



Universal Wireless Tester



New wireless technologies such as C-V2X, 5G, LTE, 802.11ax/ac/p, and Bluetooth Low Energy (BT LE) are increasingly used in the automotive industry. Production test in telematics control units (TCU), smart antennas, infotainment systems, e-call modules, and other components requires a fast and flexible wireless test system optimized for the high antenna counts and high-unit volumes typical in the industry. Noffz and NI have partnered to create the Universal Wireless Tester (UWT) to address these test challenges.

The Noffz Advantage

- Minimize downtime through automatic relinking between test adapters and transceivers, continuing production in case of component failure
- Reduce test time through parallel DUT testing, automatic RF port routing, and automatic resource sharing
- Reduce total cost of test through a faster test time, high port count, DUT control, signal conditioning integrated in the RF switch, and system scalability to 5G NR, 802.11ax and 6 GHz Wireless

Application Challenges

- **Flexibility and long-term support**— Legacy, current, and future wireless standard test coverage
- **High RF-port count**— DUT connection with 8+ antennas for multiple wireless standards in one system
- **Cost-effectiveness**— Combine fast test times, high instrument utilization, and competitive cost-per-RF-port' to provide the best possible total cost of test

Noffz UWT Solution

Interactive soft front panels help you test 5G NR, LTE, WCDMA, GSM, BT, BT LE, and 802.11a/b/g/n/ac/ax/p.

32 bidirectional DUT ports integrate signal conditioning, test resource management, and scalability to 64 ports per system.

An RF test suite provides DUT control, test sequencing, hardware abstraction, and automatic switching

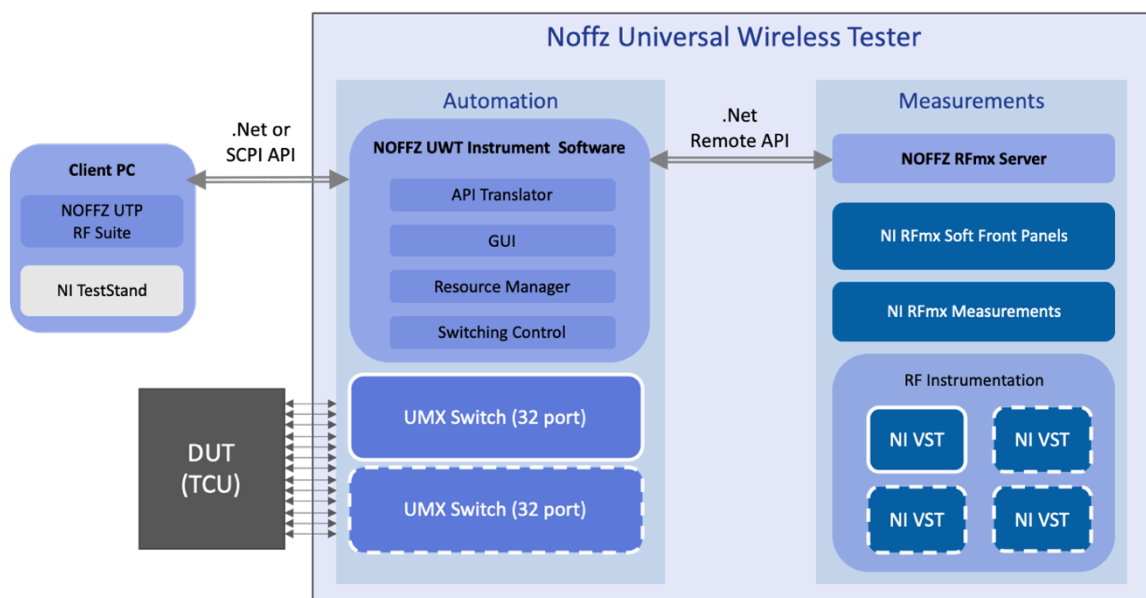


Figure 1. Noffz Universal Wireless Tester system diagram

Key Specifications

Wireless Standards	5G NR, LTE, WCDMA, GSM, cV2X, 802.11a/b/g/n/ac/ax/p, BT, BT LE, GNSS, and custom standards
UMX Switch	32 bidirectional DUT ports, 4 RF analyzer and 4 RF generator ports, integrated signal conditioning w/LNA, bias tees, loads, bias voltage and current measurements
Operating Frequencies	100 kHz to 6 GHz (8 GHz w/additional options)
Available Configurations	1, 2, or 4 NI Vector Signal Transceivers for operation with up to 64 simultaneous ports
Software Features	Interactive soft front panel GUI with live debug; remote LabVIEW, SCPI, and .NET APIs; resource manager for multi-DUT scheduling, port management, and switching; timing diagrams; path-loss calibration

UWT Configurations and Components



Full Turnkey Four-Up TCU/Infotainment Production Test System:

- 4 independent RF-shielded chambers
- Exchangeable DUT fixtures for product variants
- Power, CAN, Ethernet, audio/A2B, and video interfaces for complete DUT test coverage
- Service and support for global deployments

System Integration on Your Terms

NI offers a variety of solution integration options customized to your application-specific requirements. You can use your own internal integration teams for full system control or leverage the expertise of our worldwide network of NI Partners to obtain a turnkey system. To learn how you can increase product quality and shorten test timelines, contact your account manager or NI at (888) 280-7645 or info@ni.com.

Contact your NI account manager or Noffz Technologies to learn more about how NI + Noffz can help you increase product quality and accelerate testing timelines.

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