

# R&S® TS7124

## RF SHIELDED BOX

Future-ready box for wireless  
device production testing



Product Brochure  
Version 05.00

**ROHDE & SCHWARZ**

Make ideas real



AT A GLANCE

RF shielded boxes are essential for reliably testing radio interfaces. The R&S®TS7124 RF shielded boxes enable reliable and reproducible measurements when a shielded test environment is needed.

As diagnostic tools for applications ranging from product design through the production line, the R&S®TS7124 RF shielded boxes are designed to meet the requirements for testing wireless devices under comparable measurement conditions. Their robust construction and rugged design ensure a long service life without any noticeable impact on shielding performance.

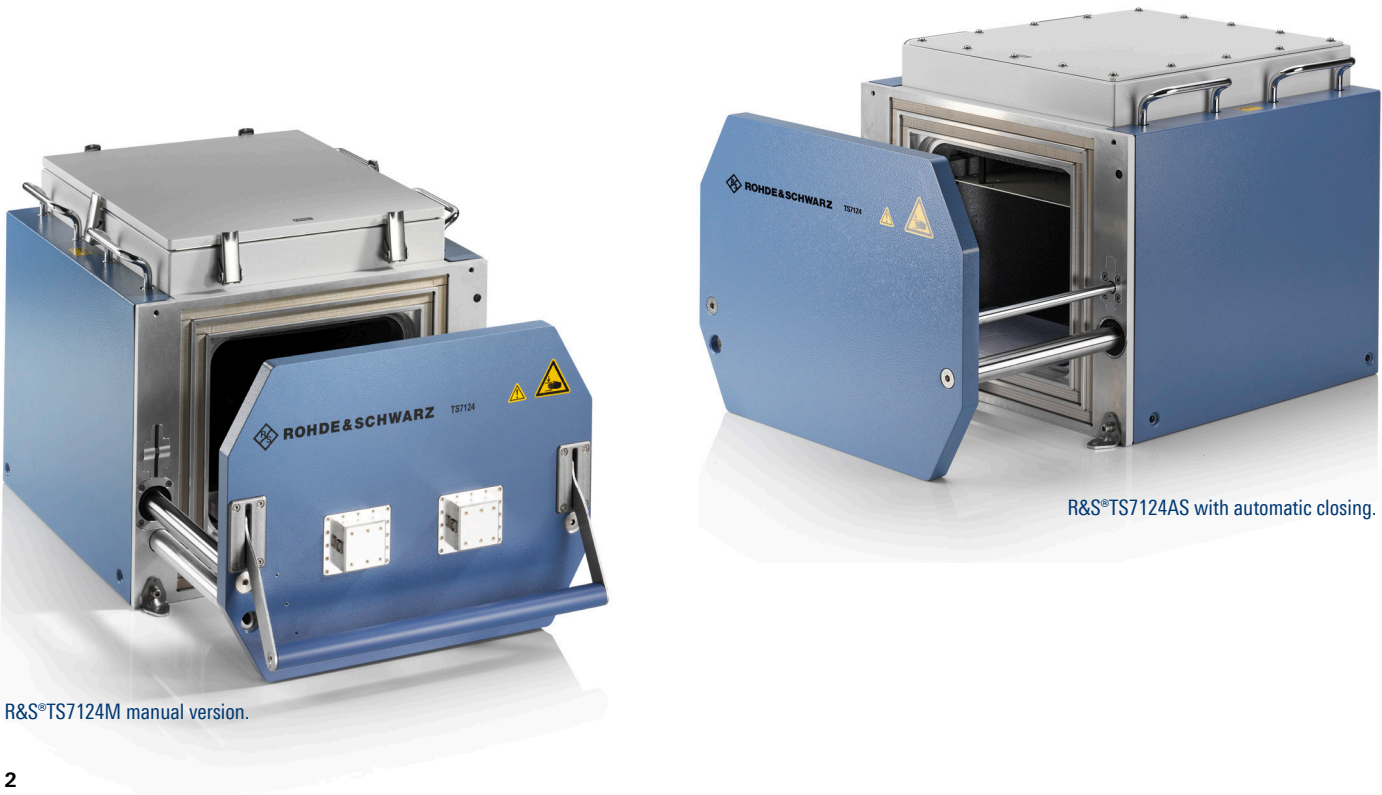
There are two models available. The R&S®TS7124M is a manual model while the R&S®TS7124AS enables automatic opening and closing of the RF box. The automatic model is designed especially for automated processes on the production line with a “soft close” feature that allows operation without additional security equipment.

The R&S®TS7124 features a large interior working space for measuring larger DUTs. It offers the possibility to integrate an antenna ring where numerous antennas might be placed, providing the possibility and flexibility to create a user-specific radiation pattern and measure radiated power at selected orientations.

Featuring high shielding effectiveness over a wide frequency range, the RF test boxes perform tests on modules and devices with a radio interface in line with a wide variety of standards, such as 5G FR1, LTE, WCDMA, CDMA2000®, GSM, UWB, WLAN, Bluetooth®, ISM, GPS, WiMAX™ and Zigbee.




Key facts




- Best shielding effectiveness in its class: > 80 dB
- Rugged design for long life
- Automatic version for production with special security feature (soft close)
- Possibility to integrate the box into a 19" rack
- Integrated feedthroughs (filtered RF connectors): customized configuration
- Antenna configurations for any application: customized radiation patterns using the antenna ring
- Antenna couplers for diverse technologies: 5G FR1, LTE, WCDMA, CDMA2000®, GSM, UWB, WLAN, Bluetooth®, ISM, GPS, WiMAX™ and Zigbee



RF chamber overview

With our well-established experience in innovative solutions based on top-quality engineering, Rohde & Schwarz provides you with a wide variety of OTA chambers.

			
	<b>R&amp;S®DST200 RF diagnostic chamber</b>	<b>R&amp;S®TS7124 RF shielded box</b>	<b>R&amp;S®CMW-Z10 RF shield box</b>
<b>Application</b>	<b>R&amp;D, production sample testing, diagnostics</b>	<b>R&amp;D, production</b>	<b>R&amp;D, service</b>
Frequency range	0.4 GHz to 18 GHz	0.7 GHz to 18 GHz	0.4 GHz to 6 GHz
Type	Near field	Near field	Coupling
Quiet zone	–	–	–
Positioner	3D great circle cut (optional)	–	–
Shielding effectiveness	100 dB	> 80 dB	> 60 dB
Dimensions (W × H × D)	0.77 m × 0.76 m × 0.7 m (30.3 in × 29.9 in × 27.5 in)	0.45 m × 0.4 m × 0.48 m (17.7 in × 15.7 in × 18.9 in)	0.32 m × 0.27 m × 0.53 m (12.6 in × 10.6 in × 20.9 in)

			
	<b>R&amp;S®CMQ200 shielding cube (opt. 1)</b>	<b>R&amp;S®CMQ500 shielding cube</b>	<b>R&amp;S®CMQ200 shielding cube (opt. 2)</b>
<b>Application</b>	<b>R&amp;D, production, automotive device/components</b>	<b>R&amp;D, production, 5G FR1 and 5G FR2 device/components LBS, NPT</b>	<b>R&amp;D, production, automotive device/component</b>
Frequency range	0.3 GHz to 14 GHz	0.7 GHz to 77 GHz	20 GHz to 77 GHz
Type	Near field	Direct far field (FR2)/near field (FR1)	White box direct far field/near field
Quiet zone	–	Ø 2 cm at 40 GHz	Ø 2 cm at 40 GHz
Positioner	–	–	–
Shielding effectiveness	> 80 dB	> 80 dB	> 60 dB
Dimensions (W × H × D)	0.45 m × 0.7 m × 0.72 m (17.7 in × 27.6 in × 28.3 in)	0.45 m × 0.7 m × 0.72 m (17.7 in × 27.6 in × 28.3 in)	0.45 m × 0.7 m × 0.72 m (17.7 in × 27.6 in × 28.3 in)

Specifications in brief		
Frequency range		300 MHz to 18 GHz
Shielding effectiveness		> 80 dB at 6 GHz
Interfaces		
Standard feedthroughs	RF connector	4 × N (outside) to SMA (inside)
Optional feedthroughs		► RF feedthroughs ► communications feedthroughs ► power feedthroughs ► other feedthroughs
General data		
Temperature ranges	operating temperature range	+5 °C to +40 °C
	storage temperature range	–20 °C to +60 °C
Relative humidity	operation	90% noncondensing at +10 °C to +30 °C, 75 % noncondensing at +10 °C to +40 °C
		24 V DC, < 200 mA, straight DC jack; outer diameter: 5.5 mm; inner diameter: 2.1 mm; length: 12 mm
Power input requirements	only R&S®TS7124AS, power supply unit included	
Power supply unit	only R&S®TS7124AS	
	Input	voltage 100 V to 240 V AC
		current 0.4 A
		frequency 47 Hz to 63 Hz
		adapter set for Europe, US, UK and Australia included
Output	voltage	24 V DC
	max. current load	625 mA
	DC plug	straight; outer diameter: 5.5 mm; inner diameter: 2.1 mm; length: 12 mm
Control of pneumatic system	only R&S®TS7124AS	D-Sub25
Compressed air input range	only R&S®TS7124AS	6 bar to 7 bar, 6 mm tubing
Dimensions		
	outer dimensions	450 mm × 400 mm × 480 mm (17.72 in × 15.75 in × 18.90 in)
	inner dimensions (with absorbers)	300 mm × 334 mm × 355 mm (11.81 in × 13.15 in × 13.89 in)
	rackmounting	19", 10 HU
Weight		approx. 35 kg (77.2 lb)

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# ORDERING INFORMATION

Designation	Type	Order No.
<b>Base units</b>		
RF shielded box, manual version, RF 4 × N, without front feedthroughs	R&S®TS7124M	1525.8564.02
RF shielded box, manual version, RF 4 × N, with 2 × front feedthroughs	R&S®TS7124M	1525.8564.12
RF shielded box, automatic closing, soft close, RF 4 × N, without front feedthroughs	R&S®TS7124AS	1525.8587.02
RF shielded box, automatic closing, soft close, RF 4 × N, with 2 × front feedthroughs	R&S®TS7124AS	1525.8587.12
<b>Recommended extras</b>		
Absorber kit	R&S®TS-F24ABS	1525.8593.02
Broadband spiral antenna coupler (300 MHz to 6 GHz)	R&S®TS-F24WA1	1525.8670.02
Vivaldi antenna, 0.7 GHz to 18 GHz	R&S®TS-F24-V1	1525.8964.02
Vivaldi antenna, 2.4 GHz to 18 GHz	R&S®TS-F24-V2	1525.8970.02
Cross-polarized Vivaldi antenna, 1.7 GHz to 18 GHz	R&S®TS-F24-V3	1525.8987.02
Narrow-band ISM antenna, 700 MHz to 960 MHz	R&S®TS-F24NB2	1525.8793.02
Low frequency RFID antenna, 20 kHz to 1 MHz	R&S®TS-F24HLF1	1530.8446.02
Antenna ring	R&S®TS-F24-AR	1525.8906.02
Half antenna ring	R&S®TS-F24-AH1	1525.8887.02
Antenna holder, for Vivaldi antenna	R&S®TS-F24-AH2	1525.8893.02
45° adapter, for additional tilt of the Vivaldi antennas	R&S® TS-F2X-VH4	1525.8758.02
DUT holder	R&S®TS-F24P1	1525.8664.02
Magnetic Helmholtz coil (automotive)	R&S®TS-F24HML1	1530.8430.02
Switch box	R&S®TS-F24SB1	1525.8712.03
Cable guide front to rear	R&S®TS-F24EC	1525.8929.02
19" rackmounting kit	R&S®TS-F24-Z1	1526.6942.02
Extended warranty, one to four year(s)	R&S®WEx	on request
<b>Coaxial RF feedthroughs</b>		
Feedthrough, 1 × BNC	R&S®TS-F1BCBB1	1533.4070.02
Feedthrough, 2 × BNC	R&S®TS-F1BCBB2	1533.4070.03
Feedthrough, RF, 4 × SMA to SMA	R&S®TS-F1RFMM4	1530.1058.02
Feedthrough, RF, 2 × N to SMA	R&S®TS-F1RFNM2	1525.8870.02
<b>Communications feedthroughs</b>		
Feedthrough, USB 2.0, type AB	R&S®TS-F1U2BA1	1525.8735.02
Feedthrough, USB 3.2, type AB	R&S®TS-F1U3BA1	1537.6632.02
Feedthrough, USB 3.2, type C	R&S®TS-F1U3CC1	1537.6649.02
Feedthrough, Ethernet	R&S®TS-F1ETRR1	1525.8729.02
Feedthrough, power over Ethernet	R&S®TS-F2ETRR1	1536.4049.02
<b>Power feedthroughs</b>		
Feedthrough, AC power, 110 V to 240 V AC, max. 2 A	R&S®TS-F1POAC1	1526.4840.02
Feedthrough, DC power, 16 V DC, max. 3 A	R&S®TS-F1PODC1	1537.6684.02
Feedthrough, DC power 30 V DC, max. 5 A	R&S®TS-F2PODC1	1540.6398.02
Feedthrough, power banana, 48 V DC, max. 5 A	R&S®TS-F2POBB2	1540.4043.02
<b>Other feedthroughs</b>		
Feedthrough, D-Sub, 15-pin	R&S®TS-F1SD152	1537.0070.02
Feedthrough, D-Sub, 25-pin to 9-pin	R&S®TS-F1SD259	1525.8835.02
Feedthrough, 4 × fiber optics	R&S®TS-F1OPFF4	1525.8864.02
Feedthrough, 4 × pneumatic	R&S®TS-F1PNPP4	1525.8858.02

## Service that adds value

- ▶ Worldwide
- ▶ Local and personalized
- ▶ Customized and flexible
- ▶ Uncompromising quality
- ▶ Long-term dependability

## Rohde & Schwarz

The Rohde & Schwarz technology group is among the trailblazers when it comes to paving the way for a safer and connected world with its leading solutions in test & measurement, technology systems and networks & cybersecurity. Founded more than 85 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

[www.rohde-schwarz.com](http://www.rohde-schwarz.com)

## Sustainable product design

- ▶ Environmental compatibility and eco-footprint
- ▶ Energy efficiency and low emissions
- ▶ Longevity and optimized total cost of ownership

Certified Quality Management  
**ISO 9001**

Certified Environmental Management  
**ISO 14001**

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