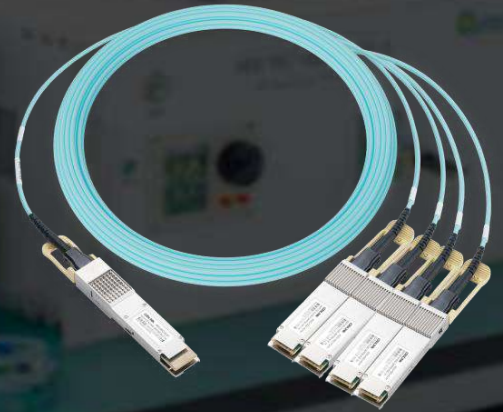


# Product Specification

425G QSFP-DD to 4x100G QSFP56  
Breakout Active Optical Cable

P/N:400G-QDD-4Q-A



## Features

- Supporting 400Gbps to 4x100Gbps
- Available length range 1m~50m
- Active Optical Cable
- Data rates per channel 53.125Gbps
- Operating data rate 425Gbps
- Single +3.3V power supply
- Max power dissipation 400G≤12W, 100G≤3.5W
- VCSEL Array Transmitter and PIN Array Receiver
- High-Density QSFP 76-PIN and 4xQSFP56 38-PIN Connector
- Commercial temperature range 0°C to 70°C

## Compliance

- Compliant with QSFP-DD MSA and QSFP56 MSA
- Compliant with Electrical Interface SFF-8679 and SFF-8636
- IEEE802.3bj, IEEE802.3cd
- RoHS

## Applications

- 400G/100G Ethernet
- High Performance Computing (HPC)
- Data Center & Networking Equipment
- Low cost network upgrade

Description

The 400G-QDD-4Q-A is a high-performance, flexible solution designed to meet the demands of modern data centers and high-speed networks. This cable enables a single 400G QSFP-DD port to be split into four independent 100G QSFP56 ports, providing a cost-effective and efficient way to maximize port utilization and optimize network architecture. It is ideal for high-density 100G applications, such as interconnecting top-of-rack switches, leaf-spine architectures, or high-performance computing clusters.

Built with advanced optical technology, this breakout AOC ensures reliable, low-latency data transmission over extended distances, outperforming traditional copper solutions. Its lightweight and flexible design simplifies cable management in high-density environments, while its plug-and-play functionality reduces deployment complexity. Compliant with industry standards, including IEEE 802.3bs and QSFP-DD MSA, the cable guarantees seamless interoperability with a wide range of networking equipment, ensuring future-proof compatibility.

The 400G-QDD-4Q-A is an energy-efficient and scalable solution, enabling organizations to transition smoothly to higher network speeds without significant infrastructure overhauls. By providing a high-bandwidth, flexible connectivity option, it supports the growing demands of data-intensive applications, such as cloud computing, AI, and big data analytics, while reducing overall deployment costs and improving network efficiency.

Product performance Specifications

1. Basic Product Characteristics

Parameter	Symbol	Min	Typ.	Max	Unit
Storage Temperature	T <sub>s</sub>	-40		85	°C
Operating Case Temperature	T <sub>c</sub>	0		70	°C
Relative Humidity	RH	5		85	%
Power Supply Voltage	V <sub>cc</sub>	3.135	3.3	3.465	V
Data Rate Per Line	DR	1		53.125	Gbp/s
Bit Error Rate	BER			2.4x10-4	

2. Product Optical and Electrical Characteristics

Parameter	Symbol	Min	Typ.	Max	Unit
Supply Voltage	V <sub>cc</sub>	3. 135	3.3	3.465	V
	V <sub>cc</sub> 3.3-Tx				
	V <sub>cc</sub> 3.3-Rx				
Power Consumption (QSFP-DD)	P <sub>c</sub>			12	W

Power Consumption (QSFP56)	Pc			3.5	W
Transceiver MgmtInitDuration Time				2000	ms
Transmitter					
Differential Peak-to-Peak Input Voltage Tolerance		900			mV
Differential Termination Mismatch				10%	V
Differential Input Return Loss(SDD11)			See CEI-56G-VSR		dB
Common-Mode to Differential Conversion and Differential to Common-Mode Conversion(SCD11,SDC11)			See CEI-56G-VSR		dB
Receiver					
Differential Peak-to-Peak Output Voltage				900	mV
DC Common Mode Voltage	Vcm	-350		2850	mV
Common Mode Noise, RMS	Vcm			17.5	mV
Differential Termination Mismatch				10	%
Differential Output Return Loss(SDD22)			See CEI-56G-VSR		dB
Common-Mode to Differential Conversion and Differential to Common-Mode Conversion(SCD22,SDC22)			See CEI-56G-VSR		dB
IIC communication					
IIC Clock Frequency ( QSFP-DD )	-	/	400	1000	kHz
IIC Clock Frequency ( QSFP56)			100		
Clock Stretching	-	/	/	500	us

Recommended Host Board Power Supply Circuit

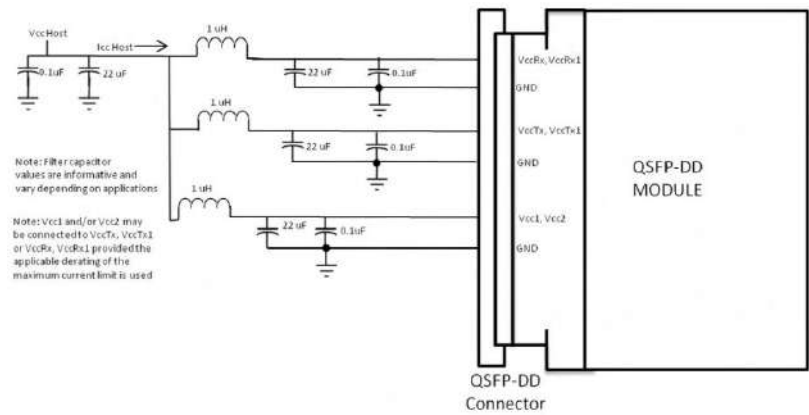


Figure 1: Recommended Host Board Power Supply Circuit

Recommended Interface Circuit

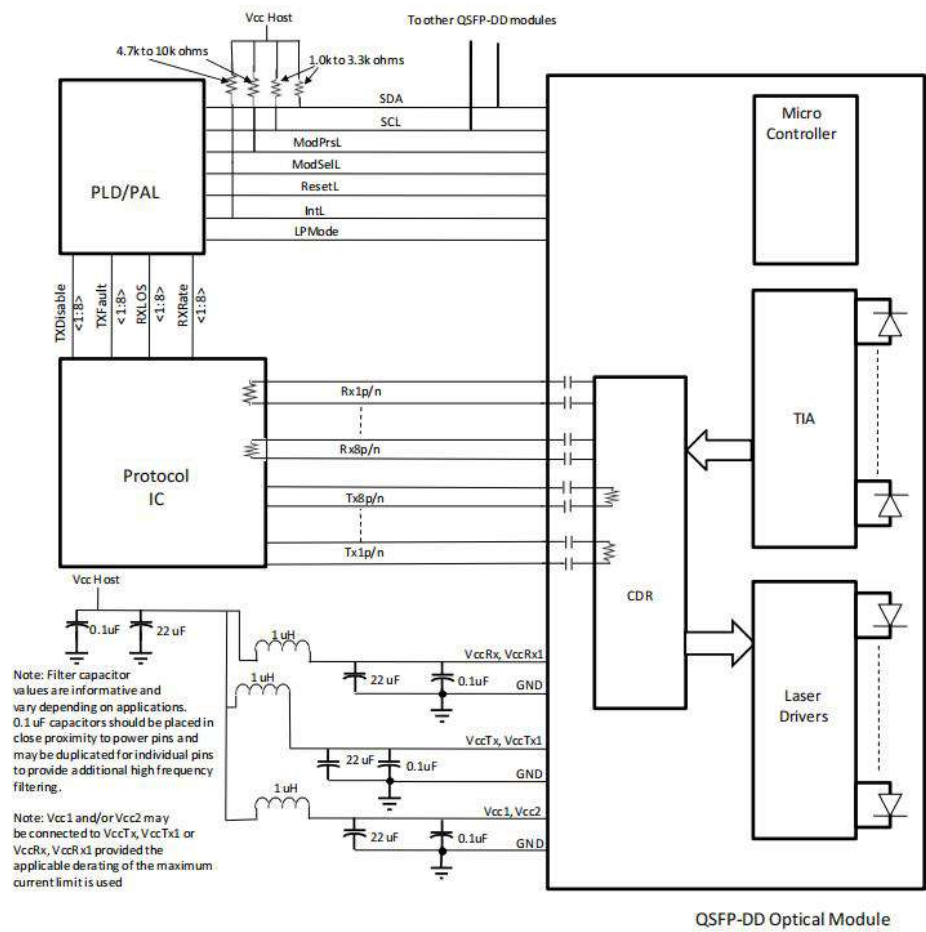


Figure 2: Recommended Interface Circuit

## QSFP-DD Pin-out Definition

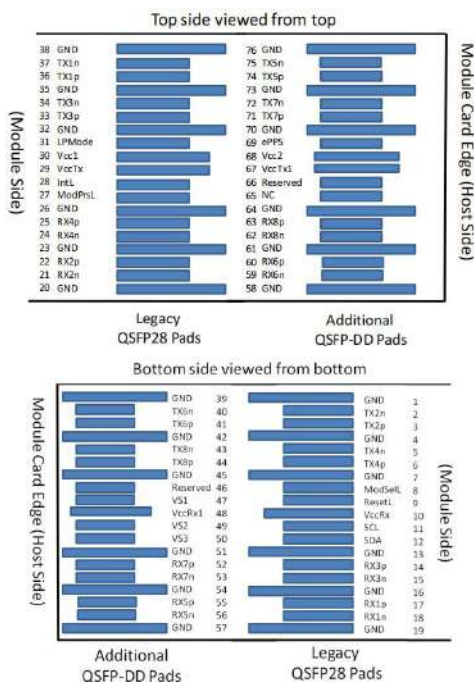


Figure3:QSFP-DD Pin view

## QSFP-DD Pin Function Definitions

Pin	Logic	Symbol	Description	Note
1		GND	Ground	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input	
4		GND	Ground	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input	
7		GND	Ground	1
8	LVTTL-I	ModSelL	Module Select	
9	LVTTL-I	ResetL	Module Reset	
10		Vcc Rx	+3.3V Power Supply Receiver	2
11	LVC MOS-I/O	SCL	2-wire serial interface clock	
12	LVC MOS-I/O	SDA	2-wire serial interface data	
13		GND	Ground	1
14	CML-O	Rx3p	Receiver Non-Inverted Data Output	
15	CML-O	Rx3n	Receiver Inverted Data Output	
16		GND	Ground	1
17	CML-O	Rx1p	Receiver Non-Inverted Data Output	
18	CML-O	Rx1n	Receiver Inverted Data Output	

19		GND	Ground	1
20		GND	Ground	1
21	CML-O	Rx2n	Receiver Inverted Data Output	
22	CML-O	Rx2p	Receiver Non-Inverted Data Output	
23		GND	Ground	1
24	CML-O	Rx4n	Receiver Inverted Data Output	
25	CML-O	Rx4p	Receiver Non-Inverted Data Output	
26		GND	Ground	1
27	LVTTTL-O	ModPrsL	Module Present	
28	LVTTTL-O	IntL/RxLOSL	Interrupt. Optionally configurable as RxLOSL via the management interface (SFF-8636)	
29		VccTx	+3.3V Power supply transmitter	2
30		Vcc1	+3.3V Power supply	2
31	LVTTTL-I	InitMode	Initialization mode; In legacy QSFP applications, the InitMode pad is called LPMODE	
32		GND	Ground	1
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input	
34	CML-I	Tx3n	Transmitter Inverted Data Input	
35		GND	Ground	1
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input	
37	CML-I	Tx1n	Transmitter Inverted Data Input	
38		GND	Ground	1
39		GND	Ground	1
40	CML-I	Tx6n	Transmitter Inverted Data Input	
41	CML-I	Tx6p	Transmitter Non-Inverted Data Input	
42		GND	Ground	1
43	CML-I	Tx8n	Transmitter Inverted Data Input	
44	CML-I	Tx8p	Transmitter Non-Inverted Data Input	
45		GND	Ground	1
46		Reserved	For future use	3
47		VS1	Module Vendor Specific 1	3
48		VccRx1	3.3V Power Supply	2
49		VS2	Module Vendor Specific 2	3
50		VS3	Module Vendor Specific 3	3
51		GND	Ground	1
52	CML-O	Rx7p	Receiver Non-Inverted Data Output	
53	CML-O	Rx7n	Receiver Inverted Data Output	
54		GND	Ground	1
55	CML-O	Rx5p	Receiver Non-Inverted Data Output	
56	CML-O	Rx5n	Receiver Inverted Data Output	
57		GND	Ground	1
58		GND	Ground	1
59	CML-O	Rx6n	Receiver Inverted Data Output	

60	CML-O	Rx6p	Receiver Non-Inverted Data Output	
61		GND	Ground	1
62	CML-O	Rx8n	Receiver Inverted Data Output	
63	CML-O	Rx8p	Receiver Non-Inverted Data Output	
64		GND	Ground	1
65		NC	No Connect	3
66		Reserved	For future Use	3
67		VccTx1	3.3V Power Supply	2
68		Vcc2	3.3V Power Supply	2
69		Reserved	For future Use	3
70		GND	Ground	1
71	CML-I	Tx7p	Transmitter Non-Inverted Data Input	
72	CML-I	Tx7n	Transmitter Inverted Data Input	
73		GND	Ground	1
74	CML-I	Tx5p	Transmitter Non-Inverted Data Input	
75	CML-I	Tx5n	Transmitter Inverted Data Input	
76		GND	Ground	1

**Note1:** QSFP-DD uses common ground (GND)for all signals and supply (power). All are common within the QSFP-DD module and all module voltages are referenced to this potential unless otherwise noted. Connect these directly to the host board signal common ground plane.

**Note2:** VccRx, VccRx1, Vcc1, Vcc2, VccTx and VccTx1 shall be applied concurrently. Requirements defined for the host side of the Host Card Edge Connector are listed in Table 6. VccRx, VccRx1, Vcc1, Vcc2, VccTx and VccTx1 may be internally connected within the module in any combination. The connector Vcc pins are each rated for a maximum current of 1000 mA.

**Note3:** All Vendor Specific, Reserved and No Connect pins may be terminated with 50 ohms to ground on the host. Pad 65 (No Connect) shall be left unconnected within the module. Vendor specific and Reserved pads shall have an impedance to GND that is greater than 10 Kohms and less than 100 pF.

## QSFP Pin-out Definition

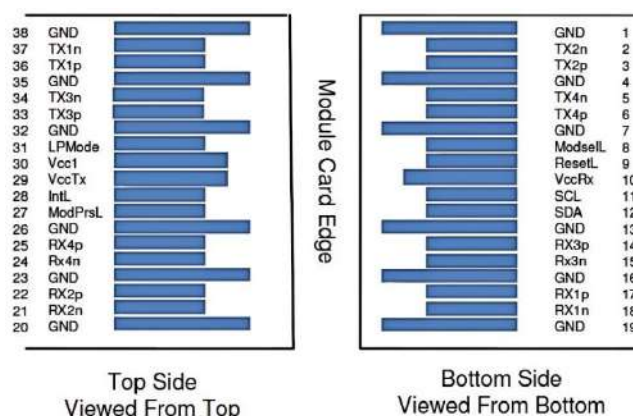


Figure4:QSFP Pin view

## QSFP Pin Function Definitions

Pin	Logic	Symbol	Description	Note
1		GND	Ground	1
2	CML-I	Tx2n	Transmitter Inverted Data Input	3
3	CML-I	Tx2p	Transmitter Non-Inverted Data Input	3
4		GND	Ground	1
5	CML-I	Tx4n	Transmitter Inverted Data Input	3
6	CML-I	Tx4p	Transmitter Non-Inverted Data Input	3
7		GND	Ground	1
8	LVTTL-I	ModSelL	Module Select	4
9	LVTTL-I	ReSelL	Module Select	4
10		Vcc Rx	+3.3V Power Supply Receiver	2
11	LVC MOS-I/O	SCL	2-wire serial interface clock	4
12	LVC MOS-I/O	SDA	2-wire serial interface data	4
13		GND	Ground	1
14	CML-O	Rx3p	Receiver Non-Inverted Data Output	3
15	CML-O	Rx3n	Receiver Inverted Data Output	3
16		GND	Ground	1
17	CML-O	Rx1p	Receiver Non-Inverted Data Output	3
18	CML-O	Rx1n	Receiver Inverted Data Output	3
19		GND	Ground	1
20		GND	Ground	1
21	CML-O	Rx2n	Receiver Inverted Data Output	3
22	CML-O	Rx2p	Receiver Non-Inverted Data Output	3
23		GND	Ground	1
24	CML-O	Rx4n	Receiver Inverted Data Output	3
25	CML-O	Rx4p	Receiver Non-Inverted Data Output Ground	3
26		GND	Ground	1
27	LVTTL-O	ModPrsL	Module Present	4
28	LVTTL-O	IntL	Interrupt	4
29		Vcc Tx	+3.3V Power supply transmitter	2
30		Vcc1	+3.3V Power supply	2
31	LVTTL-I	LPMODE	Low Power Mode	4
32		GND	Ground	1
33	CML-I	Tx3p	Transmitter Non-Inverted Data Input	3
34	CML-I	Tx3n	Transmitter Inverted Data Input	3
35		GND	Ground	1
36	CML-I	Tx1p	Transmitter Non-Inverted Data Input	3
37	CML-I	Tx1n	Transmitter Inverted Data Input	3
38		GND	Ground	1



**Note1:** 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.

**Note2:** Vcc Rx, Vcc1 and Vcc Tx 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 in Table. Recommended host board power supply filtering is shown in Host board power supply circuit. Vcc Rx Vcc1 and Vcc Tx may be internally connected within the QSFP module in any combination. The connector pins are each rated for a maximum current of 500 mA.

**Note3:** High-speed signal interfaces require differential pairs (e.g. TX1+/TX1-) with tightly matched impedances (typically 100Ω).

**Note4:** The management and control signals are based on LVTTTL level logic and are used for functions such as module selection and reset.

QSFP-DD Monitoring Specification

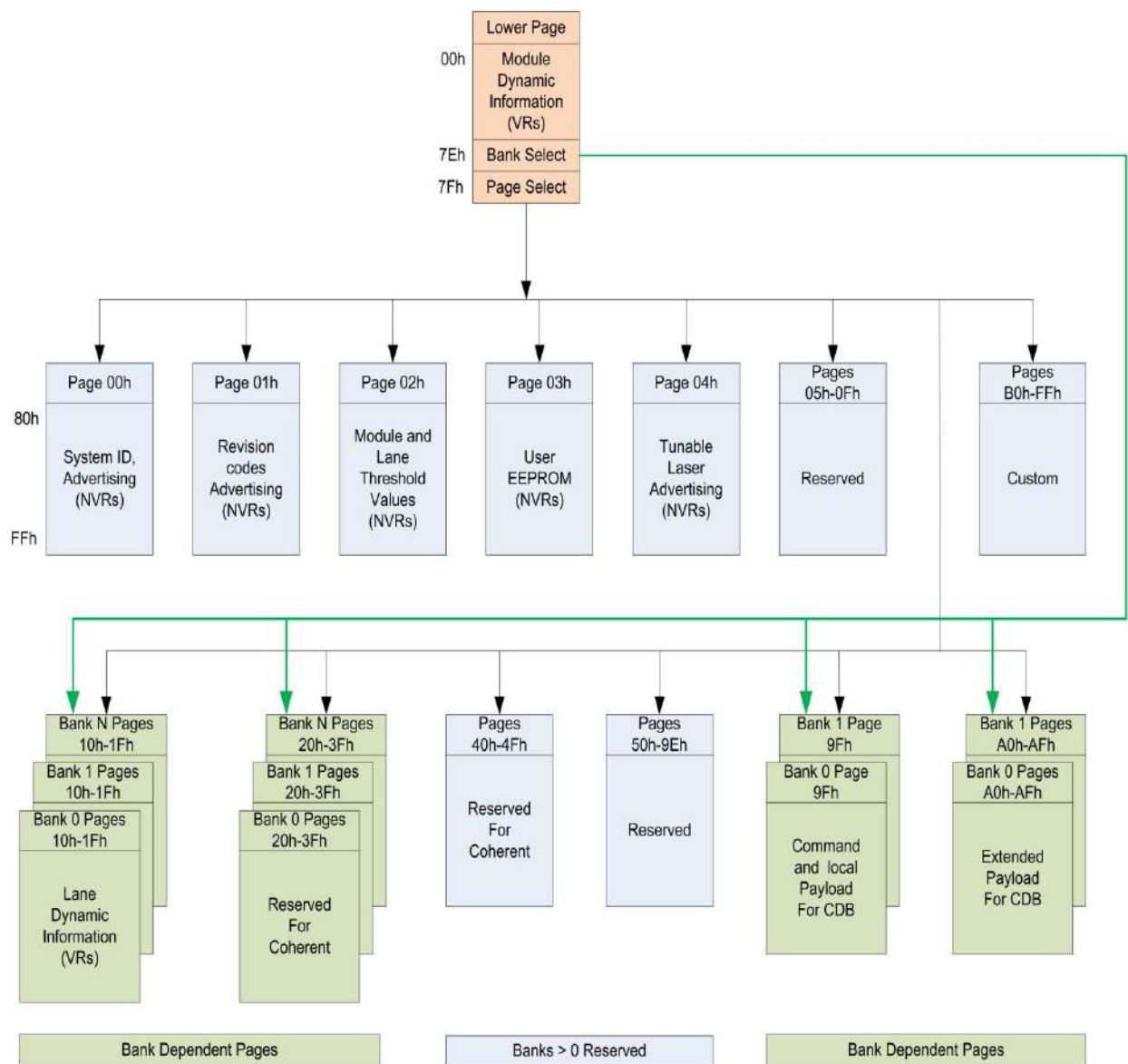


Figure5:QSFP-DD Memory map

## QSFP-DD Memory map Table

Byte	Unit	Name	Description
<b>Lower Page 00h</b>			
0	1	Identifier	Identifier - Type of Serial Module - See SFF-8024.
1	1	Revision Compliance	Identifier – CMIS revision; the upper nibble is the whole number part and the lower nibble is the decimal part. Example: 01h indicates version 0.1, 21h indicates version 2.1.
2-3	2	ID and Status Area	Flat mem indication, CLEI present indicator, Maximum TWI speed, Current state of Module, Current state of the Interrupt signal.
4-7	4	Lane Flag Summary	Flag summary of all lane flags on pages 10h-1Fh.
8-13	6	Module-Level Flags	All flags that are not lane or data path specific.
14-25	12	Module-Level Monitors	Monitors that are not lane or data path specific.
26-30	5	Module Global Controls	Controls applicable to the module as a whole
31-36	6	Module-Level Flag Masks	Masking bits for the Module-Level flags
37-38	2	CDB Status Area	Status of most recent CDB command
39-40	2	Module Firmware Version	Module Firmware Version.
41-63	23	Reserved Area	Reserved for future standardization
64-82	19	Custom Area	Vendor or module type specific use
83-84	2	Inactive Firmware Version	Version Number of Inactive Firmware. Values of 00h indicates module supports only a single image.
85-117	33	Application Advertising	Combinations of host and media interfaces that are supported by module data path(s)
118-125	8	Password Entry and Change	Password Entry and Change
126	1	Bank Select Byte	Bank address of currently visible Page
127	1	Page Select Byte	Page address of currently visible Page
<b>Upper Page 00h</b>			
128	1	Identifier	Identifier - Type of Serial Module - See SFF-8024.
129-144	16	Vendor name	Vendor name (ASCII)
145-147	2	Vendor OUI	Vendor IEEE company ID
148-163	16	Vendor PN	Part number provided by vendor (ASCII)
164-165	8	Vendor rev	Revision level for part number provided by vendor (ASCII)
166-181	10	Vendor SN	Vendor Serial Number (ASCII)
182-183	2	Date code year	ASCII code, two low order digits of year (00=2000)
184-185	2	Date code month	ASCII code digits of month (01=Jan through 12=Dec)
186-187	2	Date code day of month	ASCII code day of month (01-31)
188-189	2	Lot code	ASCII code, custom lot code, may be blank
190-199	10	CLEI code	Common Language Equipment Identification code
200-201	2	Module power characteristics	Module power characteristics

202	1	Cable assembly length	Cable assembly length
203	1	Media Connector Type	Media Connector Type
204	1	5 GHz attenuation	Passive copper cable attenuation at 5 GHz in 1 dB increments
205	1	7 GHz attenuation	Passive copper cable attenuation at 7 GHz in 1 dB increments
206	1	12.9 GHz attenuation	Passive copper cable attenuation at 12.9 GHz in 1 dB increments
207	1	25.8 GHz attenuation	Passive copper cable attenuation at 25.8 GHz in 1 dB increments
208-209	2	Reserved	Reserved
210-211	2	Cable Assembly Lane Information	Cable Assembly Lane Information
212	1	Media Interface Technology	Media Interface Technology
213-220	8	Reserved	Reserved
221	1	Custom	Custom
222	1	Checksum	Includes bytes 128-221
223-255	33	Custom Info NV	Custom Info NV

## QSFP Monitoring Specification

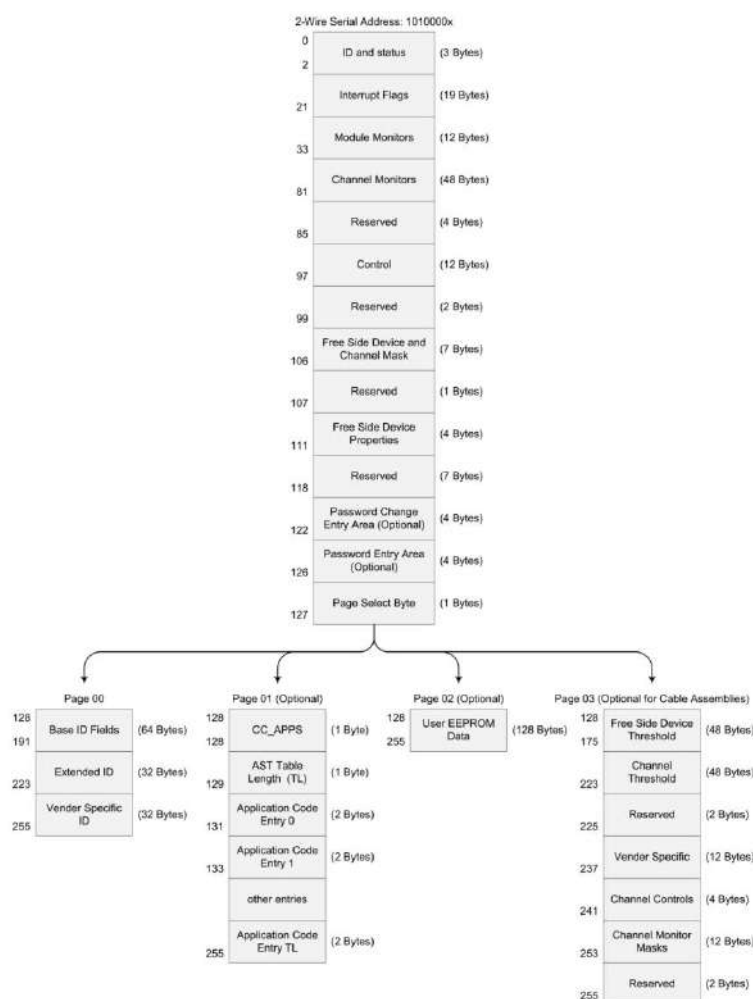


Figure6:QSFP Memory map

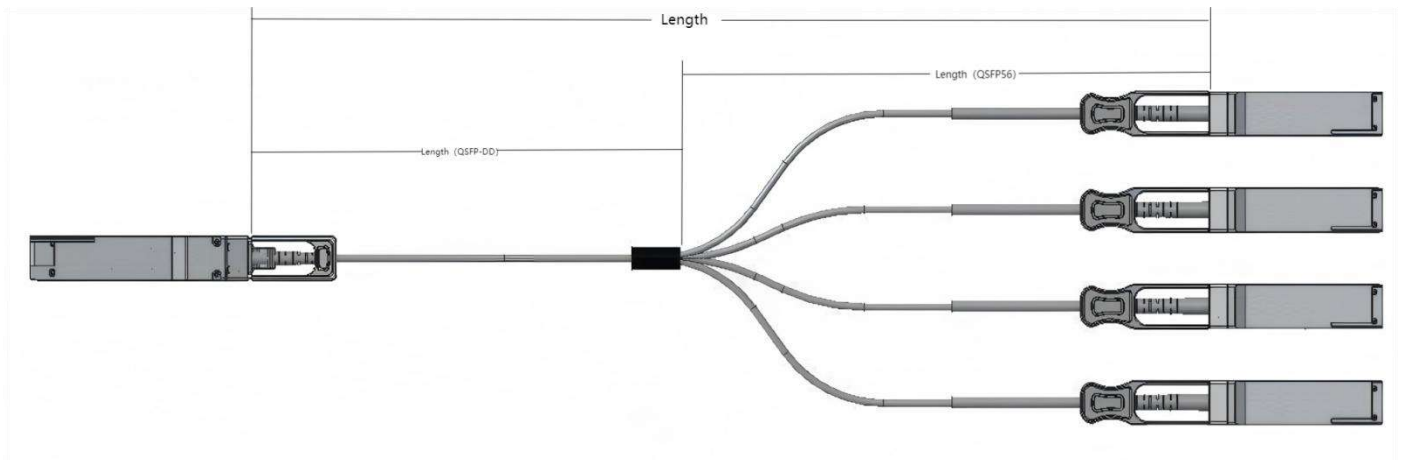
## QSFP Memory map Table

Byte	Unit	Name	Description
Lower Page 00h			
0	1	Identifier	Type of transceiver, Page 00h Byte 0 and Page 00h Byte 128 shall contain the same parameter values.
1	1	Status	Revision Compliance
2	1	Status	Status indicators
3-21	19	Interrupt Flags	Consist of interrupt flags for LOS, Tx Fault, warnings and alarms. The non-asserted state shall be 0b.
22	1	Temperature MSB	Internally measured temperature (MSB)
23	1	Temperature LSB	Internally measured temperature (LSB)
24-25	2	Reserved	Reserved
26	1	Supply Voltage MSB	Internally measured supply voltage (MSB)
27	1	Supply Voltage LSB	Internally measured supply voltage (LSB)
28-29	2	Reserved	Reserved
30-33	4	Vendor Specific	Vendor Specific
34	1	Rx1 Power MSB	Internally measured Rx1 input power
35	1	Rx1 Power LSB	
36	1	Rx2 Power MSB	Internally measured Rx2 input power
37	1	Rx2 Power LSB	
38	1	Rx3 Power MSB	Internally measured Rx3 input power
39	1	Rx3 Power LSB	
40	1	Rx4 Power MSB	Internally measured Rx4 input power
41	1	Rx4 Power LSB	
42	1	Tx1 Bias MSB	Internally measured Tx1 bias
43	1	Tx1 Bias LSB	
44	1	Tx2 Bias MSB	Internally measured Tx2 bias
45	1	Tx2 Bias LSB	
46	1	Tx3 Bias MSB	Internally measured Tx3 bias
47	1	Tx3 Bias LSB	
48	1	Tx4 Bias MSB	Internally measured Tx4 bias
49	1	Tx4 Bias LSB	
50	1	Tx1 Power MSB	Internally measured Tx1 Power
51	1	Tx1 Power LSB	
52	1	Tx2 Power MSB	Internally measured Tx2 Power
53	1	Tx2 Power LSB	
54	1	Tx3 Power MSB	Internally measured Tx3 Power
55	1	Tx3 Power LSB	
56	1	Tx4 Power MSB	Internally measured Tx4 Power
57	1	Tx4 Power LSB	

58-65	8	Reserved	Reserved channel monitor set 4
66-73	8	Reserved	Reserved channel monitor set 5
74-81	8	Vendor Specific	Vendor Specific
82-85	4	Reserved	Reserved
86-99	14	Control	Control
100-106	7	Free Side Device and Channel Masks	Free Side Device and Channel Masks
107-110	4	Free Side Device Properties	Free Side Device Properties
111-112	2	Assigned for use by PCI Express	Used for:
			- The PCI Express External Cable Specification
			- The PCI Express OCuLink Specification
113-117	4	Free Side Device Properties	Free Side Device Properties
118	1	Reserved	Reserved
119-122	4	Password Change Entry Area	Password Change Entry Area
123-126	4	Password Entry Area	Password Entry Area
127	1	Page Select Byte	Page Select Byte
Upper Page 00h			
128	1	Identifier	Identifier Type of free side device.(See SFF-8024 Transceiver Management)
129	1	Ext. Identifier	Extended Identifier of free side device. Includes power classes, CLEI codes, CDR capability.
130	1	Connector Type	Code for media connector type. (See SFF-8024 Transceiver Management)
131-138	8	Specification Compliance	Code for electronic or optical compatibility.
139	1	Encoding	Code for serial encoding algorithm. (See SFF-8024 Transceiver Management)
140	1	Signaling rate, nominal	Nominal signaling rate, units of 100 MBd. For rate > 25.4 GBd, set this to FFh and use Byte 222.
141	1	Extended Rate Select Compliance	Tags for extended rate select compliance.
142	1	Length (SMF)	Link length supported at the signaling rate in byte 140 or page 00h byte 222, for SMF fiber in km *. A value of 1 shall be used for reaches from 0 to 1 km.
143	1	Length (OM3 50 um)	Link length supported at the signaling rate in byte 140 or page 00h byte 222, for EBW 50/125 um fiber (OM3), units of 2 m *
144	1	Length (OM2 50 um)	Link length supported at the signaling rate in byte 140 or page 00h byte 222, for 50/125 um fiber (OM2), units of 1 m *
145	1	Length (OM1 62.5 um) or Copper	Link length supported at the signaling rate in byte 140 or page 00h byte 222, for 62.5/125 um fiber (OM1), units of 1 m *, or copper cable attenuation in dB at 25.78 GHz.
		Cable Attenuation	
146	1	Length (passive copper or active cable or OM4 50 um)	Length of passive or active cable assembly (units of 1 m) or link length supported at the signaling rate in byte 140 or page 00h byte 222, for OM4 50/125 um fiber (units of 2 m) as indicated by Byte 147. See 6.3.12.

147	1	Device technology	Device technology
148-163	16	Vendor name	Free side device vendor name (ASCII)
164	1	Extended Module	Extended Module codes for InfiniBand.
165-167	3	Vendor OUI	Free side device vendor IEEE company ID.
168-183	16	Vendor PN	Part number provided by free side device vendor(ASCII)
184-185	2	Vendor rev	Revision level for part number provided by the vendor(ASCII)
186-187	2	Wavelength or Copper Cable Attenuation	Nominal laser wavelength (wavelength=value/20 in nm) or copper cable attenuation in dB at 2.5 GHz (Byte 186) and 5.0 GHz (Byte 187)
188-189	2	Wavelength tolerance or Copper Cable Attenuation	The range of laser wavelength (+/- value) from nominal wavelength. (wavelength Tol. =value/200 in nm) or copper cable attenuation in dB at 7.0 GHz (Byte 188) and 12.9 GHz (Byte 189)
190	1	Max case temp	Maximum case temperature
191	1	CC_BASE	Check code for base ID fields (Bytes 128-190)
192	1	Link codes	Extended Specification Compliance Codes (See SFF-8024)
193-195	3	Options	Optional features implemented.
196-211	16	Vendor SN	Serial number provided by vendor.(ASCII)
212-219	8	Date Code	Vendor's manufacturing date code.
220	1	Diagnostic Monitoring Type	Indicates which type of diagnostic monitoring is implemented (if any) in the free side device. Bit 1,0 Reserved.
221	1	Enhanced Options	Indicates which optional enhanced features are implemented in the free side device.
222	1	CC_EXT	Check code for the Extended ID Fields (Bytes 192-222)
224-255	32	Vendor Specific	Vendor Specific EEPROM

## Mechanical Dimension



### Note:

- Diameter: 3mm
- Minimum bend radius: 30mm
- Cable color: Orange(OM2), Aqua(OM3), Magenta(OM4)
- When  $L \leq 1\text{m}$ , the tolerance is +5cm
- When  $1\text{m} \leq L \leq 4.5\text{m}$ , the tolerance is +15cm
- When  $5\text{m} \leq L \leq 14.5\text{m}$ , the tolerance is +30cm
- When  $L \geq 15\text{m}$ , the tolerance is +2% $\text{m}$

### Waring:

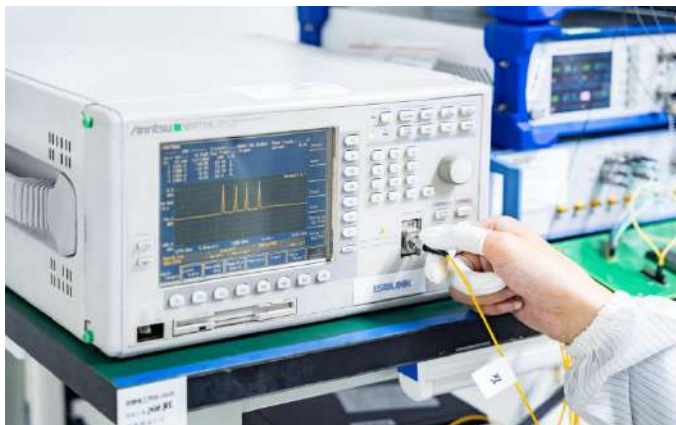
- The transceiver optics is supplied with a dust cover. This plug protects the transceiver optics during standard manufacturing processes by preventing contamination from air borne particles. It is recommended that the dust cover remain in the transceiver whenever an optical fiber connector is not inserted.
- Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.
- Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.



## Test Center

### 1. Performance Testing

Every fiber optic transceiver is thoroughly tested by the LSOLINK Assurance Program, which is equipped with the world's most advanced analytical equipment to ensure that our transceivers meet the industry's international public protocol standards while still functioning flawlessly in your facility.



#### Optical Spectrum Inspection

Using the industry's leading optical spectrum analyser to check in real time that the parameters of the optical transceiver's laser comply with industry standards.

- **Peak:** Peak wavelength and peak level
- **2nd Peak:** Side-mode wavelength and level
- **Mean Wl:** Center wavelength
- **Total Power:** Total power of spectrum
- **SMSR:** Side-Mode Suppression Ratio



#### Optical Signal Quality Inspection

Using highly efficient sampling oscilloscopes and BERT testers, equipped with an automated test platform to accurately test the signal quality of the transceiver, test records are kept for up to 5 years to ensure the traceability of each transceiver.

- **Eye Mask Margin(NRZ)**
- **TDECQ(PAM4):**transmitter dispersion eye closure
- **OMA:** Optical modulation amplitude
- **BER:** Bit error rate
- **ER:** Extinction Ratio



#### Flow Pressure Test

Using multi-protocol network traffic analyser with various brands of switches to test the transceiver's ability to transmit at full speed.

- **Bandwidth:** Actual transceiver bandwidth on the port
- **Packet Loss**
- **Packet Errors:**CRC Errors/PCS Errors/Symbol Errors
- **LinkDown Counts**
- **latency**

Above is part of our test bed network equipment. For more information, Please click [download](#) for optical transceiver performance test report.



## 2. Quality Control

We adopt advanced quality management solutions. Each transceiver is self-inspected, including: 20x microscope inspection, 200x microscope inspection, and QC process inspection.



**visual inspection**



**Microscopic inspection: 20X**



**Microscopic inspection: 200X**



**Reliability Verification**



**Optical endface inspection**




**OQC Inspection**


## Order Information

Part Number	Length(m)	Connector Type	Cable Type	Cable Jacket
400G-QDD-4Q-A1	1	QSFP-DD to 4xQSFP56	Active Optical	OFNP
400G-QDD-4Q-A3	3	QSFP-DD to 4xQSFP56	Active Optical	OFNP
400G-QDD-4Q-A5	5	QSFP-DD to 4xQSFP56	Active Optical	OFNP
400G-QDD-4Q-A7	7	QSFP-DD to 4xQSFP56	Active Optical	OFNP
400G-QDD-4Q-A10	10	QSFP-DD to 4xQSFP56	Active Optical	OFNP
400G-QDD-4Q-A15	15	QSFP-DD to 4xQSFP56	Active Optical	OFNP

## Further Information

 | Lighting the Path to Global Links

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