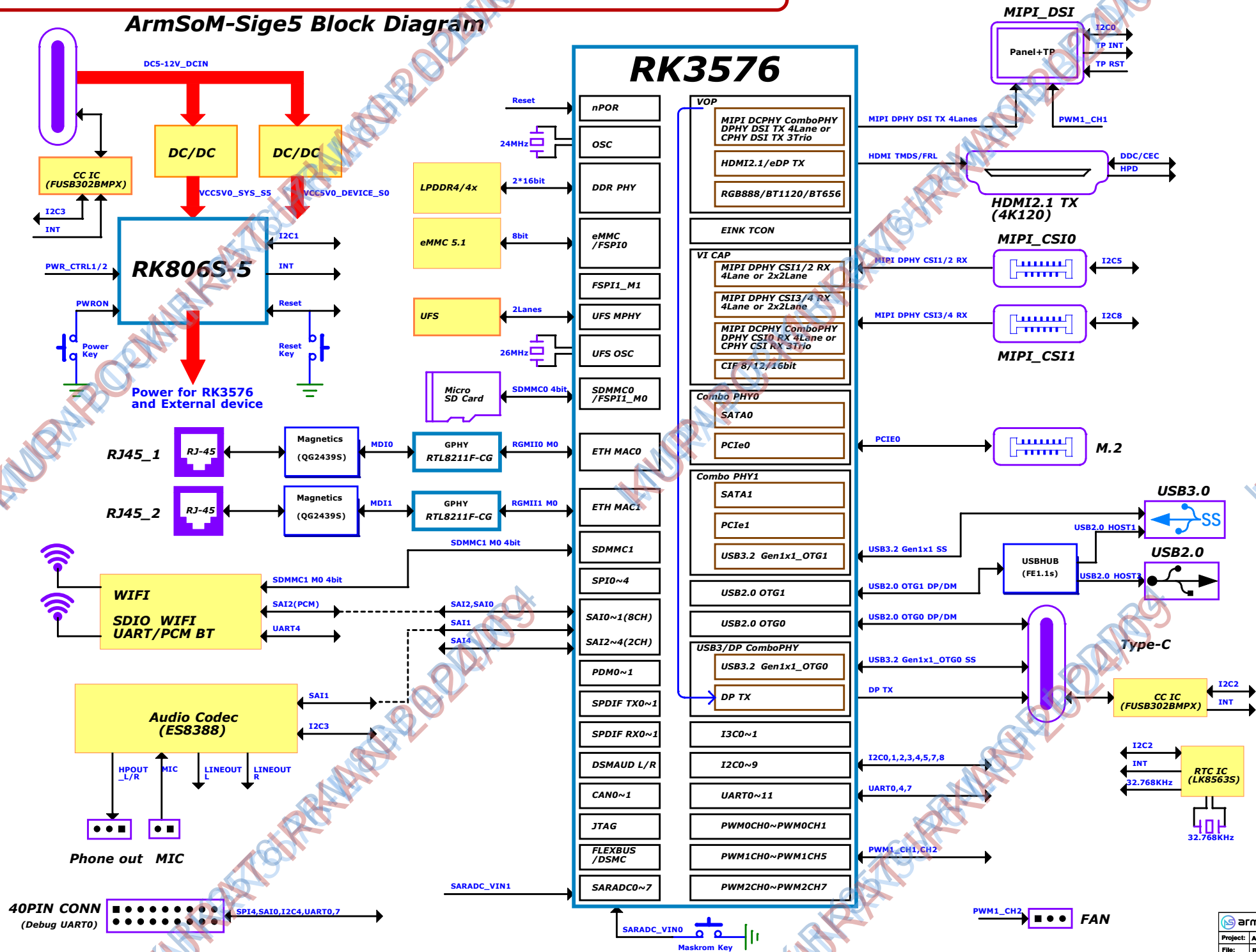
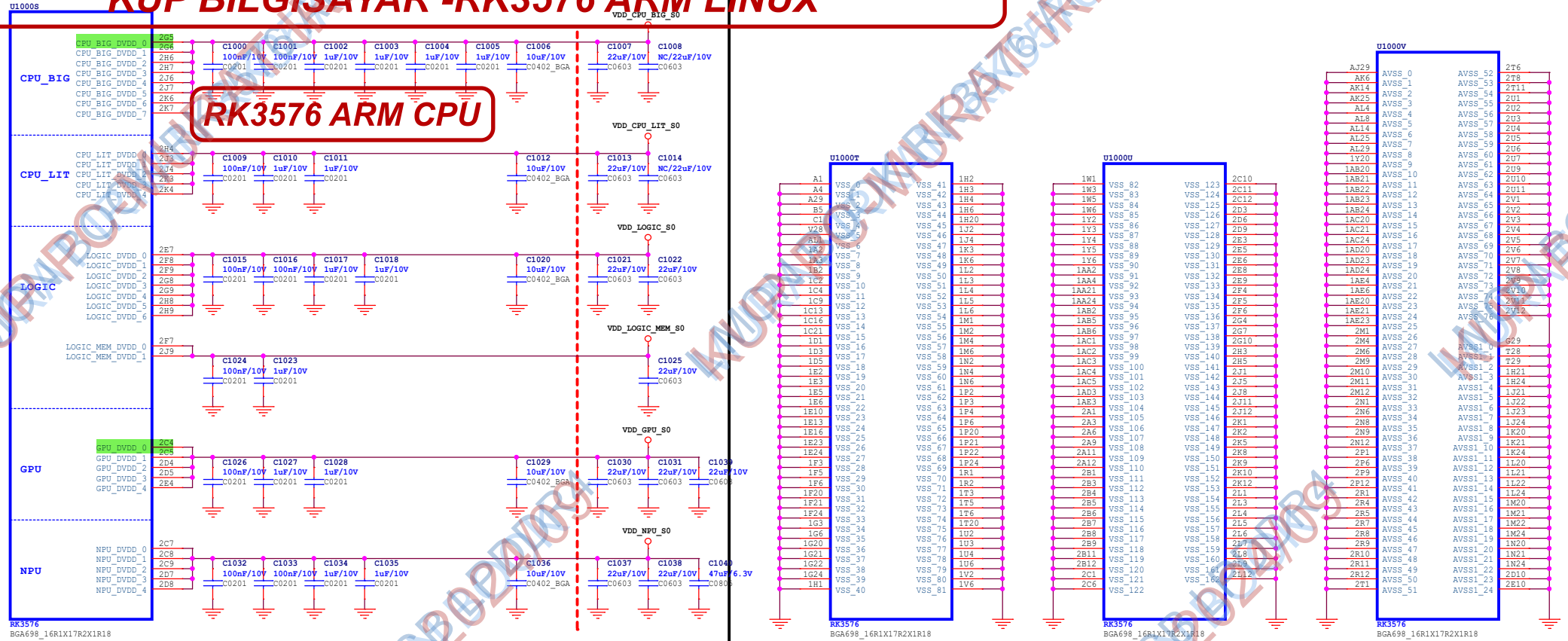


KUP BİLGİSAYAR RK3576 8-16GB LPDDR4

ArmSoM-Sige5 Block Diagram

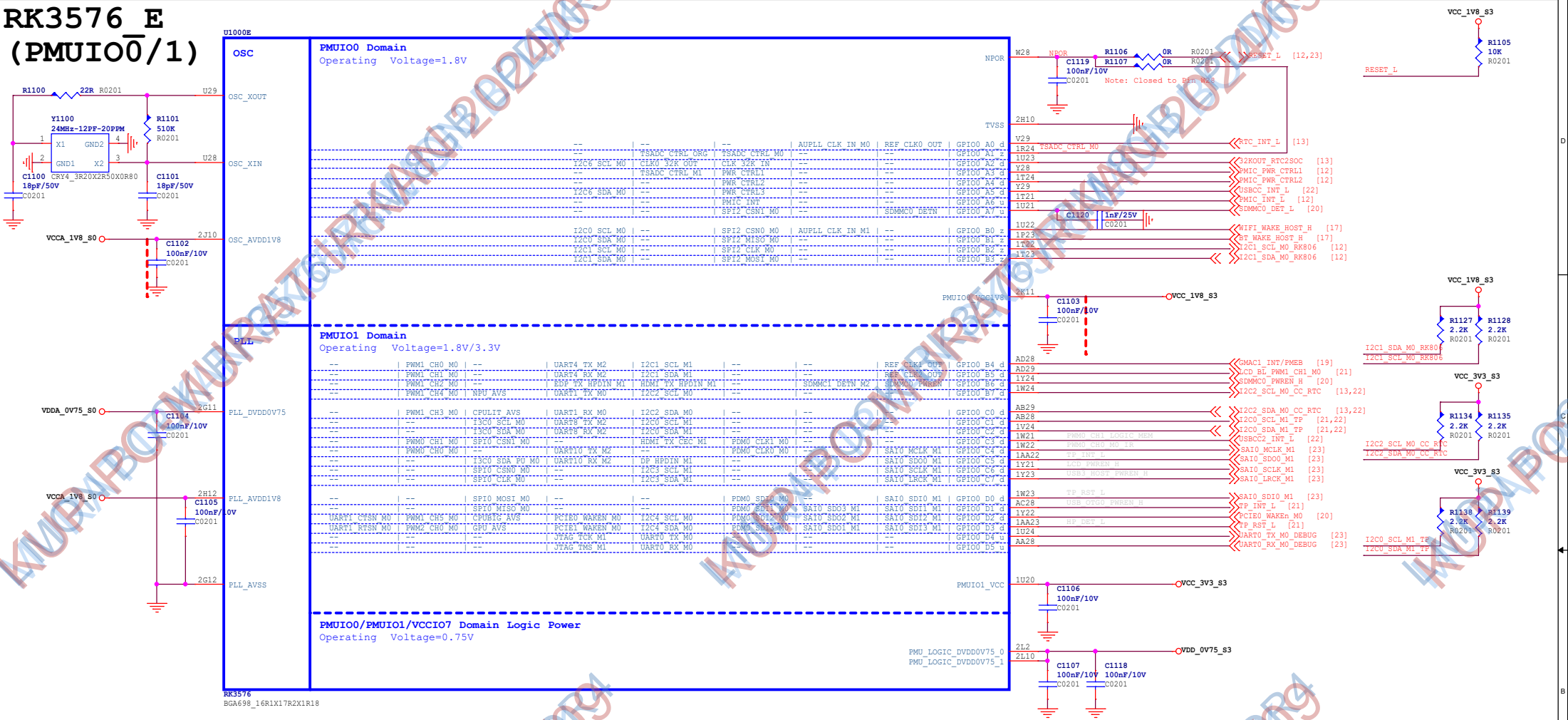


KÜP BİLGİSAYAR -RK3576 ARM LINUX

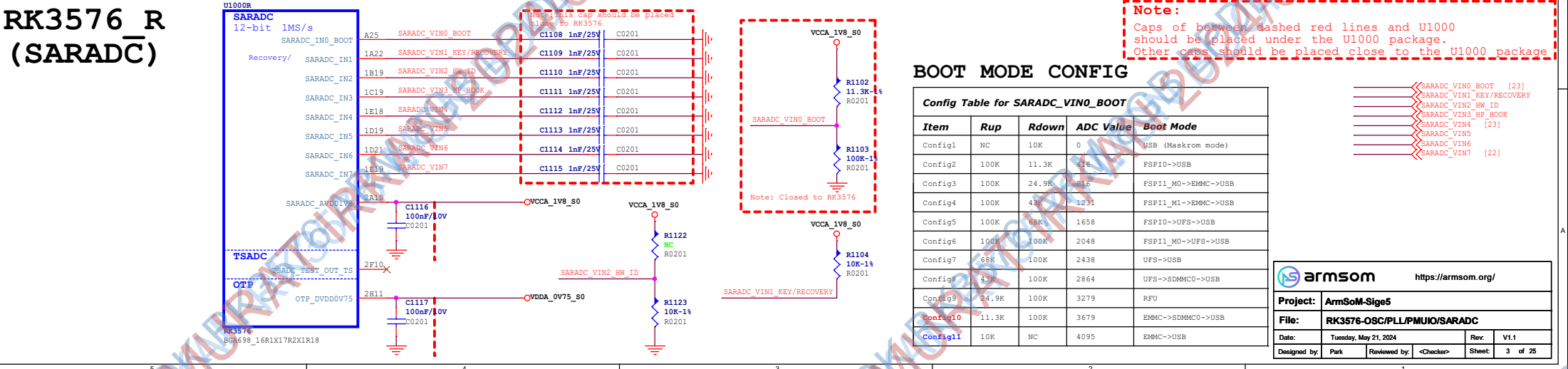
**Note:**

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

RK3576 E
(PMUIO0/1)



RK3576 R
(SARADC)



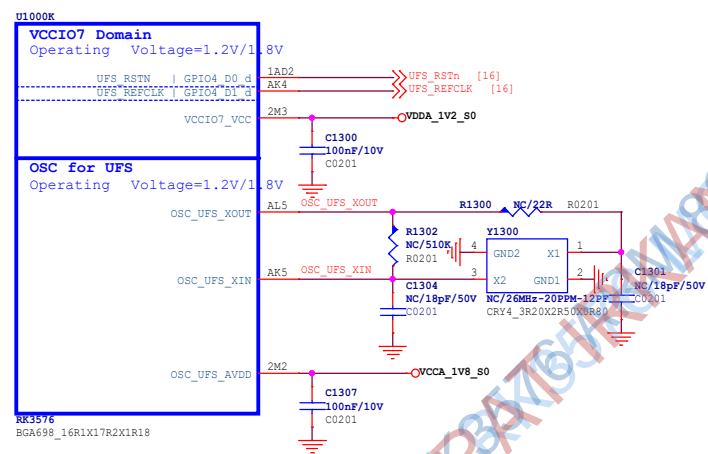
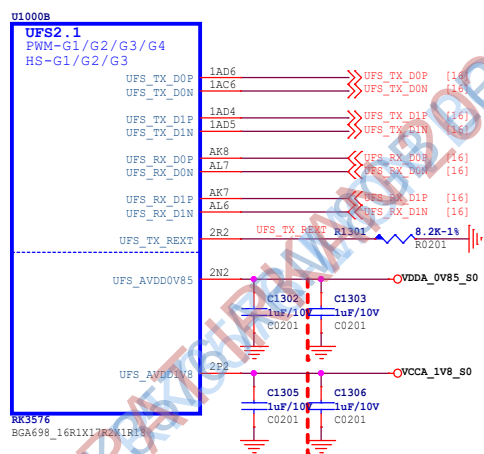
BOOT MODE CONFIG

Config Table for SARADC_VINO_BOOT				
Item	Rup	Rdown	ADC Value	Boot Mode
Config1	NC	10K	0	USB (Maskrom mode)
Config2	100K	11.3K	416	FSP10->USB
Config3	100K	24.9K	816	FSP11_M0->EMMC->USB
Config4	100K	43K	1231	FSP11_M1->EMMC->USB
Config5	100K	68K	1658	FSP10->UFS->USB
Config6	100K	100K	2048	FSP11_M0->UFS->USB
Config7	68K	100K	2438	UFS->USB
Config8	43K	100K	2864	UFS->SDMMC0->USB
Config9	24.9K	100K	3279	RFU
Config10	11.3K	100K	3679	EMMC->SDMMC0->USB
Config11	10K	NC	4095	EMMC->USB

<https://armsom.org/>

Project:	ArmSoM-Sigs5
File:	RK3576-OSC/PLL/PMUIO/SARADC
Date:	Tuesday, May 21, 2024
Designed by:	Park
Reviewed by:	<Checker>
Rev:	V1.1
Sheet:	3 of 25

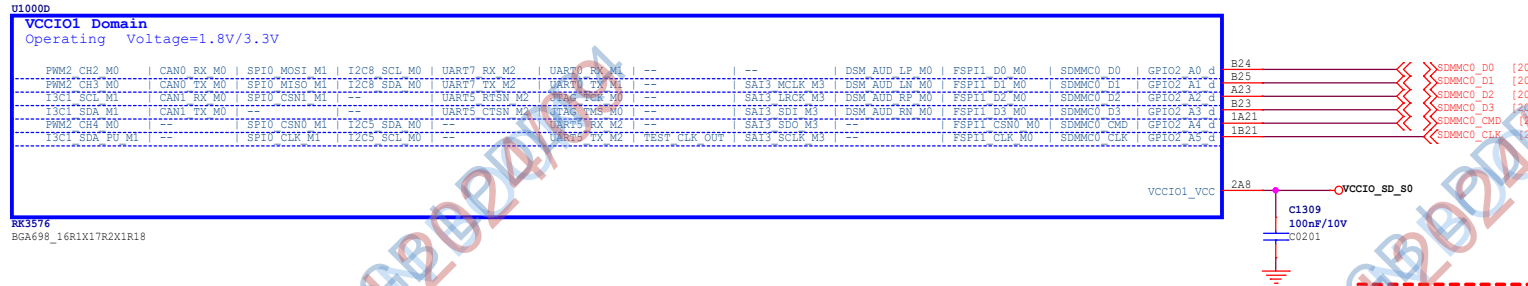
RK3576 B
(UFS2.1)



RK3576 C
(VCCIO0)



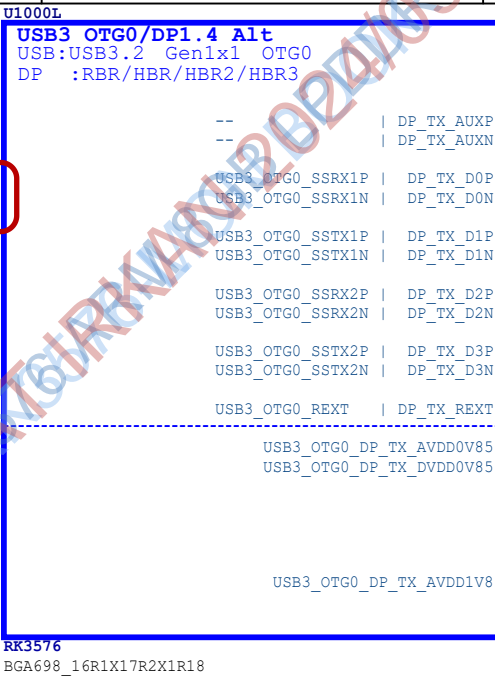
RK3576 D
(VCCIO1)



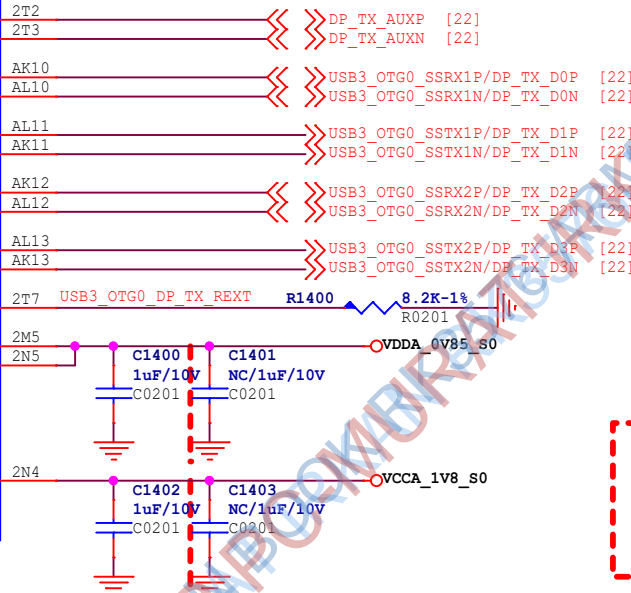
Note:
Caps of between dashed red lines and U1000 should be placed under the U1000 package.
Other caps should be placed close to the U1000 package

RK3576 L (USB3/DP)

USB-3 PORTU



Support:
Type-C With Displayport Alternate Mode

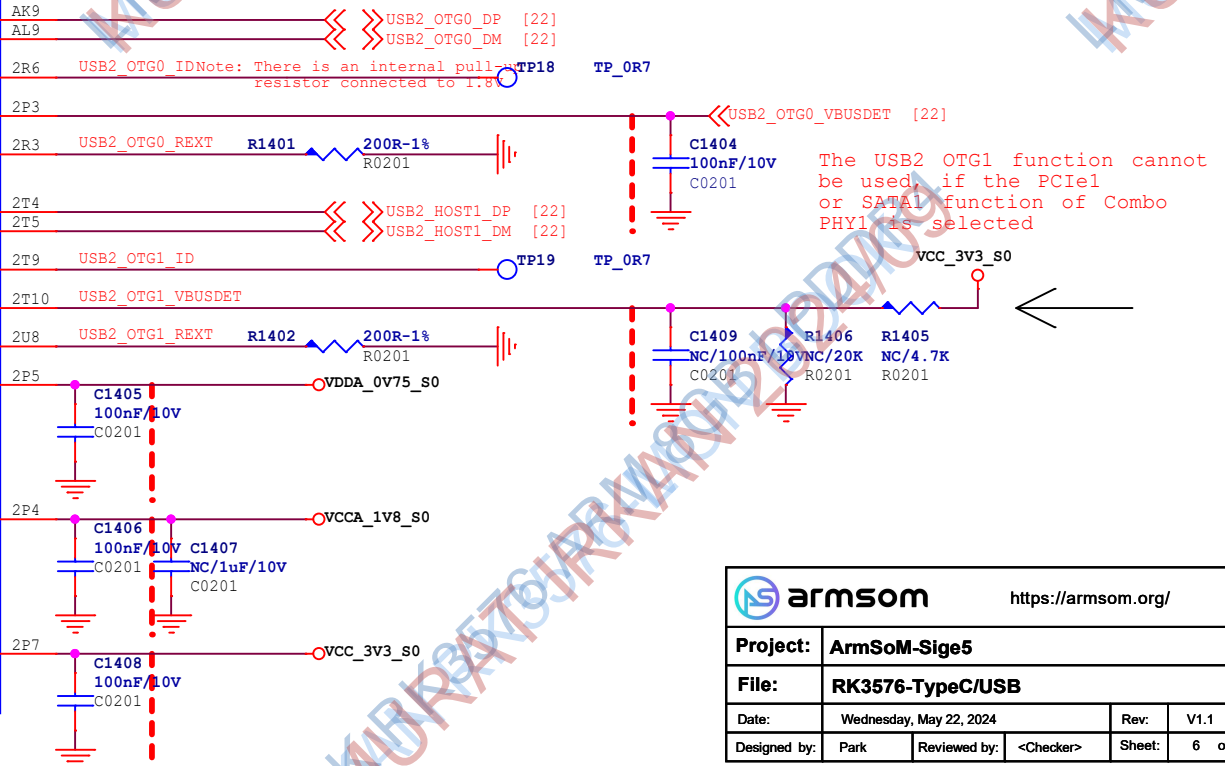
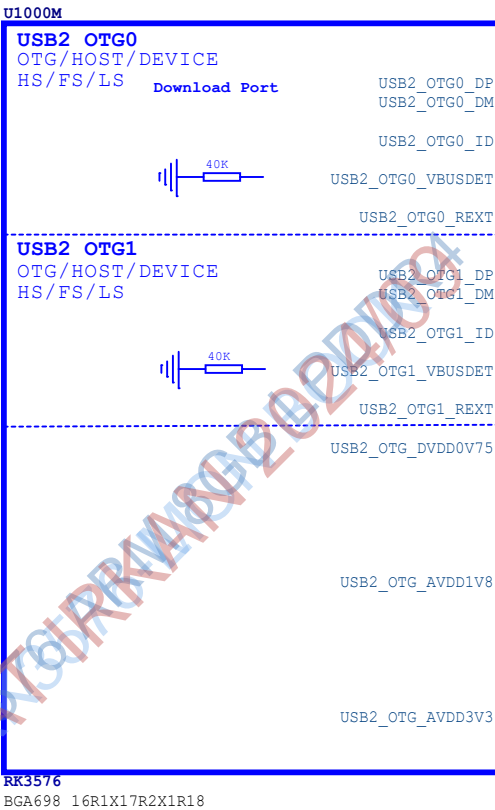


Note:

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

RK3576 M (USB2)

USB 2.0



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Project: ArmSoM-Sig5

File: RK3576-TypeC/USB

Date: Wednesday, May 22, 2024

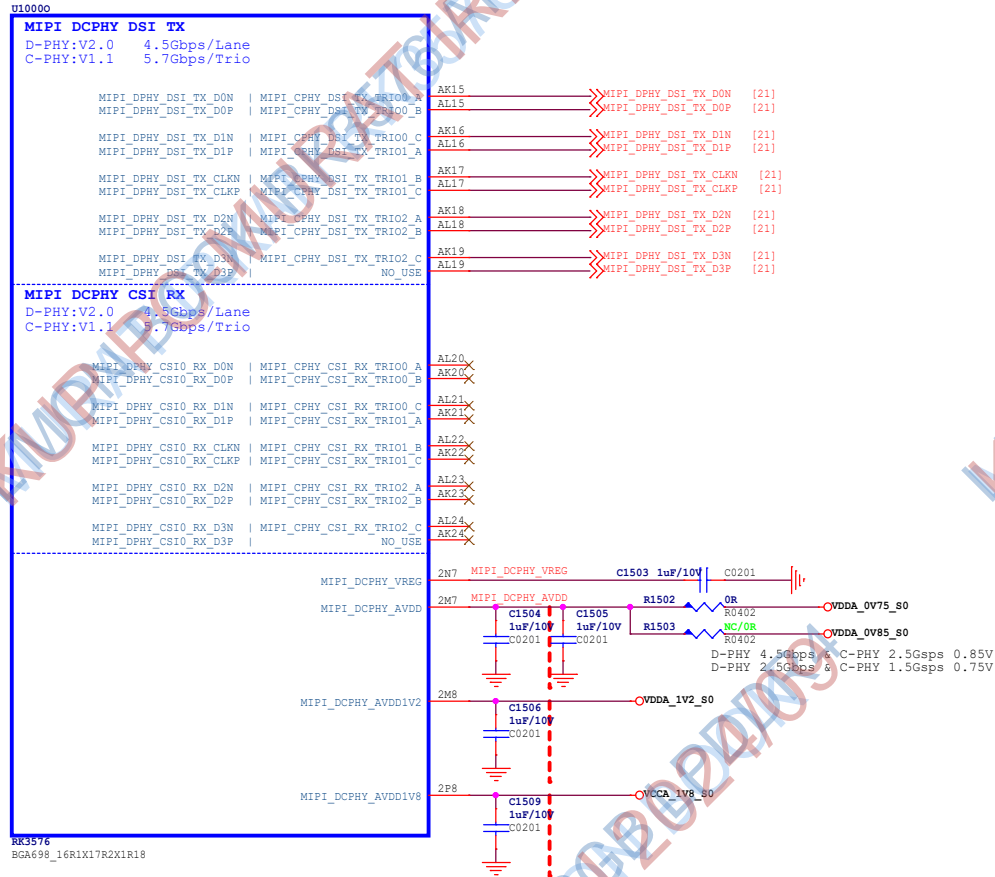
Rev: V1.1

Designed by: Park

Reviewed by: <Checker>

Sheet: 6 of 25

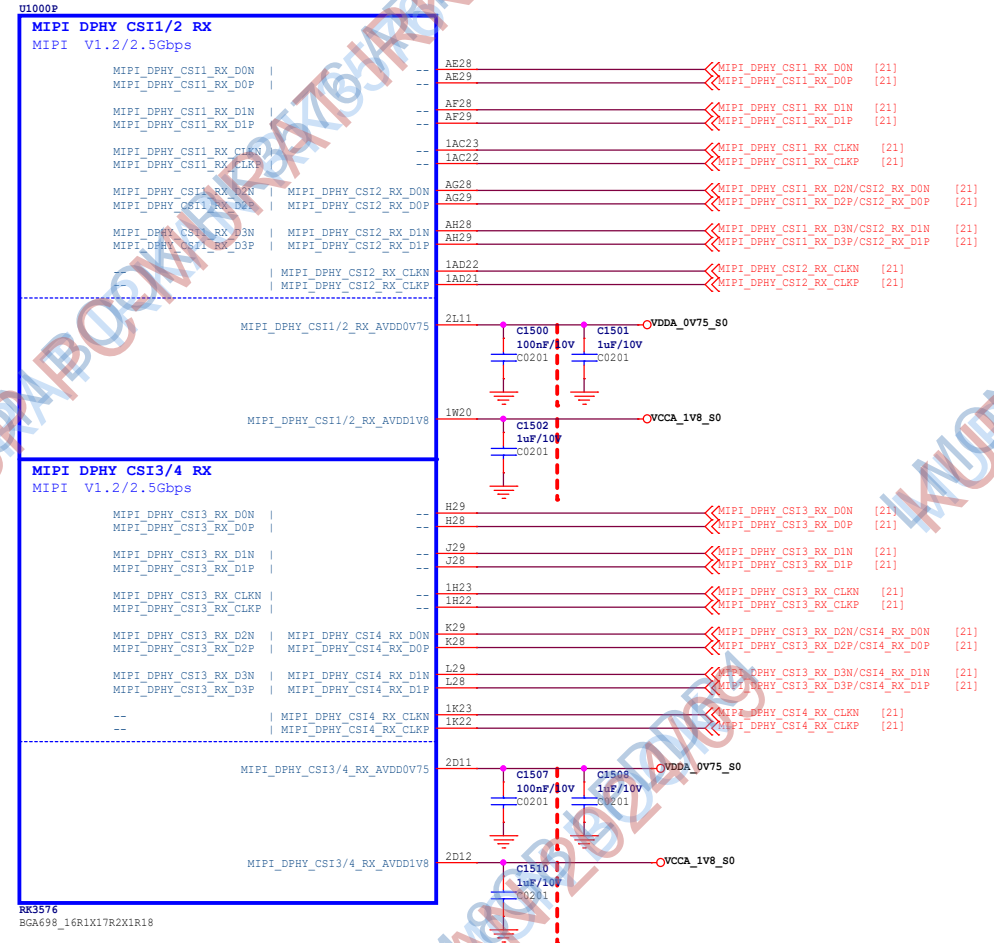
RK3576_O (MIPI DCPHY)



Note:


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

RK3576_P (MIPI DPHY CSI RX)



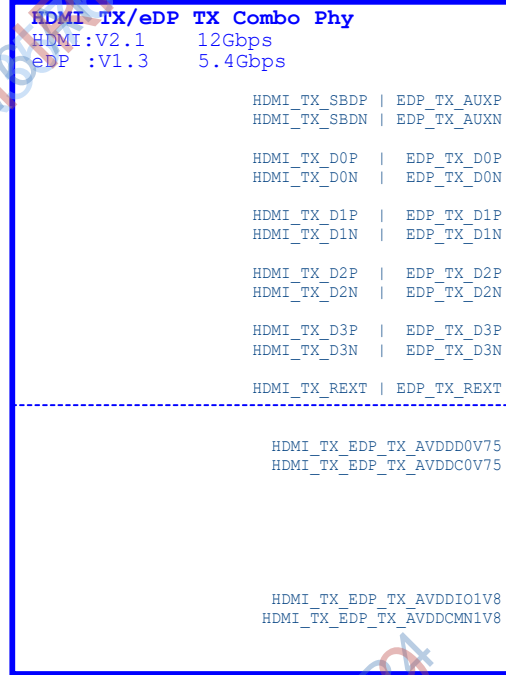
Note:

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

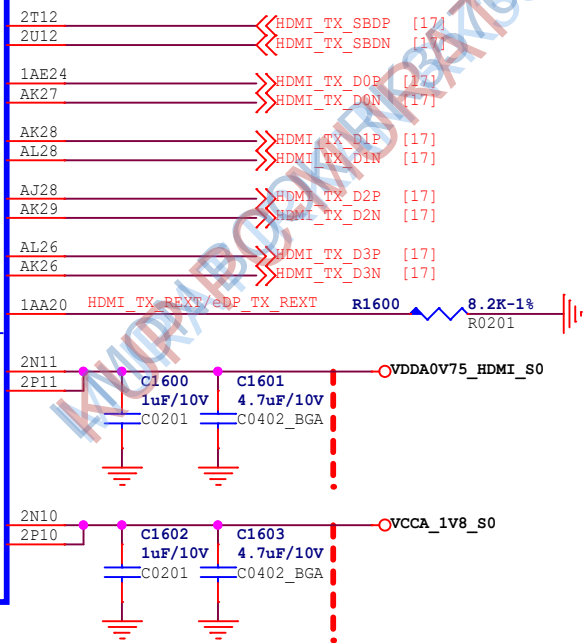
		https://armsom.org/	
Project:		ArmSoM-Sigs5	
File:		RK3576-MIPI DSI/CSI	
Date:	Tuesday, May 21, 2024	Rev:	V1.1
Designed by:	Park	Reviewed by:	<Checker>
Sheet:		7 of 25	

RK3576_Q (HDMI/eDP)


Note:
HDMI 2.1 supports up to 4Kx2K@120Hz
U10000



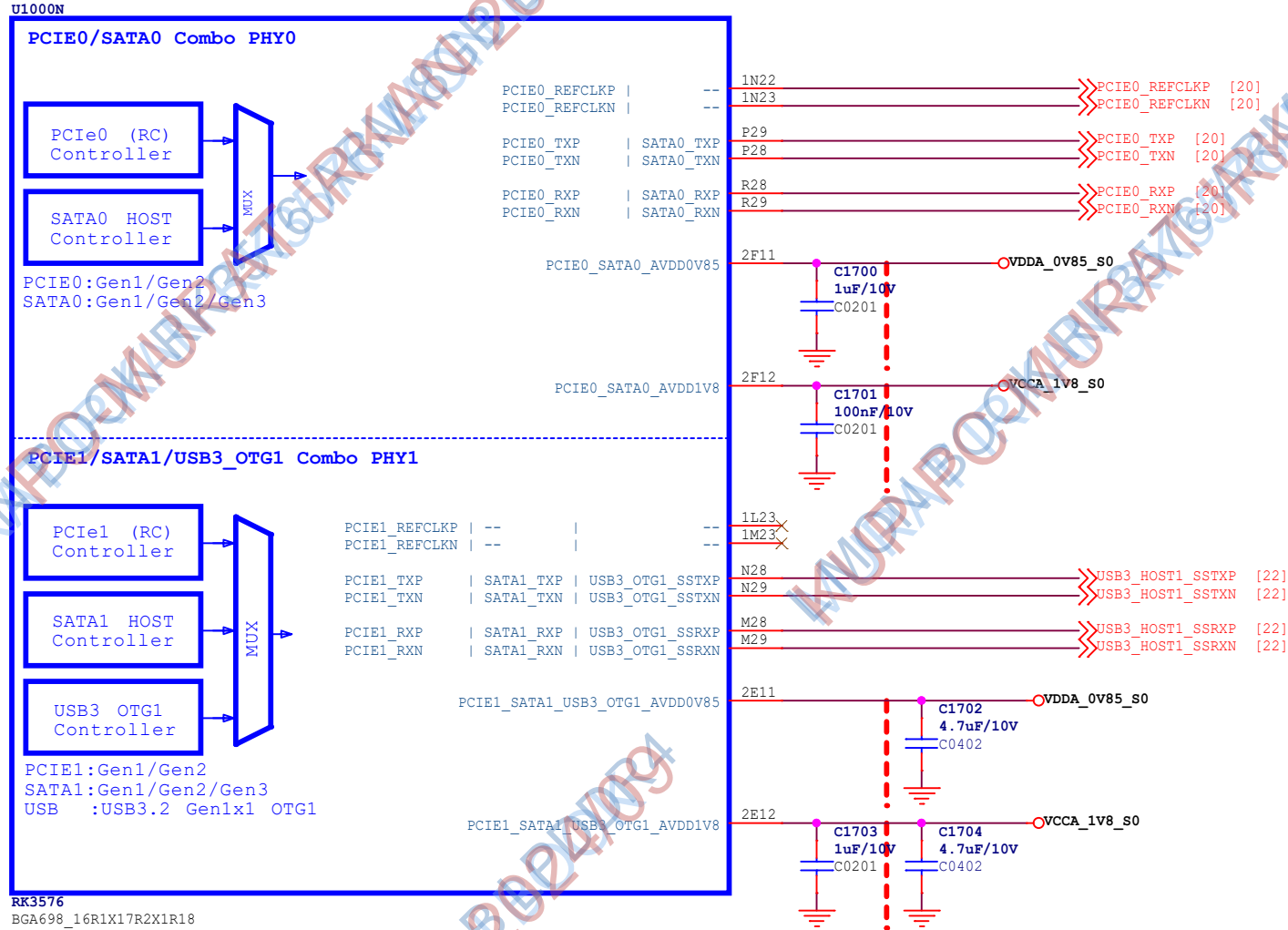
RK3576
BGA698_16R1X17R2X1R18



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


		armsom		https://armsom.org/	
Project:		ArmSoM-Sig5			
File:		RK3576-MIPI DSI/CSI			
Date:		Wednesday, May 22, 2024		Rev:	V1.1
Designed by:		Park	Reviewed by:	<Checker>	Sheet: 8 of 25

RK3576_N (PCIe/SATA/USB3)

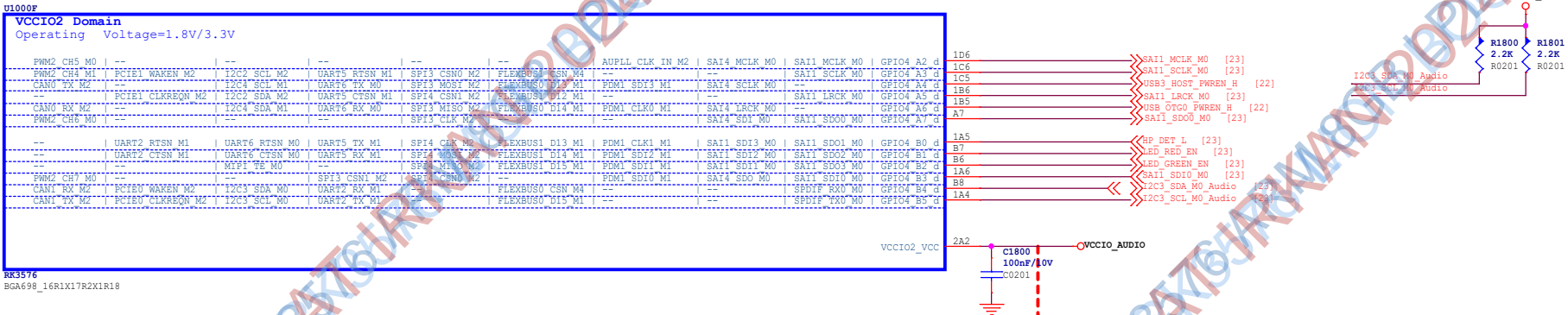


Note:

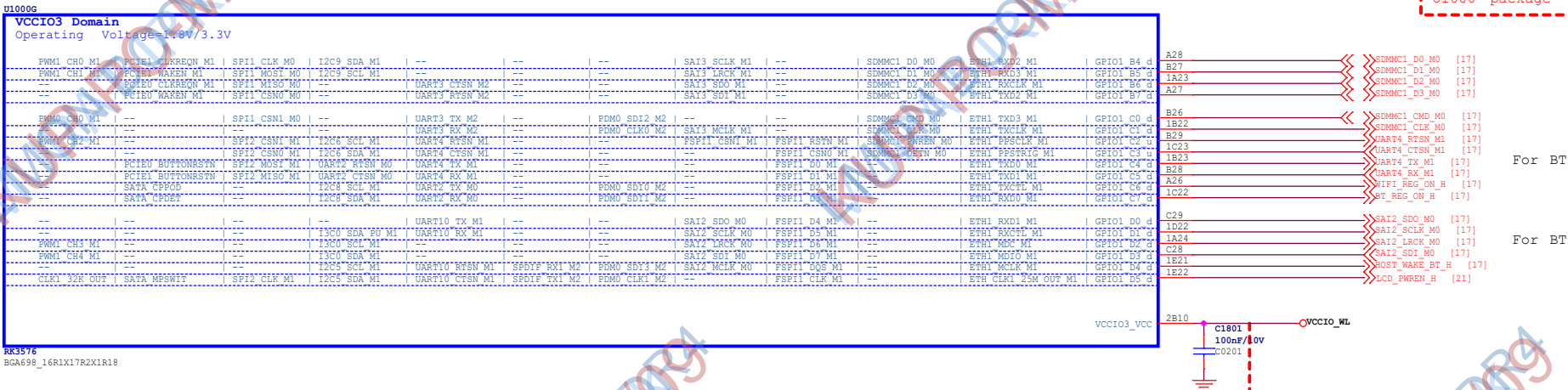
Caps of between dashed red lines and U1000 should be placed under the U1000 package. Other caps should be placed close to the U1000 package

		armsom		https://armsom.org/	
Project:		ArmSoM-Sige5			
File:		RK3576-PCIe/SATA/USB3			
Date:		Tuesday, May 21, 2024		Rev:	V1.1
Designed by:		Park	Reviewed by:	<Checker>	Sheet: 9 of 25

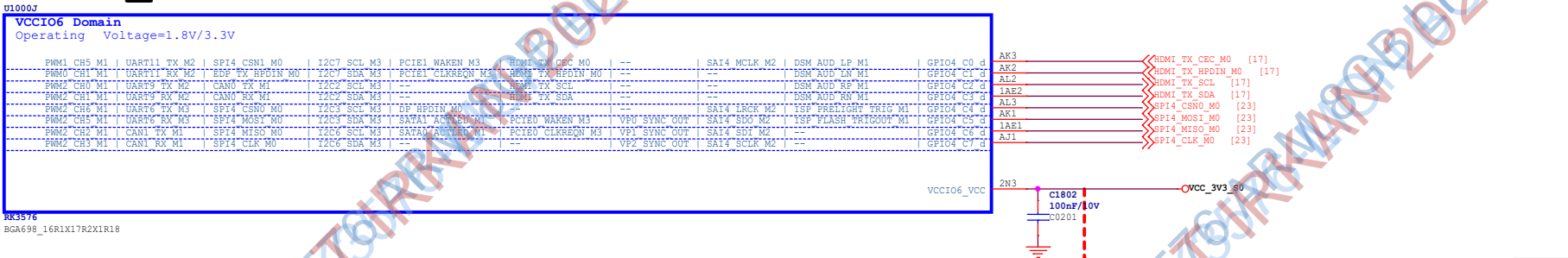
RK3576 F (VCCIO2)



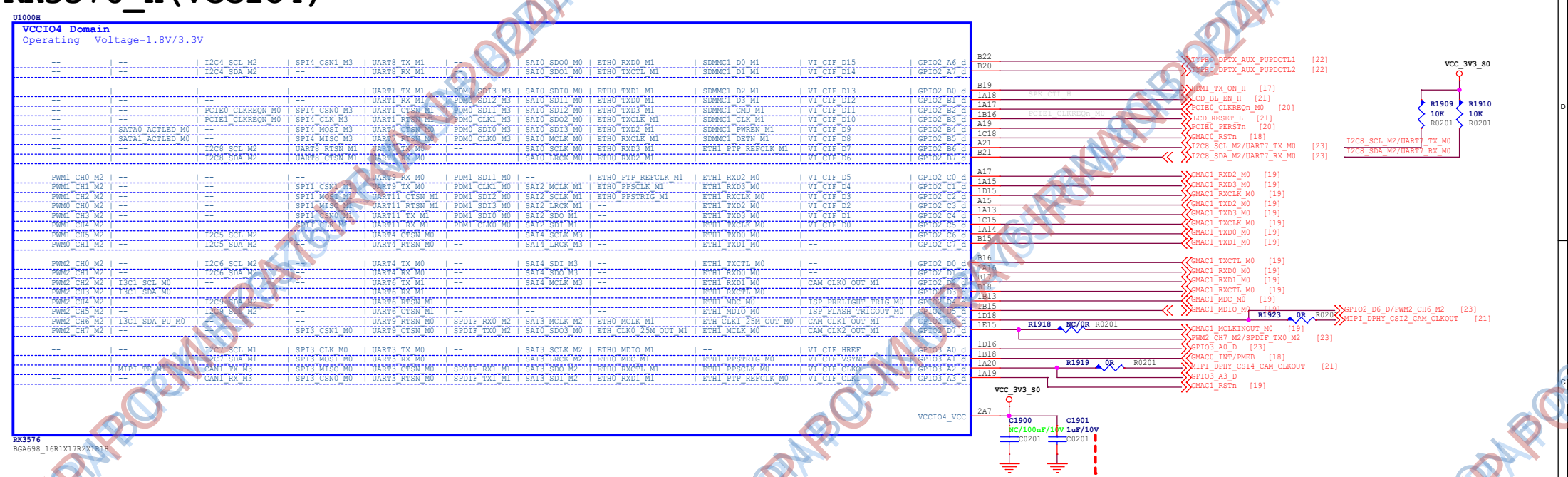
RK3576 G (VCCIO3)



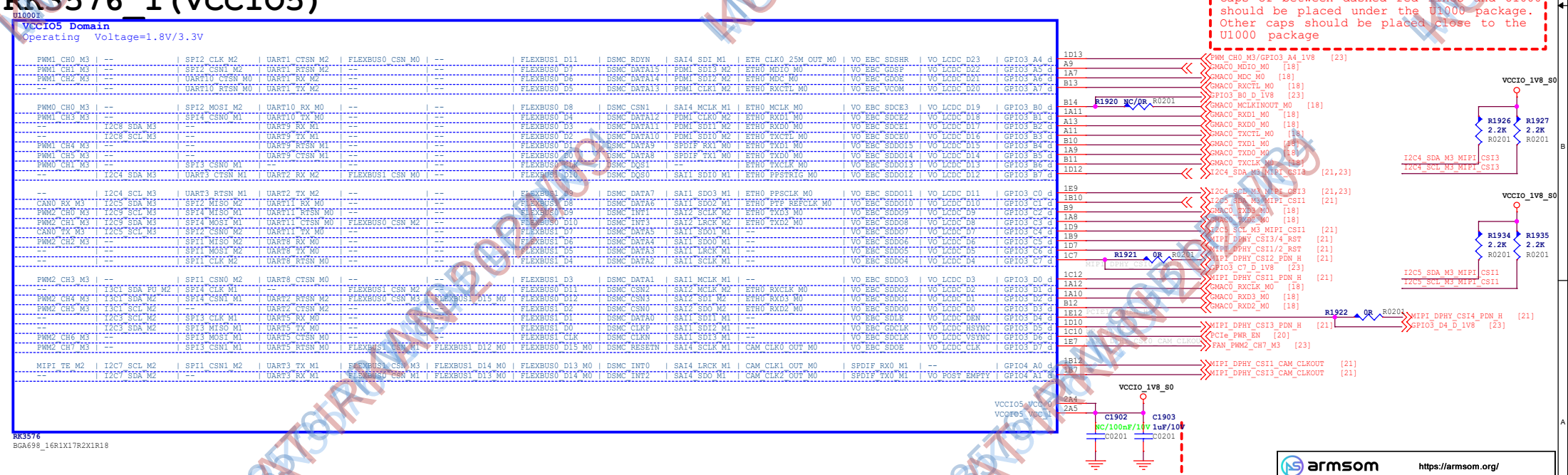
RK3576 J (VCCI06)



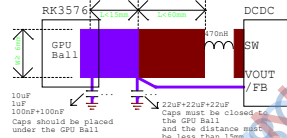
RK3576_H (VCCIO4)



RK3576 I (VCCI05)



PMIC RK806S-5 BUCK



Default: 0.61V

D0B Type	Voltage	R0
LPS084/43	0.61V	22K 1%
LPS085	0.51V	2K 1%

Default: 1.1V

D0B Type	Voltage	R0
LPS084/43	1.1V	120K 1%
LPS085	1.05V	210K 1%

Default: 1.8V



Default: 0.85V

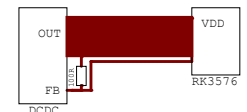
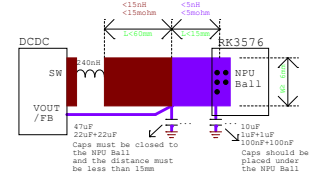
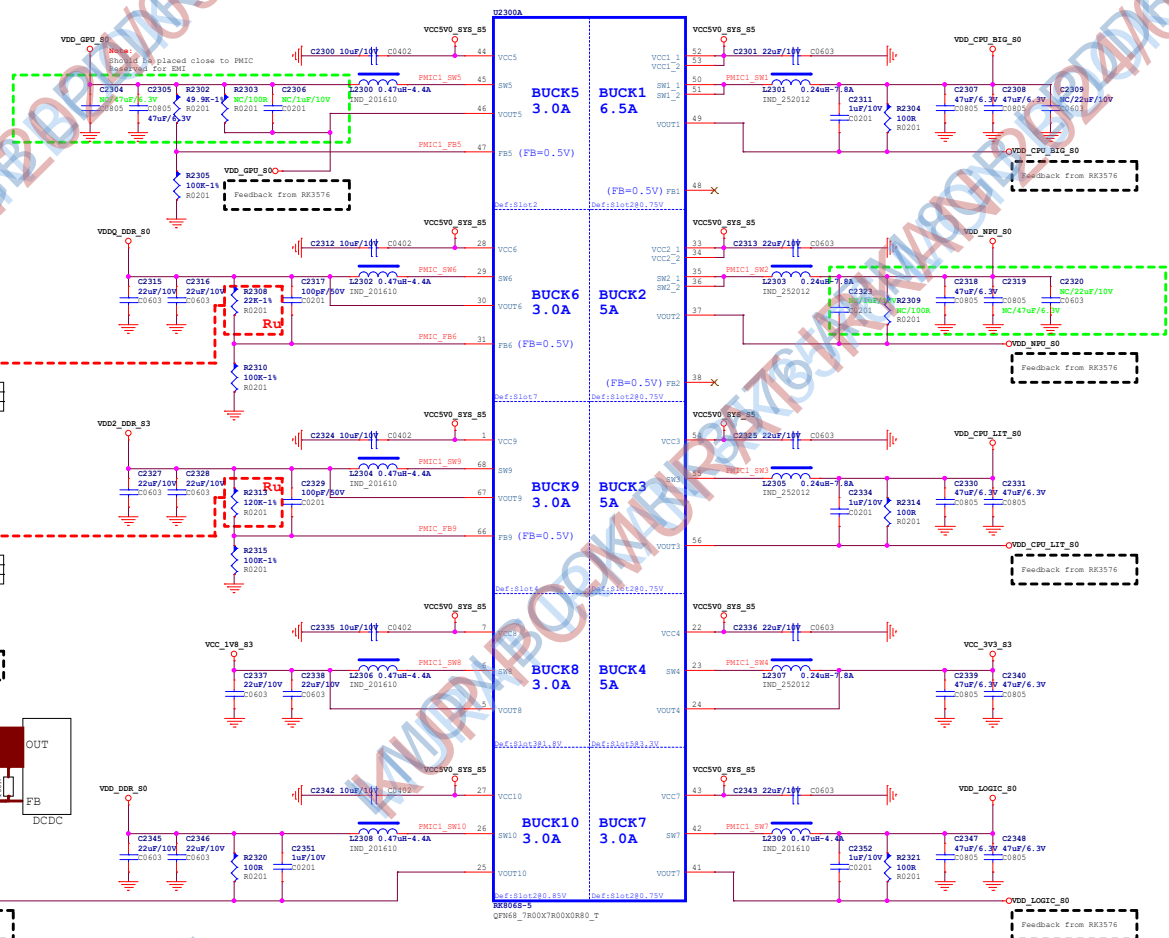
Low frequency
Operating Supply Voltage +5.5V(5.25-6V)
Peak Pulse Current >10A (gm/20uA)
Surge Clamping Voltage <6.5V

0.85V-->0.75V

**IF TVS UNMOUNTED,
ESD OR SURGE SHOULD BE
DAMAGE THE PMIC!!!**

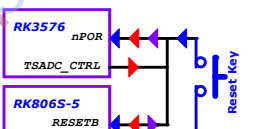
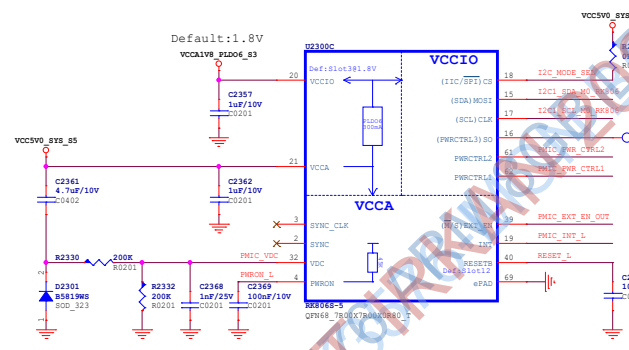
This device must be mounted. Replacing TVS mode is not recommended, if must, please choose the same specifications.
Operating Supply Voltage +5.5V(5.25-6V)
Peak Pulse Current >10A (gm/20uA)
Surge Clamping Voltage <6.5V

DO NOT DELETE IT!



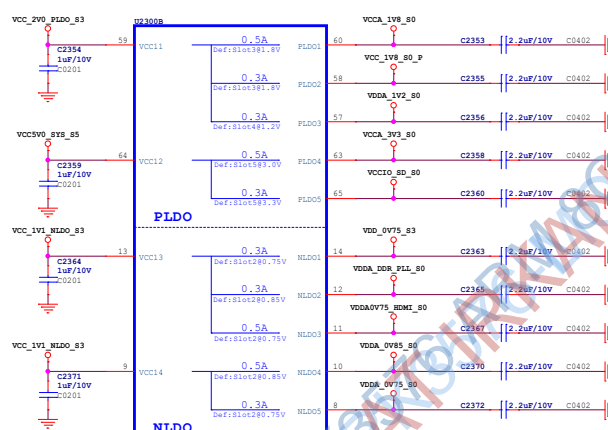
PMIC RK806S-5 Management

Note:
I2C Mode: CS (pin18) connected to VCCA (pin21);
SPI Mode (Def): CS (pin18) floating or connected to GND



Note:
Reset Key Control Path
TSADC_CTRL Control Path
RK806S-5 Control Path

PMIC RK806S-5 LDO



Default: 1.8V

Default: 1.8V

Default: 1.2V

Default: 3.0V

Default: 3.3V

Default: 0.75V

Default: 0.85V; Low frequency: 0.85V-->0.75V

Default: 0.75V

Default: 0.85V

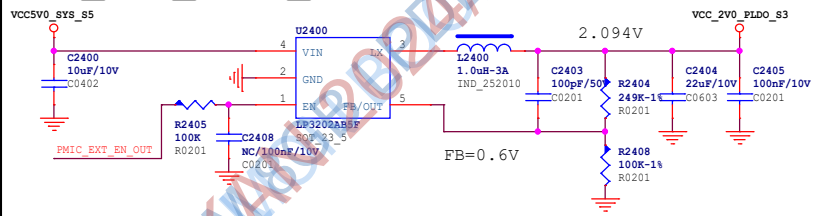
Default: 0.75V

Note:

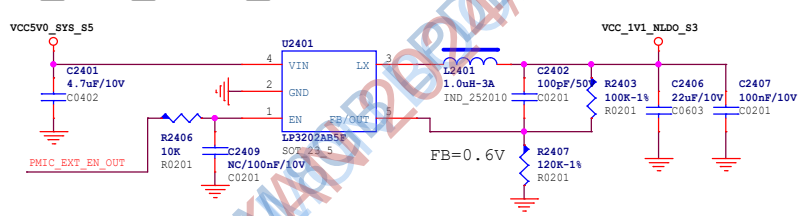
The RK806 LDO power distribution of the reference schematics is only suitable for the interface used in the reference schematics.
If other interface functions are to be added to the reference schematics, the RK806 LDO distribution needs to be re-evaluated, otherwise the added functions may exceed the maximum current provided by the LDO.

Project: ArmSoM-SigEs		https://armsom.org/	
File: Power-PMIC RK806S-5			
Date: Wednesday, May 22, 2024	Rev: V1.1		
Designed by: Part	Reviewed by: <Check>	Sheet: 12 of 26	

VCC_2V0_PLDO_S3

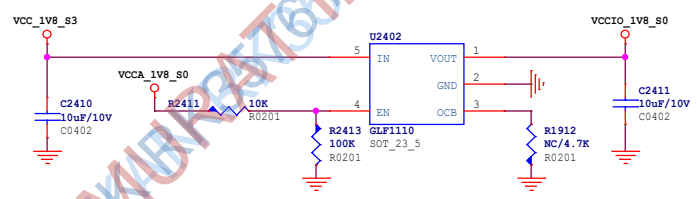


VCC_1V1_NLDO_S3



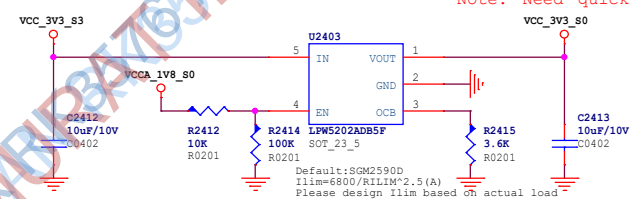
VCCIO_1V8_S0

Note: Need quick output discharge

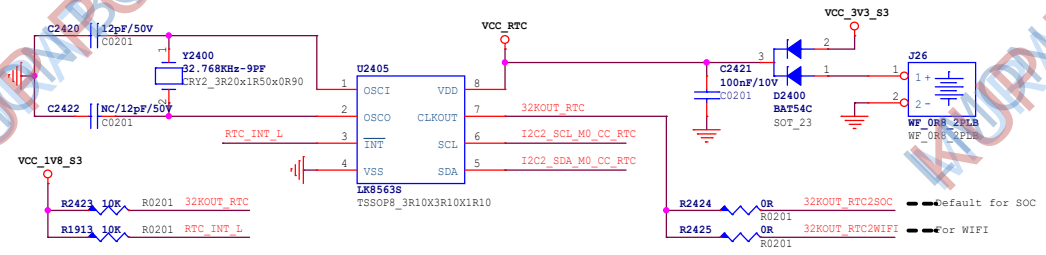


VCC_3V3_S0

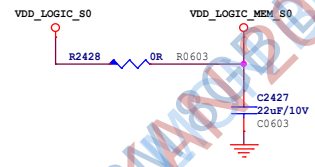
Note: Need quick output discharge



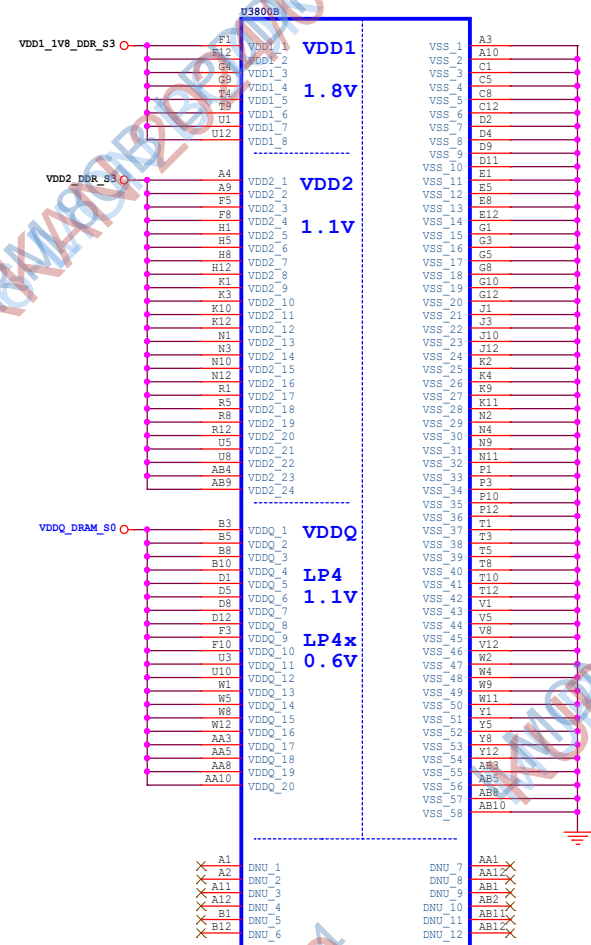
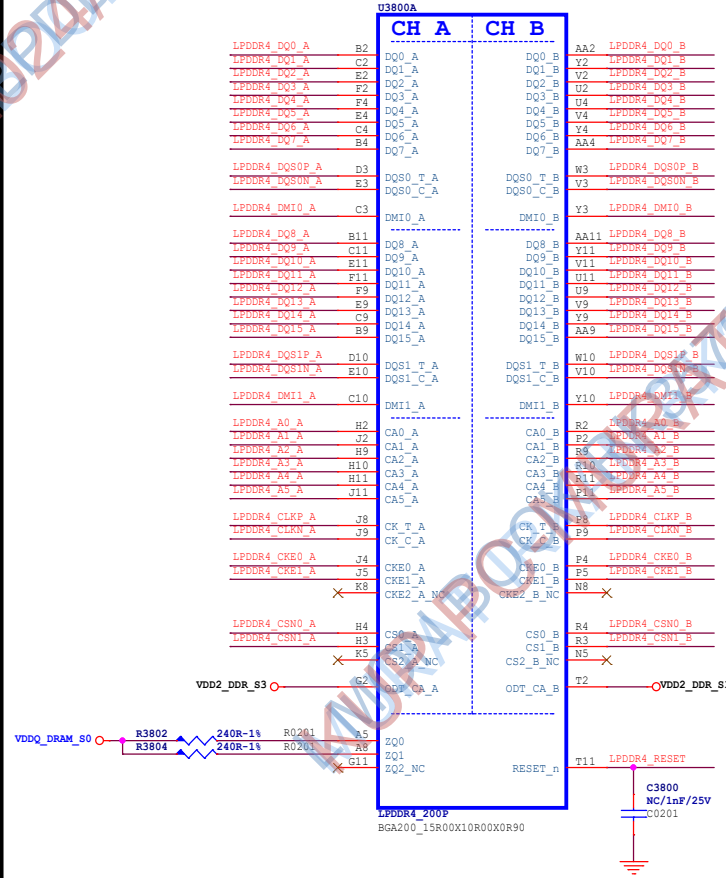
RTC



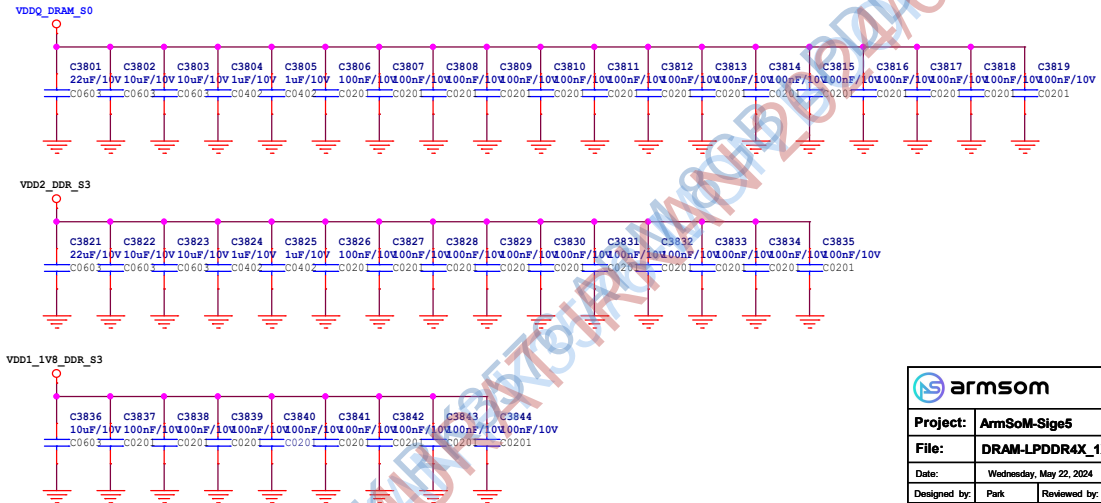
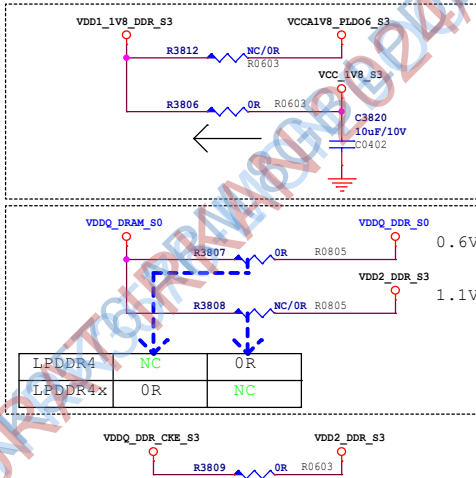
VDD_LOGIC_MEM EXT (Option for test)




LPDDR4/4X



Note:
Sequence: VDD1-VDD2-VDDQ
LPDDR4 LPDDR4X
VDD1: 1.70-1.95 1.70-1.95
VDD2: 1.06-1.17 1.06-1.17
VDDQ: 1.06-1.17 0.57-0.65



 armsom		https://armsom.org/	
Project:	ArmSoM-Sig5		
File:	DRAM-LPDDR4X_1X32bit_200P		
Date:	Wednesday, May 22, 2024	Rev:	V1.1
Designed by:	Park	Reviewed by:	<Checker>
		Sheet:	14 of 25

eMMC FLASH

[5] eMMC_D0<<>>
[5] eMMC_D1<<>>
[5] eMMC_D2<<>>
[5] eMMC_D3<<>>
[5] eMMC_D4<<>>
[5] eMMC_D5<<>>
[5] eMMC_D6<<>>
[5] eMMC_D7<<>>

[5] eMMC_CMD<<>>

[5] eMMC_CLKOUT<<>>

[5] eMMC_DATA_STROBE<<>>

[5] eMMC_RSTn<<>>

VCCIO_1V8_S0

R4000 10K
R0201

R4001 NC/10K
R0201

eMMC_D0 A3
eMMC_D1 A4
eMMC_D2 A5
eMMC_D3 B2
eMMC_D4 B3
eMMC_D5 B4
eMMC_D6 B5
eMMC_D7 B6

eMMC_CMD M5

U4000A

DATA0
DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7

CMD

CLK

Data Strobe

RST_n

VDDi

EMMC B153 2L
BGA153_13RX11R5X0R9_2L



eMMC_DATA_STROBE R4004 OR R0201 H5

VCCIO_1V8_S0

R4005 NC/47K
R0201

R4006 NC/10K
R0201

eMMC_RSTn K5



VCCIO_1V8_S0

C4000 100nF/10V
C0201

C4001 100nF/10V
C0201

C4002 4.7uF/10V
C0402

VCC_3V3_S0

C4004 100nF/10V
C0201

C4005 100nF/10V
C0201

C4006 4.7uF/10V
C0402

U4000B


A2 NC2
A8 NC8
A9 NC9
A10 NC10
A11 NC11
A12 NC12
A13 NC13
A14 NC14
B1 NC15
B7 NC21
B8 NC22
B9 NC23
B10 NC24
B11 NC25
B12 NC26
B13 NC27
B14 NC28
C1 NC29
C3 NC31
C7 NC35
C8 NC36
C9 NC37
C10 NC38
C11 NC39
C12 NC40
C13 NC41
C14 NC42
D1 NC43
D2 NC44
D3 NC45
D4 NC46
D12 NC54
D13 NC55
D14 NC56
E1 NC57
E2 NC58
E3 NC59
E12 NC68
E13 NC69
E14 NC70
F1 NC71
F2 NC72
F3 NC73
F12 NC82
F13 NC83
F14 NC84
G1 NC85
G2 NC86
G12 NC96
G13 NC97
G14 NC98

A7 RFU1
E5 RFU2
E8 RFU3
G3 RFU4
G10 RFU5

NC196 P14
NC195 P13
NC194 P12
NC193 P11
NC191 P8
NC190 P2
NC184 P1
NC183 N14
NC182 N13
NC181 N12
NC180 N11
NC179 N10
NC178 N9
NC177 N8
NC176 N7
NC175 N6
NC174 N3
NC171 N1
NC169 M14
NC168 M13
NC167 M12
NC166 M11
NC165 M10
NC164 M9
NC163 M8
NC162 M7
NC161 M3
NC157 M2
NC156 M1
NC155 L14
NC154 L13
NC153 L12
NC152 L11
NC149 L2
NC148 L1
NC141 K14
NC140 K13
NC139 K12
NC138 K3
NC137 K2
NC128 K1
NC127 J14
NC126 J13
NC125 J12
NC124 J3
NC115 J2
NC114 J1
NC113 H14
NC112 H13
NC111 H12
NC110 H3
NC101 H2
NC100 H1
NC99

P10 P10
P7 P7
K7 K7
K6 K6
RFU9 RFU9
RFU8 RFU8
RFU7 RFU7
RFU6 RFU6

EMMC B153 2L
BGA153_13RX11R5X0R9_2L

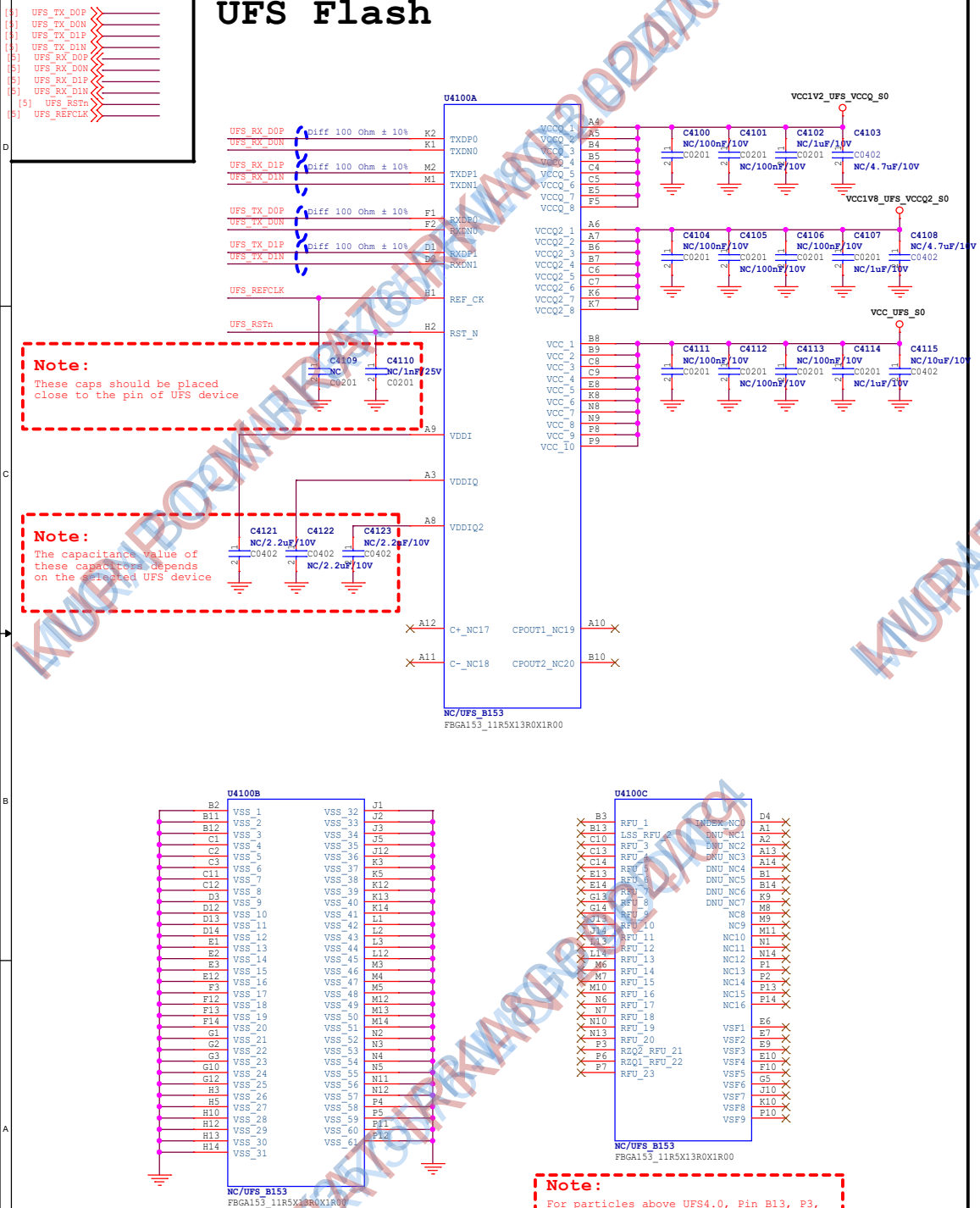


armsom

<https://armsom.org/>

Project:	ArmSoM-Sige5				
File:	Flash-eMMC				
Date:	Wednesday, May 22, 2024			Rev:	V1.1
Designed by:	Park	Reviewed by:	<Checker>	Sheet:	15 of 25

UFS Flash

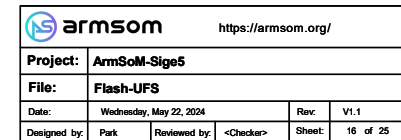
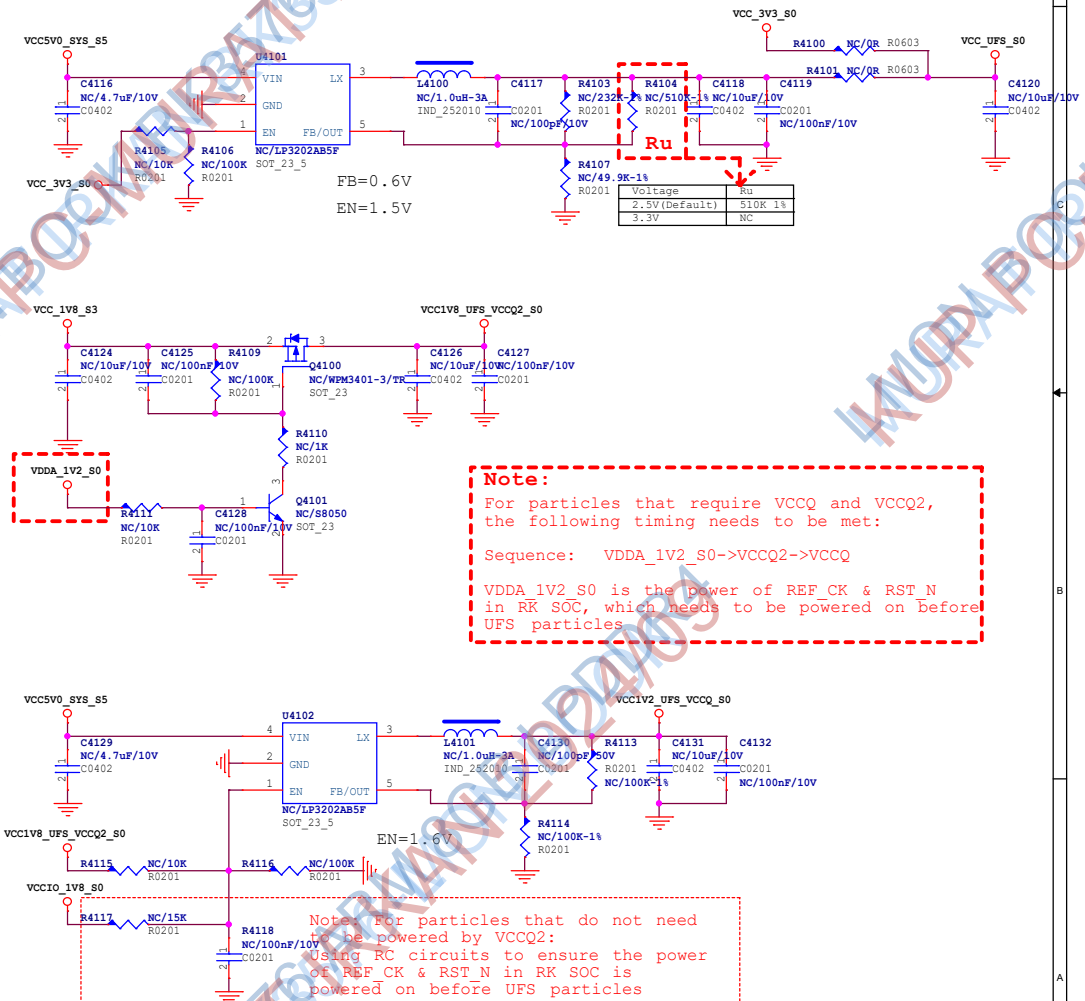


UFS POWER

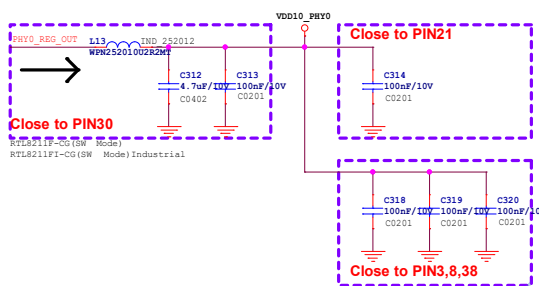
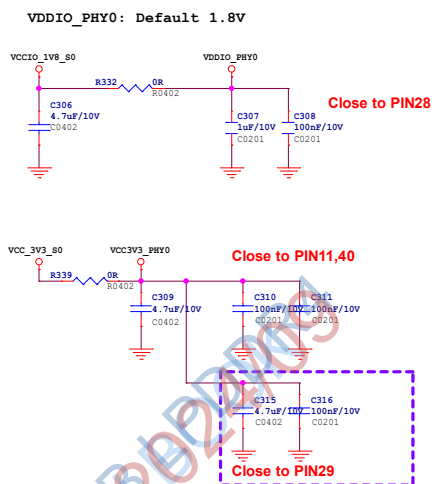
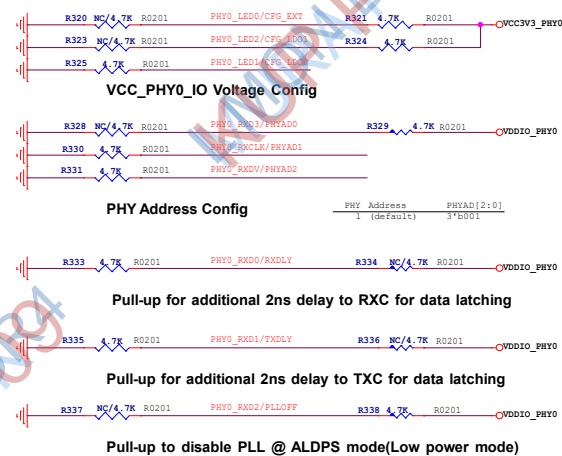
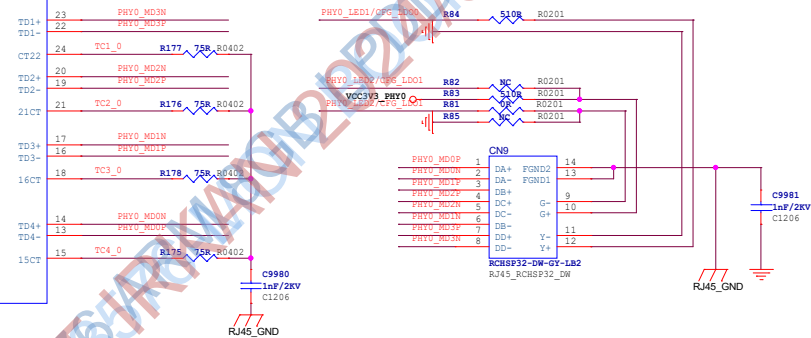
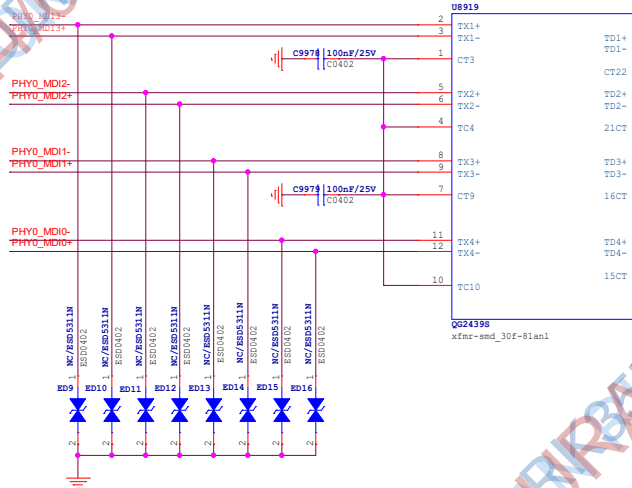
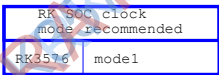
	VCCQ	VCCQ2	VCC	Default UFS device: UFS2.2
UFS2.0	1.2V	1.8V	3.3V	
UFS2.1	No Connect	1.8V	3.3V	
UFS2.2	No Connect	1.8V	3.3V	
UFS3.0	1.2V	No Connect	2.5V/3.3V	
UFS3.1	1.2V	No Connect	2.5V/3.3V	
UFS4.0	1.2V	No Connect	2.5V	

Sequence: VCCQ2->VCCQ, VCC is independent

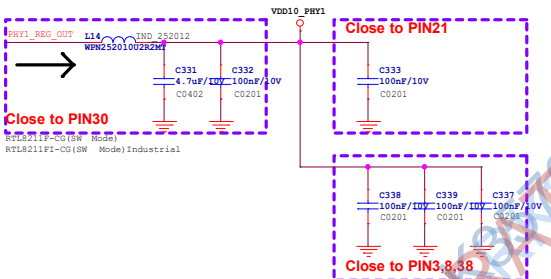
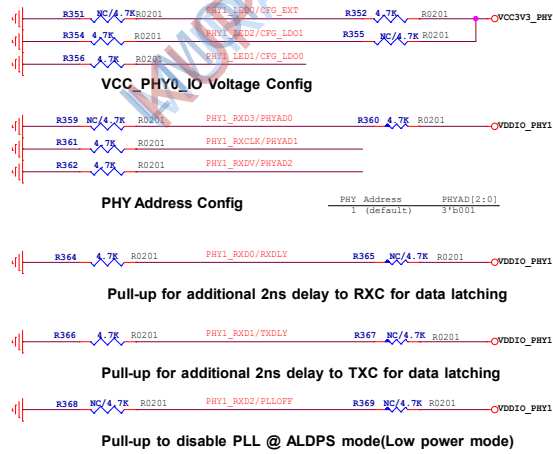
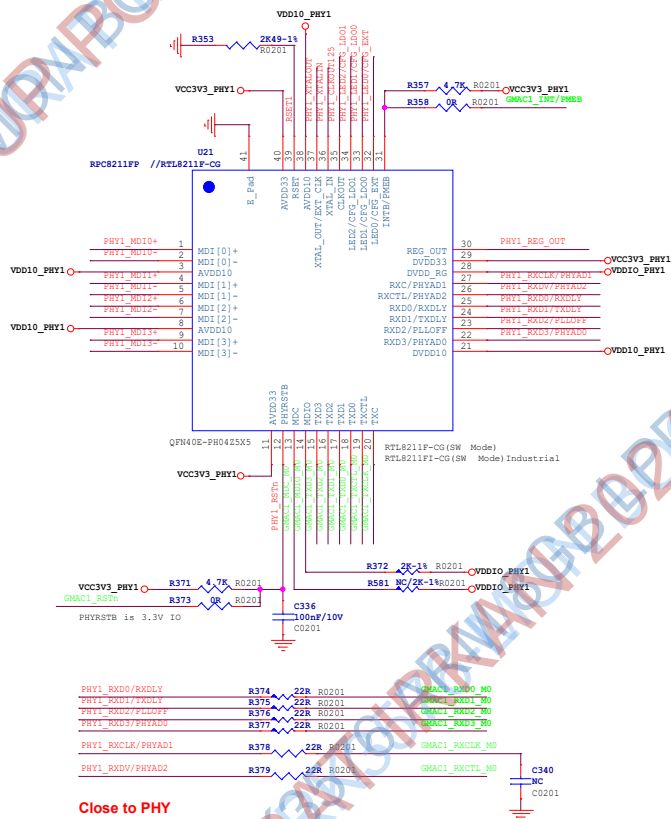
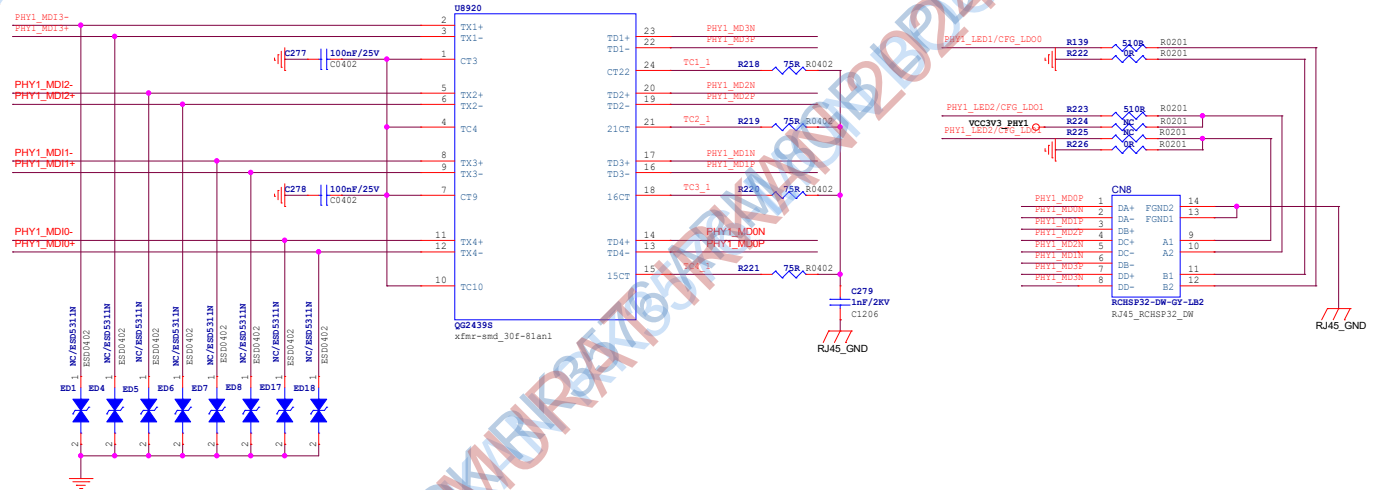
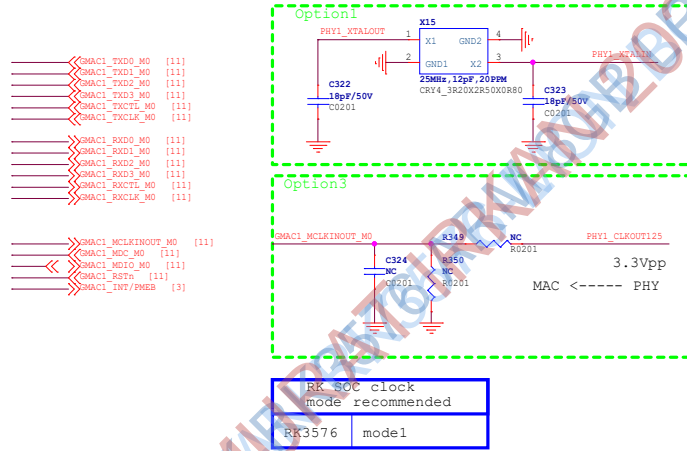
Note: Do not support UFS4.0 Device!
The power ball that is not used at the particle must be kept floating.



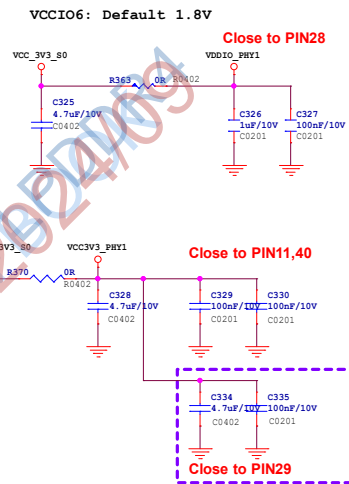
_____	GMAC0_TXD0_M0	[11]
_____	GMAC0_TXD1_M0	[11]
_____	GMAC0_TXD2_M0	[11]
_____	GMAC0_TXD3_M0	[11]
_____	GMAC0_TXCTL_M0	[11]
_____	GMAC0_TXCLK_M0	[11]
_____	GMAC0_RXD0_M0	[11]
_____	GMAC0_RXD1_M0	[11]
_____	GMAC0_RXD2_M0	[11]
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_____	GMAC0_RXCTL_M0	[11]
_____	GMAC0_RXCLK_M0	[11]

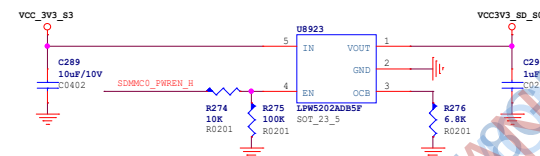
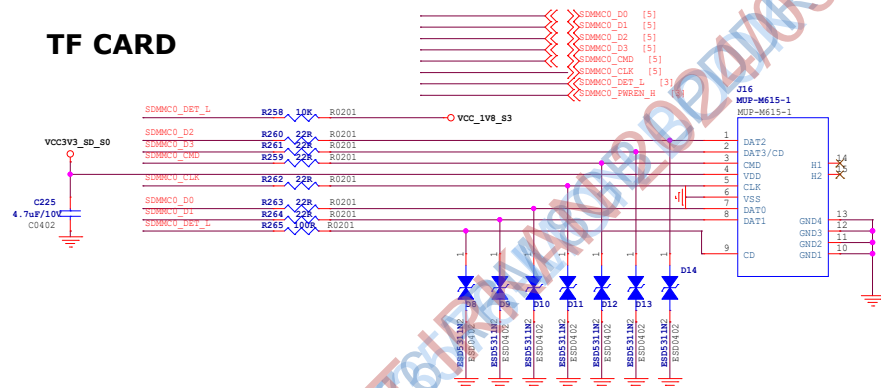


Giga PHY1_WAN

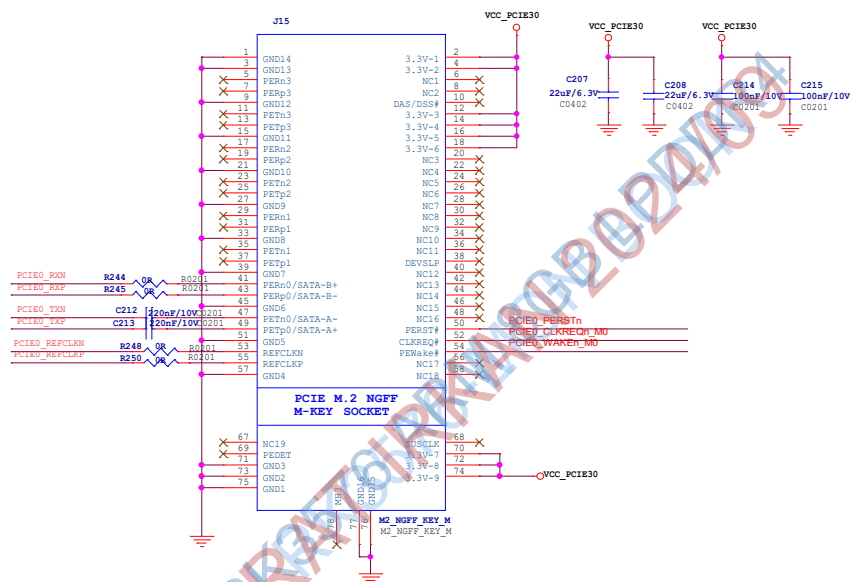
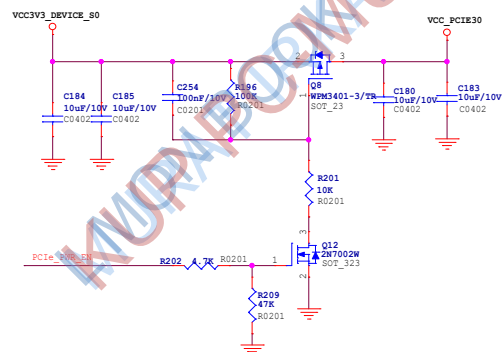
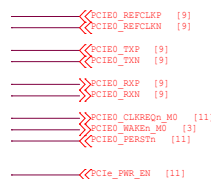


RMII Power Source	CFG EXT	CFG LDO[1:0]	
External 3.3V(default)	1'b1	2'b00	CFG_EXT: 1: External Power Source for 10 pad. 0: Integrated LDO for 10 pad.
External 1.8V	1'b1	2'b10	CFG_LDO[1:0]: 10: 1.8V 00: 3.3V
Internal 1.8V	1'b0	2'b10	

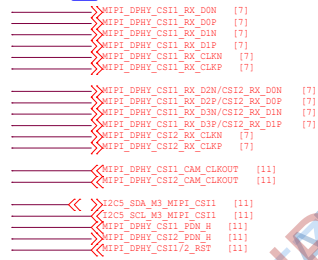


TF CARD

M.2_PCIE



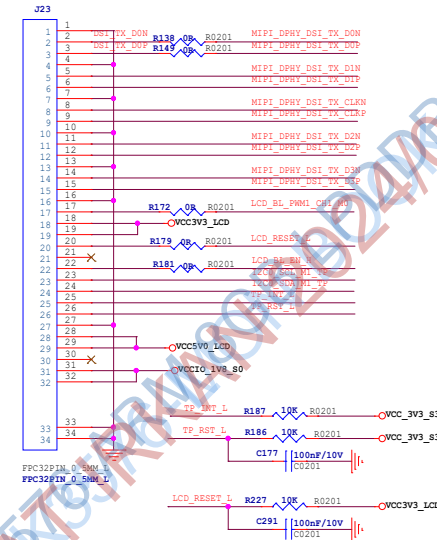
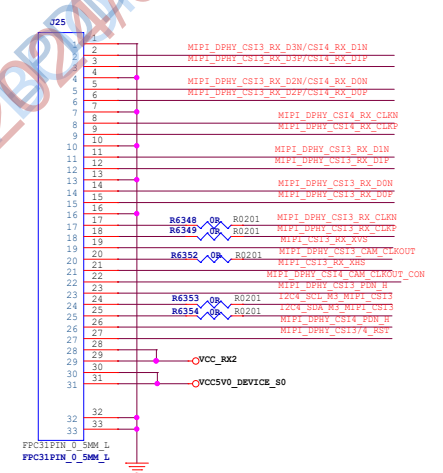
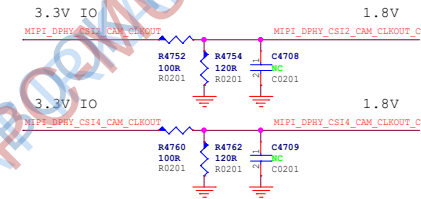
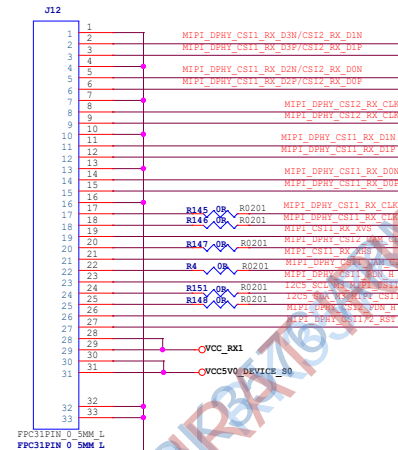
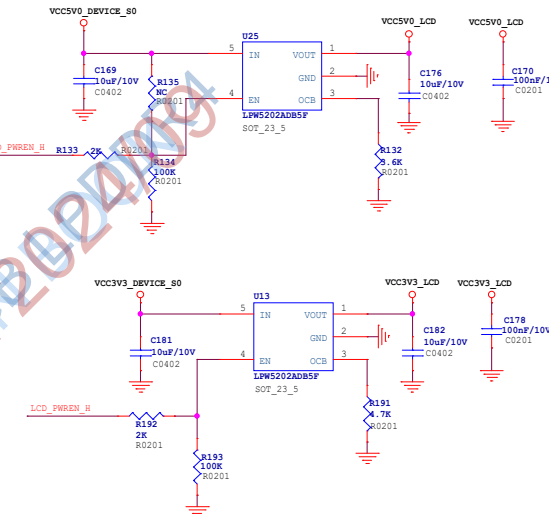
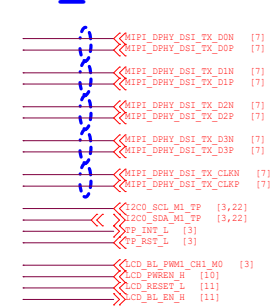
CSI0_MIPI



CS1_MIPI



DSI_MIPI

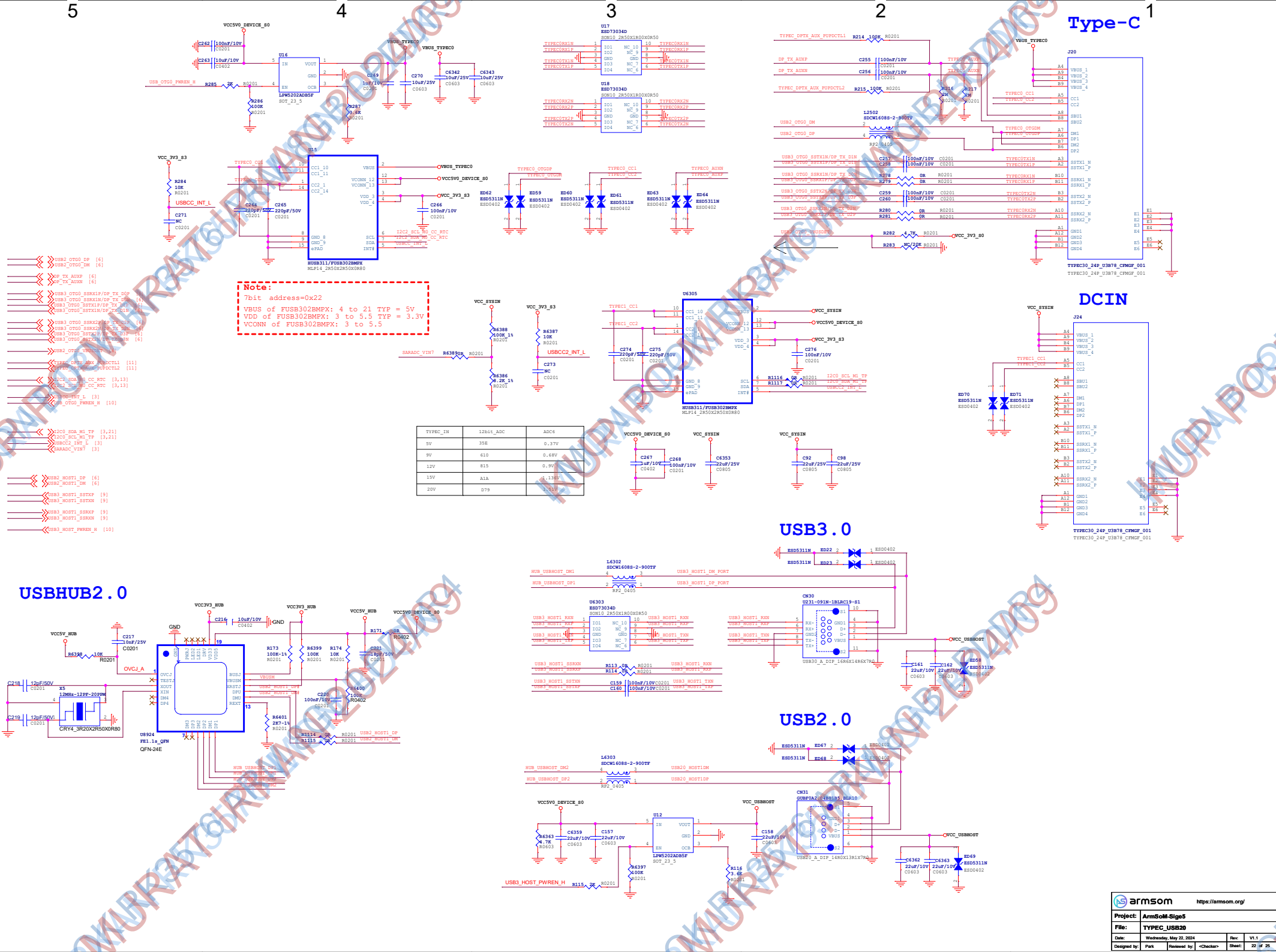


D

C

B

A



AUDIO CODEC

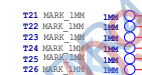
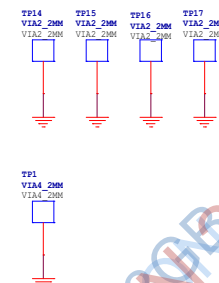
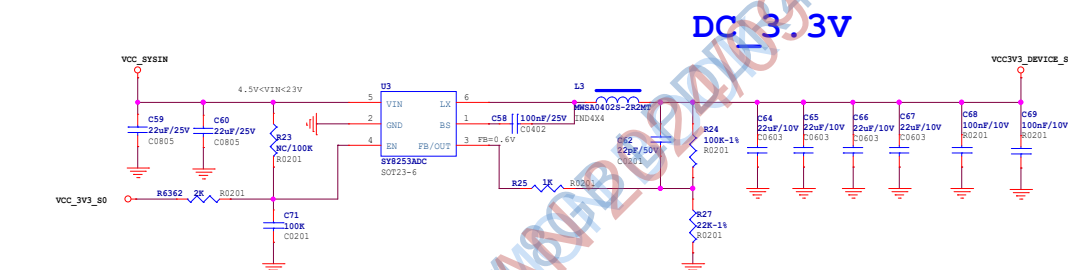
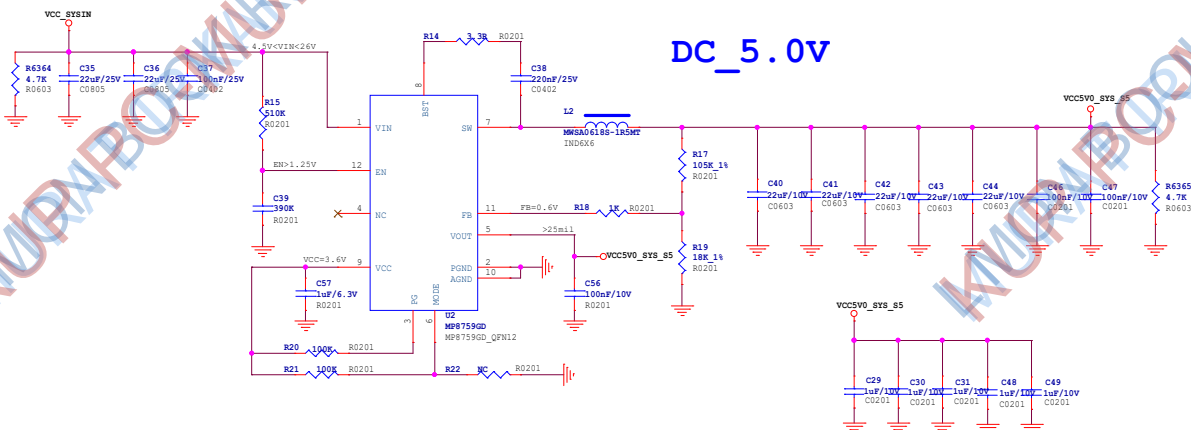
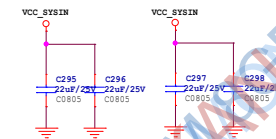
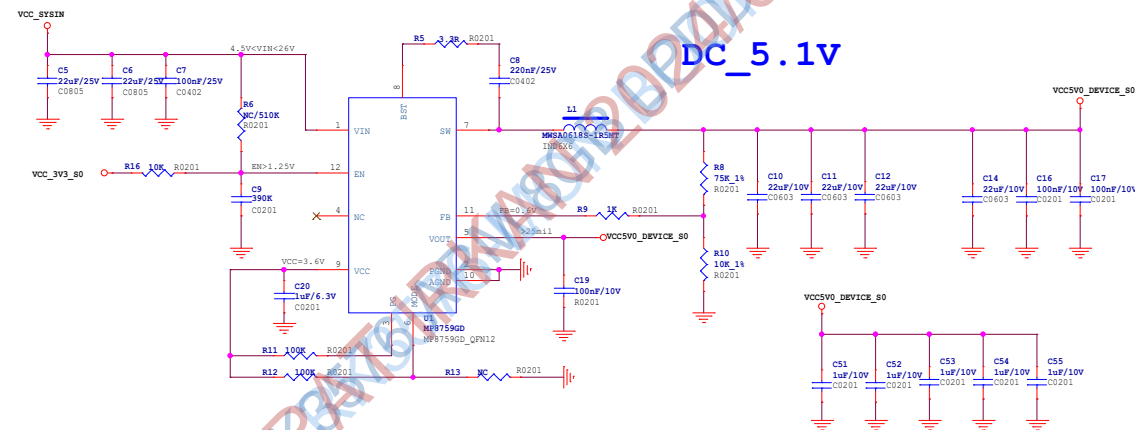
RESET_Key

FAN

RGB LED

40PIN_GPIO

CHOOSE ONE



Revision History

Version	Date	By	Change Dscription	Approved
V1.0	2024-03-27	SL Chen	First release;	
V1.1	2024-05-15	SL Chen	1.U1/U2 Pin5 connect to output; TF_DET_L connect to VCC_1V8_S3; J23 Pin2&Pin3 change position; 2.J25 MIPI_DPHY_CSI3_CAM_CLKOUT&MIPI_DPHY_CSI4_CAM_CLKOUT_CON change position;	