

Radar Test System - 24GHz, 76.5GHz, 79GHz (RTS)ME7220A

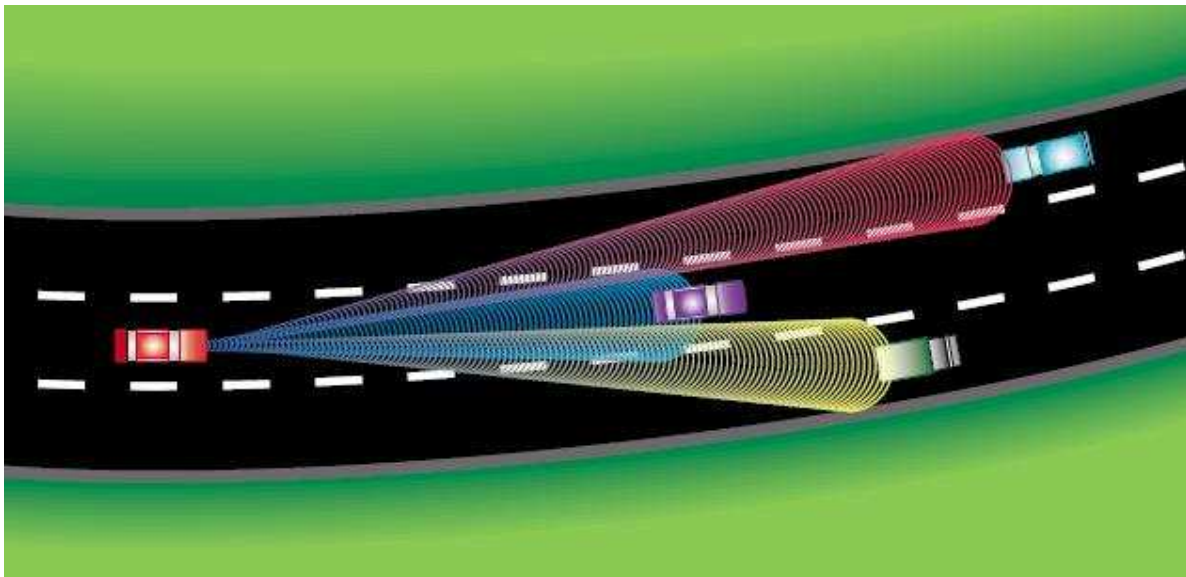
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Target Simulation & Signal Analysis for Automotive Radar Exceptional Performance at an Affordable Price

The Challenge

The installation of collision warning and Adaptive Cruise Control (ACC) systems on passenger automobiles and long-haul trucks challenges manufacturers of vehicles and radar modules alike. Integrating a sensitive radar module and its associated antenna into a vehicle platform is not an easily predictable task. The introduction of new technologies like millimeter-wave radar testing into your production facility, coupled with the requirement to drive costs as low as possible, puts heavy demands on your design engineers, test department and your entire production team.

Developing test procedures that are comprehensive in terms of functionality and accuracy but are fast and easy to initiate requires care and forethought. Guaranteeing performance and reliability in high volume manufacturing is always difficult. Finally, drive-by testing after installation is time-consuming and lacks accuracy and repeatability. These factors make it essential to test to a known set of parameters using a quality instrument of verifiable accuracy and repeatability.



The Solution

Whether you are a designer of radar systems or a manufacturer of passenger automobiles, long-haul trucks, radar transponders or antennas, you need to maintain your reputation for quality and safety. As ACC technologies mature, as customers realize the benefits of using these systems and as production volume soars, new testing technologies will be required to keep your manufacturing competitive and to maximize profitability.

At Keycom we understand that testing millimeter-wave radar within the confines of a high-volume vehicle production line will be a new experience for many automotive engineers. We also understand the importance of performance verification testing to ensure quality. By bringing our experience in radio frequency, microwave and optical testing to bear on your requirements, Keycom can deliver test capability that keeps you ahead of the competition. The ME7220A Radar Test System accurately and repeatedly characterizes ACC radar modules to ensure quality and optimum functionality.

Your Test Partner...

Working with emerging technologies involves some significant learning experiences. With Keycom as your testing partner you can be certain you have the expertise, products and support of the leader in automotive radar testing available whenever you need them. Keycom has more than a century of experience innovating solutions to test the newest wired or wireless technologies including millimeter wave and optics. As a pioneer in the development of simulators and test systems for ACC applications, Keycom radar test systems have been used extensively in the development of automotive radar and related components. Keycom is well positioned to lead the way in developing test systems that meet the immediate and future needs of radar and automobile developers and manufacturers as well as after-market service centers. With manufacturing facilities on three continents and our renowned support available in over 100 countries worldwide, you are assured of the highest performance test solution backed up with outstanding product and application support.

ME7220A Radar Test System (RTS)



The Ideal Solution for Your Testing Environment ...

Research and Development:

Verifies operation under realistic conditions by simulating moving targets (other vehicles or roadside objects) at multiple target distances
Fully characterizes the radar module by quantifying transmitter, receiver and antenna performance
Integrated functionality allows radar signal power and frequency measurements without external equipment
Suited for stand-alone bench-top testing, but easily integrates with other instruments into a test bench or rack
Built-in laser allows accurate alignment of the radar-under-test to the RTS antennas without additional mechanical fixtures

Radar Module Manufacturing:

Integrates into standard production lines or automated radar test stations for complete testing of the radar modules
Allows full or sample testing of all critical radar parameters accurately and repeatedly in a confined and controlled environment
Ideal for anechoic chamber testing of radar components and modules
Interfaces with external test accessories including spectrum analyzers and power meters for complete test flexibility
Easily controlled from an external computer (via RS-232) or by using the included handheld manual controller

Vehicle Manufacturing:

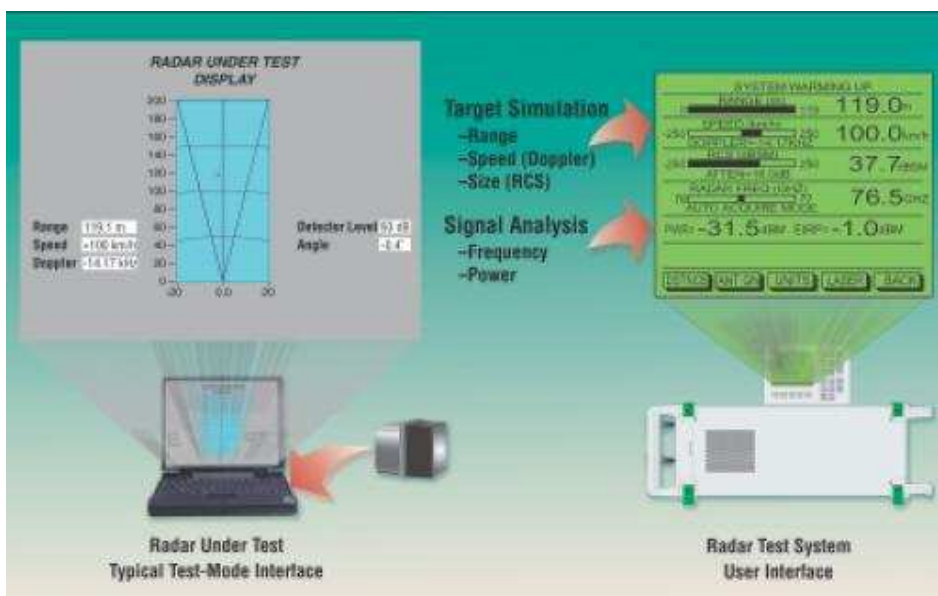
Speeds production by simplifying alignment of the ACC sensor (antenna) when installed on the vehicle
Verifies operation under realistic conditions by simulating moving targets (other vehicles or roadside objects) at multiple target distances
Characterizes both radar transmitter and receiver performance

Application: ACC Module Testing

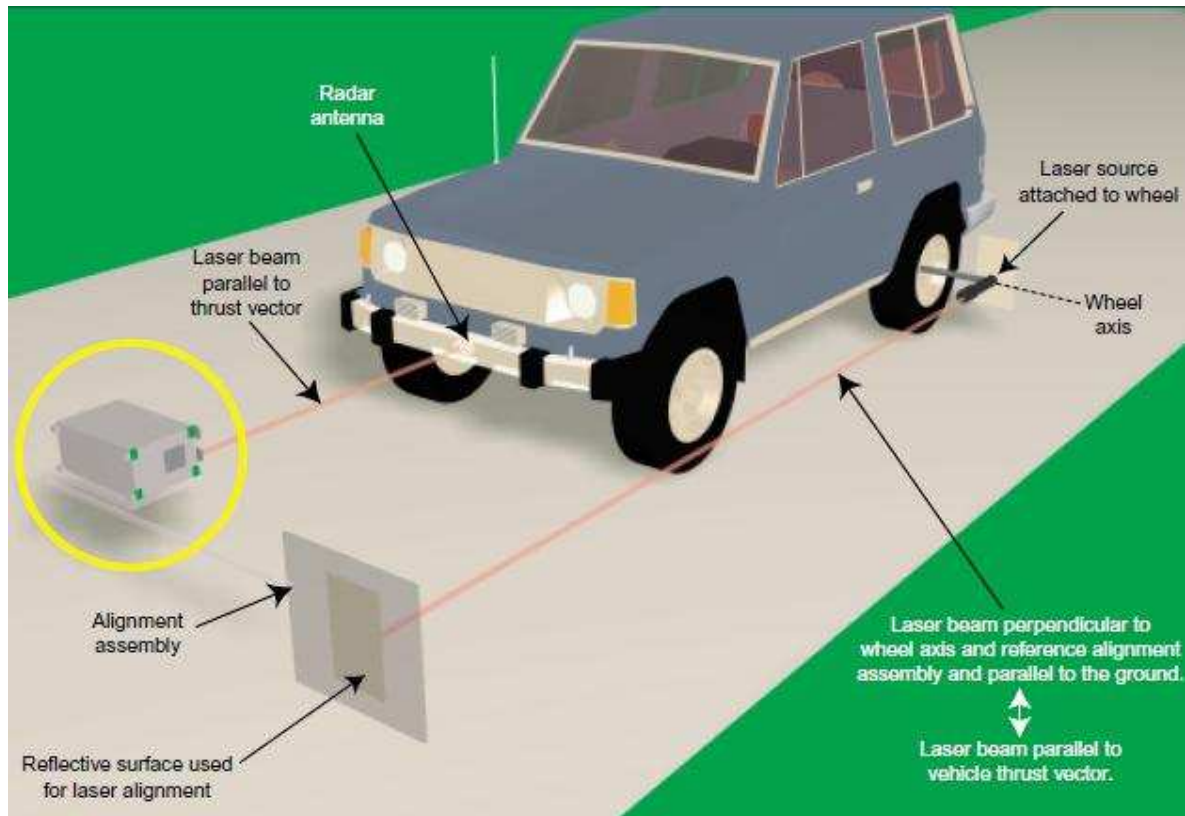
Keycom understands the requirements of ACC radar module developers and manufacturers. Test times must be minimized yet performance must be assured. The ME7220A can quickly and completely characterize all three major elements of the ACC system, the transmitter, receiver and antenna.

Accurate testing of the ACC module requires accurate alignment of the RTS antenna with that of the module. The ME7220A RTS includes a built-in laser to facilitate that alignment. Quantify module performance at two ranges with targets that are completely programmable in size (RCS) and speed. Full data downloading and archiving is provided via the RS-232 interface to your external computer. The built-in RF detector in the ME7220A delivers pinpoint accuracy when measuring antenna patterns and radiated power. The ME7220A also has built in capability to measure the center frequency of the modulated radar signal.

Anechoic Chamber Measurement Setup



Application: On-Vehicle Verification and Alignment



Operating statistics from long-haul truck companies have shown that collision warning and ACC systems can reduce accidents by as much as 70%. Until now installation and alignment of these systems during vehicle manufacture has been a costly, manual, time-consuming process even on the lowest-volume vehicle production lines.

When used with your existing vehicle alignment setup, the Keycom ME7220A Radar Test System facilitates alignment of the ACC module to the vehicle thrust axis, and verifies correct radar operation and antenna alignment. Even within the tight confines of your vehicle production line, simulated targets quickly verify radar operation at both close-in and long ranges. You can adjust the size and relative speed of either target to accurately verify functionality and alignment without time-consuming drive-by testing. The instrument-grade quality and calibration of the ME7220A means that your results will be repeatable as well as accurate.