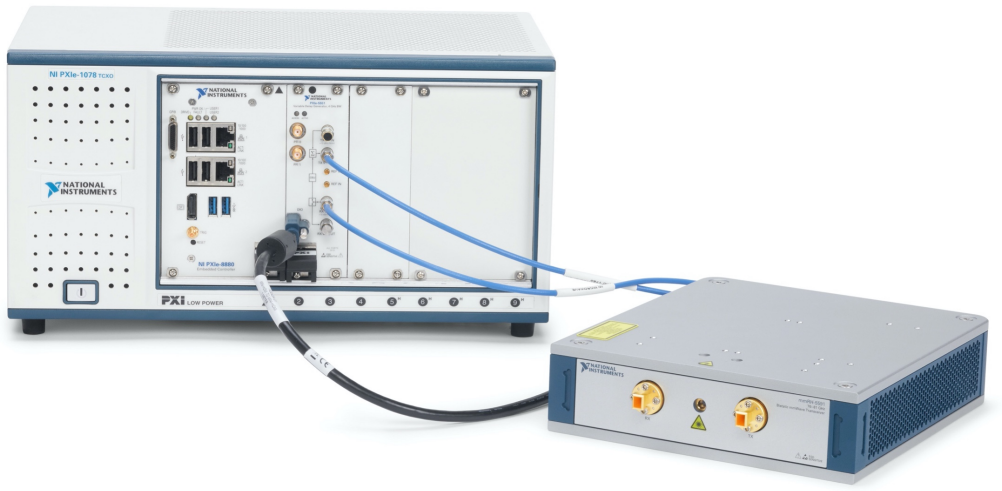
PRODUCT FLYER

4 GHz Vehicle Radar Test System

VRTS Detailed View



- Customized turnkey software experiences based on end-user requirements available from NI Alliance Partners
- Synchronize with NI PXI modular instruments for complete ADAS test applications
- Supports both obstacle simulation and radar measurements in parallel
- Configurable options to optimize for cost, test complexity, or increased requirements
- 4 GHz of instantaneous bandwidth
- 76–80 GHz and 77–81 GHz frequency band support
- Obstacle range from 2.5 to 300 m
- Range resolution down to 5 cm
- Highly repeatable simulation of multiple radar obstacles
- Measurements include EIRP, phase noise, occupied bandwidth, and more

Built for Automated Design Validation, Test, and Measurement

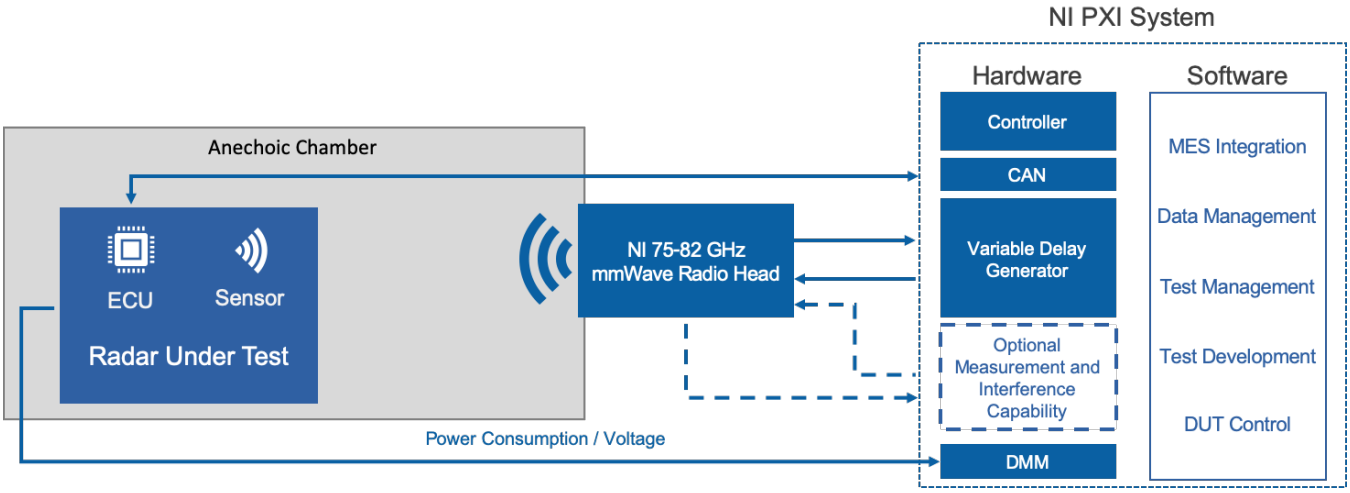
The Vehicle Radar Test System (VRTS) provides automated radar measurement and obstacle simulation capabilities for 76–81 GHz vehicular radar systems with 1 GHz or 4 GHz of bandwidth. Engineers can use VRTS to test the hardware and software components of a vehicle, including radar sensors, ADAS sub-systems, and embedded software. The combination of high-performance mmWave radio heads and the Vector Signal Transceiver (VST) helps engineers conduct precision RF measurements for beam characterization and testing while generating user-configured scenarios for the test. As a result, engineers can utilize the same measurement hardware for all phases of ADAS and radar system development, from R&D to high-volume manufacturing test.

VRTS easily integrates with other PXI measurement hardware for a comprehensive automotive radar test system.

VRTS Detailed View

VRTS is a modular system capable of providing automotive radar obstacle generation and measurement capabilities in 77 and 79 GHz automotive radar bands with support for 1 GHz and 4 GHz radar sensors. Core components include:

- PXI controller and chassis with different configurations based on test plans and requirements
- Variable delay generator, which controls the mmWave radio head and performs the obstacle generation based on user-configured scenarios
- mmWave radio head, which provides the RF interface with the radar sensor
- NI software and API to develop test modules, manage test results, perform DUT control, and connect to other software such as a manufacturing execution systems



Block Diagram of Typical VRTS Configuration

VRTS is compatible with third party RF measurement instruments and can be complemented with NI's VST to provide RF measurement and interference generation capabilities to provide parametric and simulation test in parallel, without sacrificing physical space or performance.

Finally, the modularity of VRTS enables Alliance Partners to customize the exact hardware configuration to suit the needs of the specific test application.

System Delivery

NI uses radar test system integration partners to provide turnkey solutions, from mechatronics to test development. These partners have expertise in radar testing, PLM solutions, and integrating the NI platform to deliver solutions that meets your exact application requirements.

Contact your account manager if you have any questions about VRTS. To learn more about how NI can help increase the quality of your products and accelerate testing timelines, write to info@ni.com.

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