

## PL7440T/ PL7440R16 RF Link Wide Power Range, 16 dB Optical Budget 45Km - 1310nm or 70Km - 1550nm

### Features & Benefits:

- ❖ Wideband: 10 – 3000 MHz
- ❖ More than 45Km. distance [70Km with the PL7440T1550]
- ❖ Powerful management capabilities via a front panel LCD and rack mounted SNMP
- ❖ User control and setting of required IMD level
- ❖ 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

Foxcom's Platinum Wideband 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 **PL7440R16** 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 **PL7440T** transmitter and **PL7440R16** 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

**Wideband PL7440T [PL7440T1550] / PL7440R16 RF Link**  
**Wide Power Range, 16 dB Optical Budget [45Km - 1310nm and 70Km - 1550nm]**

RF Specifications	Units	Typical	Minimum	Maximum
Frequency Range - Bandwidth	MHz	10 - 3000		
Amplitude Response @ Unity Gain 10 - 3000 MHz any 36 MHz	dB	±2 ±0.2		±2.25 ±0.3
Gain Stability	dB/24hr	± 0.2		± 0.25
Gain Slope	dB	0	-1.5	+1.5
Gain Variation over temperature	dB		-2	2
SFDR1	dB/Hz <sup>2/3</sup>	98		
SFDR2	dB/Hz <sup>2/3</sup>	90		
DR (Dynamic Range - single channel) <sup>3</sup>	dB			50
CNR [any 36 MHz] <sup>1</sup>	dB	52	50	
Noise Figure (NF) <sup>1</sup>	dB	32	30	35
Noise Figure (NF) <sup>2</sup>	dB	15	13	18
Output IP3 (OIP3) <sup>4</sup>	dBm	20	-5	
Group Delay Variation-linear 10 to 60 MHz 60 - 3000 MHz	ns	13 1.5		
Input/Output Impedance	Ohm	50 or 75		
1 dB Compression Point <sup>5</sup>	dBm	11		3
Phase Noise <sup>6</sup>	dBm	None		
Third Order InterModulation [IMD] <sup>3</sup>	dBc		-55	-40
Input Signal Range - Total Power <sup>7</sup>	dBm		-50	0
Maximum Input Without Damage	dBm			+15
Output Signal Range - Total Power	dBm		-40	0
TX/RX Input/Output Return Loss 50 Ohm 75 Ohm <sup>11</sup>	dB	-15 -13		-15 -11
Test Port [front panel sample port] <sup>8</sup>	dB	-20	-22	-18
RF Connector Type Input/Output Test Port			F, SMA, N F, BNC	
Optical Specifications		Typical	Minimum	Maximum
Optical Wavelength	nm	1310/1550/CWDM		

**Wideband PL7440T [PL7440T1550] / PL7440R16 RF Link**  
**Wide Power Range, 16 dB Optical Budget [45Km - 1310nm and 70Km - 1550nm]**

Optical Power Output	mW / dBm	2 / 3	1.7/2.5
Optical Budget / Distance 16 dB optical budget	dBm/Km	1310 nm   1550 nm 45   70	
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
<b>Electrical Specifications</b>			
Supply Voltage	Vdc	12	
Supply Current [TX]9	Amps	0.5	
Supply Current (RX)	Amps	0.45	
EMI Rating		EMI Rating: FCC Class B CE Mark	
<b>Physical Specifications</b>			
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 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. -15 dBm RF input, link gain = 15 dB, IMD=-40 dBc @ -7 dBm optical input
  2. -45dBm RF input, link gain =25 dB, IMD=-40 dBc @ -7 dBm optical input & min. RF input
  3. User adjustable
  4. -0 dBm RF in @ IMD=-40 dBc
  5. -25 dBm RF input, link gain = 0 dB, IMD=-40 dBc @ 16 dB opt. budget [-13 dBm optical input - max. RF input]
  6. Direct modulation utilized
  7. Alarm trip point: RED -2 dBm, AMBER -53 dBm
  8. -45 dBm minimum input
  9. Under 10° add 120 mA [laser heating]
  10. With standard adiabatic derating at 2°C/1000ft. [0.3 Km.]
  11. -13 dB @ 10 to 3000MHz, -11dB @ 2500 to 3000MHz

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 - 1<sup>st</sup> series
- 2 - 2<sup>nd</sup> 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
- 75BNC<sup>1</sup> = 75-Ohm BNC
- 50BNC<sup>1</sup> = 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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