R&S®IMAGER MICROWAVE IMAGING CLUSTER

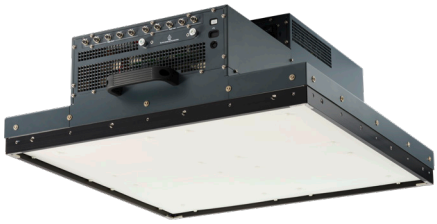
Real-time mmWave imaging

ROHDE&SCHWARZ

Make ideas real

mmWAVE TECHNOLOGY AT ROHDE&SCHWARZ

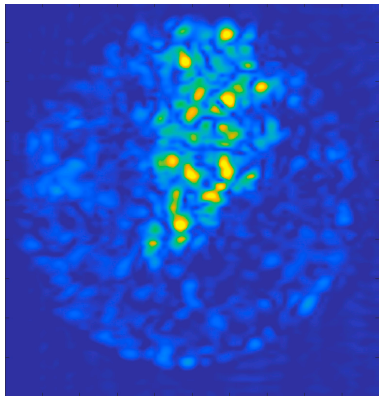
The R&S®IMAGER microwave imaging cluster is designed for high-speed in-line inspection. The hardware trigger inputs enable precise, real-time capture. The generated images can be used for non-destructive quality assurance in pharmaceutical, logistics and production workflows.



Rohde&Schwarz has been pushing the boundaries of technological promise for over 90 years. Our mmWave security scanners at airports and high-security facilities around the world are just one example. We applied the same technology to the latest member of the mmWave scanner family: the R&S®IMAGER.

WHAT IS mmWAVE IMAGING?

mmWave imaging is a non-destructive, non-ionizing inspection technology that provides safe, high-resolution subsurface imaging. When scanning, an object is illuminated with broadband mmWave radiation. Various materials have different dielectric properties and react differently when exposed to mmWaves. This lets the R&S®IMAGER analyze the reflected and transmitted electromagnetic waves to obtain information about an object's internal structures. The information is then translated into depth-resolved volumes to detect anomalies.



Detection of spilled liquid on a rice cracker

Endless possibilities await

NEW FRONTIERS

mmWave imaging is a relatively new technology and many applications have yet to be discovered. If you have an idea for a new application, contact us. We would be happy to discuss the opportunities with you.

Get in touch:
www.rohde-schwarz.com/imager

WHAT THE R&S®IMAGER CAN DO FOR YOU

The R&S®IMAGER improves quality-control workflows and operational efficiency. The solution integrates seamlessly into existing processes with real-time measurements that eliminate motion blur and enable real-time scans of up to 450 mm × 450 mm × 320 mm in a single pass. A scan time of just < 1/150 s, lets the system cope with fast-moving conveyors.

Flexible configurations:

2 × 2 4 × 1 2 × 1 1 × 1

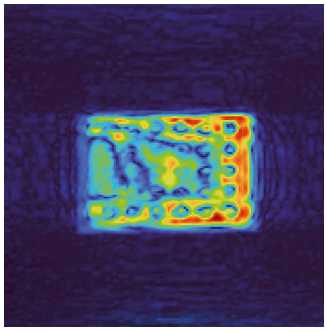
Gray options will be available later.

Different R&S®IMAGER models are available and you can choose the best one for your application and required image size. All package sizes with widths from 150 mm to 1050 mm can be screened. If the package is longer than the maximum, the R&S®IMAGER can be equipped with R&S®IMAGER-B82 inverse synthetic aperture radar (ISAR) software option.

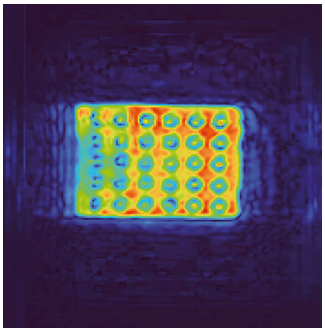
Improve patient safety and prevent costly recalls

PHARMA-CEUTICALS

The R&S®IMAGER provides excellent visibility for packaged pharmaceutical products without compromising sterility and product integrity. The non-ionizing mmWave energy enables completely safe inspection of even the most sensitive products. The system minimizes risk when producing large volumes of injectables, vials, pre-filled syringes (PFS) and autoinjectors.



mmWave image:
pill blister with leaflet

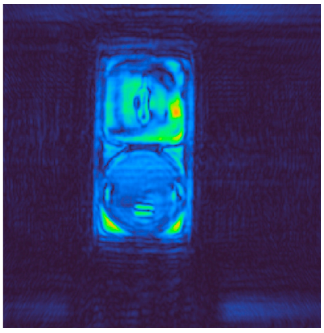


mmWave image:
pill blister without leaflet

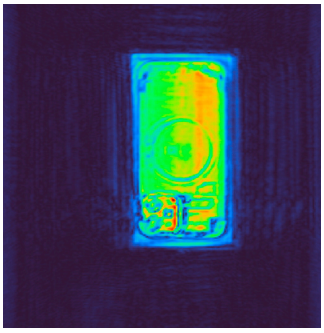
Improve throughput and inventory accuracy while lowering costs

LOGISTICS AND E-COMMERCE

Traditional surface-based inspections cannot verify the contents of sealed packages. The R&S®IMAGER can verify at conveyor speeds and support automated quality control, all without the safety and regulatory concerns of X-ray systems.



mmWave image: parcel missing original packaged smartphone



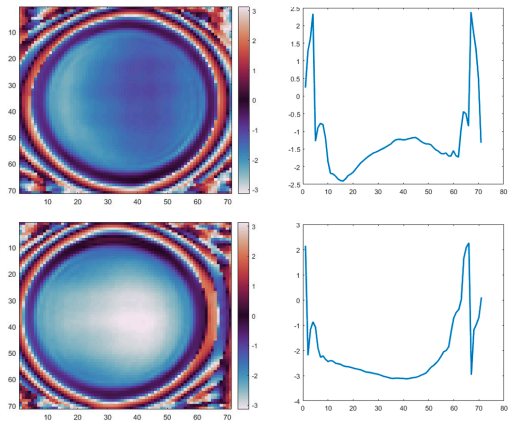
mmWave image: parcel including original packaged smartphone

Remove faulty food products from supply chains

FOOD AND BEVERAGE

The R&S®IMAGER enables non-destructive, safe inspection of sealed cases, cartons and multi-packs. The system can detect even tiny deviations, such as faulty vacuum seals on glass jars to improve quality assurance, reduce waste and comply with strict food safety and distribution standards.

Reflection phase



Vacuum integrity testing of an open baby food jar lid (top) and a closed baby food jar lid (bottom)

Service at Rohde&Schwarz
You're in great hands
- Worldwide
- Local and personalized
- Customized and flexible
- Uncompromising quality
- Long-term dependability

„Find what you need." is more than just a slogan, it's a promise. We aim for precision both in advanced electronics testing and in ideas that are just potential. Join us on a journey, where cutting-edge expertise meets the evolving needs of a rapidly changing world. Find out more: www.rohde-schwarz.com/imager

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&measurement, technology systems and networks&cybersecurity. Founded more than 90 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

R&S® is a registered trademark of Rohde&Schwarz GmbH&Co. KG
Trade names are trademarks of the owners
PD 3673.3762.32 | Version 01.00 | August 2026 (ch)
R&S®IMAGER Microwave Imaging Cluster – Real-time mmWave imaging
Data without tolerance limits is not binding | Subject to change
© 2026 Rohde&Schwarz | 81671 Munich, Germany