
IEEE 802.3cz – A Path Forward on PMDs

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Current Status in IEEE 802.3cz

- Significant contributions have been presented supporting OM3 at 980nm
 - Technical and economic feasibility have been demonstrated for all data rates
 - A baseline proposal for inclusion in the standard has been proposed
 - A standard based on OM3 is technically ready to move forward now
- While we appreciate the efforts of the GIPOF and SiP supporters, the supporting data to write a technically complete draft is not available now
 - More work is needed before GIPOF and SiP can be added to the draft
- Further delays in the IEEE 802.3cz standard will result in copper solutions being adopted for multi-gigabit automotive links

Proposed Path Forward in IEEE 802.3cz

- Move to WG Ballot with OM3 specified at 980nm
- It will allow us to stay on our timeline and proceed to WG ballot
 - Comments can be submitted on a complete draft during the WG Ballot
 - This would give the GIPOF and SiP supporters time to develop the necessary specifications to be included in an IEEE Standard during WG ballot
- Comments can be submitted against the draft standard for the PMD in addition to the PCS/PMA
 - For adding port types
 - Other technical issues
- Precedence in IEEE exists for this process

Requests from GIPOF Supporters

- Watanabe-san et al. have proposed the following PMDs and wavelengths be considered in support of GIPOF
 - But more work is needed to include in IEEE 802.3cz
 - Technical issues can be addressed via comments during WG ballot

Data rate	Wavelength	OM3	GI-POF*1
2.5G	850 or 980nm or 1310nm	40m w/4 conn.	15m w/4 conn.
5G	850 or 980nm or 1310nm	40m w/4 conn.	15m w/4 conn.
10G	850 or 980nm or 1310nm	40m w/4 conn.	15m w/4 conn.
25G	850 or 980nm or 1310nm	40m w/4 conn.	15m w/2 conn.
		Same PMD for OM3 and GI-POF*2	
50G	850 or 980nm or 1310nm	15m w/2 conn.	-

*1: Refer to IEC 60793-2-40 A4i fiber as GI-POF. If 980 nm or 1310 nm is specified as operation wavelength, or other attributes need to be modified or specified, revise IEC60793-2-40 A4i accordingly.

*2: As long as the same PMD is used, shorter reach of GI-POF does not infringe the Objectives.

Requests from SiP Supporters

- Ogura-san et al. have proposed PMDs based on SiP based on 1310nm wavelength and OM3 or GIPOF
 - But more work is needed to include in IEEE 802.3cz
 - Technical issues can be addressed via comments during WG ballot

Summary

- It is recommended that we adopt a PMD baseline based on VCSEL & OM3 now
 - It is technically complete and ready now
- We can then deal with technical issues with PMDs and other topics in WG Ballot
 - Commenters can submit a disapprove vote and proposed remedy
 - An incomplete remedy would likely be rejected, but the issue remains open
 - Detailed specifications with supporting data (e.g., methodology) can then be created during re-circulations
- This provides ~ 9 months to resolve technical issues in WG Ballot and allows the process to remain on schedule
- Further delays in the IEEE 802.3cz standard will result in copper solutions being adopted for multi-gigabit automotive links

Straw Poll

Develop PMD baseline text for inclusion in the IEEE 802.3cz draft standard based on:

[swanson_3cz_02b_08_03_AUTO_MDI Specification](#)

Address any technical issues in the current project via submitted comments and comment resolution at WG ballot

Y:

N:

A:

Thanks for your attention