



# BLUETEST.se

## RTS60

### Reverberation Test System

High Speed, High Performance OTA Test System

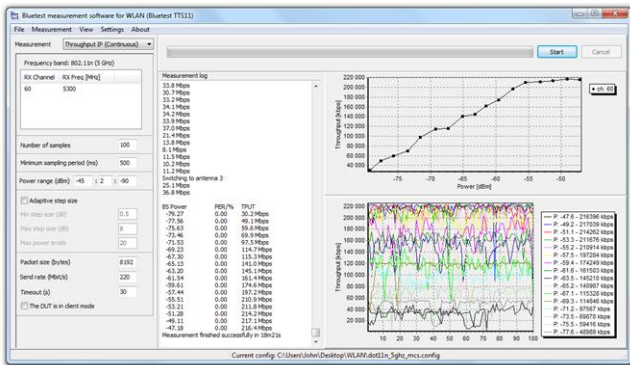


The Bluetest Reverberation Test Systems is the ideal choice for developers of wireless devices and components as well as operators wanting to verify their suppliers' wireless devices. Over-The-Air (OTA) measurements reflect the true performance of the device and ensure that the tested product performs as intended once released to the market. The patented design creates a rich and isotropic multipath environment inside the chamber allowing for fast, easy and realistic performance measurements on SISO as well as MIMO devices like LTE and WLAN.

The RTS is capable of performing passive measurements like antenna efficiency, diversity and MIMO gain as well as active measurements like TRP, TIS and Throughput (TPUT).

## Improve your Time to Market

The Bluetest Reverberation Test System technology combined with the easy handling of the RTS system and user friendly software makes the testing faster and more effective than with other solutions on the market. Active and passive MIMO measurements are performed as fast and easy as SISO measurements without any expensive or complex additional equipment. The downtime due to maintenance is reduced to a bare minimum and calibration can be performed by the operator in 15 minutes.



## Best in Class Accuracy and Repeatability

Bluetest's long experience in OTA reverberation measurement technology has resulted in a superior mode stirring and measurement antenna concept that produce excellent accuracy and repeatability of the measurements.

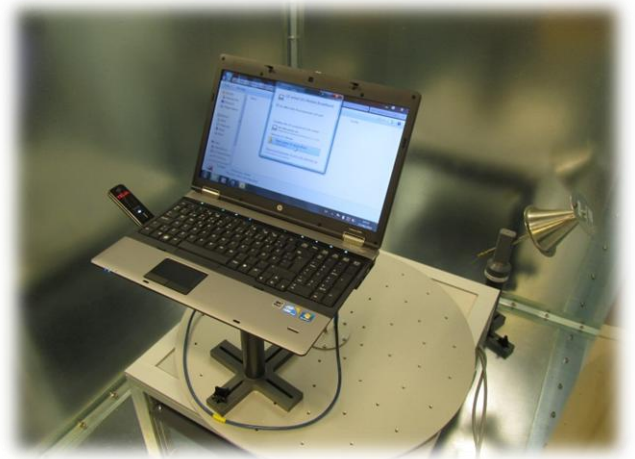
## Future Proof Investment

Due to the realistic multi-path test method used in the RTS systems it is easily extended to future wireless communication technologies. The design is scalable, which means that an investment only needs to support the technology that is used in the development right now. Technologies that will be used tomorrow can be added tomorrow. The chamber can due to its compact size be placed at any location in the lab or office and is easily moved to a new place if required.

## Throughput Measurements

Throughput measurement on data communication focused standards like LTE, WLAN and HSPA is becoming the method to characterize wireless data devices. Bluetest offers throughput measurements for most of the wireless data communication standards, on MAC layer\* as well as the IP layer\*.

\* Depends on the capabilities of the selected base station simulator



## Test Object Support

The turntable with 20kg loading capacity can carry a Device Under Test (DUT) with a size up to 0.7m x 0.5m height. DUT DC power feed through (up to 24V DC) is available as standard in the RTS60 and DUT communication via USB2.0 or 100/1000Mbps Ethernet are available as options.

## Wide Range of Systems Options and Accessories

A number of system options like DUT communication, Chamber light, Chamber camera and active MIMO measurement support are available to the RTS series. The active 2x2 or 4x4 MIMO measurement capability can easily be added from the beginning or installed at later stage. Accessories include reference antennas, DUT fixtures and system loads.

## Specification RTS60

### Supported Passive Measurements

Antenna Efficiency Measurements  
Diversity  
MIMO

### Supported Active Measurements

TRP (Incl. in 3GPP TS 34:114)  
TIS (Incl. in 3GPP TS 34:114)  
TPUT (Throughput) (Incl. in 3GPP TS 37:977)

### Accuracy & Repeatability

Passive Measurements 0.3 dB (STD)  
TRP 0.3 dB (STD)  
TIS 0.5 dB (STD)  
Repeatability 0.1 dB (STD)

### Test Time (Typical)

Passive Antenna Measurements 1 min  
Passive Diversity Gain 1 min  
Passive MIMO Capacity 1 min  
Test Time TRP 1 min/channel  
Test Time TIS 10 min/channel  
Test Time TPUT 1-2 min  
Test Time Fast TIS 3 min/channel\*

\*GSM, GPRS/EGPRS, and WCDMA

**Frequency Range** 650 – 6000 MHz

**Shielding** >100dB

### Supported Technologies (software options)

	TRP	TIS	Fast TIS	TPUT MAC* (Throughput)	TPUT IP* (Throughput)
<b>GSM</b>	✓	✓	✓		
<b>GPRS/EGPRS</b>	✓	✓	✓		
<b>WCDMA</b>	✓	✓	✓		
<b>HSPA/HSPA+</b>	✓	✓		✓	✓
<b>CDMA2000 1x</b>	✓	✓			✓
<b>EVDO Rev 0 and A</b>	✓	✓		✓	✓
<b>TD-SCDMA</b>	✓	✓			
<b>TD-SCDMA HSPA</b>	✓	✓			
<b>LTE FDD/TDD</b>	✓	✓		✓	✓
<b>WiMAX</b>	✓	✓		✓	✓
<b>WLAN 802.11a/b/g/n</b>	✓	✓			✓
<b>Bluetooth</b>	✓	✓			

\* Depends on the capabilities of the selected base station simulator

### Supported Network Analyzers

Most available Agilent, R&S and Anritsu analyzers.

### Supported Communication Testers

Bluetooth: Agilent N4010A  
WLAN: R&R CMW500,  
Anritsu 8860/Bluetest TTS11  
WiMAX: R&S CMW500/CMW270  
Agilent E6651A  
All Cellular Standards: Agilent 8960  
Anritsu MT8815/8820,  
R&S CMU200/CMW500

### Outside Dimensions

Length: 1940 mm  
Height: 2000 mm  
Depth: 1400 mm

### Ordering Information

#### RTS60

301

#### Bluetest Reverberation Test System RTS60

High speed, high accuracy RTS prepared for active MIMO measurements  
Measurement antennas and cables  
DUT DC Power interface  
Prepared for DUT Data communication  
Turntable for up to 20kg load.

### Hardware Options

119 Chamber LED Lamp  
116 Active MIMO 2x2  
120 (121) Active MIMO 4x4 (upgrade of existing chamber)  
118 Chamber camera

### DUT Communication Interfaces

174-1 Basic equipment, shielded box, wave trap, etc (Mandatory to be able to have data interfaces)  
174-2 USB 2.0, includes filters, optical converters, power supplies, fiber, cables, etc.  
174-3 Ethernet 10/100Mb, includes filters, optical converters, power supplies, fiber, cables, etc.  
174-4 Gb Ethernet, includes filters, optical converters, power supplies, fiber, cables, etc.

### Measurement Accessories

151 Cylinder for lossy liquid  
152 Universal Antenna/Mobile holder  
153 Small table for DUT (Laptop or head phantom)  
154 Low loss mobile holder  
155 Low loss tablet PC holder  
157 Absorber Kit  
158 ISS11, Instrument Switch  
160 Laptop Phantom

### Calibration Antennas

131 Calibration antenna 650 MHz – 3.5 GHz  
132 Calibration antenna 2.0 GHz – 6.0 GHz

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Product specification and descriptions in this document are subject to change without notice.

