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**PXIe-5110**

**Manufacturer:** National Instruments

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

Part Number and Revision	Description
147871A-10L or later	PXIE-5110 OSCILLOSCOPE,100 MHZ,32MB
147871A-11L or later	PXIE-5110 OSCILLOSCOPE,100 MHZ,256MB
147871A-30L or later	PXIE-5111 OSCILLOSCOPE,350 MHZ,32MB
147871A-31L or later	PXIE-5111 OSCILLOSCOPE,350 MHZ,256MB
147871A-50L or later	PXIE-5113 OSCILLOSCOPE,350 MHZ,32MB
147871A-51L or later	PXIE-5113 OSCILLOSCOPE,350 MHZ,256MB

### Volatile Memory

<i>Target Data</i>	<i>Type</i>	<i>Size</i>	<i>Battery Backup</i>	<i>User<sup>1</sup> Accessible</i>	<i>System Accessible</i>	<i>Sanitization Procedure</i>
Waveform data	DRAM	32MB (-x0L) 256MB (-x1L)	No	Yes	Yes	Cycle Power

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

<i>Target Data</i>	<i>Type</i>	<i>Size</i>	<i>Battery Backup</i>	<i>User Accessible</i>	<i>System Accessible</i>	<i>Sanitization Procedure</i>
Device information	Flash	16 MB	No			
<ul style="list-style-type: none"> <li>• Factory data</li> <li>• Self-calibration data</li> <li>• External cal. data<sup>2</sup></li> <li>• Misc info</li> </ul>				No	Yes	None
<ul style="list-style-type: none"> <li>• FPGA bitstream</li> </ul>	FPGA	Intel 10M04SAU	No	No	Yes	None
Spread spectrum clock config	EEPROM	48 Bytes	No	No	No	None
ASIC configuration	EEPROM	32 kB	No	No	Yes	None

<sup>1</sup> Refer to *Terms and Definitions* section for clarification of *User* and *System Accessible*

<sup>2</sup> Calibration constants that are stored on the device include information for the device's full operating range.

## Procedures

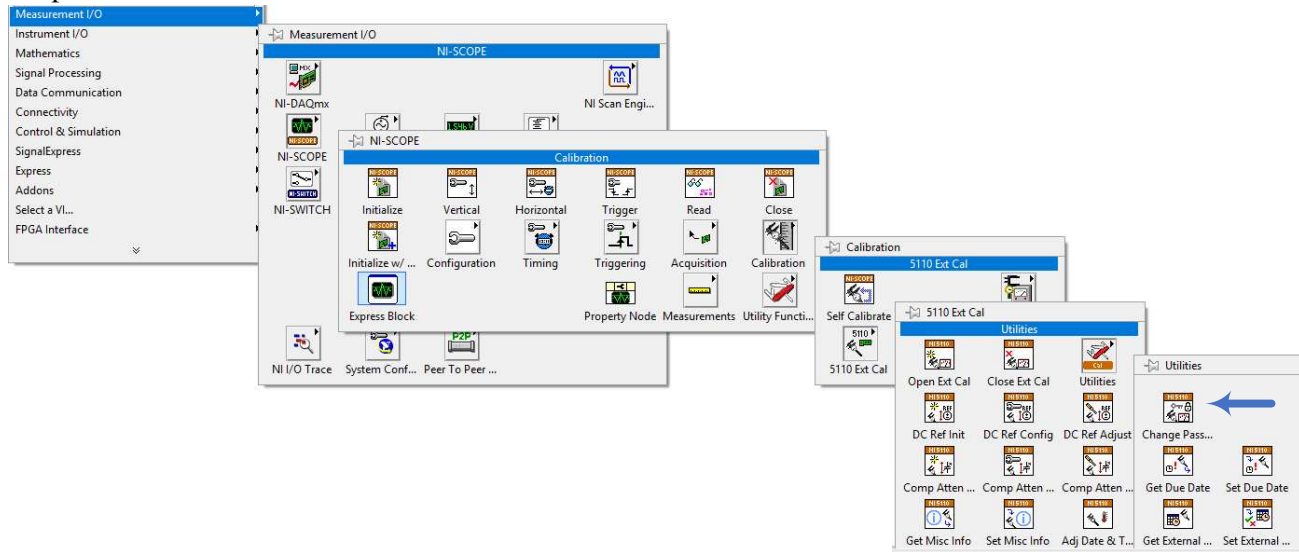
### Procedure 1 – Board Assembly Part Number Identification:

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: 147871a-xxL where ”a” is the letter revision of the assembly (e.g. A, B, C...) and ”xx” is the variant.

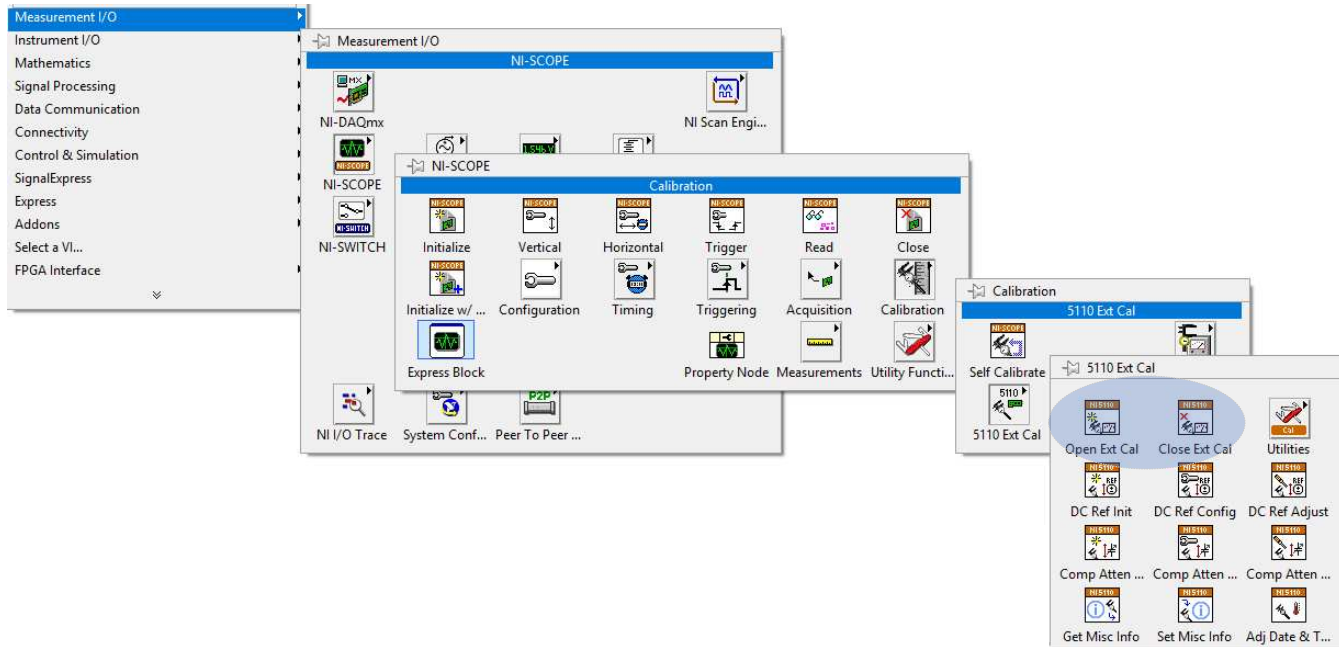
### Procedure 2 – Calibration Flash:

The user-accessible areas of the Calibration Flash are exposed through a calibration Applications Programming Interface (API) in LabVIEW. All the VIs used are located in the NI-SCOPE/Calibration/PXIe-5110 Ext Cal palette. To clear the calibration user-data area, complete the following steps:

1. The calibration password cannot be changed without knowing what the calibration password is already. The default as-shipped from factory is “NI”. To change the password, use /Utility/Change Ext Cal Password.vi, passing it the old password and the new password. Screenshot for the location of the VI in the sub-palette is shown below.



2. To clear the user-defined information, open an external cal session using the Open Ext Cal Session VI. Screenshot for the VI location is shown below. In that session, call the Set Misc Info VI, passing it an arbitrary 4 character string to use in overwriting the data. Close the session using the Close Ext Cal Session, using the commit action. The commit action in the close session is an input named “action” with “Cancel” and “Commit” as the two options. Use the “Commit”.



## 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.