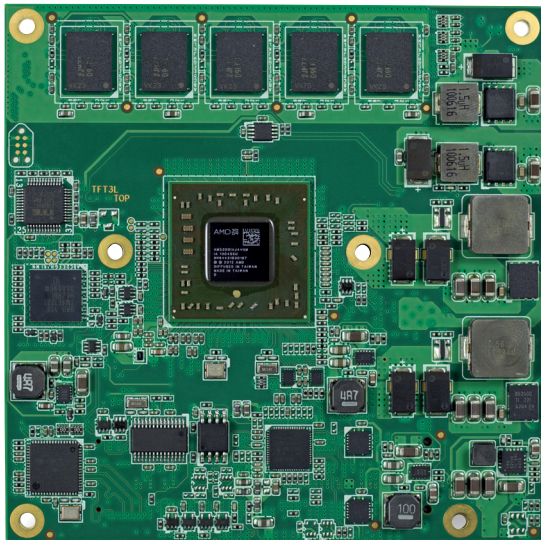


ERROR PROTECTED RAM

conga-TCG

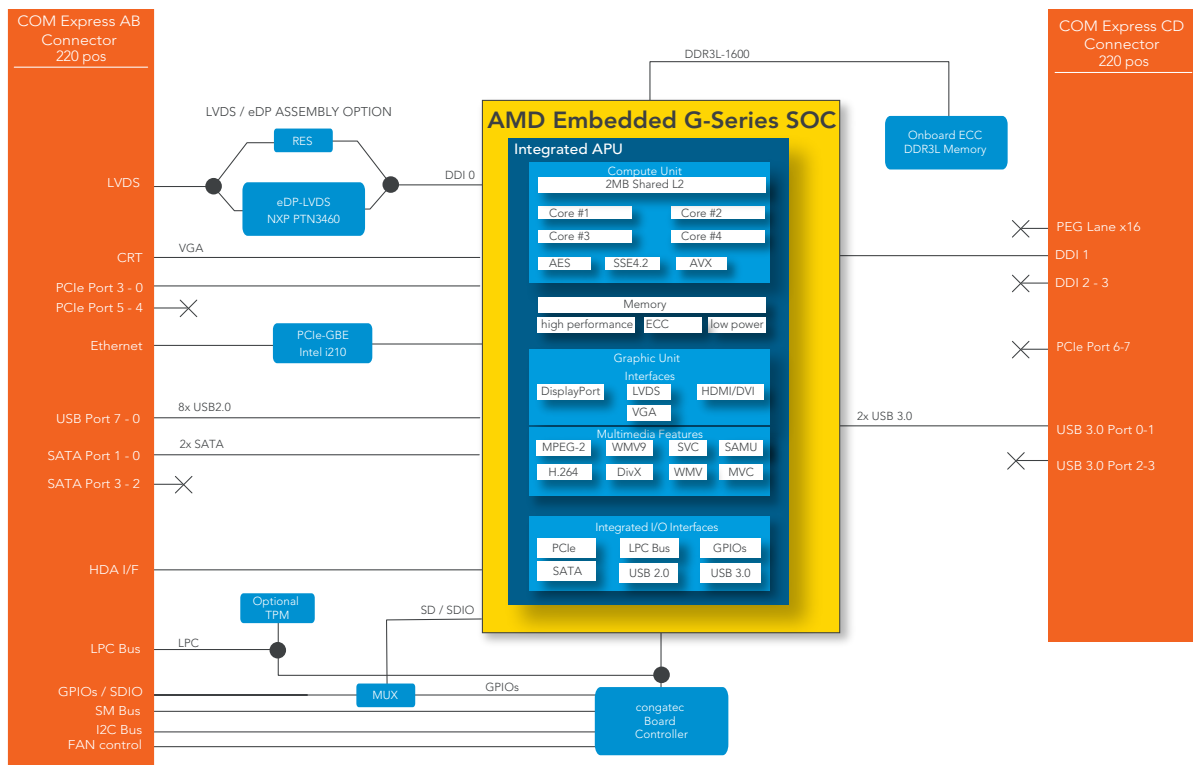


- AMD Embedded G-Series SOC APU
- Power saving „Steppe Eagle“ processors
- ECC protected memory up to 8 GByte
- High performance integrated graphics
- Extended longevity, min. 10 years



Formfactor	COM Express® Compact (95 x 95 mm) Type 6 Connector Layout			
CPU	AMD Embedded G-Series SOC AMD Embedded GX-420CA 2.0 GHz Quad Core L2 cache 2MB shared 25W TDP AMD Embedded GX-415GA 1.5 GHz Quad Core L2 cache 2MB shared 15W TDP AMD Embedded GX-217GA 1.65 GHz Dual Core L2 cache 1MB shared 15W TDP AMD Embedded GX-209HA* 1.0 GHz Dual Core L2 cache 1MB shared 9W TDP AMD Embedded GX-210HA 1.0 GHz Dual Core L2 cache 1MB shared 9W TDP AMD Embedded GX-424CC 2.4 GHz Quad Core L2 cache 2MB shared 25W TDP AMD Embedded GX-411GA* 1.1 GHz Quad Core L2 cache 2MB shared 15W TDP AMD Embedded GX-412HC 1.2 GHz 1.6 GHz (Boost) Quad Core L2 cache 2MB shared 7W TDP AMD Embedded GX-212JC 1.2 GHz 1.4 GHz (Boost) Dual Core L2 cache 1MB shared 6W TDP AMD Embedded GX-222GC 2.2 GHz 2.4 GHz (Boost) Dual Core L2 cache 1MB shared 15W TDP *Industrial Temperature Version			
DRAM	Up to 8 GByte DDR3L-1600 with ECC protection			
Chipset	Integrated in SOC (single-chip)			
Ethernet	Gigabit Ethernet			
I/O Interfaces	4x PCI Express™ 2.0 lanes 2x SATA® 3Gb/s 2x USB 3.0 8x USB 2.0 LPC bus I²C bus (fast mode, 400 kHz, multi-master) SD SPI SM-Bus			
Sound	High Definition Audio Interface			
Graphics	Integrated AMD Radeon™ HD 8000E Graphics supports DirectX 11.1 OpenGL 4.2 and OpenCL™ 1.2; up to two simultaneous displays Unified Video Decoder 4.2 (H.264, MPEG-2, VC-1, MPEG4 and WMV) Video Compression Engine 2.0 (Video conferencing, wireless display, H.264, SVC). Security Asset Management Unit 2.1 (DRM offloaded from CPU, HDCP2) VGA			
LVDS	18/24-bit Single/Dual Channel LVDS Interface Resolutions up to 1920X1200@60Hz VESA standard or JEIDA data mapping Automatic Panel Detection via EDID/EPI			
Digital Display Interface	One DisplayPort 1.2 / HDMI 1.4a			
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 Backlight			
Embedded BIOS Features	AMI Aptio® UEFI 2.x firmware 8 MByte serial SPI firmware flash			
Security	The conga-TCG 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® Windows 10 Microsoft® Windows 10 IoT Enterprise Microsoft® Windows 8 Microsoft® Windows 7 Linux Microsoft® Windows® 7/8 Embedded Standard Microsoft® Windows® 7 Embedded Compact			
Temperature	Commercial : Operating: 0 to +60°C Storage: -20 to +80°C Industrial : Operating: -40 to +85°C Storage: -45 to +85°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")			

conga-TCG | Block diagram



conga-TCG | Order Information

Article	PN	Description
conga-TCG/GX-420CA-2GECC	042000	AMD Embedded G-Series GX-420CA quad core processor with 2.0GHz 2MB L2 cache and 2GB 1600MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8400E Graphics with 600MHz GPU frequency.
conga-TCG/GX-415GA-2GECC	042001	AMD Embedded G-Series GX-415GA quad core processor with 1.5GHz 2MB L2 cache and 2GB 1600MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8330E Graphics with 500MHz GPU frequency.
conga-TCG/GX-217GA-2GECC	042002	AMD Embedded G-Series GX-217GA dual core processor with 1.65GHz 1MB L2 cache and 2GB 1600MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8280E Graphics with 450MHz GPU frequency.
conga-TCG/GX-210HA-2GECC	042003	AMD Embedded G-Series GX-210HA dual core processor with 1.0GHz 1MB L2 cache and 2GB 1333MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8210E Graphics with 300MHz GPU frequency.
conga-TCG/420CA-4GECC	042004	AMD Embedded G-Series GX-420CA quad core processor with 2.0GHz 2MB L2 cache and 4GB 1600MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8400E Graphics with 600MHz GPU frequency.
conga-TCG/i-411GA-2GECC	042010	AMD Embedded G-Series GX-411GA quad core processor with 1.1GHz 2MB L2 cache and 2GB 1600MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8210E Graphics with 300MHz GPU frequency. Industrial grade temperature
conga-TCG/i-209HA-2GECC	042011	AMD Embedded G-Series GX-209HA dual core processor with 1.0GHz 1MB L2 cache and 2GB 1066MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8000E Graphics with 225MHz GPU frequency. Industrial grade temperature
conga-TCG/424CC-4GECC	042020	AMD Embedded G-Series GX-424CC quad core processor with 2.4GHz 25W TDP 2MB L2 cache and 4GB 1600MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8000E Graphics with 497MHz GPU frequency.
conga-TCG/412HC-4GECC	042021	AMD Embedded G-Series GX-412HC quad core processor with 1.2GHz/1.6GHz 7W TDP 2MB L2 cache and 4GB 1333MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8000E Graphics with 300MHz GPU frequency.
conga-TCG/212JC-2GECC	042022	AMD Embedded G-Series GX-212JC dual core processor with 1.2GHz/1.4GHz, 6W TDP, 1MB L2 cache and 2GB 1333MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8000E Graphics with 300MHz GPU frequency.
conga-TCG/222GC-4GECC	042023	AMD Embedded G-Series GX-222GC dual core processor with 2.2 GHz to 2.4 GHz, 10W to 15 W TDP, 1MB L2 cache and 4GB 1600MT/s ECC DDR3L onboard memory. Features AMD Radeon™ HD 8000E Graphics with 655/800 MHz GPU frequency.
conga-TCG/HSP-B	042051	Standard heatspreader for COM Express module conga-TCG. All standoff are 2.7mm bore hole
conga-TCG/HSP-T	042052	Standard heatspreader for COM Express module conga-TCG. All standoff are M2.5 thread.
conga-TCG/CSP-B	042053	Standard passive cooling solution for COM Express module conga-TCG with 20mm overall heat sink height. All standoff are 2.7mm bore hole.
conga-TCG/CSP-T	042054	Standard passive cooling solution for COM Express module conga-TCG with 20mm overall heat sink height. All standoff are M2.5mm thread.
Accessories		
conga-TEVAL	065800	Evaluation carrier board for Type 6 COM-Express-modules
conga-LDVI/EPI	011115	LVDS to DVI converter board for digital flat panels with onboard EEPROM
COM-Express-carrier-board-Socket-5	400007	Connector for COM-Express carrier boards height 5mm packing unit 4 pieces
COM-Express-carrier-board-Socket-8	400004	Connector for COM-Express carrier boards height 8mm packing unit 4 pieces

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