

# ARK-3531

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



### 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



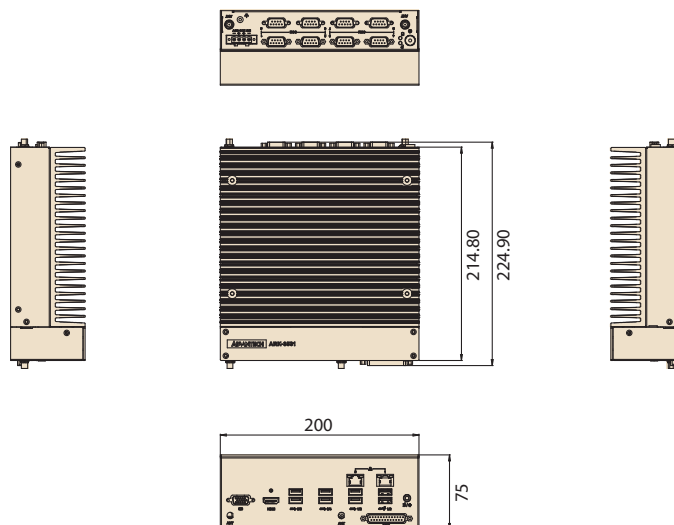
### Specifications

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 (Q370 support by TPN)				
	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 HW Encode: H.265/HEVC, H.264/MPEG-4 AVC, MPEG-2, JPEG/MJPEG and VP8. 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	Ubuntu Desktop 20.04 LTS 64bit				
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				

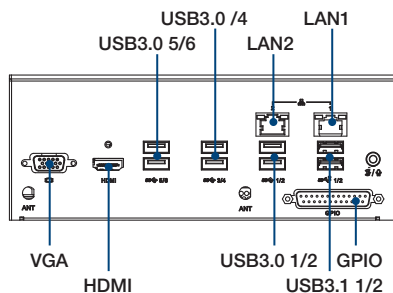
#1 SIM holder and M.2 slot are hardware interfaces for wireless communication integration only. System level RF certification is not available.

## Dimensions

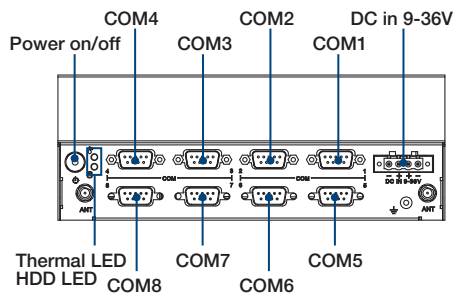
Unit: mm



### 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
ARK-3531-00A1	LGA1151 Socket Type	Up to 64GB	2	1	1	4	4	2	6	1	1	1	9-36V
ARK-3531-00A1U (Made in Taiwan)	LGA1151 Socket Type	Up to 64GB	2	1	1	4	4	2	6	1	1	1	9-36V

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

## Packing List

Part Number	Description
ARK-3531-00A1	ARK-3531 Unit
2006K35310	User Manual (Simplified Chinese)
202KAKMC00	China RoHS
1960093556N001	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-A150W19P4-3	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

## 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

## Embedded OS

Part Number	Description
20706WX9HS0090	WIN10 IOT 1809 64bit for i7/i9
20706WX9VS0094	WIN10 IOT 1809 64bit for Celeron/Pentium/i3/i5
20706U20DS0025	Ubuntu Desktop 20.04 LTS 64bit Image with license for ARK-3531