

Model 15HM1G6-44 15 Watts 1GHz–6GHz

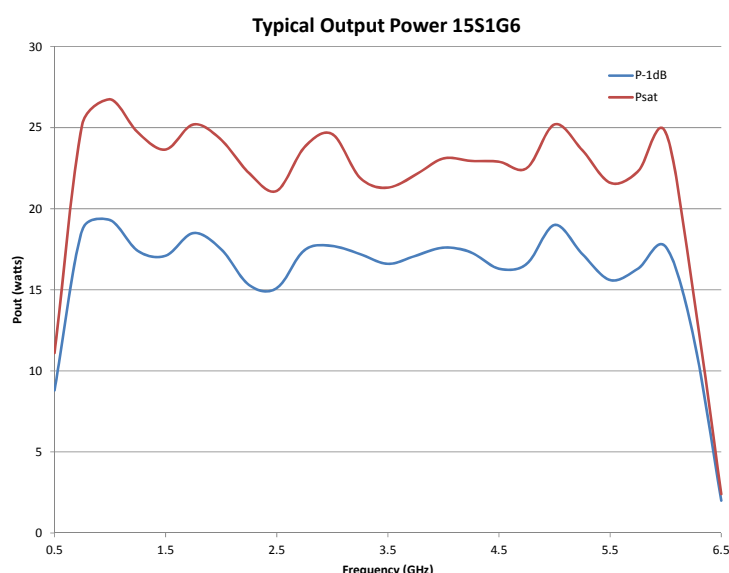
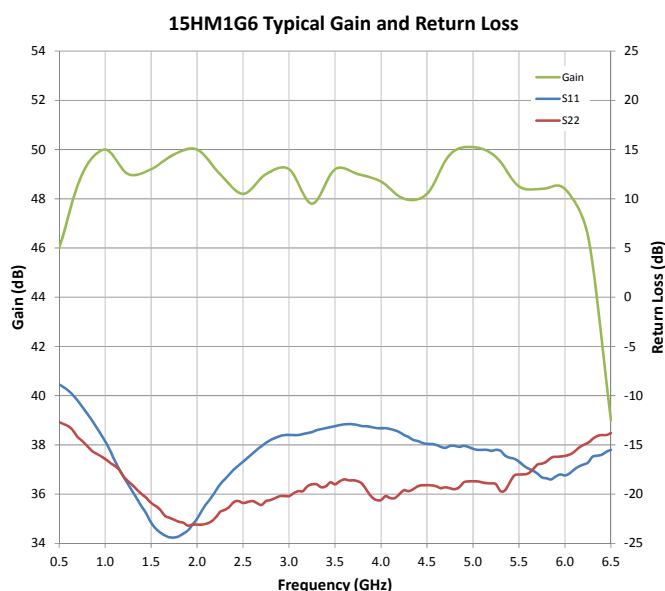
The Model 15HM1G6-44 is a compact, wide-band, hybrid power amplifier module that covers 1-6GHz. When used with a sweep generator, the Model 15HM1G6-44 provides a minimum of 15W of RF power instantaneously from 1-6 GHz with $RF_{IN} = 0\text{dBm}$.

The Model 15HM1G6-44 operates from a single DC voltage (+27V). It provides 48dB of typical gain with excellent gain flatness, noise figure and low intermodulation distortion. It is designed to have low spurious signals, linearity and is extremely load tolerant which enables it to be used in many RF applications that require linearity, power and wide bandwidth. The circuitry consists of balanced topology which provides good input and output return loss and stability. It is a 50 ohm, cascable building block and can be used as a microwave power amplifier for both the military and commercial industries.

The amplifier circuitry is based on the latest developments in thin film substrates. It incorporates plated-thru holes and air bridge technology to ensure optimum RF performance. The active devices are in chip form, eutectic-die attached and wire-bonded, providing solid-state reliability and long operating life. Special materials and process techniques were selected to achieve excellent thermo-dissipation and capability for meeting stringent military-environment test requirements. The module should be bolted to a heat sink for good heat dissipation and have a proper cooling fan to keep case temperature below 60°C.



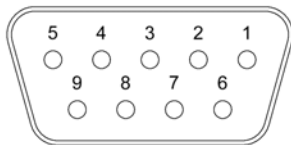
- Solid-state, Class A design
- +27V DC single bias
- Operating temperature -20°C to +70°C
- High reliability and ruggedness
- Soft-fail design



SPECIFICATIONS, 15HM1G6-44

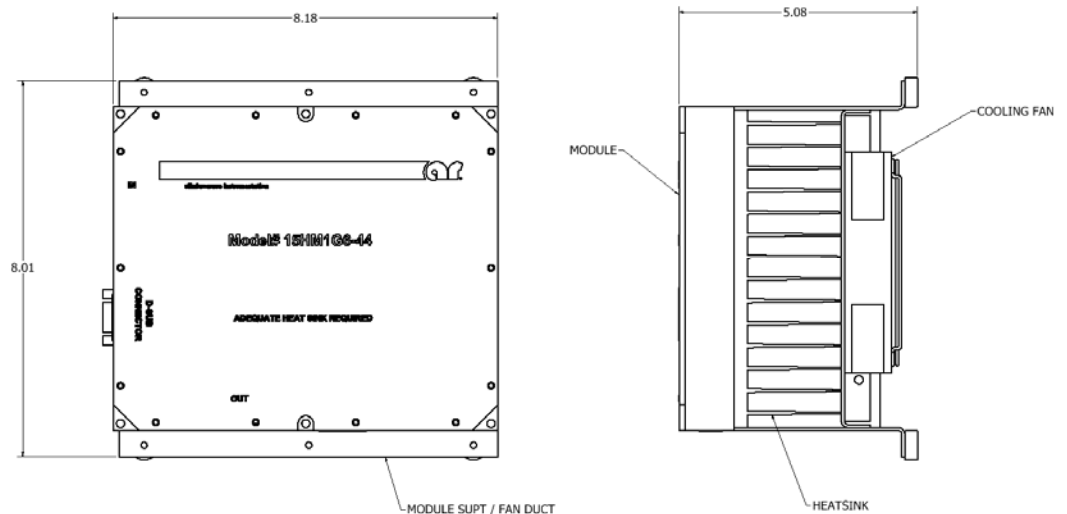
RATED POWER OUTPUT	15W minimum
POWER OUTPUT @ 3dB COMPRESSION	
Nominal	20W
Minimum	15W
POWER OUTPUT @ 1dB COMPRESSION	
Nominal	15W
Minimum	12W
SMALL SIGNAL GAIN FLATNESS	±1.0 dB typical ±2.0 dB maximum
FREQUENCY RESPONSE	1–6 GHz instantaneously
GAIN	44 dB minimum
NOISE FIGURE	8.5 dB typical
INPUT IMPEDANCE	50 ohms, VSWR 2.0:1 maximum
OUTPUT IMPEDANCE	50 ohms, VSWR 2.0:1 maximum
MISMATCH TOLERANCE	100% of rated power without foldback. Will operate without damage or oscillation with any magnitude and phase of source and load impedance.
MODULATION CAPABILITY	Will faithfully reproduce AM, FM, or pulse modulation appearing on the input signal.
HARMONIC DISTORTION	Minus 20 dBc maximum at 15W
THIRD ORDER INTERCEPT POINT	50 dBm typical
DC POWER	+27V/5.5A
CONNECTORS	SMA female
WEIGHT	1.9 kg (4.2 lbs)
SIZE (W x L x H)	17.5 x 20.3 x 3 cm (6.9 x 8.2 x 1.2 in)

DC VOLTAGE PINOUT



PIN #	FUNCTION
1,2,6,7	+28V
3,8,9	GND
5	FAULT
4	NOT USED

TTL High: Normal
TTL Low: Fault



Model Configurations

Model	RF In/Out Connector	Housing
15HM1G6-44	SMA	Standard
15HM1G6-44M1	SMA	With heatsink and fan