

# SAC1159-R

## S-band Low Noise Amplifier Module 2~4GHz NT 45° K

Rev 1.1

### Features

- Frequency: 2~4GHz
- Gain: 55dB
- OP<sub>-1dB</sub>: 10dBm
- Noise Temperature: 45° K
- Supply Current: 70mA
- Hermetic Laser Sealing
- Size: 17.8mm×20mm×8.35mm

### Typical Applications

- Microwave radio
- Telecommunication
- Deep Space Communication
- Test instrumentation

### General Description

SAC1159-R is a low noise amplifier module with a typical small signal gain of 55dB and a nominal OP<sub>-1dB</sub> of +10dBm across the frequency range of 2 to 4GHz.

SAC1159-R is integrated with SUPERAPEX proprietary low noise GaAs MMIC amplifier chip, high frequency microelectronic assembly techniques, and high reliability design to realize optimum low noise figure, wideband operation.

### Picture



### Electrical Performance (T<sub>A</sub>=25°C, I<sub>D</sub>=70mA, Z<sub>0</sub>=50Ω)

Parameter	Min.	Typ.	Max.	Units
Frequency Range	2~4			GHz
Gain	50	55	–	dB
Gain Flatness	–	±1.0	±1.5	dB
Noise Temperature	–	45	50	°K
Output Power for 1 dB Compression (OP <sub>-1dB</sub> )	–	10	–	dBm
Output IP <sub>3</sub>	–	23	–	dBm
Input VSWR	–	1.5	1.8	:1
Output VSWR	–	1.5	1.8	:1
Supply Voltage	7	–	15	V
Supply Current	–	70	–	mA

### Mechanical Specifications

Parameter	
Input/Output	SMA(F) Field-replaceable
Bias	Pin/Case ground
Case Material	4047 Aluminum alloy
Weight	11g

#### SuperApex, LLC

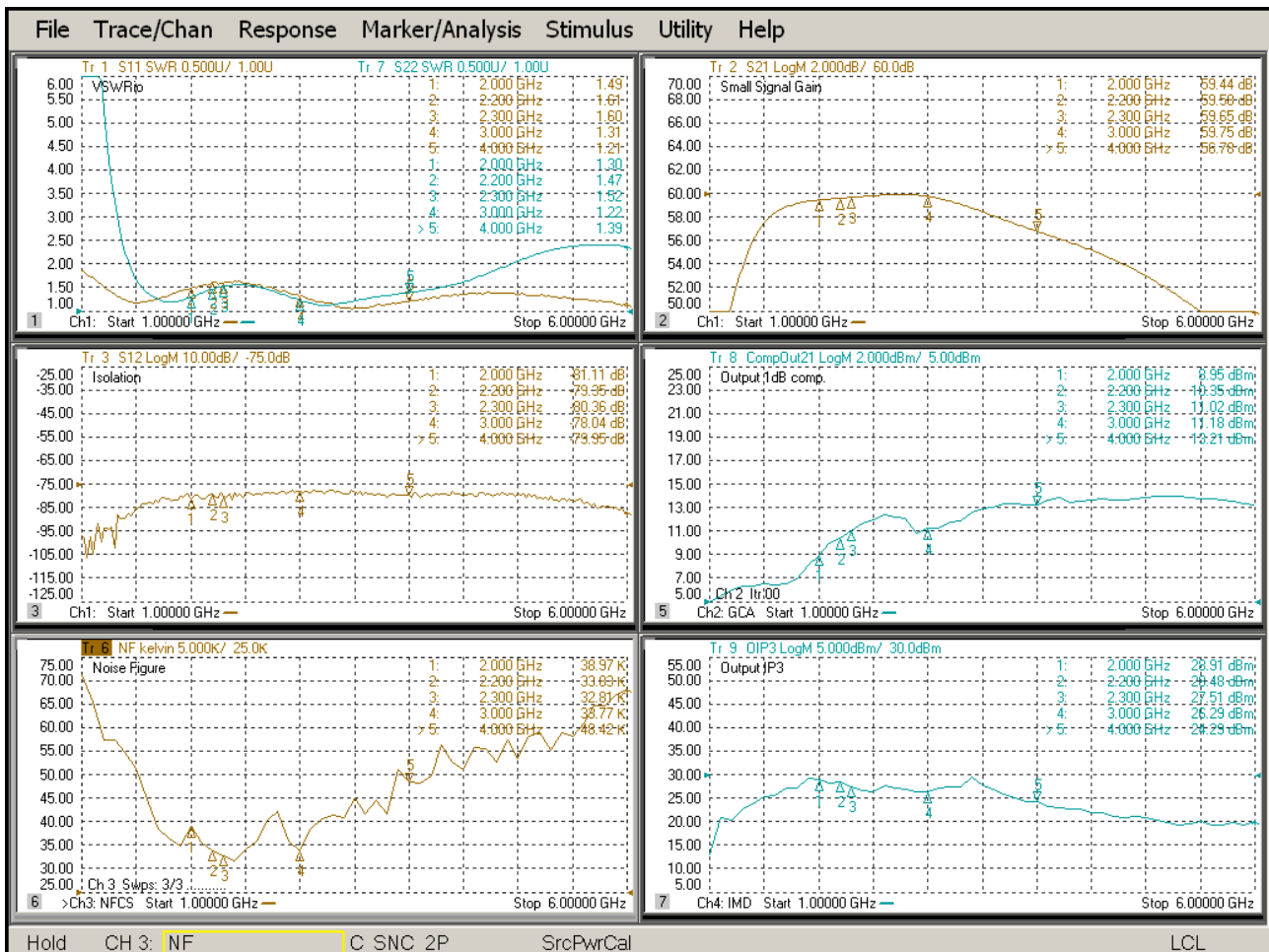
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### Absolute Maximum Ratings

Maximum Input Power	+13dBm	Operating Temperature	-40°C~+70°C
Channel Temperature	+150°C	Storage Temperature	-65°C~+150°C

### Typical Performance Curve

$T_A=25^\circ\text{C}$ ,  $+V_{DC}=12\text{V}$ ,  $I_D=70\text{mA}$ , Noise measurement by cold source method



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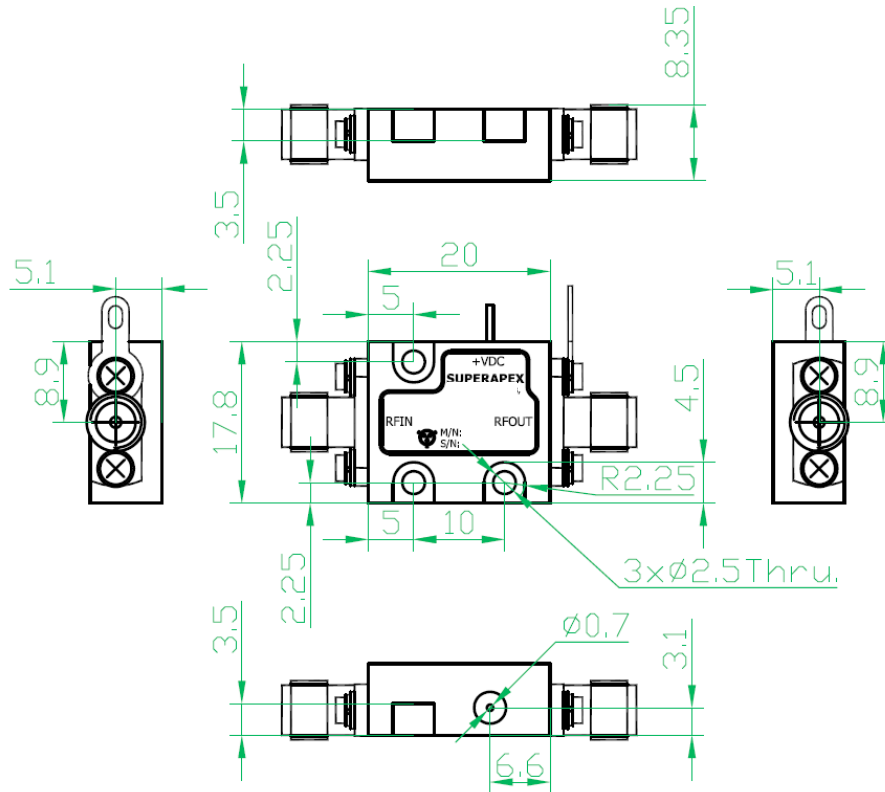


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## Mechanical Outline

All dimensions are in millimeters



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