ARK-1221L

Intel Atom x6413E QC SoC with HDMI and DP/Dual LAN/Dual COM DIN-Rail Fanless Box PC

Features

- Intel Atom x6413E Quad Core SoC turbo burst up to 3.00 GHz
- DIN-Rail system with essential I/O ports on front-side bezel
- 2 x Intel GbE and 2 x RS-232/422/485
- Dual independent displays with one 4K HDMI and one 4K DP
- 1 x M.2 2280 B key with nano SIM holder and 1 x M.2 2230 E key
- 2 x USB 3.2 and 2 x USB 2.0
- 1 x full-size mPCIe
- mSATA and 1 x 2.5" SATA storage device
- 12V ~ 28V wide range power input
- -40 ~ 60 °C extended operating temperature
- Advantech DeviceOn support

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

Specifications

Model Name		ARK-1221L-S5A1
Processor System	CPU	Intel Atom x6413E Quad Core SoC
	Frequency	1.50 GHz, turbo burst up to 3.00 GHz
	Core Number	4
	BIOS	AMI EFI 256 Mbit
Memory	Technology	DDR4 3200 Mhz
	Max capacity	32 GB
	Socket	2 x 260-pin SO-DIMM, 2 x 16 GB or 1 x 32 GB memory
Graphics	Chipset	Intel® UHD Graphics for 10th Gen Intel® Processors
	HDMI	Up to 4096 x 2160 @ 24 Hz
	DP	Up to 4096 x 2160 @ 60 Hz
	Dual Display	HDMI + DP
Ethernet	LAN1	10/100/1000 Mbps Intel i225 GbE, support Wake On LAN
	LAN2	10/100/1000 Mbps Intel i225 GbE, support Wake On LAN
Audio	Interface	Realtek ALC888S, High Defination Audio, Mic-in, Line-out
I/O Interface	Seriel Ports	2 x RS-232/422/485 (default RS-232) with auto flow control
	USB Ports	2 x USB3.2, 2 x USB2.0, 1 x internal USB2.0 for security dongle
	GPIO	8-bit Programmable DIO
	Optional CANbus	1 x CANBus 2.0 (DB9 connector)
Expansion	Mini PCIe	1 x Full-size mPCIe
	M.2	1 x M2. 2230 E key and 1 x M.2 2280 B key with nano SIM holder #1
Storage	SSD/HDD	1 x 2.5" SATAIII Drive bay (compatible with 15mm height)
	mSATA	1 x Full-size mSATA (*share with mPCIe slot)
Other	WatchDog Timer	255 levels timer interval, setup by software
	TPM	TPM 2.0 (project support by AMO-I029)
Software Support	Microsoft Windows	Windows 10 Enterprice
	Linux	Project support
Power Requirement	Power Type	ATX/AT
	Power Input Voltage	12 ~ 28 V_{DC}
	Power Adaptor	AC to DC, 60W (Optional)
Power Consumption	Typical	9.6W (OS idle mode)
	Max.	18.96W (Full loading)
Mechanical	Construction	Aluminum housing
	Mounting	DIN-rail/Wall Mount
	Dimensions (W x H x D)	60 x 158 x 114 mm (2.34" x 6.22" x 4.49")
	Weight	1.5 kg (3.3lb)
Environment	Operating Temperature	With extended temp. peripherals: -40 ~ 60 °C (-40 ~ 140 °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 (with Wall Mount)
	Shock during Operation	With SSD: 30 G, IEC-60068-2-27, half sine, 11 ms duration (with Wall Mount)
	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.
M.2 B key supports only PCIe x 2 and USB
M.2 B key requires additional mechanical parts to fix for sizes other than 2280.

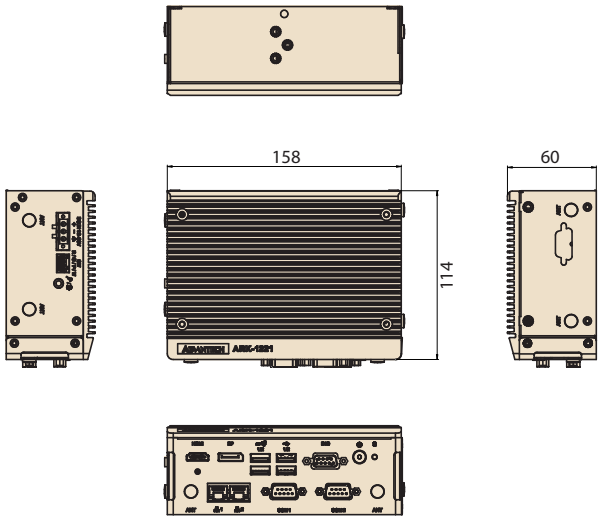
昊生 研华科技 15323776600

All product specifications are subject to change without notice.

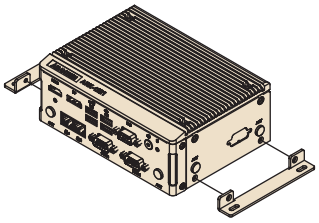
Last updated: 8-Dec-2021

Dimensions

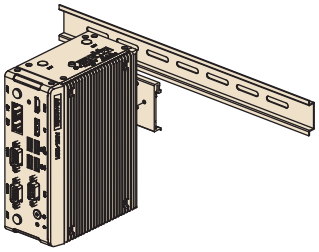
Unit: mm



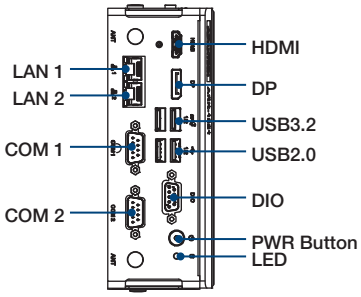
Wall Mount



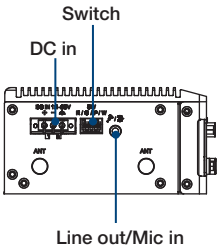
DIN Rail



Front Panel External I/O Mechanical Layout/Drawing



Top Panel External I/O Mechanical Layout/Drawing



Ordering Information

Part No.	CPU	RAM	HDMI	DP	GbE	USB 3.2	USB 2.0	RS-232/ 422/485	Audio	Full-size MiniPCIe	SIM	M.2	2.5" SATA III HDD Bay	mSATA	Power Input	Operating Temp.
ARK-1221L-S5A1	Intel Atom x6413E 1.50 GHz SoC	Up to 32 GB	1	1	2	2	2	2	Mic in or Line out	1	1	2	1	1 (shared w/ mPCIe)	12~28 V_{DC}	-40 ~ 60 °C

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

Packing List

Part Number	Description
-	1 x ARK-1221L Unit
-	1 x User Manual (Simplified Chinese)
-	Wrench for top cover
1960015198T011	1x DIN-rail bracket
1652004519	1x 3-pin plug-in block for power in
1652007880-01	1 x 4-pin terminal block for switch

Embedded OS

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

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
AMK-W004	ARK-1220F wall mount kit
1700030518-01	CANBus Cable