

# conga-BM57

## Maximum Computing Performance

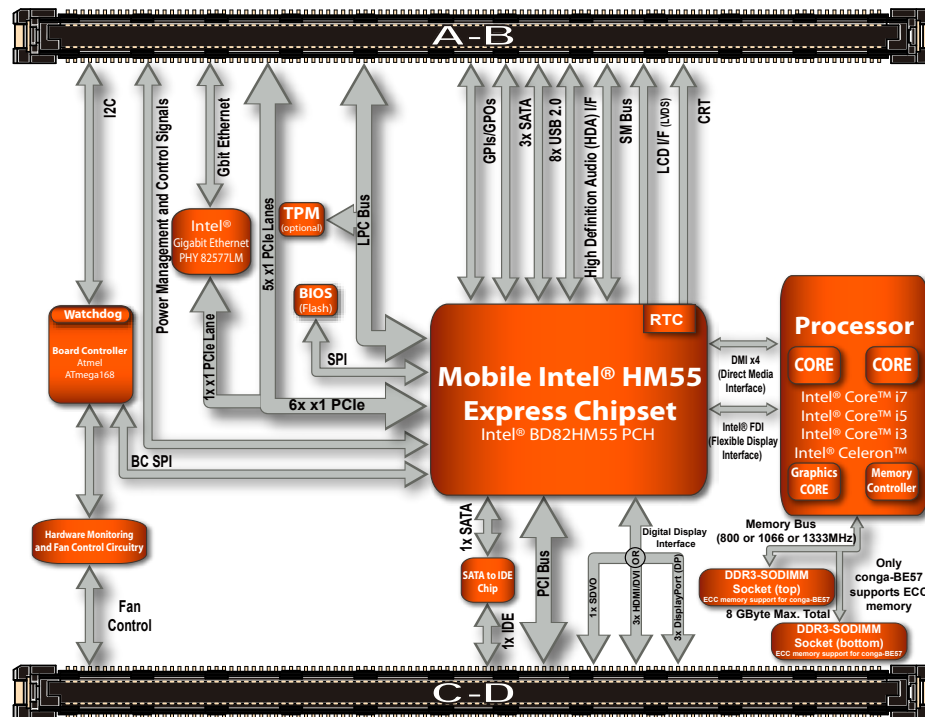


- up to Intel® Core™ i7 Processors 2.66 GHz
- Highest end graphics performance
- Intel® Turbo Boost Technology up to 3.33 GHz

**COM**  **Express®**

|                           |                                                                                                                                                                                                                                                                                                                                                                                          |          |               |           |          |          |             |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------|-----------|----------|----------|-------------|
| Formfactor                | COM Express™ Basic   (95 x 125 mm)   Type II Connector Layout                                                                                                                                                                                                                                                                                                                            |          |               |           |          |          |             |
| CPU                       | Intel® Core™ i7-620M                                                                                                                                                                                                                                                                                                                                                                     | 2.66 GHz | 32 nm process | 4MB cache | 1066 MHz | TDP 35 W | PGA package |
|                           | Intel® Core™ i5-520M                                                                                                                                                                                                                                                                                                                                                                     | 2.4 GHz  | 32 nm process | 3MB cache | 1066 MHz | TDP 35 W | PGA package |
|                           | Intel® Celeron™ P4500                                                                                                                                                                                                                                                                                                                                                                    | 1.86 GHz | 32 nm process | 2MB cache |          | TDP 35 W | PGA package |
|                           | Integrated dual channel memory controller   up to 17.1 GByte/sec. memory bandwidth<br>Integrated Intel® HD Graphics with dynamic frequency up to 667 MHz<br>Intel® Clear Video HD Technology                                                                                                                                                                                             |          |               |           |          |          |             |
| DRAM                      | 2 Sockets   SO-DIMM DDR3 1333 MHz   up to 8 GByte                                                                                                                                                                                                                                                                                                                                        |          |               |           |          |          |             |
| Chipset                   | Intel® 5 Series Chipset: Intel® HM55                                                                                                                                                                                                                                                                                                                                                     |          |               |           |          |          |             |
| Ethernet                  | Intel® 82577LM Ethernet PHY                                                                                                                                                                                                                                                                                                                                                              |          |               |           |          |          |             |
| I/O Interfaces            | 5x PCI Express™ lanes   3x Serial ATA® (AHCI) no RAID support   1x EIDE (UDMA-66/100) optional   2x ExpressCard®   8x USB 2.0 (EHCI)<br>PCI bus 33 MHz Rev. 2.3   LPC bus   I²C bus (fast mode   400 kHz   multi-master)                                                                                                                                                                 |          |               |           |          |          |             |
| Sound                     | Digital High Definition Audio Interface with support for multiple audio codecs                                                                                                                                                                                                                                                                                                           |          |               |           |          |          |             |
| Graphics                  | Processor integrated Mobile Intel® 5 Series HD graphics<br>OpenGL 2.1 and DirectX10 support   Two independent pipelines for full dual view support   High performance hardware MPEG-2 decoding<br>WMV9 (VC-1) and H.264 (AVC) support Blu-ray support @ 40 MBit/s   hardware motion compensation   no PEG support                                                                        |          |               |           |          |          |             |
| LVDS                      | Dual channel LVDS transmitter   Supports flat panels 2x24 Bit interface   VESA mappings   resolutions up to 1920x1200   Automatic Panel Detection via EDID/EPI                                                                                                                                                                                                                           |          |               |           |          |          |             |
| DisplayPort               | 3x DisplayPorts 1.1 shared with HDMI                                                                                                                                                                                                                                                                                                                                                     |          |               |           |          |          |             |
| HDMI                      | 3x ports shared with DisplayPorts                                                                                                                                                                                                                                                                                                                                                        |          |               |           |          |          |             |
| CRT Interface             | 350 MHz RAMDAC   resolutions up to QXGA (2048x1536)                                                                                                                                                                                                                                                                                                                                      |          |               |           |          |          |             |
| AUX Output                | Supports one SDVO port shared with HDMI and DisplayPort capable of driving a 200MP pixel rate                                                                                                                                                                                                                                                                                            |          |               |           |          |          |             |
| congatec Board Controller | Multi Stage Watchdog   non-volatile User Data Storage   Manufacturing and Board Information   Board Statistics   BIOS Setup Data Backup<br>I²C bus (fast mode   400 kHz   multi-master)   Power Loss Control                                                                                                                                                                             |          |               |           |          |          |             |
| Embedded BIOS Features    | AMI Aptio® UEFI 2.x firmware   4 MByte serial SPI firmware flash                                                                                                                                                                                                                                                                                                                         |          |               |           |          |          |             |
| Security                  | The conga-BM57 can be optionally equipped with a discrete "Trusted Platform Module" (TPM). It is capable of calculating efficient hash and RSA algorithms with key lengths up to 2,048 bits and includes a real random number generator. Security sensitive applications such as gaming and e-commerce will benefit also with improved authentication   integrity and confidence levels. |          |               |           |          |          |             |
| Power Management          | ACPI 3.0 with battery support                                                                                                                                                                                                                                                                                                                                                            |          |               |           |          |          |             |
| Operating Systems         | Microsoft® Windows 8   Microsoft® Windows 7   Microsoft® Windows XP   Microsoft® Windows® embedded Standard   Linux                                                                                                                                                                                                                                                                      |          |               |           |          |          |             |
| Power Consumption         | Typ. application: tbd.   see manual for full details   CMOS Battery Backup                                                                                                                                                                                                                                                                                                               |          |               |           |          |          |             |
| Temperature               | Operating: 0 .. +60°C   Storage: -20 .. +80°C                                                                                                                                                                                                                                                                                                                                            |          |               |           |          |          |             |
| Humidity                  | Operating: 10 - 90% r. H. non cond.   Storage: 5 - 95% r. H. non cond.                                                                                                                                                                                                                                                                                                                   |          |               |           |          |          |             |
| Size                      | 95 x 125 mm (3.74" x 4.92")                                                                                                                                                                                                                                                                                                                                                              |          |               |           |          |          |             |

# conga-BM57 | Block diagram



# conga-BM57 | Order Information

| Article                            | PN     | Description                                                                                                                                                                                                                     |
|------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| conga-BM57/i5-520M                 | 046001 | Intel® Core™ i5-520M processor with 2.4GHz   3MB L2 cache and 1066MT/s dual channel DDR3 memory interface                                                                                                                       |
| conga-BM57/i7-620M                 | 046002 | Intel® Core™ i7-620M processor with 2.66GHz   4MB L2 cache and 1066MT/s dual channel DDR3 memory interface                                                                                                                      |
| conga-BM57/P4500                   | 046005 | Intel® Celeron® P4500 processor with 1.86 GHz   2MB L2 cache and 800MT/s dual channel DDR3 SODIMM memory interface for up to 8GB                                                                                                |
| conga-BM57/CSP-HP-B                | 046022 | Standard passive cooling solution for high performance COM Express module conga-BM57 with integrated heat pipes   15mm silver fins and 20mm overall heat sink height. All standoff are with 2.7mm bore hole                     |
| conga-BM57/CSP-HP-T                | 046023 | Standard passive cooling solution for high performance COM Express module conga-BM57 with integrated heat pipes   15mm silver fins and 20mm overall heat sink height. All standoff are M2.5mm thread                            |
| conga-BM57/CSA-HP-B                | 046024 | Standard active cooling solution for high performance COM Express module conga-BM57 with integrated heat pipes   15mm silver fins   20mm overall heat sink height and integrated 12V fan. All standoff are with 2.7mm bore hole |
| conga-BM57/CSA-HP-T                | 046025 | Standard active cooling solution for high performance COM Express module conga-BM57 with integrated heat pipes   15mm silver fins   20mm overall heat sink height and integrated 12V fan. All standoff are M2.5mm thread        |
| conga-BM57/HSP-HP-B                | 046020 | Standard heatspreader for high performance COM Express module conga-BM57 with integrated heat pipes. All standoff are with 2.7mm bore hole                                                                                      |
| conga-BM57/HSP-HP-T                | 046021 | Standard heatspreader for high performance COM Express module conga-BM57 with integrated heat pipes. All standoff are M2.5mm thread                                                                                             |
| DDR3-SODIMM-1066 (1GB)             | 068750 | DDR3 SODIMM memory module with 1066MT/s and 1GB RAM                                                                                                                                                                             |
| DDR3-SODIMM-1066 (2GB)             | 068760 | DDR3 SODIMM memory module with 1066MT/s and 2GB RAM                                                                                                                                                                             |
| DDR3-SODIMM-1066 (4GB)             | 068765 | DDR3 SODIMM memory module with 1066MT/s and 4GB RAM                                                                                                                                                                             |
| <b>Accessories</b>                 |        |                                                                                                                                                                                                                                 |
| conga-CEVAL                        | 065749 | Evaluation Carrier Board for COM Express Type 2 modules                                                                                                                                                                         |
| conga-Cdebug                       | 047854 | COM-Express debugging platform. Including cable for COM   PS/2 and VGA.                                                                                                                                                         |
| conga-LDVI/EPI                     | 011115 | LVDS to DVI converter board for digital flat panels with onboard EEPROM                                                                                                                                                         |
| conga-HDMI/Display Port adapter    | 500014 | The conga-HDMI/DisplayPort adapter is used to convert the chipset graphic ports Port-B   Port-C and Port-D to the HDMI or DisplayPort Interface                                                                                 |
| conga-FPA2                         | 047250 | Flatpanel prototype adapter to develop your own flatpanel adapter Including cables set.                                                                                                                                         |
| COM-Express-carrier-board-Socket-5 | 400007 | Connector for COM-Express carrier boards   height 5mm   packing unit 4 pieces                                                                                                                                                   |
| COM-Express-carrier-board-Socket-8 | 400004 | Connector for COM-Express carrier boards   height 8mm   packing unit 4 pieces                                                                                                                                                   |

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Электрон  
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