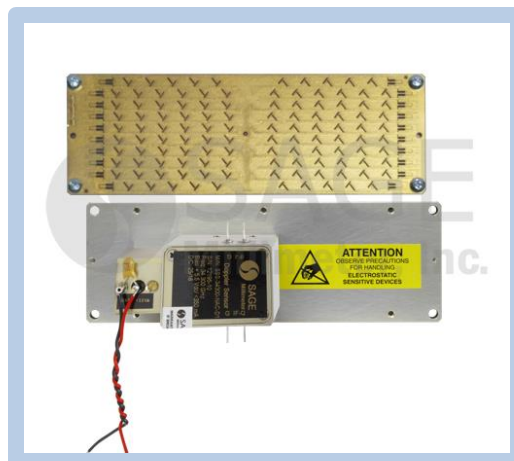




## 35 GHz High Performance Doppler Sensor Head, Single Channel

### Description:

**Model SSS-35307-23IC-S1** is a Ka Band, waveguide slotted array antenna-based Doppler sensor head that is designed and manufactured for **medium range** measurements of a moving target's speed. The sensor head has a center frequency of 35 GHz and takes a nominal bias of +5.0 VDC/250 mA. The sensor heads are configured with a waveguide slotted array antenna, T/R diplexer, a single channel receiver and a transmitter/receiver oscillator in an integrated die-cast housing. Sensor heads with a dual receiver are offered under model number **SSS-35307-23IC-D1** and can detect both the speed and direction of a moving target.



### Features:

- 35 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° (H) x 10° (V)	
Antenna Side Lobes		-15 dBc	
Antenna Gain		23 dBi	
Antenna Polarization	Right Hand Circular		
RF Frequency Range*	34.00 GHz	35.00 GHz	36.00 GHz
Transmitting Power		+7 dBm	
IF Frequency Range	DC		100 MHz
IF Offset Voltage		±0.1 V <sub>DC</sub>	
Frequency Stability		-0.8 MHz/°C	
Power Stability		-0.03 dB/°C	
DC Supply Voltage		+5 VDC/250 mA	+5.5 VDC
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

\*The operation frequency of the standard model is factory set at 35 GHz. However, the customer may specify the exact frequency in the range of 34 to 36 GHz when placing the order.



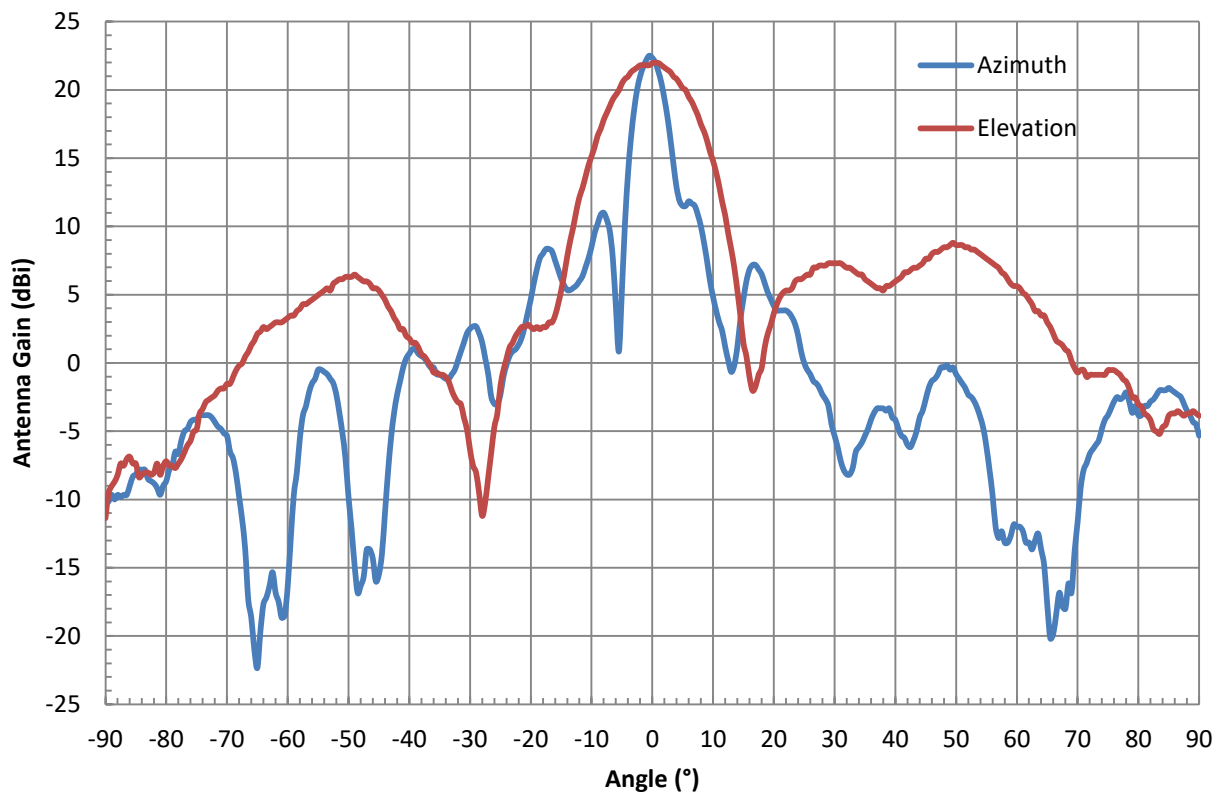


## 35 GHz High Performance Doppler Sensor Head, Single Channel

### Mechanical Specifications:

Item	Specification
Gunn Oscillator Bias Port	Red Wire
Mixer IF Port	Solder Pin
IF Ground	Solder Pin
Common Ground	Solder Pad
Size	5.00" (W) X 1.70" (L) X 1.21" (H)
Material	Aluminum
Finish	Chem Film
Weight	4.5 Oz
Outline	SS-WCA-23

### Typical Radiation Pattern @ 35 GHz



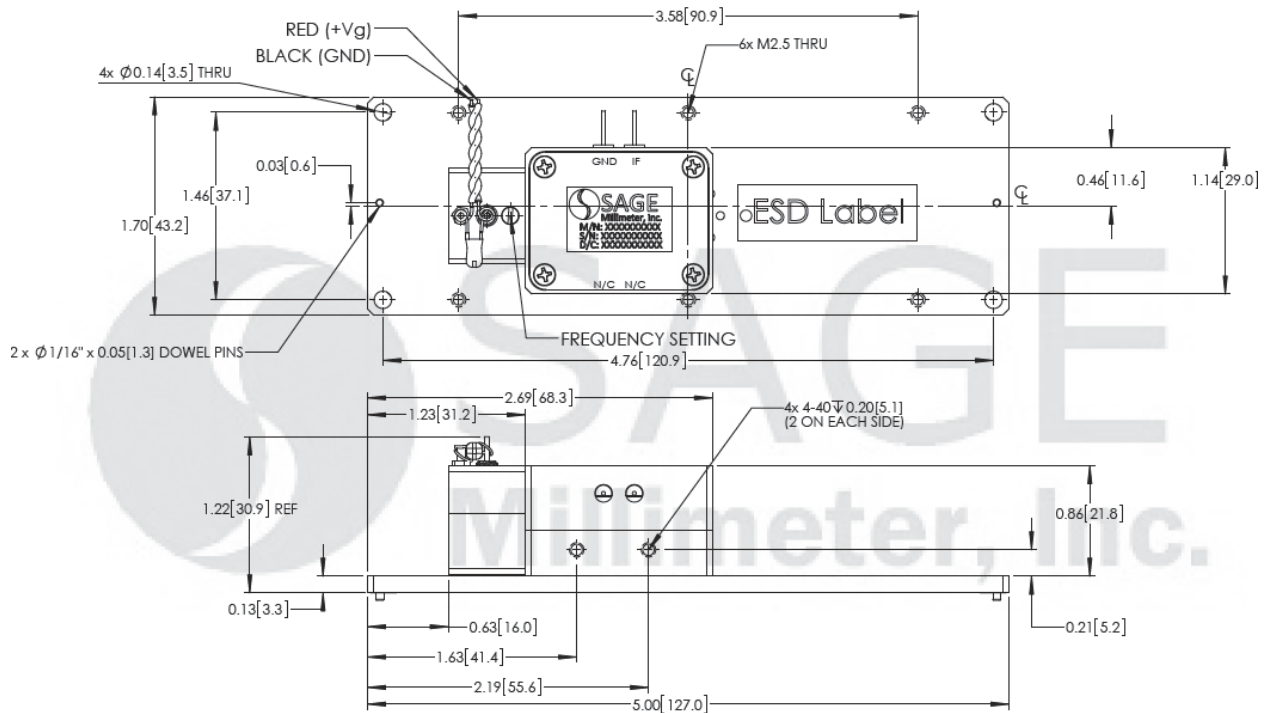
**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches[mm])



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 Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com



## 35 GHz High Performance Doppler Sensor Head, Single Channel



**Note:**

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25°C case temperature.
- SAGE Millimeter, Inc. 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.

