RTX
WIRELESS WISDOM

RTX2254

BLUETOOTH RF TESTER

DATA SHEET

The RTX2254 provides a very efficient and cost-effective way of monitoring quality and performance by allowing the user to perform key parametric tests of the RF path of Bluetooth low-energy devices on both the PCBA and final assembly level.

RTX2254

The RTX2254 is a dedicated Bluetooth Low-Energy RF tester designed primarily for test in manufacturing. Due to its versatile design, it is easily adaptable in other applications such as Q/A and R&D. The RTX2254's design and capabilities ensure an efficient execution of RF measurements which in combination with an aggressive price minimize the overall cost of test.

The RTX2254 has a no-nonsense design and includes exactly what is needed to be used efficiently, either standalone or embedded into an ATE system for the manufacturing environment. To simplify integration and enhance robustness, all interfaces, including protection and level conversion, are integrated into the RTX 2254. RTX's versatile drivers, make it simple and easy to integrate the RTX2254 into your own ATE system.

FEATURES

- *Supports Bluetooth versions 4.0,4.1,4.2 & 5.0*
- *Focus on test of key parameters*
- *Full HCI control of DUT during RF test via embedded interface*
- *Auto-sensing level converter*
- *Interface to all devices through same USB interface port*
- *Available with single or dual DUT support*
- *Supports all generally available BLE chipsets*
- *Competitively priced*

TESTER INTERFACES

APPLICATIONS

MANUFACTURING

- *Automatic Test Equipment (ATE) systems for inline test of BLE products*
- *ATE systems for combined test of BLE products (firmware download, baseband, RF test, etc.)*
- *ATE systems used in combination with dual DUT supported version of RTX2254 reduce tact time and thus optimize equipment utilization*

QUALITY ASSURANCE

- *Manual or automatic sample test of manufactured BLE products*

R&D

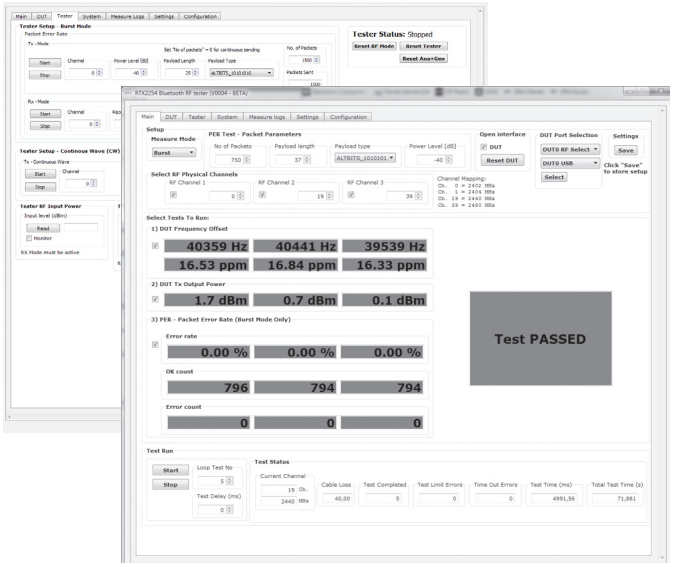
- *Control of BLE devices in R&D measurement setup*
- *Swift verification of RF performance of prototypes*

MEASUREMENT CAPABILITIES

To ensure a cost-efficient solution for manufacturers of BLE devices, RTX has, in cooperation with the major Bluetooth low-energy chip vendors, identified and implemented the following key measurement parameters for the RTX2254.

KEY MEASUREMENT PARAMETERS

- *Transmit power*
- *Carrier frequency offset*
- *Packet Error Rate*
- *Receiver sensitivity*



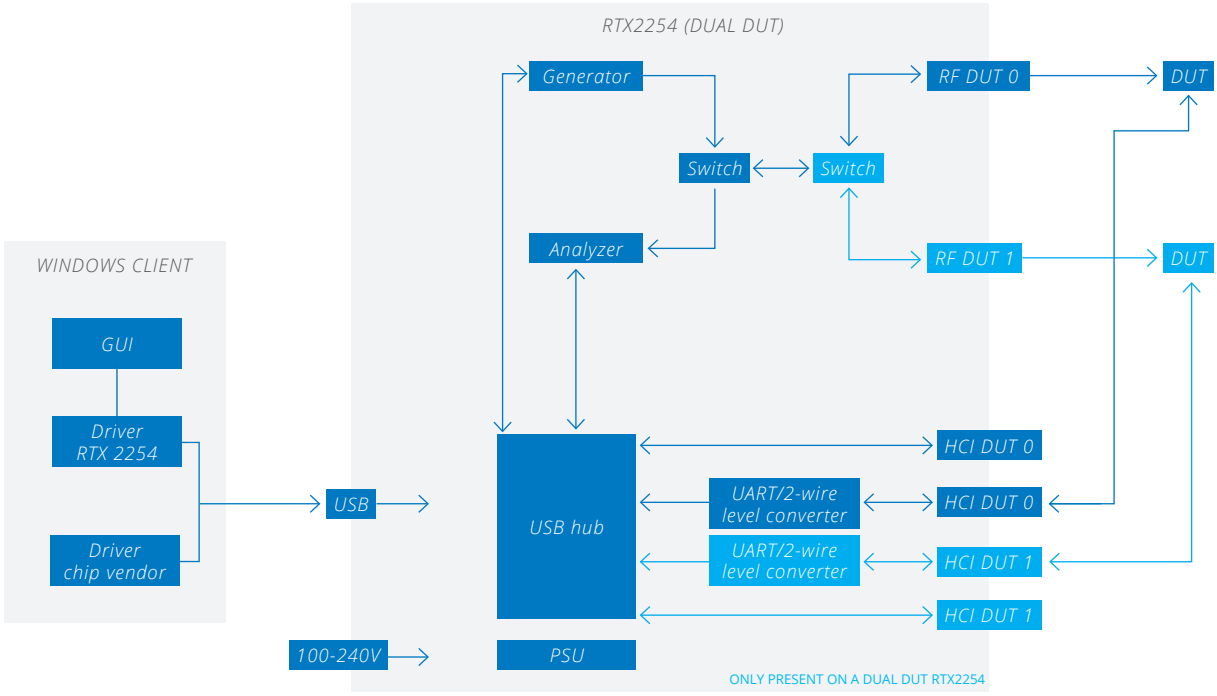
VERSATILE DRIVER

The RTX2254 has an integrated HCI interface with support for RTX's own driver but also drivers for the various Bluetooth chip manufacturers. This functionality enables users to support both standard HCI commands as well as vendor-specific commands.

KEY FEATURES

- *Can co-exist with chip vendors dedicated BLE drivers*
- *Enables support for all HCI commands and firmware downloads, etc.*
- *Enables remote control of RTX2254 and DUT*
- *Is included in the software package together with GUI, API documentation, sample code, etc.*

BLOCK DIAGRAM



TECHNICAL SPECIFICATIONS

SUPPORT	SPECIFICATIONS
BLUETOOTH VERSIONS	4.0, 4.1, 4.2 & 5.0
SIGNAL GENERATOR	**SPECIFICATIONS**
FREQUENCY RANGE	2402 MHz to 2480 MHz
FREQUENCY ACCURACY	+/- 1.0 ppm
AGING	<0.5 ppm/year at 35°C
OUTPUT LEVEL	-100 dBm to -40 dBm
RESOLUTION	0.5 dB
LEVEL ERROR	+/- 1.5 dB
MODULATION	GFSK
ANALYSER	**SPECIFICATIONS**
FREQUENCY RANGE	Same as signal generator
LEVEL METER (NTP) RANGE	-50 dBm to +10 dBm
LEVEL METER (NTP) RESOLUTION	0.1 dB
ACCURACY FOR NTP	+/- 1.0 dB
CONNECTIONS	**SPECIFICATIONS**
RF IN/OUT (DUT 0 & 1)	N (50Ω)
DUT HCI (DUT 0 &1)	USB, UART 2 & 4 wire, 1.8 - 5.0 V (auto-level sensing)
GENERAL DATA	**SPECIFICATIONS**
POWER CONSUMPTION	Approx. 18 W
OPERATING TEMPERATURE RANGE	+15°C to +40°C (59°F to 95°F)
STORAGE TEMPERATURE RANGE	-20°C to +60°C (35°F to 140°F)
OPERATING HUMIDITY	< 75% relative humidity at 40°C (104°F) non-condensing
DIMENSIONS (WXHXD)	255 x 105 x 270 mm (approx. 10 x 4 ⅛ x 10 ½ in)
WEIGHT	3.9 kg (8 lbs 10 oz)

ORDERING DETAILS

RTX NO.	INSTRUMENTATION	DESCRIPTION
95101347	RTX2254SA-1 BLE RF tester	BLE RF tester with support for 1 DUT
95101348	RTX2254SA-2 BLE RF tester	BLE RF tester with support for 2 DUTs