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# R&S® ZV-Z9x and R&S® ZV-Z19x Test Port Cables Specifications



**75** Years of  
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Innovation



**ROHDE & SCHWARZ**

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## General information

The R&S®ZV-Z9x test port cables as well as the R&S®ZV-Z19x test port cables are now available. While the R&S®ZV-Z9x test port cables are especially suited for precision measurements where high phase stability and high mechanical flexibility are required, the semi-rigid R&S®ZV-Z19x test port cables are mostly used for general-purpose applications.

The R&S®ZV-Z9x test port cables are ideal for high-precision measurements in labs and production. Their rugged design offers superior magnitude and phase stability, allowing stable and accurate measurements with high repeatability. The R&S®ZV-Z9x test port cables are especially suitable for connecting a device under test (DUT) to a test port of a vector network analyzer (VNA), e.g. the R&S®ZVA8, R&S®ZVA24, R&S®ZVA40, R&S®ZVB4, R&S®ZVB8, R&S®ZVB14, R&S®ZVB20, R&S®ZVT8, or R&S®ZVT20.

No test port cables are necessary for measuring a one-port DUT, which can be connected to the analyzer's test port directly or by using a suitable adapter. Use a single test port cable when measuring one-port DUTs or two-port DUTs where one port is connected to the VNA test port directly or via a suitable adapter. Use two or more test port cables if a two-port or multiport DUT is to be connected to the VNA test ports via cables.

Depending on the frequency range and the appropriate type of VNA test port connector, different cables are required. The test port cables are flexible. With the exception of the R&S®ZV-Z97, they are available in two different lengths: 635 mm (25 in) and 965 mm (38 in).

The R&S®ZV-Z91, R&S®ZV-Z92, R&S®ZV-Z191, and R&S®ZV-Z192 test port cables are designed for use with the R&S®ZVA8, R&S®ZVB4, R&S®ZVB8, and R&S®ZVT8 vector network analyzers. They include a type N male connector for connection to the type N female test ports of the VNA. For connecting the DUT, the R&S®ZV-Z91 and the R&S®ZV-Z191 include a type N male connector, while the R&S®ZV-Z92 and R&S®ZV-Z192 include a 3.5 mm male connector.

The R&S®ZV-Z93 and the R&S®ZV-Z193 test port cables are designed for use with the R&S®ZVA24, R&S®ZVB14, R&S®ZVB20, and R&S®ZVT20 vector network analyzers. They include a 3.5 mm ruggedized female connector for connection to the 3.5 mm ruggedized male test ports of the VNA. The cables include a 3.5 mm male connector for DUT connection.

The R&S®ZV-Z95 and the R&S®ZV-Z195 test port cables are designed for use with the R&S®ZVA40 vector network analyzer and come with a 2.92 mm ruggedized female connector for connecting the 2.92 mm ruggedized male test ports of the VNA. The cables include a 2.92 mm male connector for DUT connection.

The R&S®ZV-Z97 test port cable is designed for use with the R&S®ZVA50 vector network analyzer and comes with a 2.4 mm ruggedized female connector for connecting the 2.4 mm ruggedized male test ports of the VNA. The cable includes a 2.4 mm male connector for DUT connection. This cable is only available in a length of 635 mm (25 in).

## Cable handling

Handle cables carefully and inspect all connectors before making a connection. Cables that are not used are to be stored with a view to maximum protection.

Observe the minimum bend radius specified for the cable. Failure to do so may destroy the cable. Cable phase and loss slightly change whenever the cable is bent.

Cables used to perform precise measurements may have to be fit into fixtures to prevent movement after calibration. Otherwise, accurate measurements will not be possible after calibration. If you use a precision calibration kit, make especially sure to move the cable as little as possible.

## Mechanical data

<b>Cable connector to VNA</b>	R&S® ZV-Z91	precision type N male
	R&S® ZV-Z92	precision type N male
	R&S® ZV-Z93	ruggedized 3.5 mm female
	R&S® ZV-Z95	ruggedized 2.92 mm female
	R&S® ZV-Z97	ruggedized 2.4 mm female
	R&S® ZV-Z191	precision type N male
	R&S® ZV-Z192	precision type N male
	R&S® ZV-Z193	ruggedized 3.5 mm female
R&S® ZV-Z195	ruggedized 2.92 mm female	

<b>Cable connector to DUT</b>	R&S® ZV-Z91	precision type N male
	R&S® ZV-Z92	ruggedized 3.5 mm male
	R&S® ZV-Z93	ruggedized 3.5 mm male
	R&S® ZV-Z95	ruggedized 2.92 mm male
	R&S® ZV-Z97	ruggedized 2.4 mm male
	R&S® ZV-Z191	precision type N male
	R&S® ZV-Z192	ruggedized 3.5 mm male
	R&S® ZV-Z193	ruggedized 3.5 mm male
R&S® ZV-Z195	ruggedized 2.92 mm male	

<b>Cable length</b>	R&S® ZV-Z91 model 25	635 mm (25 in)
	R&S® ZV-Z91 model 38	965 mm (38 in)
	R&S® ZV-Z92 model 25	635 mm (25 in)
	R&S® ZV-Z92 model 38	965 mm (38 in)
	R&S® ZV-Z93 model 25	635 mm (25 in)
	R&S® ZV-Z93 model 38	965 mm (38 in)
	R&S® ZV-Z95 model 25	635 mm (25 in)
	R&S® ZV-Z95 model 38	965 mm (38 in)
	R&S® ZV-Z97 model 25	635 mm (25 in)
	R&S® ZV-Z191 model 24	610 mm (24 in)
	R&S® ZV-Z191 model 36	914 mm (36 in)
	R&S® ZV-Z192 model 24	610 mm (24 in)
	R&S® ZV-Z192 model 36	914 mm (36 in)
	R&S® ZV-Z193 model 24	610 mm (24 in)
	R&S® ZV-Z193 model 36	914 mm (36 in)
	R&S® ZV-Z195 model 24	610 mm (24 in)
R&S® ZV-Z195 model 36	914 mm (36 in)	

<b>Outer diameter of cable</b>	R&S® ZV-Z9x	15.2 mm (0.6 in)
	R&S® ZV-Z19x	6.1 mm (0.24 in)

<b>Minimum bend radius</b>	R&S® ZV-Z9x	57 mm (2.25 in)
	R&S® ZV-Z19x	26 mm (1 in)

<b>Crush resistance</b>	R&S® ZV-Z9x	14 kg/mm (800 lb/in)
	R&S® ZV-Z19x	4 kg/mm (250 lb/in)

# Electrical data

Impedance	50 $\Omega$
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Frequency range	R&S <sup>®</sup> ZV-Z91	0 Hz to 18 GHz
	R&S <sup>®</sup> ZV-Z92	0 Hz to 18 GHz
	R&S <sup>®</sup> ZV-Z93	0 Hz to 26.5 GHz
	R&S <sup>®</sup> ZV-Z95	0 Hz to 40 GHz
	R&S <sup>®</sup> ZV-Z97	0 Hz to 50 GHz
	R&S <sup>®</sup> ZV-Z191	0 Hz to 18 GHz
	R&S <sup>®</sup> ZV-Z192	0 Hz to 18 GHz
	R&S <sup>®</sup> ZV-Z193	0 Hz to 26.5 GHz
	R&S <sup>®</sup> ZV-Z195	0 Hz to 40 GHz

<b>Reflection and transmission</b>			
Match (at maximum frequency)	R&S <sup>®</sup> ZV-Z91 model 25	>17.94 dB (VSWR < 1.29), typ. 24.94 dB	
	R&S <sup>®</sup> ZV-Z91 model 38	>17.94 dB (VSWR < 1.29), typ. 24.94 dB	
	R&S <sup>®</sup> ZV-Z92 model 25	>17.94 dB (VSWR < 1.29), typ. 24.29 dB	
	R&S <sup>®</sup> ZV-Z92 model 38	>17.94 dB (VSWR < 1.29), typ. 24.29 dB	
	R&S <sup>®</sup> ZV-Z93 model 25	>17.94 dB (VSWR < 1.29), typ. 27.32 dB	
	R&S <sup>®</sup> ZV-Z93 model 38	>17.94 dB (VSWR < 1.29), typ. 27.32 dB	
	R&S <sup>®</sup> ZV-Z95 model 25	>15.93 dB (VSWR < 1.38), typ. 25.96 dB	
	R&S <sup>®</sup> ZV-Z95 model 38	>15.93 dB (VSWR < 1.38), typ. 25.96 dB	
	R&S <sup>®</sup> ZV-Z97 model 25	>15.04 dB (VSWR < 1.43), typ. 18.30 dB	
	R&S <sup>®</sup> ZV-Z191 model 24	>16.53 dB (VSWR < 1.35), typ. 21.27 dB	
	R&S <sup>®</sup> ZV-Z191 model 36	>16.53 dB (VSWR < 1.35), typ. 21.27 dB	
	R&S <sup>®</sup> ZV-Z192 model 24	>16.53 dB (VSWR < 1.35), typ. 21.27 dB	
	R&S <sup>®</sup> ZV-Z192 model 36	>16.53 dB (VSWR < 1.35), typ. 21.27 dB	
	R&S <sup>®</sup> ZV-Z193 model 24	>14.73 dB (VSWR < 1.45), typ. 22.00 dB	
	R&S <sup>®</sup> ZV-Z193 model 36	>14.73 dB (VSWR < 1.45), typ. 22.00 dB	
	R&S <sup>®</sup> ZV-Z195 model 24	>16.53 dB (VSWR < 1.35), typ. 21.50 dB	
	R&S <sup>®</sup> ZV-Z195 model 36	>16.53 dB (VSWR < 1.35), typ. 21.50 dB	
	Transmission (at maximum frequency)	R&S <sup>®</sup> ZV-Z91 model 25	<1.24 dB, typ. 1.00 dB
		R&S <sup>®</sup> ZV-Z91 model 38	<1.72 dB, typ. 1.42 dB
		R&S <sup>®</sup> ZV-Z92 model 25	<1.24 dB, typ. 1.00 dB
R&S <sup>®</sup> ZV-Z92 model 38		<1.72 dB, typ. 1.42 dB	
R&S <sup>®</sup> ZV-Z93 model 25		<1.56 dB, typ. 1.26 dB	
R&S <sup>®</sup> ZV-Z93 model 38		<2.17 dB, typ. 1.80 dB	
R&S <sup>®</sup> ZV-Z95 model 25		<3.46 dB, typ. 2.64 dB	
R&S <sup>®</sup> ZV-Z95 model 38		<4.82 dB, typ. 3.85 dB	
R&S <sup>®</sup> ZV-Z97 model 25		<3.61 dB, typ. 2.64 dB	
R&S <sup>®</sup> ZV-Z191 model 24		<1.20 dB, typ. 0.96 dB	
R&S <sup>®</sup> ZV-Z191 model 36		<1.65 dB, typ. 1.36 dB	
R&S <sup>®</sup> ZV-Z192 model 24		<1.20 dB, typ. 0.96 dB	
R&S <sup>®</sup> ZV-Z192 model 36		<1.65 dB, typ. 1.36 dB	
R&S <sup>®</sup> ZV-Z193 model 24		<1.51 dB, typ. 1.22 dB	
R&S <sup>®</sup> ZV-Z193 model 36		<2.08 dB, typ. 1.71 dB	
R&S <sup>®</sup> ZV-Z195 model 24		<3.06 dB, typ. 2.25 dB	
R&S <sup>®</sup> ZV-Z195 model 36	<4.32 dB, typ. 3.37 dB		

Transmission (versus frequency)	R&S® ZV-Z91 model 25	$<(0.1000+0.1915\cdot\sqrt{f}+0.0179\cdot f)$ dB typ. $(0.0255+0.1747\cdot\sqrt{f}+0.0127\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z91 model 38	$<(0.1000+0.2911\cdot\sqrt{f}+0.0215\cdot f)$ dB typ. $(0.0284+0.2616\cdot\sqrt{f}+0.0159\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z92 model 25	$<(0.1000+0.1915\cdot\sqrt{f}+0.0179\cdot f)$ dB typ. $(0.0255+0.1747\cdot\sqrt{f}+0.0127\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z92 model 38	$<(0.1000+0.2911\cdot\sqrt{f}+0.0215\cdot f)$ dB typ. $(0.0284+0.2616\cdot\sqrt{f}+0.0159\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z93 model 25	$<(0.1000+0.1915\cdot\sqrt{f}+0.0179\cdot f)$ dB typ. $(0.0255+0.1748\cdot\sqrt{f}+0.0127\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z93 model 38	$<(0.1000+0.2911\cdot\sqrt{f}+0.0215\cdot f)$ dB typ. $(0.0284+0.2616\cdot\sqrt{f}+0.0159\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z95 model 25	$<(0.1109+0.4813\cdot\sqrt{f}+0.0075\cdot f)$ dB typ. $(0.0309+0.4470\cdot\sqrt{f}-0.0055\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z95 model 38	$<(0.1109+0.6780\cdot\sqrt{f}+0.0105\cdot f)$ dB typ. $(0.0309+0.6257\cdot\sqrt{f}-0.0035\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z97 model 25	$<(0.1+0.3781\cdot\sqrt{f}+0.0168\cdot f)$ dB typ. $(0.02+0.3438\cdot\sqrt{f}-0.0038\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z191 model 24	$<(0.1000+0.1838\cdot\sqrt{f}+0.0177\cdot f)$ dB typ. $(0.0253+0.1681\cdot\sqrt{f}+0.0125\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z191 model 36	$<(0.1000+0.2758\cdot\sqrt{f}+0.0210\cdot f)$ dB typ. $(0.0280+0.2482\cdot\sqrt{f}+0.0154\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z192 model 24	$<(0.1000+0.1838\cdot\sqrt{f}+0.0177\cdot f)$ dB typ. $(0.0253+0.1681\cdot\sqrt{f}+0.0125\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z192 model 36	$<(0.1000+0.2758\cdot\sqrt{f}+0.0210\cdot f)$ dB typ. $(0.0280+0.2482\cdot\sqrt{f}+0.0154\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z193 model 24	$<(0.1000+0.1838\cdot\sqrt{f}+0.0177\cdot f)$ dB typ. $(0.0253+0.1681\cdot\sqrt{f}+0.0125\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z193 model 36	$<(0.1000+0.2758\cdot\sqrt{f}+0.0210\cdot f)$ dB typ. $(0.0280+0.2482\cdot\sqrt{f}+0.0154\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z195 model 24	$<(0.1000+0.3630\cdot\sqrt{f}+0.0166\cdot f)$ dB typ. $(0.0200+0.3300\cdot\sqrt{f}+0.0037\cdot f)$ dB where f is the frequency in GHz
	R&S® ZV-Z195 model 36	$<(0.1000+0.5445\cdot\sqrt{f}+0.0193\cdot f)$ dB typ. $(0.0200+0.4950\cdot\sqrt{f}+0.0055\cdot f)$ dB where f is the frequency in GHz

Delay time	R&S® ZV-Z91 model 25	2.5 ns
	R&S® ZV-Z91 model 38	3.8 ns
	R&S® ZV-Z92 model 25	2.5 ns
	R&S® ZV-Z92 model 38	3.8 ns
	R&S® ZV-Z93 model 25	2.5 ns
	R&S® ZV-Z93 model 38	3.8 ns
	R&S® ZV-Z95 model 25	2.5 ns
	R&S® ZV-Z95 model 38	3.8 ns
	R&S® ZV-Z97 model 25	2.5 ns

<b>Stability<sup>1</sup></b>		
Magnitude stability	R&S <sup>®</sup> ZV-Z91 model 25	<0.08 dB
	R&S <sup>®</sup> ZV-Z91 model 38	<0.15 dB
	R&S <sup>®</sup> ZV-Z92 model 25	<0.08 dB
	R&S <sup>®</sup> ZV-Z92 model 38	<0.15 dB
	R&S <sup>®</sup> ZV-Z93 model 25	<0.08 dB
	R&S <sup>®</sup> ZV-Z93 model 38	<0.15 dB
	R&S <sup>®</sup> ZV-Z95 model 25	<0.08 dB
	R&S <sup>®</sup> ZV-Z95 model 38	<0.15 dB
	R&S <sup>®</sup> ZV-Z97 model 25	<0.08 dB
	R&S <sup>®</sup> ZV-Z191 model 24	<0.08 dB
	R&S <sup>®</sup> ZV-Z191 model 36	<0.15 dB
	R&S <sup>®</sup> ZV-Z192 model 24	<0.08 dB
	R&S <sup>®</sup> ZV-Z192 model 36	<0.15 dB
	R&S <sup>®</sup> ZV-Z193 model 24	<0.08 dB
	R&S <sup>®</sup> ZV-Z193 model 36	<0.15 dB
	R&S <sup>®</sup> ZV-Z195 model 24	<0.08 dB
	R&S <sup>®</sup> ZV-Z195 model 36	<0.15 dB
Phase stability (at maximum frequency)	R&S <sup>®</sup> ZV-Z91 model 25	<2.8°
	R&S <sup>®</sup> ZV-Z91 model 38	<5.2°
	R&S <sup>®</sup> ZV-Z92 model 25	<2.8°
	R&S <sup>®</sup> ZV-Z92 model 38	<5.2°
	R&S <sup>®</sup> ZV-Z93 model 25	<3.9°
	R&S <sup>®</sup> ZV-Z93 model 38	<7.4°
	R&S <sup>®</sup> ZV-Z95 model 25	<3.7°
	R&S <sup>®</sup> ZV-Z95 model 38	<7.3°
	R&S <sup>®</sup> ZV-Z97 model 25	<4.5°
	R&S <sup>®</sup> ZV-Z191 model 24	<4.7°
	R&S <sup>®</sup> ZV-Z191 model 36	<4.7°
	R&S <sup>®</sup> ZV-Z192 model 24	<4.7°
	R&S <sup>®</sup> ZV-Z192 model 36	<4.7°
	R&S <sup>®</sup> ZV-Z193 model 24	<6.6°
	R&S <sup>®</sup> ZV-Z193 model 36	<6.6°
	R&S <sup>®</sup> ZV-Z195 model 24	<9.6°
	R&S <sup>®</sup> ZV-Z195 model 36	<9.6°

<sup>1</sup> Stability is measured by means of a standard test procedure using a mandrel with a diameter of 114.3 mm (4.5 in).



Phase stability (versus frequency)	R&S® ZV-Z91 model 25	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z91 model 38	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z92 model 25	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z92 model 38	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z93 model 25	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z93 model 38	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z95 model 25	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z95 model 38	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z97 model 25	$<0.5^\circ + 0.08^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z191 model 24	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z191 model 36	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z192 model 24	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z192 model 36	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z193 model 24	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z193 model 36	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z195 model 24	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz
	R&S® ZV-Z195 model 36	$<0.64^\circ + 0.2234^\circ \cdot f$ where f is the frequency in GHz

## General data

Temperature loading	operating temperature range	+18 °C to +28 °C
	permissible temperature range	0 °C to +50 °C
	storage temperature range	-40 °C to +70 °C
Damp heat		in line with IEC 60068-2-1 and IEC 60068-2-2
		+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
Length	R&S® ZV-Z91 model 25	635 mm (25 in)
	R&S® ZV-Z91 model 38	965 mm (38 in)
	R&S® ZV-Z92 model 25	635 mm (25 in)
	R&S® ZV-Z92 model 38	965 mm (38 in)
	R&S® ZV-Z93 model 25	635 mm (25 in)
	R&S® ZV-Z93 model 38	965 mm (38 in)
	R&S® ZV-Z95 model 25	635 mm (25 in)
	R&S® ZV-Z95 model 38	965 mm (38 in)
	R&S® ZV-Z97 model 25	635 mm (25 in)
	R&S® ZV-Z191 model 24	610 mm (24 in)
	R&S® ZV-Z191 model 36	914 mm (36 in)
	R&S® ZV-Z192 model 24	610 mm (24 in)
	R&S® ZV-Z192 model 36	914 mm (36 in)
	R&S® ZV-Z193 model 24	610 mm (24 in)
	R&S® ZV-Z193 model 36	914 mm (36 in)
	R&S® ZV-Z195 model 24	610 mm (24 in)
R&S® ZV-Z195 model 36	914 mm (36 in)	
Weight	R&S® ZV-Z91 model 25	175 g (6 oz)
	R&S® ZV-Z91 model 38	266 g (9 oz)
	R&S® ZV-Z92 model 25	175 g (6 oz)
	R&S® ZV-Z92 model 38	266 g (9 oz)
	R&S® ZV-Z93 model 25	175 g (6 oz)
	R&S® ZV-Z93 model 38	266 g (9 oz)
	R&S® ZV-Z95 model 25	175 g (6 oz)
	R&S® ZV-Z95 model 38	266 g (9 oz)
	R&S® ZV-Z97 model 25	175 g (6 oz)
	R&S® ZV-Z191 model 24	175 g (6 oz)
	R&S® ZV-Z191 model 36	266 g (9 oz)
	R&S® ZV-Z192 model 24	175 g (6 oz)
	R&S® ZV-Z192 model 36	266 g (9 oz)
	R&S® ZV-Z193 model 24	175 g (6 oz)
	R&S® ZV-Z193 model 36	266 g (9 oz)
	R&S® ZV-Z195 model 24	175 g (6 oz)
R&S® ZV-Z195 model 36	266 g (9 oz)	

Shipping weight	R&S <sup>®</sup> ZV-Z91 model 25	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z91 model 38	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z92 model 25	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z92 model 38	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z93 model 25	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z93 model 38	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z95 model 25	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z95 model 38	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z97 model 25	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z191 model 24	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z191 model 36	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z192 model 24	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z192 model 36	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z193 model 24	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z193 model 36	0.5 kg (1 lb)
	R&S <sup>®</sup> ZV-Z195 model 24	0.5 kg (1 lb)
R&S <sup>®</sup> ZV-Z195 model 36	0.5 kg (1 lb)	

Specifications apply under the following conditions: 60 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.

Rohde & Schwarz equipment is designed for reliable operation up to an altitude of 3000 m above sea level, and for transport up to an altitude of 4500 m above sea level.

## Ordering information

Designation	Type	Order No.
<b>Test Port Cables for the R&amp;S®ZVA8, R&amp;S®ZVB4, R&amp;S®ZVB8, and R&amp;S®ZVT8 Vector Network Analyzers</b>	<b>frequency range 0 Hz to 18 GHz</b>	
Test Port Cable type N male to type N male, length 635 mm (25 in)	R&S®ZV-Z91	1301.7572.25
Test Port Cable type N male to type N male, length 965 mm (38 in)	R&S®ZV-Z91	1301.7572.38
Test Port Cable type N male to 3.5 mm male, length 635 mm (25 in)	R&S®ZV-Z92	1301.7589.25
Test Port Cable type N male to 3.5 mm male, length 965 mm (38 in)	R&S®ZV-Z92	1301.7589.38
Test Port Cable type N male to type N male, length 610 mm (24 in)	R&S®ZV-Z191	1301.4507.24
Test Port Cable type N male to type N male, length 914 mm (36 in)	R&S®ZV-Z191	1301.4507.36
Test Port Cable type N male to 3.5 mm male, length 610 mm (24 in)	R&S®ZV-Z192	1301.4513.24
Test Port Cable type N male to 3.5 mm male, length 914 mm (36 in)	R&S®ZV-Z192	1301.4513.36
<b>Test Port Cables for the R&amp;S®ZVA24, R&amp;S®ZVB20, and R&amp;S®ZVT20 Vector Network Analyzers</b>	<b>frequency range 0 Hz to 26.5 GHz</b>	
Test Port Cable 3.5 mm female to 3.5 mm male, length 635 mm (25 in)	R&S®ZV-Z93	1301.7595.25
Test Port Cable 3.5 mm female to 3.5 mm male, length 965 mm (38 in)	R&S®ZV-Z93	1301.7595.38
Test Port Cable 3.5 mm female to 3.5 mm male, length 610 mm (24 in)	R&S®ZV-Z193	1306.4520.24
Test Port Cable 3.5 mm female to 3.5 mm male, length 914 mm (36 in)	R&S®ZV-Z193	1306.4520.36
<b>Test Port Cables for the R&amp;S®ZVA40 Vector Network Analyzer</b>	<b>frequency range 0 Hz to 40 GHz</b>	
Test Port Cable 2.92 mm female to 2.92 mm male, length 635 mm (25 in)	R&S®ZV-Z95	1301.7608.25
Test Port Cable 2.92 mm female to 2.92 mm male, length 965 mm (38 in)	R&S®ZV-Z95	1301.7608.38
Test Port Cable 2.92 mm female to 2.92 mm male, length 610 mm (24 in)	R&S®ZV-Z195	1306.4536.24
Test Port Cable 2.92 mm female to 2.92 mm male, length 914 mm (36 in)	R&S®ZV-Z195	1306.4536.36
<b>Test Port Cables for the R&amp;S®ZVA50 Vector Network Analyzer</b>	<b>frequency range 0 Hz to 50 GHz</b>	
Test Port Cable 2.4 mm female to 2.4 mm male, length 635 mm (25 in)	R&S®ZV-Z97	1301.7637.25

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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 75 years ago, Rohde & Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

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(search term: ZV-Z9x, ZV-Z19x)

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