Gigaprobes™ Measurement Tips

Making TDR measurements using Gigaprobes™

- ALWAYS clean the Gigaprobes™ tips and PCB BEFORE probing with the supplied PCB cleaner pin. This procedure will minimize the amount pressure needed to make accurate TDR measurements by eliminating the oxide from the probing surfaces. The reduced probing pressure will also minimize the chances of breaking or bending the probe tips.

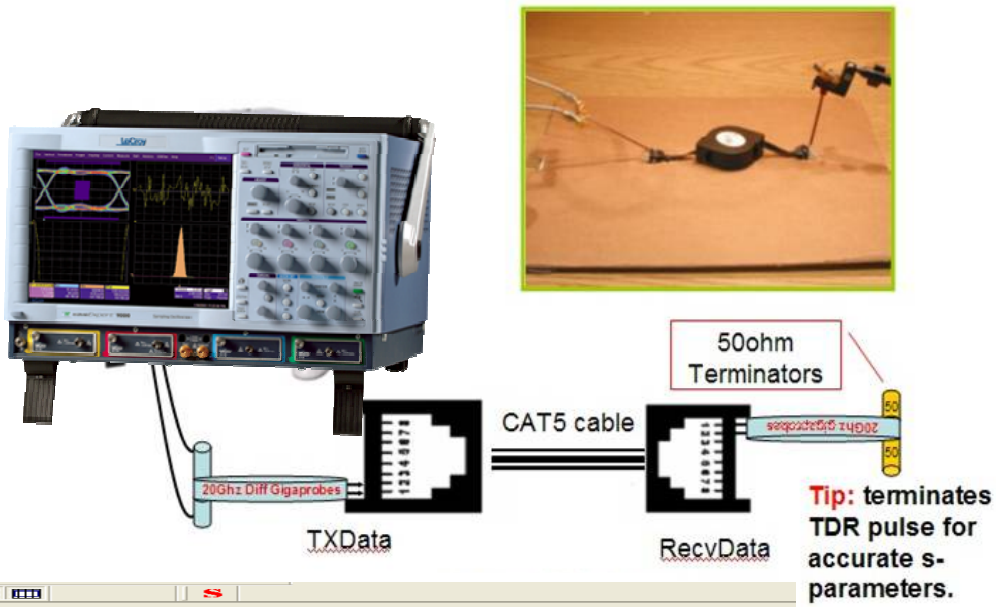
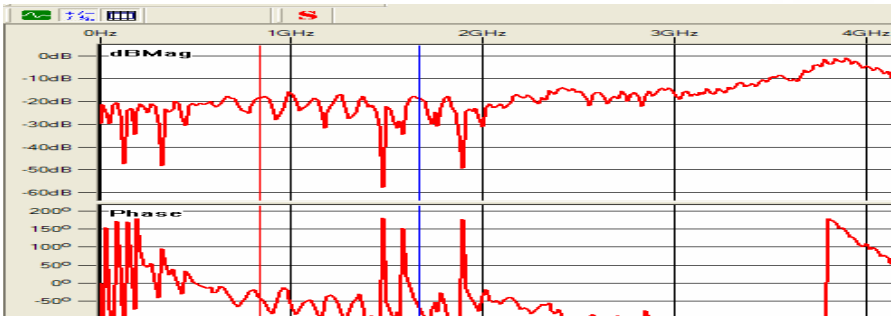
- Probe directly down in the vertical direction to apply the least amount of pressure on the probe tips. The Gigaprobes sharp tip can break through the oxide easier and will less likely bend the probe tips.

- Allow the TDR to warm up at least 20 min. before making TDR measurements

- If making Differential TDR measurements, de-skew the TDR channels to the Gigaprobes(tm) probe tips prior to making measurements. This will assure accurate differential TDR measurements

- DO NOT SOLDER the probe tips to the test point. This will violate the warrantee. The heat will melt the dielectric material in the probe and can change the impedance value. The weight of the probe combined with the cable can bend the probe tips and cause them to break.

Making Accurate S11 S-parameters

Creating accurate S-parameters requires a 50 (single ended) or 100 ohm (differential) termination on the Far end of the transmission line. If the transmission line is NOT terminated, put a 50 ohm for single ended or two 50 ohm SMA terminators for a differential measurement on one of the Gigaprobes™. Put this probe on the un-terminated end. Use the other Gigaprobes™ to launch the TDR pulse. Your instrument can now convert the Time Domain TDR waveform into S parameters and the S11 plot will be accurate. This technique also applies to IConnect® users when using the S-parameters function.

The setup below demonstrates this technique on a CAT-5 cable.