

FM550

TWO CHANNEL MINI-SAS I/O FMC



The **FM550** is an I/O module equipped with two external mini-SAS x4 connectors. I/O FMCs of this sort are typically used to provide inter-module connectivity via the front-panels of carrier cards fitted with similar interfaces, or fan-out to multiple external devices such as mini-SAS drives.

Eight full-duplex high-speed serial lanes connect through the DP[0:7]_M2C/C2M lines of the HPC FMC connector to the FPGA of the carrier card. The mini-SAS connector is designed for signalling up to 10Gbps, contingent upon support of this rate by the interfacing FPGA device.

Any FPGA-supported protocol for implementation on one to four SerDes lanes may be utilised, with typical examples being external PCIe, XAUI, SRIO, SerialLite II, Aurora, SATA or SAS.

A low-jitter oscillator is fitted to the FM550, suitable for use as a reference clock source. The default value of the oscillator is 100MHz, but different values maybe requested upon ordering.

When matched with Parsec's VF360 3U VPX carrier card, the Aurora Rocket IO Firmware Reference Design can be used to accelerate development of a multi-card front-panel interconnectivity design.

Specifications

Front Panel mini-SAS Characteristics

- 2x SFF-8088 interfaces
- 4x lanes per interface
- Compliant with mini-SAS pin-out
- Designed for up to 10Gbps operation

Reference Oscillator

- LVDS signalling levels
- Default frequency: 100MHz
- Total stability: ± 31.5 ppm max
- Supplied on FMC GBTCLK0

HPC FMC Interface

- 10 x full-duplex RS422 interfaces
- 8x high-speed serial lanes on DP[0:7]_M2C/C2M
- 2x loopbacks on DP[8:9]_C2M/M2C
- 17x loopbacks on LA[33:0]
- 12x loopbacks on HA[23:0]
- 11x loopbacks on HB[21:0]

Firmware Support

- FDK Kit for custom firmware development on VF360
- VF360 Firmware Reference Design (FRD) with Aurora RocketIO
- Firmware development services available on request

Application Examples

- High-speed multi-board interconnect via front-panel
- Multi-link fan-out via breakout cables

High-speed multi-board interconnect via front-panel

- **FM550** -X
- X: On-board oscillator (100MHz standard)

Standard order code: FM550-100

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Block Diagram

