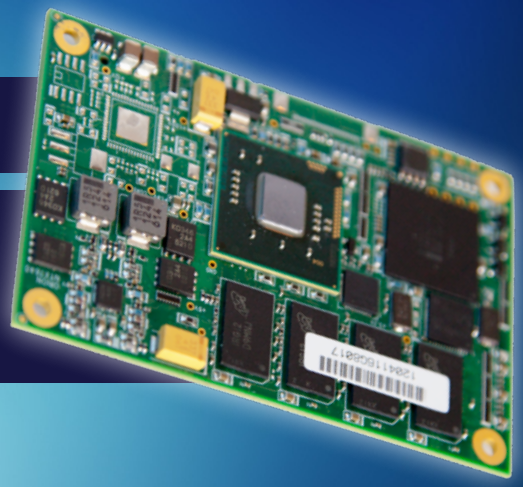
NTX7640

Ultra Low-Power, Extended Temperature
Intel® Dual Core

Cedarview Based Single Board
Computer for COM Express® mini



Power and Flexibility

The Orion NTX7640 single board computer (SBC) is a flexible, rugged, high-performance, low power, multi core SBC ideally suited for a variety of applications.

Harnessing the power of the Cedarview dual core processor and the unparalleled complement of I/O, this SBC can be adapted to practically any Military, Industrial or Commercial application.

The NTX7640 is available in multiple levels of ruggedization, from commercial temperature air cooled to extended temperature.

With up to 1GB DDR3, an onboard bootable SATA NAND flash drive, and Gigabit Ethernet the low power NTX7640 design has streamlined high-performance, low power processing in a small form factor (55mmx84mm).

The NTX7640's Gigabit Ethernet, SATA port, three PCIe, up to eight USB ports, LVDS video, VGA video, and Intel® HDA audio make it ideal when small size, low power and high performance are a must!

Features

- Intel® Cedarview 1.6GHz Dual Core processor
- Intel® NM10 Chipset
- Ultra small form factor (55mm x 84mm)
- Extended Temperature & Rugged Design
- COM Express Type 1 Signaling
- On-board temperature monitoring
- Up to 1GB soldered of DDR3 SDRAM
- 10/100/1000 Ethernet port
- One SATA port
- Intel® HDA Audio
- On-board SATA NAND Flash Drive (Bootable)
- Eight USB 2.0 ports
- Three PCIe lanes
- LVDS & VGA Video
- Four General Purpose Inputs
- Four General Purpose Outputs
- Low Pin Count (LPC) bus
- I2C Interface
- Insyde Software BIOS
- Various Operating System Software Support

Hardware Specifications

Processor

- Intel®: Dual Core Cedarview processor
- Processor Speed: 1.6GHz
- 1M Cache

Processor Features

- Dual-core with hyper-threading technology
- Integrated Graphics Controller
- Intel® Tiger Point (NM10) Chipset
- 32KB L1 Instruction, 24KB L1 Data, 512KB L2 per core

Video Ports

VGA and LVDS Support

VGA

- 400MHz Graphic core technology
- 350MHz max pixel clock
- 60Hz to 267MHz max
- 1920 x 1200 Resolution

LVDS

- 400MHz Graphic core frequency
- 112MHz max pixel clock (single channel)
- 60Hz at 18bpps
- 1366 x 768 Resolution

Memory

- DRAM Memory Type: DDR3 SDRAM
- DRAM Memory Size: Up to 1GB(soldered)
- 32 Mb SPI Boot Flash
- 2GB SATA Flash Drive

PCIe

- PCIe lanes: Three PCIe lanes
- Version: 2.0

Peripherals

- SATA NAND Flash drive
- 1x PCIe Gb Ethernet MAC/PHY (Intel® 82574)
- Top & bottom side ambient temperature sensors (I2C)
- On-die CPU temperature sensor
- HD Audio interface
- 8x USB 2.0
- Low Pin Count (LPC) bus
- 8x GPIO (LVTTL)
- 1x Serial ATA (SATA) 300MB/s
- 3x PCIe
- SMBus
- COM Express® Type 1 Signaling

Physical / Electrical / Environmental

- COM Express® mini form factor (55mm x 84mm)
- Supply voltage: +12V +/- 10%
- Typical power consumption: 550mA, 6.6W

Temperature

- Operating: -40°C to +85°C•
- Storage: -50°C to +100°C•

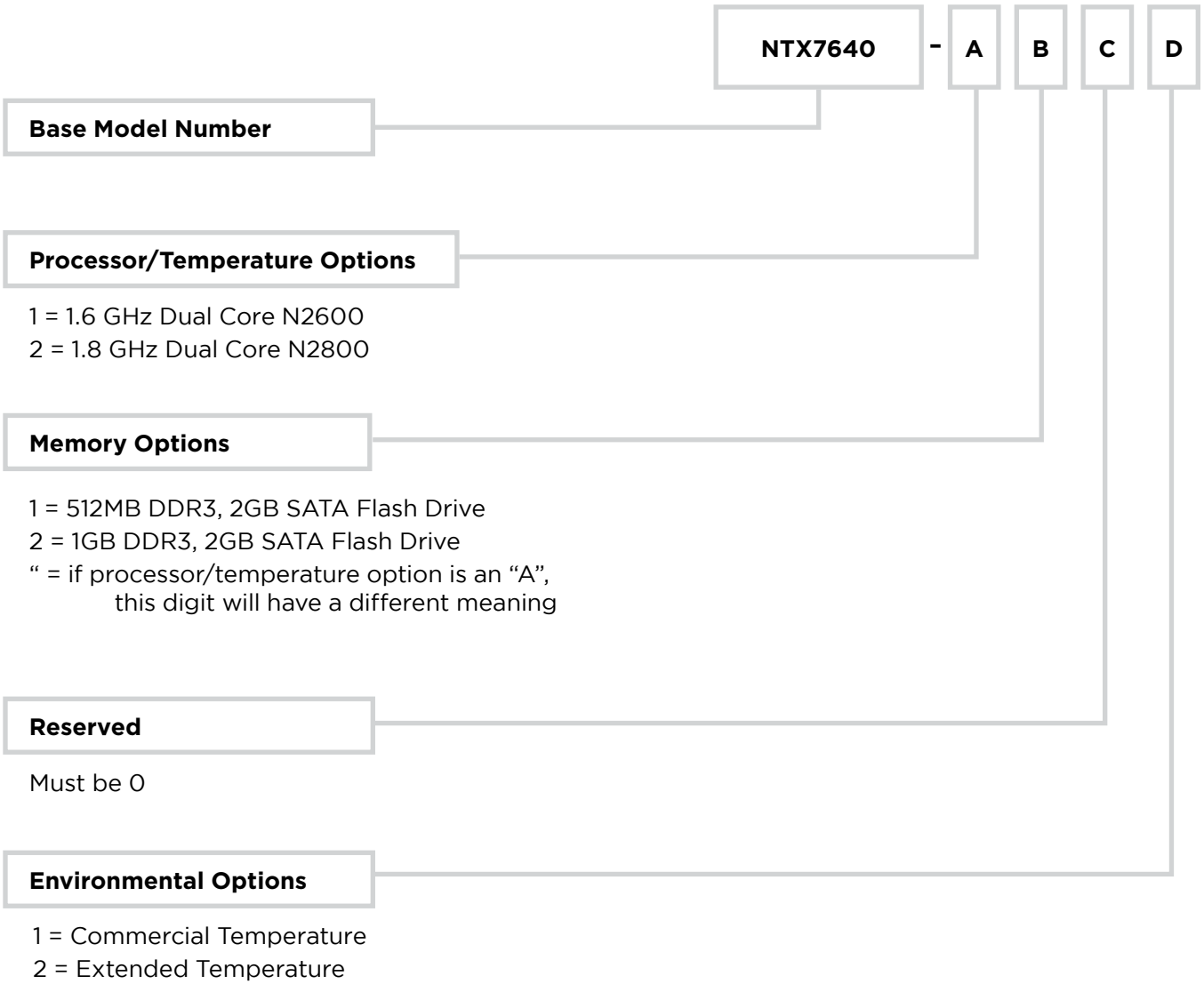
Relative Humidity

- Operating: 5% to 95%, non-condensing
- Storage: 5% to 95%, non-condensing

Environmental

Operating Temperature	-40 to +85°C
Humidity	5% to 95%, non-condensing

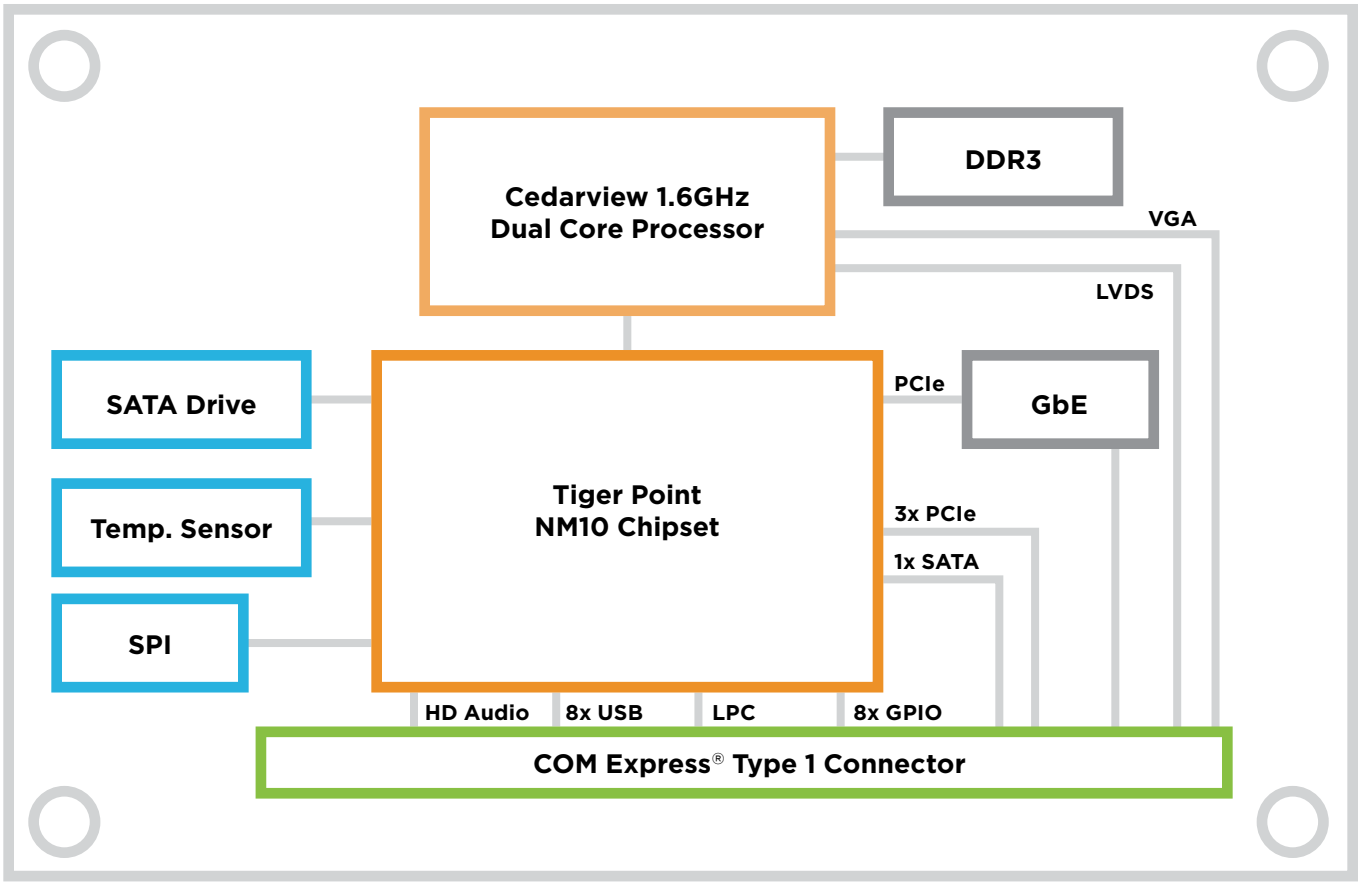
Options Guide



Orion has successfully generated products utilizing an extensive assortment of microprocessors since 1990. Our single board computer product offering includes both custom and standard form factors such as VPX, VME, Compact PCI and PMC. The majority of our products are offered in five ruggedization levels from standard commercial to rugged, extended temperature with conduction cooling. At Orion, we put the customer at the center of our business. We strive to provide the highest quality of products backed by our exceptional service and support.

Whether it’s a small quantity, one-time requirement or a high volume product for years to come, we would like to be your partner in embedded solutions.

Block Diagram



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