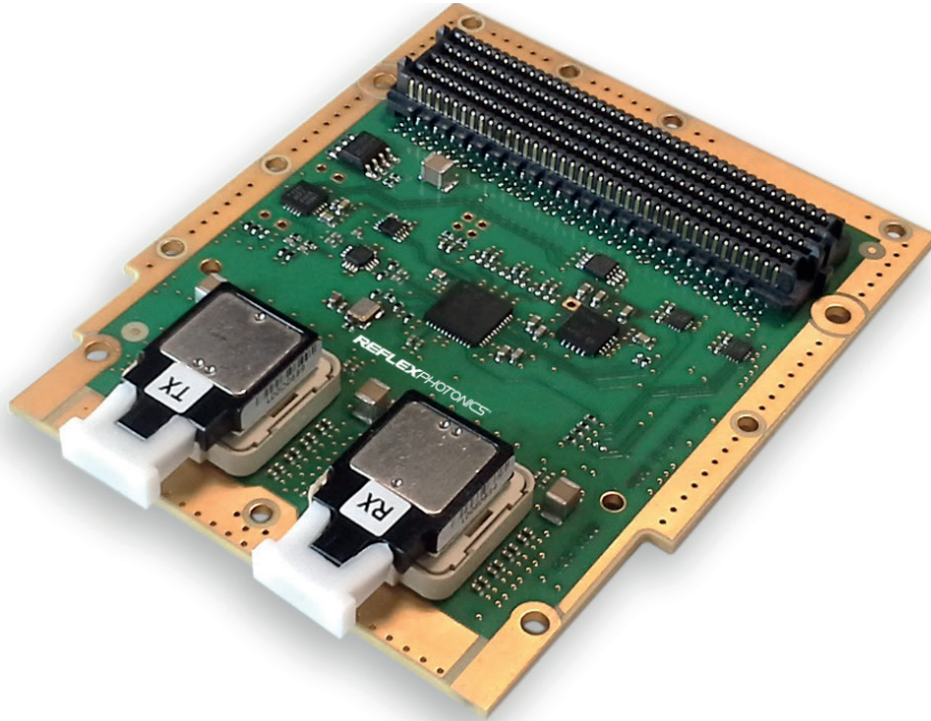


The most rugged high-performance embedded parallel optics.



LightABLE Optical FMC Boards

VITA 57.1 and VITA 57.4 LightABLE Optical FMC Board product summary

The VITA 57.1 and 57.4 compliant *LightABLE* Optical FMC Boards 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 VITA 57-compliant module boards is based on latest generations FPGA's. The VITA 57.4 version of the *LightABLE* Optical FMC Board is equipped with two *LightABLE* optical modules, one handling 12 TX lanes and the other one handling 12 RX lanes allowing short reach applications (up to 100 m) on parallel multimode fiber. In the VITA 57.1 version 10 TX and 10 RX lanes are accessible.

Key advantages

- VITA 57.1 and VITA 57.4 compatible versions.
- Standard FMC interface.
- Reduced design time.
- Integrated optical transmitter and receivers.

Configurations

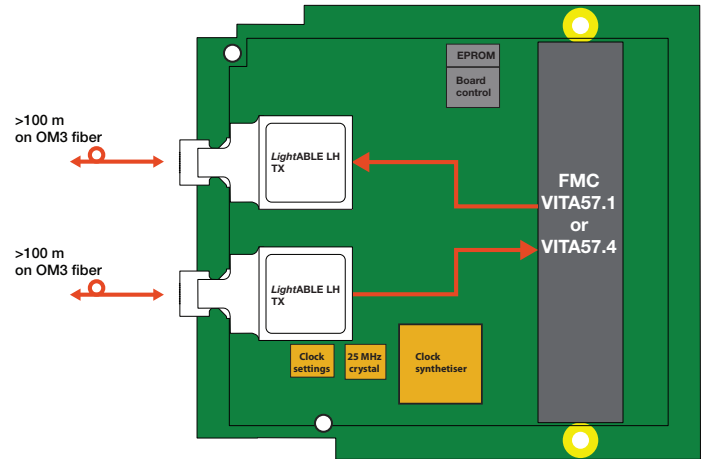
- VITA 57.1 (HPC 400 pins): 10 TX and 10 RX.
- VITA 57.4 (HSPC 560 pins): 12 TX and 12 RX.

Applications

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

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 HPC connector or VITA 57.4 HSPC connector.
- 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)

- 10 (VITA 57.1) or 12 (VITA 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.

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 ± 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.

LightABLE Optical FMC Board ordering information

Part Number	Product Description	Lanes	Bandwidth (Gbps/lane)	Sensitivity (dBm)	Optical interface	Operating Temperature (Transceiver case °C)
LHF100018310001	<i>LightABLE</i> Optical FMC Board (VITA 57.1, HPC)	10+10	10.3125	-12	2 x MT	0 to 70
LHF100018330001	<i>LightABLE</i> Optical FMC Board (VITA 57.1, HPC)	10+10	10.3125	-12	2 x MT	-40 to 85
LHF120018310001	<i>LightABLE</i> Optical FMC Board (VITA 57.4, HSPC)	12+12	10.3125	-12	2 x MT	0 to 70
LHF120018330001	<i>LightABLE</i> Optical FMC Board (VITA 57.4, HSPC)	12+12	10.3125	-12	2 x MT	-40 to 85

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Reflex Photonics is certified to ISO 9001

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