STR-943-10-L1

Doppler Radar Target Simulator, Level Setting

STR-943-10-L1 is a doppler radar target simulator that operates at 94 GHz with a bandwidth of ±2 GHz and a WR-10 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 circulator. 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. **Function Signal Generator STL-FG-000020-S1** is recommended. The routing attenuation is adjusted by the level setting attenuator, which can be calibrated to simulate the radar cross section (RCS).

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		94 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}	±20 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 Ports	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
I/Q Ports	SMA (F)
Case Finish	Black Anodized
Size	7.56” (W) x 4.89” (L) x 1.90” (H)
Outline	TR-WL-2

ECCN

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FEATURES

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

APPLICATIONS

- Doppler Target Simulations
- Radar Systems Testing

RECOMMENDED PAIRINGS

- STL-FG-000020-S1

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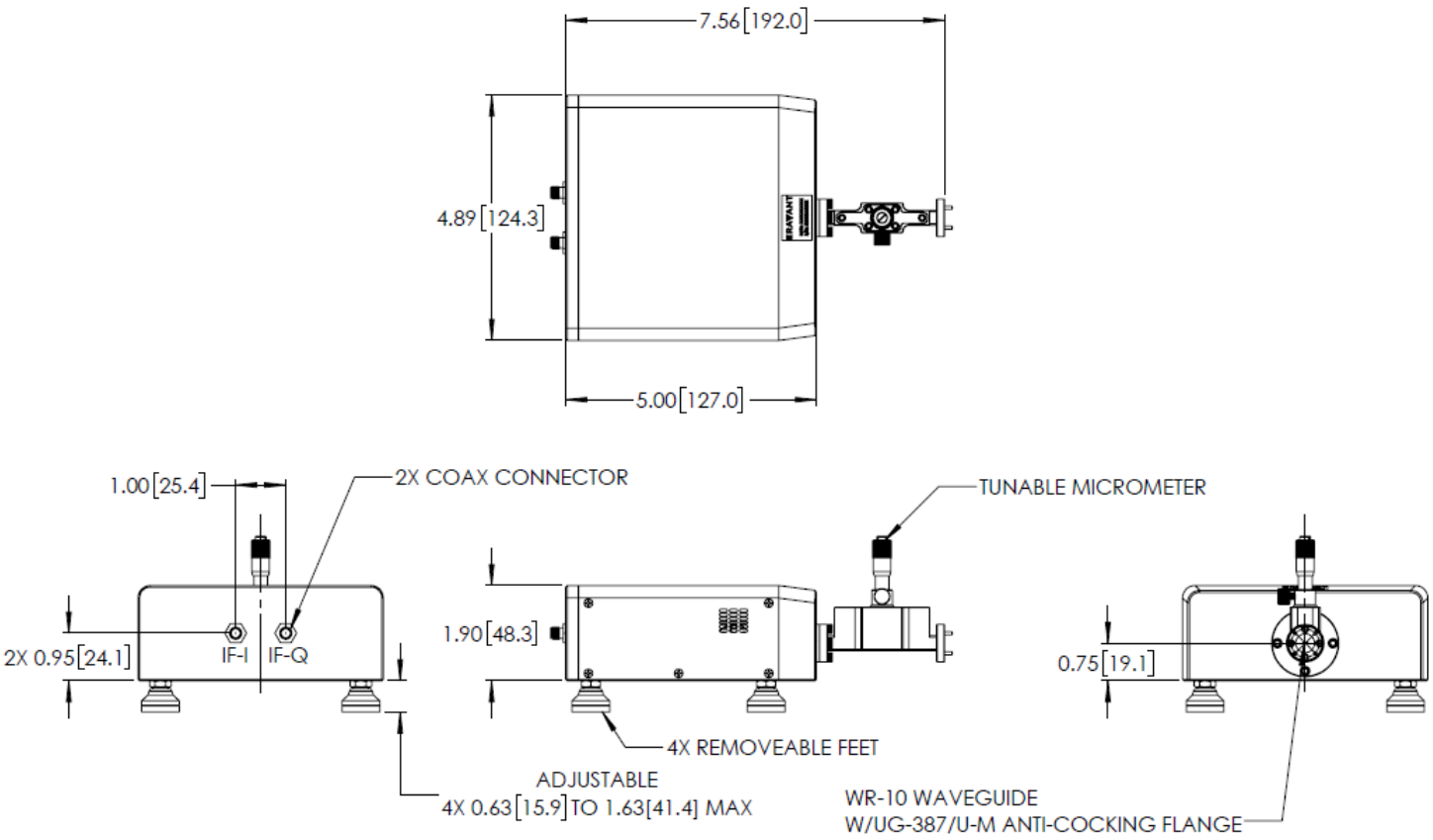
Mechanical Outline: Unless otherwise specified, all dimensions are in inches [millimeters])



NOTE:

- Eravant reserves the right to change the information presented without notice.
- Models with different operation frequencies are available under different model numbers.
- A Radar Target Simulator with a direct reading attenuator, instead of a level setting attenuator, is available as model **STR-943-10-D1**.
- Eravant has performed test and recommends **Function Signal Generator STL-FG-000020-S1** in combination with our Radar Target Simulators.

CAUTION:

- Exceeding absolute maximum ratings of the device will damage the device.
- **The IF ports of the simulator are DC coupled and static sensitive. Always follow ESD rules when working with the device.**
- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model **SCH-08008-S1** is highly recommended.

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