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PXIe-6545

Manufacturer: National Instruments

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

Part Number and Revision	Description
196524A-0xL or later	PXIe-6544
196525A-0xL or later	PXIe-6545
199952A-0xL or later	PXIe-6547
199953A-0xL or later	PXIe-6548

Volatile Memory

Target Data	Type	Size	Battery Backup	User[1] Accessible	System Accessible	Sanitization Procedure
Waveform data	Synchronous DRAM	512 MB	No	Yes	Yes	Cycle Power
PCI communication	MITE FIFO Register	208 bytes	No	Yes	Yes	Cycle Power
Buffering data	FPGA Block RAM	720 KB	No	Yes	Yes	Cycle Power
Memory control	FPGA Block RAM (x2)	112 KB	No	Yes	Yes	Cycle Power
Transfer data to/from daughter card	FPGA Block RAM	864 KB	No	Yes	Yes	Cycle Power

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

Target Data	Type	Size	Battery Backup	User Accessible	System Accessible	Sanitization Procedure
Board configuration	EEPROM	16 KB	No	No	Yes	None
Device configuration	Flash	256 MB	No			
• Device information				No	Yes	None
• FPGA bitstream				No	Yes	None
• Calibration metadata				Yes	Yes	Procedure 2
Calibration data[2]				No	Yes	None
FPGA Configuration	CPLD	64 MacroCells	No	No	No	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.

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: 19####A-0#L"

Procedure 2 – Device Information 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 meta-data area, complete the following steps:

1. Use function niHSDIO_InitExtCal to create and initialize a special NI-HSDIO external calibration session. The ViSession returned is an NI-HSDIO session that can be used during the calibration session.
2. Call function niHSDIO_ChangeExtCalPassword to clear the calibration password that is required to initialize an external calibration session.
3. Call function niHSDIO_CalAdjustChannelVoltage to clear the user-defined information of the selected channel(s).
4. Finally, call the function niHSDIO_CloseExtCal with the calibration action set to 'Commit', in order to store the new calibration constants and data in the onboard Flash and to close the calibration session.

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.