

◆ Product Description

The MPAR-007060P41 is a 0.7-6GHz, 25W solid state high gain broadband high 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 5G/ LTE, WIFI and other related system & EMC Test.

◆ Features

Frequency Range: 0.7-6GHz	Solid-state Class AB broadband design
P1dB.: 41dBm Min., 41.8dBm Typ.	High linearity, high efficiency
Output Power: 42dBm Min., 44dBm Typ.	Suitable for CW, Pulse and instantaneous bandwidth signal
50 ohm input/output impedance	Better harmonics and gain flatness
Built-in control, monitoring and protection circuits	High reliability and ruggedness

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

Description	Min	Typ	Max	Unit
Operating Frequency Band 1	0.7		2.5	GHz
Operating Frequency Band 2	2.5		6	GHz
Output Power CW* @ Pin= 0 dBm Band 1	43	44		dBm
Output Power CW* @ Pin= 0 dBm Band 2	42	44		dBm
P1 dB * CW Band 1	41	41.8		dBm
P1 dB * CW Band 2	41	41.8		dBm
Gain @ Pin= 0 dBm Band 1	42	45		dB
Gain @ Pin= 0 dBm Band 2	42	45		dB
Gain Flatness @ Pin=0 dBm Band 1		±1.5	±2	dB
Gain Flatness @ Pin=0 dBm Band 2		±1.5	±2	dB
2nd/3rd Harmonics @ Pin=-5 dBm		-20/-30	-12/-15	dBc
Noise Figure		10	15	dB
Spurious Signals @ Pin= 0 dBm		-70	-65	dBc
Small Signal Gain @ Pin= -30 dBm	51	54		dB
Small Signal Flatness		±1.5	±2	dB
Isolation (Disable Status)		90		dB
Input VSWR		1.5	2	/
Output VSWR		1.5	2	/
Third Order Intercept Point 2-Tone @ 33dBm/Tone, 1MHz**		+47		dBm
Supply Voltage (47~61Hz) /Single-Phase	180	220/50Hz	260	V
Power Consumption @ Pin= 0 dBm (Single band)		200	350	W
Power Consumption @ Pin= 0 dBm (Two bands)		400	500	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		95	%
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 experimentally verified.

◆ Limits

Pin<15 dBm(Input RF level without damage)	Load VSWR<1.5:1 (50 Ohm)
Pin=-5 dBm	Load open or short for up to 10 minutes.
Pin=0 dBm	Load VSWR<3:1 for continuous operation
Thermal Degradation	60°C

◆ 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**

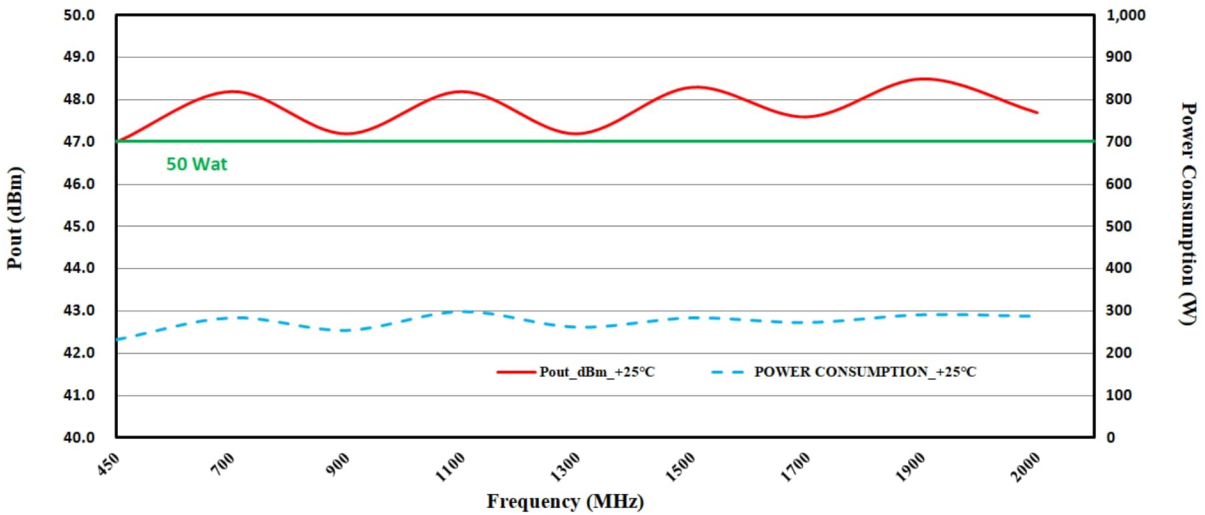
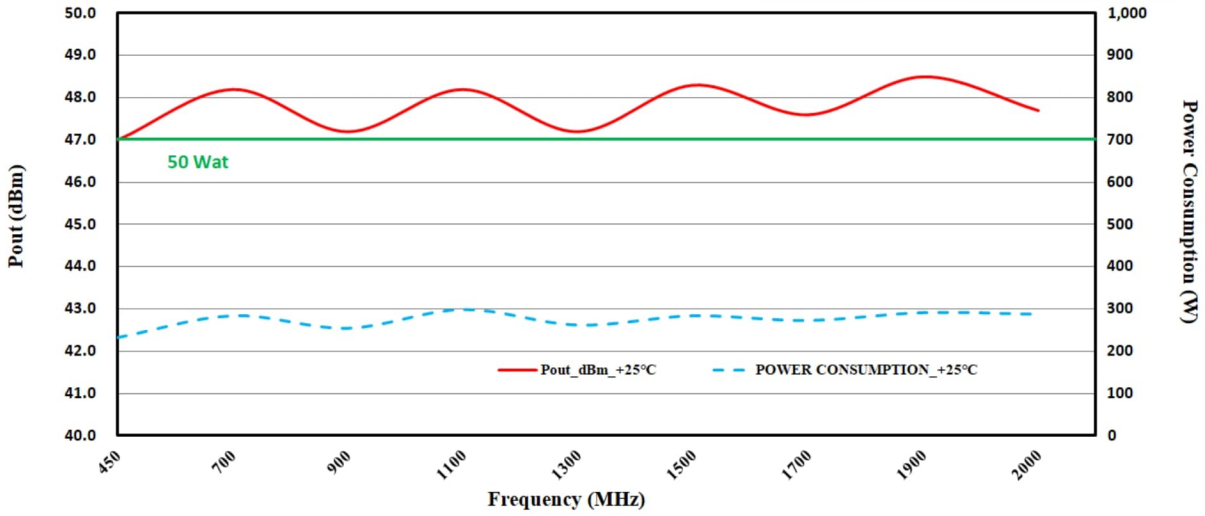
Description	Specifications
RUN	GREEN: Internal DC supply turn on, Amplifier is awoken and ready to work.
TEMP	RED: Temperature is over-limited, Amplifier shutdown
FAN	RED: Fan is abnormal, Amplifier shutdown
ALARM	RED: Amplifier is abnormal, Amplifier shutdown, Connect D-Sub 9 to debug

**Note: LCD display is available, Please contact for update.

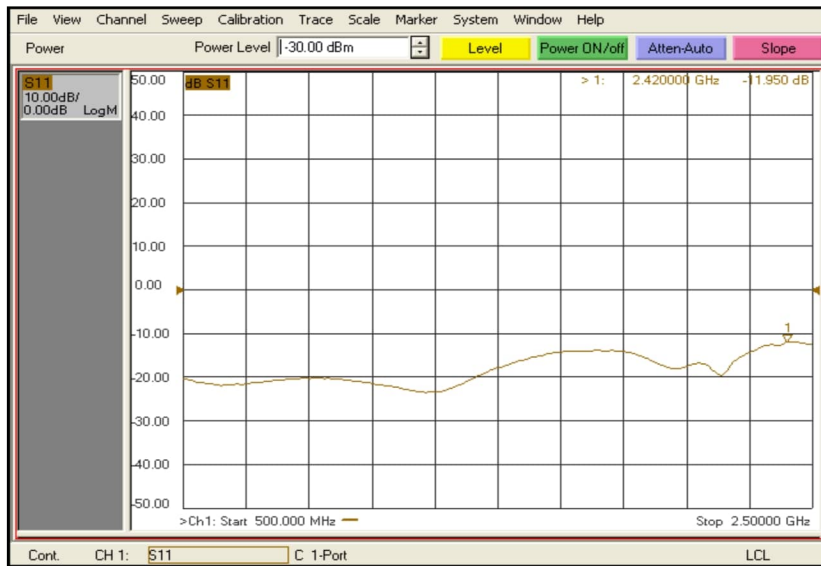
◆ Plotted and other Data

Notes:

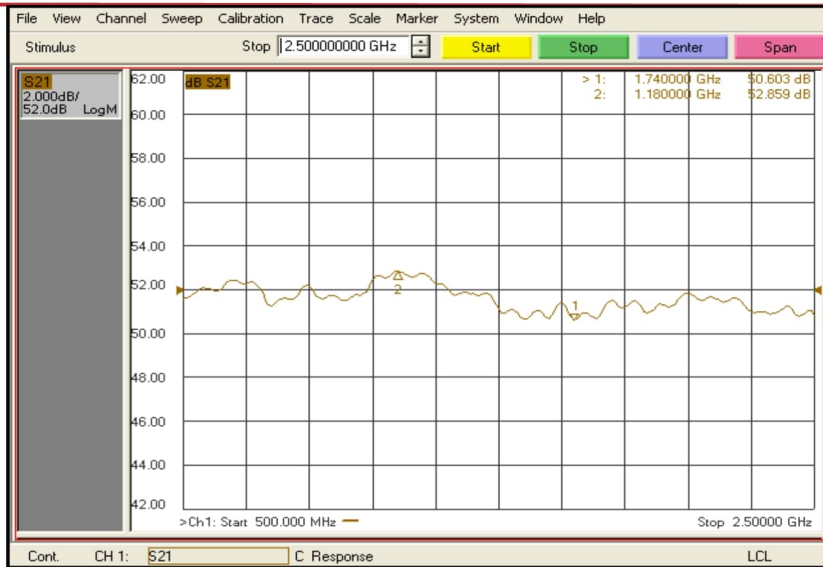
1. All specifications are guaranteed at +25°C case operating temperature.
2. Handle only in approved ESD Workstation.
3. Unit is cooled by air-forced condition.



Psat & Power Consumption (CW, Load VSWR \leq 1.2, 25°C), for reference only



Input Return loss S11 (Pin=-30dBm, CW, Load VSWR \leq 1.2, 25°C), for reference only



Gain S21 (Pin= 0 dBm, CW, Load VSWR≤1.2, 25°C), Gain Flatness, for reference only

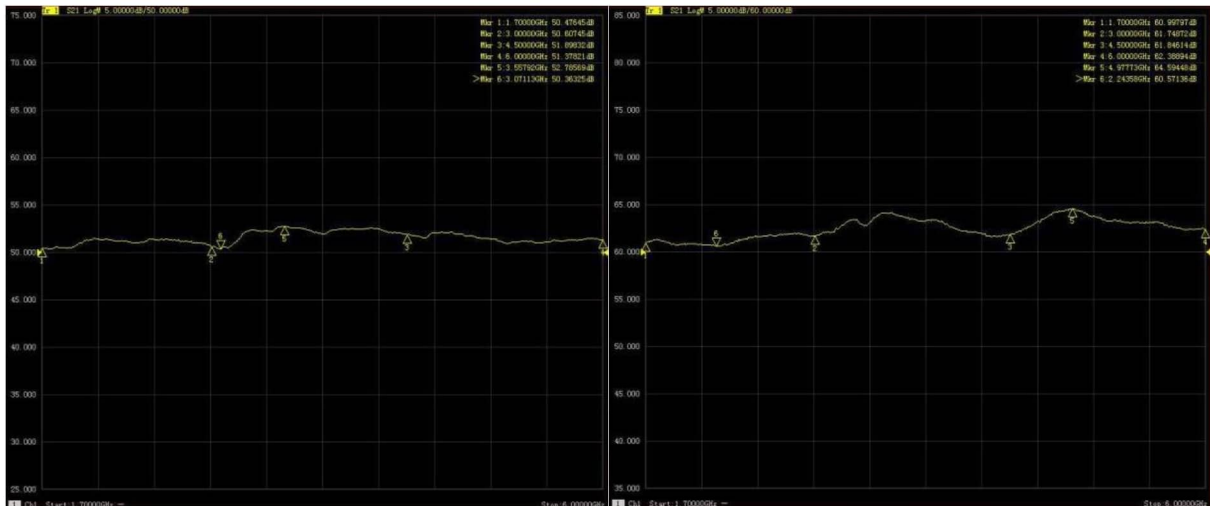
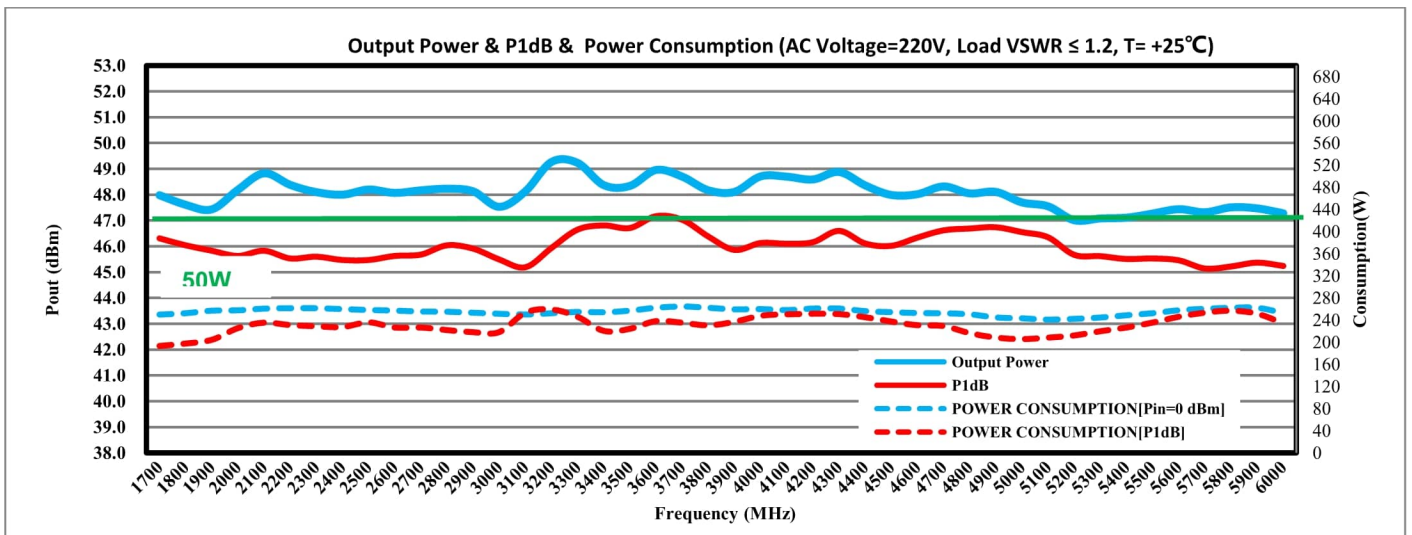


Figure left: Gain S21 (Pin=0dBm, Load VSWR≤1.2, 25°C), for reference only

Figure right: Small signal Gain S21 (Pin=-30dBm, Load VSWR≤1.2, 25°C), for reference only

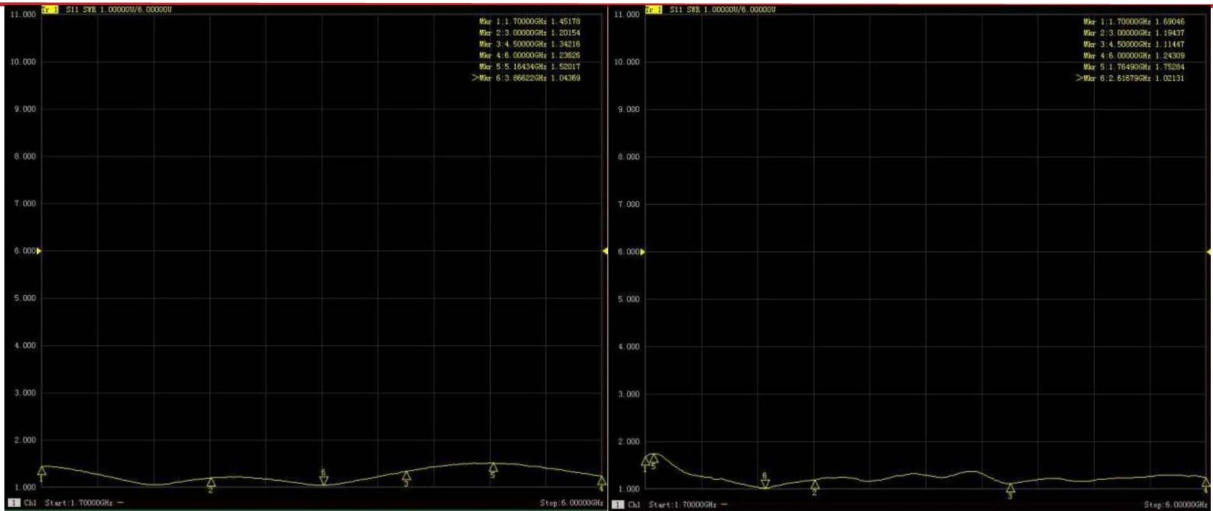
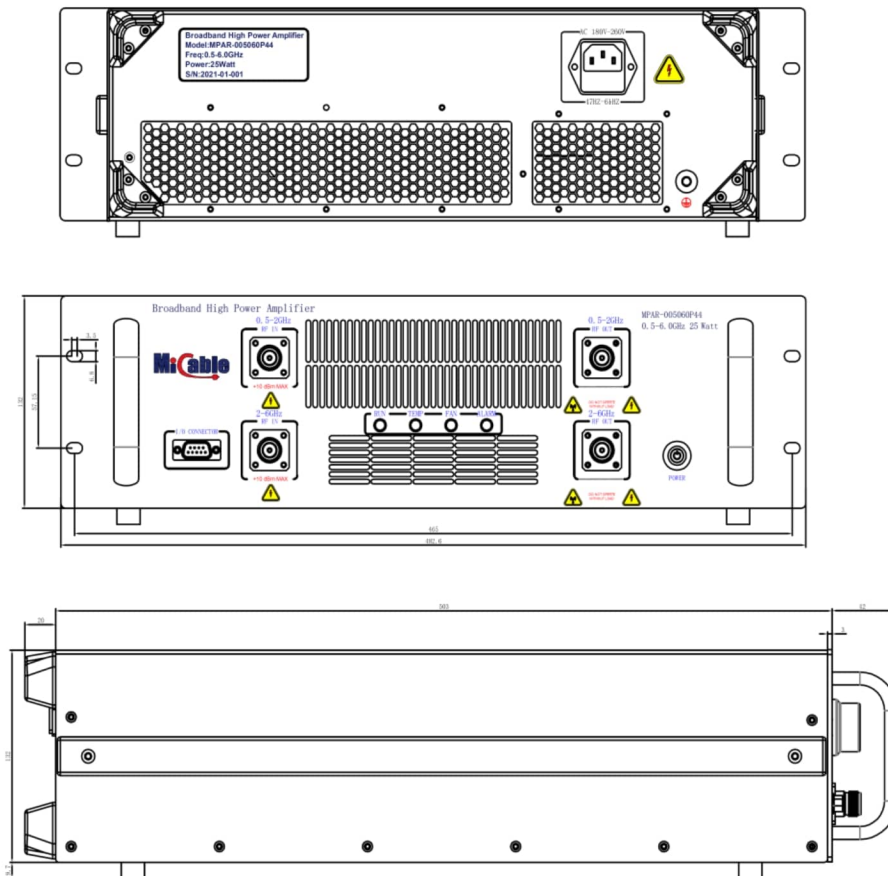


Figure left:: Input VSWS S11 (Pin=-30dBm, Load VSWS≤1.2, 25°C), for reference only
Figure right: Output VSWS S22 (Pin=-30dBm, Load VSWS≤1.2, 25°C), for reference only

◆ Outline Drawings (mm)-Reference





◆ Mechanical Definition

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