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Radxa ROCK 5B Schematic

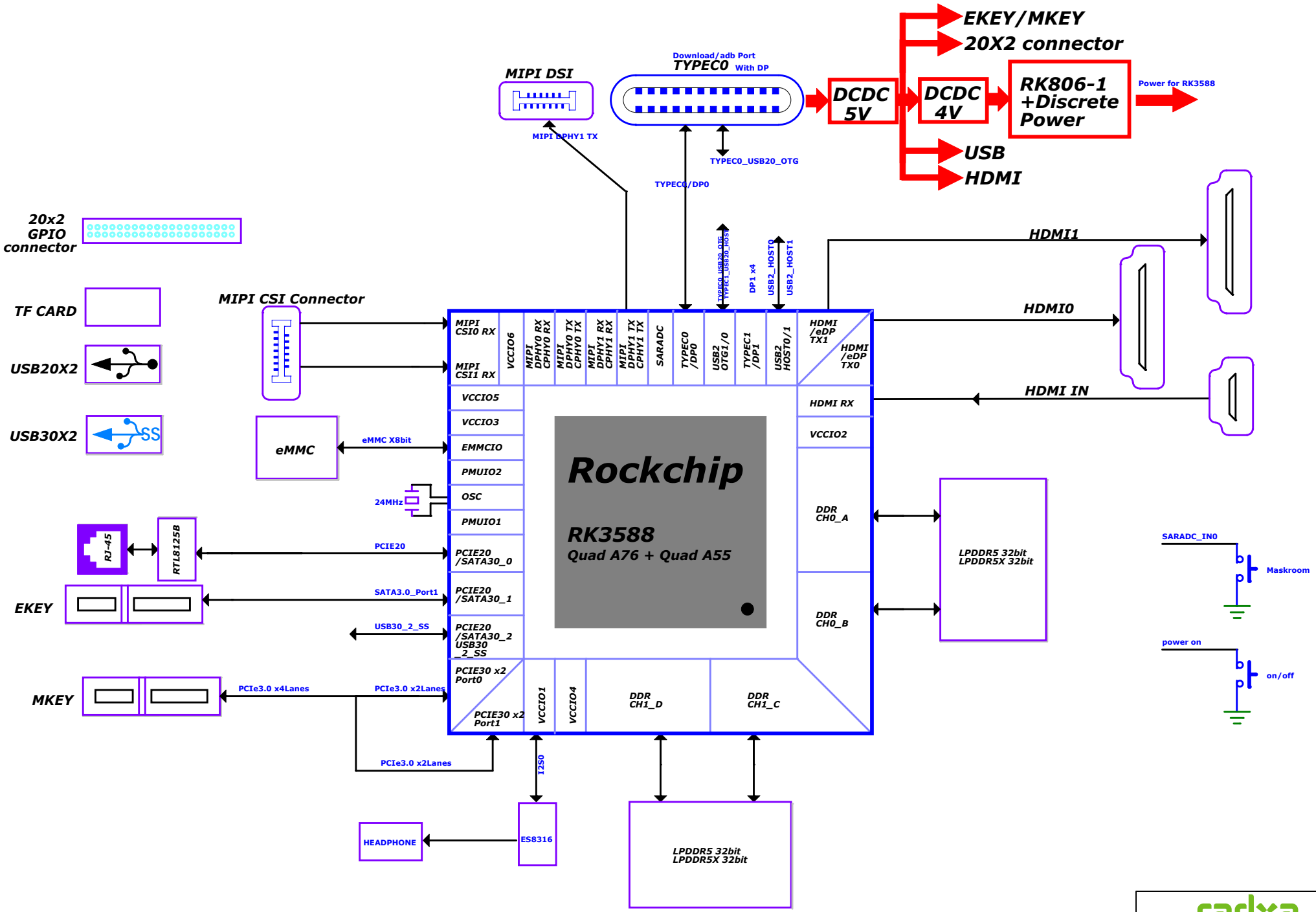
V2.20

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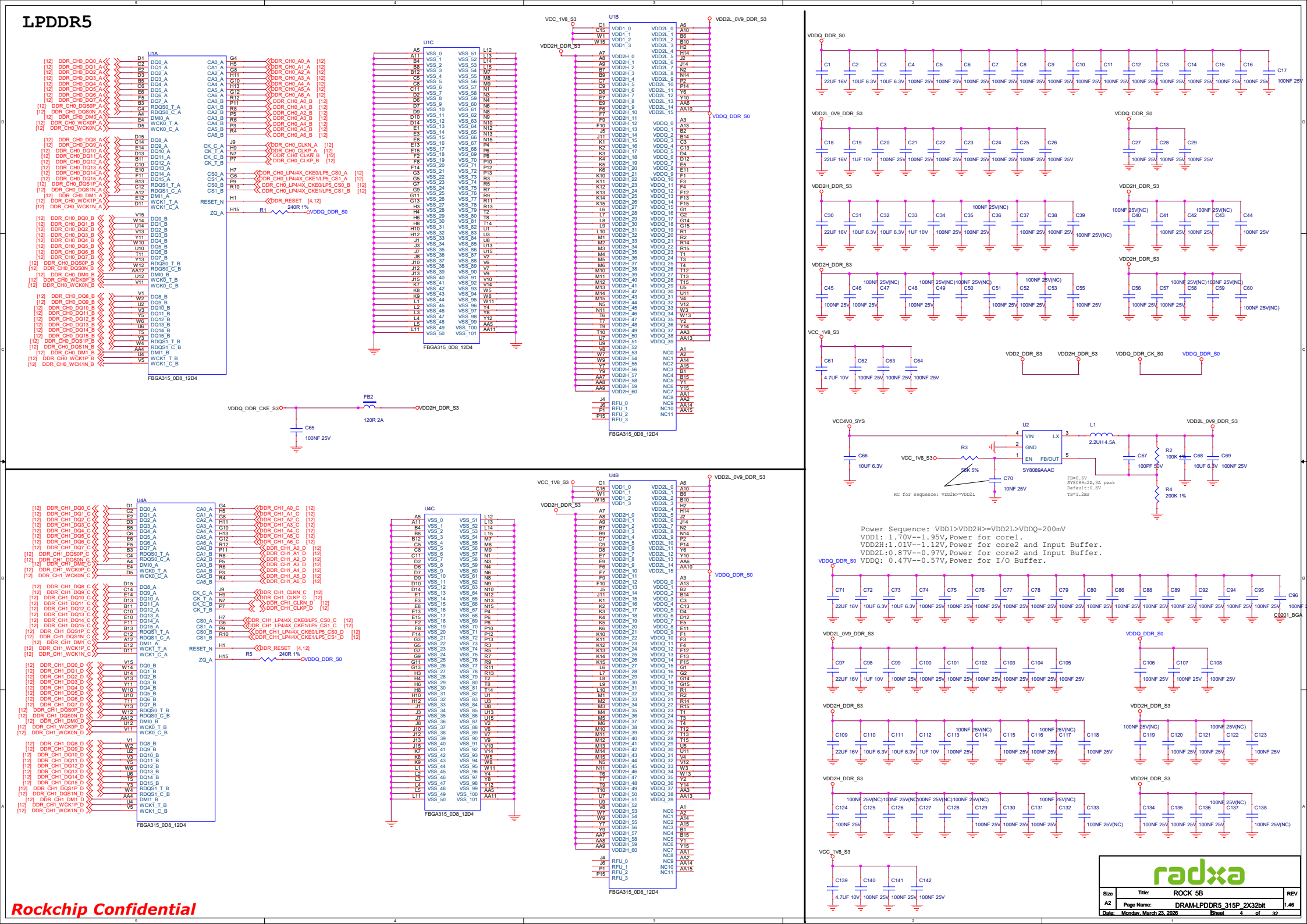
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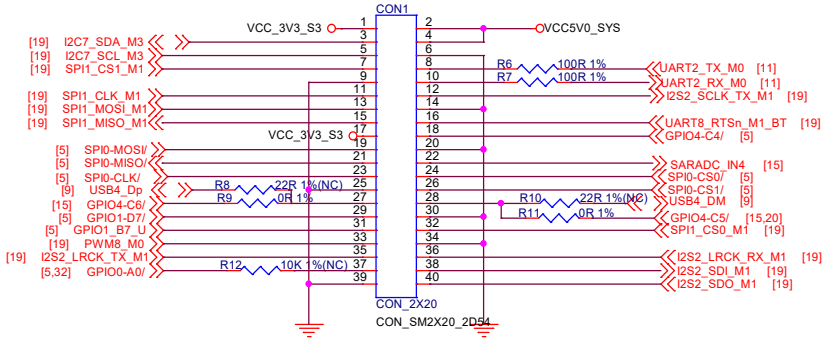
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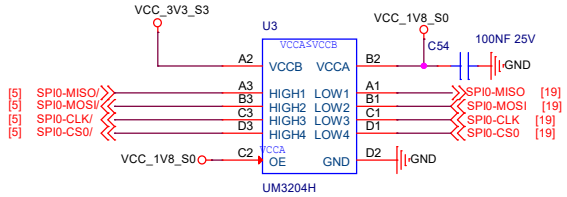


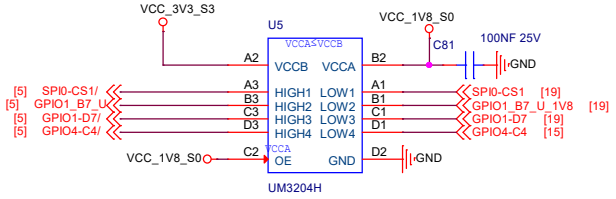
Rockchip Confidential

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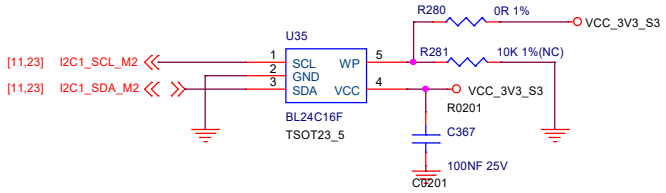
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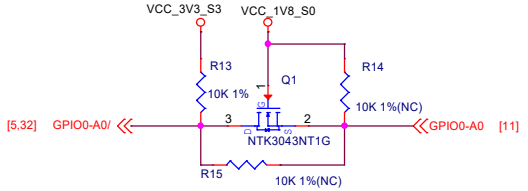


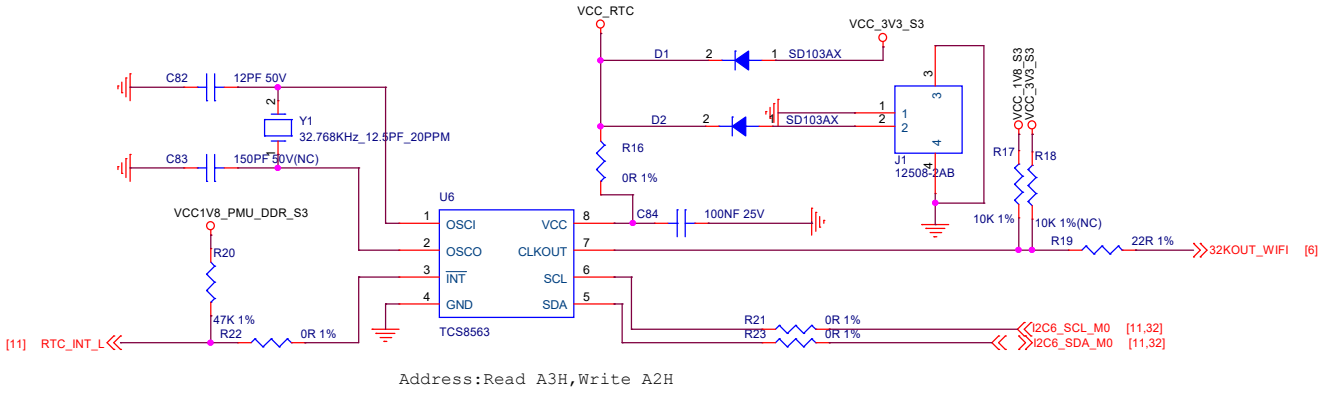




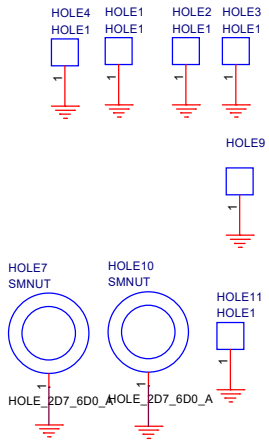
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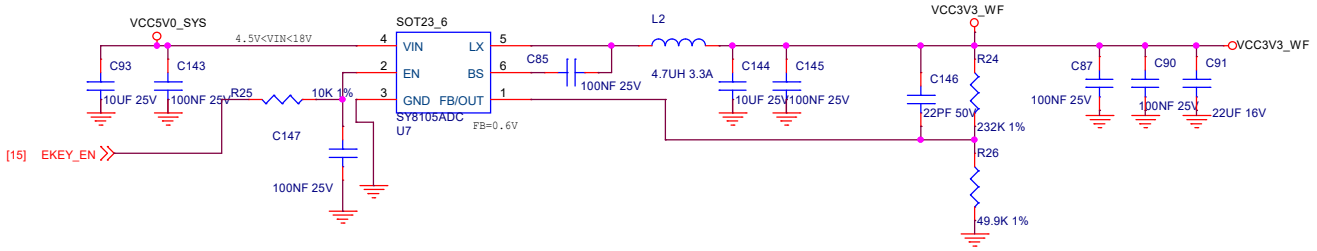




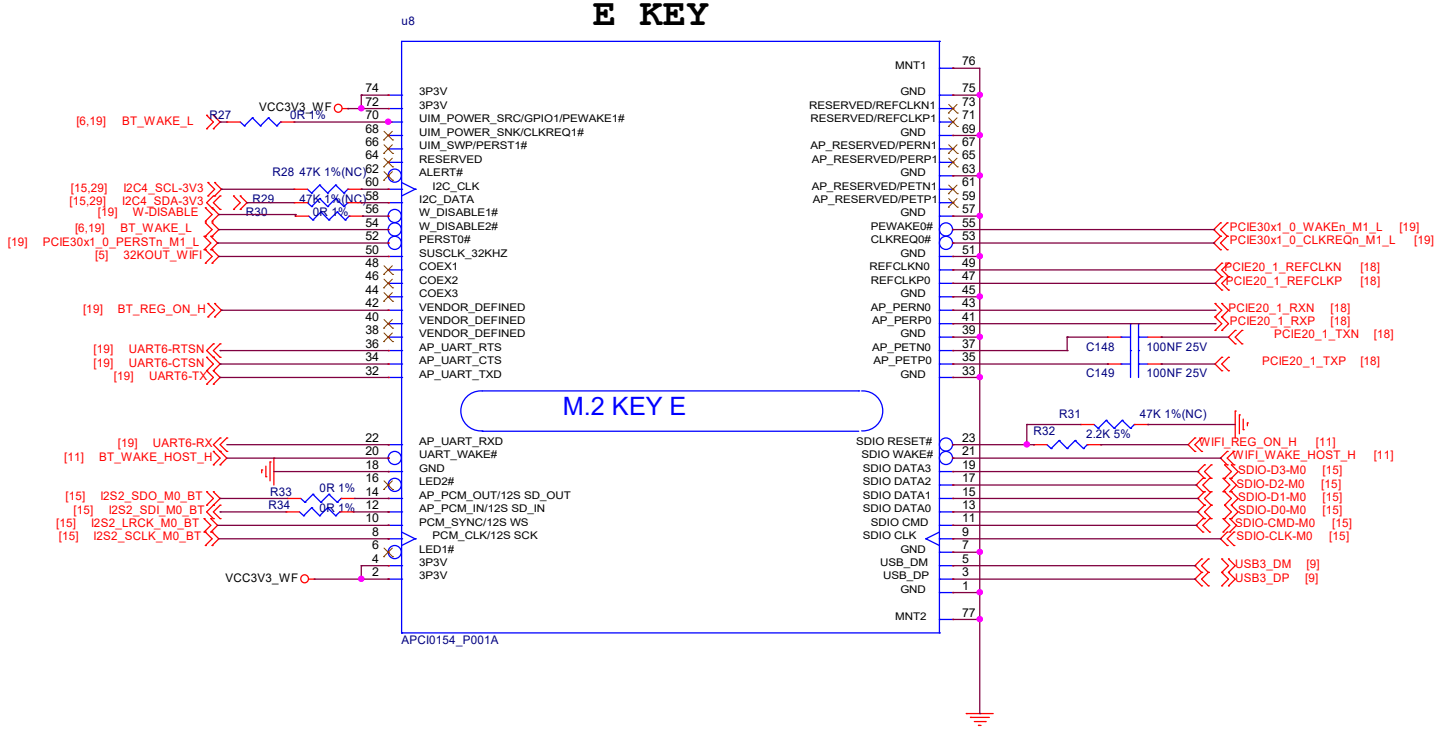
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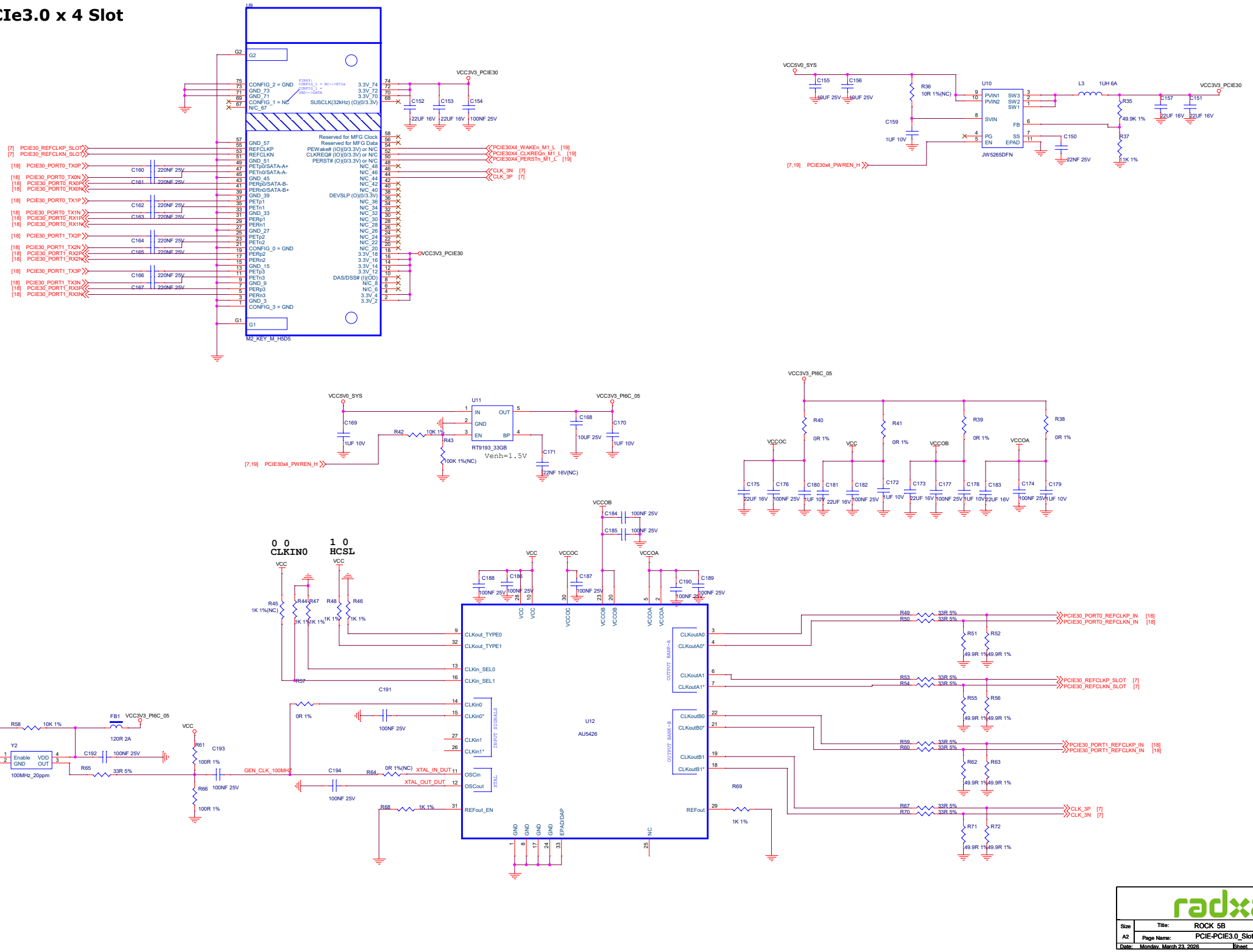


E KEY



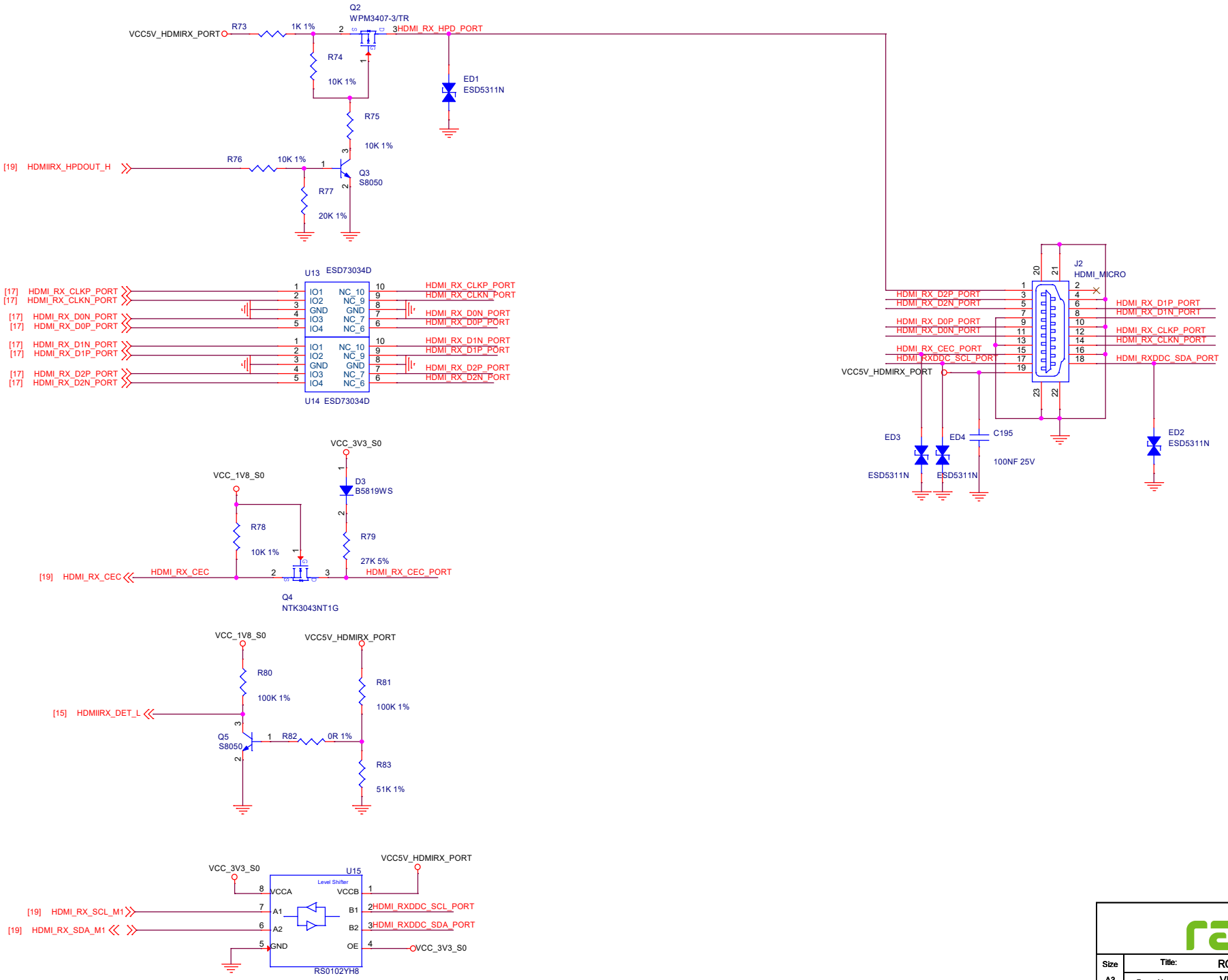
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PCIe3.0 x 4 Slot

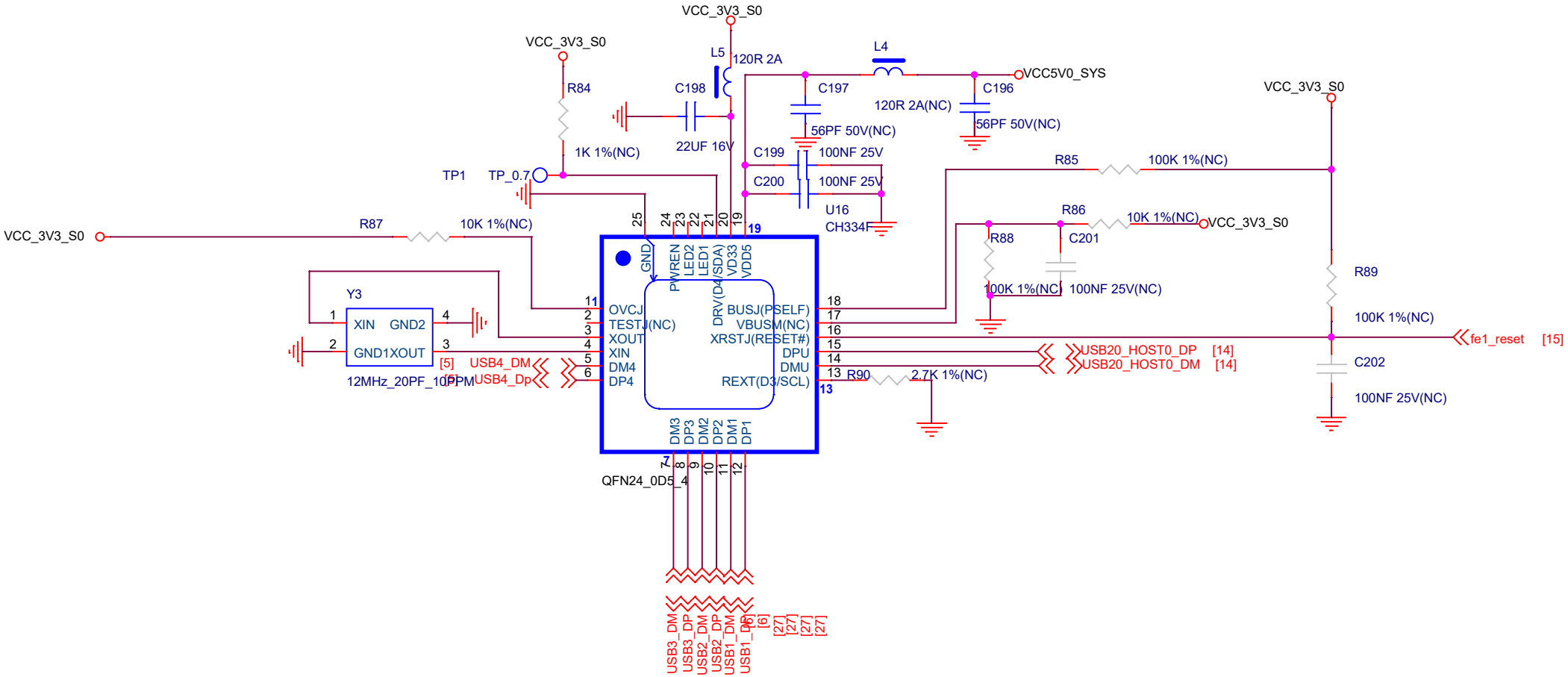


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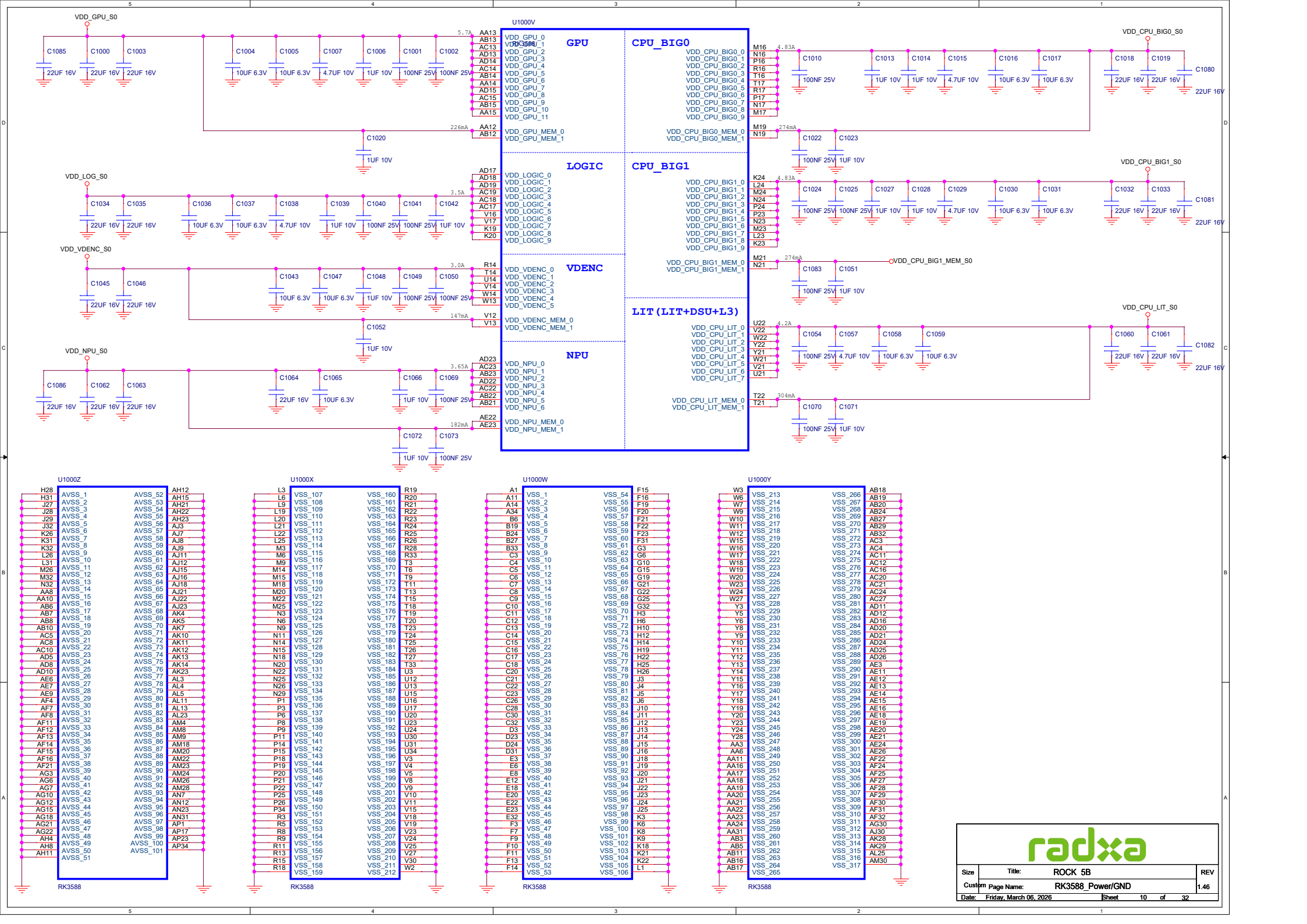
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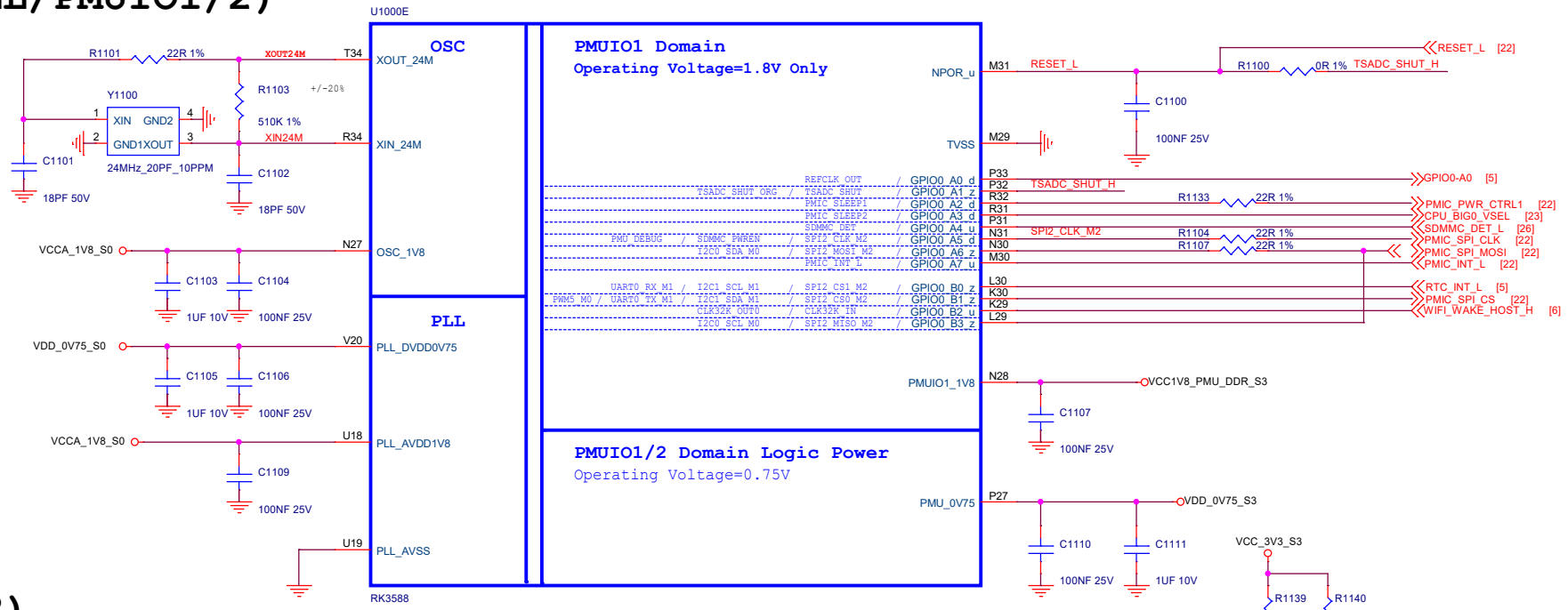
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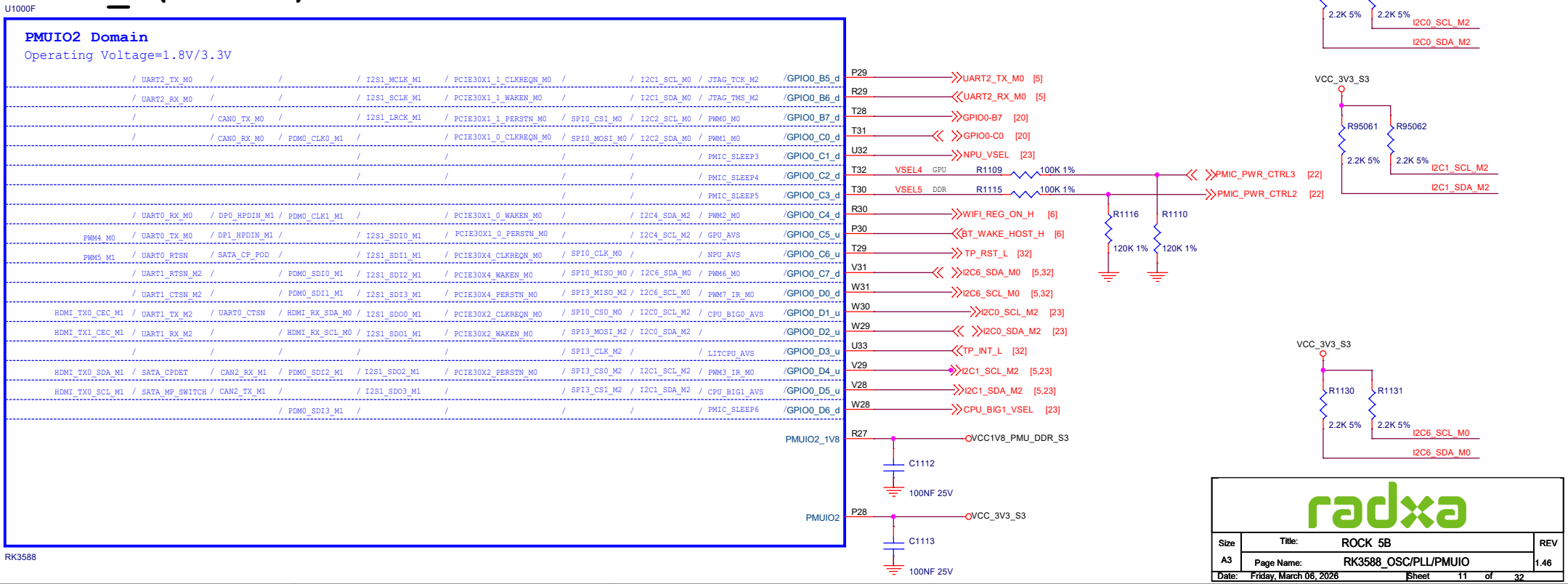
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VDD_GPU_S0
C1085 22UF 16V
C1000 22UF 16V
C1003 22UF 16V
C1004 10UF 6.3V
C1005 10UF 6.3V
C1007 4.7UF 10V
C1006 1UF 10V
C1001 100NF 25V
C1002 100NF 25V
5.7A
C1020 1UF 10V
226mA
U1000V
RK3588
GPU
VDD_GPU_0
VDD_GPU_1
VDD_GPU_2
VDD_GPU_3
VDD_GPU_4
VDD_GPU_5
VDD_GPU_6
VDD_GPU_7
VDD_GPU_8
VDD_GPU_9
VDD_GPU_10
VDD_GPU_11
VDD_GPU_MEM_0
VDD_GPU_MEM_1
CPU_BIG0
VDD_CPU_BIG0_0
VDD_CPU_BIG0_1
VDD_CPU_BIG0_2
VDD_CPU_BIG0_3
VDD_CPU_BIG0_4
VDD_CPU_BIG0_5
VDD_CPU_BIG0_6
VDD_CPU_BIG0_7
VDD_CPU_BIG0_8
VDD_CPU_BIG0_9
VDD_CPU_BIG0_MEM_0
VDD_CPU_BIG0_MEM_1
4.83A
C1010 100NF 25V
C1013 1UF 10V
C1014 1UF 10V
C1015 4.7UF 10V
C1016 10UF 6.3V
C1017 10UF 6.3V
C1018 22UF 16V
C1019 22UF 16V
C1080 22UF 16V
VDD_CPU_BIG0_S0
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C1022 100NF 25V
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VDD_LOG_S0
C1034 22UF 16V
C1035 22UF 16V
C1036 10UF 6.3V
C1037 10UF 6.3V
C1038 4.7UF 10V
C1039 1UF 10V
C1040 100NF 25V
C1041 100NF 25V
C1042 1UF 10V
3.5A
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VDD_LOGIC_2
VDD_LOGIC_3
VDD_LOGIC_4
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VDD_LOGIC_9
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VDD_CPU_BIG1_4
VDD_CPU_BIG1_5
VDD_CPU_BIG1_6
VDD_CPU_BIG1_7
VDD_CPU_BIG1_8
VDD_CPU_BIG1_9
VDD_CPU_BIG1_MEM_0
VDD_CPU_BIG1_MEM_1
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C1027 1UF 10V
C1028 1UF 10V
C1029 4.7UF 10V
C1030 10UF 6.3V
C1031 10UF 6.3V
C1032 22UF 16V
C1033 22UF 16V
C1081 22UF 16V
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C1046 22UF 16V
C1043 10UF 6.3V
C1047 10UF 6.3V
C1048 1UF 10V
C1049 100NF 25V
C1050 100NF 25V
3.0A
C1052 1UF 10V
147mA
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VDD_VDENC_3
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VDD_VDENC_5
VDD_VDENC_MEM_0
VDD_VDENC_MEM_1
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VDD_CPU_LIT_4
VDD_CPU_LIT_5
VDD_CPU_LIT_6
VDD_CPU_LIT_7
VDD_CPU_LIT_MEM_0
VDD_CPU_LIT_MEM_1
4.2A
C1054 100NF 25V
C1057 4.7UF 10V
C1058 10UF 6.3V
C1059 10UF 6.3V
C1060 22UF 16V
C1061 22UF 16V
C1082 22UF 16V
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304mA
C1070 100NF 25V
C1071 1UF 10V
VDD_NPU_S0
C1086 22UF 16V
C1062 22UF 16V
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C1064 22UF 16V
C1065 10UF 6.3V
C1066 1UF 10V
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3.65A
C1072 1UF 10V
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VDD_NPU_2
VDD_NPU_3
VDD_NPU_4
VDD_NPU_5
VDD_NPU_6
VDD_NPU_MEM_0
VDD_NPU_MEM_1
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VSS_160 VSS_161 VSS_162 VSS_163 VSS_164 VSS_165 VSS_166 VSS_167 VSS_168 VSS_169 VSS_170 VSS_171 VSS_172 VSS_173 VSS_174 VSS_175 VSS_176 VSS_177 VSS_178 VSS_179 VSS_180 VSS_181 VSS_182 VSS_183 VSS_184 VSS_185 VSS_186 VSS_187 VSS_188 VSS_189 VSS_190 VSS_191 VSS_192 VSS_193 VSS_194 VSS_195 VSS_196 VSS_197 VSS_198 VSS_199 VSS_200 VSS_201 VSS_202 VSS_203 VSS_204 VSS_205 VSS_206 VSS_207 VSS_208 VSS_209 VSS_210 VSS_211 VSS_212
RK3588
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RK3588
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RK3588_E(OSC/PLL/PMUIO1/2)

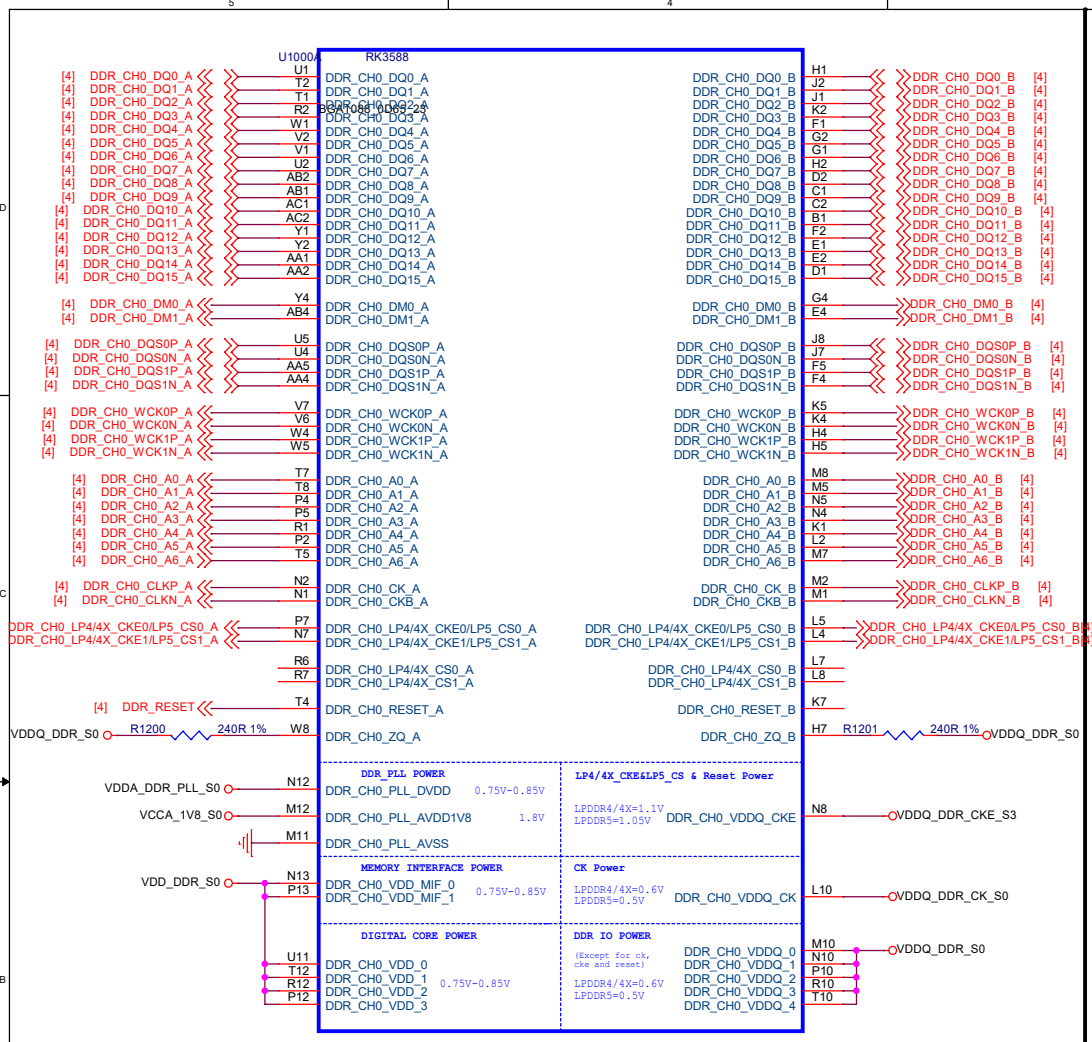


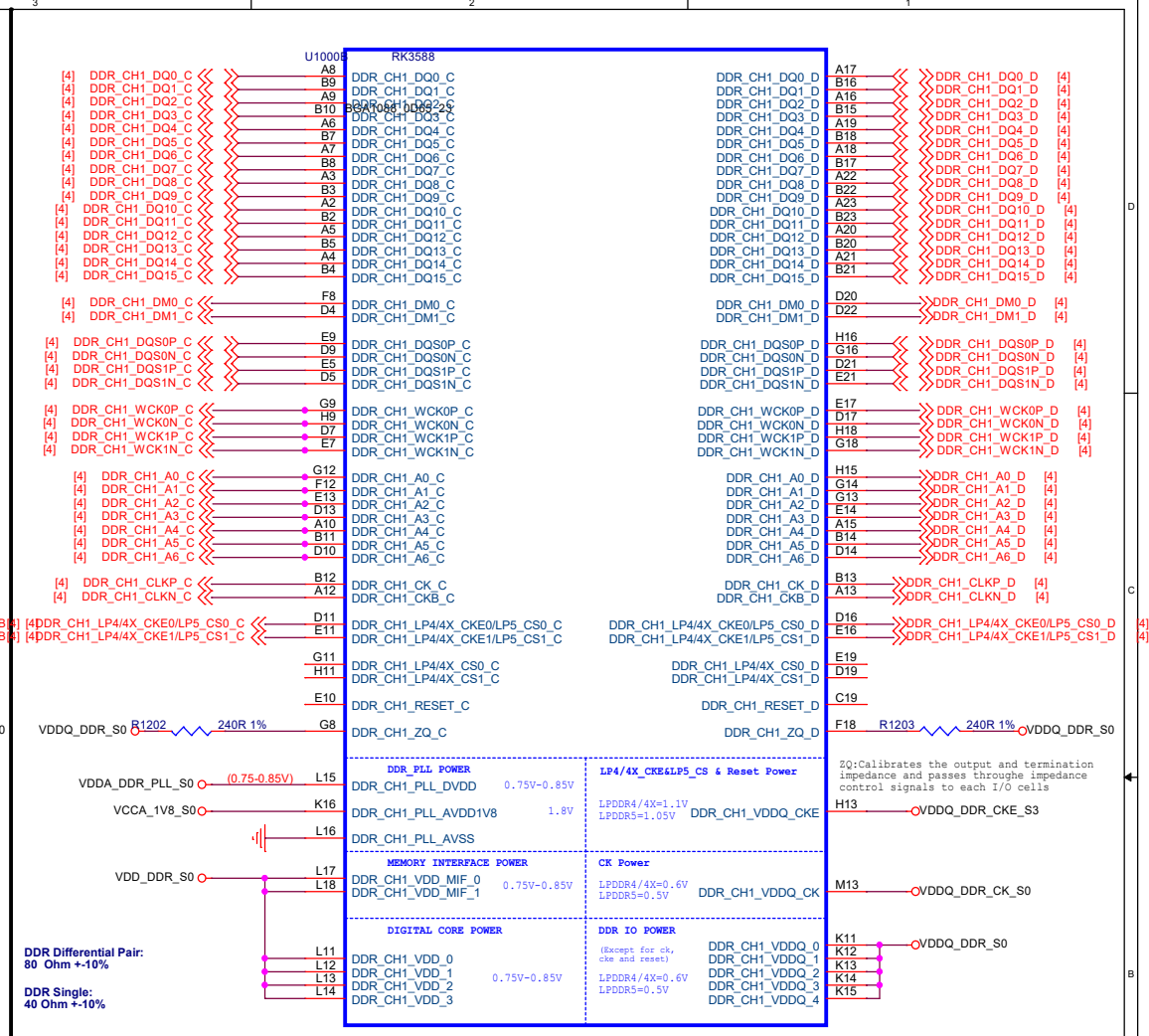
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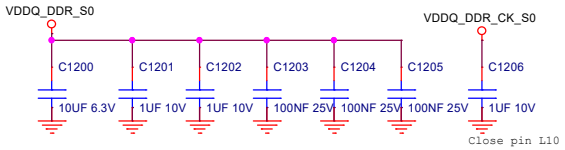
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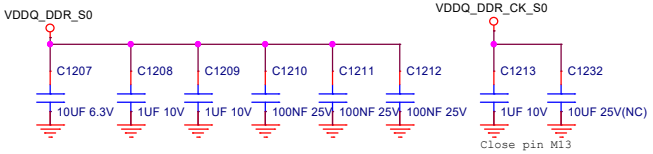
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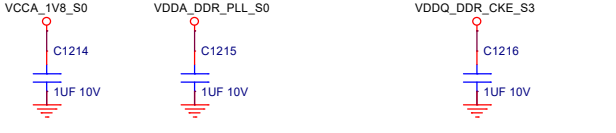


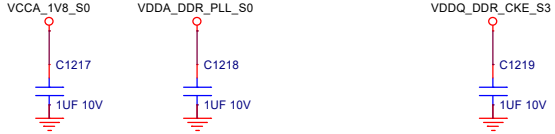


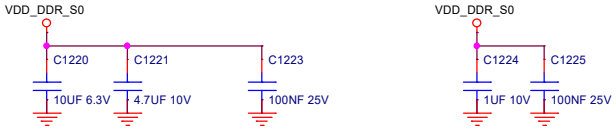
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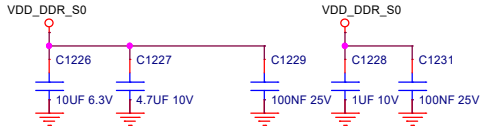








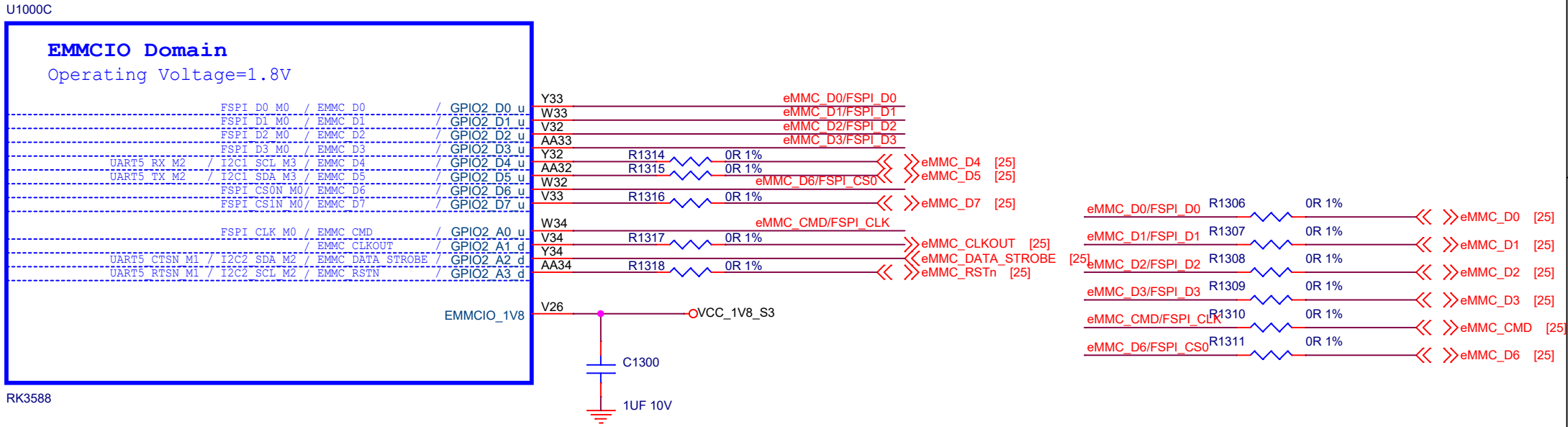




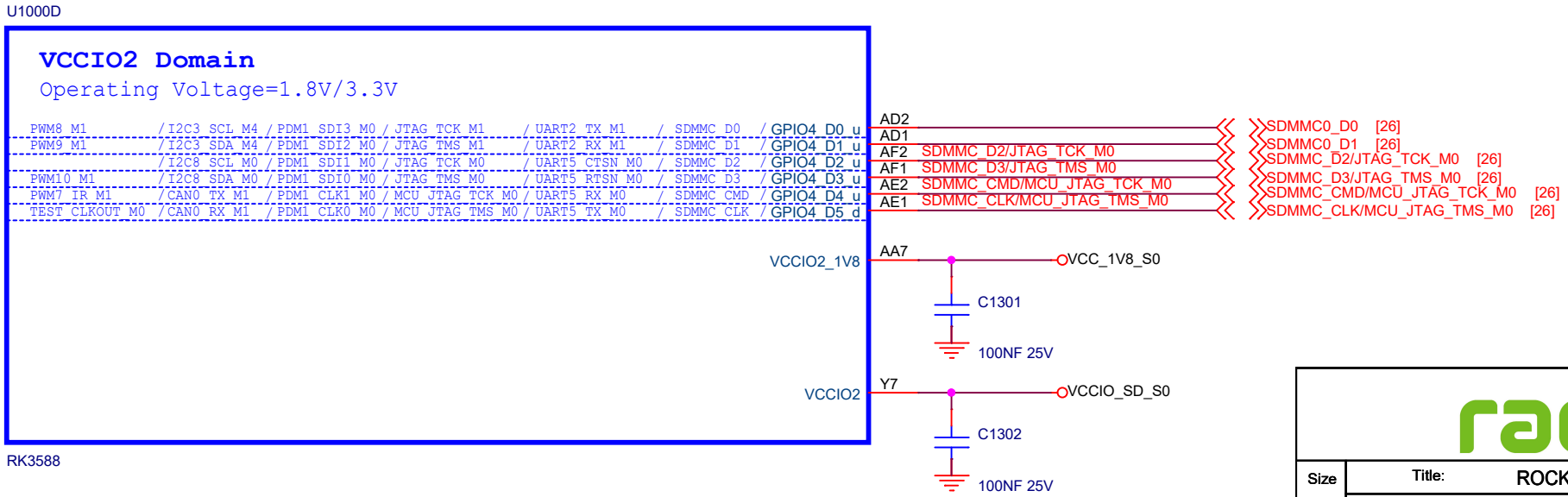
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RK3588_C(EMMCIO Domain)



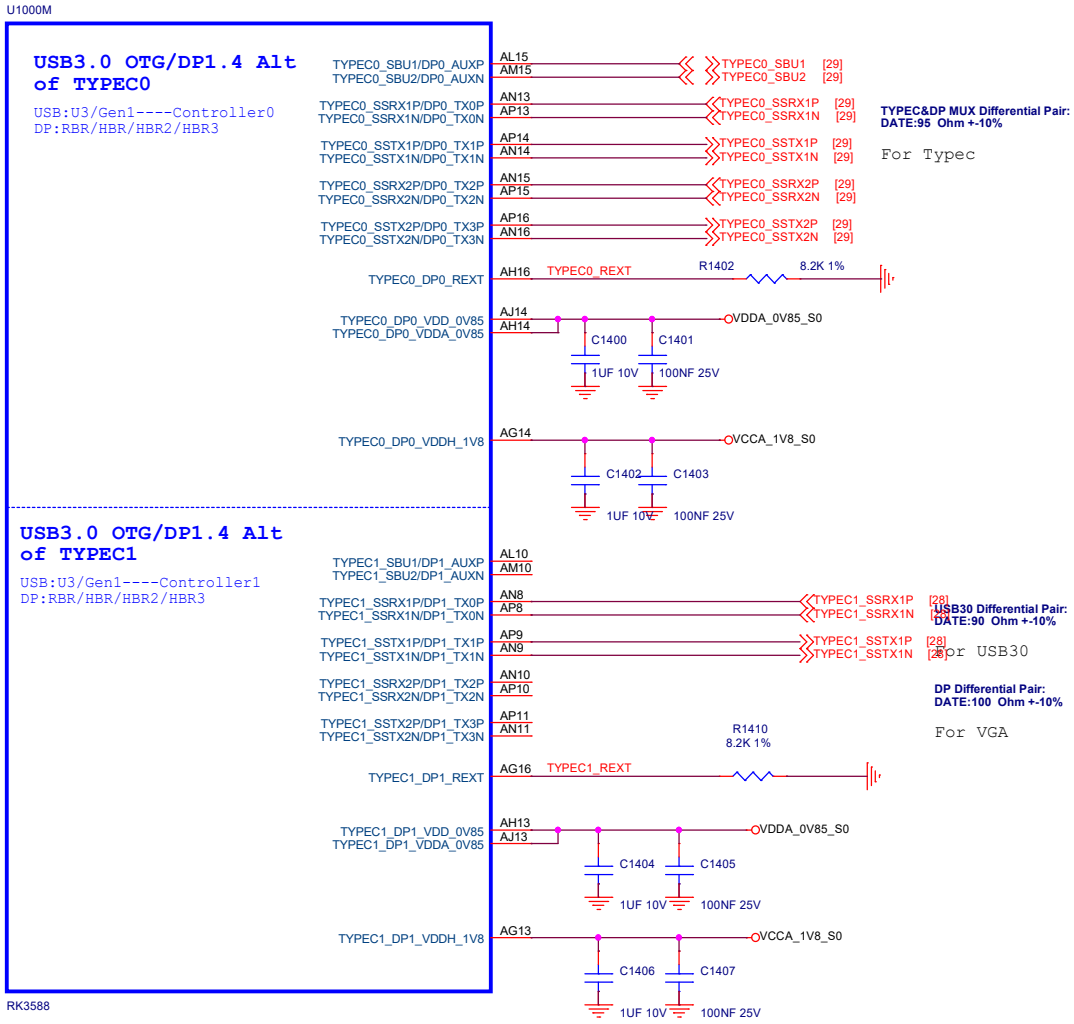
RK3588_D(VCCIO2 Domain)



radxa

Size	Title:	ROCK 5B	REV
A4	Page Name:	RK3588_Flash/SD Controller	1.46
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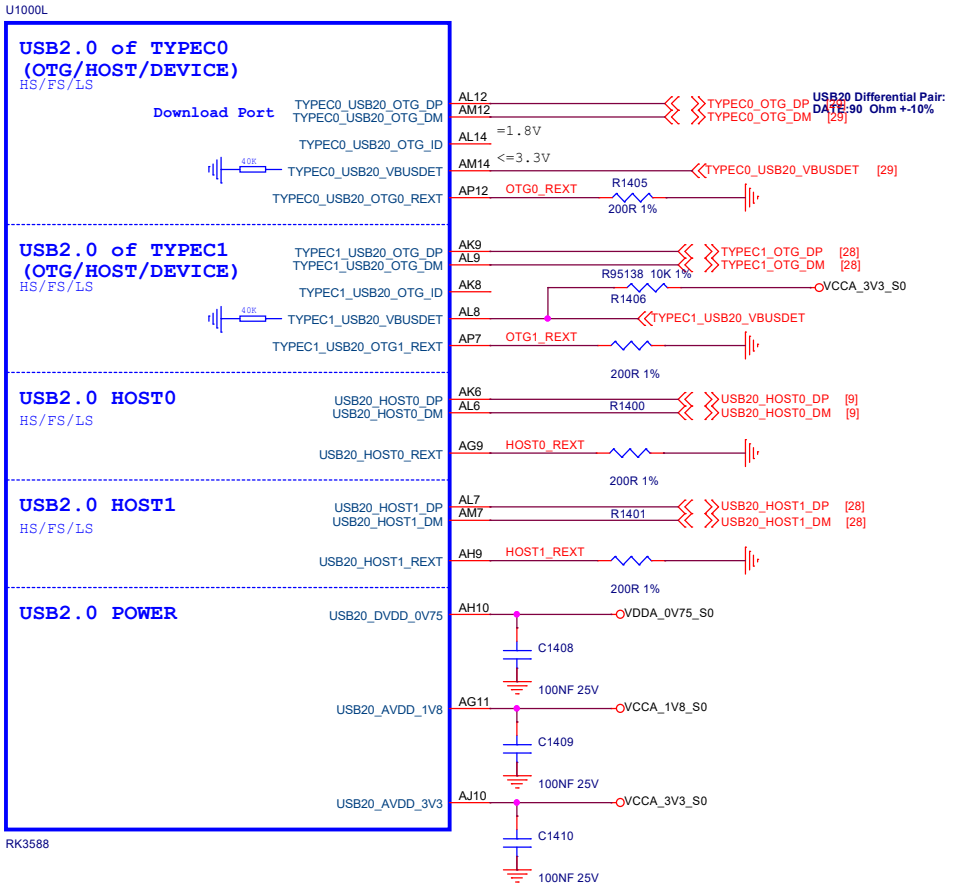
RK3588_M(TYPEC/DP)



USB30/DP1.4 Alt Mode Configuration

Option1	*DP x4Lane*	*DP_TX_Lane0-3*
Option2	*USB30 x4Lane*	*DP_TX_Lane0-3*
Option3	*USB30X2Lane+DPX2Lane*	*USB30:Lane0 Lane1* *DP:Lane2 Lane3*
Option4	*USB30X2Lane+DPX2Lane*	*USB30:Lane2 Lane3* *DP:Lane0 Lane1*

RK3588_L(USB2.0 HOST/OTG)



Note:
The USB20_VBUSDET pin internal has a pull-down resistance(40K ohm) to ground,The resistance creates a voltage with the external series 30K ohm resistor.The VBUSDETpin voltage range <=3.3V.

radxa

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RK3588_G(VCCIO1 Domain)

U1000G

VCCIO1 Domain

Operating Voltage=1.8V

SPI4_MISO_M0	UART3_RX_M0		I2C3_SDA_M0		GPIO1_C0_z
SPI4_MOSI_M0	UART3_TX_M0		I2C3_SCL_M0		GPIO1_C1_z
SPI4_CLK_M0	UART3_RTSN_M0	PWM3_IR_M2	I2C6_SDA_M1	I2S0_MCLK	GPIO1_C2_d
SPI4_CS0_M0	UART3_CTSN_M0	PWM7_IR_M2	I2C6_SCL_M1	I2S0_SCLK	GPIO1_C3_d
SPI4_CS1_M0	PWM11_IR_M2	I2C2_SDA_M3	PDM0_CLK1_M0		GPIO1_C4_d
UART4_RTSN_M0		I2C2_SCL_M3		I2S0_LRCK	GPIO1_C5_d
PWM15_IR_M2	I2C4_SDA_M4	PDM0_CLK0_M0			GPIO1_C6_d
UART4_CTSN_M0	I2C4_SCL_M4			I2S0_SDO0	GPIO1_C7_d
SPI1_MISO_M2	UART6_TX_M2	I2C7_SCL_M0		I2S0_SDO1	GPIO1_D0_d
SPI1_MOSI_M2	UART6_RX_M2	I2C7_SDA_M0	PDM0_SDI1_M0	I2S0_SDO2/I2S0_SDI3	GPIO1_D1_d
SPI1_CLK_M2	UART4_TX_M0 PWM0_M1	I2C1_SCL_M4	PDM0_SDI2_M0	I2S0_SDO3/I2S0_SDI2	GPIO1_D2_d
SPI1_CS0_M2	UART4_RX_M0 PWM1_M1	I2C1_SDA_M4	PDM0_SDI3_M0	I2S0_SDI1	GPIO1_D3_d
				I2S0_SDI0	GPIO1_D4_d
SPI1_CS1_M2			PDM0_SDI0_M0		GPIO1_D5_d

G29 I2C3_SDA_M0_MIPI [30]
G27 I2C3_SCL_M0_MIPI [30]
F30 I2S0_MCLK [21]
E31 I2S0_SCLK_TX [21]
E30 LCD_PWREN_H [23]
D30 I2S0_LRCK_TX [21]
D29 HDMIIRX_DET_L [8]
E29 I2S0_SDO0 [21]

F26
F27 I2C7_SCL_M0_CODEC [21]
F28 I2C7_SDA_M0_CODEC [21]
E28 EKEY_EN [6]
D28 HP_INT [21]
G26 I2S0_SDI0 [21]
HP_DETECT [21]

VCCIO1_1V8 G20 VCC_1V8_S0

C1502 100NF 25V

RK3588

VCC_1V8_S0
R1506 2.2K 5%
R1507 2.2K 5%
I2C3_SCL_M0_MIPI
I2C3_SDA_M0_MIPI

VCC_1V8_S0
R1501 2.2K 5%
R1502 2.2K 5%
I2C7_SCL_M0_CODEC
I2C7_SDA_M0_CODEC

RK3588_U(SARADC/OTP)

U1000U

SARADC
12-bit 1MS/s

OTP

TSADC

SARADC_IN0_BOOT Recovery/	AM16	BOOT_SARADC_IN0
SARADC_IN1	AL16	SARADC_VIN1_KEY/RECOVERY
SARADC_IN2	AK16	SARADC_VIN2_LCD_ID1
SARADC_IN3	AN17	SARADC_VIN3_HP_HOOK
SARADC_IN4	AM17	SARADC_IN4 [5]
SARADC_IN5	AK15	SARADC_VIN5_EVB_HW_ID
SARADC_IN6	AL17	SARADC_VIN6_dcin [29]
SARADC_IN7	AK17	
SARADC_AVDD_1V8	AH18	VCCA_1V8_S0
NC	AD4	
OTP_VDDOTP_0V75	AD3	VDD_0V75_S0
TSADC_TEST_OUT_TS	AF18	

R274 10K 1%
R1500 10K 1%
VCCA_1V8_S0
C1510 1NF 50V
C1511 1NF 50V
C1512 1NF 50V
C1513 1NF 50V
SARADC_IN4

C1501 100NF 25V
C1505 100NF 25V

SARADC_VIN1_KEY/RECOVERY
BOOT_SARADC_IN0

SW9208
TS_018B
ED4807
ESD5451N
KEY
TS_013

BOOT_SARADC_IN0
SARADC_VIN1_KEY/RECOVERY
SARADC_VIN3_HP_HOOK [21]
SARADC_VIN7_LCD_ID0
SARADC_VIN2_LCD_ID1

RK3588

BOOT MODE CONFIG

VCCA_1V8_S0
R1511 100K 1%
BOOT_SARADC_IN0
R1509 100K 1%(NC)

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

VCCA_1V8_S0
R1508 10K 1%(NC)
SARADC_VIN5_HW_ID
R1510 100K 1%

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_H(VCCIO3 Domain)

VCCA_1V8_S0 R95029 10K 1%
VCCA_1V8_S0 R95030 10K 1%
I2C4_SDA [15]
I2C4_SCL [15]

U1000H

VCCIO3 Domain

Operating Voltage=1.8V

	UART6_RX_M0	FSPI_D0_M1	SDIO_D0_M0	GMAC0_RXD2	GPIO2_A6_u
	UART6_TX_M0	FSPI_D1_M1	SDIO_D1_M0	GMAC0_RXD3	GPIO2_A7_u
I2C8_SCL_M1	UART6_RTSN_M0	FSPI_D2_M1	SDIO_D2_M0	GMAC0_RXCLK	GPIO2_B0_u
I2C8_SDA_M1	UART6_CTSN_M0	FSPI_D3_M1	SDIO_D3_M0	GMAC0_TXD2	GPIO2_B1_u
I2C3_SCL_M3			SDIO_CMD_M0	GMAC0_TXD3	GPIO2_B2_u
I2C3_SDA_M3		FSPI_CLK_M1	SDIO_CLK_M0	GMAC0_TXCLK	GPIO2_B3_d
I2C4_SDA_M1	UART7_RX_M0	FSPI_CS0N_M1	HDMI_TX1_SDA_M0	GMAC0_PPS_TRIG_REFCLK	GPIO2_B4_u
I2C4_SCL_M1	UART7_TX_M0	FSPI_CS1N_M1	HDMI_TX1_SCL_M0	GMAC0_PPSTRIG	GPIO2_B5_u
I2C5_SCL_M4	UART1_RX_M0		I2S2_MCLK_M0	GMAC0_TXD0	GPIO2_B6_d
I2C5_SDA_M4	UART1_TX_M0		I2S2_SCLK_M0	GMAC0_TXD1	GPIO2_B7_d
I2C2_SDA_M1	UART1_RTSN_M0	SPI1_CLK_M0	I2S2_LRCK_M0	GMAC0_TXEN	GPIO2_C0_d
I2C2_SCL_M1	UART1_CTSN_M0	SPI1_MISO_M0		GMAC0_RXD0	GPIO2_C1_d
I2C6_SDA_M2	UART9_TX_M0	SPI1_MOSI_M0		GMAC0_RXD1	GPIO2_C2_d
I2C6_SCL_M2		SPI1_CS0_M0	I2S2_SDI_M0	ETH0_REFCLKO_25M	GPIO2_C3_d
TEST_CLKOUT_M1	UART9_RX_M0	SPI1_CS1_M0	HDMI_TX1_CEC_M0	GMAC0_PPSCLK	GPIO2_C4_d
				CLK32K_OUT1	GPIO2_C5_d
	UART7_RTSN_M0	SPI3_CS0_M0	PWM2_M2	GMAC0_RXDV_CRS	GPIO4_C2_d
I2C7_SCL_M1	PWM4_M1	SPI3_CS1_M0	I2S2_SDO_M0	GMAC0_MCLKINOUT	GPIO4_C3_d
I2C7_SDA_M1	UART9_RTSN_M0	SPI3_MISO_M0	PWM5_M2	GMAC0_MDC	GPIO4_C4_d
I2C0_SCL_M1	UART9_CTSN_M0	SPI3_MOSI_M0	PWM6_M2	GMAC0_MDIO	GPIO4_C5_d
I2C0_SDA_M1	UART7_CTSN_M0	SPI3_CLK_M0	PWM7_IR_M3	GMAC0_TXER	GPIO4_C6_d

AC32 SDIO-D0-M0 [6]
AC31 SDIO-D1-M0 [6]
AE32 SDIO-D2-M0 [6]
AC33 SDIO-D3-M0 [6]
AC34 SDIO-CMD-M0 [6]
AE33 SDIO-CLK-M0 [6]
AB31 I2C4_SDA [15]
AB30 I2C4_SCL [15]
AD33 TYPEC5V_PWREN_H [29]
AD34 I2S2_SCLK_M0_BT [6]
AE34 I2S2_LRCK_M0_BT [6]
AD32 LCD_RESET [32]
AD31 LCD_light_EN [32]
AD30 I2S2_SDI_M0_BT [6]
AC30 HDMITX1_CEC_M2 [31]
AE30 R119 22R 5%(NC) te1_reset [9]
AE31 LCD_PWM [32]
AF34 I2S2_SDO_M0_BT [6]
AB34 GPIO4-C4 [5]
AB33 GPIO4-C5 [15]
AF33 GPIO4-C6 [15]

VCCIO3_1V8 Y26 VCC_1V8_S0
C1503 100NF 25V

VCCA_1V8_S0
C2336 100NF 25V
U9008
UM3204H
VCCA VCCB B2 A2
A1 A3
B1 B3
C1 C3
D1 D3
GND D2
VCCA OE C2
VCCA_1V8_S0
VCC_3V3_S0

[15] I2C4_SDA
[15] I2C4_SCL
[15] GPIO4-C5
[15] GPIO4-C6
I2C4_SDA-3V3 [6,29]
I2C4_SCL-3V3 [6,29]
GPIO4-C5/ [5,20]
GPIO4-C6/ [5]

RK3588

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RK3588_Q/R(MIPI_D/C_PHY0/1)

U1000Q

MIPI D/C-PHY DSI_TX Port0

D-PHY:V2.0 4.5Gbps/Lane
C-PHY:V1.1 5.7Gbps/Trio

MIPI_DPHY0_TX_CLKP/MIPI_CPHY0_TX_TRIO1_C	AN26
MIPI_DPHY0_TX_CLKN/MIPI_CPHY0_TX_TRIO1_B	AP26
MIPI_DPHY0_TX_D0P/MIPI_CPHY0_TX_TRIO0_B	AN24
MIPI_DPHY0_TX_D0N/MIPI_CPHY0_TX_TRIO0_A	AP24
MIPI_DPHY0_TX_D1P/MIPI_CPHY0_TX_TRIO1_A	AN25
MIPI_DPHY0_TX_D1N/MIPI_CPHY0_TX_TRIO0_C	AP25
MIPI_DPHY0_TX_D2P/MIPI_CPHY0_TX_TRIO2_B	AN27
MIPI_DPHY0_TX_D2N/MIPI_CPHY0_TX_TRIO2_A	AP27
MIPI_DPHY0_TX_D3P/NO_USE	AN28
MIPI_DPHY0_TX_D3N/MIPI_CPHY0_TX_TRIO2_C	AP28

MIPI D/C-PHY CSI_RX Port0

D-PHY:V2.0 4.5Gbps/Lane
C-PHY:V1.1 5.7Gbps/Trio

MIPI_DPHY0_RX_CLKP/MIPI_CPHY0_RX_TRIO1_C	AN32
MIPI_DPHY0_RX_CLKN/MIPI_CPHY0_RX_TRIO1_B	AP31
MIPI_DPHY0_RX_D0P/MIPI_CPHY0_RX_TRIO0_B	AN29
MIPI_DPHY0_RX_D0N/MIPI_CPHY0_RX_TRIO0_A	AP29
MIPI_DPHY0_RX_D1P/MIPI_CPHY0_RX_TRIO1_A	AN30
MIPI_DPHY0_RX_D1N/MIPI_CPHY0_RX_TRIO0_C	AP30
MIPI_DPHY0_RX_D2P/MIPI_CPHY0_RX_TRIO2_B	AN33
MIPI_DPHY0_RX_D2N/MIPI_CPHY0_RX_TRIO2_A	AP32
MIPI_DPHY0_RX_D3P/NO_USE	AN34
MIPI_DPHY0_RX_D3N/MIPI_CPHY0_RX_TRIO2_C	AP33

MIPI D/C-PHY POWER

MIPI_D/C_PHY0_VREG	AF20	C1600	2.2NF 16V	
MIPI_D/C_PHY0_VDD	AG20	C1602 100NF 25V, C1601 1UF 10V		VDD_0V75_S0
MIPI_D/C_PHY0_VDD_1V2	AH20	C1603 1UF 10V		VDDA_1V2_S0
MIPI_D/C_PHY0_VDD_1V8	AJ20	C1605 100NF 25V		VCC_1V8_S0

RK3588

U1000R

MIPI D/C-PHY DSI_TX Port1

D-PHY:V2.0 4.5Gbps/Lane
C-PHY:V1.1 5.7Gbps/Trio

MIPI_DPHY1_TX_CLKP/MIPI_CPHY1_TX_TRIO1_C	AN20	MIPI_DPHY1_TX_CLKP [32]
MIPI_DPHY1_TX_CLKN/MIPI_CPHY1_TX_TRIO1_B	AP20	MIPI_DPHY1_TX_CLKN [32]
MIPI_DPHY1_TX_D0P/MIPI_CPHY1_TX_TRIO0_B	AN18	MIPI_DPHY1_TX_D0P [32]
MIPI_DPHY1_TX_D0N/MIPI_CPHY1_TX_TRIO0_A	AP18	MIPI_DPHY1_TX_D0N [32]
MIPI_DPHY1_TX_D1P/MIPI_CPHY1_TX_TRIO1_A	AN19	MIPI_DPHY1_TX_D1P [32]
MIPI_DPHY1_TX_D1N/MIPI_CPHY1_TX_TRIO0_C	AP19	MIPI_DPHY1_TX_D1N [32]
MIPI_DPHY1_TX_D2P/MIPI_CPHY1_TX_TRIO2_B	AN21	MIPI_DPHY1_TX_D2P [32]
MIPI_DPHY1_TX_D2N/MIPI_CPHY1_TX_TRIO2_A	AP21	MIPI_DPHY1_TX_D2N [32]
MIPI_DPHY1_TX_D3P/NO_USE	AN22	MIPI_DPHY1_TX_D3P [32]
MIPI_DPHY1_TX_D3N/MIPI_CPHY1_TX_TRIO2_C	AP22	MIPI_DPHY1_TX_D3N [32]

MIPI D/C-PHY CSI_RX Port1

D-PHY:V2.0 4.5Gbps/Lane
C-PHY:V1.1 5.7Gbps/Trio

MIPI_DPHY1_RX_CLKP/MIPI_CPHY1_RX_TRIO1_C	AK20
MIPI_DPHY1_RX_CLKN/MIPI_CPHY1_RX_TRIO1_B	AL20
MIPI_DPHY1_RX_D0P/MIPI_CPHY1_RX_TRIO0_B	AK18
MIPI_DPHY1_RX_D0N/MIPI_CPHY1_RX_TRIO0_A	AL18
MIPI_DPHY1_RX_D1P/MIPI_CPHY1_RX_TRIO1_A	AK19
MIPI_DPHY1_RX_D1N/MIPI_CPHY1_RX_TRIO0_C	AL19
MIPI_DPHY1_RX_D2P/MIPI_CPHY1_RX_TRIO2_B	AK21
MIPI_DPHY1_RX_D2N/MIPI_CPHY1_RX_TRIO2_A	AL21
MIPI_DPHY1_RX_D3P/NO_USE	AK22
MIPI_DPHY1_RX_D3N/MIPI_CPHY1_RX_TRIO2_C	AL22

MIPI D/C-PHY POWER

MIPI_D/C_PHY1_VREG	AF19	C1608	2.2NF 16V	
MIPI_D/C_PHY1_VDD	AG19	C1609 1UF 10V		VDD_0V75_S0
MIPI_D/C_PHY1_VDD_1V2	AH19	C1611 100NF 25V		VDDA_1V2_S0
MIPI_D/C_PHY1_VDD_1V8	AJ19	C1613 1UF 10V		VCC_1V8_S0

RK3588

RK3588_P(MIPI_CSI_RX_PHY)

U1000P

MIPI DPHY CSI_RX Port0

MIPI V1.2/2.5Gbps

MIPI_CSI0_CLK0P/MIPI_CSI0_CLK0N	AJ33/AJ34	MIPI_CSI0_RX_CLK0P/CLK0N [30]
MIPI_CSI0_D0P/MIPI_CSI0_D0N	AG33/AG34	MIPI_CSI0_RX_D0P/D0N [30]
MIPI_CSI0_D1P/MIPI_CSI0_D1N	AH33/AH34	MIPI_CSI0_RX_D1P/D1N [30]
MIPI_CSI0_CLK1P/MIPI_CSI0_CLK1N	AM33/AM34	MIPI_CSI0_RX_CLK1P/CLK1N [30]
MIPI_CSI0_D2P/MIPI_CSI0_D2N	AK33/AK34	MIPI_CSI0_RX_D2P/D2N [30]
MIPI_CSI0_D3P/MIPI_CSI0_D3N	AL33/AL34	MIPI_CSI0_RX_D3P/D3N [30]
MIPI_CSI0_AVCC0V75	AB25	VDD_0V75_S0 (C1616 100NF 25V, C1615 1UF 10V)
MIPI_CSI0_AVCC1V8	AB26	VCC_1V8_S0 (C1617 1UF 10V)

MIPI DPHY CSI_RX Port1

MIPI V1.2/2.5Gbps

MIPI_CSI1_CLK0P/MIPI_CSI1_CLK0N	AJ31/AJ32	
MIPI_CSI1_D0P/MIPI_CSI1_D0N	AG31/AG32	
MIPI_CSI1_D1P/MIPI_CSI1_D1N	AH31/AH32	
MIPI_CSI1_CLK1P/MIPI_CSI1_CLK1N	AM31/AM32	
MIPI_CSI1_D2P/MIPI_CSI1_D2N	AK31/AK32	
MIPI_CSI1_D3P/MIPI_CSI1_D3N	AL31/AL32	
MIPI_CSI1_AVCC0V75	AA25	VDD_0V75_S0 (C1619 1UF 10V)
MIPI_CSI1_AVCC1V8	AA26	VCC_1V8_S0 (C1621 100NF 25V)

RK3588

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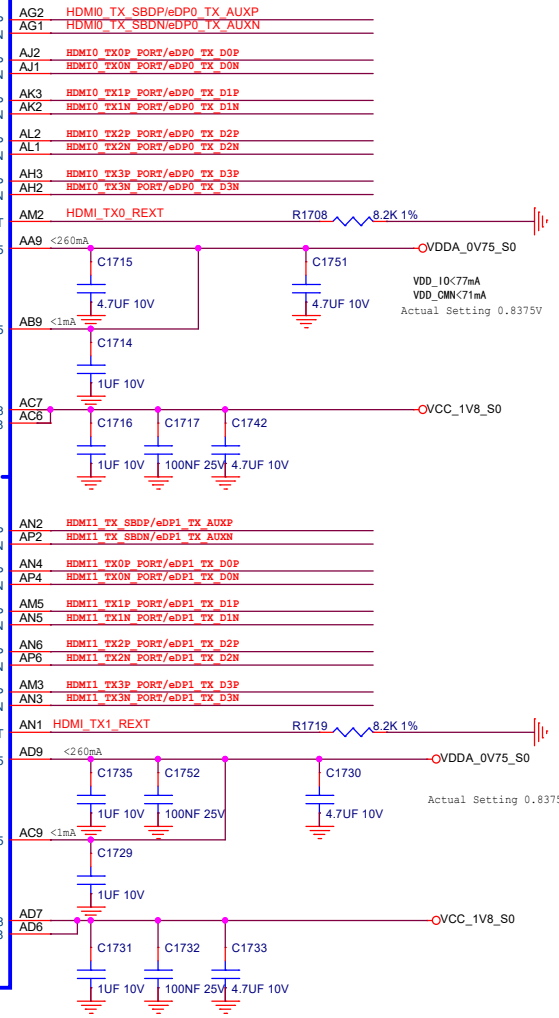
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RK3588_S(HDMI2.1 TX)

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

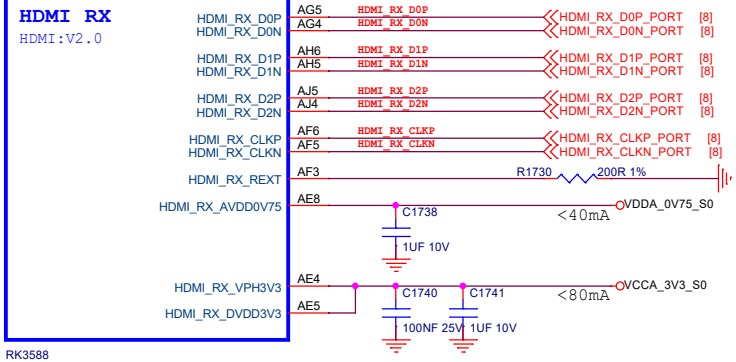
RK3588

RK3588_T(HDMI20 RX)

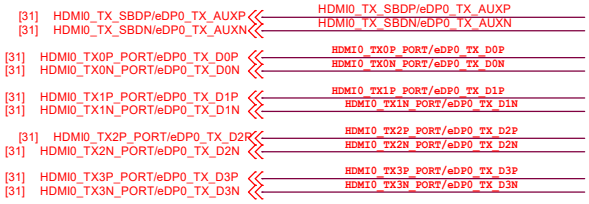
U1000T

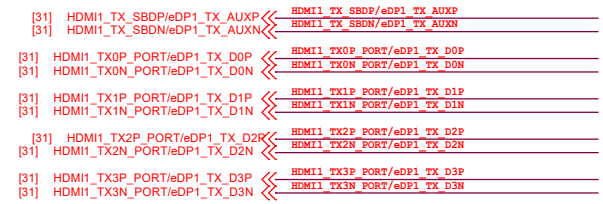
HDMI RX

HDMI:V2.0



RK3588





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RK3588_N(PCIE20)

U1000N

PCIE20/SATA30 Mux0

PCIe20x1_2
1Lane(RC)--4(1L2)

SATA30 HOST
Controller0

MUX

input or output

PCIE20_0_REFCLKP
PCIE20_0_REFCLKN
L32
L33
PCIE20_0_REFCLKP [24]
PCIE20_0_REFCLKN [24]

PCIE20_0_TXP/SATA30_0_TXP
PCIE20_0_TXN/SATA30_0_TXN
M34
M33
PCIE20_0_TXP [24]
PCIE20_0_TXN [24]

PCIE20_0_RXP/SATA30_0_RXP
PCIE20_0_RXN/SATA30_0_RXN
N33
N34
PCIE20_0_RXP [24]
PCIE20_0_RXN [24]

PCIE20_SATA30_0_AVDD_0V85
M28
VDDA_0V85_S0
C1810
10UF 6.3V

PCIE20X1_2-CTL

PCIE20_SATA30_0_AVDD_1V8
M27
VCCA_1V8_S0
C1808
1UF 10V

PCIE20:Gen1/Gen2
SATA30:Gen1/Gen2/Gen3

PCIE20/SATA30 Mux1

PCIe30x1_0
1Lane(RC)--2(1L0)

SATA30 HOST
Controller1

MUX

input or output

PCIE20_1_REFCLKP
PCIE20_1_REFCLKN
H32
H33
PCIE20_1_REFCLKP [6]
PCIE20_1_REFCLKN [6]

PCIE20_1_TXP/SATA30_1_TXP
PCIE20_1_TXN/SATA30_1_TXN
K33
K34
PCIE20_1_TXP [6]
PCIE20_1_TXN [6]

PCIE20_1_RXP/SATA30_1_RXP
PCIE20_1_RXN/SATA30_1_RXN
J33
J34
PCIE20_1_RXP [6]
PCIE20_1_RXN [6]

PCIE30X1_0-CTL

PCIE20_SATA30_1_AVDD_0V85
L28
VDDA_0V85_S0
C1818
100NF 25V

PCIE20_SATA30_1_AVDD_1V8
L27
VCCA_1V8_S0
C1816
100NF 25V

PCIE20:Gen1/Gen2
SATA30:Gen1/Gen2/Gen3

PCIE20/SATA30/USB30 HOST Mux2

PCIe30x1_1
1Lane(RC)--3(1L1)

SATA30 HOST
Controller2

USB30 HOST
Controller2

MUX

input or output

PCIE20_2_REFCLKP
PCIE20_2_REFCLKN
G31
G30

PCIE20_2_TXP/SATA30_2_TXP/USB30_2_SSTXP
PCIE20_2_TXN/SATA30_2_TXN/USB30_2_SSTXN
H30
H29
USB30_2_SSTXP [28]
USB30_2_SSTXN [28]

PCIE20_2_RXP/SATA30_2_RXP/USB30_2_SSRXP
PCIE20_2_RXN/SATA30_2_RXN/USB30_2_SSRXN
J31
J30
USB30_2_SSRXP [28]
USB30_2_SSRXN [28]

For RJ45

PCIE20_SATA30_USB30_2_AVDD_0V85
K28
VDDA_0V85_S0
C1806
1UF 10V

PCIE20_SATA30_USB30_2_AVDD_1V8
K27
VCCA_1V8_S0
C1804
1UF 10V

PCIE20:Gen1/Gen2
USB 30:Gen1
SATA30:Gen1/Gen2/Gen3

RK3588

RK3588_O(PCIE30)

U1000O

PCIE30X4

PCIe30X4
4Lane(DM)--0(4L)

PCIe30x1_0
1Lane(RC)--2(1L0)

PCIE20/SATA30
MUX1

PCIe30x2
2Lane(RC)--1(2L)

PCIe30x1_1
1Lane(RC)--3(1L1)

PCIE20/SATA30/USB30
MUX2

PCIE30:
PCIe1.1(2.5Gbps)
PCIe2.1(5Gbps)
PCIe3.0(8Gbps)

PCIE30 PORT0

input
PCIE30_PORT0_REF_CLKP
PCIE30_PORT0_REF_CLKN
E33
E34
PCIE30_PORT0_REFCLKP_IN [7]
PCIE30_PORT0_REFCLKN_IN [7]

Lane0

PCIE30_PORT0_TX0P
PCIE30_PORT0_TX0N
D32
D33
PCIE30_PORT0_TX0P [7]
PCIE30_PORT0_TX0N [7]

PCIE30_PORT0_RX0P
PCIE30_PORT0_RX0N
G33
G34
PCIE30_PORT0_RX0P [7]
PCIE30_PORT0_RX0N [7]

Lane1

PCIE30_PORT0_TX1P
PCIE30_PORT0_TX1N
C33
C34
PCIE30_PORT0_TX1P [7]
PCIE30_PORT0_TX1N [7]

PCIE30_PORT0_RX1P
PCIE30_PORT0_RX1N
F32
F33
PCIE30_PORT0_RX1P [7]
PCIE30_PORT0_RX1N [7]

PCIE30_PORT0_RESREF
B34
PCIE30_0_REF
R1801
200R 1%

PCIE30_PORT0_AVDD0V75
G24
VDD_0V75_S0
C1802
1UF 10V
C1803
4.7UF 10V

PCIE30_PORT0_AVDD1V8
G23
VCCA_1V8_S0
C1800
1UF 10V
C1801
4.7UF 10V

PCIE30 PORT1

input
PCIE30_PORT1_REF_CLKP
PCIE30_PORT1_REF_CLKN
A28
B28
PCIE30_PORT1_REFCLKP_IN [7]
PCIE30_PORT1_REFCLKN_IN [7]

Lane0

PCIE30_PORT1_TX0P
PCIE30_PORT1_TX0N
B30
A30
PCIE30_PORT1_TX2P [7]
PCIE30_PORT1_TX2N [7]

PCIE30_PORT1_RX0P
PCIE30_PORT1_RX0N
B32
A32
PCIE30_PORT1_RX2P [7]
PCIE30_PORT1_RX2N [7]

Lane1

PCIE30_PORT1_TX1P
PCIE30_PORT1_TX1N
C29
B29
PCIE30_PORT1_TX3P [7]
PCIE30_PORT1_TX3N [7]

PCIE30_PORT1_RX1P
PCIE30_PORT1_RX1N
C31
B31
PCIE30_PORT1_RX3P [7]
PCIE30_PORT1_RX3N [7]

PCIE30_PORT1_RESREF
A33
PCIE30_1_REF
R1807
200R 1%

PCIE30_PORT1_AVDD0V75
H24
VDD_0V75_S0
C1814
1UF 10V
C1815
4.7UF 10V

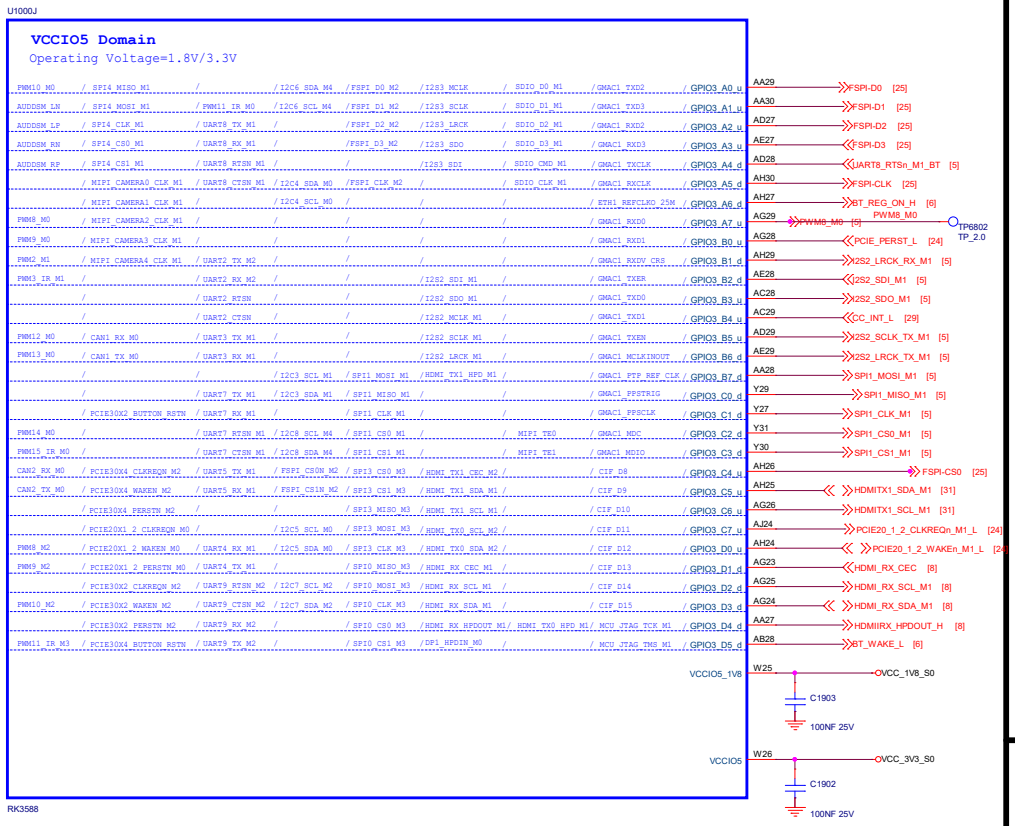
PCIE30_PORT1_AVDD1V8
H23
VCCA_1V8_S0
C1812
100NF 25V
C1813
4.7UF 10V

RK3588

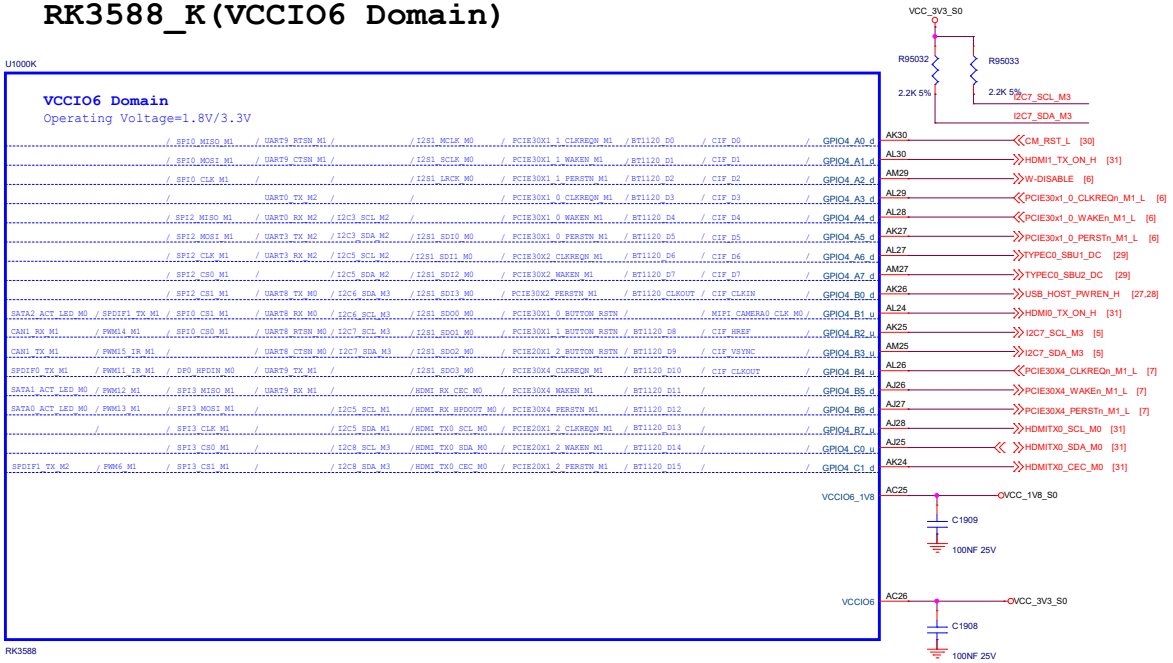
radxa

Size	Title:	REV
A3	ROCK 5B	1.46
	Page Name: RK3588_PCIE30/PCIE20/SATA30	
Date: Friday, March 06, 2026	Sheet 18 of 32	

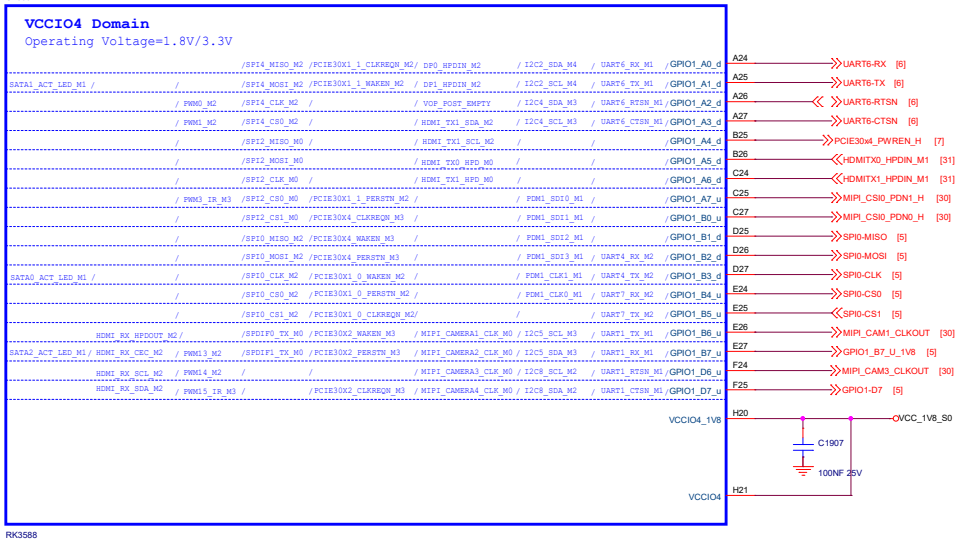
RK3588_J(VCCIO5 Domain)



RK3588_K(VCCIO6 Domain)

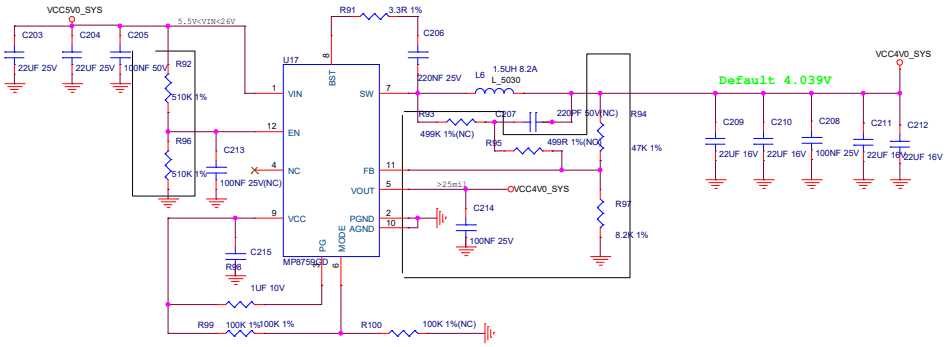


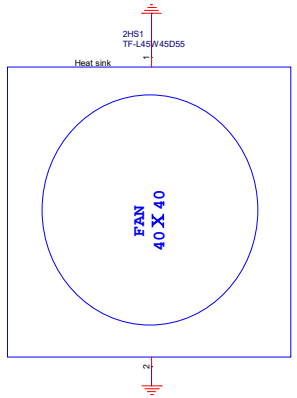
RK3588_I(VCCIO4 Domain)

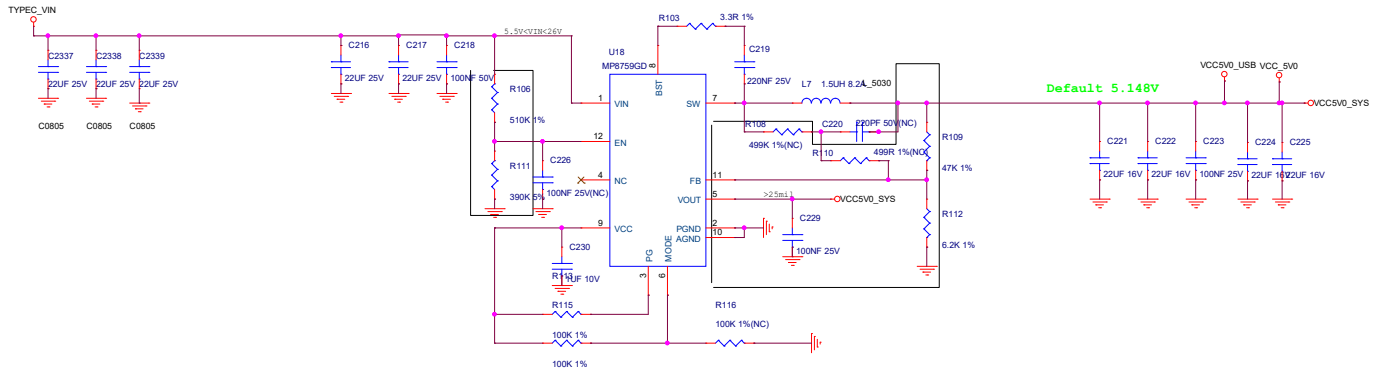


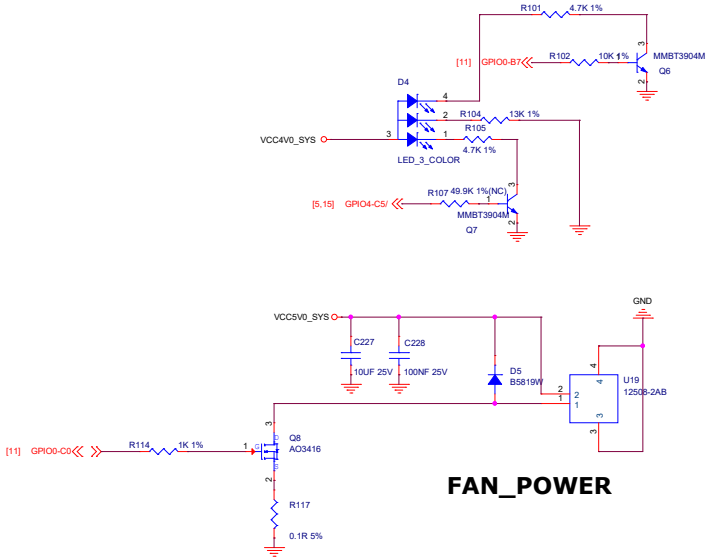
radxa			
Size: A2	Title: ROCK 5B		REV: 1.46
	Page Name: RK3588_1.8V/ 3.3V GPIO		
Date: Friday, March 06, 2026	Sheet 19 of 32		

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



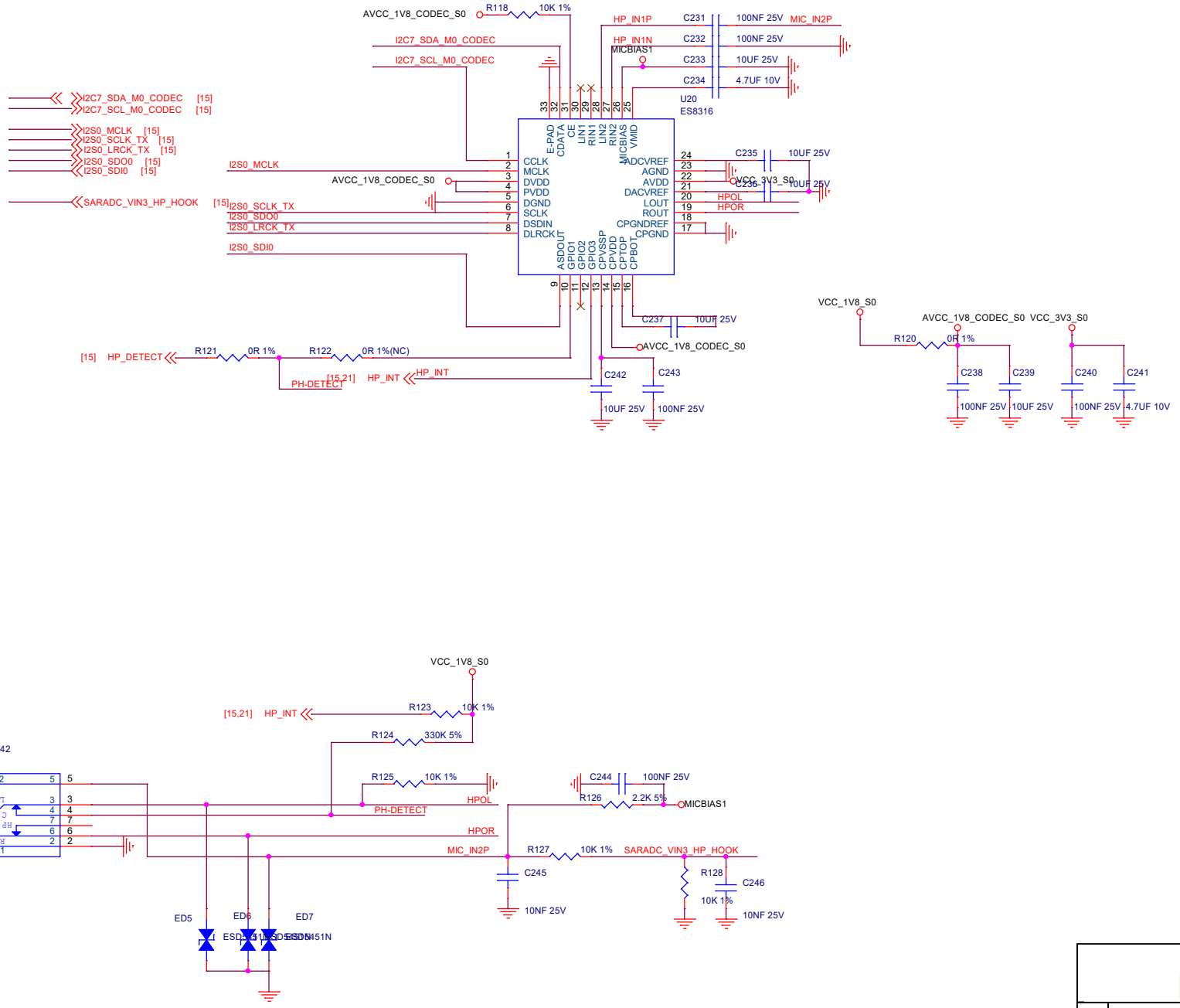






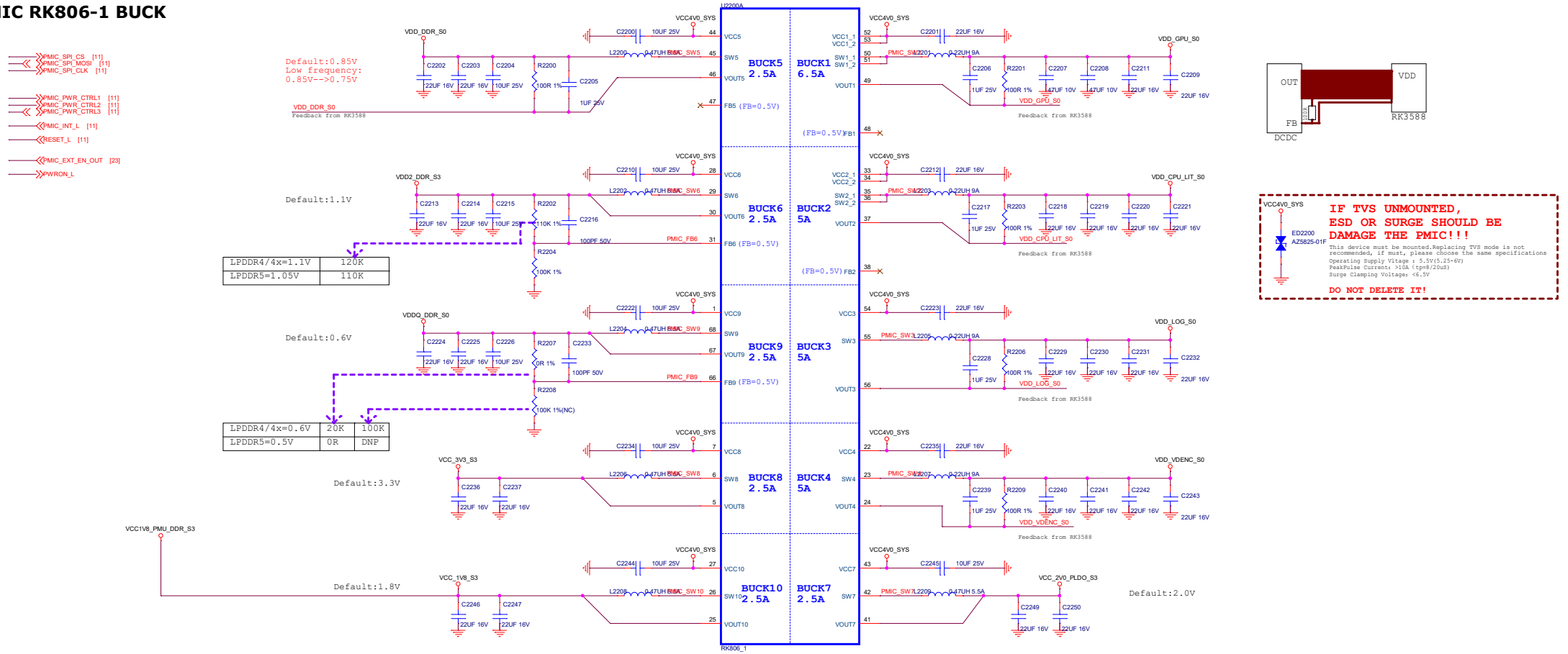
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Date: Monday, March 23, 2026	Sheet 20 of 32	

CODEC ES8316

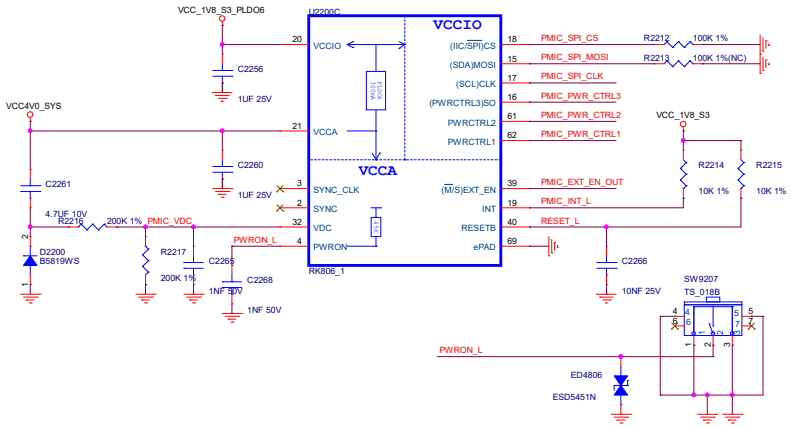


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Date: Friday, March 06, 2026	Sheet 21 of 32	

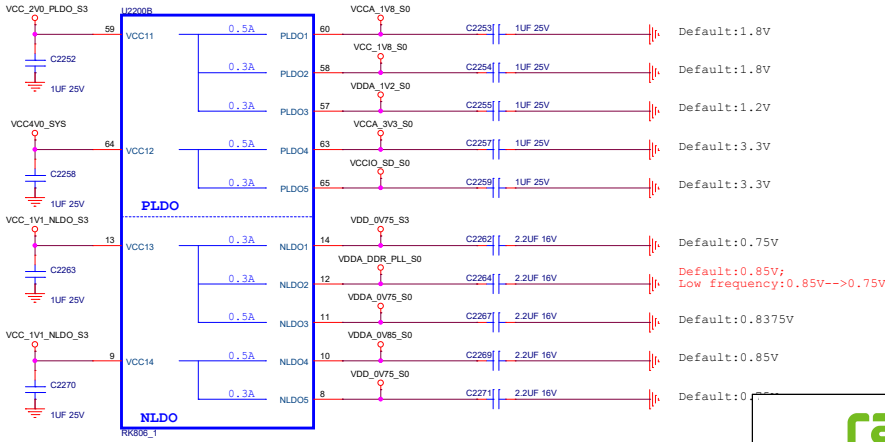
PMIC RK806-1 BUCK



PMIC RK806-1 Managerment



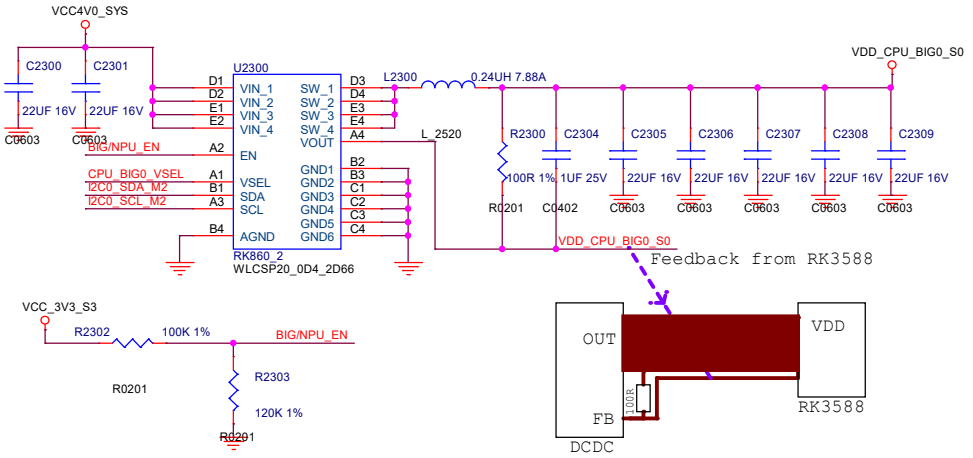
PMIC RK806-1 LDO



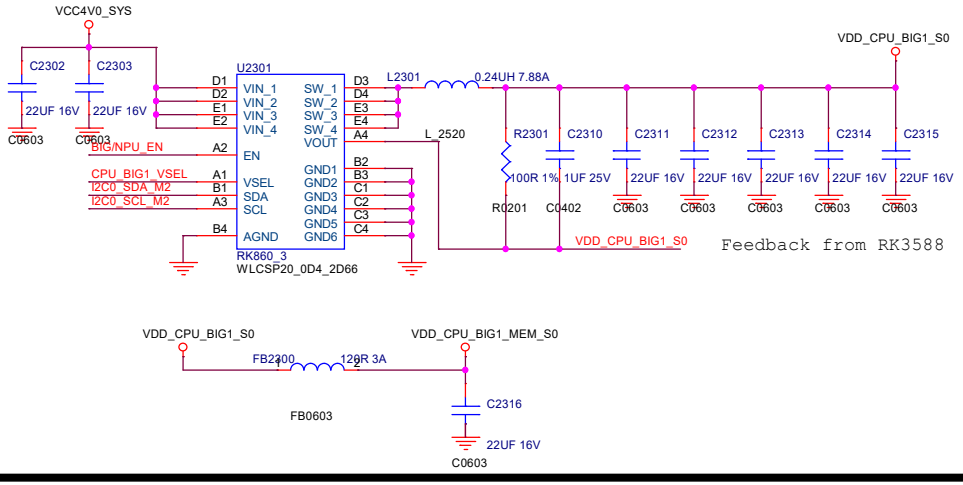
radxa

Size	Title:	ROCK 5B	REV
A2	Page Name:	PMIC RK806-1 BUCK	1.46
Date: Monday, March 23, 2026	Sheet	22 of 32	

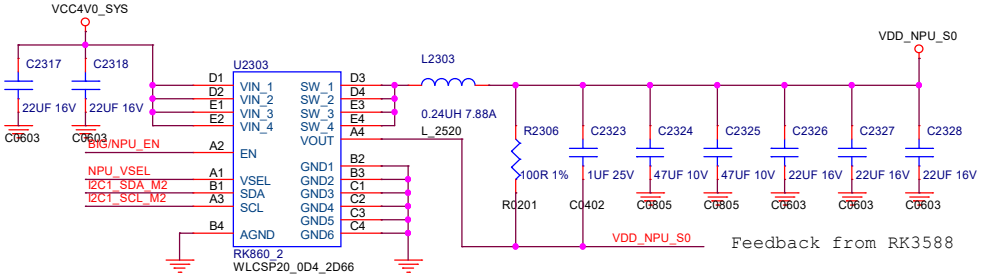
VDD_CPU_BIG0



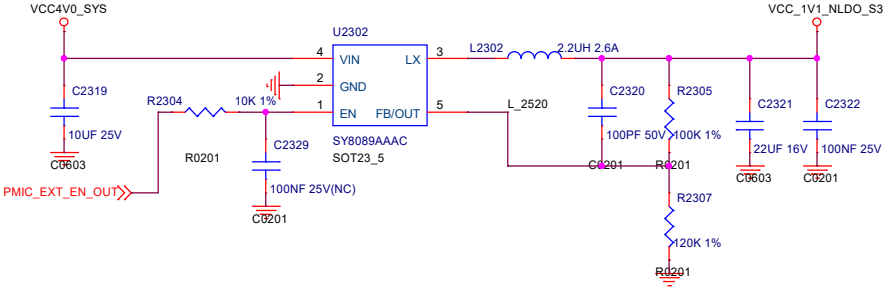
VDD_CPU_BIG1

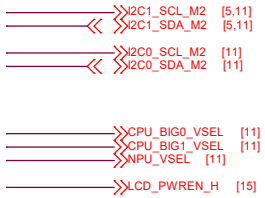


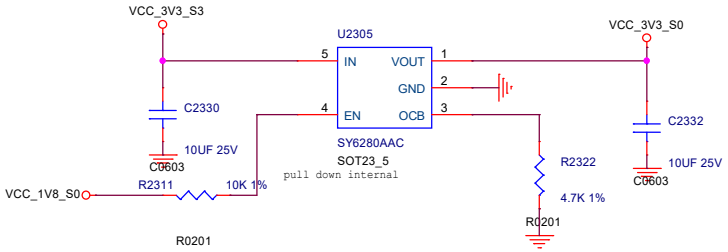
VDD_NPU

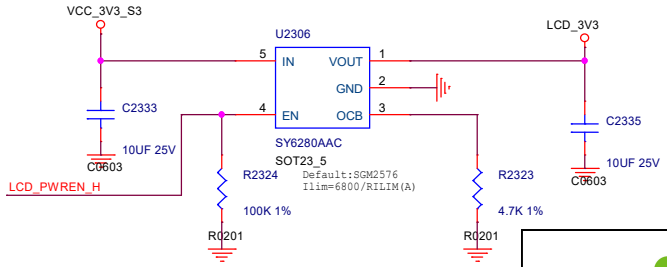


VCC_1V1_NLDO_S3

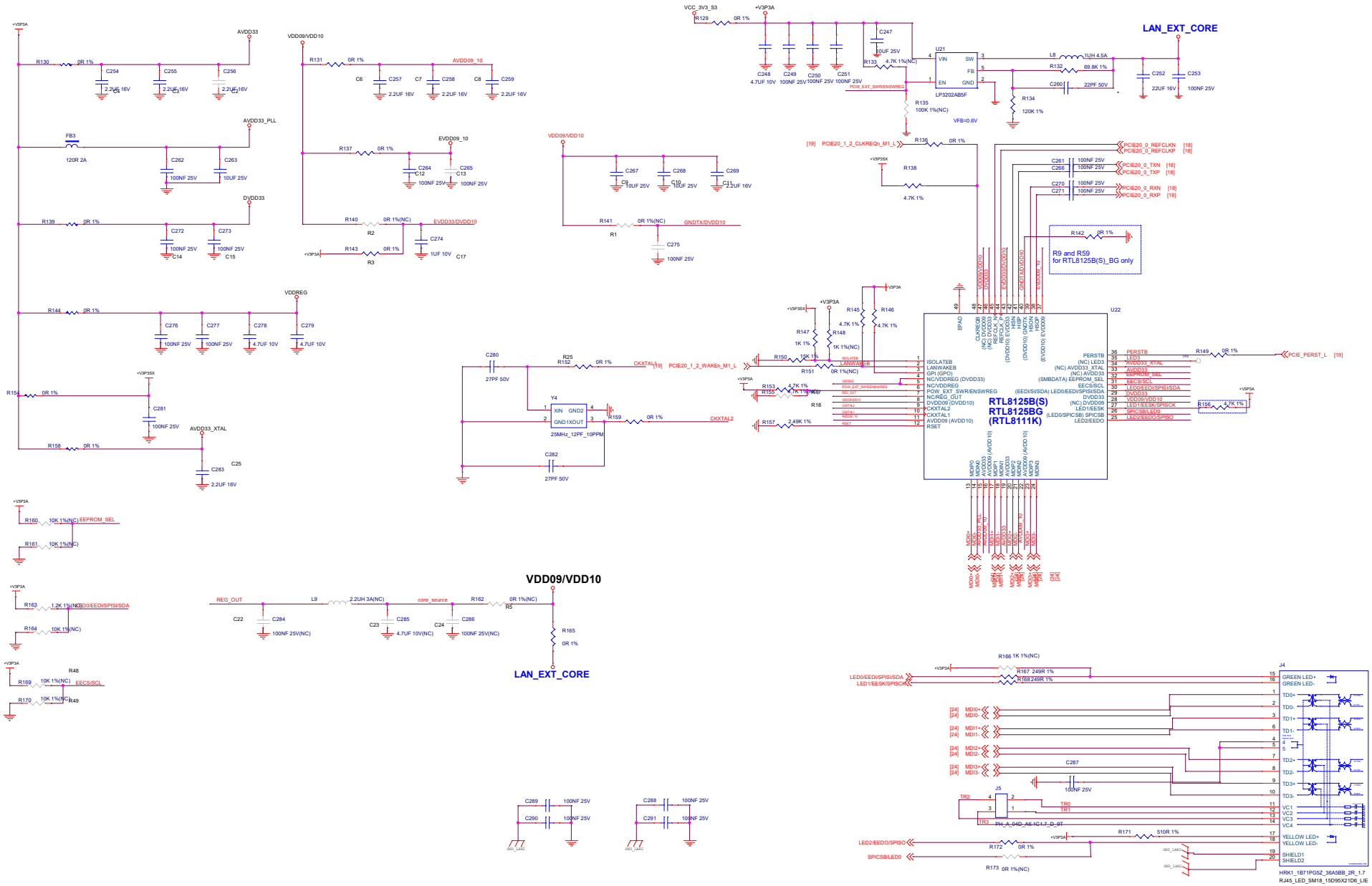








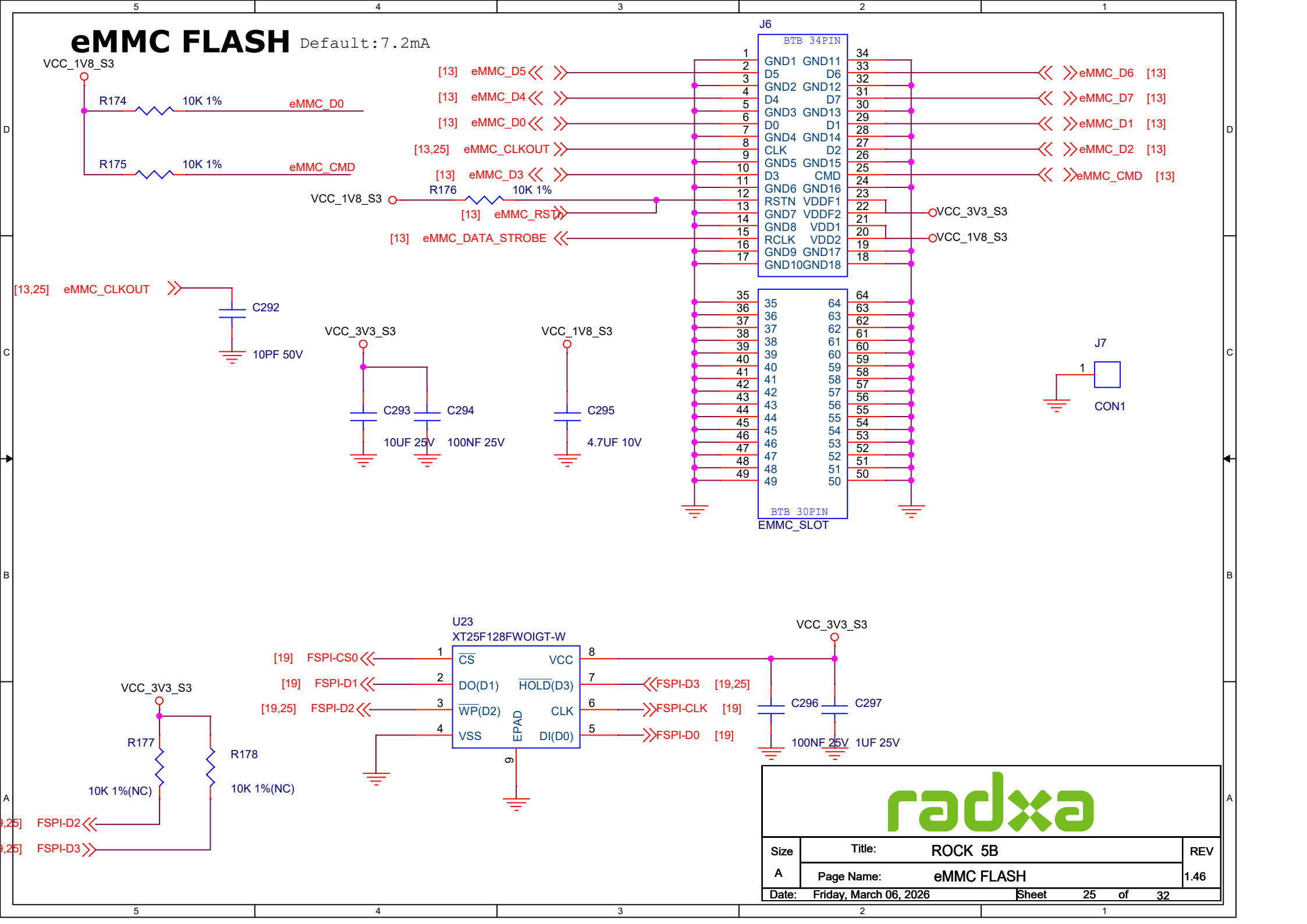
Size A3	Title: ROCK 5B	REV 1.46
	Page Name: Power_Ext Discrete	
Date: Monday, March 23, 2026	Sheet 23 of 32	



radxa			
Size	Title:	ROCK 5B	REV
Custom	Page Name:	PCIE TO RJ45_RTL8125B	1.46
Date: Monday, March 23, 2026	Sheet 24 of 32		

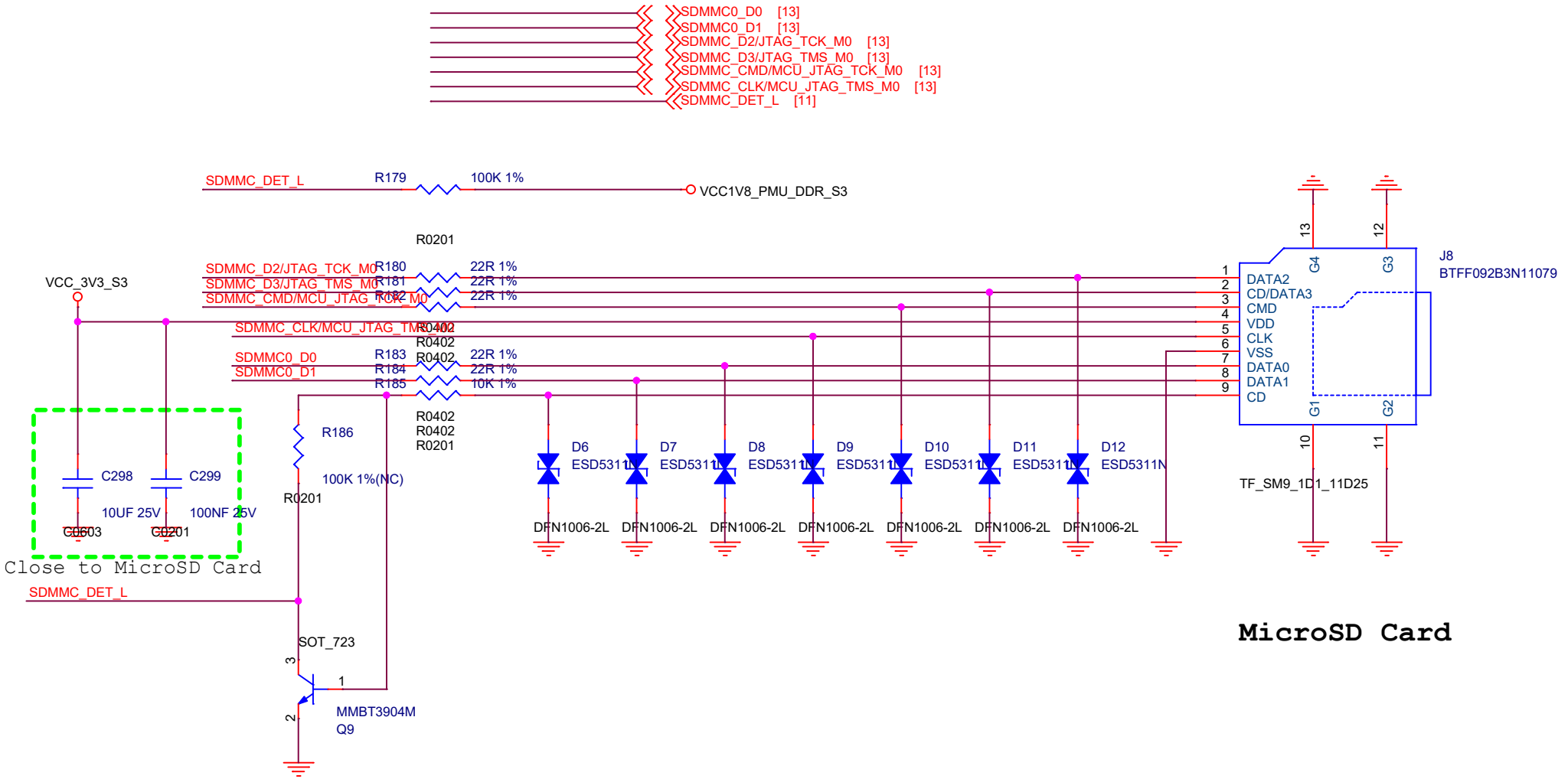
eMMC FLASH

Default:7.2mA



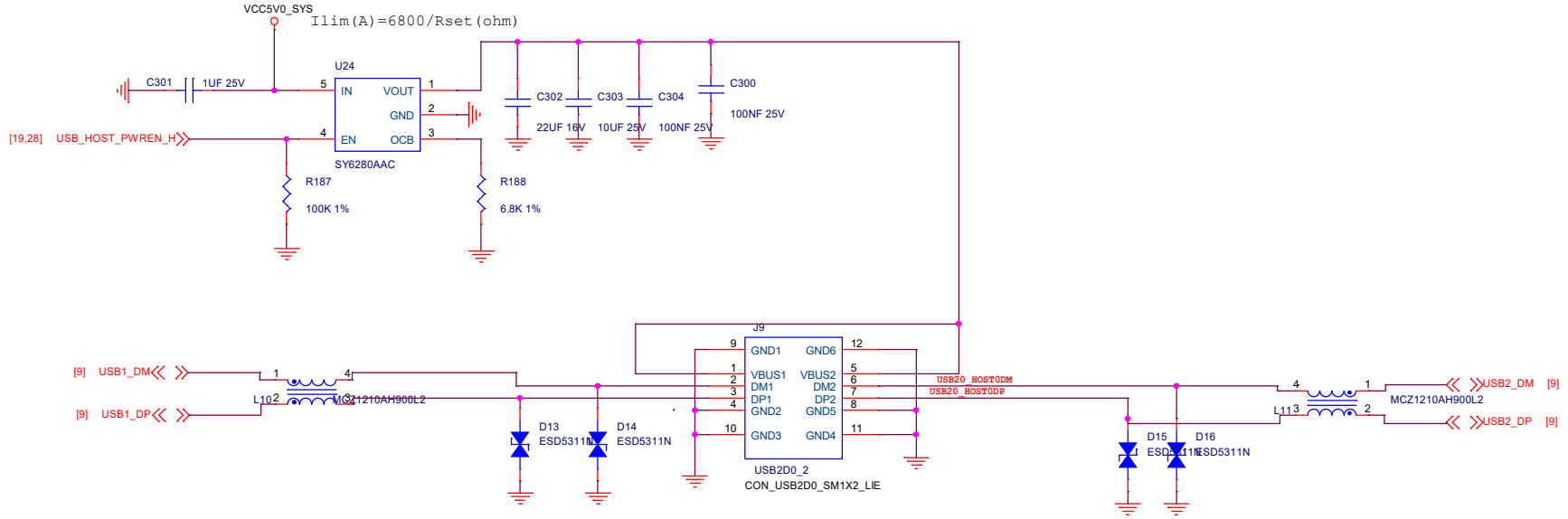
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A	ROCK 5B	
	Page Name: eMMC FLASH	1.46
Date: Friday, March 06, 2026	Sheet 25 of 32	

TF CARD



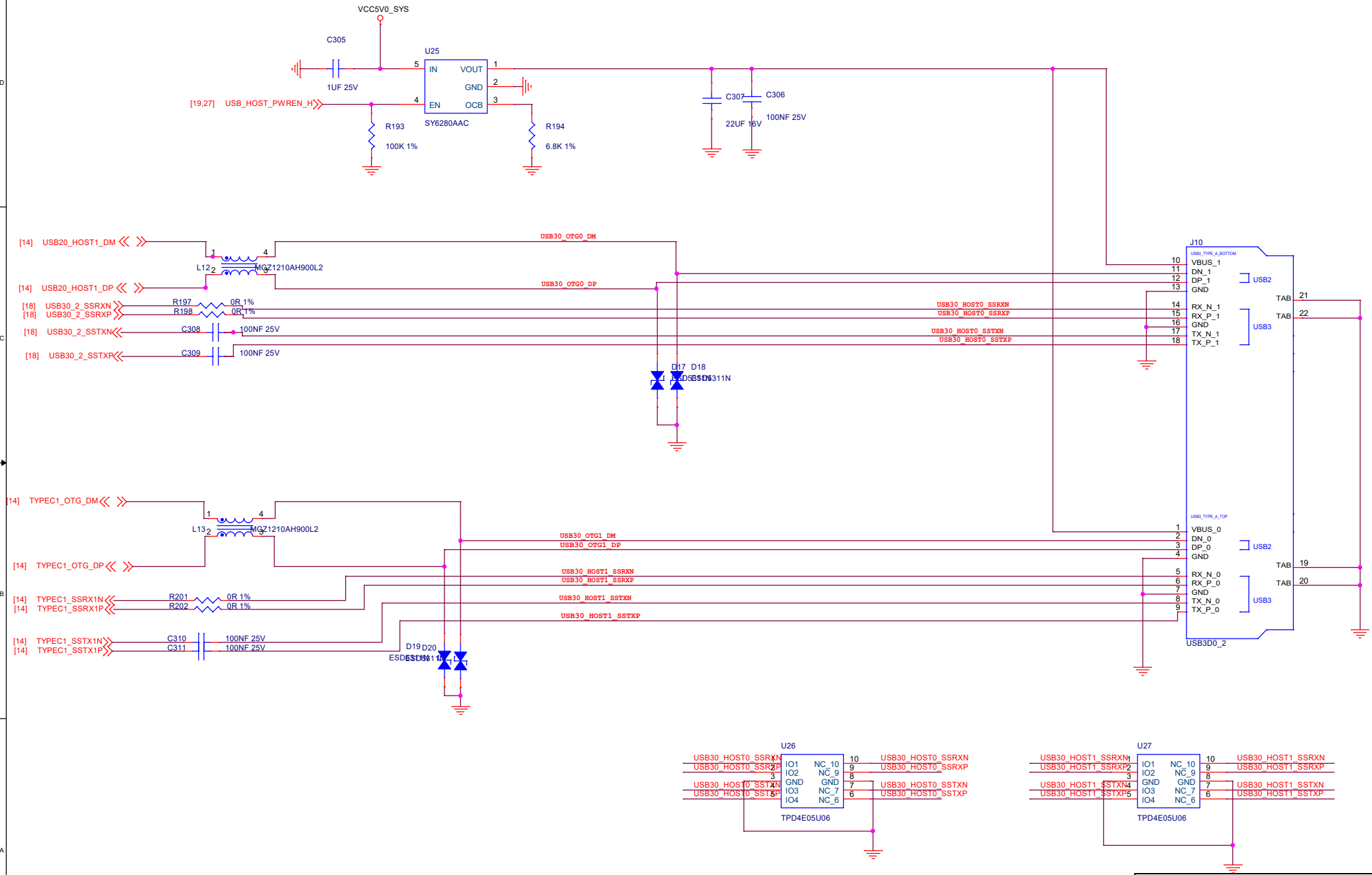
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	Page Name: TF CARD		
Date: Friday, March 06, 2026		Sheet 26 of 32	

USB2.0



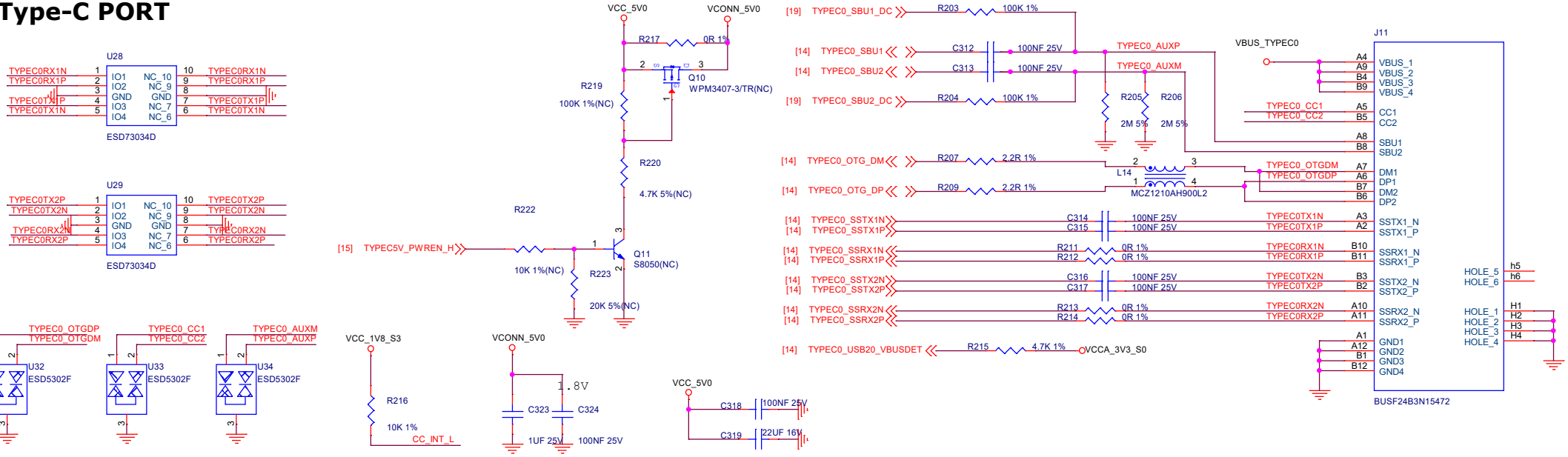
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	Page Name: USB2.0	
Date: Friday, March 06, 2026	Sheet 27 of 32	

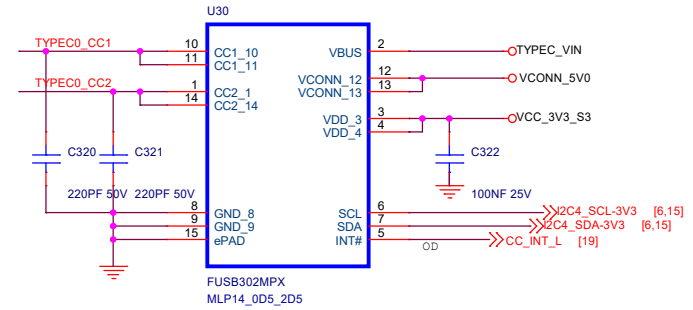
USB3.0 HOST PORT



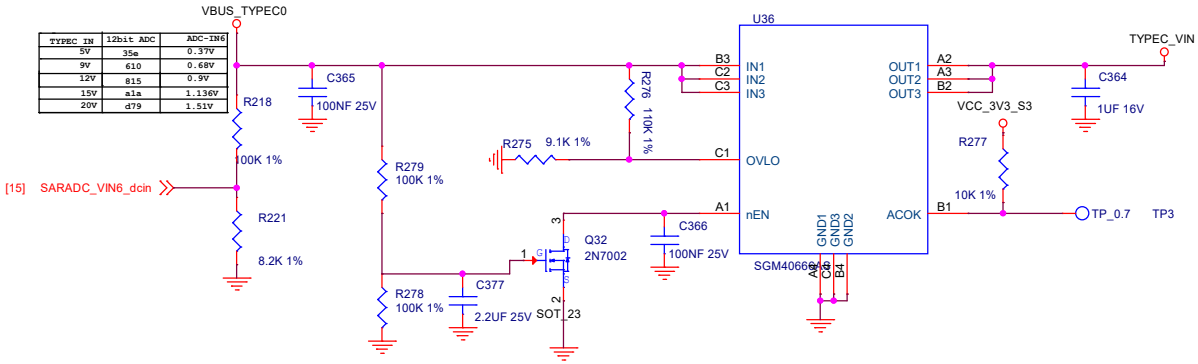
Size A3	Title: ROCK 5B	REV 1.46
	Page Name: USB3.0 HOST PORT	
Date: Friday, March 06, 2026	Sheet 28 of 32	

Type-C PORT



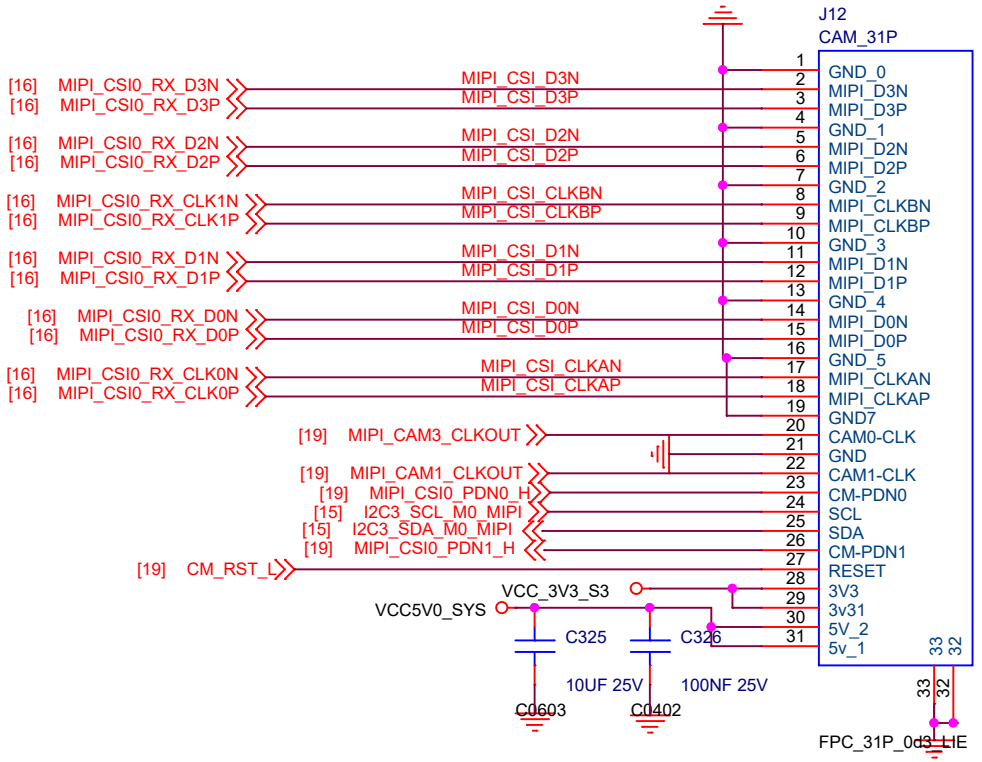


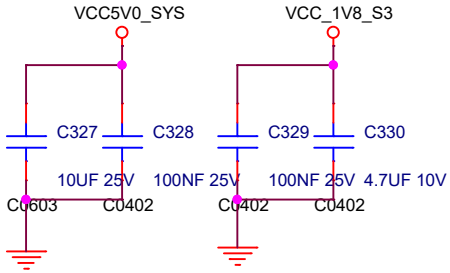
Soft Start&OVP



Size A3	Title: ROCK 5B		REV 1.46
	Page Name: Type-C PORT		
Date: Monday, March 23, 2026		Sheet 29 of 32	

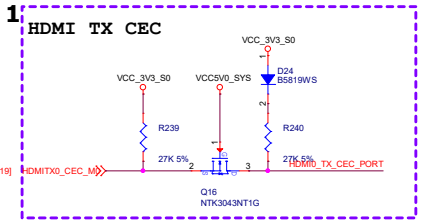
CAM

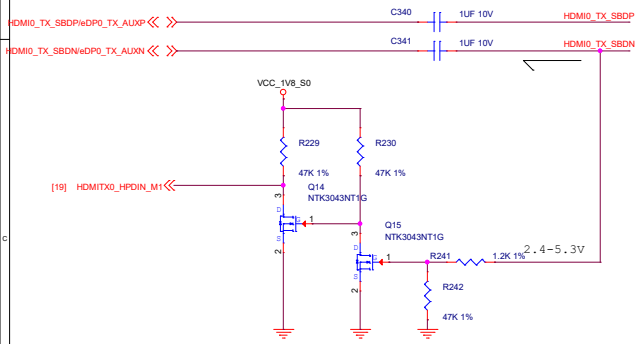


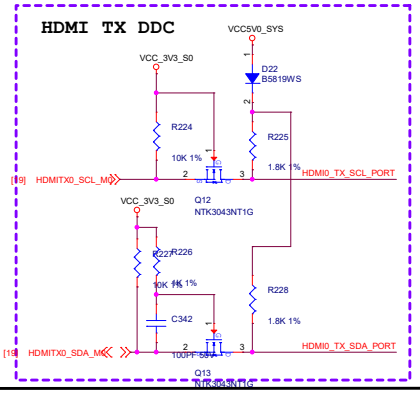


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Date: Friday, March 06, 2026	Sheet 30 of 32	

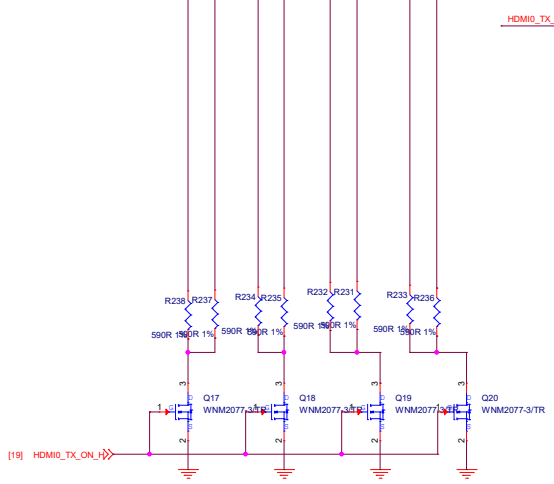
HDMI 1

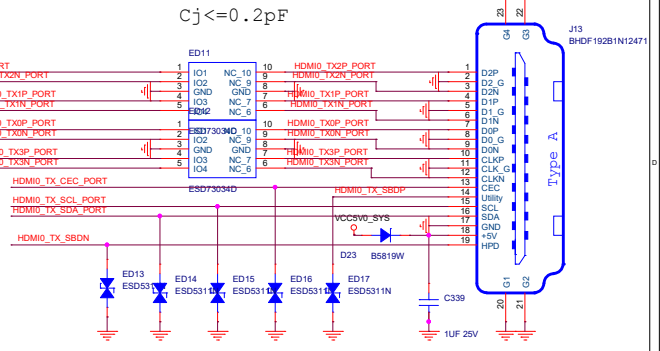




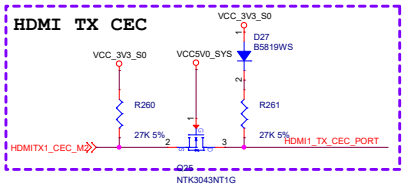


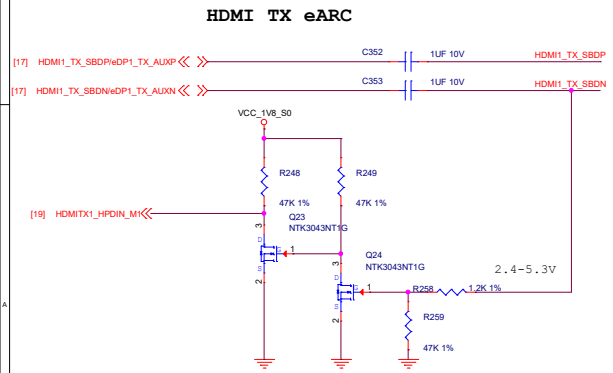


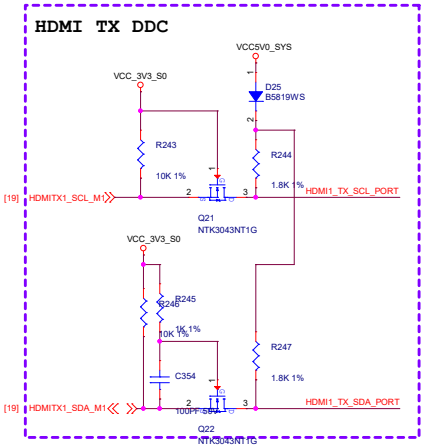


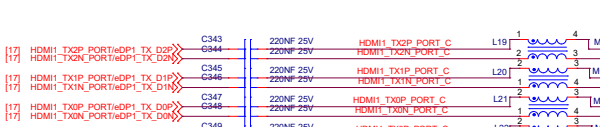


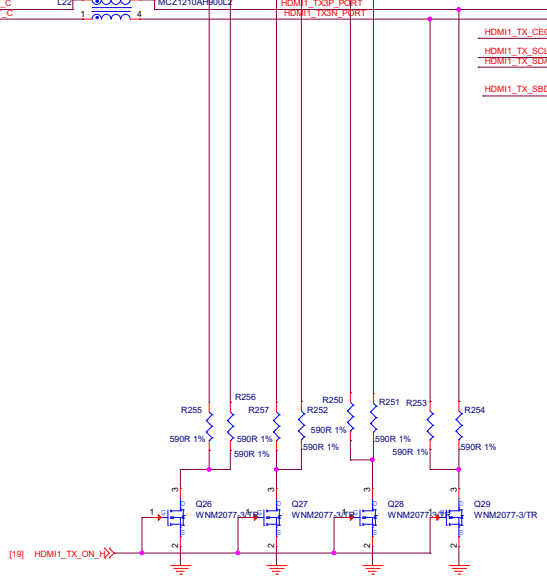
HDMI 2

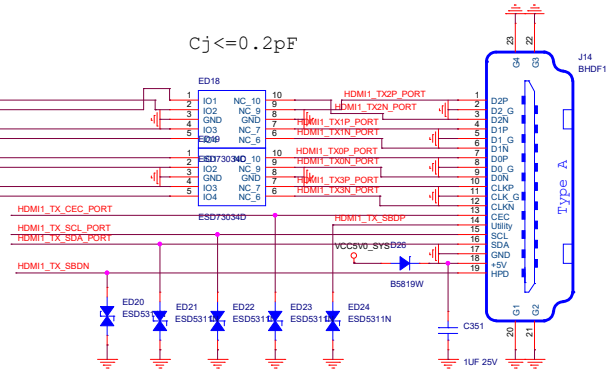






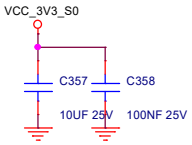


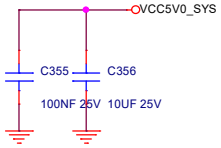


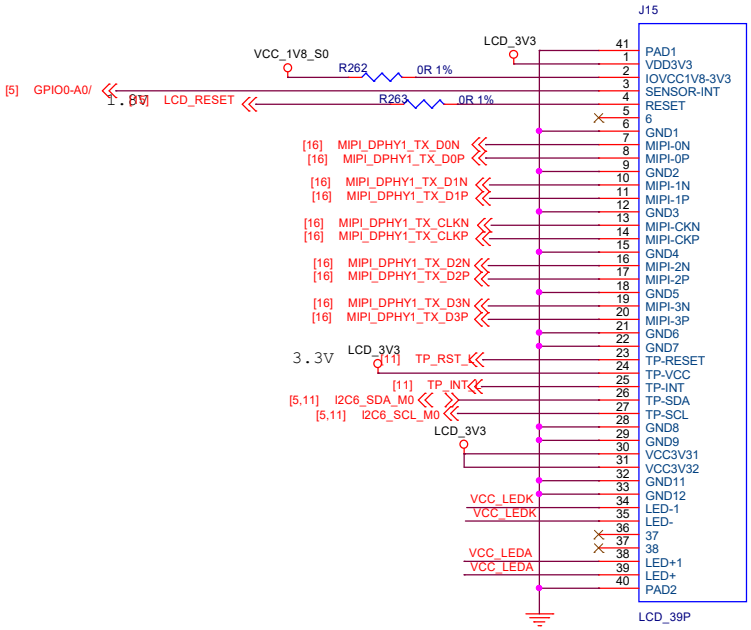


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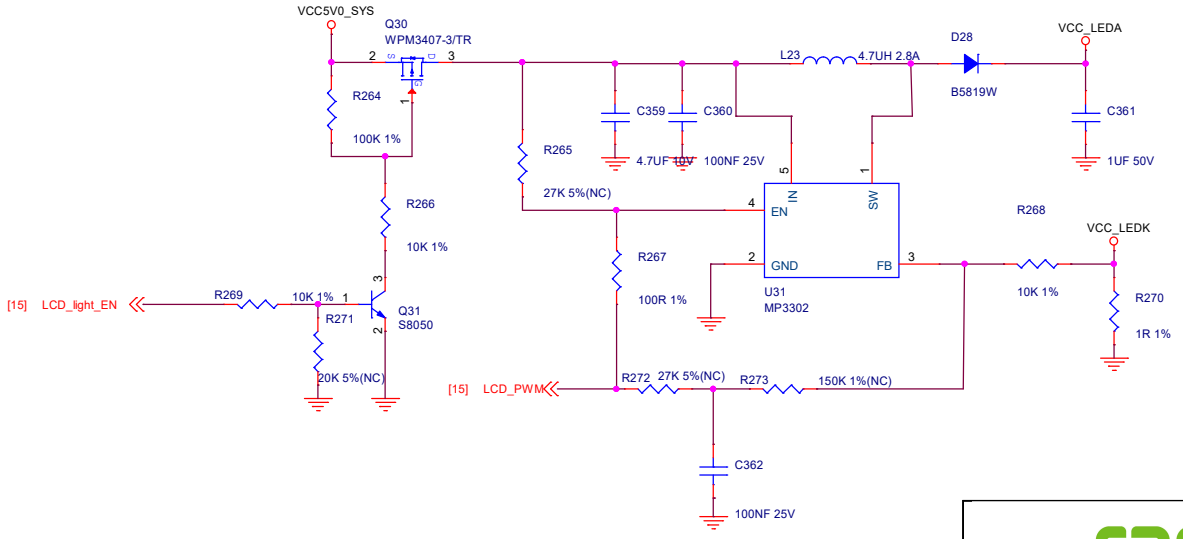
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