

# Frontline® Harmony LE Tester



## Key Features and Benefits

- Provides all low energy HCI / Link Layer tests needed to qualify a low energy device
- Compliant with the latest Bluetooth LE core specification
- Summarizes and pinpoints exact cause of a FAIL or INCONCLUSIVE verdict
- Easily add test results to SIG-generated Test plan (TPG)
- Test Manager, Upper Tester and Lower Tester in one product
- Configurable option to Power Cycle your IUT via HCI or USB allows maximum control with minimal physical interaction
- Automated error recovery of IUT from failures during testing prevents cascade of failures and "false-negatives"
- Works with the included Frontline Sodera Bluetooth Protocol Analyzer to understand and debug each failure

Teledyne LeCroy puts robust conformance testing in the palm of your hand with the Frontline Harmony Low Energy Tester, an integrated software/hardware test platform for Bluetooth protocol qualification testing that provides Test Manager, Upper Tester and Lower Tester in one product. The Harmony Low Energy Tester performs complete Bluetooth LE controller qualification testing for LE Link Layer and HCI test specifications, providing coverage for Bluetooth LE 4.0, 4.1, 4.2, 5, and upcoming features.

The Harmony LE Tester is comprised of three components. The Test Manager is responsible for test execution and logging, running SIG-compliant test scripts, and automated test execution, which allows the system to be integrated into automated regression test systems where no operator intervention is required in order to execute a test suite and parse the pass/fail results. Automated error recovery of the IUT from failures during testing prevents a cascade of failures due to a previous test, limiting failures to just the test that caused the IUT to fail.

The Upper Tester interfaces to the IUT (Implementation Under Test) via HCI UART, and is responsible for HCI testing.

The Lower Tester does RF over-the-air and RF conducted testing.

Once tests have been run, the Harmony LE further simplifies the conformance process by automating the creation of Test evidence for submission to the Bluetooth SIG, including:

- Validated compliance reporting to submit for SIG certification
- Easy addition of test results to SIG-generated Test plan (TPG)
- HCI and over-the-air capture files
- complete log of test case validations and verdicts

Knowing that your IUT failed a test is important for conformance, but the Harmony LE Tester provides more than just a pass, fail or inconclusive result for conformance certification - it is a sophisticated protocol analysis and tester platform, providing test case logging and debugging. The Harmony LE Tester summarizes and helps to pinpoint the cause of a fail or inconclusive verdict with detailed information to help understand and debug each failure.



The Frontline Harmony LE Tester includes the powerful Frontline Sodera Bluetooth Protocol Analyzer

### Specifications

- **Bluetooth LE controller qualification testing for LE Link Layer and HCI test specifications**

Bluetooth LE 4.0, 4.1, 4.2, 5  
Upcoming Bluetooth features

- **Timestamp Resolution**  
125 nsec

- **Lower Tester interfaces to IUT**  
RF over-the-air  
RF conducted

- **Upper Tester interfaces to IUT**  
HCI UART

- **Power**  
AC Adapter supplied  
Output of the adapter is 5Vdc, 1.2A

- **Dimensions**  
4.1 x 4.1 x 1.0 inches  
(104 x 104 x 25 mm)

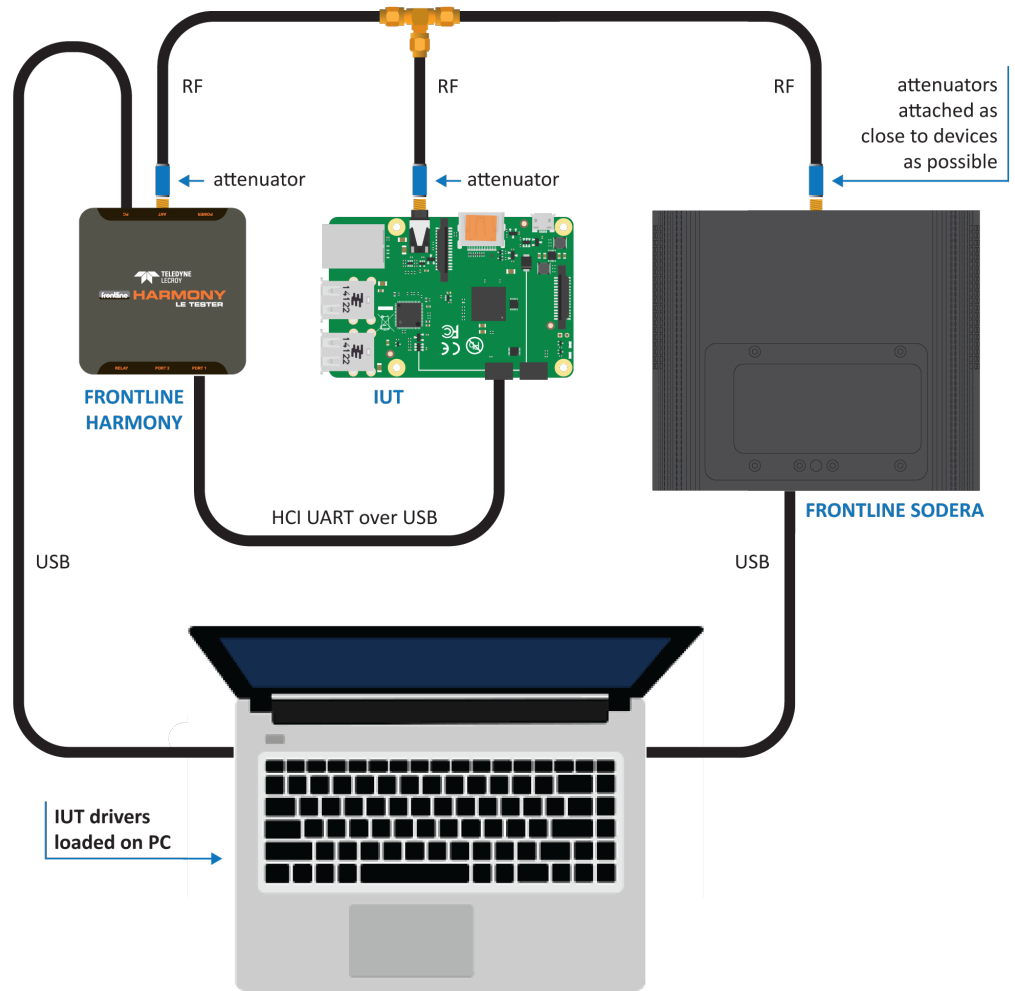
- **Temperature**  
0 to 40 degrees C  
32 to 104 degrees F

- **Humidity**  
Operating: 10% to 90% RH  
(noncondensing)

- **Receiver Sensitivity**  
-96 dBm

- **Supported Configurations**  
OS Supported: Windows 10  
USB Port: USB 2.0 or USB 3.0 High Speed

- **Minimum System Requirements**  
Processor: Core i5 processor at 2.7 GHz  
RAM: 4 GB  
Free Hard Disk Space: 20 GB



Typical Testing Configuration

### PREMIUM MAINTENANCE - Frontline Harmony

Premium Maintenance for Frontline Harmony LE Tester and associated Frontline Sodera Bluetooth Protocol Analyzer ensures that your product is up to date with the latest software updates and features, Bluetooth Special Interest Group TCRL releases, and firmware. Your Frontline Harmony product comes with one year of Premium Maintenance and includes:

- Access to all Bluetooth Low Energy test cases in the current TCRL – CAT A and CAT B
- Updated test case coverage for TCRL Releases (2 per year) and incorporation of any TSEs
- Ability to request verification/debug of test case functionality for your implementation
- Harmony platform SW updates including feature releases
- Product bug fixes

## Ordering Information

### Product Description

Frontline Harmony LE Tester

### Product Code

2016-25101-000

### To order or for more information:

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