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PXIe-6570

Manufacturer: National Instruments

Board Assembly Part Number(s):

Part Number and Revision	Description
157665D-02L or later	PXIe-6570

To determine the Board Assembly Part Number and Revision, find the serial number that is visible on a sticker affixed to the board or displayed in MAX.

Volatile Memory

<i>Purpose ("Target Data")</i>	<i>Type</i>	<i>Size</i>	<i>Battery Backup</i>	<i>User¹ Accessible</i>	<i>System Accessible</i>	<i>Sanitization Procedure</i>
Data storage during VI execution	Block RAM	31640 kB	No	Yes	Yes	Cycle Power
Data storage during VI execution	DRAM	4 GB	No	Yes	Yes	Cycle Power
Temporary storage for FPGA image, User Accessible Storage Memory	SDRAM	256 MB	No	Yes	Yes	Cycle Power
Field Programmable Gate Array	FPGA	257600 LUTs, 2160 DSP Slices	No	Yes	Yes	Cycle Power
Pin Electronics Configuration Registers	RAM	4 kB	No	No	Yes	Cycle Power
Si5338 Clocking Chip Configuration Registers	RAM	348 Bytes	No	No	Yes	Cycle Power

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

Non-Volatile Memory (incl. Media Storage)

Purpose (“Target Data”)	Type	Size	Battery Backup	User Accessible	System Accessible	Sanitization Procedure
Stores configuration for Clocking Chip	Clocking Chip EEPROM	512 Bytes	No	No	Yes	None
Transfers bitfile to FPGA, Source Memory used in pattern execution	CPLD	640 LUTs, 5 kB RAM, 18 kB SRAM, 25 kB UFM	No	No	Yes	None
Pin Expansion for front end configuration	CPLD	640 LUTs, 5 kB RAM, 18 kB SRAM, 25 kB UFM	No	No	Yes	None
Primary Storage	Flash	1 GB	No			
<ul style="list-style-type: none"> • Boot Image • Device Identification • Calibration Data • Calibration Metadata 				No	Yes	None
				No	Yes	None
				No	Yes	None
				Yes	Yes	Procedure 1
Si5338 Clocking Chip One-time Programmable Configuration Memory	OTP ROM	348 Bytes	No	No	No	None

Sanitization Procedures

Procedure 1 – Primary Storage Flash (Calibration Metadata):

The user-accessible areas of the Device Configuration Flash are exposed through a calibration Applications Programming Interface (API). To clear the calibration metadata area, complete the following steps in LabVIEW.

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.

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.