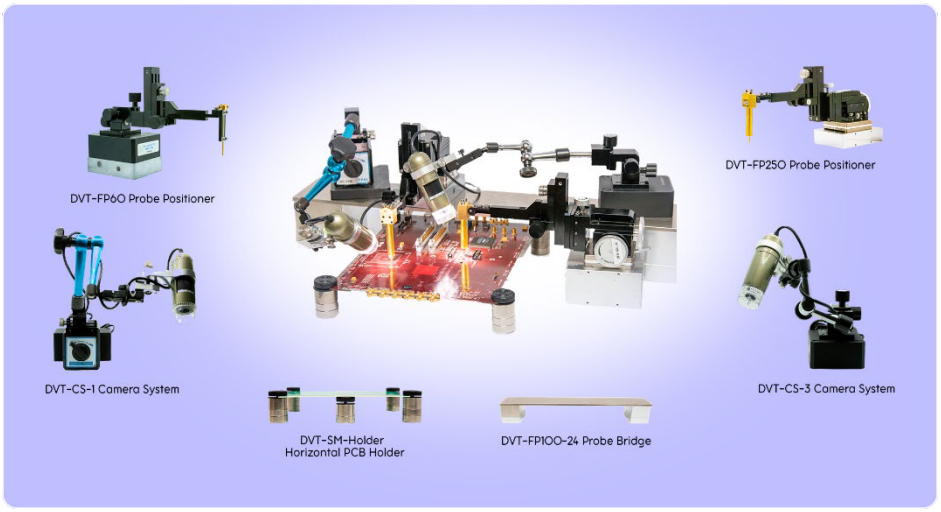

Before you select a probe for testing prototype PCB designs, scan the above QR Code 1 to share this video on The History of the Differential Probe. Scan QR Code 2 to learn about our DVT-FPP 40/50/70 GHZ High Fidelity Probes.

In 2005, the DVT30 1st multi-mode GigaProbes® TDR Probe was used to characterize the early differential trace impedances on prototype PCBs connecting LVDS I/O digital drivers. The DVT30 was the first differential probe not needing a physical ground reference to measure differential TDR impedance.

In 2011, the DVT40 Multi-Mode TDR and VNA Probe was developed as a collaborative effort to create the first 40 GHz variable-pitch multi-mode probe. Introduced at DesignCon 2011, it was paired with the new 40 GHz 4-port VNA, delivering to engineers a low-cost 40 GHz differential PCB probing system for measuring differential S-parameters and impedances. The DVT40 introduced probe tips plated with 4-6 um of conductive diamonds for easier cutting through surface oxides.

In 2019, DVT-FFPXX High-Fidelity 40 GHz - 70 GHz differential probes were developed to probe 1.0 mm wide pitches. Typical applications include characterization of transmission lines and devices which are compliant to the industry's cutting-edge high-speed standards such as PCIe 5.0/6.0, 802.3ck, and Infiniband 104G-IB-EDR.

Key Takeaways

- ✓ How to use differential probes to validate that prototype PCB passive signal structures match the product design before releasing the board for active testing.
- ✓ A guide to choosing the right probe to measure 1 mm pitch test pads on PCBs and significantly reduce measurement error.
- ✓ How to determine whether the PCB manufacturer has the capability to produce high-speed boards in the quantities required by testing a prototype using differential probes.
- ✓ Which S-parameter measurements are recorded by the VNA when making time and frequency measurements with a differential probe?
- ✓ Recommended software to create differential probe models used by the VNA for de-embedding a differential probe.
- ✓ At the end of the video, components are shown for configuring a vertical or horizontal desktop probing system.

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