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PXIe-5645R

Manufacturer: National Instruments

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

Part Number and Revision	Description
142819C-0xL or later	PXIe-5645 / PXIe-5645R
150819A-0xL or later	PXIe-5645 / PXIe-5645R

Volatile Memory

Target Data	Type[4]	Size	Battery Backup	User[1] Accessible	System Accessible	Sanitization Procedure
Onboard User Memory Bank 0	DDR2 DRAM	256 MB	No	Yes	Yes	Cycle Power
Onboard User Memory Bank 1	DDR2 DRAM	256 MB	No	Yes	Yes	Cycle Power
FPGA General User Memory	Block RAM	12,384 Kb	No	Yes	Yes	Cycle Power
FPGA Distributed User Memory	LUTRAM	3,040 Kb	No	Yes	Yes	Cycle Power
User Configuration Memory	SRAM	2 MB	No	Yes	Yes	Cycle Power

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

Target Data	Type	Size	Battery Backup	User Accessible	System Accessible	Sanitization Procedure
Calibration Information	Flash	8 MB	No			
• Calibration Data[2]				No	Yes	None
• Calibration Metadata				Yes	Yes	Procedure 2
Device Configuration	FLASH	16 MB	No			
• Device Configuration				No	Yes	None
• FPGA Bitstream				No	Yes	None
Clocking Control PLD						
• User Flash Memory	FLASH	1 KB	No	No	Yes	None
• Configuration Image	FLASH	570 LEs	No	No	Yes	None
RF Input Path Control PLD						
• User Flash Memory	FLASH	1 KB	No	No	Yes	None
• Configuration Image	FLASH	2210 LEs	No	No	Yes	None
RF Output Path Control PLD						
• User Flash Memory	FLASH	1 KB	No	No	Yes	None
• Configuration Image	FLASH	2210 LEs	No	No	Yes	None
IQ Path Control PLD						
• User Flash Memory	FLASH	1 KB	No	No	Yes	None
• Configuration Image	FLASH	2210 LEs	No	No	Yes	None

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[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.

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support@ni.com

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: 150819#-01L" where "#" is the letter module revision. Any part number listed in the Board Assembly Part Numbers table is valid for the PXIe-5645/5645R.

Procedure 2 – Calibration Information Flash (Calibration Metadata):
The user-accessible calibration password is exposed through a calibration Applications Programming Interface (API). To clear the calibration password, complete the following steps in an empty VI and run in LabVIEW.
1. Open a calibration session using the niVST Initialize External Calibration VI.
2. To clear the calibration password:
    a. Specify the current password in the "password" input of the niVST Change External Calibration Password VI.
    b. Wire a string of 32 "0" characters to the "new password" input of niVST Change External Calibration Password VI.
3. Close the calibration session using the niRFSA Close External Calibration VI.

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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.