

The MB2.06.0G474828 is a 50W high gain Solid State Broadband High Power Amplifier. This amplifier module utilizes the latest high power RF GaN transistors to improve the overall efficiency and built-in control and monitoring, over-reflection protection functions to ensure high reliability. This amplifier is suitable for broadband jamming and EMC testing, Phased array systems. The amplifier comes with an industry leading warranty.

## Features

2 GHz-6GHz frequency range	Solid-state Class AB Broadband design
Psat 47dBm Min, 47.4dBm Typ.	Instantaneous ultra-broadband
Fast Switching time <500nS.	Suitable for CW, and Pulse
High Average Efficiency around 35%.	Small and light weight
Built-in control, monitoring and protection circuits	Great Gain/Phase Consistency

## ELECTRICAL SPECIFICATIONS(T=25°C,DC Voltage= 28V, Load VSWR ≤ 1.2)

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	2		6	GHz
Output Power CW@ Psat	Psat	50	55		W
Output P1dB CW	P1dB	10	15		W
Power Gain @ Pin=0 dBm	Gp	47	48		dB
Power Gain Flatness @ Pin=0 dBm	ΔGp		± 1.0	± 1.5	dB
Input Power for Rated	P <sub>IN</sub>	-3	0	3	dBm
Harmonics @ Pout = 30W	2 <sup>nd</sup> /3 <sup>rd</sup>		-20/40	-15/20	dBc
Spurious Signals@ Pin=0 dBm	Spur		-60		dBc
Input Return Loss	S11		-15	-12	dB
Third Order Intercept Point					
2-Tone @ 40dBm/Tone, 1MHz Spacing	IP3	50	51		dBm
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout=50~60W	IDD		6.5	8.0	A
PAE Efficiency @Psat	Effi	25	35		%
Module to Module Gain Tracking @Pin=0dBm	Δ GT			± 1.0	dB
Module to Module Phase Tracking @Pin=0dBm	Δ PT			± 15	Deg
Switching Time @ 1kHz TTL, Pin=0 dBm	TON/TOFF			500	ns

## MECHANICAL SPECIFICATIONS Cooling

External: Heat Sink Needed

Length\* Width\*Height: 160\*100\*25 mm

Weight: 2.2 lbs

RF Connector Input: SMA, Female

RF Connector Output: SMA, Female

## ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

Module Operation Temperature* <sup>1</sup>	-20	65* <sup>2</sup>	°C
Storage Temperature Range	-45	85	°C
Relative-Humidity		95	%
Altitude * <sup>3</sup>	N/A		
Vibration/Shock * <sup>3</sup>	N/A		

**Notes** \*1: Module Operation Temperature can be extended to -45~85°C, Contact Sales for update.

**Notes** \*2: Should Supply Adequate Heat Dissipation, Enough Fan and Heat-Sink is necessary during the Temp Test.

**Notes** \*3: Altitude /Vibration are designed with considerations, but without tests and experiments.

## LIMITS

Input RF drive level without damage	Pin $\leq$ 10 (VSWR $\leq$ 2:1) [Design To Meet]	dBm
Load VSWR @ Pin= -5 dBm	VSWR $\leq$ 5:1 [Design To Meet]	N/A
Load VSWR @ POUT =50~55W	VSWR $\leq$ 3:1 [Design To Meet]	N/A
Over Reflection Power Protection	P_reflect among 20W~40W	N/A
Thermal Degradation	90°C Graceful Degradation(recovery at 60°C)	°C

## DC INTERFACE CONNECTOR – [D Sub 9-Pin, Male]

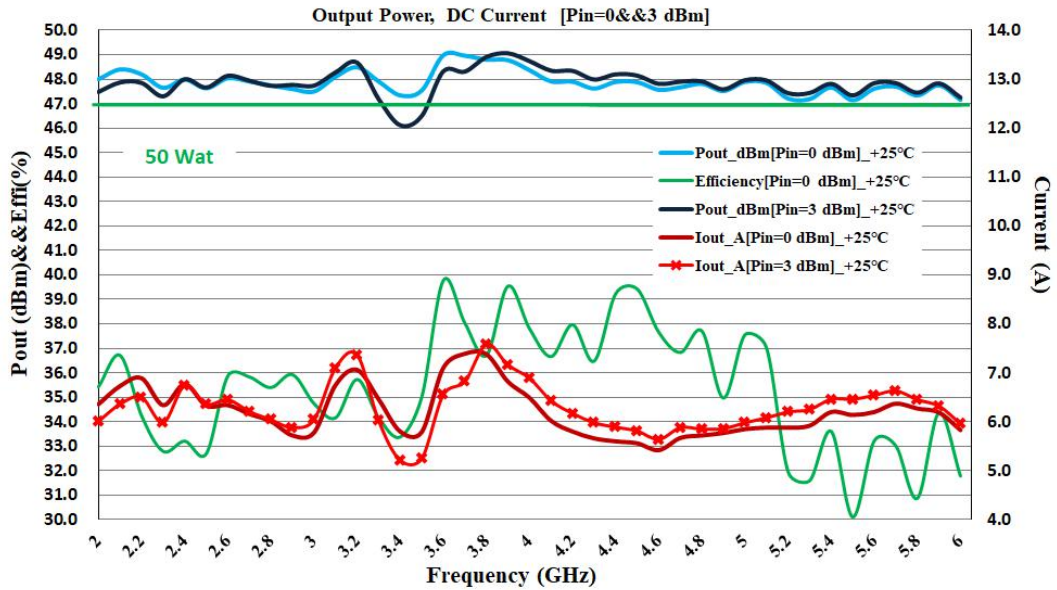
Pin #	Description	Specifications
1~3	VDD	28VDC
4~6	GND	Ground
7	CURRENT SENSOR	Analog voltage relative to IDD @ 100mV per Ampere
8	TEMP SENSOR	Analog voltage relative to Module's Temperature @ 10 mV/°C
9	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)

## PLOTTED AND OTHER DATA

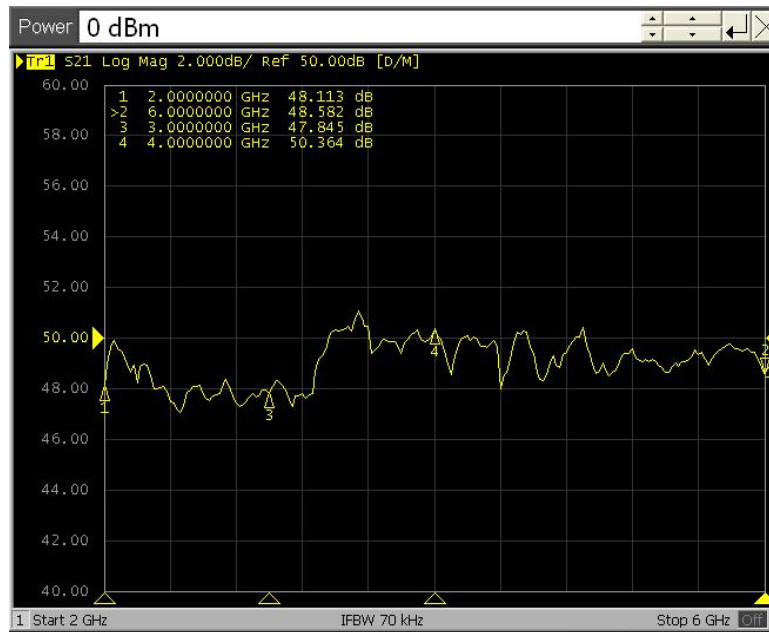
Notes:

1. Values at +25°C, sea level.
2. ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
3. Heat Sink required for Proper Operation, Unit is cooled by conduction to heat sink.

**Measurements Report:**



**TYPICAL PERFORMANCE DATA [Load VSWR ≤ 1.2], (Normal temp. +25±3°C)**



**Power gain @ Pin=0 dBm: (Ambient temp. +25±3°C, DC Voltage= 28V, Load VSWR ≤ 1.2)**

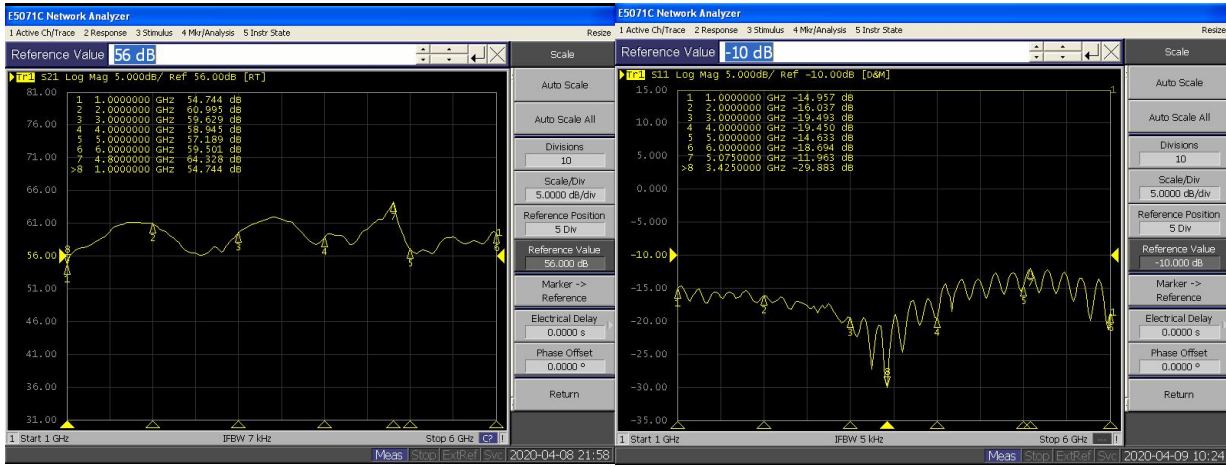
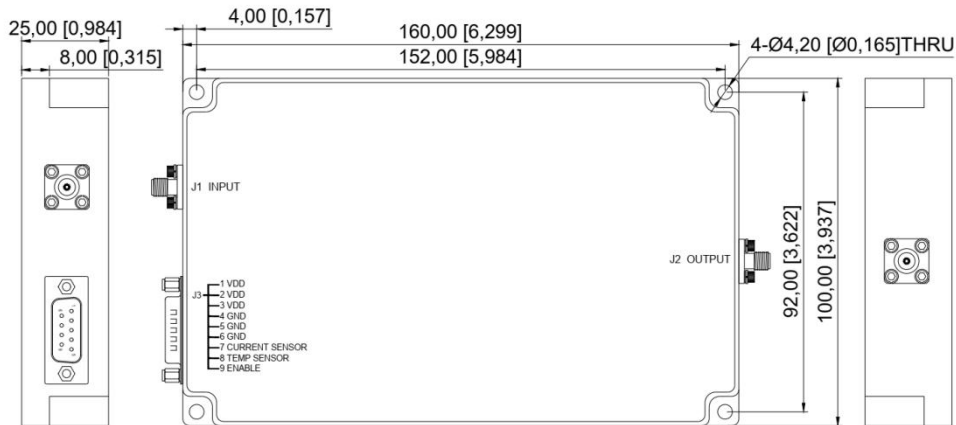


Figure Left: Small signal gain @ Pin=-30 dBm (Ambient temp. +25±3°C, DC Voltage= 28V, Load VSWR ≤ 1)

Figure Right: Input Return Loss@ Pin=-30 dBm (Ambient temp. +25±3°C, DC Voltage= 28V, Load VSWR ≤ 1.2)

**OUTLINE DRAWING [mm]**



**Product View**

