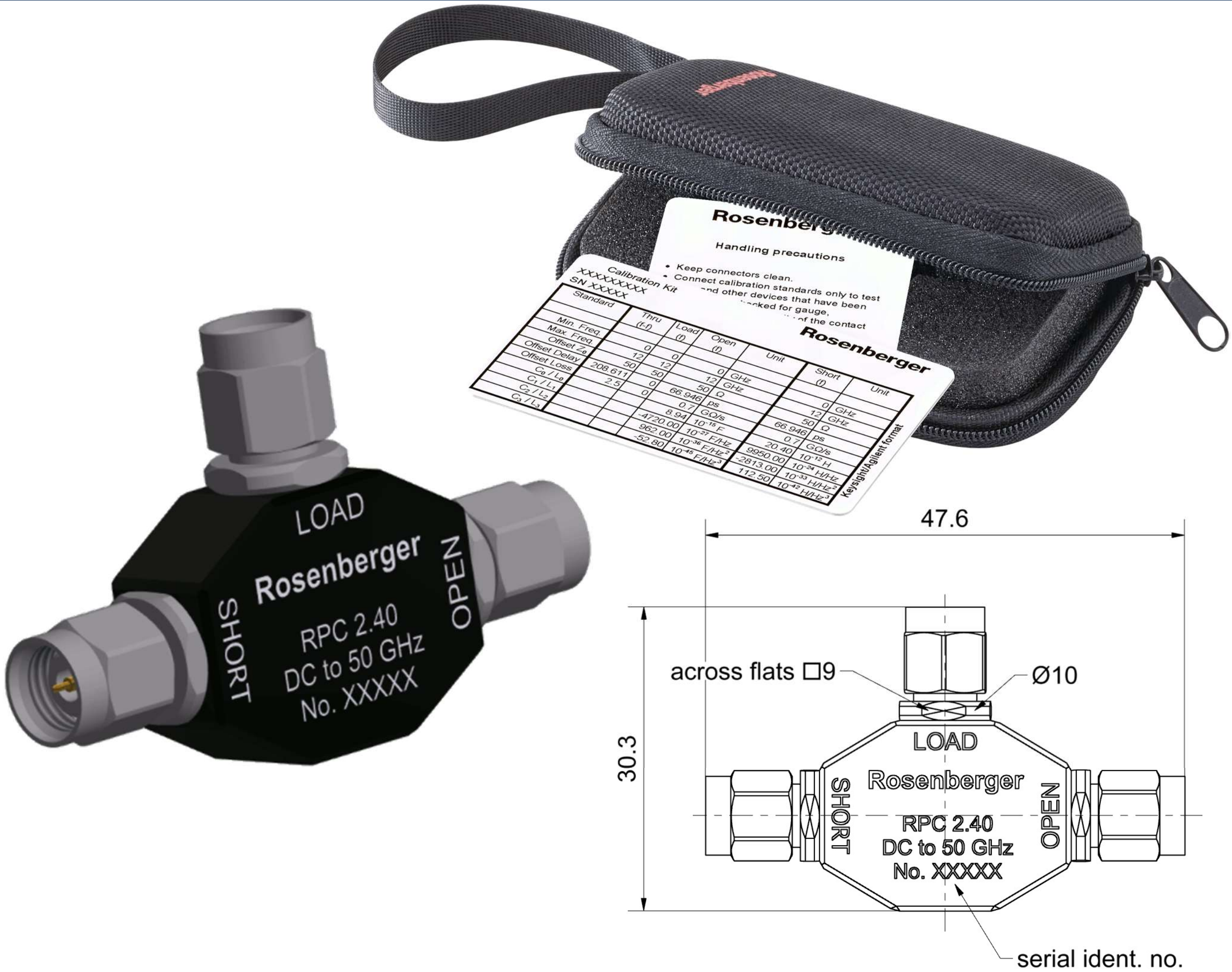
RPC-2.40	Calibration Kit Plug	**09S30R-MSOS3**



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

Interface

According to	IEC 61169-40
Mechanically compatible with	RPC-1.85

Contents and Documentation

This kit is delivered with

- **Standard Definitions Card**
  Printed Standard Definitions that can be used on nearly all Vector Network Analyzers
- **Test Results Documentation**
- **Hard Shell Case**
- **Protection Caps**

Material and plating

Connector parts	**Material**	**Plating**
Center conductor	CuBe	Gold, min. 1.27 µm, over nickel
Outer conductor	Stainless steel	Passivated
Coupling nut	Stainless steel	Passivated
Body	Aluminum	black anodized
Dielectric	PS	
Substrate	Al_2O_3	

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Electrical data

Frequency range	DC to 50.0 GHz

Open

Error from nominal phase[1]	≤ 2.0°, DC to 4 GHz
	≤ 4.0°, 4 GHz to 26.5 GHz
	≤ 6.0°, 26.5 GHz to 50.0 GHz

Short

Error from nominal phase[2]	≤ 1.5°, DC to 4 GHz
	≤ 3.0°, 4 GHz to 26.5 GHz
	≤ 4.5°, 26.5 GHz to 50.0 GHz

Load

Return loss	≥ 36.0 dB, DC to 4 GHz
	≥ 30.0 dB, 4 GHz to 26.5 GHz
	≥ 22.0 dB, 26.5 GHz to 50.0 GHz
DC Resistance	50 Ω ± 0.5 Ω
Power handling (at 25 °C, sea level)	≤ 0.5 W, derate by 0.005 W/K

[1] *The nominal phase is defined by the Offset Delay, the Offset Loss and the Fringing Capacitances*
[2] *The nominal phase is defined by the Offset Delay, the Offset Loss and the Short Inductance*

Mechanical data

Mating cycles	≥ 500
Maximum torque	1.65 Nm
Recommended torque	0.90 Nm
Gauge	0.00 mm to 0.03 mm

General standard definitions

For proper operation the vector network analyzer (VNA) needs a model describing the electrical behaviour of this calibration standard. 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.

Open

Offset Z_o / Impedance / Z_o	50 Ω	
Offset Delay	23.350 ps	
Length (electrical) / Offset Length	7.00 mm	
Offset Loss	3.20 GΩ/s	
Loss	0.0130 dB/$\sqrt{\text{GHz}}$	
Fringing Capacitances	C_0 = 2.30000 x 10^{-15} F	2.30000 fF
	C_1 = -810.000 x 10^{-27} F/Hz	-0.81000 fF /GHz
	C_2 = 35.0000 x 10^{-36} F/Hz^2	0.03500 fF /GHz^2
	C_3 = -0.40000 x 10^{-45} F/Hz^3	-0.00040 fF /GHz^3

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