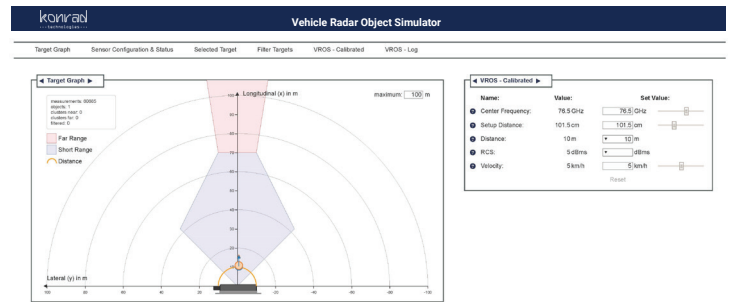# KT Vehicle Radar Object Simulator

KT-VROS for 76-81 GHz Single Target Production Test

Key Benefits

- Competitive price point
- Configurable
- Scalable
- Simple system integration
- Option for RF measurements
- Small footprint for easy deployment

Overview

The KT Vehicle Radar Object Simulator (KT-VROS) is a competitively priced, high quality tester for automotive radar sensor functional verification and vehicle End-of-Line (EOL) test applications. The small, lightweight, modular and configurable design combined with built-in web interface, allows for easy deployment. The KT-VROS operates between 76 GHz and 81 GHz with up to 5 GHz of instantaneous bandwidth for obstacle simulation. Users can efficiently lower the cost and increase the quality of test by implementing more robust test requirements with the KT-VROS.

Competitive Advantage

The KT-VROS is a solution developed by Konrad Technologies that is unlike other high cost, fixed feature target simulators or reflector-based systems in the market today. Manufacturers can verify radar sensors throughout R&D and high-volume production with the KT-VROS.

Applications and Technology

Automotive Sensor Production & End-of-Line Test

For automotive manufacturers and suppliers who need to shorten the development and production time of radar sensor functional verification, the KT-VROS is a reliable system. The KT-VROS web interface enables production test engineers to quickly configure, deploy and update the radar simulation system.

The different supported programming languages ease system integration and test automation. In addition, optional control interfaces are available, ranging from Ethernet to serial communication.

For efficient EOL test, automotive manufacturers require high test throughput, coverage and result accuracy. The KT-VROS allows EOL test applications to be conducted by selecting specific RCSs, velocities and four configurable ranges.

Versatile System

The KT-VROS can also be connected to other hardware and software tools, such as the NI VST, power meters and KT-Radar Test & Measurement Suite. Automotive manufacturers and suppliers benefit from the configurable design, which allows the system to evolve over time in response to industry demands.

Options

RF Measurements

The optional IF-Out and IF-In connections allow the use of a variety of measurement equipment to further analyze the radar signal. This can range from a simple power meter to a high-end NI VST, allowing for in depth analysis of the chirps.

Using the IF-In signal, it is possible to add noise or other interfering signals. This allows the user to take advantage of the superior features of the NI VST, such as generating arbitrary waveforms to check the RUTs (Radar Under Test) interference sensitivity.

Integrated Sensor Reader

The system is capable of integrating with a sensor via a plug-in architecture. This enables reading and configuration of the RUT through the web interface. It also includes an integrated object display, which can be used to check for agreement between the radar sensor and KT-VROS.
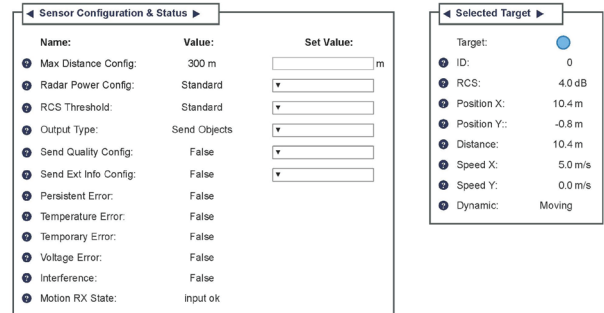
Preliminary Key Specifications

Parameter	Specification
Number of Simulated Objects	1
Preselected Ranges	2 to 300 m
Supported Doppler Range	0 to ±250 km/h[1]
Supported RCS Range	-10 to 20 dBsm[2]
Support for Multiple Programming Languages	LabVIEW, C/C++, Python, etc.

Preliminary Hardware Performance

Parameter	Specification
Frequency Range	76-81 GHz
Instantaneous Bandwidth	5 GHz
Transmit/Receive Isolation	50 dB for bistatic
IF Frequency Range	1-6 GHz

[1] More available upon request.

[2] Depending on setup distance & selected ranges.

Global Deployment & Service

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Asia	china.info@konrad-technologies.cn
Americas	info-usa@konrad-technologies.com
United Kingdom	sales-uk@konrad-technologies.co.uk

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