

◆ Product Description

The MPAR-060180S48 is a 6-18GHz, 70W solid state high gain broadband high power amplifier with state-of-art GaN design technology. Its built-in control and monitoring, with protection functions improve amplifier's reliability & usability. And it can adapt to a variety of different signal modes such as continuous wave, pulse, wide instantaneous bandwidth signal, high-order modulation signal and etc. It is designed for applications, such as Test & Measurement System, EMC.

◆ Features

Frequency Range: 6-18GHz	Solid-state Class AB broadband design
Output Power: 47dBm Min., 48.5dBm Typ.	High linearity, high efficiency
Gain: 49dB Typ.	Suitable for pulse or CW applications
50 ohm input/output impedance	Small and light weight
Built-in control, monitoring and protection circuits	High reliability and ruggedness

◆ Electrical Specification (T=25°C ± 3°C, VAC =220V, CW, Load VSWR<1.2)

Description	Min	Typ	Max	Unit
Operating Frequency	6		18	GHz
Output Power CW* @ Pin=0dBm	47	48.5		dBm
Gain @ Pin= 0dBm		49		dB
Gain Flatness		±1.5	±2.5	dB
Input Power for Rated Psat		0		dBm
2 nd /3 rd Harmonics @ Pin=0dBm		-20/-30	-12/-12	dBc
Spurious Signals @ Pout =0 dBm		-65	-60	dBc
Small Signal Gain @ Pin=-30 dBm		58		dB
Small Signal Flatness @ Pin=-30dBm		±3	±4	dB
Input VSWR		1.5	2	/
Output VSWR		2.2		/
Supply Voltage (47~61Hz) /Single-Phase	180	220/50Hz	260	V
Power Consumption @ Pout =46~48dBm		800	1000	W

Note*: Fundamental Power, Harmonics are excluded

◆ Environmental Specifications (Design Goal)

Operation Temperature*1	-10	45	°C
Storage Temperature Range	-20	55	°C
Relative-Humidity	N/A		
Altitude*2	N/A		
Vibration/Shock*2	N/A		

Notes *1: Operation Temperature can be extended to -40~65°C, Contact Sales for update.

Notes *2: Altitude /Vibration are designed with considerations, but without tests and experiments. Contact Sales for experimental verification.

◆ Limits

Pin<10dBm(Input RF level without damage)	Load VSWR<1.5:1 (50 Ohm)
Load VSWR @ POUT =48 dBm	VSWR≤5:1
Over Reflection Power Protection	P_reflect among 30W~60W
Thermal Degradation	55℃

◆ DC Interface Connector (D-Sub 9-Pin, Male)

Pin #	Description	Specifications
1	GND	Ground
2	Shutdown	Amplifier Disable: TTL Logic High (3.3V) (Internally Pulled-Low)
3	Temperature Alarm	Abnormal: Logic High (3.3V) (Internally Pulled-Low)
4	Fan Alarm	Abnormal: Logic High (3.3V) (Internally Pulled-Low)
5	Power Amplifier Alarm	Abnormal: Logic High (3.3V) (Internally Pulled-Low)
6-9	N/C	No electrical connected, Reserved

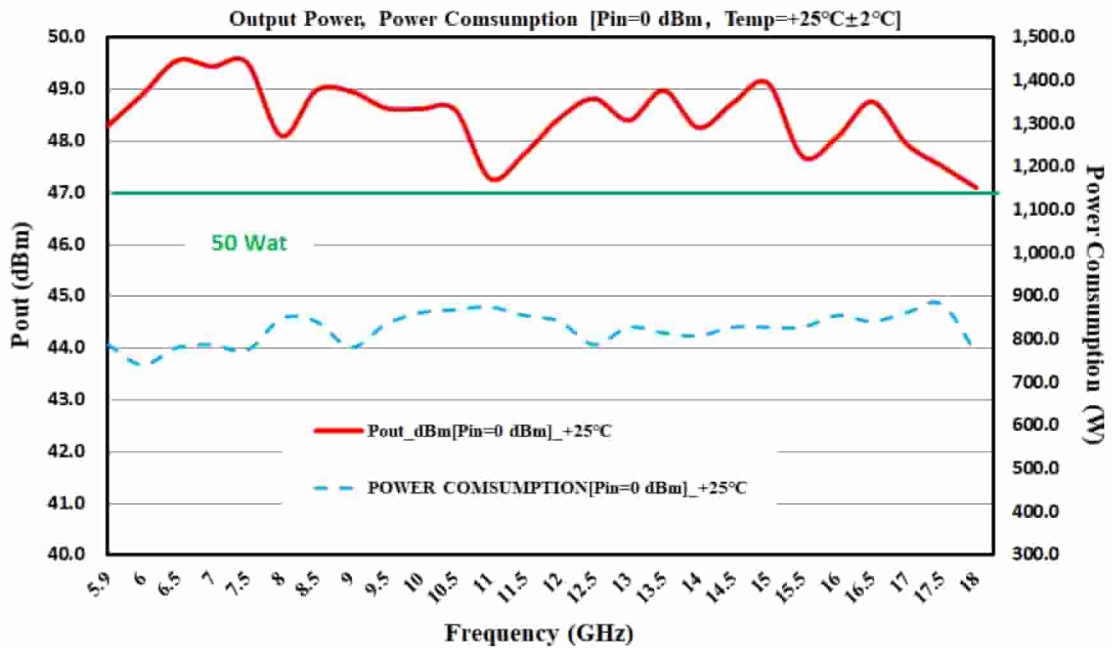
◆ Front Panel LED Indicators

Description	Specifications
POWER ON	GREEN: AC-220V is POWER ON status
ENABLE	GREEN: Front Panel Button is ON status
OVER TEMP	RED: Temperature is over-limited, Amplifier shutdown
ABNORMAL	RED: Amplifier is abnormal, Amplifier shutdown, Connect D-Sub 9 to debug

◆ Plotted and other Data

Notes:

1. All specifications are guaranteed at +25 ℃ case operating temperature.
2. Handle only in approved ESD Workstation.
3. Unit is cooled by air-forced condition.



Ambient Temp: 25°C, Load VSWR<1.2, Pin=0dBm

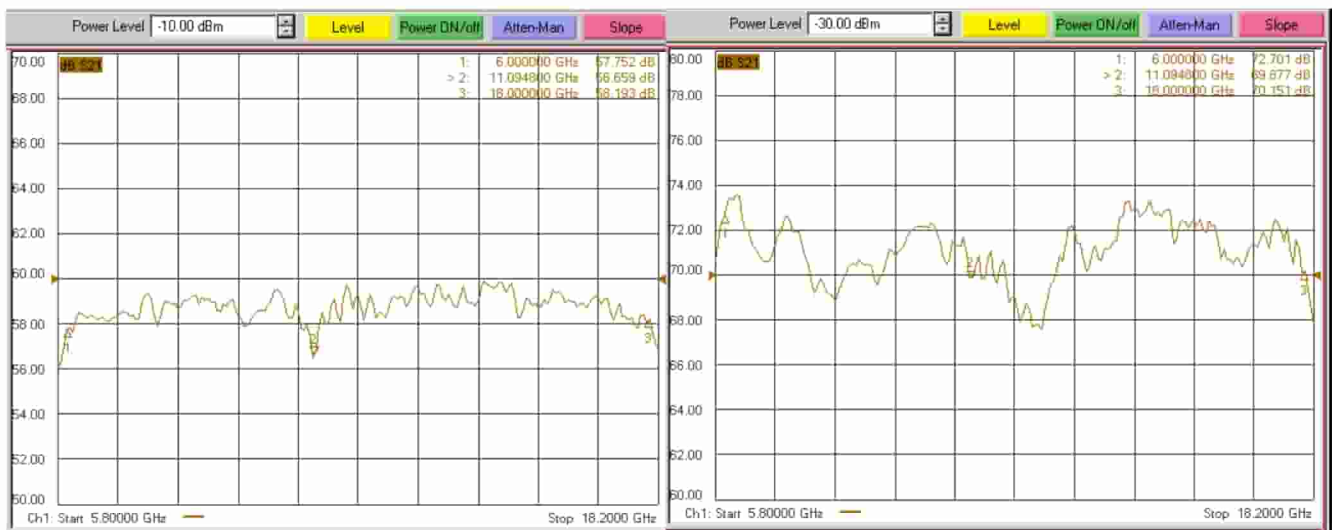
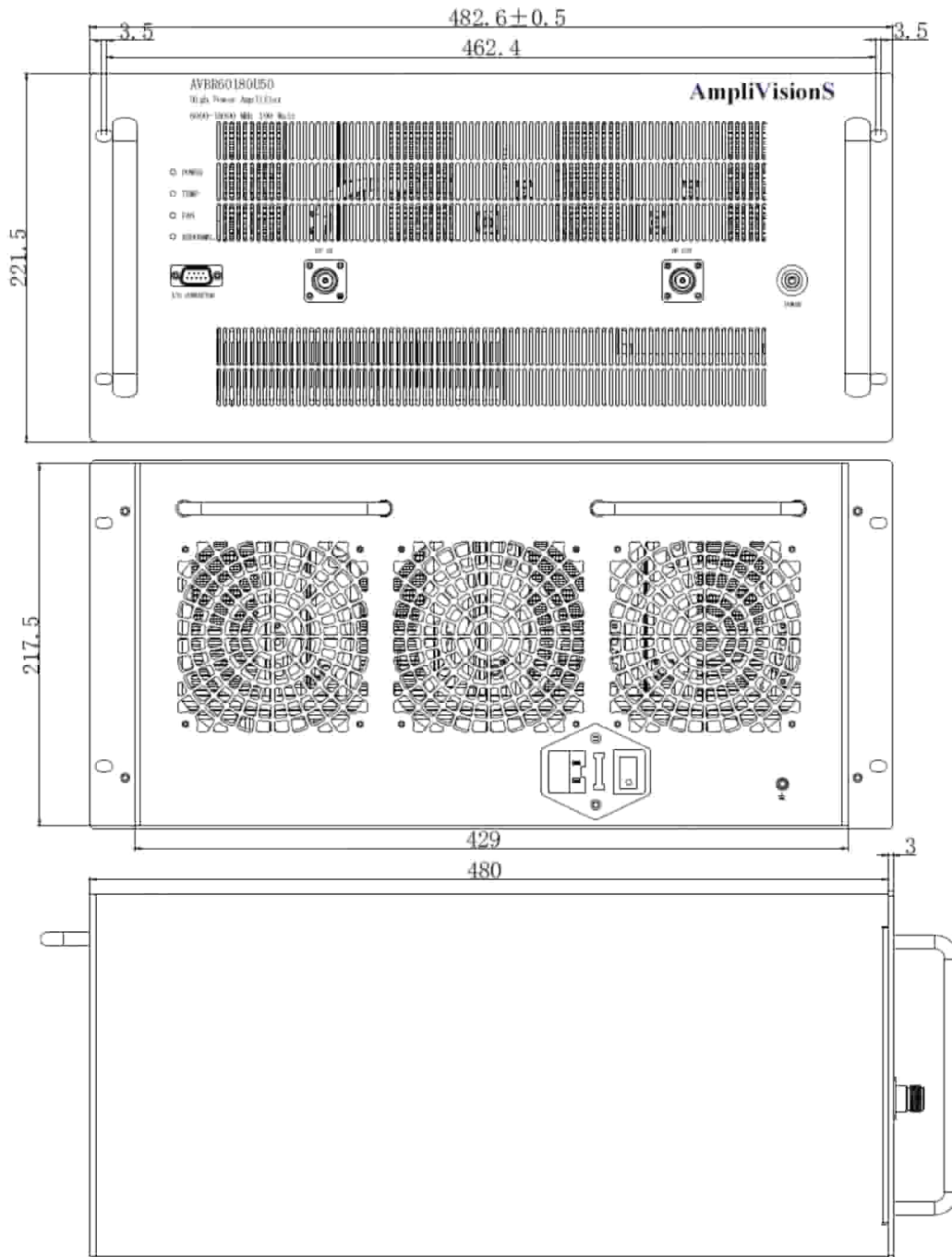


Figure left: Gain S21@ Pin=-10dBm (Ambient temp, +25±2°C, Load VSWR≤ 1.2), for reference only (Shipped Products)

Figure right: Small signal gain @Pin=-30dBm (Ambient temp, +25±2°C, Load VSWR≤ 1.2), for reference only (Shipped Products)

◆ Outline Drawings (mm)



◆ Mechanical Definition

Dimensions (B,H,D) mm	482.6 x 221.5 x 480 (5U)
Weight (Kg)	35
RF-Input	N Female
RF-Output	N Female
RF Connector Forward Coupler (Optional)	N Female
DC Connector	Dsub-9 Male
AC Connector	3 WIRE A/C Power Entry