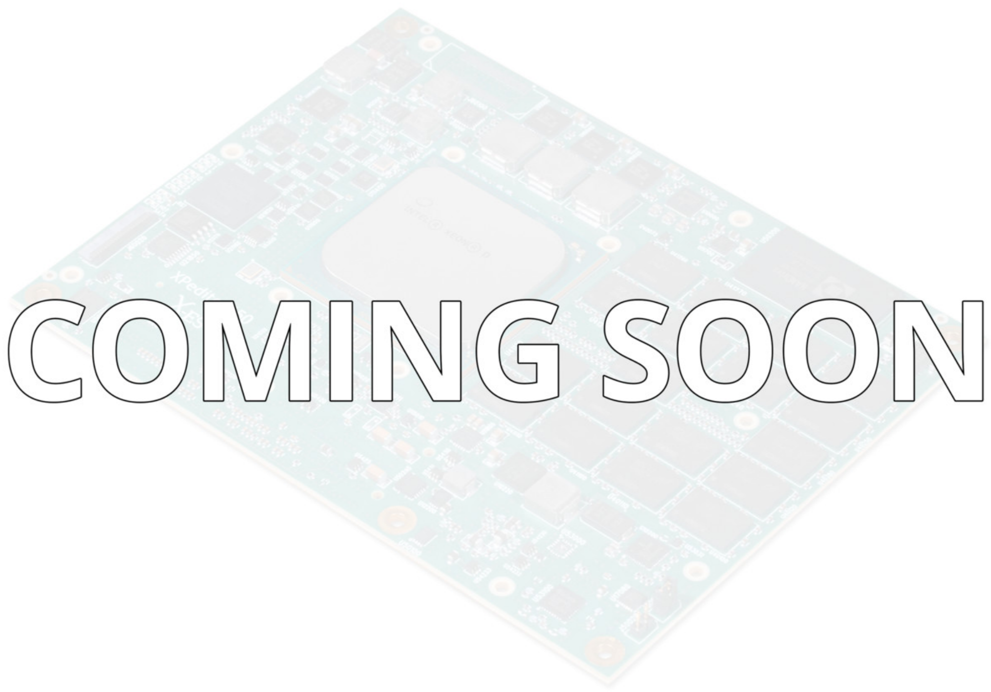
XPedite8350

Intel® Core™ Ultra (Series 3) Processor-Based Rugged COM Express® Module with 64 GB of LPDDR5 and Microchip PolarFire™ SoC FPGA

- Supports Intel® Core™ Ultra processors (Series 3) (formerly Panther Lake)
- Designed with SecureCOTS™ technology to support enhanced security and trusted computing
- Microchip PolarFire™ SoC FPGA with 256 MB SPI NOR flash
- COM Express® Basic (Type 6) form factor (Revision 3.1 pinout) with ruggedization enhancements
- Up to 64 GB of LPDDR5 SDRAM with in-band ECC
- Up to 512 GB of NVMe storage
- One 10/100/1000BASE-T Gigabit Ethernet port
- Four USB 2.0 ports
- Two x2, one x4, and one x8 PCI Express Gen4-capable interfaces
- Two DisplayPort++ 1.4 interfaces
- X-ES Enterprise Linux (XEL) BSP
- Linux Yocto BSP
- Contact factory for availability of Microsoft Windows drivers and other operating systems



XPedite8350

The XPedite8350 is an enhanced COM Express® Basic (Type 6) module based on the Intel® Core™ Ultra processor (Series 3) (formerly Panther Lake). COM Express® provides a standards-based form factor to bring PC processing to a wide range of applications. Ideal for ruggedized systems requiring high-bandwidth processing and low power consumption, the XPedite8350 delivers superior performance and efficiency for today's network information processing and high performance embedded computing applications.

The XPedite8350 integrates SecureCOTS™ technology with a Microchip PolarFire™ System-on-Chip (SoC) FPGA for hosting custom functions to protect data from being modified or observed and provides an ideal solution when stringent security capabilities are required.

The XPedite8350 supports up to 64 GB of LPDDR5 SDRAM with in-band ECC in four channels and up to 512 GB of onboard NVMe storage. The XPedite8350 also provides fast and efficient I/O, including 10/100/1000BASE-T Ethernet, USB 2.0, PCI Express, I²C, DisplayPort++ 1.4, and serial.

Wind River VxWorks, X-ES Enterprise Linux (XEL), and Linux Yocto Board Support Packages (BSPs) are available.

Processor

- Supports Intel® Core™ Ultra processors (Series 3) (formerly Panther Lake)

Memory

- Up to 64 GB of LPDDR5 SDRAM with in-band ECC
- Up to 512 GB of onboard NVMe storage
- 64 MB NOR boot flash
- 64 kB general purpose EEPROM
- 16 kB COM Express EEPROM

Security and Management

- Microchip PolarFire™ SoC FPGA with 256 MB SPI NOR flash
- Designed with SecureCOTS™ technology to support enhanced security and trusted computing
- System voltage monitor, power-on/reset control, non-volatile write-protection control
- Trusted Platform Module (TPM) 2.0

COM Express®

- Basic (Type 6) form factor (95 mm x 125 mm) with ruggedization enhancements
- Revision 3.1 pinout
- Non-volatile write-protect signal from A103 (optional)

Interface

- One 10/100/1000BASE-T Ethernet port
- Four USB 2.0 ports
- Four PCI Express Gen4-capable interfaces (contact factory for PCIe bifurcation details)
- Two DisplayPort++ 1.4 interfaces
- Two UART LVTTL serial ports
- Eight single-ended GPIO
- One general-purpose SPI interface

Software Support

- UEFI firmware
- Wind River VxWorks BSP
- X-ES Enterprise Linux (XEL) BSP
- Linux Yocto BSP
- Contact factory for availability of Microsoft Windows drivers and other operating systems

Physical Characteristics

- COM Express® Basic (Type 6) form factor with ruggedization enhancements
- Dimensions: 95 mm x 125 mm

Environmental Requirements

Contact factory for appropriate board configuration based on environmental requirements.

- Supported ruggedization levels (see chart below): 5
- Conformal coating available as an ordering option
- Contact X-ES for air-cooled development options

Power Requirements

- Power will vary based on configuration and usage. Please consult factory.

Ruggedization Level	**Level 5**
Cooling Method	Conduction-Cooled
Operating Temperature	-40 to +85°C (board rail surface)
Storage Temperature	-55 to +105°C (maximum)
Vibration	0.1 g²/Hz (maximum), 5 to 2000 Hz
Shock	40 g, 11 ms sawtooth
Humidity	Up to 95% non-condensing