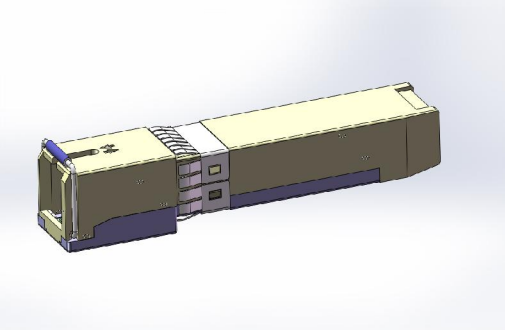
XG-PON1 OLT Optical Transceiver SFP+ Module



RTXM266-704 product is designed for OLT module based on XGPON N1 technology. The product is an integrated module containing a micro-optic component and semiconductor material. The module could implement DDM function. It could be used at key locations in optical networks.

Features

- SFP+ package with SC receptacle optical interface compliant
- Hot-Pluggable
- 9.953Gbps downstream and 2.488Gbps upstream
- +3.3V single power supply
- ROHS Compliant
- Excellent EMI and EMC characteristics
- Compliant with RoHS&WEEE

Standards

- SFF 8432
- SFF 8472
- ITU-T G.987.2

Specifications

(tested under recommended operating conditions, unless otherwise noted)

Parameter		Symbol	Unit	Value		
				Min	typical	Max
Electrical Characteristics						
Power Consumption			W	-	-	1.8
LVPECL Single Ended Data Input Swing			mV	100	-	800
CML Single Ended Data Output Swing			mV	300		500
Differential Data input impedance			Ω	-	100	-
Signal Level(LVTTL)		VOH	V	2.4	-	Vcc
		VOL	V	0	-	0.8
Optical transmitter Characteristics						
Data Rate			Mbps	--	9953.28	-
Center Wavelength Range		λ_c	nm	1575	-	1580
Spectral Width(@-20dB)		$\Delta\lambda$	nm	-	-	1
Launch Optical Power		P_o	dBm	+2	-	+6
Pout @TX-Disable Asserted		Poff	dBm			-39
Extinction Ratio 1		EX	dB	8.2	-	-
Eye Diagram		Compliant with ITU-T G.987.2				
Transmitter dispersion penalty 2		TDP	dB	-	-	1
Optical receiver Characteristics						
Data Rate			Mbps	-	2488.32	-
Center Wavelength Range		λc	nm	1260	1270	1280
Receiver Sensitivity 3		S	dBm	-	-	-27.5
Overload Input Optical Power		Pin	dBm	-7.0		
LOS	Optical Dessert		dB	-	-	-28.5
	Optical Assert			-39	-	-
LOS Hysteresis			dB	0.5	-	6

Note1. Measured with PRBS 2^{31}-1 test pattern @9.95328Gbps .
Note2. Transmit on 20km SMF.
Note3. Measured with PRBS 2^{23}-1 test pattern @2.48832Gbps , BER=10^{-4}

Ordering Information

Part No	Specifications								
	Package	Data rate	Laser	Optical Power	Detector	Sensitivity	Top	Reach	Others
RTXM266-704	SFP+	2.48832G US 9.95328G DS	1577nm DFB-LD	+2~ +6dBm	APD 1270nm	-27.5dBm	0~70°C	20km	DDM,RoHS

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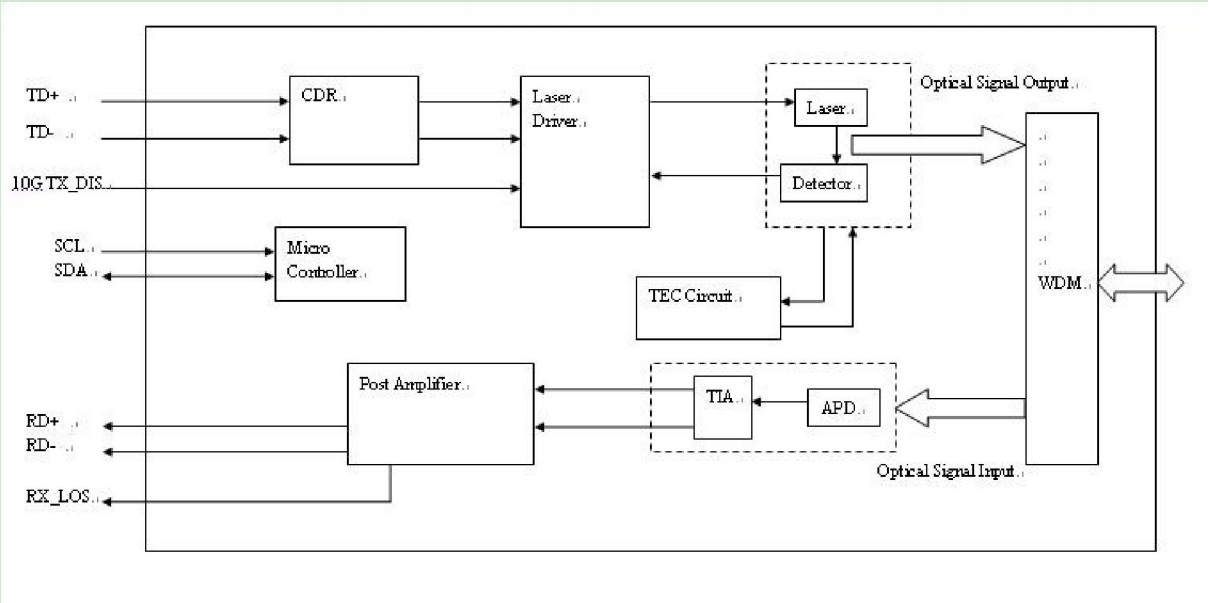
Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Storage Temperature Range	T_s	°C	-40	+85
Relative Humidity	RH	%	5	95
Power Supply Voltage	V_{cc}	V	0	+4
Receiver Damage Threshold		dBm	0	-

Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max
Operating Case Temperature Range	T_c	°C	-5	-	75
Power Supply Voltage	V_{cc}	V	3.135	3.3	3.465

Principle diagram



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Feature	Test Method	Performance
Electrostatic Discharge (ESD) to the Electrical Pins	MIL-STD-883E Method 3015.7	Class 1 (>1.5kV) – Human Body Model
Electrostatic Discharge (ESD) Immunity	IEC61000-4-2	LV4(Air discharge 15kV,Contact discharge 8kV) Performance criterion B
Electromagnetic Interference (EMI)	CISPR22 ITE Class B EN55022 Class B	Compliant with standards
Immunity	IEC61000-4-3 Class 2 EN55024	Typically show no measurable effect from a 3V/m field swept from 80 to 1000MHz applied to the transceiver without a chassis enclosure.
Eye Safety	FDA 21 CFR 1040.10 and 1040.11 UL TUV EN 60825-1	Compliant with Class 1 laser product