

Intel® Atom™ Processor Z670 with Intel® SM35 Express Chipset Development Kit



Product Overview

Highly optimized for low-power applications, the Intel® Atom™ processor Z670 with Intel® SM35 Express chipset development kit is ideal for a range of innovative, battery-capable, small form-factor embedded designs requiring rich multimedia capabilities.

The Intel® Atom™ processor Z670^Δ implements ground-breaking power management techniques on 45nm process technology to deliver the lowest Intel® architecture platform power to date¹ for embedded computing. This processor offers a clock speed of 1.5 GHz at 3W thermal design power² (TDP), Intel® Hyper-Threading Technology³ and an integrated, power-optimized 2D/3D graphics engine, all in an ultra-small 13.8 mm x 13.8 mm package.

The processor is paired with the Intel® SM35 Express chipset which is also highly optimized for low-power solutions (0.75W TDP). The chipset incorporates four USB 2.0 ports, three SDIO ports, two SPI ports, and one SATA Gen2 port for storage, along with other common I/O blocks such as I²C, Intel® High Definition Audio, and GPIOs. Featuring extended lifecycle support, this platform provides an excellent solution for tablet-like devices used in industrial, medical, retail, or educational settings, as well as applications requiring minimum I/O interfaces to save on power consumption.

This platform is part of Intel's comprehensive validation process, which enables rapid deployment of next-generation platforms to help developers maximize competitive advantage and minimize development risks. This and other development kits from Intel provide working systems with a range of performance options that can be modified or used immediately for product development, and allow software vendors to test BIOS and operating system software.

Board Peripheral Features

- Up to 2 GB of DDR2 800 MT/s memory down
- Two (2) display video options, LVDS and HDMI
- 1X SATA port; supports one (1) direct connect connector
- Two (2) SPI flash devices
- Audio codec on-board
- Four (4) USB 2.0 ports

Included in the Kit

This development kit ships as a complete system in a mini-ATX chassis and includes the following:

- Development board with Intel Atom processor Z670 and Intel SM35 Express chipset, installed
- Standard ATX mid-tower chassis with removable motherboard tray
- At least one Power Management Integrated Circuit (PMIC) module will be provided from Maxim Integrated Products, Freescale Semiconductor, or Renesas Electronics
- 2 GB DDR2 800 MT/s non-ECC memory, installed on mainboard
- 40 GB SSD, installed, with SATA extension cable
- 10.1" LCD panel
- TSP, USB and LVDS cables
- Gigabit USB 2.0 network adapter
- Wi-Fi card and cable antenna
- Standard 300W ATX power supply
- Documentation and software CD

Software Overview

The following independent operating system and BIOS vendors provide support for this platform:

OPERATING SYSTEM

Microsoft Windows* 7

Microsoft Windows Embedded Standard 7

MeeGo* 1.2

CONTACT

Intel provides drivers⁴

Intel provides drivers⁴

MeeGo community, Wind River

BIOS

American Megatrends

Insyde Software

Phoenix Technologies

Order Information

PRODUCT NAME

Intel® Atom™ Processor Z670 with Intel® SM35 Express Chipset Development Kit

PRODUCT CODE

EMBLNCWPTABDVK

Third-Party PMIC Vendors

Freescale Semiconductor: www.freescale.com/webapp/sps/site/overview.jsp?code=PMICINTEL

Maxim Integrated Products, Inc.: www.maxim-ic.com

Renesas Electronics Corporation: www.renesas.com/pmhc

Intel in Embedded and Communications: intel.com/embedded

⁴ Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See www.intel.com/products/processor_number for details.

¹ Intel® Atom™ processor Z6xx series-based platform total TDP value of 3.75 watts compared to the Intel® Atom™ processor Z5xx series with Intel® System Controller Hub US15W which has a total platform TDP of 4.3 to 4.5 watts.

² TDP specification should be used to design the processor thermal solution. TDP is not the maximum theoretical power the processor can generate.

³ Hyper-Threading Technology (HT Technology) requires a computer system with an Intel processor supporting HT Technology, and an HT Technology-enabled chipset, BIOS and operating system. Performance will vary depending on the specific hardware and software you use. See <http://www.intel.com/info/hyperthreading/> for more information including details on which processors support HT Technology.

⁴ Drivers available at: downloadcenter.intel.com (enter chipset name)

Performance results are based on certain tests measured on specific computer systems. Any difference in system hardware, software or configurations will affect actual performance. For more information go to <http://www.intel.com/performance>.

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