

1.6T-2FR4 2km OSFP-RHS Transceiver CL1.6TOSFP2FR4-RHS

Product Features:

- Hot-pluggable OSFP1600 form factor
- Higher bandwidth EML transmitter and PIN PD receiver
- Support 1.6Tb/s aggregate bit rate
- Support 8x200G Ethernet
- Compliant with IEEE802.3dj D1p2:
- - 2x800GBASE-FR4 optical interface
- Compliant with IEEE802.3dj D1p2:
- - 2x800GAUI-4 C2M electrical interface
- Compliant with OSFP MSA Specification Rev 5.1
- Type 2 housing with Dual LC/APC receptacle
- Compliant with CMIS Rev 5.2
- Case operating temperature 0°C to 70°C
- Two wire serial Interface with digital diagnostic monitoring
- Complies with EU Directive 2011/65/EU (RoHS compliant)
- Class 1 Laser

Functional Characteristics (Optical)

The following tables list the performance specifications for the various functional blocks of the integrated optical transceiver module.

Table 1 – Transmitter Optical Specifications

| Parameter | Symbol | Min. | Typical | Max. | Unit | Notes |
|--|-------------------|---------------------------------|---------|--------|------|-------|
| Lane wavelengths (range)L0, L4 | $\lambda_{C0,C4}$ | 1264.5 | 1271 | 1277.5 | nm | |
| Lane wavelengths (range)L1, L5 | $\lambda_{C1,C5}$ | 1284.5 | 1291 | 1297.5 | nm | |
| Lane wavelengths (range)L2, L6 | $\lambda_{C2,C6}$ | 1304.5 | 1311 | 1317.5 | nm | |
| Lane wavelengths (range)L3, L7 | $\lambda_{C3,C7}$ | 1324.5 | 1331 | 1337.5 | nm | |
| Side Mode Suppression Ratio | SMSR | 30 | - | - | dB | |
| Total average launch power | AOP _T | - | - | 10.9 | dBm | |
| Average Launch Power, each lane | AOP _L | -2.2 | - | 4.9 | dBm | 1 |
| Outer Optical Modulation Amplitude (OMA _{outer}), each Lane for $\max(\text{TECQ}, \text{TDECQ}) < 0.9\text{dB}$ for $0.9\text{dB} \leq \max(\text{TECQ}, \text{TDECQ}) \leq \text{TBDdB}$ | T _{OMA} | 0.8 -0.1 +Max(TECQ,TDECQ) | - | 4.8 | dBm | |
| Difference in launch power between any two lanes (OMA _{outer}) | - | - | - | 4 | dB | |
| Transmitter and Dispersion Eye Closure for PAM4 (TDECQ), each lane | TDECQ | - | - | TBD | dB | |
| Transmitter eye closure for PAM4 (TECQ), each lane | TECQ | - | - | TBD | dB | |
| TDECQ –TECQ | - | - | - | TBD | dB | |
| Over/under-shoot | - | - | - | 22 | % | |
| Transmitter power excursion | - | - | - | 2.9 | dBm | |
| Average Launch Power of OFF Transmitter, each lane | T _{OFF} | - | - | -16 | dBm | |



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|-----------------------------------|----------------|-----|---|------|-------|---|
| Extinction Ratio | ER | 3.5 | - | - | dB | |
| Transmitter transition time (max) | Tr | - | - | 8 | ps | |
| RIN _{17.1OMA} (max) | RIN | - | - | -139 | dB/Hz | |
| Optical Return Loss Tolerance | ORL | - | - | 17.1 | dB | |
| Transmitter Reflectance | T _R | - | - | -26 | dB | 2 |

Note 1: Average launch power, each lane (min) is informative and not the principal indicator of signal strength

Note 2: Transmitter reflectance is defined looking into the transmitter

Table 2 – Receiver Optical Specifications

| Parameter | Symbol | Min. | Typical | Max. | Unit | Notes |
|--|--------|--------|---------|--------------------|------|-------|
| Lane wavelengths (range) L0, L4 | λC0,C4 | 1264.5 | 1271 | 1277.5 | nm | |
| Lane wavelengths (range) L1, L5 | λC1,C5 | 1284.5 | 1291 | 1297.5 | nm | |
| Lane wavelengths (range) L2, L6 | λC2,C6 | 1304.5 | 1311 | 1317.5 | nm | |
| Lane wavelengths (range) L3, L7 | λC3,C7 | 1324.5 | 1331 | 1337.5 | nm | |
| Damage Threshold, each Lane | AOPD | 5.9 | - | - | dBm | |
| Average Receive Power, each Lane | AOPR | -6.2 | - | 4.9 | dBm | |
| Receive Power (OMA _{outer}), each Lane | OMAR | - | - | 4.8 | dBm | |
| Difference in receive power between any two lanes (OMA _{outer}) (max) | AOPg | - | - | 4.1 | dB | |
| Receiver Reflectance | RR | - | - | -26 | dB | |
| Receiver sensitivity (OMA _{outer}), each lane for TECQ < 0.9 dB for 0.9 dB ≤ TECQ ≤ SECQ | SOMA | - | - | -3.7 -4.6 +TECQ | dBm | 1 |
| Stressed Receiver Sensitivity (OMA _{outer}), each Lane | SRS | - | - | TBD | dBm | 1 |
| Conditions of stressed receiver sensitivity test | | | | | | |
| Stressed eye closure for PAM4 (SECQ), lane under test | - | - | TBD | - | dB | |
| OMA _{outer} of each aggressor lane | - | - | 0.8 | - | dBm | |

Note 1: Measured with conformance test signal at TP3 for the BER= 6.4x10⁻⁵.

Ordering Information

Table 3 - Ordering Information

| Part No. | Application | Data Rate | Laser Source | Fiber Type |
|--------------------|-------------|-----------|--------------|-----------------|
| CL1.6TOSFP2FR4-RHS | Ethernet | 2x800Gb/s | EML | Dual LC/APC SMF |

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