

## DATA SHEET

# 100G/200G CFP2-DCO COHERENT MODULE TRANSCEIVER

## DESCRIPTION

The Jabil Photonics CFP2-DCO module can be used on host board to support transmission over DWDM links in Metro networks, Data Center Interconnect (DCI), and Long Haul (LH) applications, as well as Point-to-Point (P2P) coherent transmission up to 80km unamplified link for 5G wireless and MSO access market.



## KEY FEATURES

Proprietary SiPh PIC engine with in-house design and assembly

Linear operation enabling 100Gbps DP-QPSK and 200Gbps DP-16QAM

Ultra-narrow linewidth laser with gridless DWDM wavelength tuning across extended C-band

Supports staircase FEC and soft-decision FEC

Supports CAUI-4 for 100GBE and OTL4.4 for OTU4 host interfaces

Built-in mini EDFAs ensures high output power and extended reach

Commercial case temperature range of 0°C~70°C

Duplex LC receptacles

RoHS-6 compliant.

## APPLICATIONS

Metro & Long Haul WDM

Data Center Interconnect

Point to Point high rate links

## COMPLIANCES

Compliant with latest OIF Implementation Agreement OIF-CFP2-DCO-01.0

Compliant with MSA CFP2 Hardware Specification Revision 1.0

Compliant with CFP MSA Management Interface Specification Version 2.6 r06a

Compliant with OIF-CEI-04.0, December 29, 2017

Compliant with IEEE 802.3 (MDIO)

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Mode	FEC	Interop	Gbaud	Max. B2B ROSNR
100G Diff QPSK	7% HD-FEC	Yes	27.95	16dB
100G QPSK	7% UFEC	-	28.31	15dB
100G QPSK	20% SD-FEC	-	31.87	13dB
200G 16QAM	20% SD-FEC	-	32.03	22dB

## ENVIRONMENTAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Unit
Operation Temperature	0	+25	+70	°C
Storage Temperature	-40	-----	+85	°C
Operation Humidity*	5	-----	85	%
Storage Humidity	5	-----	90	%

(\*) not condensing

## OPERATING SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Unit
Supply Voltage	3.2	+3.3	+3.4	V
Power Consumption				
100G DQPSK HDFEC (interop)		18	20	W
100G QPSK UFEC		23	25	W
100G QPSK SDFEC		23	25	W
200G 16QAM SDFEC		28	30	W

## OPTICAL SPECIFICATIONS

### TRANSMITTER

TX Specifications	Min	Typical	Max	Unit	NOTE
Optical power settable range	-5		2	dBm	
Optical power stability	-0.3		+0.3	dB	
Optical power accuracy			1	dB	
Frequency range	191.25		196.10	THz	
Frequency accuracy	-1.5		1.5	GHz	
Laser linewidth			300	kHz	
Tx OSNR (in-band) TX OSNR (out-of-band)	33 40			dB	
Tx enable time (warm start)	-		1	s	
Tx enable time (cold start)			150	s	
TX_DIS assert time	-		10	ms	
TX output power when disabled			-35	dBm	
Tx PDL dB			1	dB	
Optical Return Loss	27			dB	

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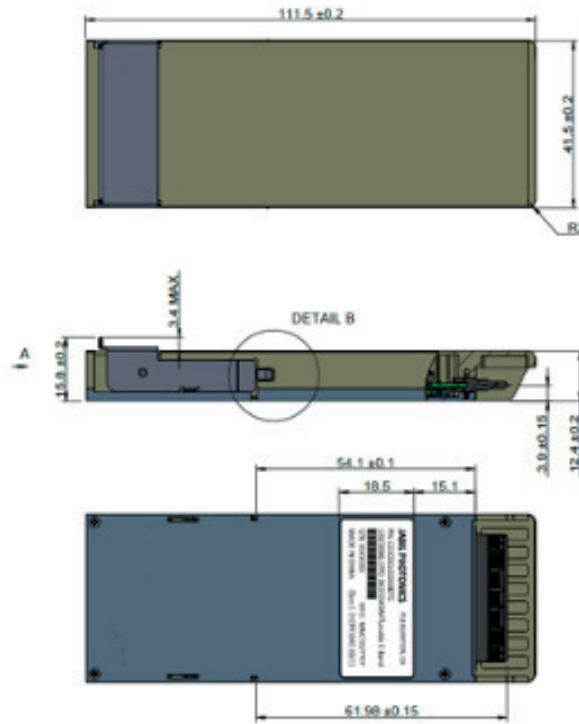
### RECEIVER

RX Specifications	Min	Typical	Max	Unit	NOTE
Max input power			10	dBm	
Input power Range 100G DQPSK HD-FEC (Input OSNR > 16dB) 100G QPSK UFEC (Input OSNR > 15dB) 100G QPSK SD-FEC (Input OSNR > 13dB) 200G 16QAM SD-FEC (Input OSNR > 22dB)	-18		+2	dBm	
Rx Sensitivity 100G DQPSK HD-FEC 100G QPSK UFEC 100G QPSK SD-FEC 200G 16QAM SD-FEC	-26 -26 -30 -22			dBm	OSNR > 30dB
Rx Optical Input power monitor range	-31		10	dBm	
Rx Optical Input Power accuracy	-1		+1	dB	
CD range 100G DQPSK HD-FEC 100G QPSK UFEC 100G QPSK SD-FEC 200G 16QAM SD-FEC			12,000 12,000 40,000 10,000	ps/nm	CD compensation range selectable through MDIO interface for best power consumption
Rx cold start time			60	sec	
Rx re-acquisition time			35	ms	
SOP tracking			300	Krad/s	100G, 1dB ROSNR penalty
Mean PMD/DGD Tolerance (QPSK)			15	ps	Less than 0.5dB OSNR penalty
Filter Tolerance (QPSK)	30			GHz	FWHM filter bandwidth. Less than 0.5dB penalty.
Optical Input Power Transient Tolerance (QPSK)			5.0	dB	100µs rise/fall time < 0.5dB OSNR penalty
PDL Tolerance (QPSK)			3	dB	Noise is added after PDL insertion. Pre-FEC BER is at threshold.

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DIMENSIONS



ORDERING INFORMATION

Jabil Part Number	Package	Rate	Reach	Other info
JPC22CDCLCC000DTC	CFP2	100/200G	Up to 2000Km	DCO version DDM/RoHS

For additional information, visit [jabil.com/photonics](http://jabil.com/photonics)