Keysight ENA Series VNA

This document provides security information for the following instruments:

ENA Series Vector Network Analyzers

Models E5080B

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.
Instrument Declassification	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

#	Memory Component, Type, Size	Writable during normal Operation?	Data Retained w/ powered off?	Purpose/Contents	Data Input Method	Sanitization Procedure
1	Flash Memory on E5080B_MEAS, 32 Mbyte	No	Yes	FPGA configuration data	Firmware update	Not required
2	Flash Memory on E5080B_MEAS, 32 Mbyte	Yes	Yes	Factory calibration, Service Log	Adjustment procedure, Firmware access	Not required, SERVice:LOGGing:CLEar
3	Flash Memory on E5080B_MEAS, 32 Mbyte	No	Yes	FPGA configuration data, Factory calibration	Firmware update, Adjustment procedure	Not required, Not required
4	FRAM on E5080B_MEAS, 2 kByte	Yes	Yes	Service Log	Firmware access only	SERVice:LOGGing:CLEar
5	FRAM on E5080B_MEAS, 2 kByte	Yes	Yes	Service Log	Firmware access only	SERVice:LOGGing:CLEar
6	DDR3 SDRAM on E5080B_MEAS, 1 GByte	Yes	No	Acquisition data	Firmware access only	Not required
7	DDR3 SDRAM on E5080B_MEAS, 1 GByte	Yes	No	Acquisition data	Firmware access only	Not required
8	FPGA on E5080B_MEAS, 0.8MByte	Yes	No	Hardware control code	Firmware access only	Not required
9	FPGA on E5080B_MEAS, 1.4MByte	Yes	No	Hardware control code	Firmware access only	Not required
10	Main Memory on CPU module, 8 GByte	Yes	No	Windows Operating system boot device, factory correction data, and users file including saved traces data, settings, or images.	Operating system (not user defined)	Cycle Power
11	Memory for Product Information on E5080B_BP board, 64 kByte	No	Yes	Product number, serial number, options	Product number, serial number is stored at factory. Option is installed by Keysight License Manager	N/A (The data is not stored by user under normal operation.)
12	Media Storage on SSD assembly, 150 GByte	Yes	Yes	Windows Operating system boot device, factory correction data, and users file including saved traces data, settings, or images	User-Saved Data Operating system (not user defined)	Remove

13	FPGA on E5080B_BP board, 261 kByte	No	No	Hardware control code	Firmware access only	Not required
14	Flash Memory on E5080B_BP board, 64 Mbyte	No	Yes	FPGA configuration data, Factory calibration, Service Log	Firmware update, Adjustment procedure, Firmware access only	Not required Not required SERVice:LOGGing:CLEar
15	FPGA on E5080B_AUX board, 261 kByte	No	No	Hardware control code	Firmware access only	Not required
16	Flash Memory on E5080B_AUX board, 64 Mbyte	No	Yes	FPGA configuration data, Factory calibration, Service Log	Firmware update, Adjustment procedure, Firmware access only	Not required Not required SERVice:LOGGing:CLEar
17	FRAM on E5080B_AUX board, 2 kByte	Yes	Yes	Service Log	Firmware access only	SERVice:LOGGing:CLEar

3 Memory Clearing, Sanitization and Removal Procedures

All volatile memory in the unit will be erased by removing power for about 30 seconds.

The E5080B creates automatic log of data for troubleshooting and quality improvement purpose on Media Storage on SSD assembly, analog measurement (MEAS) module, backplane (BP) board and AUX board. The log data includes:

Media Storage on SSD assembly
- cumulative running time
- power on/off counts
- records of configuration and product serial number
- firmware start/stop log
- each modules temperature
- firmware error log
- records of user calibration
- RF excessive input log
- PowerOnTest result

Analog measurement module
- power on/off counts
- reset count
- power on time
- analog measurement module on time
- maximum temperature
- over temperature count
- overload count
- analog measurement module self-test result
- firmware event log

Backplane board
- firmware booting error log

AUX board
- power on/off counts
- reset count
- power on time
- analog measurement module on time
- maximum temperature
- firmware booting error log

The log files are stored in the flash memory and in SSD. For security reasons, if this data needs to be deleted,,:SERVice:LOGGing:CLEar command can be used to clear the log recorded by the analyzers.

All user-stored data is contained in the Media Storage on SSD assembly.