### FEATURES & SPECIFICATIONS

- Very high speed communication (up to 100 Gbps) subsystem using 1550 nm wavelength
- Noncoherent, direct detection OOK modulation
- Fiber optic wavelength division multiplexed (WDM) from 2.5 to 10 Gbps per channel, up to 10 channels
- Use of space qualified commercial 1550-nm telecom components
- Acquisition, pointing and tracking with embedded motor control and fast steering mirrors
- Configurable data rate to support diverse operational scenarios

#### Data Rate

<table>
<thead>
<tr>
<th></th>
<th>LEO Power</th>
<th>LEO Mass</th>
<th>GEO Power</th>
<th>GEO Mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Gbps</td>
<td>51 W</td>
<td>7.5 kg</td>
<td>57 W</td>
<td>15 kg</td>
</tr>
<tr>
<td>50 Gbps</td>
<td>130 W</td>
<td>16 kg</td>
<td>130 W</td>
<td>28 kg</td>
</tr>
<tr>
<td>100 Gbps</td>
<td>240 W</td>
<td>26 kg</td>
<td>220 W</td>
<td>45 kg</td>
</tr>
</tbody>
</table>

**Wavelength**

- 1550 nm

**Radiation Tolerance**

- Single Event Latch-up Immune: > 60 LET (MeV·cm²/mg)
- Total Ionizing Dose: 30 krads (Si) or 100 krads (Si) version available
- Single Event Functional Interrupt: No SEFI

**Electrical Interfaces**

- Operating Voltage: 28 V ± 6 V DC

**Mission Assurance**

- Temperature Range:
  - Operational: -30°C to +65°C
  - Non-operational: -40°C to +75°C
- Parts Level Options: Commercial Space, NASA Level I, II, III
- Design Life: Up to 15 years LEO/GEO

**LEO Constellation Cross Link**

(4,750 km max range)

**GEO Up/Down Link**

(45,000 km max range)
µLCT™ 100 Gbps Lasercom Terminal

Space Micro High Efficiency Modem
- On-Off Keying (OOK) Optical modulation
- Fiber optic wavelength division multiplexing
  - 1 to 10 channels at 10 Gbps
- Second generation FEC & optical amps
- 1550 nm laser drive electronics
- Erbium Doped Fiber Amplifier (EDFA)

Point and Track Electronics
- Proton400k™ computer controller
- 2-axis brushless motor control
- High accuracy fast-steering mirror control
- Optical tracking
  - LEO/GEO to Ground
  - LEO Intra-Plane
- Closed loop quad cell filtering

Optical Pointing Assembly
- Very Low Jitter
- Precision Encoding
- Solar Exclusion
- Affordable/Repeatable

Temperature Compensated Fiber Collimating Optics