



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

**Interface**

According to IEC 61169-35  
Mechanically compatible with RPC-3.50 and SMA

**Documents**

Application note AN001 "Calibration Services"

**Material and plating**

**Connector parts**

| Connector parts  | Material        | Plating                         |
|------------------|-----------------|---------------------------------|
| Center conductor | CuBe            | Gold, min. 1.27 µm, over nickel |
| Outer conductor  | Stainless steel | Passivated                      |
| Coupling nut     | Stainless steel | Passivated                      |

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RF\_35/09;14/6.2

**Electrical data**

|                                       |   |
|---------------------------------------|---|
| Frequency range                       | DC to 40 GHz  |
| Return loss                           | ≤ 0.10 dB, DC to 4 GHz<br>≤ 0.15 dB, 4 GHz to 18 GHz<br>≤ 0.20 dB, 18 GHz to 40 GHz |
| Error from nominal phase <sup>1</sup> | ≤ 1.0°, DC to 4 GHz<br>≤ 2.0°, 4 GHz to 18 GHz<br>≤ 3.0°, 18 GHz to 40 GHz          |

<sup>1</sup> 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 | 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.

|                                     |                                |
|-------------------------------------|--------------------------------|
| Offset $Z_o$ / Impedance / $Z_o$    | 50 $\Omega$                    |
| Offset Delay                        | 28.3529 ps                     |
| Length (electrical) / Offset Length | 8.50 mm                        |
| Offset Loss                         | 2.40 G $\Omega$ /s             |
| Loss                                | 0.0118 dB/ $\sqrt{\text{GHz}}$ |
| Short Inductance <sup>2</sup>       |                                |

<sup>2</sup> Short Inductances are determined individually for each Short circuit and are documented in a Calibration Certificate.

**Environmental data**

|   |                   |
|---|-------------------|
| Operating temperature range <sup>3</sup>    | + 20 °C to +26 °C |
| Rated temperature range of use <sup>4</sup> | 0 °C to +50 °C    |
| Storage temperature range                   | - 40 °C to +85 °C |

RoHS compliant

<sup>3</sup> Temperature range over which these specification are valid.

<sup>4</sup> This range is underneath and above the operating temperature range, within the short circuit is fully functional and could be used without damage.

**Declaration of calibration options**

**Factory Calibration**

Standard delivery for this calibration standard includes a Factory Calibration. The Calibration Certificate issued reports individual calibration results, traceable to national / international standards. Model based standard definitions are individually optimized and reported in an Agilent/Keysight, Rohde & Schwarz and Anritsu compatible VNA format.

**Accredited Calibration**

Optional this calibration standard can be delivered with an Accredited Calibration (DAkkS) having the highest confidence in the traceability. The DAkkS Calibration Certificate issued reports individual calibration results in a complex format, traceable to national / international standards. Model based standard definitions are individually optimized and reported in an Agilent/Keysight, Rohde & Schwarz and Anritsu compatible VNA format as well as in a dense data set needed for data based standard definitions. The uncertainties are smaller than in a Factory Calibration.

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

**Calibration interval**

Recommendation 12 months

**Packing**

Standard 1 pce in box  
Weight 7.2 g/pce

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.

| Draft  | Date     | Approved      | Date     | Rev. | Engineering change number | Name  | Date          |
|--|----------|---------------|----------|------|---------------------------|---|---------------|
| Herbert Babinger   | 27.11.14 | Markus Müller | 03.11.16 | j00  | 16-1390                   | Marion Striegler                                    | 03.11.16      |
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