



The M1270 represents the state-of-the-art in low noise, compact, high efficiency pulsed microwave amplifiers. This 1 kW MPM is the ideal choice for miniature, high performance radar systems. The MPM characteristics are detailed below.



Frequency	X-Band
Bandwidth	2 GHz (max)
RF Output Power	1 kW Peak
RF Input Power	5 dBm
Duty Cycle	5% (max)
Small Signal Gain	55 dB (min)
Pulse Width	100 nsec to 80 μ sec
PRF	50 kHz (max)
Synchronization Frequency	400 kHz $\pm$ 5%
Harmonics 8 GHz	-3 dBc (max)
> 9.1 GHz	-10 dBc (max)
Spurious	-60 dBc (max)
Spectral Purity	-70 dBc (max)
Noise Power Density	-34 dBm/MHz (max)

Environment

Temperature.....	-40 to +85°C
Underneath TWT Collector	+90°C max
Cooling.....	Conduction
Altitude	40,000 feet
Humidity	Up to 100%, with condensation
Shock	20 g, 11 msec
Acceleration	10 g's
Vibration	0.04 g ² /Hz from 80 to 350 Hz -3dB/octave 20 to 80 Hz -3dB/octave 350 to 2000 Hz

Mechanical Description

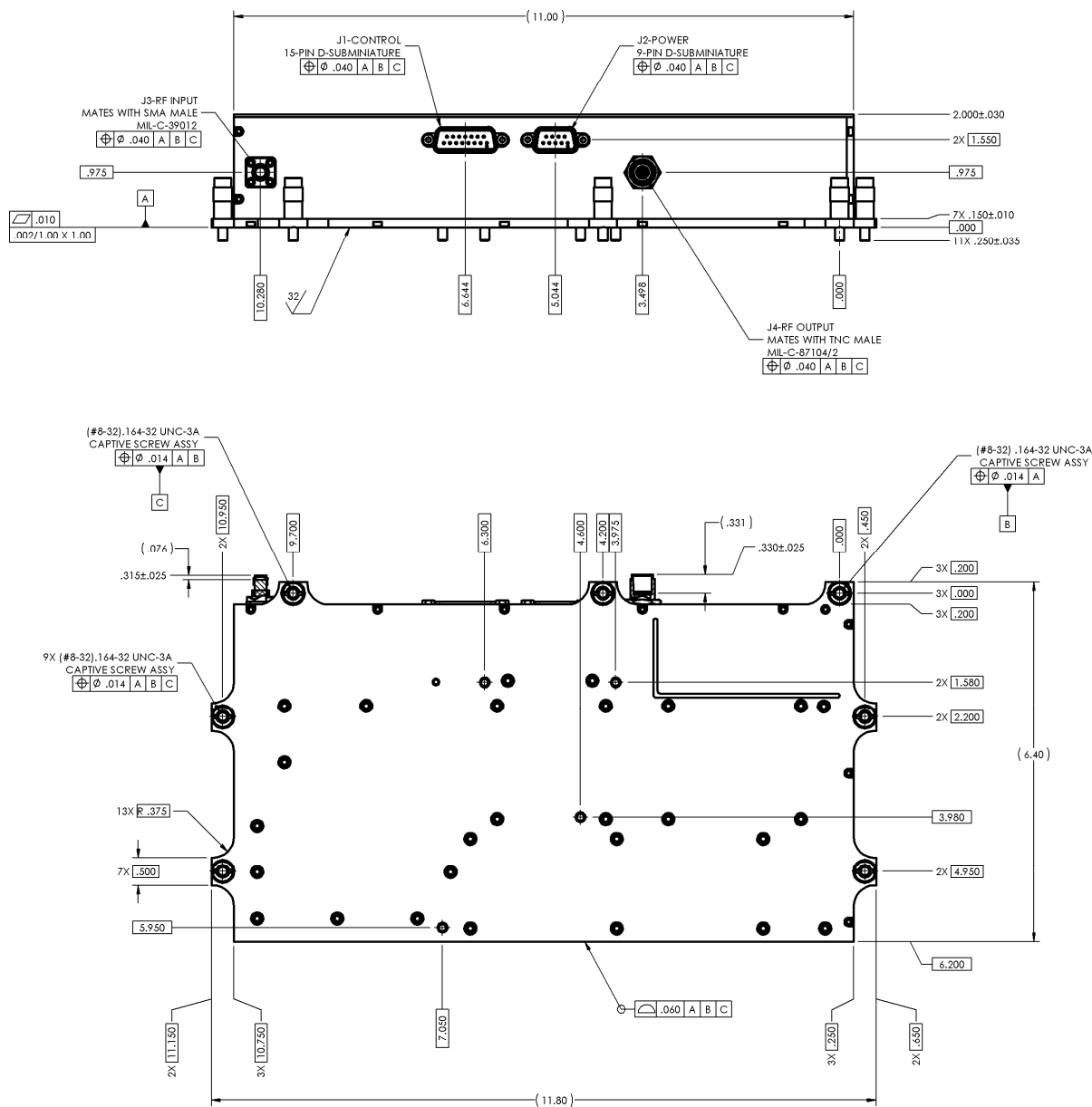
Dimensions.....	11" x 6" x 2"
Weight	9 lbs (max)
RF Input Connector	SMA
RF Output Connector	TNC
DC Input	9-Pin D-Subminiature

Interface

Prime Power, operating.....	+28 VDC
	Per MIL-STD-704E
	275 Watts (max)
Prime Power, standby	40 Watts (max)
Controls....Standby/Operate, Radiate, Sync, Pretrigger*	
Digital Indicators.....	Warm-up Complete Indicator
	Fault Indicator
	High Voltage Indicator
Analog Monitor	Helix Current

*To be applied $3.5 \pm 0.1 \mu\text{sec}$ prior to the Radiate (pulse) command

M1270 Microwave Power Module



CONTROL, MONITOR AND INDICATOR SIGNALS			
PIN #	FUNCTION	SIGNAL FORMAT	NOTE
J1-1	SPARE		
J1-2	LOGIC RETURN	GROUND	
J1-3	EXTERNAL INTERTER SYNCHRONIZATION INPUT	+5V TTL	200 nsec PULSE-POSITIVE EDGE TRIGGER (400KHz*5%)
J1-4	HIGH VOLTAGE CONTROL INPUT	+5V TTL	LOGIC 1 = HV ON
J1-5	MODULATOR CONTROL (BLANKING) INPUT	+5V TTL	LOGIC 1 = MODULATOR ON (TWT BEAM)
J1-6	WARM-UP INDICATOR	+5V TTL	LOGIC 1 = WARMUP MODE (HV DISABLED)
J1-7	HIGH VOLTAGE INDICATOR	+5V TTL	LOGIC 1 = HIGH VOLTAGE OK
J1-8	SPARE		
J1-9	HELIX CURRENT SENSE OUTPUT	ANALOG	1 V/A
J1-10	THERMAL WARNING SWITCH		NORMALLY CLOSED OPENS BETWEEN 85 AND 90°C
J1-11	MPM STATUS OUTPUT	+5V TTL	FAULT =0 PARAMETERS GOOD = 1
J1-12	LOGIC RETURN	GROUND	
J1-13	SPARE		
J1-14	PRE-TRIGGER	+5V TTL	500 nsec PULSE – POSITIVE EDGE TRIGGER 3.5 ± 0.1 µS BEFORE MODULATOR COMMAND
J1-15	GROUND	GROUND	

POWER INPUT	
PIN #	FUNCTION
J2-1	+28 VDC
J2-2	+28 VDC
J2-3	+28 VDC
J2-4	+28 VDC
J2-5	CHASSIS GROUND
J2-6	+28 VDC RTN
J2-7	+28 VDC RTN
J2-8	+28 VDC RTN
J2-9	+28 VDC RTN

Current detailed outline drawings & 3-D solid models are available on request. Specifications and features are subject to change without notice.



Electron Devices

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