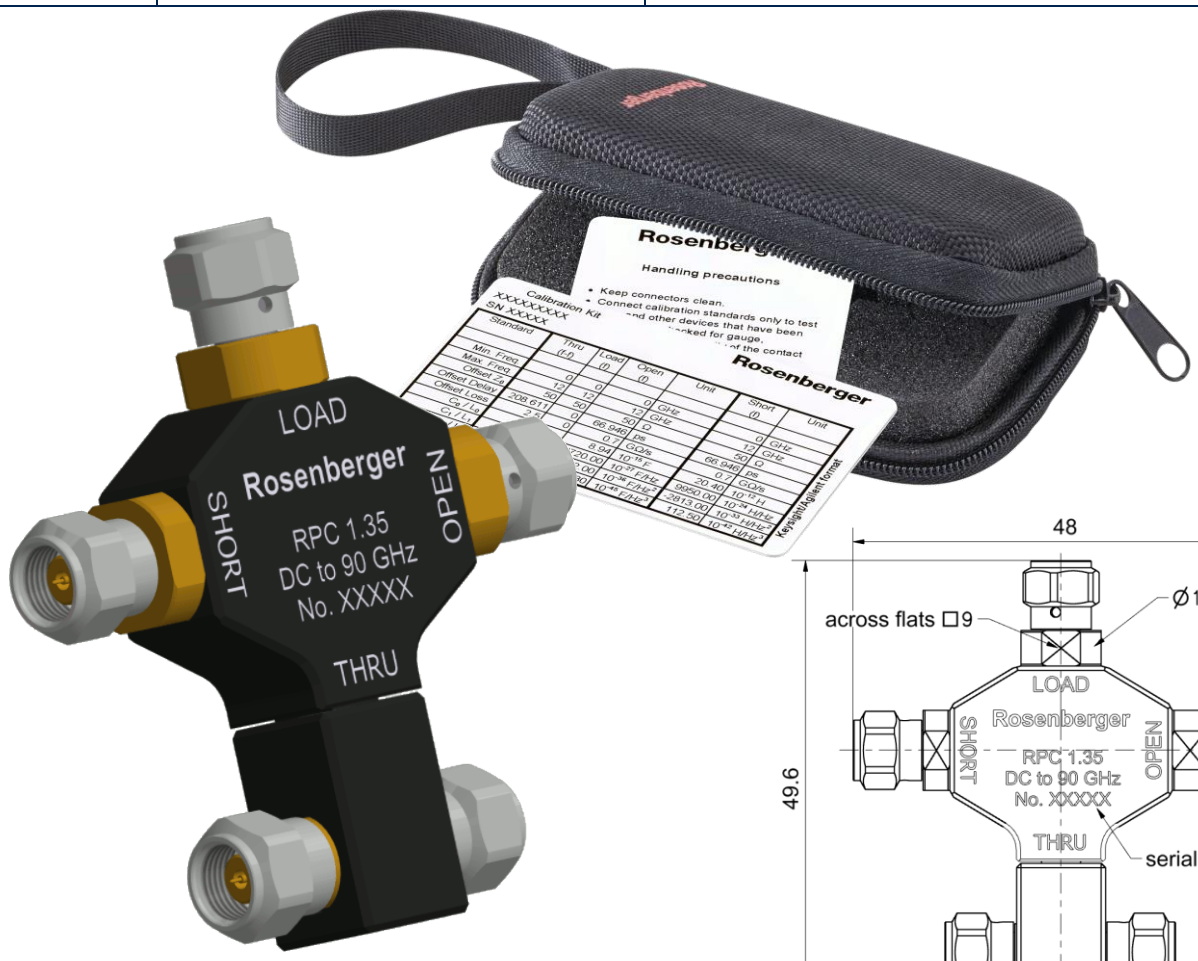
Technical Data Sheet		Rosenberger
RPC-1.35	Calibration Kit Plug	**P9S30R-MSOTD3**



All dimensions are in mm; tolerances according to ISO 2768 m-H

Interface

According to IEC 61169-65

Contents and Documentation

This kit is delivered with

- **USB-Stick**
  Standard Definitions as data files for Vector Network Anaylzer Families PNA (Keysight/Agilent) and ZVA (Rohde&Schwarz). S1P-files for Open, Short and Load calibration standards. Calibration Certificate as PDF-file.
- **Standard Definitions Card**
  Model based Standard Definitions for the Calibration Adapters. Overview of electrical kit components
- **Calibration Certificate**
  Details see “Declaration of calibration options”
- **User Manual**
- **Hard Shell Case**
- **Protection Caps**

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Material and plating

Connector parts	Material	Plating
Center conductor	CuBe	Gold, min. 1.27 µm
Outer conductor	CuBe or equiv.	Gold, min. 1.27 µm
Coupling nut	Stainless steel	Passivated
Body	Aluminum	black anodized
Dielectric	PMP	
Substrate	Al_2O_3	

Electrical specifications

These electrical specifications are only valid when the specific VNA files or the specific S1P-files are used as standard definitions. They include measurement uncertainties as well as guard bands to cover some tear and wear of the calibration standards.

Residual System Data*	Frequency	Specification (plug and jack)
Directivity	0.01 GHz to ≤ 40 GHz > 40 GHz to ≤ 80 GHz > 80 GHz to ≤ 90 GHz	≥ 33 dB ≥ 29 dB ≥ 26 dB
Source Match	0.01 GHz to ≤ 30 GHz > 30 GHz to ≤ 60 GHz > 60 GHz to ≤ 80 GHz > 80 GHz to ≤ 90 GHz	≥ 32 dB ≥ 27 dB ≥ 24 dB ≥ 21 dB
Reflection Tracking	0.01 GHz to ≤ 20 GHz > 20 GHz to ≤ 40 GHz > 40 GHz to ≤ 60 GHz > 60 GHz to ≤ 80 GHz > 80 GHz to ≤ 90 GHz	≤ 0.20 dB ≤ 0.25 dB ≤ 0.30 dB ≤ 0.45 dB ≤ 0.55 dB

* Residual System Data are also called Effective System Data

Thru

Return loss	≥ 28 dB, DC to 10 GHz ≥ 19 dB, 10 GHz to 50 GHz ≥ 15 dB, 50 GHz to 90 GHz

Load

Return loss (typical values)	≥ 30 dB, DC to 10 GHz ≥ 24 dB, 10 GHz to 30 GHz ≥ 21 dB, 30 GHz to 40 GHz ≥ 18 dB, 40 GHz to 50 GHz ≥ 15 dB, 50 GHz to 90 GHz
DC Resistance	50 Ω ± 0.5 Ω
Power handling (at 25 °C, sea level)	≤ 0.5 W, derate by 0.005 W/K

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Mechanical data

Mating cycles	≥ 3000
Maximum torque	1.65 Nm
Recommended torque	0.90 Nm
Gauge	0.003 mm to 0.05 mm

General standard definitions

The different models, units, and terms used will depend on the VNA type and they will have to be entered into the VNA. All values are based on typical geometry and plating.

Thru

Offset Z_o / Impedance / Z_o	50 Ω
Offset Delay	75.852 ps
Length (electrical) / Offset Length	22.74 mm
Offset Loss	5.95 GΩ/s
Loss	0.0784 dB/ $\sqrt{GHz}$
Line Loss @ 1GHz	0.0012 dB/mm

Environmental data

Operating temperature range[1]	+20 °C to +26 °C
Rated temperature range of use[2]	0 °C to +50 °C
Storage temperature range	- 40 °C to +85 °C
RoHS	compliant

[1] Temperature range over which these specifications are valid.

[2] This range is underneath and above the operating temperature range, within the calibration kit is fully functional and could be used without damage

Declaration of Calibration options

Factory Calibration

Standard delivery for this kit includes a Factory Calibration. All calibration standards are reported in a Calibration Certificate with their individual calibration results, traceable to national / international standards. Data based definitions of the calibration standards are reported as data files for Vector Network Anaylzer Families PNA (Keysight/Agilent) and ZVA (Rohde&Schwarz) as well as S1P-files for Open, Short and Load calibration standards.

Accredited Calibration

Not available.

For further, more detailed information see application note AN001 on the Rosenberger homepage.

Calibration Interval

Recommendation	12 months

Packing

Standard	1 pce in bag
Weight	36.1 g/pce

For the installation of the electrotechnical equipment, particular electrotechnical expertise is required.

Draft	Date	Approved	Date
Marcel Panicke	04.11.20	Lars Ramtke	04.04.23

Rev.	Engineering change number	Name	Date
c00	23-0004	David d'Argent	04.04.23

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