PEAK 765VL2

Intel® Core™ 2 Duo LGA775 with 2 x PCI Express Gigabit LAN/SATA/VGA/USB2.0

Intel® LGA775 Core™ 2 Duo/Pentium® 4/Pentium® D/Celeron® D processors with 533/800/1066 MHz

2 x 240-pin DDR2 DIMM   Intel® 82801HB(ICH8)   4 x SATA   USB2.0   COM

PIO
KB/MS
USB 2.0
LAN1
LAN2
VGA
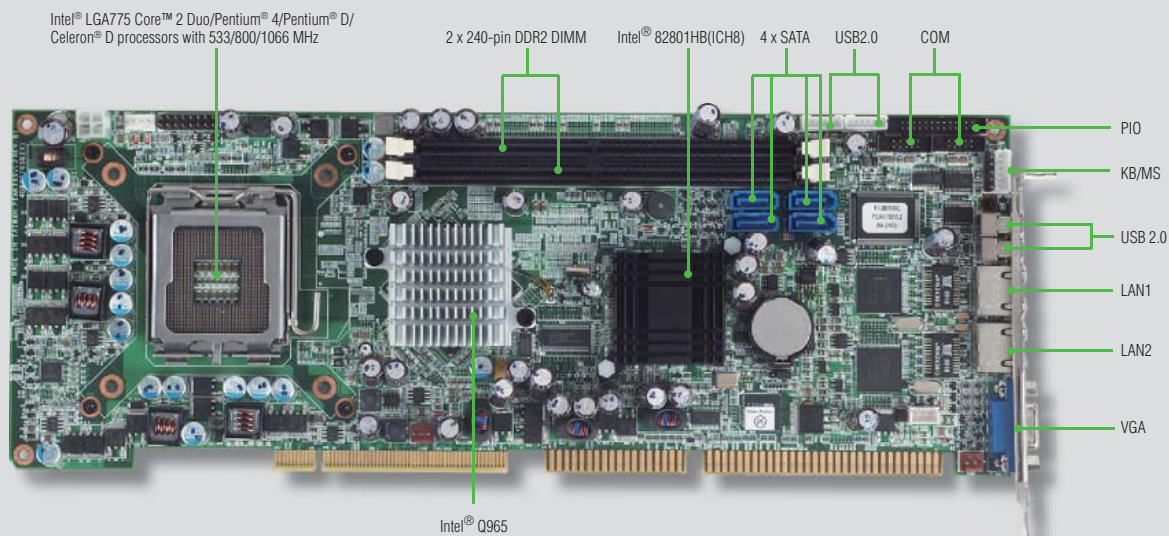
Intel® Q965

Main Features

- Single Socket LGA775, Supports Intel® Core™ 2 Duo with 533/800/1066 MHz FSB
- Intel® Q965 and ICH8 chipset
- 2 x 240-pin DIMM, Supports Dual Channel 533/667/800 MHz DDR2
- 2 x Intel® 82573L PCI Express Gigabit Ethernet LAN
- 4 x SATA, 6 x USB 2.0, 2 x COM Ports

Product Overview

PEAK 765VL2 is the PICMG 1.0 full-size Single Board Computer (SBC), which support Intel® Core™2 Duo technology. Featuring Intel® Q965 and ICH8 chipsets, the PEAK 765VL2 supports socket LGA775 of Intel® Core™ 2 Duo/Pentium® 4/Pentium® D/Celeron® D processor with 533/800/1066 MHz FSB.

The Intel® Q965 supports dual channel non-ECC DDR2 533/667/800 MHz memory up to 4GB maximum with two DIMM slots and an integrated graphics controller. The South Bridge ICH8 manages SATA HDD ports, and parallel port. Furthermore, it supports other versatile I/O ports such as two serial ports, six USB ports and two PCI Express Gigabit LAN ports.

Specifications

CPU Support

- Supports Intel® LGA775 Core™ 2 Duo/Pentium® 4/Pentium® D/Celeron® D processors
- Intel® Embedded Processors List (Intel® Longevity CPU)
  Intel® Core™ 2 Duo Processor E6400 & E4300 & E2160
  Intel® Pentium® 4 Processor 651 & 551 & 531
  Intel® Celeron® D Processor 352 & 341
  Intel® Celeron® Processor 440
- 533/800/1066 MHz System Bus

Main Memory

- 2 x 240-pin DIMM, support Dual channel 533/667/800 MHz SDRAM DDR2 memory up to 4GB
  Note: Maximum 4GB. Actual memory size is dynamic based on the OS I/O resource allocation

Chipset

- Intel® Q965 Graphics Memory Controller Hub (GMCH)
- Intel® 82801HB (ICH8) I/O Controller Hub

BIOS

- Award System BIOS
- Plug & Play support
- 8M-bit flash ROM

On-board LAN

- 2 x Intel® 82573L PCI Express Gigabit Ethernet LAN
- 2 x RJ45 with LED
- Supports Boot From LAN (PXE)
- Supports Wake on LAN (When 5Vsb power available, and for LAN 2 only)

Display

- Intel® Q965 GMCH Integrated Intel® GMA 3000
- Max 256 MB of DVMT for graphics memory
- CRT: 1 x DB15 VGA connector, Resolution up to 2048 x 1536

I/O Interface

- USB 2.0: 6 ports, 2 ports through I/O bracket, 4 ports through 1x6 JST
- Serial port: 2 ports, with 2x5 box header(2.0mm) , supports RS232 only
- Parallel port: 1 port, with 2x13 box-header(2.0mm)
- PS2: 1 x 6-pin JST connector(2.0mm) for KB/Mouse
- Fan: 4-pin wafer for CPU; 3-pin wafer for System; 3-pin wafer for MCH
- 2-pin header for SMB; 2-pin header for reset; 2-pin headerfor power on switch
- 2-pin header for power LED; 2-pin header for HDD LED
- On-board buzzer/IrDA (share with COM2)
- I/O on bracket
  1 x DB15 VGA connector
  2 x RJ45 GbE port
  2 x USB2.0

Block Diagram

```
                    ┌──────────────────────────────┐
                    │ Intel® LGA775 Core™ 2 Duo/    │
                    │ Pentium® 4/Pentium® D/         │
                    │ Celeron® D processors          │
                    └──────────────────────────────┘
                              │
                         533/800/1066 MHz
                              │
  ┌─────────┐         ┌──────────────┐    DDR2        ┌──────────────────┐
  │  VGA    │◄────────│ Intel® Q965   │◄──533/667/800─►│ Channel A         │
  └─────────┘         │               │                │ DDR2 DIMM         │
                      └──────────────┘                └──────────────────┘
                              │                        ┌──────────────────┐
                           2GB/S                       │ Channel B         │
                              │                        │ DDR2 DIMM         │
  ┌─────────┐         ┌──────────────┐                └──────────────────┘
  │ 4 x SATA│◄────────│               │                ┌──────────────────┐
  └─────────┘         │               │◄──────────────►│ 2 x USB2.0        │
  ┌─────────┐         │ Intel® 82801HB │                │ (Bracket)         │
  │ PCI     │◄────────│ (ICH8)         │                └──────────────────┘
  │ GOLDEN  │         │               │                ┌──────────────────┐
  │ FINGER  │         │               │◄──────────────►│ 4 x USB2.0        │
  └─────────┘         └──────────────┘                │ (JST connector)   │
  ┌─────────┐  ┌────────┐                             └──────────────────┘
  │ ISA     │◄─│ITE8888 │                   ┌─────────┐  ┌──────────────┐
  │ GOLDEN  │  └────────┘      ┌───────┐    │ Super IO │─►│ Parallel Port│
  │ FINGER  │        ┌─────────┤       ├────┤          │  └──────────────┘
  └─────────┘        │ LAN1    │ LAN2  │    └─────────┘  ┌──────────────┐
                     │(82573L) │(82573L)│               │ KB/MS        │
                     └─────────┴───────┘                │ (box header) │
                                                        └──────────────┘
                                                        ┌──────────────┐
                                                        │ 2 x COM      │
                                                        └──────────────┘
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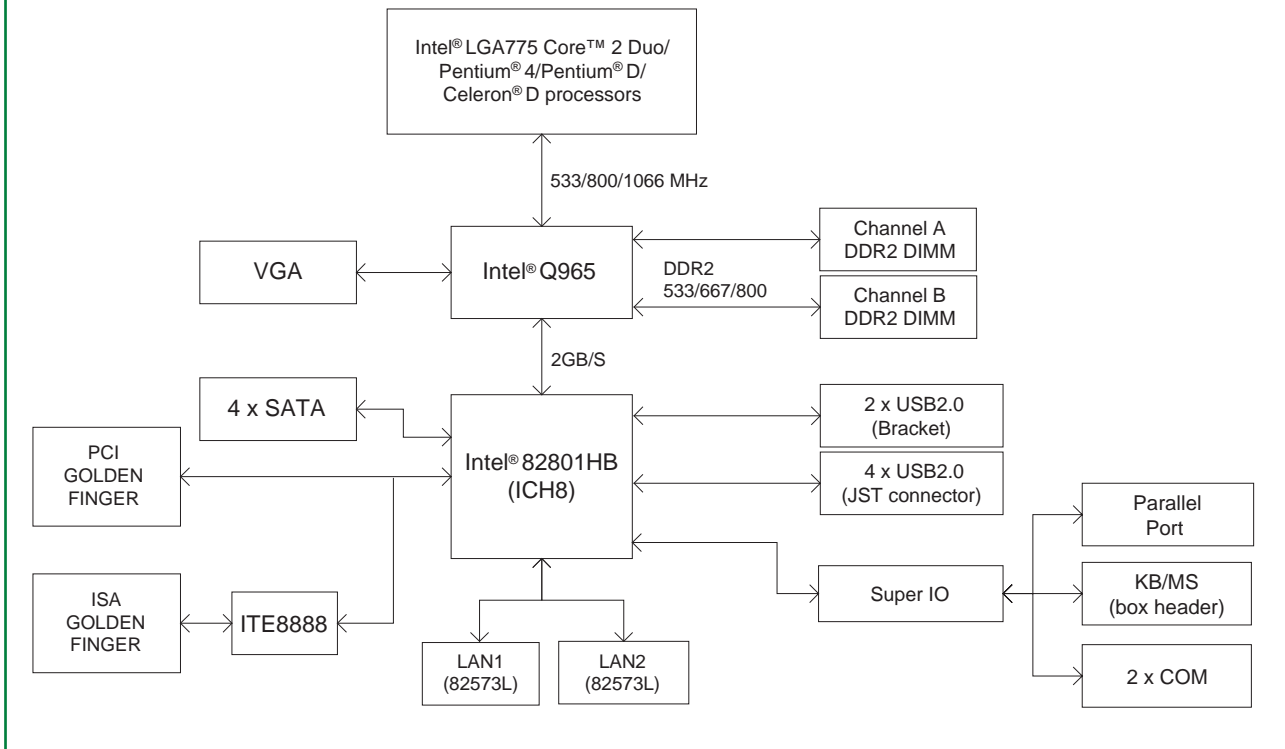
Storage

- SATA: 4 ports (without Raid function)

Watchdog Timer

- Watchdog timeout can be programmable by Software from 1 second to 255 seconds
- Tolerance 15% under room temperature 25°C

On-board RTC

- On-chip RTC with battery backup
- 1 x External Li Battery
- Torrance less than 2sec (24 hours) under 25˚C

ISA Support

- Through PCI to ISA Interface (ITE 8888)
- No ISA Master Devices but ISA DMA Devices
- Maximize ISA Slot support up to 3

System Monitor

- 4 voltage (For +3.3V, +5V, +12V, Vcore)
- 3 Temperatures (CPU, two external Temperature Sensor)
- 3 FANs speed (CPU, System and MCH FANs)

Power Input

- Power source from backplane through PCI/ISA Golden Finger
- Supports both AT or ATX Power Supplies (Automatically, BIOS default :AT Mode)
- When change to ATX, the BIOS default setting is as follow:
  POWER -SUPPLY TYPE--> [ATX]
  AUTO PWR-FAILURE RESUME -->[ON]
- +3.3V is Converted from +5V and not directly from Backplane or Power Supply
- +5Vsb (Standby power) is connected from Backplane through 3pins Connectors
- 4 Pins +12V Power Input Connector

Dimensions

- 338.58mm (L) x 122mm (W) (13.3" x 4.8")

Environment

- Board level operating temperature: 0°C to 60°C
- Storage temperature: -20°C to 85°C
- Relative humidity: 10% to 90% (Non-condensing) Non-operating 5% to 95%, non-condensing

Certifications

- CE approval
- FCC Class A

Ordering Information

- **PEAK 765VL2 (P/N: 10P0765VL01X0)**
  PICMG 1.0 Full-Size SBC, Intel® Q965 Chipset, Intel® LGA775 Core™ 2 Duo/ Pentium® 4/Pentium® D/Celeron® D processors with 533/800/1066 MHz, Max. 4GB DDR2 DIMM, VGA integrated , 2 x GbE, 4 x SATA Ports