

100GEL DSFP MDI Proposal for 802.3ck

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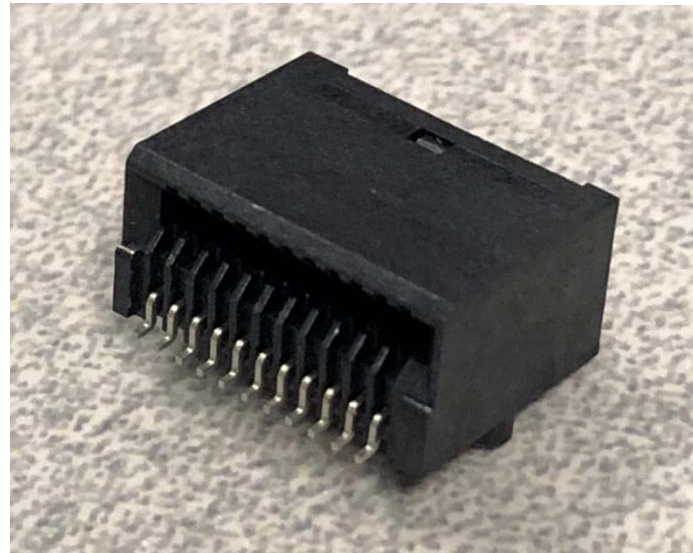
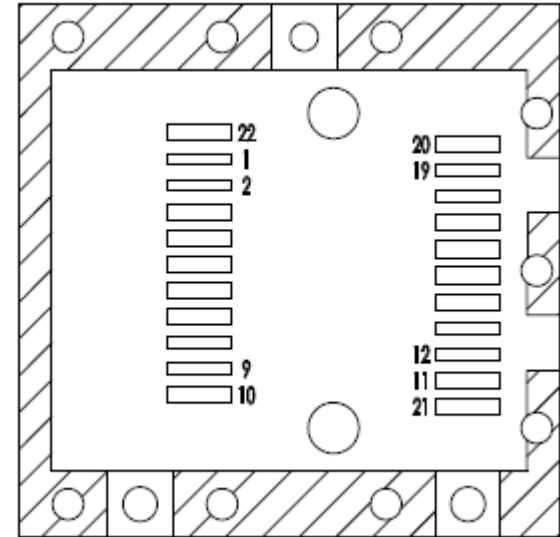
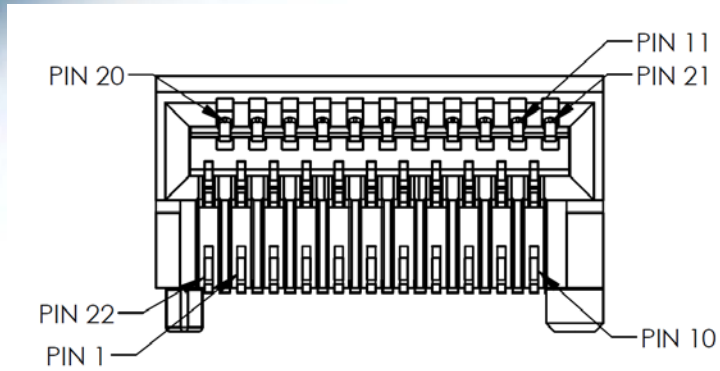
SUPPORTERS

- Brian Kirk, Amphenol
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- Charles Zhouchi, Huawei
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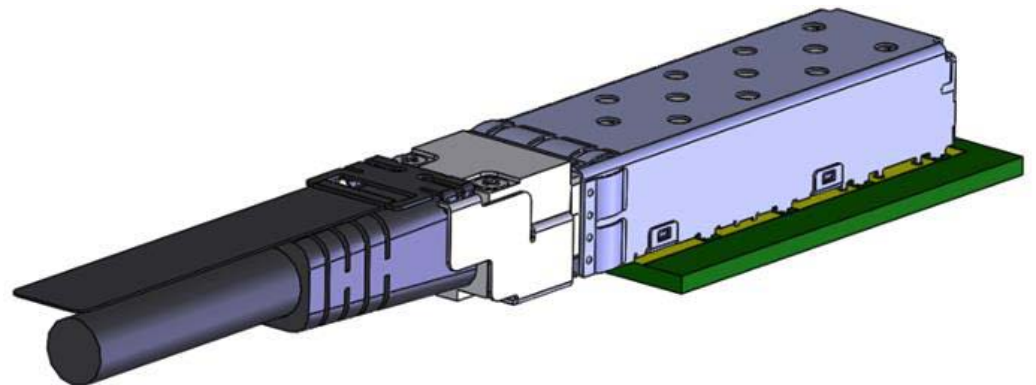
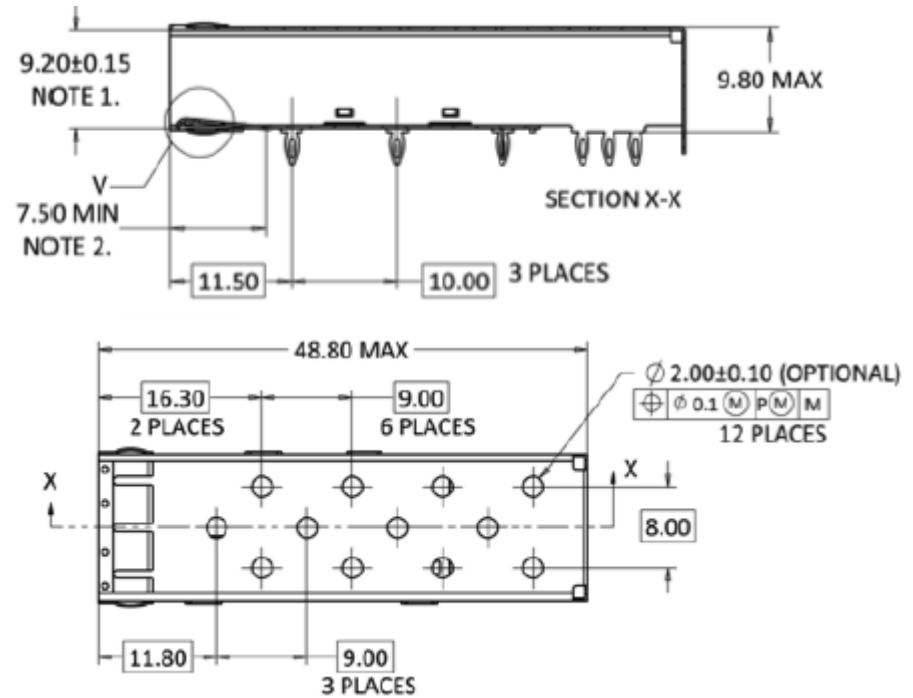
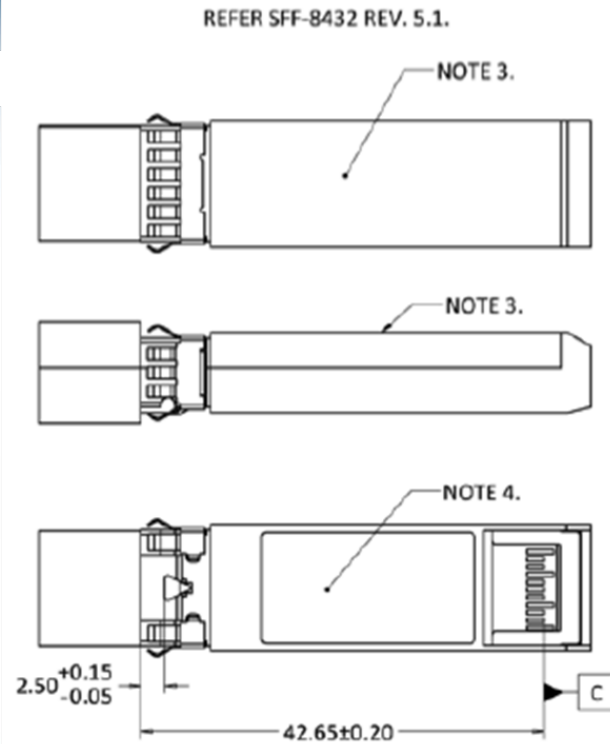
DSFP Features and Benefits

- DSFP interface employs 2 high-speed pairs currently operating at 25Gb/s NRZ or 50Gb/s PAM-4 for 50Gb and 100Gb aggregated bandwidth solution
- Total of 22 contacts per port defined a 2 differential pairs, 4 control lines, and 2 power pins
- Compatible with the SFP+/SFP28 form factor
 - Mechanically equivalent to the SFP+/SFP28 form factor
 - DSFP ports accept SFP+/SFP28 modules
- Control functions over I2C (similar to OSFP MDI)
 - Some SFP+/SFP28 hardware control and alarm pins are not present on the DSFP module
- Designed with a path towards support of next-generation operating speeds (112Gb/s PAM-4)

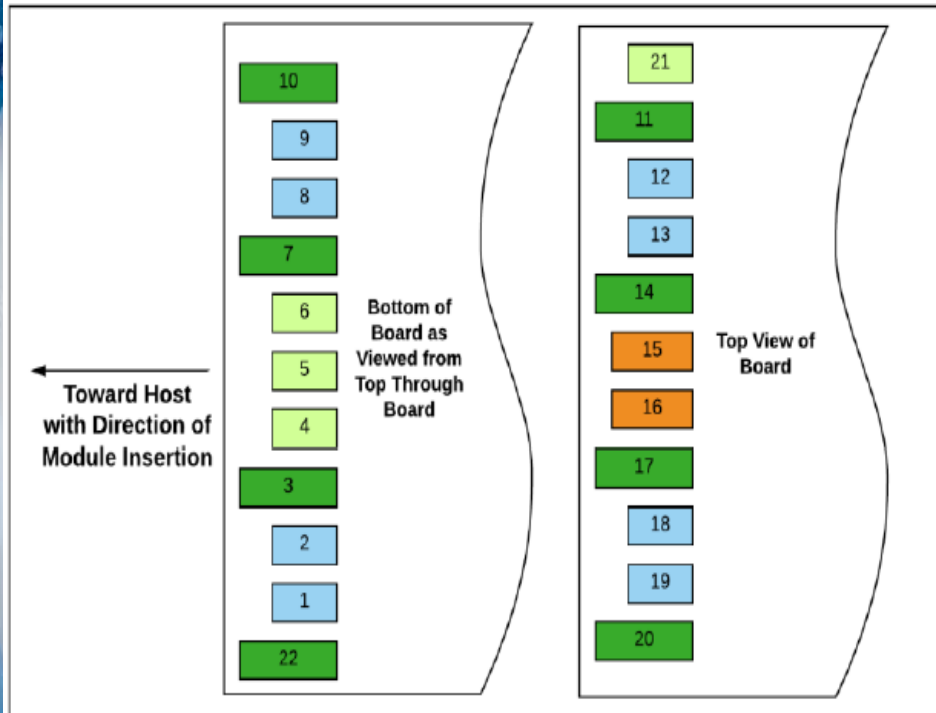
DSFP Connector



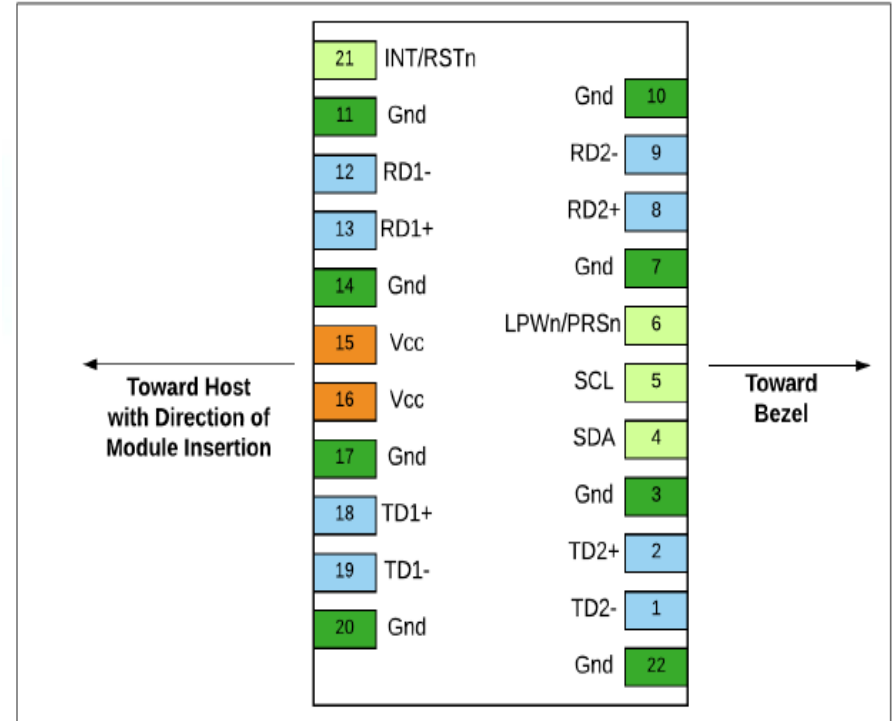
DSFP Module



DSFP Pinout

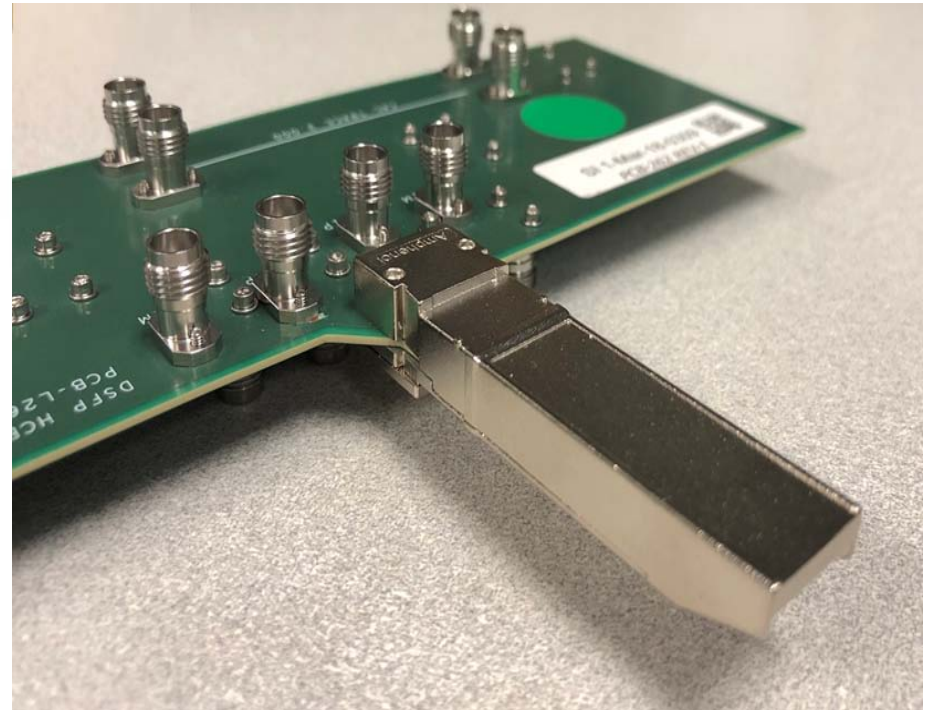
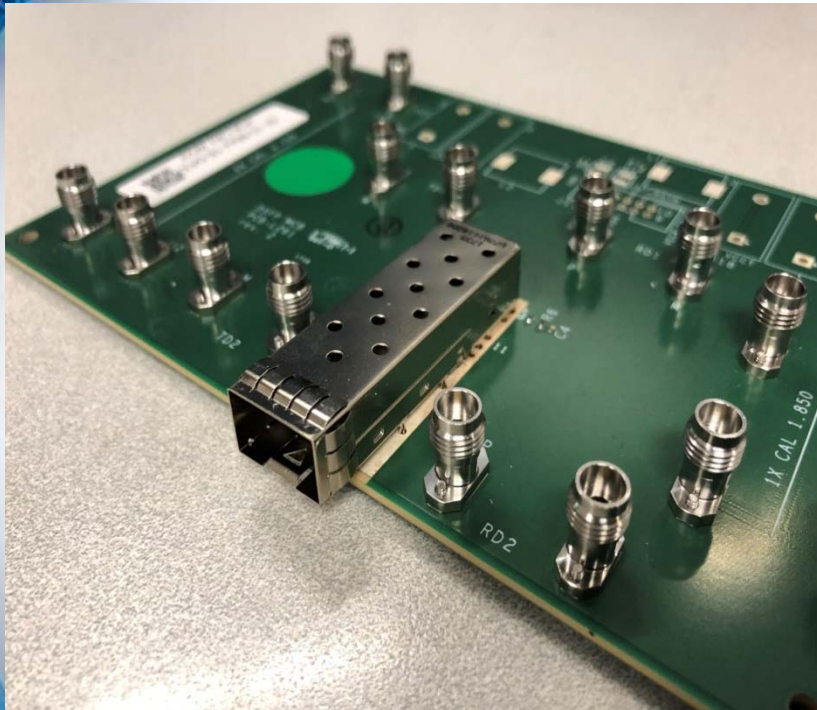


DSFP Module Assignment



DSFP Host Assignment

DSFP MCB & HCB



100GEL Channel Reach

- The C2M and CR channels have been presented as a starting point for the 100GEL working group
- The channels are simulated with the DSFP connector to evaluate performance against prospective 100GEL requirements
- For more channel details please refer to the presentation below

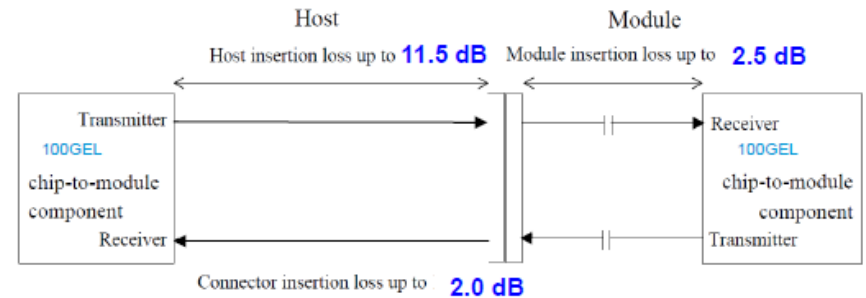


Figure 1: 100GEL C2M TP0-TP1a insertion loss budget at 26.56 GHz

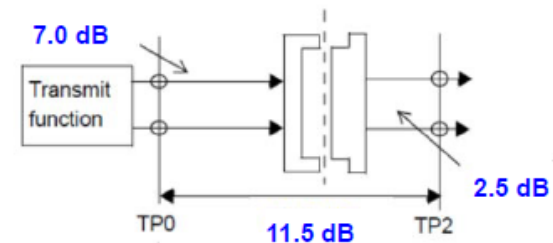
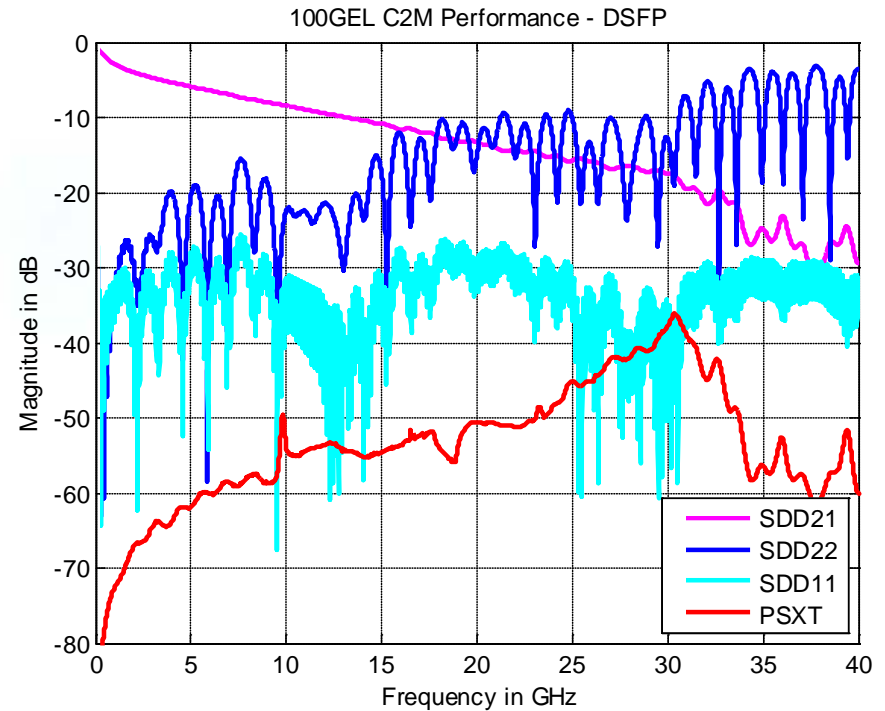


Figure 2: 100GEL CR TP0-TP2 insertion loss budget at 26.56 GHz

http://www.ieee802.org/3/ck/public/18_07/lim_3ck_01b_0718.pdf

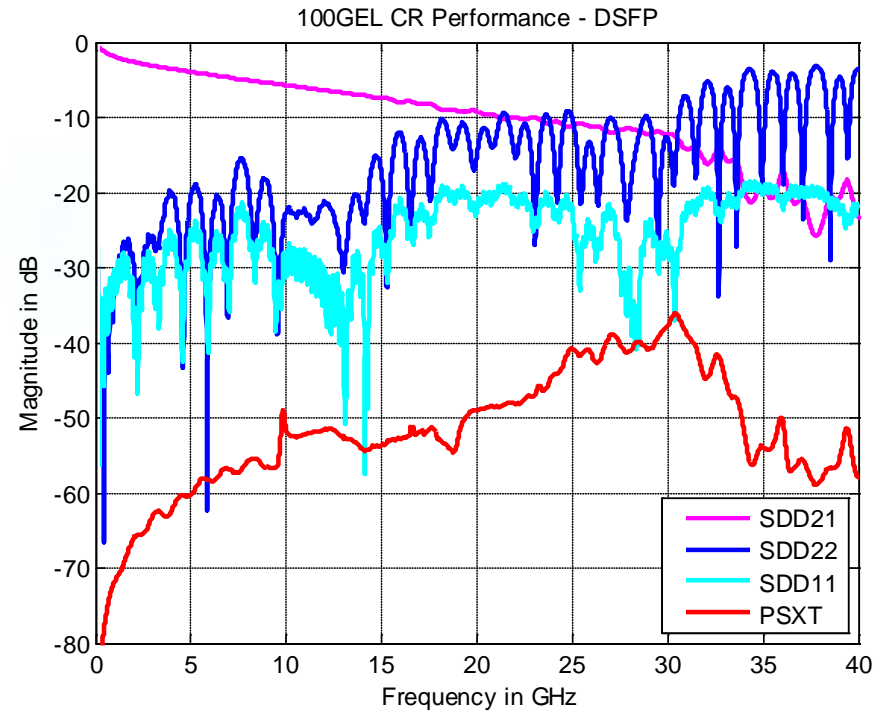
100GEL TP0-TP1a Channel

- The TP0-TP1a represents the C2M channel
- **Approximate IL is -16dB (@26.56GHz)**
- Return Loss from both sides is shown
 - SDD11 is from the Host
 - SDD22 is from the Module
- PSXT is calculated from the full connector model.
 - The connector model used has (2)TD and (2)RD pairs to capture both NEXT and FEXT



100GEL TP0-TP2 Channel

- The TP0-TP2 represents the CR channel
- **Approximate IL is -11.5dB (@26.56GHz)**
- Return Loss from both sides is shown
 - SDD11 is from the Host
 - SDD22 is from the Module
- PSXT is calculated from the full connector model.
 - The connector model used has (2)TD and (2)RD pairs to capture both NEXT and FEXT



DSFP Status

- DSFP MSA Rev1.0 Published
- DSFP MSA (www.dsfpmsa.org)
- Direct link to specification
https://docs.wixstatic.com/ugd/133fd8_5ea08d87b43843ffb0a5af8e54f37fb3.pdf
- Samples currently available
- All DSFP MSA documentation will be available from the DSFP MSA website above
 - Module Specification
 - Management Specification
 - Design Files
 - Press Releases

Proposal for DSFP MDI to 802.3ck

- Per the data in this report, we would recommend to include DSFP as a target MDI to support copper objectives for 100GEL applications
- Applicable for:
 - 100GBASE-CR
 - 100GBASE-CR2
- The MDI section should look similar to 802.3cd Annex 136C
- Formal comments with proposed language, figures, and table to be provided as necessary