

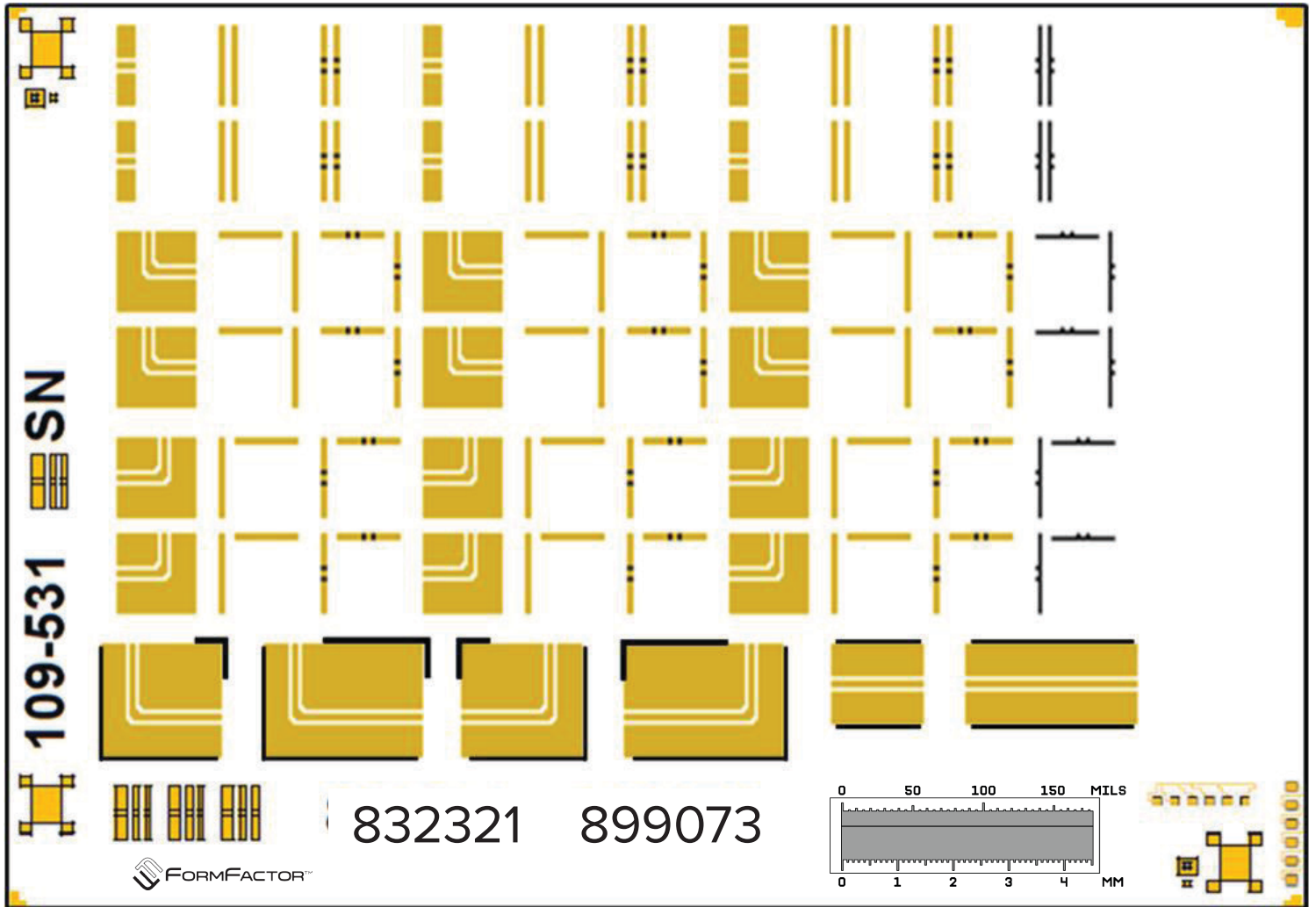
Cascade Impedance Standard Substrate Map

➤ Right Angle Impedance Standard Substrate For Up to 67 GHz














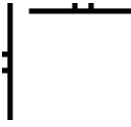

Pitch: 100 μm - 500 μm , **Configuration:** Ground-Signal-Ground

P/N: 109-531

S/N:



Substrate specifications: Material: Alumina; Thickness: 625 $\mu\text{m} \pm 25 \mu\text{m}$; Dielectric constant: 9.9

Orientation	Thru	Short	Load	Alignment Marks	Verification Lines
Straight (W-E)	 Delay: 1.0 ps Length: 195 μm Impedance: 50 Ω		 Impedance: 50 Ω DC accuracy: $\pm 0.3\%$	 106 μm	 Length: 1730 μm 3200 μm
Angled (N-E)	 Delay: 9.2 ps				 Delay: 16.9 ps 24.6 ps
(N-W)	 Delay: 9.2 ps				 Delay: 16.9 ps 24.6 ps

Notes:

- An **Open** is synthesized by raising the probes in air a minimum distance of 250 μm above the chuck surface.
- Precision 50 Ω Load
 - For optimum calibration accuracy only the **Red** -marked load standards should be used.
 - 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.
- Recommended Overtravel; ACP Probes; 75 – 125 μm , Infinity Probes; 50 – 75 μm

Figure 1 shows that initial contact with the edge of the probe tips should be made at reference plane X (midpoint between the outer flat edge and the internal apex). 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 (midpoint between the internal apex and the flag points). This can also be seen from the photographic images shown in Figure 2.

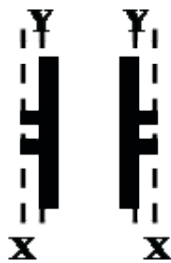


Figure 1: Alignment marks

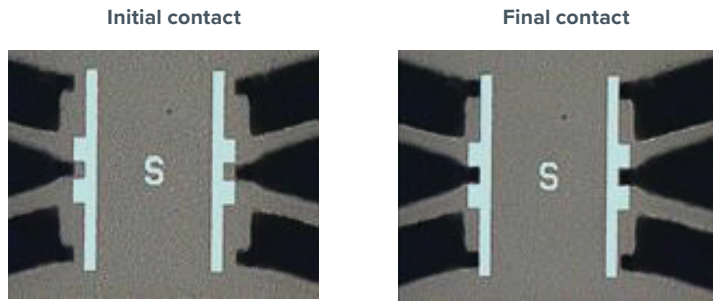


Figure 2: Images showing correct alignment and placement of probe tips

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.

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