



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 PCIe16, 7 x PCIe1, 4 x USB3.0/8 x USB2.0, 2 x SATA 3.0/2 x SATA 2.0 and GbE
- Up to 3 x 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 1 x 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 4 x USB3.0/8 x USB2.0, 2 x SATA 3.0/2 x SATA 2.0 and 7 x PCIe1 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 channel s 18/24 bit LVDS interface
- 3 x 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/8 x USB2.0/2 x Serial Port/HD Audio/4 x SATA/GbE/GPIO/LPC bus, 1 x PCIe4/2 x PCIe1/SMBus (I2C)/SPI BIOS/SPK out
- CD
PCIe16/3 x DDI/4 x USB3.0/1 x PCIe1

Power Requirements

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

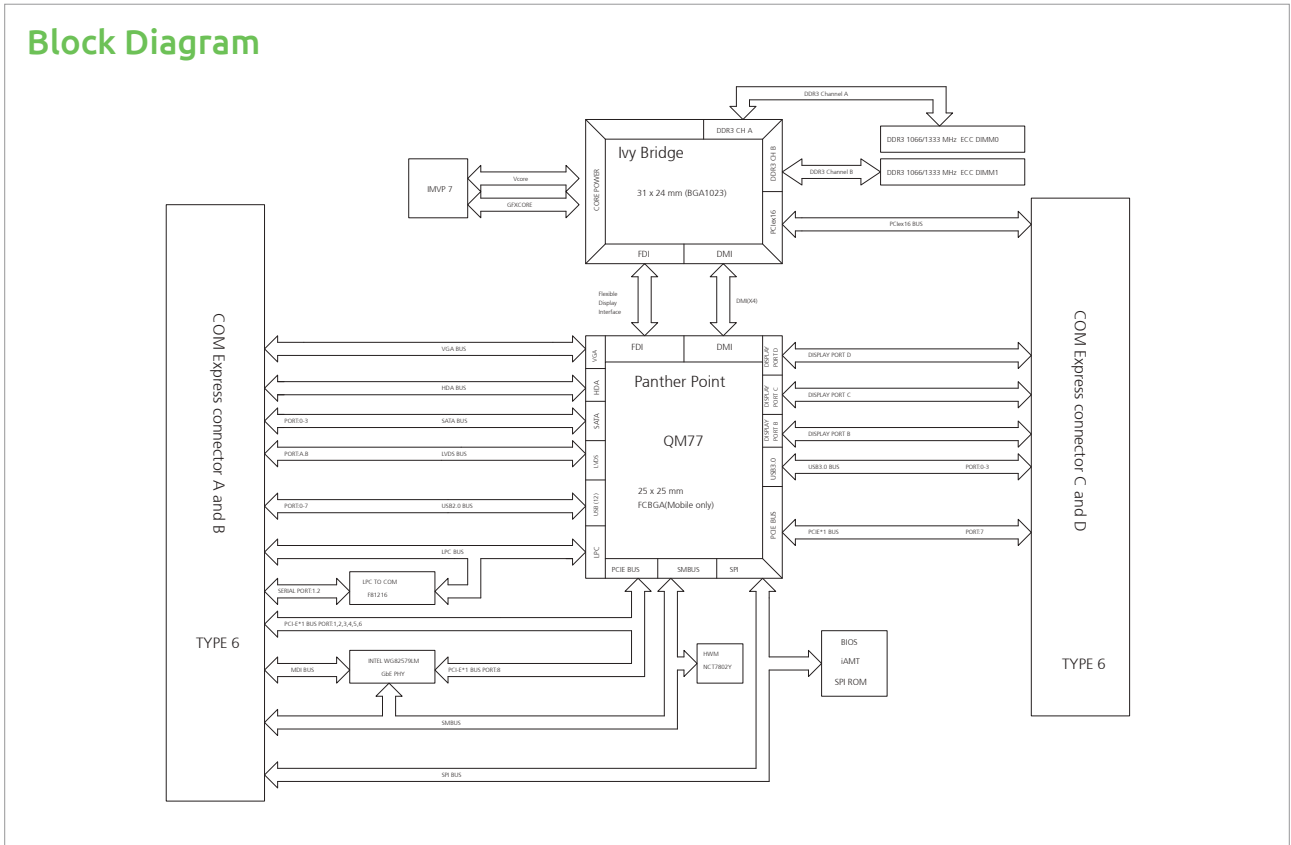
Dimensions

- 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)

Block Diagram



Certifications

- Meet CE
- FCC Class A

Ordering Information

- ♦ **ICES 668-3610ME (P/N: 10K00066806X0)**
COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i5-3610ME (2 x 2.7GHz, 3MB Cache, 35W) processor, ECC DDR3/2 x SO-DIMMs
- ♦ **ICES 668-3615QE (P/N: 10K00066805X0)**
COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i7-3615QE (4 x 2.3GHz, 6MB Cache, 45W) processor, ECC DDR3/2 x SO-DIMMs
- ♦ **ICES 668-3555LE (P/N: 10K00066804X0)**
COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i7-3555LE (2 x 2.5GHz, 4MB Cache, 25W) processor, ECC DDR3/2 x SO-DIMMs
- ♦ **ICES 668-3517UE (P/N: 10K00066803X0)**
COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i7-3517UE (2 x 1.7GHz, 4MB Cache, 17W) processor, ECC DDR3/2 x SO-DIMMs
- ♦ **ICES 668-3217UE (P/N: 10K00066801X0)**
COM Express Type 6, Basic Module, QM77 onboard 3rd Generation Intel® Core™ i3-3217UE (2 x 1.6GHz, 3MB Cache, 17W) processor, ECC DDR3/2 x SO-DIMMs
- ♦ **ICES 668 F- kit (P/N: 10K00066807X0)**
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, 3 x DDI/VGA/LVDS/4 x USB3.0/8 x USB2.0/6 x COM/2 xGbE/5.1 HD, SPDIF/2 x SATA3.0/mSATA/CFast/PCIex16/PCIex4/PCIex1/mPCIe, ATX power input