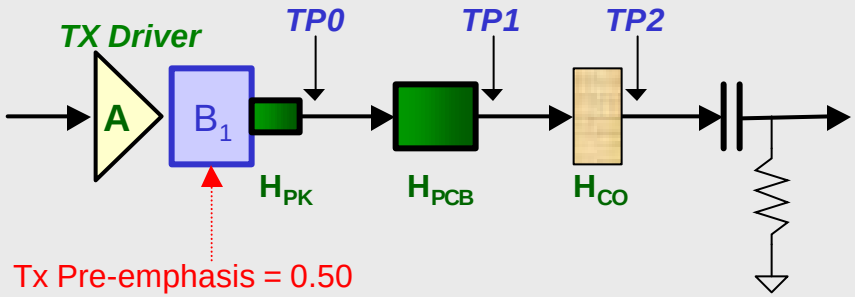
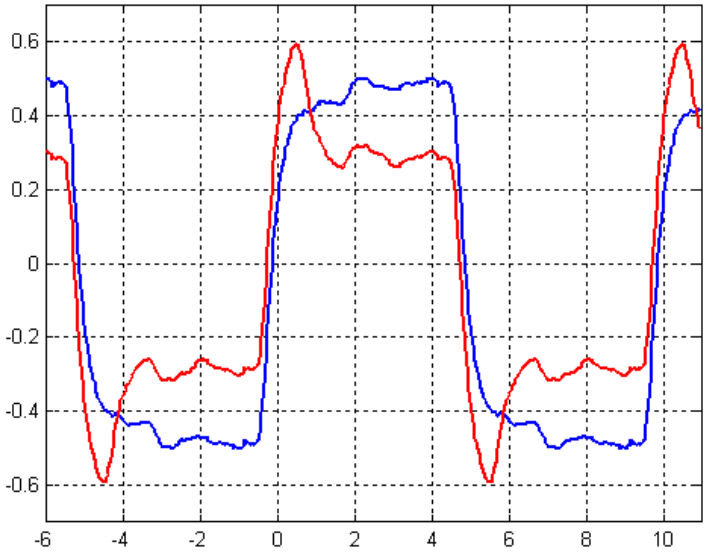
10GBASE-CX4 Link Analysis Outline

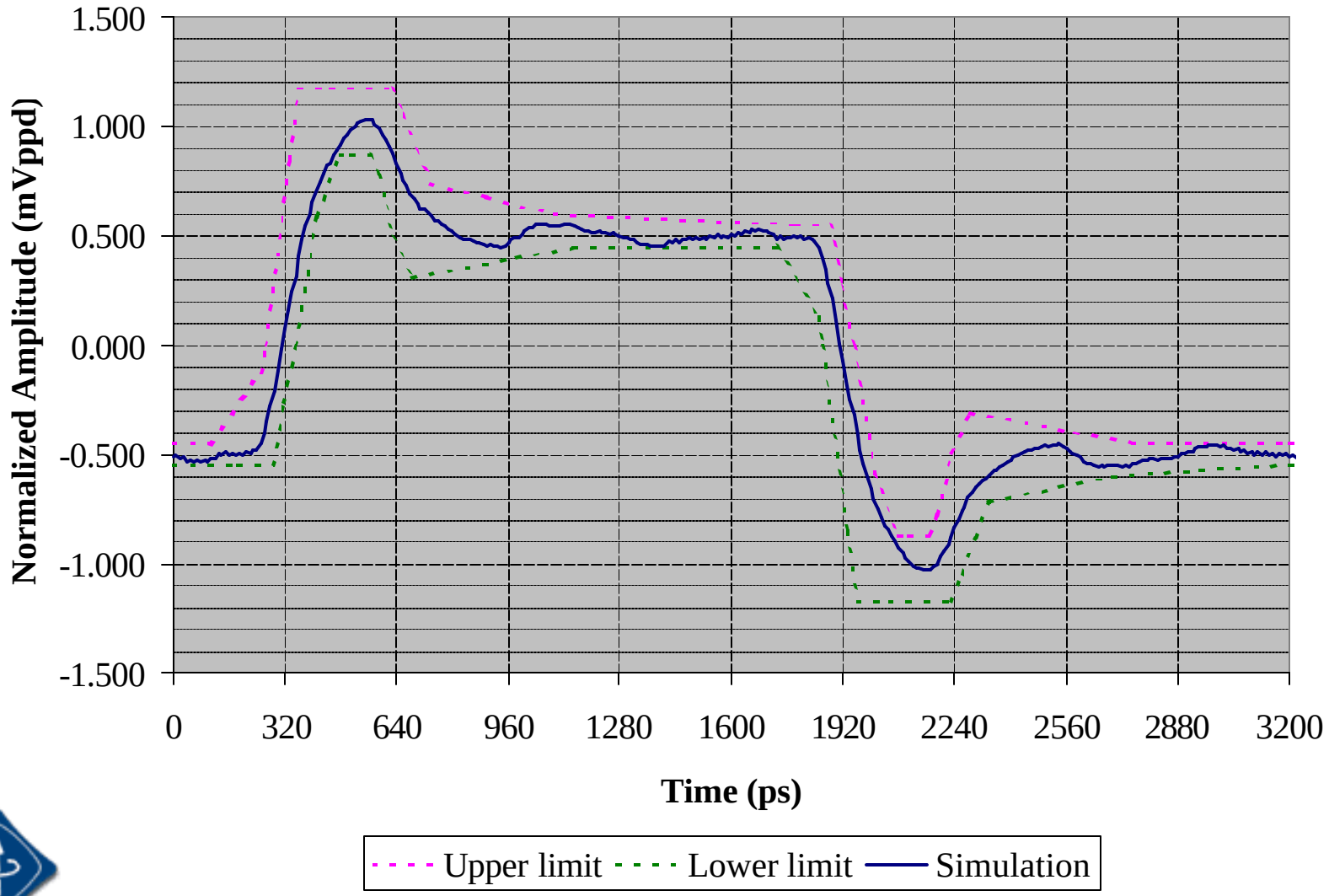
- Link Model Definition
- Cable Specifications v.s. Measurements
- **Transceiver Specifications v.s. Measurements**
- Link Simulations
- Summary / Recommendations

Transmit Simulation Setup

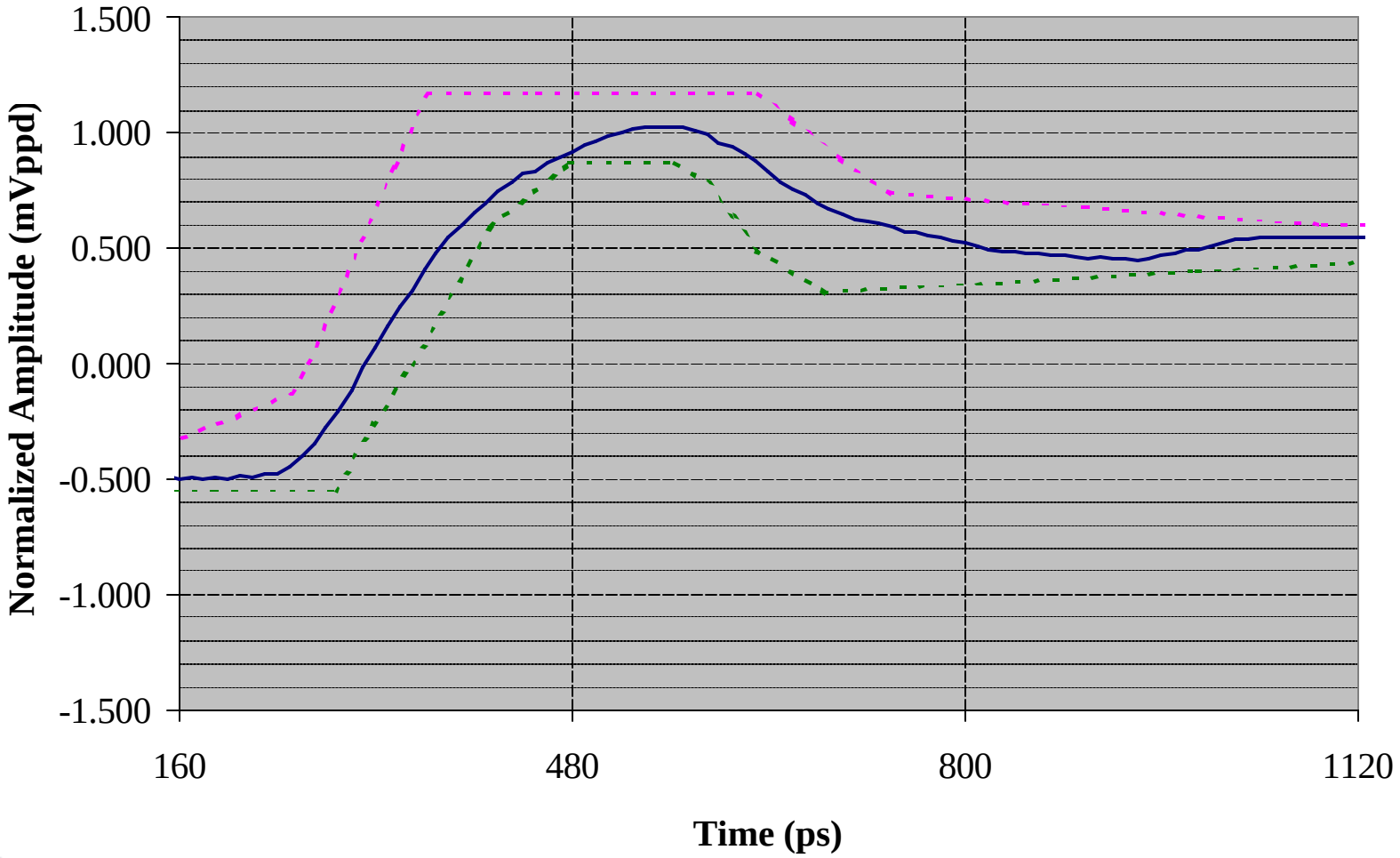




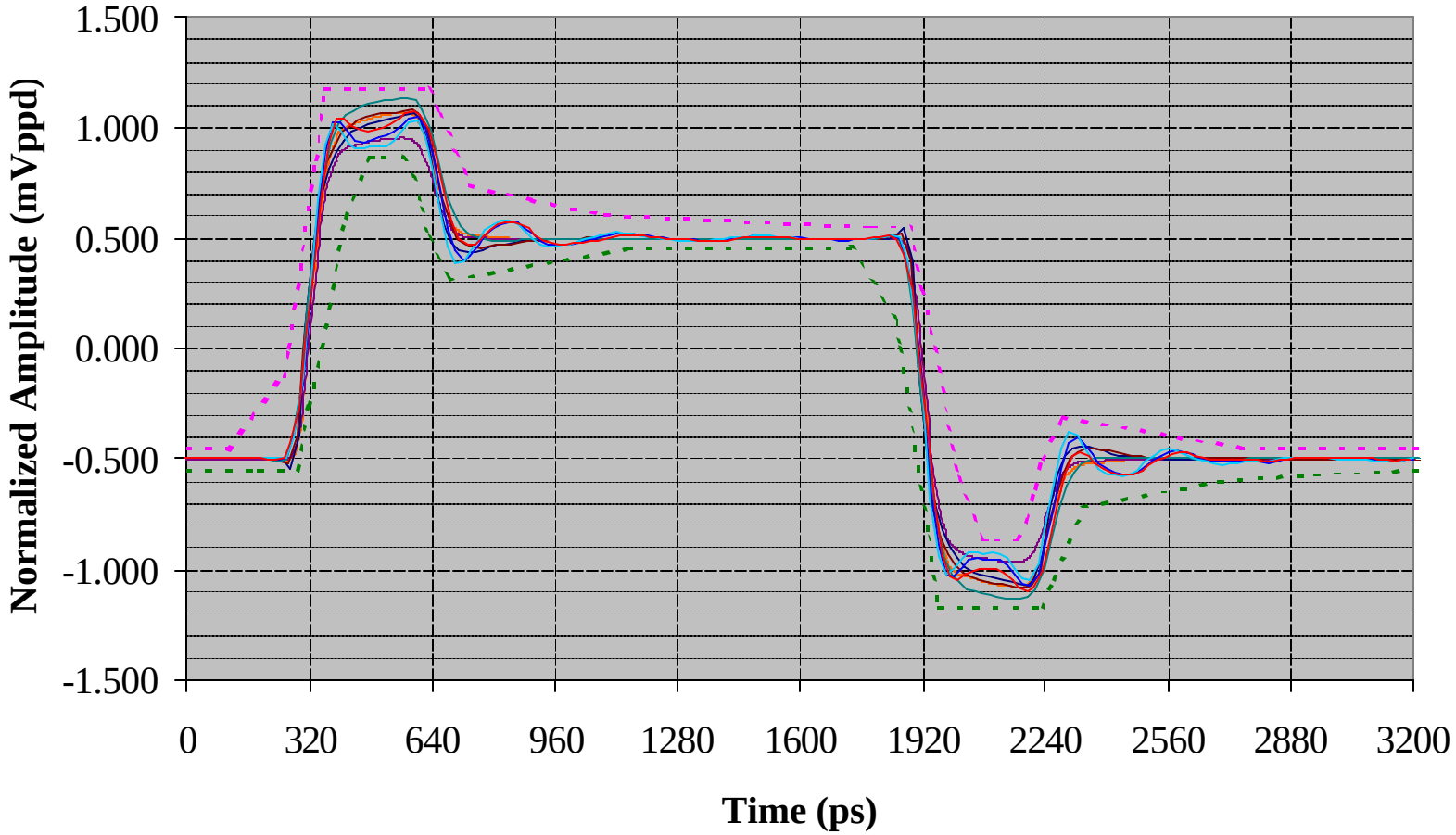
Transmit Template, Simulation Results



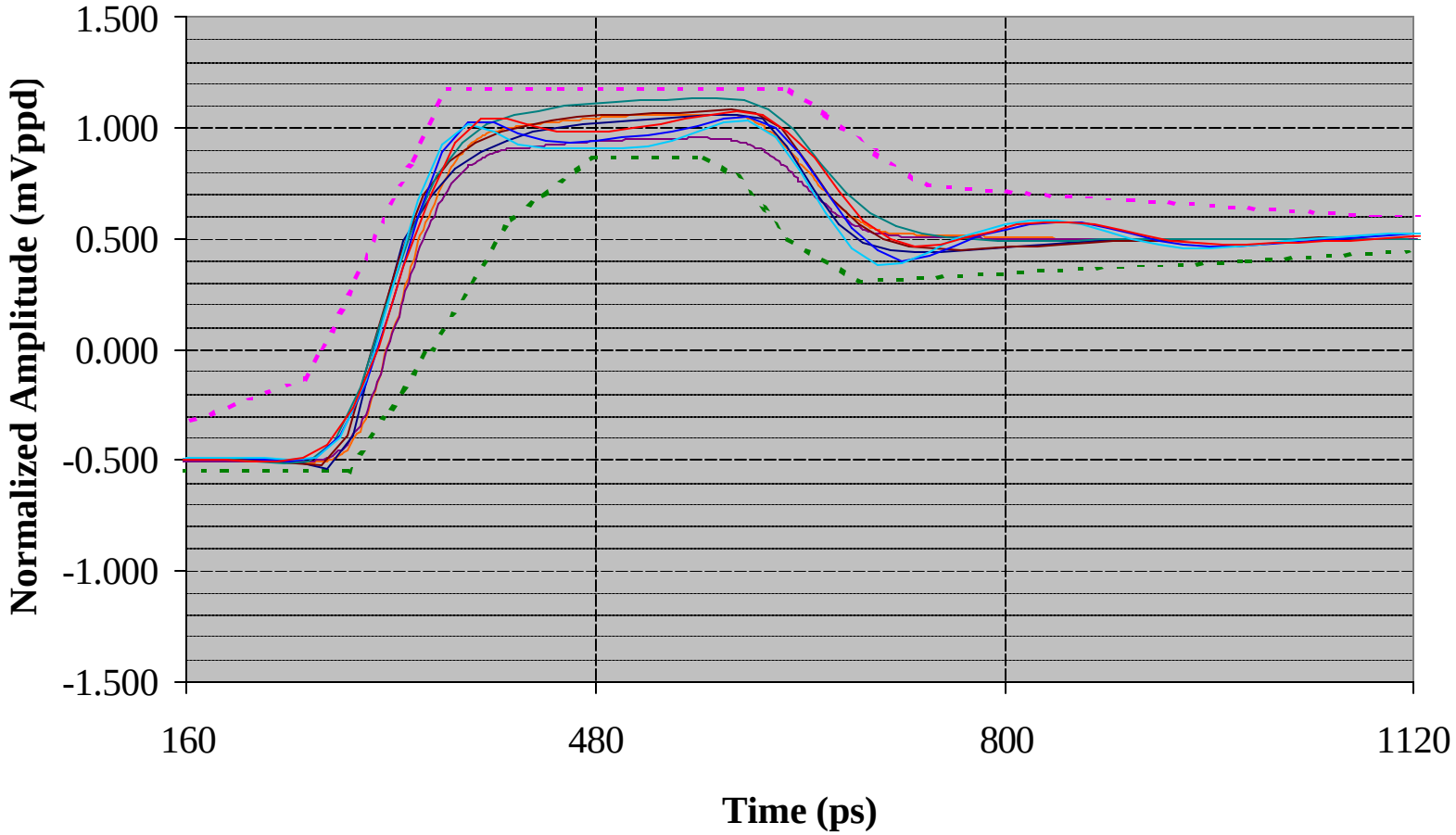
Transmit Template, Magnified



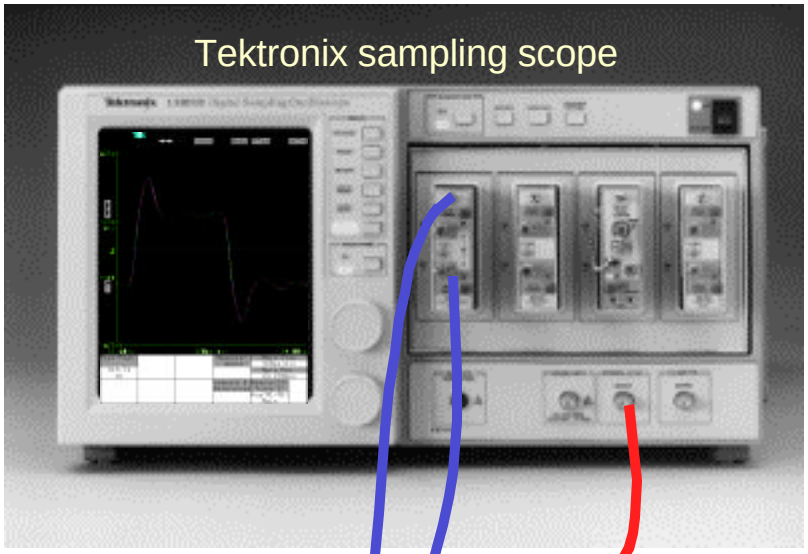
Transmit Template, Earlier Sim Results

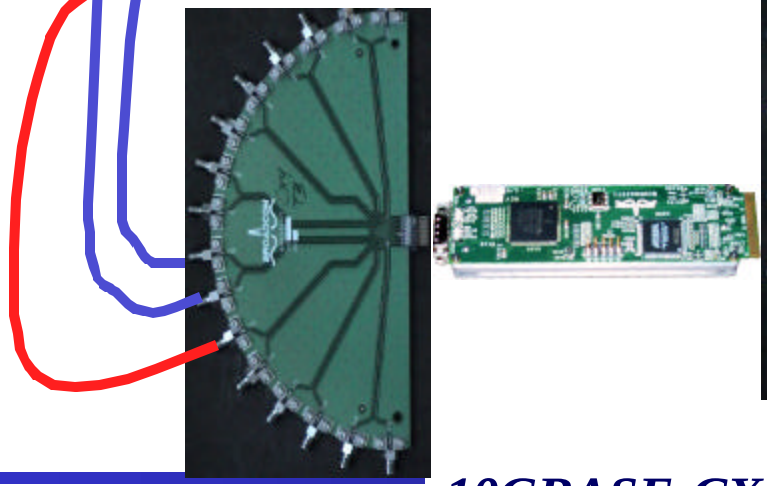


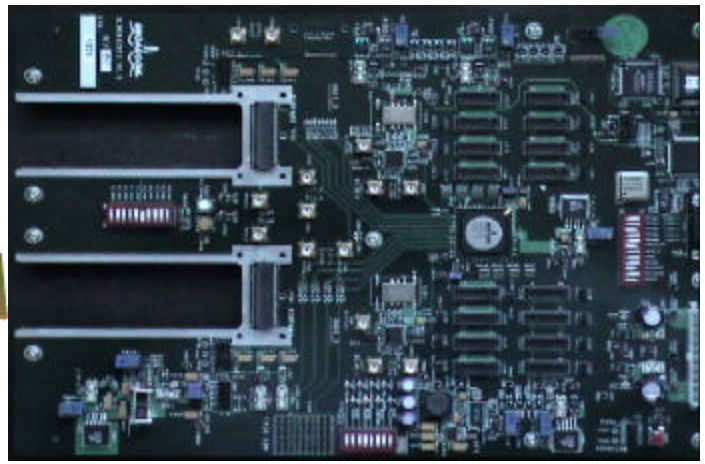
Transmit Template, Magnified



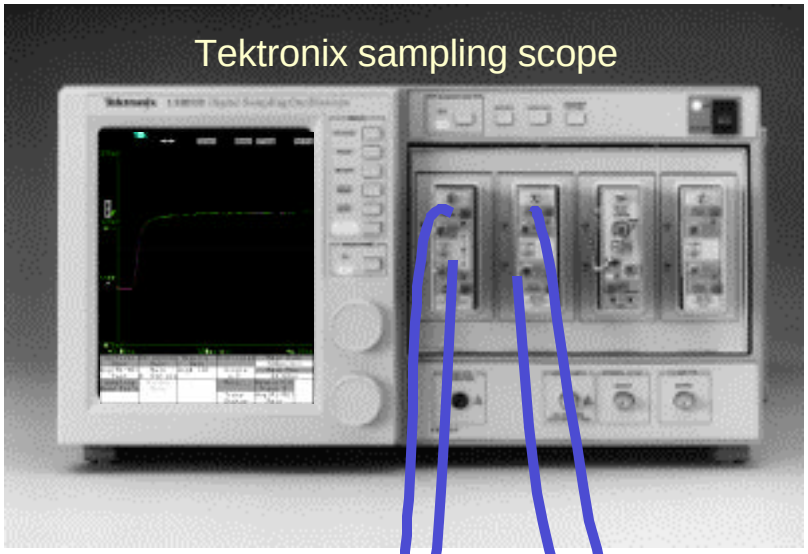
Transmit Template Lab Setup

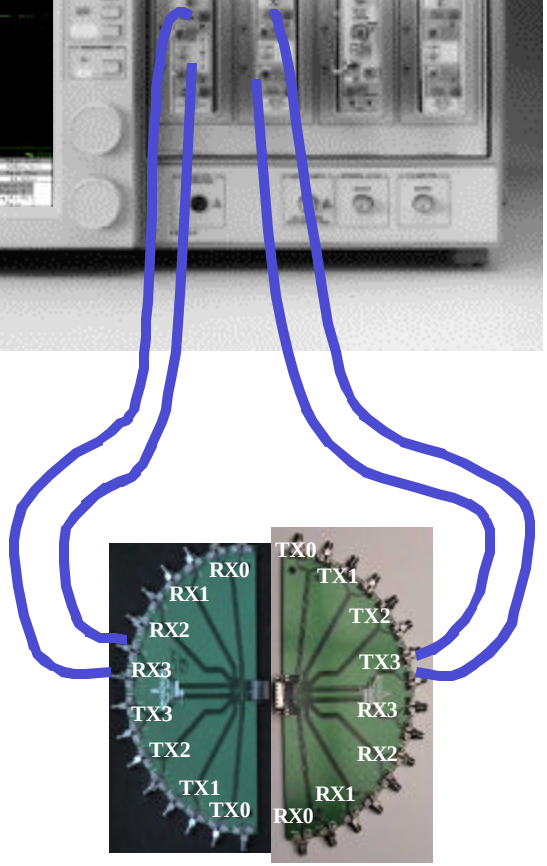




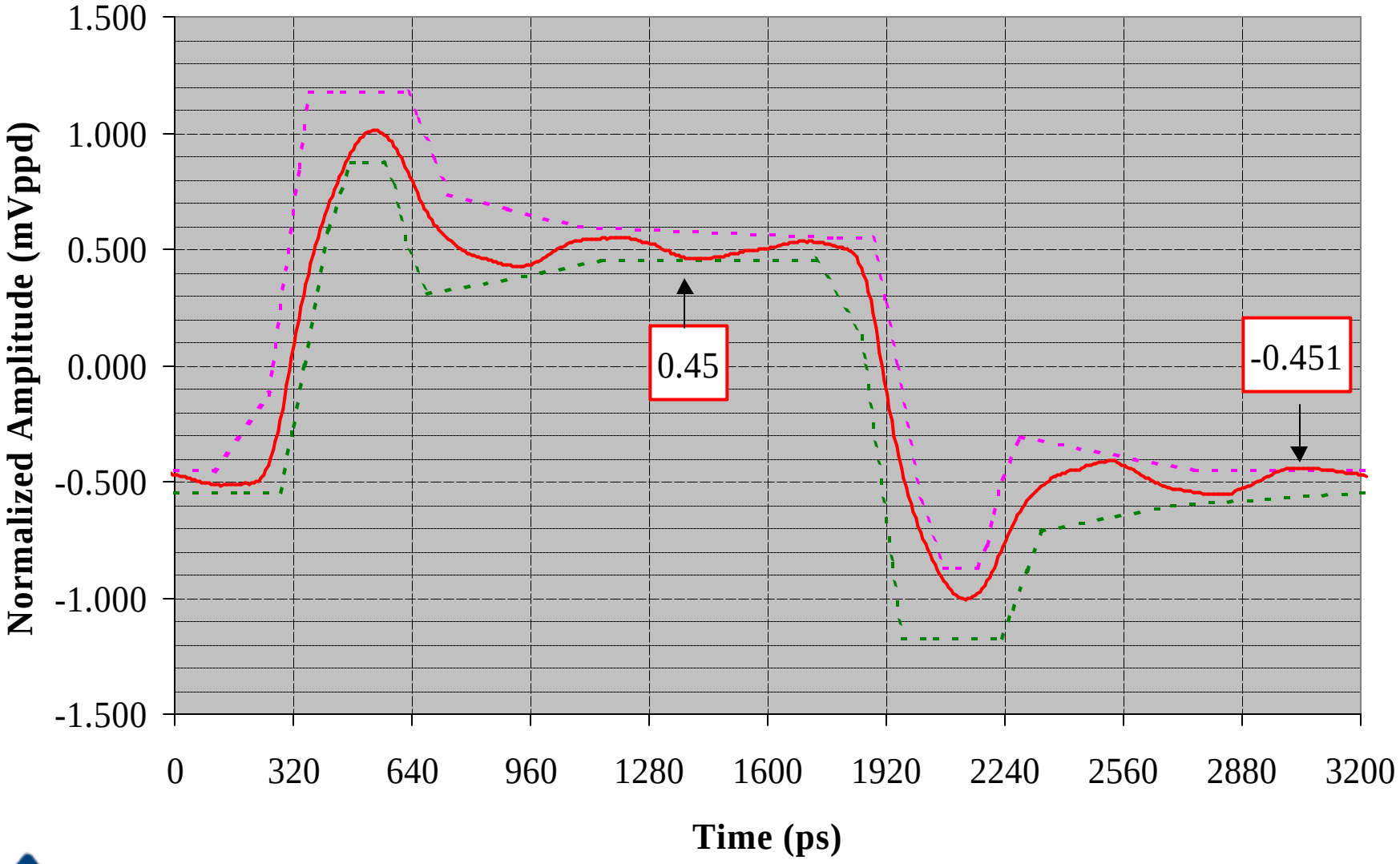


Transmit Template Calibration

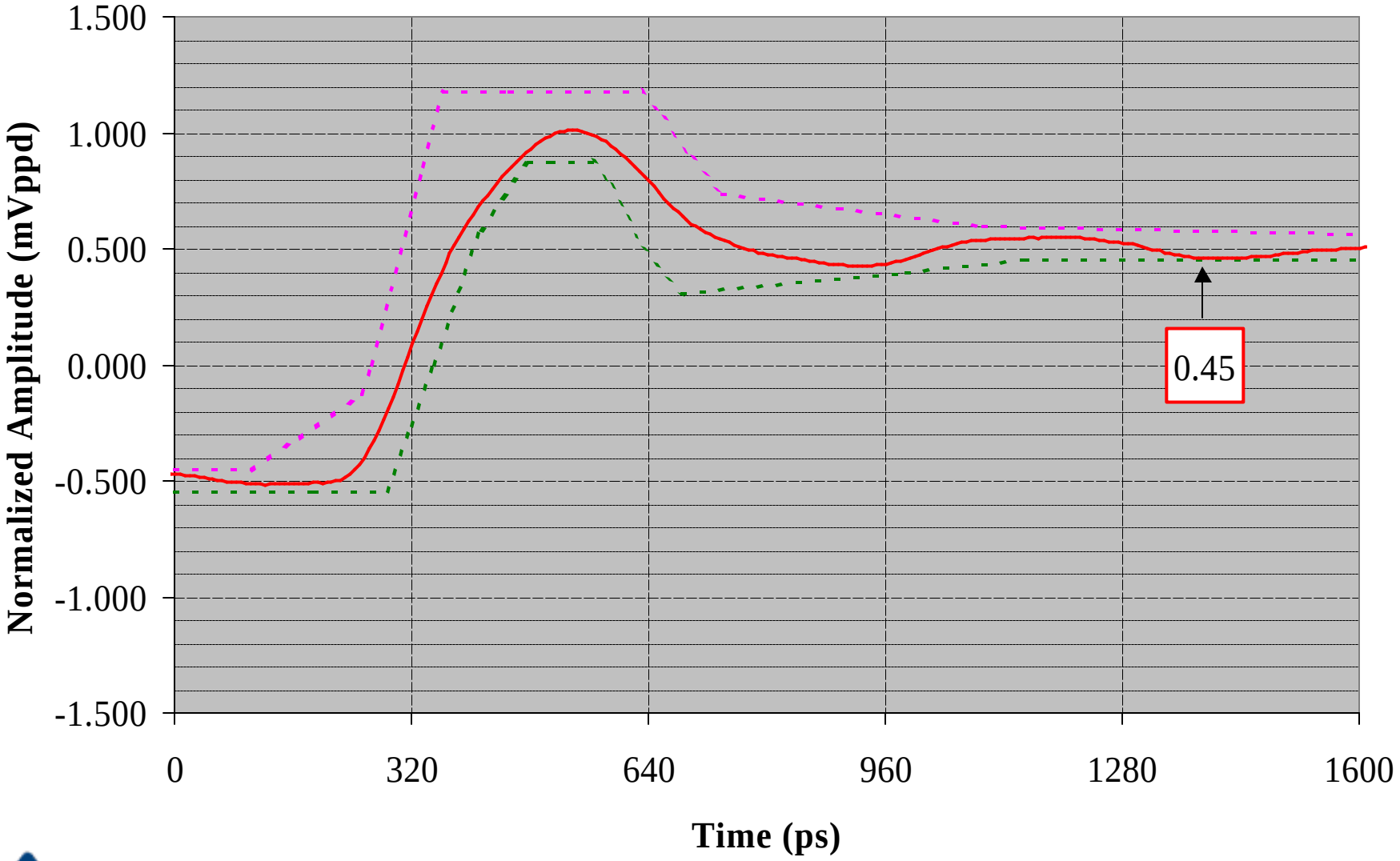




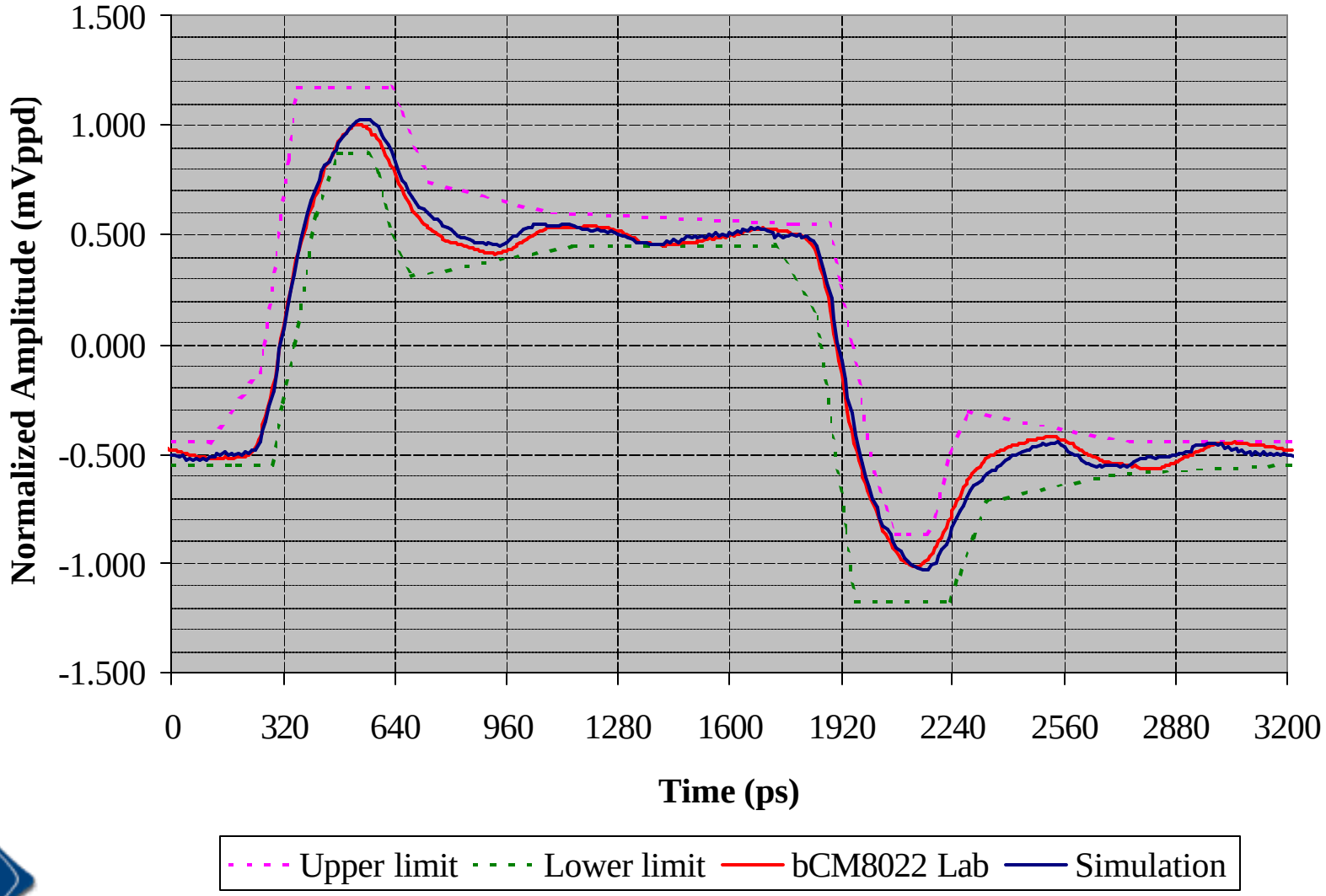
Transmit Template, Measurement



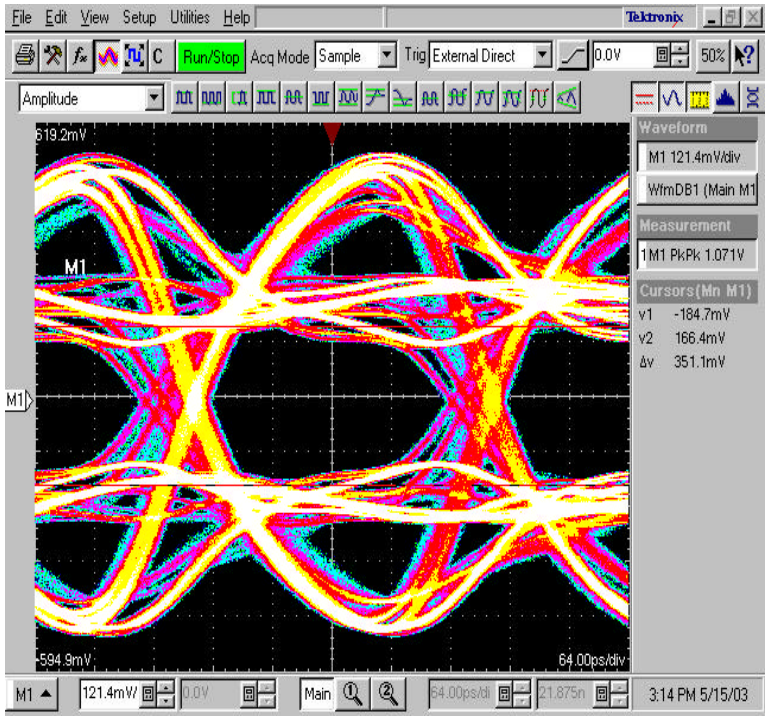
Transmit Template, Magnified



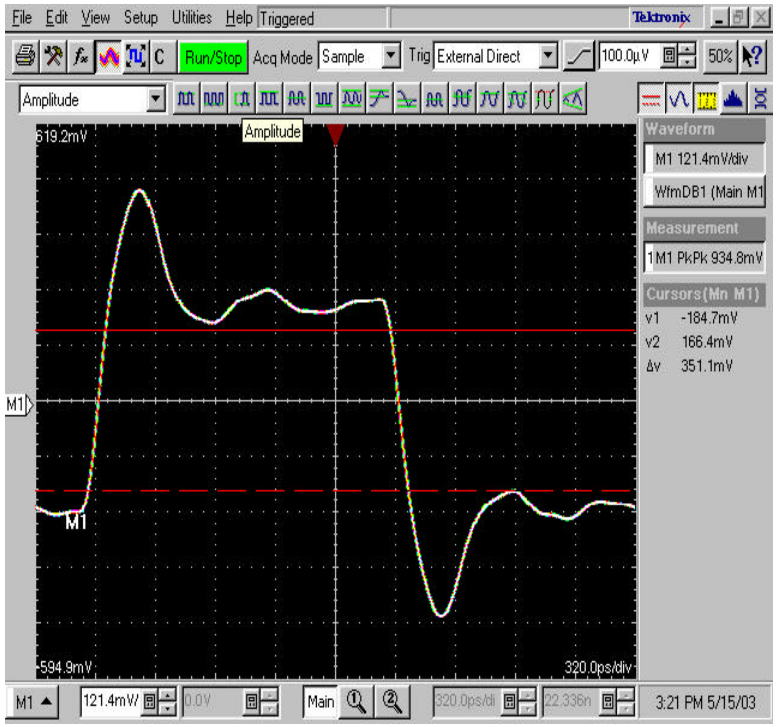
Transmit Template, Simulation vs Measurements



Transmit Amplitude

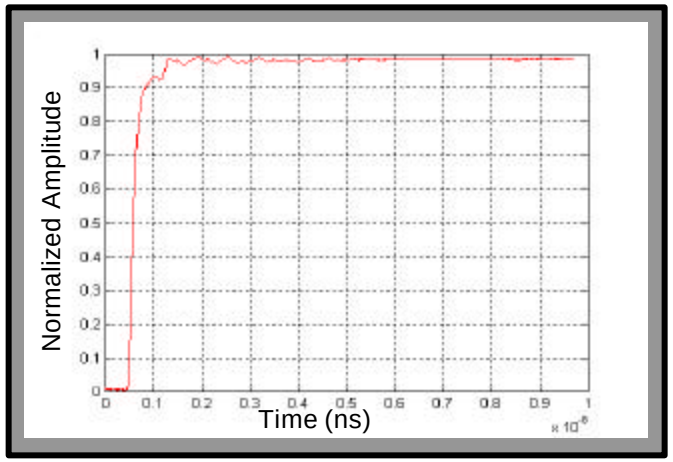


Amp. = 1070mVppd @ TP2



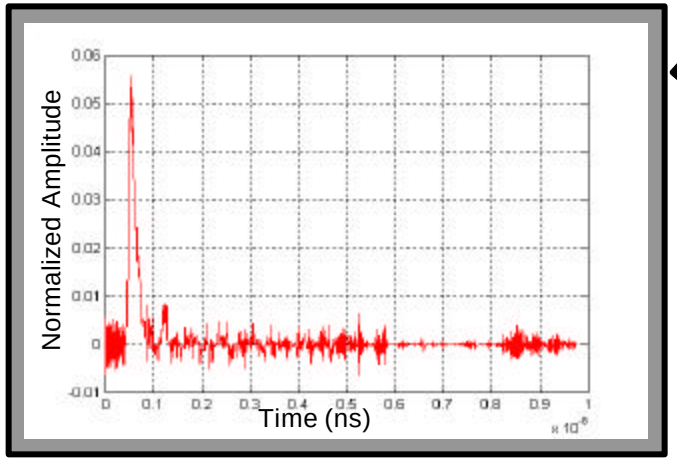
Amp. = 934mVppd @ TP2

Transmitter Insertion Loss Model



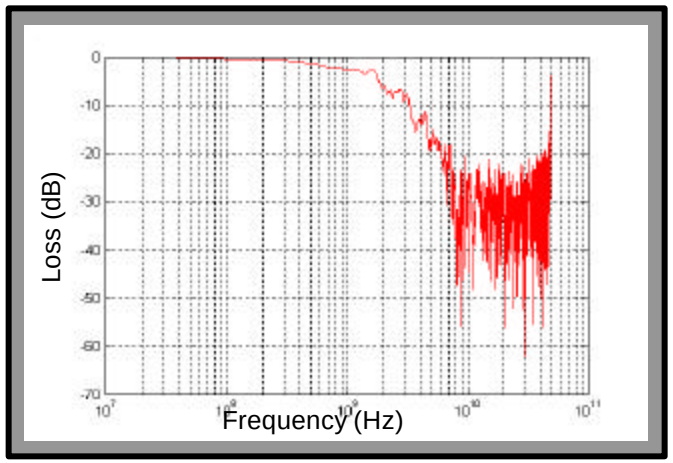
Step Response

Matlab
DIFF

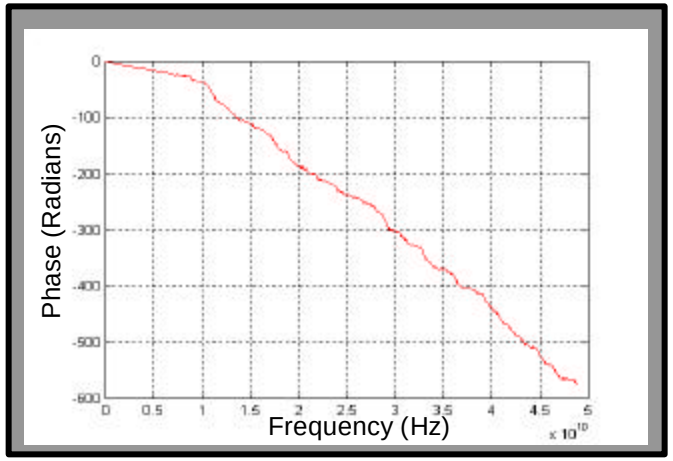


Inpulse Response

MATLAB
FFT

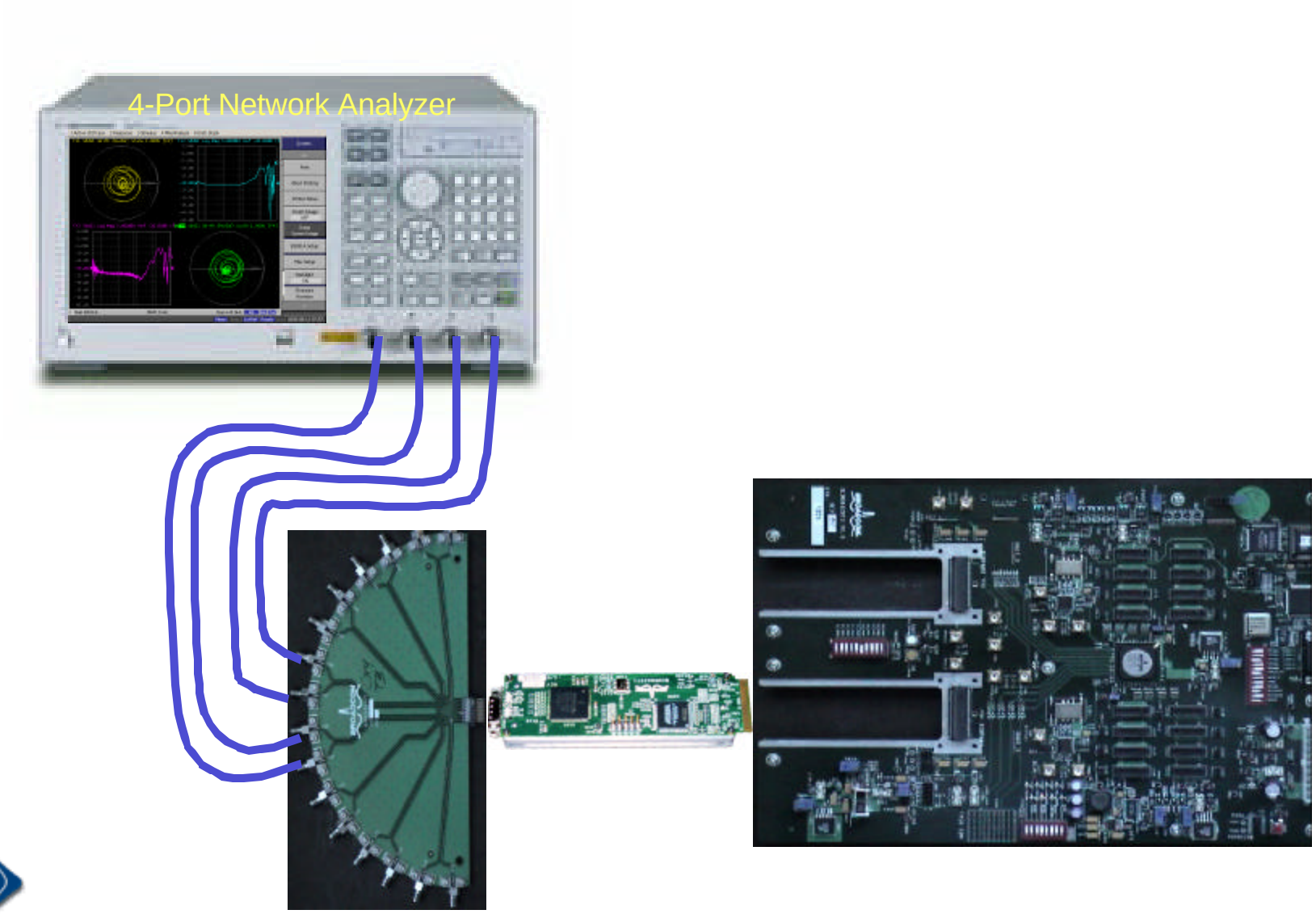


Magnitude Response



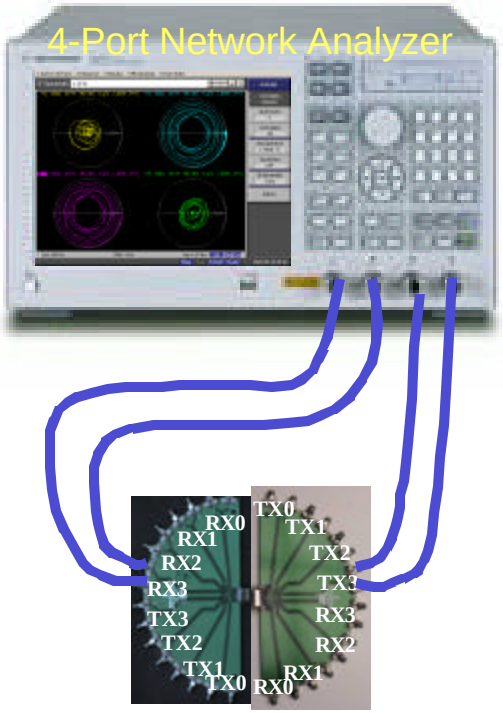
Phase Response

Transceiver Return Loss Lab Setup

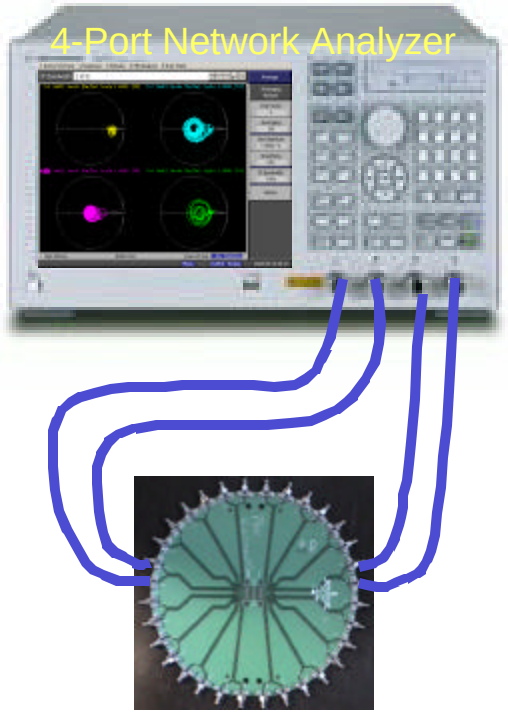


Transceiver Return Loss Calibration

Replica board, w/o connectors, built to calibrate out the affects of PCB traces and SMAs

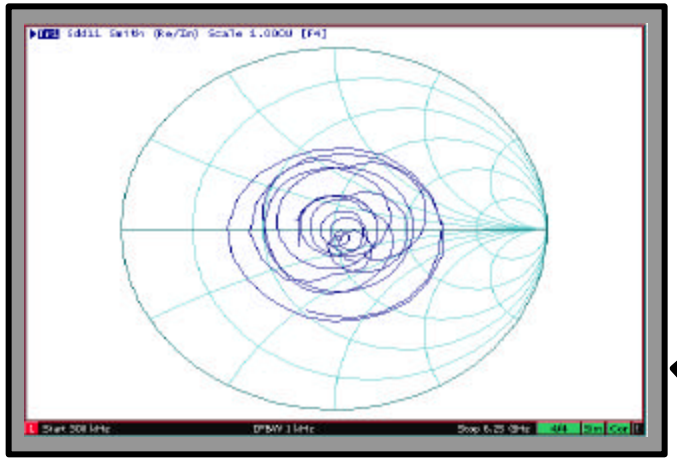


Connector Calibration

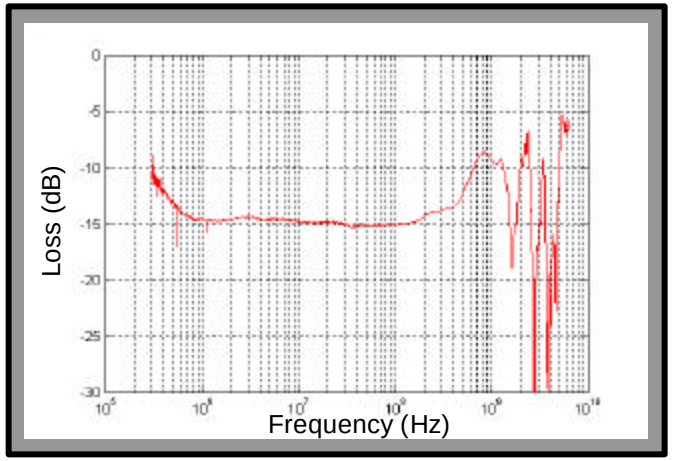


Through Calibration

Transmitter S11

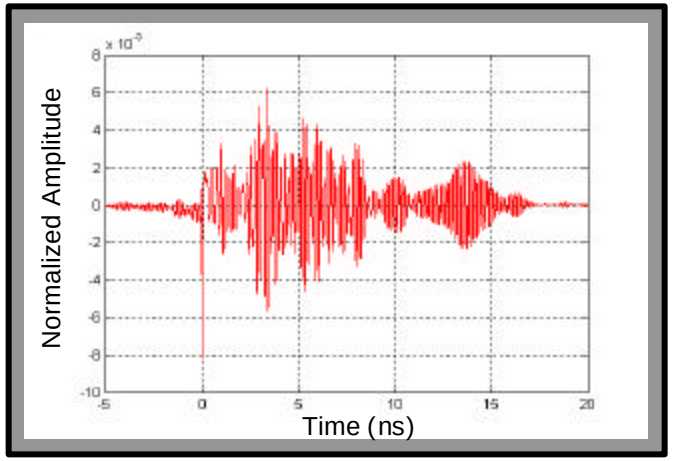


MATLAB
rect 2 polar

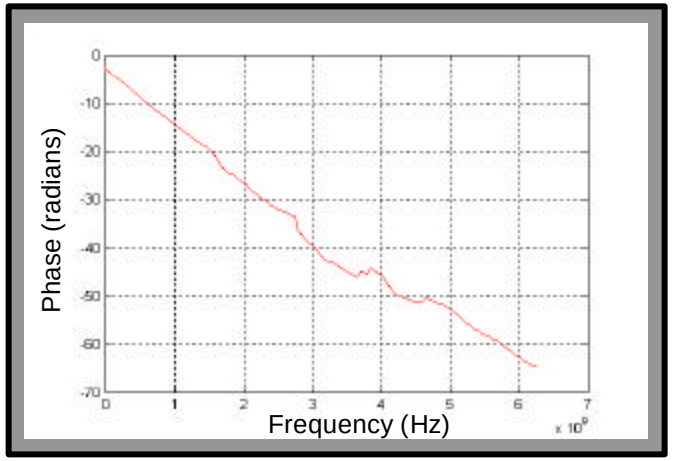


Magnitude Response

MATLAB IFFT

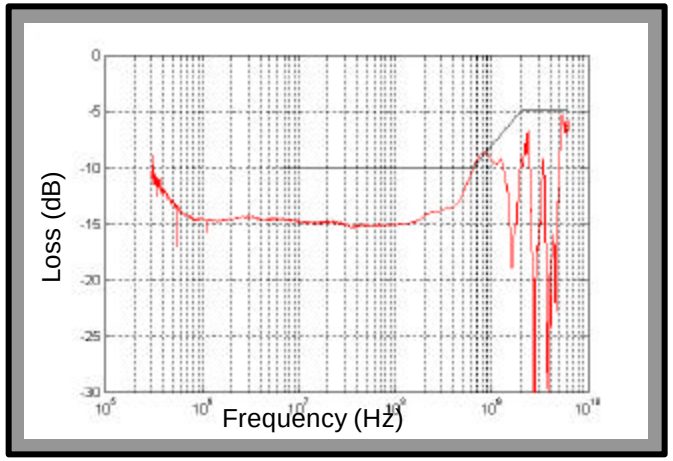


Inpulse Response

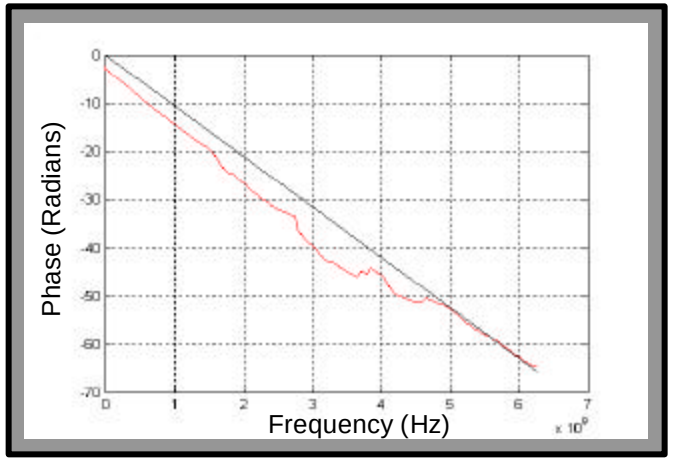


Phase Response

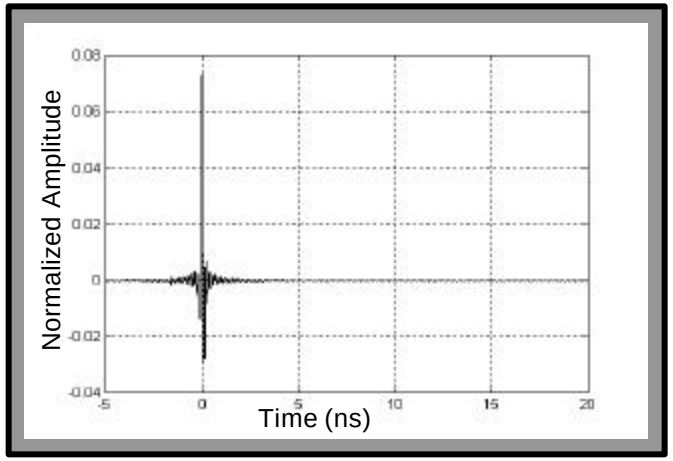
Transmitter Return Loss Model



Magnitude Response

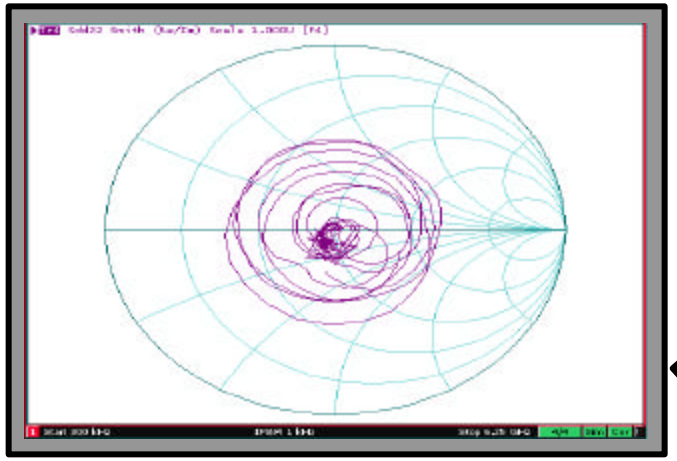


Phase Response

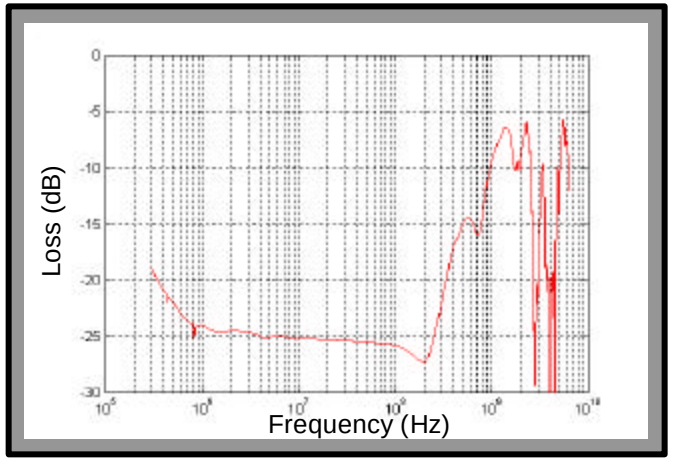


Inpulse Response

Receiver S11

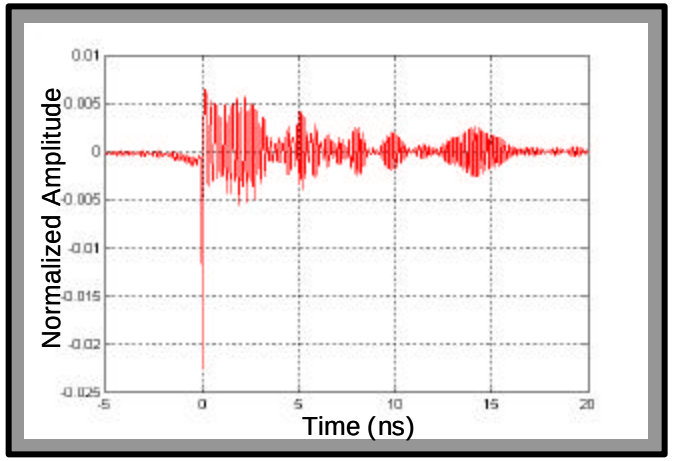


MATLAB
rect 2 polar

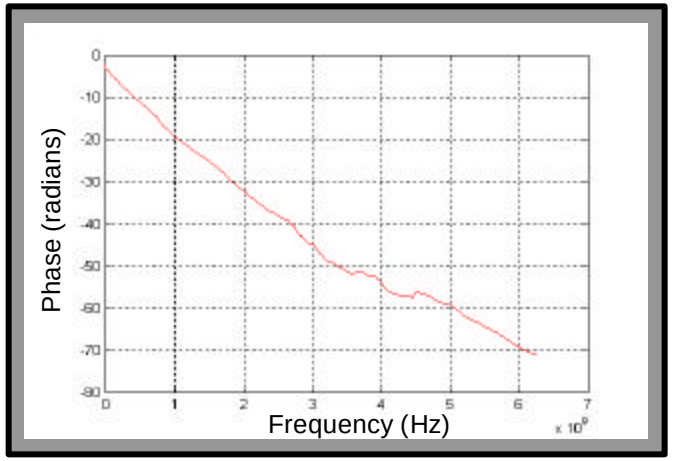


Magnitude Response

MATLAB IFFT

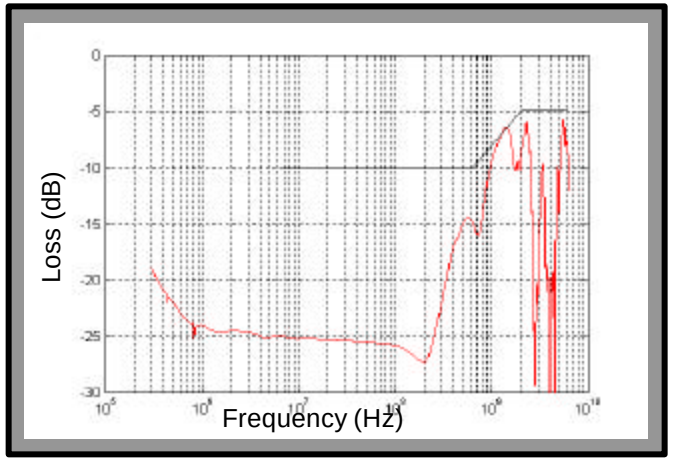


Inpulse Response

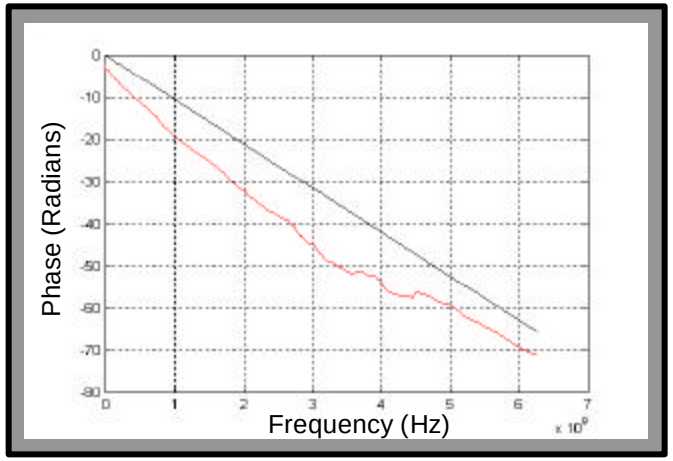


Phase Response

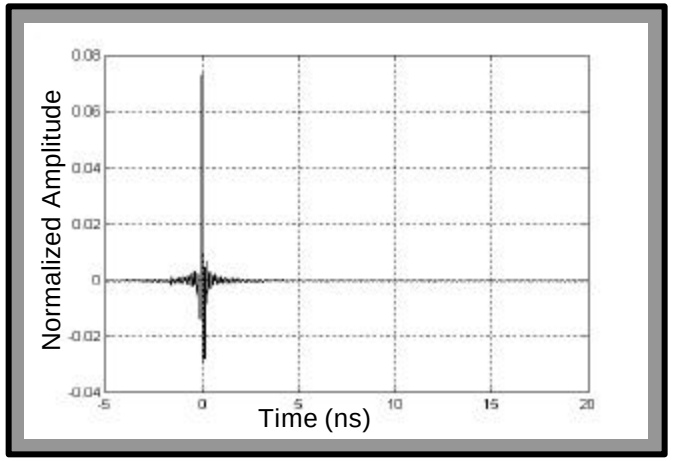
Receiver Return Loss Model



Magnitude Response



Phase Response



Inpulse Response