QSFP-40GBASE-LR4-20-HW-AO

Huawei® Compatible TAA 40GBase-LR4 QSFP+ Transceiver (SMF, 1270-1330nm, 20km, LC, DOM)

Features:

- Compliant with IEEE Std 802.3ba, 40G Ethernet LR4
- Management Interface Specifications Per SFF-8436
- Compliant with QSFP+ MSA
- 4 Channels CWDM DFB
- 4 Channels PIN Photo Detector
- 4 CWDM-Lane Mux/Demux Design
- Class 1 Laser Safety Certified
- Up to 11.1Gbps Per Channel Data Links
- Up to 20KM on SMF
- Operating Temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free



Applications:

- 40GBase Ethernet

Product Description

This Huawei® compatible QSFP+ transceiver provides 40GBase-LR4 throughput up to 20km over single-mode fiber (SMF) using a wavelength of 1270nm to 1330nm via an LC connector. It is guaranteed to be 100% compatible with the equivalent Huawei® transceiver. This easy to install, hot swappable transceiver has been programmed, uniquely serialized and data-traffic and application tested to ensure that it will initialize and perform identically. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

AddOn's transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S.-made or designated country end products."

TAA COMPLIANT

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Maximum Supply Voltage	Vcc	-0.5		4.0	V
Storage Temperature	Tstg	-40		+85	°C
Operating Case Temperature	Tc	0	25	70	°C
Relative Humidity	RH	5		95	%
Data Rate Per Channel			10.3125		Gbps

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Module Supply Current	Icc			1100	mA	
Power Dissipation	P_{DISS}			3500	mW	
Transmitter						
Input Differential Impedance	ZIN		100		Ω	
Differential Data Input Swing	$V_{IN,pp}$	180		900	mVp-p	
Receiver						
Output Differential Impedance				900	Ω	
Differential Data Output Swing	ZOUT,pp	300		850	mVp-p	1
Data Output Rise/Fall Time	T_r/T_f	28			ps	2

Notes:

1. Internally AC coupled but requires an external 100Ω differential load termination.
2. 20-80%.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Launch Optical Power Per lane	Po	-3		+2.3	dBm	1
Total Launch Optical Power	Po			+8	dBm	1
Center Wavelength	λ0	1264.5	1271	1277.5	nm	
	λ1	1284.5	1291	1297.5	nm	
	λ2	1304.5	1311	1317.5	nm	
	λ3	1324.5	1331	1337.5	nm	
Extinction Ratio	ER	3.5			dB	2
Spectral Width (-20dB)	Δλ			1	nm	
Side-Mode Suppression Ratio	SMSR	30			dB	
Transmitter and Dispersion Penalty	TDP			2.3	dB	
Optical Return Loss Tolerance	ORLT			12	dB	
Eye Diagram	IEEE Std 802.3ba Compatible					
Receiver						
Center Wavelength	λC	1260		1340	nm	
Receiver Sensitivity (OMA)	S			-11.5	dBm	3
Damage Threshold	POL	3.3			dBm	3
Optical Return Loss	ORL	26			dB	
LOS De-Assert	LOSD			-12	dBm	
LOS Assert	LOSA	-30			dB	
LOS Hysteresis		0.5			dB	

Notes:

1. The optical power is launched into SMF.
2. Measured with a PRBS 2^{31}-1 test pattern @10.3125Gbps.
3. Measured with a PRBS 2^{31}-1 test pattern, @10.3125 Gbps, and BER $<10^{-12}$.

Pin Descriptions

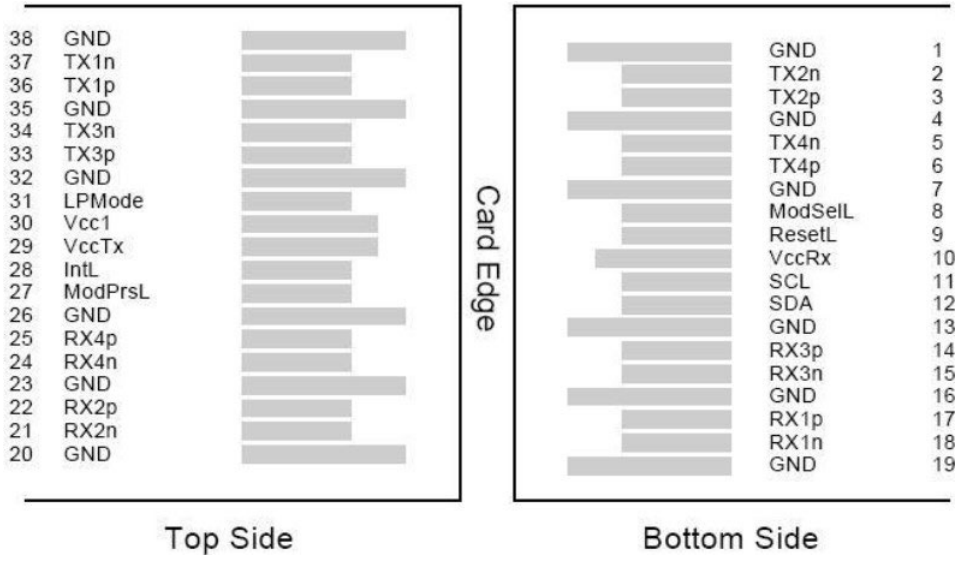
Pin	Symbol	Name/Description	Notes
1	GND	Transmitter Ground (Common with Receiver Ground).	1
2	Tx2-	Transmitter Inverted Data Input.	
3	Tx2+	Transmitter Non-Inverted Data Output.	
4	GND	Transmitter Ground (Common with Receiver Ground).	1
5	Tx4-	Transmitter Inverted Data Input.	
6	Tx4+	Transmitter Non-Inverted Data Output.	
7	GND	Transmitter Ground (Common with Receiver Ground).	1
8	ModSelL	Module Select.	2
9	ResetL	Module Reset.	2
10	VccRx	+3.3V Receiver Power Supply.	
11	SCL	2-Wire Serial Interface Clock.	2
12	SDA	2-Wire Serial Interface Data.	2
13	GND	Transmitter Ground (Common with Receiver Ground).	1
14	Rx3+	Receiver Non-Inverted Data Output.	
15	Rx3-	Receiver Inverted Data Output.	
16	GND	Transmitter Ground (Common with Receiver Ground).	1
17	Rx1+	Receiver Non-Inverted Data Output.	
18	Rx1-	Receiver Inverted Data Output.	
19	GND	Transmitter Ground (Common with Receiver Ground).	1
20	GND	Transmitter Ground (Common with Receiver Ground).	1
21	Rx2-	Receiver Inverted Data Output.	
22	Rx2+	Receiver Non-Inverted Data Output.	
23	GND	Transmitter Ground (Common with Receiver Ground).	1
24	Rx4-	Receiver Inverted Data Output.	1
25	Rx4+	Receiver Non-Inverted Data Output.	
26	GND	Transmitter Ground (Common with Receiver Ground).	1
27	ModPrsl	Module Present.	
28	IntL	Interrupt.	2
29	VccTx	+3.3V Transmitter Power Supply.	
30	Vcc1	+3.3V Power Supply.	
31	LPMode	Low-Power Mode.	2
32	GND	Transmitter Ground (Common with Receiver Ground).	1
33	Tx3+	Transmitter Non-Inverted Data Input.	
34	Tx3-	Transmitter Inverted Data Output.	

35	GND	Transmitter Ground (Common with Receiver Ground).	1
36	Tx1+	Transmitter Non-Inverted Data Input.	
37	Tx1-	Transmitter Inverted Data Output.	
38	GND	Transmitter Ground (Common with Receiver Ground).	1

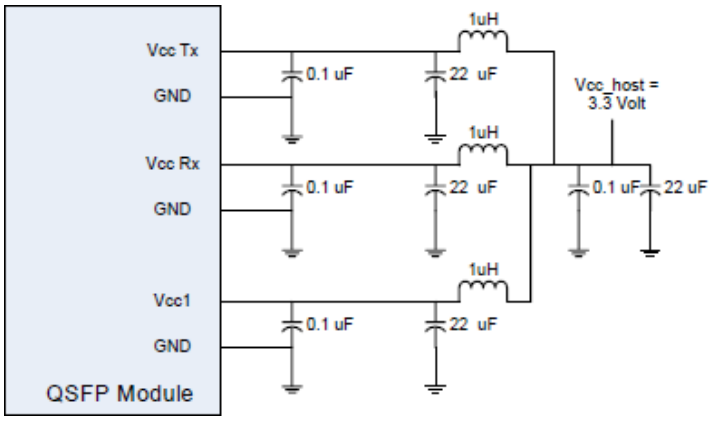
Notes:

1. The module signal grounds are isolated from the module case.
2. This is an open collector/drain output that, on the host board, requires a 4.7kΩ to 10kΩ pull-up resistor to the Host_Vcc.

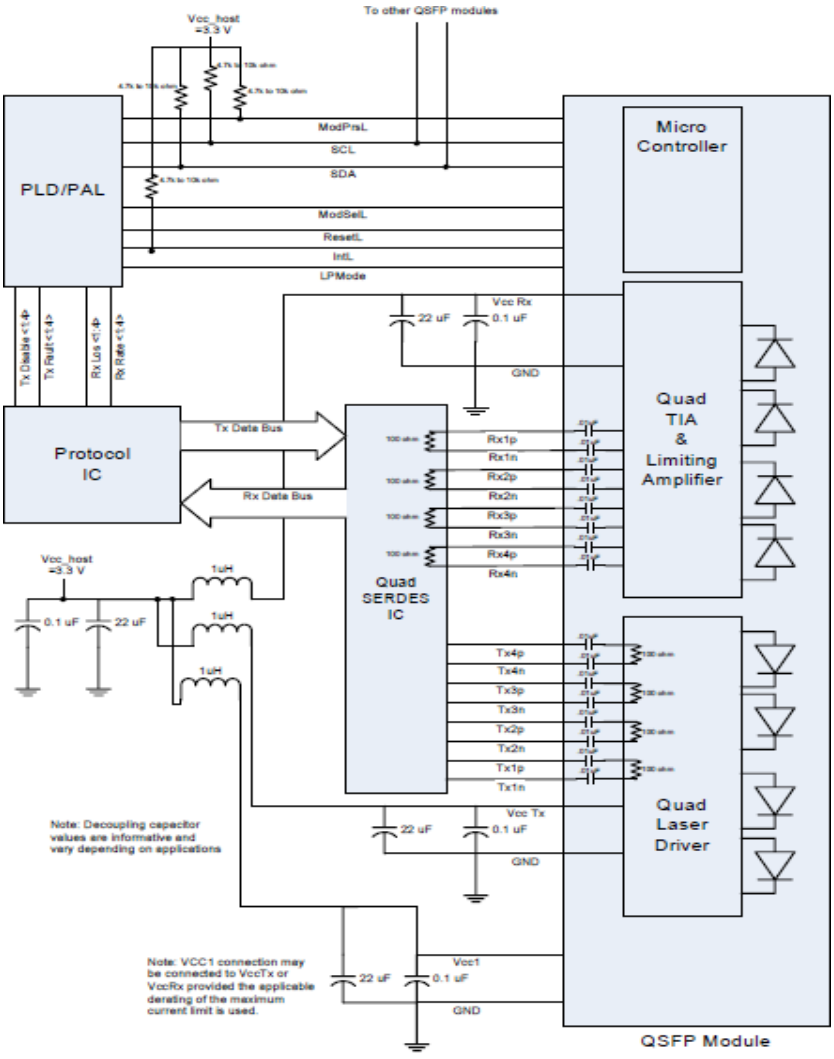
Electrical Pin-Out Details



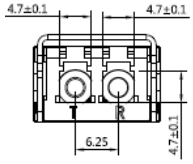
Recommended Host Board Power Supply Filter Network

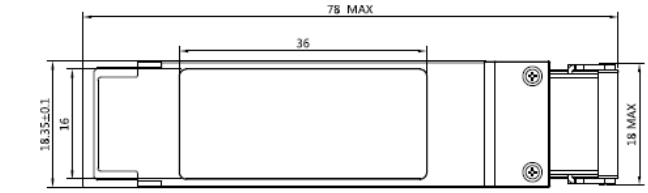


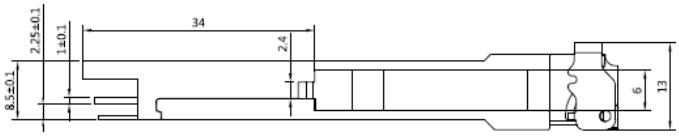
Recommended Application Interface Block Diagram



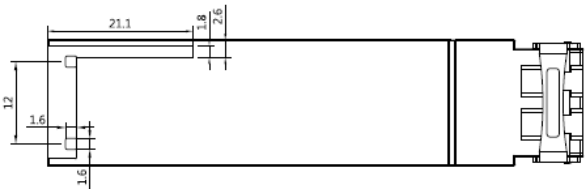
Mechanical Specifications







Unit : mm



About AddOn Networks

In 1999, AddOn Networks entered the market with a single product. Our founders fulfilled a severe shortage for compatible, cost-effective optical transceivers that compete at the same performance levels as leading OEM manufacturers. Adhering to the idea of redefining service and product quality not previously had in the fiber optic networking industry, AddOn invested resources in solution design, production, fulfillment, and global support.

Combining one of the most extensive and stringent testing processes in the industry, an exceptional free tech support center, and a consistent roll-out of innovative technologies, AddOn has continually set industry standards of quality and reliability throughout its history.

Reliability is the cornerstone of any optical fiber network and is ingrained in AddOn's DNA. It has played a key role in nurturing the long-term relationships developed over the years with customers. AddOn remains committed to exceeding industry standards with certifications ranging from NEBS Level 3 to ISO 9001:2015 with every new development while maintaining the signature reliability of its products.



U.S. Headquarters

Email: sales@addonnetworks.com

Telephone: +1 877.292.1701

Fax: 949.266.9273

Europe Headquarters

Email: salesemea@addonnetworks.com

Telephone: +44 1285 842070