The Bluetooth Experts
With an unparalleled track record as the leader in Bluetooth® analysis solutions for over 15 years, Teledyne LeCroy has unique insight and experience into Bluetooth classic and low energy specifications and profiles, such as Hands-Free (HFP), Advanced Audio Distribution (A2DP), A/V Remote Control (AVRCP), Phone Book Access (PBAP) and Message Access (MAP).

Global Industries Served

Mobile
Test against current and beta hardware and operating systems across multiple vendors. Mobile vendors greatly improve the user experience by ensuring expected functionality, cross platform interoperability and robustness to the products.

Automotive
Car OEMs, Tier 1 and Tier 2 suppliers can test from simple scenarios with a mobile phone or more complex eco-system style tests involving multiple connected devices and technologies.

Chipset
Test reference chipset prototypes or development boards for characterization, functionality and interoperability against a range of target market products.

Medical
Provide consultancy and testing for medical devices ensuring they have a robustness paging, connection and reconnection strategy that operates within their battery life requirements.

Audio
Test headphones, headsets, wireless speakers and mobile apps for interoperability, functionality and audio quality with multiple phones and operating systems.

Classes of Service

Interoperability Testing
With dedicated test labs for Bluetooth®, Wi-Fi, USB and Phone projection technologies (CarPlay, Android Auto) across the globe, Frontline Test Services helps you meet all your interoperability (IOP) needs and requirements.

As a seasoned extension of your QA department, Frontline Test Services offers consultancy and interoperability services to help in all stages of product development, from specification to market launch and beyond.

Using our expert knowledge of Bluetooth profiles, our market and product experience, and the benefit of our years as a leader in the Bluetooth testing industry, we’ll help you deliver products which are free of defects, minimize field issues, lower development costs, reduce time to market, and go to market with a high level of confidence.

Consulting
As the leading test and measurement company with unique expertise in both physical layer and protocol analysis, we help you through performance and root cause analysis, competitor benchmarking, and identifying areas of improvement so you can be confident that the product you bring to a crowded marketplace will be successful.
Consultancy Services

Root Cause Analysis (RCA)
Using our decades of experience of test tool development, interoperability device behavior and Bluetooth® specifications, we determine and document faults so that you are only correcting bugs in your product.

Performance Analysis
We provide deep analysis of device features and capabilities in order to provide efficiency gains, improve user experience, and avoid failure traps.

Test to Fail
Using our experience of use cases and scenarios to drill down into your product’s performance, capturing as many issues as possible during the early stages of development where it is easiest to make software changes.

Competitor Benchmarking
We perform comparison testing against competitor products to analyze and identify differences, improve the performance of your products and stay competitive in customer surveys; then we work with you to implement changes based on findings and help create robust and detailed supplier specifications and RFPs.

Device Characterization
An in-depth analysis of a device’s functionality and performance to provide characterization helps improve next generation products, identify areas of improvement, and create an assessment of approach.

Field Issues
Using our expertise and large inventory library, we reproduce issues in the field and find the fault in either your product or the interop device, then perform regression testing to make sure fixes work and don’t cause unforeseen problems.

Training
Customized training, from basic to advanced technology courses, is available to help internal departments improve OTA log taking and identify issues more consistently and rapidly.

Interoperability Testing Services

Test Strategy Approach
We create a test strategy that includes a market assessment, the selection of a device test list of up to hundreds of devices, and an in-depth initial IOP designed to find as many issues as possible at early development stage.

Test Plan Development
Intelligent development of test plans and strategy based on years of experience of devices to ensure that the testing is cost effective and efficient for a given market.

Test Scenarios
Test scenarios are either custom designed or selected from our library of thousands of test cases to provide assessments of device features, use case scenarios, and your test cases.

Root Cause Analysis
RCA is a key area that sets Frontline Test Services apart from other test houses. We offer more that just pass/fail test results we have Subject Matter Experts who will help you close bugs and improve your customer’s user experience.

Bug Discovery and Recording
Using our experience with case scenarios, we drill down into product’s performance to discover issues earlier in development cycle when they are easier and cost-effective to fix.

Pre-launch IOP Testing
We perform in-depth feature and functionality testing to ensure basic interoperability, followed by pre-launch, Start-of-Production (SOP) testing, to give a high level of confidence before product launch in a particular region.

Regression Testing
We test to verify that software updates and feature additions do not compromise IOP in the field.

Field Issues
Using our expertise and large inventory library, we can reproduce issues in the field, find the fault and test that any applied product updates not only fix the issues, but do not cause other issues.

Maintenance/Website Results
We perform interoperability testing to increase market coverage of interoperability devices’ install base, test for the launch of new devices or software/OS updates. These results can be used for a compatibility matrix on your website showing compatible devices and their limitations.
World-Class Device Library

Headquartered in Detroit, Michigan with inventories all over the world, Frontline Test Services houses one of the largest test device libraries in the industry, consisting of thousands of phones, Wi-Fi devices, wearables, car kits, and various Bluetooth® low energy devices.

The latest devices are being added all the time.

Testing and support for new operating systems is critical to interoperability testing, so new OS results for major iOS and Android versions are ready for you to publish within three business days of release.

We can work with your website developers to implement up to the moment results to your website.

Secure Interactive Project Database

DAISY is our secure interactive project database where you can stay on top of every step of your project:

- Test results are logged directly into DAISY as our primary record keeping tool, which means you have real-time access to results as we input them
- A library of essential reports is at your fingertips, allowing you to generate a summary of project report, export results, view a side-by-side comparison of results, and all with the ability to drill down to more granular detail - test conclusions and verdicts can be customized to your reporting format
- Issue tracking is your window to specific issues we encounter. Here you can read observations by engineers, which are supported by hard data like over-the-air traces, videos, and product logs
- Your Test Plans, Test Cases, and project inventory are always visible and open to revision control

Database and Inventory

Clear overview display gives an at-a-glance summary of the testing parameters

Specific messages, engineer observations, screenshots, logs and capture files

Overall progress as well as specific details about the current test

Messages of interest

Test Plan Results

Test Plan Results: Samsung Galaxy S8+ (SM-G955U) [Unlocked]

Test Plan Results: Huawei P20 Pro (CLT-L09)

Test Plan Results: Apple iPhone X (A1192) [US/Canada]