

## WR-12 Receiver, 71 to 86 GHz, 5 dB Noise Figure, 10 dB Gain

### Description:

**Model SSR-7931535010-12-SR1** is a WR-12 integrated receiver module for communication and automotive radar applications. The receiver has a typical conversion gain of 10 dB with a typical Noise Figure of 5 dB in the frequency range of 71 to 86 GHz. The required LO power is +5 dBm between frequencies of 11.5 and 14.67 GHz. The RF receive port is WR-12 Waveguide with UG-387/U Flange while the LO and IF port is female SMA connectors. Other port configurations, are also available under different model numbers.



### Features:

- Good Gain Flatness and Noise Figure
- Built in x6 LO Multiplier
- Fully Integrated Module

### Applications:

- Communication Systems
- Automotive Radar

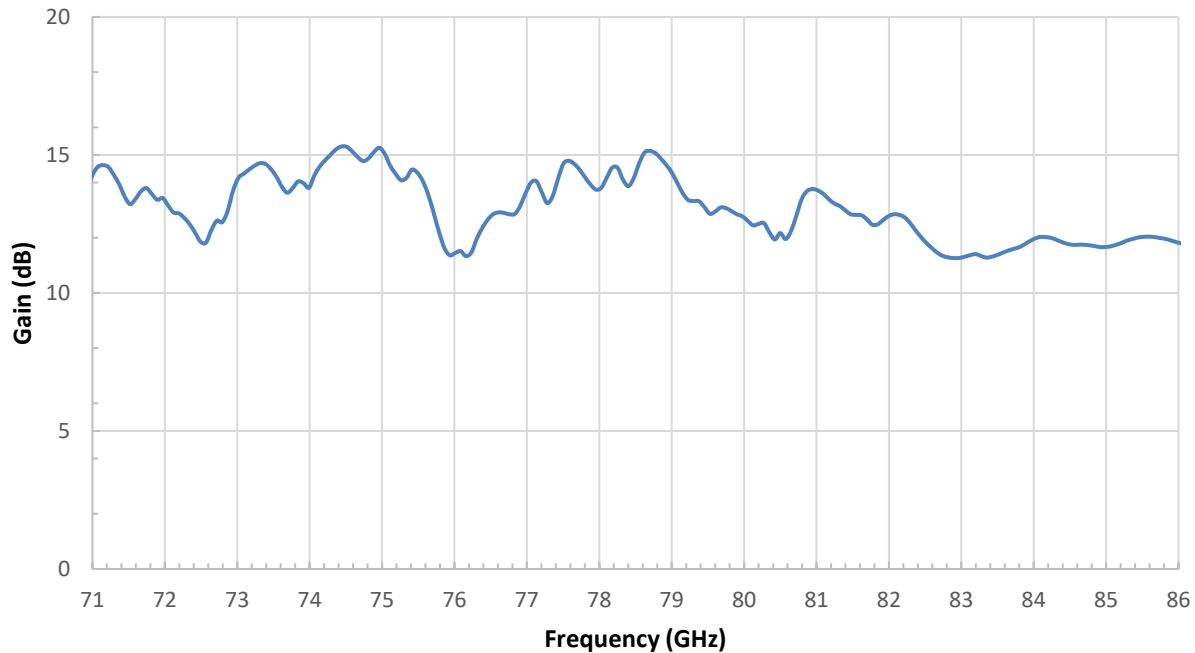
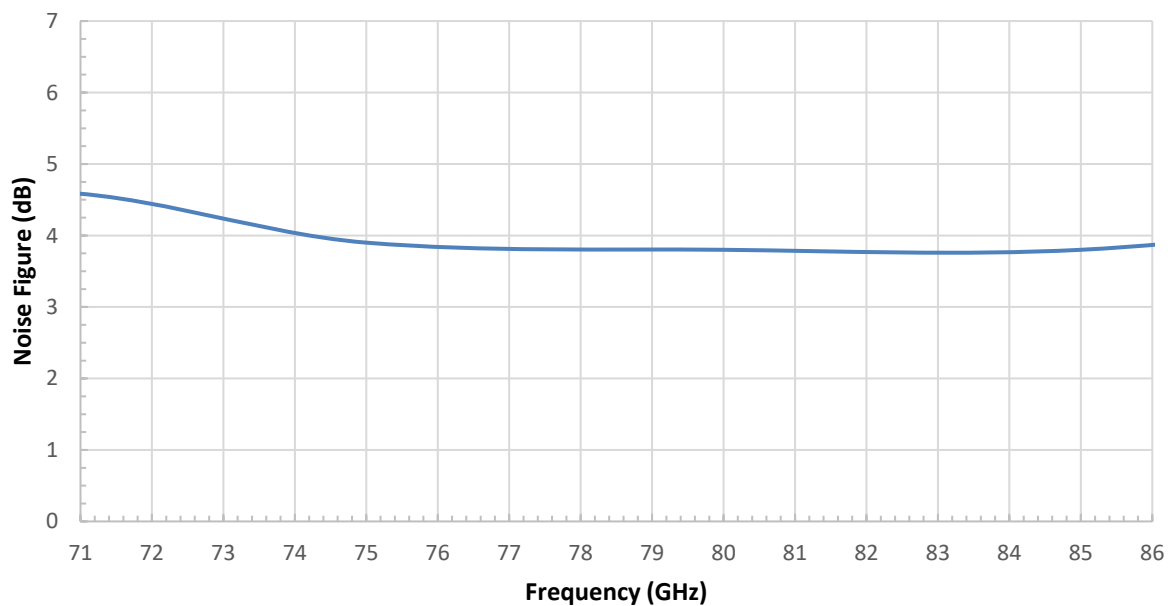
### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	71 GHz		86 GHz
RF Input Power			-15 dBm
IF Output Frequency	DC		12 GHz
LO Frequency	11.5 GHz		14.67 GHz
LO Input Power		+5 dBm	+15 dBm
Conversion Gain		10 dB	
Noise Figure		5 dB	
Input P <sub>1dB</sub>		-20 dBm	
Bias Voltage	+6 V <sub>DC</sub>	+8 V <sub>DC</sub>	+15 V <sub>DC</sub>
Bias Current		180 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

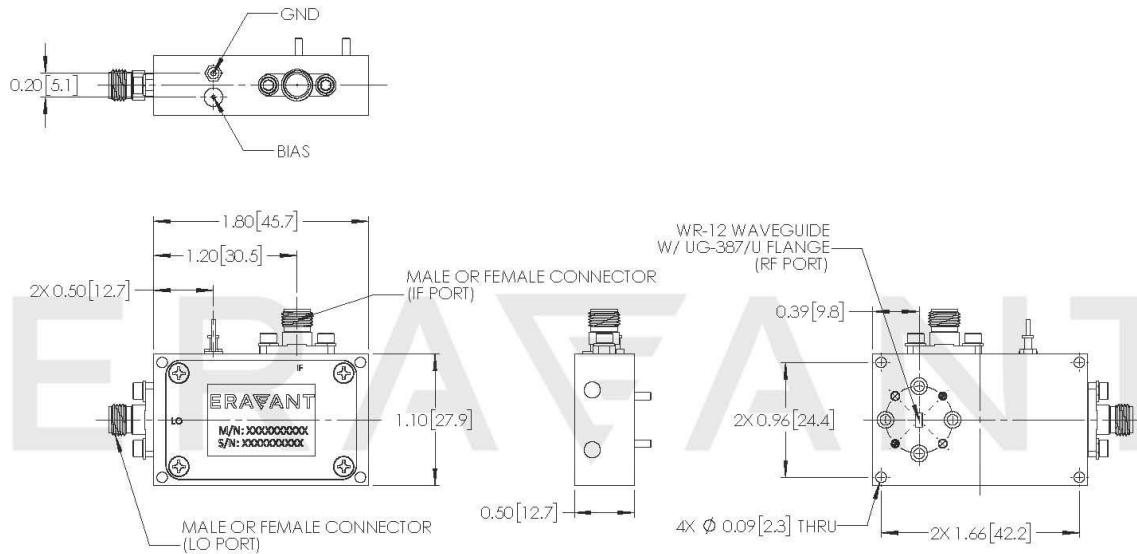
Item	Specification
RF Port	WR-12 Waveguide with UG-387/U Flange
LO Port	SMA (F)
IF Port	SMA (F)
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	2.0 Oz
Size	1.10" (W) X 1.80" (L) X 0.50" (H)
Outline	SR-SE-2

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**WR-12 Receiver, 71 to 86 GHz, 5 dB Noise Figure, 10 dB Gain****Gain vs. Frequency**Bias: +8 V<sub>DC</sub>/195 mA**Noise Figure vs. Frequency**Bias: +8V<sub>DC</sub>/195 mA

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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.
- Other mechanical configurations are available under different model numbers.

### Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed +50 °C. Use proper heatsink or fan if necessary.
- Proper torque,  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm), should be applied. **Eravant torque wrench, model SCH-08008-S1, is highly recommended.**

