TEST AND MEASUREMENT SOLUTIONS

Leading Products for Automotive Electronics and 5G Testing

Managing Test Capabilities in the Rapidly Evolving Automotive Sector

The automotive industry is moving into a new era that will be defined by increasing connectivity and greater levels of electronic content in modern vehicles. New technologies such as 5G, Advanced Driver Assistance Systems, and work toward fully autonomous vehicles will significantly broaden the scope of items that require testing and verification.

To keep up with this demand within budget parameters, flexible testing solutions are needed. By leveraging the right product information and understanding the variety of financing options in advance, engineers and managers can find the ideal equipment for each project on a case-by-case basis—without compromise.

Why Electro Rent?

Electro Rent utilizes a consultative approach in advising automakers, suppliers, and auto engineers about the most cost-effective strategies for acquiring and managing modern test technology, while saving time and money and ensuring access to the latest equipment.

- Our large inventory ensures that you get the equipment you need, when you need it.
- We stand behind our products with support and service; our calibration facilities are world class.
- Our advisors recommend a variety of easy-to-start rental and financing programs to fit your situation.

We proudly offer automotive and 5G test solutions from world-leading brands in RF test and measurement.

Keysight
M8195A Arbitrary Waveform Generator (AWG)

The Keysight M8195A arbitrary waveform generator (AWG) provides up to 65 GSa/s, 25 GHz bandwidth, 8 bits vertical resolution, and up to 4 channels in a 1-slot AXIe module - simultaneously. As devices and interfaces become faster and more complex, the M8195A AWG gives you the versatility to create the signals you need for digital applications, advanced research, wideband radar, satcom, and optical communications.

Key Facts

As devices and interfaces become faster and more complex, the M8195A AWG gives you the versatility to create the signals you need for digital applications, optical and electrical communication, advanced research, wideband radar and satcom.

- Multi-level / Multi-channel digital signals - generate NRZ, PAM4, PAM8, DMT, etc. signals at up to 32 GBaud
- In addition, protocols such as HDMITM, C-PHYTM and D-PHYTM are supported
- Embed/De-embed channels, add Jitter, ISI, noise and other distortions
- Electronics research – generate any mathematically defined arbitrary waveforms, ultra-short yet precise pulses and extremely wideband chirps
- Wideband RF/µW - generate extremely wideband RF signals with an instantaneous bandwidth of DC to 25 GHz

Driver Assistance

Rohde & Schwarz
FSW85 Signal and Spectrum Analyzer

The R&S®FSW85 signal and spectrum analyzer is ideal for measuring radar sensor RF parameters such as frequency, effective isotropically-radiated power (EIRP), and occupied bandwidth and spurious emissions during development, production and verification.

The analyzer scans the range from 2 Hz to 85 GHz (up to 90 GHz with the R&S®FSW-B90G option) and analyzes RF signals produced by radar sensors in the E band. No external harmonic mixers are required.

Infotainment

Rohde & Schwarz
SMW200A Vector Signal Generator

The R&S®SMW200A is the vector signal generator for demanding applications. With its flexibility, performance and intuitive operation, it is especially suited for generating complex, digitally-modulated signals of high quality.

The SMW200A is the ideal generator for digitally-modulated signals required for the development of new wideband communications systems.

The I/Q modulation bandwidth of up to 2 GHz with internal baseband satisfies fourth- and fifth-generation standards (e.g. 5G, LTE-Advanced and IEEE802.11ac/ad), and is designed to meet future requirements.

Key Facts

- Frequency range from 100 kHz to 3 GHz, 6 GHz or 20 GHz
- Optional second RF path with 100 kHz up to 3 GHz, 6 GHz or 20 GHz
- Versatile configuration: from single-path vector signal generator to multichannel MIMO receiver tester
- Ideal for MIMO, MSR or LTE-Advanced applications thanks to up to eight signal sources and up to 16 fading channels
- Modular architecture for optimal adaptation to the application at hand

Power Management

Tektronix
MDO4000 Series Mixed Domain Oscilloscope w/ Power Analysis Application

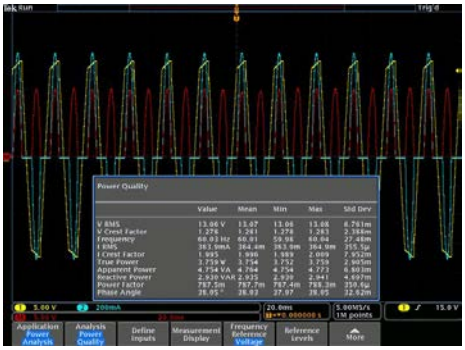
The Tektronix MDO4000 Series oscilloscopes with power analysis application module dramatically simplifies the analysis of power supplies. Automated power measurements such as harmonics, power quality, switching loss, safe operating area, slew rate, modulation and ripple ensure fast analysis. Simplified setup and deskview of probes provides maximum accuracy.

Key Facts

TEK-MDO4104C/SA0

- 4 analog channels
- Bandwidth 1GHz
- Up to 5 GS/s sample rate waveform capture rate
- 20 M record length on all channels
- 340,000 wfm/s maximum waveform capture rate
- Standard passive voltage probes with 3.9 pF capacitive loading and 1 GHz analog bandwidth
- TPP1000:1GHZ for MDO4104C

Tektronix
DPO4PWR Power Analysis Application Module



With the DPO4PWR Power Analysis Application Module installed on an MDO4000 Series oscilloscope, an embedded designer who rarely deals with power measurements can quickly get the same accurate, repeatable results as a power supply expert. A Power Analysis Application Module with an oscilloscope and differential voltage and current probes form a complete measurement system for power supply design and test.

Key Facts

- Power loss measurement at switching device
- Characterization of power semiconductor devices
- Optimal drive characterization of synchronous rectifiers
- Measurement and analysis of ripple and noise
- Pre-compliance testing to IEC standard EN61000 3-2 Class A, MIL Standard 1399 Section 300A, and up to 400 harmonics
- Debugging active power factor correction circuits
- 340,000 wfm/s maximum waveform capture rate
- Standard passive voltage probes with 3.9 pF capacitive loading and 1 GHz analog bandwidth
- TPP1000:1GHZ for MDO4104C

Power Management

Keysight
N6705C Modular DC Power Analyzer

The N6705C DC Power Analyzer provides productivity gains for sourcing and measuring DC voltage and current into the DUT by integrating up to 4 advanced power supplies with DMM, Scope, Arb, and Data Logger features. Eliminates the need to gather multiple pieces of equipment and create complex test setups including transducers (such as current probes and shunts) to measure current into your DUT. The DC Power Analyzer also eliminates the need to develop and debug programs to control a collection of instruments and take useful measurements because all functions and measurements are available at the front panel.

The N6705C DC Power Analyzer can be used with the 14585A Control and Analysis Software. When automated bench setups are required, the N6705C is fully programmable over GPIB, USB, LAN and is LXI Compliant. The N6705C offers flexible configuration to meet your power sourcing and analysis requirements.

Key Facts

- 4-slot mainframe holds up to 600 W of total power and up to 4 modules.
- More than 30 DC power modules to choose from (modules ordered separately)
- Voltmeter accuracy: Up to 0.025% + 50 µV, up to 18 bits
- Ammeter accuracy: Up to 0.025% + 8 nA, up to 18 bits
- Arbitrary waveform generator function: Bandwidth up to 100 kHz, output power up to 500 W
- Scope function: Digitizes voltage and current at up to 200 kHz, 512 kpts, up to 18 bits
- Data logger function: Measurement interval from 20 µs to 60 s, max of 500 M readings per datalog
- 4 GB of non-volatile data storage for data log, scope traces, instrument settings

Connectivity

Keysight
N5182B MXG X-Series RF Vector Signal Generator

Keysight
N9020B MXA Signal Analyzer, Multi-Touch

Keysight offers accurate and flexible signal generation and signal analysis solutions for the 802.11p design and test lifecycle. The signal generation solution comprises the N7617B Signal Studio for WLAN 802.11a/b/g/j/p/n/ac/ah software, which enables creation of standard-compliant 802.11p waveforms that can be used for accurate receiver testing and evaluation of receiver performance using the N5182B MXG vector signal generator.

The signal analysis solution is made up of the 89601B vector signal analysis (VSA) software with WLAN Modulation Analysis for 802.11a/b/g/p/j (89601B VSA Option B7R) and the N9020B MXG signal analyzers with N9077 WLAN 802.11a/b/g/j/p/n/ac/ah Measurement Application. Together, these signal generation and analysis solutions address and exceed the stringent requirements of 802.11p physical layer tests—from research, development, verification to manufacturing.

Bus Systems / Sensors

Keysight
Infinivision 6000 X-Series Mixed Signal Oscilloscope

The InfiniiVision 6000 X-Series oscilloscopes are designed for engineers who want bandwidth, visualization power and the flexibility that comes with integrated capabilities but with portability, a familiar embedded OS user interface. Many of today's designs include multiple serial buses. Sometimes it may be necessary to correlate data from one serial bus to another.

InfiniiVision 6000 X-Series oscilloscopes can decode two serial buses simultaneously using hardware-based decoding. They can also display the captured data in a time interleaved "Lister" display. Using a DSOX6AUTO Automotive Serial Trigger/Analysis package, the scope can simultaneously decode and interleave a CAN and LIN bus in an automotive system.

Key Facts

Keysight MSOX6004A

- Bandwidth: 1 GHz
- Channels: 4 analog channels +16 digital channels
- Max sample rate: 20 GSa/s
- Max memory: 4 Mpts
- Display: 12.1-inch capacitive multi-touch display
- Waveform update rate: > 450,000 waveforms per second
- Trigger: InfiniiScan Zone touch trigger + standard advanced triggers
- Advanced math: Standard, display four funtions simultaneously
- Connectivity: Standard USB 2.0, LAN, video (GPIB option), USB mouse, keyboard, and microphone support
- Analysis: Histogram, color grade, jitter/real-time eye diagram (option), enhanced FFT, segmented memory, search/navigate, advanced math functions, limit/mask test (option)

Bus Systems / Sensors

Rohde & Schwarz
ZNB Vector Network Analyzer

The R&S®ZNB family of vector network analyzers feature high measurement speed, outstanding precision and exceptional ease of operation.

Key Facts

- Wide dynamic range from 9 kHz for fast measurements on high-blocking DUTs
- Excellent raw data for high basic accuracy
- High temperature stability for long calibration intervals
- Fast synthesizers for high measurement speed
- Fast embedding/de-embedding for impedance matching using virtual networks
- Mixed-mode S-parameters for balanced DUT characterization
- Redefined S-parameters for flexible test setup configuration
- Extensive analysis functions for efficient trace analysis
- Amplifier measurements with wide power sweep range and receiver step attenuators
- Time domain analysis for distance-to-fault (DTF) measurements and filter adjustment
- Frequency conversion measurements on mixers and amplifiers – fast and simple with two independent internal generators
- The right calibration method for every test application TSM (Through, Short, Match) – full calibration in only five steps
- Automatic calibration units with up to 24 ports
- Flat and clear menu structures for efficient operation
- Optimal display configuration for each task

EMC

Haefely
ONYX30 30kV Electrostatic Discharge Test System

The ONYX30 is a state-of-the-art electrostatic discharge simulator. It is an ergonomic 30 kV ESD gun without an additional base control unit that can be battery or mains operated. The easy to use touch screen, ergonomic design, modular RC units, multilingual interface, remote control software, built-in LED light, and temperature and humidity display allow for trouble-free use of the ONYX in all test sites. Also available in a 16kV version.

Key Facts

- User defined 'smart key' function
- Touch screen interface
- All-in-one design (no base unit)
- Predefined tests according to standards
- Define, store and load tests
- User changeable RC networks
- Automatic polarity switching
- Remote control
- Battery or mains operation, long battery life

Full-compliance and pre-compliance testing to a wide variety of standards: IEC/EN 61000-4-2 Edition 2 (2009), IEC/EN 61326, IEC/EN 61000-6-1 & -6-2, IEC 61340-3-1, ISO 10605, GMW 3097, Ford AB/AC, ANSI C63.16, PSA B21 7110, ISO 14304, ITU-T K.20, RTCA/DO-160, JEDEC 22-A114, MIL-STD-331 / -464 / -883 / -1512 /-1514 / -1541 / -1542, GR-78-CORE, GR-1089-CORE.

Contact Us Today

Contact us today to learn more about our complete portfolio of automotive 5G testing products.

You can reach us by phone at **1.800.553.2255** or email **automotive@electrorent.com.** Our experts are available to assist with your product testing and financing needs.

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