

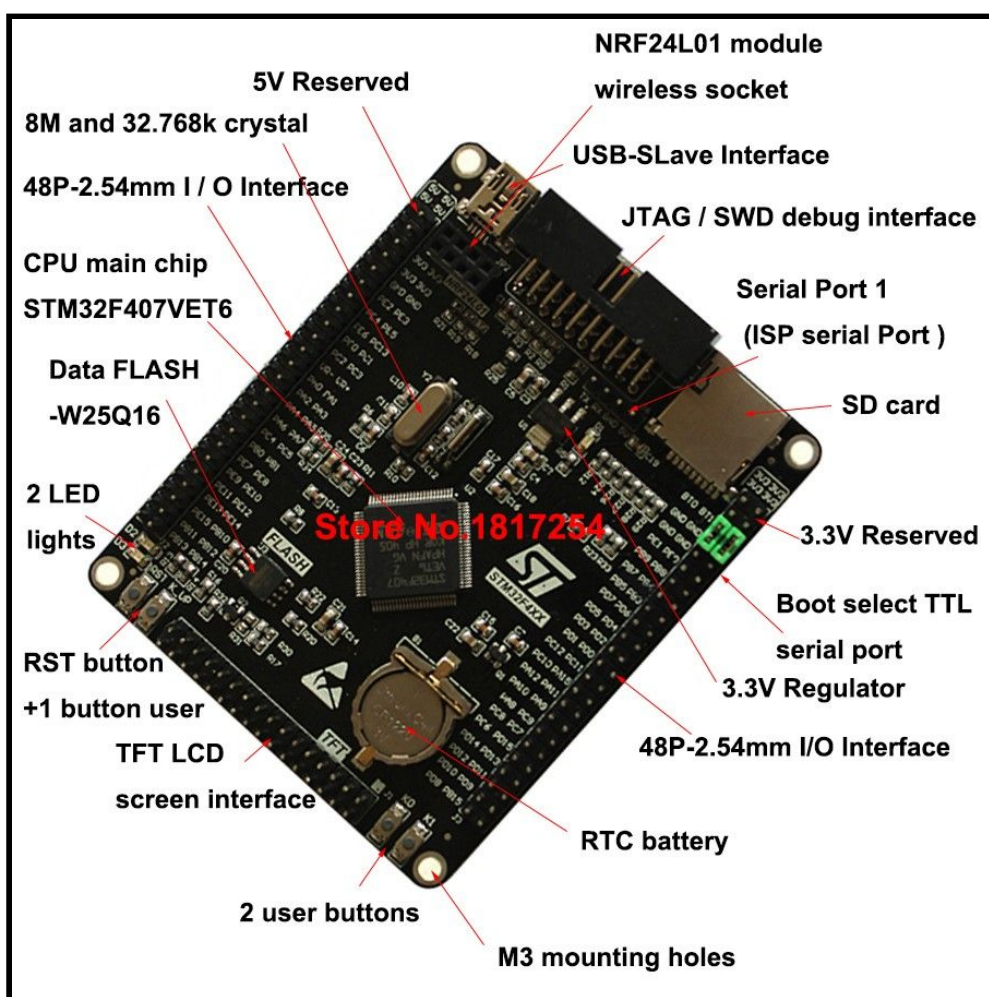
How to upload Firmware to stm32f407 boards

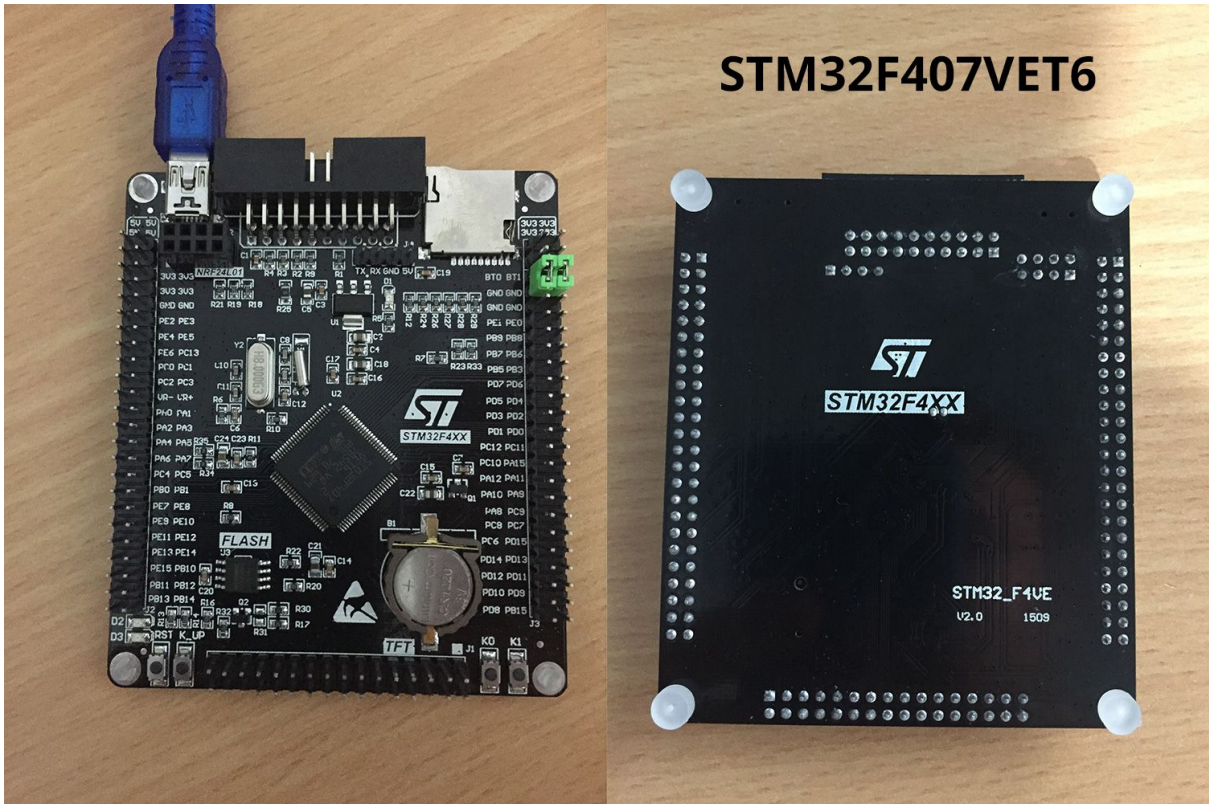
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This tutorial show how to setup a complete configuration to upload firmware for stm32f407 (and similar) board.

The target items used for this setup are the following:

- **STM32F407VET6 ARM STM32 Core Board Module**





knowned also as "Black VET6", these board are marked "STM32F4XX STM32_F4VE V2.0 1509" on the back.

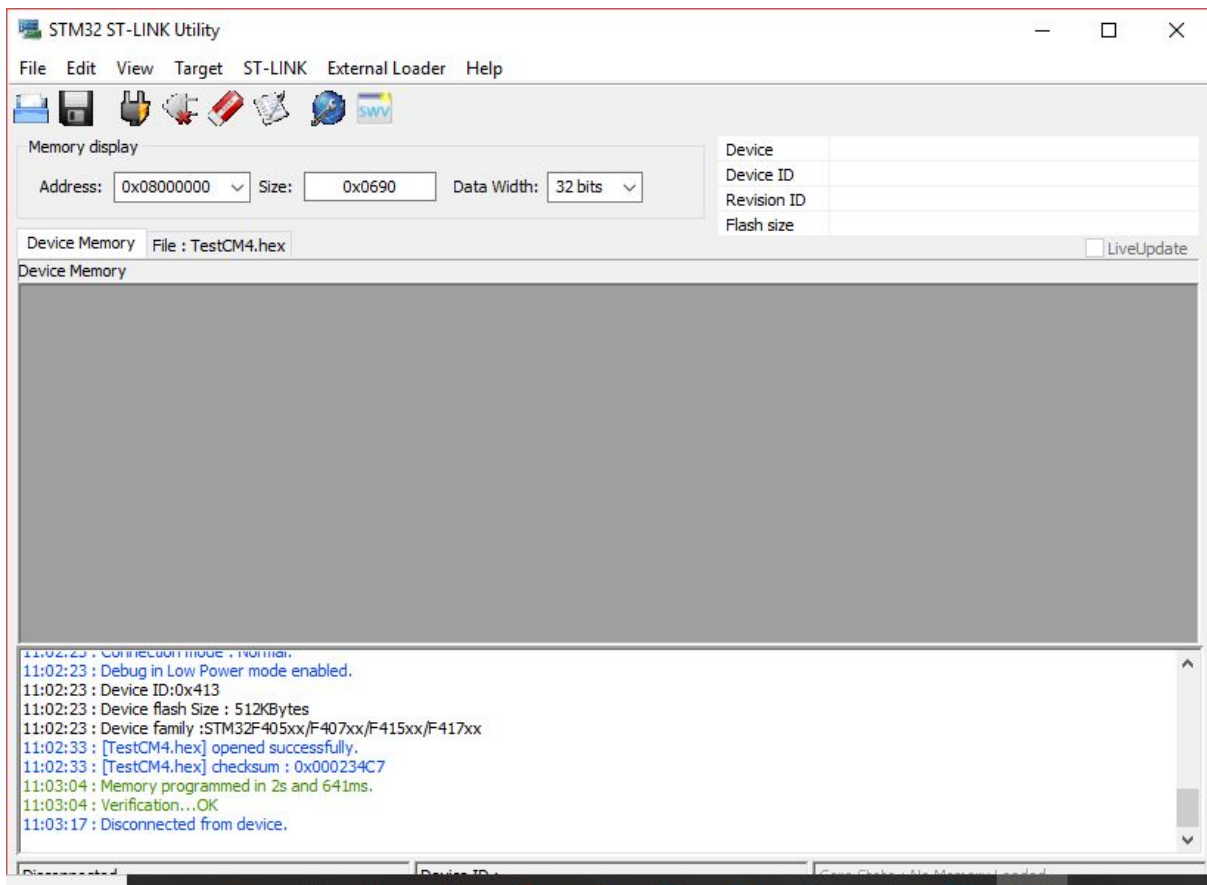
To upload the firmware you need an ST-Link device connected to 407 module.

- **ST-LINK V2 - Clone interface**



To upload the firmware there is the STLink utility, you can download it from STM site:
es.: <https://www.st.com/en/development-tools/stsw-link004.html>

- **STM32-STLINK Utility**



To load the firmware:

1) Open the RadioDSP_CortexM4.hex that you can download from
<https://github.com/gcallipo/RadioDSP-DNR-Stm32f407/tree/master/pre-compiled>

to open select: File→ Open File ... and select the .hex file.

2) Attach the Board to STLink dongle and connect the dongle to USB port;

3) Connect the target: Target→ Connect

4) Programm it: Target→ Program

5) Disconnect the target: Target→ Disconnect.

Connection Board to Debugger:

Here you can see the pin connector on the ST Link Dongle (on the left) and the JTAG connector Pin (on the right). You must connect each the pin each other using 4 female to female wires.

ST-Link V2 -Dongle JTAG connector on the Stm32F407 board

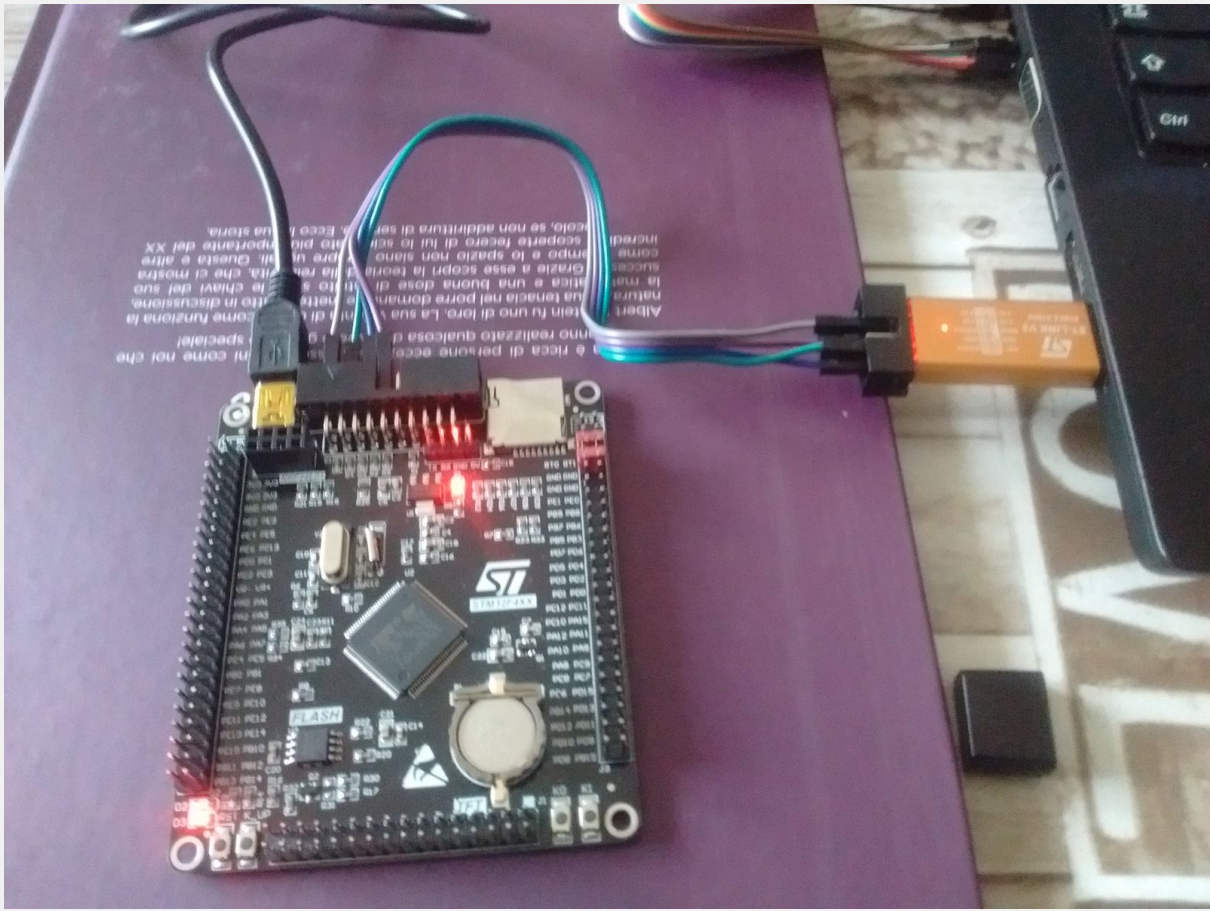
SWDIO	<----->	Pin 7, PA13/TMS/JTMS_SWDIO
GND	<----->	Pin 4, GND
SWCLK	<----->	Pin9, PA14/TCK/JTMS_SWCLK
3.3V	<----->	Pin 1, 3V3

JTAG connector pinout (ON THE BOARD - Front) :

CODE: SELECT ALL

```
+-----+
| 1  2| Pin 1 = 3v3
| 3  4| Pin 4 = GND
| 5  6|
_| 7  8| Pin 7 = SWDIO
| 9 10| Pin 9 = SWCLK
|_ 11 12|
|13 14|
|15 16|
|17 18|
|19 20|
+-----+
```

Connect ST-Link to usb port, making sure there are no other power sources connected to your board.



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