

Amplifier

Model **MPAR-020180S45** **Rev.A**

2-18GHz Solid State Power Amplifier

-Frequency range: 2-18GHz

-Psat: $\geq 44.5\text{dBm}$, Gain: $\geq 44.5\text{dB}$

-Built-in control, monitoring and protection circuits

◆ Product Description

The MPAR-020180S45 is a 2-18GHz, saturated power $\geq 44.5\text{dBm}$ high gain solid state power amplifier with state-of-art GaN design technology. It has higher saturated output power while keeping higher P1dB and better linearity, and 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 radar, communication, EMC testing and etc.

◆ Function

- Amplifying signal within 2-18GHz
- Over-heating, over-excitation, over-VSWR protection and fan alarm functions

Amplifier

◆ Electrical Specifications

Frequency Range	GHz		2-18
Saturated Output Power	dBm	Typ./Min.	45.5/44.5@ Pin=0dBm
P1dB	dBm	Typ./Min.	43/40
Gain	dB	Typ./Min.	45.5/44.5@ Pin=0dBm
Gain Flatness	dB	Typ.	±1.5@ Pin=0dBm
Small Signal Gain	dB	Typ.	50@ Pin=-30dBm
Small Signal Gain Flatness	dB	Typ.	±3@ Pin=-30dBm
Isolation@ Disable Status	dB	Typ.	90
Input Power	dBm	Typ.	0
2 nd Harmonic Suppression	dBc	Typ./Max.	-20/-12@ Pout=44.5dBm
3 rd Harmonic Suppression	dBc	Typ./Max.	-20/-15@ Pout=44.5dBm
Spurious Suppression	dBc	Typ./Max.	-70/-65@ Pout=44.5dBm
Input VSWR	:1	Typ./Max.	1.5/2
Supply Voltage	V	Typ.	110-240 (47-61Hz / Single-Phase)
Power Consumption	W	Typ.	600@ Pin=0dBm

◆ Limits

Input Power	Pin≤10dBm (Input RF level without damage)
Load VSWR	VSWR≤3:1 (Pout=45dBm)
	Power off (VSWR≥5:1 and Pout≥35dBm)
Thermal Degradation	75°C

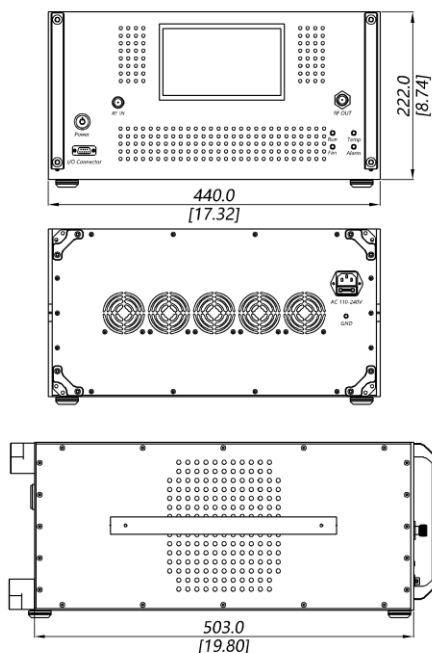
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◆ Mechanical Specifications

RF Input Connector	TYPE N [F]	
RF Output Connector	TYPE N [F]	
Power supply Connector	3 WIRE A/C Power Entry (IEC320-C14 ,Including fuses)	
Control Connector	D-Sub 9Pin	
Dimension	mm	5U, 19 inch
Weight	kg Max.	30
Finishing	Spraying plastics	
Temperature	Operating: -10°C~+55°C; Storage: -40°C ~ +75°C	
Heat Dissipation	Unit is cooled by air-forced condition	
Environmental ¹	N/A	

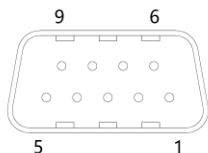
Note: 1. Altitude, vibration and shock are designed with considerations, but without tests and experiments.

◆ Outline Drawing



Amplifier

◆ Interface Connector Pin Out



D-Sub 9Pin

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

◆ Front Panel LED Indicators

1.	RUN	GREEN: Internal power turn on, Amplifier is awoken and ready to work
2.	TEMP	RED: Temperature is over-limited, Amplifier shutdown
3.	FAN	RED: Fan is abnormal, Amplifier shutdown
4.	ALARM	RED: Amplifier is abnormal, Amplifier shutdown, Connect D-Sub 9 to debug