

EE142 Lab 0.5 - VNA Calibration

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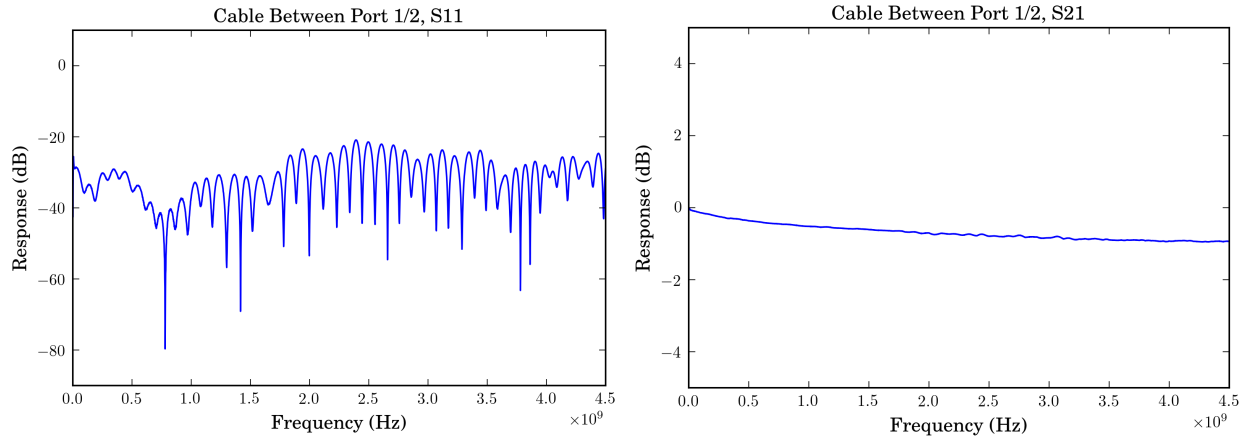
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1 Testing Cable Phase Stability

We connect a SMA cable between port 1 and 2.

Before connecting the cable, the SMA connector's pin depth and dielectric depth are both checked and are within spec. Also, the SMA connector was examined under a stereo microscope and it was cleaned with a cotton swab and alcohol to remove surface contaminants (specks of dirt and metal fragments).



When plotting S_{11} , we see reflections and re-reflections 20 dB down which reflect both imperfections in the cable's impedance and possible factory calibration issues in the VNA. When measuring S_{21} , we see that almost all the delivered power from port 1 makes its way to port 2 and we only see some drop-off at high frequencies, where the VNA itself might be out-of-cal.

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