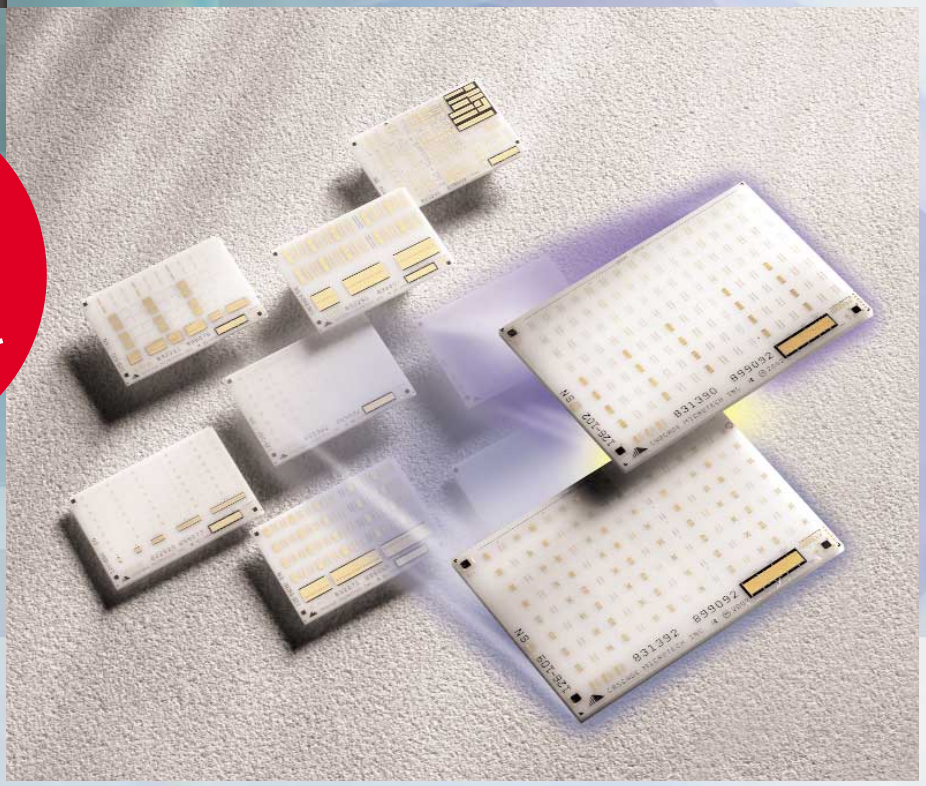




New series of dual/differential calibration standards for use to 50 GHz

Impedance Standard Substrates to support all of your high-frequency probing applications.

Using Cascade Microtech's family of Impedance Standard Substrates (ISS) ensures greater accuracy and better repeatability in on-wafer calibration of vector network analyzers.

- Precision 2-port, 3-port, and 4-port network analyzer measurements
- Multiport applications
- Differential applications

CASCADE® MICROTECH

Innovating Test Technologies®

Features

- Non-dispersive calibration standards, usable through 110 GHz
- Supports SOLT, SOLR, TRL, and LRM/LRRM calibrations
- Dedicated substrates for GS/SG and GSG contact configurations maximizes the number of usable sites per ISS
  - Supports 50 µm to 3000 µm pitches
- Dedicated substrates for dual signal RF probes
  - Supports 100 µm to 250 µm pitches
- Alignment marks provided to improve probe placement accuracy
- Layouts optimized for use with autoprobers
- Precision DC-trimmed, 50 ohm terminations
- NIST verified LRM/LRRM calibration accuracy with VNA calibration software for Summit-series probe stations
- General purpose elements for membrane and other fixed position RF probe cards

Benefits

- Fast, accurate, and repeatable high-frequency wafer probe calibrations
- Durable, precision calibration elements
- Dedicated calibration substrates for W-band and wide-pitch calibrations
- LRM/LRRM calibrations with WinCal® calibration software for 2-port VNAs provide highest accuracy in the industry
- Auto-calibration compatibility allows "single button" wafer probe calibration
- Enables differential calibrations
- 4-port calibration capability

Specifications

Substrate

Material: Alumina 99.6%
Thickness: 625 µm ±25 µm (25 mils ±1 mil)
Dielectric constant: 9.9
Loss factor (@ 1 MHz): 0.001

Supported probe heads

Footprints: GS, SG, GSG
– Pitch: 50 to 3000 µm (2 to 50 mils)
Footprints: GSGSG, GSGSG, SGSG, SGS
– Pitch: 100 to 250 µm (4 to 10 mils)
Footprints: GSSG, GSS, SSG, SS
– Pitch: 100 to 150 µm (4 to 6 mils)

Calibration standards

Spaced on 1270 x 1270 µm centers (50 x 50 mil centers)
50 ohm terminations:
DC accuracy: ±0.3% (except 106-686 which is ±1%)
TCR: +50 ppm/°C (NiCr) to -125 ppm/°C (TaN)
Stability: 0.5%
Maximum power: 0.25 W
VSWR for 101-190 and 114-456 only with 25 µm (1 mil) overlap:

<26.5 GHz	1.03:1
26.5 to 50 GHz	1.05:1
50 to 65 GHz	1.07:1
65 to 75 GHz	1.09:1
75 to 110 GHz	1.10:1

Thru lines (101-190 only):
Impedance: nominally 50 ohms
Physical length: 200 µm (8 mils)
Shorts (101-190 only):
50 x 500 µm bars (2 x 20 mils)
Additional verification lines:
Impedance: nominally 50 ohms
Scale (located right corner):
Upper scale: 180 mils @ 125 µm (5 mils)/div.
Lower scale: 4.5 mm @ 100 µm (4mils)/div.

Part #	Description	Cal Sites	Pitch µm
005-016	General purpose	Cal sites vary	
101-190	LRM	27 GSG	100-250
103-726	GS	27 GS or SG	100-250
104-783	W-band	27 GSG	75-150
104-909	Narrow pitch	13 GSG, 7 GS, 7 SG	50-150
106-682	Wide pitch GSG	8 GSG	250-1250
106-683	Wide pitch GS/SG	8 GS, 8 SG	250-1250
106-686	GP membrane	25 loads	80-3000
108-010	Very wide pitch GSG	4 GSG	150-3000
108-011	Very wide pitch GS/SG	4 GS, 4 SG	150-3000
109-531	Right angle	5 N-E, 5 N-W, 5 E-W	100-500
114-456	ACP-RC	27 GSG	100-150
126-102	Dual/Differential	21 GSGSG, SGS, SGSG, GSGS	150
126-109	Dual/Differential	27 GSSG, SSG, GSS, SS	100-150
129-239	Dual/Differential	21 GSGSG, SGS, SGSG, GSGS	100-125
129-240	Dual/Differential	21 GSGSG, SGS, SGSG, GSGS	150-225
129-241	Dual/Differential	14 GSGSG, SGS, SGSG, GSGS	250

Standard accessories

Wafer map indicating location of trimmed match standards (114-456, 129-239, 129-240, 129-241 have a trim indicated by mark on substrate)

Optional accessories

WinCal calibration software for manual stations 125-116
WinCal calibration software for semi-automatic stations 125-115
WinCal calibration software demo 125-114
Absorbing ISS holder. . . . . 116-344 (recommended for 104-783, 126-102, 126-109, 129-239, 129-240, 129-241)

Ordering Information

See table at left

CASCADE® MICROTECH

Innovating Test Technologies® for better measurements faster

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