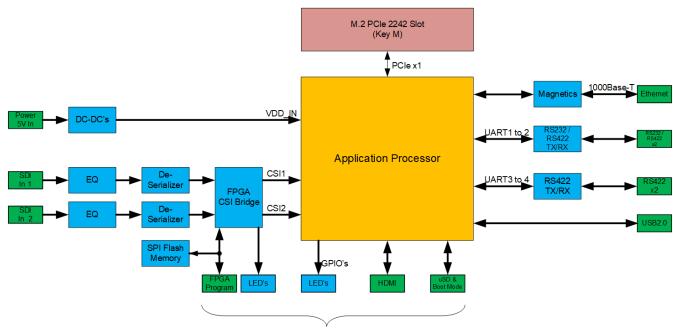**VISION4CE**

MiniCHARM-SDI

Compact Processing Module 65mm x 63mm x 18mm

The MiniCHARM is a standalone module for video and image processing applications which hosts the Vision4ce FrameWorkx image processing software. FrameWorkx includes the field proven DART video tracking software. The MiniCHARM is based on an application processor with a multicore ARM processor.

The MiniCHARM-SDI has two 3G SDI video inputs. The primary host interface is through an ethernet port and multiple serial ports are also provided. An M.2 slot can be used for expansion.

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Application Processor block diagram:

M.2 PCIe 2242 Slot (Key M)

PCIe x1

Power 5V In → DC-DC's → VDD_IN → Application Processor

SDI In 1 → EQ → De-Serializer → FPGA CSI Bridge → CSI1 → Application Processor
SDI In 2 → EQ → De-Serializer → FPGA CSI Bridge → CSI2 → Application Processor

SPI Flash Memory

FPGA Program | LED's | LED's | GPIO's | HDMI | uSD & Boot Mode

Diagnostic & Programming Interfaces

Application Processor → Magnetics → 1000Base-T → Ethernet
UART1 to 2 → RS232 / RS422 TX/RX → RS232 / RS422 x2
UART3 to 4 → RS422 TX/RX → RS422 x2
USB2.0

Video Interfaces
• 2 x digital video inputs – SD-SDI, HD-SDI,3G-SDI 480i60,576i50,720p 50/59.94/60,1080p25/29.97/30, 1080i50/59.94/60,1080p50/59.94/60,2160p25/29.97/30

Data
• 2 x RS232/RS422 serial interfaces (build option)
• 2 x RS422 Serial Interfaces
• 1 x 1000BaseT with magnetic
• 1 x USB 2.0 OTG

Expansion Slot
• 1 x M.2 PCIe slot, key M, 2242

Connectors
• Power (2 pin Nano-Fit header)
• Video (75 Ohm MMCX7 jack)
• Ethernet (2 row 12-way Gecko plug)
• RS232 and 422 (2 row 20-way Gecko plug)
• USB (micro-AB USB2.0 receptacle connector)

Power
• +5V, +/- 5%, <10 watts

Mechanical
• 65mm x 63mm

Environmental
• Operating temperature -25C to +71C