Q8 Camera Board Product

Q8 Processor
High Performance Q-Card

- Latest addition and highest performance member of the Xiphos Q-Card family, featuring a Multi-Processor System-on-Chip (MPSoC)

- Hybrid environment, including multi-core CPUs supported by massive programmable logic resources and a wide array of hardware interfaces at extremely low power

- Ideally suited for onboard synthetic aperture radar (SAR) processing, hyper/multispectral compression, stereo and monocular visual odometry, image registration and alignment, convolutional neural networks, advanced software defined radios (SDR)

CHARACTERISTICS

- Xilinx Zynq UltraScale+ XCZU7EG MPSoC
- Quad-core ARM Cortex-A53 @ 1.2 GHz
- Dual-core ARM Cortex-R5 @ 500 MHz
- ARM Mali-400 GPU @ 600 MHz
- 504k system logic cells, 461k flip-flops (FF), 274k look-up tables (LUT) and 1,728 DSP slices
- 4 GB LPDDR4 DRAM (with EDAC)
- 2x 256 MB QSPI Flash (NOR)
- 2x 128 GB eMMC storage
- 6-16 V input; 3.5-25 W, scalable
- 80 mm x 80 mm x 11.2 mm, 56 g
- Multiple interfaces
- Radiation effects mitigation and 30krad TID lifetime
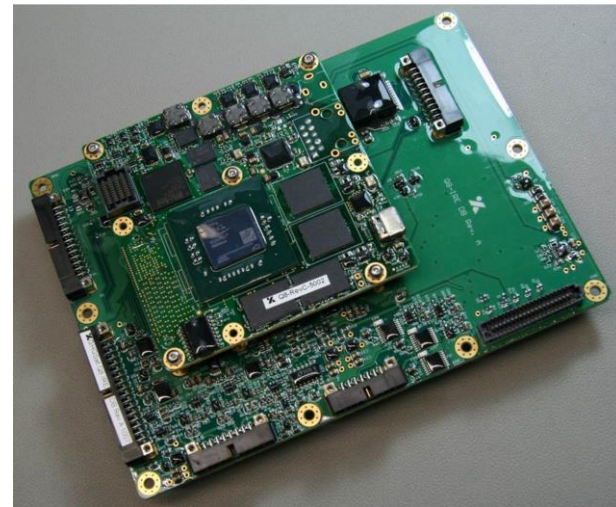
Q8 Camera Board
Small Form–Factor Camera Daughterboard

- Interfaces with standard cameras and com ports

CHARACTERISTICS

Interfaces include:
- 1x Base Camera Link interface (with switchable power output)
- 1x Medium Camera Link interface (with switchable power output and 1x TTL output for camera trigger)
- 1x GigE Ethernet
- 3x RS485 full duplex with DC termination
- 1x RS422/485 interface (from Q8)
- 2x LVDS GPIO (or 4x 1.8V LVCMOS GPIO)
- 2x GPO (3.3V)

Q8 and Q8 Camera Board
(Conformally Coated)

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Q8 Camera Board
Small Form-Factor Camera Daughterboard

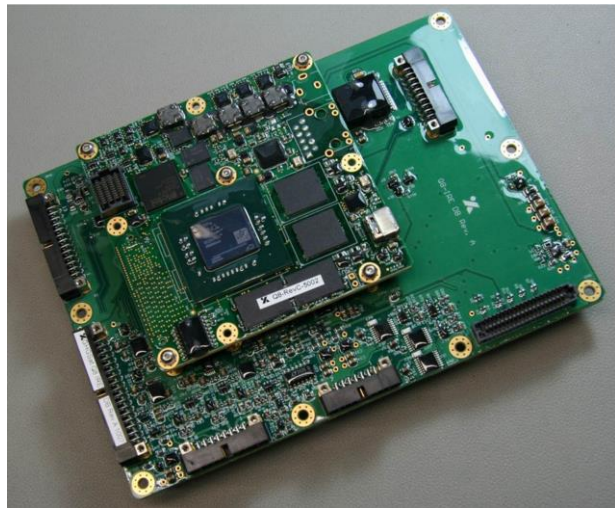- Interfaces for GPS and heater management

- Small SWaP

CHARACTERISTICS

Interfaces Include :
- 1x GPS PPS input
- 1x GPS serial PPS input
- 1x GPS serial PPS output
- 3x Heater power interfaces (400mA per heater)
- 3x PT1000 RTD 3-wire readouts
- 3x AD590 inputs (Temperature to current transducer)

Mechanical/Electrical Characteristics:
- Physical dimensions: 150 x 110 x 10 mm
- Weight: 98g
- Power Input: 9 to 13V (12V nominal)
- Power consumption: 4W idle (maximum 5W)

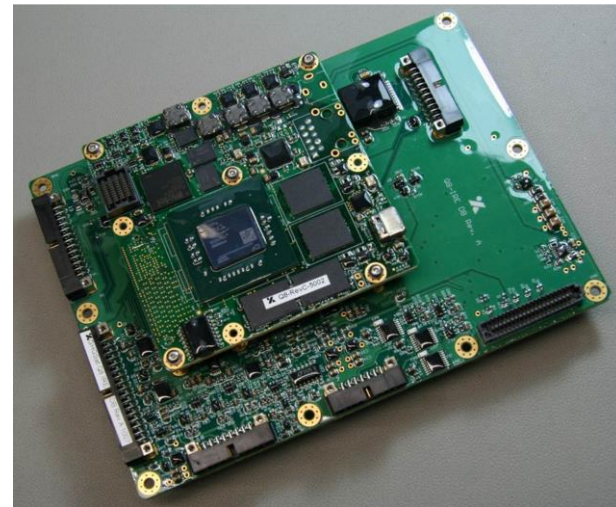Q8 and Q8 Camera Board
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Q8 Camera Board
External Connectors

CHARACTERISTICS
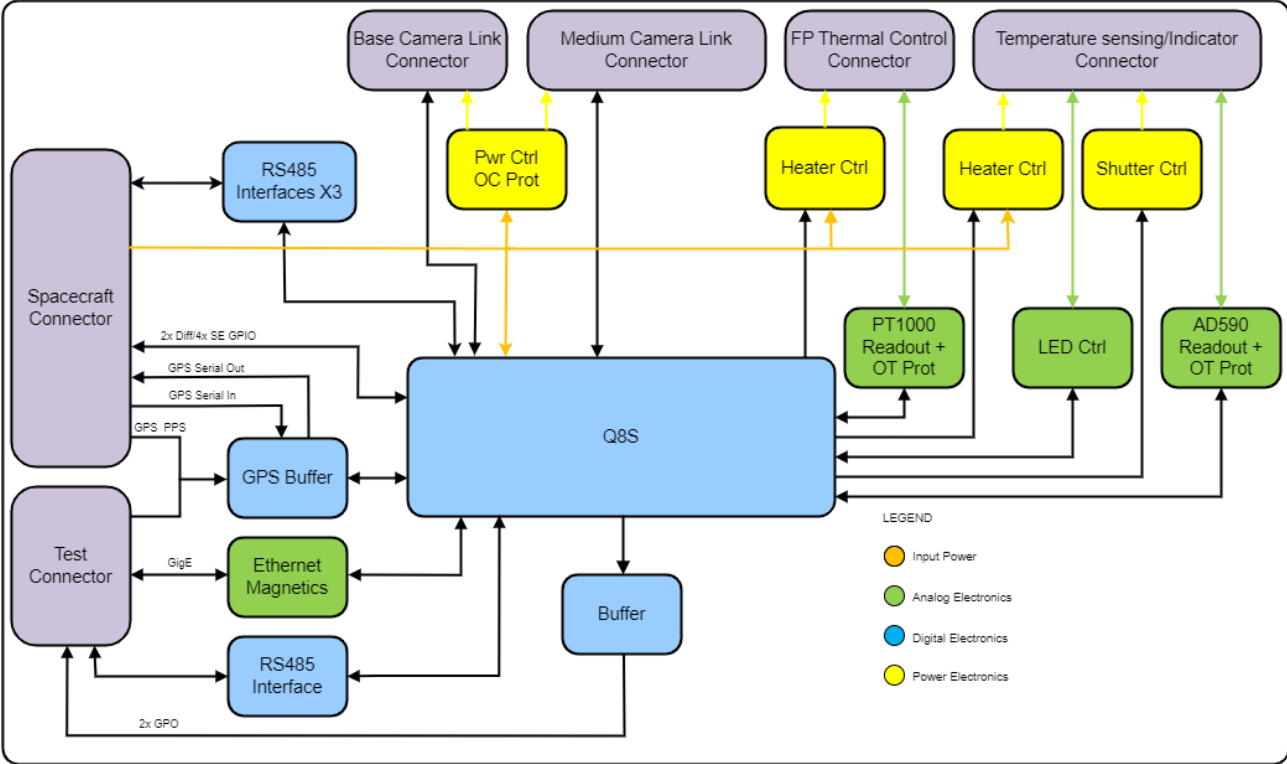
External Connectors:
- J1 – (20 pins)
  - 1x RS-485 interfaces
  - 1x GPO
- J2 – (80 pins)
  - 1x Medium Camera Link interface
  - 1x TTL trigger output
- J3 – (14 pins)
  - 3x PT100 RTD 3-wire readouts
  - 2x heater power interface

- J4 – (16 pins)
  - 3x AD590 inputs
  - 3x Heaters 400mA
  - 3x LEDs
  - 1x shutter out
- J5 – (34 pins)
  - 3x RS-485 full duplex with termination
  - 1x GPS serial input
  - 1x GPS serial output
  - 1x GPS PPS input
- J6 – (26 pins)
  - 1x Base Camera Link interface

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Q8 Camera Board
Block Diagram

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- **For more information, please contact:**

  - Xiphos Sales Team

  - Email: sales@xiphos.com

- **Or visit www.xiphos.com**