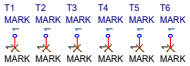
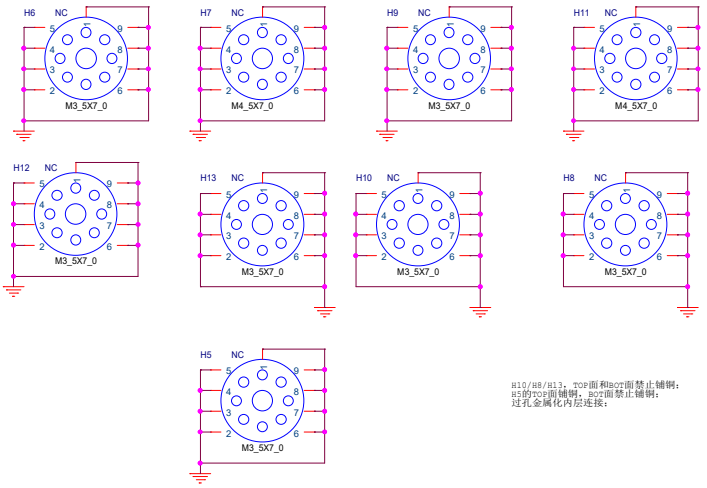
PCB MARK & LABEL

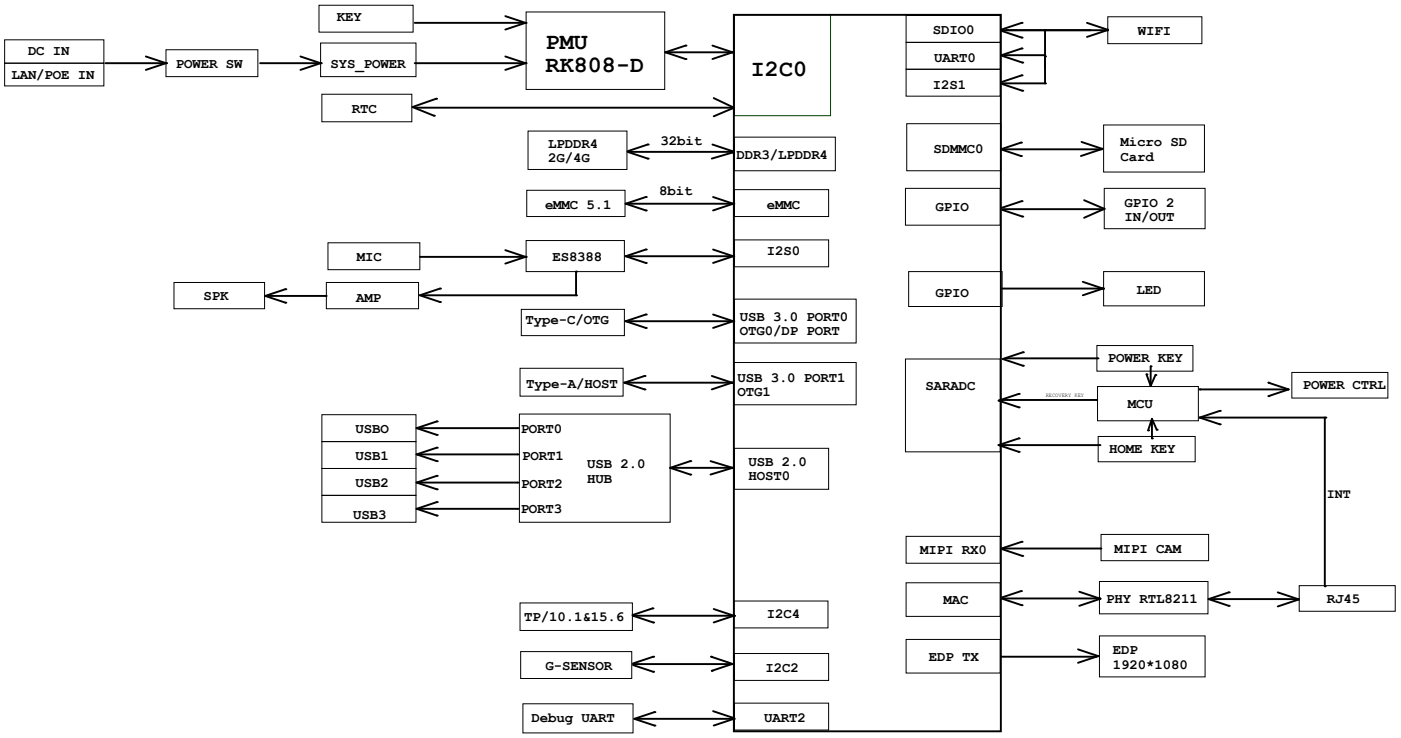
Heat Sink	
Optical Marks	
Label Outline	
Silkcreen	PCB Name & Version ELO3399 (E472673) ELO3399 ENG Version A20xxx A20xxx SMT DIP ROHS
Mounting Hole	

SIGNWAY			
Project:	E352066_R04_1		
File:	01.Msc		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	ZhangboLiYangyin	Sheet	1 of 32

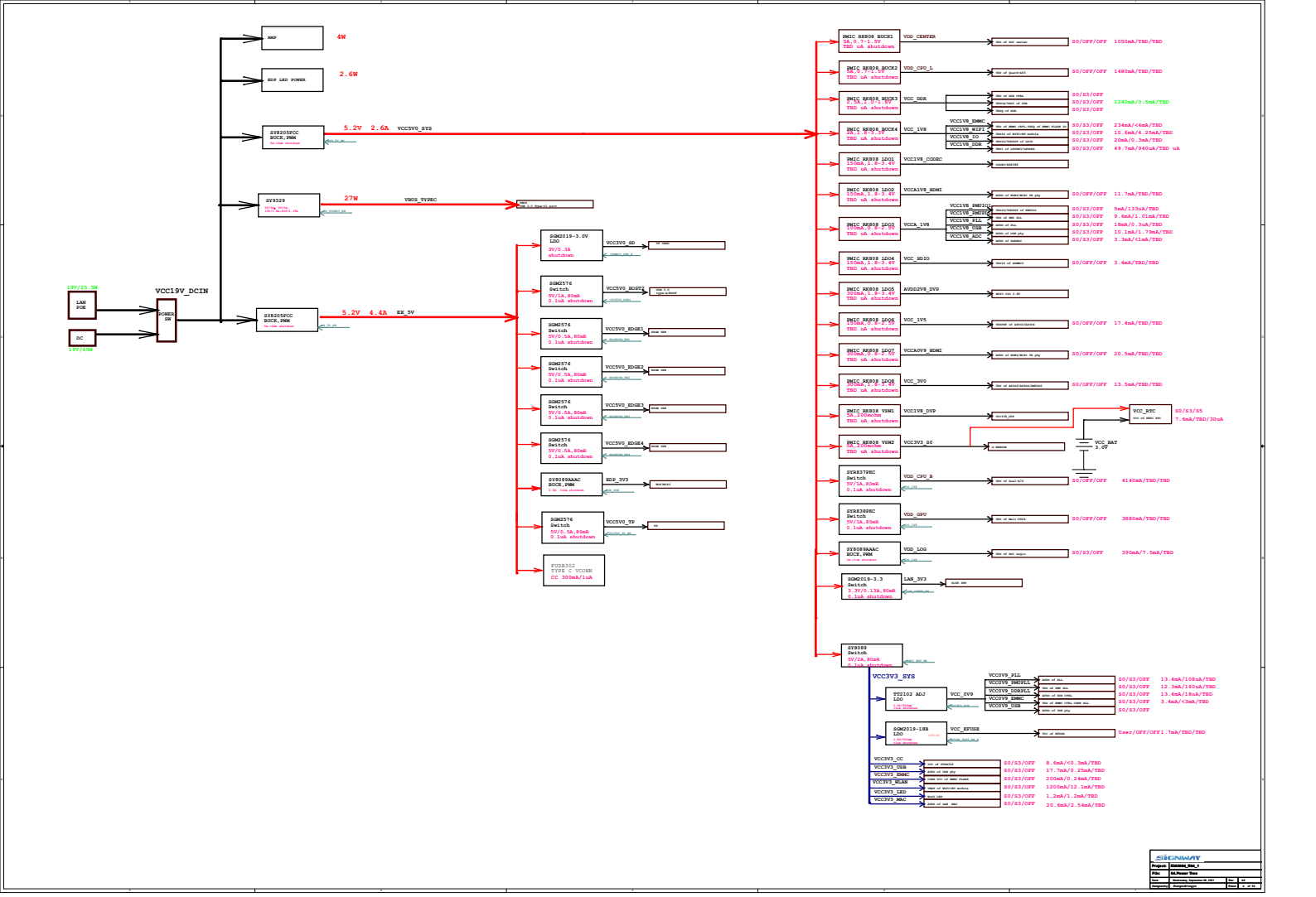
Change List

Version	Date	Author	Change Note	Approved
V0.5	March 02, 2020	Zhangbo&Yangyin	First edition.	Zhouchangliang
V0.6	March 27, 2020	Zhangbo&Yangyin	Modified dual power input switch; Replaced Type-C VBUS switch by discrete component circuit.	Zhouchangliang
V0.7	April 05, 2020	Zhangbo&Yangyin	Modified power path for Ethernet wake up featrue; Reserved hardware options for HWID configuration.	Zhouchangliang
V0.8	April 08, 2020	Zhangbo&Yangyin	1.Modified Camera CON17 definition; 2.Modified Microphone&Speaker CON1.25 mm ,delete CON13; 3.Modified Dimension of locating hole	Zhouchangliang
V0.9	April 08, 2021	Zhangbo&Yangyin	1.Modified RJ45/Speaker definition; 2.Change L31 PCB footprint	Zhouchangliang
V0.10	April 14, 2022	Zhangbo&Yangyin	1.Modified USB 2.0 HUB 2.Change R324 PCB footprint 3.Change EDP POWER BL12 (OPTION) 4.Change UART TO GPIO CON 5. Change TP&CAMERA PIN20	Zhouchangliang
V0.11	April 15, 2023	Zhangbo&Yangyin	1.Change GPIO_OUT to 5V POWER OUT	Zhouchangliang

SIGNWAY			
Project:	E352066_R04_1		
File:	02.Change List		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhangbo&Yangyin	Sheet:	2 of 32



Project:	E352988_R04_1
File:	03.Block Diagram
Size:	Wednesday, September 08, 2021
Rev:	A0
Designed by	ZhangboShangyin
Sheet:	3 of 32



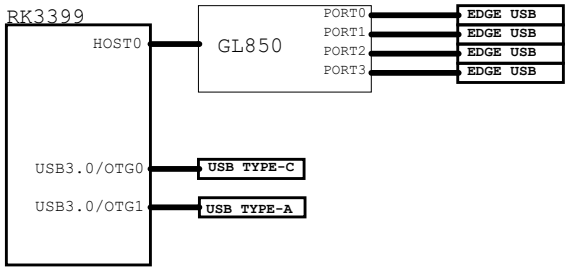
VDD_CENTER	SMIC 8R808 BUCK1 5A,0.7-1.5V TBD uA shutdown	S0/OFF/OFF	1050mA/TBD/TBD	
VDD_CPU_L	SMIC 8R808 BUCK2 5A,0.7-1.5V TBD uA shutdown	S0/OFF/OFF	1480mA/TBD/TBD	
VCC_DDR	SMIC 8R808 BUCK3 6.5A,1.0-3.4V TBD uA shutdown	S0/S3/OFF S0/S3/OFF S0/S3/OFF	1240mA/3.5mA/TBD	
VCC_1V8	SMIC 8R808 BUCK4 3A,0.6-1.5V TBD uA shutdown	VCC1V8_EMMC VCC1V8_WIFI VCC1V8_IO VCC1V8_DDR	S0/S3/OFF S0/S3/OFF S0/S3/OFF S0/S3/OFF	234mA/<4mA/TBD 10.6mA/4.25mA/TBD 20mA/0.3mA/TBD 49.7mA/940uA/TBD uA
VCC1V8_CODEC	SMIC 8R808 LDO1 150mA,1.8-3.4V TBD uA shutdown	S0/S3/OFF	11.7mA/TBD/TBD	
VCCA1V8_HDMI	SMIC 8R808 LDO2 150mA,1.8-3.4V TBD uA shutdown	VCC1V8_PMUIO2 VCC1V8_PMUPLL VCC1V8_PLL VCC1V8_USB VCC1V8_ADC	S0/S3/OFF S0/S3/OFF S0/S3/OFF S0/S3/OFF S0/S3/OFF	5mA/133uA/TBD 9.6mA/1.01mA/TBD 18mA/0.3uA/TBD 10.1mA/1.79mA/TBD 3.3mA/<1mA/TBD
VCCA_1V8	SMIC 8R808 LDO3 150mA,1.8-3.4V TBD uA shutdown			
VCC_SDIO	SMIC 8R808 LDO4 150mA,1.8-3.4V TBD uA shutdown	S0/OFF/OFF	3.4mA/TBD/TBD	
AVDD2V8_DVP	SMIC 8R808 LDO5 300mA,1.8-3.4V TBD uA shutdown			
VCC_1V5	SMIC 8R808 LDO6 150mA,0.8-3.4V TBD uA shutdown	S0/OFF/OFF	17.4mA/TBD/TBD	
VCCA0V9_HDMI	SMIC 8R808 LDO7 150mA,0.8-3.4V TBD uA shutdown	S0/OFF/OFF	20.5mA/TBD/TBD	
VCC_3V0	SMIC 8R808 LDO8 300mA,1.8-3.4V TBD uA shutdown	S0/OFF/OFF	13.5mA/TBD/TBD	
VCC1V8_DVP	SMIC 8R808 VSW1 5A,200mohm TBD uA shutdown			
VCC3V3_S0	SMIC 8R808 VSW2 5A,200mohm TBD uA shutdown			
VCC_RTC		S0/S3/S5	7.6mA/TBD/30uA	
VDD_CPU_B	SY88378FHC Switch 5V/1A,80mR 0.1uA shutdown	S0/OFF/OFF	4140mA/TBD/TBD	
VDD_GPU	SY88389HC Switch 5V/1A,80mR 0.1uA shutdown	S0/OFF/OFF	3880mA/TBD/TBD	
VDD_LOG	SY88089AAAC BUCK_PWM	S0/S3/OFF	390mA/7.5mA/TBD	
LAN_3V3	SGM2019-3.3 Switch 3.3V/0.13A,80mR 0.1uA shutdown			
VCC3V3_SYS	SY8089 Switch 5V/2A,80mR 0.1uA shutdown			
VCC_0V9	TPS2102 ADJ LDO	VCC0V9_PLL VCC0V9_DWCPLL VCC0V9_DDRPLL VCC0V9_EMMC VCC0V9_USB	S0/S3/OFF S0/S3/OFF S0/S3/OFF S0/S3/OFF S0/S3/OFF	13.4mA/108uA/TBD 12.3mA/160uA/TBD 13.6mA/18uA/TBD 3.4mA/<3mA/TBD
VCC_EFUSE	SGM2019-1RB LDO	Sear/OFF/OFF	1.7mA/TBD/TBD	
VCC3V3_CC		S0/S3/OFF	8.6mA/<0.3mA/TBD	
VCC3V3_USB		S0/S3/OFF	17.7mA/0.25mA/TBD	
VCC3V3_EMMC		S0/S3/OFF	200mA/0.24mA/TBD	
VCC3V3_WLAN		S0/S3/OFF	120mA/12.1mA/TBD	
VCC3V3_LED		S0/S3/OFF	1.2mA/1.2mA/TBD	
VCC3V3_MAC		S0/S3/OFF	20.6mA/2.54mA/TBD	

Project	RK3288_EVB_V
File	04.Power Tree
Date	Saturday, September 28, 2013
Designed by	Shanghai Rockchip
Rev	1.0
Sheet	4 of 22

I2C MAP

Port	Pin name	Domain	Bus name	Pull-up voltage	Slave Device	Slave Addr (MS 7Bits)	Note	Slave Bus Capability
I2C0	GPIO1_B7/SPI3_RXD/I2C0_SDA GPIO1_C0/SPI3_TXD/I2C0_SCL	PMUIO2	I2C_SDA_PMIC I2C_SCL_PMIC	VCC_3V0	Rockchip RK808	0x1b	PMIC	100kHz,400KHz
					SYR837FKC	0x40	DC-DC BUCK	100kHz,400KHz,3.4MHz
					SYR838FKC	0x41	DC-DC BUCK	100kHz,400KHz,3.4MHz
					PT7C4337	0xd0,0xd1	RTC	100kHz
I2C1	GPIO4_A1/I2C1_SDA GPIO4_A2/I2C1_SCL	APIO5	I2C1_SDA_1V8 I2C1_SCL_1V8	VCC_1V8	ES8388/1.8V	0x10,0x11	Audio codec	100kHz
					FUSB302MPX/1.8V	0x44,0x46	USB-TypeC Mux	100kHz
					GL852	0X2C	USB HUB	100kHz
I2C2	GPIO2_A0/VOP_D0/CIF_D0/I2C2_SDA GPIO2_A1/VOP_D1/CIF_D1/I2C2_SCL	APIO2	I2C2_SDA_1V8 I2C2_SCL_1V8	VCC_1V8	MMA8452Q/1.8V	0x1D,0x1E	G-SENSOR	100kHz,400KHz,
I2C3	GPIO4_C0/I2C3_SDA/UART2B_RX GPIO4_C1/I2C3_SCL/UART2B_TX	APIO4	I2C3_SDA I2C3_SCL	VCC_3V0	TP/3.3V	TBD	TP TOUCH	100kHz,400KHz,3.4MHz
I2C4	GPIO1_B3/I2C4_SDA GPIO1_B4/I2C4_SCL	PMUIO2	I2C4_SDA I2C4_SCL	VCC_3V0	SW201/3.0V	0xA0 0xE0	EEPROM	10kHz
I2C5	GPIO3_B2/MAC_RXER/I2C5_SDA GPIO3_B3/MAC_CLK/I2C5_SCL	APIO1	MAC USE					
I2C6	GPIO2_B1/SPI2_RXD/CIF_HREF/I2C6_SDA GPIO2_B2/SPI2_TXD/CIF_CLKIN/I2C6_SCL	APIO2	I2C6_SDA_1V8 I2C6_SCL_1V8	VCC_1V8	MCU/3.0V	0XE2,0XE3	SY9329	20kHz
I2C7	GPIO2_A7/VOP_D7/CIF_D7/I2C7_SDA GPIO2_B0/VOP_CLK/CIF_VSYNC/I2C7_SCL	APIO2	I2C7_SDA_1V8 I2C7_SCL_1V8	VCC_1V8	MIPI_CSI /1.8V			100kHz

USB MAP

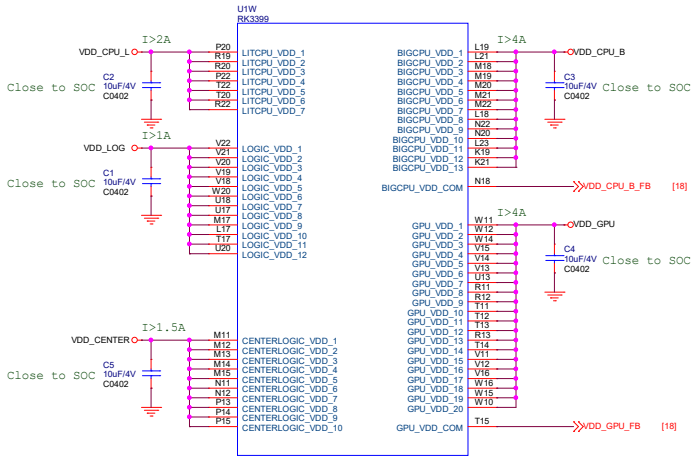


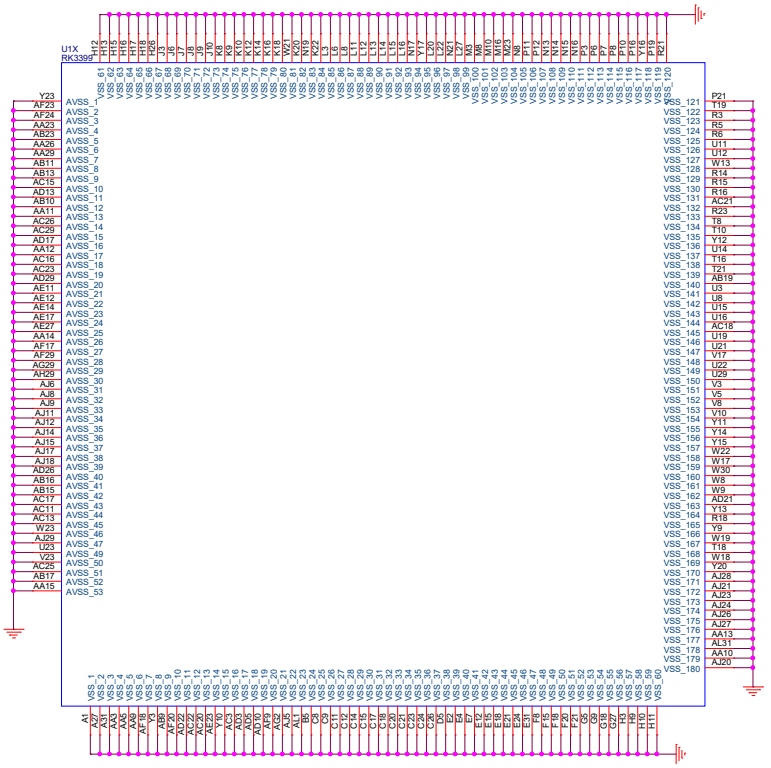
SIGNWAY	
Project:	E352066_R04_1
File:	05.I2C&USB Map
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet	5 of 32

Power Domain Map

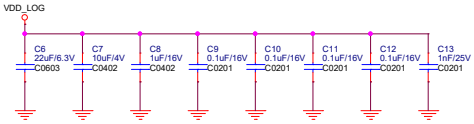
Part Port	Domain	Pin name in datasheet	I/O type	Power supply	Power source
Part C	PMUIO1	pmuio1_gpio0ab	1.8V only	VCCA_1V8	RK808-D VLDO3
Part E	PMUIO2/PART E	pmu1830_gpio1abcd	3.0V	VCC_1V5	RK808-D Buck4 RK808-D VLDO6
Part I	APIO1	gmac_gpio3abc	3.3V only	VCC_1V8 VCC3V3_LAN	RK808-D Buck4
Part L	APIO2	bt656_gpio2ab	1.8V	VCC_1V8	RK808-D VLDO3
Part G	APIO3	wifi/bt_gpio2cd	1.8V only	VCC_1V8	RK808-D Buck4
Part K	APIO4	gpio1830_gpio4cd	1.8V 3.0V(Default)	VCC_1V5 VCC_3V0	RK808-D VLDO6 RK808-D VLDO8
Part J	APIO5/PART J	audio_gpio3d_gpio4a	VCC1V8_CODEC	VCC1V8_CODEC	RK808-D VLDO1
Part F	SDMMC0	sdmmc_gpio4b	1.8V 3.0V(Default)	VCC_SDIO	RK808-D VLDO4

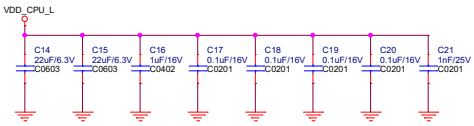
SIGNWAY			
Project:	E352066_R04_1		
File:	06.Power Domain Map		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhangbo&Yangyin	Sheet:	6 of 32

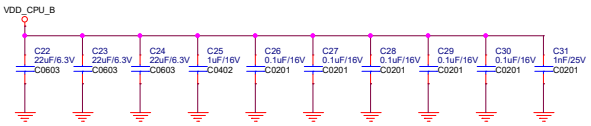


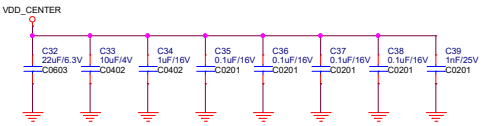


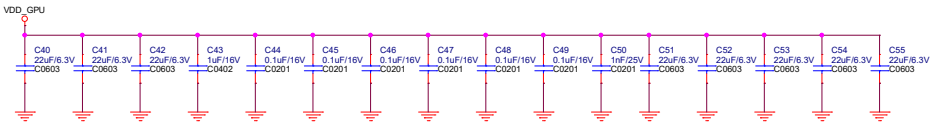
Note:Power filter CAP please place back of SOC or close to SOC



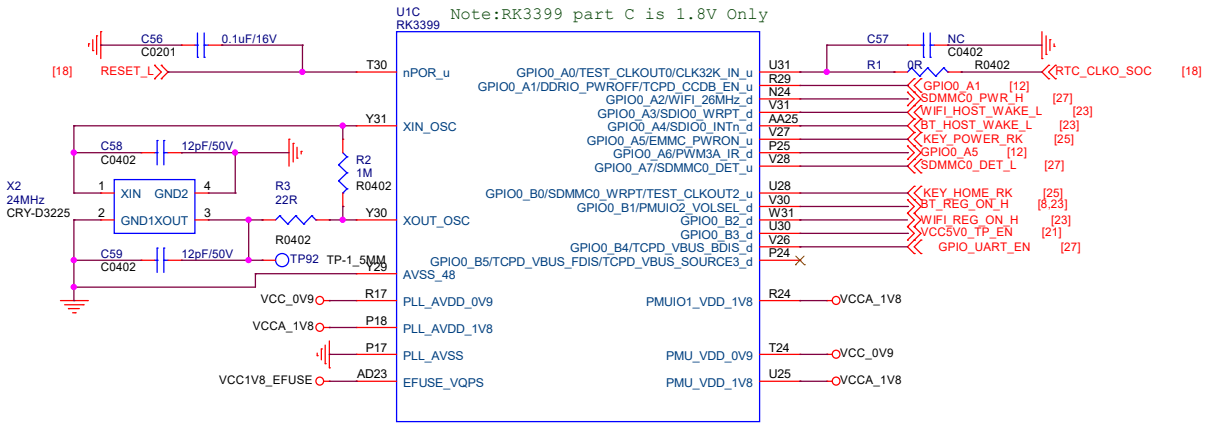


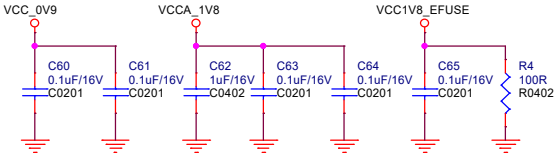


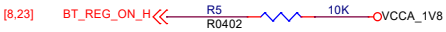




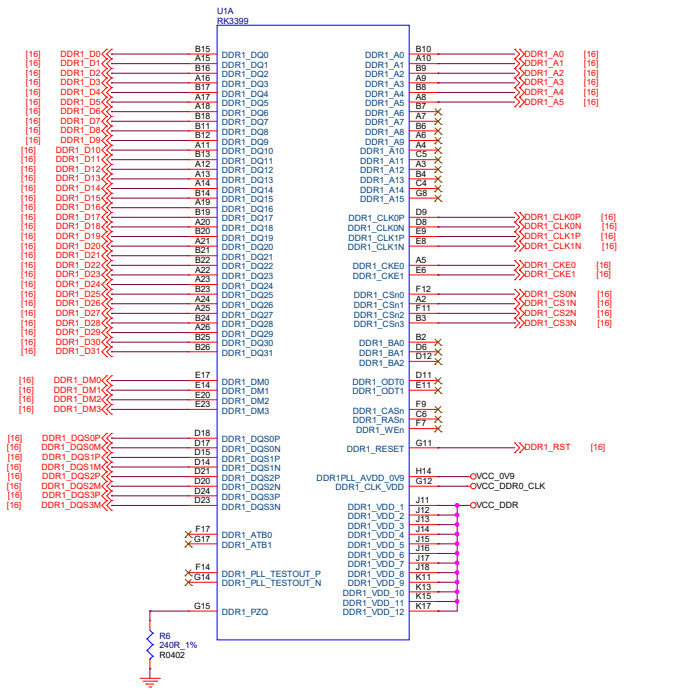
SIGNWAY	
Project:	E352066_R04_1
File:	07.RK3399 Power
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet:	7 of 32

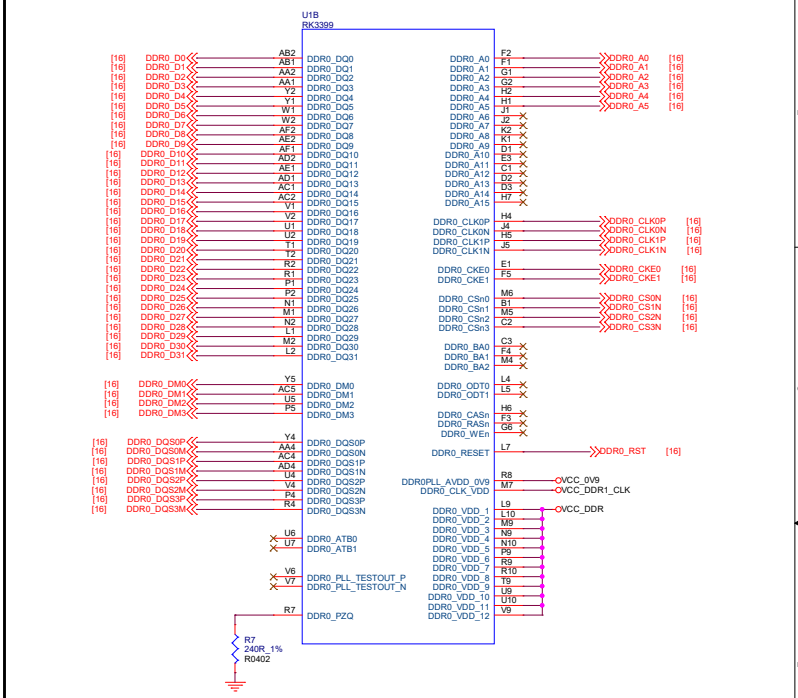






SIGNWAY	
Project:	E352066_R04_1
File:	08.RK3399 PMU Controler
Date: Wednesday, September 08, 2021	Rev: A0
Designed by: Zhangbo&Yangyin	Sheet: 8 of 32





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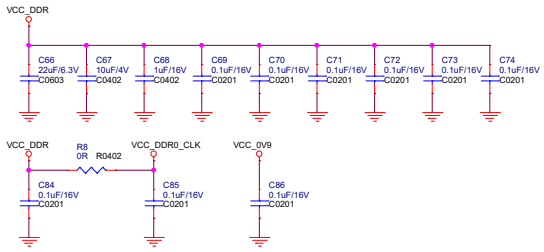

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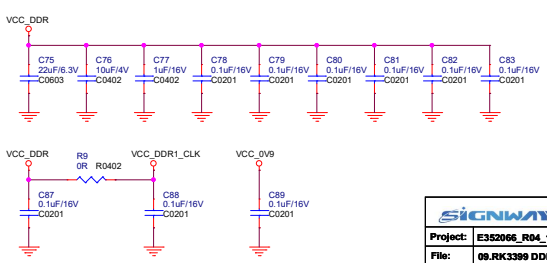
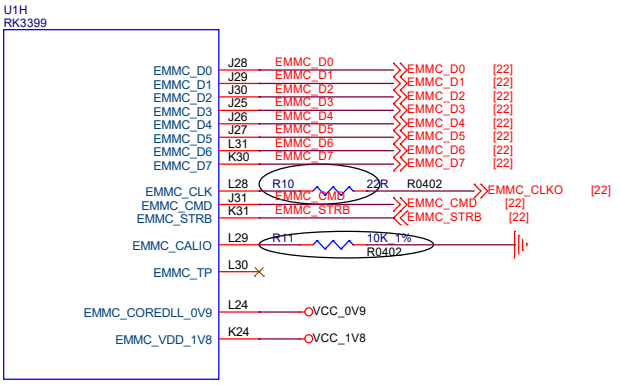
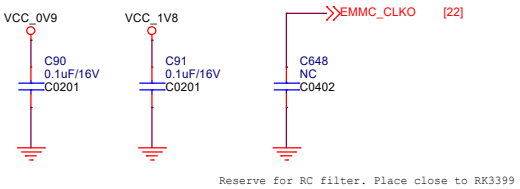


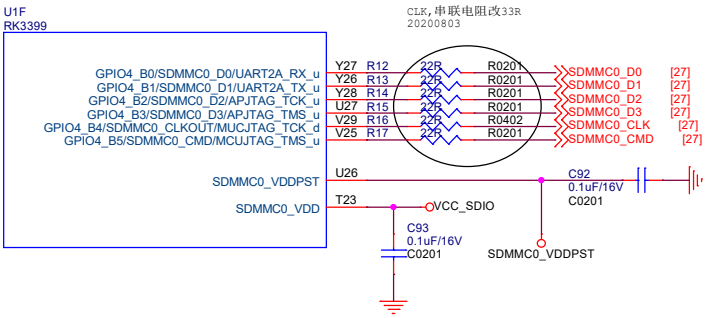
Project:	E352065_R04_1
File:	09.RK3399 DDR Controler
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet:	9 of 32



EMMC design rule:
1.Data[0:7], CMD and STRB signals routing parallel as a group, the skew between each other must be less than 100mils;
2.The Clock signal should be isolated with other signals by GND plane, the skew between data lines is less than 20ps;
3.Max trace length < 3.93 inchs;
4.Trace impedance 50ohm+/-10%;
5.The distance between other signals follows the 3W rule;
6.R11 close to SOC;

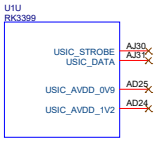


Reserve for RC filter. Place close to RK3399

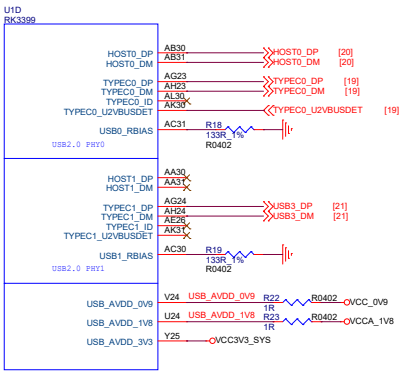


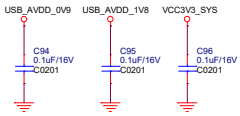
SDMMC design rule:
1.Data[0:7] and CMD signals routing parallel as a group, the skew between each other must be less than 100mils;
2.The Clock signal should be isolated with other signals by GND plane, the skew between data lines is less than 20ps;
3.Max trace length < 3.93 inchs;
4.Trace impedance 50ohm+/-10%;
5.The distance between other signals follows the 3W rule;

SIGNWAY			
Project:	E352066_R04_1		
File:	10.RK3399 Flash&SDMMC Controler		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhangbo&Yangyin	Sheet:	10 of 32



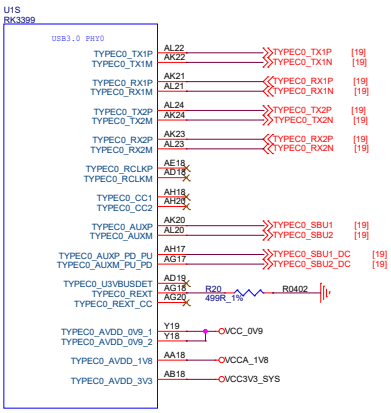
USB2.0

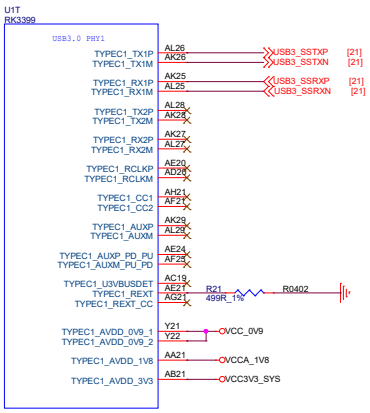


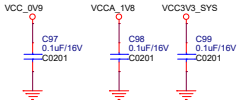


USB2.0 design rule:
1.Max intra-pair skew < 4 ps;
2.Max trace length < 6 inchs;
3.Max allowed via < 4;
4.Trace impedance 90ohm+/-10%;
5.The distance between other signals
follows the 3W rule;

USB3.0



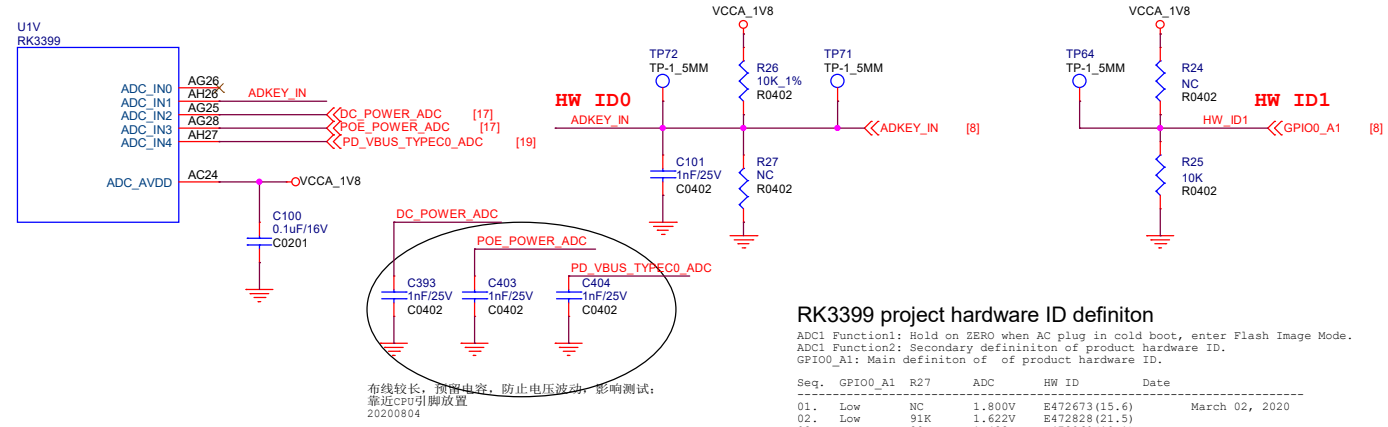




USB3.0 design rule:
1.Max intra-pair skew < 4 ps;
2.Max length skew between TX and
RX < 1.6 ns;
3.Max trace length < 6 inchs;
4.Max allowed via < 4;
5.Trace impedance 90ohm+/-10%;
6.The distance between other signals
follows the 3W rule;

DP design rule:
1.Max intra-pair skew < 4 ps;
2.Max trace length < 6 inchs;
3.Max allowed via < 4;
4.Trace impedance 90ohm+/-10%;
5.The distance between other signals
follows the 3W rule;

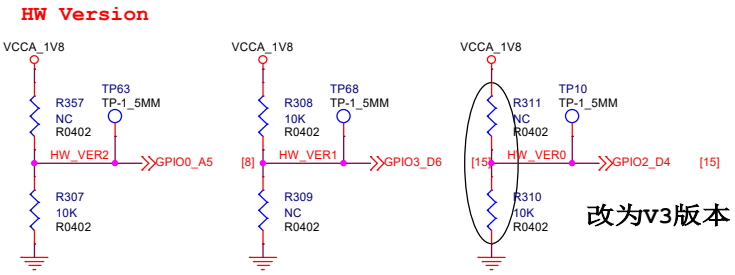
SIGNWAY	
Project:	E352066_R04_1
File:	11.RK3399 USB/USIC Controler
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet:	11 of 32



RK3399 project hardware ID definiton

ADC1 Function1: Hold on ZERO when AC plug in cold boot, enter Flash Image Mode.
ADC1 Function2: Secondary defininiton of product hardware ID.
GPIO0_A1: Main definiton of of product hardware ID.

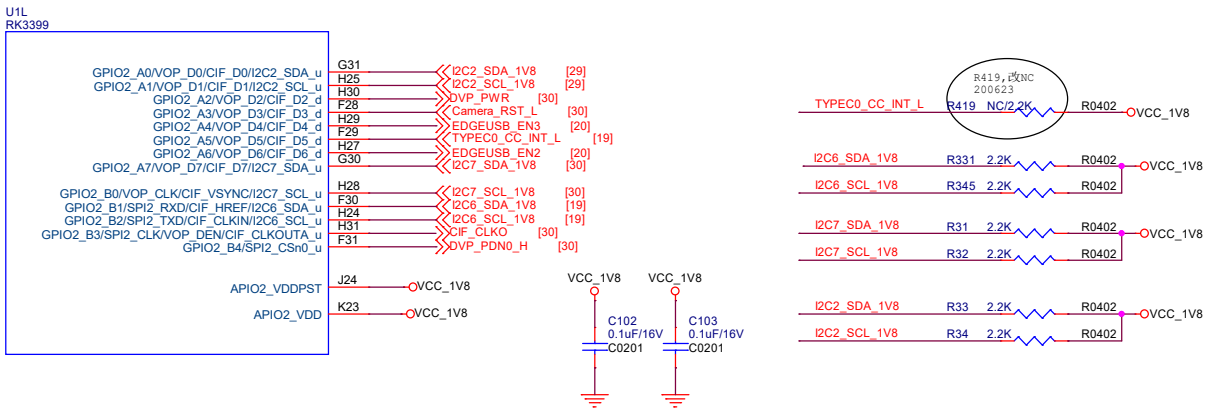
Seq.	GPIO0_A1	R27	ADC	HW ID	Date
01.	Low	NC	1.800V	E472673(15.6)	March 02, 2020
02.	Low	91K	1.622V	E472828(21.5)	
03.	Low	39K	1.433V	E473060(10.1)	
04.	Low	22K	1.238V	E473261(BACKPACK)	
05.	Low	13K	1.017V	E679524(USB-C)	
06.	Low	9.1K	0.858V	TBD	
07.	Low	6.2K	0.689V	TBD	
08.	Low	3.9K	0.505V	TBD	
09.	High	NC	1.800V	TBD	
10.	High	91K	1.622V	TBD	
11.	High	39K	1.433V	TBD	
12.	High	22K	1.238V	TBD	
13.	High	13K	1.017V	TBD	
14.	High	9.1K	0.858V	TBD	
15.	High	6.2K	0.689V	TBD	
16.	High	3.9K	0.505V	TBD	

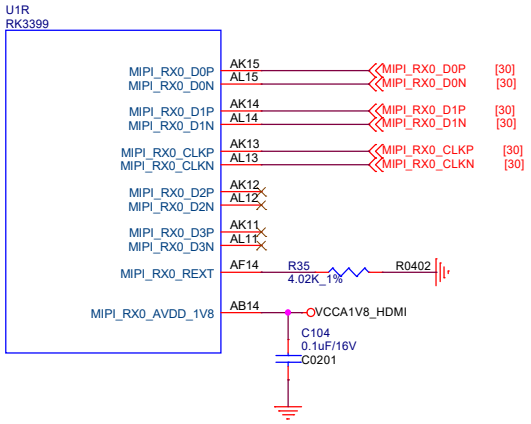


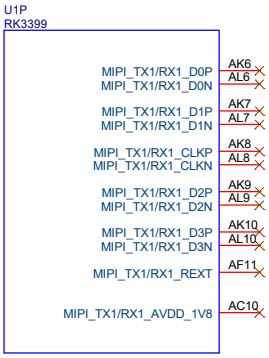
E472673 Hardware Version

Seq.	GPIO0_A5	GPIO3_D6	GPIO2_D4	HW Version	Date
01.	0	0	0	V1(EVT)	March 26, 2020
02.	0	0	1	V2	TBD
03.	0	1	0	V3	TBD
04.	0	1	1	V4	TBD
05.	1	0	0	V5	TBD
06.	1	0	1	V6	TBD
07.	1	1	0	V7	TBD
08.	1	1	1	V8	TBD

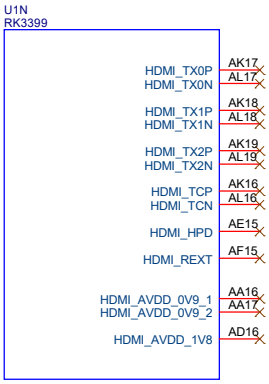
SIGNWAY			
Project:	E352066_R04_1		
File:	12.RK3399 SARADC/Key		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhangbo&Yangyin	Sheet:	12 of 32



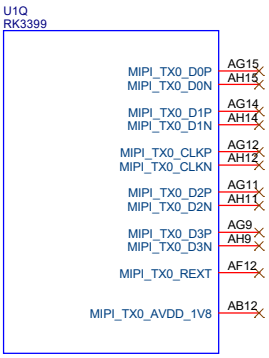


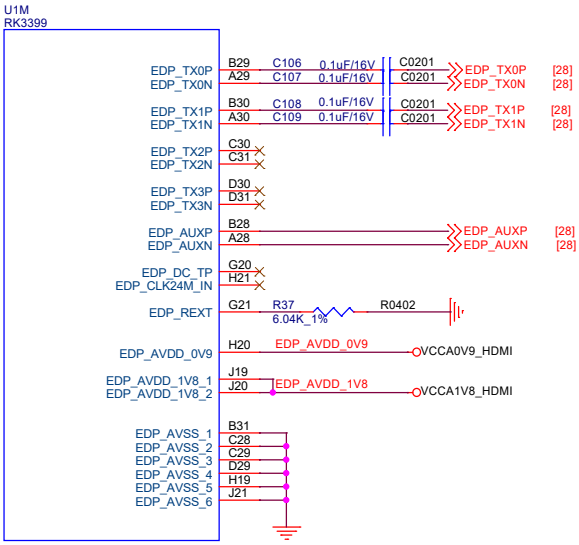


SIGNWAY	
Project:	E352066_R04_1
File:	13.RK3399 DVP Interface
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhangbo&Yangyin
Sheet:	13 of 32

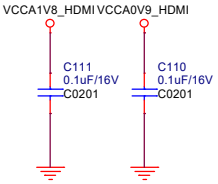


HDMI design rule:
1.Max intra-pair skew < 4 ps;
2.Max length skew between clk and data < 80 ps;
3.Max trace length < 9.8 inchs;
4.Max allowed via < 4;
5.Trace impedance 100ohm+/-10%;
6.The distance between other signals follows the 3W rule;





eDP design rule:
1.Max intra-pair skew < 4 ps;
2.Max trace length < 6 inchs;
3.Max allowed via < 4;
4.Trace impedance 90ohm+/-10%;
5.The distance between other signals
follows the 3W rule;



MIPI design rule:
1.Max intra-pair skew < 4 ps;
2.Max length skew between clk and data < 7ps;
3.Max trace length < 7.2 inchs;
4.Max allowed via < 4;
5.Trace impedance 100ohm+/-10%;
6.The distance between other signals follows the 3W rule;

SIGNWAY			
Project:	E352066_R04_1		
File:	14.RK3399 Display Interface		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhangbo&Yangyin	Sheet:	14 of 32

U1I
RK3399
Note:RK3399 part I is 3.3V only

GPIO3_A0/MAC_TXD2/SPI4_RXD_d F24 MAC_TXD2 R39 22R R0201 PHY_TXD2 [24]
GPIO3_A1/MAC_TXD3/SPI4_TXD_d H23 MAC_TXD3 R40 22R R0201 PHY_TXD3 [24]
GPIO3_A2/MAC_RXD2/SPI4_CLK_u E30 MAC_RXD2 [24]
GPIO3_A3/MAC_RXD3/SPI4_CSn0_u E25 MAC_RXD3 [24]
GPIO3_A4/MAC_TXD0/SPI0_RXD_d D26 MAC_TXD0 R41 22R R0201 PHY_TXD0 [24]
GPIO3_A5/MAC_TXD1/SPI0_TXD_d G23 MAC_TXD1 R42 22R R0201 PHY_TXD1 [24]
GPIO3_A6/MAC_RXD0/SPI0_CLK_u E26 MAC_RXD0 [24]
GPIO3_A7/MAC_RXD1/SPI0_CSn0_u P27 MAC_RXD1 [24]

GPIO3_B0/MAC_MDC/SPI0_CSn1_u E29 MAC_MDC [24]
GPIO3_B1/MAC_RXDV_d C27 MAC_RXDV [24]
GPIO3_B2/MAC_RXER/I2C5_SDA_u F23 GPIO1_TP [21]
GPIO3_B3/MAC_CLK/I2C5_SCL_u G24 R43 0R R0402
GPIO3_B4/MAC_TXEN/UART1_RX_u H22 MAC_TXEN R44 22R R0201 PHY_TXEN [24]
GPIO3_B5/MAC_MDIO/UART1_TX_u G26 MAC_MDIO [24]
GPIO3_B6/MAC_RXCLK/UART3_RX_u F25 MAC_RXCLK [24]
GPIO3_B7/MAC_CRS/CIF_CLKOUTB/UART3_TX_u B27 PHY_RST [24]

GPIO3_C0/MAC_COL/UART3_CTSn/SPDIF_TX_u D27
GPIO3_C1/MAC_TXCLK/UART3_RTSn_u E28 MAC_TXCLK R45 22R R0201 PHY_TXCLK [24]

APIO1_VDDPST J22 VCC_1V8
APIO1_VDD J23 VCC3V3_LAN

R43改为0R:
20/06/23

MAC_CLK [24]
C113 12OR C0402

L53改为51，防止反向漏电。

VCC3V3_S0
L53 FB_60R_0603 L0603
VCC3V3_LAN
C114 0.1uF/16V C0201
VCC_1V8
C115 0.1uF/16V C0201

PHY_TXD0 R46 4.7K R0402 VCC3V3_LAN
PHY_TXD1 R47 4.7K R0402
PHY_TXD2 R48 4.7K R0402
PHY_TXD3 R49 4.7K R0402
MAC_MDIO R50 1.5K R0402

U1G
RK3399
Note:RK3399 part G is 1.8V only

GPIO2_C0/UART0_RX_u AE9 UART0_RXD [23]
GPIO2_C1/UART0_TX_u AH8 UART0_TXD [23]
GPIO2_C2/UART0_CTSn_u AG8 UART0_CTS [23]
GPIO2_C3/UART0_RTSn_u AL5 UART0_RTS [23]
GPIO2_C4/SDIO0_D0/SPI5_RXD_u AD8 SDIO0_D0 [23]
GPIO2_C5/SDIO0_D1/SPI5_TXD_u AK5 SDIO0_D1 [23]
GPIO2_C6/SDIO0_D2/SPI5_CLK_u AG7 SDIO0_D2 [23]
GPIO2_C7/SDIO0_D3/SPI5_CSn0_u AE8 SDIO0_D3 [23]

GPIO2_D0/SDIO0_CMD_u AH6 SDIO0_CMD [23]
GPIO2_D1/SDIO0_CLKOUT/TEST_CLKOUT1_u AF7 SDIO0_CLK [23]
GPIO2_D2/SDIO0_DETN/PCIE_CLKREQn_u AL4 GSENSOR_INT_L 1V8 [29]
GPIO2_D3/SDIO0_PWREN_d AD9 BT_WAKE_L [23]
GPIO2_D4/SDIO0_BKPWR_d AF8 GPIO2_D4 [12]

APIO3_VDD_1V8 AB8 VCC_1V8

SDIO design rule:
1.Data[0:7] and CMD signals routing parallel as a group, the skew between each other must be less than 100mils;
2.The Clock signal should be isolated with other signals by GND plane, the skew between data lines is less than 20ps;
3.Max trace length < 3.93 inchs;
4.Trace impedance 50ohm+/-10%;
5.The distance between other signals follows the 3W rule;

VCC_1V8
C118 0.1uF/16V C0201

GSENSOR_INT_L_1V8 R525 2.2K R0402 VCC_1V8

U1J
RK3399
Note:RK3399 part J is 1.8V/3.0V mode
PART J 1.8V

GPIO3_D0/I2S0_SCLK_d AG3 I2S0_SCLK [26]
GPIO3_D1/I2S0_LRCK_RX_d AF4 I2S0_LRCK_RX [26]
GPIO3_D2/I2S0_LRCK_TX_d AJ2 I2S0_LRCK_TX [26]
GPIO3_D3/I2S0_SDI0_d Y7 I2S0_SDI0 [26]
GPIO3_D4/I2S0_SDI1SDO3_d AE5 LAN_POWER_EN [24]
GPIO3_D5/I2S0_SDI2SDO2_d AA6 ESP_RL_POWON [28]
GPIO3_D6/I2S0_SDI3SDO1_d AH2 GPIO3_D6 [12]
GPIO3_D7/I2S0_SDO0_d AH1 I2S0_SDO0 [26]

GPIO4_A0/I2S_CLK_d AC7 I2S_MCLK [26]
GPIO4_A1/I2C1_SDA_u AG1 I2C1_SDA_1V8 [19,20,26]
GPIO4_A2/I2C1_SCL_u Y6 I2C1_SCL_1V8 [19,20,26]
GPIO4_A3/I2S1_SCLK_d AF3 I2S1_SCLK [23]
GPIO4_A4/I2S1_LRCK_RX_d AA7 I2S1_LRCK_RX [23]
GPIO4_A5/I2S1_LRCK_TX_d AJ1 VCC5V0_USB1 [21]
GPIO4_A6/I2S1_SDI0_d AD6 I2S1_SDI0 [23]
GPIO4_A7/I2S1_SDO0_d AC6 I2S1_SDO0 [23]

APIO5_VDDPST AA8 VCC1V8_CODEC
APIO5_VDD Y8 VCC1V8_CODEC

I2C1_SDA_1V8 R57 2.2K R0402 VCC1V8_CODEC
I2C1_SCL_1V8 R58 2.2K R0402

VCC1V8_CODEC
C119 0.1uF/16V C0201
VCC1V8_CODEC
C120 0.1uF/16V C0201

U1E
RK3399
Note:RK3399 part E is 1.8V/3.0V mode
PART E 3V

GPIO1_A0/ISP0_SHUTTER_EN/ISP1_SHUTTER_EN/TCPD_VBUS_SINK_EN_d R25 EDP_ONOFF [28]
GPIO1_A1/ISP0_SHUTTER_TRIG/ISP1_SHUTTER_TRIG/TCPD_CCo_VCONN_EN_d T31 TP_RST [21]
GPIO1_A2/ISP0_FLASHTRIGIN/ISP1_FLASHTRIGIN/TCPD_CC1_VCONN_EN_d R26 TP_INT [21]
GPIO1_A3/ISP0_FLASHTRIGOUT/ISP1_FLASHTRIGOUT_d R27 HUB_RST1 [20]
GPIO1_A4/ISP0_PRELIGHT_TRIG/ISP1_PRELIGHT_TRIG_d R28 PD_TYPEC0_EN [19]
GPIO1_A5/AP PWROFF_d R30 PMIC_SLEEP_H [18]
GPIO1_A6/TSADC_INT_z P26 OTP_OUT_H [18]
GPIO1_A7/SPI1_RXD/UART4_RX_u P27 TD1_3V0 [20]

GPIO1_B0/SPI1_TXD/UART4_TX_u R31 TD2_3V0 [20]
GPIO1_B1/SPI1_CLK/PMCU_JTAG_TCK_u P28 TD3_3V0 [20]
GPIO1_B2/SPI1_CSn0/PMCU_JTAG_TMS_u P29 TD4_3V0 [20]
GPIO1_B3/I2C4_SDA_u P31 I2C4_SDA [29]
GPIO1_B4/I2C4_SCL_u P30 I2C4_SCL [29]
GPIO1_B5_d M24 EX_5V_EN [17]
GPIO1_B6/PWM3B_IR_d M25 GPI2_SLEEP_H [18]
GPIO1_B7/SPI3_RXD/I2C0_SDA_u M26 I2C_SDA_PMIC [18,29]

GPIO1_C0/SPI3_TXD/I2C0_SCL_u N30 I2C_SCL_PMIC [18,29]
GPIO1_C1/SPI3_CLK_d M27 CPU_B_SLEEP_H [18]
GPIO1_C2/SPI3_CSn0_u N31 LED_STATE [18]
GPIO1_C3/PWM2_d M28 LOG_DVS_PWM [18]
GPIO1_C4/I2C8_SDA_u M29 EDP_POWON [28]
GPIO1_C5/I2C8_SCL_u M30 PMIC_INT_L [18]
GPIO1_C6/TCPD_VBUS_SOURCE0_d L25 GPIO1_3V0 [27]
GPIO1_C7/TCPD_VBUS_SOURCE1_d M31 GPIO2_3V0 [27]

GPIO1_D0/TCPD_VBUS_SOURCE2_d L26 PD_INT [19]

DFTJTAG_TMS_u AA24
DFTJTAG_TRSTn_d AB24

PMUIO2_VDDPST N23 VCC_1V5
PMUIO2_VDD P23 VCC_3V0

Close to TF card CON
I2C_SDA_PMIC [18,29]
F58 NC/TUSD05CB esd0402
I2C_SCL_PMIC [18,29]
F59 NC/TUSD05CB esd0402

1.8V Only	VDDPST=VDDIO=1.8V
3.3V Only	VDDPST=1.8V,VDDIO=3.3V
other	3.0V mode:VDDPST=1.5V,VDDIO=3.0V 1.8V mode:VDDPST=1.8V,VDDIO=1.8V

VCC_1V5
C116 0.1uF/16V C0201
VCC_3V0
C117 0.1uF/16V C0201

PD_INT R28 2.2K R0402
TP_RST R313 NC/2.2K R0402 VCC_3V0
TP_INT R316 2.2K R0402
20200706

I2C_SDA_PMIC R51 2.2K R0402 VCC_3V0
I2C_SCL_PMIC R52 2.2K R0402
I2C4_SDA R53 2.2K R0402 VCC_3V0
I2C4_SCL R54 2.2K R0402

U1K
RK3399
Note:RK3399 part K is 1.8V/3.0V mode

GPIO4_C0/I2C3_SDA/UART2B_RX_u AG6 I2C3_SDA [21]
GPIO4_C1/I2C3_SCL/UART2B_TX_u AL2 I2C3_SCL [21]
GPIO4_C2/PWM0/VOP0_PWM/VOP1_PWM_d AF5 MIPI_PWM [28]
GPIO4_C3/UART2C_RX_u AK2 UART2DBG_RX UART2DBG_RX [27]
GPIO4_C4/UART2C_TX_u AJ4 UART2DBG_TX UART2DBG_TX [27]
GPIO4_C5/SPDIF_TX_d AK1 AMP_MUTE [26]
GPIO4_C6/PWM1_d AL3 YLED [25]
GPIO4_C7/HDMI_CECINOUT/EDP_HOTPLUG_u AD7 EDP_HPD [28]

GPIO4_D0/PCIE_CLKREQnB_u AE6 YLED [25]
GPIO4_D1/DP_HOTPLUG_d AK4 GPIO3_3V0_EN [27]
GPIO4_D2_d AH3 POE_DET_OUT [24]
GPIO4_D3_d AK3 BFUSE_VOPS_EN_H [32]
GPIO4_D4_d AH5 EDGEUSB_EN4 [20]
GPIO4_D5_d AJ3 EDGEUSB_EN1 [20]
GPIO4_D6_d AG4 CAMERA_AF_EN [30]

APIO4_VDDPST AC8 VCC_1V5
APIO4_VDD AC9 VCC_3V0

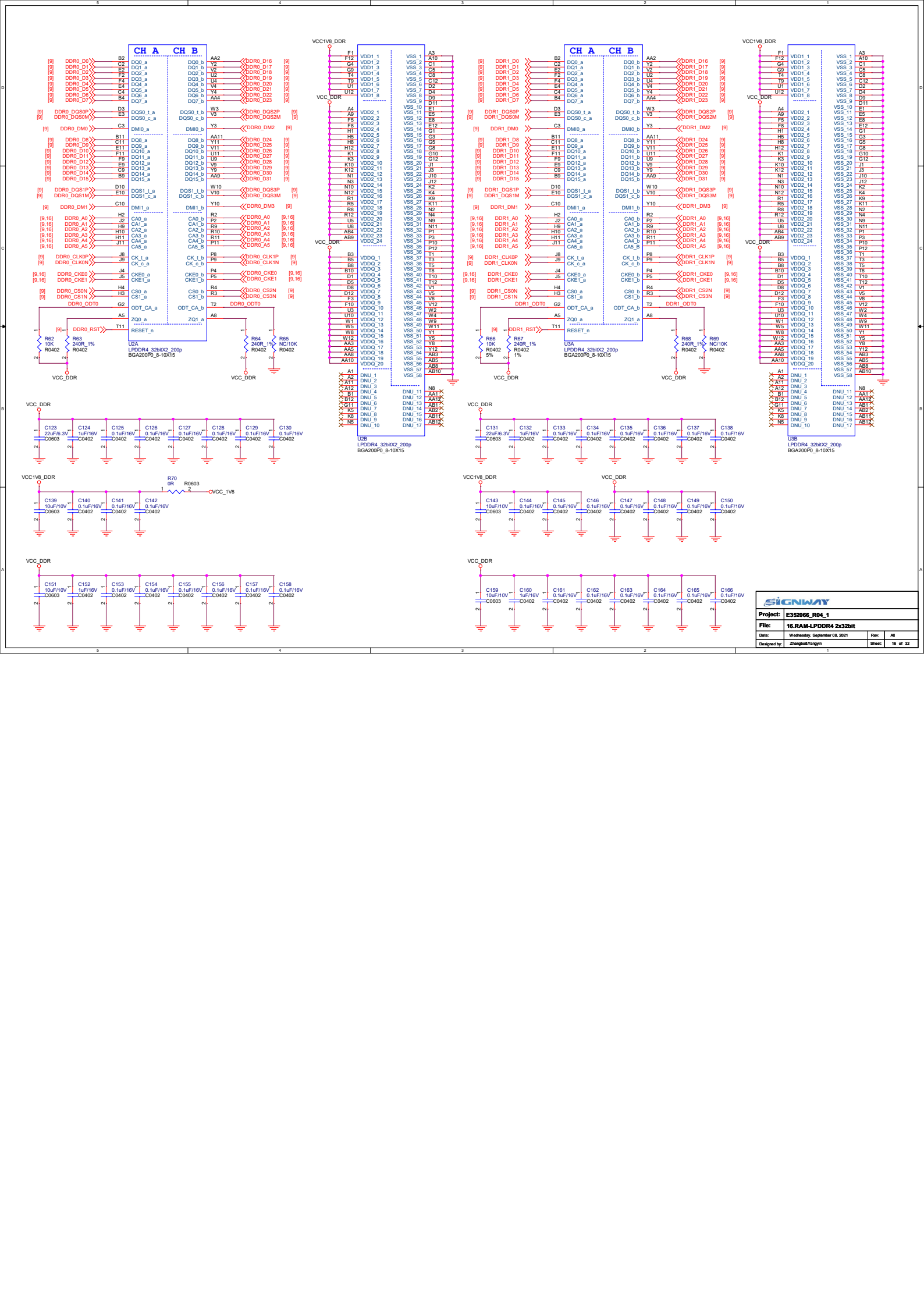
UART2DBG_RX R55 22R R0402
UART2DBG_TX R56 22R R0402
CON99 NC/CON3P2.0 CON3P2_0-1X3H-DIP
F1 TESD05CB esd0402
F2 TESD05CB esd0402

I2C3_SDA R59 2.2K R0402 VCC_3V0
I2C3_SCL R60 2.2K R0402

POE_DET_OUT R520 2.2K R0402 VCC_3V0

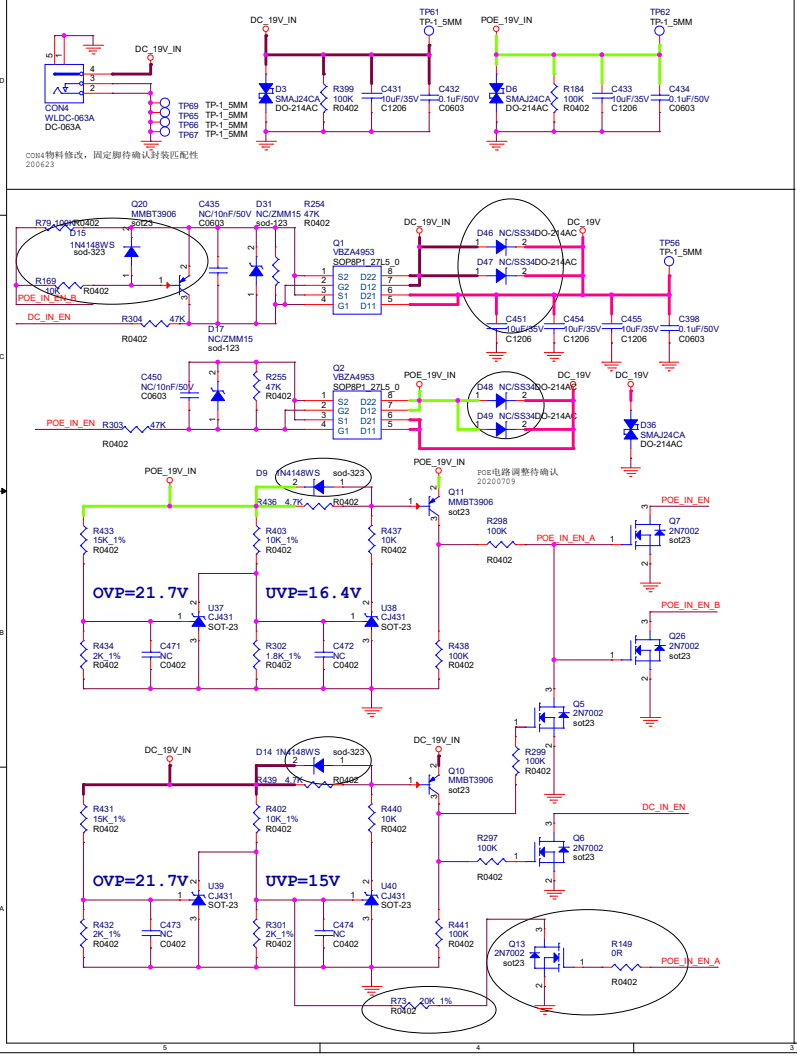
VCC_1V5
R61 10K R0402
C121 0.1uF/16V C0201
VCC_3V0
C122 0.1uF/16V C0201

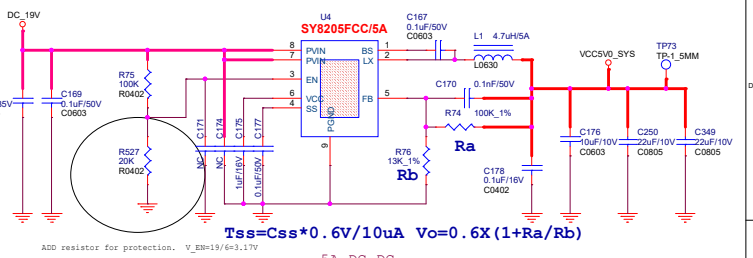
SIGNWAY
Project: E382068_R04_1
File: 15.RK3399 GPIO
Date: Wednesday, September 08, 2021
Rev: A0
Designed by: ZhangboliYangjin
Sheet: 15 of 32

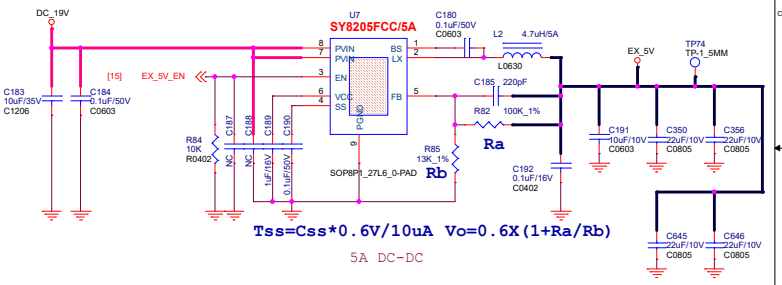


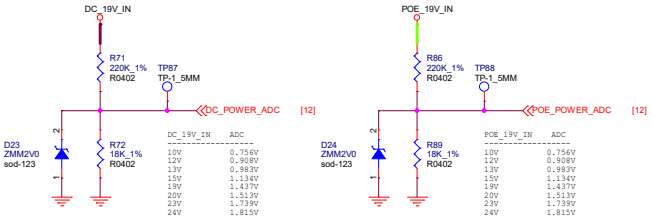
Project:	E352066_R04_1
File:	16.RAM-LPDDR4 2x32bit
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet:	16 of 32

DC IN&SYSTEM Power



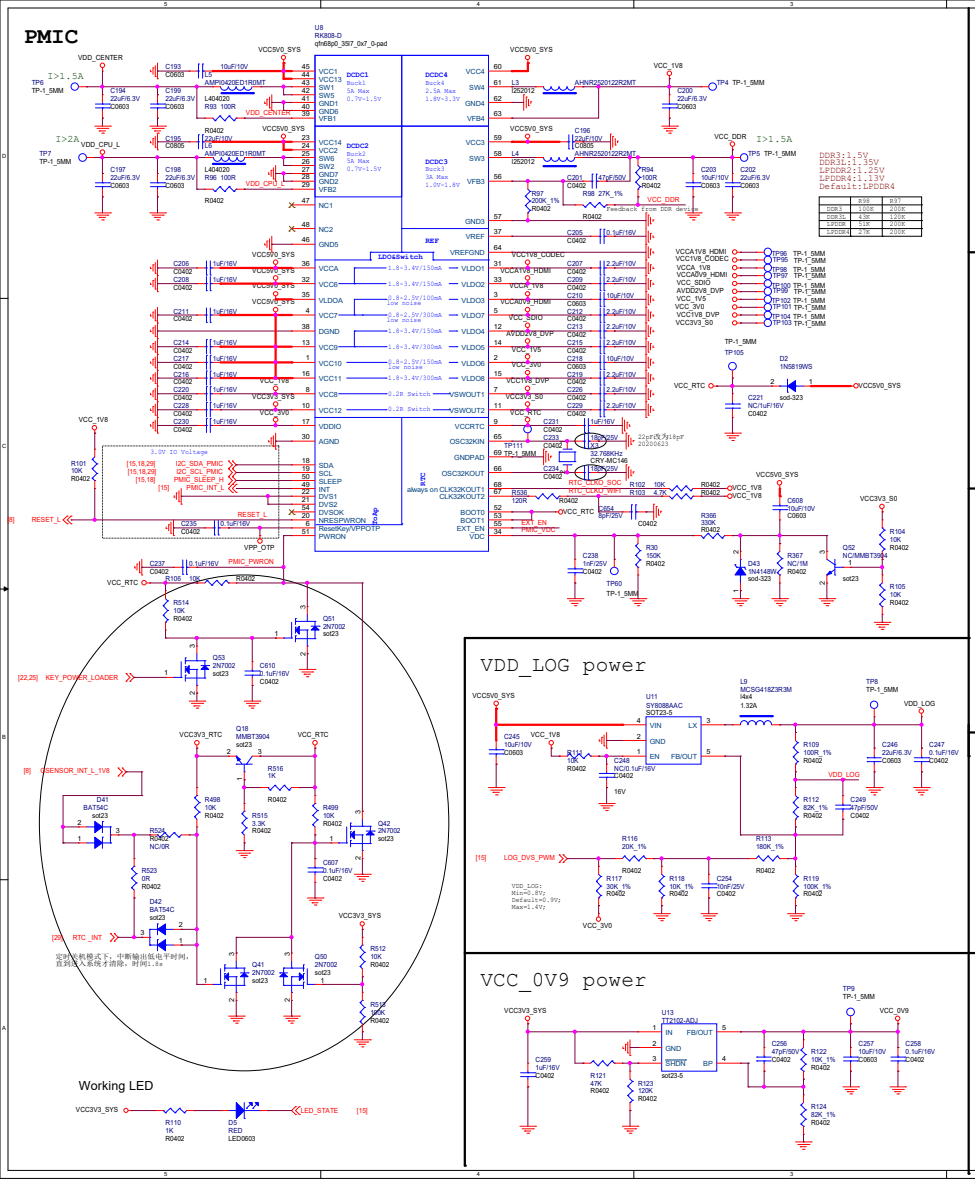




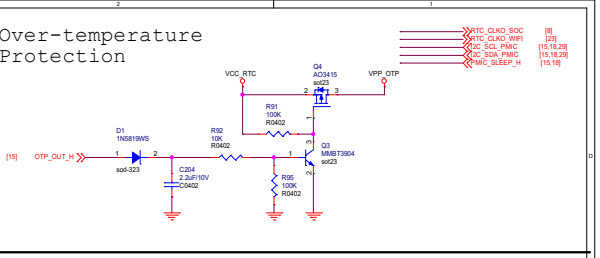


SIGNWAY	
Project:	E352066_R04_1
File:	17.Power-DC IN&POWER SW
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet:	17 of 32

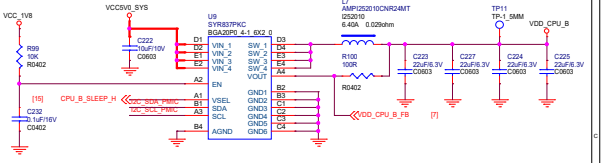
PMIC



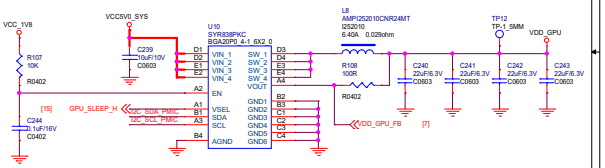
Over-temperature Protection



VDD_CPU_B power

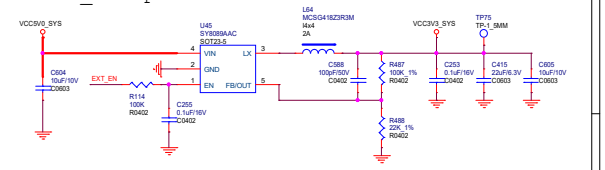


VDD_GPU power



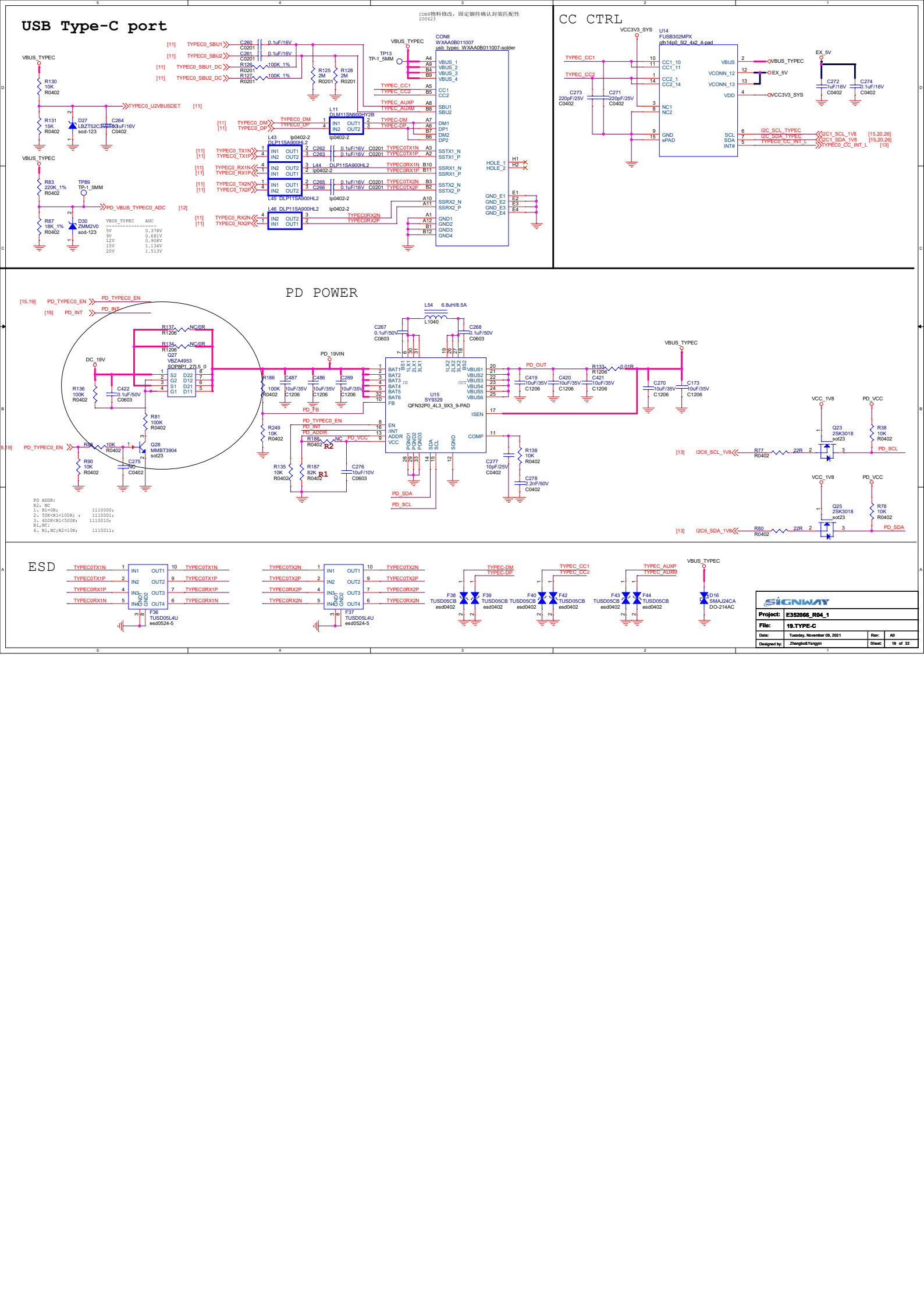
VDD_LOG power

VCC3V3_SYS power



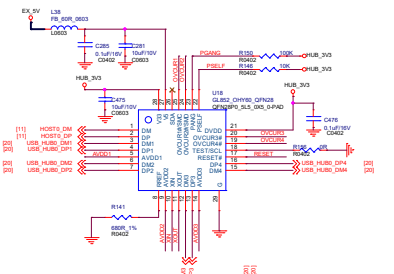
VCC_0V9 power

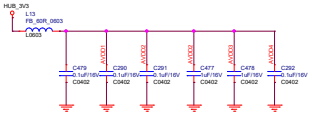
Project:	E382065_R04_1		
File:	18.Power-PMIC RK808-D		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	ZhangboXiangyin	Sheet	18 of 32

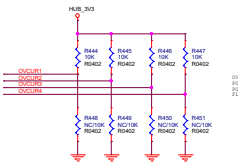

USB Type-C port
CC CTRL
PD POWER
ESD
VBUS_TYPEC
CON8
WXAA0B011007
usb_typec_WXAA0B011007-solder
U14
FUSB302MPX
qfn14p0_5l2_4x2_4-pad
U15
SY9329
QFN32P0_4L3_9X3_9-PAD
VCC3V3_SYS
EX_5V
PD_VBUS_TYPEC_ADC
PD_TYPEC0_EN
PD_INT
PD_SDA
PD_SCL
I2C_SCL_TYPEC
I2C_SDA_TYPEC
TYPEC0_CC_INT_L
TYPEC0_U2VBUSDET
PD ADDR:
R2, NC
1、R1=0R; 1110000;
2、50K<R1<100K; 1110001;
3、400K<R1<500K; 1110010;
R1,NC;
4、R1,NC;R2=10K; 1110011;
Project: E352066_R04_1
File: 19.TYPE-C
Date: Tuesday, November 09, 2021
Rev: A0
Designed by: Zhanglbo&Yangyin
Sheet: 19 of 32

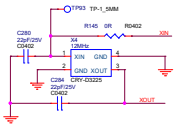
USB2.0 HUB

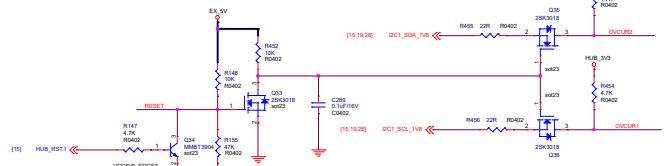
SMBUS ADDRESS : 0X2C



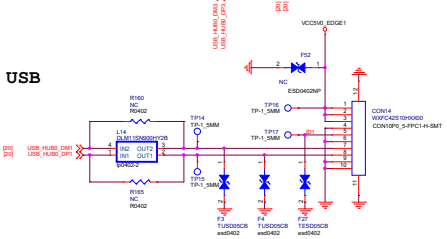


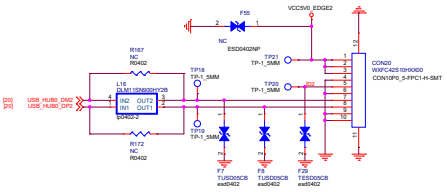


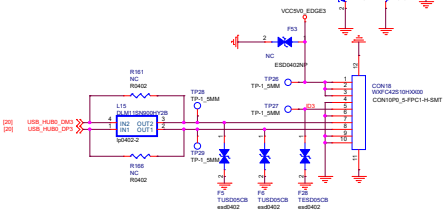


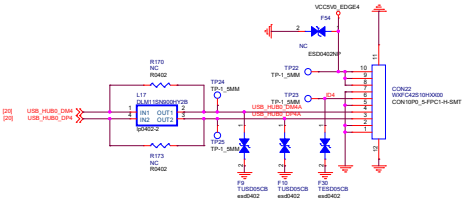


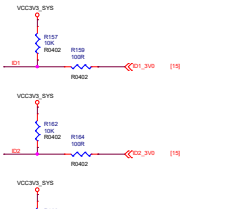
EDGE USB

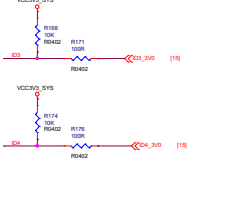


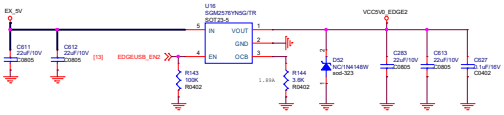


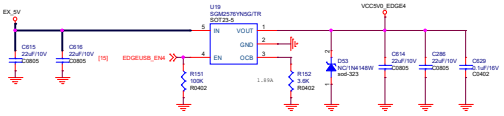


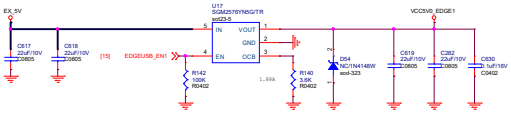


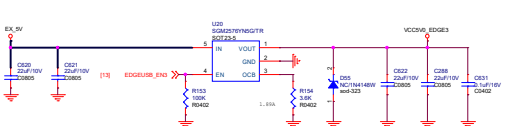






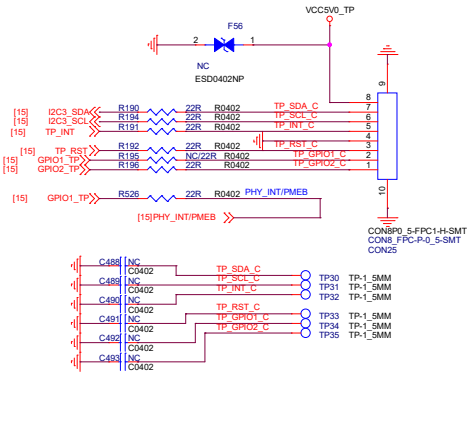




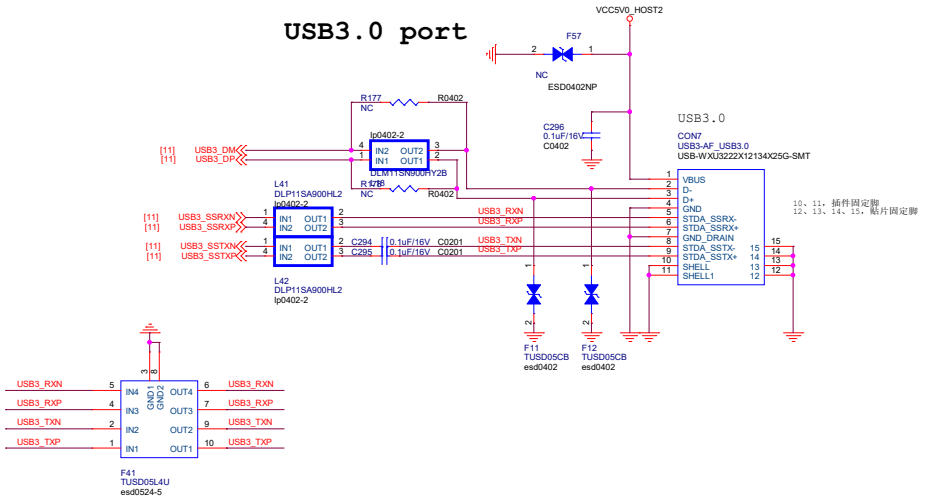


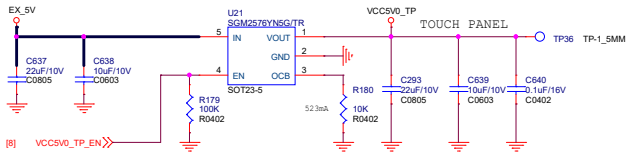
Project:	E352968_R04_1
File:	20.EDGE USB 4 PORT
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	ZhangkaiWangyin
Sheet:	20 of 32

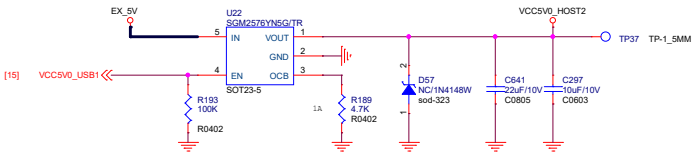
Touch Panel



USB3.0 port



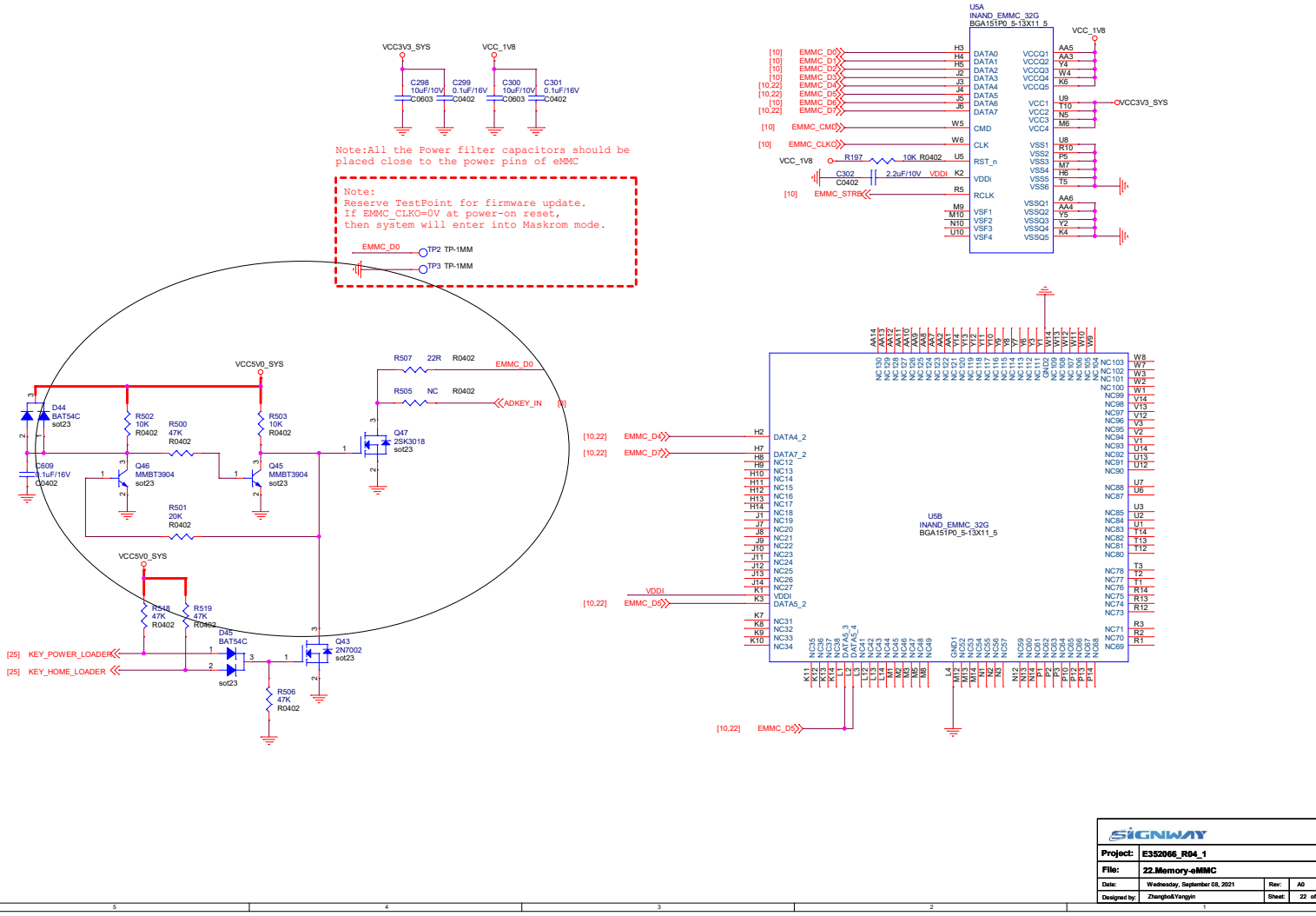




二极管靠近IC引脚放置

SIGNWAY			
Project:	E352066_R04_1		
File:	21.USB 3.0HOST &TP		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	ZhangboSYangyin	Sheet:	21 of 32

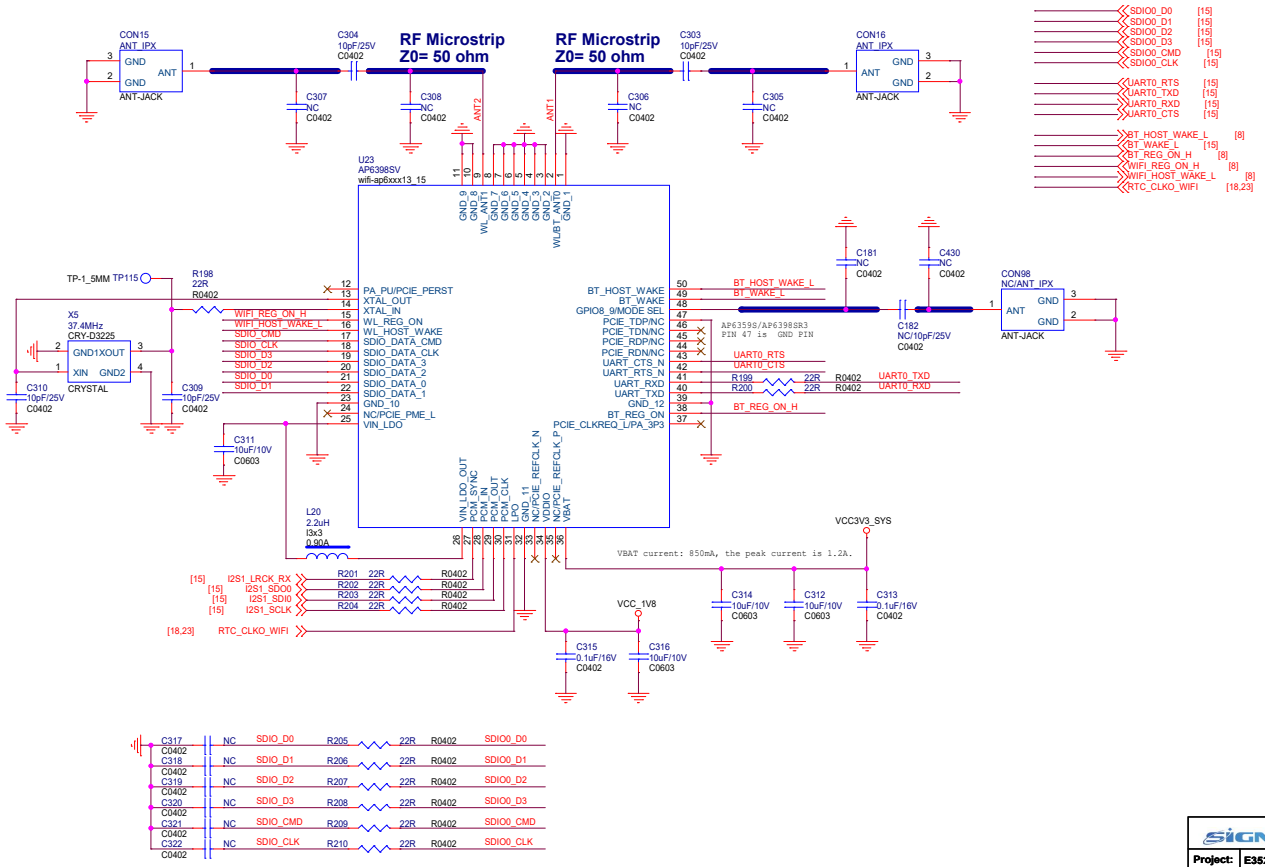
eMMC FLASH



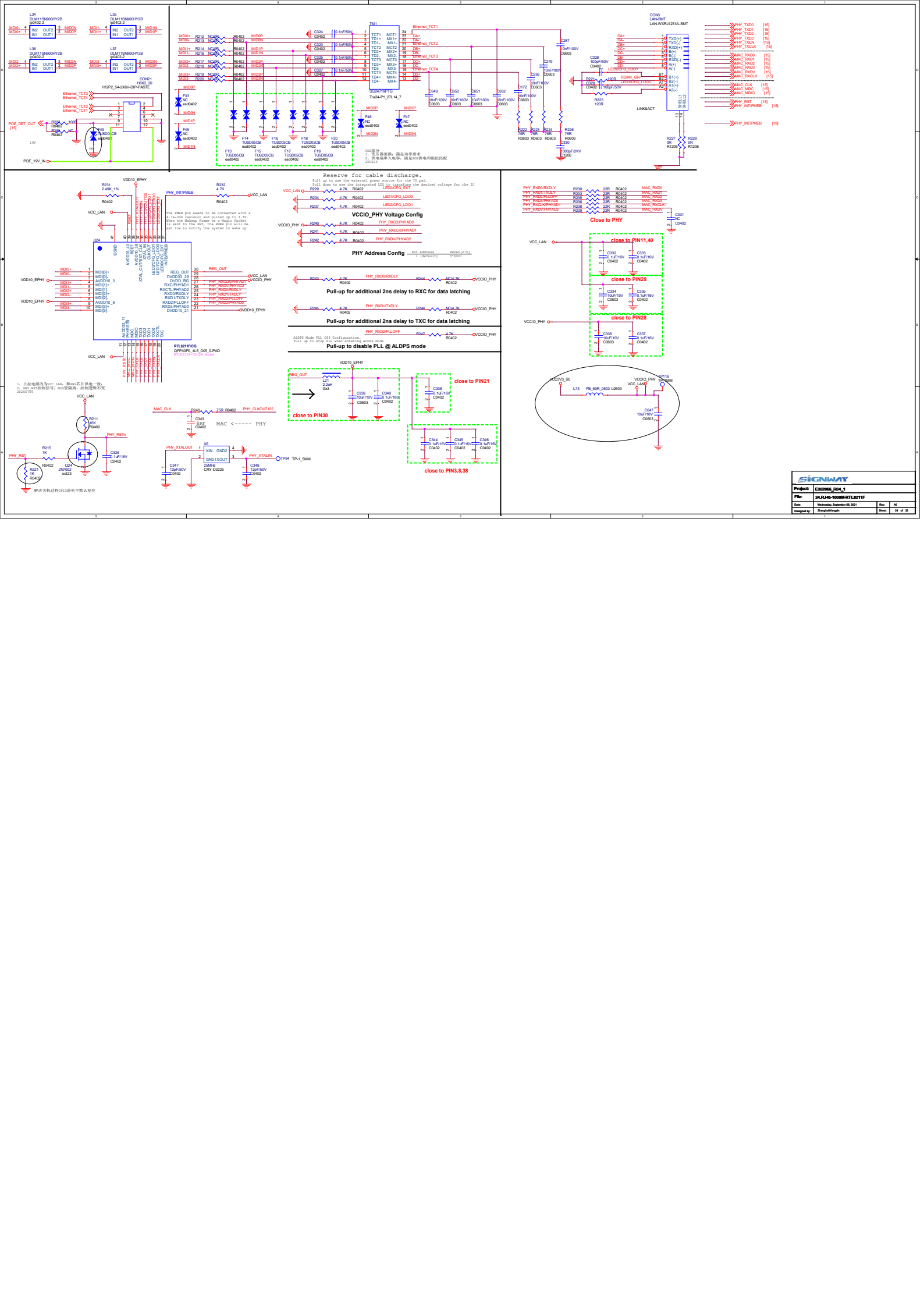
Project:	E352065_R04_1
File:	22.Memory-eMMC
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet:	22 of 32

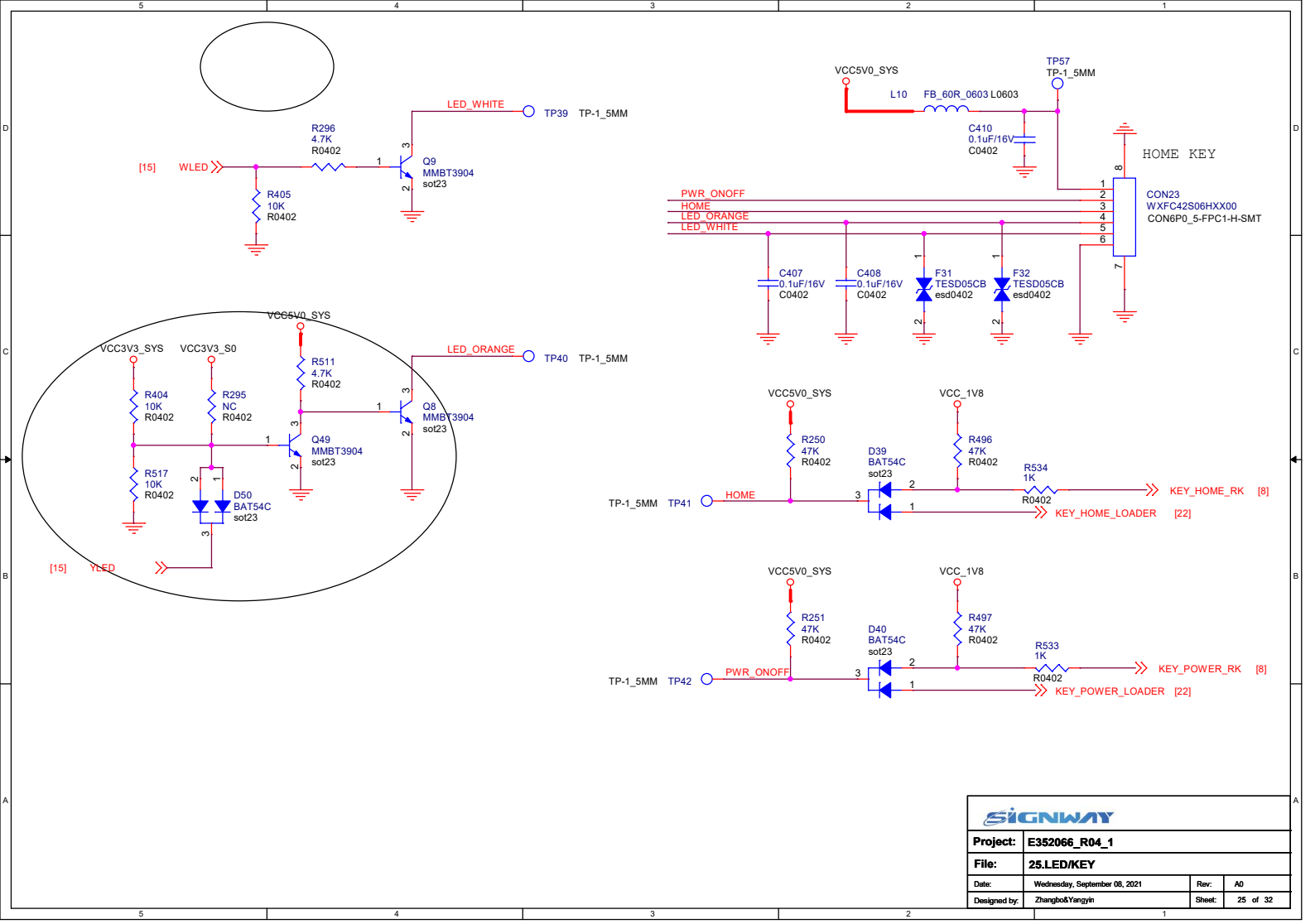
SDIO WIFI/BT MODULE-MIMO

Note:VBAT power supply range is 3.0V~4.8V.

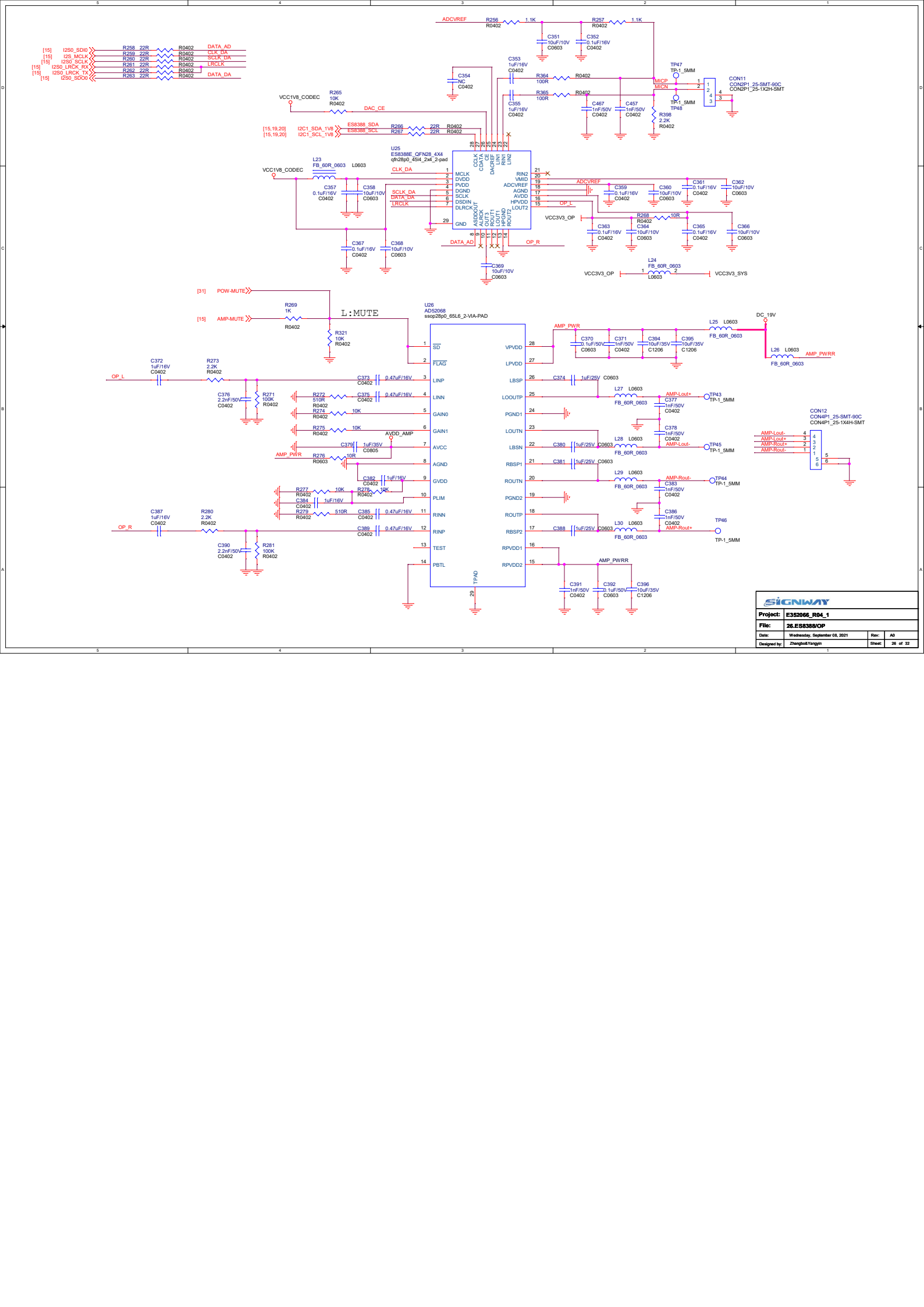


Project:	E352066_R04_1
File:	23.WIFI/BT-AP6398SV
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet:	23 of 32

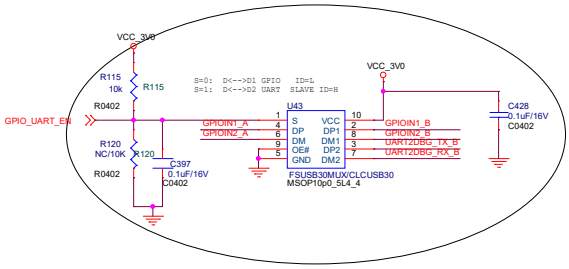

L34 DLM11SN900HY2B 90402-2
L35 DLM11SN600HY2B 90402-2
L36 DLM11SN900HY2B 90402-2
L37 DLM11SN600HY2B 90402-2
CON21 H0X2_20
H12P2_54-2X6V-DIP-PASTE
TM1
Ethernet_TCT1
Ethernet_TCT2
Ethernet_TCT3
Ethernet_TCT4
SG2475PTG
Tra24-P1_27L14_7
CON8
LAN-SMT
LAN-WXRJ1274A-SMT
LINK&ACT
SHIELD
POE_DET_OUT
POE_19V_IN
Reserve for cable discharge.
Pull up to use the external power source for the IO pad.
Pull down to use the integrated LDO to transform the desired voltage for the IO pad.
VCCIO_PHY Voltage Config
PHY Address Config
Pull-up for additional 2ns delay to RXC for data latching
Pull-up for additional 2ns delay to TXC for data latching
Pull-up to disable PLL @ ALDPS mode
RTL8211F(I)CG
QFP40P0_4L5_0X5_0-PAD
Close to PHY
close to PIN11,40
close to PIN29
close to PIN28
close to PIN21
close to PIN30
close to PIN3,8,38
MAC <----- PHY
解决关机过程GPIO高电平默认复位
SIGNWAY
Project: E302688_R04_1
File: 24.RJ45-100M-RTL8211F
Date: Wednesday, September 08, 2021
Rev: A0
Designed by: ZhangHuiYongJin
Sheet: 24 of 32

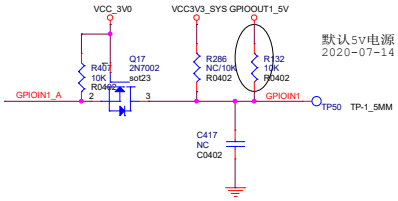


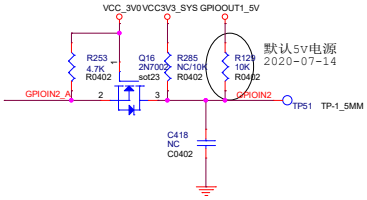
SIGNWAY			
Project:	E352066_R04_1		
File:	25.LED/KEY		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhangbo&Yangyin	Sheet:	25 of 32

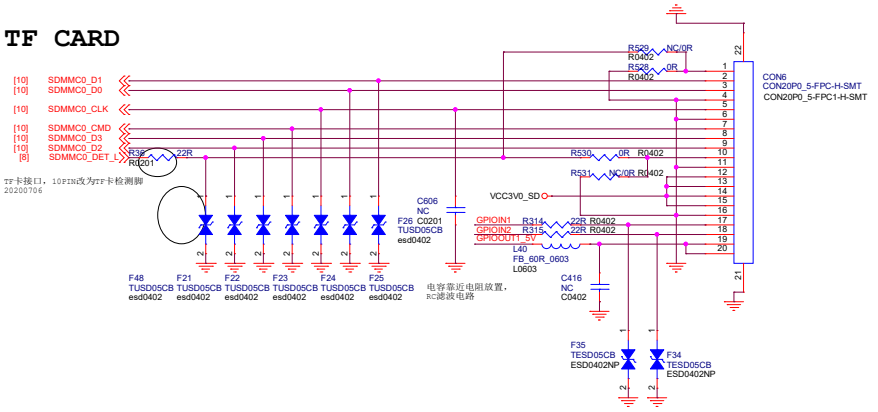

ADCVREF
R256 1.1K R0402
R257 1.1K R0402
C351 10uF/10V C0603
C352 0.1uF/16V C0402
C353 1uF/16V C0402
C354 NC C0402
R364 100R R0402
R365 100R R0402
C355 1uF/16V C0402
TP47 TP-1_5MM
MICP
MICN
TP48 TP-1_5MM
CON11 CON2P1_25-SMT-90C CON2P1_25-1X2H-SMT
C467 1nF/50V C0402
C457 1nF/50V C0402
R398 2.2K R0402
VCC1V8_CODEC
R265 10K R0402
DAC_CE
[15,19,20] I2C1_SDA_1V8
[15,19,20] I2C1_SCL_1V8
ES8388_SDA
ES8388_SCL
R266 22R R0402
R267 22R R0402
U25
ES8388E_QFN28_4X4
qfn28p0_45l4_2x4_2-pad
CCLK CDATA CE DACREF LIN1 RIN1 LIN2
RIN2 VMID ADCVREF AGND AVDD HPVDD LOUT2
ASDOUT LRCK SCLK DSDIN ROUT1 LOUT1 GPIO1 ROUT2
L23 FB_60R_0603 L0603
CLK_DA
SCLK_DA
DATA_DA
LRCLK
MCLK DVDD PVDD DGND SCLK DSDIN DLRCK GND
C357 0.1uF/16V C0402
C358 10uF/10V C0603
C359 0.1uF/16V C0402
C360 10uF/10V C0603
C361 0.1uF/16V C0402
C362 10uF/10V C0603
OP_L
VCC3V3_OP
R268 10R R0402
C363 0.1uF/16V C0402
C364 10uF/10V C0603
C365 0.1uF/16V C0402
C366 10uF/10V C0603
C367 0.1uF/16V C0402
C368 10uF/10V C0603
DATA_AD
OP_R
C369 10uF/10V C0603
L24 FB_60R_0603 L0603
VCC3V3_SYS
[31] POW-MUTE
[15] AMP-MUTE
R269 1K R0402
L:MUTE
R321 10K R0402
U26
AD52068
ssop28p0_65L6_2-VIA-PAD
SD FLAG LINP LINN GAIN0 GAIN1 AVCC AGND GVDD PLIM RINN RINP TEST PBTL TPAD
VPVDD LPVDD LBSP LOOUTP PGND1 LOUTN LBSN RBSP1 ROUTN PGND2 ROUTP RBSP2 RPVDD1 RPVDD2
AMP_PWR
C370 0.1uF/50V C0603
C371 1nF/50V C0402
C394 10uF/35V C1206
C395 10uF/35V C1206
L25 L0603 FB_60R_0603
DC_19V
L26 L0603 FB_60R_0603
AMP_PWRR
C372 1uF/16V C0402
R273 2.2K R0402
C373 0.47uF/16V C0402
C374 1uF/25V C0603
C376 2.2nF/50V C0402
R271 100K R0402
R272 510R R0402
C375 0.47uF/16V C0402
R274 10K R0402
R275 10K R0402
AVDD_AMP
C379 1uF/35V C0805
R276 10R R0603
C382 1uF/16V C0402
R277 10K R0402
R278 10K R0402
C384 1uF/16V C0402
R279 510R R0402
C385 0.47uF/16V C0402
C389 0.47uF/16V C0402
L27 L0603 FB_60R_0603
AMP-Lout+
TP43 TP-1_5MM
C377 1nF/50V C0402
C378 1nF/50V C0402
L28 L0603 FB_60R_0603
AMP-Lout-
TP45 TP-1_5MM
C380 1uF/25V C0603
C381 1uF/25V C0603
L29 L0603 FB_60R_0603
AMP-Rout-
TP44 TP-1_5MM
C383 1nF/50V C0402
C386 1nF/50V C0402
L30 L0603 FB_60R_0603
AMP-Rout+
TP46 TP-1_5MM
C388 1uF/25V C0603
CON12 CON4P1_25-SMT-90C CON4P1_25-1X4H-SMT
AMP-Lout-
AMP-Lout+
AMP-Rout+
AMP-Rout-
C387 1uF/16V C0402
R280 2.2K R0402
C390 2.2nF/50V C0402
R281 100K R0402
C391 1nF/50V C0402
C392 0.1uF/50V C0603
C396 10uF/35V C1206
SIGNWAY
Project: E352066_R04_1
File: 26.ES8388/OP
Date: Wednesday, September 08, 2021
Rev: A0
Designed by: Zhanghb&Yangyin
Sheet: 26 of 32

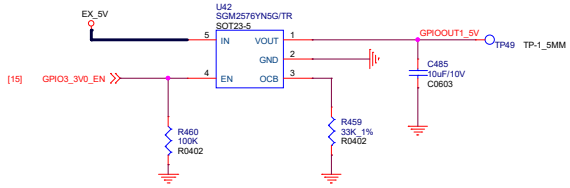
TF CARD



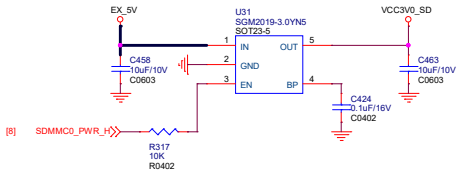




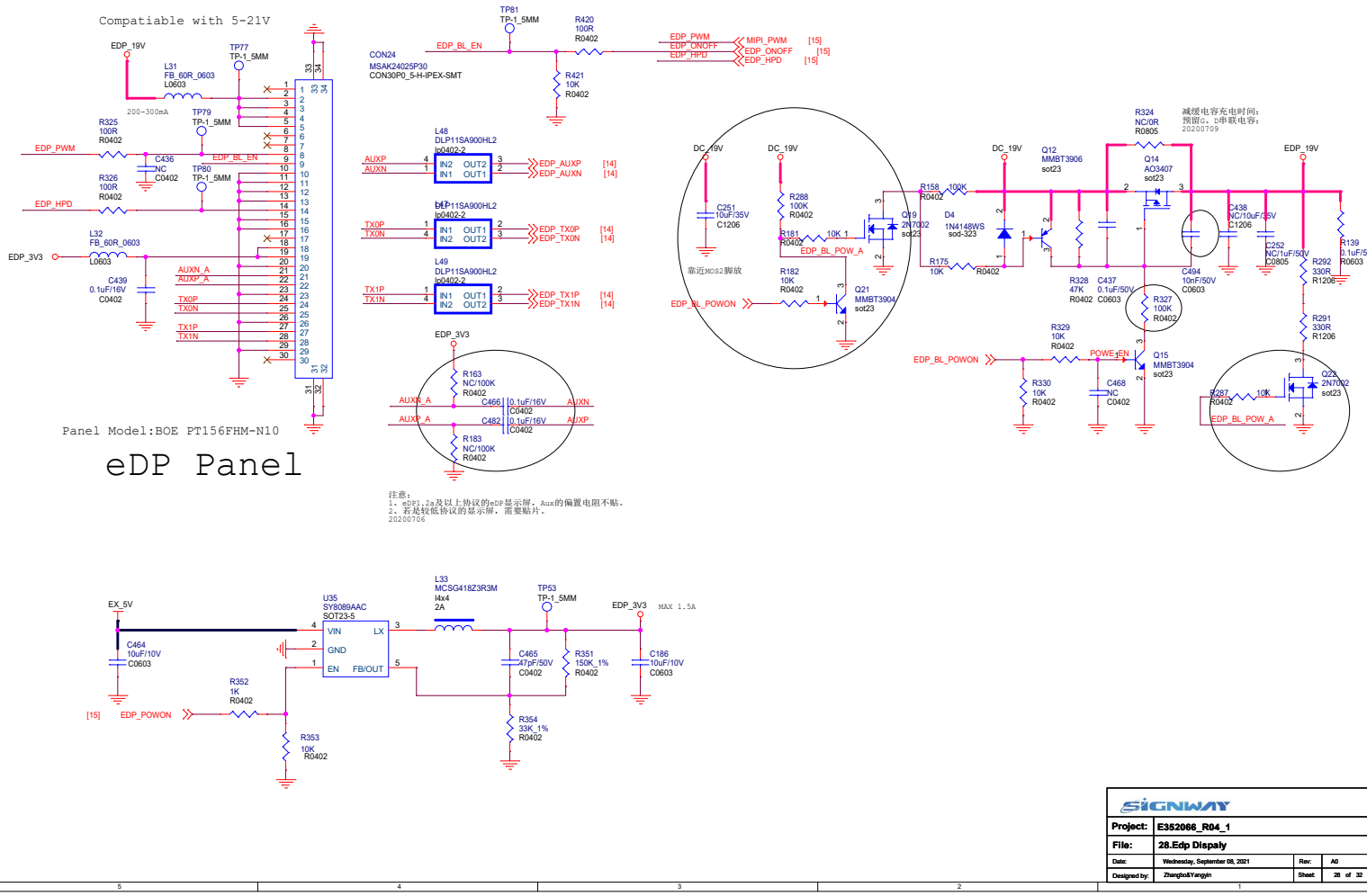




VCC3V0_SD power



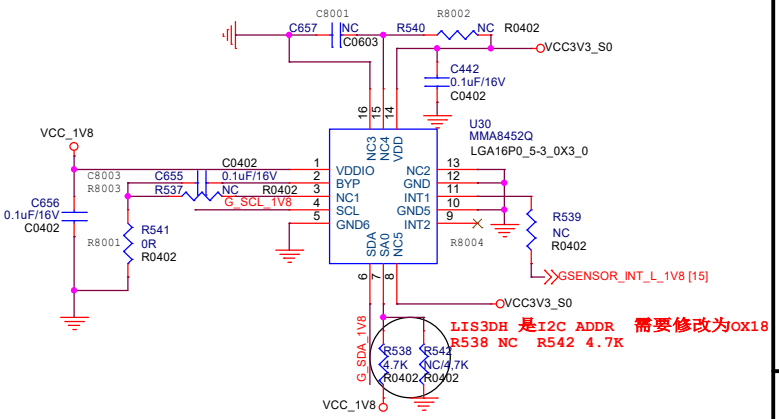
SIGNWAY			
Project:	E352065_R04_1		
File:	27.TF Card/GPIO		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhanghb&Yangyh	Sheet:	27 of 32

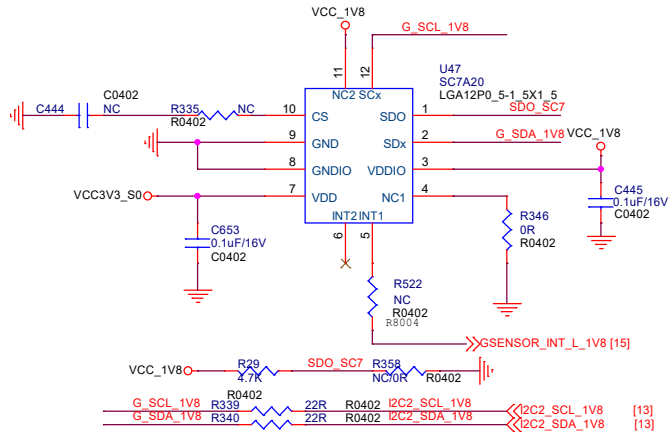


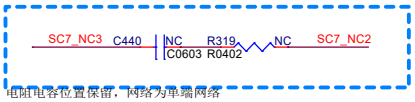
Project:	E352086_R04_1
File:	28.Edp Dispaly
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet	28 of 32

	LIS3DH	MMA8452Q	LSM303D
C8001	NC	NC	4.7uF
R8002	0ohm	NC	NC
R8001	NC	0ohm	NC
C8003	NC	0.1uF	0.22uF
R8003	NC	NC	0R
R8004	NC	NC	0R

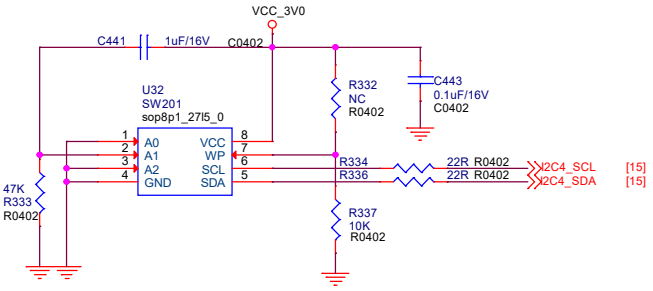
The MMA8452Q's standard slave address is a choice between the two sequential addresses 0011100 and 0011101. The selection is made by the high and low logic level of the SA0 (pin 7) input respectively. The slave addresses are factory programmed and alternate addresses are available at customer request

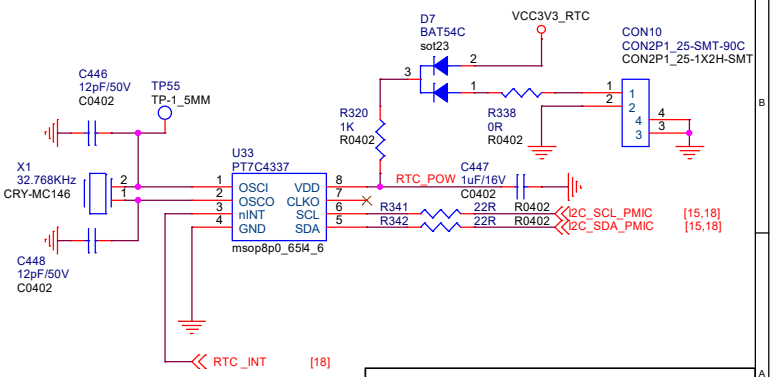




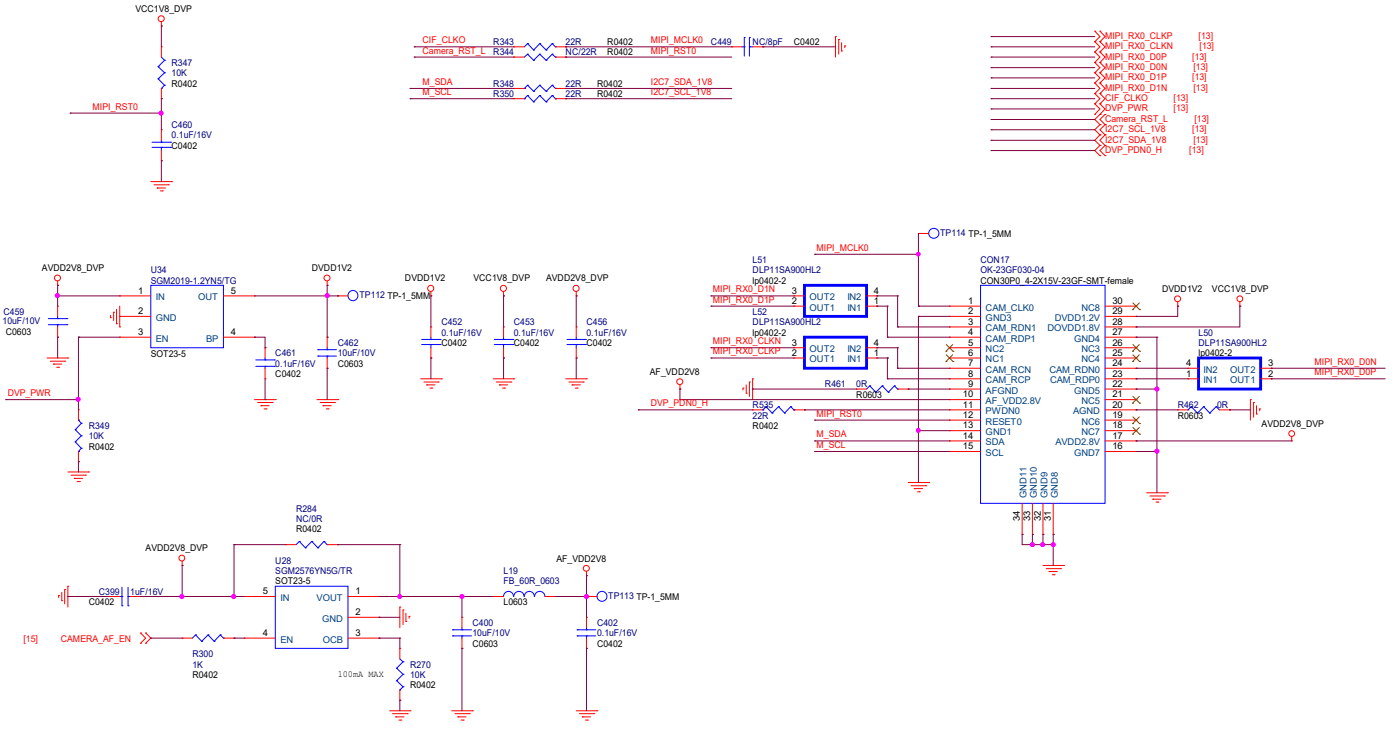


电阻电容位置保留，网络为单端网络

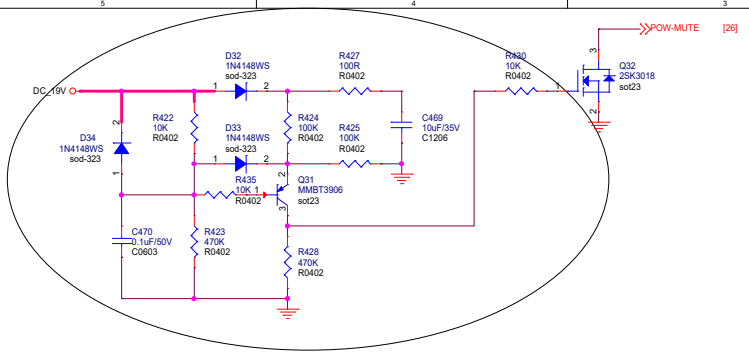




SIGNWAY			
Project:	E352066_R04_1		
File:	29.G-sensor&RTC		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhangbo&Yangyin	Sheet:	29 of 32



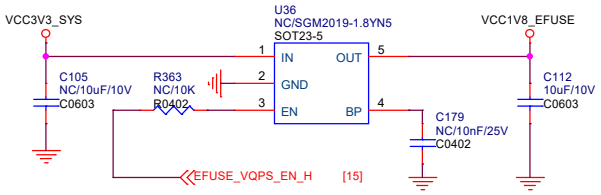
SIGNWAY	
Project:	E352066_R04_1
File:	30.MIPI IN
Date:	Wednesday, September 08, 2021
Rev:	A0
Designed by:	Zhanghb&Yangyin
Sheet:	30 of 32



SIGNWAY			
Project:	E352066_R04_1		
File:	31.POWER&KEY Controler		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhanghb&Yangyin	Sheet	31 of 32

eFUSE

Note: For eFUSE programming, can be removed if do not use eFUSE。



SIGNWAY			
Project:	E352066_R04_1		
File:	32.eFUSE		
Date:	Wednesday, September 08, 2021	Rev:	A0
Designed by:	Zhangbo&Yangyin	Sheet:	32 of 32