

Z604

Product Manual

Realtimes Beijing Technology Co., LTD.

Fax: +86 010-84284669 / 84280996

Email: info@realtimes.cn

Web Page: <http://www.realtimesai.com>

Address: 11th Floor, Block B, 20th Heping Xiyuan, Pingxi Street, Chaoyang District, Beijing 100013, P.R.China



Revision History

Revision	Date	Reason for change	Revision	Modifier
V1.1	2021-07-27	Initial release	V1.1	RT0086
V1.2	2021-08	Add sub-model	V1.1	RT0086



Electronic components and circuits are very sensitive to electrostatic discharge. Although our company designs anti-static protection for the main interfaces on the card when designing circuit board products, it is difficult to achieve anti-static safety protection for all components and circuits. Therefore, it is recommended to observe anti-static safety precautions when handling any circuit board component (including Z604). Anti-static safety protection measures include, but are not limited to the following:

- a) The smart box should be placed in an anti-static bag during transportation and storage, and then the board should not be taken out during installation and deployment.
- b) Before touching the smart box, discharge the static electricity stored in the body: wear a discharge grounding wrist strap.
- c) Operate the smart box only within the safe area of the electrostatic discharge point.
- d) Avoid moving smart boxes in carpeted areas.

Precautions and after-sales maintenance

matters needing attention

Before using the product, please read this manual carefully and keep it for future reference;

- Please pay attention to and follow all warning and guidance information marked on the product;
- Please use matching power adapter to ensure the stability of voltage and current;
- Please use this product in a cool, dry and clean place;
- Do not use this product in cold and hot alternate environment to avoid condensation damage components;
- Do not splash any liquid on the product. Do not use organic solvent or corrosive liquid to clean the product;
- Do not use the product in dusty and messy environment. If it is not used for a long time, please pack the product;
- Do not use in the environment with excessive vibration, any dropping or knocking may damage the circuit and components;
- Do not plug and unplug the core board and peripheral modules when power is on;
- Please do not repair or disassemble the product by yourself. In case of any fault, please contact our company in time for maintenance;



- Do not modify or use unauthorized accessories by yourself, and the damage caused will not be warranted;

After sales maintenance

1) Warranty period

- Base plate, core plate : 3 year (non-human damage)
- Other peripherals sold by the company: 1 year (non-human damage)

2) Warranty description

- Within 7 days: the product (base plate, core module) is not damaged by human, our company will replace / repair it free of charge, and bear the return freight; (because the core module needs NVIDIA to confirm that it can meet the requirements of repair, it will take a long time, we will coordinate as soon as possible, please forgive for the inconvenience)
- From 7 days to 36 months: the product (base plate, core module) is not damaged by human, our company will repair it free of charge, and bear the return freight; (because the core module needs NVIDIA to confirm that it can meet the requirements of repair, it will take a long time, we will coordinate as soon as possible, please forgive for the inconvenience)
- Artificial damage in more than 3 year or 3 year: the product (carrier plate) shall be tested after it is sent to the customer, and the customer shall be informed of whether it can be repaired and the maintenance cost in detail. After reaching an agreement, the product shall be repaired and returned to the customer, and the company shall bear the return freight;
- The starting time shall be subject to the date of express delivery receipt;

3) Contact information

Official website: www.realtimesai.com

Taobao website: <https://shop340963258.taobao.com/>

Address: 11, block B, Heping Xiyuan, Heping West Street, Chaoyang District, Beijing

Attention: RMA

Tel: 010-84284669

Mailing notice: contact with the company's sales department in advance, arrange technical support personnel to check and eliminate errors caused by misoperation as soon as possible, fill in the product after-sale return to factory maintenance form after verification, and send it to rma@realtimes.cn Mail box, please attach the list of items to facilitate verification, so as to avoid loss and loss in the process of express delivery. The company does not receive any delivery

Technical support and development customization

1. Scope of technical support

- 1) The company releases the electrical characteristics and use of industrial carrier boards and modules;
- 2) Physical dimension of hardware, relevant structure diagram and line sequence definition of specific interface;
- 3) Burn in verification of all BSP support packages provided by the company;
- 4) The company released burn environment construction, entry-level use. ;
- 5) Various peripheral module drivers released by the company;
- 6) The company's product fault diagnosis and after-sales maintenance services;

2. Scope of technical discussion

Due to the wide range of embedded system knowledge and various types of involvement, we can not



guarantee that all kinds of questions can be answered one by one. The following content is not available for technical support, only suggestions can be provided.

- 1) Knowledge beyond the course published by our company;
- 2) Specific software program design;
- 3) Technical support for industrial carrier not issued by the company;
- 4) All kinds of driving support for industrial carrier board not issued by the company;
- 5) Hardware principle and drive design of peripheral module not issued by our company;

3. Technical support mode

- 1) Official website or email questions (recommended): <https://www.realtimesai.com/cn/download.html>
techsupport@realtimes.cn
- 2) Official Taobao through Alibaba Wangwang consultation: <https://shop340963258.taobao.com/>
- 3) Wechat group consultation (wechat Group No. consults Taobao customer service or sales, and Taobao purchase order No. needs to be provided for verification);
- 4) Technical support email: techsupport@realtimes.cn
- 5) Tel: 010-84284669

4. Technical support time

Monday to Friday; 8:30-12:00 am; 1:00-17:30 PM;

The company arranges the rest according to the national legal holidays, during which it may not be able to provide technical support, please send the problem to the technical support email. We will reply to you as soon as possible on weekdays.

5. Complaints and suggestions

If you are not satisfied with us or have suggestions, you can send an email to [yu.qin @ realtimes.cn](mailto:yu.qin@realtimes.cn) For feedback, please call 010-84284669 for further improvement.

6. Customized development services

The company provides the embedded operating system driver based on NVIDIA Jetson series and the paid customized development service of hardware carrier board to shorten your product development cycle.

Please email the request to info@realtimes.cn

Data acquisition and subsequent update

1. Access to information

Download on our website

The company's website contains supporting information of its products, including product user manual, NVIDIA Jetson series module data manual, BSP driver support package for carrier board, supporting peripheral driver files, interface test verification method, FAQ, system burning guide, etc.

get into www.realtimesai.com , select "data download" in the navigation bar, find the data you need, and click download.

2. . Subsequent updates

Updates of subsequent documents, BSP, driver files and other official account will be updated in time. We will pay close attention to our developments in order to ensure that your information is up to date. We will push through WeChat public.



TABLE OF CONTENTS

1 PRODUCT INTRODUCTION..... 6

 1.1 FEATURES..... 6

 1.2 ORDERING INFORMATION..... 8

2 EXTERNAL INTERFACE FUNCTION AND LOCATION..... 9

3 INSTALLATION AND USE..... 10

 3.1 SYSTEM INSTALLATION RENDERINGS..... 10

 3.2 DRIVE..... 10

 3.3 HOW TO USE SMART BOX..... 11

 3.4 RECOVERY MODE..... 11

4 CONNECTORS DESCRIPTION..... 12

 4.1 MICRO USB INTERFACE..... 12

 4.2 USB3.0 INTERFACE..... 12

 4.3 GIGABIT ETHERNET..... 13

 4.4 HDMI DISPLAY INTERFACE..... 13

 4.5 MULTI-FUNCTION INTERFACE..... 13

 4.6 MICRO SD (TF) CARD SOCKET..... 14

 4.7 MICRO SIM CARD SOCKET..... 14

 4.8 POWER CONNECTOR..... 15

5 Hardware update history..... 15

6 PRODUCT SIZE DIAGRAM..... 15

TERMS OF WARRANTY..... 16

1 Product introduction

Z604 is a new Feiyun Smart Box™ based on the NVIDIA Jetson Nano/Xavier NX/TX2 NX module design. The default built-in Xavier NX module with integrated 384-core Volta™ architecture GPU, pre-installed Ubuntu 18.04 operating system, and 21TFLOPS floating-point operations AI processing capabilities. It adopts super strong and lightweight aluminum alloy material design, conductive heat dissipation, excellent heat dissipation capacity, small and light overall size, reserved side wing structure for easy on-site installation, and 7x24-hour long MTBF stable operation capability on site. It can be applied to robots, Autonomous machines such as unmanned delivery vehicles, smart gates, and smart vending cabinets are ideal carriers for deploying AI computing power at the edge for deep learning. Working temperature: -20℃—+60℃, low power consumption, high safety level, and can meet various harsh conditions.

1.1 Features

Type	Z604	Z604-TX2 NX	Z604-NANO
Core	Xavier NX	TX2 NX	Nano
CPU	NVIDIA Carmel ARM v8.2 (6-core) @ 1.4GHz (6MB L2 + 4MB L3)	Dual-core Denver 264-bit CPU and quad-core Arm® Cortex®-A57 MPCore processor	Quad-core ARM Cortex- A57 MPCore processor
GPU	384-core NVIDIA Volta™ GPU with 48 Tensor Cores	256-core NVIDIA Pascal™ GPU	128-core NVIDIA Maxwell™ GPU
Memory	8GB LPDDR4	4GB LPDDR4	4GB LPDDR4
Storage	Built-in 16GB		
Computing power	21 TFLOPS	1.33 TFLOPS	472 GFLOPS
System	Ubuntu 18.04		



Interface \ Type	Z604	Z604-TX2 NX	Z604-NANO
USB	4 x USB Type A ports, support usb2.0, usb3.0/usb3.1 signals, and provide 1.5A output current; 1 x Micro USB port, support usb host and usb device mode, provide 0.5A output current.		
HDMI	1 x HDMI 2.0 interface (maximum 6Gbps, 24bpp, 4096x2160@60Hz)		
Network Port	2 x Gigabit Ethernet (10/100/1000Mbps adaptive; half duplex/full duplex adaptive)		
M.2 interface	1 x M.2-KEY-B interface, internally supports USB3.1/PCIE signal switching, supports 5G module; 1 x M.2-KEY-E interface, support Bluetooth/WIFI module; 1 x M.2-KEY-M interface, support NVMe SSD.		
Multi-function interface	1 multi-function interface (internal support 2 x CAN, 2 x RS485, 4 x GPIO (3.3V), 1 x Debug UART, 1 x POWER_BUTTON, 1 x RESET, 1 x RECOVERY)	1 multi-function interface (internal support 2 x RS485, 4 x GPIO (3.3V), 1 x Debug UART, 1 x POWER_BUTTON, 1 x RESET, 1 x RECOVERY)	
SD interface	1 x Micro SD Card slot		
SIM interface	1 x SIM (Nano) Card slot		
Dimensions	155mmx100mmx38mm		
Cooling method	Conductive cooling type (no fan)		
Power	+12V		
Temperature	-20℃--+60℃		
Weight	About 659.5g		

1.2 Ordering Information

Model Options	Functional Description
Z604	Xavier NX Feiyun Smart Box Conductive Cooling Edition, built-in Xavier NX module, pre-installed Ubuntu 18.04, built-in 16GB eMMC; 2 x GbE, 1 x M.2 KEY B, 1 x M.2 KEY E, 1 x M.2 KEY M, 1 x HDMI, 4 x USB3.0, 2 x CAN, 2 x RS485, 4 x GPIO, 1 x Debug UART, 1 x FORCE RECOVERY, 1 x SYS_RST, 1 x Micro SIM, 1 x Micro SD, 1 x Micro USB (burning interface), 5G module/SSD optional, WIFI and Bluetooth optional; 2 WIFI/Bluetooth antenna interfaces, 4 5G antenna interfaces, power indicator, -20——+60℃; Including power adapter, providing Realtimes RTS-Linux4Tegra software support package
Z604-TX2 NX	TX2 NX Feiyun Smart Box Conductive Cooling Edition, built-in TX2 NX module, pre-installed Ubuntu 18.04, built-in 16GB eMMC; 2 x GbE, 1 x M.2 KEY B, 1 x M.2 KEY E, 1 x M.2 KEY M, 1 x HDMI, 4 x USB3.0, 2 x CAN, 2 x RS485, 4 x GPIO, 1 x Debug UART, 1 x FORCE RECOVERY, 1 x SYS_RST, 1 x Micro SIM, 1 x Micro SD, 1 x Micro USB (burning interface); provide 2 WIFI/Bluetooth antenna interfaces, 4 5G antenna interfaces, power indicator, -20——+60℃ ;Including power adapter, providing Realtimes RTS-Linux4Tegra software support package
Z604-NANO	NANO Feiyun Smart Box Conductive Cooling Edition, built-in NANO module, pre-installed Ubuntu 18.04, built-in 16GB eMMC; 2 x GbE, 1 x M.2 KEY B, 1 x M.2 KEY E, 1 x M.2 KEY M, 1 x HDMI, 4 x USB3.0, 2 x RS485, 4 x GPIO, 1 x Debug UART, 1 x FORCE RECOVERY, 1 x SYS_RST, 1 x Micro SIM, 1 x Micro SD, 1 x Micro USB (burning interface); Provide 2 WIFI/Bluetooth antenna ports, 4 5G antenna ports, power indicator, -20——+60℃;Including power adapter, providing Realtimes RTS-Linux4Tegra software support package
RTSS-NWL(optional)	M.2 WIFI/Bluetooth module (including antenna)
NVME-SSD-256(optional)	Industrial grade 256GB NVME solid state drive (2280)
RTSV-6902(optional)	M.2 video capture card, RTSV-6902 (dual channel SDI video input), RTSV-6904 (four channel SDI video input), RTSV-6906 (single channel 4K SDI video input)
RTSV-6904(optional)	
RTSV-6906(optional)	

Order online:

<https://shop340963258.taobao.com>

<https://mall.jd.com/index-824786.html>

2 External interface function and location



Z604 FRONT



Z604 BACK

3 Installation and use

3.1 System installation renderings



3.2 Drive

The Z604 carrier board works on a system burned with the official original version of NVIDIA Linux For Tegra (L4T). HDMI, Gigabit Ethernet, USB2.0, serial port, GPIO, SD card, I2C bus can all be supported. But Mini-PCIE, USB3.0, fan interface, etc. cannot work normally.

Z604 carrier board interface is fully supported, and the supporting driver patch needs to be loaded.

The original NVIDIA LT4 software package ([for system programming](#)) can be downloaded from the link below:

<https://developer.nvidia.com/embedded/linux-tegra>

Z604 driver patch support package ([for system programming](#)) download link:

[http:// www.realtimes.cn/download/](http://www.realtimes.cn/download/)

System burning method ([help document](#)):

<https://www.realtimes.cn/cn/help.html>

Note: The account password of Ruitai Cloud Space must be obtained by contacting technical support.

3.3 How to use Smart Box

- a) Make sure that the voltage of all external systems is turned off
- b) Install the Jetson Nano/Xavier NX/TX2 NX core module to the 260-pin SO-DIMM connector. Please pay attention to the alignment between the connectors during the installation process, and install the fixing screws at the same time.
- c) Install necessary external cables. (Such as: the display cable connected to the HDMI monitor, the power input cable to power the system, the USB cable connected to the keyboard and mouse...)
- d) Connect the power cord to the power source.
- e) Z604 adopts automatic power-on design, turn on the power and the system starts to work.
- f) For a system without a protective enclosure, after the system is powered on, please avoid moving the entire system, and it is strictly forbidden to touch the circuit board and its electronic components with your body.

3.4 Recovery Mode


Jetson Nano/Xavier NX/TX2 NX core module can work in normal mode and Recovery mode. File system update, kernel update, boot loader update, BCT update and other operations can be performed in Recovery mode.

The steps to enter the Recovery mode are as follows:


- a) Turn off the power supply to the system.
- b) Use a USB cable to connect the OTG-USB port of the Z604 and the USB port of the Jetson development host.
- c) Press the RECOVERY button without releasing it to supply power to the system, keep the power supply for more than 3 seconds, then release the RECOVERY button
- d) The system enters Recovery mode, and subsequent operations can be performed at this time.

4 Connectors Description

4.1 Micro USB Interface


Function	Micro USB interface																			
Marking	OTG																			
Type	USB 2.0 MicroType-B																			
Pin define	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Pin</th> <th>Signal</th> <th>Pin</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>VBUS</td> <td>2</td> <td>USB 2.0 D-</td> </tr> <tr> <td>3</td> <td>USB 2.0 D+</td> <td>4</td> <td>USB ID</td> </tr> <tr> <td>5</td> <td>GND</td> <td></td> <td></td> </tr> </tbody> </table>					Pin	Signal	Pin	Signal	1	VBUS	2	USB 2.0 D-	3	USB 2.0 D+	4	USB ID	5	GND	
Pin	Signal	Pin	Signal																	
1	VBUS	2	USB 2.0 D-																	
3	USB 2.0 D+	4	USB ID																	
5	GND																			

4.2 USB3.0 Interface

Function	USB Connector																																																																							
Marking	USB x 2																																																																							
Type	Dual USB Type-A interface																																																																							
Pin define	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>level</th> <th colspan="4">Upper layer</th> </tr> <tr> <th>Type</th> <th colspan="4">USB 3.0 And USB 2.0</th> </tr> <tr> <th>Pin</th> <th>Signal</th> <th>Pin</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>VBUS</td> <td>2</td> <td>USB 2.0 D-</td> </tr> <tr> <td>3</td> <td>USB 2.0 D+</td> <td>4</td> <td>GND</td> </tr> <tr> <td>5</td> <td>SSRX-</td> <td>6</td> <td>SSRX+</td> </tr> <tr> <td>7</td> <td>GND</td> <td>8</td> <td>SSTX-</td> </tr> <tr> <td>9</td> <td>SSTX+</td> <td></td> <td></td> </tr> </tbody> </table> <p style="color: red; margin-top: 10px;">Note: When the core module is xavier NX, the upper USB interface is USB3.1</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>level</th> <th colspan="4">Lower layer</th> </tr> <tr> <th>Type</th> <th colspan="4">USB 2.0</th> </tr> <tr> <th>Pin</th> <th>Signal</th> <th>Pin</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>VBUS</td> <td>2</td> <td>USB 2.0 D-</td> </tr> <tr> <td>3</td> <td>USB 2.0 D+</td> <td>4</td> <td>GND</td> </tr> <tr> <td>5</td> <td>SSRX-</td> <td>6</td> <td>SSRX+</td> </tr> <tr> <td>7</td> <td>GND</td> <td>8</td> <td>SSTX-</td> </tr> <tr> <td>9</td> <td>SSTX+</td> <td></td> <td></td> </tr> </tbody> </table>					level	Upper layer				Type	USB 3.0 And USB 2.0				Pin	Signal	Pin	Signal	1	VBUS	2	USB 2.0 D-	3	USB 2.0 D+	4	GND	5	SSRX-	6	SSRX+	7	GND	8	SSTX-	9	SSTX+			level	Lower layer				Type	USB 2.0				Pin	Signal	Pin	Signal	1	VBUS	2	USB 2.0 D-	3	USB 2.0 D+	4	GND	5	SSRX-	6	SSRX+	7	GND	8	SSTX-	9	SSTX+	
level	Upper layer																																																																							
Type	USB 3.0 And USB 2.0																																																																							
Pin	Signal	Pin	Signal																																																																					
1	VBUS	2	USB 2.0 D-																																																																					
3	USB 2.0 D+	4	GND																																																																					
5	SSRX-	6	SSRX+																																																																					
7	GND	8	SSTX-																																																																					
9	SSTX+																																																																							
level	Lower layer																																																																							
Type	USB 2.0																																																																							
Pin	Signal	Pin	Signal																																																																					
1	VBUS	2	USB 2.0 D-																																																																					
3	USB 2.0 D+	4	GND																																																																					
5	SSRX-	6	SSRX+																																																																					
7	GND	8	SSTX-																																																																					
9	SSTX+																																																																							


4.3 Gigabit Ethernet

Function	Ethernet connector			
Marking	GbE1、GbE2			
Type	RJ45			
Pin define	Pin	Signal	Pin	Signal
	1	TP0+	2	TP0-
	3	TP1+	4	TP2+
	5	TP2-	6	TP1-
	7	TP3+	8	TP3-



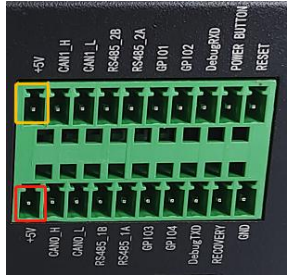
4.4 HDMI Display interface

Function	HDMI Display connector			
Marking	HDMI			
Type	HDMI			
Pin define	Pin	Signal	Pin	Signal
	1	TMDS Data2+	2	TMDS Data2 GND
	3	TMDS Data2-	4	TMDS Data1+
	5	TMDS Data1 GND	6	TMDS Data1-
	7	TMDS Data0+	8	TMDS Data0 GND
	9	TMDS Data0-	10	TMDS Clock+
	11	TMDS Clock GND	12	TMDS Clock-
	13	CEC	14	No Connect
	15	DDC clock	16	DDC data
	17	DDC GND	18	+5V Power
	19	Hot Plug Detect		




4.5 Multi-function interface

Function	Multi-function interface			
Marking				
Type	3.81mm pitch 2x10Pin double row straight pin			
Pin define	Pin	Signal	Pin	Signal
	1	5V	2	5V
	3	CAN0_H	4	CAN1_H
	5	CAN0_L	6	CAN1_L
	7	1_RS485_B	8	2_RS485_B
	9	1_RS485_A	10	2_RS485_A
	11	GPIO3	12	GPIO1
13	GPIO4	14	GPIO2	




	15	Debug_UART_TXD	16	Debug_UART_RXD
	17	FORCE_RECOVERY	18	POWER_BTN_IN_MCU
	19	GND	20	SYS_RST
<p>Pin 1: The yellow box mark in the picture on the right.</p> <p>Pin 2: The red box mark in the picture on the right.</p> <p>1_RS485 mapping file in Linux system is ttyTHS1 under /dev directory.</p> <p>2_RS485 mapping file in Linux system is ttyTHS0 under /dev directory.</p> <p>The mapping files of GPIO1, GPIO2, GPIO3, and GPIO4 in Linux system are 436, 266, 267, 422.</p> <p>Note: When matched with Nano core module, there is no CAN interface function.</p>				

4.6 Micro SD (TF) card socket


Function	Micro SD (TF) card socket																											
Marking	Micro SD																											
Type	Micro SD (TF)																											
Pin define	<table border="1"> <thead> <tr> <th>Pin</th> <th>Signal</th> <th>Pin</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SDIO_DATA2</td> <td>2</td> <td>SDIO_DATA3</td> </tr> <tr> <td>3</td> <td>SDIO_CMD</td> <td>4</td> <td>SDIO_VCC</td> </tr> <tr> <td>5</td> <td>SDIO_CLK</td> <td>6</td> <td>GND</td> </tr> <tr> <td>7</td> <td>SDIO_DATA0</td> <td>8</td> <td>SDIO_DATA1</td> </tr> <tr> <td>9</td> <td>GND</td> <td>10</td> <td>SDIO_CD</td> </tr> </tbody> </table>					Pin	Signal	Pin	Signal	1	SDIO_DATA2	2	SDIO_DATA3	3	SDIO_CMD	4	SDIO_VCC	5	SDIO_CLK	6	GND	7	SDIO_DATA0	8	SDIO_DATA1	9	GND	10
Pin	Signal	Pin	Signal																									
1	SDIO_DATA2	2	SDIO_DATA3																									
3	SDIO_CMD	4	SDIO_VCC																									
5	SDIO_CLK	6	GND																									
7	SDIO_DATA0	8	SDIO_DATA1																									
9	GND	10	SDIO_CD																									

4.7 Micro SIM card socket

Function	SIM card socket																							
Marking	SIM																							
Type	Micro SIM																							
Pin define	<table border="1"> <thead> <tr> <th>Pin</th> <th>Signal</th> <th>Pin</th> <th>Signal</th> </tr> </thead> <tbody> <tr> <td>S1</td> <td>UIM_PWR</td> <td>S2</td> <td>UIM_RESET</td> </tr> <tr> <td>S3</td> <td>UIM_CLK</td> <td>S4</td> <td>NC</td> </tr> <tr> <td>S5</td> <td>GND</td> <td>S6</td> <td>NC</td> </tr> <tr> <td>S7</td> <td>UIM_DATA</td> <td></td> <td></td> </tr> </tbody> </table>					Pin	Signal	Pin	Signal	S1	UIM_PWR	S2	UIM_RESET	S3	UIM_CLK	S4	NC	S5	GND	S6	NC	S7	UIM_DATA	
Pin	Signal	Pin	Signal																					
S1	UIM_PWR	S2	UIM_RESET																					
S3	UIM_CLK	S4	NC																					
S5	GND	S6	NC																					
S7	UIM_DATA																							

4.8 Power connector

Function	Power connector			
Marking	DC12V			
Type	2 pin terminal			
Pin define	Pin		Signal	
	1	VCC (+)	2	GND (-)
	Input voltage range: +9V~+20V Live connection of cables is strictly prohibited!			



5 Hardware update history

Z604 Board card hardware update history

Revision	Reason for change
V1.1	Initial release

6 Product size diagram



Terms of Warranty

Important note

Each embedded product provided by Realtimes Technology is free from any defects in material and process,fully in line with the specifications officially issued by the original factory.

Realtimes Technology warranty covers the original products,If the parts configured by the dealer are out of order, please consult with the dealer to solve the problem. All the baseplate and core modules provided by Ruitai New Era (Beijing) Technology Co., Ltd. are guaranteed for 3 years, while the other peripherals are guaranteed for 1 year (life-long maintenance service is provided if the warranty period is beyond the warranty period).The warranty period starts from the date of delivery, for the products repaired within the warranty period, the repair parts shall be extended for 12 months.Unless notified by Realtimes Technology, the date of your original invoice shall be the date of shipment.

How do I get warranty services

If the product does not work properly, Please contact Realtimes Technology or dealer for warranty service, please show invoice when product warranty(this is the proof for you getting warranty service).

Warranty solution

When you ask for warranty service, please follow Realtimes Technology warranty process,You will need to receive your first diagnosis from a technical engineer by phone or by email,at that time,we need you to cooperate with us to fill in all the questions on the RMA form provided by us. Once we accurately determine the cause of the fault and the location of the damage ,we will provide the charge list for the out of warranty products,which needs your confirmation.Realtimes Technology keep the right to repair or replace the products. If the product is replaced or repaired, the replaced faulty product or the repaired and replaced faulty parts will be returned to Realtimes Technology.

For products under warranty,the customer shall bear the freight when the product is returned to the manufacturer,Realtimes Technology will bear the ship cost of the products after maintenance.

The following conditions are not covered by the warranty terms

- a) Improper installation, improper use, misuse and abuse of products(Overloading, for example).
- b) Improper maintenance and storage (Such as fire, explosion, etc) or natural disasters (such as lightning stroke,earthquake,typhoon,etc)
- c) Personal unauthorized changing the product(such as changing circuit characteristics, mechanical characteristics, software characteristics,Conformal coating).
- d) Other failures which are clearly due to misuse(such as overvoltage,polarity reversal, the pin bent or broken,the wrong connection,drop damage,transportation damage,damage due to over operating temperature and so on).
- e) The logo and part number on the product have been deleted or removed.
- f) The product is out of warranty.

Special concerns

If the same fault multiple occurrence for the products,in order to find out the reason causing the problem,we will request the users to provide the specific documents or information of peripheral equipment,such as



monitor,I/O boards,cables,power supply, diagram and structure of the system,etc.If such documents or information are not available,we have the right to refuse to perform the warranty, the repairs will be charged accordingly.

Rev.C 6/2020