

*Lecture 11 -- Vector Network Analyzers and S-Parameters in Circuits*

Draw a diagram of a vector network analyzer and describe its operation

What are the four calibration standards used to calibration a VNA?

What is a reference plane?

How does delay in a S-parameter measurement appear in the phase plot?

What parts of a VNA are affected by source mismatch and finite directivity?

What does a thru connection measure?

What are good sanity checks for a VNA calibration? How should they look? What's a common frequency range over which we achieve a good phase calibration?

When do you need to recalibrate a VNA?

What is via inductance and what causes it? What is pad capacitance and what causes it?