Product Specification

1~50m 400G OSFP to 2x 200G QSFP56 Active Optical Breakout Cable

PN:O400-2Q200-A

Features

- Hot-pluggable OSFP Finned Top and 2×QSFP56 form factors
- 400G to 2×200G breakout connectivity
- 425Gb/s aggregate line rate; 212.5Gb/s per branch
- 53.125Gb/s PAM4 signaling per lane
- Available cable lengths from 1 m to 50 m
- Single +3.3V power supply
- Maximum power consumption: ≤10W at the OSFP end and ≤4.5W at each QSFP56 end
- Commercial operating case temperature range of 0°C to +70°C.

Compliance

- OSFP MSA Rev. 5.0
- SFF-8665 QSFP56 pluggable interface specification
- SFF-8636 QSFP56 management interface
- CMIS Rev. 4.0 for the OSFP end
- IEEE 802.3bs and IEEE 802.3cd for Ethernet mode

Applications

- 400G-to-2×200G Ethernet breakout
- 400G NDR to 2×200G HDR InfiniBand links
- RoCE over Ethernet
- Data center interconnects
- AI and high-performance computing clusters

Description

The O400-2Q200-A is a hot-pluggable active optical breakout cable designed to connect one 400G OSFP Finned Top port to two independent 200G QSFP56 ports. It supports an aggregate line rate of 425Gb/s on the OSFP side and 212.5Gb/s on each QSFP56 branch, corresponding to nominal 400G-to-2×200G connectivity. The cable operates over multimode fiber and is available in lengths from 1 m to 50 m.

The OSFP end provides eight transmit and eight receive lanes, while each QSFP56 branch provides four transmit and four receive lanes. PAM4 signaling supports a line bit rate of 53.125Gb/s per lane. The integrated optical design eliminates the need for separate optical transceivers and external fiber patch cords.

Each pluggable end provides host-readable module identification and status information through its management interface. The O400-2Q200-A is designed for compatible 400G NDR-to-2×200G HDR InfiniBand connections and Ethernet breakout deployments where the host ports and connected equipment support the required configuration.

Product performance Specifications

1、Absolute Maximum Ratings

Parameter	Symbol	Min	Typ.	Max	Unit
Supply Voltage	VCC	-0.3		3.6	V
Data Input Voltage	VDI	-0.3		3.465	V
Control Input Voltage	VCI	-0.3		4.0	V
Optical Damage Threshold	THD	3.4			dBm
Storage Temperature	TSTG	-40		+85	°C

2、Recommended Operating Conditions

Parameter	Symbol	Min	Typ.	Max	Unit
Operating Case Temperature	TC	0		+70	°C
Power Supply Voltage	VCC	3.135	3.3	3.465	V
Relative Humidity (Non-condensing)	RH	5		85	%

3、Power Supply and Electrical Specifications

Parameter	Symbol	Min	Typ.	Max	Unit

Power Supply Voltage	VCC	3.135	3.3	3.465	V
Supply Noise Tolerance (10 Hz–10 MHz)		66			mVpp
Power Consumption OSFP Main End	PD		7.5	8.0	W
Power Consumption Each QSFP56 Branch	PD		3.5	4.0	W
Number of QSFP56 Branches			2		ports

4、Host Electrical Interface

Parameter	Symbol	Min	Typ.	Max	Unit
OSFP Host Interface (Ethernet Mode)			400GAUI-8		
OSFP Electrical Lane Count			8		lanes
QSFP56 Host Interface (Ethernet Mode)			200GAUI-4		
Electrical Lane Count per QSFP56 Branch			4		lanes
Aggregate Line Rate OSFP Main End	DR		425		Gb/s
Line Rate Each QSFP56 Branch	DR		212.5		Gb/s
Bit Rate per Lane			53.125		Gb/s
Signaling Rate per Lane	SR	26.5625 ±100 ppm			GBd
Electrical Modulation Format			PAM4		
Signaling Rate per Lane	SR	26.5625 ±100 ppm			GBd

5、ransmitter Electrical Characteristics

Parameter	Symbol	Min	Typ.	Max	Unit
AC Common-Mode Output Voltage (RMS)	VCM			17.5	mV
Differential Peak-to-Peak Output Voltage (Transmitter Disabled)	VDIFF			35	mV
Differential Peak-to-Peak Output Voltage (Transmitter Enabled)	VDIFF			880	mV
Eye Symmetry Mask Width	ESMW		0.22		UI

Differential Eye Height	EH	32			mV
Differential Termination Mismatch				10	%
Transition Time (20%–80%)	Tr, Tf			10	ps

6、Receiver Electrical Characteristics

Parameter	Symbol	Min	Typ.	Max	Unit
Far-End Differential Eye Height	EH	30			mV
Far-End Pre-cursor ISI Ratio		-4.5		2.5	%
Differential Termination Mismatch				10	%
Transition Time (20%–80%)	Tr, Tf			10	ps
DC Common-Mode Voltage	VCM	-350		2850	mV

7、Transmitter Optical Characteristics Per Lane (400G OSFP Main End)

Parameter	Symbol	Min	Typ.	Max	Unit
Transmitter Type			VCSEL Array		
Optical Transmit Lane Count			8		lanes
Center Wavelength	λC	840	850	860	nm
RMS Spectral Width	ΔλRMS			0.6	nm
Average Launch Power per Lane	PAVG	-6		+6	dBm
Outer Optical Modulation Amplitude per Lane	OMAouter	-4		+5	dBm
Transmitter and Dispersion Eye Closure	TDECQ			4.9	dB
Outer Extinction Ratio	ER	3.0			dB
Average Launch Power of OFF Transmitter	POFF			-30	dBm
Optical Return Loss Tolerance	ORLT			12	dB
Optical Modulation Format			PAM4		
Fiber Type			Multimode Fiber		
Transmitter Type			VCSEL Array		

8、Receiver Optical Characteristics Per Lane (400G OSFP Main End)

Parameter	Symbol	Min	Typ.	Max	Unit
Receiver Type			PIN Photodiode Array		
Optical Receive Lane Count			8		lanes
Receiver Wavelength Range	λR	840	850	860	nm
Optical Damage Threshold	THD	+6			dBm
Average Receive Power per Lane	PIN	-7.9		+4.0	dBm
Receive Power (OMAouter)	RxOMAouter			+3.0	dBm
Receiver Reflectance	RR			-12	dB
Receiver Sensitivity (OMAouter)	RSENS			-7.0	dBm
Stressed Receiver Sensitivity (OMAouter)	SRS			-3.0	dBm
Optical Modulation Format			PAM4		
Fiber Type			Multimode Fiber		

9、Transmitter Optical Characteristics Per Lane (2×200G QSFP56 Branch Ends)

Parameter	Symbol	Min	Typ.	Max	Unit
Transmitter Type			VCSEL Array		
Optical Transmit Lane Count per Branch			4		lanes
Number of Branches			2		ports
Center Wavelength	λC	840	850	860	nm
RMS Spectral Width	ΔλRMS			0.6	nm
Average Launch Power per Lane	PAVG	-6		+6	dBm
Outer Optical Modulation Amplitude per Lane	OMAouter	-4		+5	dBm
Transmitter and Dispersion Eye Closure	TDECQ			4.9	dB
Outer Extinction Ratio	ER	3.0			dB
Average Launch Power of OFF Transmitter	POFF			-30	dBm
Optical Return Loss Tolerance	ORLT			12	dB
Optical Modulation Format			PAM4		
Fiber Type			Multimode Fiber		

10、Receiver Optical Characteristics Per Lane (2×200G QSFP56 Branch Ends)

Parameter	Symbol	Min	Typ.	Max	Unit
Receiver Type			PIN Photodiode Array		
Optical Receive Lane Count per Branch			4		lanes
Number of Branches			2		ports
Receiver Wavelength Range	λR	840	850	860	nm
Optical Damage Threshold	THD	+6			dBm
Average Receive Power per Lane	PIN	-7.9		+4.0	dBm
Receive Power (OMAouter)	RxOMAouter			+3.0	dBm
Receiver Reflectance	RR			-12	dB
Receiver Sensitivity (OMAouter)	RSENS			-7.0	dBm
Stressed Receiver Sensitivity (OMAouter)	SRS			-3.0	dBm
Optical Modulation Format			PAM4		
Fiber Type			Multimode Fiber		
Receiver Type			PIN Photodiode Array		

11、Encircled Flux Requirements

Parameter	Requirement
Encircled Flux at 19 μm	≥86%
Encircled Flux at 4.5 μm	≤30%

12、FEC and BER Specifications

Parameter	Symbol	Min	Typ.	Max	Unit
Forward Error Correction (Ethernet Mode)	FEC		RS-FEC		
Pre-FEC Bit Error Ratio	BER			2.4×10^{-4}	

Management Interface Specifications

Parameter	Symbol	Min	Typ.	Max	Unit
OSFP Management Interface			CMIS Rev. 4.0		
QSFP56 Management Interface			SFF-8636		
Management Bus			I²C		
I²C Clock Frequency	fI2C			400	kHz
Digital Diagnostic Monitoring	DDM/DOM		Supported		
Module Identification and Status Information			Supported		

13、Cable and Mechanical Characteristics

Parameter	Symbol	Value	Unit
Cable Type		Active Optical Cable (AOC)	
Main-End Connector		OSFP Finned Top	
Branch-End Connectors		2× QSFP56	
Breakout Configuration		1×400G to 2×200G	
Fiber Type		Multimode Fiber	
Cable Length Range	L	1–50	m
Cable Outer Diameter	D	3.0 ±0.2	mm
Minimum Bend Radius	RB	30	mm
Main-End Optical Lane Configuration		8 TX / 8 RX	lanes
Each Branch Optical Lane Configuration		4 TX / 4 RX	lanes
Nominal Optical Wavelength	λ	850	nm

14、Environmental and Regulatory Specifications

Parameter	Symbol	Min	Typ.	Max	Unit
Operating Case Temperature	TC	0		+70	°C
Storage Temperature	TSTG	-40		+85	°C
Relative Humidity (Non-condensing)	RH	5		85	%
RoHS Compliance			Compliant		

Pin-out Definition(OSFP)

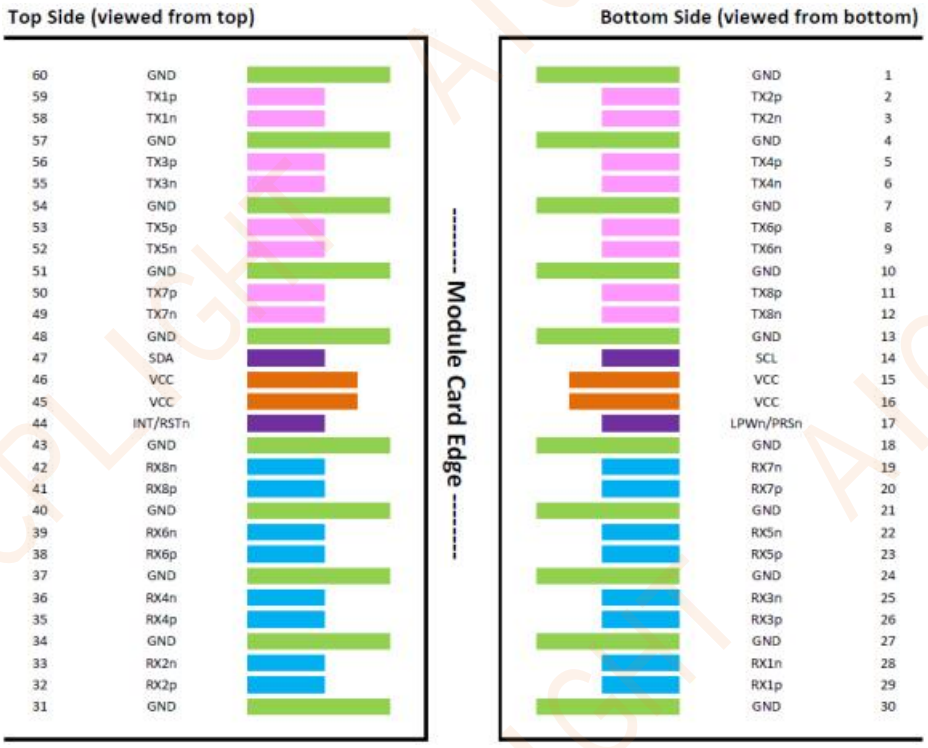


Figure4:Pin view(OSFP)

Pin Function Definitions(OSFP)

Pin	Logic	Symbol	Description	Note
1		GND	Ground	
2	CML-I	TX2p	Transmitter Data Non-Inverted	
3	CML-I	TX2n	Transmitter Data Inverted	
4		GND	Ground	
5	CML-I	TX4p	Transmitter Data Non-Inverted	
6	CML-I	TX4n	Transmitter Data Inverted	
7		GND	Ground	
8	CML-I	TX6p	Transmitter Data Non-Inverted	
9	CML-I	TX6n	Transmitter Data Inverted	
10		GND	Ground	
11	CML-I	TX8p	Transmitter Data Non-Inverted	
12	CML-I	TX8n	Transmitter Data Inverted	
13		GND	Ground	
14	LVCMOS-I/O	SCL	2-wire Serial interface clock	1
15		VCC	+3.3V Power	

16		VCC	+3.3V Power	
17	Multi-Level	LPWn/PRSn	Low-Power Mode / Module Present	2
18		GND	Ground	
19	CML-O	RX7n	Receiver Data Inverted	
20	CML-O	RX7p	Receiver Data Non-Inverted	
21		GND	Ground	
22	CML-O	RX5n	Receiver Data Inverted	
23	CML-O	RX5p	Receiver Data Non-Inverted	
24		GND	Ground	
25	CML-O	RX3n	Receiver Data Inverted	
26	CML-O	RX3p	Receiver Data Non-Inverted	
27		GND	Ground	
28	CML-O	RX1n	Receiver Data Inverted	
29	CML-O	RX1p	Receiver Data Non-Inverted	
30		GND	Ground	
31		GND	Ground	
32	CML-O	RX2p	Receiver Data Non-Inverted	
33	CML-O	RX2n	Receiver Data Inverted	
34		GND	Ground	
35	CML-O	RX4p	Receiver Data Non-Inverted	
36	CML-O	RX4n	Receiver Data Inverted	
37		GND	Ground	
38	CML-O	RX6p	Receiver Data Non-Inverted	
39	CML-O	RX6n	Receiver Data Inverted	
40		GND	Ground	
41	CML-O	RX8p	Receiver Data Non-Inverted	
42	CML-O	RX8n	Receiver Data Inverted	
43		GND	Ground	
44	Multi-Level	INT/RSTn	Module Interrupt / Module Reset	2
45		VCC	+3.3V Power	
46		VCC	+3.3V Power	
47	LVCMOS-I/O	SDA	2-wire Serial interface data	1
48		GND	Ground	
49	CML-I	TX7n	Transmitter Data Inverted	
50	CML-I	TX7p	Transmitter Data Non-Inverted	
51		GND	Ground	
52	CML-I	TX5n	Transmitter Data Inverted	
53	CML-I	TX5p	Transmitter Data Non-Inverted	
54		GND	Ground	
55	CML-I	TX3n	Transmitter Data Inverted	

56	CML-I	TX3p	Transmitter Data Non-Inverted	
57		GND	Ground	
58	CML-I	TX1n	Transmitter Data Inverted	
59	CML-I	TX1p	Transmitter Data Non-Inverted	
60		GND	Ground	

Note1: Open-Drain with pull up resistor on Host.

Note2: See pin description for required circuit.

Monitoring Specification

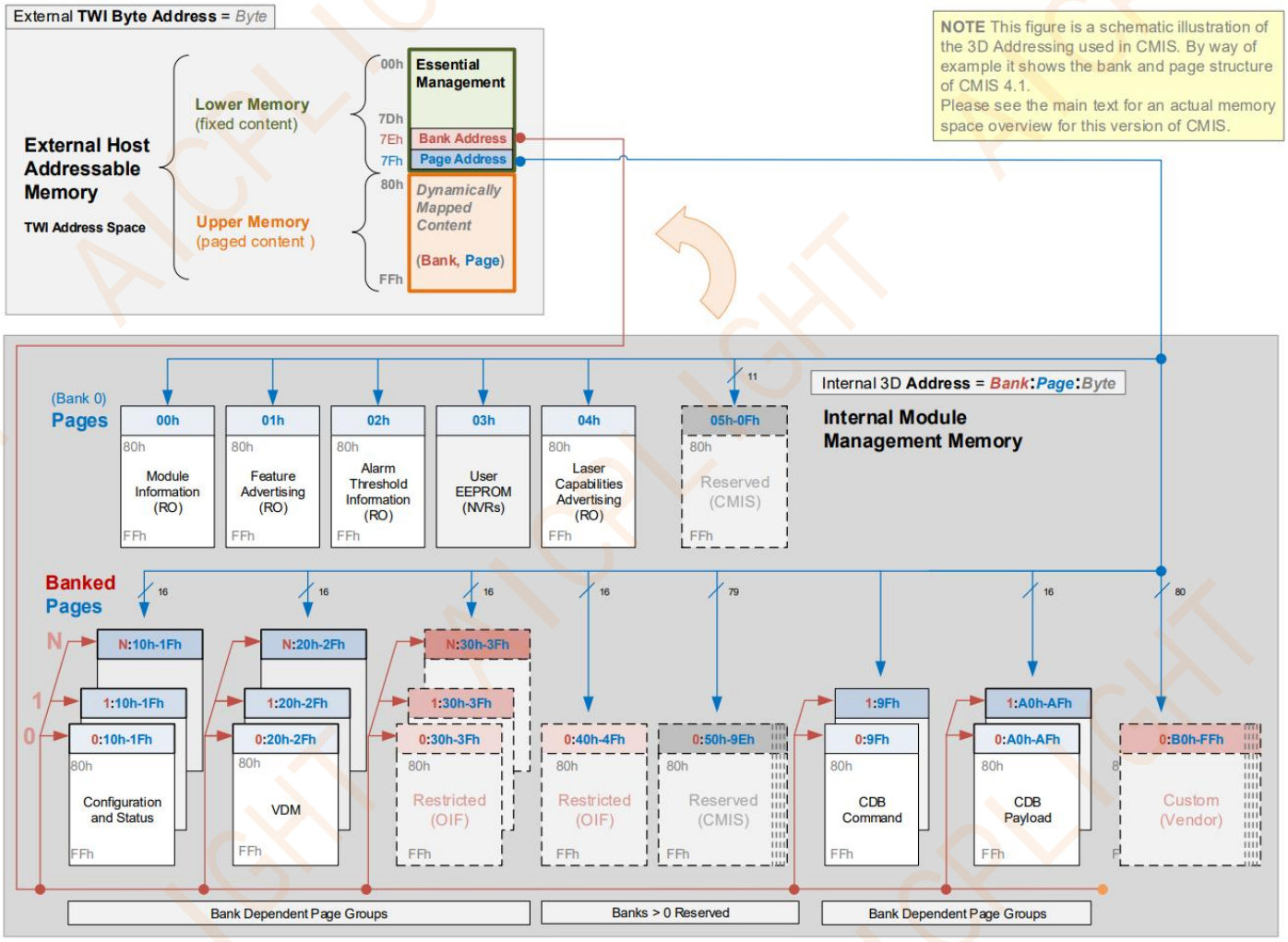


Figure5: Memory map

Memory map Table

Byte	Unit	Name	Description
		Lower Page 00h	
0-2	3	Management Characteristics	Basic Information about how this module is managed
3	1	Global Status Information	Current state of Module, Interrupt signal status
4-7	4	Flag Summary	Summary of Flags set on specific Pages (and Banks)
8-13	6	Module-Level Flags	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-Level Controls	Controls applicable to the module as a whole
31-36	6	Module-Level Masks	Mask bits for the Module-Level Flags
37-38	2	CDB Command Status	Status of current CDB command
39-40	2	Module Active Firmware Version	Module Active Firmware Version number
41	1	Fault Information	Fault cause for entering ModuleFault state
42-63	22		Reserved
64-84	21		Custom
85-117	33	Supported Applications Advertising	Applications supported by module Data Path(s)
118-125	8	Password Facilities	Password Entry and Change (mechanism only)
126-127	2	Page Mapping	Page mapping into host addressable Upper Memory
		Upper Page 00h	
128	1	SFF8024IdentifierCopy	Copy of Byte 00h:0
129-144	16	VendorName	Vendor name (ASCII)
145-147	3	Vendor OUI	Vendor IEEE company ID
148-163	16	Vendor PN	Part number provided by vendor (ASCII)
164-165	2	Vendor Rev	Revision level for part number provided by vendor (ASCII)
166-181	16	Vendor SN	Vendor Serial Number (ASCII)
182-189	8	DateCode	Manufacturing Date Code (ASCII)
190-199	10	CLEICode	Common Language Equipment Identification Code (ASCII)
200-201	2	ModulePowerCharacteristics	Module power characteristics
202	1	CableAssemblyLinkLength	Cable length (for cable assembly modules only)
203	1	ConnectorType	Connector type of the media interface
204-209	6	Copper Cable Attenuation	Attenuation characteristics (passive copper cables only)
210	1	MediaLaneInformation	Supported near end media lanes (all modules)
211	1	Cable Assembly Information	Far end modules information (cable assemblies only)
212	1	MediaInterfaceTechnology	Information on media side device or cable technology
213-220	8		Reserved
221	1		Custom

222	1	PageChecksum	Page Checksum over bytes 128-221
223-255	33		Custom

Pin-out Definition(QSFP56)

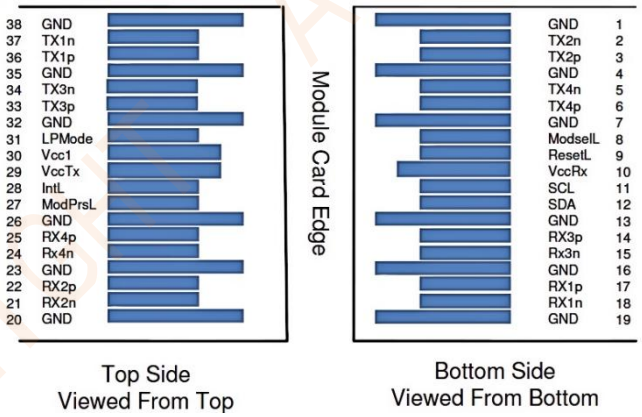


Figure4:Pin view

Pin Function Definitions(QSFP56)

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	LVCMOS-I/O	SCL	2-wire serial interface clock	4
12	LVCMOS-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 LVTTL level logic and are used for functions such as module selection and reset.

Monitoring Specification

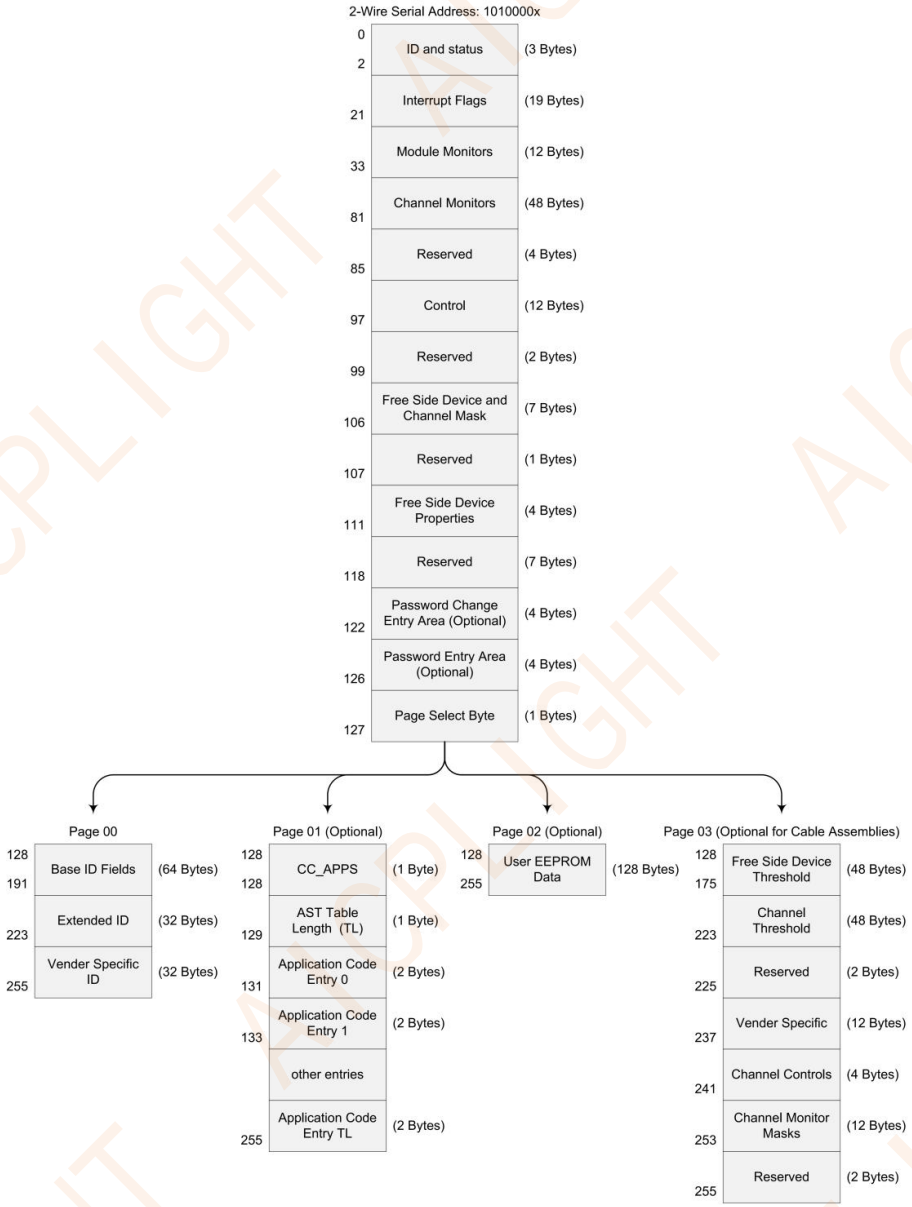


Figure5: Memory map

Memory map Table(QSFP56)

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

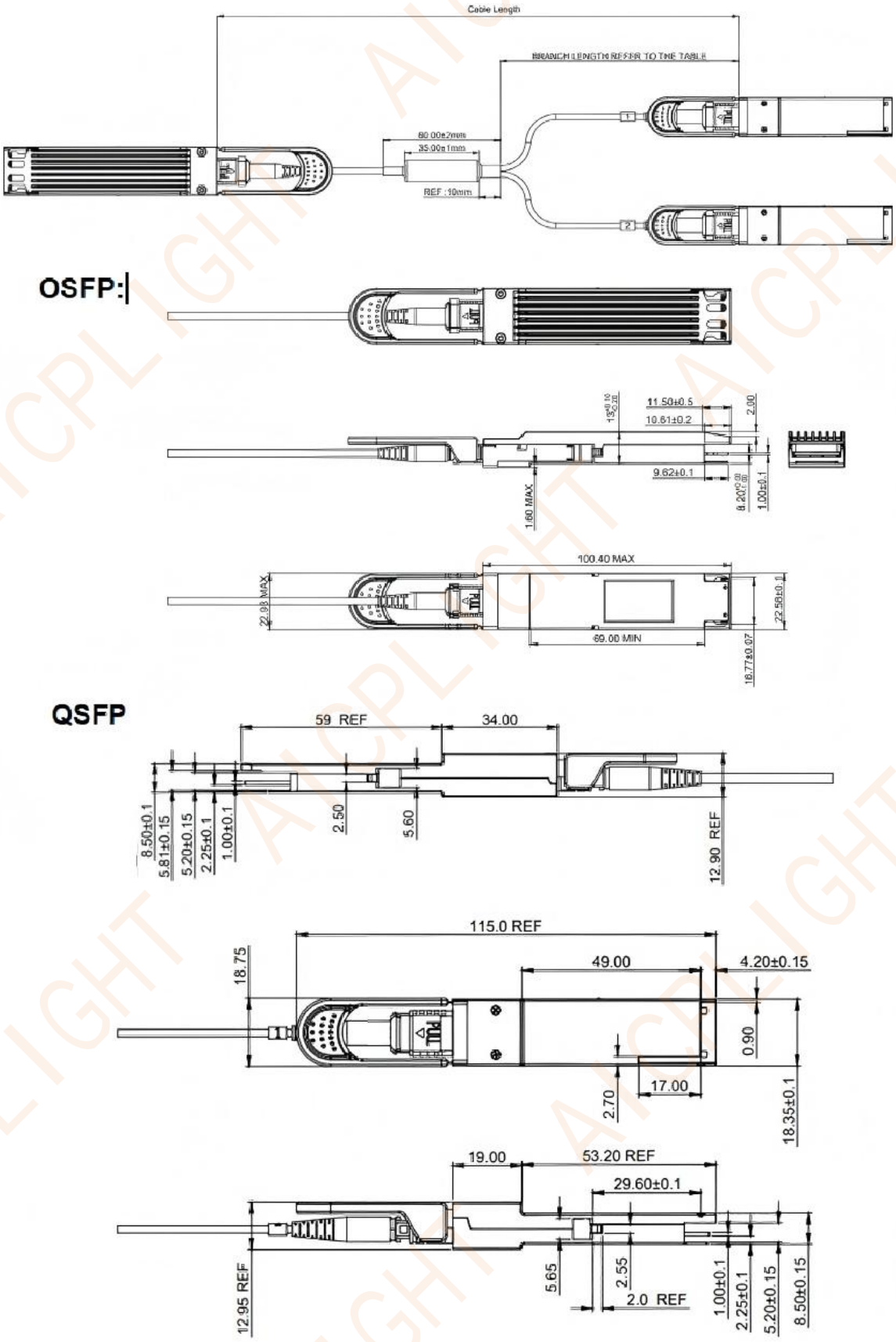
3-21	19	Interrupt Flags	Consist of interrupt flags for LOS, Tx Fault, warnings and alarms. The non-asserted state shall be 0b.
22	1	Temperature MSB	Internally measured temperature (MSB)
23	1	Temperature LSB	Internally measured temperature (LSB)
24-25	2	Reserved	Reserved
26	1	Supply Voltage MSB	Internally 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 Cable Attenuation	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.
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
Page 02h (Optional)			
128-255	128	User EEPROM Data	
Page 03h (Optional)			
128-129	2	Temp High Alarm	MSB at lower byte address
130-131	2	Temp Low Alarm	MSB at lower byte address
132-133	2	Temp High Warning	MSB at lower byte address
134-135	2	Temp Low Warning	MSB at lower byte address
136-143	8	Reserved	Reserved
144-145	2	Vcc High Alarm	MSB at lower byte address
146-147	2	Vcc Low Alarm	MSB at lower byte address
148-149	2	Vcc High Warning	MSB at lower byte address
150-151	2	Vcc Low Warning	MSB at lower byte address
152-159	8	Reserved	Reserved
160-175	16	Vendor Specific	Vendor Specific
176-177	2	Rx Power High Alarm	MSB at lower byte address
178-179	2	Rx Power Low Alarm	MSB at lower byte address
180-181	2	Rx Power High Warning	MSB at lower byte address
182-183	2	Rx Power Low Warning	MSB at lower byte address
184-185	2	Tx Bias High Alarm	MSB at lower byte address
186-187	2	Tx Bias Low Alarm	MSB at lower byte address
188-189	2	Tx Bias High Warning	MSB at lower byte address
190-191	2	Tx Bias Low Warning	MSB at lower byte address
192-193	2	Tx Power High Alarm	MSB at lower byte address
194-195	2	Tx Power Low Alarm	MSB at lower byte address
196-197	2	Tx Power High Warning	MSB at lower byte address

198-199	2	Tx Power Low Warning	MSB at lower byte address
200-207	8	Reserved	Reserved thresholds for channel parameter set 4
208-215	8	Reserved	Reserved thresholds for channel parameter set 5
216-223	8	Vendor Specific	Vendor Specific
224	1	Tx EQ & Rx Emphasis Magnitude ID	Tx EQ & Rx Emphasis Magnitude ID
225	1	Rx output amplitude support indicators	Rx output amplitude support indicators
226-229	4	Control options advertising	Control options advertising
230-241	12	Optional Channel Controls	Optional Channel Controls
242-247	6	Channel Monitor Masks	Channel Monitor Masks
248-249	2	Reserved	Reserved channel monitor masks set 4
250-251	2	Reserved	Reserved channel monitor masks set 5
252-255	4	Reserved	Reserved

Mechanical Dimension



Note：

- Diameter: 3mm
- Minimum bend radius:30 mm
- Cable color:Aqua
- When L≤1m, the tolerance is +70/-0 mm
- When 1 m<L<7 m, the tolerance is +100/-0 mm
- When L≥7 m,the tolerance is +2%L/-0

Handling and Safety Precautions：

- ESD Precautions: Follow standard ESD handling procedures when handling or installing the AOC.
- Bend Radius: Do not bend the cable below the specified minimum bend radius of 30 mm.
- Cable Handling: Avoid excessive pulling, twisting, crushing, or other mechanical stress on the cable.
- Installation and Removal: Use the pull tab or release mechanism when removing the AOC. Do not pull directly on the cable.
- Connector Protection: Keep the electrical connector contacts clean and protected from dust and contamination when not installed.
- Optical and Laser Safety: The optical fibers and optical engines are permanently integrated within the AOC assembly. Do not disassemble, modify, or attempt to service the internal optical components.

Ordering Information

PN	Description
O400-2Q200-A1	400G OSFP Finned Top to 2× 200G QSFP56 Active Optical Breakout Cable,1m
O400-2Q200-A5	400G OSFP Finned Top to 2× 200G QSFP56 Active Optical Breakout Cable,5m
O400-2Q200-A10	400G OSFP Finned Top to 2× 200G QSFP56 Active Optical Breakout Cable,10m
O400-2Q200-A15	400G OSFP Finned Top to 2× 200G QSFP56 Active Optical Breakout Cable,15m
O400-2Q200-A20	400G OSFP Finned Top to 2× 200G QSFP56 Active Optical Breakout Cable,20m
O400-2Q200-A30	400G OSFP Finned Top to 2× 200G QSFP56 Active Optical Breakout Cable,30m
O400-2Q200-A50	400G OSFP Finned Top to 2× 200G QSFP56 Active Optical Breakout Cable,50m

Note： Other cable lengths from 1m to 50m are available upon request.