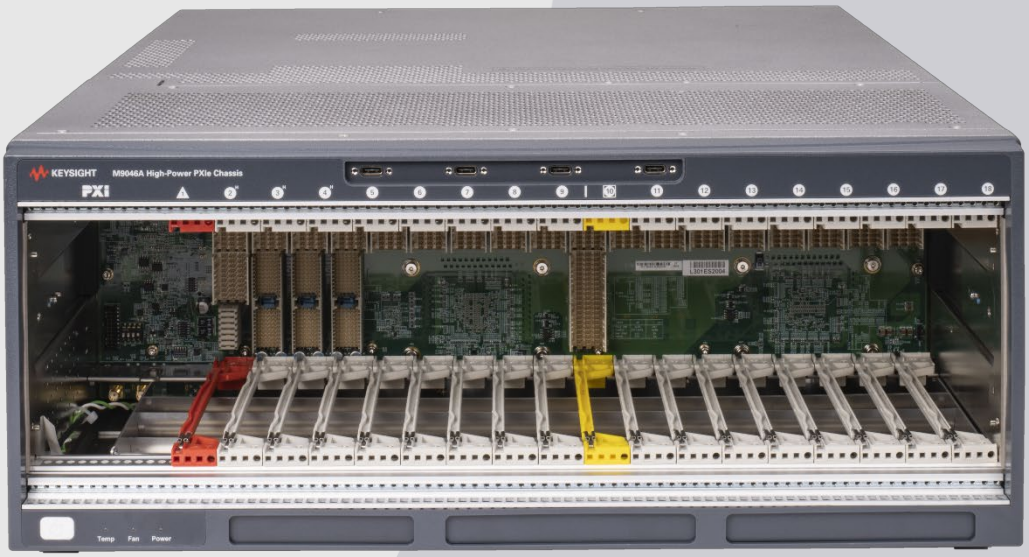
M9046A 18-Slot PXIe Chassis



KEYSIGHT

CHASSIS FIRMWARE UPDATE GUIDE

Notices

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The following general safety precautions must be observed during all phases of operation of this instrument. Failure to comply with these precautions or with specific warnings or operating instructions in the product manuals violates safety standards of design, manufacture, and intended use of the instrument. Keysight Technologies assumes no liability for the customer's failure to comply with these requirements.

General

Do not use this product in any manner not specified by the manufacturer. The protective features of this product must not be impaired if it is used in a manner specified in the operation instructions.

Before Applying Power

Verify that all safety precautions are taken. Make all connections to the unit before applying power. Note the external markings described under "Safety Symbols".

Ground the Instrument

Keysight chassis' are provided with a grounding-type power plug. The instrument chassis and cover must be connected to an electrical ground to minimize shock hazard. The ground pin must be firmly connected to an electrical ground (safety ground) terminal at the power outlet. Any interruption of the protective (grounding) conductor or disconnection of the protective earth terminal will cause a potential shock hazard that could result in personal injury.

PXIe Chassis are for indoor use only.

Mains supply voltage fluctuations must not exceed ±10% of the nominal supply voltage.

Transient overvoltages typically present on the Mains supply (installation CAT II)

Do Not Operate in an Explosive Atmosphere

Do not operate in the presence of flammable gases or fumes.

Do Not Operate Near Flammable Liquids

Do not operate the module/chassis in the presence of flammable liquids or near containers of such liquids.

Cleaning

Clean the outside of the Keysight module/chassis with a soft, lint-free, slightly dampened cloth. Do not use detergent or chemical solvents.

Do Not Remove Instrument Cover

Only qualified, service-trained personnel who are aware of the hazards involved should remove instrument covers. Always disconnect the power cable and any external circuits before removing the instrument cover.

Keep away from live circuits

Operating personnel must not remove equipment covers or shields. Procedures involving the removal of covers and shields are for use by service-trained personnel only. Under certain conditions, dangerous voltages may exist even with the equipment switched off. To avoid dangerous electrical shock, DO NOT perform procedures involving cover or shield removal unless you are qualified to do so.

DO NOT operate damaged equipment

Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until safe operation can be verified by service-trained personnel. If necessary, return the product to a Keysight Technologies Sales and Service Office for service and repair to ensure the safety features are maintained.

DO NOT block the primary disconnect

The primary disconnect device is the appliance connector/power cord when a chassis used by itself, but when installed into a rack or system the disconnect may be impaired and must be considered part of the installation.

Do Not Modify the Instrument

Do not install substitute parts or perform any unauthorized modification to the product. Return the product to a Keysight Sales and Service Office to ensure that safety features are maintained.

In Case of Damage

Instruments that appear damaged or defective should be made inoperative and secured against unintended operation until they can be repaired by qualified service personnel.

CAUTION

Do NOT block vents and fan exhaust: To ensure adequate cooling and ventilation, leave a gap of at least 50mm (2") around vent holes on both sides of the chassis.

Do NOT operate with empty slots: To ensure proper cooling and avoid damaging equipment, fill each empty slot with an AXIe filler panel module.

Do NOT stack free-standing chassis: Stacked chassis should be rack-mounted.

All modules are grounded through the chassis: During installation, tighten each module's retaining screws to secure the module to the chassis and to make the ground connection.

WARNING

Operator is responsible to maintain safe operating conditions. To ensure safe operating conditions, modules should not be operated beyond the full temperature range specified in the Environmental and physical specification. Exceeding safe operating conditions can result in shorter lifespan, improper module performance and user safety issues. When the modules are in use and operation within the specified full temperature range is not maintained, module surface temperatures may exceed safe handling conditions which can cause discomfort or burns if touched. In the event of a module exceeding the full temperature range, always allow the module to cool before touching or removing modules from the chassis.

Safety and Regulatory Symbols

CAUTION

A CAUTION denotes a hazard. It calls attention to an operating procedure or practice 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 denotes a hazard. It calls attention to an operating procedure or practice, 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.

Products display the following symbols:

Refer to manual for additional safety information.

Earth Ground.

Chassis Ground.

Alternating Current (AC).

Direct Current (DC).

Standby Power. Unit is not completely disconnected from AC mains when power switch is in standby position

Indicates that antistatic precautions should be taken.

Operate the PXIe chassis in the horizontal orientation. Do NOT operate this chassis in the vertical orientation.

The CSA mark is a registered trademark of the Canadian Standards Association and indicates compliance to the standards laid out by them. Refer to the product Declaration of Conformity for details.

Notice for European Community: This product complies with the relevant European legal Directives: EMC Directive and Low Voltage Directive

The Regulatory Compliance Mark (RCM) mark is a registered trademark. This signifies compliance with the Australia EMC Framework regulations under the terms of the Radio Communication Act of 1992.

ICES/NMB-001

ICES/NMB-001 indicates that this ISM device complies with the Canadian ICES-001.

Cet appareil ISM est conforme a la norme NMB-001 du Canada.

This symbol represents 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 this product.

MSIP-REM-Kst-xxxxxxx

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 판 매자 또는 사용자는 이 점을 주의하시기 바라 며 , 가정외의 지역에서 사용하는 것을 목적으 로 합니다.

Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC

This product complies with the WEEE Directive (2002/96/EC) marking requirement. The affixed product label (see below) indicates that you must not discard this electrical/electronic product in domestic household waste.

Product Category: With reference to the equipment types in the WEEE directive Annex 1, this product is classified as a “Monitoring and Control instrumentation” product.

Do not dispose in domestic household waste.

To return unwanted products, contact your local Keysight office for more information.

Contents

Introduction

This Keysight M9046A PXIe chassis firmware update guide shows you detail of the different firmware components and how to update them.

If the chassis is meeting your test or manufacturing requirements, you do not need to update the firmware.

Firmware Releases and Description Detail

Each firmware zip file contains multiple files for updating various components in the M9046A PXIe Chassis. The M9046A PXIe Chassis firmware releases are listed in the following table.

M9046A PXIe Chassis Firmware Releases

Firmware Version	File Name of Firmware .ZIP File	Description
2022A	M9046A_Firmware_2022A.zip	Initial Release.
2022B	M9046A_Firmware_2022B.zip	- Resolves PLL calibration uncertainty resulting in 5-8ps phase jumps. - Resolves PCIe endpoint issue that would cause intermittent crash with HP Z4/6/8 or similar class workstations.
2023A	M9046A_Firmware_2023A.zip	- Modifies M9046A PLL initialization routine to resolve intermittent power up issues with M52xxA and M53xxA modules. - Adds licensing check for M9046A option 002 Advanced Power Monitoring and Control.

CAUTION The 2022 firmware can only be used with the 1.7.741.1 or later PXIe Chassis Family driver. The 2023 firmware requires driver revision 1.7.913.1 and later.

Determining the Installed Version

Firmware version numbers are displayed by the PXIe Chassis Family driver Soft Front Panel (SFP) Help **About** screen.

The figure below shows an example of the **Help > About** for an M9046A chassis. In this example, the version of the Trigger Bridge version number matches that of the **2023A** firmware.

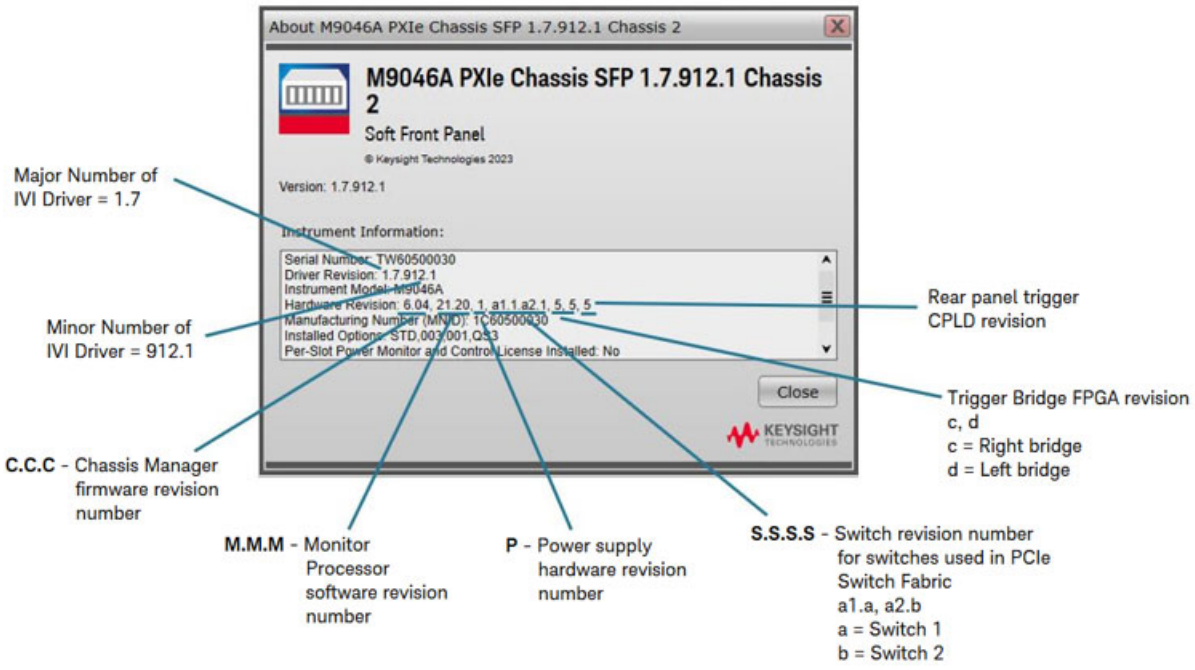


Figure 1 M9046A SFP Help About

Download and install the latest driver from www.Keysight.com. Search on your chassis model number. Click the "*Visit Technical Support*" tab and then click on the "*Drivers, Firmware & Software*" tab. After installing an updated version, run the SFP for your chassis and click on **Help > About** to verify the installed version.

NOTE The Power Supply number is associated with the power supply hardware installed in the chassis. It does not change when the chassis firmware is updated.

Firmware Version Contents

The table below list the components associated with each firmware version.

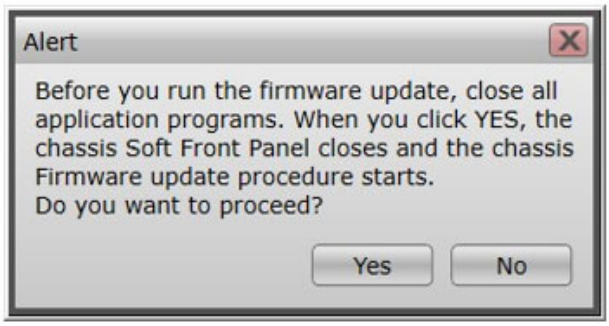
M9046A Firmware Version Components

Firmware Component	2022A	2022B	2023A
Chassis Manager	5.02	5.11	6.04
Monitor Processor	21.20	21.20	21.20
Switch version number for switches used in PCIe Switch Fabric	a1.1a.2.1	a1.1.a2.1	a1.1.a2.1
Right Trigger Bridge	5	5	5
Left Trigger Bridge	5	5	5
Rear Trigger Board	N/A	N/A	5

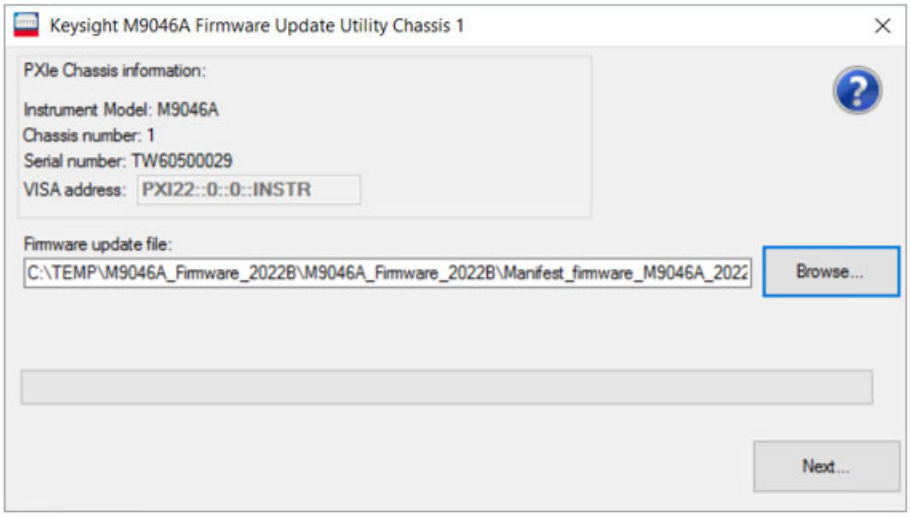
Upgrading or Downgrading Chassis Firmware

This section describes how to upgrade or downgrade your chassis firmware. PXIe Chassis Family driver version 1.7.741.1 or later is required to perform the firmware change process.

1. Determine whether you are upgrading or downgrading the chassis firmware. It is recommended that you always use the latest version of the firmware.
2. On the host computer, go to www.keysight.com/find/M9046A.
3. To download the firmware .zip file from Keysight.com.
   a. Click on the "*Visit Technical Support*" link.
   b. Click on the "*Drivers, Firmware & Software*" tab.
   c. Click on "<*chassis model*> *Chassis Firmware*" link.
   d. Find the firmware version you want and download it to the host PC.
4. Unzip the firmware .zip file to any convenient location on the host PC.
5. Start the Soft Front Panel and connect to the chassis.
6. Click on **Utilities > Firmware Update**.
7. Click on **Yes** if the following Alert screen opens.



8 The Firmware Update Utility starts as shown in the following screen capture.

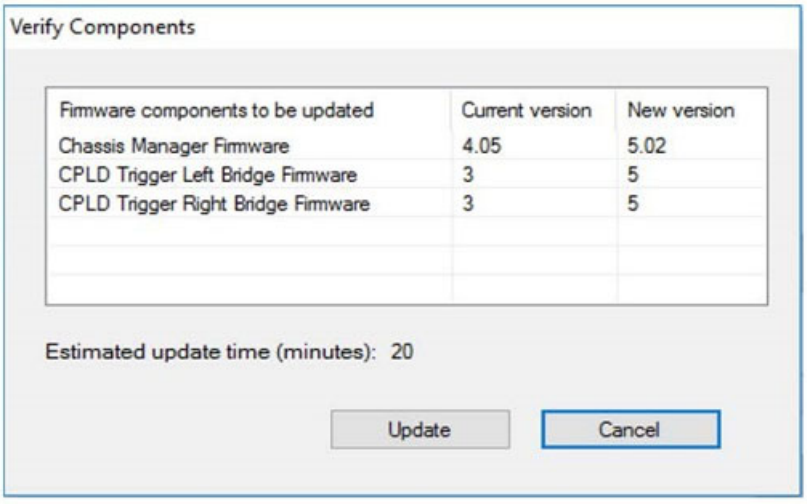


9 Click **Browse**.

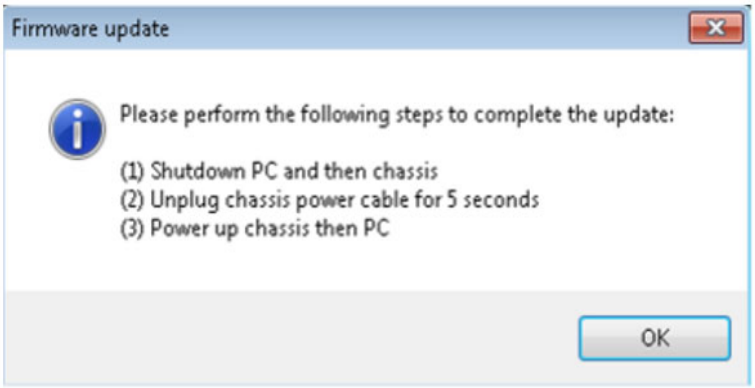
10 Navigate to the location where you unzipped the Firmware zip file. Select the file and click **Open**.

11 With the browse path filled in, click **Next**.

12 The Firmware Update Utility asks you to verify that you want to update the "Current version" to the "New version". To start the process, click "Update".



13 When the Firmware Update Utility finishes, it displays the following message. Follow the instructions to complete the firmware change process.



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