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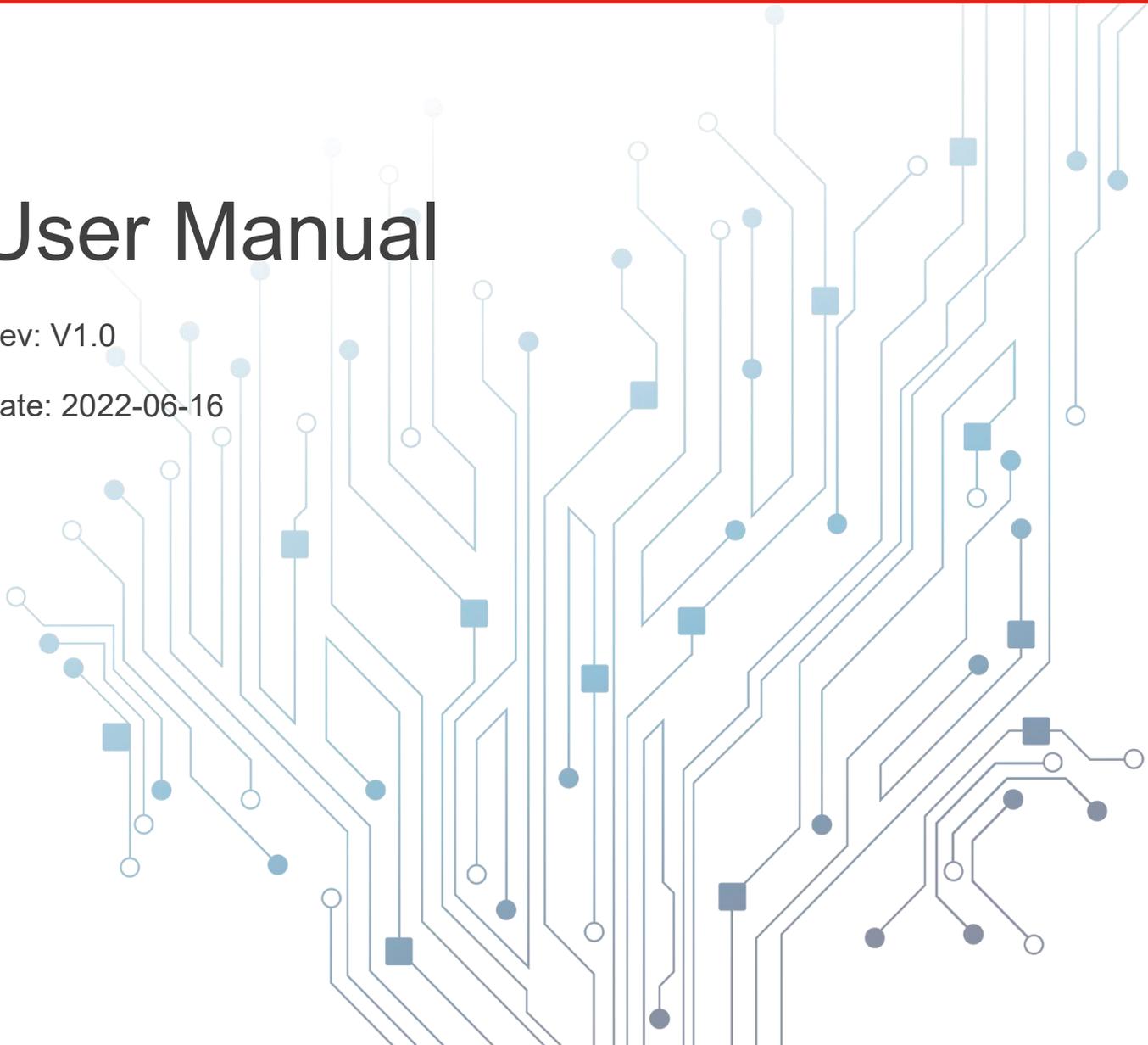
Intelligent Edge Station
Astro200Lite

User Manual

Rev: V1.0

Date: 2022-06-16

History

Revision	Date	Description
V1.0	2022-06-16	● Initial

DECLARAION

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CONTENT

1 Production Information

1.1. Application

There are many application scenarios of Astro200Lite intelligent edge station, including safe cities, smart security, smart transportation, smart manufacturing, smart retail, and smart light poles. In these application scenarios, the typical architecture is as follows:

- ∝ End: Connect IPC (IP Camera) or other front-end equipment via wireless or wired
- ∝ Edge: The edge realizes value information extraction, storage and upload
- ∝ Cloud: Data center model push, management, development and application

1.2. Overview

Astro200Lite is a lightweight edge device of Yuntion for a wide range of edge intelligent application scenarios. It has excellent CPU processing capability, AI computing capability, large-capacity storage, flexible configuration, small size, wide temperature range and high speed. It has the characteristics of high wired and wireless connection speed, strong environmental adaptability, and easy maintenance and management.

It supports dual versions of Android OS and Linux, which can provide customers with rich AI audio and video multimedia processing services, facilitate the secondary development of applications and access to a wide range of Android ecological applications, and can also provide professional, In-depth custom-developed applications in vertical fields based on Linux.

Astro200Lite is mainly used in intelligent audio and video collection, high-definition display, analysis, data storage and other application scenarios. It can be widely deployed in various edge and central computer rooms to meet the application in complex intelligent terminals, road traffic, communities, parks, shopping malls, supermarkets and other complex environment areas.

1.3. Features

∝ **Ease of use for edge scenarios**

- Real-time: It can process data locally to provide real-time responses
- Low bandwidth: Only necessary information is sent to the cloud
- Privacy Protection: Customers can decide what information is sent to the cloud or kept locally. All information sent to the cloud can be encrypted
- Supports standard container engines and supports rapid deployment of third-party algorithms and applications

∝ **32-channel video analysis and storage expansion capability**

- Support 32-channel video analysis capability (maximum 32-channel 1080p decoding)
- Support 12TB storage capacity expansion, 24-channel 1080p@4Mb stream video cache for 7 days, 8-channel 1080p@4Mb stream video cache for 30 days

∝ **Flexible configuration, wireless backhaul**

- Support WIFI6 dual-band/gigabit LAN transmission
- Support optional 5G/4G wireless module

∝ **Dual system version, taking into account ecological resource expansion and vertical field specialization**

- Support Android OS version, quickly access Android ecosystem and convenient application development, and efficiently achieve side-end collaboration
- Support Linux OS version, introduce specialized applications and algorithms for vertical fields, and efficiently realize cloud-edge-end collaboration

∝ **Powerful multimedia GPU processing capability**

- Built-in high-performance GPU for outstanding 3D rendering
- Support independent VPU and DPU, can realize up to 3 screens with different display function
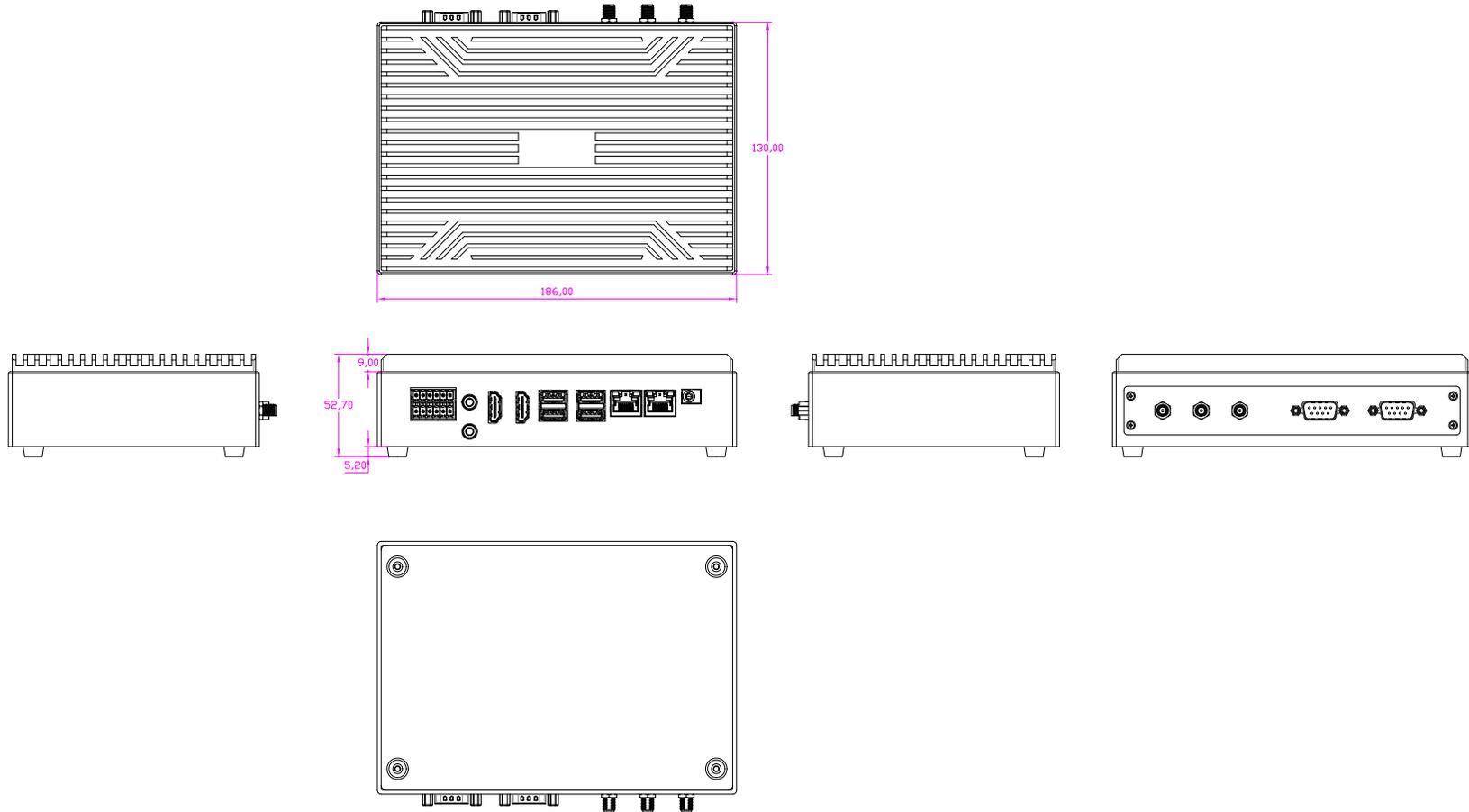
1.4. Appearance and Interface

1.5. Dimension

130,00

186,00

9,00

52,70

5,20

Unit: mm

2 Hardware Specification

Table 1: Hardware Specification

Hardware Specification		
System Platform	CPU	RK3588 4 core Cortex-A76 2.4GHz 4 core Cortex-A55 1.8GHz
	Memory(LPDDR4)	Default 4GB (Optional as 32GB)
	Storage (EMMC)	Default 64GB
	Operating System	Android 12.0
Network	WIFI,BT	2.4G 5G WIFI 802.11a/b/g/n/ac/ax 2T2R Bluetooth 5.2
	Ethernet	2 10M/100M/1000M Adaptive Ethernet
Communication Interface	USB	2 USB3.0 interface
	Type C	1 Type C debug interface
	CAN	1 CAN interface
	RS232	2 RS232 DB9 interface
	DIDO	4 DIDO interface
Video Output	HDMI TX	2 HDMI2.1（8K@60fps, 4K@120fps）output
Video Input	HDMI RX	1 HDMI2.0（4k@60fps）input, support HDCP 2.3
Audio Interface	Headphone Output	1 3-segment headphone output interface
	Headphone Input	1 3-segment headphone input interface
Standard Card Holder	SIM Card	1.8V/3.0V，Push-Push Micro-SIM card holder
	SD Card	Push-Push Micro-SD card holder
Encode and Decode	Video Encode	8K@30fps H.264/H.265 Up to 16-channel 1080p@30fps encoding
	Video Decode	1080p@60fps MPEG-2/-1/VC-1/VP8 4K@60fps AV1 8K@30fps H.264/AVC/MVC

		8K@60fps H.265/VP9/AVS2 Up to 32-channel 1080p@30fps encoding
Other Interfaces	Power input	1 12V DC input
	Antenna	3 WIFI/BT IPEX interface

3 Interface Description

3.1. 12V DC Power Interface

Astro200Lite adopts DC-044B power receptacle interface, suitable for common 5.5X2.1mm 12V DC adapter connector.

3.2. Ethernet Interface

Astro200Lite has two Gigabit Ethernet interfaces.

3.3.   USB Interface

Astro200Lite supports 2-way USB3.1 interface and 1-way Type-C interface, Type-C interface is only used for debugging.

3.4. HDMI TX Interface

Astro200Lite has two HDMI TX interfaces and supports HDMI 2.1 protocol output.

3.5. Audio Interface

Astro200Lite has a 3.5mm three-segment headphone output interface and a 3.5mm three-segment MIC IN input interface

3.6. DIDO Communication Interface

Astro200Lite supports 4-way DIDO communication, using 3.5mm pitch double-layer package terminals to lead out.