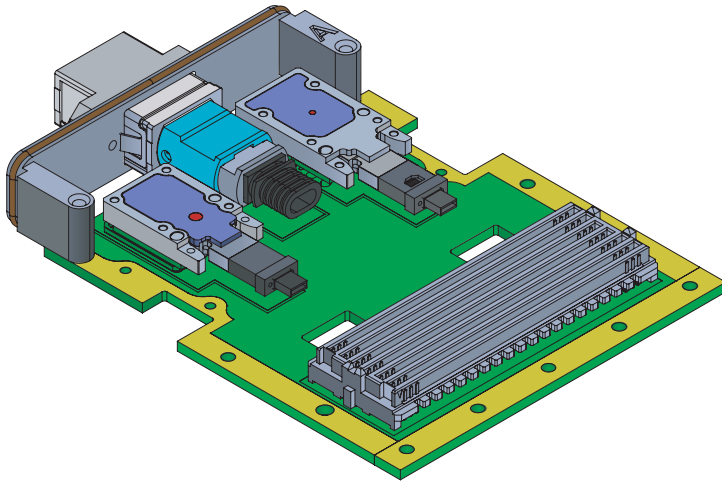


Optical FMC Cards

VITA 57.1 and 57.4



VITA 57.1 10TRX card

The Reflex Photonics LLF and SLF optical FMC mezzanine cards may be used in applications including embedded VPX systems and industrial applications.

They may also be used as evaluation platforms for the *LightABLE™* LL and the *SpaceABLE®* SL optical transceiver modules.

The electrical interfaces are based on CML logic levels and support 10 Gbps data rates per link, for a total bandwidth of 100 Gbps full duplex (10-lane VITA 57.1) or 120 Gbps full duplex (12-lane VITA 57.4) and 240 Gbps half duplex (12-lane VITA 57.4) depending on the version.

The FMC cards are available for use in rugged applications using *LightABLE* optical transceivers (LLF models) or rugged applications in space using the *SpaceABLE* optical transceivers (SLF models). The cards are single-width conduction-cooled VITA 57.1 or VITA 57.4 cards. An optional MPO front panel bracket accessory is available for compatibility with air-cooled applications.

The LLF and SLF cards incorporate optical modules with preprogrammed parameters for configuration—only power and high-speed signaling is required. An I2C serial interface is provided to interrogate the module.

Specifically designed to meet the embedded VPX and industrial application requirements

Key advantages

- Industrial temperature -40°C to 85°C
- Sensitivity up to -12 dBm
- 10 Gbps per channel
- Short-reach 850 nm VCSEL lasers
- Standard 1x12 MT optical interface or MPO interface with the MPO bracket
- Up to 24 differential CML pairs per card
- FMC+ electrical interface
- Link distance up to 100 m (OM3 fiber)
- I2C communication Interface
- Asynchronous channel operation
- Data protocol agnostic, balanced code

Configurations

VITA 57.4

- 24TX or 24RX (240G, half duplex)
- 12TRX (120G, full duplex)

VITA 57.1

- 10TRX (100G, full duplex)

Applications

The FMC card targets the following VITA-style applications:

- Embedded VPX computing systems
- Phased array radar
- CCD/CMOS imaging sensors
- Evaluation platform for *LightABLE* and *SpaceABLE* optical modules

Optical module qualification

The single-width conduction-cooled and air-cooled FMC cards include Regions 2 and 3 as defined in the VITA 57.4x - FPGA Mezzanine Card Plus (FMC+) Draft Standard.

MIL-STD-883

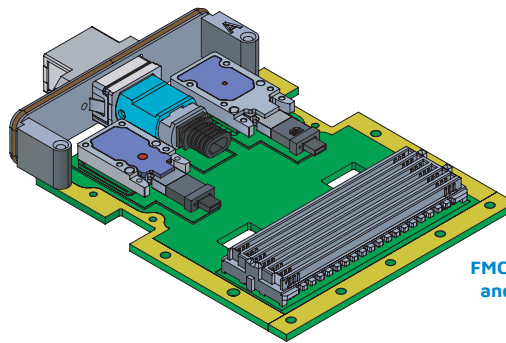
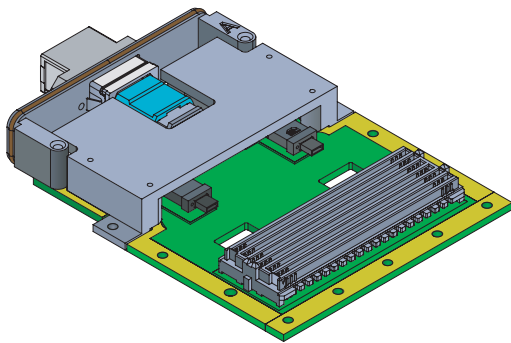
- Vibration tests, Method 2007.3
- Mechanical shock tests, Method 2002.4
- Thermal shock tests, Method 1011.9
- Thermal cycling tests, Method 1010.8

MIL-STD-202

- Damp heat tests, Method 103B

MIL-STD-810

- Cold storage tests, Method 502.5



FMC Card shown with MPO adapter, with and without conduction cooling bridge

Optical FMC Cards Ordering information

	Optical Interfaces	FMC Card Part Number	Includes this Optical Transmitter	Includes this Optical Receiver
LightABLE Optical FMC Cards (LLF)	10TRX	LLF10P918533102	LLT12P918533001	LLR12P918530101
	12TRX	LLF12P918533102	LLT12P918533001	LLR12P918530101
	24TX	LLF24P918533002	LLT12P918533001 (2x)	n.a.
	24RX	LLF24P918530102	n.a.	LLR12P918530101 (2x)
SpaceABLE Optical FMC Cards (SLF)	10TRX	SLF10P918533101	SLT12P918533001	SLR12P918530101
	12TRX	SLF12P918533101	SLT12P918533001	SLR12P918530101
	24TX	SLF24P918533001	SLT12P918533001 (2x)	n.a.
	24RX	SLF24P918530101	n.a.	SLR12P918530101 (2x)

Accessories for air-cooled, MPO bracket FMC cards

Part Number	Description
415-00046	FMC Bracket 24 MMF MPO Kit
415-00047	FMC Bracket 2x12 MMF MPO Kit
500-00260	Optical cable 2x12 MMF MT to 1x24 MMF MPO (with 415-00046)
500-00261	Optical cable 1x12 MMF MT to 1x12MMF MPO (two cables required for FMC card application with 415-00047)
415-00048	Conduction cooling bridge kit

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