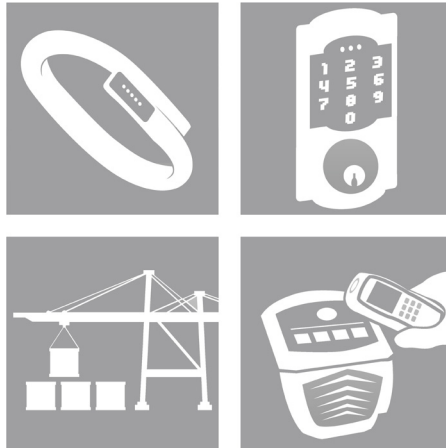


Keysight Flexible RF Test Solutions - Deliver Reliable Internet of Things (IoT)

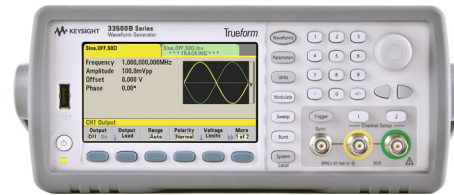
Smart wearable, smart building, RFID/NFC, smart energy, smart industrial control – These are all part of a booming market called Internet of Things (IoT), and they all adopt wireless connectivity such as bluetooth, Wi-Fi, ZigBee, Z-wave, Wi-SUN, WirelessHART, ASK, FSK, GFSK, etc.

RF testing of these devices plays a critical role in your success in the IoT market. You need a solution that is flexible, affordable and reliable. It also should have versatile features to provide valuable insights from product development and verification, to manufacturing and repair.

Keysight's low-cost IoT RF test solution is a mix of test products. These products help you reduce test cost and time-to-market for IoT devices – allowing you to expand your market presence with minimal investment



33522B waveform generator



Signal generation solution offers the following signals

- CW, low frequency (LF) and sweep: Standard on N9310A
- Analog modulation: AM, FM, PM, and Pulse Modulation. Standard on N9310A
- Digital modulation: ASK, FSK, GFSK, O-QPSK, and more. Requires 33522B to input baseband I-Q data to N9310A

N9310A RF signal generator



Recommended configuration

Model/Option	Description
N9310A	RF signal generator, 9 kHz to 3 GHz
N9310A-001	I/Q modulator, 20 MHz
33522B	30 MHz, dual channel waveform generator

- www.keysight.com/find/iotRF
- www.keysight.com/find/N9310A
- www.keysight.com/find/N9320B
- www.keysight.com/find/N9322C
- www.keysight.com/find/N9000B
- www.keysight.com/find/33522B
- www.keysight.com/find/N9311X

Learn how to do IoT RF testing by downloading Keysight's series of application notes.

www.keysight.com/find/iotrf




Top 3 reasons you should care about the RF testing on your IoT devices:

- Ensure the wireless connection between devices and gateways
- Reduce unnecessary emissions, and optimize for battery life
- Reduce the cost of failure

Spectrum analysis solution provides the following test:

- Frequency and power
- RF device characteristics
- Cable and antenna
- Spur and interference
- Modulation analysis

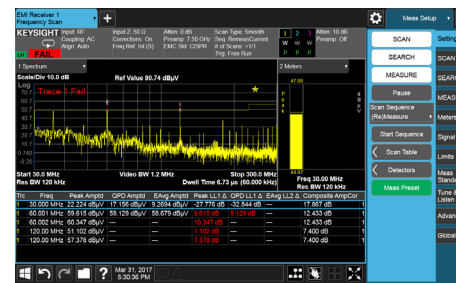
Recommended configuration

Model	Option	Description
 N9320B spectrum analyzer	N9320B	Spectrum analyzer, 9 kHz to 3 GHz
	N9320B-TG3	Tracking generator, 3 GHz
	N9320B-AMA	AM/FM modulation analysis
	N9320B-DMA	ASK/FSK modulation analysis
 N9322C spectrum analyzer	N9322C	Spectrum analyzer, 9 kHz to 7 GHz
	N9322C-TG7	Tracking generator, 7 GHz
	N9322C-RM7	Reflection measurement (requires option TG7)
	N9322C-AMA	AM/FM modulation analysis
	N9322C-DMA	ASK/FSK modulation analysis
 N9000B CXA Signal Analyzer	N9000B CXA	Signal Analyzer, 9 kHz to 3/7.5/13.6/26.5 GHz
	N9000B-T03/T06	Tracking generator, 9 kHz to 3/6 GHz
	X-Series measurement applications	Over 15 proven, ready-to-use measurement applications, running inside CXA N9000B signal analyzer

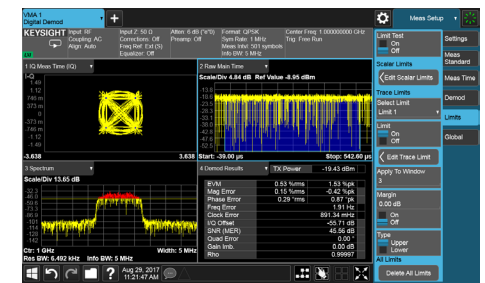
The X-Series measurement applications transform CXA signal analyzers into standard-based RF transmitter testers. They provide you with fast, on-button RF conformance measurements to help you design, evaluate, and manufacture your devices and equipments, and enable you to stay on the leading edge of your design and manufacturing challenges.

These applications mainly include the following types of measurements:

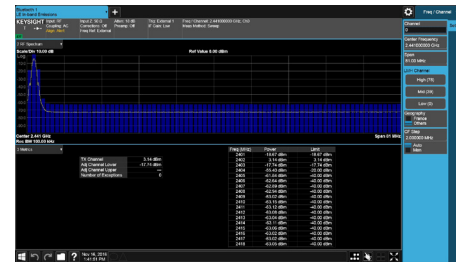
- General purpose measurements: analog demodulation, noise figure, phase noise, EMI emissions, vector signal analysis (VMA), etc
- Wireless connectivity: WLAN 802.11 series, Bluetooth, ZigBee/Z-Wave
- Cellular communications: LTE/LTE-Advanced FDD/TDD, W-CDMA/HSPA+, GSM/EDGE/EVO, 5G NR, etc



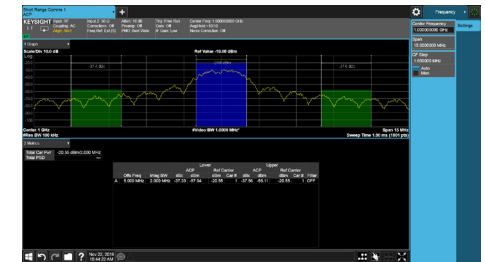
EMI emission measurement



Vector signal demodulation analysis



Bluetooth In-band emission test



ZigBee ACP measurement

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at:

www.keysight.com/find/contactus.