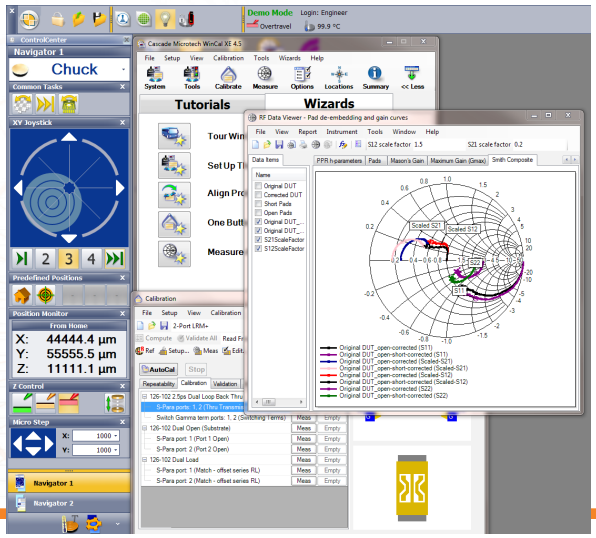
WinCalXE

High-performance RF calibration software



DATA SHEET

Cascade Microtech's WinCalXE™ software is a comprehensive and intuitive on-wafer RF measurement calibration tool to achieve accurate and repeatable S-parameter measurement, which is crucial for precision device modeling/characterization and engineering RFIC test.

The WinCalXE features a guided system setup complete with customizable Wizards to ensure fast and easy access to reliable VNA calibration and repeatable data. Automated and intelligent functions minimize operator errors and troubleshooting time, resulting in reliable and accurate results and higher productivity.

The WinCalXE features include exclusive 1-, 2-, 3-, and 4-port calibration algorithms, immediate and live data measurement and viewing, LRRM™, LRM+™, SOLT-LRRM hybrid and NIST-style multi-line TRL calibrations, as well as an Error Set Management capability for data comparison and augmentation.

The latest version, WinCalXE 4.7, covers all of Cascade Microtech's probe families - T-Wave™ Probes, Infinity Probes®, ACP probes and |Z| Probes®, and is compatible with Velox™, Nucleus™ and ProberBench™ prober control software.

FEATURES / BENEFITS

Automatic calibration setup, measurement, result data conversion and report creation	Extensive guidance facilitates correct system setup and calibration
	Error Set Manager provides error-set augmentation and error-set comparison tools
	ISS management function prevents accidental navigations to the invalid calibration sites
	S-parameters can be converted to a device-appropriate or preferred format
	Display templates and Wizards can be customized for your specific needs
Accurate and advanced multi-port calibrations	LRRM-SOLT hybrid calibration method enables precision 4-port calibrations
	Multi-line TRL cal compares your preferred calibration methods to a NIST style calibration
	Second-tier calibration capability simplifies mixed-connector/probe-tip reference plane calibration
	Supports up to 12 VNA ports that can be mapped to four logical ports for calibration
Achieve the most repeatable calibrations every time	Automatic Load inductance compensation removes any probe placement errors experienced during the calibration procedure

CascadeMicrotech®

COMPATIBLE SYSTEM CONFIGURATIONS

Cascade Microtech's semi-automated probe stations with Velox 2.0.2 or later, ProberBench 7 or later, or Nucleus 4.0 or later, optional programmable positioners and VNA

Manual probe stations with VNA

Virtual mode – simulated VNA, with manual or semi-automated probe station

Compatible with a wide variety of probes and calibration standards
Supports T-Wave, Infinity, ACP and |Z| Probe families
Supports ISS and CSR calibration standards, and multiline TRL substrates

Compatible with most industry standard network analyzers
Supports Keysight (formerly Agilent), Anritsu, Rohde & Schwarz analyzers

VNA SUPPORT

Supported VNAs	**Tested Models and Firmware Version (FW)**
Keysight 8510C	8510C - 7.14, 7.16, 8.10 (8510B is not supported)
Keysight PNA and PNA-X	2-port FW 4.x can only use the limited "PNA, legacy support for FW 4.x (GPIB only)"
	PNA FW 5.0 - 9.3 can only use "PNA, Legacy support for FW 5.0 - 9.3 (VISA)"
	PXI chassis based PNA, FW 3.0 or later and any port configuration of PNA or PNA-X. FW 9.43 or later can use "PNA, current FW (VISA)"
Keysight ENA	E5070/71-B FW 6.01 or later
	E5070/71-C FW 9.3 or later
	E5061-B FW A.02.06 or later
	E5063A FW A.01.02, SOLT only
	E5070/71 needs FOM option for advanced calibrations
	E5072A A.01.06 or later
	ENA-L is not supported
	E5080A uses the PNA current FW driver
Keysight	8719, 8720, 8722, 8753 FW 6.x or later
Anritsu Lightning™	37xxx-series 2-port, FW 5.03 or later
Anritsu Scorpion®	MSxxx-series 2-, 3- or 4-port, FW TA2.03 Sensor-only ports will not be calibrated
Anritsu VectorStar™	46xx series 2-port and 4-port (with external test set), FW 1.2 or later
Rohde & Schwarz	ZVA, ZVB (FW 2.02 or later and ZNB (FW 2.6 or later)

WinCalXE should work with all models similar to those tested.

SYSTEM REQUIREMENTS

Minimum	1 GHz CPU 5 GB hard disk space available 1024 x 768 display resolution and medium color quality (16-bit) Windows XP (Service Pack 3), Windows 7 (32 or 64-bit) or Windows 8.1 (32 or 64-bit) or Windows 10 (32 or 64-bit)
Semi-automated probe station control	Velox 2.0.2 or later, Nucleus 4.0 or later, or ProberBench 7 or later
Connected VNA and/or probe station using VISA-based GPIB, LAN or USB	National Instruments hardware: NI-VISA 5.4, NI-488.2 2.3 or later Keysight hardware: IO Libraries 16.x or later
Tutorials requirements	Internet Explorer 8.0 or later Windows Media Player 9.0 Sound card and speakers
Recommended requirements for optimal performance	A modern, high-performance CPU 4 GB RAM or more 1280 x 1024 display resolution or better, high color quality (32-bit) Three-button or scroll-wheel mouse to enable panning in RF Data Viewer graphs

** No support given on systems with old drivers- suggest downloading free upgrades available from vendor. A warning is displayed at runtime if an older driver is found.*

ORDERING INFORMATION

Part Number	Description
168-690	WinCal XE, full version (download)
168-691	WinCal XE, 30-day demo (download)
168-672	WinCal XE, field upgrade from demo to full version
168-673	WinCal XE, university version

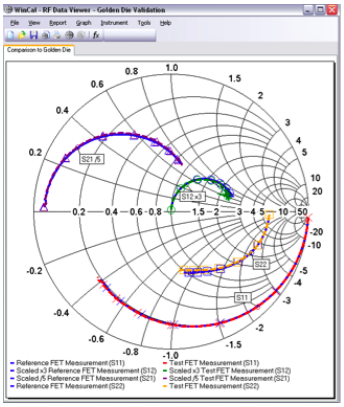
ISS SUPPORT

Part Number	Description
101-190	LRM, GSG
103-726	GS, 100-250 µm
104-783	W-band, GSG, 75-150 µm
106-682	Wide pitch, GSG
106-683	Wide pitch, GS, SG
109-531	Right angle, GSG, 100-400 µm pitch
114-456	ACP-RC, 100-150 µm
126-102	Dual/Differential, GSGSG, GSGS, SGSG, SGS, 150 µm
129-239	Dual/Differential, GSGSG, GSGS, SGSG, SGS, 100-125 µm
129-240	Dual/Differential, GSGSG, GSGS, SGSG, SGS, 150-225 µm
129-241	Dual/Differential, GSGSG, GSGS, SGSG, SGS, 250 µm
129-246	Dual/Differential, GSSG, GSS, SSG, GS, 100-150 µm
129-247	Dual/Differential, GSSG, GSS, SSG, GS, 175-250 µm
129-248	General Purpose Thru, GSGSG (300-650 µm), GSSG (300-950 µm)
129-249	General Purpose Thru, GSGSG (700-1250 µm), GSSG (1000-1250 µm)
138-356	mmWave ready (220 GHz), GSG, 50-75 µm
138-357	mmWave ready (220 GHz), GSG, 100-150 µm
104-909	Narrow pitch, GSG/GS/SG, 50-150 µm
143-033	LRM, GSG, W band, 50-150 µm
108-010	Wide pitch, GSG, 150-3000 µm
108-011	Wide pitch, GS/SG, 100-3000 µm

User-defined sites custom calibration sites are supported through the powerful Location Manager function

CSR SUPPORT

Part Number	Description
41702	|Z| Probe, CSR-4, GSG, 250-500 µm
41704	|Z| Probe, CSR-5, GS/SG, 250-500 µm
56407	|Z| Probe, CSR-6, GS/SG, 50-250 µm
62025	|Z| Probe, CSR-8, GSG, 100-250 µm
73319	|Z| Probe, CSR-9, GSG, 50-150 µm
62563	|Z| Probe, CSR-15, GSG, 500-1250 µm
69061	|Z| Probe, CSR-16, GS/SG, 500-1250 µm
71391	|Z| Probe, CSR-17, GSG, 1000-2500 µm
67074	|Z| Probe, CSR-18, GS/SG, 1000-2500 µm
51077	|Z| Probe, CSR-30, GSGSG, 100 µm
51078	|Z| Probe, CSR-31, GSGSG, 150 µm
51079	|Z| Probe, CSR-32, GSGSG, 200 µm
51080	|Z| Probe, CSR-33, GSGSG, 250 µm
51081	|Z| Probe, CSR-34, GSGSG, 500 µm
51082	|Z| Probe, CSR-35, GSGSG, 125 µm
51874	|Z| Probe, CSR-41, GSSG, 125-150 µm
51875	|Z| Probe, CSR-43, GSSG, 200-250 µm
51876	|Z| Probe, CSR-44, GSSG, 400-600 µm
52379	|Z| Probe, CSR-40, GSSG, 100 µm
53527	|Z| Probe, CSR-50, SGS, 100 µm
53528	|Z| Probe, CSR-51, SGS, 125-150 µm
53529	|Z| Probe, CSR-53, SGS, 200-250 µm
53530	|Z| Probe, CSR-54, SGS, 400-500 µm
71392	|Z| Probe, CSR-101, GSG/GS/SG, 100-300 µm
136643	|Z| Probe, Calibration substrate in a silicon wafer



When the corrected S-Parameter measurements are acquired from the device under test, WinCalXE 4.7 offers a variety of options for formatting, transforming and displaying the result

WinCalXE-DS-0916

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