XIPHOS

Q7 ACS Daughterboard Product

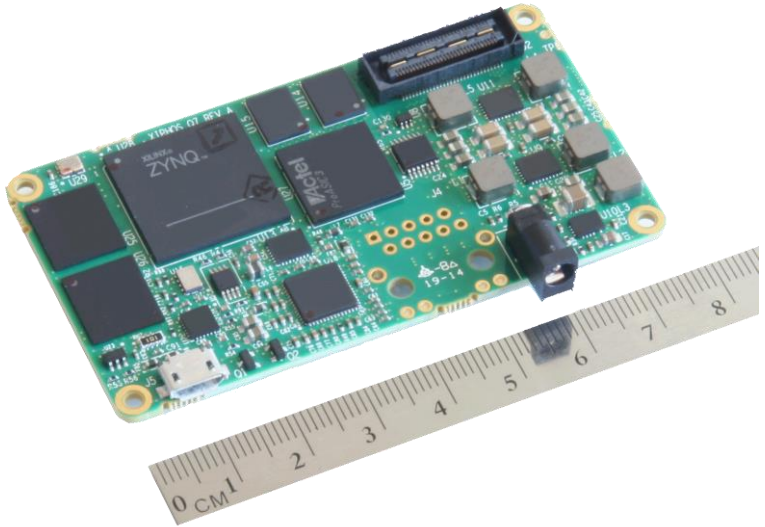
Q7 Processor

High Performance, Low Power & Small Form Factor

- Most prolific (to date) member the Xiphos Q-Card family of low-cost, low SWaP embedded nodes for control, processing and interface applications
- Hybrid environment with powerful CPU and dense programmable logic, providing consistent and reliable high performance at extremely low power

CHARACTERISTICS

- Zync-7020 SoC
  - Dual-core ARM Cortex-A9 @ 766 MHz
  - 106k flip-flops (FF), 53k look-up tables (LUT) and 220 DSP slices
- ProASIC3-based supervisor
- 1x 256 MB + 1x256 MB LPDDR2 RAM (with ECC)
- 2x 128 MB QSPI Flash (NOR)
- 2x 32 GB MicroSD
- 6-28V input
- Multiple interfaces
- 78 mm x 43 mm x 9 mm, 24g
- 1.5W for typical applications
- Radiation effects mitigation and 25krad TID lifetime



Q7 ACS Daughterboard

Small Form Factor Attitude Control System Daughterboard

- Interfaces with standard satellite ACS subsystems

CHARACTERISTICS

Features:

- 100 x 76 x 14.5 mm (excluding RJ45)
- Power Input: 25 to 34V (28V nominal) (SW3)
- Power consumption: 2.7W @ idle

Interfaces include:

- GigE interface (on Q7)
- 16x RS-422 interfaces
- 3x RS-485 interfaces
- 3x Magnetorquer drive (full H bridge)
  - Supplied via separate 28V (25 to 34V) input (SW2)
  - 0.3A per interface
- 4x switchable 15V outputs
  - 0.3A per switch
- 9x switchable 5V outputs
  - 1.1A per switch
- 3x switchable 28V outputs
  - 0.4A per switch
  - Overcurrent protection per switch
- 2x GPO interfaces (LVCMOS 3.3V, buffered)
- 4x GPIO 1.8V (unbuffered)
- 4x GPIO 3.3V (unbuffered)

Q7 and ACS daughterboard shown with PIM

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CHARACTERISTICS

Telemetry:

- Current measurements
  - SW2, SW3
  - 5V, 15V, 28V switchable outputs
  - H-Bridge controls
- Voltage measurements
  - SW2, SW3 inputs
  - 5V, 15V internal voltage rails

Q7 and ACS daughterboard shown with PIM

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CHARACTERISTICS

External Connectors:

- J1 - (34 pin)
  - 10x RS-422 interfaces
  - 5x switched 5V
- J2 - (50 pin)
  - 14x RS-422 interfaces
  - 2x switched 5V
  - 2x switched 15V
- J3 - (12 pin)
  - 4x RS-485 interfaces
- J4 - (42 pin)
  - 8x RS-422 interfaces
  - 2x RS-485 interfaces
  - 2x switched 5V
  - 2x switched 15V
  - 3x switched 28V
  - 1x GPO (buffered)
- J5 - (10 pin)
  - 4x GPIO 1.8V (unbuffered)
  - 4x GPIO 3.3V (unbuffered)
- J7 - (14 pin)
  - 3x Magnetorquer Drive (differential)
  - 2x 28V input (SW2 + SW3)

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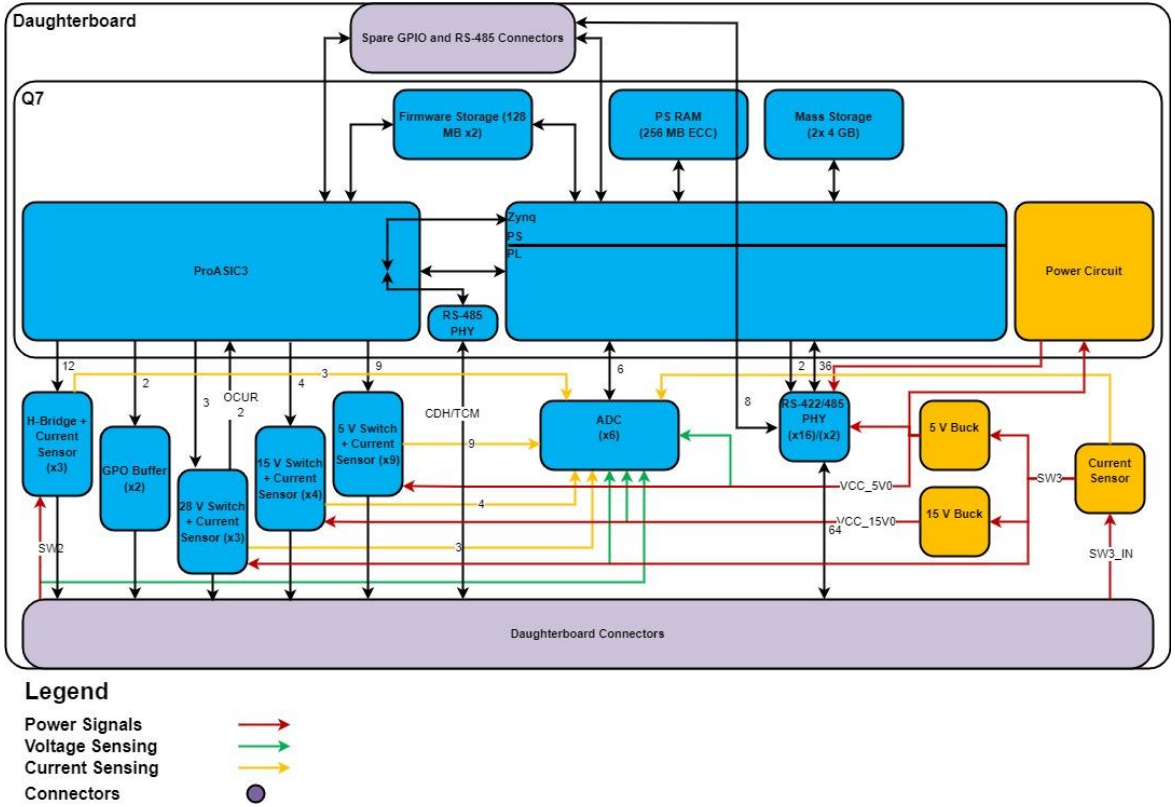

- **For more information, please contact:**
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- **Or visit www.xiphos.com**