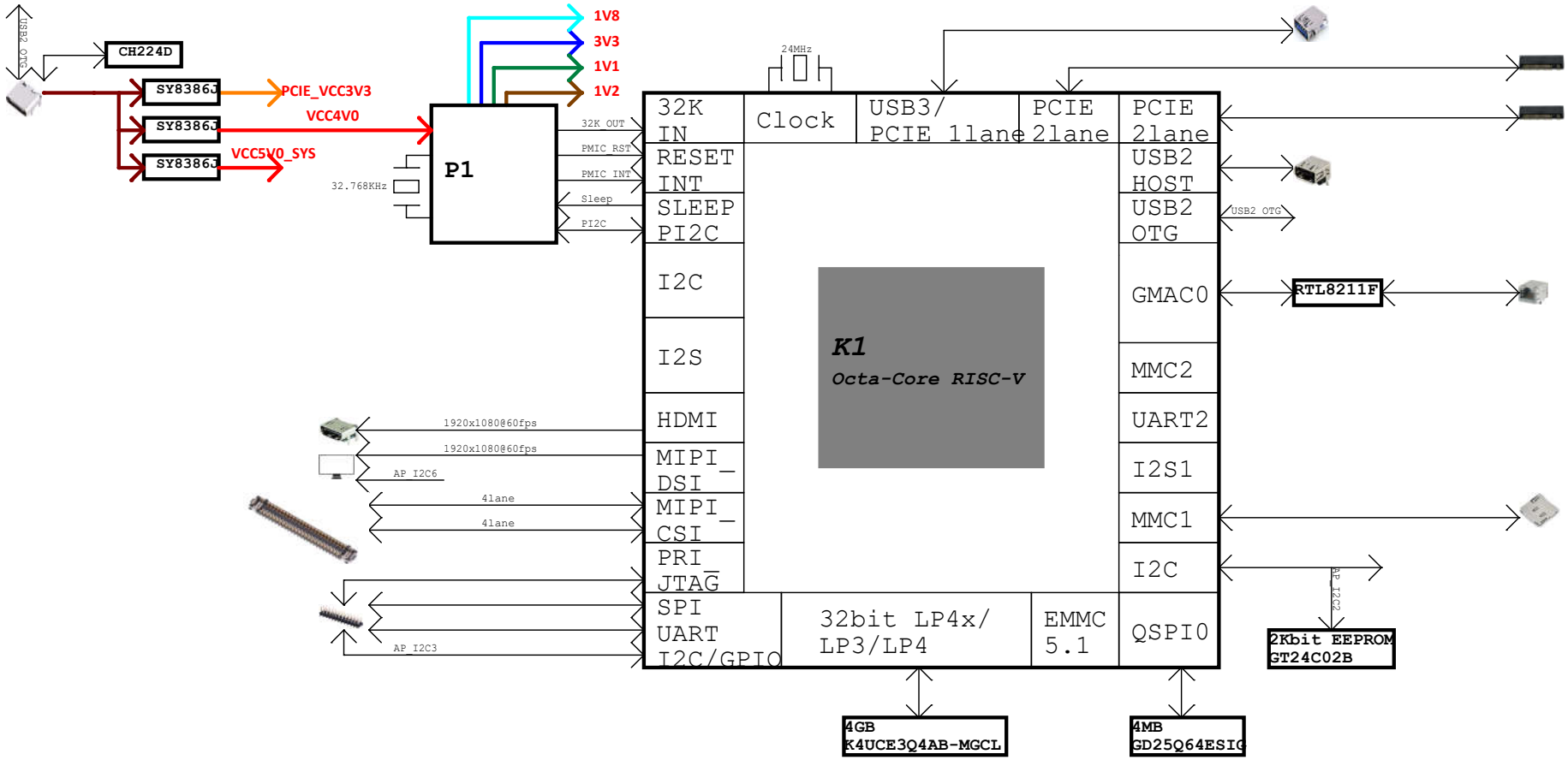
K1_DVP_BOARD

Revision History

Rev. Code	Date	By	Description
V1.0	2024-08-01	Bzliu	Initial version
V1.1	2025-01-01	Bzliu	1.Change resistor R2 to 0 ohms. 2.Change VCC1833_QSPI to VCC18_GPIO.

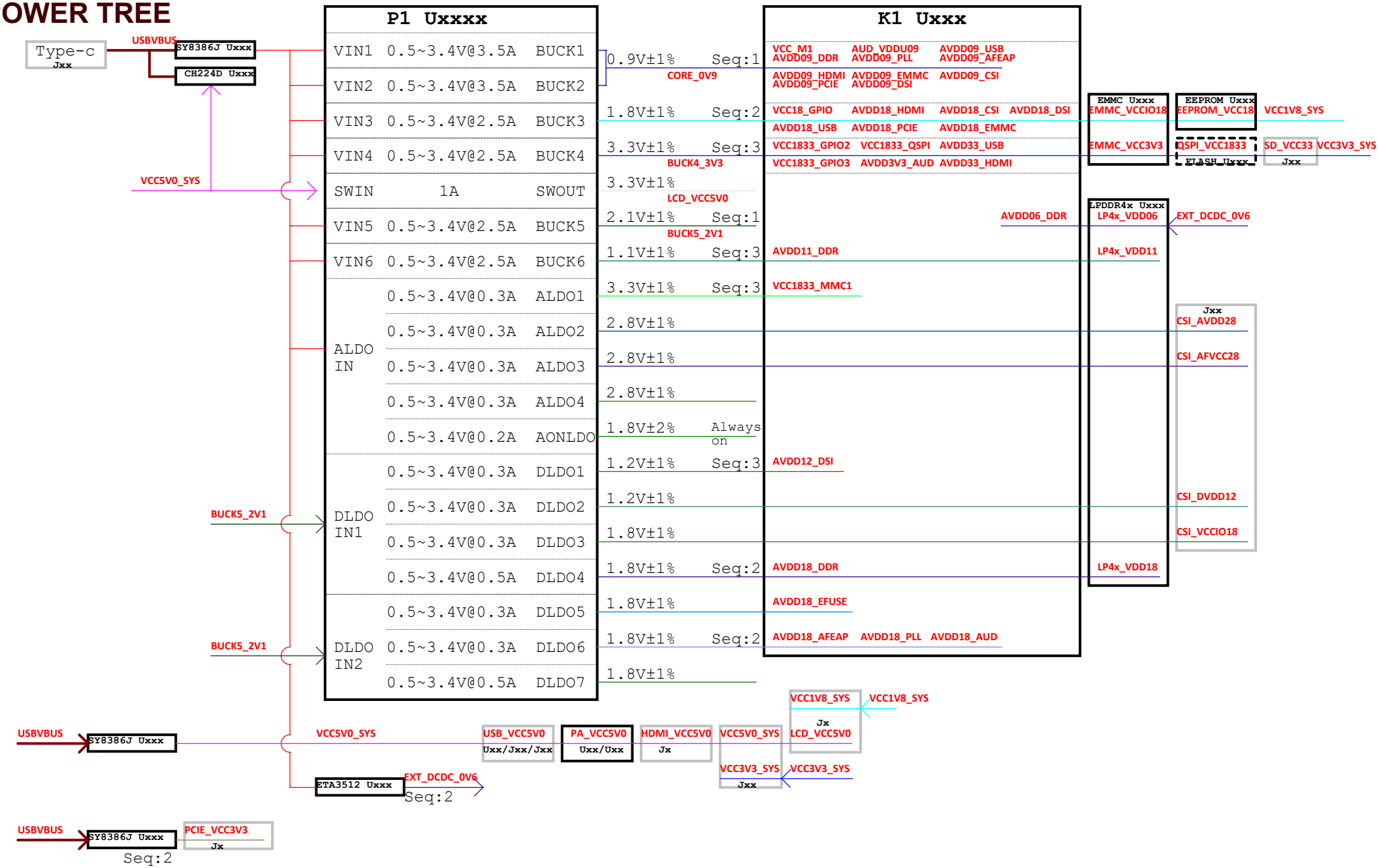
INDEX/NOTES

BLOCK



Bit-Brick Co.,Ltd		
K1_DVP_BOARD		
Size B	Document Number: BLOCK	Rev: V1.1
Date: Thursday, February 06, 2025		Sheet 3 of 30

POWER TREE

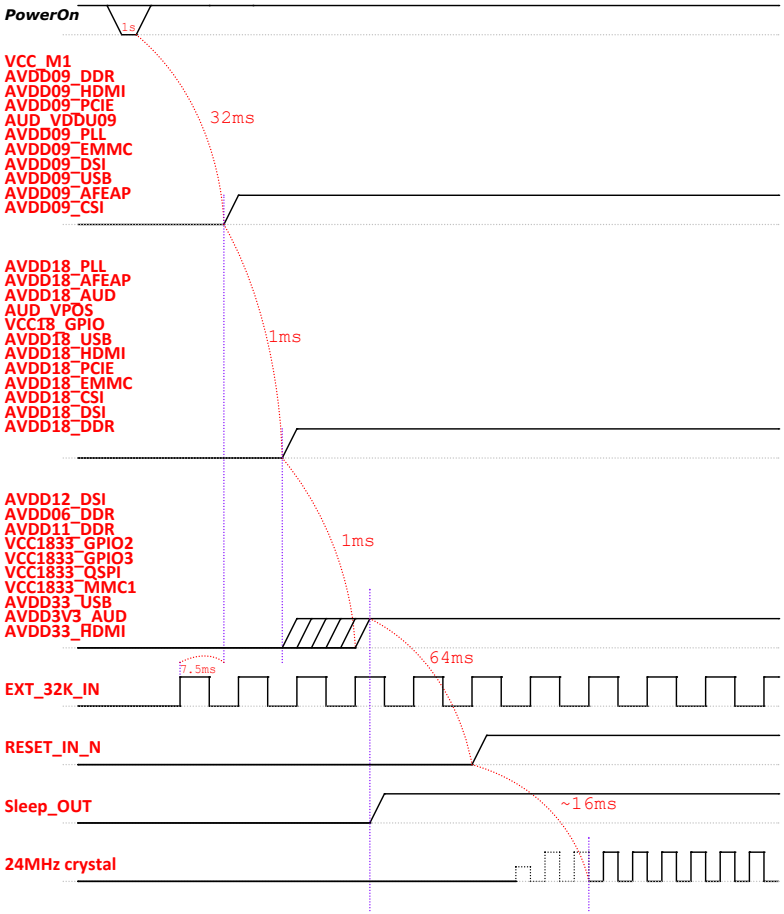


Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size A3	Document Number: POWER TREE		Rev: V1.1
Date: Thursday, February 06, 2025			Sheet 4 of 30

POWER SEQUENCE

Control by PMIC

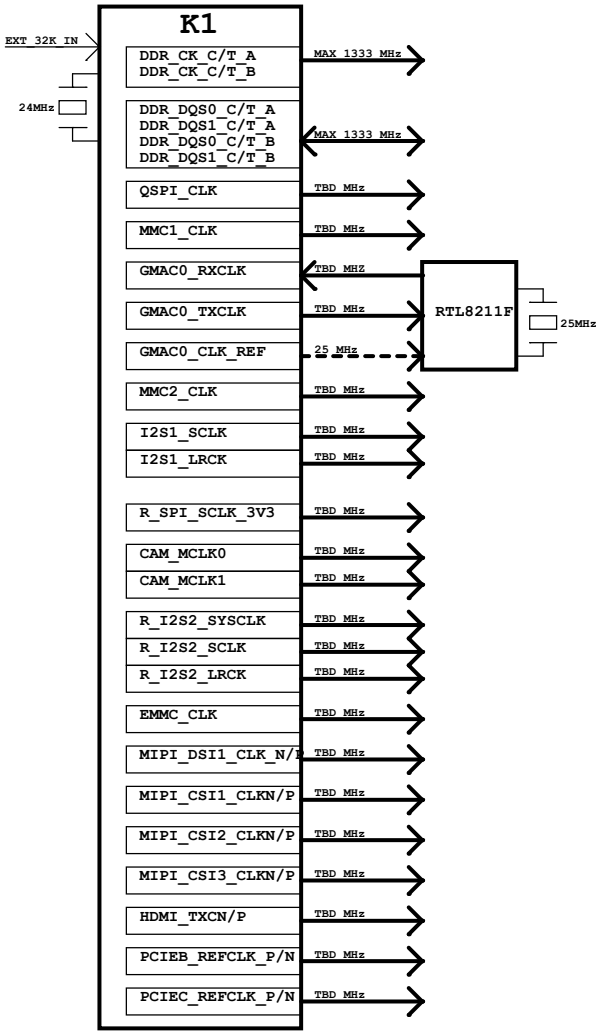
冷起自动上电，后续长按关机，短按开机



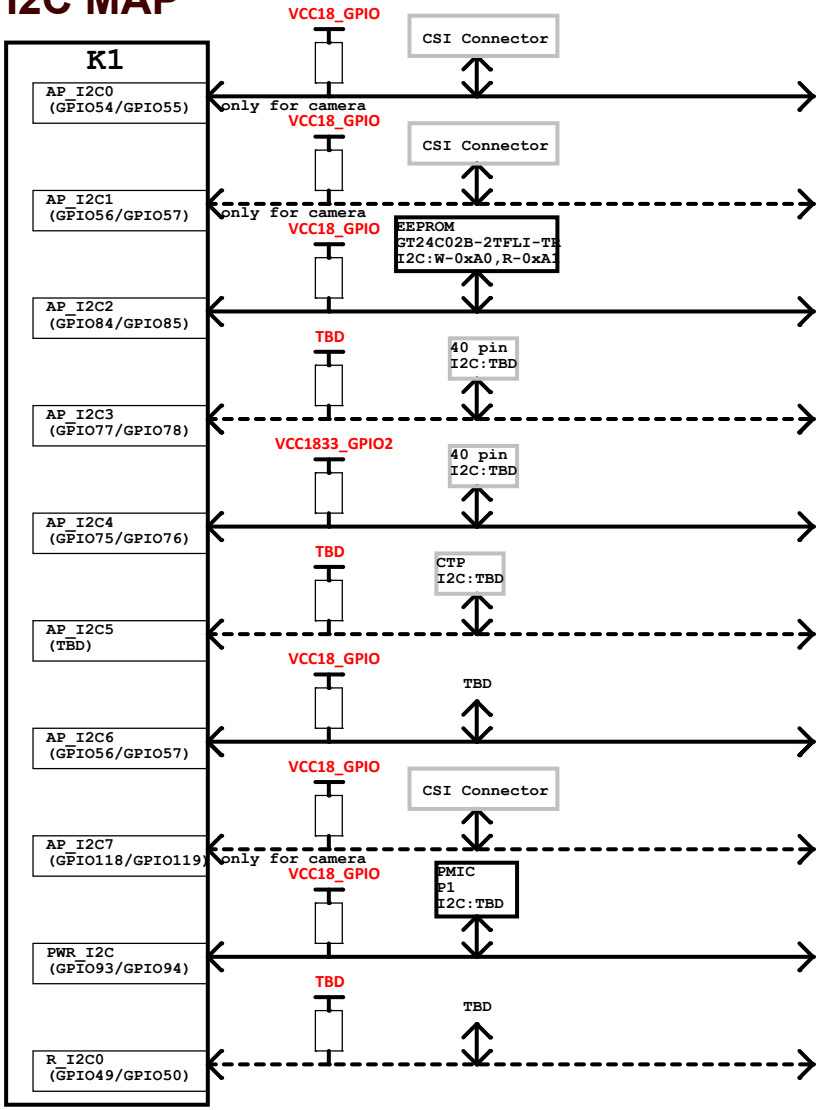
P1

Bit-Brick Co.,Ltd		
K1_DVP_BOARD		
Size B	Document Number: POWER SEQUENCE	Rev: V1.1
Date: Thursday, February 06, 2025		Sheet 5 of 30

CLOCK MAP

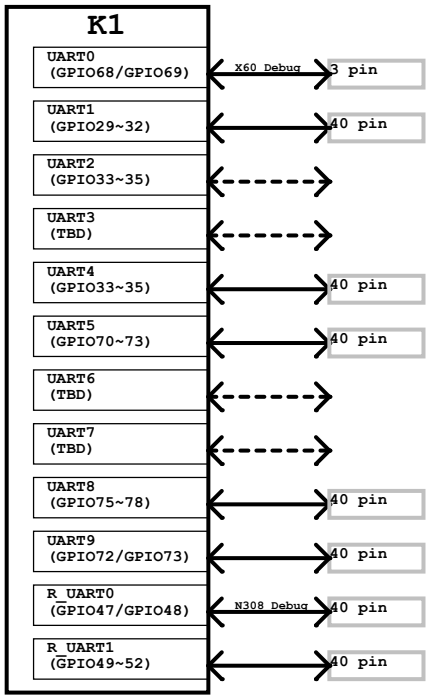


I2C MAP

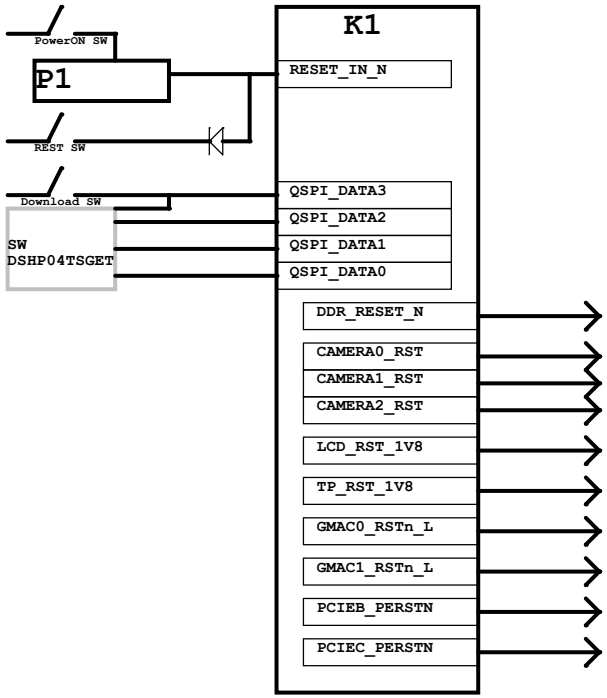


Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size A3	Document Number: CLOCK MAP		Rev: V1.1
Date: Thursday, February 06, 2025			Sheet 6 of 30

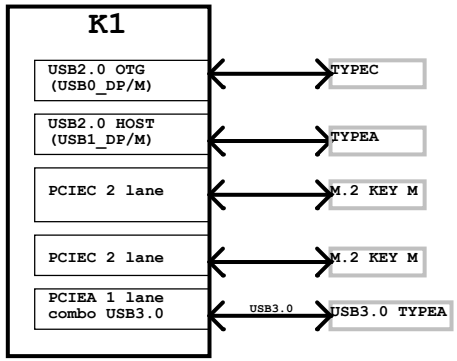
UART MAP



SW&RESET MAP



PCIE/USB MAP



Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size A3	Document Number: UART MAP		Rev: V1.1
Date: Thursday, February 06, 2025			Sheet 7 of 30

GPIO ASSIGNMENT

PIN	Define	CFG	Function
GPIO0	GMAC0_RXDV	1	Ethernet -GMAC0
GPIO1	GMAC0_RXD0	1	
GPIO2	GMAC0_RXD1	1	
GPIO3	GMAC0_RXCLK	1	
GPIO4	GMAC0_RXD2	1	
GPIO5	GMAC0_RXD3	1	
GPIO6	GMAC0_TXD0	1	
GPIO7	GMAC0_TXD1	1	
GPIO8	GMAC0_TXCLK	1	
GPIO9	GMAC0_TXD2	1	
GPIO10	GMAC0_TXD3	1	
GPIO11	GMAC0_TXEN	1	
GPIO12	GMAC0_MDC	1	
GPIO13	GMAC0_MDIO	1	
GPIO14	GMAC0_INT_N	1	
GPIO15	MMC2_DATA3	1	NA
GPIO16	MMC2_DATA2	1	
GPIO17	MMC2_DATA1	1	
GPIO18	MMC2_DATA0	1	
GPIO19	MMC2_CMD	1	
GPIO20	MMC2_CLK	1	
GPIO21	UART2_TXD	1	
GPIO22	UART2_RXD	1	
GPIO23	UART2_CTS_N	1	
GPIO24	UART2_RTS_N	1	
GPIO25	I2S1_SCLK	1	
GPIO26	I2S1_LRCK	1	
GPIO27	I2S1_TXD	1	
GPIO28	I2S1_RXD	1	
GPIO29	GPIO29	0	40 pin
GPIO30	GPIO30	0	
GPIO31	GPIO31	0	
GPIO32	GPIO32	0	
GPIO33	GPIO33	0	
GPIO34	GPIO34	0	
GPIO35	GPIO35	0	
GPIO36	PCIEC_WAKEN	4	PCIEC
GPIO37	GPIO37	0	40 pin
GPIO38	AP_I2C3_SCL	2	
GPIO39	AP_I2C3_SDA	2	
GPIO40	LCD_BL_EN_1V8	0	LCD/CTP
GPIO41	LCD_RST_1V8	0	
GPIO42	CAMERA2_RST	0	NA
GPIO43	CAMERA2_PDN	0	
GPIO44	LCD_BL_PWM_1V8	4	LCD/CTP
GPIO45	GMAC0_CLK_REF	1	GMAC0
GPIO46	GPIO46	0	40 pin

PIN	Define	CFG	Function
GPIO110	GMAC0_RSTn_L	0	GMAC0
GPIO115	GPIO115	0	TP
GPIO116	WL_DIS_N	0	
GPIO117	PCIEC_CLKREQN	4	PCIEC
GPIO118	I2S0_SCLK	3	TP
GPIO119	I2S0_LRCK	3	
GPIO120	CAM_MCLK2	2	CAMERA2
GPIO121	CAMERA2_RST	0	
GPIO122	CAMERA2_PDN	0	
GPIO123	USB2_PWREN	0	USB2
GPIO124	TP_INT_1V8	0	LCD/CTP
GPIO125	AP_WAKE_BT	0	NA
GPIO126	CODEC_IRQ	0	
GPIO127	PA_SHUTDOWN	0	

PIN	Define	CFG	Function
GPIO53	CAM_MCLK0	1	CAMERA0
GPIO54	CAM_I2C0_SCL	1	
GPIO55	CAM_I2C0_SDA	1	
GPIO56	CAM_I2C1_SCL	1	CAMERA1
GPIO57	CAM_I2C1_SDA	1	
GPIO58	CAM_MCLK1	1	LCD/CTP
GPIO111	CAMERA0_RST	1	CAMERA0
GPIO112	CAMERA1_RST	1	CAMERA1
GPIO113	CAMERA0_PDN	1	CAMERA0
GPIO114	CAMERA1_PDN	1	CAMERA1
GPIO63	BT_RESETN	0	NA
GPIO64	VBUS_ON0	1	USB2
GPIO65	BT_WAKE_AP	0	NA
GPIO66	WL_WAKE_AP	0	
GPIO67	WL_REG_ON	0	
GPIO68	UART0_TXD	2	X60 Debug
GPIO69	UART0_RXD	2	

PIN	Define	CFG	Function
GPIO59	PCIEB_PERSTN	4	PCIEB
GPIO60	PCIEB_WAKEN	4	
GPIO61	PCIEB_CLKREQN	4	
GPIO62	PCIEC_PERSTN	4	PCIEC
GPIO70	GPIO70	1	40 pin
GPIO71	GPIO71	1	
GPIO72	GPIO72	1	
GPIO73	GPIO73	1	
GPIO74	GPIO74	0	

红色字体GPIO表示默认、持续上拉，
等效上拉电阻约60K。需要软件修改
才能解除默认上拉状态

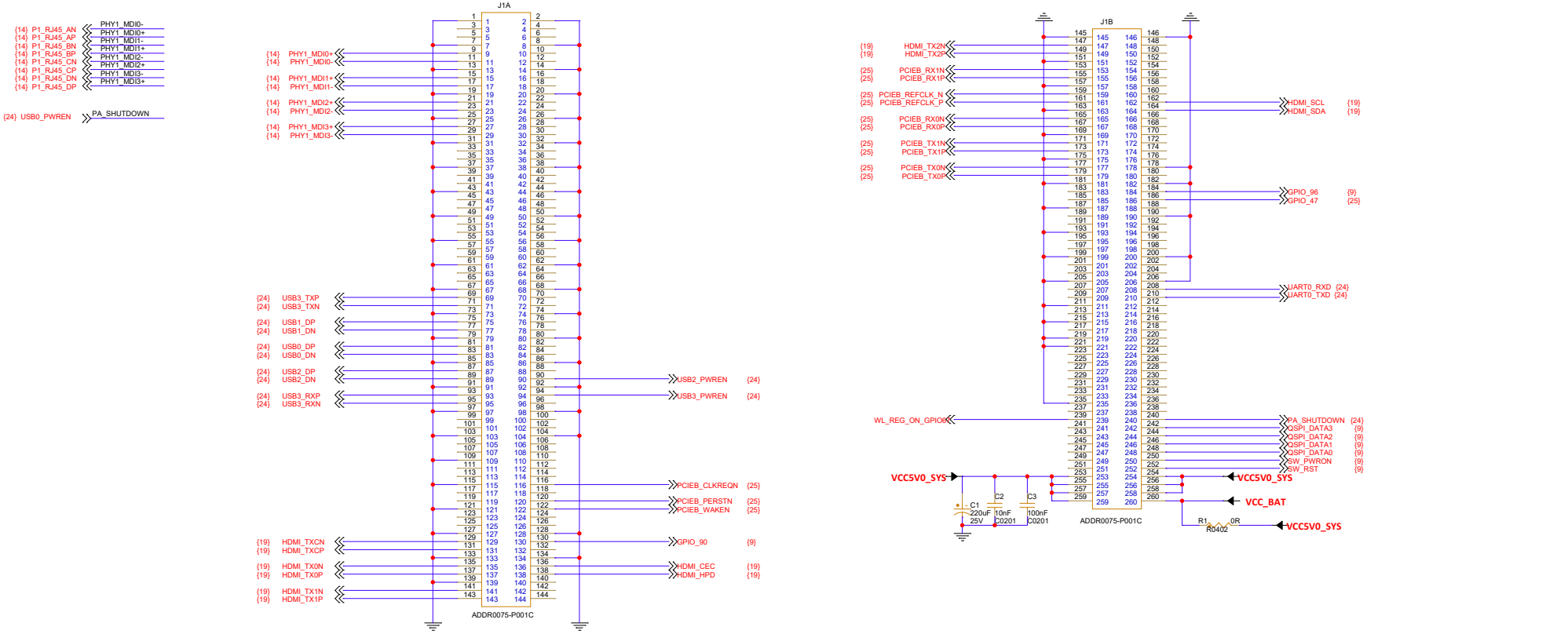
PIN	Define	CFG	Function
GPIO93	PI2C_SCL	0	PMIC
GPIO94	PI2C_SDA	0	
GPIO95	SLEEP_OUT	0	
GPIO96	GPIO96	1	LED
GPIO97	TP_RST_1V8	0	LCD/CTP
GPIO81	AP_I2C5_SCL	5	
GPIO82	AP_I2C5_SDA	5	
GPIO83	LCD_PWR_EN_1V8	0	
GPIO84	AP_I2C2_SCL	4	EEPROM Audio
GPIO85	AP_I2C2_SDA	4	
GPIO86	HDMI_SCL	1	HDMI_OUT
GPIO87	HDMI_SDA	1	
GPIO88	HDMI_CEC	1	
GPIO89	HDMI_HPD	1	
GPIO90	GPIO90	0	40 pin
GPIO91	GPIO91	0	
GPIO92	GPIO92	0	

PIN	Define	CFG	Function
GPIO98	QSPI_DATA3	0	SPI FLASH
GPIO99	QSPI_DATA2	0	
GPIO100	QSPI_DATA1	0	
GPIO101	QSPI_DATA0	0	
GPIO102	QSPI_CLK	0	
GPIO103	QSPI_CS1	0	

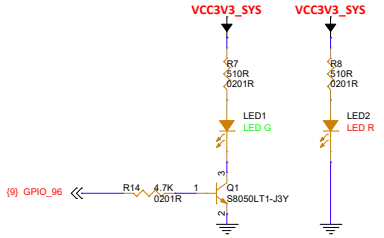
PIN	Define	CFG	Function
GPIO104	MMC1_DATA3	0	TF CARD
GPIO105	MMC1_DATA2	0	
GPIO106	MMC1_DATA1	0	
GPIO107	MMC1_DATA0	0	
GPIO108	MMC1_CMD	0	
GPIO109	MMC1_CLK	0	

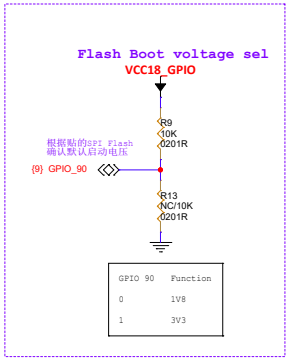
PIN	Define	CFG	Function
GPIO75	SPI3_SCLK_3V3	2	40 pin
GPIO76	SPI3_CS_3V3	2	
GPIO77	SPI3_MOSI_3V3	2	
GPIO78	SPI3_MISO_3V3	2	
GPIO79	USB3_PWREN	0	USB3
GPIO80	SD_CD_3V3	1	TF CARD

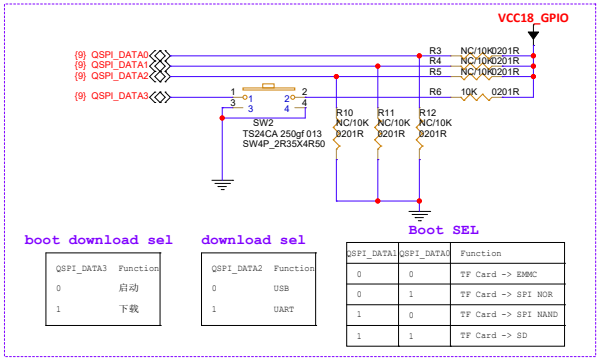
PIN	Define	CFG	Function
GPIO47	R_UART0_TXD_3V3	1	40 pin
GPIO48	R_UART0_RXD_3V3	1	
GPIO49	GPIO_49_3V3	0	
GPIO50	GPIO_50_3V3	0	
GPIO51	AP_I2C4_SCL_3V3	4	
GPIO52	AP_I2C4_SDA_3V3	4	



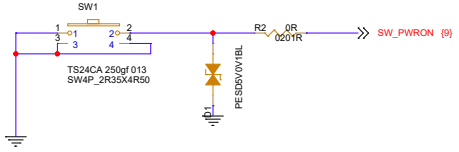
LED



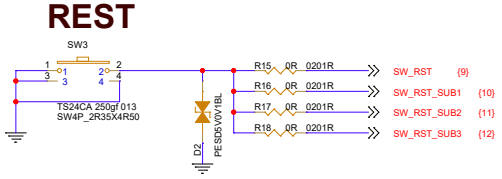




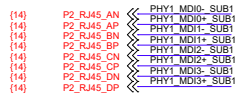
PowerON

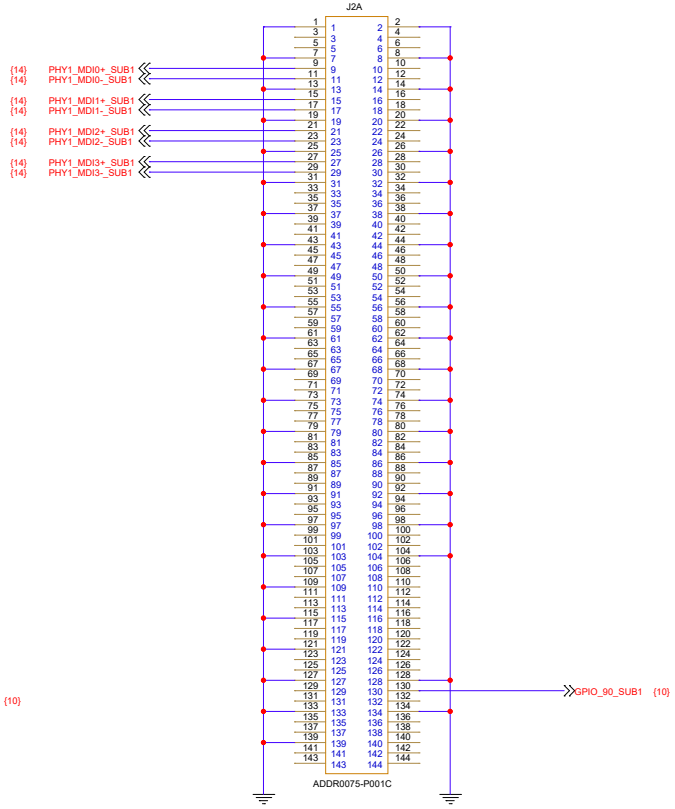


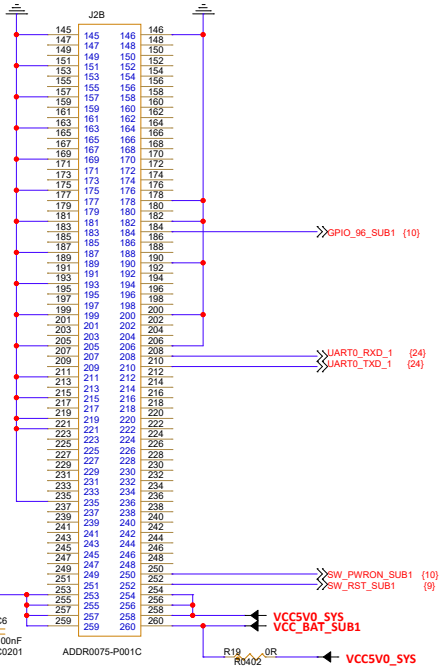
REST



Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size C	Document Number: CPU eMMC DDR		Rev: V1.1
Date: Thursday, February 06, 2025			Sheet 9 of 30







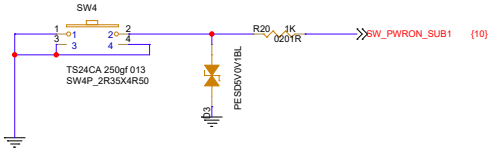
JTAG SEL

SEC JTAG SEL & Route

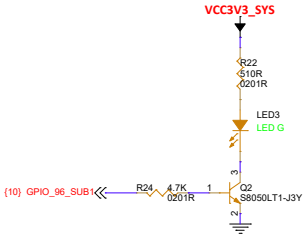
JTAG_SEL	Function
0	Other
1	JTAG

MMC1_CMD	JTAG Route
0	X60
1	N308

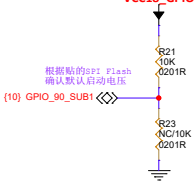
PowerON



LED



Flash Boot voltage sel



GPIO 90	Function
0	1V8
1	3V3

boot download sel

QSPI_DATA3	Function
0	启动
1	下载

download sel

QSPI_DATA2	Function
0	USB
1	UART

Boot SEL

QSPI_DATA1	QSPI_DATA0	Function
0	0	TF Card -> EMMC
0	1	TF Card -> SPI NOR
1	0	TF Card -> SPI NAND
1	1	TF Card -> SD

Bit-Brick Co.,Ltd		
K1_DVP_BOARD		
Size C	Document Number: CPU PERPHERY	Rev: V1.1
Date: Thursday, February 06, 2025		Sheet 10 of 30

{14} P3_RJ45_AN — PHY1_MDI0- SUB2
{14} P3_RJ45_AP — PHY1_MDI0+ SUB2
{14} P3_RJ45_BN — PHY1_MDI1- SUB2
{14} P3_RJ45_BP — PHY1_MDI1+ SUB2
{14} P3_RJ45_CN — PHY1_MDI2- SUB2
{14} P3_RJ45_CP — PHY1_MDI2+ SUB2
{14} P3_RJ45_DN — PHY1_MDI3- SUB2
{14} P3_RJ45_DP — PHY1_MDI3+ SUB2

J3A

{14} PHY1_MDI0+_SUB2
{14} PHY1_MDI0-_SUB2
{14} PHY1_MDI1+_SUB2
{14} PHY1_MDI1-_SUB2
{14} PHY1_MDI2+_SUB2
{14} PHY1_MDI2-_SUB2
{14} PHY1_MDI3+_SUB2
{14} PHY1_MDI3-_SUB2

GPIO_90_SUB2 {11}

ADDR0075-P001C

J3B

GPIO_96_SUB2 {11}
UART0_RXD_2 {24}
UART0_TXD_2 {24}
SW_PWRON_SUB2 {11}
SW_RST_SUB2 {9}
VCC5V0_SYS
VCC_BAT_SUB1
VCC5V0_SYS

VCC5V0_SYS
C7 220uF 25V
C8 10nF C0201
C9 100nF C0201
R25 0R R0402

ADDR0075-P001C

JTAG SEL

SEC JTAG SEL & Route

JTAG_SEL	Function
0	Other
1	JTAG

MMC1_CMD	JTAG Route
0	X60
1	N308

PowerON

SW5
TS24CA 250gf 013
SW4P_2R35X4R50
R26 1K 0201R
SW_PWRON_SUB2 {11}
D1 PESD5V0V1BL

LED

VCC3V3_SYS
R28 510R 0201R
LED4 LED G
{11} GPIO_96_SUB2
R30 4.7K 0201R
Q3 S8050LT1-J3Y

Flash Boot voltage sel

VCC18_GPIO
R27 10K 0201R
根据贴的SPI Flash 确认默认启动电压
{11} GPIO_90_SUB2
R29 NC/10K 0201R

GPIO 90	Function
0	1V8
1	3V3

boot download sel

QSPI_DATA3	Function
0	启动
1	下载

download sel

QSPI_DATA2	Function
0	USB
1	UART

Boot SEL

QSPI_DATA1	QSPI_DATA0	Function
0	0	TF Card -> EMMC
0	1	TF Card -> SPI NOR
1	0	TF Card -> SPI NAND
1	1	TF Card -> SD

Bit-Brick Co.,Ltd
K1_DVP_BOARD
Size C | Document Number: CPU POWER | Rev: V1.1
Date: Thursday, February 06, 2025 | Sheet 11 of 30

{14} P4_RJ45_AN — PHY1_MDI0-_SUB3
{14} P4_RJ45_AP — PHY1_MDI0+_SUB3
{14} P4_RJ45_BN — PHY1_MDI1-_SUB3
{14} P4_RJ45_BP — PHY1_MDI1+_SUB3
{14} P4_RJ45_CN — PHY1_MDI2-_SUB3
{14} P4_RJ45_CP — PHY1_MDI2+_SUB3
{14} P4_RJ45_DN — PHY1_MDI3-_SUB3
{14} P4_RJ45_DP — PHY1_MDI3+_SUB3

J4A

{14} PHY1_MDI0+_SUB3
{14} PHY1_MDI0-_SUB3
{14} PHY1_MDI1+_SUB3
{14} PHY1_MDI1-_SUB3
{14} PHY1_MDI2+_SUB3
{14} PHY1_MDI2-_SUB3
{14} PHY1_MDI3+_SUB3
{14} PHY1_MDI3-_SUB3

GPIO_90_SUB3 {12}

ADDR0075-P001C

J4B

GPIO_96_SUB3 {12}
UART0_RXD_3 {25}
UART0_TXD_3 {25}
SW_PWRON_SUB3 {12}
SW_RST_SUB3 {9}
VCC5V0_SYS
VCC_BAT_SUB1
VCC5V0_SYS

VCC5V0_SYS
C10 220uF 25V
C11 10nF C0201
C12 100nF C0201
R31 0R R0402

ADDR0075-P001C

JTAG SEL

SEC JTAG SEL & Route

JTAG_SEL	Function
0	Other
1	JTAG

MMC1_CMD	JTAG Route
0	X60
1	N308

PowerON

SW6
TS24CA 250gf 013
SW4P_2R35X4R50

R32 1K 0201R
SW_PWRON_SUB3 {12}

D5 PESD5V0V1BL

VCC3V3_SYS
R34 510R 0201R
LED5 LED G
{12} GPIO_96_SUB3
R36 4.7K 0201R
Q4 S8050LT1-J3Y

Flash Boot voltage sel

VCC18_GPIO
R33 10K 0201R
根据贴的SPI Flash 确认默认启动电压
{12} GPIO_90_SUB3
R35 NC/10K 0201R

GPIO 90	Function
0	1V8
1	3V3

boot download sel

QSPI_DATA3	Function
0	启动
1	下载

download sel

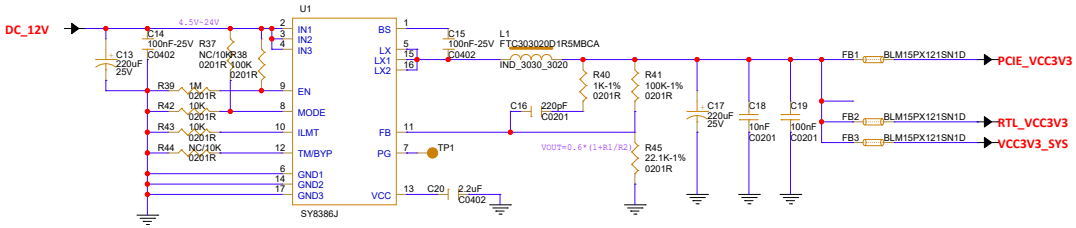
QSPI_DATA2	Function
0	USB
1	UART

Boot SEL

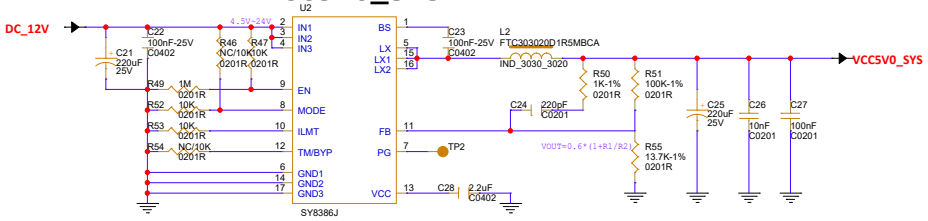
QSPI_DATA1	QSPI_DATA0	Function
0	0	TF Card -> EMMC
0	1	TF Card -> SPI NOR
1	0	TF Card -> SPI NAND
1	1	TF Card -> SD

Bit-Brick Co.,Ltd
K1_DVP_BOARD
Size C | Document Number: CPU SYS GPIO | Rev: V1.1
Date: Thursday, February 06, 2025 | Sheet 12 of 30

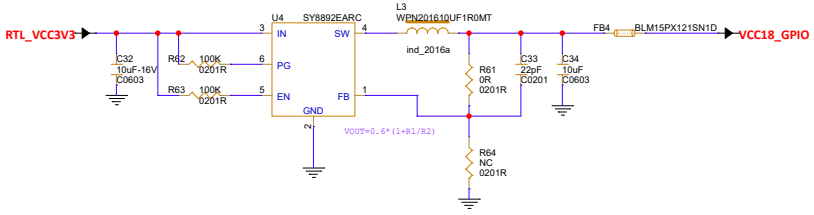
PCIE_VCC3V3

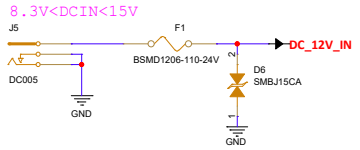


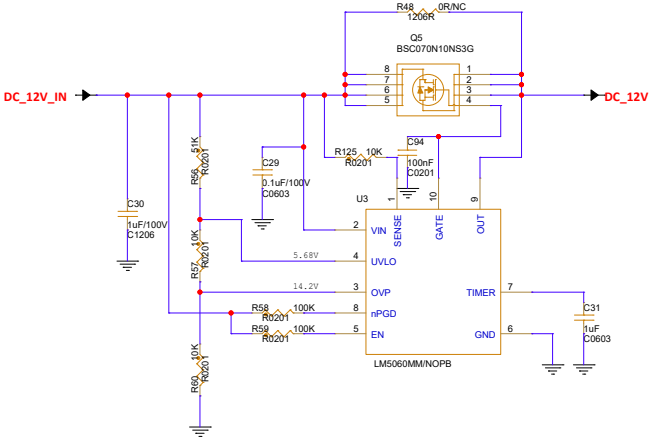
VCC5V0_SYS



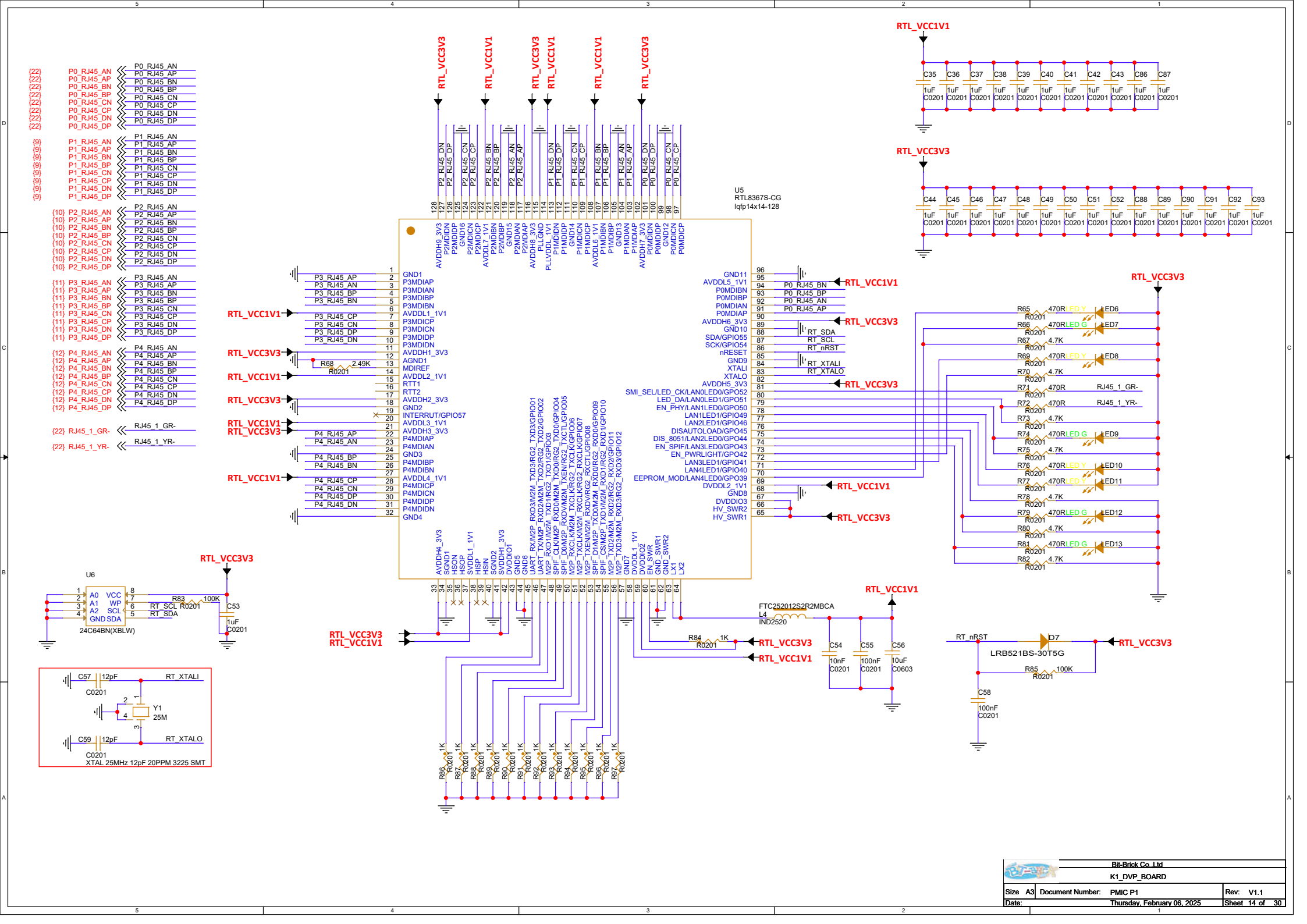
RTL8367 VDDIO





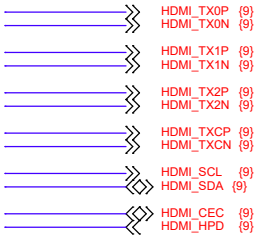


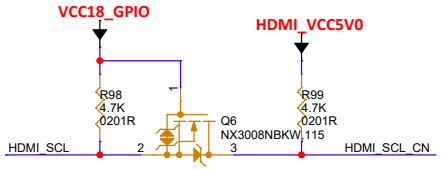
Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size C	Document Number: EXT DCDC		Rev: V1.1
Date: Thursday, February 06, 2025			Sheet 13 of 30

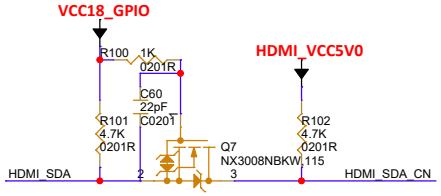


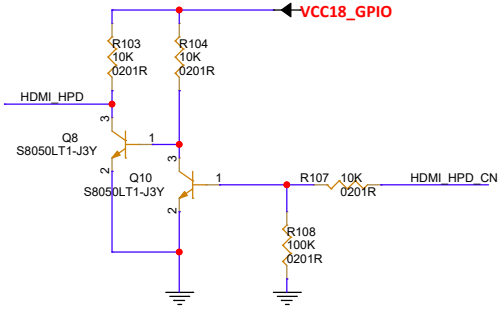
Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size A3	Document Number: PMIC P1		Rev: V1.1
Date: Thursday, February 06, 2025			Sheet 14 of 30

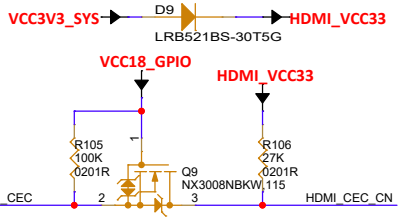
HDMI

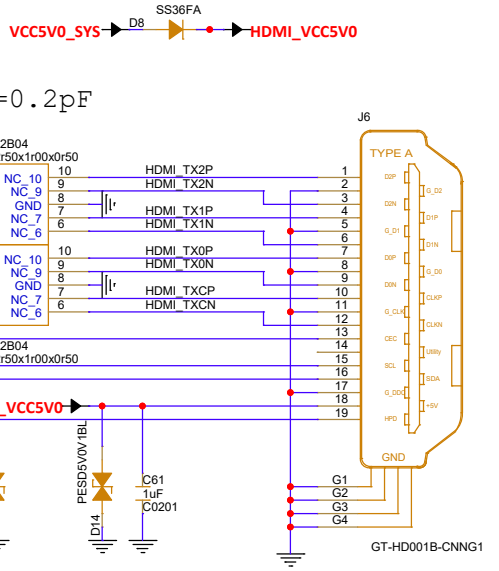






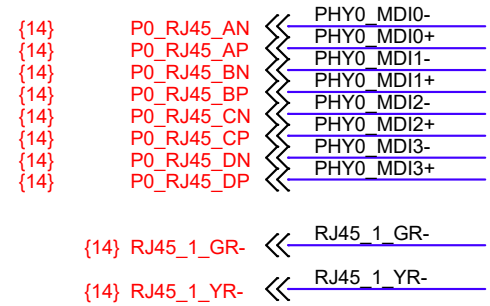


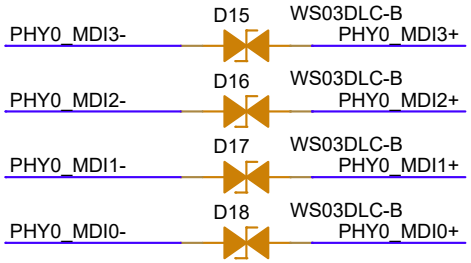


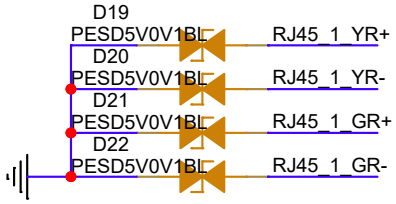


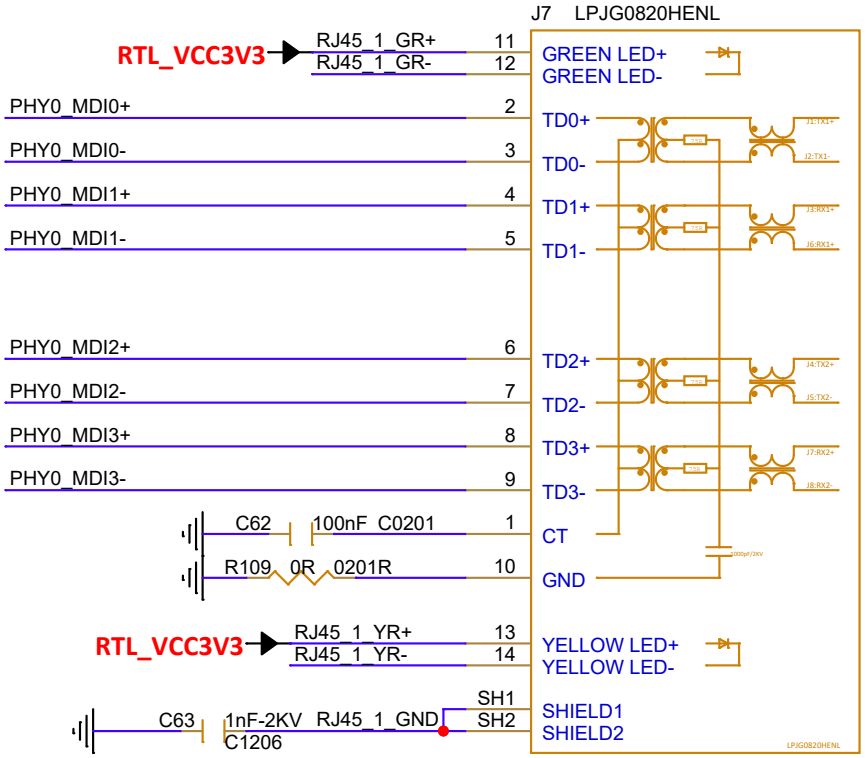
Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size A3	Document Number: HDMI		Rev: V1.1
Date: Thursday, February 06, 2025			Sheet 19 of 30

GMAC Ethernet0



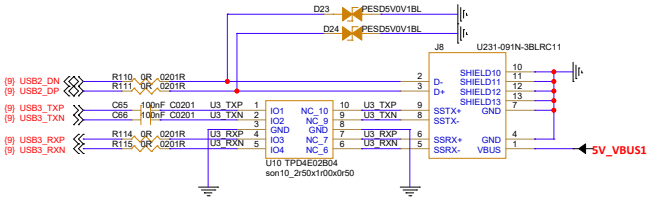


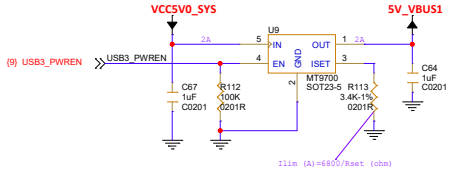


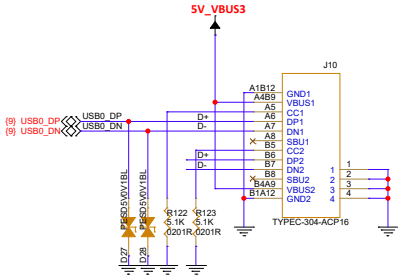


Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size A	Document Number:	ETHERNET GMAC0	Rev: V1.1
Date:		Thursday, February 06, 2025	Sheet 22 of 30

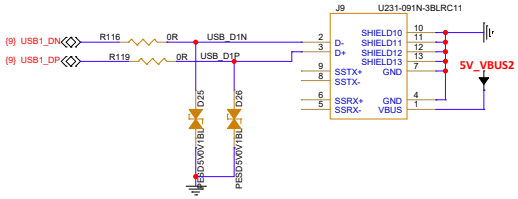
USB3.0 TYPEA

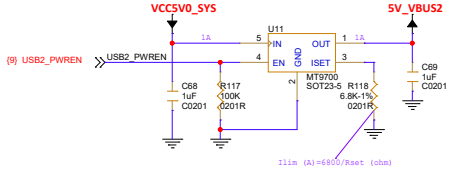


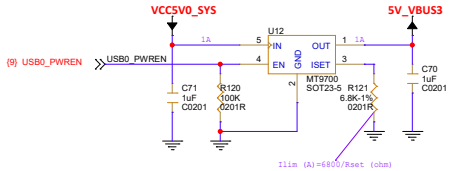




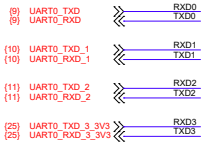
USB2.0 TYPEA-HOST

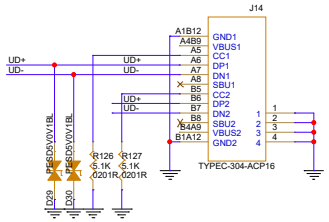


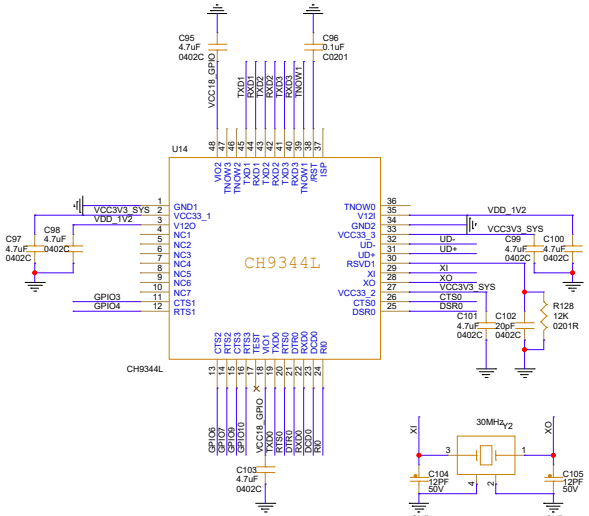




USB2.0 TYPEC

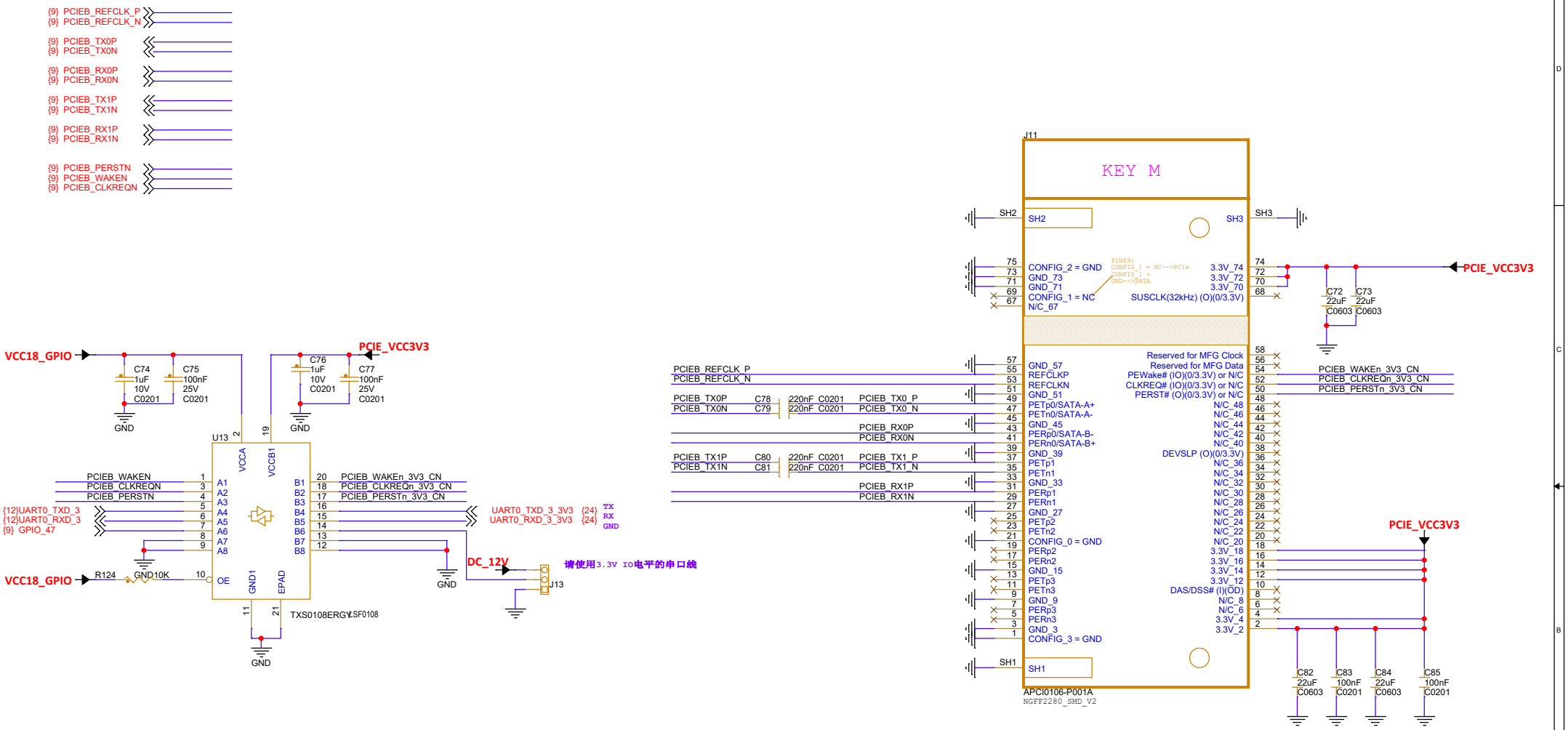






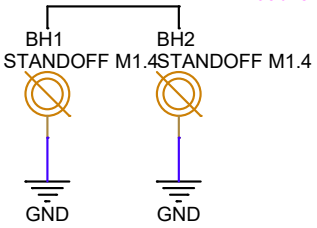
CH9344L

PCIEB



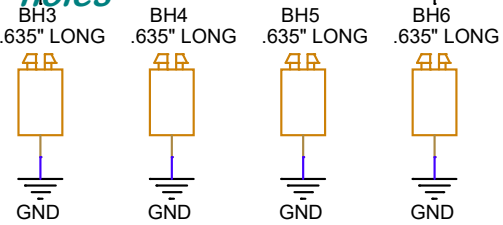
Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size A3	Document Number: PCIEB M.2 KEY M		Rev: V1.1
Date: Thursday, February 06, 2025			Sheet 25 of 30

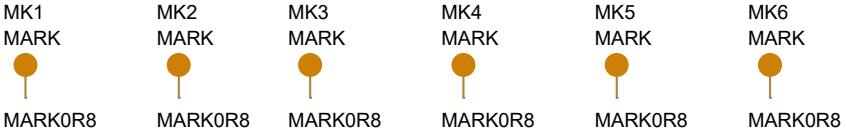
RTL8367S-CG散热器固定孔



Base board screw holes

PCB四个角固定孔





Bit-Brick Co.,Ltd			
K1_DVP_BOARD			
Size A	Document Number:	MECHANICAL	Rev: V1.1
Date:		Thursday, February 06, 2025	Sheet 30 of 30