Welcome to Equivalent Sampling scope on NUCLEO-F303RE

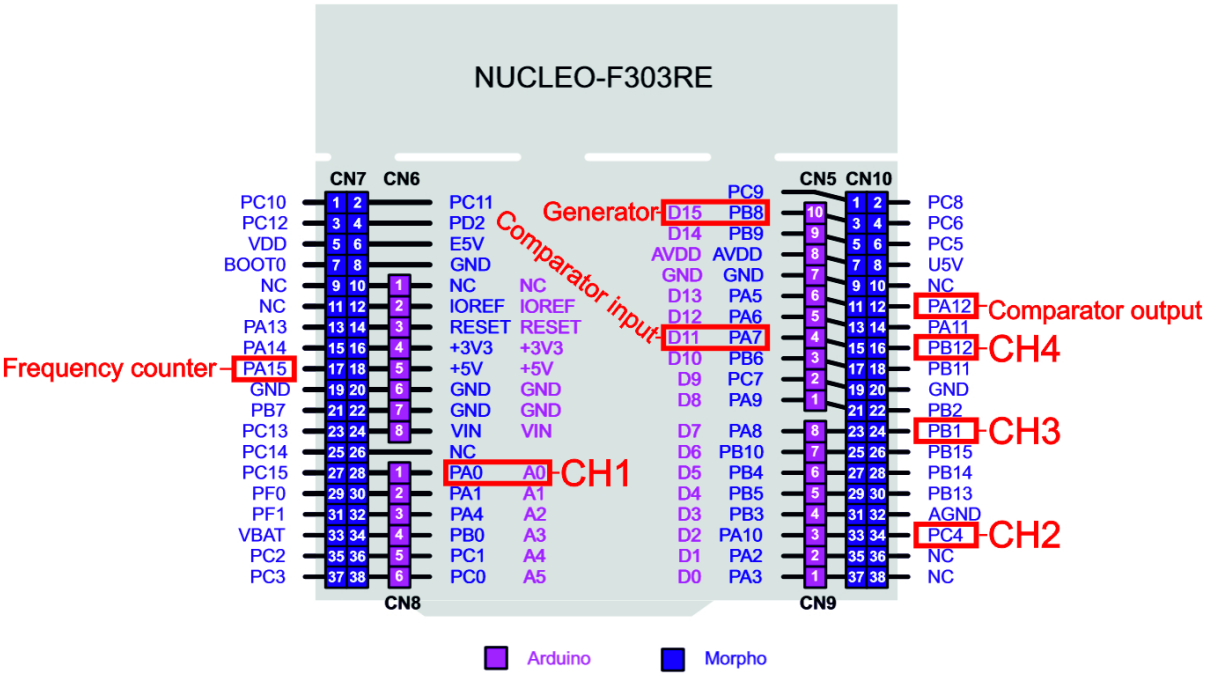
Before you start, there are few external connections needed.

Connect PA0 to PA7.

Connect PA12 to PA15.

Now you can use the oscilloscope with this pinout:

Function	ST Morpho pin	Arduino UNO pin
Channel 1	PA0	A0
Channel 2	PC4	-
Channel 3	PB1	-
Channel 4	PB12	-
Signal generator	PB8	D15



How to use:

All functions are based on signal on Channel 1. There must always be signal on Channel 1.
If you need more channels, you can enable them in the settings box. After connecting signal to Channel 1, click on one of the recommended dividers below the graph. Make sure, that memory depth is set to at least 2x samples per period. You can also use the Autoset button.

Exporting data to Matlab:

1. Click on Save->Save as CSV
2. In Matlab, click on Home->Import Data
3. In Column delimiters select Semicolon
4. If your OS language uses ',' as decimal point, select Comma in Delimiter options.
5. Set Output type to Numeric Matrix. Click on Import Selection.
6. If you want to do this automatically next time, select Generate Script instead of Import Selection

Troubleshooting:

Nucleo does not show up when trying to connect.
Install ST-Link drivers. Installation files are packaged with this program.
You can also download them from ST website (registration required).
Make sure you can find "STMicroelectronics STLink Virtual COM Port" in device manager.

Program is connected to NUCLEO board, but no signal is displayed.
Copy "SamplingScope.bin" (packaged with this program) into "NODE_F303RE".
Make sure signal is connected to Channel 1(A0). Start by connecting signal directly from generator on pin D15.

I can see signal, but it is jumping around wildly.
Try pressing the Autoset button. If problems persist, your signal is probably not periodic or has unstable frequency.