TECHNICAL DATASHEET **AVBR40190H40**

The AVBR40190H40 is a 10W high gain Solid State Linear 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 Linear System and high power combination.

Features

- 4GHz-19GHz frequency range
- Psat 40dBm type
- Power gain 41 dB
- 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,50 Ohm, Load VSWR≤1.2)

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	4		19	GHz
Output Power CW PSAT	PSAT	8	10		W
Power Gain @ Psat	Gp		41		dB
Power Gain Flatness @ Rated PSAT	ΔGp		±1.5	±2.0	dB
Input Power for Rated PSAT	PIN		0		dBm
Harmonics @ Pout =5W	2^{nd}		-10		dBc
Noise Figure(If Needed, Please Contact)	NF		N/A		dB
Spurious Signals@ Pout =5W	Spur		-60		dBc
Input Return Loss	S11			-10	dB
Third Order Intercept Point 2-Tone @ 40dBm/Tone, 100kHz Spacing(If Needed, Please Contact)	IP3		N/A		dBc
Operating Voltage	VDC	24	28	30	V
Current Consumption @ Pout= 10W	IDD		3.5	4.5	A
Switching Time @ 1kHz TTL, PIN = -2dBm	TON/TOFF		1	2	μs

MECHANICAL SPECIFICATIONS

Cooling External Heat Sink Needed (Not Supplied)

Length*Width*Height[mm]	160*140*25
Weight[Kg]	0.85
RF Connector Input	SMA, Female
RF Connector Output	SMA, Female

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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 =5W	VSWR≤5:1（Design to Meet）	N/A
Thermal Degradation	90	℃

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

Pin #	Description	Specifications
6,7	GND	Ground along with 28V_{DC}
8,9	VDD	28V_{DC}
1	CURRENT SENSE	Analog voltage relative to I_{DD} @ 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.

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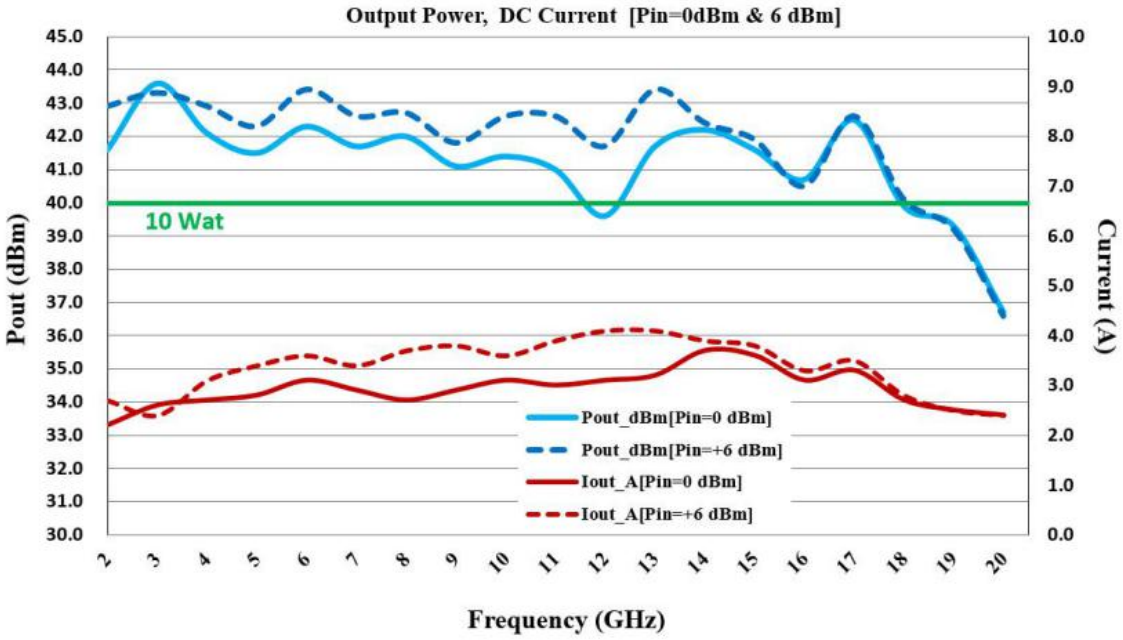
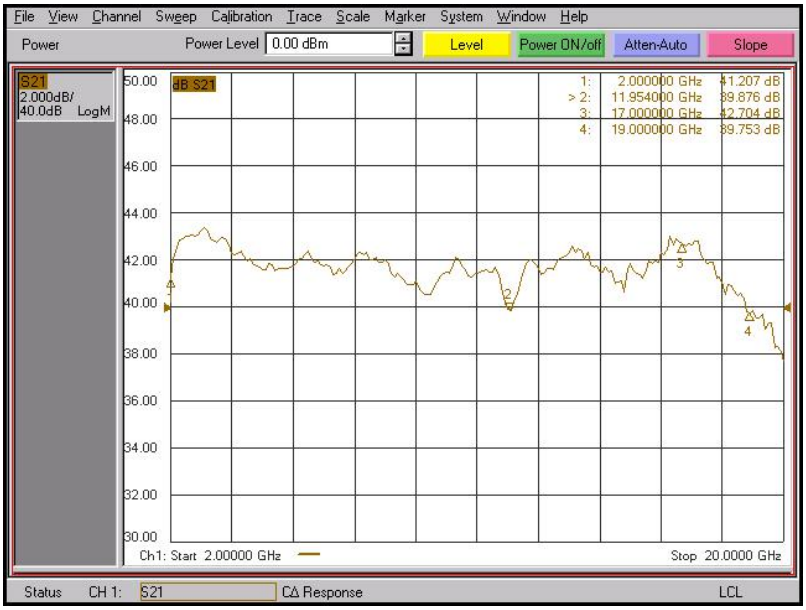
Graph1: Output Power, DC Current @ Pin=0 && Pin=+6dBm (Ambient temp. +25±3℃,LOAD VSWR≦1.3)



Graph2: Power Gain @ Pin=0 dBm (Ambient temp. +25±3℃, LOAD VSWR≦1.3)



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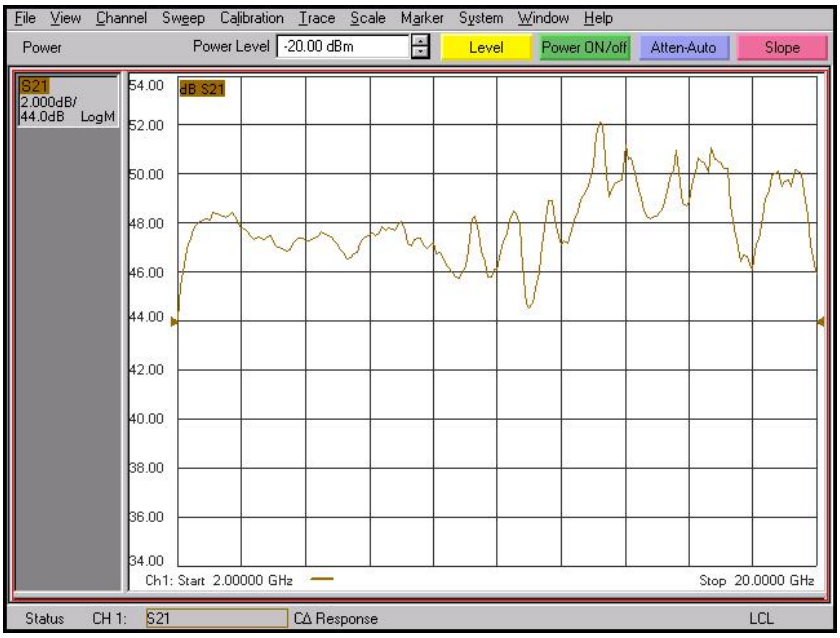
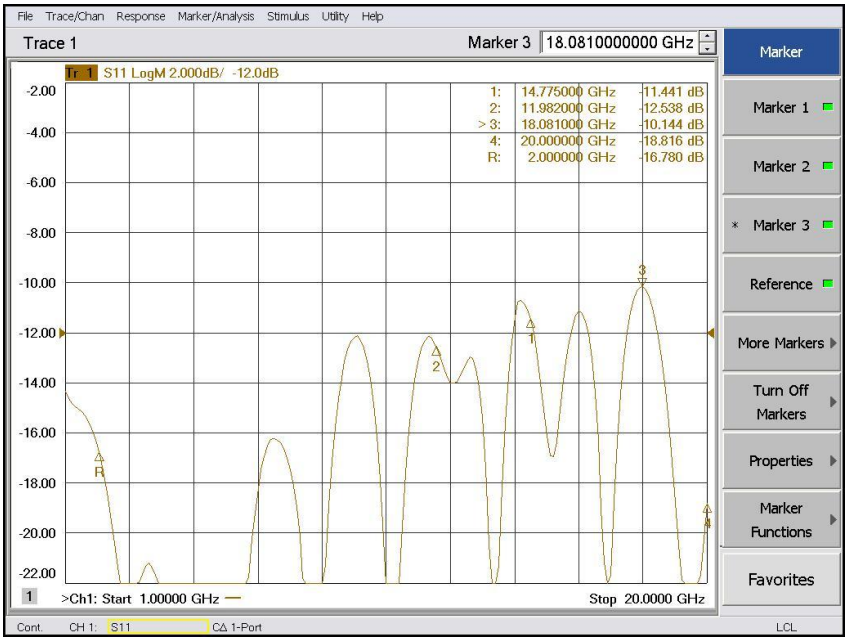
Graph3: Small signal gain @Pin=-20dBm (Ambient temp. +25±3℃, LOAD VSWR≦1.3)



Graph4: Input Return Loss@ Pin=0 dBm: (Ambient temp. +25±3℃, LOAD VSWR≦1.3)



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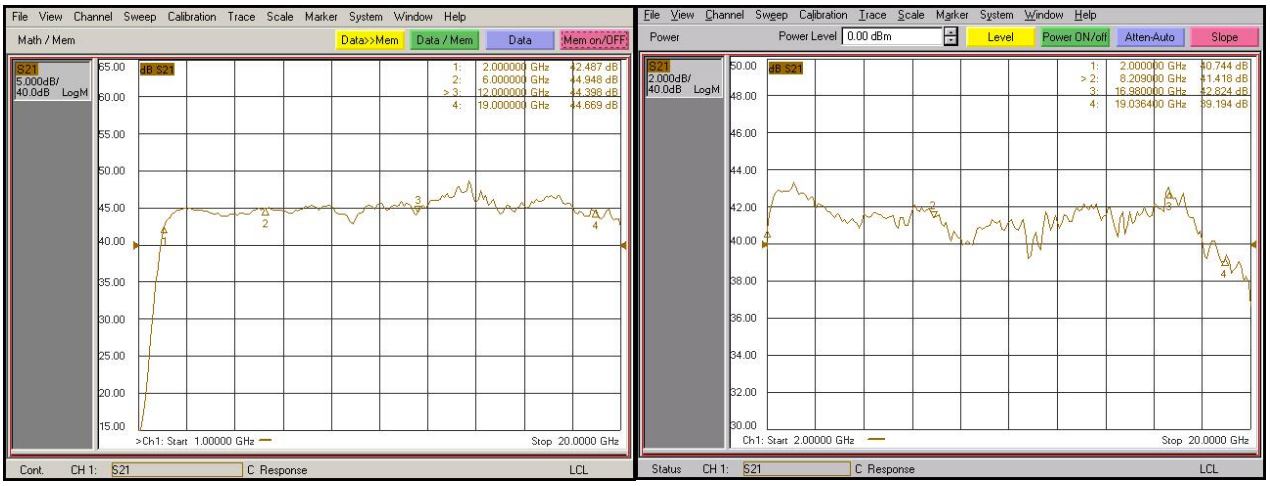
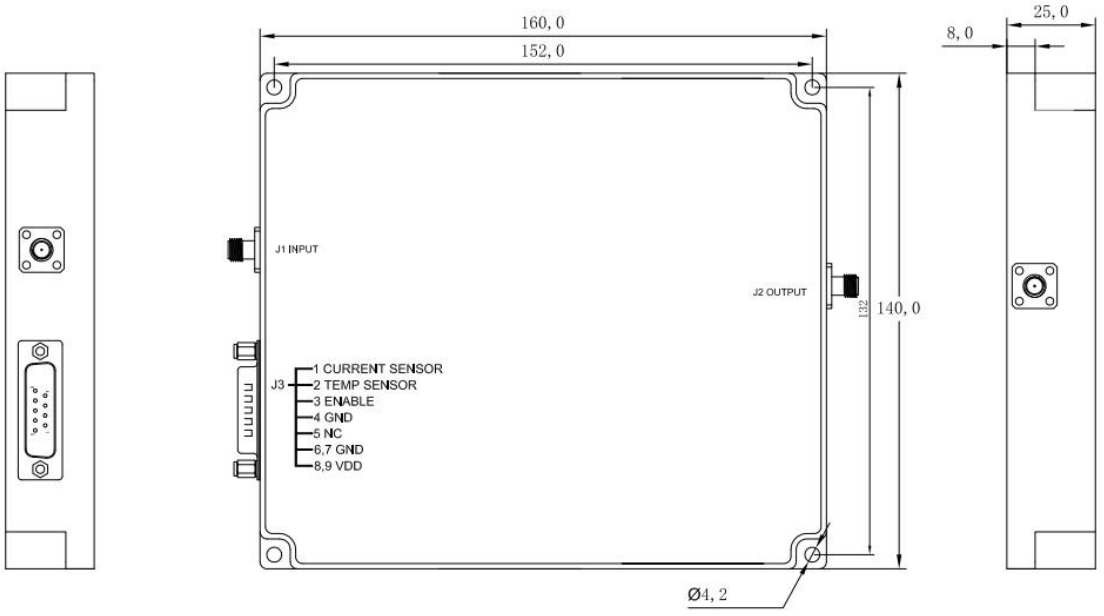
Graph5: Power Gain@ Pin=0 dBm (Ambient temp. -20±3℃-Left， Ambient temp. +60±3℃-Right)



OUTLINE DRAWING(mm)



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