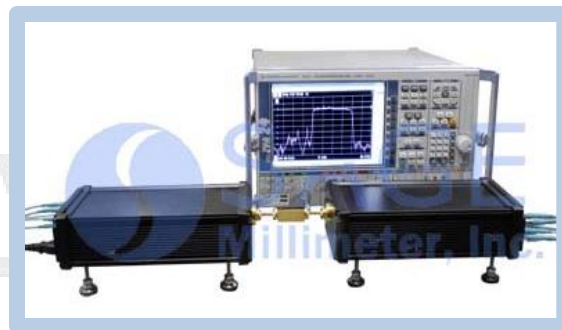




## V Band VNA Frequency Extender

### Description:

**Model STO-15203-S1** is a V Band vector network analyzer (VNA) frequency extender designed to achieve full 2-port, S-parameter testing at 50 to 75 GHz. It is compatible with modern vector network analyzers with four port and dual source options, such as the Rohde & Schwarz ZVA Series and the Keysight PNA-X Series. The frequency extenders can achieve a dynamic range of 100 dB and are great for testing many E band devices including passive and active devices. It takes a pair to complete the full S parameter test set.



### Features:

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

### Applications:

- S-Parameter Characterization
- Test Lab Instrumentation

### Electrical Specifications:

| Parameter                       | Minimum   | Typical | Maximum   |
|---------------------------------|-----------|---------|-----------|
| RF Operating Frequency          | 50 GHz    |         | 75 GHz    |
| Test Port Output Power          |           | +1 dBm  |           |
| Dynamic Range @ 10 Hz Bandwidth | 90 dB     | 100 dB  |           |
| Test Port Match                 | 17 dB     | 18 dB   |           |
| Directivity                     | 35 dB     | 40 dB   |           |
| RF Source Input Frequency       | 12.50 GHz |         | 18.75 GHz |
| RF Source Input Power           | +3 dBm    |         | +10 dBm   |
| LO Source Input Frequency       | 8.33 GHz  |         | 12.50 GHz |
| LO Source Input Power           | +0 dBm    |         | +6 dBm    |
| IF Frequency Range              | 10 MHz    |         | 1000 MHz  |
| Magnitude Stability             |           |         | 0.2 dB    |
| Phase Stability                 |           |         | 2°        |
| Operating Temperature           | +20°C     |         | +30°C     |

### Mechanical Specifications:

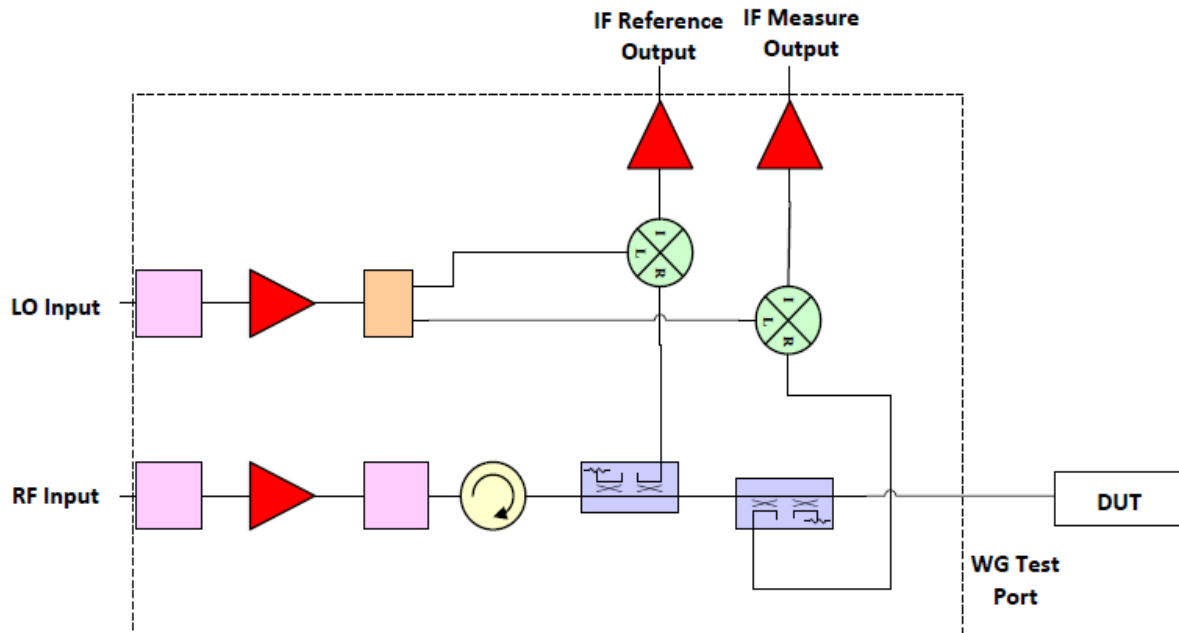
| Item                         | Specification                                    |
|------------------------------|--|
| RF Test Port                 | WR-15 Waveguide with UG385/U Anti-Cocking Flange |
| RF and LO Source Input Ports | SMA(F), SMA(F)                                   |
| IF Output Ports              | SMA(F)   |
| AC Power Receptacle          | IEC 320-C14                                      |
| Finish                       | Black Anodized                                   |
| Weight                       | 8 Lbs Each                                       |
| Size                         | 11.11" (L) x 6.15" (W) x 4.56" (H)               |
| Outline                      | TO-SV  |



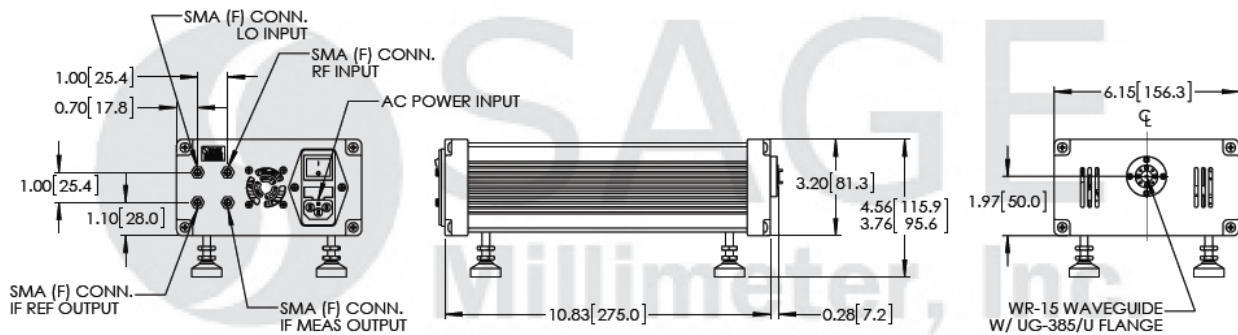
www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505  
 Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

## V Band VNA Frequency Extender

### Simplified Block Diagram (Half):



### 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.

### Caution:

- Exceeding absolute maximum ratings of the device will damage the device.
- Proper torque,  $8.0 \pm 0.15$  inch-pounds ( $0.92 \pm 0.05$  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.



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