



Intel® Atom™ Processor N2800 or D2700 with Intel® NM10 Express Chipset Development Kits



Intel® Atom™ Processor N2800 with Intel® NM10 Express Chipset Development Kit



Intel® Atom™ Processor D2700 with Intel® NM10 Express Chipset Development Kit

Overview

These development kits, featuring the Intel® Atom™ processor N2800^Δ or D2700^Δ with Intel® NM10 Express chipset, optimize both processor and chipset performance, delivering next-generation technologies, value-added features, and easy integration for embedded application design. Each kit features small form factor, all-in-one design with dual independent display capabilities in a fanless system.

These dual-core Intel® Atom™ processors feature the integrated Intel® Graphics Media Accelerator 3650 with integrated memory controller, providing enhanced performance and system responsiveness. An integrated hardware-accelerated decoder enables smooth, full HD (up to 1080p) video playback and streaming at a fraction of the power consumption of previous-generation Intel Atom processors.

Development kit boards provide flexibility and upgradability with two single-channel SODIMM connectors for DDR3 1066/800 MHz memory support (4 GB max), while SODIMM memory modules deliver greater performance and power efficiency. Display ports include standard VGA with an option of embedded DisplayPort (eDP), DVI-I or HDMI, and dual- or single-channel LVDS.

Boards provide dual or single 10/100/1000 Mb/s integrated LAN, integrated Intel® High Definition Audio¹, serial ports, expansion capabilities, and debug features such as JTAG and UART. Please see Table 1 (back page) for specific board peripheral features.

These and other development kits from Intel provide working systems with a range of performance options. They can be modified or used immediately for product development, allowing software vendors to test BIOS and operating system software.

Included in the Kit

Each development kit ships as a complete system in a mini-ITX chassis. Kits include:

- Development board with Intel® Atom™ processor N2800 or D2700 and Intel® NM10 Express chipset, installed
- 2 GB DDR3 1066 MT/s non-ECC memory, installed on mainboard
- SSD, installed, with SATA extension cable
- Power supply
- Documentation and software CD

System BIOS

- Intel® BIOS (resident in the SPI Flash device)
- Support for Advanced Configuration and Power Interface (ACPI), plug and play, and SMBIOS

Table 1. Board Peripheral Features

	Intel® Atom™ Processor N2800 ^A with Intel® NM10 Express Chipset Development Kit	Intel® Atom™ Processor D2700 ^A with Intel® NM10 Express Chipset Development Kit
Graphics	<ul style="list-style-type: none"> One (1) VGA port/one (1) HDMI port Dual-channel LVDS One (1) embedded DisplayPort (eDP) 	<ul style="list-style-type: none"> One (1) VGA port One (1) DVI-I port One (1) LVDS
Memory	<ul style="list-style-type: none"> Single-channel DDR3 with two connectors for 1066/800 MHz SODIMM (4 GB max) Non-ECC memory 	
I/O Controller	<ul style="list-style-type: none"> Two (2) SATA ports Two (2) serial headers One (1) parallel header 	<ul style="list-style-type: none"> Two (2) SATA ports Two (2) serial headers One (1) parallel header One (1) PS/2 port Two (2) serial ports
USB 2.0	<ul style="list-style-type: none"> Four (4) external ports Four (4) ports via headers 	<ul style="list-style-type: none"> Four (4) external ports Three (3) ports via headers
Audio Solution	<ul style="list-style-type: none"> 2+2 channel Intel® High Definition Audio¹ (with multi-streaming) Front-panel mic/headphone header 	<ul style="list-style-type: none"> 6+2 channel Intel® High Definition Audio¹ (with multi-streaming) Front-panel mic/headphone header
Ethernet	<ul style="list-style-type: none"> One (1) Intel® 82574L 10/100/1000 Mb/s Ethernet Controller 	<ul style="list-style-type: none"> Two (2) Intel® 82574L 10/100/1000 Mb/s Ethernet Controllers
Expansion Capabilities	<ul style="list-style-type: none"> One (1) PCI Express* connector Two (2) PCI Express Mini Card connectors 	
Debug Features	<ul style="list-style-type: none"> One (1) JTAG connector One (1) UART header 	
Board Style	<ul style="list-style-type: none"> Mini-ITX/microATX-compatible 170mm x 170mm 	
Operating Temperature	<ul style="list-style-type: none"> 0° C to +50° C 	
Storage Temperature	<ul style="list-style-type: none"> -20° C to +70° C 	

Operating System Support

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

OPERATING SYSTEM

Microsoft Windows* 7
 Microsoft Windows Embedded Standard 7
 Microsoft Windows XP²
 Microsoft Windows XPe²
 Microsoft Windows Embedded CE 7.0²
 MeeGo* 1.2
 Yocto Project*
 Wind River VxWorks*²

CONTACT

Intel provides drivers³
 Intel provides drivers³
 Intel provides drivers³
 Intel provides drivers³
 Intel provides drivers³
 Intel provides drivers³
 Intel provides drivers³
 Wind River

BIOS

American Megatrends
 Insyde Software
 Phoenix Technologies
 Byosoft

Intel strives to provide customers with a complete development environment supporting customer applications and operating systems. Any software provided in these development kits is subject to change without notice. Customers are encouraged to check for software updates at intel.com/design/intarch/devkits/index.htm.

Order Information

PRODUCT NAME^A

Intel® Atom™ Processor N2800 with Intel® NM10 Express Chipset Development Kit
 Intel® Atom™ Processor D2700 with Intel® NM10 Express Chipset Development Kit

PRODUCT CODE

EMBCDTNMMTDVK
 EMBCDTNMCCDVK

Intel in Embedded and Communications: intel.com/embedded

^A 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 Requires an Intel® HD Audio enabled system. Consult your PC manufacturer for more information. Sound quality will depend on equipment and actual implementation. For more information about Intel HD Audio, refer to <http://www.intel.com/design/chipsets/hdaudio.htm>

² Support for these operating systems and software ingredients will be available in Q1 of 2012.

³ Drivers available at: downloadcenter.intel.com (enter chipset name).

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