



## 721064-B21-SKY

HP® 721064-B21 Compatible 40GBase-CU QSFP+ to 4xSFP+ Direct Attach Cable (Passive Twinax, 3m)

### Product Description

This is an HP® 721064-B21 compatible 40GBase-CU QSFP+ to 4xSFP+ direct attach cable that operates over passive copper with a maximum reach of 3.0m (9.8ft). 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 built to comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

### Features:

- Hybrid cable conforms to the Small Form Factor SFF-8436 and SFF-8431
- Maximum aggregate data rate: 40 Gbps (4 x 10 Gbps)
- Support for multi-gigabit data rates: 1 Gbps - 10Gbps (per channel)
- 20-PIN connector
- Power Supply: +3.3V
- High-Density QSFP 38-PIN and 4x SFP
- Lower power consumption: 0.02W
- Operating temperature: 0 to 70 Celsius
- RoHS Compliant and Lead-Free



### Applications:

- 10/40Gigabit Ethernet
- Infiniband 4x SDR, DDR, QDR

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*For your product safety, please read the following information carefully before any manipulation of the transceiver:*



#### **ESD**

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 / JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.



#### **LASER SAFETY**

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

*The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.*

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## Absolute Maximum Ratings

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

## Pin Descriptions

| Pin | Logic      | Symbol  | Name/Description                                        | Notes |
|-----|------------|---------|---------------------------------------------------------|-------|
| 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    | ModSelL | Module Select.                                          | 2     |
| 9   | LVTTL-I    | ResetL  | Module Reset.                                           | 2     |
| 10  |            | VccRx   | +3.3V Receiver Power Supply.                            |       |
| 11  | LVCNOS-I   | SCL     | 2-Wire Serial Interface Clock.                          | 2     |
| 12  | LVCNOS-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. Internally pulled down to the GND.      |       |
| 28  | LVTTL-O    | IntL    | Interrupt output should be pulled up on the 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 within the QSFP+ module, and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal-common ground plane.
2. VccRx, Vcc1, and VccTx 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. Recommended host board power supply filtering is shown. VccRx, Vcc1, and VccTx may be internally connected within the QSFP+ module in any combination. The connector pins are each rated for a maximum current of 500mA.

**Mechanical Specifications**



# About Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.

