

WTX: Telematics and Wireless Test Solution

Wireless technology drives significant improvements in vehicle safety, comfort, and user experience, as telematics modules converge with infotainment systems. To effectively integrate these capabilities, test systems need to cover new wireless standards, increase throughput, and support multiple DUTs that usually require other tests, such as audio and video validation.

Application Challenges

- Support for testing DUTs and infotainment systems with Wi-Fi, LTE, GSM, V2X, 5G (3GPP standard compliant), Bluetooth, and new standards
- Scalable to parallel tests of multiple DUTs with modular hardware and software
- Integrated fixturing options for local and remote DUTs

The Alfamation WTX Advantage

- Single platform for multi-standard, multi-DUT testing
- Unparalleled modularity in terms of number of supported ports and scalability
- Flexible fixturing and configurable switching for local and remote tests
- Software with a starting configuration, a command line interface (CLI) to update settings, and a future-proof architecture based on NI drivers
- Optimized system integration through the Alfamation experience

Alfamation WTX Solution

Integrates from 8 to 48 switch ports to the NI PXI and Vector Signal Transceiver.

WTX-EX instrument level software for test configurations and settings

Scalable to support infotainment test and higher complexity DUTs.

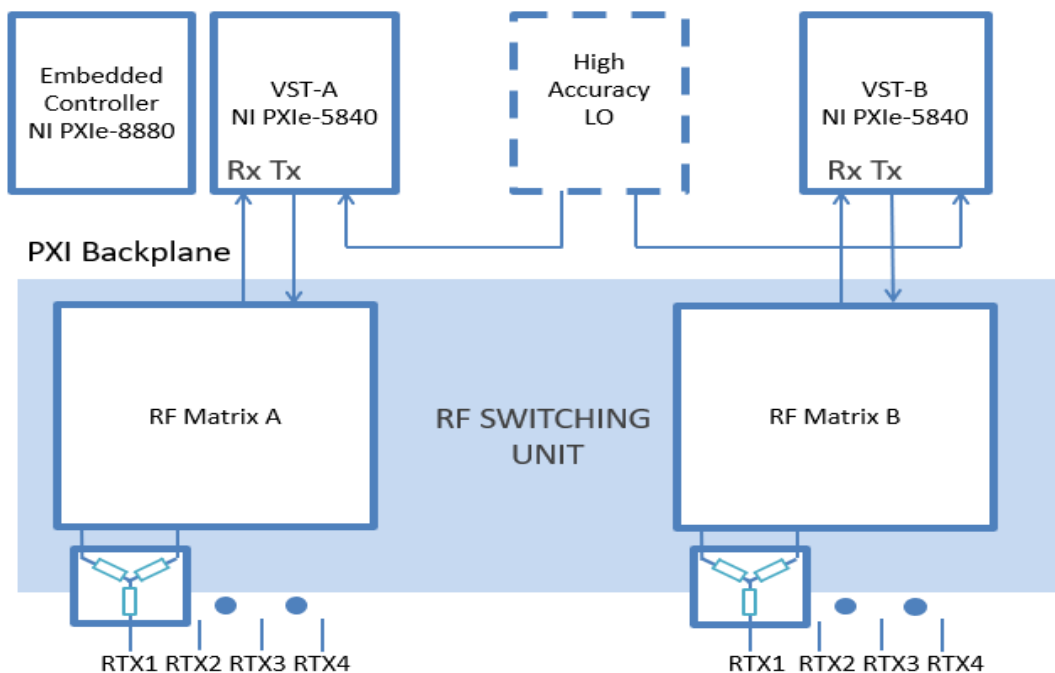


Figure 1. General WTX architecture for two NI VSTs on an 8-port configuration

Key Specifications

Insertion Loss	10 dB typical insertion loss, < 0.5 dB extension insertion loss
Multi-Socket Optimization	< 10 ms switching, test ports queue optimization algorithm
Isolation and Crosstalk	> 100 dB isolation between channels ports
Reflection	24 dB typical reflection on channel ports
Calibration Stability over Time	< 0.5 dB insertion loss deviation and degradation over time
Configurable to Fit Many Applications	Hardware and software on multiple multiplexer configurations and cascades
Easy Software Integration	WTX software command line interface (CLI), NI RFmx API, monitor panel, step types, and remote extensions driver



Figure 2. Common configuration of WTX Tester

WTX Wireless Tester

The Alfamation WTX is a compact and cost-effective tester with best-in-class specifications for automotive infotainment and wireless OTA communication devices.

Based on the Hyperion™ platform system elements, it can be equipped with up to 4 RF shielded/semi-anechoic test chambers to perform high-quality and high-volume production test.

This platform is built for a wide range of applications, and the WTX wireless test configuration is ideal for automotive and wireless device test.

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 Alfamation or your NI account manager to learn more about how the WTX can increase your product quality and accelerate testing timelines.

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