



# XiMod Outdoor Modules

## complete fiber remoting systems



- DIRECT CONNECTION TO ANTENNA
- ELIMINATES LONG COAX RUNS
- ULTRA LOW NOISE
- OPERATION TO 20 GHz
- LINK LENGTHS TO 25 km
- RF TEST PORT OUTPUT
- RAPID DEPLOYMENT
- NO FREQUENCY CONVERSION

### Antenna Remoting Made Simple

Linear Photonics provides complete outdoor fiber transmitter system solutions that eliminate the need for external LNAs, coax runs and biasing feeds. The modular design incorporates an ultra low noise wideband LNA into the Pre-amplifier, allowing for direct connection to an antenna output.

The three-section modular design includes the Core fiber optic transmitter, the Pre-amplifier module, and the AC or DC Power Supply module. The Pre-amplifier can be configured for various bandwidth and dynamic range levels for rapid configuration and deployment.

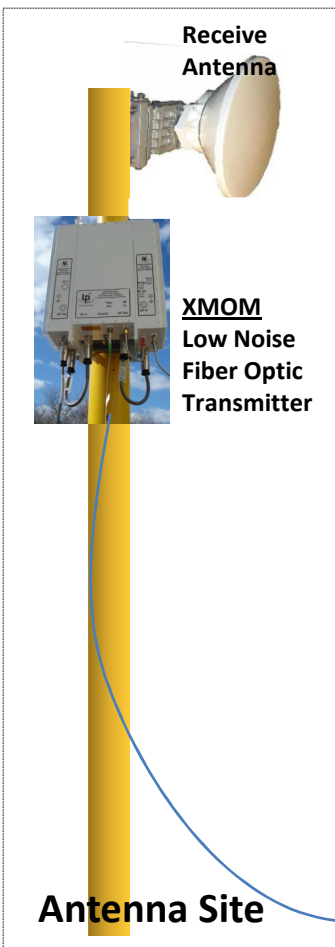
Pre-amplifier and Power Supply modules mount directly to the center Core at time of installation. Both Pole-Mount and Wall-Mount options are accommodated.

Frequency ranges up to 20 GHz provide secure communications and signal transport with the benefits of low loss vs. length, EMI immunity and freedom from line-of-sight and atmospheric fade. There is no need for either local oscillator distribution or frequency translation.

The link is can span a distance of up to 25 km using Linear Photonics IFL Broadband Photoreceivers.

### A Customized System from Customizable Modules

- Power Supply Module
  - AC or DC
- Core Fiber Transmitter Module
  - Consists of Linear Photonics Broadband High Performance Fiber Optic Transmitter
- PreAmplifier Module
  - Customizable to meet any platform requirement
  - LNA Front-end, Broadband options
  - Gain/Compression options optimize your system
  - Bias Tee option for use with separate LNA



# Antenna Remoting Made Simple

## Modular Configuration

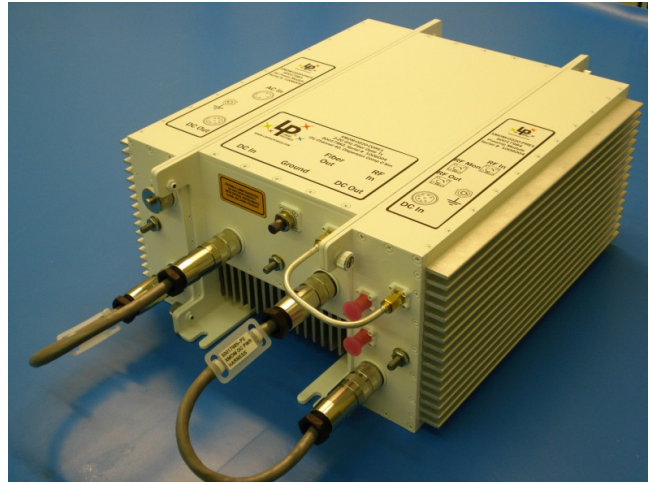
Power Supply



Core



PreAmplifier



Fully Assembled Fiber Transmitter System

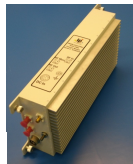
### TYPICAL SYSTEM IMPLEMENTATION

	Preamp	Core	
Gain (dB)	30	-8	15
NF (dB)	2.4	23	4
IP1 (dBm)	-31	-4	5

System: Gain = 37 dB NF = 2.9 dB IP1 = -34 dBm

## System Performance Example

Broadband Low Noise Preamp  
XMOM-0220-PRE1

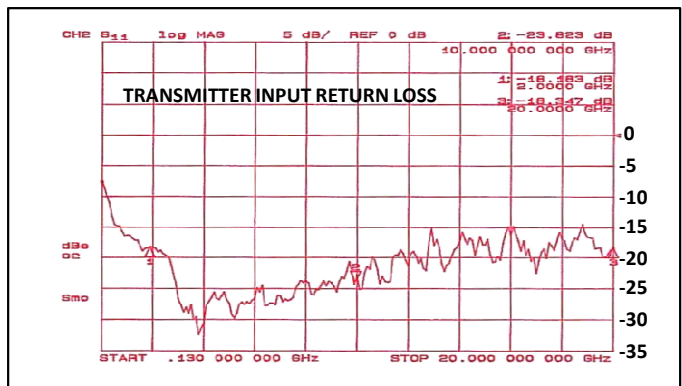
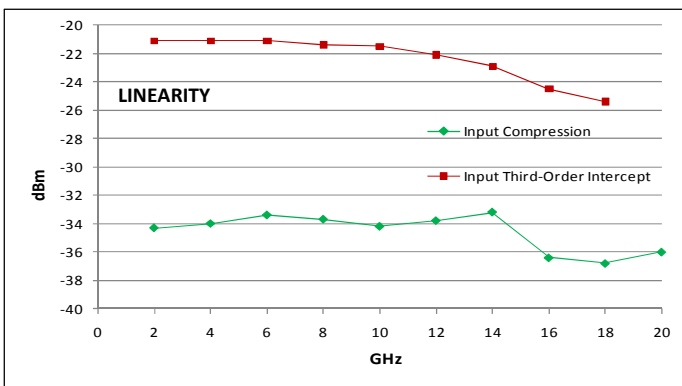
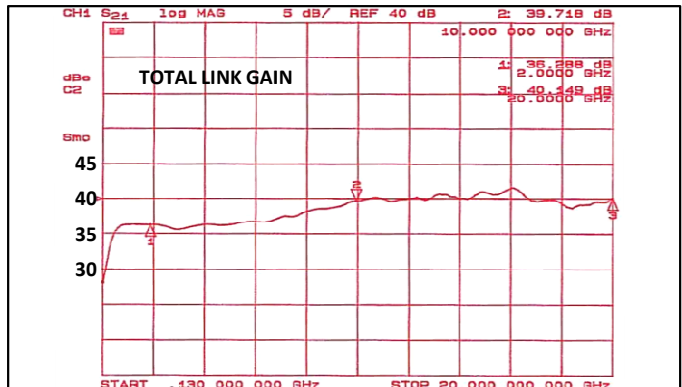
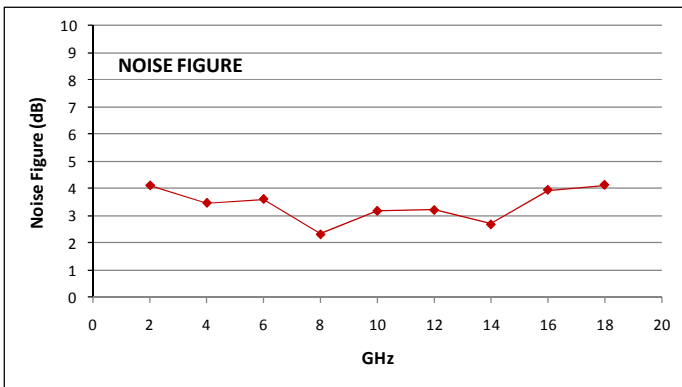


Standard Core Module  
XMOM-0220-CORE1

Photoreceiver  
IFL-XMR-A0220



~ 1 km



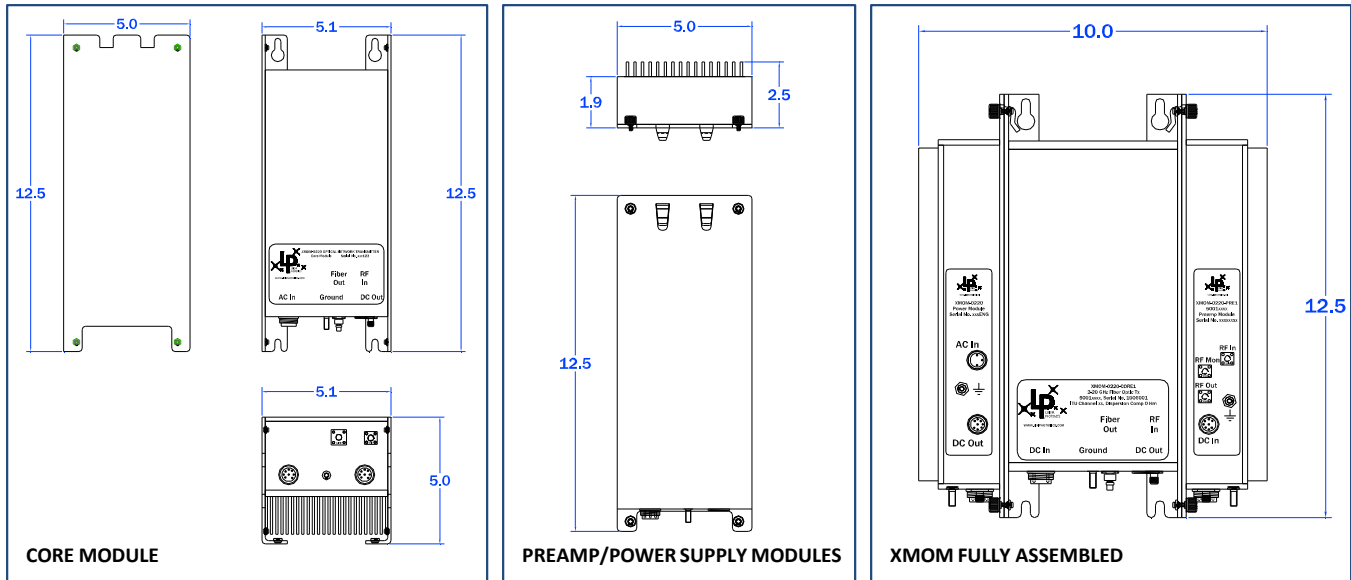
# XMOM System Specifications



		Broadband System with Integrated LNA			Broadband System for External LNA		
Preamplifier		0220-PRE1	0220-PRE1	0220-PRE1	0220-PRE2	0220-PRE2	0220-PRE2
Core		0220-CORE1	0220-CORE-DC10	0220-CORE1-DC20	0220-CORE1	0220-CORE-DC10	0220-CORE1-DC20
Receiver		XMR-A0220	XMR-A0220	XMR-A0220	XMR-A0220	XMR-A0220	XMR-A0220
Operational Frequency Band	GHz	2 to 20			2 to 20		
Link Length	km	0 to 5	5 to 15	15 to 25	0 to 5	5 to 15	15 to 25
Link Gain, Centerband,	min	34	26	18	14	6	-2
	max	40	32	24	20	12	4
Gain Slope, Full Band	typ	+5	+3	0	+5	+3	0
Noise Figure,	centerband, typ	3	4.5	8	17	22	28
	full band, typ	5	6	8.5	20	25	31
Input P1dB,	centerband, min	-36			-16		
	full band, min	-40			-20		
Input IP3	centerband, min	-26			-6		
	full band, min	-30			-10		
Test Port Output w/r to Input	min	+12			+12		
Input Return Loss	max	-10			-10		
	typ	-20			-15		
Wavelength	nm	Standard Core: 1550 ± 30, -CH Core: ITU grid			Standard Core: 1550 ± 30, -CH Core: ITU grid		
Tx Optical Power	min	8			8		
Fiber		Single Mode SMF-28e 9 μm			Single Mode SMF-28e 9 μm		
Operating Temperature Range							
Transmitter, Outdoor Ambinet	°C	-20 to 50			-20 to 50		
Receiver, IFL Rack Enclosure	°C	0 to 50, non-condensing			0 to 50, non-condensing		
Optical Connector							
Transmitter		Diamond AVIM			Diamond AVIM		
Receiver		FC/APC			FC/APC		
RF Connectors		SMA female			SMA female		
Power Input Connector		Amphenol C091 31W003 1002 Panel Mount			Amphenol C091 31W003 1002 Panel Mount		
Input Voltage							
-PAC version		110 or 220 VAC, autoselected / 50-60 Hz			110 or 220 VAC, autoselected / 50-60 Hz		
-PDC version		tbd			tbd		
Power Consumption	max	W	50	50	50	50	50
DC Power available at RF input		-- open --			+15 V, 250 mA max		
Weight	lbs	17			17		

System Specifications are for indicated module combinations, at 25°C, and are intended to highlight the most common implementations. XMOM System modules are intended to be customized for specific applications. Call the factory for system design support.

## XMOM Outline Dimensions



## XMOM Part Numbering

### Core Module

XMOM-CORE1

Standard 0 - 5 km Core Transmit Module, 2-20 GHz

Options:

-DC10      5 – 15 km link length  
 -DC20      15 – 25 km link length  
 -CHnn      ITU channel nn (200 GHz grid)

### Preamplifier Module

XMOM-ffff-PRE1

Low Noise Broadband Preamplifier

XMOM-ffff-PRE2

Preamplifier for use with External Bias Tee

ffff = Frequency Band, i.e. "0220" = 2 to 20 GHz

### Power Supply Module

XMOM-PAC

AC Power Supply

XMOM-PDC

DC Power Supply

### Pole Mount Kit

XMOM-POLn

Pole Mount kit containing: 2 Unistrut Rails  
 2 Pole Strut Clamps  
 Rail & Clamp Mounting Hardware  
 Unistrut Rails mount directly to the XMOM  
 n = Pole Diameter, i.e. "4" = 4 inch

### Cable Kit

XMOM-CBL

Cable Kit containing: 2 Module Power/Interface Cables  
 1 PreAmp to Core RF Cable