



**Lightweight design, heavyweight performance**

- ▶ Weighs only 3.1 kg
- ▶ Four-receiver architecture
- ▶ Built-in receiver step attenuator – unique in the handheld class
- ▶ 16 001 measurement points
- ▶ 0 dBm maximum port output power from 300 kHz to 24 GHz
- ▶ Supports wave ratio and wave quantity measurements

Your benefit	Features
Additional protection against overloading without external attenuator	▶ Built-in receiver step attenuator with attenuating values from 0 dB to 15 dB (in 5 dB steps)
Directly calibrate DUTs with different input/output connectors	▶ UOSM calibration allows you to directly calibrate DUTs with different input/output connector types
Easy to carry in the field	▶ Small form factor and weighs only 3.1 kg

**Pricing and feature comparison**

Pricing comparison	R&S®ZNH				Anritsu VNA Master		
	ZNH4	ZNH8	ZNH18	ZNH26	MS2026C (6 GHz)	MS2027C (15 GHz)	MC2028C (20 GHz)
Unit price	EUR 11 k	EUR 17 k	EUR 25 k	EUR 30 k	EUR 15,144 (USD 17,975)	EUR 19,568 (USD 23,225)	EUR 26,165 (USD 31,055)
Cable and antenna analysis	Standard (inclusive)				Standard (inclusive)		
Full two-port S-parameters	Standard (inclusive)				Standard (inclusive)		
Wave ratio and wave quantities	EUR 4,200				Not available		

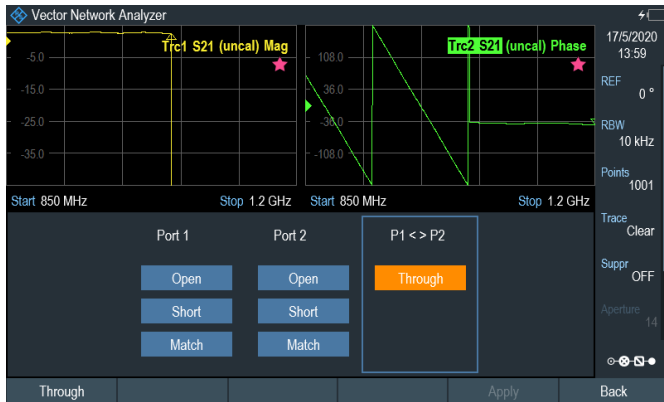


For prices and more information, visit <http://www.rohde-schwarz.com/product/ZNH>

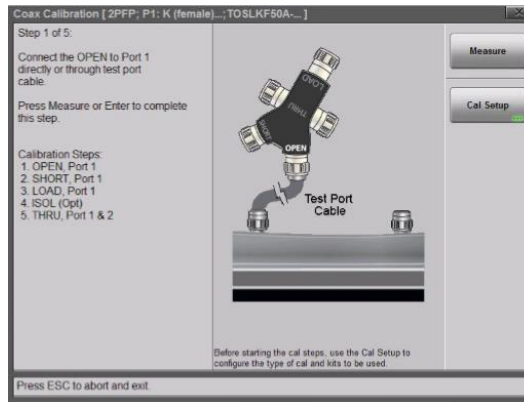
Parameter	R&S®ZNH	Anritsu VNA Master MS202xC
Frequency	30 kHz to 4/8/18/26.5 GHz	5 kHz to 6/15/20 GHz
Number of test ports	2	2
Dynamic range <sup>1)</sup>		
30 kHz ≤ f < 10 MHz	> 73 dB, 84 dB (typ.)	85 dB to 100 dB
10 MHz ≤ f < 8 GHz	> 90 dB, 100 dB (typ.)	90 dB to 100 dB
8 GHz ≤ f < 18 GHz	> 80 dB, 90 dB (typ.)	85 dB
18 GHz ≤ f < 20 GHz	> 75 dB, 85 dB (typ.)	85 dB
20 GHz ≤ f < 26 GHz	> 70 dB, 80 dB (typ.)	n.a.
26 GHz ≤ f < 26.5 GHz	> 68 dB, 78 dB (typ.)	n.a.
Max. port output power <sup>1)</sup>		
30 kHz ≤ f ≤ 300 kHz	-10 dBm (meas.)	+3 dBm
300 kHz ≤ f ≤ 10 MHz	0 dBm (meas.)	+3 dBm
10 MHz ≤ f ≤ 24 GHz	0 dBm (meas.)	-3 dBm
24 GHz ≤ f ≤ 26.5 GHz	-5 dBm (meas.)	n.a.
Trace noise <sup>1)</sup>		
Magnitude (RMS)		
30 kHz ≤ f < 8 GHz	< 0.003 dB, 0.0015 dB (typ.)	0.004 dB
8 GHz ≤ f < 15 GHz	< 0.004 dB, 0.0020 dB (typ.)	0.010 dB
15 GHz ≤ f < 26.5 GHz	< 0.006 dB, 0.0040 dB (typ.)	0.010 dB
Phase (RMS)		
30 kHz ≤ f < 8 GHz	< 0.05°, 0.015° (typ.)	0.040° (typ.) (5 kHz to 6 GHz)
8 GHz ≤ f < 26.5 GHz	< 0.06°, 0.025° (typ.)	0.050° (typ.) (> 6 GHz to 20 GHz)
Measurement speed	761 μs/point	350 μs/point (5 kHz to 6 GHz) 650 μs/point (> 6 GHz to 20 GHz)
Measurement points	16 001	4 001
Receiver step attenuator	built-in, standard 0 dB to 15 dB (in 5 dB steps)	not available
Wave measurements	yes, option (R&S®ZNH-K66 option) b1/a1, b2/a1, b1/a2, b2/a2, a1, b1, a2, b2	not available
Weight	3.1 kg	4.5 kg
Battery life	4 h	3.5 h (typ.)

<sup>1)</sup> Refer to Anritsu data sheet for detailed breakdown of frequencies.

## Flexible calibration



**R&S<sup>®</sup>ZNH** – during calibration, you can create your own sequence for the connection of calibration standards.

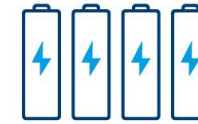


**VNA Master** – during calibration, you have to follow the set sequence and have no flexibility.

## Key advantage for field use



**R&S<sup>®</sup>ZNH** weighs only 3.1 kg while **VNA Master** weighs 4.5 kg.

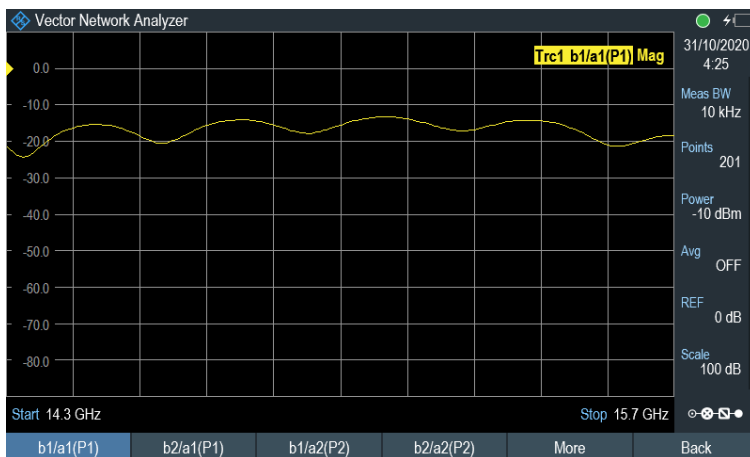


**R&S<sup>®</sup>ZNH** – 4 h operation versus  
**VNA Master** – 3 h operation.



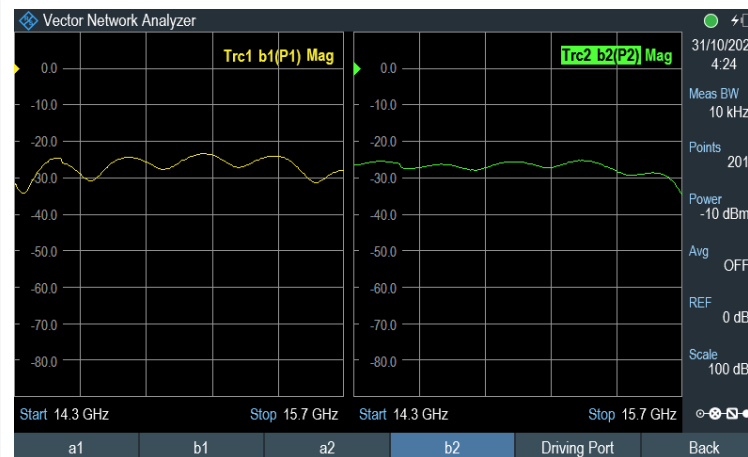
**VNA Master** – fan is noisy and gathers dust.

## Wave ratio measurement



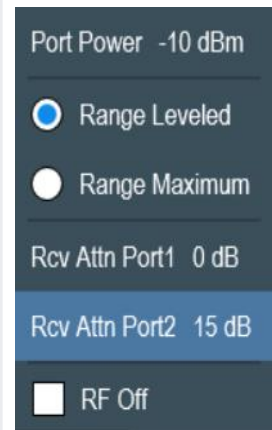
Ratios provide the complex ratio of any combination of transmitted or received wave quantities.

## Wave quantity measurement



Wave quantities provide the power of any of the transmitted or received waves.

## Receiver attenuation ports



Attenuation can be selected for port 1 and port 2 (0 dB to 15 dB in 5 dB steps).