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completing the picture

Sat-Light Platinum Series

PL7CD30T / PL7CD30R4 C-Band Optical RF Link

Features & Benefits

- Supports up to a full 4dB optical budget
- C-Band frequency range: 3400–4200MHz
- Powerful management capabilities via a front panel LCD and rack mounted SNMP
- User monitoring and control of required IMD levels
- Variety of RF and optical connectors
- 1550nm and CWDM ITU Grid laser options are available for longer fiber runs and single fiber multiplexing solutions

Product Description

Global Foxcom's Platinum C-Band products are designed to meet the increasing demand for modularity and high-performance in a small form factor for superior long-distance transmission. With high RF input power and wide dynamic range, the link is designed to provide full specification service up to a full 4dB optical budget with the PL7CD30R4 receiver.

Utilizing Global Foxcom's **DigiRF** technology, the user has full control of all important functions for setup, operation, and analysis via the front panel LCD or via the associated sub-rack SNMP capability.

In addition **IMizer**, an automated adjustable link calibration embedded system, enables the user to align the RF links IMD/CNR to specific linearity performances without a two-tone test. Select the desired IMD for the optical transmitter, either locally or remotely, **IMizer** automatically adjusts the laser drive to meet the IMD requirements.

Each low profile individual transmitter or receiver can be "hot swapped" in the sub-rack chassis maintaining the best subsystem uptime capability. Each module contains an individual processor to maximize specification performance at all times under demanding user applications.

The **PL7CD30T** transmitter and **PL7CD30R4** receiver are designed for chassis mounting. The associated Platinum chassis, model PL7010, has 12 active slots, one main control processor (MCP) slot and two redundant power supplies. No fans are required even under full sub-rack loading and full LNB powering.

Specifications

Wideband PL7CD30T / PL7CD30R4 Optical RF Link
Power Range, 4dB Optical Budget

RF Specifications	Units	Typical	Minimum	Maximum
Frequency Range–Bandwidth	MHz	3400–4200		3000
Amplitude Response @ Unity Gain				
3400–4200 MHz	dB	±2		±2.5
any 36 MHz		±0.5		±0.7
Gain Stability	dB/24hr	± 0.25		± 0.35
Gain Slope[1]	dB	0	-1.5	+1.5
Gain Variation over temperature	dB	± 1.5	-2	2
SFDR[2]	dB/Hz$^{2/3}$	100		
SFDR[3]	dB/Hz$^{2/3}$	105		
DR (Dynamic Range–single channel)[4]	dB			50
CNR [any 36 MHz][2]	dB	58	55	60
Noise Figure (NF)[2]	dB	37		40
Noise Figure (NF)[3]	dB	16		20
Output IP3 (OIP3)[5]	dBm	20		
Group Delay Variation–linear	ns			
3.4–4.2GHz		1		
Input/Output Impedance	Ohm	50		
1 dB Compression Point[5]	dBm	2		3
Phase Noise[6]	dBm	None		
Third Order Inter-Modulation [IMD][4]	dBc		-55	-40
Input Signal Range–Total Power[7]	dBm		-25	-5
Maximum Input without Damage	dBm			+15
RF Output Signal Range–Total Power	dBm			
[8]			-25	0
[9]			-25	0
TX/RX Input/Output Return Loss	dB			
50 Ohm		-12		-10
Test Port [front panel sample port][10]	dB	-20	-22	-18
RF Connector Type				
Input/Output		SMA		
Test Port		SMA		
Optical Specifications	**Units**	**Typical**	**Minimum**	**Maximum**
Optical Wavelength	nm	1310nm|1550nm|CWDM		
Optical Power Output	mW/dBm	2 / 3	1.7/2.5	
Optical Budget/Distance	dBm/Km	1310nm|1550nm		
(4dB optical budget)		8|15		
RX Optical Input Power	dBm	-1	-2	4
Optical Connector Types	Type	FC/APC or SC/APC (E2000 option)		
Optical Return Loss	dB		-60	-55
Electrical Specifications				
Supply Voltage	Vdc	12		
Supply Current [TX][11]	Amps	0.5		
Supply Current [RX]	Amps	.45		
EMI Rating		FCC Class B|CE Mark		
Physical Specifications				
Operating Temperature Range	ºC		-10	+55
Storage Temperature Range	ºC		-45	+85
Relative Humidity		95% non-condensing		

Altitude	ft / Km	10,000 [3.08] operating[12] 14,000 [12.2] non-operating
Dimensions [D×W×H]	ins/cm	12×0.8×4 / 30.5×2×10.2
Weight	lbs./Kg	0.5 / 0.23
MTBF	Hours	TX: 309, 481 RX: 359,057
MTTR	Hours	0.083
Shock & Vibration		Designed for normal transportation environment per section 514.4 MIL-STD-810E. Designed to withstand 20G at 11 ms [½ sine pulse] in non-operating configuration.

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1. Within flatness spec
2. -5 dBm RF input, link gain = 0 dB, IMD=-40 dBc @ 3 dB opt. budget [0 dBm optical input & max. RF input]
3. -25 dBm RF input, link gain =20 dB, IMD=-50 dBc @ 3 dB opt. budget [0 dBm optical input & min. RF input]
4. User adjustable
5. -5dBm RF in @ IMD=-50dBc
6. Direct modulation utilized
7. Alarm trip point: RED -2 dBm, AMBER -33 dBm
8. @ 0 dB optical loss
9. -@ 3 dB optical loss
10. -45 dBm minimum input
11. Under 10º add 120 mA [laser heating]
12. With standard adiabatic derating at 2ºC/1000ft. [0.3 Km.]

All specifications are subject to change without notice.
