

The **SM4450-43L** is a 4.4 to 5.0 GHz solid state GaAs FET amplifier designed for various commercial and military applications. The amplifier provides 55 dB of linear gain with a P1dB of +43 dBm. Our proprietary pre-distortion technique improves the OIP3 better than 6 dB. The unit provides ultra-linear performance for rigorous system requirements.

### Features

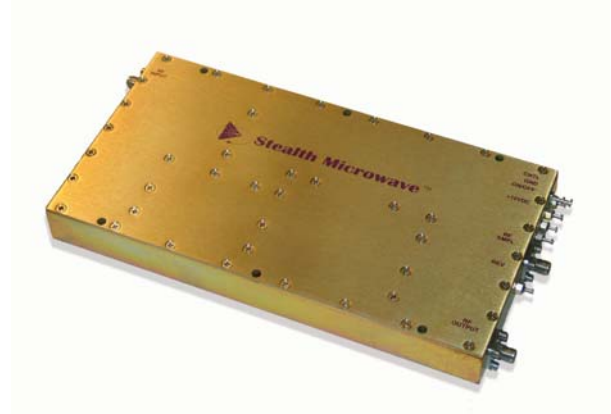
- Integrated Linearizer
- Single Power Supply
- Over Voltage Protection
- Thermal Protection with Auto Reset
- Temperature Compensation

### Options

- Forward/Reverse Power Detection
- RF Sampling Port
- Fan
- Pulse Control for TDD applications with <math><1\mu\text{s}</math> rise/fall time
- Logic On/Off Control
- Integral Heatsink

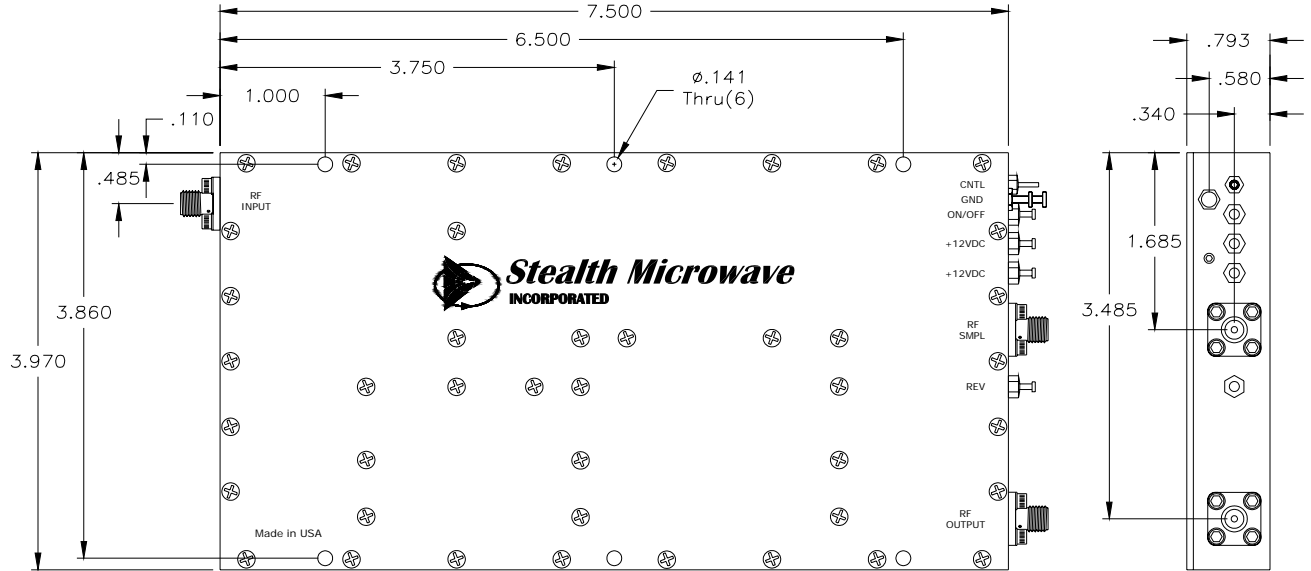
### Configurations

- Module (Standard)
- Laboratory Unit
- 19" Rack Mount

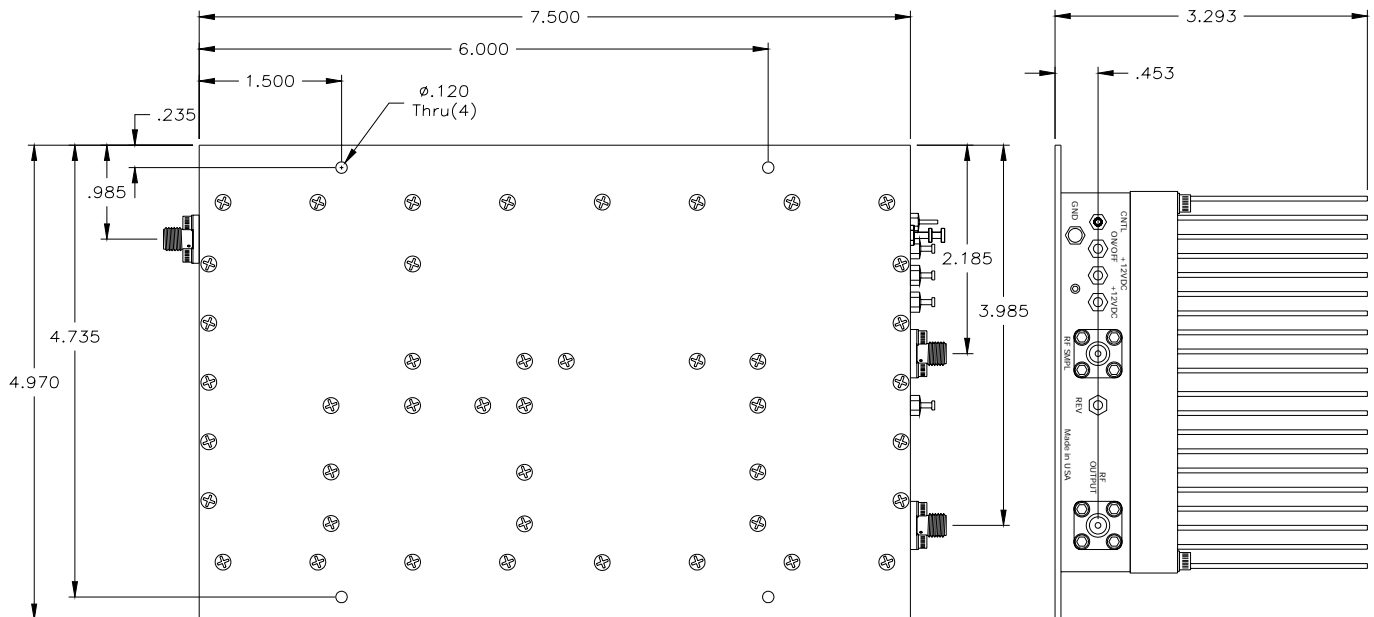


Parameter	Specification
Frequency Range	4.40 – 5.00 GHz
Pout (P1dB)	+43 dBm min. +43.5 dBm typ. +44 dBm (Psat)
Output Third Order Intercept Point (OIP3)	+62 dBm
Linear Gain	55 dB $\pm$ 1 dB
Gain Flatness (over full band)	$\pm$ .5 dB
Gain Change (over temperature)	$\pm$ .5 dB
Input/Output Return Loss	-16 dB / -16dB
DC Input Voltage	+12 Volts
DC Input Current	9.2 Amperes (operational)
Mechanical Dimensions (Without Heatsink)	7.50 x 3.97 x .79
RF Connectors	SMA Female
Operating Temperature (Baseplate)	0° to +55°C
Operating Humidity	95% Non-condensing
Operating Altitude	Up to 10,000 feet above Sea Level

**DIMENSIONS IN INCHES**



**HEATSINK OPTION**



Pin	Description	Values
RF INPUT	Input Connector ( SMA Female )	- 7 dBm (max.)
RF OUTPUT	Output Connector (SMA Female)	+ 43 dBm @ P1dB (min.)
RF SAMPLE	RF Sample Port (SMA Female )	30 dB
GND	Ground Turret	---
FWD	Forward Power Detector	+ 39 dBm Output Power $\approx$ + 5.0 Volts
REV	Reverse Power Detector	$\infty$ VSWR @ + 39 dBm $\approx$ + 4.0 Volts
+12VDC	DC Input Voltage	+ 12 Volts @ 9.2 Amperes. (operational)
ON/OFF	TTL Logic On/Off	0 Volts = Off, + 5 Volts = On
CNTL	TTL Pulse Control	Rates up to 100 kHz

*Specifications subject to change without notice.*

**64QAM OFDM PLOT – 37 dBm**  
**BLUE TRACE – INPUT SIGNAL**

Marker 1 [T1]

RBW 100 kHz RF Att 10 dB

Ref Lvl -19.96 dBm

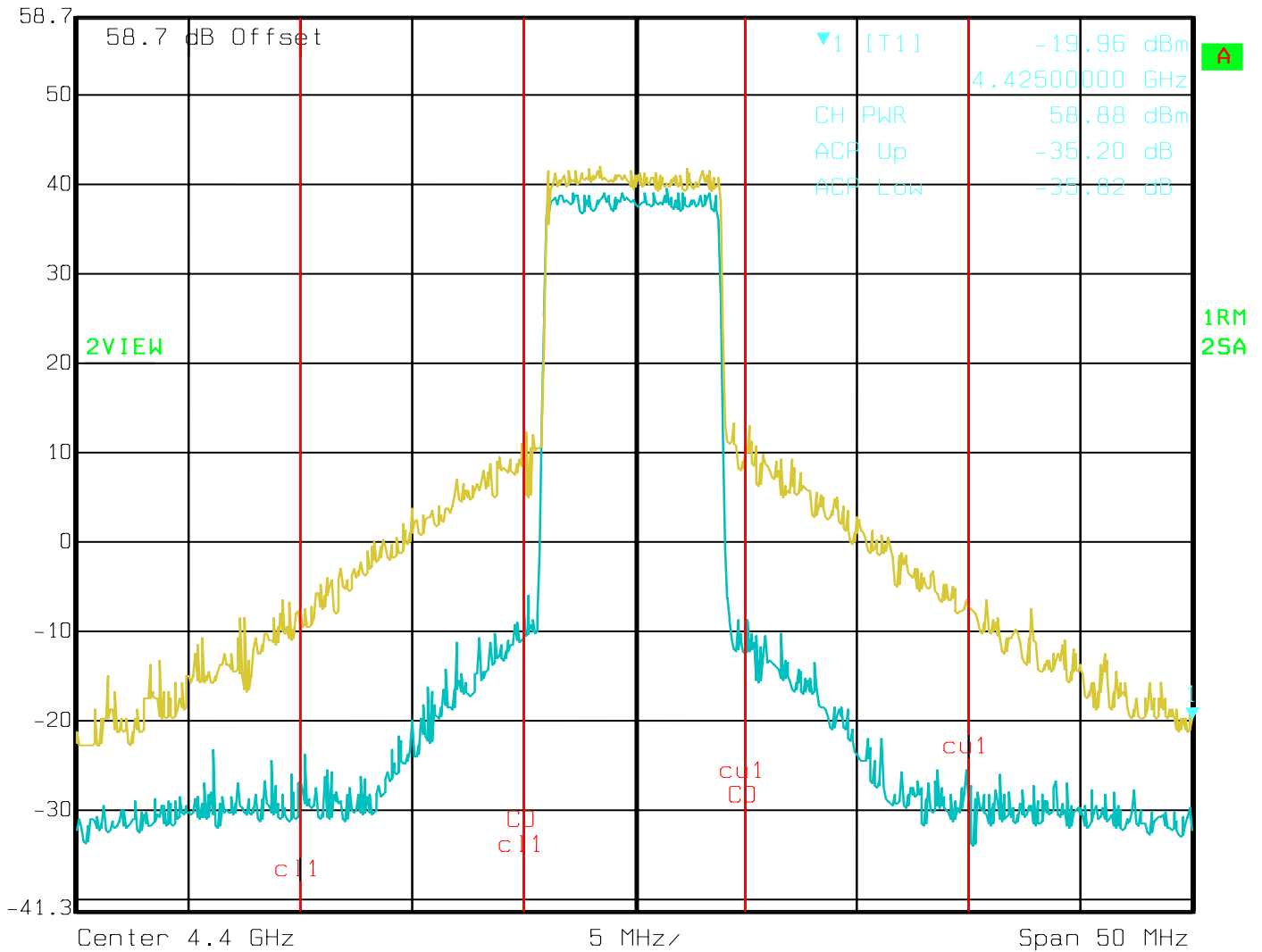
VBW 30 kHz Mixer -10 dBm

58.7 dBm

4.42500000 GHz

SWT 100 ms

Unit dBm



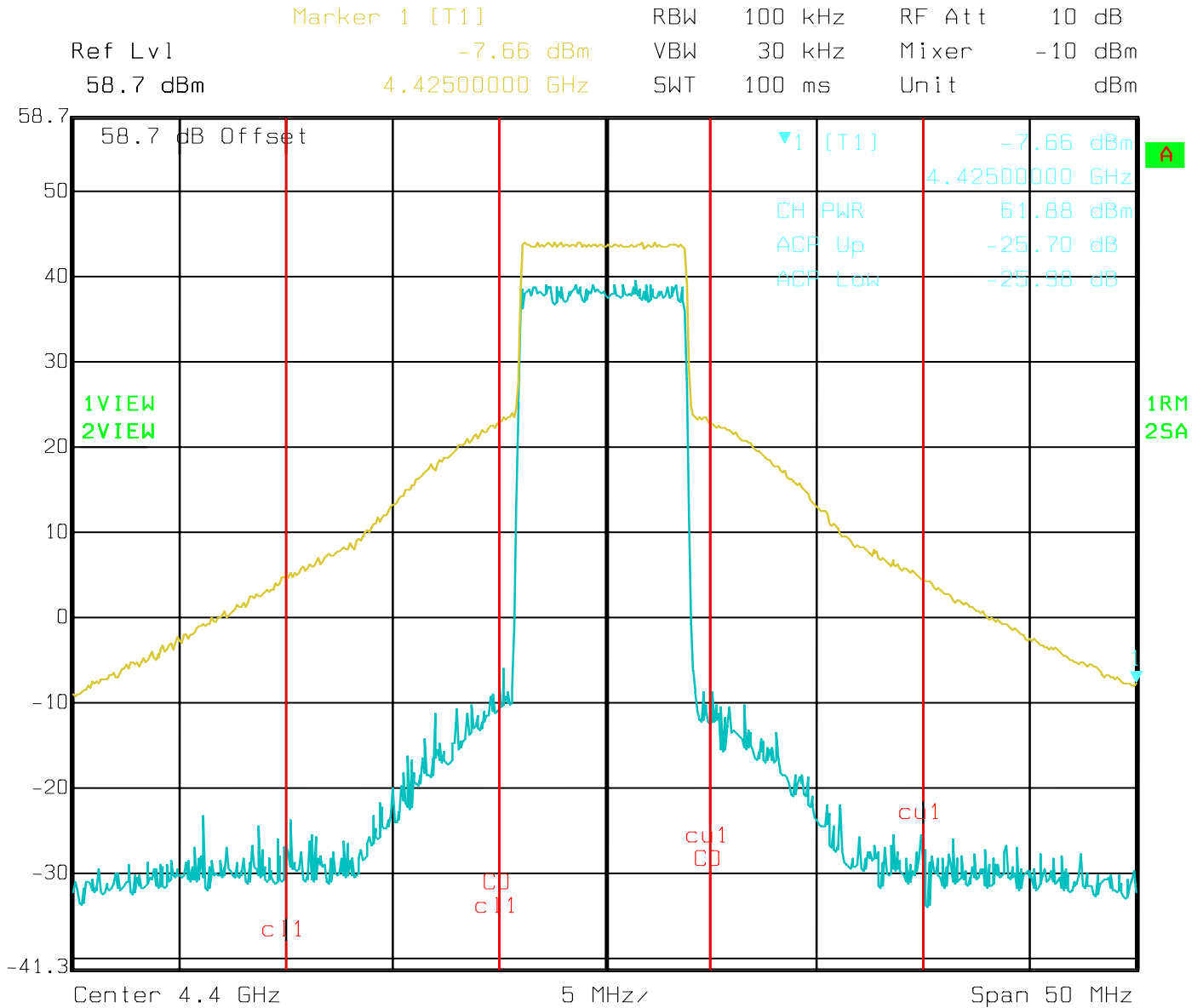
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**64QAM OFDM PLOT – 40 dBm**  
**BLUE TRACE – INPUT SIGNAL**



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