

Features

- High Bandwidth
- Low Noise
- High Dynamic Range
- Pre- and Post-Amplified Options
- Wide Temperature Range
- Monitoring and Alarm
- TTL Disable

Applications

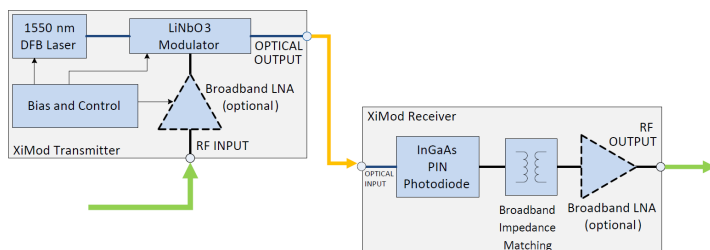
- Broadband Communications
- Antenna Remoting
- Sensor Systems
- Radar Systems

Description

Xi-Mod Transmitter and Receiver modules provide a complete solution for transporting wide bandwidth microwave signals over optical fiber. Optimized for frequencies up to 26 GHz, these links are used for many applications such as Antenna Distribution, Electronic Warfare (EW) systems, Radar, Sensors, and Satellite Communications (SATCOM).

Xi-Mod Transmitters feature an external modulator and an ultra low noise laser source. Xi-Mod Receivers feature an InGaAs high-responsivity PIN photoreceiver and provide DC to 26 GHz bandwidth in a 2" x 3" housing. Together they provide a low noise, high linearity link with unrivaled performance and dynamic range.

Xi-Mod modules have analog optical power monitoring, TTL alarm reporting, and TTL ON/OFF control. Embedded transmitter pre-amp and receiver post-amp options provide the flexibility to optimize your system requirements.



Xi-Mod Receiver Pinout		
Pin	Function	Description
1	No Connect	
2	+5 ±0.25 V	Unamp: 20 mA max Amp: 200 mA max
3	No Connect	
4	ALARM	TTL High Output if Low Optical Power
5	GROUND	
6	Optical Power Monitor.	Analog Output 0.5 V/mW
7	No Connect	
8	No Connect	
9	No Connect	

Xi-Mod Transmitter Pinout		
Pin	Function	Description
1	No Connect	
2	Power	Power Supply Input (+5V)
3	No Connect	
4	Alarm	TTL Low Output if Over-Temp or Over-Current
5	GROUND	
6	Optical Power Monitor.	Analog Output 0.25 V/mW
7	Power Down	TTL Low Input disables output power
8	Laser Current Mon.	Analog Output 100 mA/V
9	External Reset	TTL Low Input pulse will reset modular bias

Transmitter Specifications

Parameters	Unit	Min.	Typical	Max
Optical Wavelength	nm	-	1550 ± 30	
Optical Power	dBmo	-	9	-
Max RF Input				
Amplified	dBm	-	+10	-
Unamplified	dBm	-	+20	-
Input VSWR				
0.5 to 18 GHz	-	-	2:1	-
18 to 26 GHz	-	-	2.5:1	-
Power Supply				
Supply Voltage	V	-	5 ± 0.25	-
Amplified Current	A	-	-	5
Unamplified Current	A	-	-	4

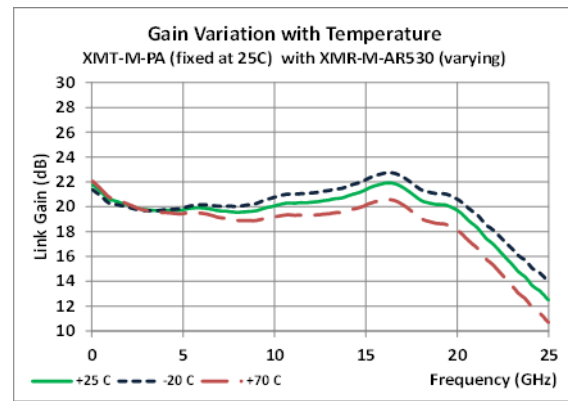
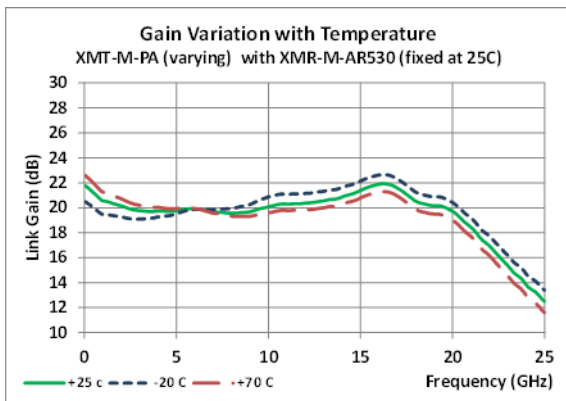
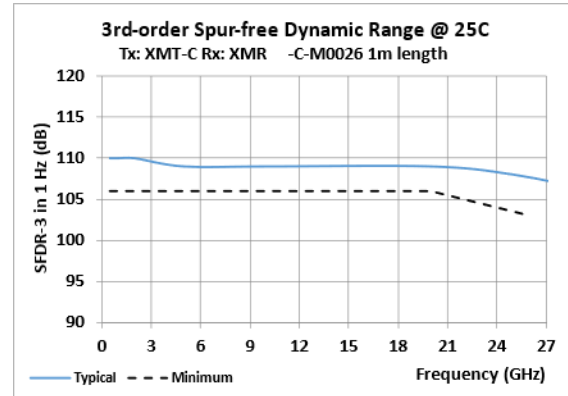
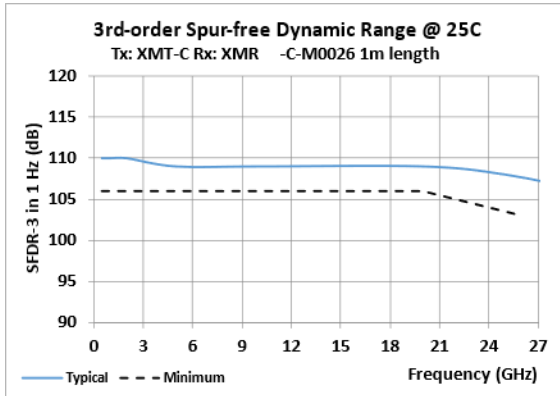
Receiver Specifications

Parameters	Unit	Min.	Typical	Max
DC Responsivity	A/W	-	0.9	-
Input Wavelength	nm	1200	-	1600
Optical Input Power	dBmo	-	-	+10
Output VSWR				
0.5 to 18 GHz	-	-	2:1	-
18 to 26 GHz	-	-	2.5:1	-
Power Supply				
Supply Voltage	V	-	5 ± 0.25	-
Amplified Current	mA	-	250	-
Unamplified Current	mA	-	35	-

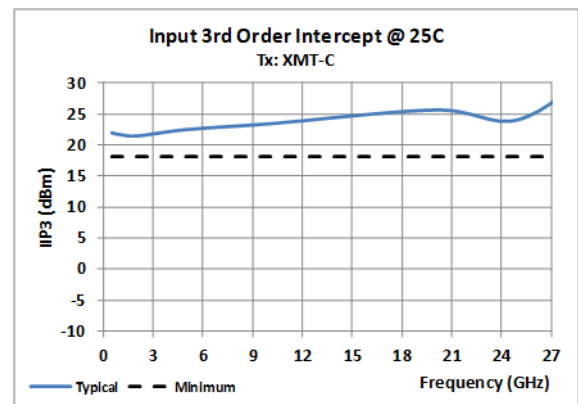
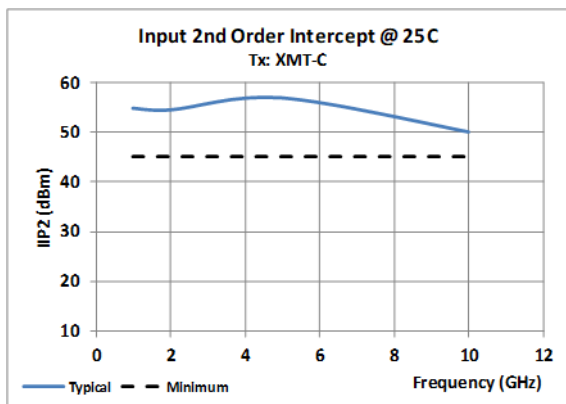
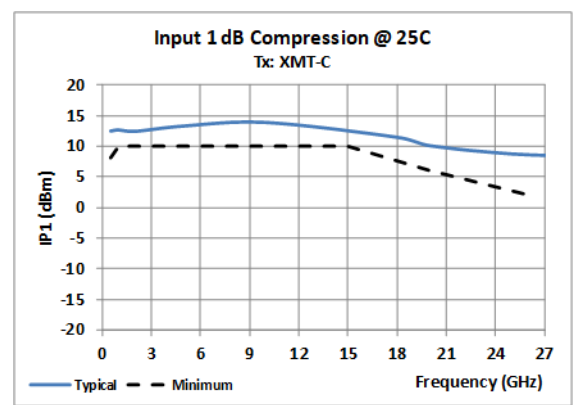
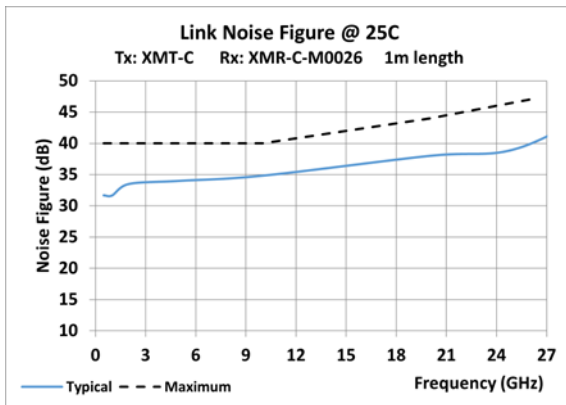
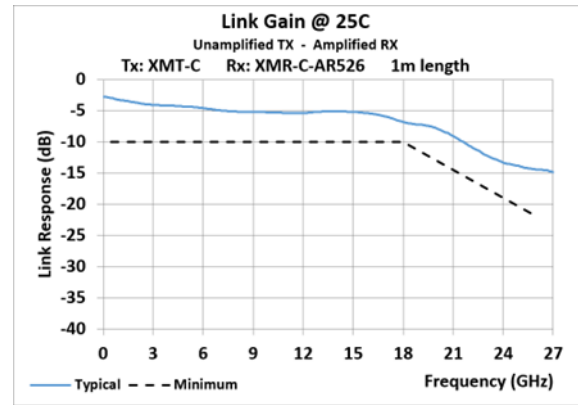
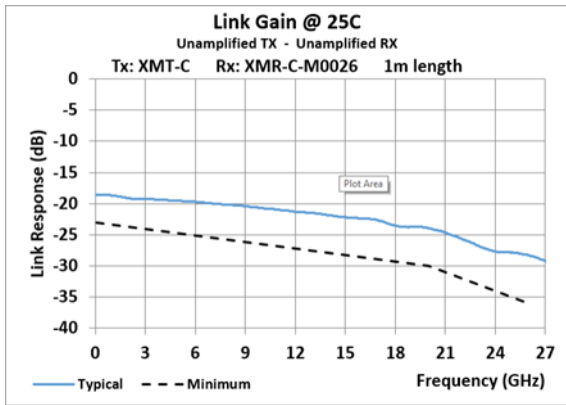
Link Performance @ 2m Fiber Length¹, T=25°C and 20GHz

Link Configuration	Gain (dB)	NF (dB)	Input P1dB (dBm)	Input IP3 (dBm)	SFDR (dB/Hz ^{2/3})	TX Model	RX Model
Unamplified Link	-25	38	13	21	109	XMT-C	XMR-C-M0026
w/ Pre-amp	4	14	-11	4	107	XMT-C-PA	XMR-C-M0026
w/ Post Amp	-7	38	13	25	109	XMT-C	XMR-C-AR526
w/ Pre-amp + Post amp	20	14	-11	5	107	XMT-C-PA	XMR-C-AR526

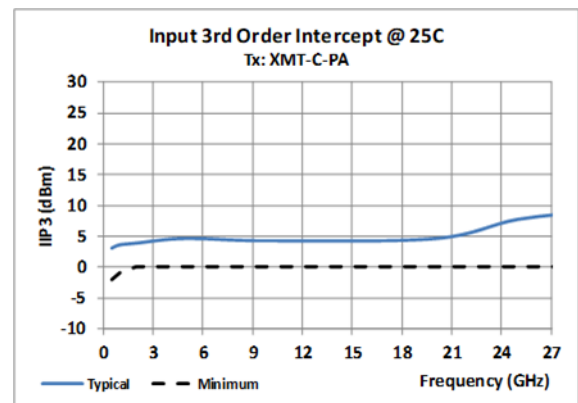
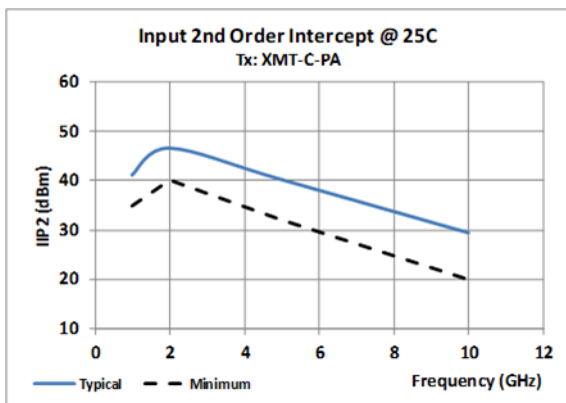
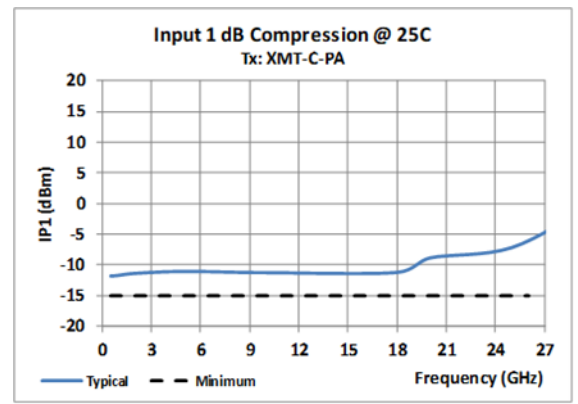
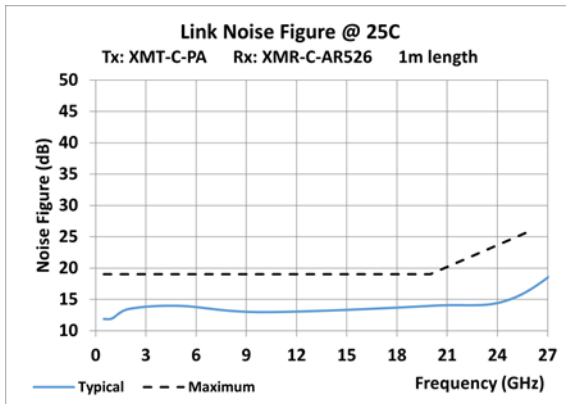
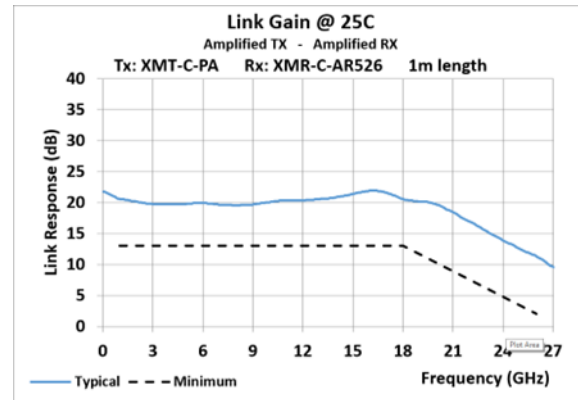
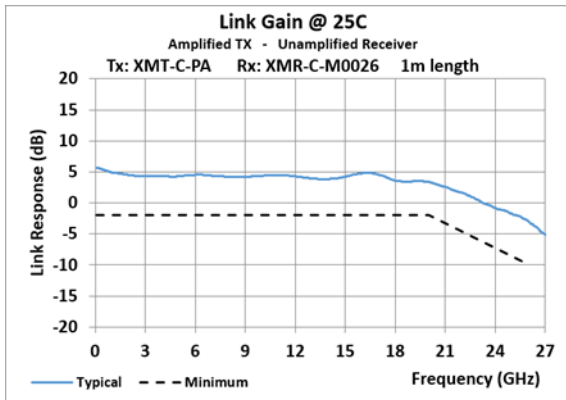
Typical Performance Curves



Unamplified Xi-Mod Transmitter Performance Curves



Amplified Xi-Mod Transmitter Performance Curves



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