Keysight ECal Modules – Security Features and Volatility Guide

This document provides security information for the following instruments:

RF Two-Port: 85091/2/3/6/8/9C/D, 85094D and N7550/1/2A
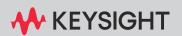
RF Four-Port: N4431A/B and N4431D

Microwave Two-Port: N4690A/B/C/D, N4691A/B/D, N4692/3/4A/D, N4696A/B/D, and N7553/4/5A

Microwave Four-Port: N4432/3A and N4432/3D

Note: The individual modules may not have the model number listed, but will instead have a part number based upon it; such as 85092-60007, N4691-60004, N4433-60003, etcetera.

This is the Security Features and Volatility Guide for the ECal Modules.

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Assistance with test and measurements 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 product 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.

Products Covered by this Document

NOTE	The individual modules may not have the model number listed, but will instead have a part number based upon it; such as 85092-60007, N4691-60004, N4433-60003, etcetera.

Table 1   Products Covered by this Document

Product Family Name	Product Names	Model Names
Electronic Calibration Module	RF Two-Port	85091C/D, 85092C/D, 85093C/D, 85094D, 85096C/D, 85098C/D, 85099C/D
		N7550A, N7551A, N7552A
	RF Four-Port	N4431A, N4431B
		N4431D
	Microwave Two-Port	N4690A, N4690B, N4690C, N4691A, N4691B, N4692A, N4693A, N4694A, N4696A, N4696B
		N4690D, N4691D, N4692D, N4693D, N4694D, N4696D
		N7553A, N7554A, N7555A
	Microwave Four-Port	N4432A, N4433A
		N4432D, N4433D

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Introduction

This document describes instrument security features and the steps to declassify an instrument through memory sanitization or removal. For additional information please go to http://www.Keysight.com/find/ad and security instrument tab.

Instrument Memory

This section contains information on the types of memory available in your instrument. It explains the size of memory, how it is used, its location, volatility, and the sanitization procedure.

Table 1   Summary of 8509xC, N443xA/B, N469xA/B instrument memory

Memory Type and Size	Is Memory user accessible as a mass storage device?	Writable During Normal Operation?	Data Retained When Powered Off?	Purpose/ Contents	Data Input Method	Location in Instrument and Remarks	Sanitization Procedure
Flash memory 8 MB or 1 MB (Older ECal modules)	No	Yes	Yes	Factory data, user characterizations data	Factory or calibration lab settings, User-saved characterizations data	USB board	ECal security wipe

Table 2   Summary of 8509xD, N443xD, N469xD, N755xA instrument memory

Memory Type and Size	Is Memory user accessible as a mass storage device?	Writable During Normal Operation?	Data Retained When Powered Off?	Purpose/ Contents	Data Input Method	Location in Instrument and Remarks	Sanitization Procedure
Flash memory 1GB (16 MB is addressable)	No	Yes	Yes	Factory data, user characterizations data	Factory or calibration lab settings, User-saved characterizations data	USB board	ECal security wipe

Memory Sanitization Procedures

NOTE	**IMPORTANT!** N755xA ECal models require 'ECal Module Security Wipe for the PNA' revision 3.50 or later.

Memory Clearing, Sanitization and/or Removal Procedures

This section explains how to clear, sanitize, and remove memory from your instrument for all memory that can be written to during normal operation.

For Memory Clearing and Sanitization:

NOTE	**IMPORTANT!** The memory clearing and sanitization process only removes any user data stored in the ECal memory (i.e., it does NOT remove the factory calibration).

To clear or sanitize the ECal memory, two ECal Data Wipe Utility has been developed which will destroy all user data per US DoD 5220.22M. To download the latest version, click on the URL below.

https://www.keysight.com/us/en/lib/software-detail/computer-software/pna-service-applications.html

Select ECal Module Security Wipe Stand-Alone for PC and run this program on any windows PC or ENA with firmware revision 9.2 or later. If the ECal is used with an PNA, then select the 'ECal Module Security Wipe for the PNA' which require the PNA to have firmware revision A.03.50 or later. Follow the instructions on the ECalWipeReadMe document that is contained within the utility.

For Memory Removal:

This memory can NOT be removed without damaging the ECal.

Learn more, refer to .

Security Terms and Definitions

Clearing – The process of eradicating the data on media before reusing the media so that the data can no longer be retrieved using the standard interfaces on the instrument. Clearing is typically used when the instrument is to remain in an environment with an acceptable level of protection.

Sanitization – The process of removing or eradicating stored data so that the data cannot be recovered using any known technology. 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. (The instrument is declassified.) 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 outlined in the "Clearing and Sanitization Matrix" issued by the Cognizant Security Agency (CSA) and referenced in National Industrial Security Program Operating Manual (NISPOM) DoD 5220.22M ISL 01L-1 section 8301.

Security erase – A term that is used to refer to either the clearing or sanitization features of Keysight instruments.

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 will include memory sanitization and or memory removal. Keysight declassification procedures are designed to meet the requirements specified by the DSS NISPOM security document (DoD 5220.22M chapter 8).

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