

R&S®TS7124

RF SHIELDED BOX

Future-ready box for wireless
device production testing



Product Brochure
Version 06.00

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.

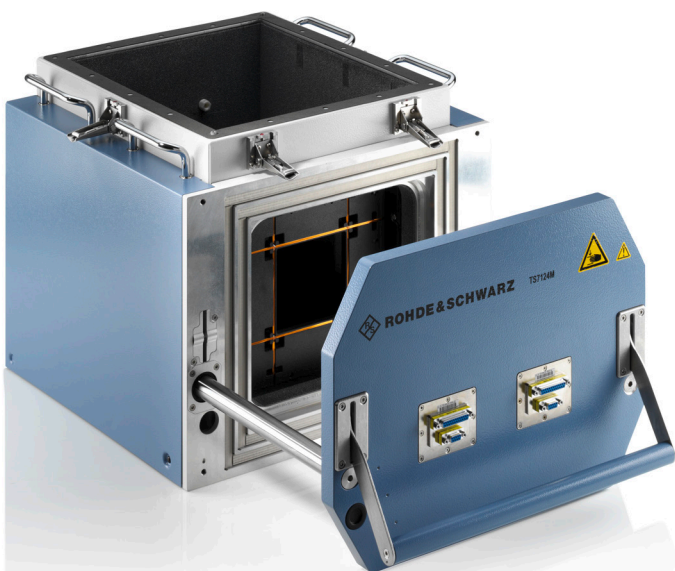
There are two models available. The R&S®TS7124M is a manual model while the R&S®TS7124AS enables automatic opening and closing of the RF box. The automatic model is designed especially for automated processes on the production line with a “soft close” feature that allows operation without additional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

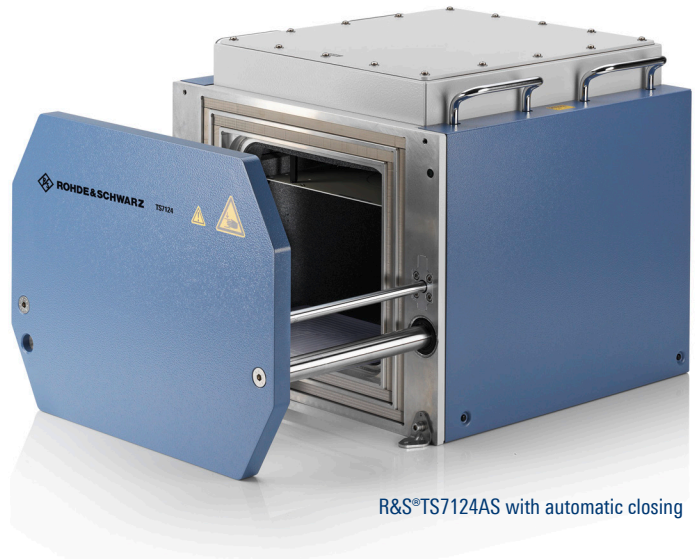
Featuring high shielding effectiveness over a wide frequency range, the RF test boxes perform tests on modules and devices with a radio interface in line with a wide variety of standards, such as 5G FR1, LTE, WCDMA, CDMA2000, GSM, UWB, WLAN, Bluetooth®, ISM, GPS, WiMAX and Zigbee.

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



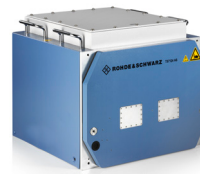
R&S®TS7124M manual version



R&S®TS7124AS with automatic closing

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.



	R&S®DST200 RF diagnostic chamber	R&S®TS7124 RF shielded box	R&S®CMW-Z10 RF shield box
Application	R&D, production sample testing, diagnostics	R&D, production	R&D, service
Frequency range	0.4 GHz to 18 GHz	0.3 GHz to 18 GHz	0.4 GHz to 8 GHz
Type	Near field	Near field	Coupling
Quiet zone	–	–	–
Positioner	3D great circle cut (optional)	–	–
Shielding effectiveness	100 dB	> 80 dB	> 55 dB (< 4 GHz)
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)



	R&S®CMQ200 shielding cube (opt. 1)	R&S®CMQ500 shielding cube	R&S®CMQ200 shielding cube (opt. 2)
Application	R&D, production, automotive device/components	R&D, production, 5G FR1 and 5G FR2 device/components LBS, NPT	R&D, production, automotive device/component
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) ▶ RF feedthroughs ▶ communications feedthroughs ▶ power feedthroughs ▶ other feedthroughs
Optional 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
Power input requirements	only R&S®TS7124AS, power supply unit included	24 V DC, < 200 mA, straight DC jack; outer diameter: 5.5 mm; inner diameter: 2.1 mm; length: 12 mm
Power supply unit	only R&S®TS7124AS	
Input	voltage	100 V to 240 V AC ± 10%
	current, frequency (depending on supplied power supply)	▶ 0.4 A, 47 Hz to 63 Hz ▶ 0.5 A, 50 Hz to 60 Hz ▶ 0.5 A to 1 A, 50 Hz to 60 Hz ▶ 1.4 A, 50 Hz to 60 Hz
Output	voltage	24 V DC
	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-Sub 15 (m), D-Sub9 (f), RJ-45
Compressed air input range	only R&S®TS7124AS	6 bar to 7 bar, 6 mm tubing
Dimensions	W × H × D	
	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.
Base units		
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
Recommended extras		
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	1525.8964.03
Vivaldi antenna, 2.4 GHz to 18 GHz	R&S°TS-F24-V2	1525.8970.03
Cross-polarized Vivaldi antenna, 1.7 GHz to 18 GHz	R&S°TS-F24-V3	1525.8987.03
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, mounted in upper position	R&S°TS-F24P1	1525.8664.02
DUT holder, mounted in lower position	R&S°TS-F24P1	1525.8664.04
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
Coaxial RF feedthroughs		
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
Communications feedthroughs		
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
Power feedthroughs		
Feedthrough, AC power, 100 V to 240 V AC ± 10%, 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
Other feedthroughs		
Feedthrough, D-Sub, 15-pin	R&S°TS-F1SD152	1537.0070.02
Feedthrough, D-Sub, 25-pin and 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

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