

### Features:

- RF Frequency: 20 - 40 GHz
- Small signal gain: 19 dB
- Noise figure: 3.9 dB
- Output P1dB: 8.2 dBm
- Saturated Output Power: 15.3 dBm
- DC drain bias voltage: 4 V
- DC supply current: 78.8 mA
- 0.1um GaAs pHEMT Technology
- Die Size: 1.15 mm \* 1.45 mm

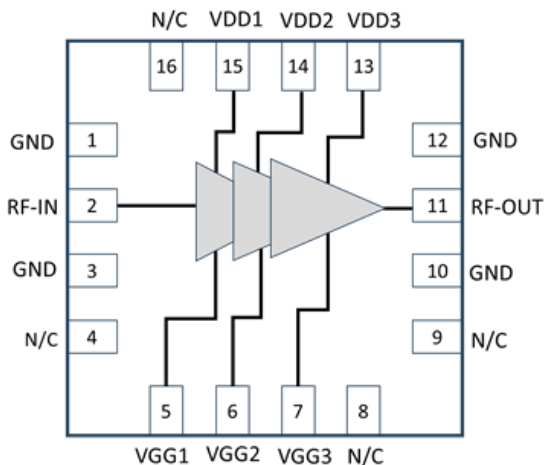
### Applications:

- Bluetooth
- Zigbee.
- SATCOM
- IoT
- Wi Fi

### Deliverables:

- Sample Ready Die
- Product Datasheet

### Functional Block Diagram:



### Pin Configuration:

Pin No.	Pin Name	Description
1,3,10,12	GND	Ground
15	VDD1	Drain Bias Voltage 1
14	VDD2	Drain Bias Voltage 2
13	VDD3	Drain Bias Voltage 3
2	RF-IN	RF Input
11	RF-OUT	RF Output
5	VGG 1	Gate Bias Voltage 1
6	VGG 2	Gate Bias Voltage 2
7	VGG 3	Gate Bias Voltage 3
4,8,9,16	N/C	Not Connected

### Description:

RFLN40A\_B is a three-stage amplifier operating over the 20–40 GHz frequency range. The amplifier provides 18.9 dB of small-signal gain, with input and output matched to 50 Ω and on-chip DC blocking capacitors for ease of integration.

The device is designed for mmWave applications, including 5G infrastructure, SATCOM terminals, radar systems, point-to-point radio links, and other high-frequency wireless communication systems operating in the 20–40 GHz band.

The amplifier is designed using a 0.1 μm GaAs pHEMT process, enabling broadband performance across the entire operating frequency range.

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### Electrical Specification:

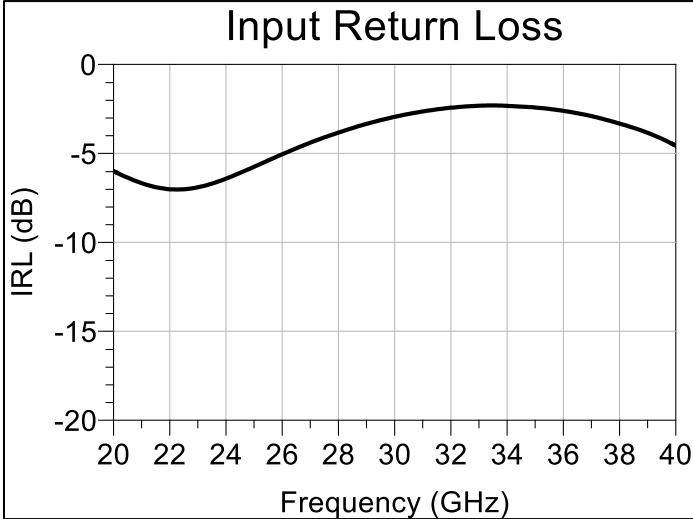
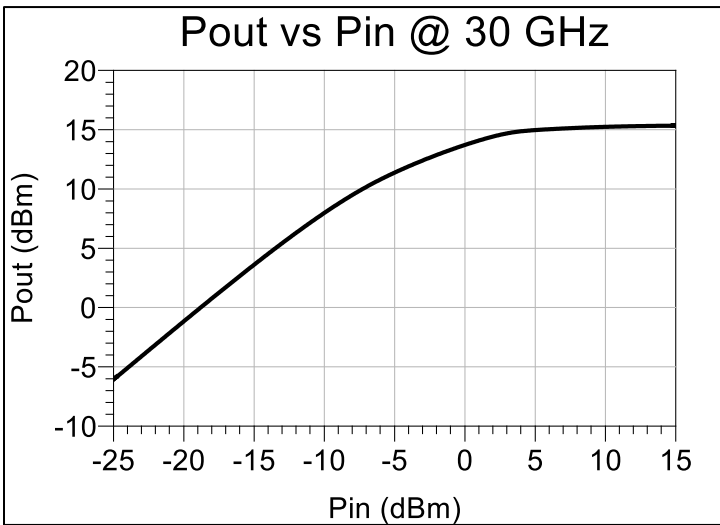
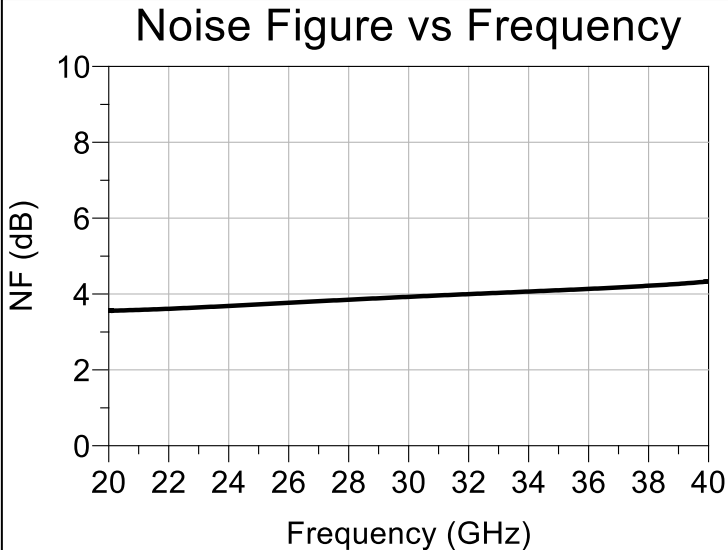
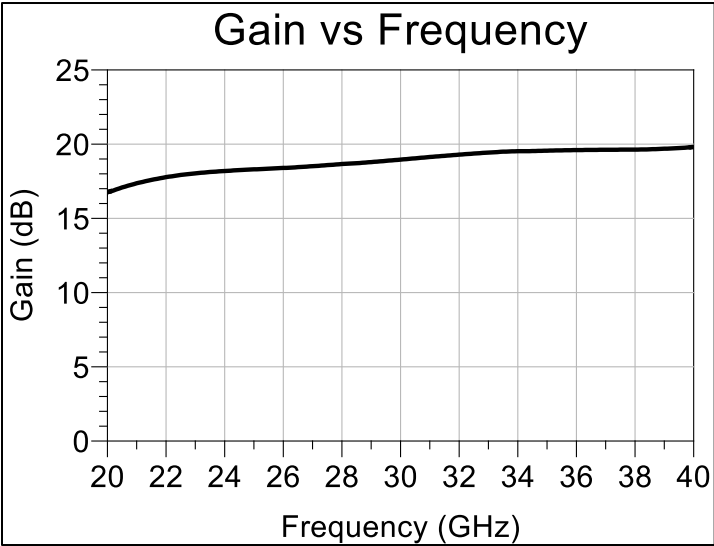
Freq= 20 - 40 GHz, VDD1=VDD2=VDD3= 4V, VGG1=VGG2=VGG3= -0.5V ID= 78.8 mA, Zo=50 Ω

Parameters	Test Condition	Units	Typ
Gain	20 GHz	dB	17
	30 GHz		19
	40 GHz		20
Output P1 dB	20 GHz	dBm	-
	30 GHz		8.2
	40 GHz		-
OIP3 Pin= 1 dBm Δf = 50MHz	20 GHz	dBm	-
	30 GHz		17.6
	40 GHz		-
Noise Figure	20 GHz	dB	3.8
	30 GHz		3.9
	40 GHz		4.1
Input Return Loss	20 GHz	dB	6
	30 GHz		2.9
	40 GHz		5
Output Return Loss	20 GHz	dB	9.9
	30 GHz		2.7
	40 GHz		7
Drain Current (Id)	-	mA	78.8
Drain Voltage (VDD)	-	V	4
Gate Voltage (VGG)	-	V	-0.5

# Low Noise Amplifier

## PRODUCT DATASHEET RFLN40A\_B

### Typical Performance Curves:

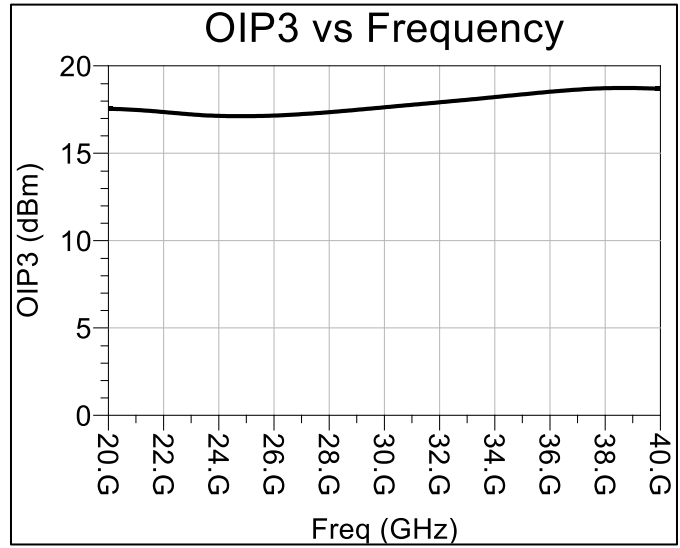
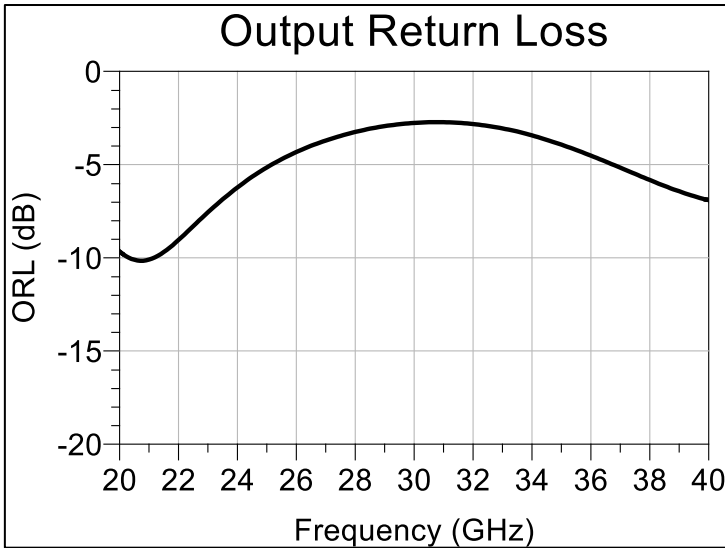


# Low Noise Amplifier



## PRODUCT DATASHEET

## RFLN40A\_B



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