Model SM002052-50LD

20-520MHz
100 Watt Power Amplifier
FOR UHF APPLICATIONS

The **SM002052-50LD** is a solid state MOSFET amplifier designed for various wideband and UHF radio applications. This unit operates from 20 to 520 MHz, provides 50 dB of gain with ± 1.0 dB flatness across the band, and has a P1dB of +50 dBm. The compact size and high reliability of this module make it suitable for use in both commercial and military applications.

Features

- Single Power Supply
- Voltage Variable Attenuator
- Thermal Protection circuitry
- Current Monitoring
- Temperature Compensation

Options

- Current Monitor
- Level Control
- Logic On/Off Control
- Thermal Detector

Parameter		Specification			
		Min	Typ	Max	Unit
Frequency Range		20		520	MHz
Pout (P1dB)			50		dBm
Pout (P3dB)		50	51		dBm
Third Order Intercept Point			56		dBm
Linear Gain		50			dB
Gain Flatness over Full Band			± 1.0	± 1.5	dB
Gain Change over Temperature				± 1.0	dB
Harmonics at 47 dBm	2nd		-35		dBc
	3rd		-25		
Noise figure				10	dB
Input/Output Return Loss		-9	-10		dB
DC Input Voltage		26	28	30	V
DC Input Current (P3dB)			12		A
Mechanical Dimensions		6.4 x 3.5 x 1.1			in.
Weight		21			oz.
Operating Temperature (Ambient)		-40	-	+60	^{o} C
Operating Altitude				30,000	Ft

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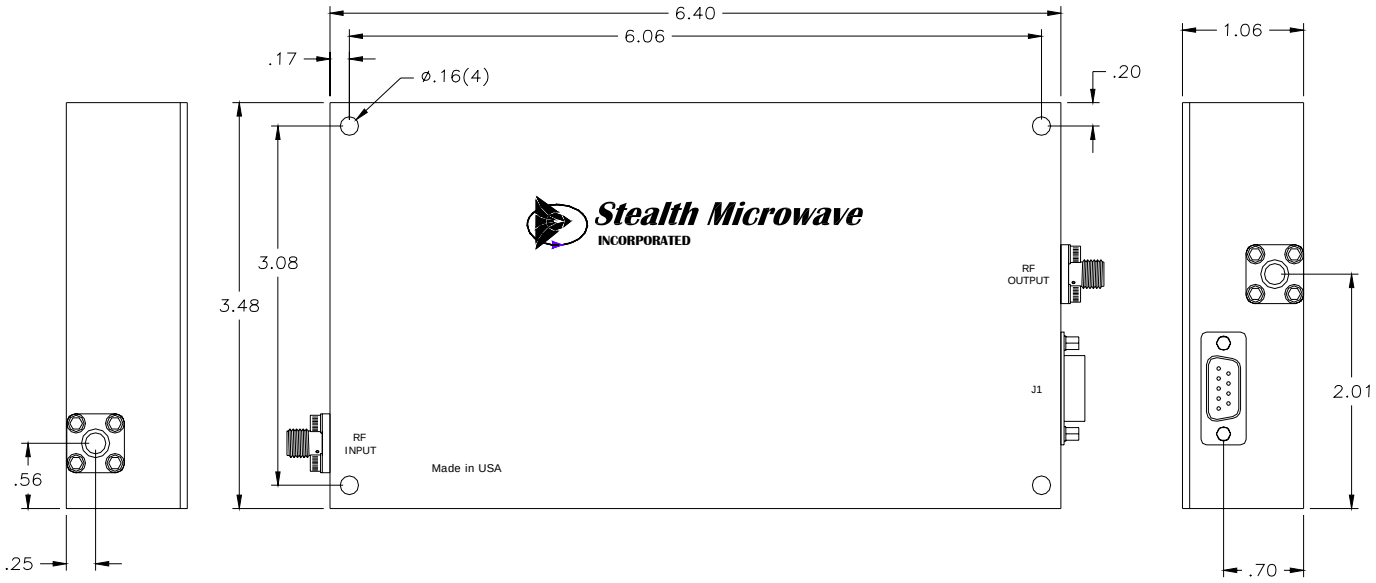
DIMENSIONS IN INCHES



Pin	Description	Values
RF INPUT	Input Connector (SMA Female)	+5 dBm (max.)
RF OUTPUT	Output Connector (SMA Female)	+50dBm @ P1dB
J1 – 9 Pin D Sub Connector		
1	Not Used	--
2	Current Monitor	50mV/100mA response relative to I_D
3	Temp Monitor	10mV/degC response relative to case temperature
4	Attenuator Control	0V – no att., 5V – max att. (~25 – 30 dB)
5	TTL On/Off	0 Volts = Off, + 5 Volts = On
6 – 7	+28V	--
8 – 9	GND	--

Specifications subject to change without notice.

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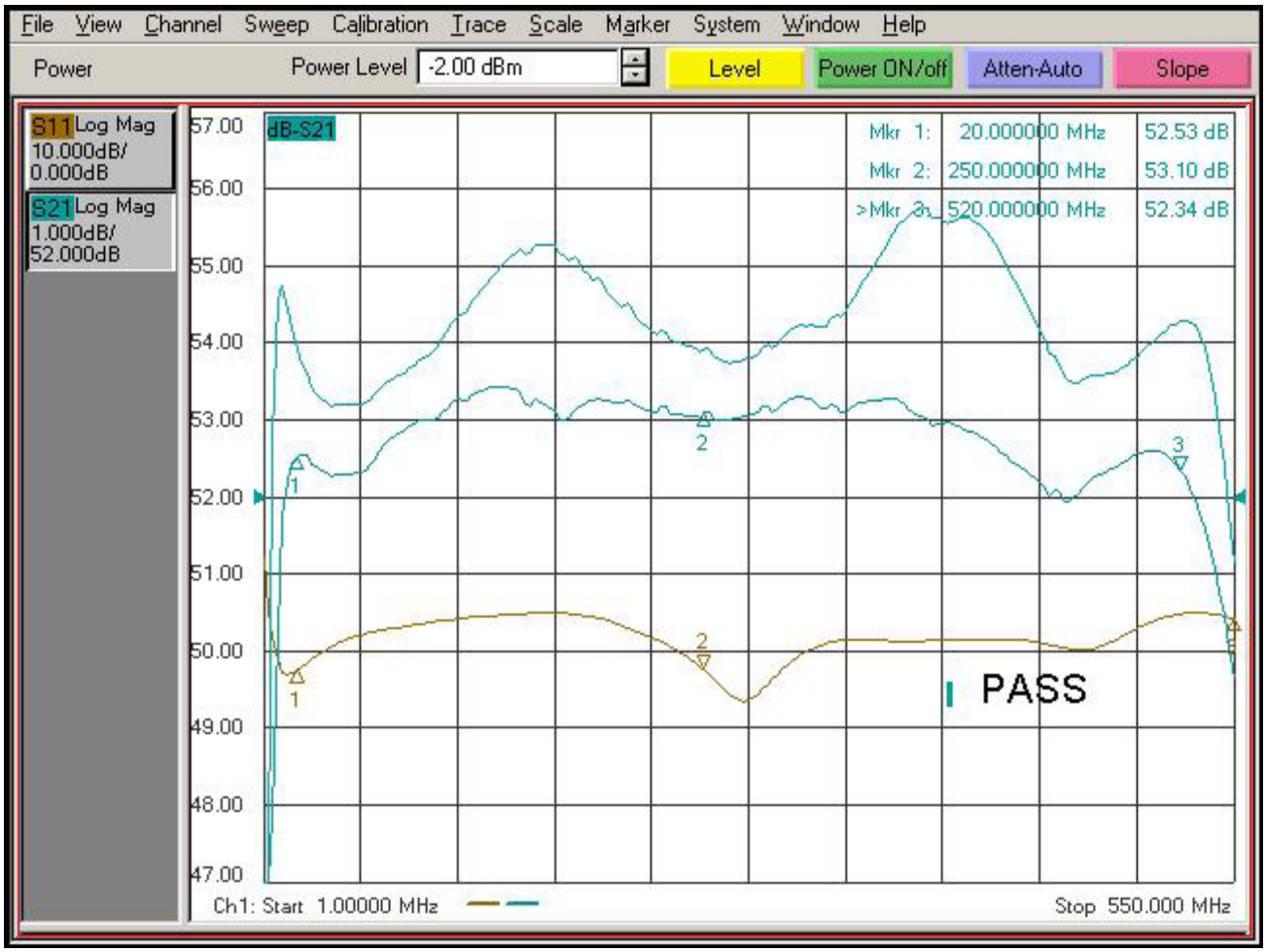
PERFORMANCE PLOTS

Plot 1-Small signal gain and P1dB
Top Curve: Small Signal gain @ Pin = -20dBm
Middle Curve: Power Gain, Pin = -2.0dBm
Reference: 52dB, 1dB/Div.
Bottom Curve: Input VSWR
Reference: 0dB, 10dB/Div.



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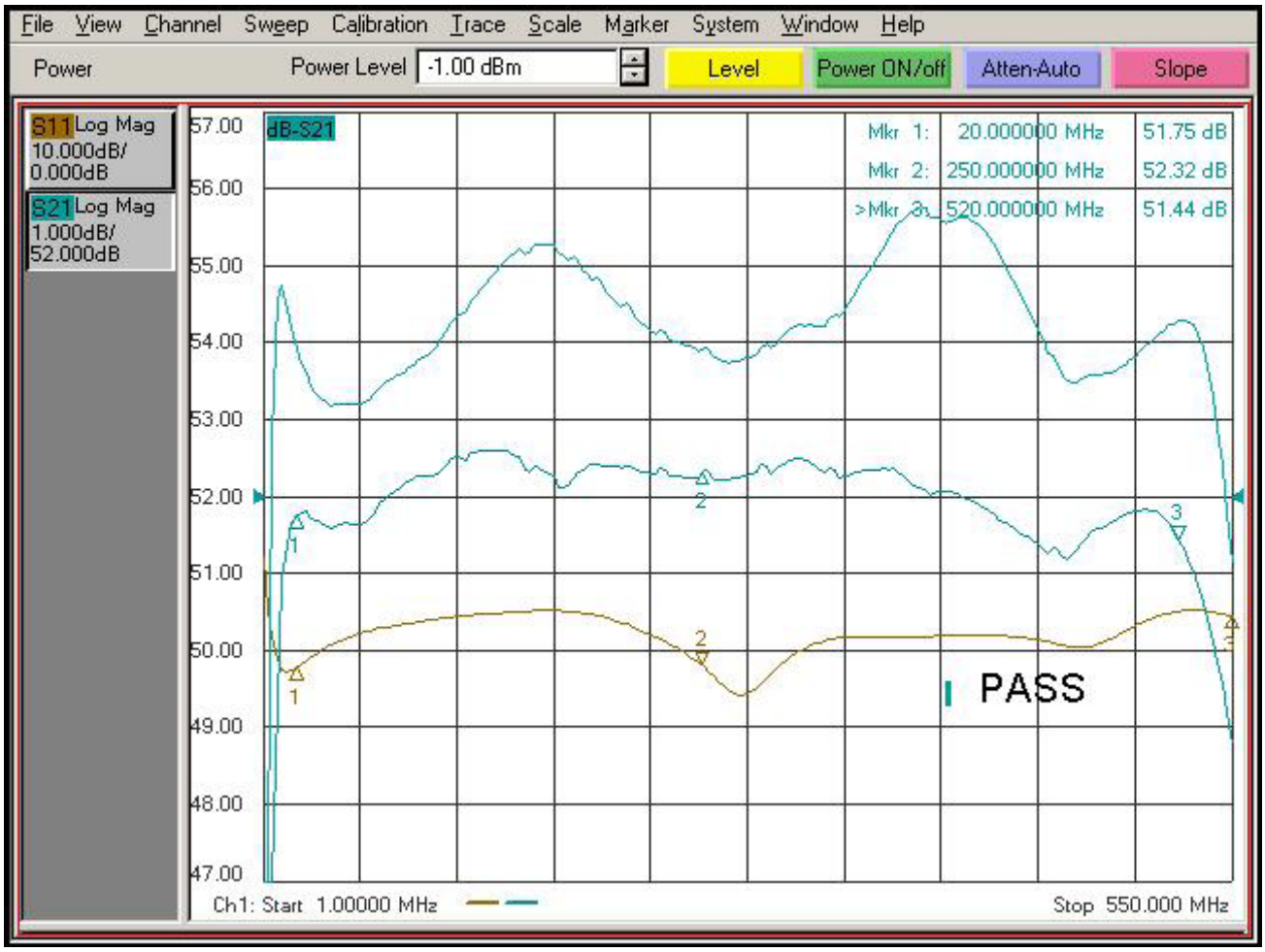
Plot 2-Small signal gain and Psat
Top Curve: Small Signal gain @ Pin = -20dBm
Middle Curve: Output Power @ Pin = -1.0dBm
Reference: 52dB, 1dB/Div.
Bottom Curve: Input VSWR
Reference: 0dB, 10dB/Div.



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