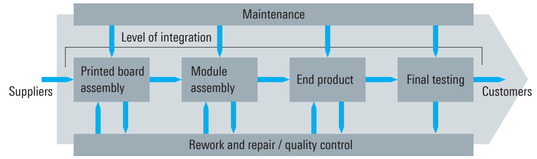
Test and measurement equipment for production must be reliable, easily adaptable, high-performing and upgradeable. In short: worth your investment. That's where Rohde&Schwarz comes into play.

You are about to install a new production line for mobile phones or other RF products? You want to extend or improve an existing production line? Then you should take a look at our proven state-of-the-art T&M portfolio. Why? Because our name is synonymous with technological leadership, quality and low total cost of ownership. Our products are designed to cover all production-relevant aspects: maximum throughput, small footprint, flexible configuration and easy upgradeability due to platform concepts, low energy consumption, low noise emission and easy operation. Being an RF instrument manufacturer ourselves, we know exactly what matters in all stages of the process chain and we offer the right solutions.

- **All major wireless standards**
  LTE, HSPA+, GSM/EDGE, WiMAX™, CDMA2000®, 1xEV-DO, WLAN, RFID/NFC, GPS/Galileo/Glonass, DVB-T/T2, ATSC, ISDB-T and more
- **All stages of the manufacturing process**
  Module assembly, final production and final testing in high volume, low mix and low volume, high mix environments
- **All product categories**
  RF and microwave signal generators and analyzers, audio analyzers, network analyzers, wireless testers for cellular and non-cellular mobile radio and TV standards, oscilloscopes, power meters, in-circuit testers, customized test systems and more

Where you need it, the way you need it
The Rohde&Schwarz sales and service network spans the globe – so we are local no matter where you are. Our customers enjoy industry-leading service, with realtime, person-to-person technical support everywhere in the world. Service locations in over 70 countries and technical support centers in North America, Asia and Europe assure fast access at all times. We are committed to customer satisfaction, which is why we stand fully behind the quality of our service, with no hidden terms. We provide the level of support you need, from complete turnkey service contracts to self-service options for customers who prefer to keep all maintenance, calibration and repair in-house.

Manufacturing process stages



About Rohde&Schwarz
Rohde&Schwarz is an independent group of companies specializing in electronics. It is a leading supplier of solutions in the fields of test and measurement, broadcasting, radiomonitoring and radiolocation, as well as secure communications. Established more than 75 years ago, Rohde&Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

Environmental commitment
- Energy-efficient products
- Continuous improvement in environmental sustainability
- ISO 14001-certified environmental management system

Certified Quality System
ISO 9001

Service you can rely on
- Worldwide
- Local and personalized
- Customized and flexible
- Uncompromising quality
- Long-term dependability

Test and measurement solutions for electronics manufacturers

ROHDE&SCHWARZ

Rohde&Schwarz GmbH&Co. KG
Mühldorfstraße 15 | 81671 München
Phone +49 89 41 290 | Fax +49 89 41 29 121 64

www.rohde-schwarz.com

Regional contact
- Europe, Africa, Middle East | +49 89 4129 12345
  customersupport@rohde-schwarz.com
- North America | 1 888 TEST RSA (1 888 837 87 72)
  customer.support@rsa.rohde-schwarz.com
- Latin America | +1 410 910 79 88
  customersupport.la@rohde-schwarz.com
- Asia/Pacific | +65 65 13 04 88
  customersupport.asia@rohde-schwarz.com
- China | +86 800 810 8228/+86 400 650 5896
  customersupport.china@rohde-schwarz.com

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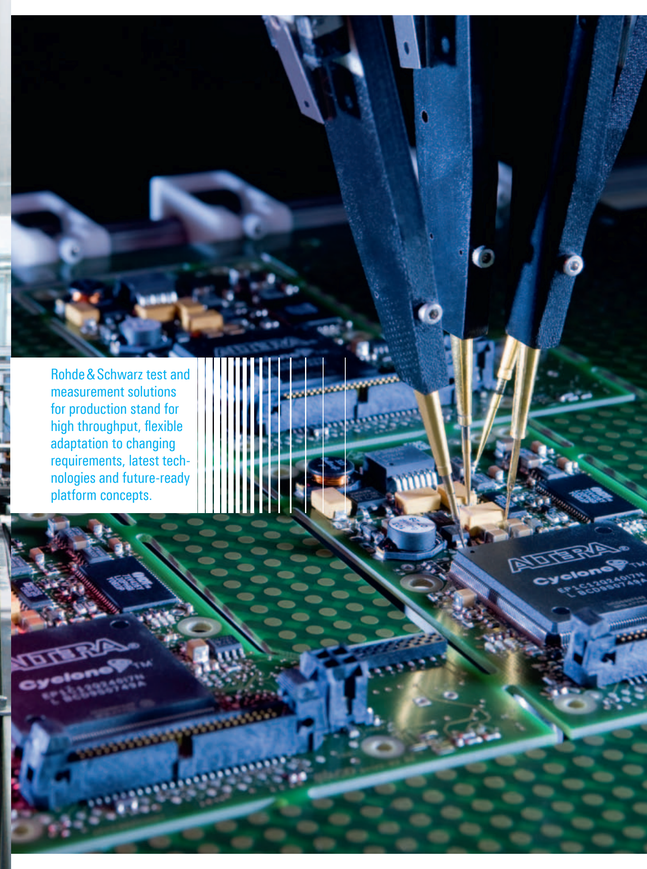

Rohde&Schwarz test and measurement solutions for production stand for high throughput, flexible adaptation to changing requirements, latest technologies and future-ready platform concepts.

Board level, module and final testing

Measurement tasks	Recommended products	Top features
Mobile phone production Standard-compliant testing of the air interfaces of wireless devices	 R&S®CMW500 wideband radio communication tester	▮ Unique all-in-one test platform: all wireless and broadcast standards in one box, e.g. LTE with MIMO, WLAN, DVB-T ▮ Multi-RAT handover test ▮ Applicable from RF and protocol tests to end-to-end tests
Multiport and parallel testing Parallel filter, amplifier, mixer and antenna testing as well as RF module testing	 R&S®ZVT vector network analyzer	▮ High-speed measurements at up to eight ports with four independent sources and 16 receivers ▮ Unique measurement capabilities up to 20 GHz ▮ Truly parallel measurement for highest throughput ▮ Support of switch matrices
Radar, satellite, wireless infrastructure and consumer electronics products Signal generation and analysis for transmitter and receiver testing	 R&S®SGS100A RF source R&S®SMB100A RF and microwave signal generator R&S®FSV signal and spectrum analyzer	▮ Smallest fully integrated RF signal generator up to 12.75 GHz (1/2 x 19", 1HU) ▮ CW only or vector signal generator model ▮ Very short setting times for high throughput ▮ Wearfree electronic attenuator ▮ Compact analog signal source up to 40 GHz ▮ High output power ▮ Wearfree electronic attenuator up to 12.75 GHz ▮ Industry-leading speed for maximum throughput ▮ Easy on-site upgrading with options ▮ Frequency range up to 40 GHz ▮ Support of all major wireless standards

Measurement tasks	Recommended products	Top features
Transmitter power testing Precise power measurement of CW signals, digital or analog modulated signals as well as pulsed RF signals	 R&S®NRP-Z power sensors	▮ Large portfolio of different sensor types with USB connector for easy use ▮ Highest accuracy and speed ▮ Dynamic range up to 90 dB
Active and passive device testing Filter tuning and filter, amplifier, mixer and antenna testing	 R&S®ZNB and R&S®ZNC vector network analyzers	▮ Very fast and accurate ▮ Easy to operate on large touchscreen ▮ Long calibration intervals ▮ Compact form factor
Production of broadcast tuners, components and receivers Terrestrial, satellite and cable interface RF testing	 R&S®SFE100 test transmitter system R&S®SFC compact modulator	▮ Centralized signal generation: just one system for the entire production site ▮ Minimum space requirements, low power consumption and all major TV and audio broadcasting standards in one rack ▮ Flexible, upgradeable configuration to meet user requirements ▮ Multistandard test signal generation for TV and audio broadcasting ▮ Compact and cost-effective
Video and audio parameter testing, e.g. in TV production Adjustment of color, white point and gamma, audio testing	 R&S®DSVG digital video signal generator R&S®UPP audio analyzer	▮ Audio and video signal generation for analog TV, SDTV, HDTV, 3D ▮ Cost-efficient one-box solution ▮ Important building block in test setups for measuring brightness, color, contrast and view angle of TV displays in combination with a spectrometer ▮ Cost-efficient solution, especially designed for production ▮ Cascadable to up to 48 active measurement channels, ideal e.g. for car audio applications

Rework and repair / quality control

Measurement tasks	Recommended products	Top features
Troubleshooting digital, analog and RF devices Signal analysis in the time and frequency domain	 R&S®RTO and R&S®RTM oscilloscopes	▮ Excellent measurement accuracy up to 4 GHz ▮ Fast detection of signal faults due to industry-leading acquisition rate (R&S®RTO) ▮ Innovative user interface for maximum ease of operation ▮ Probes with built-in DC voltmeter
Troubleshooting receivers and transmitters Signal generation and analysis of radio, mobile phone, satellite and radar systems	 R&S®SMBV100A vector signal generator and R&S®FSV signal and spectrum analyzer	▮ Wide range of signal generation and analysis options for analog and digital modulation methods as well as for wireless standards ▮ Intuitive graphical user interface (generator) and touchscreen (analyzer)
Repair of mobile phones Power consumption testing at module level, battery simulation	 R&S®CMW-Z10 RF shielding box, R&S®CMW500 wideband radio communication tester, R&S®CMWrun measurement software	▮ One tester for all mobile radio and wireless connectivity standards ▮ Predefined test sequences ▮ Complete solution including RF test chamber and software support ▮ Various RF test chambers available
Repair of broadcast tuners, components and receivers RF and reception parameter testing	 R&S®SFE broadcast tester	▮ Multistandard signal generator with additional testing capabilities ▮ Digital and analog TV and audio broadcasting standards in one box ▮ High-quality RF modulator, universal real-time coder and diverse baseband signal sources in one

Customized test systems

Measurement tasks	Recommended products	Top features
Electronic assembly and module testing Analog and digital in-circuit testing, functional and high-power testing	 GT3000 test system based on the R&S®TSVP test platform	▮ Very compact board-testing solution with modular system architecture ▮ Compact PCI/PXI and CAN compliant ▮ Manual, semi-automatic or in-line feeding of devices under test ▮ Integrated vacuum and pneumatic interface ▮ User-configurable
Transmitter and receiver testing Testing of devices with ISM band radio interface such as tire pressure sensors or remote keyless entry products	 R&S®TS7810 RF test system	▮ Quick adaptation to specific test requirements and scenarios for automotive, industrial and consumer devices
Shielding for RF tests on devices with radio interface	 R&S®TS712x shielded RF test chambers	▮ Manual or automatic opening and closing ▮ Shielding up to 14 GHz ▮ Integrated RF connectors and filter feedthroughs ▮ Support of application-specific configurations

Maintenance

Measurement tasks	Recommended products	Top features
In-time detection of defective RF paths on the production line Cable loss, distance-to-fault, transmission and reflection measurements	 R&S®ZVL vector network analyzer R&S®ZVH cable and antenna analyzer	▮ Network analyzer, spectrum analyzer (option) and power meter (option) in one ▮ 50 Ω and 75 Ω models ▮ Multitrace display for displaying all relevant parameters ▮ Optional battery operation ▮ All functions required for cable and antenna measurements ▮ Optional power meter, spectrum and vector network analyzer ▮ Flexible upgrade concept ▮ User-configurable test sequences (wizard)