

# ARK-2121L A2

## Intel® Celeron® Quad Core J1900 SoC with Multiple I/Os Fanless Box PC



SUSI API WISE-DeviceOn



### Features

- Intel® Celeron® J1900 Quad Core 2.0 GHz SoC with Turbo boost support
- VGA and HDMI dual independent display
- 9 ~ 36 V<sub>DC</sub> wide range power input
- 20 ~ 70° C extend temperature operating
- Mini PCIe expansion with SIM holder for communication module
- mSATA and 1 x 2.5" SATA storage device
- Advantech iDoor module compatible
- Advantech EMIO miniPCIe module compatible with all-in-one ordering

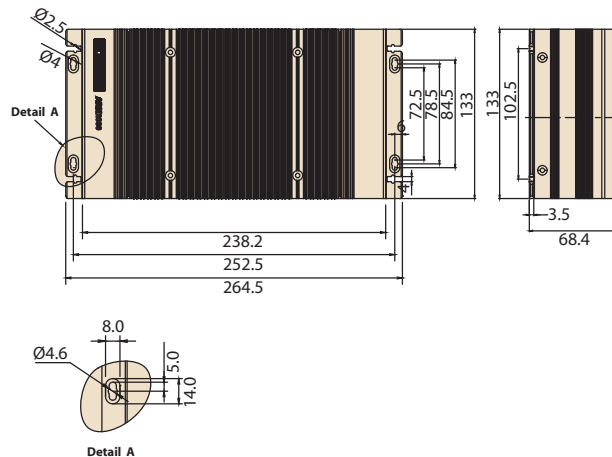
### Specifications

|                   |                            | ARK-2121L-U0A2E                                                                                                                                               |
|-------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor System  | CPU                        | Intel Celeron Processor J1900 Quad Core SoC                                                                                                                   |
|                   | Frequency                  | 2.0 GHz, turbo boost up to 2.42 GHz                                                                                                                           |
|                   | L2 Cache                   | 2 MB                                                                                                                                                          |
|                   | BIOS                       | AMI EFI                                                                                                                                                       |
| Memory            | Technology                 | DDR3L 1333 MHz                                                                                                                                                |
|                   | Max. Capacity              | 8 GB                                                                                                                                                          |
|                   | Socket                     | 1 x 204-pin SO-DIMM                                                                                                                                           |
| Graphics          | Chipset                    | Intel Celeron J1900 SoC integrated, 7th Gen. Intel Graphic core                                                                                               |
|                   | Graphic Engine             | DirectX 11.1, OCL 1.2, OGL 3.2<br>Encode: H.264, MPEG2/4, VC1, WMV9<br>Decode: H.264, MPEG2                                                                   |
|                   | VGA                        | Up to 2048 x 1152 @ 60Hz                                                                                                                                      |
|                   | HDMI                       | HDMI 1.4a for HD video playback, 1080P at 60Hz                                                                                                                |
|                   | DisplayPort*               | Up to 2048 x 1152 at 60Hz(by project only)                                                                                                                    |
|                   | Dual Display               | Yes, VGA + HDMI                                                                                                                                               |
| Ethernet          | LAN1                       | 10/100/1000 Mbps Intel i210 GbE, support Wake On Lan                                                                                                          |
|                   | LAN2                       | 10/100/1000 Mbps Intel i210 GbE, support Wake On Lan                                                                                                          |
| Audio             | Interface                  | Realtek ALC888S, High Definition Audio. Line-out, Mic-in, Line-in                                                                                             |
| IO Interface      | Serial Ports               | 2 x RS-232 ports, 2 x RS-232/422/485 port with auto flow control                                                                                              |
|                   | USB Interface              | 1 x USB 3.0, 3 x USB 2.0                                                                                                                                      |
| Other             | Watchdog timer             | 255 levels timer interval, setup by software                                                                                                                  |
| Expansion         | Mini PCIe                  | 1 x full size Mini PCIe with SIM holder #1                                                                                                                    |
| Storage           | HDD                        | Supports one SATA 2.5" HDD Bay (Compatible with 12.5mm height HDD) (Max. Data Transfer Rate 300 MB/s)                                                         |
|                   | SSD                        | 1 x full size mSATA socket, with USB signal co-lay                                                                                                            |
| Software Support  | Microsoft Windows          | WES8, Windows 8, WES7, Windows 7                                                                                                                              |
|                   | Linux                      | Support by project                                                                                                                                            |
| Power Requirement | Power Type                 | ATX                                                                                                                                                           |
|                   | Power Input Voltage        | 9 ~ 36 V <sub>DC</sub>                                                                                                                                        |
|                   | Minimum Power Input        | 12 V, 1.5 A                                                                                                                                                   |
|                   | Power Adapter              | AC to DC, DC19 V/3.42 A, 65 W (Optional)                                                                                                                      |
| Power Consumption | Typical                    | 7.3W                                                                                                                                                          |
|                   | Max.                       | 13.3W                                                                                                                                                         |
| Mechanical        | Construction               | Aluminum housing                                                                                                                                              |
|                   | Mounting                   | Din-Rail mounting, Desk/wall-mounting, VESA mounting                                                                                                          |
|                   | Dimensions (W x H x D)     | 264.5 x 68.4 x 133.0 mm (10.41" x 2.69" x 5.24")                                                                                                              |
|                   | Weight                     | 2.3 kg (5.07 lb)                                                                                                                                              |
| Environment       | Operating Temperature      | With extended temperature peripherals: -20 ~ 70° C (-4 ~ 158° F) with 0.7m/s air flow<br>With 2.5-inch hard disk 0 ~ 45° C (32 ~ 112° F) with 0.7m/s air flow |
|                   | Storage Temperature        | -40 ~ 85° C (-40 ~ 185° F)                                                                                                                                    |
|                   | Relative Humidity          | 95% @ 40° C (non-condensing)                                                                                                                                  |
|                   | Vibration During Operation | With SSD: 3 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis.                                                                                              |
|                   | Shock During Operation     | With SSD: 30 G, IEC 60068-2-27, half sine, 11 ms duration                                                                                                     |
|                   | EMC                        | CE/FCC Class A, CCC, BSMI                                                                                                                                     |
|                   | Safety Certifications      | UL, CB, CCC, BSMI                                                                                                                                             |

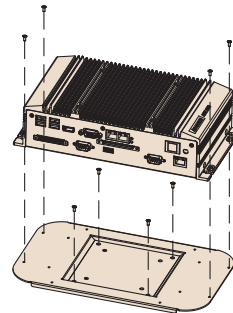
\* DisplayPort is supported by project only.

#1 SIM holder is the hardware interface for wireless communication integration only. System level RF certification is not available.

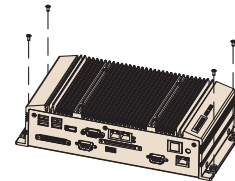
## Dimensions



## VESA mount

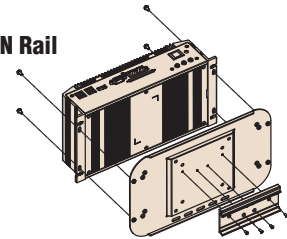


## Wall mount

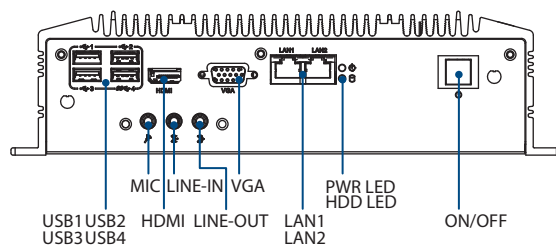


Unit: mm

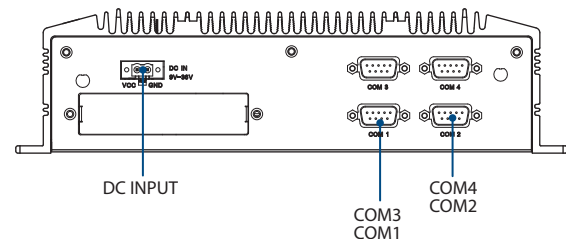
## DIN Rail



## Front Panel External I/O Mechanical Layout/Drawing



## Rear Panel External I/O Mechanical Layout/Drawing



## Ordering Information

| Part No.        | CPU                        | VGA | HDMI/DP* | GbE | USB 2.0 | USB 3.0 | RS-232 | RS-232/422/485 | Audio                 | Full-size MiniPCIe | SIM | mSATA | 2.5" SATA II HDD Bay | Power Input            | Operating Temp. |
|-----------------|----------------------------|-----|----------|-----|---------|---------|--------|----------------|-----------------------|--------------------|-----|-------|----------------------|------------------------|-----------------|
| ARK-2121L-U0A2E | Intel Celeron J1900 2.0GHz | Yes | Yes      | 2   | 3       | 1       | 2      | 2              | Lin-out, Line-in, MIC | 1                  | 1   | 1     | 1                    | 9 ~ 36 V <sub>DC</sub> | -20 ~ 70° C     |

Note: Memory, storage and operating system bundled by request.

\*DP is support by project only.

## Packing List

| Part Number | Description                             |
|-------------|-----------------------------------------|
| -           | 1 x ARK-2121 Unit                       |
| -           | 1 x User Manual (Simplified Chinese)    |
| -           | 1 x China RoHS                          |
| 1700009001  | 1x 2-pin Phoenix to DC-Jack power cable |

## Embedded OS

| Part Number    | Description                     |
|----------------|---------------------------------|
| 20706WE7ES0024 | WES7E ARK-2121L 64b ASIA 4 MUI  |
| 20706WE7PS0023 | WES7P ARK-2121L 64b 10 MUI      |
| 20706WX9ES0110 | W10 19EL ARK-2121L 64b 1809 ENU |

Note: Default BIOS is for 64bit OS support only. 32bit OS will need to update BIOS.

## Optional Items

| Part Number      | Description                                                           |
|------------------|-----------------------------------------------------------------------|
| 96PSA-A65W19P2-1 | AC-to-DC Adapter, DC 19V/3.42A 65W, 0 ~ 40° C for Home and Office Use |
| 1700001524       | Power cable 3-pin 183cm, USA type                                     |
| 170203183C       | Power cable 3-pin 183cm, EU type                                      |
| 170203180A       | Power cable 3-pin 183cm, UK type                                      |
| AMK-V019E        | VESA mounting kit                                                     |
| AMK-R005E        | DIN-rail mounting kit                                                 |

## Optional MOS modules

| Part Number     | Description                                         |
|-----------------|-----------------------------------------------------|
| MOS-2230-Z1201E | CANBus module, 2-Ch, USB I/F                        |
| MOS-2220-X1101E | Parallel LPT module, 1-Ch, USB I/F.                 |
| MOS-2220-Z1101E | High Speed Serial COM module, 1-Ch, USB I/F.        |
| MOS-2120-Z1101E | Giga LAN Ethernet module, 1-Ch, PCIe I/F.           |
| MOS-1120Y-0202E | Isolated RS-232, 2-Ch, DB9, PCIe I/F                |
| MOS-1121Y-0202E | Isolated RS-422/485, 2-Ch, DB9, PCIe I/F            |
| MOS-1120Y-1402E | Non-Isolated RS-232, DB37, 4-Ch, PCIe I/F           |
| MOS-1121Y-1402E | Non-Isolated RS-422/485, DB37, 4-Ch, PCIe I/F       |
| MOS-1130Y-0201E | Isolated CANBus, 2-Ch, DB9, PCIe I/F                |
| MOS-1110Y-0101E | Isolated 16 DI/8 DO, 1-Ch, DB37, PCIe I/F           |
| MOS-2110Z-1201E | USB module, 2-Ch, PCIe I/F                          |
| MOS-2120-Z1201  | GigaLAN Ethernet module, mPCIe, RJ45 2-Ch, PCIe I/F |