



**Manufacturer:** NI

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

Part Number and Revision	Description
118967A-01L or later	OBX-160

## Volatile and Non-Volatile Memory of Component Models

### 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>
None						

### 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>
<b>Device Configuration Data</b> <ul style="list-style-type: none"><li><b>RX, TX ID EEPROM</b></li></ul>	EEPROM	2Kb	No	No	Yes	Procedure 2
Daughterboard Control CPLD <ul style="list-style-type: none"><li><b>User Flash Memory</b></li><li><b>Configuration Image</b></li></ul>	Flash Flash	1248Kb 3 LE	No	No	No	Procedure 3

<sup>1</sup> 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 the label applied to the surface of your product. The Assembly Part Number should be formatted as “P/N: 555555a-01L” where “a” is the letter revision of the assembly (e.g. A, B, C...). >

### Procedure 2 – Device Configuration Data EEPROM:

Requirements: UHD 4.9.0 or later

To clear the daughterboard device configuration data EEPROM:

- 1) The onboard EEPROM can be cleared, it is not necessary as it does not contain any user data. However, if desired, our technical support can provide a program (uhd\_device\_eraser.cpp) that will clear the contents of all permanent storage on a USRP device, including both the motherboard and daughterboard.
- 2) Alternatively, the following utilities that ship with the UHD (USRP Driver) can be utilized:
  - a. Run the "usrp\_burn\_db\_eeprom" utility to delete hardware-specific fields:
  - b. `$ usrp_burn_db_eeprom --args= [--slot=] --unit=RX --id=""`
  - c. `$ usrp_burn_db_eeprom --args= [--slot=] --unit=RX --serial=""`
  - d. `$ usrp_burn_db_eeprom --args= [--slot=] --unit=RX --rev=""`
  - e. `$ usrp_burn_db_eeprom --args= [--slot=] --unit=TX --id=""`
  - f. `$ usrp_burn_db_eeprom --args= [--slot=] --unit=TX --serial=""`
  - g. `$ usrp_burn_db_eeprom --args= [--slot=] --unit=TX --rev=""`

### Procedure 3 - Device Configuration Flash (Calibration Metadata):

Requirements: Intel® Quartus® Prime Programmer Software and Programmer that supports MAX 10 CPLD

The onboard CPLD can be cleared, it is not necessary as it does not contain any user data. However, if desired, our technical support can advise or you can follow the CPLD vendor instructions below, referenced from URL:

[1.4.4. Programming Intel® CPLDs and Flash Memory Devices](#)

1. Open the Quartus II Programmer with a blank (un-programmed) MAX-series device. If the device has been programmed, use the **Erase** programming option to erase the device.
2. Use the **Examine** programming option in the Quartus II Programmer and save the Programmer Object File (.pof) file to your computer.
3. Add the blank .pof file in the Quartus II Programmer.
4. From the File menu in the Quartus II Programmer, select **Create JAM, JBS, SVF or ISC File...**
5. Enter a name for the file and select the file format **JEDEC STAPL Format (.jam)** in the **Create JAM, JBC, SVF or ISC file** dialog box.
6. Click **OK**.



## 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.