

### **ADD-SCISHPD-PDAC2M**

Cisco® SFP-H10GB-CU2M to HP® J9282D Compatible 10GBase-CU SFP+ to SFP+ Direct Attach Cable (Passive Twinax, 2m)

#### **Features:**

- SFF-8431 Compliant
- 100Ohm Differential Impedance
- Data Rate Operation: 10Mbps to 12Gbps
- Pull-to-Release Latch Design
- Enhanced EMI Skirt Design
- Retractable Pin Latch
- Operating Temperature: -20 to 85 Celsius
- AC-Coupled Inputs and Outputs
- RoHS Compliant and Lead-Free



#### **Applications:**

- 10GBase Ethernet

#### **Product Description**

This Cisco® SFP-H10GB-CU2M to HP® J9282D dual OEM compatible 10GBase-CU SFP+ to SFP+ passive direct attach cable has a maximum reach of 2.0m (6.6ft). It is 100% Cisco® and HP® compatible and has been programmed, uniquely serialized, and data-traffic and application tested to ensure that it is compliant and functional. This direct attach cable will initialize and perform identically to Cisco® and HP®'s individual cables and is built to meet or exceed Cisco® and HP®'s specifications, and comply with MSA (Multi-Source Agreement) standards. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

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

## Recommended Operating Conditions

| Parameter                          | Symbol     | Min.  | Typ. | Max.    | Unit |
|------------------------------------|------------|-------|------|---------|------|
| Operating Temperature              | Tc         | -20   |      | 85      | °C   |
| Storage Temperature                | Tstg       | -40   |      | 85      | °C   |
| Relative Humidity (Non-Condensing) | RH         | 35    |      | 60      | %    |
| Input Voltage                      | VccT, VccR | 3.135 | 3.3  | 3.465   | V    |
| Clock Frequency                    | fSCL       |       |      | 400     | kHz  |
| Maximum Power                      |            |       |      | 0.03    | W    |
| Maximum Average Current            | Icc        |       |      | 10      | mA   |
| Data Rate                          |            | 0.010 |      | 10.3125 | Gbps |

## WDP Specifications

| Cable Gauge | Cable Length | WDPO (dB) | WDPI (dB) | dWDP |
|-------------|--------------|-----------|-----------|------|
| 30 AWG      | 2m           | 6.16      | 2.4       | 3.76 |

## VMA and VCR Specifications

| Cable Gauge | Cable Length | VMA (dB) | VCR (dB) |
|-------------|--------------|----------|----------|
| 30 AWG      | 2m           | 3.03875  | 40.6572  |

## Frequency Domain

| Item | Test Parameter                 | Specification (Proposal)                                                                    |
|------|--------------------------------|---------------------------------------------------------------------------------------------|
| 1    | Receive Return Loss (SDD22)    | -12+2*SQRT(f) @ 0.01 to 4.1GHz<br><-6.3 + 13 * log10(f/5.5), with f in GHz; @4.1 to 11.1GHz |
| 2    | Transmit Return Loss (SDD11)   | -12+2*SQRT(f) @ 0.01 to 4.1GHz<br><-6.3 + 13 * log10(f/5.5), with f in GHz; @4.1 to 11.1GHz |
| 3    | Common-Mode Reflection (SCC22) | < -7 + 1.6 x f, with f in GHz ; @ 0.01 to 2.5GHz<br>-3dB @ 2.5 to 11.1GHz                   |
| 4    | Common-Mode Conversion (SCD11) | -10dB @ 0.01 to 11.1GHz                                                                     |

**Mechanical Specifications**

| Parameter                      | Symbol | Min.      | Typ.  | Max. | Unit     |
|--------------------------------|--------|-----------|-------|------|----------|
| Cable Diameter                 |        |           | 0.165 |      | Inches   |
| Bend Radius                    |        | 0.827     |       |      | Inches   |
| Within Pair Skew               |        |           |       | 120  | ps/10m   |
| Cable Insertion Loss           |        |           | 10    |      | dB/10m   |
| Bulk Cable Crosstalk           |        |           |       | 1    | %        |
| Bulk Cable Time Delay          |        |           |       | 4.3  | ns/m     |
| Cable Capacitance (Intra-Pair) |        |           |       | 43   | pF/m     |
| Bulk Cable Impedance           |        | 95        | 100   | 105  | $\Omega$ |
| Insertion Force                |        |           |       | 20   | N        |
| Withdrawal Force               |        |           |       | 12.5 | N        |
| Retention Force                |        | 90        |       |      | N        |
| Durability                     |        | 50 Cycles |       |      |          |

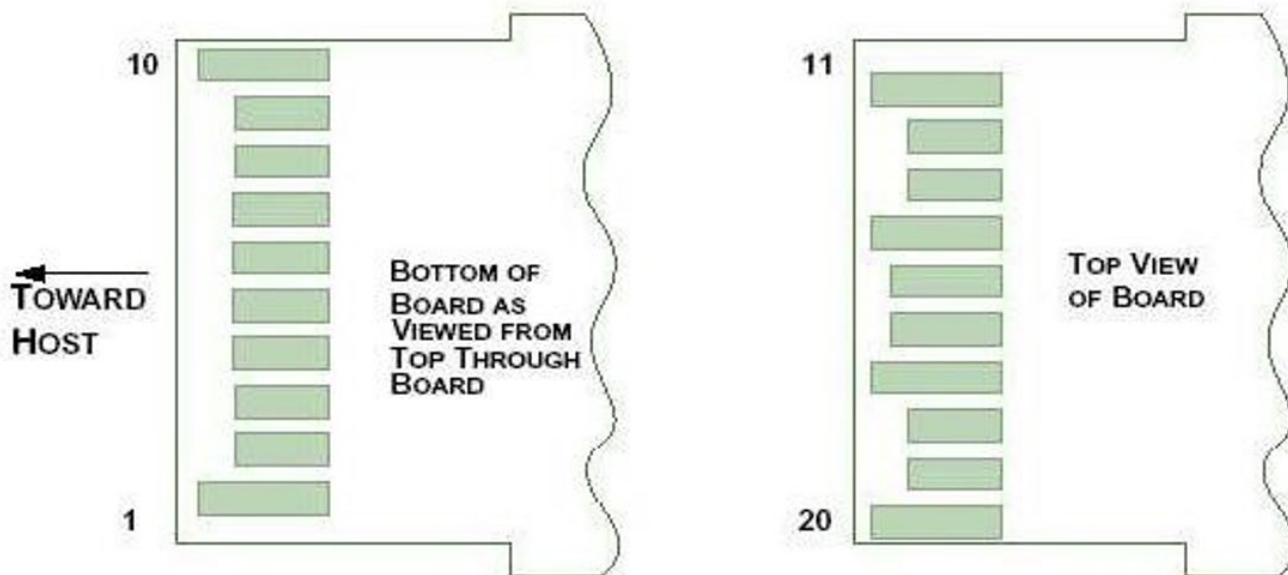
## Pin Descriptions

| Pin | Logic     | Symbol     | Name/Description                              | Notes |
|-----|-----------|------------|-----------------------------------------------|-------|
| 1   |           | VeeT       | Module Transmitter Ground.                    | 1     |
| 2   | LVTTL-O   | Tx_Fault   | Transmitter Fault.                            | 2     |
| 3   | LVTTL-I   | Tx_Disable | Transmitter Disable.                          | 3     |
| 4   | LVTTL-I/O | SDA        | MOD-DEF2. 2-Wire Serial Interface Data Line.  |       |
| 5   | LVTTL-I/O | SCL        | MOD-DEF1. 2-Wire Serial Interface Clock Line. |       |
| 6   |           | MOD_ABS    | Module Absent.                                | 4     |
| 7   | LVTTL-I   | RS0        | Rate Select Zero.                             |       |
| 8   | LVTTL-O   | Rx_LOS     | Module Receiver Loss of Signal.               | 2     |
| 9   | LVTTL-I   | RS1        | Rate Select One.                              |       |
| 10  |           | VeeR       | Module Receiver Ground.                       | 1     |
| 11  |           | VeeR       | Module Receiver Ground.                       | 1     |
| 12  | CML-O     | RD-        | Receiver Inverted Data Output.                |       |
| 13  | CML-O     | RD+        | Receiver Non-Inverted Data Output.            |       |
| 14  |           | VeeR       | Module Receiver Ground.                       | 1     |
| 15  |           | VccR       | Module Receiver 3.3V Supply.                  |       |
| 16  |           | VccT       | Module Transmitter 3.3V Supply.               |       |
| 17  |           | VeeT       | Module Transmitter Ground.                    | 1     |
| 18  | CML-I     | TD+        | Transmitter Non-Inverted Data Input.          |       |
| 19  | CML-I     | TD-        | Transmitter Inverted Data Input.              |       |
| 20  |           | VeeT       | Module Transmitter Ground.                    | 1     |

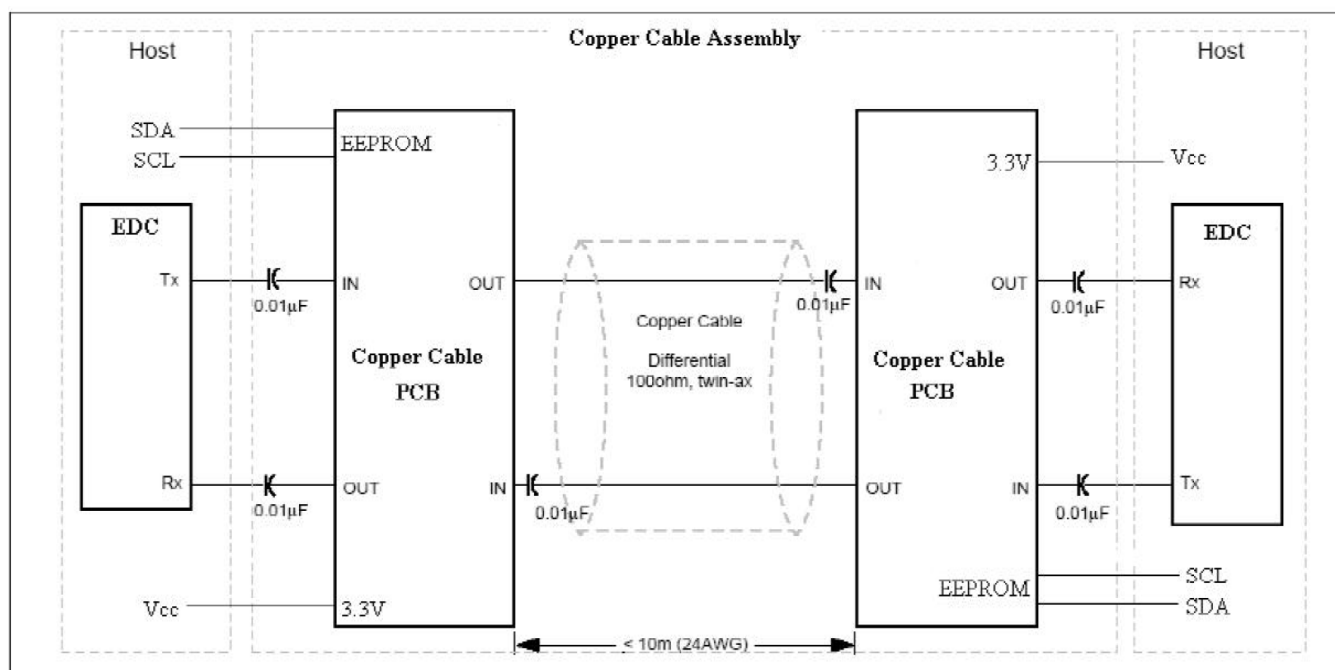
### Notes:

1. The module signal ground pins, VeeR and VeeT, shall be isolated from the module case.
2. This pin is an open collector/drain output pin and shall be pulled up with 4.7-10k to the Host\_Vcc on the host board. Pull-ups can be connected to multiple power supplies; however, the host board design shall ensure that no module pin has voltage exceeding module VccT/R + 0.5V.
3. This pin is an open collector/drain input pin and shall be pulled up with 4.7-10k to the VccT in the module.
4. This pin shall be pulled up with 4.7-10k to the Host\_Vcc on the host board.

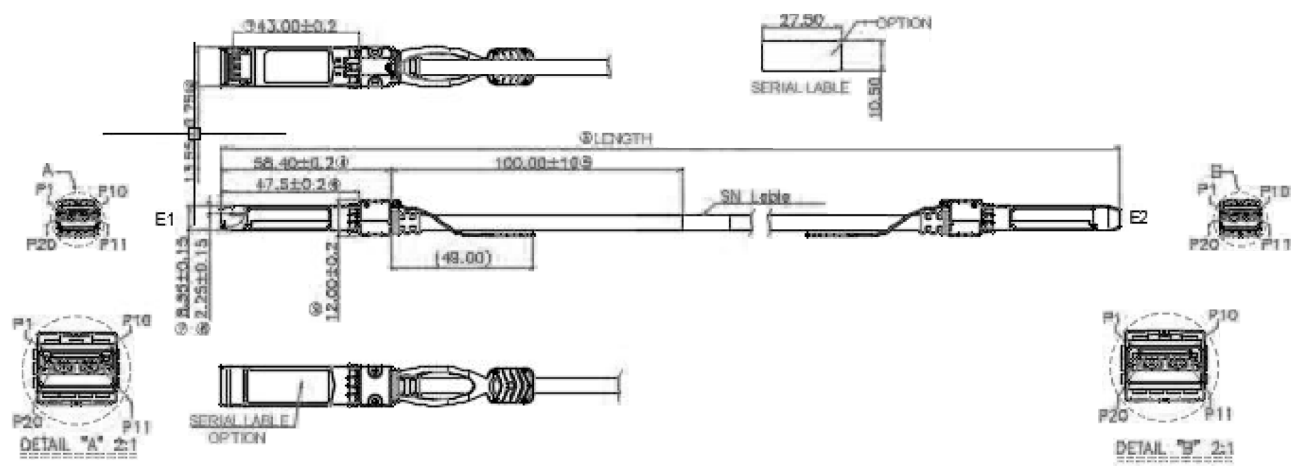
## Host Board Connector Pin-Out



## Copper Cable Assembly



Mechanical Specifications



## 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](mailto:sales@addonnetworks.com)

Telephone: +1 877.292.1701

Fax: 949.266.9273

## Europe Headquarters

Email: [salesemea@addonnetworks.com](mailto:salesemea@addonnetworks.com)

Telephone: +44 1285 842070