STR-793-12-L1

Rev. 1.0

Radar Target Simulator, Level Setting, 79 GHz

Description:



Model STR-793-12-L1 is a radar doppler simulator that operates at 79 GHz with a bandwidth of ±2 GHz and a WR-12 waveguide input/output. The simulator utilizes a single-sideband-modulator to modulate the incoming signal transmitted by the radar under test and sends back either a higher or lower band signal through a diplexer. The frequency-shifted signal is transmitted back to the radar under test as the Doppler signal. Target characteristics can be adjusted by changing the I and Q channel frequency and phase. The routing attenuation is adjusted by the level setting attenuator, which can be calibrated to simulate the radar cross section (RCS).

Features:

- Single Sideband Output
- Simulated Target Speed and Size Adjustable
- Simulated Target Moving Direction Switchable
- Instrumentation Grade

Applications:

- Doppler Target Simulations
- Radar Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		79 GHz	
RF Bandwidth		±2 GHz	
Carrier Rejection		30 dB	
Image Rejection		20 dB	
Routing Loss Range		30 to 80 dB	
I/Q Frequency Range	DC		250 MHz
I/Q Voltage		±10 V_{p-p}	±12 V_{p-p}
I/Q Current		±5 mA	10 mA
I/Q Phase Error		±5°	
Specification Temperature		+25 ˚C	
Operating Temperature	+0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
RF Port	WR-12 Waveguide with UG-387/U Flange
I/Q Ports	SMA(F)
Finish	Black Anodized
Size	9.67” (L) x 6.15” (W) x 4.33” (H)
Outline	TR-EL

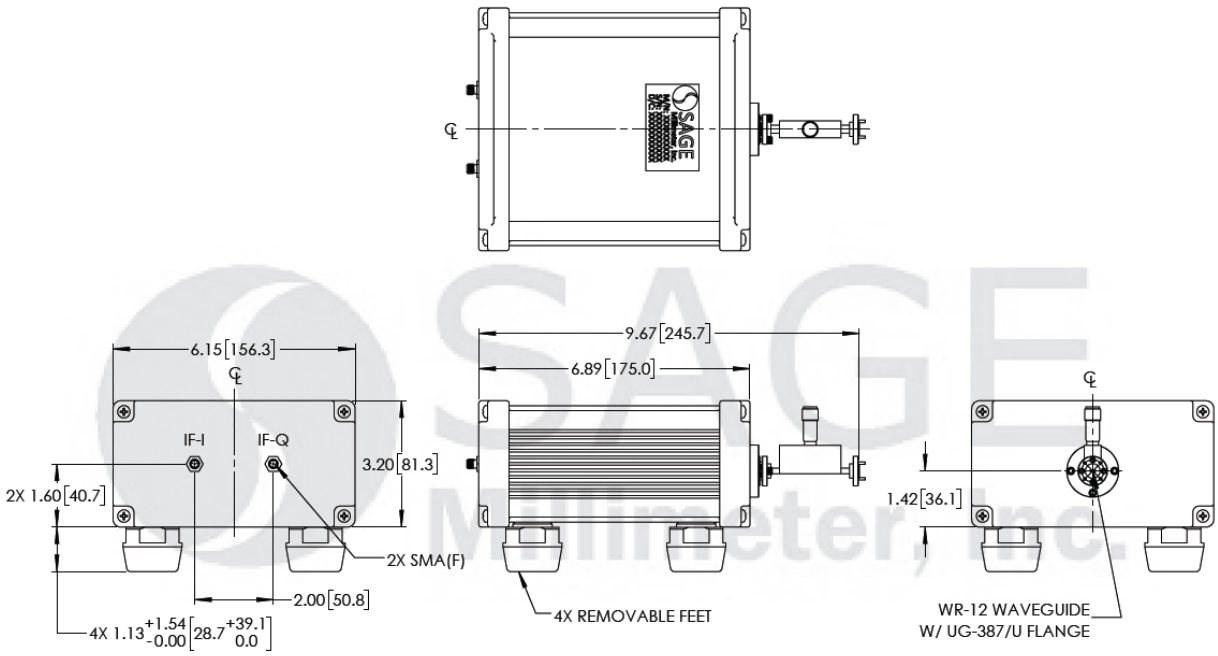
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Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.
- Models with different operation frequencies are available under a different model number.
- The 79 to 81 GHz Radar Target Simulator with a **direct reading attenuator**, instead of a level setting attenuator, is available as model **STR-793-12-D1**.

Caution:

- Exceeding absolute maximum ratings will damage the device.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

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