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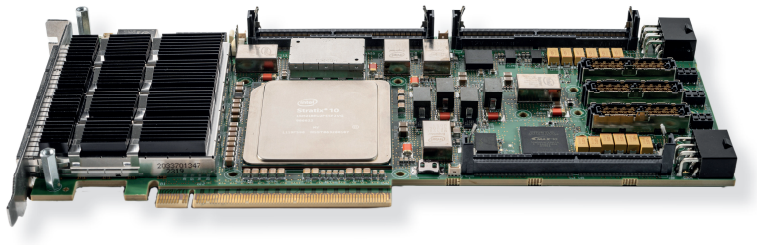
Product Brief



prodesign FALCON Stratix® 10 Acceleration Card

PRODUCT SUMMARY

The FALCON acceleration card offers Intel® Stratix® 10 FPGA technology with high throughput HBM2 memory integration. The board is based on PCIe Gen3 x16 and offers four 100GE QSFP-DD front ports supporting 8x 100Gbit/s or 4x 200Gbit/s. Further, it offers three programmable SO-DIMM sockets and three high-speed NovaRay® connectors for connecting multiple memory modules or peripherals.
Supporting HDL, oneAPI, OpenCL flows.

KEY MARKETS

→ Video Broadcasting
→ High Performance Computing
→ AI and Machine Learning
→ Network Acceleration

KEY FEATURES

→ Intel® Stratix® 10 MX or NX FPGA incl. HBM2
→ PCIe Gen3 x16
→ 3x SO-DIMM sockets with programmable I/Os for
  → Standard DDR4 modules
  → Custom memory modules or daughter cards
→ 3x High-speed Samtec NovaRay® connectors for
  → Board to board connection
  → High-throughput peripheral interfaces
→ 4x QSFP28-DD network connectors

SPECIFICATION

FPGA	Intel® Stratix® 10 MX/NX series: → 1S10MX160-F55, 1S10MX210-F55 → 1S10NX210-F55
Memory	HBM 8GB/16GB
Extension Interfaces	→ 3x Samtec NovaRay® connectors → Up to 8x 28.9 Gbit/s → 8 GPIOs each → 3x SO-DIMM slots with programmable I/Os for memory and/or other interfaces
Network Interfaces	4x QSFP28-DD connectors → 8x QSFP28 (100 GBit/s each) → User programmable low jitter clocking supporting 10/25/40/100GbE → Each QSFP28-DD can be independently clocked
PCIe Interface	PCIe Gen3 x16 interface direct to FPGA
Board Cooling	Passive and active air cooling options
Board Form Factor	PCIe card full height, 3/4 length

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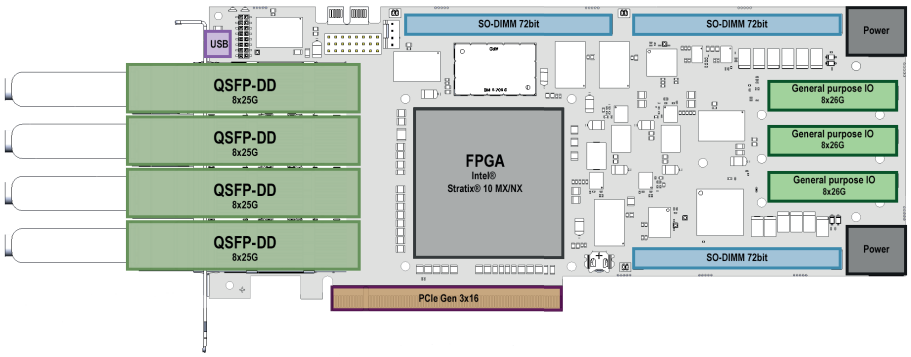

ARCHITECTURE AND FEATURES

PRO DESIGN IN-HOUSE ADVANTAGES

R&D team (HW, SW):
→ Board modifications
→ Customization
→ Custom module development

Production Lines:
Full cycle with 40 years of experience – fast and determined lead times

Test Facilities
→ Quality
→ Reliability
→ Service support

Further Information
Please visit:
www.prodesign-fpga-acceleration.com

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FURTHER SPECIFICATIONS

FPGA Logic Elements (LEs)	→ NX 2100: 2.073.000 → MX 2100: 2.073.000 → MX 1650: 1.679.000
FPGA DSP (AI Tensor blocks)	→ NX / MX 2100: 3.960 → MX 1650: 3.326
Board Management Controller	→ Voltage monitoring → Current monitoring → Temperature monitoring → Programmable clock generators with low jitter
Power	→ Standard ATX 12V → Supporting up to 375W
Software / IP	→ HDL → OpenCL
Operating Temperature	Environmental temperature
Board Dimensions	254 mm x 111.28mm

SERVICES

Deliverables	Acceleration card with cooling and cables
Warranty	1-year on hardware
Order Code	PD-FALCON-1SM16 /-1SM21 /-1SN21