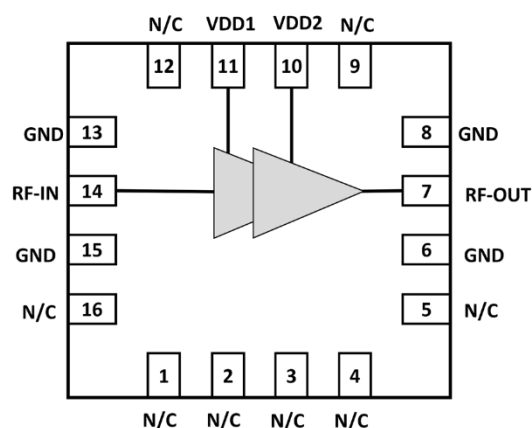


Features:

- RF Frequency: 12 - 18 GHz
- Small signal gain: 15.7 dB
- Noise Figure: 2 dB
- Output P1dB: 11.1 dBm
- Saturated Output Power: 13.5 dBm
- DC drain bias voltage: 4 V
- Dc supply current: 59.8 mA
- 0.1um GaAs pHEMT Technology
- Die Size: 1.2 mm * 1.02 mm

Functional Block Diagram



Description: -

RFLN18S is a Two-stage self-biased Low Noise Amplifier that operates from 12 - 18 GHz and it is used to drive the high-power amplifier. The amplifier provides 15.7 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 in 12 – 18 GHz frequency in 5G Wireless Communication, Radar Systems, Fixed Wireless Access (FWA), Imaging and Sensing, and SATCOM 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

- 5G Wireless Communication.
- SATCOM
- Radar Systems
- Fixed Wireless Access (FWA)
- Imaging and Sensing

Deliverables

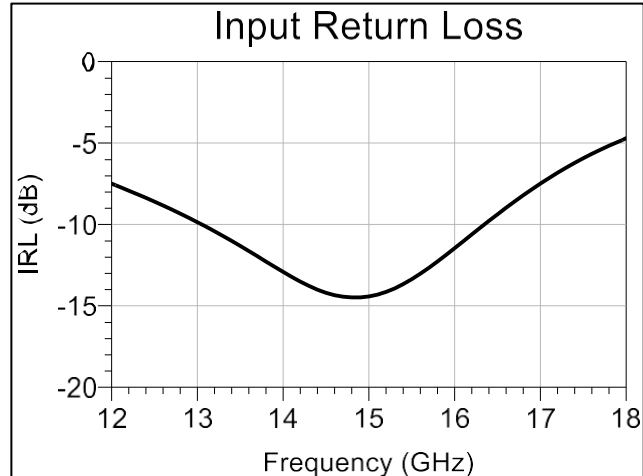
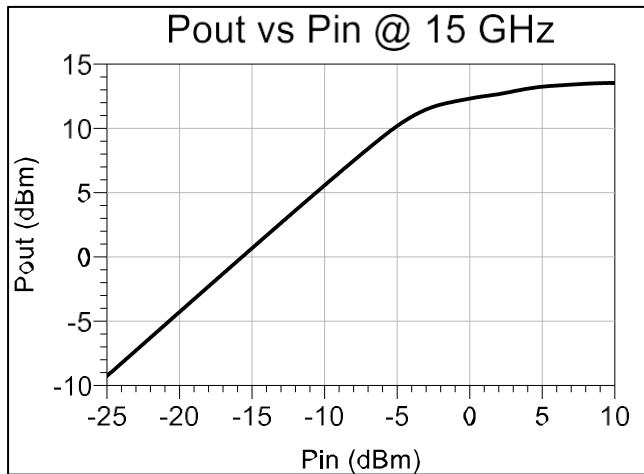
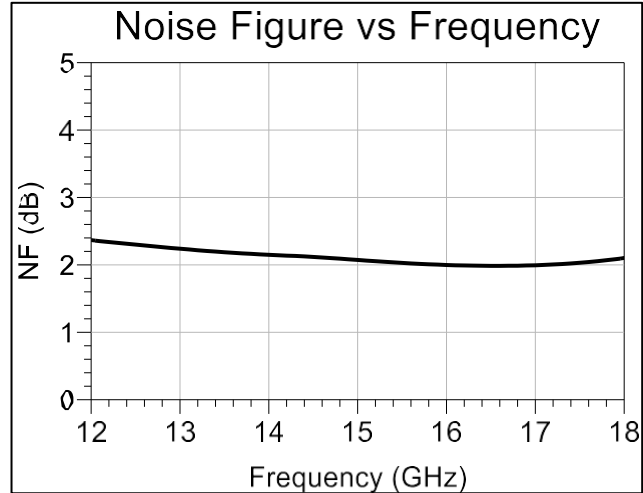
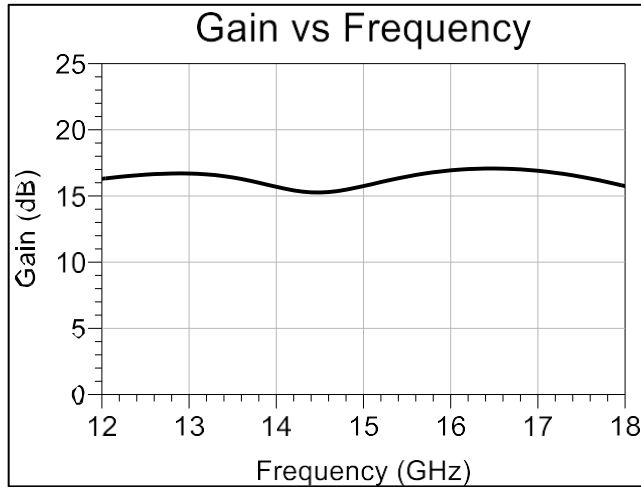
- Sample Ready Die
- Product Datasheet

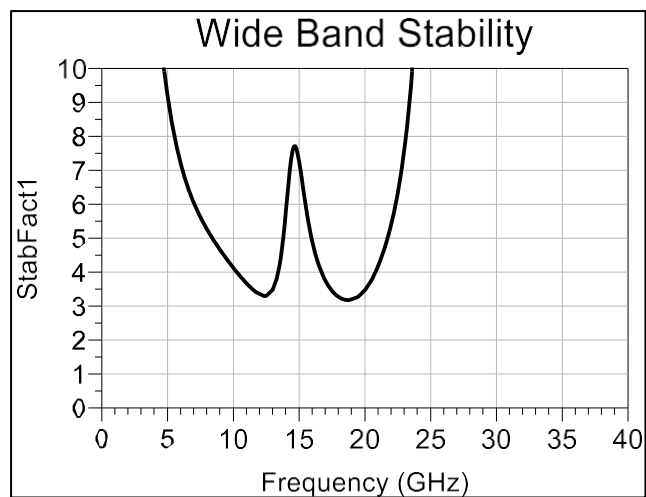
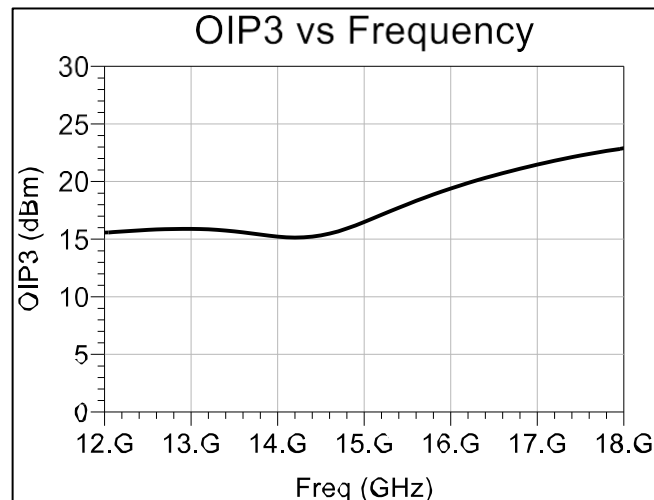
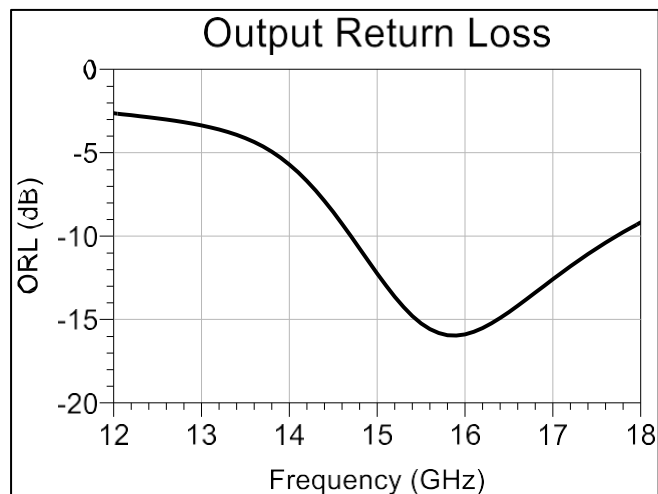
Electrical Specification: -

Freq= 12 - 18 GHz, VDD1=VDD2= 4V, ID= 59.8 mA, Zo=50 Ω

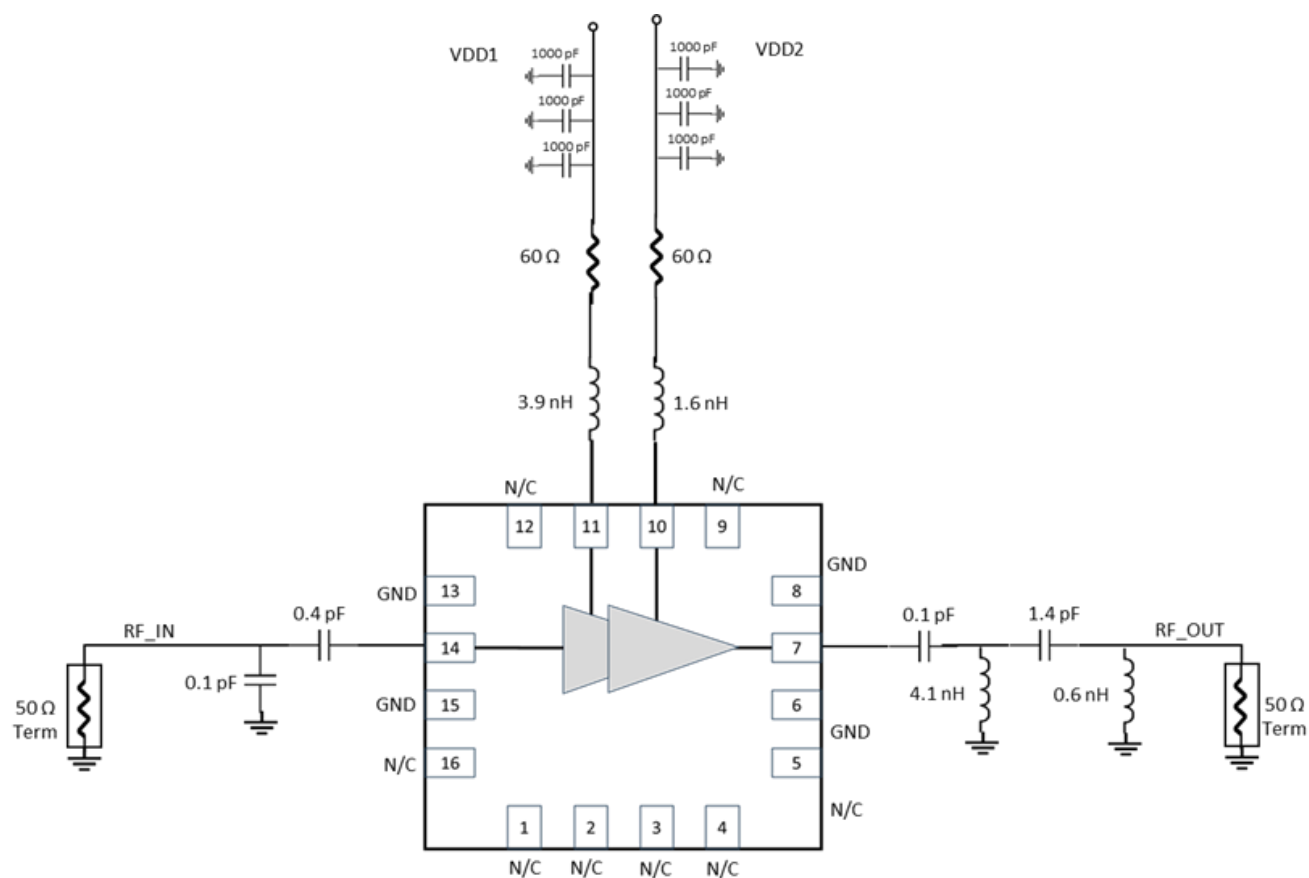
Parameters	Test Condition	Units	Typ
Gain	12 GHz	dB	16
	15 GHz		15.7
	18 GHz		15.3
Output P1 dB	12 GHz	dBm	-
	15 GHz		11.2
	18 GHz		-
OIP3 Pin= 1 dBm Δf = 50MHz	12 GHz	dBm	-
	15 GHz		16.4
	18 GHz		-
Noise Figure	12 GHz	dB	2.4
	15 GHz		2
	18 GHz		2.1
Input Return Loss	12 GHz	dB	7.8
	15 GHz		14.4
	18 GHz		5
Output Return Loss	12 GHz	dB	3
	15 GHz		12.2
	18 GHz		9
Operating Bias Conditions			
Drain Current (Id)	-	mA	59.8
Drain Voltage (VDD)	-	V	4

Typical Performance Curves: -





Application Diagram:



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