

#### 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, radio-monitoring and radiolocation, as well as secure communications. Established 75 years ago, Rohde & Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

#### Service & support

With 24-hour support worldwide and personal service contacts in over 70 countries, Rohde & Schwarz is present around the globe. The company stands for high quality, preventive service, and compliance with delivery schedules – no matter whether the task at hand is calibration or application support.

# Keep in touch – with WiMAX. We have the test solutions.

#### WiMAX

- LTE
- HSPA
- MIMO



#### Customer support

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# Test and measurement solutions for WiMAX

Product	Development of RF and baseband	Verification and conformance tests	Manufacturing and service	Network deployment and optimization
<b>Signal generators</b>				
R&S®SMU200A vector signal generator	●	●	●	●
R&S®SMATE200A vector signal generator	●		●	
R&S®SMJ100A vector signal generator	●		●	●
R&S®SMA100A signal generator	○		○	
R&S®SMB100A signal generator	○		○	
R&S®SMV03 vector signal generator	○		○	
R&S®SMF100A microwave signal generator			○	
R&S®AFQ100A I/Q modulation generator	●		●	
R&S®AMU200A baseband signal generator and fading simulator	●	●	●	
<b>Signal/spectrum analysis</b>				
R&S®FSH handheld spectrum analyzer				○
R&S®FSL signal analyzer	●		●	●
R&S®FSMR measuring receiver	●	●		
R&S®FSUP signal source analyzer	●			
R&S®FSQ signal analyzer	●	●	●	
R&S®FSG spectrum analyzer	●	●	●	
R&S®FSU spectrum analyzer	○	○	○	
R&S®FSP spectrum analyzer	●		●	●
R&S®FMU36 baseband signal analyzer	●			
<b>Network analysis</b>				
R&S®ZVA vector network analyzer	○		○	
R&S®ZVB vector network analyzer	○		○	
R&S®ZVT vector network analyzer	○		○	
R&S®ZVL vector network analyzer	○		○	
<b>Radiocommunications test</b>				
R&S®CMW270 WiMAX communication tester	●		●	
<b>Conformance test</b>				
R&S®TS8970 WiMAX RCTT	●	●		
R&S®TS8991 OTA performance test system		●		
R&S®TS8996 RSE test system		●		
<b>Power supplies</b>				
R&S®NGMO power supply	○		○	
<b>Power meter</b>				
R&S®NRP power meter	○		○	
R&S®NRP-Z power sensor	○		○	
<b>Shielded RF test chamber</b>				
R&S®TS712x shielded RF test chamber	●		●	
<b>Audio test</b>				
R&S®UPV audio analyzer	○	○	○	
<b>Coverage measurement</b>				
R&S®ROMES coverage measurement software				●
R&S®TSML radio network analyzer				○
<b>EMC test</b>				
R&S®ESU EMI test receiver		○		
R&S®ESCI EMI test receiver		○		
R&S®ESPI test receiver		○		
R&S®TS9975 test system		○		
R&S®TS9982 test system		○		
R&S®IMS integrated measurement system		○		

○ General use ● WiMAX-specific use

# WiMAX New technical challenges

The primary focus of WiMAX is to provide high data rates for mobile Internet access. To achieve this goal, WiMAX makes use of the OFDMA digital modulation scheme also adopted by LTE and UMB. For an OFDMA system to function satisfactorily, very high accuracy in both the time and frequency domains – as well as a high dynamic range – are essential. Rohde & Schwarz measurement instruments feature the outstanding accuracy and dynamic range needed in order to test such systems reliably.

The WiMAX specification is the first to include MIMO technology. MIMO is key to the high data rates and robust data transmission required for WiMAX. To implement MIMO effectively, far more than a correctly coded signal is required: Test solutions that can ensure MIMO optimization are needed. Rohde & Schwarz meets this challenge by offering a one-box test solution that includes two signal generators and four realtime fading channels.

Rohde & Schwarz provides the widest portfolio of test and measurement equipment for WiMAX currently available on the market. From signal generation – including fading – to signal analysis as well as from one-box instruments to complete regulatory and conformance systems, the

unique test solutions available from Rohde & Schwarz can help you speed up your product development.

**For further information please visit:**  
[www.wimax.rohde-schwarz.com](http://www.wimax.rohde-schwarz.com)

Please see also other Rohde & Schwarz technology brochures on WCDMA, HSPA, LTE, CDMA2000®, etc. Rohde & Schwarz offers you solutions for all standards.

Application notes	
Description	Number
WiMAX: IEEE 802.16e-2005 Introduction to OFDMA Measurements	1EF58
WiMAX: 802.16-2004, 802.16e, WiBro, Introduction to WiMAX Measurements	1EF57
Power Measurement and Power Calculation of IEEE 802.16 WiMAX OFDMA Signals	1EF60
Introduction to MIMO Systems	1MA102
WiMAX – General Information about the 802.16 Standard	1MA96
WiMAX – Generating and Analyzing 802.16-2004 and 802.16e-2005 Signals	1MA97

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R&S®SMU200A

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