

## WR-28 Receiver, 24 to 42 GHz, 4 dB Noise Figure, 12 dB Gain

### Description:

**Model SSR-3331834012-28-S1** is an integrated receiver module. The receiver has a typical conversion gain of 12 dB with a typical Noise Figure of 4 dB in the frequency range of 24 to 42 GHz. The required LO power is 0 dBm between frequencies of 12 and 21 GHz. The RF Receive port is WR-28 Uni-Guide™ Waveguide with UG-599/U Flange while the LO port is female 2.92mm (K) connectors. Other port configurations, are also available under different model numbers such as **SSR-3331834012-KF-S1**.



### Features:

- Good Gain and Noise Figure
- Multiplied LO Input Frequency
- Fully Integrated Module

### Applications:

- 5G Systems
- Radar Systems

### Electrical Specifications:

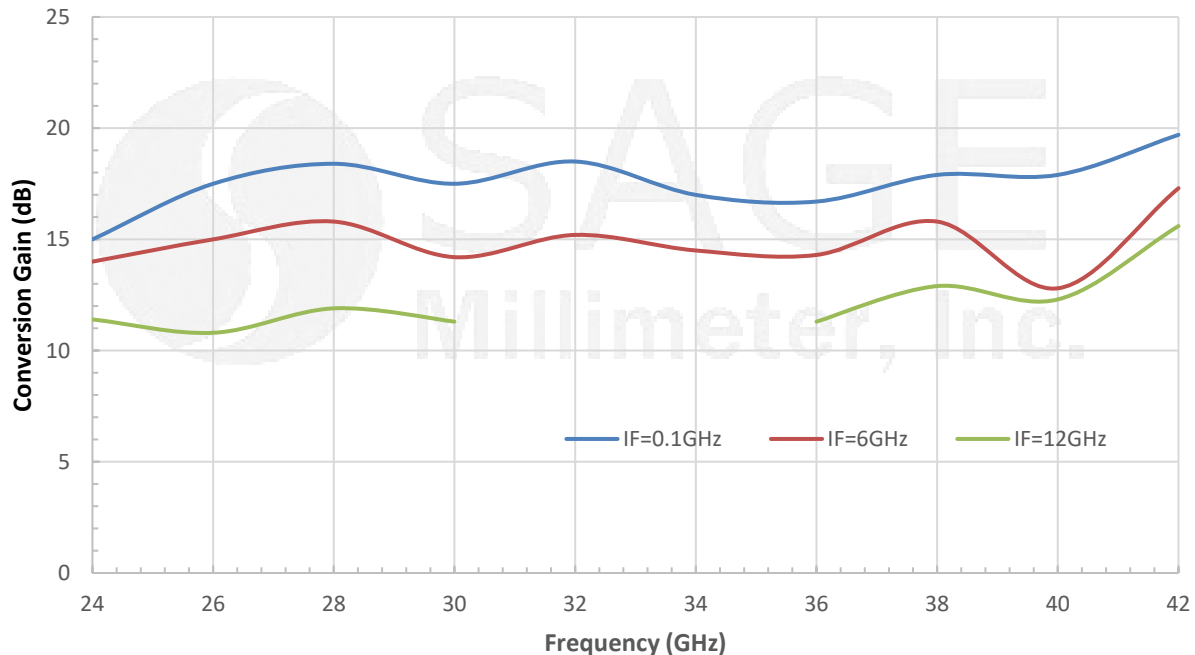
Parameter	Minimum	Typical	Maximum
RF Input Frequency	24 GHz		42 GHz
RF Input Power			+5 dBm
IF Output Frequency	DC		12 GHz
LO Frequency	12 GHz		21 GHz
LO Input Power		0 dBm	+20 dBm
RF to IF Conversion Gain		12 dB	
Noise Figure		4 dB	
Input P <sub>1dB</sub>		-18 dBm	
Bias Voltage	+6 V <sub>DC</sub>	+8 V <sub>DC</sub>	+15 V <sub>DC</sub>
Bias Current		300 mA	
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

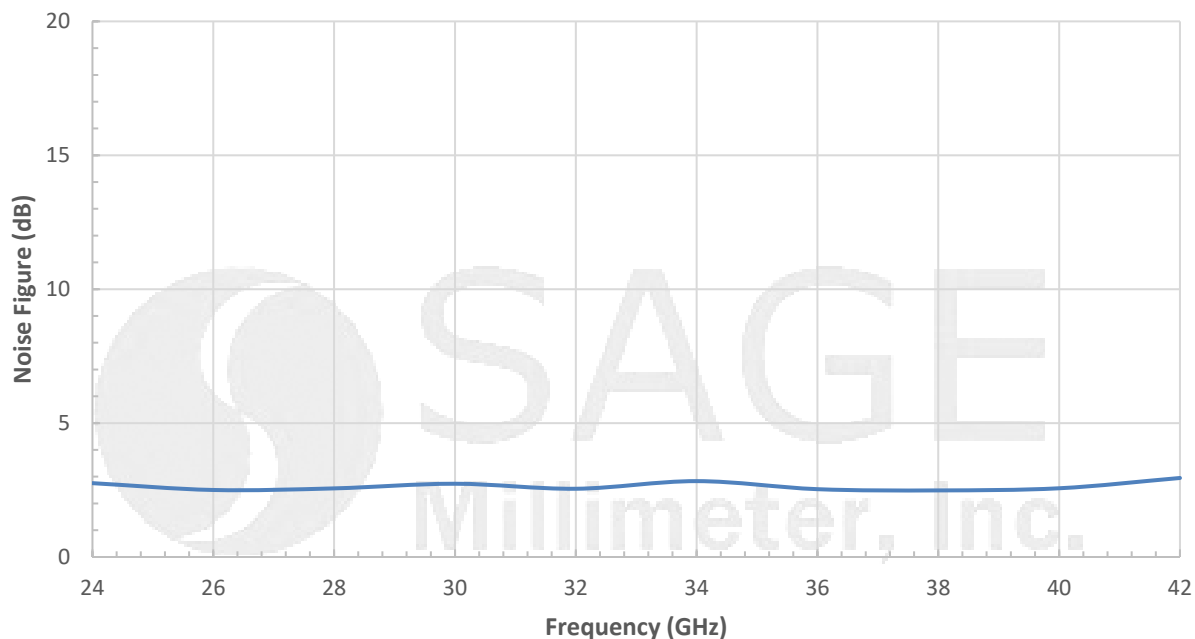
Item	Specification
RF Port (Port 3)	WR-28 Uni-Guide™ Waveguide with UG-599/U Flange
LO Port (Port 1)	2.92mm (K) Female
IF Port (Port 2)	SMA (F)
Bias	Solder Pin
Case Material	Aluminum
Finish	Gold Plated
Weight	2.0 Oz
Size	1.60" (W) X 1.50" (L) X 0.50" (H)
Outline	SR-SA

**WR-28 Receiver, 24 to 42 GHz, 4 dB Noise Figure, 12 dB Gain****Conversion Gain vs. Frequency**

Bias: +8 VDC/290 mA

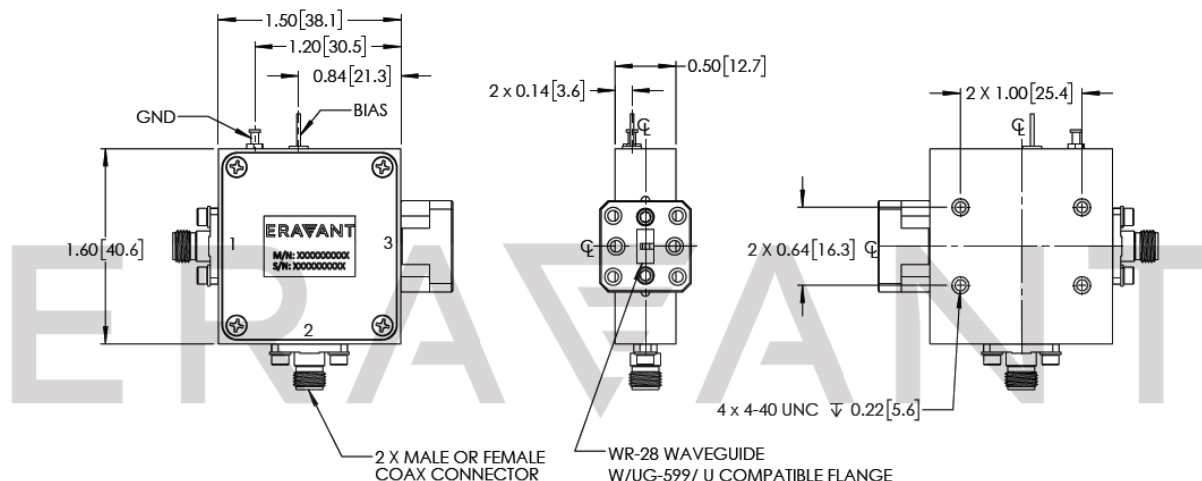
**Noise Figure vs. Frequency**

Bias: +8 VDC/290 mA



## WR-28 Receiver, 24 to 42 GHz, 4 dB Noise Figure, 12 dB Gain

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



### Note:

- The receiver employs Eravant's trademarked and patent pending technology, **Uni-Guide™**, as its waveguide interfaces. The orientation of the input and the output waveguides can be specified through corresponding model numbers. For example, the model number for a horizontal output waveguide configuration would be **SSR-3331834012-28H-S1** instead of the default **SSR-3331834012-28-S1** which indicates vertical orientation output.
- 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 IF port is DC coupled and 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.**