



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

**Interface**

|                                       |                  |
|---------------------------------------|------------------|
| RPC-3.50 according to                 | IEC 60169-23     |
| RPC-3.50 mechanically compatible with | RPC-2.92 and SMA |
| HFM according to                      | RN_108-01        |

**Documents**

|                  |                              |
|------------------|------------------------------|
| Application note | AN001 "Calibration Services" |
|------------------|------------------------------|

**Material and plating**

**Connector parts**

|                        |                         |  |
|------------------------|-------------------------|--|
| Center contact         | <b>Material</b><br>CuBe | <b>Plating</b><br>Gold, min. 1.27 µm, over chemical nickel |
| Outer contact RPC-3.50 | Stainless steel         | Passivated   |
| Outer contact HFM      | Brass                   | Gold, min. 1.27 µm, over chemical nickel                   |
| Dielectric RPC-3.50    | PS                      |  |
| Dielectric HFM         | PEI                     |  |
| Housing HFM            | PBT GF20                |  |
| Secondary lock HFM     | PBT GF20                |  |

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RF\_35/05.10/6.1

**Electrical data**

|             |  |
|-------------|--|
| Frequency   | DC to 15 GHz   |
| Return loss | ≥ 34 dB, DC to 1 GHz<br>≥ 25 dB, 1 GHz to 6 GHz<br>≥ 20 dB, 6 GHz to 12 GHz<br>≥ 18 dB, 12 GHz to 15 GHz |

**Mechanical data**

|                       |                    |                           |
|-----------------------|--------------------|---------------------------|
| Mating cycles         | RPC-3.50<br>≥ 500  | HFM<br>≥ 500 <sup>3</sup> |
| Mating cycles housing |                    | ≥ 25                      |
| Maximum torque        | 1.70 N             |                           |
| Recommend torque      | 0.80 Nm to 1.10 Nm |                           |
| Engagement force      |                    | ≤ 15 N                    |
| Disengagement force   |                    | ≥ 2 N                     |
| Gauge                 | 0.00 mm to 0.08 mm |                           |

<sup>3</sup> Limitations are possible due to the quality of the used mating connector

**General standard definition**

For proper operation the vector network analyser (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 $Z_0$ / Impedance / $Z_0$    | 50 $\Omega$              |
| Offset Delay                        | 143.0889 ps              |
| Length (electrical) / Offset Length | 42.90 mm                 |
| Offset Loss                         | 4.26 G $\Omega$ /s       |
| Loss                                | 0.0529 dB / $\sqrt{GHz}$ |

**Environmental data**

|   |                  |
|---|------------------|
| Operating temperature range <sup>1</sup>    | +20 °C to +26 °C |
| Rated temperature range of use <sup>2</sup> | 0 °C to + 50 °C  |
| Storage temperature range                   | -40 °C to +85 °C |

RoHS compliant

<sup>1</sup> Temperature range over which these specifications are valid.

<sup>2</sup> This range is underneath and above the operating temperature range, within the open 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 Rosenberger standards**, national / international standards are not available. Model based standard definitions are reported in an Agilent/Keysight, Rohde & Schwarz and Anritsu compatible VNA format.

**Accredited Calibration**

Not available.

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

**Calibration interval**

Recommendation 12 months

**Weight**

7.8 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     |
|----------------|----------|--------------|----------|------|---------------------------|--------------|----------|
| Florian Reiner | 09.03.16 | Martin Moder | 24.11.17 | 300  | 17-1951                   | M. Rahberger | 24.11.17 |

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