

Z2025A PCIe CBB Controller

Installation Guide

Third Edition

Please read this document thoroughly before using the Z2025A PCIe CBB Controller (hereafter, this device).

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1. Product Overview

This device remotely controls the power supply to the DUT by controlling the power reset control pins on the PCIe CBB 4.0 (Compliance Base Board 4.0) and enables the compliance test to be automated.

To use this device, connect it to the MP1900A installed with the MX183000A (Ver 3.07.11 or later) and MX183000A-PL021 PCIe Link Training using the supplied USB cable.

2. System Requirements

- NI-DQA™ mx Version 18.1 or later
- Conforming to the operating environment of the MX183000A (Ver 3.07.11 or later) and MX183000A-PL021 PCIe Link Training.
Refer to Appendix A in the *MX183000A High-Speed Serial Data Test Software Operation Manual (M-W3813AE)*.

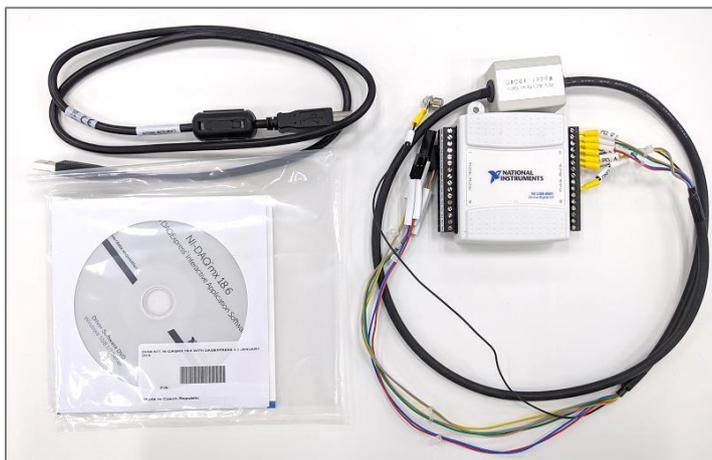
3. Supplied Accessories

Before using, make sure all of the following accessories are supplied.

- USB-6501
- PCIe CBB control cable
- USB cable Type A – Type B
- NI-DAQ™ mx 18.1 or later with DAQExpress™ Interactive Application Software (DVD)

Note:

If there is no available external DVD drive, download the application from the National Instruments™ website.



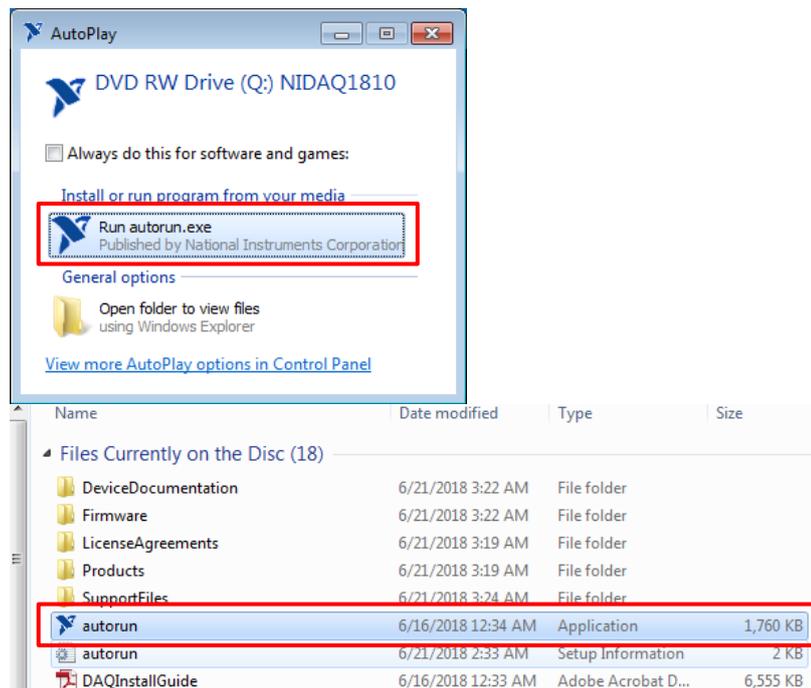
4. Installing Supplied Software

Install NI-DAQ™ mx 18.1 or later to MP1900A or PC where MX183000A is installed. Wait about 40 minutes until the installation is complete.

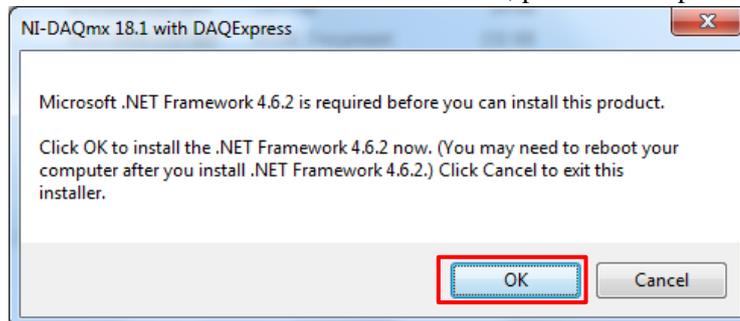
Note:

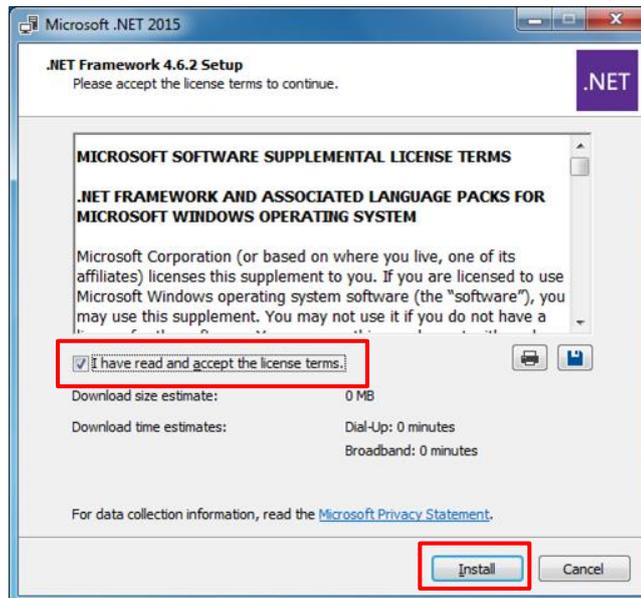
During the installation process, you need to specify **Custom** on the Select Installation Option page.

1. Have an external DVD drive on hand and connect it to MP1900A or PC for installing the software. If there is no available external DVD drive, download it from the National Instruments™ website.
2. Click **Run autorun.exe** to start installation.
If the **AutoPlay** dialog box doesn't appear, double-click **autorun.exe** on the DVD.

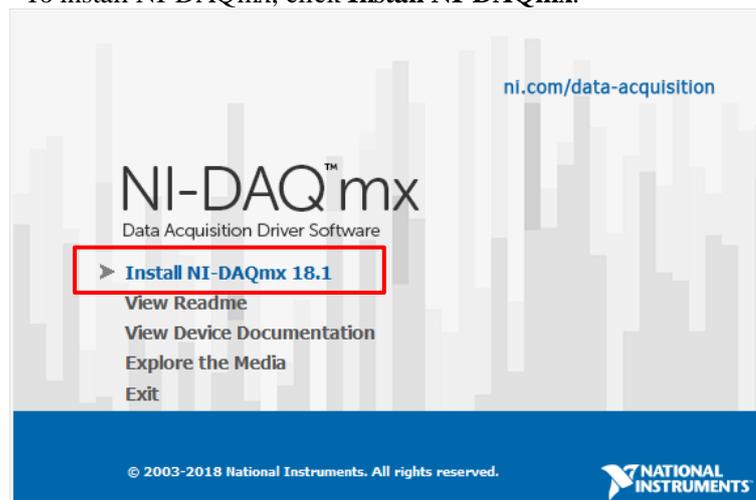


3. If Microsoft .NET Framework 4.6.2 is not installed to the installation destination, you will be asked to install it. According to the prompt, install .NET Framework. If installation of .NET Framework is not asked, proceed to step 4.

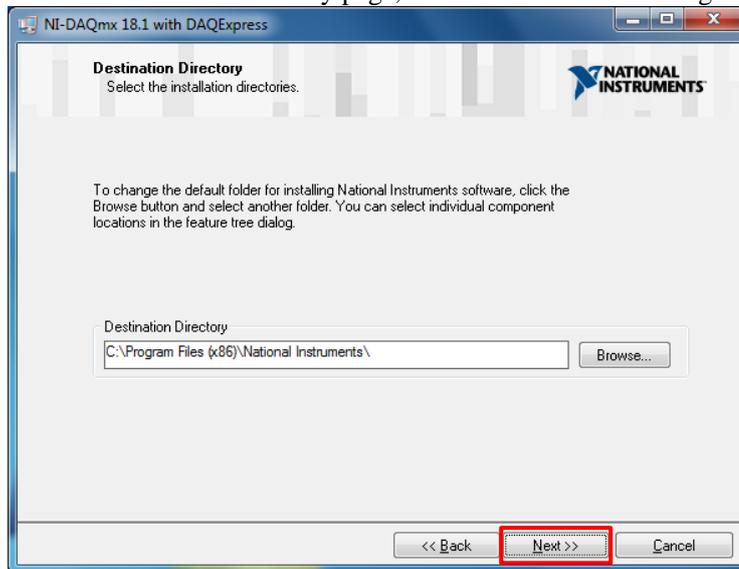




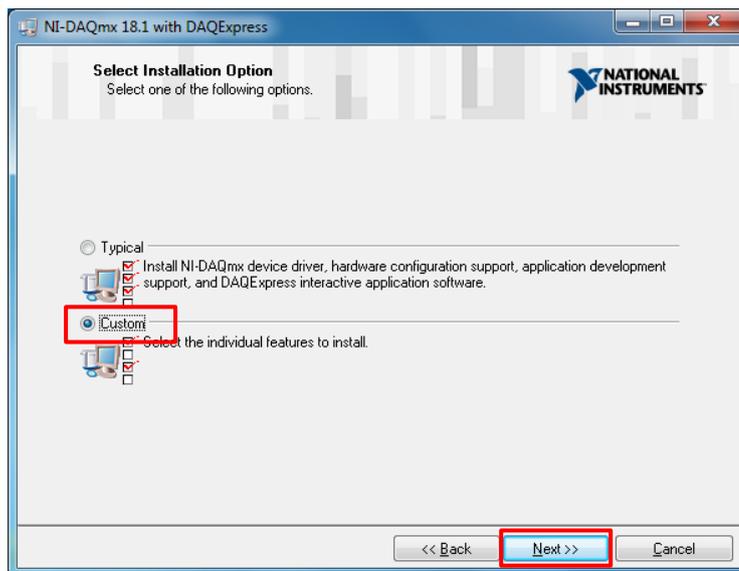
4. To install NI-DAQmx, click **Install NI-DAQmx**.



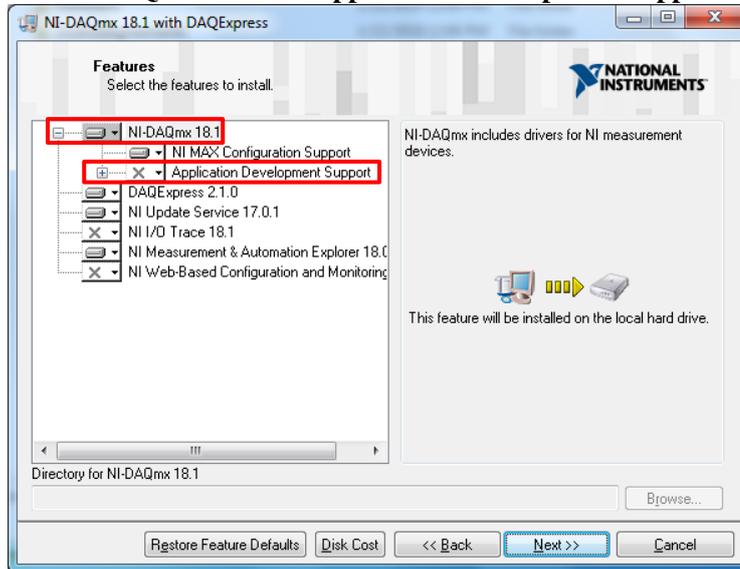
5. On the Destination Directory page, click **Next** without making any changes.



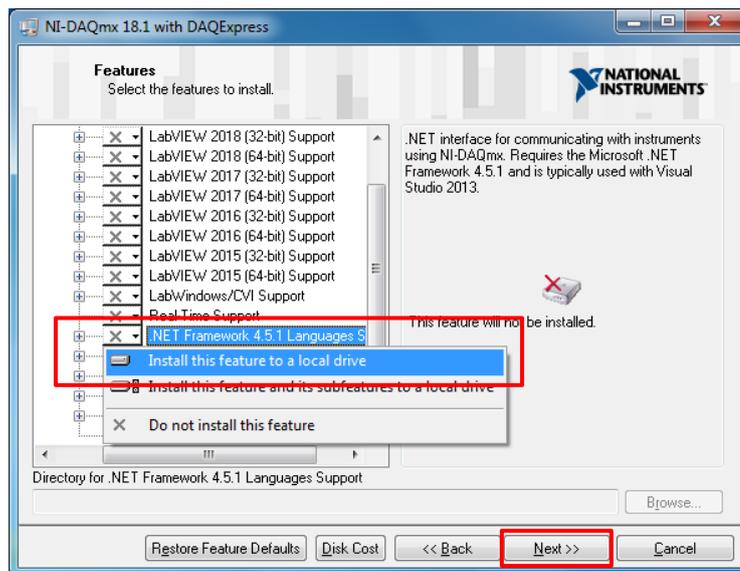
6. On the Select Installation Option page, select **Custom**, and click **Next**.



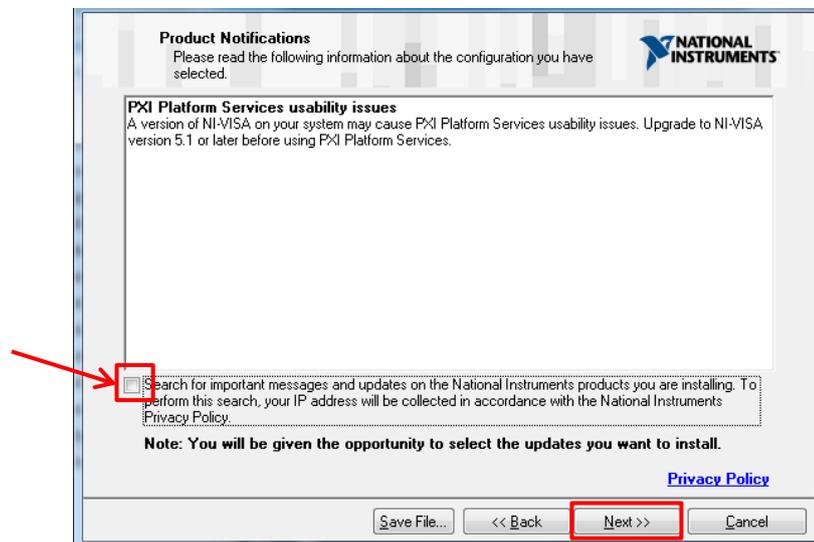
7. Click **NI-DQAmx xx.x -> Application Development Support**.



8. Click **.NET Framework 4.5.1 Languages**, select **Install This feature to a local drive** and click **Next**.

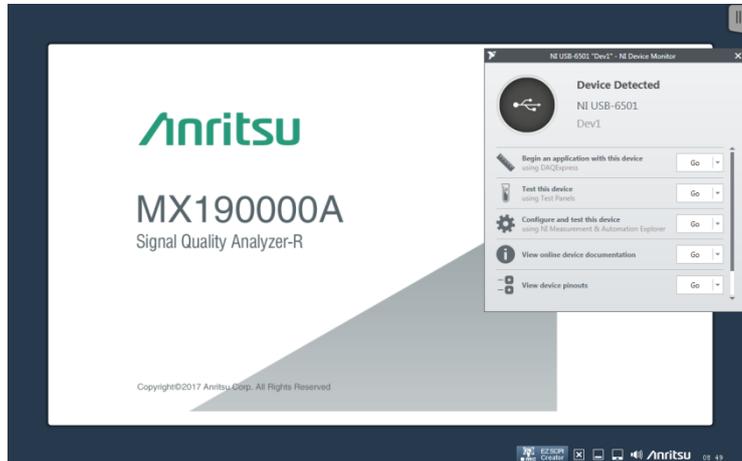


9. On the Product Notifications page, clear the checkbox and click **Next**.



10. Follow the wizard instructions to complete the installation. If you are prompted to restart Windows OS, restart it.
11. If steps 4 to 8 haven't been followed correctly, retry installation from step 2.

- When restarting at step 10, connect the USB-6501 to the MP1900A or PC, which installs the driver automatically as shown below. You will see the following dialog box only when connecting it to the device for the first time. If started during installation, the MX190000A may not display Application Selector.

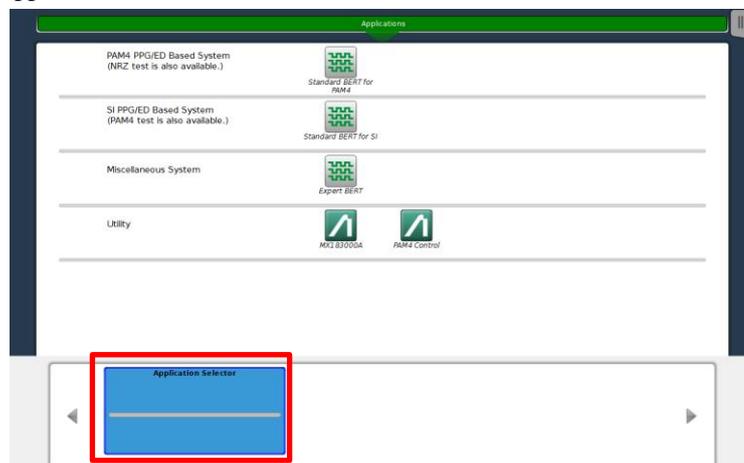


In this case, follow the procedure below to start Application Selector.

- Tap the icon indicated by the red box in the figure below.

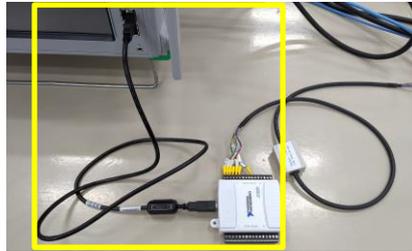


- Tap **Application Selector** and tap the **Standard BERT for SI** icon to start the application.

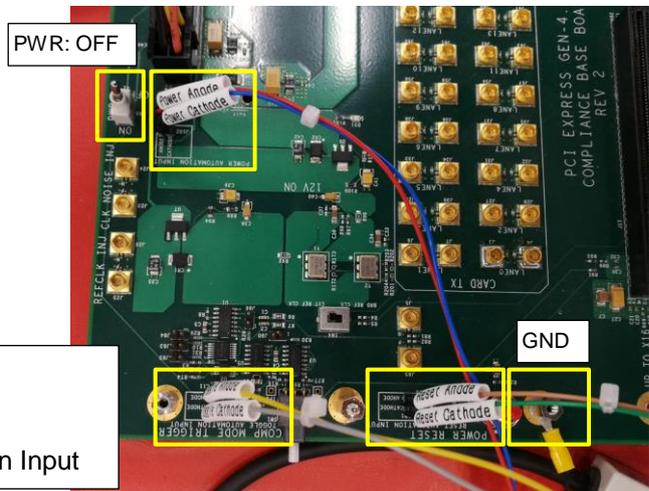
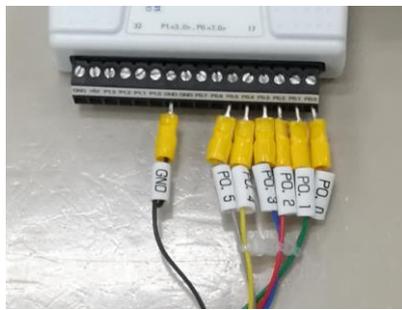


5. How to Use This Device

- Using the USB cable, connect the USB-6501 to the MP1900A or PC installed with the MX183000A (Ver 3.07.11 or later), MX183000A-PL021 PCIe Link Training and NI-DAQ™ mx xx.x.

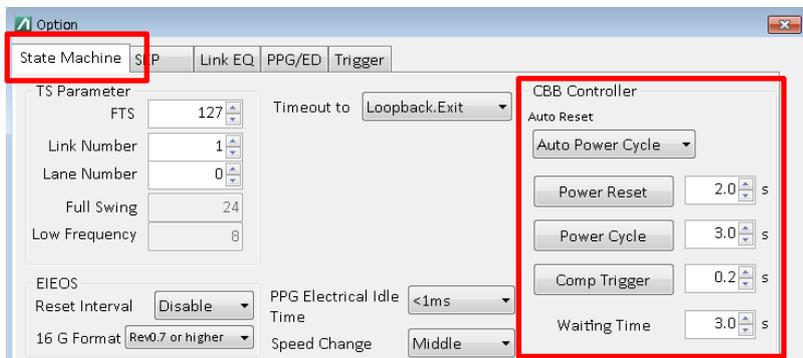


- Connect the USB-6501 to the control pins on CBB 4.0 using cables as shown in the figure below. Always turn the CBB power switch to the OFF position when this function is used because the power supply to CBB is controlled from USB-6501.

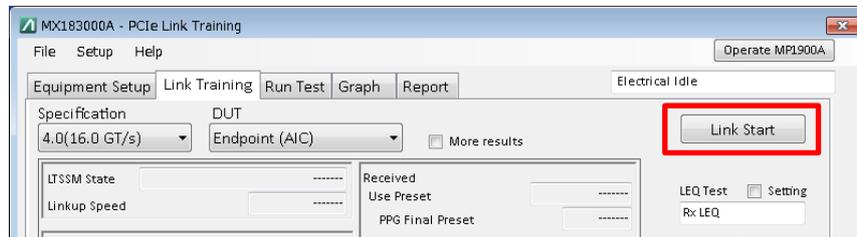


Connect cables as follows:
 Reset: Power Reset Automation Input
 Power: Power Automation Input
 Toggle: Comp Mode Trigger Automation Input

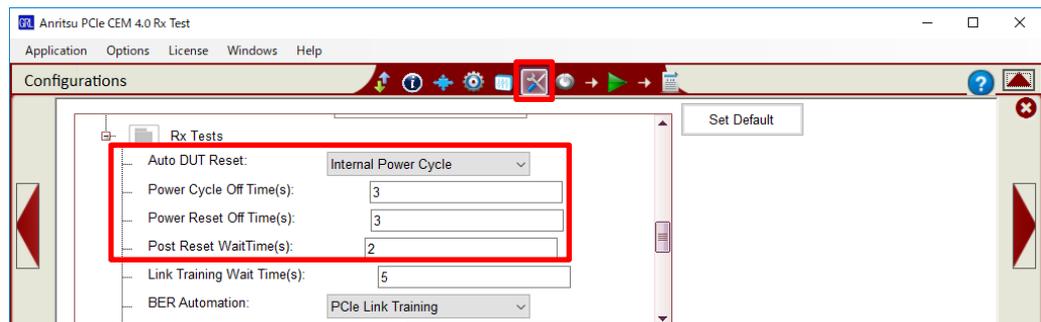
- Start the MX190000A and MX183000A PCIe Link Training. If this device has already been connected to the MP1900A, restart the MX183000A PCIe Link Training.
- In the **Option** dialog box of the MX183000A PCIe Link Training, configure Reset-related settings. For details on the parameters, refer to the operation manual (M-W3813AE).



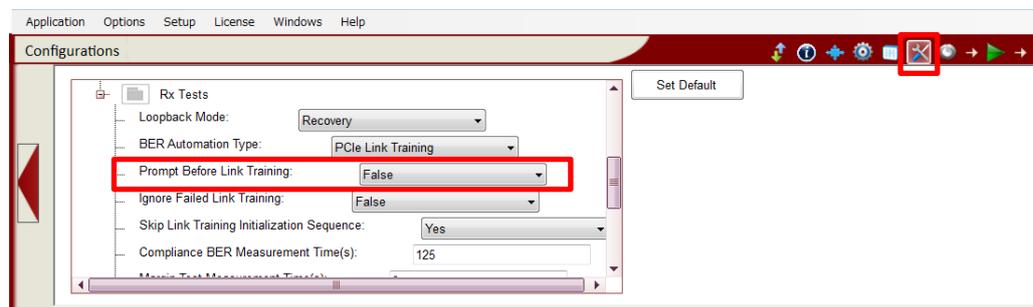
5. Click **Link Start**, and the Link Training starts after the CBB power is reset as configured in the **Option** dialog box. For the configuration example of the **Option** dialog box in step 4, the CBB power is turned off for 3 seconds, turned on, and kept stay in on state for 2 seconds. Then, Link Training is started.



6. To automatically perform Rx and Tx LEQ Test in GRL PCIe 3.0 / 4.0 CEM Rx Test Application, follow the procedure below:
 - A) In the Configurations screen of GRL Application, set **Auto DUT Reset** to **Internal Power Cycle** or **Internal Power Reset**.
 - B) In the **Power Cycle Off Time** or **Power Reset Off Time** box, set the time required for DUT resetting.
 - C) In the **Post Reset Wait Time** box, set the time required to stabilize a DUT after resetting it.



- D) In the Configurations screen of the GRL Application, set **Prompt Before Link Training** to **False**.



E) Select test items.



F) Click **Run Tests**. Afterward, the CBB power resets automatically at the required timing.

