

FRVS™ Bluetooth® Test System

RF Qualification Test System



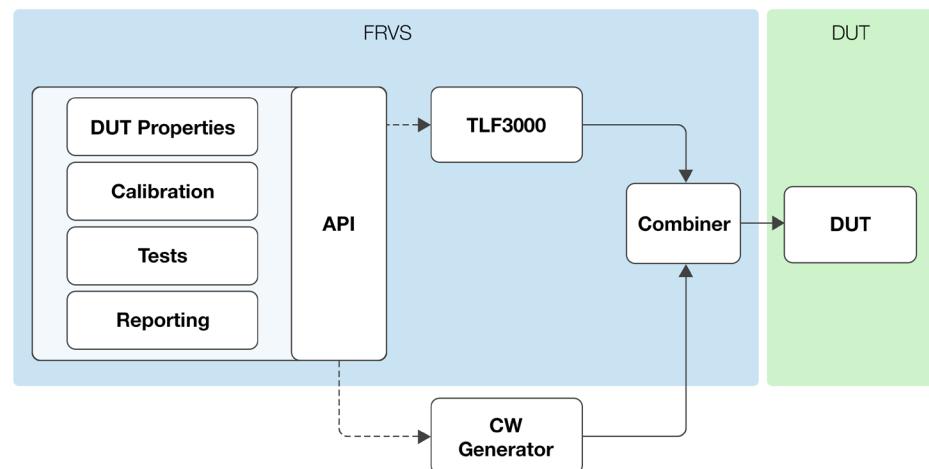
Key Features and Benefits

- Recognized by Bluetooth SIG as a validated test system for Bluetooth BR/EDR and LE RF Test Specifications
- Highly versatile test system based on Teledyne LeCroy TLF3000 RF Tester
- Fully automated test bench solution with unrivaled speed of test
- Support for all category A and B tests listed in the latest Bluetooth SIG TCRL
- Test case coverage includes: Transmitter and Receiver tests for 1Ms/s, 2Ms/s, Stable Modulation and LE Coded
- AoA and AoD test cases
- Automated compensation across 2.4GHz band for cable loss
- Detailed test reports created automatically for Bluetooth SIG submission
- Ability to run all tests for formal qualification or a selected subset of tests for pre-compliance confidence
- Graceful recovery and continuation of testing in the case of DUT failure or connection issues
- Compact, powerful and portable

The FRVS Bluetooth Test System is recognized by the Bluetooth SIG as a validated test system for qualification testing of products to the Bluetooth BR/EDR and Low Energy RF test specifications.

At the core of the FRVS system is the Teledyne LeCroy TLF3000 RF Tester which can test all the test cases up to 6GHz in the specification. (To perform blocking performance test cases which go up to 12.75GHz, an external CW generator is used.)

The FRVS system is a highly portable and flexible qualification testing solution that, due to its unique parallel architecture, can execute testing much faster than traditional RF test systems. This compact yet powerful system is significantly smaller than comparable solutions, and can easily be accommodated on the test bench.



The FRVS Test System's main components include:

- Windows Host PC
- TLF3000 hardware unit
- FRVS BR/EDR and LE Validated Test Software
- External CW generator
- 2-way RF combiner

The user configures the software for DUT connection and parameters from ICS/IXIT to enable test case selection. DUT properties are verified at the start of each test, and if incompatible, a test will not be run.

Test results are displayed in real-time and can be reviewed after each test run. Test results can be reviewed in the software or exported into a PDF report for full breakdown of parametrized results for individual tests.



FRVS Bluetooth Test System supports the following features:

Host PC Requirements

- **Supported Host OS**
Windows 10, 11
- **Host Interfaces**
 - USB
 - Connector type: Micro-USB
 - Speed Rating: High Speed
 - VBUS Load: 2.2 μ F, > 10 k Ω
 - Ethernet
 - Connector type: RJ45
 - Speed: 10 / 100 / 1000

Hardware Specifications (TLF3000)

- **Input Power**
 - Connector type: 2.5 mm jack
 - Input voltage: 12 V DC
 - Power: 10 W typical (application dependent)
 - Reverse polarity protection: Yes
 - Over voltage protection: Yes
 - Under voltage protection: Yes
- **Dimensions**
158.5 mm x 160.0 mm x 47.0 mm (6.3" X 1.9" X 6.3")
- **Weight**
1.3 kg (2.87 lb)
- **Operating Temperature**
0°C to 40°C
- **Humidity**
0% - 90% (0 °C – 35 °C), non-condensing

BR/EDR	LE
Data Rate	
1M	1M
2M	Coded 1M (S=2, S=8)
3M	2M
Modulation	
GFSK	GFSK
$\pi/4$ -DQPSK	Stable Modulation
8DPSK	-
Other	
1-slot	AoA
3-slot	AoD
5-slot	1 μ s, 2 μ s Slots
Enhanced Power Control	Constant Tone Extension

The FRVS test system provides access to test cases as shown below:

	BR/EDR	LE
Receiver Tests		
Receiver Sensitivity	•	•
C/I performance	•	•
Blocking performance	Δ	Δ
Intermodulation Performance	•	•
Maximum Input Level	•	•
PER Report Integrity	N/A	•
BER Floor Performance	•	N/A
IQ Samples Coherency	N/A	•
IQ Samples Dynamic Range	N/A	•

	BR/EDR	LE
Transmitter Tests		
Output Power	•	•
Power Density	•	N/A
TX Output Spectrum	•	N/A
Relative Transmit Power	•	N/A
Modulation Characteristics	•	•
Carrier frequency offset and drift	•	•
In-band emissions	N/A	•
Power Control	•	N/A
Differential Phase Encoding	•	N/A
In-band Spurious Emissions	•	N/A
Guard Time	•	N/A
Synchronization Sequence and Trailer	•	N/A
Tx Power Stability	N/A	•
Antenna switching integrity	N/A	•

Δ = CW Generator required for 6GHz to 12.75GHz N/A = No test defined by SIG

Ordering Information

Product Description

Product Code

FRVS Bluetooth LE & BR/EDR Annual Software License

2016-25000-000

Requires:

- Teledyne LeCroy TLF3000 Hardware
- Teledyne LeCroy RF Tester Suite - LE Developer
- Teledyne LeCroy RF Tester Suite - BR/EDR Developer
- AoA/AoD Support - Developer (Includes 8-way RF switch)

2014-25000-000

2013-22250-003

2013-22250-025

2013-22250-020

Options:

HW Warranty Extension - Type 2

2016-23100-000



Local sales offices are located throughout the world.
Visit our website to find the most convenient location.
1.800.359.8570 • teledynelecroy.com



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