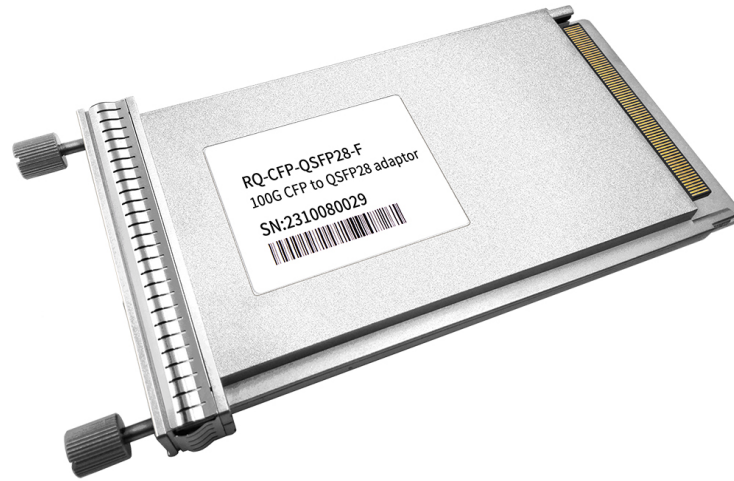


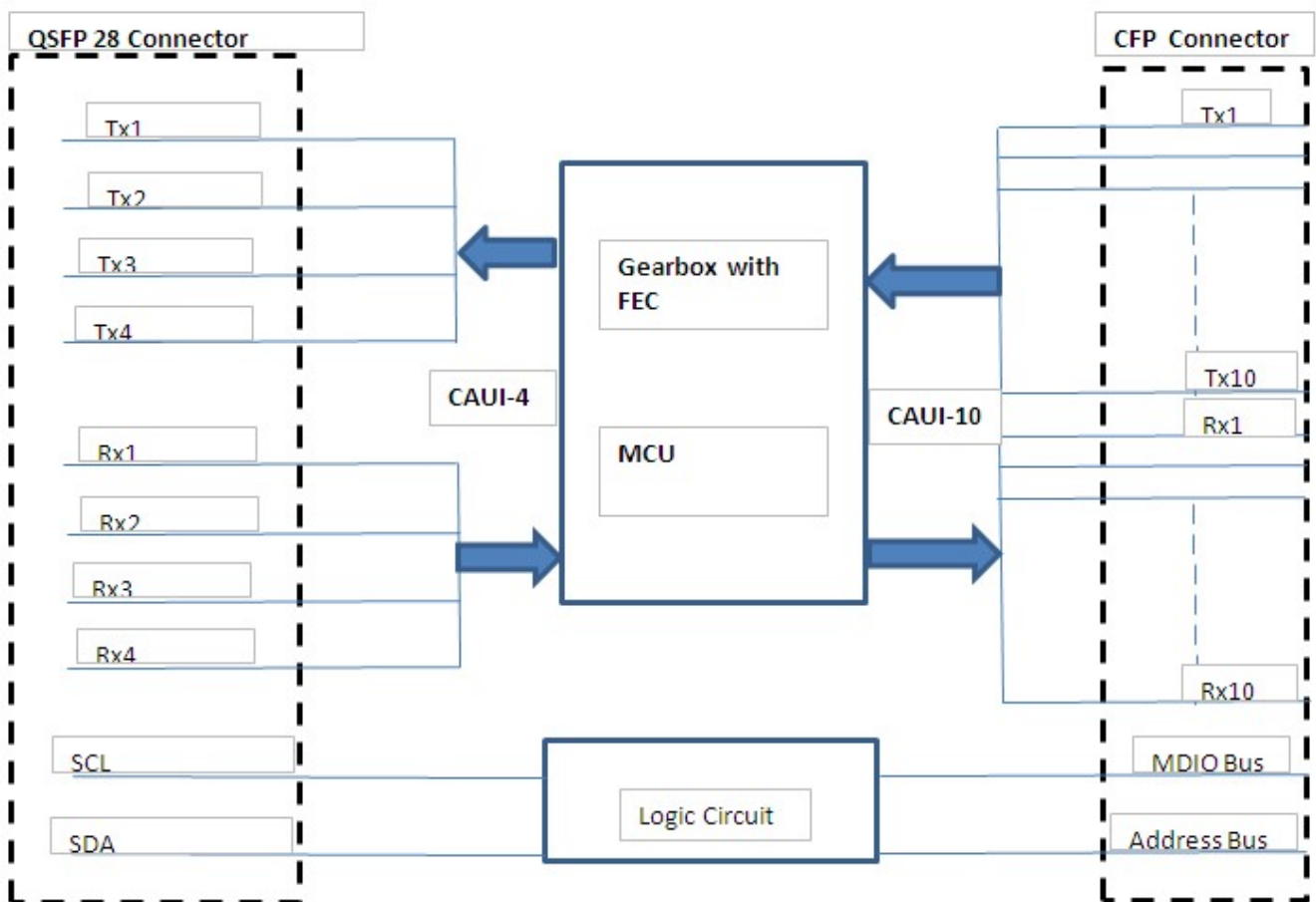
100G CFP TO QSFP28 Adaptor Module with FEC

GENERAL DESCRIPTION

General Information	
Manufacturer Part Number	RQ-CFP-QSFP28-F
Product Name	RQCFP-QSFP28-F Adaptor Module
Product Type	Adaptor Module
Power consumption	Max: 5W (3.3V voltage, max current 1.5A)
Features	<ul style="list-style-type: none"> ◆ CAUI -10 Electrical Interface:10 Lanes @10Gbit/s for CFP port ◆ CAUI -4 Electrical Interface:4 Lanes @25.78Gbit/s for QSFP28 port ◆ Hot Pluggable ◆ Low latency FEC ◆ MDIO, I2C Support ◆ Compliant to CFP MSA ◆ Case operating temperature: 0 to 70 °C ◆ The RQ-CFP-QSFP28-F Adaptor Module converts a 100 Gigabit CFP port into a 100 Gigabit QSFP28 port. With the Adaptor Module, customers have the flexibility to use the 100 Gigabit CFP interface port of a switch with CFP modules or QSFP28 modules. For 100G Ethernet, reference clock can switch 161.133mhz or 644.531mhz; For OUT 4, reference clock can switch 174.703mhz or 698.812mhz; Users can control whether FEC function is enabled or not through register configuration.
I/O Expansions	
CFP port	MDIO
QSFP28 port	I2C
Physical Characteristics	
Dimensions	13.6mmHeight x 82mmWidth x 144.75mm Depth



Block Diagram



CAUI-10 Interface (CFP port)

CAUI Receiver Parameters	Symbol	Min.	Typ.	Max.	Unit	Note
Signal Rate Per Lane			10.3125		Gb/s	
Differential data output swing per lane	Vout,pp	CAUI-10 as defined by IEEE P802.3bm			mV	
Data output rise time	tr				ps	
Data output fall time	tf				ps	
CAUI Transmitter Parameters	Symbol	Min.	Typ.	Max.	Unit	Note
Signal Rate Per Lane			10.3125		Gb/s	
Frequency offset		-100		100	ppm	100G Ethernet
		-20		20	ppm	OTU4
Input differential impedance	Rin	CAUI-10 as defined by IEEE P802.3bm			Ω	
Differential data input swing per lane	Vin,pp				mV	
Data input rise time tolerance	tr				ps	
Data input fall time tolerance	tf				ps	

CAUI-4 Interface (QSFP28 port)

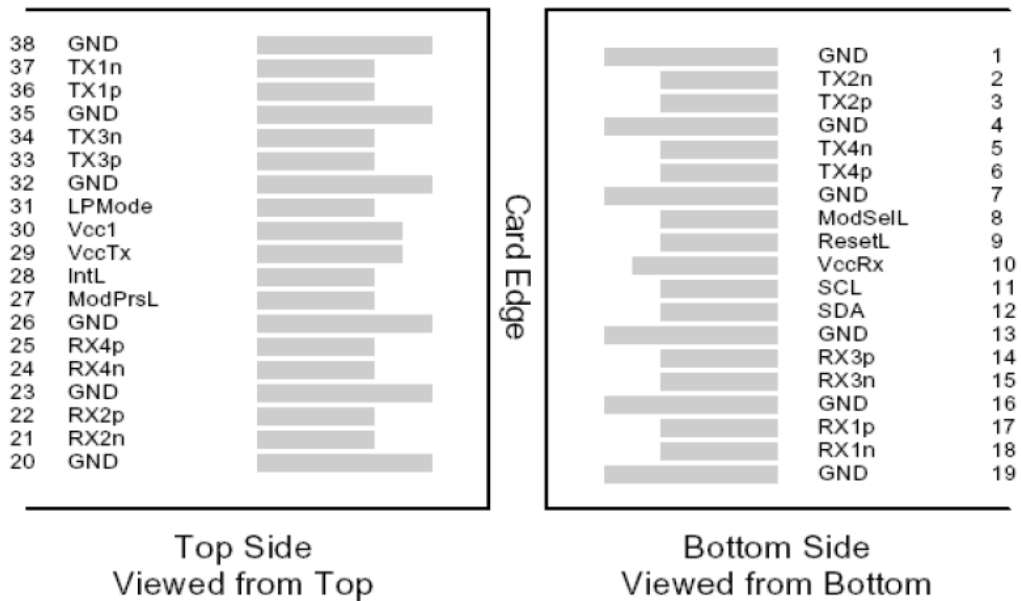
CAUI Receiver Parameters	Symbol	Min.	Typ.	Max.	Unit	Note
Signal Rate Per Lane			25.78		Gb/s	
Differential data output swing per lane	Vout,pp	CAUI-4 as defined by IEEE P802.3bm			mV	
Data output rise time	tr				ps	
Data output fall time	tf				ps	

CAUI Transmitter Parameters	Symbol	Min.	Typ.	Max.	Unit	Note
Signal Rate Per Lane			25.78		Gb/s	
Input differential impedance	Rin	CAUI-4 as defined by IEEE P802.3bm			Ω	
Differential data input swing per lane	Vin,pp				mV	
Data input rise time tolerance	tr				ps	
Data input fall time tolerance	tf				ps	

Ethernet Mode FEC Configuration Management

CFP Address	Detail	Bit	Description	Detail	Hex
A011	Network Lane TX Control	1:3	Ethernet and FEC	1111b	0x000F
			OTU4	0111b	0x0007
			Ethernet	0000b	0x0001
		0:0	1/64	0001b	0x0001
			1/16	0000b	0x0000

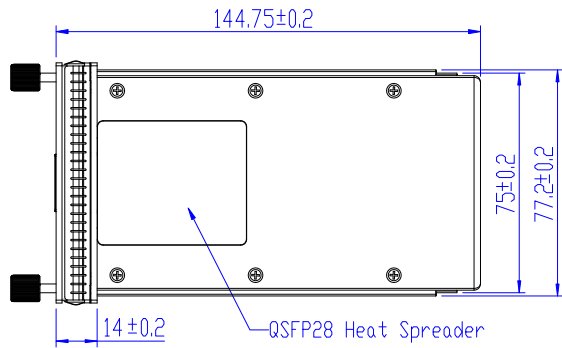
PIN Assignment of QSFP28 port



PIN Assignment of CFP port

	Top Row (2nd Half)		Bottom Row (2nd Half)		Top Row (1st Half)		Bottom Row (1st Half)	
148	GND	1	3.3V_GND		111	GND	38	MOD_ABS
147	REFCLKn	2	3.3V_GND		110	N.C.	39	MOD_RSTn
146	REFCLKp	3	3.3V_GND		109	N.C.	40	RX_LOS
145	GND	4	3.3V_GND		108	GND	41	GLB_ALRMn
144	N.C.	5	3.3V_GND		107	RX9n	42	PRTADR4
143	N.C.	6	3.3V		106	RX9p	43	PRTADR3
142	GND	7	3.3V		105	GND	44	PRTADR2
141	TX9n	8	3.3V		104	RX8n	45	PRTADR1
140	TX9p	9	3.3V		103	RX8p	46	PRTADR0
139	GND	10	3.3V		102	GND	47	MDIO
138	TX8n	11	3.3V		101	RX7n	48	MDC
137	TX8p	12	3.3V		100	RX7p	49	GND
136	GND	13	3.3V		99	GND	50	VND_IO_F
135	TX7n	14	3.3V		98	RX6n	51	VND_IO_G
134	TX7p	15	3.3V		97	RX6p	52	GND
133	GND	16	3.3V_GND		96	GND	53	VND_IO_H
132	TX6n	17	3.3V_GND		95	RX5n	54	VND_IO_J
131	TX6p	18	3.3V_GND		94	RX5p	55	3.3V_GND
130	GND	19	3.3V_GND		93	GND	56	3.3V_GND
129	TX5n	20	3.3V_GND		92	RX4n	57	3.3V_GND
128	TX5p	21	VND_IO_A		91	RX4p	58	3.3V_GND
127	GND	22	VND_IO_B		90	GND	59	3.3V_GND
126	TX4n	23	GND		89	RX3n	60	3.3V
125	TX4p	24	(TX_MCLKn)		88	RX3p	61	3.3V
124	GND	25	(TX_MCLKp)		87	GND	62	3.3V
123	TX3n	26	GND		86	RX2n	63	3.3V
122	TX3p	27	VND_IO_C		85	RX2p	64	3.3V
121	GND	28	VND_IO_D		84	GND	65	3.3V
120	TX2n	29	VND_IO_E		83	RX1n	66	3.3V
119	TX2p	30	PRG_CNTL1		82	RX1p	67	3.3V
118	GND	31	PRG_CNTL2		81	GND	68	3.3V
117	TX1n	32	PRG_CNTL3		80	RX0n	69	3.3V
116	TX1p	33	PRG_ALRM1		79	RX0p	70	3.3V_GND
115	GND	34	PRG_ALRM2		78	GND	71	3.3V_GND
114	TX0n	35	PRG_ALRM3		77	(RX_MCLKn)	72	3.3V_GND
113	TX0p	36	TX_DIS		76	(RX_MCLKp)	73	3.3V_GND
112	GND	37	MOD_LOPWR		75	GND	74	3.3V_GND

Package Outline (Unit:mm)



Units in mm

