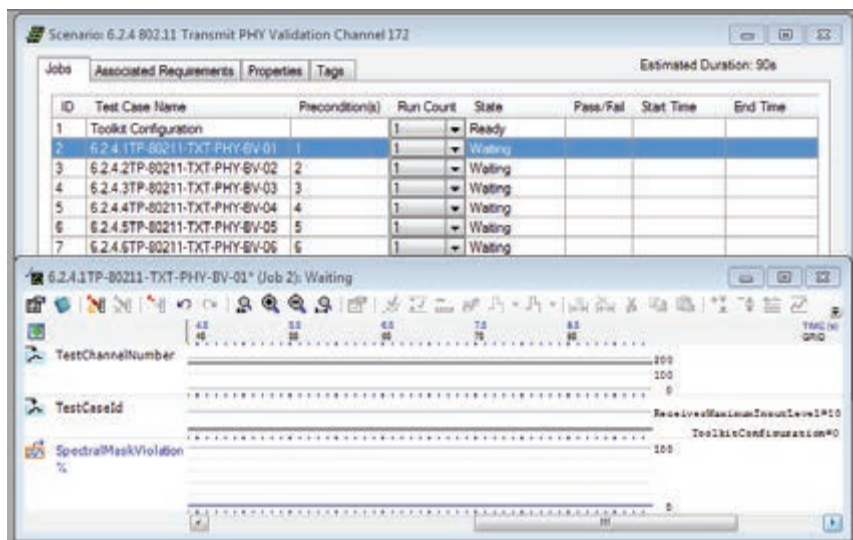


Integration Between The DSRC V2X Component And Vehicle System Electronics

DANLAW

The Mx-DSRC module enables V2X functionality to be simulated and tested with other vehicle systems. Mx-Suite™ is a powerful software validation tool widely used by OEMs and component suppliers for ECU testing, featuring standard suites of DSRC Qualification tests, an intuitive graphical interface for quick uptake, and support for a wide range of COTS test equipment - all necessary for comprehensive testing of the highly integrated and sensor rich environment of Automotive Connected Systems.



RF Quality Testing using NI based WLAN test system

- ✓ Data Rate
- ✓ Adjacent / non-adjacent channel rejection
- ✓ Transmit Spectral Mask
- ✓ Center Frequency Tolerance
- ✓ Symbol Clock Frequency Tolerance
- ✓ Constellation Error
- ✓ Spectral Flatness
- ✓ Transmit center Frequency Leakage
- ✓ Transmit Power
- ✓ Receiver Input Sensitivity

Testing for Compliance Requirements

• DSRC Message Communication Layer Protocols:

- ✓ Physical (IEEE 802.11)
- ✓ Link (IEEE 1609.4)
- ✓ Transport (IEEE 1609.3 WSMP & WSA)
- ✓ Security (IEE 1609.2)
- ✓ Encoding (ISO ASN.1 UPER & OER)
- ✓ Process Information (SAE J2735, SCMS or others)

• DSRC Interface

• SAE J2945/1 Requirements for BSM

Native Support for automotive bus conformance (MOST, Ethernet, CAN, LIN)
Can include other vehicle modules in test harness HIL, MIL, SIL

Interoperability for Key DSRC Data Messages

- ✓ Basic Safety Message (BSM)
- ✓ Signal Phase and Timing (SPaT)
- ✓ Map Data Message (MAP)
- ✓ Traveler Information Message (TIM)
- ✓ Traveler Situation Data Message (TSDM)
- ✓ Intersection Status Data Message (ISDM)

Contact Us For More Information

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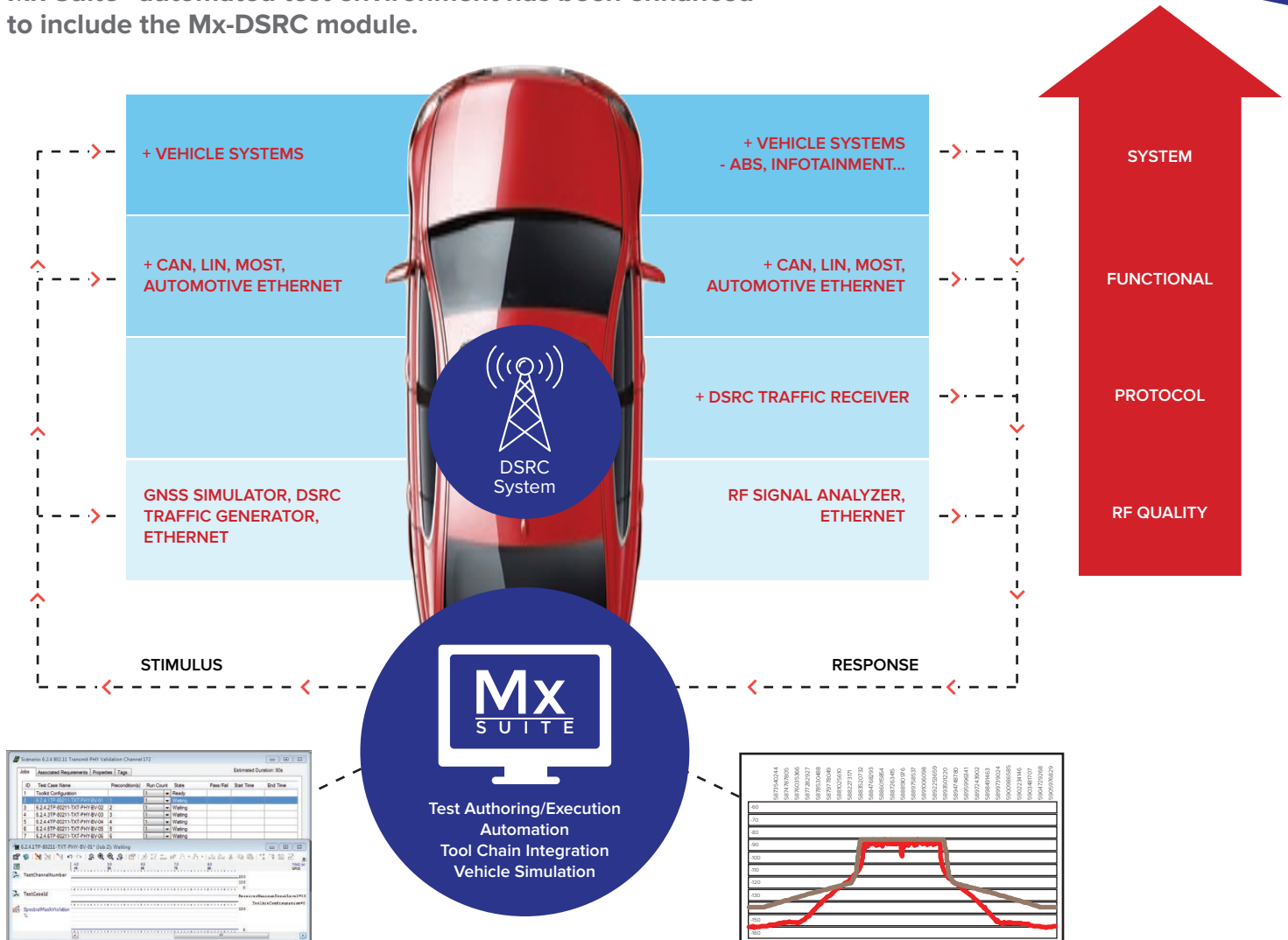
Test System Architecture

Mx-Suite™ can simulate the systems in the vehicle that interact with the DSRC radio module. The test system runs on a PC and simulates peripherals as well as other electronics systems providing a powerful framework for testing your DSRC system.

DANLAW

Mx-DSRC Test System

Mx-Suite™ automated test environment has been enhanced to include the Mx-DSRC module.



Features

- ✓ Automatic test execution and reporting
- ✓ Seamless integration with industry-proven Mx-Suite™ embedded software test environment
- ✓ Easy to understand configuration and execution of tests
- ✓ Any module testing – On-Board, Roadside, Personal
- ✓ Eliminates script writing and parsing of DSRC messages
- ✓ Compliance testing

Benefits

- ✓ Continuous support for new messages / profiles
- ✓ Stability test your module by increasing simultaneous interactions of DSRC and other electronics systems
- ✓ Multiple test methodologies and tools are replaced with a single, simple method and tool.