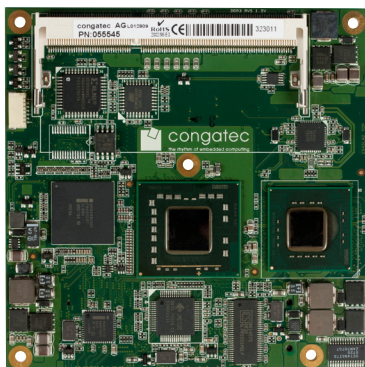


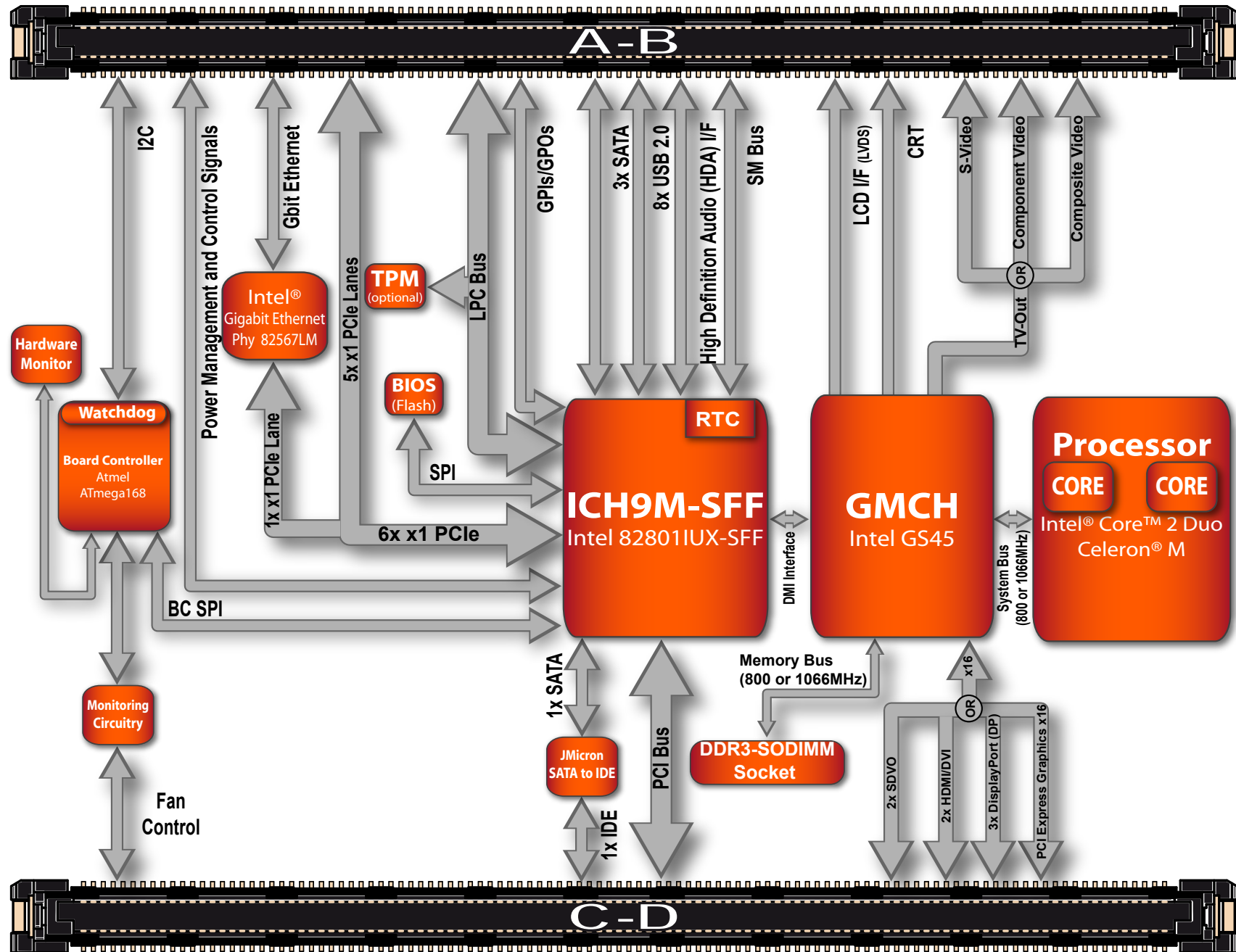
conga-CS45

**COM
Express®**



Formfactor	COM Express™ Compact, (95 x 95 mm), Type II Connector Pinout
CPU	Intel® Core™ 2 Duo SU9300, 1.20 GHz (3M cache, 800 MHz FSB, TDP 10W) Intel® Core™ 2 Duo SL9400, 1.86 GHz (6M cache, 1066 MHz FSB, TDP 17W) Intel® Celeron® M ULV 722, 1.20 GHz (1M cache, 800 MHz FSB, TDP 5.5W) Intel® Celeron® M ULV 723, 1.20 GHz (1M cache, 800 MHz FSB, TDP 10W)
DRAM	SO-DIMM DDR3 1067/800 MHz, up to 4 GByte
Chipset	Graphics & Memory Controller Hub: Intel® GS45 I/O Controller Hub: Intel® 82801IUX (ICH9M-SFF)
Ethernet	Intel® 82567LM Gigabit Ethernet Phy
I/O Interfaces	5x PCI Express™ lanes, PCI Express Graphics (PEG x16), 3x Serial ATA® (AHCI) supporting RAID 0/1/5/10, 1x EIDE (UDMA-66/100) optional, 2x ExpressCard® (uses 2x USB & 2x PCI Express), 8x USB 2.0 (EHCI), PCI bus 33 MHz Rev. 2.3, LPC bus, I²C bus (fast mode, 400 kHz, multi-master), Power Loss Control, temperature controlled Power-Up
Sound	Digital High Definition Audio Interface with support for multiple audio codecs
Graphics Controller	Mobile Intel® Graphics Media Accelerator 4500MHD, graphics core speeds up to 533 MHz, improved graphics and 3D rendering performance Intel® Dynamic Video Memory Technology (Intel® DVM 5.0) OpenGL 2.0 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 Mb/s, hardware motion compensation
LVDS	Dual channel 112 MHz LVDS transmitter, Supports flat panels with 1x18, 2x18, 1x24, 2x24 bit interface, VESA mappings, resolutions from 640x480 up to 1920x1200, Automatic Panel Detection via EDID/EPI/DisplayID
DisplayPort (DP)	Supports two DisplayPorts multiplexed with the PCI Express Graphics interface 1.62 Gb/s and 2.7 Gb/s, 1/2/4 data lanes, 8B10B-coding, Hot-Plug detect support, HDCP support
HDMI	Single TMDS Link, only support for RGB Video support for CEA modes 480i/p, 576i/p, 720p, 1080i/p and PC modes via dot clock, HDCP and HDMI repeater support
CRT Interface	300 MHz RAMDAC, resolutions up to QXGA
AUX Output	Supports two SDVO Ports multiplexed with the PCI Express Graphics interface
TV Out	Onboard TV encoder, supports HDTV (420p, 720p and 1080i), supports component and S-video
congatec Board Controller	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
Embedded BIOS Features	OEM Logo, OEM CMOS Defaults, LCD Control, Display Auto Detection, Backlight Control, Flash Update, Based on AMIBIOS8®
Security	Integrated TPM 1.2/TPCA security functions, for Hash, RSA, keys and random numbers (optional)
Power Management	ACPI 3.0 with battery support
Operating Systems	Microsoft®, Windows Vista, Windows XP, Windows XP embedded, Windows® CE 6.0, LINUX, QNX
Power Consumption	Typ. application: starting at ~10 Watt @ 12 V, 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 mm² (3.74" x 3.74")
Available	Q1/2010

Block Diagram conga-CS45



Order Information conga-CS45

Article	PN	Description
conga-CS45/722	5525	COM Express Compact modul with Intel Celeron Penryn Processor 722 with 1.2GHz, 1MB L2 cache and 800MHz FSB.
Conga-CS45/723	055545	COM Express Compact modul with Intel Celeron M Processor 723 with 1.2GHz, 1MB L2 cache and 800MHz FSB.
conga-CS45/SL9400	055520	COM Express Compact modul with Intel Core2Duo 1.85GHz Penryn CPU SL9400, 6MB L2 cache and 1066MHz FSB.
conga-CS45/SU9300	055535	COM Express Compact modul with Intel Core2Duo 1.2GHz Penryn CPU SU9300, 3MB L2 cache and 800MHz FSB.
conga-CS45/HSP-B	055530	Standard heatspreader for COM Express Compact module conga-CS45. All stand-offs are with 2.7mm bore hole
conga-CS45/HSP-T	055540	Standard heatspreader for COM Express Compact module conga-CS45. All stand-offs are with 2.5mm thread
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

Article	PN	Description
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-CEVAL/HDA-Adapter	045589	High Definition Audio evaluation adapter for conga-CEVAL
conga-CKIT	064714	COM-Express-Starterkit, incl. conga-CEVAL (PN: 065749), conga-CDEBUG (PN: 047854), conga-FPA1 (PN: 024241), Dual DVI-D ADD2 card (PN: 013226), Power supply, CD-ROM, USB-Stick, ... Without COM Express-module
conga-SBM ² C-module	014141	SMART Battery Manager Module for COM Express
conga-SBM ² C-kit	029874	Starterkit to evaluate SBM-Features for COM Express with SMART-Battery Manager Module and cable set
conga-SBM ² C 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
Design-Training		Design-Training for XTX- and COM-Express carrier boards, including handouts and certificate.



congatec

the rhythm of embedded computing

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