BROCHURE

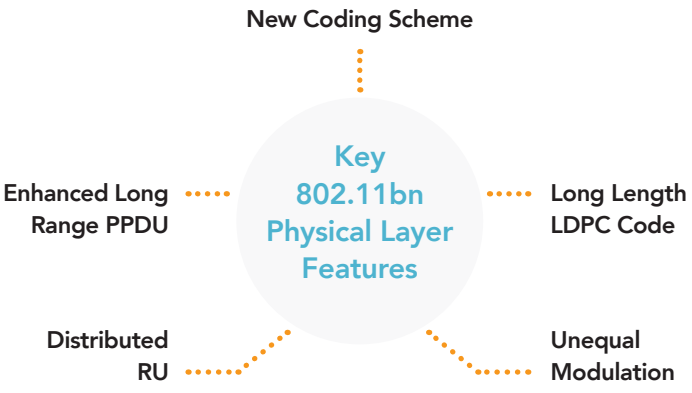
IQxel-MX™ High Performance Wi-Fi Test System

The evolution of Wi-Fi demands the highest-performing test solutions, and LitePoint's IQxel-MX platform leads the industry, now extending its support to Wi-Fi 8 standard alongside Wi-Fi 7.

For a long time, Wi-Fi's focus was speed for streaming and downloading. But even 'super-fast internet' often glitches with video calls, gaming lag, and choppy voice. That's because unreliable connections with errors and transmissions negate high data rates. The focus is shifting; reliable and consistent Wi-Fi is now more critical than just raw speed.

While Wi-Fi 7 promises throughput exceeding 30 Gbps, the IEEE 802.11bn (Wi-Fi 8), also known as Ultra High Reliability (UHR), represents a strategic upgrade focused on enhancing reliability, determinism, and lowering latency for demanding applications like Augmented Reality (AR), full immersion Virtual Reality (VR), gaming, and cloud computing. Building incrementally upon Wi-Fi 7, Ultra High Reliability (UHR) introduces enhanced modulation and coding schemes (MCS), distributed resource unit (dRU) support, unequal modulation, and long-length LDPC codes for superior error correction, directly addressing the need for robust and predictable connectivity.

These advancements continue to push the boundaries of Wi-Fi device RF performance, ushering in a new era where reliable connectivity is as critical as speed. The IQxel-MX platform is engineered to ensure that every wireless device, compliant with both the stringent 802.11be and the 802.11bn (Ultra High Reliability) requirements, meets and exceeds these evolving expectations.



Features carried over from Wi-Fi 7

- Max channel bandwidth 320MHz
- Max modulation 4096 QAM
- Tri-band operation on 2.4GHz, 5GHz, 6GHz band
- Max Spatial Streams 16x16
- Multi-RU
- DL/UL OFDMA
- Preamble Puncturing
- Multi-Link Operation

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IQxel-MX Key Benefits

Performance

- Industry-leading EVM ensures highest modulation accuracy
- Superior power accuracy ensures device calibration precision
- Expandable architecture supports high order true MIMO testing
- Support for advanced Wi-Fi 8 physical layer feature

Simplicity

- Fully-integrated signal generation, signal analysis, and RF front-end enable simple Wi-Fi 6E and Wi-Fi 7 testing in the 2.4, 5 and 6 GHz bands
- Architecture support for multi-link/multi-channel (MLO) and coexistence testing eliminates the need for external components, greatly simplifying test setup
- Flexible and intuitive Graphical User Interface (GUI) enables both on-site and remote development

Economics

- Wi-Fi 8 support ensures long term relevance and lowers CAPEX
- Turnkey test software solutions with IQfact+ enable fast time to market and a seamless transition from product development to manufacturing
- Multi-DUT software architecture reduces manufacturing cost by providing optimized test throughput

For R&D characterization or high-volume production, the IQxel-MX family is available in three configurations:

- 2 ports (2 VSA/VSG)
- 8 ports (2 VSA/VSG)
- 16 ports (4 VSA/VSG)

These support up to 2x2 and 4x4 true MIMO testing (extensible to 16x16) and high efficiency Multi-DUTparallel testing.

IQxel-MX High Performance Test System

IQxel-MX Key Features

Industry-leading RF performance Wi-Fi 8, Wi-Fi 7, Wi-Fi 6E and Wi-Fi 6

- Analysis bandwidth of over 320 MHz
- Best-in-class residual Error Vector Magnitude (EVM) floor to ensure the highest measurement accuracy for 4096 QAM
- Architecture support for multi-link/multi-channel (MLO) and coexistence testing with internal combiners

Fully-integrated test system measurements in the 2.4 GHz, 5 GHz and 6 GHz bands

- Frequency coverage from 400 MHz to 7300 MHz
- Addresses the requirements of the IEEE 802.11bn (Wi-Fi 8), 802.11be (Wi-Fi 7), 802.11ax (Wi-Fi 6/6E) and legacy Wi-Fi standards
- Signal generation covers OFDMA RU and multi-RU (MRU) assignments
- Signal analysis covers all UHR PHY standard measurements for transmitter (spectral mask, flatness, frequency error, constellation error and more) and receiver (sensitivity, ACR and more)

Scalable MIMO support

- True MIMO testing with up to 4x4 testing capability and expandable architecture supports higher order MIMO

Test support for full range of connectivity technologies

- All Bluetooth device standards (1.x, 2.x, 3.0, 4.x, 5.x), Bluetooth Channel Sounding (CS) and Higher Data Throughput (HDT)
- Connectivity standards DECT (ETSI EN 300 176-1), 802.15.4-based standards including ZigBee, Z-Wave and WiSUN
- LPWAN technologies LoRa and Sigfox

High test throughput for manufacturing

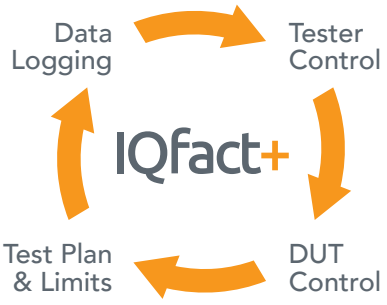
- LitePoint's patented Packet Engine technology provides industry-leading test speed and built-in parallel test capability for high test system efficiency
- Efficient parallel multi-DUT test enhances production capacity

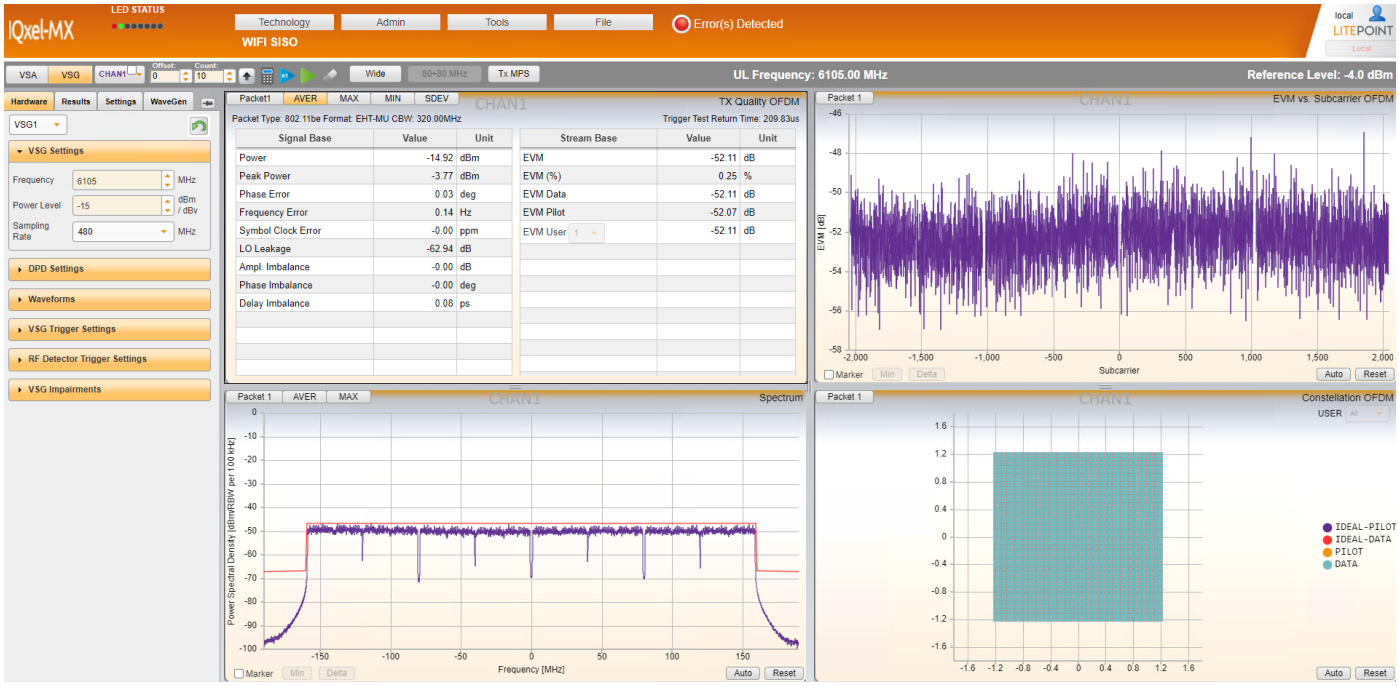
Flexible programming interface

- Flexible and intuitive Graphical User Interface (GUI) enables both on-site and remote development
- The IQxel-MX is backward compatible with existing LitePoint connectivity test systems, making the transition from older generations seamless
- Supports test development using text-based SCPI programming

Turnkey test software solutions

- LitePoint IQfact+ software provides turnkey solutions for customized testing of leading chipsets, enabling thorough design verification and rapid volume manufacturing with minimal engineering effort
- To facilitate accurate test synchronization, IQfact+ controls both the LitePoint tester and the DUTs. In addition, each IQfact+ is tailored to provide the best test efficiency for a specific chipset and designed specifically for the LitePoint tester architecture, resulting in drastically reduced test time and engineering effort
- IQfact+ encompasses a growing library of hundreds of chipset-specific test solutions and supports all key wireless connectivity technologies





Available Technology Options for WLAN, Bluetooth, IoT and LPWAN

- Wi-Fi, 802.11bn (Wi-Fi 8)
- Wi-Fi, 802.11be (Wi-Fi 7)
- Wi-Fi, 802.11ax (Wi-Fi 6, Wi-Fi 6E)
- Wi-Fi, 802.11ac (Wi-Fi 5)
- Wi-Fi, 802.11a/b/g/j/n/p
- Wi-Fi, 802.11af
- Wi-Fi, 802.11ah (HaLow)
- Wi-Fi, 802.11az Next Generation Positioning (NGP)
- Wi-Fi, 802.11ba Wake Up Radio (WUR)
- Bluetooth, Classic/EDR (1-4.x), Low Energy (4.0, 4.1, 4.2) and Bluetooth (5.0, 5.1, 5.2)
- Bluetooth Channel Sounding (CS), Higher Data Throughput (HDT)
- Zigbee, Z-Wave and Wi-SUN
- DECT
- LPWAN: Sigfox, LoRa