

# SAC1160

## Wide-band Low Noise Amplifier Module 1~12GHz NF 2dB

Rev 1.1

### Features

- Frequency: 1~12GHz
- Gain: 16dB
- OP<sub>-1dB</sub>: 13dBm
- Noise Figure: 2dB max.
- Supply Current: 60mA
- Hermetic Laser Sealing
- Size: 17.8mm×20mm×8.35mm

### Typical Applications

- Microwave radio
- Telecommunication
- Test instrumentation

### General Description

SAC1160 is a low noise amplifier module with a typical small signal gain of 16dB and a nominal OP<sub>-1dB</sub> of +13dBm across the frequency range of 1 to 12GHz.

SAC1160 is integrated with SUPERAPEX proprietary low noise GaAs MMIC amplifier chip, high frequency micro electronic 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>=60mA, Z<sub>0</sub>=50Ω)

Parameter	Min.	Typ.	Max.	Units
Frequency Range		1~12		GHz
Gain	14	16	—	dB
Gain Flatness	—	±1.0	±1.75	dB
Noise Figure	—	1.5	2	dB
Output Power for 1 dB Compression (OP <sub>-1dB</sub> )	12	13	—	dBm
Output IP <sub>3</sub>	25	27	—	dBm
Input VSWR	—	1.5	2.5	:1
Output VSWR	—	1.5	2.5	:1
Supply Voltage	4.85	5	6	V
Supply Current	—	60	75	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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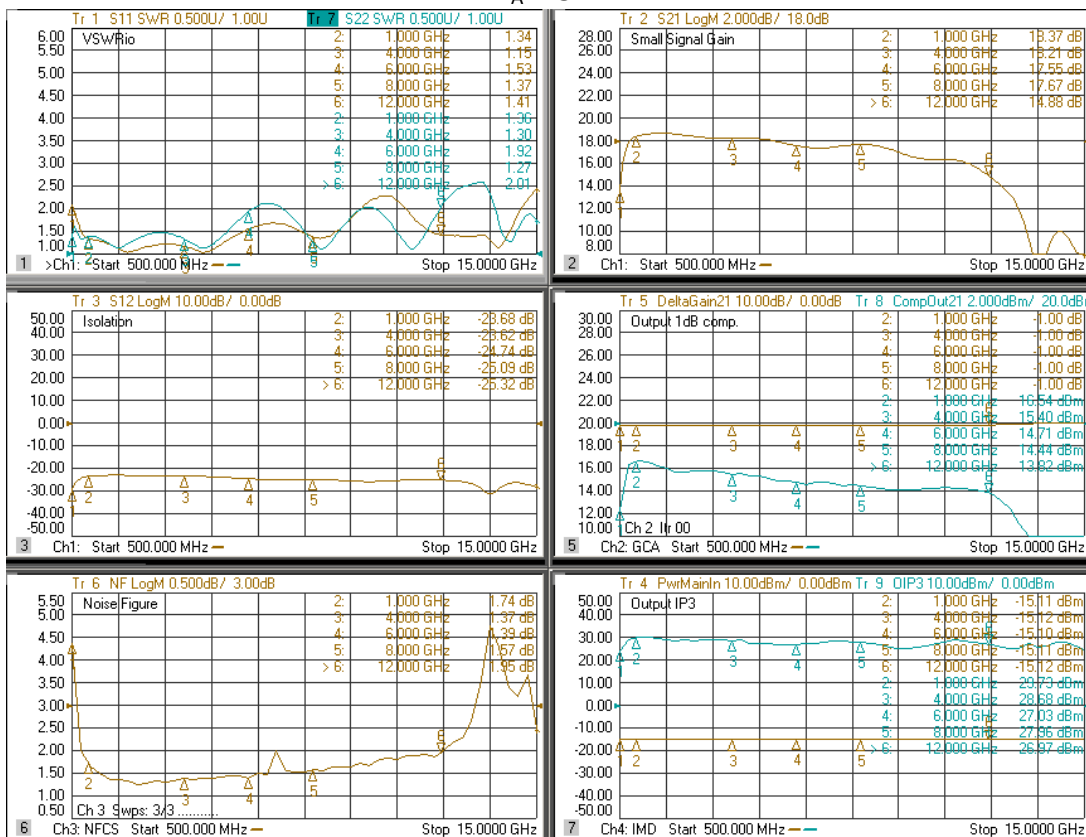
### Absolute Maximum Ratings

Maximum Input Power	+15dBm	Operating Temperature	-40°C~+70°C
Channel Temperature	+150°C	Storage Temperature	-65°C~+150°C

### Typical Performance Curve

+V<sub>DC</sub>=5V, I<sub>D</sub>=60mA, Noise measurement by cold source method

T<sub>A</sub>=25°C



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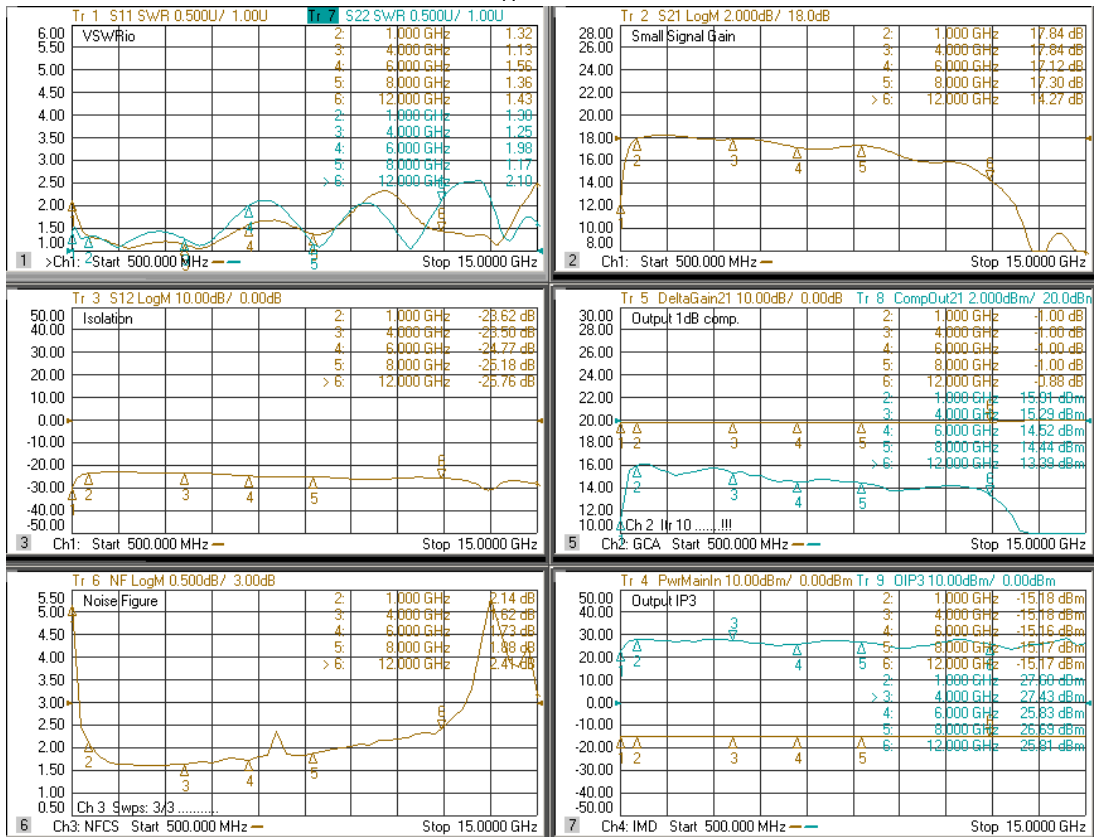
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## Wide-band Low Noise Amplifier Module 1~12GHz NF 2dB

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T<sub>A</sub>=+70°C



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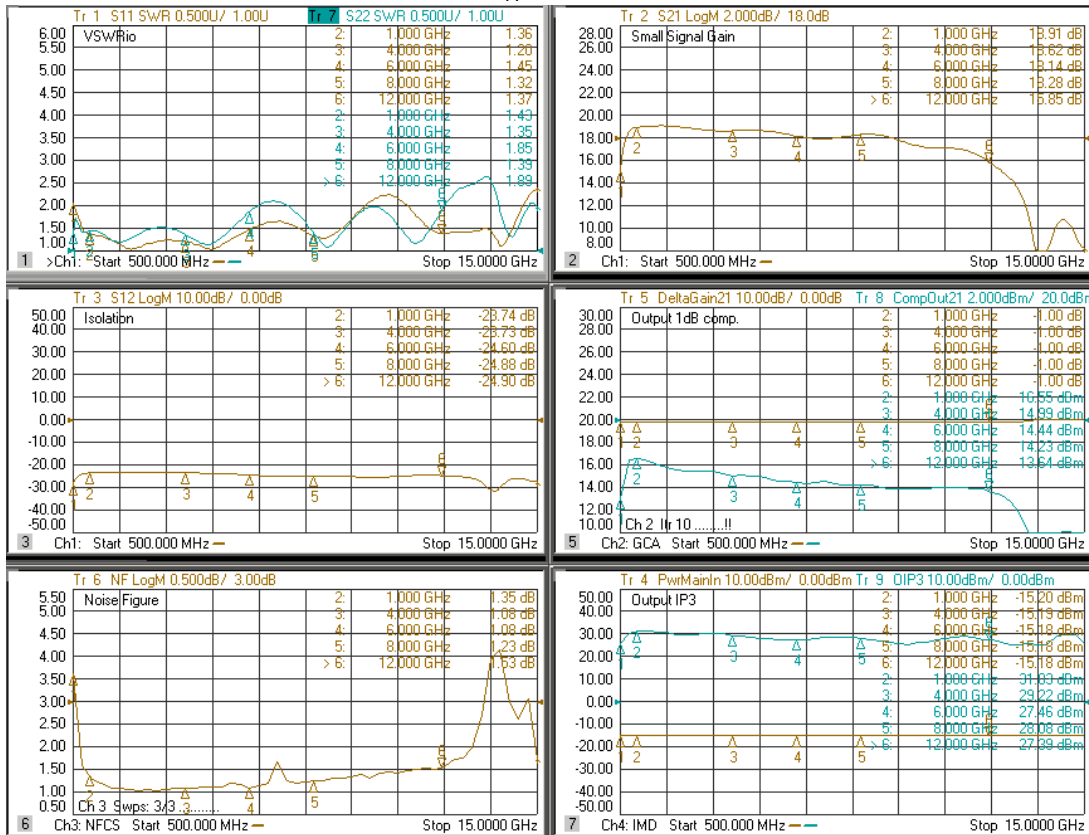
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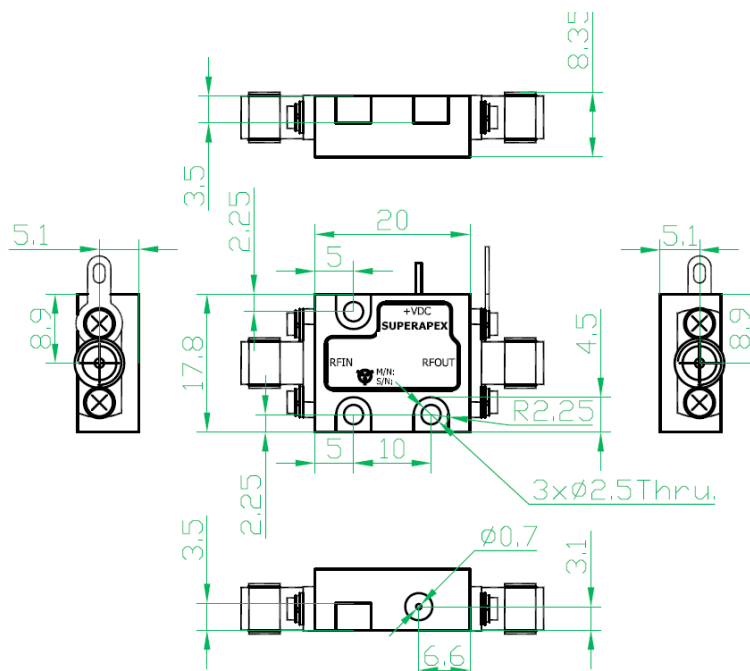
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T<sub>A</sub> = -55°C



## Mechanical Outline

All dimensions are in millimeters



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