MINI1126B-P Reference User Manual

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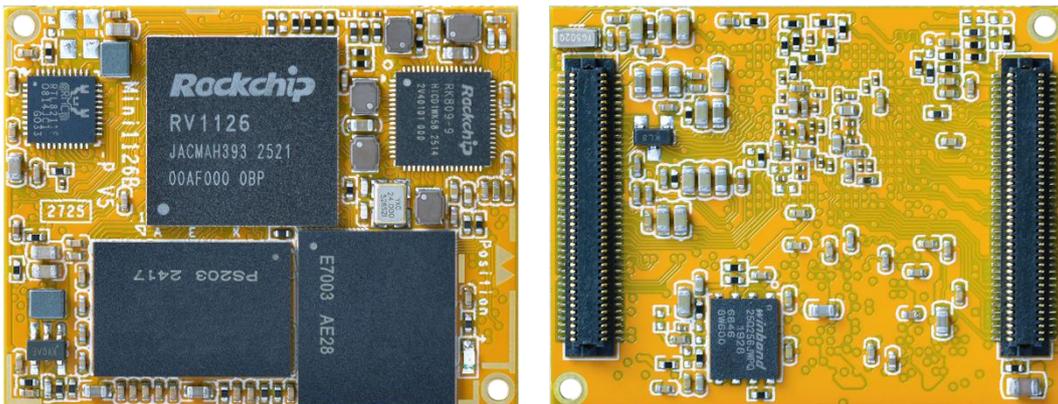
1. Introduction

1.1. About this Manual

This manual is intended to provide the user with an overview of the board and benefits, complete features specifications, and set up procedures. It contains important safety information as well.

1.2. Feedback and Update to this Manual

To help our customers make the most of our products, we are continually making additional and updated resources available on the Boardcon website ((www.boardcon.com , www.armdesigner.com)).

These include manuals, application notes, programming examples, and updated software and hardware. Check in periodically to see what's new!

When we are prioritizing work on these updated resources, feedback from customers is the number one influence, If you have questions, comments, or concerns about your product or project, please no hesitate to contact us at support@armdesigner.com.

1.3. Limited Warranty

Boardcon warrants this product to be free of defects in material and workmanship for a period of one year from date of buy. During this warranty period Boardcon will repair or replace the defective unit in accordance with the following process:

A copy of the original invoice must be included when returning the defective unit to Boardcon. This limited warranty does not cover damages resulting from lighting or other power surges, misuse, abuse, abnormal conditions of operation, or attempts to alter or modify the function of the product.

This warranty is limited to the repair or replacement of the defective unit. In no event shall Boardcon be liable or responsible for any loss or damages, including but not limited to any lost profits, incidental or consequential damages, loss of business, or anticipatory profits arising from the use or inability to use this product.

Repairs make after the expiration of the warranty period are subject to a repair charge and the cost of return shipping. Please contact Boardcon to arrange for any repair service and to obtain repair charge information.

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1 Mini1126B-P Introduction

1.1 Summary

The Mini1126B-P system-on-module is equipped with Rockchip's RV1126B-P build in quad-core Cortex-A53, 3.0 TOPs NPU and RISC-V MCU.

It is designed specifically for the IPC/CVR devices, AI Camera devices, intelligent interactive devices, and mini robots. The high performance and low power solution can help customers to introduce new technologies more quickly and enhance the overall solution efficiency.

1.2 Features

- **Microprocessor**
    - Quad-core Cortex-A53 up to 1.6G
    - 32KB I-cache and 32KB D-cache for each core, 512KB L3 cache
    - 3.0 TOPS Neural Process Unit
    - RISC-V MCU to support 250mS fast boot
    - Max 12M ISP

  Memory Organization
    - LPDDR4 RAM up to 4GB
    - EMMC4.51 up to 256GB
    - SPI Flash up to 8MB
- **Video Decoder/Encoder**
    - Supports video decode/encode up to 4K@30fps
    - Supports real-time decoding of H.264/265
    - Supports real-time UHD H.264/265 video encoding
    - Picture size up to 8192x8192
- **Display Subsystem**
    - **Video Output**
        Supports 4 lanes MIPI DSI up to 2560x1440@60fps
        Supports 24bit RGB parallel output
    - **Image in**
        Supports up to 16bit DVP interface
        Supports 2ch MIPI CSI 4lanes interface
- **I2S/PCM/ AC97**
    - Two I2S/PCM interface
    - Support Mic array Up to 8ch PDM/TDM interface
    - Support PWM audio output

- **USB and PCIE**
    - Two 2.0 USB interfaces
    - One USB 2.0 OTG, and one 2.0 USB hosts

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- **Ethernet**
  - RTL8211F onboard
  - Support 10/100/1000M
- **I2C**
  - Up to five I2Cs
  - Support standard mode and fast mode(up to 400kbit/s)
- **SDIO**
  - Support 2CH SDIO 3.0 protocol
- **CAN**
  - Support CAN FD protocol
  - Up to 2-CH CAN
- **SPI**
  - Up to two SPI controllers,
  - Full-duplex synchronous serial interface
- **UART**
  - Support up to 8 UARTs
  - UART0 with 2 wires for debug tools
  - Embedded two 64byte FIFO
  - Support RS485 auto flow control mode by UART1-7
- **DSMC**
  - Achieve low cost FPGA connection
  - Support 8-16 wire serial transfer mode
  - Support up to select 4 chips, and signals configured to be valid simultaneously in transaction
- **ADC**
  - Up to 4-CH ADC channels
  - 12-bit resolution
  - Voltage input range between 0V to 1.8V
  - Support up to 2MS/s sampling rate
- **PWM**
  - Total 28-ch with 4 PWMs interface
  - Only PWM2 can generates waveform through lookup table
  - Support continuous mode and one-shot output mode
  - Support input caption mode
- **Power unit**
  - RK809 on board
  - 5V input and RTC power input
  - Build-in Audio Codec
  - 1.2V/2.8V output for Camere

1.3 Mini1126B-P Block Diagram

1.3.1 RV1126B-P Block Diagram

System Peripheral
Clock & Reset
PMU
PLL
System register
Timer
Watchdog
Crypto engine
SAR-ADC
TS-ADC
Interrupt Controller
DMAC
DECOM
Mailbox

Video Input Interface
MIPI_CSI/LVDS/SubLVDS 4Lanex2
16-bits DVP
BT.1120/BT.656

Video Output Interface
MIPI-DSI_TX 4Lanex1
BT.1120/BT.656
RGB 24-bit LCD Interface

RV1126B-P

Cortex-A53 Quad-Core (32K/32K L1 I/D Cache)	HPMCU
512KB L2 Cache	16KB Cache

RKNN
High Performance NPU

Multi-Media Processor	
12M@30fps ISP	8M@30fps AI-ISP
Video Encoder (12M@30fps H265/H264)	Video Decoder (4K@30fps H265/H264)
JPEG Encoder/Decoder	2D Graphics Engine RGA
VPSS (Video Post Sub-System)	FEC/AVSP

External Memory Interface
eMMC4.51
Flexible SPI
SD3.0/MMC4.5
DDR3/DDR3L/DDR4/LPDDR3/LPDDR4/LPDDR4X x32bit

Connectivity
USB2.0 Host
USB2.0 OTG
1x SAI (4T/4R) 1x SAI (1T/1R) 1x SAI (1T/3R) 1x PDM (8ch)
2x CANFD
8x UART
2x SPI
6x I2C
Ethernet GMAC x1 (10/100/1000M)
PWM x28
GPIO
SDIO 3.0

Embedded Memory
SRAM
ROM
OTP

1.3.2 Development board (EM1126B-P) Block Diagram
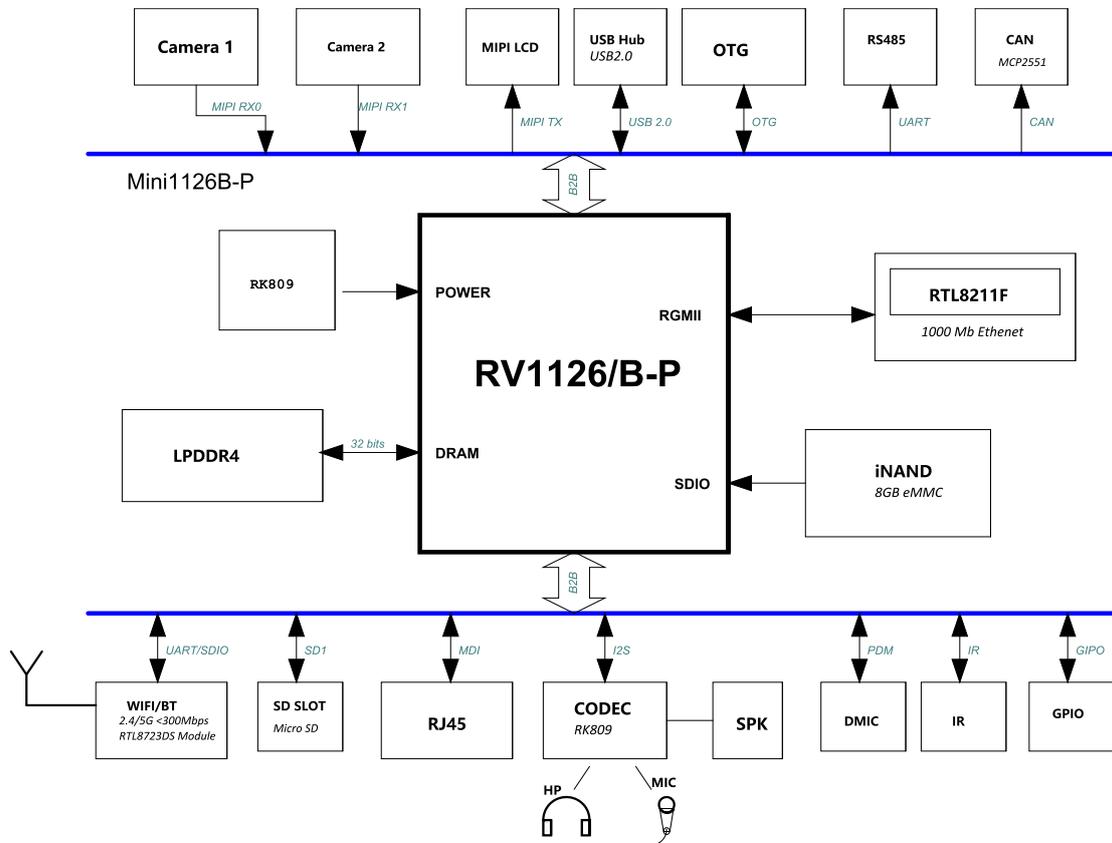
1.4 Mini1126B-P specifications

Feature	Specifications
CPU	Quad-core Cortex-A53
DDR	2GB LPDDR4 (up to 4GB)
eMMC FLASH	8GB (up to 256GB)
Power	DC 5V
MIPI DSI	4-Lane
I2S	2-CH
MIPI CSI	2-CH 4-Lane
RGB LCD	24bit
Camera	1-CH(DVP) and 2-CH(CSI)
USB	2-CH (USB HOST2.0 and OTG 2.0)
Ethernet	1000M GMAC
SDMMC	2-CH
I2C	5-CH
CAN	2-CH

SPI	2-CH
UART	7-CH, 1-CH(DEBUG)
PWM	11-CH
ADC IN	4-CH
Board Dimension	30 x 38mm

1.5 Mini1126B-P PCB Dimension
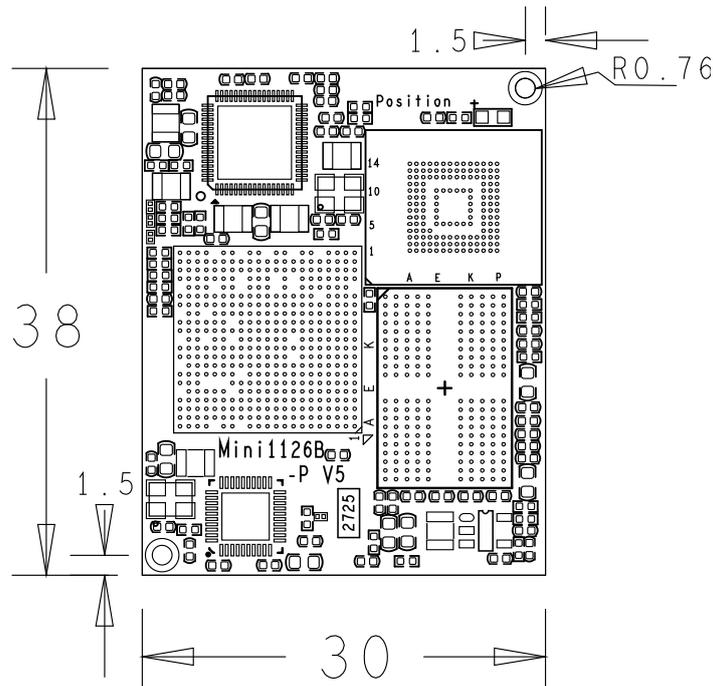
1.6 Mini1126B-P Pin Definition

J1	Signal	Description or functions	GPIO serial	IO Voltage
1	VCC5V0_SYS	5V Main Power input		5V
2	VCC5V0_SYS	5V Main Power input		5V
3	VCC5V0_SYS	5V Main Power input		5V
4	VCC5V0_SYS	5V Main Power input		5V
5	GND	Ground		0V
6	SNSP	Charge sense current signal in		0V
7	GND	Ground		0V
8	SNSN	Charge sense current signal in		0V
9	CLKO_32K_3V3	RTC clock output		3.3V
10	GND	Ground		0V
11	PWRON	Power key input		5V
12	BATDIV	Divided voltage of positive BATT		2.7-4.2V

J1	Signal	Description or functions	GPIO serial	IO Voltage
13	MIC_L	Microphone L-CH or positive in		0V
14	VCC_RTC	RTC Power input		3.3V
15	MIC_R	Microphone R-CH or negative in		0V
16	SDMMC0_CLK	UART3_RTSN_M0 /UART4_RX_M3	GPIO2_A4_d	3.3V/1.8V
17	GND	Ground		0V
18	SDMMC0_CMD	UART3_CTSN_M0 /UART4_TX_M3	GPIO2_A5_d	3.3V/1.8V
19	HPR_OUT	R-CH output of headphone		0V
20	SDMMC0_D0	UART0_RX_M0/I2C0_SDA_M1	GPIO2_A0_d	3.3V/1.8V
21	HP_SNS	Reference ground of headphone		0V
22	SDMMC0_D1	UART0_TX_M0/I2C0_SCL_M1	GPIO2_A1_d	3.3V/1.8V
23	HPL_OUT	L-CH output of headphone		0V
24	SDMMC0_D2	UART3_RX_M0/UART4_RTSN_ M3/JTAG_TCK_M1	GPIO2_A2_d	3.3V/1.8V
25	I2C1_SDA_M2	UART4_RTSN_M0	GPIO4_A0_u	1.8V
26	SDMMC0_D3	UART3_TX_M0/UART4_CTSN_ M3/JTAG_TMS_M1	GPIO2_A3_d	3.3V/1.8V
27	I2C1_SCL_M2	UART4_CTSN_M0	GPIO4_A1_u	1.8V
28	I2C2_SDA_3V3	PWM0_CH5_M0	GPIO0_D1_d	3.3V
29	MIPI_CSI_CLK0	UART5_CTSn_M0	GPIO4_B1_d	1.8V
30	I2C2_SCL_3V3	PWM0_CH4_M0	GPIO0_D0_d	3.3V
31	GND	Ground		0V
32	MIPI_CSI_PWDN0	UART4_RX_M0	GPIO4_A2_d	1.8V
33	MIPI_CSI_CLK1	UART5_RTSn_M0	GPIO4_B0_d	1.8V
34	MIPI_CSI_RX1_D0 N	MIPI CSI1 or LVDS1 RXD0N		0.6V
35	MIPI_CSI_RX1_D1 N	MIPI CSI1 or LVDS1 RXD1N		0.6V
36	MIPI_CSI_RX1_D0 P	MIPI CSI1 or LVDS1 RXD0P		0.6V
37	MIPI_CSI_RX1_D1 P	MIPI CSI1 or LVDS1 RXD1P		0.6V
38	GND	Ground		0V
39	MIPI_CSI_RX1_D2 N	MIPI CSI1 or LVDS1 RXD2N		0.6V
40	MIPI_CSI_RX1_CL KN	MIPI CSI1 or LVDS1 CLKN		0.6V
41	MIPI_CSI_RX1_D2 P	MIPI CSI1 or LVDS1 RXD2P		0.6V
42	MIPI_CSI_RX1_CL KP	MIPI CSI1 or LVDS1 CLKP		0.6V

J1	Signal	Description or functions	GPIO serial	IO Voltage
43	MIPI_CSI_RX1_D3N	MIPI CSI1 or LVDS1 RXD3N		0.6V
44	UART1_RX_M0	PWM0_CH1_M0/I2C5_SDA_M0	GPIO0_C5_d	3.3V
45	MIPI_CSI_RX1_D3P	MIPI CSI1 or LVDS1 RXD3P		0.6V
46	UART1_TX_M0	PWM0_CH0_M0/I2C5_SCL_M0	GPIO0_C4_d	3.3V
47	WIFI_REG_ON_3V3	SPI0_MOSI_M0	GPIO0_B0_d	3.3V
48	SDMMC0_DET	PWM1_CH0_M0	GPIO0_A5_u	3.3V
49	BT_RST_3V3	SPI0_MISO_M0	GPIO0_B1_d	3.3V
50	BT_WAKE_3V3	SPI0_CS1n_M0	GPIO0_A6_u	3.3V
51	WIFI_WAKE_HOST	SPI0_CLK_M0	GPIO0_B2_d	3.3V
52	BT_WAKE_HOST	SPI0_CS0n_M0	GPIO0_A7_u	3.3V
53	MIPI_CSI_RX0_D0N	MIPI CSI0 or LVDS0 RXD0N		0.6V
54	MIPI_CSI_RX0_D2N	MIPI CSI0 or LVDS0 RXD2N		0.6V
55	MIPI_CSI_RX0_D0P	MIPI CSI0 or LVDS0 RXD0P		0.6V
56	MIPI_CSI_RX0_D2P	MIPI CSI0 or LVDS0 RXD2P		0.6V
57	MIPI_CSI_RX0_D1N	MIPI CSI0 or LVDS0 RXD1N		0.6V
58	MIPI_CSI_RX0_D3N	MIPI CSI0 or LVDS0 RXD3N		0.6V
59	MIPI_CSI_RX0_D1P	MIPI CSI0 or LVDS0 RXD1P		0.6V
60	MIPI_CSI_RX0_D3P	MIPI CSI0 or LVDS0 RXD3P		0.6V
61	GND	Ground		0V
62	MIPI_CSI_RX0_CLKN	MIPI CSI0 or LVDS0 CLKN		0.6V
63	PDM_CLK_M0	I2S0_LRCK_RX_M0	GPIO7_A4_d	1.8V
64	MIPI_CSI_RX0_CLKP	MIPI CSI0 or LVDS0 CLKP		0.6V
65	SPI0_CLK_M1	SAI1_SDO_M1/UART5_RX_M0/ I2C4_SCL_M2	GPIO4_A7_d	1.8V
66	SPI0_CS0n_M1	SAI1_SDI_M1/UART5_TX_M0/I 2C4_SDA_M2	GPIO4_A6_d	1.8V
67	SPI0_MISO_M1	SAI1_LRCK_M1/I2C3_SDA_M1	GPIO4_A5_d	1.8V
68	SPI0_CS1n_M1	SAI1_MCLK_M1 /UART4_TX_M0	GPIO4_A3_d	1.8V

J1	Signal	Description or functions	GPIO serial	IO Voltage
69	SPI0_MOSI_M1	SAI1_SCLK_M1/I2C3_SCL_M1	GPIO4_A4_d	1.8V
70	PDM_SDI0_M0	SAI0_SDI0_M0	GPIO7_A6_d	1.8V
71	PDM_SDI1_M0	SAI0_SDI1_M0/SAI0_SDO3_M0/DSM_AUD_RP/I2C1_SDA_M3/UART2_TX_M1	GPIO7_B1_d	1.8V
72	PDM_SDI2_M0	SAI0_SDI2_M0/SAI0_SDO2_M0/DSM_AUD_RN/I2C1_SCL_M3/UART2_RX_M1	GPIO7_B0_d	1.8V
73	PDM_CLK1_M0	I2C4_SCL_M3 /PWM2_CH5_M1	GPIO7_A1_d	1.8V
74	OTG_ID			1.8V
75	OTG_DET_3V3	OTG VBUS DET IN		3.3V
76	USB_CTRL_3V3	PWM0_CH3_M0 /UART1_CTSN_M0	GPIO0_C7_d	3.3V
77	OTG_DM	Can use for download		1.8V
78	USB_HOST_DM			1.8V
79	OTG_DP	Can use for download		1.8V
80	USB_HOST_DP			1.8V

J2	Signal	Description or functions	GPIO serial	IO Voltage
1	GND	Ground		0V
2	LCDC_D0_3V3	VI_CIF_D0_M1/PWM2_CH4_M0/UART4_RTSN_M1	GPIO5_A0_d	3.3V
3	LCDC_D16_3V3	VI_CIF_D12_M1 /PWM3_CH0_M1	GPIO5_C0_d	3.3V
4	LCDC_D1_3V3	I2C5_SCL_M2/VI_CIF_D1_M1/SAI2_SDI2_M1/PWM2_CH5_M0/UART4_CTSN_M1	GPIO5_A1_d	3.3V
5	LCDC_D17_3V3	VI_CIF_D13_M1 /PWM3_CH1_M1	GPIO5_C1_d	3.3V
6	LCDC_D2_3V3	VI_CIF_D2_M1/SAI2_SDI1_M1/PWM0_CH5_M2/UART4_TX_M1	GPIO5_A2_d	3.3V
7	LCDC_D18_3V3	VI_CIF_D14_M1 /PWM3_CH2_M1	GPIO5_C2_d	3.3V
8	LCDC_D3_3V3	SPI0_CSN0_M2/SAI2_MCLK_M1/PWM0_CH4_M2/UART4_RX_M1	GPIO5_A3_d	3.3V

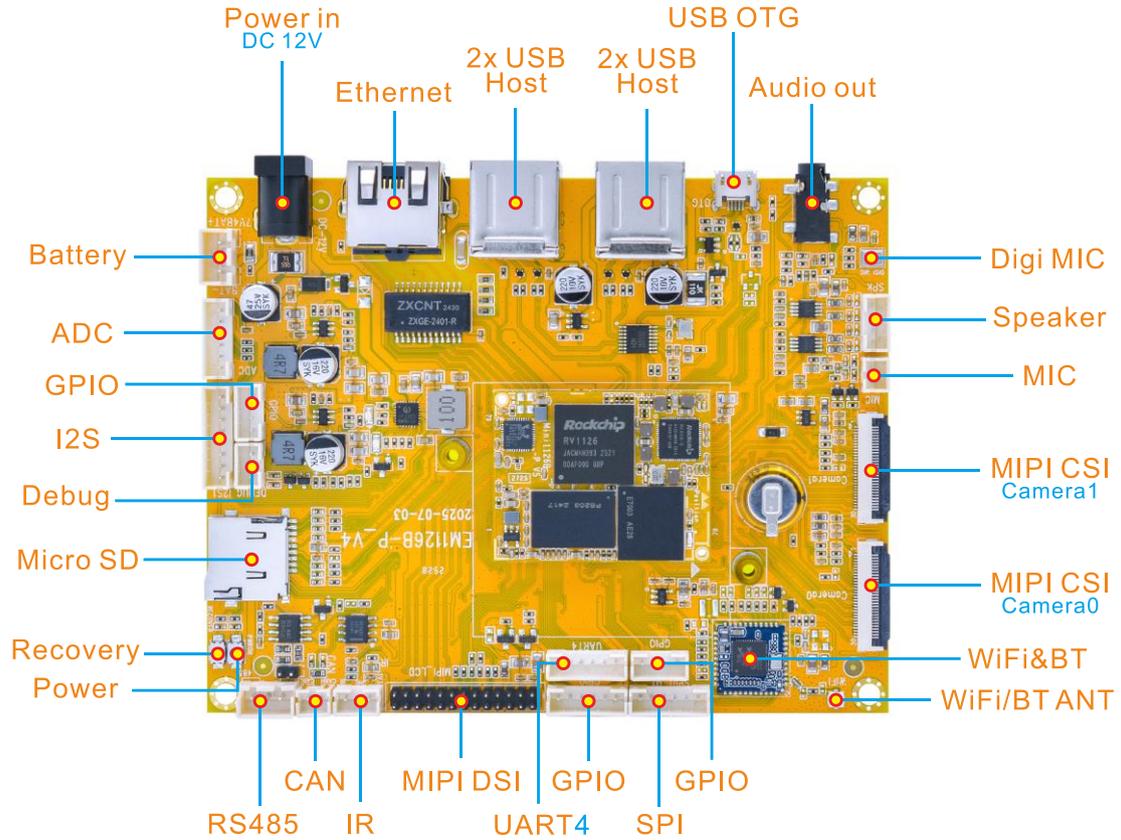| J2	Signal	Description or functions	GPIO serial	IO Voltage
9	LCDC_D19_3V3	VI_CIF_D15_M1/SAI1_MCLK_M2/PWM3_CH3_M1	GPIO5_C3_d	3.3V
10	LCDC_D4_3V3	SPI0_MOSI_M2/SAI2_SDO_M1/PWM0_CH3_M1/UART5TX_M1	GPIO5_A4_d	3.3V
11	LCDC_D20_3V3	VI_CIF_VSYNC_M1/SAI1_SDO_M2/PWM3_CH4_M1	GPIO5_C4_d	3.3V
12	LCDC_D5_3V3	SPI0_MISO_M2/SAI2_SCLK_M1/PWM0_CH2_M1/UART5_RX_M1	GPIO5_A5_d	3.3V
13	LCDC_D21_3V3	VI_CIF_CLKOUT_M1/SAI1_SCLK_M2/PWM3_CH5_M1	GPIO5_C5_d	3.3V
14	LCDC_D6_3V3	SPI0_CLK_M2/SAI2_SDI0_M1/PWM0_CH1_M1/UART5_RTSN_M1	GPIO5_A6_d	3.3V
15	LCDC_D22_3V3	VI_CIF_CLKIN_M1/SAI1_LRCK_M2/PWM3_CH6_M1	GPIO5_C6_d	3.3V
16	LCDC_D7_3V3	SPI0_CSN1_M2/VI_CIF_D3_M1/SAI2_LRCK_M1/I2C5_SDA_M2/PWM0_CH0_M1/UART5_CTSN_M1	GPIO5_A7_d	3.3V
17	LCDC_D23_3V3	VI_CIF_HSYNC_M1/SAI1_SDI_M2/PWM3_CH7_M1	GPIO5_C7_d	3.3V
18	LCDC_D8_3V3	VI_CIF_D4_M1/UART6_TX_M0	GPIO5_B0_d	3.3V
19	UART2_TX_M0	SAI2_SDI2_M0	GPIO3_B1_d	3.3V
20	LCDC_D9_3V3	VI_CIF_D5_M1/UART6_RX_M0	GPIO5_B1_d	3.3V
21	UART2_RX_M0		GPIO3_B0_d	3.3V
22	LCDC_D10_3V3	VI_CIF_D6_M1/PWM2_CH0_M1/UART6_RTSN_M0	GPIO5_B2_d	3.3V
23	UART2_RTSN_M0		GPIO3_A6_d	1.8V
24	LCDC_D11_3V3	VI_CIF_D7_M1/PWM2_CH1_M1/UART6_CTSN_M0	GPIO5_B3_d	3.3V
25	UART2_CTSN_M0		GPIO3_A7_d	1.8V
26	LCDC_D12_3V3	VI_CIF_D8_M1/UART7_TX_M0	GPIO5_B4_d	3.3V
27	CAN_RX_M0_3V3	SPI1_CSN1_M2/I2C2_SCL_M1/PWM0_CH7_M2/UART3TX_M1	GPIO5_D4_u	3.3V
28	LCDC_D13_3V3	VI_CIF_D9_M1/UART7_RX_M0	GPIO5_B5_d	3.3V
29	CAN_TX_M0_3V3	I2C2_SDA_M1/PWM1_CH3_M1/UART3_RX_M1	GPIO5_D5_u	3.3V
30	LCDC_D14_3V3	VI_CIF_D10_M1/PWM2_CH2_M1/UART7_RTSN_M0	GPIO5_B6_d	3.3V
31	ADKEY_IN0	Recovery mode set(10K PU)		1.8V

J2	Signal	Description or functions	GPIO serial	IO Voltage
32	LCDC_D15_3V3	VI_CIF_D11_M1/PWM2_CH3_M1/UART7_CTSN_M0	GPIO5_B7_d	3.3V
33	ADCIN1			1.8V
34	GPIO3_B7_d	UART1_RX_M1/I2C5_SDA_M1/SAI2_SDI1_M0	GPIO3_B7_d	1.8V
35	ADCIN2			1.8V
36	LCDC_DEN_3V3	SPI1_CSN0_M2/I2C3_SCL_M2/PWM0_CH6_M2	GPIO5_D0_d	3.3V
37	ADCIN3			1.8V
38	LCDC_VSYNC_3V3	SPI1_MOSI_M2/PWM1_CH1_M1/UART3_RTSN_M1	GPIO5_D2_d	3.3V
39	GND	Ground		0V
40	LCDC_HSYNC_3V3	SPI1_CLK_M2/I2C3_SDA_M2/PWM1_CH2_M1	GPIO5_D1_d	3.3V
41	MIPI_DSI_D0N	MIPI DSI TXD0N		0.6V
42	UART0_RX_M1	JTAG_TMS_M2/CAN1_TXD_M0/PWM2_CH7_M0 (For debug)	GPIO5_D7_u	3.3V
43	MIPI_DSI_D0P	MIPI DSI TXD0P		0.6V
44	UART0_TX_M1	JTAG_TCK_M2/CAN1_RXD_M0/PWM2_CH6_M0(For debug)	GPIO5_D6_u	3.3V
45	MIPI_DSI_D1N	MIPI DSI TXD1N		0.6V
46	LCDC_CLK_3V3	SPI1_MISO_M2/PWM1_CH0_M1/UART3_CTSN_M1	GPIO5_D3_d	3.3V
47	MIPI_DSI_D1P	MIPI DSI TXD1P		0.6V
48	GND	Ground		0V
49	MIPI_DSI_CLKN	MIPI DSI CLKN		0.6V
50	PCM_RX	SPI1_MISO_M1/SAI2_SDI0_M0/PWM2_CH1_M0	GPIO3_B3_d	1.8V
51	MIPI_DSI_CLKP	MIPI DSI CLKP		0.6V
52	PCM_CLK	SPI1_CLK_M1/SAI2_SCLK_M0/PWM2_CH2_M0/UART1_RTSN_M1/I2C4_SCL_M0	GPIO3_B4_d	1.8V
53	MIPI_DSI_D3N	MIPI DSI TXD3N		0.6V
54	PCM_SYNC	SPI1_CSN0_M1/SAI2_LRCK_M0/PWM2_CH3_M0/UART1_CTSN_M1/I2C4_SDA_M0	GPIO3_B5_d	1.8V
55	MIPI_DSI_D3P	MIPI DSI TXD3P		0.6V
56	PCM_TX	SPI1_MOSI_M1/SAI2_SDO_M0/PWM2_CH0_M0	GPIO3_B2_d	1.8V
57	MIPI_DSI_D2N	MIPI DSI TXD2N		0.6V

J2	Signal	Description or functions	GPIO serial	IO Voltage
58	GPIO3_B6_d	SPI1_CSN1_M1/SAI2_MCLK_M0/SDMMC1_DETN/UART1_TX_M1/I2C5_SCL_M1	GPIO3_B6_d	1.8V
59	MIPI_DSI_D2P	MIPI DSI TXD2P		0.6V
60	SDIO_D2		GPIO3_A4_d	1.8V
61	GND	Ground		0V
62	SDIO_D3		GPIO3_A5_d	1.8V
63	MDI3-	Ethernet MDI3 negative out		0.6V
64	SDIO_CMD		GPIO3_A1_d	1.8V
65	MDI3+	Ethernet MDI3 positive out		0.6V
66	GND	Ground		0V
67	MDI2-	Ethernet MDI2 negative out		0.6V
68	SDIO_CLK		GPIO3_A0_d	1.8V
69	MDI2+	Ethernet MDI2 positive out		0.6V
70	SDIO_D0	I2C1_SCL_M1	GPIO3_A2_d	1.8V
71	MDI1-	Ethernet MDI1 negative out		0.6V
72	SDIO_D1	I2C1_SDA_M1	GPIO3_A3_d	1.8V
73	MDI1+	Ethernet MDI1 positive out		0.6V
74	LED2/CFG_LDO1	(PU 4.7K)		3.3V
75	MDI0-	Ethernet MDI0 negative out		0.6V
76	LED1/CFG_LDO0	(PD 4.7K)		3.3V
77	MDI0+	Ethernet MDI3 positive out		0.6V
78	VCC1V2_DVDD	Camera 1.2V Power out(400mA)		1V2
79	VCC2V8_AVDD	Camera 2.8V Power out(400mA)		2V8
80	VCC3V3_SD	SD Card Power output(400mA)		3V3

Note:
1. Most GPIO voltage is 1.8V, but some pins marked 3.3V.

1.7 Development Kit (EM1126B-P)

2 Hardware Design Guide

2.1 Peripheral Circuit Reference

2.1.1 Battery Charge Circuit

Close to RK809

Close to BAT

8.4V Lion Battery used

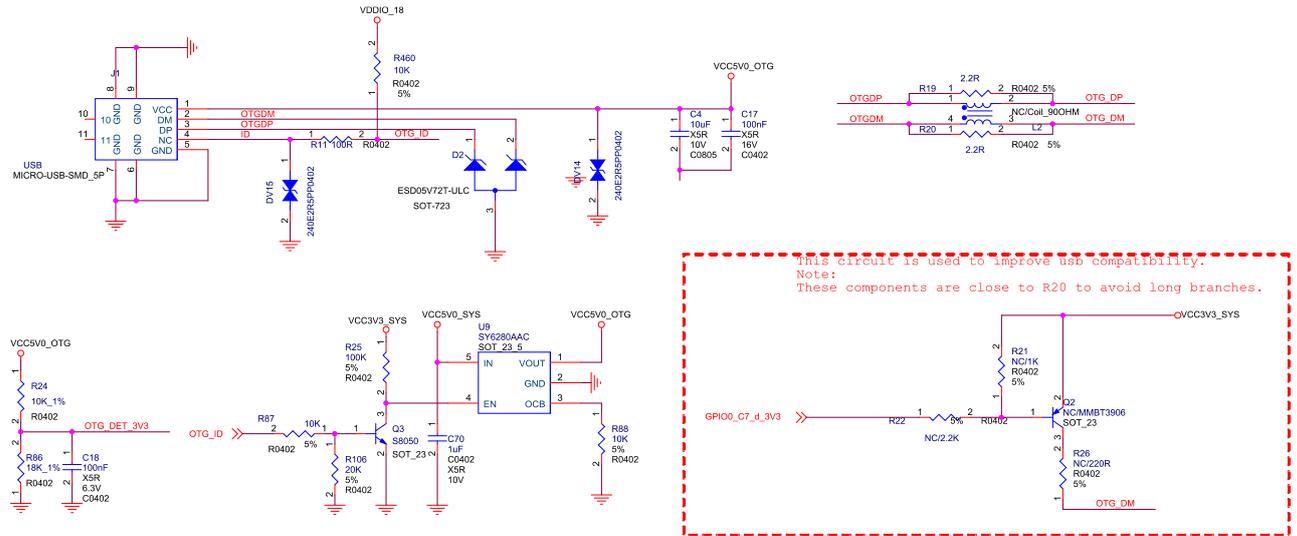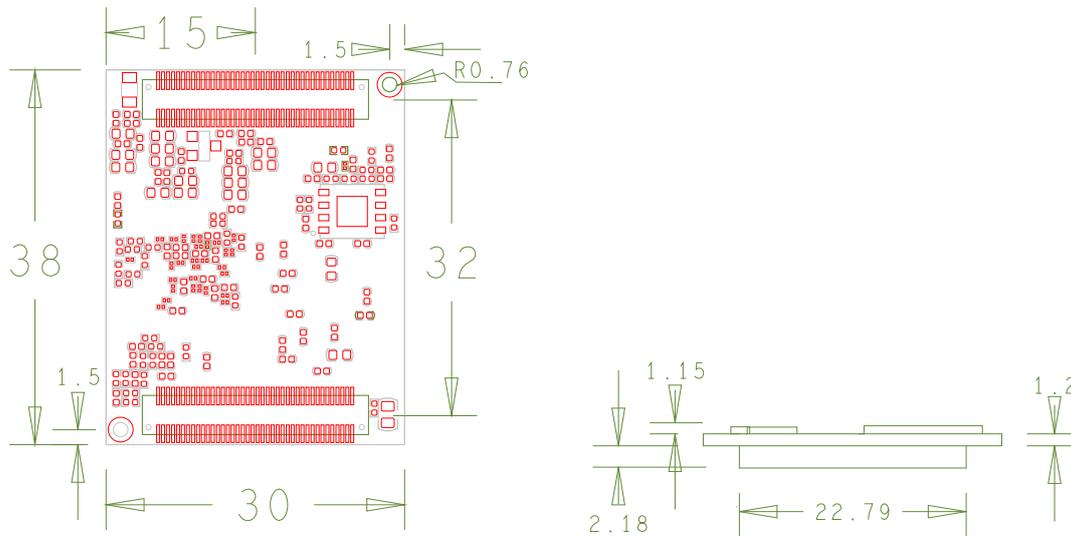### 2.1.2 Debug Circuit

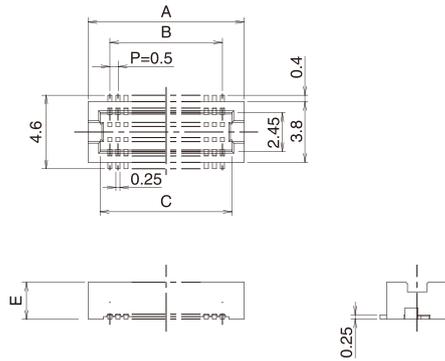### 2.1.3 USB OTG Interface Circuit

2.2 PCB Footprint

2.3 B2B connector

Header for carrier board: DF12NC(3.0)-80DP-0.5V(51)
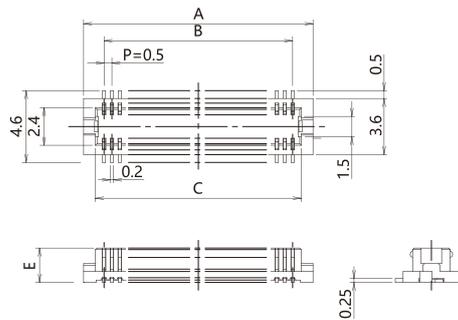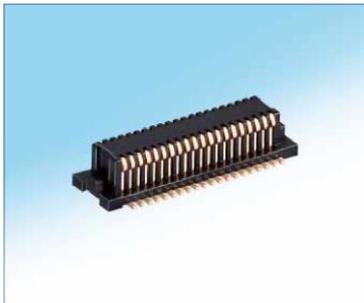
■Header Without Solder Tab

● Stacking Height : 3mm Product

Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	E	Remarks	RoHS
DF12NC(3.0)-80DP-0.5V(51)	537-0492-0 51	80	22.2	19.5	20.7	2.3	Without Solder Tab	YES

Receptacle for CPU board: DF12NC(3.0)-80DS-0.5V(51)

■Receptacle Without Solder Tab

● Stacking Height : 3mm Product

Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	E	Remarks	RoHS
DF12NC(3.0)-80DS-0.5V(51)	537-0285-0 51	80	22.1	19.5	20.6	2.2	Without Solder Tab	YES

3 Product Electrical Characteristics

3.1 Dissipation and Temperature

Symbol	Parameter	Min	Typ	Max	Unit
VCC5V_SYS	System IO Voltage	3.6	5	5.5	V
Isys_in	VCC5V_SYS input Current		850		mA
VCC_RTC	RTC Voltage	3	3.7	5	V
Iirtc	RTC input Current		50	60	uA
VCC1V2_DVDD	Camera Core Voltage output		1.2		V
I1v2_dv	VCC1V2_DVDD output Current		400		mA
VCC2V8_AVDD	Camera Analog Voltage output		2.8		V
I2v8_av	VCC2V8_AVDD output Current		400		mA
Ta	Operating Temperature	-20		70	°C
Tstg	Storage Temperature	-40		85	°C

3.2 Reliability of Test

High Temperature Operating Test		
Contents	Operating 8h in high temperature	55°C±2°C
Result	pass	

Operating Life Test		
Contents	Operating in room	120h
Result	pass	