NP Technologies, Inc.

NP-513

Pulse RF Amplifier

- **Frequency Response: 380-420 MHz**
- **Power: 20 watt PEP**
- **CW Power: 10 watts**
- **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 0613

Parameter	Symbol	Min	Typ	Max	Unit
Operating Frequency	BW	380		420	MHz
Power Output CW	P_{CW}		10		Watt
Power Output PEP	P_{PEP}		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 @ 10 Watts CW	H		-31	-28	dBc
Inter-modulation Point 2 Tones, 1W per tone @ 380 & 381 MHz	IP_3		+52		dBm
Spurious Signals	dBc		-70	-60	dBc
Operating Voltage	Vdc	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	1	Max	lb

PROTECTIONS

Thermal Shutdown	80°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	Tc	0°C		+70°C	°C
Storage Temperature	Tstg	-30°C		+100°C	°C
Relative humidity non-condensation	RH	95			%

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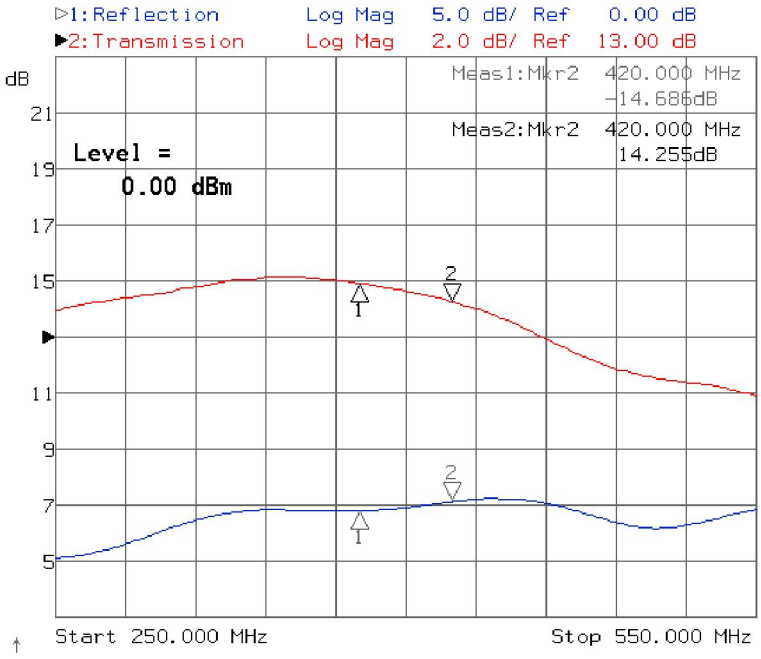
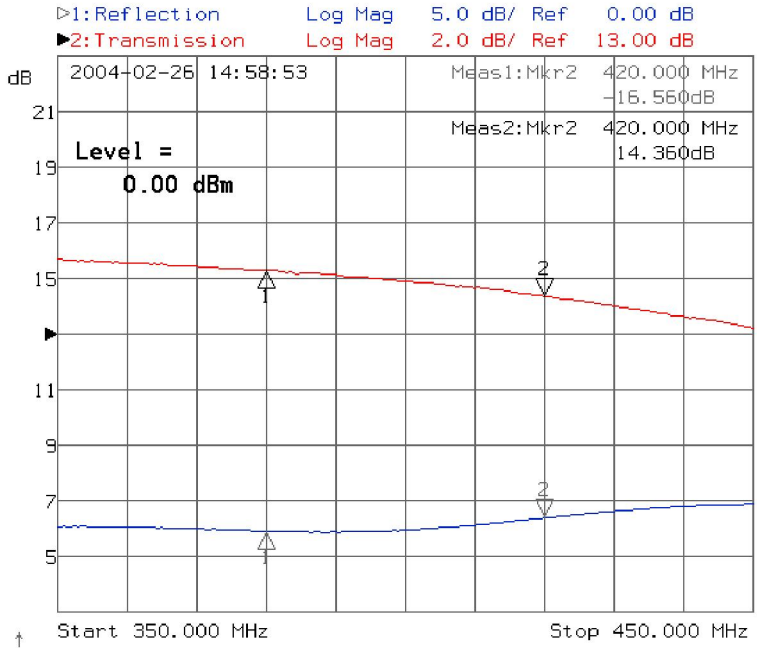
Phone: (805) 376-9299
Fax: (805) 376-9288

Response Curve



Broadband Small Signal Frequency Response Curve



Small Signal Frequency Response Curve

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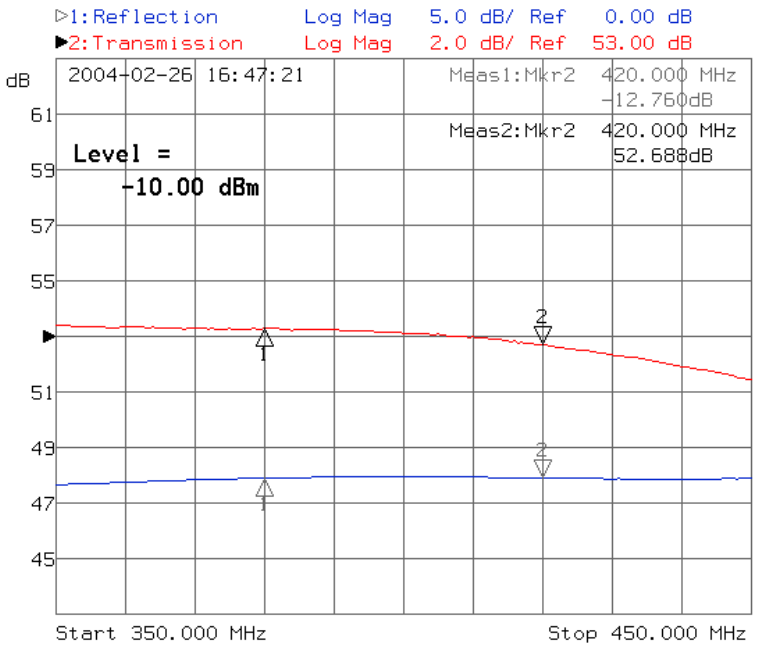
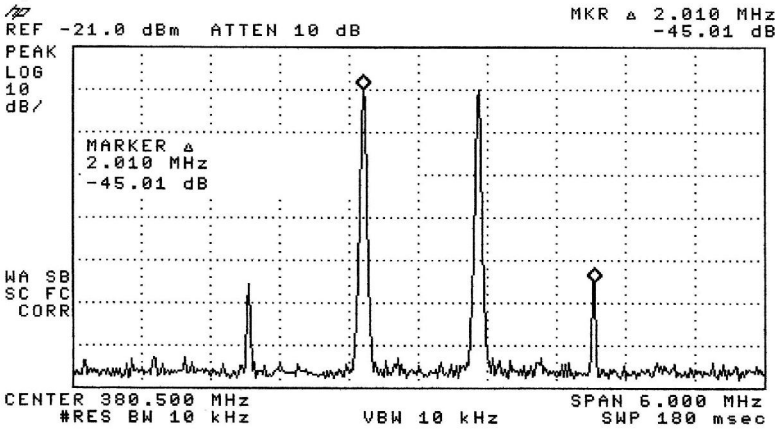
Response Curve



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



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

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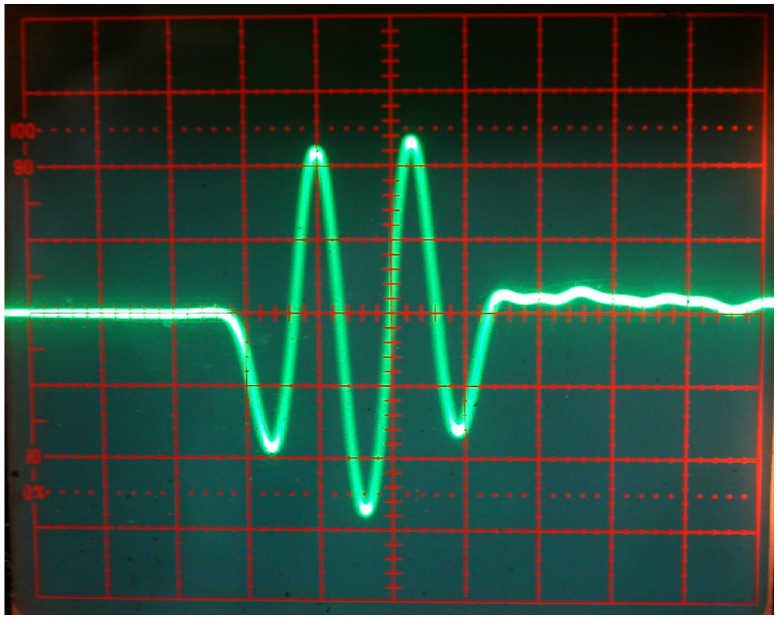
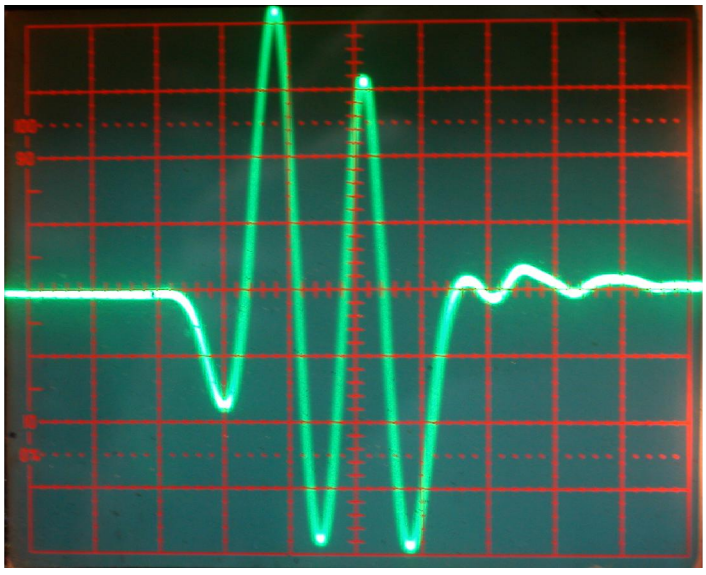
Response Curve



Source: Coherent Cavity Dumper 7200



NP-513 @ 20 Watts PEP

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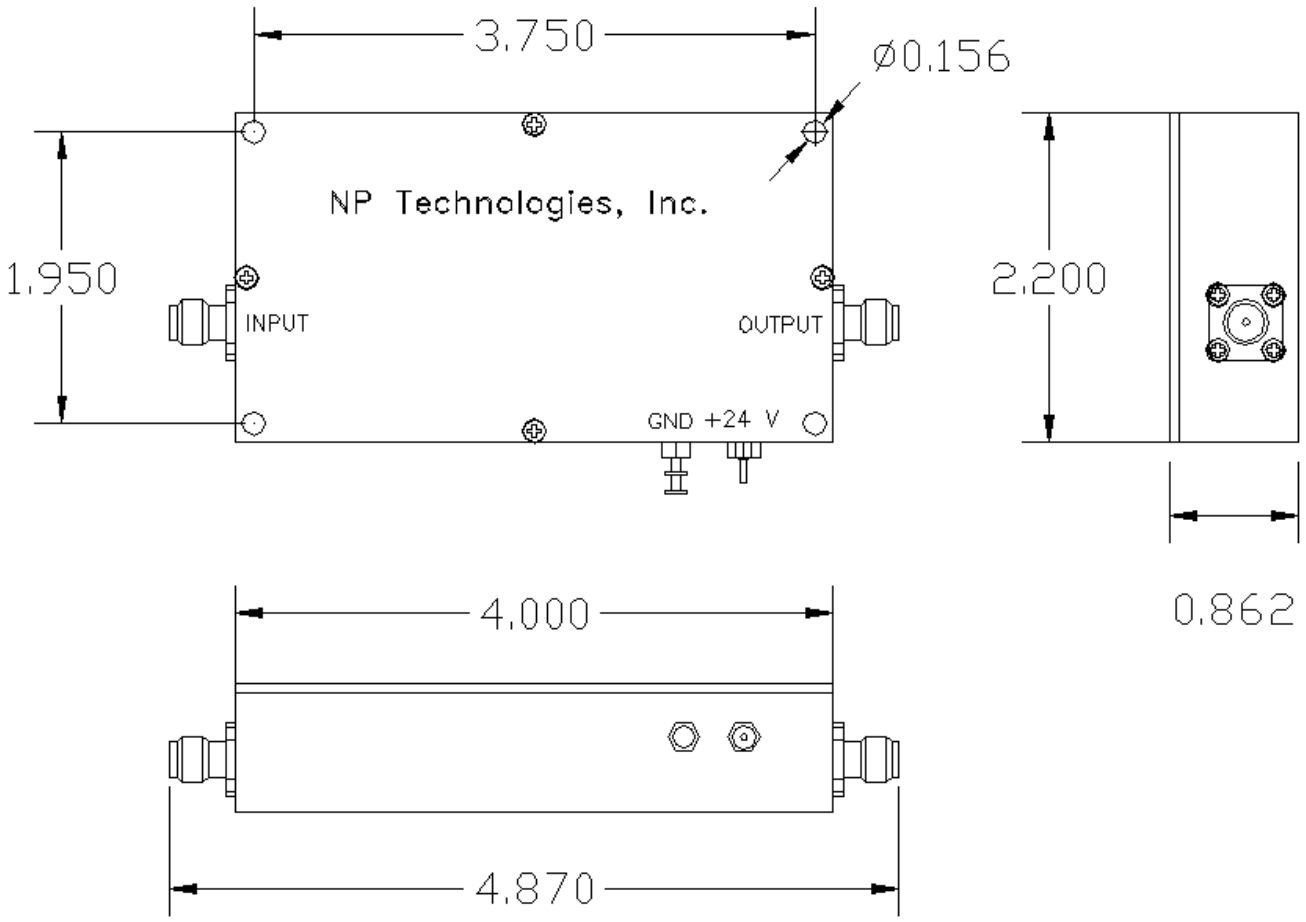
Outline Drawing



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