RADITEK INC.

RoHS COMPLIANT

code-e7

High Power Linear Amplifier, Ultra Broadband
1-1000MHz, 32dB Gain, SMA Female Connectors, 4 Watts

RAMP-1-1000M-32d-Sf-4W-e7

This amplifier module utilizes MOSFET power devices that provide high gain, wide dynamic range and good linearity. Exceptional performance is achieved by employing advanced broadband RF matching networks and combining techniques, EMI/RFI filters, machined housings and qualified components..

- ►Solid-state Class AB linear design.
- ►Compact and lightweight.
- ►Suitable for most modulation types.
- ►Highly rugged and reliable.
- ►Instantaneous ultra broadband.
- ►M&C Monitor and Control.
- ►50 ohm input and output impedance.

ELECTRICAL SPECIFICATIONS @ +28 VDC, 25°C, 50 Ω System

Parameter	Symbol	Min	Typ	Max	Units
Operating Frequency	BW	1		1000	MHz
Power Output CW	PSAT	4	5		Watt
Power Output @ 1 dB Gain Compression Point	P1dB	3			Watt
Gain @ P1 dB Gain Compression Point	G1dB	32			dB
Input Power for Rated Pout	PIN		4		dBm
Small Signal Gain Flatness	ΔG			±1.0	dB
VVA Adjustment Range	VVA		25		dB
Input Return Loss	S11			-10	dB
Noise Figure	NF		7	10	dB
Harmonics @ rated P1 dB Gain Compression Point	H		-25		dBc
Third Order Intercept Point 2-tones, POUT =26 dBm/tone, Δ = 100 KHz	IP3		+43		dBm
Spurious Signals	Spur		-70	-60	dBc
Operating Voltage	VDC	26	28	30	Volt
Quiescent Current	IDQ		1.0		Amp
Current Consumption @ rated POUT	IDD			1.5	Amp

ENVIRONMENTAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Units
Operating Case Temperature	Tc	0		+75	°C
Storage Temperature	Tstg	-40		+85	°C
Relative humidity (non-condensing)	RH			95	%
Altitude (MIL-STD-810F Method 500.4)	ALT	10,000		30,000	Feet
Shock / Vibration (MIL-STD-810F Method 516.5)	SH / VI		Airborne		

MECHANICAL SPECIFICATIONS

Parameter	Value	Units
Dimensions (excluding heatsink)	3.5 x 2.5 x 1.1	Inch (max)
Weight without HS / with HS	1.0 / 2.5	lb. (max)
RF Connectors In/Out	SMA female	
DC / Interface Connector	Dsub, 9-Pins, Male	
Cooling	External Heatsink	

WORLD HQ: 1702L Meridian Ave. Suite 127, San Jose, Ca 95125, U.S.A.
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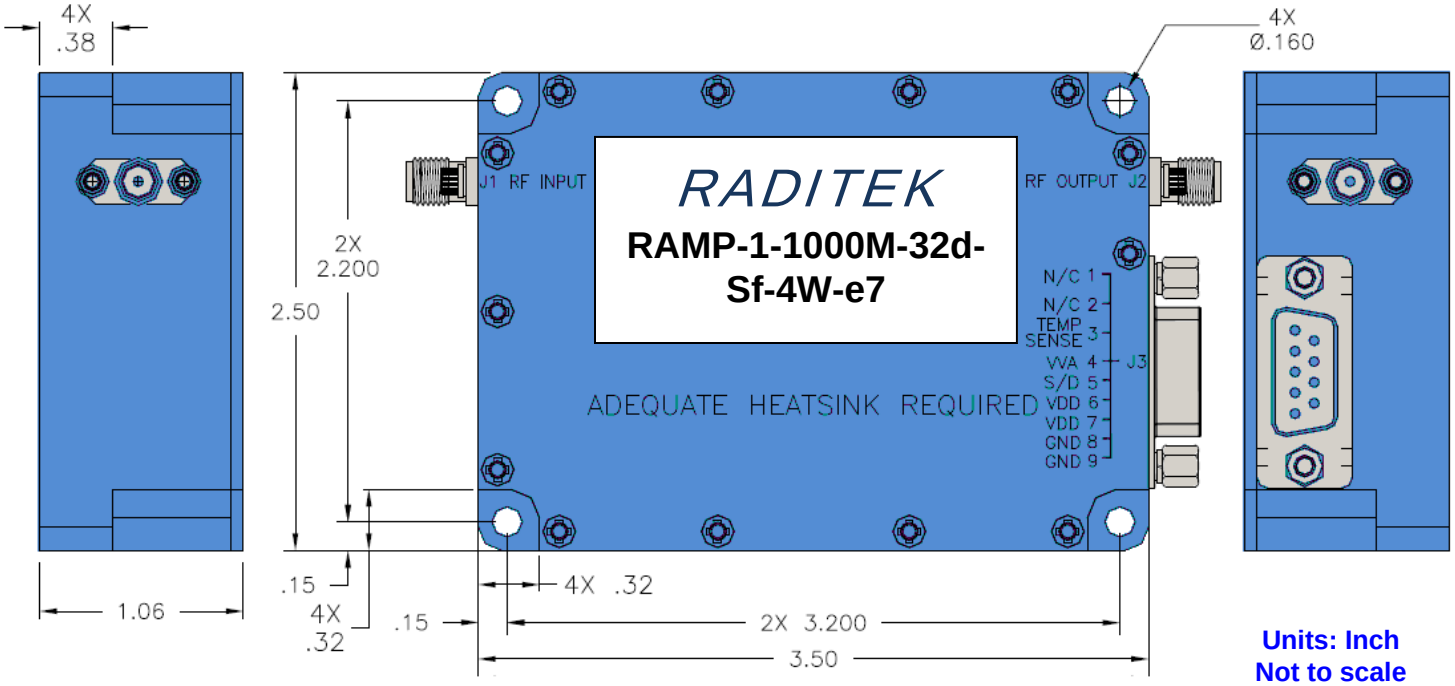
PROTECTIONS

Parameter	Value	Units
Input Overdrive	+10	dBm Max
Load VSWR	∞ @ all load phase & amplitude	Nom
Thermal Overload	85°C shutdown	Max

INTERFACE CONNECTOR – D-Sub, 9-Pin

Pin #	Description	Specifications
1	N/C	Reserved
2	N/C	Reserved
3	Temperature Sense	Analog voltage relative to Module's Temperature @ 10 mV/°C
		Continuous Analog 0 – 5 V_{DC} levels
4	VVA	Maximum Gain: 0 V_{DC}
		Minimum Gain: 5 V_{DC}
5	Shutdown	Amplifier Enable: TTL "Low" or Open Amplifier Disable: TTL "High" (Default)
6	VDD	+28 V ±2 V_{DC}
7	VDD	+28 V ±2 V_{DC}

Adequate Heat Sink Required
OUTLINE DRAWING



Units: Inch
Not to scale

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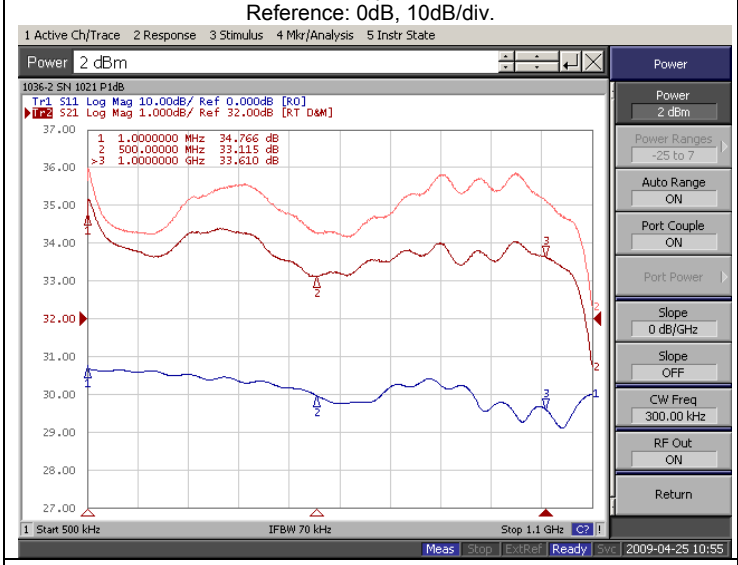
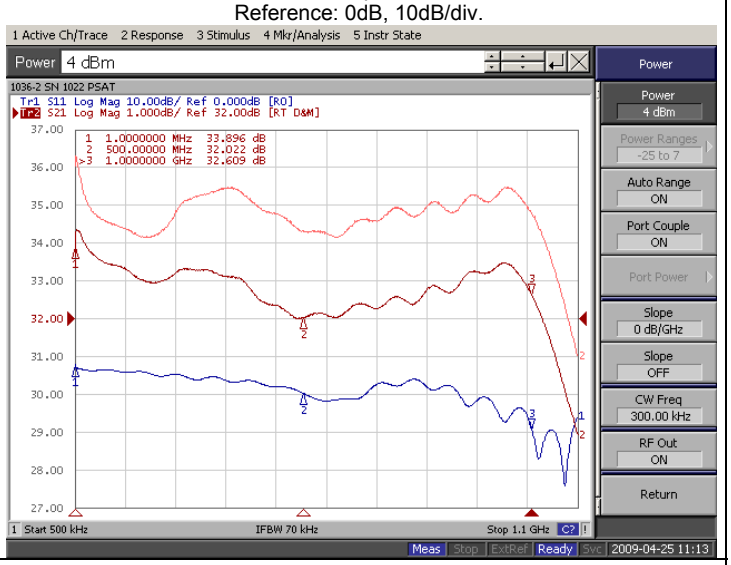
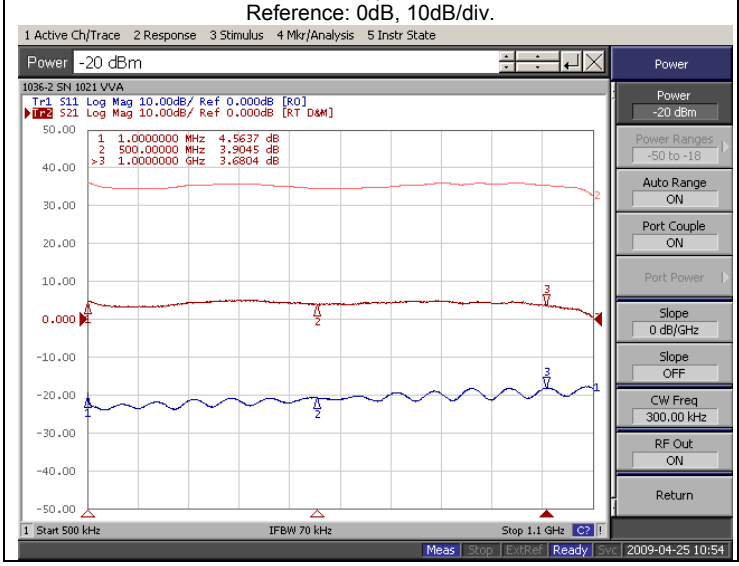
Plots 1 - Small Signal and P_{1dB} Gain
Top Curve: Small Signal Gain @ P_{IN} = -20dBm
Middle Curve: Power Gain @ P_{1dB}, P_{IN} = 2.0dBm
Reference: 32dB, 1dB/div.
Bottom Curve: Input Return Loss
Reference: 0dB, 10dB/div.



Plot 2 - Small Signal and P_{SAT}
Top Curve: Small Signal Gain @ P_{IN} = -20dBm
Middle Curve: P_{SAT} @ P_{IN} = +4.0dBm
Reference: 32dB, 1dB/div.
Bottom Curve: Input Return Loss
Reference: 0dB, 10dB/div.



Plot 3 - VVA Adjustment Range
Top Curve: Max. Gain @ VVA = 0.0V, P_{IN} = -20dBm
Middle Curve: Max. Gain @ VVA = 5.0V
Reference: 0.0dB, 10dB/div.
Bottom Curve: Input Return Loss
Reference: 0dB, 10dB/div.



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