XTX™ Module

High graphics performance with low power consumption

conga-XAF

Based on AMD Embedded G-Series Processors

Best price/performance ratio
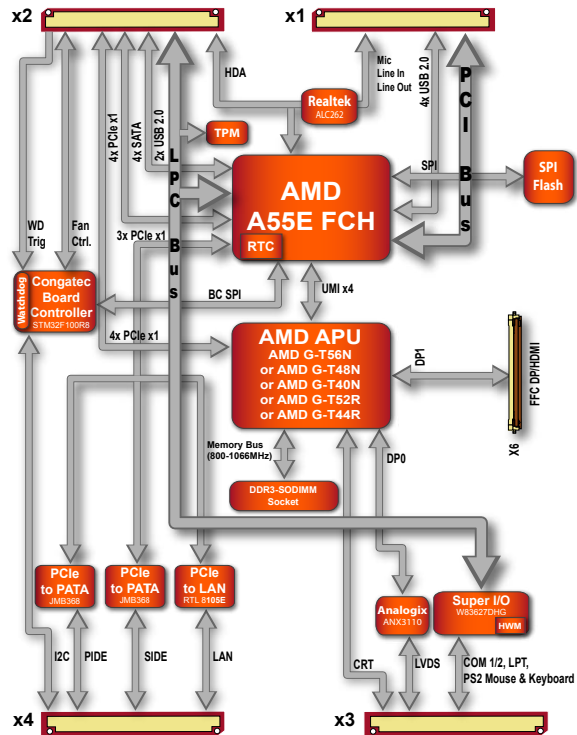
High performance graphics

Formfactor	**ETX® Spec 2.7. without ISA Support, XTX™ Extensions**
CPU	AMD Embedded G-Series Processors AMD G-T56N 1.6 GHz Dual Core (L1 cache 64KB, L2 cache 512kB x2, 18 W) AMD G-T48N 1.4 GHz Dual Core (L1 cache 64KB, L2 cache 512kB x2, 18W) AMD G-T40N 1.0 GHz Dual Core (L1 cache 64KB, L2 cache 512kB x2, 9W) AMD G-T52R 1.5 GHz Single Core (L1 cache 64KB, L2 cache 512kB, 18W) AMD G-T44R 1.2 GHz Single Core (L1 cache 64KB, L2 cache 512kB, 9W) AMD G-T40R 1.0 GHz Single Core (L1 cache 64KB, L2 cache 512kB, 5.5 W) AMD G-T40E 1.0 GHz Dual Core (L1 cache 64KB, L2 cache 512kB x2, 6.5 W)
DRAM	Single channel up to one 4 GB DDR3 SO-DIMM memory (up to 1066 MHz)
Chipset	AMD A55E Controller Hub
Ethernet	10/100M Fast Ethernet, Realtek RTL8105E
I/O Interfaces	4x PCI Express™ x1 lanes, 4x Serial ATA®, 2x EIDE (up to UDMA-66/100), 6x USB 2.0, PCI Bus (Rev. 2.3 compliant, 33 MHz), 2x Express Card, LPC Bus, I²C (Fast Mode, 400 kHz Multi Maser), Floppy, LPT, 2x COM, PS/2
Sound	High Definition Audio Interface and Analog MIC, Line In, Line Out by on-module HDA codec
Graphics	Integrated High Performance Video, DirectX®11 graphics with UVD 3.0, Integrated VGA DAC, Dual Simultaneous Display Support, no PEG support
LVDS	2x24 Bit, 800x600 to 1920X1200@60Hz; VESA standard or JEDIA data mapping; Automatic Panel Detection via EDID/EPI
DisplayPort	1x DisplayPort 1.1a shared with HDMI port, resolutions up to 2560x1600 - 18W APU, 1920x1200 - 9W APU
HDMI or DVI	1x HDMI 1.3 Port, shared with DisplayPort, resolutions up to 1920x1080 / 1920x1200 for DVI mode
CRT	400 MHz RAMDAC, resolutions up to 2560x1600 - 18W APU, 1920x1200 9W APU
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 Controll
Embedded BIOS Features	AMI-Aptio UEFI BIOS with congatec Embedded BIOS features
Security	The conga-XAF 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® Windows7, Microsoft® Windows XP, Microsoft® Windows® embedded Standard, Linux 2.6
Power Consumption	Typ. application: 9 .. 18 W., 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.

XTX
eXpress Technology for ETX

AMD Fusion
FAMILY OF APUs
EMBEDDED TECHNOLOGY

congatec

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Block Diagram elements:

x2 | x1

HDA

Mic Line In Line Out

4x USB 2.0

Realtek ALC262

TPM

4x PCIe x1 | 4x SATA | 2x USB 2.0

PCI Bus

SPI

SPI Flash

L P C Bus

AMD A55E FCH

RTC

WD Trig | Fan Ctrl.

3x PCIe x1

Congatec Board Controller STM32F100R8

Watchdog

BC SPI | UMI x4

4x PCIe x1

AMD APU
AMD G-T56N
or AMD G-T48N
or AMD G-T40N
or AMD G-T52R
or AMD G-T44R

DP1

FFC DP/HDMI

X6

Memory Bus (800-1066MHz) | DP0

DDR3-SODIMM Socket

PCIe to PATA JMB368 | PCIe to PATA JMB368 | PCIe to LAN RTL 8105E

Analogix ANX3110 | Super I/O W83627DHG | HWM

I2C | PIDE | SIDE | LAN | CRT | LVDS | COM 1/2, LPT, PS2 Mouse & Keyboard

x4 | x3

Article	PN	Description
conga-XAF/T56N	041031	AMD Dual Core Processor T56N with 1.6GHz, 1MB L2 cache and 1066MT/s DDR3 SODIMM memory interface for up to 4GB.
conga-XAF/T48N	041032	AMD Dual Core Processor T48N with 1.4GHz, 1MB L2 cache and 1066MT/s DDR3 SODIMM memory interface for up to 4GB.
conga-XAF/T40N	041033	AMD Dual Core Processor T40N with 1.0GHz, 1MB L2 cache and 1066MT/s DDR3 SODIMM memory interface for up to 4GB.
conga-XAF/T52R	041034	AMD Single Core Processor T52R with 1.5GHz, 512kB L2 cache and 1066MT/s DDR3 SODIMM memory interface for up to 4GB.
conga-XAF/T44R	041035	AMD Single Core Processor T44R with 1.2GHz, 512kB L2 cache and 1066MT/s DDR3 SODIMM memory interface for up to 4GB.
conga-XAF/HSP-B	041050	Standard Heatspreader. All stand-offs are with 2.7mm bore hole.
conga-XAF/HSP-T	041051	Standard Heatspreader. All stand-offs are M2.5mm threaded.
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 XTX®		
conga-Xeval	019482	Evaluation carrier board for XTX-modules
conga-XKIT	077441	XTX-Starterkit with conga-XEVAL, conga-Xdebug, conga-FPA1 (024241), conga-XDVI, Power supply, USB-Stick, …Without XTX-module
conga-ITX/X	057891	Baseboard for XTX-modules. Formfactor mini-ITX, …
conga-XDVI	098637	Evaluation platform to convert SDVO to DVI-D
conga-Xdebug	041784	XTX debugging platform. Including cable for COM, PS/2 and VGA
conga-FPA2	047250	Flatpanel prototype adapter to develop your own flatpanel adapter Including cables set
XTX/ETX-baseboard-socket-3	400006	Connector for ETX and XTX carrier boards, height 3.0 mm, packing unit 8 pieces
XTX/ETX-baseboard-socket-9.5	400009	Connector for ETX and XTX carrier boards, height 9.5 mm, packing unit 8 pieces
conga-SBM²-module	088774	SMART Battery Manager Module
conga-SBM²-2nd accu	096582	Second Smart Battery, only for the conga-SBM²-Kit.
conga-SBM²-KIT	026571	Starterkit to evaluate SBM-Features. With SMART-Battery Manager Module and cable set
conga-SBM² Licence and Design Kit	052741	SMART Battery Manager Module Design Kit including licence agreement for custumer 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 adapter board for digital fl at panels with a graphics resolution up to 1280x1024 pixel

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