Anritsu

36584 Series AutoCal®

VNMS 4-Port Automatic Calibrators

Fast, Accurate and Repeatable Vector Network Measurement System Calibrations

FOUR-PORT AUTOCAL® PERFORMANCE HIGHLIGHTS

- Ideal for the Manufacturing Environment
- Eliminates Unreliable Measurements due to Inaccurate Manual Calibrations
- Decrease Downtime with Fast 2, 3 or 4-Port Calibrations
- Scorpion® VNMS Directly Controls AutoCal Module
- Accuracy that Exceeds OSLT Calibration, with Broadband Loads
- Characterized Modules Traceable to NIST
- Frequency Range of 10 MHz to 9 GHz
- Two-Port Configuration is also Available

Overview

The 36584 series AutoCal® modules are automatic calibrators that provide fast, repeatable and high-quality coaxial calibration for 2, 3 and 4-port S-parameter requirements. These modules contain precisely characterized calibration standards that aid in the removal of normal systematic errors of Vector Network Analyzers.

Models

The four-port AutoCal® modules are available with N or K connections as shown in the following table.

Part Number	Description
36584KF	4-Port AutoCal, K(f) type, 10 MHz to 9 GHz
36584NF	4-Port AutoCal, N(f) type, 10 MHz to 9 GHz

Characterization Data

The AutoCal module is guaranteed to perform within specification for six months without re-characterization. This characterization data is supplied with the module for use during the calibration process.

After six months, the module can be conveniently re-characterized using Scorpion or by returning the module to your local service center. The process to re-characterize the module involves using a high-quality calibration to measure the AutoCal module. The resulting measurements are then saved as characterization data for use during subsequent calibrations.

Characterization Flexibility

AutoCal includes module characterization disk, power supply and serial cable to support both K and N-type connector calibrations. For measuring devices with other than these connectors, Scorpion enables characterizing the AutoCal module with the desired adapters for subsequent use during auto-calibrations.

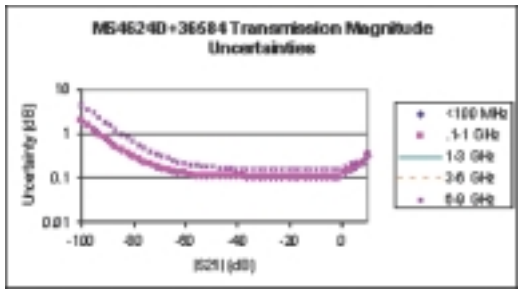
EASY-TO-USE WITHOUT COMPROMISING ACCURACY

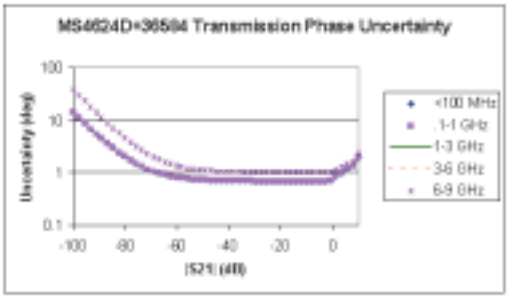
Easy-to-Use

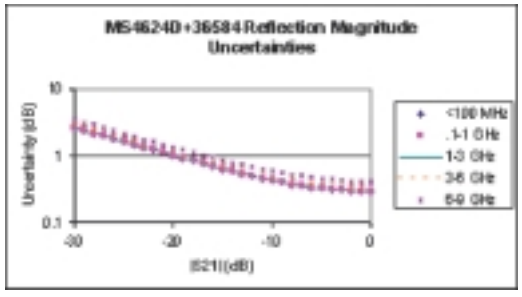
Compared to the time-consuming manual OSLT calibrations, this auto-calibration approach can dramatically increase DUT throughput by simply reducing the time it takes for calibration. The following photo shows how to use AutoCal instead of the 15-18 component connections typically required for a 4-port calibration. Once connected, Scorpion quickly orchestrates full 2, 3 or 4-port calibrations depending upon the measurement requirements.

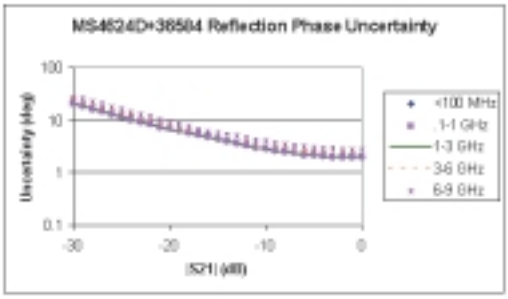
Uncertainties

Repeatable, accurate and stable measurements are expected when characterizing devices in both R&D and manufacturing environments. The following typical uncertainties, as a function of device transmission and match, show how the 36584 AutoCal® module can be used to satisfy the most demanding requirements for accuracy. These calculations are based on a common error model, the specifications for Scorpion and the specifications for the 36584 AutoCal module.









Do You Want to Know More?

Contact Anritsu for these AutoCal related publications:

2-Port AutoCal Brochure (p/n: 11410-00189)
2-Port AutoCal Automatic Calibrator Application Note (p/n: 11410-00258)
4-Port AutoCal Automatic Calibrator Application Note (p/n: 11410-00298)
Measurement Accuracy Application Note (p/n: 11410-00270)

SPECIFICATIONS

All specifications are guaranteed over the ambient temperature range of 23 ±3°C.

Directivity:	**AutoCal Module**
0.01 to 1 GHz	42 dB
1 to 3 GHz	40 dB
3 to 6 GHz	36 dB
6 to 9 GHz	34 dB

Source Match:	
0.01 to 1 GHz	42 dB
1 to 3 GHz	39 dB
3 to 6 GHz	35 dB
6 to 9 GHz	33 dB

GENERAL

Serial Input Connector: 9 pin D-sub allowing PC or VNA control. (Serial Cable supplied)

Power Supply Input Connector: +5V, ±15V for the electronic modules, and +5V, +24V for the electromechanical module. The modules are keyed against plugging the wrong supply. The appropriate DC supply is supplied with each AutoCal® module. These universal supplies will operate at either 110V or 220V input voltages.

Power LED: On when the DC supply is plugged in.

Operate LED: On when the module's internal temperature has stabilized at an optimum temperature for accurate calibrations.

Dimensions: 55 H x 170 W x 120 D mm (without connectors)
(2.25 H x 6.5 W x 4.625 D in.)

ENVIRONMENTAL

Operating Temperature: 18 to 28°C

Storage Temperature: –20 to 70°C

Relative Humidity: 5% to 95% at 40°C

EMC: Conforms to the EMC Directive, 89/336/EEC per EN61326
EN55011:1991
EN61000-3-2:1995
EN61000-3-3:1995

Immunity-
EN61000-4-2:1995
EN61000-4-3:1995
EN61000-4-4:1995
EN61000-4-5:1995
EN61000-4-6:1995
EN61000-4-11:1995

ORDERING INFORMATION

AutoCal Modules:

36584KF	4-Port AutoCal, K(f) type, 10 MHz to 9 GHz
36584NF	4-Port AutoCal, N(f) type, 10 MHz to 9 GHz

Test Port Converter Sets:

36583S	SMA type
36583L	3.5 mm type
36583K	K type

Service:
AutoCal may be sent to the nearest service center for re-characterization or a service engineer may perform the task at the customer's site. To minimize down-time, the customer can re-characterize his own AutoCal module with a Scorpion family VNA and a traditional cal kit.

Sales Centers:
US (800) ANRITSU
Canada (800) ANRITSU
South America 55 (21) 286-9141

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