DATA SHEET

E5063A
ENA Vector Network Analyzer

100 kHz to 500 M/1.5 G/3 G/4.5 G/6.5 G/8.5 G/14 G/18 GHz

KEYSIGHT TECHNOLOGIES

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Definitions

Specification (spec.):
Warranted performance. All specifications apply at 23 °C (± 5 °C), unless otherwise stated, and 90 minutes after the instrument has been turned on. Specifications include guard bands to account for the expected statistical performance distribution, measurement uncertainties, and changes in performance due to environmental conditions.

Typical (typ.):
Expected performance of an average unit which does not include guardbands. It is not covered by the product warranty.

General characteristics:
A general, descriptive term that does not imply a level of performance.

Boundary Conditions

In this data sheet, boundary conditions are given for the specifications. For example, system dynamic range is 68 dB with the following boundary condition.

Frequency: 300 kHz
IF bandwidth: 3 kHz

If the same boundary conditions fall under more than one category in a table, apply the best value.

Calibration Kits and ECal modules

This data sheet also provides technical specifications for the following calibration kits and ECal modules. For models not listed in this data sheet, please download the free uncertainty calculator from www.keysight.com/find/na_calculator to generate the curves for your calibration kit.

- 85032F Calibration kit
- 85033E Calibration kit
- 85052D Calibration kit
- 85092C Electronic calibration (ECal) module
- 85093C Electronic calibration (ECal) module
- N4691B Electronic calibration (ECal) module

Corrected System Performance

The specifications in this section apply to measurements made with the Keysight Technologies, Inc. E5063A vector network analyzer under the following conditions:

- No averaging applied to data
- Environmental temperature of 23 °C (± 5 °C) with less than 1 °C deviation from the calibration temperature
- Response and isolation calibration performed

System Dynamic Range

Description	Specification	Typical
System dynamic range at test port[1]		
(IF Bandwidth = 3 kHz)		
100 kHz to 300 kHz	63 dB	
300 kHz to 8.5 MHz	68 dB	
8.5 to 100 MHz	91 dB	
100 MHz to 4.34 GHz	92 dB	
4.34 to 8.5 GHz	81 dB	
8.5 to 13 GHz	75 dB	
13 to 16 GHz	65 dB	
16 to 18 GHz	62 dB	
(IF Bandwidth = 10 Hz)		
50 kHz to 100 kHz		88 dB
100 kHz to 300 kHz	88 dB	92 dB
300 kHz to 8.5 MHz	93 dB	97 dB
8.5 to 100 MHz	116 dB	122 dB
100 MHz to 4.34 GHz	117 dB	122 dB
4.34 to 8.5 GHz	106 dB	112 dB
8.5 to 13 GHz	100 dB	106 dB
13 to 16 GHz	90 dB	100 dB
16 to 18 GHz	87 dB	93 dB

1. The test port dynamic range is calculated as the difference between the test port rms noise floor and the source maximum output power. The effective dynamic range must take measurement uncertainty and interfering signals into account.

Corrected System Performance with Calibration Kit

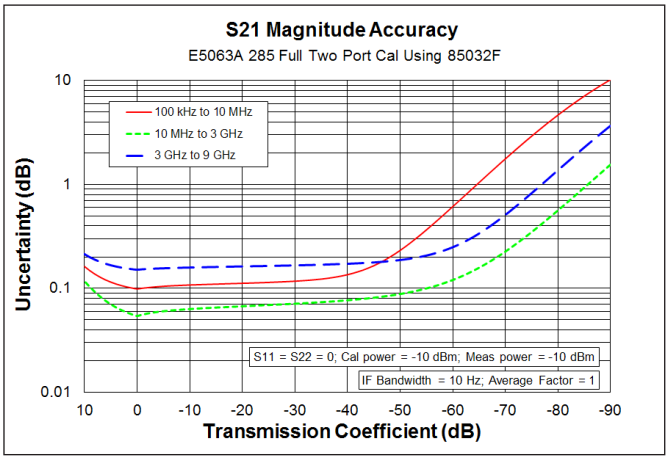
Corrected system performance with type-N device connectors, 85032F calibration kit

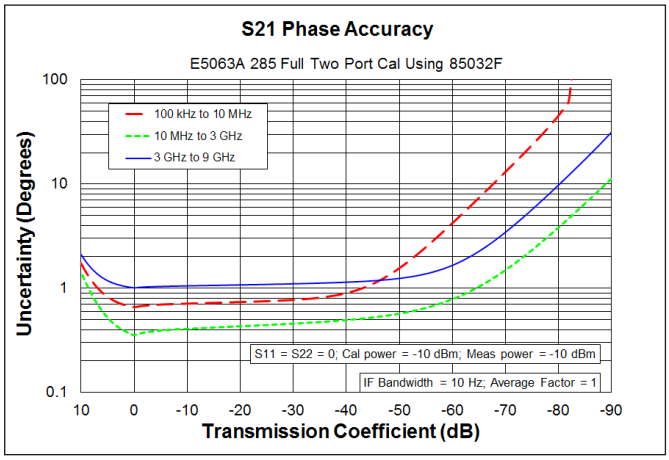
Vector network analyzer : E5063A
Calibration kit : 85032F (Type-N, 50 Ω)
Calibration : Full 2-port

IF bandwidth = 10 Hz, no averaging applied to data, environmental temperature =
23 °C (± 5 °C) with < 1 °C deviation from calibration temperature, isolation calibration performed

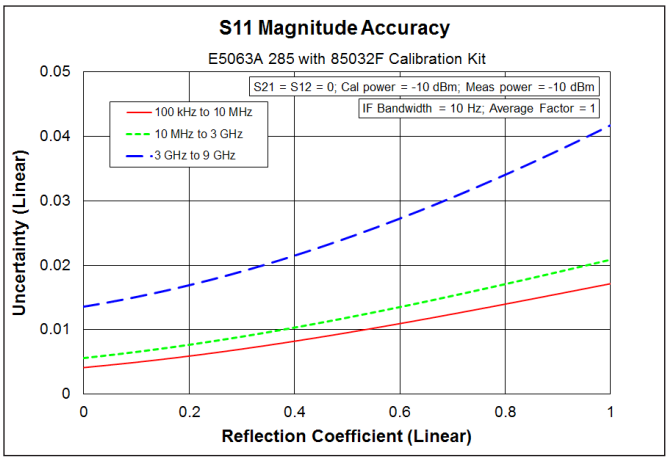
	Specification (dB)		
Description	**100 kHz to 10 MHz[1]**	**10 MHz to 3 GHz**	**3 to 9 GHz**
Directivity	49	46	38
Source match	41	40	35
Load match	47	46	36
Reflection tracking	± 0.011	± 0.021	± 0.054
Transmission tracking	± 0.082	± 0.037	± 0.128

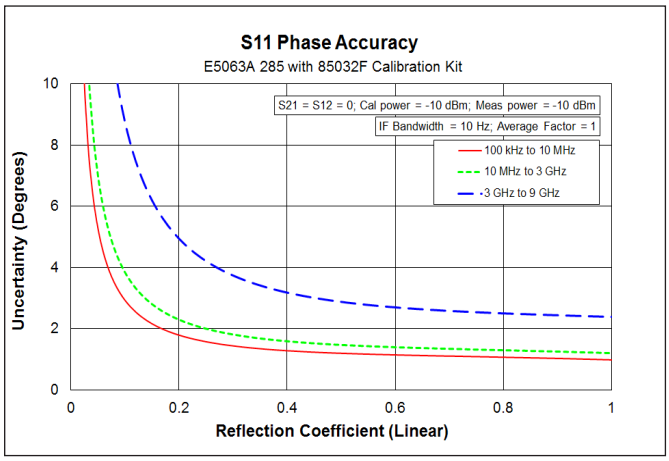
Transmission uncertainty (specification)[2]





Reflection uncertainty (specification)[2]





1. The performance from 50 kHz to 100 kHz is the same with one from 100 kHz to 10 MHz as typical.
2. Applies to the units with Serial Number Prefix MY542/SG542 and above

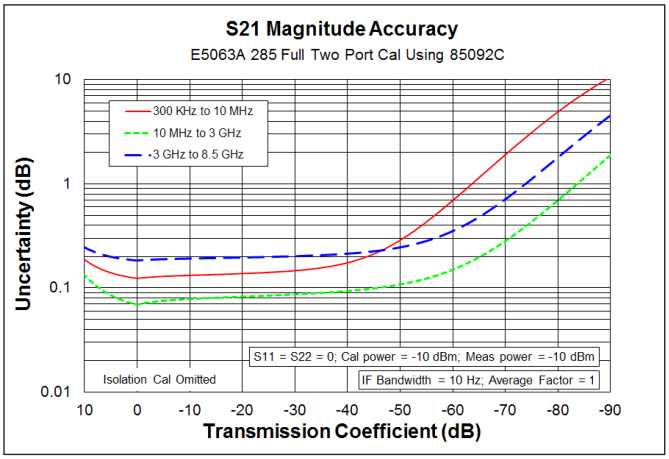
Corrected system performance with type-N device connectors, 85092C electronic calibration (ECal) module

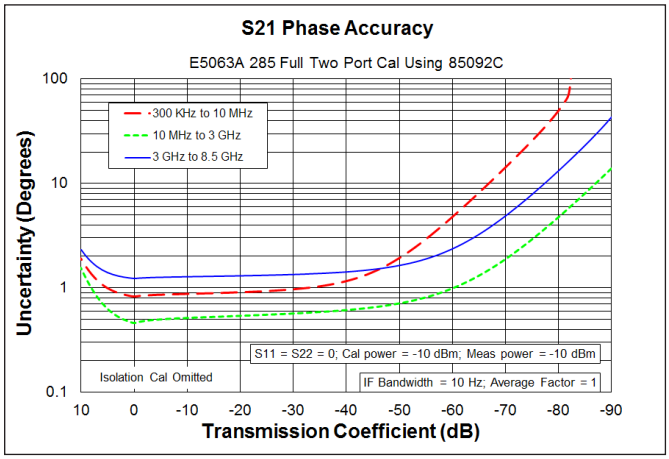
Vector network analyzer : E5063A
Calibration kit : 85092C (Type-N, 50 Ω) Electronic calibration (ECal) module
Calibration : Full 2-port

IF bandwidth = 10 Hz, no averaging applied to data, environmental temperature = 23 °C (± 5 °C) with < 1 °C deviation from calibration temperature, isolation calibration is not performed

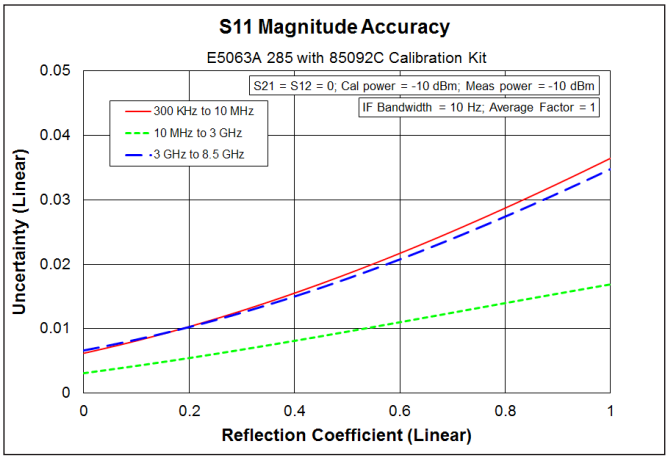
	Specification (dB)		
Description	**300 kHz to 10 MHz**	**10 MHz to 3 GHz**	**3 to 9 GHz**
Directivity	45	52	45
Source match	36	44	36
Load match	36	45	38
Reflection tracking	± 0.10	± 0.04	± 0.07
Transmission tracking	± 0.153	± 0.052	± 0.17

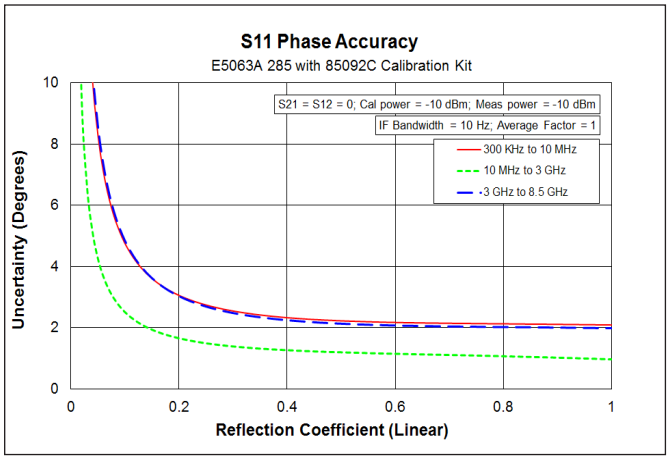
Transmission uncertainty (specification)[1]





Reflection uncertainty (specification)[1]





1. Applies to the units with Serial Number Prefix MY542/SG542 and above

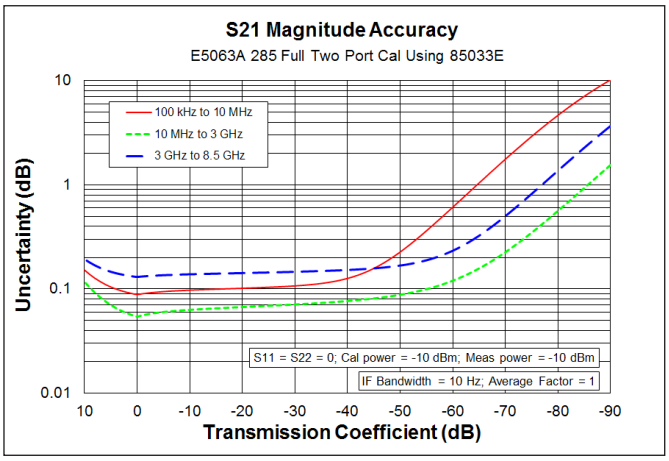
Corrected system performance with 3.5 mm device connector type, 85033E calibration kit

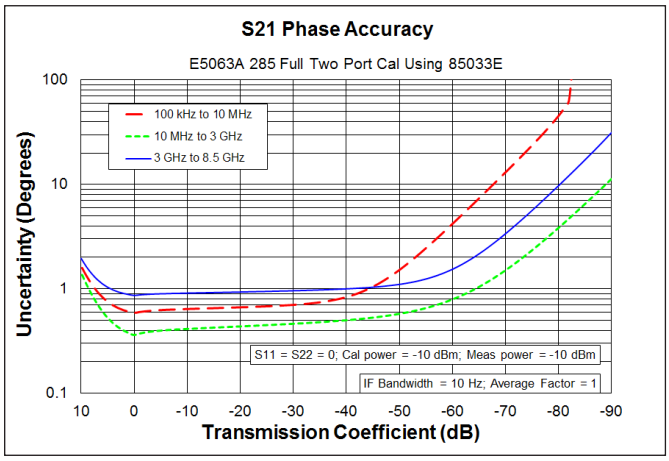
Vector network analyzer : E5063A
Calibration kit : 85033E (3.5 mm, 50 Ω)
Calibration : Full 2-port

IF bandwidth = 10 Hz, no averaging applied to data, environmental temperature =
23 °C (± 5 °C) with < 1 °C deviation from calibration temperature, isolation calibration performed

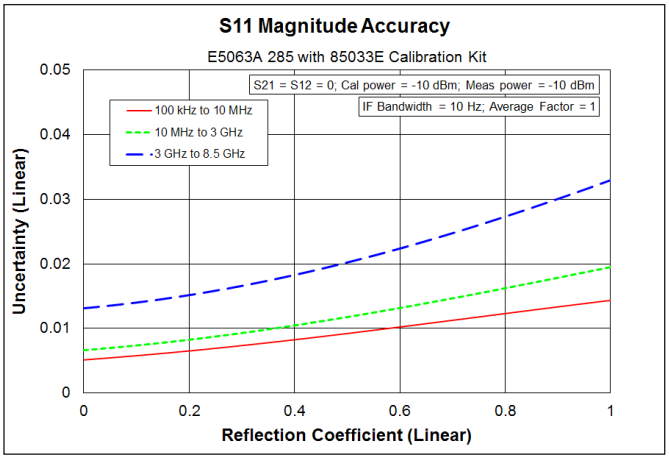
	Specification (dB)		
Description	**100 kHz to 10 MHz[1]**	**10 MHz to 3 GHz**	**3 to 9 GHz**
Directivity	46	44	38
Source match	43	40	36
Load match	45	44	38
Reflection tracking	± 0.006	± 0.007	± 0.010
Transmission tracking	± 0.077	± 0.040	± 0.112

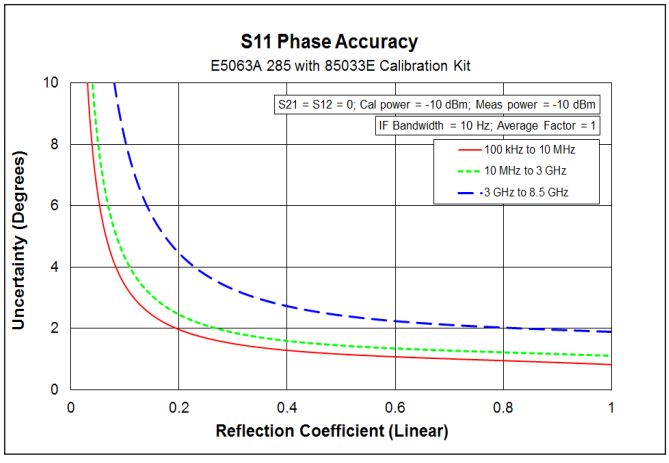
Transmission uncertainty (specification)[2]





Reflection uncertainty (specification)[2]





1. The performance from 50 kHz to 100 kHz is the same with one from 100 kHz to 10 MHz as typical
2. Applies to the units with Serial Number Prefix MY542/SG542 and above

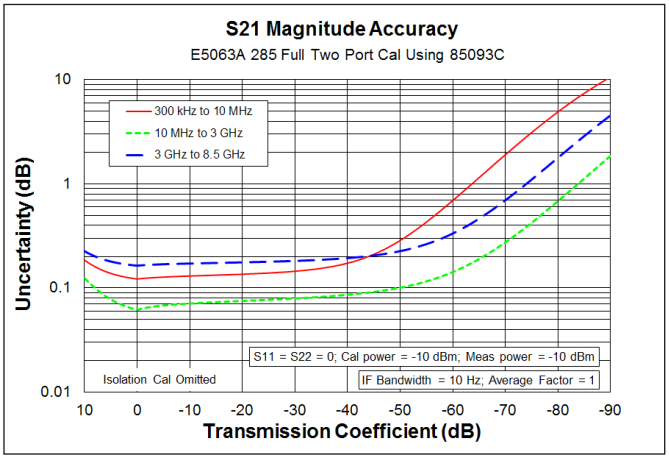
Corrected system performance with 3.5 mm device connector type, 85093C electronic calibration (ECal) module

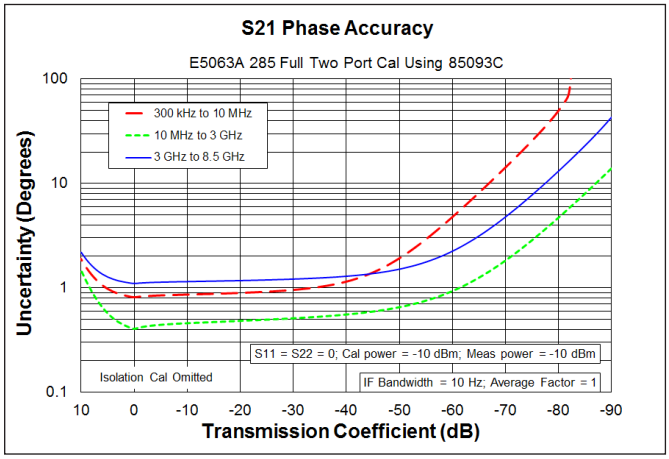
Vector network analyzer : E5063A
Calibration kit : 85093C (3.5 mm, 50 Ω) Electronic calibration (ECal) module
Calibration : Full 2-port

IF bandwidth = 10 Hz, no averaging applied to data, environmental temperature = 23 °C (± 5 °C) with < 1 °C deviation from calibration temperature, isolation calibration is not performed

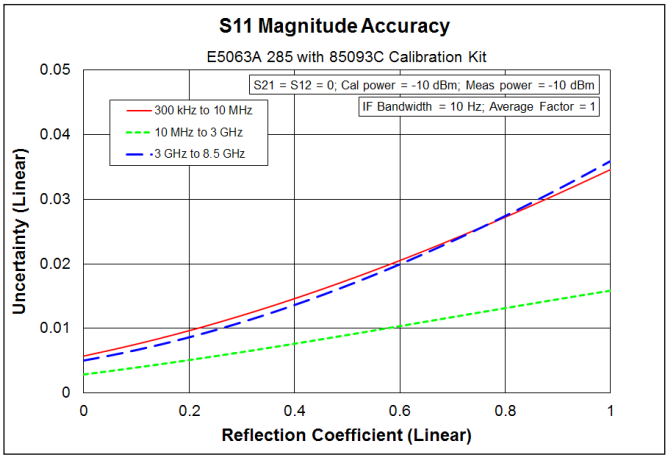
	Specification (dB)		
Description	**300 kHz to 10 MHz**	**10 MHz to 3 GHz**	**3 to 9 GHz**
Directivity	45	52	47
Source match	36	44	34
Load match	36	45	39
Reflection tracking	± 0.100	± 0.040	± 0.070
Transmission tracking	± 0.156	± 0.047	± 0.155

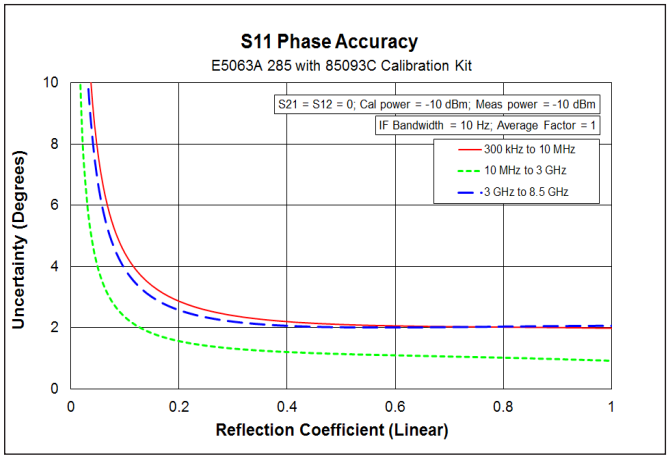
Transmission uncertainty (specification)[1]





Reflection uncertainty (specification)[1]





1. Applies to the units with Serial Number Prefix MY542/SG542 and above

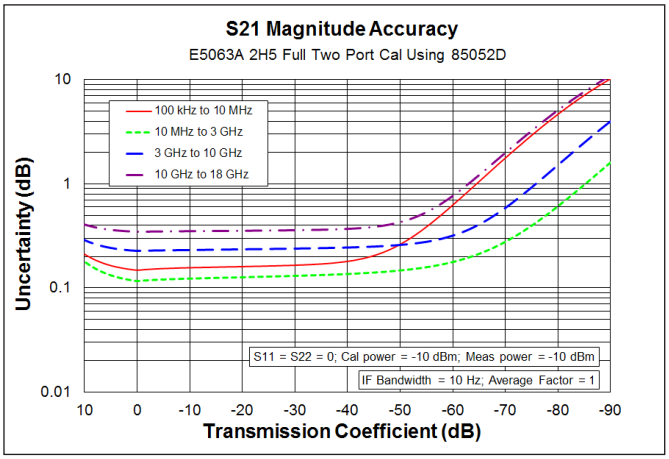
Corrected system performance with 3.5 mm device connector type, 85052D calibration kit

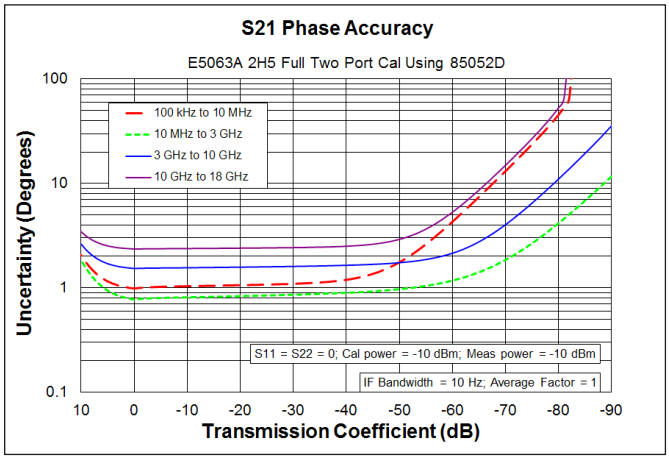
Vector network analyzer : E5063A
Calibration kit : 85052D (3.5 mm, 50 Ω)
Calibration : Full 2-port

IF bandwidth = 10 Hz, no averaging applied to data, environmental temperature =
23 °C (± 5 °C) with < 1 °C deviation from calibration temperature, isolation calibration performed

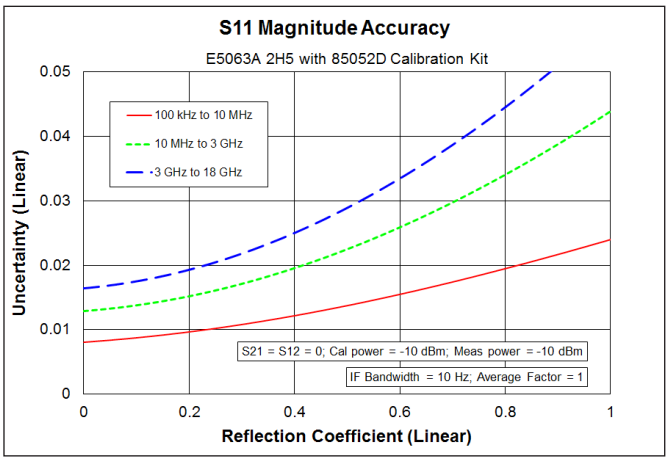
	Specification (dB)			
Description	**100 kHz to 10 MHz[1]**	**10 MHz to 3 GHz**	**3 to 10 GHz**	**10 to 18 GHz**
Directivity	42	38	36	36
Source match	37	31	28	28
Load match	42	38	36	36
Reflection tracking	± 0.003	± 0.004	± 0.008	± 0.008
Transmission tracking	± 0.136	± 0.100	± 0.208	± 0.328

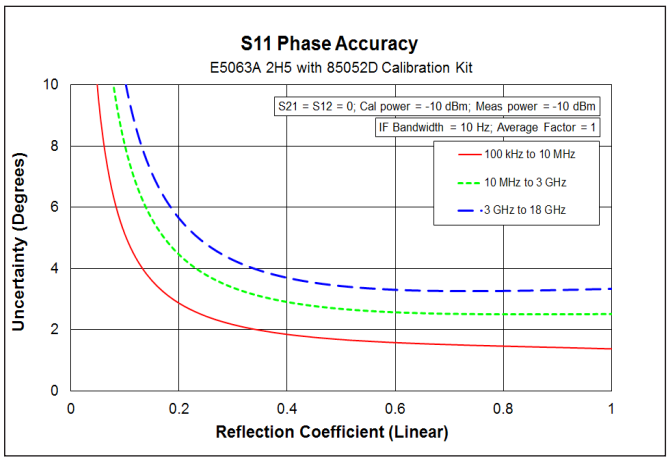
Transmission uncertainty (specification)[2]





Reflection uncertainty (specification)[2]





1. The performance from 50 kHz to 100 kHz is the same with one from 100 kHz to 10 MHz as typical
2. Applies to the units with Serial Number Prefix MY542/SG542 and above

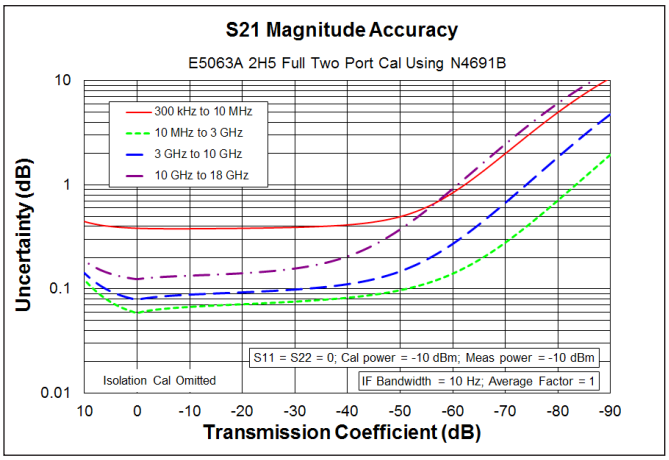
Corrected system performance with 3.5 mm device connector type, N4691B electronic calibration (ECal) module

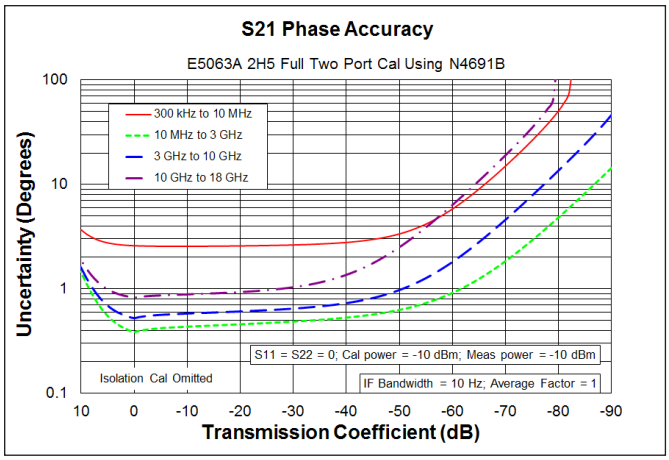
Vector network analyzer : E5063A
Calibration kit : N4691B (3.5 mm, 50 Ω) Electronic calibration (ECal) module
Calibration : Full 2-port

IF bandwidth = 10 Hz, no averaging applied to data, environmental temperature = 23 °C (± 5 °C) with < 1 °C deviation from calibration temperature, isolation calibration is not performed

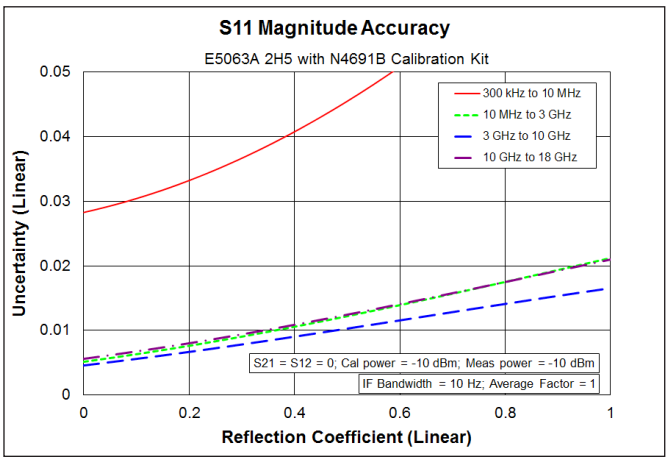
	Specification (dB)			
Description	**300 kHz to 10 MHz**	**10 MHz to 3 GHz**	**3 to 10 GHz**	**10 to 18 GHz**
Directivity	31	46	48	46
Source match	29	41	45	42
Load match	27	42	42	39
Reflection tracking	± 0.110	± 0.050	± 0.030	± 0.040
Transmission tracking	± 0.358	± 0.046	± 0.062	± 0.107

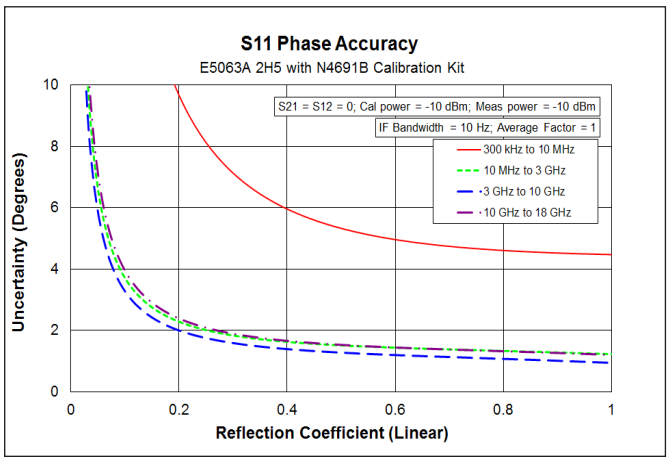
Transmission uncertainty (specification)[1]





Reflection uncertainty (specification)[1]





1. Applies to the units with Serial Number Prefix MY542/SG542 and above

Uncorrected System Performance

User correction: OFF
System error correction: ON

	Specification (dB)							
Description	**100 kHz to 300 kHz**	**300 kHz to 1 MHz**	**1 to 100 MHz**	**100 MHz to 3 GHz**	**3 to 6 GHz**	**6 to 10 GHz**	**10 to 13 GHz**	**13 to 18 GHz**
Directivity	10 dB	10 dB	25 dB	25 dB	20 dB	15dB	10 dB	10 dB
Source match	20 dB	20 dB	25 dB	25 dB	20 dB	15dB	15 dB	15 dB
Load match	7 dB (typ.)	11 dB (typ.)	14 dB	11 dB	10 dB	7dB	8 dB (typ.)	6 dB (typ.)
Reflection tracking	± 3.0 dB	± 3.0 dB	± 1.0 dB	± 1.0 dB	± 1.0 dB	± 1.0 dB	± 1.0 dB	± 1.0 dB
Transmission tracking	± 3.0 dB	± 3.0 dB	± 1.0 dB	± 1.0 dB	± 1.0 dB	± 1.0 dB	± 1.0 dB	± 1.0 dB

Test Port Output (Source)

Test port output frequency

Description	Specification	Typical
Frequency range		Frequency can be set from 50 kHz. The performance data from 50 to 100 kHz is typical.
Option 205	100 kHz to 500 MHz	
Option 215	100 kHz to 1.5 GHz	
Option 235	100 kHz to 3 GHz	
Option 245	100 kHz to 4.5 GHz	
Option 265	100 kHz to 6.5 GHz	
Option 285	100 kHz to 8.5 GHz	
Option 2D5	100 kHz to 14 GHz	
Option 2H5	100 kHz to 18 GHz	
Resolution	1 Hz (100 kHz to 6.5 GHz) 2 Hz (6.5 to 13 GHz) 11 Hz (13 to 18 GHz)	
Source stability		± 7 ppm (5 to 40 °C)
CW accuracy	± 7 ppm	

Test port output power

Description	Specification	Typical
Nominal power (preset power)	–5 dBm	
Range 50 kHz to 100 kHz		–20 to –5 dBm
100 kHz to 300 kHz	–20 to –5 dBm	
300 kHz to 8.5 GHz	–20 to 0 dBm	
8.5 to 18 GHz	–15 to –5 dBm	
Resolution	0.05 dB	
Level accuracy		
At 50 MHz, –5 dBm, absolute		± 0.9 dB
(level flatness)[1]		
50 kHz to 300 kHz		± 3.7 dB
300 kHz to 1 MHz		± 2.0 dB
1 MHz to 4.34 GHz		± 1.0 dB
4.34 to 8.5 GHz		± 1.6 dB
8.5 to 12 GHz		± 3.6 dB
12 to 18 GHz		± 5.8 dB
Level linearity[2]		
–10 to –5 dBm, 50 kHz to 300 kHz		± 1.6 dB
–10 to 0 dBm, 300 kHz to 8.5 GHz		± 1.6 dB
–10 to –5 dBm, 8.5 to 18 GHz		± 1.8 dB
–20 to –10 dBm, 50 kHz to 8.5 GHz		± 2.7 dB
–15 to –10 dBm, 8.5 to 18 GHz		± 2.9 dB

1. Level accuracy of other frequencies is taken at –5 dBm, relative to 50 MHz reference unless otherwise stated. Level accuracy includes averaged total (non-) harmonics power. Its transient factor is not included.
2. Level linearity given is relative to –5 dBm unless otherwise stated. Level linearity includes averaged total (non-) harmonics power. The level accuracy needs to be taken into account for test port output power level. Its transient factor is not included.

Test Port Input

Description	Specification	Typical
Test port input level		
Maximum input level	+6 dBm	
Crosstalk 50 kHz to 100 kHz		–88 dB
100 kHz to 300 kHz	–88 dB	
300 kHz to 8.5 MHz	–93 dB	
8.5 MHz to 4.34 GHz	–115 dB	
4.34 to 6 GHz	–105 dB	
6 to 13 GHz	–100 dB	
13 to 16 GHz	–90 dB	
16 to 18 GHz	–85 dB	
Test Port Noise Floor		
(IFBW=1 Hz)		
50 kHz to 100 kHz		–103 dBm
100 kHz to 8.5 MHz	–103 dBm	
8.5 to 100 MHz	–126 dBm	
100 MHz to 4.34 GHz	–127 dBm	
4.34 to 8.5 GHz	–116 dBm	
8.5 to 13 GHz	–115 dBm	
13 to 16 GHz	–105 dBm	
16 to 18 GHz	–102 dBm	
Compression level (at maximum test port input level = +6 dBm)		
Magnitude		
50 kHz to 1 MHz		± 0.2 dB
1 MHz to 4.34 GHz		± 0.2 dB
4.34 to 13 GHz		± 0.2 dB
13 to 18 GHz		± 0.2 dB
Phase		
50 kHz to 1 MHz		± 5 deg.
1 MHz to 4.34 GHz		± 1.5 deg.
4.34 to 13 GHz		± 6 deg.
13 to 18 GHz		± 10 deg.

Trace noise

Description	Specification	Typical
(at maximum output power level of sweep range)		
Magnitude		
Transmission:		
50 kHz to 100 kHz, 3 kHz IFBW		8 mdB rms
100 kHz to 300 kHz, 3 kHz IFBW	8 mdB rms	5 mdB rms
300 kHz to 8.5 MHz, 3 kHz IFBW	6 mdB rms	3 mdB rms
8.5 MHz to 4.34 GHz, 70 kHz IFBW	5 mdB rms	2 mdB rms
4.34 to 8.5 GHz, 70 kHz IFBW	10 mdB rms	5 mdB rms
8.5 to 13 GHz, 70 kHz IFBW	15 mdB rms	8 mdB rms
13 to 16 GHz, 70 kHz IFBW	25 mdB rms	15 mdB rms
16 to 18 GHz, 70 kHz IFBW	30 mdB rms	20 mdB rms
Reflection:		
50 kHz to 100 kHz, 3 kHz IFBW		16 mdB rms
100 kHz to 300 kHz, 3 kHz IFBW	16 mdB rms	7 mdB rms
300 kHz to 8.5 MHz, 3 kHz IFBW	10 mdB rms	4 mdB rms
8.5 MHz to 4.34 GHz, 70 kHz IFBW	9 mdB rms	3 mdB rms
4.34 to 8.5 GHz, 70 kHz IFBW	20 mdB rms	10 mdB rms
8.5 to 13 GHz, 70 kHz IFBW	30 mdB rms	18 mdB rms
13 to 16 GHz, 70 kHz IFBW	35 mdB rms	20 mdB rms
16 to 18 GHz, 70 kHz IFBW	45 mdB rms	30 mdB rms
Phase		
Transmission:		
50 kHz to 100 kHz, 3 kHz IFBW		0.05 deg rms
100 kHz to 300 kHz, 3 kHz IFBW	0.05 deg rms	0.03 deg rms
300 kHz to 8.5 MHz, 3 kHz IFBW	0.04 deg rms	0.02 deg rms
8.5 MHz to 4.34 GHz, 70 kHz IFBW	0.035 deg rms	0.015 deg rms
4.34 to 8.5 GHz, 70 kHz IFBW	0.066 deg rrns	0.04 degrrns
8.5 to 13 GHz, 70 kHz IFBW	0.1 deg rms	0.06 deg rms
13 to 16 GHz, 70 kHz IFBW	0.17 deg rms	0.1 deg rms
16 to 18 GHz, 70 kHz IFBW	0.2 deg rms	0.13 deg rms
Reflection:		
50 kHz to 100 kHz, 3 kHz IFBW		0.1 deg rms
100 kHz to 300 kHz, 3 kHz IFBW	0.1 deg rms	0.05 deg rms
300 kHz to 8.5 MHz, 3 kHz IFBW	0.066 deg rms	0.03 deg rms
8.5 MHz to 4.34 GHz, 70 kHz IFBW	0.06 deg rms	0.02deg rms
4.34 to 8.5 GHz, 70 kHz IFBW	0.13 degrrns	0.07 degrrns
8.5 to 13 GHz, 70 kHz IFBW	0.2 deg rms	0.12 deg rms
13 to 16 GHz, 70 kHz IFBW	0.23deg rms	0.14 deg rms
16 to 18 GHz, 70 kHz IFBW	0.3 deg rms	0.2 deg rms

Stability[1]

Description	Specification	Typical
Magnitude		
Transmission:		
100 kHz to 300 kHz		± 0.02 dB/°C
300 kHz to 6 GHz		± 0.01 dB/°C
6 to 12 GHz		± 0.025 dB/°C
12 to 18 GHz		± 0.04 dB/°C
Reflection:		
100 kHz to 300 kHz		± 0.02 dB/°C
300 kHz to 6 GHz		± 0.02 dB/°C
6 to 12 GHz		± 0.035 dB/°C
12 to 18 GHz		± 0.05 dB/°C
Phase		
Transmission:		
100 kHz to 300 kHz		± 0.4 deg/°C
300 kHz to 6 GHz		± 0.2 deg/°C
6 to 12 GHz		± 0.5 deg/°C
12 to 18 GHz		± 0.6 deg/°C
Reflection:		
100 kHz to 300 kHz		± 0.4 deg/°C
300 kHz to 6 GHz		± 0.2 deg/°C
6 to 12 GHz		± 0.5 deg/°C
12 to 18 GHz		± 0.6 deg/°C

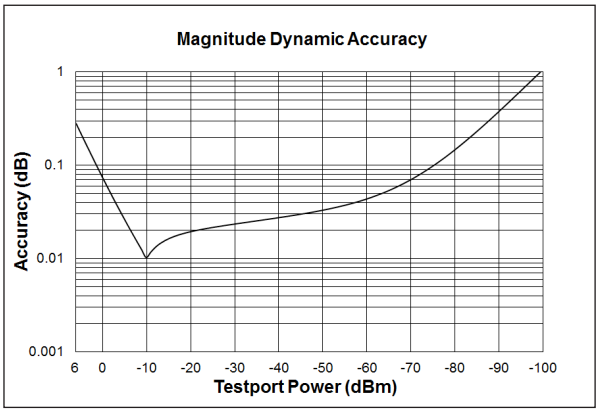
1. Stability is defined as a ratio measurement at the test port.

Dynamic accuracy[1,2]

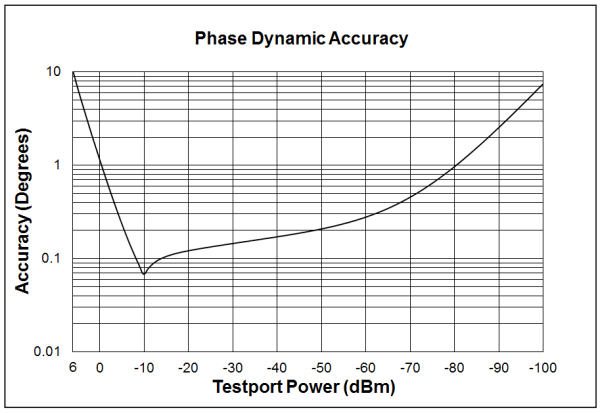
Description	Specification	Typical
Magnitude		
6 dBm	± 0.281 dB	
–30 dBm	± 0.023 dB	
–100 dBm	± 1.070	
–110 dBm		± 3.00 dB
Phase		
6 dBm	± 10.20 deg	
–30 dBm	± 0.15 deg	
–100 dBm	± 7.53 deg	

1. Dynamic accuracy is verified with the following measurements:
   – Compression over frequency
   – IF linearity at two frequencies (1 MHz and 2 GHz) using a reference level of –10 dBm for an input power range of 0 to –60 dBm. For value below –60 dBm, refer to "VNA Receiver Dynamic Accuracy Specifications and Uncertainties N5247-90003" https://literature.cdn.keysight.com/litweb/pdf/N5247-90003.pdf
2. Applies to the units with Serial Number Prefix MY542/SG542 and above

Magnitude



Phase



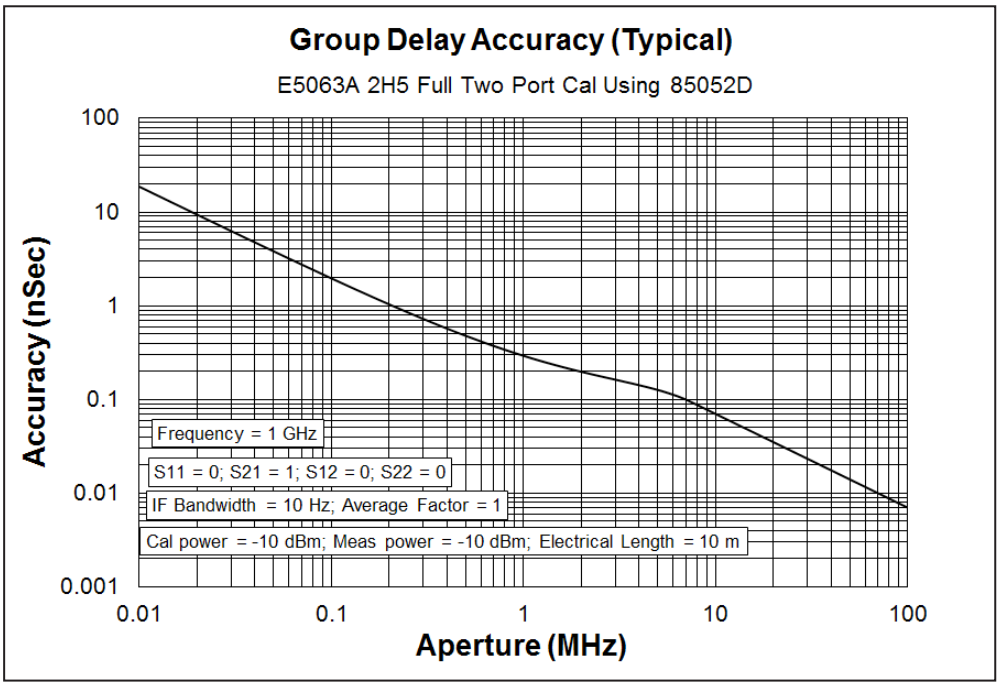
Group delay[1]

Description	Specification	Typical
Aperture (selectable)	(frequency span)/(number of points - 1)	
Maximum aperture	25% of frequency span	
Minimum delay		Limited to measuring no more than 180° of phase change within the minimum aperture.
Accuracy		See graph below (typical)

1. Group delay is computed by measuring the phase change within a specified step (determined by the frequency span and the number of points per sweep).

The following graph shows group delay accuracy with 3.5 mm connectors, full 2-port calibration and a 10 Hz IF bandwidth.

- Calibration kit (85052D).
- Insertion loss is assumed to be < 2 dB.



In general, the following formula can be used to determine the accuracy, in seconds, of a specific group delay measurement:
± phase accuracy (degrees) / [360 x aperture (Hz)]

General Information

Description	General characteristics
System bandwidth	
Range	10, 15, 20, 30, 40, 50, 70, 100, 150, 200, 300, 400, 500, 700, 1 kHz, 1.5 kHz, 2 kHz, 3 kHz, 4 kHz, 5 kHz, 7 kHz, 10 kHz, 15 kHz, 20 kHz, 30 kHz, 40 kHz, 50 kHz, 70 kHz, 100 kHz, 150 kHz, 200 kHz, 300 kHz
Number of points per traces	2 to 10,001

Front panel

Description	Typical	General characteristics
Test ports		Type-N, female, 50 Ω (nominal)
Damage Level		+26 dBm or ±35 VDC (warranted)
Display		
Type		10.4 inch multi touch screen LCD
Resolution		XGA (1024 x 768)[1]
USB host port		Universal serial bus jack, type A configuration, female; provides connection to mouse, keyboard, printer, ECal module, USB coaxial switch, or USB/GPIB interface

1. Valid pixels are 99.99 % and more. Below 0.01 % of fixed points of black, blue, green or red are not regarded as failure.

Rear panel

Description	Typical	General characteristics
External trigger input connector		
Type		BNC, female
Input level		Low threshold voltage: 0.5 V High threshold voltage: 2.1 V Input level range: 0 to + 5 V
Pulse width		≥ 2 µsec
Polarity		Positive or negative
External trigger output connector		
Type		BNC, female
Maximum output current		50 mA
Output level		Low level voltage: 0 V High level voltage: 5 V
Pulse width		1 µsec to 1 sec (adjustable)
Polarity		Positive or negative
External reference signal input connector		
Type		BNC, female
Input frequency	10 MHz ± 10 ppm	
Input level	0 dBm to ± 3 dB	
Input impedance		50 Ω
Internal reference signal output connector		
Type		BNC, female
Output frequency	10 MHz ± 7 ppm	
Signal type	Sinewave	
Output level	0 dBm ± 3 dB into 50 Ω	
Output impedance		50 Ω

Description	Typical	General characteristics
Video output		DisplayPort and 15 pin mini D-Sub, female; drives VGA compatible monitors
GPIB[1]		24-pin D-Sub (Type D-24), female; compatible with IEEE-488
USB host port		Universal serial bus jack, type A configuration, female; provides connection to mouse, keyboard, printer, ECal module, USB coaxial switch, or USB/GPIB interface
USB (USBTMC[2]) interface port		Universal serial bus jack, type B configuration (4 contacts inline), female; provides connection to an external PC; compatible with USBTMC-USB488 and USB 2.0.LA
LAN		10/100/1000 BaseT Ethernet, 8-pin configuration; auto selects among the three data rates
Handler I/O port[3]		36-pin Centronics, female; provides connection to handler system
Line Power[4]		
Frequency		47 to 63 Hz
Voltage		90-264 VAC (V_{peak} > 120 V)
		300 VA max
VA max		
Power consumption[5]	120 W	

1. The GPIB card interface is optional. To include this interface, order E5063A-721.
2. USB Test and Measurement Class (TMC) interface that communicates over USB, complying with the IEEE 488.1 and IEEE 488.2 standards.
3. The handler I/O interface is optional. To include this interface, order E5063A-731.
4. A third-wire ground is required.
5. At preset condition. No application running other than the E5063A on windows.

EMC, safety, environment and compliance

Description	General characteristics
EMC	
CE ISM 1-A	European Council Directive 2004/108/EC IEC 61326-1:2012 EN 61326-1:2013 CISPR 11:2009 +A1:2010 EN 55011: 2009 +A1:2010 Group 1, Class A IEC 61000-4-2:2008 EN 61000-4-2:2009 4 kV CD / 8 kV AD IEC 61000-4-3:2006 +A1:2007 +A2:2010 EN 61000-4-3:2006 +A1:2008 +A2:2010 3 V/m, 80-1000 MHz, 1.4 - 2.0 GHz /1V/m, 2.0 - 2.7 GHz, 80% AM IEC 61000-4-4:2004 +A1:2010 EN 61000-4-4:2004 +A1:2010 1 kV power lines / 0.5 kV signal lines IEC 61000-4-5:2005 EN 61000-4-5:2006 0.5 kV line-line / 1 kV line-ground IEC 61000-4-6:2008 EN 61000-4-6:2009 3 V, 0.15-80 MHz, 80% AM IEC 61000-4-8:2009 EN 61000-4-8:2010 30A/m, 50/60Hz IEC 61000-4-11:2004 EN 61000-4-11:2004 0.5-300 cycle, 0% / 70%
ICES/NMB-001	ICES-001:2006 Group 1, Class A
	AS/NZS CISPR11:2004 Group 1, Class A
MSIP-REM-Kst-WNMODSF36	KN11, KN61000-6-1 and KN61000-6-2 Group 1, Class A
Safety	
CE ISM 1-A	European Council Directive 2006/95/EC IEC 61010-1:2001/EN 61010-1:2001 Measurement Category I Pollution Degree 2 Indoor Use
C US	CAN/CSA C22.2 No. 61010-1-12 Measurement Category I Pollution Degree 2 Indoor Use
Environment	
	This product complies with the WEEE Directive (2002/96/EC) marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as a "Monitoring and Control instrumentation" product. Do not dispose in domestic household waste. To return unwanted products, contact your local Keysight office, or see http://www.keysight.com/environment/product/ for more information.
Compliance	
LXI	Class C

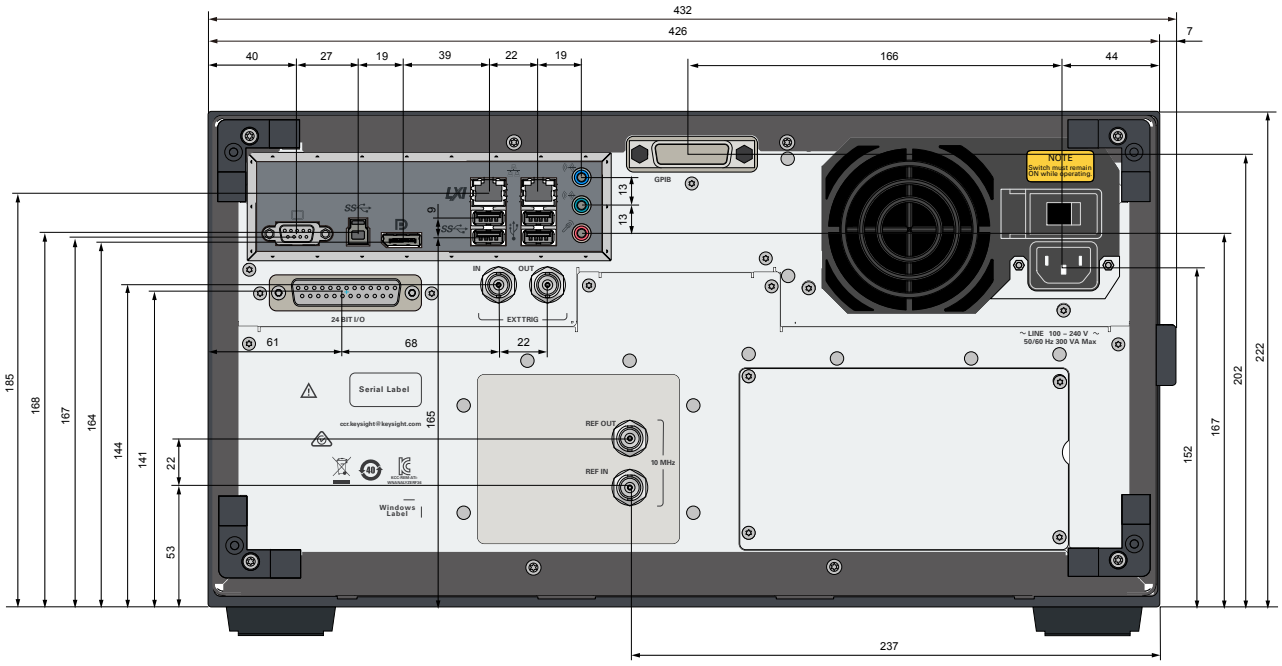
Analyzer environmental specifications and dimensions

Description	General characteristics
Operating environment	
Temperature	+5 °C to +40 °C
Error-corrected temperature range	23 °C (± 5 °C) with < 1 °C deviation from calibration temperature
Humidity	20% to 80% at wet bulb temperature < +29 °C (non-condensation)
Altitude	0 to 2,000 m (0 to 6561 feet)
Vibration	0.21 G maximum, 5 Hz to 500 Hz
Non-operating environment	
Temperature	–10 °C to +60 °C
Humidity	20% to 90% at wet bulb temperature < +40 °C (non-condensation)
Altitude	0 to 4,572 m (0 to 15,000 feet)
Vibration	0.5 G maximum, 5 to 500 Hz
Dimensions	See below
Weight (net)	11.8 kg

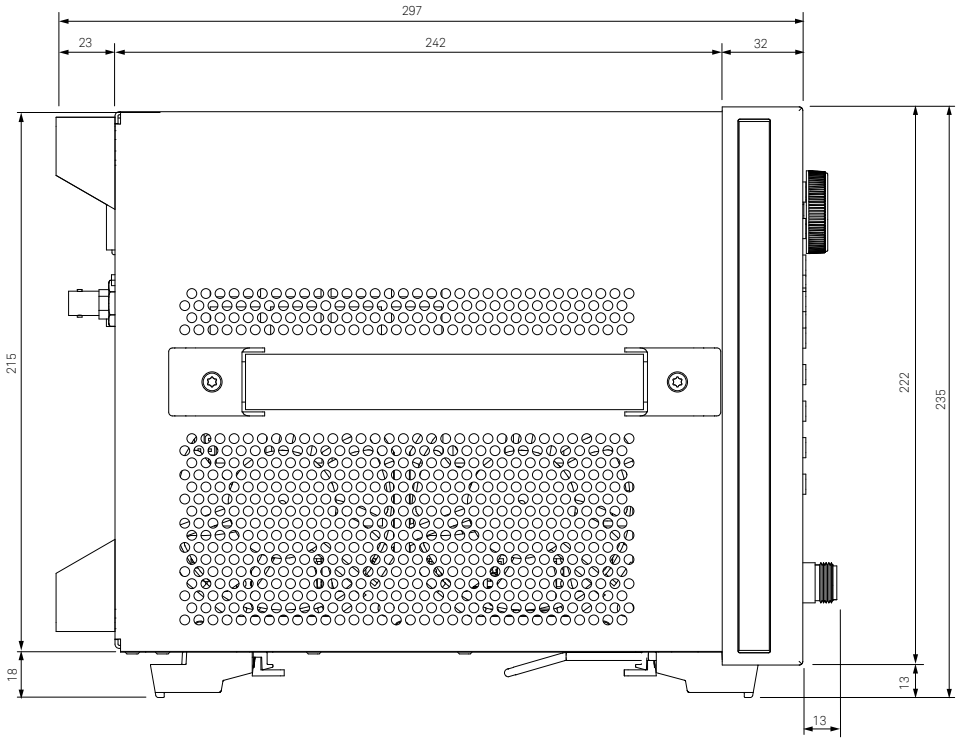
Dimensions (front view)

(in millimeters)

Dimensions (rear view)



Dimensions (side view)



(in millimeters)

Measurement Throughput Summary

Measurement throughput data is typical performance data. Common condition for the measurement throughput data:

- Analyzer display turned off with: DISP : ENAB OFF
- Number of traces = 1
- firmware version: A.04.0x

Cycle time for measurement completion

	300 kHz IF bandwidth				30 kHz IF bandwidth				1 kHz IF bandwidth			
Number of Points	**51**	**201**	**401**	**1601**	**51**	**201**	**401**	**1601**	**51**	**201**	**401**	**1601**
Start 1 GHz, stop 1.2 GHz												
1-port cal, S11	4	9	14	43	6	15	26	89	53	201	398	1575
Response cal, S21	4	10	16	50	7	21	39	142	102	394	784	3113
2-port cal, S21	8	19	32	99	14	42	78	283	203	788	1566	6226
Start 100 kHz, stop 4.5 GHz												
1-port cal, S11	9	17	27	72	10	23	38	118	57	210	410	1604
Response cal, S21	9	18	28	79	12	30	51	171	106	403	796	3142
2-port cal, S21	17	35	546	156	23	59	102	341	212	805	1591	6284
Start 100 kHz, stop 8.5 GHz												
1-port cal, S11	11	20	29	74	13	26	41	120	60	213	413	1606
Response cal, S21	12	21	31	81	15	33	54	173	109	406	798	3145
2-port cal, S21	23	42	61	161	29	65	107	346	218	811	1596	6289
Start 11 GHz, stop 12 GHz												
1-port cal, S11	4	9	15	47	6	15	27	93	53	202	399	1579
Response cal, S21	5	10	17	53	8	22	40	146	102	395	785	3117
2-port cal, S21	9	20	34	106	14	43	80	291	204	789	1568	6233
Start 8 GHz, stop 18 GHz												
1-port cal, S11	10	17	24	64	12	23	36	110	59	209	408	1596
Response cal, S21	11	18	26	71	14	29	49	163	108	402	793	3134
2-port cal, S21	21	35	51	141	26	58	97	325	216	804	1586	6268
Start 100 kHz, stop 18 GHz												
1-port cal, S11	15	25	34	80	16	30	45	127	63	217	417	1612
Response cal, S21	15	26	356	87	18	37	59	179	113	410	803	3151
2-port cal, S21	29	50	70	174	35	74	117	358	224	820	1605	6301

Unit: ms

Data transfer time[1, 2]

	Number of Points			
	51	201	401	1601
SCPI over GPIB				
64-bit floating point	5	16	30	114
32-bit floating point	3	9	16	58
ASCII	13	48	94	372
SCPI over 100 Mbps LAN (Socket)				
REAL 64	1	1	1	2
REAL 32	1	1	1	2
ASCII	7	18	35	132
SCPI over 100 Mbps LAN (SICL-LAN)				
REAL 64	4	5	5	5
REAL 32	5	5	5	5
ASCII	4	5	11	31
SCPI over 100 Mbps LAN (SICL-USB)				
REAL 64	2	2	2	3
REAL 32	2	2	2	3
ASCII	2	6	10	39
SCPI over GPIB/USB (82357B)				
REAL 64	8	18	31	107
REAL 32	7	12	18	57
ASCII	73	281	561	2243

1. Transferred complex S11 data, using :CALC:DATA:FDAT?.
2. Data transfer time varies depending on the type of PC and control software.

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