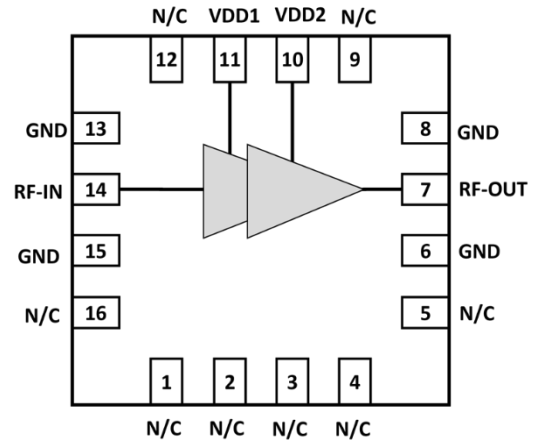


### Features:

- RF Frequency: 8 – 12 GHz
- Small signal gain: 15.05 dB
- Noise Figure: 2.35 dB
- Output P1dB: 5.41 dBm
- Saturated Output Power: 10.02 dBm
- DC drain bias voltage: 4 V
- DC supply current: 150 mA
- 0.1um GaAs pHEMT Technology
- Die Size: 1.15 mm \* 1.02 mm

### Functional Block Diagram



### Description:

RFLN12S is a Two-stage self-biased Low Noise Amplifier that operates from 8 - 12 GHz and it is used to drive the high-power amplifier. The amplifier provides 15.05 dB of small signal gain, and the input and output are matched to 50 ohms with an off-chip Matching Network.

The device is specifically designed for use at 8-12 GHz frequency in fixed wireless broadband, microwave links, WiFi, IoT, and SATCOM, Radar Systems applications.

The Technology used to design LNA is 0.1um GaAs pHEMT Process.

### Pin Configuration

Pin No.	Pin Name	Description
6,8,13,15	GND	Ground
11	VDD1	Drain Bias Voltage 1
10	VDD2	Drain Bias Voltage 2
14	RF-IN	RF Input
7	RF-OUT	RF Output
1,2,3,4,5,9,12,16	N/C	Not Connected

### Applications:

- Fixed Wireless Broadband
- Microwave Links
- SATCOM
- IoT
- Wi-Fi
- Radar Systems

### Deliverables:

- Sample Ready Packaged Die
- Test Results
- Product Datasheet

## Electrical Specification:

Freq= 2 -22 GHz, VDD1=VDD2= 4V, ID= 150 mA, Zo=50 Ω

Parameters	Test Condition	Units	Typ
Gain	2 GHz	dB	16
	10 GHz		15.05
	22 GHz		12
Output P1 dB	2 GHz	dBm	-
	10 GHz		10.9
	22 GHz		-
OIP3 Pin= 1 dBm Δf = 50MHz	2 GHz	dBm	-
	10 GHz		23.7
	22 GHz		-
Noise Figure	2 GHz	dB	-
	10 GHz		1.77
	22 GHz		-
Input Return Loss	2 GHz	dB	1.19
	10 GHz		4.49
	22 GHz		9.69
Output Return Loss	2 GHz	dB	19.01
	10 GHz		9.12
	22 GHz		7.13
<b>Operating Bias Conditions</b>			
Drain Current (Id)	-	mA	150
Drain Voltage (VDD)	-	V	4

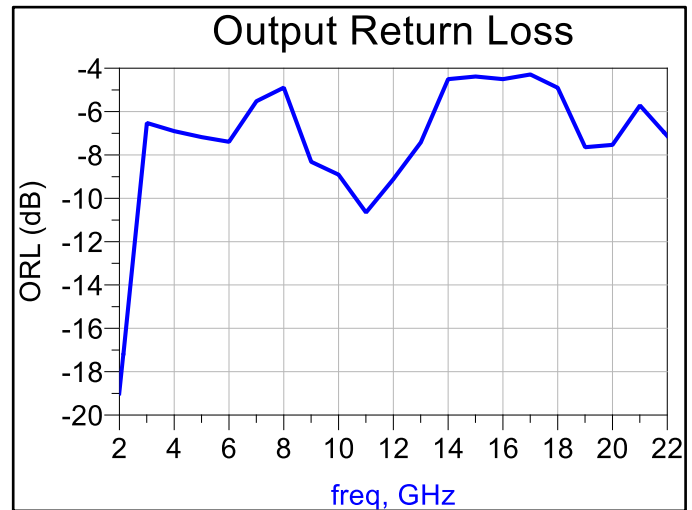
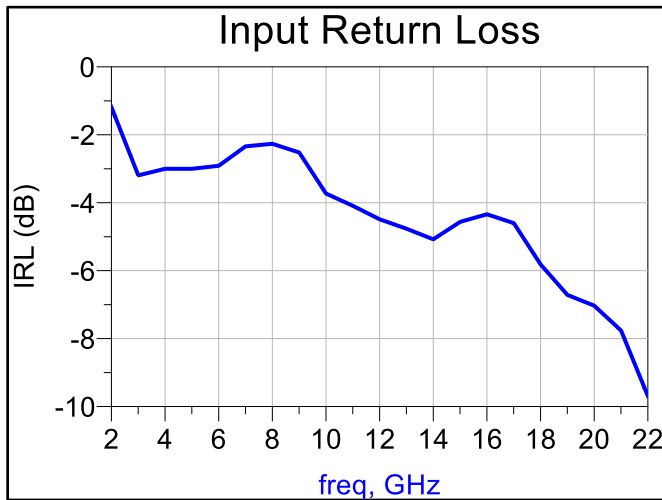
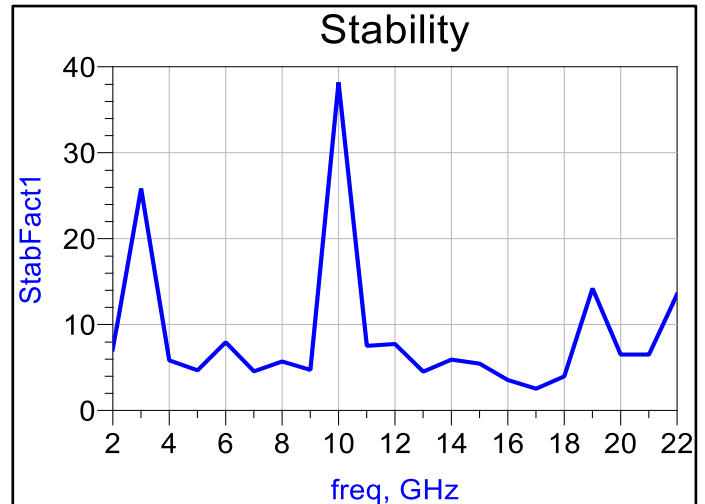
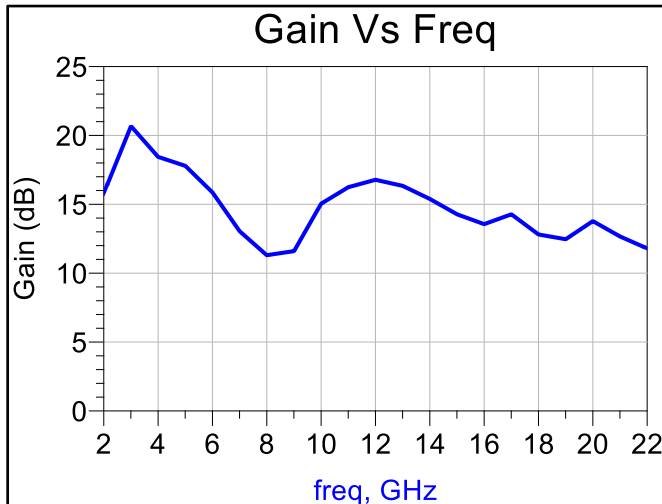
# Low Noise Amplifier



## PRODUCT DATASHEET

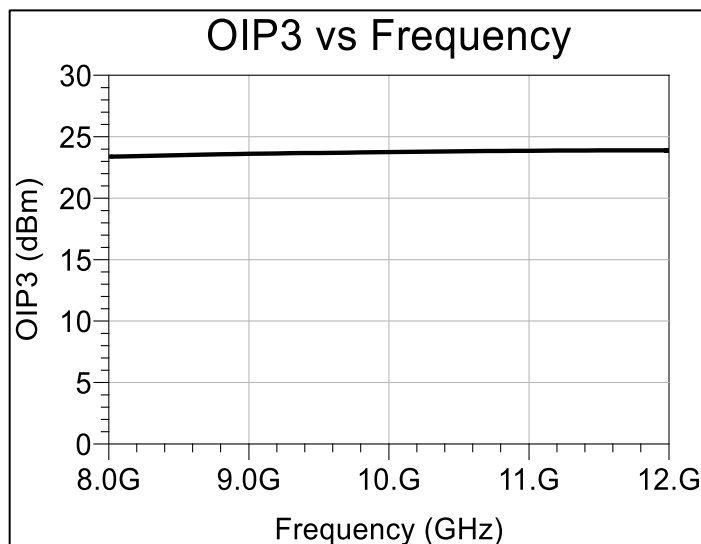
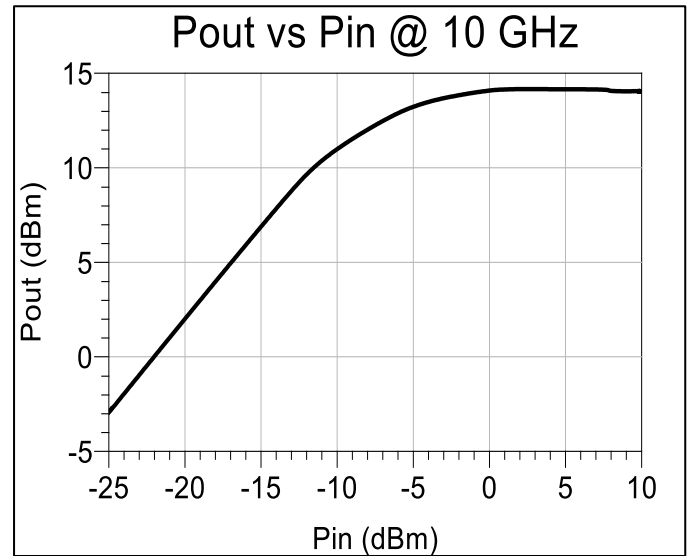
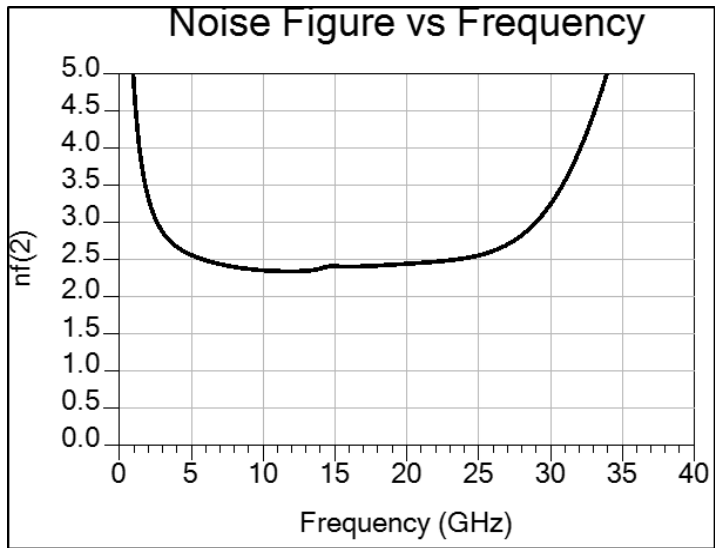
RFLN12S

### On Wafer Testing Performance Curves:

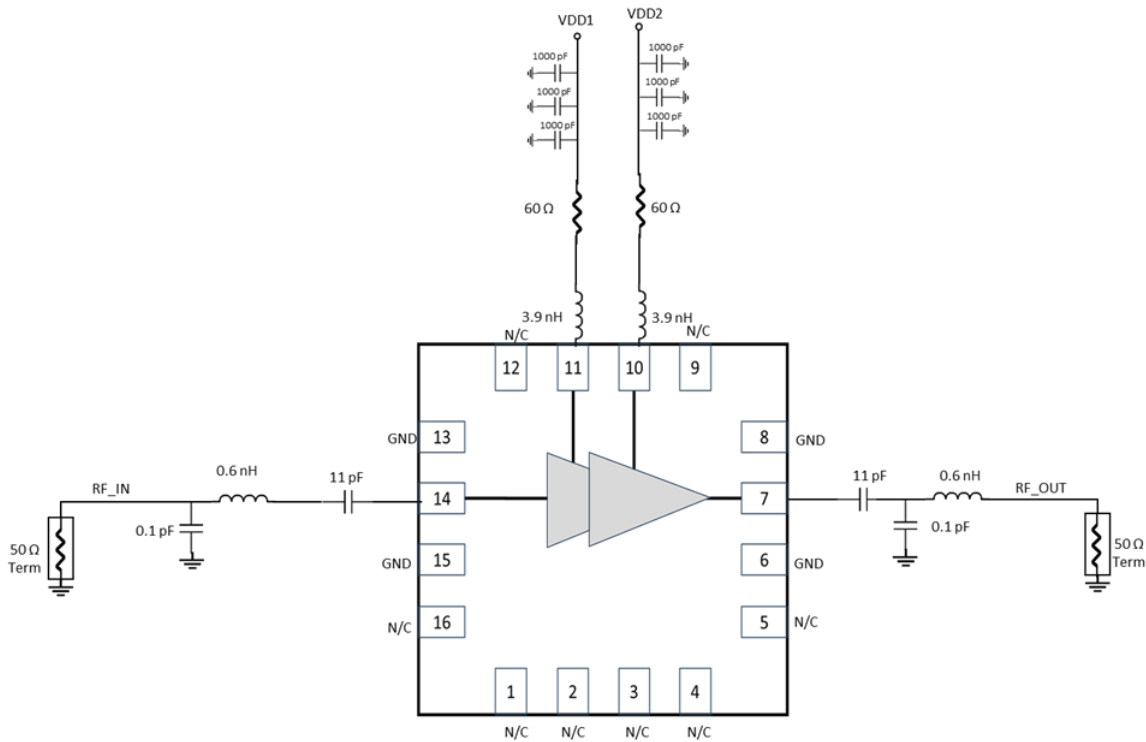


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### Typical Performance Curves:



### Application Diagram:



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