Cascade
Impedance Standard Substrate Map

Multiline TRL Calibration Substrate

Pitch: 50 μm, Frequency: WR-2.2 – WR-5.1, Configuration: Ground-Signal-Ground

P/N: 172-886

S/N:

Calibration Sites: 12  Site Spacing: 6000 μm x 2650 μm
Key to Map

*West Probe Fixed Index Step:* 1000/1250 µm (as shown) x 650 µm, *Alignment Mark Offset:* 325 µm Step North

![Map Diagram]

**Note:** Line lengths are specified as conductor edge-to-edge dimension.

**SPECIFICATIONS**

- **Substrate Material:** High-resistivity Silicon, **Substrate Thickness:** 275 µm, **Dielectric Constant:** 11.8, **Nominal Line Z₀:** 50 Ohm

**OVERTRAVEL AND ALIGNMENT**

Prior to contacting the calibration standards, alignment and overtravel should be set using the alignment marks. On initial contact, the leading edge of the probe contacts should be aligned with the outmost edge “A” of the alignment mark, shown in Figure 1. To reach final contact, overtravel should be increased until the leading edge of the probe contacts is aligned with the innermost edge “B” of the alignment mark, shown in Figure 2.

**Note:** Calibration substrate must be mounted on an absorber material (such as ISS Holder P/N 116-344).

![Initial Contact](image1)

![Final Contact](image2)

**RECOMMENDED LINE CONFIGURATIONS**

<table>
<thead>
<tr>
<th>Band</th>
<th>WR-2.2 (325 - 500 GHz)</th>
<th>WR-3.4 (220 - 330 GHz)</th>
<th>WR-4.3 (170 - 260 GHz)</th>
<th>WR-5.1 (140 - 220 GHz)</th>
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<tbody>
<tr>
<td>Lines</td>
<td>Thru</td>
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