

The Konrad 24 / 76-82 GHz

VRTS – Vehicle Radar Test System

Key Benefits

- Perform target simulation and physical measurements with one system
- Automatically test and replay complex driving scenarios
- Control individual target parameters such as RCS, distance and velocity
- Automate obstacle/scene selection and RF measurements
- Extensible to multiple targets across chassis
- Implement custom obstacle scenarios following NCAP standards
- Ready interface for HIL test with sensor fusion
- Plugins for various automotive BUS interfaces: CAN, Ethernet, LIN
- Extensible LabVIEW based software

...All without requiring large space for moving objects or ties to the road!



Software Features

- Simulate driving scenarios in the lab environment
- Configure and vary target parameters (RCS, distance, velocity) during a scenario
- Synchronize different test system types like Radar, Camera, GNSS and Lidar to perform Sensor Fusion style testing
- Work in a controlled and reproducible test frame
- Quickly switch between target generation and sensor characterization
- Plug-ins to receive target parameters through various interfaces like CAN, ethernet, LIN, etc. for headless operation
- Scalable and highly extensible solution available in multiple variations
- Customizable graphical user interfaces

Overview

A test system based on National Instrument's PXIe-5840 second-generation Vector Signal Transceiver (VST) and LabVIEW, with software by Konrad Technologies, that offers the ability to simulate complex automotive scenarios without ever needing to go outside.

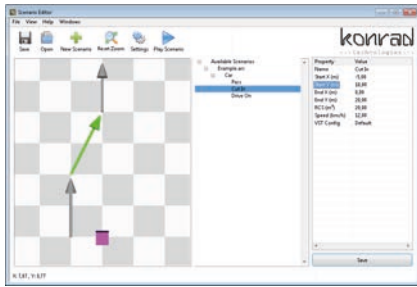
Application and Technology

A solution for testing the autonomous vehicle where the instrument is able to emulate driving scenarios in real time. With target emulation in the lab, users are able to detect critical bugs unlike ever before. The large FPGA allows for fine control of the target parameters and generates a reflection according to the radar sensor's output.



Software

With the help of our software, users are able to validate backend sensor algorithms. This can range from checking the behavior of simple Adaptive Cruise Control functions to verifying that emergency situations are handled appropriately. Konrad Technologies can draw upon a vast background of experience in order to support your custom applications.

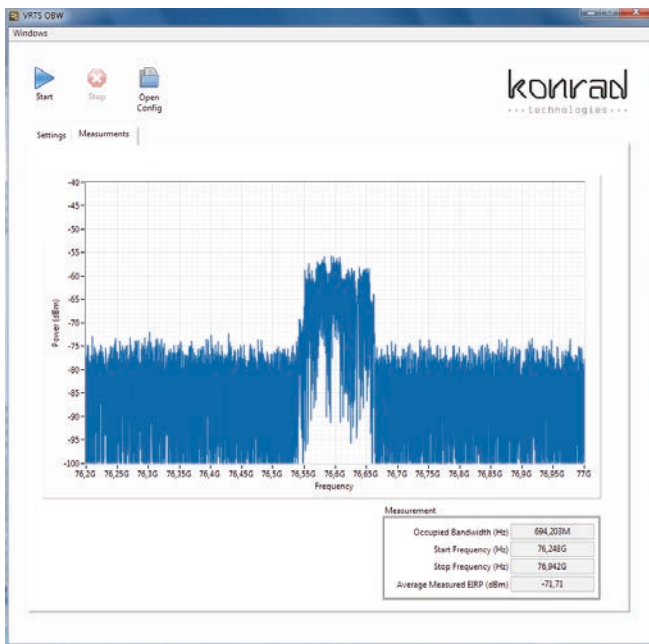


Scenario Editor

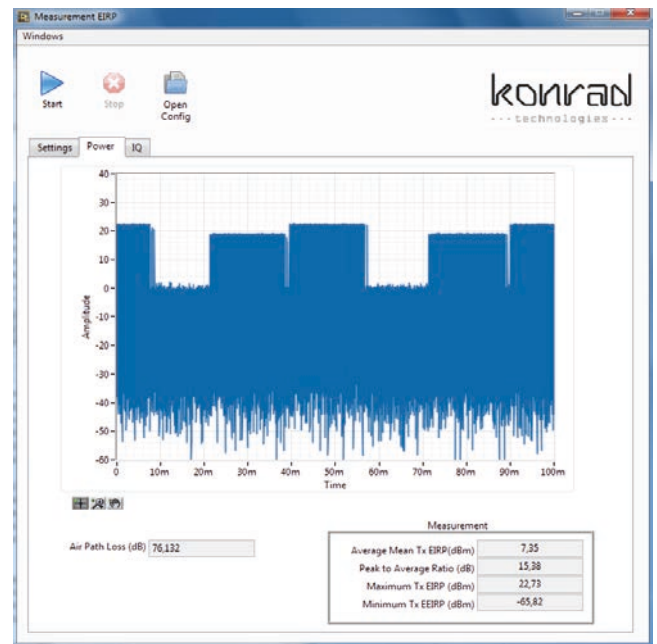
The software makes testing complex driving scenarios easy with the simple graphical editor. Users can draw their desired scenario and edit individual parameters such as RCS or Speed via the Property View. The scenarios can then be replayed or saved to disk for later retrieval.

Plug-Ins

The Konrad VRTS software also features a variety of plug-ins that enable the user to perform physical layer measurements of the sensor output. Some examples include Occupied Bandwidth, FM Demodulation, and Transmit EIRP. In addition to measurements, the plugin interface also enables remote control of the target generation aspects of the software. This allows the whole system to be integrated into a HIL setup and to run headlessly. Target information can be received via CAN or Ethernet and immediately applied without any user interaction.



Occupied Bandwidth



EIRP-TX

We welcome inquiries and are happy to speak with you further.

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Contact us!

Call us and start discussing your test requirements with our experts today! Our high qualified technical sales and project management team assists you in finding appropriate solutions for your test demands.