

# ARK-3531

## Intel® 9th Gen / Core™ i3/i5/i7/i9 LGA1151 Fanless Box PC

**NEW**



### Features

- Supports Intel® 9th Gen Core™ i3/i5/i7/i9 35W processor
- Dual display: VGA + HDMI
- DDR4 SO-DIMM memory support up to 64 GB
- 9-36V wide range power input
- Versatile I/Os including 2 x USB 3.1, 6 x USB 3.0 and 8 x COM ports
- Support 2 internal 2.5" Hard Drive bays (Intel SW RAID 0/1)
- SUSI API, WISE-DeviceOn, McAfee, Acronis bundled
- IP40 rating



**WISE-DeviceOn SUSI API**



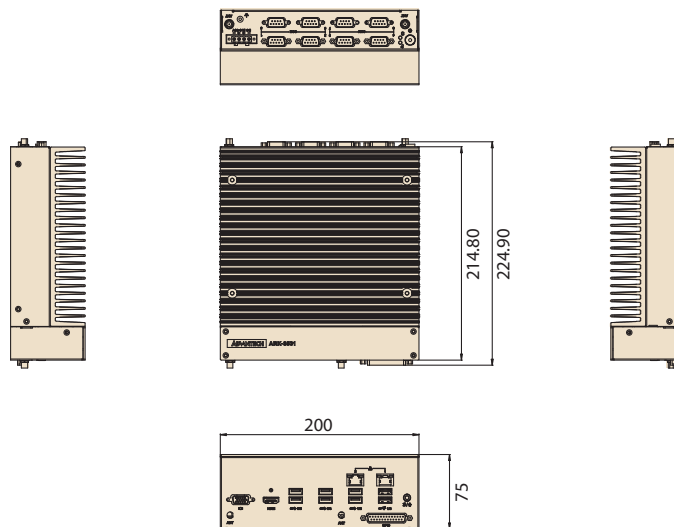
### Specifications

|                                     |                                   | i9-9900T   | i7-9700TE     | i5-9500TE     | i3-9100TE     | G4900T |  |
|-------------------------------------|-----------------------------------|--|---------------|---------------|---------------|--------|--|
| Processor System                    | CPU                               | i9-9900T   | i7-9700TE     | i5-9500TE     | i3-9100TE     | G4900T |  |
|                                     | Frequency                         | 2.1GHz-4.4GHz  | 1.8GHz-3.8GHz | 2.2GHz-3.6GHz | 2.2GHz-3.2GHz | 2.9GHz |  |
|                                     | L3 Cache                          | 16MB   | 12MB          | 9MB           | 6MB           | 2MB    |  |
|                                     | Core                              | 8  | 8             | 6             | 4             | 2      |  |
|                                     | TDP                               | 35W  |               |               |               |        |  |
|                                     | Chipset                           | H370 on ARK-3531-00A1/ARK-3531-00A1U<br>Q370 on ARK-3531-00A2  |               |               |               |        |  |
|                                     | BIOS                              | AMI EFI 128Mbit  |               |               |               |        |  |
| Memory                              | Technology                        | DDR4 2666 MHz  |               |               |               |        |  |
|                                     | Max. Capacity                     | 64 GB  |               |               |               |        |  |
|                                     | Socket                            | 2 x 260-pin SO-DIMM  |               |               |               |        |  |
| Graphics                            | Chipset                           | Intel® UHD Graphics 630  |               |               |               |        |  |
|                                     | Graphic Engine                    | Direct x 12, OpenGL 4.4<br>HW Encode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, JPEG/MJPEG and VP8.<br>HW Decode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, VC-1/WMV9, JPEG/MJPEG, VP8 and VP9 |               |               |               |        |  |
|                                     | VGA                               | 2048x1280@ 60Hz  |               |               |               |        |  |
|                                     | HDMI                              | 1 HDMI port, HDMI 1.4 for HD video playback, 3840x2160@30Hz  |               |               |               |        |  |
|                                     | Flexible Display (by TPN project) | HDMI+HDMI, VGA+DP, HDMI+DP   |               |               |               |        |  |
| Ethernet                            | LAN1                              | 10/100/1000 Mbps Intel I219-LM GbE, support Wake On Lan  |               |               |               |        |  |
|                                     | LAN2                              | 10/100/1000 Mbps Intel I210GbE, support wake on lan  |               |               |               |        |  |
|                                     | LAN3/LAN4 (by TPN project)        | 10/100/1000 Mbps Intel I210GbE, support wake on lan  |               |               |               |        |  |
| Audio                               | Interface                         | Realtek ALC888S, High Definition Audio, Line-out/Mic-in (switch)   |               |               |               |        |  |
| Others                              | Watch dog Timer                   | 255-level timer interval, setup by software  |               |               |               |        |  |
|                                     | TPM                               | Onboard TPM 2.0  |               |               |               |        |  |
| I/O Interface                       | Serial Port                       | 4 x RS-232, 4 x RS-232/422/485 port with auto flow control; COM 1 support 5V/12V power supply (by jumper)  |               |               |               |        |  |
|                                     | USB                               | 2 x USB 3.1 Gen2 (5V/1.8A), 6 x USB 3.0 (5V/0.9A)  |               |               |               |        |  |
|                                     | GPIO                              | 16bit DIO  |               |               |               |        |  |
| Expansions                          | Mini PCIe                         | 1 x Full-size MiniPCIe (support mSATA, support SIM holder #1, Optional AMO-I026 to supports m.2 B+M key 2280)  |               |               |               |        |  |
|                                     | M.2                               | 1 x E key 2230 for WiFi  |               |               |               |        |  |
| Storage                             | HDD                               | 2 x 2.5" SATAIII HDD Bay with Max Height 9.5mm (Supports Intel SW RAID 0/1)  |               |               |               |        |  |
|                                     | mSATA                             | 1 x mSATA socket (Share with Mini PCIe)  |               |               |               |        |  |
| Software Support                    | Microsoft Windows                 | Windows 10   |               |               |               |        |  |
|                                     | Linux                             | By Project Support   |               |               |               |        |  |
| Power Requirements                  | Power Type                        | AT/ATX   |               |               |               |        |  |
|                                     | Power Input Voltage               | 9-36V  |               |               |               |        |  |
|                                     | Power Adapter                     | AC to DC, 150W (Optional)  |               |               |               |        |  |
| Power Consumption (CPU/Memory Only) | Typical                           | 16.8W  |               |               |               |        |  |
|                                     | Max.                              | 34.8W  |               |               |               |        |  |
| Mechanical                          | Construction                      | Aluminum housing   |               |               |               |        |  |
|                                     | Mounting                          | Desk mounting  |               |               |               |        |  |
|                                     | Dimensions (W x H x D)            | 200 x 75 x 215 mm  |               |               |               |        |  |
|                                     | Weight                            | 3.2Kg  |               |               |               |        |  |
| Environment                         | Operating Temperature             | 35W Processor with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow   |               |               |               |        |  |
|                                     | Storage Temperature               | -40 ~ 85° C  |               |               |               |        |  |
|                                     | 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 B, CCC, BSMI  |               |               |               |        |  |
|                                     | Safety                            | CB(62368), UL(62368), CCC, BSMI  |               |               |               |        |  |

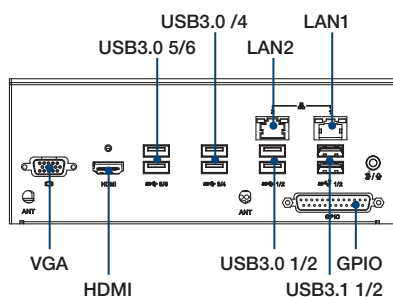
#1 SIM holder and M.2 slot are hardware interfaces for wireless communication integration only. System level RF certification is not available.

## Dimensions

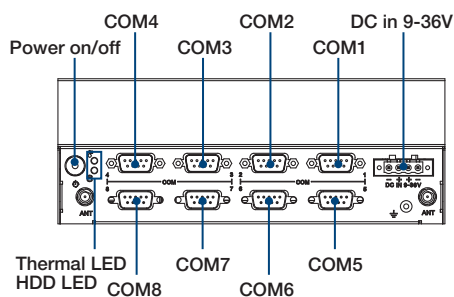
Unit: mm



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



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



## Ordering Information

| Part No.       | CPU                 | DDR4      | GbE | VGA | HDMI | RS-232 | RS-232/422/485 | USB 3.1 | USB 3.0 | miniPCIe | SIM | M.2 E key | DC Input | Made In |
|----------------|---------------------|-----------|-----|-----|------|--------|----------------|---------|---------|----------|-----|-----------|----------|---------|
| ARK-3531-00A1  | LGA1151 Socket Type | Up to 64G | 2   | 1   | 1    | 4      | 4              | 2       | 6       | 1        | 1   | 1         | 9-36V    | China   |
| ARK-3531-00A1U | LGA1151 Socket Type | Up to 64G | 2   | 1   | 1    | 4      | 4              | 2       | 6       | 1        | 1   | 1         | 9-36V    | Taiwan  |
| ARK-3531-00A2  | LGA1151 Socket Type | Up to 64G | 2   | 1   | 1    | 4      | 4              | 2       | 6       | 1        | 1   | 1         | 9-36V    | China   |

Note: CPU/Memory/Storage and operating system bundled by request.

## Packing List

| Part Number         | Description  |
|---------------------|--|
| ARK-3531            | ARK-3531 Unit  |
| 2006K35310          | User Manual (Simplified Chinese)                                   |
| 202KAKMC00          | China RoHS   |
| 1960093556N002 (x2) | Wall mount kit   |
| 36WSWPDOBUND11      | WISE-DeviceOn  |
| 36WSWPDOB0211       | McAfee Application Control Lite/Acronis Backup 11.7 for Windows PC |

## ARK-3531 Option Items

| Part Number       | Description                                |
|-------------------|--|
| 96PSA-A150W19P4-4 | AC-to-DC Adapter, DC19V 150W, 0 ~ 40° C    |
| 96PSA-A230W24P4-3 | AC to DC adapter, DC 24V 230W, -20 ~ 60° C |
| 1702002600        | Power cable 3-pin 183cm, USA type          |
| 1702002605        | Power cable 3-pin 183cm, EU type           |
| 1702031801        | Power cable 3-pin 183cm, UK type           |

## Embedded OS

| Part Number    | Description   |
|----------------|---|
| 20706WX1HS0110 | img W10 21HL ARK-3531 64b 21H2 ENU for Core i7/i9             |
| 20706WX1VS0110 | img W10 21VL ARK-3531 64b 21H2 ENU for Celeron and Core i3/i5 |
| 20706U20DS0025 | Ubuntu 20.4 64bit 2004 ENU                                    |

## ARK-3531 Optional Expansion kit

| Part Number | Description                                       |
|-------------|---|
| AMO-I026A   | Expansion M.2 B key 2280 kit for USB module       |
| AMO-I026B   | Expansion M.2 B Key 2280 kit for PCIe/SATA module |
| AMO-I026C   | Expansion M.2 M Key 2280 kit for PCIe/SATA module |