Product Description

The AVBR2080U48 is a 2-8GHz, 50W Solid State Broadband High Power Amplifier with state-of-art GaN design technology. The built-in control and monitoring, with protection functions are offered and it is designed for high power CW or Pulse system applications, such as 5G, LTE, WIFI and other related system & EMC Test.

Features

- Frequency Range: 2-8GHz
- Psat.: 46.5dBm Min., 48.5dBm Typ.
- Gain: 51dB Min., 53dB Typ.
- 50 ohm input/output impedance
- Built-in control, monitoring and protection circuits
- Solid-state Class AB Broadband design
- High linearity, high efficiency
- Suitable for pulse or CW applications
- Small and light weight
- High reliability and ruggedness

Electrical Specifications (T=25℃±3℃, VAC =220V, CW, Load VSWR<1.2)

Description	Min	Typ	Max	Unit
Operating Frequency	2		8	GHz
Output Power CW* @ Pin=-3 dBm	46.5	48.5		dBm
Output P1dB* CW	41	45		dBm
Gain @ Pin= -3 dBm	51	53		dB
Gain Flatness @ Pin=-3 dBm		±2.5	±3.0	dB
Input Power for Psat	-8	-3	0	dBm
2nd/3rd Harmonics @ Psat		-15/-25	-8/-15	dBc
Spurious Signals @ Pin= -3 dBm		-70	-60	dBc
Small Signal @ Pin= -30 dBm		66		dB
Small Signal Flatness @ Pin= -30 dBm		±5	±6	dB
Isolation (Disable Status)		90		dB
Input VSWR		1.5	2	/
Third Intermodulation Third Order 2-Tone @ 37dBm/Tone, 1MHz Space**		-25	-23	dBc
Supply Voltage (47~63Hz) /Single-Phase	90	220/50Hz	240	V
Power Consumption @ Pout= 50~100W		600	800	W

Note*: Fundamental Power, Harmonics are excluded
Note:** 10MHz Data is Available, please contact sales for further information.

Environmental Specifications (Design Goal)

Operation Temperature*1	-10	45	℃
Storage Temperature Range	-25	75	℃
Relative-Humidity		95	%
Altitude*2	N/A		
Vibration/Shock*2	N/A		

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

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

Limits

Pin<10 dBm(Input RF level without damage)	Load VSWR<1.5:1 (50 Ohm)
Pin=-15 dBm	Load open or short for up to 10 minutes.
Pin=0 dBm	Load VSWR<3:1 for continuous operation
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

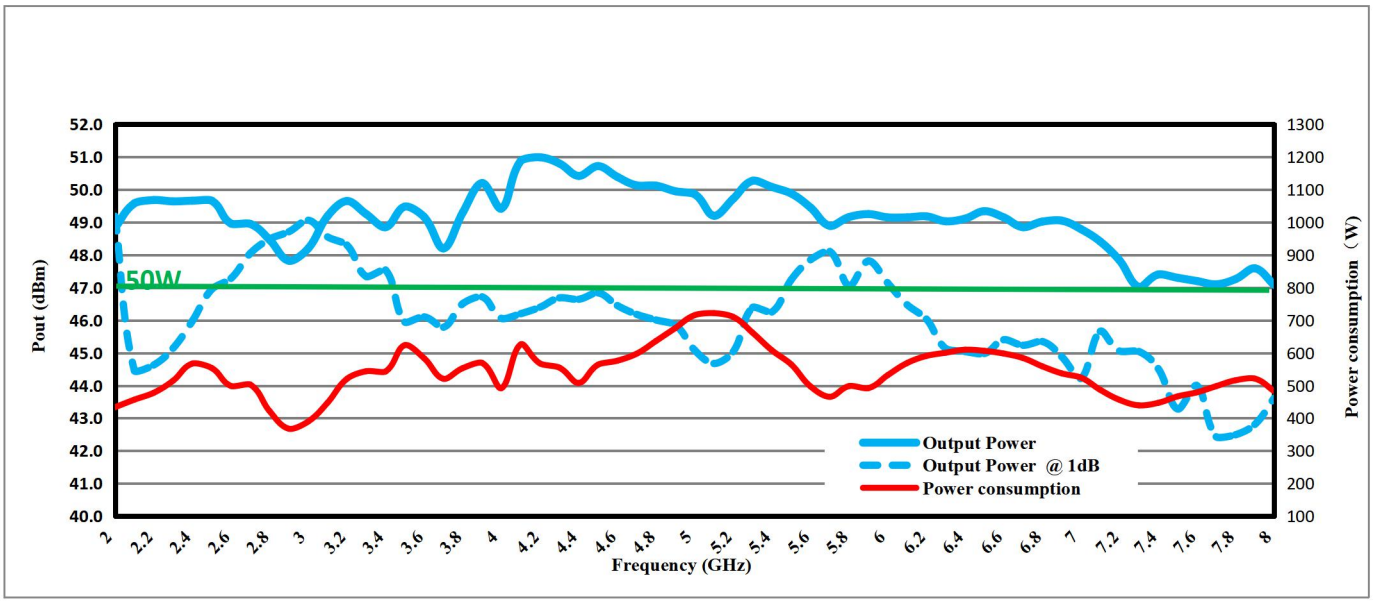
Description	Specifications
RUN	GREEN: Internal DC supply turn on, Amplifier is awaken and ready to work.
TEMP	RED: Temperature is over-limited, Amplifier shutdown
FAN	RED: Fan is abnormal, Amplifier shutdown
ALARM	RED: Amplifier is abnormal, Amplifier shutdown, Connect D-Sub 9 to debug

Plotted and other Data

Notes:

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

Pout@ Pin=-3dBm & Pout@1dB &Power consumption (CW, Load VSWR≤1.2, 25℃), for reference only (Shipped Products)



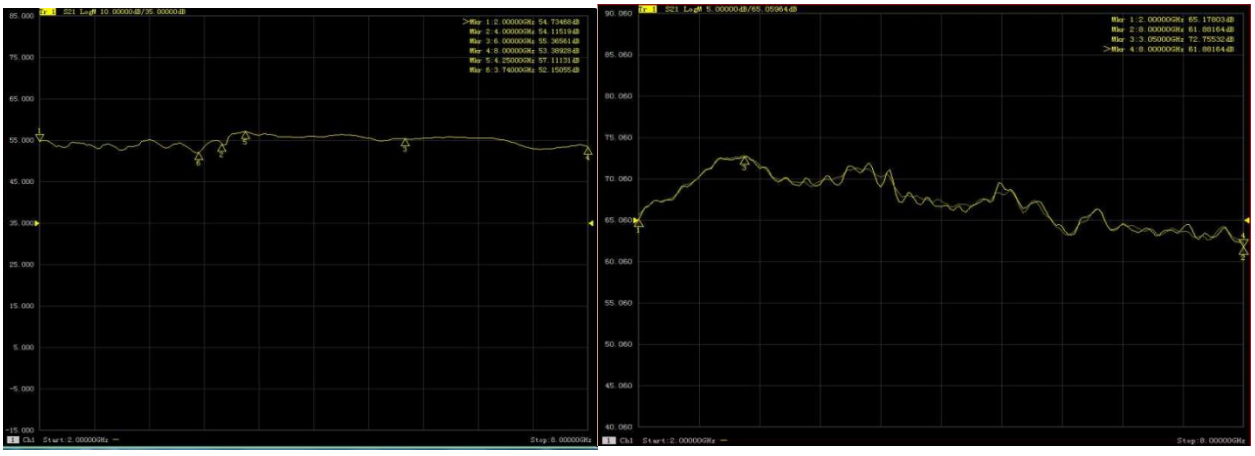
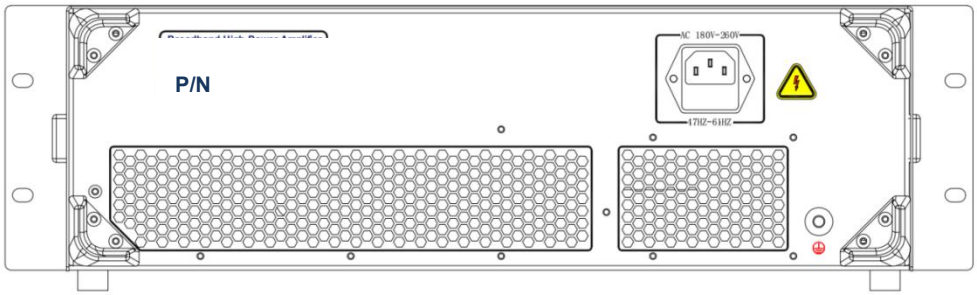
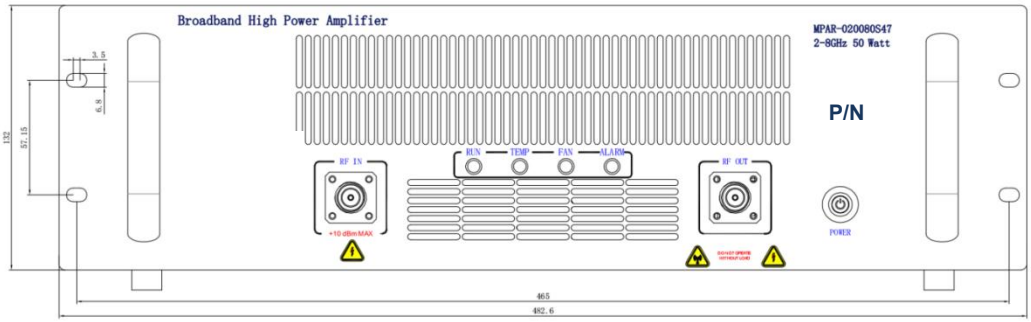
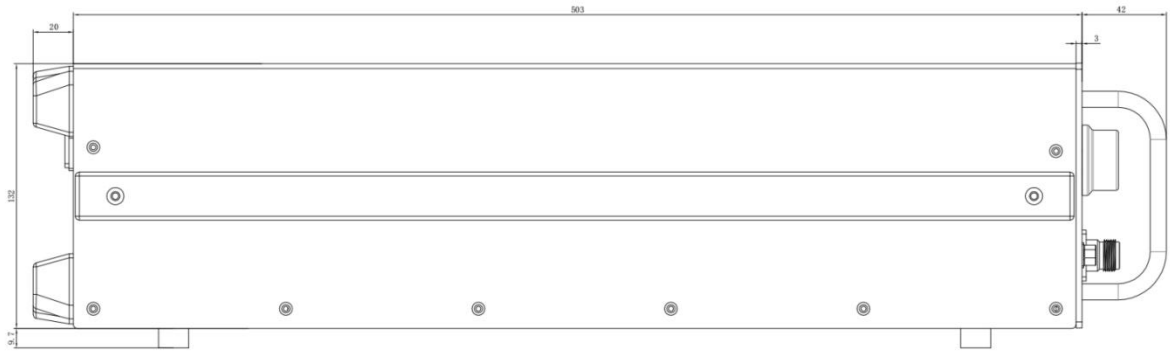


Figure left: Gain S21@ Pin=-3 dBm (Ambient temp. +25±2℃, Load VSWR≤1.2), for reference only (Shipped Products)
Figure right: Small signal gain @Pin=-30dBm (Ambient temp. +25±2℃, Load VSWR≤1.2), for reference only (Shipped Products)

Outline Drawings (mm)







Mechanical Definition

Dimensions (B,H,D) mm	482.6 x 132.5 x 503 (3U)
Weight (Kg)	20
RF-Input	Type N, Female
RF-Output	Type N, Female
DC Interface Connector	D sub-9, Male
AC Connector	3 WIRE A/C Power Entry