

R&S®ZCAN Calibration Kit

Precision standards from DC to 3 GHz



R&S®ZCAN Calibration Kit At a glance

The R&S®ZCAN calibration kit is used to calibrate test setups with network analyzers. The calibration kit contains short (S), open (O), match (M), and through (T) standards, with type N (male and female) connectors. The short and the open standard are combined in one component. The R&S®ZCAN supports full one-port (OSM) as well as two-port and multiport calibrations (e.g. TOSM, TRM, TOM) for reflection and transmission measurements. The calibration kit is available in 50 Ω and 75 Ω versions.

Uses

Calibration standards are used to perform system error calibration in scalar and vector network analyzer systems. The measurement accuracy of such a system is determined to a great extent by the quality of the calibration standards used, which must therefore be manufactured with the utmost precision. Typical applications include OSM (Open, Short, Match) and TOSM (Through, Open, Short, Match) system error calibration for reflection and transmission measurements.

Another application is the normalization of a network analyzer by means of an open and/or a short standard, or a match. In addition, the match can be used to check the directivity of a network analyzer or the directivity when using an external SWR bridge such as the R&S®ZRB2 or R&S®ZRC.

The calibration standards can also be used as universal components in a wide range of T&M applications, helping to simplify measurements.

Description

The R&S®ZCAN calibration standards are manufactured with the greatest care and with extremely small mechanical tolerances. In the case of the shorts, for instance, the vital part for electrical contact is a precision-machined, gold-plated solid metal piece with a very smooth surface. This results in low losses and low contact resistance and, consequently, in a virtually ideal reflection coefficient with a magnitude of 1 and a phase of 180° over the entire frequency range. The open standards suppress any potential radiation at an open end of a line, and ensure a precisely defined fringing capacitance. For the female connector of the open standard, this is achieved by means of a cap on the inner conductor, where the cap is fixed to a spring-loaded dielectric rod. The matches are outstanding for their low reflection; the typical return loss is 50 dB, i.e. reflection coefficient = 0.3% or VSWR = 1.006. The through standards, which are well matched and precisely dimensioned, have a low insertion loss of typ. 0.03 dB at 3 GHz.

Specifications

Specifications		
Frequency range		0 Hz to 3 GHz
Characteristic impedance		50 Ω (75 Ω)
Connectors		type N, male and female
Return loss of matches		≥ 46 dB (≥ 40 dB)
Insertion loss of throughs		≤ 0.1 dB
Return loss of throughs		≥ 34 dB
Power-handling capacity		1 W
General data		
Operating temperature range		0°C to +55°C
Storage temperature range		-40°C to +75°C
Dimensions of carrying case	W × H × D	266 mm × 179 mm × 49 mm (10.47 in × 7.05 in × 1.93 in)
Weight (including carrying case)		820 g (1.81 lb)

Ordering information

Designation	Type	Order No.
Calibration Kit, type N, 50 Ω	R&S®ZCAN	800.8515.52
Calibration Kit, type N, 75 Ω	R&S®ZCAN	800.8515.72

Service options		
Two-Year Calibration Service	R&S®CO2ZCAN	Please contact your local Rohde&Schwarz sales partner.
Three-Year Calibration Service	R&S®CO3ZCAN	
Five-Year Calibration Service	R&S®CO5ZCAN	
One-Year Repair Service following the warranty period	R&S®RO2ZCAN	
Two-Year Repair Service following the warranty period	R&S®RO3ZCAN	
Four-Year Repair Service following the warranty period	R&S®RO5ZCAN	

Your local Rohde&Schwarz representative will help you determine the optimum solution for your requirements. To find your nearest Rohde&Schwarz representative, visit www.sales.rohde-schwarz.com

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Environmental commitment

- | Energy-efficient products
- | Continuous improvement in environmental sustainability
- | ISO 14001-certified environmental management system

Certified Quality System
ISO 9001

Rohde & Schwarz GmbH & Co. KG

www.rohde-schwarz.com

Regional contact

- | Europe, Africa, Middle East
+49 89 4129 123 45
customersupport@rohde-schwarz.com
- | North America
1 888 TEST RSA (1 888 837 87 72)
customer.support@rsa.rohde-schwarz.com
- | Latin America
+1 410 910 79 88
customersupport.la@rohde-schwarz.com
- | Asia/Pacific
+65 65 13 04 88
customersupport.asia@rohde-schwarz.com

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