

# ARK-1220L A2

## Intel® Atom™ E3940 QC SoC with 4K Dual HDMI/Dual LAN/M.2 DIN-Rail Fanless Box PC



### Features

- Intel® Atom™ E3940 Quad Core SoC turbo burst up to 1.8 GHz
- DIN-Rail system with essential I/O ports on front-side bezel
- 2 x Intel GbE and 4 x USB 3.0
- Dual HDMI display up to 4K resolution
- 1 x full-size mPCIe with SIM holder and 1 x M.2 2230 for WIFI #1
- 1 x 2.5" SATA III SSD and 1 x full-size mSATA
- 12V ~ 28V wide range power input
- -30 ~ 70 °C extended operating temperature
- Advantech WISE-DeviceOn support

ubuntu® Windows Embedded **WISE-DeviceOn** SUSI API      

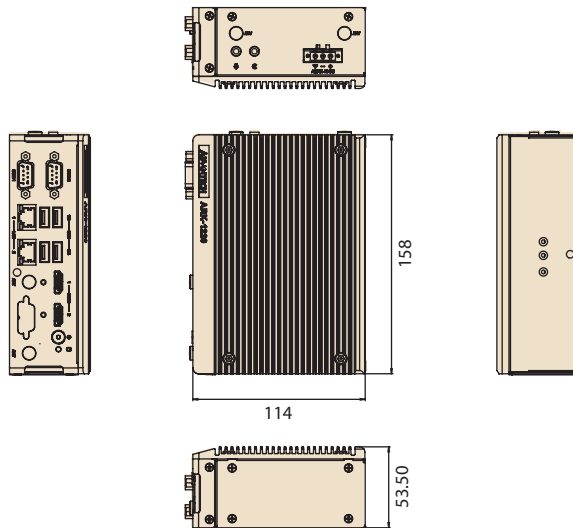
### Specifications

Model Name	ARK-1220L-S6A2	
Processor System	CPU	Intel® Atom™ E3940 Quad Core SoC
	Frequency	1.6 GHz, turbo burst up to 1.8 GHz
	Core Number	4
	BIOS	AMI EFI 64 Mbit
Memory	Technology	DDR3L 1866 Mhz
	Max capacity	8GB
	Socket	2 x 204-pin SO-DIMM, 2 x 4GB or 1 x 8GB memory
Graphics	Chipset	Intel HD Graphics 500, CPU integrated
	Graphic Engine	Gen9 Low Power; 18 Execution Units Media Codec Supported: H.264, MPEG2, MVC, VC-1, WMV9, H.265 / HEVC, VP8, JPEG / MJPEG 3D HW Acceleration: OpenGL 4.4, DirectX* 12, OpenCL* 2.0
	HDMI	HDMI1 : 3840 x 2160 @ 30Hz HDMI2 : 3840 x 2160 @ 30Hz
	Dual Display	HDMI1 + HDMI2
Ethernet	LAN1	10/100/1000 Mbps Intel i210GbE, support Wake On LAN
	LAN2	10/100/1000 Mbps Intel i210GbE, support Wake On LAN
Audio	Interface Realtek ALC888S, High Definition Audio, Mic-in, Line-out (ARK-1220L-S6A3 without Audio)	
I/O Interface	Serial Ports	2 x RS-232/422/485 with auto flow control, COM2 with 5V/12V power supply
	USB Ports	4 x USB 3.0
	GPIO	8-bit Programmable DIO (Optional)
Expansion	Mini PCIe	1 x Full-size mPCIe with SIM holder #1
	M.2	1 x M.2 2230 E key for WIFI module #1
Storage	SSD/HDD	1 x 2.5" SATAIII Drive bay (compatible with 9.5mm height)
	mSATA	1 x Full-size mSATA (*share with mPCIe slot)
Other	WatchDog Timer	255 levels timer interval, setup by software
	TPM	SLB9665XQ2.0 FW5.62 (Support by project)
Software Support	Microsoft Windows	Windows 10 Enterprise
	Linux	Ubuntu Desktop 20.04 LTS 64bit
Power Requirement	Power Type	ATX/AT
	Power Input Voltage	12 ~ 28 V <sub>DC</sub>
	Power Adaptor	AC to DC, 60W (Optional)
Power Consumption	Typical	7.6W
	Max.	19W
Mechanical	Construction	Aluminum housing
	Mounting	DIN-rail/Wall Mount
	Dimensions (W x H x D)	53.5 x 158 x 114 mm (2.11" x 6.22" x 4.49")
	Weight	0.9kg (1.98lb)
Environment	Operating Temperature	With extended temp. peripherals: -30 ~ 70 °C (-22 ~ 158 °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

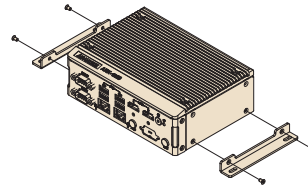
#1 SIM holder and M.2 slot are hardware interfaces for wireless communication integration only. System level RF certification is not available.

## Dimensions

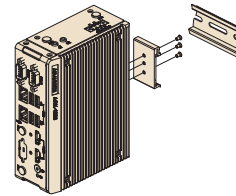
Unit: mm



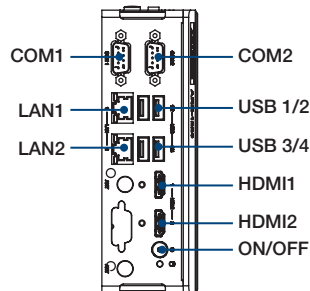
### Wall Mount



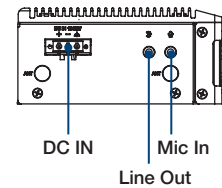
### DIN Rail



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



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



## Ordering Information

Part No.	CPU	RAM	HDMI	GbE	USB 3.0	RS-232/422/485	Audio	Full-size MiniPCIe	SIM	M.2	2.5" SATA III HDD Bay	mSATA	Power Input	Operating Temp.
ARK-1220L-S6A2	Intel Atom E3940 1.6 GHz SoC	Up to 8GB	2	2	4	2	Mic-in, Line-out	1	1	1	1	1 (shared w/ mPCIe)	12-28 V <sub>DC</sub>	-30 ~ 70 °C
ARK-1220L-S6A3	Intel Atom E3940 1.6 GHz SoC	Up to 8GB	2	2	4	2	N/A	1	1	1	1	1 (shared w/ mPCIe)	12-28 V <sub>DC</sub>	-30 ~ 70 °C

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

## Packing List

Part Number	Description
-	1 x ARK-1220L Unit
-	1 x User Manual (Simplified Chinese)
-	Wrench for top cover
1960015198T011	1x DIN-rail bracket
1652004519	1x 3-pin terminal block

## Optional Items

Part Number	Description
96PSA-A60W24T2-3	AC to DC Adaptor, 24V/2.5A 60W
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
1700019967	GPIO cable, F Cable 2*5P-2.0/D-SUB 9P(F) 15CM
AMK-W003	ARK-1220L wall mount kit

## Embedded OS

Part Number	Description
20706WX9ES0108	Win10 IoT Ent 2019 LTSC 64bit, English (14.7GB)
20706U20DS0029	Ubuntu Desktop 20.04 LTS 64bit Image with license for ARK-1220L. (7.5GB) (accompany BIOS 1420054957)