PXIe-5633 Specifications

2025-09-25

Contents

PXIe-5633 Specifications

PXIe-5633 Specifications

These specifications apply to the PXIe-5633 when used as a standalone instrument.

Revision History

Version	Date changed	Description
379153A-01	April 2025	Initial release of document.

Looking For Something Else?

For information not found in the specifications for your product, such as operating instructions, browse ***Related Information***.

Related information:

- PXIe-5633 User Manual
- CAL-5501 Specifications
- PXIe-5842 Specifications
- Software and Driver Downloads
- Dimensional Drawings
- Product Certifications
- Letter of Volatility
- Discussion Forums
- NI Learning Center

Definitions

Warranted Specifications describe the performance of a model under stated operating conditions and are covered by the model warranty. Specifications account for measurement uncertainties, temperature drift, and aging. Specifications are ensured by design or verified during production and calibration.

Characteristics describe values that are relevant to the use of the model under stated operating conditions but are not covered by the model warranty.

- **Typical**—describes the performance met by a majority of models.
- **Typical-95**—describes the performance met by 95% (≈2σ) of models with a 95% confidence.
- **Nominal**—describes an attribute that is based on design, conformance testing, or supplemental testing.
- **Measured**—describes the measured performance of a representative model.

Values are ***Warranted Specifications*** unless otherwise noted.

Conditions

All specifications are valid under the following conditions unless otherwise noted.

- 30 minutes warm-up time; warm-up time begins when the PXI Express chassis has been powered on and the operating system has completely loaded
- Calibration cycle is maintained
- Environment temperature is within the ambient range
- Installed in chassis with 82 W slot cooling capacity with fan mode set to Auto
- Empty chassis slots contain slot blockers and EMC filler panels to minimize temperature drift and reduce emissions

Warranted specifications are valid under the following condition unless otherwise noted.

- Over an ambient temperature range of 0 °C to 40 °C

Typical and Typical-95 specifications are valid under the following condition unless otherwise noted.

- Over an ambient temperature range of 23 °C ±5 °C

Typical specifications do not include measurement uncertainty.

Measured specifications do not include measurement uncertainty and are measured immediately after a device self-calibration is performed.

PXIe-5633 Front Panel and LEDs

Figure 1. PXIe-5633 Front Panel

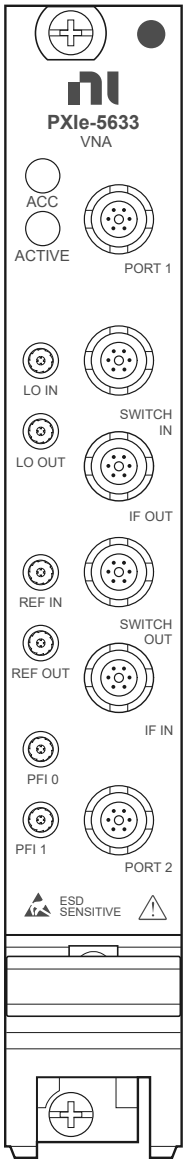


Table 1. PXIe-5633 Connector Descriptions

Connector	Connector Type	Description
PORT 1	3.5 mm (f)	Port 1 for VNA measurements; input/output terminal for RF signals for VST measurements when integrated with VST
SWITCH IN	3.5 mm (f)	Intermodule connection only (when integrated with VST)

Connector	Connector Type	Description
IF OUT	3.5 mm (f)	Reserved
SWITCH OUT	3.5 mm (f)	Intermodule connection only (when integrated with VST)
IF IN	3.5 mm (f)	Reserved
PORT 2	3.5 mm (f)	Port 2 for VNA measurements; input/output terminal for RF signals for VST measurements when integrated with VST
LO IN	MMPX (f)	Reserved
LO OUT	MMPX (f)	Reserved
REF IN	MMPX (f)	Reserved
REF OUT	MMPX (f)	Reserved
PFI 0	MMPX (f)	Reserved
PFI 1	MMPX (f)	Reserved

Table 2. PXIe-5633 LED Indicators

LED	Indications
ACC	***Access***: Indicates the basic hardware status of the module. • **Off**—The module is not yet functional or has detected a problem with a PXI Express power rail • **Amber**—The module is being accessed; ***accessed*** means that you are writing to the module setup registers to control the module, reading from the module to monitor its status, or transferring data to or from the module • **Green**—The module is controllable through the software

LED	Indications
ACTIVE	Indicates the state of the module. • **Off**—The module is idle • **Dim amber**—The module is armed and waiting for an acquisition trigger • **Solid green**—The module has received an acquisition trigger and is making a measurement • **Solid red**—The module has detected an error; the LED remains red until the error condition is removed Error conditions include loss of PLL lock and thermal shutdown. **Note** Indicators are listed in increasing order of priority.

PXIe-5633 Physical Characteristics

Table 3. PXIe-5633 Physical Characteristics

Dimensions	3U, 1 slot 21.1 cm × 12.9 cm × 2.03 cm (8.3 in. × 5.1 in. × 0.8 in.) **Note** For more information, visit ***ni.com/dimensions*** and search by module number.
Weight	555 g (19.6 oz)

Related information:

- Dimensional Drawings

VNA Frequency Specifications

VNA Frequency Range

Table 4. PXIe-5633 Frequency Range

8 GHz frequency range option	50 MHz to 8 GHz
12 GHz frequency range option	50 MHz to 12 GHz
18 GHz frequency range option	50 MHz to 18 GHz
26.5 GHz frequency range option	50 MHz to 26.5 GHz

VNA Internal Frequency Reference Accuracy

Note The internal clock uses the PXIe_CLK100 signal as a reference, typically 25 ppm. Refer to your chassis specifications to determine the reference clock frequency accuracy. When using a PXIe-1095 chassis with the Timing and Synchronization OCXO upgrade option as the external reference, the frequency accuracy is $\pm 80 \times 10^{-9}$.

VNA Frequency Resolution

Table 5. PXIe-5633 Frequency Resolution

Resolution	1 Hz

VNA IF Bandwidth and Miscellaneous

Table 6. PXIe-5633 IF Bandwidth

Minimum VNA IF bandwidth	1 Hz
Maximum VNA IF bandwidth	15 MHz
Available IF bandwidth values include 10 MHz, 15 MHz, and [1, 2, 3, 5, or 7] × 10^{n} Hz for integers ***n*** between 0 and 6.	

Table 7. Miscellaneous

Number of points	1 to 100,001

VNA System Specifications

VNA Dynamic Range

Table 8. PXIe-5633 Dynamic Range

Frequency	Typical (dB)
100 MHz to 300 MHz	134
>300 MHz to 6 GHz	146
>6 GHz to 18 GHz	137
>18 GHz to 22 GHz	134
>22 GHz to 26.5 GHz	125

Dynamic range specifies the difference between the maximum power and the noise floor, excluding crosstalk. It is calculated from the ***VNA Generation Maximum Output Power*** specification and the ***VNA Receiver Noise Floor*** specification, normalized to a 10 Hz IF Bandwidth.

Conditions: 10 Hz IF Bandwidth.

VNA Effective Residual Error Terms

Table 9. PXIe-5633 Effective Residual Error Terms

Frequency	Directivity (dB)	Source Match (dB)	Load Match (dB)	Reflection Tracking (dB)	Transmission Tracking (dB)
100 MHz to 300 MHz	46	41	40	0.07	0.07
>300 MHz to 6 GHz	46	41	41	0.05	0.05
>6 GHz to 8 GHz	45	42	42	0.05	0.06
>8 GHz to 12 GHz	44	41	40	0.07	0.07
>12 GHz to 18 GHz	44	40	39	0.09	0.09

Frequency	Directivity (dB)	Source Match (dB)	Load Match (dB)	Reflection Tracking (dB)	Transmission Tracking (dB)
>18 GHz to 20 GHz	44	40	39	0.08	0.08
>20 GHz to 26.5 GHz	41	35	34	0.12	0.12

Conditions:

- PXIe-5633 calibrated using CAL-5501 vector calibration module and instrument temperature is within 1 °C of calibration temperature.
- Frequency List, Power Level, and IF Bandwidth are set identically across calibration and measurement.
- Calibration performed with 10 Hz IF Bandwidth and -10 dBm Power Level at 23 ± 5 °C ambient temperature.

VNA Corrected Measurement Performance

Table 10. PXIe-5633 Reflection Measurement Uncertainty, Warranted

Frequency	Logarithmic			Linear	
	Reflection Level (dB)	Magnitude (dB)	Phase (Degrees)	Reflection Range (dB)	Magnitude (Linear)
100 MHz to 12 GHz	0	0.20	1.6	0 to -3	0.023
100 MHz to 12 GHz	-3	0.20	1.6	-3 to -6	0.016
100 MHz to 12 GHz	-6	0.21	1.6	-6 to -15	0.012
100 MHz to 12 GHz	-15	0.41	3.0	-15 to -25	0.009
100 MHz to 12 GHz	-25	1.21	8.3	-25	0.008
>12 GHz to 20 GHz	0	0.31	2.5	0 to -3	0.035
>12 GHz to 20 GHz	-3	0.31	2.5	-3 to -6	0.023

Frequency	Logarithmic			Linear	
	Reflection Level (dB)	Magnitude (dB)	Phase (Degrees)	Reflection Range (dB)	Magnitude (Linear)
>12 GHz to 20 GHz	-6	0.31	2.5	-6 to -15	0.017
>12 GHz to 20 GHz	-15	0.52	3.9	-15 to -25	0.011
>12 GHz to 20 GHz	-25	1.45	10.1	-25	0.010
>20 GHz to 26.5 GHz	0	0.38	2.9	0 to -3	0.043
>20 GHz to 26.5 GHz	-3	0.38	2.9	-3 to -6	0.029
>20 GHz to 26.5 GHz	-6	0.38	2.9	-6 to -15	0.021
>20 GHz to 26.5 GHz	-15	0.61	4.4	-15 to -25	0.013
>20 GHz to 26.5 GHz	-25	1.69	11.3	-25	0.011

Conditions:

- This specification is derived using VNA receiver specifications and residual error terms when PXIe-5633 is calibrated using CAL-5501 vector calibration module.
- Analysis is performed with DUT S11 = S22, S21 = S12 = 0 (lin), 10 Hz IF Bandwidth, 0 dB Test Attenuation, -10 dBm Source Power Level during calibration and measurement.
- Frequency List is identical between calibration and measurement.
- Ambient temperature is 23 ± 5 °C and board temperature is ±1 °C from calibration.

Figure 2. PXIe-5633 Reflection Uncertainty Linear Magnitude, Typical

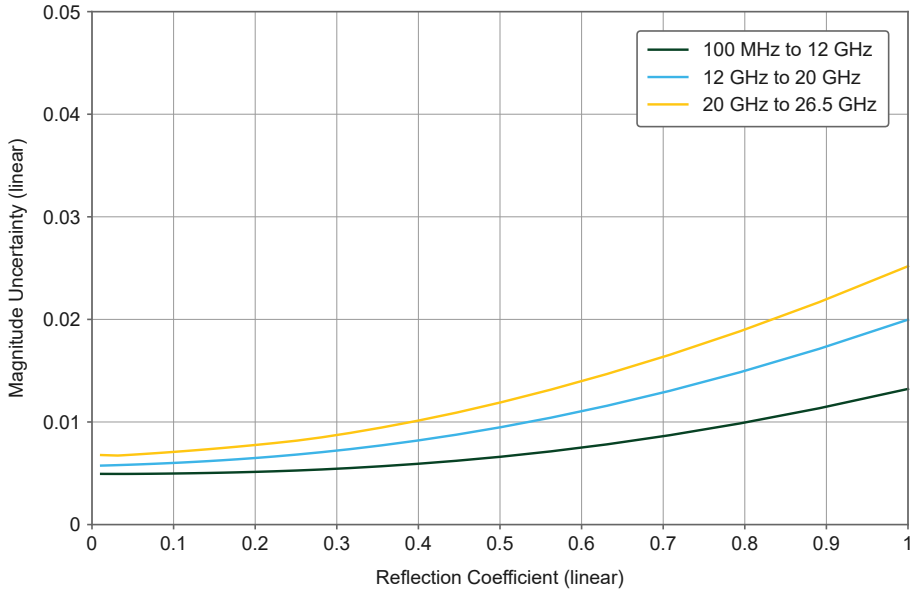


Figure 3. PXIe-5633 Reflection Uncertainty Log Magnitude, Typical

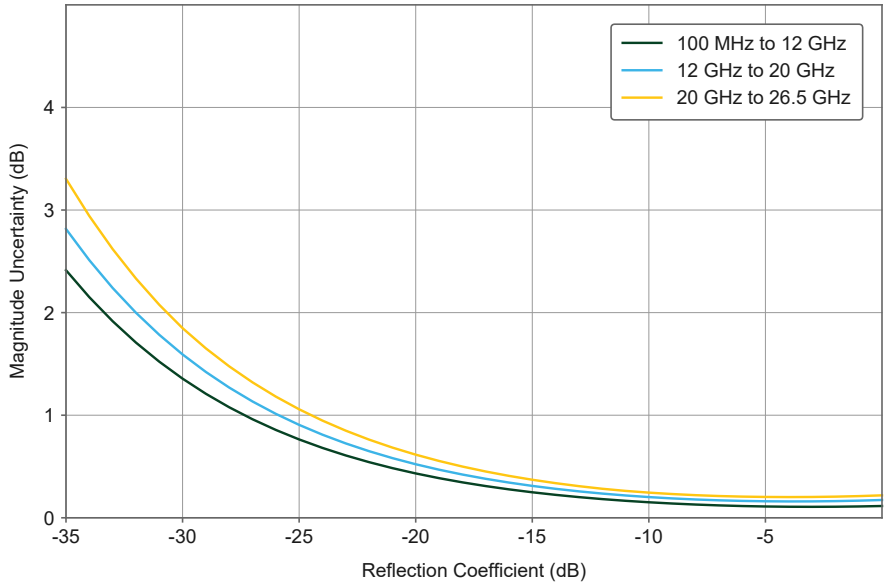


Figure 4. PXIe-5633 Reflection Uncertainty Phase, Typical

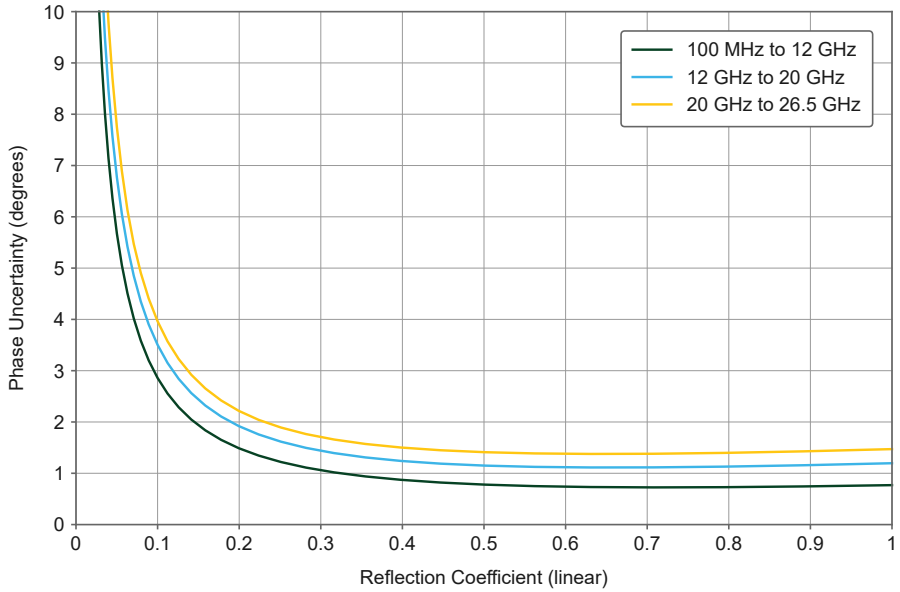


Figure 5. PXIe-5633 Reflection Uncertainty Log Magnitude Phase, Typical

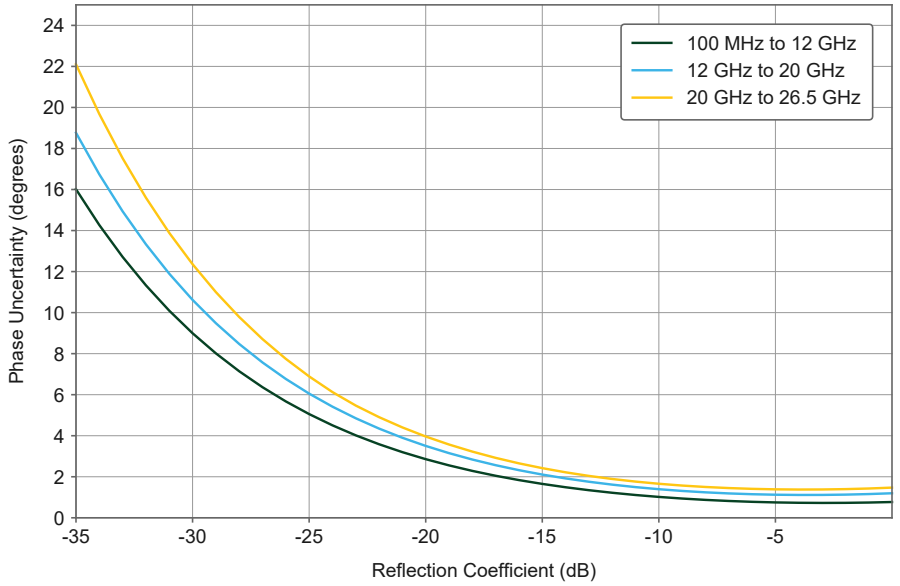


Table 11. PXIe-5633 Transmission Measurement Uncertainty, Warranted

Frequency	Transmission Coefficient (dB)	Magnitude (dB)	Phase (Degrees)
100 MHz to 12 GHz	5 to 0	0.12	1.1
100 MHz to 12 GHz	0 to -10	0.12	1.1
100 MHz to 12 GHz	-10 to -20	0.14	1.2
100 MHz to 12 GHz	-20 to -30	0.27	2.1

Frequency	Transmission Coefficient (dB)	Magnitude (dB)	Phase (Degrees)
100 MHz to 12 GHz	-30 to -40	0.72	4.9
>12 GHz to 20 GHz	5 to 0	0.16	1.6
>12 GHz to 20 GHz	0 to -10	0.16	1.6
>12 GHz to 20 GHz	-10 to -20	0.16	1.6
>12 GHz to 20 GHz	-20 to -30	0.29	2.3
>12 GHz to 20 GHz	-30 to -40	0.73	5.1
>20 GHz to 23 GHz	0 to -10	0.21	1.8
>20 GHz to 23 GHz	-10 to -20	0.22	1.9
>20 GHz to 23 GHz	-20 to -30	0.35	2.6
>20 GHz to 23 GHz	-30 to -40	0.84	5.7
>23 GHz to 26.5 GHz	0 to -10	0.21	1.8
>23 GHz to 26.5 GHz	-10 to -20	0.28	2.1
>23 GHz to 26.5 GHz	-20 to -30	0.66	4.5

Conditions:

- This specification is derived using VNA receiver specifications and residual error terms when a PXIe-5633 is calibrated using CAL-5501 vector calibration module.
- Analysis is performed with DUT S12 = S21 (for Transmission Coefficient ≤ 0 dB), S12 = 1/S21 (for Transmission Coefficient > 0 dB, S11 = S22 = 0 (lin), 10 Hz IF Bandwidth, 0 dB Test Attenuation, -10 dBm Source Power Level during calibration and measurement.
- Frequency List is identical between calibration and measurement.
- Ambient temperature is 23 ± 5 °C and board temperature is ±1 °C from calibration.

Figure 6. PXIe-5633 Transmission Uncertainty Magnitude, Typical

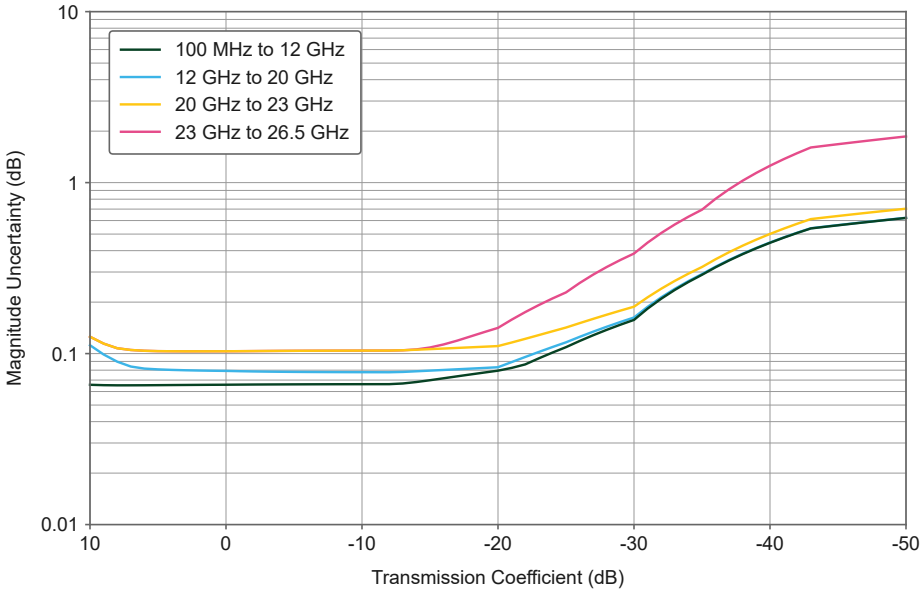
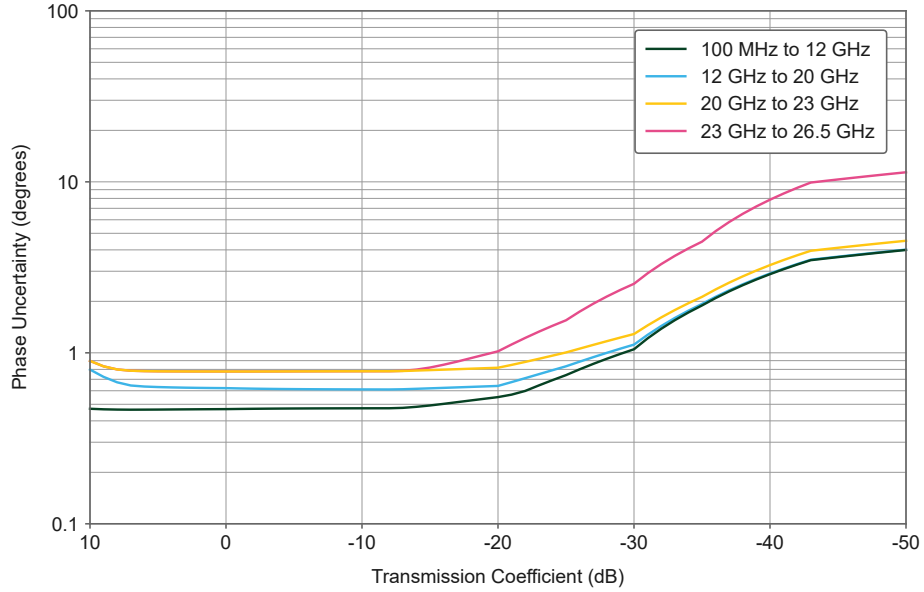


Figure 7. PXIe-5633 Transmission Uncertainty Phase, Typical



VNA Measurement Speed

Table 12. PXIe-5633 Measurement Speed (ms), Measured

Frequency Sweep Range	IF Bandwidth	Number of Points							
		Corrected Two-Port Measurement				Uncorrected One-Port Measurement			
		51	201	401	1601	51	201	401	1601
50 MHz to 26.5 GHz	10 kHz	21.1	78.6	155	605	10.9	39.5	77.5	306
50 MHz to 26.5 GHz	100 kHz	9.9	34.2	66.5	252	5.2	17.2	33.1	129

Frequency Sweep Range	IF Bandwidth	Number of Points							
		Corrected Two-Port Measurement				Uncorrected One-Port Measurement			
		51	201	401	1601	51	201	401	1601
50 MHz to 26.5 GHz	1 MHz	7.7	25.4	48.9	182	4.0	12.7	24.3	93.9
50 MHz to 26.5 GHz	15 MHz	6.5	20.4	38.4	138	3.5	10.1	19.0	71.9

Conditions:

- Measured using a PXIe-1095 chassis and a PXIe-8881 embedded controller with Windows 10 64-bit, Xeon 8-core processor, and 16 GB DDR4 RAM configuration.
- ***Measurement speed*** is defined as the time between when RFmx VNA Initiate is called and when the specified measurements have been returned with corrections applied by an RFmx VNA fetch function.
- Each sweep is run ***n*** times and the times for ***n*** - 1 iterations are averaged (the first iteration is dropped).
- For two-port corrected measurements, S_{21} is enabled and fetched.
- One-port uncorrected measurements are for one sweep direction.
- Auto IF Bandwidth Scaling Enabled is set to `False`.
- InstrumentStudio debug mode is disabled.

VNA Receiver Specifications

VNA Noise Floor

Table 13. PXIe-5633 Noise Floor (dBm/Hz)

Frequency	Warranted	Typical
100 MHz to 300 MHz	-107	-126
>300 MHz to 6 GHz	-131	-138
>6 GHz to 12 GHz	-125	-132
>12 GHz to 22 GHz	-127	-134
>22 GHz to 26.5 GHz	-125	-130

Conditions: Test receiver power measured with VNA source turned off, high-reflection terminations at the port, 30 kHz IF Bandwidth, 0 dB Test Receiver Attenuation, 100 averages, excluding spurs, normalized to 1 Hz bandwidth, ambient temperature 23 ± 5 °C.

VNA Trace Noise

Table 14. PXIe-5633 Trace Noise Magnitude (dB RMS)

Frequency	Warranted	Typical
50 MHz to <6 GHz	0.003	0.0015
6 GHz to 26.5 GHz	0.006	0.0020

Conditions:

- 0 dBm Power Level, 10 kHz IF Bandwidth, 0 dB Test Receiver Attenuation, ambient temperature 23 °C ± 5 °C.
- Measured using a high-reflection termination at the port and then calculating the uncorrected S_{11} magnitude stability across 201 iterations in 100 MHz increments.

Table 15. PXIe-5633 Trace Noise Phase (Degrees RMS)

Frequency	Warranted	Typical
50 MHz to 300 MHz	0.03	0.007
>300 MHz to 1 GHz	0.03	0.006
>1 GHz to 3 GHz	0.03	0.005
>3 GHz to <6 GHz	0.03	0.004
6 GHz to 26.5 GHz	0.06	0.008

Conditions:

- 0 dBm Power Level, 10 kHz IF Bandwidth, 0 dB Test Receiver Attenuation, ambient temperature 23 °C ± 5 °C.
- Measured using a high-reflection termination at the port and then calculating the uncorrected S_{11} phase stability across 201 iterations in 100 MHz increments.

Table 16. PXIe-5633 Measurement Stability, Typical

Frequency (Hz)	Magnitude (dB/°C)	Phase (deg/°C)
100 MHz to 6 GHz	0.015	0.10
>6 GHz to 8 GHz	0.025	0.40
>8 GHz to 15 GHz	0.015	0.35

Frequency (Hz)	Magnitude (dB/°C)	Phase (deg/°C)
>15 GHz to 22 GHz	0.030	0.55
>22 GHz to 26.5 GHz	0.050	0.50

Conditions:

- 0 dBm Power Level, 100 Hz IF Bandwidth, 0 dB Test Receiver Attenuation, ambient temperature 23 °C ± 5 °C.
- Ratioed measurement stability when measuring a low loss through or a high reflect termination.
- Firmware version: 1.0.2f4

VNA Non-Linearity

Table 17. PXIe-5633 Receiver Compression Level for 0.1 dB Compression, Measured

Frequency	Compression Level (dBm)
>100 MHz to 1 GHz	9
>1 GHz to 3 GHz	8
>3 GHz to 6 GHz	10
>6 GHz to 22 GHz	10
>22 GHz to 26.5 GHz	10

Conditions: 0 dB Test Receiver Attenuation. Measured P0.1 dB or ADC saturation.

Test Receiver Attenuation is configurable from 0 dB to 22 dB and is recommended for use when input signal power is above the 0.1 dB compression level.

Table 18. PXIe-5633 Linearity

Frequency	Power Level (dBm)	Magnitude (dB)		Phase (Degrees)	
		Warranted	Typical	Warranted	Typical
100 MHz to 1 GHz	-5 to -22.5	0.12	0.04	0.80	0.27
100 MHz to 1 GHz	-30	0.16	0.08	1.06	0.53

Frequency	Power Level (dBm)	Magnitude (dB)		Phase (Degrees)	
		Warranted	Typical	Warranted	Typical
100 MHz to 1 GHz	-35	0.20	0.10	1.32	0.66
100 MHz to 1 GHz	-40	0.34	0.16	2.25	1.06
>1 GHz to 20 GHz	-5 to -22.5	0.11	0.03	0.73	0.20
>1 GHz to 20 GHz	-30	0.13	0.06	0.86	0.40
>1 GHz to 20 GHz	-35	0.23	0.11	1.52	0.73
>1 GHz to 20 GHz	-40	0.35	0.16	2.31	1.06
>20 GHz to 23 GHz	-10 to -22.5	0.11	0.06	0.73	0.40
>20 GHz to 23 GHz	-30	0.14	0.07	0.93	0.47
>20 GHz to 23 GHz	-35	0.25	0.13	1.65	0.86
>20 GHz to 23 GHz	-40	0.38	0.20	2.51	1.32
>23 GHz to 26.5 GHz	-10 to -22.5	0.12	0.06	0.80	0.40
>23 GHz to 26.5 GHz	-30	0.28	0.17	1.85	1.13
>23 GHz to 26.5 GHz	-35	0.50	0.27	3.30	1.79
>23 GHz to 26.5 GHz	-40	0.87	0.55	5.75	3.63

Conditions: Accuracy of test port receiver measured relative to -10 dBm input port power with 0 dB Test Receiver Attenuation, 10 Hz IF Bandwidth at 23 ± 5 °C ambient temperature.

VNA Uncorrected Error Terms

Table 19. PXIe-5633 Uncorrected Error Terms, Typical

Frequency	Directivity (dB)	Source Match (dB)	Load Match (dB)
50 MHz to 300 MHz	24	23	16
>300 MHz to 1 GHz	20	18	18
>1 GHz to 3 GHz	22	16	14
>3 GHz to 6 GHz	21	17	15
>6 GHz to 8 GHz	17	19	18
>8 GHz to 12 GHz	13	14	12
>12 GHz to 18 GHz	12	10	9
>18 GHz to 22 GHz	12	11	9
>22 GHz to 26.5 GHz	10	9	8
Conditions: Measured at VNA ports, -10 dBm Power Level, 10 kHz IF Bandwidth, 0 dB Test Receiver Attenuation, ambient temperature 23 ± 5 °C.			

VNA Source Specifications

VNA Output Amplitude Range

Table 20. PXIe-5633 Maximum and Minimum Output Power (dBm), Typical

Frequency	Maximum	Minimum
50 MHz to 6 GHz	18	-36
>6 GHz to 8 GHz	16	-38
>8 GHz to 12 GHz	15	-39
>12 GHz to 18 GHz	13	-39
>18 GHz to 22 GHz	10	-43
>22 GHz to 26.5 GHz	5	-44
Conditions: Measured at the VNA ports, 23 ± 5 °C ambient temperature.		

Table 21. PXIe-5633 Amplitude Resolution

Amplitude resolution	≤0.05 dB, nominal

VNA Output Amplitude Accuracy

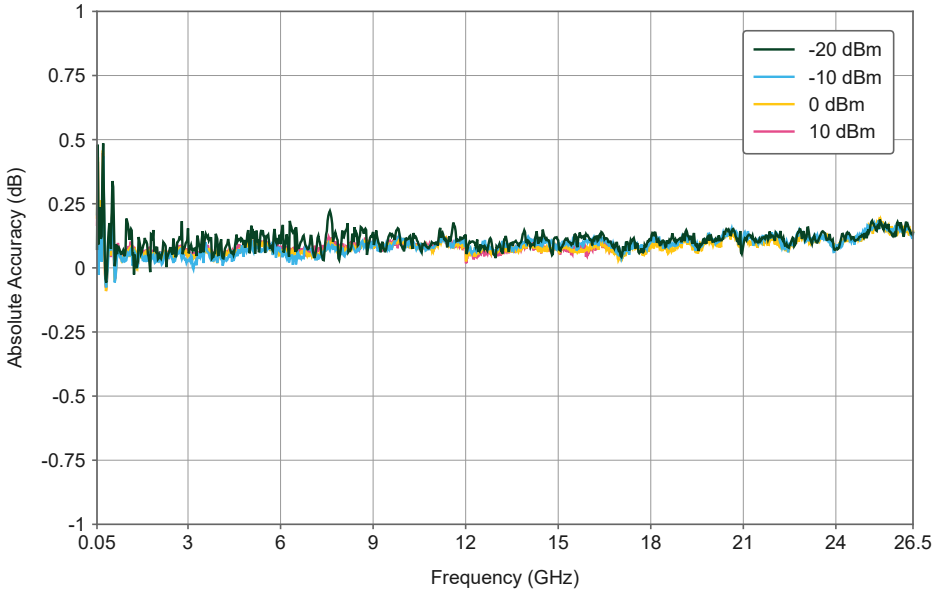
Table 22. PXIe-5633 Output Amplitude Accuracy (dB), Typical

Frequency	Amplitude Accuracy
50 MHz to 1 GHz	1.10
>1 GHz to 12 GHz	0.90
>12 GHz to 22 GHz	0.90
>22 GHz to 26.5 GHz	1.10

Conditions:

- Measured at VNA ports from -30 dBm to ***Maximum Output Power*** defined in ***VNA Output Amplitude Range*** specification.
- Ambient temperature 23 ± 5 °C.

Figure 8. PXIe-5633 Output Amplitude Accuracy



Conditions: Factory calibration; ambient temperature 23 ± 5 °C.

VNA Output Harmonics

Table 23. PXIe-5633 Output Harmonics (dBc), Measured

Frequency	Harmonic Level
>300 MHz to 1 GHz	-34
>1 GHz to 3 GHz	-37
>3 GHz to 6 GHz	-26
>6 GHz to 8 GHz	-26
>8 GHz to 12 GHz	-26

Conditions:

- 0 dBm power level.
- Includes second and third harmonic content up to 26.5 GHz.
- Excludes sub-harmonic and non-harmonic spurs.

VNA Pulse Generation

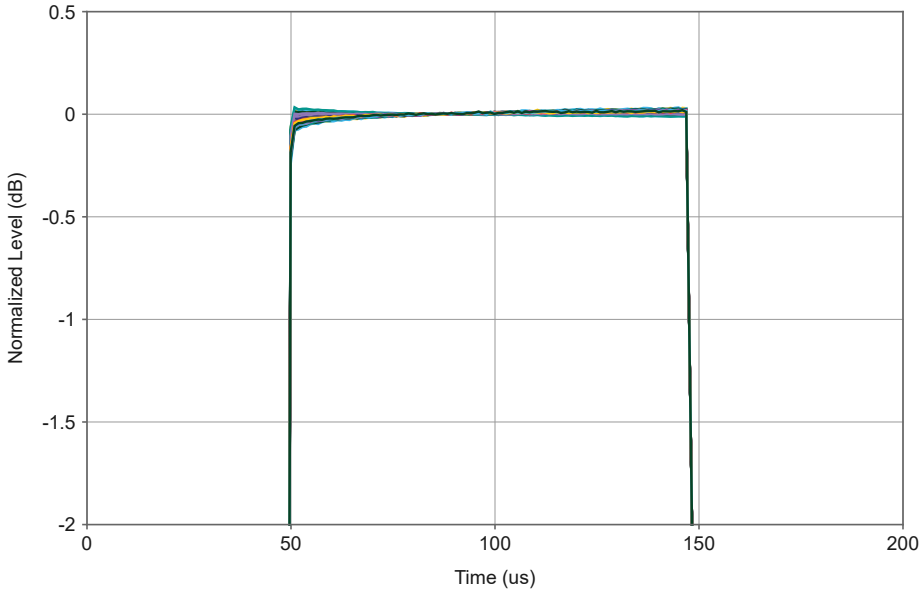
Table 24. VNA Pulse Timing

Minimum pulse width	200 ns, nominal
Minimum pulse period	400 ns, nominal
Maximum pulse period	10 s, nominal

Table 25. VNA Pulse On/Off Ratio

Frequency	On/Off Ratio
50 MHz to 26.5 GHz	90 dB, measured
Conditions: -20 dBm Source Power, 10 averages.	

Figure 9. VNA Pulse Modulation Shape, Measured



Conditions: 500 kHz IF Bandwidth, 100 µs Pulse Width, 50 µs Pulse Delay, 16 averages, measured in 500 MHz steps between 1 GHz and 26.5 GHz.

Safety Voltages

Connect only voltages that are below these limits.

PORT 1, PORT 2

Table 26. Absolute Maximum Input Power for VNA Load Port

Test Receiver Attenuation **< 8 dB**	+20 dBm
Test Receiver Attenuation **≥ 8 dB**	+27 dBm

Table 27. Absolute Maximum Reverse Power for VNA Reflection Port

Notice In certain conditions, such as generating into a short, reflections of signals that otherwise comply with these limits may exceed these values and damage the instrument.

RF Output Power **≤ +10 dBm,** ***Test Receiver Attenuation*** **< 8 dB**	+15 dBm
RF Output Power **≤ +20 dBm,** ***Test Receiver***	+20 dBm

Attenuation **≥ 8 dB**

Table 28. Absolute Maximum Input Power for VST Passthrough* When Operating as Vector Signal Analyzer

*When integrated with a supported VST.

Reference Level **≤ 20 dBm**	***Reference Level*** + 5 dB
Reference Level **> 20 dBm** **Note Derate by 2 dB when source match is worse than -6 dB.**	• 0.3 GHz to 2 GHz: +25 dBm (CW RMS) • >2 GHz to 8 GHz: +26 dBm (CW RMS) • >8 GHz to 26.5 GHz: +27 dBm (CW RMS)

Table 29. Absolute Maximum Reverse Power for VST Passthrough* When Operating as Vector Signal Generator

*When integrated with a supported VST.

Output Power **≤ +16 dBm**	+25 dBm
Output Power **≤ +20 dBm**	+20 dBm

Other Ports

Table 30. Other Ports

IF IN absolute maximum input power	+18 dBm
IF OUT absolute maximum reverse power	+18 dBm
SWITCH IN absolute maximum input power	+14 dBm
SWITCH OUT absolute maximum reverse power	+10 dBm
LO IN absolute maximum input power	+12 dBm
LO OUT absolute maximum reverse power	+10 dBm
REF IN maximum input voltage	5 Vpk-pk
REF OUT absolute maximum reverse voltage	2 Vpk-pk

PFI 0, PFI 1 absolute maximum input range	-0.5 V to 5 V

Table 31. Measurement Category

Measurement Category	CAT I/O

Measurement Category

Caution Do not connect the product to signals or use for measurements within Measurement Categories II, III, or IV.

Attention Ne pas connecter le produit à des signaux dans les catégories de mesure II, III ou IV et ne pas l'utiliser pour effectuer des mesures dans ces catégories.

Measurement Category I is for measurements performed on circuits not directly connected to the electrical distribution system referred to as ***MAINS*** voltage. MAINS is a hazardous live electrical supply system that powers equipment. This category is for measurements of voltages from specially protected secondary circuits. Such voltage measurements include signal levels, special equipment, limited-energy parts of equipment, circuits powered by regulated low-voltage sources, and electronics.

Note Measurement Categories CAT I and CAT O are equivalent. These test and measurement circuits are for other circuits not intended for direct connection to the MAINS building installations of Measurement Categories CAT II, CAT III, or CAT IV.

Current Ratings

Table 32. Maximum Continuous Sinking Current, PFI 0 and PFI 1

Per channel	45 mA
Sum of all channels	90 mA

Table 33. Maximum Continuous Sourcing Current, PFI 0 and PFI 1

Per channel	66 mA
Sum of all channels	132 mA

PXIe-5633 Power Requirements

Table 34. Power Requirements, Nominal

+3.3 V DC	0.66 A (2.19 W)
+12 V DC	4.99 A (59.88 W)
Total power	62.07 W

Environmental Guidelines

Notice Failure to follow the mounting instructions in the product documentation can cause temperature derating.

Notice This product is intended for use in indoor applications only.

Environmental Characteristics

Table 35. Temperature

Operating	0 °C to 40 °C
Storage	-40 °C to 71 °C

Table 36. Humidity

Operating	10% RH to 90% RH, noncondensing
Storage	5% RH to 95% RH, noncondensing

Table 37. Pollution Degree

Pollution degree	2

Table 38. Maximum Altitude

Maximum altitude	2,000 m (800 mbar) (at 25 °C ambient temperature)

Table 39. Shock and Vibration

Operating vibration	5 Hz to 500 Hz, 0.3 g RMS
Non-operating vibration	5 Hz to 500 Hz, 2.4 g RMS
Operating shock	30 g, half-sine, 11 ms pulse

Calibration

Table 40. PXIe-5633 External Calibration Interval

Interval	1 year