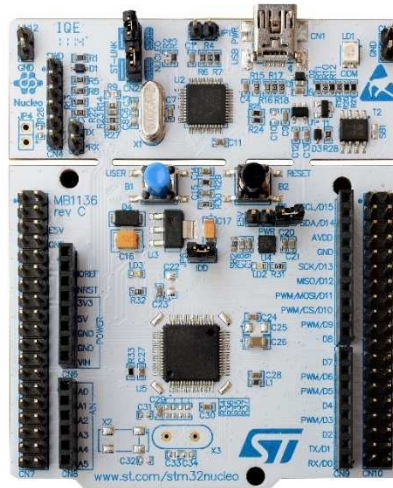# X-NUCLEO-IDW0xx1 (Wi-Fi expansion board)

Step-by-Step Guide: SPWF0xS firmware upgrade over UART

life.augmented

Preparing the NUCLEO Board

- Open folder X-CUBE-WIFI\Utilities\PC_Software\FW_Update_UART
- Open STM32L053R8-Nucleo, STM32F103RB-Nucleo, STM32F401RE-Nucleo or STM32L476RG-Nucleo folder depending on which platform (L0/F1/F4/L4) you are using.
- Currently only L0, F1, F4 and L4 Nucleo boards are supported
- Connect NUCLEO with the PC and drag and drop the FW_Update_UART_Nucleo-*.bin file to the NUCLEO drive on the PC
- The X-NUCLEO is now ready to update FW to the X-NUCLEO-IDW0xx1

Preparing the X-NUCLEO-IDW0xx1 Board
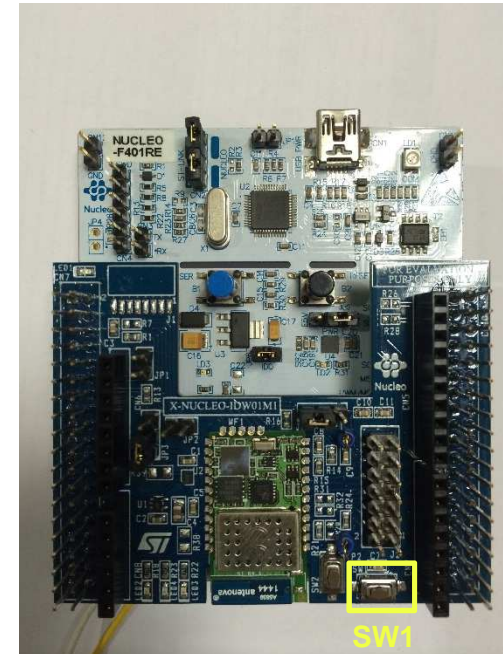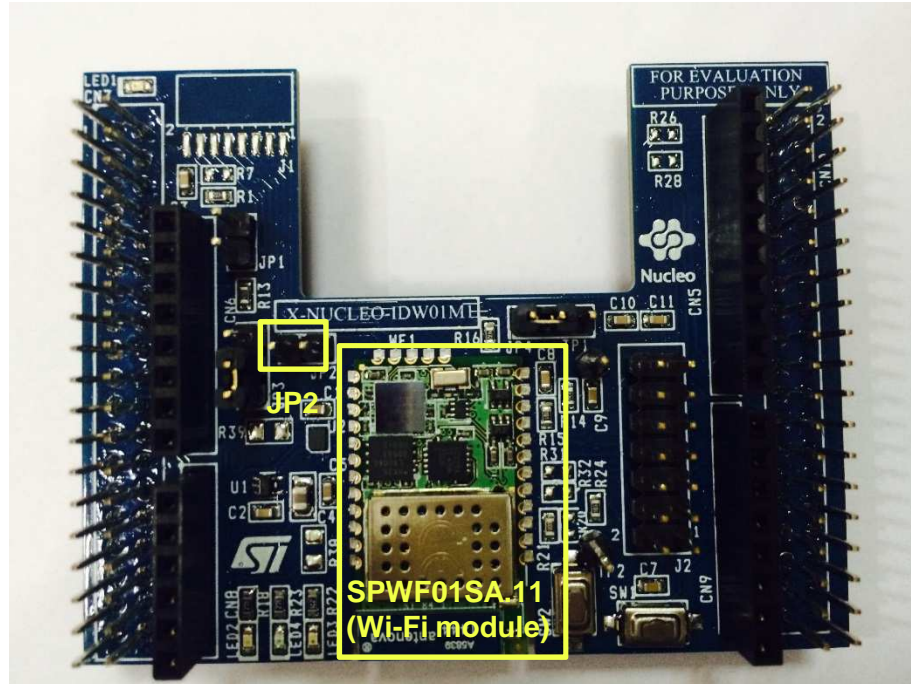
- ▪ Install a jumper on JP2 as shown in the picture.
  (This will pull the BOOT0 pin high [3.3V], which puts the X-NUCLEO-IDW0xx1 board into "firmware download" mode. For X-NUCLEO-IDw04A1 it is the same JP2 pin)
- ▪ Connect X-NUCLEO-IDW0xx1 and NUCLEO
- ▪ Connect NUCLEO into the PC's USB receptacle.
  (The PC will audibly indicate that the USB bridge has enumerated as a UART device. The green LED1 on both boards should glow.)
- ▪ Press the RESET button SW1 on X-NUCLEO-IDW0xx1 board.

Downloading the Flash Loader tool

- Navigate to the URL:
  www.st.com/web/catalog/tools/FM147/CL1794/SC961/SS1743/PF257525

- Click the red Download button at the bottom of the page and save the stsw-mcu0005.zip file to a folder on the PC of your choosing.

- Extract all the files in the Zip file to the same folder.

- Within the folder, locate the Flash_Loader_Demonstrator executable (*.exe) file.

Communicating with the X-NUCLEO-IDW0xx1 board

- Run the Flash_Loader_Demonstrator executable file extracted earlier.

- Verify the software has detected the X-NUCLEO board on a UART port.
  (If not, use the PC's Device Manager to load the device driver. The USB to UART bridge should be in the list of "Ports (COM & LPT)" devices.)

- Verify that the default settings (i.e. Baud Rate =115200, Parity = Even, and Echo Disabled) are chosen.
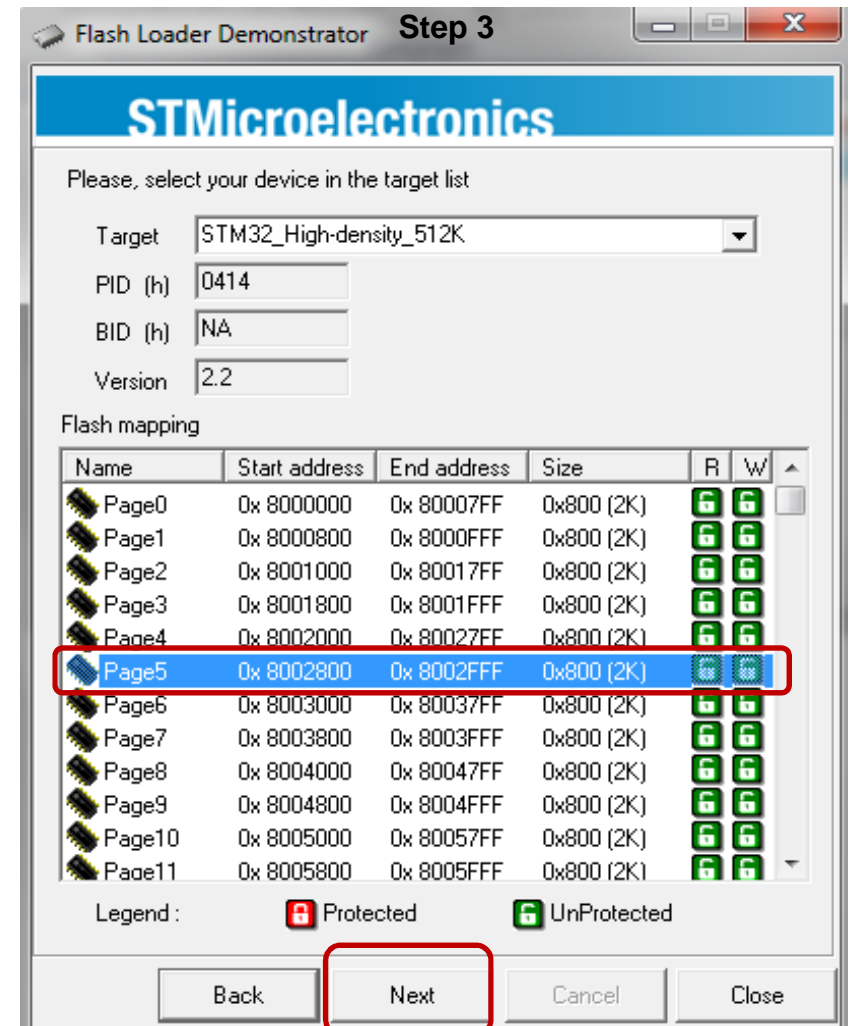
- Click the "Next" button.
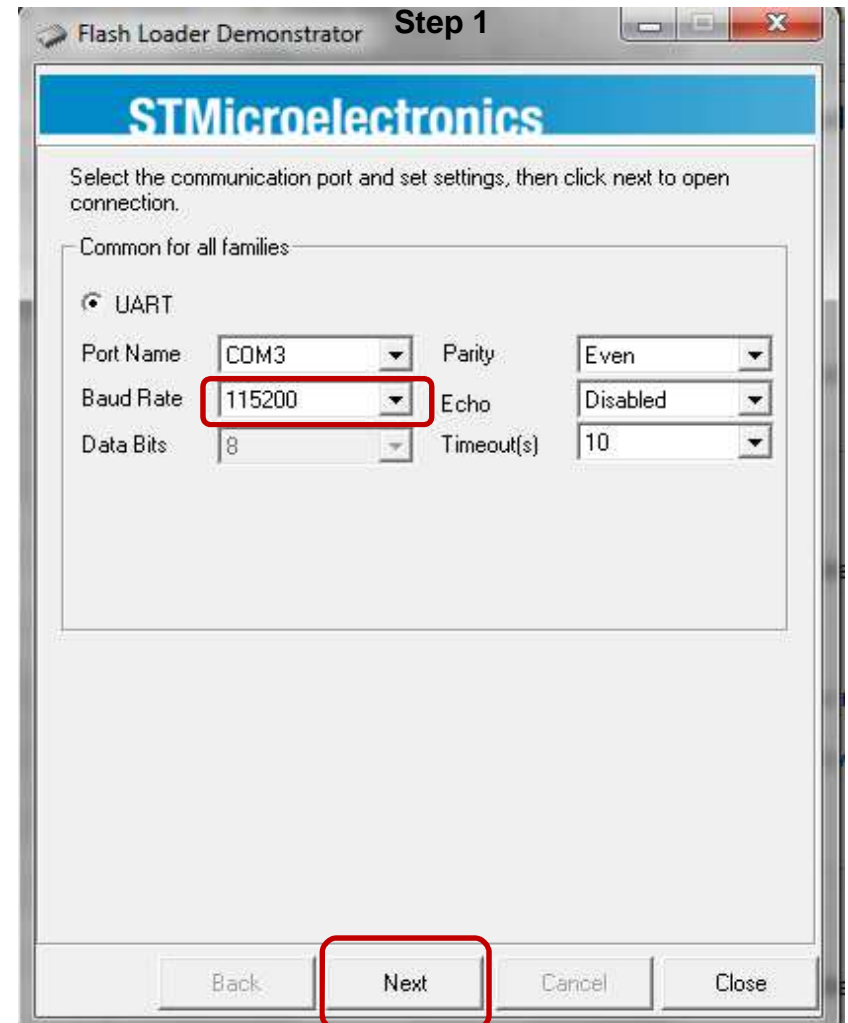
X-NUCLEO-IDW0xx1 board is ready for programming

- If communications are OK, as indicated by the illustration, click the "Next" button.
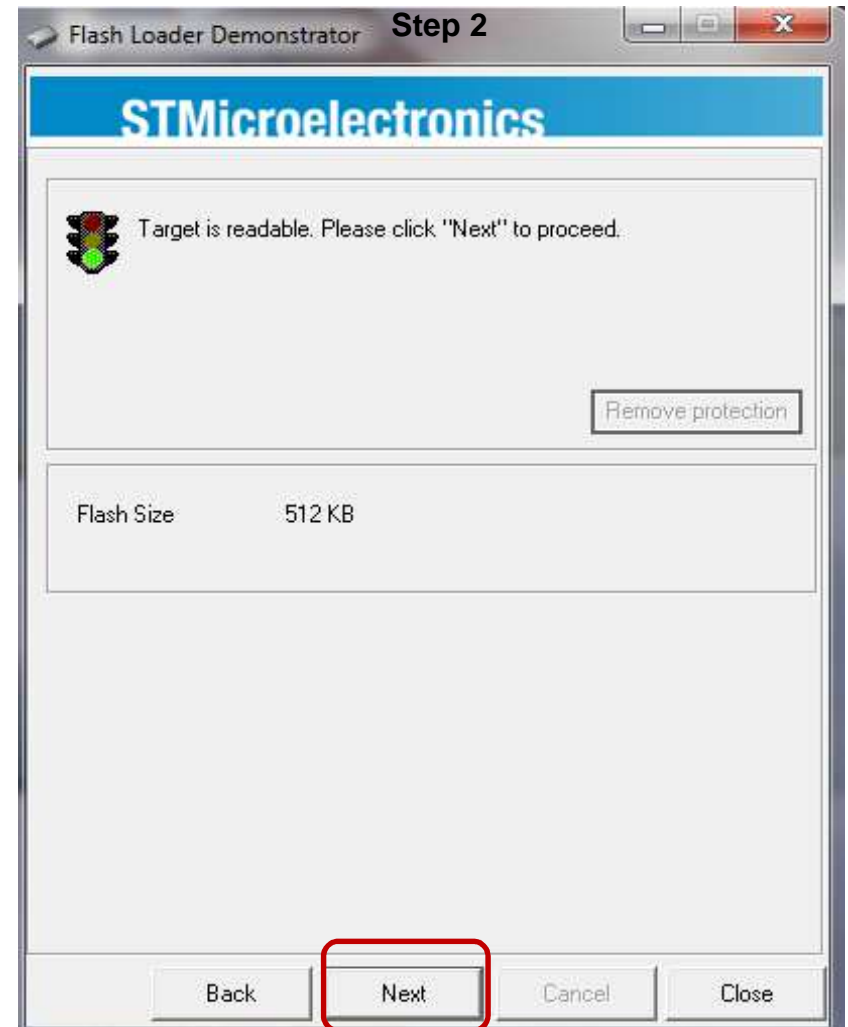
Select the FLASH starting address

- Select "Page 5" with starting address "0x8002800" as shown.

- ATTENTION!! Be absolutely certain to specify the correct starting address: "0x8002800".

- Click the "Next" Button.

Select the binary file to program the Flash

- Select the upgrade binary file to be downloaded and programmed into the Flash, e.g. SPWF01S-160129-c5bf5ce-RELEASE-main.bin, in the "Download from file" dialog box"
  (Tip: In this example, the "160129" is the date code in YYMMDD format corresponding to 29 January 2016.)

- ATTENTION!! Be absolutely certain to specify the correct starting address: "8002800".

- Click the "Next" Button.
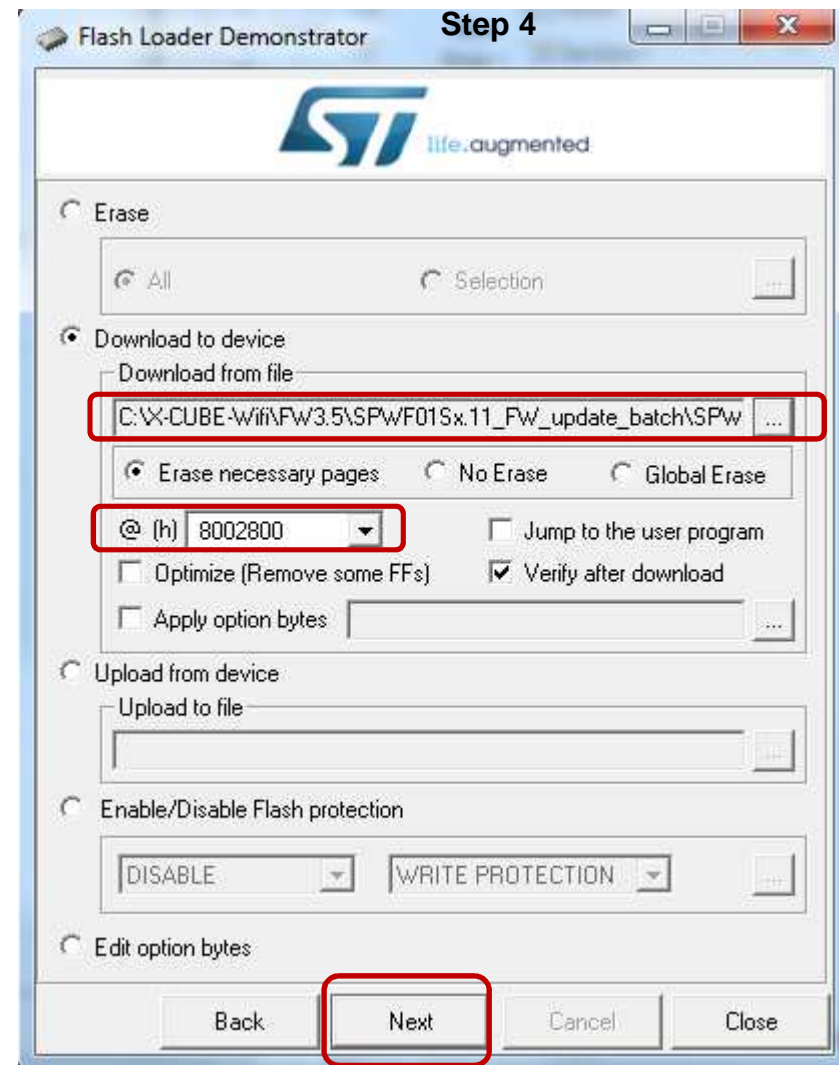
Monitor the download progress

- While enjoying the progress bar, verify the "File name" is the binary file you intended for the upgrade.

- During the download phase, the "Cancel" button is enabled, in case the wrong file was chosen.

- Otherwise, do nothing (except flip to the next slide).
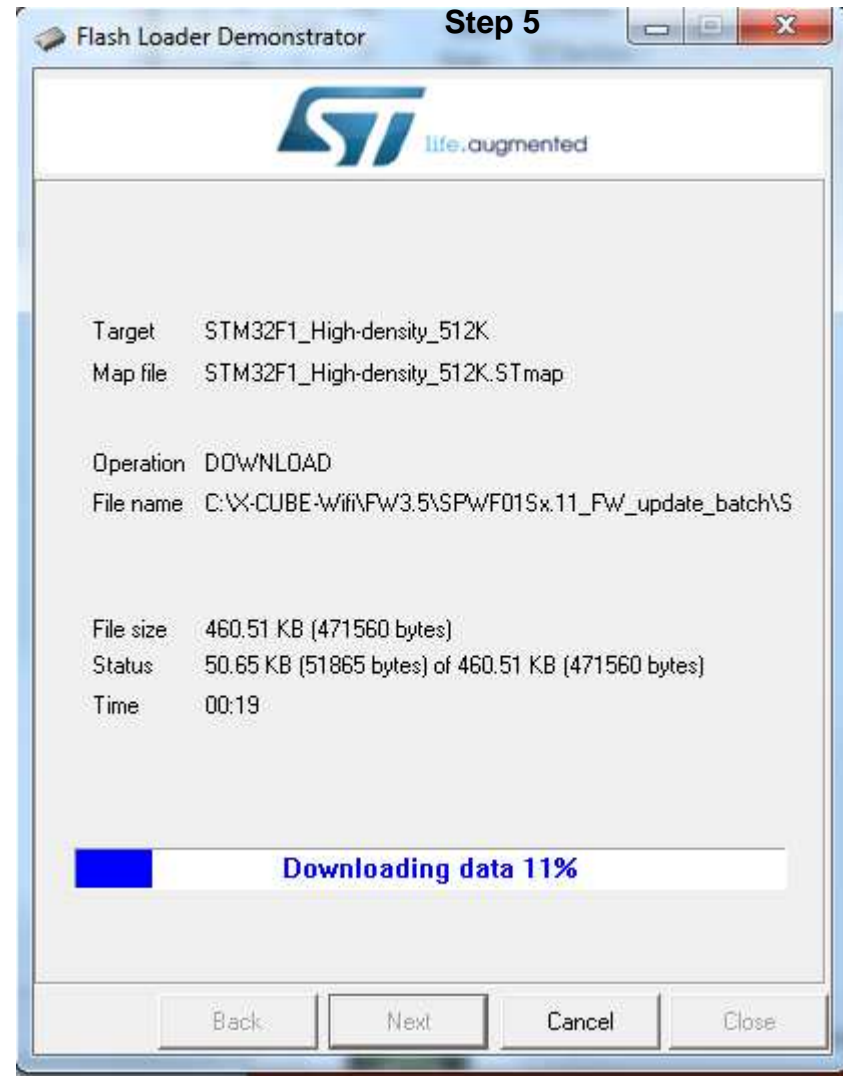
Close the GUI program

- When the upgrade has finished successfully, click the "Close" Button.

- Remove the jumper from JP2.

- Then press the RESET button SW1 on X-NUCLEO-IDW0xx1 board.

- Flash (drag and drop) the X-CUBE-WIFI\Projects\Multi\Applications\WiFi_VCOM\Binary\<Platform>\Project.bin file to the NUCLEO drive on the PC
- Open a terminal emulator (Baud rate:115200; Data: 8 bits / Parity: None /Stop: 1 bit / Flow control: none) and
- restore default configuration settings by entering "AT&F".
- Optionally, for command echo, enter "AT+S.SCFG=localecho1,1".
- Enter "AT+CFUN=1", software reset, for the settings to take effect.
- Now the SPWF01SA module FW have been aligned to the selected version.

Get more about ST Wi-Fi Modules
visit: **www.st.com/wifimodules**

Thank you

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