

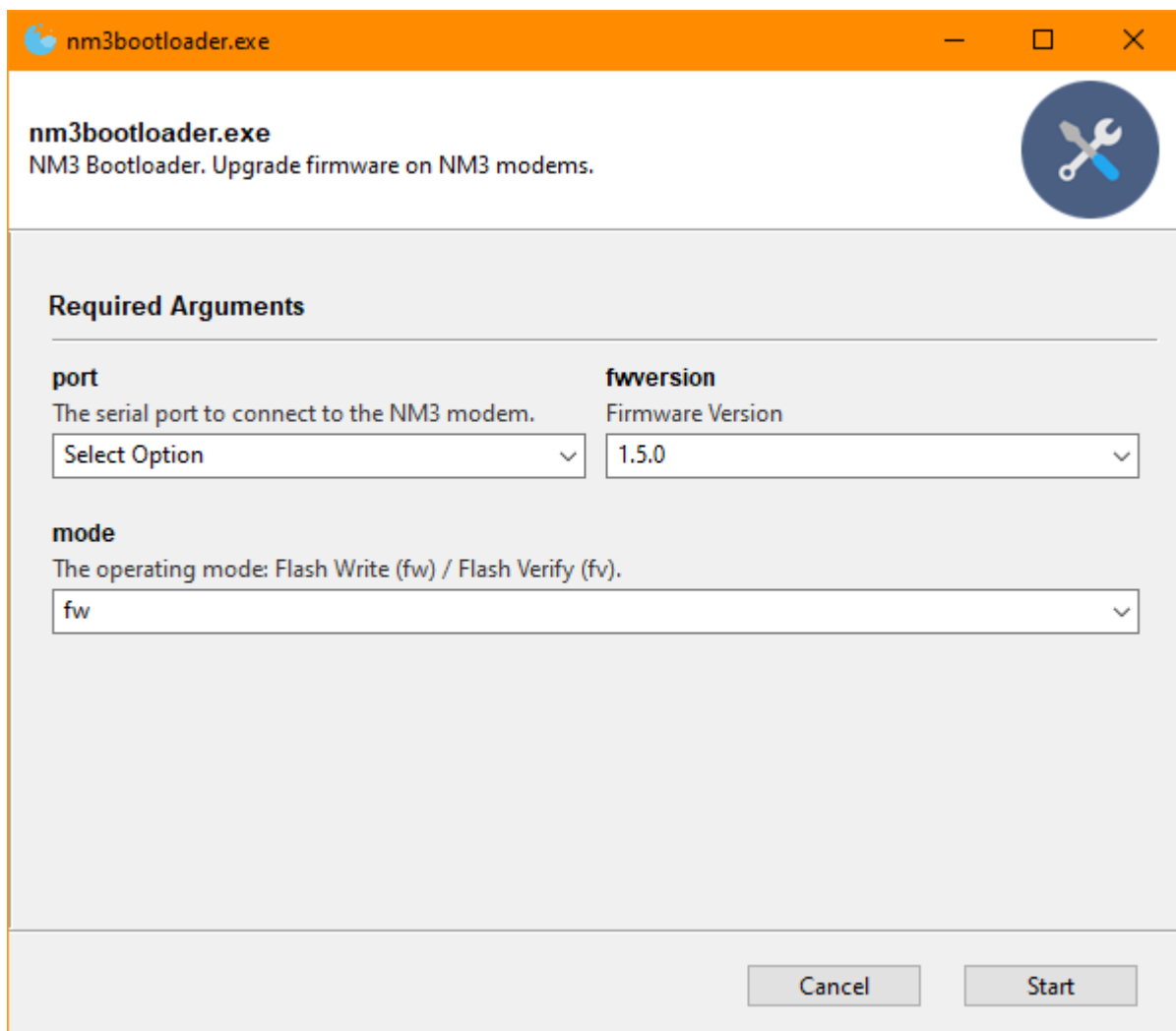
NM3 Modems – Flashing the Application Firmware

2023-10-18

Flashing the Application Firmware

RS232 Serial Connection is Required for this. With the device powered off to start with.

Software: nm3bootloader.exe



The screenshot shows the 'nm3bootloader.exe' application window. The title bar is orange and contains the text 'nm3bootloader.exe' and standard window control buttons. The main window has a white header with the application name and a description, and a blue circular icon with a wrench and screwdriver. Below the header is a section titled 'Required Arguments' with three dropdown menus: 'port' (set to 'Select Option'), 'fwversion' (set to '1.5.0'), and 'mode' (set to 'fw'). At the bottom right are 'Cancel' and 'Start' buttons.

nm3bootloader.exe
NM3 Bootloader. Upgrade firmware on NM3 modems.

Required Arguments

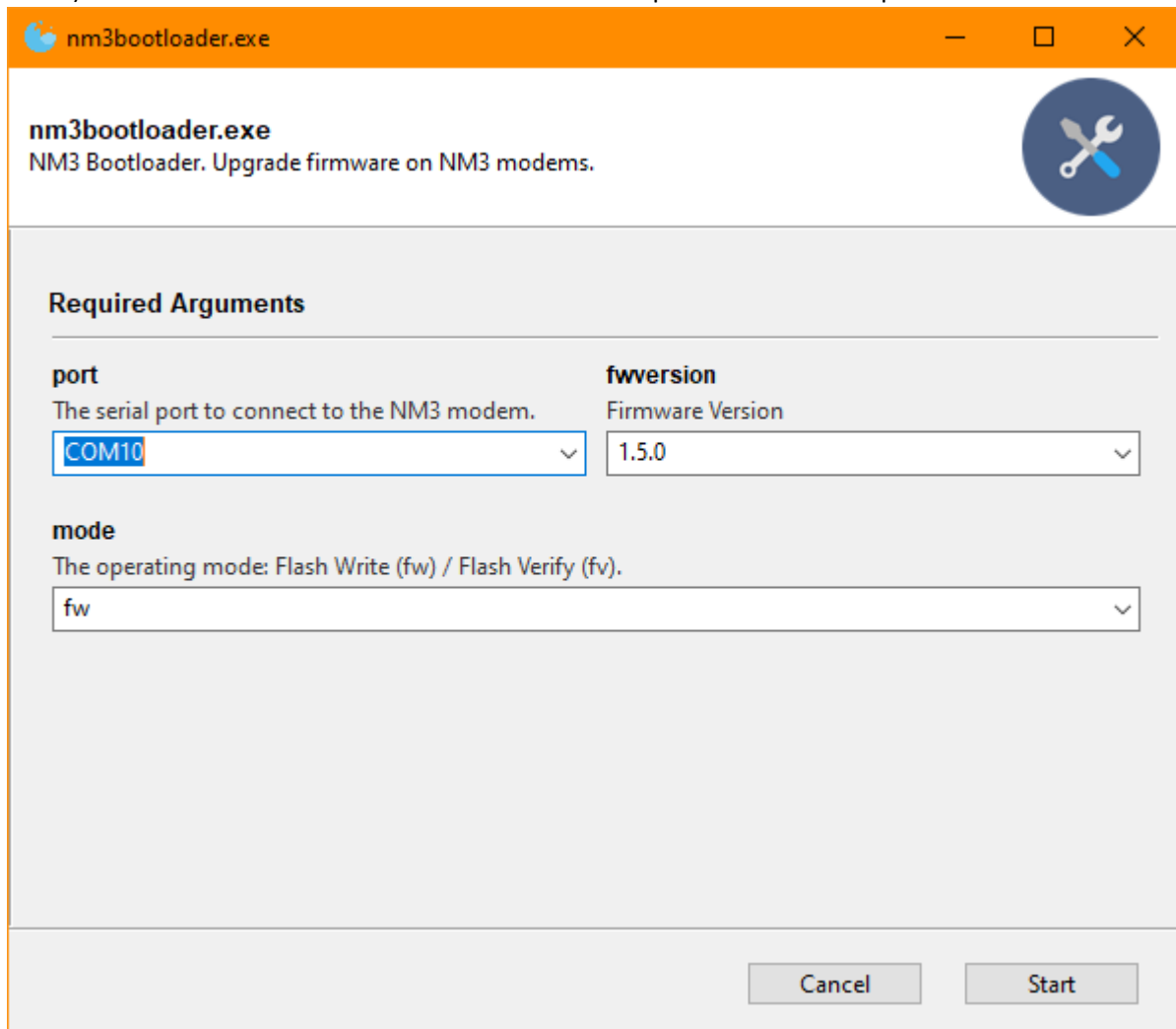
port	fwversion
The serial port to connect to the NM3 modem.	Firmware Version
Select Option	1.5.0

mode
The operating mode: Flash Write (fw) / Flash Verify (fv).

fw

Cancel Start

Select the COM port that is connected to the Modem. Select the firmware version (the default is the latest). Select the mode: fw = Firmware Write. Power up the Modem then press Start.

The image shows a Windows application window titled "nm3bootloader.exe". The window has a blue header bar with the application name and standard Windows window controls (minimize, maximize, close). Below the header, there is a title bar area with the application name "nm3bootloader.exe" and a description "NM3 Bootloader. Upgrade firmware on NM3 modems." on the left, and a circular icon with a wrench and screwdriver on the right. The main content area is titled "Required Arguments" and contains three dropdown menus. The first dropdown is labeled "port" with the description "The serial port to connect to the NM3 modem." and is set to "COM10". The second dropdown is labeled "fwversion" with the description "Firmware Version" and is set to "1.5.0". The third dropdown is labeled "mode" with the description "The operating mode: Flash Write (fw) / Flash Verify (fv)." and is set to "fw". At the bottom right of the window, there are two buttons: "Cancel" and "Start".

nm3bootloader.exe
NM3 Bootloader. Upgrade firmware on NM3 modems.

Required Arguments

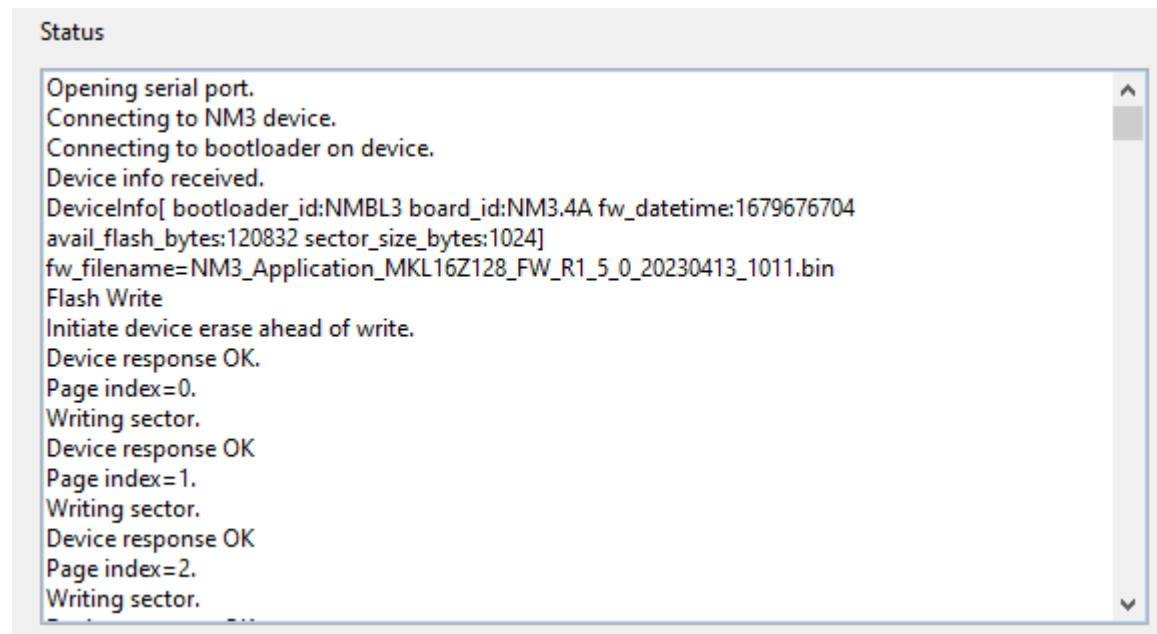
port	fwversion
The serial port to connect to the NM3 modem.	Firmware Version
COM10	1.5.0

mode
The operating mode: Flash Write (fw) / Flash Verify (fv).

fw

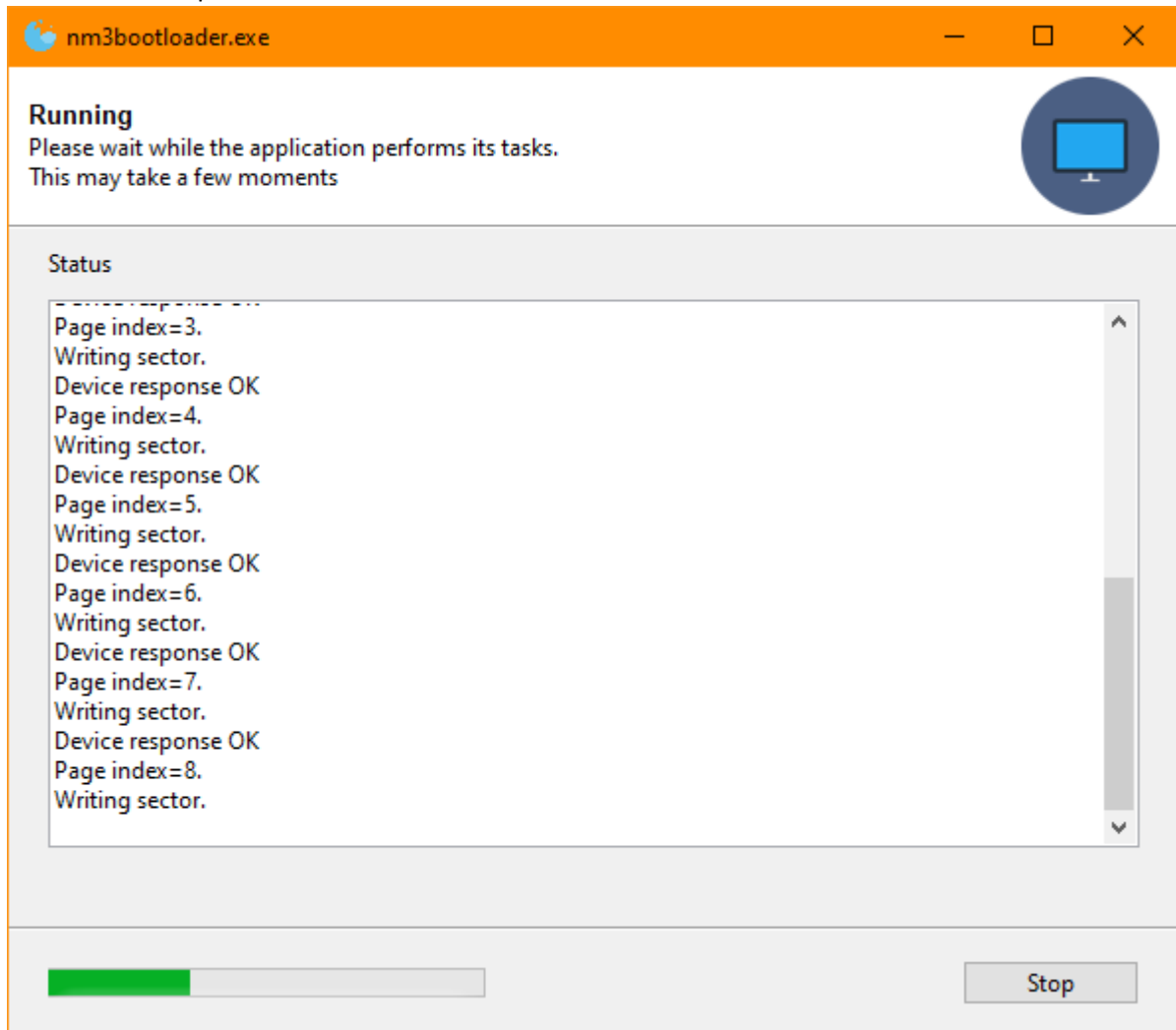
Cancel Start

The Status window will then update to show progress. It first tries to connect to the bootloader to determine which version of the Modem is connected. It then finds the correct binary for the Modem version to send to the device.

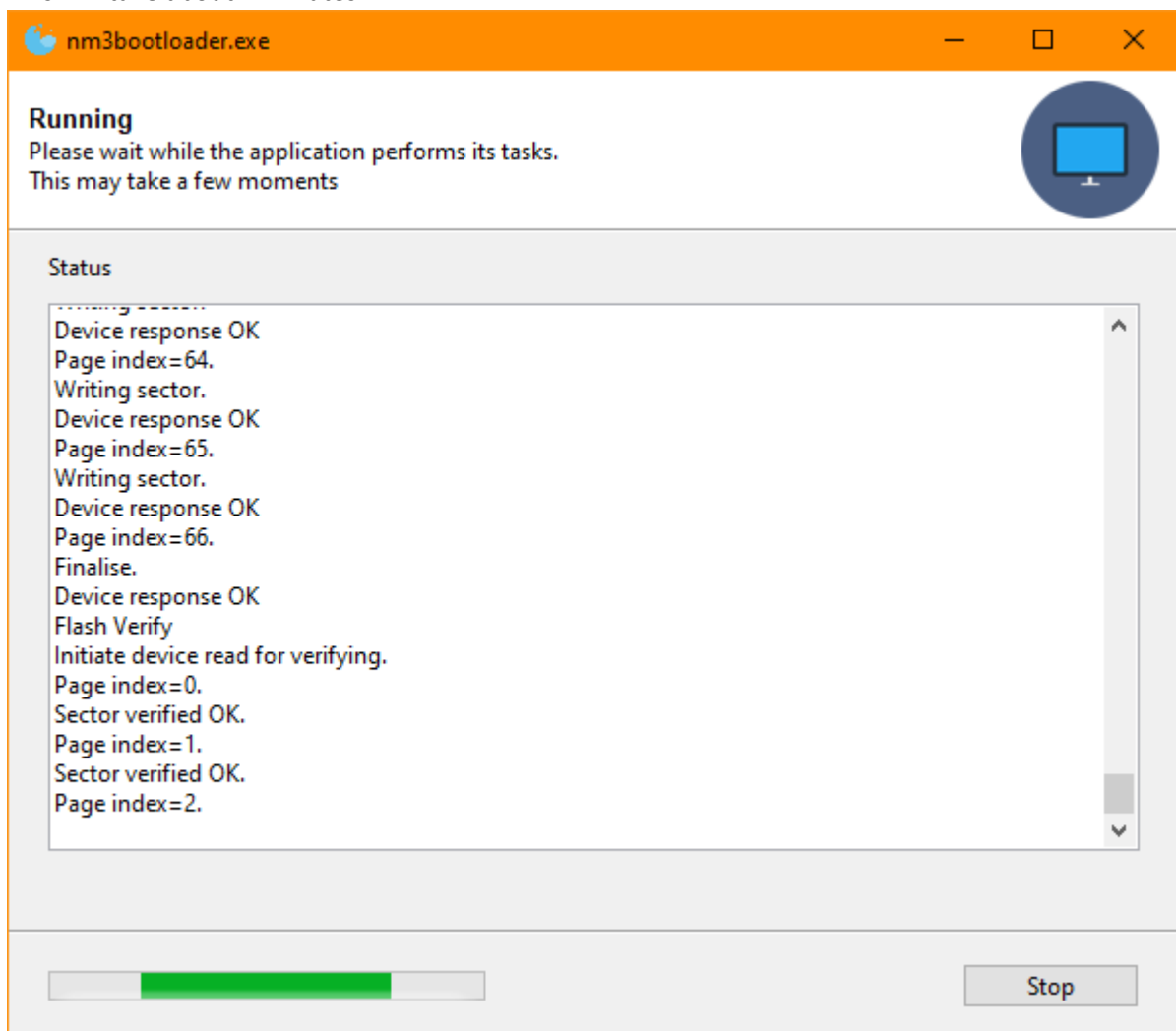


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Status
Opening serial port.
Connecting to NM3 device.
Connecting to bootloader on device.
Device info received.
DeviceInfo[ bootloader_id:NMBL3 board_id:NM3.4A fw_datetime:1679676704
avail_flash_bytes:120832 sector_size_bytes:1024]
fw_filename=NM3_Application_MKL16Z128_FW_R1_5_0_20230413_1011.bin
Flash Write
Initiate device erase ahead of write.
Device response OK.
Page index=0.
Writing sector.
Device response OK
Page index=1.
Writing sector.
Device response OK
Page index=2.
Writing sector.
```

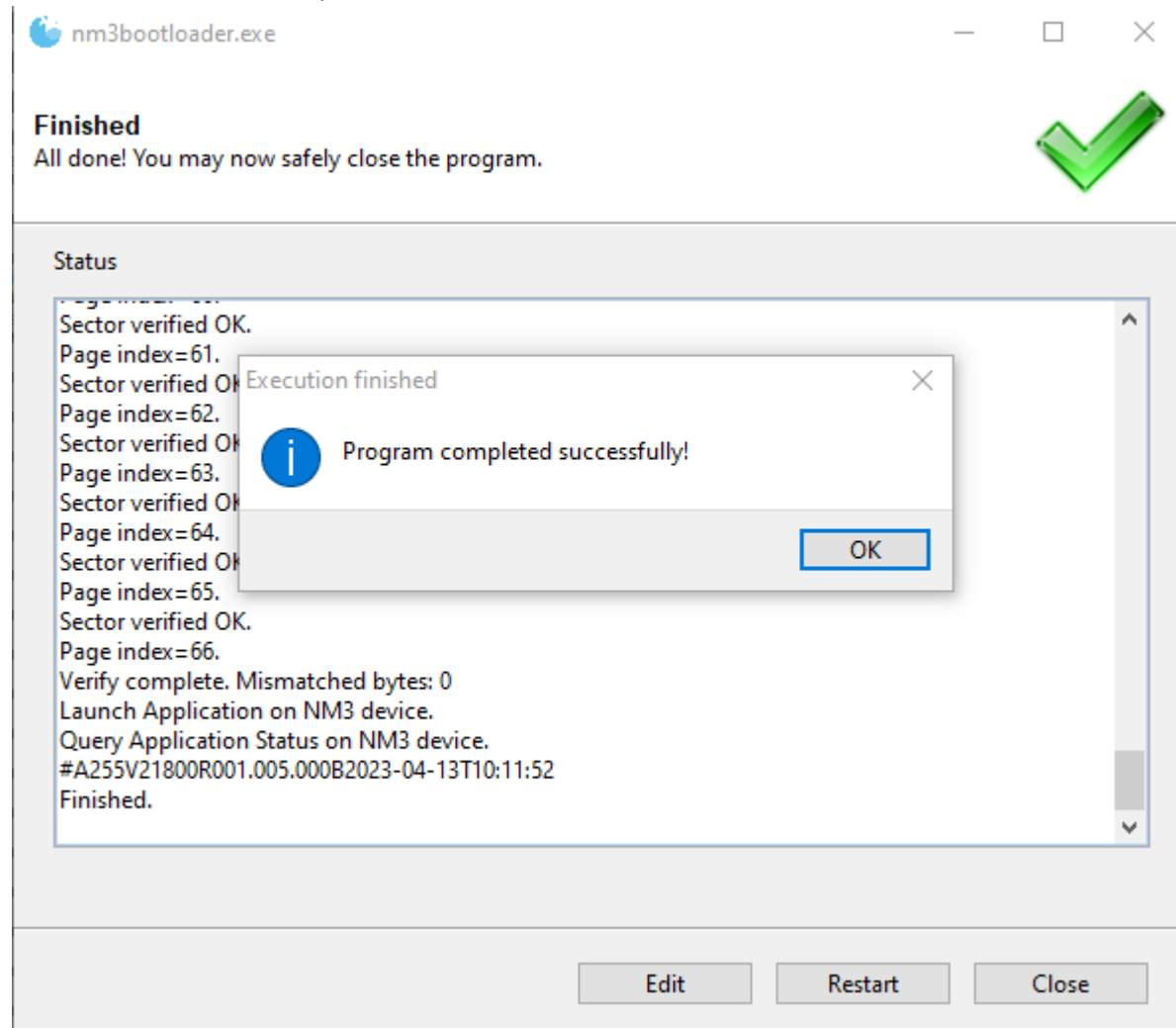
The Flash Write process will take about 1 minute.



After writing the binary it will then read back the flash memory to verify that it has written correctly. This will take about 2 minutes.



When it finishes verifying the flash it will launch the application on the PCB. If there is a transducer connected you will hear it beep. It will then query the modem status to get the build number. This should match the version you selected.



The modem now has the application flashed to it.