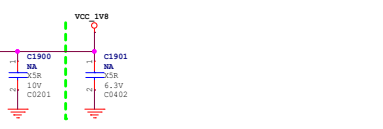


# RK3528\_D (VCCIO0 Domain)

U1000D

**VCCIO0 Domain**  
Operating Voltage=1.8V/3.3V

I2C3_SCL_M0	SCR_DATA_M0	PCIE_CLKREQN_M1	SDIO0_D0	GPIO1_A0_4	AB2
I2C3_SDA_M0	SCR_DATA_M0	PCIE_WAKEN_M1	SDIO0_D1	GPIO1_A1_4	Y3
PWM0_M1	UART7_RX_M0	SCR_CLK_M0	PCIE_PERSTN_M1	SDIO0_D2	Y4
PWM1_M1	UART7_TX_M0	SCR_RSTN_M0	SDIO0_D3	GPIO1_A3_4	Y81
PWM2_M1	---	HSM_CLK_OUT_M1	SDIO0_CMD	GPIO1_A4_4	AB3
UART7_RTSN_M1	I2C3_SCL_M1	---	SDIO0_CLK	GPIO1_A5_4	AA3
UART7_CTSN_M1	I2C3_SDA_M1	---	SDIO0_DETN	GPIO1_A6_4	AA2
PWM2_M1	---	---	SDIO0_PWREN	GPIO1_A7_4	1B7
UART7_CTSN_M1	---	---	UART2_RX_M1	GPIO1_B0_4	1P7
UART7_RTSN_M1	---	---	UART2_TX_M1	GPIO1_B1_4	1B6
UART7_TX_M1	I2C5_SCL_M0	---	UART2_RTSN_M1	GPIO1_B2_4	1P6
UART7_RX_M1	I2C5_SDA_M0	---	UART2_CTSN_M1	GPIO1_B3_4	1P5
---	---	---	I2S0_MCLK_M1	GPIO1_B4_4	1B5
---	---	---	I2S0_SCLK_M1	GPIO1_B5_4	1B8
---	---	---	I2S0_LRCK_M1	GPIO1_B6_4	1B8
---	---	---	I2S0_BDI_M1	GPIO1_B7_4	110
---	---	---	I2S0_SDI_M1	GPIO1_C0_4	1B8
---	---	---	SP11_CSN1	GPIO1_C1_4	1B7
PWM7_M1	---	---	SP11_CSN1	GPIO1_C2_4	1B4
PWM6_M1	---	---	SPDIF_TX_M1	GPIO1_C3_4	Y5



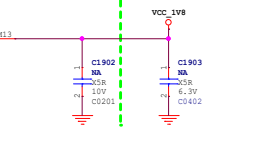
**Note:**  
Caps of between dashed green lines and U1000 should be placed under the U1000 package. Other caps should be placed close to the U1000 package

# RK3528\_G (VCCIO3 Domain)

U1000G

**VCCIO3 Domain**  
Operating Voltage=1.8V/3.3V

TS10_D7	UART2_RX_M0	RGMII1_TXD1	GPIO3_A0_4	AA19
TS10_D6	UART2_TX_M0	RGMII1_TXD0	GPIO3_A1_4	Y18
TS10_D5	UART2_RTSN_M0	RGMII1_RXD0	GPIO3_A2_4	Y17
TS10_D4	UART2_CTSN_M0	RGMII1_RXD1	GPIO3_A3_4	AA18
UART6_CTSN	---	TS10_D3	GPIO3_A4_4	AA22
UART6_RTSN	---	TS10_D2	GPIO3_A5_4	Y20
PCIE_CLKREQN_M0	---	TS10_D1	GPIO3_A6_4	AA21
PCIE_WAKEN_M0	---	TS10_D0	GPIO3_A7_4	AA20
PCIE_PERSTN_M0	---	TS10_VALID	GPIO3_B0_4	Y19
---	---	TS10_VALID	GPIO3_B1_4	Y18
---	---	TS10_VALID	GPIO3_B2_4	Y15
---	---	TS10_VALID	GPIO3_B3_4	Y14
---	---	TS10_VALID	GPIO3_B4_4	Y16
---	---	TS10_VALID	GPIO3_B5_4	AB11
---	---	TS10_VALID	GPIO3_B6_4	AA17
---	---	TS10_VALID	GPIO3_B7_4	AB16
---	---	TS10_VALID	GPIO3_C0_4	AB16
---	---	TS10_VALID	GPIO3_C1_4	AA15
---	---	TS10_VALID	GPIO3_C2_4	AB19
---	---	TS10_VALID	GPIO3_C3_4	AB20
PWM6_M2	---	---	GPIO3_C4_4	AB15
PWM5_M1	---	---	GPIO3_C5_4	AB20



**Note:**  
Caps of between dashed green lines and U1000 should be placed under the U1000 package. Other caps should be placed close to the U1000 package

# RK3528\_H (VCCIO4 Domain)

U1000H

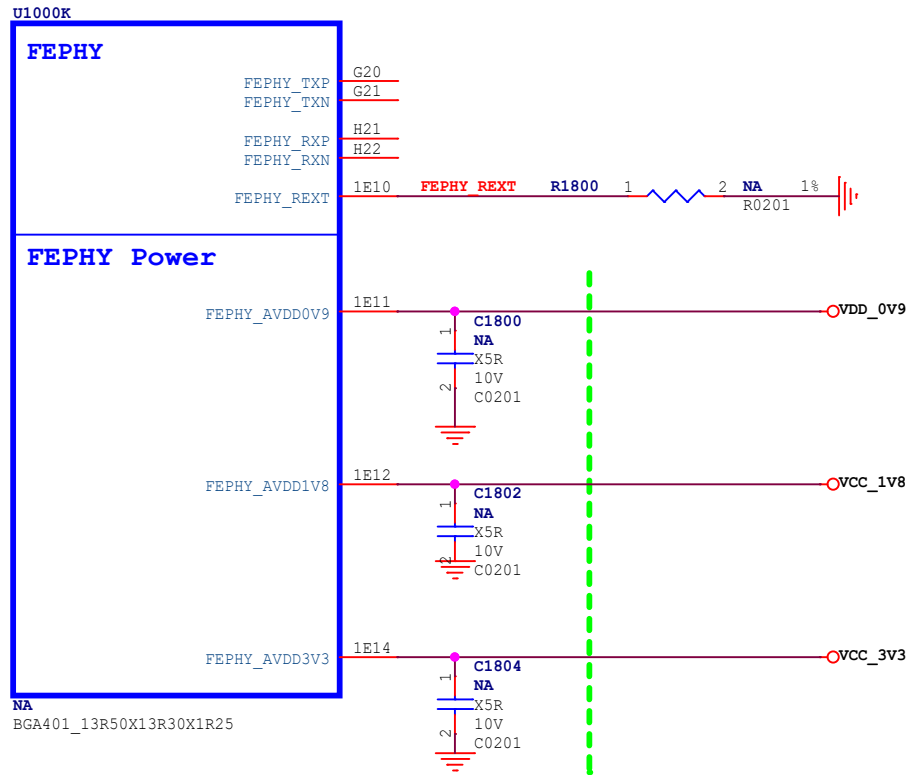
**VCCIO4 Domain**  
Operating Voltage=1.8V/3.3V

PWM_DEBOG	---	I2C0_SDA_M1	---	SPDIF_TX_M0	---	GPIO4_A0_4	B3
---	---	I2C0_SCL_M1	---	SDMMC0_PWREN	---	GPIO4_A1_4	B1
I2C1_SDA_M0	---	UART3_RX_M1	---	---	---	GPIO4_A2_4	D2
I2C1_SCL_M0	---	UART3_CTSN_M1	---	---	---	GPIO4_A3_4	D3
UART1_CTSN	---	---	---	---	---	GPIO4_A4_4	1M2
UART1_RTSN	---	---	---	---	---	GPIO4_A5_4	1P2
UART1_TX_M0	---	---	---	---	---	GPIO4_A6_4	1M1
UART1_RX_M0	---	---	---	---	---	GPIO4_A7_4	1P3
---	---	---	---	---	---	GPIO4_B0_4	1B2
---	---	---	---	---	---	GPIO4_B1_4	1B2
---	---	---	---	---	---	GPIO4_B2_4	1B3
---	---	---	---	---	---	GPIO4_B3_4	1M3
---	---	---	---	---	---	GPIO4_B4_4	B2
---	---	---	---	---	---	GPIO4_B5_4	B3
---	---	---	---	---	---	GPIO4_B6_4	1B1
PWM4_M0	---	---	---	---	---	GPIO4_B7_4	Y3
PWM5_M0	---	---	---	---	---	GPIO4_C0_4	Y2
PWM6_M0	---	---	---	---	---	GPIO4_C1_4	Y0
PWM7_M0	---	---	---	---	---	GPIO4_C2_4	Y3
PWM8_M0	---	---	---	---	---	GPIO4_C3_4	1N1
PWM9_M0	---	---	---	---	---	GPIO4_C4_4	Y1
PWM0_M0	---	---	---	---	---	GPIO4_C5_4	1M1
PWM1_M0	---	---	---	---	---	GPIO4_C6_4	1P1
PWM2_M0	---	---	---	---	---	GPIO4_C7_4	AA1
---	---	---	---	---	---	GPIO4_C8_4	Y3
---	---	---	---	---	---	GPIO4_D0_4	Y2



**Note:**  
Caps of between dashed green lines and U1000 should be placed under the U1000 package. Other caps should be placed close to the U1000 package

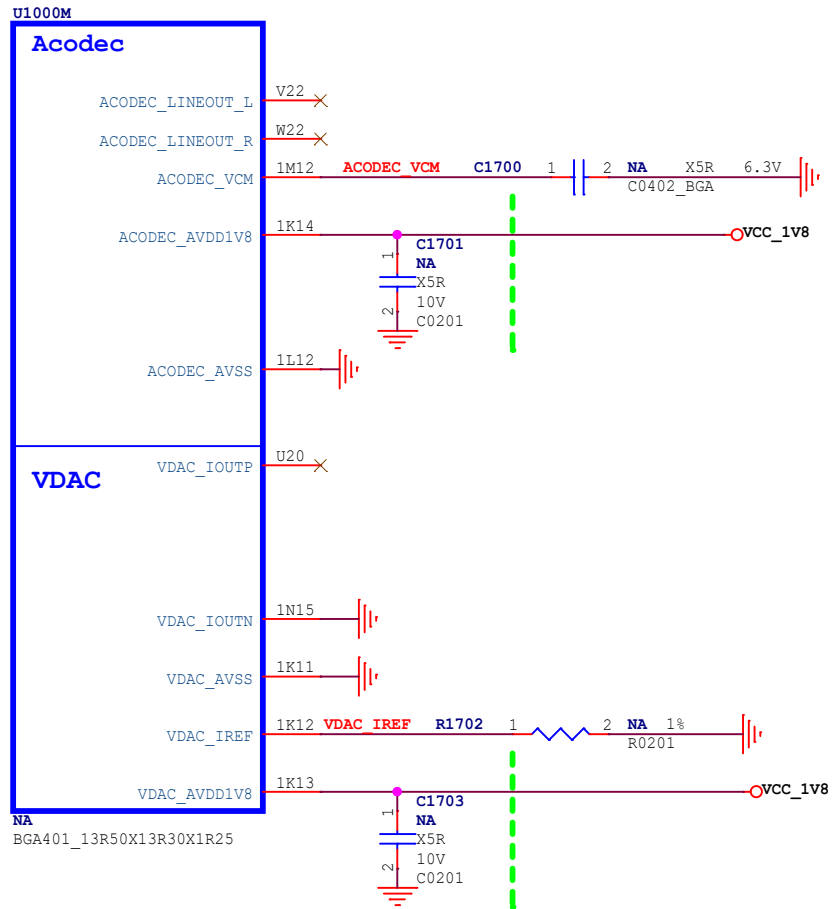
# RK3528\_K (Embed FEPHY)



## Note:

Caps of between dashed green lines and U1000 should be placed under the U1000 package.  
Other caps should be placed close to the U1000 package

# RK3528\_M (Acodec/VDAC)



**Note:**

Caps of between dashed green lines and U1000 should be placed under the U1000 package.  
Other caps should be placed close to the U1000 package

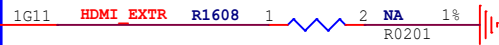
# RK3528\_L (HDMI PHY)

U1000L

## HDMI2.1 TMSD

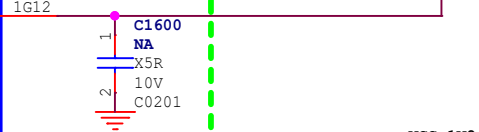
HDMI\_TX\_CLKN N21  
HDMI\_TX\_CLKP N20  
HDMI\_TX\_D0N M20  
HDMI\_TX\_D0P L20  
HDMI\_TX\_D1N K20  
HDMI\_TX\_D1P K21  
HDMI\_TX\_D2N J21  
HDMI\_TX\_D2P J22

HDMI\_REXT

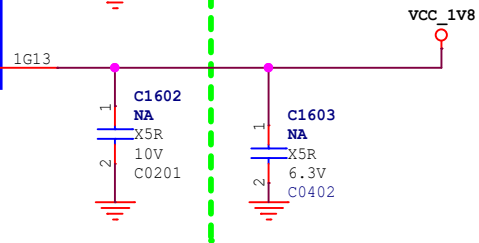


## HDMI PHY Power

HDMI\_TX\_DVDD0V9



HDMI\_TX\_AVDD1V8

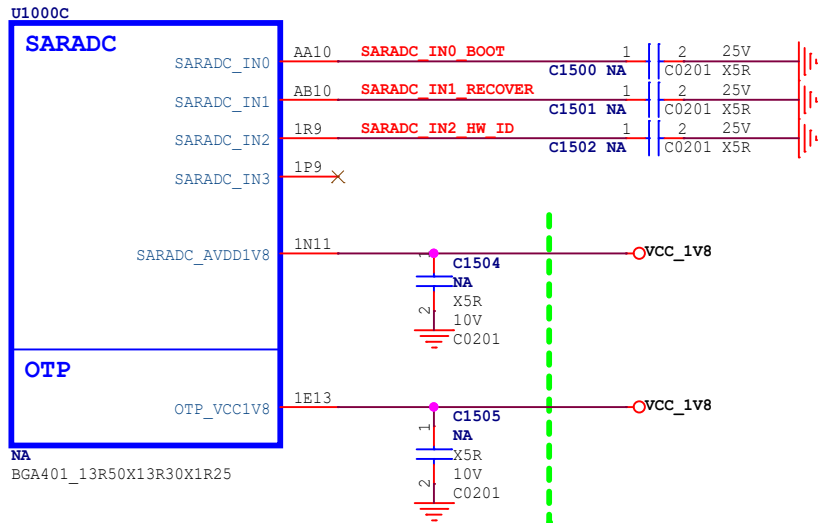


NA  
BGA401\_13R50X13R30X1R25

### Note:

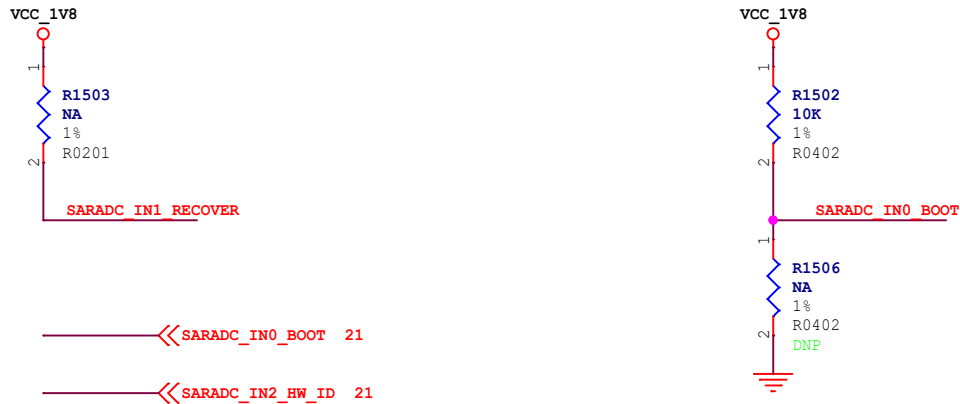
Caps of between dashed green lines and U1000 should be placed under the U1000 package.  
Other caps should be placed close to the U1000 package

# RK3528\_C (Saradc/OTP)



## Note:

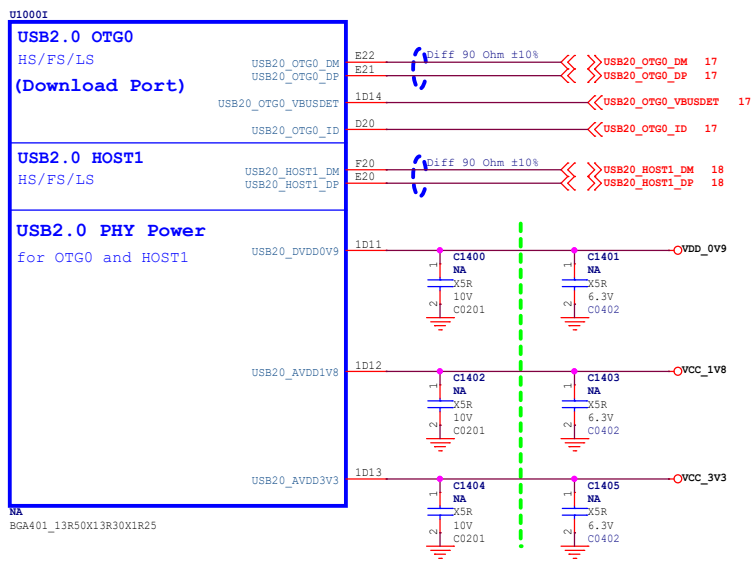
Caps of between dashed green lines and U1000 should be placed under the U1000 package. Other caps should be placed close to the U1000 package



## TABLE

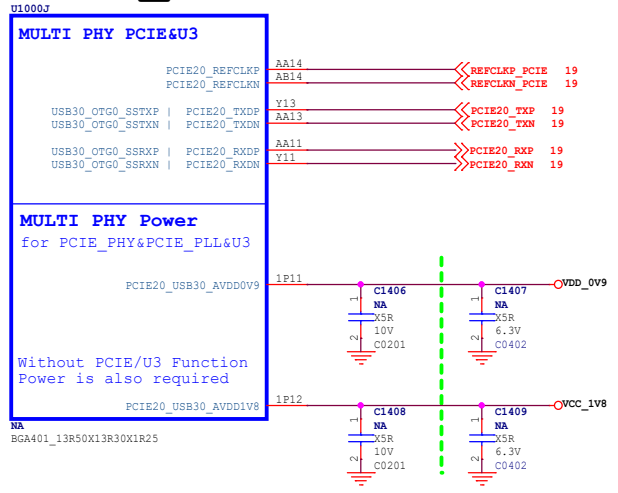
Item	Rup	Rdown	ADC	BOOT MODE
LEVEL1	DNP	100K	0	USB (Maskrom mode)
LEVEL2	100K	12K	114	
LEVEL3	100K	27K	228	FSPI--USB
LEVEL4	100K	51K	342	
LEVEL5	100K	82K	456	
LEVEL6	100K	120K	570	EMMC--USB
LEVEL7	100K	200K	683	EMMC--SD Card--USB
LEVEL8	100K	330K	796	SD Card--USB
LEVEL9	100K	820K	910	
LEVEL10	100K	DNP	1023	FSPI--EMMC--SD Card--USB

# RK3528\_I (USB2.0 OTG/HOST)



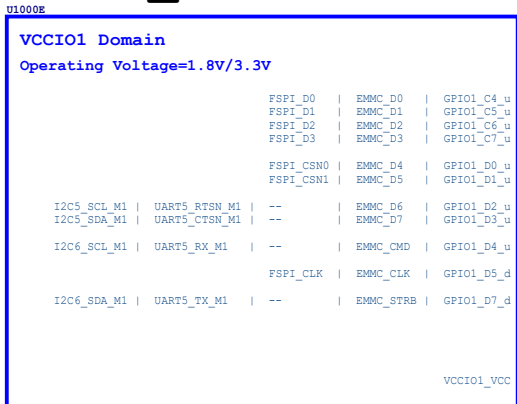
**Note:**  
Caps of between dashed green lines and U1000 should be placed under the U1000 package.  
Other caps should be placed close to the U1000 package

# RK3528\_J (PCIE2.0/U3 PHY)

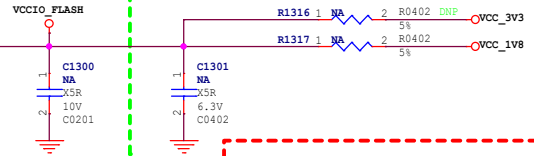


**Note:**  
Caps of between dashed green lines and U1000 should be placed under the U1000 package.  
Other caps should be placed close to the U1000 package

# RK3528\_E (VCCIO1 Domain)

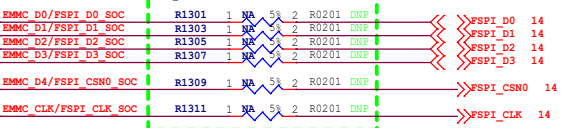


NA  
BGA401\_13R50X13R30X1R25



Default:eMMC

Option:SPI Flash

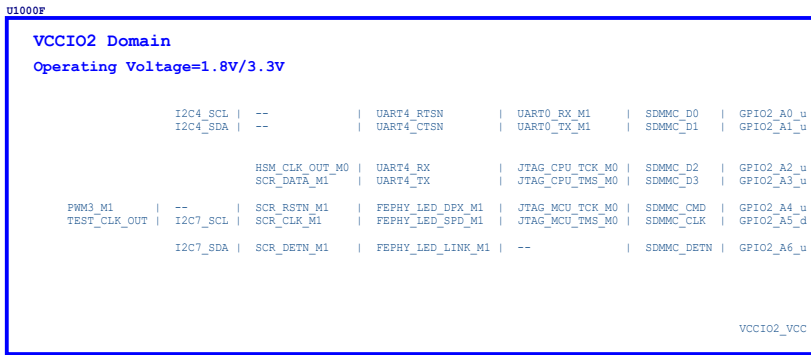


FSPI (Flexible Serial Peripheral Interface) is only used to connect SPI Flash/Memory devices. Do not use for connecting to other SPI devices.

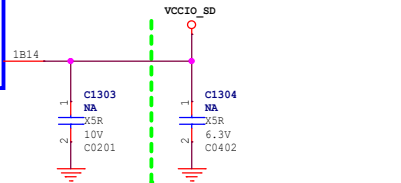
Default  
DiscretePower solution, power by VCC\_1V8  
PMIC solution, power by VCC1V8 EMMC, only 1.8V

**Note:**  
Caps of between dashed green lines and U1000 should be placed under the U1000 package.  
Other caps should be placed close to the U1000 package

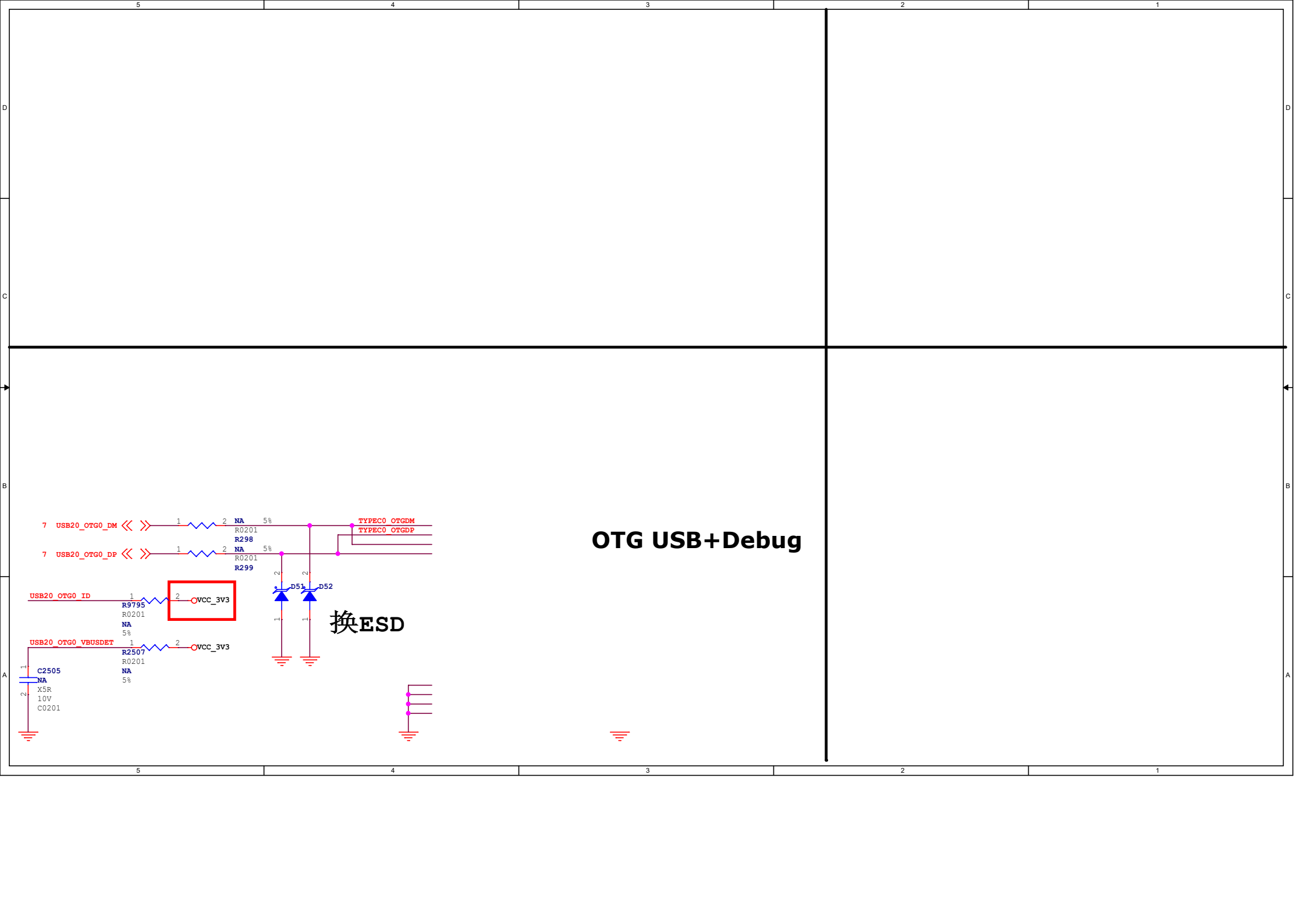
# RK3528\_F (VCCIO2 Domain)



NA  
BGA401\_13R50X13R30X1R25



**Note:**  
Caps of between dashed green lines and U1000 should be placed under the U1000 package.  
Other caps should be placed close to the U1000 package



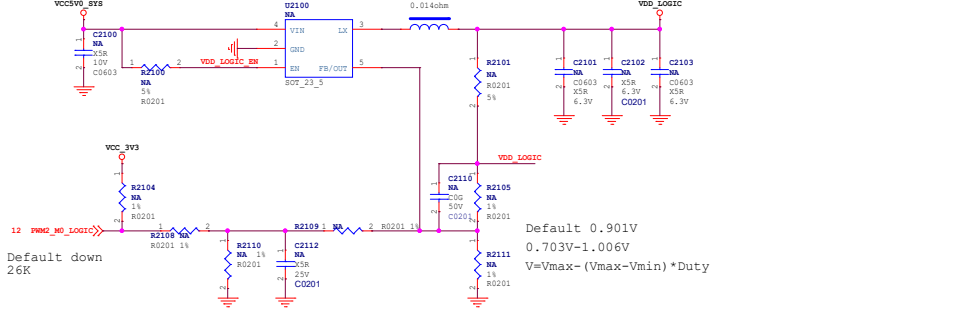
# OTG USB+Debug

换ESD



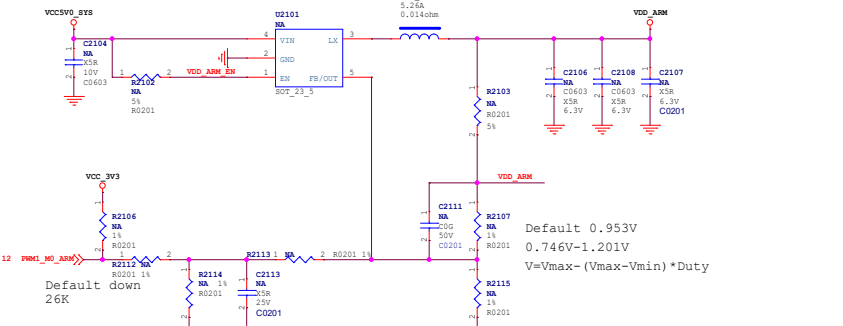
### VCC5V0\_SYS-->VDD\_LOGIC

#### Step 1



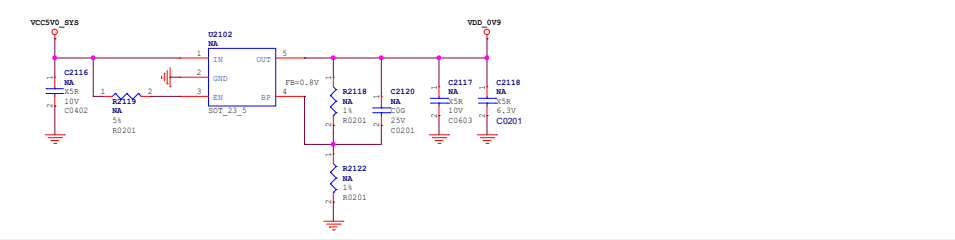
### VCC5V0\_SYS-->VDD\_ARM

#### Step 1



### VCC5V0\_SYS-->VDD\_0V9

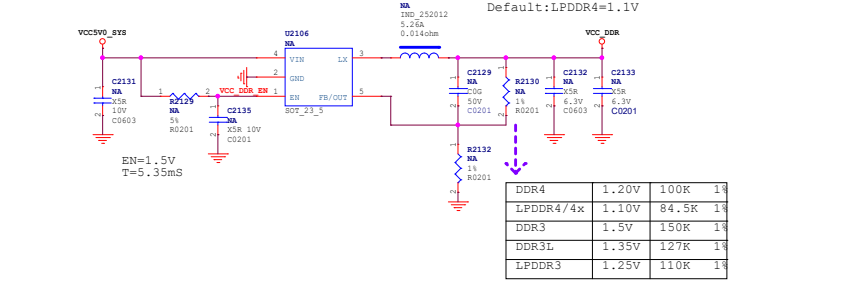
#### Step 1



Note:  
When LAYOUT, a star must be used,  
Branch to each load

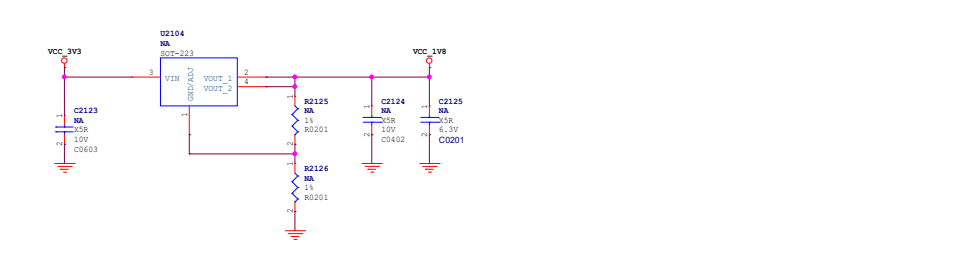
### VCC5V0\_SYS-->VCC\_DDR

#### Step 2



### VCC\_3V3->VCC\_1V8(LDO)

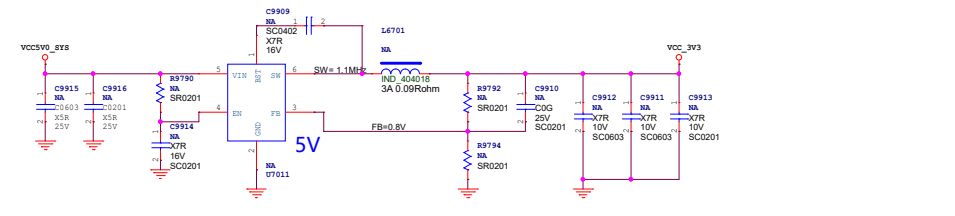
#### Step 2

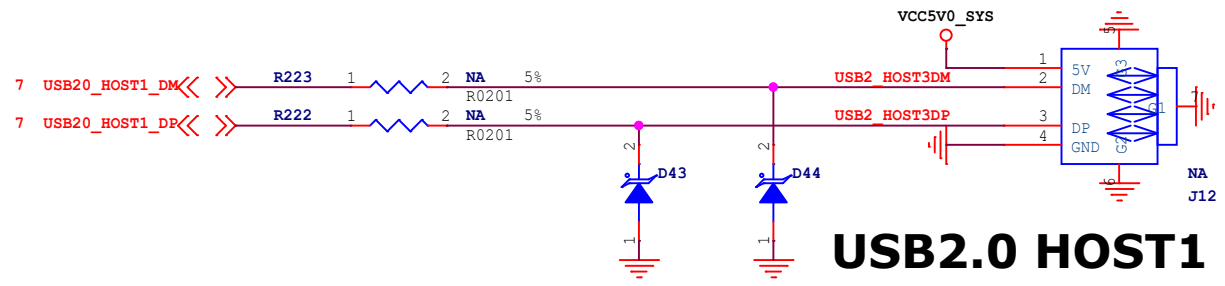


Note:  
When LAYOUT, a star must be used,  
Branch to each load

### VCC5V0\_SYS-->VCC\_3V3

#### Step 2



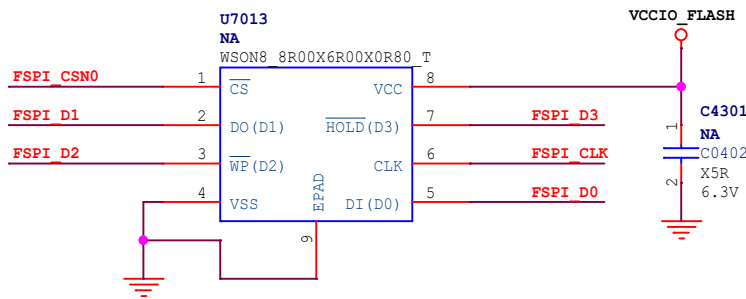
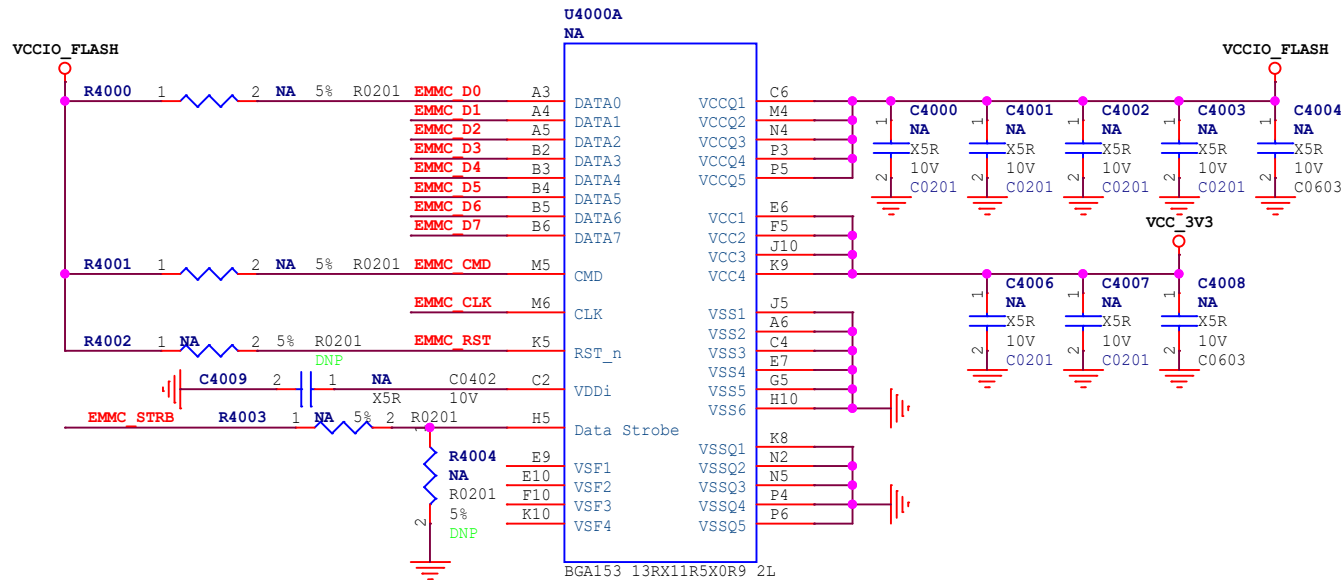
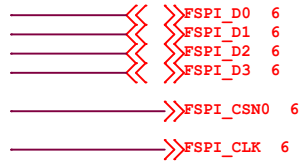
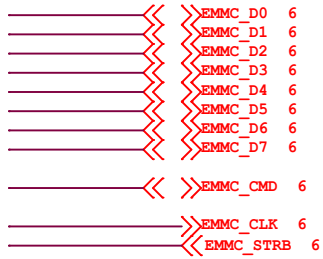


# USB2.0 HOST1

# EMMC

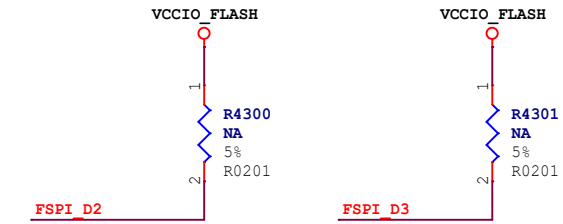
## FSPI

Default VCC = 1.8V

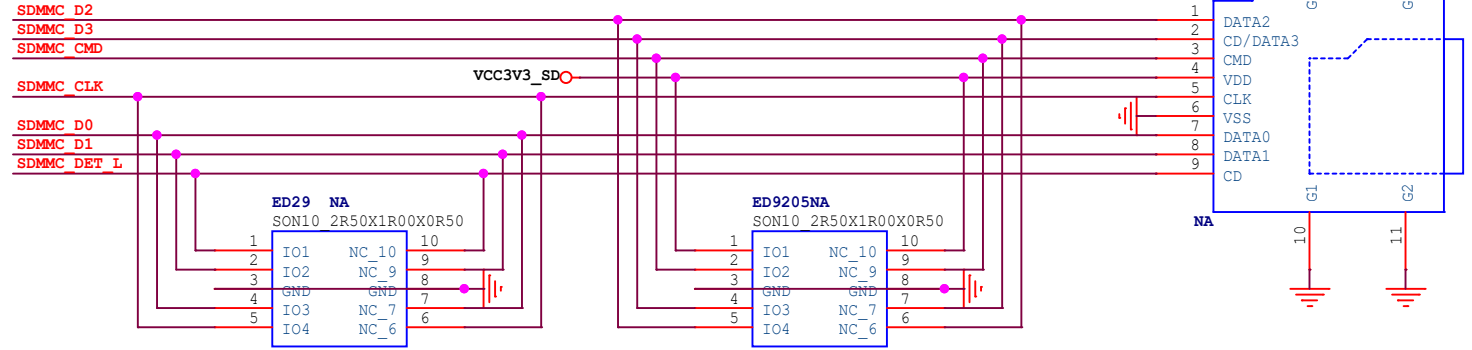
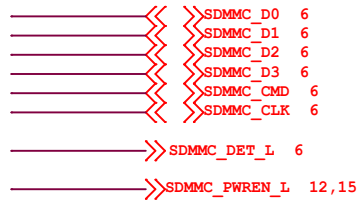


U4000B	NA	A7	E5	E8	G3	G10	K6	K7	P7	P10		
A2	NC2	REFU1	REFU2	REFU3	REFU4	REFU5	REFU6	REFU7	REFU8	REFU9	NC196	P14
A8	NC8										NC195	P13
A9	NC9										NC194	P12
A10	NC10										NC193	P11
A11	NC11										NC191	P8
A12	NC12										NC190	P2
A13	NC13										NC184	P1
A14	NC14										NC183	
B1	NC15										NC182	N14
B7	NC21										NC181	N13
B8	NC22										NC180	N12
B9	NC23										NC179	N11
B10	NC24										NC178	N10
B11	NC25										NC177	N8
B12	NC26										NC175	N7
B13	NC27										NC174	N6
B14	NC28										NC171	N3
C1	NC29										NC169	N1
C3	NC31										NC168	M14
C7	NC35										NC167	M13
C8	NC36										NC166	M12
C9	NC37										NC165	M11
C10	NC38										NC164	M10
C11	NC39										NC163	M9
C12	NC40										NC162	M8
C13	NC41										NC161	M7
C14	NC42										NC157	M3
D1	NC43										NC156	M2
D2	NC44										NC155	M1
D3	NC45										NC154	L14
D4	NC46										NC153	L13
D12	NC54										NC152	L3
D13	NC55										NC143	L2
D14	NC56										NC142	L1
E1	NC57										NC141	
E2	NC58										NC140	K14
E3	NC59										NC139	K13
E12	NC68										NC138	K12
E13	NC69										NC129	K3
E14	NC70										NC128	K2
F1	NC71										NC127	K1
F2	NC72											
F3	NC73										NC126	J14
F12	NC82										NC125	J13
F13	NC83										NC124	J12
F14	NC84										NC115	J3
G1	NC85										NC114	J2
G2	NC86										NC113	J1
G12	NC96										NC112	H14
G13	NC97										NC111	H13
G14	NC98										NC110	H12
											NC101	H3
											NC100	H2
											NC99	H1

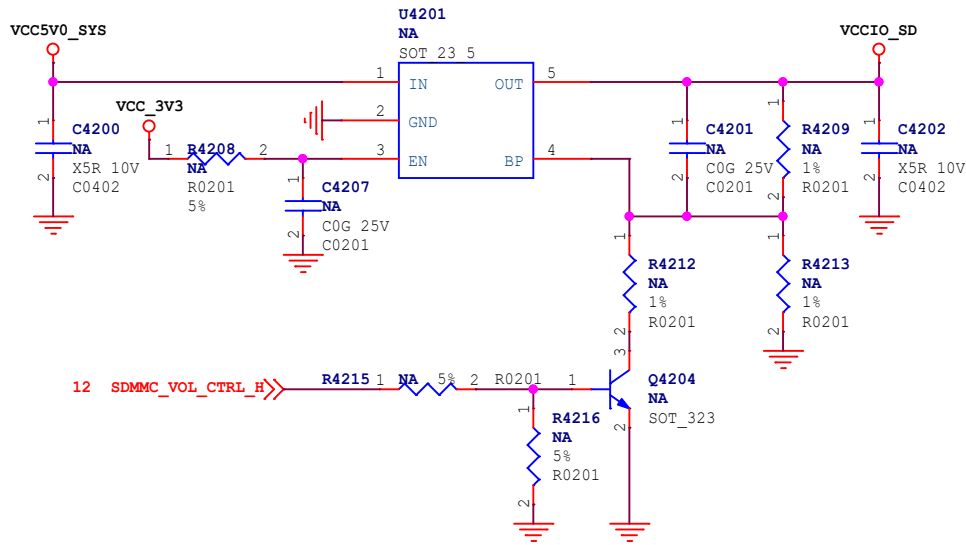
BGA153\_13RX11R5X0R9\_2L



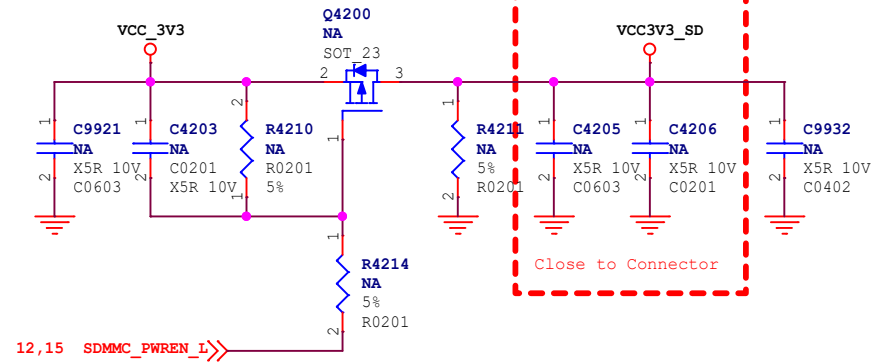
# TF Card



# VCCIO\_SD



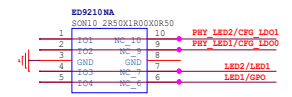
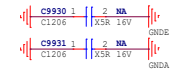
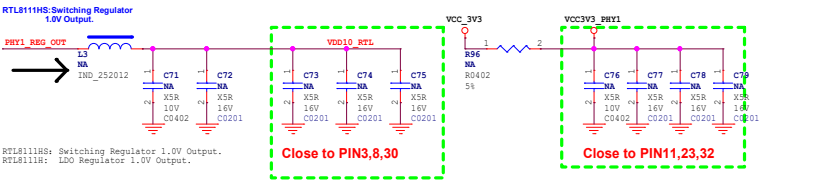
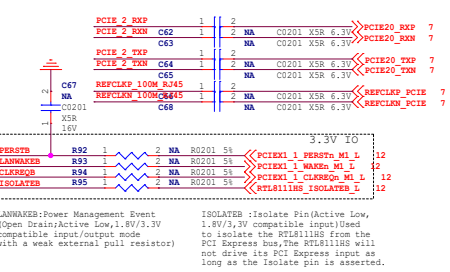
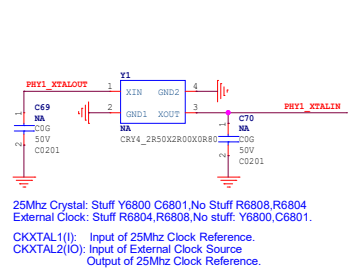
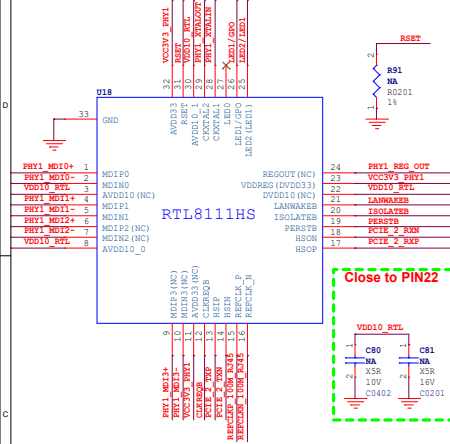
# VCC3V3\_SD



SDMMC\_PWREN=L VCC\_SD=3.3V(Default)  
 SDMMC\_PWREN=H VCC\_SD=0V

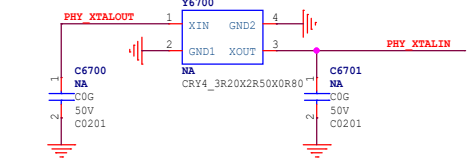
SDIO2.0 SDMMC0\_VOL\_CTRL=H VCCIO\_SD=3.34V(Default)  
 SDIO3.0 SDMMC0\_VOL\_CTRL=L VCCIO\_SD=1.816V

# PCIe TO RJ45

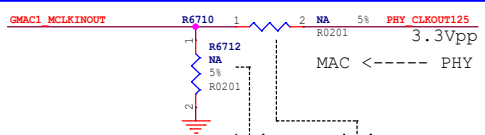


# RGMI I

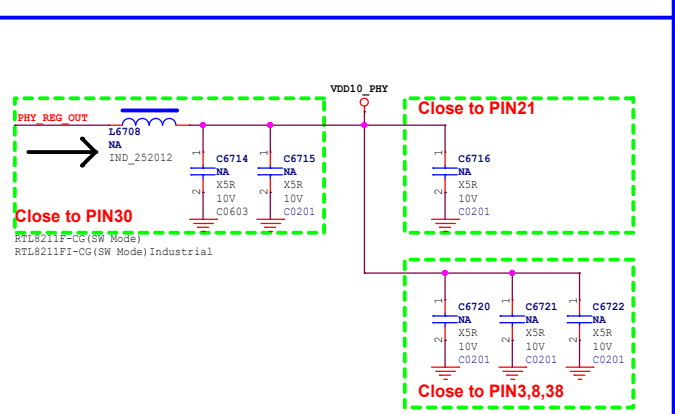
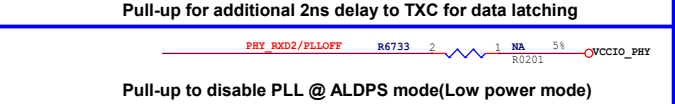
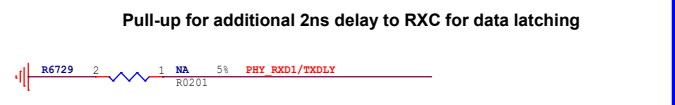
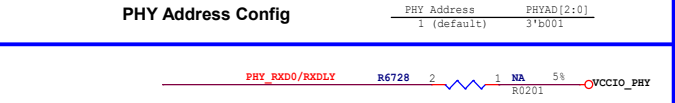
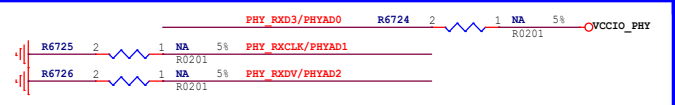
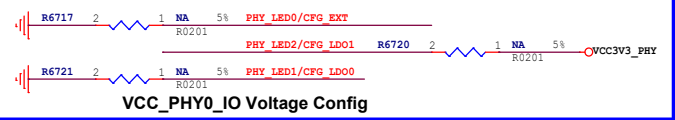
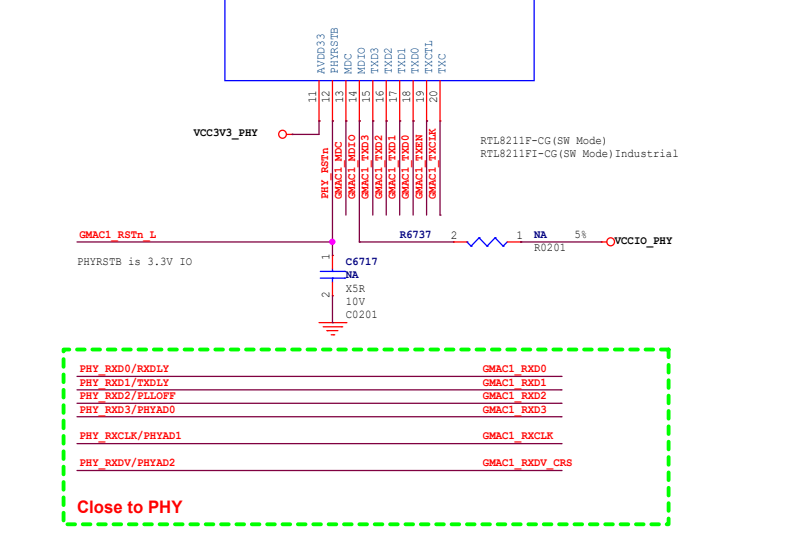
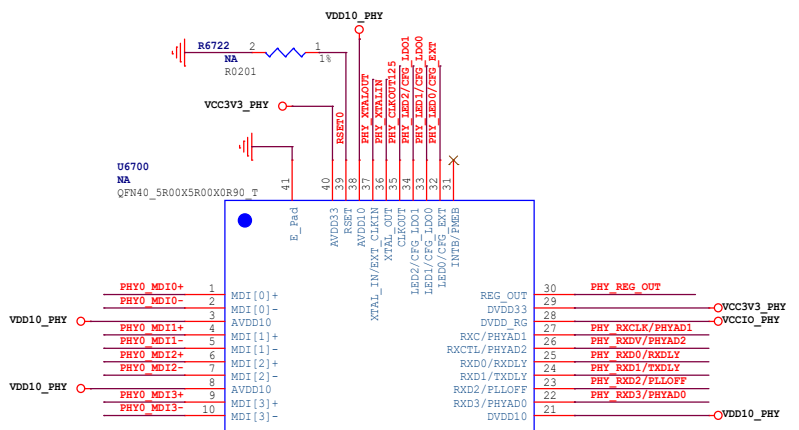
- >>GMAC1\_TXD0 12
- >>GMAC1\_TXD1 12
- >>GMAC1\_TXD2 12
- >>GMAC1\_TXD3 12
- >>GMAC1\_TXEN 12
- >>GMAC1\_TXCLK 12
- >>GMAC1\_RXD0 12
- >>GMAC1\_RXD1 12
- >>GMAC1\_RXD2 12
- >>GMAC1\_RXD3 12
- >>GMAC1\_RXDV\_CRS 12
- <<GMAC1\_RXCLK 12
- >>GMAC1\_MCLKINOUT 12
- >>GMAC1\_MDC 12
- >>GMAC1\_MDIO 12
- >>GMAC1\_RSTn\_L 12



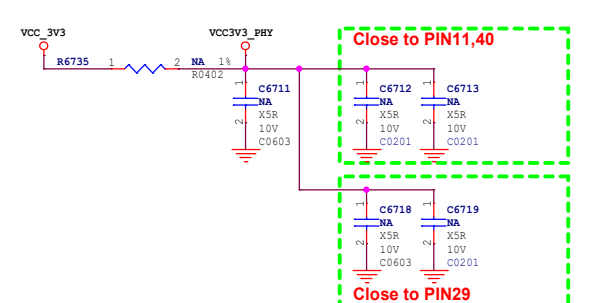
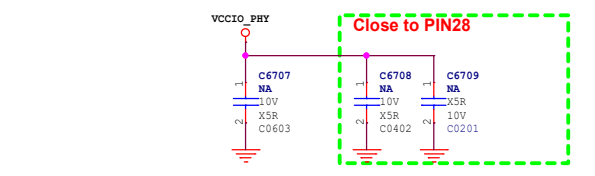
- >>PHY0\_MDI3- 20
- >>PHY0\_MDI3+ 20
- >>PHY0\_MDI2- 20
- >>PHY0\_MDI2+ 20
- >>PHY0\_MDI1- 20
- >>PHY0\_MDI1+ 20
- >>PHY0\_MDI0- 20
- >>PHY0\_MDI0+ 20
- >>PHY\_LED2/CFG\_LD01 19
- >>PHY\_LED1/CFG\_LD00 19



VCCIO_PHY0=3.3V	DNP	22R	Default
VCCIO_PHY0=1.8V	120R	100R	



RGMI I Power Source	CFG_EXT	CFG_LD0[1:0]
External 3.3V	1'b1	2'b00
External 1.8V	1'b1	2'b10
Internal 1.8V(default)	1'b0	2'b10



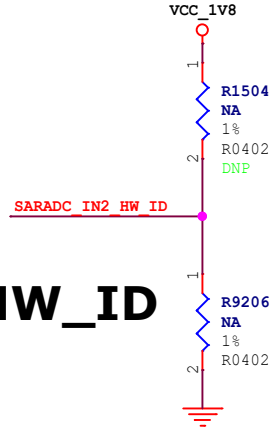
# KEY

← SARADC\_IN0\_BOOT 8

← SARADC\_IN2\_HW\_ID 8



# HW\_ID

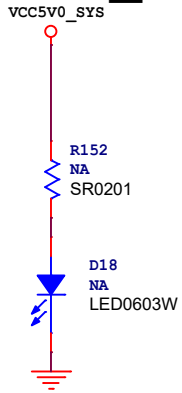


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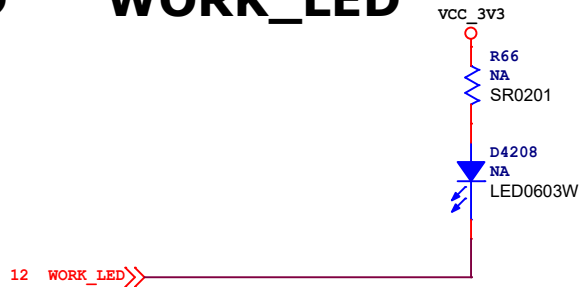
SARADC_IN2	Rup	Rdown	ADC
HW_ID0	DNP	100K	0
HW_ID1	100K	12K	114
HW_ID2	100K	27K	228
HW_ID3	100K	51K	342
HW_ID4	100K	82K	456
HW_ID5	100K	120K	570
HW_ID6	100K	200K	683
HW_ID7	100K	330K	796
HW_ID8	100K	820K	910
HW_ID9	100K	DNP	1023

V1.0

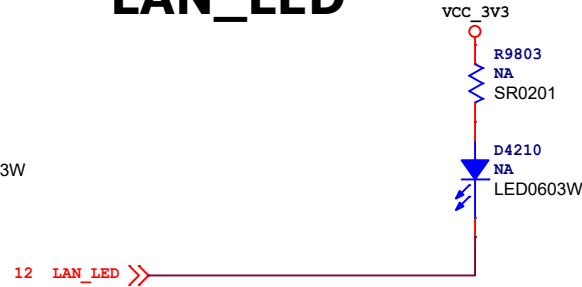
# POWER\_LED



# WORK\_LED



# LAN\_LED



# WAN\_LED

