STR-743-12-D1

Radar Target Simulator, Direct Reading, 71 to 76 GHz

STR-743-12-D1 is a radar doppler simulator that operates at 73.5 GHz with a bandwidth of ±2.5 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 a Doppler signal. Target characteristics are adjusted by changing the I and Q channel frequency and phase. The routing attenuation is adjusted by the direct reading attenuator.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Center Frequency		73.5 GHz	
RF Bandwidth		±2.5 GHz	
Carrier Rejection		30 dB	
Image Rejection		20 dB	
Routing Loss Range		25 to 125 dB	
I/Q Frequency Range	DC		250 MHz
I/Q Voltage		±10 V_{p-p}	±12 V_{p-p}
I/Q Current		±2.5 mA	±5 mA
I/Q Phase Error		±5°	
Specification Temperature		+25°C	
Operating Temperature	0°C		+50°C

Mechanical Specifications:

Item	Specification
RF Ports	WR-12 Waveguide with UG-387/U Anti-Cocking Flange
I/Q Ports	SMA (F)
Size	7.91” (W) x 9.56” (L) x 4.38” (H)
Case Finish	Black Anodized
Outline	TR-ED-A

ECCN

EAR99

FEATURES

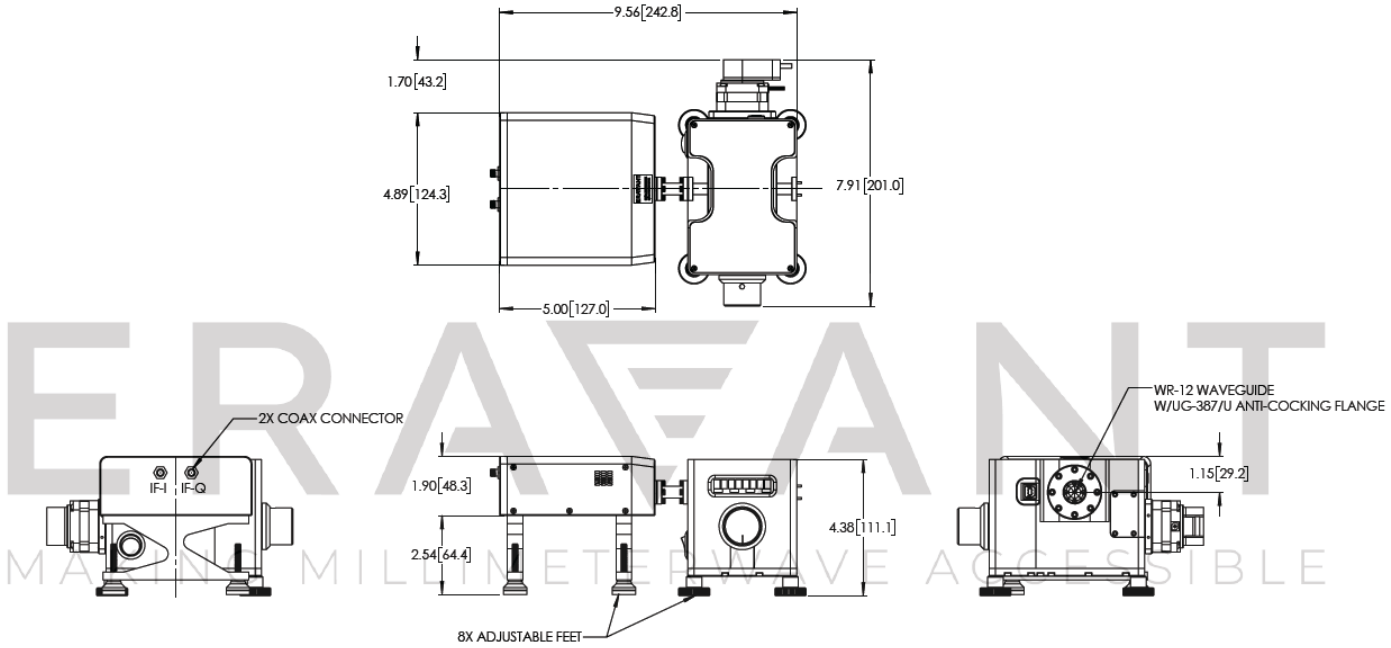
- Single Sideband Output
- Simulated Target Speed and Size Adjustable
- Simulated Target Moving Direction Switchable
- Instrumentation Grade

APPLICATIONS

- Doppler Target Simulations
- Radar System Testing

SUPPLEMENTAL DETAILS

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



NOTE:

- Models with different operating frequencies are available under different model numbers.
- A 73.5 GHz Radar Target Simulator with a level setting attenuator, instead of a direct reading attenuator, is available as model **STR-743-12-L1.**
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Exceeding absolute maximum ratings shown will damage the device.
- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm). Torque wrench model SCH-06004-S1 is highly recommended.
- 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.