



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 8 th /9 th 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™ i7-9700T, 8 Cores, 12MB cache, up to 3.8 GHz |
| | - Intel® Core™ i5-9500T, 6 Cores, 9MB Cache, up to 3.6 GHz |
| | - Intel® Core™ i3-9100T, 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 |

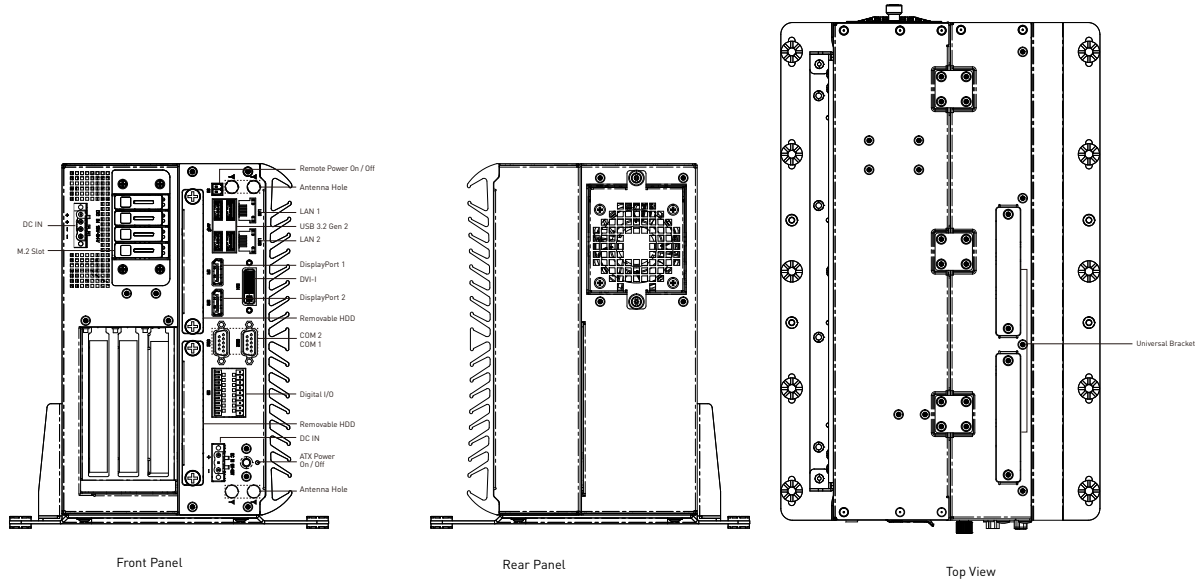
* For 8th/9th CPUs configured to run at 65W, operating temperatures will be limited to 60°C.

** 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.

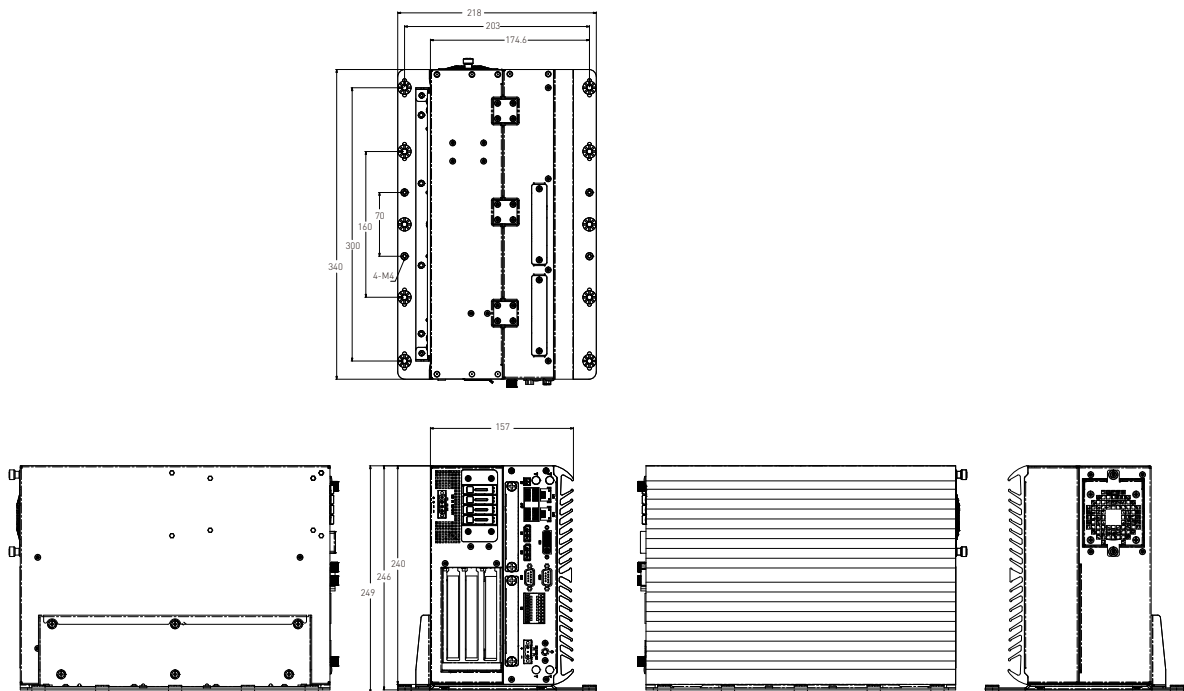
VCO-6131E-4M2

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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