

STR-243-42-D1

Radar Target Simulator, Direct Reading

STR-243-42-D1 is a radar doppler simulator that operates from 18 to 26.5 GHz with a WR-42 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.

Siglent's SDG1032X Waveform Generator or equivalent is recommended. The routing attenuation is adjusted by the direct reading attenuator.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Operating Frequency	18 GHz		26.5 GHz
Carrier Rejection		25 dB	
Image Rejection		20 dB	
Routing Loss Range		25 to 125 dB	
I/Q Frequency Range	DC		8.5 GHz
I/Q Voltage			± 10 V _{P-P}
I/Q Current		± 2.5 mA	± 5 mA
I/Q Phase Error		$\pm 5^\circ$	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
RF Ports	WR-42 Waveguide with UG-595/U Flange
I/Q Ports	SMA (F)
Case Finish	Black Anodized
Size	6.21" (W) x 14.90" (L) x 4.38" (H)
Outline	TR-KD-2

ECCN

EAR99

FEATURES

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

APPLICATIONS

- Doppler Target Simulations
- Radar Systems Testing

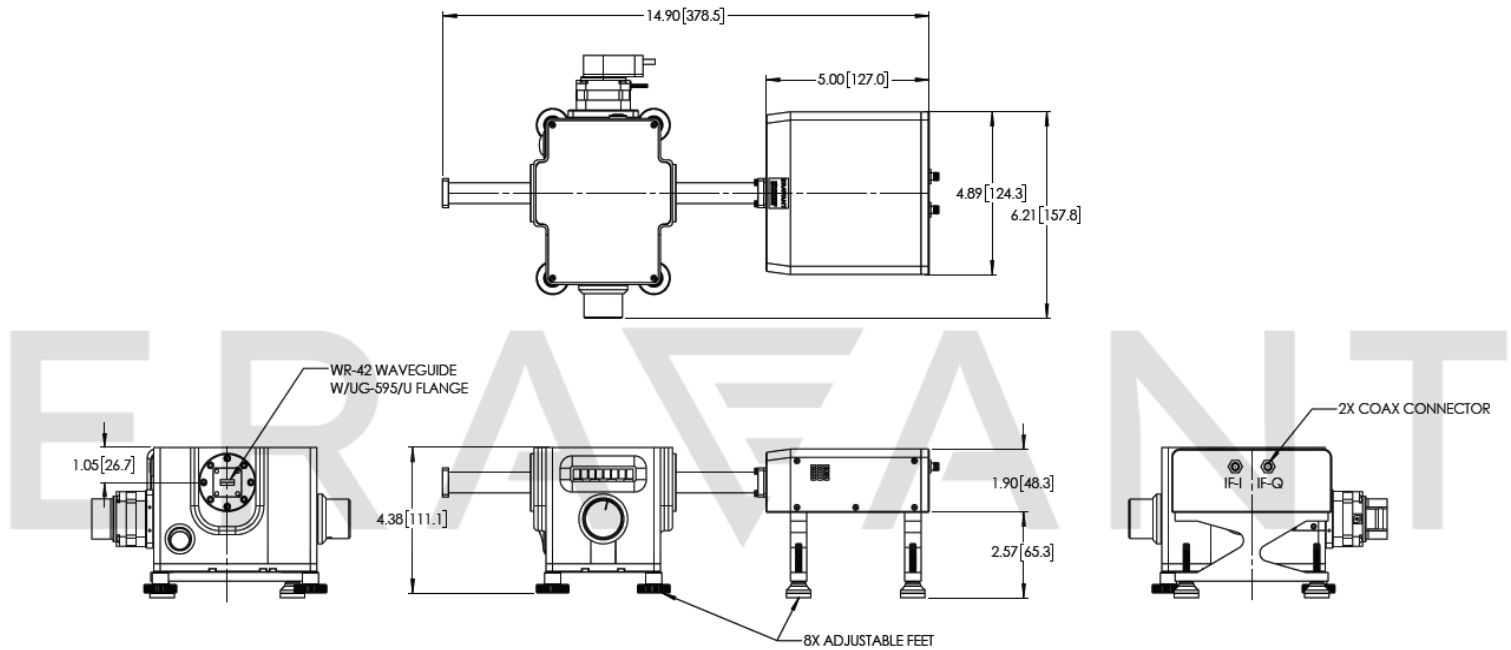
SUPPLEMENTAL DETAILS



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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 level setting attenuator, instead of a direct reading attenuator, is available as model **STR-243-42-L1**.
- Eravant has performed test and recommends **Siglent's SDG1032X Waveform Generator** or equivalent in combination with our Radar Target Simulators.

CAUTION:

- Exceeding absolute maximum ratings of the device will damage the device.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.02 Nm), should be applied. Eravant torque wrench, model **SCH-08008-S1**, is highly recommended.
- Any foreign objects in the waveguide will cause performance degradation and may damage the device.