BLUETEST.se

TTS11

802.11 a/b/g/n 2x2 MIMO WLAN Throughput Tester

Fast and Accurate WLAN Throughput Measurements

The Bluetest WLAN Throughput Tester, TTS11 is an excellent tool for fast and accurate WLAN throughput measurements on the IP layer. Measuring the throughput versus received power level is a good way to characterize the WLAN device and distinguish between good and not so good transceiver design solutions. TTS11 is fully integrated with the Bluetest RTS software.

Focus is on downlink measurements but also uplink measurements are possible for convenient functional device testing.

OTA Testing with the Bluetest RTS60 Reverberation Test System

Over The Air testing of WLAN devices is easy with the Bluetest TTS11 WLAN Throughput Tester and the Bluetest RTS60 Reverberation Test System. RTS60 supports MIMO and devices up to 20kg weight. It is possible to provide the Device Under Test (DUT) with DC power, and USB as well as Ethernet communication with the DUT is also available.

Bluetest RTS60 is today the market leading Reverberation Test System for OTA testing.

Improve your Test Throughput

The easy handling of the RTS60 and the TTS11 tester makes testing faster and more efficient than with other solutions on the market, hence reducing your design effort and minimizing time to market.

RTS60 and TTS11 are designed with usability in mind, which means that the down time of the system due to maintenance is reduced to a minimum. The calibration is extremely simple and can be performed by the operator in 15 minutes.
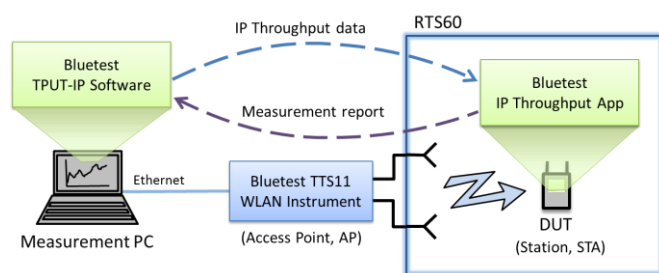
Best in Class Accuracy, Repeatability and Stability

Accuracy of the measurements in a Bluetest RTS60 with TTS11 is excellent and measurements can be repeated over again with the same result. The robust design of software and hardware makes the stability something that users do not need to worry about.

Flexibility

The TTS11 with its dynamic range of 90dB supports both OTA testing with the RTS60 system, as well as conducted tests.

A separate Man Machine Interface (MMI) is available for control of the TTS11 in cases where the RTS60 system is not used.

The TTS11 also supports connection of an external access point with two antennas to allow maximum user flexibility.

TPUT-IP Software

The TPUT-IP SW controls the TTS11 as well as the RTS60. Throughput traffic is generated and throughput values from the DUT is reported back and collected by the TPUT-IP SW. The measurement result can be viewed in real time for convenient supervision of the measurement progress.

The measurement results can then be analyzed in the DataVisualizer SW. The DataVisualizer is capable of displaying multiple measurements in the same chart for easy comparison of results.
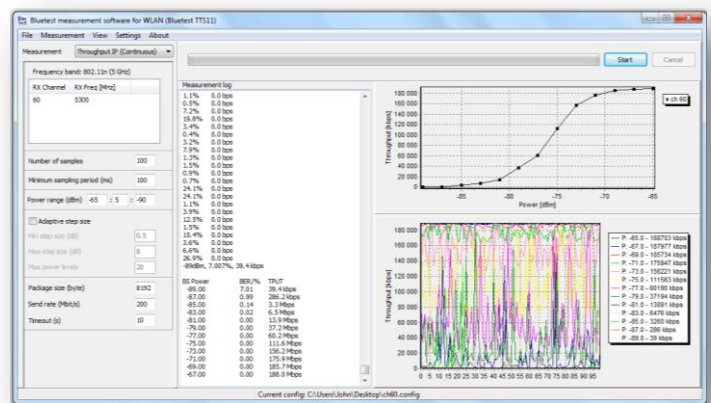
IP Throughput Device Application

An application in the test device measures the incoming traffic and reports throughput values back via the uplink to the Measurement PC.

The measurement Application is available for the majority of operating systems used in WLAN devices today.

Instrument Control

The TTS 11 is controlled via SCPI over Ethernet. A separate MMI – Man Machine Interface can be used for stand-alone operation without the RTS system. The MMI enables full control of the TTS11 parameter setting and supports traffic generation. The MMI SW is scheduled for TTS11 release 2.

TTS11 Specification

Supported Measurements
Downlink Throughput on IP layer
Uplink Throughput on IP layer*

Supported Standards
802.11 a/b/g/n
2 x 2 MIMO with one additional RX (uplink) port

Frequency Band
2.412 to 2.472 GHz,   13 channels
5.180 to 5.320 GHz,   8 channels
5.500 to 5.700 GHz,   8 channels (excludes 5.600 to 5.640 GHz)

Output Power
-10 to -100dBm in 1dB steps

Max Input Power
Ant 0 RX, Ant 1 RX/TX, Ant 2 RX/TX: 0 dBm
Ext AP Ant 1, Ext AP Ant 2 (Optional):   20 dBm

Connections
Front panel:
Ant0 RX   Type N, female 50 Ω
Ant1 RX/TX   Type N, female 50 Ω
Ant2 RX/TX   Type N, female 50 Ω
Control & Traffic: Ethernet, RJ-45
Ext AP Ant 1 (Optional)   Type N, female 50 Ω
Ext AP Ant 2 (Optional)   Type N, female 50 Ω
Rear panel:
Control & Traffic   Ethernet, RJ-45
Service   USB, type B
Power   Circular 5.5/2.5mm

Power
110-230V AC, Max 48W

Dimensions
Width x Height x Depth (mm):   421x133x330
Weight: 11kg
(May vary depending on selected options)

Ordering Information
TTS11 2x2 MIMO   601
External 2x2 AP input option   602
19" rack mount kit   603
MMI SW*   604

WLAN IP Throughput SW   261-9
UE App Windows XP/Vista/7   263-1
UE App Android   263-2
UE App iOS   263-3
UE App Windows Phone   263-4
UE App MacOS   263-5
UE App Linux   263-6

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

*MMI and uplink measurements will become available via SW upgrade in release 2.

Required Minimum RTS60 Configuration for OTA Measurements
Bluetest Reverberation Test System RTS60
MIMO 2x2 option
Basic Antenna measurements SW
Vector Network Analyzer driver
WLAN TPUT-IP SW

General Specification RTS60 Test System

General Specification
Frequency Range: 650 – 6000 MHz
Accuracy TRP: 0.3 dB (STD)
Accuracy TIS: 0.5 dB (STD)
Repeatability: 0.1 dB (STD)

Dimensions
Length x Height x Depth (mm):   1940x2000x1400

Supported Technologies

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

* Depends on the capabilities of the selected base station simulator

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