

# ARK-3405

## Intel® Celeron™ N3160 Fanless Embedded Box PC with Rich Expansion and Dual Removable 2.5" HDD Drive Bays

**NEW**



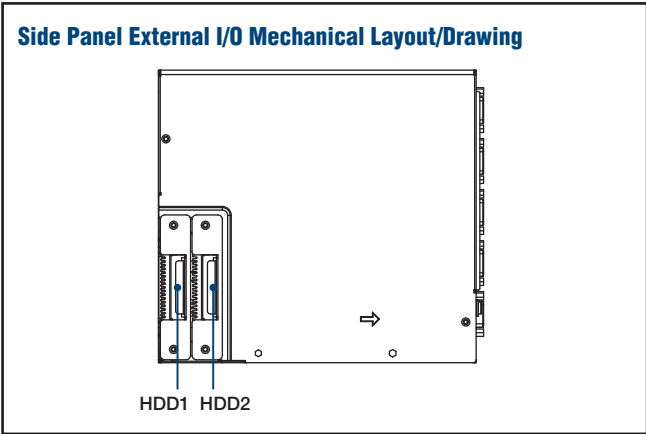
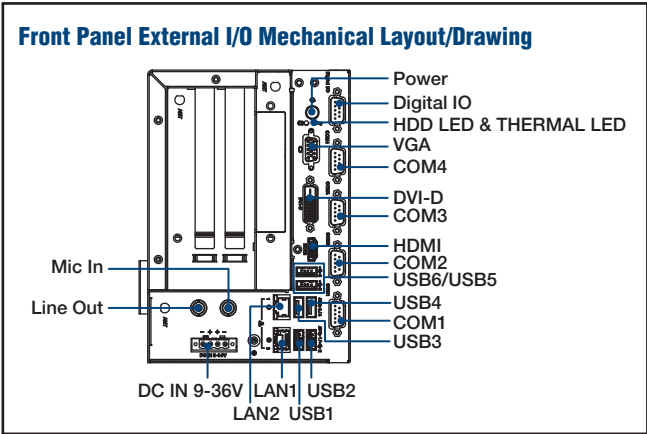
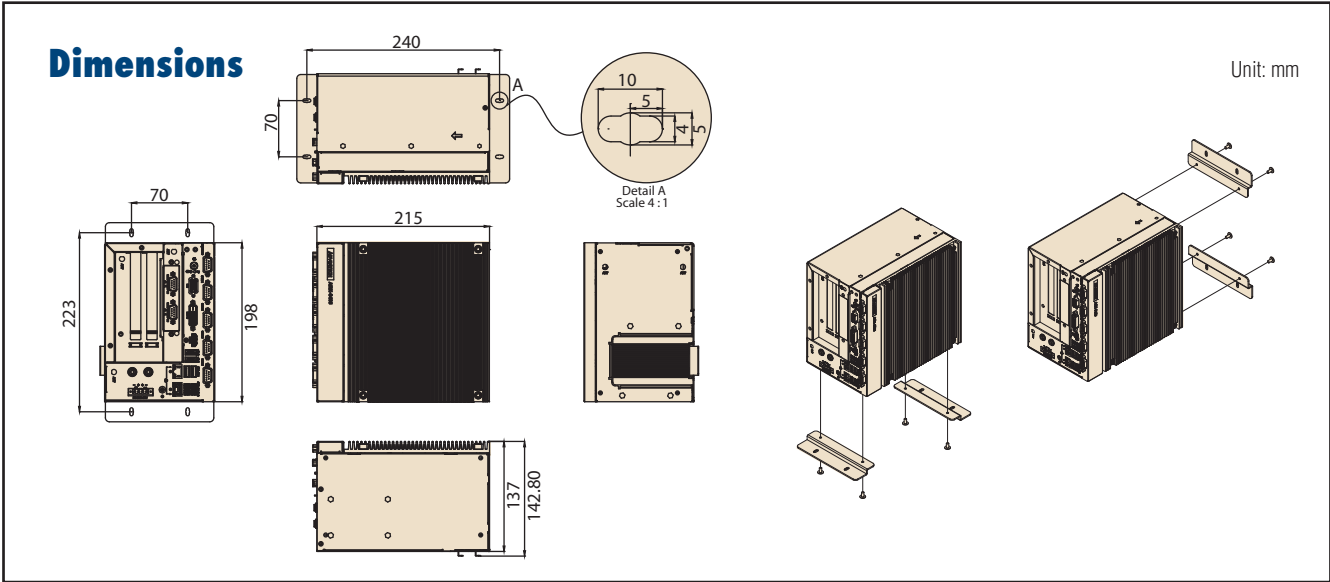
### Features

- Intel® Celeron™ N3160 Quad Core 2.24GHz SoC with Turbo boost Support
- Supports VGA /DVI-D/HDMI triple independent display
- Support 2 GbE, 3 USB 3.0, 3 USB 2.0, 1 DIO, audio and 4 COM ports
- Two removable 2.5" SATA HDD drive bays
- Flexible Expansion via PCI/PCIe x1
- Support 2 Mini PCIe with 1 SIM holder for communication module
- Wide range power input 9-36V
- Advantech iDoor module compatible



### Specifications

Processor System	CPU	Intel Celeron N3160 processor
	Max. speed	1.6GHz, Turbo boost up to 2.24GHz
	BIOS	AMI EFI 64 Mbit BIOS
Memory	Technology	DDR3L 1600MHz
	Max. Capacity	8 GB
	Socket	1 x 204-pin SO-DIMM
Graphics	Chipset	Intel HD 8 Gen Integrated Graphic Engine
	Interface	VGA: Up to 1920 x 1200 @ 60Hz DVI-D: 1920 x 1200 @ 60Hz HDMI: 2560 x 1600 @ 60Hz; 3840 x 2160 @ 30Hz
	Triple Display	VGA + DVI-D + HDMI
Ethernet	LAN 1	10/100/1000 Mbps Intel i210 Ethernet controller, support Wake on LAN
	LAN 2	10/100/1000 Mbps Intel i210 Ethernet controller, support Wake on LAN
Audio	Interface	Realtek ALC892: Mic-in and Line-Out
IO interface	Serial Interface	2 x RS-232, 2 x RS-232/422/485 w/ auto flow control (Default) ; COM 4 support 5V/12V power supply (by jumper) Additional 2 x RS-232 ports support by cable and bracket (Optional by project support)
	USB Interface	3 x USB 2.0 + 3 x USB 3.0, 1 x internal USB2.0
	Digital I/O	8-bit digital IO
	P/S2	1 x PS/2 port support by cable and bracket (Optional by project support)
Other	Watchdog Timer	255-level timer interval, setup by software
	TPM	TPM 2.0 (Optional by project support)
Expansion	Add-on Card Slot	2 Slots PCI (default) 1 Slot PCI and 1 Slot PCIe x1 (Optional: AMO-R020E); 2 Slots PCIe x1 (Optional: AMO-R019E); Maximum card size of 180mm (L) x 110mm (H) Maximum power consumption 10w for each slot
	Mini PCIe	2 x Full-size Mini PCIe ( 1 Mini PCIe with SIM holder)
Storage	HDD/SSD	Two 2.5" SATA removable HDD Bays with maximum device height 12.5mm
	SD	1 internal SD Card slot support
Software Support	Microsoft Windows	Windows 10, Windows 8.1, Windows 7, WES8.1 , WES7
	Linux	Support by project
Power Requirement	Power Type	AT/ATX
	Power Input Voltage	9 V <sub>DC</sub> ~ 36 V <sub>DC</sub>
	Power Adapter	AC to DC, DC12V/7A, 84W (Optional)
Power Consumption	Typical	9.7W
	Max.	22.8W
Mechanical	Construction	Aluminum housing
	Mounting	Desk/wall-mounting
	Dimensions (W x H x D)	142.8 x 198 x 215 mm (5.63" x 7.79" x 8.46")
	Weight	3.16 kg (6.97 lb)
Environment	Operating Temperature	With extended temperature peripherals: -10 ~ 55 °C (-14 ~ 131 °F) with 0.7m/s air flow With 2.5-inch hard disk 0 ~ 40 °C (32 ~ 104 °F) with 0.7m/s air flow
	Storage Temperature	-40 ~ 85° C (-40 ~ 185°F)
	Relative Humidity	95% @ 40° C (non-condensing)
	Vibration Loading 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	CB, UL, CCC, BSMI	



## Ordering Information

Part No.	CPU	DDR3L	VGA	DVI-D	HDMI	RS-232	RS-232/422/485	DIO	USB 3.0	USB 2.0	MiniPCIe	SIM	Expansion	iDoor
ARK-3405R-S6A1E	N3160	up to 8GB	1	1	1	2	2	8-bit	3	3	2	1	2 x PCI	1

## Packing List

Part Number	Description
-	1 x China RoHS for ARK-3405
-	1 x User Manual (Simplified Chinese)
2190000902	1 x CARDBOARD-WARRANTY
1652003234	1 x 4-pin PLUG-IN BLOCK
1990021361N000	2 x HDD Thermal-Pad
1960069484N000	2 x LAN Clip Bracket
1960073853N001	2 x Mounting Bracket
1990027474N000	1 x CPU Thermal-Pad
9680015173	1 x L type Wrench for top cover

## Option Item Information

Part Number	Description
AMO-R019E	2x PCIe1x riser card
AMO-R020E	1x PCI + 1x PCIe1x riser card
96PSA-A84W12P4	AC to DC Adaptor, DC12V/7A, 84W, 0 - 40° C
1702002600	Power Cord, 3-Pin 183cm, USA type
1702002605	Power Cord, 3-Pin 183cm, EU type
1702031801	Power Cord, 3-Pin 183cm, UK type
1700000237	Power Cord, 3-Pin 183cm, PSE type

## Embedded OS

Part Number	Description
2070014220	WES7E 64bit ENG/CHT/CHS/JPN
2070014248	WES8.1E 64bit ENG/CHT/CHS/JPN
2070014270	Win 10 Enterprise 64bit with EN/JP/TC/SC

## Optional MOS modules for iDoor Expansion

Part Number	Description
MOS-1120Y-0201E	Isolated RS-232, 2-Ch, DB9, PCIe I/F
MOS-1121Y-0201E	Isolated RS-422/485, 2-Ch, DB9, PCIe I/F
MOS-1120Y-1401E	Non-Isolated RS-232, 4-Ch, DB9, PCIe I/F
MOS-1121Y-1401E	Non-Isolated RS-422/485, 4-Ch, DB9, PCIe I/F
MOS-2120-Z1101E	Giga LAN Ethernet module, 1-Ch, PCIe I/F
MOS-2220-Z1101E	High Speed Serial COM module, 1-Ch, USB I/F
MOS-2220-X1101E	Parallel LPT module, 1-Ch, USB I/F
MOS-2230-Z1201E	CANBus module, 2-Ch, USB 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

# ARK-3500

3rd Gen. Intel® Core™ i3/ i5/ i7 with 2 Expansion slots and wide range power Fanless Box PC

**NEW**



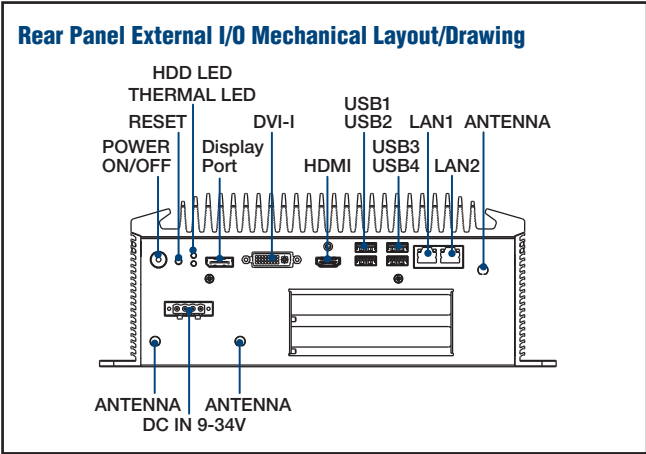
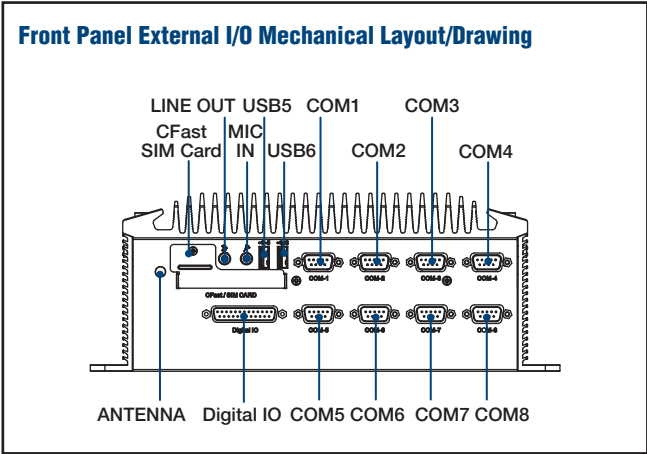
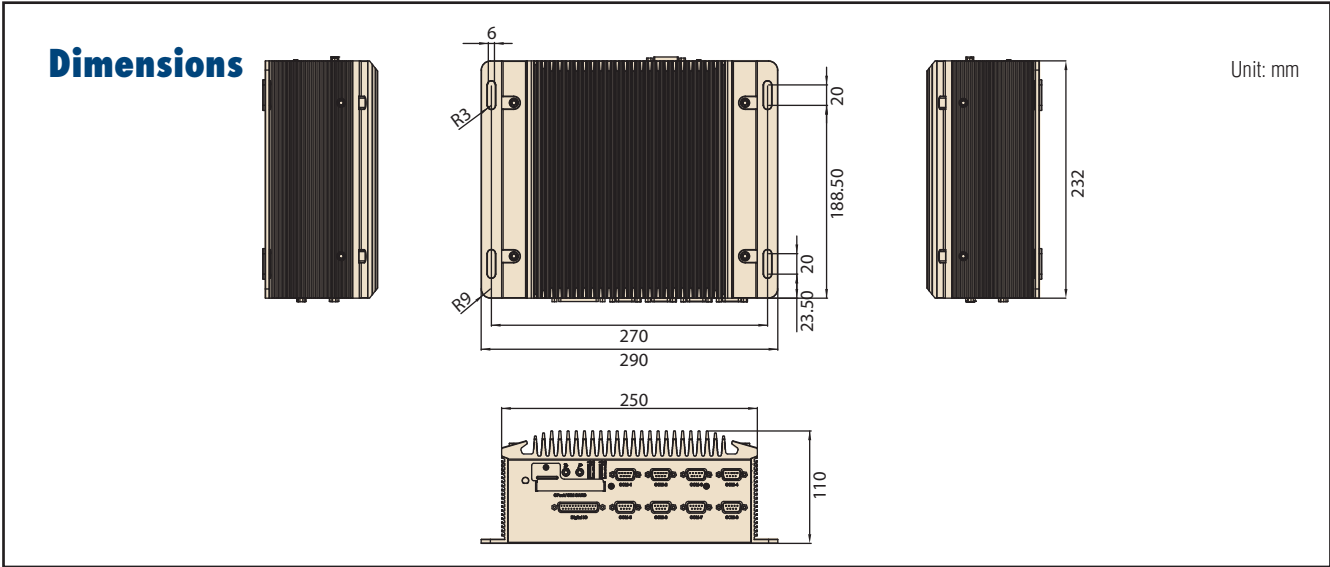
## Features

- Supports Intel® Core™ i3/i5/i7 mobile processor(rPGA) + Intel QM77 PCH
- Triple independent display with 3rd gen Core i processor : DVI + HDMI + DisplayPort
- DDR3/DDR3L SO-DIMM memory support up to 16 GB
- 2 expansion slots with vary interface: PCI, PCIe x 1 & PCIe x 4
- 2 x miniPCIe slots with SIM card holders
- 9-34V wide range lockable DC jack design
- Versatile I/Os including 4 x high speed USB 3.0 and 8 x COM ports
- Flexible Storage Support including 2x mSATA, 1x CFast and 2x 2.5" SATA HDD/ SSD bays
- Supports iManager, WISE-PasS/RMM and Embedded Software APIs



## Specifications

Processor System	CPU (rPGA)	Intel Core i7-3610QM	Intel Core i5-3610ME	Intel Core i3-3120ME	Celeron 1020E
	Frequency	2.3 GHz (Quad Core)	2.7 GHz (Dual Core)	2.4 GHz (Dual Core)	2.2 GHz (Dual Core)
	L3 Cache	6 MB	3 MB	3 MB	2 MB
	Watts	45W	35W	35W	35W
	System Chipset	Intel QM77			
BIOS	AMI EFI 64Mbit				
Memory	Technology	DDR3/DDR3L 1600MHz			
	Max. Capacity	16 GB			
	Socket	2 x 204-pin SO-DIMM			
Graphics	Chipset	Intel QM77 Integrated GFX Gen 7			
	Graphic Engine	DirectX11, OpenGL 3.1, and Open CL 11; Hardware decode acceleration: AVC/H.264, MPEG-2, VC-1			
	CRT	VGA integrated in DVI-I port			
	DVI-I	1920 x 1200 @ 60 Hz			
	HDMI	Support HDMI 1.4, 1920 x 1200 @ 60 Hz			
	Display port	2560 x 1600 @ 60Hz (Video only, and only support on 3rd generation processor)			
Dual Display	VGA+DVI, VGA+HDMI, VGA+DP, DVI+HDMI, DVI+DP, HDMI+DP			VGA+DVI, DVI+HDMI, VGA+HDMI	
Triple Display	DVI-D + HDMI + DisplayPort (Main display)			N/A	
Ethernet	LAN1	10/100/1000 Mbps Intel 82579LM GbE, support Wake On Lan			
	LAN2	10/100/1000 Mbps Intel I-210IT GbE, support Wake On Lan			
Audio	Interface	Realtek ALC892, High Definition Audio, Line-out, Mic-in			
I/O Interface	Serial Port	4 x RS-232 ports, 4 x RS-232/422/485 port with auto flow control			
	USB	4 x USB 3.0 ports (USB1,2,3,4); 2 x USB 2.0 ports (USB5,6)			
	DIO	16 bit DIO			
Other	Watchdog Timer	255-level timer interval , setup by software			
Expansions	Mini PCIe	2 x Full-size Mini PCIe with SIM holder (Supports mSATA)			
	Add-on Card Slot	ARK-3500P-00A1E : 2 x PCI; Maximum card size: 110 mm (H) x 180 mm (L) ARK-3500F-00A1E : PCIe x 1 + PCIe x 4; Maximum card size: 110 mm (H) x 180 mm (L) Suggest maximum power consumption 10w for each slot			
Storage	HDD	Two 2.5" SATA HDD Bays with maximum device height 9.5mm, SATA III, Gen 3 Support (Max. Data Transfer Rate 600 MB/s), Support SATA RAID 0, 1			
	Solid State Disk	1 x CFast Card slot			
Software Support	Microsoft Windows	Windows 8 , Windows 7, XP Professional (32bit), XP Embedded (32bit)			
	Linux	Ubuntu 12.04			
Power Requirements	Power Type	AT/ATX			
	Power Input Voltage	9 ~ 34 V <sub>DC</sub>			
	Power Adapter	AC to DC, DC 12V , 120W (Optional)			
Power Consumption	Typical	19.2W	16.4W	14.8W	16.4W
	Max.	60W	36.5W	30W	31.8W
Mechanical	Construction	Aluminum housing			
	Mounting	Desk/wall-mounting			
	Dimensions (W x H x D)	290 x 110 x 232mm (11.4" x 4.33" x 9.13")			
	Weight	4.8 kg			
Environment	Operating Temperature	with extended temp peripherals: -10 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° C with 0.7m/s air flow			
	Storage Temperature	-40 ~ 85° C			
	Relative Humidity	95% @ 40° C (non-condensing)			
	Vibration During Operation	With SSD: 5 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	CB, UL, CCC, BSMI				



## Ordering Information

Part No.	CPU	DDR3	DP	HDMI	DVI-I	RS-232/422/485	RS-232	USB 3.0	USB 2.0	MiniPCIe	SIM	DC input	Expansion
ARK-3500P-00A1E	PGA Socket Type	up to 16 GB	1	1	1	4	4	4	2	2	2	9 ~ 34 V	2 x PCI
ARK-3500F-00A1E	PGA Socket Type	up to 16 GB	1	1	1	4	4	4	2	2	2	9 ~ 34 V	1 x PCIe x 1 1 x PCIe x 4

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

## Packing List

Part Number	Description
1654009744	DVI-I to VGA adaptor
968EMLSAP2	SUSI CD
-	User Manual (Simplified Chinese)
-	China RoHS for ARK-3500 Electronic Pollution 1st
1652003234	4 pin DC in terminal block
1930001241	HDD screws
2190000902	CARDBOARD-WARRANTY REV. A2

## Embedded OS

Part Number	Description
2070012570	WES2009 32bit 24MUI
2070012650	WES7E 32bit ENG/CHT/CHS/JPN
2070012706	WES7E 64bit ENG/CHT/CHS/JPN
2070014612	WES7P 32bit ENG/CHT/CHS/JPN
2070012628	WES7P 64bit ENG/CHT/CHS/JPN
2070013970	WES7E 32bit ENG/CHT/CHS/JPN (RAID)
2070013971	WES7E 64bit ENG/CHT/CHS/JPN (RAID)

## Optional Items

Part Number	Description
96PSA-A150W19P4-1	AC-to-DC Adaptor, DC 19V, 150W, -20 ~ 70° C
1702002600	Power cable 3-pin 180cm, USA type
1702031801	Power cable 3-pin 180cm, UK type
1702002605	Power cable 3-pin 180cm, EU type
1700000237	Power cable 3-pin 180cm, with PSE
96MPI7M-2.3-6M9T	CORE 2.3G 6M 988P 4CORE I7-3610QE(G)
96MPI5-2.7-3M9T	CORE 2.7G 3M 988P 2CORE I5-3610ME(G)
96MPI3M-2.4-3M9T	CORE 2.4G 3M 988P 2CORE I3-3120ME(G)
96MPCM-2.2-2M9T	CELERON M 2.2G 2M 988P 2CORE I020E(G)
	CORE 2.9G 4M 988P 2CORE I7-3520M

# ARK-3510

3rd Gen. Intel® Core™ i3/ i5/ i7 with  
2 x 2.5" Removable HDD Bays Fanless Box PC

**NEW**



## Features

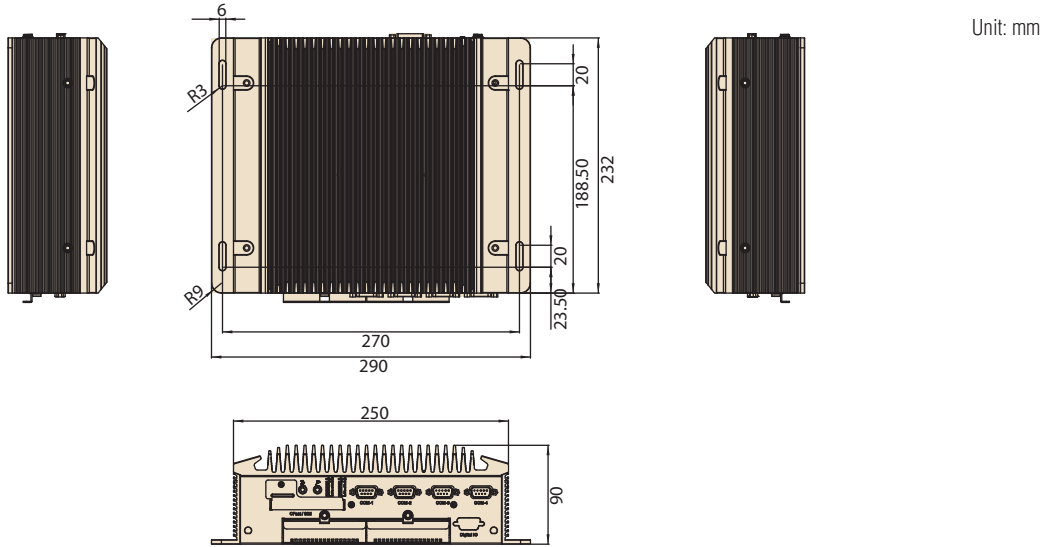
- Supports Intel® Core™ i3/i5/i7 mobile processor(rPGA) + Intel QM77 PCH
- Triple independent display with 3rd gen Core I processor : DVI + HDMI + DisplayPort
- DDR3/DDR3L SO-DIMM memory support up to 16 GB
- Supports 2 x 2.5" removable SATAIII drive bays
- 2 x miniPCIe cards with SIM card holders
- Versatile I/Os including 4 x high speed USB 3.0 and 4 x COM ports
- Lockable 12V DC jack design
- Supports iManager, WISE-PaaS/RMM and Embedded Software APIs



## Specifications

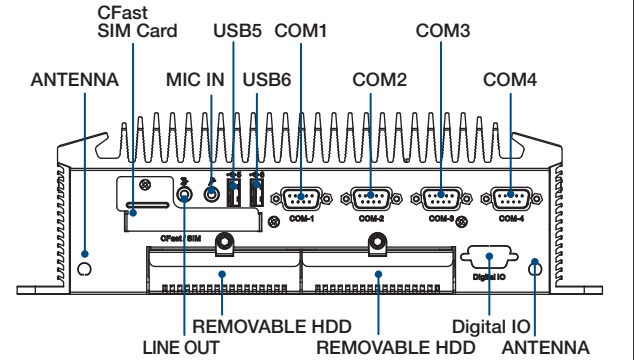
Processor System	CPU (rPGA)	Intel Core i7-3610QE	Intel Core i5-3610ME	Intel Core i3-3120ME	Celeron 1020E
	Frequency	2.3 GHz (Quad Core)	2.7 GHz (Dual Core)	2.4 GHz (Dual Core)	2.2 GHz (Dual Core)
	L3 Cache	6 MB	3 MB	3 MB	2 MB
	Watts	45W	35W	35W	35W
	System Chipset	Intel QM77			
Memory	BIOS	AMI EFI 64Mbit			
	Technology	DDR3/DDR3L 1600 MHz			
	Max. Capacity	16 GB			
Graphics	Socket	2 x 204-pin SO-DIMM			
	Chipset	Intel QM77 Integrated GFX Gen 7			
	Graphic Engine	DirectX11, OpenGL 3.1, and Open CL 11; Hardware decode acceleration: AVC/H.264, MPEG-2, VC-1			
	CRT	VGA integrated in DVI-I port			
	DVI-I	1920 x 1200 @ 60 Hz			
	HDMI	Support HDMI 1.4, 1920 x 1200 @ 60Hz			
	Display port	2560 x 1600 @ 60Hz (Video only, and only support on 3rd generation processor)			
	Dual Display	VGA+DVI, VGA+HDMI, VGA+DP, DVI+HDMI, DVI+DP, HDMI+DP			VGA+DVI, DVI+HDMI, VGA+HDMI
Triple Display	DVI-D + HDMI + DisplayPort(Main Display)			N/A	
Other	Watchdog Timer	255-level timer interval, setup by software			
Ethernet	LAN1	10/100/1000 Mbps Intel 82579LM GbE, support Wake On Lan			
	LAN2	10/100/1000 Mbps Intel I-210IT GbE, support Wake On Lan			
Audio	Interface	Realtek ALC892, High Definition Audio. Line-out, Mic-in			
I/O Interface	Serial Port	2 x RS-232 ports, 2 x RS-232/422/485 port with auto flow control			
	USB	4 x USB 3.0 ports (USB1,2,3,4) and 2 x USB 2.0 ports (USB5,6)			
Expansion	Mini PCIe	2 x Full-size Mini PCIe with SIM holder (Supports mSATA)			
Storage	HDD	Two 2.5" SATA removable HDD Bays with maximum device height 9.5mm, SATA III, Gen 3 Support (Max. Data Transfer Rate 600 MB/s), Support SATA RAID 0, 1			
	Solid State Disk	1 x CFast Card			
Software Support	Microsoft Windows	Windows 8, Windows 7, XP Professional (32bit), XP Embedded (32bit)			
	Linux	Ubuntu 12.04			
Power Requirements	Power Type	AT/ATX			
	Power Input Voltage	12 V <sub>DC</sub> , ± 10% (9 ~ 34 V <sub>DC</sub> support by request)			
	Power Adapter	AC to DC, DC12V / 7A, 84 W (Optional)			
Power Consumption	Typical	19.2W	16.4W	14.8W	16.4W
	Max.	60W	36.5W	30W	31.8W
Mechanical	Max. : test with 100% CPU loading and HDD R/W access only.				
	Construction	Aluminum housing			
	Mounting	Desk/wall-mounting			
	Dimensions (W x H x D)	290 x 90 x 232 mm (11.4" x 3.54" x 9.13")			
	Weight	4.63kg			
Environment	Operating Temperature	with extended temp peripherals: -10 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° 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: 50 G, IEC 60068-2-27, half sine, 11 ms duration			
	EMC	CE/FCC Class A, CCC, BSMI			
Safety	CB, UL, CCC, BSMI				

**Dimensions**

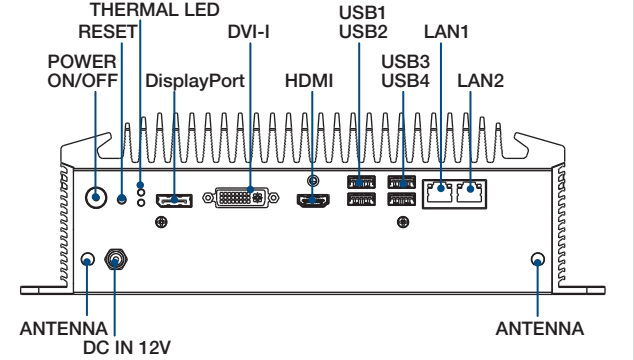


Unit: mm

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



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



**Ordering Information**

Part No.	CPU	DDR3	DP	HDMI	DVI-I	RS-232/422/485	RS-232	USB 3.0	USB 2.0	MiniPCIe	SIM	DC input	Expansion
ARK-3510L-00A1E	PGA Socket Type	up to 16 GB	1	1	1	2	2	4	2	2	2	12V	MIOe

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

**Packing List**

Part Number	Description
1654009744	DVI-I to VGA adaptor
968EMLSAP2	SUSI CD
2006351010	User Manual (Simplified Chinese)
-	China RoHS for ARK-3510 Electronic Pollution 1st
2190000902	CARDBOARD-WARRANTY REV. A2

**Embedded OS**

Part Number	Description
2070012634	WES2009 32bit 10MUI
2070012650	WES7E 32bit ENG/CHT/CHS/JPN
2070012706	WES7E 64bit ENG/CHT/CHS/JPN
2070014612	WES7P 32bit ENG/CHT/CHS/JPN
2070012627	WES7P 64bit ENG/CHT/CHS/JPN

**Optional Items**

Part Number	Description
96PSA-A84W12W6-1	AC-to-DC Adapter, DC 12V/7A 84W, 0~40° C for Home and Office Use
96PSA-A150W12W7	AC-to-DC Adaptor, DC 12V, -20 ~ 70° C
1702002600	Power cable 3-pin 180cm, USA type
1702031801	Power cable 3-pin 180cm, Uk type
1702002605	Power cable 3-pin 180cm, EU type
1700000237	Power cable 3-pin 180cm, with PSE
96MPI7M-2.3-6M9T	CORE 2.3G 6M 988P 4CORE I7-3610QE(G)
96MPI5-2.7-3M9T	CORE 2.7G 3M 988P 2CORE I5-3610ME(G)
96MPI3M-2.4-3M9T	CORE 2.4G 3M 988P 2CORE I3-3120ME(G)
96MPCM-2.2-2M9T	CELERON M 2.2G 2M 988P 2CORE 1020E(G)

# ARK-3520L

## 6th Gen. Intel® Core™ i3/ i5/ i7 Modular Expansion Fanless Box PC

**NEW**



### Features

- 6th Gen. Intel® Core™ i3/i5/i7 mobile processor (BGA)
- Triple independent display: VGA + HDMI + Optional Display
- DDR4 SO-DIMM memory support up to 32 GB
- Option 9-36V power module compatible with all-in-one ordering
- Optional modular design for 2.5" hard drive bays : internal /removable (support up to 2 sets)
- Advantech iDoor module compatible
- Advantech EMIO miniPCIe module compatible with all-in-one ordering
- Advantech ARK Plus AMO-3xxx series module compatible



WISE-PaaS/RMM iManager

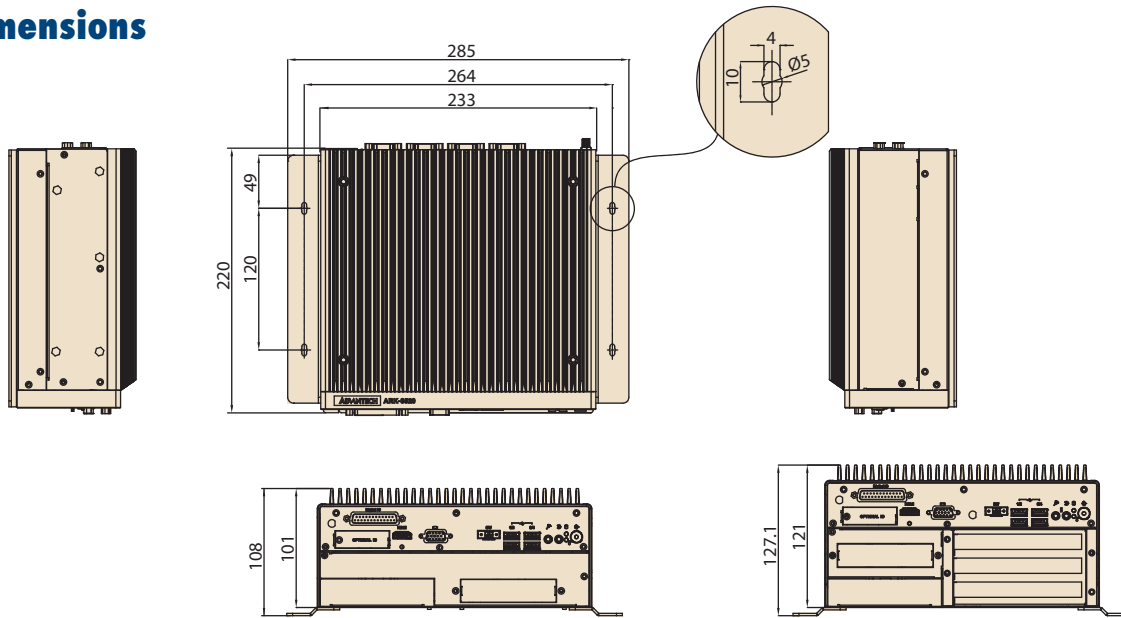


### Specifications

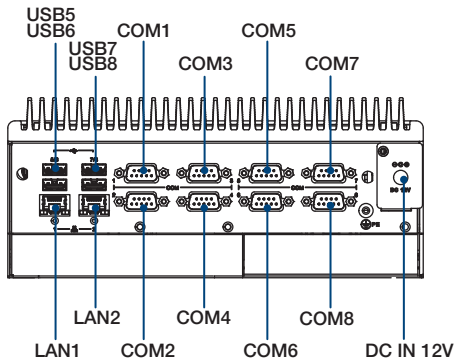
Processor System	CPU	Intel Core i7-6820EQ	Intel Core i5-6440EQ	Intel Core i3-6100E (support by T-P/N)
	Frequency	2.8 GHz (Quad Core)	2.7 GHz (Quad Core)	2.7 GHz (Dual Core)
	L3 Cache	8 MB	6 MB	3 MB
	Watts	45W	45W	35W
	System Chipset	Intel QM170		
	BIOS	AMI EFI 128Mbit		
Memory	Technology	DDR4 2133 MHz		
	Max. Capacity	32 GB		
	Socket	2 x 260-pin SO-DIMM		
Graphics	Chipset	Intel QM170 Integrated GFX Gen 9		
	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	1920x1200@60Hz		
	HDMI	1 HDMI port, HDMI 1.4b for HD video playback, 3840x2160@30Hz		
	Optional 3rd Display module	DP / HDMI Display Port		
	Triple Display	VGA+HDMI + 3rd display module		
Ethernet	LAN1	10/100/1000 Mbps Intel I219-LM 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		
Others	Watch dog Timer	255-level timer interval, setup by software		
	TPM	TPM 2.0 (Optional by project support)		
I/O Interface	Serial Port	4 x RS-232 ports, 4 x RS-232/422/485 port with auto flow control; COM 1,2 support 5V/12V power supply (by jumper)		
	USB	6 x USB 3.0 ports; 2 x USB 2.0 ports		
	DIO	16 bit DIO		
	P/S2	1 Port support by cable and bracket (Optional)		
	Parallel Port	D-sub 25pin connector (Optional)		
	Expansions	Mini PCIe	2 x Full-size Mini PCIe (1 x support mSATA, 1 x support SIM holder)	
M.2		1 x E key for WiFi		
i Door		1 set (Optional)		
ARK Plus		AMO-3501E 3 Slot Riser Card for 2x PCI+1xPCIx4		
Storage	HDD	1 x 2.5" SATAIII HDD Bay with Max Height 15mm, (1 internal 2.5" HDD Bay with one optional removable HDD Bay)		
	mSATA	1 x mSATA socket (Share 1 Mini PCIe)		
Software Support	Microsoft Windows	Windows 10, Windows 8.1, Windows 7		
	Linux	By Project Support		
Power Requirements	Power Type	AT/ATX		
	Power Input Voltage	12V (9-36V as optional)		
	Power Adapter	AC to DC, 150W (Optional)		
Power Consumption	Typical	11.4W		
	Max.	68.4W	46.5W	42.75W
Mechanical	Construction	Aluminum housing		
	Mounting	Desk/wall-mounting		
	Dimensions (W x H x D)	220 x 101 x 233 mm (8.66" x 3.98" x 9.17")		
	Weight	4.8 kg (10.58 lb)		
Environment	Operating Temperature	with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° 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, UL, CCC, BSMI		

## Dimensions

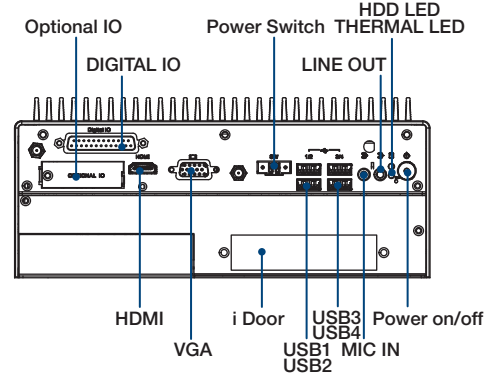
Unit: mm



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



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



## Ordering Information

Part No.	CPU	DDR4	VGA	HDMI	Option 3rd display module	RS-232/422/485	RS-232	USB 3.0	USB 2.0	MiniPCIe	SIM	DC input	Expansion
ARK-3520L-U8A1E	i7-6820EQ	up to 32G	1	1	1	4	4	6	2	2	1	12V	Optional
ARK-3520L-U7A1E	i5-6440EQ	up to 32G	1	1	1	4	4	6	2	2	1	12V	Optional

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

\* ARK-3520L i3-6100E support by T-PN with MOQ 30pcs

## Packing List

Part Number	Description
-	ARK-3520 Unit
-	User Manual (Simplified Chinese)
-	China RoHS
-	2pin power switch terminal block
1960075470N031	2 x mounting bracket

## Embedded OS

Part Number	Description
2070014628	WES7E 64bit EN/JP/TC/SC
2070014627	WE8.1 64bit IndustryPro EN/JP/TC/SC
2070014899	Win10 Ent X64 (High End) for i7-6820EQ
2070014898	Win10 Ent X64 (Value) for i5-6440EQ



## ARK-3520 Default SKU Option Items

### Optional Item for Default SKU

Part Number	Description
XARK-DPS-150AB-15	AC-to-DC Adapter, DC12V 150W
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1702031801	Power cable 3-pin 183cm, UK type
1700000237	Power cable, 3-Pin 183cm, PSE type

### Optional MOS modules for iDoor Expansion

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 Com USB module, 2-Ch, PCIe I/F
MOS-2120-Z1101E	Giga LAN Ethernet module, 1-Ch, PCIe I/F.
MOS-1120Y-0201E	Isolated RS-232, 2-Ch, DB9, PCIe I/F
MOS-1121Y-0201E	Isolated RS-422/485, 2-Ch, DB9, PCIe I/F
MOS-1120Y-1401E	Non-Isolated RS-232, DB37, 4-Ch, PCIe I/F
MOS-1121Y-1401E	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

\*Please noted ARK-3520 can support only 1 iDoor.

### Optional 9-36V DC Power Module

Part Number	Description
AMO-P010E	9-36V DC input power module for ARK-3520
96PSA-A150W19P4-1	AC-to-DC Adapter, DC19V 150W, 0 ~ 40° C (for AMO-P010E)
96PSA-A220W24P4-1	AC to DC adapter, DC 24V 220W, -20 ~ 60° C (For AMO-P010E)
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-3520L Optional HDD expansion Kit (Support up to 2 sets)

Part Number	Description
AMK-A0022E	1 x internal HDD Kit (Max Height 15mm)
AMK-A0023E	1 x removable HDD Kit (Max Height 15mm)

### Optional Display Module

Part Number	Description
AMO-D002E	DP module
AMO-D003E	HDMI module

## ARK Plus Extended Modules

### AMO-3501E

3 Slots Riser Card Expansion Module: 2 x PCI +1x PCIe4

#### Specifications

General	
Add on card support	3 Slot for 2xPCI+1xPCIe4 Max Card size: 110 mm(H) x 180 mm (L) Max Power consumption: 10W for each slot
HDD/SSD	NA
Mechanical	
System Dimension	220 x 121 x 230 mm

#### Ordering Information

P/N	Description
AMO-3501E	3 Slot Riser Card (2xPCI+1xPCIe4)

### AMO-3502E

2 Slots Riser Card Expansion Module: 2 x PCI

#### Specifications

General	
Add on card support	2 Slot for 2xPCI Max Card size: 110 mm(H) x 180 mm (L) Max Power consumption: 10W for each slot
HDD/SSD	NA
Mechanical	
System Dimension	220 x 101 x 230 mm

#### Ordering Information

P/N	Description
AMO-3502E	2 Slot Riser Card (2xPCI)

### AMO-3503E

2 Slots Riser Card Expansion Module: 2 x PCIe4

#### Specifications

General	
Add on card support	2 Slot for 2xPCIe4 Max Card size: 110 mm(H) x 180 mm (L) Max Power consumption: 10W for each slot
HDD/SSD	NA
Mechanical	
System Dimension	220 x 101 x 230 mm

#### Ordering Information

P/N	Description
AMO-3503E	2 Slot Riser Card (2xPCIe4)

# ARK-3520P

## 6th Gen. Intel® Core™ i3/ i5/ i7 with Expansion slots and wide range power Fanless Box PC

NEW



### Features

- Intel® Core™ i3/i5/i7 processor (BGA)
- Triple independent display: VGA + HDMI + Option Display
- DDR4 SO-DIMM memory up to 32 GB
- Flexible Expansion via PCI/PCIex4
- 9-36V wide range Power input
- Versatile I/Os including 6 x high speed USB 3.0 and 8 x COM ports
- 2 Removable 2.5" HDD drive bay
- Advantech iDoor module compatible



WISE-PaaS/RMM iManager



CE FCC



### Specifications

Processor System	CPU	Intel Core i7-6820EQ	Intel Core i5-6440EQ	Intel Core i3-6100E (support by T-P/N)
	Frequency	2.8 GHz (Quad Core)	2.7 GHz (Quad Core)	2.7 GHz (Dual Core)
	L3 Cache	8 MB	6 MB	3 MB
	Watts	45W	45W	35W
	System Chipset	Intel QM170		
	BIOS	AMI EFI 128Mbit		
Memory	Technology	DDR4 2133 MHz		
	Max. Capacity	32 GB		
	Socket	2 x 260-pin SO-DIMM		
Graphics	Chipset	Intel QM170 Integrated GFX Gen 9		
	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	1920x1200@ 60Hz		
	HDMI	1 HDMI port, HDMI 1.4b for HD video playback, 3840x2160@30Hz		
	Optional 3rd Display module	DP		
	Triple Display	VGA+HDMI + 3rd display module		
Ethernet	LAN1	10/100/1000 Mbps Intel I219-LM 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		
Others	Watch dog Timer	255-level timer interval, setup by software		
	TPM	TPM 2.0 (Optional by project support)		
I/O Interface	Serial Port	4 x RS-232 ports, 4 x RS-232/422/485 port with auto flow control; COM 1,2 support 5V/12V power supply (by jumper)		
	USB	6 x USB 3.0 ports; 2 x USB 2.0 ports		
	DIO	16 bit DIO		
	P/S2	1 Port support by cable and bracket (Optional)		
	Parallel Port	D-sub 25pin connector (Optional)		
	Expansions	Mini PCIe	2 x Full-size Mini PCIe (1 x support mSATA, 1 x support SIM holder)	
M.2		1 x E key for WiFi		
i Door		1 set (Optional)		
Add-on Card Slot		2 Slots PCI (Default) Maximum card size: 110 mm (H) x 180 mm(L) 2 Slots PCIe x 4 (Optional) Maximum card size: 110 mm (H) x 180 mm(L) Suggest maximum power consumption 10W for each slot		
Storage	HDD	Two removable 2.5" SATA HDD Bays with maximum device height 15mm, SATA III, Gen 3, Support SATA RAID 0, 1		
	mSATA	1x mSATA socket (Share 1 Mini PCIe)		
Software Support	Microsoft Windows	Windows 10, Windows 8.1, Windows 7		
	Linux	By Project Support		
Power Requirements	Power Type	AT/ATX		
	Power Input Voltage	9 ~ 36 V <sub>DC</sub>		
	Power Adapter	AC to DC, 150W (Optional)		
Power Consumption	Typical	11.4W		
	Max.	68.4W	46.5W	42.75W
	Mechanical	Construction	Aluminum housing	
Mounting		Desk/wall-mounting		
Dimensions (W x H x D)		220 x 101 x 233 mm (8.66" x 3.98" x 9.17")		
Weight		4.4 kg (9.7 lb)		
Environment		Operating Temperature	with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° 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 A, CCC, BSMI		
	Safety	LVD, CCC, BSMI		

\* By Project Support

ADVANTECH

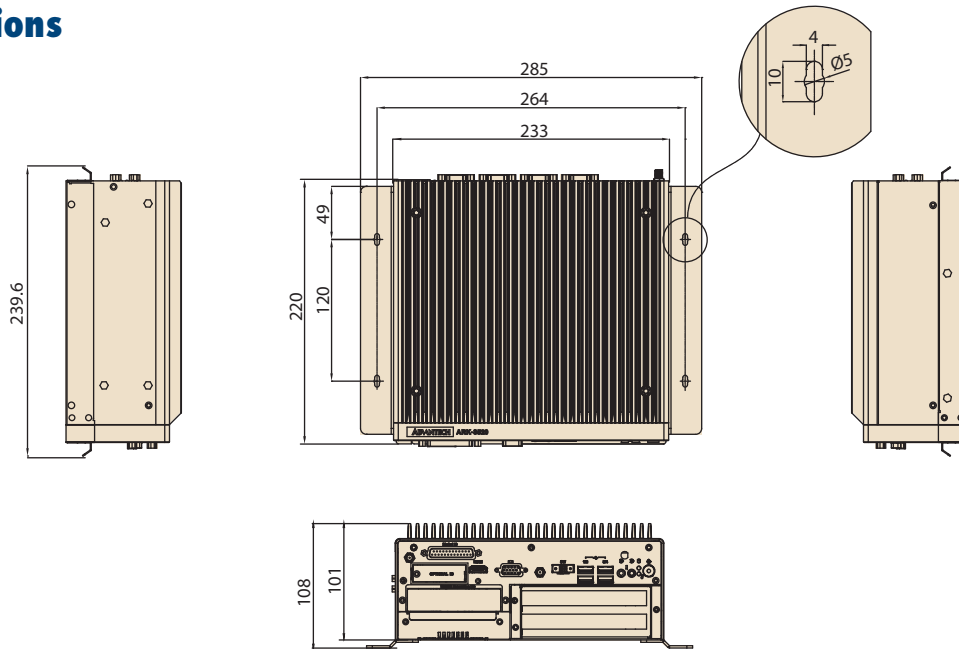
Fanless Embedded Box PCs

All product specifications are subject to change without notice.

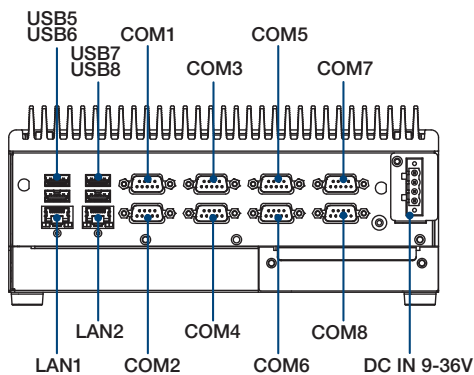
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## Dimensions

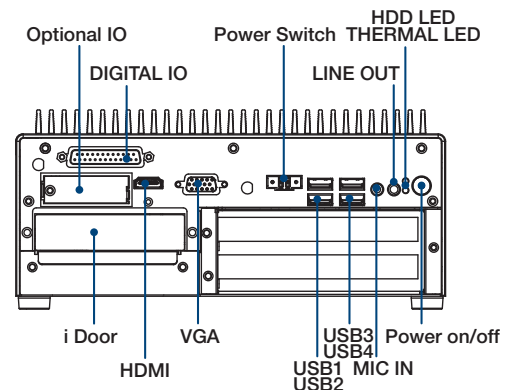
Unit: mm



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



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



## Ordering Information

Part No.	CPU	DDR4	VGA	HDMI	Option 3rd display module	RS-232/422/485	RS-232	USB 3.0	USB 2.0	MiniPCIe	SIM	DC input	Expansion
ARK-3520P-U8A1E	i7-6820EQ	up to 32G	1	1	1	4	4	6	2	2	1	9 - 36 V	2 x PCI
ARK-3520P-U7A1E	i5-6440EQ	up to 32G	1	1	1	4	4	6	2	2	1	9 - 36 V	2 x PCI

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

\* ARK-3520P i3-6100E support by T-PN with MOQ 30pcs

## Packing List

Part Number	Description
-	ARK-3520 Unit
-	User Manual (Simplified Chinese)
-	China RoHS
1652003234	4 pin DC in terminal block
-	2 pin power switch terminal block
1960075470N031	2 x mounting bracket

## Embedded OS

Part Number	Description
2070014628	WES7E 64bit EN/JP/TC/SC
2070014627	WE8.1 64bit IndustryPro EN/JP/TC/SC
2070014899	Win10 Ent X64 (High End) for i7-6820EQ
2070014898	Win10 Ent X64 (Value) for i5-6440EQ

## ARK-3520 Default SKU Option Items

### Optional Item for Default SKU

Part Number	Description
96PSA-A150W19P4-1	AC-to-DC Adapter, DC19V 150W, 0 ~ 40° C for Home and Office Use
96PSA-A220W24P4-1	AC to DC Adapter, DC 24V 220W, -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
1700000237	Power cable, 3-Pin 183cm, PSE type

### Optional MOS modules for iDoor Expansion

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-0201E	Isolated RS-232, 2-Ch, DB9, PCIe I/F
MOS-1121Y-0201E	Isolated RS-422/485, 2-Ch, DB9, PCIe I/F
MOS-1120Y-1401E	Non-Isolated RS-232, DB37, 4-Ch, PCIe I/F
MOS-1121Y-1401E	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

\*Please noted ARK-3520 can support only 1 iDoor.

### Optional Display Module

Part Number	Description
AMO-D002E	DP module

### Optional Riser Expansion

Part Number	Description
AMO-R022E	2 x PCIe x 4

# ARK-3530F

## Intel®Xeon® E3 / Core™ i3/i5/i7 LGA1151 Modular Expansion Fanless Box PC

**NEW**



### Features

- Support Intel® Xeon® / 6th & 7th Gen. Core™ i3/i5/i7 processor
- Triple independent display: VGA + HDMI + Optional Display
- DDR4 SO-DIMM memory support up to 32 GB
- 9-36V power module compatible with all-in-one ordering
- Optional modular design for 2.5" hard drive bays: internal /removable (support up to 4 sets)
- Advantech iDoor module compatible
- Advantech EMIO miniPCIe module compatible with all-in-one ordering

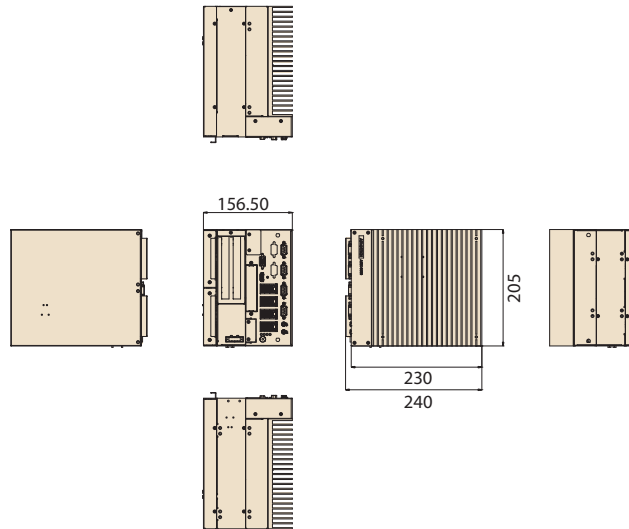


### Specifications

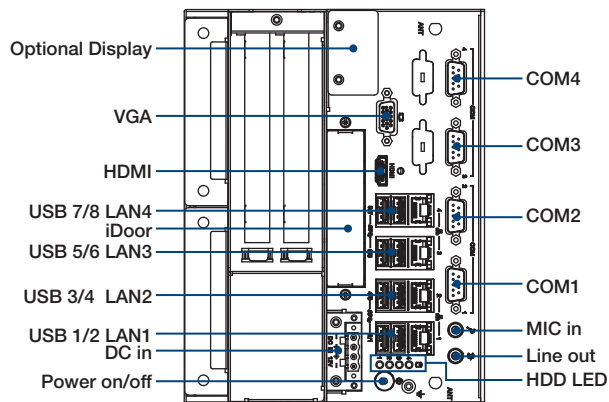
Processor System	CPU	E3-1235L V5	i7-7700/i7-6700	i5-7500	i3-7101E
	Frequency	2.0GHz	3.6GHz/3.4GHz	3.4GHz	3.9GHz
	L3 Cache	8MB	8MB	6MB	3MB
	TDP	25W	65W	65W	54W
	Chipset	C236			
	BIOS	AMI EFI 127Mbit			
Memory	Technology	DDR4 2133 MHz			
	Max. Capacity	32 GB			
	Socket	2 x 260-pin SO-DIMM			
Graphics	Chipset	Intel® HD 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	1920x1200@ 60Hz			
	HDMI	1 HDMI port, HDMI 2.0 for HD video playback, 3840x2160@30Hz			
	Optional 3rd Display module	DVI-D / DP / HDMI Display Port			
	Triple Display	VGA+HDMI + 3rd display module			
Ethernet	LAN1	10/100/1000 Mbps Intel I219-LM GbE, support Wake On Lan			
	LAN2, 3, 4	10/100/1000 Mbps Intel I210 GbE, support Wake On Lan			
Audio	Interface	Realtek ALC888S, High Definition Audio, Line-out, Mic-in			
Others	Watch dog Timer	255-level timer interval, setup by software			
	TPM	TPM 2.0 (Optional by project support)			
I/O Interface	Serial Port	4 x RS-232/422/485 port with auto flow control; COM 1 support 5V/12V power supply (by jumper)			
	USB	8 x USB 3.0 ports			
	P/S2	1 Port support by cable and bracket (Optional)			
	Optional I/O	16bit DIO or 2 x RS-232 ports			
Expansions	Mini PCIe	2 x Full-size Mini PCIe (2 x support mSATA, 1 x support SIM holder)			
	M.2	1 x E key for WiFi			
	i Door	1 set (Optional)			
	Add-on Card Slot	Maximum card size 110mm (H) x 180mm (L) Suggest maximum power consumption 10W for each slot 2 Slots PCI (Default) 2 Slots PCIe8 (Option AMO-R026) 1 Slots PCIe16 (Support by project)			
Storage	HDD	2 x 2.5" SATAIII HDD Bay with Max Height 15mm (Support Up to 4 x 2.5" SATAIII HDD Bay by Optional AMK-A0028E)			
	mSATA	2 x mSATA socket (Share with Mini PCIe)			
Software Support	Microsoft Windows	Windows 10 (Windows 7 for 6th Gen CPU only)			
	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	25.68W			
	Max.	88.92W			
Mechanical	Construction	Aluminum housing			
	Mounting	Desk mounting			
	Dimensions (W x H x D)	156.5 x 205 x 230 mm (6.16" x 8.07" x 9.06")			
	Weight	5.87Kg			
Environment	Operating Temperature	25W/35W/65W(only 6th Gen) Processor with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow Under 73W processor with HDD: 0 ~ 40° 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, UL, CCC, BSMI			

## Dimensions

Unit: mm



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



## Ordering Information

Part No.	CPU	DDR4	Gbe	VGA	HDMI	Option 3rd display module	RS-232/422/485	USB 3.0	MiniPCIe	SIM	M.2	DC Input	Expansion
ARK-3530F-00A1	LGA1151 Socket Type	Up to 32GB	4	1	1	1	4	8	2	1	1	9-36V	2 x PCI

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

## Packing List

Part Number	Description
-	ARK-3530F Unit
-	User Manual (Simplified Chinese)
-	China RoHS

## Embedded OS

Part Number	Description
20706WX6HS0006	WIN10 IoT LTSB 64bit for Xeon and Core i7
20706WX6VS0012	WIN10 IoT LTSB 64bit for Core i3/i5 and Celeron

## ARK-3530 Default SKU Option Items

### Optional Item for Default SKU

Part Number	Description
96PSA-A150W19P4-1	AC-to-DC Adapter, DC19V 150W, 0 ~ 40 °C
96PSA-A220W24P4-1	AC to DC adapter, DC 24V 220W, -20 ~ 60 °C
1700028547-01	16bit DIO Cable
1700028548-01	COM5/6 Cable
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1702031801	Power cable 3-pin 183cm, UK type
1700000237	Power cable, 3-Pin 183cm, PSE type

### Optional MOS modules for iDoor Expansion

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 Com USB module, 2-Ch, PCIe 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	Dual Intel I210 GbE LAN iDoor, 2-Ch, PCIe I/F

\*Please noted ARK-3530F can support only 1 iDoor.

## ARK-3530F Optional HDD expansion Kit (Support up to 2 sets)

Part Number	Description
AMK-A0028E	1 x internal HDD Kit (Max Height 15mm)

### Optional Display Module

Part Number	Description
AMO-D001E	DVI-D module
AMO-D002E	DP module
AMO-D003E	HDMI module

### Optional Riser Expansion

Part Number	Description
AMO-R026	2 x PCIe x8

# ARK-3530L

## Intel®Xeon® E3 / Core™ i3/i5/i7 LGA1151 Modular Expansion Fanless Box PC

NEW



### Features

- Support Intel® Xeon® / 6th & 7th Gen. Core™ i3/i5/i7 processor
- Triple independent display: VGA + HDMI + Optional Display
- DDR4 SO-DIMM memory support up to 32 GB
- Option 9-36V power module compatible with all-in-one ordering
- Optional modular design for 2.5" hard drive bays: internal /removable (support up to 4 sets)
- Advantech iDoor module compatible
- Advantech EMIO miniPCIe module compatible with all-in-one ordering
- Advantech ARK Plus AMO-3xxx series module compatible



WISE-PaaS/DeviceOn SUSI API



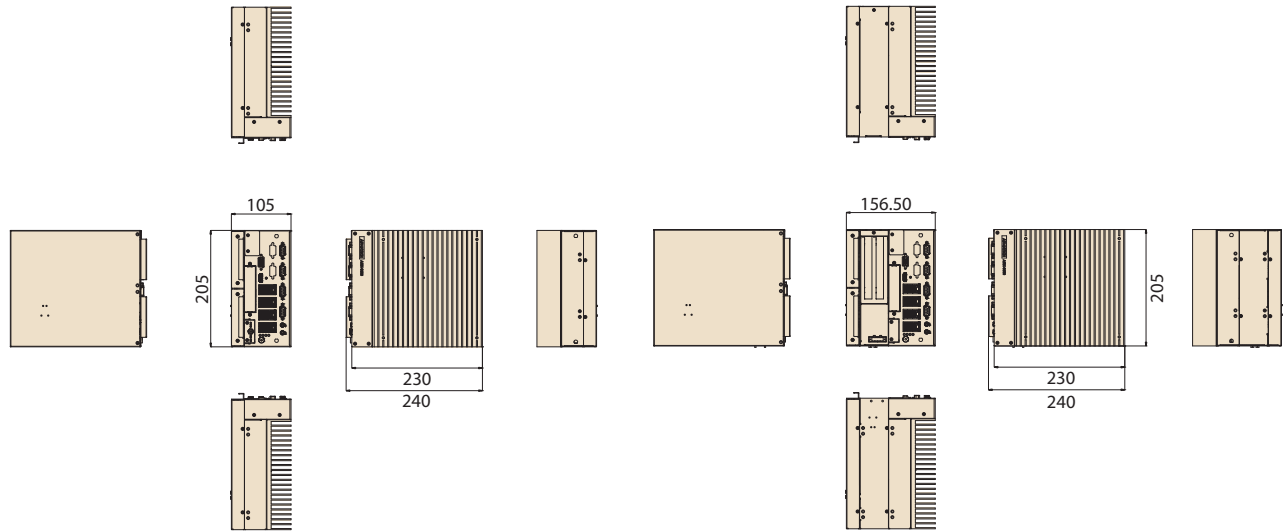
### Specifications

Processor System	CPU	E3-1235L V5	i7-7700/i7-6700	i5-7500	i3-7101E
	Frequency	2.0GHz	3.6GHz/3.4GHz	3.4GHz	3.9GHz
	L3 Cache	8MB	8MB	6MB	3MB
	TDP	25W	65W	65W	54W
	Chipset	C236			
	BIOS	AMI EFI 127Mbit			
Memory	Technology	DDR4 2133 MHz			
	Max. Capacity	32 GB			
	Socket	2 x 260-pin SO-DIMM			
Graphics	Chipset	Intel® HD 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	1920x1200@ 60Hz			
	HDMI	1 HDMI port, HDMI 2.0 for HD video playback, 3840x2160@30Hz			
	Optional 3rd Display module	DVI-D / DP / HDMI Display Port			
Ethernet	LAN1	10/100/1000 Mbps Intel I219-LM 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			
Others	Watch dog Timer	255-level timer interval, setup by software			
	TPM	TPM 2.0 (Optional by project support)			
I/O Interface	Serial Port	4 x RS-232/422/485 port with auto flow control; COM 1 support 5V/12V power supply (by jumper)			
	USB	8 x USB 3.0 ports			
	P/S2	1 Port support by cable and bracket (Optional)			
	Optional I/O	16bit DIQ or 2 x RS-232 ports			
Expansions	Mini PCIe	2 x Full-size Mini PCIe (2 x support mSATA, 1 x support SIM optional AMK-A0028E)			
	M.2	1 x E key for WiFi			
	i Door	1 set (Optional)			
	ARK Plus	AMO-3505E 2 slot Riser card for 2 x PCI, AMO-3506E 2 slot Riser card for 2 x PCIe8			
Storage	HDD	2 x 2.5" SATAIII HDD Bay with Max Height 15mm (Support Up to 4 x 2.5" SATAIII HDD Bay by Project)			
	mSATA	2 x mSATA socket (Share with Mini PCIe)			
Software Support	Microsoft Windows	Windows 10 (Windows 7 for 6th Gen CPU only)			
	Linux	By Project Support			
Power Requirements	Power Type	AT/ATX			
	Power Input Voltage	12V (9-36V as optional)			
	Power Adapter	AC to DC, 150W (Optional)			
Power Consumption (CPU/Memory Only)	Typical	25.68W			
	Max.	88.92W			
Mechanical	Construction	Aluminum housing			
	Mounting	Desk mounting			
	Dimensions (W x H x D)	105 x 205 x 230 mm (4.13" x 8.07" x 9.06")			
	Weight	5.1Kg			
Environment	Operating Temperature	25W/35W/65W(only 6th Gen) Processor with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow Under 73W processor with HDD: 0 ~ 40° 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, UL, CCC, BSMI			

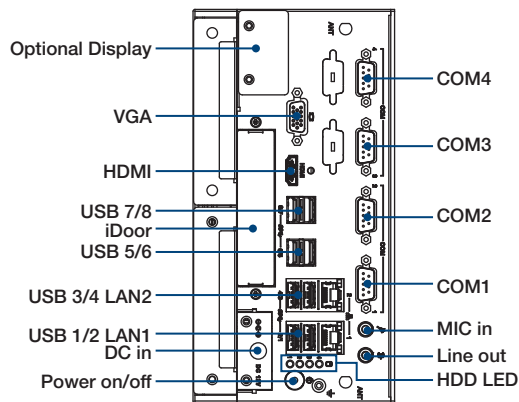


## Dimensions

Unit: mm



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



## Ordering Information

Part No.	CPU	DDR4	GbE	VGA	HDMI	Option 3rd display module	RS-232/422/485	USB 3.0	MiniPCIe	SIM	M.2	DC Input	Expansion
ARK-3530L-00A1	LGA1151 Socket Type	Up to 32GB	2	1	1	1	4	8	2	1	1	12V	Optional

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

## Packing List

Part Number	Description
-	ARK-3530L Unit
-	User Manual (Simplified Chinese)
-	China RoHS

## Embedded OS

Part Number	Description
20706WX6HS0006	WIN10 IoT LTSB 64bit for Xeon and Core i7
20706WX6VS0012	WIN10 IoT LTSB 64bit for Core i3/i5 and Celeron

## ARK-3530 Default SKU Option Items

### Optional Item for Default SKU

Part Number	Description
XARK-DPS-150AB-15	AC-to-DC Adapter, DC12V 150W
96PSA-A150W12W7	AC-to-DC Adapter, DC12V 150W
1700028547-01	16bit DIO Cable
1700028548-01	COM5/6 Cable
1702002600	Power cable 3-pin 183cm, USA type
1702002605	Power cable 3-pin 183cm, EU type
1702031801	Power cable 3-pin 183cm, UK type
1700000237	Power cable, 3-Pin 183cm, PSE type

### Optional MOS modules for iDoor Expansion

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 Com USB module, 2-Ch, PCIe 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	Dual Intel I210 GbE LAN iDoor, 2-Ch, PCIe I/F

\*Please noted ARK-3530L can support only 1 iDoor.

### Optional 9-36V DC Power Module

Part Number	Description
AMO-P010E	9-36V DC input power module for ARK-3530L
96PSA-A150W19P4-1	AC-to-DC Adapter, DC19V 150W, 0 ~ 40° C (for AMO-P010E)
96PSA-A220W24P4-1	AC to DC adapter, DC 24V 220W, -20 ~ 60° C (For AMO-P010E)
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-3530L Optional HDD expansion Kit (Support up to 2 sets)

Part Number	Description
AMK-A0028E	1 x internal HDD Kit (Max Height 15mm)

\* Choose either AMO-P010E or AMK-A0028E

### Optional Display Module

Part Number	Description
AMO-D001E	DVI-D module
AMO-D002E	DP module
AMO-D003E	HDMI module

## ARK Plus Extended Modules

### AMO-3505E

#### 2 Slots Riser Card Expansion Module: 2 x PCI

#### Specifications

General	
Add on card support	2 Slot for 2xPCI Max Card size: 110 mm(H) x 180 mm (L) Max Power consumption: 10W for each slot
HDD/SSD	NA
Mechanical	
System Dimension	155 x 205 x 230 mm

#### Ordering Information

P/N	Description
AMO-3505E	2 Slot Riser Card (2xPCI)

### AMO-3506E

#### 2 Slots Riser Card Expansion Module: 2 x PCIe8

#### Specifications

General	
Add on card support	2 Slot for 2 x PCIe8 Max Card size: 110 mm(H) x 180 mm (L) Max Power consumption: 10W for each slot
HDD/SSD	NA
Mechanical	
System Dimension	155 x 205 x 230 mm

#### Ordering Information

P/N	Description
AMO-3506E	2 Slot Riser Card (2 x PCIe8)

# 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

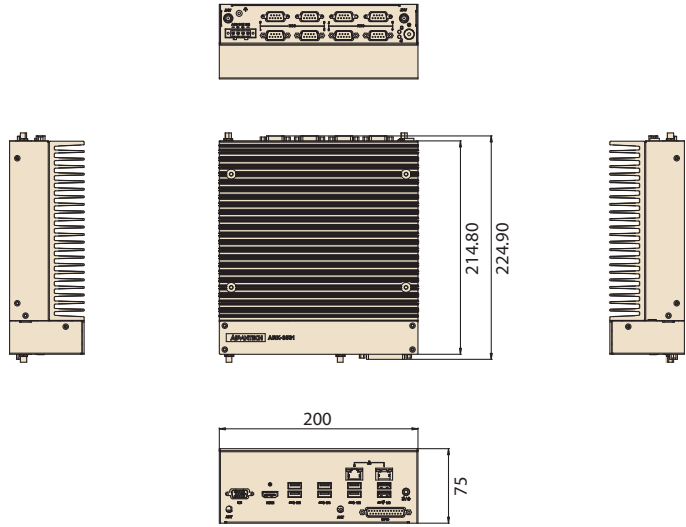


### Specifications

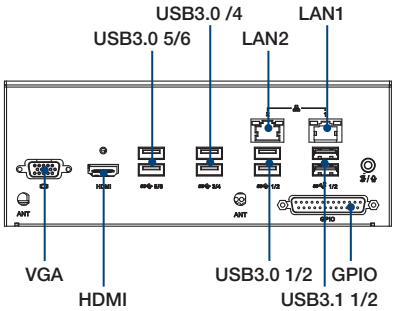
	CPU	i9-9900T	i7-9700TE	i5-9500TE	i3-9100TE	G4900T
Processor System	Frequency	2.1GHz-4.4GHz	1.8GHz-3.8GHz	2.2GHz-3.6GHz	2.2GHz-3.2GHz	2.9GHz
	L3 Cache	16MB	12MB	9MB	6MB	2MB
	Core	8	8	6	4	2
	TDP	35W				
	Chipset	H370 (Q370 support by TPN)				
	BIOS	AMI EFI 128Mbit				
Memory	Technology	DDR4 2666 MHz				
	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, 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				
	Safety	CE/FCC Class B, CCC, BSMI CB(62368), UL(62368), CCC, BSMI				

**Dimensions**

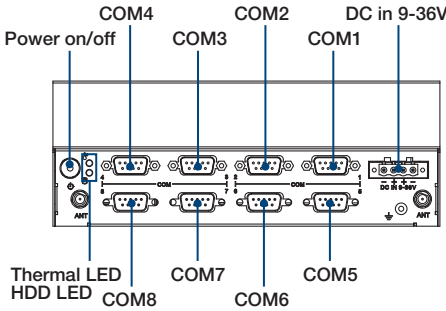
Unit: mm



**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

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
36WSWPD0BUND11	WISE-DeviceOn
36WSWPD0BD0211	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

# ARK-3534B

## Intel® 12th Gen Core™ i3/i5/i7/i9 LGA1700 Expansion Fanless Box PC

Preliminary



### Features

- Support Intel® 12th Gen. Core™ i3/i5/i7/i9 processor
- Triple independent display: HDMI + HDMI + Optional Display
- DDR5 SO-DIMM memory support up to 64 GB
- 9-36V<sub>DC</sub> wide range power input
- Up to 3sets 2.5" hard drive bays, support Intel® SW RAID
- Support up to 4GbE, 8USB, 8COM, 16bit DIO, 2CANBus, TPM2.0
- SUSI API, WISE-DeviceOn, McAfee and Acronis bundled



WISE-DeviceOn SUSI API



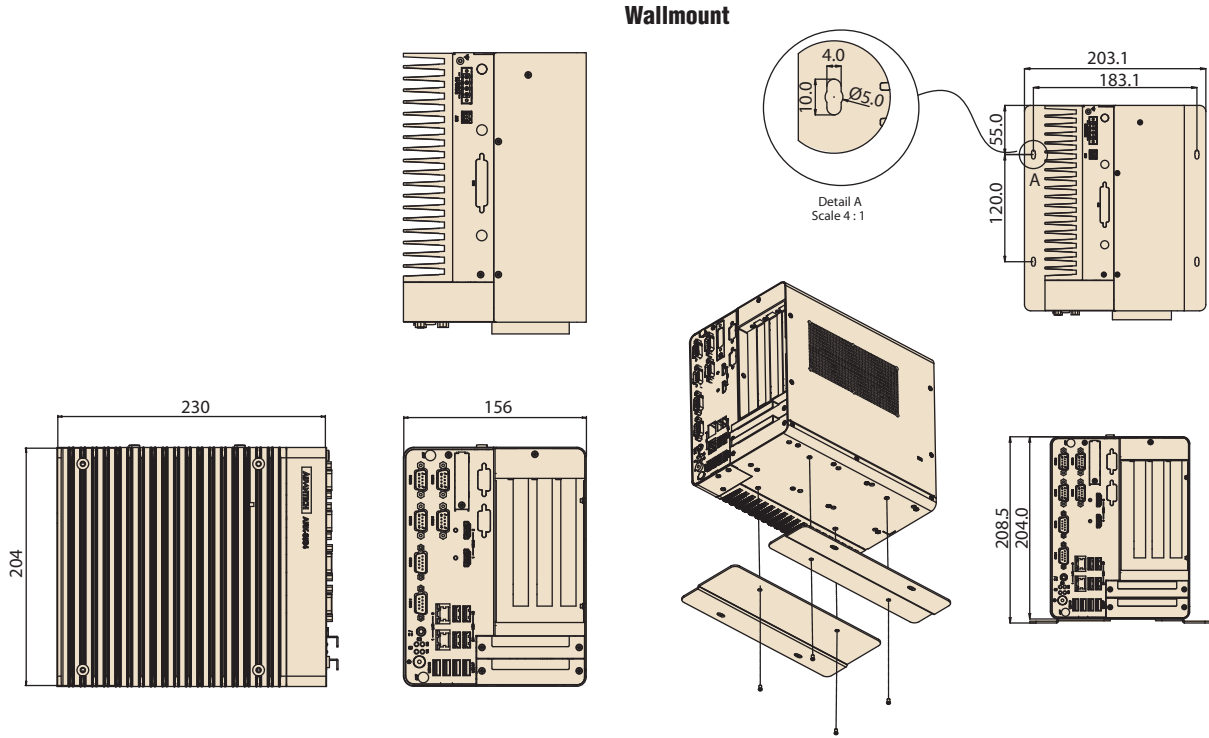
### Specifications

		i9-12900E	i7-12700E	i5-12500E	i3-12100E	G6900E
Processor System	CPU	i9-12900E	i7-12700E	i5-12500E	i3-12100E	G6900E
	Frequency	1.7-5.0GHz	1.6-4.8GHz	2.9-4.5GHz	3.2-4.2GHz	3.0GHz
	L3 Cache	30MB	25MB	18MB	12MB	4MB
	Cores	12	12	6	4	2
	TDP	65W	65W	65W	60W	46W
	Chipset	H610E (R680E support by project)				
Memory	BIOS	AMI EFI 256Mbit				
	Technology	DDR5 4800 MHz				
	Max. Capacity	64 GB				
	Socket	2 x 288-pin SO-DIMM				
Graphics	Chipset	Intel® UHD Graphics 770				
	Graphic Engine	DirectX 12, OpenGL 4.5 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				
	HDMI	2 HDMI port, HDMI 2.0 for HD video playback, 4096x2160@30Hz				
	Optional 3rd Display module	DVI-D / DP / HDMI Display Port				
	Triple Display	HDMI+HDMI + 3rd display module				
Ethernet	LAN1	10/100/1000 Mbps Intel i219-LM GbE, support Wake On Lan				
	LAN2	10/100/1000/2500 Mbps Intel i225-V GbE, 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	TPM 2.0 (by optional AMO-I029)				
I/O Interface	Serial Port	4 x RS-232/422/485 port with auto flow control, 2 x RS-232 (additional COM7/8 2 x RS-232 by optional cable)				
	USB	4 x USB 3.2 (2 x Gen2, 2 x Gen1), 4 x USB 2.0				
	GPIO	16bit GPIO (by optional cable)				
Expansions	CANBus	2 ports by optional cable				
	M.2	1 x M.2. 2230 E key and 1 x M.2 2280 B key with SIM holder #1				
	Add-on Card Slot	1 Slot PCIe4 + 1 Slot PCIe16 (If card power power consumption over 30W for add-on cards, please bundled with AMO-3508 kit for power and thermal solutions)				
	Maximum card size	110mm (H) x 180mm (L)				
Storage	HDD	2 x 2.5" SATAIII 15mm height HDD bay support Intel SW RAID (Up to 3 x 2.5" SATAIII HDD bays)				
	NVME	1 x PCIe2 (Share with M.2 2280 B key)				
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, 230W (Optional)				
Power Consumption (CPU/Memory Only)	Typical	TBD				
	Max.	TBD				
Mechanical	Construction	Aluminum housing				
	Mounting	Desk mounting				
	Dimensions (W x H x D)	156 x 204 x 230 mm				
	Weight	5.705Kg				
Environment	Operating Temperature	Up to 65W processor with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° 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, UL, CCC, BSMI				

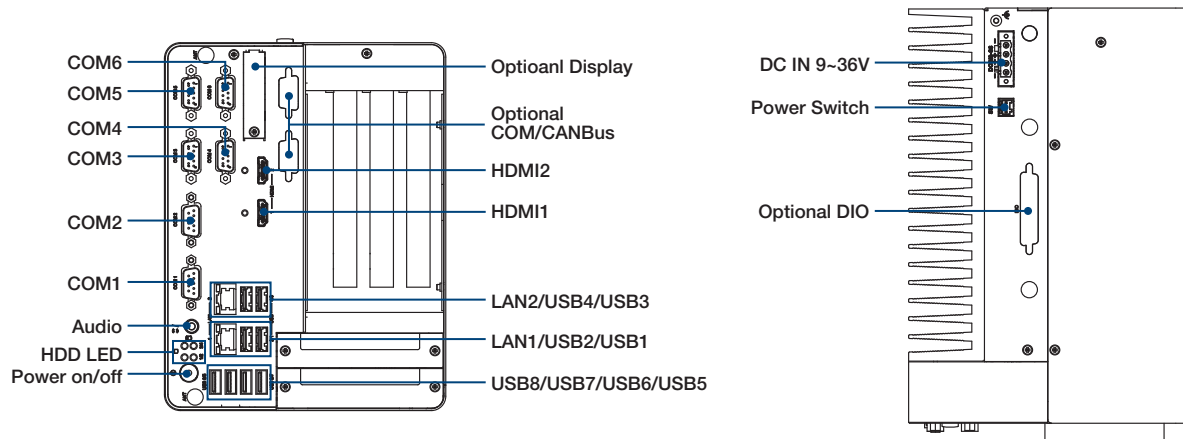
#1 SIM holder and M.2 slot are hardware interfaces for wireless communication integration only. System level RF certification is not available.

**Dimensions**

Unit: mm



**External I/O Mechanical Layout/Drawing**



## Ordering Information

Part No.	CPU	DDR5	Gbe	HDMI	Option 3rd display module	RS-232	RS-232/422/485	USB	M.2 B key	SIM	M.2 E Key	DC Input	Expansion
ARK-3534B-00A1	LGA1700 Socket Type	Up to 64GB	2	2	1	Up to 4	4	8	1	1	1	9-36V	PCIex4 + PCIex16

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

## Packing List

Part Number	Description
-	ARK-3534B Unit
-	User Manual (Simplified Chinese)
-	China RoHS
-	Desk mounting kit
36WSWPD0BUND11	WISE-DeviceOn
36WSWPD0BD0211	McAfee Application Control Lite/Acronis Backup 11.7 for Windows PC

## Embedded OS

Part Number	Description
TBD	

## ARK-3534B Optional Expansion Kit for add-on Cards

Part Number	Description
AMO-3508	ARK-3534B/C fan kit

\*Please add this kit once the add-on card power consumption over than 30Watts

## ARK-3534B Default SKU Option Items

### Optional Item for Default SKU

Part Number	Description
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
1700000237	Power cable, 3-Pin 183cm, PSE type

## ARK-3534B Optional HDD expansion Kit

Part Number	Description
TBD	

### Optional Display Module

Part Number	Description
AMO-D001E	DVI-D module
AMO-D002E	DP module
AMO-D003E	HDMI module

### Optional TPM Module

Part Number	Description
AMO-I029	TPM 2.0 Infineon SLB9670V2.0

# ARK-3534C

## Intel® 12th Gen Core™ i3/i5/i7/i9 LGA1700 Expansion Fanless Box PC

Preliminary



### Features

- Support Intel® 12th Gen. Core™ i3/i5/i7/i9 processor
- Triple independent display: HDMI + HDMI + Optional Display
- DDR5 SO-DIMM memory support up to 64 GB
- 9-36V<sub>DC</sub> wide range power input
- Up to 3sets 2.5" hard drive bays, support Intel® SW RAID
- Support up to 4GbE, 8USB, 8COM, 16bit DIO, 2CANBus, TPM2.0
- SUSI API, WISE-DeviceOn, McAfee and Acronis bundled



WISE-DeviceOn SUSI API



### Specifications

		i9-12900E	i7-12700E	i5-12500E	i3-12100E	G6900E
Processor System	CPU	i9-12900E	i7-12700E	i5-12500E	i3-12100E	G6900E
	Frequency	1.7-5.0GHz	1.6-4.8GHz	2.9-4.5GHz	3.2-4.2GHz	3.0GHz
	L3 Cache	30MB	25MB	18MB	12MB	4MB
	Cores	12	12	6	4	2
	TDP	65W	65W	65W	60W	46W
	Chipset	H610E (R680E support by project)				
Memory	BIOS	AMI EFI 256Mbit				
	Technology	DDR5 4800 MHz				
	Max. Capacity	64 GB				
	Socket	2 x 288-pin SO-DIMM				
Graphics	Chipset	Intel® UHD Graphics 770				
	Graphic Engine	DirectX 12, OpenGL 4.5 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				
	HDMI	2 HDMI port, HDMI 2.0 for HD video playback, 4096x2160@30Hz				
	Optional 3rd Display module	DVI-D / DP / HDMI Display Port				
	Triple Display	HDMI+HDMI + 3rd display module				
Ethernet	LAN1	10/100/1000 Mbps Intel i219-LM GbE, support Wake On Lan				
	LAN2	10/100/1000/2500 Mbps Intel i225-V GbE, 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	TPM 2.0 (by optional AMO-I029)				
I/O Interface	Serial Port	4 x RS-232/422/485 port with auto flow control, 2 x RS-232 (additional COM7/8 2 x RS-232 by optional cable)				
	USB	4 x USB 3.2 (2 x Gen2, 2 x Gen1), 4 x USB 2.0				
	GPIO	16bit GPIO (by optional cable)				
Expansions	CANBus	2 ports by optional cable				
	M.2	1 x M.2. 2230 E key and 1 x M.2 2280 B key with SIM holder #1				
	Add-on Card Slot	2 Slot PCI + 1 Slot PCIe16 (If card power consumption over 30W for add-on cards, please bundled with AMO-3508 kit for power and thermal solutions)				
	Maximum card size	110mm (H) x 180mm (L)				
Storage	HDD	2 x 2.5" SATAIII 15mm height HDD bay support Intel SW RAID (Up to 3 x 2.5" SATAIII HDD bays)				
	NVME	1 x PCIe2 (Share with M.2 2280 B key)				
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, 230W (Optional)				
Power Consumption (CPU/Memory Only)	Typical	TBD				
	Max.	TBD				
Mechanical	Construction	Aluminum housing				
	Mounting	Desk mounting				
	Dimensions (W x H x D)	156 x 204 x 230 mm				
	Weight	5.705Kg				
Environment	Operating Temperature	Up to 65W processor with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° 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, UL, CCC, BSMI				

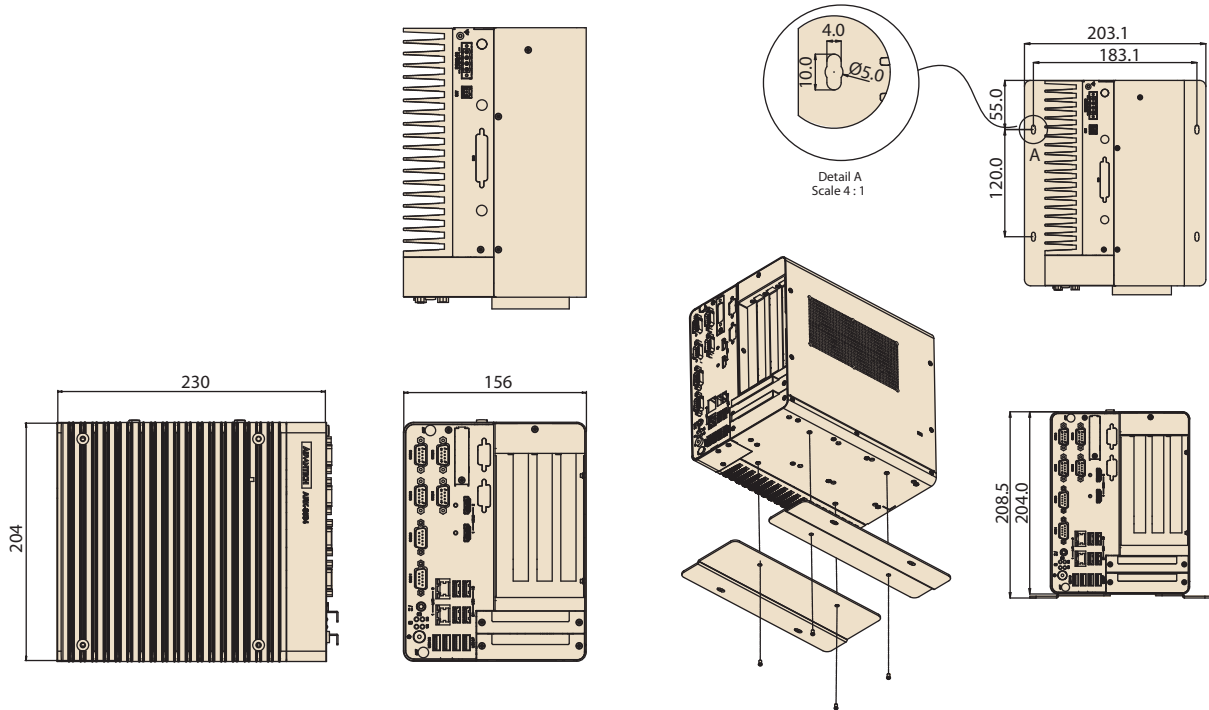
#1 SIM holder and M.2 slot are hardware interfaces for wireless communication integration only. System level RF certification is not available.



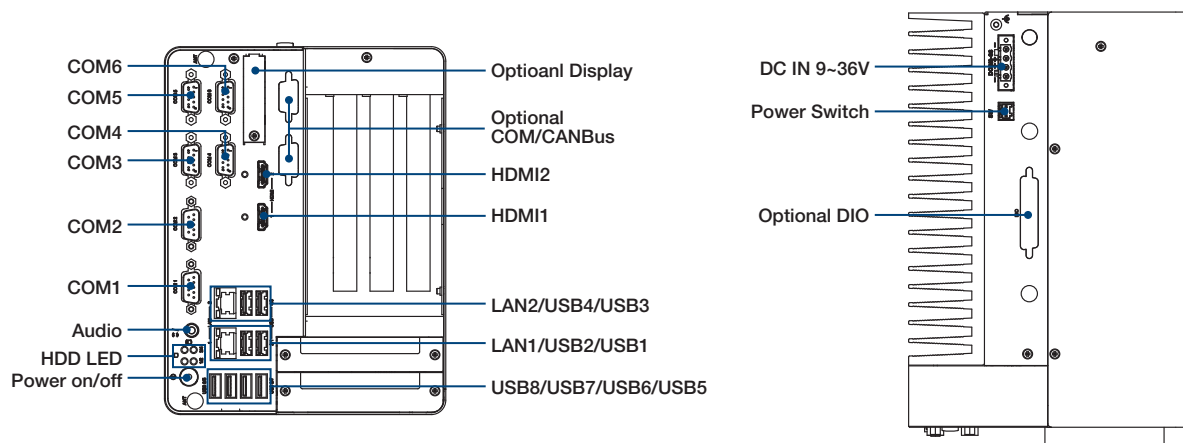
Dimensions

Unit: mm

Wallmount



External I/O Mechanical Layout/Drawing



## Ordering Information

Part No.	CPU	DDR5	Gbe	HDMI	Option 3rd display module	RS-232	RS-232/422/485	USB	M.2 B key	SIM	M.2 E Key	DC Input	Expansion
ARK-3534C-00A1	LGA1700 Socket Type	Up to 64GB	2	2	1	Up to 4	4	8	1	1	1	9-36V	2*PCI + PCIe16

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

## Packing List

Part Number	Description
-	ARK-3534C Unit
-	User Manual (Simplified Chinese)
-	China RoHS
-	Desk mounting kit
36WSWPD0BUND11	WISE-DeviceOn
36WSWPD0BD0211	McAfee Application Control Lite/Acronis Backup 11.7 for Windows PC

## Embedded OS

Part Number	Description
TBD	

## ARK-3534C Optional Expansion Kit for add-on Cards

Part Number	Description
AMO-3508	ARK-3534B/C fan kit

\*Please add this kit once the add-on card power consumption over than 30Watts

## ARK-3534C Default SKU Option Items

### Optional Item for Default SKU

Part Number	Description
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
1700000237	Power cable, 3-Pin 183cm, PSE type

## ARK-3534C Optional HDD expansion Kit

Part Number	Description
TBD	

### Optional Display Module

Part Number	Description
AMO-D001E	DVI-D module
AMO-D002E	DP module
AMO-D003E	HDMI module

### Optional TPM Module

Part Number	Description
AMO-I029	TPM 2.0 Infineon SLB9670V2.0

# ARK-3534D

## Intel® 12th Gen Xeon® W Core™ i3/i5/i7/i9 LGA1700 Expansion Fanless Box PC

Preliminary



### Features

- Support Intel® 12th Gen. Xeon® W and Core™ i3/i5/i7/i9 processor
- Triple independent display: HDMI + HDMI + Optional Display
- DDR5 SO-DIMM ECC/non-ECC memory support up to 64 GB
- 9-36V<sub>DC</sub> wide range power input
- Up to 3sets 2.5" hard drive bays, support Intel® SW RAID
- Support up to 4GbE, 8USB, 8COM, 16bit DIO, 2CANBus, TPM2.0
- SUSI API, WISE-DeviceOn, McAfee and Acronis bundled



WISE-DeviceOn SUSI API



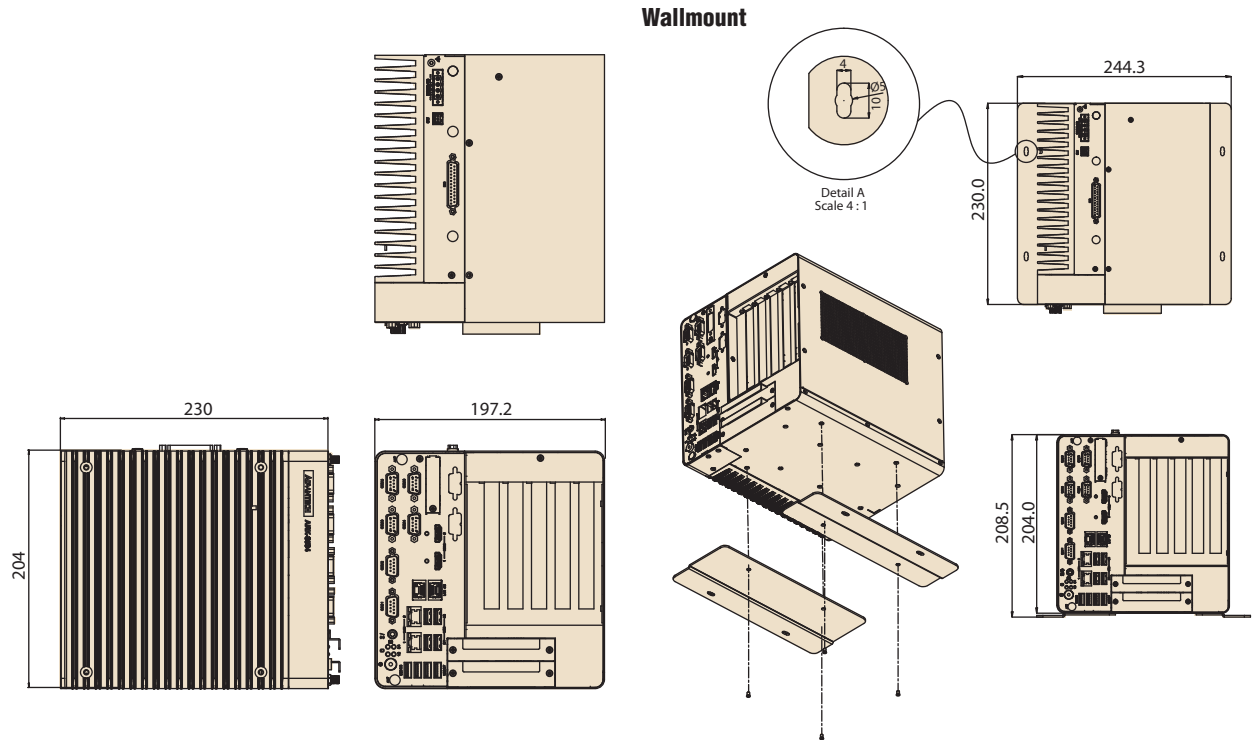
### Specifications

		i9-12900E	i7-12700E	i5-12500E	i3-12100E	G6900E
Processor System	CPU	i9-12900E	i7-12700E	i5-12500E	i3-12100E	G6900E
	Frequency	1.7-5.0GHz	1.6-4.8GHz	2.9-4.5GHz	3.2-4.2GHz	3.0GHz
	L3 Cache	30MB	25MB	18MB	12MB	4MB
	Cores	12	12	6	4	2
	TDP	65W	65W	65W	60W	46W
	Chipset	R680E				
Memory	BIOS	AMI EFI 256Mbit				
	Technology	DDR5 4800 MHz				
	Max. Capacity	64 GB				
Graphics	Socket	2 x 288-pin ECC/nonECC SO-DIMM				
	Chipset	Intel® UHD Graphics 770				
	Graphic Engine	DirectX 12, OpenGL 4.5 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				
	HDMI	2 HDMI port, HDMI 2.0 for HD video playback, 4096x2160@30Hz				
Ethernet	Optional 3rd Display module	DVI-D / DP / HDMI Display Port				
	Triple Display	HDMI+HDMI + 3rd display module				
Audio	LAN1	10/100/1000 Mbps Intel i219-LM GbE, support Wake On Lan				
	LAN2/3/4	10/100/1000/2500 Mbps Intel i225-LM GbE, support Wake On Lan				
Others	Interface	Realtek ALC888S, High Definition Audio, Line-out/Mic-in (switch)				
	Watch dog Timer	255-level timer interval, setup by software				
I/O Interface	TPM	TPM 2.0 (by optional AMO-I029)				
	Serial Port	4 x RS-232/422/485 port with auto flow control, 2 x RS-232 (additional COM7/8 2 x RS-232 by optional cable)				
	USB	8 x USB 3.2 (4 x Gen2, 4 x Gen1)				
Expansions	GPIO	16bit GPIO (by optional cable)				
	CANBus	2 ports by optional cable				
	M.2	1 x M.2. 2230 E key and 1 x M.2 2280 B key with SIM holder #1				
Storage	Add-on Card Slot	2 Slot PCI + 1 Slot PCIe4 + 1 Slot PCIe16 (If card power consumption over 30W for add-on cards, please bundled with AMO-3508 kit for power and thermal solutions)				
	Maximum card size	110mm (H) x 180mm (L)				
	HDD	2 x 2.5" SATAIII 15mm height HDD bay support Intel SW RAID (Up to 3 x 2.5" SATAIII HDD bays)				
Software Support	NVME	1 x PCIe2 (Share with M.2 2280 B key)				
	Microsoft Windows	Windows 10				
Power Requirements	Linux	By Project Support				
	Power Type	AT/ATX				
	Power Input Voltage	9-36V				
Power Consumption (CPU/Memory Only)	Power Adapter	AC to DC, 230W (Optional)				
	Typical	TBD				
Mechanical	Max.	TBD				
	Construction	Aluminum housing				
	Mounting	Desk mounting				
	Dimensions (W x H x D)	197.2 x 204 x 230 mm				
Environment	Weight	6.41 Kg				
	Operating Temperature	Up to 65W processor with extended temp peripherals: -20 ~ 60° C with 0.7m/s air flow with HDD: 0 ~ 40° 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				
Safety	EMC	CE/FCC Class B, CCC, BSMI				
	Safety	CB, UL, CCC, BSMI				

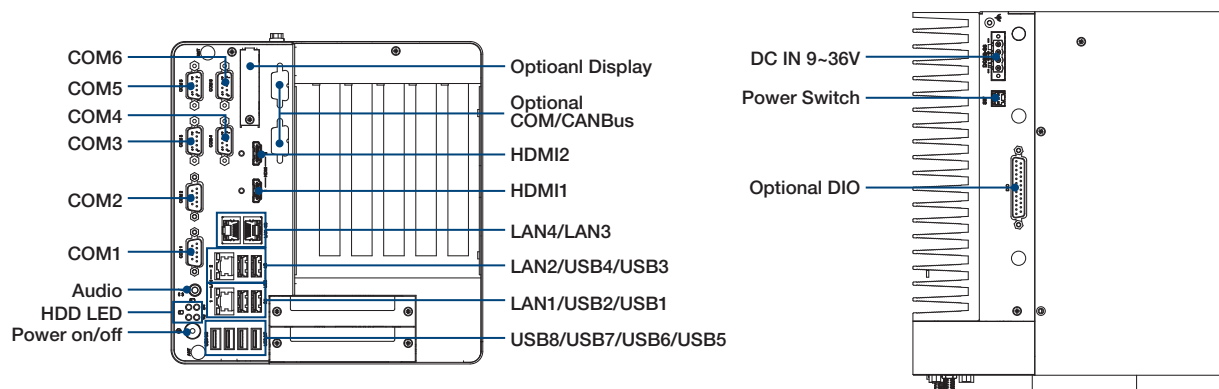
#1 SIM holder and M.2 slot are hardware interfaces for wireless communication integration only. System level RF certification is not available.

## Dimensions

Unit: mm



## External I/O Mechanical Layout/Drawing



## Ordering Information

Part No.	CPU	DDR5	Gbe	HDMI	Option 3rd display module	RS-232	RS-232/422/485	USB	M.2 B key	SIM	M.2 E Key	DC Input	Expansion
ARK-3534D-00A1	LGA1700 Socket Type	Up to 64GB	4	2	1	Up to 4	4	8	1	1	1	9-36V	PCIex4 + 2PCI + PCIex16

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

## Packing List

Part Number	Description
-	ARK-3534D Unit
-	User Manual (Simplified Chinese)
-	China RoHS
-	Desk mounting kit
36WSWPD0BUND11	WISE-DeviceOn
36WSWPD0BD0211	McAfee Application Control Lite/Acronis Backup 11.7 for Windows PC

## Embedded OS

Part Number	Description
TBD	

## ARK-3534D Optional Expansion Kit for add-on Cards

Part Number	Description
AMO-3509	ARK-3534D fan kit

\*Please add this kit once the add-on card power consumption over than 30Watts

## ARK-3534D Default SKU Option Items

### Optional Item for Default SKU

Part Number	Description
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
1700000237	Power cable, 3-Pin 183cm, PSE type

## ARK-3534D Optional HDD expansion Kit

Part Number	Description
TBD	

### Optional Display Module

Part Number	Description
AMO-D001E	DVI-D module
AMO-D002E	DP module
AMO-D003E	HDMI module

### Optional TPM Module

Part Number	Description
AMO-I029	TPM 2.0 Infineon SLB9670V2.0