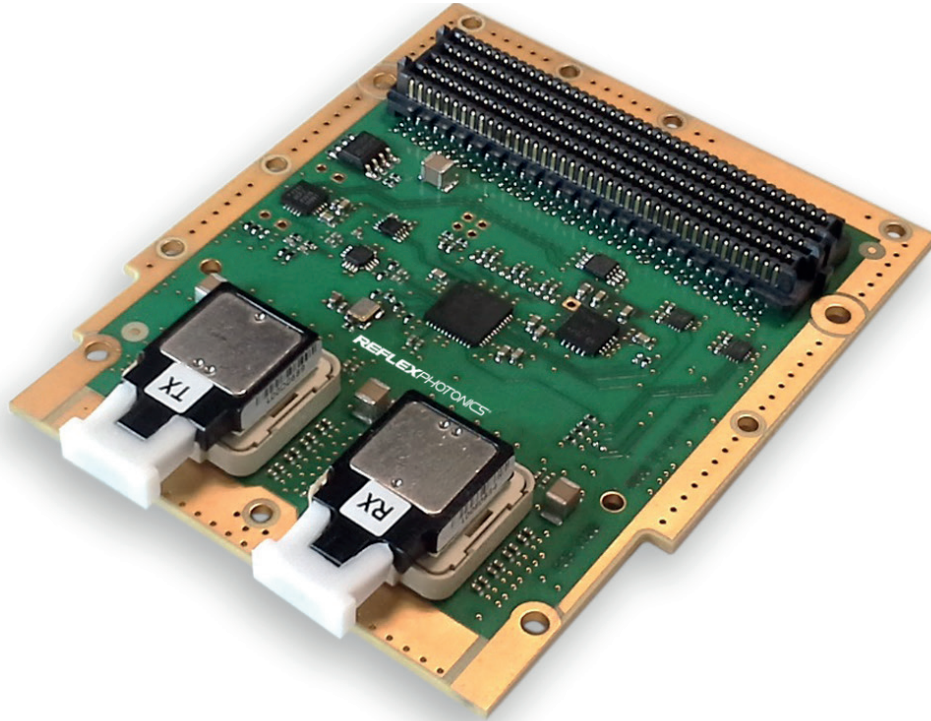


REFLEXPHOTONICS®

The most rugged high-performance embedded parallel optics.



LightABLE Optical FMC Board

Key advantages

- VITA 57.4 compatible.
- Standard FMC interface
- Reduced design time
- Integrated optical transmitter and receivers

Configurations

- 12 TX, 12 RX

Applications

- RADAR
- High-performance computing
- Network switches and routers
- High resolution imaging
- Audio and video broadcast

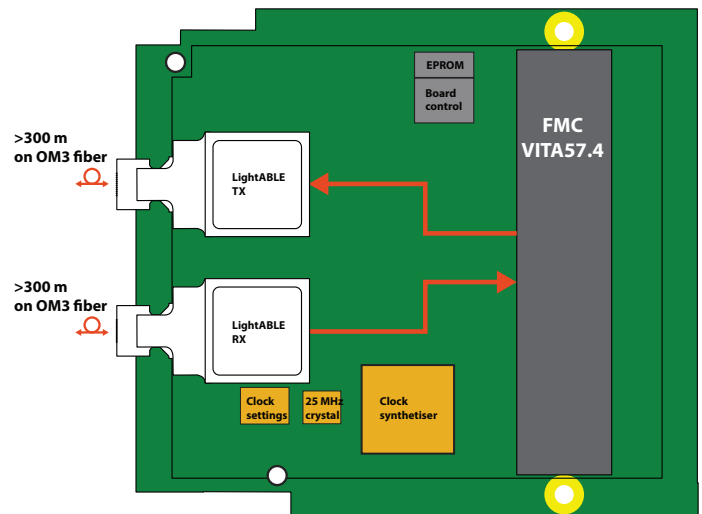
LightABLE Optical FMC Board product summary

The VITA 57.1/57.4 compliant *LightABLE* Optical FMC Board offers up to 150 Gbps of full-duplex bandwidth data communication and can be used with all the FPGA front end processing boards.

Reflex Photonics VITA57-compliant carrier boards is based on latest generations FPGA's. The *LightABLE* Optical FMC Board is equipped with two *LightABLE* optical modules, one handling 12 transmit lanes and the other one handling 12 receive lanes allowing short reach applications (up to 100 m) on parallel multimode fiber.

Communication interface

- Two 12 MT-type optical connectors, one on the *LightABLE* TX transceiver and one on the *LightABLE* RX transceiver. An industry standard OM3 optical ribbon with an MT-terminated compatible connector at one end can plug into each receptacle.
- One SSMC connector for external reference clock, AC coupled and 50 Ω -terminated on-board. Can be driven by either a sine wave source (0 to 10 dBm), or a square wave source (LVPECL/CMOS).
- Clock signal provided by FPGA carrier on FMC connector. LVDS 100 Ω differential signal and AC coupled input.
- Local 25 MHz crystal (optional oscillator for special frequency generation when necessary)



Board Electrical/environmental

- VITA 57.1/57.4 module
- Power dissipation: 3.5 W including the consumption of the two optical engines.
- FMC I/O voltage: VADJ= 1.8 V or 2.5 V (factory settings)

Front board

- 2 MT-interface 12 fibers

Connector (VITA 57.1/57.4)

- 8 (57.1) or 12 (57.4) data differential pairs connected to multigigabit transceivers
- Multigigabit transceivers clock output
- Reference clock input
- Clock output
- I2C bus
- Laser control, TX/RX alarm and clock status

LightABLE Optical FMC Board ordering information

Part Number	Product Description	Lanes	Bandwidth (Gbps/lane)	Sensitivity (dBm)	Optical interface	Operating Temperature (°C)
LHF120018300001	<i>LightABLE</i> Optical FMC Board	12+12	10.3125	-12	2 x MT	-40 to 85

Clock

A high performance low noise on board clock synthesizer feeds four clocks to the FPGA carrier board:

- Three reference clocks for the FPGA multigigabit transceivers
- One differential LVDS clock signal available as a FPGA global clock (GC)

The reference clock sources can be either:

- On-board 25 MHz \pm 25 ppm crystal oscillator well suited for most standard applications
- LVDS reference clock provided by FPGA carrier

Six predefined clock settings are available at power-up with different settings of the clock synthesizer.

THE *Light* on Board® Company

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Reflex Photonics is certified to ISO 9001

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