1.6T-2FR4 2km OSFP-IHS Transceiver

CL1.6TOSFP2FR4-IHS

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 (OMAouter), each Lane for max(TECQ, TDECQ)<0.9dB for 0.9dB ≤max(TECQ, TDECQ)≤TBDdB	T_{OMA}	0.8 –0.1 +Max(TECQ,TDECQ)	-	4.8	dBm	
Difference in launch power between any two lanes (OMAouter)	-	-	-	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	

Extinction Ratio	ER	3.5	-	-	dB	
Transmitter transition time (max)	Tr	-	-	8	ps	
$RIN_{17.1}OMA$ (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 (OMAouter), each Lane	OMAR	-	-	4.8	dBm	
Difference in receive power between any two lanes (OMAouter) (max)	AOPg	-	-	4.1	dB	
Receiver Reflectance	RR	-	-	-26	dB	
Receiver sensitivity (OMAouter), each lane for TECQ < 0.9 dB for 0.9 dB≤TECQ ≤SECQ	SOMA	-	-	-3.7 –4.6 +TECQ	dBm	1
Stressed Receiver Sensitivity (OMAouter), each Lane	SRS	-	-	TBD	dBm	1
Conditions of stressed receiver sensitivity test						
Stressed eye closure for PAM4 (SECQ), lane under test	-	-	TBD	-	dB	
OMAouter of each aggressor lane	-	-	0.8	-	dBm	

Note 1: Measured with conformance test signal at TP3for the BER= $6.4x10^{-5}$.

Ordering Information

Table 3 - Ordering Information

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

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