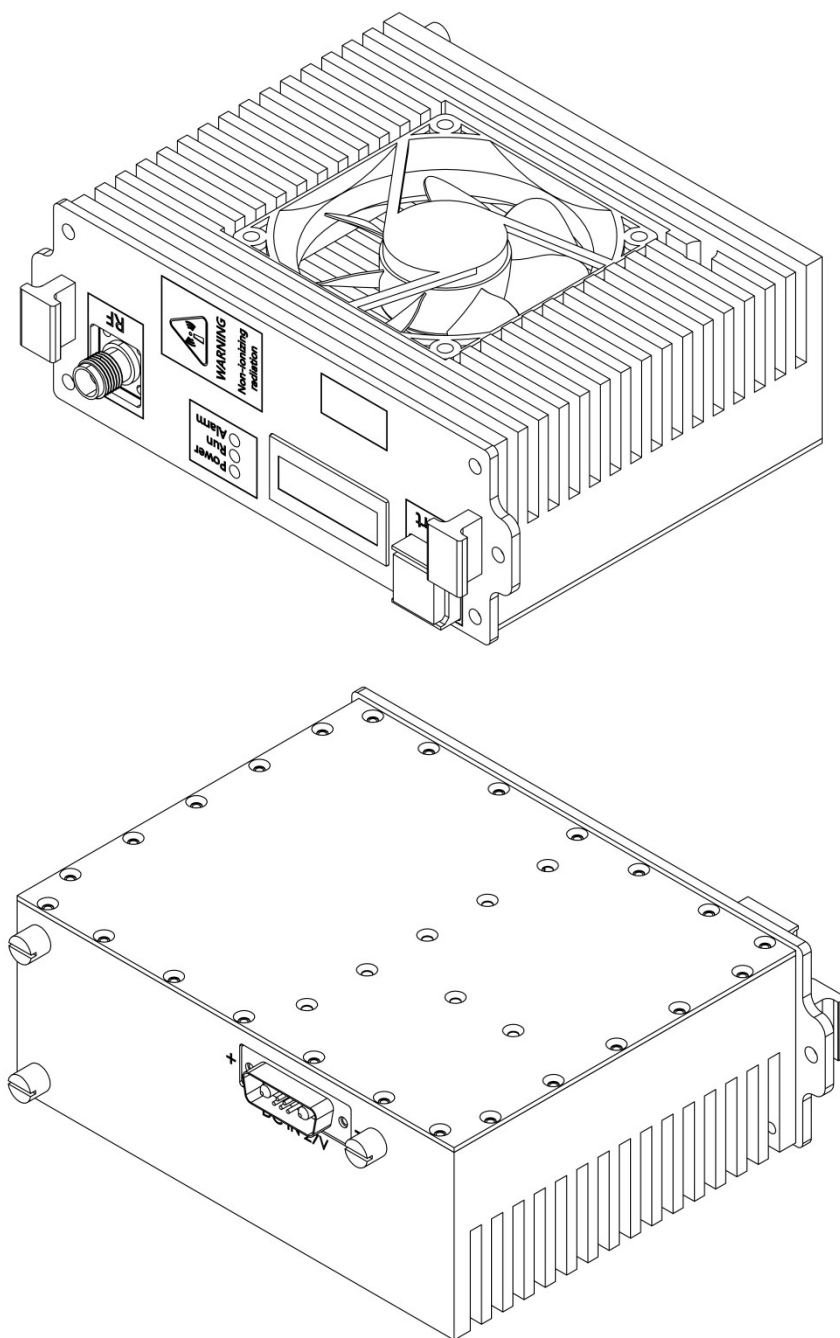


DPA15512560

DDS RF Power Amplifier

Data Sheet



June. 2025

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Introduction

This module is developed based on SDR (Software-defined Radio) technology, generating and amplifying a maximum bandwidth of about 300MHz between 20MHz and 6GHz.

Application range: Signal jammer for wireless communication products such as mobile phones/walkie-talkies/RC Drone/RC Car/RC Boat.

Produce Range

Selectable Frequency Range (MHz)	Maximum selectable bandwidth (MHz)	Maximum selectable output power (W)
20-100	80	100
100-500	250	100
700-1000	300	100
1000-1550	300	70
1550-1990	300	100
2010-2700	300	100
3300-3600	300	80
4800-6000	300	80

Note: The "Selectable Frequency Range" shown in this table refers to the manufacturing coverage, not the exact output range of a single module. Each module must operate within this range, with an actual output bandwidth that does not exceed the "Maximum Selectable Bandwidth."

Radio Frequency Indicators

Test items		Indicator	Remark
Operating Voltage		28V	28-30V
Conversion Efficiency		≥42%	@100W Typical
Controllable Output Power		10W~Actual maximum power	Software-configurable power
ALC Power Adjustment Range		≥30dB	Voltage-Controlled Attenuation
Gain		50±1.0dB	
In-band Fluctuation		≤2.5dB	Peak-to-peak value
Spurious Emission	In-band	≤-15dBm/1MHz	Measure at the center frequency with CW signal at maximum output power
	Out-of-band		
	9KHz~1GHz	No higher than normal background noise and interference	
Maximum Allowable Input Power		≥+10dBm	Lasts 1min without damage
Input VSWR		≤1.35	Add +28V, standard network output -10dBm
Output VSWR	≤1.30	No power applied, standard network output -10dBm	
	≤1.35	Power applied, bidirectional coupler testing	
Temperature Test	Operating Environment Temperature (°C)	-10~+65°C	Low-temperature startup, monitoring functions properly
	Gain Stability	±1.5dB @-40°C~+65°C	
	Power Stability	±1dB @-40°C~+65°C	
Power Requirements		≥8A @+28Vdc;	Continuous wave output of 100W
Power interface, communication interface RS485		7W2	Male connector
RF Output Connector		N-F	
LCD Liquid Crystal Display		Display frequency, power, and on/off status.	
LED Module Indicators		POWER: Power indicator, RUN: Power operation indicator, ALARM: Alarm indicator	
Built-in cooling fan		The module can run independently.	
Size		155*125*60mm	
Weight		1.6Kg	
Appearance Design		Black integrated module with fan (can be used separately or portable)	

Module Software Configuration

Monitoring Function		Description	Remark
Amplifier Configuration Parameters	Amplifier Switch	Turn the amplifier on or off.	
	Alarm Switch	Enable or disable the alarm function.	
	Downlink Power Control	Adjustable maximum output power of the amplifier, with an adjustable range of $\geq 20\text{dB}$, and the ability to set high, medium, and low power levels.	
	Amplifier Over-Temperature Alarm	It will automatically shut down when the temperature exceeds 85°C and automatically resume operation when the temperature drops to 65°C	
	Amplifier Over-Power Alarm	The system will be automatically shut down when the actual power value is 2dB higher than the downlink ALC control threshold.	
	Amplifier Standing Wave Alarm	Automatically shut down when the standing wave ratio is greater than 4	
	Amplifier Over-Current Alarm	Automatically shut down when current exceeds 12A	
	Amplifier Under-Power Alarm	When the power is less than 37dBm, an under-power alarm is displayed.	
	Amplifier Over-Voltage Alarm	If the amplifier voltage exceeds 32V, the amplifier will automatically shut down.	
	Amplifier Under-Voltage Alarm	If the amplifier voltage is less than 20V, it will display an under-voltage alarm.	
Amplifier Query Parameters	Amplifier Switch Status	If the amplifier is set to "OFF", the corresponding query should indicate that the amplifier is in the "OFF" state. Conversely, if the amplifier is set to "ON", the query should indicate that the amplifier is in the "ON" state.	
	Downlink Output Power Level	Detect the output power value of the amplifier within	Detection accuracy:

		the detection range of (Pomax+2, Pomax-20).	Pout±1dB.
	Downlink Standing Wave Ratio	The normal standing wave ratio is 1.2. When there is a mismatched load, the query value will be 4.0.	
	Temperature Query	Detect the internal temperature of the module within a detection range of -40°C to +100°C.	Detection error: ±3°C.
	ALC Value Query	The displayed value is equal to the actual set ALC value.	
	Voltage Detection	Detecting module operating voltage.	
	Current Detection	Detecting module operating current.	
Signal Source Configuration	Frequency Setting Mode 1	Setting arbitrary single frequency point within the range.	Frequency setting accuracy of 1MHz, maximum frequency bandwidth of 500MHz, and highest frequency of 6GHz.
	Frequency Setting Mode 2	Configure wideband sweep mode, frequency, interval, step size, and other parameters.	
	Frequency Setting Mode 3	Set any 4 sub-frequency segments within the bandwidth, with the sub-segments incrementing.	
	Communication Type	RS485	
	Interface Definition	+:28V, -: GND; Control bit 1:485A, 2:485B.	

Performance over time graph

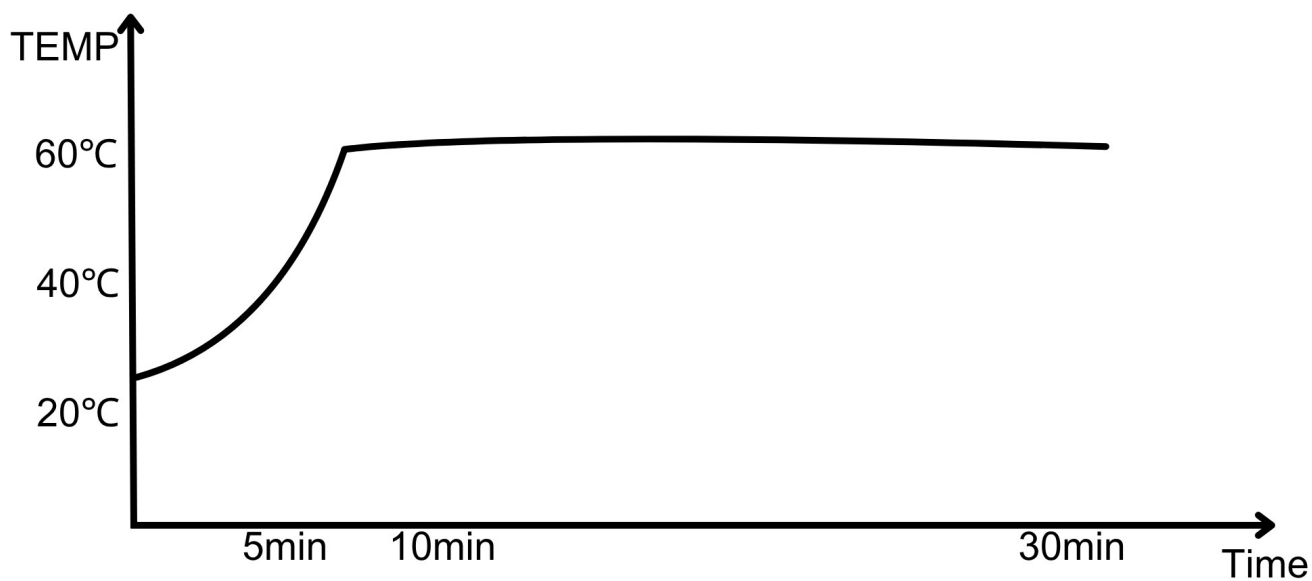


Figure 1 Temperature-Time variation diagram

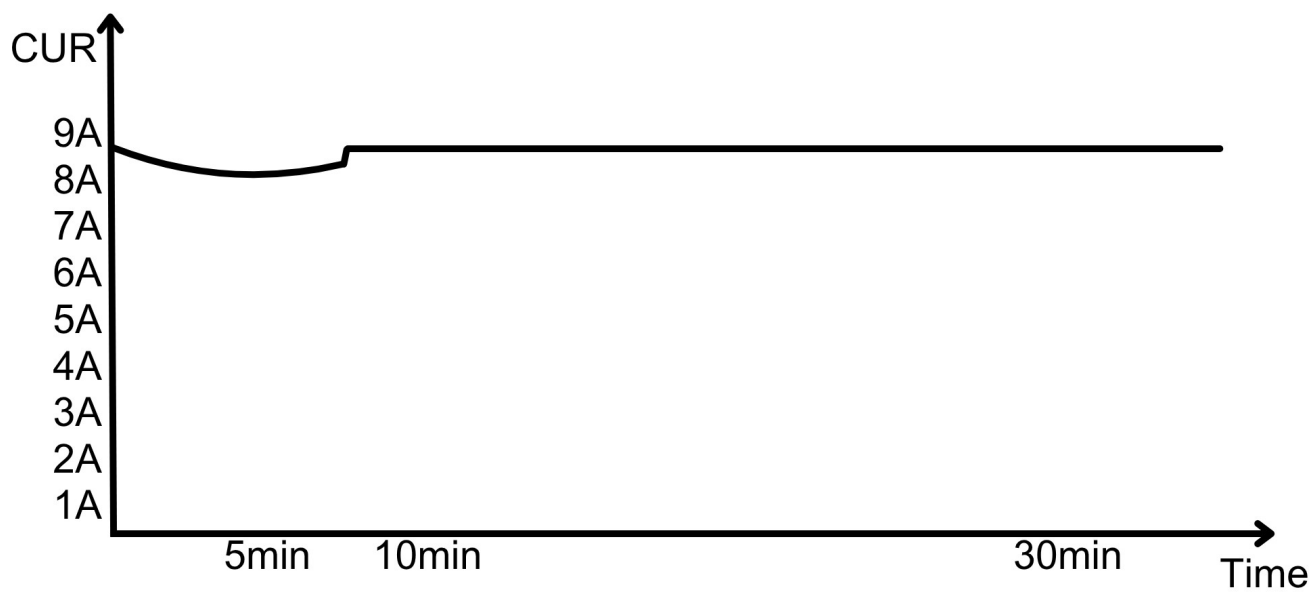


Figure 2 Current-Time variation diagram

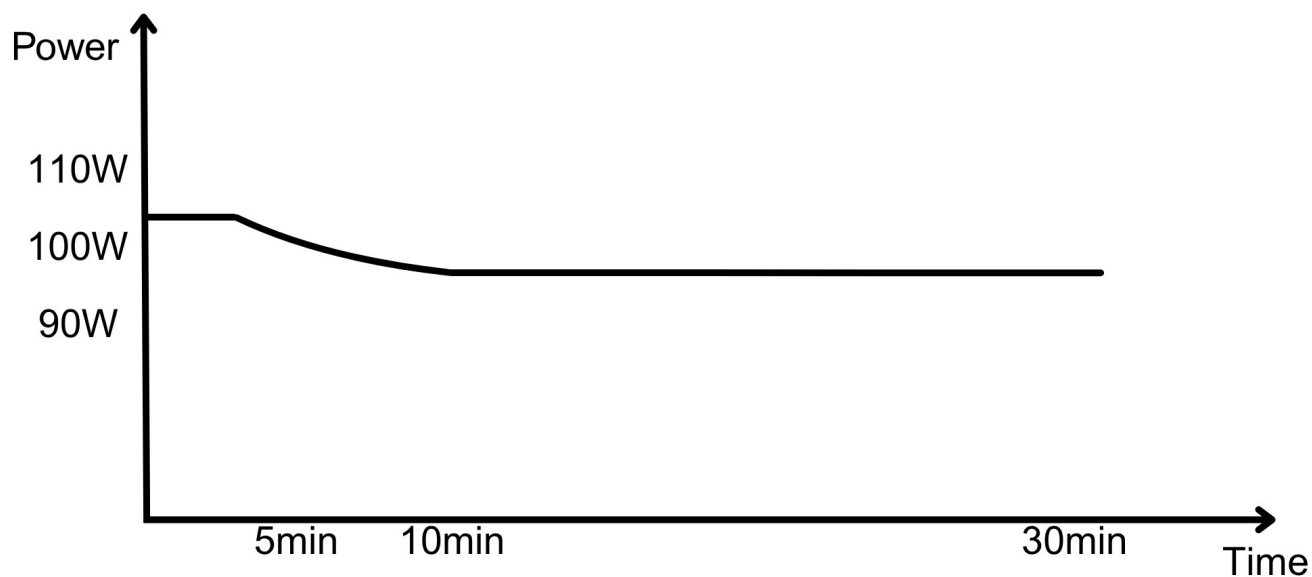


Figure 3 Power-Time variation diagram

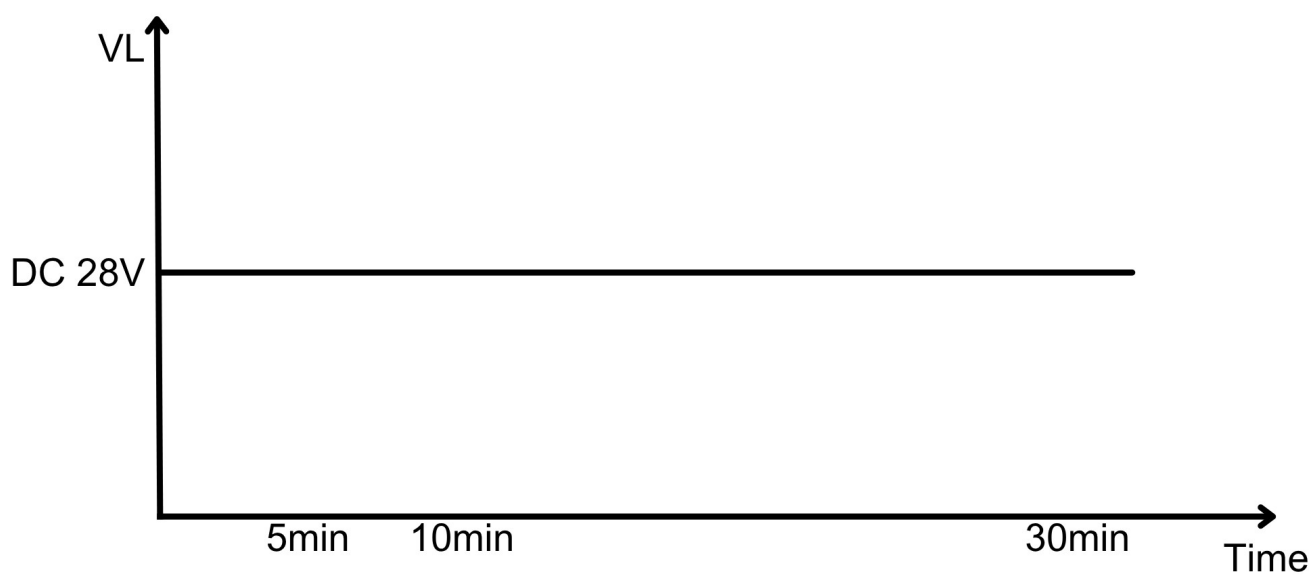
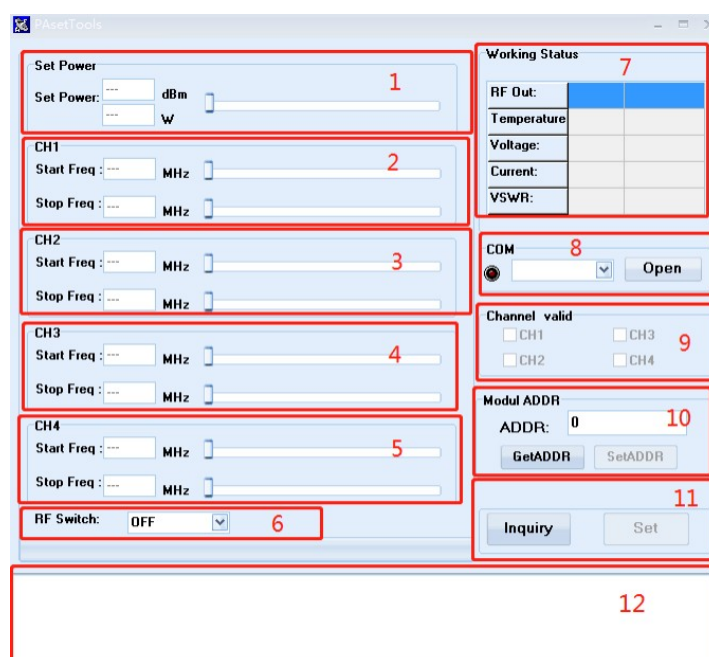


Figure 4 Voltage-Time variation diagram

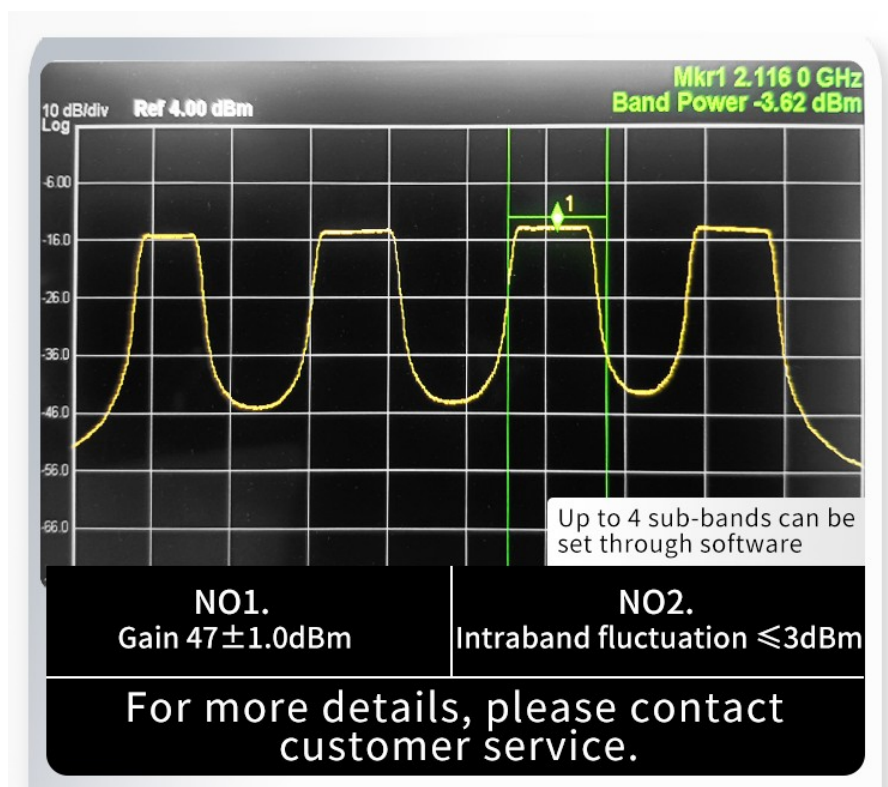
Note: The specifications of the test module are 100W, 2000MHz~2100MHz. The above chart is for reference only.

Single module software control instructions

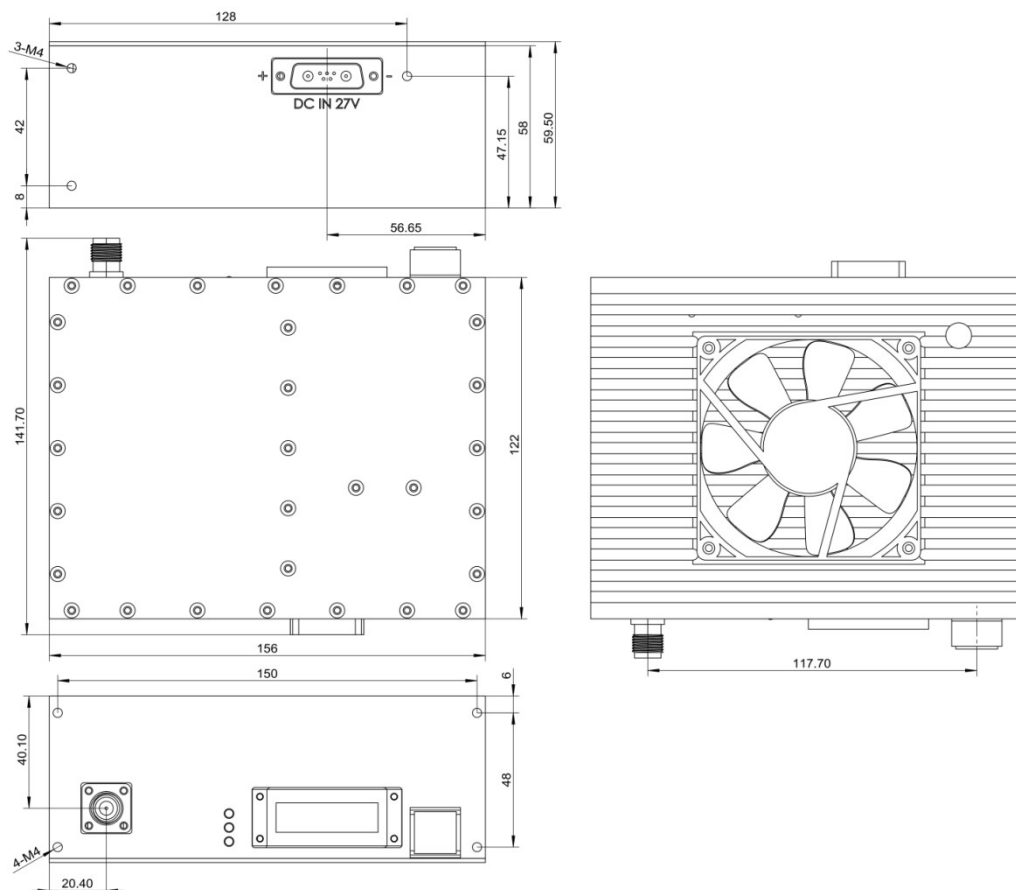


1. Power setting adjustment, the left side displays the power value in dBm and W units respectively, and the right scroll bar can be dragged left and right to adjust the power.
2. The default frequency range of the first channel, Start Freq is the starting frequency, Stop Freq is the ending frequency, and the ending frequency must be greater than the starting frequency. The default frequency step is 1M, which can be adjusted accurately.
3. The frequency range setting of the second channel, the starting frequency of the second channel must be greater than the ending frequency of the first channel.
4. The frequency range setting of the third channel, the starting frequency of the third channel must be greater than the ending frequency of the second channel.
5. The function is the same as above, which is the frequency range setting of the fourth channel.
6. The power amplifier module switch setting. ON is turned on, and OFF is turned off the power amplifier.
7. Working status display:
 - Out Power:** output power, the real-time power of the current module when it is working normally.
 - Temperature:** module temperature.
 - Voltage:** module supply voltage.
 - Current:** module current.
 - VSWR:** standing wave state.
8. Serial port settings, RS485 communication interface. Select the serial port number in the drop-down list box, Open to open, Close to close.
9. Frequency channel selection box, a total of 4 channels are available.
10. Module address code query and setting.
11. Query or set parameters, Inquiry is to query parameters, Set is to apply all modified parameters.
12. Display information feedback when querying or setting parameters.

Sub-band setting effect display



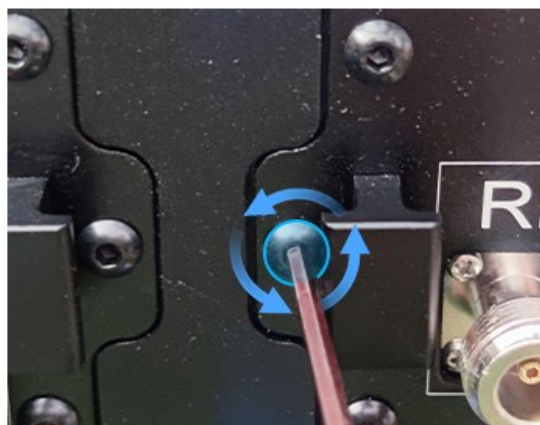
Dimensions



Equipment assembly example



Install DPA15512560 on Trolley Case Type Signal Jammer - Chariot-CM



The jammer module can be quickly replaced by removing the hexagonal screws on both sides

DDS RS485 communication connection diagram

RS485 A+: ———

RS485 B- : ———

