(intel™)

Embedded

Intel® Core™ Processor Series with Mobile Intel® QM57 Express Chipset Development Kits

Product Overview

The Intel® Core™ processor series and Mobile Intel® QM57 Express chipset development kits feature intelligent performance, power efficiency, integrated graphics and error correcting code (ECC) memory on industry-standard x86 architecture. These integrated two-chip platforms provide excellent graphics, memory and I/O bandwidth, as well as remote management capabilities and reliability to meet the requirements of a broad range of embedded applications including retail and transaction solutions, gaming platforms and industrial automation equipment.

The processors feature dual-core processing with industry-leading performance capabilities including Intel® Turbo Boost Technology[1] and Intel® Hyper-Threading Technology.[2] Advanced Encryption Standard Instructions (AES-NI) help accelerate data encryption and decryption, and improve performance. While incorporating advanced technology, these processors remain software-compatible with previous IA-32 processors.

With the graphics engine integrated into the processor, this two-chip solution provides enhanced graphics performance compared to previous Intel® platforms. The memory controller hub is also integrated into the processor, providing fast performance as well as board real estate savings. Additionally, developers can create one board design and scale their product line with a variety of performance-per-watt processors using the same socket.

These platforms are 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. These and other development kits from Intel provide a working system 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.

Product Highlights

- Three different development kits are available, featuring the Mobile Intel QM57 Express chipset and one of the following processors△ (all in a 1288 FCBGA package):
  – Intel® Core™ i5-520E processor at 2.40 GHz base frequency (35 W TDP)
  – Intel® Core™ i7-620LE processor at 2.0 GHz base frequency (25 W TDP)
  – Intel® Core™ i7-620UE processor at 1.06 GHz base frequency (18 W TDP)
- Intel® BD82QM57 platform controller hub in a 1071 FCBGA package
- Intel Turbo Boost Technology
- Intel Hyper-Threading Technology
- Intel® Advanced Smart Cache
- Dual-channel memory controller supporting DDR3 1066 MHz ECC and non-ECC DIMMs

Board Peripheral Features

- x16 PCI Express* for high throughput of high-end graphics
- Dual-channel 24-bit LVDS interface
- Single-channel SDVO port
- CRT connector
- HDMI and display port connectors
- Intel® High-Definition Audio[3] MDC header
- Eight (8) x1 PCI Express connectors
- Fourteen (14) USB 2.0 ports
- On-board 10/100/1000 Mb/s Ethernet
- 2x8 PCIe bifurcation extension card
- RJ45 connector
- Serial IrDA (infrared) port
- Six (6) SATA ports
- PS/2 port for keyboard and mouse
- Scan matrix keyboard header
- XDP debug port
- PCI support via extension card
- LPC connector

Included in the Kit

The Intel Core processor series and Mobile Intel QM57 Express chipset development kits ship as a complete system in an ATX chassis and include the following:

- Development board
- Memory
  - One (1) 1 GB 1066 MHz ECC DIMM (installed)
  - One (1) 1 GB 1066 MHz non-ECC DIMM (provided)
- Port80 card
- PCI extension card
- 80 GB SATA hard drive
- DVD-ROM SATA drive
- Power supply
- Pre-installed jumpers
- BIOS pre-installed in flash memory
- Collateral and drivers CD

Software Overview

The following independent operating systems and BIOS vendors support platforms based on these development kits.

OPERATING SYSTEM	CONTACT	BIOS
Windows Server* 2003/2008	Intel provides drivers[4]	American Megatrends
Windows* 7	Intel provides drivers[4]	Insyde Software
Microsoft Windows* XP SP3	Intel provides drivers[4]	Phoenix Technologies
Microsoft Windows Embedded Standard (XPe)	Intel provides drivers[4]	
Microsoft Windows POSReady 2009	Intel provides drivers[4]	
Red Hat Enterprise Linux* 5.1	Red Hat	
SUSE Enterprise Linux* 11	Novell	
Wind River Linux* 3.0	Wind River	
Wind River VxWorks* 6.8	Wind River	

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

All board and kit features remain the same except for the processor.

PRODUCT NAME[Δ]	PRODUCT CODE	THERMAL DESIGN POWER
Intel® Core™ i5-520E Processor with Mobile Intel® QM57 Express Chipset Development Kit	EMBI5QM57SVFSDK	35 W
Intel® Core™ i7-620LE Processor with Mobile Intel® QM57 Express Chipset Development Kit	EMBI7QM57LVFSDK	25 W
Intel® Core™ i7-620UE Processor with Mobile Intel® QM57 Express Chipset Development Kit	EMBI7QM57UVFSDK	18 W

Intel in Embedded and Communications: **intel.com/embedded**