

Optical Sub-Task Force Competing Proposals

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“Optical Power” proposals for 100GBASE-LR4

Parameter	D 1.0	#84	#505
Table 88-7			
Total ave power max dBm	10.0	10.5	10.0
Ave power per lane max dBm	4.0	4.5	4.0
Ave power per lane min dBm	-3.8	-4.3	-3.8
Peak power per lane max dBm			6.3
OMA per lane max dBm	4.0	4.5	5.5
OMA-TDP per lane (min)	-1.8	-2.3	-1.8
OMA per lane min dBm	-0.8	-1.3	-0.8
Table 88-8			
OMA per lane max dBm	4.0	4.5	5.5
Ave power per lane max dBm	4.0	4.5	4.0
Peak power per lane max dBm			6.3
Damage threshold dBm	5.0	5.5	5.0
Ave power per lane min dBm	-10.1	-10.6	-10.1
Sens OMA per lane max dBm	-8.1	-8.6	-8.1
Stressed sens OMA max dBm	-6.3	-6.8	-6.3

“Optical Power” proposals for 100GBASE-ER4

	D 1.0	#83	#506
Table 88-11			
Total ave power max dBm	8.4	8.4	8.4
Ave power per lane max dBm	2.4	2.4	2.4
Ave power per lane min dBm	-2.9	-2.9	-2.9
Peak power per lane max dBm			4.8
OMA per lane max dBm	4.0	4.0	5.0
OMA per lane min dBm	0.1	0.1	0.1
Table 88-12			
OMA per lane max dBm	4.0	4.5	5.0
Ave power per lane max dBm	4.0	4.5	4.0
Peak power per lane max dBm			4.8
Damage threshold dBm	5.0	5.5	5.0
Ave power per lane min dBm	-20.9	-20.9	-20.9
Sens OMA per lane max dBm	-21.4	-21.4	-21.4
Stressed sens OMA max dBm	-17.9	-17.9	-17.9

Reflection proposals for 40GBASE-LR4

	D 1.0	#487	#381	Propose
Table 87-7				
RIN _{xx} OMA xx=?	12	20	12	20
Optical return loss tolerance (max) dB	12	20	12	20
Transmitter reflectance (max) dB	-12	-12	-12	-12
Table 87-8				
Receiver reflectance (min) dB	-26	-26	-26	-26
Table 87-9				
Maximum discrete reflectance dB	-26	-26	-26	-26
Table 87-11				
Optical return loss (max) dB	12	20	12	20
Table 87-13				
Optical return loss (min) dB	TBD	21	26	21

Reflection proposals for 100GBASE-LR4

	D 1.0	#503	#381	Propose
Table 88-7, 88-11				
RINxxOMA xx=?	12	20	12	20
Optical return loss tolerance (max) dB	12	20	12	20
Transmitter reflectance (max) dB	-12	-12	-12	-12
Table 88-8, 88-12				
Receiver reflectance (min) dB	-26	-26	-26	-26
Table 88-9, 88-13				
Maximum discrete reflectance dB	-26	-26	-26	-26
Table 88-15				
Optical return loss (max) dB	12	20	12	20
Table 88-17				
Optical return loss (min) dB	TBD	TBD	26	21

Reflection proposals for 100GBASE-ER4

	D 1.0	#504	#381	Propose
Table 88-7, 88-11				
RINxxOMA xx=?	12	20	12	20
Optical return loss tolerance (max) dB	12	20	12	20
Transmitter reflectance (max) dB	-12	-12	-12	-12
Table 88-8, 88-12				
Receiver reflectance (min) dB	-26	-26	-26	-26
Table 88-9, 88-13				
Maximum discrete reflectance dB	-26	-26	-26	-26
Table 88-15				
Optical return loss (max) dB	12	20	12	20
Table 88-17				
Optical return loss (min) dB	TBD	TBD	26	21

“Optical Power” proposals 40/100GBASE-SR

	D 1.0	#407	#410	#632	#478	dudek_02
Table 86-8						
Ave power per lane max dBm	1.0	1.0	1.0	1.0	1.0	1.0
OMA per lane min dBm	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
Peak power per lane max dBm					3.0	3.5
Table 86-9						
OMA per lane max dBm	4.0	4.0	4.0	4.0	?	?
OMA per lane min dBm	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9
Table 86-10						
Stressed sens OMA max dBm	TBD	-5.4	TBD	TBD	TBD	TBD
Vertical eye closure pen dB	TBD	1.67	TBD	TBD	TBD	TBD
Stressed eye jitter UI	TBD	0.37	TBD	TBD	TBD	TBD
Table 86-13						
Power budget dB	8.3	8.3	8.3	8.3	8.3	8.3
Channel insertion loss dB	1.9	1.9	1.9	1.9	1.9	1.9
Allocation for penalties	TBD	TBD	6.8	6.4	TBD	TBD

“Skew” proposals for 86.10.1

- #308
 - Replace the TBD for "Cabling Skew Max" value with the value of 45.4 ps/m or 4.54 ns for 100-m of MMF cable given in "kolesar_02_0508.xls".
- #355
 - Skew of medium per Gustlin is 45 UI (4.5 ns)
If this seems high, revisit the stress assumptions in the skew model.
- #517
 - Replace TBD with 4.5. This value is consistent with the worst-case value for a 100 m link as determined using the MM skew model kolesar_02_0508.xls.

“Skew” proposals for 86.2.2

- #345
 - For dynamic skew: 200 ps from PMA, 100 ps PMD Tx add, 700 ps medium add, 200 ps PMD Rx add, giving 1200 ps returned to PMA.
Remove editor's note.
- #516
 - The delays through the medium shall match to within 13.6 ns and do not change by more than 20.3 ns including the effects of varying launch conditions and operating wavelength.
- #307
 - use the values proposed in kolesar_02_0508.xls as a starting point and replace the TBD with the model values where we can

Eye mask proposals for Tables 86-6 and 86-7

	D 1.0	#403 #404	#389 #390
Table 86-6 and 86-7			
X1 UI	0.15	0.15	0.12
X2 UI	TBD	0.25	0.33
Y1 mV	90	90	95
Y2 mV	350	350	350
Conditions	TBD	86.7.4.7	<5e-5 hit rate

