

ARK-1551

Intel® 8th Generation Core™ i5/Celeron Slim and Ruggedized Fanless Computer

Preliminary



Features

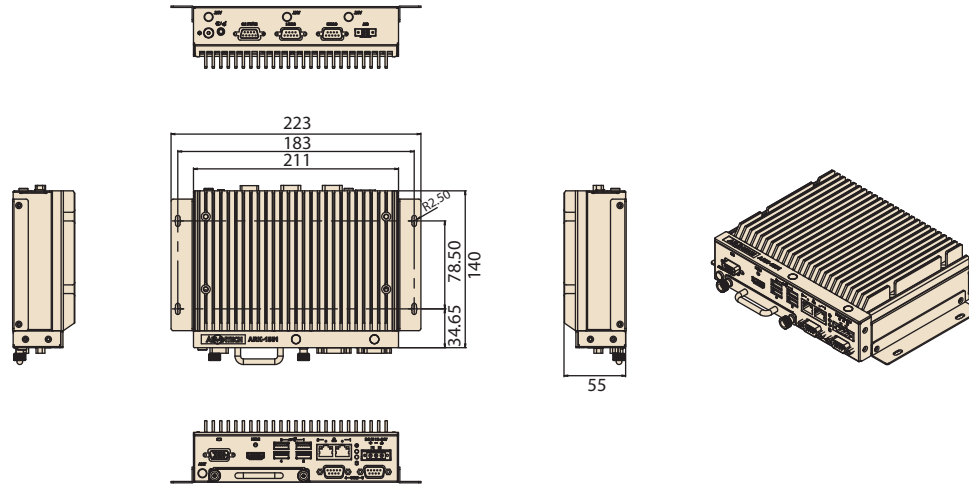
- Intel 8th Gen Intel® Core™ U-series (Celeron/i5) with dual DDR4 SO-DIMM up to 32G
- 1 x swappable 2.5" SATA HDD drive bay and 1 x mSATA slot, supports Intel software RAID 0/1
- 4 x USB 3.1 Gen 2 (Type A), 2 x Intel GbE LAN, 4 x RS-232/422/485 and 8 bit programmable DIO
- Dual independent displays with 4K2K HDMI and VGA
- 1 x full-size mPCIe with micro SIM holder and 1 x M.2 2230 E Key
- Support dual Advantech SQF PCIe2 NVMe storage (1 x M.2 2230 E Key + 1 x mPCIe)
- 12V - 24V @ -10%/+20% wide range power input
- 20 ~ 55 °C extended operating temperature
- Advantech DeviceOn built-in for easy manageability

Specifications

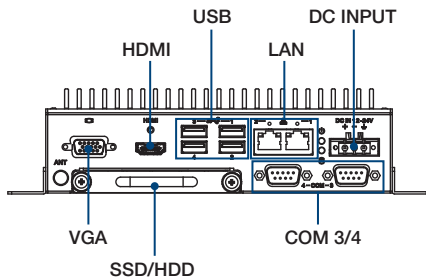
Model Name		ARK-1551-S6A1	ARK-1551-U0A1
Processor System	CPU	Intel® Core i5-8365UE	Celeron 4305UE
	Frequency	1.6 GHz, turbo burst up to 4.1 GHz	2.0 GHz
	Core Number	4	2
	L3 Cache	6MB	2MB
	BIOS	AMI UEFI 256Mbit	
Memory	Technology	DDR4 2400MHz	
	Max capacity	32GB	
	Socket	2 x 260-pin SO-DIMM, each memory slot support memory size up to 16GB	
Graphics	Chipset	Intel UHD Graphics 620 (CPU integrated)	Intel HD Graphics 610 (CPU integrated)
	Graphic Engine	Gen9 Low Power; 24 (UHD 620)/12 (UHD 610) Execution Units Media Codec Supported: H.264, MPEG2, MVC, VC-1, WMV9, H.265 / HEVC, VP8, VP9, JPEG / MJPEG 3D HW Acceleration: OpenGL 4.5, DirectX* 11.3/12, OpenCL* 2.1	
	Display Interface	HDMI: 1 x HDMI 1.4b, 4096 x 2160@30Hz VGA: 1 x VGA, 1920 x 1200@ 60Hz DP*: 1 x DP 1.2, 4096 x 2304 @ 60Hz (*co-lay with VGA, by project support with MOQ = 30)	
	Dual Display	HDMI + VGA (Default) ; HDMI + DP (By project support, MOQ 30)	
Ethernet	LAN1	10/100/1000 Mbps Intel i210GbE, support Wake On LAN	
	LAN2	10/100/1000 Mbps Intel i219GbE, support Wake On LAN	
Audio	Interface	Realtek ALC892, High Definition Audio, Mic-in or Line-out	
I/O Interface	Serial Ports	4 x RS-232/422/485 support from 50 bps to 921.6 kbps, with auto flow control. COM3 with 5V/12V power supply	
	USB Ports	4 x USB 3.1 Gen2, Type A connector, backward compatible with USB 3.0/2.0	
	GPIO	8-bit programmable DIO	
Expansion	Mini PCIe	1 x full-size mPCIe with SIM holder (PCIe x2, USB 2.0x1, UIM, SATA x1)	
	M.2	1 x M.2 2230 E key for WiFi module (PCIe x2, USB 2.0x1)	
Storage	SSD/HDD	1 x Swappable 2.5" SATAIII drive bay (compatible with 7mm height) 1 x internal SATA connector support 2nd HDD/SSD by project with MOQ 30	
	mSATA	1 x full-size mSATA (share with mPCIe slot)	
	PCIe	2 x PCIe2 NVMe (1 share with mPCIe slot / 1 share M.2 2230 E Key slot)	
Other	WatchDog Timer	255 levels timer interval, setup by software	
	TPM	SLB9665XQ2.0 (Support by project)	
	Case Open Connector	1 x bottom case open detection switch + 2 x reserved GPIO pin	
Software Support	Microsoft Windows	Windows 10 Enterprise	
	Linux	Support by project	
Power Requirement	Power Type	ATX/AT	
	Power Input Voltage	12 ~ 24 V _{DC} @ -10%/+20%	
	Power Adaptor	AC to DC, 90W (Optional)	
Power Consumption	Typical	TBC	
	Max.	TBC	
Mechanical	Construction	Aluminum housing	
	Mounting	Wall Mounting (Default); VESA & DIN-Rail Mounting (Optional)	
	Dimensions (W x H x D)	183 x 55 x 133 mm (7.20" x 2.16" x 5.23")	
	Weight	TBC	
Environment	Operating Temperature	With extended temp. peripherals: -20 ~ 55 °C (-4 ~ 131 °F) with 0.7 m/s air flow With 2.5 inch hard disk: 0 ~ 40 °C (32 ~ 104 °F) with 0.7 m/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, IEC60068-2-64, random, 5~500 Hz, 1hr/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	UL, CB, CCC and BSMI	

Dimensions

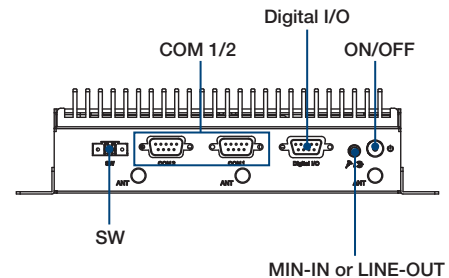
Unit: mm



Front Panel External I/O View



Rear Panel External I/O View



Ordering Information

Part No.	CPU	RAM	Display	GbE	USB 3.1 Gen 2	RS-232/422/485	Audio	Full-size MiniPCIe	SIM	M.2	2.5" SATA III HDD Bay	mSATA	Power Input	Operating Temp.
ARK-1551-S6A1	Intel® Core i5-8365UE Q/C SoC	Up to 32GB**	HDMI x 1 VGA x 1	2	4	4	Mic-in or Line-out	1	1	1	1 x swappable HDD Bay**	1 (shared w/ mPCIe)**	12-24 V _{DC}	-20 ~ 55 °C*
ARK-1551-U0A1	Celeron 4305UE D/C SoC	Up to 32GB**	HDMI x 1 VGA x 1	2	4	4	Min-in or Line-out	1	1	1	1 x swappable HDD Bay**	1 (shared w/ mPCIe)**	12-24 V _{DC}	-20 ~ 55 °C*

*CPU condition: Turbo boost off with 0.7 air flow

** Memory, storage and operating system bundled by request.

Packing List

Part Number	Description
-	1 x ARK-1551 unit
-	1 x user manual (Simplified Chinese)
-	Wrench for top cover
1652004519	1 x 3-pin terminal block
-	1 x wall mount kit

Embedded OS

Part Number	Description
TBC	Win10 IoT Ent 2019 LTSC 64bit, English

Optional Items

Part Number	Description
TBC	AC to DC adaptor, 19V/90W
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
1700023855-01	1M lockable HDMI cable
1700023856-01	3M lockable HDMI cable
AMK-V004E	VESA mounting kit
AMK-R004E	DIN-rail mounting kit