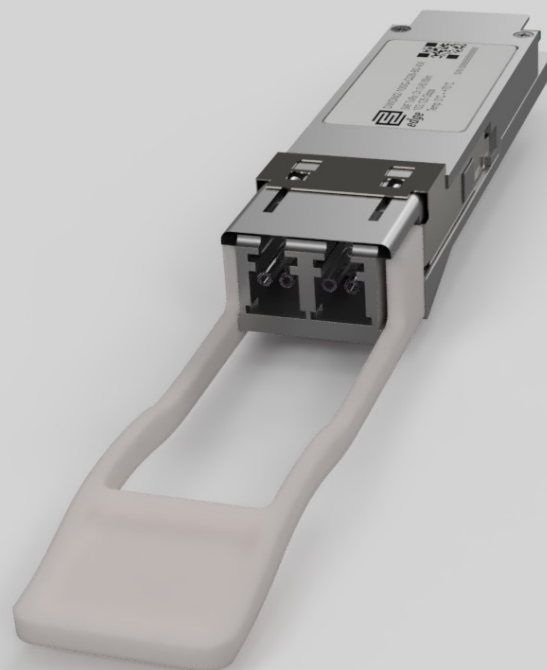# Product Data

Key Highlights:

- **Type**: 100G DWDM PAM4 QSFP28 Single Wavelength
- **Compatibility:** Multi-Vendor MSA Compatible
- **Tx/Rx Wavelength:** Tx1/Tx2 Ch.21-60, Rx1/ Rx2 Ch.21-60 ITU-T DWDM Grid 100 GHz C-Band
- **Laser:** Cooled EML Laser
- **Modulation:** PAM4
- **Fiber Type:** Single-Mode Fiber (SMF)
- **Connector:** Double CS
- **Optical Budget:** 11.5 dB
- **Dispersion tolerance:** -100 ps/nm to 100 ps/nm
- **Max. Distance:** 80km (with EDFA and DCM)
- **Data Rate:** 103.125 Gbps (51.5625 Gbps baud rate)
- **Forward Error Correction:** Supported
- **DDM/DOM:** Supported
- **Power Consumption:** ≤5 W
- **Temperature:** Standard 0°-70°C

Optical Transceiver : DWDM2-100G-Q28-80-XX

Product Description:

100G DWDM transceiver DWDM2-100G-Q28-80 is a Multi-Vendor MSA Compatible 100G DWDM QSFP28 Transceiver (Quad Small Form-Factor Pluggable 28) Transceiver designed for multiple channel 100G transmission over G.652 Single-Mode Fiber (SMF).

100G DWDM QSFP28 transceiver DWDM2-100G-Q28-80 has a minimum guaranteed optical budget of 11.5 dB, which in most cases is enough to reach 80 km distance with DCM (Dispersion Compensation Module) and EDFA (Erbium-Doped Fiber Amplifier). 100G DWDM QSFP28 transceivers support 39 DWDM channels (ITU-T 100GHz DWDM grid). Supported channels are starting from Channel 21 (1560.61 nm) up to Channel 60 (529.55 nm). The 100G DWDM QSFP28 module supports DDM/DOM optical diagnostics, which provide diagnostic information about the present operating conditions. The 100G DWDM optics transceiver operates in the standard 0°-70°C temperature range and has a duplex CS optical connector, which means that there are two single-mode fiber pairs connected to the transceiver, each transporting a 100Gbps signal. Thus the DWDM2-100G-Q28-80 transceiver is intended for 200G to 2x 100G breakout configurations using two 100G QSFP28 transceivers on the

edge OPTICAL SOLUTIONS

Product Data

100G Ethernet side. On the electrical side the transceiver supports 4×25.78 Gbps CAUI-4 host interface which is compatible with standard 100G Ethernet switches. 100G DWDM Transceiver has integrated QSFP28 PAM4 (Pulse Amplitude Modulation 4-level) DSP (Digital Signal Processor) chip and module uses a PAM4 gearbox to convert the 4×25.78 Gbps CAUI-4 electrical signals to a single lane PAM4 100G optical signal. Transceiver uses DFB (Distributed Feedback Laser), Silicon Photonics external modulator and receiver use wideband PIN-Photodiode and is DWDM channel independent. Module has an integrated FEC, while FEC on the host platform needs to be disabled.

100G DWDM transceivers DWDM2-100G-Q28-80 are certified and are compliant with product safety standards. Transceivers are fully compliant to QSFP28 Multi Source Agreement SFF-8636, QSFP28 MSA digital monitoring functions and are Laser Class 1 compliant according to International Safety Standard IEC-60825. Consequently, compliance to above standards guarantees that module is compatible and works with majority of networking equipment, where is not implemented special algorithm for protection against third party modules.

Product Specification:

| General parameter	Value
Media Type:	Single-Mode Fiber (SMF)
Connectors:	Duplex CS
TX Wavelength:	2x Ch. 21 (1560.61 nm) - Ch. 60 (1529.55 nm)
RX Wavelength:	2x Ch. 21 (1560.61 nm) - Ch. 60 (1529.55 nm)
Minimum Optical Budget:	11.5 dB
Maximum Distance:	80km
Supported Data Rate:	103.125 Gbps
Modulation:	PAM4 (Pulse Amplitude Modulation 4-level)
Supported Applications:	100G Ethernet (103.125Gbps)
Digital Diagnostic Monitoring (DDM):	Supported
Forward Error Correction (FEC):	Integrated in DSP
Operating Temperature Range:	Standard 0°- 70°C
Storage Temperature Range:	- 40° to 85°C
Relative Humidity (Non-Condensation):	0 to 85%
Power Consumption:	≤5W

Product Data

General parameter	Value
Power Supply Voltage Typical:	+ 3.3V
Power Supply Voltage Range:	-3.135 to 3.465V
Compliance:	100G Lambda MSA, CAUI-4, IEEE 802.3ba 100GBASE-LR4, RoHS-6, CE, QSFP28 MSA, SFF-8665

Transmitter Parameters:	Value
Transmitter Type:	Cooled EML TOSA
Tx Wavelength Bandwidth:	100GHz (0.8nm)
Average Launch Power, Each Lane (Min):	-4 dBm
Average Launch Power, Each Lane (Max):	4.2 dBm
Extinction Ratio (Min):	6 dB

Receiver Parameters:	Value
Receiver Type:	PIN Photodiode Array
Rx Wavelength Bandwidth:	100GHz (0.8nm)
Average Receive Power Each Lane (Min):	-12.5 dBm
Average Receive Power Each Lane (Max):	4 dBm
Receiver Overload:	4 dBm

Product Data

Mechanical Drawing

18.11

72.02

12.77

A

A (2:1)
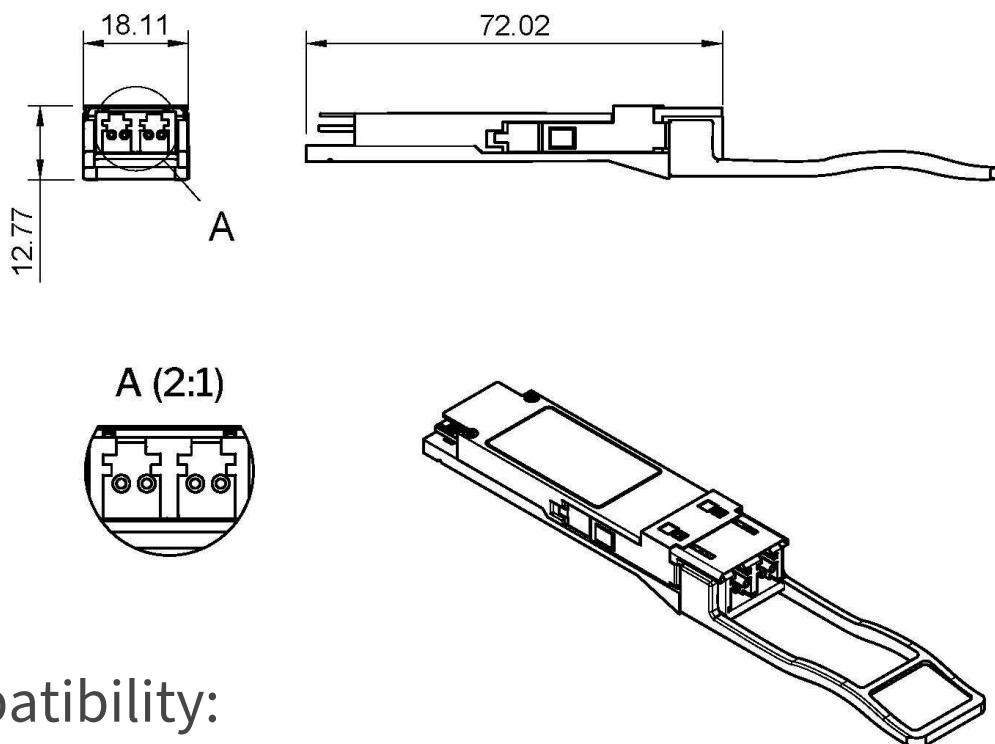
Compatibility:

EDGE Optical transceivers can be provided with custom-encoded firmware, in order to provide compatibility with more then 100 vendor brands in data and telecom communications industry:

MS - General MSA	**DZ** - DZS(Dasan-Zhone)	**KY** - KyLand	**SV** - Sandvine
AD - ADVA	**EI** - ECI	**LN** - Lenovo	**SC** - Silicom
AE - Advantech	**EC** - EdgeCore	**ML** - Mellanox	**SF** - SolarFlare
AL - Alcatel (Nokia)	**EW** - EdgeWare	**ME** - Meraki (Cisco)	**SW** - Sonicwall
AT - Allied Telesis	**EL** - Eltex	**MT** - MikroTik	**SM** - Supermicro
AR - Arista	**EM** - EMC2	**MO** - Moxa	**SY** - Synology
AS - Arris	**EN** - Enterasys	**MR** - MRV	**TC** - Telco Systems
AV - Avaya	**ER** - Ericsson	**NC** - NEC	**TP** - TP-LINK
BC - Barracuda	**EF** - EXFO	**NG** - Netgear	**TN** - Trendnet
BR - Broadcom	**EX** - Extreme Networks	**NK** - Nokia	**UN** - Ubiquiti Networks
QL - Cavium (Qlogic)	**F5** - F5 Networks	**NT** - Nortel	**VX** - VeEx
CR- Ceragon	**FI** - Finisar	**NS** - NSN	**WG** - WatchGuard
CP - Checkpoint	**FO** - Fortinet	**OR** - Oracle	**WS** - Waystream
CH - Chelsio	**FU** - Fujitsu	**PA** - Palo Alto Network	**WT** - Westermo
CN - Ciena	**H3** - H3C	**PL** - Planet	**ZT** - ZTE
CI - Cisco	**HI** - Hirschmann	**QC** - QCT(Quanta)	**ZX** - Zyxel
LI - Cisco (Linksys)	**HU** - Huawei	**QN** - QNAP	**HP** - HP
CE - Comnet	**IB** - IBM	**RD** - RAD	**AG** - Avago
CO - Coriant	**IF** - Infinera	**RW** - RadWare	**OC** - Oclaro
DH - Dahua	**IN** - Intel	**RC** - Raisecom	**EU** - Emulex
DC - DCN	**IX** - Ixia	**RK** - Ruckus	**TM** - Transmode
DL - Dell & Force10	**JU** - Juniper Networks	**RU** - Ruijie Networks	**AU** - HP Aruba
DK - D-Link	**KM** - KeyMile	**SG** - Samsung	**XX** - Other

Product Data

Ordering info:

Part Number	Data Rate	Applications	Temperature Range	Available DWDM Channels
DWDM2-100G-Q28-80-XX	100 Gbps	Up to 80 km with EDFA and DCM	0°- 70°C	21 to 60 1560.61 nm to 1529.55 nm

XX represents the chosen channel, thus Ch.21 would be DWDM2-100G-Q28-80-**21**.

Warranty:

EDGE Optic's provides a limited **warranty for sixty (60) months** from Purchaser's receipt of the Equipment represented in this data sheet against defective design or workmanship. Warranty does not cover damage caused by improper deployment, misuse and accidents.

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