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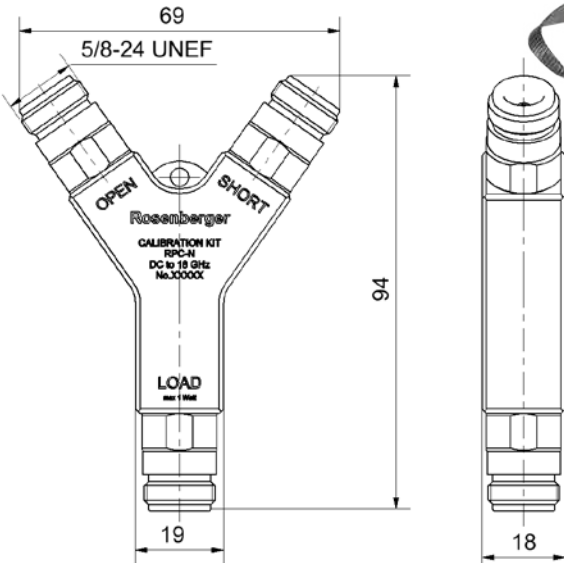
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RF_35/09.14/6.2

Technical Data Sheet		Rosenberger																		
RPC-N 50 Ω	Calibration Kit Jack	05K30R-MSOS3																		
<div><p>The image shows the Rosenberger Calibration Kit 05K30R-MSOS3. It consists of a black Y-shaped calibration kit with three ports labeled 'OPEN', 'SHORT', and 'LOAD'. The kit is shown next to its black carrying case, which has a strap and a label. A technical drawing of the kit is also provided, showing dimensions: 69 mm for the top width, 5/8-24 UNEF for the top threads, 94 mm for the total height, 19 mm for the bottom width, and 18 mm for the bottom diameter.</p></div>																				
<div><p>The technical drawing shows the calibration kit from two perspectives. The top view is a Y-shape with dimensions: 69 mm for the top width, 5/8-24 UNEF for the top threads, 94 mm for the total height, 19 mm for the bottom width, and 18 mm for the bottom diameter. The side view shows the kit's profile with a diameter of 18 mm. The kit is labeled 'Rosenberger CALIBRATION KIT RPC-N DC to 18 GHz No. 05K30R'.</p></div>																				
All dimensions are in mm; tolerances according to ISO 2768 m-H																				
<div><div>Interface</div><div>According to IEC 61169-16</div></div>																				
<div><div>Contents and Documentation</div><div>This kit is delivered with<ul style="list-style-type: none">• Standard Definitions Card Printed Standard Definitions that can be used on nearly all Vector Network Analyzers• Test Results Documentation• Lanyard• Hard Shell Case</div></div>																				
<div><div>Material and plating</div><div><table><tr><td>Connector parts</td><td>Material</td><td>Plating</td></tr><tr><td>Center conductor</td><td>CuBe</td><td>Gold, min. 1.27 μm, over nickel</td></tr><tr><td>Outer conductor</td><td>Stainless steel</td><td>Passivated</td></tr><tr><td>Body</td><td>Aluminum</td><td>black anodized</td></tr><tr><td>Dielectric</td><td>PPE</td><td></td></tr><tr><td>Substrate</td><td>Al₂O₃</td><td></td></tr></table></div></div>			Connector parts	Material	Plating	Center conductor	CuBe	Gold, min. 1.27 μm, over nickel	Outer conductor	Stainless steel	Passivated	Body	Aluminum	black anodized	Dielectric	PPE		Substrate	Al ₂ O ₃	
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Electrical data

Frequency range DC to 18 GHz

Open

Error from nominal phase¹

- ≤ 2.0°, DC to 6 GHz
- ≤ 3.0°, 6 GHz to 9 GHz
- ≤ 4.0°, 9 GHz to 18 GHz

Short

Error from nominal phase²

- ≤ 1.5°, DC to 6 GHz
- ≤ 2.0°, 6 GHz to 9 GHz
- ≤ 2.5°, 9 GHz to 18 GHz

Load

Return loss

- ≥ 42 dB, DC to 6 GHz
- ≥ 36 dB, 6 GHz to 9 GHz
- ≥ 30 dB, 9 GHz to 18 GHz

DC-Resistance 50 Ω ± 0.5 Ω

Power handling ≤ 1.0 W

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 1.70 Nm

Recommended torque 1.10 Nm

Gauge 5.22 mm to 5.26 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 40.028 ps

Length (electrical) / Offset Length 12.00 mm

Offset Loss 0.80 GΩ/s

Loss 0.0056 dB/√GHz

Fringing Capacitances

$C_0 =$	$37.1000 \times 10^{-15} \text{ F}$	/	37.1000 fF
$C_1 =$	$1200.00 \times 10^{-27} \text{ F/Hz}$	/	1.20000 fF /GHz
$C_2 =$	$-30.0000 \times 10^{-36} \text{ F/Hz}^2$	/	-0.03000 fF /GHz ²
$C_3 =$	$0.00000 \times 10^{-45} \text{ F/Hz}^3$	/	0.00000 fF /GHz ³

Technical Data Sheet				Rosenberger																			
RPC-N 50 Ω		Calibration Kit Jack		05K30R-MSOS3																			
<div>Short</div> <div>Offset Z_o / Impedance / Z_o50 Ω</div> <div>Offset Delay40.028 ps</div> <div>Length (electrical) / Offset Length12.00 mm</div> <div>Offset Loss0.80 GΩ/s</div> <div>Loss0.0056 dB/√GHz</div> <div>Short Inductance</div> <div>L₀ = 95.0000 x 10⁻¹² H / 95.0000 pH</div> <div>L₁ = -9900.00 x 10⁻²⁴ H/Hz / -9.90000 pH/GHz</div> <div>L₂ = 980.000 x 10⁻³³ H/Hz² / 0.98000 pH/GHz²</div> <div>L₃ = -29.0000 x 10⁻⁴² H/Hz³ / -0.02900 pH/GHz³</div> <div>Load</div> <div>Offset Z_o / Impedance / Z_o50 Ω</div> <div>Offset Delay0.0000 ps</div> <div>Length (electrical) / Offset Length0.000 mm</div> <div>Offset Loss0.00 GΩ/s</div> <div>Loss0.0000 dB/√GHz</div> <div>Environmental data</div> <div>Operating temperature range³+20 °C to +26 °C</div> <div>Rated temperature range of use⁴0 °C to +50 °C</div> <div>Storage temperature range-40 °C to +85 °C</div> <div>RoHScompliant</div> <div>³ Temperature range over which these specifications are valid.</div> <div>⁴ This range is underneath and above the operating temperature range, within the calibration kit is fully functional and could be used without damage</div> <div>Declaration of documentation</div> <div>Standard delivery for this kit includes Test Results. The documentation issued reports which quantities were tested individually, traceable to national / international standards. Model based standard definitions of the calibration standards are reported in Agilent / Keysight, Rohde & Schwarz and Anritsu compatible VNA format.</div> <div>Inspection interval</div> <div>Recommendation12 months</div> <div>Packing</div> <div>Standard1 pce in bag</div> <div>Weight161 g/pce</div> <div>While the information has been carefully compiled to the best of our knowledge, nothing is intended as representation or warranty on our part and no statement herein shall be construed as recommendation to infringe existing patents. In the effort to improve our products, we reserve the right to make changes judged to be necessary.</div> <table><tr><td>Draft</td><td>Date</td><td>Approved</td><td>Date</td><td>Rev.</td><td>Engineering change number</td><td>Name</td><td>Date</td></tr><tr><td>Marcel Panicke</td><td>26.11.14</td><td>Herbert Babinger</td><td>19.10.17</td><td>d00</td><td>17-s336</td><td>M. Knoll</td><td>19.10.17</td></tr></table> <div><div>Rosenberger Hochfrequenztechnik GmbH & Co. KG P.O.Box 1260 D-84526 Tittmoning Germany www.rosenberger.de</div><div>Tel. : +49 8684 18-0 Email : info@rosenberger.de</div><div>Page 3 / 3</div></div>								Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date	Marcel Panicke	26.11.14	Herbert Babinger	19.10.17	d00	17-s336	M. Knoll	19.10.17
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