50W Broadband RF Power Amplifier Module
Model:EP-AB086

1. Product Overview

The EP-AB086 module is a high-power broadband RF amplifier designed for wireless communication and RF signal enhancement applications.

It supports 100MHz – 7200MHz segmented frequency customization, delivering up to 47dBm (50W) output power with high efficiency and stable performance, significantly improving signal coverage, transmission distance, and link reliability.

2. Key Features

- Supports **100MHz–7200MHz segmented frequency customization**
- High output power: **Up to 47dBm (50W)**
- High gain: **40dB ±1dB**
- High efficiency: **Up to 45%**
- Wide RF input range: **-13dBm to 10dBm**
- Aluminum enclosure for enhanced heat dissipation
- Industrial-grade operating temperature

3. Working Frequency

Supports segmented frequency bands (custom bands available):

- 100 – 400 MHz
- 400 – 1000 MHz
- 1000 – 2000 MHz
- 2000 – 3000 MHz
- 3000 – 4000 MHz
- 4000 – 5000 MHz
- 5000 – 6000 MHz
- 6000 – 7200 MHz

4. Applications

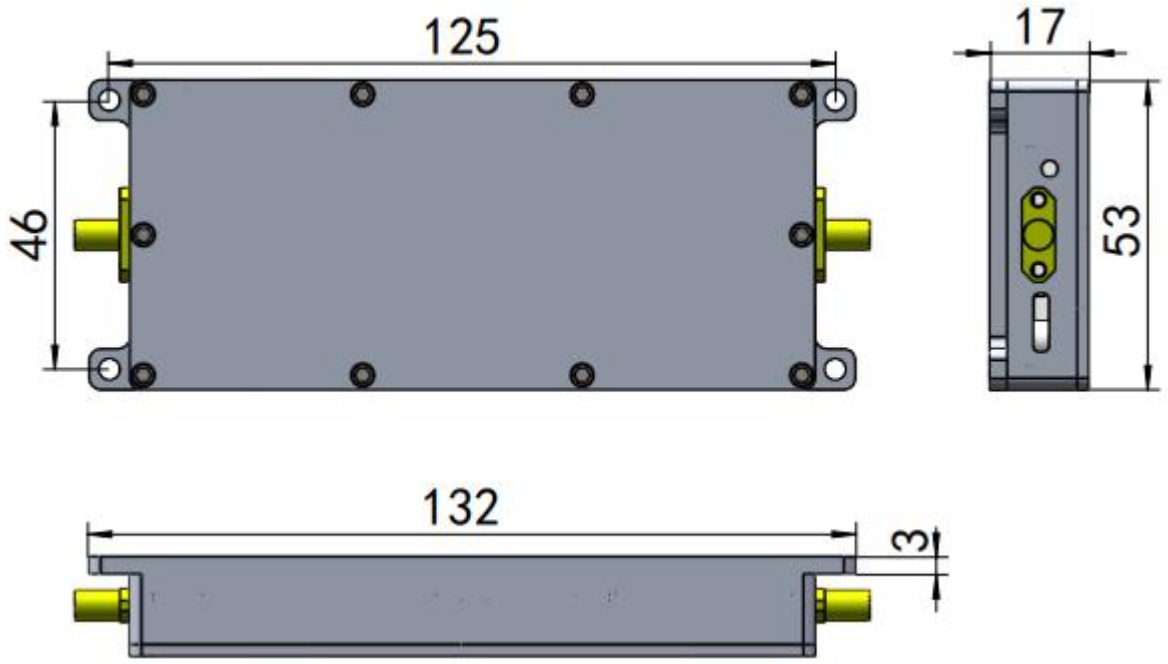
- Wireless communication signal amplification
- WiFi 5 / WiFi 6 / WiFi 7 systems
- RF signal enhancement (Sub-7GHz systems)
- Wireless data transmission systems

- RF testing and laboratory environments

5. Electrical Specifications

Number	Items	Specifications
1	Frequency Range	100-400MHz ; 400-1000MHz; 1000-2000MHz; 2000-3000MHz; 3000-4000MHz; 4000-5000MHz; 5000-6000MHz; 6000-7200MHz;
2	Operating Voltage	28V
3	Gain(S21)	40±1dB
4	Input Return Loss(S11)	≤-15dB
5	RFin Power	-13～10dBm
6	Output Power	47dBm
7	Current	3.8A @28V, 46dBm
8	Efficiency	45%@47dBm
9	LED State	Red
10	Operating Temperature	-30℃～85℃
11	Storage Temperature	-40℃～150℃
12	Operating Humidity	＜95%RH
13	RF Connector	Input: SMA-K; Output: SMA-K
14	DC Connector	AWG18 20cm red/black wire
15	Power Control	3-28V 20cm red wire
16	Shell Material	Aluminum
17	Shell Size	132*53*17mm
18	Net Weight	210g

Heat Sink Dimensions：



6. Performance & Installation Guidelines

- Output power reaches **47dBm** when input power is **7–8dBm** (default gain: **40dB**)
- Use a **28V / ≥6A regulated power supply**
- Ensure sufficient heat dissipation:
    1. Aluminum housing provides basic thermal management
    2. **External heat sink or forced air cooling is strongly recommended** for continuous operation
- Installation sequence must be strictly followed:

    1. Connect the antenna first
    2. Then connect the power supply
    3. Finally connect the RF input signal

- Do **NOT operate without antenna connected**, to avoid permanent damage
- Ensure RF input power remains within **-13dBm to 10dBm**