# Anritsu Product Lineup: Test Expertise for the Future of Transportation





The complexities of the modern automobile continue to increase with more and more technology being added to support new communications applications and safety features. These technologies result in increased vehicle production costs for the manufacturer as well as increasing the cost of ownership. Anritsu breaks down the challenges and provides an approach to testing and production that provides efficiency and scalability.

## **Wireless Connectivity & Infotainment**





**Radio Communication Test Station MT8000A** 5G RF/Protocol



**Signaling Tester** MD8475B e.g eCall/HO/Data Throughput



**Radio Communication** Analyzer MT8821C RF/OTA/ w/ signaling



**Universal Wireless** Test Set MT8870A RF w/o signaling



**Bluetooth Test Set** MT8852B BT incl. audio



**Wireless Connectivity** Test Set MT8862A WLAN w/ or w/o signaling

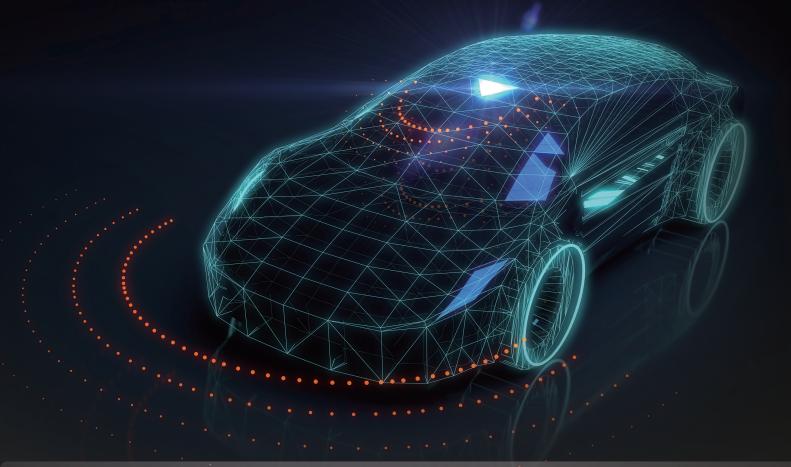


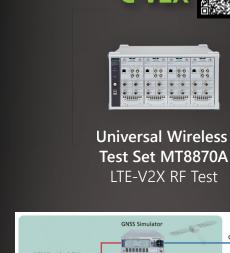
Signal Analyzer MS2690A/MS2830A RF/HW w/o signaling

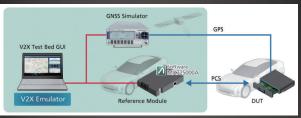




Performance VNA MS46522B-082 Radar & Radome Test







MX725000A **C-V2X PC5 Communications Functional Test** 



Spectrum Master MS2720T



Signal Analyzer MS2830A





**Optical Spectrum** Analyzer MS9740B **Optical Module Test** 



**Signal Quality** Analyzer-R MP1900A PCle® & SerDes Test



Site Master S331E Cable & Antenna



2-Port ShockLine™ and 4-Port ShockLine MS46522B 43.5 GHz





Network Master Pro MT1000A Latency Test



### **Supported Wireless Communication in Automotive Systems**

	5G NR sub-6 GHz	LTE/ LTE-Advanced FDD	LTE/ LTE-Advanced TDD	LTE-V2X	WCDMA/ HSUPA/ HSDPA	GSM/ GPRS/ RGPRS	TD- SCDMA	W-LAN (11a/b/g/n)	W-LAN (11ac)	W-LAN (11ax)	W-LAN (11j)	W-LAN (11p)	Bluetooth®	ISDB-T	DVB-T/H	GPS/Galileo/ GLONASS/ BeiDou/QZSS	R&D	Manufacture	Maintenance/ Service
Radio Communication Test Station MT8000A	•																•	•	
Signalling Tester MD8475B		•	•		•	•	•										•		
Radio Communication Analyzer MT8821C		•	•		•	•	•										•		
Universal Wireless Test Set MT8870A	•	•	•	•	•	•	•	•	•	•		•	•	•	•		•	•	
Bluetooth Test Set MT8852B													•				•	•	
Wireless Connectivity Test Set MT8862A								•	•	•							•	•	
Signal Analyzer MS2690A/MS2691A/MS2692A	•	•	•		•	•	•	•	•		•	•		•		•	•	•	
Signal Analyzer MS2830A		•	•		•	•	•	•	•		•	•	•	•			•	•	•

### **High Performance Testers for Automotive**





#### Radio Communication Test Station MT8000A

The MT8000A is all-in-one support for RF measurements and protocol tests in Sub-6 GHz and Millimeter Wave Bands. It can also be used for testing existing LTE environments; a 5G-to-LTE NSA (Non-Standalone) test environment can be configured easily and supports a self-driving vehicle development environment.

Wireless Connectivity & Infotainment



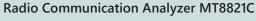


#### Signalling Tester MD8475B

The MD8475B is the base station simulator supporting all cellular standard's test environments with easy-to-use SmartStudio GUI. And The eCall Tester MX703330E software runs with the MD8475B to simulate the eCall service PSAP. The software emulates eCall communications between the IVS and the PSAP at a traffic accident. Supports NG-eCall/eCall/ERA-GLOANSS.







The MT8821C supports all cellular standards used at vehicle telematics systems. It is a high-end instrument for RF measurements, which makes it ideal for all stages of product development. While MT8821C has up to 8 TX RF, 4CA 2×2 MIMO/2CA 4×4 MIMO can be tested in a single box.

Wireless Connectivity & Infotainment





### Universal Wireless Test Set MT8870A

The MT8870A is the best solution for testing at R&D and production stages of all wireless standards: cellular (2G, 3G, LTE/LTE-A, 5G NR sub-6 GHz and LTE-V2X), connectivity (802.11x, Bluetooth and ZigBee), navigation (GPS, GLONASS, BeiDou and Galileo), broadcast technologies (AM/FM radio, DVB and ISDB) and also M2M, V2X technologies with using internal GNSS generation feature.

Wireless Connectivity & Infotainment





#### **Bluetooth Test Set MT8852B**

The MT8852B is designed for performing RF tests on Bluetooth devices for R&D and manufacturing as defined in the Bluetooth RF Test Specification.

Wireless Connectivity & Infotainment





### Wireless Connectivity Test Set MT8862A

The MT8862A has Network Mode for testing all WLAN devices integrated to a vehicle, and for evaluating the RF test items based on IEEE802.11 standard.

Wireless Connectivity & Infotainment



#### Signal Analyzer MS2690A Series / MS2830A

The MS2690A Series base units include swept spectrum analysis, FFT signal analysis, and a precision digitizer function. The MS2830A Spectrum Analyzer can be used for 2G, 3G, LTE, WLAN and V2X (IEEE802.11p) measurements transceiver measurements. The V2X 802.11p Message Evaluation Software MX727000A is designed to be used in conjunction with the Signal Analyzer MS2690A Series/MS2830A to demodulate, analyze, and display V2X messages.

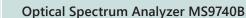
Wireless Connectivity & Infotainment ADAS Intelligent Transport System EMC/EMI











Signal Quality Analyzer-R MP1900A

supporting Physical layer evaluations of these high-speed interfaces.

**Network Master Pro MT1000A** 

The MS9740B supports wavelength measurement shorter than 1000nm, which is key market

It also supports network performance test such as latency, throughput, frame loss and BER.

MT1000A is portable, expandable tester supports 10/100G, OTDR, and CPRI tests.

Ethernet/Infotainment

Ethernet/CAN









#### Site Master S331E

The S331E is the ideal product for cable and antenna installation and maintenance in the automotive industry. Insertion loss, 2-port measurements of amplifiers, duplexers, diplexers or filters, phase matching cables and antenna tuning are relevant applications fitting into the upcoming in-vehicle networks.

PCI bus interface speeds now exceed 10G. In addition, the equipment and chipsets using these interfaces support multi-channels and multi-protocols. The MP1900A is a high-performance BERT with excellent expandability for

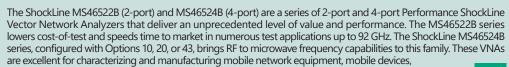


### ShockLine™ MS46522B Option 82 (1 m), Option 83 (5 m) Performance VNA 55 to 92 GHz

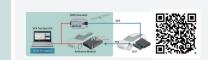
Options 82 and 83 are the E-band frequency option for the 2-port ShockLine MS46522B. They bring banded millimeter-wave (mmWave) measurement capabilities to an all-in-one package unique to the marketplace. For applications requiring only E-band frequency coverage, the MS46522B series 55 to 92 GHz mmWave option are uniquely suited for mass production of E-band components. The E-band VNA tethered module architecture also lends itself to applications testing radome material properties and radar components used in automotive ADAS systems.

ShockLine™ MS46522B and MS46524B 2-Port and 4-Port Performance VNA 50 kHz to 43.5 GHz





automotive cables, high-speed data interconnects and system integration components.



#### C-V2X PC5 Communications MX725000A

The LTE V2X PC5 Communications Software for Cellular V2X (C-V2X) tests V2V and V2I communications over the ITS band PC5 interface. It performs highly reproducible field driving tests by mapping multiple vehicles based on scenarios that simulate real road topologies. This can support cost effective performance evaluation.