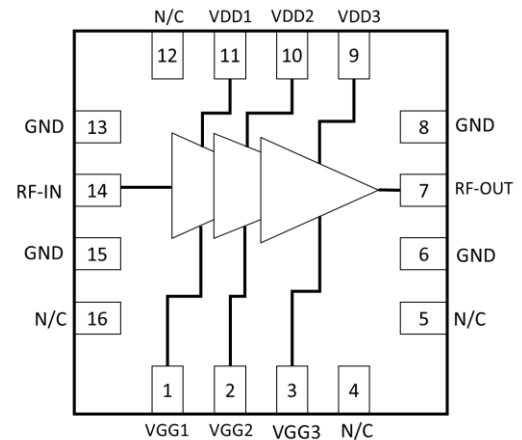


Features:

- RF Frequency: 8- 12 GHz
- Small signal gain: 14.53 dB
- Noise Figure: 1.78 dB
- Output P1dB: 17.8 dBm
- Saturated Output Power: 20.8 dBm
- DC drain bias voltage: 5 V
- DC supply current: 200 mA.
- DC Gate Bias Voltage: -0.3 V
- 0.1um GaAs pHEMT Technology.
- Die Size: 1.15 mm * 1.78 mm.

Functional Block Diagram



Description:

RFLNAM12 is Three Stage Low Noise Amplifier operates from 8 - 12 GHz and it is used to drive the high-power amplifier. The amplifier provides 14.53 dB of small signal gain, the input and output are matched to 50 ohms with on-chip DC blocking capacitors.

The device is specifically designed for use in 8 – 12 GHz frequency in Fixed Wireless Broadband, Microwave Links , WiFi, IoT, SATCOM, Radar Systems Application.

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
9	VDD3	Drain Bias Voltage 3
1	VGG1	Gate Bias Voltage 1
2	VGG2	Gate Bias Voltage 2
3	VGG3	Gate Bias Voltage 3
14	RF-IN	RF Input
7	RF-OUT	RF Output
4,5,12,16	N/C	Not Connected

Applications:

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

Deliverables:

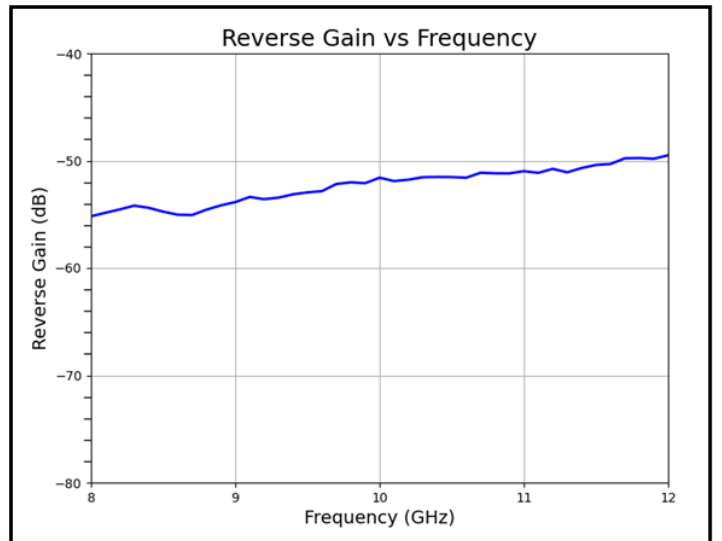
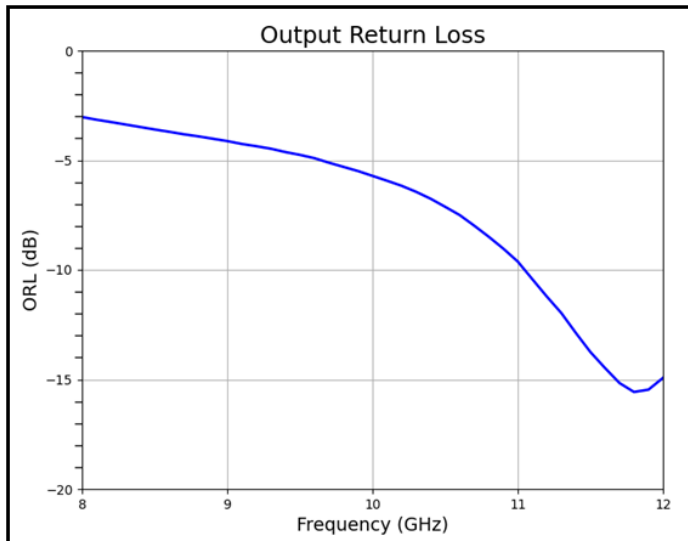
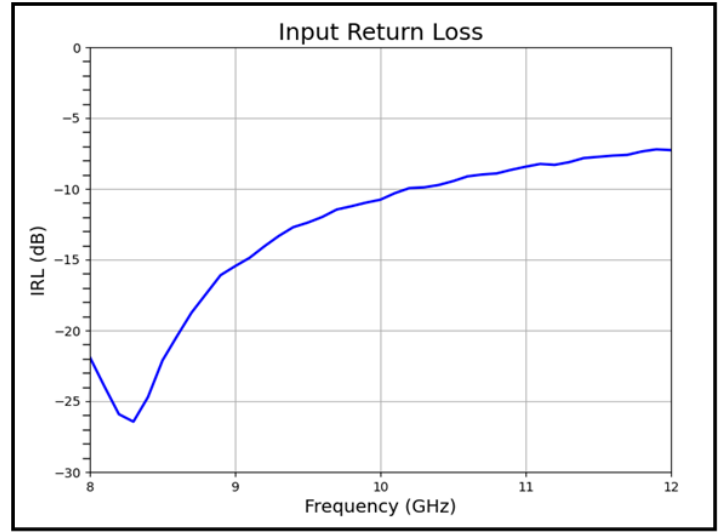
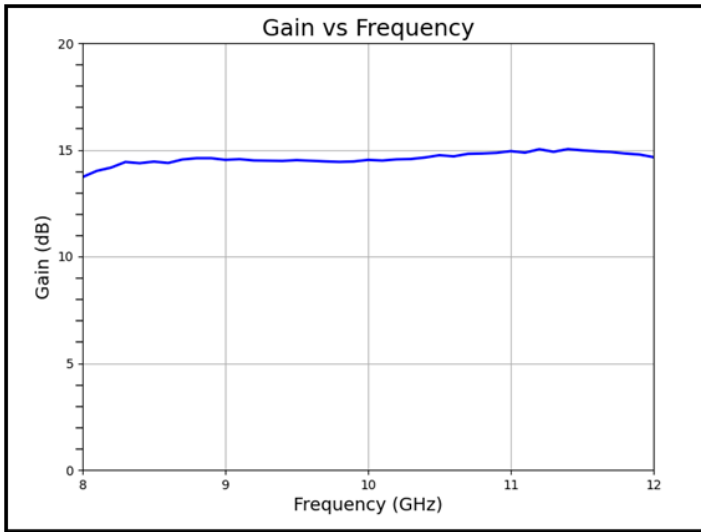
- Sample Ready Packaged Die
- Test Results
- Product Datasheet

Electrical Specification:

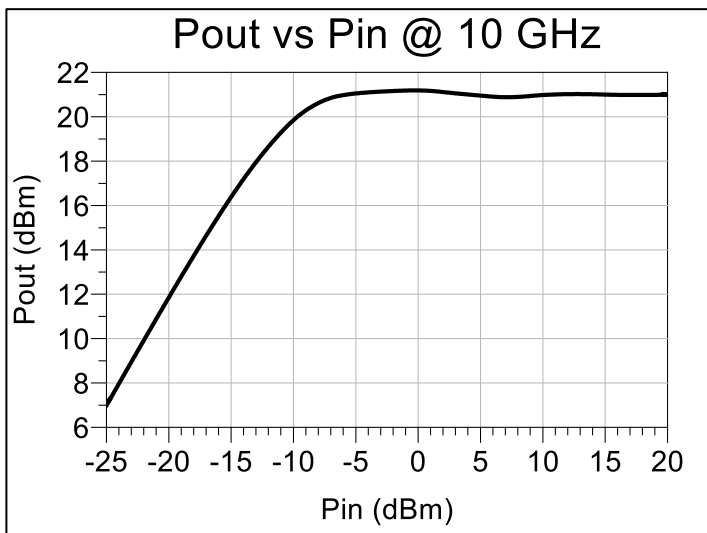
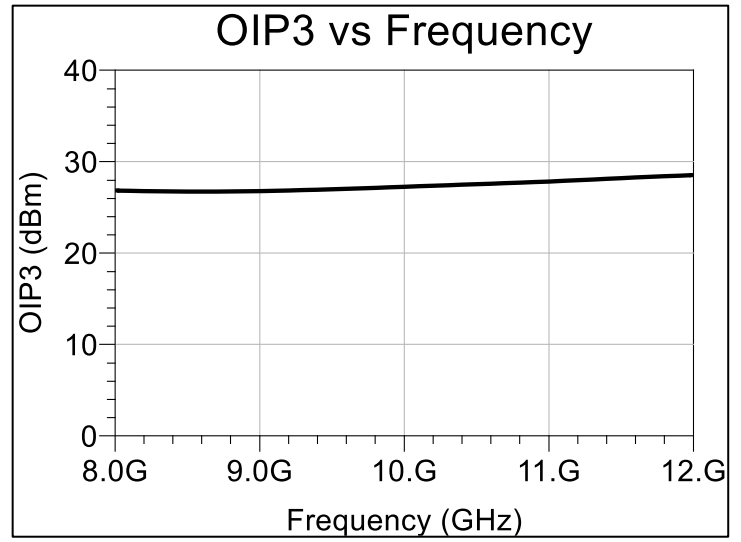
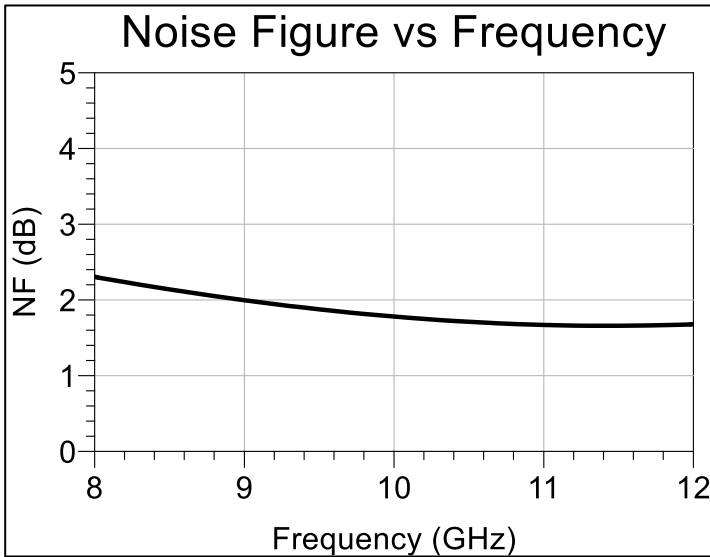
Freq= 8 - 12 GHz, VDD1=VDD2= VDD3=5V, VGG1=VGG2=VGG3= -0.3V, ID= 200 mA, Zo=50 Ω

Parameters	Test Condition	Units	Typ
Gain	8 GHz	dB	14.53
	10 GHz		
	12 GHz		
Output P1 dB	8 GHz	dBm	17.8
	10 GHz		
	12 GHz		
OIP3 Pin= 1 dBm Δf = 50MHz	8 GHz	dBm	27.2
	10 GHz		
	12 GHz		
Noise Figure	8 GHz	dB	1.78
	10 GHz		
	12 GHz		
Input Return Loss	8 GHz	dB	9.82
	10 GHz		9.45
	12 GHz		6.03
Output Return Loss	8 GHz	dB	2.13
	10 GHz		7.12
	12 GHz		4.12
Operating Bias Conditions			
Drain Current (Id)	-	mA	200
Drain Voltage (VDD)	-	V	5
Gate Voltage (VGG)	-	V	-0.3

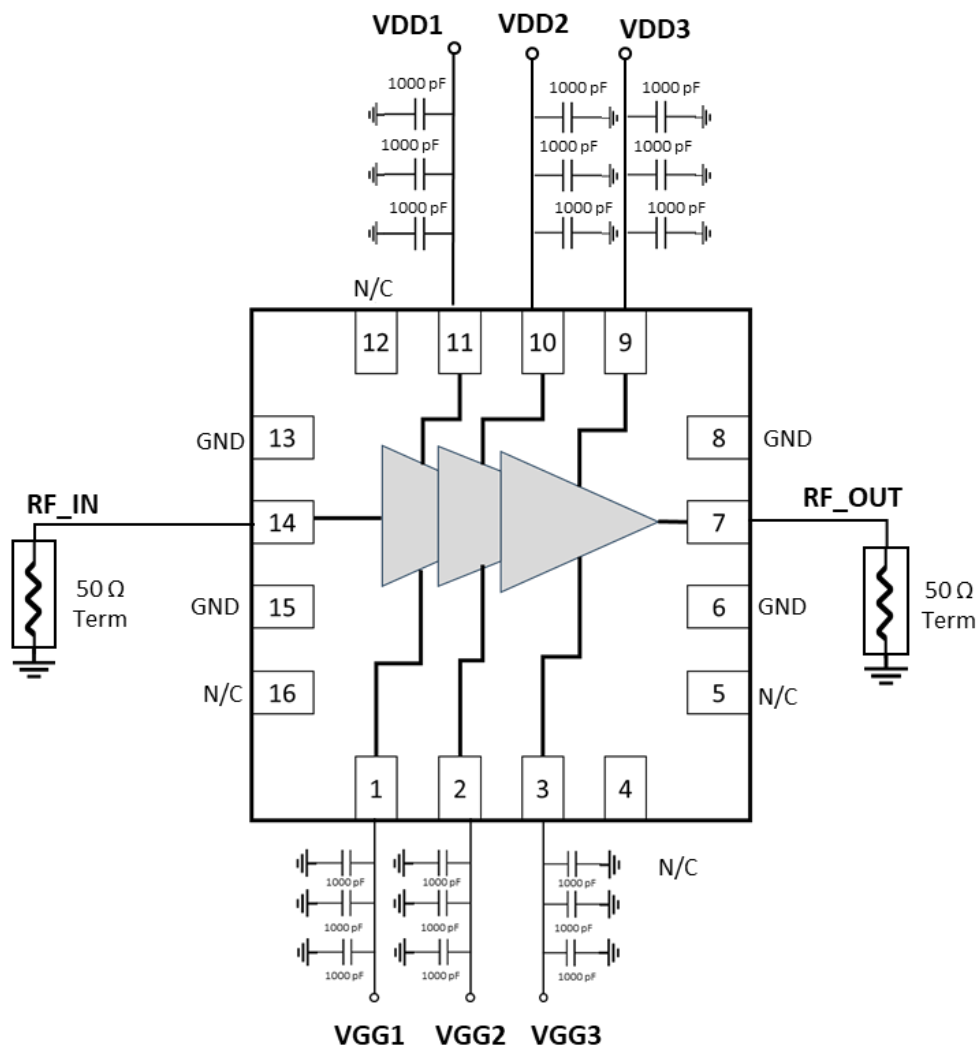
On-Wafer Performance Curves:



Typical Performance Curves:



Application Diagram:



Disclaimer:

Information in this document is provided in connection with RFIC Solutions Inc. products. These materials are provided by RFIC Solutions Inc. as a service to its customers and may be used for informational purposes only. Except as provided in RFIC Solutions Inc. Terms and Conditions of Sale for such products or in any separate agreement related to this document, RFIC Solutions Inc. assumes no liability whatsoever. RFIC Solutions Inc. assumes no responsibility for errors or omissions in these materials. RFIC Solutions Inc. may make changes to specifications and product descriptions at any time, without notice. RFIC Solutions Inc. makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

Contact information

For the latest specifications, additional product information:

Web: www.rficsolutions.com

Email: smoghe@rficsolutions.com

Tel: (+1) 840 356 8957, (+91)9022078131, (+91)8485841789