

Manufacturer: National Instruments

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

Part Number and Revision	Description
147555A-01L or later	PXIe-6571

Volatile Memory

			Battery	User ¹	System	Sanitization
Target Data	Туре	Size	Backup	Accessible	Accessible	Procedure
Device operation	FPGA	Xilinx XC7VX415T	No	Yes	Yes	Cycle Power
Data storage	DRAM	4 GB	No	Yes	Yes	Cycle Power
FPGA image storage	SDRAM	256 MB	No	Yes	Yes	Cycle Power

Non-Volatile Memory (incl. Media Storage)

			Battery	User	System	Sanitization
Target Data	Туре	Size	Backup	Accessible	Accessible	Procedure
Clock Configuration	Internal	512 Bytes	No	No	Yes	None
-	EEPROM					
FPGA Configuration and Logic	CPLD	Intel	No	No	Yes	None
		10M16SCU				
Board Control	CPLD	Lattice	No	No	Yes	None
		LCMX02-				
		1200HS-				
		4MG				
Primary Storage	Flash	1 GB	No			
• FPGA boot Image				No	Yes	None
Device Identification				No	Yes	None
Calibration Data				No	Yes	None
Calibration Metadata				Yes	Yes	Procedure 2

¹ Refer to *Terms and Definitions* section for clarification of *User* and *System Accessible*



Procedures

Procedure 1 – Board Assembly Part Number identification:

To determine the Board Assembly Part Number and Revision: Refer to Product label on backside shield. The assembly part number should be "147558a-01L" where "a" is the letter revision of the assembly (e.g. A, B, C...)

Procedure 2 - Primary Storage Flash (Calibration Metadata):

The user-accessible areas of the Primary Storage Flash are exposed through a calibration Applications Programming Interface (API). To clear the calibration metadata area, you will need to have installed NI Digital 18.0, LabVIEW 2015 or newer and complete the following steps in LabVIEW. The Necessary library is located at: <LabVIEW DIR>\instr.lib\niDigital\niDigital.llb

- 1. Open a calibration session using the niDigital Initialize External Calibration VI.
- 2. To clear the user-defined information field:
 - a. Wire the output of the niDigital Get Cal User Defined Info VI to a String Length function.
 - b. Wire the output of the String Length function to a For Loop's counter variable N.
 - c. Within the For Loop, use a Concatenate Strings function and Shift Register to build a character string of N "0" characters.
 - d. Wire the final output of the Shift Register to the input of the niDigital Set Cal User Defined Info VI.
- 3. To clear/reset the calibration password:
 - a. Specify the current password in the "password" input of the niDigital Change External Calibration Password VI.
 - b. Wire a string of 32 "0" characters to the "new password" input of niDigital Change External Calibration Password VI.
- 4. Close the calibration session using the niDigital Close External Calibration VI.



Figure 1: Example VI to clear the Primary Storage Flash



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.