**Model 2.4m SM-LT Troposcatter Antenna**

**Description**

The General Dynamics SATCOM Technologies 2.4m SM-LT antenna, configured for troposcatter operation, utilizes either a "conventional" C-band (4.4 to 5.0 GHz) feed or a proprietary dual-beam Ku-band feed (14.9 to 15.4 GHz) to provide high-quality, over-the-horizon communications. In C-band applications, space diversity is normally achieved using dual antennas in each terminal. For Ku-band applications, a unique, patent-pending, dual-beam feed is incorporated to provide two closely-spaced beams in elevation to achieve angle diversity in the troposcatter link.

Engineered to stringent standards for multiple applications, the 2.4m SM-LT delivers performance suitable for multi-band satcom and troposcatter operation. Various modes and/or frequency bands of operation are readily accommodated via interchangeable feed packages, making the antenna truly field-configurable. In any operational mode or frequency band, antenna performance is outstanding, with high gain, low sidelobes and high crosspolar and port-to-port isolation values. The use of carbon fiber technology and precision-machined aluminum components provides the ultimate in transportability, wind performance and longevity in tactical environments.

With an integral azimuth over elevation cable drive and lower azimuth bearing, the antenna system is readily fitted to HMMWVs, trailers or transportable pallets. The 2.4m SM-LT is fully compatible with the industry-standard General Dynamics SATCOM Technologies Model 123T Antenna Control System, which provides position control and tracking, as well as auto-deploy and auto-stow functionality for both troposcatter and satcom modes of operation.

**Options**

- Complete tropo terminals available, including amplifiers, frequency converters, modems, antenna control systems and monitor and control systems.
- Reflector configurations (single or three-piece segmented)
- Finishes (green, tan or per customer spec)
- Integration (various TWT/amplifier mounting arrangements)
- Anti-icing
- Satcom capable (L, C, X, Ku, DBS, Ka, low-PM)

**The Strength to Perform**

Carbon fiber/aluminum construction

Lightweight, precision surface, high stiffness, robust design for vehicle mounting

High performance, low sidelobes

Stow/deployment – low profile, stow position on vehicle, precision alignment, automatic deploy and stow

**Buy Now!**
Technical Specifications

**Model 2.4m SM-LT Troposcatter Antenna**

### Electrical**

<table>
<thead>
<tr>
<th></th>
<th>Tropo C-Band 2-Port Linear Polarized</th>
<th>Ku-Band 4-Port Linear Polarized</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency (GHz)</strong></td>
<td>4.400 - 5.000</td>
<td>14.900 - 15.400</td>
</tr>
<tr>
<td><strong>Antenna Gain at Midband, dBi</strong></td>
<td>38.30</td>
<td>49.70</td>
</tr>
<tr>
<td><strong>Antenna Noise Temperature</strong></td>
<td>81 K (1° elevation)</td>
<td>72 K (2° elevation)</td>
</tr>
<tr>
<td><strong>Typical G/T</strong> at 20° Elevation</td>
<td>35° K LNA 10.1 dB/K</td>
<td>56° K LNA 26.7 dB/K</td>
</tr>
<tr>
<td><strong>Pattern Beamwidth</strong> (in degrees at midband)</td>
<td>2.08</td>
<td>4.04</td>
</tr>
<tr>
<td><strong>Wind Loading</strong></td>
<td>45 mph (72 km/h)的最大陣風至90 mph (149 km/h) any position</td>
<td>90 mph (149 km/h) 的裝設位置</td>
</tr>
<tr>
<td><strong>Cross-Polarization Loss</strong></td>
<td>32 dB (Ku-Band)</td>
<td>32 dB (Ku-Band)</td>
</tr>
<tr>
<td><strong>VSWR</strong></td>
<td>1.30:1</td>
<td>1.30:1</td>
</tr>
</tbody>
</table>

### Mechanical

- **Azimuth Travel**: ±150° continuous
- **Elevation Travel**: -4° to +56°
- **Relay Travel**: ±90° (satcom operation, linear only)
- **Feed**: Troposcatter or satcom multiband inter-changeable
- **Reflector**: 2.4-meter (94.5 in) carbon fiber (single or three-piece configuration)
- **Integrator**: 300 lbs (136 kg) positioner mounted

### Environmental

- **Azimuth Travel**: ±150° continuous
- **Elevation Travel**: -4° to +90°
- **Pattern Beamwidth**: ±90° (satcom operation, linear only)
- **Maximum 2.0 dB Rx loss (Ku-band)**
- **Temperature**: Operational -22° to +122° F (-30° to +50° C)
- **Radial Ice (survival)**: 1 in (25 mm) on all surfaces, 0.5 in (12 mm) on all surfaces with 80 mph (130 km/h) wind gusts
- **Relative Humidity**: 0% to 100% with condensation

**Note:** Depending on vehicle capabilities.

**Vehicle capabilities directly affect antenna performance during and following transportation.

*** Tropo C-band operation requires dual antennas to achieve signal diversity.