R&S®QPS
Quick Personnel
Security Scanners

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At a glance

The R&S®QPS is a state-of-the-art millimeterwave security scanner that automatically detects potentially dangerous items carried on the body or in clothing. The scanner can be used for airport security checks, security at public events with a high threat potential and access control at security-related facilities.

The R&S®QPS201 security scanner delivers high-precision and efficient security control while ensuring an unobtrusive and uncomplicated experience for scanned persons. It consists of a flat panel with thousands of transmitter antennas that emit extremely low-power millimeterwaves in very short succession and just as many receiver antennas that record high-resolution 3D information. Persons being scanned stand squarely between the panels as if facing a mirror, holding their arms slightly away from their bodies.

The detection software uses machine-trained algorithms to search for conspicuous objects of all material types. The scanner searches for anomalies indicating unusual objects rather than for certain items, enabling it to discover unknown and new threats. The R&S®QPS is designed for implicit privacy. Rather than generating photographic images, it evaluates physical information. Detected locations of interest are marked on a symbolic body graphic.

The R&S®QPS poses no health hazard whatsoever. It operates on frequencies similar to those of a vehicle distance warning system. The transmitted power at the scanned person's location is almost undetectable and several orders of magnitude lower than mobile phone emissions.

R&S®QPS Quick Personnel Security Scanners
Benefits and key features

Detection characteristics
▮ Detection of all types of potentially dangerous objects (metal, ceramic, plastic, liquid)
▮ Outstanding body coverage; complete head, shoulder and leg illumination
▮ High system resolution, bandwidth and dynamic range for high detection performance and minimum false alarms
▮ Certified by the European Civil Aviation Conference (ECAC)
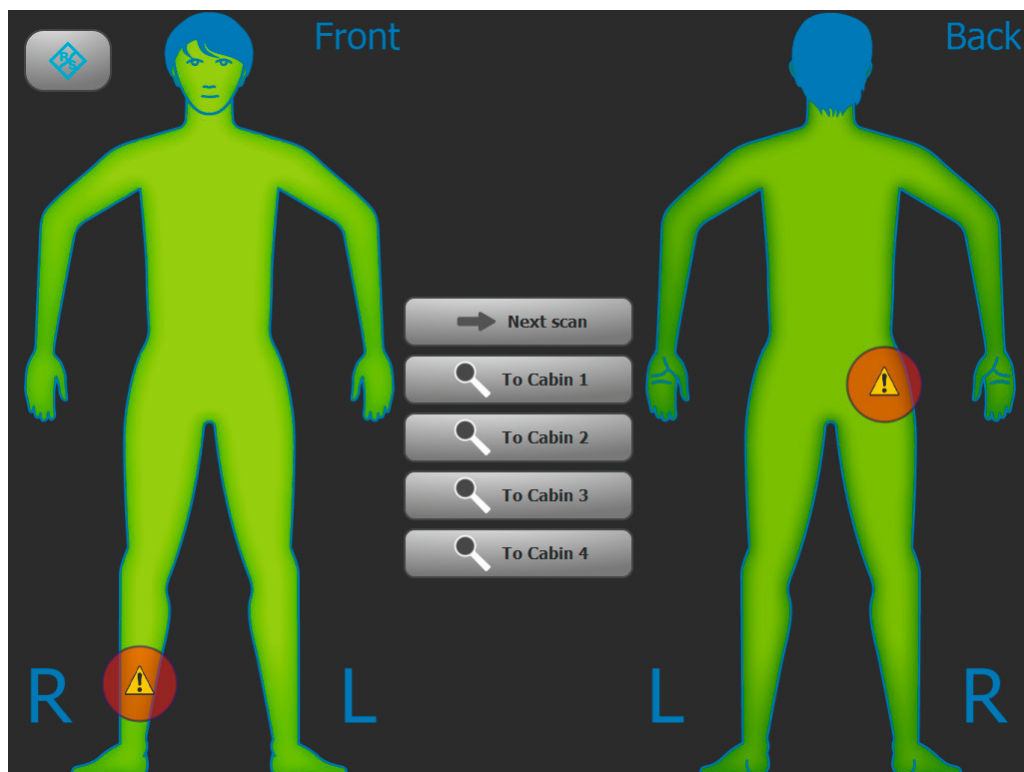
Benefits for operating company
▮ Low processing time for highest throughput
▮ Flat with low weight and high positioning flexibility
▮ No operational interruption for calibration
▮ Escape routes through the lanes remain open
▮ Low fire load
▮ Reliable, quiet continuous operation
▮ Insensitive to temperature fluctuations
▮ Low maintenance costs due to stable calibration and no moving parts
▮ Easy service access since panels are installed on rails
▮ Integration into local networks possible
▮ Software updates to meet future requirements

Benefits for operators
▮ Simple touchscreen operation
▮ Unobstructed view of arriving passengers
▮ Direct access to passengers before scanning
▮ No obstacles for wheelchair users

Benefits for scanned persons
▮ Open, transparent scanning environment; no booth
▮ Easy-to-hold body posture; not necessary to raise arms
▮ Extremely short scan time
▮ Not necessary to change position

Scan results are visualized on a neutral body graphic.

R&S®QPS201

The R&S®QPS201 is the successor to the successful R&S®QPS200. It is designed for high throughput requirements, either as a replacement for metal detectors (primary scan) or as a secondary scan in conjunction with a metal detector.

A passenger is scanned in just 32 ms, in one easy-to-hold position between the panels.
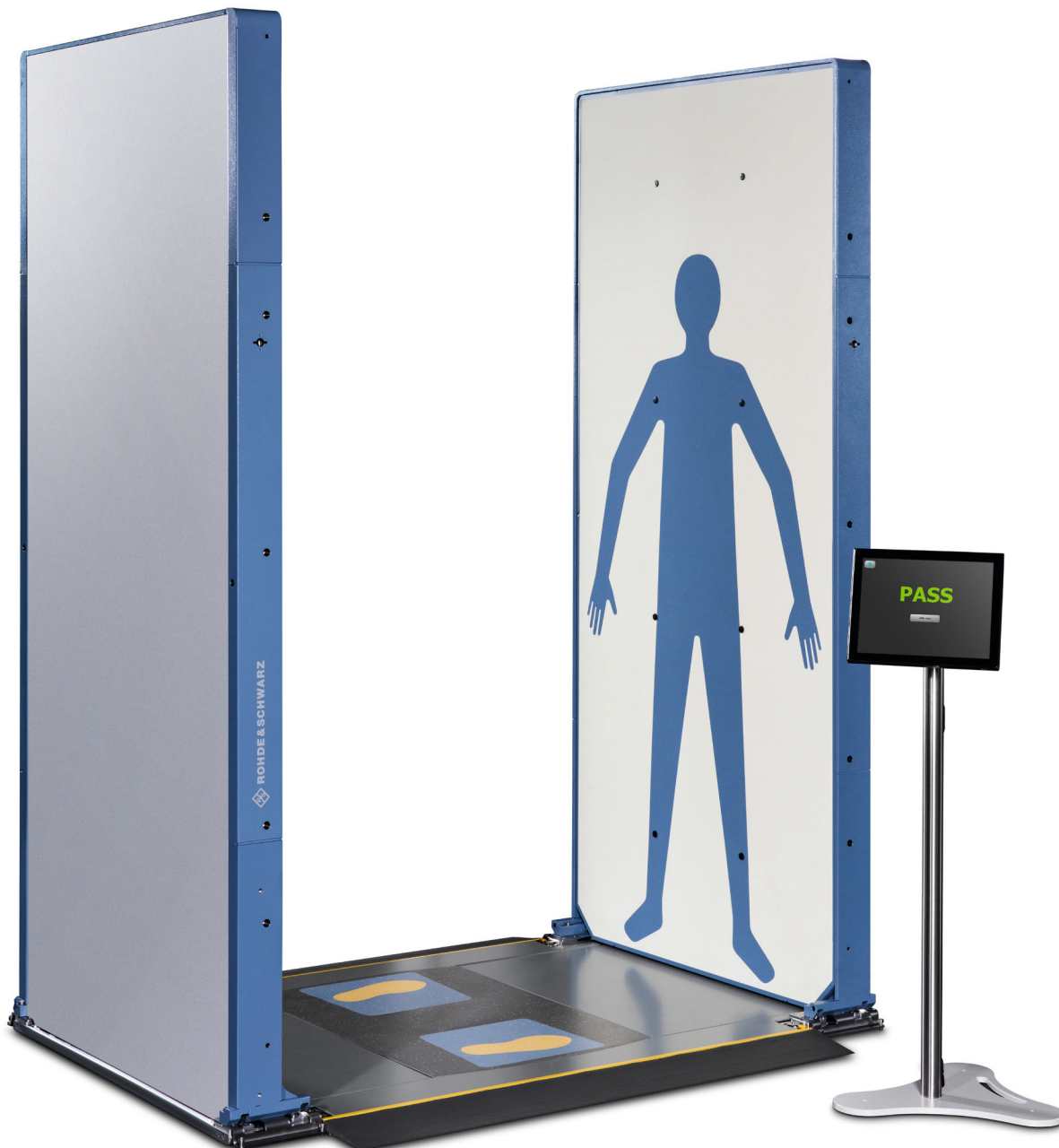
The open architecture allows a clear view of arriving passengers, an open escape route and easy passage for wheelchairs.

Peak mode

Like the R&S®QPS200, the R&S®QPS201 can operate in peak mode. For this purpose, up to four remote resolution stations are connected to the device. The scanner operator simply performs the scan and then sends the passenger to one of the free remote resolution stations. Here, the scan result is displayed and cleared by another operator.

Technical specifications

❙ Frequency range: 70 GHz to 80 GHz
❙ Multistatic operation with thousands of transmitter and receiver antennas per panel
❙ Transmit power: approx. 1 mW
❙ Data acquisition time: approx. 32 ms
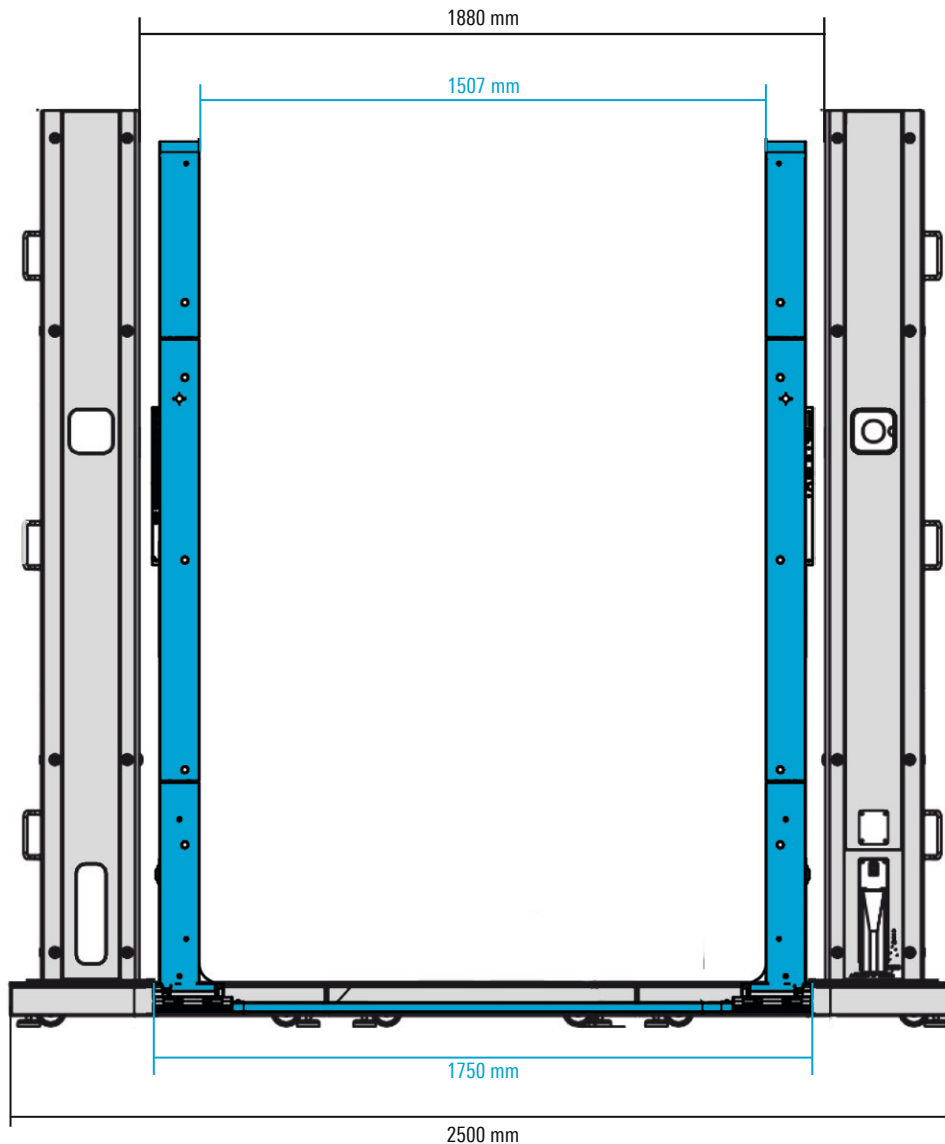❙ Fully electronic; no moving parts

R&S®QPS201 optimizations

Optimizations compared with the previous R&S®QPS200 model

▌ Even lower false alarm rate and higher detection rate
▌ Extremely short processing time of well below 4 s
  ‧ Highest achievable throughput in combination with optional, remote resolution stations
▌ Significantly reduced width allows use in narrow security lanes
▌ Shorter panels for use in lower buildings
▌ Significantly reduced weight allows use in areas with lower floor load capacity

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Significantly reduced width of the R&S®QPS201 (blue) compared with the R&S®QPS200 (gray)

1880 mm

1507 mm

1750 mm

2500 mm

Service that adds value

ı Worldwide
ı Local and personalized
ı Customized and flexible
ı Uncompromising quality
ı Long-term dependability

Rohde & Schwarz

The Rohde & Schwarz electronics group offers innovative solutions in the following business fields: test and measurement, broadcast and media, secure communications, cybersecurity, monitoring and network testing. Founded more than 80 years ago, the independent company which is headquartered in Munich, Germany, has an extensive sales and service network with locations in more than 70 countries.

Sustainable product design

ı Environmental compatibility and eco-footprint
ı Energy efficiency and low emissions
ı Longevity and optimized total cost of ownership

Certified Quality Management
ISO 9001

Certified Environmental Management
ISO 14001

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