TECHNICAL DATASHEET ***AVNR5500H50***

The AVNR5500H50 is a 100W high gain Solid State Narrowband 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

5GHz-6GHz frequency range
Psat 50dBm min.
Power gain 50 dB.
50 ohm input/output impedance
Built-in control, monitoring and protection circuits
Solid-state Class AB Broadband design
Instantaneous ultra-broadband
Suitable for CW, and Pulse
Small and lightweight
High reliability and ruggedness

ELECTRICAL SPECIFICATIONS(T=25℃,DC Voltage= 30V, Load VSWR ≤ 1.2)

Description	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	5		6	GHz
Output Power CW @ Pin = 0dBm	Psat	100	110		W
Power Gain @ Pin = 0dBm	Gp	50	51		dB
Power Gain Flatness @ Pin = 0dBm	ΔGp		±0.8	±1.0	dB
Input Power for Rated PSAT	P_{IN}	-1	0	1	dBm
Harmonics @ Pin = 0dBm	2^{nd} /3^{rd}		-30/-30	-25/-25	dBc
Spurious Signals@ Pin = 0dBm	Spur			-60	dBc
Input Return Loss	S11		-15	-10	dB
Third Order Intercept Point 2-Tone @ 40dBm/Tone, 100kHz Spacing*	IP3		N/A		dBc
Operating Voltage	VDC	28	30	32	V
Quiescent Current @Enable=+3.3V	IDQ		5.5		A
Current Consumption @Pout=100~110 W	IDD		13	15.5	A
Switching Time @ 1kHz TTL, Pin = 0dBm	TON/TOFF		2	5	μs

Note*： IP3 or IMD3 data, please contact sales engineer.

MECHANICAL SPECIFICATIONS

Cooling External Heat Sink Needed (Not Supplied)	
Length* Width*Height[mm]	200*160*25
Weight[Kg]	2.5
RF Connector Input	SMA, Female
RF Connector Output	Type N, Female

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ENVIRONMENTAL SPECIFICATIONS (Design to Meet)

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

Notes *1**:** Module Operation Temperature can be extended to -45~85℃, 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≤10	dBm
Load VSWR @ POUT =50W	VSWR≤5:1[Design To Meet]	N/A
Load VSWR @ POUT =80W	VSWR≤3:1[Design To Meet]	N/A
Thermal Degradation	90℃@ heat-sink [recovery@<60℃]	℃

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

Pin #	Description	Specifications
A1	GND	Ground
A2	VDD	30VDC
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	POWER INDICATOR	Output power ≥47±2dBm: TTL Logic High (3.3V) (Internally Pulled-Low)

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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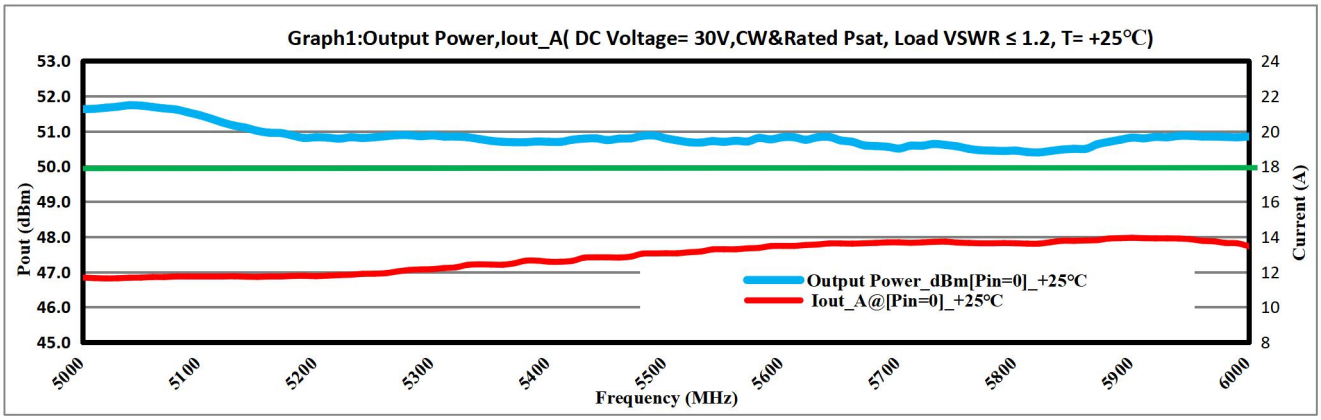
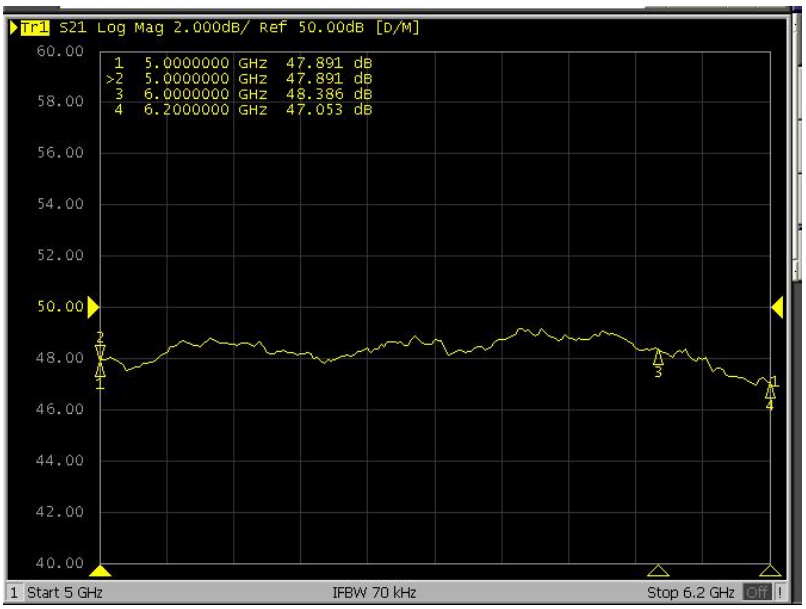
TYPICAL PERFORMANCE DATA [Load VSWR ≤ 1.2], (Normal temp. +25±3℃, Heat-Sink with Fan Cooling)



S21, Pin=0dBm, [Load VSWR ≤ 1.2] , For Reference Only



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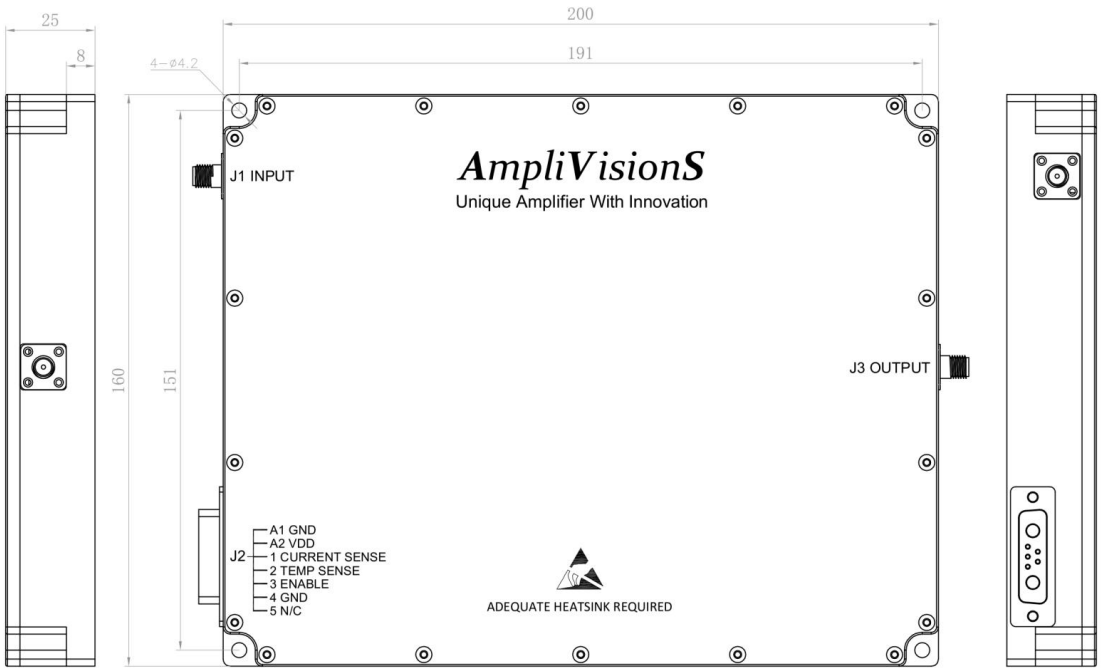
OUTLINE DRAWING [mm]



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