

SPINNER mmWave Waveguide-to-Coax Adapters



Speed Up Your mmWave Setup!

HIGH FREQUENCY PERFORMANCE WORLDWIDE
www.spinner-group.com



The SPINNER Group

For more than 70 years, the SPINNER Group has been setting new standards worldwide in high-frequency technology. Based in Munich with production facilities in Germany, Hungary and China, SPINNER currently has over 1,000 employees. Our international network of subsidiaries and distributors supports customers in over 40 countries.



TEST & MEASUREMENT



COMMUNICATION



BROADCAST



SATCOM/SPACE



WIND ENERGY



INDUSTRY



SUBSEA/OFFSHORE

RF Measurement

These days, up-to-date measurement equipment is essential for all development, production, testing and quality control departments that deal with RF signals on coaxial lines. Particularly for vector network analyzers, high-precision connectors, terminations and adapters are a must.

The same statement applies to calibration kits and mechanical accessories such as gauges for checking mating face dimensions and torque wrenches for tightening coupling nuts, to cite just two examples. SPINNER has established new, extremely high standards of precision that most users would not want to be without.

Precise measurement is especially important when transmitting high power levels. Other major applications include

extensive testing of mobile communications systems such as GSM, UMTS and LTE and wireless data transmission, e.g. via WiMAX, WLAN and RFID.

SPINNER supplies coaxial measurement equipment characterized by outstanding electrical and mechanical quality for frequencies from 1 kHz all the way to 110 GHz.

Coaxial & Waveguide Measurement Devices

Coaxial measurement devices made by SPINNER are needed in:

VNA Measurement

- Calibration and verification standards
- Air lines
- Rotary joints
- Articulated lines
- Adapters
- Connector Gauges

Millimeter Wave Measurement

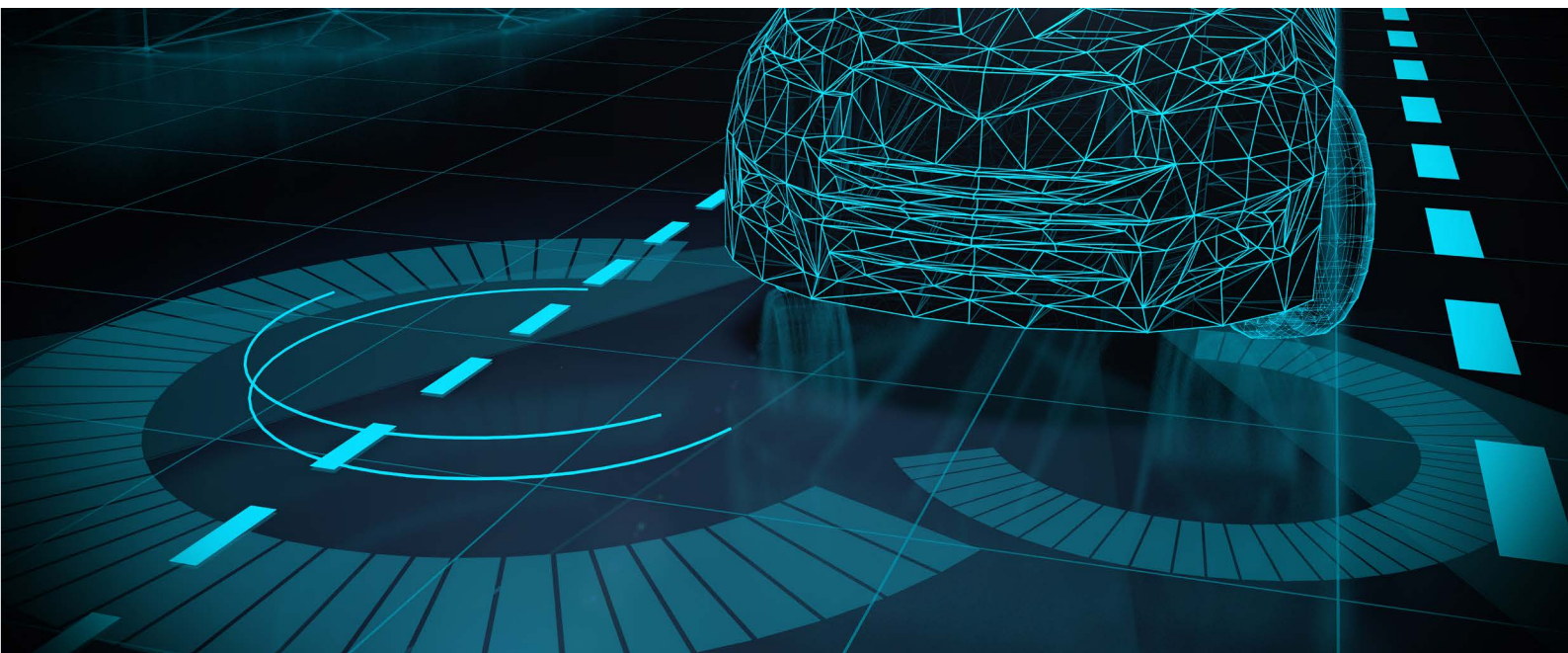
- Ruggedized test port adapters
- mmWave waveguide-to-coax adapters
- 1.35 mm E Connector
- EasyLaunch PCB connectors
- EasySnake flexible dielectric waveguides

PIM Measurement and Test Automation

- EasyDock push-pull adapters
- Low PIM switches
- Low PIM test cables
- Low PIM rotary joints
- Low PIM loads
- Low PIM passive intermodulation standards



mmWave Waveguide-to-Coax Adapters: Start Testing Faster!



Get the solution you need! SPINNER extends its millimeter wave waveguide-to-coax adapter portfolio up to a frequency of 120 GHz. The SPINNER mmWave waveguide-to-coaxial adapters for the V, E, W and F bands let you directly connect waveguide-based measurement network topologies to the coaxial ports of VNA or millimeter-wave-range extender modules.

Start testing faster with these new adapters from SPINNER. They save time with ruggedized coaxial interfaces for directly connecting millimeter waveguides to the coaxial ports of millimeter wave VNAs.

Ultralow losses are guaranteed. In lab environments, you need to have the right interfaces handy: for waveguide-to-coaxial and with male or female coaxial connectors as required. These convenient solutions save time and let you focus on your testing work.

Unique versions are the WR08 waveguide to 1.00 mm coaxial adapter covering the F band and the WR10 waveguide to 1.35 mm coaxial adapter covering the E band.

Reliable coaxial connections are crucial for good RF performance. A common frustration in RF laboratories is unintended unlocking of the 1.00 mm coaxial thread after time-consuming calibrations, making it necessary to repeat them. The E Connector - a new 1.35 mm interface for DC to 90 GHz featuring a precise metric thread and an integrated push-pull function eliminates this annoyance.

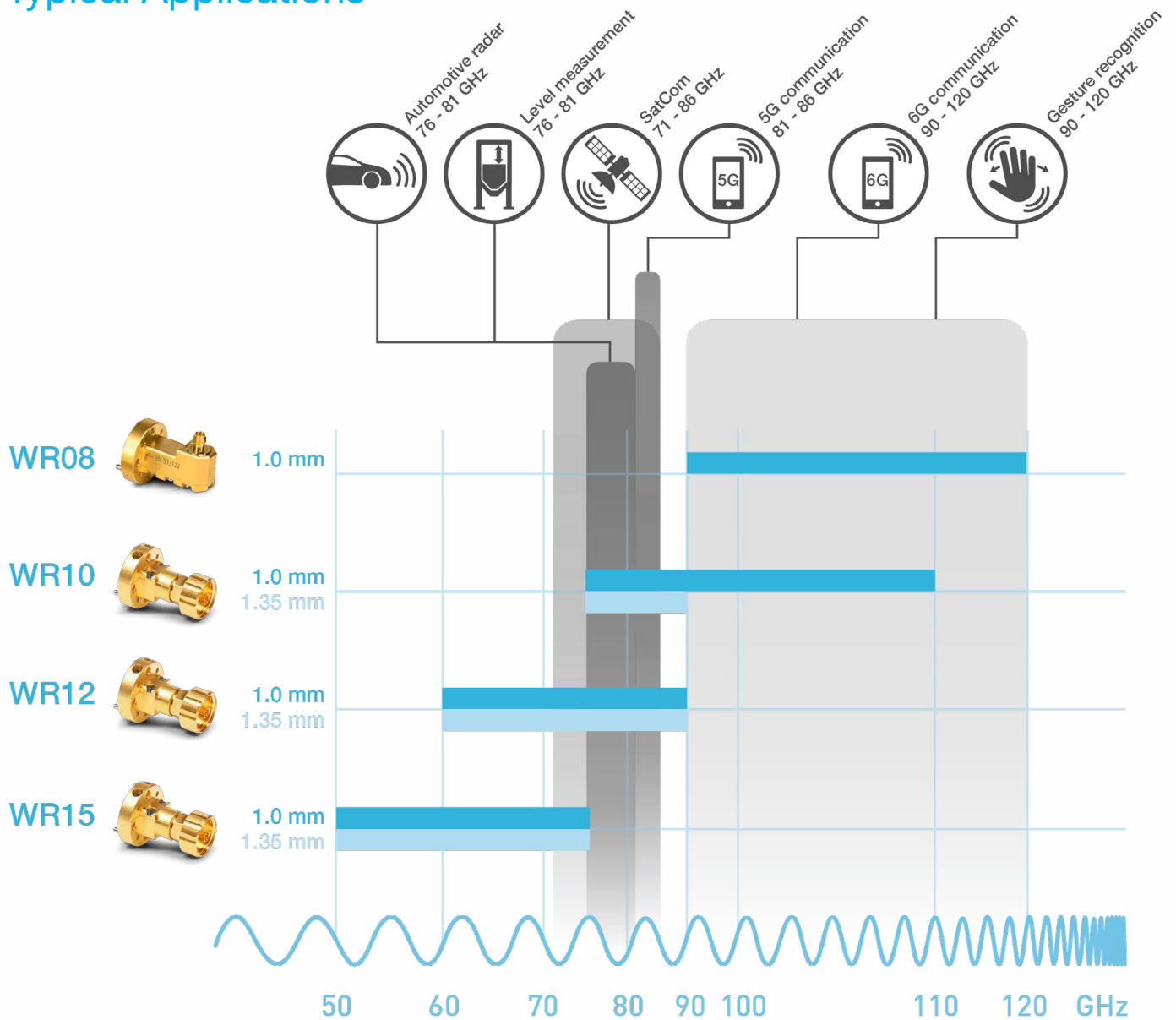
All these mmWave adapters are ideal for testing automotive and industrial radar sensors (in the 76 to 81 GHz range), satcom applications (from 71 to 76 GHz and 81 to 86 GHz), and the proposed new mmWave bands for 5G (81 to 86 GHz) and 6G (90 to 120 GHz) as well as for sensors for gesture recognition and material characterization.

Less Fuss, More Flexibility!



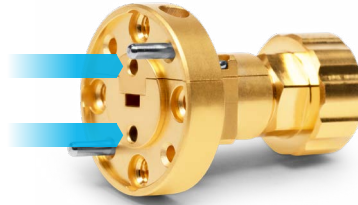
SPINNER mmWave waveguide-to-coax adapters

SPINNER mmWave Waveguide-to-Coax Adapters: Typical Applications



Features

- Highly robust mechanical functions
 - Service life of at least 3000 cycles
 - The 1.35 mm connector is locked by a threaded coupling nut that reliably prevents unintended opening.
- The ruggedized coaxial interface includes a large threaded body that is designed to stabilize the advanced coaxial 1.00- or 1.35-mm test port during testing.
- Precision interface with
 - Well-defined reference plane
 - Maximized return losses
 - High connector repeatability (min. 45 dB)
 - Suitability for precise measurement of S parameters
- Standardized interface: compatible with IEC 60154-2
- Ideal design for the frequency bands V, E, W and F
- To ensure precise alignment, there are two extra pin holes according to IEC 60154-2.



Two extra pin holes to ensure precise alignment

Special Design Goals

mmWave waveguide-to-coaxial adapters in various versions



Available Products for WG-to-Coax 1.00 mm and 1.35 mm Ruggedized



| Description | Frequency Range | Return Loss | Style | BN |
|--|-----------------|-------------|----------|---------------------------|
| Precision Adapter Waveguide WR 10 to 1.00 mm female ruggedized | Full W band | ≥ 16 dB | straight | BN 533141 |
| Precision Adapter Waveguide WR 12 to 1.00 mm female ruggedized | Full E band | ≥ 16 dB | straight | BN 533142 |
| Precision Adapter Waveguide WR 15 to 1.00 mm female ruggedized | Full V band | ≥ 16 dB | straight | BN 533143 |
| Precision Adapter Waveguide WR 10 to 1.00 mm male ruggedized | Full W band | ≥ 16 dB | straight | BN 533161 |
| Precision Adapter Waveguide WR 12 to 1.00 mm male ruggedized | Full E band | ≥ 16 dB | straight | BN 533162 |
| Precision Adapter Waveguide WR 15 to 1.00 mm male ruggedized | Full V band | ≥ 16 dB | straight | BN 533163 |
| Precision Adapter Waveguide WR 10 to 1.35 mm female ruggedized | 75-90 GHz | ≥ 16 dB | straight | BN 533151 |
| Precision Adapter Waveguide WR 12 to 1.35 mm female ruggedized | Full E band | ≥ 16 dB | straight | BN 533152 |
| Precision Adapter Waveguide WR 15 to 1.35 mm female ruggedized | Full V band | ≥ 16 dB | straight | BN 533153 |

Available Products for WG-to-Coax 1.00 mm and 1.35 mm



| Description | Frequency Range | Return Loss | Style | BN |
|---|-----------------|-------------|----------------------|--|
| Precision Adapter Waveguide WR 08 to 1.00 mm female | 90-120 GHz | ≥ 16 dB | right-angle | BN 533110 |
| Precision Adapter Waveguide WR 10 to 1.00 mm female | Full W band | ≥ 16 dB | straight right-angle | BN 533112 BN 533114 |
| Precision Adapter Waveguide WR 12 to 1.00 mm female | Full E band | ≥ 16 dB | straight right-angle | BN 533116 BN 533118 |
| Precision Adapter Waveguide WR 15 to 1.00 mm female | Full V band | ≥ 16 dB | straight right-angle | BN 533120 BN 533122 |
| Precision Adapter Waveguide WR 10 to 1.35 mm female | 75-90 GHz | ≥ 16 dB | straight right-angle | BN 533124 BN 533125 |
| Precision Adapter Waveguide WR 12 to 1.35 mm female | Full E band | ≥ 16 dB | straight right-angle | BN 533126 BN 533127 |
| Precision Adapter Waveguide WR 15 to 1.35 mm female | Full V band | ≥ 16 dB | straight right-angle | BN 533128 BN 533129 |
| Precision Adapter Waveguide WR 10 to 1.35 mm male | 75-90 GHz | ≥ 16 dB | straight | BN 533134 |
| Precision Adapter Waveguide WR 12 to 1.35 mm male | Full E band | ≥ 16 dB | straight | BN 533135 |
| Precision Adapter Waveguide WR 15 to 1.35 mm male | Full V band | ≥ 16 dB | straight | BN 533136 |
| Panel Connector WR12 to 1.35 female, D-hole mount | Full E band | ≥ 16 dB | straight | BN 533159 |



HIGH FREQUENCY PERFORMANCE WORLDWIDE

SPINNER designs and builds cutting-edge radio frequency systems, setting performance and longevity standards for others to follow. The company's track record of innovation dates back to 1946, and many of today's mainstream products are rooted in SPINNER inventions.

Industry leaders continue to count on SPINNER's engineering excellence to drive down their costs of service and ownership with premium-quality, off-the-shelf products and custom solutions. Headquartered in Munich, Germany, the global frontrunner in RF components remains the first choice in simple-yet-smart RF solutions.

www.spinner-group.com

SPINNER GmbH

Headquarters

Erzgiessereistr. 33
80335 Munich

GERMANY

Phone: +49 89 12601-0
Fax: +49 89 12601-1292
info@spinner-group.com

SPINNER Austria GmbH

Triester Str. 190
1230 Vienna

AUSTRIA

Phone: +43 1 66277 51
Fax: +43 1 66277 5115
info-austria@spinner-group.com

SPINNER Electrotécnica S.L.

c/ Perú, 4 – Local nº 15
28230 Las Rozas (Madrid)

SPAIN

Phone: +34 91 6305 842
Fax: +34 91 6305 838
info-iberia@spinner-group.com

OOO SPINNER Elektrotechnik

Kozhevnikeskaja str. 1, bld. 1
Office 420
115114 Moscow

RUSSIA

Phone: + 7 495 638 5321
Fax: +7 495 240 5889
info-russia@spinner-group.com

SPINNER France S.A.R.L.

24 Rue Albert Priolet
78100 St. Germain en Laye

FRANCE

Phone: +33 1 74 13 85 24
info-france@spinner-group.com

SPINNER ICT Inc.

2220 Northmont Parkway, 250
Duluth, GA 30096

USA

Phone: +1 770 2636 326
info@spinner-group.com

SPINNER Nordic AB

Kråketorpsgatan 20
43153 Mölndal

SWEDEN

Phone: +46 31 7061670
Fax: +46 31 7061679
info-nordic@spinner-group.com

SPINNER Telecommunication

Devices (Shanghai) Co., Ltd.
351 Lian Yang Road
Songjiang Industrial Zone
Shanghai 201613

P.R. CHINA

Phone: +86 21 577 45377
Fax: +86 21 577 40962
info-china@spinner-group.com

SPINNER UK Ltd.

Suite 8 Phoenix House
Golborne Enterprise Park,
High Street
Golborne, Warrington
WA3 3DP

UNITED KINGDOM

Phone: +44 1942 275222
Fax: +44 1942 275221
info-uk@spinner-group.com