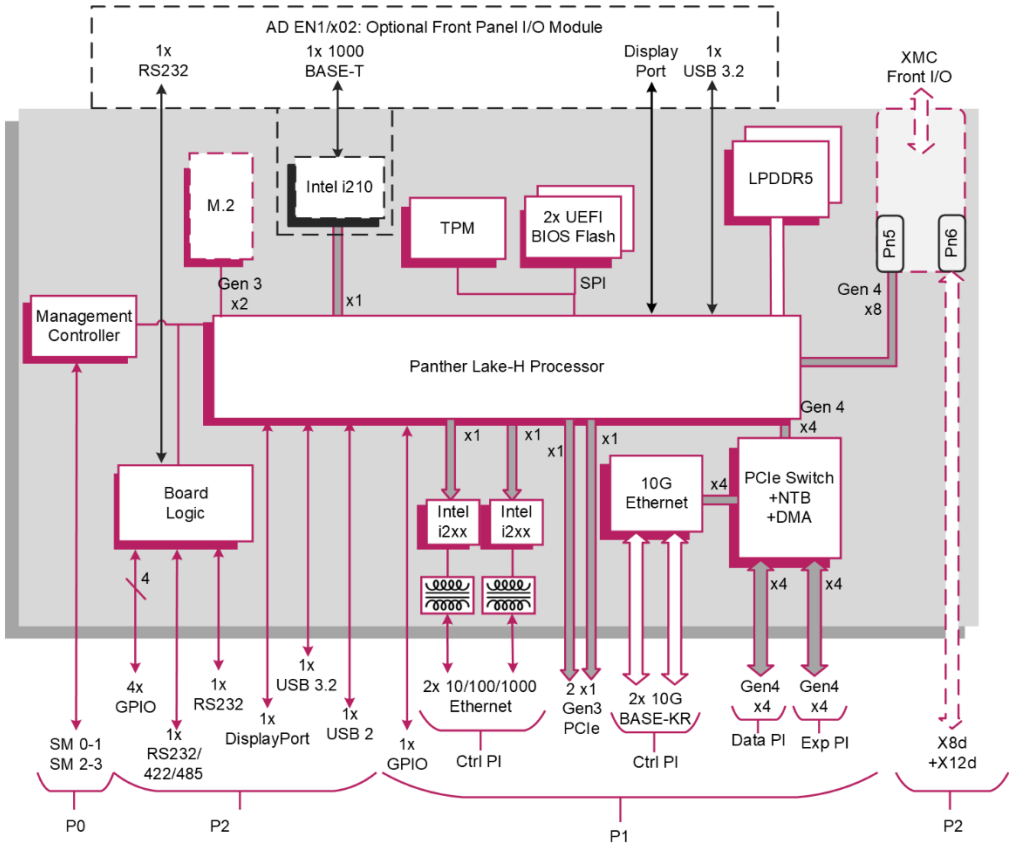
Eir
(TR OFx/msd)

3U VPX™ board based on 16-core Intel® Core™ Ultra (Series 3) Processor

Key Features

Eir is a 3U VPX board based on 16-core Intel® Core™ Ultra (Series 3) Processor to provide enhanced processing performance with higher performance memory, support for varying power inputs and flexible PCIe connections for additional I/O.

- Intel® hybrid architecture processor with integrated GPGPU and NPU accelerators for optimal performance with improved power management
- XMC or front panel I/O module
- PCIe data and expansion planes
- Support either +12V or +5V power input
- 64GB LPDDR5
- Available in air and conduction-cooled variants



Specification

VPX Processor Board
- 3U VPX single board computer utilising a 16-core Intel® Core™ Ultra (Series 3) processor
- VITA65.0-2023 slot profile SLT3-PAY-2F2T-14.2.5
- VITA65.0-2023 module profile MOD3-PAY-1F1F2U1TU1T1U1T-16.2.5-4
- optional Rear Transition Module (RTM) available
- air and conduction-cooled variants available

Central Processor
- 16-Core H484 Core Ultra 7
- includes 4 Xe3 integrated GPGPU
- includes NPU 5.0 for AI acceleration

DRAM
- 64 Gbytes LPDDR5
  - TBC MT/s
  - dual channel architecture

PCI Express
- 2 x Gen 4 x4 ports supporting non-transparent bridge and DMA operation
- 2 x Gen 3 x1 ports
- auto negotiation for backwards compatibility

Ethernet Interfaces
- 2 x 10GBASE-KR/1000BASE-KX SERDES interfaces
- 2 x 10/100/1000BASE-T Ethernet ports with magnetics:
  - one port is TSN ready and the other port is capable of SoL operation

Optional XMC Site
- XMC connector type (build option):
  - VITA 42 XMC (black color)
  - VITA 61 XMC 2.0 (white color)
- X8d + X12d I/O support

Optional Front I/O Module
- the optional Front I/O Module supports:
  - 10/100/1000 Mbps Ethernet port via RJ45, implemented by Intel® Ethernet Controller I210
  - 1 x USB 3.2/2.0 port via Type A USB
  - 1 x RS232 full modem via RJ45
  - 1 x DisplayPort v1.2 with audio interface
- module is only available for use with air-cooled boards (N-Series and E-Series)

Graphics/Audio Interfaces
- up to 2 x independent graphics/audio interfaces:
  - DisplayPort v1.2 interface, supporting audio and video, via the optional Front I/O Module
  - DisplayPort v1.2 interface, supporting audio and video, via P2:
  - up to 3840 x 2160 @ 60Hz resolution

Mass Storage
- optional 2242 M.2 module supports:
  - opal 2.0 data at rest encryption
  - FIPS 140-3 complaint encryption (Only available on 1” variants)
  - hardware write protection (Only available on 1” variants)
  - gen 3 x2 PCIe interface (M-key)

Software Support
- supports Linux® and Windows®
- for other operating systems contact Concurrent Technologies for further information, e.g. VxWorks®

Safety
- PCB (PWB) manufactured with flammability rating of UL94V-0

Electrical Specification
- typical current:
  - TBD A
- +12V AUX and -12V AUX routed to XMC

Environmental Specification
- air-cooled to VITA 47.1-2025:
  - N-Series operating temperature Class AC1 0°C to +55°C
  - E-Series operating temperature Class AC3 -25°C to +70°C
  - Class NT4, V1, OS1, C1B, AV1, CS2
- conduction-cooled to VITA 47.1-2025:
  - operating temperature Class CC4 -40°C to +85°C
  - Class CCW5,NT4, V3, OS2, C2B, AV2, CS3, M1

Mechanical Specification
- 3U VPX form-factor (VITA 46.0, VITA 48.0)
- 3.9 inches x 6.3 inches (100mm x 160mm)
- slot width 1.0-inch air cooled:
  - VITA 48.1 as per VITA 65
- slot width 0.8, 0.85 and 1.0-inch conduction cooled:
  - VITA 48.2 as per VITA 65

Datasheet Code 1880/Mar26