IQxel-M™ LoRa Test Solution

Overview

LoRa is a fast growing transmission technology for LPWAN (Low Power Wide Area Network) IoT applications. Used by many IoT verticals and covering long transmission ranges (up to 30 miles), low power consumption and secure data transmission, this versatile technology has many use cases ranging from smart cities, smart homes and buildings to smart agriculture, smart metering and smart industrial applications.

LoRa is based on a proprietary Semtech spread spectrum modulation transmission technology called chirp spread spectrum (CSS) and operates in unlicensed ISM spectrum bands:

- EU868 – Europe 863-870 MHz

- US902 – US 902-928 MHz

- AS1 – Asia 920-923 MHz

- AS2 – Asia 923-925 MHz

To ensure optimal operation, LoRa devices must provide reliable and consistent performance, and RF testing ensures both transmitter power and frequency compliance as well as receiver sensitivity, the key parameters enabling long distance transmissions. LitePoint IQxel-M can be used to verify RF designs during development and production, with our turnkey solution ready to test LoRa right out of the box.
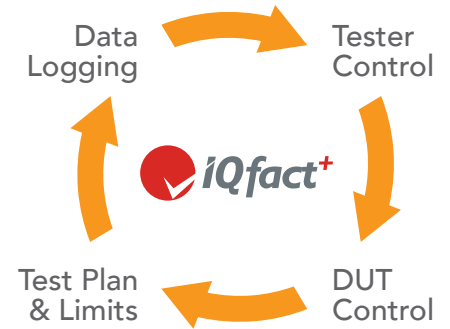
Built for Manufacturing

A comprehensive, one-box test solution for all your wireless connectivity testing needs, this multi-radio test solution supports a wide range of wireless connectivity standards, including legacy and new standards (Wi-Fi, Bluetooth, LoRa, ZigBee and more...), with the capability to update the system's generation and analysis software.

IQfact+

LitePoint IQfact+ is a turnkey, chipset-specific wireless test solution, enabling rapid volume manufacturing with a minimum of engineering effort. Compared to traditional test automation development, which may take weeks or even months, IQfact+ can be deployed in hours. IQfact+ provides integrated DUT control, complete LitePoint tester control and data logging support for data archival and analysis. The test plan development is streamlined with an intuitive user interface and easy-to-use manufacturing test operator interface, supporting multi-DUT operations.
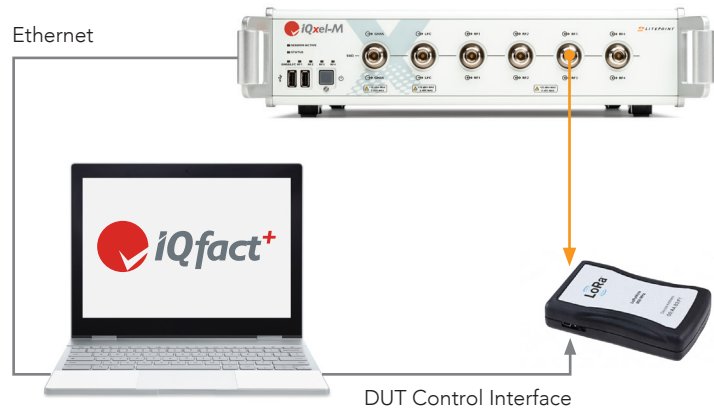

IQfact+ solution for LoRa

Transmitter Tests (SF7 – SF12)

- Output Power
- Frequency Error

Receiver Tests (SF7 – SF12)

- RSSI
- PER
- Sensitivity

IQxel-M: Specifications

Frequency Range

- 860 to 1000 MHz
- 1700 to 2660 MHz
- 3300 to 3800 MHz
- 4900 to 6000 MHz

Output Power Range

1 port active

- +10 to -95 dBm (≤ 2700 MHz)
- 0 to -95 dBm (> 2700 MHz)

Wide Range of Supported Wireless Standards

- Wi-Fi, 802.11a/ac/ah/b/g/j/n/p
- Bluetooth, Classic (1.x, 2.x, 3.0),
  Low Energy (4.0, 4.1, 4.2), and Bluetooth 5
- LoRa
- Sigfox
- ZigBee
- Wi-SUN
- DECT
- TD-LTE
- Navigation: GPS, GLONASS, COMPASS
- Broadcast: FM