

Editors report

802.3cm 400Gb/s over MMF

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Notes on clause 138

- 802.3cm will be amending Clause 138 after 802.3cd has completed
- Therefore Clause 138 in 802.3cm will be written as a set of editors instructions to the 802.3 editorial team. Editorial instructions are written in ***bold italics*** and in Framemaker are marked as paragraph type 'Editing instructions'
- Prior to issuing draft 1.0, the whole of Clause 138 has been shown, so that the effect of our changes on 138 can be seen more clearly
- For draft 1.0 (and later) the parts of Clause 138 that are not changed will be removed from the draft, so that just the editing instructions remain. Parts of 138 to be deleted are shown with ~~strike through~~, additions to 138 are shown underlined

Status quo

- Draft 0.1 posted, reviewed, 19 comments reviewed
- Draft 0.2 posted, reviewed, 23 comments
 - 13 accepted, non-controversial
- Items needing more work
 - Editing instructions for Clause 1, 30, 78, 45, 116 need to be written
 - Cross references clean-up
 - References for the MDI for 400GBASE-SR8
- TBDs in document
 - TDECQ measurement bandwidth for 400GBASE-SR4.2
 - MDI sections for 400GBASE-SR4.2

'Bucket' comments 1: accepted, not controversial

#	T/E	clause	Pag	Li	Comment	Suggested Remedy	Respons
1	T	138.2			No references to 400GBASE-SR8	Add references to 400GBASE-SR8 - fixed in draft 0.2a	ACCEPT
2	T	138.5.2			400GBASE-SR8 has eight lanes	"The 400GBASE-SR8 has <u>eight</u> parallel symbol...."	ACCEPT
3	E	138.8.5	281	17	"Table 138-9 specifies the test pattern" should be "Table 138-12"	Change to "Table 138-12 specifies the test pattern"	ACCEPT
6		Introduction	12	44	Example projects are out of date.	Change to 802.3cd.	ACCEPT
7		Introduction	16	13	Wrong number	Change three to four	ACCEPT
8		Fig 138-1	19	19	Missing arrow with MDI	Fix it	ACCEPT
12		Fig 200-1	50	27	The RS-FEC is correctly not in the diagram as it is part of the 400GBASE-R PCS, there shouldn't be a definition of it.	Delete the RS-FEC definition.	ACCEPT

'Bucket' comments 2: accepted, not controversial

13	200.3.1	51	36	The delay has incorrectly been taken from 200G not 400G	Change to "no more than 8192 bit times (16 pause_quanta or 20.48 ns)."	ACCEPT
14	200.3.1	51	36	The "for 400GBASE-SR4.2" isn't needed and isn't in the equivalent 400G PMD clause.	Delete "for 400GBASE-SR4.2"	ACCEPT
15	200.3.2	51	48	The references to 80.5 and figure 80-8 aren't in the equivalent 400G PMD clause and aren't helpful, but references to figure 116-4 would be useful. (see 122.3.2)	Delete the unneeded references (also on page 52 line 10) and add figure 116-4.	ACCEPT
16	200.4	52		tables 200-2 and 200-3: These contain only 4 lane information.	Copy tables 122-2 and 122-3 instead.	ACCEPT
17	200.5.4	54	24	116.3 (for 400G) would be a better reference than 80.3 (for 100G)	Change to 116.3	ACCEPT
22		65	28	There is only one port type	Change e.g. to i.e.	ACCEPT

Other Comments

Comments against clause 1, 138

- Project title

5		1	1	Do we need a more explicit title as 400G over MMF already exists.	Change to "over 4 and 8 pair Multimode Fiber"	AIP	This was the project title used in the PAR; For Task Force discussion
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- Sub-section duplicate numbering in 138

9		138.10.3.2	39	41	There are two sub sections with the same number		AIP	802.3cm will amend Clause 138 after 802.3cd closes, so our changes are written as editing instructions for the 802.3 editors, with just the sections to be amended or added included in the 802.3cm document. Drafts 0.1 and 0.2 have included all of clause 138, including sections which are unchanged (along with the subclause, figure or table numbers as shown in 138). A by-product is duplicate subclause, figure or table numbers. Best way to deal this may be to include just the sections to be amended or added in the next draft.
10		138.11.4.6	48	20	subclause reference is wrong for the 400GBASE-SR8.	There is however a problem that there are two sub-clauses with the same number 138.10.3.2 so fixing this may affect the change.	AIP	Fix the reference, and see above proposed response to comment 9

Comments against clause 138: subclause 138.11.4.6, MDI PICS

- PICS for MDI mating and MDI requirements

11	138.11.4.6	48	38	Need to add MDI mating and MDI requirements for 400GBASE-SR8	I think you can probably add 400GBASE-SR8 to OC8 and OC11, but I'd ask the fiber experts.	AIP	Contribution needed
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Comments against clause 200: subclause 200.6, description of bi-di lanes

4		200.6	30	12 16 Instead of "it is evident that there are two types of lane: (i) lanes that comprises a transmit lane that uses the wavelength range 844 to 863 nm and a receive lane that uses the wavelength range 900 to 918 nm; (ii) lanes that comprises a transmit lane that uses the wavelength range 900 to 918 nm and a receive lane that uses the wavelength range 844 to 863 nm."	I propose "it is evident that there are two types of lane: (i) composite lanes that comprises a transmit lane that uses the wavelength range 844 to 863 nm and a receive lane that uses the wavelength range 900 to 918 nm on the same fiber; (ii) composite lanes that comprises a transmit lane that uses the wavelength range 900 to 918 nm and a receive lane that uses the wavelength range 844 to 863 nm on the same fiber."	AIP	See response to comment 20
20	T	200.6	56	13 Lanes are signal paths. You can't have a lane with different wavelengths for the Tx and Rx.	Change Table 200-5 Title to "Wavelength ranges" and just have two rows. The title row would have "TxRx pair type" instead of "Lane". One row would have TR the other RT. Change to "The transmit and receive wavelength ranges for the 400GBASE-SR4.2 PMD are defined in Table 200-5. From Table 200-5, it is evident that there are two types of TxRx pairs: (i) TxRx pairs (TR) that comprise a transmitter that uses the wavelength range 844 to 863 nm and a receive lane that uses the wavelength range 900 to 918 nm; (ii) TxRx pairs (RT) that comprise a transmitter that uses the wavelength range 900 to 918 nm and a receive lane that uses the wavelength range 844 to 863 nm. When connecting a 400GBASE-SR4.2 PMD to another 400GBASE-SR4.2 PMD, it is a requirement that the TxRx pairs in each PMD be connected to the opposite type in the other PMD. This positioning of TxRx pairs at the MDI is specified in 200.10.3.1.	ACCEPT	For Task Force discussion

Comments against clause 200: subclause 200.8.5, TDECQ bandwidth

21	T	200.8.5	61	14	The bandwidth used for measuring TDECQ depends on the fiber bandwidth which will be different at 850nm and 910nm. If it is desired to not penalize the 850nm transmitters with the worst case bandwidth of the fiber at 910nm then different measurement bandwidths should be used for the different wavelengths.	Reword the bullet to have different TBD bandwidths for 850nm and 910nm.	AIP	Presentation expected; For Task Force review and discussion
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Comments against clause 200: subclause 200.7, signal detect, Tx Return Loss, Tx 'off' average power

18	T	200.7	54	38	With a connector opened the bidirectional signal reflected will only be 14dB below the signal i.e. with these powers signal detect will not fail.	Change from -30dBm to -10dBm. Also add "reflections of transmitted power" on line 49.	REJECT	The counterpropagating signals have different wavelengths which are separated by a WDM demux before the O/E signal detect function.
23		200.7.1	58	22	Is a receiver reflectance of 12dB adequate for this bidirectional system. I suspect it needs to be significantly better.	Provide evidence that 12dB is adequate or provide a better number.	REJECT	Since the counterpropagating signals have different wavelengths which are separated by a WDM demux, -12 dB receiver reflectance should not be an issue.
19	T	200.7.1	57	40	Table 200-7: With the change to signal detect level should the Average launch power of OFF transmitter be relaxed	Consider changing it to -20dBm.	REJECT	The counterpropagating signals have different wavelengths which are separated by a WDM demux before the O/E signal detect function, so no change to the signal detect level should be needed