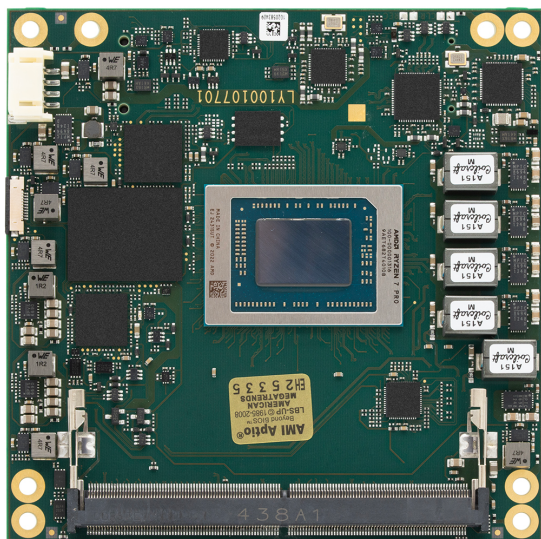


TRIA C6C-RYZ8

AMD Ryzen™ Embedded 8000 Series Processor



95 x 95

45 / 60W

0 - +60°C



Highlights

- COM Express Type 6, Compact module
- AMD Ryzen™ Embedded 8000 Series Processor, up to eight cores/sixteen threads
- Integrated AI accelerator (XDNA Neural Processing Unit)
- Up to 96GB DDR5-5600 SDRAM, dual channel, ECC
- Up to six RDNA3 work group processors (WGP)
- Four independent display streams
- Selectable display outputs from up to three DisplayPort/HDMI, LVDS, eDP
- Up to twenty PCI Express® Gen 4/3 lanes
- Two USB 3.2 Gen1/2 and eight USB 2.0 ports, two UARTs
- Optional on-board NVMe SSD, up to 256GB
- Up to two SATA 6Gb/s mass storage interfaces
- 1 / 2.5 Gb Ethernet port (Intel® i226)
- Trusted Platform Module TPM 2.0
- Long-term product availability

Technical Data

Technology	x86
Formfactor / Interface	COM Express Compact Type 6
CPU	AMD 8845HS, eight core, 3.8/5.1GHz, 8MB L2 / 16MB L3, 6 WGP, 45W (35-54W) TDP, DDR5-5600; AMD 8645HS, six core, 4.3/5.0GHz, 6MB L2 / 16MB L3, 4 WGP, 45W (35-54W) TDP, DDR5-5600; AMD 8840U, eight core, 3.3/5.1GHz, 8MB L2 / 16MB L3, 6 WGP, 28W (15-30W) TDP, DDR5-5600; AMD 8640U, six core, 3.5/4.9GHz, 6MB L2 / 16MB L3, 4 WGP, 28W (15-30W) TDP, DDR5-5600;
Chipset	Integrated into System-on-Chip
RAM	2x 262-pin SO-DIMM socket for up to 2x 48 GB DDR5 SDRAM (DDR5-5600); ECC option; dual channel operation Note: maximum DDR5 bandwidth depending on assembled memory module type
Storage Interfaces	Up to 2x SATA 6Gb/s Optional on-board NVMe, 128GB, 256GB
USB	2x USB 3.2 Gen 2 / USB 2.0 6x USB 2.0
Serial Interfaces	2x serial ports
Bus Interfaces	PCIe Gen 4 1x8 or 2x4 on COME PEG[0:7] PCIe Gen 4 1x4 on COME PEG[8:11], optional, mutually exclusive with on-board NVMe PCIe Gen 4 1x4 on COME PCIE[0:3], flexible bifurcation options PCIe Gen 3 4x1 on COME PCIE[4:7], depending on assembly variant LPC bus (Low Pin Count bus)
Display Controller	RDNA3, up to six work group processors Four independent displays supported
Display Interfaces	Display Port and HDMI/DVI: Up to 3x Digital Display Interface, usable as DisplayPort 2.1 (up to 10Gbps) ¹ , also usable as HDMI 2.1 (up to 10Gbps) ¹ or DVI (up to 1920 x 1200 @ 60Hz) ¹ Re-timer required for operation above 3Gb/s 1x Embedded DisplayPort 1.5 (on variants without LVDS only); LCD: LVDS 24bit, dual-channel (not on all variants); 1920 x 1200 @ 60Hz
Network Interface	10/100/1000Base-TX, 2.5G ² based on Intel i226-LM ² Available bandwidths depending on carrier design
Audio Interface	High Definition Audio
Security Device	TPM 2.0
Miscellaneous	Watchdog Timer: Initiates system reset, programmable Fan Supply: 4-pin header for CPU fan, PWM speed controlled and PWM speed control for system fan supported RTC battery: external System Monitoring: voltage, temperature, CPU fan, system fan

COM Express Type 6



Firmware	UEFI Firmware: AMI Aptio® V Security: TPM 2.0 support, TCG compliant Power Management: ACPI Active fan control USB: USB legacy support (keyboard, mouse, storage) Monitoring: System Monitoring Health Monitoring Tria Adv. Boot Device Selection: Boot device priority setting based on physical interfaces
OS Support	Windows 11 BSP for Linux (Yocto)
Power Requirement	Voltage: +8.5V to +20V, +5V Stby optional, +3V RTC voltage Power Consumption: 45W to 60W (typ.)
Environment	Ambient Temperature: 0° ... 60°C (operating) -25° ... 85°C (storage) Humidity: 5 ... 95% (operating, non-condensing), 5 ... 95% (storage, non-condensing)
Dimensions	95mm x 95mm
Certificates	UL / CE

Technical Data for TRIA C6C-RYZ8

COM Express Type 6



Order Reference

Order No.	Description	Reference	
120799	COM Express Type 6 Compact module (95mm x 95mm); CPU: AMD 8845HS, eight-core, 3.8/5.1GHz, 35-54W TDP, 6 WGP; 3x DP/HDMI/DVI, LVDS (24 Bit, dual channel); 1x 1GbE; 2x SATA; 2x USB3, 8x USB2; PCIe Gen 4 2x4+4x1, PCIe Gen 3 4x1; TPM 2.0; 128GB NVMe; 2x socket for DDR5 or DDR5ECC SO-DIMM; 0° ... 60°C	MSC C6C-RYZ8-8845HS-N7221C PCBFTX	OR
120797	COM Express Type 6 Compact module (95mm x 95mm); CPU: AMD 8845HS, eight-core, 3.8/5.1GHz, 35-54W TDP, 6 WGP; 3x DP/HDMI/DVI, LVDS (24 Bit, dual channel); 1x 1GbE; 2x SATA; 2x USB3, 8x USB2; PCIe Gen 4 3x4+4x1, PCIe Gen 3 4x1; TPM 2.0; 2x socket for DDR5 or DDR5ECC SO-DIMM; 0° ... 60°C	MSC C6C-RYZ8-8845HS-NN221C PCBFTX	PV
120801	COM Express Type 6 Compact module (95mm x 95mm); CPU: AMD 8840U, eight-core, 3.3/5.1GHz, 15-30W TDP, 6 WGP; 3x DP/HDMI/DVI, LVDS (24 Bit, dual channel); 1x 1GbE; 2x SATA; 2x USB3, 8x USB2; PCIe Gen 4 3x4+4x1, PCIe Gen 3 4x1; TPM 2.0; 2x socket for DDR5 or DDR5ECC SO-DIMM; 0° ... 60°C	MSC C6C-RYZ8-8840U-NN221C PCBFTX	PV
120803	COM Express Type 6 Compact module (95mm x 95mm); CPU: AMD 8645HS, six-core, 4.3/5.0GHz, 35-54W TDP, 4 WGP; 3x DP/HDMI/DVI, LVDS (24 Bit, dual channel); 1x 1GbE; 2x SATA; 2x USB3, 8x USB2; PCIe Gen 4 3x4+4x1, PCIe Gen 3 4x1; TPM 2.0; 2x socket for DDR5 or DDR5ECC SO-DIMM; 0° ... 60°C	MSC C6C-RYZ8-8645HS-NN221C PCBFTX	PV
120805	COM Express Type 6 Compact module (95mm x 95mm); CPU: AMD 8640U, six-core, 3.5/4.9GHz, 15-30W TDP, 4 WGP; 3x DP/HDMI/DVI, eDP; 1x 1GbE; 2x SATA; 2x USB3, 8x USB2; PCIe Gen 4 3x4+4x1; TPM 2.0; 2x socket for DDR5 or DDR5ECC SO-DIMM; 0° ... 60°C	MSC C6C-RYZ8-8640U-NN101C PCBFTX	PV

Ordering Information for TRIA C6C-RYZ8 *PV = Preferred variant; OR = on Request (in OEM quantities only)

Accessories

Carrier Boards

Order No.	Description	Reference
111650	COM Express Type 6 Evaluation Carrier Board with various PCI Express x1, x4 and x16 slots, USB 3.0/2.0, GbE, M.2, SD card socket, SATA, DisplayPort, LVDS, eDP, VGA, HD audio interfaces; ATX power connector. Dimensions: 305 x 244 mm (ATX form factor)	MSC C6C-MB-EV4 PCBFTX
119830	COM Express Type 6 Evaluation Carrier Board with PCI Express x4 and x16 slots, USB 3.0/2.0, USB4 Type-C, GbE, M.2, SATA, DisplayPort, LVDS, eDP; ATX power connector. Dimensions: 170 x 170 mm (Mini-ITX form factor)	MSC C6C-MB-EV4M BRDFTX

Carrier Boards TRIA C6-MB-EV4/EV4M

Cooling Solutions

Order No.	Description	Reference
116670	Passive Heatsink for C6C-RYZ8 consisting of a single-piece aluminum profile with fins, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU, chipset, NVMe.	MSC C6C-RYZ8-01 HSI-001
116671	Passive Heatsink / heat pipe for C6C-RYZ8 consisting of a single-piece aluminum profile with fins and embedded heatpipe, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU, chipset, NVMe.	MSC C6C-RYZ8-01 HSI-HP-001
116732	Heatspreader for C6C-RYZ8. Single-piece aluminum profile, standoffs without thread (2.7mm inner diameter), screws and thermopads for the thermal contact to CPU, chipset, NVMe.	MSC C6C-RYZ8-01 HSP-001
116733	Heatspreader / heat pipe for C6C-RYZ8. Single-piece aluminum profile with embedded heat pipe, standoffs without thread (2.7mm inner diameter), screws and thermopad for the thermal contact to CPU, chipset, NVMe.	MSC C6C-RYZ8-01 HSP-HP-001
116734	Heatspreader for C6C-RYZ8. Single-piece aluminum profile, standoffs with M2.5 thread, screws and thermopads for the thermal contact to CPU, chipset, NVMe.	MSC C6C-RYZ8-02 HSP-001

Cooling Devices for TRIA C6C-RYZ8

Order No.	Description	Reference
79809	Fan kit for Heatsink MSC HCA-ALP/RLP/MLH/PLH-0x HSI-xxx, MSC C6B-TLH/ALP/RLP/MLH-0x HSI-xxx, MSC C6C-WLU/TLU/ALP/RLP/PLH-0x HSI-xxx, MSC C6C-EL/ALN/ASL-0x HSI-xxx, MSC C6C-RYZx-0x HSI-xxx, PWM fan 80x80x15mm.	MSC C6C-FANKIT-01-HSF-001

Fan Kit for COM Express Heatsinks

Memory Options

Order No.	Description	Reference
115233	8GB DDR5-5600 SO-DIMM, commercial temperature	MOD SODIMM DDR5 8GB PC5-44800 CL22 1B
115234	16GB DDR5-5600 SO-DIMM, commercial temperature	MOD SODIMM DDR5 16GB PC5-44800 CL22 1B
115235	32GB DDR5-5600 SO-DIMM, commercial temperature	MOD SODIMM DDR5 32GB PC5-44800 CL22 2B
119665	48GB DDR5-5600 SO-DIMM, commercial temperature	MOD SODIMM DDR5 48GB PC5-44800 CL22 2R

Memory Options for TRIA C6C-RYZ8

COM Express Type 6



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