Standard Operating Procedure

Mobibooth PCDM Firmware Upgrade

Version	Date	Author	Comments
1.0	9/9/2022	Mike Bender	

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PURPOSE

The purpose of this procedure is to outline the required steps to successfully upgrade the firmware running on the PCDM assembly in the Mobibooth Aura head. You can update the Control Module using a PC via a USB cable.

IMPORTANT NOTICE

Do not attempt to update your Mobibooth product using any other data file except those provided directly from the Mobibooth website or through your network connection.

Follow the instructions carefully and do not attempt any other procedures not specified in the instructions provided by Mobibooth.

Improperly updated products may cause improper operation, and any parts or service required to restore proper operation will not be covered under the Mobibooth Limited Warranty.

ENVIRONMENTAL REQUIREMENTS

To perform the firmware update you will need the following tools and environment.

- A desktop or laptop running Windows 10.

- A micro USB cable.

- A small screw driver.

DISCLAIMER

To the maximum extent permitted by applicable laws, in no event will the manufacturer be liable for any damages whatsoever arising out of failures of this machine, losses of registered data, or the use or non-use of this product and operation manuals provided with it.

The manufacturer is not liable for any damages resulting from the use or misuse of this software.

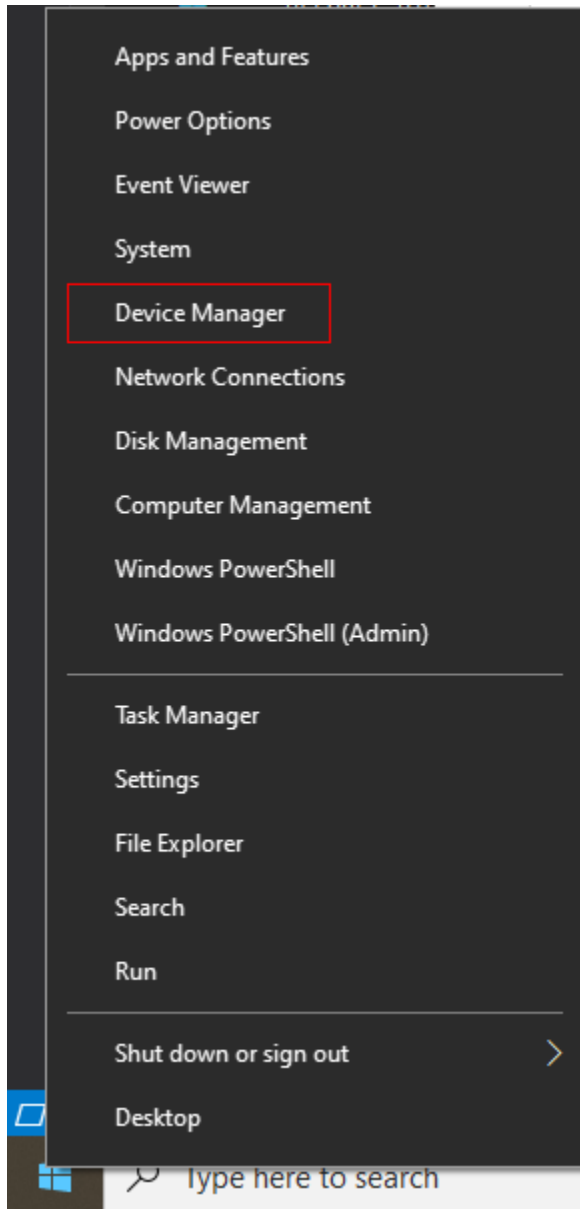Nor is the manufacturer liable for any damages resulting from the use or misuse of this software with third parties.

Contents of this manual are subject to change without prior notice.

ENVIRONMENT SETUP

1. To get started flashing your Mobibooth controller you will need to remove the unit from your Aura's head.

2. Using the middle sized hex key included in your Aura's hardware kit remove the 4 bolts holding the inner white plastic (iPad holder).

3. Remove the plastic and set to the side with bolts.

4. Remove the 4 bolts holding the inner LED panel assembly using the middle sized hex key.

5. Flip the LED panel assembly over. Be careful not to rip loose any wires.
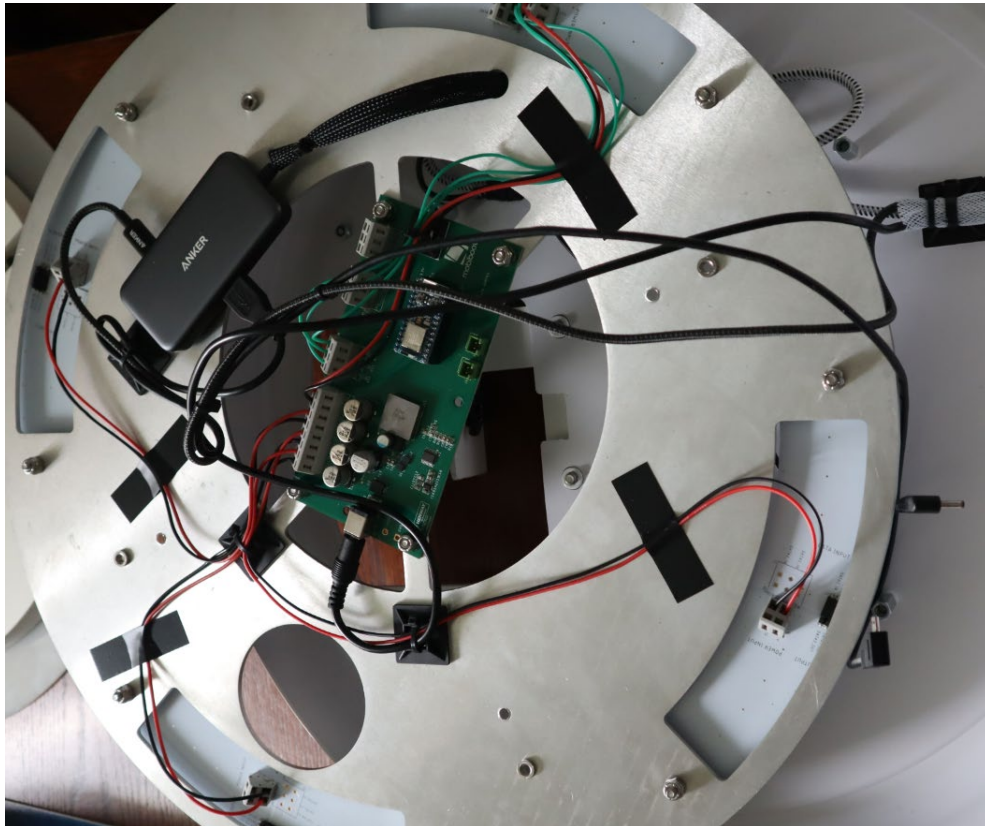
6.   Open up Windows Device Manager on the computer. You can do this by right clicking on the start menu button and selecting Device Manager.

Apps and Features

Power Options

Event Viewer

System

Device Manager

Network Connections

Disk Management

Computer Management

Windows PowerShell

Windows PowerShell (Admin)

Task Manager

Settings

File Explorer

Search

Run

Shut down or sign out   >

Desktop

Type here to search

7. After opening Device Manager go to the Ports (COM & LPT) section and expand. This will show you all current ports assigned and will show new ones once they have been plugged in.
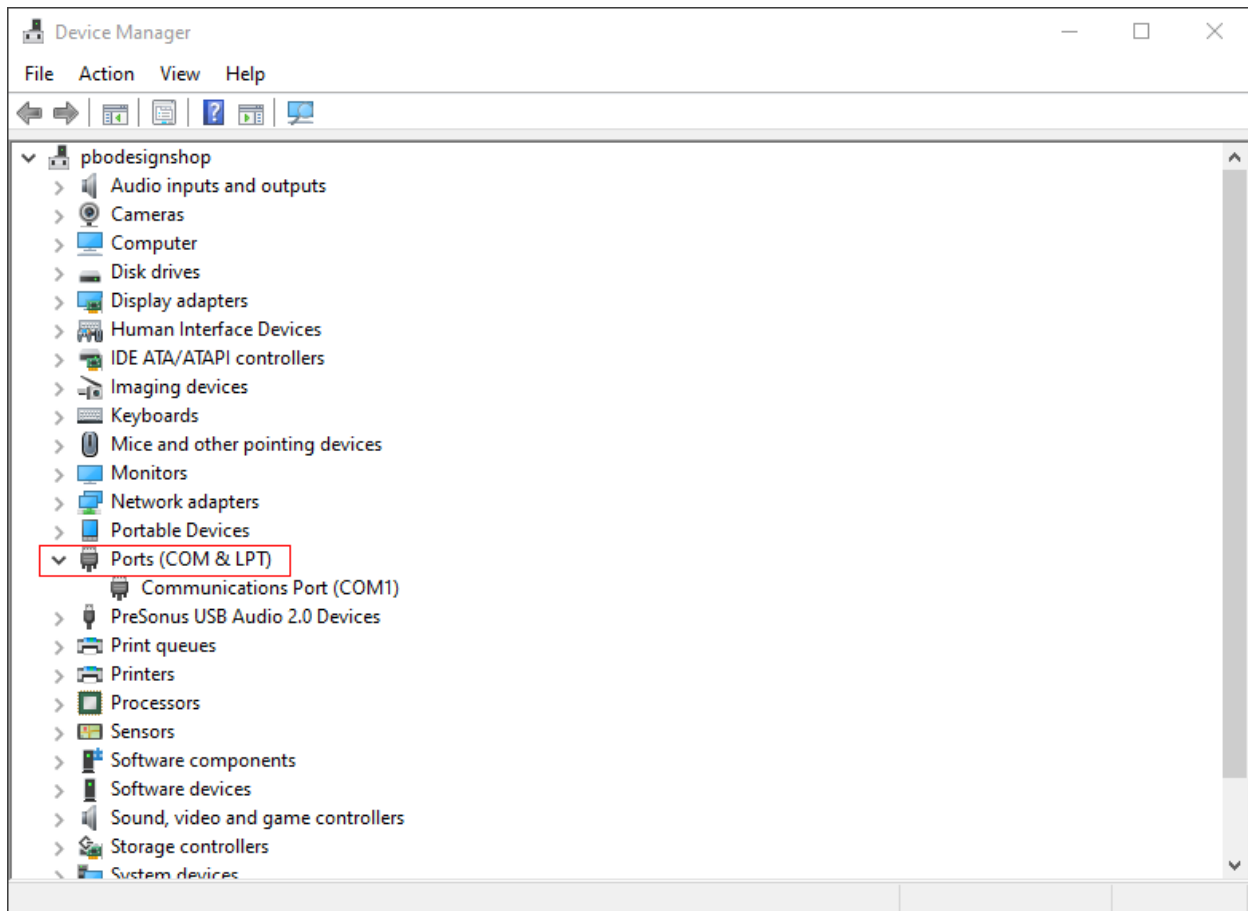
8. Connect the micro-USB cable from computer to the micro-USB port on the microcontroller.
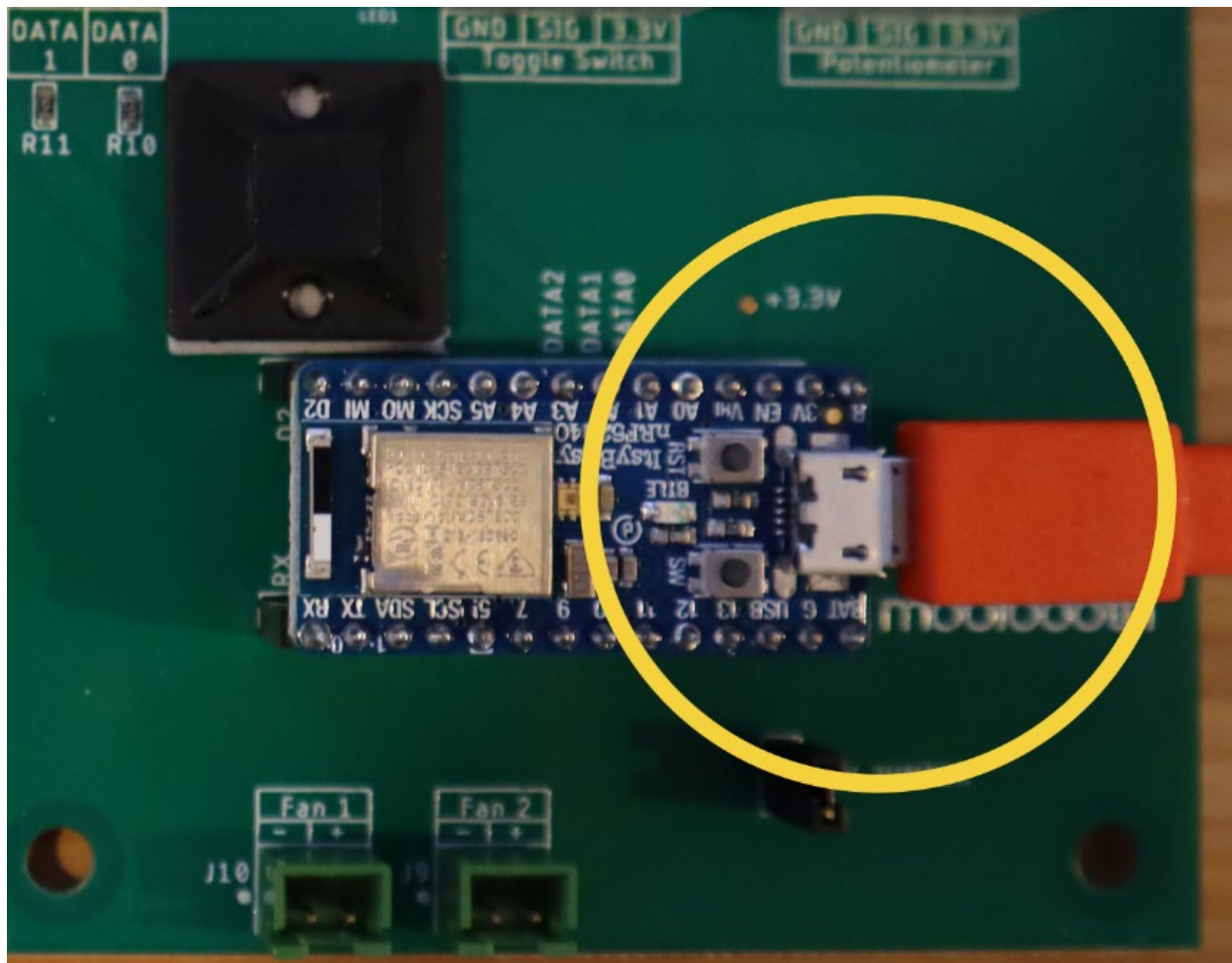
9. Device Manager will refresh shortly after you connect the micro-USB cable. Record the new serial port number associated to the microcontroller.
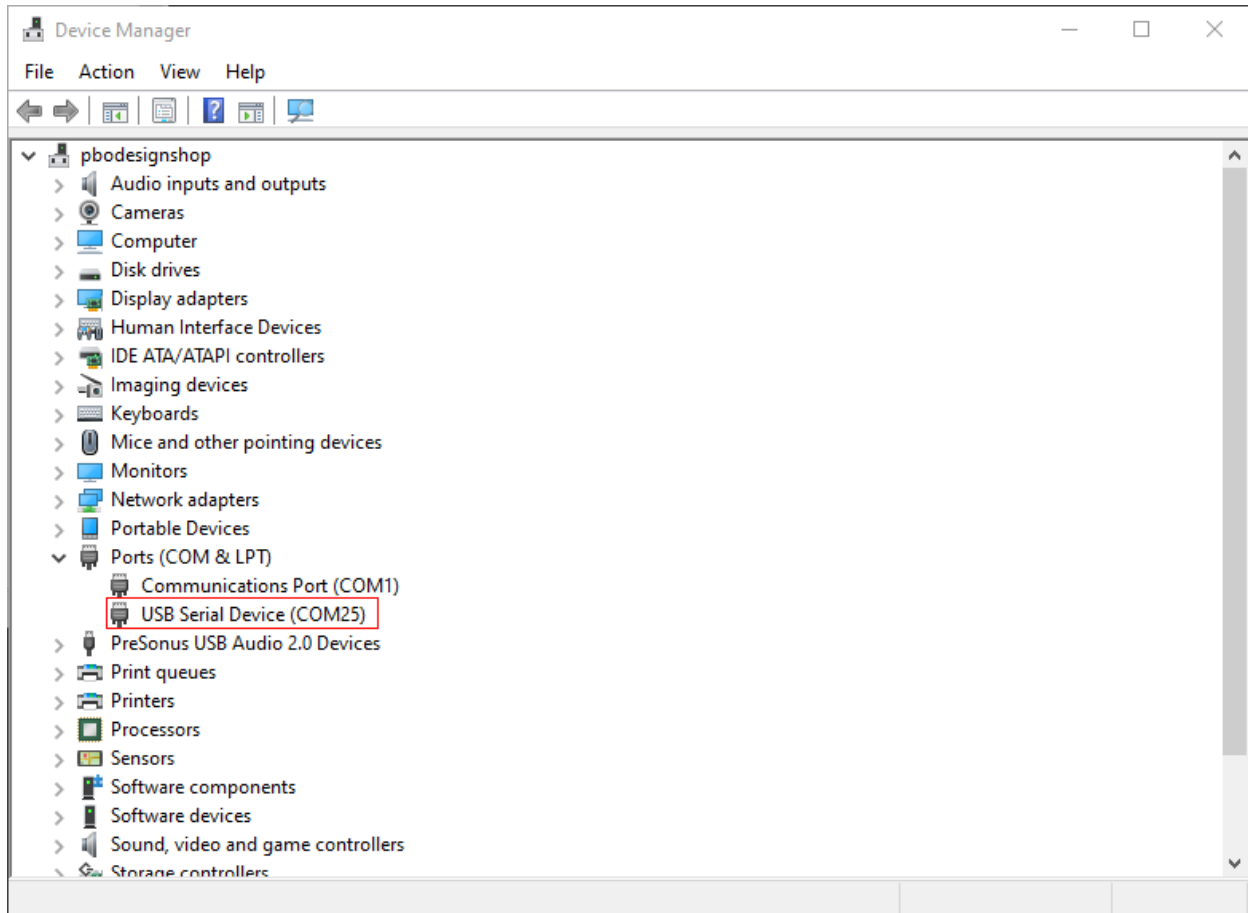
10. Download the latest flash utility for Windows at **https://mobibooth.co/nrf52util**. The Windows version a – win suffice in the name.

11. Extract the downloaded file to a temporary directory. We recommend creating a directory on the C drive named temp (C:\temp). We will use C:\temp as the root directory in the remainder of this document.

12. Download the latest firmware for your Mobibooth controller. You can download this file from **https://mobibooth.co/rgb-firmware**.

    It is important to download the proper firmware configuration for your unit.

    For this procedure you will want to download the latest V2 PCDM firmware. Do not download any of the other firmware packages.

13. Move the downloaded file to the C:\temp directory if you did not download it directly to it.

    The folder should contain the following files:

    - adafruit-nrfutil.exe

    - The new firmware file as a zip file.

Congratulations your environment is now ready to proceed to programming.

PROGRAMMING STEPS

If you have not completed all the steps in **Environment Setup** please return and do so. A failure to do so could result in a failed upgrade and the potential loss of functionality in the controller module.
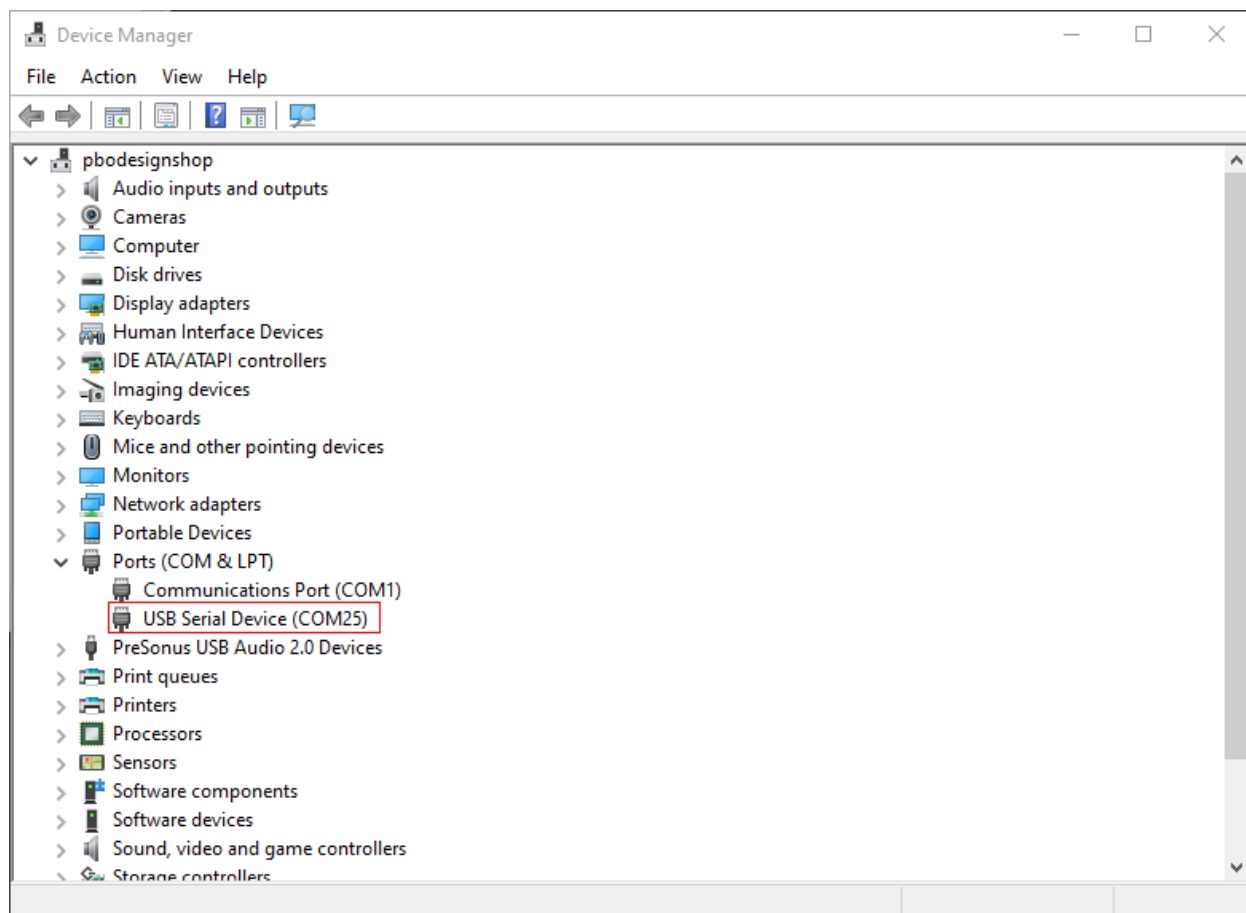
14. Verify that the microcontroller PCB is connected to the computer with a micro-USB cable.

15. Place the microcontroller PCB into programming mode by tapping the RESET (RST) button two times quickly.
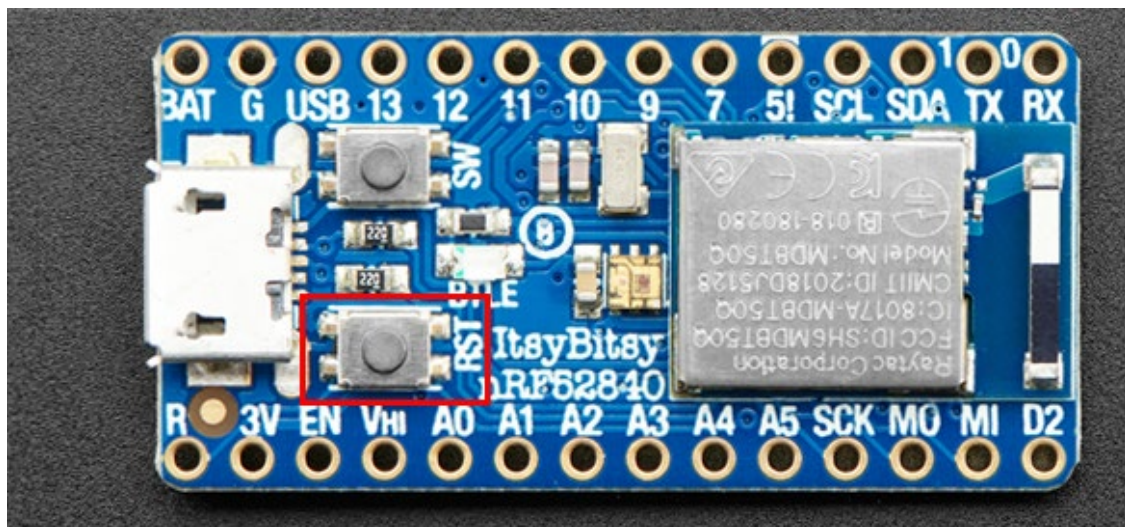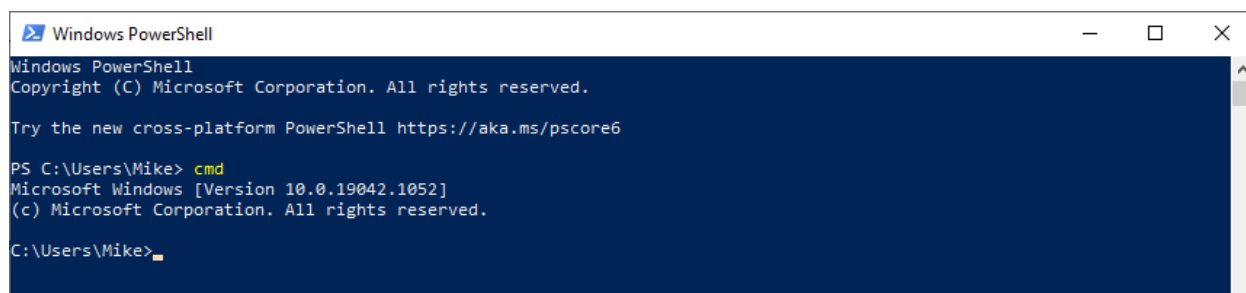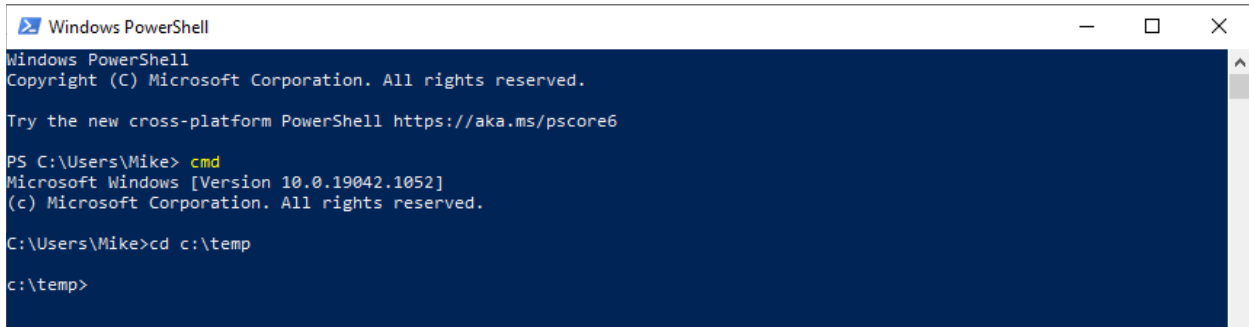
The BTLE LED will illumiate solid blue.
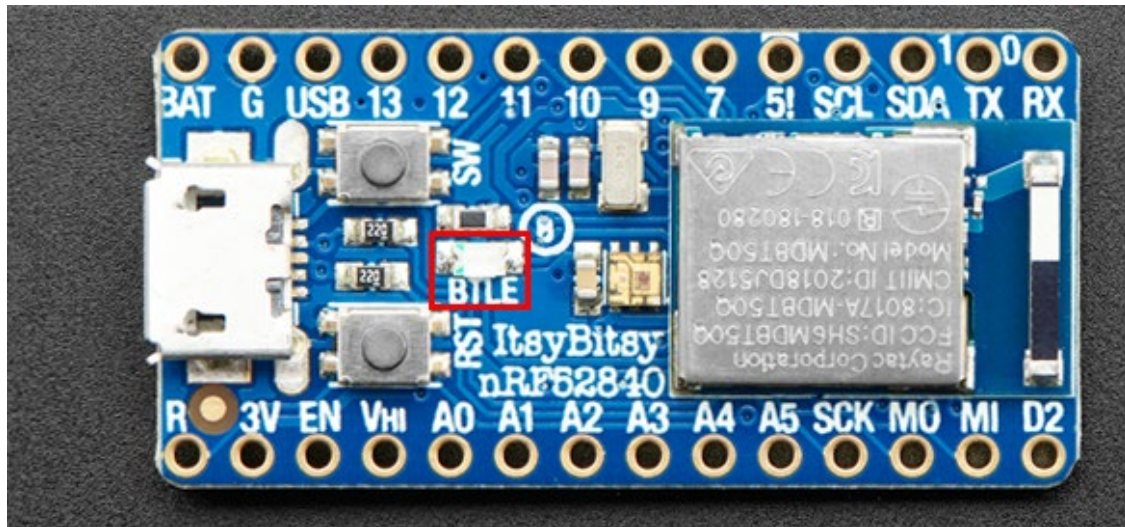
16. In Device Manager the COM port number will change. Record the new COMxx name of the port.

17. Open Windows PowerShell. This can be done by right clicking on the start menu button.

18. Enter a command prompt by typing **cmd** and pressing the Enter key.

19. Switch to the directory you created in Step 12 in the **Environment Setup** section. In our case we will use c:\temp.

20. Edit the following command inserting the COMxx port number and firmware file name

```
adafruit-nrfutil.exe --verbose dfu serial -pkg
<filename> -p <com port> -b 115200 --singlebank
```

It is highly recommended that you do this inside of a text editor such as Notepad.

In our example we had a <com port> of COM25 and will use the firmware release v1.0-2022.02.10. The result is as follows.

```
adafruit-nrfutil.exe --verbose dfu serial -pkg
v1.0-2022.02.10_V2_PCDM.zip -p COM25 -b 115200 --
singlebank
```

21.   Copy and paste the command with your modifications into the Windows PowerShell window and press the Enter key.

22.   Wait for the programming process to complete. It will look like the following.

23.   At this time your controller has been successfully programmed with the new firmware.

24. Disconnect the micro-USB cable from computer to the micro-USB port on the microcontroller.
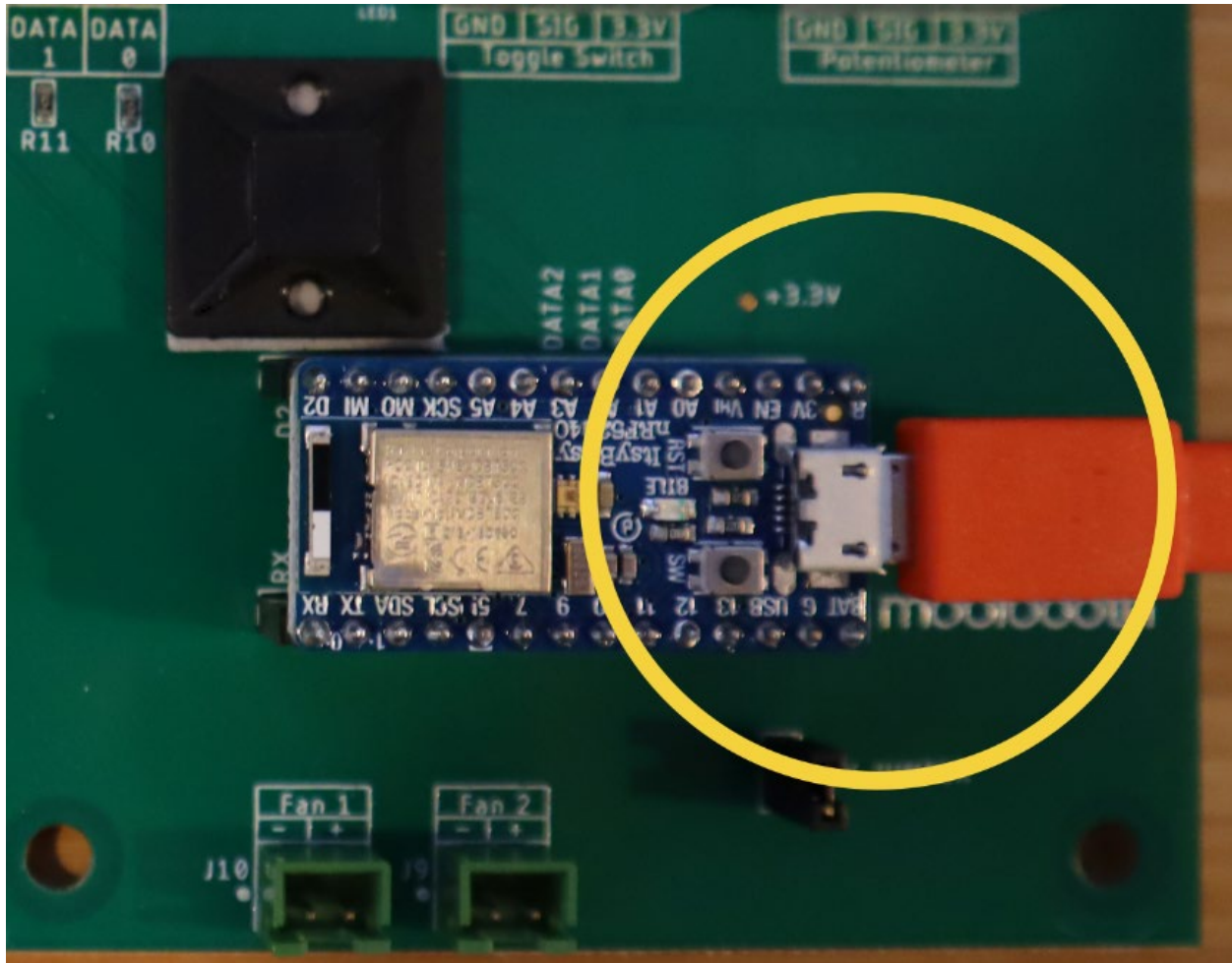
25. Install the LED panel assembly back into the Aura's head.

26. Using the middle size hex key install and tighten the 4 bolts. Be careful not to cross thread the holes.

27. Install the white plastic (iPad holder) into the Aura's head.

28. Using the middle size hex key install and tighten the 4 bolts. Be careful not to cross thread the holes.

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