KEYSIGHT

E7515W UXM Wireless Connectivity Test Platform

World's most powerful and integrated 5G network emulator, now supporting Wi-Fi 7

Keysight Offers Complete Development Ecosystems Across the Wireless Industry
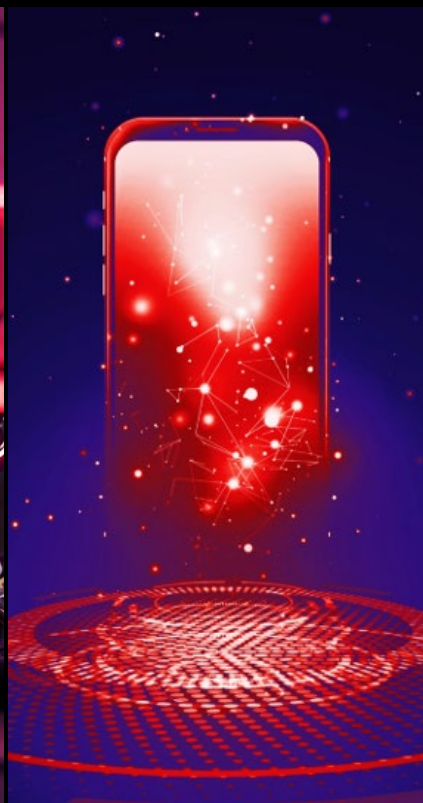
Open RAN

6G Research

Chipsets & Devices

Non-Terrestrial Communications
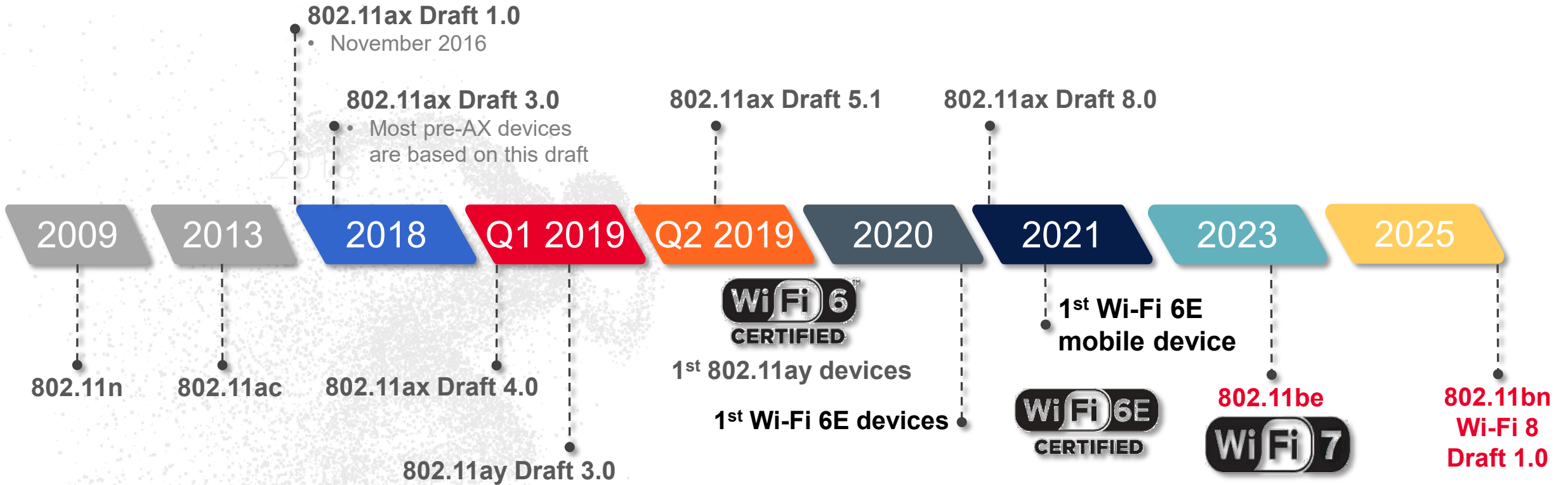
Operators, Private Networks & Test Labs

WLAN

Wi-Fi Industry

- Wi-Fi is the most used wireless communications technology

- It is the primary medium for global internet traffic

- 3.8 billion Wi-Fi devices shipping annually, and 19.5 billion Wi-Fi devices in use

KEYSIGHT

Wi-Fi Technology Evolution

Based on IEEE 802.11

802.11ax Draft 1.0
- November 2016

802.11ax Draft 3.0
- Most pre-AX devices are based on this draft

802.11ax Draft 5.1

802.11ax Draft 8.0

2009	2013	2018	Q1 2019	Q2 2019	2020	2021	2023	2025

1st Wi-Fi 6E mobile device

802.11n

802.11ac

802.11ax Draft 4.0

1st 802.11ay devices

1st Wi-Fi 6E devices

802.11be

802.11bn Wi-Fi 8 Draft 1.0

802.11ay Draft 3.0

Wi-Fi - Evolving & Emerging Technology

Higher Performance

46Gbps Throughput
320MHz Bandwidth
4096QAM Modulation
Low Latency

Advanced Features

16 spatial streams
Multi-Link Operation (MLO)
Preamble Puncturing
Multiple-Resource Units (M-RU)

More Complexity
Demand for advanced, high-quality test and troubleshooting tools

Introducing the E7515W UXM Wireless Connectivity Test Platform

E7515W UXM Wireless Connectivity Test Platform

Highlights

- The world's most powerful and integrated 5G network emulator, **now supporting Wi-Fi 7**

- Supports both Wi-Fi Station & AP Test

- Comprehensive RF measurements and analysis

- Only market solution to provide Fixed Wireless Access Test from one box
  - Includes client hotspot testing

- Station Cellular & Wi-Fi interoperability in one box

- Supports Wi-Fi 7 & previous technology generations

Comprehensive RF Test and Analysis

- Full Wi-Fi 7 capability with 4x4 320MHz 4kQAM

- RF Measurements

  - Tx test: Power, Spectrum mask and EVM

  - Rx test: Rx Sensitivity, PER statistics in real time

  - Maximum Throughput Performance

  - IEEE Specification Pass/Fail automated assessment

- RU Sweep to assess all OFDMA combinations

- Extensive Rx Sensitivity testing and unique Rate vs Range evaluation

- Wi-Fi / Cellular co-existence testing

- Intuitive GUI: Single screen for physical configuration, Rx statistics and Tx measurements

Wi-Fi 6E NSS2 MCS11 results shown

Fixed Wireless Access Test

One Box – E7515W UXM Wi-Fi

- Fixed Wireless Access growing quickly world-wide

- In 2022, 90% of US net broadband customer additions were on FWA

- The UXM Wi-Fi provides a one-box solution for FWA testing

- Only one-box solution in the market

- Operating both Wi-Fi & Cellular connectivity at the same time

- Test Wi-Fi scenarios with different backhaul configurations & bandwidths

- With all the key Wi-Fi system test operation

- The UXM W supports Wi-Fi 7 and previous technologies

Performance Requirements
Maximum client capacity
Latency/Jitter
Packet Loss
Rate vs. Range
UDP Throughput
TCP Goodput
Mixed Clients
Triple Play QoS
WMM Power Save
Unicast Video Sessions
Quality of Experience
Receiver Sensitivity