

ABN 43 064 478 842

231 osborne avenue clayton south, vic 3169
 PO box 1548, clayton south, vic 3169
 t 03 9265 7400 f 03 9558 0875
 freecall 1800 680 680
 www.tmgtestequipment.com.au

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Data Sheet | 09.00

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Definitions

General

Product data applies under the following conditions:

- · Three hours storage at ambient temperature followed by 90 minutes warm-up operation
- Specified environmental conditions met
- · Recommended calibration interval adhered to
- All internal automatic adjustments performed, if applicable

Specifications with limits

Represent warranted product performance by means of a range of values for the specified parameter. These specifications are marked with limiting symbols such as $\langle, \leq, \rangle, \geq, \pm$, or descriptions such as maximum, limit of, minimum. Compliance is ensured by testing or is derived from the design. Test limits are narrowed by guard bands to take into account measurement uncertainties, drift and aging, if applicable.



Specifications without limits

Represent warranted product performance for the specified parameter. These specifications are not specially marked and represent values with no or negligible deviations from the given value (e.g. dimensions or resolution of a setting parameter). Compliance is ensured by design.

Typical data (typ.)

Characterizes product performance by means of representative information for the given parameter. When marked with <, > or as a range, it represents the performance met by approximately 80 % of the instruments at production time. Otherwise, it represents the mean value.

Nominal values (nom.)

Characterize product performance by means of a representative value for the given parameter (e.g. nominal impedance). In contrast to typical data, a statistical evaluation does not take place and the parameter is not tested during production.

Measured values (meas.)

Characterize expected product performance by means of measurement results gained from individual samples.

Uncertainties

Represent limits of measurement uncertainty for a given measurand. Uncertainty is defined with a coverage factor of 2 and has been calculated in line with the rules of the Guide to the Expression of Uncertainty in Measurement (GUM), taking into account environmental conditions, aging, wear and tear.

Typical data as well as nominal and measured values are not warranted by Rohde & Schwarz.

Specifications

Specifications apply under the following conditions: 90 minutes warm-up time at ambient temperature, specified environmental conditions met, calibration cycle adhered to, and all internal automatic adjustments performed. "Typical values" are designated with the abbreviation "typ.". These values are verified during the final test but are not assured by Rohde & Schwarz. "Nominal values" are design parameters that are not assured by Rohde & Schwarz. These values are verified during product development but are not specifically tested during production.

Unless otherwise stated, specifications apply to test ports and a nominal source power of -10 dBm.

Measurement range

Impedance		50 Ω
Test port connector	R&S [®] ZVA8	type N, female
	R&S [®] ZVA24	3.5 mm, male, ruggedized
	R&S [®] ZVA40	2.92 mm, male, ruggedized
	R&S [®] ZVA40	2.4 mm, male, ruggedized
	R&S [®] ZVA50	2.4 mm, male, ruggedized
	R&S [®] ZVA67	1.85 mm, male, ruggedized
Number of test ports		2 or 4
Frequency range	R&S [®] ZVA8	300 kHz to 8 GHz
	R&S [®] 7VA24	10 MHz to 24 GHz
	R&S [®] ZVA40	10 MHz to 40 GHz
	R&S [®] ZVA50	10 MHz to 50 GHz
	R&S [®] ZVA67	10 MHz to 67 GHz
Static frequency accuracy	without optional oven quartz	8×10 ⁻⁶
	with optional oven quartz	1×10 ⁻⁷
Erequency resolution		1 Hz
Number of measurement points	user-selectable	1 to 60001
Manuer of measurement points		1 Hz to 1 MHz
Dynamic renge of the D8 S [®] ZV/A8	from DOBT 1 to DOBT 2 and	
(without optional step attenuators	from PORT 3 to PORT 4	
and without optional direct	200 kHz to 50 MHz	> 100 dB typ 110 dB
deperator/receiver access)	500 KHZ to 30 MHZ	> 100 dB, typ. 110 dB
generator/receiver access)		> 120 dB, typ. 130 dB
		> 130 dB, typ. 140 dB
		> 125 dB, typ. 135 dB
Dynamic range of the $B^{8}S^{8}$	from DOPT 1 to DOPT 2 and	> 120 dB, typ. 130 dB
without entioned aton attenuators	from DORT 2 to DORT 4	
(without optional step attenuators		
and without optional direct		> 90 dB, typ. 105 dB
generator/receiver access)		> 105 dB, typ. 120 dB
		> 125 dB, typ. 130 dB
	2 GHZ to 13 GHZ	> 130 dB, typ. 135 dB
	13 GHz to 24 GHz	> 125 dB, typ. 130 dB
Dynamic range of the R&S ² ZVA40	from PORT 1 to PORT 2 and	
(without optional step attenuators	from PORT 3 to PORT 4	
and without optional direct	10 MHz to 50 MHz	> 90 dB, typ. 100 dB
generator/receiver access)	50 MHz to 500 MHz	> 105 dB, typ. 115 dB
	500 MHz to 2 GHz	> 125 dB, typ. 135 dB
	2 GHz to 20 GHz	> 130 dB, typ. 140 dB
	20 GHz to 24 GHz	> 125 dB, typ. 135 dB
	24 GHz to 32 GHz	> 120 dB, typ. 130 dB
	32 GHz to 40 GHz	> 118 dB, typ. 125 dB
Dynamic range of the R&S [™] ZVA50	from PORT 1 to PORT 2 and	
(without optional step attenuators	from PORT 3 to PORT 4	
and without optional direct	10 MHz to 50 MHz	> 90 dB, typ. 100 dB
generator/receiver access)	50 MHz to 500 MHz	> 105 dB, typ. 115 dB
	500 MHz to 2 GHz	> 125 dB, typ. 135 dB
	2 GHz to 20 GHz	> 130 dB, typ. 140 dB
	20 GHz to 24 GHz	> 125 dB, typ. 135 dB
	24 GHz to 32 GHz	> 120 dB, typ. 130 dB
	32 GHz to 40 GHz	> 115 dB, typ. 125 dB
	40 GHz to 50 GHz	> 110 dB, typ. 120 dB

Dynamic range of the R&S [®] ZVA67	from PORT 1 to PORT 2 and		
(without optional step attenuators	from PORT 3 to PORT 4		
and without optional direct	10 MHz to 50 MHz	> 70 dB, typ. 90 dB	
generator/receiver access)	50 MHz to 500 MHz	> 100 dB, typ. 115 dB	
	500 MHz to 2 GHz	> 115 dB, typ. 125 dB	
	2 GHz to 24 GHz	> 125 dB, typ. 135 dB	
	24 GHz to 32 GHz	> 120 dB, typ. 130 dB	
	32 GHz to 40 GHz	> 115 dB, typ. 125 dB	
	40 GHz to 50 GHz	> 110 dB, typ. 120 dB	
	50 GHz to 65 GHz	> 107 dB, typ. 115 dB	
	65 GHz to 67 GHz	> 100 dB, typ. 110 dB	
	67 GHz to 70 GHz	typ. 103 dB	

The dynamic range is defined as the difference between the actually available maximum source power and the RMS value of the data trace of the transmission magnitude, which is produced by noise and crosstalk with the test ports short-circuited. The specification is valid without system error correction and at 10 Hz measurement bandwidth. The dynamic range can be increased by using a measurement bandwidth of 1 Hz. For the R&S[®]ZVA67 at single frequencies below 2.5 GHz, the dynamic range may be affected by spurious signals.

Dynamic range at optional measurement	from PORT 1 to MEAS 2 IN		
input (direct generator/receiver access	300 kHz to 10 MHz	typ. > 125 dB	
option) of the R&S [®] ZVA8	10 MHz to 100 MHz	typ. > 135 dB	
	100 MHz to 8 GHz	typ. > 145 dB	
Dynamic range at optional measurement	from PORT 1 to MEAS 2 IN		
input (direct generator/receiver access	10 MHz to 100 MHz	typ. > 135 dB	
option) of the R&S [®] ZVA24	100 MHz to 13 GHz	typ. > 145 dB	
	13 GHz to 20 GHz	typ. > 140 dB	
	20 GHz to 24 GHz	typ. > 130 dB	
Dynamic range at optional measurement	from PORT 1 to MEAS 2 IN		
input (direct generator/receiver access	10 MHz to 100 MHz	typ. > 140 dB	
option) of the R&S [®] ZVA40	100 MHz to 20 GHz	typ. > 150 dB	
	20 GHz to 24 GHz	typ. > 140 dB	
	24 GHz to 32 GHz	typ. > 130 dB	
	32 GHz to 40 GHz	typ. > 120 dB	
Dynamic range at optional measurement	from PORT 1 to MEAS 2 IN		
input (direct generator/receiver access	10 MHz to 100 MHz	typ. > 140 dB	
option) of the R&S [®] ZVA50	100 MHz to 20 GHz	typ. > 150 dB	
	20 GHz to 24 GHz	typ. > 145 dB	
	24 GHz to 32 GHz	typ. > 140 dB	
	32 GHz to 40 GHz	typ. > 135 dB	
	40 GHz to 50 GHz	typ. > 130 dB	
Dynamic range at optional measurement	from PORT 1 to MEAS 2 IN		
input (direct generator/receiver access	10 MHz to 100 MHz	typ. > 140 dB	
option) of the R&S [®] ZVA67	100 MHz to 20 GHz	typ. > 145 dB	
	20 GHz to 24 GHz	typ. > 145 dB	
	24 GHz to 32 GHz	typ. > 140 dB	
	32 GHz to 40 GHz	typ. > 135 dB	
	40 GHz to 50 GHz	typ. > 130 dB	
	50 GHz to 67 GHz	typ. > 125 dB	



Diagram: Dynamic range in dB versus frequency in GHz of the R&S[®]ZVA8.



Diagram: Dynamic range in dB versus frequency in GHz of the R&S[®]ZVA24.



Diagram: Dynamic range in dB versus frequency in GHz of the R&S[®]ZVA40.



Diagram: Dynamic range in dB versus frequency in GHz of the R&S[®]ZVA50.



Diagram: Dynamic range in dB versus frequency in GHz of the R&S[®]ZVA67.

Measurement speed

Measurement time per point	CW mode,	< 3.5 µs
	1 MHz measurement bandwidth	
Data transfer time	for 201 measurements points	
	via IEC/IEEE bus	< 2.9 ms
	via VX11 over 100 Mbit/s LAN	< 1.3 ms
	via RSIB over 100 Mbit/s LAN	< 0.7 ms
Switching time between channels	with no more than 2001 points	< 1 ms
Switching time between two preloaded	with no more than 2001 points	< 10 ms
instrument settings		

Sweep times of the R&S [®] ZVA8, R&S [®] ZVA24, R&S [®] ZVA40 and R&S [®] ZVA50						
Sweep times depend on the number	r of measuremer	t points, the me	asurement band	lwidth, and the s	art and stop free	uencies.
They include times for retrace and ir	They include times for retrace and internal band switching and are valid with ALC and display switched off.					
Number of measurement points	51	101	201	401	801	1601
R&S [®] ZVA with start frequency 5 GH	lz, stop frequenc	y 5.2 GHz				
For a measurement bandwidth of 10	0 kHz					
With full one-port calibration or						
with correction switched off	2.6 ms	4.0 ms	6.8 ms	12 ms	23 ms	42 ms
With TOSM calibration	3.8 ms	6.5 ms	11.6 ms	22 ms	41 ms	124 ms
For a measurement bandwidth of 1	MHz					
With full one-port calibration or						
with correction switched off	2.1 ms	3.0 ms	4.7 ms	8.0 ms	15 ms	26 ms
With TOSM calibration	2.8 ms	4.5 ms	7.5 ms	14 ms	26 ms	94 ms
R&S [®] ZVA with start frequency 6 GH	lz, stop frequenc	y 8 GHz				
For a measurement bandwidth of 10	0 kHz					
With full one-port calibration or						
with correction switched off	3.6 ms	6.4 ms	11.5 ms	19 ms	31 ms	50 ms
With TOSM calibration	4.8 ms	8.9 ms	16.3 ms	29 ms	49 ms	132 ms
For a measurement bandwidth of 1	MHz					
With full one-port calibration or						
with correction switched off	3.1 ms	5.4 ms	9.4 ms	14.7 ms	23 ms	35 ms
With TOSM calibration	3.8 ms	6.8 ms	12.2 ms	20.5 ms	33 ms	103 ms
R&S [®] ZVA8 with start frequency 10 I	MHz and stop fre	quency 8 GHz				
R&S [®] ZVA24 with start frequency 10	MHz and stop fi	equency 24 GH	Z			
R&S [®] ZVA40 with start frequency 10	MHz and stop fi	equency 40 GH	Z			
R&S [®] ZVA50 with start frequency 10	MHz and stop fi	equency 50 GH	Z			
For a measurement bandwidth of 10	0 kHz					
With full one-port calibration or						
with correction switched off	8.6 ms	13 ms	19.4 ms	32 ms	55 ms	92 ms
With TOSM calibration	9.9 ms	15.5 ms	25 ms	41 ms	74 ms	173 ms
For a measurement bandwidth of 1	MHz					
With full one-port calibration or						
with correction switched off	8.2 ms	12 ms	17.4 ms	28 ms	47 ms	75 ms
With TOSM calibration	8.8 ms	13.4 ms	20.2 ms	33 ms	57 ms	143 ms

Sweep times of the R&S [®] ZVA67						
Sweep times depend on the numbe	r of measuren	nent points, the	e measurement b	andwidth, and th	ne start and stop	frequencies.
They include times for retrace and i	nternal band s	witching and a	re valid with ALC	and display swi	tched off.	
Number of measurement points	51	101	201	401	801	1601
R&S [®] ZVA67 with start frequency 6	GHz, stop free	quency 12 GHz	·			
For a measurement bandwidth of 10	00 kHz					
With full one-port calibration or						
with correction switched off	2 ms	3 ms	6 ms	11 ms	21 ms	42 ms
With TOSM calibration	4 ms	6 ms	12 ms	22 ms	42 ms	125 ms
For a measurement bandwidth of 1	MHz					
With full one-port calibration or						
with correction switched off	1.5 ms	2 ms	4 ms	7 ms	13 ms	25 ms
With TOSM calibration	3 ms	4 ms	8 ms	14 ms	26 ms	90 ms
R&S [®] ZVA67 with start frequency 10) MHz and sto	p frequency 67	' GHz			
For a measurement bandwidth of 10	00 kHz					
With full one-port calibration or						
with correction switched off	3 ms	4 ms	7 ms	12 ms	22 ms	42 ms
With TOSM calibration	6 ms	8 ms	14 ms	24 ms	44 ms	125 ms
For a measurement bandwidth of 1 MHz						
With full one-port calibration or						
with correction switched off	2.5 ms	3 ms	5 ms	8 ms	14 ms	25 ms
With TOSM calibration	5 ms	6 ms	10 ms	16 ms	28 ms	90 ms

Measurement accuracy

This data is valid between +18 °C and +28 °C, provided the temperature has not varied by more than 1 K after calibration. Validity of the data is conditional on the use of a suitable calibration kit. This calibration kit is used to achieve the effective system data specified below. Frequency points, measurement bandwidth, and sweep time have to be identical for measurement and calibration (no interpolation allowed).

Accuracy of transmission measu	rements	
R&S [®] ZVA8		
300 kHz to 1 MHz	for +15 dB to -45 dB	< 1 dB or < 6°
1 MHz to 50 MHz	for +15 dB to -30 dB	< 0.2 dB or < 2°
	for30 dB to45 dB	< 1 dB or < 6°
50 MHz to 8 GHz	for +15 dB to +5 dB	< 0.2 dB or < 2°
	for +5 dB to -55 dB	< 0.1 dB or < 1°
	for -55 dB to -70 dB	< 0.2 dB or < 2°
	for70 dB to85 dB	< 1 dB or < 6°
R&S [®] ZVA24		
10 MHz to 50 MHz	for +15 dB to -30 dB	< 1 dB or < 6°
50 MHz to 400 MHz	for +15 dB to -30 dB	< 0.2 dB or < 2°
	for30 dB to45 dB	< 1 dB or < 6°
400 MHz to 700 MHz	for +15 dB to -50 dB	< 0.2 dB or < 2°
	for50 dB to65 dB	< 1 dB or < 6°
700 MHz to 24 GHz	for +15 dB to +5 dB	< 0.2 dB or < 2°
	for +5 dB to -55 dB	< 0.1 dB or < 1°
	for55 dB to70 dB	< 0.2 dB or < 2°
	for -70 dB to -85 dB	< 1 dB or < 6°
R&S [®] ZVA40		
10 MHz to 50 MHz	for +15 dB to -30 dB	< 1 dB or < 6°
50 MHz to 250 MHz	for +15 dB to -30 dB	< 0.2 dB or < 2°
	for30 dB to45 dB	< 1 dB or < 6°
250 MHz to 700 MHz	for +15 dB to +5 dB	< 0.3 dB or < 3°
	for +5 dB to -65 dB	< 0.2 dB or < 2°
	for65 dB to80 dB	< 1 dB or < 6°
700 MHz to 2 GHz	for +15 dB to +5 dB	< 0.3 dB or < 3°
	for +5 dB to -50 dB	< 0.1 dB or < 1°
	for50 dB to65 dB	< 0.2 dB or < 2°
	for65 dB to80 dB	< 1 dB or < 6°
2 GHz to 24 GHz	for +15 dB to +5 dB	< 0.3 dB or < 3°
	for +5 dB to -55 dB	< 0.1 dB or < 1°
	for55 dB to70 dB	< 0.2 dB or < 2°
	for70 dB to85 dB	< 1 dB or < 6°
24 GHz to 32 GHz	for +15 dB to +5 dB	< 0.3 dB or < 3°
	for +5 dB to -45 dB	< 0.2 dB or < 2°
	for -45 dB to -60 dB	< 0.3 dB or < 3°
	for -60 dB to -75 dB	< 1 dB or < 6°
32 GHz to 40 GHz	for +15 dB to +5 dB	< 0.4 dB or < 4°
	for +5 dB to -40 dB	< 0.2 dB or < 2°
	for40 dB to55 dB	< 0.4 dB or < 4°
	for55 dB to70 dB	< 1 dB or < 6°

R&S [®] ZVA50			
10 MHz to 50 MHz	for +15 dB to -30 dB	< 1 dB or < 6°	
50 MHz to 250 MHz	for +15 dB to -30 dB	< 0.2 dB or < 2°	
	for30 dB to45 dB	< 1 dB or < 6°	
250 MHz to 700 MHz	for +15 dB to +5 dB	< 0.3 dB or < 3°	
	for +5 dB to -65 dB	< 0.2 dB or < 2°	
	for65 dB to80 dB	< 1 dB or < 6°	
700 MHz to 2 GHz	for +15 dB to +5 dB	< 0.3 dB or < 3°	
	for +5 dB to -50 dB	< 0.1 dB or < 1°	
	for50 dB to65 dB	< 0.2 dB or < 2°	
	for65 dB to80 dB	< 1 dB or < 6°	
2 GHz to 24 GHz	for +15 dB to +5 dB	< 0.3 dB or < 3°	
	for +5 dB to -55 dB	< 0.1 dB or < 1°	
	for -55 dB to -70 dB	< 0.2 dB or < 2°	
	for -70 dB to -85 dB	< 1 dB or < 6°	
24 GHz to 32 GHz	for +15 dB to +5 dB	< 0.3 dB or < 3°	
	for +5 dB to -45 dB	< 0.2 dB or < 2°	
	for -45 dB to -60 dB	< 0.3 dB or < 3°	
	for -60 dB to -75 dB	< 1 dB or < 6°	
32 GHz to 40 GHz	for +15 dB to +5 dB	< 0.4 dB or < 4°	
	for +5 dB to -40 dB	< 0.2 dB or < 2°	
	for -40 dB to -55 dB	< 0.4 dB or < 4°	
	for55 dB to70 dB	< 1 dB or < 6°	
40 GHz to 50 GHz	for +15 dB to +5 dB	< 0.4 dB or < 4°	
	for +5 dB to -35 dB	< 0.2 dB or < 2°	
	for -35 dB to -50 dB	< 0.4 dB or < 4°	
	for50 dB to65 dB	< 1 dB or < 6°	

R&S [®] ZVA67		
10 MHz to 50 MHz	for +15 dB to -30 dB	< 1 dB or < 6°
50 MHz to 250 MHz	for +15 dB to -30 dB	< 0.2 dB or < 2°
	for -30 dB to -45 dB	< 1 dB or < 6°
250 MHz to 700 MHz	for +15 dB to +5 dB	< 0.3 dB or < 3°
	for +5 dB to –65 dB	< 0.2 dB or < 2°
	for -65 dB to -80 dB	< 1 dB or < 6°
700 MHz to 2 GHz	for +15 dB to +5 dB	< 0.3 dB or < 3°
	for +5 dB to -50 dB	< 0.1 dB or < 1°
	for -50 dB to -65 dB	< 0.2 dB or < 2°
	for65 dB to80 dB	< 1 dB or < 6°
2 GHz to 24 GHz	for +15 dB to +5 dB	< 0.3 dB or < 3°
	for +5 dB to -55 dB	< 0.1 dB or < 1°
	for -55 dB to -70 dB	< 0.2 dB or < 2°
	for -70 dB to -85 dB	< 1 dB or < 6°
24 GHz to 32 GHz	for +15 dB to +5 dB	< 0.3 dB or < 3°
	for +5 dB to -45 dB	< 0.2 dB or < 2°
	for -45 dB to -60 dB	< 0.3 dB or < 3°
	for -60 dB to -75 dB	< 1 dB or < 6°
32 GHz to 40 GHz	for +15 dB to +5 dB	< 0.4 dB or < 4°
	for +5 dB to -40 dB	< 0.2 dB or < 2°
	for -40 dB to -55 dB	< 0.4 dB or < 4°
	for -55 dB to -70 dB	< 1 dB or < 6°
40 GHz to 50 GHz	for +15 dB to +5 dB	< 0.4 dB or < 4°
	for +5 dB to -35 dB	< 0.2 dB or < 2°
	for -35 dB to -50 dB	< 0.4 dB or < 4°
	for -50 dB to -65 dB	< 1 dB or < 6°
50 GHz to 67 GHz	for +15 dB to +5 dB	< 0.4 dB or < 4°
	for +5 dB to -30 dB	< 0.2 dB or < 2°
	for -30 dB to -45 dB	< 0.4 dB or < 4°
	for -45 dB to -60 dB	< 1 dB or < 6°
Specifications are based on a matched DUT, a measurement bandwidth of 10 Hz, and a nominal source power of -10 dBm.		

Trace stability			
Trace noise of S11 (RMS)	at 0 dBm source power, 0 dB reflection, and 1 kHz measurement bandwidth		
R&S [®] ZVA8	300 kHz to 8 GHz	< 0.004 dB, typ. 0.001 dB	
R&S [®] ZVA24	700 MHz to 24 GHz	< 0.004 dB, typ. 0.001 dB	
R&S [®] ZVA40	700 MHz to 24 GHz	< 0.004 dB, typ. 0.001 dB	
	24 GHz to 40 GHz	< 0.015 dB, typ. 0.004 dB	
R&S [®] ZVA50	700 MHz to 24 GHz	< 0.004 dB, typ. 0.001 dB	
	24 GHz to 50 GHz	< 0.015 dB, typ. 0.004 dB	
R&S [®] ZVA67	700 MHz to 24 GHz	< 0.004 dB, typ. 0.001 dB	
	24 GHz to 48 GHz	< 0.015 dB, typ. 0.004 dB	
	48 GHz to 67 GHz	< 0.03 dB, typ. 0.01 dB	
Temperature dependence	at 0 dB transmission or reflection		
	up to 24 GHz	< 0.05 dB/K or < 0.4°/K	
	24 GHz to 67 GHz	< 0.1 dB/K or < 1°/K	



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA8 in the frequency range 300 kHz to 50 MHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA8 in the frequency range 50 MHz to 8 GHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA24 in the frequency range 10 MHz to 700 MHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA24 in the frequency range 700 MHz to 24 GHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA40 in the frequency range 10 MHz to 700 MHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA40 in the frequency range 700 MHz to 24 GHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA40 in the frequency range 24 GHz to 40 GHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA50 and R&S[®]ZVA67 in the frequency range 10 MHz to 700 MHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA50 and R&S[®]ZVA67 in the frequency range 700 MHz to 24 GHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA50 and R&S[®]ZVA67 in the frequency range 24 GHz to 50 GHz.



Diagram: Typical accuracy of transmission magnitude and transmission phase measurements of the R&S[®]ZVA67 in the frequency range 50 GHz to 67 GHz.

Accuracy of reflection measurements			
R&S [®] ZVA8			
300 kHz to 1 MHz	for +10 dB to -25 dB	< 1 dB or < 6°	
	for -25 dB to -35 dB	< 3 dB or < 20°	
1 MHz to 8 GHz	for +10 dB to +3 dB	< 0.6 dB or < 4°	
	for +3 dB to -15 dB	< 0.4 dB or < 3°	
	for -15 dB to -25 dB	< 1 dB or < 6°	
	for -25 dB to -35 dB	< 3 dB or < 20°	
R&S [®] ZVA24			
10 MHz to 50 MHz	for +3 dB to -15 dB	< 1 dB or < 6°	
	for -15 dB to -25 dB	< 3 dB or < 20°	
50 MHz to 24 GHz	for +10 dB to +3 dB	< 0.6 dB or < 4°	
	for +3 dB to -15 dB	< 0.4 dB or < 3°	
	for -15 dB to -25 dB	< 1 dB or < 6°	
	for -25 dB to -35 dB	< 3 dB or < 20°	
R&S [®] ZVA40			
10 MHz to 50 MHz	for +3 dB to -15 dB	< 1 dB or < 6°	
	for -15 dB to -25 dB	< 3 dB or < 20°	
50 MHz to 40 GHz	for +10 dB to +3 dB	< 0.6 dB or < 4°	
	for +3 dB to -15 dB	< 0.4 dB or < 3°	
	for -15 dB to -25 dB	< 1 dB or < 6°	
	for -25 dB to -35 dB	< 3 dB or < 20°	
R&S [®] ZVA50			
10 MHz to 50 MHz	for +3 dB to -15 dB	< 1 dB or < 6°	
	for -15 dB to -25 dB	< 3 dB or < 20°	
50 MHz to 50 GHz	for +10 dB to +3 dB	< 0.6 dB or < 4°	
	for +3 dB to -15 dB	< 0.4 dB or < 3°	
	for -15 dB to -25 dB	< 1 dB or < 6°	
	for -25 dB to -35 dB	< 3 dB or < 20°	
R&S [®] ZVA67			
10 MHz to 50 MHz	for +3 dB to -15 dB	< 1 dB or < 6°	
	for -15 dB to -25 dB	< 3 dB or < 20°	
50 MHz to 67 GHz	for +10 dB to +3 dB	< 0.6 dB or < 4°	
	for +3 dB to -15 dB	< 0.4 dB or < 3°	
	for –15 dB to –25 dB	< 1 dB or < 6°	
	for -25 dB to -35 dB	< 3 dB or < 20°	

Specifications are based on an isolating DUT, a measurement bandwidth of 10 Hz, and a nominal source power of -10 dBm.



Diagram: Typical accuracy of reflection magnitude and reflection phase measurements of the R&S[®]ZVA8 in the frequency range 1 MHz to 8 GHz, of the R&S[®]ZVA24 in the frequency range 50 MHz to 24 GHz, of the R&S[®]ZVA40 in the frequency range 50 MHz to 40 GHz,

of the R&S[®]ZVA50 in the frequency range 50 MHz to 50 GHz,

and of the R&S[®]ZVA67 in the frequency range 50 MHz to 67 GHz.

Effective system data

This data is valid between +18 °C and +28 °C, provided the temperature has not varied by more than 1 K after calibration. The data is based on a measurement bandwidth of 10 Hz and system error calibration by means of a suitable calibration kit. Frequency points, measurement bandwidth, and sweep time have to be identical for measurement and calibration (no interpolation allowed).

R&S [®] ZVA8		
Directivity	1 MHz to 4 GHz	> 46 dB, typ. 50 dB
	4 GHz to 8 GHz	> 40 dB, typ. 50 dB
Source match	1 MHz to 4 GHz	> 40 dB, typ. 46 dB
	4 GHz to 8 GHz	> 36 dB, typ. 40 dB
Reflection tracking	1 MHz to 4 GHz	< 0.04 dB, typ. 0.01 dB
C C	4 GHz to 8 GHz	< 0.1 dB, typ. 0.01 dB
Load match	300 kHz to 4 GHz	> 46 dB, typ. 50 dB
	4 GHz to 8 GHz	> 40 dB, typ. 46 dB
Transmission tracking	1 MHz to 4 GHz	< 0.06 dB, typ. 0.01 dB
	4 GHz to 8 GHz	< 0.1 dB, typ. 0.05 dB
R&S [®] ZVA24	I	
Directivity	10 MHz to 700 MHz	> 36 dB, typ. 40 dB
	700 MHz to 24 GHz	> 40 dB, typ. 50 dB
Source match	10 MHz to 700 MHz	> 30 dB, typ. 48 dB
	700 MHz to 24 GHz	> 30 dB, typ. 48 dB
Reflection tracking	10 MHz to 700 MHz	< 0.3 dB. tvp. 0.05 dB
C C	700 MHz to 24 GHz	< 0.3 dB, typ. 0.05 dB
Load match	10 MHz to 700 MHz	> 36 dB, typ. 40 dB
	700 MHz to 24 GHz	> 40 dB, typ. 50 dB
Transmission tracking	10 MHz to 700 MHz	< 0.2 dB. tvp. 0.1 dB
3	700 MHz to 24 GHz	< 0.1 dB. tvp. 0.05 dB
R&S [®] ZVA40		
Directivity	10 MHz to 700 MHz	> 30 dB, tvp, 40 dB
	700 MHz to 24 GHz	> 36 dB, typ. 46 dB
	24 GHz to 40 GHz	> 30 dB, typ. 40 dB
Source match	10 MHz to 700 MHz	> 30 dB, typ. 36 dB
	700 MHz to 24 GHz	> 30 dB, typ. 40 dB
	24 GHz to 40 GHz	> 30 dB, typ, 36 dB
Reflection tracking	10 MHz to 700 MHz	< 0.3 dB. tvp. 0.1 dB
5	700 MHz to 24 GHz	< 0.3 dB. tvp. 0.1 dB
	24 GHz to 40 GHz	< 0.3 dB. tvp. 0.2 dB
Load match	10 MHz to 700 MHz	> 32 dB, tvp, 40 dB
	700 MHz to 24 GHz	> 36 dB, typ. 46 dB
	24 GHz to 40 GHz	> 32 dB, typ. 40 dB
Transmission tracking	10 MHz to 700 MHz	< 0.2 dB. tvp. 0.1 dB
3	700 MHz to 24 GHz	< 0.1 dB. tvp. 0.05 dB
	24 GHz to 40 GHz	< 0.2 dB. tvp. 0.1 dB
R&S [®] ZVA50		
Directivity	10 MHz to 700 MHz	> 30 dB, typ. 40 dB
	700 MHz to 24 GHz	> 36 dB. tvp. 46 dB
	24 GHz to 50 GHz	> 30 dB, typ. 40 dB
Source match	10 MHz to 700 MHz	> 30 dB, typ. 36 dB
	700 MHz to 24 GHz	> 30 dB, typ. 40 dB
	24 GHz to 50 GHz	> 30 dB, typ. 36 dB
Reflection tracking	10 MHz to 700 MHz	< 0.3 dB. tvp. 0.1 dB
	700 MHz to 24 GHz	< 0.3 dB. tvp. 0.1 dB
	24 GHz to 50 GHz	< 0.3 dB. tvp. 0.2 dB
Load match	10 MHz to 700 MHz	> 32 dB, typ. 40 dB
	700 MHz to 24 GHz	> 36 dB, typ. 46 dB
	24 GHz to 50 GHz	> 32 dB, typ. 40 dB
Transmission tracking	10 MHz to 700 MHz	< 0.2 dB, typ. 0.1 dB
, S	700 MHz to 24 GHz	< 0.1 dB, typ. 0.05 dB
	24 GHz to 50 GHz	< 0.2 dB, typ. 0.1 dB
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R&S [®] ZVA67		
Directivity	10 MHz to 700 MHz	> 30 dB, typ. 40 dB
	700 MHz to 24 GHz	> 36 dB, typ. 46 dB
	24 GHz to 40 GHz	> 30 dB, typ. 40 dB
	40 GHz to 67 GHz	> 26 dB, typ. 36 dB
Source match	10 MHz to 700 MHz	> 30 dB, typ. 36 dB
	700 MHz to 24 GHz	> 30 dB, typ. 40 dB
	24 GHz to 40 GHz	> 30 dB, typ. 36 dB
	40 GHz to 67 GHz	> 26 dB, typ. 32 dB
Reflection tracking	10 MHz to 700 MHz	< 0.3 dB, typ. 0.1 dB
	700 MHz to 24 GHz	< 0.3 dB, typ. 0.1 dB
	24 GHz to 40 GHz	< 0.3 dB, typ. 0.2 dB
	40 GHz to 67 GHz	< 0.4 dB, typ. 0.2 dB
Load match	10 MHz to 700 MHz	> 32 dB, typ. 40 dB
	700 MHz to 24 GHz	> 36 dB, typ. 46 dB
	24 GHz to 40 GHz	> 32 dB, typ. 40 dB
	40 GHz to 67 GHz	> 28 dB, typ. 36 dB
Transmission tracking	10 MHz to 700 MHz	< 0.2 dB, typ. 0.1 dB
	700 MHz to 24 GHz	< 0.1 dB, typ. 0.05 dB
	24 GHz to 40 GHz	< 0.2 dB, typ. 0.1 dB
	40 GHz to 67 GHz	< 0.3 dB, typ. 0.1 dB

Test port output

Power range	R&S [®] ZVA8	
(without optional step attenuators	300 kHz to 50 MHz	-40 dBm to +10 dBm typ -45 to +14 dBm
and without optional direct	50 MHz to 4 GHz	-40 dBm to +13 dBm typ -45 to +15 dBm
generator/receiver access)	4 GHz to 7 GHz	-40 dBm to +10 dBm, typ. 16 to +16 dBm -40 dBm to +10 dBm typ45 to +13 dBm
generale, receiver access)	7 GHz to 8 GHz	-40 dBm to +8 dBm typ -45 to +12 dBm
	R&S [®] 7\/A24	
	10 MHz to 13 GHz	-30 dBm to ± 13 dBm typ -40 to ± 18 dBm
	13 GHz to 24 GHz	-30 dBm to +10 dBm, typ. $-40 to +16 dBm$
		20 dBm to 110 dBm typ 40 to 115 dBm
	50 MHz to 20 GHz	-30 dBm to +10 dBm, typ. -40 to +10 dBm
	20 GHz to 32 GHz	-30 dBm to +10 dBm, typ. $-40 to +16 dBm$
	20 GHz to 40 GHz	-30 dBm to + 0 dBm, typ. -40 to + 13 dBm
		-30 dBin to +9 dBin, typ40 to +12 dBin
		20 dPm to 110 dPm tup 10 to 115 dPm
		-30 dBm to +10 dBm, typ40 to +13 dBm
		-30 dBm to +13 dBm, typ. $-40 to +18 dBm$
		-30 dBm to + 0 dBm, typ. -40 to + 15 dBm
	32 GHZ 10 50 GHZ	-30 dBm to +6 dBm, typ. -40 to +12 dBm
	R&S ZVA67	
		-30 dBm to +10 dBm, typ. -40 to +15 dBm
	50 MHZ to 20 GHZ	-30 dBm to +13 dBm, typ40 to +18 dBm
	20 GHz to 32 GHz	-30 dBm to +10 dBm, typ40 to +15 dBm
	32 GHz to 50 GHz	-30 dBm to +6 dBm, typ. -40 to +12 dBm
	50 GHz to 67 GHz	-30 dBm to +2 dBm, typ. -40 to +6 dBm
	67 GHz to 70 GHz	typ. –30 to +2 dBm
Power accuracy	R&S ⁻ ZVA8 at -10 dBm	< 2 dB
(with ALC on; without power calibration)	in temperature range +18 °C to +28 °C	
	50 MHz to 8 GHz	< 0.8 dB, typ. 0.3 dB
	R&S°ZVA24 at –10 dBm	< 3 dB
	in temperature range +18 °C to +28 °C	
	500 MHz to 24 GHz	< 0.8 dB, typ. 0.3 dB
	R&S [°] ZVA40 at –10 dBm	< 3 dB
	in temperature range +18 °C to +28 °C	
	500 MHz to 24 GHz	< 0.8 dB, typ. 0.3 dB
		< 2 dB, typ. 0.8 dB
	R&S ⁻ ZVA50 at -10 dBm	< 3 dB
	In temperature range +18 °C to +28 °C	
		< 0.8 dB, typ. 0.3 dB
		< 2 dB, typ. 0.8 dB
	R&S ZVA67 at -10 dBm	< 3 dB
		< 0.8 dB, typ. 0.3 dB
Dower linearity		< 2 ud, typ. 1 ud
rower intearity		a D dB
In temperature range $+18 \text{ °C to } +28 \text{ °C}$		
(with ALC on, without power calibration)		
		< 0.8 dB, typ. 0.3 dB
	R&S ⁻ ZVA40 above 500 MHz	< 0.8 dB, typ. 0.3 dB
	R&S [~] ZVA50 above 500 MHz	< 0.8 dB, typ. 0.3 dB
-	R&S [~] ZVA67 above 500 MHz	< 0.8 dB, typ. 0.3 dB
Power resolution		0.01 dB

Harmonics	R&S [®] ZVA8	
(output power referenced to maximum	300 kHz to 50 MHz at –3 dB	typ. < -30 dBc
specified output power)	50 MHz to 4 GHz at –5 dB	< –20 dBc, typ. < –30 dBc
	4 GHz to 7 GHz at –2 dB	< -20 dBc, typ. < -30 dBc
	7 GHz to 8 GHz at 0 dB	< –20 dBc, typ. < –30 dBc
	R&S [®] ZVA24	
	10 MHz to 50 MHz at -3 dB	typ. < -30 dBc
	50 MHz to 13 GHz at –3 dB	< -20 dBc, typ. < -30 dBc
	13 GHz to 24 GHz at 0 dB	< -20 dBc, typ. < -30 dBc
	R&S [®] ZVA40	
	10 MHz to 50 MHz at -3 dB	typ. < -30 dBc
	50 MHz to 20 GHz at –3 dB	< –20 dBc, typ. < –30 dBc
	20 GHz to 40 GHz at 0 dB	< –20 dBc, typ. < –30 dBc
	R&S [®] ZVA50	
	10 MHz to 50 MHz at -3 dB	typ. < -30 dBc
	50 MHz to 20 GHz at -3 dB	< –20 dBc, typ. < –30 dBc
	20 GHz to 50 GHz at -5 dB	< –20 dBc, typ. < –30 dBc
	R&S [®] ZVA67	
	10 MHz to 50 MHz at –3 dB	typ. < -20 dBc
	50 MHz to 5 GHz at –3 dB	< –15 dBc, typ. < –25 dBc
	5 GHz to 67 GHz at –3 dB	< -20 dBc, typ. < -30 dBc



Diagram: Maximum output power in dBm versus frequency in GHz of the R&S[®]ZVA8.



Diagram: Maximum output power in dBm versus frequency in GHz of the R&S[®]ZVA24.











Diagram: Maximum output power in dBm versus frequency in GHz of the R&S[®]ZVA67.



Diagram: Output power accuracy in dB versus frequency in GHz of the R&S[®]ZVA8.



Diagram: Output power accuracy in dB versus frequency in GHz of the R&S[®]ZVA24.







Diagram: Output power accuracy in dB versus frequency in GHz of the R&S[®]ZVA50.



Diagram: Output power accuracy in dB versus frequency in GHz of the R&S[®]ZVA67.

Test port input

Match	without system error correction	
Match		
		> 16 dB
		> 14 dP
		> 14 UB
		- 10 dB
		> 10 UD
		> 12 0B
	2 GHZ to 24 GHZ	> 8 dB
	R&S ZVA40	
	10 MHZ to 4 GHZ	> 12 dB
	4 GHz to 20 GHz	> 8 dB
	20 GHz to 40 GHz	> 6 dB
	R&S°ZVA50	_
	10 MHz to 50 MHz	> 8 dB
	50 MHz to 10 GHz	> 10 dB
	10 GHz to 20 GHz	> 8 dB
	20 GHz to 40 GHz	> 6 dB
	40 GHz to 50 GHz	> 5 dB
	R&S [®] ZVA67	
	10 MHz to 50 MHz	> 8 dB
	50 MHz to 10 GHz	> 10 dB
	10 GHz to 20 GHz	> 9 dB
	20 GHz to 40 GHz	> 8 dB
	40 GHz to 67 GHz	> 6 dB
Maximum nominal input level	R&S [®] ZVA8	
	300 kHz to 8 GHz	+13 dBm
	R&S [®] ZVA24	
	10 MHz to 13 GHz	+15 dBm
	13 GHz to 24 GHz	+10 dBm
	R&S [®] ZVA40	
	10 MHz to 13 GHz	+10 dBm
	13 GHz to 24 GHz	+6 dBm
	24 GHz to 40 GHz	+3 dBm
	R&S [®] ZVA50	1
	10 MHz to 13 GHz	+10 dBm
	13 GHz to 24 GHz	+6 dBm
	24 GHz to 50 GHz	+3 dBm
	R&S [®] ZVA67	1
	10 MHz to 13 GHz	+10 dBm
	13 GHz to 24 GHz	+6 dBm
	24 GHz to 67 GHz	+3 dBm

Power measurement accuracy	at -10 dBm without power calibration in tem	perature range +18 °C to +28 °C
	R&S [®] ZVA8	
	10 MHz to 8 GHz	< 1 dB
	R&S [®] ZVA24	
	10 MHz to 13 GHz	< 1 dB
	13 GHz to 24 GHz	< 2 dB
	R&S [®] ZVA40	
	10 MHz to 50 MHz	< 2 dB
	50 MHz to 13 GHz	< 1 dB
	13 GHz to 24 GHz	< 2 dB
	24 GHz to 40 GHz	< 3 dB
	R&S [®] ZVA50	
	10 MHz to 50 MHz	< 2 dB
	50 MHz to 13 GHz	< 1 dB
	13 GHz to 24 GHz	< 2 dB
	24 GHz to 50 GHz	< 3 dB
	R&S [®] ZVA67	
	10 MHz to 50 MHz	< 2 dB
	50 MHz to 13 GHz	< 1 dB
	13 GHz to 24 GHz	< 2 dB
	24 GHz to 50 GHz	< 3 dB
	50 GHz to 67 GHz	< 4 dB

Receiver linearity	referenced to -10 dBm in temperature range	e +18 °C to +28 °C
	for ± 20 dB to ± 60 dB	
	50 MHz to 8 GHz	< 0.1 dB
	for 60 dB to 85 dB	< 0.1 db
	50 MHz to 8 GHz	$t_{\rm VD} < 0.1 dB$
		typ. < 0.1 db
	tor 120 dB to 20 dB	
	101 +20 0B 10 -30 0B	
		< 0.1 dB
		typ. < 0.1 dB
		- 0 2 dD
		< 0.3 dB
	TOF +10 dB to -45 dB	
	700 MHz to 24 GHz	< 0.1 dB
	for -45 dB to -80 dB	
	700 MHz to 24 GHz	typ. < 0.1 dB
	R&S [°] ZVA40	
	for +20 dB to -30 dB	- · · · •
	50 MHz to 250 MHz	< 0.1 dB
	for –30 dB to –50 dB	
	50 MHz to 250 MHz	typ. < 0.1 dB
	for +10 dB to +5 dB	
	250 MHz to 40 GHz	< 0.3 dB
	for +5 dB to -45 dB	
	250 MHz to 40 GHz	< 0.1 dB
	for45 dB to65 dB	
	250 MHz to 40 GHz	typ. < 0.1 dB
	R&S [®] ZVA50	
	for +20 dB to -30 dB	
	50 MHz to 250 MHz	< 0.1 dB
	for -30 dB to -50 dB	
	50 MHz to 250 MHz	typ. < 0.1 dB
	for +10 dB to +5 dB	
	250 MHz to 50 GHz	< 0.3 dB
	for +5 dB to -45 dB	
	250 MHz to 50 GHz	< 0.1 dB
	for -45 dB to -65 dB	
	250 MHz to 50 GHz	typ. < 0.1 dB
	R&S [®] ZVA67	
	for +15 dB to -30 dB	
	50 MHz to 250 MHz	< 0.1 dB
	for -30 dB to -50 dB	
	50 MHz to 250 MHz	tvp. < 0.1 dB
	for +10 dB to +5 dB	
	250 MHz to 67 GHz	< 0.3 dB
	for +5 dB to -45 dB	
	250 MHz to 67 GHz	$\sim 0.1 \mathrm{dB}$
	for _45 dB to _60 dB	
	250 MHz to 67 GHz	$t_{\rm VD} < 0.1 dB$
Damage level		$\pm 27 \text{ dBm}$
Damage DC voltage		
Damaye DC Vollage		50 V

Naine level		
	at 10 Hz measurement bandwidth	
(without optional step attenuators	R&S ZVA8	
and without optional direct		< -100 dBm
generator/receiver access)		< -115 dBm
	R&S ZVA24	
		typ. < –80 dBm
	100 MHz to 700 MHz	< -80 dBm
	700 MHz to 2 GHz	< -110 dBm
	2 GHz to 13 GHz	< -115 dBm
	13 GHz to 24 GHz	< -110 dBm
	R&S°ZVA40	
	10 MHz to 100 MHz	typ. < –80 dBm
	100 MHz to 500 MHz	< –80 dBm
	500 MHz to 2 GHz	< -110 dBm
	2 GHz to 20 GHz	<
	20 GHz to 24 GHz	<
	24 GHz to 32 GHz	< –105 dBm
	32 GHz to 40 GHz	< –100 dBm
	R&S [®] ZVA50	
	10 MHz to 100 MHz	typ. < -80 dBm
	100 MHz to 500 MHz	< –80 dBm
	500 MHz to 2 GHz	< –110 dBm
	2 GHz to 20 GHz	< –115 dBm
	20 GHz to 24 GHz	< –110 dBm
	24 GHz to 32 GHz	< –105 dBm
	32 GHz to 40 GHz	< –100 dBm
	40 GHz to 50 GHz	< –95 dBm
	R&S [®] ZVA67	
	10 MHz to 100 MHz	typ. < -80 dBm
	100 MHz to 500 MHz	< -90 dBm
	500 MHz to 2 GHz	< –105 dBm
	2 GHz to 24 GHz	< -115 dBm
	24 GHz to 40 GHz	< -105 dBm
	40 GHz to 50 GHz	< -100 dBm
	50 GHz to 67 GHz	< -95 dBm
Noise level at optional measurement input	at 10 Hz measurement bandwidth	
(direct generator/receiver access option)	R&S [®] 7VA8	
	100 MHz to 8 GHz	tvp < -130 dBm
	R&S [®] 7\/A24	
	100 MHz to 24 GHz	tvp < -130 dBm
	R&S [®] 7\/A40	
	100 MHz to 24 GHz	$t_{\rm VD} < -130 \rm dBm$
	24 GHz to 40 GHz	typ. < -120 dBm
	24 GHZ 10 40 GHZ P8 C® 7\/^50	typ. < -120 dBill
		turn < 120 dPm
		typ. < -130 dBm
		typ. < -120 dBm
		typ. < -115 dBill
		ture - 120 dBm
		typ. < -130 dBm
		typ. < -120 dBm
	40 GHz to 50 GHz	typ. < -115 dBm
	50 GHz to 67 GHz	typ. < -110 dBm
The noise level is defined as the RMS value	e of the indicated noise floor. For the R&S [®] Z [®]	VA67 at single frequencies below 2.5 GHz,

the noise level may be affected by spurious signals.

Additional front panel connectors

USB	(two) universal serial bus connectors for connecting USB devices (USB 2.0);
	two additional USB connectors at the rear panel

Optional front panel connectors

SOURCE OUT	output of internal source signal
SOURCE IN	input for external source signal
REF OUT	output of internal reference signal
REF IN	input for external reference signal
MEAS OUT	output of internal measurement signal
MEAS IN	input for external measurement signal

Display

Screen	26 cm (10.4") diagonal color LCD
Resolution	800 × 600 × 262144 pixels (high color)

Rear panel connectors

IEC BUS	remote control in line with IEEE 488, IEC 60625; 24 pins
LAN 1	first local area network connector, 8 pins, RJ-45
LAN 2	second local area network connector, 8 pins, RJ-45
	· · ·
USB	(two) universal serial bus connectors for connecting USB devices (USB 2.0);
	two additional USB connectors at the front panel

10 MHz REF	alternatively input or output for external frequency reference signal	
Connector type	BNC, female	
Input frequency	10 MHz	
Maximum permissible deviation	1 kHz	
Input power	-5 dBm to +10 dBm	
Input impedance	50 Ω	
Output frequency	10 MHz	
Output frequency accuracy	80 Hz	
Output power	-5 dBm to +10 dBm at 50 Ω	

DC MEAS 1 V	DC measurement input	
Connector type	4-pin mini DIN, female	
Voltage range	-1 V to +1 V	
Measurement accuracy	2.5 % of reading + 2.5 mV	
Resolution	12 bit	
Bandwidth	<100 kHz	
Input impedance	> 10 kΩ	
Damage voltage	30 V	

DC MEAS 10 V	DC measurement input
Connector type	4-pin mini DIN, female
Voltage range	-10 V to +10 V
Measurement accuracy	2.5 % of reading + 25 mV
Resolution	12 bit
Bandwidth	<100 kHz
Input impedance	> 10 kΩ
Damage voltage	30 V

DC bias input for PORT	
	BNC, female
	30 V
	200 mA
	30 V
	500 mA
	DC bias input for PORT

MONITOR

IBM-PC-compatible VGA monitor connector, 15-pin D-Sub (for external monitor)

USER CONTROL	several control and trigger signals, 25-pin D-Sub, 3.3 V TTL		
	for controlling external generators, for limit checks, sweep signals, etc.		
FOOT SWITCH 1 and FOOT SWITCH 2	pin 24 and pin 25 (inputs) control inputs		
DRIVE PORT 1 to DRIVE PORT 4	pin 16 to pin 19 (outputs)	indicate driving port	
CHANNEL BIT 0 to CHANNEL BIT 3	pin 8 to pin 11 (outputs)	channel-specific user-configurable bits	
PASS 1 and PASS 2	pin 13 and pin 14 (outputs) pass/fail results of limit check		
BUSY	pin 4 (output) measurements running		
READY FOR TRIGGER	pin 6 (output)	ready for trigger	
EXT GEN TRIGGER	pin 21 (output)	control signal for external generator	
EXT GEN BLANK	pin 22 (input) handshake signal from external gene		
EXTERNAL TRIGGER	pin 2 (input) trigger input for analyzer		

EXT TRIGGER	trigger input for analyzer	
Connector type		BNC, female
TTL signal (edge-triggered)		3 V
Polarity (user-selectable)		positive or negative
Minimum pulse width		1 µs
Input impedance		> 10 kΩ

Options

Generator step attenuators	R&S [®] ZVA8, R&S [®] ZVA24, and R&S [®] ZVA40:		
-	Generator step attenuators extend the lower limit of the output power range by 70 dB.		
	R&S [®] ZVA50 and R&S [®] ZVA67:		
	Generator step attenuators extend the lowe	r limit of the output power range by 50 dB.	
Frequency range	R&S [®] ZVA8	300 kHz to 8 GHz	
. , ,	R&S [®] ZVA24	10 MHz to 24 GHz	
	R&S [®] 7VA40	10 MHz to 40 GHz	
	R&S [®] ZVA50	10 MHz to 50 GHz	
	R&S [®] ZVA67	10 MHz to 67 GHz	
Power range	R&S [®] 7\/A8		
	300 kHz to 8 GHz	upper limit is reduced by 1 dB	
	300 kHz to 8 GHz	lower limit is extended by 70 dB	
	R&S [®] 7\/A24		
	10 MHz to 13 GHz	upper limit is reduced by 1 dB	
	13 GHz to 24 GHz	upper limit is reduced by 7 dB	
	10 MHz to 24 GHz	lower limit is extended by 2 dB	
		lower limit is extended by 70 db	
		upper limit is reduced by 1 dP	
		upper limit is reduced by 1 dB	
		upper limit is reduced by 2 dB	
		upper limit is reduced by 3 dB	
		lower limit is extended by 70 dB	
	R&S ⁻ ZVA50		
	10 MHz to 13 GHz	upper limit is reduced by 1 dB	
	13 GHz to 24 GHz	upper limit is reduced by 2 dB	
	24 GHz to 50 GHz	upper limit is reduced by 3 dB	
	10 MHz to 50 GHz	lower limit is extended by 50 dB	
	R&S°ZVA67		
	10 MHz to 13 GHz	upper limit is reduced by 1 dB	
	13 GHz to 24 GHz	upper limit is reduced by 2 dB	
	24 GHz to 67 GHz	upper limit is reduced by 3 dB	
	10 MHz to 67 GHz	lower limit is extended by 50 dB	
Power accuracy	at -10 dBm without power calibration	identical to specifications	
Devuer line erit :	$D^{\alpha} C^{\alpha} \overline{Z} / (A \alpha, D^{\alpha} C^{\alpha} \overline{Z}) / (A \alpha, A^{\alpha} \overline{Z}) /$	without optional step attenuators	
Power linearity	K&S ⁻ ZVA8, K&S ⁻ ZVA24, and K&S ⁻ ZVA40		
(WITH ALC OTT)	above -/0 dBm	< 2 dB	
	from $-70 \text{ dBm to} -100 \text{ dBm}$	< 3 dB	
	R&S ZVA50 and R&S ZVA67		
	above –50 dBm	< 2 dB	
	from –50 dBm to –80 dBm	< 3 dB	
Dynamic range	R&S [°] ZVA8		
	300 kHz to 8 GHz	is reduced by 1 dB	
	R&S°ZVA24		
	10 MHz to 13 GHz	is reduced by 1 dB	
	13 GHz to 24 GHz	is reduced by 2 dB	
	R&S [®] ZVA40		
	10 MHz to 13 GHz	is reduced by 1 dB	
	13 GHz to 24 GHz	is reduced by 2 dB	
	24 GHz to 40 GHz	is reduced by 3 dB	
	R&S [®] ZVA50		
	10 MHz to 13 GHz	is reduced by 1 dB	
	13 GHz to 24 GHz	is reduced by 2 dB	
	24 GHz to 50 GHz	is reduced by 3 dB	
	R&S [®] ZVA67		
	10 MHz to 13 GHz	is reduced by 1 dB	
	13 GHz to 24 GHz	is reduced by 2 dB	
	24 GHz to 67 GHz	is reduced by 3 dB	

Receiver step attenuators	These attenuators permit the input signal level to be attenuated		
	in 5 dB steps up to 35 dB.		
Frequency range	R&S [®] ZVA8	300 kHz to 8 GHz	
	R&S [®] ZVA24	10 MHz to 24 GHz	
	R&S [®] ZVA40	10 MHz to 40 GHz	
	R&S [®] ZVA50	10 MHz to 50 GHz	
	R&S [®] ZVA67	10 MHz to 67 GHz	
Attenuation		0 dB to 35 dB	
Attenuation steps		5 dB	
Attenuation accuracy		< 2 dB	
Dynamic range	R&S [®] ZVA8		
	300 kHz to 8 GHz	is reduced by 1 dB	
	R&S [®] ZVA24		
	10 MHz to 13 GHz	is reduced by 1 dB	
	13 GHz to 24 GHz	is reduced by 2 dB	
	R&S [®] ZVA40		
	10 MHz to 13 GHz	is reduced by 1 dB	
	13 GHz to 24 GHz	is reduced by 2 dB	
	24 GHz to 40 GHz	is reduced by 3 dB	
	R&S [®] ZVA50		
	10 MHz to 13 GHz	is reduced by 1 dB	
	13 GHz to 24 GHz	is reduced by 2 dB	
	24 GHz to 50 GHz	is reduced by 3 dB	
	R&S [®] ZVA67		
	10 MHz to 13 GHz	is reduced by 1 dB	
	13 GHz to 24 GHz	is reduced by 2 dB	
	24 GHz to 67 GHz	is reduced by 3 dB	
Noise level	R&S [®] ZVA8		
	300 kHz to 8 GHz	is increased by 1 dB	
	R&S [®] ZVA24		
	10 MHz to 13 GHz	is increased by 1 dB	
	13 GHz to 24 GHz	is increased by 2 dB	
	R&S [®] ZVA40	· · · · ·	
	10 MHz to 13 GHz	is increased by 1 dB	
	13 GHz to 24 GHz	is increased by 2 dB	
	24 GHz to 40 GHz	is increased by 3 dB	
	R&S [®] ZVA50	· · · ·	
	10 MHz to 13 GHz	is increased by 1 dB	
	13 GHz to 24 GHz	is increased by 2 dB	
	24 GHz to 50 GHz	is increased by 3 dB	
	R&S [®] ZVA67		
	10 MHz to 13 GHz	is increased by 1 dB	
	13 GHz to 24 GHz	is increased by 2 dB	
	24 GHz to 67 GHz	is increased by 3 dB	

Direct generator/receiver access	These options permit direct access to the internal source output as well as to the		
	internal reference and measurement receiver inputs via front panel connectors. Dynamic range with direct access utilizing these inputs is stated in the "Measurement		
	range" section. If all front panel jumper cable	es are directly connected between the	
	outputs and inputs, the following vector network analyzer specifications apply.		
Front panel connectors	R&S [®] ZVA8	SMA, female	
	R&S [®] ZVA24	2.92 mm. female	
	R&S [®] ZVA40	2.92 mm, female	
	R&S [®] ZVA50	1.85 mm, female	
	R&S [®] ZVA67	1.85 mm, female	
Frequency range	R&S [®] ZVA8	300 kHz to 8 GHz	
	R&S [®] 7VA24	10 MHz to 24 GHz	
	R&S [®] 7\/A40	10 MHz to 40 GHz	
	R&S [®] 7\/450	10 MHz to 50 GHz	
	R&S [®] 7\/A67	10 MHz to 67 GHz	
Dynamic range	R&S [®] 7\/A8		
Dynamie range	300 kHz to 8 CHz	is reduced by 2 dB	
		Is reduced by 2 db	
		is reduced by 2 dP	
		is reduced by 2 dB	
		IS reduced by 4 dB	
		Is reduced by 2 dB	
		Is reduced by 4 dB	
	24 GHz to 40 GHz	is reduced by 6 dB	
	R&S°ZVA50		
	10 MHz to 13 GHz	is reduced by 2 dB	
	13 GHz to 24 GHz	is reduced by 4 dB	
	24 GHz to 50 GHz	is reduced by 6 dB	
	R&S°ZVA67		
	10 MHz to 13 GHz	is reduced by 2 dB	
	13 GHz to 24 GHz	is reduced by 4 dB	
	24 GHz to 67 GHz	is reduced by 6 dB	
Power range	R&S [®] ZVA8		
	300 kHz to 8 GHz	upper limit is reduced by 1 dB	
	R&S [®] ZVA24		
	10 MHz to 13 GHz	upper limit is reduced by 1 dB	
	13 GHz to 24 GHz	upper limit is reduced by 2 dB	
	R&S [®] ZVA40		
	10 MHz to 13 GHz	upper limit is reduced by 1 dB	
	13 GHz to 24 GHz	upper limit is reduced by 2 dB	
	24 GHz to 40 GHz	upper limit is reduced by 3 dB	
	R&S [®] ZVA50		
	10 MHz to 13 GHz	upper limit is reduced by 1 dB	
	13 GHz to 24 GHz	upper limit is reduced by 2 dB	
	24 GHz to 50 GHz	upper limit is reduced by 3 dB	
	R&S [®] ZVA67		
	10 MHz to 13 GHz	upper limit is reduced by 1 dB	
	13 GHz to 24 GHz	upper limit is reduced by 2 dB	
	24 GHz to 67 GHz	upper limit is reduced by 3 dB	
Match	R&S [®] ZVA40	-	
	10 MHz to 4 GHz	is reduced by 2 dB	

Noise level	R&S [®] ZVA8	
	300 kHz to 8 GHz	is increased by 1 dB
	R&S [®] ZVA24	
	10 MHz to 13 GHz	is increased by 1 dB
	13 GHz to 24 GHz	is increased by 2 dB
	R&S [®] ZVA40	
	10 MHz to 13 GHz	is increased by 1 dB
	13 GHz to 24 GHz	is increased by 2 dB
	24 GHz to 40 GHz	is increased by 3 dB
	R&S [®] ZVA50	
	10 MHz to 13 GHz	is increased by 1 dB
	13 GHz to 24 GHz	is increased by 2 dB
	24 GHz to 50 GHz	is increased by 3 dB
	R&S [®] ZVA67	
	10 MHz to 13 GHz	is increased by 1 dB
	13 GHz to 24 GHz	is increased by 2 dB
	24 GHz to 67 GHz	is increased by 3 dB

General data

Temperature loading	in line with IEC 60068-2-1 and IEC 60068-2-2		
	operating temperature range	+5 °C to +40 °C	
	permissible temperature range	+5 °C to +40 °C	
	storage temperature range	-40 °C to +70 °C	
Damp heat		+40 °C at 95 % rel. humidity,	
		in line with IEC 60068-2-30	
Mechanical resistance	vibration, sinusoidal	5 Hz to 150 Hz,	
		in line with IEC 60068-2-6	
	vibration, random	10 Hz to 300 Hz,	
		in line with IEC 60068-2-64	
	shock	40 g shock spectrum,	
		in line with IEC 60068-2-27, MIL-STD-810	
Calibration interval		1 year	
EMC, RF emission	in line with EN 55011 class A, operation is	in line with CISPR 11/EN 55011 group 1	
	not covered in residential, commercial,	class A (for a shielded test setup)	
	and business areas nor in small-size	The instrument complies with the emission	
	companies. Thus, the instrument must not	requirements stipulated by EN 55011 and	
	be operated in residential, commercial,	EN 61326-1 class A. This means that the	
	and business areas nor in small-size	instrument is suitable for use in industrial	
	companies unless additional measures are	environments.	
	taken to ensure that EN 55011 class B is		
EMO in marking	met.		
EMC, Immunity		In line with IEC/EN 61326-1,	
		Immunity for industrial environments	
Catata		(excluding operating frequency)	
Salety		In line with IEC 61010-1, EN 61010-1, and	
Dower oupply		UL 3111-1	
Power supply		100 V to 240 V (AC) with tolerance ± 10 %,	
		SO HZ to 60 HZ with tolerance $\pm 5\%$,	
Power consumption	D85 ⁸ 71/A8 D85 ⁸ 71/A24 D85 ⁸ 71/A40	450 W, twp 310 W/ (standby: twp 10 W)	
	Rad E Rad	450 W, typ. 510 W (standby. typ. 10 W)	
		650 W typ $450 W$ (standby: typ $10 W$)	
Tost mark	Ras ZVA07 offiy		
I COLINAIN		CE conformity mark	
Dimensions $(W \times H \times D)$		465.1 mm x 286.2 mm x 495.0 mm	
		$(18.31 \text{ in } \times 11.27 \text{ in } \times 19.49 \text{ in})$	
Weight		25 kg (55 lb)	
Shipping weight		37 kg (82 lb)	

Ordering information

Designation	Туре	Order No.
Vector Network Analyzer, 8 GHz, two ports	R&S [®] ZVA8	1145.1110.08
Vector Network Analyzer, 8 GHz, four ports	R&S [®] ZVA8	1145.1110.10
Vector Network Analyzer, 24 GHz, two ports	R&S [®] ZVA24	1145.1110.24
Vector Network Analyzer, 24 GHz, four ports	R&S [®] ZVA24	1145.1110.26
Vector Network Analyzer, 40 GHz, two ports, 2.92 mm	R&S [®] ZVA40	1145.1110.40
Vector Network Analyzer, 40 GHz, four ports, 2.92 mm	R&S [®] ZVA40	1145.1110.42
Vector Network Analyzer, 40 GHz, two ports, 2.4 mm	R&S [®] ZVA40	1145.1110.43
Vector Network Analyzer, 40 GHz, four ports, 2.4 mm	R&S [®] ZVA40	1145.1110.45
Vector Network Analyzer, 50 GHz, two ports	R&S [®] ZVA50	1145.1110.50
Vector Network Analyzer, 50 GHz, four ports	R&S [®] ZVA50	1145.1110.52
Vector Network Analyzer, 67 GHz, two ports	R&S [®] ZVA67	1305.7002.02
Vector Network Analyzer, 67 GHz, four ports	R&S [®] ZVA67	1305.7002.04
Options		
Direct Generator/Receiver Access		
for the R&S [®] ZVA8 with two ports	R&S [®] ZVA8-B16	1164.0209.08
for the R&S [®] ZVA8 with four ports	R&S [®] ZVA8-B16	1164.0209.10
for the R&S [®] ZVA24 with two ports	R&S [®] ZVA24-B16	1164.0209.24
for the R&S [®] ZVA24 with four ports	R&S [®] ZVA24-B16	1164.0209.26
for the R&S [®] ZVA40 with two ports	R&S [®] ZVA40-B16	1164.0209.40
for the R&S [®] ZVA40 with four ports	R&S [®] ZVA40-B16	1164.0209.42
for the R&S [®] ZVA50 with two ports	R&S [®] ZVA50-B16	1164.0209.50
for the R&S [®] ZVA50 with four ports	R&S [®] ZVA50-B16	1164.0209.52
for the R&S [®] ZVA67 with two ports	R&S [®] ZVA67-B16	1164.0209.67
for the R&S [®] ZVA67 with four ports	R&S [®] ZVA67-B16	1164.0209.69
Generator Step Attenuator Port 1		
for the R&S [®] ZVA8	R&S [®] ZVA8-B21	1164.0009.02
for the R&S [®] ZVA24	R&S [®] ZVA24-B21	1164.0109.02
for the R&S [®] ZVA40	R&S [®] ZVA40-B21	1302.5409.02
for the R&S [®] ZVA50	R&S [®] ZVA50-B21	1305.5616.02
for the R&S [®] ZVA67	R&S [®] ZVA67-B21	1305.7077.02
Generator Step Attenuator Port 2		
for the R&S [®] ZVA8	R&S [®] ZVA8-B22	1164.0015.02
for the R&S [®] ZVA24	R&S [®] ZVA24-B22	1164.0115.02
for the R&S [®] ZVA40	R&S [®] ZVA40-B22	1302.5415.02
for the R&S [®] ZVA50	R&S [®] ZVA50-B22	1305.5622.02
for the R&S [®] ZVA67	R&S [®] ZVA67-B22	1305.7083.02
Generator Step Attenuator Port 3		
for the R&S [®] ZVA8 with four ports	R&S [®] ZVA8-B23	1164.0021.02
for the R&S [®] ZVA24 with four ports	R&S [®] ZVA24-B23	1164.0121.02
for the R&S [®] ZVA40 with four ports	R&S [®] ZVA40-B23	1302.5421.02
for the R&S [®] ZVA50 with four ports	R&S [®] ZVA50-B23	1305.5639.02
for the R&S [®] ZVA67 with four ports	R&S [®] ZVA67-B23	1305.7090.02
Generator Step Attenuator Port 4		
for the R&S [®] ZVA8 with four ports	R&S [®] ZVA8-B24	1164.0038.02
for the R&S [®] ZVA24 with four ports	R&S [®] ZVA24-B24	1164.0138.02
for the R&S [®] ZVA40 with four ports	R&S [®] ZVA40-B24	1302.5438.02
tor the R&S [®] ZVA50 with four ports	R&S [®] ZVA50-B24	1305.5645.02
tor the R&S [°] ZVA67 with four ports	R&S°ZVA67-B24	1305.7102.02

Receiver Step Attenuator Port 1	2		
for the R&S [®] ZVA8	R&S [®] ZVA8-B31	1164.0044.02	
for the R&S [®] ZVA24	R&S [®] ZVA24-B31	1164.0144.02	
for the R&S [®] ZVA40	R&S [®] ZVA40-B31	1302.5444.02	
for the R&S [®] ZVA50	R&S [®] ZVA50-B31	1305.5716.02	
for the R&S [®] ZVA67	R&S [®] ZVA67-B31	1305.7119.02	
Receiver Step Attenuator Port 2			
for the R&S [®] ZVA8	R&S [®] ZVA8-B32	1164.0050.02	
for the R&S [®] ZVA24	R&S [®] ZVA24-B32	1164.0150.02	
for the R&S [®] ZVA40	R&S [®] ZVA40-B32	1302.5450.02	
for the R&S [®] ZVA50	R&S [®] ZVA50-B32	1305.5722.02	
for the R&S [®] ZVA67	R&S [®] ZVA67-B32	1305.7125.02	
Receiver Step Attenuator Port 3			
for the R&S [®] ZVA8 with four ports	R&S [®] ZVA8-B33	1164.0067.02	
for the R&S [®] ZVA24 with four ports	R&S [®] ZVA24-B33	1164.0167.02	
for the R&S [®] ZVA40 with four ports	R&S [®] ZVA40-B33	1302.5467.02	
for the R&S [®] ZVA50 with four ports	R&S [®] ZVA50-B33	1305.5739.02	
for the R&S [®] ZVA67 with four ports	R&S [®] ZVA67-B33	1305.7131.02	
Receiver Step Attenuator Port 4			
for the R&S [®] ZVA8 with four ports	R&S [®] ZVA8-B34	1164.0073.02	
for the R&S [®] ZVA24 with four ports	R&S [®] ZVA24-B34	1164.0173.02	
for the R&S [®] ZVA40 with four ports	R&S [®] ZVA40-B34	1302.5473.02	
for the R&S [®] ZVA50 with four ports	R&S [®] ZVA50-B34	1305.5745.02	
for the R&S [®] ZVA67 with four ports	R&S [®] ZVA67-B34	1305.7148.02	
Oven Quartz (OCXO)	R&S [®] ZVAB-B4	1164.1757.02	
External Attenuator Control for R&S [®] ZVA-Z90E/-Z110E	R&S [®] ZVA-B8	1307.6026.02	
Cable Set for R&S [®] ZVA-K9 (using R&S [®] ZVA8)	R&S [®] ZVA-B9	1311.3134.02	
Cable Set for R&S [®] ZVA-K9	R&S [®] ZVA-B9	1311.3134.03	
(using R&S [®] ZVA24 or R&S [®] ZVA40 with 2.92 mm)			
Cable Set for R&S [®] ZVA-K9	R&S [®] ZVA-B9	1311.3134.04	
(using R&S [®] ZVA40 with 2.4 mm, R&S [®] ZVA50, or R&S [®] ZVA67)			
Time Domain	R&S [®] ZVAB-K2	1164.1657.02	
Frequency Conversion	R&S [®] ZVA-K4	1164.1863.02	
Mixer Phase Measurement	R&S [®] ZVA-K5	1311.3128.02	
True Differential Mode	R&S [®] ZVA-K6	1164.1540.02	
Pulsed Measurements			
Pulsed Measurements	R&S [®] ZVA-K7	1164.1511.02	
Pulsed Measurements with increased recording time	R&S [®] ZVA-B7	1164.1492.02	
for two-port models			
Pulsed Measurements with increased recording time	R&S [®] ZVA-B7	1164.1492.03	
for four-port models			
Converter Control Software	R&S [®] ZVA-K8	1307.7022.02	
Mixer Delay without LO Access	R&S [®] ZVA-K9	1311.3128.02	
5 MHz Receiver Bandwidth	R&S [®] ZVA-K17	1164.1070.02	
Internal Pulse Generators	R&S [®] ZVA-K27	1164.1892.02	
Noise Figure Measurements	R&S [®] ZVA-K30	1164.1828.02	

For product brochure, see PD 5213.5680.12 and www.rohde-schwarz.com.

Service options

Designation	Туре	Order No.
Service options		two-ports/four-ports
R&S [®] ZVA8		· · ·
One-Year Repair Service following the warranty period	R&S [®] RO2ZVA8	please contact your local Rohde & Schwarz sales office
Two-Year Repair Service following the warranty period	R&S [®] RO3ZVA8	
Four-Year Repair Service following the warranty period	R&S [®] RO5ZVA8	
Two-Year Calibration Service	R&S [®] CO2ZVA8	
Three-Year Calibration Service	R&S [®] CO3ZVA8	
Five-Year Calibration Service	R&S [®] CO5ZVA8	
R&S [®] ZVA24		
One-Year Repair Service following the warranty period	R&S [®] RO2ZVA24	please contact your local Rohde & Schwarz sales office
Two-Year Repair Service following the warranty period	R&S [®] RO3ZVA24	
Four-Year Repair Service following the warranty period	R&S [®] RO5ZVA24	
Two-Year Calibration Service	R&S [®] CO2ZVA24	
Three-Year Calibration Service	R&S [®] CO3ZVA24	
Five-Year Calibration Service	R&S [®] CO5ZVA24	
R&S [®] ZVA40		
One-Year Repair Service following the warranty period	R&S [®] RO2ZVA40	please contact your local Rohde & Schwarz sales office
Two-Year Repair Service following the warranty period	R&S [®] RO3ZVA40	
Four-Year Repair Service following the warranty period	R&S [®] RO5ZVA40	
Two-Year Calibration Service	R&S [®] CO2ZVA40	
Three-Year Calibration Service	R&S [®] CO3ZVA40	
Five-Year Calibration Service	R&S [®] CO5ZVA40	
R&S [®] ZVA50		
One-Year Repair Service following the warranty period	R&S [®] RO2ZVA50	please contact your local Rohde & Schwarz sales office
Two-Year Repair Service following the warranty period	R&S [®] RO3ZVA50	
Four-Year Repair Service following the warranty period	R&S [®] RO5ZVA50	
Two-Year Calibration Service	R&S [®] CO2ZVA50	
Three-Year Calibration Service	R&S [®] CO3ZVA50	
Five-Year Calibration Service	R&S [®] CO5ZVA50	
R&S [®] ZVA67		
One-Year Repair Service following the warranty period	R&S [®] RO2ZVA67	please contact your local
Two-Year Repair Service following the warranty period	R&S [®] RO3ZVA67	Rohde & Schwarz sales office
Four-Year Repair Service following the warranty period	R&S [®] RO5ZVA67	
Two-Year Calibration Service	R&S [®] CO2ZVA67	
Three-Year Calibration Service	R&S [®] CO3ZVA67	
Five-Year Calibration Service	R&S [®] CO5ZVA67	

Service you can rely on

- Worldwide
- Local and personali
- Customized and flexible
- Uncompromising quality
- Long-term dependabilit

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

Environmental commitment

- I Energy-efficient products
- I Continuous improvement in environmental sustainability
- ISO 14001-certified environmental management system



Rohde&Schwarz GmbH&Co. KG

www.rohde-schwarz.com

Regional contact

- Europe, Africa, Middle East
 +49 89 4129 123 45
 customersupport@rohde-schwarz.com
- North America 1 888 TEST RSA (1 888 837 87 72)
- customer.support@rsa.rohde-schwarz.com Latin America
- +1 410 910 79 88 customersupport.la@rohde-schwarz.com
- Asia/Pacific
 +65 65 13 04 88
 customersupport.asia@rohde-schwarz.com

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