



EN: This Datasheet/Document is presented by the manufacturer.

Please visit our website for pricing and availability at www.hestore.hu.



Radxa ROCK 5B

schematic

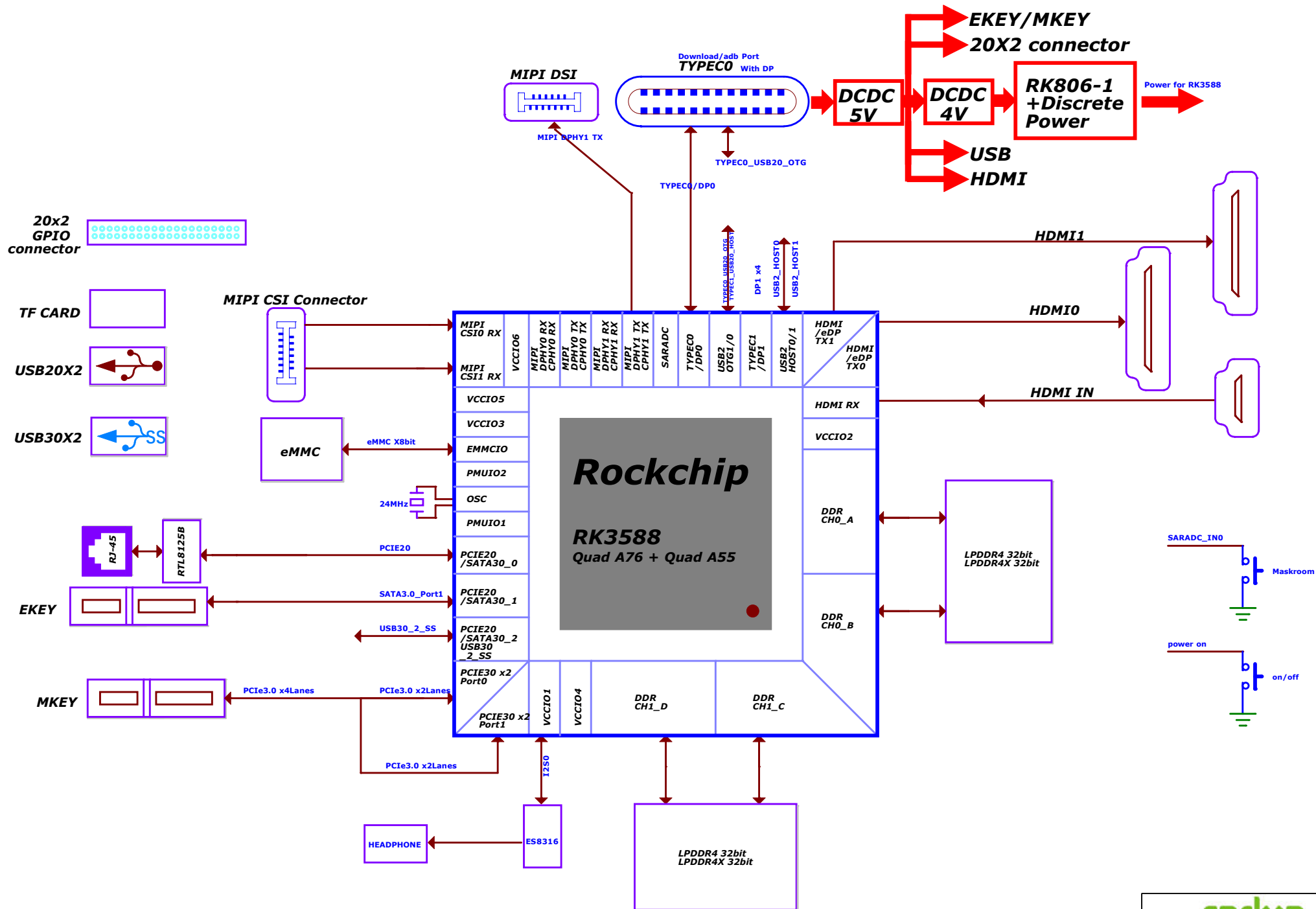
V1.45

Table of Content

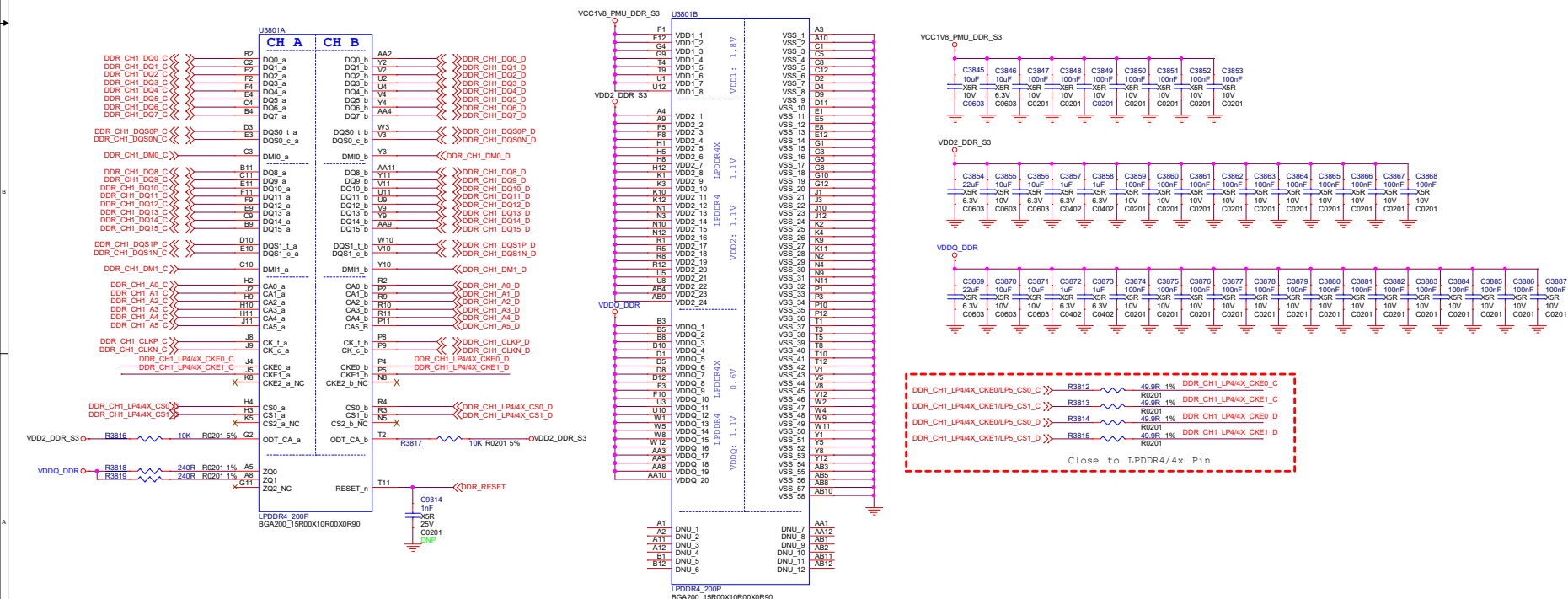
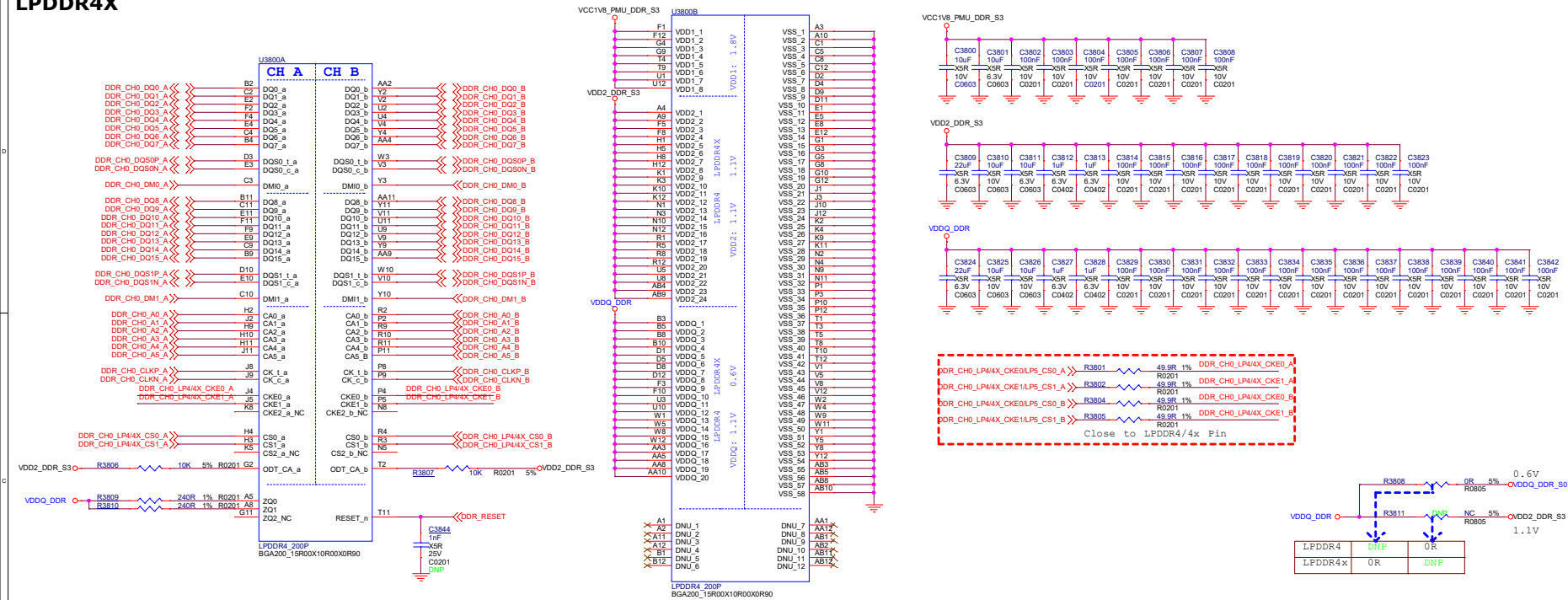
01.Cover
02.Content
03.Block Digram
04.DRAM-LPDDR4X_200P_1X32bit
05.CONNECT
06.PCIE-PCIE2.0_Slot-Ekey
07.PCIE-PCIE3.0_Slot-Mkey
08.VI-HDMI2.0 RX
09.USB2HUB
10.RK3588_Power/GND
11.RK3588_OSC/PLL/PMUIO
12.RK3588_DDR Controler
13.RK3588_Flash/SD Controller
14.RK3588_USB30/USB20_Ctrl
15.RK3588_SARADC/1.8V_Only GPIO
16.RK3588_MIPi Interface
17.RK3588_HDMI/eDP Interface
18.RK3588_PCIE30/PCIE20/SATA30
19.RK3588_1.8V/ 3.3V GPIO
20.Power_DC IN
21.Audio_Codec-ES8316
22.Power-PMIC RK806-1
23.Power_Ext Discrete
24.PCIE TO RJ45 RTL8125B
25.Flash-eMMC Flash
26.Flash-TF Card
27.USB20x2 Double Port
28.USB30x2 Double Port
29.Type-C Port
30.VI-Camera MIPI-CSI
31.VO-HDMI2.1 TX
32.VO-LCM_MIPI



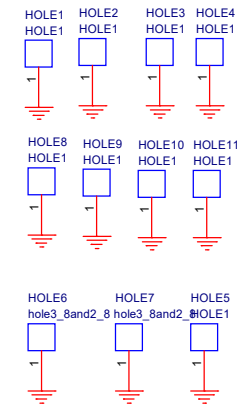
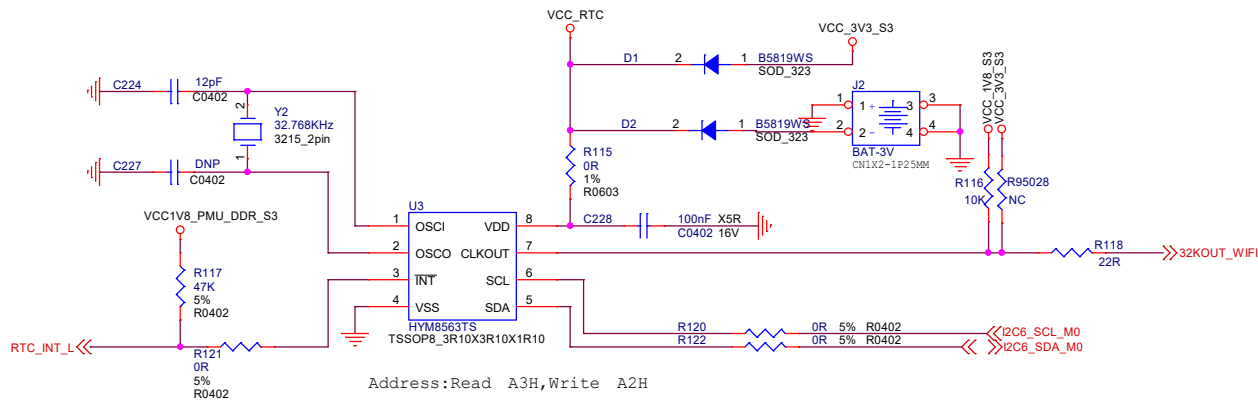
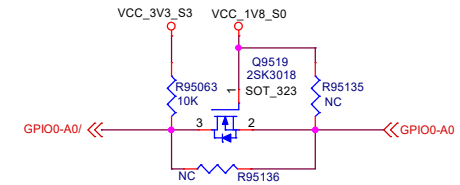
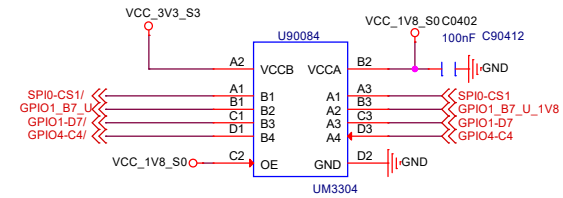
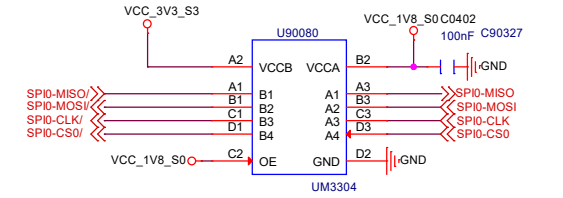
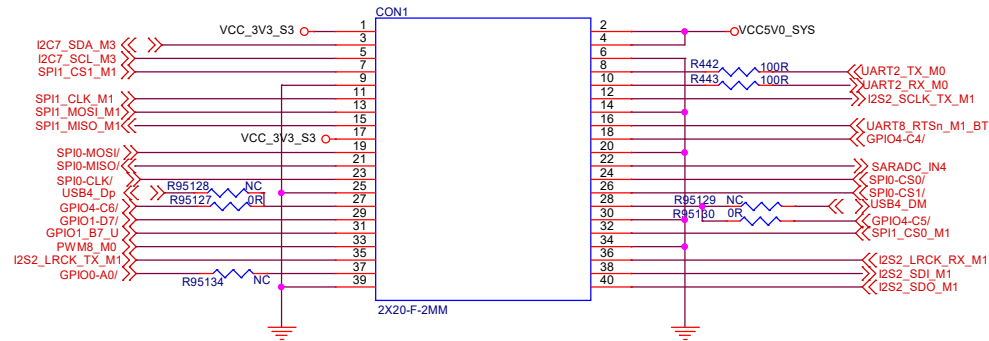
Size	Title: ROCK 5B	REV
A3	Page Name: Table of Content	1.45
Date: Tuesday, April 25, 2023	Sheet 2 of 32	



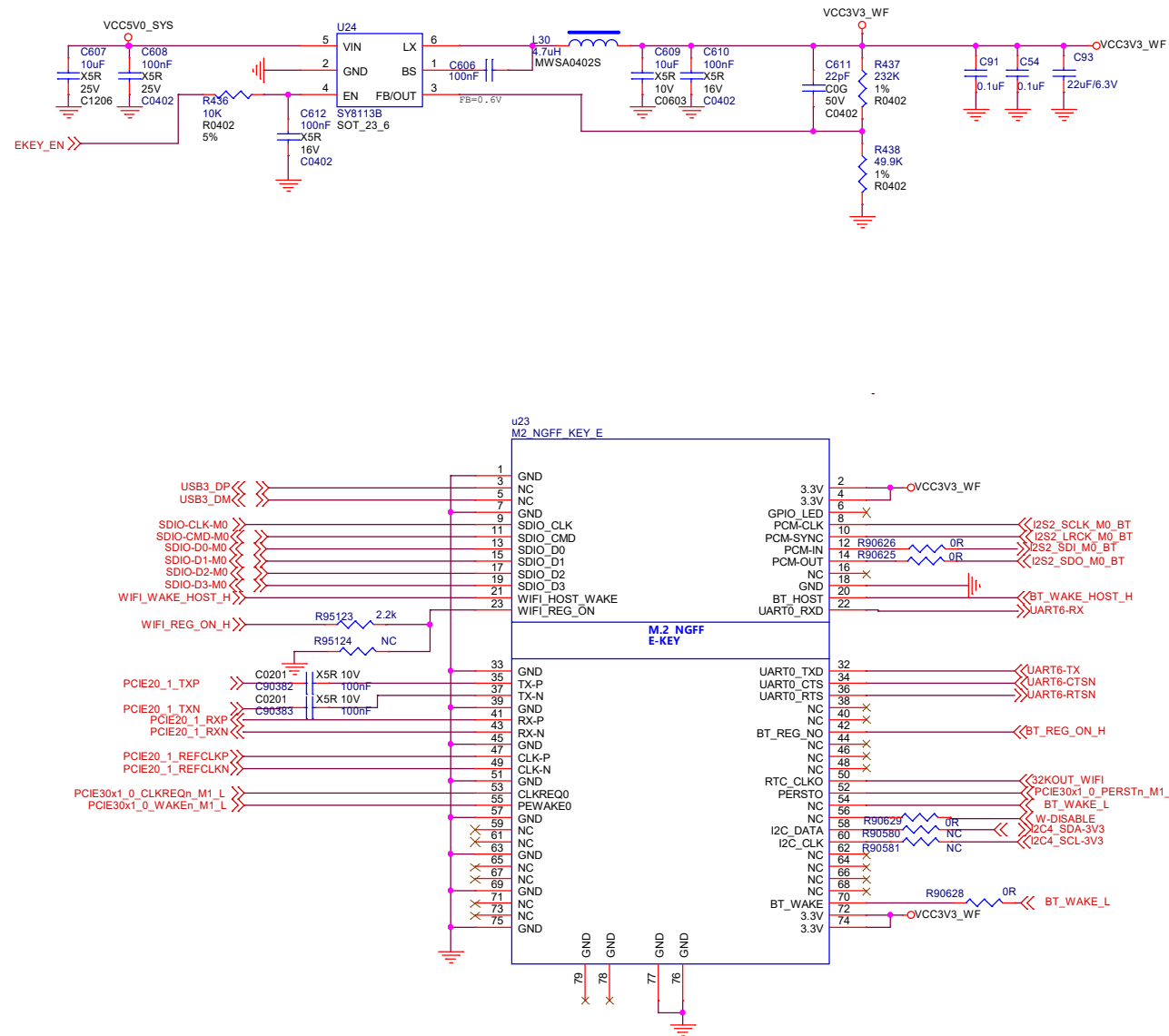
LPDDR4X

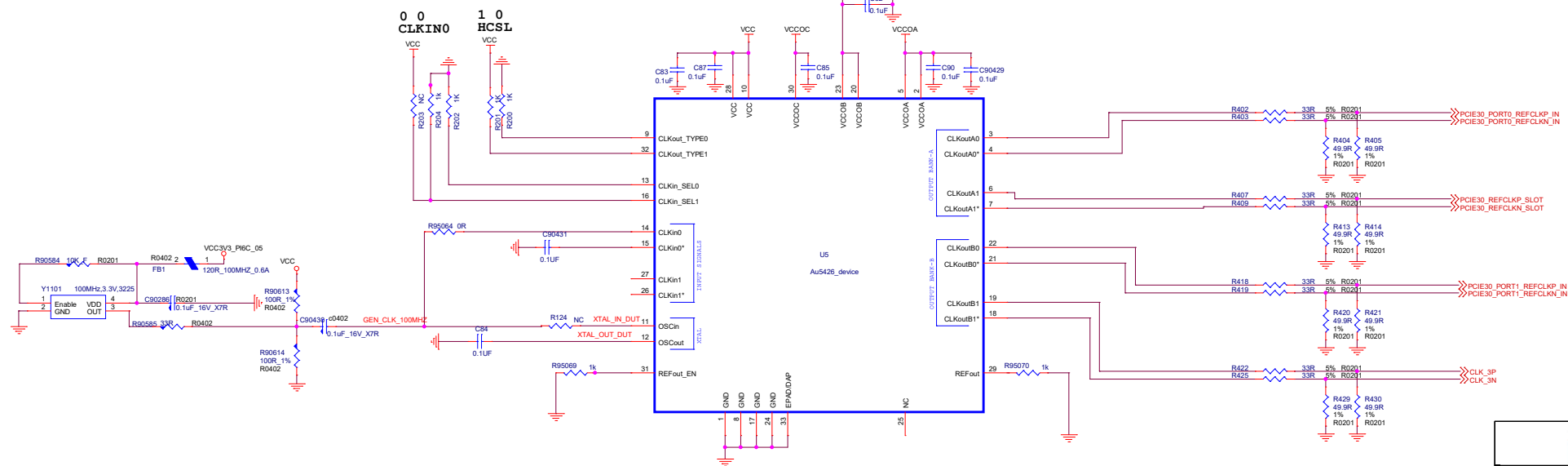
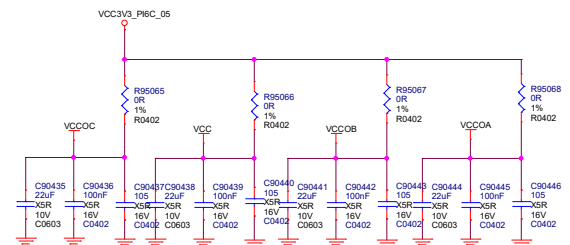
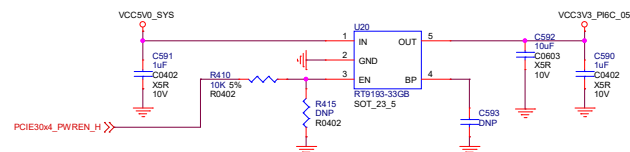
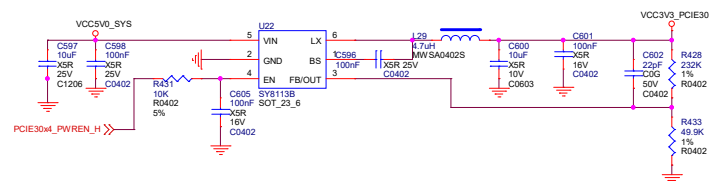
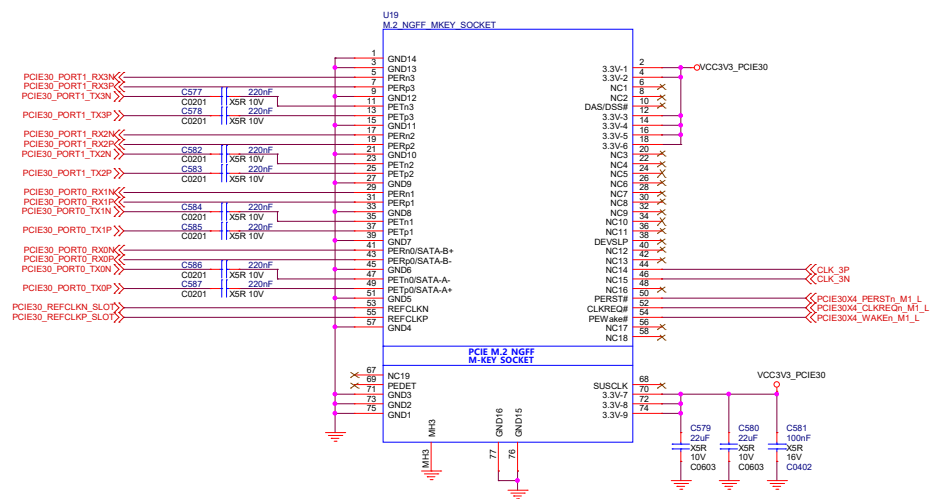


CONNECT

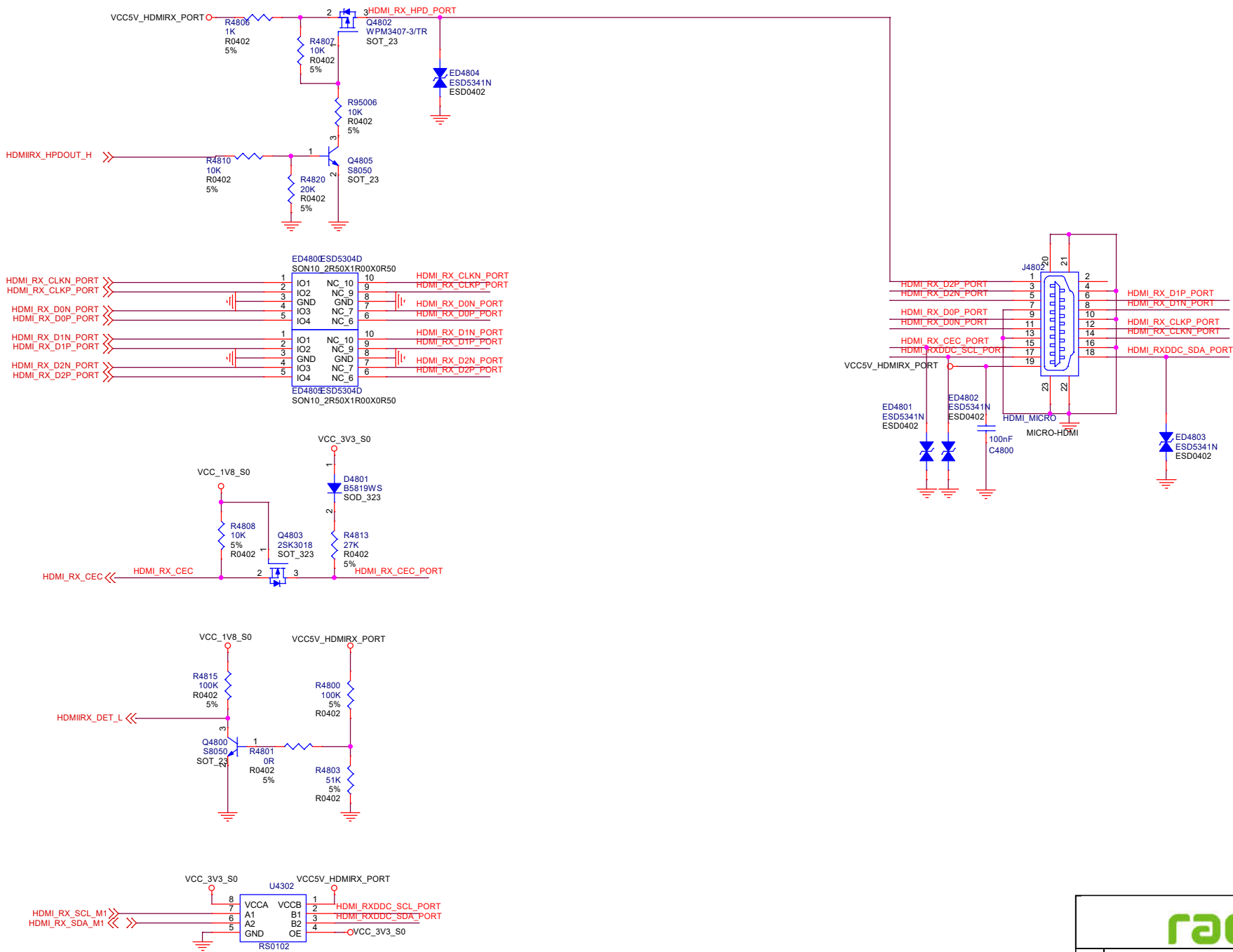


Size	Title: ROCK 5B			REV
A3	Page Name: PCIE-PCIE2.0_Slot-Ekey			1.45
Date:	Tuesday, April 25, 2023	Sheet	6	of 32

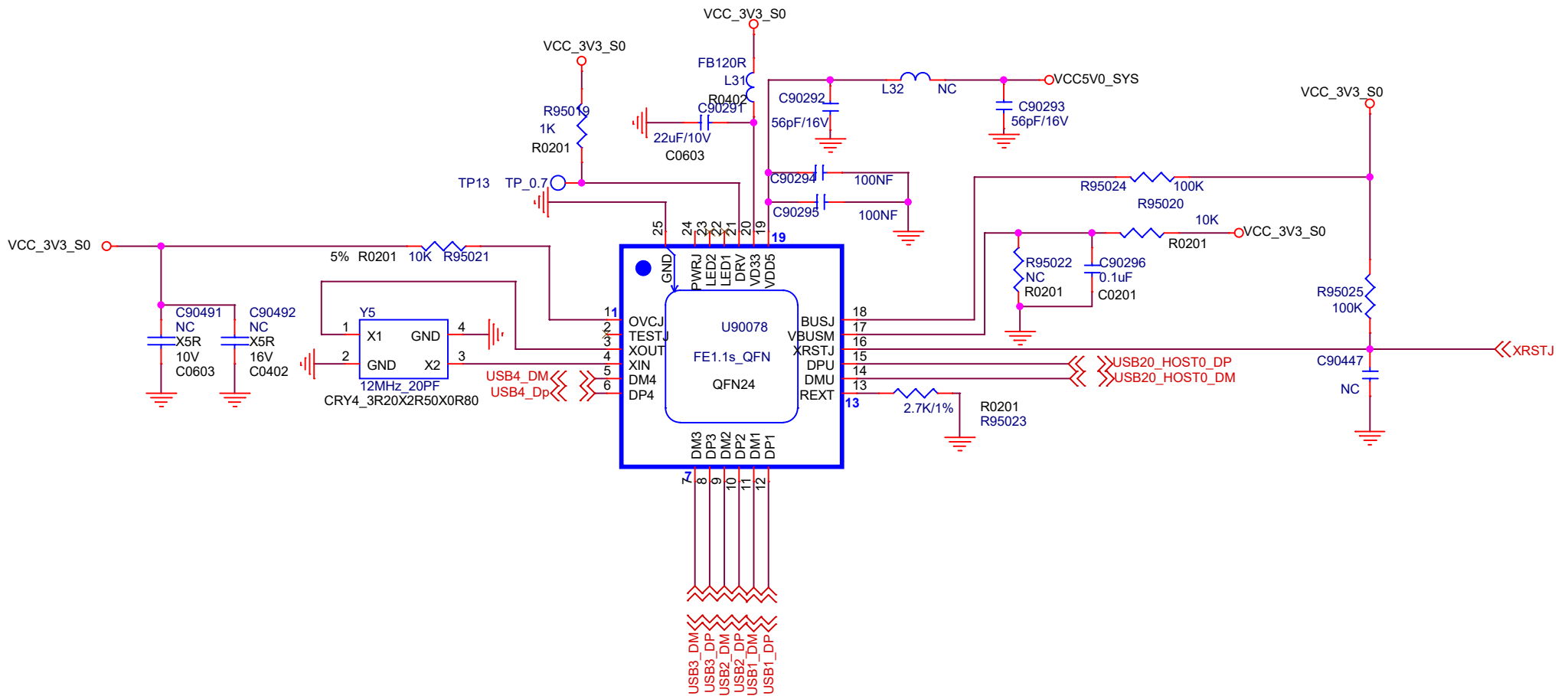


PCIe3.0 x 4 Slot

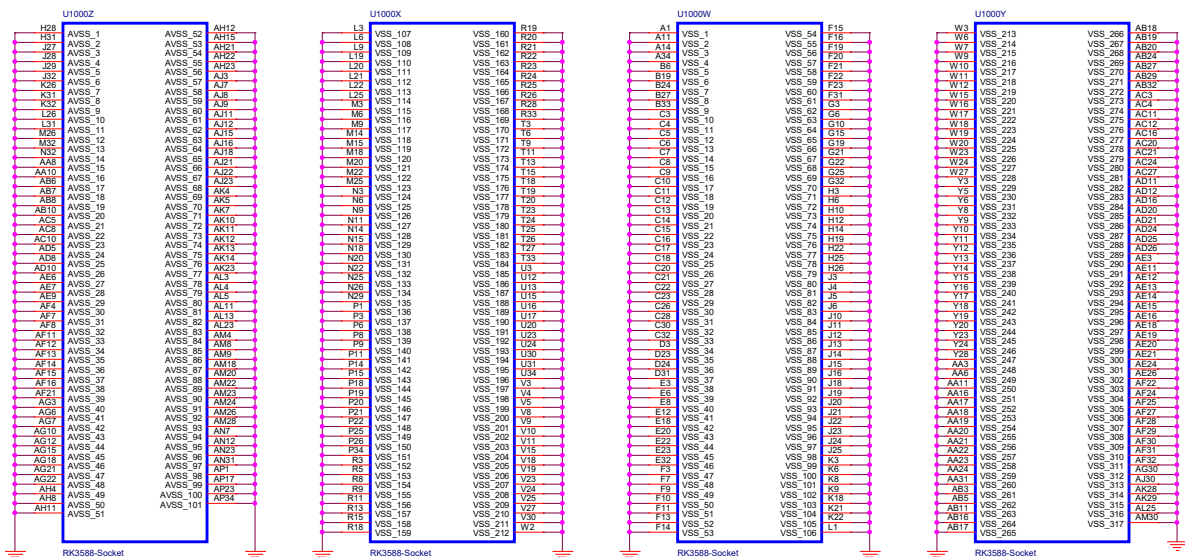
HDMI2.0 RX



USB2HUB



Size:	Title: ROCK 5B	REV
A4	Page Name: USB2HUB	1.45
Date: Tuesday, April 25, 2023	Sheet 9 of 32	



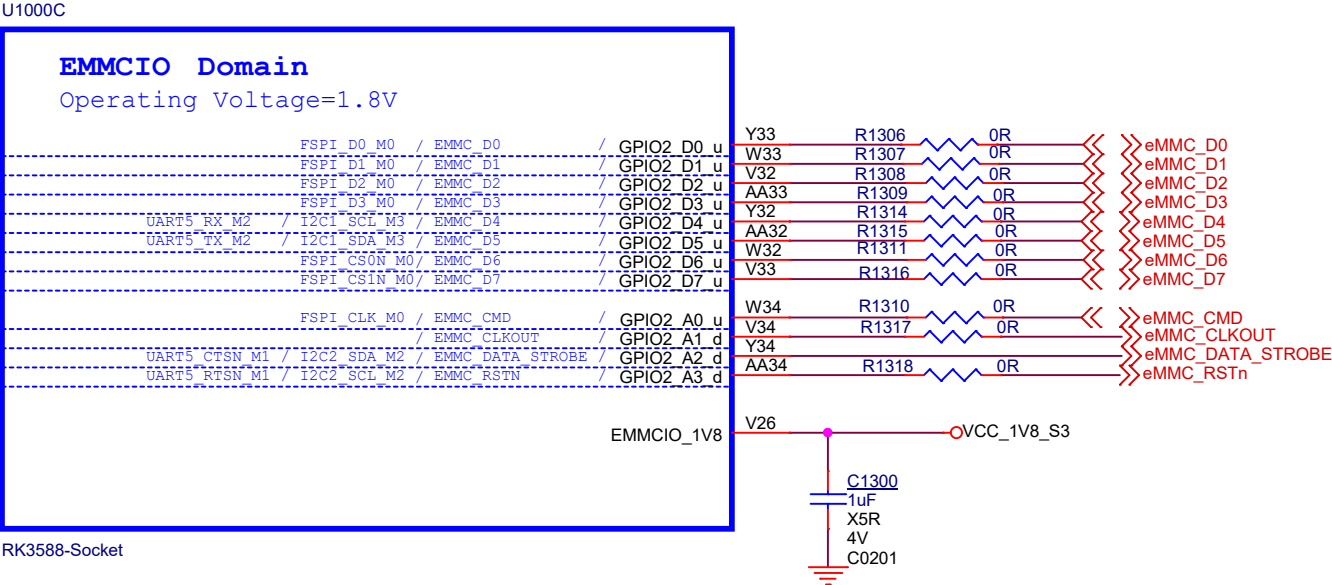
RK3588 F (PMUIO2)



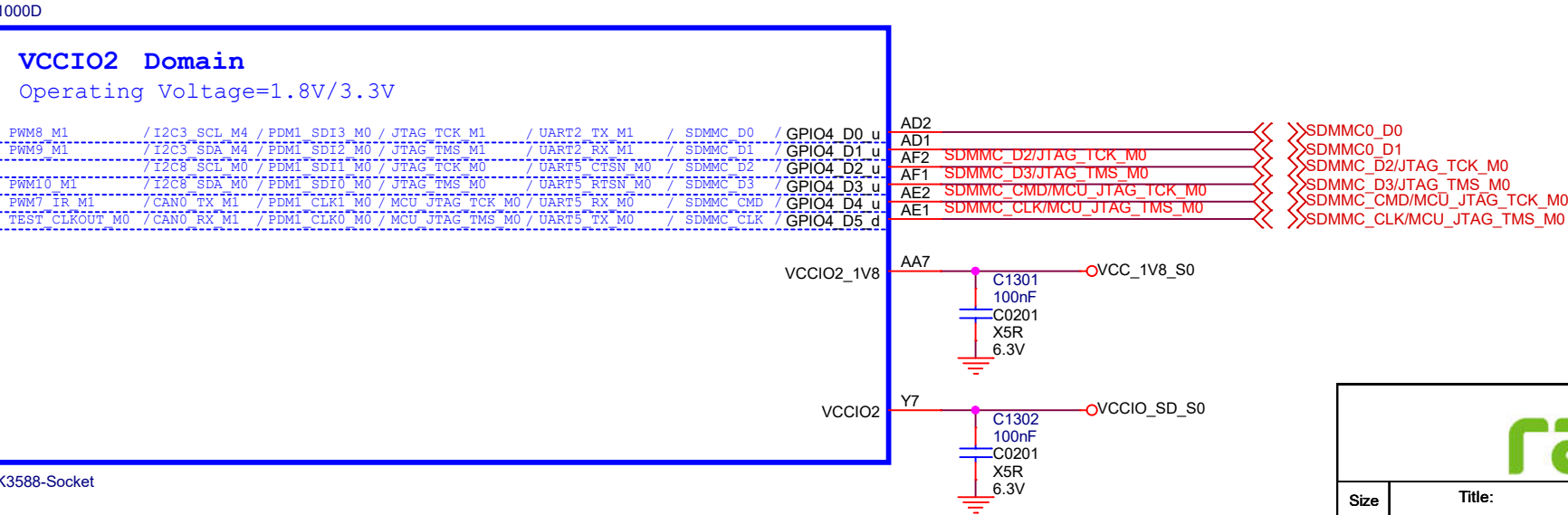
Size A3	Title: ROCK 5B	REV:
	Page Name: RK3588_OSC/PLL/PMUIO	1.45
Date: Tuesday, April 25, 2023		Sheet 11 of 32



RK3588_C (EMMCIO Domain)



RK3588_D (VCCIO2 Domain)



Size	Title: ROCK 5B	REV
A4	Page Name: RK3588_Flash/SD Controller	1.45
Date: Tuesday, April 25, 2023	Sheet 13 of 32	

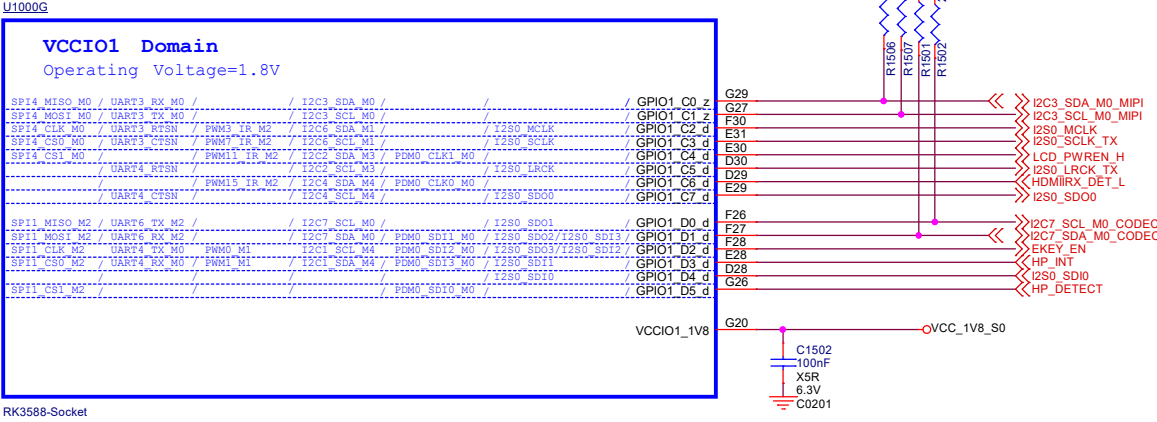
U1000M



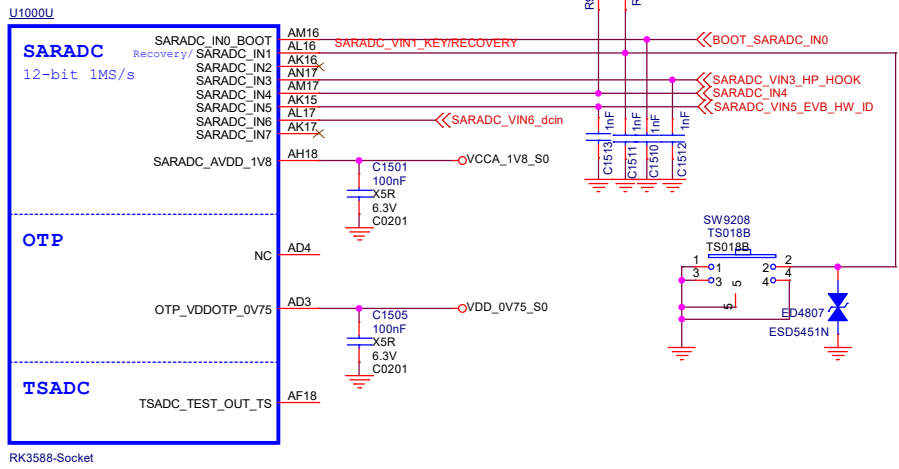
U1000L



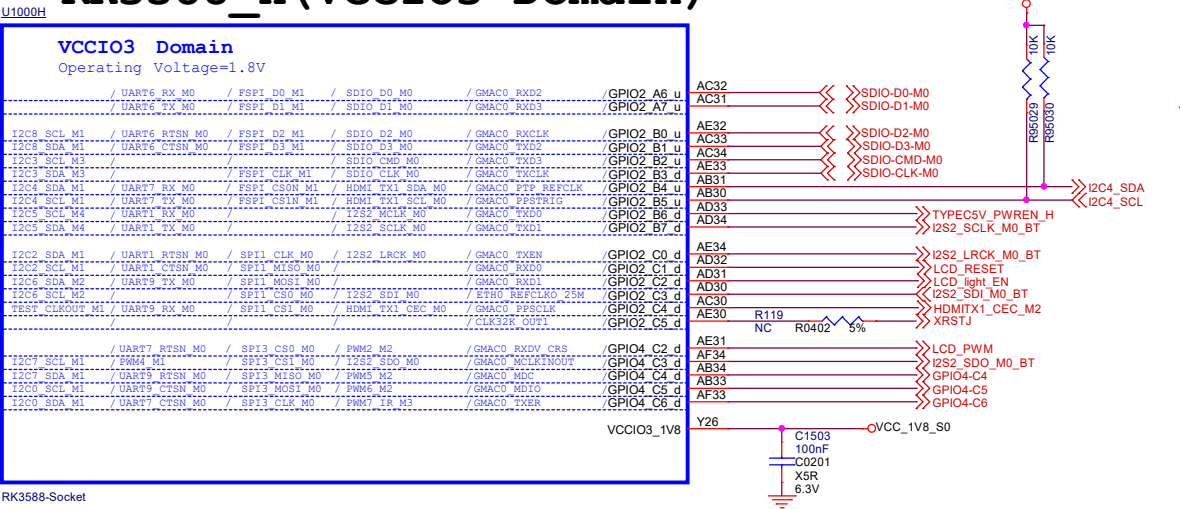
RK3588_G (VCCIO1 Domain)



RK3588_U (SARADC/OTP)



RK3588_H (VCCIO3 Domain)



BOOT MODE CONFIG

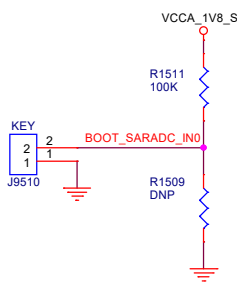


TABLE 1

Item	Rup	Rdown	ADC	VOL	BOOT MODE
LEVEL1	DNP	100K	0	0V	USB (Maskrom mode)
LEVEL2	100K	20K	682	0.3V	SD Card-USB
LEVEL3	100K	51K	1365	0.6V	EMMC-USB
LEVEL4	100K	100K	2047	0.9V	FSPI M0-USB
LEVEL5	100K	200K	2730	1.2V	FSPI M1-USB
LEVEL6	100K	499K	3412	1.5V	FSPI M2-USB
LEVEL7	100K	DNP	4095	1.8V	FSPI M2-FSPI M1-FSPI M0-EMMC-SD Card-USB

BOARD ID CONFIG

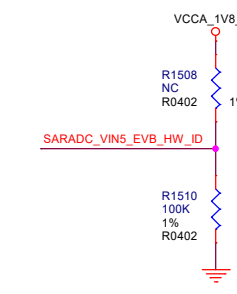
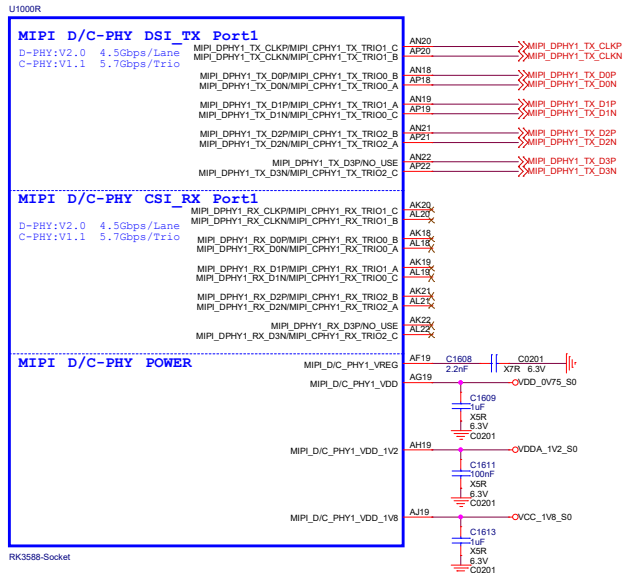
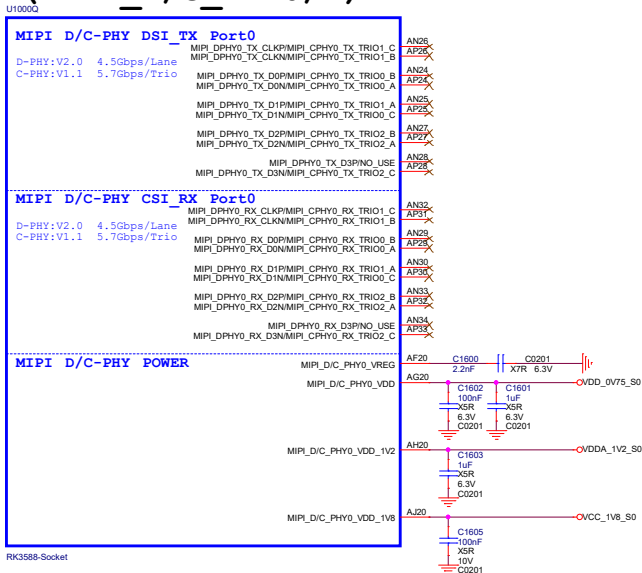


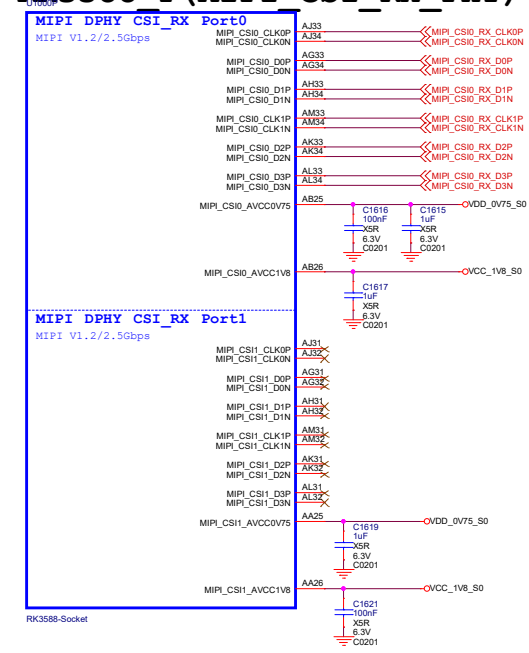
TABLE 2

Item	Rup	Rdown	ADC	VOL	VERSION
LEVEL1	DNP	100K	0	0V	A
LEVEL2	100K	20K	682	0.3V	B
LEVEL3	100K	51K	1365	0.6V	C
LEVEL4	100K	100K	2047	0.9V	D
LEVEL5	100K	200K	2730	1.2V	E
LEVEL6	100K	499K	3412	1.5V	F
LEVEL7	100K	DNP	4095	1.8V	H

RK3588_Q/R(MIPI_D/C_PHY0/1)



RK3588_P(MIPI_CSI_RX_PHY)

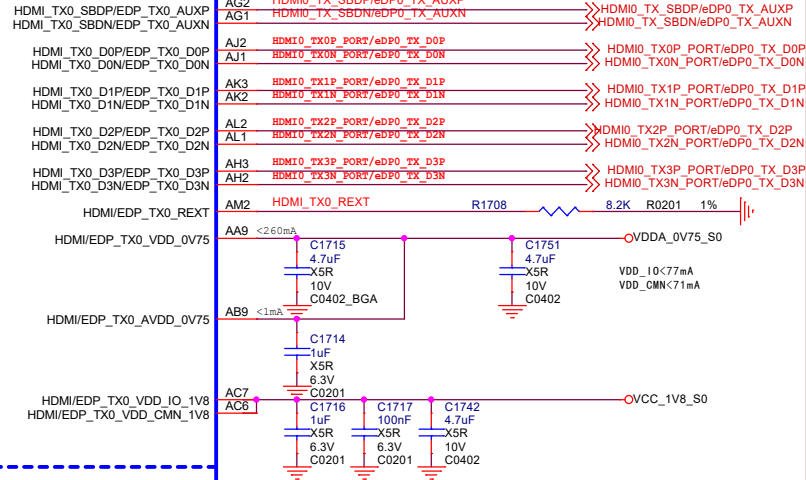


RK3588_S (HDMI2.1 TX)

U1000S

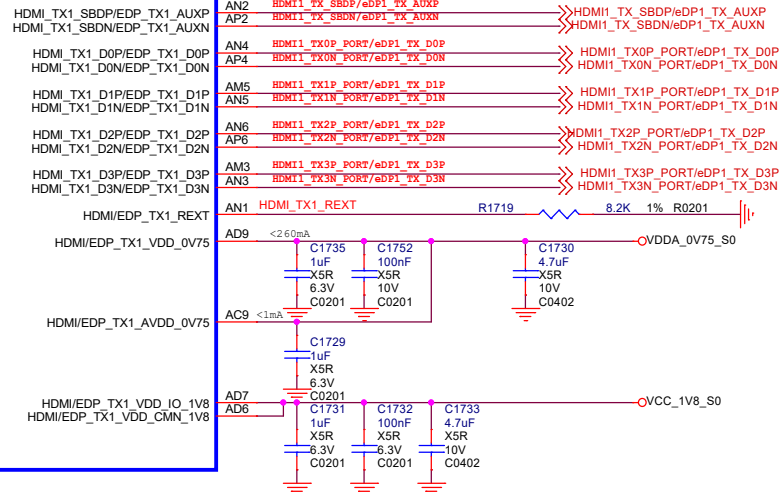
HDMI TX/eDP MUX Port0

HDMI:V2.1 12Gbps
eDP: V1.3 5.4Gbps



HDMI TX/eDP MUX Port1

HDMI:V2.1 12Gbps
eDP: V1.3 5.4Gbps



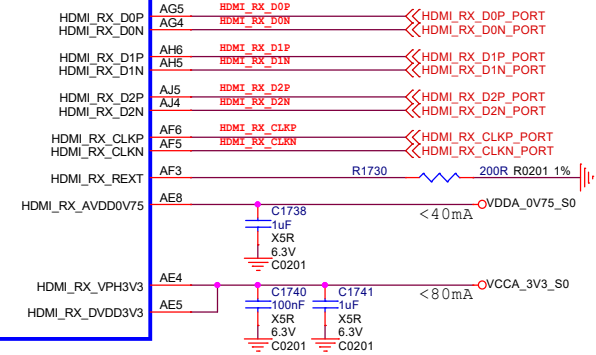
RK3588-Socket

RK3588 T (HDMI20 RX)

U1000T

HDMI RX

HDMI:V2.0

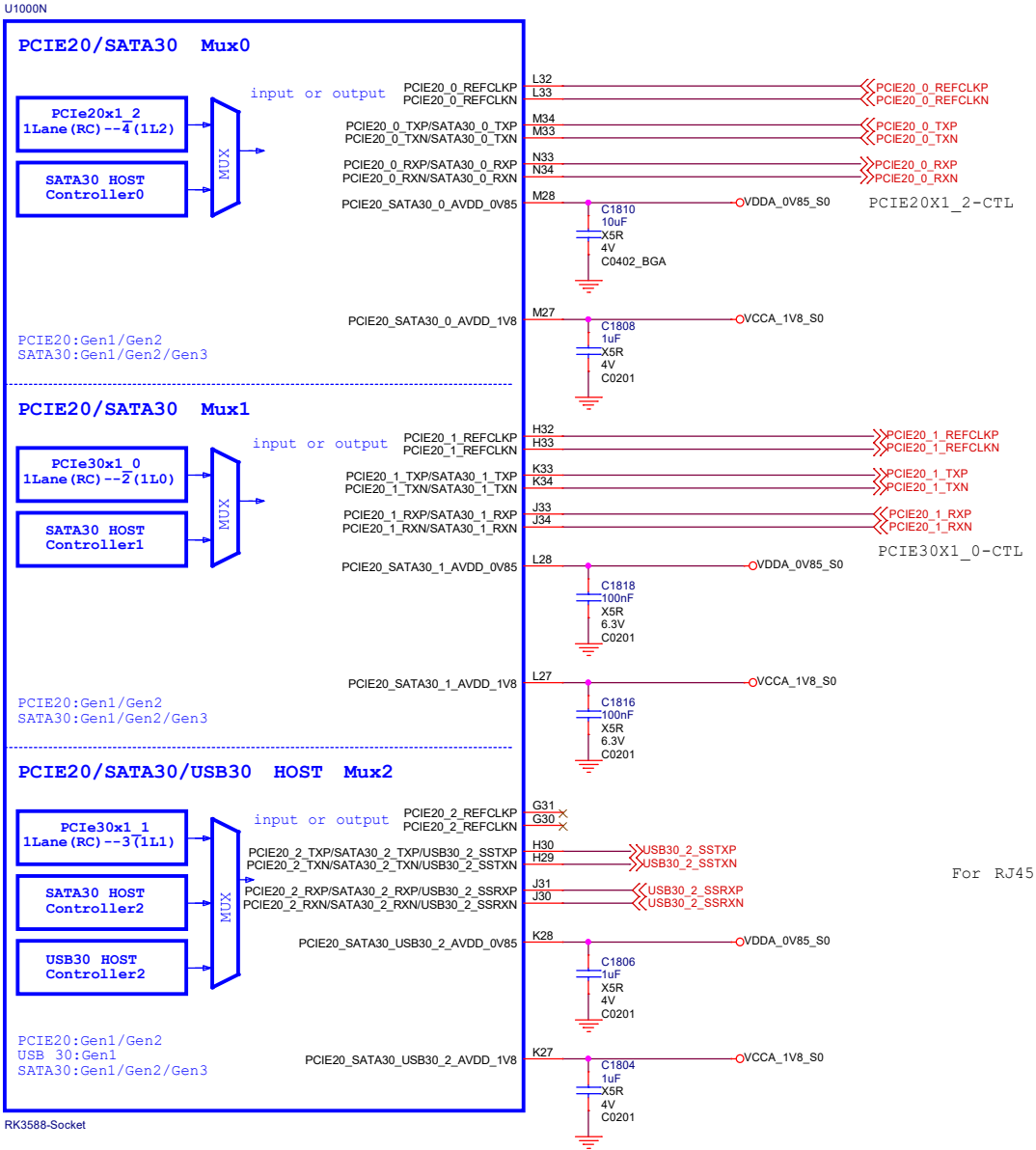


RK3588-Socket

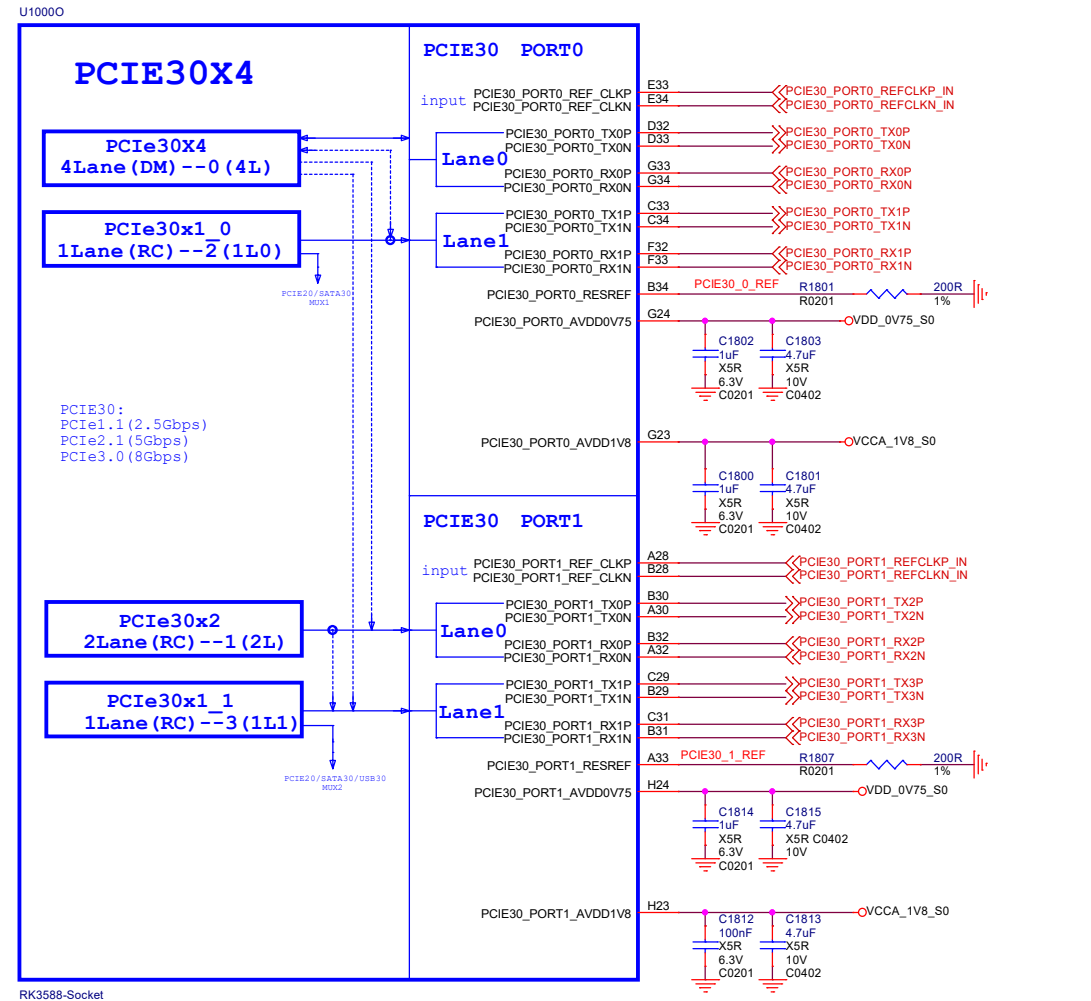
radxa

Size	Title: ROCK 5B	REV
A3	Page Name: RK3588 HDMI/eDP Interface	1.45
Date: Tuesday, April 25, 2023	Sheet 17 of 32	

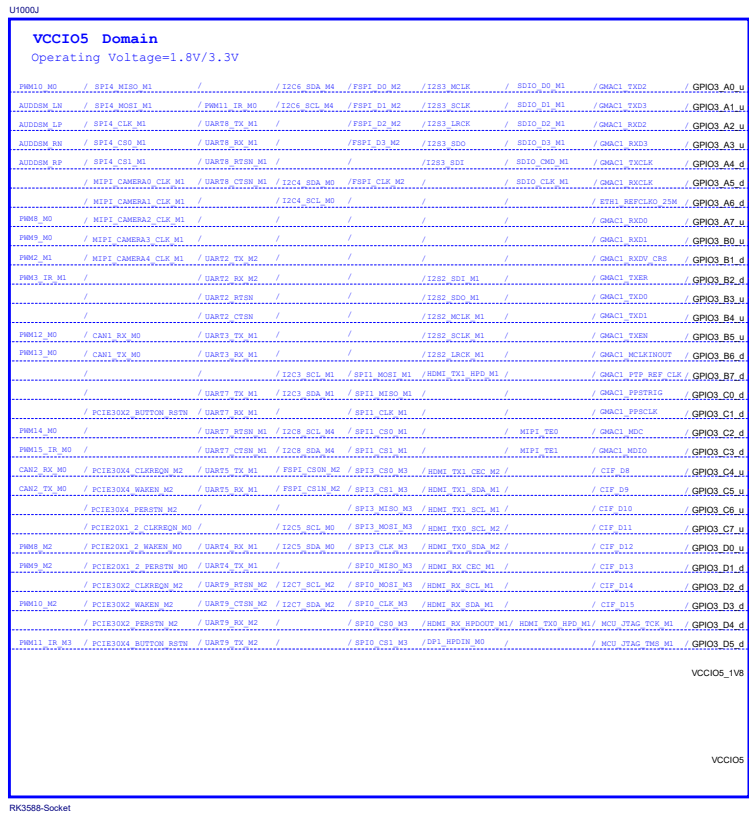
RK3588_N (PCIE20)



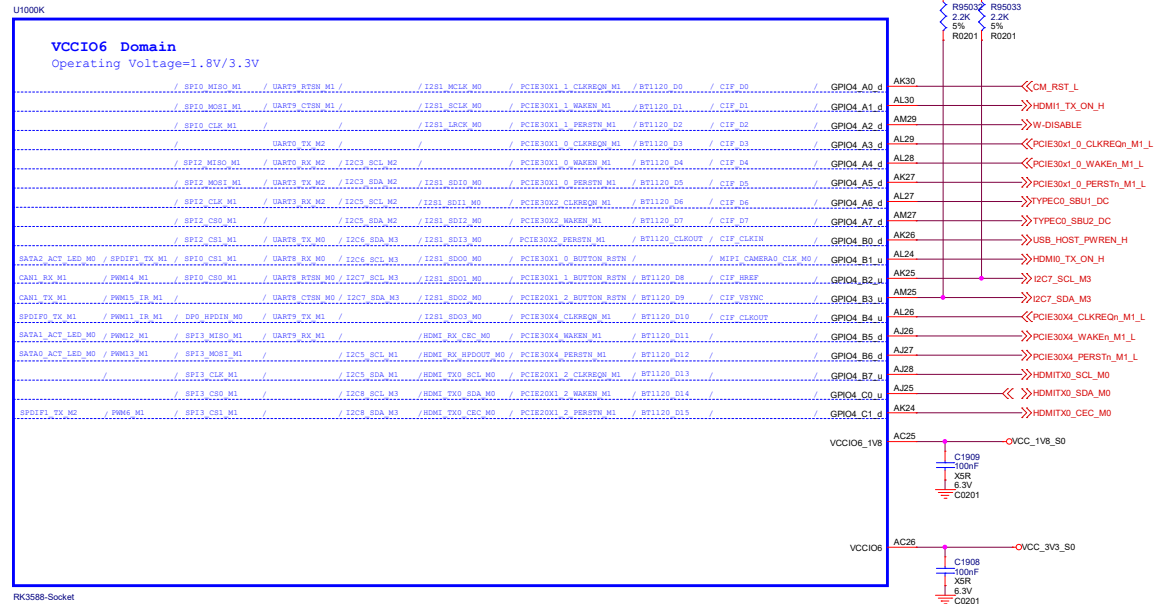
RK3588_O (PCIE30)



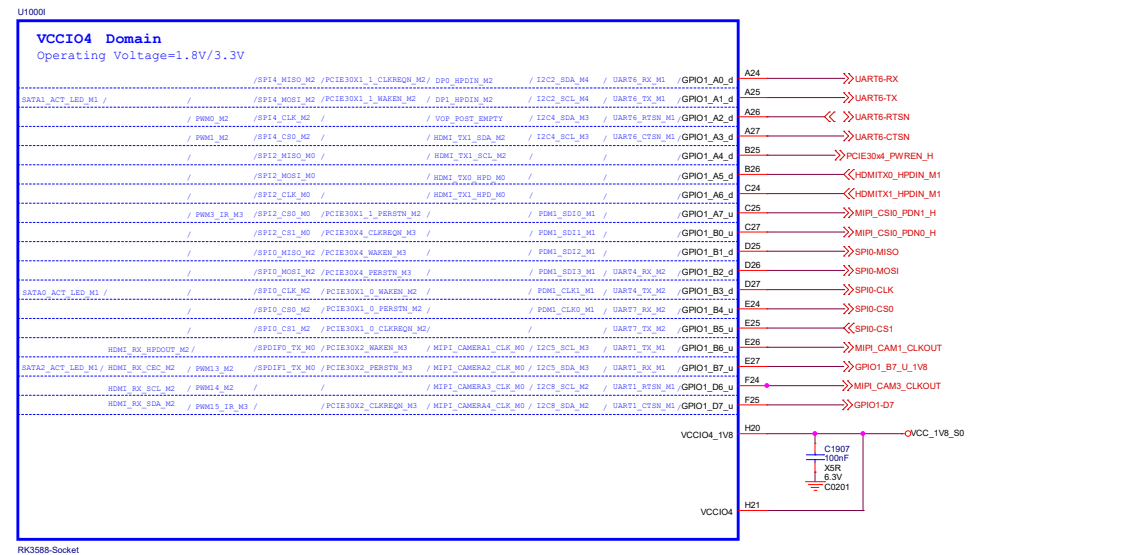
RK3588_J (VCCIO5 Domain)



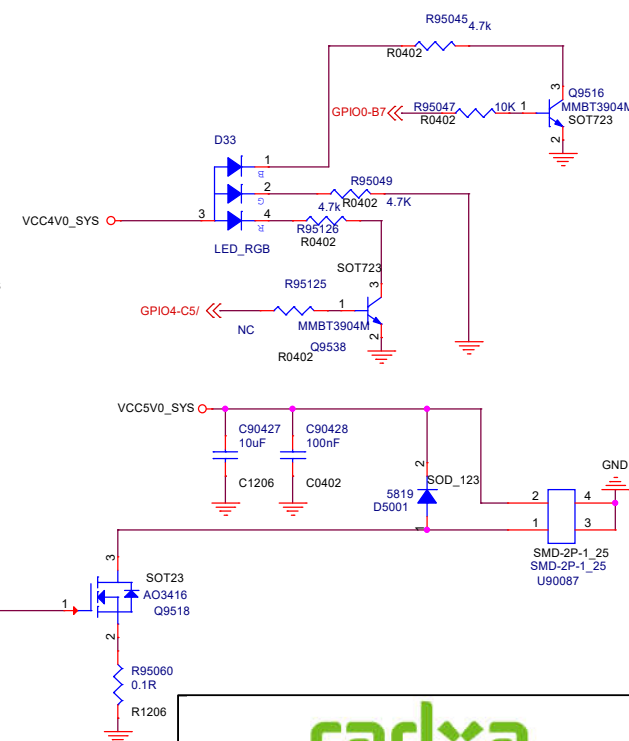
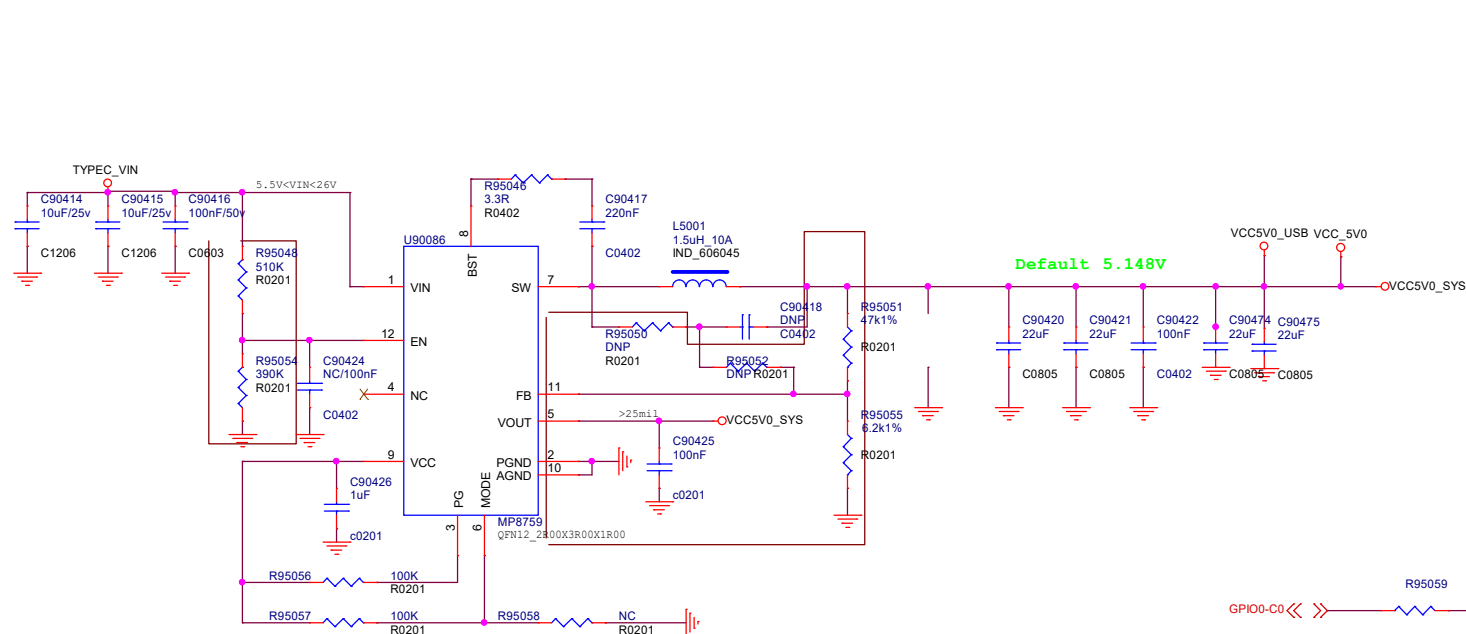
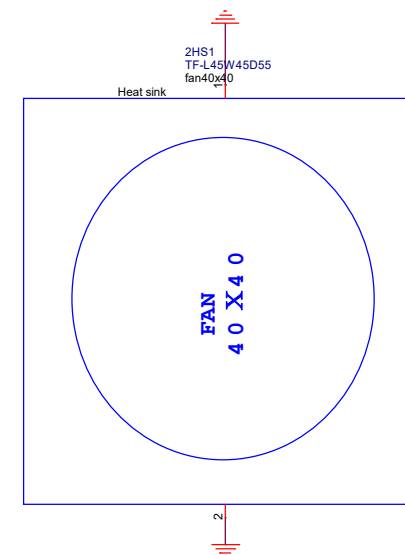
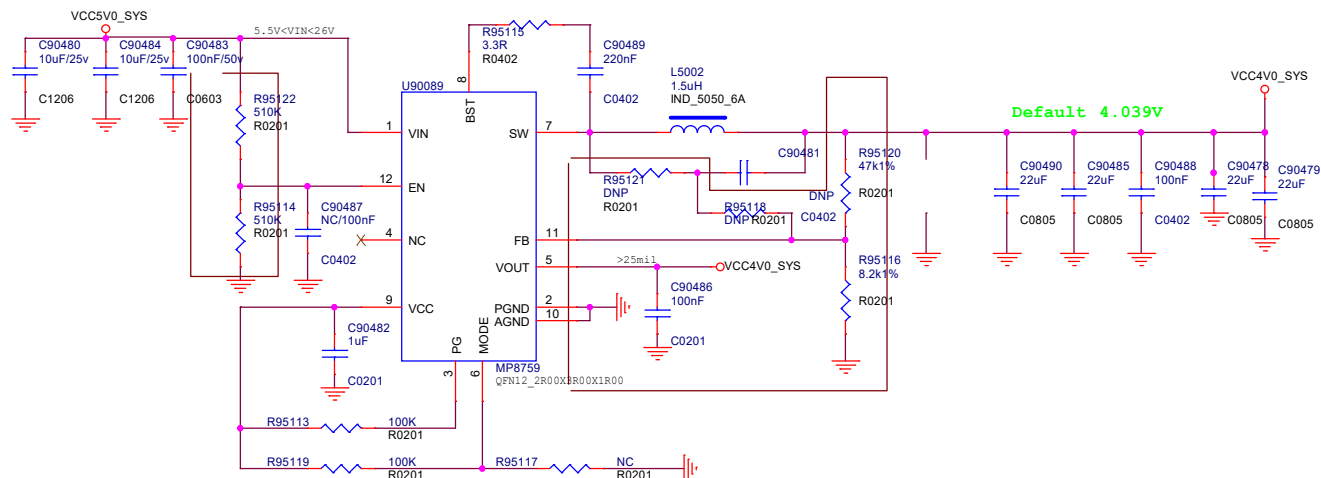
RK3588_K (VCCIO6 Domain)



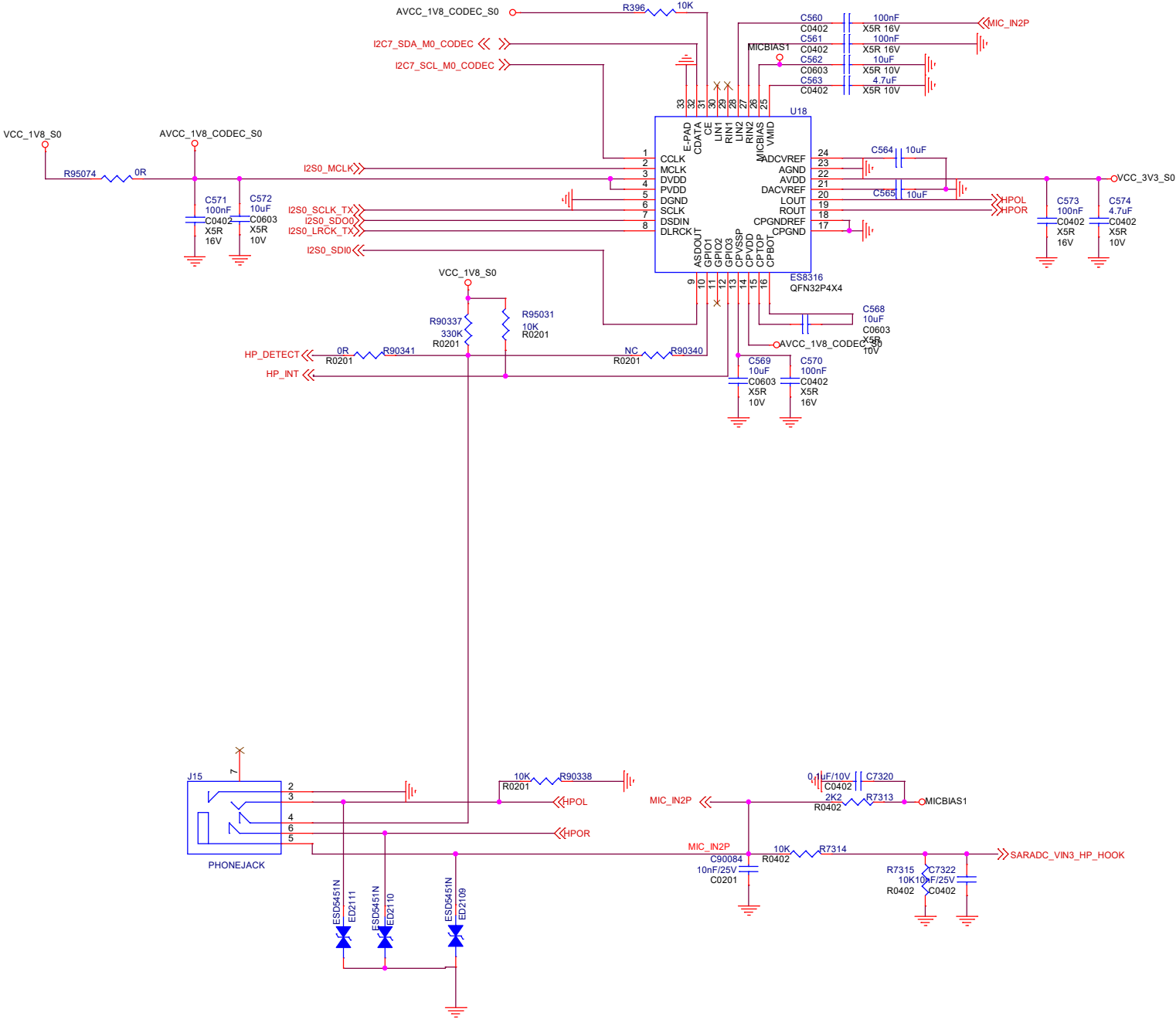
RK3588_I (VCCIO4 Domain)



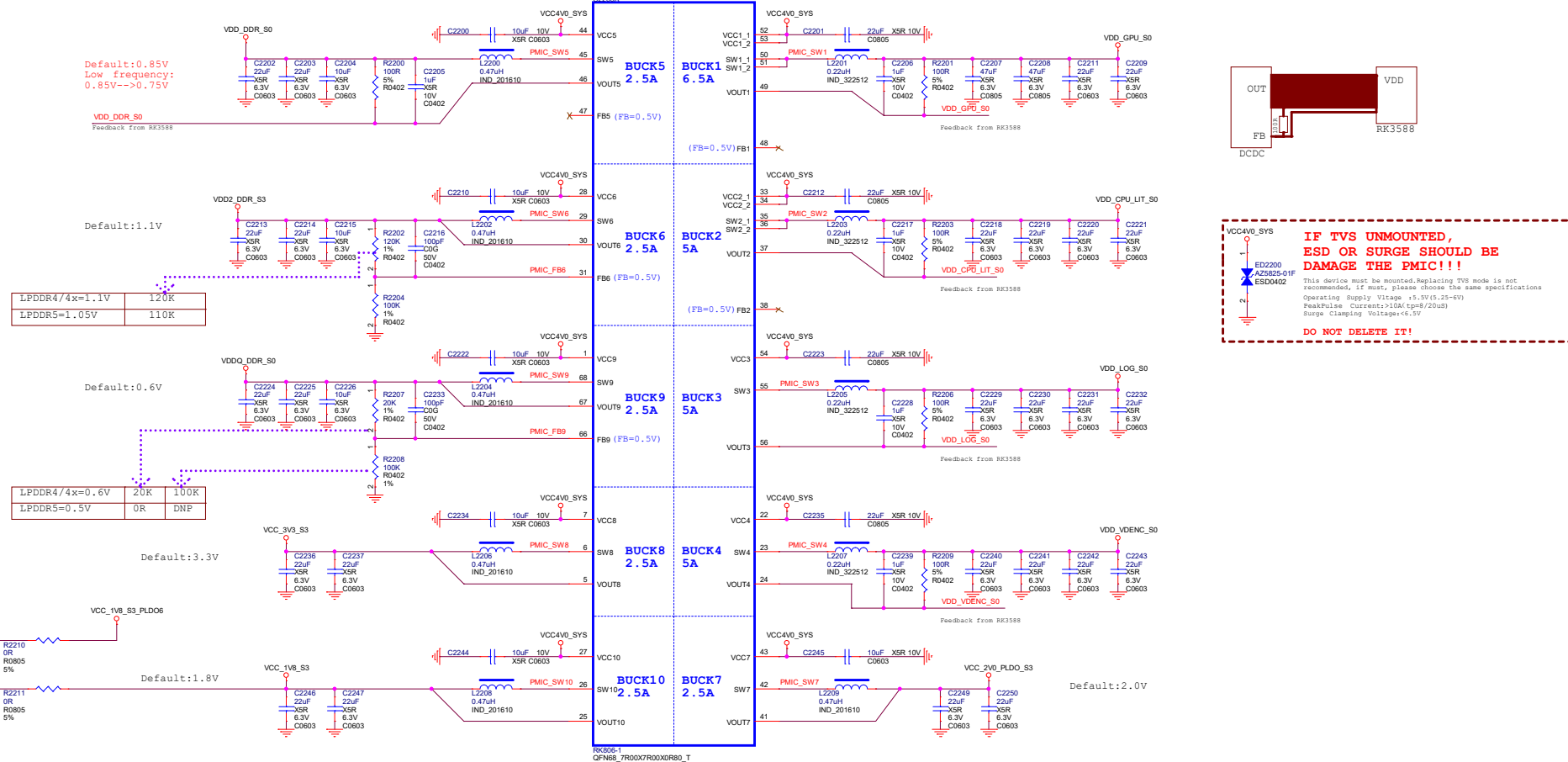
TYPEC-IN ----> **MP8759** **DCDC** **5.148V** ----> **USB**
 ----> **VCC5V0** ----> **MP8759** **DCDC** **4.039V** ----> **PMU**
 ----> **40PIN**



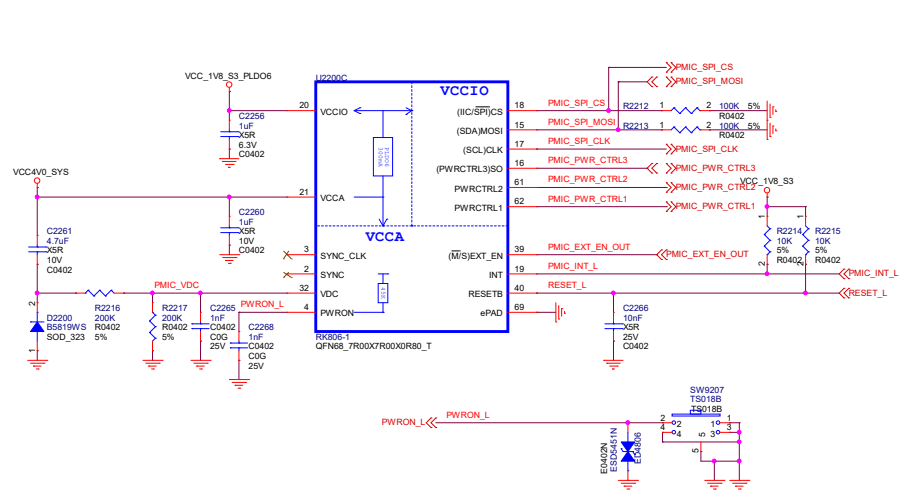
CODEC ES8316



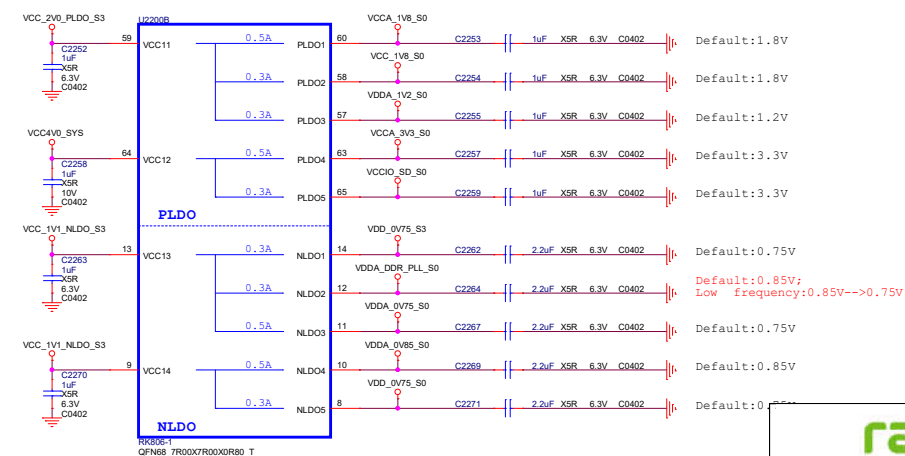
PMIC RK806-1 BUCK



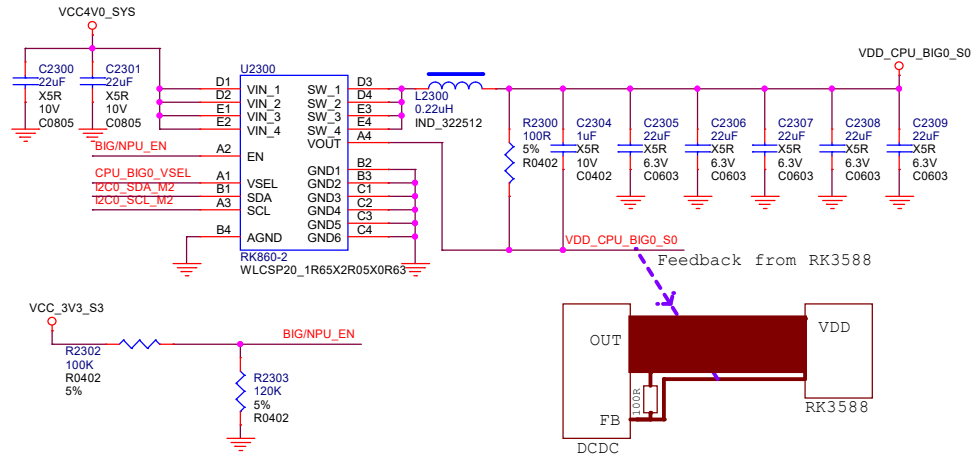
PMIC RK806-1 Managerment



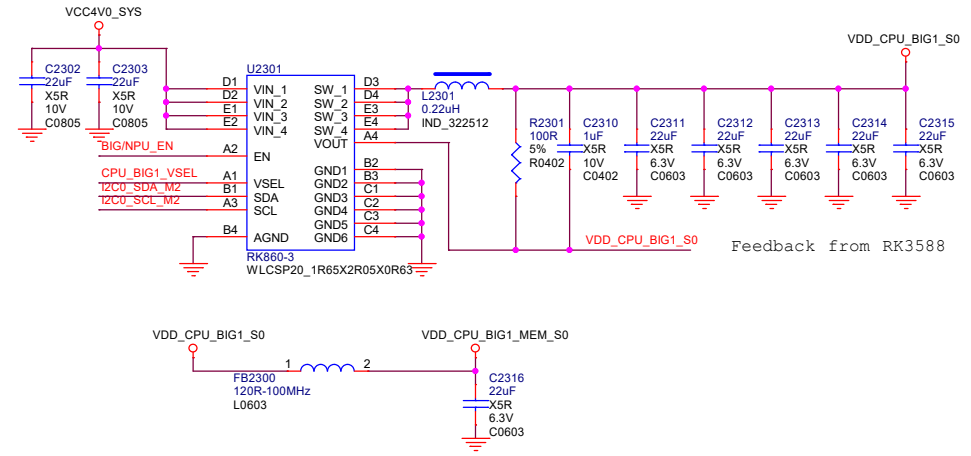
PMIC RK806-1 LDO



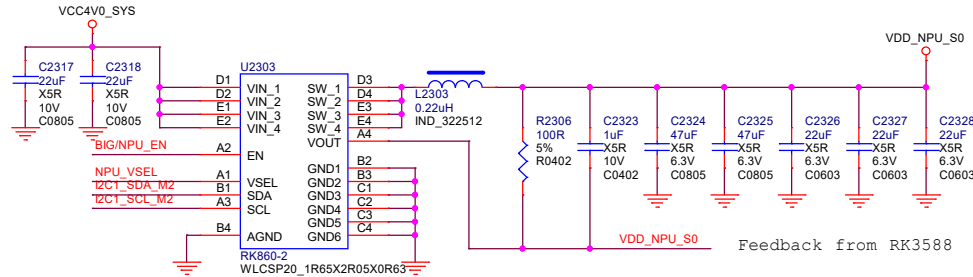
VDD_CPU_BIG0



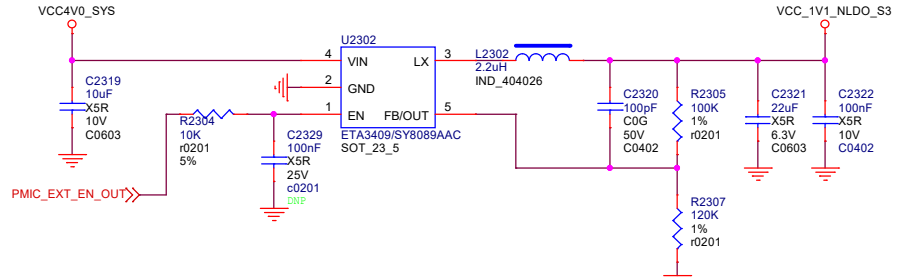
VDD_CPU_BIG1



VDD_NPU



VCC_1V1_NLDO_S3



I2C1_SCL_M2

I2C1_SDA_M2

I2C0_SCL_M2

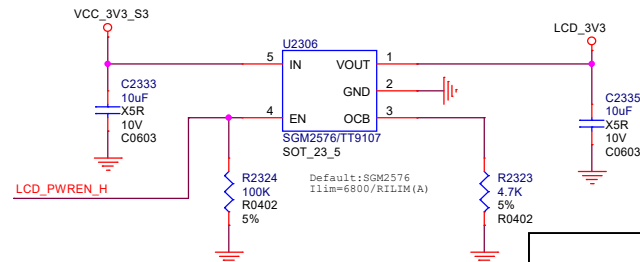
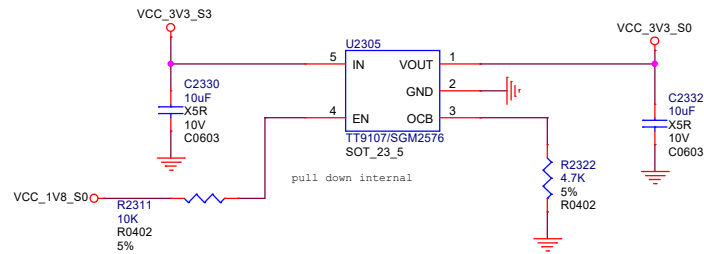
I2C0_SDA_M2

CPU_BIG0_VSEL

CPU_BIG1_VSEL

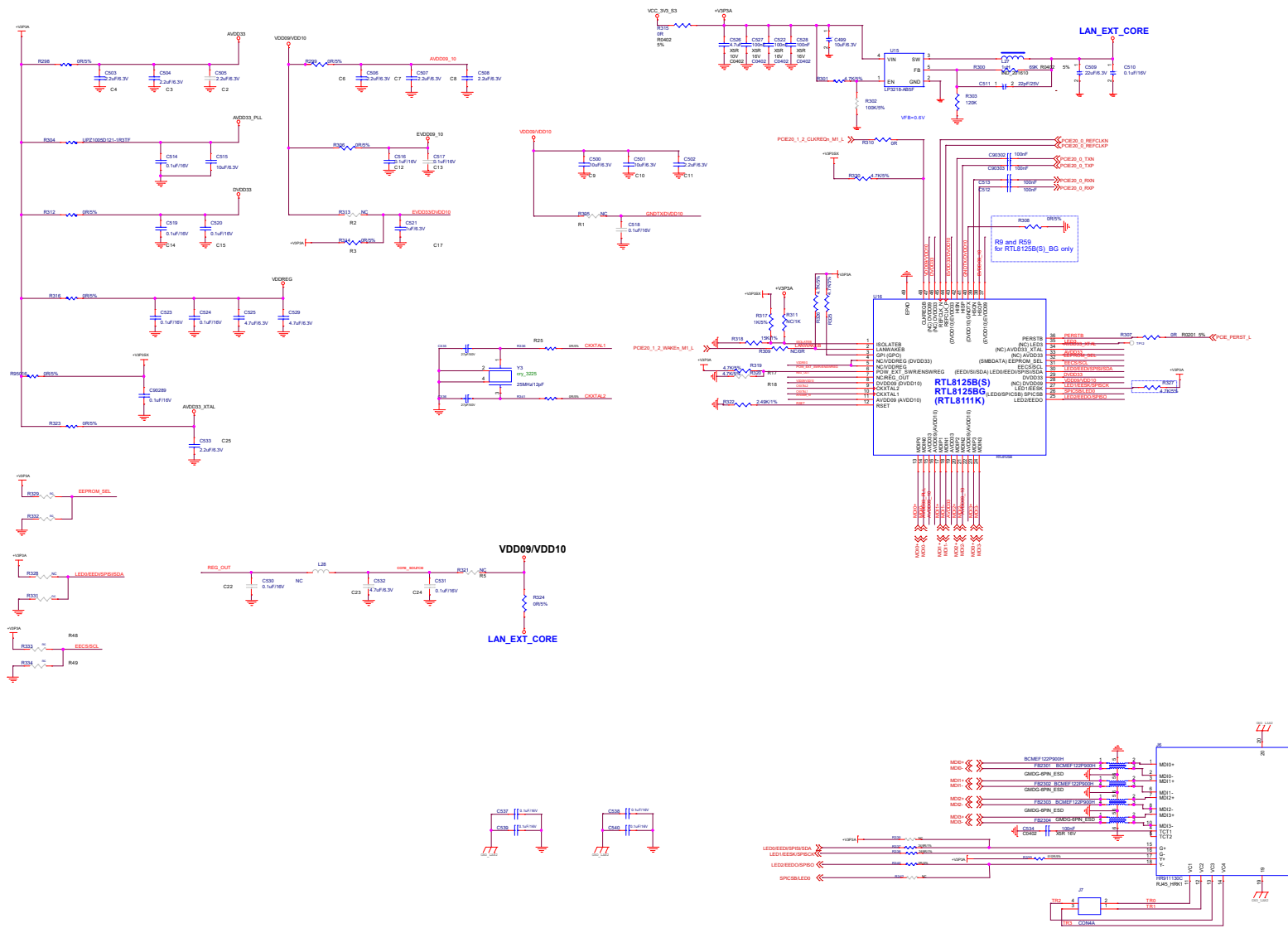
NPU_VSEL

LCD_PWREN_H

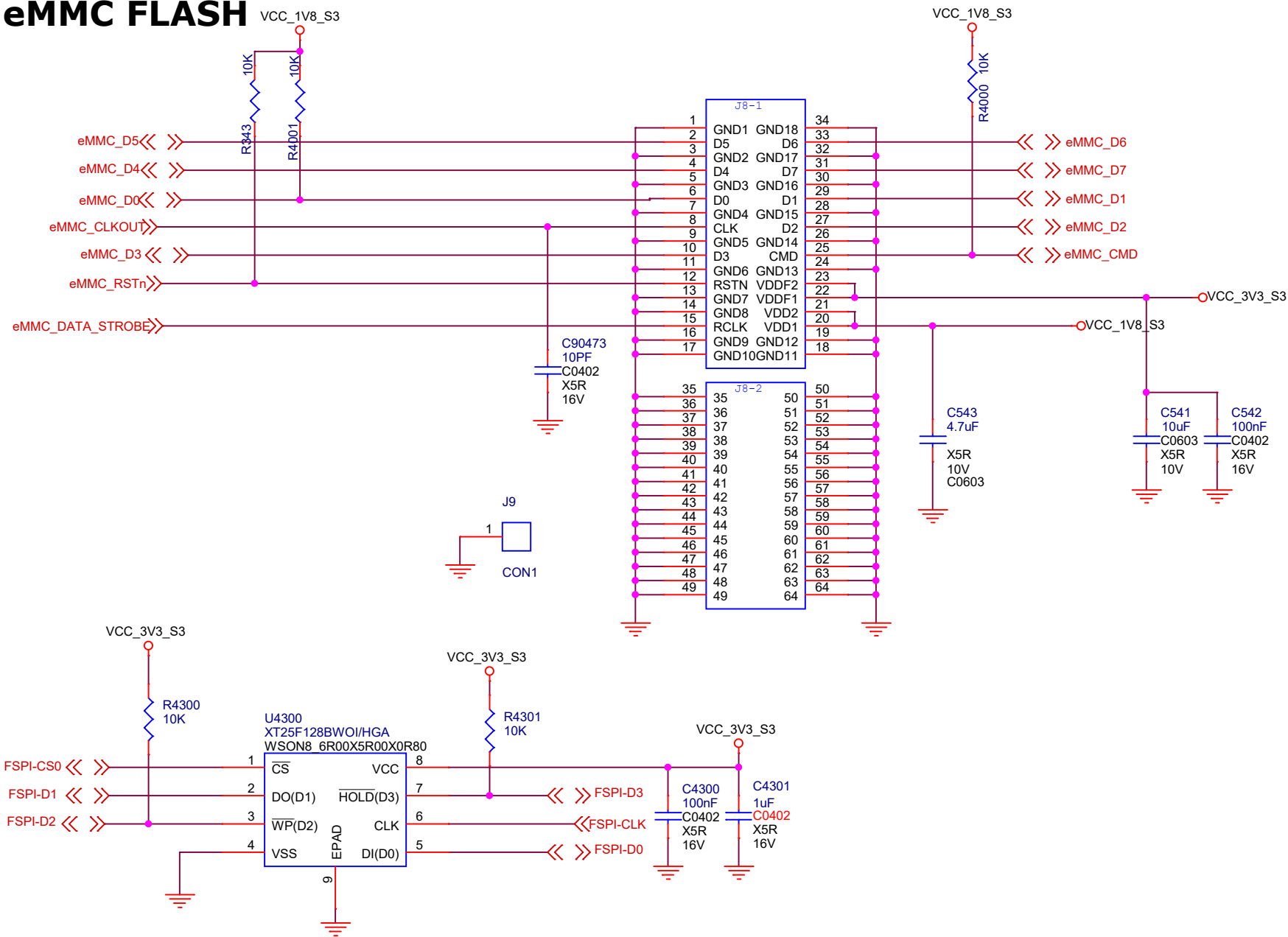


radxa

Size	Title: ROCK 5B	REV
A3	Page Name: Power Ext Discrete	1.45
Date: Tuesday, April 25, 2023	Sheet 23 of 32	

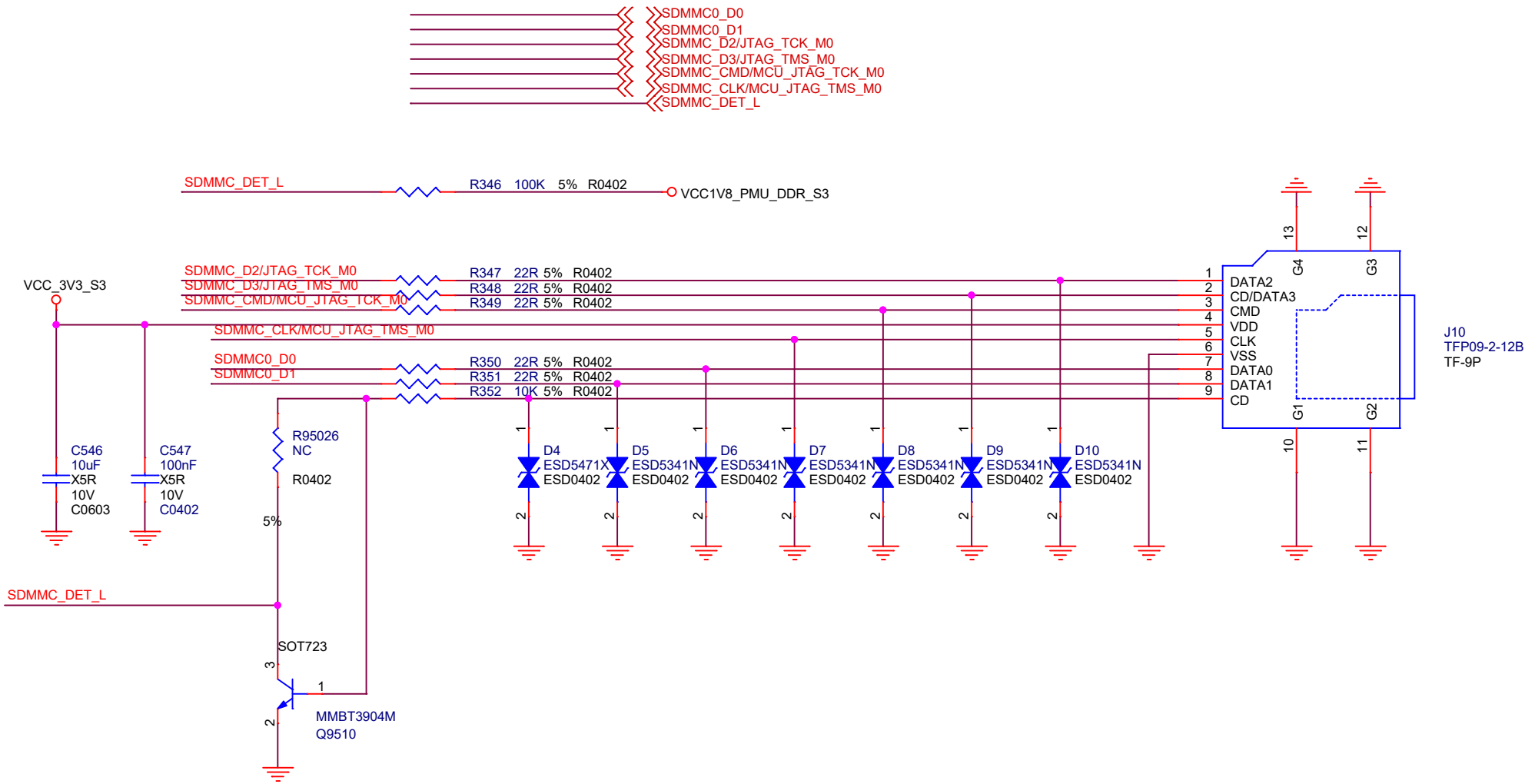


eMMC FLASH

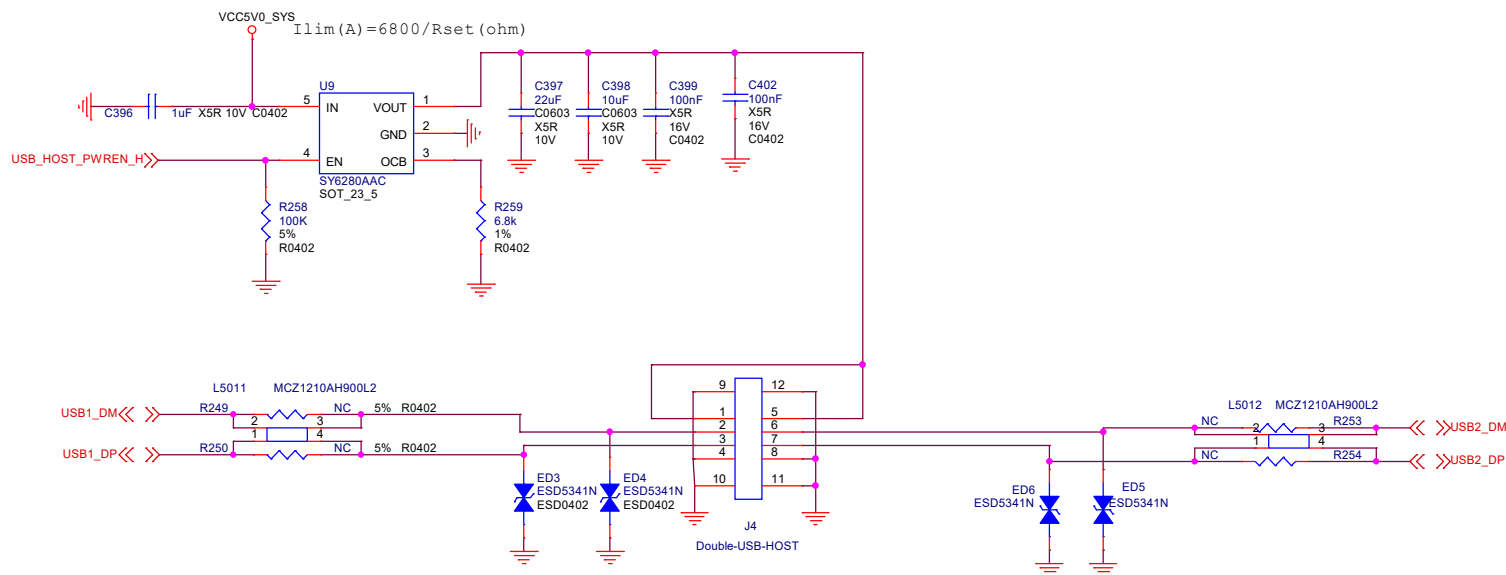


Size	Title: ROCK 5B	REV
A4	Page Name: eMMC FLASH	1.45
Date: Tuesday, April 25, 2023	Sheet 25 of 32	

TF CARD



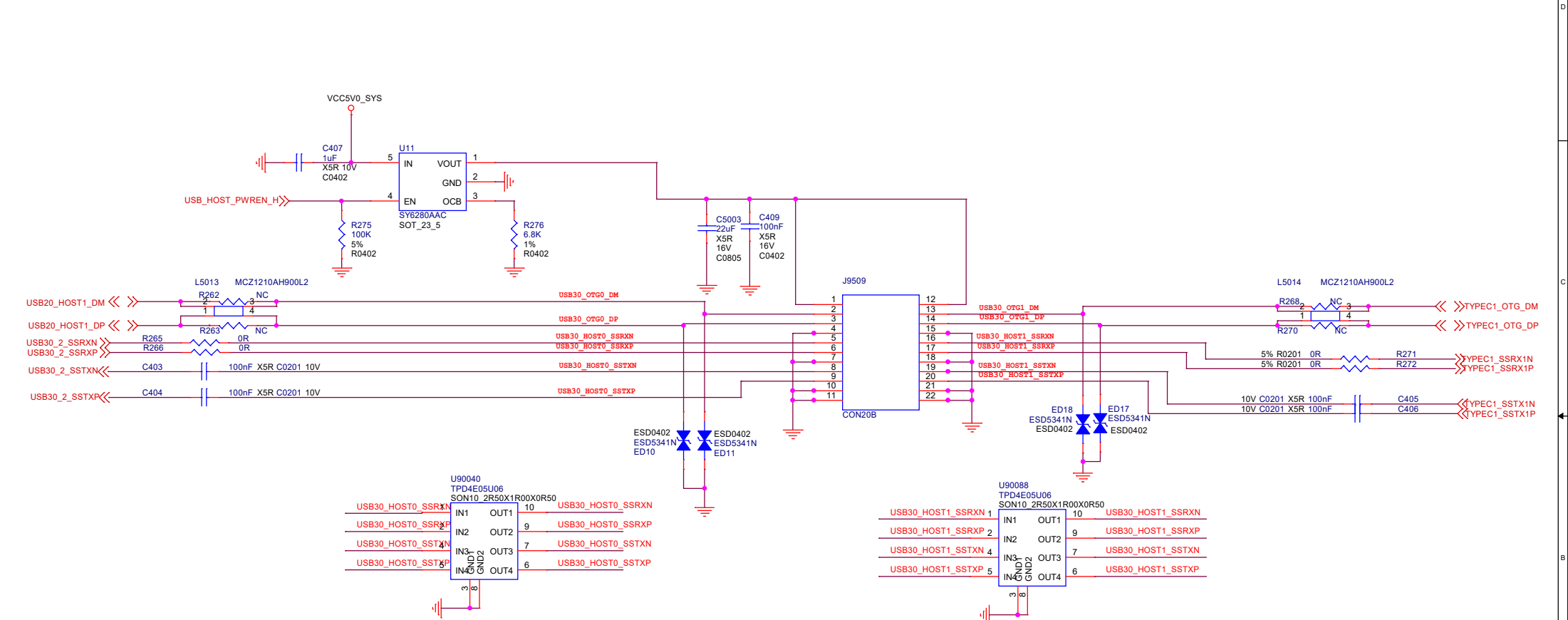
USB2.0



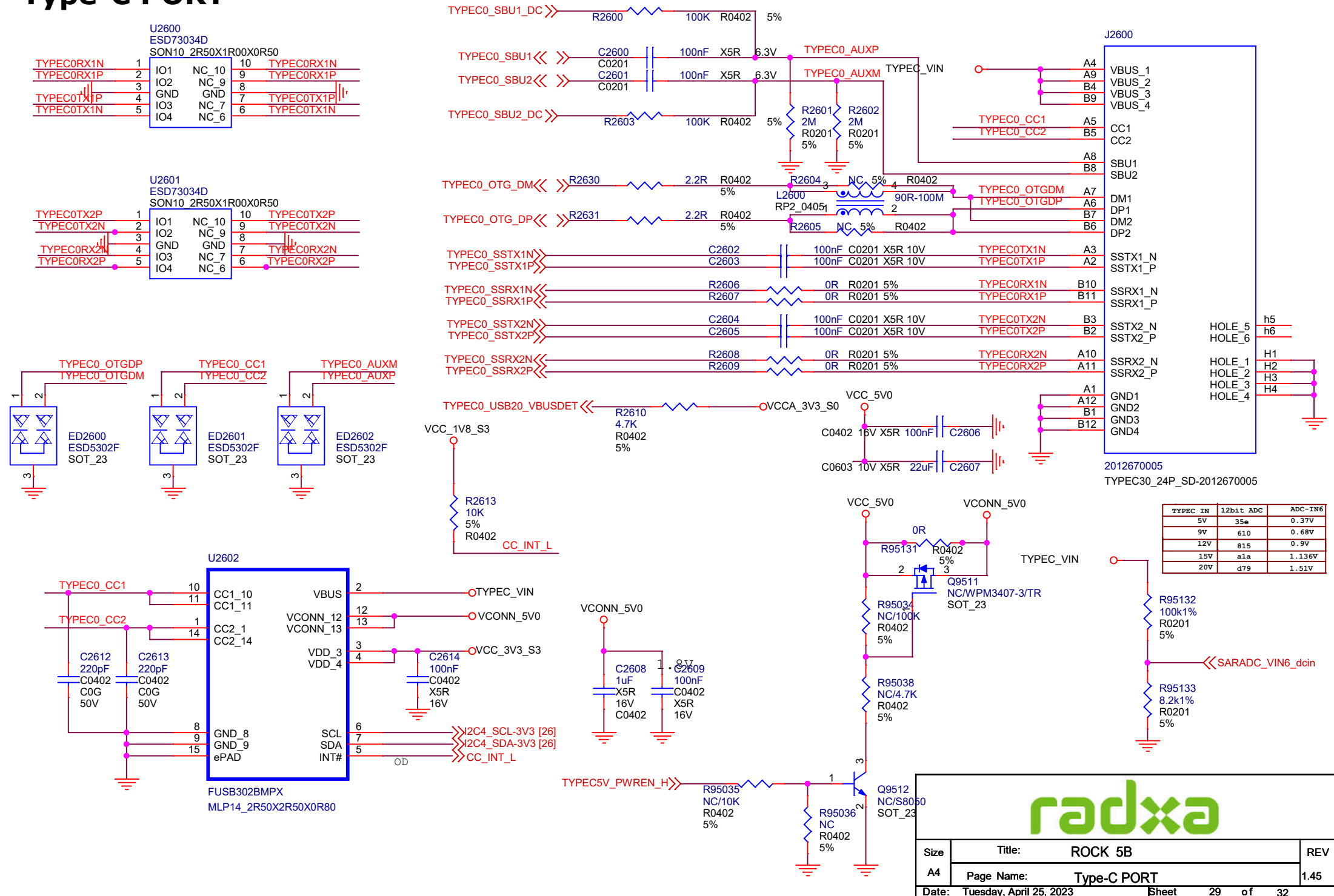
radxa

Size	Title: ROCK 5B	REV
A3	Page Name: USB2.0	1.45
Date: Tuesday, April 25, 2023	Sheet 27 of 32	

USB3.0 HOST PORT



Type-C PORT

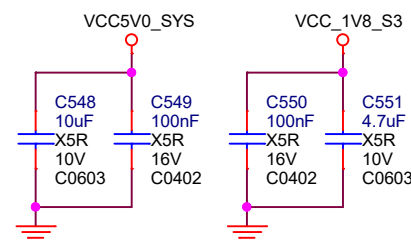
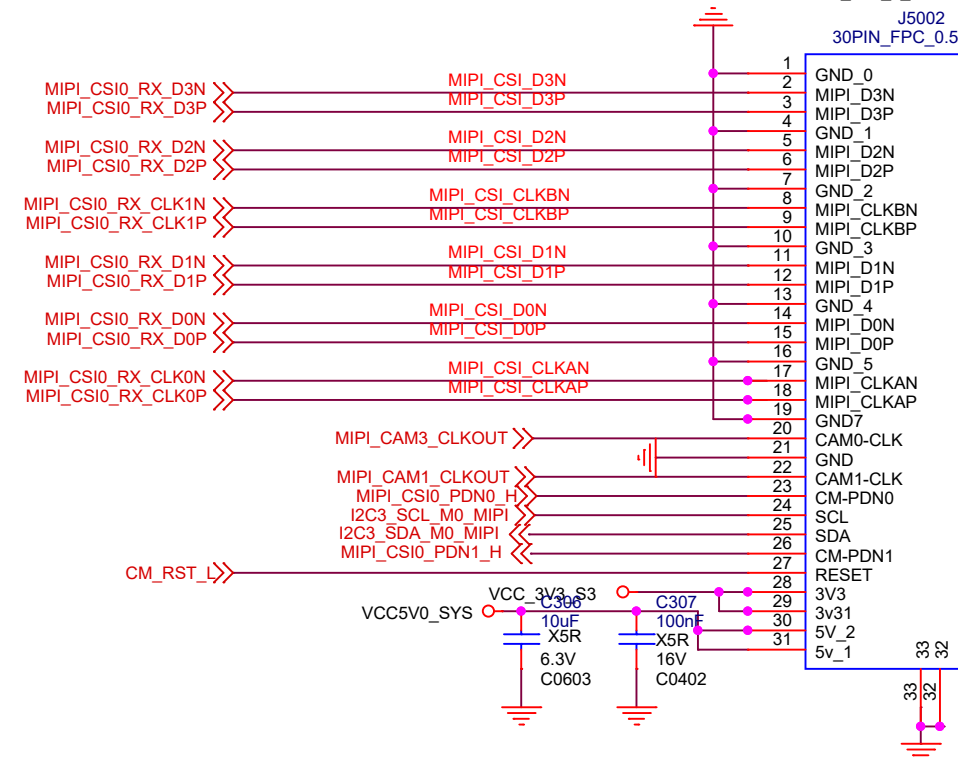


CAM

FH35C_31P_0_6SHW

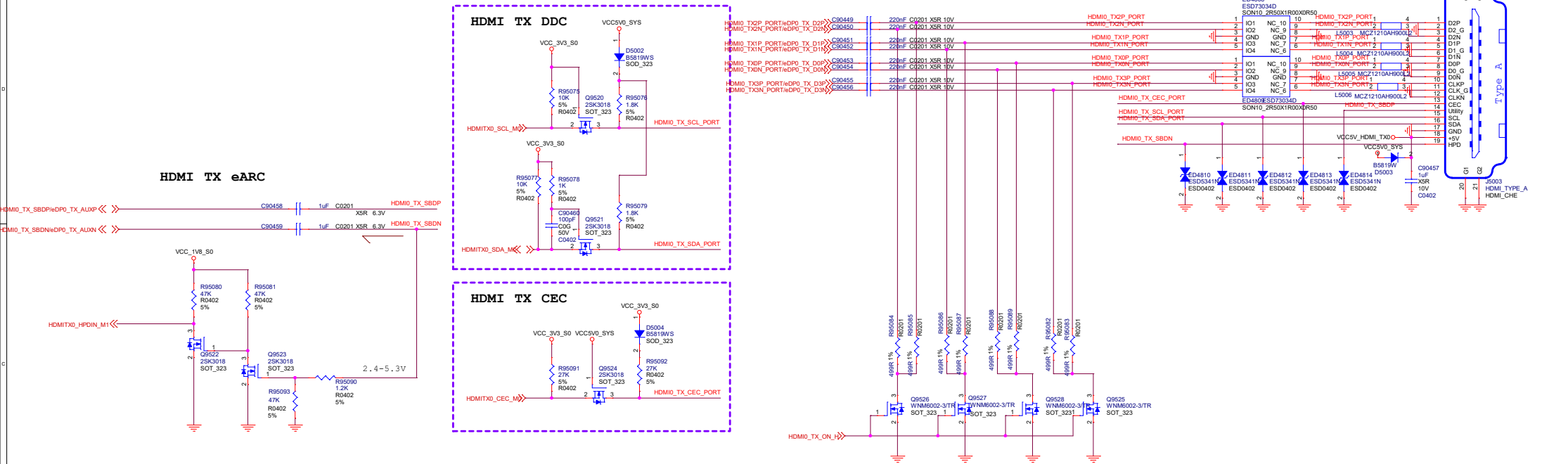
J5002

30PIN_FPC_0.5

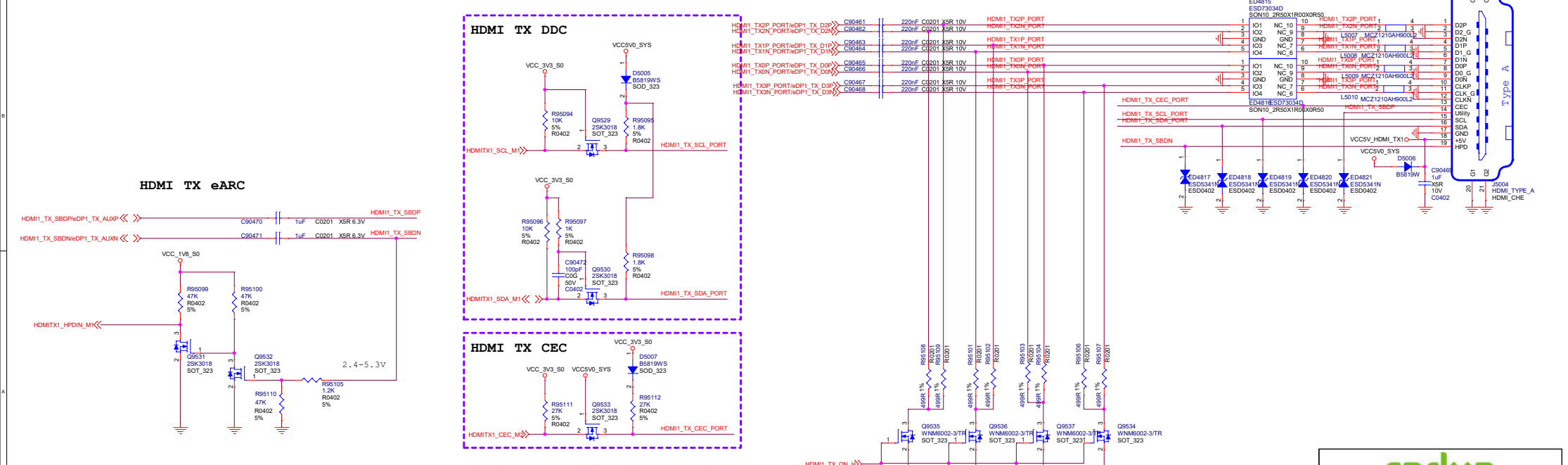


		
Size	Title: ROCK 5B	REV
A4	Page Name: CAM	1.45
Date: Tuesday, April 25, 2023	Sheet 30 of 32	

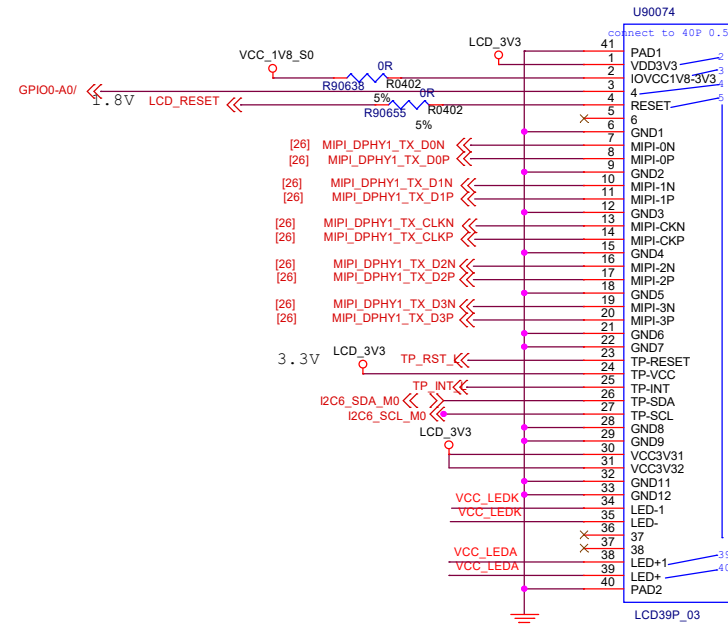
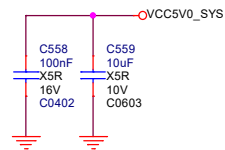
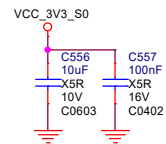
HDMI 1



HDMI 2



MIPI DPHY1 TX



LCD

