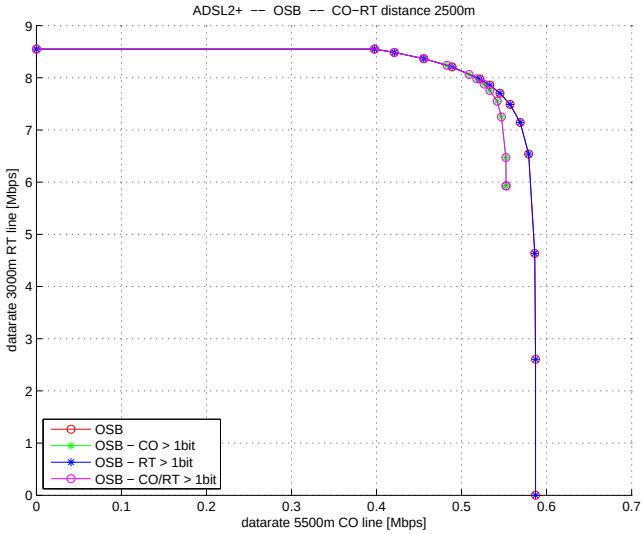

ADSL2+ -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

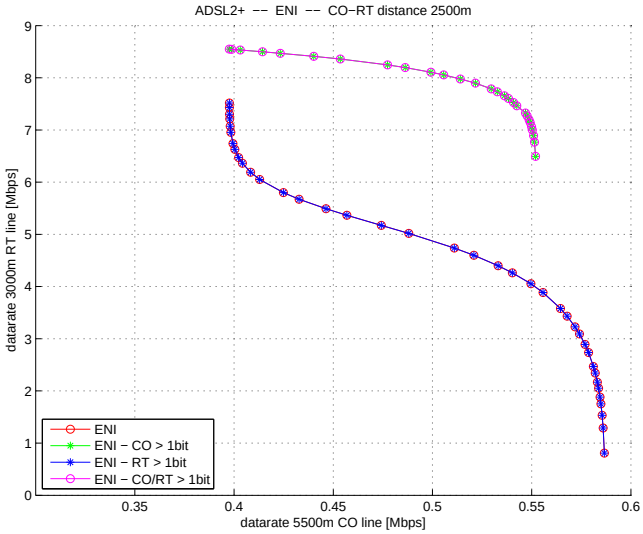

ADSL -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
ENI
BI
RBI
IW

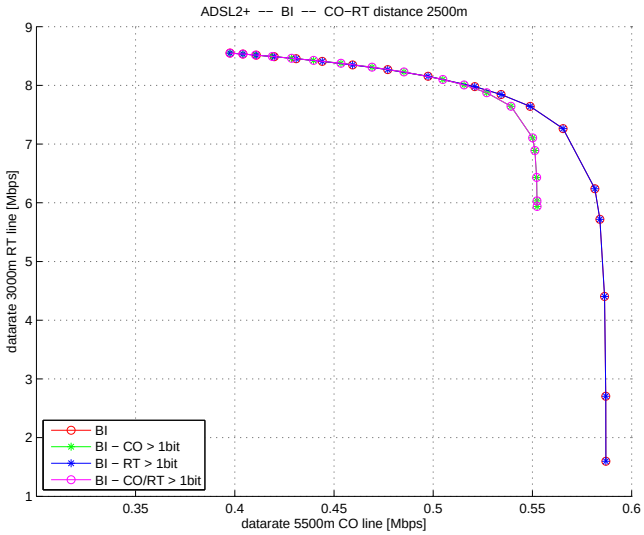

ADSL -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
ENI – CO > 1bit
BI – CO > 1bit
RBI – CO > 1bit
IW

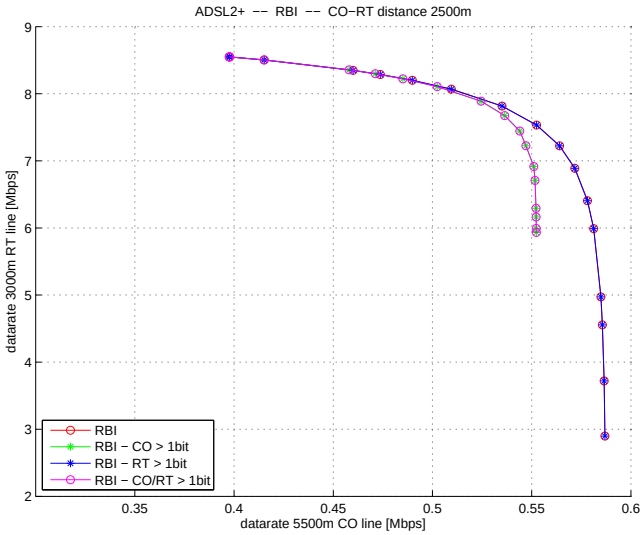

ADSL -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – RT > 1bit
ENI – RT > 1bit
BI – RT > 1bit
RBI – RT > 1bit
IW

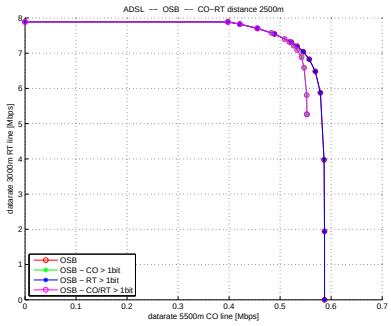

ADSL -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO/RT > 1bit
ENI – CO/RT > 1bit
BI – CO/RT > 1bit
RBI – CO/RT > 1bit
IW

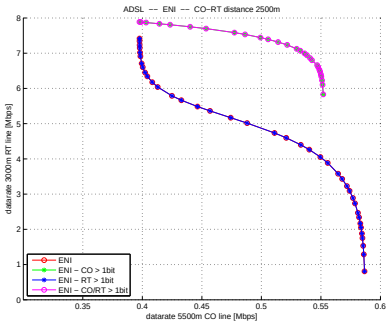

ADSL2+ -- OSB -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

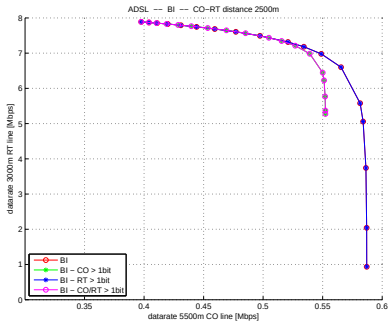

ADSL2+ -- ENI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

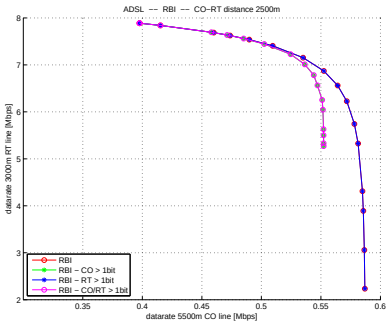

ADSL2+ -- BI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

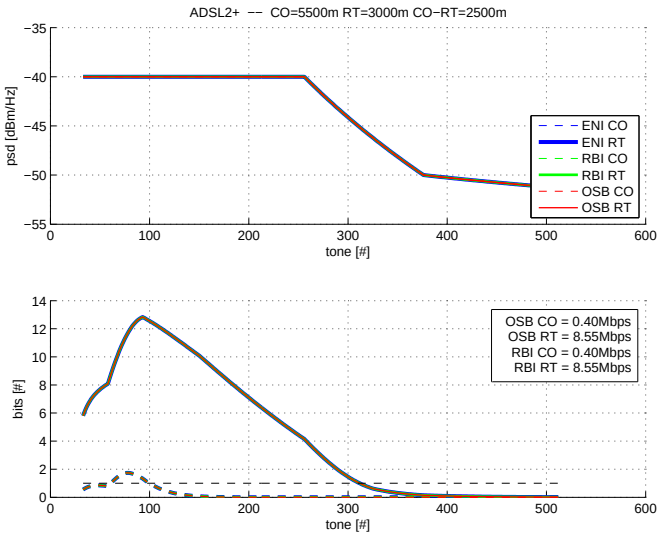

ADSL2+ -- RBI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

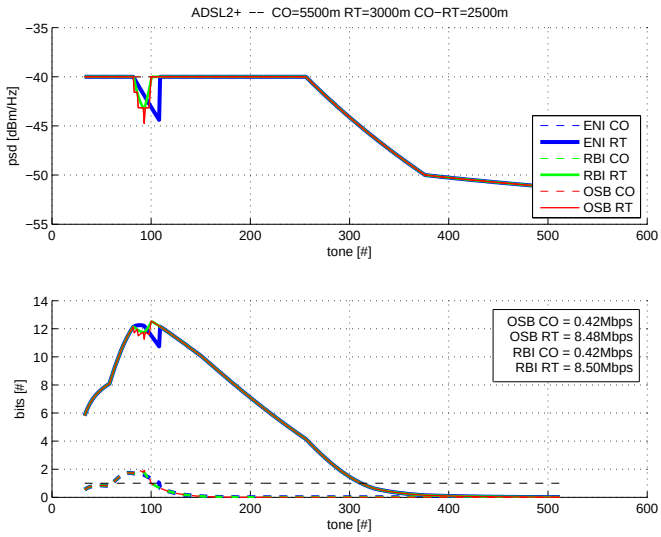

ADSL -- OSB -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
OSB
OSB – CO > 1bit
OSB – RT > 1bit
OSB – CO/RT > 1bit

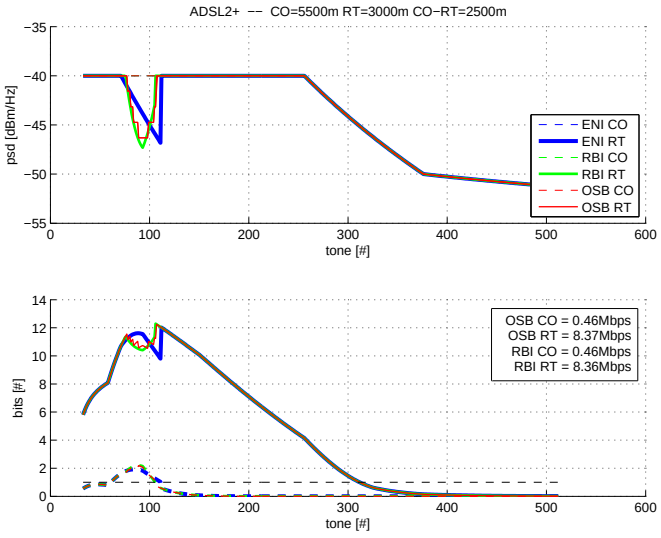

ADSL -- ENI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
ENI
ENI – CO > 1bit
ENI – RT > 1bit
ENI – CO/RT > 1bit

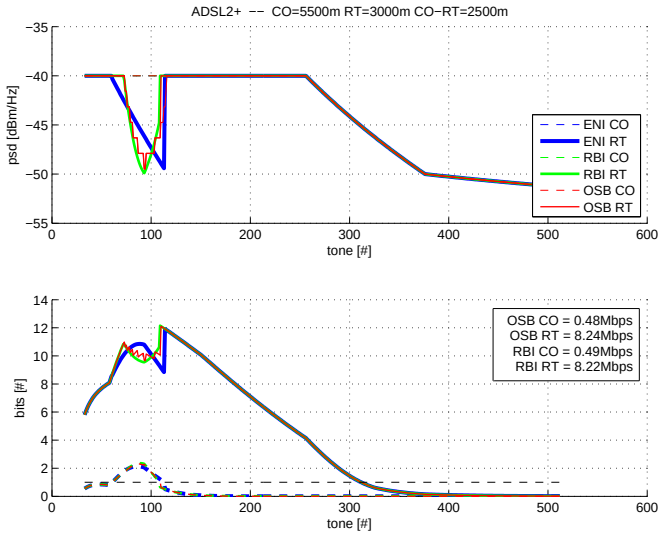

ADSL -- BI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
BI
BI – CO > 1bit
BI – RT > 1bit
BI – CO/RT > 1bit

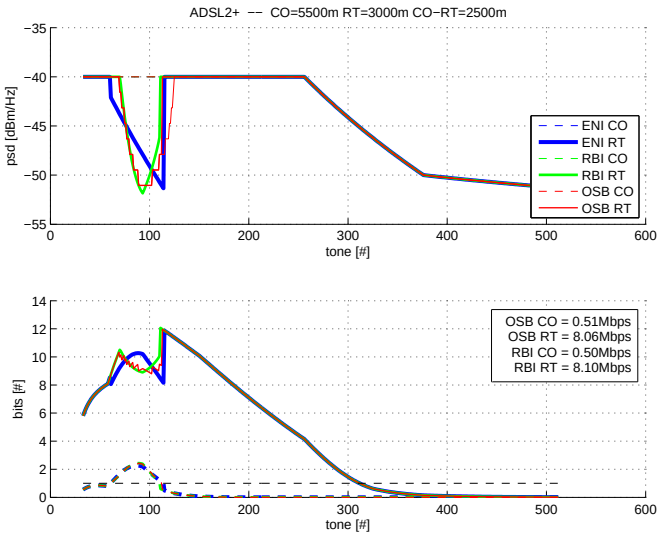

ADSL -- RBI -- CO-RT distance 2500m
datarate 3000m RT line [Mbps]
datarate 5500m CO line [Mbps]
RBI
RBI – CO > 1bit
RBI – RT > 1bit
RBI – CO/RT > 1bit

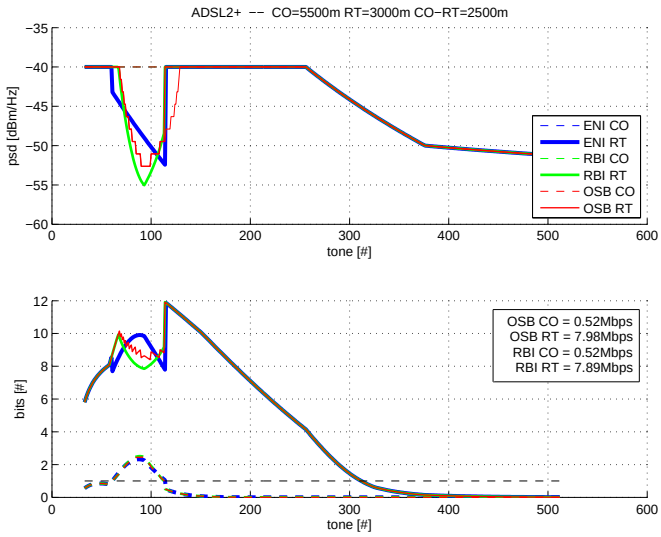

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.40Mbps
OSB RT = 8.55Mbps
RBI CO = 0.40Mbps
RBI RT = 8.55Mbps

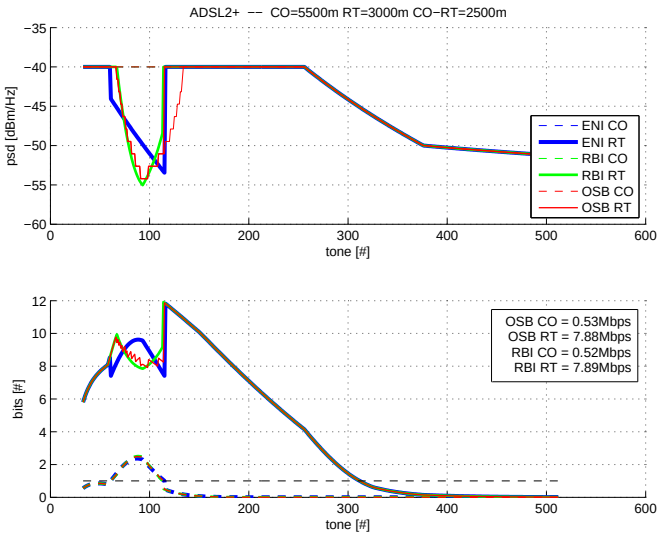

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.42Mbps
OSB RT = 8.48Mbps
RBI CO = 0.42Mbps
RBI RT = 8.50Mbps

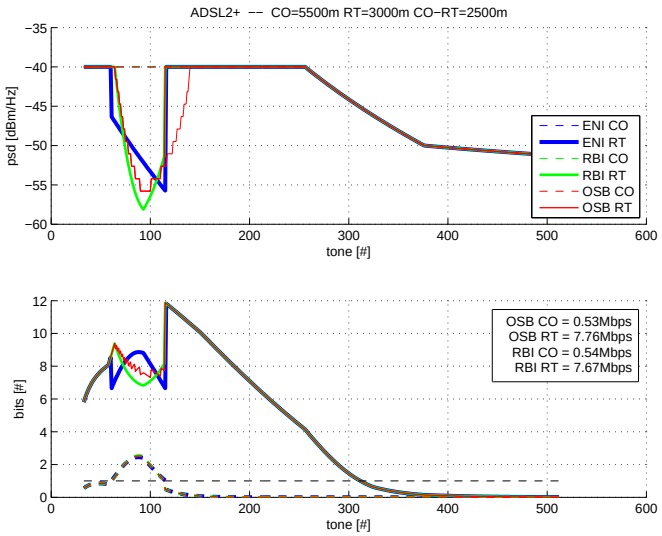

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.46Mbps
OSB RT = 8.37Mbps
RBI CO = 0.46Mbps
RBI RT = 8.36Mbps

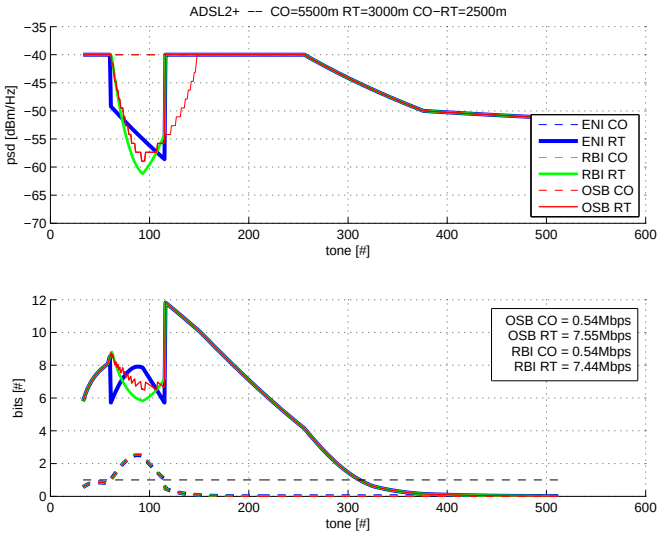

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.48Mbps
OSB RT = 8.24Mbps
RBI CO = 0.49Mbps
RBI RT = 8.22Mbps

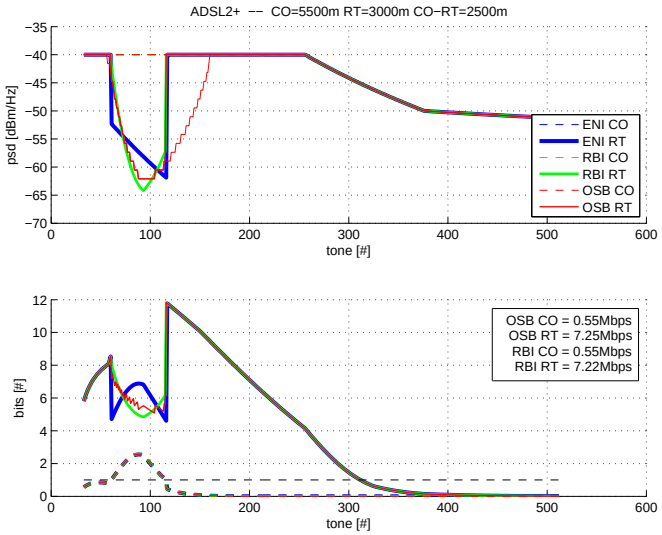

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.51Mbps
OSB RT = 8.06Mbps
RBI CO = 0.50Mbps
RBI RT = 8.10Mbps

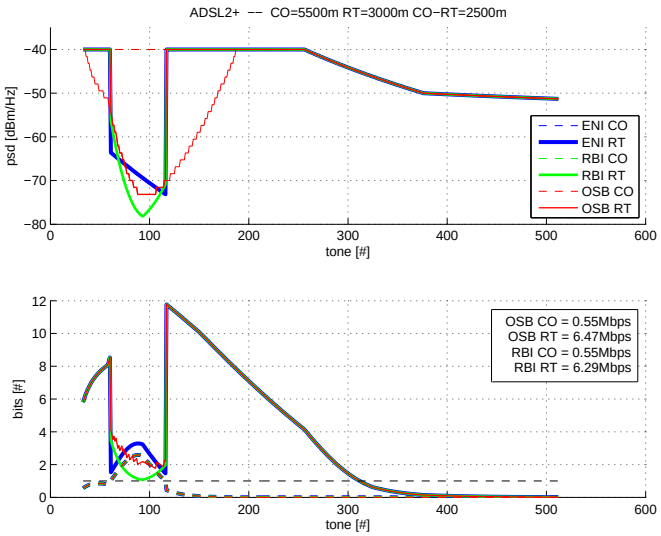

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.52Mbps
OSB RT = 7.98Mbps
RBI CO = 0.52Mbps
RBI RT = 7.89Mbps

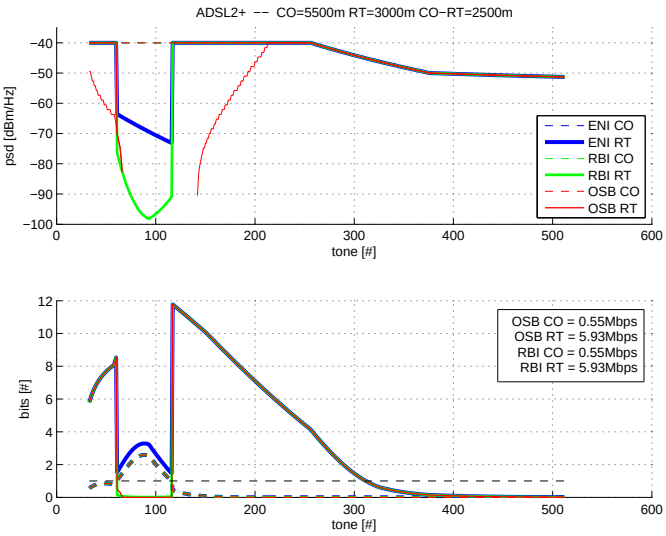

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.53Mbps
OSB RT = 7.88Mbps
RBI CO = 0.52Mbps
RBI RT = 7.89Mbps

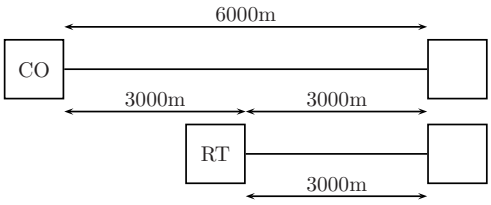

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.53Mbps
OSB RT = 7.76Mbps
RBI CO = 0.54Mbps
RBI RT = 7.67Mbps

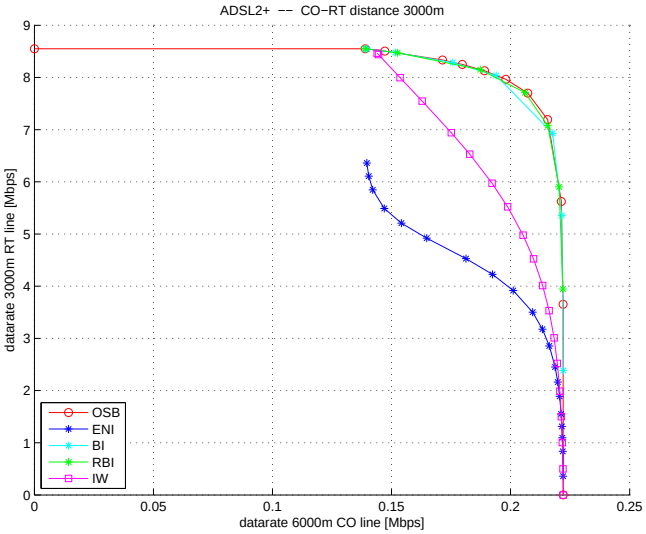

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.54Mbps
OSB RT = 7.55Mbps
RBI CO = 0.54Mbps
RBI RT = 7.44Mbps

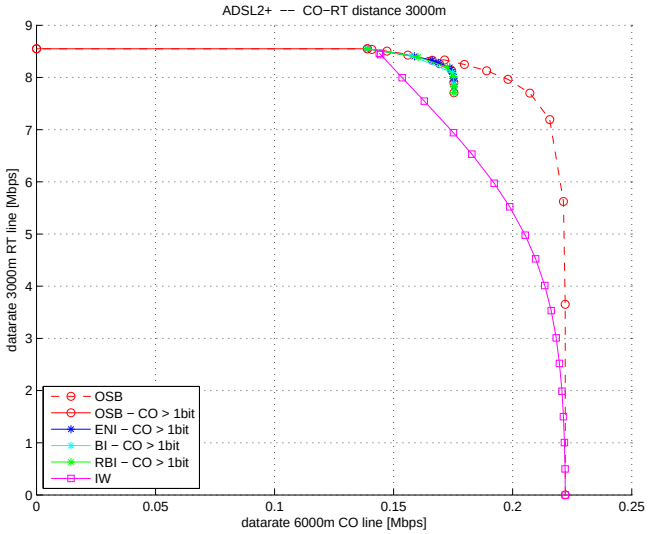

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.55Mbps
OSB RT = 7.25Mbps
RBI CO = 0.55Mbps
RBI RT = 7.22Mbps

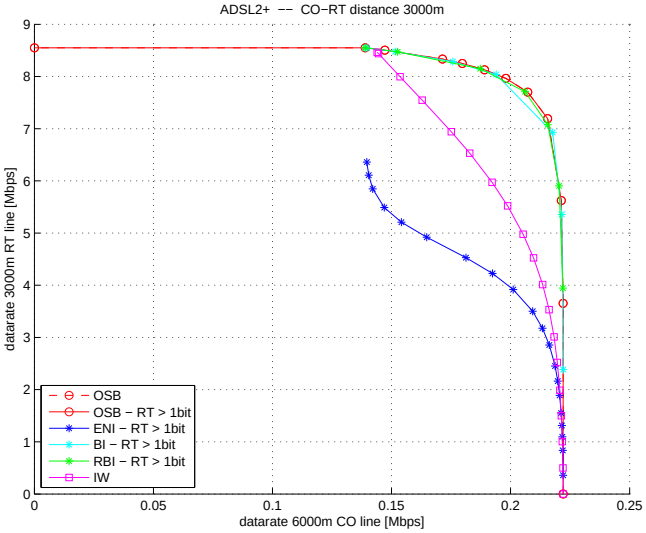

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.55Mbps
OSB RT = 6.47Mbps
RBI CO = 0.55Mbps
RBI RT = 6.29Mbps

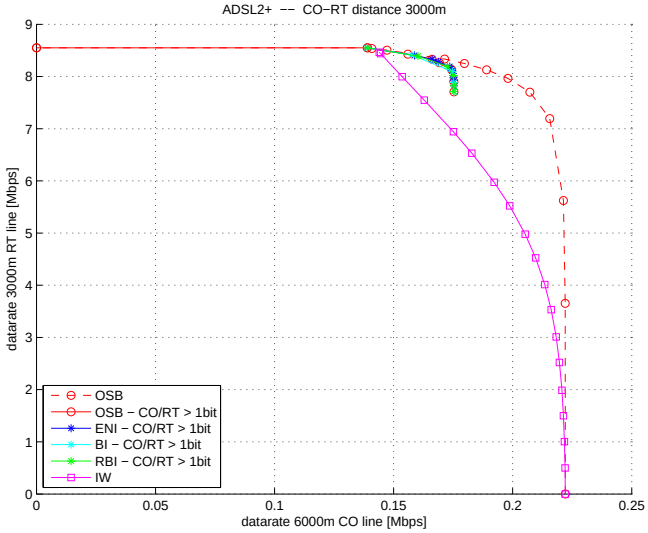

ADSL2+ -- CO=5500m RT=3000m CO-RT=2500m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.55Mbps
OSB RT = 5.93Mbps
RBI CO = 0.55Mbps
RBI RT = 5.93Mbps

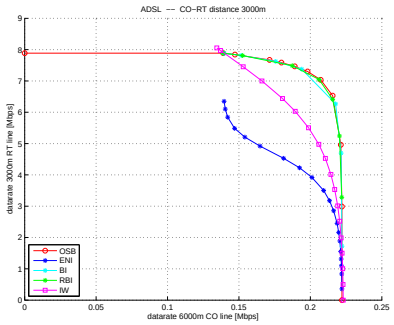

6000m
CO
3000m
3000m
RT
3000m

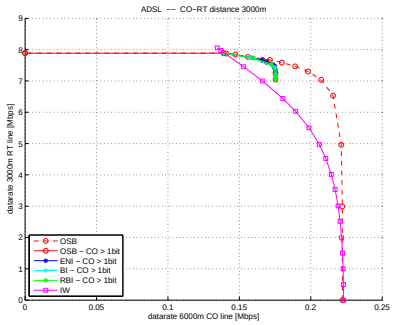

ADSL2+ -- CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

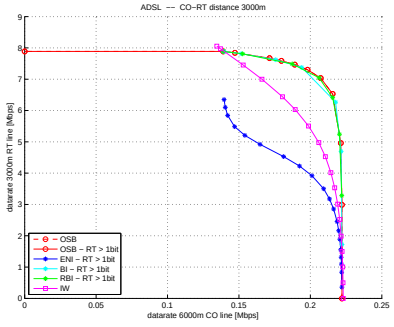

ADSL2+ -- CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

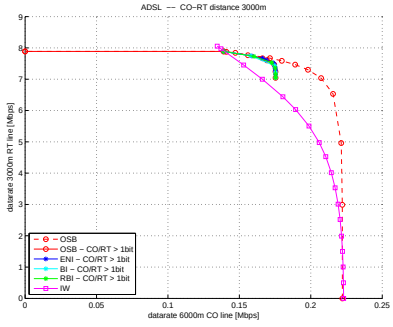

ADSL2+ -- CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

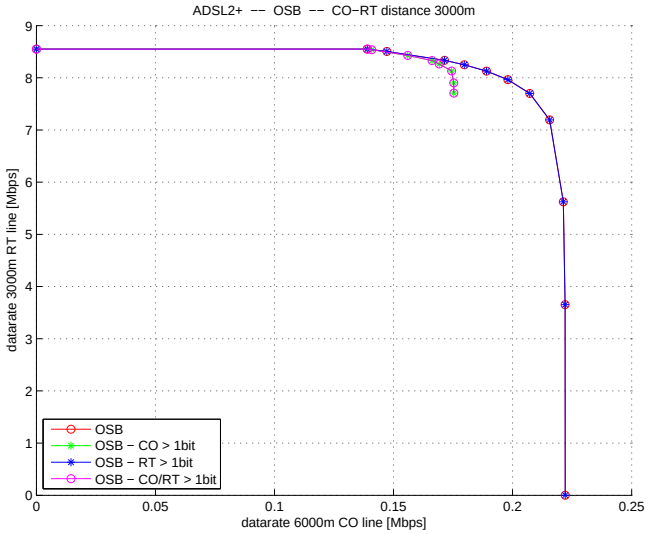

ADSL2+ -- CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

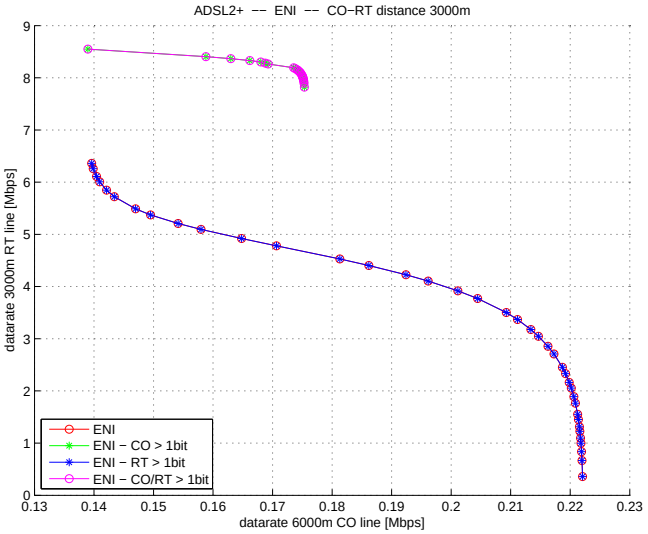

ADSL -- CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
ENI
BI
RBI
IW

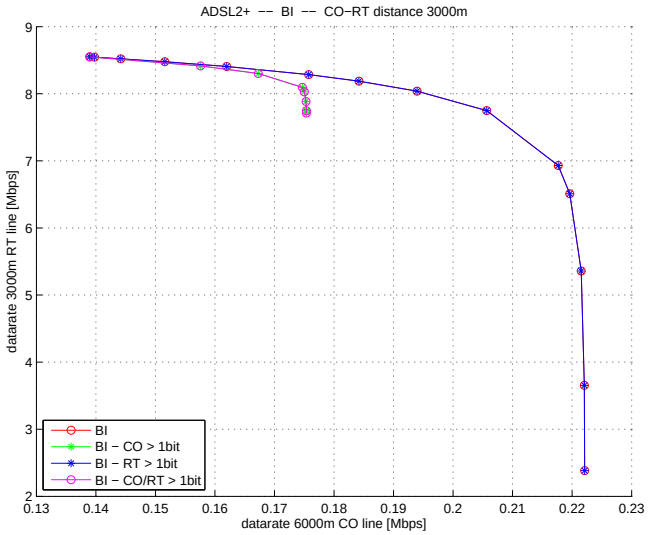

ADSL -- CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
ENI − CO > 1bit
BI − CO > 1bit
RBI − CO > 1bit
IW

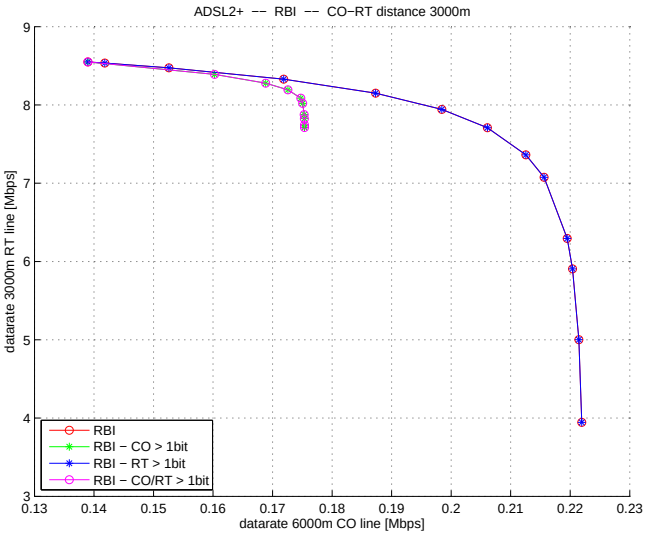

ADSL -- CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − RT > 1bit
ENI − RT > 1bit
BI − RT > 1bit
RBI − RT > 1bit
IW

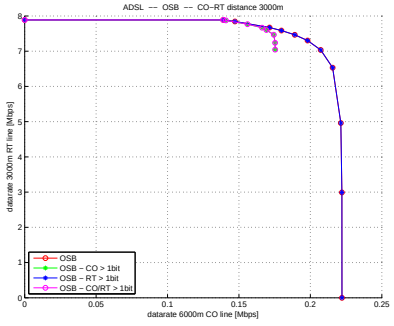

ADSL -- CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO/RT > 1bit
ENI − CO/RT > 1bit
BI − CO/RT > 1bit
RBI − CO/RT > 1bit
IW

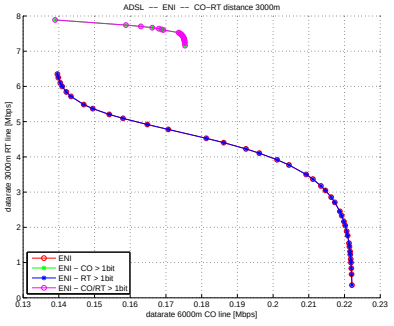

ADSL2+ −− OSB −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

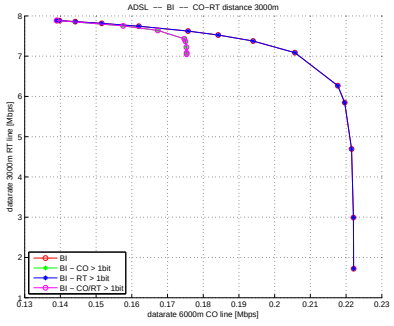

ADSL2+ −− ENI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

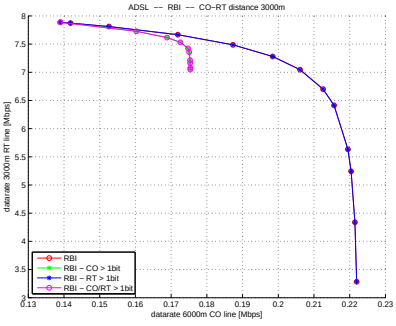

ADSL2+ −− BI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

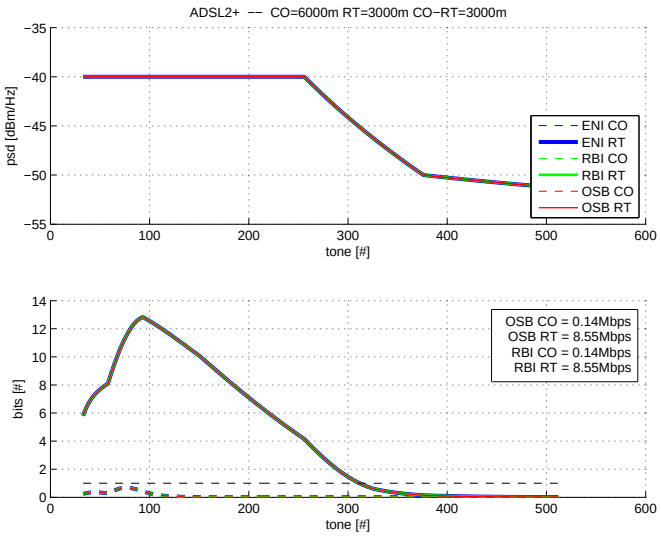

ADSL2+ −− RBI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

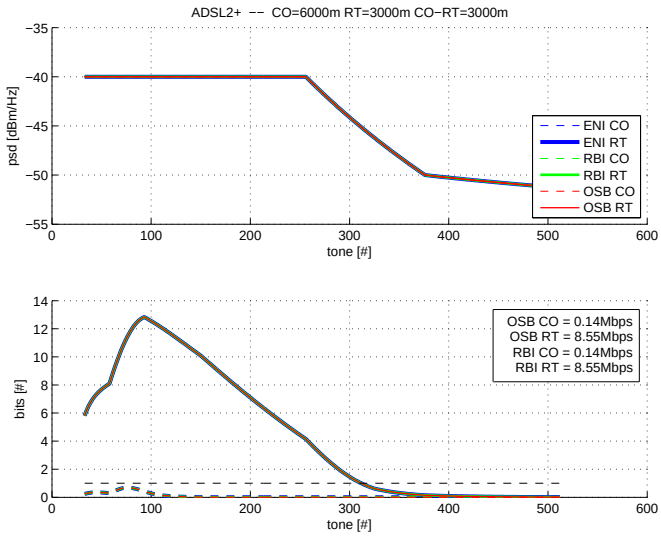

ADSL −− OSB −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
OSB
OSB − CO > 1bit
OSB − RT > 1bit
OSB − CO/RT > 1bit

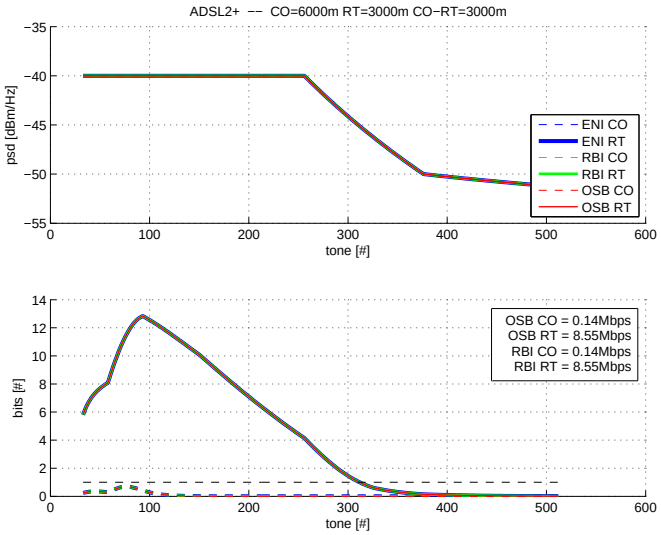

ADSL −− ENI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
ENI
ENI − CO > 1bit
ENI − RT > 1bit
ENI − CO/RT > 1bit

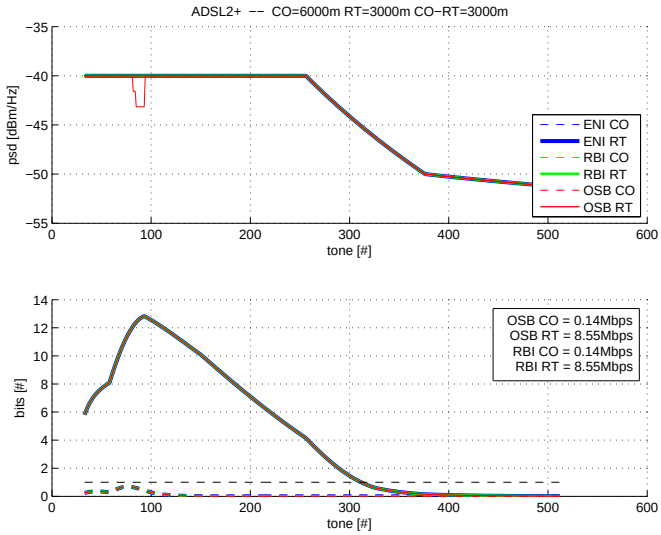

ADSL −− BI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
BI
BI − CO > 1bit
BI − RT > 1bit
BI − CO/RT > 1bit

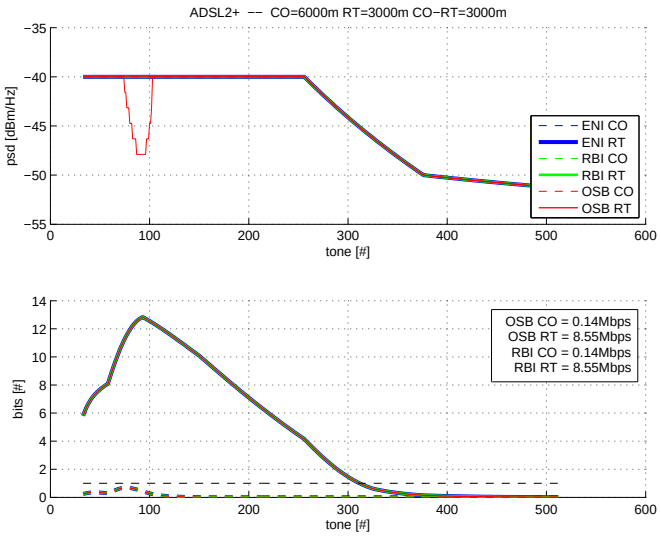

ADSL −− RBI −− CO−RT distance 3000m
datarate 3000m RT line [Mbps]
datarate 6000m CO line [Mbps]
RBI
RBI − CO > 1bit
RBI − RT > 1bit
RBI − CO/RT > 1bit

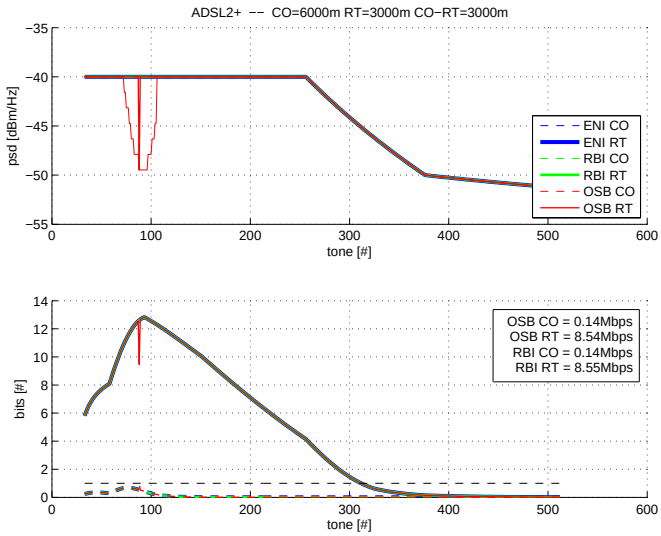

ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.14Mbps
OSB RT = 8.55Mbps
RBI CO = 0.14Mbps
RBI RT = 8.55Mbps


ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.14Mbps
OSB RT = 8.55Mbps
RBI CO = 0.14Mbps
RBI RT = 8.55Mbps


ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.14Mbps
OSB RT = 8.55Mbps
RBI CO = 0.14Mbps
RBI RT = 8.55Mbps

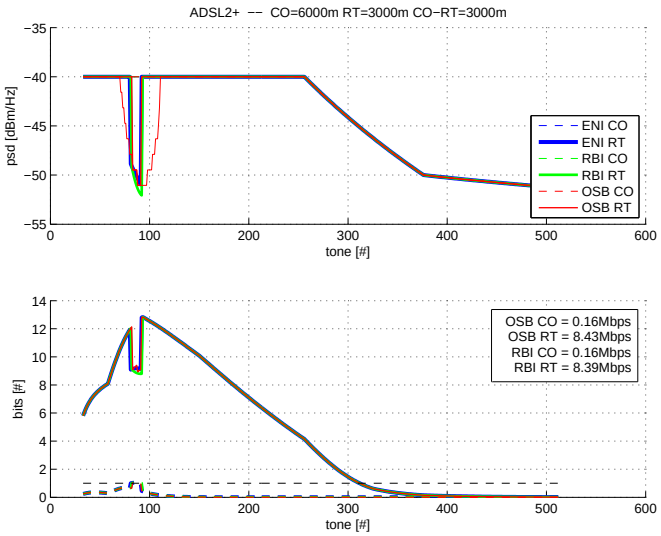

ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.14Mbps
OSB RT = 8.55Mbps
RBI CO = 0.14Mbps
RBI RT = 8.55Mbps

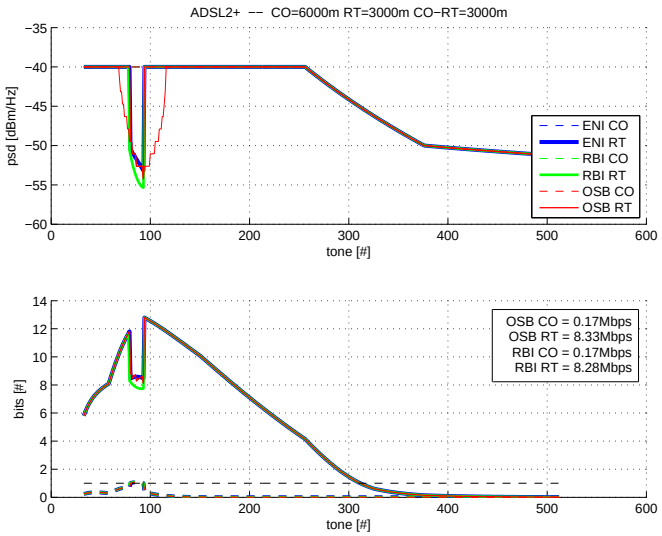

ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.14Mbps
OSB RT = 8.55Mbps
RBI CO = 0.14Mbps
RBI RT = 8.55Mbps

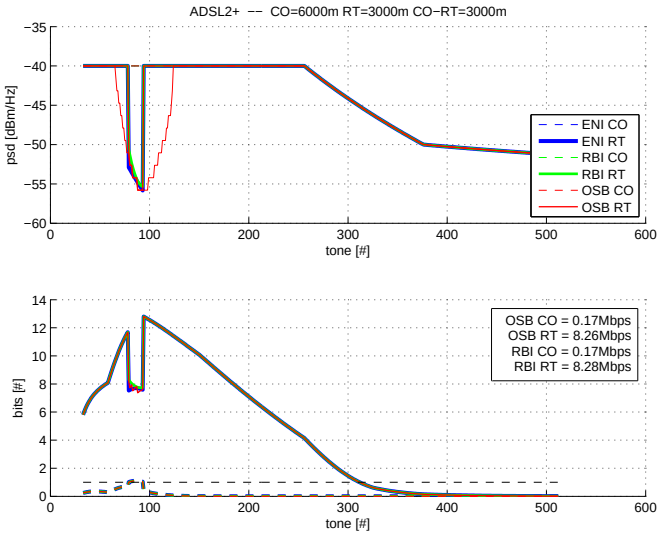

ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.14Mbps
OSB RT = 8.55Mbps
RBI CO = 0.14Mbps
RBI RT = 8.55Mbps

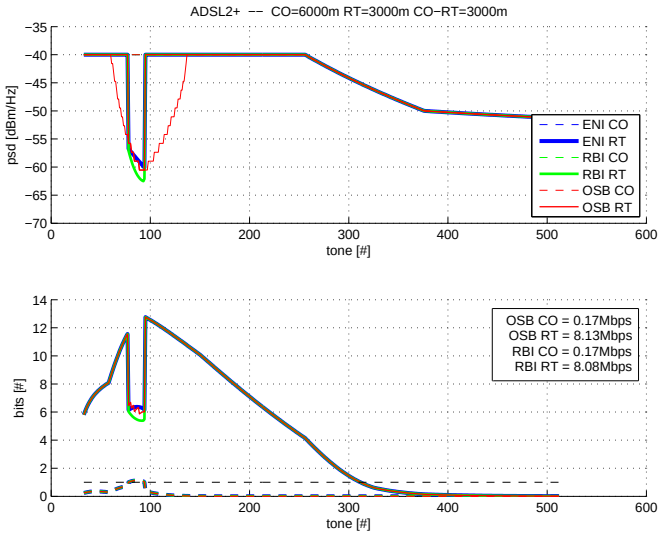
ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.14Mbps
OSB RT = 8.55Mbps
RBI CO = 0.14Mbps
RBI RT = 8.55Mbps

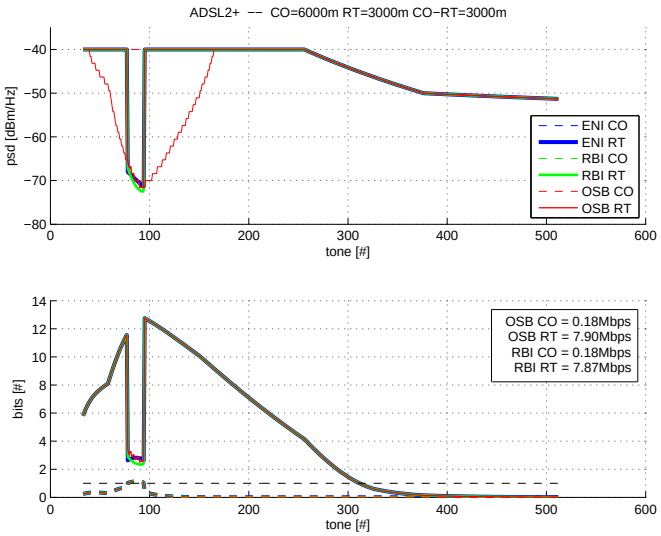
ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.14Mbps
OSB RT = 8.54Mbps
RBI CO = 0.14Mbps
RBI RT = 8.55Mbps

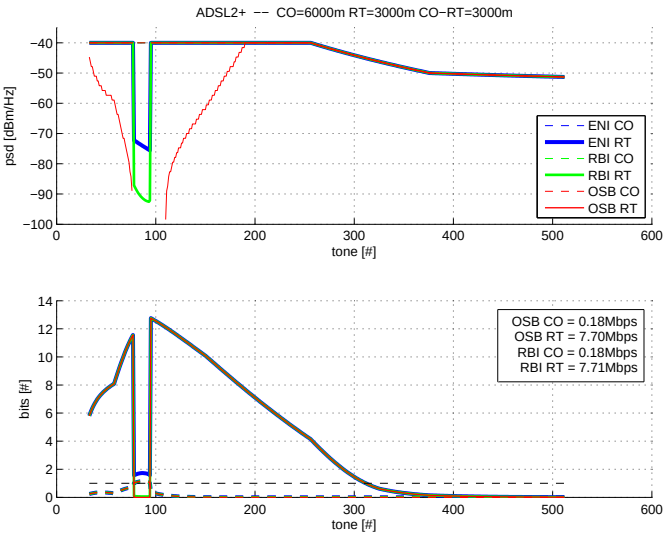

ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.16Mbps
OSB RT = 8.43Mbps
RBI CO = 0.16Mbps
RBI RT = 8.39Mbps


ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.17Mbps
OSB RT = 8.33Mbps
RBI CO = 0.17Mbps
RBI RT = 8.28Mbps


ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.17Mbps
OSB RT = 8.26Mbps
RBI CO = 0.17Mbps
RBI RT = 8.28Mbps


ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.17Mbps
OSB RT = 8.13Mbps
RBI CO = 0.17Mbps
RBI RT = 8.08Mbps


ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.18Mbps
OSB RT = 7.90Mbps
RBI CO = 0.18Mbps
RBI RT = 7.87Mbps


ADSL2+ -- CO=6000m RT=3000m CO-RT=3000m
psd [dBm/Hz]
tone [#]
ENI CO
ENI RT
RBI CO
RBI RT
OSB CO
OSB RT
bits [#]
OSB CO = 0.18Mbps
OSB RT = 7.70Mbps
RBI CO = 0.18Mbps
RBI RT = 7.71Mbps