

Keysight Technologies M9403A and M9404A User's and Service Guide

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CAUTION

A CAUTION notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING

A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

Table of Contents

M9403A and M9404A

Introduction	2
Description	2
Verifying the Shipment	3
Electrostatic Discharge Protection	3
General Characteristics	4
M9403A Front Panel Features	7
Status LED	7
Access Ports 3.5 or 2.4 mm (female)	7
Test Port Optical Links - E2000/APC- Class 3R Laser	7
Test Port Optical Links LED	7
PXI Latch	7
M9404A Front Panel Features	8
Status LED	8
Access Ports 3.5 or 2.4 mm (female)	8
Test Port Optical Links - E2000/APC- Class 3R Laser	8
PXI Latch	8
Install the Software	9
Power up the Controller	10
Install the Software	10
Install the M9403A and M9404A	11
M9403A and M9404A Operational Check Procedure	13
Equipment Required	13
Equipment Test Configuration Option I (Network Analyzer)	13
Equipment Test Configuration Option II (Signal Source & Power Meter)	14
Equipment Test Configuration Option III (Signal Source & Spectrum Analyzer)	15
Service	16
If a Problem is Found	16
Module Core Replacement	16
Replaceable Parts	16
Ordering a Core Replacement Module	17
Replacing the Defective Module	18
General Safety and Information	20
Introduction	20
Safety Earth Ground	20
Statement of Compliance	20
Cleaning Precautions	20
Regulatory Information	21
Instrument Markings	21
Keysight Support, Services, and Assistance	23
Service and Support Options	23
Return a Module for Service	23

M9403A and M9404A



Introduction

The scope of this User's and Service Guide is to detail the processes of receiving and installing the M9403A and M9404A module, installing the required software, and verifying basic module operations. If you have any inquiries after reviewing this information, contact your local Keysight Technologies Inc. representative or refer to ["Service and Support Options" on page 23](#).

Description

Congratulations on your purchase from Keysight Technologies, Inc.

The M9403A is a 2-slot, 3U PXIe RF to optical converter, modulating the RF signal onto a 1550 nm single mode optical signal. The M9404A is a one-slot, 3U PXIe Optical to RF converter, demodulating the optical signal and delivering the recovered RF signal to the output connector. The M9403A and M9404A operate over a frequency range of 300 kHz to 26.5 or 50 GHz and both modules offer an optional, built in 30 dB amplifier.

To get the most out of your purchase, it is recommended that this User's and Service guide be read carefully and completely.

Table 1 Model and Options

Module	Option	Description
M9403A	H01	E/O Converter
	H02	E/O Converter with Amplifier
	F26	Frequency 300 kHz to 26.5 GHz
	F50	Frequency 300 kHz to 50 GHz
M9404A	H01	O/E Converter
	H02	O/E Converter with Amplifier
	F26	Frequency 300 kHz to 26.5 GHz
	F50	Frequency 300 kHz to 50 GHz

Verifying the Shipment

To verify the contents shipped with your product, refer to the “Box Content List” included with the shipment.

Inspect the shipping container. If the container or packing material is damaged, it should be kept until the contents of the shipment have been checked mechanically and electrically. If there is physical damage refer to [“Keysight Support, Services, and Assistance” on page 23](#). Keep the damaged shipping materials (if any) for inspection by the carrier and an Keysight Technologies representative.

Electrostatic Discharge Protection

Electrostatic discharge (ESD) can damage or destroy electronic components. The instrument is shipped in materials that prevent damage from static, and should only be removed from the packaging in an anti-static area ensuring that the correct anti-static precautions are taken.

Two types of ESD protection are listed below. Purchase acceptable ESD accessories from your local supplier.

- Conductive table-mat and wrist-strap combination
- Conductive floor-mat and heel-strap combination

Both types, when used together, provide a significant level of ESD protection. To ensure user safety, static-safe accessories must provide at least 1 Meg Ohm of isolation from ground.

WARNING These techniques for a static-safe work station should not be used when working on circuitry with a voltage potential greater than 500 volts.

General Characteristics

Table 2 Link Performance¹

Frequency Range	300 kHz to 50 GHz		
Input Power at Compression (0.1 dB and 1 dB compression with amplifier Option H02)		0.1 dB	1 dB
	1 GHz	-36	-28
	10 GHz	-34	-26
	26.5 GHz	-34	-23
	50 GHz	-26	-19
Maximum Input Power M9403A Option H01 Option H02	+7 dBm		
	-25 dBm		
Damage Input Power Level M9403A Option H01 Option H02	+20 dBm		
	-10 dBm		
Impedance	50 Ohms		
Power Drawn from Chassis	M9403A ≤ 20 W M9404A ≤ 14 W		
	Option F26	Option F50	
Return Loss (dB) Source Receiver	≥ 6	≥ 4	
	≥ 8	≥ 6	
Frequency Response (dB) Option H01 Option H02	-31	- 37	
	-1	-12	
NF (dB) (The conversion loss of the link is the primary contributor to the NF results. Amplification is recommended to reduce NF).	42	43	
RF Connector	3.5 mm	2.4 mm	

1. Specifications for the family of OXI modules are typical. Performance listed is only characteristic and intended as non-warranted information. Only a functional certificate is provided for the optical extenders product family.

Figure 1 Transmission Distance vs Frequency¹

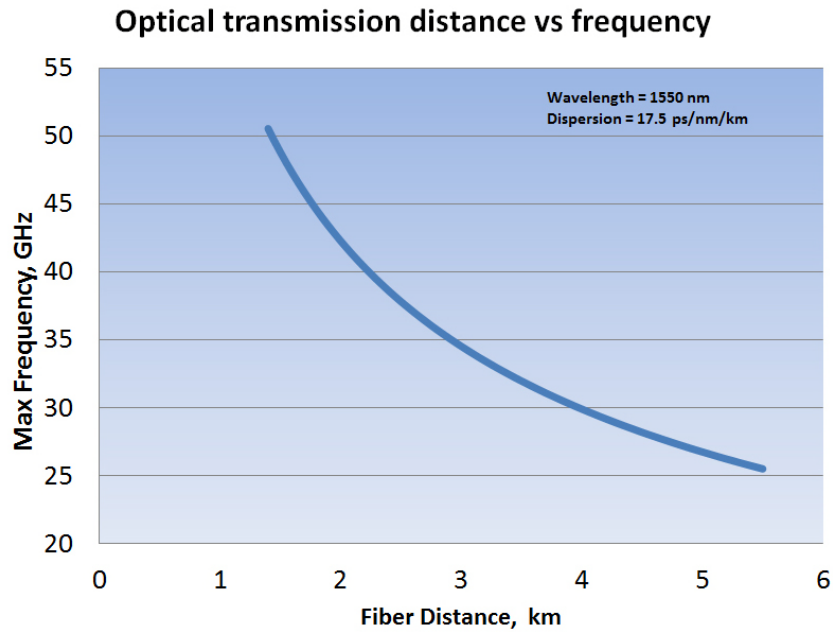
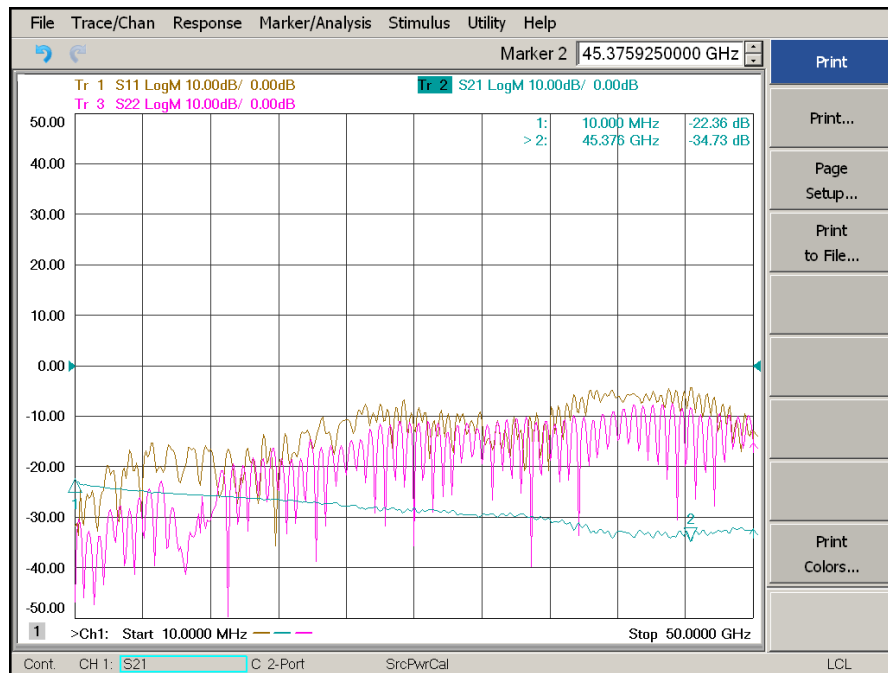
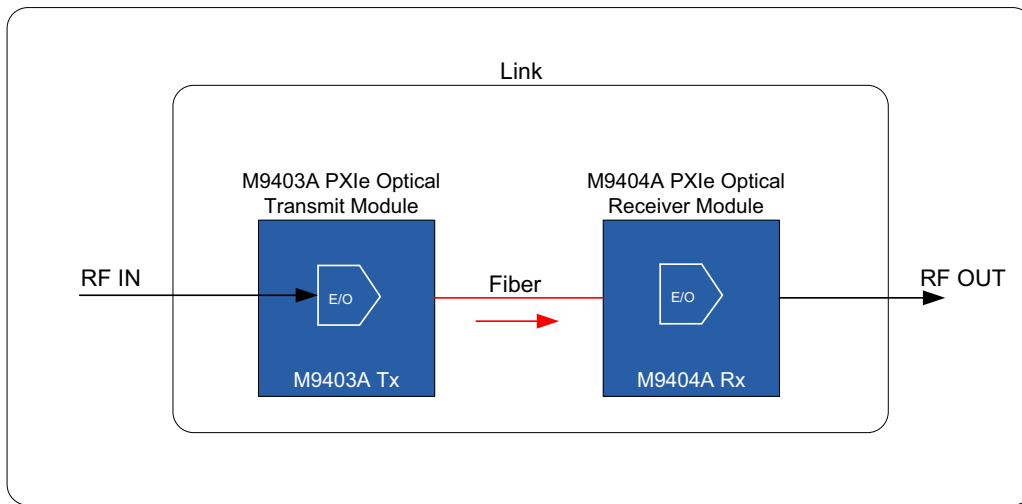


Table 3 Link Performance

Frequency Range	300 kHz to 50 GHz
Fiber type	SMF 28e
Optical connector	E2000 APC
Temperature/drift	fiber dependent
Bandwidth	300 kHz to 50 GHz full range available
Optical wavelength	1550 nm
Optical power out	+5 dBm
Maximum distance	1500 meters @ 26.5 GHz 1400 meters @ 50 GHz
Number of PXI slots occupied:	
M9403A	2-slot
M9404A	1-slot
Software	None required
Slot compatibility	PXIe, PXI hybrid

1. Optical loss graph with fiber length from 26.5 to 50 GHz.

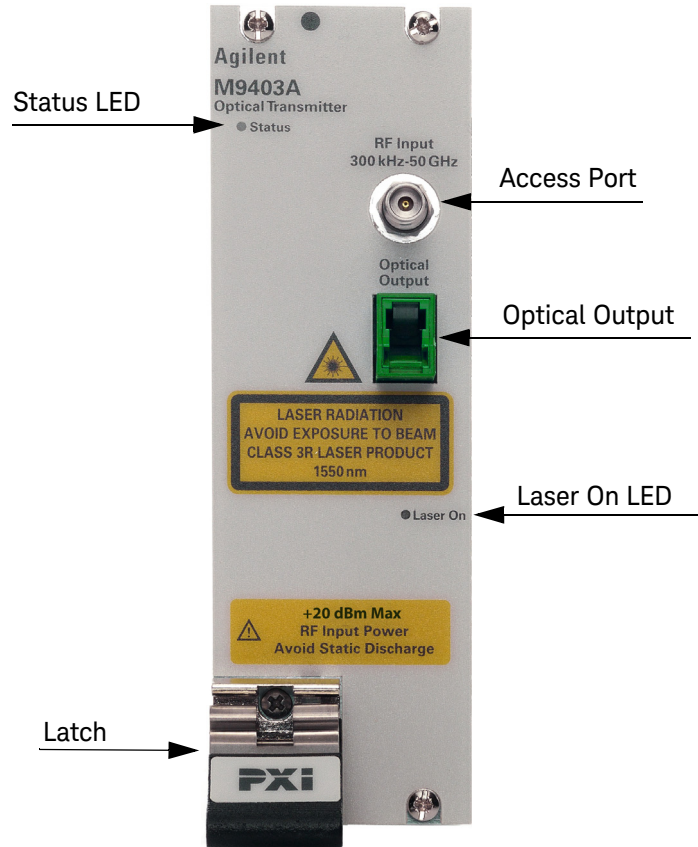
Figure 2 Link Conversion Loss ¹



1. Typical link conversion loss using the Keysight M9403A optical transmitter and M9404A optical receiver without an amplifier.

M9403A Front Panel Features

Figure 3 M9403A Front Panel



Status LED

- Green, the status LED indicates the chassis is powered on and communicating with the module when the soft front panel is opened (SFP).

Access Ports 3.5 or 2.4 mm (female)

- RF Input 300 kHz to 26.5 or 50 GHz

Test Port Optical Links - E2000/APC- Class 3R Laser

- Optical Output

Test Port Optical Links LED

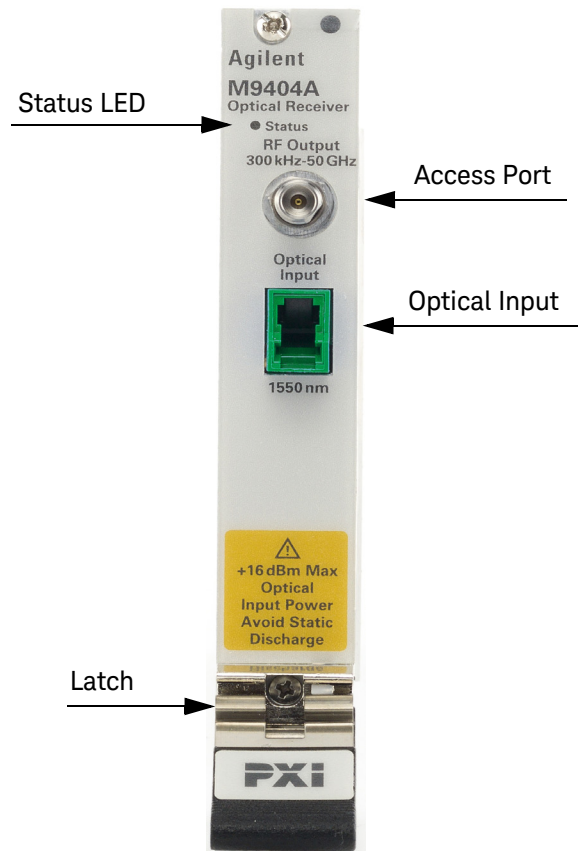
- Laser On

PXI Latch

- Secures the modules to the mainframe.

M9404A Front Panel Features

Figure 4 M9404A Front Panel



Status LED

- Green, the status LED indicates the chassis is powered on and communicating with the module when the soft front panel is opened (SFP).

Access Ports 3.5 or 2.4 mm (female)

- RF Input 300 kHz to 26.5 or 50 GHz

Test Port Optical Links - E2000/APC- Class 3R Laser

- Optical Input

PXI Latch

- Secures the modules to the mainframe.

Install the Software

Table 4 System and Hardware Requirements

Topic	Requirements	
System Requirements		
Operating System	Window XP, Service Pack 3	Windows Vista®, SP1 and SP2 (32-bit and 64-bit), Windows 7 (32 bit and 64 bit)
Processor speed	600 MHz or higher required 800 MHz recommended	1 GHz 32-bit (x86), 1 GHz 64-bit (x64), no support for Itanium64
Available memory	256 MB minimum (1 GB or greater recommended)	1 GB minimum
Available disk space ¹	1.5 GB available hard disk space, includes: l 1 GB available for Microsoft.NET Framework 3.5 SP1 ² l 100 MB for Keysight IO Libraries Suite	
Video	Super VGA (800x600) 25 colors or more	Support for DirectX 9 graphics with 128 MB graphics memory recommended (Super VGA graphics is supported)
Browser	Microsoft Internet Explorer 6.0 or greater	Microsoft Internet Explorer 7.0 or greater
Hard ware Requirements		
Chassis	PXIe system/ host controller A PXI or PXI Express embedded controller or remote controller (external PC connected to the chassis via a PCI-to-PXI interface) is required.	
PXIe System/ host Controller	A PXI or PXI Express embedded controller or remote controller (external PC connected to the chassis via a PCI-to-PXI interface) is required.	
Embedded Controller	Keysight M9036A or an embedded controller that meets the following requirements: - PXIe system controller (PXI-1 embedded controllers are not compatible) - Utilize a 2x8, 4x4, or 1x4 PXIe system slot link configuration. - Run one of the operating systems listed in System Requirements (above).	
Remote Controller	(for Keysight M9018A chassis use only) Keysight M9021 Cable Interface x8 with one of the following PC interface options: - Keysight M9045B PCIe ExpressCard Adaptor x1, with cable (for a laptop PC) - Keysight M9048A PCIe Desktop Adaptor x8, with cable (for desktop PCs) Or an equivalent remote controller using a PC running one of the operating systems listed in System Requirements (above).	

1. This is the required disk space for installation. Typically, less disk space is required for operation than is required for installation.
2. NET Framework Runtime Components are installed by default with Windows Vista. Therefore, you may not need this amount of disk space.

Power up the Controller

CAUTION If you are using a remote controller and you have installed the interface cable, you must power up the chassis *before* you power up the PC. As well, you must power down the PC *before* you power down the chassis.

If you are using an embedded controller, complete the following steps:

1. Install the embedded controller module into the compatible chassis. The Keysight M9036A PXIe Embedded Controller and Keysight M9018A PXIe Chassis are recommended. Please refer to the embedded controller and chassis documentation for further details.
2. Connect peripherals (mouse, keyboard and monitor).
3. Turn On the chassis.

Install the Software

NOTE Administrator privileges will be needed for software and hardware installation. This includes first-time installation of a module in a different chassis slot.

The software installation includes the following:

NOTE Version 16.2 (or newer) of the Keysight IO Libraries Suite is required.

- The Keysight IO Libraries Suite CD (E2094-60003), includes the Keysight Connection Expert. It is also available at www.keysight.com/find/iosuite.
- Instrument software, which includes the soft front panel (SFP), device driver (IVI-COM) and documentation for the M9403A and M9404A. This software CD is included with your shipment (M9499-10002).

Use the following procedure to install the software:

1. From the Keysight IO Libraries Suite CD (E2094- 60003) browser, launch the installer.
2. Follow the installer prompts to install the IO Libraries Suite.
3. From the Product Software and Information CD (M9499-10002) browser, launch the installer.
4. Follow the installer prompts to install all software and documentation for the module.
5. After installation has completed, power down the host PC.

Install the M9403A and M9404A

NOTE The M9403/04A can be used in a chassis with a PXIh chassis peripheral slot.



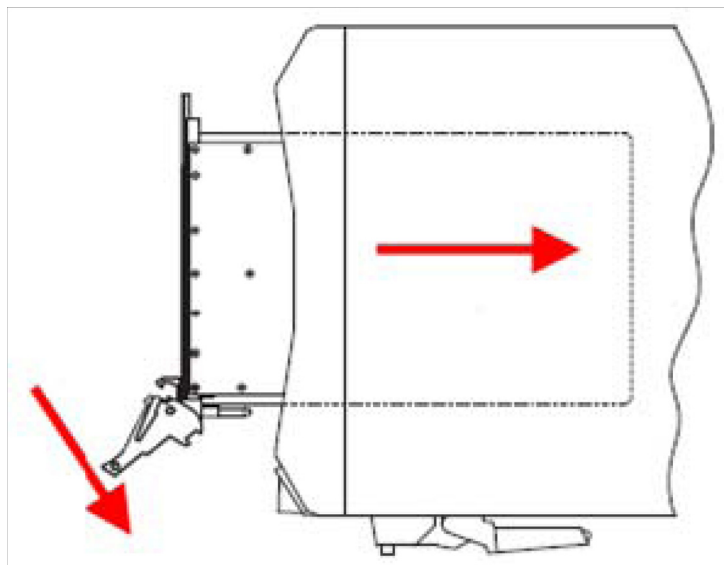
The M9403/04A can also be installed in any hybrid PXI slot marked with a peripheral slot compatibility image (the letter "H" and a solid circle containing the slot number).

CAUTION PXI hardware does not support “hot-swap” capabilities (changing modules while power is applied to the chassis).

Before installing a module into the chassis, the chassis must be powered off to prevent damage to the module.

1. Ensure that the PXI chassis power switch is in the off (Standby) position.
2. If the chassis has multiple fan speed settings, ensure that the fans are set to automatic. Do not set the fan speed to low or turn it off.
3. Position the chassis so that there is ample space between the chassis fan intake and exhaust vents. Blockage by walls or obstructions affects the air flow needed for cooling. (Refer to the chassis documentation for more information about cooling).
4. Holding the module by the injector/ejector handle, slide it into the card edges on the guide slot (top and bottom) as shown in [Figure 5](#).
 - a. Slide the module to the rear of the chassis and ensure that the injector/ejector handle is pushed down in the unlatched (downward) position.
 - b. Slide the module completely into the chassis. When you begin to feel resistance, push up on the injector/ejector handle to fully insert the module into the chassis.

Figure 5 Installing the Module



5. Secure the front panel to the chassis using the front panel mounting screws. Performance may suffer if the screws are not tightened properly.
6. Verify that the PXI chassis fans are operable and free of dust and other contaminants that may restrict air flow.
7. Install all chassis covers and filler panels. Missing filler panels may disrupt necessary air circulation in the chassis.
8. Power up the PXI chassis.

M9403A and M9404A Operational Check Procedure

The operational check measures the signal paths from the RF Input of the M9403A module to the RF Output of the M9404A module. The following procedure verifies that the connectors and circuitry are operating correctly.

CAUTION Do not exceed the damage power level. Refer to [Table 2 on page 4](#).

Equipment Required

To demonstrate that the module works properly requires external equipment with operating frequency range of 10 MHz to 26.5 or 50 GHz. This includes a network analyzer, or optionally, a signal source and power meter or spectrum analyzer.

Table 5 Hardware Test Configuration

Hardware	Description
Option I	Network Analyzer
Option II	Signal Source and Power Meter
Option III	Signal Source and Spectrum Analyzer

Equipment Test Configuration Option I (Network Analyzer)

1. Adjust the Network Analyzer Stimulus Power for the M9403A-H02 to -30 dBm, or -10 dBm for the M9403A-H01.
2. Set the Frequency Sweep from 10 MHz to 26.5 or 50 GHz depending on Options F26 or F50.
3. Perform a 2-Port Network Analyzer calibration (normalization response is adequate).
4. Connect the Stimulus Source (Network Analyzer Port 1) to the M9403A Access Port.
5. Connect Port 2 of the Network Analyzer to the M9404A Access Port.

NOTE Depending on your instrument's power handling capability it may be necessary to use a 20 dB attenuator to protect the instrument.

6. Connect optical ports between M9403A and M9404A with an optical cable.
7. Measure the Return Loss (S11 and S22) and Link loss (S21). Compare it to the typical performance in [Table 2 on page 4](#).

NOTE On the M9403A or M9404A Option H02 you should expect to see a 30 dB improvement over the Link Loss. Return Loss may be different as well.

Equipment Test Configuration Option II (Signal Source & Power Meter)

1. Adjust the Signal Source Stimulus Power for the M9403A-H02 to -30 dBm, or -10 dBm for the M9403A-H01.
2. Set the Signal Source to a CW frequency of 50 MHz.
3. Perform a Power Meter calibration.
4. Connect the Stimulus Source to M9403A Access Port.
5. Connect the Power Meter Sensor to M9404A Access Port.

NOTE Depending on your instrument's power handling capability it may be necessary to use a 20 dB attenuator to protect the instrument.

6. Connect optical ports between M9403A and M9404A using an optical cable.
7. Measure the Power and compare Link Loss ($P_{\text{measured}} - P_{\text{stimulus}}$).
8. Set the Signal Source to a CW Frequency of 10 GHz.
9. Repeat **step 5** thru **step 7**.
10. Set the Signal Source to a CW Frequency of 26.5 GHz.
11. Repeat **step 5** thru **step 7**.
12. Set the Signal Source to a CW Frequency of 50 GHz.
13. Compare the Link Loss to **Table 3 on page 5**.

NOTE On the M9403A or M9404A H02 you should expect to see a 30 dB improvement over the Link Loss. Return Loss may be different as well.

Equipment Test Configuration Option III (Signal Source & Spectrum Analyzer)

1. Adjust the Signal Source Stimulus Power for the M9403A-H02 to -30 dBm, or -10 dBm for the M9403A-H01.
2. Set the CW Frequency Sweep to 50 MHz.
3. Set the Center Frequency to 50 MHz on the Spectrum Analyzer respectively.
4. Connect the Stimulus Source to M9403A Access Port.
5. Connect the Spectrum Analyzer to M9404A Access Port.

NOTE Depending on your instrument's power handling capability it may be necessary to use a 20 dB attenuator to protect the instrument.

6. Connect optical ports between M9403A and M9404A using an optical cable.
7. Measure the Power and compare Link Loss ($P_{\text{measured}} - P_{\text{stimulus}}$).
8. Set the Signal Source to a CW Frequency of 10 GHz.
9. Repeat **step 5** thru **step 7**.
10. Set the Signal Source to a CW Frequency of 26.5 MHz.
11. Repeat **step 5** thru **step 7**.
12. Set the Signal Source to a CW Frequency of 50 GHz.
13. Compare the Link Loss to **Table 3 on page 5**.

NOTE For Option H02 on the M9403A or M9404A you should expect to see a 30 dB improvement over the Link Loss. Return Loss may be different as well.

Service

If a Problem is Found

If a problem is found, complete the following procedures:

1. Verify that the relevant hardware is turned on.
2. Verify that the stimulus signal is set to the proper power/frequency and that all cables are properly connected.
3. Verify that the Optical Interconnect cable ends and the Access Port connector are clean.

Module Core Replacement

Replaceable Parts

Description	Keysight Part Numbers	Part Number Description
M9403A PXIe Optical Transmitter Options H01, F26	M9403-60001	Replacement core assembly
M9403A PXIe Optical Transmitter Options H01, F26	M9403-69001	Exchange core assembly
M9403A PXIe Optical Transmitter Options H01, F50	M9403-60002	Replacement core assembly
M9403A PXIe Optical Transmitter Options H01, F50	M9403-69002	Exchange core assembly
M9403A PXIe Optical Transmitter Options H02, F26	M9403-60003	Replacement core assembly
M9403A PXIe Optical Transmitter Options H02, F26	M9403-69003	Exchange core assembly
M9403A PXIe Optical Transmitter Options H02, F50	M9403-60004	Replacement core assembly
M9403A PXIe Optical Transmitter Options H02, F50	M9403-69004	Exchange core assembly
M9404A PXIe Optical Transmitter Options H01, F26	M9404-60001	Replacement core assembly
M9404A PXIe Optical Transmitter Options H01, F26	M9404-69001	Exchange core assembly
M9404A PXIe Optical Transmitter Options H01, F50	M9404-60002	Replacement core assembly
M9404A PXIe Optical Transmitter Options H01, F50	M9404-69002	Exchange core assembly
M9404A PXIe Optical Transmitter Options H02, F26	M9404-60003	Replacement core assembly
M9404A PXIe Optical Transmitter Options H02, F26	M9404-69003	Exchange core assembly
M9404A PXIe Optical Transmitter Options H02, F50	M9404-60004	Replacement core assembly
M9404A PXIe Optical Transmitter Options H02, F50	M9404-69004	Exchange core assembly

Ordering a Core Replacement Module

1. Contact Keysight at www.keysight.com/find/assist.
2. Order a core replacement for your module.
3. When the core replacement arrives, the package includes:
 - Entitlement Certificate
 - Replacement module
 - Functional Certificate for the replacement module
 - RMA number
 - Return instructions

Replacing the Defective Module

CAUTION Before opening a packaged module for troubleshooting, ensure that all electrostatic discharge (ESD) precautions are observed. Refer to **“Electrostatic Discharge Protection” on page 3**

1. Power down the chassis.
2. Remove the defective module from the chassis.
3. Write down the serial number shown on the side shield of the defective module. You will assign this serial number to the replacement module using the Keysight M9403A or M9404A Simple Module (SFP).
4. Remove the replacement module from the box and shipping material.
5. Remove the side shield from the defective module using a Torx #8 driver.
 - a. There are four screws, the two toward the rear of the module include two nuts to secure the side shield to the module. Important: Keep the screws and nuts, new ones are not included with the replacement module.
6. Remove the side shield from the replacement module using this same process.
7. Attach the original side shield from the defective module to the replacement module.
8. Install the replacement module into the chassis.
9. Power up the chassis.
10. If you are using a remote controller, power up the computer. (If you are using an embedded controller, continue to the **step 11.**)
11. Program the replacement module with the serial number from the defective module.
 - a. If you don't already have the Keysight M9403A (or M9404A) Simple Module SFP, download it from www.keysight.com/find/M9403A or M9404A (from this site, select Technical Support > Drivers, Firmware & Software), and install it on your computer or embedded controller.
 - b. Launch the Keysight M9403A (or M9404A) Simple Module SFP (launch from the Start menu program group “Keysight/SimpleModuleSFP”) and follow the embedded instructions for programming the serial number.

12. Attach the side shield from the replacement module to the defective module, and return it to Keysight according to the following procedure:
- a. Review the warranty information shipped with your product.
 - b. Write the following information on a tag and attach it to the malfunctioning equipment:
 - Name and address of owner. A P.O. box is not acceptable as a return address.
 - Product model number (for example, M9403A).
 - Product serial number. The serial number label is located on the side panel of the module. The serial number can also be read from the Soft Front Panel interface, but only after the hardware is installed.
 - Description of failure or service required.
 - Return Material Authorization (RMA) number.
 - c. Pack the module in its original ESD bag and packing carton. If the original carton is not available, use bubble wrap or packing peanuts and place the instrument in a sealed container and mark the container "FRAGILE".
 - d. On the shipping label, write ATTENTION REPAIR DEPARTMENT and the RMA number.

NOTE If any correspondence is required, refer to the product by serial number and model number or refer to ["Keysight Support, Services, and Assistance"](#) on [page 23](#).

General Safety and Information

Introduction

Review this product and related documentation to familiarize yourself with safety markings and instructions before you operate the instrument.

This product has been designed and tested in accordance with accepted industry standards, and has been supplied in a safe condition. The documentation contains information and warnings that must be followed by the user to ensure safe operation and to maintain the product in a safe condition.

Safety Earth Ground

WARNING This is a Safety Class I Product (provided with a protective earthing ground incorporated in the power cord). The mains plug shall only be inserted in a socket outlet provided with a protective earth contact. Any interruption of the protective conductor inside or outside of the product is likely to make the product dangerous. Intentional interruption is prohibited.

CAUTION Always use the three prong AC power cord supplied with this product. Failure to ensure adequate earth grounding by not using this cord may cause product damage and the risk of electrical shock.

Statement of Compliance

This product has been designed and tested in accordance with accepted industry standards, and has been supplied in a safe condition. The documentation contains information and warnings that must be followed by the user to ensure safe operation and to maintain the product in a safe condition.

Cleaning Precautions

Remove the power cord to the instrument. To clean the connectors use alcohol in a well ventilated area. Allow all residual alcohol moisture to evaporate, and fumes to dissipate prior to energizing the instrument.

WARNING To prevent electrical shock, remove the **M9403A or M9404A** from the chassis before cleaning. Use a dry cloth or one slightly dampened with water to clean the external case parts. Do not attempt to clean internally. To clean the connectors, use alcohol in a well-ventilated area. Allow all residual alcohol moisture to evaporate, and the fumes to dissipate prior to energizing the instrument.

WARNING If flammable cleaning materials are used, the material shall not be stored, or left open in the area of the equipment. Adequate ventilation shall be assured to prevent the combustion of fumes, or vapors.

Regulatory Information

This section contains information that is required by various government regulatory agencies.

Instrument Markings



South Korean Certification (KC) mark; includes the marking's identifier code which follows the format: MSIP-REM-YYY-ZZZZZZZZZZZZZZ.



This symbol indicates separate collection for electrical and electronic equipment, mandated under EU law as of August 13, 2005. All electric and electronic equipment are required to be separated from normal waste for disposal (Reference WEEE Directive, 2002/96/EC).



The CE mark is a registered trademark of the European Community. (If accompanied by a year, it is when the design was proven.)



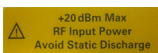
The RCM mark is a registered trademark of the Australian Communications and Media Authority



Indicates the time period during which no hazardous or toxic substance elements are expected to leak or deteriorate during normal use. Forty years is the expected useful life of the product.



This symbol indicates that PXI is a U.S. registered trademark of the PXI System Alliance.



Maximum RF Input power. (Option H01)



Maximum RF Input power. (Option H02)



Class 3R Laser warning label. Denoting invisible laser radiation and wavelength



Maximum Optical Input power



Laser Radiation

EMC: Complies with the essential requirements of the European EMC Directive as well as current editions of the following standards (dates editions are cited in the Declaration of Conformity):

- IEC/EN 61326-1
- CISPR Pub 11 Group 1, class A
- AS/NZS CISPR 11
- ICES/NMB-001
This ISM device complies with Canadian ICES-001.
Cet appareil ISM est conforme a la norme NMB-001 du Canada.

South Korean Class A EMC Declaration: This equipment is Class A suitable for professional use and is for use in electromagnetic environments outside of the home.

A 급 기기 (업무용 방송통신기자재) 이 기기는 업무용 (A 급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며 , 가정외의 지역에서 사용하는 것을 목적으로 합니다 .

SAFETY: Complies with the essential requirements of the European Low Voltage Directive as well as current editions of the following standards (dates and editions are cited in the Declaration of Conformity):

- IEC/EN 61010-1
- Canada: CSA C22.2 No. 61010-1
- USA: UL std no. 61010-1

Acoustic statement: (European Machinery Directive):

- Accoustical noise emission
LpA<70 dB
Operator position
Normal operation mode Per ISO 7779

Declarations of Conformity: To find a current Declaration of Conformity for a specific Keysight product, go to: <http://regulations.keysight.com/DoC/search.htm>

Keysight Support, Services, and Assistance

Service and Support Options

There are many other repair and calibration options available from the Keysight Technologies support organization. These options cover a range of service agreements with varying response times. Contact Keysight for additional information on available service agreements for this product.

Return a Module for Service

Should it become necessary to return a module for repair or service, follow the steps below:

1. Review the warranty information shipped with your product.
2. Contact Keysight to obtain a Return Material Authorization (RMA) and return address. If you need assistance finding Keysight contact information go to <http://www.keysight.com/find/assist> (worldwide contact information for repair and service) or refer to the “Support” information on the product web page.
3. Write the following information on a tag and attach it to the malfunctioning equipment:
 - Name and address of owner. P.O. boxes are not acceptable as return addresses.
 - Product model number (for example, M9403A).
 - Product serial number (for example, MYXXXXXXXX). The serial number label is located on the side panel of the module.
 - Description of failure or service required.
4. Carefully pack the module in its original ESD bag and packing carton. If the original carton is not available, use bubble wrap or packing peanuts and place the instrument in a sealed container and mark the container “FRAGILE”.
5. On the shipping label, write ATTENTION REPAIR DEPARTMENT and the RMA number.

NOTE If any correspondence is required, refer to the product by serial number and model number.



This information is subject to change without notice.

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