Nano VNA
Checking Signal Loss in Coax

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This presentation is a scaled down version for posting on the library. Some slides have been removed.

Preparation

This will be similar to the steps for setting up your NanoVNA to measure SWR.

First item is to turn off any traces we're not using.

From the main menu select Display > Trace.

I suggest using Trace 1, the blue trace for a quick visual that this isn't measuring SWR.

Formatting the Trace

Next we need to format the trace to measure signal loss.

In the Display sub menu select Format S11 (REFL) and check off the top selection Logmag.

Go back one screen and make sure Channel is set to S21 (THRU).

Set Your Frequency Range

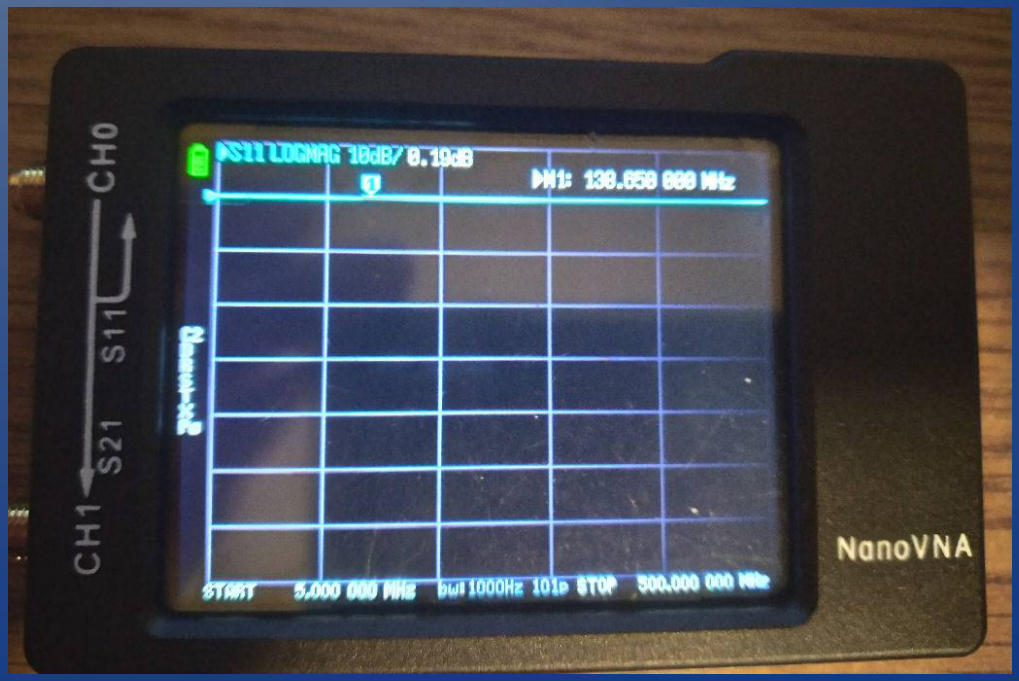
This depends on what you plan to use the coax for. Is it for VHF/UHF? Is your HF operations from 40M thru 10M?

I suggest covering from 40M to 70cm.

Select Stimulus and set your Start to 5Mhz and your Stop to 500Mhz.

Checking Your Settings So Far

OK, so you should see a Blue Trace on the second line down and above it on the left it should read S21 LOGMAG.



Calibration Part 1

Go to Calibrate and select Reset.

Screw your jumpers to CH0 and CH1 as shown.

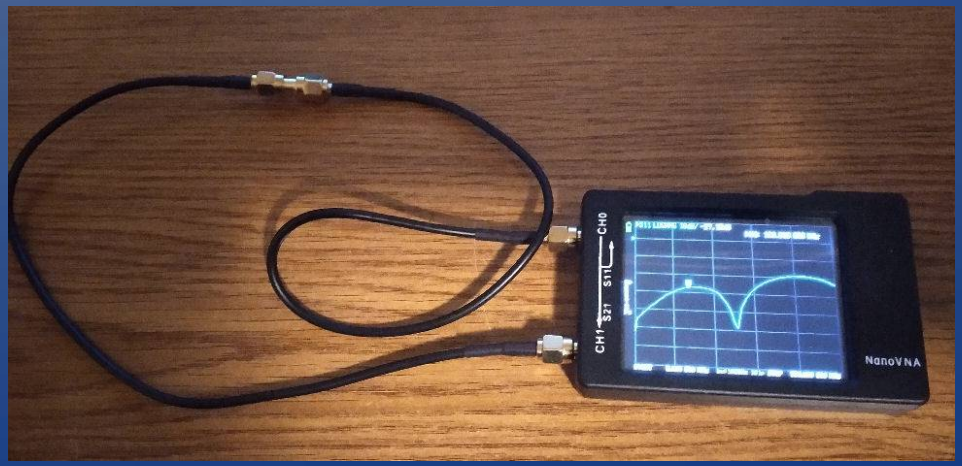
Calibrate your Open, Short and Load by connecting them to the end of the jumper on CH0.

The reason for using the jumpers are is for strain relief when you connect the coax. We include them in the calibration to minimize their characteristics on the readings.

Calibration Part 2

With nothing connected to the ends of the jumpers hit ISOLN. Some people connect the load to CH1 for this step.

Next connect the two jumpers together as shown and select THRU. You can now hit Done and save these settings to one of your memory spots.



Testing

You're now ready to connect and test your coax.

You can adjust your marker to any frequency and check your signal loss in -dB at the center top of the screen

Be sure to uncoil your coax before testing or you might see a dip due to coil inductance. You've created a choke.