

## FPGA Mezzanine Card (FMC) prototype board (KY-FMC\_PRT)

### Overview

The FMC prototype board breaks out the complete LA bank of signals from the standard FMC Low Pin count Connector and the standard power rail and control signals. The user can add standard 0.1 inch spaced components and sockets for a wide variety of active and passive devices thus enabling the development of very complex capabilities. Standard control signals are available for the user to complete the interface to the chosen carrier card.

### Features

- VITA 57.1 FMC compliant
- Passive breakout of Low Pin count Connector (LPC) pins to 0.1" matrix grid for soldering or wire-wrapping
- Development 18x16 hole matrix
- Extended Ground rails and Power breakout for two power connections
- JTAG breakout available in development matrix
- 4 SMA connectors for high speed serial signals (SerDes)
- User determined  $V_{ADJ}$  and  $V_{ref}$
- 125MHz SerDes reference clock
- Control signals available for user connections in development matrix
- On board electrically erasable programmable memory, EEPROM, with 1Kb (128bytes) storage for configuration management and user data
- Supports air and conduction cooling FMC
- Single slot FMC
- -40°C to 85°C operating environment temperature (industrial grade)



### About FMC

FPGA mezzanine card, or FMC, as defined in VITA 57.1, provides a specification describing an I/O mezzanine module with connection to an FPGA or other device with reconfigurable I/O capability.



The FMC standard describes a versatile module, which can target a range of applications, environments, and markets. The specification defines a commercial grade version, which extends to cover a ruggedized conduction variant. FPGA's provide a high pin count that can operate at many Gbps. The latest connector technology is defined to maintain the high performance interface from the I/O on the mezzanine module, to the FPGA on the carrier card. The FMC mezzanine module design minimizes design effort and resources through minimal system support and flexible pin allocation.

## Applications

- ✓ Provides rapid means to develop new and complex FMC systems for later integration to standard FMC form factor
- ✓ Footprint for on board EEPROM simplifies complete FMC compatible interface
- ✓ Breakout of High Speed serial interfaces, clocks and control signals enables easy completion of full capability FMC functions

## Ruggedization

The FMC prototype board is delivered in air and conduction cooled FMC standards. The board supports standard VITA 47 ruggedized levels for severe environmental conditions.

## Deliverables

- FMC prototype board (KY-FMC\_PRT)
- Hardware user manual

## Block Diagram

