

**Product Features**

- GaN on SiC Broadband High Power Amplifier
- 2000 ~ 6000MHz Operation Bandwidth
- 20W Typical Psat
- 20% typical Power Efficiency at Psat

**Applications**

- General Purpose

**Description**

The power amplifier module is designed for General Purpose.  
 Operating frequency range is from 2000~ 6000MHz.  
 Gallium Nitride on SiC Technology  
 Improved thermal handling by patented technology.

**Electrical Specifications @ VDD=28VDC, T=25°C, 50Ω System**

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Frequency Range	MHz	2000	-	6000	BW
Power Output @ P <sub>SAT</sub> (CW)	Watt	-	20	-	P <sub>SAT</sub>
Power Gain	dB	-	35	-	G <sub>P</sub>
Input Return Loss	dB	-	-6	-5	S11
Power Added Efficiency @ P <sub>SAT</sub>	%	-	20	-	η
Operating Voltage	Volt	27.5	28	30	VDC
Current Consumption @ Pout = 20W, VDC=28V	Amp	-	4	-	IDD
Quiescent Current	Amp	-	-	3.5	IDQ

**Environmental Characteristics**

PARAMETER	UNIT	MIN	TYP	MAX	SYMBOL
Operating Case Temperature	°C	-30	-	85	T <sub>c</sub>
Storage Temperature	°C	-45	-	105	T <sub>stg</sub>
Relative humidity w/o condensation	%	-	-	95	RH
Altitude	Feet	10,000	30,000	-	ALT
Shock & Vibration	Per Mil Std 810E				SH / VI

## Mechanical Specifications

PARAMETER	UNIT	VALUE	LIMIT
Dimensions	Inch	6.69 x 2.52 x 0.84	-
	mm	170 x 64 x 21.5	
Weight	lb.	1.1	-
	Kg	0.50	
RF Connectors In/Out	-	SMA female	-
DC & Control Signals Connector	-	D-sub, 9-Pin	-
Cooling	-	External Heat-sink	-

## Performance Data

## (1) Spectrum Analyzer Test Results

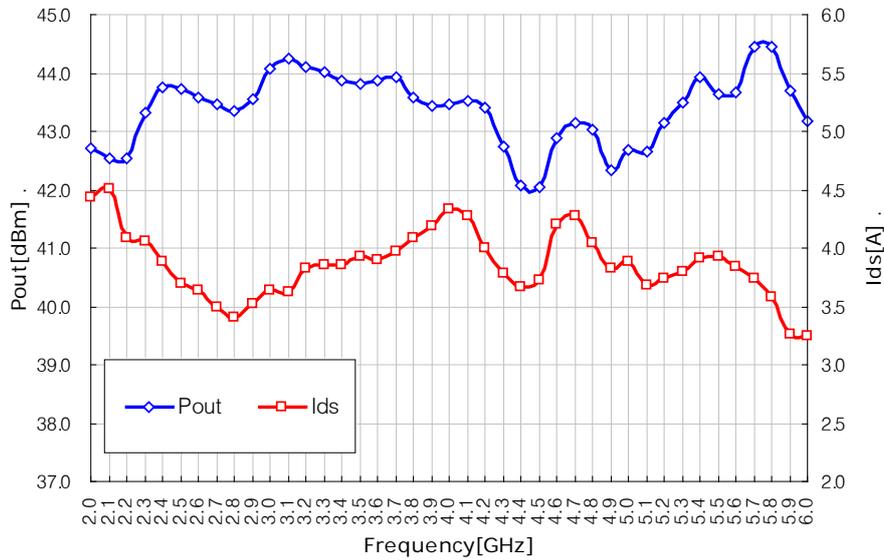
## 1) Summary Table

Test Condition : Ta=25 °C , Tc=50 °C

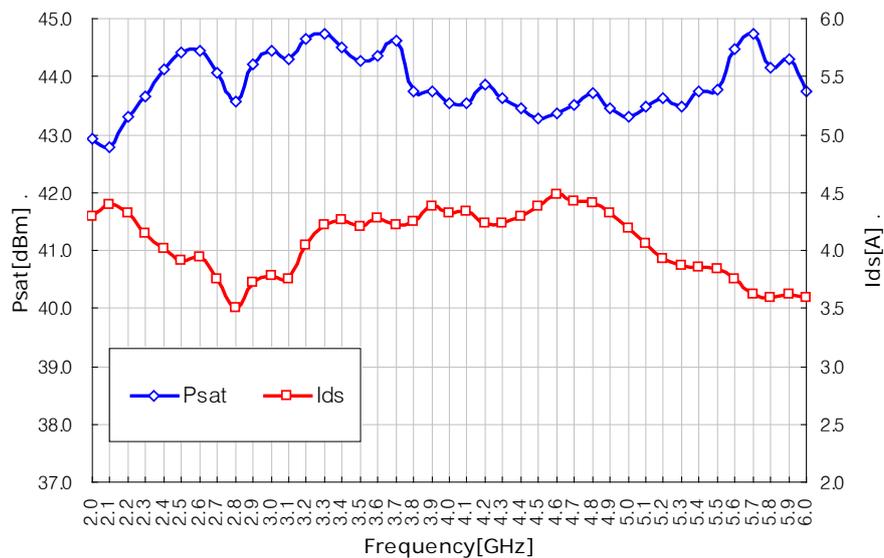
Frequency	Test Condition : Fixed Input Power=6dBm			
	Pout	Ids @Pout	Power Gain @Pout	Drain Efficiency @Pout
MHz	dBm	A	dB	%
2000MHz	42.71	4.430	36.71	15.04
2200MHz	42.53	4.090	36.53	15.63
2400MHz	43.75	3.879	37.75	21.82
2600MHz	43.57	3.631	37.57	22.36
2800MHz	43.34	3.406	37.34	22.64
3000MHz	44.08	3.639	38.08	25.12
3200MHz	44.11	3.824	38.11	24.05
3400MHz	43.86	3.856	37.86	22.54
3600MHz	43.88	3.900	37.88	22.39
3800MHz	43.59	4.086	37.59	19.99
4000MHz	43.48	4.336	37.48	18.33
4200MHz	43.40	3.999	37.40	19.52
4400MHz	42.08	3.667	36.08	15.71
4600MHz	42.90	4.206	36.90	16.55
4800MHz	43.04	4.049	37.04	17.75
5000MHz	42.69	3.884	36.69	17.09
5200MHz	43.15	3.744	37.15	19.69
5400MHz	43.94	3.914	37.94	22.61
5600MHz	43.67	3.841	37.67	21.65
5800MHz	44.45	3.580	38.45	27.81
6000MHz	43.17	3.248	37.17	22.79

2) Performance Graph

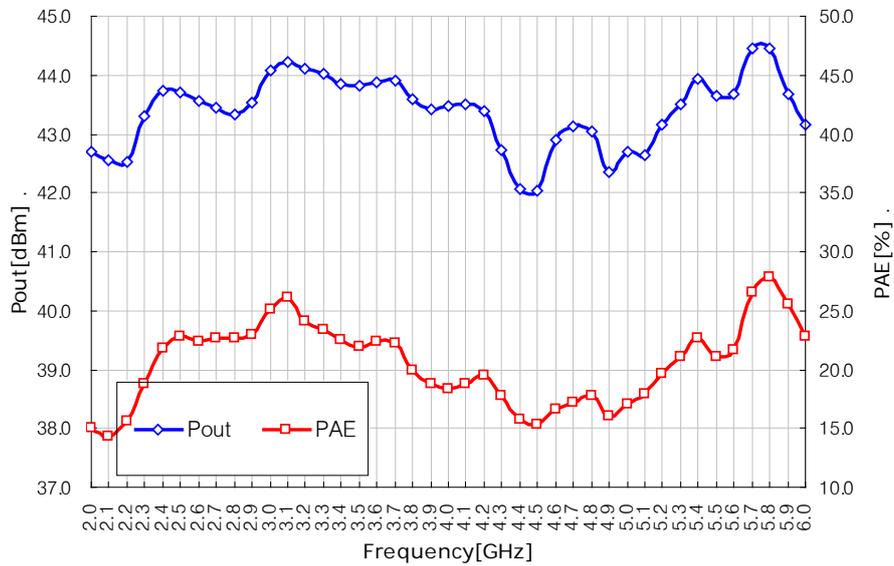
Output Power @ Pin=6dBm & I<sub>ds</sub> vs. Frequency



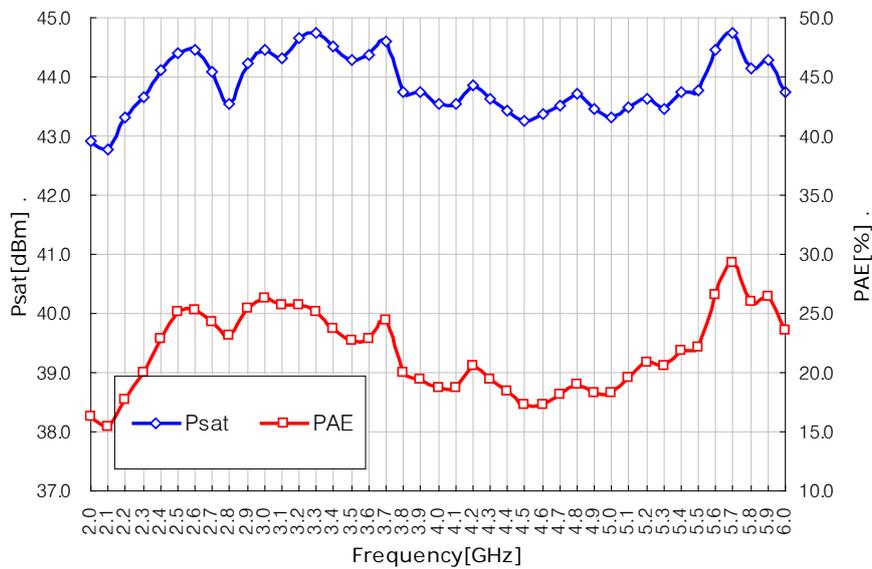
Saturation Power & I<sub>ds</sub> vs. Frequency



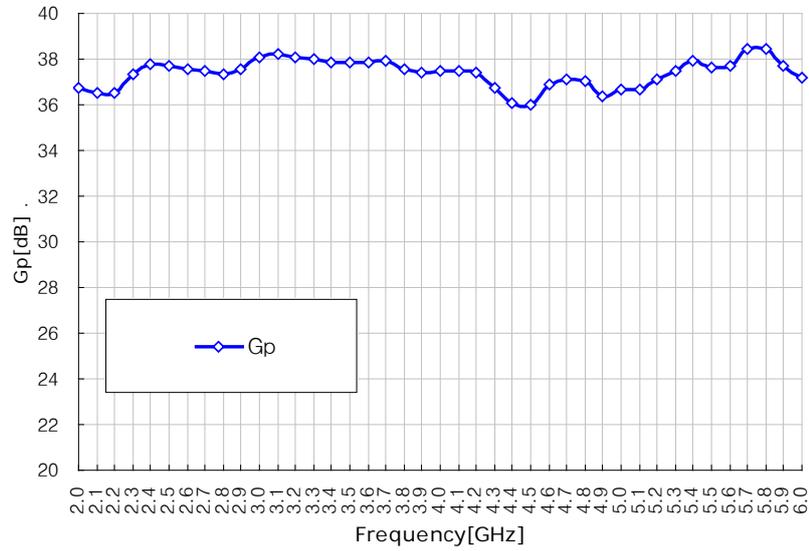
Output Power @ Pin=6dBm & PAE vs. Frequency



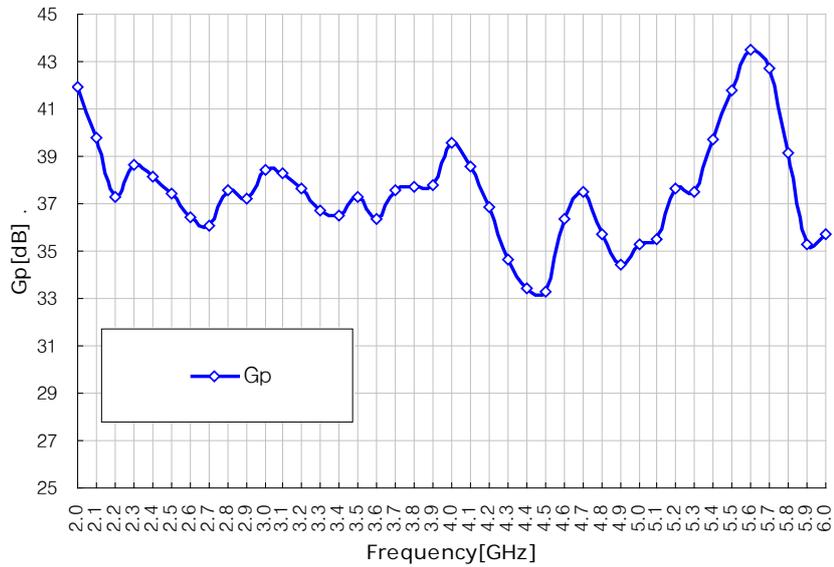
Saturation Power & PAE vs. Frequency



Power Gain @ Pin=6dBm vs. Frequency

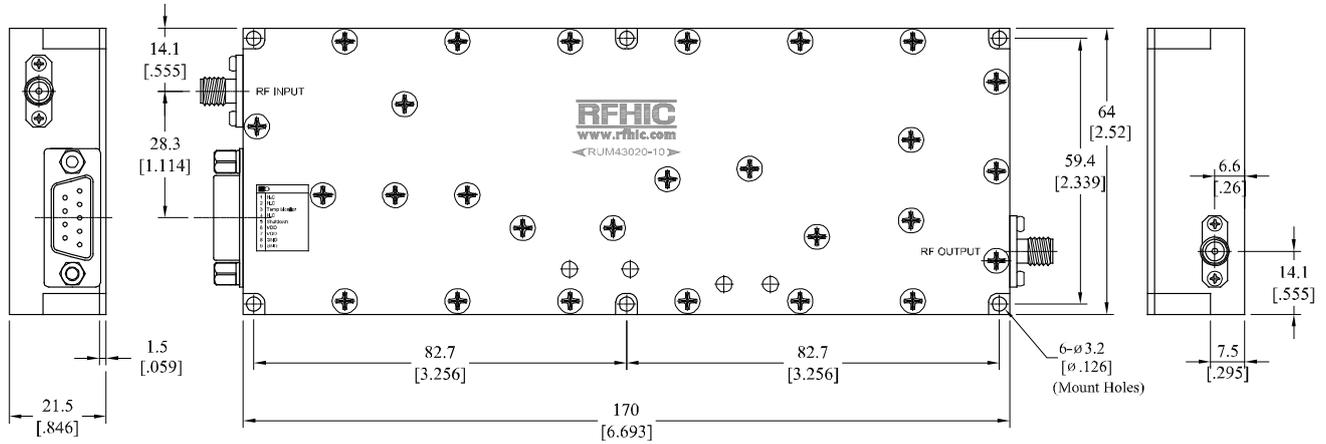


Power Gain @ Psat vs. Frequency



Outline Drawing

\* Unit: mm[inch] | Tolerance ±0.2[.008]



Note

Cover screw holes and Module Mount Holes would be changed.

Pin Description

D-Sub, 9-Pin, male

Pin No	Description	I/O	Specifications
1	N.C.	-	-
2	N.C.	-	-
3	Temp monitor	O	(10mV/°C * Temp °C) + 500mV
4	N.C.	-	-
5	Shutdown	I	Enable = 5V, Disable = 0V(30mA)
6	VDD	I	28 VDC
7	VDD	I	28 VDC
8	GND	I	Ground
9	GND	I	Ground

**Revision History**

<b>Part Number</b>	<b>Release Date</b>	<b>Version</b>	<b>Modification</b>	<b>Data Sheet Status</b>
RUM43020-10	2012.10.04	1.0	-	-

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