How to write firmware (Windows GUI)

Download STSW-STM32080 from the ST site .

https://www.st.com/en/development-tools/stsw-stm32080.html

- DFU File Manager: a tool to create .dfu files from .bin or .hex
- DfuSe Demo: A tool for writing .dfu files to devices

is included.

Convert file format with DFU File Manager (not needed if you have a DFU file)

First, start DFU File Manager.



Select I want to GENERATE a DFU file from S19, HEX or BIN files.

Device Images Vendor ID 0x 0483 Product ID 0x 0000 Version 0x 0000 Version 0x 0000 Deletion Delete selected Image	🎲 DFU File Manager (v3.0.6) - Generation — 🗌 🗙					
Generate Cancel	Device Vendor ID 0x 0483 Product ID 0x 0000 Version 0x 0000	Images Injection Target ID: 0 S19 or Hex Target Name: ST Deletion De Gen) elete selec	Multi BIN ted Image Can		

Click the S19 or Hex... button. ch.hex firmware ch.hex file such as ch.hex .

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Click the Generate... button to create a .dfu file with an appropriate name. Close the file manager using CANCEL

Write firmware with DfuSe Demo

First start the device in DFU mode. Use one of the following methods to enter DFU mode.

Option 1:

Jumper the BOOT0 pin on the PCB as is shown in below picture



Connect the two rightmost holes, NOT any holes to the left, with a standard Dupont cable or any cable that has small pins that will fit into the holes in the board. Do NOT use force. You may have to bend the pins a little to be able to insert them

Switch on the device. The screen may turn white.

Remove the jumper connection once the device is on.

Options 2:

If you have a firmware that has the DFU command buildin:

• CONFIG \rightarrow DFU RESET AND ENTER DFU Select RESET AND ENTER DFU

Start DfuSe Demo. Make sure that Available DFU Devices has ${\tt STM}$ Device in DFU Mode .

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89 KB(91884 Byt Bytes)	89 KB(91884 Bytes) of 89 KB(91884 Bytes) Operation duration 00:00:01		ownload Irade duration (Remo	ve some FFs)

This automatically appears if the right driver is there for the STM firmware update protocol.

First ignore the red circle and click under "upload action" on the "Choose..." and the "Load" button to make a backup of the current firmware in the nanoVNA. You can always restore this saved firmware if the upgrade did not perform as expected!!!!!!!!

Now for the real update look at the red circle and

click Choose...

Select the .dfu file you want to use in your nanoVNA.

If all goes well the bottom bar will turn green and say "File loaded correctly"

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Now the actual programming. Click the Upgrade button.

YOu may get a warning message about not being able to check if this is the correct firmware but this message can be ignored! The green bar should now state "verify successfull"

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Target 00: Verify successful !					
Abort				Quit	

This screen will be displayed when writing is complete. Click the Leave DFU mode button to exit DFU mode. The device will reset and boot with the new firmware. If this does not happen switch the nanoVNA off and on.