

PL7230T / PL7230R16 RF UpLink High Power Input 16 dB Optical Budget 45Km - 1310nm or 70Km - 1550nm

Features & Benefits:

- ❖ L-Band: 950 – 3000 MHz
- ❖ More than 45Km. distance [70 Km with the PL7230T1550]
- ❖ Powerful management capabilities via a front panel LCD and rack mounted SNMP
- ❖ User control and setting of required IMD level
- ❖ LNB power control via LCD or SNMP: +13 or 18 VDC
- ❖ Variety of RF and optical connectors
- ❖ 1550nm and CWDM ITU Grid laser versions are available for longer fiber runs and single fiber CWDM multiplexing solutions.



Product Description

Foxcom's Platinum L-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 16 dB optical budget with the **PL7230R16** receiver .

Utilizing 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 subrack 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. The **IMizer** requires the use of a correction factor table above 2.5 GHz.

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

The **PL7230T** transmitter and the **PL7230R16** 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 subrack loading and full LNB powering.

Specifications

L-Band PL7230T [PL7230T1550] / PL7230R16 Link
High Power Input, 16 dB optical budget [45Km - 1310nm or 70Km - 1550nm]

RF Specifications	Units	Typical	Minimum	Maximum
Frequency Range - Bandwidth	MHz	950 - 3000		-
Amplitude Response @ Unity Gain 950–3000 MHz any 36 MHz	dB	±1.25 ±0.2		±1.5 ±0.25
Gain Stability	dB/24hr	±0.2		± 0.25
Gain slope ¹	dB		-1.0	+1
Gain Variation over temperature	dB		-2	2
SFDR ²	dB/Hz ^{2/3}	95		
SFDR ³	dB/Hz ^{2/3}	99		
DR (Dynamic Range - single channel) ⁴	dB			30
CNR [any 36 MHz] ³	dB	50	48	53
Noise Figure (NF) ²	dB	44	42	45
Noise Figure (NF) ³	dB	20	17	22
Output IP ₃ (OIP ₃) ⁵	dBm	-	15	20
Group Delay Variation- linear @ 950 to 1200 MHz 1200 to 3000 MHz	ns	3 1.5		
Input/Output Impedance	Ohm	50 or 75		
1 dB Compression Point	dBm	2		3
Phase Noise ⁶	dB	None		
Third Order InterModulation [IMD] ⁷	dBc		-55	-40
RF Input Signal Range - Total Power	dBm		-30	-5
Maximum input without damage				+15
Output Signal Range - Total Power ⁸	dBm		-30	-5
TX/RX Input/Output Return Loss 50 Ohm 75 Ohm ⁹	dB	-15 -13		-15 -11
Test Port [front panel sample port] ¹⁰	dB	-20	-22	-18
RF Connector Type Input / Output Test port			F, SMA, N F, BNC =center>	
Optical Specifications	Unit	Typical	Minimum	Maximum
Optical Wavelength	nm	1310/1550/CWDM		
Optical Power Output	mW/dBm	2 / 3	1.7/2.5	
Optical Budget / Distance 16 dB optical budget	Km	1310 nm 1550 nm 45 70		

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RX Optical Input Power	dBm	-13	-14	-7
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 11 TX, No LNB TX with LNB	Amps	0.45 0.75		
EMI Rating	EMI Rating: FCC Part 15 Class B CE Mark			
Physical/Environmental Specifications				
Operating Temperature Range	°C		-10	+55
Storage Temperature Range	°C		-45	+85
Relative Humidity	95% non-condensing			
Altitude	ft / km	10,000 [3.08] operating ¹² 14,000 [12.2] non-operating		
Dimensions [DxWxH]	ins/cm	12x0.8x4 / 30.5x2x10.2		
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 @ -7 dBm dBm optical input - max. RF input
 3. -30 dBm RF input, link gain =25 dB, IMD=-40 dBc @ -7 dBm optical input - min. RF input]
 4. User adjustable
 5. -5 dBm RF in @ IMD=-40 dBc
 6. Direct modulation utilized
 7. Adjustable. Above -10 dBm input min. -50 dBc
 8. Alarm trip point: RED -2 dBm, AMBER -33 dBm
 9. -15 dB @ 950 to 3000 MHz, -11 dB @ 2500 to 3000 MHz
 10. -45 dBm minimum input
 11. Under 10° add 120 mA for TX [laser heating]
 12. With standard adiabatic derating at 2°C/1000ft. [0.3 Km.]

All specifications are subject to change without notice.

Ordering Information

Example: PL7230T-50SMA-SC

L-Band, high RF input transmitter, 1310 nm laser, 50-Ohm SMA RF connector and SC/APC optical connector

PL7

2	3	0	T	Null	50SMA	SC
A	B	C	D	E	F	G

A Platinum Product

- 00 - MCP
- 01 - Chassis & PS
- 0 - 5 MHz Tx/Rx
- 1 - 10 MHz Tx/Rx
- 2 - L-Band Tx/Rx
- 3 - IF Tx/Rx
- 4 - Wideband Tx/Rx
- 5 - Data XVCR
- 6 - Accessories
- 7 - Non-chassis mount products

B Tx RF Input/Rx RF output

- 2 - Low power input
- 3 - High power input

C Product Series

- Null - None [default]
- 1 - 1st series
- 2 - 2nd series
- etc.

D Module Type

- T = Tx
- R = Rx
- S = Serial data
- E = Ethernet
- G = GigE

E Laser for Tx & Optical Budget for Rx

- Tx: Null = 1310nm laser
- 1500 = 1550nm laser
- XXXX = ITU grid
- Rx: 4=4dB 18=18dB
- 10=10dB 25=25dB

RF Connector

- 75F = 75-Ohm F
- 75BNC¹ = 75-Ohm BNC
- 50BNC¹ = 50-Ohm BNC
- 50SMA = 50-Ohm SMA
- 50N = 50-Ohm N

G Optical Connector

- Null = FC/APC [default]
- SC = SC/APC
- E2 = E2000

1. Not available on L-Band and Wideband products

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