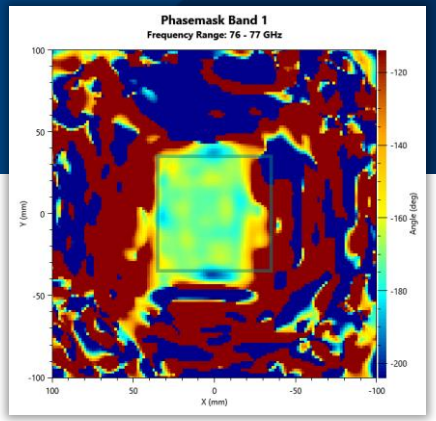
ROHDE&SCHWARZ
Make ideas real

R&S®QAR50-K20: PHASE MASK

For R&S®QAR50 quality automotive radome tester



Customize R&S®QAR50 quality automotive radome testers with the phase mask option

- Measurement of transmission phase
- Enables homogeneity analysis of radomes/bumpers

Common uses

Analysis and evaluation of radomes and bumpers in R&D

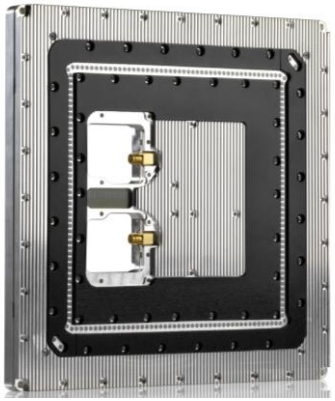
Testing radomes and bumpers in production (end-of-line)

Key specifications	
Image lateral resolution (min. distance between two phase steps to be resolved)	≤ 8 mm (0.31 in)
Minimum DUT size (W × H)	60 mm × 60 mm (2.36 in × 2.36 in)
Phase resolution (min. phase difference in a DUT that can resolved inside the calculated image)	±2°

Your benefit	Features
Analyze homogeneity of design emblems and bumpers	Captures the transmission phase. The radar-transparent area of the bumper can be depicted on the transmission phase image.
Quickly detect problems with the radome design	Determines geometry influence on radomes.
Trace homogeneity of foils and paint in a software definable area	Spatially resolved measurement of transmission phase makes the homogeneity clearly visible.

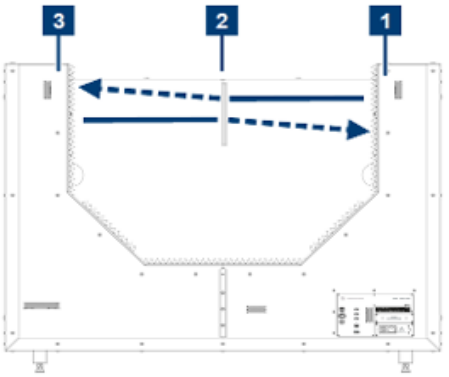
For more information, visit
www.rohde-schwarz.com/product/QAR50

No mechanical movement



The R&S®QAR50 uses hundreds of receive and transmit antennas to quickly characterize materials, bumpers and emblems. The electronic focusing of the microwave imaging technology allows more flexible positioning of the measurement antennas without any mechanical movement.

Transmission phase measurement in one measurement



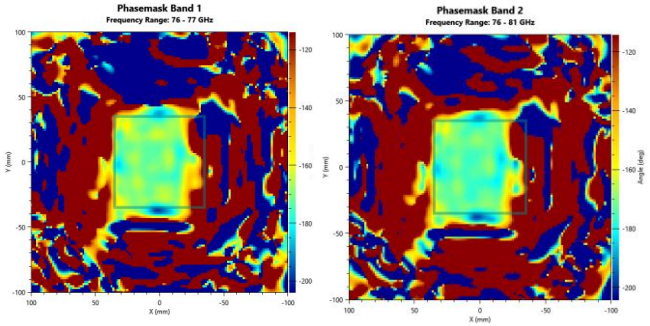
1: Cluster 1
2: DUT
3: Cluster 2

Straight line: Stimulus signal

Dashed line: Phase changed signal

Both clusters send a signal that through the DUT to determine phase characteristics. The opposite cluster measures the phase for the received signal. The phase results are the average of the two measurements. To calculate phase differences, the R&S®QAR50 compares the phase for the normalization measurement (empty space) to that of the actual measurement.

Result displays

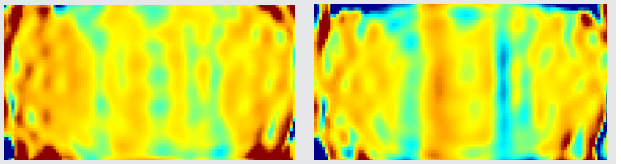


The resulting image shows the measured levels in different colors :

- The image shows the deviation in degrees for the transmission phase
- You can scroll through individual measuring points with the cursor
- Minimum, maximum and standard deviations are displayed based on the measurement results

The color range is based on the selected color scheme. A color map on the side of the image shows which level corresponds to a certain color.

A blue rectangle superimposed on the image indicates where the image is evaluated for numerical results. The size and location of this evaluation window depends on the configuration.



Phase mask of homogenous DUT | Phase mask of non-homogeneous DUT

The measurement of a homogeneous (= minimal differences in phase variations) DUT usually creates a similar angular deviation over the examined area.

The distribution can differ for an non-homogeneous DUT, so several highlighted areas in the image will have a higher phase deviation compared to their surroundings.

You can scroll through the individual measuring points with the cursor and evaluate minimum and maximum values as well as the standard deviations.

Step 1: choose your R&S®QAR50 model

Model		
R&S®QAR50 vertical polarization	R&S®QAR50	1343.0099K02 1343.0099.02
R&S®QAR50 horizontal polarization	R&S®QAR50	1343.0099K03 1343.0099.03

Included: All models come with a power cord, a getting started manual and a 1-year warranty

Step 2: choose your software option and accessories

Options		
Frequency response	R&S®QAR50-K10	1343.2091.02
Phase mask	R&S®QAR50-K20	1343.2110.02
HD reflection	R&S®QAR50-K30	1343.2133.02
Accessories		
Verification set	R&S®QAR50-Z44	1343.0082.02

All options can be retrofitted

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