

Intel® Atom™ Processor E3800 Product Family Development Kit Based on Intel® Intelligent System Extended Form Factor Reference Design



Enabling the way for next-generation intelligent applications

The Intel® Atom™ Processor E3800 Product Family Development Kit — which is based on Intel® Intelligent System Extended Form Factor Reference Design — is a full-featured fanless computing platform in a 4.4 × 4.6 inch form factor. Featuring improvements in integration, computing performance, and power utilization, this development kit opens the possibility for embedded developers to realize the next-generation of intelligent applications.

Balancing performance and power usage with greater integration

A system-on-chip (SoC) design that integrates the processing engine, graphics engine, and I/O controller, the Intel® Atom™ processor E3800 product family in this development kit is ideal for intelligent systems because of its rich I/O connectivity options and a wide operating temperature range from 0°C to 45°C.

The Intel® Atom™ processor E3800 product family that powers this development kit delivers improved computing performance and lower power consumption compared with the previous generation Intel® Atom™ processors. The microarchitecture features an out-of-order execution engine for superior computing performance. Further, utilizing Intel's 3D Tri-Gate, 22-nanometer process technology enables improvements in energy efficiency.

The Intel® Atom™ Processor E3800 Product Family Development Kit is a scalable solution with single-, dual-, and quad-core processors — with Thermal Design Power (TDP) ratings from 5W to 10W — allowing embedded developers to achieve a balance of performance and power usage.

Ensuring ample I/O connectivity for intelligent applications, this development kit provides one SuperSpeed USB 3.0 port, one Hi-Speed USB 2.0 port, two Gigabit Ethernet LAN ports, integrated WiFi, and a micro-SIM card slot for 3G access.

Enhancing media processing with built-in graphics engine

The improved video and image processing capabilities make the Intel® Atom™ Processor E3800 Product Family Development Kit ideal for delivering the visually appealing and interactive content of intelligent applications.

Up to two displays are supported via one HDMI port and one Micro HDMI port on the development kit.

Accelerating Design to Deployment

The Intel® Atom™ Processor E3800 Product Family Development Kit accelerates the time to market because it can be used as-is without any further modifications. Alternatively, embedded developers can contact Intel sales representatives to obtain the necessary collaterals to customize the board design.

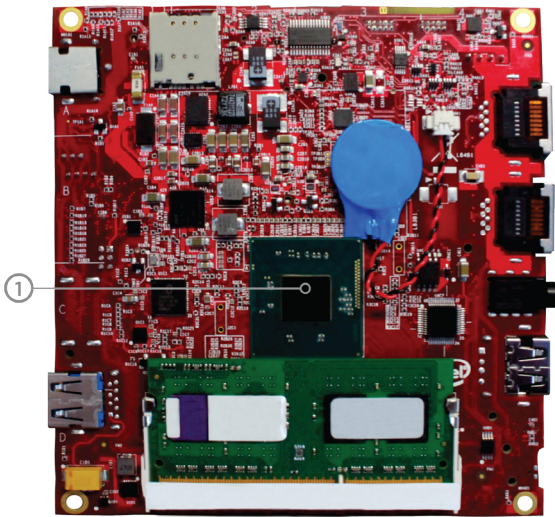
Included in the Development Kit

This development kit is a complete system in a chassis and includes the following items:

- Development board with Intel® Atom™ processor E3815/E3825, installed
- 4.4 × 4.6 inch form factor based on Intel® Intelligent System Extended Form Factor Reference Design
- 1 × 4GB (512M × 64) 204-Pin PC3-8500 DDR3L SDRAM Unbuffered SODIMM
- 64GB Solid-State Drive (SSD)
- 12V @4.0A (48W) DC Power Brick
- Windows* 8 Drivers and User Guide (CD)
- Quick Start Guide

1. Intel® Atom™ Processor E3815/E3825
A System-on-Chip (SoC) design with highly integrated functionality for reduced size and power consumption, without sacrificing performance
2. Power Button
3. Reset Hole
4. USB 2.0 Port
5. USB 3.0 Port

6. Single Port Audio-In and Line-Out Jack
7. LAN Port
8. Power Jack
9. Micro HDMI Port
10. HDMI Port
11. Micro USB Port



Development Board



Front Panel



Back Panel

TECHNICAL SPECIFICATIONS

PROCESSOR

- Intel® Atom™ Processor E3815/E3825
- System-on-Chip (SoC) design that combines the CPU, GPU, and I/O controller into one package
- Supports Intel® 64 architecture¹
- Supports Intel® Virtualization Technology²

GRAPHICS

- Intel® HD Graphics
- Supports high resolution displays up to 2560 × 1600 @60Hz
- Supports Intel® Wireless Display (Intel® WiDi) technology through Miracast
- Supports hardware acceleration of media encode and decode
- One HDMI port and one Micro HDMI port supporting two independent displays

PERIPHERAL CONNECTIVITY

- Two Gigabit Ethernet LAN ports
- Micro-SIM card slot for 3G support
- Built-in Wi-Fi support
- One Hi-Speed USB 2.0 port
- One SuperSpeed USB 3.0 port
- One Micro USB port

SYSTEM BIOS

- 64Mb SOIC-8 serial flash memory

SYSTEM MEMORY

- 1 × 4GB DDR3L 1066MT/s memory support (8GB max)

AUDIO

- Output via HDMI and Mini DisplayPort outputs
- Audio-In (Microphone) and Line Out jack

STORAGE

- 64GB Solid-State Drive (SSD)

MECHANICAL CHASSIS SIZE

- 122mm × 117mm × 17.4mm

POWER REQUIREMENTS

- Single 12V @4.0A (48W) DC input

OPERATING TEMPERATURE

- 0°C to +45°C

OPTIONAL ACCESSORIES

- Other DDR3 memory configurations
- Other Solid-State Drives (SSD) configurations

For more information on the Intel® Atom™ Processor E3800 Product Family Development Kit based on Intel® Intelligent System Extended Form Factor Reference Design, visit www.intel.com/go/embedded

¹ 64-bit computing on Intel® architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers, and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. See <http://developer.intel.com/technology/intel64/index.htm> for more information.

² Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, and virtual machine monitor (VMM). Functionality, performance or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit <http://www.intel.com/go/virtualization>.

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Printed in Malaysia 0314/DRK/EKL/PDF

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