

## Main Features

- 3rd generation Intel® Embedded Core™ rPGA988 embedded processors family
- Intel® QM77 PCH (HM76 ) chipset support PICMG COM.0 Rev. 2.0 Type 6 pin-outs
- Support two DDR3 SO-DIMMs 1333/ 1600 non-ECC up to 16GB
- Support PCIe16 (Gen3.0) 7x PCIe1, 4x USB3.0/ 8x USB2.0, 2x SATA3.0/ 2x SATA2.0 and GbE
- Up to 3x DDI (DP/ HDMI/ DVI) multiple displays, VGA, dual channels 18/ 24-bit LVDS
- Dimension: 95mm (W) x 125mm (L)

## Product Overview

The ICES 667 is a Type 6 COM Express Basic Module featuring Intel® QM77 PCH (option HM76) chipset supports 3rd generation Intel® Core™ i7/ i5/ i3 rPGA988 embedded processors up to i7-3610QE (4x 2.3Ghz/ max.TDP 45W) with two DDR3 SO-DIMMs 1333/ 1600MHz non-ECC up to 16GB.

The 3rd Generation Intel® Core™ i7/ i5/ i3 processors integrated with Intel® HD graphics with DX11 support one PCIe16 (Gen 3.0) to carrier board. The Three DDI interfaces allows ICES 667 implement HDMI, DVI, Display Port, SDVO on Customer Solution Board besides VGA, LVDS interface. The high performance ICES 667 COM Express Module supports 4x SATA2.0/ 3.0, 12x USB 2.0/ 3.0 and 7x PCIe x 1 lanes through the carrier board; NEXCOM is offering standard Type 6 carrier board, ICEB 8060 to help device makers and equipment builders to evaluate full set of I/O function and add-on cards at early development stage.

## Specifications

### CPU Support

- Support 3rd generation Intel® Core™ i7/ i5/ i3 embedded rPGA988 processors
  - Intel® Core™ i7-3610QE (4x 2.3GHz/ 6MB cache/ Max. TDP 45W)
  - Intel® Core™ i7-3610ME (2x 2.7GHz/ 3MB cache/ Max. TDP 35W)
  - Intel® Celeron® B810 (2x 1.6GHz/ 2MB cache/ Max. TDP 35W)

### Main Memory

- Two DDR3 SO-DIMMs, 1333/ 1600 MHz SDRAM non-ECC up to 16GB

### Platform Control Hub

- Intel® QM77 PCH (option HM76) chipset

### BIOS

- AMI UEFI System BIOS
- Plug and play support
- Advanced Power Management and ACPI support

### Display

- Intel® HD graphics with DX11 support and supports Triple independent displays
- One PCI Express x 16 Lane (Gen. 3.0) down to the carried board
- Supports VGA, single/ dual channels LVDS 18/ 24-bit interfaces
- 3x DDI supports HDMI, DVI, DisplayPort and SDVO ( only by Port B/ DDI #1)

### Audio

- HD audio interface

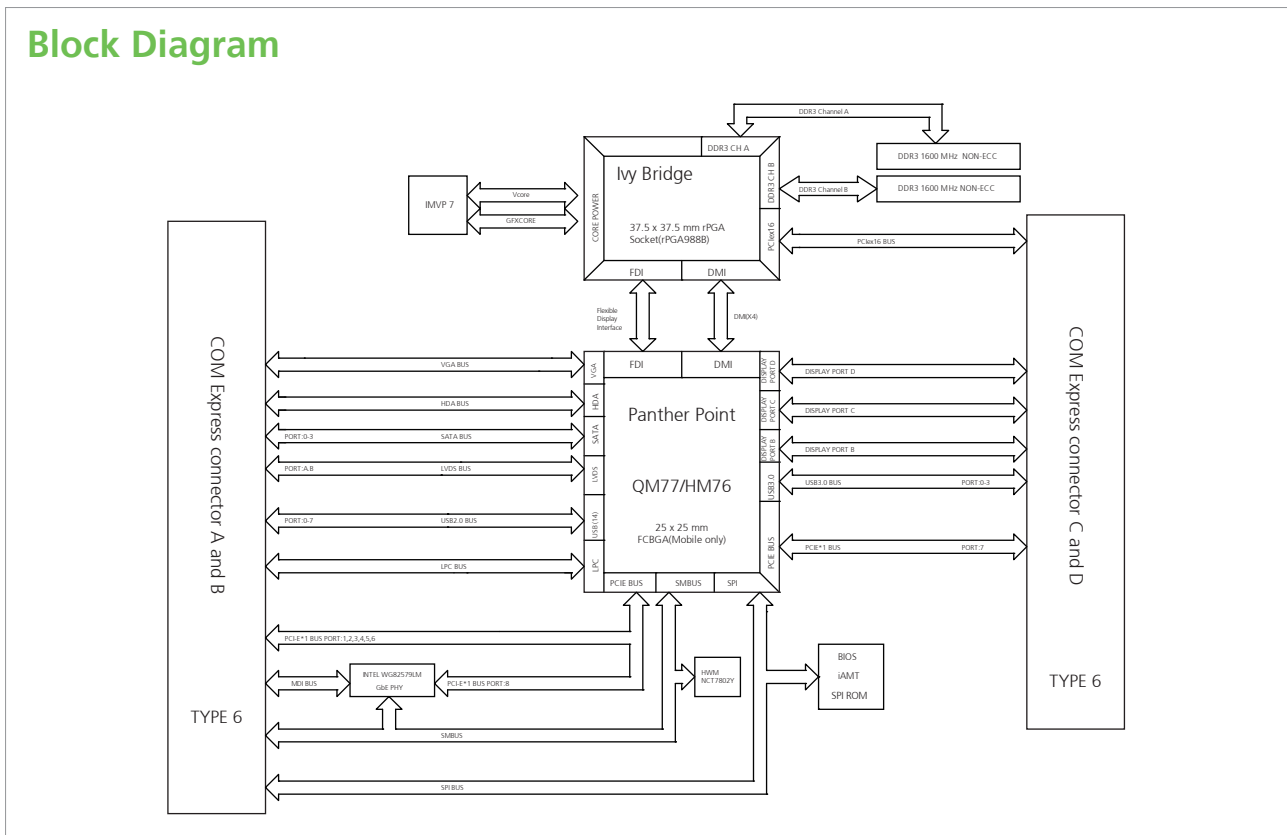
### On-board LAN

- Intel® 82579LM Gigabit Ethernet, support iAMT 8.0 (supported with QM77 only)
- Support boot from LAN, wake on LAN function
- Signals down to I/O board

### COM Express Connector

- AB  
VGA/ LVDS/ 8x USB 2.0, HD Audio/ 4x SATA2.0/ 3.0, GbE/ GPIO/ LPC bus, 1x PCIe x4/ 2x PCIe x1/ SMBus (I2C)/ SPI BIOS /SPK out
- CD  
PCIe x16(Gen. 3.0)/ 3x DDI/ 4x USB 3.0/ PCIe x1

## Block Diagram



## Ordering Information

### Power Requirements

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

### Dimensions

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

### Environment

- Board level operating temperature: -15°C to 60°C
- Storage temperature: -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

### ♦ ICES 667 (P/N: 10K00066700X0)

COM Express type 6, basic Module QM77 support 3rd Generation Intel® Core™ rPGA988 embedded processors, non-ECC DDR3/ 2x SO-DIMMs

### ♦ ICES 667F-kit (P/N: 10K00066702X0)

COM Active fan kits with heat-spreader, heat-sink and cooling fan for ICES667

### ♦ ICEB 8060 (P/N: 10KB086000X0)

COM Express type 6, COM.0 Rev. 2.0 Evaluation Carrier Board, 3DDI/ VGA/ LVDS/ 4USB3.0/ 8USB2.0/ 6COM/ 2GbE/ 5.1HD, SPDIF/ 2SATA3.0/ mSATA/ CFast/ PCIe16/ PCIe4/ 2PCIex1/ mPCIe, ATX power input