

# Microwave Multiport Balanced VNA

40 MHz to 20 GHz

## Introduction

Anritsu's Microwave Multiport Balanced VNA consists of a 37347C or 37247C 20 GHz Lightning Vector Network Analyzer (VNA), an SM5975 or SM5962 4-port test set, and the Navigator™ Multiport software (external PC is required and is not included). The SM5975 or SM5962 test set is a 2x4 switch matrix that allows either port on the VNA to connect with any of the 4 ports on the test set. The easy-to-use Navigator™ Multiport software provides full step-by-step direction, simplifying calibration, and speeding measurement throughput.

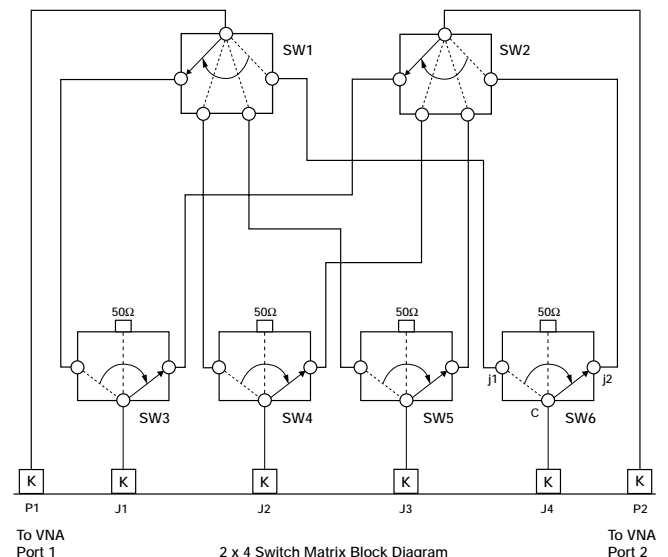
Existing Lightning VNAs can be readily upgraded to add the new 20 GHz multiport test set and software. With the Lightning VNA's proven stability, the Anritsu Multiport VNA provides excellent measurement repeatability and offers a cost-effective application solution for microwave multiport device characterization.

## Features

- Unparalleled flexibility to perform any 2, 3, or 4-port, single-ended and mixed-mode S-parameter measurements to 20 GHz
- Characterize passive multiport components, e.g., couplers, diplexers, power dividers
- Measure balanced/differential components and circuits
- Evaluate two 2-port (or four 1-port) devices simultaneously
- Full 4-port calibrations provide superior accuracy (SOLT, LRL, and LRM)
- Supports entry of calibration coefficients and parameters for on-wafer measurements
- Embed/de-embed S2P files and transmission line structures
- Impedance transformation (real and complex)
- Manual test set and calibration control is available
- Powerful Navigator™ Multiport software simplifies calibrations and measurements



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## Specifications\*

Operating Frequency Range	40 MHz to 20 GHz
Connectors	Test ports J1, J2, J3, and J4: K(2.92 mm) female, 50Ω
Test Port Power	-5 dBm at J1, J2, J3, or J4
Directivity (corrected)	
0.04 GHz	42 dB
2 GHz	42 dB
20 GHz	42 dB
Source Match (corrected)	
0.04 GHz	40 dB
2 GHz	40 dB
20 GHz	38 dB
System Dynamic Range	
0.04 GHz	70 dB
2 GHz	90 dB
20 GHz	80 dB
Test Set Isolation	90 dB between any ports
Maximum Input Power	+20 dBm (25 VDC) all ports
Bias Tees	30 VDC, 500 mA, J1 thru J4
Control	Windows-based PC via GPIB [IEEE 488.2] interface
Temperature Range (Storage)	-40 to 75°C
Temperature Range (Operating)	0 to 50°C (specifications apply at 23 ±3°C)
AC Power (test set only)	100 VA max, 47-63 Hz, 85-240 V
Dimensions (test set only)	153H x 443W x 500D mm (4.6 x 17.5 x 19.7 in)
Weight (test set only)	approximately 7 kg (15.4 lbs)

\* Specifications are typical and subject to change without notice. Additional specifications for the Lightning series VNAs can be found in the 37100C/37200C/37300C Vector Network Analyzers Technical Data Sheet (11410-00247)

Easy-to-Use Navigator™ Multiport Software

The image displays four overlapping screenshots of the Navigator Multiport Software interface. The top-left screenshot shows the 'Main Settings' window with a schematic diagram of a four-port test system. The middle-left screenshot shows the 'CALIBRATION SUMMARY' window, detailing calibration parameters like 'CAL. METHOD', 'CAL. LINE TYPE', and 'Overall Freq. Range'. The middle-right screenshot shows the 'Calibration' window with a schematic diagram of the test system and various control options. The bottom-right screenshot shows the 'Measurement Parameters' window, displaying multiple measurement plots such as S-parameters, reflection coefficients, and transmission coefficients.

## Ordering Information

- 37247C or 37347C VNA
- SM5975 (with bias tees) or SM5962 (without bias tees) Multiport Test Set
- Navigator™ Multiport Software (download at [www.us.anritsu.com/navigator](http://www.us.anritsu.com/navigator))
- 806-121 Test Port Cables, 3.5mm (male) to 3.5mm (male), 36 inches



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