MODEM 21 AIR / AIR COMPACT
Secure Satcom IP Modems for Airborne Operations

Enabling beyond-line-of-sight critical airborne connectivity
- Security and protection under extreme threats (jamming, cyberattacks)
- Doppler effect mitigation to support fast moving platforms
- Self-adaptive to adverse conditions and optimization of satellite resources
- Maintained connectivity in multi-spot satellite architecture
- Rugged and sealed housing compliant with airborne and military standards
Military forces rely on secure SATCOM on-demand bandwidth to share and disseminate information when and where it is needed. MODEM 21 AIR and AIR COMPACT are airborne satcom IP modems providing high data rate, secure and resilient satcom communications for a wide range of manned or unmanned, fixed- or rotary-wing aircraft.

MODEM 21 AIR and AIR COMPACT are part of Thales’s SYSTEM 21, the most secure high-speed and multi-waveform SATCOM transmission system on the market today. MODEM 21 AIR and AIR COMPACT provide unrivalled protection against jamming and interference together with a high IP throughput.

**PHYSICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>MODEM 21 AIR</th>
<th>MODEM 21 AIR COMPACT</th>
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</thead>
<tbody>
<tr>
<td><strong>Size (HxWxD):</strong> 272 x 84.5 x 367.9 mm (405 mm with handles)</td>
<td><strong>Size (HxWxD):</strong> 157 x 109 x 220 mm (with mounting kit)</td>
</tr>
<tr>
<td><strong>Weight:</strong> &lt; 6.5 kg</td>
<td><strong>Weight:</strong> &lt; 4.2 kg (4.7 with mounting kit)</td>
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<tr>
<td><strong>Temperature:</strong></td>
<td><strong>Temperature:</strong></td>
</tr>
<tr>
<td>- Operating: -40°C (option)</td>
<td>- Operating: -40°C (option)</td>
</tr>
<tr>
<td>- 55°C to +60°C (option + 70°C)</td>
<td>- 55°C to +60°C (option + 70°C)</td>
</tr>
<tr>
<td>- Storage: -55°C to +85°C</td>
<td>- Storage: -55°C to +85°C</td>
</tr>
<tr>
<td><strong>Relative humidity:</strong> 95 ± 4% at 65°C and 85 ± 4% at 38°C</td>
<td><strong>Relative humidity:</strong> 95 ± 4% at +65°C and 85 ± 4% at +38°C</td>
</tr>
<tr>
<td><strong>Power consumption:</strong> &lt; 65 W</td>
<td><strong>Power consumption:</strong> &lt; 55 W</td>
</tr>
<tr>
<td><strong>Power supply:</strong> from +12V DC to +33V DC</td>
<td><strong>Power supply:</strong> +28V DC</td>
</tr>
<tr>
<td><strong>Altitude:</strong> up to 15,240 m</td>
<td><strong>Altitude:</strong> up to 15,240 m</td>
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<tr>
<td><strong>Speed:</strong> up to Mach2</td>
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**MODULATION & DATA RATES**

- **MODCOD:** BPSK 1/6, 1/4, 1/3
- QPSK 1/4, 1/3, 2/5, 1/2, 5/8
- 8PSK 1/2, 2/3

- **Spreading:** from BPSK 1/6 to BPSK 1/24
- **Data rates:** up to 50Mbps

**INTERFACES**

- **Radio Interfaces:**
  - L Band Tx/Rx type N
  - Software controllable 10 MHz reference on Tx/Rx
  - Software controllable LNB Power Supply on Rx

- **COMPREHENSIVE MONITORING & CONTROL**
  - Local via web-based GUI
  - Remote via SNMP MIB

- **STANDARDS & CERTIFICATIONS**
  - RTCA-DO-160G (airborne environment)
  - MIL-STD-461F (electromagnetic interference)
  - MIL-STD-704F (aircraft electrical power)
  - MIL-STD-810G (military environment)
  - DO 178C and DO 254
  - Compatible with STANAG-4606 and STANAG-4731
  - CE marking

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