



100W Coaxial Microwave Power Amplifier 20MHz~520MHz



Features

- Small signal open loop gain: 50dB
- Output power 100W typical

Typical Applications

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

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

Parameter	Min.	Typ.	Max.	Units
Frequency Range	20		520	MHz
Open Loop Gain(ALC Open-loop)		50		dB
Gain Flatness (ALC Closed-loop)		±2.5		dB
Gain Adjustment Range (ALC Closed-loop)		15		dB
Output Power(Max) (Input odBm Closed Loop)		50		dBm
Output Third Order Intercept (IP3)		53		dBm
VSWR		2.0	2.5	:1
Harmonic Wave Output Power		-15	-12	dBc
DC	36		50	V
Weight	141.09			Ounces
Impedance	50			Ohms
Input / Output Connectors	N / Female			

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Absolute Maximum Ratings

DC	36-50V
RF Input Power	+5dB m

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

Environmental Specifications and Test Standards

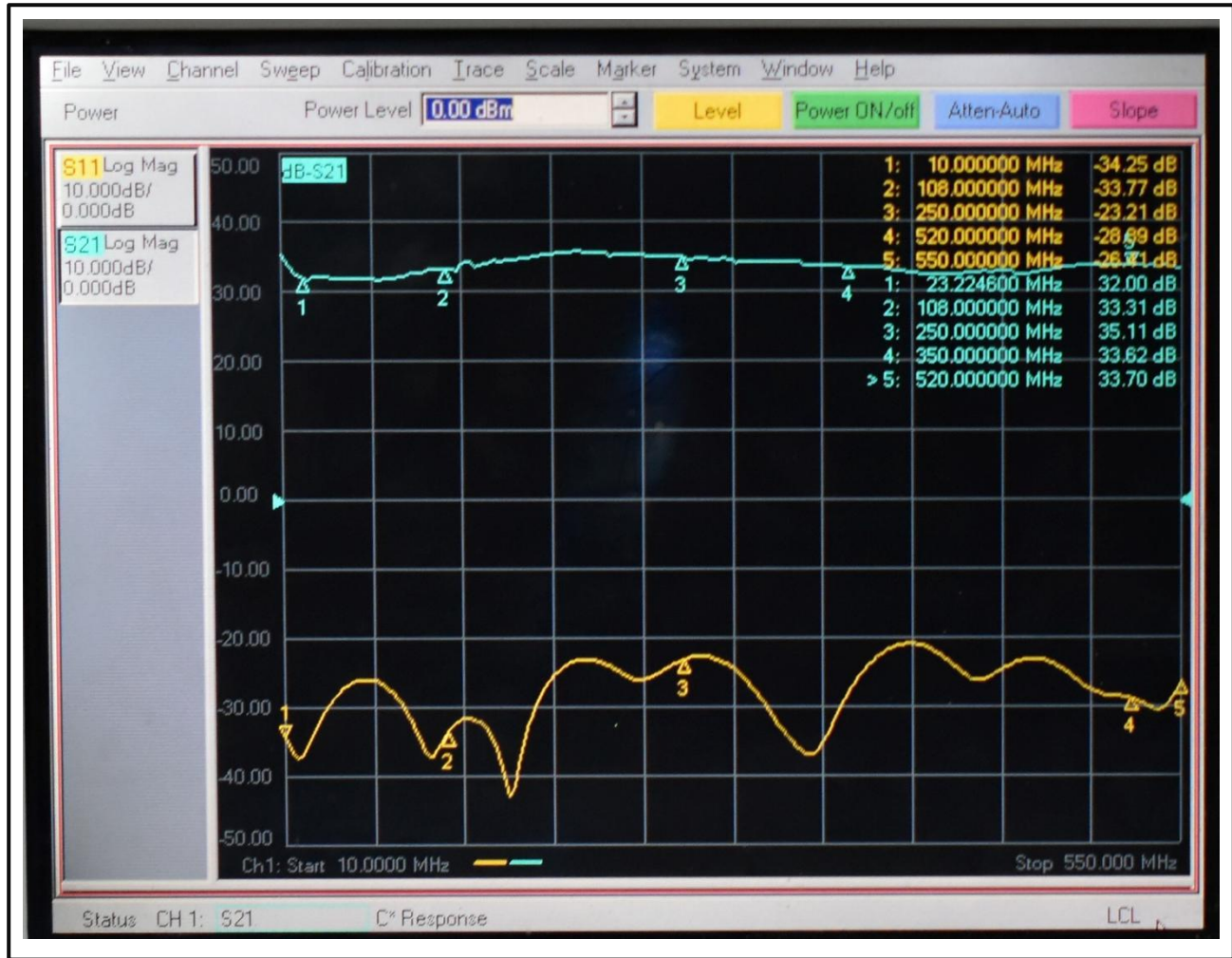
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-20°C~+50°C
Storage Temperature		-40°C~+85°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 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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Typical Performance Plots

Power Preset Output Power Status



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Maximum Power Test

Input = +5dBm.

Output = +50dBm (Maximum)

Signal Source	Frequency(MHz)	20	70	120	170	220	270	320	370	420	470	520
0-+5dBm	Display (dBm)	50.6	50	48.7	49.0	49.1	48.9	49.1	49.1	49.4	50.0	49.7
	Actual Measurement (dBm)	49.1	49.83	49.29	49.58	49.85	50.15	50.24	49.89	49.6	49.79	49.8

Harmonic Test

Input = 0dBm

Output = +49dBm (Maximum)

	Frequency (MHz)	20	100	250	350	400	520
Harmonic Wave Output Power (dBc)	2 nd	-26.6	-28.7	-19.1	-32.1	-34.4	-39.7
	3 rd	-13.1	-12.2	-16.5	-35.2	-36.6	-40.8

Two IM3 Tone Test

Tone Spacing = 100KHz

Single-Tone Input Power = -3dBm

Output = +43dBm (+40dBm / Tone)

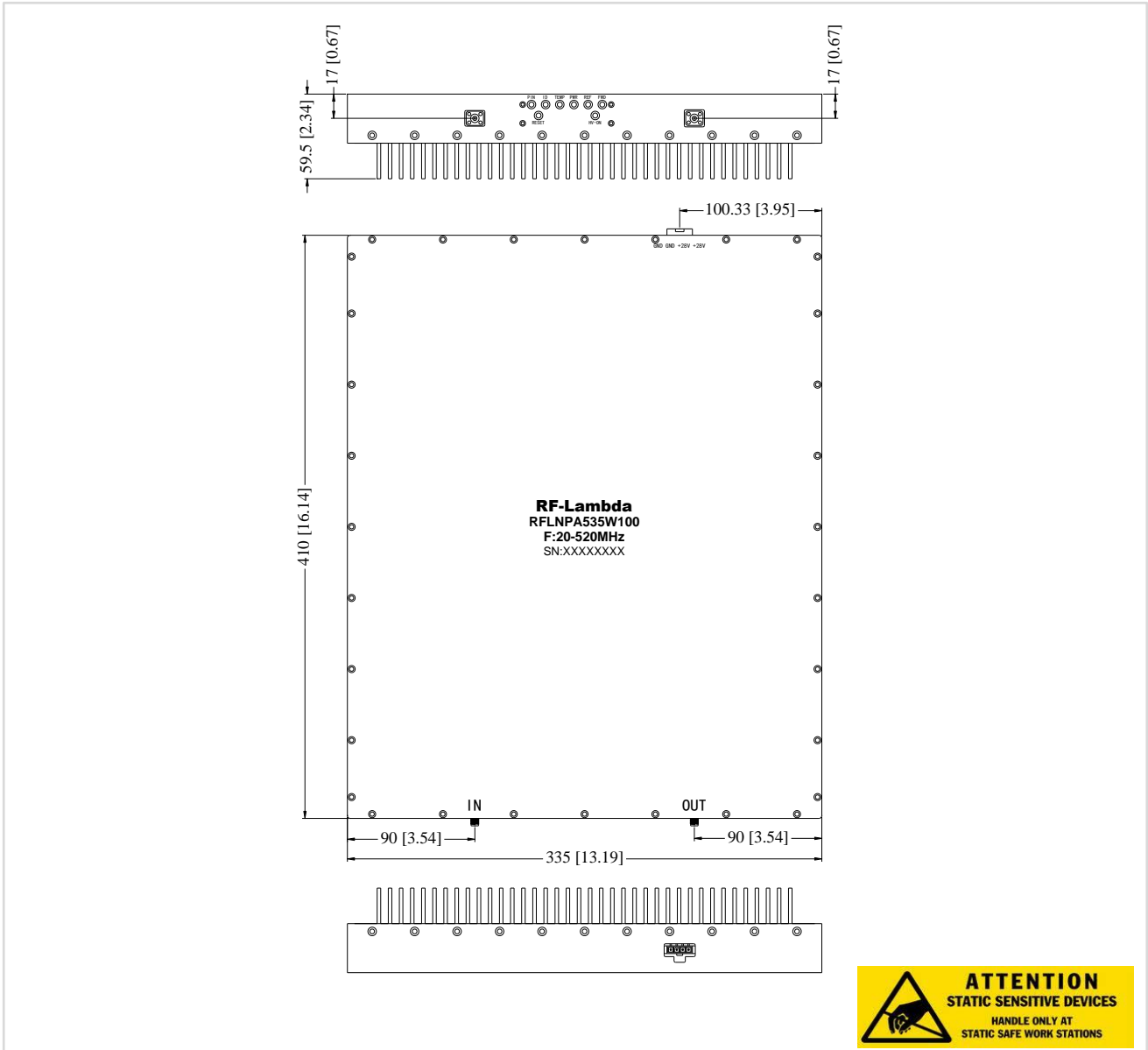
Frequency (MHz)	20		100		250		350		500	
IM3 dBc	-18.6	18.4	-18.7	-18.5	-17.5	-17.4	-17.4	-17.2	-17.4	-17.3

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Outline Drawing:

All Dimensions in mm [inches]



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