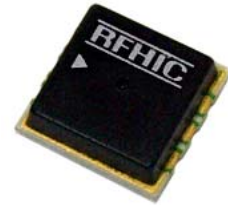


## Product Features

- GaAs p-HEMT chip on board
- Limiter–diode insertion
- High Maximum Input Power(+30dBm)
- No matching circuit needed
- Single Supply Voltage (+5V)
- Surface Mount Hybrid Type
- Tape & Reel Packaging
- Small Size, High Heatsink
- Alumina Substrate
- Pb Free / RoHS Standard

## Application

- WiMAX, WiBro, LTE
- PCS, DCS, W-CDMA, WLAN
- Repeater
- Base Station
- RF Sub-Systems



Package : CP-16A

## Description

- This LNA family is a high gain, ultra low noise amplifier.
- This family of Low Noise Amplifier has superior performance comes with a modest price tag.

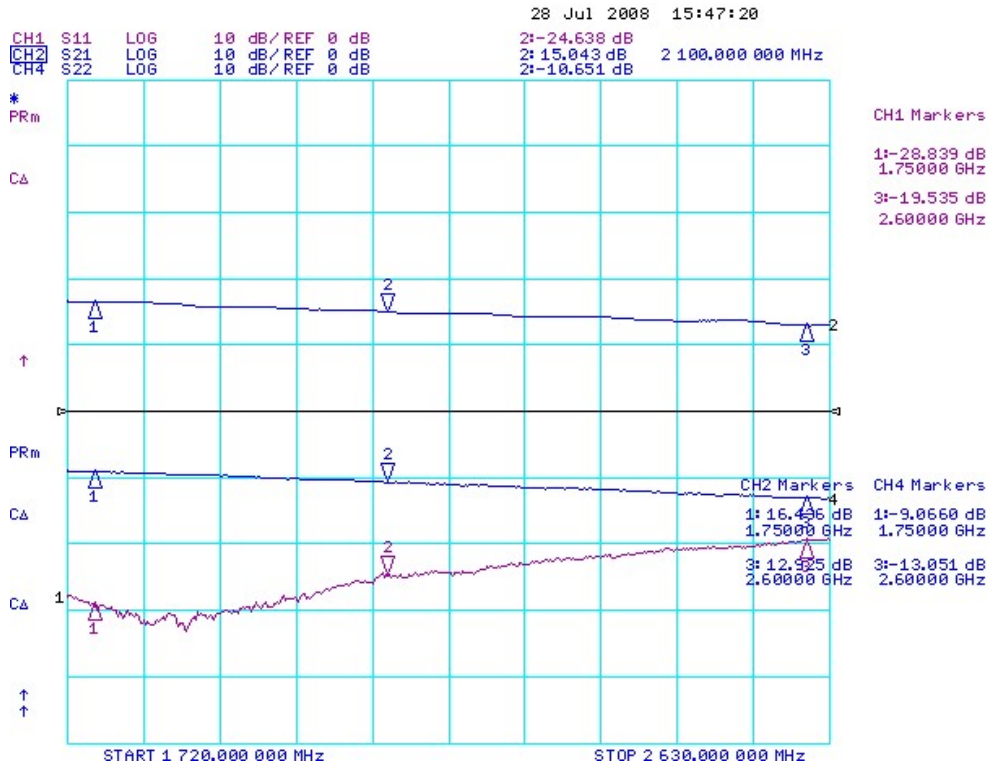
## Electrical Specifications

Parameter	Units	Minimum	Typical	Maximum
Frequency Range	MHz	1750		2600
Small Signal Gain( $S_{21}$ )	dB		14.5	
Gain Flatness	dB		$\pm 2.0$	
Input Return Loss ( $S_{11}$ )	dB		-20	
Output Return Loss ( $S_{22}$ )	dB		-10	
1dB Compression Point ( $P_{1dB}$ )	dBm	18	20	
Output 3 <sup>rd</sup> Order Intercept Point (OIP3) (TYP.)	dBm	30	33	
Noise Figure (TYP.)	dB		0.7	1.0
RF Input Power (for 12 hours)	dBm			30
DC Supply Current ( $V_{dc}=+5V$ )	mA		100	120

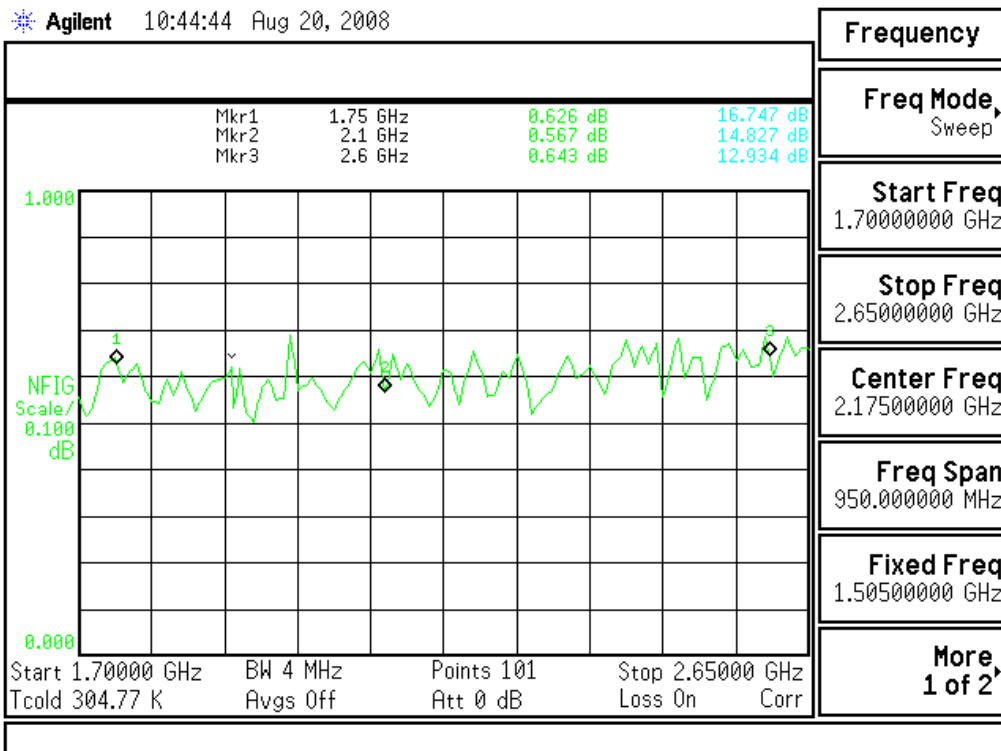
## Test Condition

- ①  $f_c=2100MHz$ , Supply Voltage = +5V, 50ohm system,  $T_a = 25^\circ C$
- ② OIP3 is measured with two tones, at an output power of + 0dBm/tone separated by 1MHz.

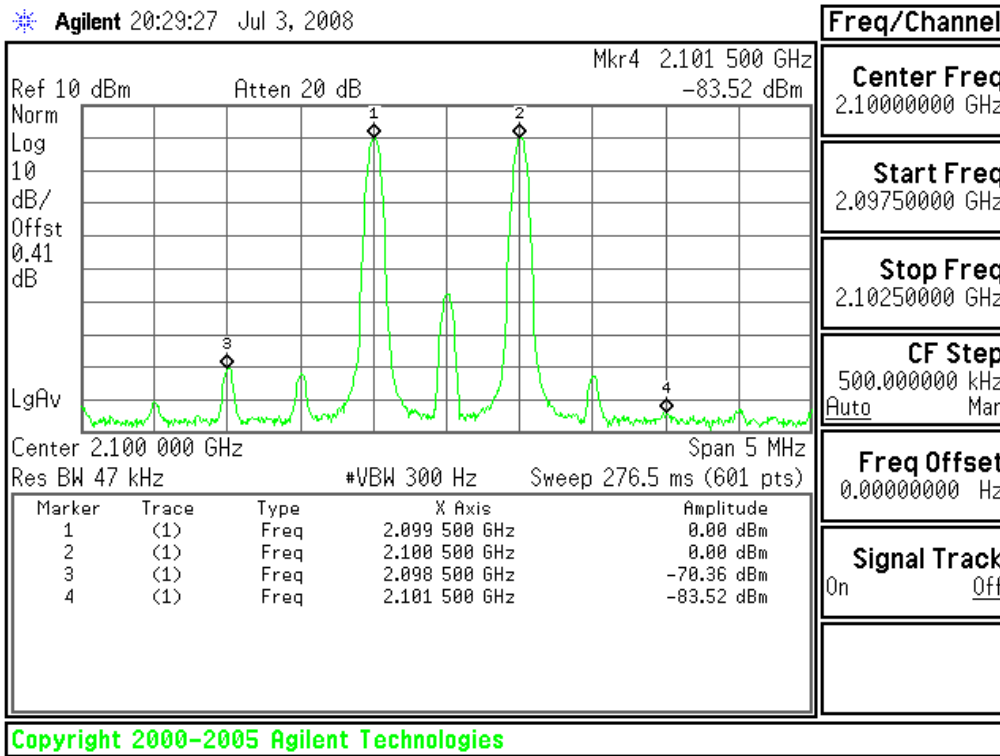
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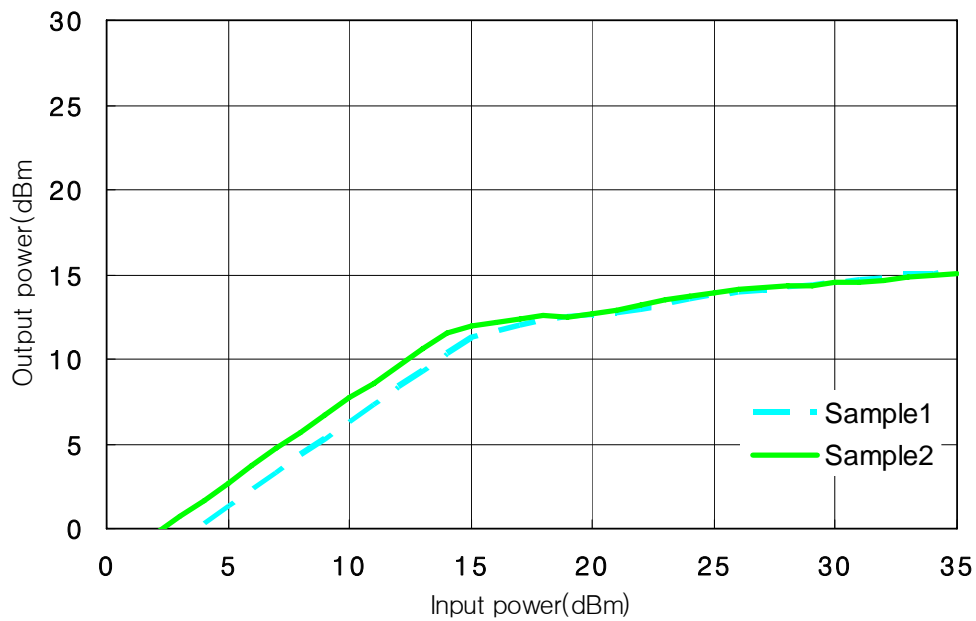
<Noise Figure>



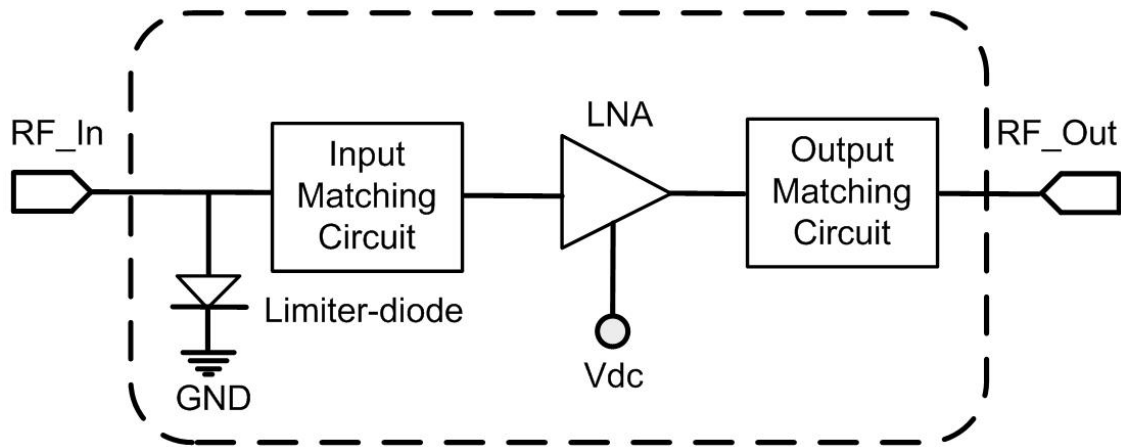
<Output IP3>



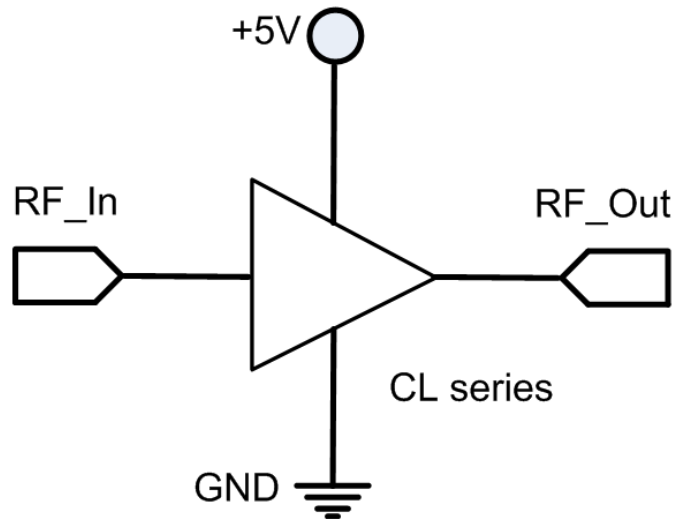
Limiter Level (@ 2.1GHz)



**Internal Block Diagram**



**Application**

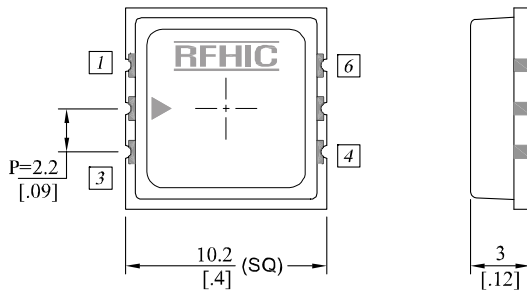


**Absolute Maximum Ratings\***

PARAMETER	Unit	Rating	Remark
Device Voltage	V	+8	
RF Input Power	dBm	+30	
Storage Temperature	°C	-50 to +125	
Ambient Operating Temperature	°C	-40 to +85	

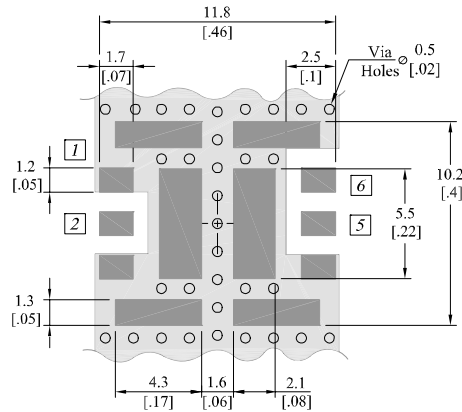
\* Operation of this device in excess of any one of these parameters may cause permanent damage.

Package Dimensions (Type: CP-16A)



Unit : $\frac{\text{mm}}{\text{[inch]}}$	Tolerance : $\pm \frac{0.2}{.008}$
Pin No.	Function
1, 3, 4	Ground
2	Input
5	Output
6	Vcc

Recommended Pattern



ESD Protection

Gallium Arsenide Integrated Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices. Some of the precautions recommended are;

- Person at a workbench should be earthed via a wrist strap and a resistor.
- All mains-powered equipment should be connected to the mains via an earth-leakage switch.
- Equipment cases should be grounded.
- Relative humidity should be maintained between 40% and 50%.
- An ionizer is recommended.
- Keep static materials, such as plastic envelopes and plastic trays etc. away from the workbench.

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