

COM Express® Compact Module

Ultra Low Power

www.congatec.com

conga-CA945

Allows cost effective and power efficient COM Express™ solutions

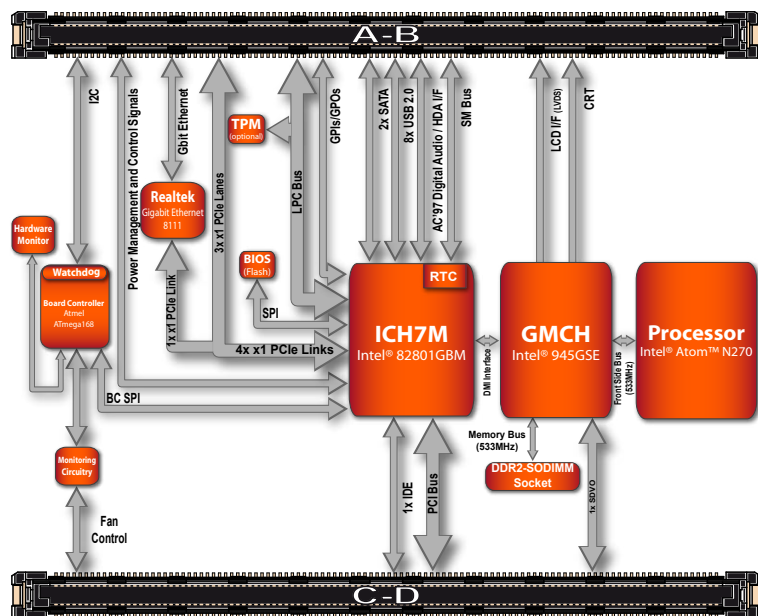
Combines Intel® Atom™ processor technology with the feature rich embedded chipset Intel® 945 GSE.

COM  **Express®**



Formfactor	COM Express™ Compact, (95 x 95 mm), Type II Connector Layout
CPU	Intel® Atom™ N270, 1.6 GHz, 512 kB cache, 533 MHz FSB, 45nm, 2.5W TDP
DRAM	1 Socket, SO-DIMM DDR2 533, up to 2 GByte
Chipset	Graphics & Memory Controller Hub: Intel® 945GSE I/O Controller Hub: Intel® 82801GBM (ICH7M)
Ethernet	Gigabit Ethernet, Realtek RTL8111
I/O Interfaces	3x PCI Express™ Lanes, 2x Serial ATA® (AHCI), 1x EIDE (UDMA-66/100), 2x Express Card® (uses 2x USB & 2x PCI Express), 8x USB 2.0 (EHCI), PCI Bus 33 MHz Rev. 2.3, LPC Bus, I²C (Fast Mode, 400 kHz, Multi Master)
Sound	AC'97 Rev.2.2 Compatible, Digital High Definition Audio Interface with support for multiple audio codecs
Graphics	Enhanced 256 Bit 3D Video Controller, Intel® Graphics Media Accelerator 950, up to 10.6 GB/sec memory bandwidth, 256-bit graphics core, max. 224 MByte 64 Bit Video RAM (DVTM 3.0), Dynamic Display Modes for flat-panel, wide-screen and Digital TV support Two independent pipelines for full dual view support
Motion Video Support	High Definition Hardware Motion Compensation to support high definition hi-bitrate MPEG2 media playback, Up and Down Scaling of Video Content, High Definition Content Decode, HDTV (1080i/p) Support
Flat panel Interface	Dual 112 MHz LVDS Transmitter, Supports all 1x18, 2x18, Resolutions 640x480 up to 1920x1200, Automatic Panel Detection via EPL, (Embedded Panel Interface, based on VESA EDID™ 1.3)
CRT Interface	400 MHz RAMDAC, Resolutions up to 2048x1536 @ 75 Hz, including 1920x1080 @ >85 Hz (HDTV)
AUX Output	1x SDVO
congatec Board Controller	Multi Stage Watchdog, Non-volatile User Data Storage, Manufacturing and Board information, Board Statistics, BIOS Setup Data Backup, I²C (Fast Mode, 400 kHz, Multi Master), Power Loss Control
Embedded BIOS Features	OEM Logo, OEM CMOS Defaults, LCD Control, (Auto Detection, Backlight Control), Flash Update, Based on AMIBIOS®
Security	The conga-CA945 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 2.0 with Battery support
Operating Systems	Microsoft® Windows7, Microsoft® Windows XP, Microsoft® Windows® embedded Standard, Microsoft® Windows CE 6.0, Linux 2.6, QNX 6.x
Power Consumption	Typ. application: <10 W @ 12V, 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 95 mm (3.74" x 3.74")

Block Diagram conga-CA945



Order Information conga-CA945

Article	PN	Description
conga-CA945/N270	062626	Intel Atom N270, CPU with 1.6GHz, 512kB L2-Cache and 533MHz FSB
conga-CA945/HSP-B	021441	Heatspreader, Standoff with 2.7mm bore hole
conga-CA945/HSP-T	022581	Heatspreader, Standoff with M2.5mm thread
conga-CA945/CSP-B	022590	Standard passive cooling solution, black surface with 10mm fins, bore hole standoffs
conga-CA945/CSP-T	022585	Standard passive cooling solution, black surface with 10mm fins, thread standoffs
DDR2-SODIMM-667 (0512MB)	057841	512 MByte DDR2 SODIMM memory module
DDR2-SODIMM-667 (1024MB)	087412	1 GByte DDR2 SODIMM memory module
DDR2-SODIMM-667 (2048MB)	068712	2 GByte DDR2 SODIMM memory module

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-MCB	020715	Mini Carrier Board for COM Express with smart battery manager interface for mobile applications.
conga-SBM²C-module	014141	SMART Battery Manager Module for COM Express
conga-SBM²C-kit	029874	Starterkit to evaluate SBM-Features for COM Express with SMART-Battery Manager Module and cable set
conga-SBM²C Licence and Design Kit	025478	SMART Battery Manager Module Design Kit for COM including licence agreement for customer integration, Hardware design files (Schematics, Bill of Material), Battery Manager Firmware (incl. commented source code), AVR-Programming Tool AT90 JTAG ICE MKII
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