

# KDS-020:Android Industrial grade Box



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# 1 Product overview

## 1.1 Scope of application

KDS-020 is Android Industrial PC, it can be applied to Intelligent display terminal products, Video terminal products, Industrial automation terminal products, Such as: advertising machine, digital signage, etc.

## 1.2 Product overview

KDS-020 Use Rockchip RK3568, Quad-core Cortex-A55 processor, clocked at up to 2.0GHz, with superior computing performance; Built in independent NPU, up to 1Tops Computing power; Support 4K; it is equipped with Gigabit Ethernet, USB 3.0 and headsets, etc., and supports a variety of peripheral expansions. It is your best choice for industrial control projects.

## 1.3 Product features

- ◆ With Gigabit Ethernet port;
- ◆ Support up to 8GB RAM;
- ◆ Built-in neural network NPU, supporting 1Tops computing power;
- ◆ Rich expansion interfaces, 6 USB interfaces (one of is USB OTG);
- ◆ Support Android and Linux System;
- ◆ HDMI 2.0, Support up to 4K output;
- ◆ Support dual-band 2.4G/5G WiFi (standard configuration is single-band 2.4G);
- ◆ 1 IR, 1 Burning button;
- ◆ Perfectly supports various mainstream touch screens such as infrared, capacitance, and resistance, and supports mainstream peripheral drivers;
- ◆ Support Android system customization, provide system call interface API reference code.

## 1.4 Operating system

Android System: Recommend Android 11, optional Android 12/13

Linux System: Optional Ubuntu 20.04, Debian 11, Linux QT

HarmonyOS: OpenHarmony 4.0 optional

## 1.5 Appearance and interface diagram

Front:



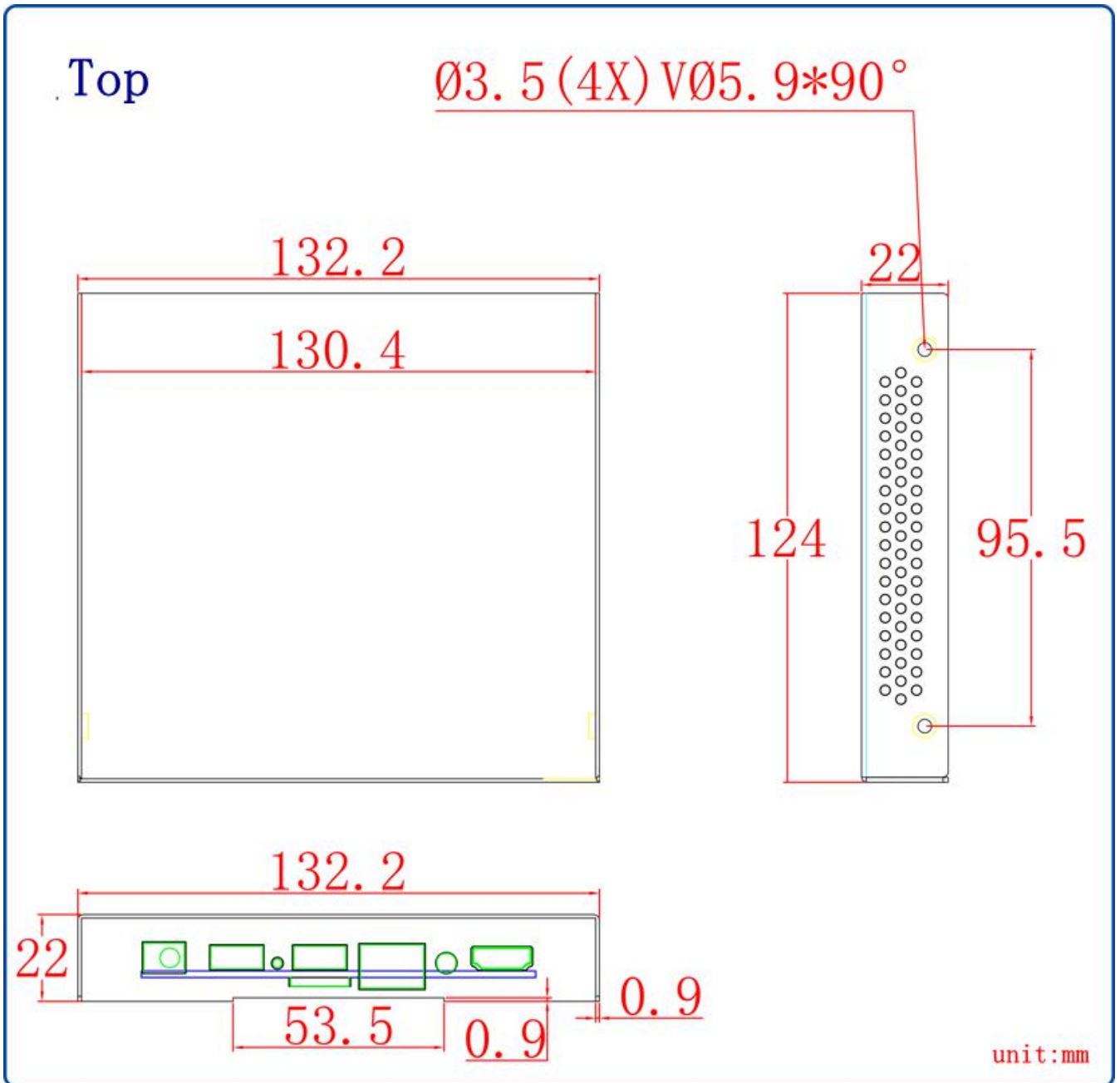
Rear:



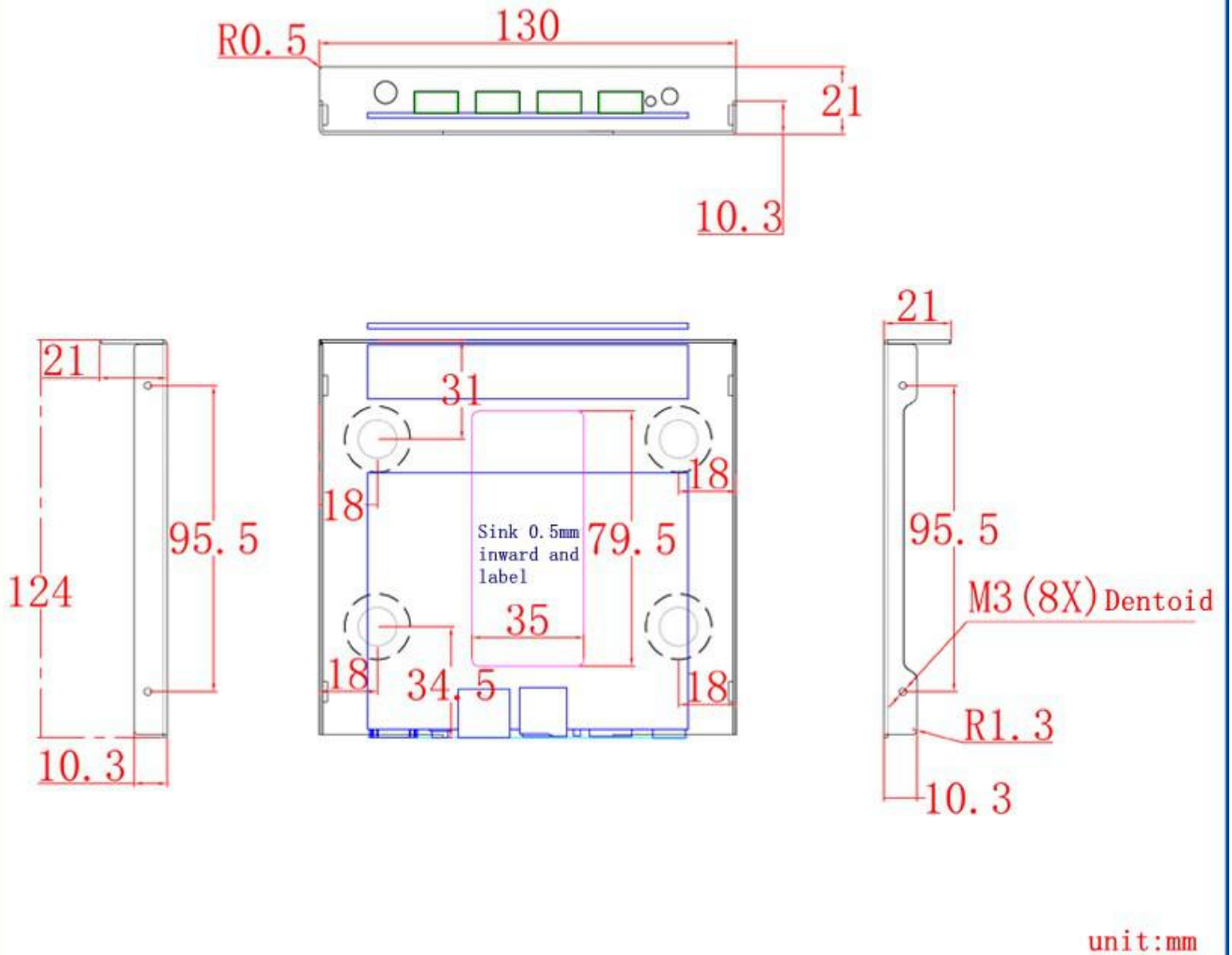
Side:



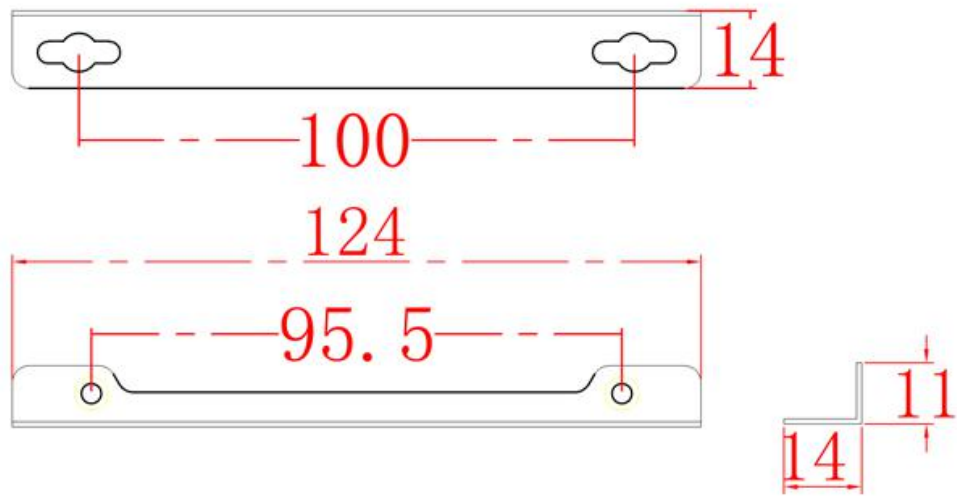
Product Size picture:



# Bottom

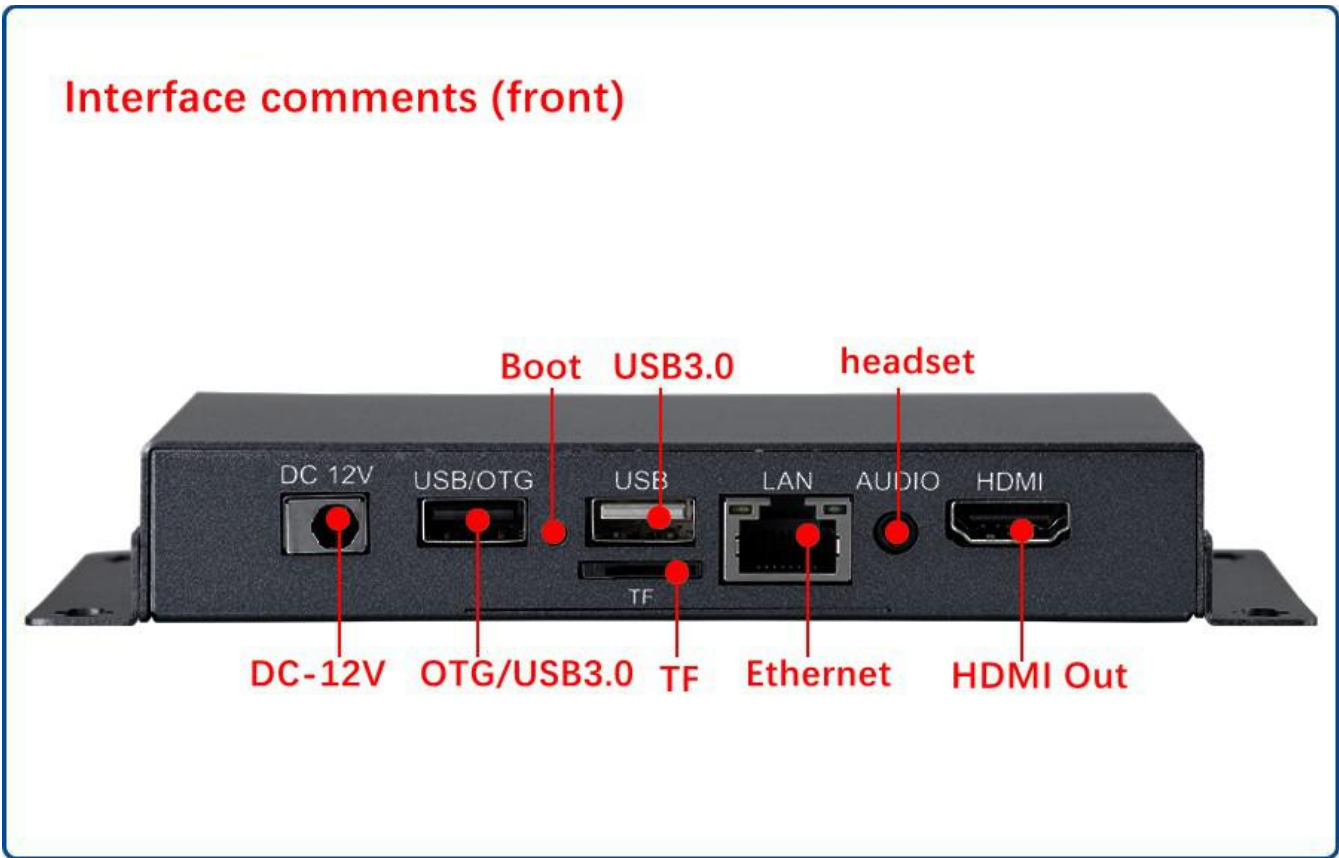


# Bracket



unit:mm

Interface annotation:



### Interface annotations (back)



## 2 Product hardware index

Main Hardware index	
<b>Size</b>	160.2*124*22mm (With hanging hole)
<b>CPU</b>	Rockchip RK3568, Quad-core Cortex-A55, up to 2.0GHz
<b>GPU</b>	Mail-G52 2EE
<b>NPU</b>	up to 1Tops
<b>DDR</b>	With Standard 2GB LPDDR4, 4GB/8GB Optional
<b>Flash</b>	Standard 8GB, up to 128GB
<b>HDMI output</b>	1, supports up to 4K output
<b>HDMI Version</b>	HDMI 2.0
<b>Headphone</b>	1-WAY, support CTIA 4-pole HP/Mic 3.5mm socket
<b>Video Format</b>	Support WMV, AVI, RMVB, mpeg, mp4 etc.
<b>Picture Format</b>	Support BMP, JPEG, PNG
<b>USB Host</b>	4 USB2.0, 2 USB3.0
<b>USB OTG</b>	1 USB OTG
<b>Ethernet</b>	1, 10/100/1000M adaptive Ethernet
<b>WiFi Frequency</b>	2.4G single frequency (optional 2.4G/5G dual frequency)
<b>WiFi/BT</b>	Built in WiFi6, BT5.2

<b>WiFi ANT</b>	1
<b>TF Card</b>	Support up to 256GB
<b>Burn key</b>	Firmware upgrade
<b>RTC Real Time Clock</b>	Support
<b>Timer switch</b>	Support
<b>System Upgrade</b>	Support local USB upgrade
<b>Humidity</b>	0% ~ 95% (no condensation)
<b>Working Temp</b>	-20°C ~ 70°C
<b>Power</b>	9V ~ 15V wide voltage DC

## 3 Power and product keeper

### 3.1 Power adapter

For your personal safety and the normal use of this product, please make sure that the AC power you provide can meet the input information marked on the back of the product power adapter; please use a three-core power socket and a reliable grounding terminal. It is recommended to use the original power adapter of this machine. If the original power supply cannot be used under special situations, be sure to use the same power adapter.

### 3.2 Input characteristics

Input voltage range: from 90Vac-264Vac, one-way input.

Sort	MIN	Rated Value	MAX
Input voltage	90Vac	100Vac-240Vac	264Vac
Input frequency	47Hz	60Hz/50Hz	63Hz

### 3.3 Output characteristics

Static Output Characteristics <Output & Ripple + Noise>

Output	Rated load		output voltage range	Ripple and Noise	Remark
	Min.	Max.			
+12.0V	0A	2A	+/-5%	50mVp-p	

### 3.4 Host input characteristics

Input	Rated load		output voltage range	Ripple and Noise	Remark
	Min.	Max.			
+12.0V	0A	2A	+/-15%	50mVp-p	

## 4 Assemble precautions

Please read the instructions and safety items in this guide carefully, and strictly implement them during use. This will help prevent damage to the computer host, prolong the service life, ensure your normal use and computer maintenance, and ensure your personal safety.

1. Please read and understand the relevant documents attached to the package first. If there are folders, please read them first.
2. Follow all safety warnings and signs on this product.
3. Please use the original power adapter or only use the product according to the power type marked on the product.
4. In thunderstorm weather, please do not plug or unplug network cables, power cables etc. and other conductors that may be connected to the outside world.
5. Please unplug the power before cleaning this product, do not use liquids, sprays or wet rags for cleaning.
6. Please do not disassemble the machine without permission, and do not try to repair this product by yourself, please ask authorized professionals to do this work.
7. Do not put the computer near a heat source.
8. Pay attention to moisture-proof, do not spill water or other liquids on the computer, if have the following situations occur, please unplug the host power immediately. The following special circumstances require professional maintenance personnel to repair.
  - 1) The power cord or plug is damaged.
  - 2) Conductive liquid has been spilled into the product.
  - 3) The product has been dropped or the case of the product has been severely damaged.
  - 4) Unexplained errors or obvious performance changes in the product cannot be ruled out after fault guidance.

## 5 Common Troubleshooting

KDS-020 the products have been strictly tested before leaving the factory, and the products are durable. The problems encountered in use may be caused by the settings and operations you encountered during use. Or encounter some device compatibility issues. This general troubleshooting information will help you resolve some simple operating problems in a timely manner, or identify the cause of a malfunction requiring repair.

1	The host does not respond after booting	Please confirm that the power supply of the host computer and display is normal, and whether the host adapter is powered on.
2	The host automatically shuts down for no reason	Please check whether the power supply is cut off and whether the power adapter is loose.
3	The host automatically restarts for no reason	Please check whether the programming button is on the side close to the outside of the board (normally it should be close to the inside of the board).
4	Display Image but no sound when playing video	Check that the audio output settings match (Codec/HDMI), and that the audio is muted.
5	network can't connect	Check whether the network connection or router is normal, and whether the network parameter settings are normal.
6	External USB device not recognized	If the external device is connected to the OTG port, please go to "Settings" > "More Settings", and then check "OTG Host"

Note: 1) If the host accidentally enters water or conductive liquid, please cut off the power immediately, dry the liquid with a paper towel, and do not blow it with a hot hair dryer. If the situation is extremely serious, it is recommended to contact the after-sales service immediately for consultation or send back Test and repair

2) If the main unit accidentally slips and causes deformation and damage to the shell, and the motherboard is damaged, please contact the after-sales service immediately for repair.