

## **CAB-Q-S-1M-C**

40GBase QSFP+ to 4X 10G SFP+ Transceiver

### **Features**

- Hybrid cable conforms to the Small Form Factor SFF-8436 and SFF-8431
- Support for multi-gigabit data rates: 1 Gb/s – 10Gb/s (per channel)
- Maximum aggregate data rate: 40 Gb/s (4 x 10 Gb/s)
- Hybrid cable link length up to 5m (passive limiting)
- High-Density QSFP 38-PIN and 4x SFP 20-PIN connector
- Power Supply: +3.3V
- Lower power consumption: 0.02 W (typ.)
- Operating case temperature: 0 to 70°C

### **Applications**

- 10G/40 Gigabit Ethernet
- InfiniBand4x SDR, DDR, QDR
- Switches, Routers, and HBAs
- Data Centers
- Fiber Channel

### **Standards Compliance**

#### **QSFP+**

- SFF-8436
- InfiniBand
- QSFP+ MSA
- RoHS Compliant

#### **SFP+**

- SFF-8431
- SFP+ MSA
- RoHS Compliant

### **Product Description**

This is an Arista CAB-Q-S-1M-C compatible 40GBase-CU QSFP+ to 4xSFP+ direct attach cable that operates over passive copper with a maximum reach of 1.0m (3.3ft). It has been programmed, uniquely serialized, and data-traffic and application tested to ensure it is 100% compliant and functional. This direct attach cable is TAA (Trade Agreements Act) compliant and is built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

ProLab's QSFP+ transceivers are RoHS compliant and lead-free.

## Absolute Maximum Rating

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage Ambient Temperature		-40		85	°C
Operating Case Temperature	T <sub>c</sub>	0		70	°C
Power Supply Voltage	V <sub>CC3</sub>	3.14	3.3	3.47	V
Power Dissipation	PD			0.02	W

## Pin Descriptions

Pin	Logic	Symbol	Name/Descriptions	Ref.
1		GND	Module Ground	1
2	CML-I	Tx2-	Transmitter inverted data input	
3	CML-I	Tx2+	Transmitter non-inverted data input	
4		GND	Module Ground	1
5	CML-I	Tx4-	Transmitter inverted data input	
6	CML-I	Tx4+	Transmitter non-inverted data input	
7		GND	Module Ground	1
8	LVTTL-I	MODSEIL	Module Select	2
9	LVTTL-I	ResetL	Module Reset	2
10		VCCRx	+3.3v Receiver Power Supply	
11	LVC MOS-I	SCL	2-wire Serial interface clock	2
12	LVC MOS-I/O	SDA	2-wire Serial interface data	2
13		GND	Module Ground	1
14	CML-O	RX3+	Receiver non-inverted data output	
15	CML-O	RX3-	Receiver inverted data output	
16		GND	Module Ground	1
17	CML-O	RX1+	Receiver non-inverted data output	
18	CML-O	RX1-	Receiver inverted data output	
19		GND	Module Ground	1
20		GND	Module Ground	1
21	CML-O	RX2-	Receiver inverted data output	
22	CML-O	RX2+	Receiver non-inverted data output	
23		GND	Module Ground	1
24	CML-O	RX4-	Receiver inverted data output	
25	CML-O	RX4+	Receiver non-inverted data output	

26		GND	Module Ground	1
27	LVTTL-O	ModPrsL	Module Present, internal pulled down to GND	
28	LVTTL-O	IntL	Interrupt output, should be pulled up on host board	2
29		VCCTx	+3.3v Transmitter Power Supply	
30		VCC1	+3.3v Power Supply	
31	LVTTL-I	LPMode	Low Power Mode	2
32		GND	Module Ground	1
33	CML-I	Tx3+	Transmitter non-inverted data input	
34	CML-I	Tx3-	Transmitter inverted data input	
35		GND	Module Ground	1
36	CML-I	Tx1+	Transmitter non-inverted data input	
37	CML-I	Tx1-	Transmitter inverted data input	
38		GND	Module Ground	1

**Notes:**

1. GND is the symbol for signal and supply (power) common for the QSFP+ module. All are common with the QSFP+ module and all module voltages are references to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.
2. Vcc Rx, Vcc1 and Vcc Tx are the receiver and transmitter power supplies and shall be applied concurrently. Requirements defined for the host side of the Host Edge Card Connector are listed in Table 6. Recommended host board power supply filtering is shown in Figure 4. Vcc Rx Vcc1 and Vcc Tx may be internally connected within the QSFP+ Module in any combination. The connector pins are each rated for a maximum current of 500 mA.

**Mechanical Specifications**

