

VNA-P

矢量网络分析仪

Vector Network Analyzer

Technical Specifications

SYSTEM MEASUREMENT RANGE				
System Impedance		50Ω		
Test Port Connector Type		NMD 1.85mm, male		
Number of Test Ports		2 or 4		
Frequency Range		100kHz to 67GHz		
Frequency Setting Resolution		1Hz		
Output Power Range	100kHz to 2MHz		-55dBm to -10dBm	
	2MHz to 43.5GHz		-55dBm to +10dBm	
	43.5GHz to 60GHz		-35dBm to +7dBm	
	60GHz to 67GHz		-35dBm to +5dBm	
Power Setting Resolution		0.05dB		
Number of Measurement Points		2 to 100,001		
System Bandwidth(IFBW)		10Hz to 1.5MHz ^{Table 1}		
System Dynamic Range: (RF Range Fixed Mode=OFF) @IFBW=10Hz	100kHz to 500kHz		95dB	
	500kHz to 2MHz		110dB	
	2MHz to 5.8GHz		135dB	
	5.8GHz to 26.5GHz		130dB	
	26.5GHz to 43.5GHz		125dB	
	43.5GHz to 67GHz		120dB	
MEASUREMENT ACCURACY(UNCERTAINTY) ¹				
Trace Noise: Meas. Power=Max Output Power				
Transmission	100kHz to 10MHz(IFBW=3kHz)		4mdB rms/0.03deg rms	
	10MHz to 6GHz(IFBW=70kHz)		4mdB rms/0.03deg rms	
	6GHz to 26.5GHz(IFBW=70kHz)		4mdB rms/0.04deg rms	
	26.5GHz to 43.5GHz(IFBW=70kHz)		5mdB rms/0.04deg rms	
	43.5GHz to 67GHz(IFBW=70kHz)		6mdB rms/0.06deg rms	
Reflection	100kHz to 10MHz(IFBW=3kHz)		5mdB rms/0.05deg rms	
	10MHz to 6GHz(IFBW=70kHz)		5mdB rms/0.03deg rms	
	6GHz to 26.5GHz(IFBW=70kHz)		5mdB rms/0.04deg rms	
	26.5GHz to 43.5GHz(IFBW=70kHz)		6mdB rms/0.06deg rms	
	43.5GHz to 67GHz(IFBW=70kHz)		10mdB rms/0.08deg rms	
CORRECTED SYSTEM EFFECTIVE DATA ¹				
Description	100kHz to 2GHz	2GHz to 30GHz	30GHz to 50GHz	50GHz to 67GHz
Directivity	41 dB	41 dB	38 dB	33 dB
Source Match	38 dB	35 dB	33 dB	26 dB
Load Match	35 dB	33 dB	31 dB	24 dB
UNCORRECTED SYSTEM RAW DATA ²				
Description	100kHz to 2GHz	2GHz to 30GHz	30GHz to 50GHz	50GHz to 67GHz
Directivity	25 dB	15 dB	12 dB	11 dB
Source Match	25 dB	15 dB	12 dB	10 dB
Load Match	17 dB	15 dB	12 dB	10 dB

TEST PORT OUTPUT PERFORMANCE		
Power Accuracy	100kHz to 2MHz	±0.5 dB @-10dBm
	2MHz to 26.5GHz	±0.5 dB @0dBm
	26.5GHz to 43.5GHz	±1 dB @0dBm
	43.5GHz to 67GHz	±2 dB @0dBm
Power Linearity (Relative to -10dBm or 0dBm)	100kHz to 2MHz	±0.5 dB(-20dBm to -10dBm)
	2MHz to 6GHz	±0.5 dB(-20dBm to +10dBm)
	6GHz to 26.5GHz	±0.75 dB (-20dBm to +10dBm)
	26.5GHz to 43.5GHz	±1dB (-20dBm to +10dBm)
	43.5GHz to 60GHz	±1.5dB (-20dBm to +7dBm)
	60GHz to 67GHz	±1.5dB (-20dBm to +5dBm)
Harmonic(2nd or 3rd)	100kHz to 2MHz	<-20dBc @-10dBm
	2MHz to 67GHz	<-20dBc @0dBm
Non-Harmonic Spurious	<-30dBc @Max Power	
CW Accuracy	±0.2ppm (23 °C±3 °C)	
Source Stability	±0.01ppm (5 °C±40 °C)	
TEST PORT INPUT PERFORMANCE		
Maximum Input Level	+10dBm	
Damage Level	+26dBm or ±35VDC	
Cross Talk	100kHz to 500kHz	-80dB
	500kHz to 2MHz	-100dB
	2MHz to 6GHz	-120dB
	6GHz to 26.5GHz	-110dB
	26.5GHz to 67GHz	-100dB
Noise Floor	100kHz to 500kHz	-115dBm/Hz
	500kHz to 2MHz	-130dBm/Hz
	2MHz to 5.8GHz	-135dBm/Hz
	5.8GHz to 26.5GHz	-130dBm/Hz
	26.5GHz to 43.5GHz	-125dBm/Hz
	43.5GHz to 67GHz	-120dBm/Hz
NON-TEST INPUT/OUTPUT PORT REQUIREMENTS		
External Reference Signal Input	Connector Type	BNC Female
	Input Frequency	10MHz±10ppm
	Input Level	Low Threshold Votage:0.5V High Threshold Votage:2.1V Input Level Range:0 to +5V
	Duty Cycle	40% to 60%
External Reference Signal Output	Connector Type	BNC Female
	Output Frequency	10MHz±2ppm
	Output Level	Low Level Votage:0V High Level Votage:5V
	Duty Cycle	40% to 60%
	Signal Type	TTL

External Trigger Input	Connector Type	BNC Female
	Input Level	Low Threshold Voltage:0.5V High Threshold Voltage:2.1V Input Level Range:0 to +5V
	Pulse Width	2µs
	Polarity	Positive or Negative
External Trigger Output	Connector Type	BNC Female
	Max Output Current	30mA
	Output Level	Low Level Voltage:0V High Level Voltage:5V
	Pulse Width	1µs
	Polarity	Positive or Negative
GENERAL AND ENVIRONMENT		
Display	12.1 inch touch screen LCD(1280 X 800)	
Operating Temperature	+5 °C to +40 °C	
Error-Corrected Temperature Range	23 °C(±5 °C) with <1 °C deviation from calibration temperature	
Operating Humidity	20% to 80% at wet bulb temperature <+29 °C (non-condensation)	
Storage Temperature	-10 °C to +60 °C	
Storage Humidity	20% to 90% at wet bulb temperature <+40 °C (non-condensation)	
Dimensions	Unit with Handle:482.6mm W x 443mm D x 265.9mm H Unit without Handle: 482.6mm W x 419mm D x 265.9mm H	
Weight	<28Kg	
Power Requirements	90 to 264VAC, 47 to 63Hz	
Power Consumption	<350W(maximum)	
EMC	EN 61326-1:2005 EN 55011:2007 Group 1, Class A EN 61000-4-2:1995 +A2:2001 4kV CD/8kV AD EN 61000-4-3:2006 EN 61000-4-4:2004 EN 61000-4-5:2006 EN 61000-4-6:2007 3V, 0.15-80 MHz, 80% AM EN 61000-4-11:2004 0.5-300 cycle, 0%/70%	
Safety	EN 61010-1:2001 Measurement Category I Pollution Degree 2 Indoor Use	
Recommended Calibration Cycle	12 months	
Warranty	36 months hardware 36 months software update	

1. Using Cal Kit: N4694D(1.85mm 50Ω) for full 2-port calibration. And IF bandwidth = 10 Hz, no

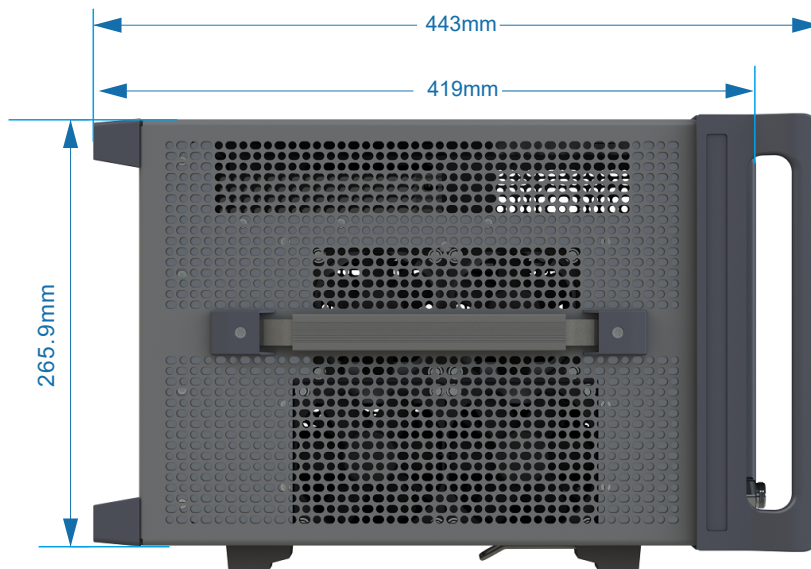
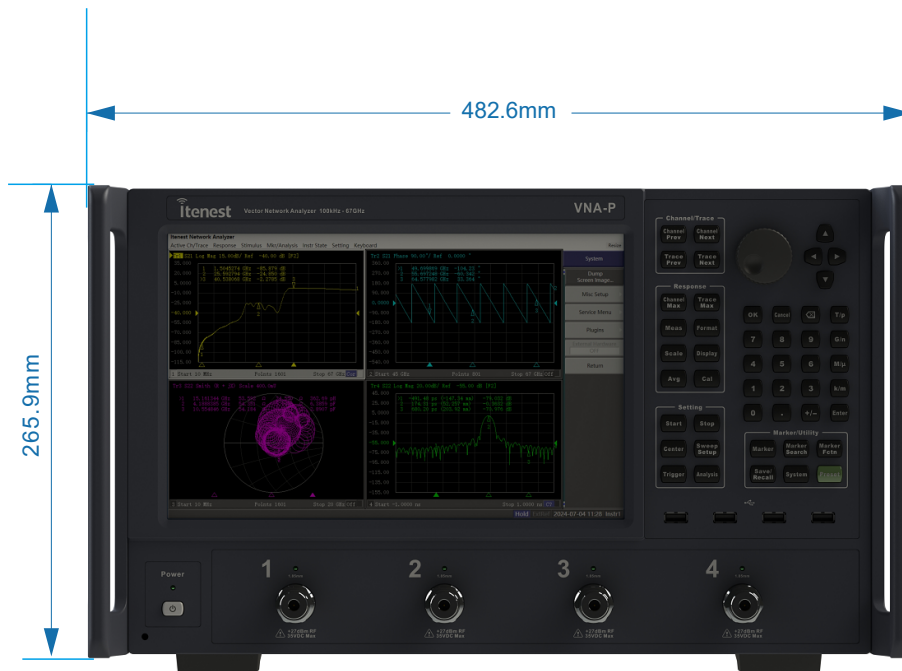
averaging applied to data, environmental temperature= 23°C(±5°C) with < 1°C deviation from calibration temperature, isolation calibration performed.

2. User correction: OFF, system correction: ON

3. All specifications apply at 23 °C (±5 °C), unless otherwise stated, and 90 minutes after the instrument has been turned on.

Table 1.

IFBW Nominal settings	10,15,20,30,40,50,70,100,150,200,300,400,500,700,1k,1.5k,2k,3k,4k,5k,7k,10k,15k,20k,30k,40k,50k,70k,100k,150k,200k,300 k,400k,500kHz,700 kHz,1MHz,1.5MHz
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