

UNIVERSAL WIRELESS TESTER

UNIQUE NON-SIGNALING RF TEST SOLUTION



PRODUCT

Applications: High-Channel Count RF Test for Production and Validation



FAST > FLEXIBLE > FOCUSED

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UWT configuration with 2 RF transceivers, 32-port UMX and additional PXI instruments

UNIVERSAL WIRELESS TESTER

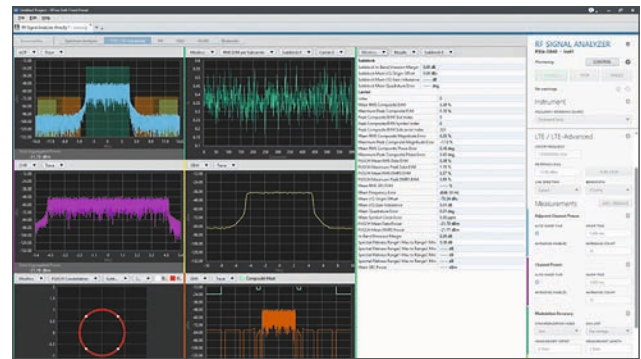
READY FOR FUTURE REQUIREMENTS WITH UWT: BUILD SYSTEMS ON AN OPEN PLATFORM

Test requirements change rapidly and require the reuse, reallocation, or expansion of resources. Especially validation and production testing of wireless devices in the automotive industry, industrial IoT, smart personal devices and medical sensors therefore need fast and flexible test systems.

This is exactly what NOFFZ and NI have jointly developed the **UWT - Universal Wireless Tester** - a non-signaling RF test platform.

The concept is enabled by the **UMX - Universal Switch Matrix**, which is an 8x32 RF switch matrix with built-in DC load emulation and voltage/current measurement block. It is designed for high antenna counts and high volumes with future expandability and accommodates technologies such as C-V2X, 5G, 802.11ax, BLE and UWB.

Are you ready to measure new technologies by selecting transceivers that support 6 GHz WiFi channels, 10 GHz UWB or 5G NR in the mmWave range?



NI RFmx Soft Front Panel for real-time interactive measurements

APPLICATION ADVANTAGES

- ▶ Flexible, with long-term support for legacy, current and future wireless standards
- ▶ Scalable number of RF ports for DUT connections with more than 8 antennas or batch tests
- ▶ Automatic RF port routing and resource sharing to reduce test time
- ▶ Signal conditioning integrated in RF switch (UMX)
- ▶ Expandable to frequencies above 6 GHz
- ▶ Cost efficiency through shorter test times, high device utilization and competitive cost per RF port
- ▶ Minimized downtime by automatically rerouting between test ports and instruments

SPECIAL FEATURES

Use the UMX with a built-in DC front end

- › to connect active antennas and apply the required load
- › simulate an antenna failure
- › supply phantom power and measure DC current
- › optionally route low level signals through the built-in LNA



NOFFZ UMX -
Universal RF port module

Configure the number of transceivers

- › to implement the required RF test throughput independently of the RF port count
- › to reach the desired test time

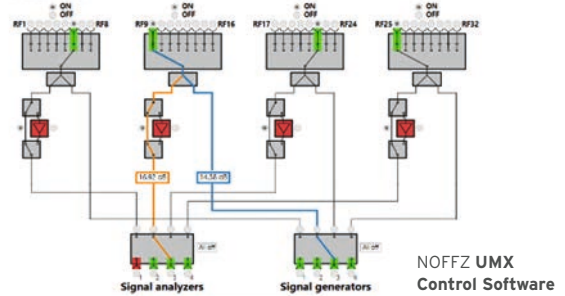


NI PXIe system with different transceiver options

Therefore the chassis can be equipped with 1-4 transceivers, so that 4, 8, 32, 64 or even 128 RF ports are available.

Maximize test throughput using the co-operative transceiver mode

- › automatic routing from any transceiver to any RF port where there is a measurement request
- › highly efficient, multi-up, parallel test sequences
- › eliminate down-time during maintenance and calibration



NOFFZ UMX
Control Software

TECHNICAL DATA

	UWT-08	UWT-11/42	UWT-12e/44e
Software Options			
Waveform Playback			
Bluetooth 5.x	Default	Default	Default
WiFi 6 (802.11a/b/g/n/ac/ax)			
Cellular (2G-5G)	Optional		
Transceiver Options			
Number of Transceivers	1-4	1-4 (co-operative mode)	1-4 (co-operative mode)
Maximum Bandwidth	1 GHz		
Supported Transceivers < 6 GHz	NI PXIe-5841 (Legacy support: NI PXIe-5646R)		
Support for WiFi 6E, UWB, NR n96	Optional extension up to 12 GHz (NI PXIe-5830)		
Support for 5G NR FR2 (mmWave)	Optional extension up to 44 GHz (NI PXIe-5831)		
Switching Options			
Switching	UMX 8-port	UMX 32-port UMX 64-port (dual 32-port)	UMX 64-port UMX 128-port (with UMX Extender)
DC Front-end / LNA path	All ports		
System Components			
Computing	Embedded Controller (NI PXIe-8861)		
PXI Chassis	9-slot PXIe chassis with OXCO high-precision clock (NI PXIe-1092)		



NOFFZ Technologies develops and produces industry-leading test systems and automation solutions for the entire product development process from prototyping and validation to series production. Due to the in-house development of the modular test platform UTP - Universal Tester Platform, NOFFZ test simulations can be individually tailored to any customer specifications and test requirements.

The company was founded in 1989 and currently employs more than 200 people at nine locations worldwide. From its headquarters in Toenisvorst, Germany, NOFFZ supplies manufacturers in the automotive, telecommunications, IoT, consumer electronics, medical technology and semiconductor industries. NOFFZ Technologies is DIN EN ISO 9001 certified.

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