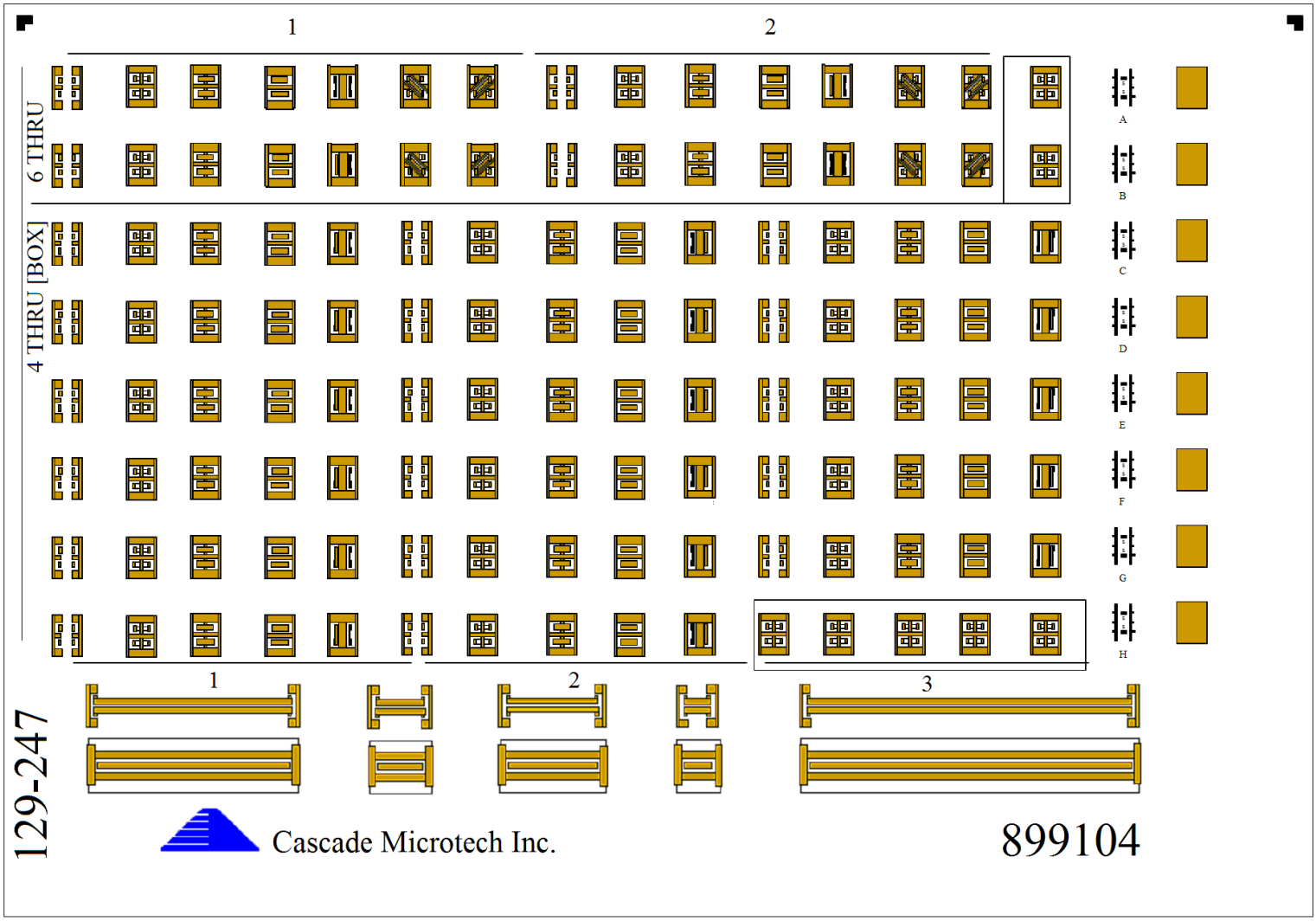
Cascade
Impedance Standard SubstrateMap

P/N: 129-247

Pitch: **175 µm - 250 µm**

Configuration: **GSSG, GSS, SSG, GS**



Key to Map

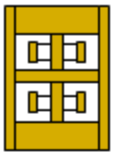
Key to the 129-247 Map: **Substrate specifications: Material: Alumina; Thickness: 25 mils (635 um); Dielectric constant: 9.9**

Thru
Delay: 2.0ps

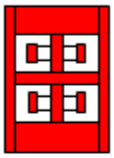
Loop-Back Thru
Delay: 1.3ps

Or

Cross Thru 2
Delay: 2.6ps



Load

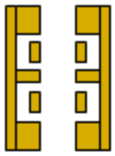


Precision 50 Ω Load

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

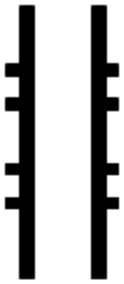
DC accuracy:
+/- 0.3 %

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.



Open

Short



A-H
Alignment Marks
See below for more information on alignment marks.

	Verification Lines (from left to right)				
Thru Delay (ps)	27	7	14	3	40
Length (um)	3500	900	1800	450	5250

	Overtravel
ACP	75 - 100 um
Infinity	50 - 75 um

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.

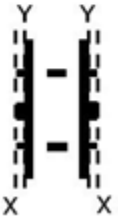


Figure 1: Alignment marks

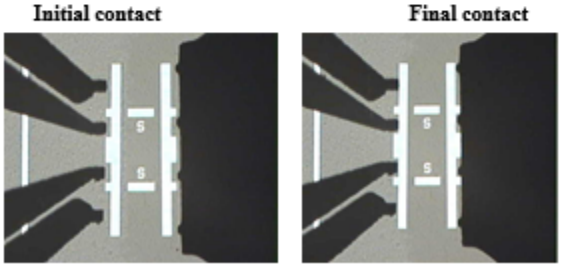


Figure 2: Images showing correct alignment and placement of probe tips of both ACP and Infinity style probes.

Calibration Coefficients are dependent on the probe tip configuration, placement on a standard, and the standard configurations. 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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