



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

REMC02M52MH

100W Coaxial Microwave Power Amplifier 20MHz~520MHz



Features

- Small signal open loop gain: 60dB
- Output power 100W typical.
- 3.5" LCD Screen

Typical Applications

- Suitable for RFI, EMC
- CW, and FM modulation
- Test and Measurement

Electrical Specifications, $T_A = +25^\circ\text{C}$

Parameter	Min.	Typ.	Max.	Units
Frequency Range	20		520	MHz
Open Loop Gain(ALC Open-loop)	60	65		dB
Gain Flatness (ALC Closed-loop)		± 2.5		dB
Gain Adjustment Range (ALC Closed-loop)		10		dB
Output Power(Max) (Input 0dBm Closed Loop)	48.5	50		dBm
Output Third Order Intercept (IP ₃) @Output Power 47dBm		53		dBm
VSWR		2.0	2.5	: 1
Harmonic Wave Rejection @Output Power 49dBm		-15	-12	dBc
AC Voltage	100		240	V
Weight	142			Ounces
Impedance	50			Ohms
Input / Output Connectors	N / Female			

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Absolute Maximum Ratings

AC Voltage	100~240V
RF Input Power (Max)	+5dBm

Note: When the output power is greater than 40dBm (10W), The output must not be left open.

Environmental Specifications and Test Standards

Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-20°C~+50°C
Storage Temperature		-40°C~+85°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
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) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)



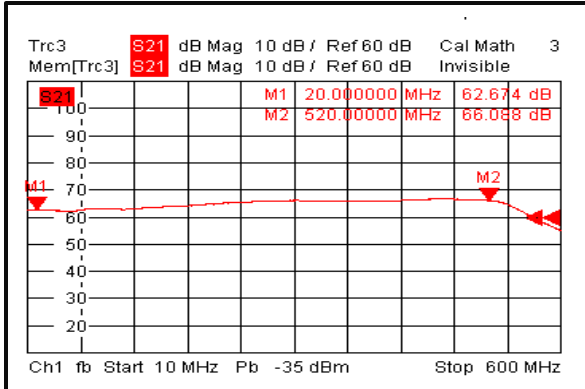
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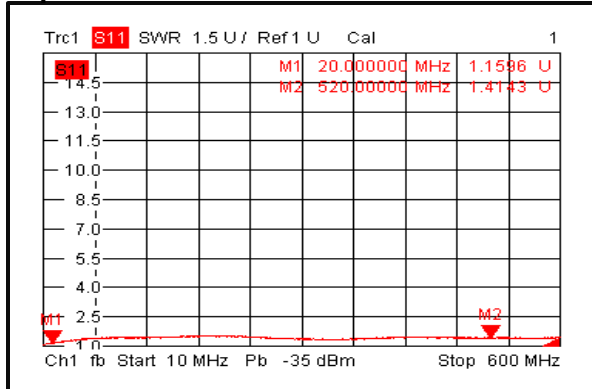
REMCO2M52MH

Typical Performance Plots

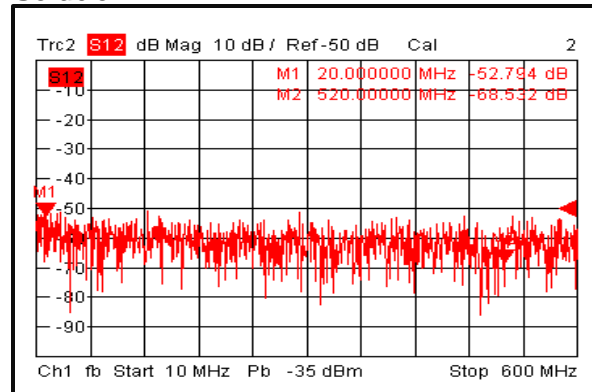
Gain



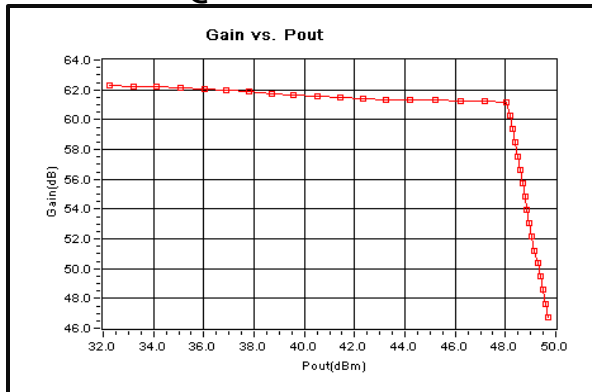
Input VSWR



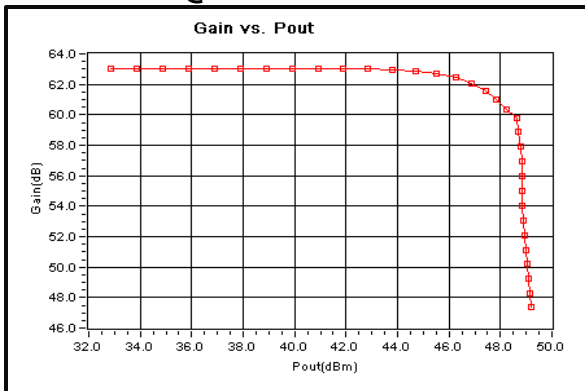
Isolation



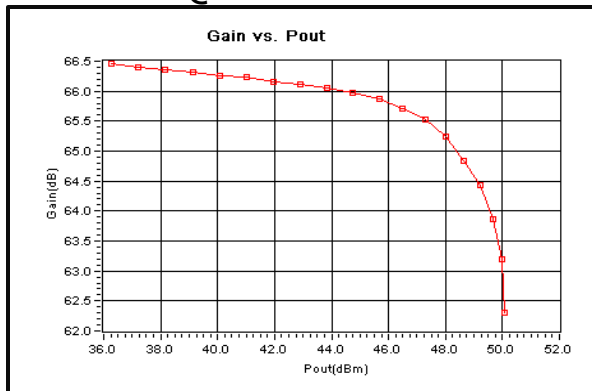
Gain vs. Pout@20MHz



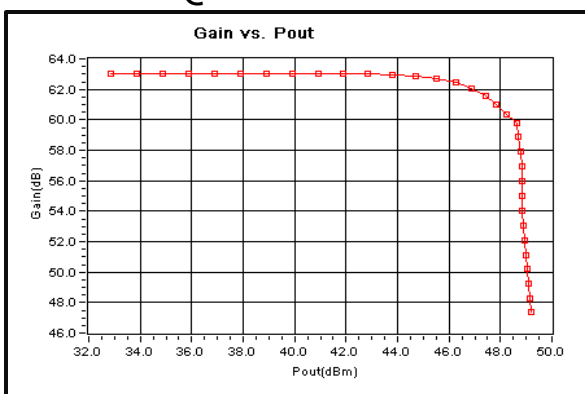
Gain vs. Pout@120MHz



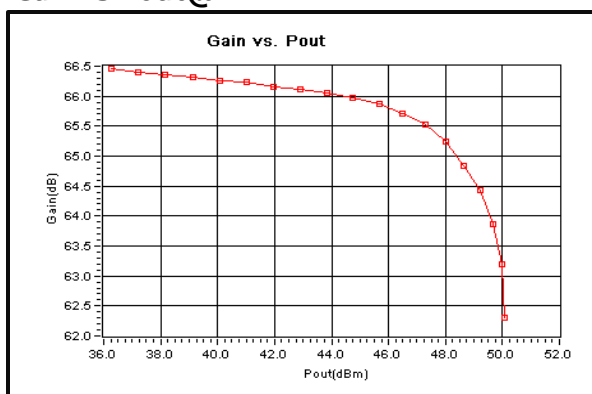
Gain vs. Pout@220MHz



Gain vs. Pout@120MHz



Gain vs. Pout@220MHz



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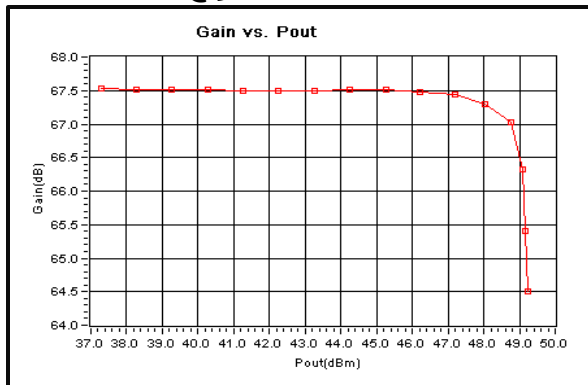


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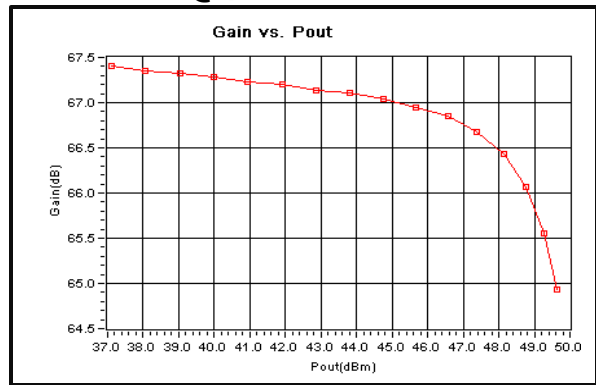
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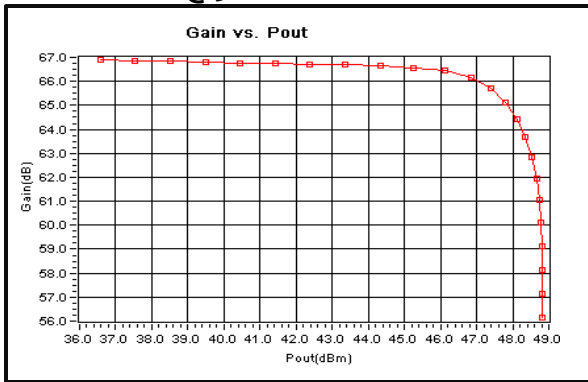
Gain vs.Pout@320MHz



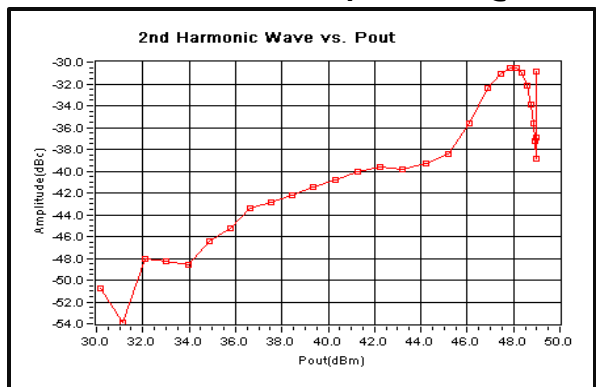
Gain vs.Pout@420MHz



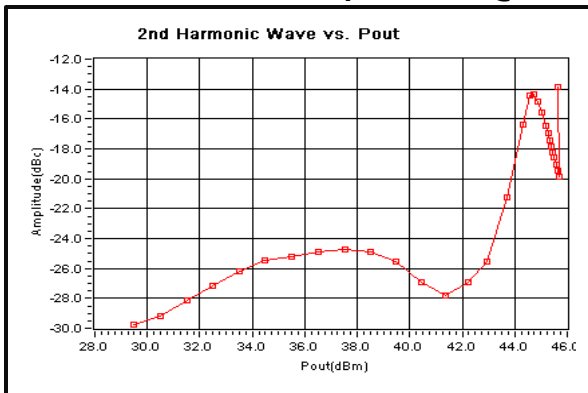
Gain vs.Pout@520MHz



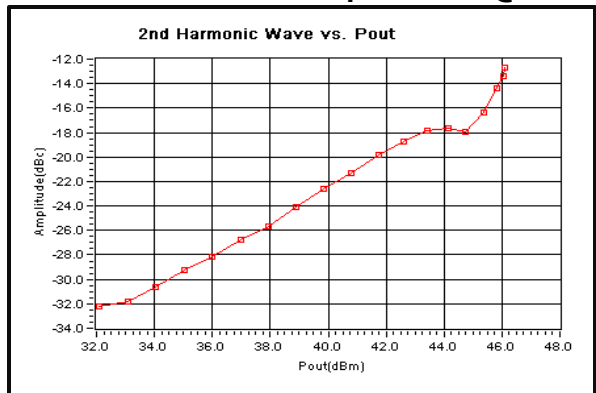
2nd Harmonic Wave OutputPower@20MHz



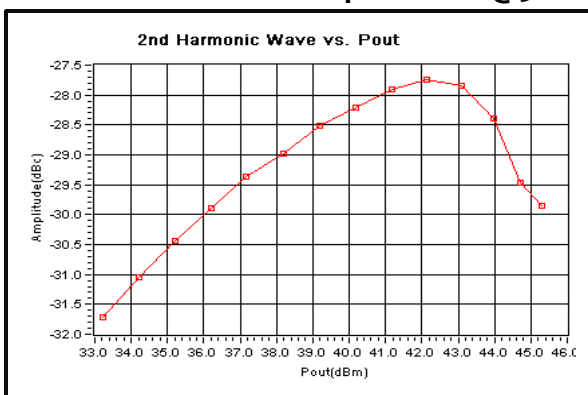
2nd Harmonic Wave Output Power@120MHz



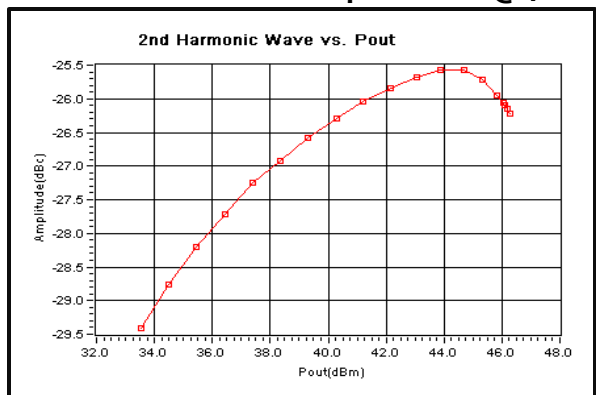
2nd Harmonic Wave Output Power@220MHz



2nd Harmonic Wave Output Power@320MHz



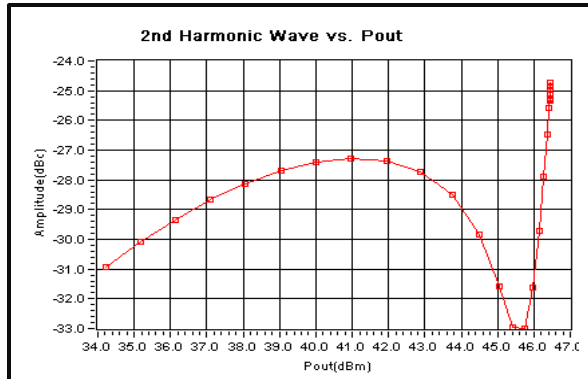
2nd Harmonic Wave Output Power@420MHz



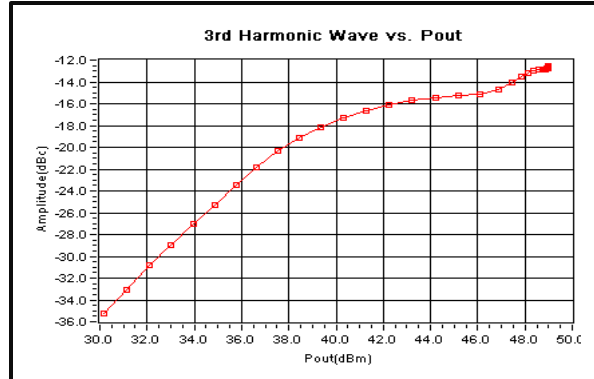
100W Coaxial Microwave Power Amplifier 20MHz~520MHz



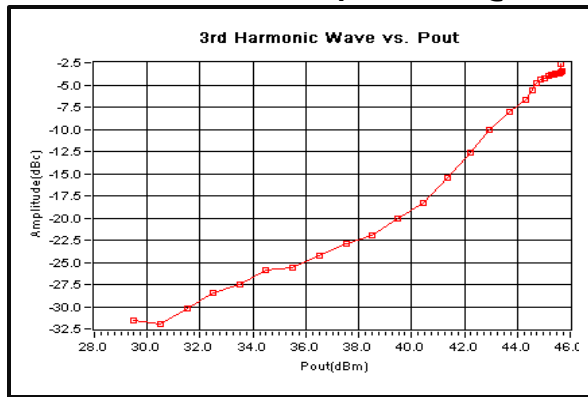
2nd Harmonic Wave Output Power@520MHz



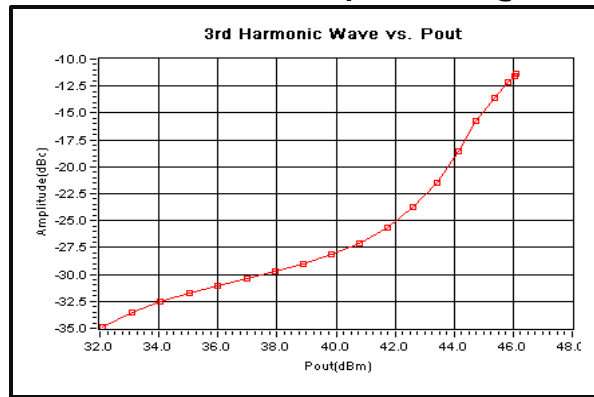
3rd Harmonic Wave Output Power@20MHz



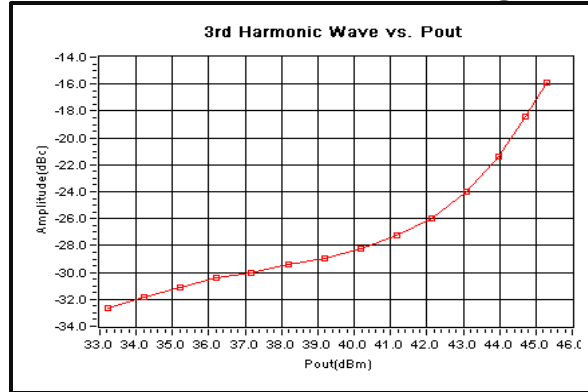
3rd Harmonic Wave Output Power@120MHz



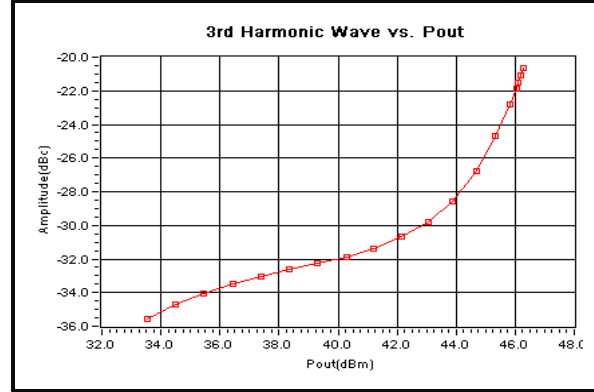
3rd Harmonic Wave Output Power@220MHz



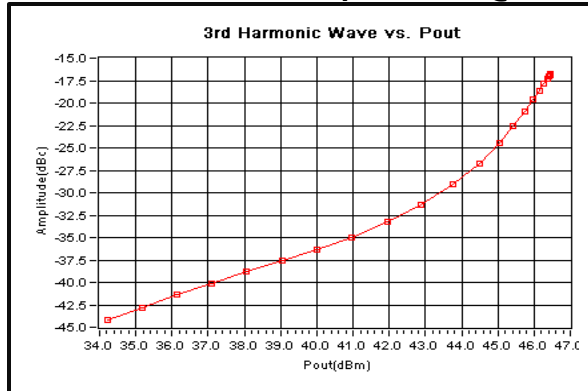
3rd Harmonic Wave Output Power@320MHz



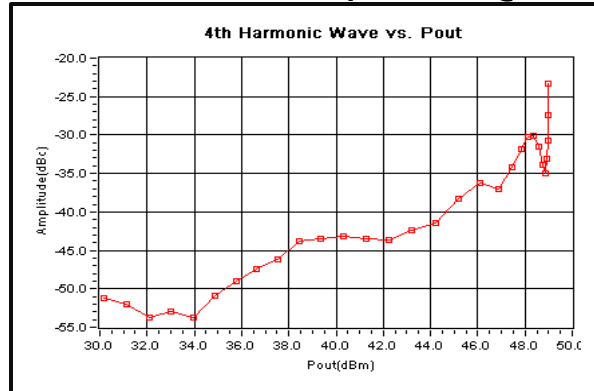
3rd Harmonic Wave Output Power@420MHz



3rd Harmonic Wave Output Power@520MHz

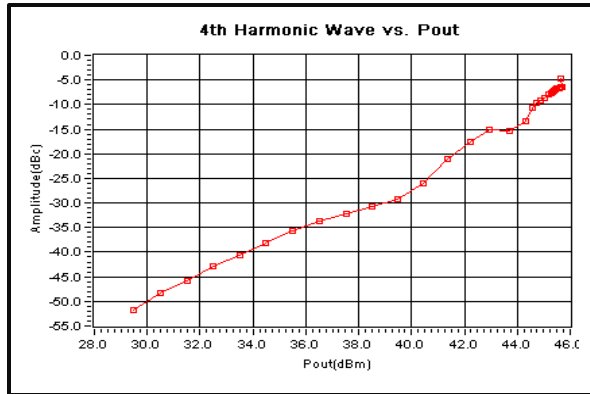


4th Harmonic Wave Output Power@20MHz

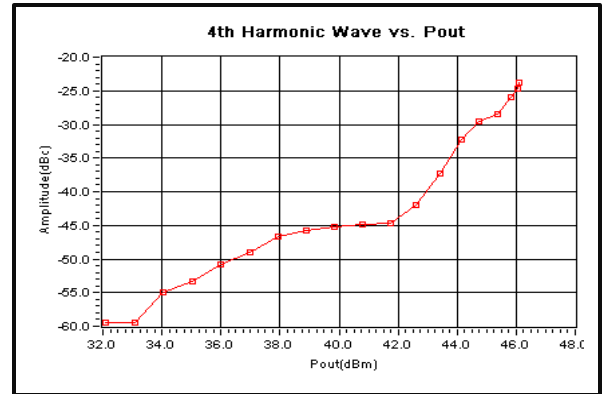




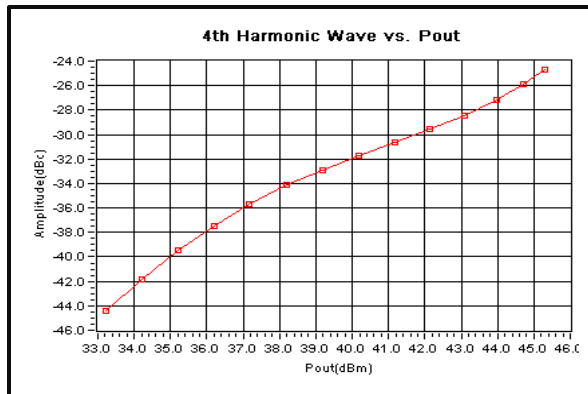
4th Harmonic Wave Output Power@120MHz



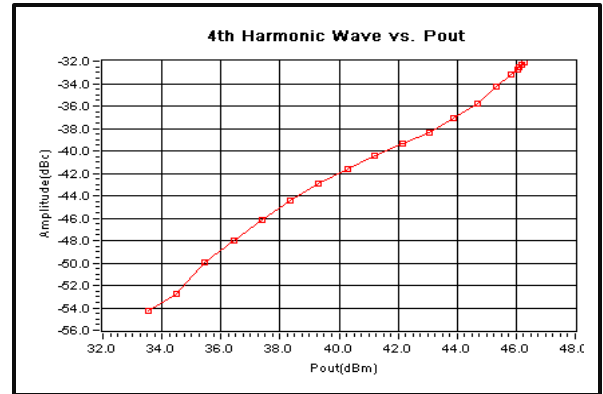
4th Harmonic Wave Output Power@220MHz



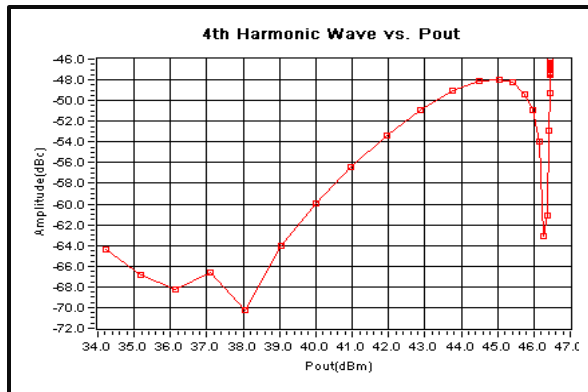
4th Harmonic Wave Output Power@320MHz



4th Harmonic Wave Output Power@420MHz



4th Harmonic Wave Output Power@520MHz





User Guide

Connect the A/C Power. Ensure the cooling fan exhaust is not blocked.

Terminate both the input and output.

Set the input signal generator to a power level between 0 and -10dBm, but do not enable the output.

Press EMC unit power button. PA power indicator will illuminate.

Press “Preset” to initialize the PA.

The Rotary Knob controls the output enable switch. Gently press the rotary knob and the LCD will display “Output Status”. This can be changed from “Off” to “On” indicating the PA is active.

Turn on the RF Output from the signal generator.

The output power can be adjusted in 0.1dB increments using the rotary knob. Do not rotate the knob too quickly as there is a delay with the LCD display.

To change frequencies, always turn the PA output to off before changing the signal generator.



Troubleshooting Guide

PA power indicator does not illuminate, or cooling fan does not operate.

→ Check fuse.

LCD Displays “Error”.

→ Try resetting the PA by pressing the “preset” button.

Output Power Too Low

→ Increase the output with the rotary knob.

No RF Output Power

→ Check is “RF Output” is on or that input signal is present.



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Maximum Power Test

Input = +5dBm.

Output = +50dBm (Maximum)

Signal Source	Frequency(MHz)	20	50	100	150	200	250	300	350	400	450	500	520
0~+5dBm	Display (dBm)	49.6	52.5	52.1	52.2	51	50.5	50	49.6	49.2	49.6	48.7	48.1
	Actual Measurement (dBm)	50.2	50	50	50	50	50	50	49.8	49.6	50	49.7	49.2

Harmonic Test

Input = 0dBm

Output = + 49dBm (Maximum)

Harmonic Wave	Frequency (MHz)	20	100	250	350	400	520
@Output Power 49dBm (dBc)	2 nd	-41.1	-22.3	-24.8	-34.5	-31.1	-29.8
	3 rd	-17.5	-17.1	-26.4	-26.8	-30.1	-23.1

Two IM3 Tone Test

Tone Spacing = 100KHz

Single-Tone Input Power = 0dBm

Output = +47dBm (+47dBm / Tone)

Frequency (MHz)	20		100		250		350		500	
IM3 dBc	-22.4	-22.2	-21	-21.2	-26.3	-26.1	-26.2	-26	-19.1	-19.3

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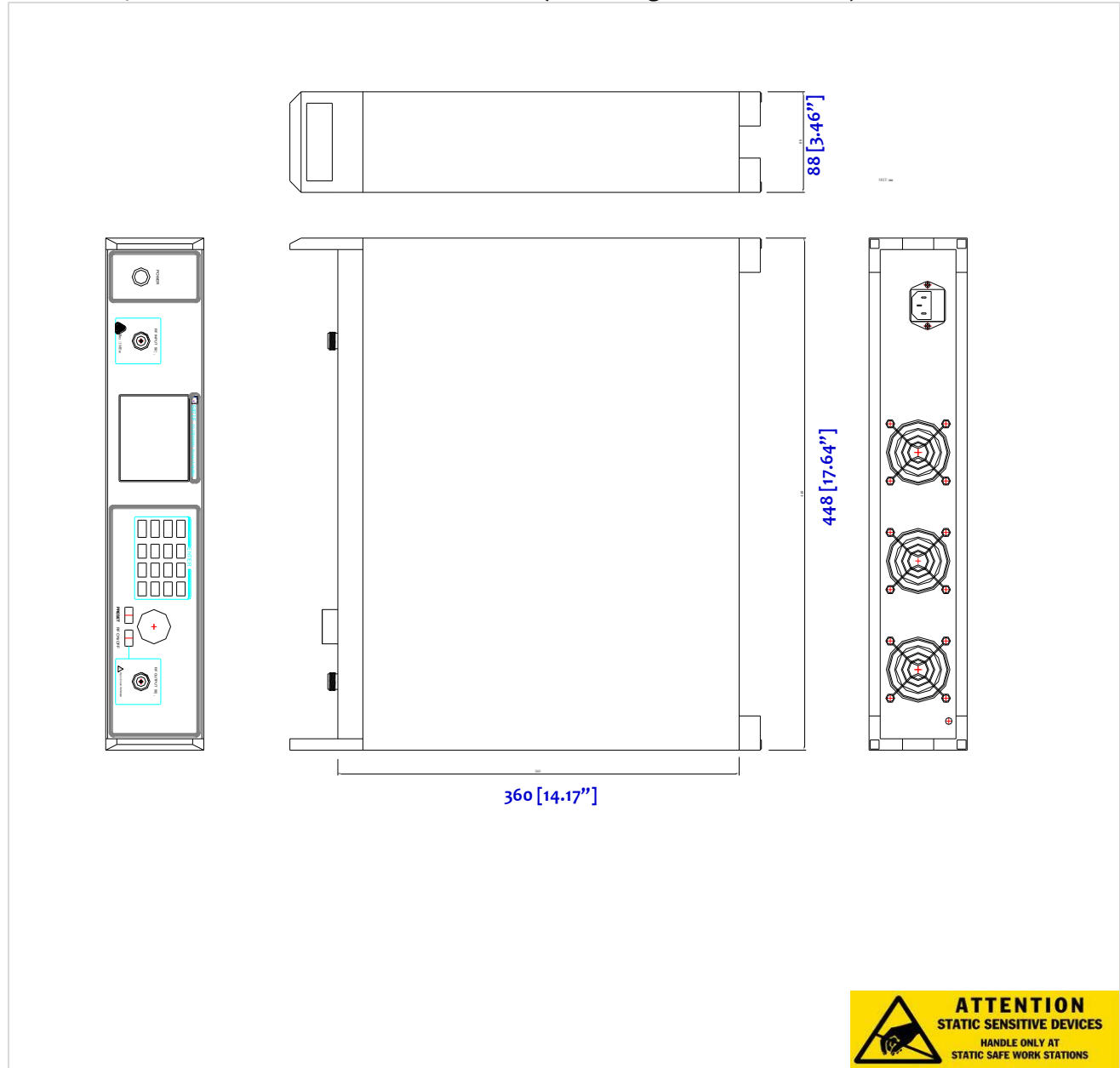
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Outline Drawing:

All Dimensions in mm [inches]

Standard 19-inch 2U chassis 448 x 360 x 88mm (excluding handle and foot)



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