Impedance Standard Substrate Map

Impedance Standard Substrate For Up to 67 GHz

Pitch: 175 µm - 250 µm, Configuration: GSSG, GSS, SSG, GS

P/N: 129-247

S/N: 899104
Substrate specifications: Alumina; Thickness: 25 mils (635 μm); Dielectric constant: 9.9

For optimum calibration accuracy only the Red-marked load standards should be used.

DC accuracy: +/- 0.3 %

Note: Ensure the bias supply is turned off during calibration. Applying bias to the probe during calibration could cause the resistance of the load to change.

Loop-Back Thru Delay: 1.3ps

Cross Thru 2 Delay: 2.6ps

Precision 50 Ω Load

All of the above specifications are based on the recommended overtravel (downward movement of probe after initial touchdown on the substrate) listed above. This amount of overtravel can be set before calibration on the Impedance Standard Substrate (ISS) using the alignment marks (allows precise setting of probe separation and overtravel). Figure 1 shows that initial contact with the edge of the probe tips should be made at reference plane X. The desired overtravel and thus skate (forward movement of probe tips after initial contact with substrate) is then achieved by adjusting the Z height on the positioner to move the edge of the probe tips to reference plane Y. This can also be seen from the photographic images shown in Figure 2.

Calibration Coefficients

Calibration coefficients are dependent on the probe tip configuration, placement on a standard, and the shape and configuration of the set of standards. This leads to unique calibration coefficients for a unique pair of probe and ISS. Therefore, the calibration coefficients are supplied with the probe not with the ISS.