

# IQgig-UWB+™ Ultra-Wideband (UWB) Test System

IQgig-UWB+ is the next generation LitePoint UWB test system that has been designed from the ground up to offer exceptional UWB RF parametric measurements.

UWB is a wireless technology used for mission critical applications such as precise real-time indoor positioning, location-based services, and secure access. Its unique test requirements such as wide bandwidth, picosecond level precision timing, and low power receiver sensitivity, demand specialized test solutions. The IQgig-UWB+ builds on the functionalities of the first generation UWB tester, IQgig-UWB, the world's first FiRa-certified UWB physical layer (PHY) tester, trusted by leading UWB chipset companies and worldwide accredited test laboratories. In addition to the full UWB use-case coverage, including 802.15.4ab enhancements, the IQgig-UWB+ conveniently integrates test functionalities, such as accurate angle-of-arrival (AoA) measurement capability, efficient multi-device testing, and dedicated over-the-air (OTA) test ports in one box, making it a versatile and comprehensive solution for UWB testing.

## True One-Box UWB Tester for Simplicity

The IQgig-UWB+ is a versatile instrument that covers the full range of PHY UWB test case scenarios, including AoA measurements with programmable per-port delay line control and high dynamic range OTA testing using the built-in LNA. With its robust design and compact one-box solution, the IQgig-UWB+ simplifies cabling and eliminates the need for external switches, combiners, attenuators, and delay line instruments.

## Scalable from R&D to Certification to Manufacturing Floor

The IQgig-UWB+ is ideal for both R&D characterization and high-volume production, making it the perfect platform to enable a cost-effective, seamless transition from the lab to production. The chipset-specific, turn-key IQfact+ application accelerates time-to-production and optimized test efficiency. The IQgig-UWB+ comes in 5, 10, and 20 port options for cost-effective and streamlined multi-device testing.

## Industry-Leading Comprehensive Test Coverage

LitePoint is the first PHY test solution provider to offer 100% FiRa certification coverage and is trusted by all FiRa accredited test labs. With close collaboration with the UWB industry and leading chipset companies, LitePoint provides the most up-to-date test coverage to meet the evolving UWB standards.

## High Performance for Next-Gen (802.15.4ab) UWB Devices

The IQgig-UWB+ seamlessly integrates VSG and VSA functionalities to offer comprehensive transmitter and receiver testing with 1.4 GHz instantaneous signal bandwidth. Its precise trigger and response mechanism enables accurate Time-of-Flight (ToF) measurements with picosecond-level precision, while its fast-switching synthesizers were designed for validating the narrowband wake-up radio to UWB packet switching.

5 port  
10 port

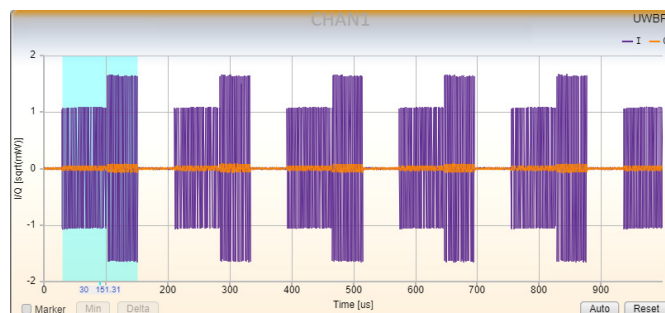
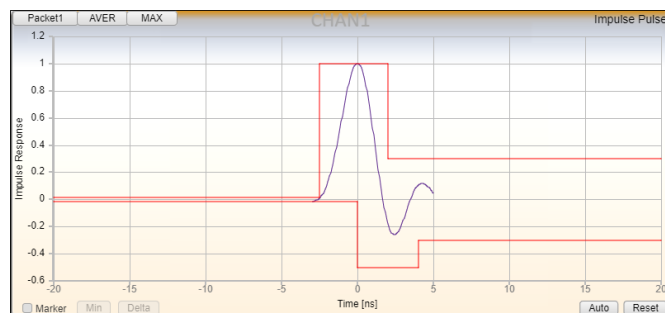


20 port



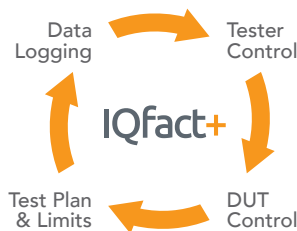
### Key Features for UWB Testing

- > 1 GHz single-shot VSA / VSG bandwidth
- High-accuracy trigger mechanism for Time-of-Flight (ToF) testing
- Extended VSG dynamic range for stringent sensitivity testing
- Precise per-port delay line control for accurate AoA calibration
- Built-in LNA for dynamic range enhancement in OTA testing



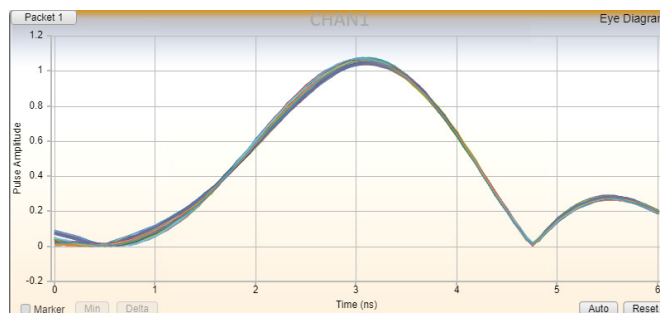
### Key Specifications

- Frequency Range: 4.9 to 10.9 GHz
- Modulation Bandwidth: 1.4 GHz
- Output Power Range: -10 to -110 dBm
- Delay line range: Up to 80 ps with 1 ps resolution



### UWB Test Coverage

- IQfact+ software provides turnkey solutions, including tester and device control and data collection, for customized testing of leading UWB chipsets. It enables thorough design verification and rapid volume manufacturing with minimal engineering effort
- Reduce design cycles and accelerate time to market by pre-validating your device with the FiRa PHY Conformance IQfact+ package<sup>1</sup> prior to certification
- With its test-time optimization for the unique LitePoint tester architecture and each specific UWB chipset, IQfact+ drastically reduces test time. IQfact+ controls both the LitePoint tester and the DUTs to ensure optimized test synchronization, further improving test efficiency.



### UWB Test Coverage

- Spectrum Mask
- TX Modulation Quality
  - Symbol Modulation Accuracy
  - Carrier Frequency Offset
  - Chip Clock Error / Frequency Error
  - Data /Preamble power
  - Pulse Jitter
  - FiRa NRMSE and Packet Format Check
  - Pulse Main Lobe width / Side Lobe Power
- RX Packet Error Rate (PER)
- NBA-MMS Switching Time
- Support for UWB standards 802.15.4z and 802.15.4ab

<sup>1</sup> Available to FiRa members

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