

Class “A” Linear RF Amplifier

- **Frequency Response: 20-500 MHz**
- **Linear Power: 20 watts class “A”**
- **Saturated Power: 50 watts**
- **Gain: 43 dB**



Description:

Designed for linear application in the 20 to 500 MHz range. This amplifier utilizes class “A” RF Power MOSFET devices that provide high gain, wide dynamic range and an excellent 3rd order intercept point. Suggested applications: multi-carrier, pulse, AM & FM modulation.

ELECTRICAL SPECIFICATION @ VDD= +28VDC: Temp.=25°C, 50Ω System

4907

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	20		500	MHz
Power Output Saturated	P _{sat}	50			Watt
Power Output P-1dB	P _{-1dB}	25	30		Watt
Gain	G	41	44		dB
Small Signal Gain Flatness	ΔG		±0.8	±1.3	dB
Input VSWR	S11		1.5:1	2.0:1	-
Harmonics @ 20 Watts	H			-28	dBc
Inter-modulation Point 2 Tones, 5W per tone @ 449 & 450 MHz	IP ₃		+54		dBm
Spurious Signals	dBc		-70	-60	dBc
Operating Voltage	Vdc	24	28	30	Volt
Operating Current @ 20 Watts / 50 Watts	Amps		6.8	8.5	Amp
Enable / Disable (shut down pin: gnd=off, open=on)	ms	Typical: 1ms OFF, 10ms ON.			ms

MECHANICAL SPECIFICATION

Parameter	Description	Limits	Units
Dimensions	9.75 x 7.30 x 6.5	Max	Inch
RF Connectors IN/OUT	SMA	-	-
DC Connectors	Filtered feed-through.	-	-
Cooling	4” Fan and Heat-sink.	-	-
Weight	8.5	Max	lb

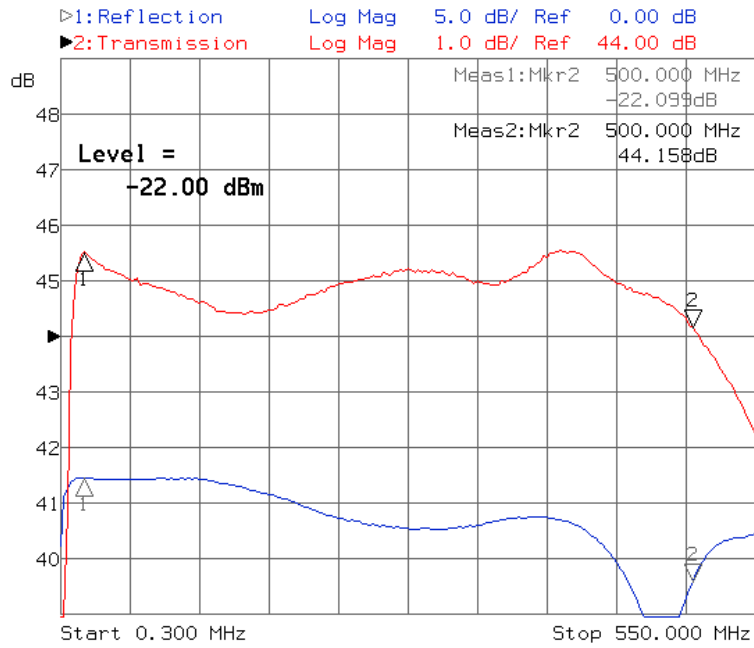
PROTECTIONS

Thermal Shutdown	Bi-metal switch set at 70°C with self reset.	Typ
Input Overdrive	Fold-back overdrive protection to 20 dBm.	Max
Load VSWR	Infinite up to 20 watts.	Max
Reverse Polarity Protection	Included	-

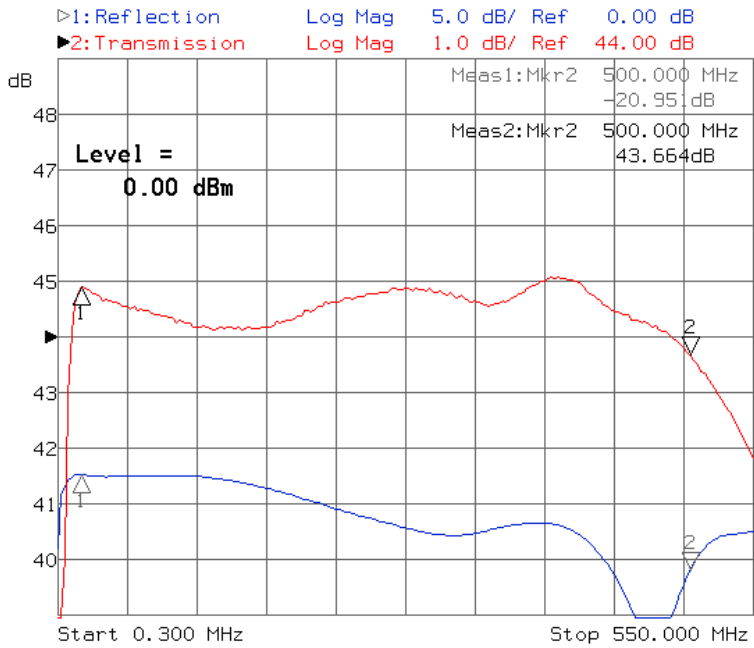
ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Units
Operating Case Temperature	T _c	0°C		50°C	°C
Storage Temperature	T _{stg}	-30°C		+100°C	°C
Relative humidity non-condensation	RH	95			%

Response Curve

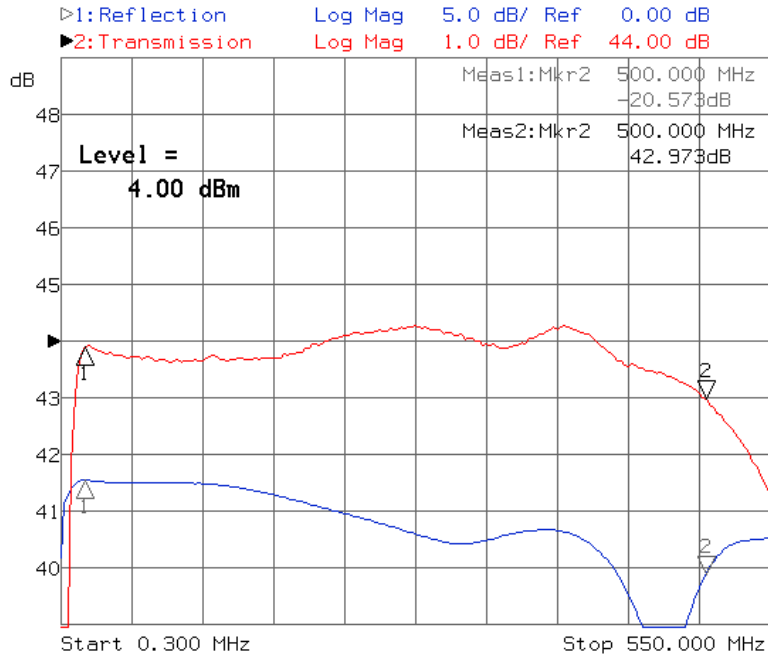


Small Signal Frequency Response Curve

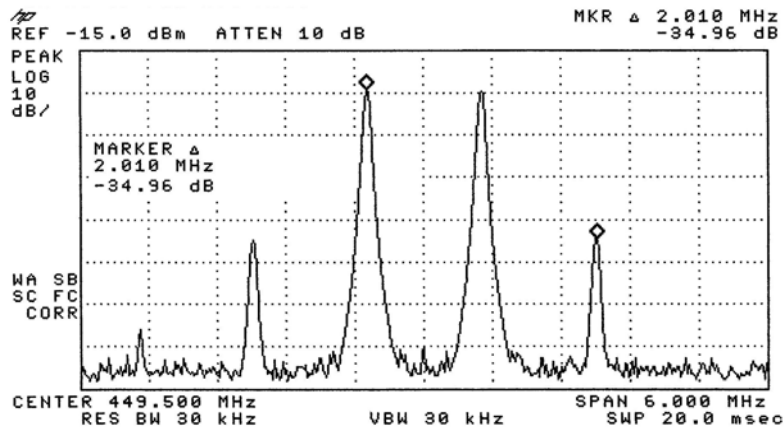


Frequency Response Curve @ 20 Watts Output

Response Curves

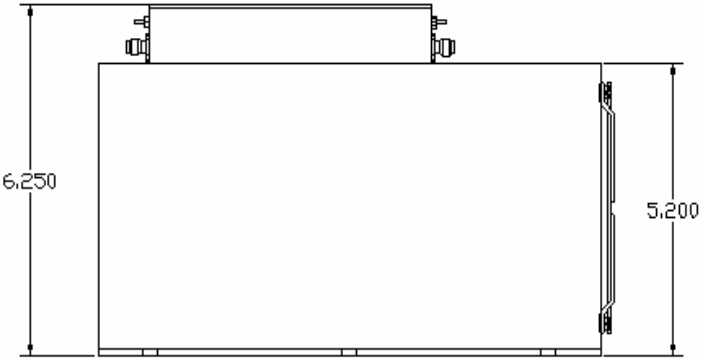
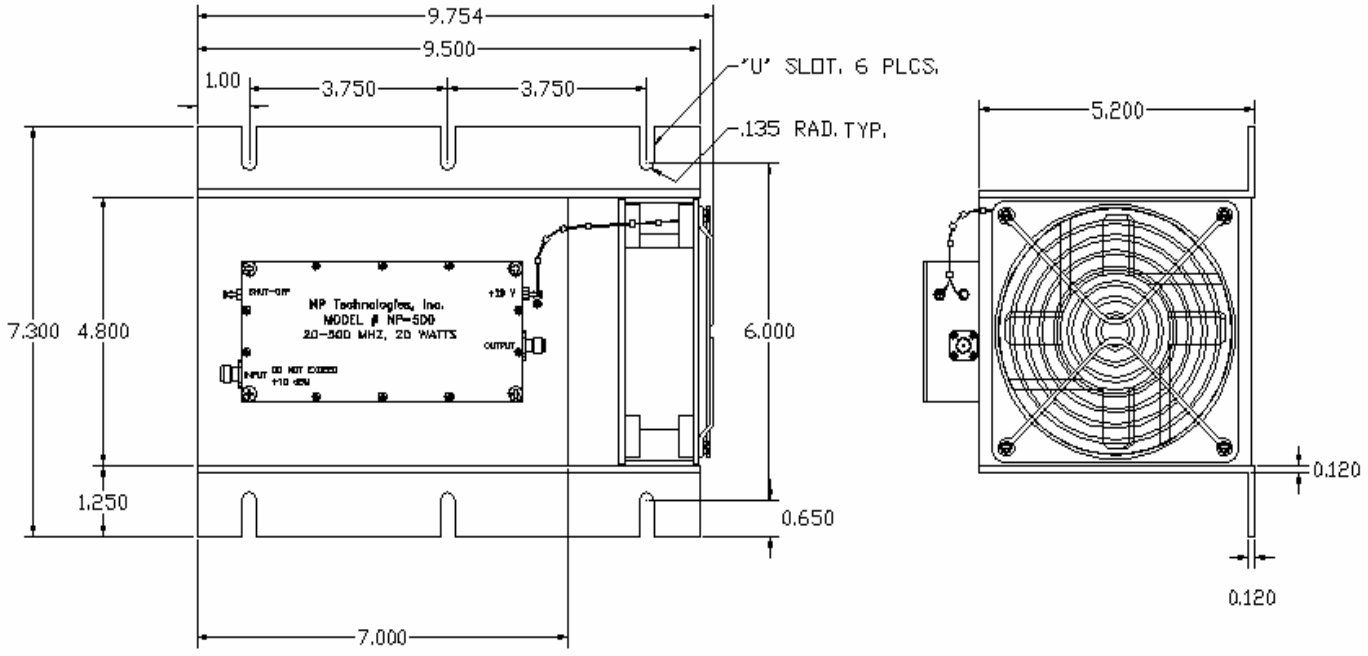


Frequency Response Curve @ 50 Watts Output



Two Tones 5 Watts Avg. Per Tone @ 449 & 450 MHz
IP3 = +54dBm

Outline Drawing



HEATSINK
AMPLIFIER MODULE
DETAIL