Keysight PXI VNA Series

This document provides security information for the following instruments:

M9485A PXI Multiport Network Analyzers

Models: M9376A, M9377A, M9378A/B, M9340A

Letter of Volatility

KEYSIGHT TECHNOLOGIES

1 Security Terms and Definitions

Term	Definition
Clearing	As defined in Section 8-301a of DoD 5220.22-M, "National Industrial Security Program Operating Manual (NISPOM)", clearing is the process of eradicating the data on media before reusing the media in an environment that provides an acceptable level of protection for the data that was on the media before clearing. Hence, clearing is typically used when the instrument is to remain in an environment with an acceptable level of protection.
Declassification Instrument	A term that refers to procedures that must be undertaken before an instrument can be removed from a secure environment, such as is the case when the instrument is returned for calibration. Declassification procedures include memory sanitization or memory removal, or both. Keysight declassification procedures are designed to meet the requirements specified in DoD 5220.22-M, "National Industrial Security Program Operating Manual (NISPOM)", Chapter 8.
Sanitization	As defined in Section 8-301b of DoD 5220.22-M, "National Industrial Security Program Operating Manual (NISPOM)", sanitization is the process of removing the data from media before reusing the media in an environment that does **not** provide an acceptable level of protection for the data that was in the media before sanitizing. Hence, instrument sanitization is typically required when an instrument is moved from a secure to a non-secure environment, such as when it is returned to the factory for calibration. Keysight memory sanitization procedures are designed for customers who need to meet the requirements specified by the US Defense Security Service (DSS). These requirements are specified in the "Clearing and Sanitization Matrix" in Section 5.2.5.5.5 of the ISFO Process Manual for the Certification and Accreditation of Classified Systems under the NISPOM.
Secure Erase	Secure Erase is a term that is used to refer to either the clearing or sanitization features of Keysight instruments.

2 Instrument Memory & Volatility

M9376A/M9377A

#	Memory Component, Type, Size	Writable during normal Operation?	Data Retained w/ powered off?	Purpose/Contents	Data Input Method	Sanitization Procedure
1	Flash Memory 16MByte (on carrier board)	Yes	Yes	● Factory calibration ● FPGA configuration Data ● Service log	● Adjustment procedures ● Firmware update ● Firmware access	See the section 3 for service log data
2	Flash Memory 8MByte (on slug board)	No	Yes	● Factory calibration ● FPGA configuration Data	● Adjustment procedures ● Firmware update	None required; no user data
3	FPGA 2MByte (on carrier board)	No	No	Hardware control code	Firmware access only	None required
4	FPGA 4.7 MByte (on slug board)	No	No	Hardware control code	Firmware access only	None required
5	FRAM 8 kByte (on carrier board)	Yes	Yes	Service log	Firmware access only	See the section 3

M9340A

#	Memory Component, Type, Size	Writable during normal Operation?	Data Retained w/ powered off?	Purpose/Contents	Data Input Method	Sanitization Procedure
1	Flash Memory 16MByte (on carrier board)	Yes	Yes	● Factory calibration ● FPGA configuration Data ● Service log	● Adjustment procedures ● Firmware update ● Firmware access	See the section 3 for service log data
2	EEPROM 64 kByte (on slug board)	No	Yes	Factory calibration	Adjustment procedures	None required; no user data
3	FPGA 2MByte (on carrier board)	No	No	Hardware control code	Firmware access only	None required
4	FRAM 8 kByte (on carrier board)	Yes	Yes	Service Log	Firmware access only	See the section 3

M9378A/B
No memories in the modules

Service Log Data
The M93xxA creates automatic service log of data for troubleshooting and quality improvement purpose. The log files are stored in both flash memory and FRAM.

The service log data contains:
- Power on count
- Reset count
- Accumulated power on time

- Accumulated analog on time
- Maximum temperature
- Overload count (M9376A/M9377A only)
- Module test result at startup test

3 Memory Clearing, Sanitization and Removal Procedures

For security reasons, if the service log data needs to be deleted, then :SERVice:LOGGing:CLEar commands can be used to clear the log recorded in the memories.

All other user-stored data is contained in the mainframe’s hard drive or external controlling PC’s hard drive. Clearing of that memory is outside the scope of this document.