



SAV3644A/45A/46A/49/49A S Parameter Test Module

(50GHz-75GHz / 75GHz-110GHz / 110GHz-170GHz / 170GHz-220GHz / 220GHz -325GHz)

Specification Sheet



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1. Overview

SAV3644A/45A/46A/49/49A S parameter test modules have top-level performance in test speed, dynamic range and measurement stability. New designed hardware architecture greatly improves the key specifications. Meanwhile, the software is based on Windows XP OS, which is friendly and easy to use.

A THz vector network measurement system can be built with S parameter test modules, a SAV3604A millimeter expansion controller and a VNA. The system can achieve 5mm, 3mm, 2mm, 1mm or even higher frequency range measurement. The system can be widely used in manufacturing, R&D and test of millimeter-wavelength components, MICC, antenna, RCS etc.

2. Key Feature

- Frequency Range: 50GHz ~ 325GHz.
- Multiple Calibration methods.
- 2 ports measurement with millimeter frequency extendor controller.

3. Specifications of Extension Module

Model	SAV3644A	SAV3645A	SAV3646A	SAV3649	SAV3649A
Frequency Range	50GHz - 75GHz	75GHz - 110GHz	110GHz - 170GHz	170GHz - 220GHz	220GHz - 325GHz
Output Power	+3dBm	+3dBm	-10dBm	-10dBm	-13dBm
Dynamic Range (dB)	95	95	80	95	90
Reflection Tracking (dB)	±0.15	±0.15	±0.15	±0.5	±0.5
Transmission Tracking (dB)	±0.15	±0.15	±0.15	±0.5	±0.5
Effective Directionlaty (dB)	38	36	34	30	25
Effective Source Match (dB)	38	36	34	30	25
Effective Load Match (dB)	38	36	34	30	25
Interface	WR15, Impedance 1ohm	WR10, Impedance 1ohm	WR06, Impedance 1ohm	WR05, Impedance 1ohm	WR03, Impedance 1ohm
Working Power	12VDC@2A	12VDC@2A	12VDC@2A	12VDC@3A	12VDC@3A
Dimension W x H x D(mm)	120 x 90 x 240	120 x 90 x 240	120 x 90 x 240	120 x 90 x 240	120 x 90 x 240

4. Specifications of Frequency Extension Controller

SAV3640 is a frequency extension controller. It is compatible with S3602 series VNA and Keysight PNA-X series VNA.

Please be kindly noted, 4-port S3602 does not need SAV3640 for frequency extension



Model	Frequency Range	Output Power	Control Port	Output Power	Power	Dimension WxHxD (mm)
SAV3640	8GHz - 20GHz	10 ± 1dBm	Device Test Port	12VDC@2A	AC 220/240V: 50/60Hz AV 100/115V:50/60/400Hz	426 x 177 x 460

5. Components of Millimeter Wavelength Measurement System

Main Combination				
Mode	Item	Main spec.	Qty.	Remark
S3602B	Vector Network Analyzer	10MHz - 26.5GHz	1 set	Select one machine
S3602C		10MHz - 43.5GHz	1 set	
S3602D		10MHz - 50GHz	1 set	
S3602E		10MHz - 67GHz	1 set	
SAV3640A	Spread spectrum control machine	\	1 set	
SAV3644A	S parameter test module	50GHz - 75GHz	1 pair	Test port is standard Rectangular waveguide. Select one module based on application
SAV3645A		75GHz - 110GHz	1 pair	
SAV3646A		110GHz - 170GHz	1 pair	
SAV3649		170GHz - 220GHz	1 pair	
SAV3649A		220GHz - 325GHz	1 pair	
SAV3649B		325GHz - 500GHz	1 pair	
SAV32156	Waveguide Calibration Kits	50GHz - 75GHz	1 box	Match the same frequency of S parameter module
SAV32141		75GHz - 110GHz	1 box	
SAV32155		110GHz - 170GHz	1 box	
SAV20301		170GHz - 220GHz	1 box	
SAV20302		220GHz - 325GHz	1 box	
SAV20303		325GHz - 500GHz	1 box	

6. System Connection Cable List

PN.	Name & function	Length (m)	connector	qty.	Remark
Microwave cable					
A1	Network analyzer RF output to control machine RF input	0.6/0.8/1	3.5mm/3.5mm-JJ	1 PC	Low loss,Optional length
A2	Network analyzer LO output to control machine LO input.	0.6/0.8/1	3.5mm/3.5mm-JJ	1 PC	Low loss,Optional length
A3/A4	Control machine RF output to S module RF Input	1.2/1.5/2	3.5mm/3.5mm-JJ	2 PCS	Low loss,Optional length
A5/A6	Control machine LO output to S module LO input	1.2/1.5/2	3.5mm/3.5mm-JJ	2 PCS	Low loss,Optional length
IF Cable					
C1	Control machine IF output to network IF input	0.6/0.8/1	SMA/SMA	4 PCS	IF cale ,optional length
C2	S module IF output to control machine IF input	1.2/1.5/2	SMA/SMA	4 PCS	IF cale ,optional length
Communication / Power Cable					
D1	Network test port to millimeter control machine test port	1	PCL-10125	1 PC	cable for test equipment
D2	Control machine power output to S module power input	1.2/1.5/2	Round connection cable	2 PCS	power cable, optional length

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