

R&S® ZV-Z121/ R&S® ZV-Z132 Calibration Kits Specifications



Specifications

Specifications apply under the following conditions: 30 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.

Mechanical data

Connector type	R&S® ZV-Z121 model.02	type N, male
	R&S® ZV-Z121 model.03	type N, female
	R&S® ZV-Z132 model.02	3.5 mm, male
	R&S® ZV-Z132 model.03	3.5 mm, female
Gauge	R&S® ZV-Z121 model.02	5.28 mm to 5.53 mm
	R&S® ZV-Z121 model.03	5.26 mm to 5.01 mm
	R&S® ZV-Z132 model.02	0.00 mm to 0.08 mm
	R&S® ZV-Z132 model.03	0.00 mm to 0.08 mm
Inner conductor material		Au-plated age-hardened CuBe alloy
Outer conductor material		CuSnZn-plated Cu alloy
Body		blue anodized Al

Electrical data of R&S® ZV-Z121

Frequency range		0 Hz to 8 GHz
Through standard		
Return loss	0 Hz to 4 GHz	> 36 dB
	4 GHz to 8 GHz	> 31 dB
Transmission loss	0 Hz to 4 GHz	< 0.05 dB
	4 GHz to 8 GHz	< 0.10 dB
Electrical length		72.30 mm ± 0.10 mm
Open standard		
Fringing capacitance	C ₀	82 fF
	C ₁	0.5 fF/GHz
	C ₂	0.09 fF/GHz ²
	C ₃	-0.003 fF/GHz ³
Phase error (referenced to the model defined by fringing capacitance and offset length)	0 Hz to 4 GHz	< 2.0°
	4 GHz to 8 GHz	< 3.0°
Offset length		14.80 mm
Short standard		
Inductance	L ₀	10 pH
	L ₁	-0.5 pH/GHz
	L ₂	0.25 pH/GHz ²
	L ₃	-0.013 pH/GHz ³
Phase error (referenced to the model defined by inductance and offset length)	0 Hz to 8 GHz	< 1.25°
Offset length		16.00 mm
Match standard		
DC resistance		50.0 Ω ± 0.5 Ω
Return loss	0 Hz to 4 GHz	> 40 dB
	4 GHz to 8 GHz	> 34 dB
Maximum input power		0.5 W

Electrical data of R&S[®] ZV-Z132

Frequency range		0 Hz to 15 GHz
Through standard		
Return loss	0 Hz to 4 GHz	> 34 dB
	4 GHz to 8 GHz	> 28 dB
	8 GHz to 13 GHz	> 25 dB
	13 GHz to 15 GHz	> 23 dB
Transmission loss	0 Hz to 8 GHz	< 0.10 dB
	8 GHz to 15 GHz	< 0.15 dB
Electrical length		38.10 mm ± 0.35 mm
Open standard		
Fringing capacitance	C ₀	50 fF
	C ₁	0.15 fF/GHz
	C ₂	-0.008 fF/GHz ²
	C ₃	0.00036 fF/GHz ³
Phase error (referenced to the model defined by fringing capacitance and offset length)	0 Hz to 4 GHz	< 1.5°
	4 GHz to 8 GHz	< 3.0°
	8 GHz to 13 GHz	< 4.5°
	13 GHz to 15 GHz	< 6.0°
Offset length		8.51 mm
Short standard		
Inductance (male)	L ₀	14 pH
	L ₁	-0.08 pH/GHz
	L ₂	0.003 pH/GHz ²
	L ₃	-0.00002 pH/GHz ³
Inductance (female)	L ₀	8.5 pH
	L ₁	0
	L ₂	0
	L ₃	0
Phase error (referenced to the model defined by inductance and offset length)	0 Hz to 4 GHz	< 1.0°
	4 GHz to 8 GHz	< 2.0°
	8 GHz to 13 GHz	< 3.5°
	13 GHz to 15 GHz	< 5.0°
Offset length		9.15 mm
Match standard		
DC resistance		50.0 Ω ± 0.5 Ω
Return loss	0 Hz to 4 GHz	> 40 dB
	4 GHz to 8 GHz	> 34 dB
	8 GHz to 13 GHz	> 28 dB
	13 GHz to 15 GHz	> 23 dB
Maximum input power		0.5 W

General data

Temperature loading	operating temperature range	+5 °C to +40 °C
	storage temperature range	−40 °C to +70 °C, in line with EN 60068-2-1 and EN 60068-2-2
Damp heat		+40 °C at 95 % rel. humidity, in line with EN 60068-2-30
Mechanical resistance	vibration, sinusoidal	5 Hz to 150 Hz, in line with EN 60068-2-6
Standards	R&S [®] ZV-Z121	CECC 22210, IEC 61169-16
	R&S [®] ZV-Z132	IEC 60169-23
Recommended calibration interval		1 year
Dimensions (W x H x D)	R&S [®] ZV-Z121 model.02	65 mm x 22 mm x 90 mm, (2.6 in x 0.9 in x 3.6 in)
Dimensions (W x H x D)	R&S [®] ZV-Z121 model.03	74 mm x 22 mm x 95 mm, (2.9 in x 0.9 in x 3.7 in)
Dimensions (W x H x D)	R&S [®] ZV-Z132 model.02	39 mm x 14 mm x 71 mm, (1.5 in x 0.6 in x 2.8 in)
Dimensions (W x H x D)	R&S [®] ZV-Z132 model.03	36 mm x 14 mm x 63 mm, (1.4 in x 0.6 in x 2.5 in)
Weight	R&S [®] ZV-Z121	225 g (0.5 lb)
	R&S [®] ZV-Z132	50 g (0.1 lb)
Shipping weight		1 kg (2.2 lb)

Ordering information

Designation	Type	Order No.
Calibration Kit (type N, male)	R&S® ZV-Z121	1164.0496.02
Calibration Kit (type N, female)	R&S® ZV-Z121	1164.0496.03
Calibration Kit (3.5 mm, male)	R&S® ZV-Z132	1164.1092.02
Calibration Kit (3.5 mm, female)	R&S® ZV-Z132	1164.1092.03

For product brochure, see PD 5214.0801.12 and www.rohde-schwarz.com.

Service you can rely on

- | Worldwide
- | Local and personalized
- | Customized and flexible
- | Uncompromising quality
- | Long-term dependability

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

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

Certified Quality System
ISO 9001

Rohde & Schwarz GmbH & Co. KG

www.rohde-schwarz.com

Regional contact

- | Europe, Africa, Middle East
+49 89 4129 137 74
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