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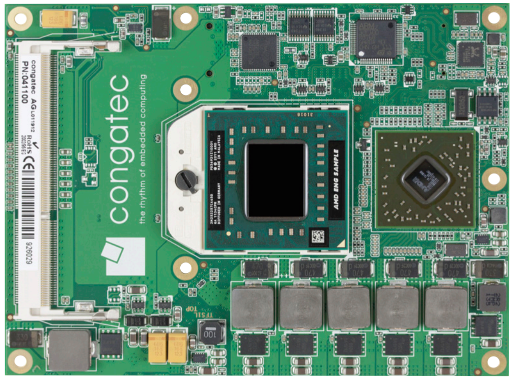
COM Express® Type6 Module

conga-TFS

Power efficient high-performance x86 processing

Unprecedented integrated graphics performance

High performance parallel processing support



Formfactor	**COM Express™ Basic, (95 x 125 mm), Type 6 Connector Layout**
CPU	AMD Embedded R-Series processors AMD Embedded R-464L with AMD Radeon™ HD 7660G Graphics (Quad-Core 2.3/3.2 GHz / 35W / PGA) AMD Embedded R-460H with AMD Radeon™ HD 7640G Graphics (Quad-Core 1.9/2.8 GHz / 35W / PGA) AMD Embedded R-272F with AMD Radeon™ HD 7520G Graphics (Dual-Core 2.7/3.2 GHz / 35W / PGA)
DRAM	Two 1.5V/1.35V DDR3 SO-DIMMs up to 1600MT/s and 8 GByte
Chipset	AMD A70M Controller Hub
Ethernet	Realtek RTL8111E GbE LAN Controller
I/O Interfaces	7x PCI Express™ 2.0 lane, PCI Express™ 2.0 x8 link, 4x SATA 6Gb/s with RAID 0/1, 4x USB 3.0, 4x USB 2.0, 2x Express™Card, LPC bus, SDHC, I^2C bus
Sound	High Definition Audio Interface
Graphics	High performance DirectX®11 GPU supports OpenCL™ 1.1 and OpenGL 4.2, Three Independent Display Controllers, Dedicated Hardware (UVD) for H.264 MPEG4 Part 2 VC-1 and MPEG2 decode Dedicated Hardware (VCE) assisted encoding of HD video streams to H.264
LVDS	18/24-bit Single/Dual Channel Interface, resolutions up to 1920X1200@60Hz, VESA standard or JEIDA data mapping, Automatic Panel Detection via EDID/EPI
DisplayPort	Three DisplayPort 1.2
HDMI or DVI	Two Ports support one HDMI1.4a and two Single-Link DVI
VGA	One Port supports resolutions up to 1920x1200@60Hz
congatec Board Controller	Multi Stage Watchdog, non-volatile User Data Storage, Manufacturing and Board Information, Board Statistics, BIOS Setup Data Backup, I2C bus, Power Loss Controll
Embedded BIOS Features	AMI Aptio® UEFI firmware
Security	The conga-TFS 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, Linux 2.6
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")

Rev, December 17, 2012 NAI

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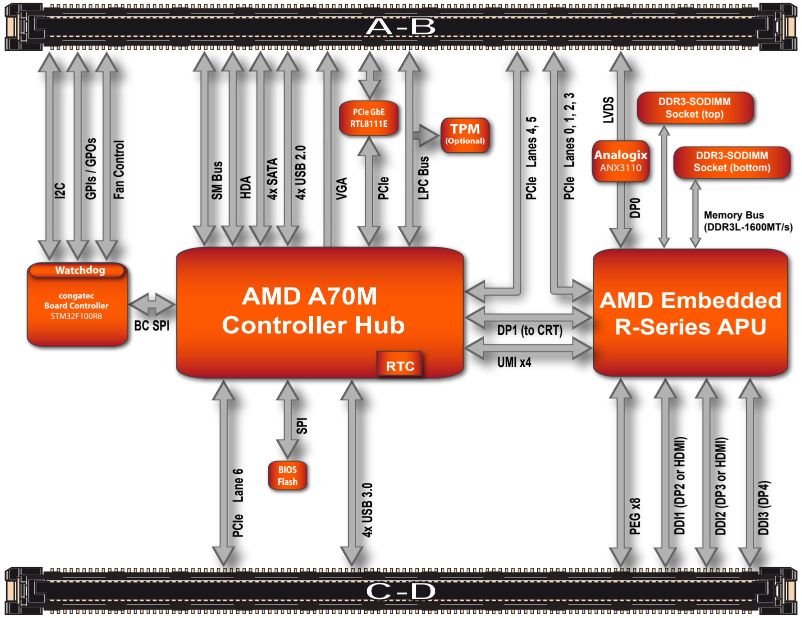
the rhythm of embedded computing

Block Diagram



Order Information

Article	PN	Description
conga-TFS/R-464L	041101	COM Express Type 6 Basic Module with AMD Embedded R-464L Processor Quad Core 2.3GHz/3.2GHz in socket with 1MB L2 cache and 1600MT/s DDR3 SODIMM memory interface for up to 16GB and AMD A70M Controller Hub.
conga-TFS/R-460H	041102	COM Express Type 6 Basic Module with AMD Embedded R-460H Processor Quad Core 1.9GHz/2.8GHz in socket with 1MB L2 cache and 1600MT/s DDR3 SODIMM memory interface for up to 16GB and AMD A70M Controller Hub.
conga-TFS/R-272F	041103	COM Express Type 6 Basic Module with AMD Embedded R-272F Processor Dual Core 2.7GHz/3.2GHz in socket with 512KB L2 cache and 1600MT/s DDR3 SODIMM memory interface for up to 16GB and AMD A70M Controller Hub.
conga-TFS/HSP-VC-B	041150	Standard heatspreader for high performance COM Express module conga-TFS with integrated vapor chamber. All standoffs are with 2.7mm bore hole.
conga-TFS/HSP-VC-T	041151	Standard heatspreader for high performance COM Express module conga-TFS with integrated vapor chamber. All standoffs are M2.5mm thread.
conga-TFS/CSP-VC-B	041152	Standard passive cooling solution for high performance COM Express module conga-TFS with integrated vapor chamber, 15mm fins and 20mm overall heat sink height. All standoffs are with 2.7mm bore hole.
conga-TFS/CSP-VC-T	041153	Standard passive cooling solution for high performance COM Express module conga-TFS with integrated vapor chamber, 15mm fins and 20mm overall heat sink heigh. All standoffs are M2.5mm thread.
conga-TFS/CSA-VC-B	041154	Standard active cooling solution for high performance COM Express module conga-TFS with integrated vapor chamber, 15mm fins, 20mm overall heat sink height and integrated 12V fan. All standoffs are with 2.7mm bore hole.
conga-TFS/CSA-VC-T	041155	Standard active cooling solution for high performance COM Express module conga-TFS with integrated vapor chamber, 15mm fins, 20mm overall heat sink height and integrated 12V fan. All standoffs are M2.5mm thread.
DDR3-SODIMM-1600 (2GB)	068767	DDR3 SODIMM memory module with 1600 MT/s (PC3-12800) and 2GB RAM
DDR3-SODIMM-1600 (4GB)	068770	DDR3 SODIMM memory module with 1600 MT/s (PC3-12800) and 4GB RAM
DDR3-SODIMM-1600 (8GB)	068780	DDR3 SODIMM memory module with 1600 MT/s (PC3-12800) and 8GB RAM

Engineering Tools / Accessories for COM Express®		
conga-TEVAL	065800	Evaluation carrier board for Type 6 COM-Express-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 fo 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.
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