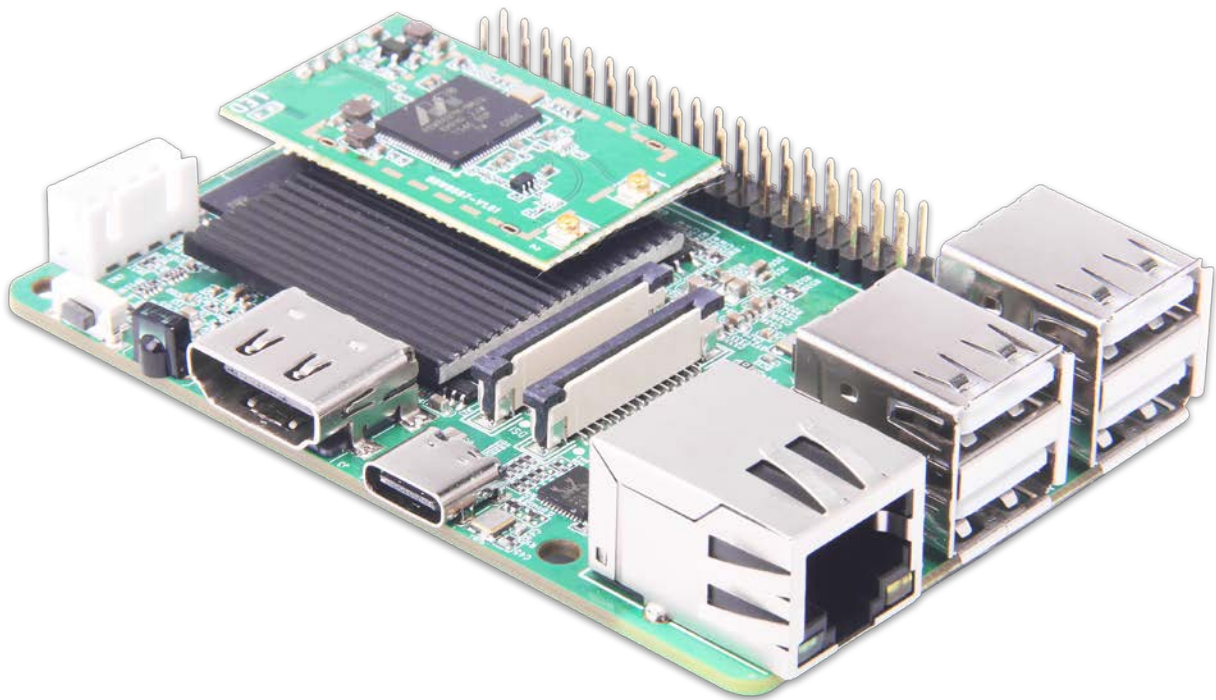


# XPI-3288

## Hardware UserGuide



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### 1 Introduction

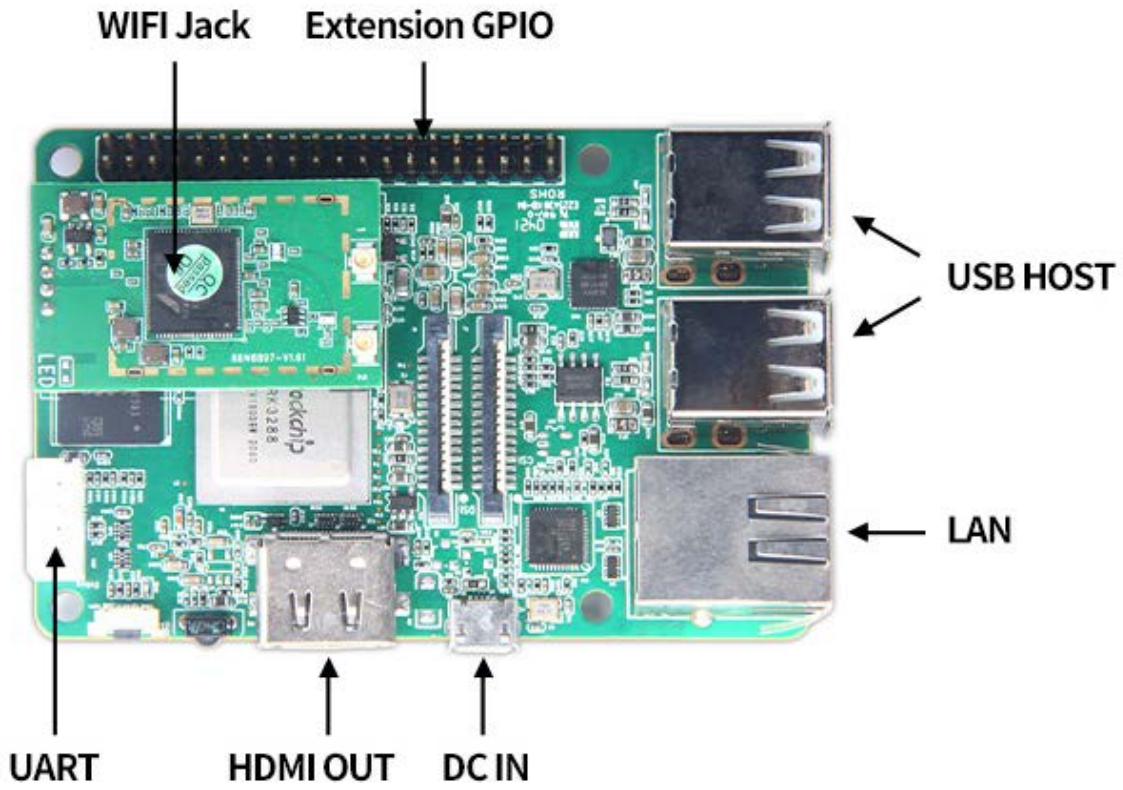
XPI-3288 is an open source development board with below new features:

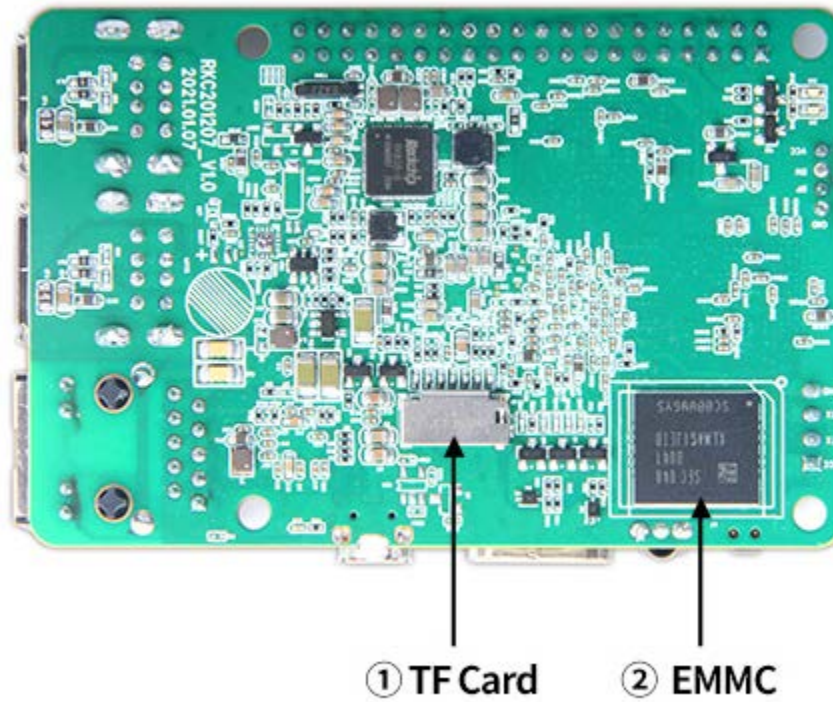
- (I) Quad Core Cortex A17 @1.6GHz , ARM Mali-T764 GPU
- (II) support Android 7.1/ Linux OS
- (III) 2GB RAM, 8GB eMMc ( 16~64GB optional )
- (IV) Support MIPI DSI/CSI and HDMI output
- (V) Ethernet 10/100/1000M + BT4.0 + 802.11a/b/g/n/ac (2.4G&5.8G ) optional
- (VI) Support Extension GPIO
- (VII) Support 4\*USB2.0+1\* Micro SD
- (VIII) Designed for education, interactive communication

The following table lists its key features:

Processor	Rockchip RK3288 Quad-core Cortex-A17 up to 1.6GHz ARM Mali-T764 GPU, Supports OpenGL ES1.1/2.0/3.0, OpenCL 1.1 and DirectX 11
Memory	2GB DDR3
Storage	8GB (16G/32G/64G Optional)
Network	10/100/1000M Ethernet
	802.11 a/b/g/n/ac 2.4 / 5.8GHz (optional)
	BT4.0(optional)
Display	1*HDMI
	1*LVDS( includes backlight)
I/O	1*HDMI, 4*USB2.0, 1*RJ45, 1*Micro SD(MAX:256GB), 1*IR, 1*Type-C (only for power in) 1*update key
Video codec	Real-time video decoder of MPEG-1, MPEG-2, MPEG-4,H.263, H.264, AVS, VC-1,VP8, MVC
	H.264 up to HP level 5.1 : 2160p@24fps (3840x2160)
	MPEG-4 up to ASP level 5 : 1080p@60fps (1920x1088)
	MPEG-2 up to MP : 1080p@60fps (1920x1088)
	MPEG-1 up to MP : 1080p@60fps (1920x1088)
	H.263 : 576p@60fps(720x576)
	VC-1 up to AP level 3 : 1080p@30fps (1920x1088)
	VP8 : 1080p@60fps (1920x1088)
	AVS : 1080p@60fps (1920x1088)
	MVC : 1080p@60fps (1920x1088)
	Support video encoder for H.264 (BP@level4.0, MP@level4.0, HP@level4.0), MVC and VP8
	Only support I and P slices, not B slices
	Video Encoder
Image size is from 96x96 to 1920x1088(Full HD)	
Maximum frame rate is up to 30fps@1920x1080	
Bit rate supported is from 10Kbps to 20Mbps	
OS	Android 7.1 / Linux
Size	85mm*55mm
Power Adapter	DC5V/3A

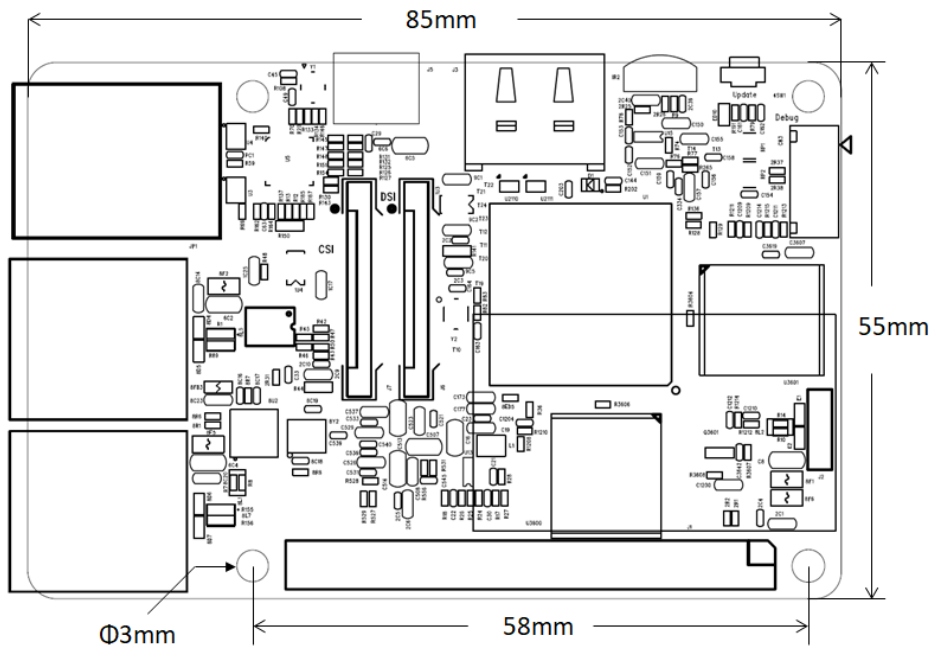
## 1.1 Board overview





## 2 XPI-3288 Overview

### 2.1 Product Diagram

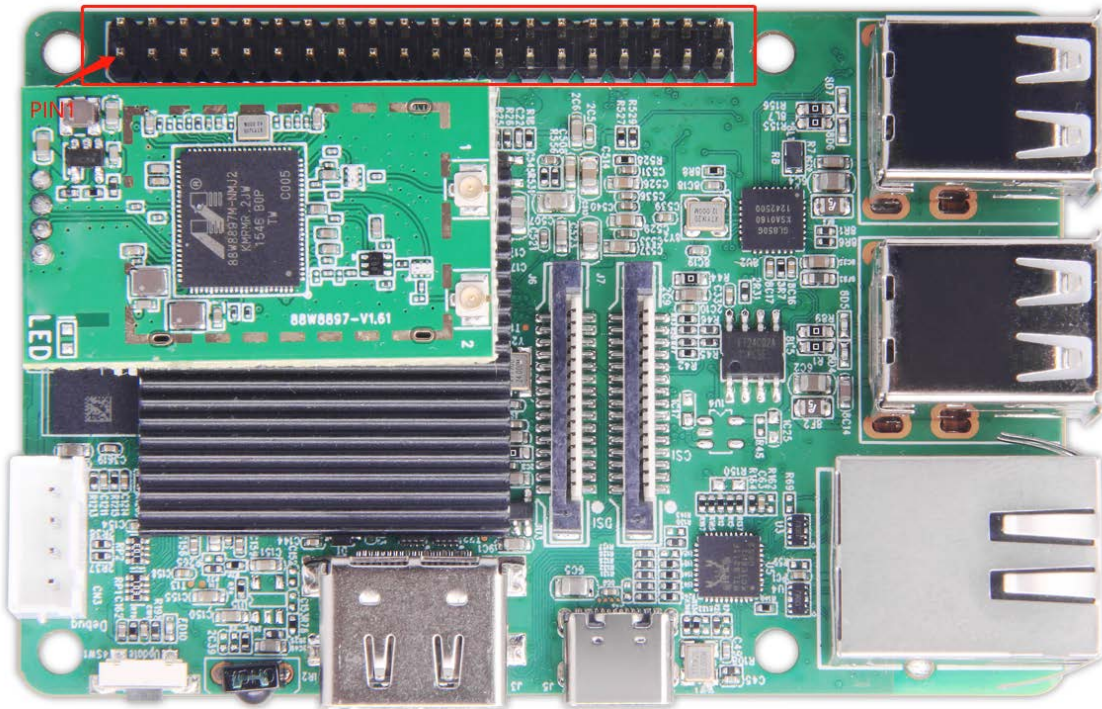




2.2 Internal Connectors, Headers & Jumpers

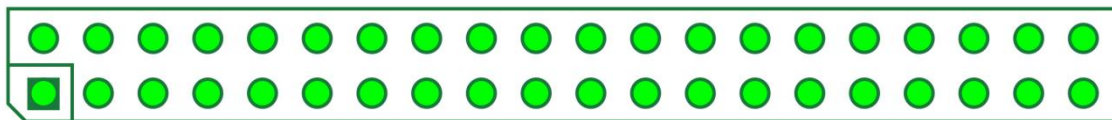
2.2.1 Extension GPIO definition

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



Pin 2

Pin 40



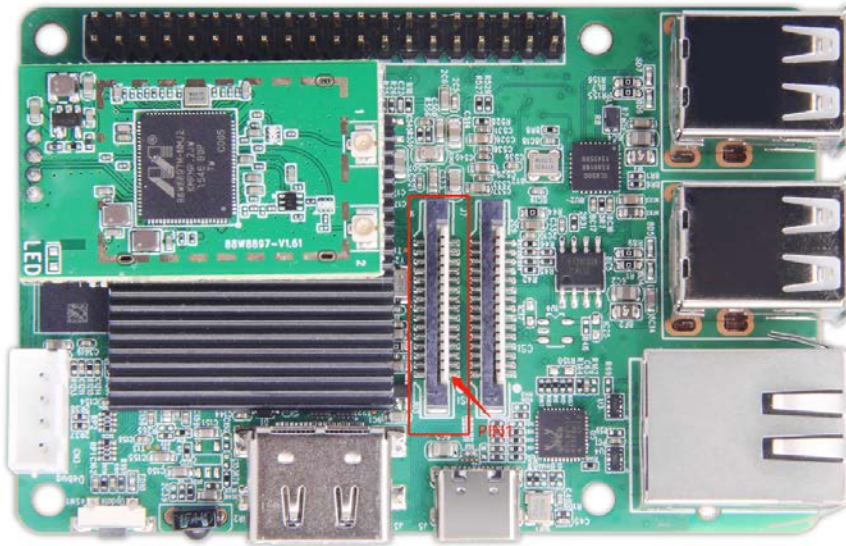
Pin 1

Pin 39

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	SPI0_TXD/UART4_TX/GPIO5_B6	20	GND
21	SPI0_RXD/UART4_RX/GPIO5_B7	22	TS0_ERR/GPIO5_C3
23	SPI0_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

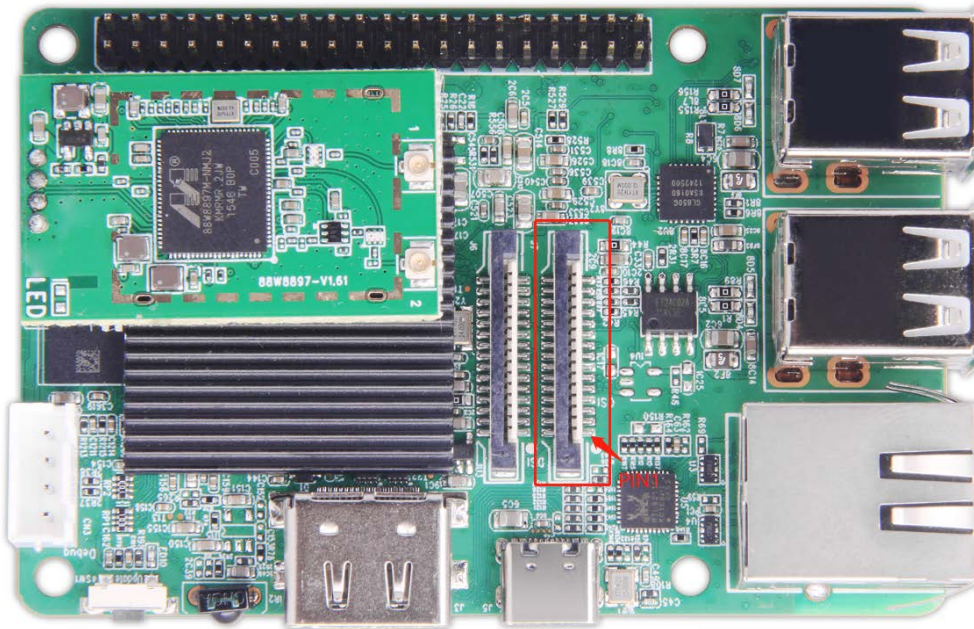
### 2.2.2 MIPI DSI



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

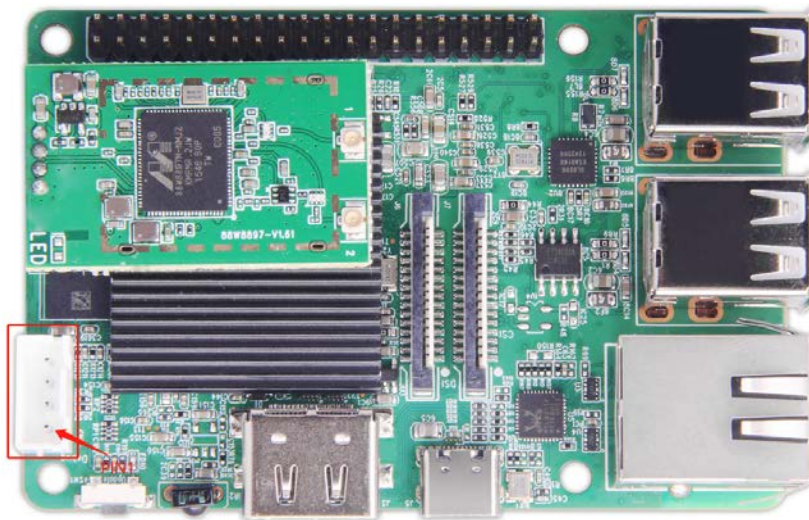


## 2.2.3 MIPI CSI



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

## 2.2.4 DEBUG



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

## 2.3 System Block diagram

