L3’s M1870 is the newest member of our NanoMPM® family. It represents the state of the art in low-noise, compact, high-efficiency, RF amplifiers for airborne, shipboard and ground military applications. This NanoMPM® contains a TWT and a power supply within a single conduction-cooled package.

**KEY FEATURES**
- 25 W output power
- 25% nominal efficiency
- < 18 cubic inches
- Frequency coverage 6 GHz to 18 GHz at reduced output power level

**TYPICAL PERFORMANCE**

<table>
<thead>
<tr>
<th>Frequency (GHz)</th>
<th>Saturated Output Power (dBm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.4</td>
<td>45.2</td>
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<tr>
<td>14.6</td>
<td>45.5</td>
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<tr>
<td>14.8</td>
<td>45.8</td>
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<tr>
<td>15</td>
<td>46</td>
</tr>
<tr>
<td>15.2</td>
<td>46.2</td>
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<tr>
<td>15.4</td>
<td>46.4</td>
</tr>
</tbody>
</table>

**PERFORMANCE**

- Frequency: 6 GHz to 18 GHz
- RF Output Power: 25 W
- RF Input Power: +20 dBm
- Small Signal Gain: 27 dB min
- PRF: 50 kHz max
- AM/PM Conversion: 5˚/dB max
- Spurious: -47 dBc max

**INTERFACE**

- Prime Power, operating: 28 VDC
- Prime Power, standby: 10 W max
- Controls: Standby/operate, radiate
- Digital Indicators: Warm-up complete indicator, Fault indicator, High-voltage indicator
- Analog Monitor: Helix current

**ENVIRONMENT**

- Temperature: -40 °C to +85 °C
- Underneath TWT Collector: +95 °C max
- Cooling: Conduction
- Altitude: 50,000 ft.
- Humidity: Up to 95%, with condensation
- Shock: 30 g, 11 ms
- Acceleration: 10 g
- Vibration Hz: 0.04 g²/Hz from 80 Hz to 350 Hz, -3dB/octave 20 Hz to 80 Hz, -3dB/octave 350 Hz to 2,000 Hz

**MECHANICAL DESCRIPTION**

- Dimensions: 5.5 in. L x 3.04 in. W x 1 in. H
- Weight: 1.6 lb. max
- RF Input Connector: SMA
- RF Output Connector: SMA
- Control Input: 15-pin Micro-D Receptacle
- Power Input: 9-pin Micro-D Receptacle