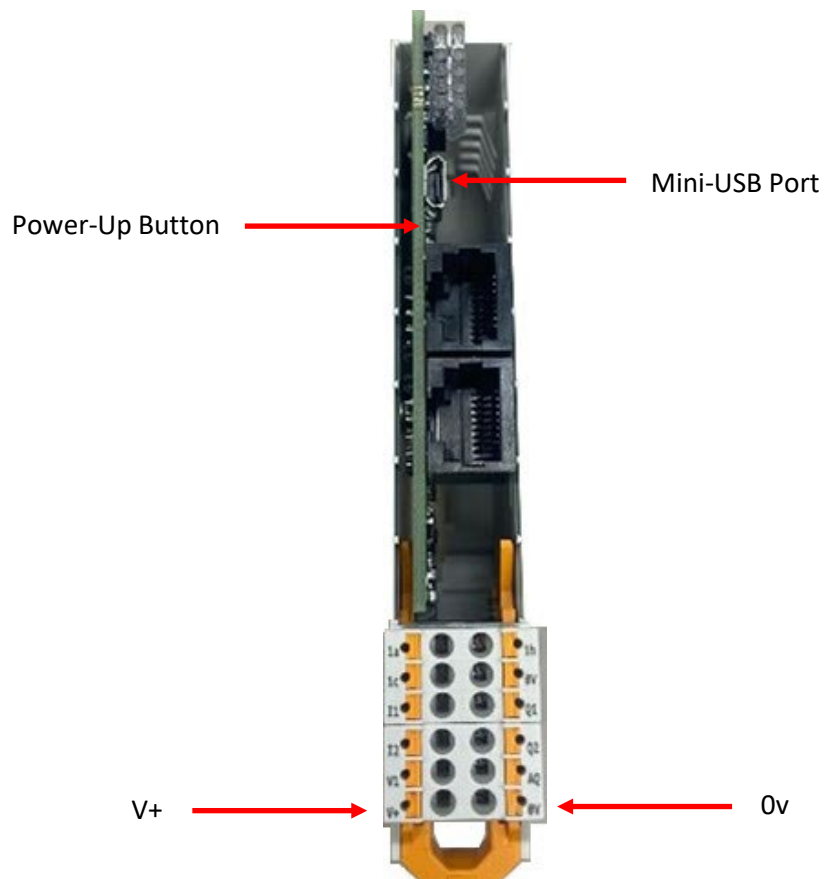# Firmware Update Manual:

CNX100 & CNX116

WARNING:

Firmware updates should only be performed when equipment being controlled by the OCS is in a safe, non-operational state. Communication or hardware failures during the firmware update process can cause the controller to behave erratically resulting in injury or equipment damage. Confirm that the functions of the equipment work correctly following a firmware update before returning the OCS to operational mode.

Overview:

Use the following steps to download a USB Device Firmware Upgrade (DFU) file to the CNX100/116 (device) and initiate an upgrade.

1. Download the firmware files
2. Confirm the device is <u>not</u> receiving power to protect it from damage.
3. Remove the front panel to access the micro-USB port.
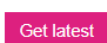4. Install the firmware files.
5. Power on the device.
   Note: When the device is powered up, all LEDs will be in solid state, and the device will be in update mode.

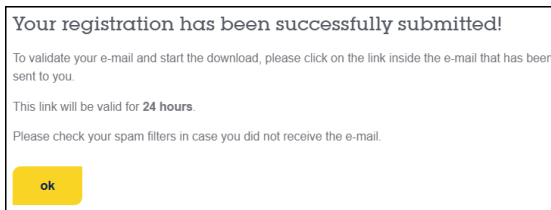Power-Up Button   Mini-USB Port

V+   0v

Downloading the Firmware Files:

Use the following steps to download the most current version of the software.

1. Navigate to the **DfuSe USB device firmware upgrade webpage**: https://www.st.com/en/development-tools/stsw-stm32080.html

2. Select the [Get Software] button.

3. From the **Get Software** table, select **Get latest**.

	Part Number ▲	General Description	Latest version ⬍	Supplier ⬍	ECCN (US) ⬍	Download ⬍
+	STSW-STM32080	DfuSe USB device firmware upgrade		ST	3D991	Get latest

4. Review the License Agreement, then select **Accept**.

5. Select the **Download as a guest** link.

6. Enter a **First Name**, **Last Name** and **Professional Email**, then select **Get link to download**. The screen will refresh, and a **registration is successful** message will display. Select **ok** to remove the message.

Your registration has been successfully submitted!

To validate your e-mail and start the download, please click on the link inside the e-mail that has been sent to you.

This link will be valid for **24 hours**.

Please check your spam filters in case you did not receive the e-mail.

[ok]

7. From the email entered in the registration process, open the **STMicroelectronics email**, and from inside it, select **Download** now. The STMicroelectronics webpage will display the Get Software page again, and the firmware will download automatically.

Step 1: Before Installing the Firmware:

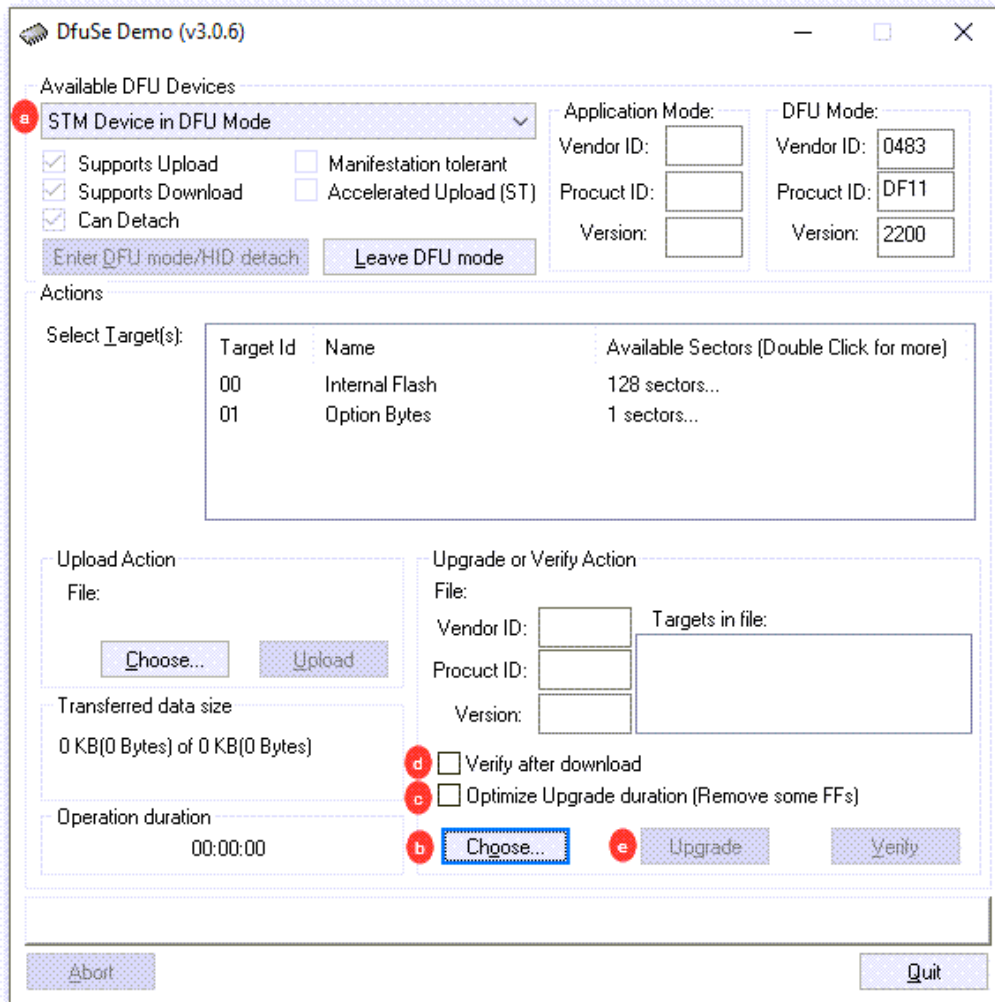**Important**: Before beginning this procedure, confirm the device is not receiving power.

1. **Remove the Face of the Unit:**
   Pinch the ridged sides of the face of the unit near the LED lights and gently pull forward until the face detaches from the unit and exposes the inside of the unit.

2. **Power-on the Unit**:
   To power on the unit, from a power supply, attach the positive wire to the V+ connector, then attach the neutral wire to the 0v.

3. Attach a cable from the computer with the downloaded firmware files to the exposed mini-USB port on the unit.

Step 2: Complete the DfuSe Demonstration Application Window:

1. Turn on the unit; Press and hold the gold button on the unit until power is applied.

2. On the computer, open the downloaded zipped file and from it right-click the DfuSE executable.

3. From the context menu, select Open, then select one of the following:

   - Select the **Extract all** button and manually select the location where the files will be extracted to. -OR_

   - Select the **Run** button and follow the installation wizard.
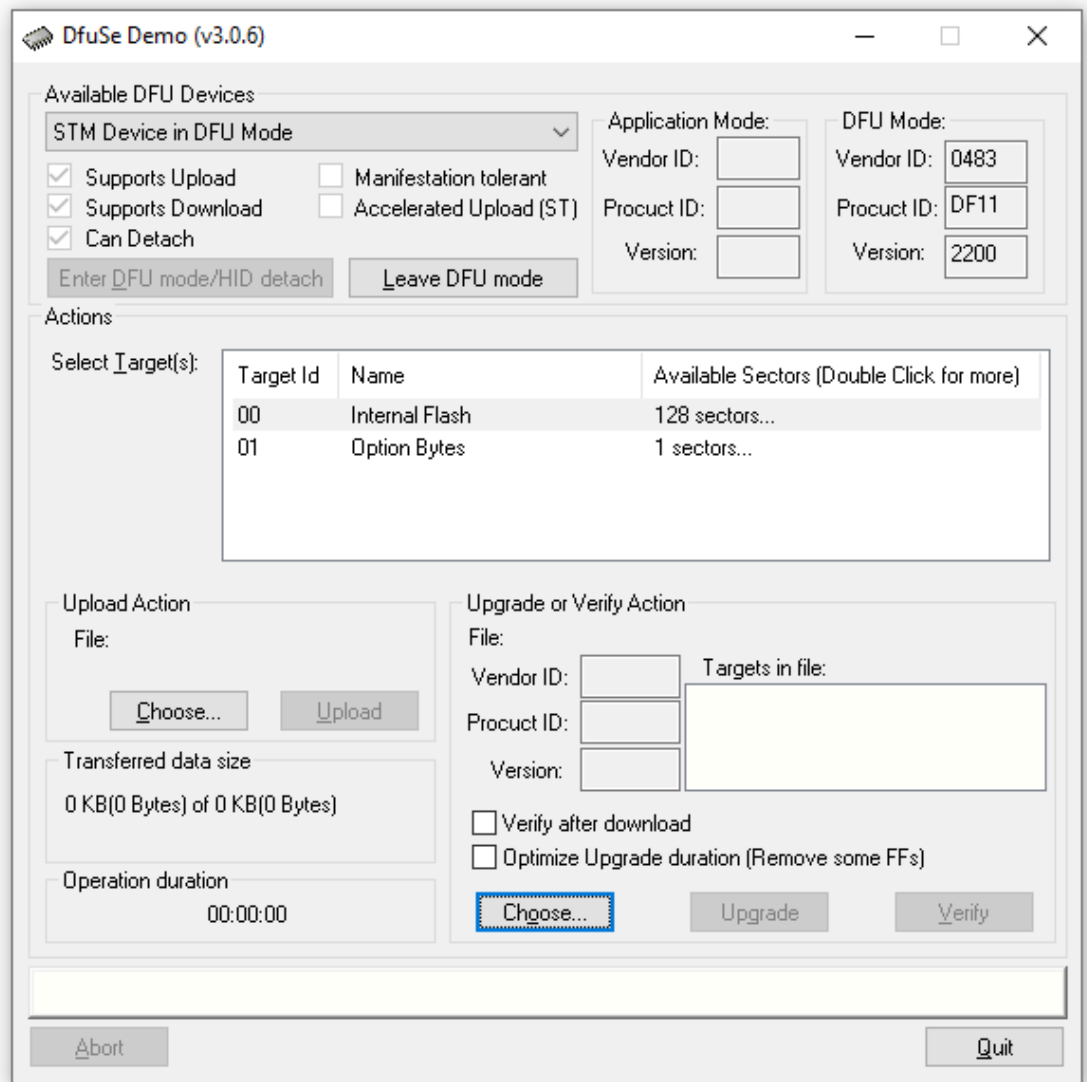
4. Run the DfuSe Demonstration application:
   Start.~.All.Programs.~.STMicroelectronics.~.DfuSe.Demonstration
   Note: If the device is in DFU mode, the CNX device will appear in the Available DFU Devices device list. If absent, power off and repeat this procedure from Step 1.

5. Select from the following options:

    a. From the **Available DFU Devices** dropdown menu, select the device.
       Note: If the device is in DFU mode, the CNX device will appear in the Available DFU Devices device list. If absent, power off and repeat this procedure from Step 1.
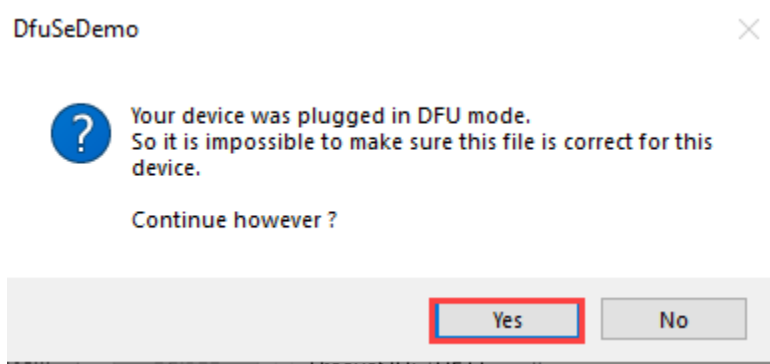
    b. From **Upgrade or Verify Action**, select **Choose** and then select the DFU file.

    c. (Optional) To ignore FF blocks during upload, from **Upgrade or Verify Action**, select **Optimize Upgrade duration (Remove some FFs)**.

    d. (Optional) To launch the verification process following the download process, from **Upgrade or Verify Action**, select **Verify after download**.

    e. **From Upgrade or Verify Action**, select **Upgrade**. A DfuSeDemo window will pop up.

6. In the **DfuSeDemo** window select **Yes**.

7. Watch for the green bar and **Upgrade Successful** message.
8. (Optional) If the verification process was chosen, from the **DfuSe Demo** window, select **Verify**.

Step 3: Final Steps:

1. Unplug all wires and the USB cable.
2. Gently re-attach the plastic shell.