



# RCO-6131E-2U2-2060S

Superior AI Edge Computing System W/ LGA 1151 for Intel® 8<sup>th</sup>/9<sup>th</sup> Gen CPU & Q370 PCH, 2 Bay U.2, RTX 2060S integrated



## FEATURES

- LGA 1151 socket for 8<sup>th</sup>/9<sup>th</sup> Gen. Intel® CFL-R S Processor Pentium® / Celeron® Desktop Processor
- Intel® Q370 chipset
- NVIDIA GeForce® RTX 2060 Super Graphics engine based on NVIDIA Turing™ GPU architecture
- 2x 260-pin DDR4 SODIMM. Max. up to 64GB
- 6 Display interface supported by 1x DVI-I, 1x DVI-D, 3x DisplayPort, 1x HDMI
- 2x Intel® GbE supporting Wake-on-LAN and PXE
- 4x 2.5" SATA HDD Bay and 2x mSATA with RAID 0, 1, 5, 10 support
- 1x M.2 [M Key, NVMe PCIe x4, 2280]; 1x M.2 [E Key, PCIe x2, USB 2.0, 2230], 2x SIM socket
- 9 to 48VDC Wide Range Power Input Supporting AT/ATX Mode
- Wide Operating Temperature (-25°C to 70°C)
- Power ignition management

## SPECIFICATIONS

<b>System</b>	
Processor	
Support 8 <sup>th</sup> /9 <sup>th</sup> Gen Intel® CFL-R S Processor (LGA 1151, 65W/35W TDP)	
<ul style="list-style-type: none"> <li>- Intel® Core™ i7-9700E, 8 Cores, 12MB cache, up to 4.4 GHz</li> <li>- Intel® Core™ i5-9500E, 6 Cores, 9MB Cache, up to 4.2 GHz</li> <li>- Intel® Core™ i3-9100E, 4 Core, 6MB Cache, 3.7 GHz</li> <li>- Intel® Core™ i7-9700TE, 8 Cores, 12MB cache, up to 3.8 GHz</li> <li>- Intel® Core™ i5-9500TE, 6 Cores, 9MB Cache, up to 3.6 GHz</li> <li>- Intel® Core™ i3-9100TE, 4 Core, 6MB Cache, 3.2 GHz</li> <li>- Intel® Core™ i7-8700T, 6 Cores, 12MB cache, up to 4.0 GHz</li> <li>- Intel® Core™ i5-8500T, 6 Cores, 9MB Cache, up to 3.5 GHz</li> <li>- Intel® Core™ i3-8100T, 4 Cores, 6MB Cache, 3.1 GHz</li> <li>- Intel® Pentium® G5400T, 2 Cores, 4MB Cache, up to 3.1 GHz</li> <li>- Intel® Celeron® G4900T, 2 Cores, 2MB Cache, up to 2.9 GHz</li> </ul>	
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
<b>Display</b>	
Graphics	Intel® UHD Graphics 610/630 or NVIDIA GeForce® RTX 2060 Super
DVI	1x DVI-I, 1x DVI-D
HDMI	1x HDMI
DisplayPort	3x DisplayPort
Multiple Display	6 Display interfaces
<b>Storage</b>	
SSD/HDD	2x Internal 2.5" SATA HDD Bay (support H=9mm) 2x Removable 2.5" SATA HDD Bay (support H=7mm, hot-swappable) Support RAID 0, 1, 5, 10
NVMe	2 Bay U.2 NVMe SSD (Support H=15mm)
mSATA	1x mSATA (Shared by 1x Mini PCI Express)
M.2	1x M.2 [M Key, NVMe PCIe x4, 2280] 1x M.2 [E Key, PCIe x2, USB 2.0, 2230]
SIM Socket	2x External SIM socket
<b>Expansion</b>	
Mini PCI Express	2x Full-size Mini PCIe (1x shared by 1x mSATA)
PCIe	1x PCIe x4 [x1 Lane]
4-Port GbE (Optional)	4-port GbE module with Intel® I350-AT4 Chipset, RJ-45 or M12 connector (PoE optional) Occupied one Universal I/O Slot

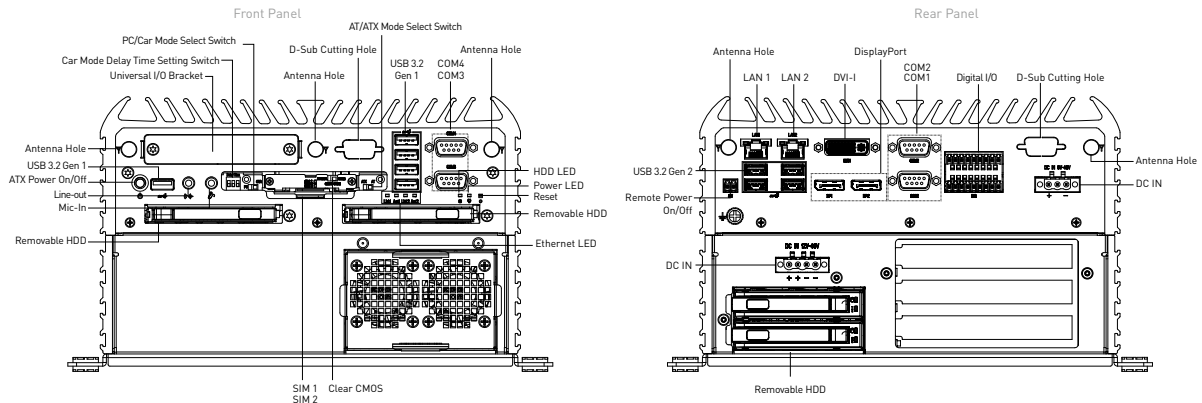
2-Port GbE (Optional)	2-Port RJ45 10GbE with Intel X710-AT2 Chipset Occupied one Universal I/O Slot
<b>I/O</b>	
COM	4x RS-232/422/485 ; 2x RS-232/422/485 (internal)
USB	4x USB 3.2 Gen 2 (10 Gbps) ; 5x USB 3.2 Gen 1 (5 Gbps) 2x USB 2.0 header (internal)
LAN	2x RJ45
Audio	1x Mic-in, 1x Line-out
DIO	8 in / 8 out (Isolated)
Universal I/O Bracket	1x Universal I/O Bracket (By mini PCIe interface)
Others	5x 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
Windows	Windows 10
Linux	Linux kernel 5.X
<b>Power</b>	
Power Mode	AT, ATX
Power Supply Voltage	9~48VDC
Power Ignition Sensing	Power Ignition Management
Power Connector	3-pin Terminal Block, 3-pin or 4-pin Terminal Block for GPU (12V requires 4-pin terminal block)
Power Adaptor	Optional AC/DC 24V/9.2A, 220W Optional AC/DC 24V/11.27A, 280W
Power Protection	OVP (Over Voltage Protection); OCP (Over Current Protection) Reverse Protection
<b>Environment</b>	
Operating Temp.	-25°C to 60°C (35/65W 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: 50G, half sine, 11ms
Standards / Certification	CE, FCC Class A, E-Mark, EN 50155, EN 50121-1, EN 50121-3-2
<b>Physical</b>	
Construction	Extruded Aluminum with Heavy Duty Metal
Dimension	261 (D) x 240 (W) x 148 (H)
Weight	7.5 kg
Mounting	Wall Mounting

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

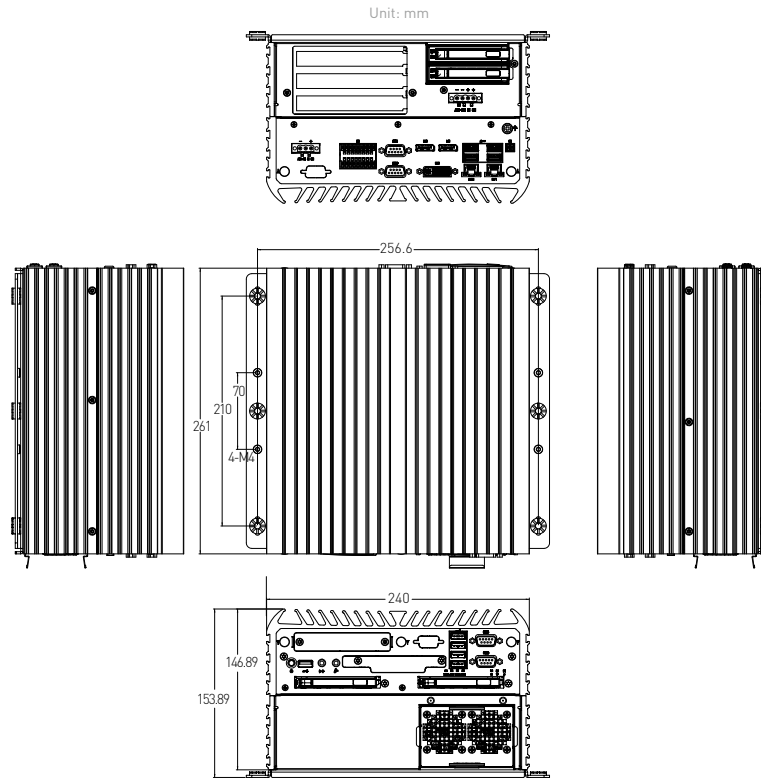
\*\* 65W CPUs may experience thermal throttling depending on extreme application workloads; this is also due to an increase in the physical CPU cores from the Intel silicon (up to 8 cores). Please note, this does not indicate system malfunction or problems in the fanless design. Please consult our embedded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

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

## EXTERNAL I/O MECHANICAL LAYOUT



## DIMENSION



## ORDERING INFORMATION

MODEL NO.	DESCRIPTION
1-E09A22102	Adapter AC/DC 24V 9.2A 220W with 3pin Terminal Block Plug 5.0mm Pitch
1-E09A22801	Adapter AC/DC 24V/11.67A 280W with 3pin Terminal Block Plug 5.0mm Pitch
SFICBL022	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 RCO-6131E-2U2-2060S Series GPU Computing System
- 1x Utility DVD Driver
- 1x Wall Mount Kit
- 1x Accessory Kit
- 1x DVI to VGA Adapter

## AVAILABLE MODELS

MODEL NO.	DESCRIPTION
RCO-6131E-2U2-2060S	Superior AI Edge Computing System W/ LGA 1151 for Intel® 8 <sup>th</sup> /9 <sup>th</sup> Gen CPU & Q370 PCH, 2 Bay U.2, RTX 2060S integrated