Baseline Proposal for 10G BIDI over 10km Transmission

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Introduction

- This presentation provides a baseline proposal for the Study Group adopted objectives:
  - Support bidirectional transmission over a single strand of single mode fiber using a single wavelength in each direction
  - Support MAC data rates of 10 Gb/s
  - Support distances of at least 10 km

Transmitter Specifications

Description	Value	Unit
Signaling speed	9.95328 or 10.3125	Gbd
Center wavelength (range)	Up:1260 to 1280 Down:1320 to 1340	nm
Side Mode Suppression Ratio (min)	30	dB
Average launch power (max)	0.5	dBm
Average launch power (min)	-8.1	dBm
Launch power (min) in OMA minus TDP	-6.1	dBm
Optical Modulation Amplitude (min)	-5.1	dBm
Transmitter and dispersion penalty (max)	3.2	dB
Average launch power of OFF transmitter (max)	-30	dBm
Extinction ratio (min)	3.5	dB
$RIN_{12}OMA$ (max)	-128	dB/Hz
Optical Return Loss Tolerance (max)	12	dB
Transmitter Reflectance(max)	-12	dB
Transmitter eye mask definition A {X1, X2, X3, Y1, Y2, Y3}	{0.25,0.40,0.45,0.25,0.28,0.40}	

Receiver Specifications

Description	Value	Unit
Signaling speed	9.95328 or 10.3125	Gbd
Center wavelength (range)	1260 to 1355	nm
Average receive power (max)	0.5	dBm
Average receive power (min)	-14.4	dBm
Maximum receive power (for damage)	1.5	dBm
Receiver sensitivity (max) in OMA	0.055 (-12.6)	mW (dBm)
Receiver Reflectance (max)	-12	dB
Stressed receiver sensitivity (max) in OMA	0.093 (-10.3)	mW (dBm)
Vertical eye closure penalty (min)	2.2	dB
Stressed eye jitter (min)	0.3	UI pk-pk
Receive electrical 3 dB upper cutoff frequency (max)	12.3	GHz

Power Budget

Parameter	Value	Unit
Power budget	9.5	dB
Operating distance	10	km
Channel insertion loss	6.3	dB
Allocation for penalties	3.2	dB
Additional insertion loss allowed	0.0	dB

Recommendation

Adopt the proposed baseline specification for 10GBASE BIDI over 10km Transmission.


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謝謝
ngiyabonga
teşekkür ederim
Баярлалаа
спасибо
thank you
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blagodaram
matondo
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arigatō
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grazie
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ありがとう
terima kasih
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rahmet
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shukriya
мерси
감사합니다
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merci