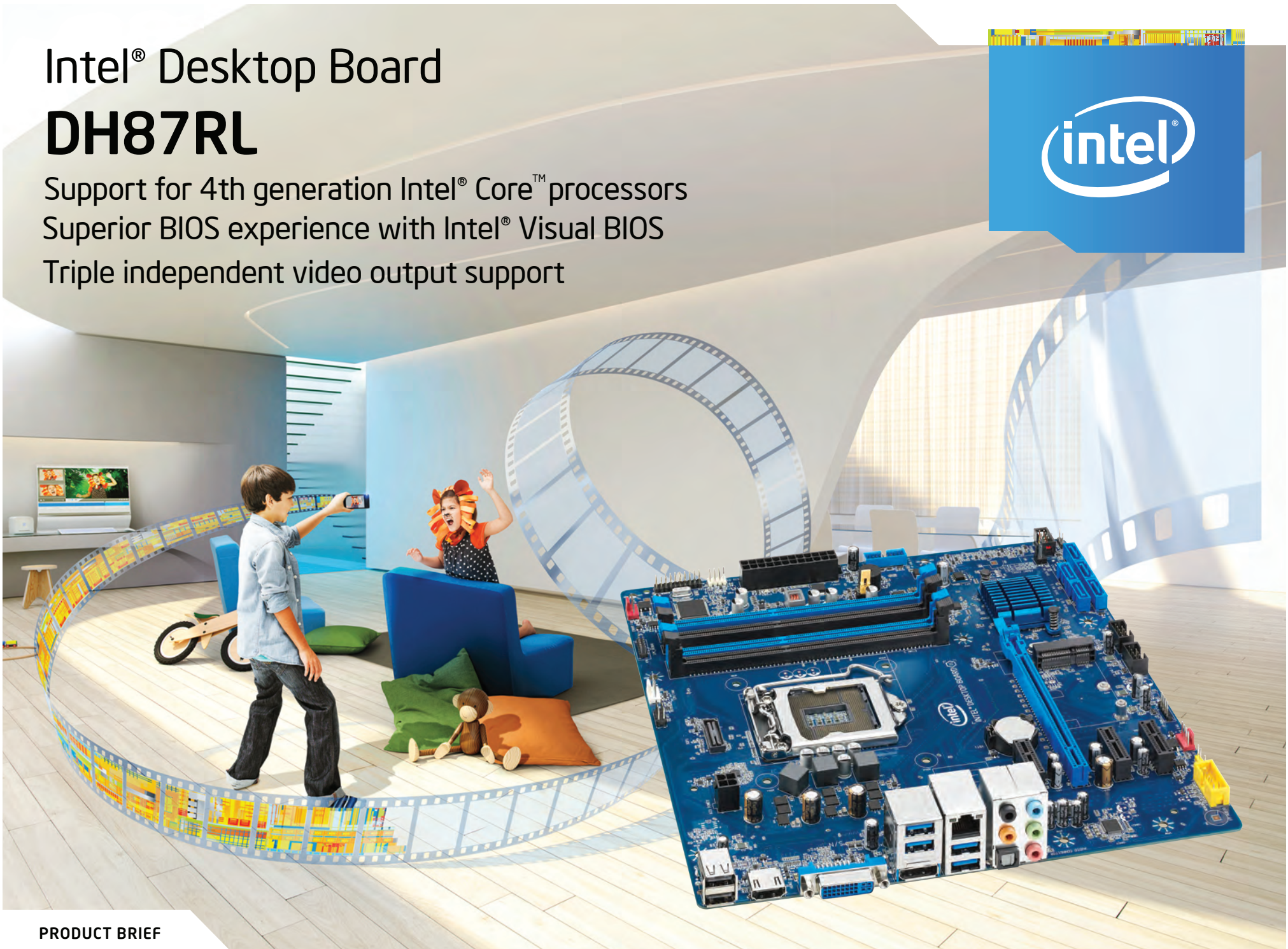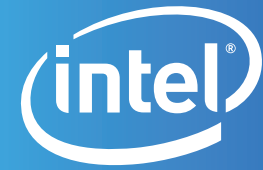# Intel® Desktop Board
DH87RL

Support for 4th generation Intel® Core™ processors

Superior BIOS experience with Intel® Visual BIOS

Triple independent video output support

PRODUCT BRIEF

PERFORMANCE FLEXIBILITY

Delivering the same performance as DH87MC, Intel® Desktop Board DH87RL provides open socket flexibility to increase processing performance to meet your need.

DH87RL supports 4th generation Intel® Core™ i7/i5/i3/Celeron® processors in an LGA1150 socket. The board features PCI Express* Mini Card connector, PCI Express* 3.0, and Dual-channel DDR3 1600 with 4 DIMMs (32 GB3 max), with 1.2V to 1.8V memory voltage control for maximum DIMM compatibility, supports Intel® Extreme Memory Profile (XMP).

COMPLETE CONTROL = COMPLETE POWER

Control is all about the BIOS and only genuine Intel(r) Desktop Boards have the most advanced BIOS interface available today: Intel(r) Visual BIOS. Easily configure your system with a completely graphical interface to meet your specific computing needs. With new features like intelligent search, file explorer, profile management and favorites option, Intel Visual BIOS makes configuring your BIOS fast and simple.

Intel® Visual BIOS

Fast Boot

Power Supervisor

PRODUCT BRIEF

Intel® Desktop Board DH87RL

Features and Benefits

9.6" (24.38cm)

9.6" (24.38cm)
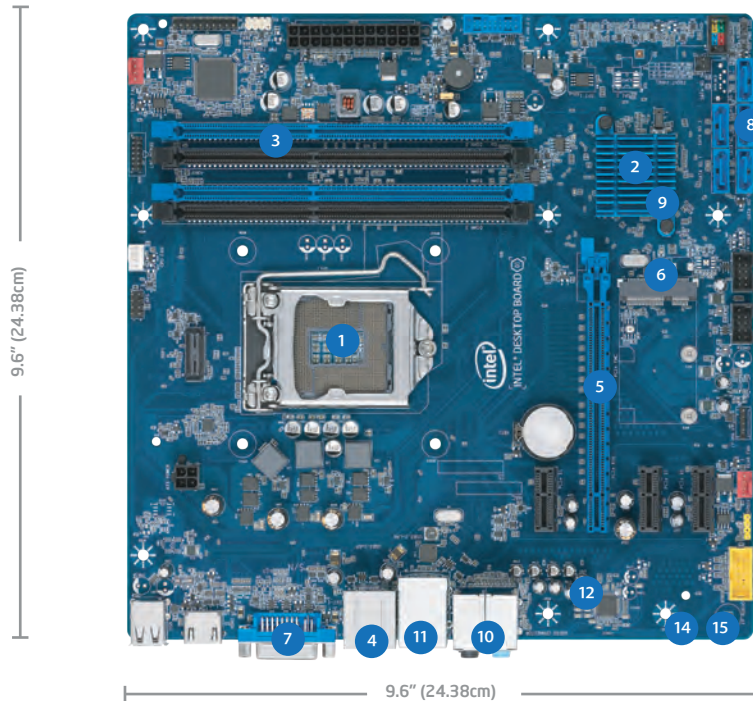
HDMI
HIGH-DEFINITION MULTIMEDIA INTERFACE

Media Series

1 **Support for the Intel® 4th Generation Core™ i7, Intel Core i5, Intel Core i3 processor in the LGA 1150 package:** Features Intel® Turbo Boost Technology, Intel® Hyper-Threading Technology for exceptional performance and scalability, and 8 MB Shared Intel® Smart Cache, enabling dynamic and efficient allocation of cache.

2 **Intel® H87 Express Chipset:** Features Intel Rapid Storage Technology and Intel Smart Connect Technology.

3 **Four DIMM slots:** Support DDR3 1600/1333/1066 MHz memory, delivering up to 32 GB/s memory bandwidth. 1.2V to 1.8V memory voltage control for maximum DIMM compatibility.

4 **Six Super-Speed USB 3.0 ports:** (4 external, 2 via internal header), and Eight Hi-Speed USB 2.0 ports (2 external, 5 via internal headers, 1 via internal Mini PCIe slot).

5 **One PCI Express 3.0* x16 connector and Three PCI Express 2.0* x1 slots.**

6 **One full length PCIe Mini Card slot supporting mSATA Solid-State Drive capability**

7 **One DisplayPort* connector ,One DVI-I connector and One HDMI connector:** Supports triple independent display

8 **Six SATA 6.0Gb/s ports (1 port via mSATA connector)**

9 **Intel® Smart Response and Intel® Rapid Start[7] Technologies:** Provides SSD like performance with HDD capacity. Dramatically improves response time when a small capacity SSD is used in conjunction with a large HDD.

10 **(8+2) 10-channel Intel® High Definition Audio[6] (7.1):** Enables high-quality integrated audio that rivals the performance of high-end discrete solutions

11 **Intel® Gigabit Ethernet LAN:** Features onboard 10 /100 /1000 Mb /s Ethernet LAN connectivity.

12 **100% Solid state capacitors**

13 **Intel® Express BIOS update support, Fast Boot BIOS – Optimized POST for almost instant-on access to PC from power on**

14 **uATX (9.6" x 9.6" (24.38 cm x 24.38 cm) Form Factor**

15 **Lead-free:** Meets all worldwide regulatory requirements for lead-free manufacturing.

Intel® Desktop Board DH87RL

Technical Specifications

PROCESSOR
Processor Support

- Supports the 4th generation Intel® Core™ i7, Intel® Core™ i5 and other Intel® processors in the LGA1150 package
- Intel® Turbo Boost Technology[3]
- Intel® Hyper-Threading Technology[4]
- Support Intel® 64 architecture[2]

CHIPSET

- Intel® H87 Express Chipset
- Intel® Rapid Storage Technology (RAID 0, 1, 5, 10)
- Intel® Smart Response Technology
- Intel® Rapid Start Technology[7]
- Intel® Smart Connect Technology

INTEL® PRO 10/100/1000 NETWORK CONNECTION

- Intel® Pro 10/100/1000 LAN on the back panel
- New low-power design can meet Energy Star* 5.0 specifications

USB PORTS

- Four Super-Speed USB 3.0 ports (blue) via back panel
- Two Super-Speed USB 3.0 ports via one internal header
- Two Hi-Speed USB 2.0 ports (black) via back panel
- Five Hi-Speed USB 2.0 ports via three internal headers
- One Hi-Speed USB 2.0 ports via internal Mini PCIe slot

EXPANSION CAPABILITIES

- Three PCI Express* 2.0 x1 slots
- One full length PCIe Mini Card slot supporting mSATA Solid-State Drive capability
- Six SATA 6.0Gb/s ports (1 port via mSATA connector)

GRAPHICS

- One PCI Express* 3.0 x16 connector
- One DisplayPort* connector via back panel
- One DVI-I connector via back panel
- One HDMI connector via back panel
- Supports triple independent display

AUDIO

- 10-channel Intel® High Definition Audio[6] codec
- 8-channel audio via back panel
- 2-channel audio via front panel
- Back panel support for output via optical cable
- Front panel mic/headphone via internal header
- One internal header for S/PDIF output

SYSTEM BIOS

- Intel® Visual Bios
- 64 Mb Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play, IDE drive auto-configure
- Advanced configuration and power interface V3.0b, SMBIOS2.5
- Intel® Express BIOS update support
- Fast Boot BIOS – Optimized POST for almost instant-on access to PC from power on

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 3.0b

SYSTEM MEMORY
Memory Capacity

- Four 240-pin DIMM connectors supporting dual-channel memory. Two double-sided DIMMs per channel. Maximum system memory up to 32GB[1] using 8 GB double-sided DIMMS

Memory Types

- DDR3 1600/1333/1066 SDRAM memory support
- Non-ECC memory

Memory Voltage

- 1.2V to 1.8V memory voltage control
- Support for Intel® Extreme Memory Profile (Intel® XMP)

JUMPERS AND FRONT PANEL CONNECTORS
Jumpers

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

Front Panel Connectors

- Reset, HDD LED, Power LED, Power on/off
- One front-panel Super-Speed USB 3.0 header (2 ports)
- Three front-panel High-Speed USB 2.0 headers (5 ports)
- Front-panel audio header

MECHANICAL
Board Style

- uATX

Board Size

- 9.6" x 9.6" (24.38 cm x 24.38 cm)

Baseboard Power Requirements

- ATX 12 V

ENVIRONMENT
Operating Temperature

- 0℃ to +55℃

Storage Temperature

- -20℃ to +70℃

COMPLIANCE WITH REGULATIONS AND STANDARDS
Safety Regulations

UL/CSA 60950-1
EN 60950-1
IEC 60950-1

EMC Class B Regulations

CISPR 22
CIPSR 24
FCC 47 CFR Part 15, Subpart B
ICES-003
EN 55022
EN 55024
EN 61000-3-2
EN 61000-3-3
IEC/EN 61000-4 Series
VCCIV-3
KN-22
KN-24
CNS 13438

Environmental Compliance

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China RoHS

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