



Main Features

- Embedded Intel® 3rd generation Core™ i7/ i5/ i3 processor, Ivy Bridge Mbl + ECC
- Intel® QM77 PCH chipset support PICMG COM.0 Rev. 2.0 Type 6 pin-outs
- Support Dual channel DDR3 with ECC SO-DIMMs 1333/1600MHz up to 16GB
- Support PCIe x16, 7x PCIe x1, 4x USB3.0/ 8x USB 2.0, 2x SATA 3.0/ 2x SATA 2.0 and GbE
- Up to 3x Independent Displays, VGA, Dual Channels 18/24-bit LVDS, DVI, HDMI, DisplayPort
- Dimension 95mm (W) x 125mm (L)

Product Overview

The ICES 668 is a Type 6 pin-outs COM Express Basic module featuring Intel® QM77 PCH chipset supports Intel® 3rd generation Intel® Core™ processor with Dual DDR3 SO-DIMM socket up to 16GB DDR3 1333/ 1600MHz SDRAM with ECC support. The ICES 668 integrated Intel® HD graphics with DX11 support or expands via PCI Express Graphic 1x 16 lanes and support three DDI (Digital Display Interface) to follow the standard of PICMG COM.0 Rev. 2.0 specification. It allows type 6 pin-out Carrier board to implement HDMI, DVI, Display Port, SDVO and legacy VGA, 18/24 bits LVDS interface. The high performance ICES 668 COM Express Basic Module supports 4x USB 3.0/ 8x USB 2.0, 2x SATA 3.0/ 2x SATA 2.0 and 7x PCIe x 1 lanes through our NEXCOM in-house designed ICEB 8060 evaluation carrier MB as well as customized solution for your embedded OEM/ ODM projects.

Specifications

CPU Support

- Support Intel® BGA 1023, 3rd generation Intel® Core™ processor
 - Intel® Core™ i7 3615QE (4C/ 6M cache/ 2.3GHz/ Max. TDP 45W)
 - Intel® Core™ i7 3555LE (2C/ 4M cache/ 2.5GHz/ Max. TDP 25W)
 - Intel® Core™ i7 3517UE (2C/ 4M cache/ 1.7GHz/ Max. TDP 17W)
 - Intel® Core™ i3 3217UE (2C/ 3M cache/ 1.6GHz/ Max. TDP 17W)
 - Intel® Core™ i5 3610ME (2C/ 3M cache/ 2.7GHz/ Max. TDP 35W)

Main Memory

- Dual DDR3/ SO-DIMMs, support 1333/1600MHz ECC system memory up to 16GB

Platform Control Hub

- Intel® QM77 PCH chipset

BIOS

- AMI System UEFI BIOS
- Plug and play support
- Advanced power management and advanced configuration & power interface support

Display

- Intel® HD graphics with DX11 support up to triple independent displays
- One PCI Express x16 Lane down to the carried board
- Supports VGA and single/dual channels 18/24 bit LVDS interface
- 3x DDI (Digital Display Interface) supports HDMI/ DVI, DisplayPort and SVDO interfaces

Audio

- HD audio interface

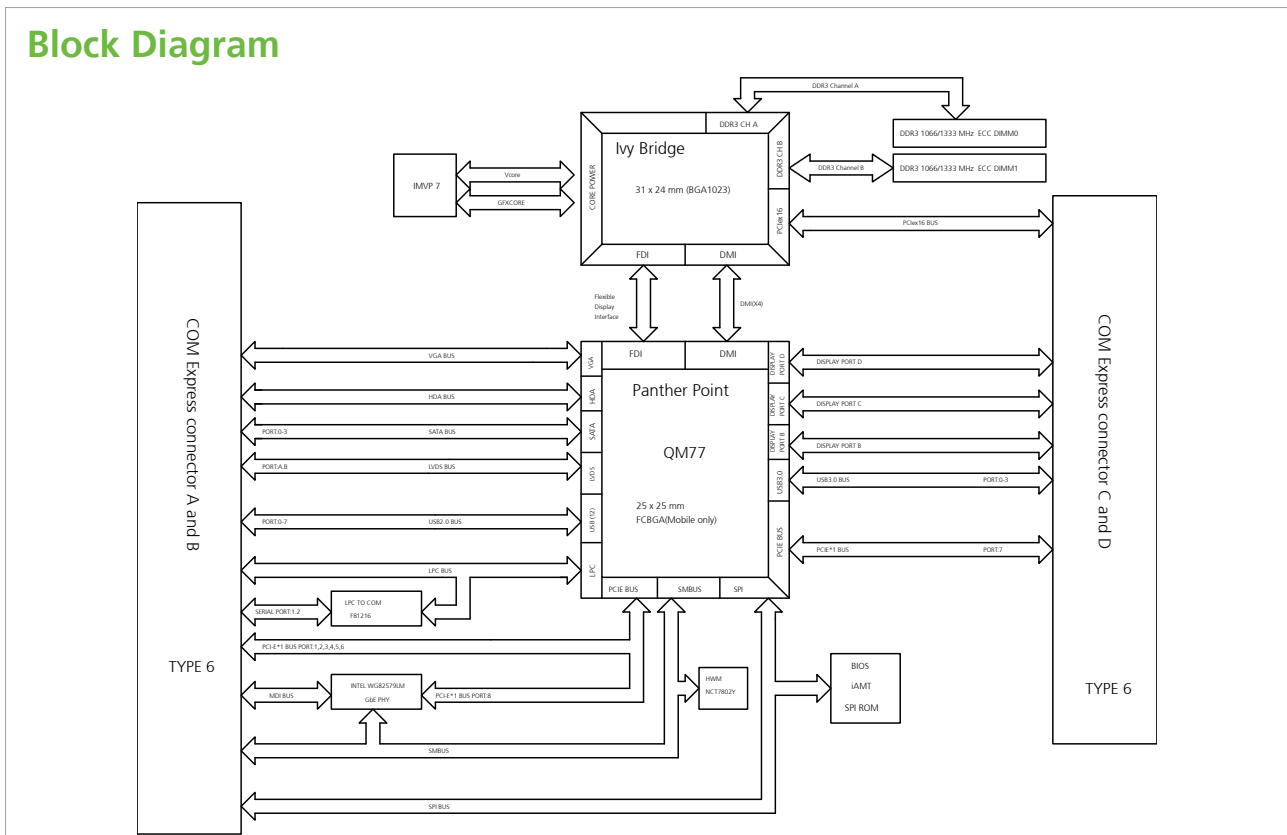
On-board LAN

- Intel® 82579LM Gigabit Ethernet, support iAMT 8.0
- Support PXE boot from LAN, wake on LAN function
- Signals down to I/O board

COM Express Connector

- AB
VGA/ LVDS/ 8x USB 2.0 / 2x Serial Port / HD Audio/ 4x SATA/ GbE/
GPIO/ LPC bus, 1x PCIe X4/ 3x PCIe X1/ SMBus (I2C)/ SPI BIOS /SPK out
- CD
PCIe x16/ 3x DDI/ 4x USB 3.0

Block Diagram



Power Requirements

- +12V, +5VSB, +3.3V RTC power

Dimensions

- 95mm (W) x 125mm (L)

Environment

- Board level operating temperatures: 0°C to 60°C
- Storage temperatures: -20°C to 80°C
- Relative humidity:
 - 10% to 90% (operating, non-condensing)
 - 5% to 95% (non-operating, non-condensing)

Certifications

- Meet CE
- FCC Class A

Ordering Information

◆ ICES 668 (P/N: TBD)

Type 6 COM Express basic module QM77 for advanced application

◆ ICES 668-3610ME (P/N: 10K00066806X0)

COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i5-3610ME (2x 2.7Ghz, 3MB Cache, 35W) processor, ECC DDR3/ 2x SO-DIMMs

◆ ICES 668-3615QE (P/N: 10K00066805X0)

COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i7-3615QE (4x 2.3Ghz, 6MB Cache, 45W) processor, ECC DDR3/ 2x SO-DIMMs

◆ ICES 668-3555LE (P/N: 10K00066804X0)

COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i7-3555LE (2x 2.5Ghz, 4MB Cache, 25W) processor, ECC DDR3/ 2x SO-DIMMs

◆ ICES 668-3517UE (P/N: 10K00066803X0)

COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i7-3517UE (2x 1.7Ghz, 4MB Cache, 17W) processor, ECC DDR3/ 2x SO-DIMMs

◆ ICES 668-3217UE (P/N: 10K00066801X0)

COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i3-3217UE (2x 1.6Ghz, 3MB Cache, 17W) processor, ECC DDR3/ 2x SO-DIMMs

◆ ICES 668 F- kit (P/N: TBD)

Active Fan Kits with heat- spreader, heat-sink and cooling fan for ICES 668 series

◆ ICEB 8060 (P/N: 10KB0806000X0) RoHS Compliant

COM Express Type 6, COM.0 Rev. 2.0 Evaluation CRB, 3DDI/ VGA/ LVDS/ 4USB3.0/ 8USB2.0 /6COM /2GbE/ 5.1 HD, SPDIF/ 2SATA3.0/ mSATA/ CFast/ PCIe16/ PCIe4/ PCIe1/ mPCIe, ATX power input