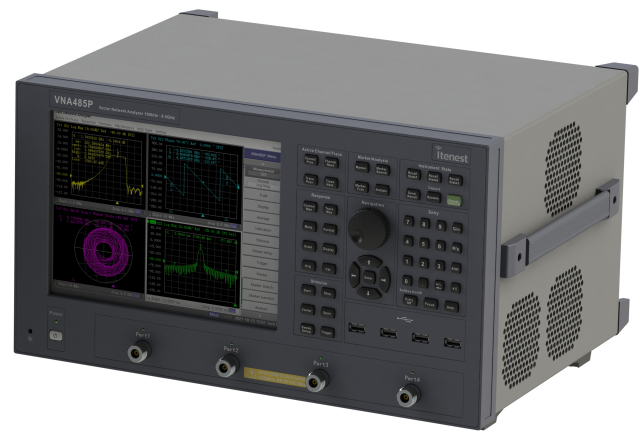


VNA485P

Vector Network Analyzer

Technical Specifications



NO.:ITENEST-WI-YX-85/A

VNA485P Technical Specifications

SYSTEM MEASUREMENT RANGE			
Frequency Range	100kHz to 8.5GHz		
Number of Test Ports	2 or 4		
Test Port Connector Type	N-Type, Female		
Output Power Range	100kHz to 2MHz	-55dBm to -10dBm	
	2MHz to 8.5GHz	-55dBm to +10dBm	
System Impedance	50Ω(75Ω via adapter)		
Frequency Setting Resolution	1Hz		
Power Setting Resolution	0.05dB		
Number of Measurement Points	2 to 20,001		
System Bandwidth (IFBW)	10Hz to 1.5MHz ^{Table 1}		
System Dynamic Range ¹ : @IFBW=10Hz	100kHz to 500kHz	95dB	
	500kHz to 2MHz	110dB	
	2MHz to 8.5GHz	135dB	
MEASUREMENT ACCURACY(UNCERTAINTY) ²			
Transmission Uncertainty: Cal.Power=-10dBm; IFBW=10Hz			
-50dB to 10dB	100kHz to 2MHz	0.4dB/4deg	
	2MHz to 8.5GHz	0.2dB/2deg	
-70dB to -50dB	100kHz to 2MHz	0.8dB/4deg	
	2MHz to 8.5GHz	0.4dB/2deg	
Reflection Uncertainty: Cal.Power=-10dBm; IFBW=10Hz			
-15dB to 0dB	100kHz to 2MHz	0.8dB/6deg	
	2MHz to 8.5GHz	0.6dB/5deg	
-25dB to -15dB	100kHz to 2MHz	1.5dB/10deg	
	2MHz to 8.5GHz	1dB/8deg	
Trace Noise: Meas.Power=Max Output Power			
Transmission	100kHz to 10MHz (IFBW=3kHz)	4mdB rms/0.03deg rms	
	10MHz to 8.5GHz (IFBW=70kHz)	4mdB rms/0.03deg rms	
Reflection	100kHz to 10MHz (IFBW=3kHz)	5mdB rms/0.05deg rms	
	10MHz to 8.5GHz (IFBW=70kHz)	5mdB rms/0.05deg rms	
Temperature Stability			
100kHz to 3GHz	Typ.0.005 dB/°C	Typ.0.1deg/°C	
3GHz to 6GHz	Typ.0.01 dB/°C	Typ.0.2deg/°C	
6GHz to 8.5GHz	Typ.0.04 dB/°C	Typ.0.8deg/°C	
CORRECTED SYSTEM EFFECTIVE DATA ²			
Description	100kHz to 3GHz	3GHz to 6GHz	6GHz to 8.5GHz
Directivity	44 dB	38 dB	38 dB
Source Match	40 dB	37 dB	36 dB
Load Match	44 dB	38 dB	38 dB
UNCORRECTED SYSTEM RAW DATA ³			
Description	100kHz to 3GHz	3GHz to 6GHz	6GHz to 8.5GHz

Directivity	20 dB	20 dB	15 dB
Source Match	20 dB	20 dB	15 dB
Load Match	15 dB	12 dB	10 dB
TEST PORT OUTPUT PERFORMANCE			
Power Accuracy	100kHz to 2MHz	±0.5 dB @-10dBm	
	2MHz to 8.5GHz	±0.5 dB @0dBm	
Power Linearity	100kHz to 2MHz	±0.5 dB(-20dBm to -10dBm)	
	2MHz to 8.5GHz	±0.5 dB(-20dBm to +10dBm)	
Harmonic(2nd or 3rd)	100kHz to 2MHz	<-20dBc @-10dBm	
	2MHz to 8.5GHz	<-20dBc @0dBm	
Non-Harmonic Spurious	<-30dBc @Max power		
CW Accuracy	±2ppm (23°C±3°C)		
Source Stability	±2ppm (5°C to 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 8.5GHz	-100dB	
Noise Floor	100kHz to 500kHz	-115dBm/Hz	
	500kHz to 2MHz	-130dBm/Hz	
	2MHz to 8.5GHz	-135dBm/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:3.3V	
	Duty Cycle	40% to 60%	
	Signal Type	CMOS (TTL compatible)	
External Trigger Input	Connector Type	BNC Female	
	Input Level	Low Threshold Votage:0.5V High Threshold Votage:2.1V Input Level Range:0 to +5V	
	Pulse Width	2µs	
	Polarity	Positive or Negative	
External Trigger	Connector Type	BNC Female	

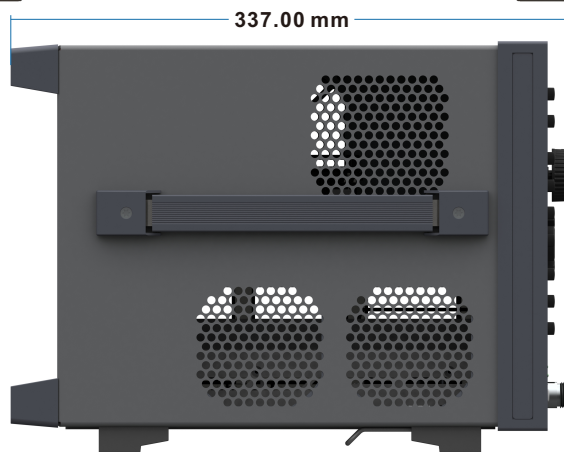
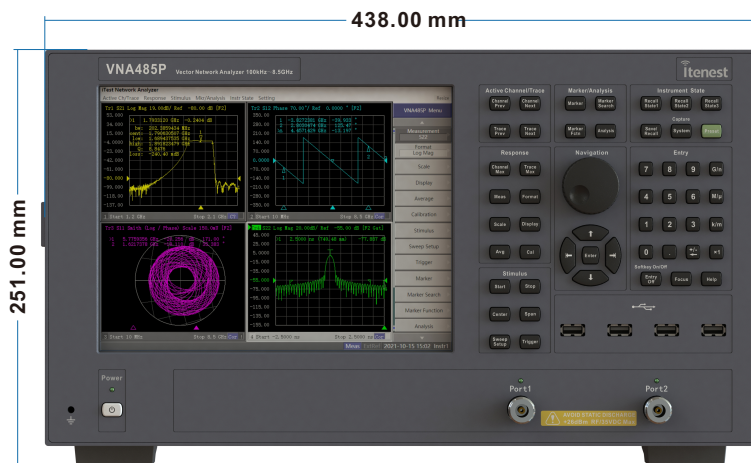
Output	Max Output Current	30mA
	Output Level	Low Level Voltage:0V High Level Voltage:3.3V
	Pulse Width	1μs
	Polarity	Positive or Negative
GENERAL AND ENVIRONMENT		
Display	10.4-inch touch screen LCD (XGA 1024 X 768)	
Operating Temperature	+5°C to +40°C	
Error-Corrected Temperature Range	23°C(±5°C) with <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	438mm W x 337mm D x 251mm H	
Weight	11.6Kg (2 ports); 13.65Kg (4 ports)	
Power Requirements	90 to 264VAC, 47 to 63Hz	
Power Consumption	<180W(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. If RF Range Fixed Mode=ON, performance may be degraded by 10dB.
2. Using Cal Kit:85033E (3.5mm 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.
3. User correction: OFF, system correction: ON
4. All specifications apply at 23 °C (±5 °C), unless otherwise stated, and 90 minutes after the instrument has been turned on.

Table 1.

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

Headquarters

Address : 5C Building 1, Tingwei Industrial Park, No.6 Liufang Road, Area 67,
Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China
TEX : +86 755-2153 5646
FAX : +86 755-2640 5551
Web: www.itenest.com

Taiwan Office

ADD: 8F, No. 33, Cheng Tian Road, Tu-Cheng District,
New Taipei City, Taiwan
Zip Code: 236039
TEL: +866-2-2269 2007
FAX: +866-2-2269 2036
Sales E-mail : twsales@itenest.com