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Manufacturer: National Instruments

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

Part Number and Revision	Description
191967A-01(L) or later	**PXI-5650 1.3 GHz**
191967A-02(L) or later	**PXI-5651 3.3 GHz**
191967A-03(L) or later	**PXI-5652 6.6 GHz**

Volatile Memory

Target Data	*Type*	*Size*	*Battery Backup*	*User[1] Accessible*	*System Accessible*	*Sanitization Procedure*
User Modulation Memory	LUTRAM	128 B	No	Yes	Yes	Cycle Power
Unused FPGA Block RAM	Block RAM	5 KB	No	No	No	Cycle Power
FPGA Distributed RAM	LUTRAM	5 KB	No	No	No	Cycle Power

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

Target Data	*Type*	*Size*	*Battery Backup*	*User Accessible*	*System Accessible*	*Sanitization Procedure*
Calibration Information	FLASH	2 Mb	No			
• Calibration metadata				Yes	Yes	Procedure 2
• Calibration data[2]				No	Yes	None
FPGA and MITE configuration	FLASH	4 Mb	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 "PART NO: 191967#-0xL" or alternately "P/N: 191967#-0xL" where "#" is the letter module revision and "x" determines whether the module is a PXI-5650, PXI-5651, or PXI-5652 (refer to the Board Assembly Part Numbers table).

Procedure 2 – Calibration Information FLASH (Calibration Metadata):
The user-accessible areas of the Calibration Information FLASH are exposed through NI-RFSG. To clear this metadata, complete the following steps in an empty VI and run in LabVIEW:

1. Add a niRFSG Initialize VI to the diagram and configure the "resource name" input appropriately.
2. Add a niRFSG Property Node after the niRFSG initialize and wire the "instrument handle" and "reference" terminals together and wire the error terminals as well. Configure the property node to fetch the "User Defined Info Max Size" attribute.
3. Add a second niRFSG Property Node after the first property node wiring the "reference out" and "reference" terminals together and wire the error terminals together. Configure the property node to set "User Defined Info".
4. Add a niRFSG Close VI after the second property node and wire the reference and error terminals from the second property node.
5. Create blank user defined data.
    a. Wire the "User Defined Info Max Size" property to a For Loop's counter variable N.
    b. Within the For Loop, use a Concatenate Strings function and Shift Register to build a character string of N "0" characters.
    c. Wire the final output of the Shift Register to the "User Defined Info" property node.

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.

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