

# Synthetic Instrument Radio Test Set

Full-spectrum test instrument



BAE Systems' Radio Test Set (RTS) is capable of testing the Army's wide range of legacy radio types as well as future software defined radios.

Our RTS utilizes a standard COTS software environment which allows the Army to develop their own Test Program Set (TPS) software or modify existing TPS software.

It uses a COTS modular open-architecture, scalable design which lowers life cycle costs, mitigating future obsolescence.

It offers a user-friendly, intuitive operator interface – that is touch-screen based and icon driven – to improve ease of use and training.

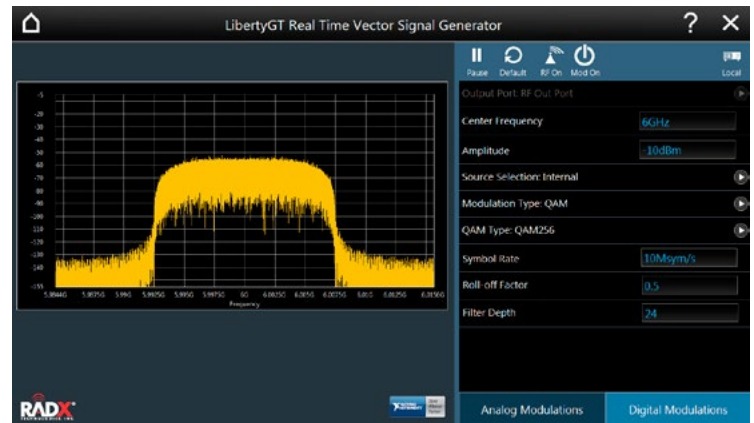
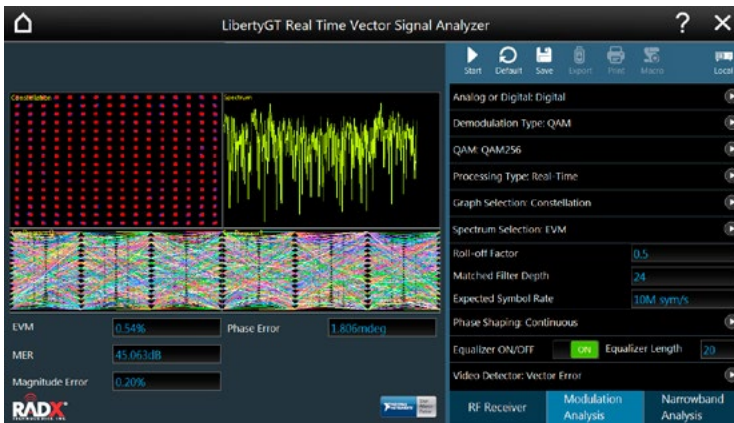
Our Radio Test Set is a modular, commercial off-the-shelf (COTS), multifunction, programmable, automated, bench-top synthetic instrument that supports a wide range of real-time RF and microwave stimulus test and measurement (T&M) applications. Featuring a unique, real-time modular Software Defined Synthetic Instrument (SDSI®) architecture, intuitive touchscreen interface and industry-leading programmability, one LGT1211B can replace over a dozen "boxed" T&M instruments and test system components to significantly reduce T&M system size, weight and power and total cost of ownership (TCO), while dramatically improving measurement throughput.

The LGT1211B sets a new standard for cost-effective, high-throughput, multifunction, parametric testing of commercial and military radios, avionics, wireless communications and other RF and microwave systems where the combination of programmability, flexibility, performance, throughput, long life cycle support and low TCO are of paramount importance. This COTS instrument is software configurable, providing a full rack of instrument capability in a single integrated PXI Express enclosure.

The LGT1211B features an extensive suite of tightly-integrated RADX® Real-Time Measurement Science Firmware and Software (MSFS) modules that includes patented and patent-pending real-time SDSI technology. The LGT1211B real-time MSFS utilizes the system's FPGA processing to eliminate the measurement data gaps found in non-real-time signal analyzers and radio testers that affect measurement fidelity on spread spectrum and other advanced, digital signals.

**The LGT1211B, when fully configured, provides the following capabilities for radio test applications from 100 kHz to 6 GHz, with options to 26.5 GHz:**

- Real-time vector signal generator
- Real-time vector signal analyzer
- Real-time spectrum analyzer
- DSP-based RF power meter
- RF frequency counter
- Digital storage oscilloscope
- Digital multi-meter
- Audio analyzer
  - SINAD meter
  - THD plus noise meter
  - AF counter
  - AF level meter
  - AF generator
- Real-time analog modulator
- Real-time analog demodulator
- Analog modulation analyzer
- Real-time digital modulator
- Real-time digital demodulator
- Digital modulation analyzer
- Bit error rate tester
- Data pattern generator
- Arbitrary waveform generator



## FEATURES AND BENEFITS

- Full spectrum test capability for DOD radios and communications systems
- Fully capable of supporting new radios and communication systems
- Fully capable of parametric and functional RF, analog and digital testing
- Full spectrum RF (100 kHz to 6 GHz, with options to 26.5 GHz)
  - Digital Signal Processing-based RF SDSL provides flexibility and growth through software algorithms
- Easy to program with support for LabVIEW™, TestStand™, C, C++, Java™ and Python™
- Lower life cycle cost
  - Requires little operator training
  - Open architecture and modularity allow customization without major design changes
  - Proven system reliability
- Open system architecture facilitates hardware module upgrades with minimal impact on test programs
- Sustainment plan and logistics infrastructure reduce costs to users
- Ease of maintenance
  - Modular COTS PXI modules are easily replaceable
  - Automated self-contained calibration
- LGT1211B PXIe enclosure with hinged front panel and 1080p HD touchscreen
  - 18-slot PXI/PXIe 12 GB/sec enclosure (optional 24 GB/sec)
  - Modular power supply
  - Front-to-back filtered air cooling
  - Rack mount kit
  - Hinged front panel for serviceability
  - 1080p HD aux display via display port
- Internal 10 MHz time reference improves test accuracy
- High density UUT interface
- Options for GPIB, MIL-STD-1553B, legacy serial and Ethernet interfaces
- Optional ruggedized transit case
- Optional NIST traceable calibration certs and services
- Designed to comply with MIL-PRF-2800-F Class 3

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