

SMNA06 Vector Network Analyzer



Introduction

The SMNA06 is a compact, easy-to-integrate two-port vector network analyzer (VNA) with a frequency range covering 100 kHz to 6.5 GHz. It features low trace noise, a large dynamic range, and a high resolution bandwidth, making it widely applicable for testing RF and microwave devices such as filters, amplifiers, antennas, and cables.

The SMNA06 offers multiple calibration methods, including frequency response, response isolation, single-port, enhanced response, and full two-port calibration. It is built with various display formats, such as logarithmic amplitude, linear amplitude, standing wave ratio phase, group delay, Smith chart, and polar coordinates. Equipped with a standard RJ45 network interface, it enables fast and accurate measurement of the amplitude, phase, and group delay characteristics of the DUT S-parameters. This instrument can meet the testing requirements of wireless communications, cable television, education, radar systems, automotive electronics, and manufacturing facilities.

Features

- ▶ Frequency range: 100kHz-6.5GHz
- ▶ Number of ports: two-port
- ▶ Measurement bandwidth: 10Hz-1MHz
- ▶ SSB phase noise: $\leq -100\text{dBc/Hz@10kHz}$ 1GHz
- ▶ It features multiple display formats such as logarithmic/linear amplitude, standing wave ratio, polar coordinates, and Smith chart.
- ▶ It supports multi-window and multi-channel measurement, enabling rapid execution of complex test solutions.
- ▶ It features a compact size, making it suitable for system integration

Specifications

Measurement range		
Port impedance	50Ω	
Port connector	N-type, female	
Number of ports	2	
Measurement parameters	S11,S21,S12,S22	
Frequency range	100kHz - 6.5GHz	
Frequency accuracy	±1.5ppm	
Frequency resolution	1Hz	
Number of measurement points	1-10001, default 201	
Measurement bandwidth	10Hz-1MHz (1,2,3,5steps)	
Dynamic range	≥105dB, 110dB(typical)	
Effectiveness indicators		
Effective directivity	40dB	
Effective source matching	33dB	
Reflection tracking	±0.05dB	
Transmission tracking	±0.05dB	
Test port output		
Power range	-30dBm-+10dBm (≥5MHz)	
Effective source matching	±2.5dB	
Reflection tracking	0.25dB	
Transmission tracking	≤-25dBc	
Test port input		
Maximum input level	+20dBm	
Maximum DC input Voltage	+35V	
Reference frequency input		
REF OUT	SMA-type female, 10 MHz, output power +2 dBm - +8 dBm	
REF IN	SMA-type female, 10 MHz, output power +0 dBm - +3 dBm	
Input impedance	50Ω	
Trigger		
Trigger in	SMA-type female, TTL level	
Trigger out	SMA-type female, TTL level	
PC Host Computer Software		
Operating System	Windows 7 and above,	
Computer CPU frequency	2 GHz and above	
Computer memory	8 GB and above	
Computer interface	LAN	
General data		
Dimensions (W×H×D)	160mm×45mm×245mm	
Core module dimensions	100mm×40mm×150mm	
Weight	<1.9kg	
Power consumption	<26W (+12Vpower supply)	
Operating temperature	-10°C-+40°C	
Storage temperature	-40°C-+70°C	
Power supply	Input	100V-240VAC 50/60Hz
	Output	+12V 5A

Ordering Information

Configuration	Designation	Order Number
Host of Vector Network Analyzer	100kHz-6.5GHz	SMNA06
Accessories	CD-ROM (user manual, programming manual, PC host computer software)	
	AC/DC adapter (AC input, +12V DC output)	
	RJ45 ethernet cable	
	One1 piece of N/SMA-JK connector, 2 pieces of SMA-JJ connecting cables	
Options	Mechanical calibration kit (4 SMA-type female calibration parts, DC-9000 MHz)	CK009
	Mechanical calibration kit (4 SMA-type female calibration parts, 3 SMA-type male calibration parts, DC-9000 MHz)	CK009A