

Reflection budgets

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Introduction

A comment has been submitted against 802.3bs D1.2 to set the reflection budgets of the three PMDs according to the Proposal columns of the following pages.

Reflection budget proposal 400GBASE-DR4

Parameter	D1.1	Proposal	Unit
Table 122-6			
Average launch power, each lane (min)	-1.9	-2.4	dBm
Outer Optical Modulation Amplitude (OMA _{outer}), each lane (min)	0.2	-0.3	dBm
Launch power in OMA _{outer} minus TDP, each lane (min)	-0.8	-1.3	dBm
Optical return loss tolerance (max)	TBD	21.9	dB
Transmitter reflectance (max)	-20	-26	dB
Table 122-7			
Average receive power, each lane (min)	-4.9	-5.4	dBm
Receiver reflectance (max)	-26	-26	dB
Receiver sensitivity (OMA _{inner}), each lane (max)	-9.1	-9.2	dBm
Table 122-8			
Power budget (for max TDP)	6	5.6	dB
Maximum discrete reflectance	-35	-45	dB
Allocation for penalties (for maximum TDP)	3	2.6	dB
Table 122-11			
Optical return loss	TBD	21.9	dB
Table 122-12			
[Channel] Optical return loss (min)	TBD	38.5	dB
122.11.2.2			
maximum discrete reflectance	-35	-45	dB
Max number of -45 dB reflections		4	

Reflection budget proposal 400GBASE-FR8

Parameter	D1.1	Proposal	Unit
Table 123-7			
Average launch power, each lane (min)	-3	-2.7	dBm
Outer Optical Modulation Amplitude (OMA _{outer}), each lane (min)	0	0.3	dBm
Launch power in OMA _{outer} minus TDP, each lane (min)	-1	-0.7	dBm
Optical return loss tolerance (max)	TBD	15.5	dB
Transmitter reflectance (max)	TBD	-26	dB
Table 123-8			
Average receive power, each lane (min)	-7	-6.7	dBm
Receiver reflectance (max)	TBD	-26	dB
Receiver sensitivity (OMA _{inner}), each lane (max)	-9.8	-10.1	dBm
Table 123-9			
Power budget (for maximum TDP)	6.2	6.8	dB
Maximum discrete reflectance	TBD	-35	dB
Allocation for penalties (for maximum TDP)	2.2	2.8	dB
Table 123-12			
100GBASE-FR8 Optical return loss	20	15.5	dB
Table 123-13			
[Channel] Optical return loss (min)	21	27	dB
123.11.2.2			
maximum discrete reflectance	26	-35	dB
Max number of -35 dB reflections		6	

Reflection budget proposal 400GBASE-LR8

Parameter	D1.1	Proposal	Unit
Table 123-7			
Average launch power, each lane (min)	-2.5	-2.2	dBm
Outer Optical Modulation Amplitude (OMA _{outer}), each lane (min)	0.5	0.8	dBm
Launch power in OMA _{outer} minus TDP, each lane (min)	-0.5	-0.2	dBm
Optical return loss tolerance (max)	TBD	15.5	dB
Transmitter reflectance (max)	TBD	-26	dB
Table 123-8			
Average receive power, each lane (min)	-8.8	-8.5	dBm
Receiver reflectance (max)	TBD	-26	dB
Receiver sensitivity (OMA _{inner}), each lane (max)	-11.6	-11.8	dBm
Table 123-9			
Power budget (for maximum TDP)	8.7	9.2	dB
Maximum discrete reflectance	TBD	-35	dB
Allocation for penalties (for maximum TDP)	2.4	2.9	dB
Table 123-12			
100GBASE-LR8 Optical return loss	20	15.5	dB
Table 123-13			
[Channel] Optical return loss (min)	21	27	dB
123.11.2.2			
maximum discrete reflectance	-26	-35	dB
Max number of -35 dB reflections		6	

Thanks!