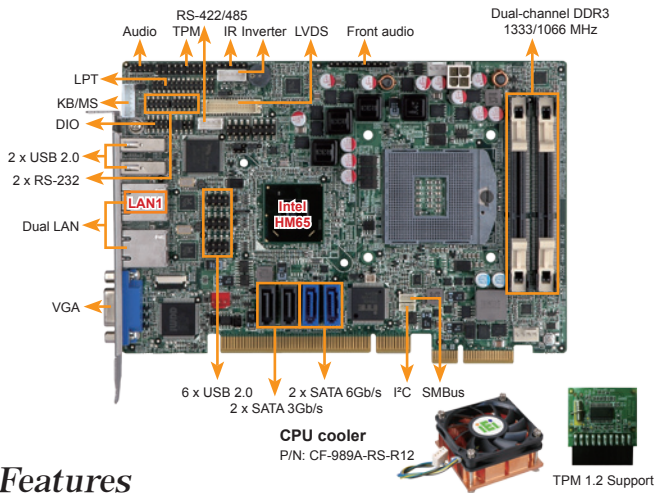


# PIC0e-HM650

Half-size PCIe CPU Card supports Socket 988B Intel® Mobile Core™ i7/i5/i3 or Celeron® CPU with Intel® HM65, DDR3, VGA, LVDS, Dual PCIe GbE, SATA 6Gb/s, HD Audio and RoHS



## Features

- Half-size PCIe CPU card supports Socket G2 32nm Intel® Core™ i7/i5/i3 or Celeron® processor
- Up to 16 GB 1333/1066 MHz dual-channel DDR3 SDRAM
- Supports 18/24-bit dual-channel LVDS and analog CRT output
- High-speed I/O interface provided through the 2nd gen PCIe add-on card and SATA 6Gb/s connectors
- Rich media acceleration for hardware encoding and decoding
- TPM V1.2 hardware security provided by the TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU: Socket 988B Intel® Mobile Core™ i7/i5/i3 or Celeron® CPU
- ◆ System Chipset: Intel® HM65
- ◆ Memory Two 204-pin 1333/1066 MHz dual-channel DDR3 SO-DIMMs supported (system max. 16 GB)
- ◆ BIOS: UEFI
- ◆ Graphics Engine Intel® HD Graphics Gen 6 supports DX10.1 and OpenGL 3.0 Full MPEG2, VC1, AVC Decode
- ◆ Display Output Dual display supported 1 x VGA (up to 2048x1536@75Hz) 1 x 18/24-bit dual-channel LVDS (up to 1920x1200@60Hz)
- ◆ Ethernet LAN1: Realtek RTL8111E GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E GbE controller
- ◆ Super I/O: Fintek F81866
- ◆ I/O Interface 1 x 6-pin wafer for KB & MS 2 x RS-232 1 x LPT 2 x SATA 3Gb/s 1 x RS-422/485 2 x SATA 6Gb/s 8 x USB 2.0 (2 on rear, 6 by pin header)
- ◆ Audio: Supports 7.1-channel HD Audio by IEI AC-KIT-892HD-R10 kit
- ◆ Embedded Controller: ITE IT8519E
- ◆ Front Panel 1 x Front panel connector (power LED, HDD LED, speaker, power button, reset button)
- ◆ TPM: 1 x TPM connector (2x10 pin)
- ◆ SMBus: 1 x 4-pin wafer
- ◆ PC: 1 x 4-pin wafer
- ◆ PCIe to PCI Bridge IC: ITE IT8892E
- ◆ Expansions PCIe signal and PCI signal via golden finger
- ◆ Watchdog Timer Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O: 8-bit digital I/O
- ◆ Fan Connector 1 x 4-pin smart fan connector 1 x 3-pin system fan connector
- ◆ Power Supply: 5V/12V, AT/ATX support
- ◆ Power Consumption 5V@3.99A, 12V@0.43A, Vcore\_12V@3.80A, 5VSB@0.06A (2.70GHz Intel® Core™ i7-2620M with two 2 GB 1333 MHz DDR3 memory)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity 5% ~ 95%, non-condensing
- ◆ Dimensions: 185 mm x 122 mm
- ◆ Weight: 1000 g (GW)/260 g (NW)

## Packing List

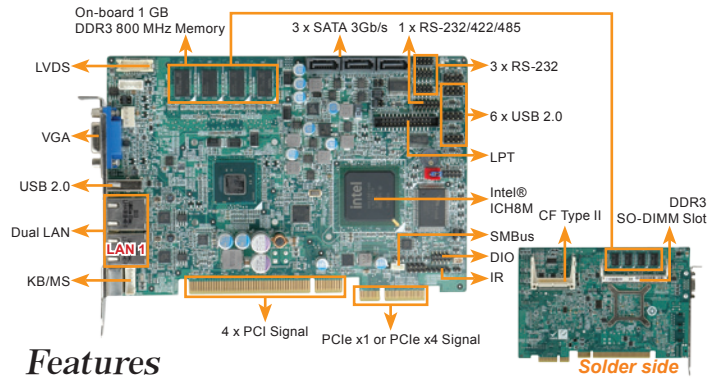
1 x PIC0e-HM650 single board computer	1 x Mini jumper pack
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	1 x One Key Recovery CD
1 x USB cable (P/N: 19800-003100-300-RS)	1 x QIG (Quick Installation Guide)
2 x SATA cable (P/N: 32000-062800-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
PIC0e-HM650-R10	Half-size PCIe CPU card supports Socket 988B Intel® Mobile Core™ i7/i5/i3 or Celeron® CPU with Intel® HM65, DDR3, VGA, LVDS, dual PCIe GbE, SATA 6Gb/s, HD Audio and RoHS
19800-000075-RS	KB/MS cable with bracket
32102-000100-200-RS	SATA power cable
32200-015100-RS	LPT cable
32205-003800-300-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-989A-RS-R12	CPU cooler for mobile socket 989 and 55W CPU
CF-989B-RS-R11	CPU cooler for mobile socket 989 and 50W CPU
SAIDE-KIT01-R10	SATA to IDE/CF converter board
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

# PIC0e-PV-D4251/N4551/D5251

Half-size PCIe CPU Card with Intel® Atom™ D425/N455/D525, DDR3, 1 GB Memory on Board, VGA, LVDS, Dual PCIe GbE, USB 2.0, SATA 3Gb/s, Audio and RoHS



## Features

- PCIe CPU card supports four PCIe x1 or one PCIe x4, and four PCI expansions
- Intel® Atom™ D525/D425/N455 processor
- 1 GB of DDR3 800 MHz SDRAM on board and one expansion SO-DIMM slot support
- Supports VGA and 18-bit single-channel LVDS with dual display support
- I/O includes three RS-232, one RS-232/422/485, seven USB 2.0 and three SATA 3Gb/s
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU Intel® Atom™ Dual Core D525 processor (1.80GHz with 1MB L2 cache) Intel® Atom™ Single Core N455 processor (1.66GHz with 512K L2 cache) Intel® Atom™ Single Core D425 processor (1.80GHz with 512K L2 cache)
- ◆ System Chipset: ICH8M
- ◆ BIOS: UEFI BIOS
- ◆ Memory One 204-pin 800 MHz DDR3 SDRAM SO-DIMM supported (system max. 4 GB for D525/D425, 2 GB for N455) (compatible with 128MB\*8 SDRAM) On-board 1 GB DDR3 800 MHz memory
- ◆ Graphics Engine GMA 3150 Gen3.5 DX9, 400 MHz for D525/D425 Gen3.5 DX9, 200 MHz for N455
- ◆ Ethernet LAN1: Realtek RTL8111E GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E GbE controller
- ◆ Display Interface Analog CRT up to 2048x1536 for D525/D425, 1400x1050 for N455 Supports CRT hot plug Single-channel 18-bit LVDS supports resolution up to XGA (1024x768) & WXGA (1366x768)
- ◆ I/O Interfaces 1 x CF Type II 1 x LPT 3 x RS-232 3 x SATA 3Gb/s 1 x PS/2 for KB/MS 1 x 6-pin wafer connector for KB/MS 1 x RS-232/422/485 with auto flow control 7 x USB 2.0 (6 by header, 1 on rear side)
- ◆ Digital I/O 8-bit digital I/O
- ◆ Super IO: Fintek F81866
- ◆ Infrared Interface: 1 x 5-pin header
- ◆ SMBus: 1 x 4-pin wafer connector
- ◆ Fan Connector: 1 x 4-pin fan connector
- ◆ Expansion 4 x PCI 4 x PCIe x1 or 1 x PCIe x4
- ◆ Audio Supports 7.1-channel HD Audio by IEI AC-KIT-892HD-R10 kit
- ◆ Watchdog Timer Software programmable supports 1~255 sec. system reset
- ◆ Power Consumption 5V@3.38A, 12V@0.54A (Intel® Dual Core Atom™ D525 1.80GHz with 1 GB DDR3 800 MHz memory on board) 5V@3.28A, 12V@0.43A (Intel® Single Core Atom™ D425 1.80GHz with 1 GB DDR3 800 MHz memory on board) 5V@3.13A, 12V@0.32A (Intel® Single Core Atom™ N455 1.66GHz with 1 GB DDR3 800 MHz memory on board)
- ◆ Power Supply: 5V/12V, AT/ATX support
- ◆ Operating Temperature -20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor -20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor -20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Storage Temperature: -30°C ~ 80°C
- ◆ Operating Humidity 5% ~ 95%, non-condensing
- ◆ Dimensions: 185 mm x 122 mm
- ◆ Weight: 1000 g (GW)/ 250 g (NW)

## Packing List

1 x PIC0e-PV-D4251/N4551/D5251 single board computer	1 x Mini jumper pack
1 x Dual RS-232 cable (P/N: 19800-000112-RS)	1 x One Key Recovery CD
1 x KB/MS Y cable (P/N: 32006-000300-100-RS)	1 x QIG
1 x USB cable (P/N: 19800-003100-300-RS)	1 x Utility CD
3 x SATA cable (P/N: 32000-062800-RS)	

## Ordering Information

Part No.	Description
PIC0e-PV-D5251-R11	Half-size PCIe CPU card with Intel® Atom™ dual-core D525 1.80GHz/1MB L2, 1 GB memory on board, VGA, LVDS, dual PCIe GbE, USB 2.0, SATA 3Gb/s, audio and RoHS
PIC0e-PV-N4551-R11	Half-size PCIe CPU card with Intel® Atom™ single-core N455 1.66GHz/512K L2, 1 GB memory on board, VGA, LVDS, dual PCIe GbE, USB 2.0, SATA 3Gb/s, audio and RoHS
PIC0e-PV-D4251-R11	Half-size PCIe CPU card with Intel® Atom™ single-core D425 1.80GHz/512K L2, 1 GB memory on board, VGA, LVDS, dual PCIe GbE, USB 2.0, SATA 3Gb/s, audio and RoHS
19800-000075-RS	KB/MS cable with bracket
19800-004300-100-RS	RS-232/422/485 cable with bracket
19FFD124010HB2A7-000001-RS	CPU fan
32102-000100-200-RS	SATA power cable
32200-015100-RS	LPT cable
34000-000510-RS	30mm higher heatsink
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams