

# LIA004 – 20-800MHz

## 18dB Gain, 1W

### Ultra Linear Amplifier

The LIA004 is an amplifier used in the laboratory tests for increasing isolation and output power from standard signal generators. The amplifier has a very linear characteristic with a P1dB of over +30dBm (>1W).

Using a pair of these amplifiers very high 2 tone intercept signals can be produced. Offering a virtual source of up to +20dBm with Third order intercepts of +55dBm.

Used for testing high intercept receive systems amplifiers and mixers.



Figure 1 – LIA004

### Specification:

Parameter (Masthead)	Limits
Frequency Range	20 – 750MHz. (Operates over 5 -800MHz)
Gain	18dB
Gain Ripple	+/-1dB.
Reverse Isolation	>25dB.
Noise Figure with Filter:	
• 20 – 200MHz	< 5dB, Typ 4.5dB
• 200 – 400MHz	< 6dB, Typ 5.5dB
• 400 – 600MHz	< 6.5dB, Typ 6.0dB
• 600 – 800MHz	< 8.0dB, Typ 7.0dB
TOIP:	
• 20 – 600MHz	> +45dBm
• 600 – 800MHz	> +40dBm
Input return loss	< -10dB nom. See Plot.
Output Return Loss	< -10dB nom. See Plot.
Input Impedance	50Ω
Output Impedance	50Ω
Connectors	BNC or N type Female.
Voltage	24V.
Current	430mA Typ.

### Mechanical:

Case Size.	132 x 76 x 28mm (Excluding Connectors)
Weight:	0.5kg
Material	Aluminium Main housing with aluminium cover.

### Environmental:

Temperature:	0 to +50 °C
Weatherproofing	Indoor Use Only

## Typical Plots:

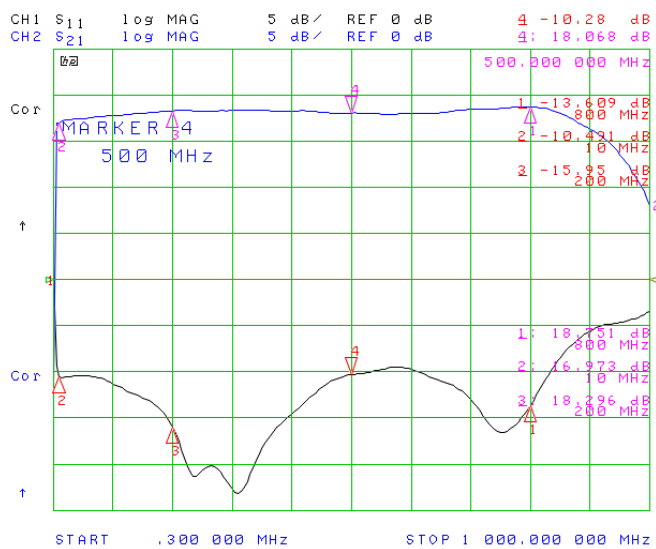


Figure 2 – S21 and S11

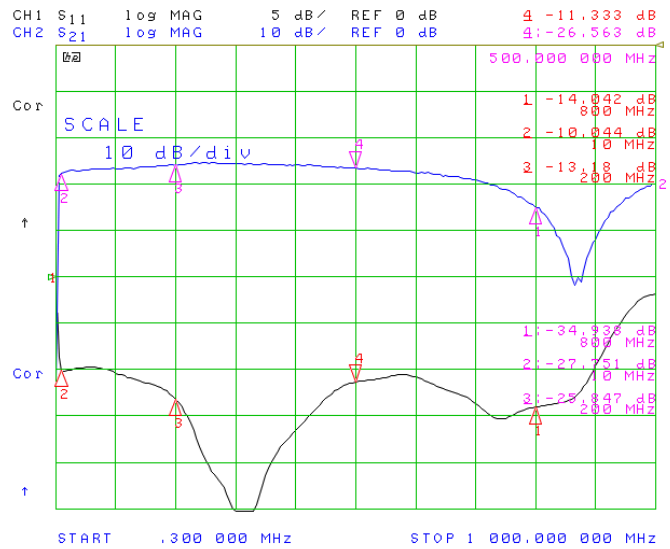


Figure 2 – S12 and S22

## Measured Performance:

Parameter				
Centre Frequency	Gain(dB)	OIP3(dBm)	Noise Figure	P1dB
20	17.195	48.08	4.76	31.7
75	17.495	48.29	4.5	31.7
150	17.99	49.505	4.5	32.5
250	18.245	49.985	4.7	33
350	18.29	49.51	5.3	33.9
450	18.22	48.34	5.7	34.1
600	18.11	46.445	6.1	32
750	18.78	41.045	6.8	30.7
800	18.585	39.7	7.85	30.1

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 9 Schooner Circuit, Manly West, QLD 4179, Australia  
 Tele: +61 (0)7 3393 4163 Email: [Sales@stancomm.com.au](mailto:Sales@stancomm.com.au)  
 ABN 25 085 781 39