R&S® CMP180
RADIO COMMUNICATION TESTER

Non-signaling R&D and production test platform for Wi-Fi 6E, Wi-Fi 7, 5G NR FR1 and many other technologies
The R&S®CMP180 radio communication tester from Rohde & Schwarz is the next generation R&D and production non-signaling test platform for cellular and non-cellular technologies. The R&S®CMP180 completes the VSA/VSG single-box tester portfolio for higher frequency ranges up to 8 GHz and provides a bandwidth of up to 500 MHz.

**New standard in non-signaling test solutions**
Modern modules, CPEs, smartphones and tablets support a growing number of technologies and frequency bands. As a result, more transmitters, receivers and antenna paths have to be tested. Advanced production concepts need to take this growing complexity into account while keeping costs low. The performance, capacity utilization and flexibility demands placed on T&M equipment are rising dramatically. The R&S®CMP180 radio communication tester is the solution to these challenges. It supports the latest Wi-Fi 6E, Wi-Fi 7 and 5G FR1 technology challenges in frequencies up to 8 GHz.

Engineering validation tests (EVT) and design validation tests (DVT) require more extensive RF testing than final mass production (MP) testing. MIMO requirements and RF signals with higher power need to be tested during the EVT and DVT stages. The R&S®CMP180 supports R&D testing in all stages.

**Key facts**
- Non-signaling radio communication tester supporting Wi-Fi 6E, Wi-Fi 7, 5G FR1 and legacy technologies
- Based on new hardware platform
- Intuitive web based R&S®CMsquares user interface
- Multi-DUT and multi-technology measurements
- Self-alignment
- Future-proof hardware
- Two independent RF channels

Rohde & Schwarz – more than 80 years of quality, precision and innovation in all RF test and measurement fields
Rohde & Schwarz has decades of engineering experience, setting the standard with the R&S®CMW platform in all R&D and production facilities. The R&S®CMP180 was designed with this background and experience in mind.

**Rohde & Schwarz**
CMP180 - Radio Communication Tester

THE FUTURE INTEGRATED
**BENEFITS**

A single non-signaling tester from R&D to mass production.

**Efficiency boost through parallel testing, high measurement accuracy and optimized test times**

The R&S®CMP180 can test up to 16 RF ports in parallel (multiple vector signal analyzers/vector signal generators) for unprecedented flexibility when designing production lines. The open architecture of the R&S®CMP180 enables quick integration of latest computer technologies, ensuring top test performance both today and tomorrow. Test time optimization with R&S®SmartChannel, DL broadcast and interleaving significantly shortens calibration and verification times relative to single DUT testing. Existing implementation experience helps significantly reduce development time.

**On-site calibration and service**

The R&S®CMP180 supports on-site calibration with an integrated self-alignment function, enabling users to calibrate the tester. Rohde & Schwarz Service performs all tasks that users cannot handle themselves such as factory calibrations and repairs. Rohde & Schwarz subsidiaries around the world meet any service demands. Application engineers worldwide help users test their mobile devices in line with specific requirements, helping get them ready for mass production as quickly as possible. The Rohde & Schwarz network in more than 70 countries ensures optimum on-site support from highly qualified experts.

**Tester for the entire product lifecycle**

The R&S®CMP180 is more than a mass production tester. Test engineers can use the instrument throughout the entire development phase, from engineering validation tests (EVT), design validation tests (DVT) and production validation tests (PVT) to mass production (MP). Current development and production lines for wireless devices must provide an optimum combination of flexibility, performance and capacity utilization. As the leading supplier of T&M equipment for all stages in the development and production of wireless devices, Rohde & Schwarz meets these stringent requirements with the R&S®CMP180.

---

**Product development cycle**

<table>
<thead>
<tr>
<th>Product phase</th>
<th>Predevelopment</th>
<th>Development</th>
<th>Launch phase</th>
<th>Mass production (MP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test phase</td>
<td>Prototype testing</td>
<td>EVT</td>
<td>DVT</td>
<td>PVT</td>
</tr>
<tr>
<td>Prototype testing</td>
<td>Engineering validation test</td>
<td>Design validation test</td>
<td>Production validation test</td>
<td>Testing during MP</td>
</tr>
</tbody>
</table>

Supported by Rohde & Schwarz tester

- R&S®CMP180 radio communication tester
- R&S®CMW100 communications manufacturing test set
  - DVT (partly)

**Typical duration**

- Months to years
- < 3 months
- Approx. 6 to 9 months
- < 3 months
- 1 to 5 years
Enabling short time to market
Every device must go through various phases as it moves from idea to salable product. The markets and competition are pushing for ever shorter product cycles, making it very important that users are always able to work with the same tools and test instruments in the various product development phases. Using the same tester through all stages offers software and coding benefits for everyone. Time to market is a major factor. The R&S®CMP180 can be used from the early mobile prototype phase up to mass production.

Uniform and intuitive operation
The R&S®CMP180 is easy to operate thanks to the popular R&S®CMsquares user interface. All instruments have the same R&S®CMsquares graphical user interface for a continuous information flow regardless of where R&D and production are located.

Future-proof due to one-platform strategy
All Rohde & Schwarz radio communication testers are developed on the same hardware and software platforms to generate identical measurements. This ensures reproducibility, scalability and reduces time to market with minimal programming requirements.

Rohde & Schwarz radio communication tester portfolio for parametric testing

<table>
<thead>
<tr>
<th>LTE advanced (+legacy)</th>
<th>5G NR FR1 sub6 GHz</th>
<th>Wi-Fi 6E, Wi-Fi 7, 5G NR FR1 U-NII-5 to U-NII-8</th>
<th>5G NR FR2/UWB (+IF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTE</td>
<td>Wi-Fi 6</td>
<td>Wi-Fi 6E</td>
<td>5G</td>
</tr>
</tbody>
</table>

- R&S®CMP180 radio communication tester
- R&S®CMW100 communications manufacturing test set
- R&S®CMHEAD30 remote radio head
- R&S®CMQ200 shielding cube
- R&S®CMQ200 radio communication tester
- R&S®CMQ200 radio communication tester
HIGHLIGHTS

The excellent RF characteristics of the R&S®CMP180 are ready for new challenges in cellular and non-cellular wireless technologies.

► Compact design: 2 HU × 19 inch, 1 HU per channel
► RF frequency up to 8 GHz, 500 MHz bandwidth
► Excellent RF parameters and high output power
► Two analyzer and two generator channels, each channel with eight ports
► Parallel testing on up to 16 RF ports
► Integrated controller/processor
► Linux operating system
► Integrated intuitive R&S®CMsquares user interface
► Simple option concept
► Self-alignment for time-saving on-site calibration
► R&S®NRPx power sensor connector
► Integrated power supply
► Broadcast mode enables simultaneous transmission on all RF ports/outputs for receiver tests/RX tests on the DUT
Service that adds value
► Worldwide
► Local and personalized
► Customized and flexible
► Uncompromising quality
► Long-term dependability

Rohde & Schwarz
The Rohde & Schwarz technology group is among the trailblazers when it comes to paving the way for a safer and connected world with its leading solutions in test and measurement, technology systems, and networks and cybersecurity. Founded more than 85 years ago, the group is a reliable partner for industry and government customers around the globe. The independent company is headquartered in Munich, Germany and has an extensive sales and service network with locations in more than 70 countries.

www.rohde-schwarz.com

Sustainable product design
► Environmental compatibility and eco-footprint
► Energy efficiency and low emissions
► Longevity and optimized total cost of ownership

Certified Quality Management
ISO 9001

Certified Environmental Management
ISO 14001

Rohde & Schwarz training
www.training.rohde-schwarz.com

Rohde & Schwarz customer support
www.rohde-schwarz.com/support