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

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2- and 4-port version of the VectorStar ME7838A operating with external Millimeter-Wave (mmWave) modules

The VectorStar ME7838A mmWave system combines the MS4640B series Vector Network Analyzer (VNA) and 3739C test set to control 2 external mmWave 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 mmWave VNA system with real-time power leveling, has best-in-class stability with the widest power level control. The mmWave system detects IF and RF power, and provides correction to the mmWave power in real time and without the need for software correction feedback. This method delivers stable mmWave power even at low levels, and reduces the risk of overdriving power-sensitive mmWave devices that are 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 mmWave module.

- The first mmWave 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 mmWave 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 mmWave 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 mmWave modules and appropriate calibration kits

CDIP

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

Action	Part Number	Description
Choose and Order One of the Three Base VNAs, with the Options Listed	MS4642B MS4640B-007 MS4642B-082	Vector Network Analyzer, 10 MHz to 20 GHz Receiver Offset Option mmWave Interface
	MS4644B MS4640B-007 MS4644B-082	Vector Network Analyzer, 10 MHz to 40 GHz Receiver Offset Option mmWave Interface
	MS4647B MS4640B-007 MS4647B-082	Vector Network Analyzer, 10 MHz to 70 GHz Receiver Offset Option mmWave Interface
Order Test Set	3739C	Broadband & mmWave Test Set
Order System Cables	SM6626	mmWave module interface cables substituting for broadband cables (1 pair)
Choose and Order Pair of mmWave Modules	OML VxxVNA2-T/R, 2 each -or-	Choose appropriate OML, Inc. mmWave band module. Include external OML power supply or equivalent.
	VDI WRxxTxRx-20G, 2 each	Choose appropriate VIRGINIA Diodes, Inc. mmWave 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 Three 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 mmWave 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 mmWave 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 mmWave Interface Access Loop or Active Suite
Order Test Set	3739C	Broadband & mmWave 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)	mmWave module interface cables substituting for broadband cables (1 pair)
Choose and Order mmWave Modules	OML VxxVNA2-T/R, 4 each -or-	Choose appropriate OML, Inc. mmWave band module. Include external OML power supply or equivalent
	VDI WRxxTxRx-20G, 4 each	Choose appropriate VIRGINIA Diodes, Inc. mmWave band module
Add Options if Desired to the Selected VNA	MS4640B-070	70 kHz coverage
	MS4640B-002	Time Domain