



## Sat-Light Gold Series

# GL7222 GPS Optical Link



## Features & Benefits

- Optimized for GPS applications with Built in Band pass filter
- Selectable GPS antenna powering voltage
- Supports both L5, L2 & L1 GPS bands
- 10Km transmission distance
- Selectable AGC/MGC
- Front panel test port
- Powerful monitoring features
- Compatible with all 1st generation Sat-Light products

## Product Description

Global Foxcom's Sat-Light/Gold L-Band Interfacility Link offers a high performance, cost effective alternative to conventional coaxial-cabled systems. The Gold GPS Link covers the frequency range of 1150 to 1610MHz and supporting L1, L2 and L5 GPS bands. The Gold Series GPS link is compatible with wide range of active GPS antenna and is equipped with a 3.3/5V voltage selectable GPS antenna powering.

The optical transmitter is equipped with a custom Band pass filter on its RF input which blocks unwanted signals such as high-power cellular signals, terrestrial broadcast signals and WiFi, blocking these signals helps guarantee link performances in a noisy environment.

The new GPS link is compatible with first generation Sat-Light 7000 Series platform. The Gold Series support L-Band, 70/140MHz IF, Wide Band (10-2200 MHz), 10MHz Reference, Redundancy, M & C, SNMP, Ethernet, and Serial Data Communication.

The link consists of a GPS optical transmitter, which receives the RF signal from an active GPS antenna, and an optical receiver that connects to the indoor GPS receiver.

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## Specifications

### GL7222 GPS Optical Link; L-Band [1150-1610MHz], 4dB Optical Budget

RF Specifications	Units	Typical	Minimum	Maximum
Frequency range	MHz	1150-1610MHz		
Link gain <sup>3</sup>	dB	Adjustable		+30
Amplitude Response @ Unity Gain 1150-1610MHz any 36 MHz	dB	±1 ±0.25		±1.5 ±0.3
Gain Stability	dB/24hr	±0.25		±0.3
SFDR <sup>1</sup>	dB/HZ/2/3	103	100	
CNR [any 36 MHz] <sup>1</sup>	dB	60	55	
Noise Figure <sup>1</sup>	dB	10		
Output IP3 (OIP3) <sup>2</sup>	dBm	-12.5	-15	-10
Third Order Inter-Modulation [IMD] <sup>3</sup>	dBc	Adjustable	55	30
Group Delay Variation- linear 1150 - 1610MHz	ns	4		5
Input Signal Range – Total Power	dBm			-60
Maximum Input without Damage	dBm		+15	
Input/Output impedance	50			
TX/RX Input/Output return loss 50 Ohm	dB	-14		-14
RF Connector Type Input/Output Test Port		BNC, SMA BNC		
Test Port [front panel sample port]	dB	-20	-22	-18
Optical Specifications	Units	Typical	Minimum	Maximum
Optical power output	dBm	3	1	4
Optical budget / distance 4 dB optical budget	dB/Km	1310 nm   1550 nm 8   15		
Optical connector types		FC/APC or SC/APC		
Optical wavelength	nm	1310/1550/CWDM		
Electrical Specifications	Units	Typical	Minimum	Maximum
Supply voltage	VDC	13	12.7	18
Supply current [TX] <sup>4</sup>	Amps	0.4		
Supply current (RX)	Amps	0.3		
Physical Specifications	Units	Typical	Minimum	Maximum
Operating temperature range			-10	+55
Dimensions [D×W×H]				
MTBF	Hours	TX: 309, 481   RX: 359, 057		

1. -60dBm RF input, 30dB link gain, IMD=40dBc @ 1meter fiber	3. User adjustable
2. -40dBm RF Output, IMD=-55dBc	4. Under 10°C add 120 mA [laser heating]

## Ordering Information

Model Number	Description
GL7222T-1310-FC-SMA	Sat-Light Gold GPS fiber optic Transmitter (1.15 - 1.61GHz). Low RF Input (>-45dBm) Fixed gain. 5V/3.3v LNB Powering. 1310nm DFB Laser.
GL7222R4-FC-SMA	Sat-Light Gold GPS Fiber optic Receiver (1.15 - 1.61GHz) w/ Low RF output (>-45), Manual Gain Control; 4dB Optical Budget. 50-Ohm SMA RF Connector