

TECHNICAL DATASHEET

AVBR1060H45

The AVBR1060H45 is a 30W 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	Solid-state Class AB Broadband design
Psat 44.7dBm type	Instantaneous ultra-broadband
Power gain 45dB	Suitable for AM and Modulated Signal
50 ohm input/output impedance	Small and lightweight
Built-in control, monitoring and protection circuits	High reliability and ruggedness

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

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	1		6	GHz
Output Power CW	Psat	20	30		W
Power Gain @ Psat	Gp	44	45		dB
Power Gain Flatness @ Rated PSAT	ΔGp		± 1.5	± 2.0	dB
Input Power for Rated PSAT	P <sub>IN</sub>	-2	0	2	dBm
Harmonics @ Pout = 20W	2 <sup>nd</sup> /3 <sup>rd</sup>		-20/-20	-12/-12	dBc
Noise Figure*	NF		12		dB
Spurious Signals@ Pin =0dBm	Spur		-70	-60	dBc
Input Return Loss	S11			-12	dB
Third Order Intercept Point					
2-Tone @ 40dBm/Tone, 100kHz Spacing	IP3		N/A		dBc
Operating Voltage	VDC	26	28	30	V
Current Consumption @ Pout= 20W~30W	IDD		3.5	5	A
Switching Time @ 1kHz TTL, PIN = -2dBm	TON/TOFF		2	3	μs

**Note\*: Contact sales for update**

**MECHANICAL SPECIFICATIONS**

Cooling External	Heat Sink Needed (Not Supplied)
Length* Width*Height[ mm ]	170*165*25
Weight[ Kg ]	1.3
RF Connector Input	SMA, Female
RF Connector Output	SMA, Female

Datasheet: REV A.1/ 08.29.2021

Unique Amplifier With Innovation

## ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

Module Operation Temperature	-20	65	°C
Storage Temperature Range	-25	70	°C
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	°C

## 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

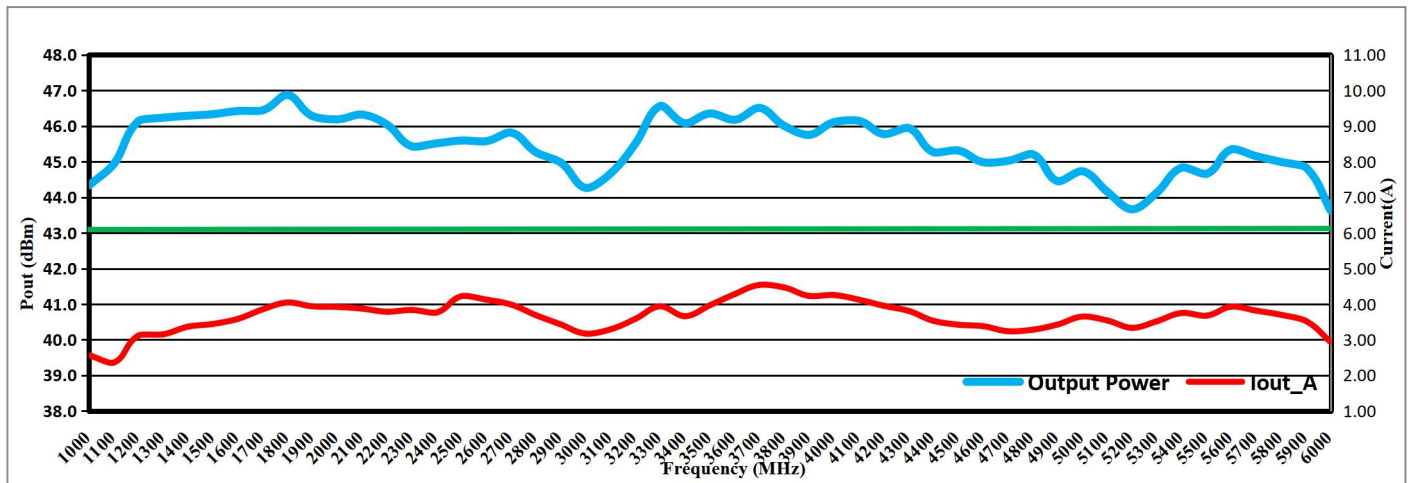
## PLOTTED AND OTHER DATA

Notes:

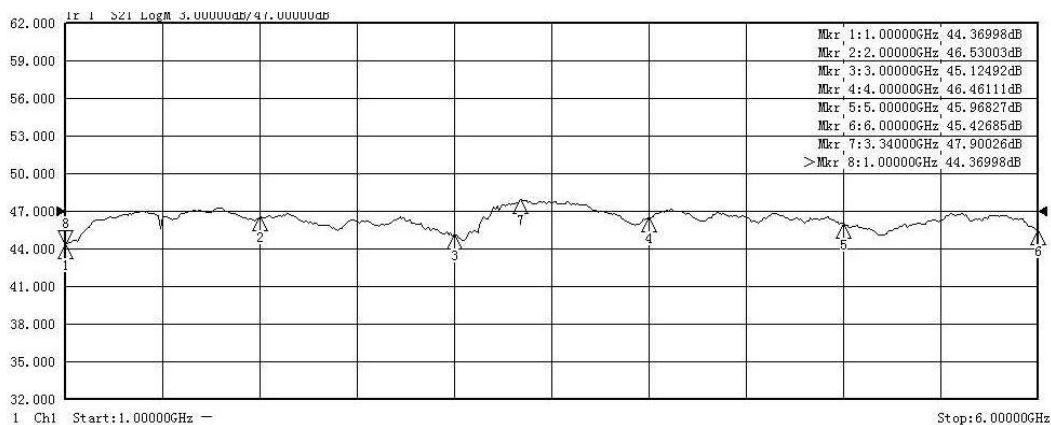
1. Values at +25°C, sea level.
2. ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.
3. Heat Sink required for Proper Operation, Unit is cooled by conduction to heat sink.

TYPICAL PERFORMANCE DATA

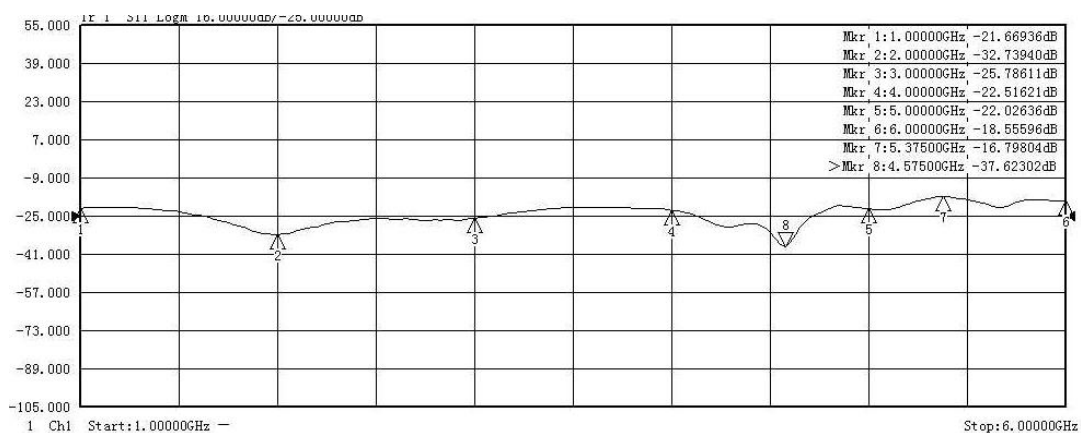
Graph 1: Output Power (PSAT\_dBm), (Normal temp. +25±3°C, Load VSWR ≤ 1.2)



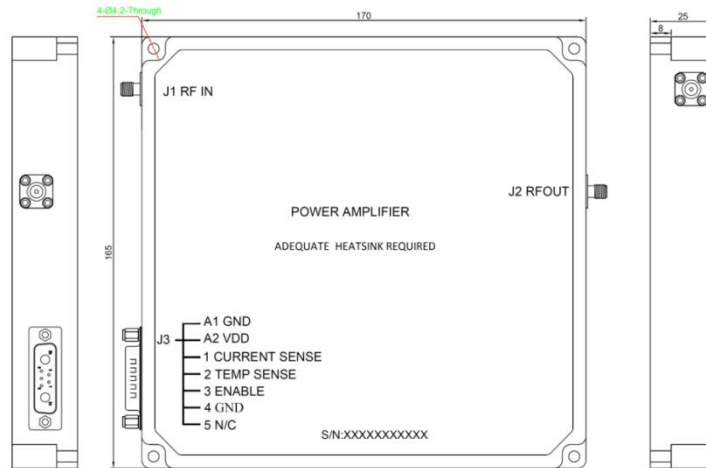
Graph 2: Power Gain (DC Voltage= 28V, Pin=0dBm, Load VSWR ≤ 1.2, T= +25°C)



Graph 3: Input Return Loss (DC Voltage= 28V, Pin=-30dBm, Load VSWR ≤ 1.2, T= +25°C)



OUTLINE DRAWING [mm]



Product View

