



GPU COMPUTING SYSTEM

VCO-6131E-4M2

Superior AI Edge Computing System with LGA-1151 socket for Intel® CFL-R S Processor



FEATURES

- Support 8th / 9th Gen. Intel® CFL-R S Processor (LGA 1151, 65W/35W TDP)
- Intel® Q370 chipset
- 2x DDR4 2400/2666Hz SODIMM. Max. up to 64GB
- Triple Independent Display by 1x DVI-I and 2x DisplayPort
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 2x Full-size mini PCIe (shared by 1x mSATA), 1x PCIe x16, and 4x M.2 (NVMe PCIe x2), 2x SIM socket
- 4x 2.5" SATA HDD bay with RAID 0, 1, 5, 10 support, 1x mSATA (shared by 1x Mini PCIe)
- 1x M.2 (M Key, PCIe x4, 2280, Support NVMe), 1x M.2 (E Key, PCIe x2, 2230, USB 2.0, Support CNVi)
- 6x RS-232/422/485 (4x internal)
- 4x USB 3.2 Gen 2 (10 Gbps), 5x USB 3.2 Gen 1 (5 Gbps, internal), 1x USB 3.0 header (internal)
- 8x DI + 8x DO with isolation
- 9 to 48VDC Wide Range Power Input Supporting AT/ATX Mode
- Wide Operating Temperature (-25°C to 60°C)
- TPM 2.0 Supported

SPECIFICATIONS

System

Processor

- Support 8th/9th Gen Intel® CFL-R S Processor (LGA 1151, 65W/35W TDP)
- Intel® Core™ i7-9700E, 8 Cores, 12MB cache, up to 4.4 GHz
 - Intel® Core™ i5-9500E, 6 Cores, 9MB Cache, up to 4.2 GHz
 - Intel® Core™ i3-9100E, 4 Core, 6MB Cache, 3.7 GHz
 - Intel® Core™ i7-9700TE, 8 Cores, 12MB cache, up to 3.8 GHz
 - Intel® Core™ i5-9500TE, 6 Cores, 9MB Cache, up to 3.6 GHz
 - Intel® Core™ i3-9100TE, 4 Core, 6MB Cache, 3.2 GHz
 - Intel® Core™ i7-8700T, 6 Cores, 12MB cache, up to 4.0 GHz
 - Intel® Core™ i5-8500T, 6 Cores, 9MB Cache, up to 3.5 GHz
 - Intel® Core™ i3-8100T, 4 Cores, 6MB Cache, 3.1 GHz
 - Intel® Pentium® G5400T, 2 Cores, 4MB Cache, up to 3.1 GHz
 - Intel® Celeron® G4900T, 2 Cores, 2MB Cache, up to 2.9 GHz

System Chipset Intel® Q370 Express Chipset

LAN Chipset GbE1: Intel® I219LM (Support Wake-on-LAN and PXE)
GbE2: Intel® I210-AT (Support Wake-on-LAN and PXE)

Audio Codec Realtek ALC888S

System Memory 2x 260-Pin DDR4 2400/2666MHz SODIMM.
Max. up to 64GB (Un-buffered and Non-ECC)

BIOS AMI 256Mbit SPI BIOS

Watchdog Software Programmable Supports 1~255 sec. System Reset

TPM TPM 2.0

Display

VGA Yes (by optional split cable)

DVI 1x DVI-I, support resolution 1920 x 1200

DisplayPort 2x DisplayPort, support resolution 4096 x 2304

Multiple Display Triple Display

Storage

SSD/HDD 2x Internal 2.5" SATA HDD Bay (support H=9mm)
2x Removable 2.5" SATA HDD Bay
(support H=9mm, hot-swappable)
Support RAID 0, 1, 5, 10

mSATA 1x mSATA (Shared by 1x Mini PCI Express)

M.2 1x M.2 (M Key, PCIe x4, 2280, Support NVMe),
1x M.2 (E Key, PCIe x2, 2230, USB 2.0, Support CNVi)

NVMe 4x M.2 PCIe x2, 2280 (hot-swappable)

SIM Socket 2x Internal SIM socket

Expansion

Mini PCI Express 2x Full-size Mini PCIe (1x shared by 1x mSATA)

PCI Express 1x PCIe x4 (1-lane)
1x PCIe x16 (8-lane) for GPU card
1x Slimline (8-lane) for 4x M.2 PCIe x2

Card Dimension 312mm(L) x 112mm(H)

I/O

COM 2x RS-232/422/485
2x RS-232/422/485 (internal)

USB 4x USB 3.2 Gen 2 (10 Gbps),
5x USB 3.2 Gen 1 (5 Gbps, internal),
1x USB 3.0 header (internal)

LAN 2x RJ45

DIO 8 in / 8 out (Isolated)

Universal I/O Bracket 2x Universal I/O Bracket (By mini PCIe interface)

Others 4x WiFi Antenna Holes
1x Power Switch, 1x AT/ATX Switch, 1x Remote Power On/Off
1x PC/Car Mode Switch, 1x Delay Time Switch
1x Removable CMOS Battery (internal)

Operating System

Windows Windows 10

Linux Linux kernel 5.X

Power

Power Mode AT, ATX

Power Supply Voltage 9~48VDC

Power Ignition Sensing Power Ignition Management

Power Connector 3-pin Terminal Block ; 4-pin Terminal Block

Power Adaptor Optional AC/DC 24V, 220W/280W
Optional AC/DC 24V, 280W for GPU

Power Protection OVP (Over Voltage Protection)
OCP (Over Current Protection)
Reverse proteceion

Environment

Operating Temp. -25°C to 60°C (65W / 35W CPU)

Storage Temp. -30°C to 85°C

Relative Humidity 10% to 95% (non-condensing)

Vibration With SSD: 3 Grms, 5 - 500 Hz, 0.5 hr/axis
With HDD: 1 Grms, 5 - 500 Hz, 0.5 hr/axis

Shock With SSD: 20G, half sine, 11ms

Standards / Certification CE, FCC Class A

Physical

Construction Extruded Aluminum with Heavy Duty Metal

Dimension 157 (W) x 340 (D) x 240 (H) mm

Weight 9.5 kg

Mounting Wall Mounting

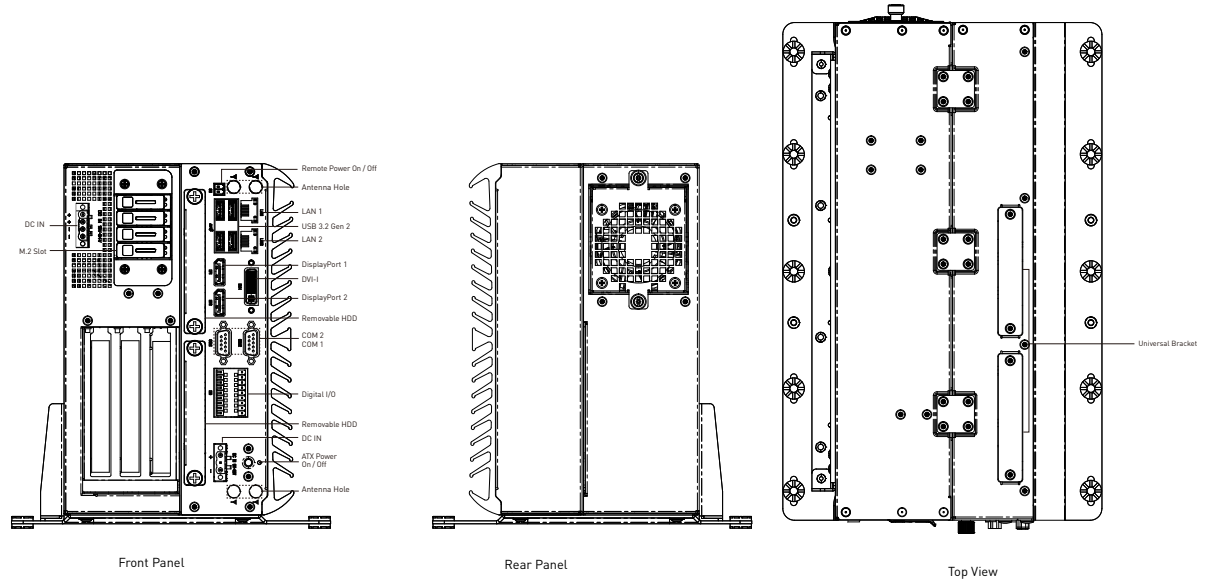
* For 8th/9th CPUs configured to run at 65W, operating temperatures will be limited to 60°C.

** 65W CPUs may experience thermal throttling depending on extreme application workloads; this is also due to an increase in the physical CPU cores from the Intel silicon (up to 8 cores). Please note, this does not indicate system malfunction or problems in the fanless design. Please consult our embedded engineers for the best configuration to match your application requirements.

*** All specifications and photos are subject to change without notice.

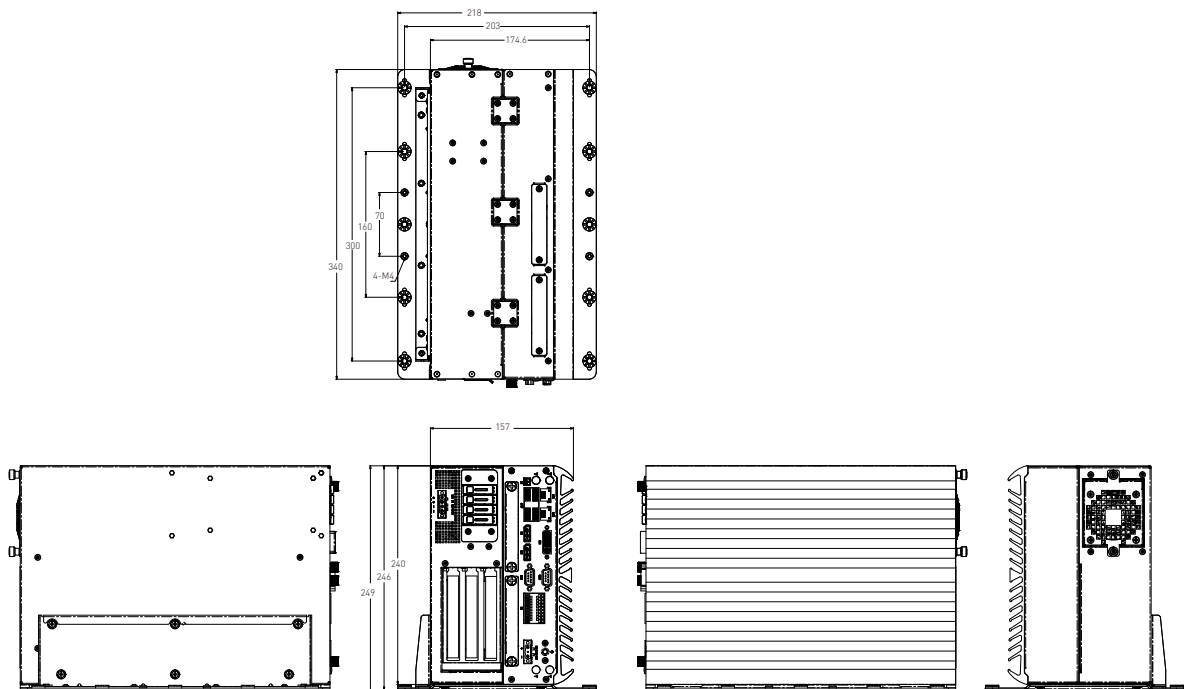
VCO-6131E-4M2

EXTERNAL I/O MECHANICAL LAYOUT



DIMENSION

Unit: mm





VCO-6131E-4M2

ORDERING INFORMATION

MODEL NO.	DESCRIPTION
1-E09A22801	Adapter AC/DC 24V/11.67A 280W with 3-pin Terminal Block Plug 5.0mm Pitch
1-E09A22102	Adapter AC/DC 24V 9.2A 220W with 3-pin Terminal Block Plug 5.0mm Pitch
1-TPCD00005	Power Cord, 3-pin US Type, 180cm
1-TPCD00002	Power Cord, European Type, 180cm
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm

PACKING LIST

- 1x VCO-6100 Series Embedded System
- 1x Wall Mount Kit
- 1x Accessory Kit

AVAILABLE MODELS

MODEL NO.	DESCRIPTION
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Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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