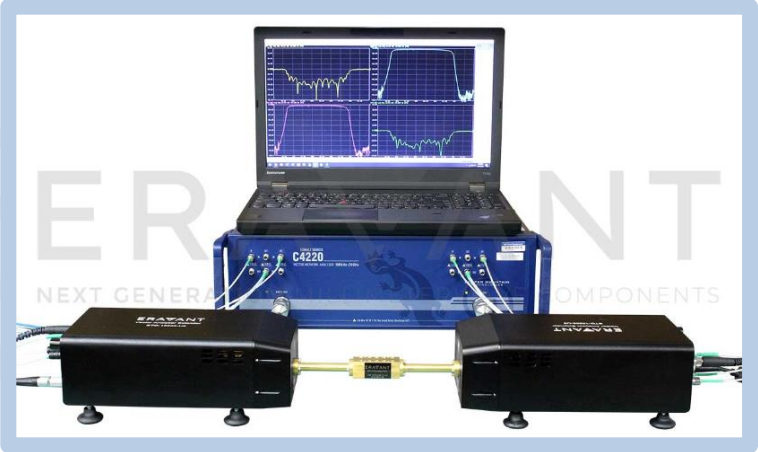
STO-03203-U6

Advanced

WR-03 Band VNA Frequency Extender, 0 dBm

Description:



Model STO-03203-U6 is a G Band vector network analyzer (VNA) frequency extender designed to achieve full 2-port, S-parameter testing at 220 to 330 GHz. It is compatible with modern vector network analyzers such as the Copper Mountain CobaltFx C4220, Rohde & Schwarz ZVA Series and Keysight PNA-X Series. The VNA to be extender needs to have dual sources and 4 ports with LO frequency offset setting option (RF±IF). The frequency extenders can achieve a dynamic range up to 100 dB for high performance passive products' such as, directional couplers, orthomode transducers and filters etc., high rejection and high return loss testing. An AC to DC Power adapter is included. For full [S] parameter testing, two extenders are required. The VNA extender is packaged in a rugged equipment box with additional hardware and tools.

Features:

- Full Band Coverage
- Dynamic Range of 100 dB
- AC Power Input: 100 to 240 VAC

Applications:

- VNA Frequency Extension
- S-Parameter Characterization
- Test Lab Instrumentation

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Operating Frequency	220 GHz		330 GHz
Test Port Output Power (Full Power)		+0 dBm	
Output Power Control Range		N/A	
Dynamic Range @ 10 Hz Bandwidth	90 dB	100 dB	
Test Port Match		30 dB	
Directivity	30 dB	35 dB	
RF Source Input Frequency	12.22 GHz		18.34 GHz
RF Source Input Power	0 dBm	+3 dBm	+6 dBm
LO Source Input Frequency (RF±IF)	12.22 GHz		18.34 GHz
LO Source Input Power	0 dBm	+3 dBm	+6 dBm
IF Frequency Range	10 MHz		1000 MHz
Multiplication Factor		18	
Magnitude Stability		0.2 dB	0.3 dB
Phase Stability		2.0˚	3˚
Specification Temperature	+20 ˚C		+30 ˚C
Operating Temperature	+0 ˚C		+50 ˚C

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WR-03 Band VNA Frequency Extender, 0 dBm

Mechanical Specifications:

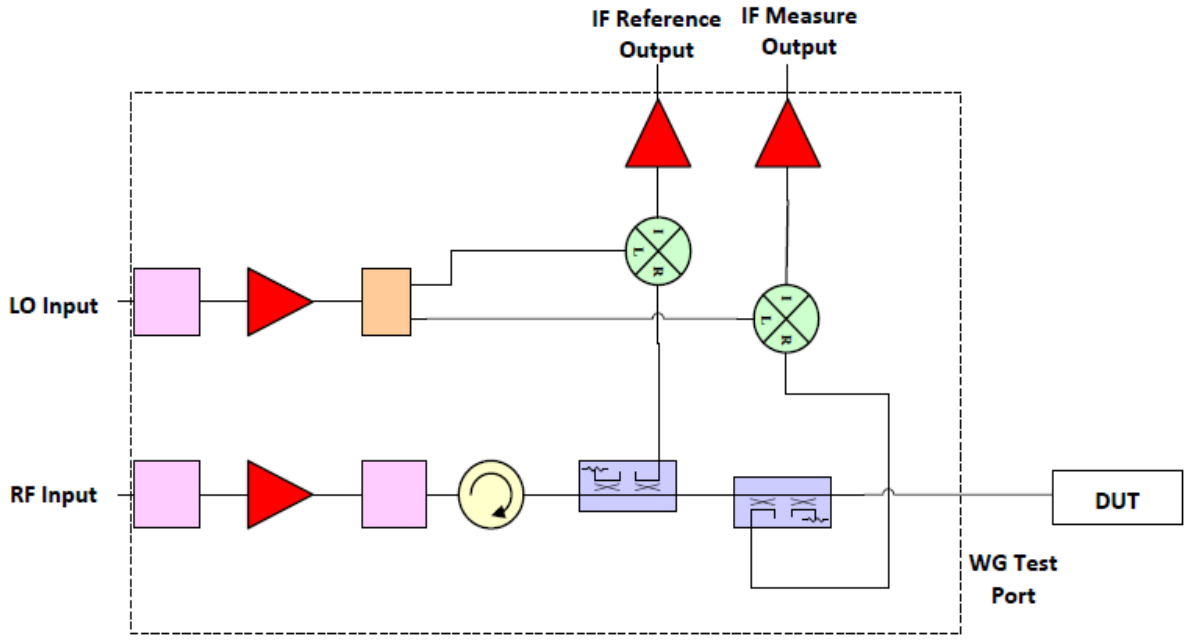
Item	Specification
RF Test Port	WR-03 Waveguide with UG387/U-M Anti-Cocking Flange
RF and LO Source Input Ports	SMA (F), SMA (F)
IF Output Port	SMA (F)
IF Reference Port	SMA (F)
DC Power Receptacle	LEMO FGG.B.304.CLAD52Z, +6.5 Vdc to +12 Vdc
Finish	Paint, Black
Weight	8 Lbs Each
Size	9.4” (L) x 4.8” (W) x 3.0” (H), Without Adjustable Feet
Outline	TO-SG-U3-A

Components Included in the Kit: (All parts are packaged in a rugged equipment box.)

Item	SAGE Model Number	Quantity
Metrology Straight Waveguide Section, 2” Long	STQ-WG-03020-FM-A	1 Piece
Waveguide Quick Connect, 0.75” Diameter Flange	SWH-QC-0750C-R2	1 Piece
Waveguide Screws, 3/32 Hex Head	SWH-332-SS-10	1 Bag (10 Pieces)
Waveguide Screwdriver, 3/32 Hex Head	SWH-332-DS	1 Piece
SMA Connector Torque Wrench	SCH-08008-S1	1 Piece
AC-to-DC Power Adapter	STU-110008001-MF	1 Piece

- Connecting Cables are not included, but SAGE Millimeter cable with model number **SCW-SMSM040-F1-A-PM** is highly recommended. Total four (4) cables for each STO or eight (8) cables for the pair are required for full operation.

Simplified Block Diagram (Half):



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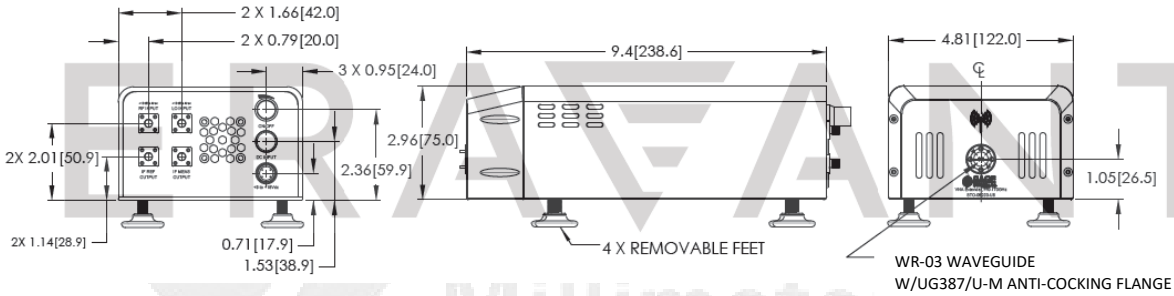
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- Two identical units are required to complete the full S parameter test set.
- The VNA to be extended needs to have dual sources and 4 ports with LO and RF frequency offset option. To obtain the best performance, exercising LO power optimization is recommended.

Caution:

- Exceeding absolute maximum ratings of the device will damage the device.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**
- Any foreign objects in the waveguide will cause performance degradation or damage the device.

Appendix - Detailed Views:

STO Front View

STO Back View

STO Case

STO Inside View

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