

USM-110

4K Ultra-Compact RISC-Based Box PC, IoT Gateway



DeviceOn/iService

Features

- Equipped with DeviceOn/iService software for remote device management
- Built-in RK3288 - Arm Cortex-A17 quad-core processor (1.6 GHz) or RK3566 – Cortex-A55 quad-core processor (1.8GHz)
- 2 GB onboard memory (4G memory optional); 16GB eMMC onboard expandable MicroSD (TF) storage
- RK3288 mainboard supports Dual HDMI outputs (1 x supports 4K resolution and 1 x supports 1080P resolution); RK3566 mainboard supports one HDMI output (4K@60Hz)
- Supports various mount options including VESA, wall, pole, Magnet, and DIN-rail mounting
- Can be integrated with optional Wi-Fi, Bluetooth, and 4G LTE modules
- Supports Android 6.0/8.1/10.0/11.0 or Linux Debian 9.0
- RED Compliance



Introduction

USM-110 is a 4K ultra-compact RISC-Based box PC that delivers high-performance graphics and supports H.265-encoded native 4K content@60fps. The system's ultra-compact fanless design and support for diverse mount options ensure easy installation in a wide range of application markets. Moreover, USM-110 is integrated with Advantech's WISE-PaaS, which allows users to layout, schedule, and dispatch signage contents to the USM-110 digital signage player over the Internet, enabling remote delivery of diverse high-resolution multimedia.

Moreover, USM-110 is equipped with Advantech's DeviceOn/iService software, which is a next-generation unified device management solution based on the WISE-DeviceOn platform. With support for batch operations and multi-device control, DeviceOn/iService enables easy device configuration and deployment for convenient remote device management.

Product Highlights



2 x HDMI with locks

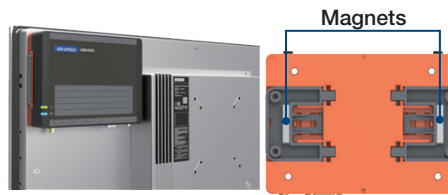
- Supports native 4K content @60fps
- Dual 1080P resolution outputs



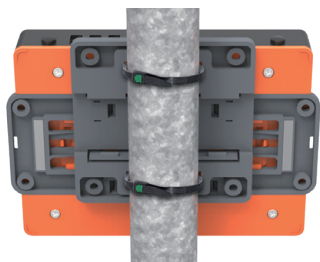
VESA Mount (75 x 75 mm)



Wall Mount (using the two side wings)



Magnet Mount (attached using magnets on the two wings)



Pole Mount (attached using cable ties)



DIN-Rail Mount

Specifications

		USM-110	USM-110 Lite
System	CPU	RK3288, Arm® Cortex®-A17 quad-core processor (1.6 GHz)	RK3566, Arm® Cortex-A55 quad-core processor (1.8GHz)
Graphics	GPU	Mali-T764	Mali-G52 1-Core-2EE
	Graphics Engine	OpenGL ES 1.1/2.0/3.0, OpenCL 1.1, DirectX 11	OpenGL ES 1.1/2.0/3.2, Vulkan 1.0/1.1, OpenCL 2.0 Full Profile
Memory	Capacity	2 GB onboard memory (4G memory optional)	
Storage	Flash	16 GB of onboard eMMC	
	Expansion	Micro SD	N/A
Multimedia	H/W Video Codec	Decoder: <ul style="list-style-type: none"> 4K 10-bits 60fps H.265, H.264, MPEG-1, MPEG-2, MPEG-4, VC-1, VP8, AVS, MVC Encoder: <ul style="list-style-type: none"> 1080P for H.264 (BP@level4.0, MP, HP@level4.0), MVC and VP8 	Decoder: <ul style="list-style-type: none"> H.265 HEVC/MVC Main10 Profile yuv420@L5.1 H.264 AVC/MVC Main10 Profile yuv400/yuv420/yuv422 H.263 Profile0, levels 10-70, up to 720x576@60fps VP8, VC1, MPEG-4, MPEG-2, MPEG-1 Encoder: <ul style="list-style-type: none"> H.264/AVC BP/MP/HP H.265/HEVC MP Support YUV/RGB video source with rotation and mirror
	Display Resolution	HDMI1: Native 4K resolution up to 3840 x 2160 @ 60 Hz (default 1080p) HDMI2: 1920 x 1080 @ 60 Hz (no audio output) N/A	Native 4K resolution up to 3840 x 2160 @ 60 Hz
I/O	HDMI	2	1
	LAN	1 x 10/100/1000 Mbps; Supports POE+*	1 x 10/100/1000 Mbps
	Serial Port	1 (RS232/485/422 by jumper)	N/A
	USB 2.0	4	2
	OTG USB	1	1
	Audio	1	1
	Reset	1	1
	LED Indicators	1 x Power, 1 x Wireless Network	1 x Power, 1 x Wireless Network
Expansion	DC In	1	1
	Micro SD Card Slot	1	1
	M.2	1 (for WiFi module option)	N/A
	Mini PCIe	1 (for LTE module option)	N/A
Mechanical	4-pin wafer2.0	1* (for WiFi module option)	1* (for WiFi module option)
	Dimension (L x W x H)	156 x 112 x 28 mm (6.14 x 4.41 x 1.10 in)	
Power	Weight	0.43 kg (0.94 lb)	
	Input Rating	12V/3A (36W Power Adapter) IEEE 802.3at/30W*	12V/3A (36W Power Adapter)
	Power Consumption	Typical 15W; Max. 25W	
Installation	Mount Options	VESA (75 x 75), wall, desktop, pole, magnet, DIN rail	
Software	Operating System	Android 6.0/8.1/10.0, Linux Debian 9.0 (Linux platform does not support 4K resolution)	Android 11.0
	Software	WISE-PaaS	
	Display Orientation	Portrait and landscape modes supported	
	Client Status Reports	Generates Heartbeat, System reports	
	Supported Medis Formats	Image: JPG, PNG, BMP, GIF; Video: H.264, MPEG-4, MPEG-2 Text: text, scrolling text Audio: MP3, AAC, PCM	
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104° F)	
	Storage Temperature	-40 ~ 85° C (-40 ~ 185° F)	
	Relative Humidity	90% @ 40° C (non-condensing)	
Certification		CE/FCC/UL/CB/CCC/BSMI	CE/FCC/CCC
DeviceOn/iService Remote Device Management	Operating System	Android 6.0/8.1/10.0	Android 11.0
	Common Controls (Reboot, Shutdown)	✓	
	Remote desktop	✓ (via VNA)	
	Device-Specific Controls (Audio, Backlight)	✓	
	Connection Status	✓	
	Hardware Status	✓	
	Batch Operation Support	✓	
	OTA Storage Management Local blob	Local blob	
	OTA Software Updates	✓	
	Software Watchlist	✓	
	Software Start/Stop	✓	
	Kiosk Mode	✓	
	Peripherals Watchlist	✓	

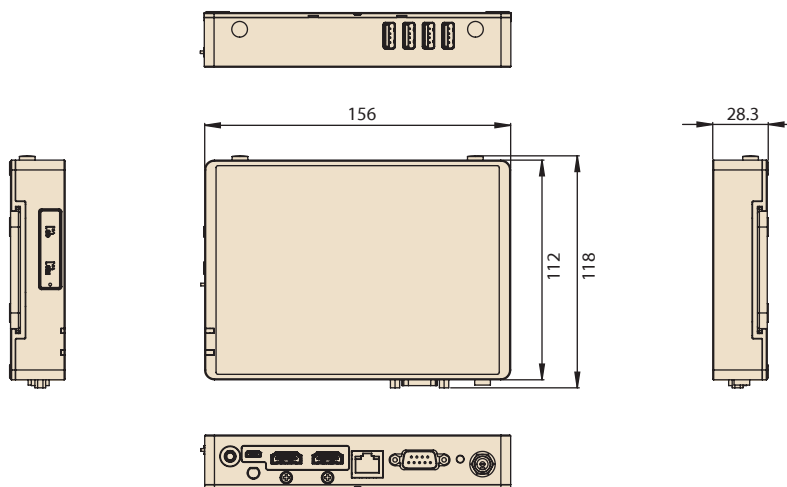
Note:

- Regarding USM-110 SKUs built-in RK3288, only USM-110A-BR124, USM-110A-BR125, USM-110A-UR125, and USM110A2104-T have a 4-pin wafer 1.5 connector.
- Only USM-110A-BR124 and USM-110A-BR125 SKUs support the POE+ function and DC 12~36V power input. The other SKUs do not support the POE function and use DC 12V power input only.
- When USM-110 is a POE Powered Device(PD) powered by a Power Sourcing Equipment(PSE), please confirm a PSE follows IEEE 802.3at POE standard. An IEEE 802.3at qualified PSE will provide up to 30W power to a USM-110. Only 25.5W power input is available for the USM-110 because of power transmit dissipation. USM-110 can connect to an AC power source and a PSE together. In this case, USM-110 will take the AC power as a primary and POE as a redundancy.
- DeviceOn/iService software must be download from the Advantech website at <https://www.advantech.com/search/?q=DeviceOn%2FiService&st=support&sst=Utility>

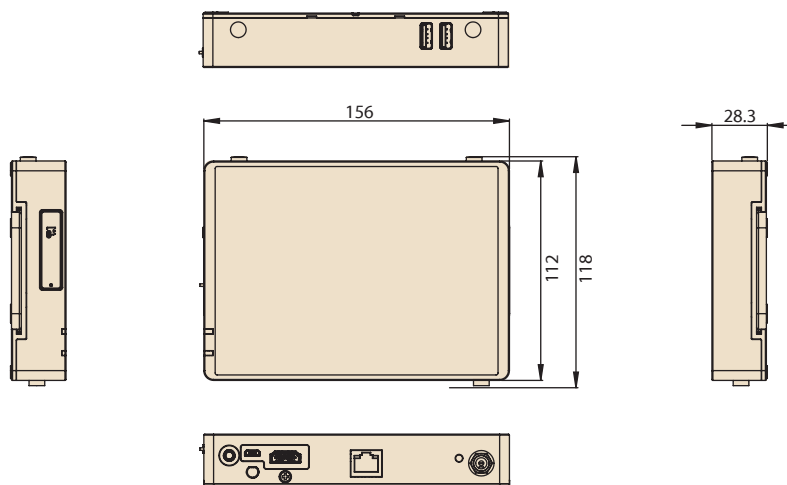
Dimensions

Unit: mm

USM-110



USM-110 Delight



Ordering Information

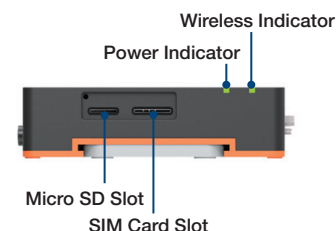
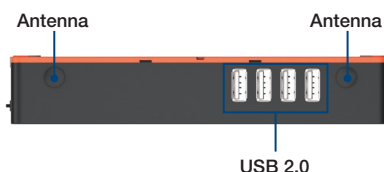
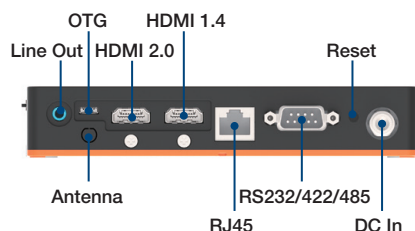
PN	Description	RAM	Storage	OS	RTC auto power on/off	POE+
USM-110A-BR111	RK3288, 2G/8G, 1HDMI, Android6.0	2GB	8GB	Android 6.0	Support	NA
USM-110A-BR121	RK3288, 2G/16G, 2HDMI, Android6.0	2GB	16GB	Android 6.0	Support	NA
USM-110A-BR122	RK3288, 2G/16G, 2HDMI, Android8.1	2GB	16GB	Android 8.1	Support	NA
USM-110A-BR124	RK3288, 2G/16G, 2HDMI, Android8.1, POE	2GB	16GB	Android 8.1	Support	Support
USM-110A-BR125	RK3288, 2G/16G, 2HDMI, Android10.0, POE	2GB	16GB	Android 10.0	Support	Support
USM-110A-UR110	RK3288, 2G/8G, 1HDMI, 2USB, Android6.0, Made-in-Taiwan	2GB	8GB	Android 6.0	Support	NA
USM-110A-UR121	RK3288, 2G/16G, 2HDMI, 4USB, 1COM, Android8.1, Made-in-Taiwan	2GB	16GB	Android 8.1	Support	NA
USM-110A-UR125	RK3288, 2G/16G, 2HDMI, Android10.0, w/ADP, Made-in-Taiwan	2GB	16GB	Android 10.0	Support	Support
USM110A2104-T	RK 3288, 2G/16G, 2HDMI, 4USB, 1COM, Debian9	2GB	16GB	Debian 9	Support	Support
USM-110C-BD111	RK3566, 2G/16G, 1HDMI, 2USB, Android11	2GB	16GB	Android 11.0	Support	NA
USM-110C-BD112	RK3566, 2G/16G, 1HDMI, 2USB, Android11, WIFI (For China only)	2GB	16GB	Android 11.0	Support	NA

Optional Accessories

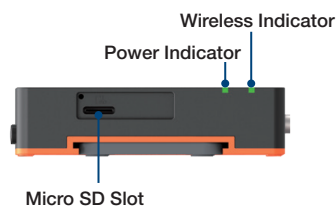
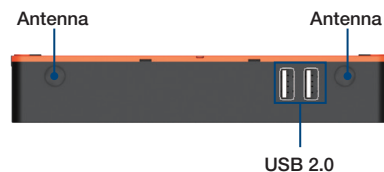
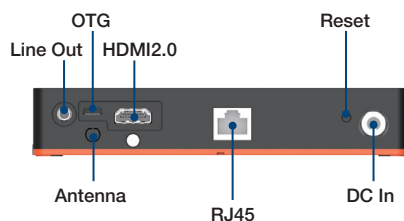
Product	Part Number	Usage	Description
4G Module (For USM-110A-BR111/BR121/ BR122/UR110/UR121 only)	968AD00081	1	Quectel EC20CEFA Mini-PCle 4G module for China region
	EWM-C117FL01E	1	LTE/HSPA+/GPRS module for USA AT&T, T-Mobile
	EWM-C117FL02E	1	LTE/HSPA+/GPRS module for Europe, APAC
	1750006264	1	Antenna cable SMA(F)/MHF 15 cm
	1750007990-01	1	Antenna 4G/LTE full band L=11 cm 50 Ohm
WiFi/BT Module	IRS-WIFI-A0E (For USM-110A-BR111/BR121/ BR122/UR110/UR121 only)	1	USM-110,WIFI KIT,W167,M.2-E,1T1R, BT4.0,Antenna EWM-W167M201E*1 + 1750008800-01*1 + 1750008671-01*1
	IRS-WIFI-A3E (For USM-110A-BR124/BR125/ UR125, USM-110C-BD111, and USM110A2104-T only)	1	USM-110, USB WIFI5_BT5.0, 1T1R, Antenna 968DD00223 *1 + 1700033184-01 *1 + 1750006010 *1 + 1750008671-01 *2 + 2130020501N000 *1
HDMI Cable	1700023855-11	1 or 2	M Cable HDMI 19P(M)/HDMI 19P(M) 100cm w/Lock
Power Cord	96CB-POWER-B-1.8MB	1	RW0.75 Black/3L 1.8M(CCC)
	1700001524	1	3P UL 10A 125V 180cm(American)
	170203183C	1	3P 3P EU (WS-010+083) 183CM(European)
	1700018553	1	Power Cord SAA 3P 2.5A 250V 183cm(Australia)
	1700025113-11	1	Power Cord ISI 3P 2.5A 250V 180cm(India)
	1700018409	1	Power Cord KCC 2P 2.5A 250V 183cm(Korea,Russia)
	1700024849-01	1	Power Cord BSMI 3P 2.5A 125V 180cm(Taiwan)
	170203180A	1	Power Cord BSI 3P 2.5A 250V 183cm(UK)
	1700008921	1	3P 1.8M PSE 7A 125V(Japan)

I/O Interface

USM-110



USM-110 Delight



DeviceOn/iService

Unified Remote Device Management Software



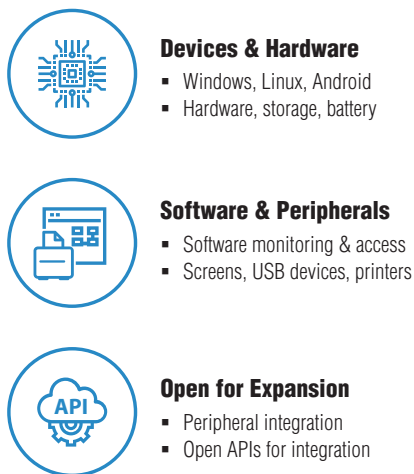
Features

- Supports Advantech devices equipped with Windows, Android, and Linux OS
- Flexible device, location, user, and permissions management
- Enables remote monitoring and control of hardware, software, and peripherals
- Supports over-the-air (OTA) firmware and software updates
- Ensures quick, easy, and secure device onboarding
- RESTful APIs for third-party system integration

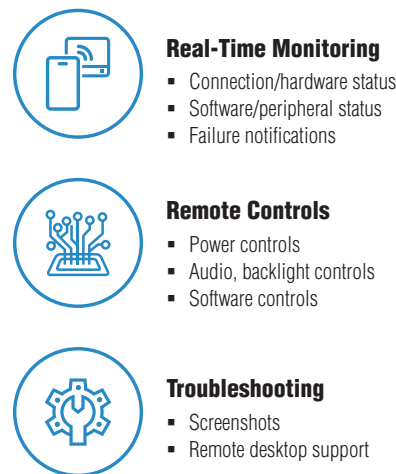
Introduction

Advantech's DeviceOn/iService is a next-generation unified device management solution based on the WISE-DeviceOn platform. Designed to enable centralized monitoring and remote management, DeviceOn/iService supports Advantech devices equipped with Windows, Linux, or Android operating systems. The software also supports the management of applications and integrated peripherals, such as a barcode scanner, card reader, camera, and printer. Users can remotely access and control connected devices, take screenshots, rollout OTA upgrades, and use remote desktop capabilities for troubleshooting from any location at any time. Moreover, DeviceOn/iService supports batch operations to facilitate the management of multiple devices simultaneously for easy and convenient device configuration and deployment.

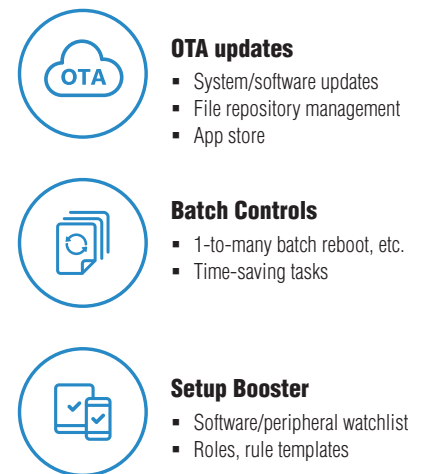
Total Management



Remote Access



Operational Efficiency



Note: Some functions may vary according to the product

System Architecture

