Manufacturer: National Instruments

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

Part Number and Revision	Description
191789x-01	**NI PXI-5441, 8MB**
191789x-02(L)	**NI PXI-5441, 32MB**
191789x-03(L)	**NI PXI-5441, 256MB**
191789x-04(L)	**NI PXI-5441, 512MB**

Volatile Memory

Target Data	*Type*	*Size*	*Battery Backup*	*User[1] Accessible*	*System Accessible*	*Sanitization Procedure*
Waveform Data	Synchronous DRAM	8 MB (-01) 32 MB (-02) 256 MB (-03) 512 MB (-04)	No	Yes	Yes	Cycle Power
Buffering Data	FPGA Block RAM	576 kbits	No	Yes	Yes	Cycle Power
Buffering Data	FPGA Block RAM	1001 kbits	No	Yes	Yes	Cycle Power
Memory Control	FPGA Block RAM	14 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	64 kbits	No	No	Yes	None
Calibration information	EEPROM	16 kbits	No			
• Calibration metadata				Yes	Yes	Procedure 2
• Calibration constants[2]				No	Yes	None
FPGA Programming	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.

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Procedures

Procedure 1 – Board Assembly Part Number identification:
To determine the Board Assembly Part Number and Revision, refer to the label attached to U38. The serial number is printed on label attached to U33. Both U33 and U38 reference designators can be seen on the silk screen and are located on bottom side of module near the front panel.

Procedure 2 – Calibration Information EEPROM (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. To clear the calibration password, from Labview use niFgen Change Ext Cal Password.vi to overwrite the password.
2. To clear the user-defined information, from Labview use niFgen Set Cal User Devined Info.vi to overwrite user-defined information.

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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.