eBOX-3904-3399

V1.1

Fanless Industrial Computer

- ◆ Rockchip　RK3399
- ◆ Rich I / O interfaces
- ◆ Powerful system customization function
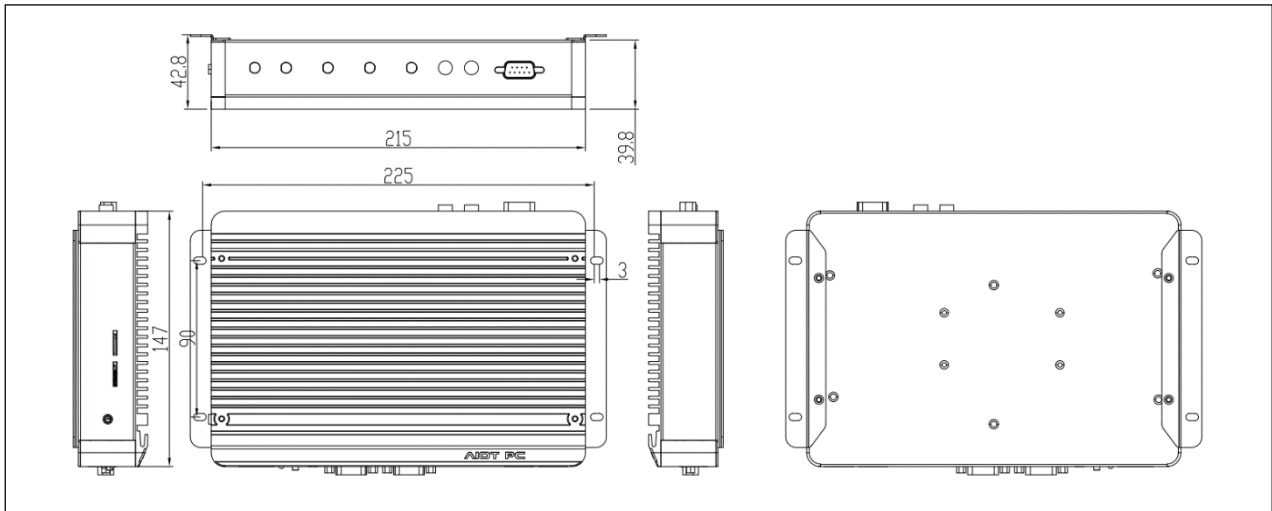
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Specifications :

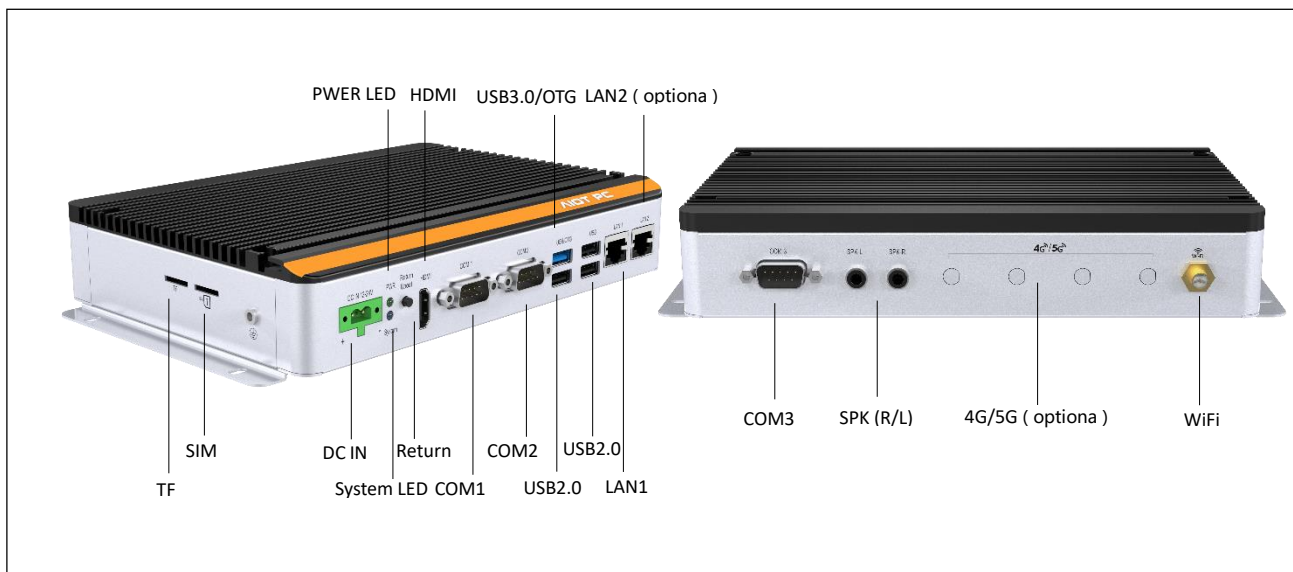|		
CPU	Provides CPU	Rockchip RK3399 6-core processor, 2 * A72 (up to 1.8GHz) + 4 * A53 (up to 1.4GHz)
	GPU	Mail-T860 GPU MP4 four core GPU, supports OpenGL ES1.1/2.0/3.0/3.1, OpenVG1.1, OpenCL, DX11,
Memory	Type capacity	Onborad DDR4 4GB
Storage	eMMC	Onborad eMMC 16GB
	TF	1*TF，Max Support 128GB
I/O	Ethernet	1 * 10/100/1000Mbps RJ-45 Ethernet Interface
		1 * 10/100/1000Mbps RJ-45 Ethernet Interface (optiona)
		On board WiFi, support 2.4G WiFi, support Wi Fi 802.11b/g/n protocol, Support Bluetooth,5.0
	Audio	2 * 3.5 phonejack speaker interface (8Ω,6W)
	USB	3*USB2.0 ，1*USB3.0
	MiniPCIE	Support 4G LTE4 / 5G module
	COM	3*RS232 (DB9) , ttyXRUSB1~ ttyXRUSB3 ; COM1/2 can set RS485, COM1 default RS485, COM2 default RS232
	Display	1×HDMI , Support 4K 60Hz display and HDCP 1.4 / 2.2
	OTG	1*USB3.0
	Key	1*Return
Physical	Dimensions (W x H x D)	215mm x 147 x 39.8mm
	Installation mode	Bracket installation
	NW	1.66kg
OS	Operating system	Android 7.1.2
Power Supply	Input voltage	DC 12V~24V
	Maximum Power	15 Watt
Environmental	Operating temperature	-20 ~ 70℃
	Storage Temperature	-40 ~ 80℃
	Humidity	5~95% (no condensing)
	Shake	SSD applied: 1.5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 1 hr/axis
	Shock	SSD applied: 10 G, IEC 60068-2-64, Half-sine wave, 11ms duration
	EMC	Class B

Dimensions: Unit: mm

Interface diagram :

Ordering Information：

Number	Product Code	Description
6065400001	eBOX-3904-2G16-3399	Rockchip RK3399 6-core /2G Memory/16G eMMC/1*TF/1*SIM/1*OTG/1*LAN/3*USB2.0 1*USB3.0/3*COM/HDMI /2* speaker /DC IN 12V~24V
6065400003	eBOX-3904-4G16-3399	Rockchip RK3399 6-core /4G Memory/16G eMMC/1*TF/1*SIM/1*OTG/1*LAN/3*USB2.0 1*USB3.0/3*COM/HDMI /2* speaker /DC IN 12V~24V
6065400002	eBOX-3904-3399-2E	Rockchip RK3399 6-core /2G Memory/16G eMMC/1*TF/1*SIM/1*OTG/2*LAN/3*USB2.0 1*USB3.0/3*COM/HDMI /2* speaker /DC IN 12V~24V

Optional Equipment：

Number	Specifications
5109900013	Qiaowei KPL-040F-v1 40W adapter kit, DC out 12V, with national standard power cord
2081900014	H31box08-09, ∮ 31 cavity horn Pu side 8 Ω 5W, 38 * 72 * 18.7mm
5040100017	Fibocom L716 4G kit, sucker antenna
5040100018	Fibocom L716 4G kit, paddle antenna
5040600002	Fibocom FG650p-CN-01 5G Kit
2030700017	External antenna-2.4G/5.8G suction cup wifi antenna, l = 3M internal pin

Nodka Android features

◆ Support multiple 4G/5G modules

◆ Support 4G/5G routing, with network heartbeat, permanent online

◆ Rich system customization functions

◆ Hardware watchdog app call

◆ Upgrade Android system online, so easy, support remote upgrade

◆ Log supports network upload and remote operation

◆ Built in software test tool

◆ Roo permission function

◆ Support screen rotation

◆ Support status bar navigation bar on off

System API: // Client APP can call the following interfaces to quickly implement functions.

Timing switch

The system is equipped with timing switch app. At the same time, the customer app can directly call the following code to realize timing restart.

```
Intent it = new Intent();
            it.setAction("android.intent.action.auto_power_shut");   // Broadcast name
            it.putExtra("effective", true);   // Start or cancel a scheduled operation
            it.putExtra("power_type", 4);   // 1: timmediate restart   2 : t immediate shutdown   3:   timed shutdown   4 : timed restart
            it.putExtra("power_time", (String) null);   // Turn on time
            it.putExtra("shut_time", "5:00:00");   // Turn off time
            sendBroadcast(it);
```

Hardware watchdog app call

The Android layer of the system has its own hardware watchdog. At the same time, the client application can also call the hardware watchdog. If the hardware or software fails, the hardware watchdog will automatically restart and reset.

```
android.intent.action.NDJ_APP_ALIVE
```
// App sends broadcast to the system and begins to take over dog feeding. If the broadcast is not sent within 10 minutes, the system app stops dog feeding and automatically restarts.

eg :   the app starts and sends android.intent.action.NDJ_APP_ALIVE , once every 1min.

System online upgrade remote broadcast

The system is attached with the online upgrade application. If there is a version update, click online upgrade to update the system and support the background broadcast interface. You can call the operation remotely and

```
android.intent.action.NDJ_REQUEST_VERSION    // After receiving this broadcast, return to this broadcast. The name is "current_version" to get the client version number.
android.intent.action.NDJ_SYSUPDATE          // After receiving this broadcast, automatically compare, download and upgrade the system
```

Infrared screen firmware online upgrade remote broadcast

The system is equipped with online upgrade app, click upgrade button to update the infrared screen firmware; meanwhile, it supports background broadcast upgrade, remote call operation and remote online firmware upgrade.

```
com.pqlabs.getdevice    // After receiving, return the broadcast "com.pqlabs.getdeviceresult", with the string type parameter version, which is the version number of the current firmware
com.pqlabs.updatefirmwareaction    //After receiving, it will automatically find the corresponding firmware from the FTP server and update it
```

Remote log upload broadcast

The system comes with toolbox log. Click the log upload button to upload the log to the server. At the same time, it supports background broadcast upload and can call the operation remotely.

android.intent.action.NDJ_LOG_UPLOAD   //After receiving, upload the current log to the network server

Root authority

The system default APP has Root permission

Open status bar, navigation bar

adb shell am broadcast -a action.SHOW_STATUSBAR

Permanently hide status bar, navigation bar

adb shell am broadcast -a action.HIDE_STATUSBAR

Revision information:

Edition	Date	Modified by	Content
V1.0	2022.08.09	XuFeng.Wu	First release
V1.1	2022.09.27	XuFeng.Wu	Product picture update