TECHNICAL DATESHEET ***AVBR1060H47***

The AVBR1060H47 is a 50W high gain Solid State Broadband High Power Amplifier. This amplifier module utilizes the latest high power RF GaN transistors and also features built in control and monitoring, with protection functions to ensure high availability. This amplifier is suitable for broadband jamming and EMC testing.

Features

1GHz-6GHz frequency range
Psat 47dBm type
Power gain 47dB
50 ohm input/output impedance
Built-in control, monitoring and protection circuits
Solid-state Class AB Broadband design
Instantaneous ultra-broadband
Suitable for AM, and FM
Small and lightweight
High reliability and ruggedness

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

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	1		6	GHz
Output Power CW	Psat	30	50		W
Power Gain @ Psat	Gp	44	47		dB
Power Gain Flatness @ Rated PSAT	ΔGp		±2.5	±3	dB
Input Power for Rated PSAT	P_{IN}		0		dBm
Harmonics @ Pout = 30W	2^{nd}		20		dBc
Noise Figure	NF		N/A		dB
Spurious Signals@ Pout =30W	Spur		-60		dBc
Input Return Loss	S_{11}			-10	dB
Third Order Intercept Point 2-Tone @ 40dBm/Tone, 100kHz Spacing	IP3		N/A		dBc
Operating Voltage	V_{DC}	26	28	30	V
Current Consumption @ Pout= 40W	I_{DD}		12		A
Switching Time @ 1kHz TTL, P_{IN} = -2dBm	T_{ON}/T_{OFF}		2	5	μs

MECHANICAL SPECIFICATIONS

Cooling External	Heat Sink Needed (Not Supplied)
Length* Width*Height[mm]	170*165*25
Weight[Kg]	2.5
RF Connector Input	SMA, Female
RF Connector Output	SMA, Female

ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

Module Operation Temperature	-20	65	℃
Storage Temperature Range	-25	70	℃
Relative-Humidity	N/A		
Altitude	N/A		
Vibration/Shock	N/A		

LIMITS

Input RF drive level without damage	Pin≤10	dBm
Load VSWR @ POUT =30W	VSWR≤5:1[Design To Meet]	N/A
Load VSWR @ POUT =50W	VSWR≤3:1[Design To Meet]	N/A
Thermal Degradation	85°C Graceful Degradation	℃

DC INTERFACE CONNECTOR – [Hybrid D-Sub 7-Pin, Male]

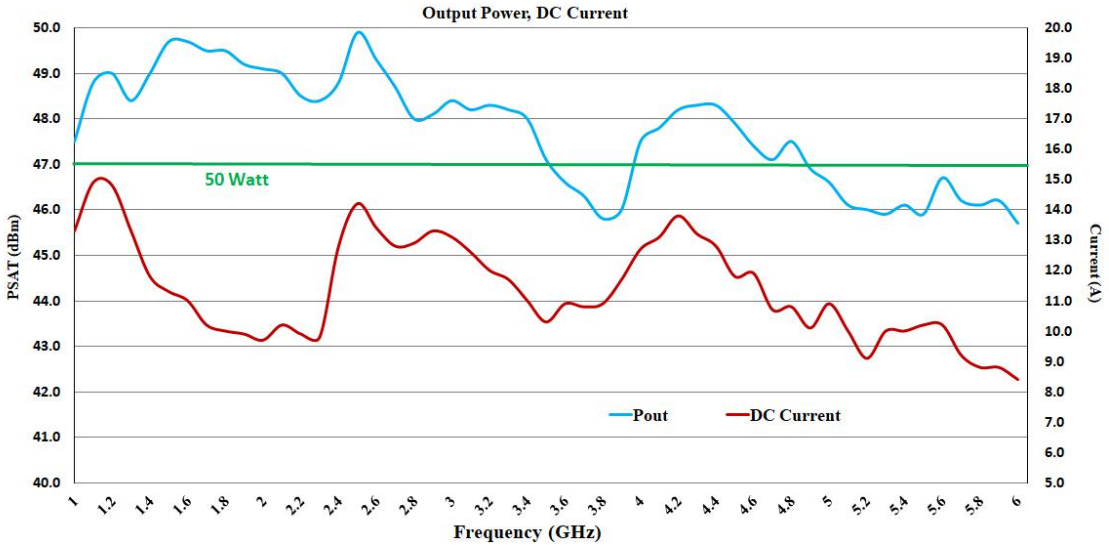
Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	28VDC
1	CURRENT SENSE	Analog voltage relative to IDD @ 100mV per Ampere
2	TEMP SENSE	Analog voltage relative to Module's Temperature @ 10 mV/°C
3	ENABLE	Amplifier Enable: TTL Logic High (3.3V) (Internally Pulled-Low)
4	GND	Ground
5	N/C	No Connection

PLOTTED AND OTHER DATA

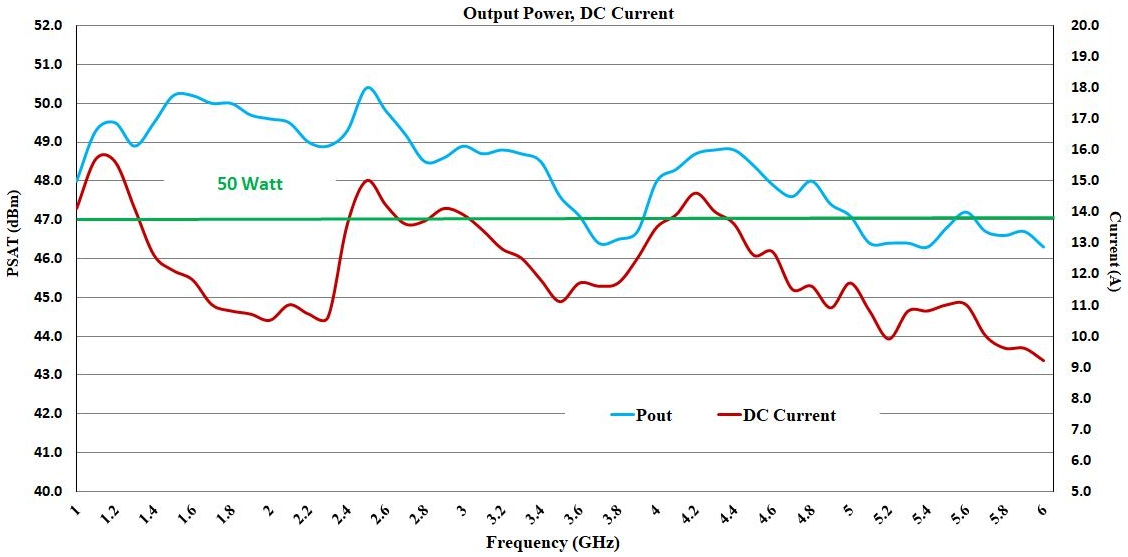
Notes:

1. Values at +25℃， 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.

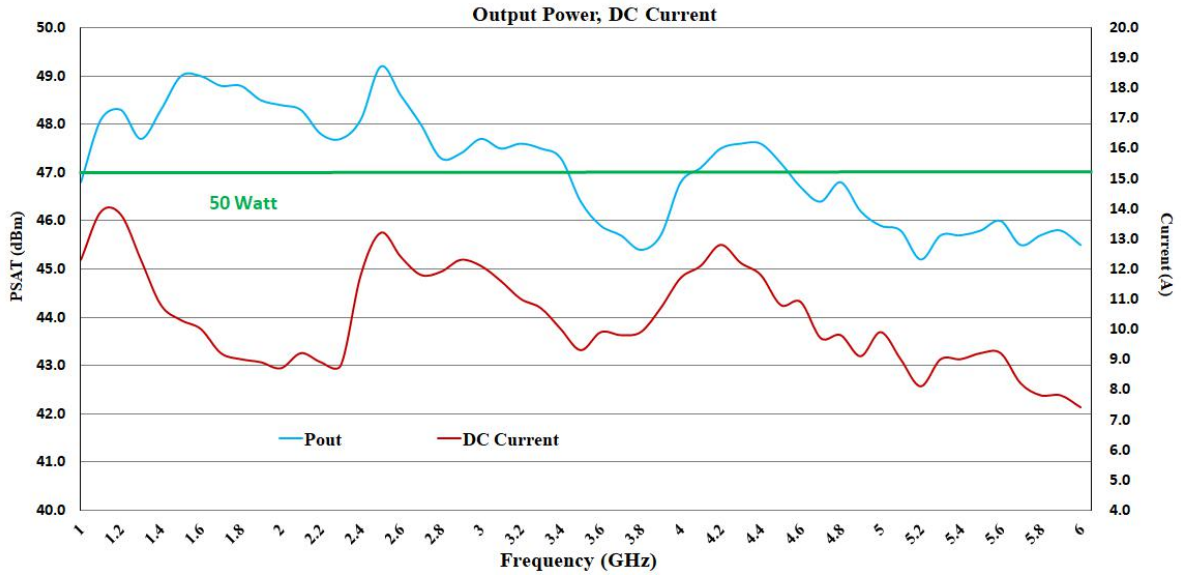
TYPICAL PERFORMANCE DATA [Load VSWR ≤ 1.2], (Normal temp. +25±3℃)



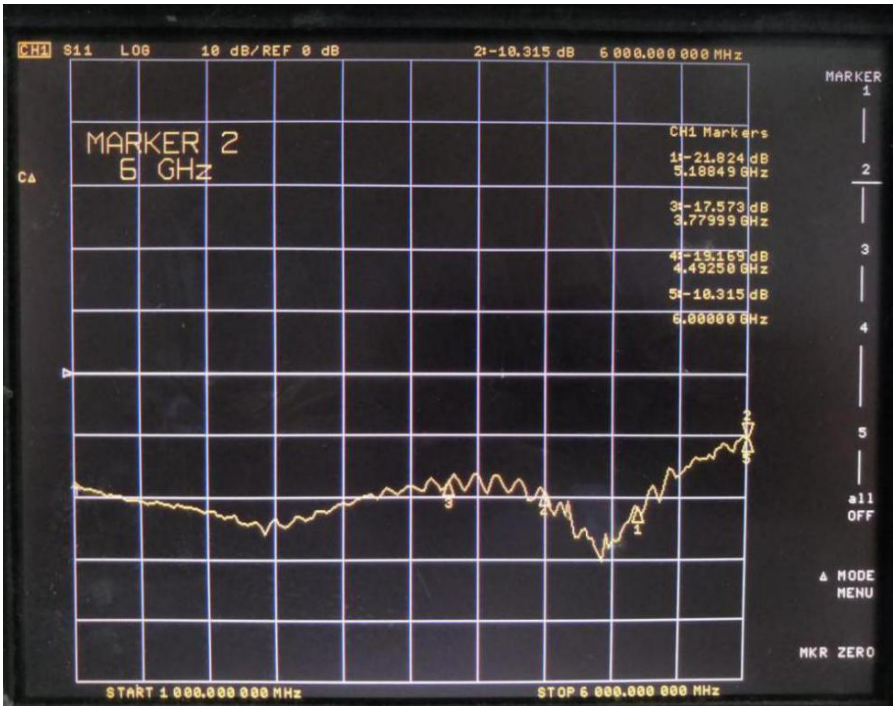
Graph1: Output Power(PSAT_dBm) (Low temp. -20±3℃)



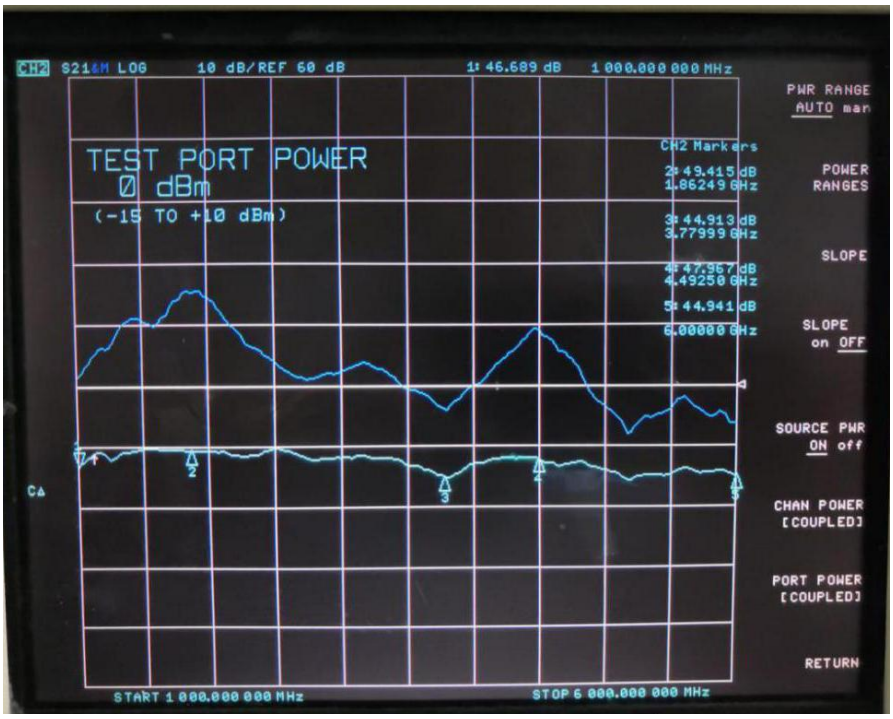
Graph2: Output Power(PSAT_dBm) (High temp. +60±3℃)



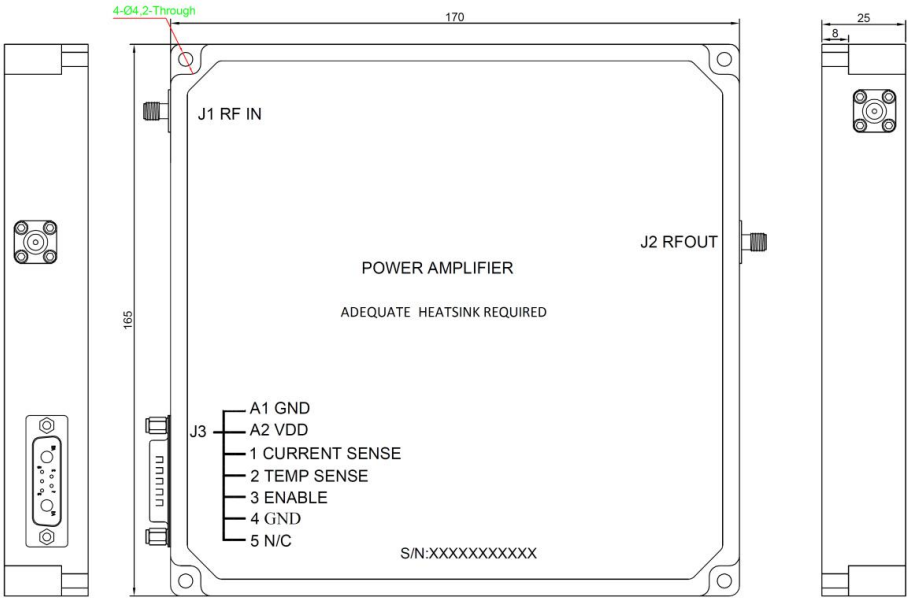
S11 Curve Test, Pin=-30dBm && Pin=0dBm [Load VSWR ≤ 1.2]



S21 Curve Test, Pin=-30dBm && Pin=0dBm [Load VSWR ≤ 1.2]



OUTLINE DRAWING [mm]



Side View [3D]