

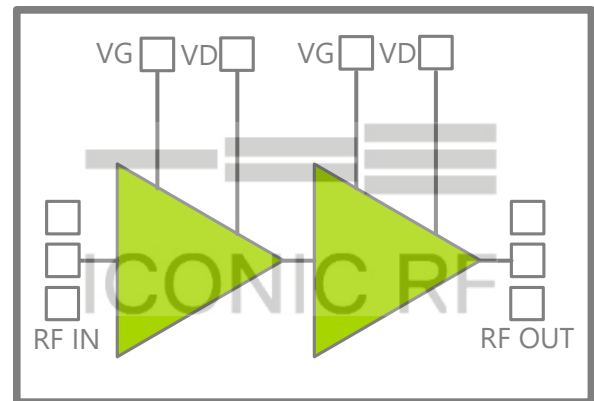
### Features

- Frequency Range: 7.9-11GHz
- Pout: 43 dBm Pulsed (100uS,20%)
- PAE: 38 %
- Small Signal Gain: 20 dB
- Bias: VD=28 V IDQ=200 mA
- Technology: GaN-on-SiC
- Lead-free and RoHS compliant
- Die Size: 3 mm x 1.8 mm

### Applications

- Commercial Radar
- Satellite Communications
- Aerospace & Defense

### Functional Diagram



### Description

The ICP1043 is a two stage MMIC power amplifier in bare die form, fabricated using GaN-on-SiC technology. ICP1043 operates from 7.9 - 11GHz with 43 dBm output power, 38% typical PAE and 20 dB small signal gain. ICP1043 is well suited for commercial and defense applications.

### Electrical Specifications

Parameter	Conditions <sup>(1)</sup>	Min.	Typ.	Max.	Units
Frequency		7.9		11	GHz
Output Power @ P <sub>sat</sub>	Pin=26 dBm		43		dBm
PAE @ P <sub>sat</sub>	Pin=26 dBm		38		%
Small Signal Gain			20		dB
Input Return Loss			10		dB
Output Return Loss			7		dB

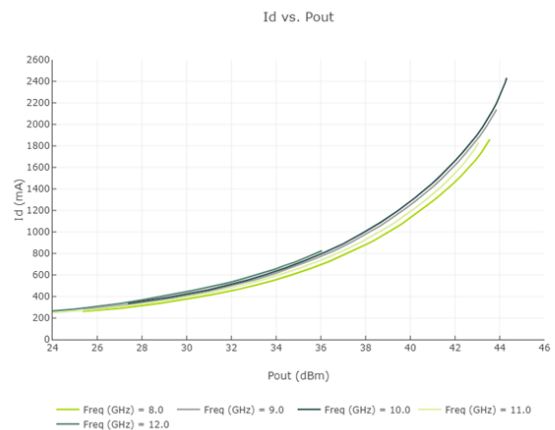
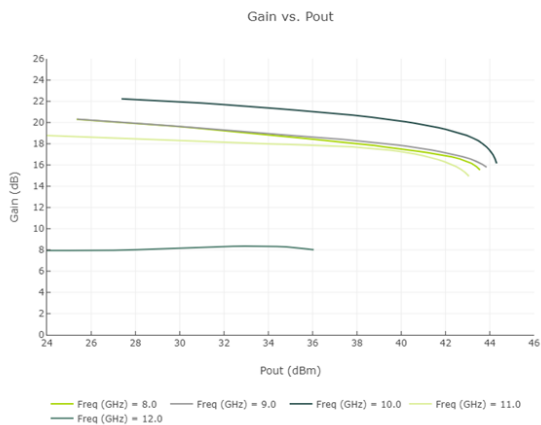
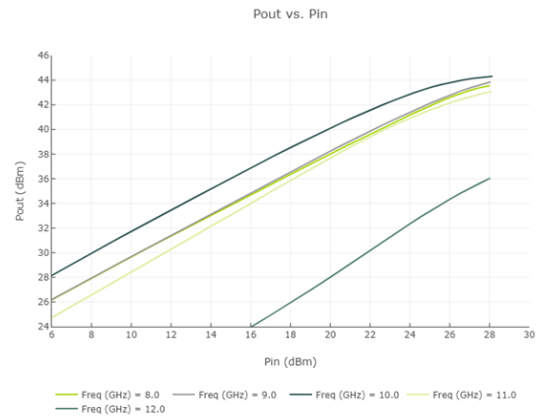
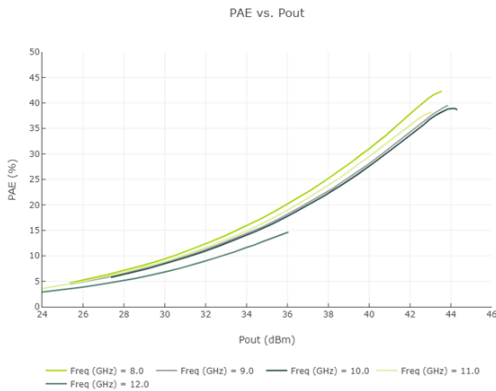
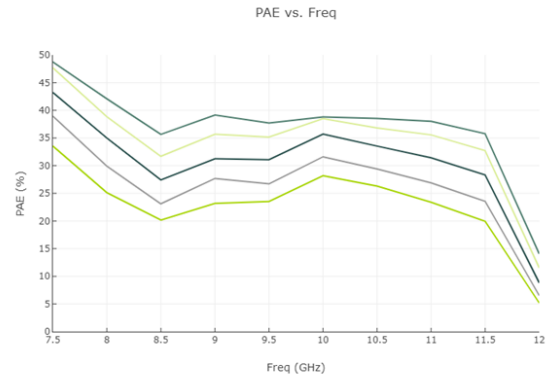
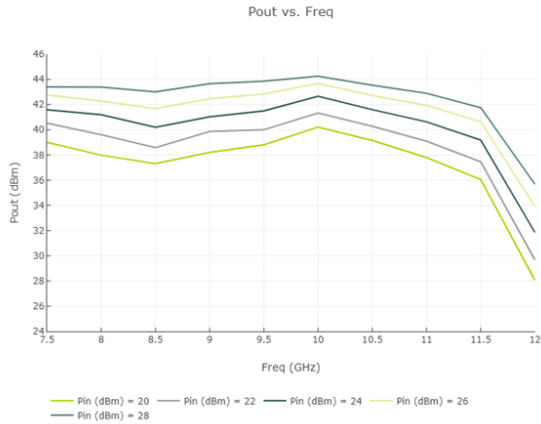
(1) Test conditions unless otherwise stated V<sub>D</sub>=28V, I<sub>DQ</sub>=200mA, TA=25 °C, Pulsed 100uS 20%

### Absolute Maximum Ratings

Parameter	Absolute Maximum
Drain Voltage (V <sub>DE</sub> )	40 V
Power Dissipation (CW)	60 W
CW Input Power	+30 dBm
Channel Temperature	275°C
Storage Temperature	-65°C to +150°C

Exceeding any one or combination of these limits may cause permanent damage to this device. Microchip Technology does not recommend sustained operation near these survivability limits.

### Typical Large Signal Data, Pulsed | Test conditions $V_D=28V$ , $I_{DQ}=200mA$ , (pulse = 500us/20%)



**Typical Large Signal Data, Pulsed, By Vdd** | Test conditions  $V_D=28V$ ,  $I_{DQ}=200mA$ , (pulse = 500us/20%)

