

## Pulse RF Amplifier

- **Frequency Response: 380-420 MHz**
- **Power: 20 watt PEP**
- **CW Power: -10watts**
- **Gain: 15 dB**



**Description:**

Designed for driving an acousto-optic (Bragg) cell. This amplifier utilizes RF Power MOSFET devices that provide high gain, wide dynamic range and great pulse reproduction with minimal pulse ringing. This amplifier can be cascaded with NP-512 for higher gain.

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

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	380		420	MHz
Power Output CW	P <sub>CW</sub>		10		Watt
Power Output PEP	P <sub>PEP</sub>		20		Watt
Gain	G	12	15		dB
Small Signal Gain Flatness	ΔG			±1.0	dB
Input VSWR	S11		1.5:1	2.0:1	-
Harmonics	H		-31	-28	dBc
Inter-modulation Point 2 Tones, 1W per tone @ 380 & 381 MHz	IP <sub>3</sub>		+52		dBm
Spurious Signals	dBc		-70	-60	dBc
Operating Voltage	V <sub>dc</sub>	24	28	30	Volt
Operating Current	Amps		3.2	4.0	Amp
Enable / Disable (shut down pin: gnd=off, open=on)	ms	Not Included			ms

**MECHANICAL SPECIFICATION**

Parameter	Description	Limits	Units
Dimensions	2.2 x 4 x 0.86	Max	Inch
RF Connectors IN/OUT	SMA	-	-
DC Connectors	Filtered feed-through	-	-
Cooling	Heat-sink not included	-	-
Weight		Max	lb

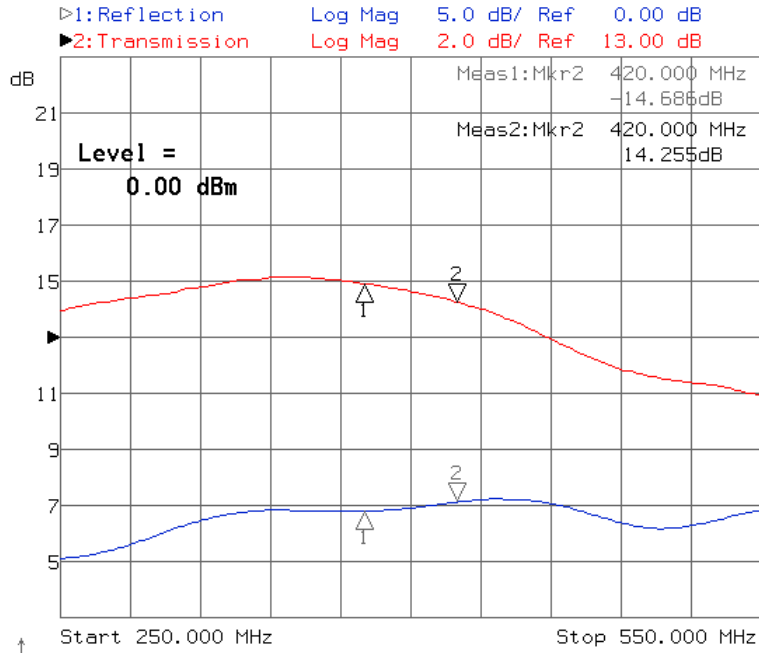
**PROTECTIONS**

Thermal Shutdown	70°C	Typ
Input Overdrive	+30 dBm PEP Max	Max
Load VSWR	Infinite up to 20 watts PEP	Max
Reverse Polarity Protection	None	-

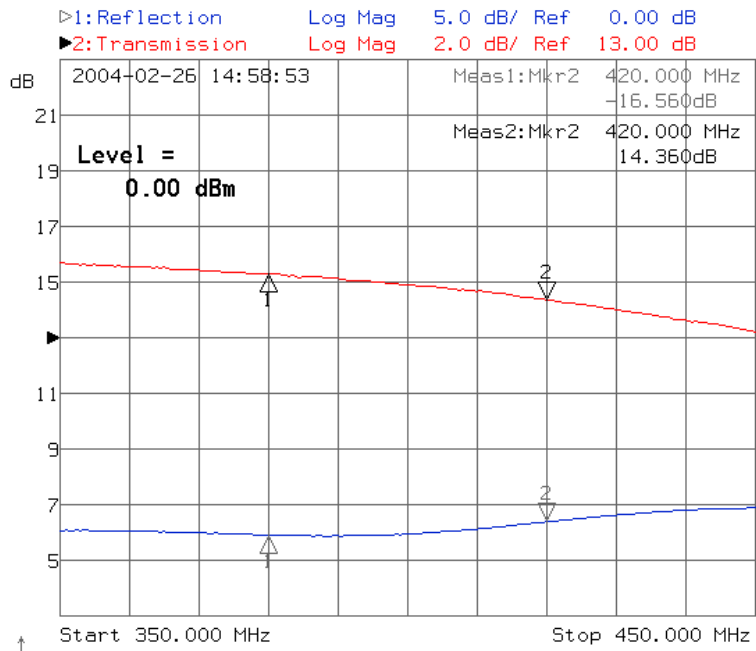
**ENVIRONMENTAL CHARACTERISTICS**

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

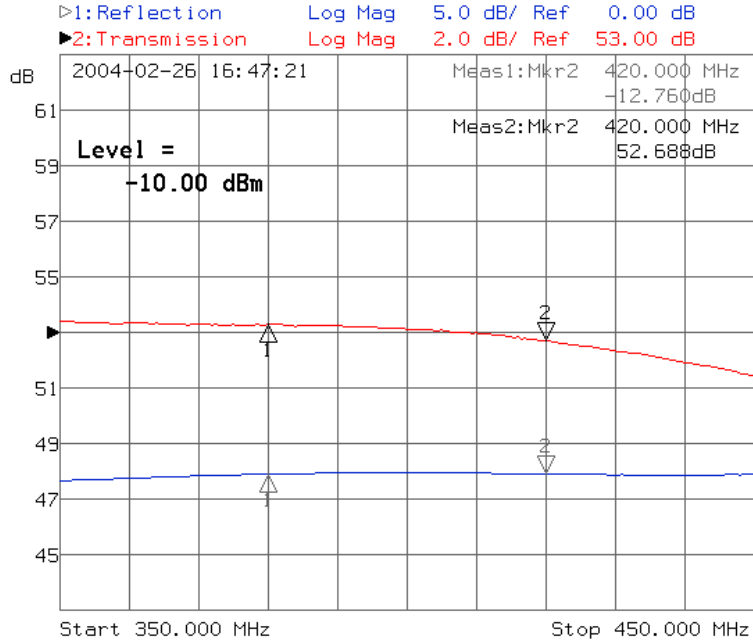


Broadband Small Signal Frequency Response Curve

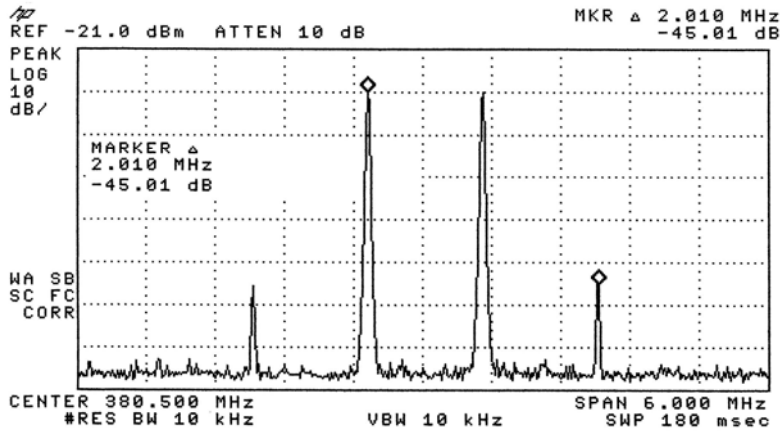


Small Signal Frequency Response Curve

## Response Curve



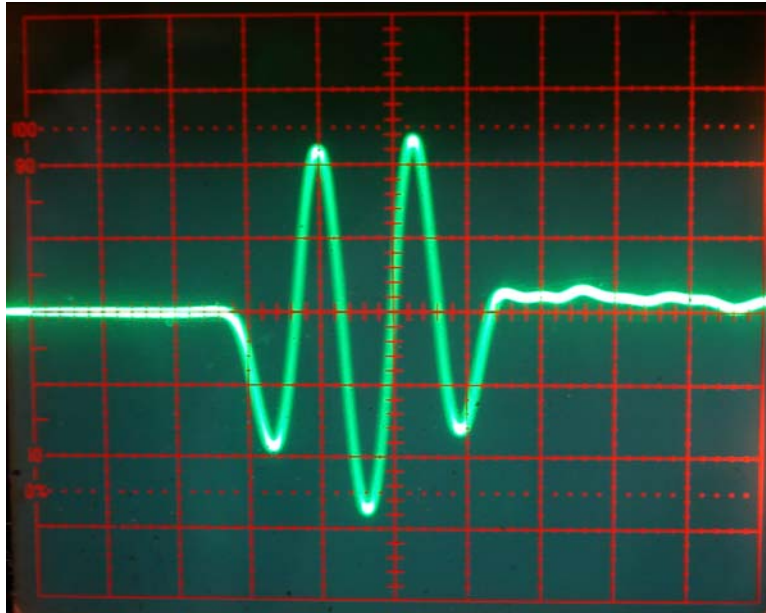
NP-512 Driving NP-513 Frequency Response Curve @ 20 Watts CW Output



Two Tones 1 Watt Avg. Per Tone @ 380 & 381MHz  
 IP3 = +52dBm



## Response Curve



Source: Coherent Cavity Dumper 7200



NP-513 @ 20 Watts PEP

**Outline Drawing**

