

# ADPA1122 20W GaN Power Amplifier

## Powering Phased Array Radar



### High-power, high-efficiency AESA made possible with ADI's GaN PAs

Analog Devices introduces the [ADPA1122](#) 20W GaN power amplifier, which operates across X-band frequencies and targets weather, marine, and military radar applications. This device was specifically designed to meet the requirements of phased array antenna where size, weight, and power (SWaP) are critical.

#### Industry-Leading Combined Performance

- ▶ Tuned for X-band radar : 8.2 – 11.8 GHz
- ▶ High output power = 43 dBm (20W)
- ▶ High power added efficiency = 45% typical
- ▶ Internally matched, AC-coupled RF input/output
- ▶ High small signal gain = 33 dB
- ▶ High power gain = 23 dB
- ▶ Integrated RF output power detector
- ▶ Integrated bias choke
- ▶ Small footprint : 7 mm × 7 mm SMT package

#### Additional Applications

ADPA1122 is optimized for pulsed radar applications as well as weather radar and air traffic control where chatter and other distractions challenge resolution at lower frequencies.



#### Defense Radar

- ▶ Detection
- ▶ Tracking



#### Weather Radar

- ▶ Rain fade resistant
- ▶ Pulsed operation



#### Air Traffic Control

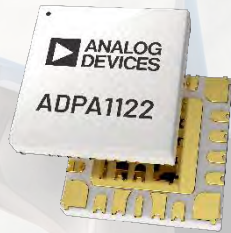
- ▶ Weather resiliency
- ▶ Multi-use array



## ADPA1122

### Enabling X-band AESA

- ▶ 20W Output Power @ 45% PAE
- ▶ High Power Gain
- ▶ 7mm x 7mm SMT Package
- ▶ Ideal for High-Density AESA Applications



## ADPA1122 Joins the Analog Devices GaN Radar Power Amplifier Family



### ADPA1105

#### 40W L-Band GaN PA

0.9 GHz – 1.6 GHz  
40W @ 60% PAE



### ADPA1106

#### 40W S-Band GaN PA

2.7 GHz – 3.5 GHz  
40W @ 56% PAE



### ADPA1107

#### 35W C-Band GaN PA

4.8 GHz – 6.0 GHz  
35W @ 56.5% PAE



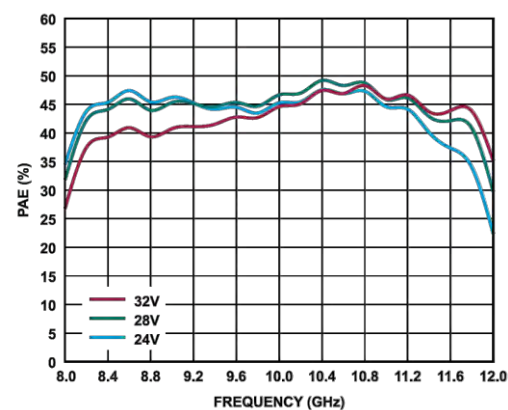
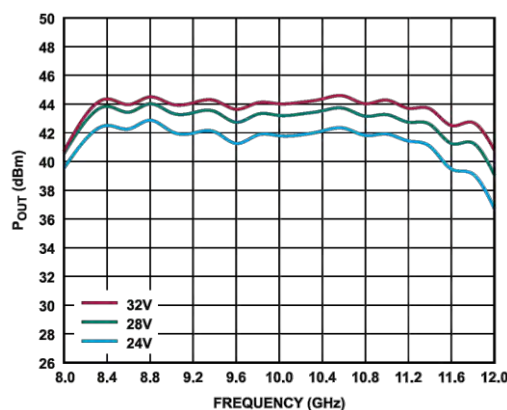
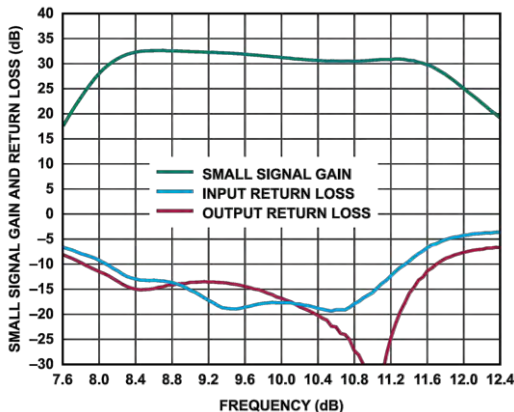
### ADPA1122

#### 20W X-Band GaN PA

8.2 GHz – 11.8 GHz  
20W @ 45% PAE

## ADPA1122

### 8.2 GHz to 11.8 GHz 20W GaN Power Amplifier



Learn more about ADI's GaN capabilities at [analog.com/gan](https://analog.com/gan)



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