

VectorStar Millimeter-wave Vector Network Analyzer

2 and 4 port version of the VectorStar ME7838A operating with external mm-wave modules

The VectorStar ME7838A mm-wave system combines the MS4640B series VNA and 3739C test set to control 2 external mm-wave modules for measurement frequencies from 110 GHz to 1.1 THz and higher in waveguide bands. The 3739C test set routes the internal RF and LO signals from VectorStar thus eliminating the need for external sources. If 4 ports are required, a 3736B test set and the MN4697C 4 port test set with 2 additional modules can be attached. OML or VDI modules may be used.

The VectorStar ME7838A, the first mm-wave VNA system with real-time power leveling, has best-in-class stability with the widest power level control. The mm-wave system detects IF and RF power and provides correction to the mm-wave power in real time and without the need for software correction feedback. The method delivers stable mm-wave power even at low levels and reduces the risk of overdriving power-sensitive mm-wave devices – inherent in other systems. Thus, power sweep is available in an industry-leading range of up to 55 dB and without the need for mechanical attenuators in the mm-wave module.

- The first millimeter-wave system with real time electronic power leveling eliminating power correction time lag found on alternative systems using software correction feedback.
- Provides accurate, stable power control with widest power sweep for safe, accurate gain compression measurements.
- 4 port test set (MN4697C) and master mm-wave test set (3736B) can be added to standard 2 port system for 4 port operation.
- No need to purchase expensive 4 port test sets initially – upgrade the VectorStar mm-wave system when needed and budget permits.



VectorStar ME7838A Millimeter-wave System

Key Specifications	
Frequency	Waveguide bands from 110 GHz to 1.1 THz and higher
Power, Dynamic Range and Residual Performance	As provided by vendor mm-wave modules and appropriate calibration kits.

Quick Fact Sheet

VectorStar® 2 and 4 Port Millimeter-wave Vector Network Analyzer



Configuration for ME7838A VectorStar 2 Port Millimeter-wave System (> 110 GHz)

Action	Part Number	Description
Choose and order one of the four base VNAs, with the options listed	MS4642B MS4640B-007 MS4642B-082	Vector Network Analyzer, 10 MHz to 20 GHz Receiver Offset Option Millimeter-wave Interface
	MS4644B MS4640B-007 MS4644B-082	Vector Network Analyzer, 10 MHz to 40 GHz Receiver Offset Option Millimeter-wave Interface
	MS4645B MS4640B-007 MS4645B-082	Vector Network Analyzer, 10 MHz to 50 GHz Receiver Offset Option Millimeter-wave Interface
	MS4647B MS4640B-007 MS4647B-082	Vector Network Analyzer, 10 MHz to 70 GHz Receiver Offset Option Millimeter-wave Interface
Order Test Set	3739C	Broadband & mm-Wave Test Set
Order system cables	SM6626	mm-Wave module interface cables substituting for broadband cables (1 pair)
Choose and order a pair of mm-Wave modules	OML VxxVNA2-T/R, 2 each -or-	Choose appropriate OML, Inc. mm-wave band module. Include external OML power supply or equivalent.
	VDI WRxxTxRx-20G, 2 each	Choose appropriate VIRGINIA Diodes, Inc. mm-wave band module
Add options if desired to the selected VNA	MS464xB-051	External VNA loops (Substitute MS464xB-082 with MS464xB-083)
	MS464xB-061	Active Measure Suite, 2 atten. (Substitute MS464xB-082 with MS464xB-083)
	-or- MS464xB-062	Active Measure Suite, 4 atten. Substitute MS464xB-082 with MS464xB-083)
	MS4640B-070	70 kHz coverage
	MS4640B-002	Time Domain

Configuration for ME7838A VectorStar 4 Port Millimeter-wave System (> 110 GHz)

Action	Part Number	Description
Choose and order one of the four base VNAs, with the options listed	MS4642B MS4640B-007 MS4642B-082 MS4642B-051, 061, or 062	Vector Network Analyzer, 10 MHz to 20 GHz Receiver Offset Option Millimeter-wave Interface Access Loop or Active Suite
	MS4644B MS4640B-007 MS4644B-082 MS4644B-051, 061, or 062	Vector Network Analyzer, 10 MHz to 40 GHz Receiver Offset Option Millimeter-wave Interface Access Loop or Active Suite
	MS4645B MS4640B-007 MS4645B-082 MS4645B-051, 061, or 062	Vector Network Analyzer, 10 MHz to 50 GHz Receiver Offset Option Millimeter-wave Interface Access Loop or Active Suite
	MS4647B MS4640B-007 MS4647B-082 MS4647B-051, 061, or 062	Vector Network Analyzer, 10 MHz to 70 GHz Receiver Offset Option Millimeter-wave Interface Access Loop or Active Suite
Order Test Set	3739C	Broadband & mm-Wave Test Set
Order 4 Port Test Set	MN4697C	4 Port Test Set
Order Master Test Set	3736B	4 Port Master Test Set
Order system cables	SM6626(2)	mm-Wave module interface cables substituting for broadband cables (1 pair)
Choose and order mm-Wave modules	OML VxxVNA2-T/R, 4 each -or-	Choose appropriate OML, Inc. mm-wave band module. Include external OML power supply or equivalent.
	VDI WRxxTxRx-20G, 4 each	Choose appropriate VIRGINIA Diodes, Inc. mm-wave band module
Add options if desired to the selected VNA	MS4640B-070	70 kHz coverage
	MS4640B-002	Time Domain

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