Fullmask Validation Board

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Revision History

Rev. Code	Date	By	Description
A10	2021-09-09	Liu Fei	Initial version
A11	2021-11-27	Liu Fei	1. 增加U119及周边电路, 用于支持DVDD08_DDR拉偏测试； 2. ADC_VREF使用外部供电时， ADC_VREF_1V8不能早于DVDD18_AON上电，否则有漏电，U32改为VDD_3V3供电； 3. 增加X18 用于ONKEY开关机自动化测试； 4. 增加J84, J85 用于Audio VAD自动化测试； 5. 增加RC滤波，用于SYS_RST_N信号的消抖, 增加C34 1000pF，R35改为120欧； 5. RGMII RXCLK时钟偏缓，R106, R241串行电阻更换为0欧；
A12	2022-03-28		1. 去掉U119及周边电路； 2. U61 DA9063 DVDD08_CPU输出改为Dual phase模式，DVDD08_CPU_MEM改到BUCKIO上； 3. 系统电源时序进行了调整；

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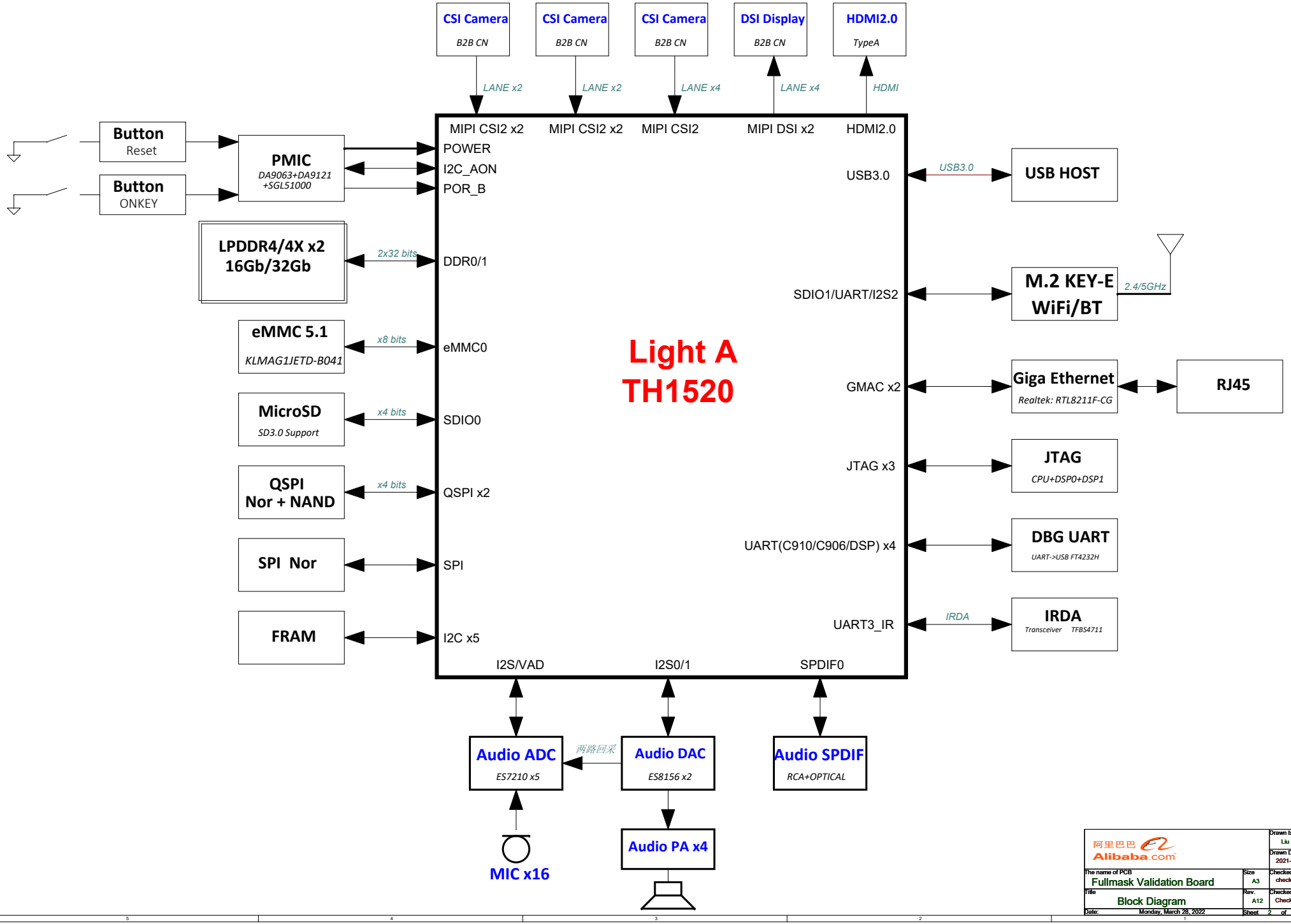
Title: Cover Page	Rev.: A12	Checked Date: Checked date
Date: Monday, March 28, 2022	Sheet 1 of 30	

Fullmask Validation Board Block Diagram



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	Checked by: checked by
Title: Block Diagram	Rev.: A12
	Checked Date: Checked date
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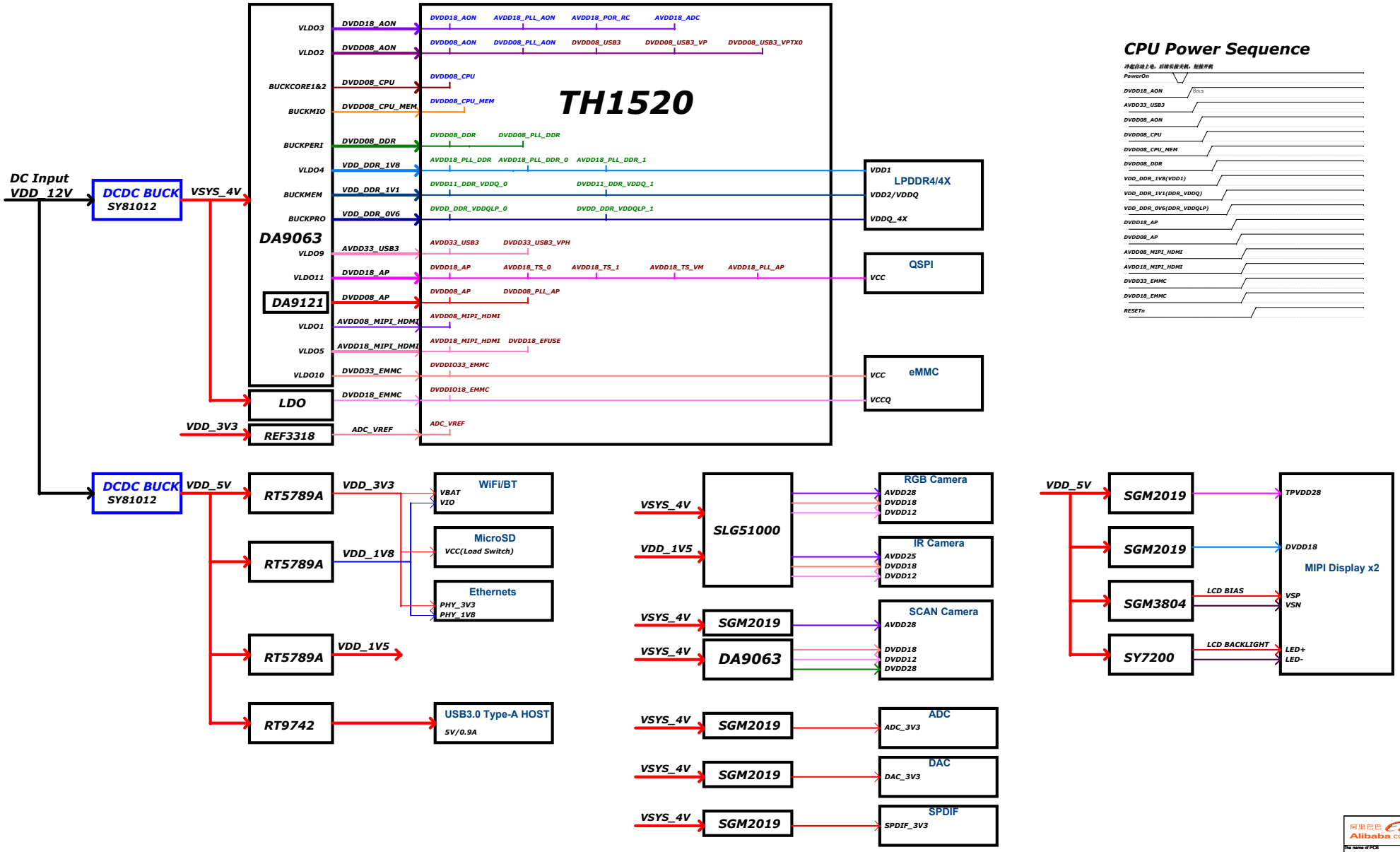
Power Diagram and Sequence



CPU Power Sequence

Alibaba.com		Drawn by: Liu Fei	
		Drawn Date: 2021-08-09	
The name of PCB: Fullmask Validation Board		Size: A3	Checked by: checked by
Title: Power Diagram and Sequence		Rev: A12	Checked Date: Checked date
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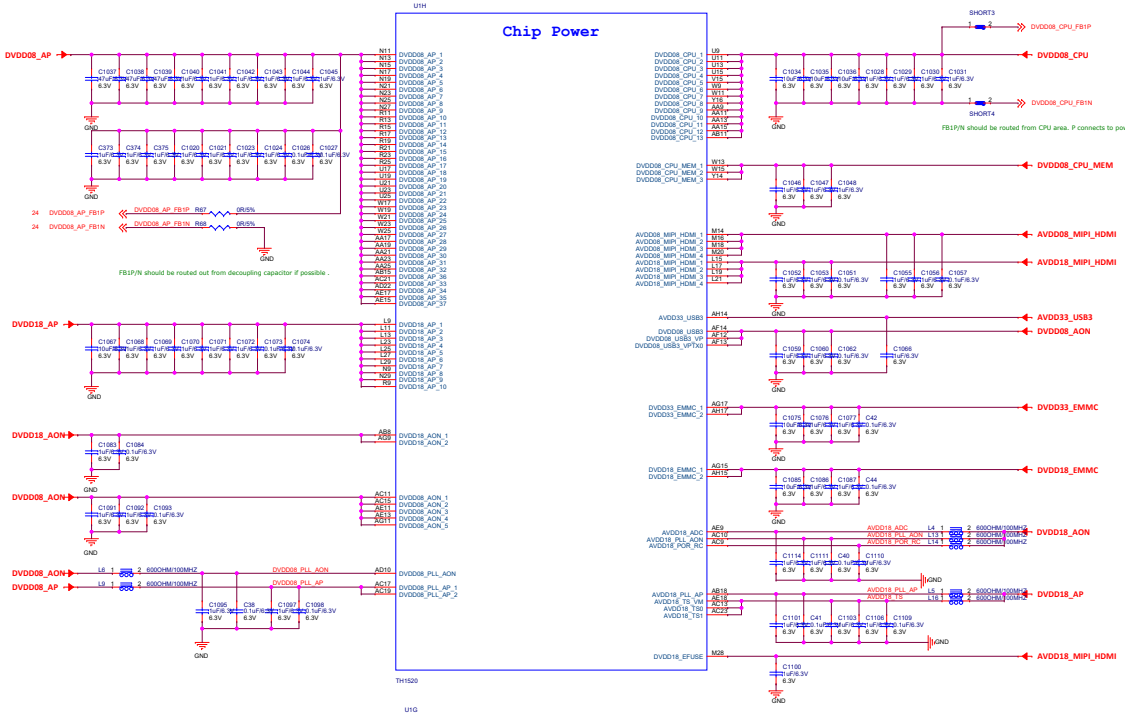
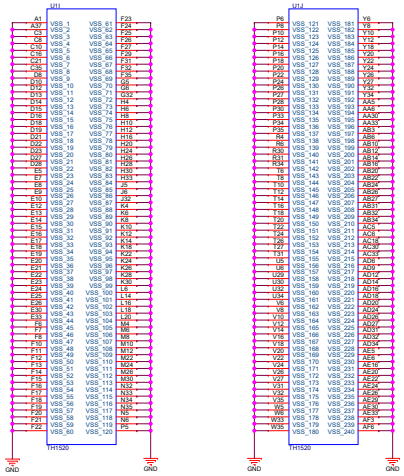
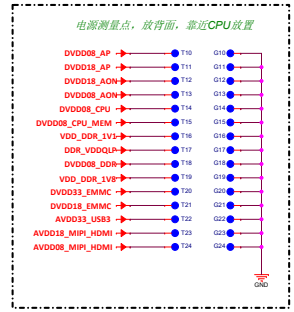
CPU POWER

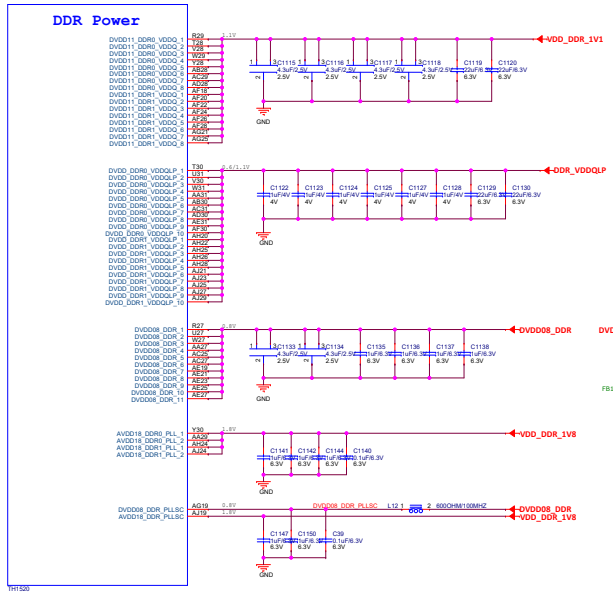


GND





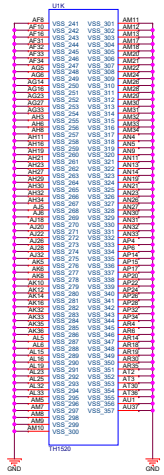
DDR Power

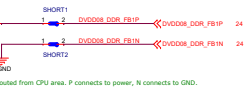


LPDDR4/4X VDDQ Power Supply:

LPDDR4X VDDQ:0.6V, R13 0OHM, R14 DNP Default

LPDDR4　VDDQ:1.1V, R14 0OHM, R13 DNP





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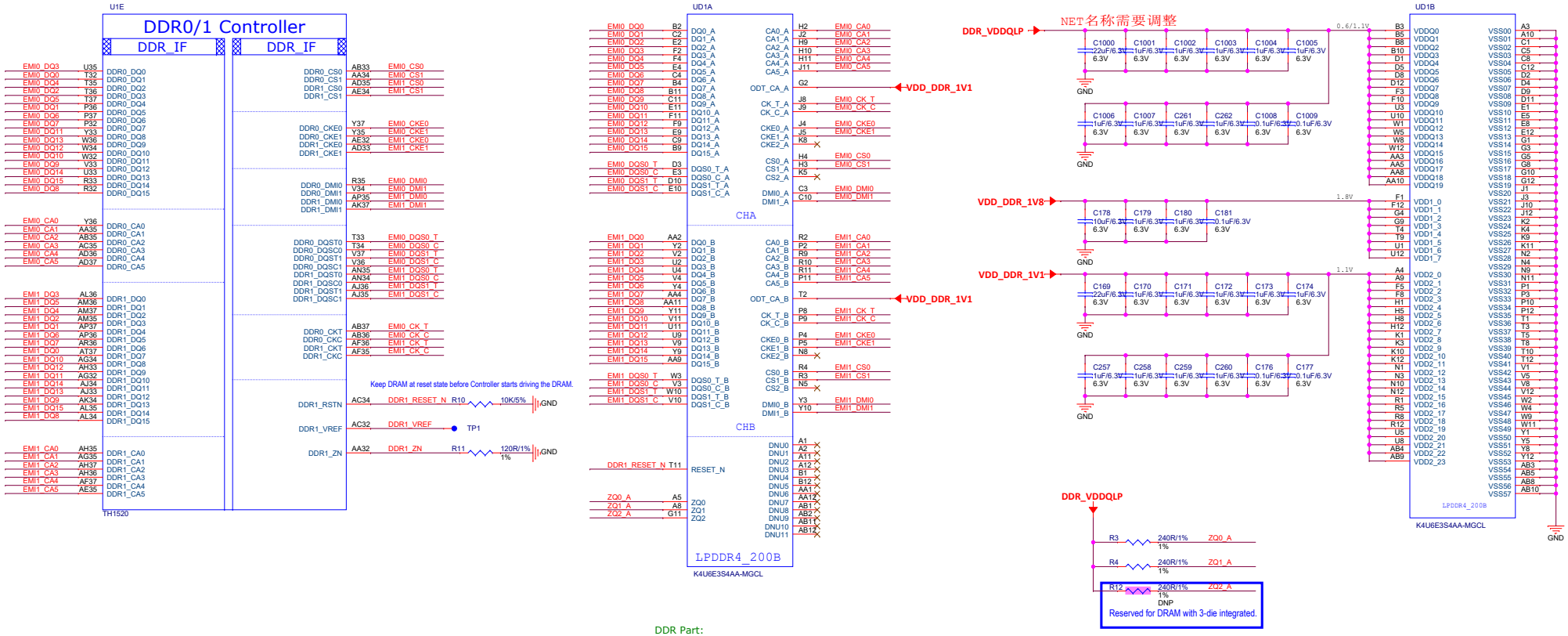
The name of PCB: Fullmask Validation Board		Size: A3	Checked by: checked by
Title: Chip Power		Rev: A12	Checked Date: Checked date
Date: Monday, March 28, 2022		Sheet: 4 of 30	

LPDDR4/4X-1



DDR Part:

K4U6E3S4AA-MGCL	Samsung	LPDDR4X	2GB
K4UBE3D4AA-MGCL	Samsung	LPDDR4X	4GB
K4FBE3D4HM-SGCL	Samsung	LPDDR4	4GB
MT53D512M32D2DS-046 WT:D	Micron	LPDDR4/4X	2GB
MT53D1024M32D4DT-046 WT:D	Micron	LPDDR4/4X	4GB

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Title: LPDDR4/4X-1	Rev.: A12	Checked Date: Checked date
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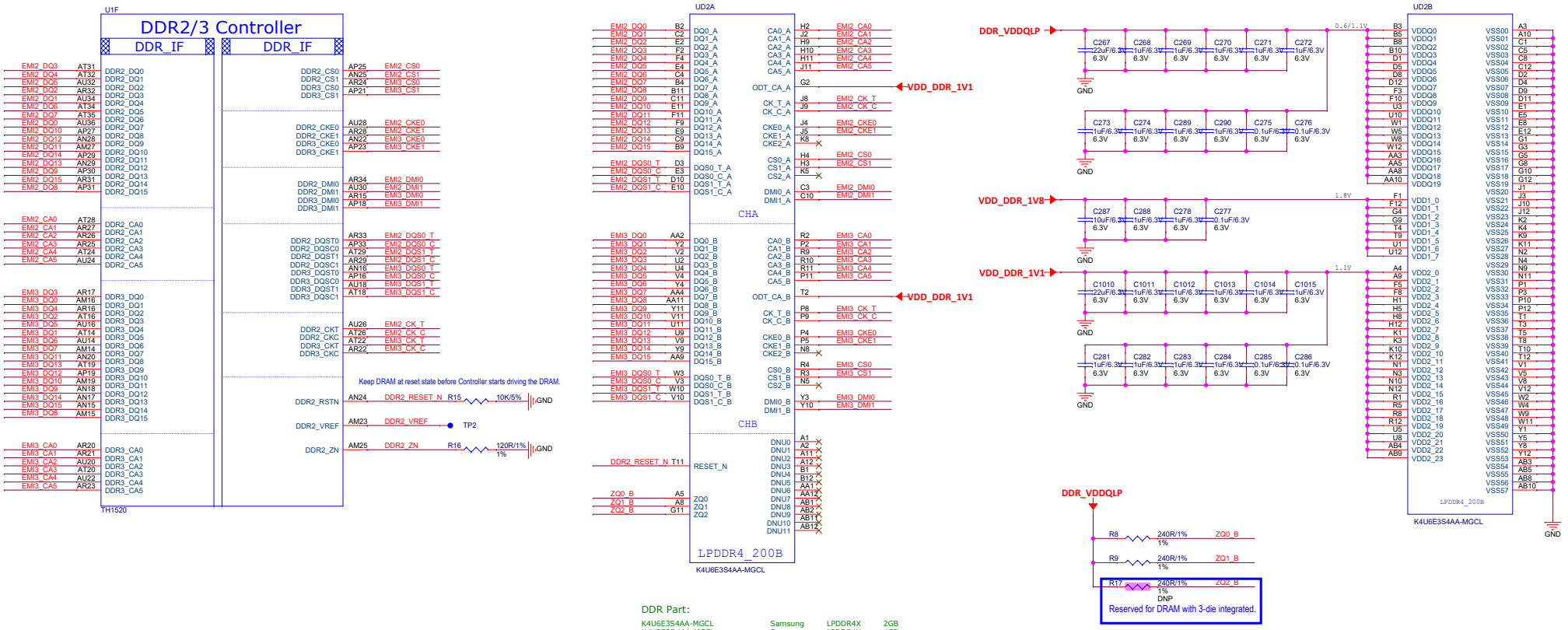
LPDDR4/4X-2



DDR Part:

K4U6E3S4AA-MGCL	Samsung	LPDDR4X	2GB
K4UBE3D4AA-MGCL	Samsung	LPDDR4X	4GB
K4FBE3D4HM-SGCL	Samsung	LPDDR4	4GB
MT53D512M32D2DS-046 WT:D	Micron	LPDDR4/4X	2GB
MT53D1024M32D4DT-046 WT:D	Micron	LPDDR4/4X	4GB

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Title: LPDDR4/4X-2	Rev.: A12	Checked Date: Checked date	
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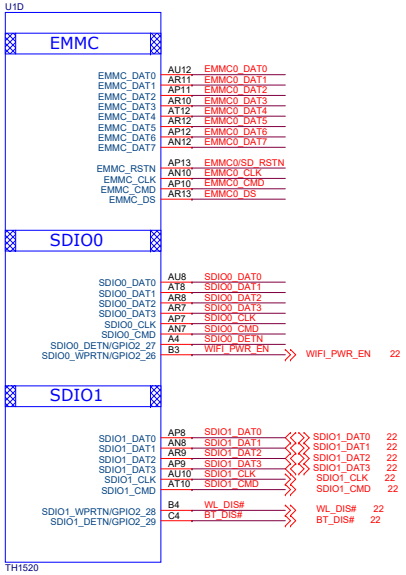
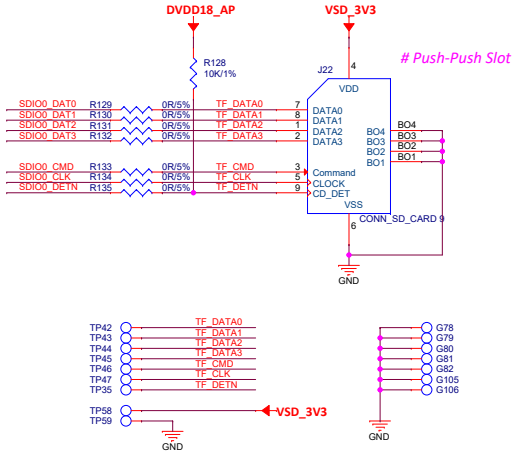
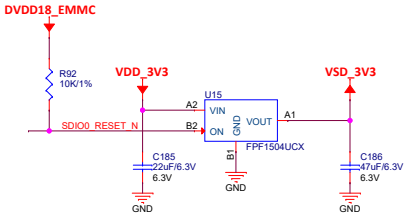
eMMC and SDIO

MicroSD 3.0

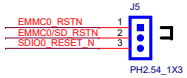






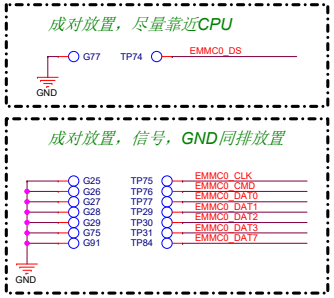
ON=H, Enable Default
ON=L, Disable

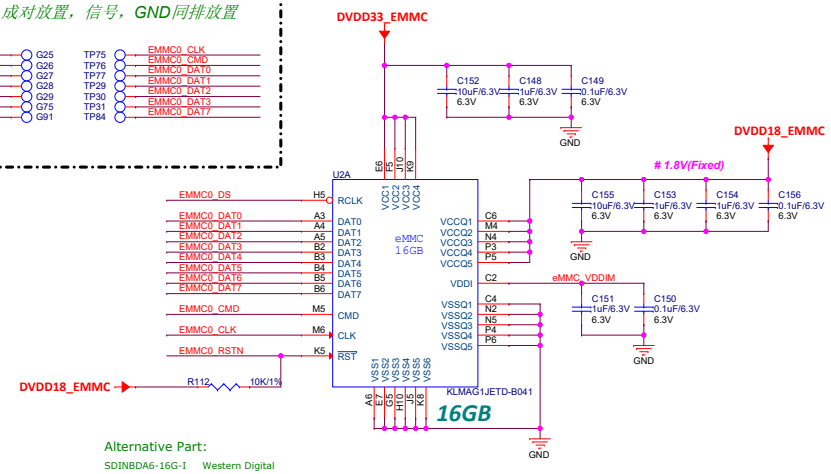
RESET Select



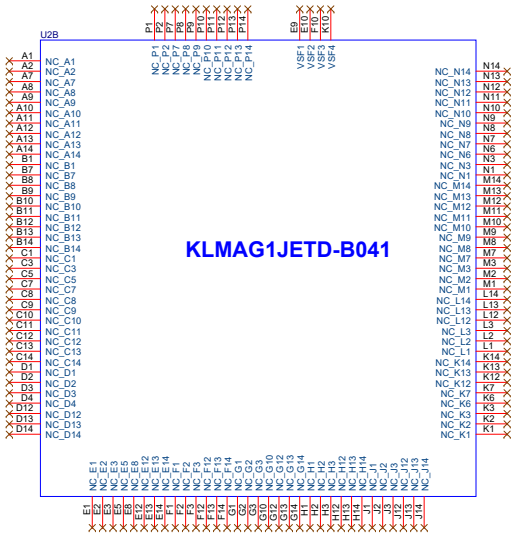
SDIO0没有单独的RESET信号，需要跟eMMC共用RESET信号，根据需要跳选
2-1, eMMC作为Boot Device，且使用RESET功能时连接　Default
2-3, SD卡作为Boot Device时连接

eMMC5.1





Alternative Part:
SDINBDA6-16G-I　Western Digital
KLMAG1JETD-B041　Samsung 16GB



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Title: eMMC and SDIO		Rev.: A12	Checked Date: Checked date
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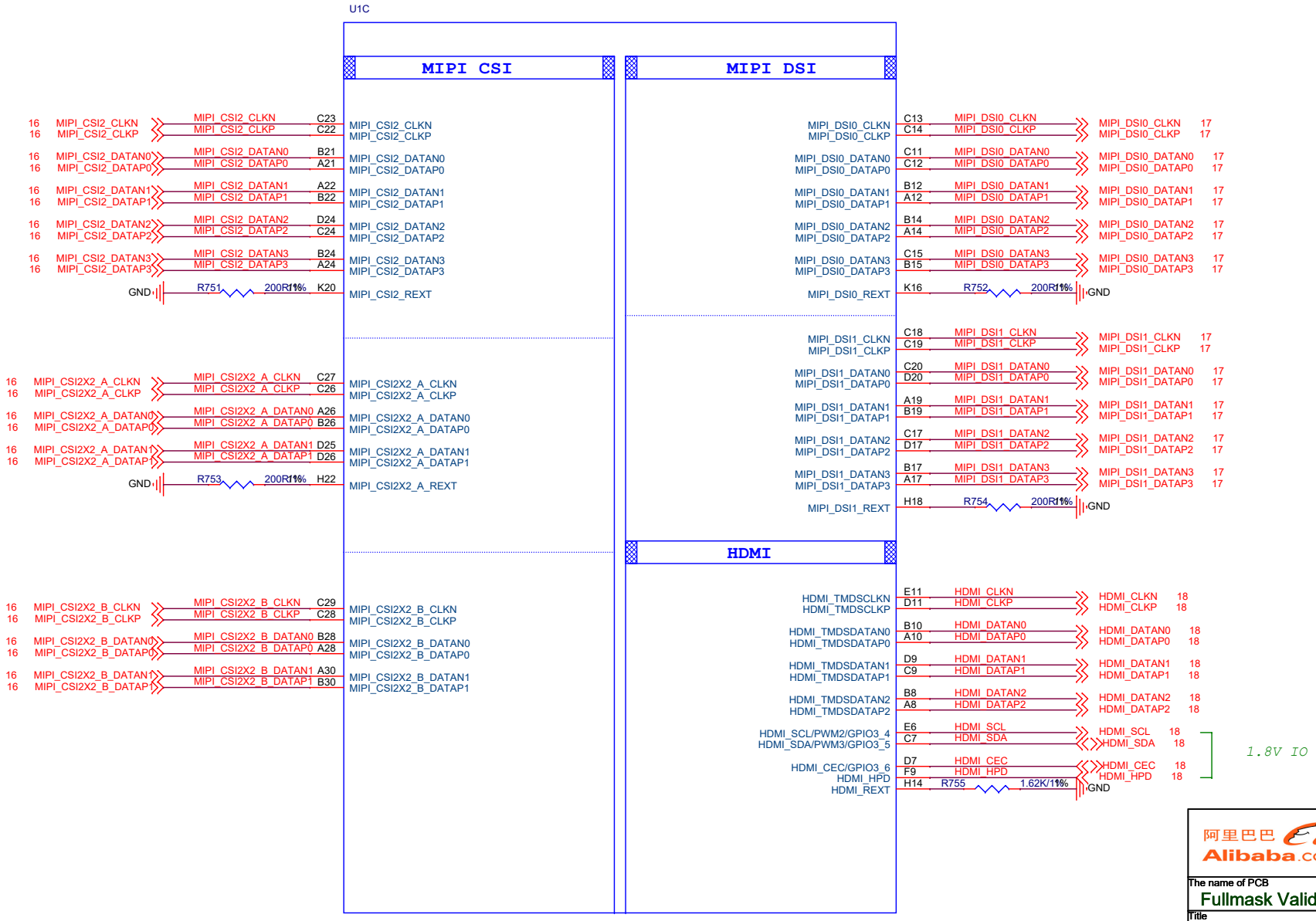
CPU Video Interface



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The name of PCB: Fullmask Validation Board	Size: A3	Checked by: checked by
Title: CPU Video Interface	Rev.: A12	Checked Date: Checked date
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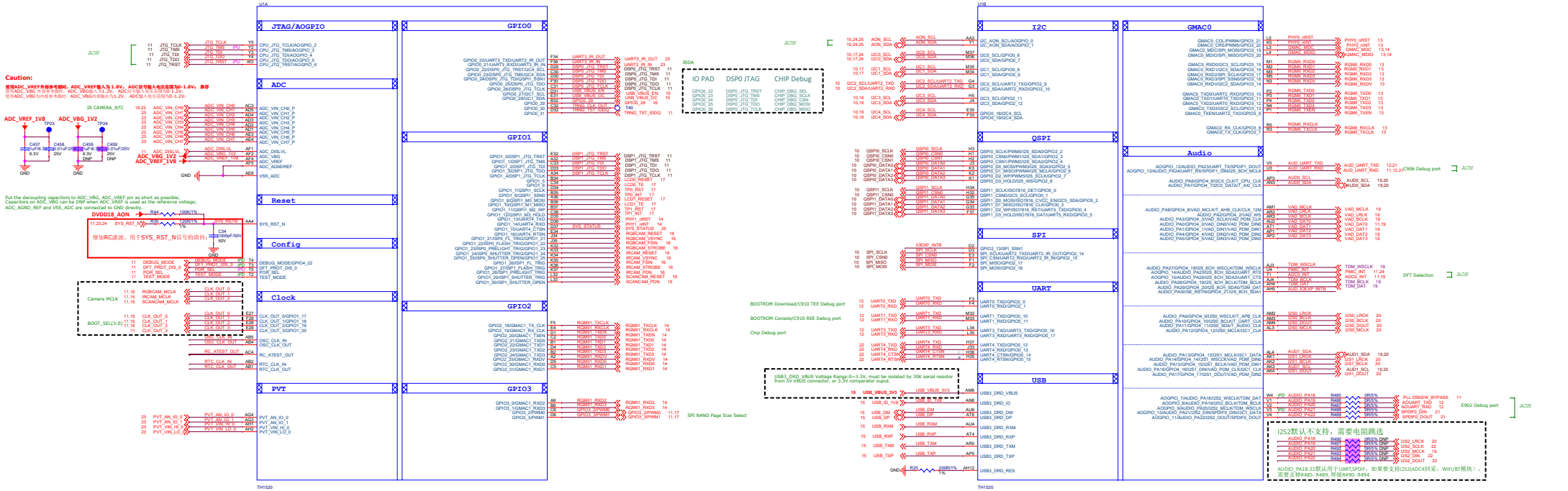
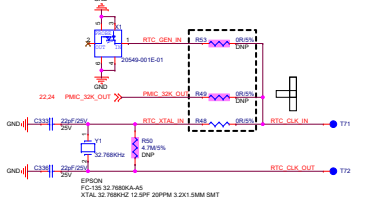
CPU General Interfaces



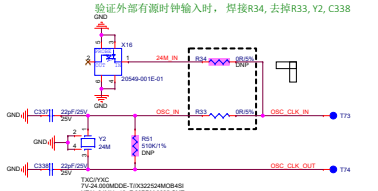
32K RTC Clock

焊盘堆叠放置，根据需要选焊电阻
验证外部有源时钟输入时， 焊接R53, 去掉R48, Y1, C336

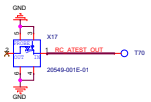


24M Clock

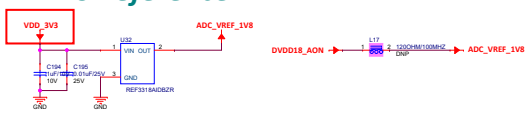
焊盘堆叠放置，根据需要选焊电阻
验证外部有源时钟输入时， 焊接R34, 去掉R33, Y2, C338



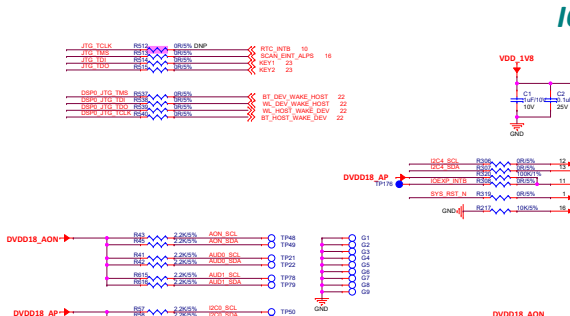
RC_ATEST_OUT



ADC Reference



IO Expansion



I2C Address Table:

I2C Port	Interface	Device	I2C Address
AON_I2C	PMIC	DA9063	0x5A(1011010x)
		DA9121	0x68(1101000x)
		SLG51000	0x75(1110101x)
	RTC	PCF8563	0x51(1010001x)
AUD_I2C0	ADC0-3	ES7210	0x40(1000000x)
		ES7210	0x41(1000001x)
		ES7210	0x42(1000010x)
		ES7210	0x43(1000011x)
	DAC0	ES8156	0x08(0001000x)
	PA1	AW87519	0x58(1011000x)
	PA2	AW87519	0x5B(1011011x)
AUD_I2C1	IO EXP	PCAL6408AHK	0x20(0100000x)
	ADC4	ES7210	0x40(1000000x)
	DAC1	ES8156	0x08(0001000x)
	PA3	AW87519	0x58(1011000x)
	PA4	AW87519	0x5B(1011011x)
I2C0	FRAM	MB85RC1MT	0x50(1010000x)
	TOUCH0	GT911	0x5D(1011101x) 0x14(0010100x)
	LCD BIAS0	SGM3804	0x3E(0111110x)
I2C1	FRAM	MB85RC1MT	0x50(1010000x)
	TOUCH1	GT911	0x5D(1011101x) 0x14(0010100x)
	LCD BIAS1	SGM3804	0x3E(0111110x)
I2C2	FRAM	MB85RC1MT	0x50(1010000x)
	CSI2X2A	SC132GS	0x6E(1101110x)
		OV13371	0x6C(1101100x)
I2C3	FRAM	MB85RC1MT	0x50(1010000x)
	CSI2	OV12870	0x20(0100000x)
		S5K4H7	0x20(0100000x)
		OV5693	0x6C(1101100x)
I2C4	FRAM	MB85RC1MT	0x50(1010000x)
	CSI2X2B	GC5035	0x6E(1101110x)
	USB	PTN5150A	0x3A(0111010x)
	IO EXP	PCAL6408AHK	0x20(0100000x)

AUDIO PAD 分配情况：

Port	Option1 (Default)	Option1 Device	Option2	Option2 Device
TDM	√	ES7210	√	ES7210
VAD_PDM	√	ES7210	√	ES7210
I2S0	√	HT4344	√	HT4344
I2S1	√	HT4344	√	HT4344
I2S2	×	×	√	ES7210/BT 二选一
SPDIF0	√	Connector	×	×
SPDIF1	×	×	√	Connector
AUD_I2C0	√	ES7210,AW87519	√	ES7210,AW87519
AUD_I2C1	√	ES7210,AW87519	√	ES7210,AW87519
AOUART	√	Connector	×	×
AUDUART	√	Connector	×	×

IO PU/PD:

Parameter	Min	Typ	Max
RSPU(Strong)	1.6K	2.1K	3K
RPU	32K	48K	79K
RPD	30K	44K	65K

Drawn by:	Liu Fei
Drawn Date:	2021-09-09
The name of PCB	Fullmask Validation Board
Size	A3
Checked by:	checked by
Title	CPU General Interfaces
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Date:	Monday, March 28, 2022
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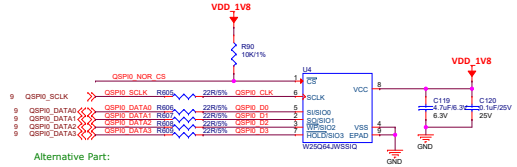
SPI Flash and I2C FRAM

QSPI0 Nor Flash



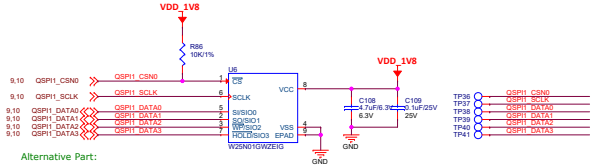
Alternative Part:

W25Q64JWSSIQ	Winbond	8MB	133MHz STR	-
S25FS256SAGNFI000	Cypress	32MB	133MHz STR	80MHz DTR
MT25QU256ABA1EW9-0SIT	Micron	32MB	166MHz STR	90MHz DTR
GD25LB256EYI	Gigadevice	32MB	166MHz STR	90MHz DTR

WSON8x6

U4, U5正反面放置

QSPI1 NAND Flash

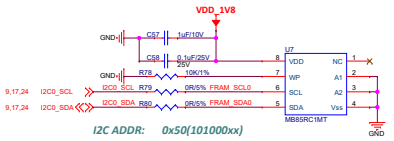


Alternative Part:

W25N01GWZEIG	Winbond	104MHz
W25N01JWZEIG	Winbond	166MHz
GD5F1GQ5REYIG	Gigadevice	104MHz
MX35UF1GE4AC-Z4I	Macronix	166MHz
MT29F2G01ABBGDWB-IT	Micron	83MHz

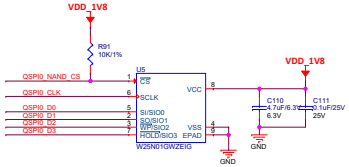
WSON8x6

I2C0 FRAM



I2C ADDR: 0x50(101000xx)

QSPI0 NAND Flash

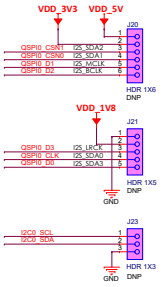


Alternative Part:

W25N01GWZEIG	Winbond	104MHz
W25N01JWZEIG	Winbond	166MHz
GD5F1GQ5REYIG	Gigadevice	104MHz
MX35UF1GE4AC-Z4I	Macronix	166MHz
MT29F2G01ABBGDWB-IT	Micron	83MHz

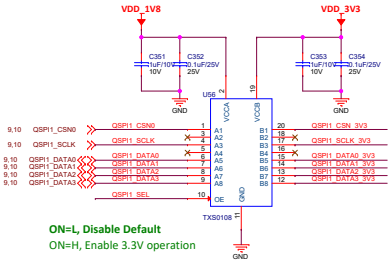
WSON8x6

C910 Audio Card



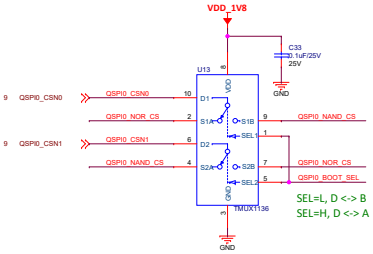
Note:
QSPI0用做C910 I2S接口，需要焊接J20,J21,J22，去掉U4, U5.

QSPI1 Level Shifter



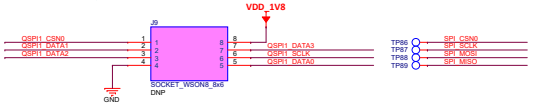
ON=L, Disable Default
ON=H, Enable 3.3V operation

QSPI0 Boot Device Select



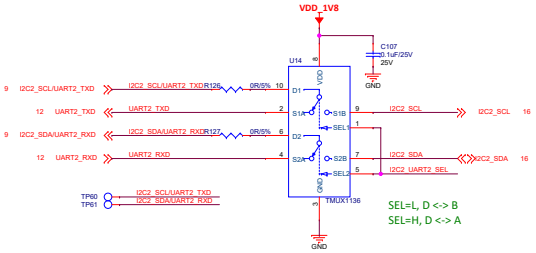
SEL=L, D <-> B
SEL=H, D <-> A

QSPI1 WSON8x6 Socket



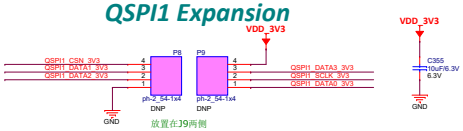
Note:
SOCKET堆叠放置，默认不焊，根据需要采购并焊接；

I2C2/UART2 Select



SEL=L, D <-> B
SEL=H, D <-> A

QSPI1 Expansion

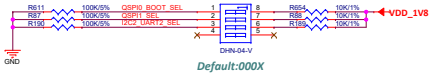


放置在J9两侧

Note:
该接口可用于I2C5、UART5、ISO7816、EFUSE_SPI接口的验证，需要做相应子卡.
使用该接口验证EFUSE或其他设备时，需要去掉U6, 焊接P8, P9, SW5 [2]切到ON(1).

PIN	Signal Name	ALT1	ALT2	ALT4
PIN 6	QSPI1_SCLK	ISO7816_DET		EFUSE_SPI_CLK
PIN 1	QSPI1_CSN0		I2C5_SCL	EFUSE_SPI_NSS
PIN 5	QSPI1_D0_MOSI	ISO7816_CVCC_EN	I2C5_SDA	EFUSE_SPI_SI
PIN 2	QSPI1_D1_MISO	ISO7816_CLK		EFUSE_SPI_SO
PIN 3	QSPI1_D2_WP	ISO7816_RST	UART5_TXD	EFUSE_BUSY
PIN 7	QSPI1_D3_HOLD	ISO7816_DAT	UART5_RXD	

Switch

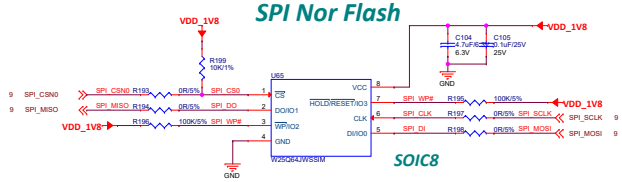


Default:000X

SW5 Switch Setting Table

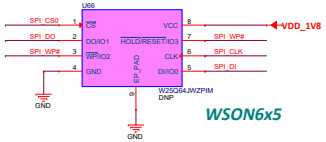
Signal	Setting	Description
QSPI0_BOOT_SEL SW5 [1]	0	CS0-NAND/CS1-NOR
	1	CS0-NOR/CS1-NAND
QSPI1_SEL SW5 [2]	0	QSPI1 Flash
	1	QSPI1 3.3V Expansion Port
I2C2_UART2_SEL SW5 [3]	0	I2C2 Interface
	1	UART2 Interface

SPI Nor Flash



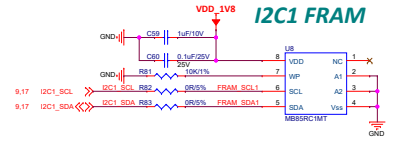
SOIC8

U65, U66堆叠放置

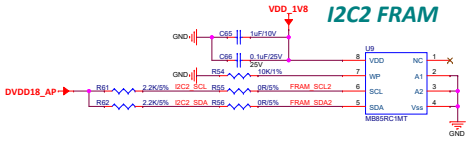


WSON6x5

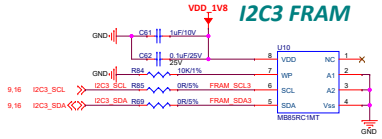
I2C1 FRAM



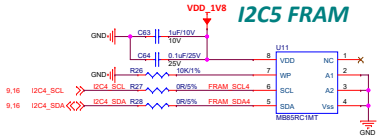
I2C2 FRAM



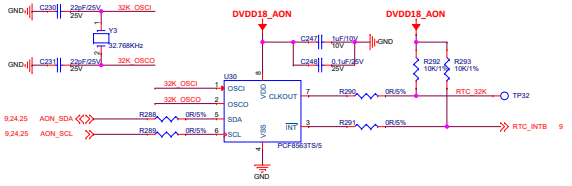
I2C3 FRAM



I2C5 FRAM



RTC



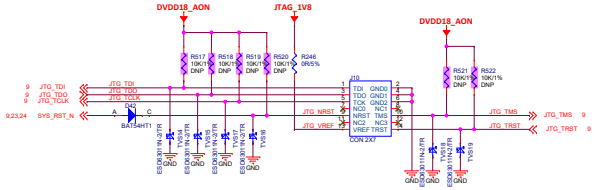
I2C ADDR: 0x51(1010001x)

The name of PCB	Fullmask Validation Board	Size	A3
Title	SPI Flash and I2C FRAM	Rev.	A12
Date:	Monday, March 28, 2022	Sheet	10 of 30

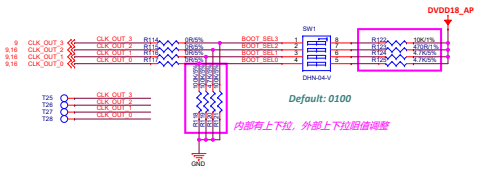
Drawn by: Liu Fei
Drawn Date: 2021-09-09
Checked by: checked by
Checked Date: Checked date

BOOT Switch and JTAG Debug

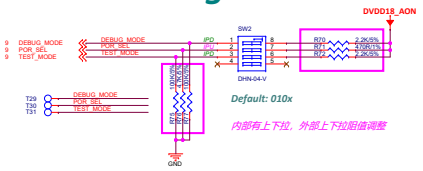
CPU JTAG



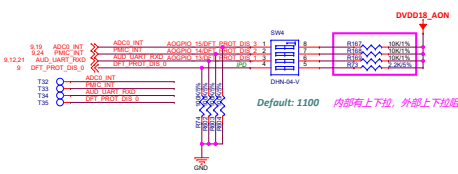
Boot Switch



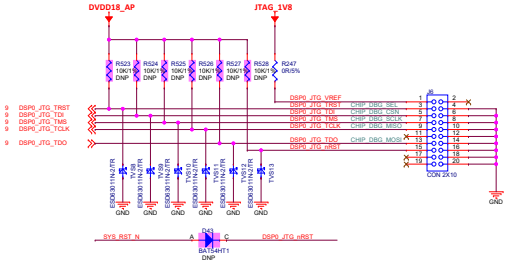
Debug Switch



BSCAN Switch



DSP0 JTAG/CHIP DEBUG



IO PAD	DSP0 JTAG	CHIP Debug
GPIO0_22	DSP0_JTG_TRST	CHIP_DBG_SEL
GPIO0_23	DSP0_JTG_TMS	CHIP_DBG_SCLK
GPIO0_24	DSP0_JTG_TDI	CHIP_DBG_CSN
GPIO0_25	DSP0_JTG_TDO	CHIP_DBG_MOSI
GPIO0_26	DSP0_JTG_TCLK	CHIP_DBG_MISO

Boot Mode Setting

BOOT_SEL3 SW1 [1]	BOOT_SEL2 SW1 [2]	BOOT_SEL1 SW1 [3]	BOOT_SEL0 SW1 [4]	Boot Mode Setting SW1 [1-4]
X	0	X	X	USB Download
X	*1*	*0*	*0*	*eMMC Boot*
X	1	0	1	SD Boot, SDIO0
X	1	1	0	SPI NAND boot, QSPI0, CS0
X	1	1	1	SPI NOR Boot, QSPI0, CS0

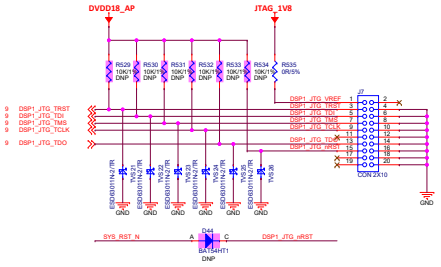
Debug Setting Table

Signal	Setting	Description
DEBUG_MODE	*0*	*默认低电平，正常工作模式*
SW2 [1]	1	高电平，使能芯片调试模式
POR_SEL	0	低电平，选择内部POR
SW2 [2]	*1*	*默认高电平，选择外部POR*
TEST_MODE	*0*	*默认低电平，正常工作模式*
SW2 [3]	1	高电平，使能芯片测试模式

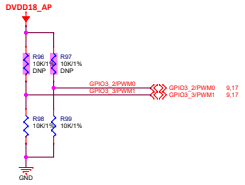
BSCAN Requirement

PAD	Signal	PD/PU	SWITCH	Switch Setting
AOGPIO_15	DFT_PROT_DIS_3	*PD*	SW4 [1]	*0*
AOGPIO_14	DFT_PROT_DIS_2	*PU*	SW4 [2]	*1*
AOGPIO_13	DFT_PROT_DIS_1	*PD*	SW4 [3]	*0*
DFT_PROT_DIS_0	DFT_PROT_DIS_0	*PU*	SW4 [4]	*1*
TEST_MODE	TEST_MODE	*PU*	SW2 [3]	*1*

DSP1 JTAG

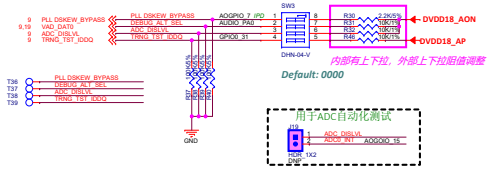


SPI NAND Page Setting



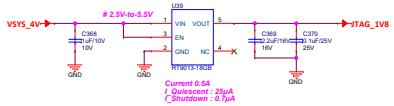
GPIO3_3 HARPS A10	GPIO3_2 HARPS A9	SPI NAND Page Size Setting
0	*0*	*Page size=2K*
0	1	Page size=4K
1	0	Page size=8K
1	1	Page size=16K

Misc Switch



Pad	Signal	Switch	Setting	Description
AOGPIO_7	PLL DSKEW_BYPASS	SW3 [1]	*0*	*默认低电平，使能PLL校准电路*
			1	高电平，PLL 校准电路进入Bypass Mode
AUDIO_PA0	DEBUG_ALT_SEL	SW3 [2]	*0*	*默认低电平，正常工作模式*
			1	Debug mode下，作为DEBUG_ALT_SEL 功能
ADC_DISLVL	ADC_DISLVL	SW3 [3]	*0*	*默认低电平，正常工作模式*
			1	DVDD18_AON有电，DVDD08_AON无电的情况下需要拉高
GPIO0_31	TRNG_TST_IDDQ	SW3 [4]	*0*	*默认低电平，正常工作模式*
			1	Debug Mode下，作为TRNG_TST_IDDQ功能

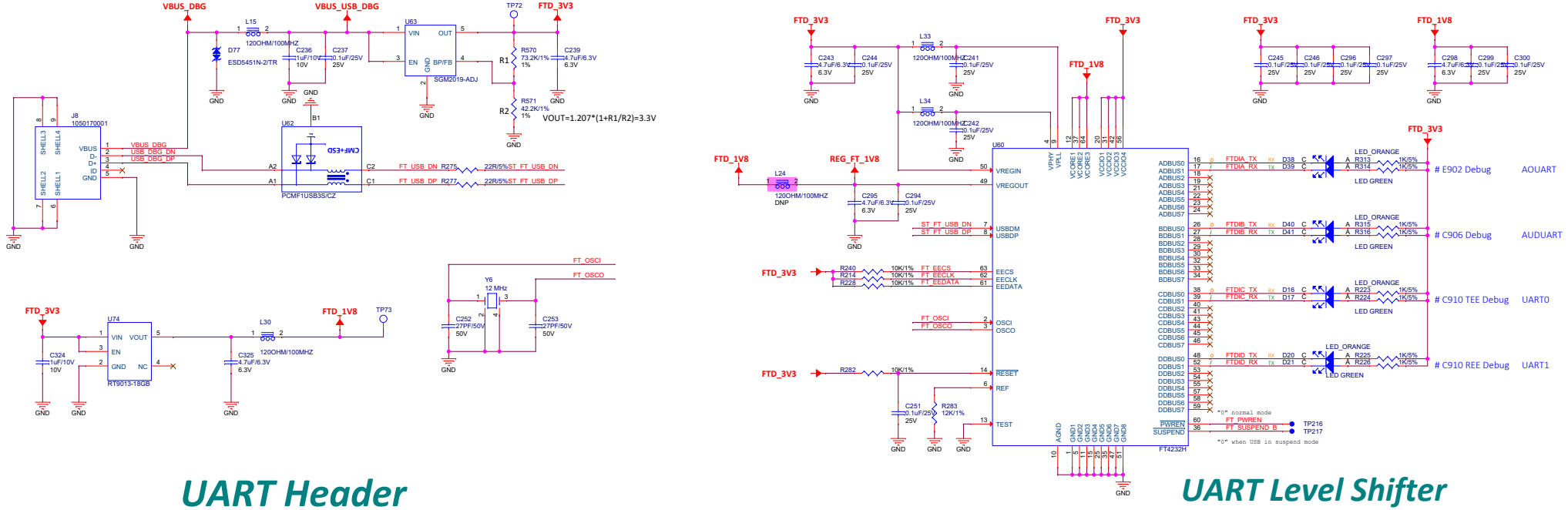
JTAG Power



阿里巴巴 Alibaba.com			Drawn by: Liu Fei	
			Drawn Date: 2021-08-09	
The name of PCB: Fullmask Validation Board			Size: A3	Checked by: checked by
Title: Boot and Debug			Rev: A12	Checked Date: Checked date
Date: Monday, March 28, 2022			Sheet: 11 of 30	

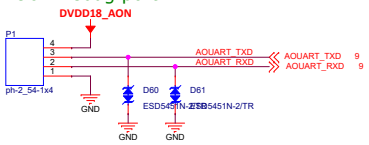
UART Debug

UART - USB

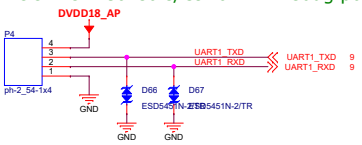


UART Header

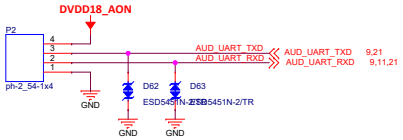
E902 Debug port



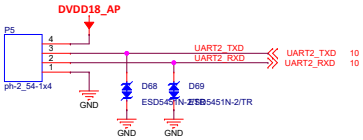
BOOTROM Console/C910 REE Debug port



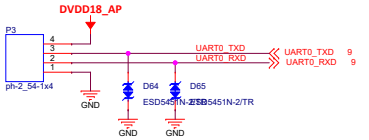
C906 Debug port



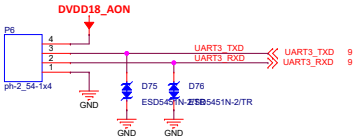
Common UART



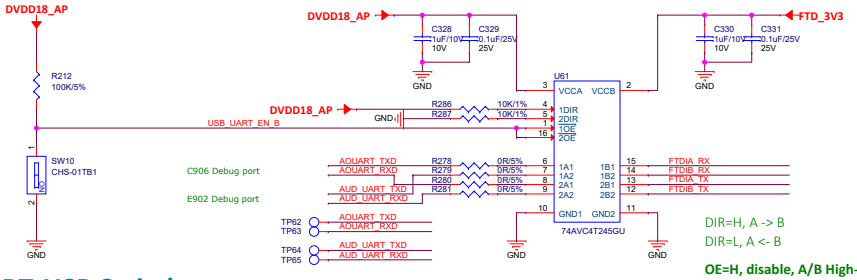
BOOTROM Download/C910 TEE Debug port



CHIP Debug port



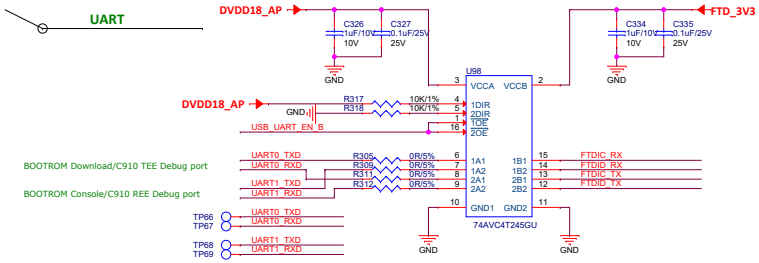
UART Level Shifter



UART-USB Switch

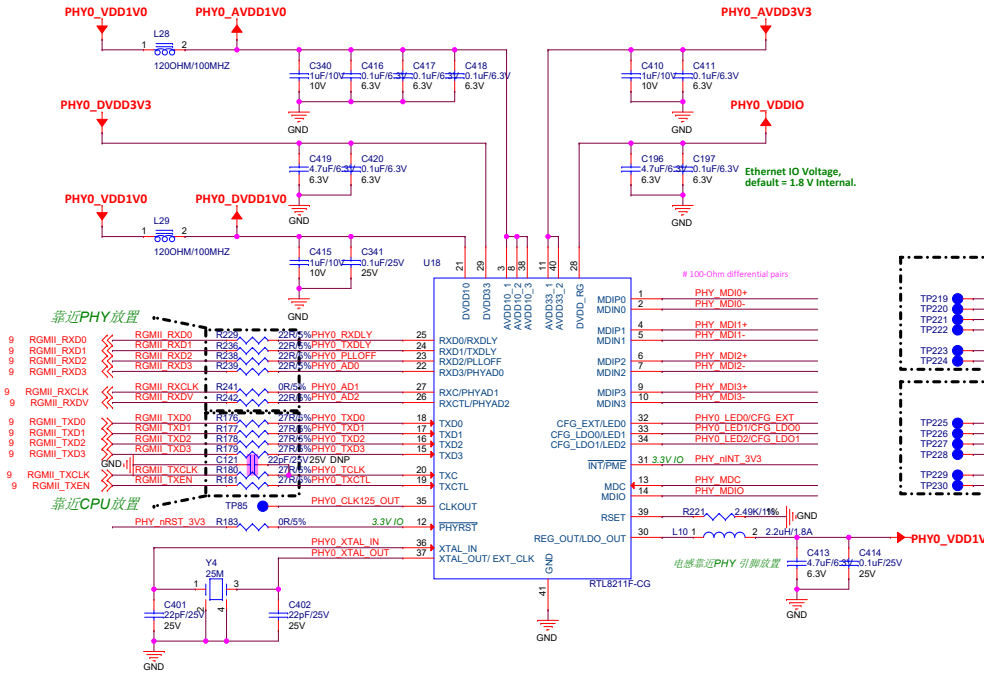
SW10 OFF **UART-Header**

SW10 ON UART-USB



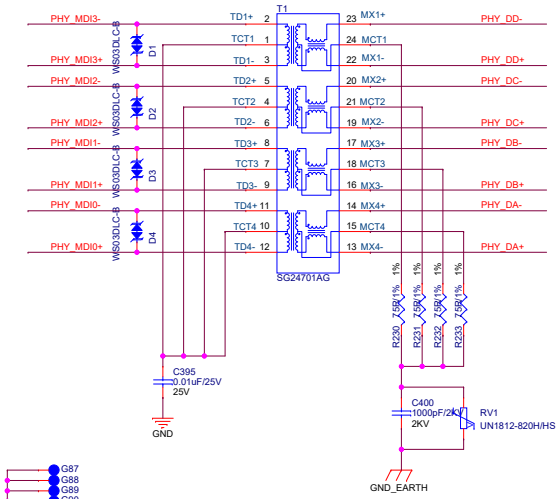
Alibaba.com		Drawn by:	Liu Fei
		Drawn Date:	2021-09-09
The name of PCB	Fullmask Validation Board	Size	A3
		Checked by:	checked by
Title	UART DEBUG	Rev.	A12
		Checked Date:	Checked date
Date:	Monday, March 28, 2022	Sheet	12 of 30

GMAC Ethernet0

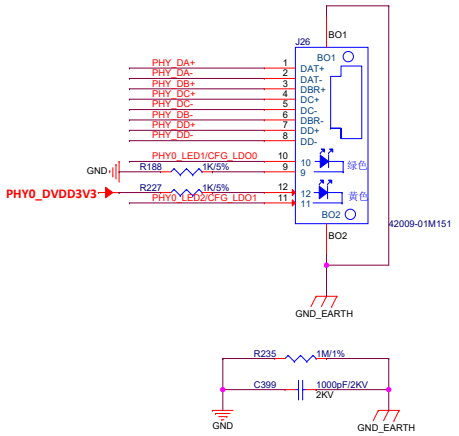


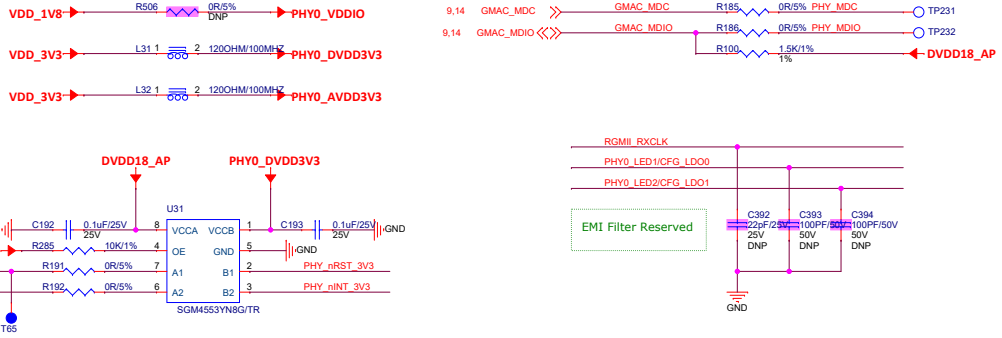
网络隔离变压器

Note: MDI差分对之间等长控制，阻抗控制100Ω

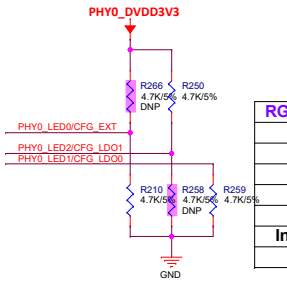


RJ45连接器

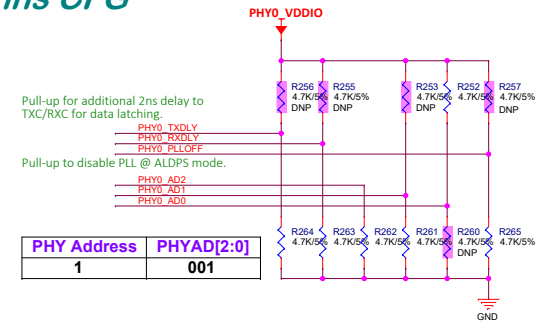




Power-on Strapping Pins CFG



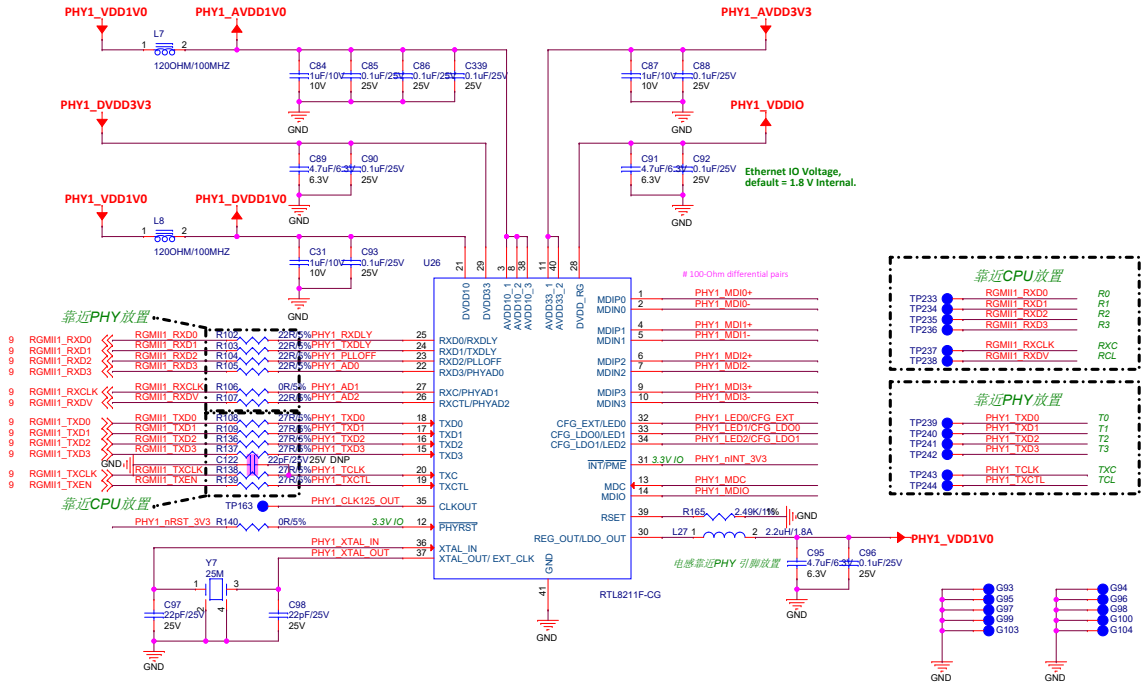
RGMII Power Source	CFG_EXT	CFG_LDO[1:0]
External 3.3V	1	00
External 2.5V	1	01
External 1.8V	1	10
External 1.5V	1	11
Internal 2.5V	0	01
Internal 1.8V(Default)	0	10
Internal 1.5V	0	11

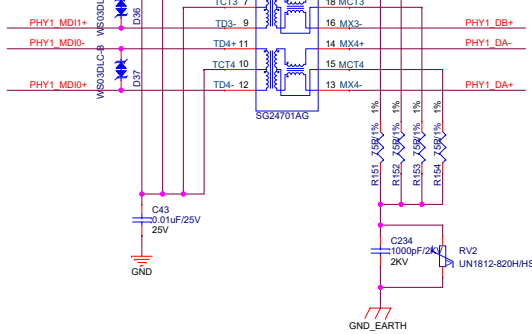


PHY Address	PHYAD[2:0]
1	001

阿里巴巴 Alibaba.com		Drawn by:	Liu Fei
		Drawn Date:	2021-09-09
The name of PCB: Fullmask Validation Board	Size: A3	Checked by:	checked by
Title: Ethernet0	Rev.: A12	Checked Date:	Checked date
Date: Monday, March 28, 2022	Sheet: 13 of 30		

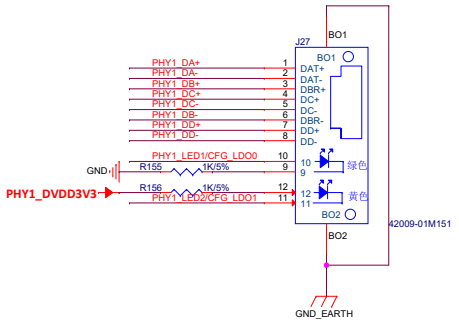
GMAC Ethernet1

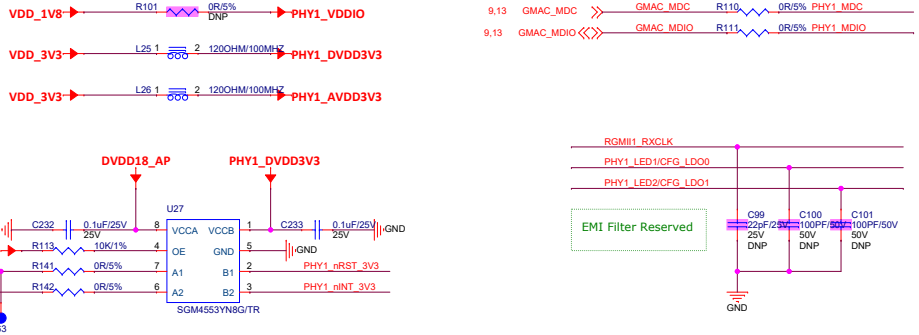


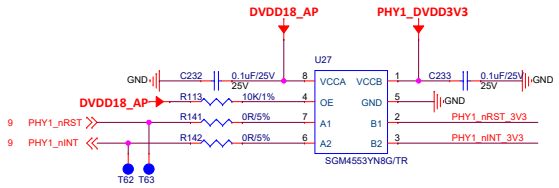


网络隔离变压器

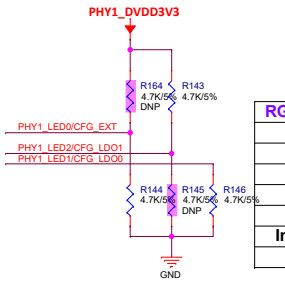
RJ45连接器



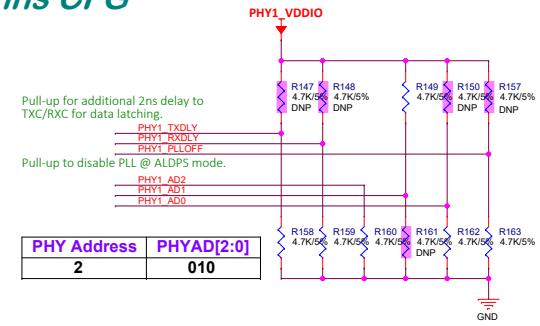




Power-on Strapping Pins CFG



RGMII Power Source	CFG_EXT	CFG_LDO[1:0]
External 3.3V	1	00
External 2.5V	1	01
External 1.8V	1	10
External 1.5V	1	11
Internal 2.5V	0	01
Internal 1.8V(Default)	0	10
Internal 1.5V	0	11



PHY Address	PHYAD[2:0]
2	010

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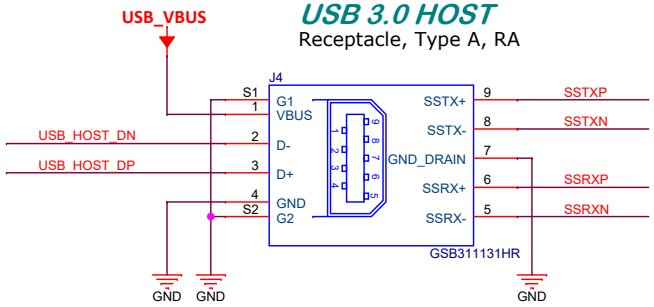
			Drawn Date: 2021-09-09
The name of PCB: Fullmask Validation Board		Size: A3	Checked by: checked by
Title: Ethernet1		Rev.: A12	Checked Date: Checked date
Date: Monday, March 28, 2022		Sheet: 14 of 30	

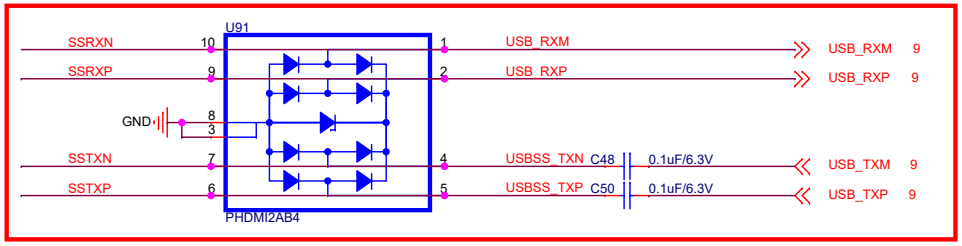
USB3.0

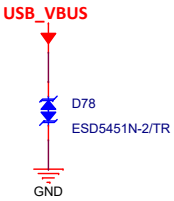
USB 3.0 HOST

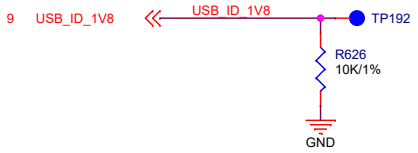
Receptacle, Type A, RA

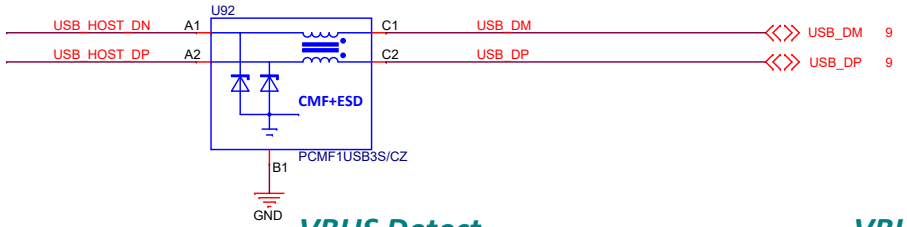


ESD Protection

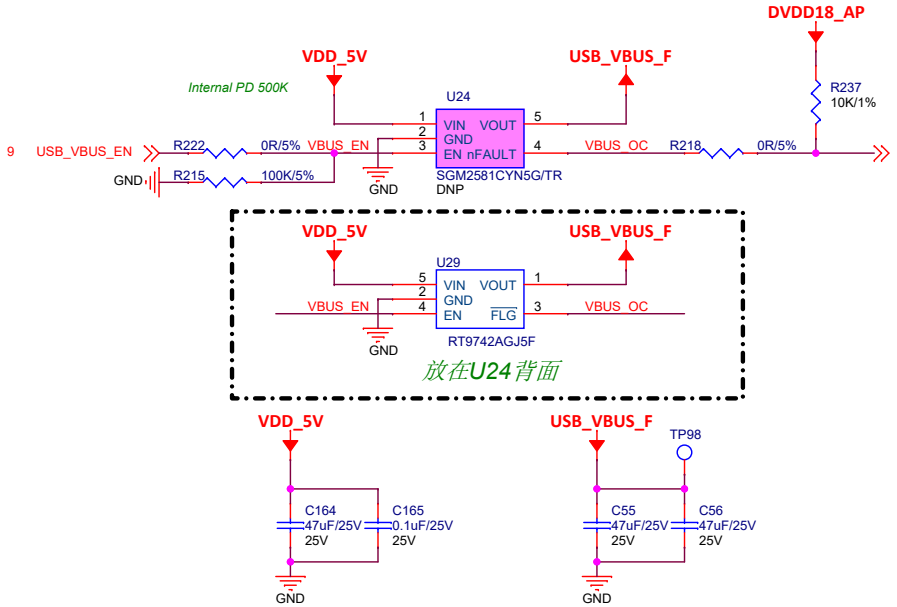




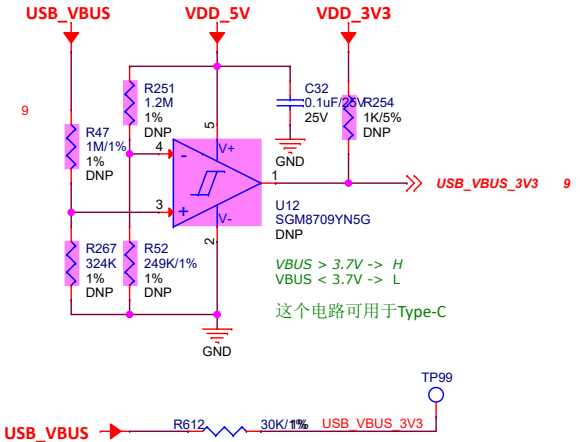




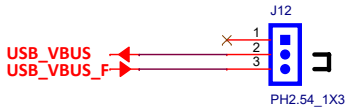
VBUS Power Switch



VBUS Detect



VBUS Jumper



2-1, Device MODE下连接

2-3, HOST MODE下连接，输出电源 Default

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			Drawn Date: 2021-09-09
The name of PCB: Fullmask Validation Board		Size: A3	Checked by: checked by
Title: USB3.0		Rev.: A12	Checked Date: Checked date
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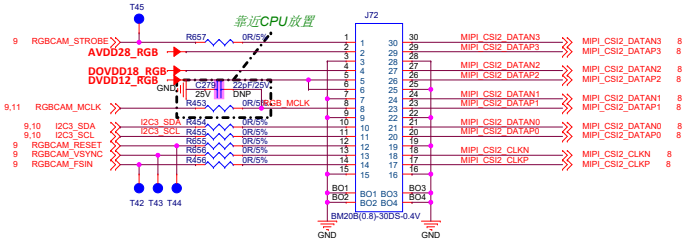
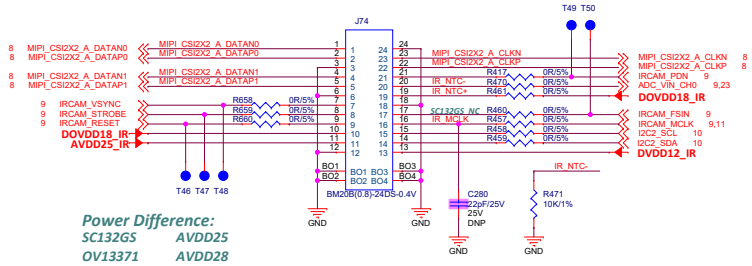
MIPI Camera

CSI2-4Lane RGB Camera



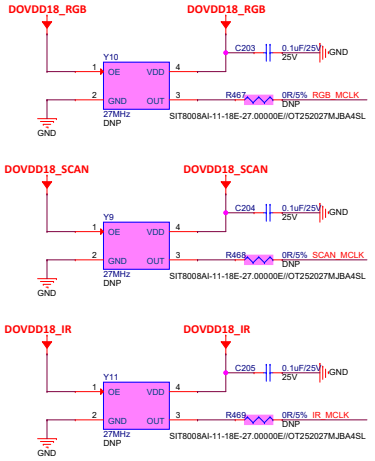
CSI2x2A-2Lane IR Camera



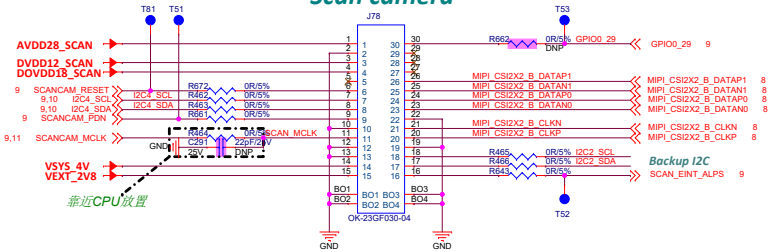
Power Difference:

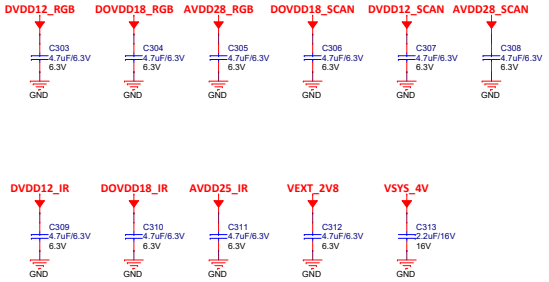
SC132GS	AVDD25
OV13371	AVDD28

Backup Clock

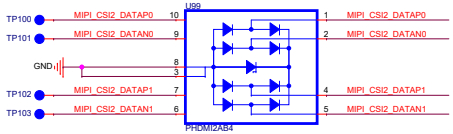


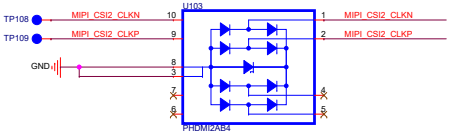
CSI2x2B-2Lane Scan camera

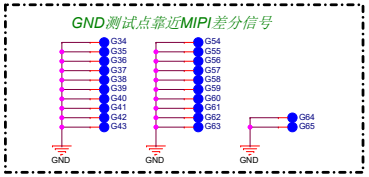




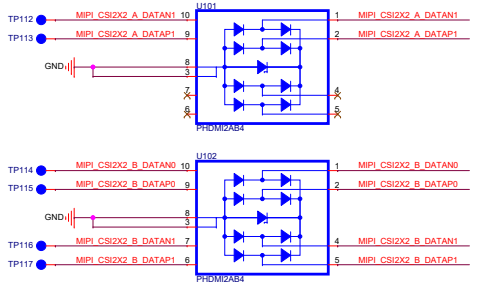
ESD protection

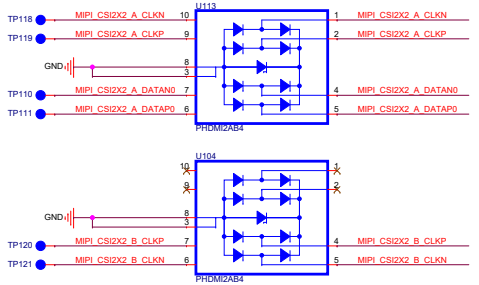




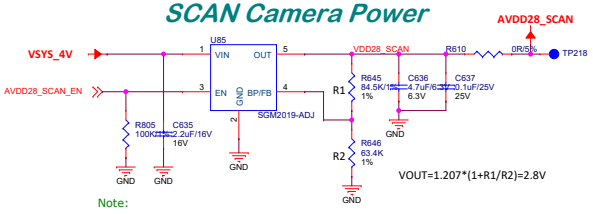


ESD protection





SCAN Camera Power



Note:
Use DA9063 IO to control AVDD28_SCAN

I2C Address Table

MIPI PORT	I2C Port	Connector	Sensor	Module				I2C Address
CSI2	I2C3	BM20B(0.8)-30DS-0.4V	OV12870	C-CAM-STR049A	4-Lane	12M	RGB	0x20(0100000x)
			S5K4H7	PBS601439	4-Lane	8M	RGB	0x20(0100000x)
			OV5693	C-CAM-STR045A	2-Lane	5M	RGB	0x6C(1101100x)
CSI2X2_A	I2C2	BM20B(0.8)-24DS-0.4V	SC132GS	C-CAM-STR044B	2-Lane	1.3M	IR	0x6E(1101110x)
			OV13371	C-CAM-STR048A	2-Lane	13M	IR	0x6C(1101100x)
CSI2X2_B	I2C4	OK-23GF030-04	GC5035	LH-MY-Q37A	2-Lane	5M	SCAN	0x6E(1101110x)

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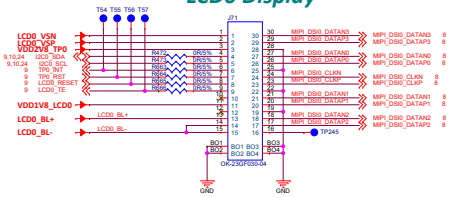
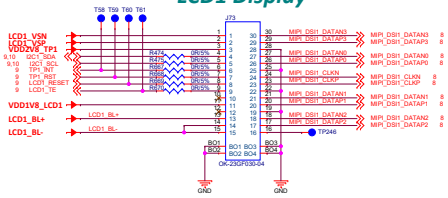
MIPI Display

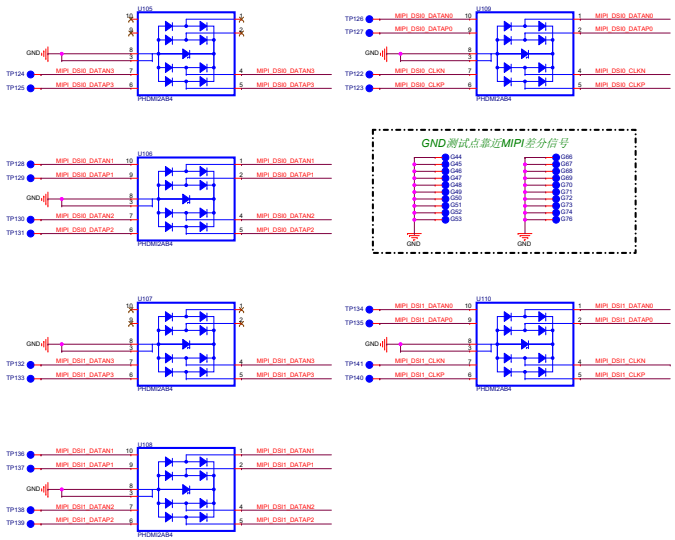
LCD0 Display



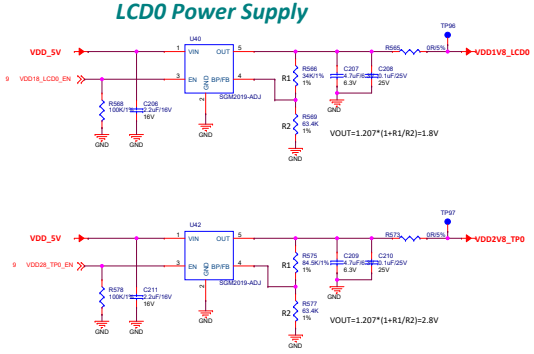
LCD1 Display



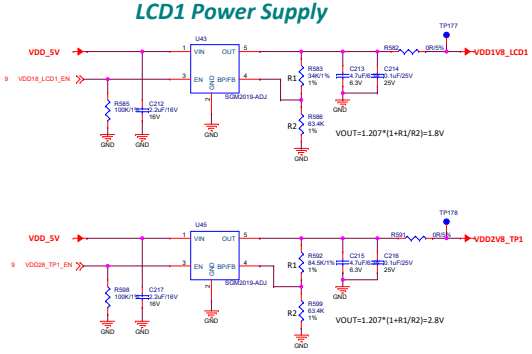
ESD protection



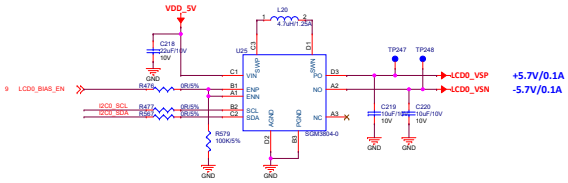
LCD0 Power Supply



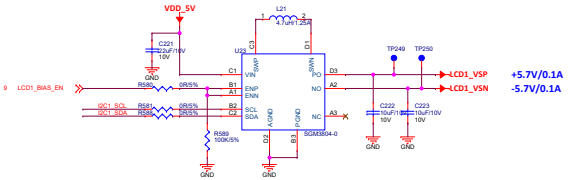
LCD1 Power Supply



LCD0 BIAS



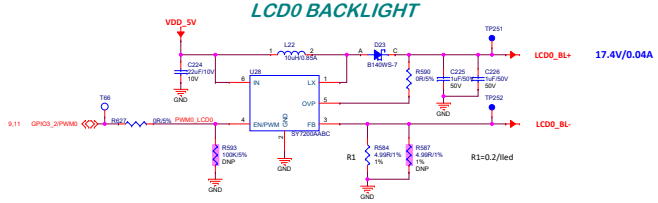
LCD1 BIAS



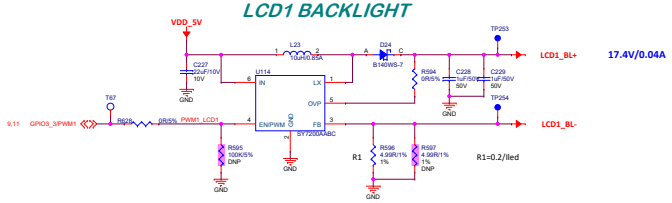
I2C Address Table

MIPI PORT	I2C Port	Connector	IC	Module	I2C Address
DSI0	I2C0	OK-23GF030-04	GT911	KD050G33 MIPI LCD 1280x800	0x5D(1011101x)
					0x14(0010100x)
			SGM3804	Positive/Negative Regulator	0x3E(0111110x)
DSI1	I2C1	OK-23GF030-04	GT911	KD050G33 MIPI LCD 1280x800	0x5D(1011101x)
					0x14(0010100x)
			SGM3804	Positive/Negative Regulator	0x3E(0111110x)

LCD0 BACKLIGHT



LCD1 BACKLIGHT



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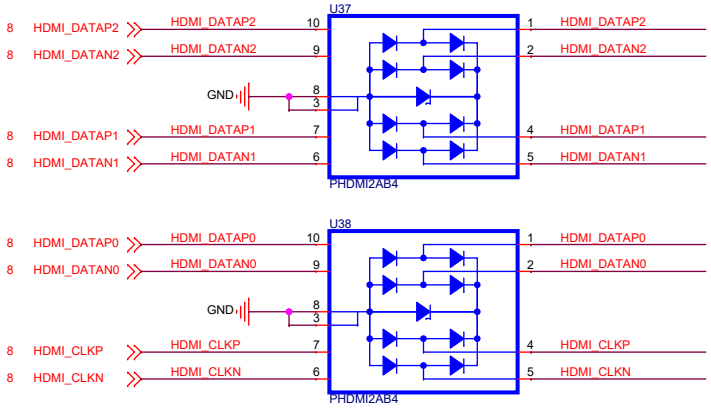
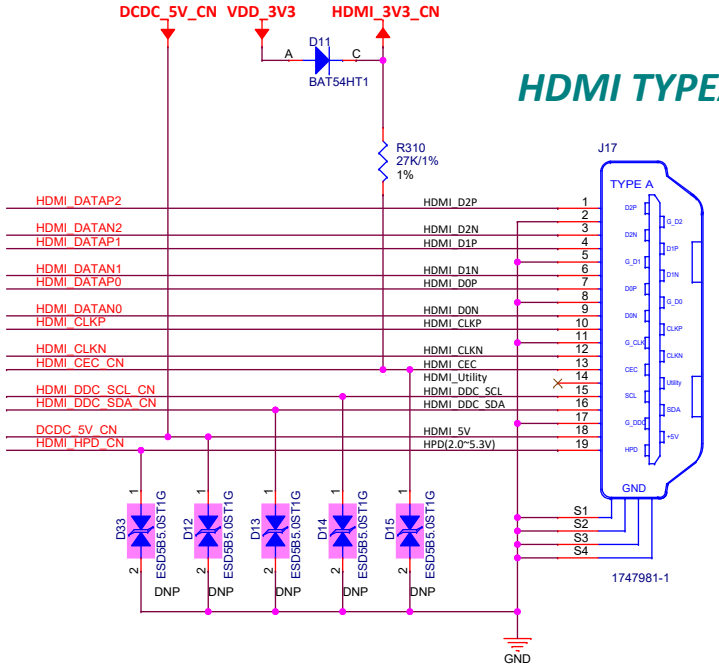
The name of PCB: Fullmask Validation Board	Size: A3	Checked by: checked by	
Title: MIPI Display	Rev: A12	Checked Date: Checked date	
Date: Monday, March 28, 2022	Sheet: 17 of 30		

HDMI Display

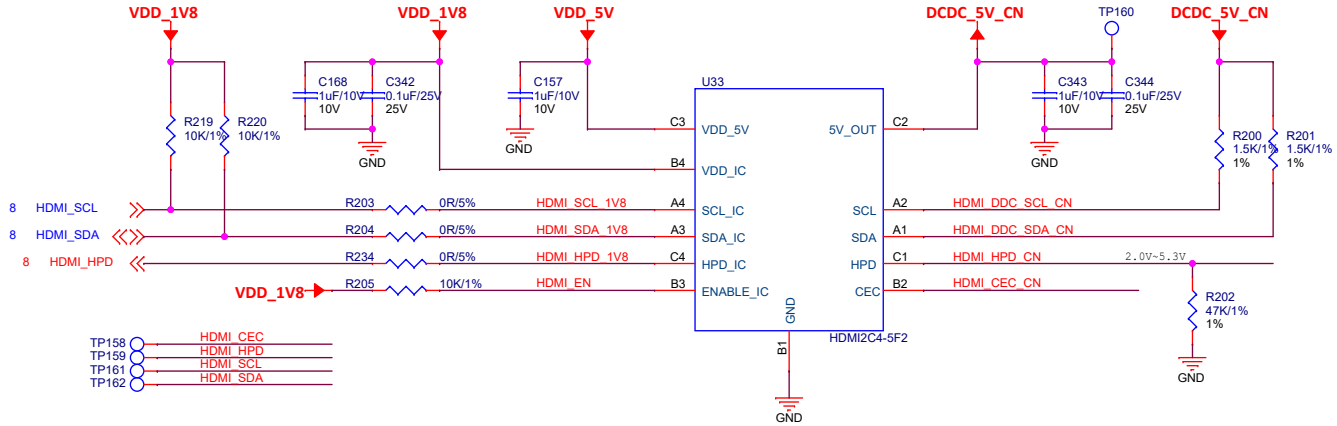
ESD Protection

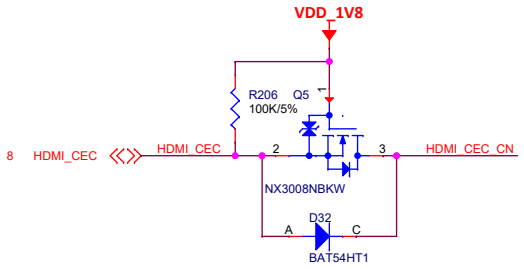


HDMI TYPEA



Level shifter





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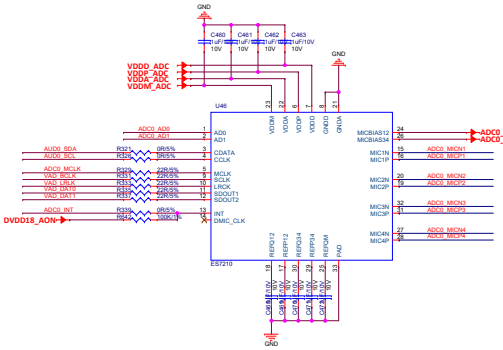
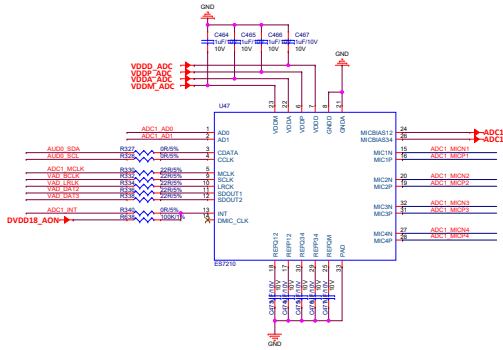
The name of PCB: Fullmask Validation Board	Size: A3	Checked by: checked by	
Title: HDMI Display	Rev.: A12	Checked Date: Checked date	
Date: Monday, March 28, 2022	Sheet 18 of 30		

AUDIO ADC

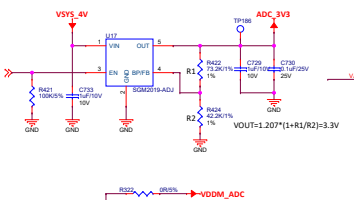
ADC0



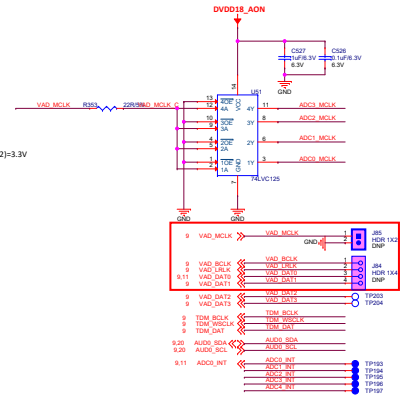
ADC1



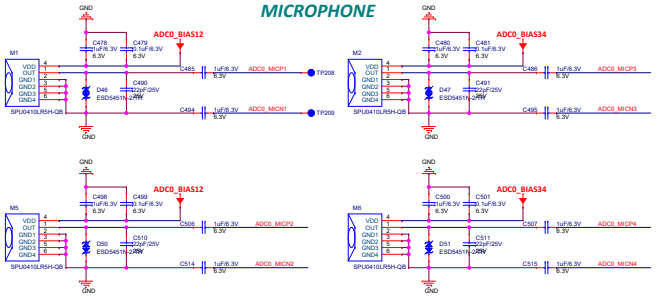
ADC Audio Power



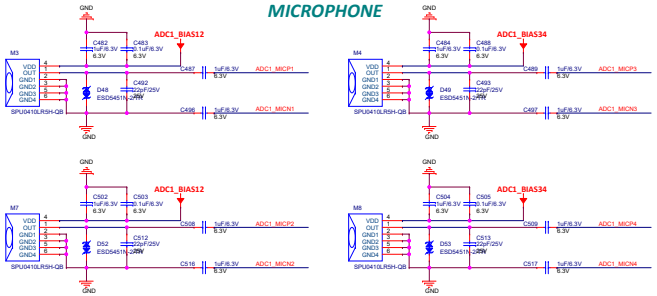
ADC MCLK Buffer



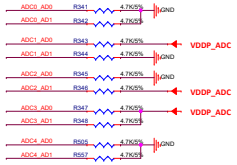
MICROPHONE



MICROPHONE

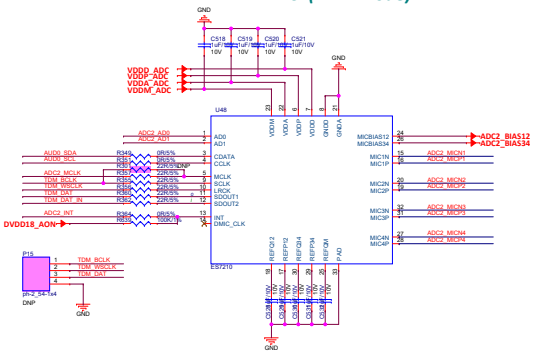


ES7210 I2C Address

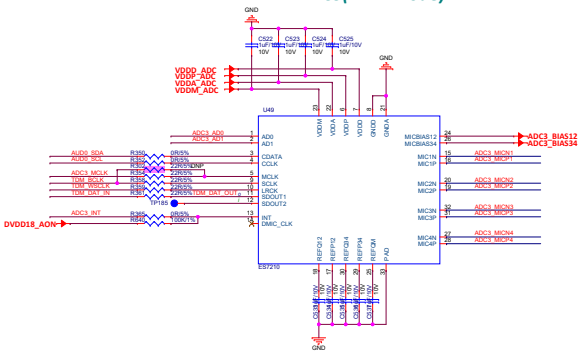


I2C PORT	PART	AD1	AD0	I2C Address
AUD0	ADC0	0	0	0x40(1000000x)
AUD0	ADC1	0	1	0x41(1000001x)
AUD0	ADC2	1	0	0x42(1000010x)
AUD0	ADC3	1	1	0x43(1000011x)
AUD1	ADC4	0	0	0x40(1000000x)

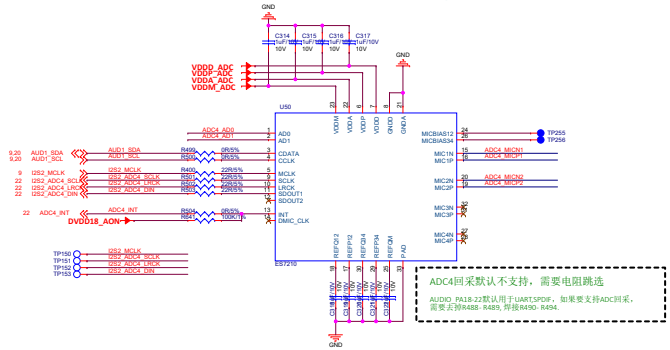
ADC2(TDM Mode)



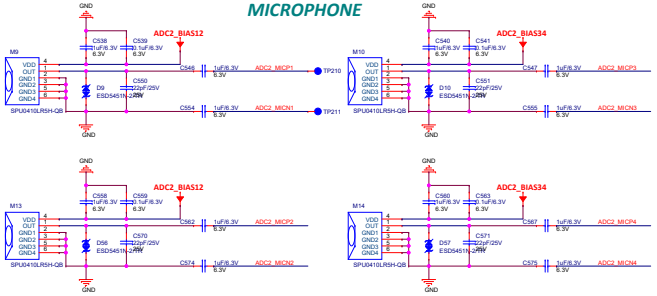
ADC3(TDM Mode)



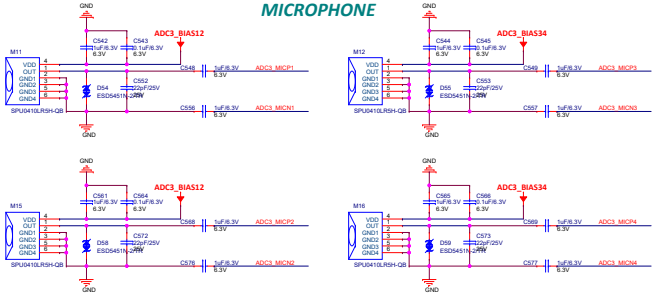
ADC4（功放回采）

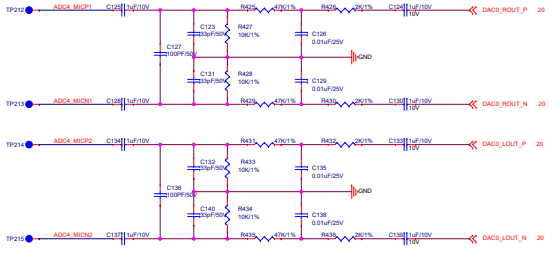


MICROPHONE



MICROPHONE





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		Drawn Date: 2021-09-09	
The name of PCB: Fullmask Validation Board		Size: A3	Checked by: checked by
Title: Audio ADC		Rev.: A12	Checked Date: Checked date
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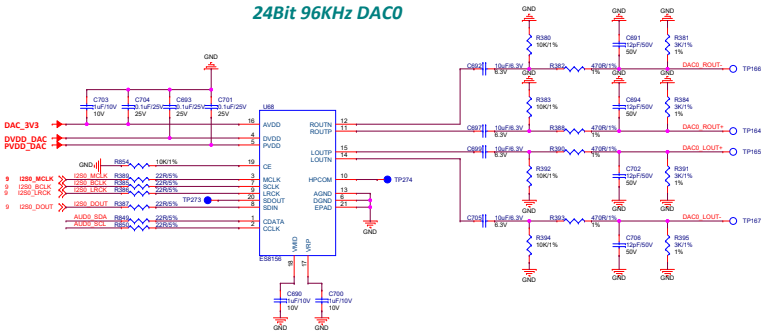
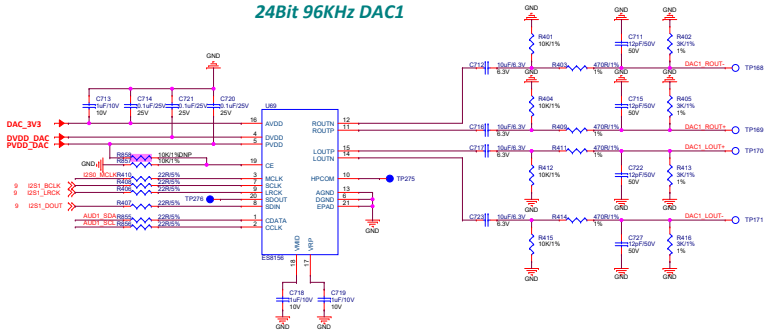
AUDIO DAC

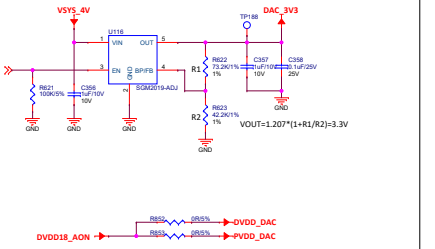
24Bit 96KHz DAC0



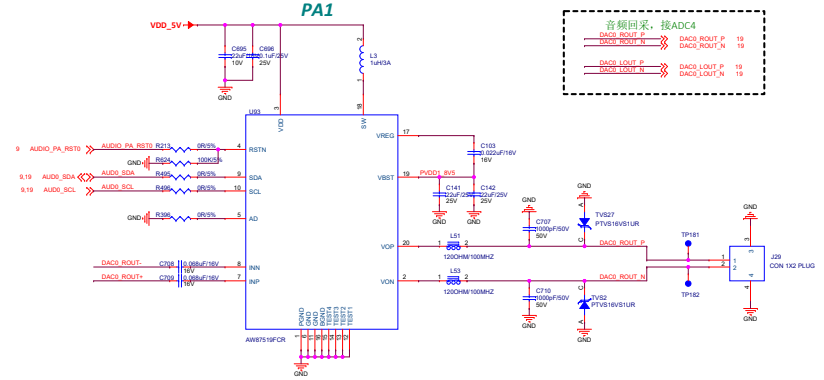
24Bit 96KHz DAC1



DAC Audio Power

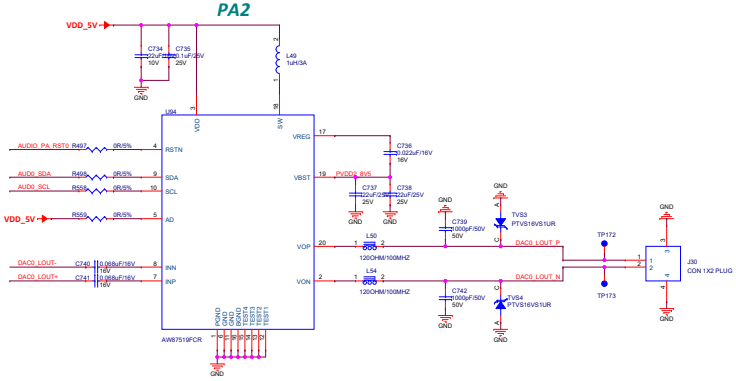


PA1

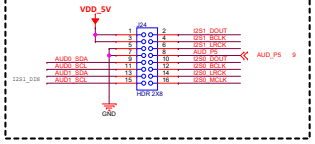


音频回采，接ADC4

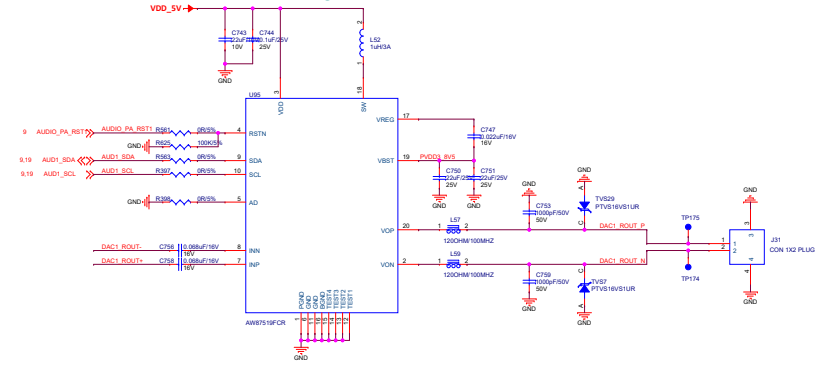
PA2



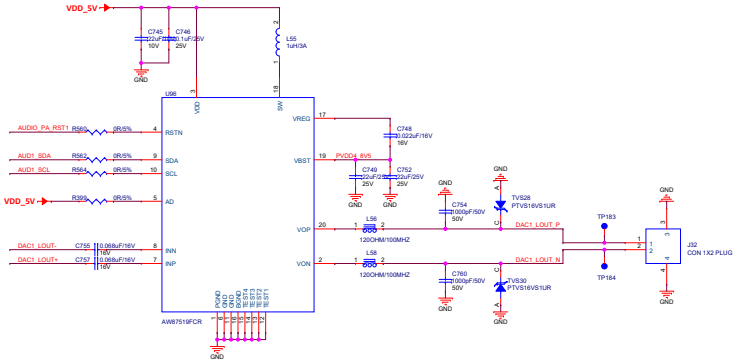
Audio Card Interface



PA3



PA4



ES8156 I2C Address

I2C PORT	PART	CE	I2C Address
AUD0	DAC0	0	0x08(0001000x)
AUD1	DAC1	0	0x58(1011000x)

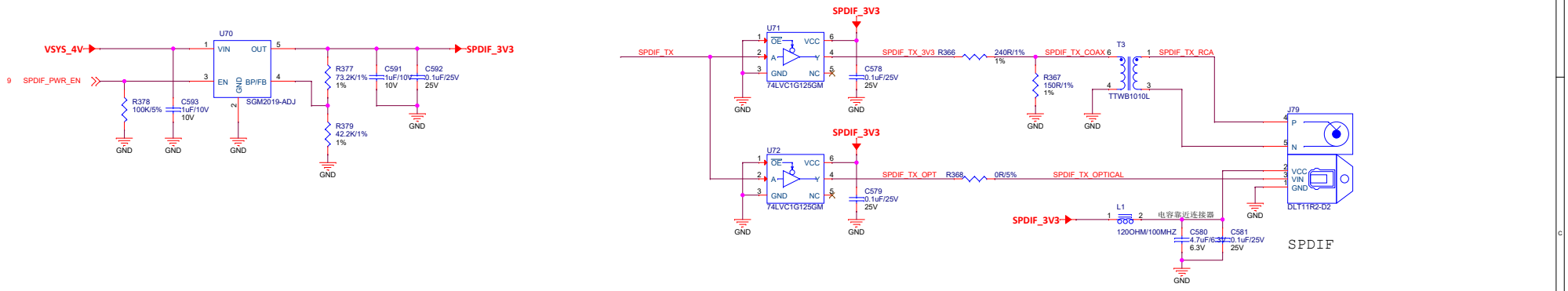
AW87519 I2C Address

I2C PORT	PART	AD	I2C Address
AUD0	PA1	0	0x58(1011000x)
AUD0	PA2	1	0x5B(1011011x)
AUD1	PA3	0	0x58(1011000x)
AUD1	PA4	1	0x5B(1011011x)

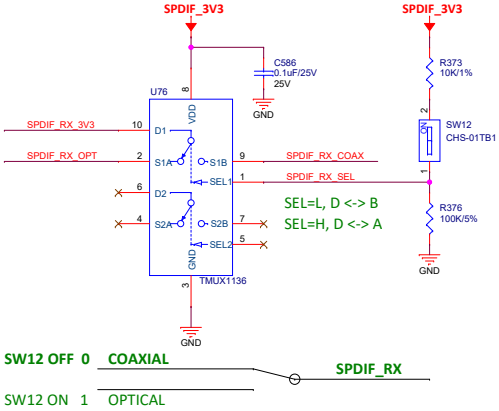
阿里巴巴 Alibaba.com	Drawn by: Liu Fei	
	Drawn Date: 2021-09-09	
The name of PCB: Fullmask Validation Board	Size: A3	Checked by: checked by
Title: AUDIO DAC	Rev: A12	Checked Date: Checked date
Date: Monday, March 28, 2022	Sheet: 28 of 30	

SPDIF

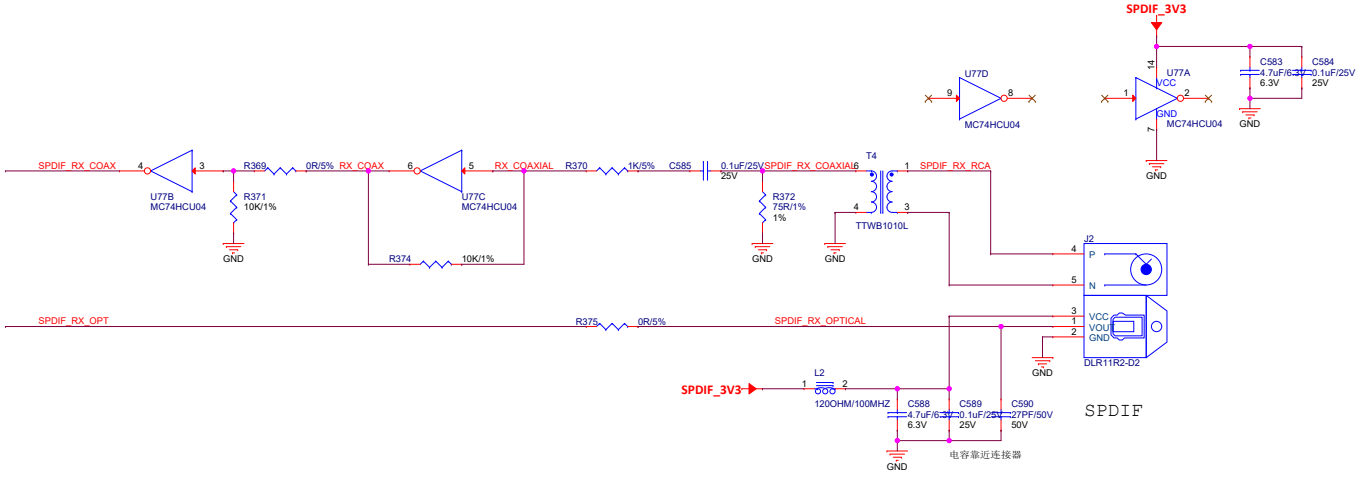
SPDIF TX 光纤+RCA接口



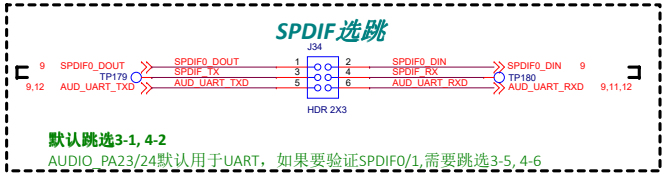
RX光口/电口切换

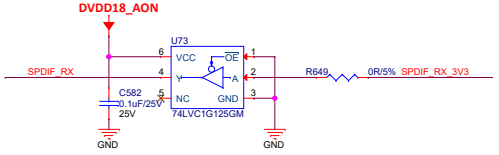


SPDIF RX 光纤+RCA接口



SPDIF选跳

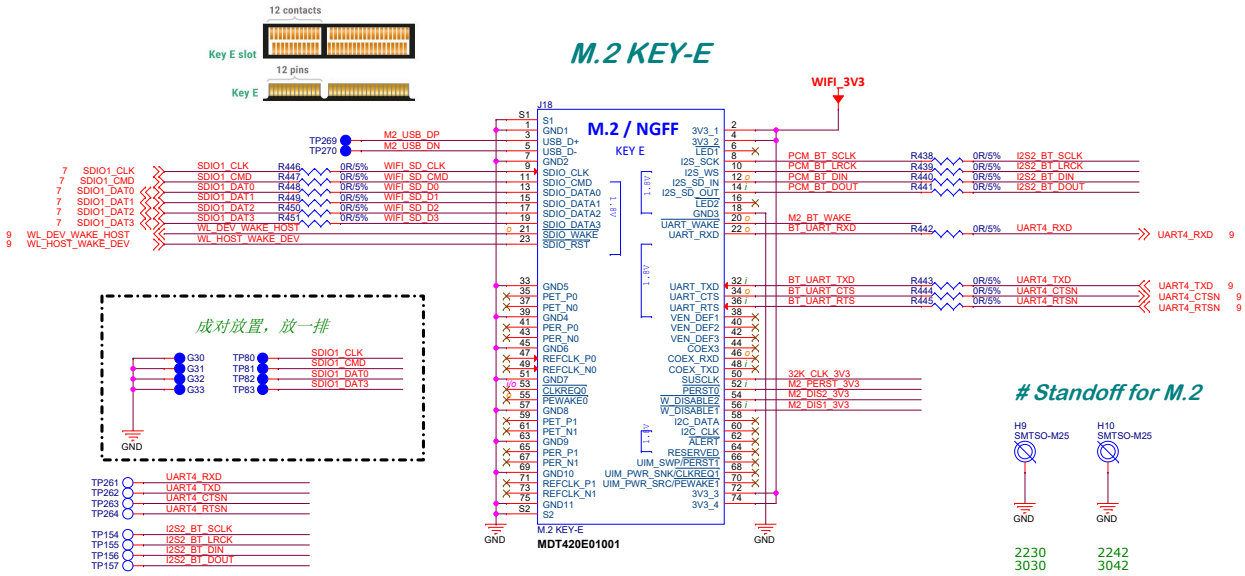




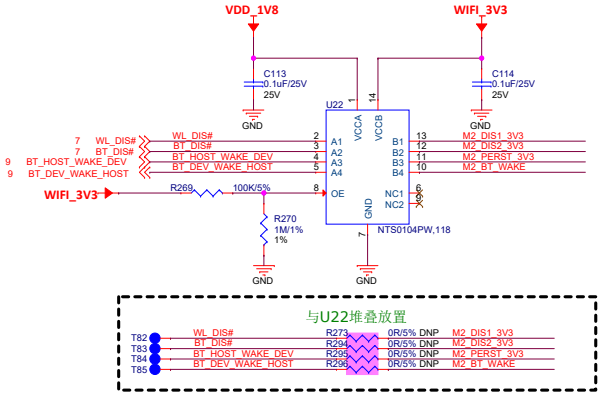
阿里巴巴 Alibaba.com		Drawn by: Liu Fei	
		Drawn Date: 2021-09-09	
The name of PCB: Fullmask Validation Board	Size: A3	Checked by: checked by	
Title: AUDIO SPDIF	Rev.: A12	Checked Date: Checked date	
Date: Monday, March 28, 2022	Sheet: 21 of 30		

WIFI/BT Module

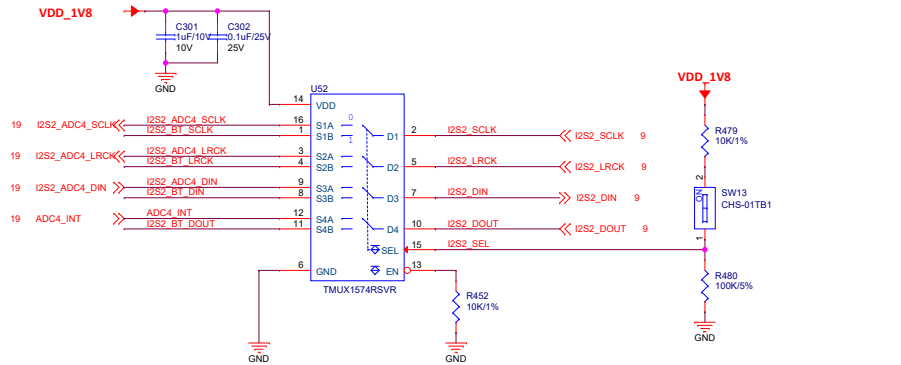
M.2 KEY-E



Level Shifter



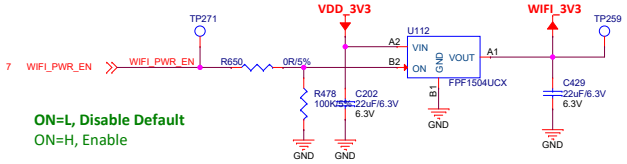
I2S Selection



SEL=L, I2S2 <-> ADC4 Default SW13 OFF ADC4(音频回采) I2S2

SEL=H, I2S2 <-> WIFI/BT Module SW13 ON WIFI/BT Module

WIFI/BT Module Power Control



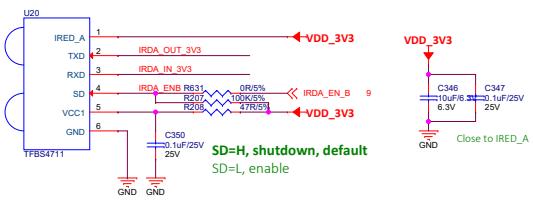
ON=L, Disable Default
ON=H, Enable

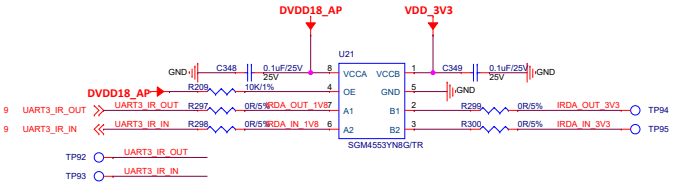
WIFI电源控制和控制均接在C910 IO上，不支持保活!

阿里巴巴 Alibaba.com		Drawn by: Liu Fei	
		Drawn Date: 2021-09-09	
The name of PCB: Fullmask Validation Board	Size: A3	Checked by: checked by	
Title: M.2 WiFi and BT	Rev.: A12	Checked Date: Checked date	
Date: Monday, March 28, 2022	Sheet: 22 of 30		

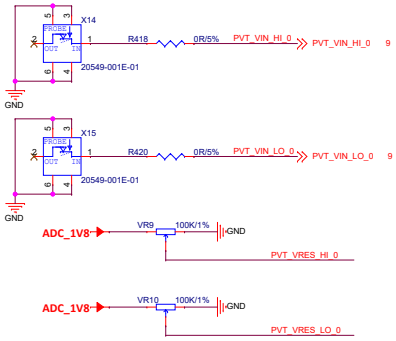
MISC Interfaces

IRDA Transceiver

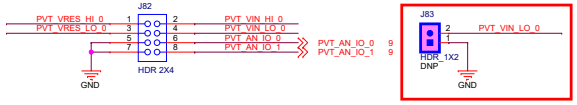




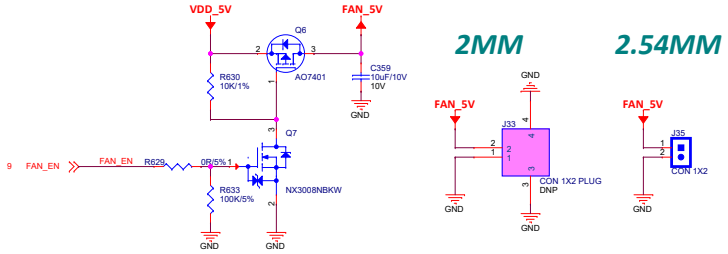
PVT Interface



Jumper

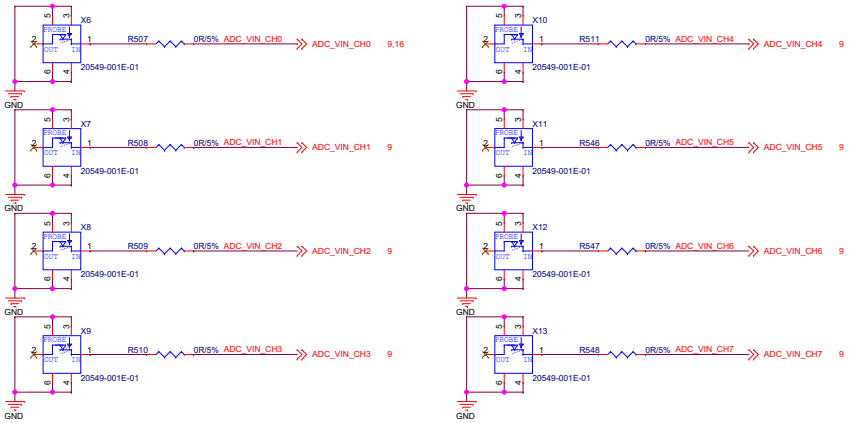


FAN Power Control

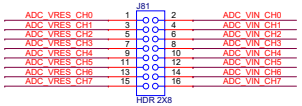


ADC Interface

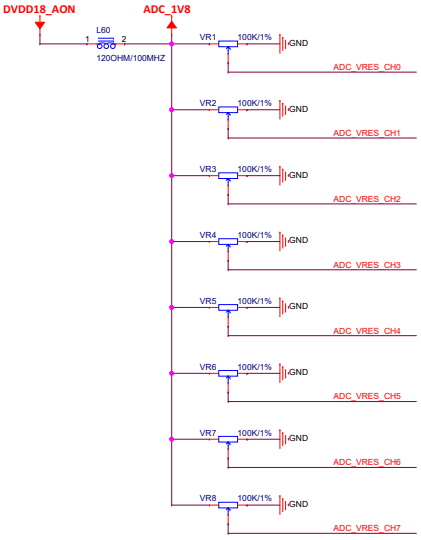
IPEX Connector



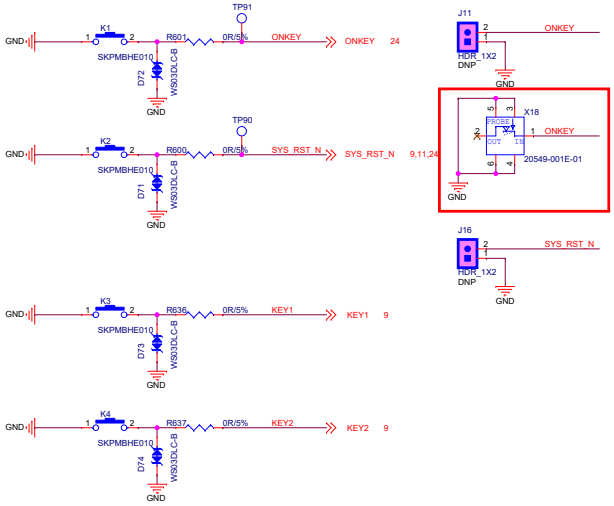
Jumper



可调电阻

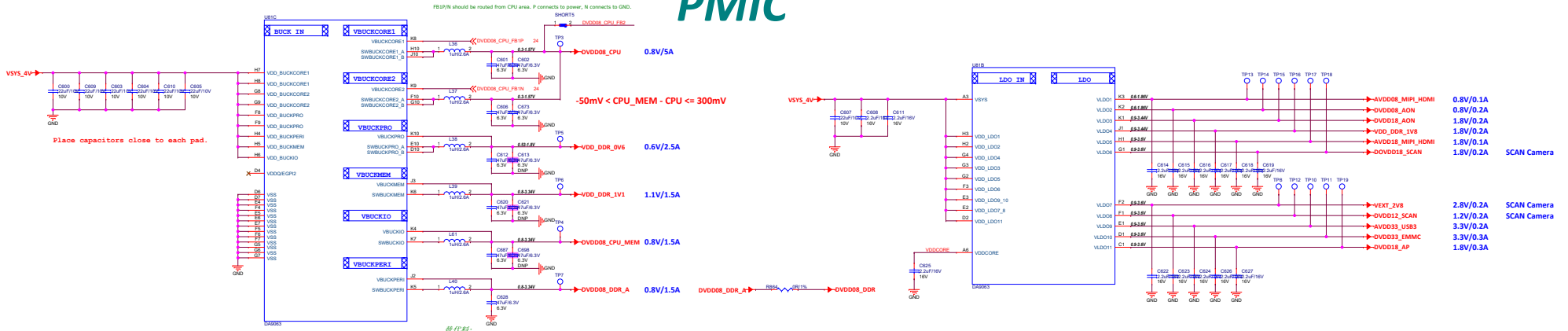


BUTTON

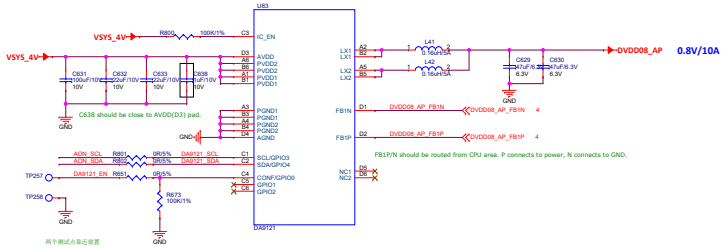


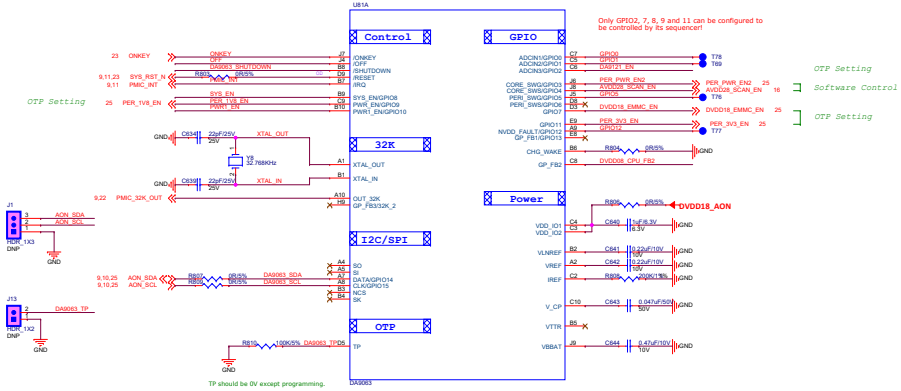
阿里巴巴 Alibaba.com		Drawn by: Liu Fei
		Drawn Date: 2021-09-09
The name of PCB: Fullmask Validation Board	Size: A3	Checked by: checked by
Title: MISC Interfaces	Rev.: A12	Checked Date: Checked date
Date: Monday, March 28, 2022	Sheet 23 of 30	

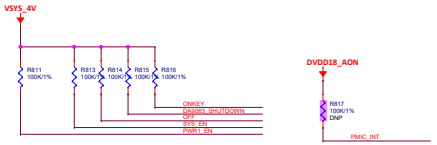
PMIC



DVDD08_AP







PMIC Output Setting and Sequence

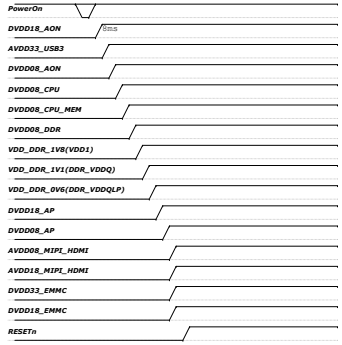
Time Slot	PMIC Channel	Supply Limit	Power Supply Name	Default Voltage	Work Status	Standby Status
1	VLDO3	0.2A	DVDD18_AON	1.8V	ON	ON
2	VLDO9	0.2A	AVDD33_USB3	3.3V	ON	ON
3	VLDO2	0.2A	DVDD08_AON	0.8V	ON	ON
4	BUCKCORE1+2	5A	DVDD08_CPU	0.8V	ON	OFF
5	BUCKMIO	1.5A	DVDD08_CPU_MEM	0.8V	ON	OFF
6	BUCKPERI	1.5A	DVDD08_DDR	0.8V	ON	OFF
7	VLDO4	0.2A	VDD_DDR_1V8(VDD1)	1.8V	ON	ON
8	BUCKMEM	1.5A	VDD_DDR_1V1(DDR_VDDQ)	1.1V	ON	ON
9	BUCKPRO	2.5A	VDD_DDR_0V6(DDR_VDDQLP)	0.6V	ON	ON
10	VLDO11	0.3A	DVDD18_AP	1.8V	ON	ON/OFF
12	DA9121_EX	10A	DVDD08_AP	0.8V	ON	OFF
13	VLDO1	0.1A	AVDD08_MIPI_HDMI	0.8V	ON	OFF
13	VLDO5	0.1A	AVDD18_MIPI_HDMI	1.8V	ON	ON/OFF
13	VLDO10	0.3A	DVDD33_EMMC	3.3V	ON	ON
13	LDO_EX	0.4A	DVDD18_EMMC	1.8V	ON	ON
15	RESET_n	-	SYS_RST_N	-	-	-
NC	VLDO6	0.2A	DOVDD18_SCAN	1.8V	ON/OFF	ON/OFF
NC	VLDO7	0.2A	VEXT_2V8	2.8V	ON/OFF	ON/OFF
NC	VLDO8	0.2A	DVDD12_SCAN	1.2V	ON/OFF	ON/OFF

DA9063 IO Setting and Sequence

Time Slot	PMIC Signal	Net Name	Power Supply Name	Default Voltage	Work Status	Standby Status
8	GPIO9	VDD_DDR_1V1_EN	VDD_DDR_1V1	1.1V	ON	ON
10	GPIO11	PER_3V3_EN	VDD_3V3/VDD_1V8	3.3/1.8V	ON	ON/OFF
12	GPIO2	DA9121_EX	DVDD08_AP	0.8V	ON	OFF
13	GPIO7	DVDD18_EMMC_EN	DVDD18_EMMC	1.8V	ON	ON
NC	GPIO3	PER_PWR_EN2 (Optional)	VDD_3V3/VDD_1V9	3.3/1.8V	ON	ON/OFF
NC	GPIO4	AVDD28_SCAN_EN	AVDD28_SCAN	2.8V	ON/OFF	ON/OFF

CPU Power Sequence

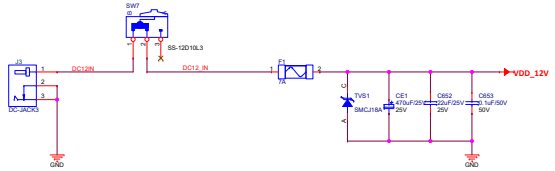
冷启动上电，后续长按关机，短按开机



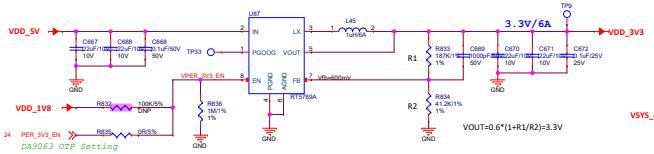
Alibaba.com		Drawn by: Liu Fei	
		Drawn Date: 2021-09-09	
The name of PCB: Fullmask Validation Board		Size: A3	Checked by: checked by
File: PMIC		Rev.: A12	Checked Date: Checked date
Date: Monday, April 11, 2022		Sheet: 34 of 30	

System Power Input

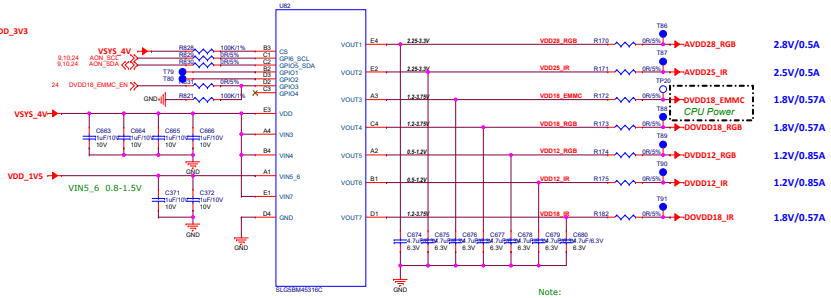
DC12V Input



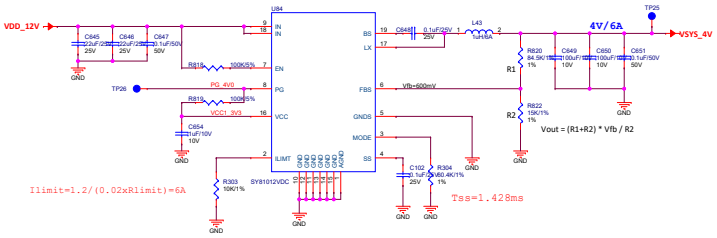
3.3V For Peripherals



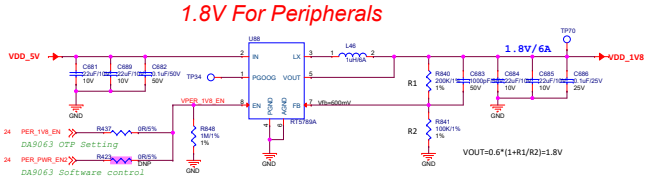
Camera Power Supply



4V For PMIC



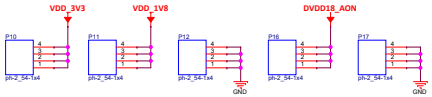
1.8V For Peripherals



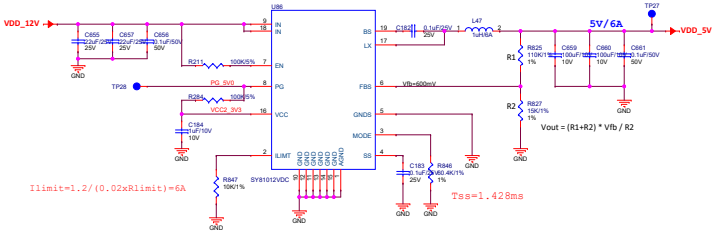
PMIC Output Setting and Sequence

Time Slot	PMIC Signal	PMIC Channel	Power Supply Name	Default Voltage	Work Status	Standby Status
14	GPIO3	VOUT3	DVDD18_EMMC	1.8V	ON	ON
NC	I2C Control	VOUT1	AVDD28_RGB	2.8V	ON/OFF	ON/OFF
		VOUT2	AVDD25_IR	2.5V	ON/OFF	ON/OFF
		VOUT4	DOVDD18_RGB	1.8V	ON/OFF	ON/OFF
		VOUT5	DVDD12_RGB	1.2V	ON/OFF	ON/OFF
		VOUT6	DVDD12_IR	1.2V	ON/OFF	ON/OFF
		VOUT7	DOVDD18_IR	1.8V	ON/OFF	ON/OFF

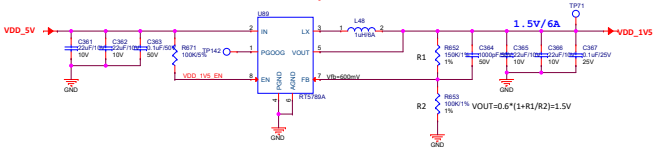
电源排针



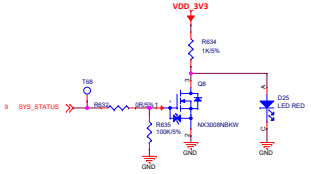
5V For USB and Peripherals



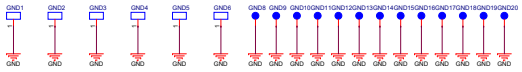
1.5V For Peripherals



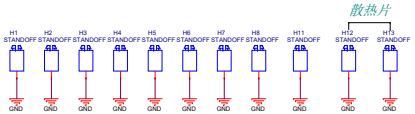
电源/系统指示灯



GND测试点



安装螺柱



散热片

Drawn by: Liu Fei	Drawn Date: 2021-08-09		
Fulmask Validation Board	Size: A3	Checked by: checked by	
Power Input	Rev: A12	Checked Date: Checked date	
Date: Monday, March 28, 2022	Sheet 25 of 30		

Fullmask PINMUX Table

Fullmask PINMUX

PAD NAME	Power Domain	Default	ALT1	ALT2	ALT3	ALT4	ALT5	DEBUG Default	DEBUG ALT1	Reset Condition IN/OUT	Reset Condition PU/PD	Unsued Pin Recommendation
OSC_CLK_IN	DVDD18_AON	OSC_CLK_IN								I	N.A.	
OSC_CLK_OUT	DVDD18_AON	OSC_CLK_OUT								O	N.A.	
SYS_RST_N	DVDD18_AON	SYS_RST_N								I	PU	
RTC_CLK_IN	DVDD08_AON	RTC_CLK_IN								I	N.A.	
RTC_CLK_OUT	DVDD08_AON	RTC_CLK_OUT								O	N.A.	
TEST_MODE	DVDD18_AON	TEST_MODE								I	PD	
DFT_PROT_DIS_0	DVDD18_AON	DFT_PROT_DIS_0								I	PD	
DEBUG_MODE	DVDD18_AON	DEBUG_MODE			GPIO4_22					I	PD	
POR_SEL	DVDD18_AON	POR_SEL								I	PU	
I2C_AON_SCL	DVDD18_AON	I2C_AON_SCL			AOGPIO_0					IO	PU	
I2C_AON_SDA	DVDD18_AON	I2C_AON_SDA			AOGPIO_1					IO	PU	
CPU_JTG_TCLK	DVDD18_AON	CPU_JTG_TCLK			AOGPIO_2					I	none	
CPU_JTG_TMS	DVDD18_AON	CPU_JTG_TMS			AOGPIO_3					I	PU	
CPU_JTG_TDI	DVDD18_AON	CPU_JTG_TDI			AOGPIO_4					I	none	
CPU_JTG_TDO	DVDD18_AON	CPU_JTG_TDO			AOGPIO_5					O	none	
CPU_JTG_TRST	DVDD18_AON	CPU_JTG_TRST			AOGPIO_6					I	PU	
AOGPIO_7	DVDD18_AON	PLL_DSKEW_BYPASS	AUDIO_PA18		AOGPIO_7			BISR_L2_CDE		I	PD	
AOGPIO_8	DVDD18_AON	AOUART_TXD	AUDIO_PA19	AOUART_IR_OUT	AOGPIO_8			PMU_FSM_ST0	ADC_CLK	O	none	
AOGPIO_9	DVDD18_AON	AOUART_RXD	AUDIO_PA20	AOUART_IR_IN	AOGPIO_9			PMU_FSM_ST1	ADC_EOC	I	none	
AOGPIO_10	DVDD18_AON	BISR_BYPASS	AUDIO_PA21		AOGPIO_10			PMU_FSM_ST2	ADC_SOB	I	PD	
AOGPIO_11	DVDD18_AON	AOGPIO_11	AUDIO_PA22					PMU_FSM_ST3	ADC_SOC	IO	none	
AOGPIO_12	DVDD18_AON	AOGPIO_12	AUDIO_PA23					POR_RST_N		IO	none	
AOGPIO_13	DVDD18_AON	AOGPIO_13	AUDIO_PA24					BISR_L2_DONE		IO	none	
AOGPIO_14	DVDD18_AON	AOGPIO_14	AUDIO_PA25					BISR_SRAM_CDE		IO	none	
AOGPIO_15	DVDD18_AON	AOGPIO_15	AUDIO_PA26					BISR_SRAM_DONE		IO	none	
AUDIO_PA0	DVDD18_AON	AUDIO_PA0			GPIO4_0			DEBUG_ALT1_SEL		IO	none	
AUDIO_PA1	DVDD18_AON	AUDIO_PA1			GPIO4_1			RC_ATESTSEL0		IO	none	
AUDIO_PA2	DVDD18_AON	AUDIO_PA2			GPIO4_2			RC_ATESTSEL1		IO	none	
AUDIO_PA3	DVDD18_AON	AUDIO_PA3			GPIO4_3			RC_ATESTSEL2		IO	none	
AUDIO_PA4	DVDD18_AON	AUDIO_PA4			GPIO4_4			RC_CLK		IO	none	
AUDIO_PA5	DVDD18_AON	AUDIO_PA5			GPIO4_5			RC_READY		IO	none	
AUDIO_PA6	DVDD18_AON	AUDIO_PA6			GPIO4_6			RC_RSTEN		IO	none	
AUDIO_PA7	DVDD18_AON	AUDIO_PA7			GPIO4_7			EFUSE_PRELOAD_DONE		IO	none	
AUDIO_PA8	DVDD18_AON	AUDIO_PA8			GPIO4_8			RC_EN		IO	none	
AUDIO_PA9	DVDD18_AON	AUDIO_PA9			GPIO4_9			RC_MODE		IO	none	
AUDIO_PA10	DVDD18_AON	AUDIO_PA10			GPIO4_10			RC_FCAL_0		IO	none	
AUDIO_PA11	DVDD18_AON	AUDIO_PA11			GPIO4_11			RC_FCAL_1		IO	none	
AUDIO_PA12	DVDD18_AON	AUDIO_PA12			GPIO4_12			RC_FCAL_2		IO	none	
AUDIO_PA13	DVDD18_AON	AUDIO_PA13			GPIO4_13			RC_FCAL_3		IO	none	
AUDIO_PA14	DVDD18_AON	AUDIO_PA14			GPIO4_14			RC_FCAL_4		IO	none	
AUDIO_PA15	DVDD18_AON	AUDIO_PA15			GPIO4_15			RC_FCAL_5		IO	none	
AUDIO_PA16	DVDD18_AON	AUDIO_PA16			GPIO4_16			RC_FCAL_6		IO	none	
AUDIO_PA17	DVDD18_AON	AUDIO_PA17			GPIO4_17			RC_FCAL_7		IO	none	
AUDIO_PA27	DVDD18_AON	AUDIO_PA27			GPIO4_18			RC_FCAL_8		IO	none	
AUDIO_PA28	DVDD18_AON	AUDIO_PA28			GPIO4_19			RC_FCAL_9		IO	none	
AUDIO_PA29	DVDD18_AON	AUDIO_PA29			GPIO4_20			RC_FCAL_10		IO	none	
AUDIO_PA30	DVDD18_AON	AUDIO_PA30	SE_RSTN		GPIO4_21			RC_FCAL_11		IO	none	
ADC_VIN_CH0_P	AVDD18_ADC	ADC_VIN_CH0_P								AI	N.A.	
ADC_VIN_CH1_P	AVDD18_ADC	ADC_VIN_CH1_P								AI	N.A.	
ADC_VIN_CH2_P	AVDD18_ADC	ADC_VIN_CH2_P								AI	N.A.	
ADC_VIN_CH3_P	AVDD18_ADC	ADC_VIN_CH3_P								AI	N.A.	
ADC_VIN_CH4_P	AVDD18_ADC	ADC_VIN_CH4_P								AI	N.A.	
ADC_VIN_CH5_P	AVDD18_ADC	ADC_VIN_CH5_P								AI	N.A.	
ADC_VIN_CH6_P	AVDD18_ADC	ADC_VIN_CH6_P								AI	N.A.	
ADC_VIN_CH7_P	AVDD18_ADC	ADC_VIN_CH7_P								AI	N.A.	
ADC_VREF	AVDD18_ADC	ADC_VREF								AI	N.A.	
ADC_AGNDREF	AVDD18_ADC	ADC_AGNDREF								AI	N.A.	
ADC_VBG	AVDD18_ADC	ADC_VBG								AI	N.A.	
ADC_DISLVL	AVDD18_ADC	ADC_DISLVL								AI	N.A.	
PVT_AN_IO_0	AVDD18_ADC	PVT_AN_IO_0								AO	N.A.	
PVT_AN_IO_1	AVDD18_ADC	PVT_AN_IO_1								AO	N.A.	
PVT_VIN_HI_0	AVDD18_ADC	PVT_VIN_HI_0								AI	N.A.	
PVT_VIN_LO_0	AVDD18_ADC	PVT_VIN_LO_0								AI	N.A.	
RC_ATEST_OUT	AVDD18_ADC	RC_ATEST_OUT								AO	N.A.	
QSPI1_SCLK	DVDD18_AP	QSPI1_SCLK	ISO7816_DET		GPIO0_0	EFUSE_SPI_CLK		EFUSE_SPI_CLK		O	none	
QSPI1_CSN0	DVDD18_AP	QSPI1_SSN0		I2C5_SCL	GPIO0_1	EFUSE_SPI_NSS		EFUSE_SPI_NSS		O	none	
QSPI1_D0_MOSI	DVDD18_AP	QSPI1_M0_MOSI	ISO7816_CVCC_EN	I2C5_SDA	GPIO0_2	EFUSE_SPI_SI		EFUSE_SPI_SI		IO	none	
QSPI1_D1_MISO	DVDD18_AP	QSPI1_M1_MISO	ISO7816_CLK		GPIO0_3	EFUSE_SPI_SO		EFUSE_SPI_SO		IO	none	
QSPI1_D2_WP	DVDD18_AP	QSPI1_M2_WP	ISO7816_RST	UART5_TXD	GPIO0_4	EFUSE_BUSY		EFUSE_BUSY		IO	none	
QSPI1_D3_HOLD	DVDD18_AP	QSPI1_M3_HOLD	ISO7816_DAT	UART5_RXD	GPIO0_5					IO	none	
I2C0_SCL	DVDD18_AP	I2C0_SCL			GPIO0_6			USB3_DRD_JTG_TCLK		IO	PU	
I2C0_SDA	DVDD18_AP	I2C0_SDA			GPIO0_7			USB3_DRD_JTG_TRST		IO	PU	
I2C1_SCL	DVDD18_AP	I2C1_SCL			GPIO0_8			USB3_DRD_JTG_TDI		IO	PU	
I2C1_SDA	DVDD18_AP	I2C1_SDA			GPIO0_9			USB3_DRD_JTG_TMS		IO	PU	
UART1_TXD	DVDD18_AP	UART1_TXD			GPIO0_10			USB3_DRD_JTG_TDO		O	none	
UART1_RXD	DVDD18_AP	UART1_RXD			GPIO0_11					I	none	
UART4_TXD	DVDD18_AP	UART4_TXD			GPIO0_12					O	none	
UART4_RXD	DVDD18_AP	UART4_RXD			GPIO0_13					I	none	
UART4_CTSN	DVDD18_AP	UART4_CTSN			GPIO0_14					O	none	
UART4_RTSN	DVDD18_AP	UART4_RTSN			GPIO0_15					I	none	
UART3_TXD	DVDD18_AP	CHIP_DBG_TXD	UART3_TXD		GPIO0_16			CHIP_DBG_TXD		O	none	
UART3_RXD	DVDD18_AP	CHIP_DBG_RXD	UART3_RXD		GPIO0_17			CHIP_DBG_RXD		I	none	
GPIO0_18	DVDD18_AP	GPIO0_18	I2C4_SCL							IO	none	
GPIO0_19	DVDD18_AP	GPIO0_19	I2C4_SDA							IO	none	
GPIO0_20	DVDD18_AP	GPIO0_20	UART3_TXD	UART3_IR_OUT						IO	none	
GPIO0_21	DVDD18_AP	GPIO0_21	UART3_RXD	UART3_IR_IN		DPU_COLOR_0	DPU1_COLOR_0			IO	none	
GPIO0_22	DVDD18_AP	GPIO0_22	DSP0_JTG_TRST	I2C4_SCL		DPU_COLOR_1	DPU1_COLOR_1	CHIP_DBG_SEL		IO	none	
GPIO0_23	DVDD18_AP	GPIO0_23	DSP0_JTG_TMS	I2C4_SDA		DPU_COLOR_2	DPU1_COLOR_2	CHIP_DBG_SCLK		IO	none	
GPIO0_24	DVDD18_AP	GPIO0_24	DSP0_JTG_TDI	QSPI1_SSN1		DPU_COLOR_3	DPU1_COLOR_3	CHIP_DBG_CSN		IO	none	
GPIO0_25	DVDD18_AP	GPIO0_25	DSP0_JTG_TDO			DPU_COLOR_4	DPU1_COLOR_4	CHIP_DBG_MOSI		IO	none	
GPIO0_26	DVDD18_AP	GPIO0_26	DSP0_JTG_TCLK			DPU_COLOR_5	DPU1_COLOR_5	CHIP_DBG_MISO		IO	none	
GPIO0_27	DVDD18_AP	GPIO0_27		I2C1_SCL		DPU_COLOR_6	DPU1_COLOR_6			IO	none	
GPIO0_28	DVDD18_AP	GPIO0_28		I2C1_SDA		DPU_COLOR_7	DPU1_COLOR_7			IO	none	
GPIO0_29	DVDD18_AP	GPIO0_29				DPU_COLOR_8	DPU1_COLOR_8			O	none	
GPIO0_30	DVDD18_AP	GPIO0_30				DPU_COLOR_9	DPU1_COLOR_9	TRNG_CLK_OUT		IO	none	
GPIO0_31	DVDD18_AP	GPIO0_31				DPU_COLOR_10	DPU1_COLOR_10	TRNG_TST_RDDQ		IO	none	
GPIO1_0	DVDD18_AP	GPIO1_0	DSP1_JTG_TRST			DPU_COLOR_11	DPU1_COLOR_11	DDRPHY_DTO_0		IO	none	
GPIO1_1	DVDD18_AP	GPIO1_1	DSP1_JTG_TMS			DPU_COLOR_12	DPU1_COLOR_12	DDRPHY_DTO_1		IO	none	
GPIO1_2	DVDD18_AP	GPIO1_2	DSP1_JTG_TDI			DPU_COLOR_13	DPU1_COLOR_13	CSI2X2_ALIGN		IO	none	
GPIO1_3	DVDD18_AP	GPIO1_3	DSP1_JTG_TDO			DPU_COLOR_14	DPU1_COLOR_14	CSI2X2_PHASE_0		IO	none	
GPIO1_4	DVDD18_AP	GPIO1_4	DSP1_JTG_TCLK			DPU_COLOR_15	DPU1_COLOR_15	CSI2X2_PHASE_1		IO	none	
GPIO1_5	DVDD18_AP	GPIO1_5				DPU_COLOR_16	DPU1_COLOR_16	MIPI_CSI2_CONT_AND		IO	none	
GPIO1_6	DVDD18_AP	GPIO1_6				DPU_COLOR_17	DPU1_COLOR_17	MIPI_CSI2_CONT_OR		IO	none	
GPIO1_7	DVDD18_AP	GPIO1_7	QSPI1_SCLK			DPU_COLOR_18	DPU1_COLOR_18	MIPI_CSI2_CONT_EN		IO	none	
GPIO1_8	DVDD18_AP	GPIO1_8	QSPI1_SSN0			DPU_COLOR_19	DPU1_COLOR_19	MIPI_CSI2_TEST_OR		IO	none	
GPIO1_9	DVDD18_AP	GPIO1_9	QSPI1_M0_MOSI			DPU_COLOR_20	DPU1_COLOR_20	MIPI_CSI2X2_A_CONT_AND		IO	none	
GPIO1_10	DVDD18_AP	GPIO1_10	QSPI1_M1_MISO			DPU_COLOR_21	DPU1_COLOR_21	MIPI_CSI2X2_A_CONT_OR		IO	none	
GPIO1_11	DVDD18_AP	GPIO1_11	QSPI1_M2_WP			DPU_COLOR_22	DPU1_COLOR_22	MIPI_CSI2X2_A_CONT_EN		IO	none	
GPIO1_12	DVDD18_AP	GPIO1_12	QSPI1_M3_HOLD			DPU_COLOR_23	DPU1_COLOR_23	MIPI_CSI2X2_A_TEST_OR		IO	none	
GPIO1_13	DVDD18_AP	GPIO1_13	UART4_TXD			DPU_COLOR_EN	DPU1_COLOR_EN	MIPI_CSI2X2_B_CONT_AND		IO	none	
GPIO1_14	DVDD18_AP	GPIO1_14	UART4_RXD			DPU_HSYNC	DPU1_HSYNC	MIPI_CSI2X2_B_CONT_OR		IO	none	
GPIO1_15	DVDD18_AP	GPIO1_15	UART4_CTSN			DPU_VSYNC	DPU1_VSYNC	MIPI_CSI2X2_B_CONT_EN		IO	none	
GPIO1_16	DVDD18_AP	GPIO1_16	UART4_RTSN			DPU_PIXELCLK	DPU1_PIXELCLK	MIPI_CSI2X2_B_TEST_OR		IO	none	
CLK_OUT_0	DVDD18_AP	BOOT_SEL0	CLK_OUT_0		GPIO1_17					I	none	
CLK_OUT_1	DVDD18_AP	BOOT_SEL1	CLK_OUT_1		GPIO1_18					I	none	
CLK_OUT_2	DVDD18_AP	BOOT_SEL2	CLK_OUT_2		GPIO1_19					I	none	
CLK_OUT_3	DVDD18_AP	BOOT_SEL3	CLK_OUT_3		GPIO1_20					I	none	
GPIO1_21	DVDD18_AP	GPIO1_21		ISP0_FL_TRIG	GPIO1_21			MIPI_DSI0_BISTON		IO	none	
GPIO1_22	DVDD18_AP	GPIO1_22		ISP0_FLASH_TRIG	GPIO1_22			MIPI_DSI1_CONT_AND		IO	none	
GPIO1_23	DVDD18_AP	GPIO1_23		ISP0_PRELIGHT_TRIG	GPIO1_23			MIPI_DSI1_CONT_OR		IO	none	
GPIO1_24	DVDD18_AP	GPIO1_24		ISP0_SHUTTER_TRIG	GPIO1_24			MIPI_DSI1_CONT_EN		IO	none	
GPIO1_25	DVDD18_AP	GPIO1_25		ISP0_SHUTTER_OPEN	GPIO1_25			MIPI_DSI1_TEST_OR		IO	none	
GPIO1_26	DVDD18_AP	GPIO1_26		ISP1_FL_TRIG				MIPI_DSI1_BISTON		IO	none	
GPIO1_27	DVDD18_AP	GPIO1_27		ISP1_FLASH_TRIG				MIPI_DSI0_CONT_AND		IO	none	
GPIO1_28	DVDD18_AP	GPIO1_28		ISP1_PRELIGHT_TRIG				MIPI_DSI0_CONT_OR		IO	none	
GPIO1_29	DVDD18_AP	GPIO1_29		ISP1_SHUTTER_TRIG				MIPI_DSI0_TEST_OR		IO	none	
GPIO1_30	DVDD18_AP	GPIO1_30		ISP1_SHUTTER_OPEN				MIPI_DSI0_CONT_EN		IO	none	
UART0_TXD	DVDD18_AP	UART0_TXD			GPIO2_0					O	none	
UART0_RXD	DVDD18_AP	UART0_RXD			GPIO2_1					I	none	
QSPI0_SCLK	DVDD18_AP	QSPI0_SCLK	PWM0	I2S_SDA0	GPIO2_2					O	none	
QSPI0_CSN0	DVDD18_AP	QSPI0_SSN0	PWM1	I2S_SDA1	GPIO2_3					O	none	
QSPI0_CSN1	DVDD18_AP	QSPI0_SSN1	PWM2	I2S_SDA2	GPIO2_4					O	none	
QSPI0_D0_MOSI	DVDD18_AP	QSPI0_M0_MOSI	PWM3	I2S_SDA3	GPIO2_5			PLL_TEST_SEL_0		IO	none	
QSPI0_D1_MISO	DVDD18_AP	QSPI0_M1_MISO	PWM4	I2S_MCLK	GPIO2_6			PLL_TEST_SEL_1		IO	none	
QSPI0_D2_WP	DVDD18_AP	QSPI0_M2_WP	PWM5	I2S_SCLK	GPIO2_7			PLL_TEST_SEL_2		IO	none	
QSPI0_D3_HOLD	DVDD18_AP	QSPI0_M3_HOLD		I2S_WS	GPIO2_8			PLL_TEST_SEL_3		IO	none	
I2C2_SCL	DVDD18_AP	I2C2_SCL	UART2_TXD		GPIO2_9			C910_RSTN		IO	none	
I2C2_SDA	DVDD18_AP	I2C2_SDA	UART2_RXD		GPIO2_10			PLL_TEST_CLK		IO	none	
I2C3_SCL	DVDD18_AP	I2C3_SCL			GPIO2_11			PLL_TEST_EN		IO	none	
I2C3_SDA	DVDD18_AP	I2C3_SDA			GPIO2_12			PLL_ALLDSKEW_LOCK		IO	none	
GPIO2_13	DVDD18_AP	SPI_SSN1	SPI_SSN1					PLL_ALL_DSKEW_RDY		IO	none	
SPI_SCLK	DVDD18_AP	SPI_SCLK	UART2_TXD	UART2_IR_OUT	GPIO2_14			PLL_ALL_DSKEW_PASS		O	none	
SPI_CSN	DVDD18_AP	SPI_SSN0	UART2_RXD	UART2_IR_IN	GPIO2_15			PLL_DSKEW_CAL_OUT_0		O	none	
SPI_MOSI	DVDD18_AP	SPI_MOSI			GPIO2_16			PLL_DSKEW_CAL_OUT_1		O	none	
SPI_MISO	DVDD18_AP	SPI_MISO			GPIO2_17			PLL_DSKEW_CAL_OUT_2		I	none	
GPIO2_18	DVDD18_AP	GPIO2_18	GMAC1_TX_CLK					PLL_DSKEW_CAL_OUT_3		IO	none	
GPIO2_19	DVDD18_AP	GPIO2_19	GMAC1_RX_CLK					PLL_DSKEW_CAL_OUT_4		IO	none	
GPIO2_20	DVDD18_AP	GPIO2_20	GMAC1_TXEN					PLL_DSKEW_CAL_OUT_5		IO	none	
GPIO2_21	DVDD18_AP	GPIO2_21	GMAC1_TXD0					PLL_DSKEW_CAL_OUT_6		IO	none	
GPIO2_22	DVDD18_AP	GPIO2_22	GMAC1_TXD1					PLL_DSKEW_CAL_OUT_7		IO	none	
GPIO2_23	DVDD18_AP	GPIO2_23	GMAC1_TXD2					PLL_DSKEW_CAL_OUT_8		IO	none	
GPIO2_24	DVDD18_AP	GPIO2_24	GMAC1_TXD3					PLL_DSKEW_CAL_OUT_9		IO	none	
GPIO2_25	DVDD18_AP	GPIO2_25	GMAC1_RXDV					PLL_DSKEW_CAL_OUT_10		IO	none	
SDIO0_WPRTN	DVDD18_AP	SDIO0_WPRTN			GPIO2_26			PLL_DSKEW_CAL_OUT_11		I	none	
SDIO0_DETN	DVDD18_AP	SDIO0_DETN			GPIO2_27			PLL_ALL_PASS		I	none	
SDIO1_WPRTN	DVDD18_AP	SDIO1_WPRTN			GPIO2_28			PLL_ALL_FREQ_PASS		I	none	
SDIO1_DETN	DVDD18_AP	SDIO1_DETN			GPIO2_29			PLL_ALL_LOCK		I	none	
GPIO2_30	DVDD18_AP	GPIO2_30	GMAC1_RXD0					PLL_DSKEW_LOCK		IO	none	
GPIO2_31	DVDD18_AP	GPIO2_31	GMAC1_RXD1					PLL_DSKEW_RDY		IO	none	
GPIO3_0	DVDD18_AP	GPIO3_0	GMAC1_RXD2					PLL_FREQ_PASS		IO	none	
GPIO3_1	DVDD18_AP	GPIO3_1	GMAC1_RXD3					PLL_LOCK		IO	none	
GPIO3_2	DVDD18_AP	GPIO3_2	PWM0					HDMI_DTB0		IO	none	
GPIO3_3	DVDD18_AP	GPIO3_3	PWM1					HDMI_DTB1		IO	none	
HDMI_SCL	DVDD18_AP	HDMI_SCL	PWM2		GPIO3_4					IO	PU	
HDMI_SDA	DVDD18_AP	HDMI_SDA	PWM3		GPIO3_5					IO	PU	
HDMI_CTS	DVDD18_AP	HDMI_CTS			GPIO3_6					I	PU	
GMAC0_TX_CLK	DVDD18_AP	GMAC0_TX_CLK			GPIO3_7					O	none	
GMAC0_RX_CLK	DVDD18_AP	GMAC0_RX_CLK			GPIO3_8					I	none	
GMAC0_TXEN	DVDD18_AP	GMAC0_TXEN	UART2_TXD		GPIO3_9					O	none	
GMAC0_TXD0	DVDD18_AP	GMAC0_TXD0	UART2_RXD		GPIO3_10					O	none	
GMAC0_TXD1	DVDD18_AP	GMAC0_TXD1	UART0_TXD		GPIO3_11					O	none	
GMAC0_TXD2	DVDD18_AP	GMAC0_TXD2	UART0_RXD		GPIO3_12					O	none	
GMAC0_TXD3	DVDD18_AP	GMAC0_TXD3	I2C2_SDA		GPIO3_13					O	none	
GMAC0_RXDV	DVDD18_AP	GMAC0_RXDV	I2C2_SCL		GPIO3_14					I	none	
GMAC0_RXD0	DVDD18_AP	GMAC0_RXD0	I2C3_SCL		GPIO3_15					I	none	
GMAC0_RXD1	DVDD18_AP	GMAC0_RXD1	I2C3_SDA		GPIO3_16					I	none	
GMAC0_RXD2	DVDD18_AP	GMAC0_RXD2	SPI_SCLK		GPIO3_17					I	none	
GMAC0_RXD3	DVDD18_AP	GMAC0_RXD3	SPI_SSN0		GPIO3_18					I	none	
GMAC0_MDC	DVDD18_AP	GMAC0_MDC	SPI_MOSI	GMAC1_MDC	GPIO3_19					IO	none	
GMAC0_MDIO	DVDD18_AP	GMAC0_MDIO	SPI_MISO	GMAC1_MDIO	GPIO3_20					IO	none	
GMAC0_COL	DVDD18_AP	GMAC0_COL	PWM4		GPIO3_21					I	none	
GMAC0_CRS	DVDD18_AP	GMAC0_CRS	PWM5		GPIO3_22					I	none	

AUDIO PAD SUBSYS PINMUX

Audio PAD	ALT1	ALT2	ALT3	ALT4
AUDIO_PA0	VAD_DIN0	VAD_PDM_DIN0	SPDIF0_DOUT	I2S_8CH_SDA2
AUDIO_PA1	VAD_DIN1	VAD_PDM_DIN1	SPDIF0_DIN	I2S_8CH_SDA3
AUDIO_PA2	VAD_WS		SPDIF1_DOUT	I2S_8CH_WSCLK
AUDIO_PA3	VAD_SCLK	VAD_PDM_CLK	SPDIF1_DIN	I2S_8CH_BCLK
AUDIO_PA4	VAD_DIN2	VAD_PDM_DIN2	UART_RX	I2S_8CH_SDA0
AUDIO_PA5	VAD_DIN3	VAD_PDM_DIN3	UART_TX	I2S_8CH_SDA1
AUDIO_PA6	I2C0_CLK	T_CPU_CLK	I2C1_CLK	UART_RX
AUDIO_PA7	I2C0_DATA	T_AXI_CLK	I2C1_DATA	UART_TX
AUDIO_PA8	CLK_12M	T_AHB_CLK	VAD_MCLK	I2S_8CH_MCLK
AUDIO_PA9	I2S0_WSCLK	T_APB_CLK	TDM_DAT	I2S1_WSCLK
AUDIO_PA10	I2S0_MCLK	T_UART_CLK	TDM_BCLK	I2S1_BCLK
AUDIO_PA11	I2S0_SDA	T_AUDIO_CLK	TDM_WSCLK	I2S1_DIN
AUDIO_PA12	I2S0_BCLK	I2C1_CLK	UART_TX	I2S1_DOUT
AUDIO_PA13	I2S1_MCLK	I2C1_DATA	VAD_MCLK	UART_RX
AUDIO_PA14	I2S1_WSCLK	VAD_PDM_DIN0	VAD_DIN0	I2S0_WSCLK
AUDIO_PA15	I2S1_BCLK	VAD_PDM_DIN1	VAD_DIN1	CLK_12M
AUDIO_PA16	I2S1_DIN	VAD_PDM_CLK	VAD_WS	I2C1_CLK
AUDIO_PA17	I2S1_DOUT	VAD_PDM_DIN2	VAD_SCLK	I2C1_DATA
AUDIO_PA18	I2S2_WSCLK	TDM_DAT	VAD_DIN2	UART_CTS
AUDIO_PA19	I2S2_BCLK	TDM_BCLK	VAD_DIN3	UART_RTS
AUDIO_PA20	I2S2_MCLK	TDM_WSCLK	I2C1_CLK	I2C1_DATA
AUDIO_PA21	I2S2_DIN	SPDIF0_DIN	I2C1_DATA	I2C1_CLK
AUDIO_PA22	I2S2_DOUT	SPDIF0_DOUT	CLK_12M	
AUDIO_PA23	UART_TX	SPDIF1_DOUT	SPDIF0_DOUT	
AUDIO_PA24	UART_RX	SPDIF1_DIN	SPDIF0_DIN	I2S_8CH_MCLK
AUDIO_PA25	I2S_8CH_SDA2	UART_RTS	SPDIF0_DIN	I2C1_DATA
AUDIO_PA26	I2S_8CH_SDA3	UART_CTS	SPDIF0_DOUT	I2C1_CLK
AUDIO_PA27	I2S_8CH_WSCLK	TDM_WSCLK	SPDIF1_DIN	I2S0_WSCLK
AUDIO_PA28	I2S_8CH_BCLK	TDM_BCLK	SPDIF1_DOUT	I2S0_BCLK
AUDIO_PA29	I2S_8CH_SDA0	I2C0_CLK	TDM_DAT	I2S0_SDA
AUDIO_PA30	I2S_8CH_SDA1	I2C0_DATA		I2S0_MCLK

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		Drawn Date: 2021-09-09	
The name of PCB: Fullmask Validation Board	Size: A3	Checked by: checked by	
Title: Pinmux Table	Rev: A12	Checked Date: Checked date	
Date: Monday, March 28, 2022	Sheet: 26 of 30		