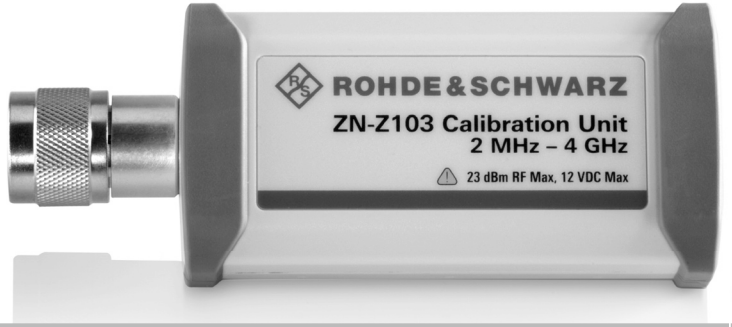
R&S®ZN-Z103
Calibration Unit
Specifications



ROHDE&SCHWARZ

Data Sheet | V02.01

CONTENTS

Definitions

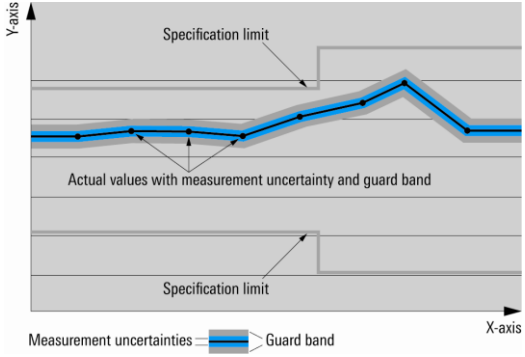
General

Product data applies under the following conditions:

- Three hours storage at ambient temperature followed by 30 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 <, ≤, >, ≥, ±, 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.

Device settings and GUI parameters are indicated as follows: “parameter: value”.

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

Measurement range

Impedance		50 Ω
Calibration port connector type		type N (50 Ω), male
Number of calibration ports		1
Frequency range		2 MHz to 4 GHz
Nominal input level range		–45 dBm to +10 dBm
Damage level		+23 dBm
Damage DC voltage		12 V

Effective system data

This data is valid at a measurement bandwidth of 10 Hz and a nominal power of –10 dBm at the calibration ports.

Temperature range		+18 °C to +28 °C	–20 °C to +50 °C
Directivity	2 MHz to 4 GHz	> 42 dB	> 38 dB (nom.)
Source match	2 MHz to 4 GHz	> 36 dB	> 34 dB (nom.)
Reflection tracking	2 MHz to 4 GHz	< 0.2 dB	< 0.3 dB (nom.)

General data

Temperature loading	operating temperature range	–20 °C to +50 °C
	storage temperature range	–40 °C to +70 °C, in line with IEC 60068-2-1 and IEC 60068-2-2
Damp heat		+25 °C/+55 °C at 95 % relative humidity, in line with EN 60068-2-30
Mechanical resistance	vibration test, sinusoidal	5 Hz to 150 Hz, in line with IEC 60068-2-6
	vibration test, random	10 Hz to 300 Hz, in line with IEC 60068-2-64
	shock test	40 g shock spectrum, in line with IEC 60068-2-27, MIL-STD-810
Calibration interval		1 year
EMC	RF emission	in line with European EMC Directive 2014/30/EU including, CISPR 11/EN 55011/group 1 class B (emission)
	immunity	in line with European EMC Directive 2014/30/EU including EN 61326-1 table 2 (immunity, industrial)
Power supply		5 V, 300 mA via USB
Power consumption		1.5 W
Dimensions	(W × H × D)	125 mm × 48 mm × 30 mm (4.92 in × 1.89 in × 1.18 in)
Weight		160 g (0.35 lb)
Digital connection	calibration unit side	mini USB type B plug, version 2.0
	host side	USB type A plug
	cable length	1.8 m (70.9 in)

Ordering information

Designation	Type	Order No.
Calibration Unit	R&S®ZN-Z103	1321.1828.02

Service that adds value

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

Sustainable product design

- Environmental compatibility and eco-footprint
- Energy efficiency and low emissions
- Longevity and optimized total cost of ownership

Certified Quality Management
ISO 9001

Certified Environmental Management
ISO 14001

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Data without tolerance limits is not binding | Subject to change

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