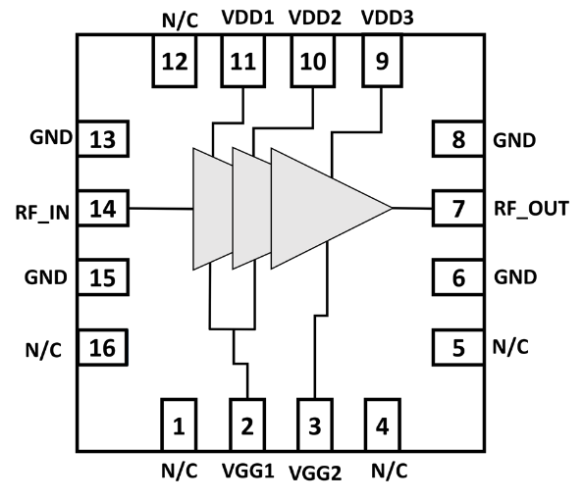


### Features:

- RF Frequency: 24-28 GHz
- Small signal gain: 21.04 dB
- Output P1dB: 25.8 dBm
- Saturated Output Power: 27.4 dBm
- DC drain bias voltage: 4.5 V
- DC gate bias voltage: -0.3 V
- DC supply current: 620 mA
- 0.1um GaAs pHEMT Technology
- Die Size: 1.2mm\*1.78mm

### Functional Block Diagram



### Description:

RFPA28 is Power Amplifier operates 24-28 GHz. The amplifier provides 21.04 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 24-28 GHz frequency in 5G Wireless Communication, Radar Systems, Fixed Wireless Access (FWA), Imaging and Sensing, and SATCOM Applications.

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

### Pin Configuration

Pin No.	Pin Name	Description
6,8,13,15	GND	Ground
2	VGG1	Gate Bias Voltage 1
3	VGG2	Gate Bias Voltage 2
11	VDD1	Drain Bias Voltage 1
10	VDD2	Drain Bias Voltage 2
9	VDD3	Drain Bias Voltage 3
14	RF-IN	RF Input
7	RF-OUT	RF Output
1,4,5,12,16	N/C	Not Connected

### Applications:

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

### Deliverables:

- Sample Ready Packaged Die
- Test Results
- Product Datasheet

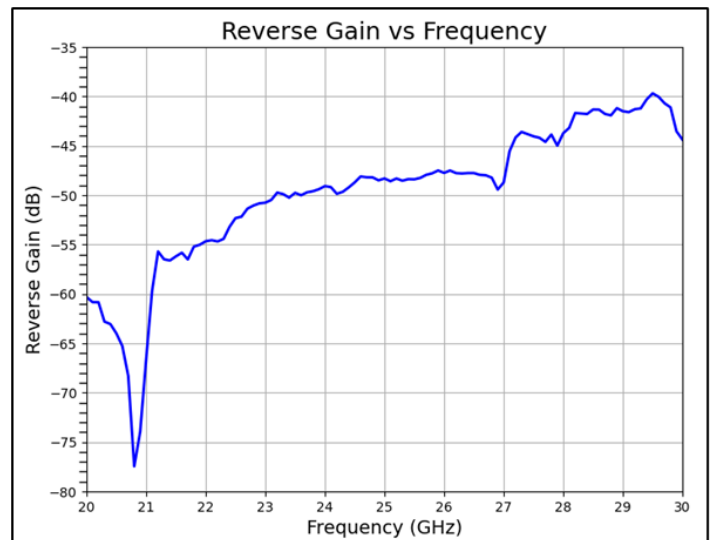
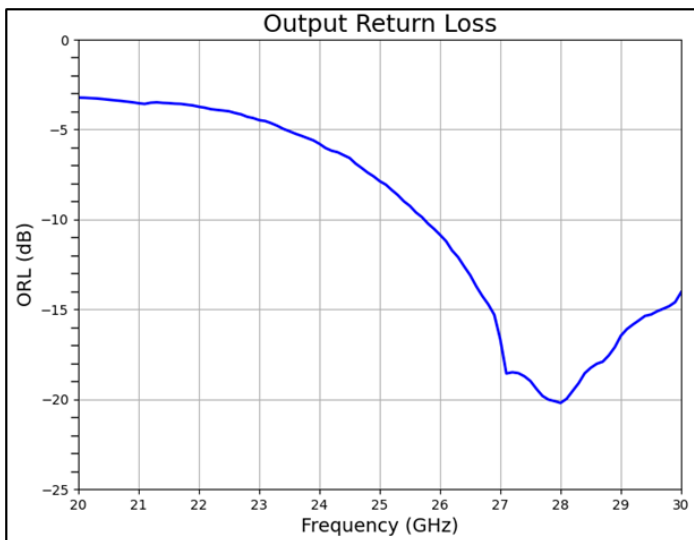
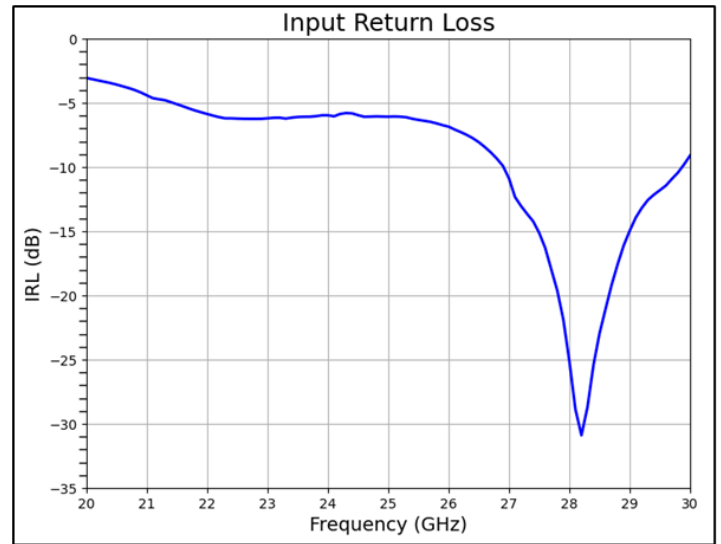
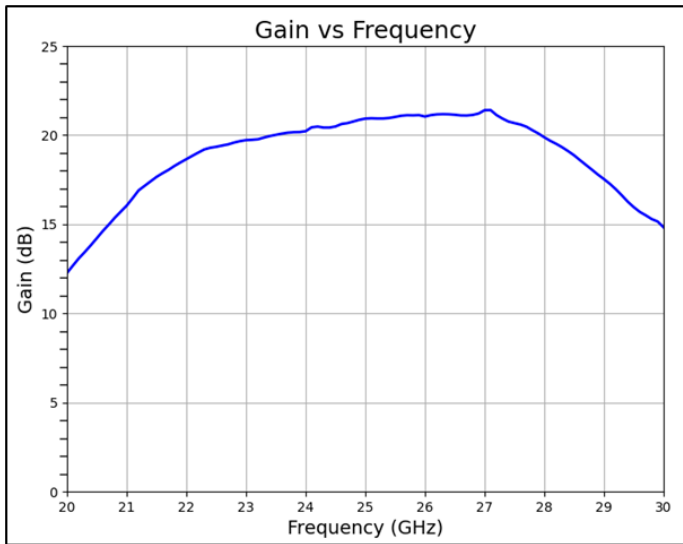
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### Electrical Specification:

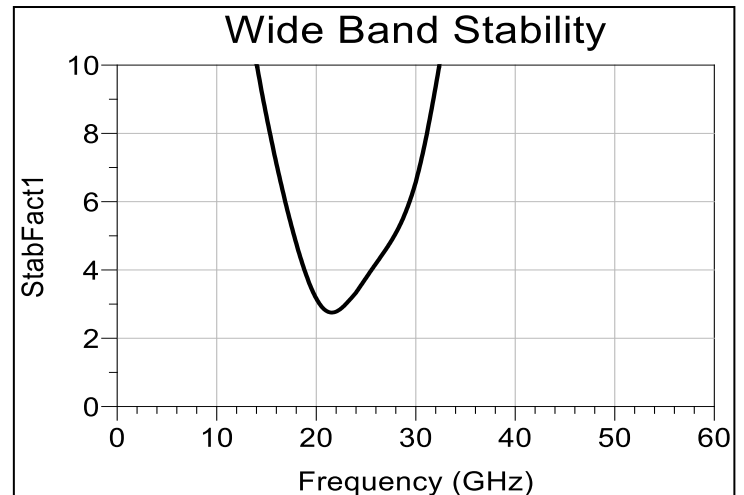
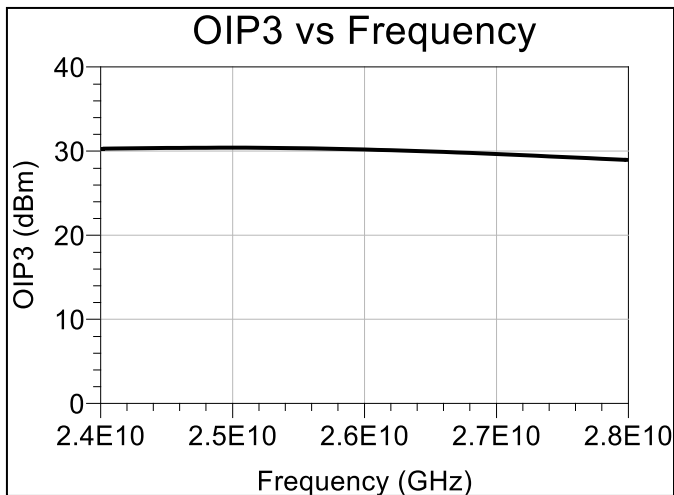
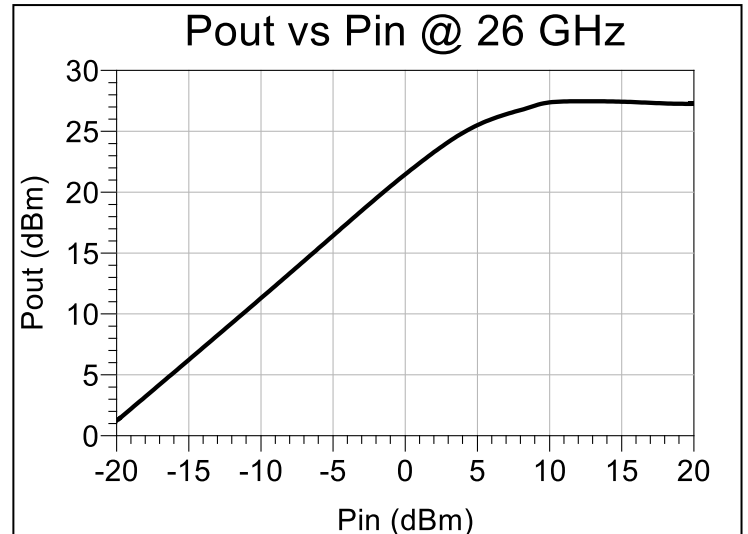
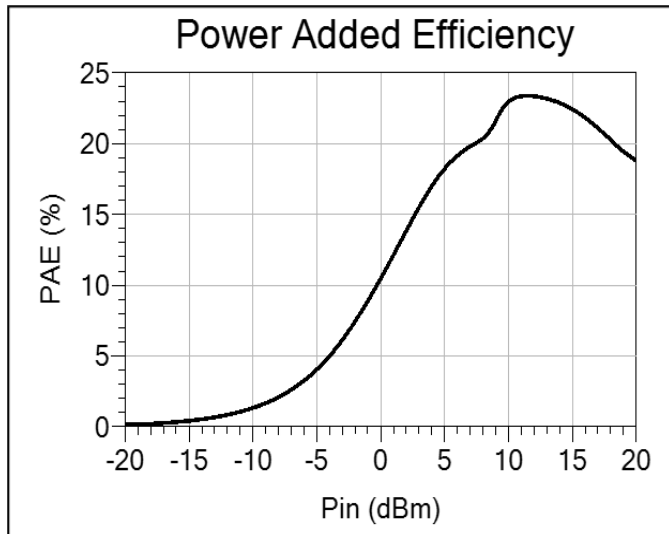
Freq= 20 -30 GHz, VDD1=VDD2= 4.5 V, VGG1= - 0.3 V, ID= 241.3 mA, Zo=50 Ω

Parameters	Test Condition	Units	Typ
Gain	20 GHz	dB	12.27
	26 GHz		21.04
	30 GHz		14.8
Output P1 dB	20 GHz	dBm	
	26 GHz		25.8
	30 GHz		
OIP3 Pin= 1 dBm Δf = 50MHz	20 GHz	dBm	
	26 GHz		30
	30 GHz		
Input Return Loss	20 GHz	dB	3
	26 GHz		6.8
	30 GHz		9
Output Return Loss	20 GHz	dB	3.23
	26 GHz		10.84
	30 GHz		8.9
Drain Current (Id)	-	mA	241.3
Drain Voltage (VDD)	-	V	4.5
Gate Voltage (VGG)	-	V	-0.3

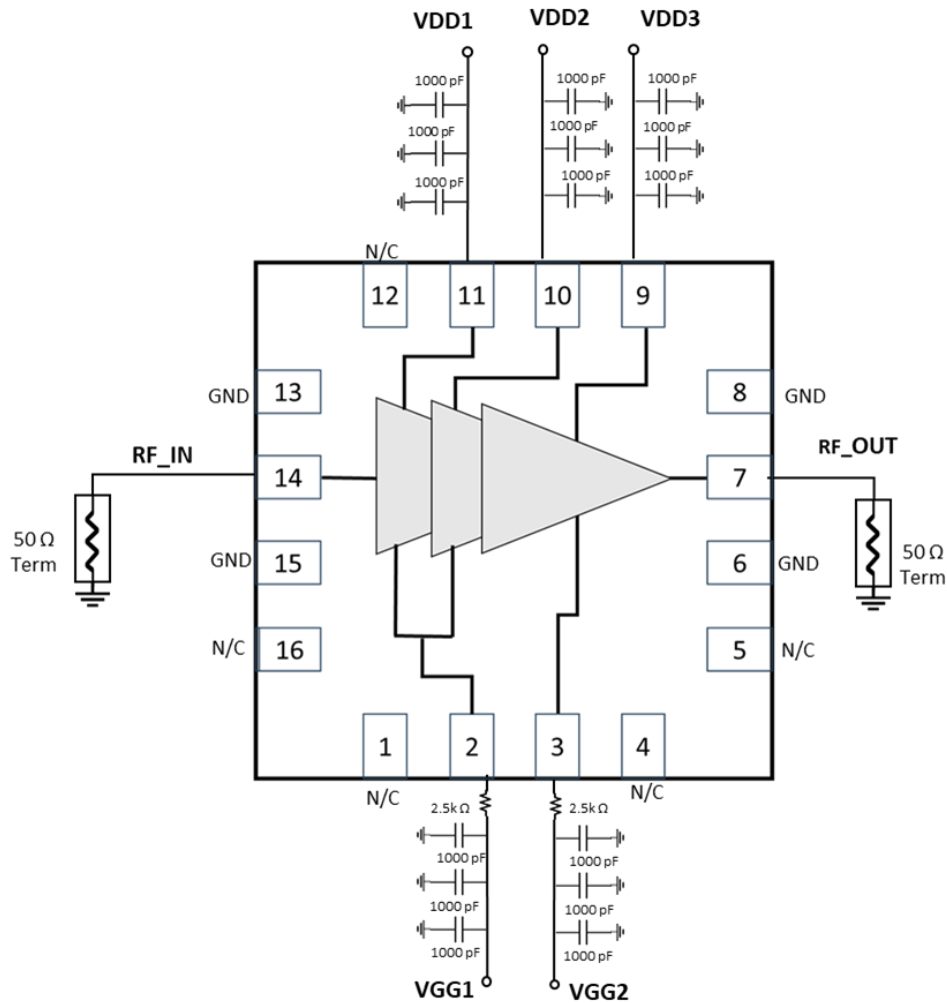
### On Wafer Measured Performance Curve:



### Typical Performance Curves:



### Application Diagram:



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