

Reference Schematics For RK3528

Title <Title>		
Size A4	Document Number <Doc>	Rev <Rev>
Date: Monday, November 13, 2023	Sheet 1 of 22	

Generate Bill of Materials

Header:

Item\tPart\tDescription\tPCB Footprint\tReference\tQuantity\tOption

Combined property string:

{Item}\t{Value}\t{Description}\t{PCB Footprint}\t{Reference}\t{Quantity}\t{Option}

Notes

NOTE 1:

Component parameter description

1. DNP stands for component not mounted temporarily
2. If Value or option is DNP, which means the area is reserved without being mounted

NOTE 2:

Please use our recommended components to avoid too many changes.
For more informations about the second source,please refer to our AVL.

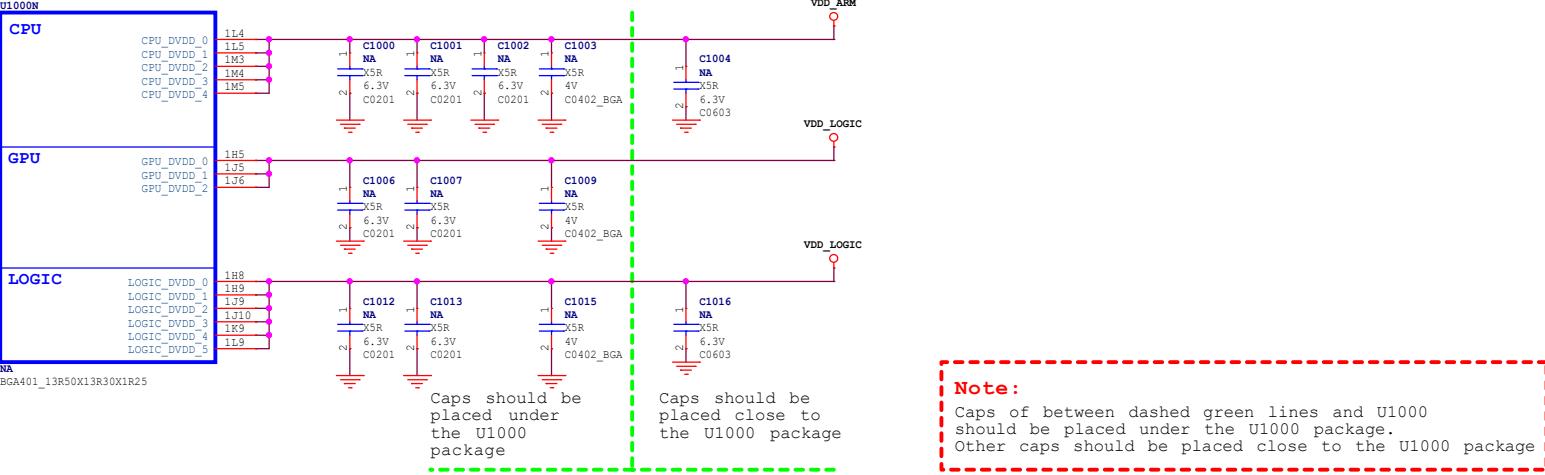
Description

Note

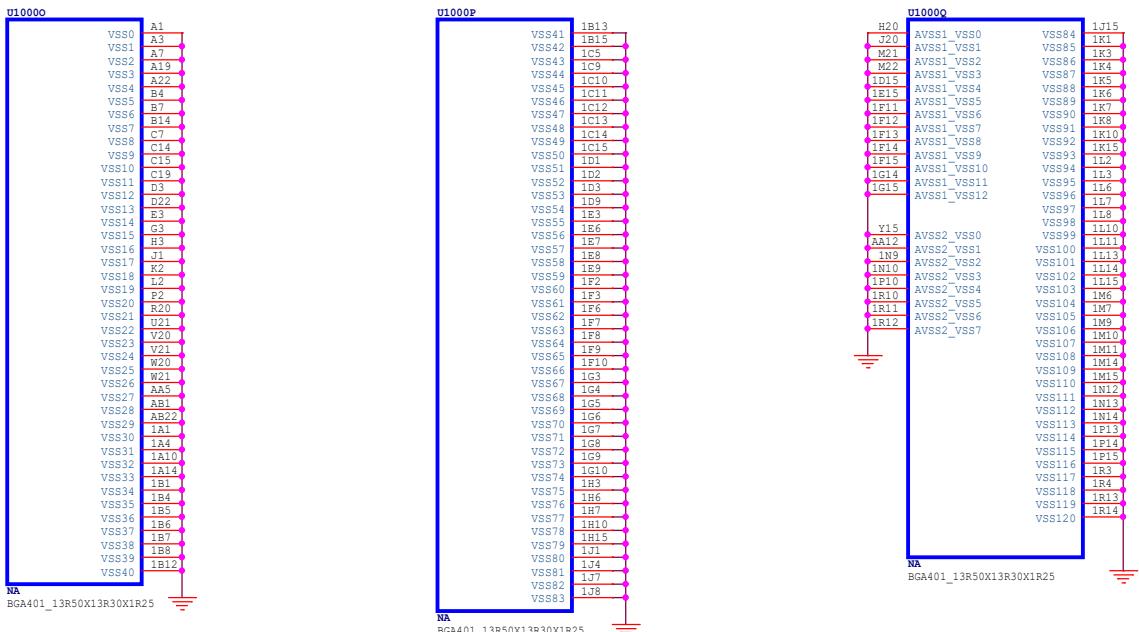
Option

Title <Title>		
Size A3	Document Number <Doc>	Rev <Rev>
Date: Monday, November 13, 2023	Sheet 2 of 22	Code<Code>

RK3528_N (POWER)

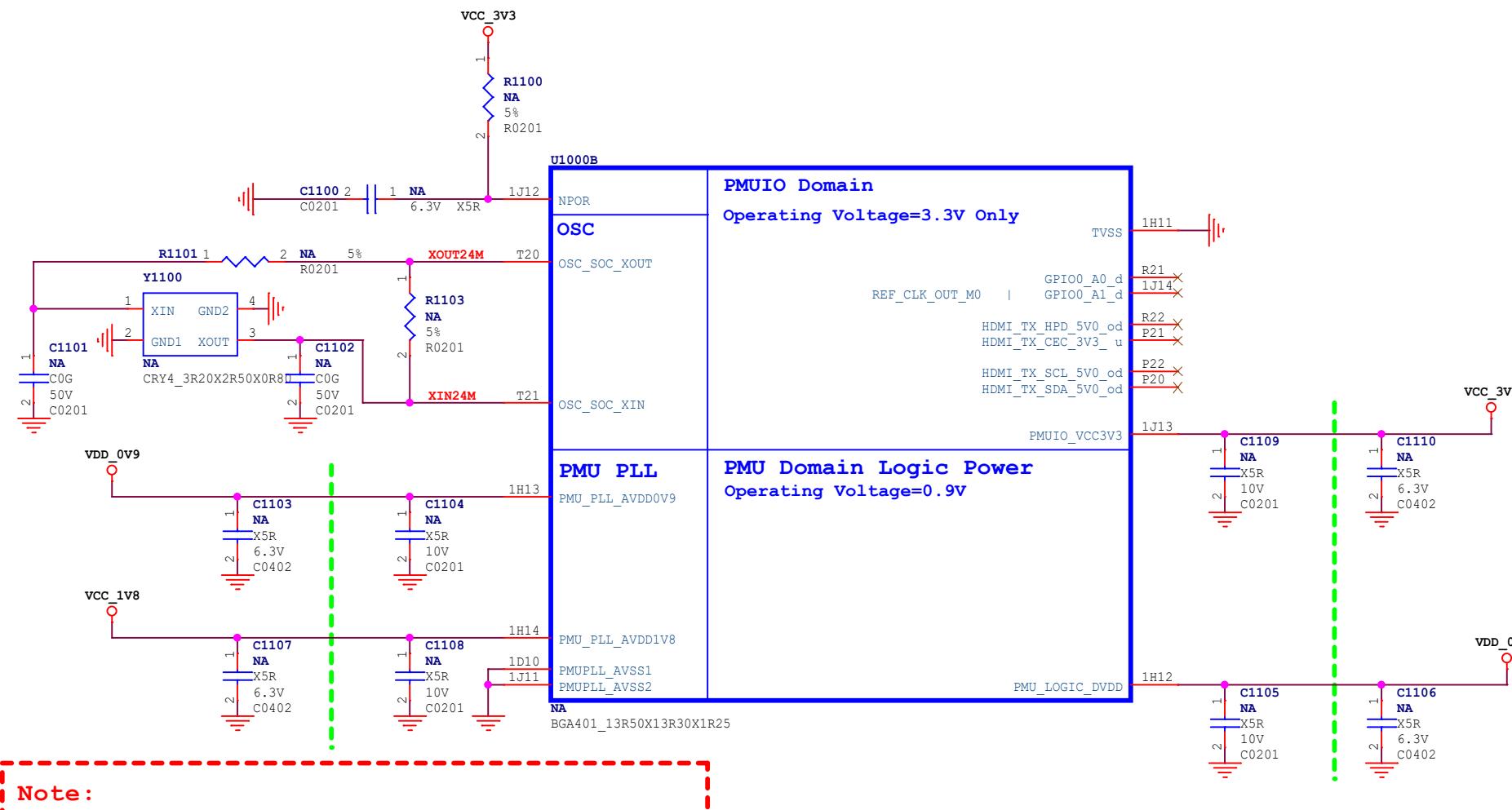


RK3528_O/P/Q(GND)

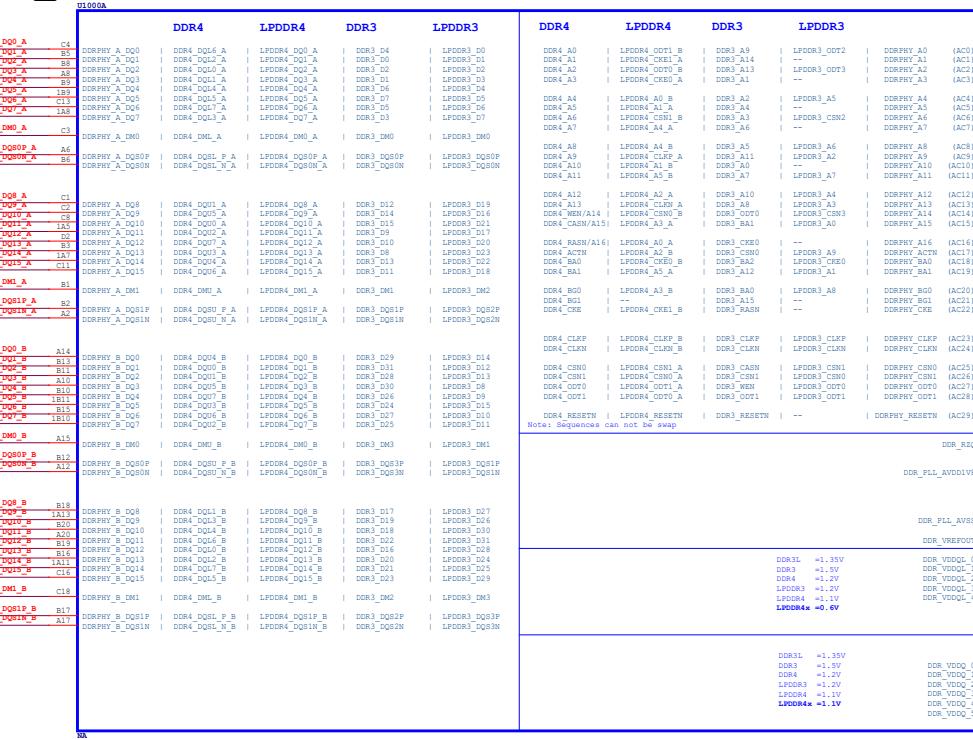


Title		<Title>		
Size A3	Document Number <Doc>		Rev <RevCode>	
Date:	Monday, November 13, 2023		Sheet	3 of 22

RK3528_B(OSC/PLL/PMUIO Domain)

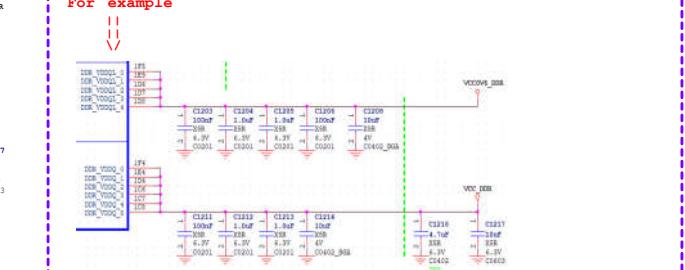


Title <Title>		Rev <Rev>
Size A4	Document Number <Doc>	
Date: Monday, November 13, 2023	Sheet 1 of 22	

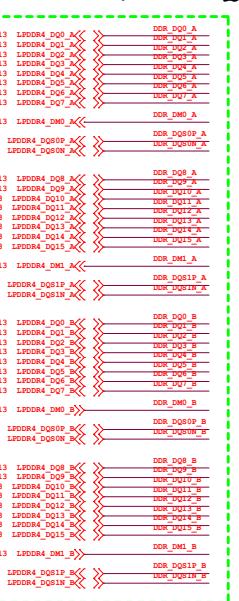


For DDR4/DDR3/LPDDDR3 mode:
a 120 ns ±10% tolerance external alignment must be maintained between the DDR_R201_min_and_VBS_min

Note:
LPDDR4x mode:
Pin 1F5,1E5,1D6,1D7,1D8 connected to VCC0V6_DDR power supply

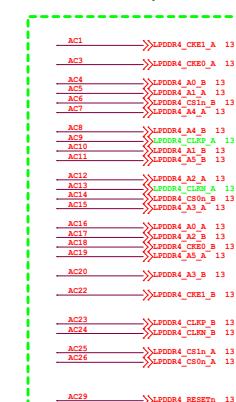


LPDDR4 / 4x DQ

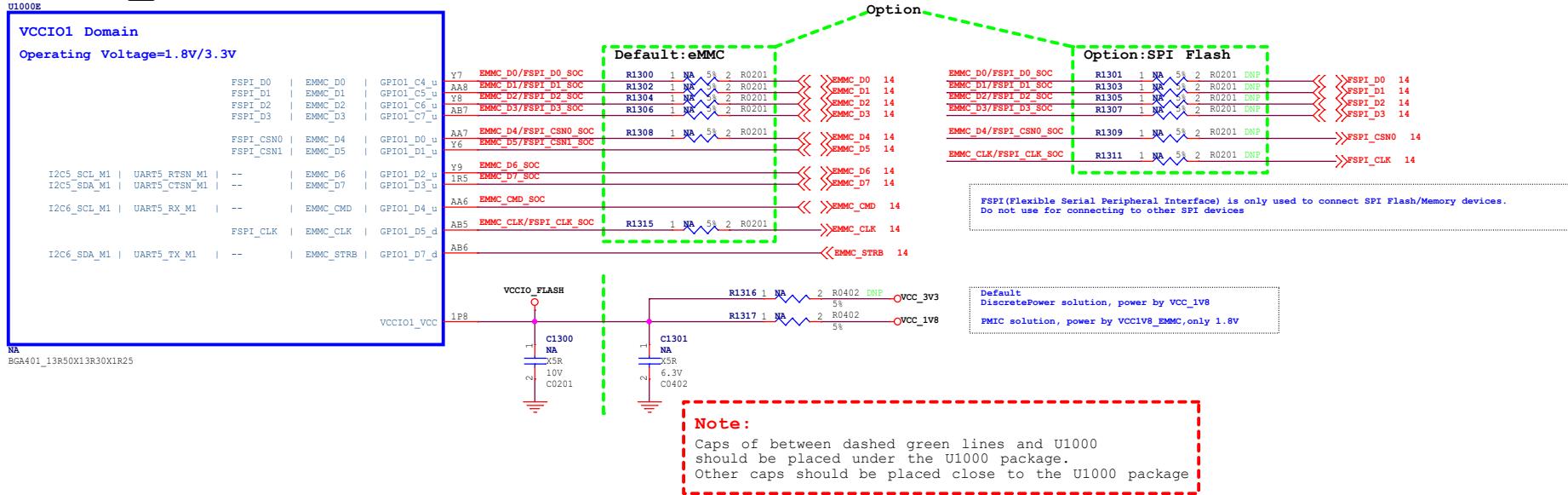


te:
es of between dashed green lines and U1000
ould be placed under the U1000 package.
her caps should be placed close to the U1000 packa

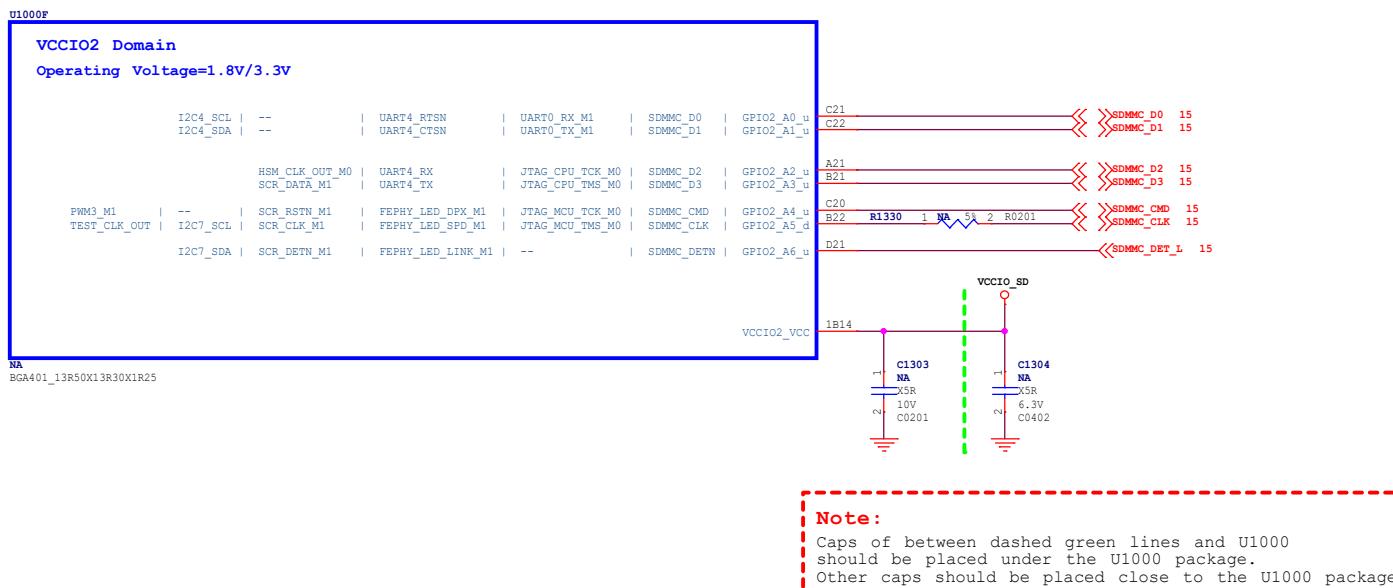
LPDDR4 / 4x AC



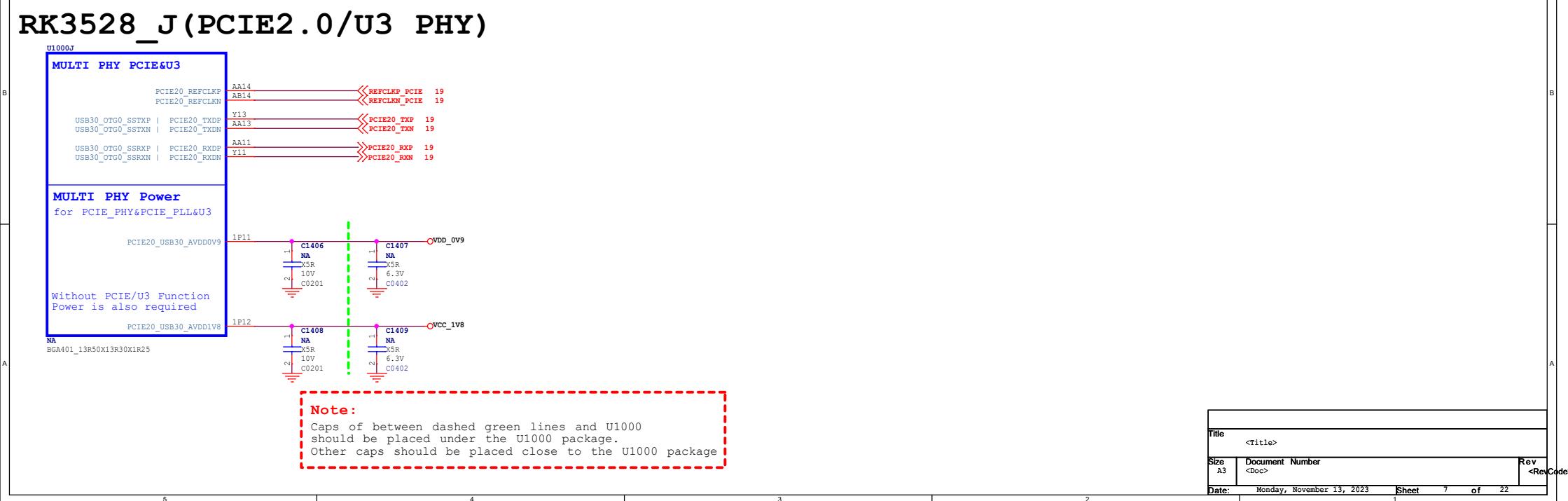
RK3528_E (VCCIO1 Domain)



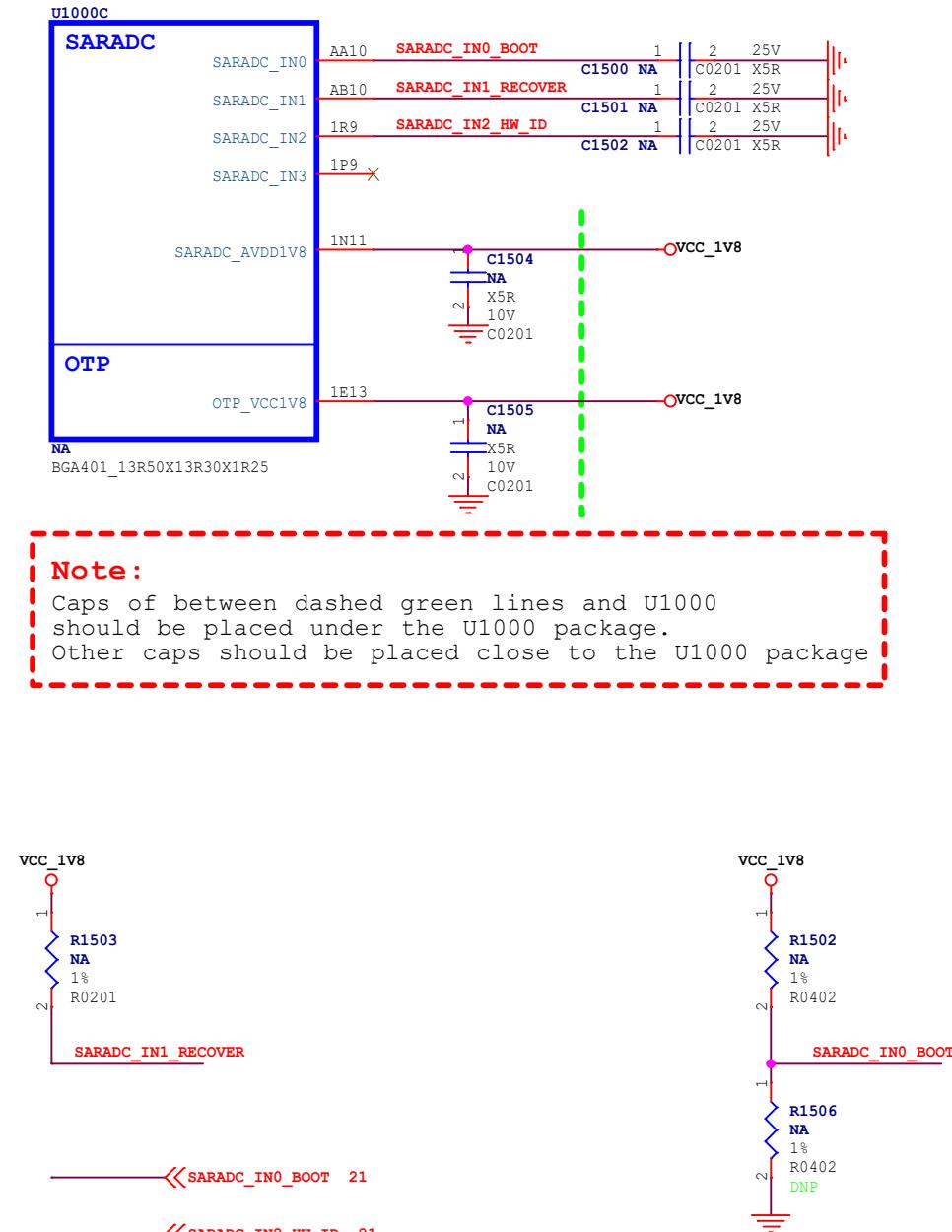
RK3528_F (VCCIO2 Domain)



Title	<Title>	
Size	Document Number	Rev
A3	<Doc>	<Rev>
Date:	Monday, November 13, 2023	Sheet 6 of 22



RK3528_C(Saradc/OTP)

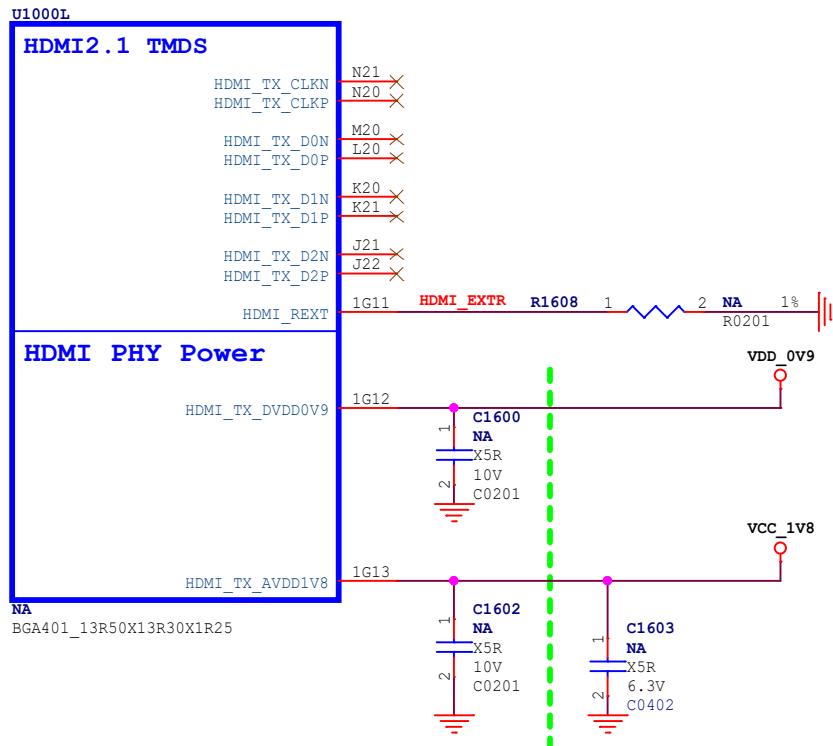


TABLE

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

Title <Title>		Rev <Rev>
Size A4	Document Number <Doc>	
Date: Monday, November 13, 2023 Sheet 8 of 22		

RK3528_L (HDMI PHY)



Note:

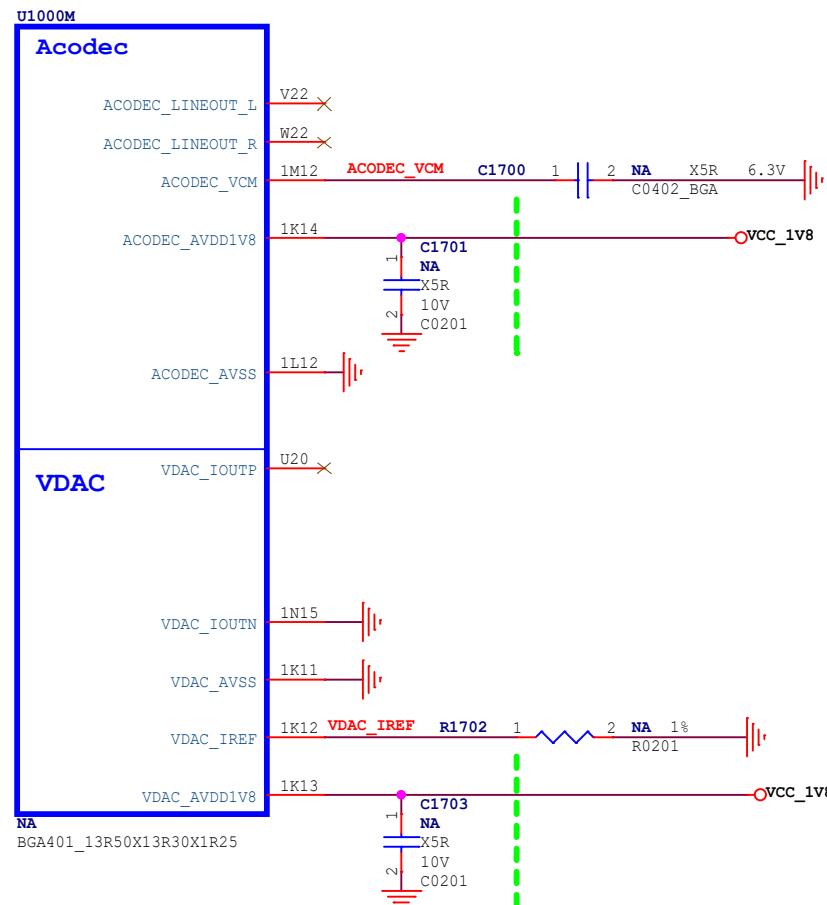
Caps of between dashed green lines and U1000 should be placed under the U1000 package.
Other caps should be placed close to the U1000 package

Title	<Title>
Size	Document Number
A4	<Doc>

Rev <Rev>

Date: Monday, November 13, 2023	Sheet 9 of 22
---------------------------------	---------------

RK3528_M (Acodec/VDAC)

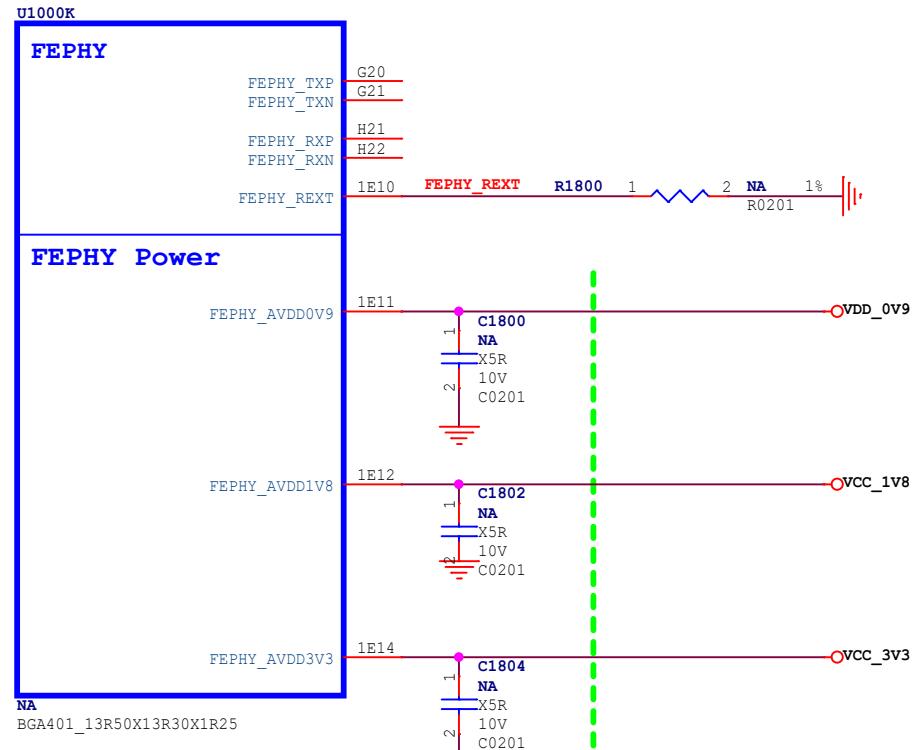


Note:

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.

		Title <Title>	
Size A4	Document Number <Doc>		Rev <Rev>
Date: Monday, November 13, 2023	Sheet 10 of 22		

RK3528_K(Embed FEPHY)



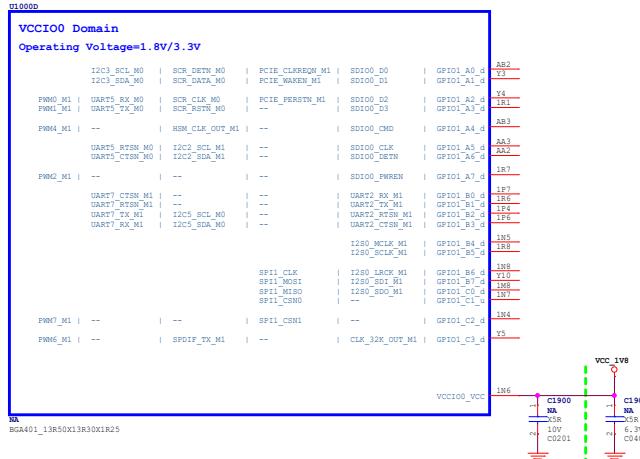
Note:

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

Title	<Title>
Size	Document Number <Doc>
A4	Rev <Rev>

Date: Monday, November 13, 2023 Sheet 11 of 22

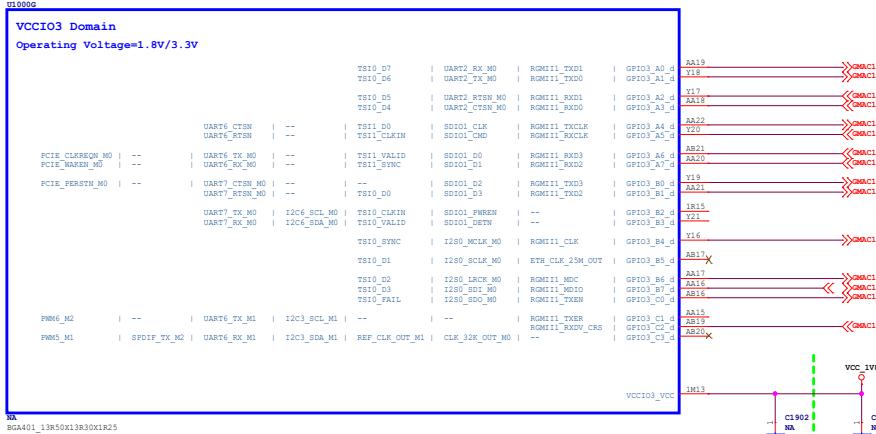
RK3528_D (VCCIO0 Domain)



Caps of between dashed green lines and U1000 should be placed under the U1000 package. Other caps should be placed close to the U10

[View all posts](#)

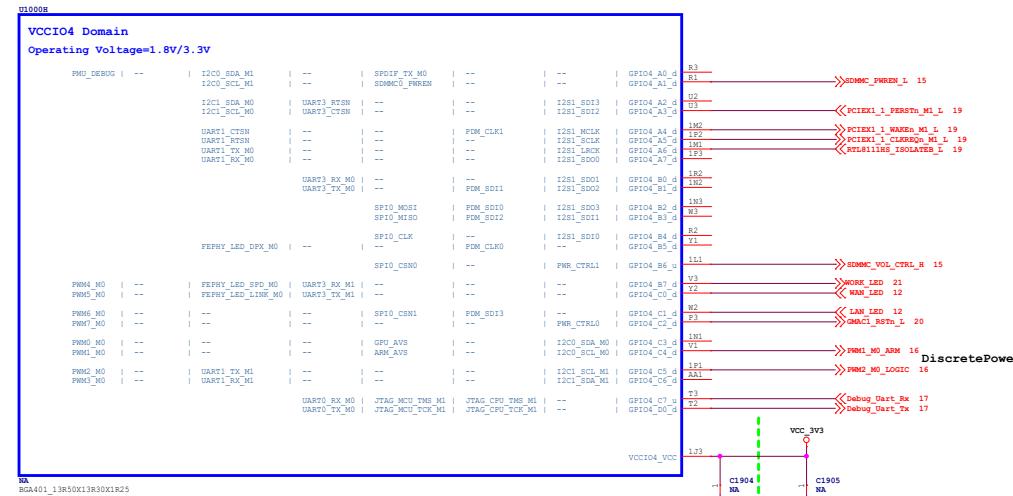
RK3528_G (VCCIO3 Domain)



Note:

between dashed green lines and U1000
be placed under the U1000 package.
aps should be placed close to the U1000 pack

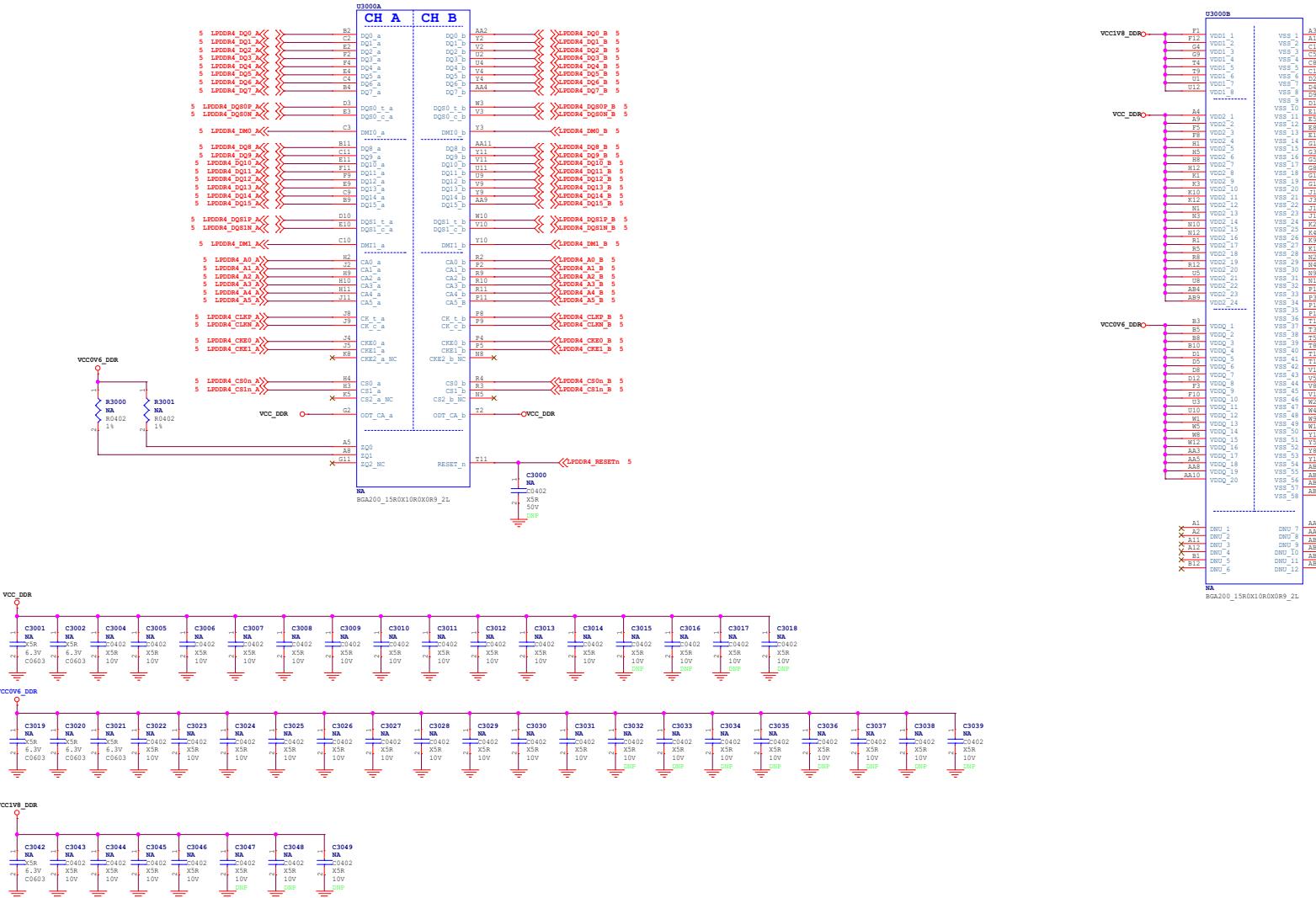
RK3528_H (VCCIO4 Domain)



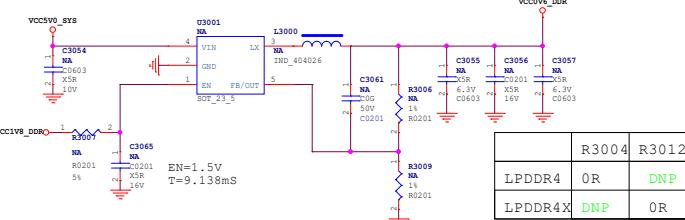
Note

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

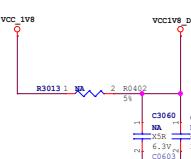
LPDDR4X 200Ball



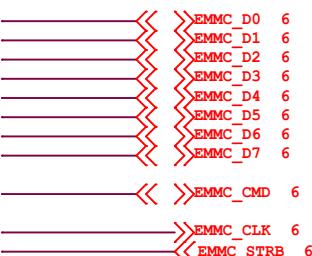
VCCV6_DDR



VCC1V8_DDR

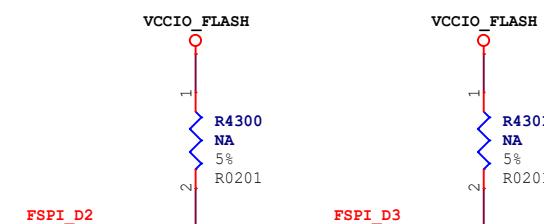
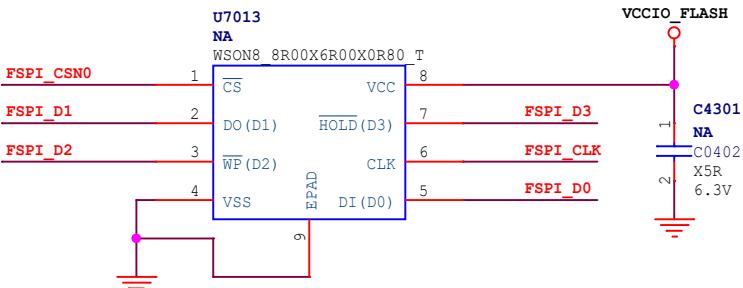
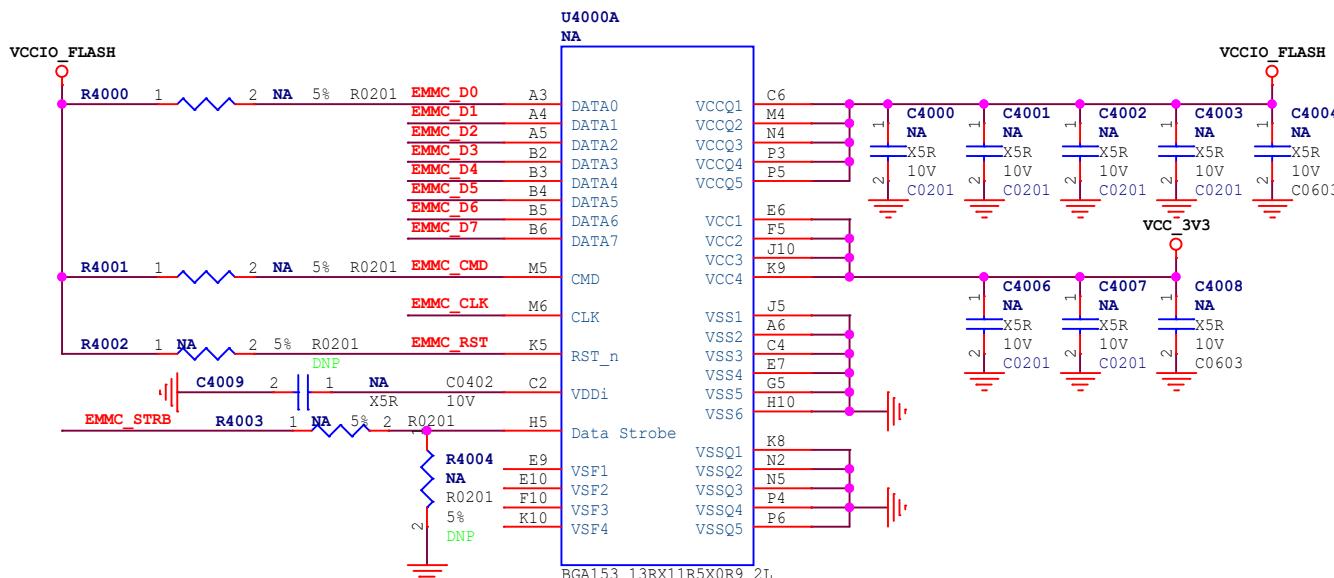
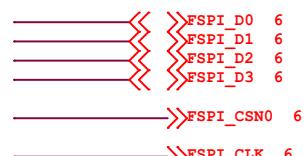


EMMC



ESPI

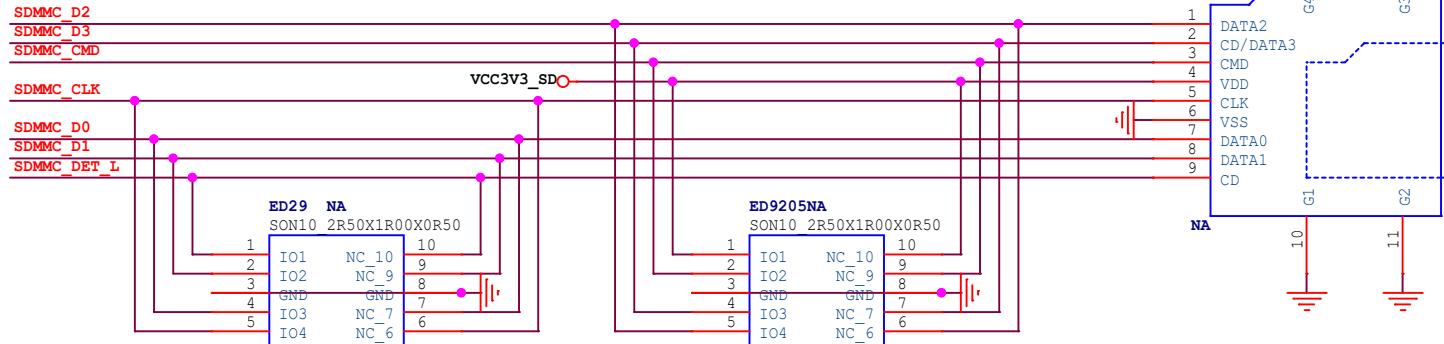
Default VCC = 1.8V



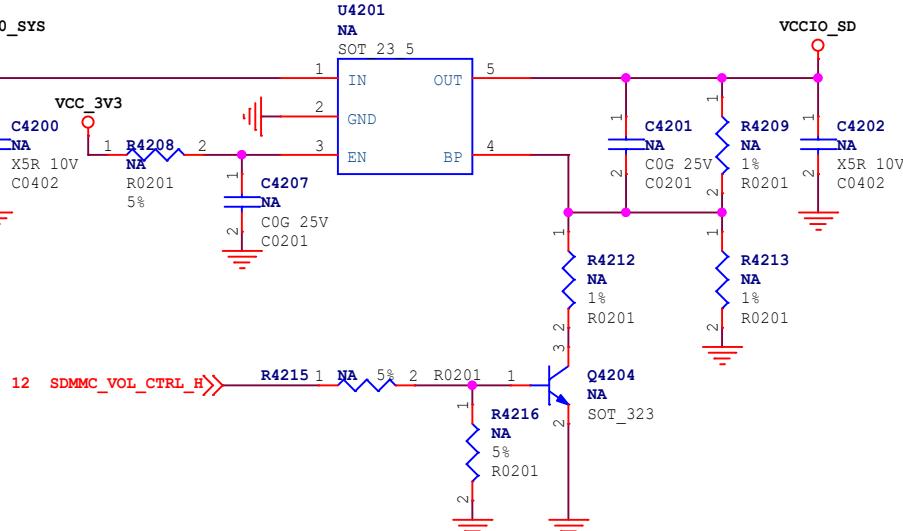
Title <Title>			
Size A4	Document Number <Doc>		Rev <Rev>
Date:	Monday, November 13, 2023	Sheet	14 of 22

TF Card

SDMMC_D0 6
 SDMMC_D1 6
 SDMMC_D2 6
 SDMMC_D3 6
 SDMMC_CMD 6
 SDMMC_CLK 6
 SDMMC_DET_L 6
 SDMMC_PWREN_L 12,15

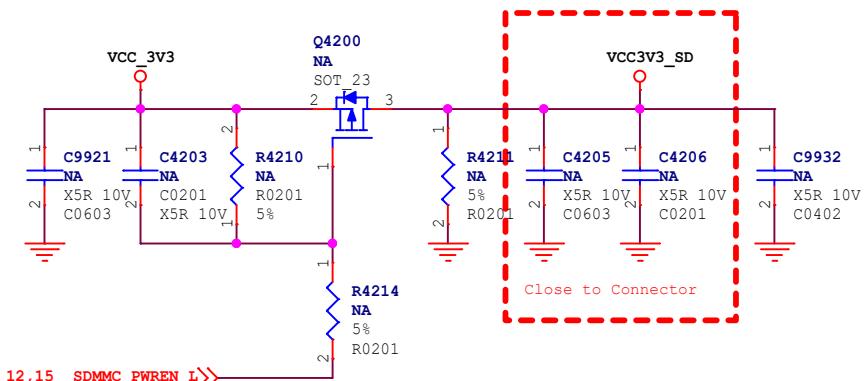


VCCIO_SD



SDIO2.0 SDMMC0_VOL_CTRL=H VCCIO_SD=3.34V (Default)
 SDIO3.0 SDMMC0_VOL_CTRL=L VCCIO_SD=1.816V

VCC3V3_SD

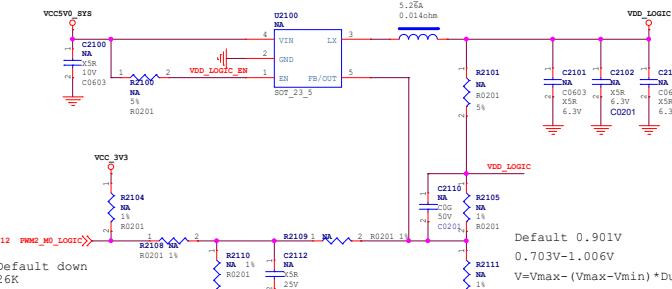


SDMMC_PWREN=L VCC_SD=3.3V (Default)
 SDMMC_PWREN=H VCC_SD=0V

Title		<Title>	Rev
Size	Document Number	<Doc>	<Rev>
A4			
Date:	Monday, November 13, 2023	Sheet	15 of 22

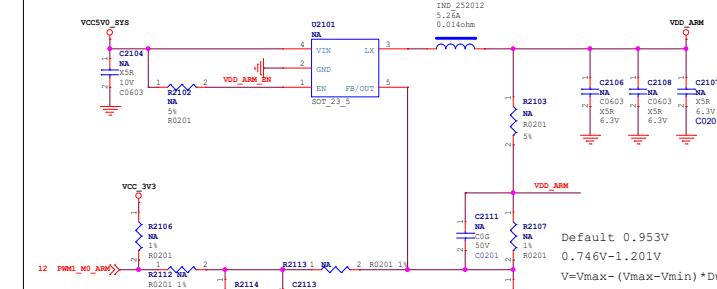
VCC5V0_SYS-->VDD_LOGIC

Step 1



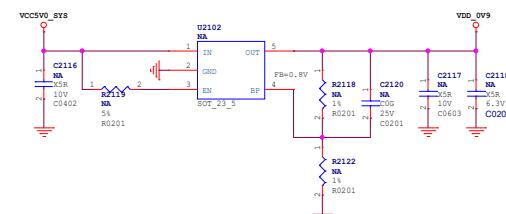
VCC5V0_SYS-->VDD_ARM

Step 2



VCC5V0_SYS-->VDD_0V9

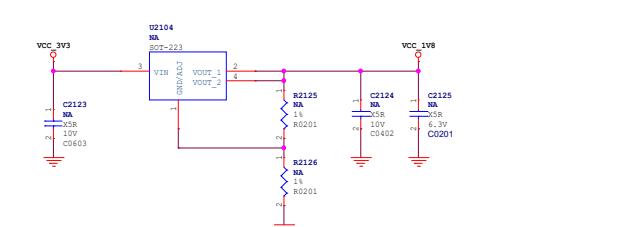
Step 1



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

VCC_3V3->VCC_1V8(LDO)

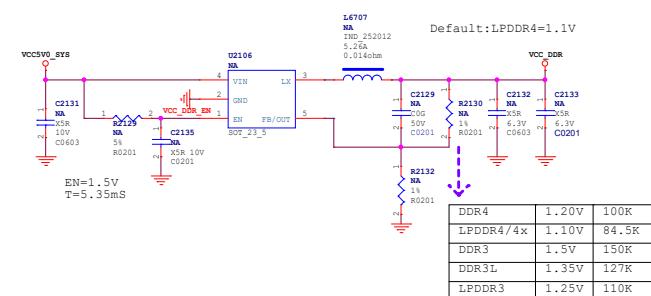
Step 2



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

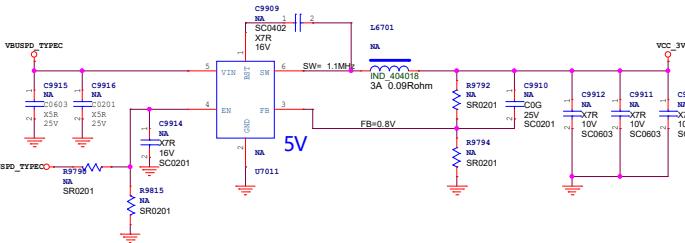
VCC5V0_SYS-->VCC_DDR

Step 2

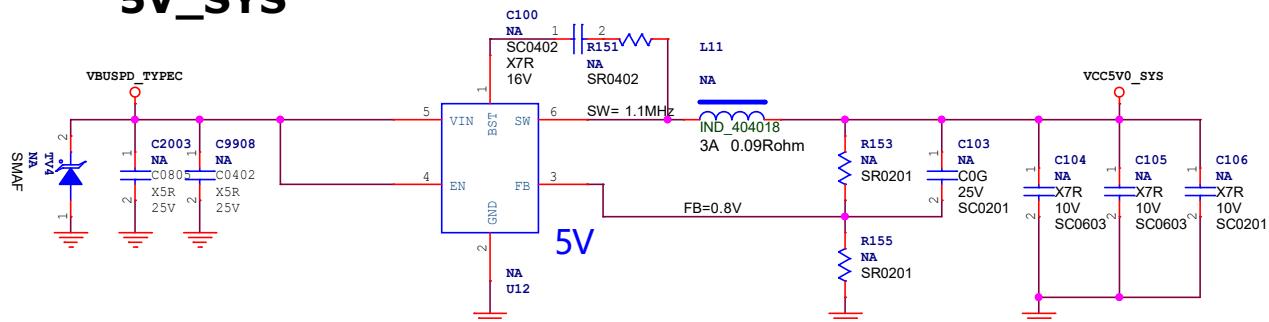


VCC5V0_SYS-->VCC_3V3

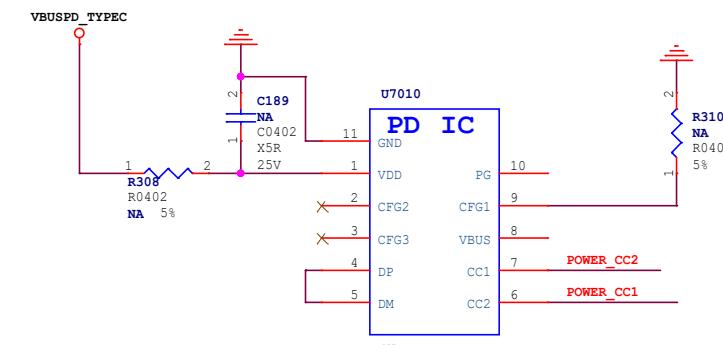
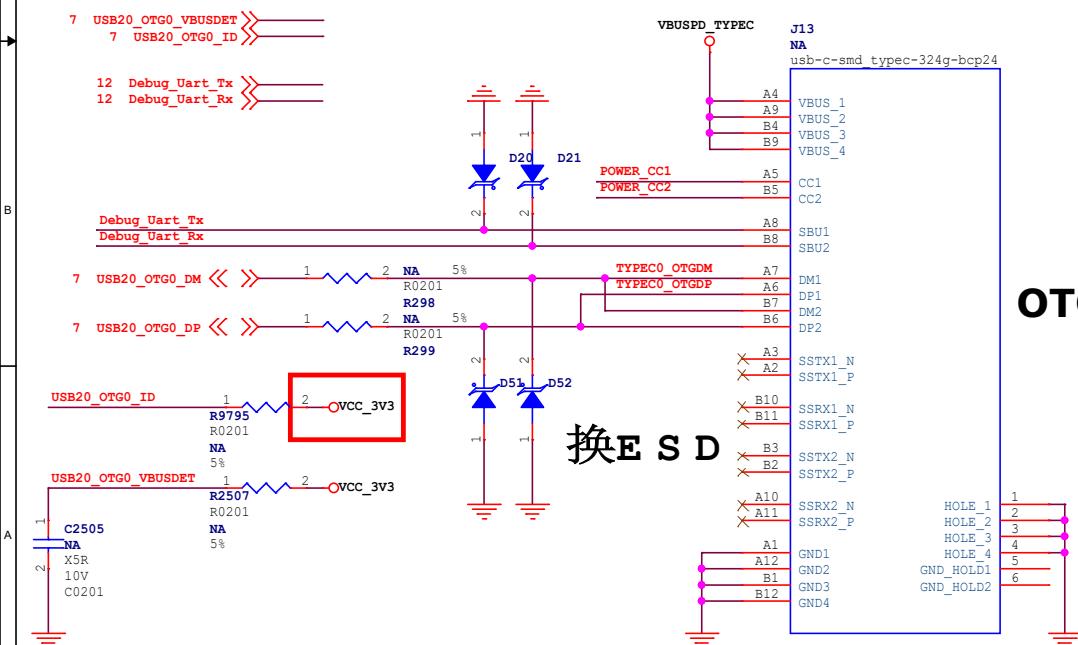
Step 2



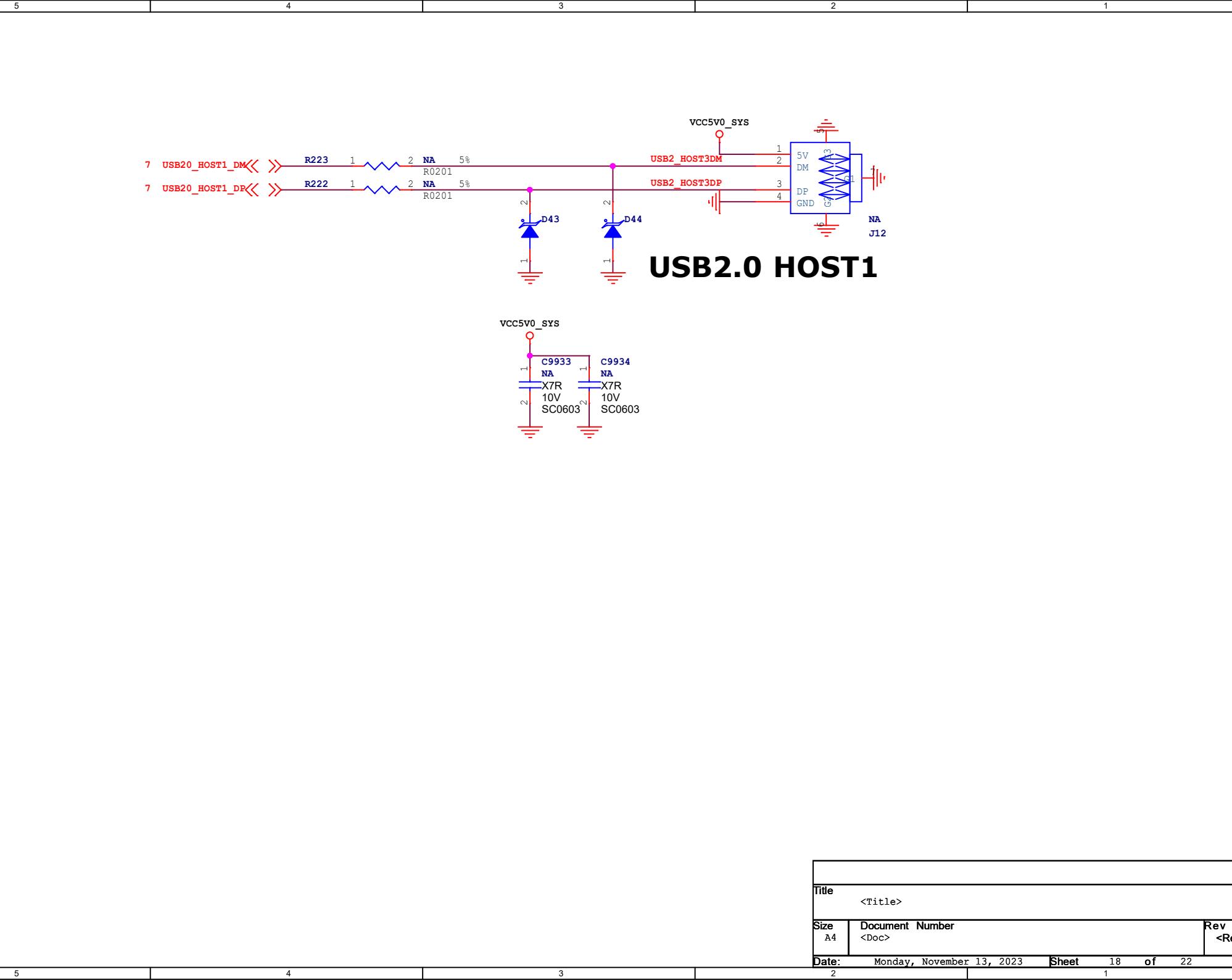
5V_SYS



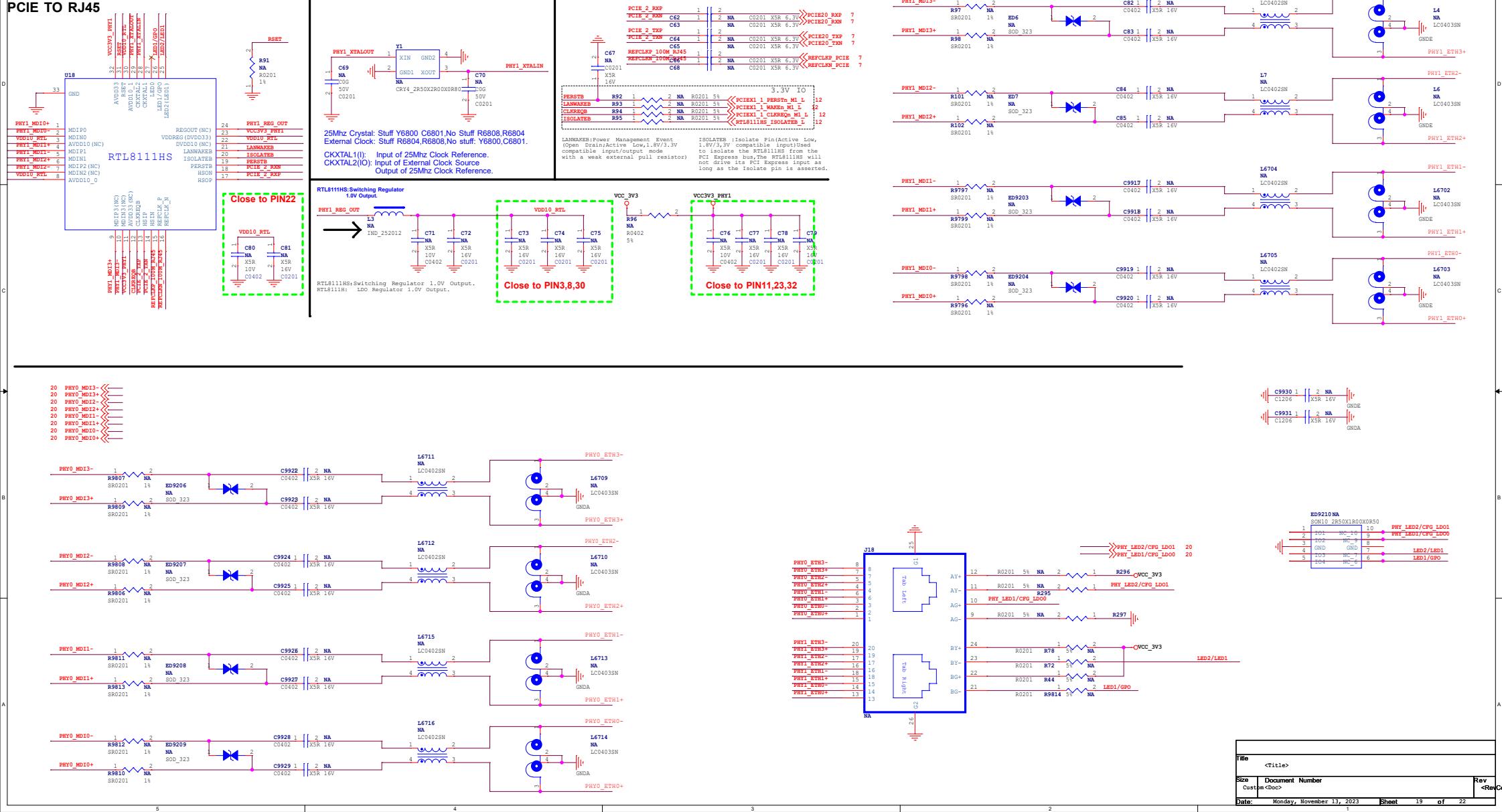
OTG USB+Debug



Title		<Title>	
Size	Document Number		
Custom<Doc>			
Date: Monday, November 13, 2023	Sheet	1	17 of 22

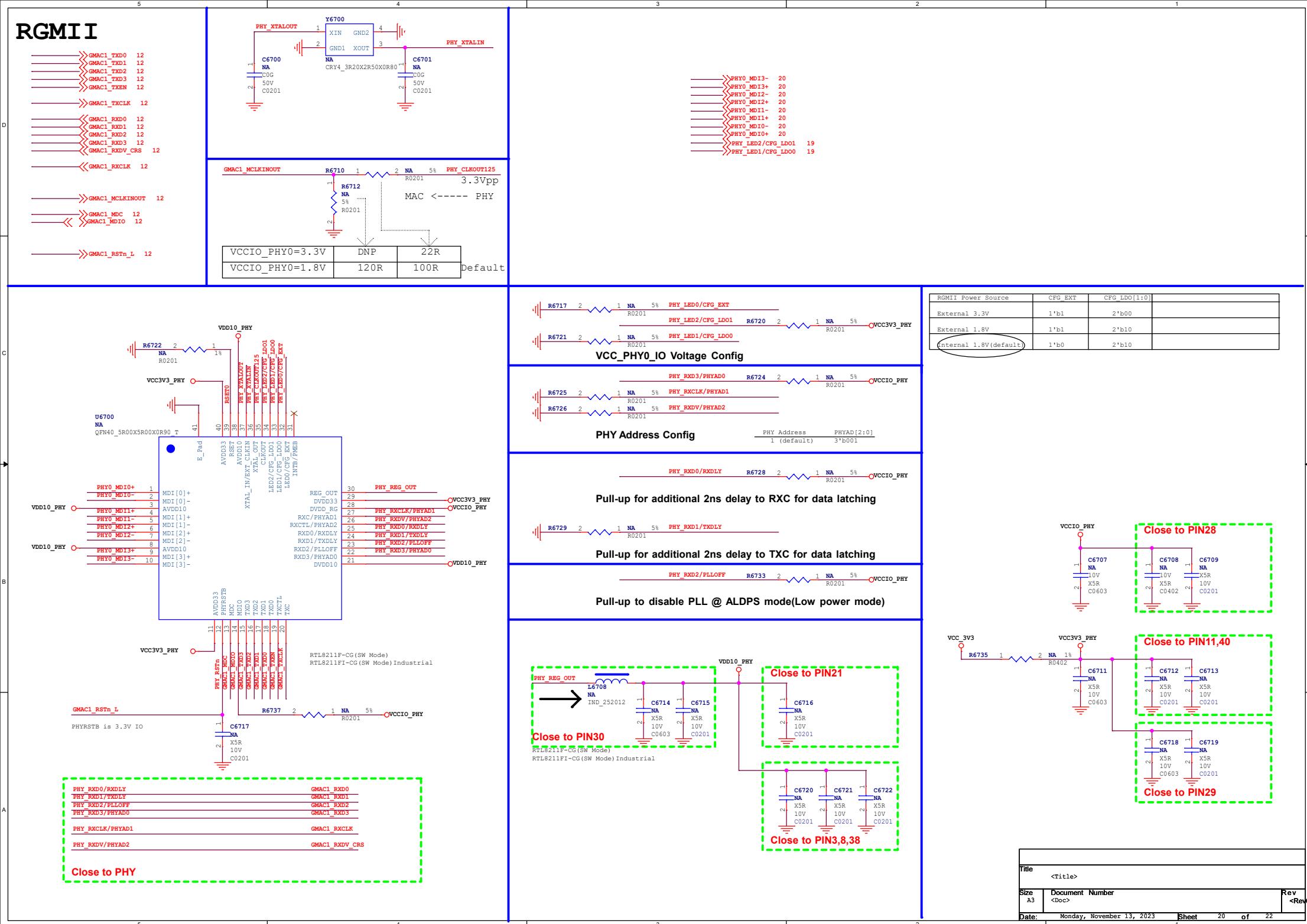


PCIe TO RJ45

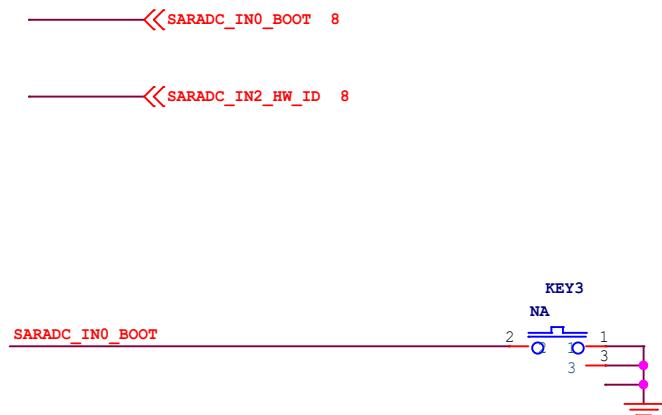


Title		Document Number		Rev
Custom	<Doc>	Custom	<Doc>	
Date:	Monday, November 13, 2023	Sheet	19	of 22

RGMI I



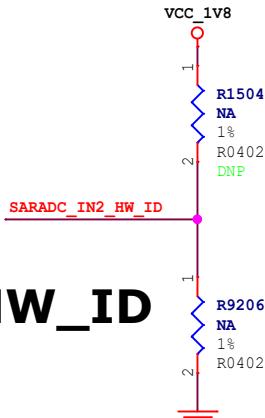
KEY



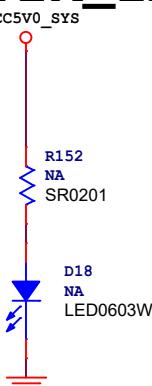
TABLE

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

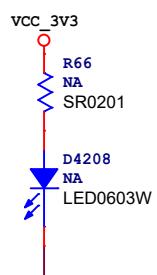
HW_ID



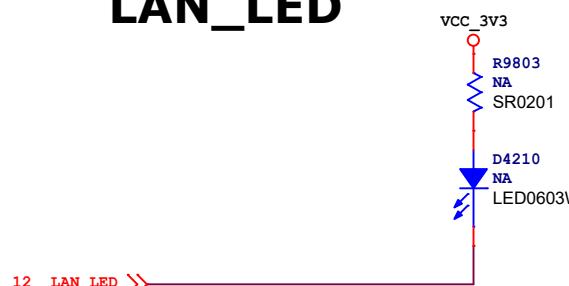
POWER_LED



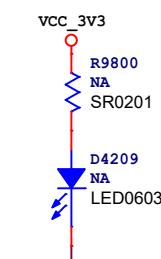
WORK_LED



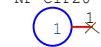
LAN_LED

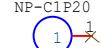


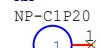
WAN_LED



Title <Title>		Rev <Rev>
Size A4	Document Number <Doc>	
Date: Monday, November 13, 2023 Sheet 21 of 22		

H2
NA
NP-C1P20


H4
NA
NP-C1P20


H3
NA
NP-C1P20


H2MMNA4MH1


H2MMNA4MH5


H2MMNA4MH6


H2MMNA4MH7


MARK4
NA


MARK2
NA


MARK1
NA


MARK3
NA


Title <Title>		
Size A4	Document Number <Doc>	Rev <Rev>
Date: Monday, November 13, 2023 Sheet 22 of 22		