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USB-5684

Manufacturer: National Instruments

Board Assembly Part Numbers (Refer to Procedure 1 for identification procedure):

Part Number and Revision	Description
157880A-01L or later	NI USB-5683, 8 GHz Power Meter
157881A-01L or later	NI USB-5684, 18 GHz Power Meter

Volatile Memory

<i>Target Data</i>	<i>Type</i>	<i>Size</i>	<i>Battery Backup</i>	<i>User¹ Accessible</i>	<i>System Accessible</i>	<i>Sanitization Procedure</i>
Program and Data Storage	SDRAM	512 MB	No	No	Yes	Cycle Power

Non-Volatile Memory (*incl. Media Storage*)

<i>Target Data</i>	<i>Type</i>	<i>Size</i>	<i>Battery Backup</i>	<i>User Accessible</i>	<i>System Accessible</i>	<i>Sanitization Procedure</i>
Microcontroller Bootloader	PLD	128 KB	No	No	Yes	None
FPGA Boot Flash	FLASH	64 Kb	No	No	Yes	None
Device configuration	FLASH	128 KB	No			
<ul style="list-style-type: none"> • Calibration Metadata • Calibration Data² 				Yes No	Yes Yes	Procedure 2 None

¹ Refer to *Terms and Definitions* section for clarification of *User* and *System Accessible*

² Calibration constants that are stored on the device include information for the device's full operating range. Any implications resulting from partial self-calibration can be eliminated by running the full self-calibration procedure.

Initialization Procedures

Procedure 1 –Board Assembly Part Number Identification:

The Board Assembly Part Number and Revision are not always identified on the surface of the USB-5683 or USB-5684. The product name is printed on the device as either “NI USB-5683” or “NI USB-5684”.

Procedure 2 – Device Configuration Flash (Calibration Metadata):

The user-accessible areas of the Device Configuration Flash are exposed through a calibration Applications Programming Interface (API). To clear the calibration metadata area, complete the following steps in the NI568x Soft Front Panel.

1. Clearing user data from memory can be accomplished by using the secure mode option in the NI568x Soft Front Panel.
2. With the power sensor connected, open the NI568x Soft Front Panel and click the ‘Settings’ icon.
3. Click ‘Secure Mode’ in the drop-down menu. A warning dialog will appear asking to continue erasing the device. Click ‘yes’.
4. Shut down and restart the NI568x Soft Front Panel.

Terms and Definitions

Cycle Power:

The process of completely removing power from the device and its components and allowing for adequate discharge. This process includes a complete shutdown of the PC and/or chassis containing the device; a reboot is not sufficient for the completion of this process.

Volatile Memory:

Requires power to maintain the stored information. When power is removed from this memory, its contents are lost. This type of memory typically contains application specific data such as capture waveforms.

Non-Volatile Memory:

Power is not required to maintain the stored information. Device retains its contents when power is removed. This type of memory typically contains information necessary to boot, configure, or calibrate the product or may include device power up states.

User Accessible:

The component is read and/or write addressable such that a user can store arbitrary information to the component from the host using a publicly distributed NI tool, such as a Driver API, the System Configuration API, or MAX.

System Accessible:

The component is read and/or write addressable from the host without the need to physically alter the product.

Clearing:

Per *NIST Special Publication 800-88 Revision 1*, “clearing” is a logical technique to sanitize data in all User Accessible storage locations for protection against simple non-invasive data recovery techniques using the same interface available to the user; typically applied through the standard read and write commands to the storage device.

Sanitization:

Per *NIST Special Publication 800-88 Revision 1*, “sanitization” is a process to render access to “Target Data” on the media infeasible for a given level of effort. In this document, clearing is the degree of sanitization described.