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PXIe-5654

Manufacturer: National Instruments

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

Part Number and Revision	Description
157089A-0xL or later	PXIe-5654

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>
FPGA General Memory	Block RAM	2,088 Kb	No	Yes	Yes	Cycle Power
FPGA Distributed Memory	LUTRAM	401 Kb	No	No	Yes	Cycle Power
Micro General, Calibration	SDRAM	128 Mb	No	No	Yes	Cycle Power
ARM SRAM and Cache	SRAM	96 KB	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>
Device configuration	FLASH	8 MB	No			
• Device configuration and info				No	Yes	None
• Calibration data ²				No	Yes	None
• Calibration metadata				Yes	Yes	Procedure 2
Micro Calibration ²	FLASH	8 MB	No	No	Yes	None
ARM ROM	FLASH	64 KB	No	No	Yes	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.

Procedures

Procedure 1 –Board Assembly Part Number Identification:

To determine the Board Assembly Part Number and Revision, refer to the label applied to the surface of your product. The Assembly Part Number should be formatted as “P/N: 157089#-xxL” where “#” is the letter module revision and “xx” is the module variant information specified as two numeric characters.

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) in LabVIEW. To clear the calibration metadata area, complete the following steps in an empty VI and run in LabVIEW.

1. To clear the user-defined information, write a known value to the user-defined information field in the calibration memory by performing the following steps:
 - a. Open a session by calling the niRFSG Initialize External Calibration VI. The default password is “NI” (no quotes).
 - b. Pass an empty string to the User Defined Info property.
 - c. Close the session by calling the niRFSG Close External Calibration VI and wire the “write calibration to hardware?” terminal to TRUE.
2. To clear the calibration password, perform the following steps:
 - a. Open a session by calling the niRFSG Initialize External Calibration VI.
 - b. Add the niRFSG Change External Calibration Password VI after the open calibration session VI.
 - c. Specify the current password in the “password” input of the niRFSG Change External Calibration Password VI.
 - d. Write “NI” (no quotes) to the “new password” input of niRFSG Change External Calibration Password VI. (This resets the password to the default.)
 - e. Close the session by calling the niRFSG Close External Calibration VI and wire the “write calibration to hardware?” terminal to TRUE.

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.