

## 2.5Gbps RZ-DPSK Optical Transmitter & Receiver for Satellite-Ground Communication

### TR15-RZ-DPSK-2.5G

- C-band coverage 1529 ~1567nm
- Built-in ABC for Optical Modulator
- Built-in DPSK Precoder
- Precoder, ABC Reset, Laser On/Off
- Built-in Clock Data Recovery
- Phase Delay Fine Adjustment



### Specifications

Category	Parameter	Specification			
Transmitter Unit		Min.	Typ.	Max.	Unit
Optical Output/Input Ports	Laser Wavelength	1528.90		1567.21	nm
	Laser Frequency	191.29		196.09	THz
	Laser Output Power	10.0		15.0	dBm
	Wavelength Tuning Resolution	1.00			MHz
	Wavelength Tuning Accuracy		+/- 2.5		GHz
	Linewidth		< 100		kHz
	Output Polarization	Linear, Polarization Maintaining, Slow Axis aligns to connector key			
	Input Optical Power Range	10.0		16.0	dBm
	Modulated Output Power@Input > 10dBm	3.0			dBm
	Modulation Output Optical Format	RZ-DPSK			
	Optical Monitor Port Output	Modulation format before RZ Carving			
	Built-in Features	DPSK Precoder, Modulator Auto-Bias Controller			
	Input/Output Optical Fiber	PM1550			
Input/Output Optical Connector	FC/APC, SC/APC				
RF Input Characteristics	Data Format	NRZ			
	RF Signal Level @ 2.5Gbps		500.0		mVpp
	Bit-rate		2.5		Gbps
	Impedance		50		Ohm
	RF Connector	Advance SMA			
Electrical Characteristics	PC Interface	USB, Ethernet (Option)			
	Power Supply	AC 100~240 (50/60Hz)			
Physical	Dimension (W x H x D)	449 x 88 x 495			
	Weight	7.0			
Receiver Unit		Min.	Typ.	Max.	Unit
Optical Input Ports	Receiver Wavelength Range	1528.0		1570.0	nm
	Optical Power Range	-5.0		7.0	dBm
	Modulation Format	DPSK, RZ-DPSK			
	Receiver Bit-rate		2.5		Gbps
	Input Optical Fiber	SMF-28e			
	Input Optical Connector	FC/APC, SC/APC			
RF Output Characteristics	Output Signal Type	Demodulated NRZ Data & Clock			
	Demodulated Data/Clock Output Level	250	500	650	mVpp
	Impedance		50		Ohm
	Optical Connector	Advance SMA			
	Output Connector	FC/APC, SC/APC			
Functionality	FSR		2.5		GHz
	Phase Tuning Range (By Tuning Knob)		1.5		FSR
	Phase Tuning Accuracy		50		MHz
Electrical Characteristics	PC Interface	NIL			
	Power Supply	AC 100~240 (50/60Hz)			
Physical	Dimension (W x H x D)	449 x 88 x 495			
	Weight	7			
Operating Condition	Operating Temperature	15 ~ 35			
	Operating Humidity	< 80 RH, Non-condensing			

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### Typical Performance

#### Transmitter Unit Optical Output Waveform

Note: Input RF Signal is NRZ 2.5Gbps.

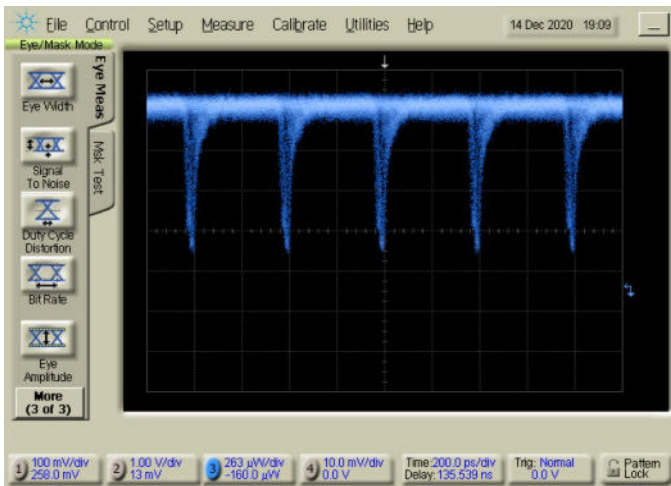


Fig.1: Monitor Output Signal (2.5Gbps, DPSK), Before RZ

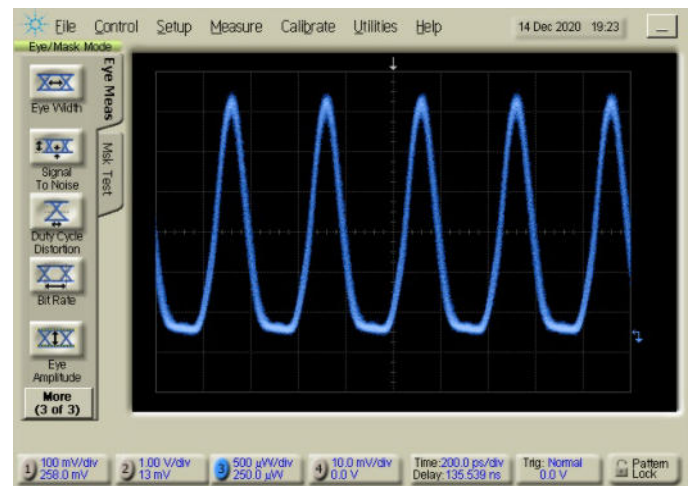


Fig.2: Main Output Signal (2.5Gbps, RZ-DPSK)

#### Receiver Unit RF Signal Output Waveform

Note: Input Optical Signal is RZ-DPSK 2.5Gbps.

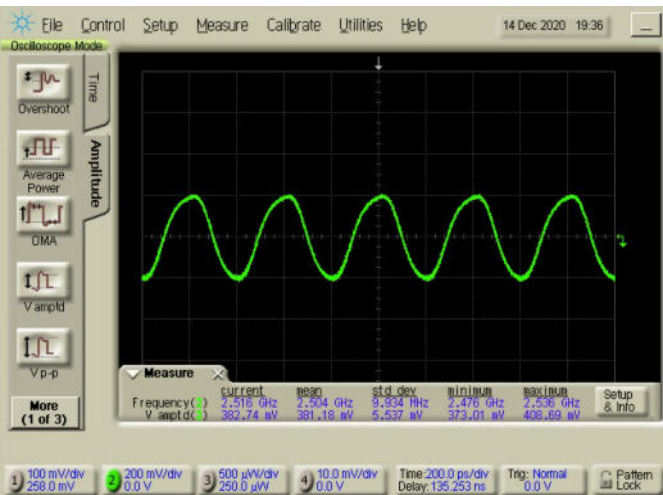


Fig.3: Recovered Clock Output (2.5GHz)

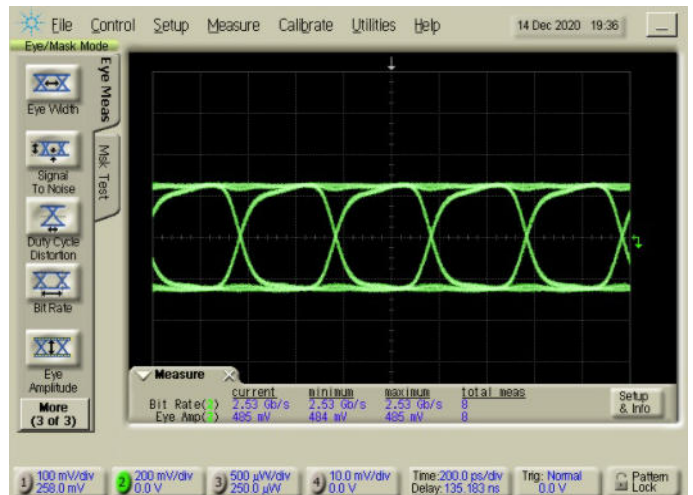


Fig.4: Recovered Data Waveform (NRZ 2.5Gbps)