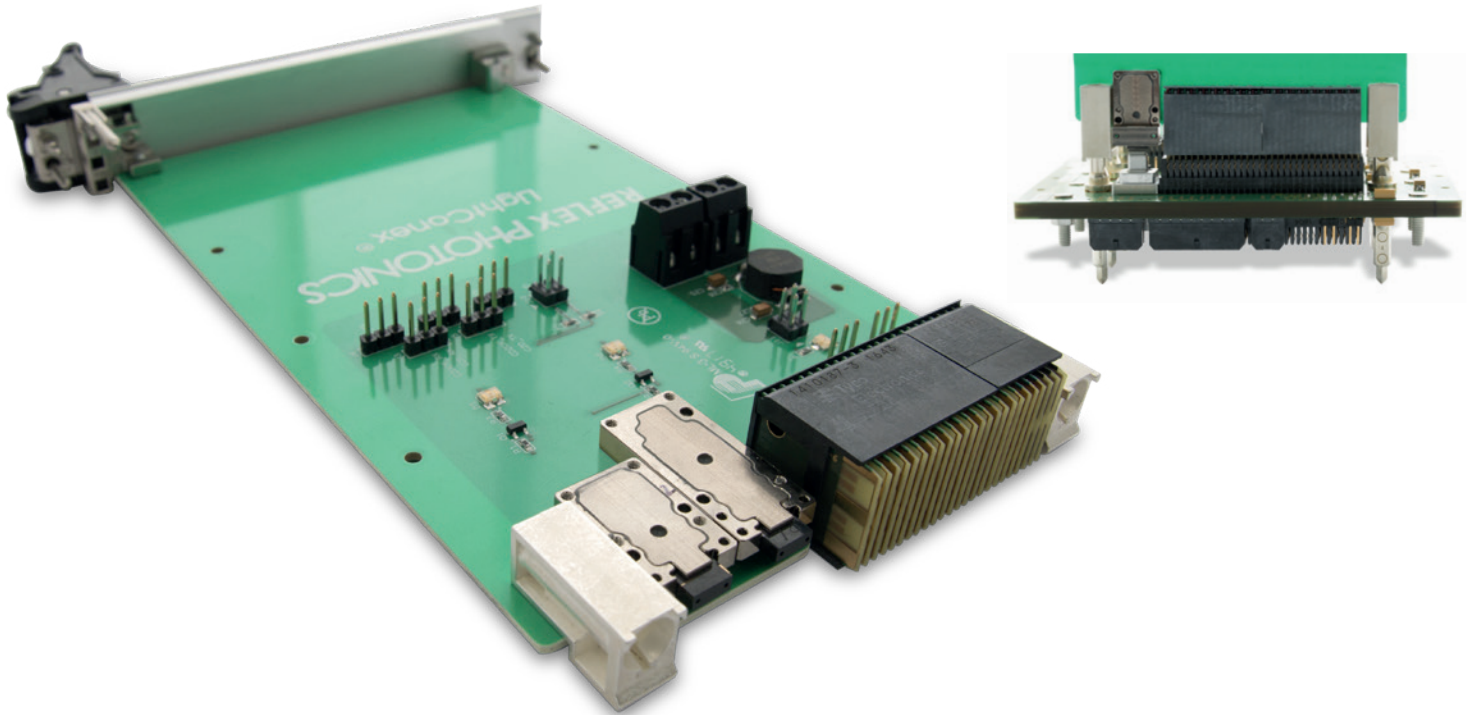


Rugged VPX blind mate optical interconnects.



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°C.
- **Performance:** up to 12.5 Gbps/lane from -40°C to 100°C
- **BER:** As low as 10⁻¹⁵.
- **Low power consumption:** 85 mW/lane (<10 pJ per bit).

Configurations

- 4 TRX (50G) **NEW!**
- 12 TX, 12 RX (150G) **NEW!**
- 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.

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.

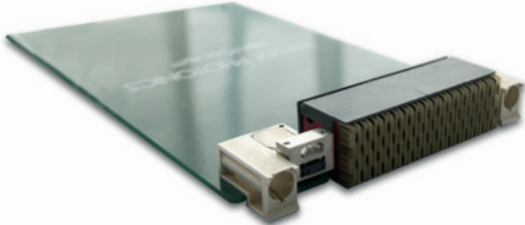
SpaceCONEX SC radiation resistant optical transceivers

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

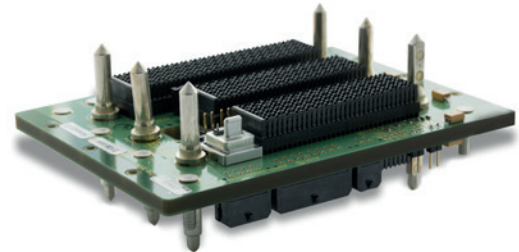
- Meet highest level SWaP requirement.
- **Heavy-ion** tested (Single Event Effect & Latch-up (SEE and SEL))
- **Cobalt 60 gamma rays** tested (MIL-STD-883G, method 1019.7) Total Ionizing Dose (TID).
- **High and low energy protons** tested (Total Non-Ionizing Dose (TNID)).
- Lot acceptance test, following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

In addition, SpaceCONEX SC also pass standard LightABLE™ qualifications.

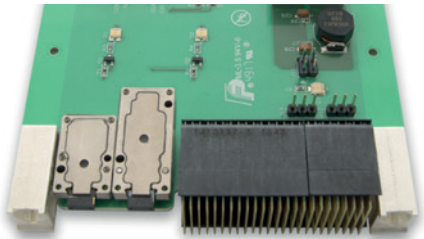
- **Vibration tests** per MIL-STD-883, Method 2007.3.
- **Mechanical shock tests** per MIL-STD-883, Method 2002.4.
- **Thermal shock tests** per MIL-STD-883, Method 1011.9.
- **Damp heat tests** per MIL-STD-202, Method 103B.
- **Cold storage tests** per MIL-STD-810, Method 502.5.
- **Thermal cycling tests** per MIL-STD-883, Method 1010.8.



3U VPX board with VITA 46 and SpaceCONEX SC plug-in connector.



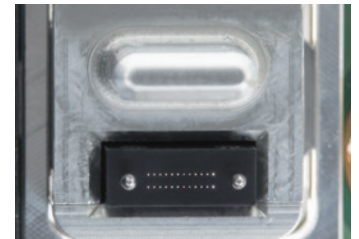
ELMA 3U VPX backplane with SpaceCONEX SC backplane connector.



Side-by-side single 12-lane active module and 24-lane active modules on a 3U VPX board.



Close-up of the SpaceCONEX SC 12-lane plug-in module connector.



Close-up of the SpaceCONEX SC 24-lane backplane connector.

SpaceCONEX SC ordering information

Part Number	Product Description	Lanes	Bandwidth (Gbps/lane)	Sensitivity (dBm)	BER	Mounting	Operating Temperature (°C)
SCT12P518533001	SpaceCONEX SC 12TX Transmitter	12	12.5	n.a.	E ⁻¹²	RoHS LGA	-40 to 85
SCR12P518530301	SpaceCONEX SC 12RX Receiver	12	12.5	-12	E ⁻¹²	RoHS LGA	-40 to 85
SCX04P518532301	SpaceCONEX SC 4TRX Transceiver	4+4	12.5	-12	E ⁻¹²	RoHS LGA	-40 to 85
SCX12P518532301	SpaceCONEX SC 12TRX Transceiver	12+12	12.5	-12	E ⁻¹²	RoHS LGA	-40 to 85

ACCESSORIES

TBD	SpaceCONEX SC adapter kit
TBD	SpaceCONEX SC VITA 66.5 backplane connector kit

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