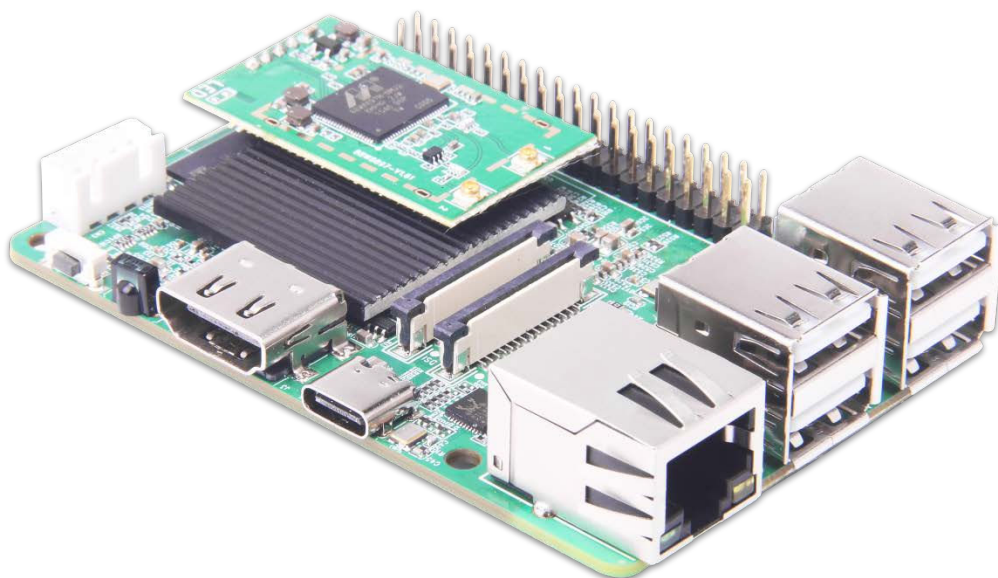


## SPECIFICATION

MODEL: XPI-3566



## Confirmation

REVISION HISTORY					
VERSION	DATE	BOARD ID	PAGE	DESCRIPTION	AUTHOR
V1.0	2022/04/10	XPI_RK3566_V1.0	11	specification	

APPROVED BY GENIATECH		
PREPARED BY 编写	CHECKED BY 审核	APPROVED BY 批准

Please return the original copy after approved by your company with stamp and signature.  
请在贵公司盖章并签字后寄回正本一份。

APPROVED BY CUSTOMER		
COMMENTS 确认意见	APPROVED BY 批准签字	COMPANY STAMP 盖章

Website: [www.geniatech.com](http://www.geniatech.com)

Address: Room 02-04, 10 / F, Block A, Building 8, Shenzhen International Innovation Valley, Dashi Road, Nanshan District, Shenzhen, Guangdong, China.

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### 1. GENERAL DESCRIPTION

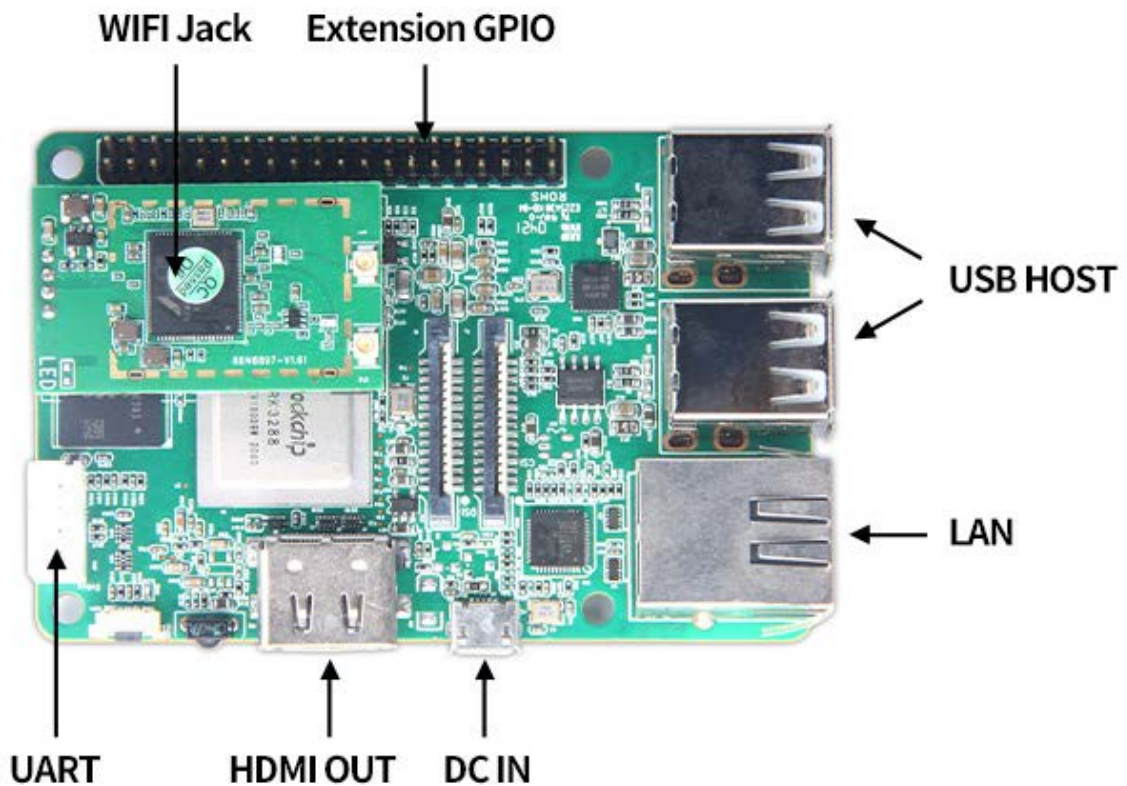
XPI-3566 is a DIY product made by Geniatech that uses the form factor of Raspberry Pi. According to the definition of Raspberry Pi, which is suitable for the field of programming education for teenagers. Below is the detailed specification:

- (I) 85mm\*55mm, Only the size of a bank card
- (II) Rockchip RK3566 with Quad-core Cortex-A55 up to 1.8GHz
- (III) 2G RAM, 16GB eMMC flash
- (IV) USB HOST 3.0 \* 1, USB Host 2.0\*2, USB OTG 2.0\*1, 1\*HDMI Out, 1\*Type-C, 1\*UART, 1\* Extension GPIO interface
- (V) Support Android 11.0 or Linux(Debian 10/buildroot)
- (VI) WiFi and 1000M LAN interface
- (VII) Micro SD card(TF card : Max64G)
- (VIII)Designed for retail, interactive communication

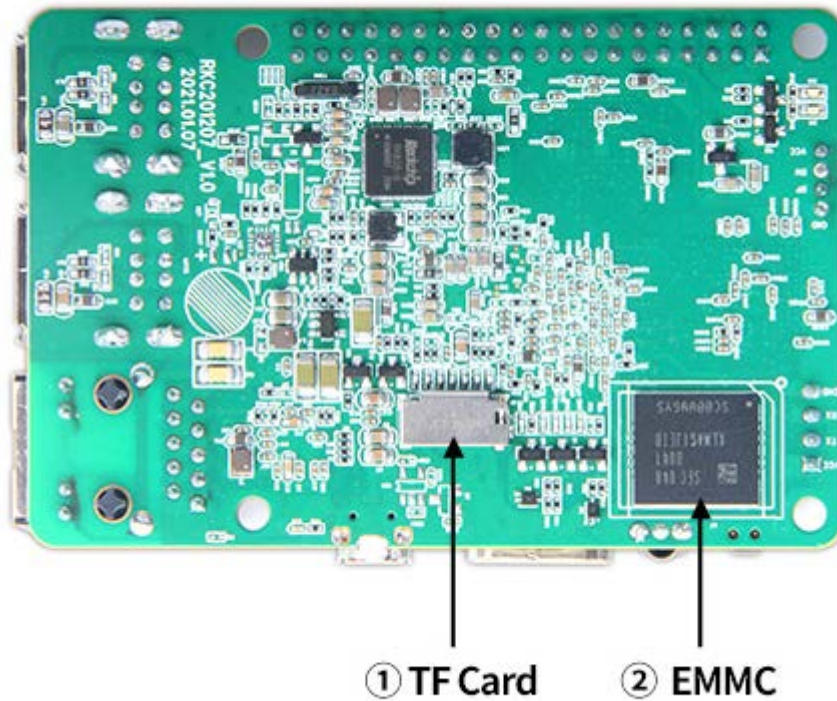
### 2. PRODUCT LAYOUT

Below pictures are for reference only:

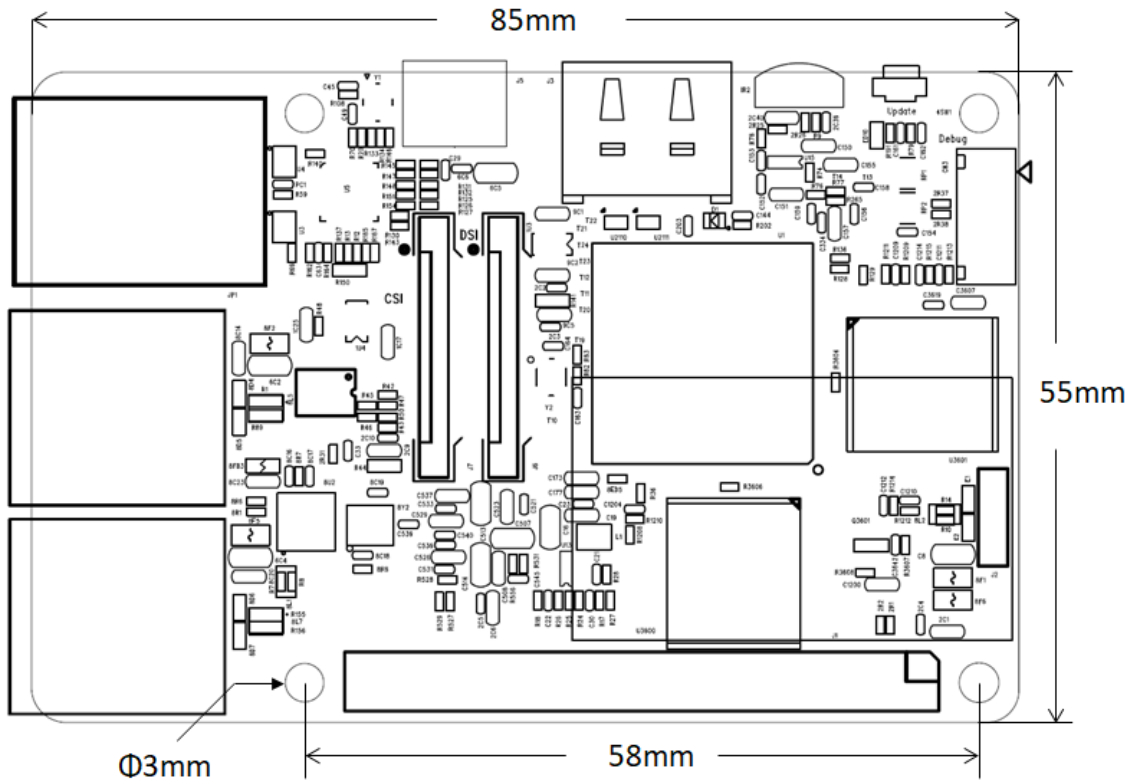
#### 2.1 BOARD FRONT VIEW



## 2.2 BOARD BACK VIEW



## 2.3 STRUCTURE VIEW



### 3.FEATURES

Chipset	Rockchip RK3566	
Market area	Global	
OSD Language	English/Chinese(multi language OSD)	
Processor	CPU	Quad-core Cortex-A55 up to 1.8GHz
	GPU	Mali-G52-2EE
	DDR	2GB (1G/4G/8G Optional)
	EMMC FLASH	16GB (8G/32G/64GB Optional)
Network	Ethernet	RJ45, 1000M
	WiFi	2.4G/5G Dual Band
	Bluetooth	BT4.0
Interface	TF Card Slot	TF card *1(max. 64GB)

	HDMI	HDMI out*1
	USB Host	USB HOST 3.0 * 1, USB Host 2.0*2, USB OTG 2.0*1
	TYPE-C	Power IN*1
	GPIO	GPIO*28
Dimensions	85 mm * 55 mm	
Adapter	DC5V / 3A	
Accessory	N/A, XPI only	

## 4.Support Formats

### Video Decoder

- ◆ H.265 HEVC/MVC Main10 Profile yuv420@L5.1 up to 4096x2304@60fps
- ◆ H.264 AVC/MVC Main10 Profile yuv400/yuv420/yuv422/@L5.1 up to 4096x2304@60fps
- ◆ VP9 Profile0/2 yuv420@L5.1 up to 4096x2304@60fps
- ◆ VP8 verision2, up to 1920x1088@60fps
- ◆ VC1 Simple Profile@low, medium, high levels, Main Profile@low, medium, high levels, Advanced Profile@level0~3, up to 1920x1088@60fps
- ◆ MPEG-4 Simple Profile@L0~6, Advanced Simple Profile@L0~5, up to 1920x1088@60fps
- ◆ MPEG-2 Main Profile, low, medium and high levels, up to 1920x1088@60fps
- ◆ MPEG-1 Main Profile, low, medium and high levels, up to 1920x1088@60fps
- ◆ H.263 Profile0, levels 10-70, up to 720x576@60fps

### Video Encoder

- ◆ H.264/AVC BP/MP/HP@level4.2, up to 1920x1080@60fps
- ◆ H.265/HEVC MP@level4.1, up to 1920x1080@100fps (4096x4096@10fps with TILE)
- ◆ Support YUV/RGB video source with rotation and mirror

### JPEG decoder

- ◆ Decoder size is from 48x48 to 65536x65536
- ◆ Support YUV400/YUV411/YUV420/YUV422/YUV440/YUV444
- ◆ Support 1920x1080@120fps
- ◆ Support MJPEG

### JPEG encoder

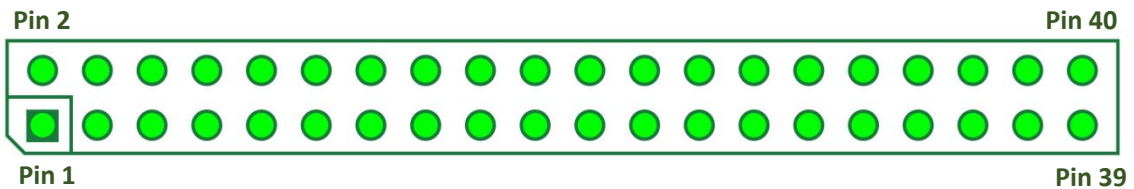
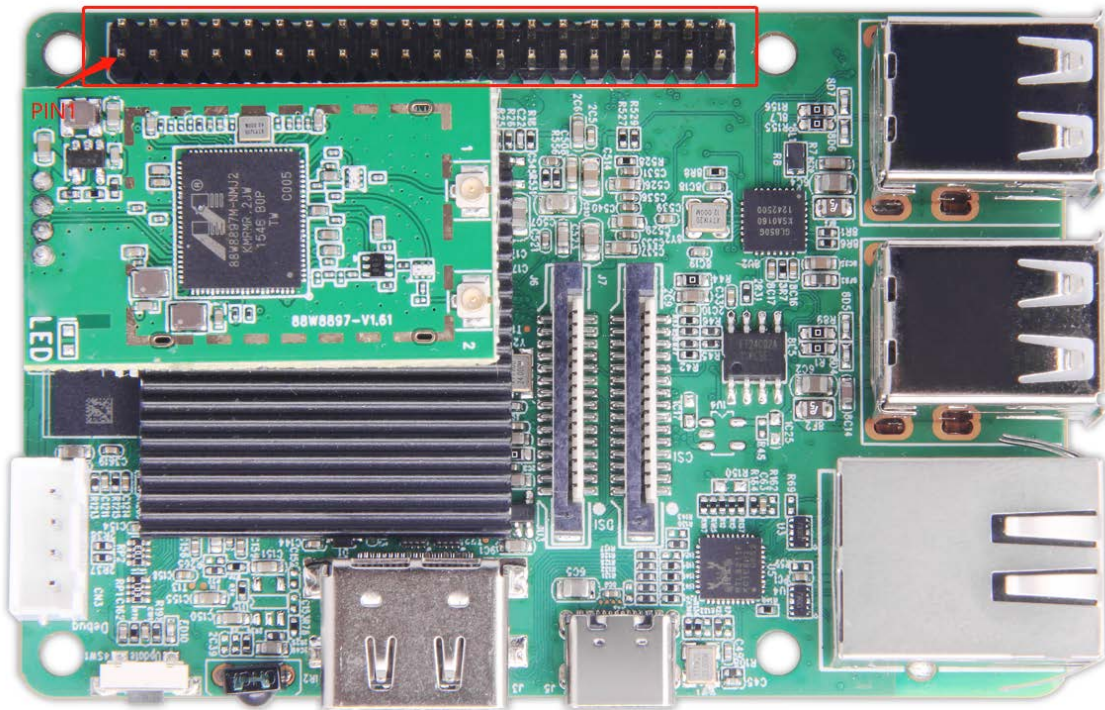
- ◆ Baseline Non-progressive
- ◆ up to 8192x8192
- ◆ up to 90 million pixels per second



## 5 INTERFACE SPECIFICATION

### 5.1 Extension GPIO definition

\*Please note that the missing corner in the lower left corner identifies Pin No. 1

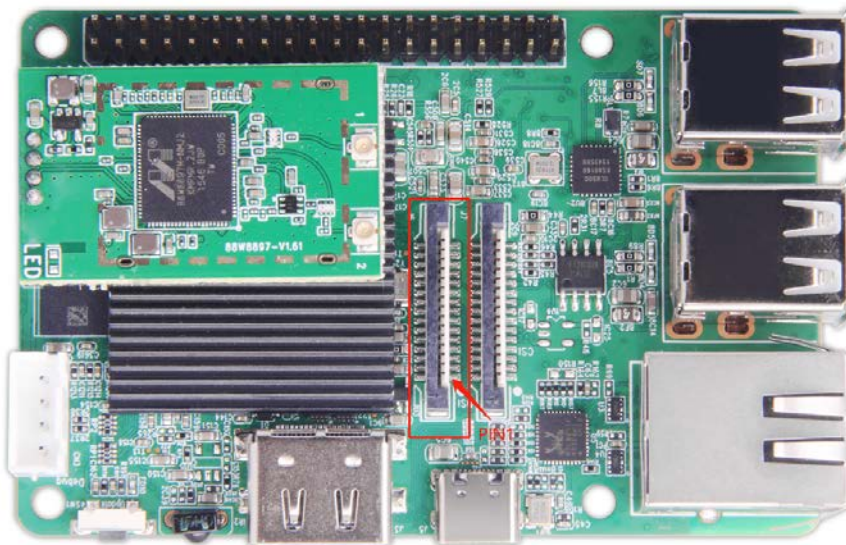


No.	Definition	No.	Definition
1	VCC_3_3V	2	VCC_5V
3	I2C4_SDA/GPIO7_C1	4	VCC_5V
5	I2C4_SCL/GPIO7_C2	6	GND
7	I2S0_MCLK	8	UART3_TX/GPIO_B0
9	GND	10	UART3_RX/GPIO7_A7
11	UART1_CTSn/GPIO5_B2	12	UART1_RTSn/GPIO5_B3
13	UART1_TX/GPIO5_B1	14	GND
15	UART1_RX/GPIO5_B0	16	UART3_CTSn/GPIO_B1
17	VCC_3_3V	18	UART3_RTSn/GPIO_B2
19	SPIO_TXD/UART4_TX/GPIO5_B6	20	GND
21	SPIO_RXD/UART4_RX/GPIO5_B7	22	TS0_ERR/GPIO5_C3
23	SPIO_CLK/UART4_CTSn/GPIO5_B4	24	SPI1_CSN0/GPIO7_B5
25	GND	26	SPI2_CSN0/SC_DET_T1/GPIO8_A7



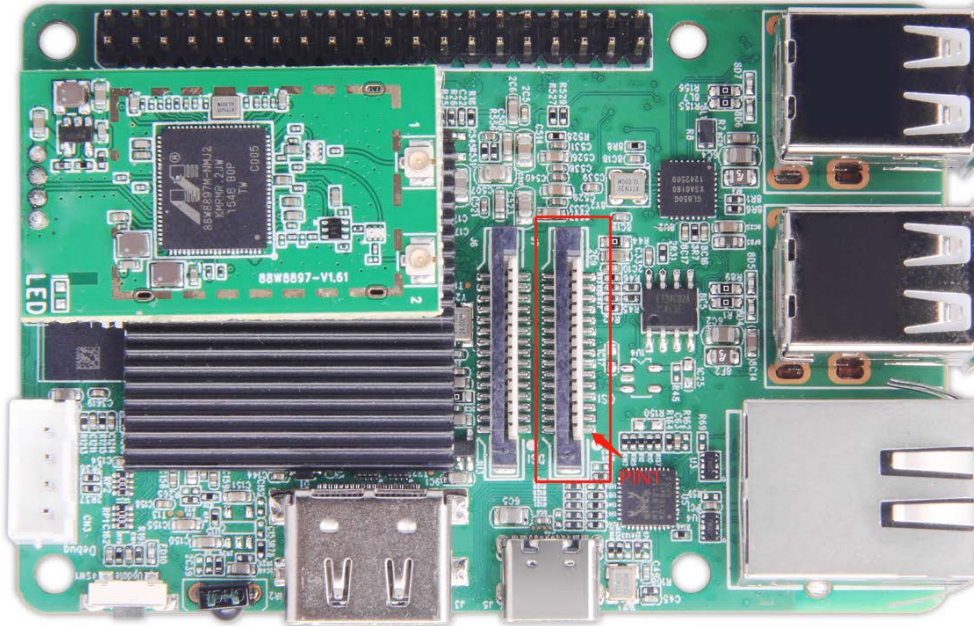
27	I2C2_SDA_AUDIO	28	I2C2_SCL_AUDIO
29	SPI0_CSN0/UART4_RTSN/GPIO5_B5	30	GND
31	SPI0_CSN1/GPIO5_C0	32	SPI1_TXD/GPIO7_B7
33	I2S0_LRCK_RX	34	GND
35	I2S0_SCLK	36	SPI1_RXD/GPIO7_B6
37	I2S0_LRCK_TX	38	I2S0_SDI
39	GND	40	I2S0_SDO0

### 5.2 MIPI DSI



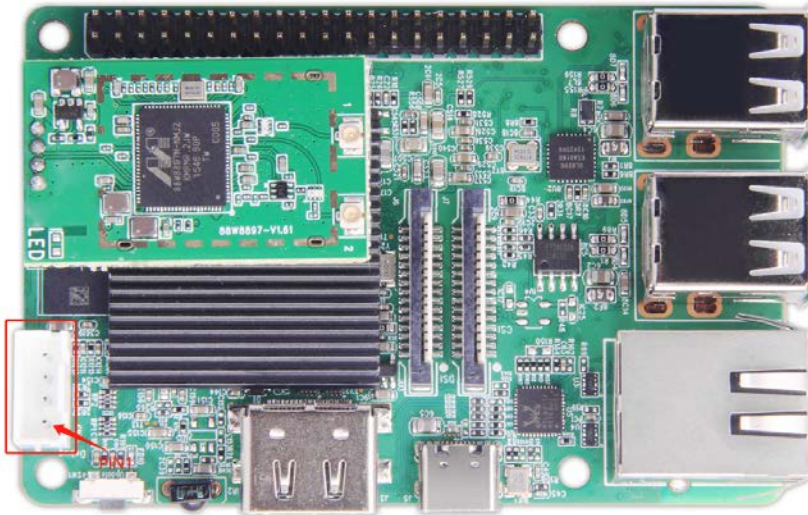
No.	Definition	No.	Definition
1	GND	2	MIPI_TX_D1N
3	MIPI_TX_D1P	4	GND
5	MIPI_TX_CLKN	6	MIPI_TX_CLKP
7	GND	8	MIPI_TX_D0N
9	MIPI_TX_D0P	10	GND
11	I2C_SCK_D	12	I2C_SDA_D
13	GND	14	VCC_3_3V
15	VCC_3_3V	16	NC
17	NC	18	NC
19	NC	20	NC
21	NC	22	NC
23	NC	24	NC
25	NC	26	NC
27	NC	28	NC
29	NC	30	NC

### 5.2 MIPI CSI



No.	Definition	No.	Definition
1	GND	2	MIPI_RX_D1N
3	MIPI_RX_D1P	4	GND
5	MIPI_RX_CLKN	6	MIPI_RX_CLKP
7	GND	8	MIPI_RX_D0N
9	MIPI_RX_D0P	10	GND
11	TS0_CLK/GPIO5_C2	12	NC
13	I2C_SCK_D	14	I2C_SDA_D
15	VCC_3_3V	16	NC
17	NC	18	NC
19	NC	20	NC
21	NC	22	NC
23	NC	24	NC
25	NC	26	NC
27	NC	28	NC
29	NC	30	NC

### 5.3 DEBUG



No.	Definition	No.	Definition
1	VCC_3_3V	2	UART1_TX/GPIO5_B1
3	UART1_RX/GPIO5_B0	4	GND

### 6. Precautions for use

1. Relative humidity: 10% ~ 90% .
2. Storage temperature: -10 ~ 125 °C
3. Operation temperature: commercial (0 °C ~60 °C)/Extended commercial (-20 °C ~ 85°C)
4. Do not squeeze、 distort or disassemble the board.
5. Keep the board away from static electricity .
6. Keep the board away from water and other liquid.
7. Clean the board with soft and clean dry cloth when it's dirty.
8. Don't use long connect wires which may affect performance and image quality.