# DigiStar Ethernet over Coax (EoC) SFP – EPON ONU

The DigiStar Ethernet over Coax (EoC) system is designed to combine a CATV signal with Ethernet data for transmission to a subscriber's home through the existing coax access network.

The DigiStar EoC SFP – EPON ONU, or EPON Stick is used in the DigiStar EoC system to connect the DigiStar EoC Aggregation Point (AP) E220 to the EPON Optical Line Terminal (OLT). After being connected to an EPON OLT, the EPON ONU automatically establishes an EPON link with the OLT, and can then be managed and configured by the OLT.

With the introduction of EPON ONU, the DigiStar EoC AP E220 can support both EPON and Ethernet uplink with reduced inventory requirements. The E220 with pluggable DigiStar EoC SFP brings significant benefits to service providers, such as lowered inventory and sparing, easy installation and trouble-shooting, and overall improvement in system maintenance and service. The DigiStar EoC SFP is an MSA-compliant SFP that incorporates all optics, electronics, EPON ONU chip, MCU and software needed for an EPON ONU. It is an "Optical System on a Stick" that collapses the functions of Optical/Electronic conversion, EPON ONU, and relevant management functions onto an SFP transceiver.

**Figure 1.**    DigiStar Ethernet over Coax SFP – EPON ONU



**Features**

- Integrated EPON ONU on SFP
- SFP MSA and SFF-8472 compliance
- IEEE 802.3 ah compliance
- Single fiber bi-directional SC receptacle
- CTC OAM Compliance

## Product Specifications

See the table below for product specifications.

**Table 1.** Product Specifications

| Parameter | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| **Operating Environment** | | | | | |
| Power Supply Voltage | Vcc | +3.15 | | +3.45 | V |
| Operating Temperature | Top | -20 | | +70* | °C |
| Storage Temperature | Tst | -40 | | +85 | °C |
| Relative Humidity [no-condensing] | | 10 | | 90 | % |
| **Transmitter Specifications** | | | | | |
| Center Wavelength | $\lambda_C$ | 1270 | 1310 | 1360 | nm |
| Average Launch Power | $P_{OUT}$ | -1 | | 4 | dBm |
| Average launch power of OFF transmitter | $P_{OFF}$ | | | -45 | dBm |
| Extinction Ratio | ER | 9 | | | dB |
| Transmitter eye | | Compliant with IEEE 802.3 ah | | | |
| Burst turn on/off time | Ton/Toff | | | 32 | ns |
| **Receiver Specifications** | | | | | |
| Operate Wavelength | - | 1480 | | 1500 | nm |
| Receiver Sensitivity | $P_{SEN}$ | | | -25 | dBm |
| Receiver Overload | $P_{OVR}$ | -3 | | | dBm |

Note: * Set up upstream bandwidth less than 300 Mbps, when operating temperature range at 70~75 °C. Set up upstream bandwidth less than 100 Mbps when operating temperature range at 75~85 °C.

## Ordering Information

See the table below for ordering information.

**Table 2.** Ordering Information

| Description | Part Number |
|---|---|
| DigiStar EoC AP, ONU | 4036988 |