COPPER MOUNTAIN® TECHNOLOGIES
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Multiport VNA Vector Network Analyzer Specifications

Frequency range	300 kHz to 9 GHz
Software	SNVNA

Revision 26.00 13.08.2026

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Singapore: +65.63.23.6546
EMEA: +44 75 03 69 21 13

General Overview

Main Parameters
SN0906, SN0908, SN0910, SN0912, SN0914, and SN0916

Frequency range	300 kHz to 9 GHz
Measured parameters	S11, S21, S12, S22
Sweep types	linear frequency, log frequency, segment, power sweep
Dynamic range	>150 dB typ. (1 Hz IF BW)
Measurement speed	24 µs typ.
Output power adjustment range	-45 dBm to +10 dBm
Measurement points per sweep	2 to 500,001
Software	SNVNA

Hardware Specifications

Select Series
SN0906, SN0908, SN0910, SN0912, SN0914, and SN0916

Measurement Range

Impedance	50 Ohm
Test port connector	type N, female
Number of test ports	6, 8, 10, 12, 14, 16
Frequency range	300 kHz to 9 GHz
Full frequency accuracy	$\pm 5 \cdot 10^{-6}$
Frequency resolution	1 Hz
Number of measurement points	2 to 500,001
Measurement bandwidths (with 1/1.5/2/3/5/7 steps)	1 Hz to 300 kHz
Dynamic range[2]	
300 kHz to 5 MHz	110 dB (125 dB typ.)
5 MHz to 6 GHz	135 dB (140 dB typ.)
6 GHz to 9 GHz	122 dB (130 dB typ.)

[2] The dynamic range is defined as the difference between the specified maximum power level and the specified noise floor. The specification applies at 10 Hz IF bandwidth.

Measurement Accuracy[3]

Accuracy of reflection measurements[4]	Magnitude/Phase
300 kHz to 5 MHz	
0 dB to +10 dB	±0.2 dB / ±2°
-30 dB to 0 dB	±0.1 dB / ±1°
-50 dB to -30 dB	±0.2 dB / ±2°
-70 dB to -50 dB	±1.0 dB / ±6°
5 MHz to 6 GHz	
0 dB to +10 dB	±0.2 dB / ±2°
-60 dB to 0 dB	±0.1 dB / ±1°
-80 dB to -60 dB	±0.2 dB / ±2°
-95 dB to -80 dB	±1.0 dB / ±6°
6 GHz to 9 GHz	
0 dB to +10 dB	±0.2 dB / ±2°
-50 dB to 0 dB	±0.1 dB / ±1°
-70 dB to -50 dB	±0.2 dB / ±2°
-90 dB to -70 dB	±1.0 dB / ±6°
Accuracy of reflection measurements[5]	Magnitude/Phase
-15 dB to 0 dB	±0.4 dB / ±3°
-25 dB to -15 dB	±1.0 dB / ±6°
-35 dB to -25 dB	±3.0 dB / ±20°
Trace noise magnitude (IF bandwidth 3 kHz)	
300 kHz to 6 GHz	0.002 dB rms
6 GHz to 9 GHz	0.004 dB rms
Temperature dependence	
300 kHz to 6 GHz	0.02 dB/°C
6 GHz to 9 GHz	0.04 dB/°C

[3] Reflection and transmission measurement accuracy applies over the temperature range of (73 ± 9) °F or (23 ± 5) °C after 30 minutes of warming up, with less than 1°C deviation from the full two-port calibration temperature,at output power of 0 dBm. Frequency points have to be identical for measurement and calibration (no interpolation allowed).

[4] Transmission specification are based on a matched DUT, and IF bandwidth of 10 Hz.

[5] Reflection specifications are based on an isolating DUT.

Effective System Data

300 kHz to 6 GHz	
Directivity	46 dB
Source match	40 dB
Load match	46 dB
Reflection tracking	±0.10 dB
Transmission tracking	±0.08 dB

Uncorrected System Performance

300 kHz to 6 GHz	
Directivity	15 dB
Source match	15 dB
Load match	15 dB
6 GHz to 9 GHz	
Directivity	10 dB
Source match	15 dB
Load match	15 dB

Test Port Output

Power range	
300 kHz to 6 GHz	-45 dBm to +10 dBm
6 GHz to 9 GHz	-45 dBm to +2 dBm
Power accuracy	±1.5 dB
Power resolution	0.05 dB
Harmonic distortion[6]	
300 kHz to 1 GHz	-8 dBc
1 GHz to 9 GHz	-15 dBc
Non-harmonic spurious[6]	-15 dBc (-22 dBc typ.)

[6] Specification applies over entire frequency range, at output power of 0 dBm.

Test Port Input

Noise floor	
300 kHz to 5 MHz	-110 dBm/Hz
5 MHz to 6 GHz	-135 dBm/Hz
6 GHz to 9 GHz	-130 dBm/Hz
Damage level	+26 dBm
Damage DC voltage	35 V

Measurement Speed

Time per point	24 µs typ.	
Port switchover time	200 µs	
Typical cycle time vs number of measurement points[7]		
Number of points (IF bandwidth 300 kHz)		
Number of points	Uncorrected (1-port)	2-port calibration
51	4 ms	8 ms
201	9 ms	17 ms
401	14 ms	28 ms
1601	40.1 ms	68.9 ms

[7] Display update: OFF.

Frequency Reference Input

Port	Ref IN 10 MHz
External reference frequency	10 MHz
Input level	-3 dBm to 3 dBm
Input impedance	50 Ohm
Connector type	BNC, female

Frequency Reference Output

Port	Ref OUT 10 MHz
Internal reference frequency	10 MHz
Output reference signal level at 50 Ohm impedance	-1 dBm to 3 dBm
Connector type	BNC, female

Trigger Input

Port	Ext Trig In
Input level	
Low threshold voltage	1.1 V
High threshold voltage	2.6 V
Input level range	0 V to +5 V
Pulse width	≥2 µs
Polarity	positive or negative
Input impedance	≥2 kOhm
Connector type	BNC, female

Trigger Output

Port	Ext Trig Out
Maximum output current	20 mA
Output level	
Low level voltage	0.0 to 0.6 V
High level voltage	3.0 to 3.8 V
Polarity	positive or negative
Connector type	BNC, female

System & Power*

Operating system	Windows 7 and above
CPU frequency	1.5 GHz
RAM	1 GB
Interface	USB 2.0
Connector type	USB B
Power supply	100-253 V, 50/60 Hz
Power consumption	
SN0906	50 W
SN0908	60 W
SN0910	65 W
SN0912	75 W
SN0914	80 W
SN0916	85 W

NOTE: All SN09XX VNAs use SNVNA. Please speak to our Applications Engineers about obtaining the software.

Calibration

Recommended factory adjustment interval	3 Years

Dimensions

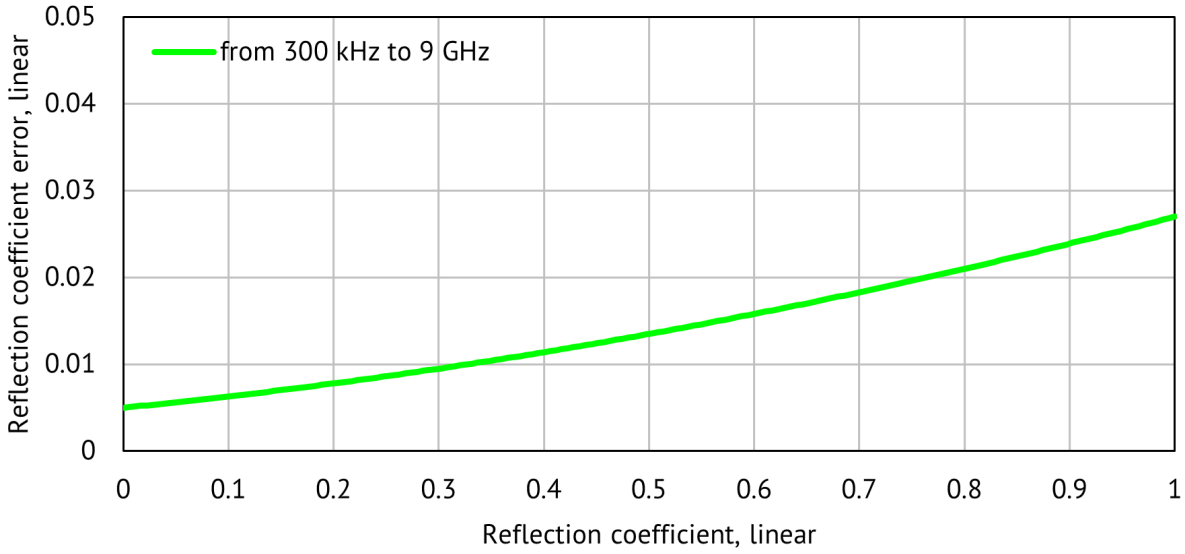
Length	436 mm
Width	425 mm
Height	96 mm
Weight	
SN0906	12.8 kg
SN0908	12.9 kg
SN0910	13.8 kg
SN0912	13.9 kg
SN0914	14.9 kg
SN0916	15.0 kg

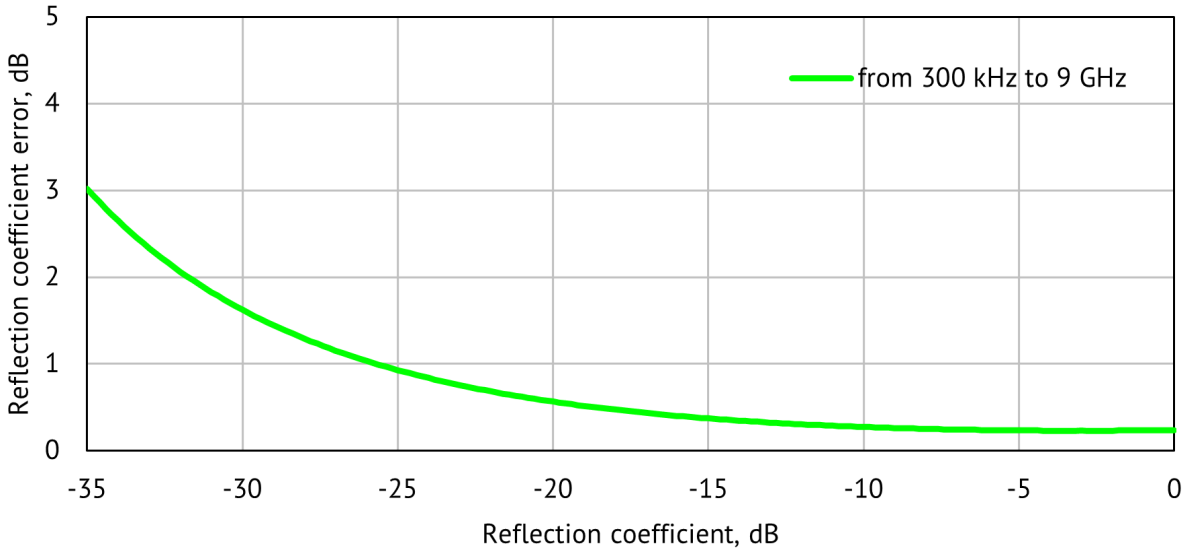
Environmental Specifications

Operating temperature	+5 °C to +40 °C (41 °F to 104 °F)
Storage temperature	-50 °C to +70 °C (-58 °F to 158 °F)
Humidity	90 % at 25 °C (77 °F)
Atmospheric pressure	70.0 kPa to 106.7 kPa

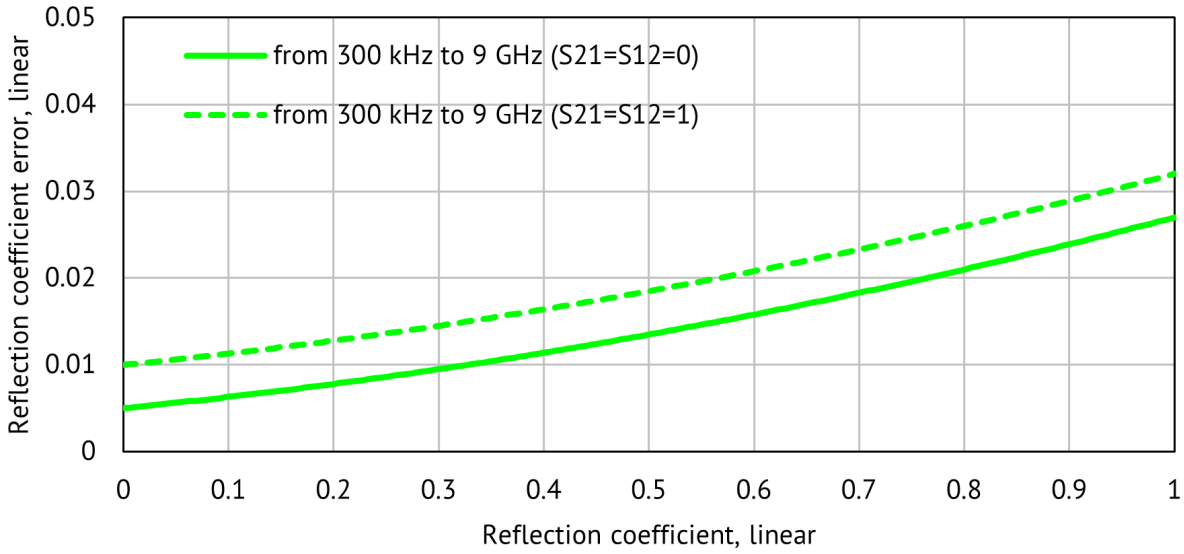
Reflection Accuracy Plots

Reflection Magnitude Errors

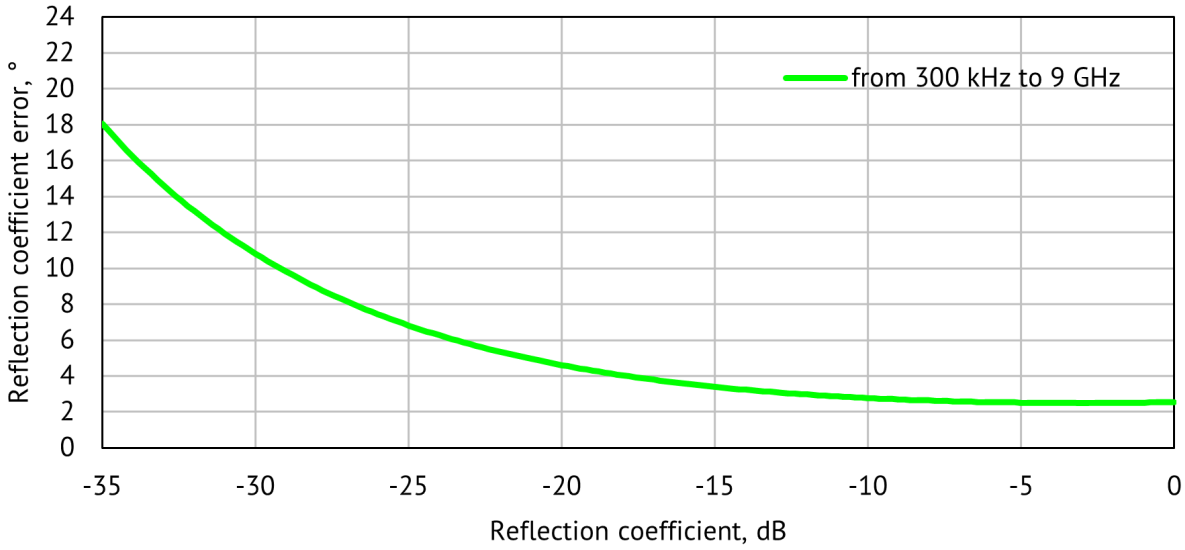




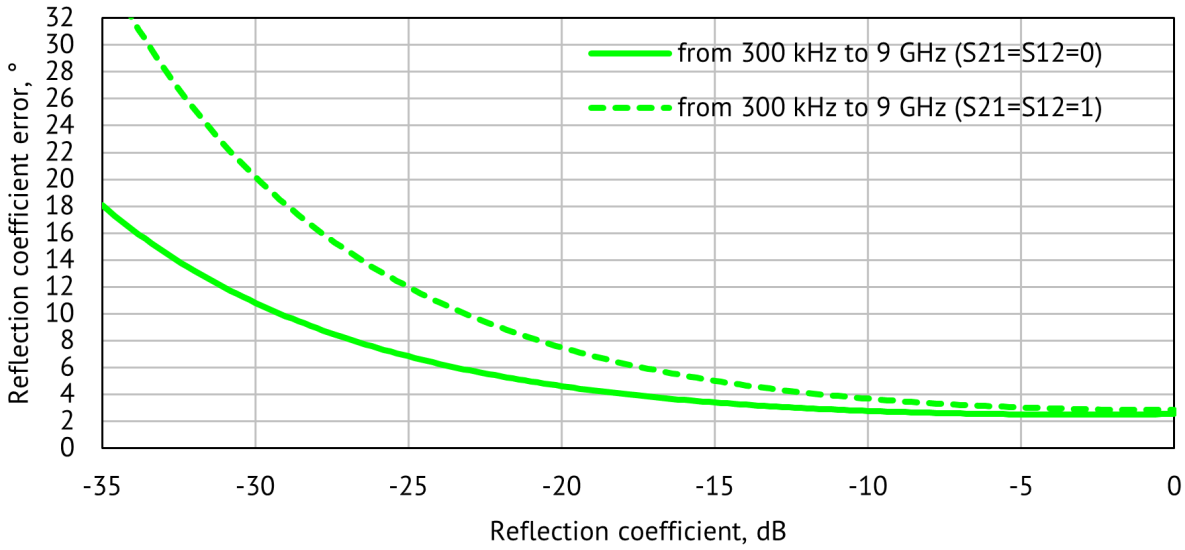
Specifications are based on an isolating DUT (S21 = S12 = 0)


0.05
0.04
0.03
0.02
0.01
0
Reflection coefficient error, linear
from 300 kHz to 9 GHz (S21=S12=0)
from 300 kHz to 9 GHz (S21=S12=1)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Reflection coefficient, linear

Reflection Phase Errors

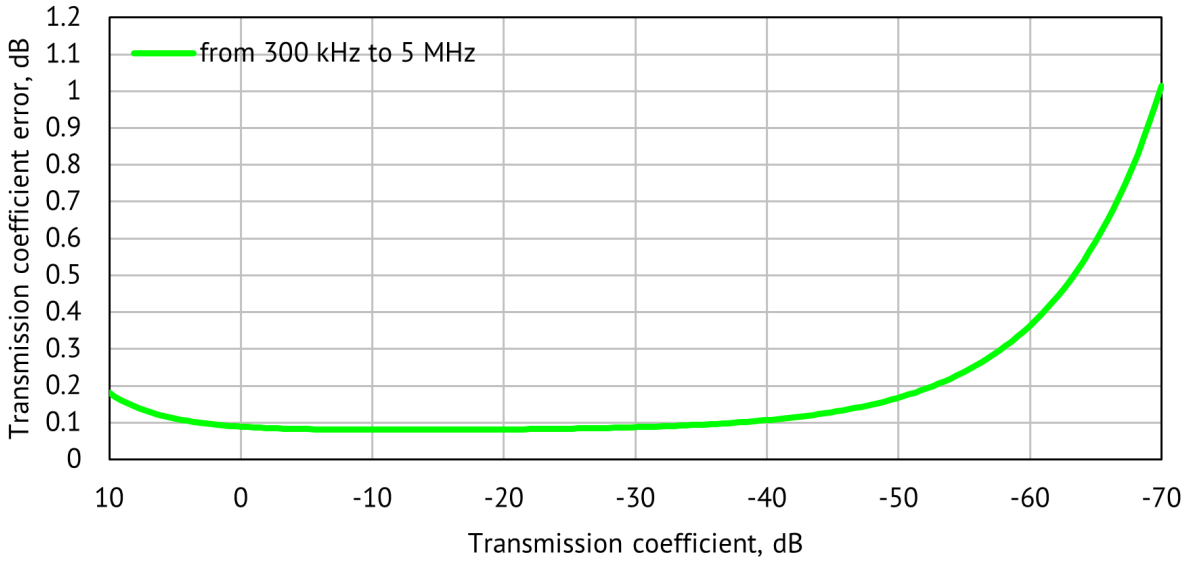


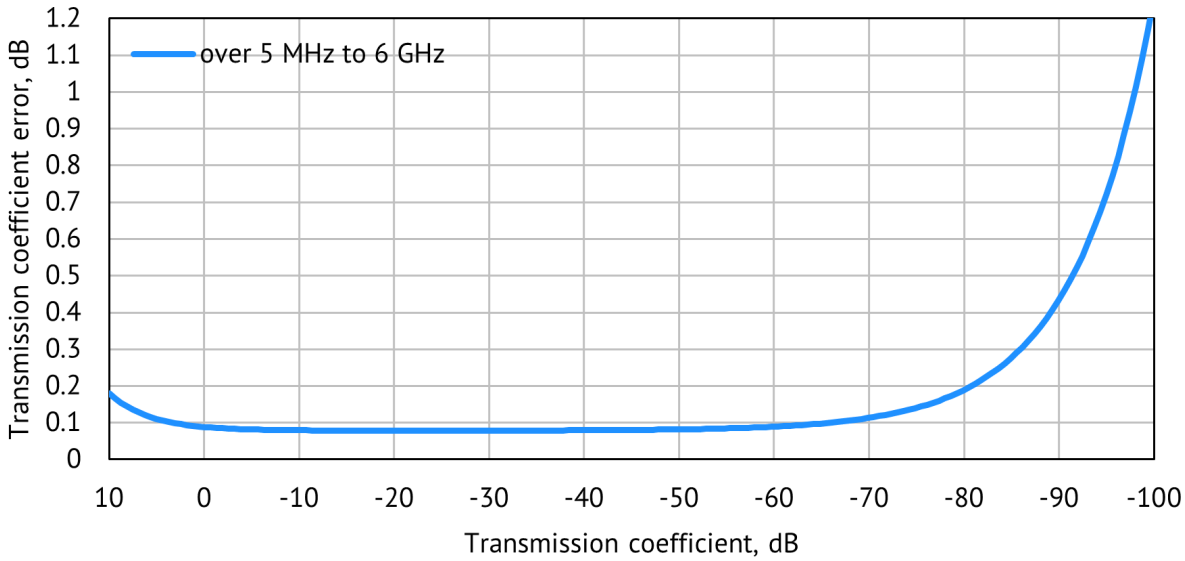
Specifications are based on an isolating DUT (S21 = S12 = 0)

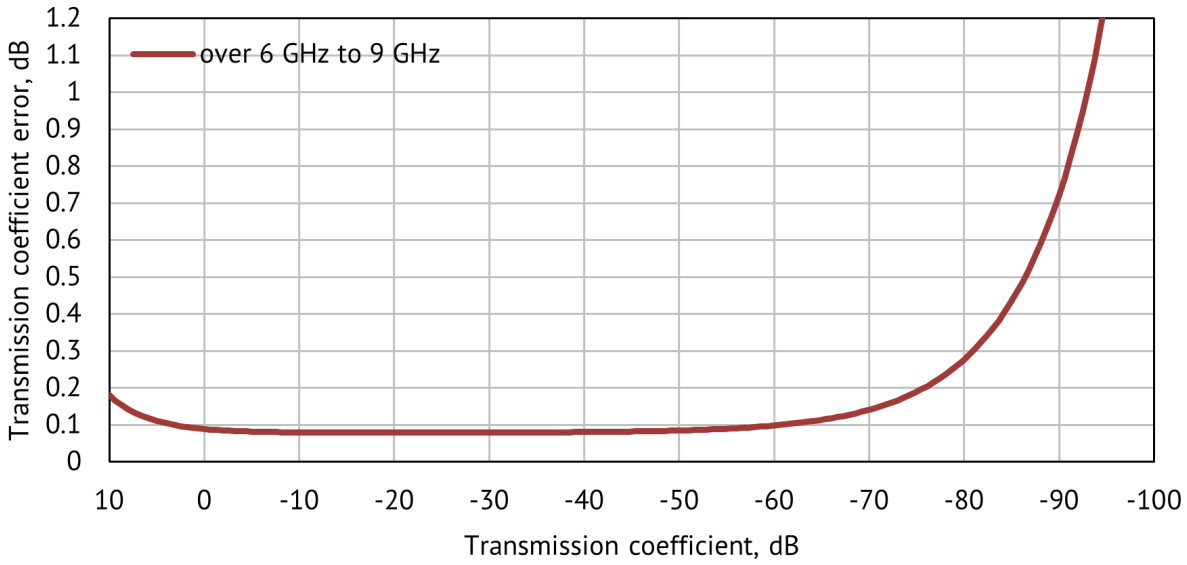


Transmission Accuracy Plots

Transmission Magnitude Errors

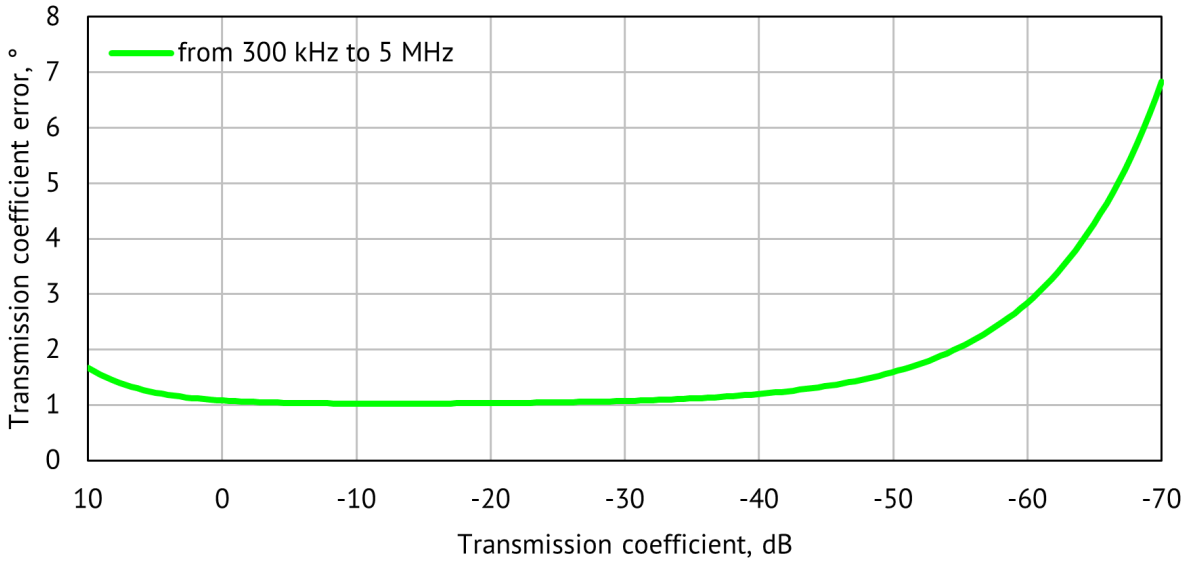


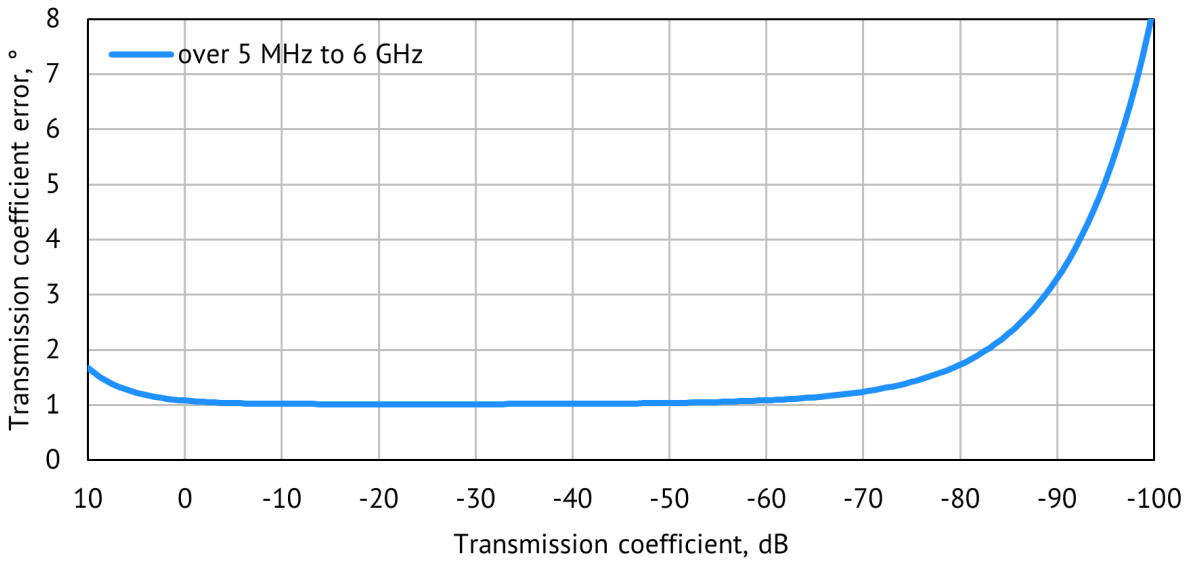


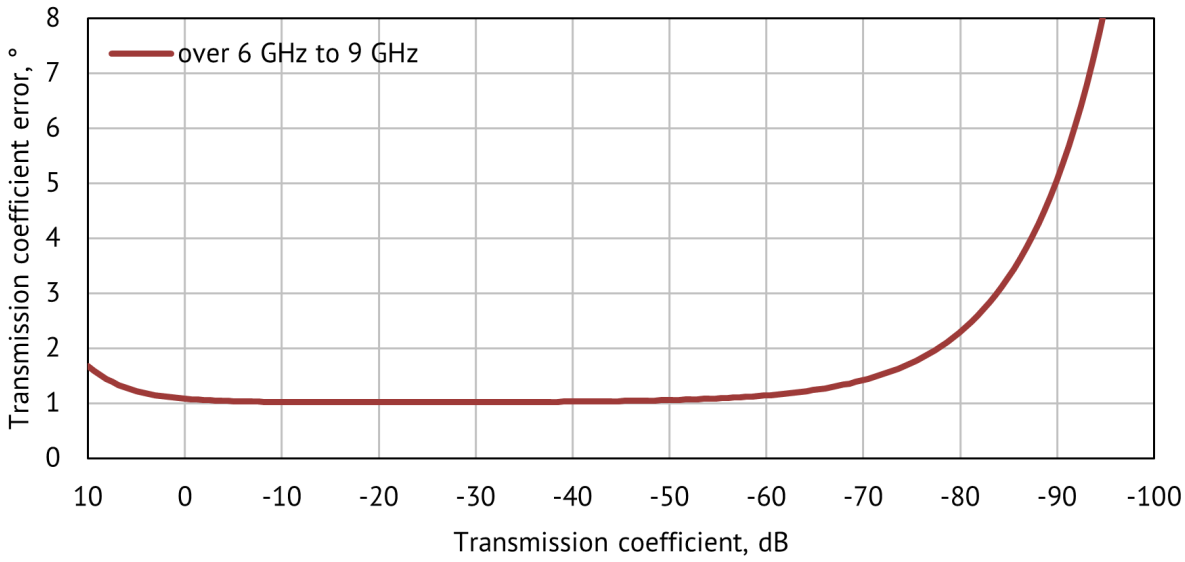


Specifications are based on a matched DUT, and IF bandwidth of 10 Hz.

Transmission Phase Errors

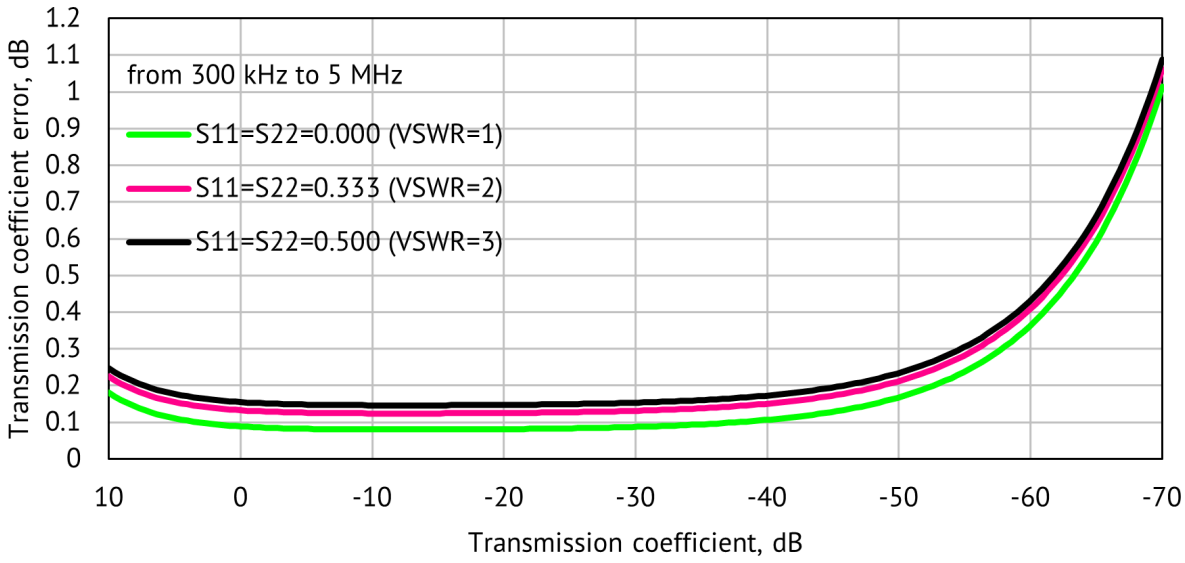


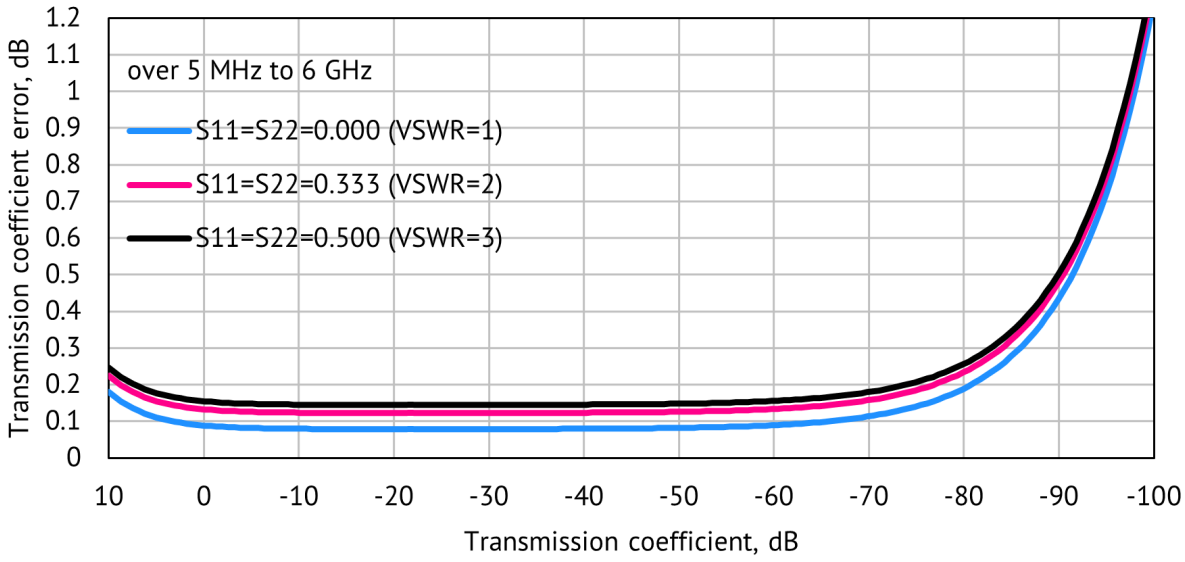


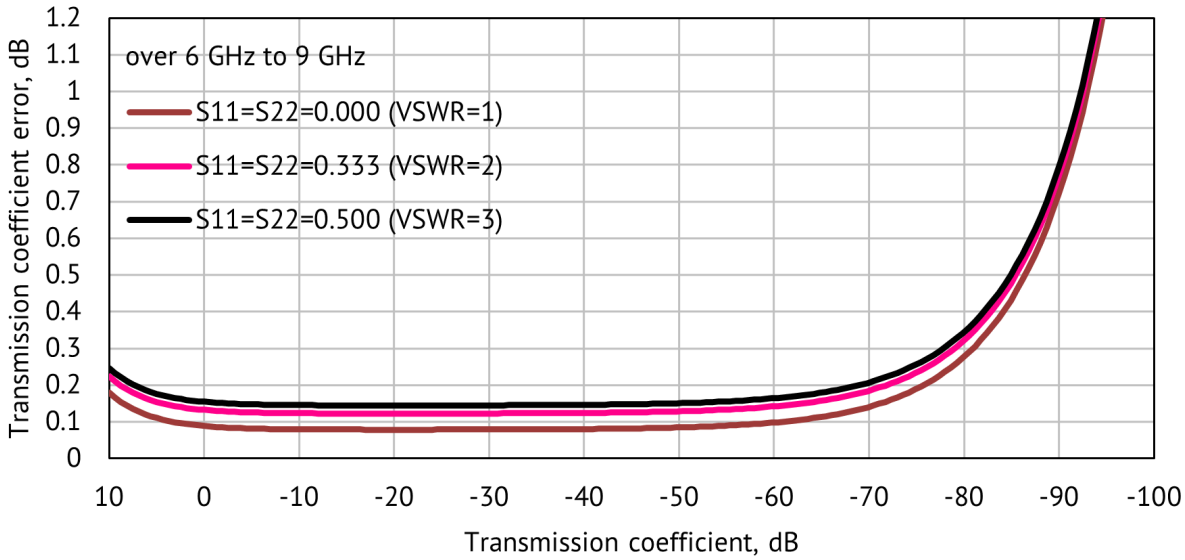


Specifications are based on a matched DUT, and IF bandwidth of 10 Hz.

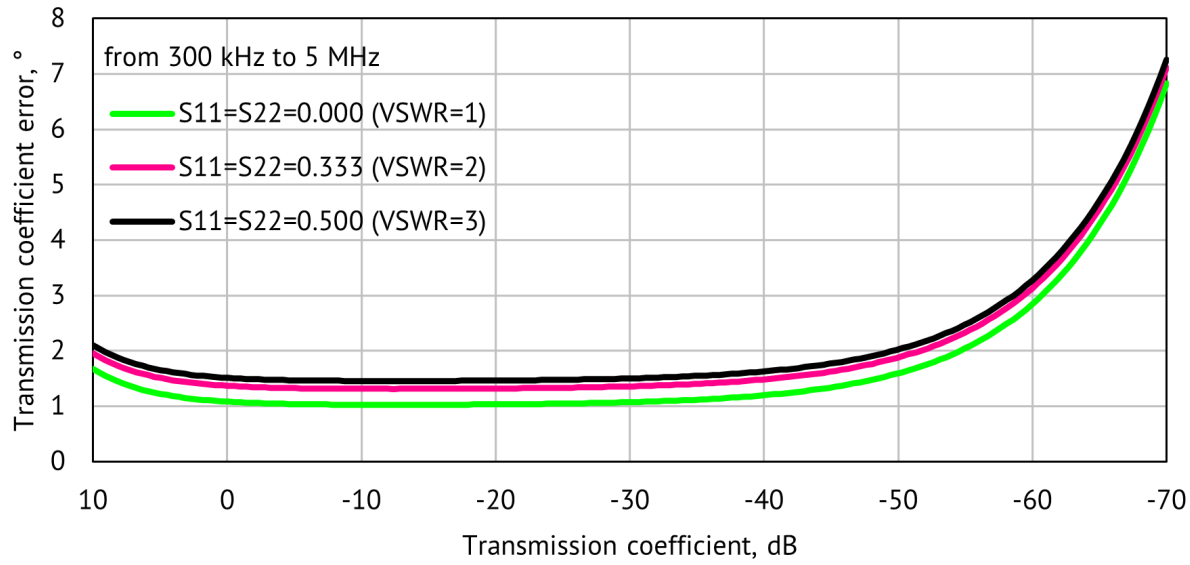
Transmission Magnitude Errors for Unmatched Devices

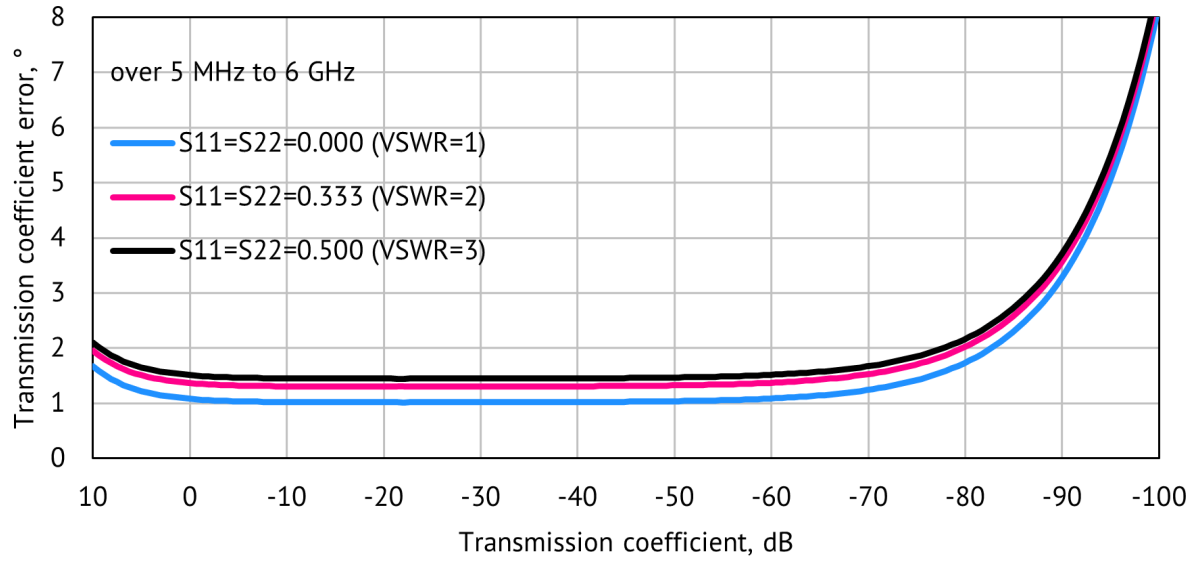


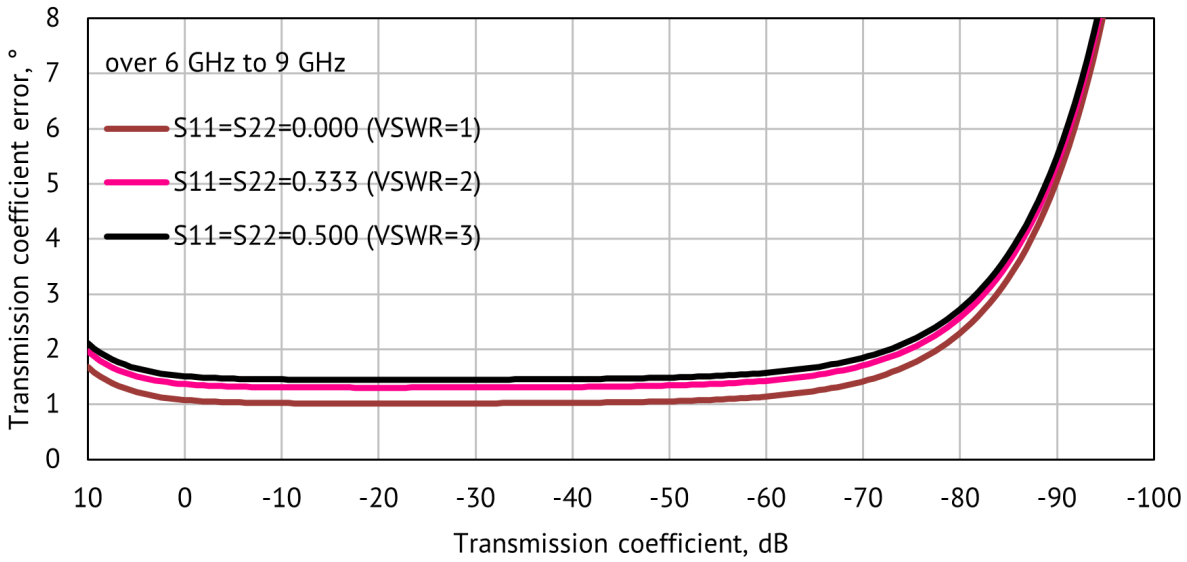



over 6 GHz to 9 GHz
S11=S22=0.000 (VSWR=1)
S11=S22=0.333 (VSWR=2)
S11=S22=0.500 (VSWR=3)
Transmission coefficient error, dB
1.2
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
10
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
Transmission coefficient, dB

Transmission Phase Errors for Unmatched Devices







Transmission Errors for Matched Devices vs Output Power and IF Bandwidth