Full S-parameter measurement of Receiver02@ 25 degC

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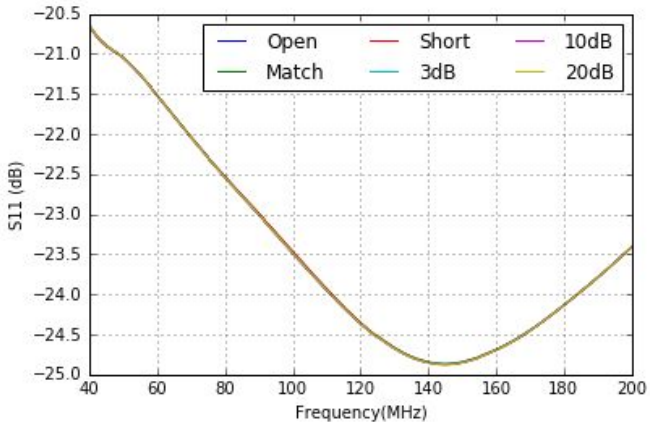
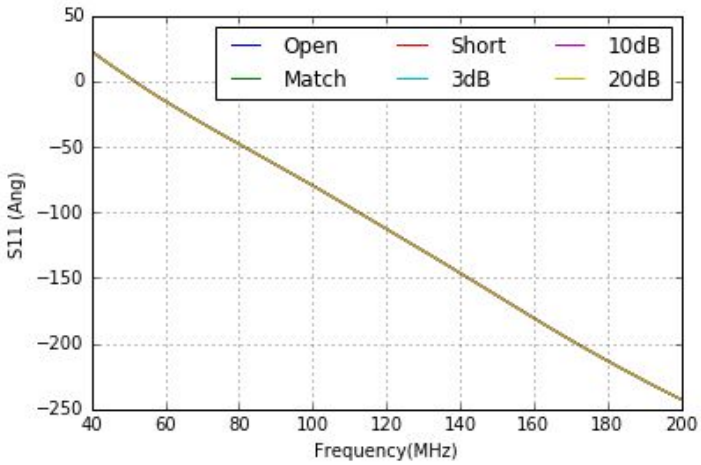
This report summarizes all the S parameters that were measured for Receiver02 at 25 deg C. This was done to confirm that the receiver is not sensitive to the changes in input or output loads.

1.) S11 Measurement

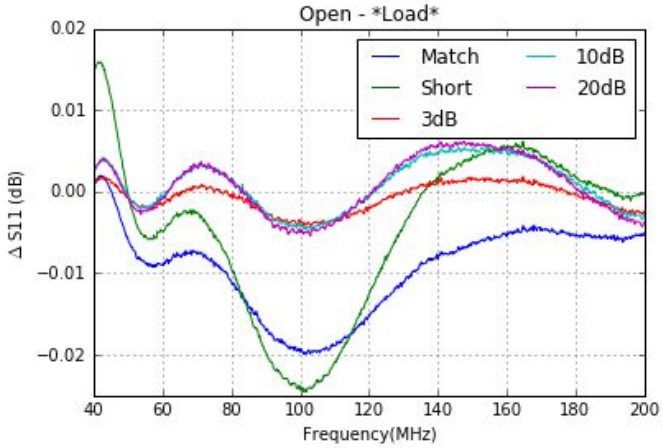
- TheVNA was connected to the input of the receiver and the loads to the output via a bias tee.
- The bias tee was used so that a voltage of 15V could be applied to keep the SP3T in the antenna position
- The power setting of VNA was -35dBm

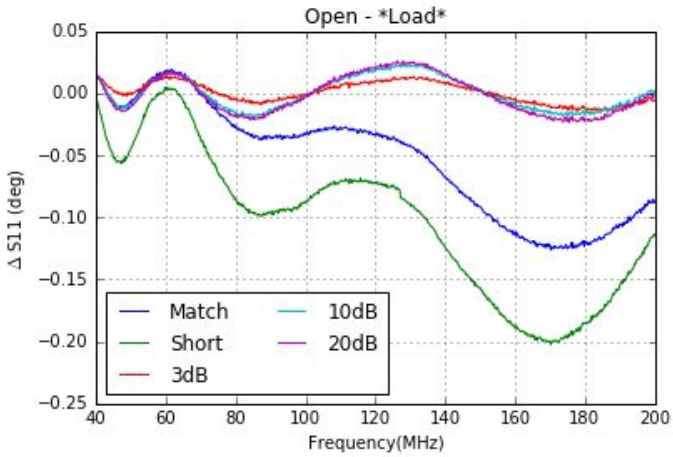
a.) Magnitude & Phase



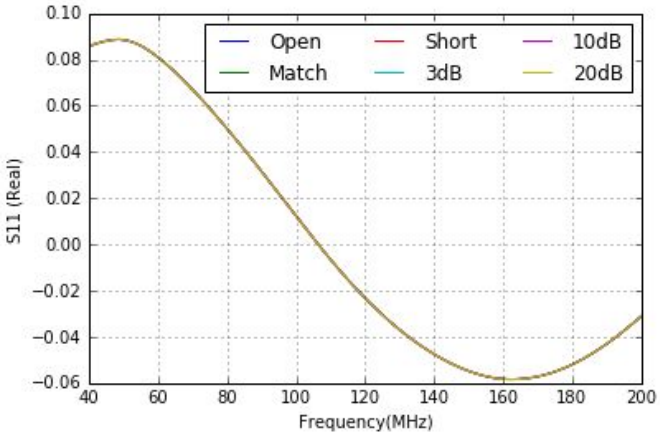


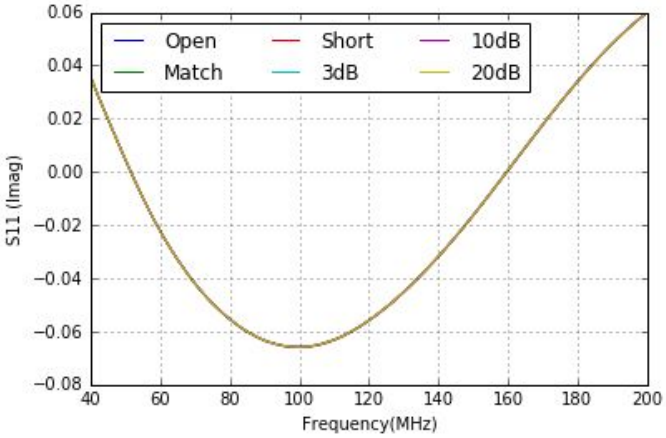
b.) Delta Magnitude & delta Phase with respect to open load measurement



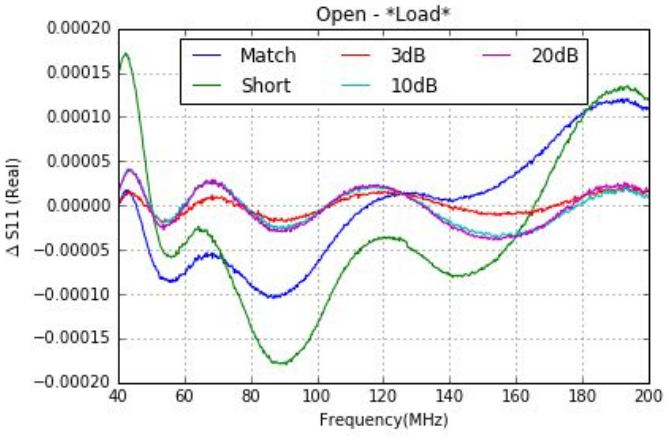


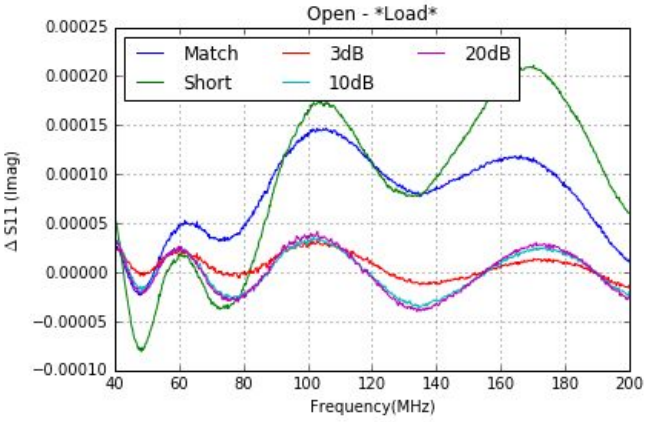
c.) Real and Imaginary





d.) Delta Real & Delta Imaginary

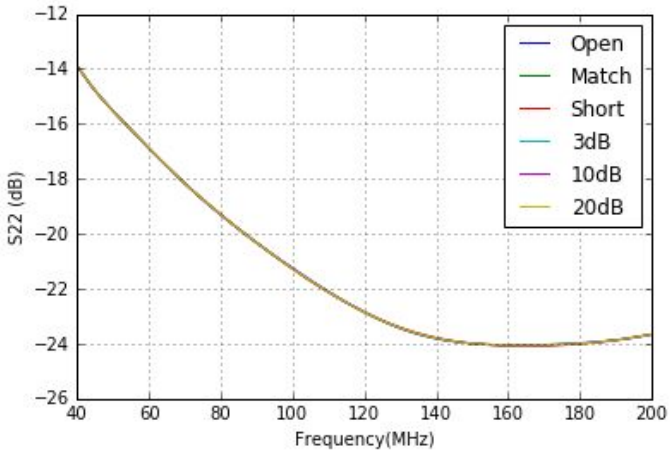


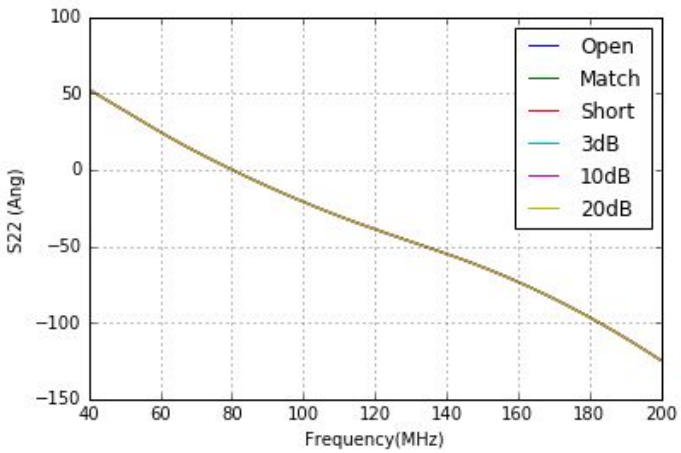


2.) ***S22 Measurement***

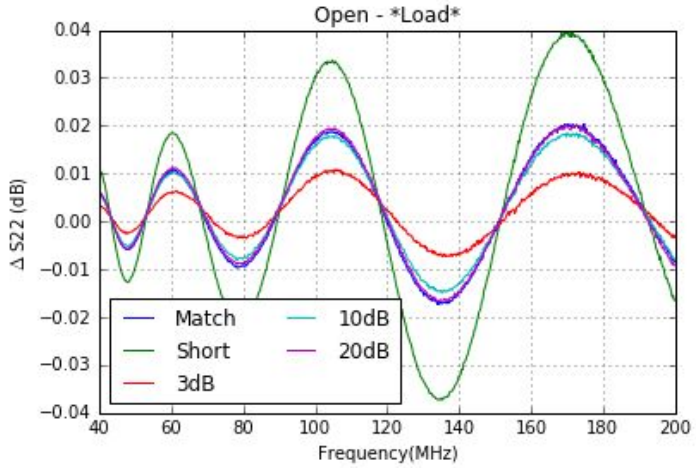
- The VNA was connected to the output of the receiver via a bias tee and the loads to the input.
- The bias tee was used so that a voltage of 15V could be applied to keep the SP3T in the antenna position
- The power setting of VNA was -35dBm

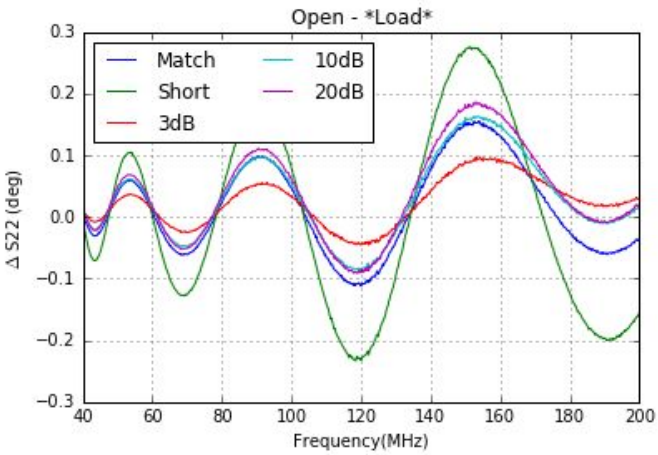
a.) Magnitude & Phase



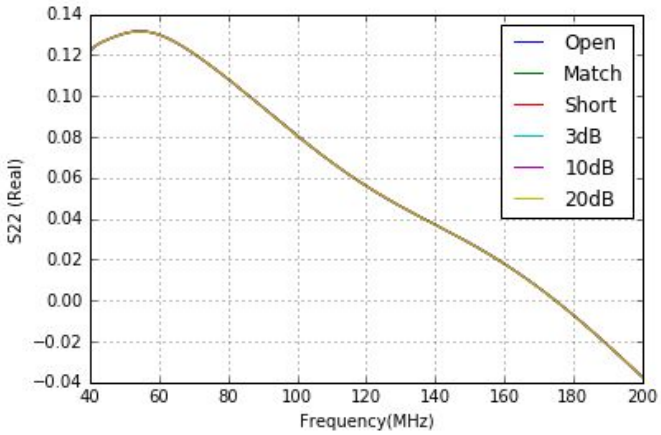


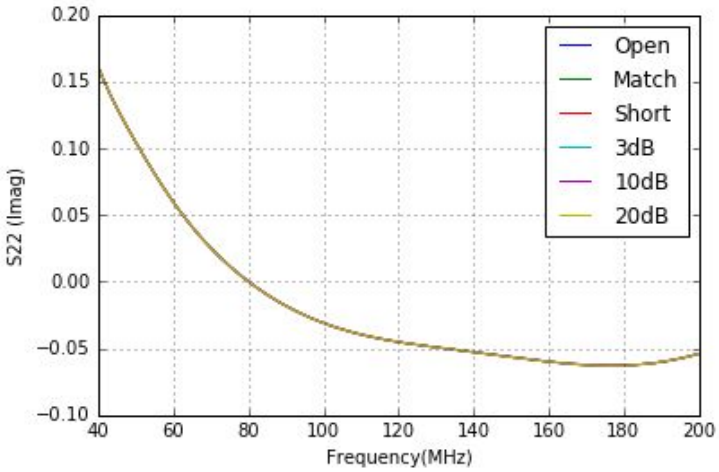
b.) Delta Magnitude & delta Phase with respect to open load measurement



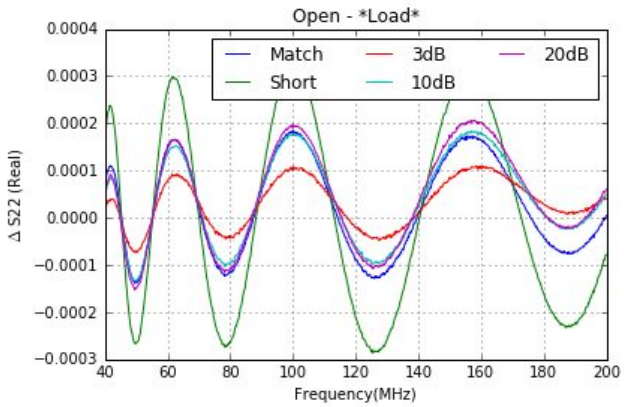


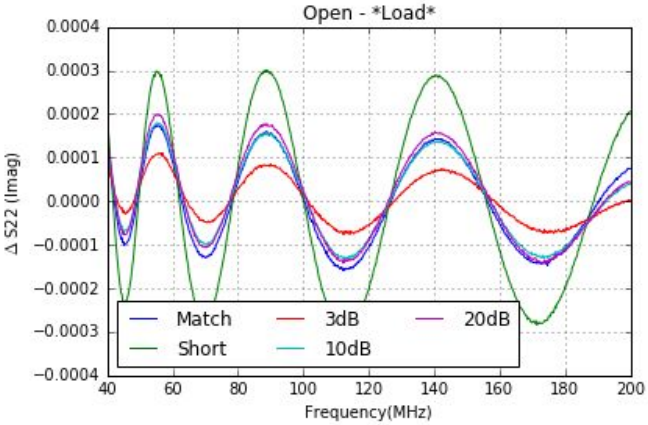
c.) Real and Imaginary





d.) Delta Real & Delta Imaginary

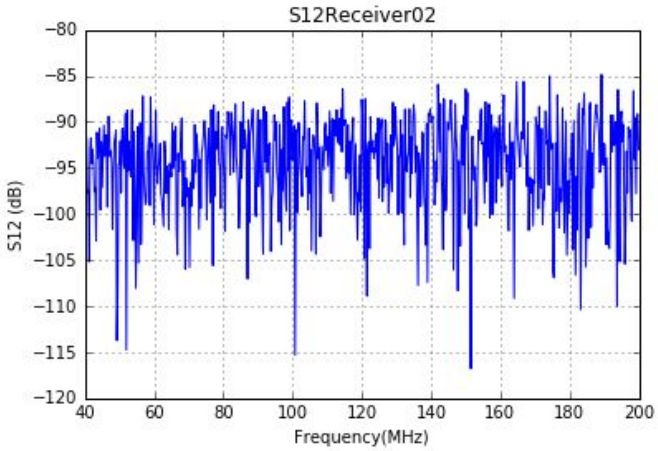


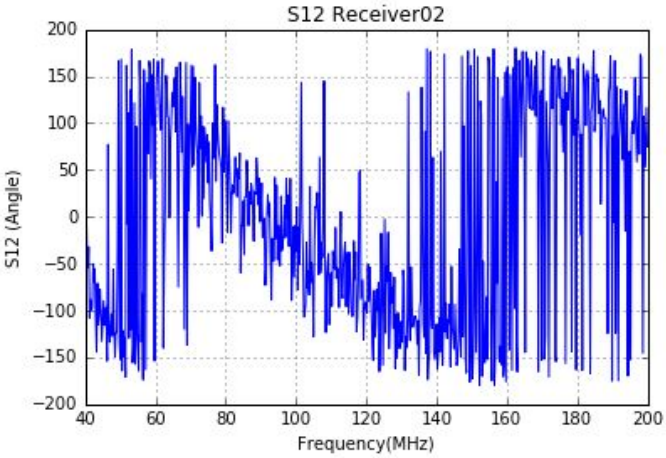


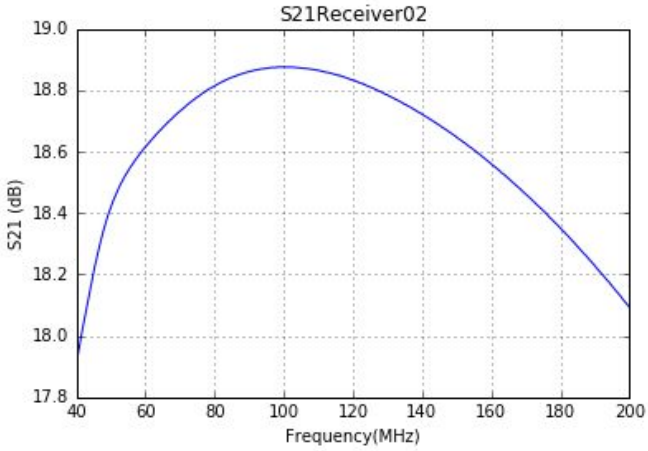
3.) <u>S12/S21 Measurement</u>

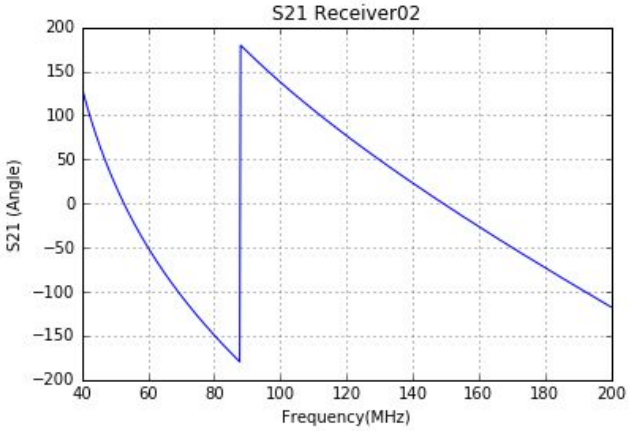
- The VNA was calibrated for the S12 measurement with the cables used
- The ports of the VNA were connected to either ends of the receiver

a.) Magnitude & Phase

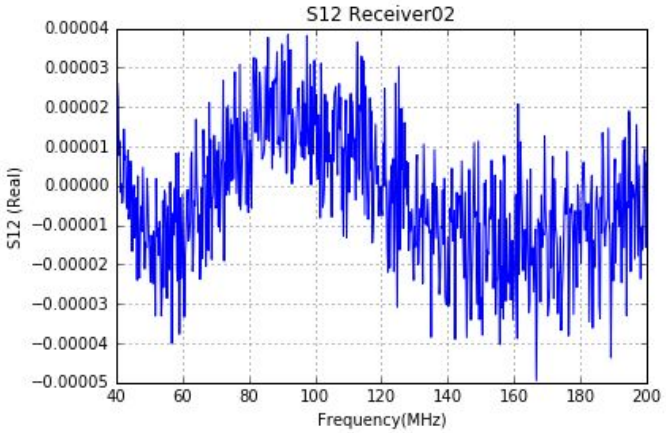


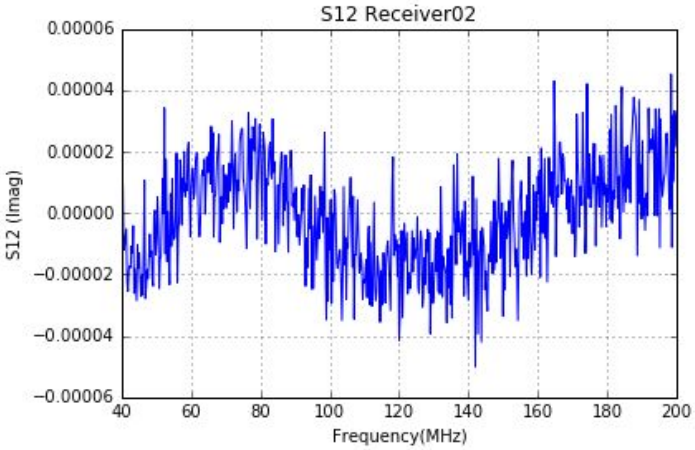


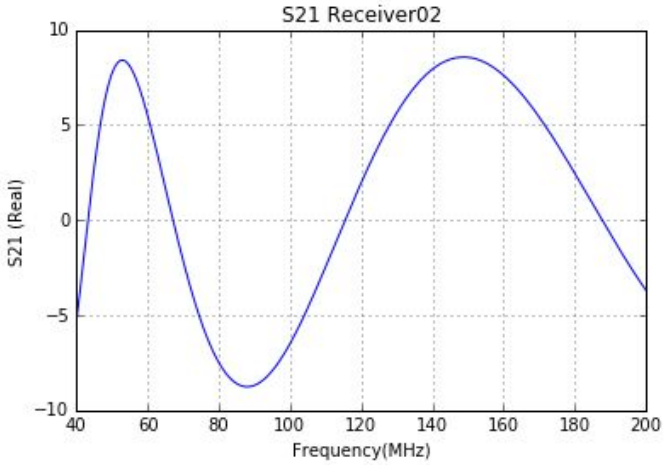


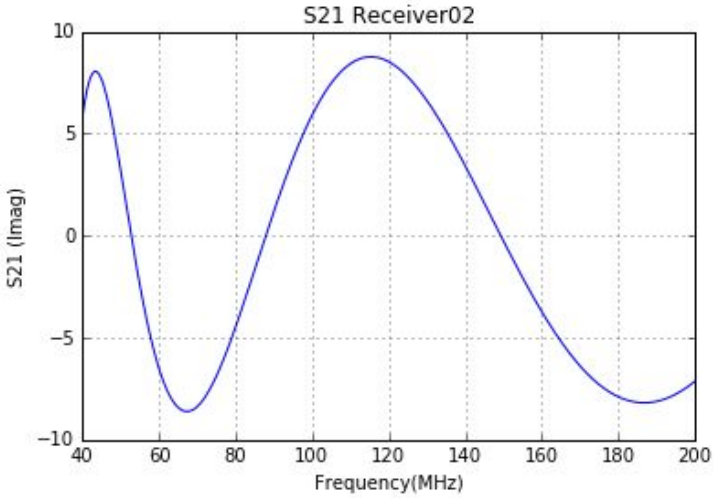


c.) Real and Imaginary









Notes:

- All the S parameters were measured from 40 - 200 MHz
- In the S11 measurements: Roughly zero dB S11 was obtained when the open and short load were connected to the receiver input.
- The S12 measurement (reverse isolation) is low at about -90dB or below for the entire band