

## Class “A” Linear RF Amplifier

- **Frequency Response: 500-1000 MHz**
- **Linear Power: 20 watt**
- **Saturated Power: 50 watts**
- **Gain: 47 dB**



**Description:**

The NP-2501 is a class A 20 watt CW, rack mountable amplifier system designed to operate over the frequency range of 500 MHz to 1000 MHz with a gain of 47db. The NP-2501 operates from 95 to 255vac 47/63Hz, with RF input drive levels up to +2dBm. NP-2501 is a self contained unit consisting of the RF power amplifier, AC to DC power supply, back panel shut down “BNC” connector and cooling fans.

**ELECTRICAL SPECIFICATION @: Temp.=25°C, 50Ω System**

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	500		1000	MHz
Power Output Saturated	P <sub>sat</sub>		50		Watt
Power Output P-1dB	P <sub>-1dB</sub>	20			Watt
Gain	G	43	47		dB
Small Signal Gain Flatness	ΔG			±1	dB
Input VSWR	S11		1.45:1	1.7:1	-
Harmonics @ 20Watts Output	H		-40	-35	dBc
Inter-modulation Point 2 Tones, 5W per tone @ 950 & 951MHz	IP <sub>3</sub>		+54		dBm
Spurious Signals	dBc		-70	-60	dBc
Operating Voltage	Vac	95		255	Volt
Operating Current @ 100-120Vac	Amps		4.4		Amp
Enable / Disable (shut down pin: gnd=off, open=on)	ms	Typical: 1ms OFF, 10ms ON.			ms

**MECHANICAL SPECIFICATION**

Parameter	Description	Limits	Units
Dimensions	19 x 3.5 x 18.125	Max	Inch
RF Connectors IN/OUT	N	-	-
DC Connectors	N/A	-	-
Cooling	Heat-sink and fan	-	-
Weight	20	Typ	lb

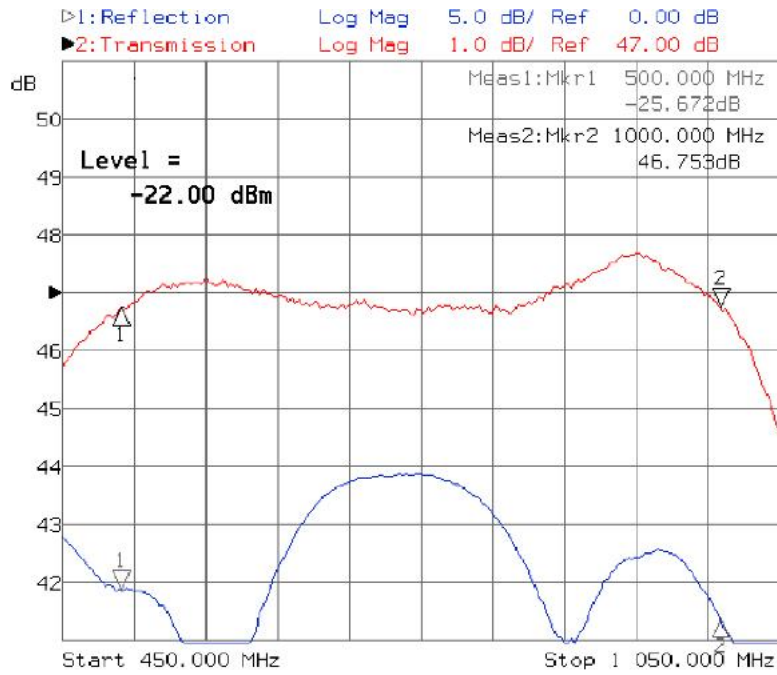
**PROTECTIONS**

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	N/A	-

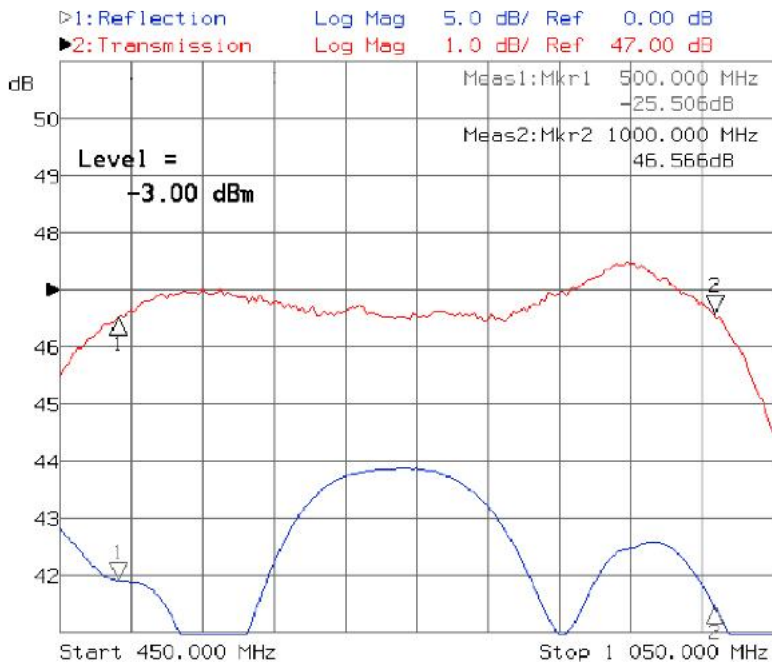
**ENVIRONMENTAL CHARACTERISTICS**

Parameter	Symbol	Min	Typ	Max	Units
Operating Case Temperature	T <sub>c</sub>	0°C		+50°C	°C
Storage Temperature	T <sub>stg</sub>	-30°C		+100°C	°C
Relative humidity non-condensation	RH	95			%

## Response Curve

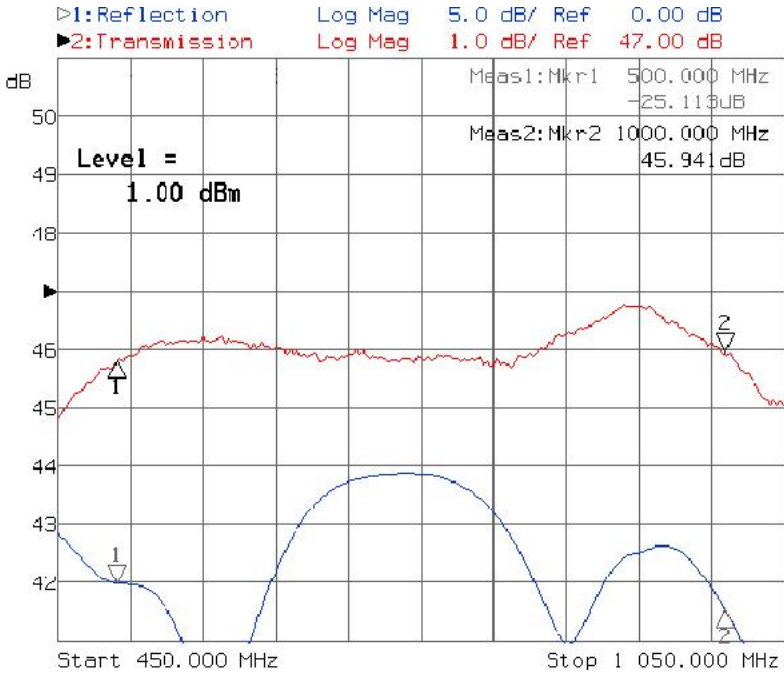


Small Signal Frequency Response Curve

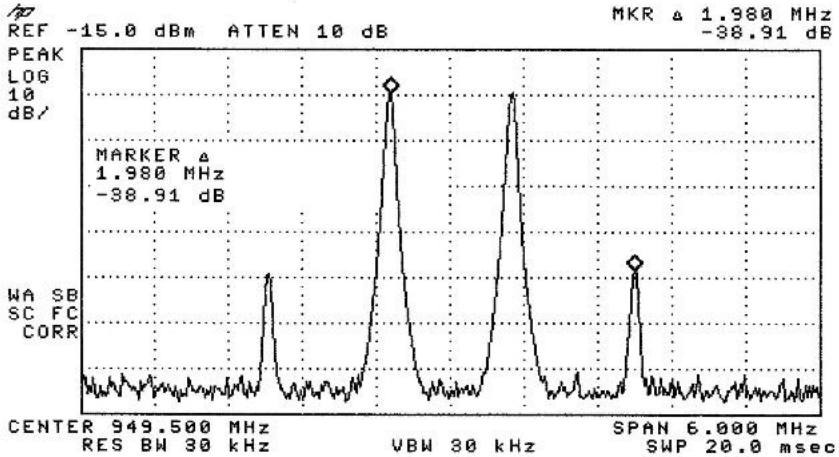


Frequency Response Curve @ 20 Watt Output

**Response Curve**



Frequency Response Curve @ 50 Watts Output



Two Tones 5 Watts Avg. Per Tone @ 949 & 950MHz  
IP3 = +56dBm

# Outline Drawing

