

The **SM002010-44LD** is a solid state MOSFET amplifier designed for various wideband and UHF radio applications. This unit operates from 20 to 1000 MHz, provides 50 dB of gain with ± 1.0 dB flatness across the band, and has a P1dB of +44 dBm. The compact size and high reliability of this module make it suitable for use in both commercial and military applications.



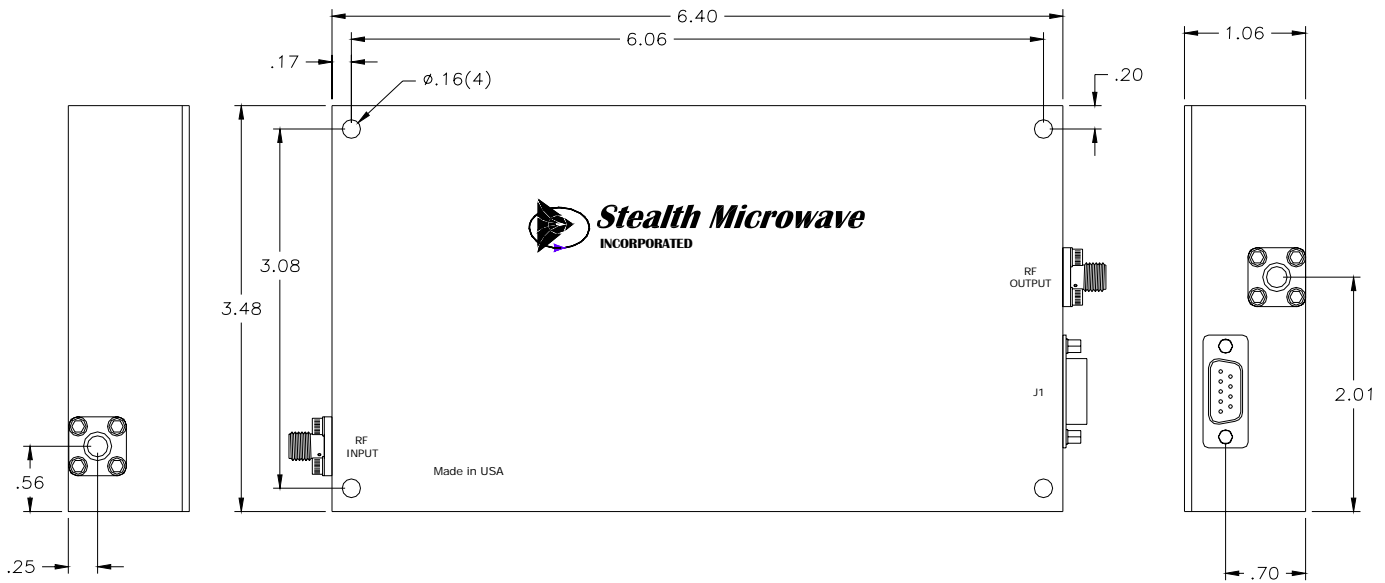
Features

- 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 | | 1000 | MHz |
| Pout (P1dB) | | 41 | | dBm |
| Pout (P3dB) | 44 | 45 | | dBm |
| Third Order Intercept Point | | +48 | | dBm |
| Linear Gain | 47 | 50 | | dB |
| Gain Flatness over Full Band | | ± 1.0 | ± 1.5 | dB |
| Gain Change over Temperature | | | ± 1.0 | dB |
| Input/Output Return Loss | 1.8:1 | 2:1 | | dB |
| DC Input Voltage | 26 | 28 | 30 | V |
| DC Input Current (P3dB) | | 6.0 | 6.5 | Amp |
| Mechanical Dimensions | 6.4 x 3.5 x 1.1 | | | in. |
| Operating Temperature (Ambient) | -40 | - | +60 | $^{\circ}$ C |
| Operating Altitude | | | 30,000 | Ft |

DIMENSIONS IN INCHES


| Pin | Description | Values |
|----------------------------|--------------------------------|---|
| RF INPUT | Input Connector (SMA Female) | 0 dBm (max.) |
| RF OUTPUT | Output Connector (SMA Female) | +44dBm @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.

PERFORMANCE PLOTS

Plot 1-Small signal gain and P1dB

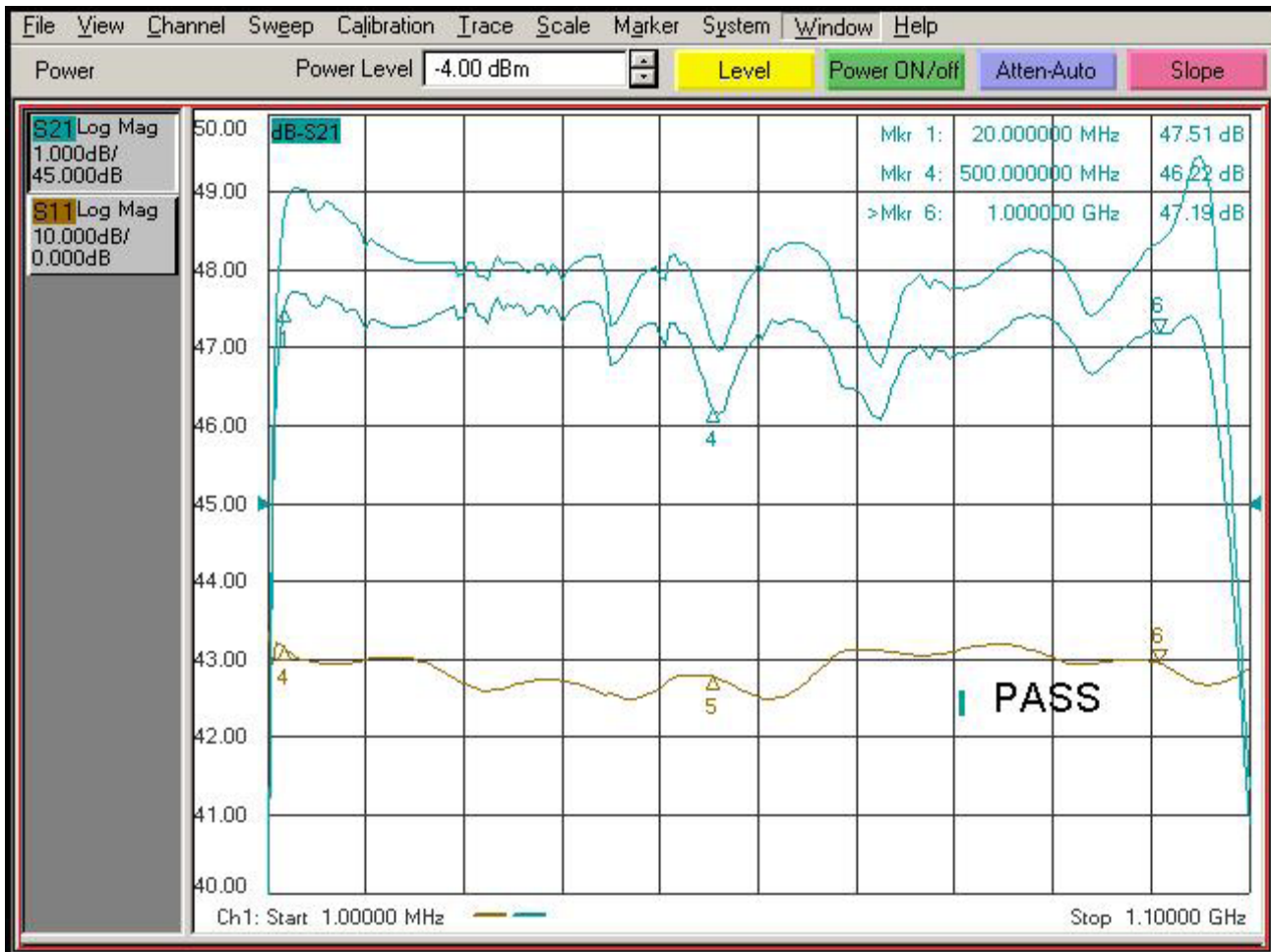
Top Curve: Small Signal gain @ Pin = -20dBm

Middle Curve: Power Gain, Pin = -4.0dBm

Reference: 45dB, 1dB/Div.

Bottom Curve: Input VSWR

Reference: 0dB, 10dB/Div.



Plot 2-Small signal gain and Psat
 Top Curve: Small Signal gain @ Pin = -20dBm
 Middle Curve: Output Power @ Pin = -1.0dBm
 Reference: 45dB, 1dB/Div.
 Bottom Curve: Input VSWR
 Reference: 0dB, 10dB/Div.

