

# 40GE QSFP+ Passive Copper Cables

Extreme's 40GE QSFP+ Passive Copper cables are designed to have high performance, low power consumption, and long reach. 40GE QSFP+ Passive Copper Cables have extremely low power consumption of only 1W per cable which improves data center power consumption and thermal efficiency

## APPLICATIONS

### 40GE QSFP+ Passive Copper

Passive Copper cables are used in multiple applications in High End Servers, High Performance Computing Clusters and Storage.



## QSFP+ PASSIVE COPPER CABLES

40GE QSFP+ Passive Copper cables are available up to 5m using copper cable assembly.

## Products

### 40GE QSFP+ PASSIVE COPPER 0.5M

- 40 Gigabit Ethernet QSFP+ Passive Copper cable assembly, 0.5m

### 40GE QSFP+ PASSIVE COPPER 1M

- 40 Gigabit Ethernet QSFP+ Passive Copper cable assembly, 1m

### 40GE QSFP+ PASSIVE COPPER 3M

- 40 Gigabit Ethernet QSFP+ Passive Copper cable assembly, 3m

### 40GE QSFP+ PASSIVE COPPER 5M

- 40 Gigabit Ethernet QSFP+ Passive Copper cable assembly, 5m

## FEATURES:

- Full duplex 4 channel parallel passive copper cable
- Transmission data up to 10G Bits/s per channel
- SFF-8436 QSFP+ compliant
- Hot pluggable electrical interface
- Low power consumption
- Operating case temperature 0°C to +60°C
- 800mV power supply voltage
- RoHS 6 compliant

## Technical Specifications

QSFP+ AOC CABLES	.5M	1M	3M	5M
Connector Type	MSA compliant	MSA compliant	MSA compliant	MSA compliant
Power Consumption	<1W	<1W	<1W	<1W
Distance Range	0.5m	1m	3m	5m
Operating Temperature	0° C to 60°	0° C to 60°	0° C to 60°	0° C to 60°
Bit Error Rate	10 <sup>-12</sup>	10 <sup>-12</sup>	10 <sup>-12</sup>	10 <sup>-12</sup>

## Physical Specifications

### 10311:

- Dimensions (HxWxD): 9x12x0.63 in 7.09x1.83x1.26 cm)
- Weight: 0.26 lb (45.35 g) unpackaged, 0.22 lb (67.47 g) packaged
- Shipping box dimensions (HxWxD): 14x11.88x0.63 in (3.2x7.28x11.98 cm)

### 10312:

- Dimensions (HxWxD): 9x12x0.63 in 7.09x1.83x1.26 cm)
- Weight: 0.34 lb (45.35 g) unpackaged, 0.29 lb (67.47 g) packaged
- Shipping box dimensions (HxWxD): 14x11.88x0.63 in (3.2x7.28x11.98 cm)

### 10313:

- Dimensions (HxWxD): 9x12x0.63 in 7.09x1.83x1.26 cm)
- Weight: 0.54 lb (45.35 g) unpackaged, 0.48 lb (67.47 g) packaged
- Shipping box dimensions (HxWxD): 14x11.88x0.63 in (3.2x7.28x11.98 cm)

### 10313A:

- Dimensions (HxWxD): 9x12x0.63 in 7.09x1.83x1.26 cm)
- Weight: 0.54 lb (45.35 g) unpackaged, 0.48 lb (67.47 g) packaged
- Shipping box dimensions (HxWxD): 14x11.88x0.63 in (3.2x7.28x11.98 cm)

### 10323:

- Dimensions (HxWxD): 17x6x0.5 in 7.09x1.83x1.26 cm)
- Weight: .38 lb (45.35 g) unpackaged, 0.43 lb (67.47 g) packaged
- Shipping box dimensions (HxWxD): 7x18x13 in (3.2x7.28x11.98 cm)

## Technical Specifications

QSFP+ Passive Copper Cables are supported on the following platforms:

- BlackDiamond X8 series
- BlackDiamond 8800 series
- Summit 770 series
- Summit® X670 Series – VIM4-40GX module
- Summit® X650 Series – VIM3-40GX module
- Summit® X480 Series – XGM2-2xf module

## Environmental Conditions

### OPERATIONAL

- Operating Temperature: 0° C to 60° C (32° F to 158° F)
- Operating Humidity: 10% to 93% non-condensing
- Altitude: 0 – 4000 meters (13,000 ft)
- Operational Shock: 30 m/s<sup>2</sup> (3g), 11ms
- Operational Random Vibration: 5 – 500 Hz @ 1.5 Grms

### TRANSPORTATION & STORAGE

- Temperature: -25° C to 70° C (-32° F to 158° F)
- Relative Humidity: 5% to 85%
- Shock: 180 m/s<sup>2</sup> (18g), 6ms
- Random Vibration: 5 – 20 Hz @ 1.0 ASD w/-3dB/oct. from 20 – 200 Hz
- Drop: 42" (105cm)

## Environmental Standards

- EN 300 019-2-3 v2.1.2 (2003-04), Stationary Use, Class 3.1e
- EN 300 019-2-2 v2.1.2 (1999-09), Public Transportation, Class 2.3
- EN 300 019-2-1 v2.1.2 (2000-09), Storage, Class 1.2
- RoHS 6 compliant
- China RoHS compliant
- WEEE Compliant

## Safety Compliance

### NORTH AMERICAN SAFETY OF ITE

- UL60950-1:2006 2nd edition of later, Recognized Component
- cUL to CSA 22.2#60950-1:2006 2nd Ed or later, Recognized Component

### EUROPEAN SAFETY OF ITE

- EN60950-1:2006+A11+A1+A12
- 2006/95/EC Low Voltage Directive (LVD)

### LASER SAFETY

- EN60825-1:2007
- 21 CFR Subpart J, Class 1 Laser
- CDRH Letter of Approval

## EMI/EMC Compliance

### NORTH AMERICA EMC FOR ITE

- FCC CFR 47 Part 15 Class A (U.S.A.)
- ICES-003 Class A (Canada)

### EUROPEAN EMC STANDARDS

EN 55022:2010/AC:2011 Class A

- EN 55024:2010 Class A
- ETSI EN 300 386: v1.6.1 2012-09
  - (EMC Telecommunications)
  - 2004/108/EC EMC Directive

### INTERNATIONAL EMC CERTIFICATIONS

- CISPR 22:2008, Class A (International Emissions)
- CISPR 24:2010, Class A (International Immunity)
- IEC/EN 61000-4-2:2008 Electrostatic Discharge, 8kV Contact, 15kV Air, Criteria B
- IEC/EN 61000-4-3:2010 Radiated Immunity 10V/m, 30MHz to 2GHz, Criteria A
- IEC/EN 61000-4-4:2012 Transient Burst, 1kV, Criteria A
- IEC/EN 61000-4-5 2005, Surge, 1kV L-L, 2kV L-G, Level 4, Criteria B
- IEC/EN 61000-4-6:2008 Conducted Immunity, 0.15- 80MHz, 10V/m unmod. RMS, Criteria A
- IEC/EN 61000-4-11:2004 Power Dips & Interruptions, >30%, 25 periods, Criteria A

*Note: All QSFP+ AOC cables meet the above standards when installed on Extreme Networks equipment.*

## Ordering Information

PART NUMBER	NAME	DESCRIPTION
10311	0.5m QSFP+ Passive Copper Cable	40 Gigabit Ethernet QSFP+ passive copper cable assembly, 0.5m length
10312	1m QSFP+ Passive Copper Cable	40 Gigabit Ethernet QSFP+ passive copper cable assembly, 1m length
10313	3m QSFP+ Passive Copper Cable	40 Gigabit Ethernet QSFP+ passive copper cable assembly, 30 AWG 3m length
10313A	3m QSFP+ Passive Copper Cable	40 Gigabit Ethernet QSFP+ passive copper cable assembly, 26 AWG, 3m length
10323	5m QSFP+ Passive Copper Cable	40 Gigabit Ethernet QSFP+ passive copper cable assembly, 5m length



<http://www.extremenetworks.com/contact> / Phone +1-408-579-2800

©2014 Extreme Networks, Inc. All rights reserved. Extreme Networks and the Extreme Networks logo are trademarks or registered trademarks of Extreme Networks, Inc. in the United States and/or other countries. All other names are the property of their respective owners. For additional information on Extreme Networks Trademarks please see <http://www.extremenetworks.com/company/legal/trademarks/>. Specifications and product availability are subject to change without notice. 7823-0614