



LNFA1X4

Technical Product Data

Features

- **Unity Gain**
0 ± 1dB
- **High Isolation Outputs**
> 45 dB Port-to-Port Isolation
- **Low Noise Figure**
< 4 dB

Description

The LNFA1X4 Low Noise Filtered Amplified GPS Splitter is a one input, four output device with 0dB nominal gain. The device features a low noise input section to establish an overall system noise figure. Excellent port-to-port isolation and unity gain are achieved by padded outputs. The device features excellent frequency selectivity around the L1 band to prevent interference from other high power radio frequency sources, such as cellular transmitter stations. The LNFA1X4 device will power itself and an external GPS antenna from a 5.0 VDC source connected on any of the RF Outputs. A “hunt-and-pick” circuit is used to select only one DC input for power in the event that more than one source is connected. Remaining DC inputs are switched to a 200Ω resistor to simulate antenna current draw.

Electrical Specifications, T_A = 25⁰C

Parameter	Conditions	Min	Typ	Max	Units
Frequency	Ant – Any Output		1.5754		GHz
In/Out Imped.	Ant, J1, J2, J3, J4		50		Ω
Gain	Ant–Any Output	-1	0	+1	dB
Input SWR	All ports - 50Ω			2.0:1	-
Output SWR	All ports - 50Ω			1.3:1	-
Noise Figure	Ant – Any Output		3.8	4.2	dB
Selectivity	±50MHz, Ant – Any Output	40	45		dB
Amplitude Balance	Ant – Any Output			0.5	dB
Phase Balance	Phase (J1 – J2,J3,J4) ; Ant – Any Output, Unused Outputs - 50Ω			1.0	deg
Isolation	Adjacent Ports, Ant - 50Ω (see plots)	45	50		dB
Req. DC Input V.	DC Input on Any RF Output	4.8	5.0	5.2	Vdc
Current ⁽¹⁾	Amplifier Current, All ports - 50Ω			-9.6	mA

(1) Input DC Current on any RF output port. (Does not include antenna current)

Performance

LNFA1X4:

Input SWR (Ant. Port) and Frequency Response: Ant. to J1, J2, J3, and J4 (Typical):



