

Features

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

Applications

- Antenna Distribution
- Electronic Warfare Systems
- Radar
- Sensor Systems
- SatCom

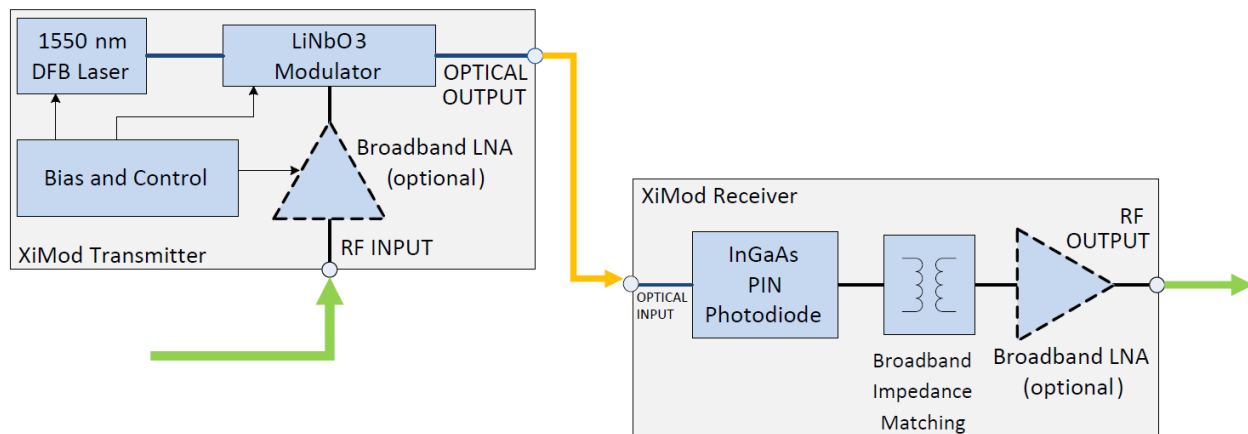


Description

MACOM IFL-XiMOD Transmitter and Receiver plug-in modules provide high density, high reliability, interchangeable RF over Fiber links for use in our 1RU IFL chassis. 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).

IFL-XiMOD Transmitters feature an external modulator and an ultra low noise laser source, in one double-wide module. The IFL-XiMOD Receivers feature an InGaAs high-responsivity PIN photoreceiver in one single-wide module. Together, these modules provide a low noise, high linearity, 100 MHz to 26 GHz bandwidth link with unrivaled performance and dynamic range.

Embedded transmitter pre-amp and receiver post-amp options provide the flexibility to optimize your system performance.



Specifications

Parameter	Units	Value
Transmitter Specifications		
Optical Wavelength ¹	nm	1550 ± 30
Optical Power	dBmo	9 (typ)
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
Receiver Specifications		
DC Responsivity	A/W	0.9 (typ.)
Input Wavelength Range	nm	1200 - 1600
Max Optical Input Power	dBmo	+10
Output VSWR		
0.5 to 18 GHz		2:1
18 to 26 GHz		2.5:1

¹ Consult factory for wavelength selection options

IFL Xi-Mod Ordering Information

Transmitter Ordering Information

IFL-XMT - **a**

a Amplifier Option

omitted: No Preamplifier, DC to 26 GHz
PA: Preamplifier 0.5-26 GHz

ex: IFL-XMT-PA
IFL XiMod Transmitter
with Preamplifier

Receiver Ordering Information

IFL-XMR - **a**

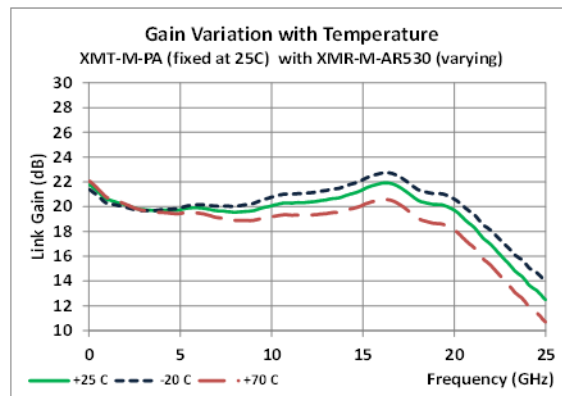
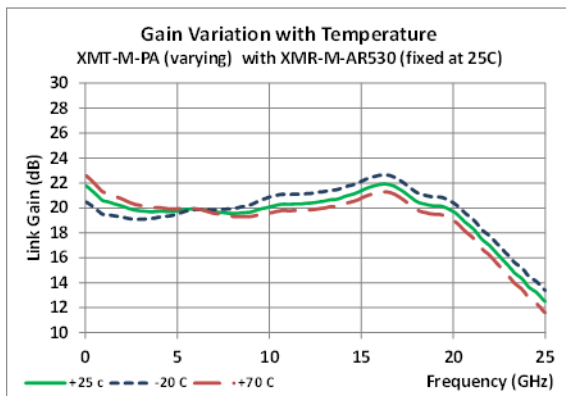
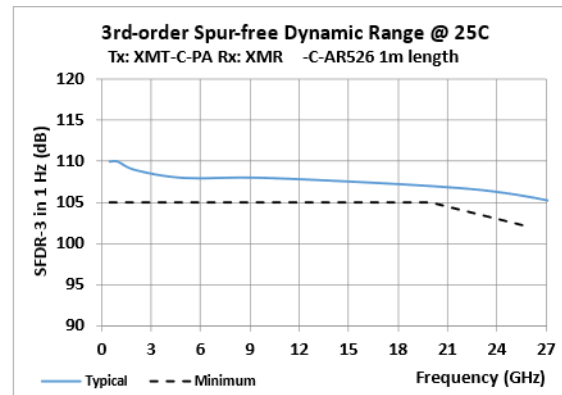
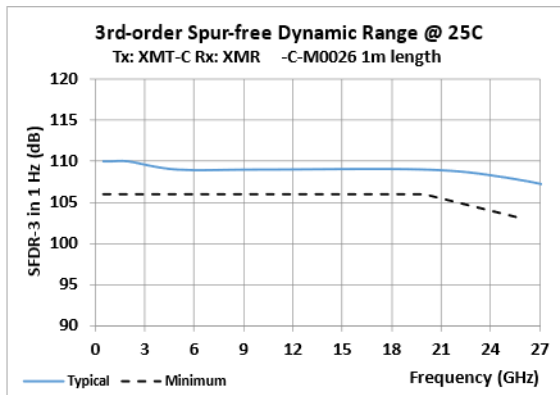
a Amplifier and Band Options

M0026: DC to 26 GHz, Passive
AR526: 0.5 to 26 GHz, Extended Low End Postamp

ex: IFL-XMR-M0026
XiMod Receiver
DC to 26 GHz

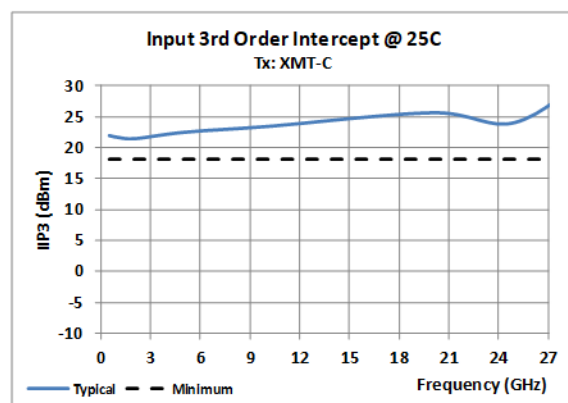
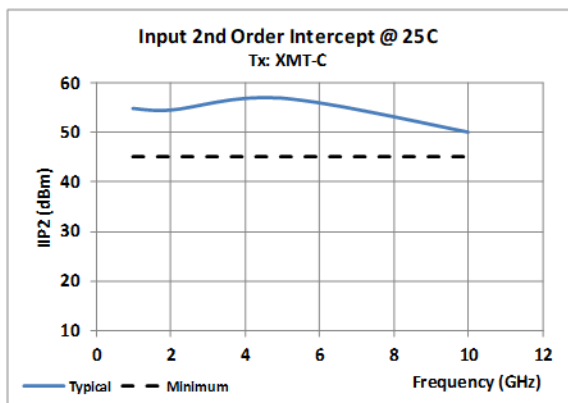
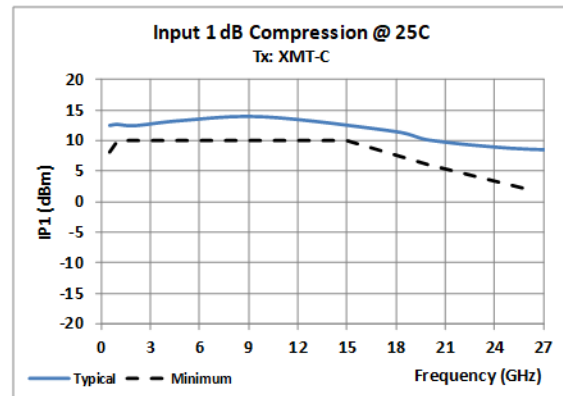
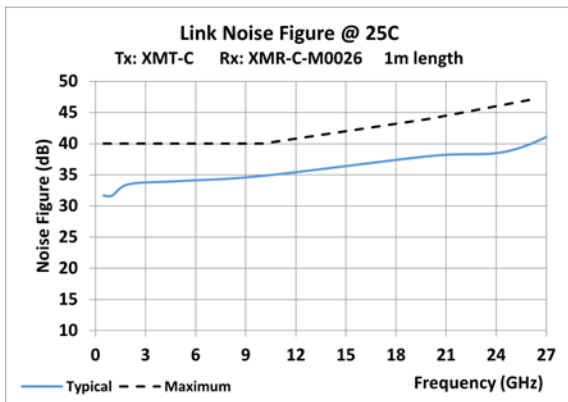
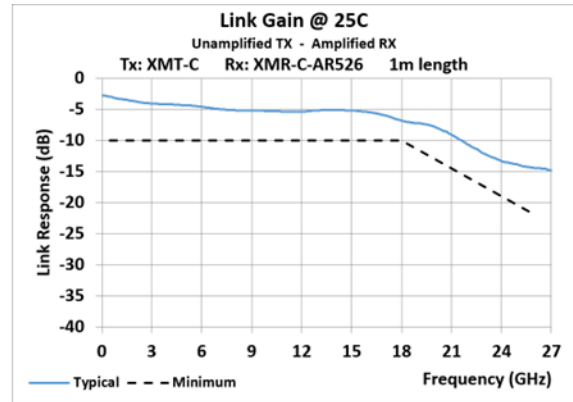
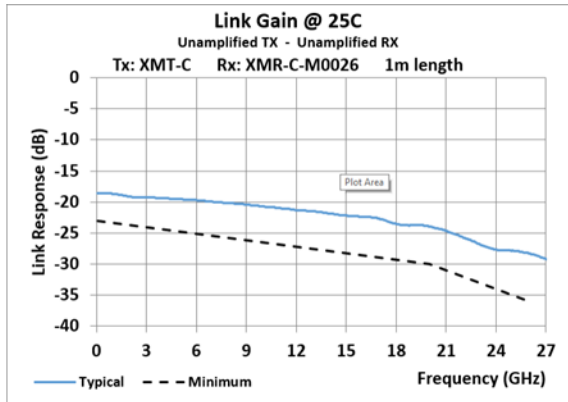
IFL-XiMod Link Performance 1m Fiber Length¹, T=25°C

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

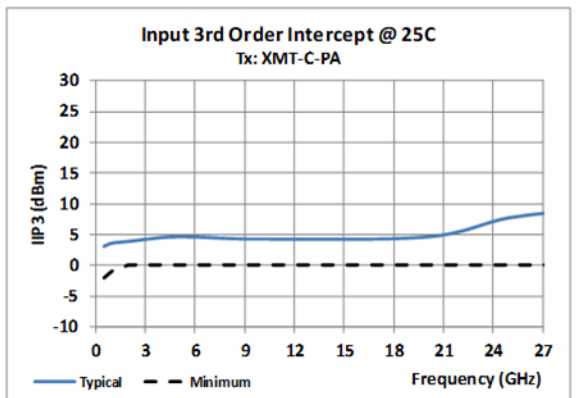
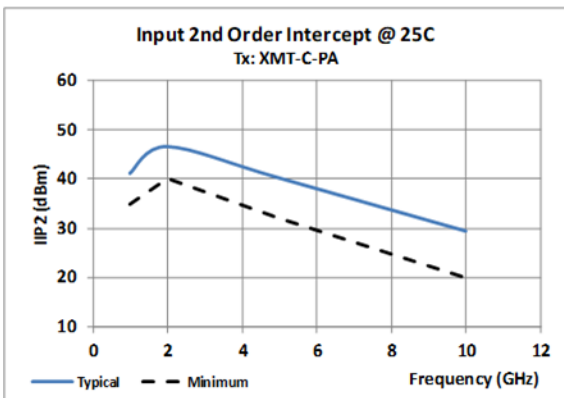
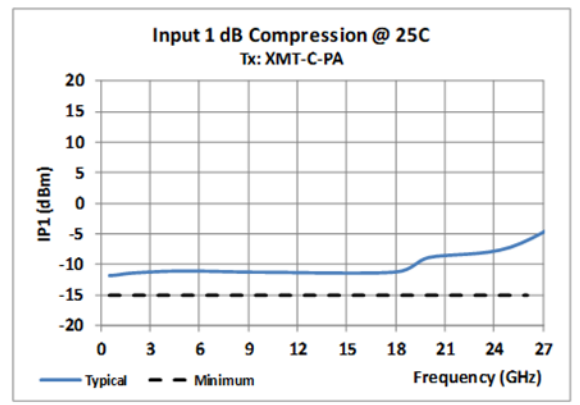
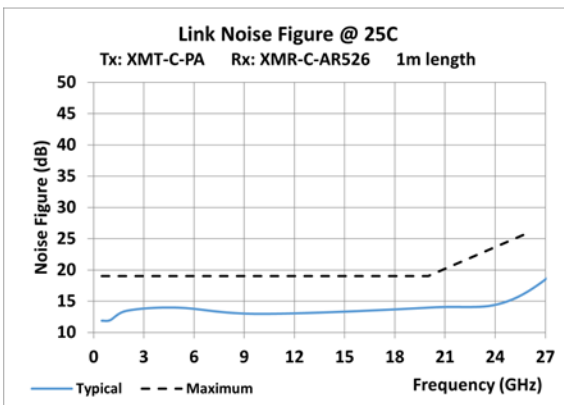
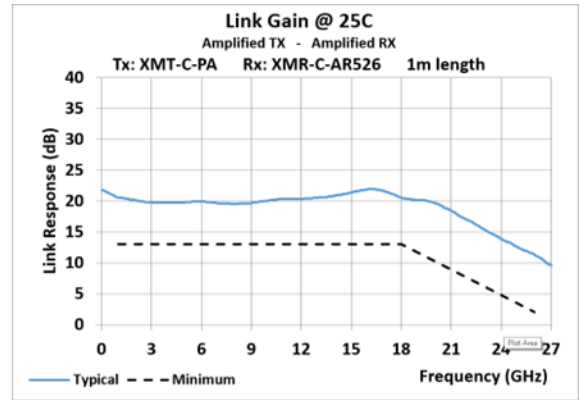
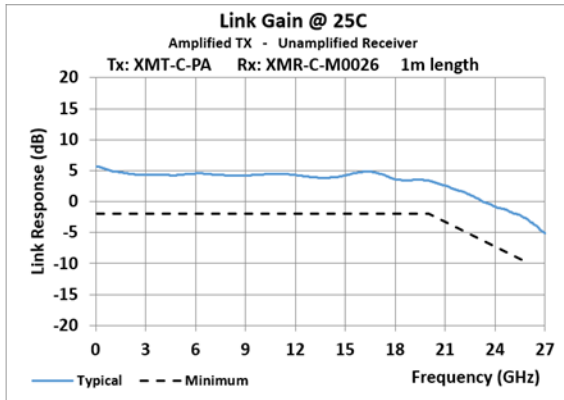


¹Assumes 0 dB optical loss. Optical link loss will affect the Gain, Noise Figure, and Linearity characteristics of any analog optical link. See our application note. MACOM for assistance with optimizing a link to meet your system needs.

Unamplified IFL Xi-Mod Transmitter



Amplified IFL Xi-Mod Transmitter



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