

## 24 GHz Doppler Sensor Head, Dual Channel

### Description:

**Model SSS-24307-27M-D1** is a K Band, microstrip antenna-based Doppler sensor head that is designed and manufactured for **long range** measurements of a moving target's speed and direction. The sensor head has a center frequency of 24 GHz and takes a nominal bias of +5.0 VDC/250 mA. The sensor heads are configured with a microstrip antenna, T/R diplexer, a dual channel (I/Q) receiver and a transmitter/receiver oscillator in an integrated die-cast housing. Sensor heads with a single receiver are offered under model number **SSS-24307-27M-S1** and can only detect the speed of a moving target.



### Features:

- 24 GHz Operation
- Low Flicker Noise and High Sensitivity
- Low Harmonic Emission

### Applications:

- Traffic Management Systems
- Law Enforcement
- Military Surveillance Systems

### Electrical Specifications:

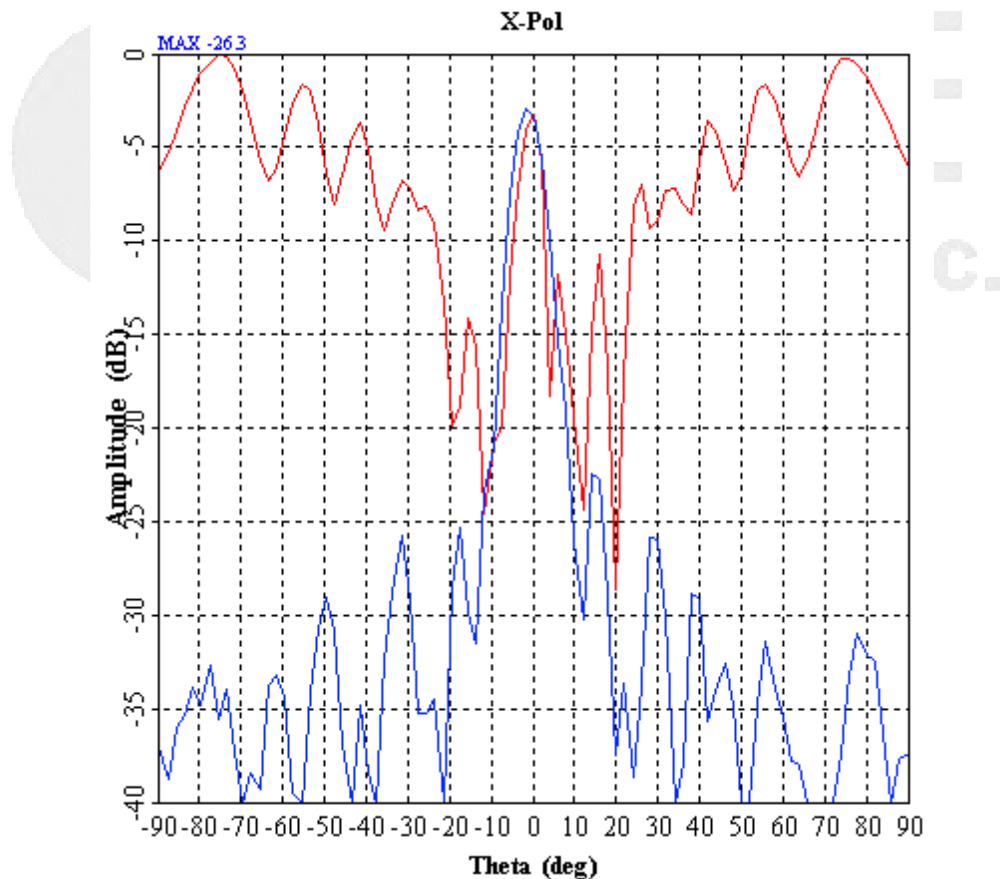
Parameter	Minimum	Typical	Maximum
Antenna 3 dB Beamwidth		4.6° (H) x 6.8° (V)	
Antenna Side Lobes		-20 dBc	
Antenna Gain		27 dBi	
Antenna Polarization		Linear	
RF Frequency Range		24 GHz	
Transmitting Power		+7 dBm	
Receiver I/Q Phase $\Delta$	60°		120°
Receiver I/Q Amplitude $\Delta$		0 dB	3 dB
IF Frequency Range	DC		100 MHz
IF Offset Voltage		-0.5 V <sub>DC</sub>	
Frequency Stability		-0.8 MHz/°C	
Power Stability		-0.03 dB/°C	
DC Supply Voltage		+5 V <sub>DC</sub> /250 mA	+5.5 V <sub>DC</sub>
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C





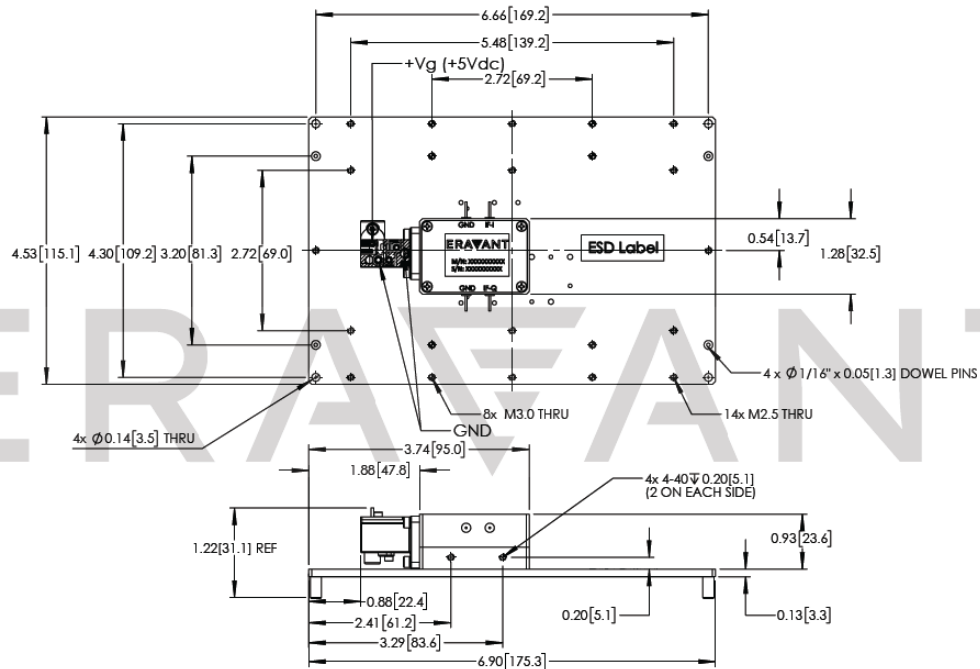
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### Measured Cross-pol E and H Plane Patterns



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



**Note:**

- Eravant reserves the right to change the information presented without notice.

**Caution:**

- The device is static sensitive. Always follow ESD rules when working with the device.
- Wrong bias or reverse bias on the sensor will damage the device.
- Exceeding absolute maximum ratings shown will damage the device. Use additional heatsink or fan if necessary.

