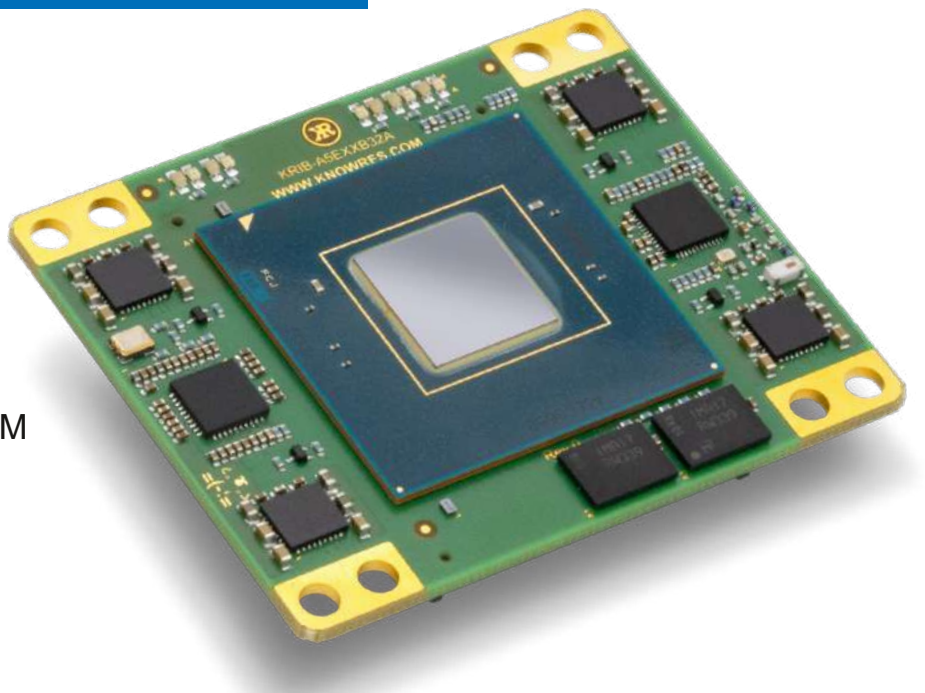
KRIB-A5ExxB32A

KEY FEATURES

- AGILEX 5 E-Series
- 24 28.1 Gbps transceivers
- 80 HVIO
- 40 HSIO
- 44 HPSIO
- 4 x 8 GB 32-bit LPDDR4 RAM
- QSPI and eMMC
- Single 3V7 to 5V supply
- 60 x 50 mm



The KRIB is a highly capable, compact Agilex5-based SoM suitable for a multitude of applications.

Best DDR BW Agilex 5 SoM

With four 32-bit wide LPDDR4 instances, the KRIB from Knowledge Resources offers the highest memory bandwidth SoM in the industry, making this module ideally suited for video processing and other high memory-bandwidth applications such as RF-capture or edge AI. The flexible design allows the designer to choose the on-SoM eMMC or carrier-based mass storage to complement the module's large and fast RAM capabilities.

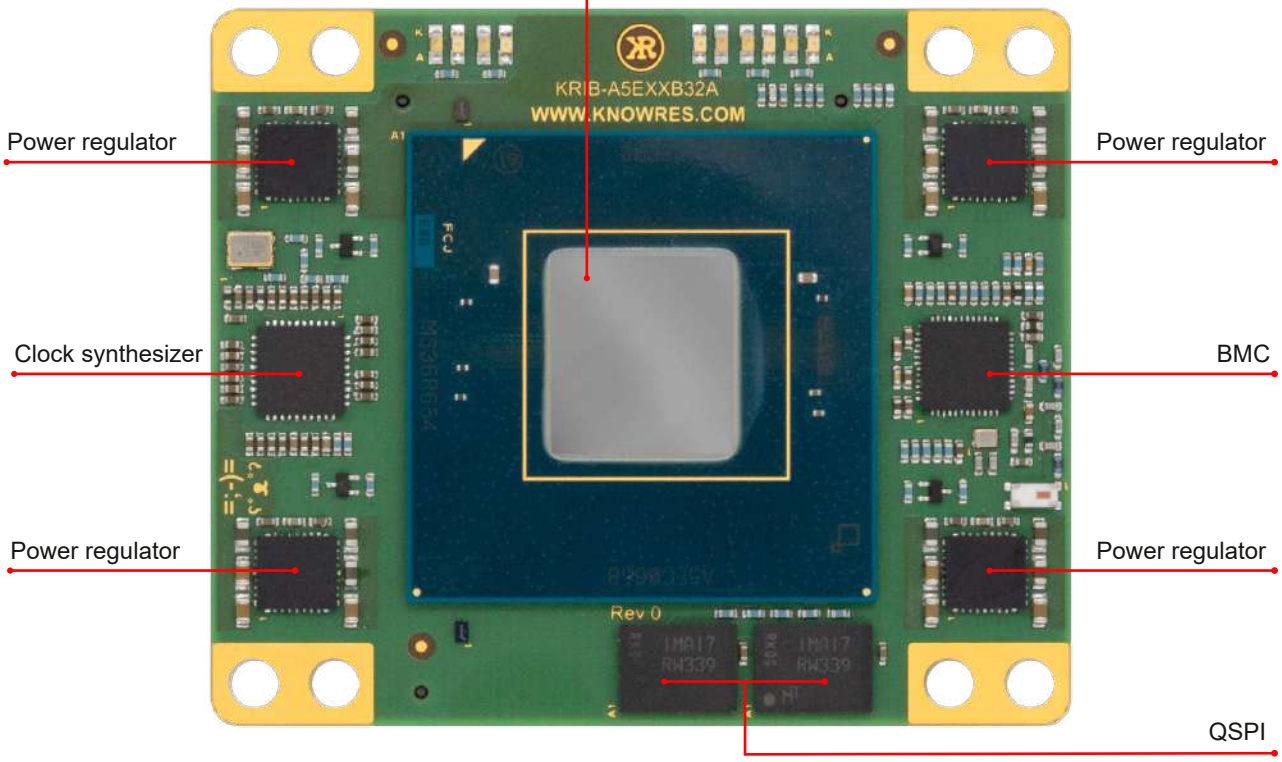
Versatile I/O & Processing

With 80 high-voltage and 40 high-speed differential I/Os and 44 HPS peripheral signals, the KRIB SoM is ideally suited for a range of high pin-count industrial control applications. The fully accessible 24 transceivers with speeds up to 28 Gbps and multiple instances of PCIe Gen4 x4 hard IP enable the KRIB to serve at the heart of PCIe peripherals such as smart NIC, smart storage, or as fully independent smart network devices, driven by the dual ARM A76 and A55 processing cores.

Easy Integration

Knowledge Resources was the first SoM vendor to introduce a comprehensive housekeeping bus on its advanced modules that ensures robust integration of its SoMs into complex systems with deterministic system-wide power sequencing and glitch-free peripheral initialization. The KRIB SoM is the first mid-range module to feature the same capabilities. Combined with a very flexible single-supply range of 3V7 to 5V, on-board power sequencing and clock generation, and only a 60 x 50 mm footprint, the KRIB is the perfect, easy to design-in core for a multitude of applications.

TOP



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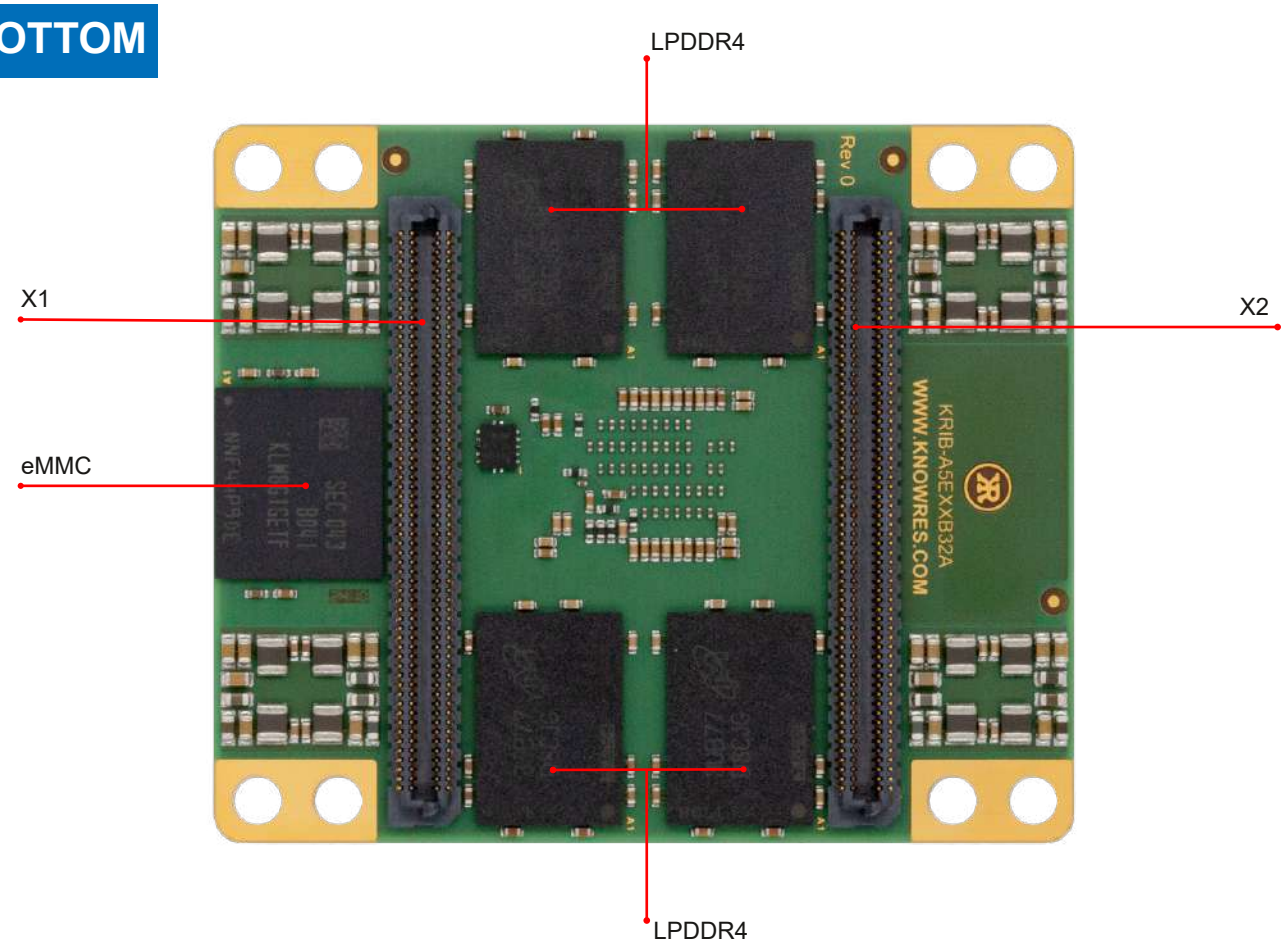

FEATURES

Core Component Options
- Intel Agilex 5 A5E043A/B or 065A/B

Processing System
- DUAL Core ARM Cortex™-A76
- DUAL Core ARM Cortex™-A55

FPGA Fabric
- 434k or 656k LEs
- 1128 or 1692 18x19 multipliers
- 4.1 or 6.7 MB embedded RAM

Memory Configuration
- 4 or 8 GB, 32-bit HPS LPDDR4 RAM
- 3 x 4 or 8 GB 32-bit Logic Fabric LPDDR4 RAM
- Dual QSPI to 512 MB
- eMMC 16 to 64 GB

Digital I/O
- 22 & 22 HPS_A & B I/O to 1V8
- 80 HVIO 1V8 to 3V3
- 40 HSIO at 1V2
- 24x 17 or 28.1 Gbps transceivers
- BMC UART / HPS UART
- BMC status signals
- JTAG

BMC
- Board Management Controller for
  - On-module clock configuration
  - Power sequencing & telemetry
  - Boot mode selection
  - Housekeeping for multi-module systems

Power
- 3V7 to 5V0

Clocking
- 3:8 clock tree
  - External clock or on-board master
  - All digital module elements can be derived from one master clock
- On board clock sources for
  - LPDDR4 interface reference clocks
  - HPS reference clock
  - Transceiver clocks 4x
- Direct clock inputs on connectors
  - Transceiver clocks 6x

Dimensions
- 60 x 50 mm
- 15 mm max. height with heat-spreader

Environmental
- Industrial temperature range