

# COM Express® Basic Module

## Maximum Computing Performance

### conga-BE57

ECC Support for maximum reliability

Power-Efficient Processors

Up to Intel® Core™ i7  
Processor 2.0 GHZ

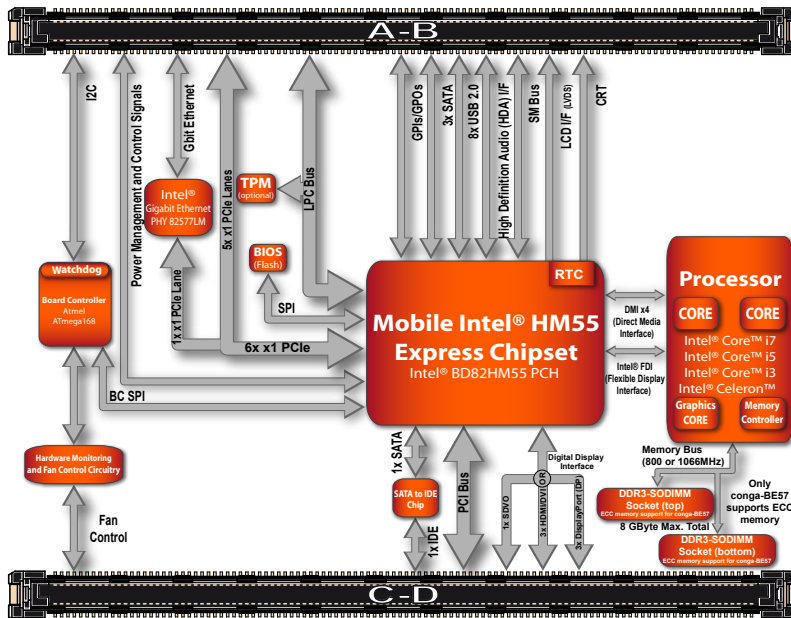
Intel® Clear Video HD Technology



<b>Formfactor</b>	<b>COM Express™ Basic, (95 x 125 mm), Type II Connector Layout</b>
<b>Processor</b>	Intel® Core™ i7-610E, 2.53 GHz (32 nm process, 4MB cache, 1066 MHz, TDP 25 W, BGA package) Intel® Core™ i7-620LE, 2.0 GHz (32 nm process, 4MB cache, 1066 MHz, TDP 25 W, BGA package) Intel® Celeron® P4505 1.86 GHz (32 nm process, 2MB cache, 1066 MHz, TDP 35 W, BGA package) Intel® Celeron® Processor U3405 1.07 GHz (32 nm process, 2 MB Cache, 1066 MHz, TDP 18 W, BGA package)  Integrated dual channel memory controller, up to 17.1 GByte/sec. memory bandwidth Integrated Intel® HD Graphics with dynamic frequency up to 667 MHz Intel® Clear Video HD Technology
<b>DRAM</b>	2 Sockets, SO-DIMM DDR3 ECC 1066 MHz, up to 8 GByte
<b>Chipset</b>	Intel® 5 Series Chipset: Intel® HM55
<b>Ethernet</b>	Intel® 82577LM Ethernet PHY
<b>I/O Interfaces</b>	5x PCI Express™ lanes, 3x Serial ATA® (AHCI) no RAID support, 1x EIDE (UDMA-66/100) optional, 2x ExpressCard®, 8x USB 2.0 (EHCI), PCI bus 33 MHz Rev. 2.3, LPC bus, I²C bus (fast mode, 400 kHz, multi-master)
<b>Sound</b>	Digital High Definition Audio Interface with support for multiple audio codecs
<b>Graphics</b>	Processor integrated Mobile Intel® 5 Series HD graphics, OpenGL 2.1 and DirectX10 support, Two independent pipelines for full dual view support, High performance hardware MPEG-2 decoding, WMV9 (VC-1) and H.264 (AVC) support Blu-ray support @ 40 MBit/s, hardware motion compensation, no PEG support
<b>LVDS</b>	Dual channel LVDS transmitter, Supports flat panels 2x24 Bit interface, VESA mappings, resolutions up to 1920x1200, Automatic Panel Detection via EDID/EPI
<b>DisplayPort (DP)</b>	3x DisplayPorts 1.1 shared with HDMI
<b>HDMI</b>	3x ports shared with DisplayPorts
<b>CRT Interface</b>	350 MHz RAMDAC, resolutions up to QXGA (2048x1536)
<b>AUX Output</b>	Supports one SDVO port shared with HDMI and DisplayPort capable of driving a 200MP pixel rate
<b>congatec Board Controller</b>	Multi Stage Watchdog, non-volatile User Data Storage, Manufacturing and Board Information, Board Statistics, BIOS Setup Data Backup, I²C bus (fast mode, 400 kHz, multi-master), Power Loss Control
<b>Embedded BIOS Features</b>	AMI Aptio® UEFI 2.x firmware, 4 MByte serial SPI firmware flash
<b>Security</b>	The conga-BE57 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.
<b>Power Management</b>	ACPI 3.0 with battery support
<b>Operating Systems</b>	Microsoft® Windows7, Microsoft® Windows XP, Microsoft® Windows® embedded Standard, Linux 2.6, QNX 6.x
<b>Power Consumption</b>	Typ. application: tbd., see manual for full details, CMOS Battery Backup
<b>Temperature</b>	Operating: 0 .. +60°C Storage: -20 .. +80°C
<b>Humidity</b>	Operating: 10 - 90% r. H. non cond. Storage: 5 - 95% r. H. non cond.
<b>Size</b>	95 x 125 mm (3.74" x 4.92")

# Block Diagram conga-BE57

# Order Information conga-BE57



Article	PN	Description
conga-BE57/i7-610E	040202	Intel® Core™ i7-610E processor with 2.53GHz, 4MB L2 cache and 1066MT/s dual channel DDR3 SODIMM ECC memory interface for up to 8GB.
conga-BE57/P4505	040201	Intel® Celeron® P4505 dual core processor with 1.86GHz, 2MB L2 cache and 1066MT/s dual channel DDR3 SODIMM ECC memory interface for up to 8GB.
conga-BE57/U3405	040200	Intel® Celeron® Dual Core Processor U3405 with 1.06GHz (BGA), 2MB L2 cache and 800MT/s dual channel DDR3 SODIMM ECC memory interface for up to 8GB.
DDR3-SODIMM-1066 (1GB)	068750	DDR3-SODIMM memory module with 1 GB RAM (1066 MT/s)
DDR3-SODIMM-1066 (2GB)	068760	DDR3-SODIMM memory module with 2 GB RAM (1066 MT/s)
DDR3-SODIMM-1066 (4GB)	068765	DDR3-SODIMM memory module with 4 GB RAM (1066 MT/s)

## Engineering Tools / Accessories for COM Express®

conga-CEVAL	065749	Evaluation carrier board for COM-Express-modules
conga-Cdebug	047854	COM-Express debugging platform. Including cable for COM, PS/2 and VGA.
conga-CKIT	064714	COM-Express-Starterkit, incl. conga-CEVAL, conga-CDEBUG, conga-FPA1 (PN: 024241), Dual DVI-D ADD2 card, Power supply, USB-Stick, ... Without COM Express-module
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
DVI-D ADD2 Card	058500	ADD2 display adapter card with single DVI-D digital output. Suitable for all Intel based platforms that support Serial Digital Display Outputs (SDVO) on the standard, x16 PCI Express Graphics (PEG) port.
Dual DVI-D ADD2 Card	013226	ADD2 display adapter card with dual independent DVI-D output. Suitable for all Intel based platforms that support Serial Digital Display Outputs (SDVO) on the standard, x16 PCI Express Graphics (PEG) port.
conga-FPA2	047250	Flatpanel prototype adapter to develop your own flatpanel adapter Including cables set.
COM-Express-carrierboard-Socket-5	400007	Connector for COM-Express carrier boards, height 5mm, packing unit 4 pieces
COM-Express-carrierboard-Socket-8	400004	Connector for COM-Express carrier boards, height 8mm, packing unit 4 pieces