Rugged VPX blind mate optical interconnects.

**SpaceCONEX SC 50G, 150G, and 300G**
Radiation-resistant active optical interconnects

**Key advantages**
- Compatible with the forthcoming VITA 66.5 standard.
- No fiber management.
- **Rugged:** withstand radiation doses >100 krad (Si) and qualified per MIL-STD 883 shock and vibration.
- **Expected life:** up to 20 years.
- **Cold start temperature:** –55 ºC.
- **Performance:** up to 12.5 Gbps/lane from –40 ºC to 100 ºC
- **BER:** As low as 10⁻¹⁵.
- **Low power consumption:** 85 mW/lane (<10 pJ per bit).

**Configurations**
- 4 TRX (50G)
- 12 TX, 12 RX (150G)
- 12 TRX (300G), in development.
- 24 TX, 24 (300G), in development.

**Applications**
- High-throughput communication satellites
- Internet of Space
- VPX single board computers.
- High I/O density, high BW communication links.

**SpaceCONEXSC product summary**
The SpaceCONEX™ SC revolutionary active blind mate optical interconnect for VPX systems, consists of a plug-in module connector and a backplane connector compatible with the forthcoming VITA 66.5 standard. A SpaceCONEX SC optical transceiver is directly integrated into the plug-in module connector, saving board space and eliminating fiber cable handling. The backplane connector is a low profile drop-in replacement for the VITA 66.4 standard and includes springs to ensure a secure MT to MT mating connection under extreme shock and vibration conditions.

THE Light on Board® Company
50G, 150G, and 300G SpaceCONEX SC features

- 4 TX plus 4 RX lane per device (50G).
- 12 TX or 12 RX lane per device (150G).
- 12 TRX lane per device (300G).
- Multimode 850 nm wavelength laser.
- Over 100 m reach on OM3 ribbon fiber.
- Active blind mate connection to the backplane.
- Fully RoHS compliant.
- Monitoring: LOS, RSSI, temperature etc.

SpaceCONEX SC radiation resistant optical transceivers

The SpaceCONEX SC modules will be tested for heavy ions, protons and gamma rays.

- Meet highest level SWaP requirement.
- Heavy-ion tested
  (Single Event Effect & Latch-up (SEE and SEL))
- Cobalt 60 gamma rays tested (MIL-STD-883G, method 1019.7) Total Ionizing Dose (TID).
- High and low energy protons tested
  (Total Non-Ionizing Dose (TNID)).
- Lot acceptance test, following ECSS process.

In addition, SpaceCONEX SC also pass standard LightABLE qualifications.

- Damp heat tests per MIL-STD-202, Method 103B.
- Cold storage tests per MIL-STD-810, Method 502.5.
- Thermal cycling tests per MIL-STD-883, Method 1010.8.

SpaceCONEX SC ordering information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Product Description</th>
<th>Lanes</th>
<th>Bandwidth (Gbps/lane)</th>
<th>Sensitivity (dBm)</th>
<th>BER</th>
<th>Mounting</th>
<th>Operating Temperature (°C)</th>
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<tr>
<td>SCT12P518533001</td>
<td>SpaceCONEX SC 12TX Transmitter</td>
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<td>SpaceCONEX SC 12TRX Transceiver</td>
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ACCESSORIES

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<th>Part Number</th>
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<tr>
<td>TBD</td>
<td>SpaceCONEX SC adapter kit</td>
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<tr>
<td>TBD</td>
<td>SpaceCONEX SC VITA 66.5 backplane connector kit</td>
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THE Light on Board® Company

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Reflex Photonics is certified to ISO 9001

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