0.2GHz-2.5GHz 50W EMC Power Amplifier

P/N: EMCPA002025GAC50W

■ Features:

•Multi-Octave Wideband Solid State Power Amplifier
• Excellent EM Leakage Suppress
• Built-in Cooling
• Built-in Protection including Incident Power , Reflection Power, Temperature, Current
• Alternating Current Power Supply Operation
• Benchtop Application Scene

■ Typical Application

• Wireless Infrastructure
• Military and Aerospace

■ Applications

• Test Instrumentation
• Radar Systems

■ Product Description

The EMCPA002025GAC50W is a multi-octave wideband solid state power amplifier for benchtop EMC application with a frequency range of 0.2 to 2.5GHz and output power of 48.5dBm typical.

This power amplifier works with a 110/220 AC power supply. It can operates just need connecting AC power supply and RF cable. As much as more information is adopted to give user complete understanding the status and alarm of the product.

This product has a calibration feature which enables customer to obtain great performance through time and temperature changes. The operating temperature of this product is within -30 to +70℃.

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■ Electrical Specifications (TA=+25°C)

Parameter	Min.	Typ.	Max.	Units
Frequency Range		0.2-2.5		GHz
Small Signal Gain	50	55		dB
Gain Flatness		±3		dB
Gain Variation Over Temperature (0°C to +50°C)		±2		dB
Input VSWR		1.2	1.5	-
Output 1dB Compression Point \(P1dB)		46.5		dBm
Saturated Output Power (Psat) (CW)	47	48.5		dBm
Supply Current (220V AC)		1.5	3.0	A
IM3		-20		dBc
Power Added Efficiency (PAE)		30		%
RF Input Max Power(no damage)			15	dBm
Impedance		50		Ω
Weight		49.3 Max		lbs.
Package		3U Rack-mount/Tabletop Chassis		

■ Absolute Maximum Ratings

Parameter	Ratin
Supply Voltage Range	90VAC to 264VAC
*RF Input Power (RFIN)	Psat – Large Signal Gain

*Maximum RF input power is set to assure safety of amplifier. Input power may be increased at own risk to achieve full power of amplifier.

■ Interface Definition

Name		Pin	description	I/O	Conn-ector
RFin			Low Power RF input	I	N(F)
RFout			High Power RF output	O	N(F)
Interface	RESET	1	Resets PA when logic LOW is applied and released.FAULT is TTL High.	I	Female D-Sub (mating male part number is 172-E15-103R001DB15)
	Gate Disable	2	Appling logic HIGH disables gates of driver amplifiers.	I	
	Drain Disable	3	Applying logic HIGH disables drains of ALL amplifiers.	I	
	Input Power Over	4	Pin will be latched to logic HIGH and amplifier turned off when input RF signal maximum limit is reached.	O	
	Temperature Over	5	Pin will be latched to logic HIGH and amplifier turned off when temperature limit is reached.	O	
	Current Over	6	Pin will be latched to logic HIGH and amplifier turned off when current limit is reached by any RF components.	O	
	ID Imbalance	7	Pin will be latched to logic HIGH and amplifier turned off when current imbalance between combined RF amplifiers happens.	O	

■ Interface Definition(Continued)

	Mute	8	Appling logic HIGH disables drains and gates of amplifiers.	I	
	Fan Failure	9	Logic will latch HIGH and amplifier turned off when a fan failure is detected.	O	
	Temperature Signal	10	Analog voltage between zero- and five-volts representing temperature of RF section.	O	Temperature Signal
	VSWR	11	Pin will be latched to logic HIGH and amplifier turned off when output reverse RF signal maximum limit is reached.	O	VSWR
	Input Power Monitor	12	Analog voltage between zero- and five-volts representing input signal power level.	O	
	+5V	13	+5V DC is supplied for reference.	O	
	Ground	14	Ground	I/O	
	Drain Blanking	15	Appling logic HIGH disables fast, drains of last stage of amplifier.	I	
PS_AC	L	1	Line	I	3-Pin Socket
	N	2	Neutral	I	
	E	3	Safe Ground		

■ Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	0°C to +50°C (Ambient Temperature)
Storage Temperature	-40°C to +85°C
Thermal Shock	0°C +50°C (5 Cycles / 10 hours)
**Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +50°C for 72 Hours Shock
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) AltitudOptional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883 (For Hermetically Sealed Units)

■ Usage Notes :

■ Bias Up Procedure

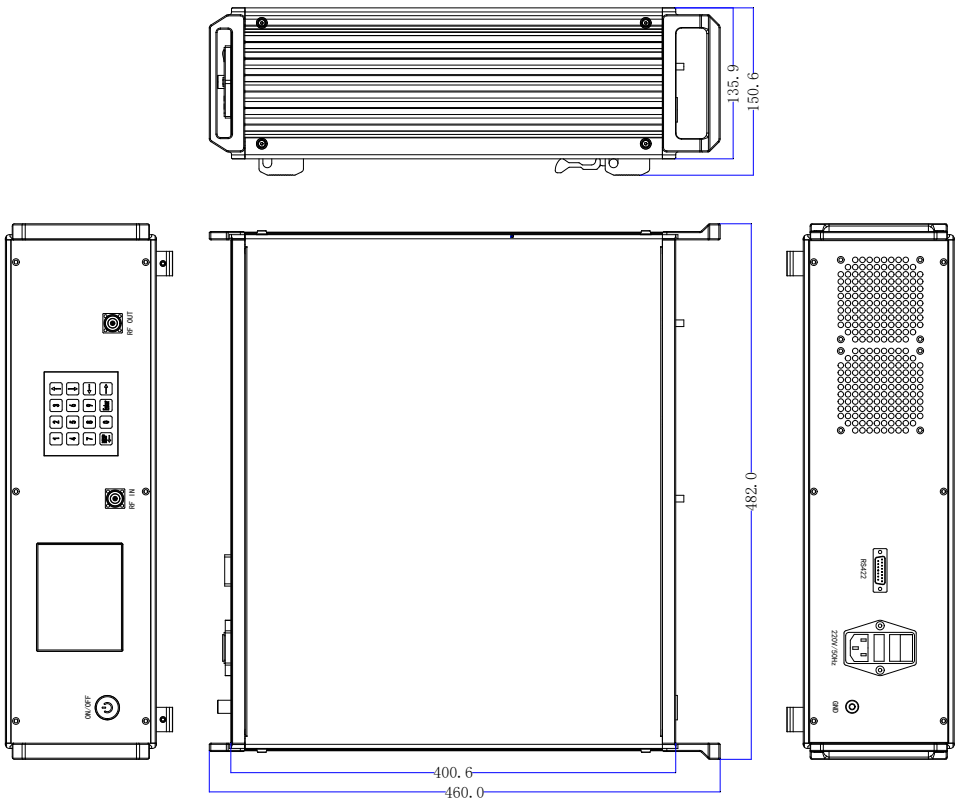
1. Connect input and output with 50 Ohm source/load (In band VSWR < 1.9:1 or >10dB return loss.)
2. Connect Power Cable
3. Turn On Back Panel AC Power Supply Switch
4. Press Front Panel Power Switch to Power Display

■ Bias Down Procedure

1. Press Front Panel Power Switch to Power Off Display
2. Turn Off Back Panel AC Power Supply Switch
3. Remove Power Cable (If Moving Equipment)
4. Disconnect input and output with 50 Ohm source/load (In band VSWR < 1.9:1 or >10dB return loss.)

■ Outline Drawing

All Dimensions in mmTolerance ±0.25



■ Safety

The case should be connected with earth at any time for human safety.

NOTE:

1. The product is designed to meet environmental ratings but not tested. If you need to test environmental condition, please contact our sales department.
2. Miczen technologies co., Ltd. reserves the right to change the above information without notice.