

Keysight Technologies

PXIe Optical Extenders for Instruments

Industries and applications

- Antenna ranges, remote antennas, earth stations
- Network analyzer port extenders
- Isolated measurements

Product description

Keysight Technologies, Inc. Optical eXtenders for Instruments can deliver your RF or Microwave signal without the power loss of coaxial cables, without the unwanted mixing products of downconversion techniques, and with the isolation of fiber at distances up to and beyond 1000 meters. Choose the combination of modules that best fits your requirements today with the confidence that you can scale the solution to meet the requirements of tomorrow by taking advantage of the modularity, scalability and upgradability of PXI.



Challenge the Boundaries of Test Keysight Modular Products

Models

M9403A	PXIe optical transmitter: 300 kHz to 26.5 GHz or 50 GHz
M9404A	PXIe optical receiver: 300 kHz to 26.5 GHz or 50 GHz
M9405A	PXIe amplifier: 300 kHz to 26.5 GHz or 50 GHz
M9406A	PXIe optical to USB 2.0
M9407A	PXIe optical to 4 port USB 2.0 hub
M9408A	PXIe remote RF reflectometer

Main features and benefits

Product features	Your benefit
Minimal insertion loss	Transmit your signal over long distances and make measurements of large devices
Operate from 300 kHz to 26.5 or 50 GHz	Eliminate the need for expensive down conversion equipment
Remote systems without the need for a controller or software development	Install your cards, connect your cables and power up. It's that simple.
Flexible system configurations	Select the combination of modules that meets your requirements
Ability to add USB keyboard, mouse, power sensor, e-Cal and USB-to-VGA converter	Full remote control

Specifications and characteristics

Hardware

Frequency Range	Option F26: 300 kHz to 26.5 GHz Option F50: 300 kHz to 50 GHz
Spurious Free	> 90 dB/Hz
Dynamic Range	> 110 dB/Hz
Noise Figure	Option H01: unamplified 26.5 GHz, 34 dB 50 GHz, 42 dB Option H02: amplified 26.5 GHz, 8 dB 50 GHz, 12 dB
Link Gain	Option H01: > -30 dB Option H02: > -4 dB

M9406A USB optical

Data Rate	1.5, (USB 1.0), 12, (USB 1.1) and 480 (USB 2.0) Mbps
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Chassis slot compatibility: PXIe, PXIe Hybrid

Specifications and characteristics (cont'd)

Optical Link RF Performance (M9403A, M9404A) (*nominal*)

Input power	Unamplified (Option H01)	Amplified (Option H02)
Min RF Input Level	-120 dBm (based on PNA-X noise floor measurements)	
Max Optimum RF Input Level	7 dBm	-25 dBm
Return loss	300 kHz to 26.5 GHz (Option F26)	300 kHz to 50 GHz (Option F50)
RF Source Return Loss	> 10 dB	> 6 dB
RF Receiver Return Loss	> 8 dB	> 8 dB

Applications

Antenna Ranges

Network Analyzer measurements requiring long RF paths to device

Remote Antennas

RF distribution systems requiring long RF paths

Any uWave application requiring long signal transmission paths

Isolated measurement requirements

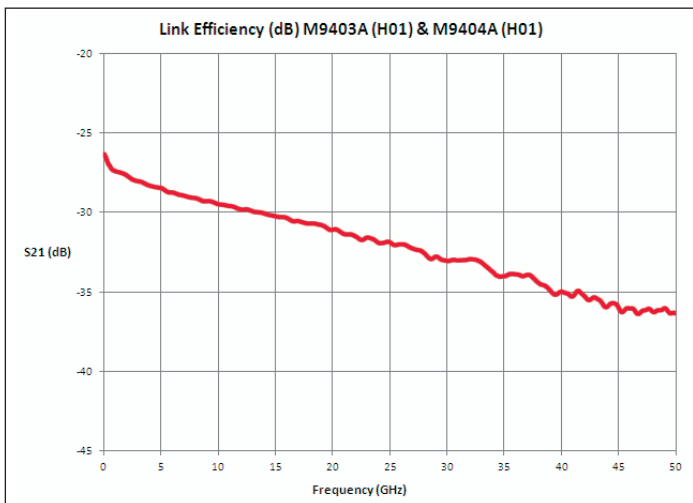


Figure 1. Link Efficiency (dB) M9403A (H01) and M9404A (H01).

Ordering information

Typical product configuration

Model	Description
Local chassis	
M9403A	Optical Transmitter, Unamplified (H01) 300 kHz to 26.5 GHz (F26) or 50 GHz (F50)
M9406A	USB to Optical
Remote chassis	
M9404A	Optical Receiver, with Unamplified (H01) 300 kHz to 26.5 GHz (F26) or 50 GHz (F50)
M9407A	Optical to 4 Port USB 2.0 Hub
Related products	
N5242A	PNA-X Network Analyzer, 26.5 GHz
N5245A	PNA-X Network Analyzer, 50 GHz
M9155C	PXI Hybrid Dual SPDT Coaxial Switch, 26.5 GHz
U2002A	USB Power Sensor, 50 MHz to 24 GHz, 3.5mm
N4691B	Electronic Calibration Module, 26.5 GHz, 2-port
M9018A	18-slot PXIe Chassis

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Keysight Modular Products

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