

### 02311KNU-RX-C

Huawei® 02311KNU-RX Compatible TAA 100GBase-LR4 QSFP28 Monitor (SMF, 1310nm, 10km, LC, DOM, RX only)

#### Features:

- SFF-8665 Compliance
- Duplex LC Connector
- Single-mode Fiber
- Commercial Temperature 0 to 70 Celsius
- Hot Pluggable
- Metal with Lower EMI
- Excellent ESD Protection
- RoHS Compliant and Lead Free



#### Applications:

- 100GBase Ethernet
- Access and Enterprise

#### Product Description

This Huawei® 02311KNU-RX compatible QSFP28 transceiver provides 100GBase-LR4 throughput up to 10km over single-mode fiber (SMF) using a wavelength of 1310nm 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.

ProLabs' 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."



## Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.4
- ESD to the LC Receptacle: compatible with IEC 61000-4-3
- EMI/EMC compatible with FCC Part 15 Subpart B Rules, EN55022:2010
- RoHS compliant with EU RoHS 2.0 directive 2015/863/EU

## Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Maximum Supply Voltage	V <sub>CC</sub>	-0.5		4.0	V
Storage Temperature	T <sub>S</sub>	-40		85	°C
Operating Case Temperature	T <sub>C</sub>	0	25	70	°C
Relative Humidity (non-condensing)	RH	5		85	%
Data Rate Per Channel			25.781		Gb/s

## Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	V <sub>CC</sub>	3.135	3.3	3.465	V	
Module Supply Current	I <sub>CC</sub>			450	mA	
Power Dissipation	P <sub>D</sub>			1500	mW	
Receiver						
Single-ended Output Voltage		-0.3		4.0	V	
Output Differential Impedance	Z <sub>O</sub>	90	100	110	Ω	
Differential Data Output Swing	V <sub>OUT, P-P</sub>	300		850	mV <sub>P-P</sub>	
AC Common Mode Output Voltage				7.5	mV	

## Receiver Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Center Wavelength	L0	1294.53	1295.56	1296.59	nm	
	L1	1299.02	1300.05	1301.09	nm	
	L2	1303.54	1304.58	1305.63	nm	
	L3	1308.09	1309.14	1310.19	nm	
Average Receive Power, each Lane		-10.6		4.5	dBm	1
Receiver Sensitivity (OMA), each Lane	S			-8.6	dBm	2
Stressed Receiver Sensitivity (OMA), each Lane				-6.8	dBm	3
Difference in receive power between any two lanes (OMA)				5.5	dB	

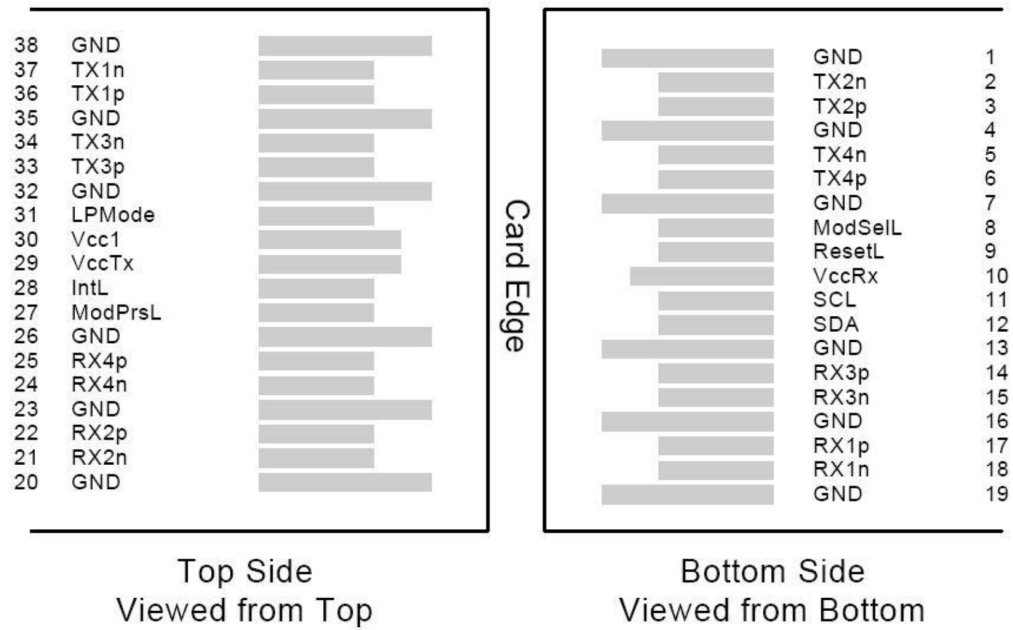
### Notes:

1. Average receive power, each lane (min) is informative and not the principal indicator of signal strength. A received power below this value cannot be compliant; however, a value above this does not ensure compliance
2. Receiver sensitivity (OMA), each lane (max) is informative
3. 25.78Gbps,  $BER \leq 10^{-12}$ , PRBS  $2^{31}-1$

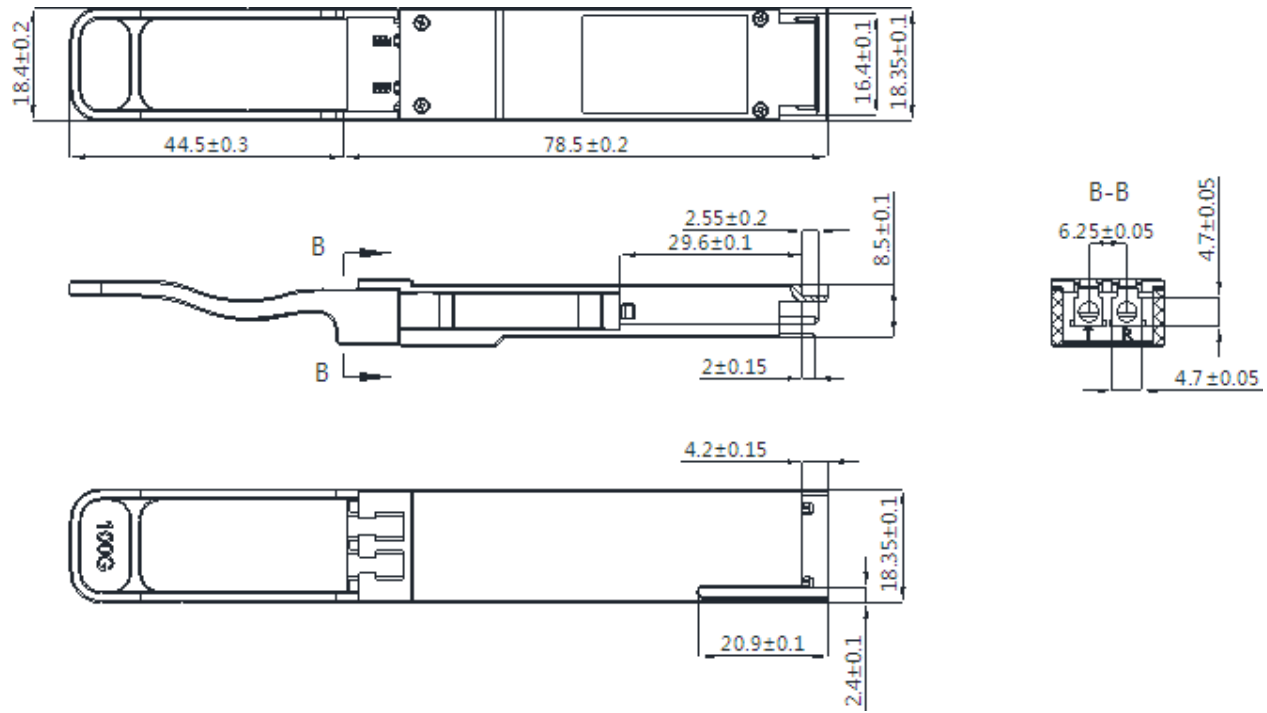
## Pin Descriptions

Pin	Symbol	Name/Descriptions	Ref.
1	GND	Ground	
2	TX2n	Not Connected	
3	TX2p	Not Connected	
4	GND	Ground	
5	TX4n	Not Connected	
6	TX4p	Not Connected	
7	GND	Ground	
8	ModSelL	Module Select	
9	ResetL	Module Reset	
10	VccRx	+3.3V Power Supply Receiver	
11	SCL	2-wire serial interface clock	
12	SDA	2-wire serial interface data	
13	GND	Ground	
14	RX3p	Receiver Non-Inverted Data Output	
15	RX3n	Receiver Inverted Data Output	
16	GND	Ground	
17	RX1p	Receiver Non-Inverted Data Output	
18	RX1n	Receiver Inverted Data Output	
19	GND	Ground	
20	GND	Ground	
21	RX2n	Receiver Inverted Data Output	
22	RX2p	Receiver Non-Inverted Data Output	
23	GND	Ground	
24	RX4n	Receiver Inverted Data Output	
25	RX4p	Receiver Non-Inverted Data Output	
26	GND	Ground	
27	ModPrsL	Module Present	
28	IntL	Interrupt	
29	VccTx	+3.3V Power supply transmitter	
30	Vcc1	+3.3V Power supply	
31	LPMode	Low Power Mode	
32	GND	Ground	
33	TX3p	Not Connected	
34	TX3n	Not Connected	
35	GND	Ground	
36	TX1p	Not Connected	
37	TX1n	Not Connected	
38	GND	Ground	

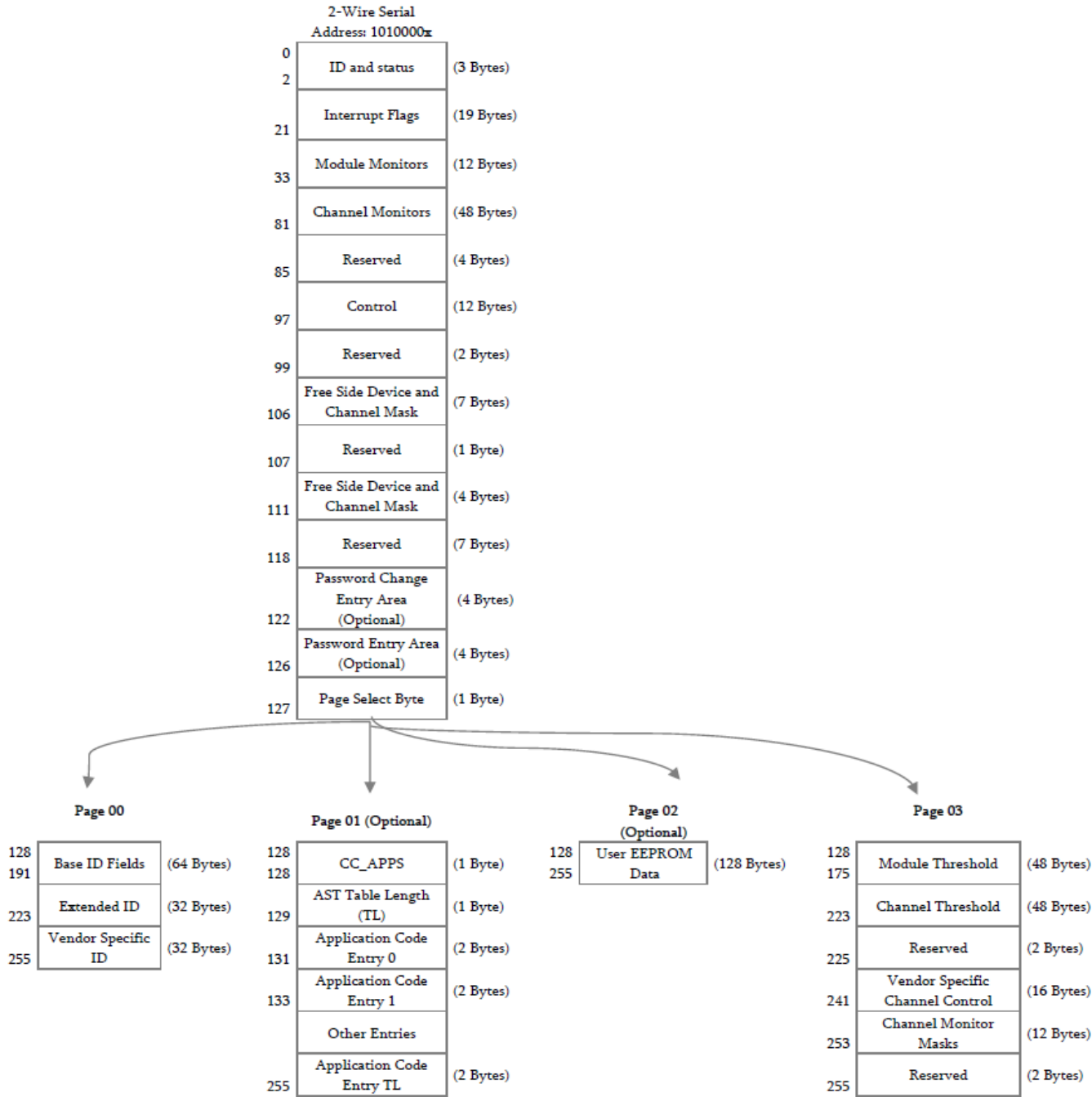
Electrical Pin-out Details



Mechanical Specifications



EEPROM  
QSFP+ MSA (SFF-8436)



## About ProLabs

Our experience comes as standard; for over 15 years ProLabs has delivered optical connectivity solutions that give our customers freedom and choice through our ability to provide seamless interoperability. At the heart of our company is the ability to provide state-of-the-art optical transport and connectivity solutions that are compatible with over 90 optical switching and transport platforms.

## Complete Portfolio of Network Solutions

ProLabs is focused on innovations in optical transport and connectivity. The combination of our knowledge of optics and networking equipment enables ProLabs to be your single source for optical transport and connectivity solutions from 100Mb to 400G while providing innovative solutions that increase network efficiency. We provide the optical connectivity expertise that is compatible with and enhances your switching and transport equipment.

## Trusted Partner

Customer service is our number one value. ProLabs has invested in people, labs and manufacturing capacity to ensure that you get immediate answers to your questions and compatible product when needed. With Engineering and Manufacturing offices in the U.K. and U.S. augmented by field offices throughout the U.S., U.K. and Asia, ProLabs is able to be our customers best advocate 24 hours a day.



## Contact Information

ProLabs US

Email: [sales@prolabs.com](mailto:sales@prolabs.com)

Telephone: 952-852-0252

ProLabs UK

Email: [salesupport@prolabs.com](mailto:salesupport@prolabs.com)

Telephone: +44 1285 719 600