PXIe Chassis Family

This document provides security information for the following instrument:

M9010A
M9018B
M9019A
M9046A

Security
Features and
Document of
Volatility

KEYSIGHT
TECHNOLOGIES

Table of Contents

Contacting Keysight Sales and Service Offices

Assistance with test and measurement needs, and information on finding a local Keysight office, is available on the Internet at:

http://www.keysight.com/find/assist

If you do not have access to the Internet, please contact your field engineer.

> **NOTE**   *In any correspondence or telephone conversation, refer to the instrument by its model number and full serial number. With this information, the Keysight representative can determine whether your unit is still within its warranty period.*

KEYSIGHT
TECHNOLOGIES

Products Covered by this Document

Product Family Name	Product Names	Model Numbers
PXIe Chassis	10-Slot PXI 24 GB/s, Gen 3 chassis	M9010A
PXIe Chassis	18-Slot PXI 8 GB/s, Gen 2 chassis	M9018B
PXIe Chassis	18-Slot PXI 24 GB/s, Gen 3 chassis	M9019A
PXIe Chassis	18-Slot PXI 24 GB/s, Gen 3, high power, exceptional cooling chassis	M9046A

This document describes instrument information on the types of memory available in the PXIe Chassis Family.

For additional information, go to:

http://www.keysight.com/find/security

KEYSIGHT
TECHNOLOGIES

M9010A Instrument Memory

This section contains information on the types of memory used in the **M9010A PXIe Chassis**. It explains the size of memory, how it is used, its location, volatility, and the sanitization procedure. All volatile memory in the M9010A PXI chassis may be erased by removing power for 30 seconds.

Memory Type: SRAM	**Memory Size**: 4KB
Memory Function: Volatile runtime M9010A driver state data. Stores only a small subset of runtime operating parameters related to state of the chassis.	
User Modifiable (Y/N): Yes	**Volatile** (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: Flash	**Memory Size**: 2MB
Memory Function: Reconfigurable PCIe device firmware images. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM (x2)	**Memory Size**: 8KB (x2)
Memory Function: Reconfigurable Gen3 PCIe fabric image for internal PCIe switch devices. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM (x2)	**Memory Size**: 8KB (x2)
Memory Function: Reconfigurable Gen1 PCIe fabric image for internal PCIe switch devices. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: Flash	Memory Size: 528KB + 8MB
Memory Function: Chassis monitor processor operating firmware. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: SRAM	Memory Size: 50KB
Memory Function: Chassis monitor processor operating RAM. Use of the chassis driver can change the operating Alarm limits, but all configuration changes are volatile and are cleared when the chassis is powered down.	
User Modifiable (Y/N): Yes	Volatile (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: EEPROM (x4)	Memory Size: 256B
Memory Function: Board manufacturing ID information.	
User Modifiable (Y/N): No	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: Complex Programmable Logic Device (CPLD)	Memory Size: 256 Macrocells
Memory Function: Right trigger bridge functionality. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM	Memory Size: 256B
Memory Function: PXIe chassis serial number and PXIe chassis identification constants.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

* Refer to PXIe Chassis Family User Guide for detail on how to use the SFP Firmware Update Utility.

M9018B Instrument Memory

This section contains information on the types of memory used in the **M9018B PXIe Chassis**. It explains the size of memory, how it is used, its location, volatility, and the sanitization procedure. All volatile memory in the M9018B PXI chassis may be erased by removing power for 30 seconds.

Memory Type: SRAM	**Memory Size**: 4KB
Memory Function: Volatile runtime M9018B driver state data. Stores only a small subset of runtime operating parameters related to state of the chassis.	
User Modifiable (Y/N): Yes	**Volatile** (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: Flash	**Memory Size**: 2MB
Memory Function: 1. Reconfigurable PCIe device firmware images. 2. PCIe fabric boot attributes and custom PCIe fabric storage. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility, and PCIe fabric can be changed using Keysight PCIe Switch Fabric Configurator. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM (x2)	**Memory Size**: 8KB (x2)
Memory Function: Reconfigurable Gen2 PCIe fabric image for internal PCIe switch devices. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight PCIe Switch Fabric Configurator. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM (x2)	**Memory Size**: 8KB (x2)
Memory Function: Failsafe PCIe fabric image for internal PCIe switch devices.	
User Modifiable (Y/N): No	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: Flash	Memory Size: 528KB + 8MB
Memory Function: Chassis monitor processor operating firmware. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: SRAM	Memory Size: 50KB
Memory Function: Chassis monitor processor operating RAM. Use of the chassis driver can change the operating Alarm limits, but all configuration changes are volatile and are cleared when the chassis is powered down.	
User Modifiable (Y/N): Yes, using Keysight SFP firmware update utility.	Volatile (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: EEPROM (x3)	Memory Size: 256B
Memory Function: Board manufacturing ID information.	
User Modifiable (Y/N): No	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: Complex Programmable Logic Device (CPLD)	Memory Size: 64 Macrocells
Memory Function: Left trigger bridge functionality. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: Complex Programmable Logic Device (CPLD)	Memory Size: 256 Macrocells
Memory Function: Right trigger bridge functionality.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

* Refer to PXIe Chassis Family User Guide for detail on how to use the SFP Firmware Update Utility or PCIe Switch Fabric Configurator.

M9019A Instrument Memory

This section contains information on the types of memory used in the **M9019A PXIe Chassis**. It explains the size of memory, how it is used, its location, volatility, and the sanitization procedure. All volatile memory in the M9019A PXI chassis may be erased by removing power for 30 seconds.

Memory Type: SRAM	**Memory Size**: 4KB
Memory Function: Volatile runtime M9019A driver state data. Stores only a small subset of runtime operating parameters related to state of the chassis.	
User Modifiable (Y/N): Yes	**Volatile** (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: Flash	**Memory Size**: 2MB
Memory Function: Reconfigurable PCIe device firmware images. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM (x2)	**Memory Size**: 8KB (x2)
Memory Function: Reconfigurable Gen3 PCIe fabric image for internal PCIe switch devices. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM (x2)	**Memory Size**: 8KB (x2)
Memory Function: Reconfigurable Gen1 PCIe fabric image for internal PCIe switch devices. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

KEYSIGHT
TECHNOLOGIES

Memory Type: Flash	Memory Size: 528KB + 8MB
Memory Function: Chassis monitor processor operating firmware. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: SRAM	Memory Size: 50KB
Memory Function: Chassis monitor processor operating RAM. Use of the chassis driver can change the operating Alarm limits, but all configuration changes are volatile and are cleared when the chassis is powered down.	
User Modifiable (Y/N): Yes	Volatile (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: EEPROM (x4)	Memory Size: 256B
Memory Function: Board manufacturing ID information.	
User Modifiable (Y/N): No	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: Complex Programmable Logic Device (CPLD)	Memory Size: 64 Macrocells
Memory Function: Left trigger bridge functionality. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: Complex Programmable Logic Device (CPLD)	Memory Size: 256 Macrocells
Memory Function: Right trigger bridge functionality. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

* Refer to PXIe Chassis Family User Guide for detail on how to use the SFP Firmware Update Utility

KEYSIGHT
TECHNOLOGIES

M9046A Instrument Memory

This section contains information on the types of memory used in the **M9046A PXIe Chassis**. It explains the size of memory, how it is used, its location, volatility, and the sanitization procedure. All volatile memory in the M9046A PXI chassis may be erased by removing power for 30 seconds.

Memory Type: SRAM	**Memory Size**: 32Kbit
Memory Function: Volatile runtime M9046A driver state data. Stores only a small subset of runtime operating parameters related to state of the chassis.	
User Modifiable (Y/N): Yes	**Volatile** (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: SRAM	**Memory Size**: 32Kbit
Memory Function: DCDC switcher control FPGA operating RAM. Use of the chassis driver can change operation mode like voltage and frequency, but all configuration changes are volatile and are cleared when the chassis is powered down.	
User Modifiable (Y/N): Yes	**Volatile** (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: Flash	**Memory Size**: 128Mbit
Memory Function: Chassis FPGA firmware, NV Storage. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM (x2)	**Memory Size**: 64Kbit (x2)
Memory Function: Reconfigurable Gen3 PCIe fabric image for internal PCIe switch configuration. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

KEYSIGHT
TECHNOLOGIES

Memory Type: EEPROM (x2)	Memory Size: 64Kbit (x2)
Memory Function: Reconfigurable Gen1 PCIe fabric image for internal PCIe switch configuration. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: SRAM	Memory Size: 8Kbit
Memory Function: Chassis monitor processor operating RAM. Use of the chassis driver can change the operating Alarm limits, but all configuration changes are volatile and are cleared when the chassis is powered down.	
User Modifiable (Y/N): Yes	Volatile (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: EEPROM	Memory Size: 2Kbit
Memory Function: Power Riser Board manufacturing ID information.	
User Modifiable (Y/N): No	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: Complex Programmable Logic Device (CPLD)	Memory Size: 240Kbit
Memory Function: Rear panel trigger routing CPLD. Contain no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	Volatile (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM	Memory Size: 8Kbit
Memory Function: Rear panel trigger board manufacturing ID information.	
User Modifiable (Y/N): No	Volatile (Y/N): No
Memory Erase Processes: None	

KEYSIGHT
TECHNOLOGIES

Memory Type: EEPROM	**Memory Size**: 2Kbit
Memory Function: USB-C riser board identification information.	
User Modifiable (Y/N): No	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: EEPROM	**Memory Size**: 2Kbit
Memory Function: Stores PICMG standard EEPROM information.	
User Modifiable (Y/N): No	**Volatile** (Y/N): No
Memory Erase Processes: None.	

Memory Type: EEPROM	**Memory Size**: 2Kbit
Memory Function: PCI bridge configuration.	
User Modifiable (Y/N): No	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: Flash	**Memory Size**: 2240Kbit
Memory Function: Backplane Left trigger bridge FPGA. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: Flash	**Memory Size**: 2240Kbit
Memory Function: Backplane Right trigger bridge FPGA. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: Flash	**Memory Size**: 5888Kbit
Memory Function: Power controller FPGA firmware. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

KEYSIGHT
TECHNOLOGIES

Memory Type: Flash	**Memory Size**: 128Mbit
Memory Function: Power controller FPGA microcontroller firmware. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None.	

Memory Type: Flash	**Memory Size**: 128Mbit
Memory Function: DCDC Switcher Control FPGA firmware. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility. *	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: Flash (x2)	**Memory Size**: 64Mbit (x2)
Memory Function: Stores FPGA firmware, header information and calibration data for High Performance Reference Clock Module. Images can be changed during Keysight software updates. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility.	**Volatile** (Y/N): No
Memory Erase Processes: None	

Memory Type: Flash (x2)	**Memory Size**: 128Mbit (x2)
Memory Function: Stores FPGA firmware, header information and calibration data for High Performance Reference Clock Module. Images can be changed during Keysight software updates. Contains no user data.	
User Modifiable (Y/N): No, can only be modified using Keysight SFP firmware update utility.	**Volatile** (Y/N): No
Memory Erase Processes: None	

* Refer to PXIe Chassis Family User Guide for detail on how to use the SFP Firmware Update Utility

Memory Type: FPGA	**Memory Size**: N/A
Memory Function: High Performance Reference Clock Module reference control FPGA.	
User Modifiable (Y/N): No	**Volatile** (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: FPGA	Memory Size: N/A
Memory Function: High Performance Reference Clock Module 100MHz reference control FPGA.	
User Modifiable (Y/N): No	Volatile (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: FPGA	Memory Size: N/A
Memory Function: High Performance Reference Clock Module high frequency reference control FPGA.	
User Modifiable (Y/N): No	Volatile (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: FPGA	Memory Size: N/A
Memory Function: High Performance Reference Clock Module interface FPGA.	
User Modifiable (Y/N): No	Volatile (Y/N): Yes
Memory Erase Processes: Cycle chassis power.	

Memory Type: EEPROM	Memory Size: 8kbit
Memory Function: Stores power manager configuration.	
User Modifiable (Y/N): No	Volatile (Y/N): No
Memory Erase Processes: None	

KEYSIGHT
TECHNOLOGIES