Intel® Desktop Board DQ45EK Executive Series

For the 65 W Intel® Core™2 Processors

A powerful processor demands a powerful motherboard. Intel® Desktop Boards optimize the performance of Intel® processor technology while delivering access to next-generation technologies, value-added features, and easy integration.

Intel® Desktop Board DQ45EK

- Supports the latest 65 W 45nm Intel® Core™2 processors and Intel® vPro™ technology
- Features the Intel® Q45 Express Chipset
- Windows Vista* Premium capable
- Integrated Intel® Trusted Platform Module

Intel® Desktop Boards Executive Series support Intel® vPro™ technology and deliver measurable advantages.

Proactive security
The Trusted Platform Module provides hardware-based security to help stop threats and protect critical information.

Energy-efficient performance
Run applications with amazing responsiveness while reducing energy use and system noise. Pair the new 45nm processors and Intel Q45 Express Chipset for increased performance in a more energy-efficient platform.

Remote manageability
Intel® Active Management Technology** (Intel® AMT), along with leading IT management software, allows remote inventory of PCs, troubleshooting, and system restore, even if the OS is down, to reduce the number of desk-side visits.

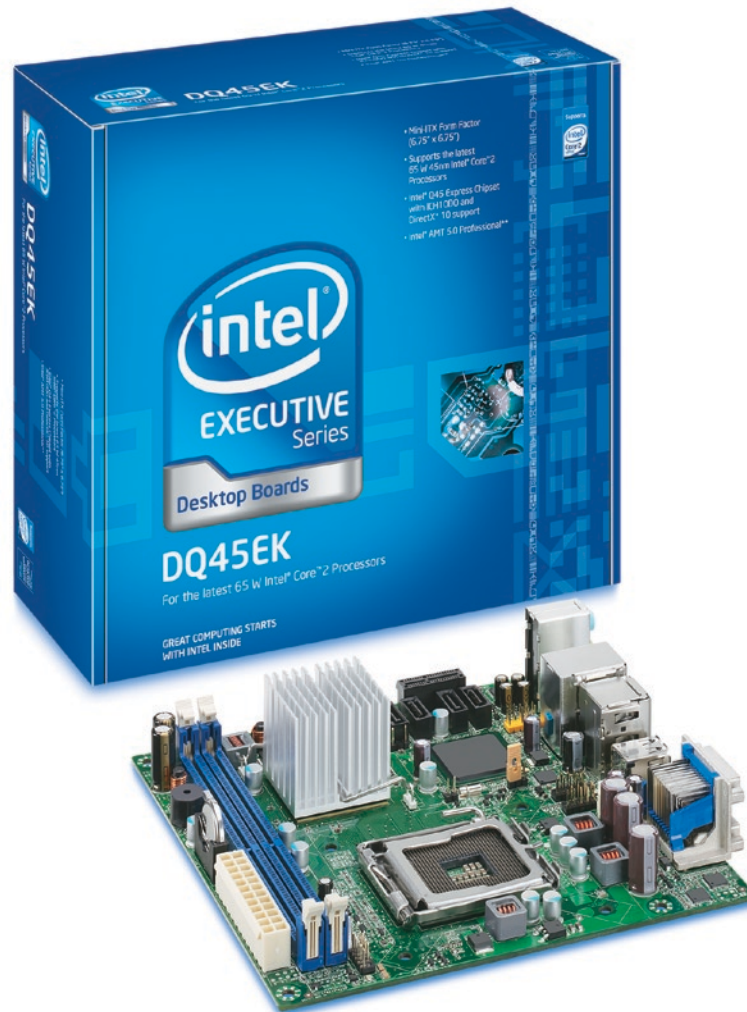**For a complete list of solutions and opportunities, visit:**
intel.com/go/vproexpert
intel.com/vpro
msp.intel.com

Intel® Desktop Board DQ45EK

The boxed Intel® Desktop Board DQ45EK solution includes:

- ATX 2.2 Compliant I/O Shield
- SATA 3.0 Gb/s Cables
- DVI to VGA Adapter
- Board and Back Panel I/O Layout Stickers
- Quick Reference and Product Guides
- Intel® Express Installer Driver and Software DVD
- Windows Vista* Premium WHQL Certified

Intel® Desktop Boards Executive Series include an extensive list of software that supports and enhances capabilities for the digital office.
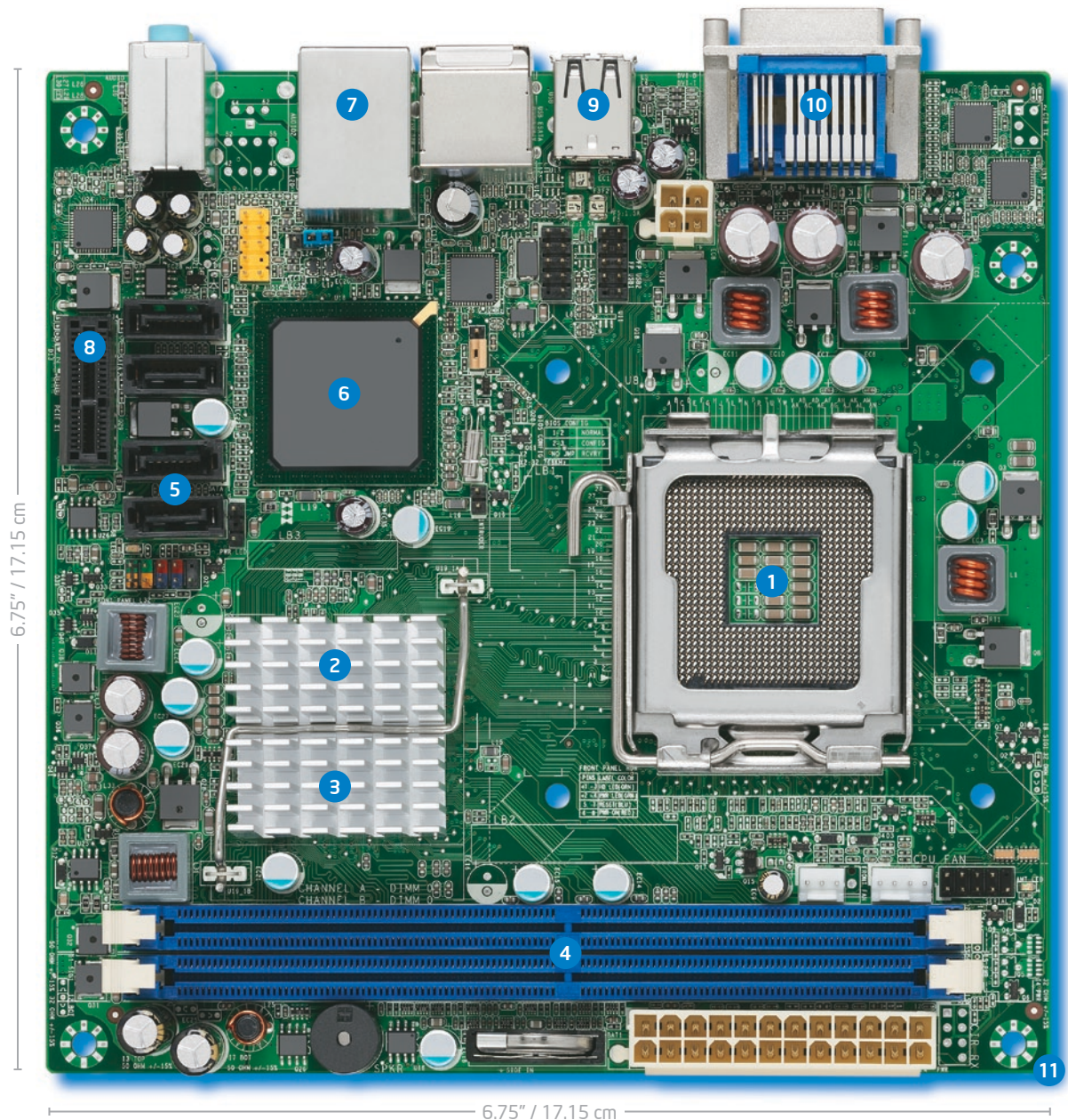
CAPABILITY	SOFTWARE INCLUDED:
Utilities	• Intel® Desktop Utilities (Internet Download)
Antivirus	• Norton* 360 • Kaspersky* Anti-Virus (Russian) • Kingsoft* Antivirus (Chinese)
Productivity	• Intel® Intergrator Assistant (Internet Downlaod) • Acronis* True Image 11 Home • Laplink* PCmover* Express • TypePad* • Kingsoft* Powerword* (Chinese)
Data Protection	• Diskeeper* Home Edition
Manageability	• Intel® System Defense Utility (Internet Download) • SyAM* System Client
Security	• Wave* EMBASSY* Trust Suite

Intel® Desktop Board DQ45EK

1 **Support for the latest 65 W 45nm Intel® Core™2 processors:** Features quad-core and dual-core processing with 1333 / 1066 / 800 MHz system bus in the LGA775 package.

2 **Intel® Q45 Express Chipset:** Offers a new level of visual quality with integrated Intel® Graphics Media Accelerator 4500, DirectX* 10, and support for Intel® AMT 5.0 Professional**.

3 **Integrated Intel® Trusted Platform Module 1.2:** Hardware-based encryption to protect sensitive data.

4 **Dual-Channel DDR2 800 / 667 memory support:** Two DIMM sockets, designed to support up to 4 GB[1] of DDR2 800 / 667 SDRAM memory, delivering greater platform performance and flexible memory support.

5 **Four onboard Serial ATA ports plus one eSATA (3.0 Gb/s) connector on the back panel:** Facilitates high-speed storage and data transfers at up to 3.0 Gb/s for each of five ports.

6 **Intel® Matrix Storage Technology**:** RAID 0, 1, 5, and 10 with Intel® Rapid Recovery Technology for higher performance data access and/or data protection.

7 **Intel® 82567LM ENERGY STAR*-ready 10/100/1000 network connection**

8 **One PCI Express* x1 connector:** Designed for bandwidth-intensive applications, PCI Express* x1 I/O offers up to 3.5 times the bandwidth over traditional PCI architecture.

9 **Up to 10 Hi-Speed USB 2.0 ports:** Provides six back panel ports and an additional four USB ports via two internal headers.

10 **DVI-I and DVI-D graphics output with DVI-to-VGA adapter included in the box**

11 **Mini-ITX form factor**

6.75" / 17.15 cm

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Technical Specifications

Processor

Processor Support
- 65 W Intel® Core™2 Quad and Intel® Core™2 Duo processors in the LGA775 package
- Supports Intel® 64 Architecture

Chipset

Intel® Q45 Express Chipset
- Intel® 82Q45 Graphics and Memory Controller Hub (GMCH)
- Intel® 82801JO I/O Controller Hub (ICH10DO)
- Intel® AMT 5.0 Professional**
- Intel® Matrix Storage Technology ** (RAID 0, 1, 5, 10) with Intel® Rapid Recover Technology

Graphics Memory Controller Hub (GMCH)
- Designed to support up to 4 GB[1] of system memory using DDR2 800 / 667 SDRAM memory
- Intel® Fast Memory Access
- Intel® Graphics Media Accelerator 4500 with DirectX* 10
- DVI-I and DVI-D integrated graphics output

Intel® I/O Controller Hub
- Four onboard Serial ATA ports plus one eSATA (3.0 Gb/s) connector on the back panel

USB 2.0
Integrated Intel® ICH10DO controllers:
- Six back-panel ports (three dual-stack)
- Four additional ports (via two headers)

System BIOS
- 32 Mb Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play, IDE drive auto-configure
- Advanced configuration and power interface V1.0b, DMI 2.0, multilingual support

Intel® Rapid BIOS Boot
- Intel® Rapid BIOS Boot
- Intel® Express BIOS Update support

System Memory

Memory Capacity
- Two 240-pin DIMM connectors supporting up to two double-sided DIMMs

Memory Types
- DDR2 800 / 667 SDRAM memory support
- Non-ECC Memory

Memory Modes
- Dual- or single-channel operation support

Memory Voltage
- 1.8V

Hardware Management Features
- Processor fan speed control
- System chassis fan speed control
- Voltage and temperature sensing
- Fan sensor inputs used to monitor fan activity
- Power management support for ACPI 1.0b

Intel® 82567LM ENERGY STAR*-ready 10/100/1000 Network Connection
- High quality and reliability with Intel's world-class manufacturing and validation
- Supports Intel® vPro™ technology-based software and applications with added security and manageability

Expansion Capabilities
- One PCI Express* x1 bus add-in card connectors

Audio
- 5.1-channel Intel® High Definition Audio codec

Jumpers and Front-Panel Connectors

Jumpers
- Single configuration jumper design
- Jumper access for BIOS maintenance mode

Front-Panel Connectors
- Reset, HD LED, Power LEDs, power on/off
- Two front-panel Hi-Speed USB 2.0 headers
- Front-panel audio header
- One serial header

Mechanical

Board Style
- Mini-ITX/microATX compatible

Board Size
- 6.75" x 6.75" (17.15 cm x 17.15 cm)

Baseboard Power Requirements
- ATX12V

Environment

Operating Temperature
- 0° C to +55° C

Storage Temperature
- -20° C to +70° C

Regulations and Safety Standards

United States and Canada
CSA/UL 60950-1, First Edition (Binational Standard)

Europe
(Low Voltage Directive 2006/95/EC) EN 60950-1:2006

International
IEC 60950-1:2001, First Edition

EMC Regulations (tested in representative chassis)

United States
FCC 47 CFR Part 15, Subpart B

Canada
ICES-003 Class B

Europe
(EMC Directive 2004/108/EC) EN 55022:2006 and EN 55024:1998

Australia/New Zealand
EN 55022:2006 Class B

Japan
VCCI V-3/04.04, V-4/03.04, Class B

South Korea
KN-22:2005 and KN-24:2005

Taiwan
CNS 13438:2006 Class B

International
CISPR 22:2005 +A1:2005 +A2:2006 Class B

Environmental Compliance

Europe
Europe RoHS (Directive 2002/95/EC)

China
China RoHS (MII Order # 39)

Lead-Free: The symbol is used to identify electrical and electronic assemblies and components in which the lead (Pb) concentration level in any of the raw materials and the end product is not greater than 0.1% by weight (1000 ppm). This symbol is also used to indicate conformance to lead-free requirements and definitions adopted under the European Union's Restriction on Hazardous Substances (RoHS) directive, 2002/95/EC.

Ordering Information: See the Intel Web site at www.intel.com. For the most current product information, visit intel.com/products/desktop/motherboard

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[1] System resources and hardware (such as PCI and PCI Express*) require physical memory address locations that can reduce available addressable system memory. This could result in a reduction of as much as 1 GB or more of physical addressable memory being available to the operating system and applications, depending on the system configuration and operating system.

This desktop board is intended to be professionally installed. It is covered by a three-year limited warranty, full text of which is on the enclosed DVD-ROM. Desktop PCs with Intel® vPro™ technology and Intel® 64 architecture require a computer system with a processor, chipset, BIOS, enabling software and/or operating system, device drivers and applications designed for these features. Performance will vary depending on your configuration. Use of Intel® Active Management Technology (Intel® AMT), Intel® Virtualization Technology (Intel® VT), and Intel® Anti-Theft Technology with this desktop board will require networking software, connection with a power source, and a network connection for Intel AMT, as well as an enabled Intel® processor, BIOS, virtual machine monitor (VMM), and for some uses, certain platform software enabled for Intel VT. Contact your vendor for more information.