

MECHA COMET

MAIN BOARD

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24	Fuel_Guage_Architecture
25	Secure_Element_Architecture

REV	REVISION NOTES	DESIGNER	APPROVER	DATE

PCB MECHANICAL DETAILS

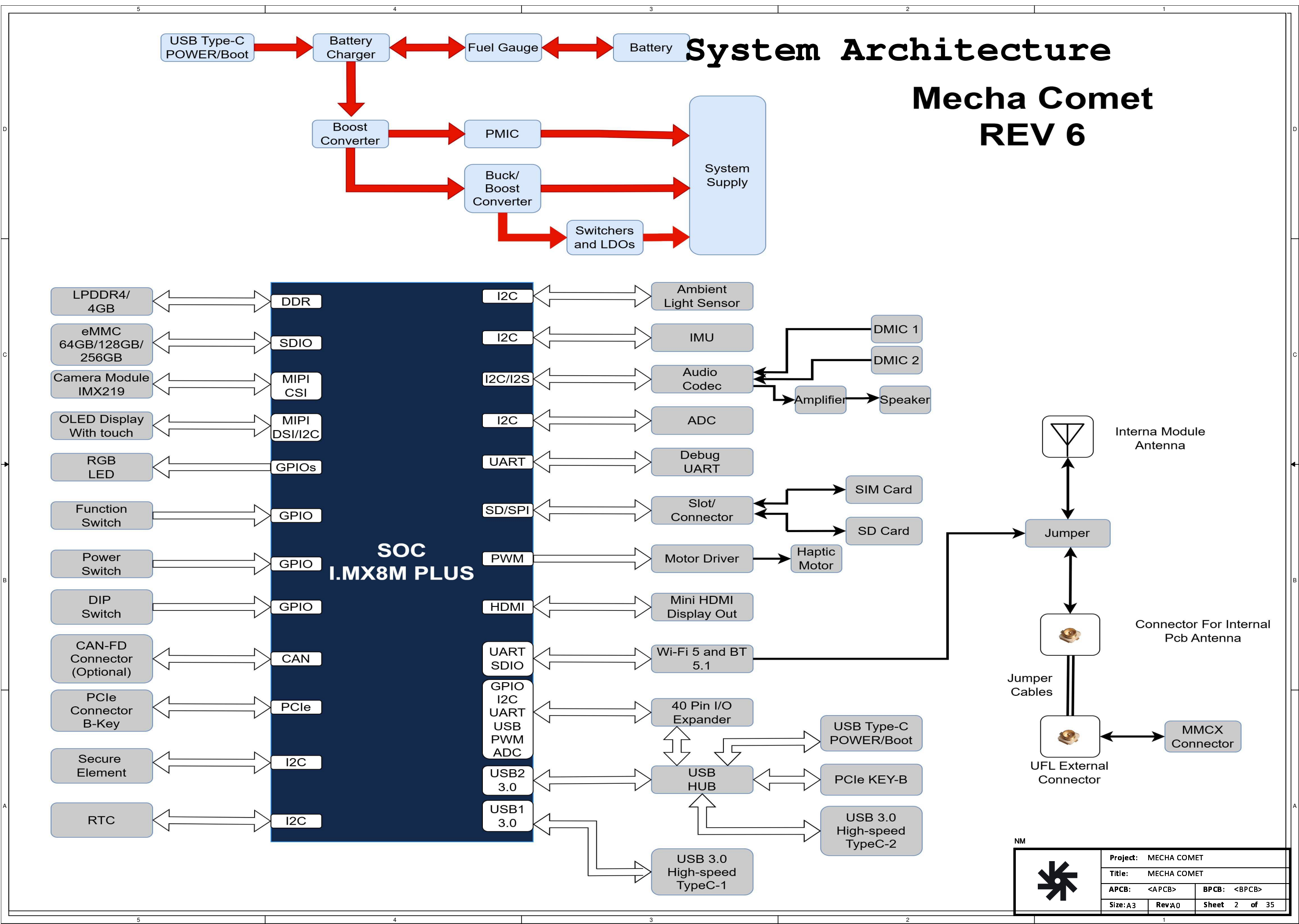
1. PCB SIZE :
2. PCB MATERIAL : FR4
3. NO.OF LAYERS : 10
4. IMPEDANCE CONTROL :YES
5. PCB THICKNESS: 1.2 mm

NM

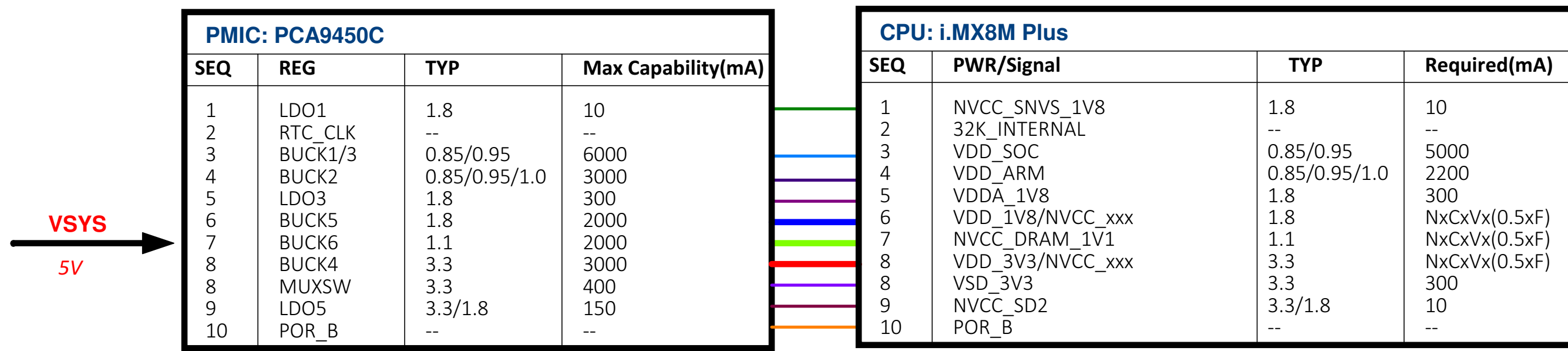
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	APCB: <APCB>	BPCB: <BPCB>	
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System Architecture

Mecha Comet REV 6

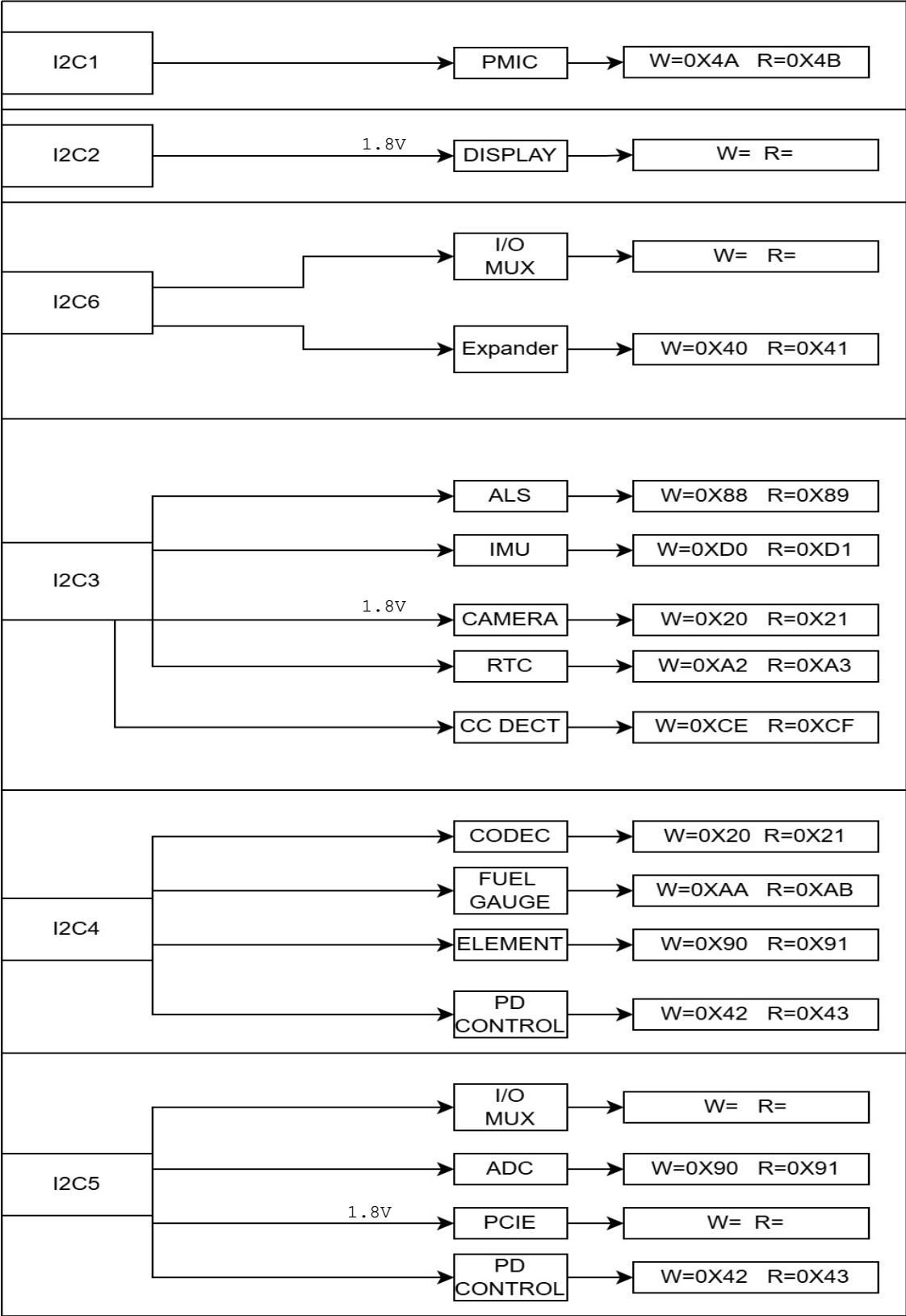


8MPLPD4-EVK PWR SEQUENCE

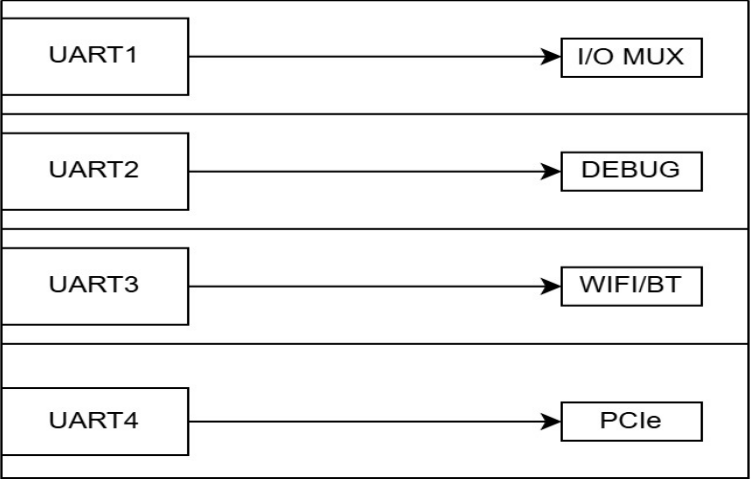


Protocol Mapping

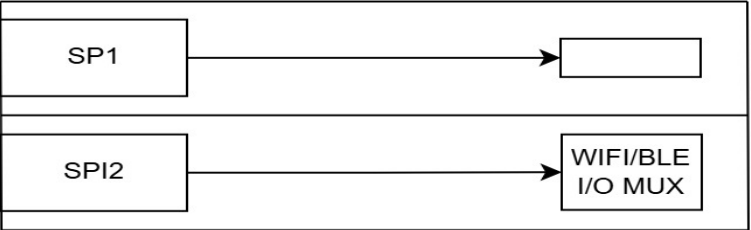
I2C MAPPING



UART MAPPING



SPI MAPPING



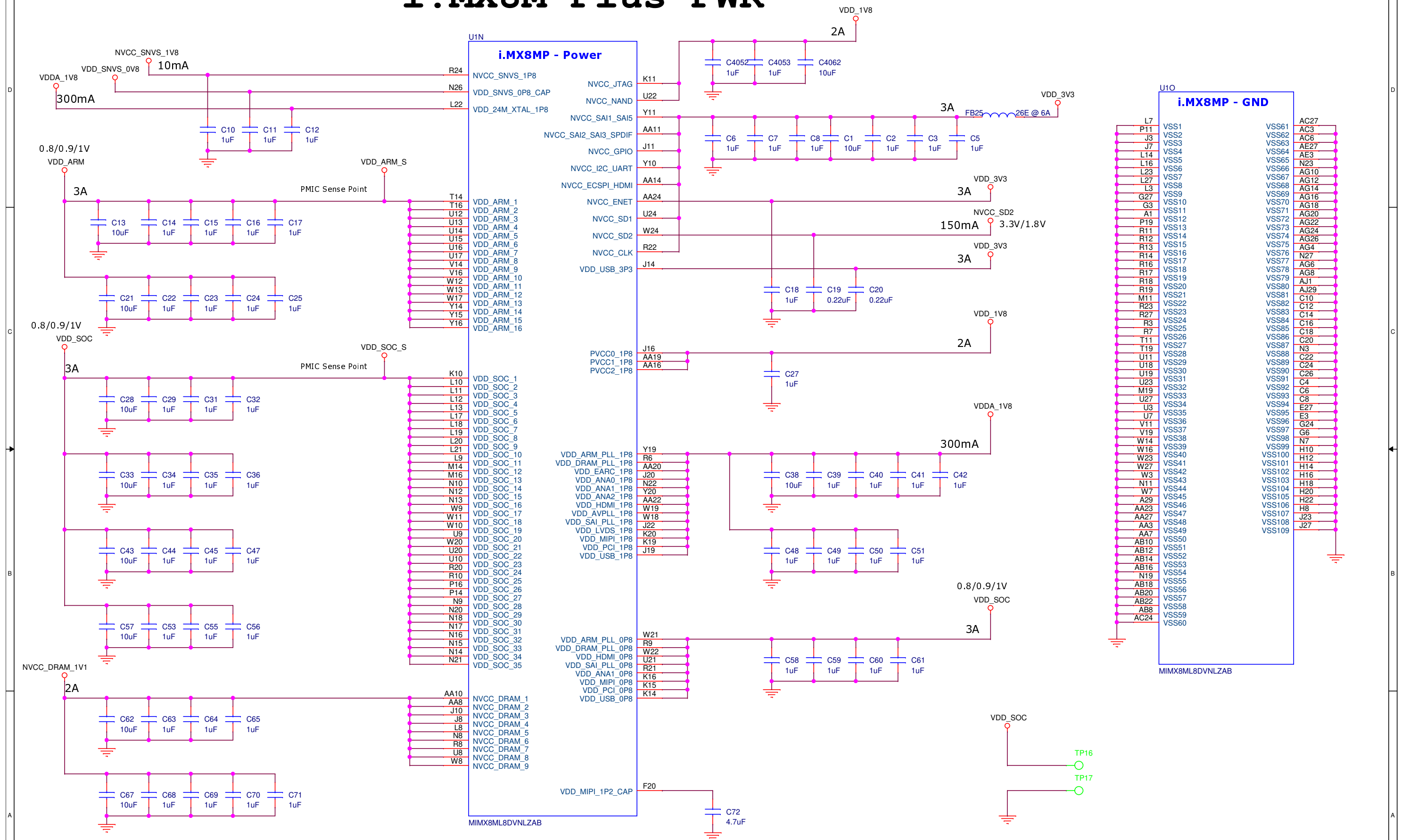
i.MX8M Plus Boot Mode

BOOT_MODE3	BOOT_MODE2	BOOT_MODE1	BOOT_MODE0	Boot Modes
0	0	0	0	Boot From Internal Fuses
0	0	0	1	USB Serial Download
0	0	1	0	USDHC3 (eMMC boot only, SD3 8-bit) Default
0	0	1	1	USDHC2 (SD boot only, SD2)
0	1	0	0	NAND 8-bit single device 256 page
0	1	0	1	NAND 8-bit single device 512 page
0	1	1	0	QSPI 3B Read
0	1	1	1	QSPI Hyperflash 3.3V
1	0	0	0	ecSPI Boot
1	0	0	1	Reserved
1	0	1	0	FLEXSPI Serial NAND 2k page
1	0	1	1	FLEXSPI Serial NAND 4k page
1	1	0	0	Reserved
1	1	0	1	Reserved
1	1	1	0	Reserved
1	1	1	1	Reserved

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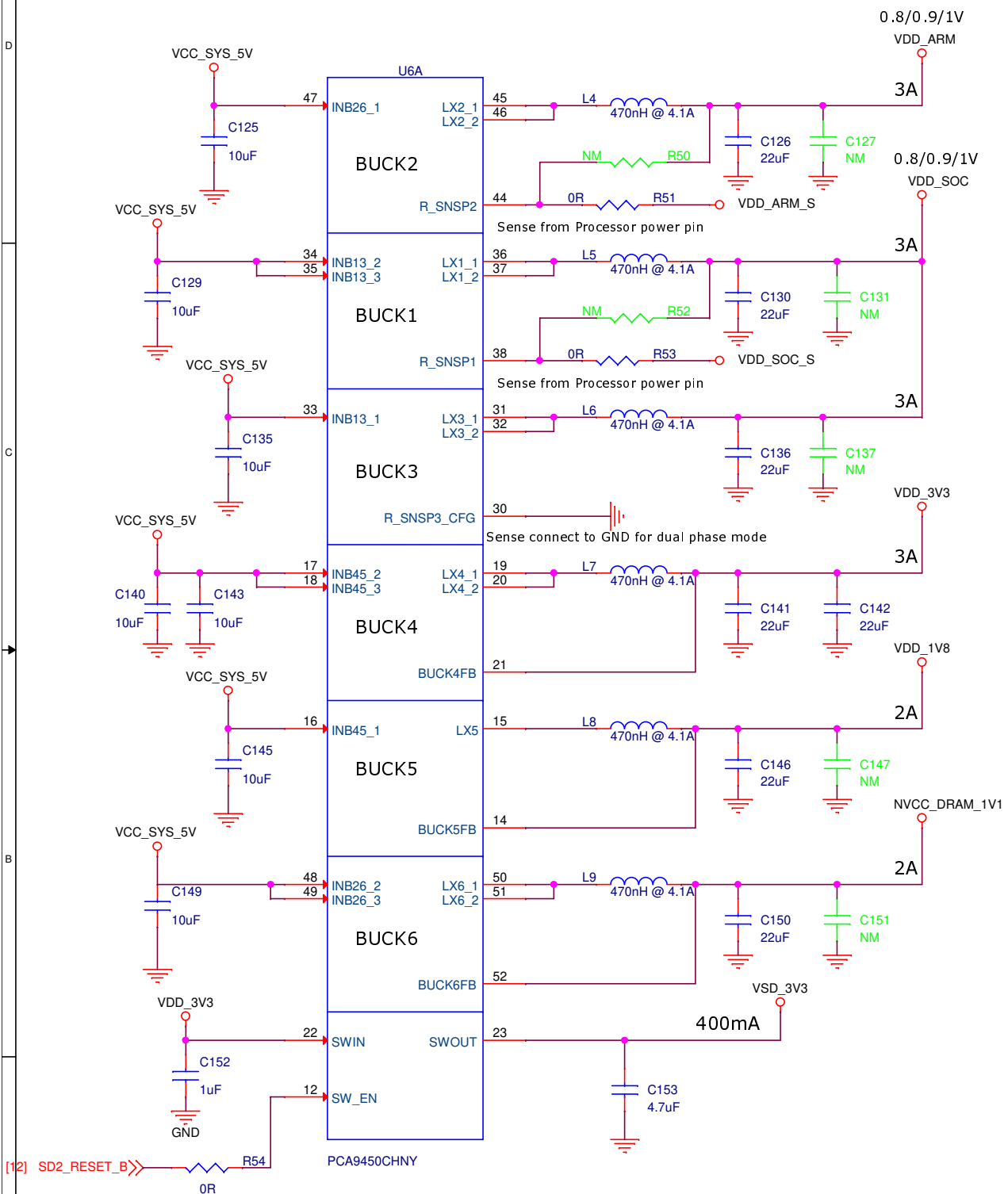
i.MX8M Plus PWR



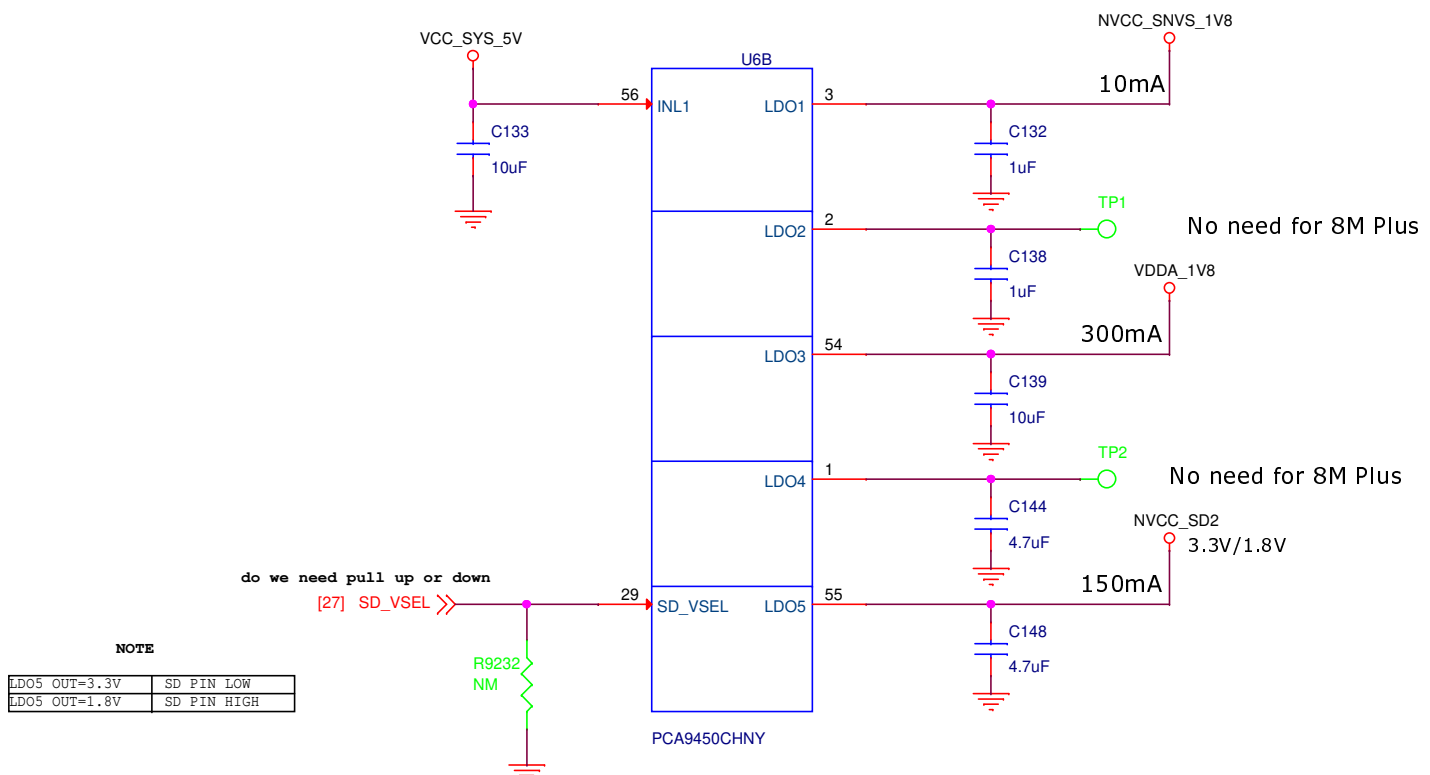
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PMIC Buck Converters

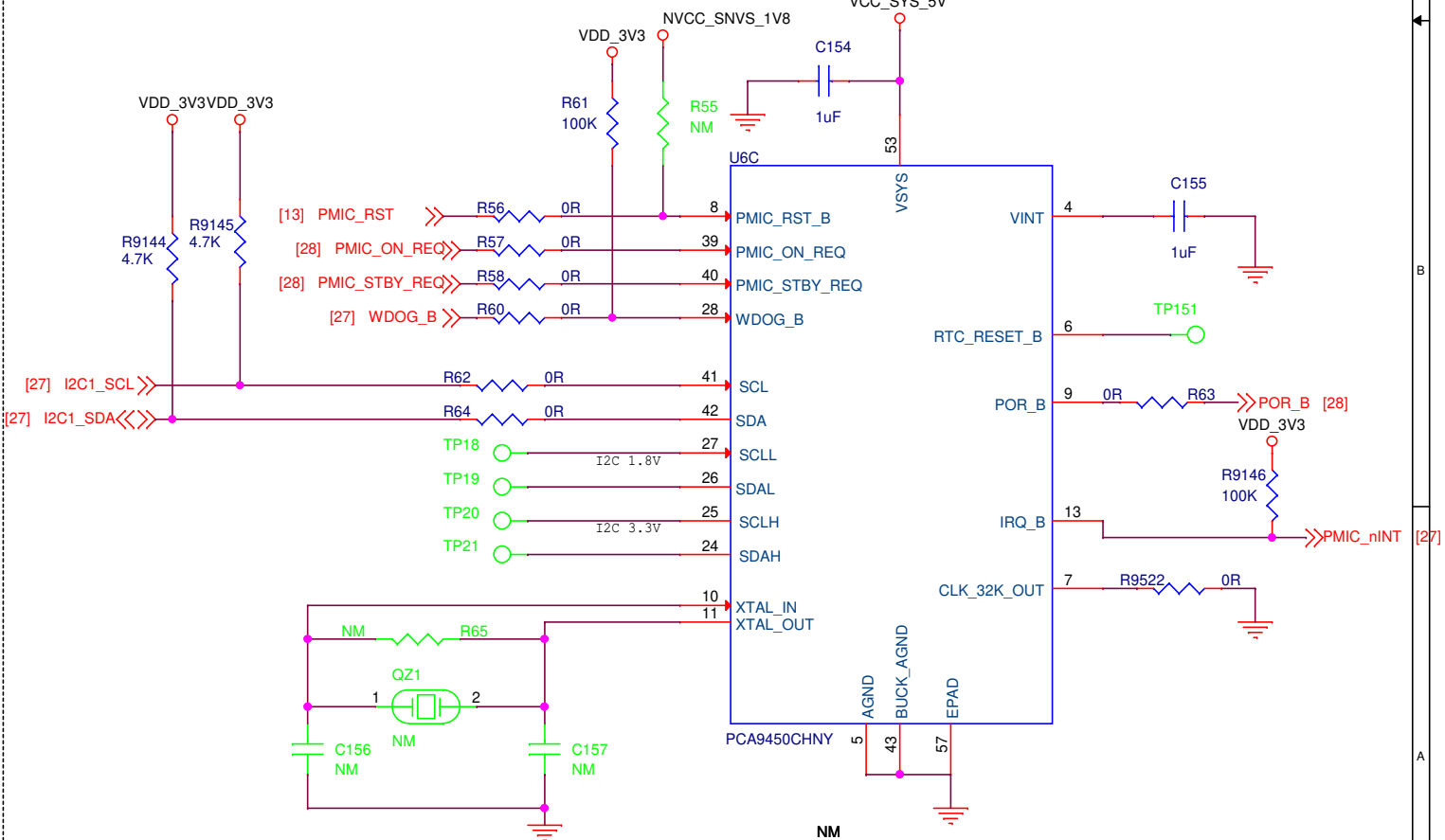
PMIC Section



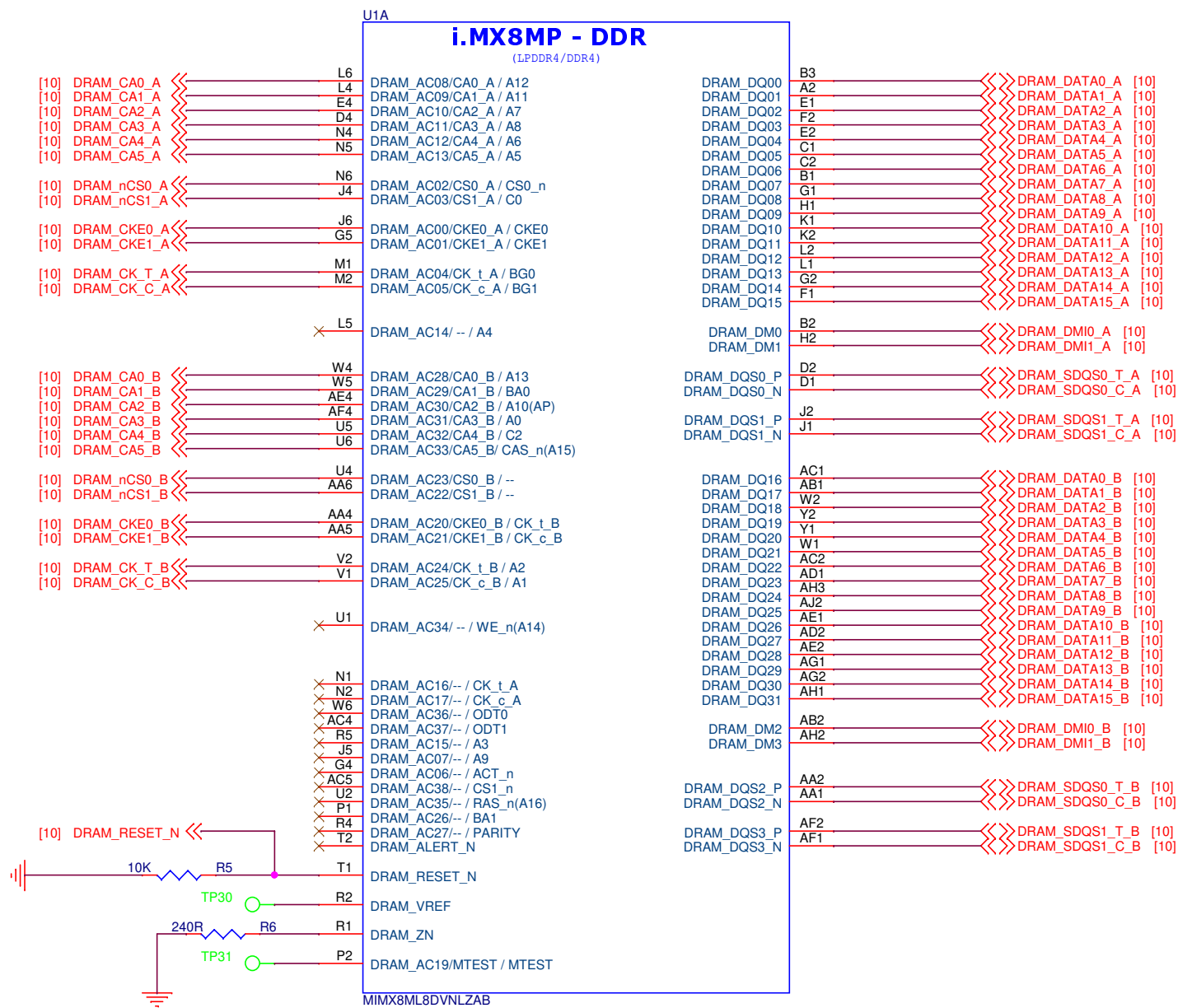
PMIC LDO



PMIC Signals



i.MX8M Plus LPDDR4

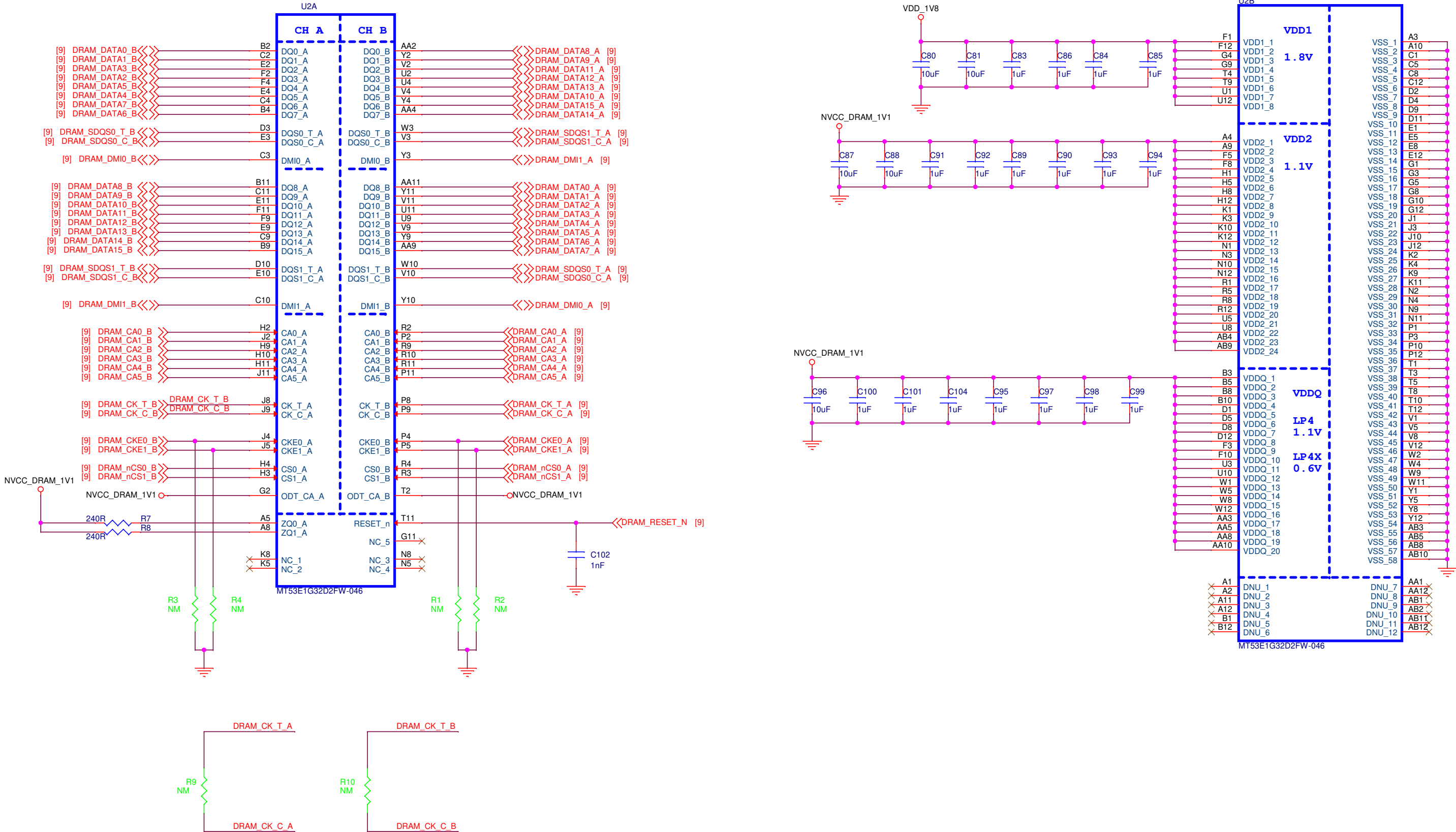


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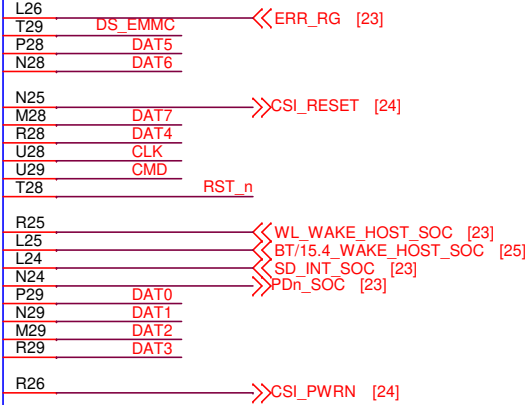
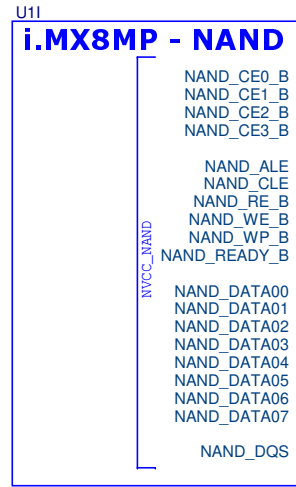
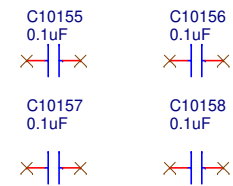
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LPDDR4 Section

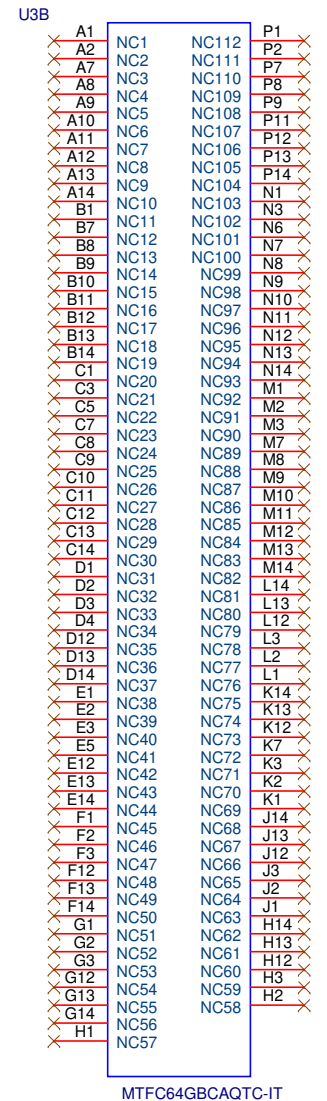
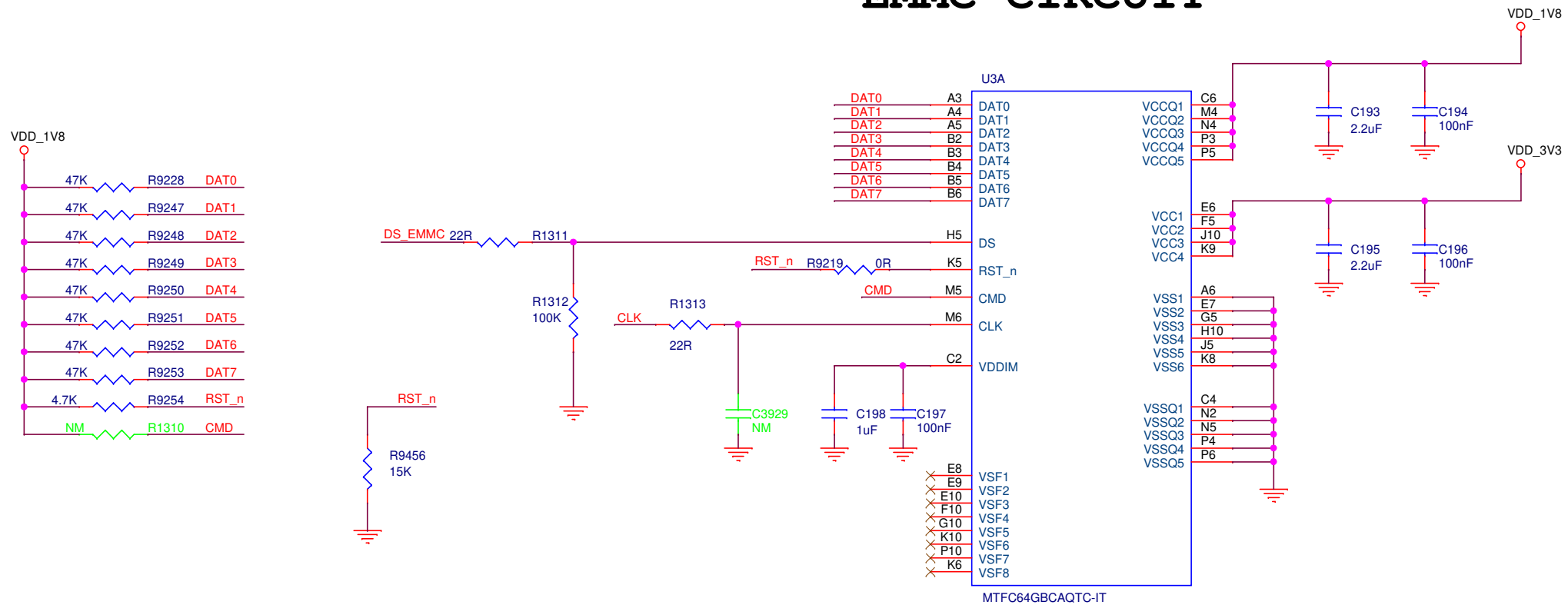


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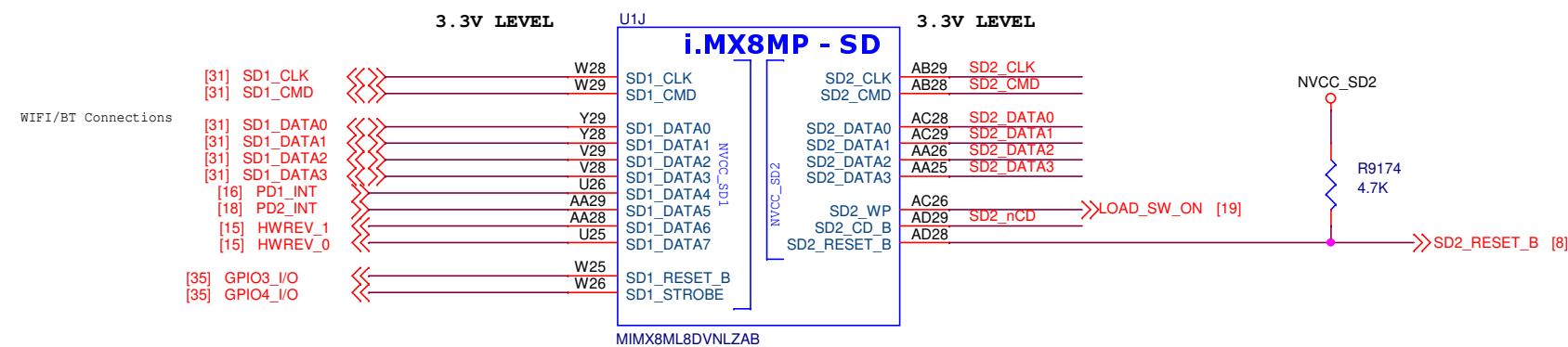
i.MX8M Plus EMMC



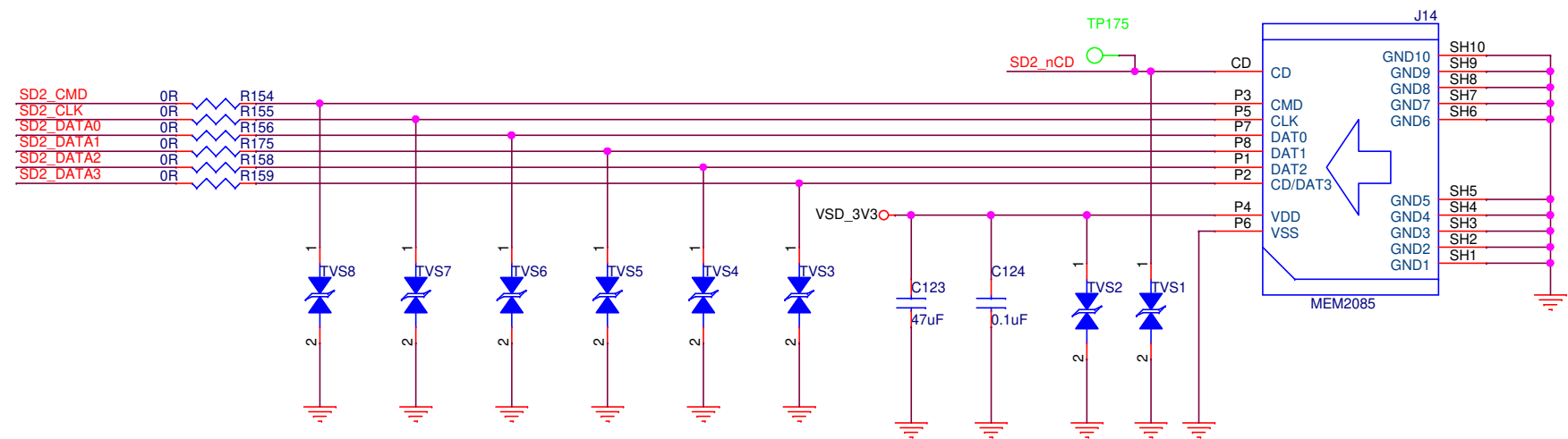
EMMC CIRCUIT



i.MX8M Plus SD Card



SD CARD



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Project: MECHA COMET

Title: MECHA COMET

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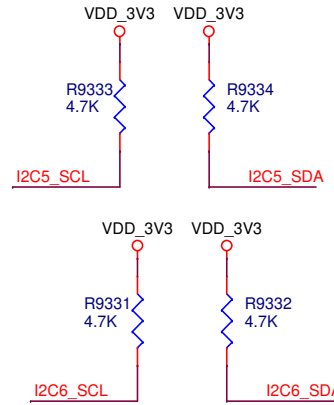
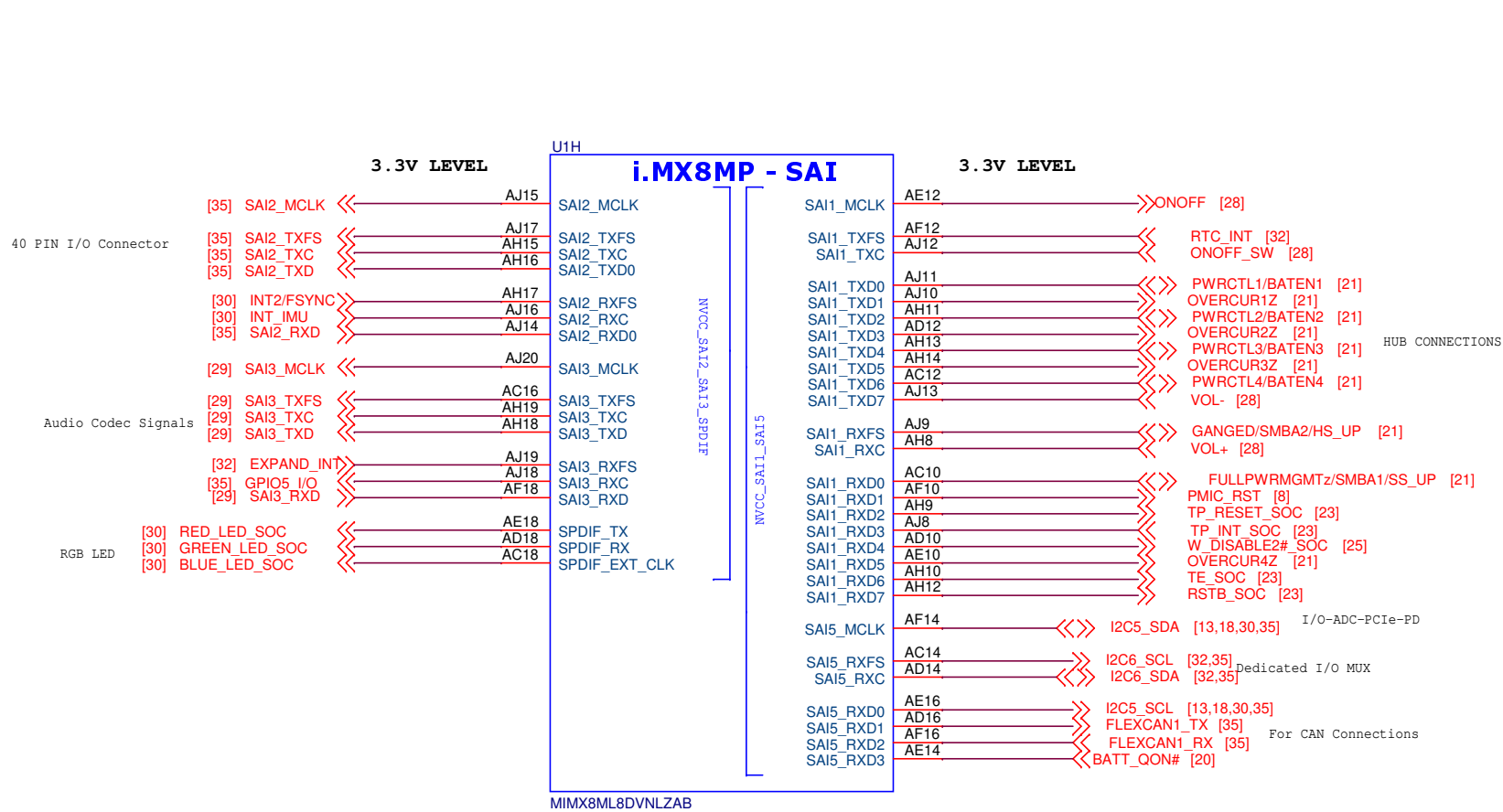
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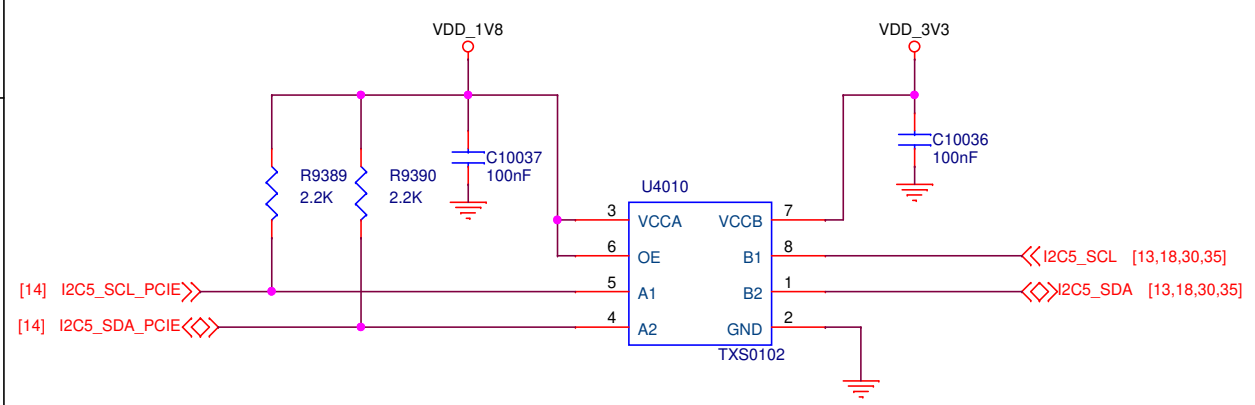
Rev: A0

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i.MX8M Plus SAI

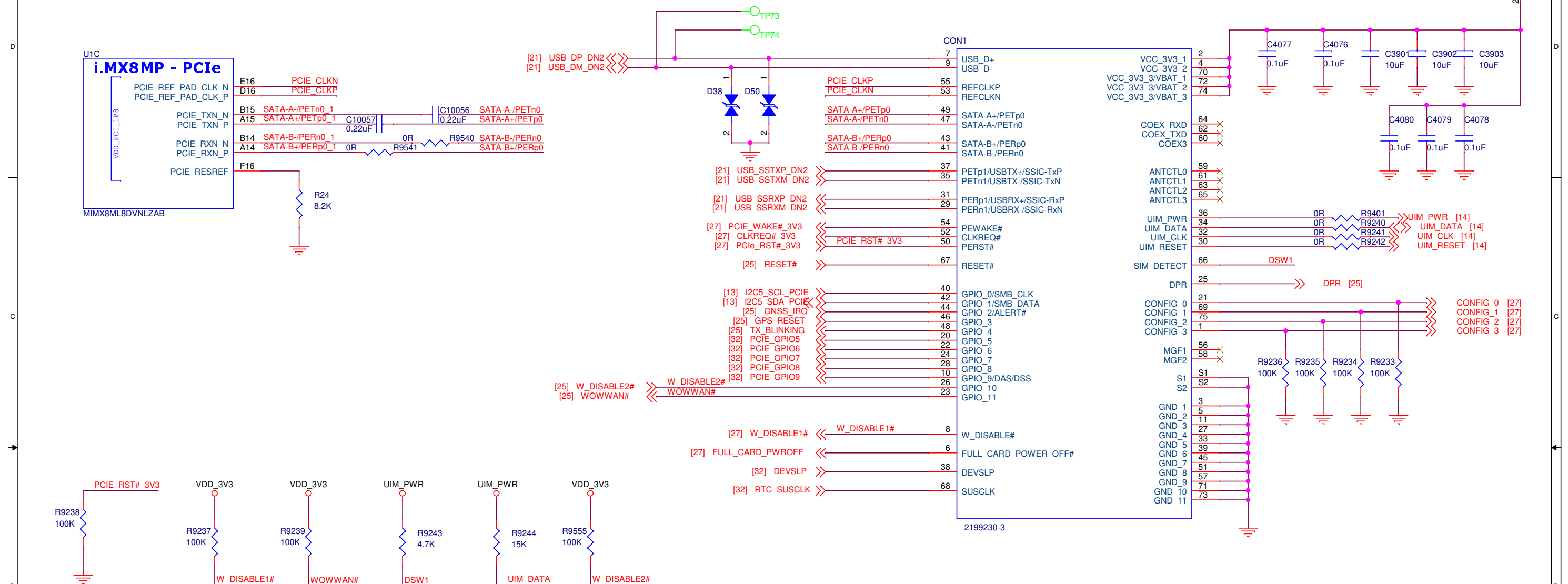


I2C TRANSLATOR FOR PCIE

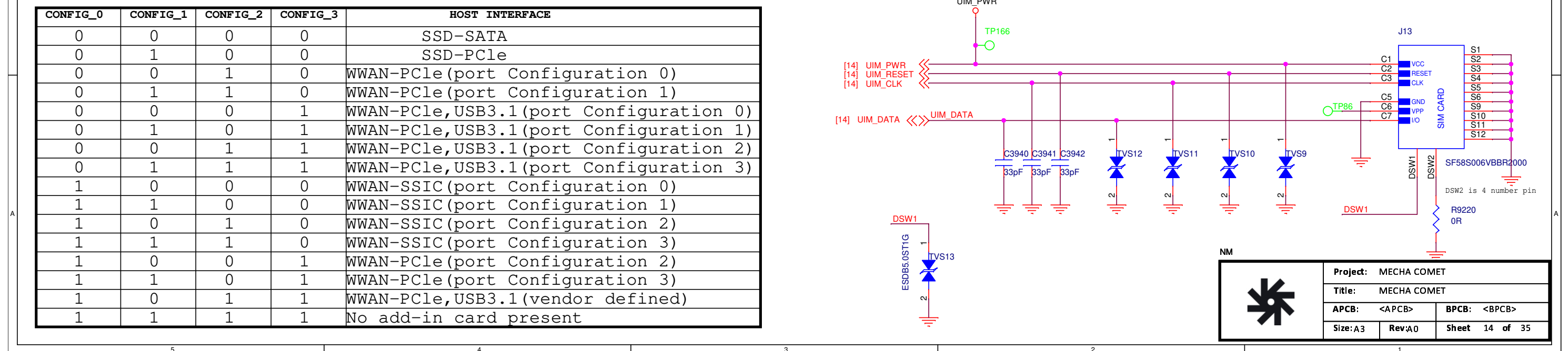


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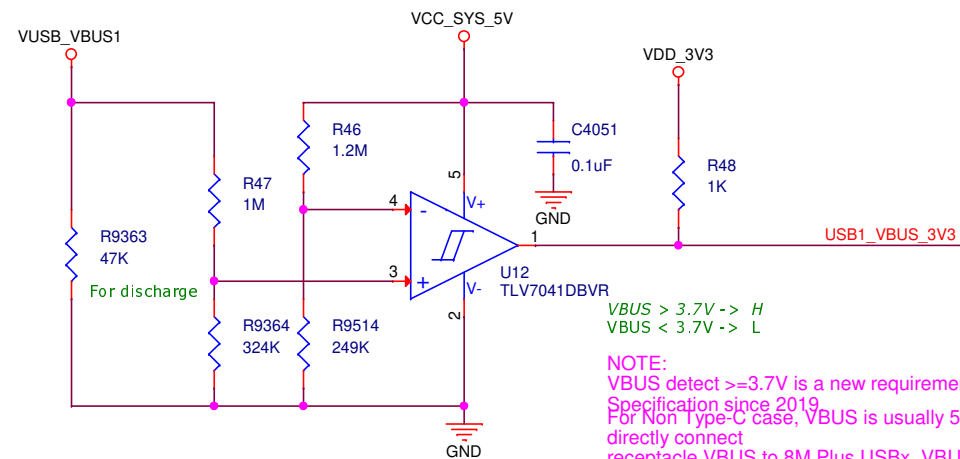
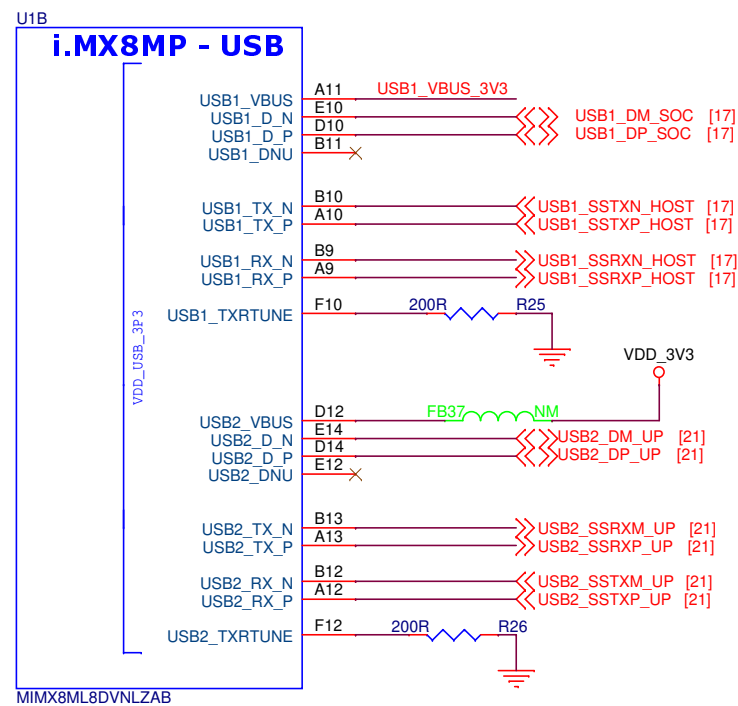
i.MX8M Plus PCIe



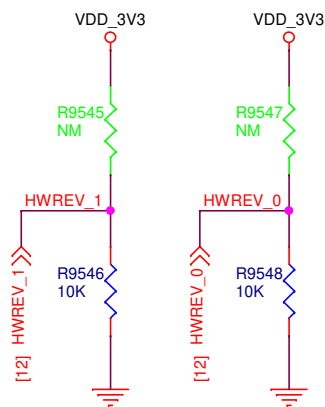
SIM CARD



i.MX8M Plus USB



HARDWARE REVISION



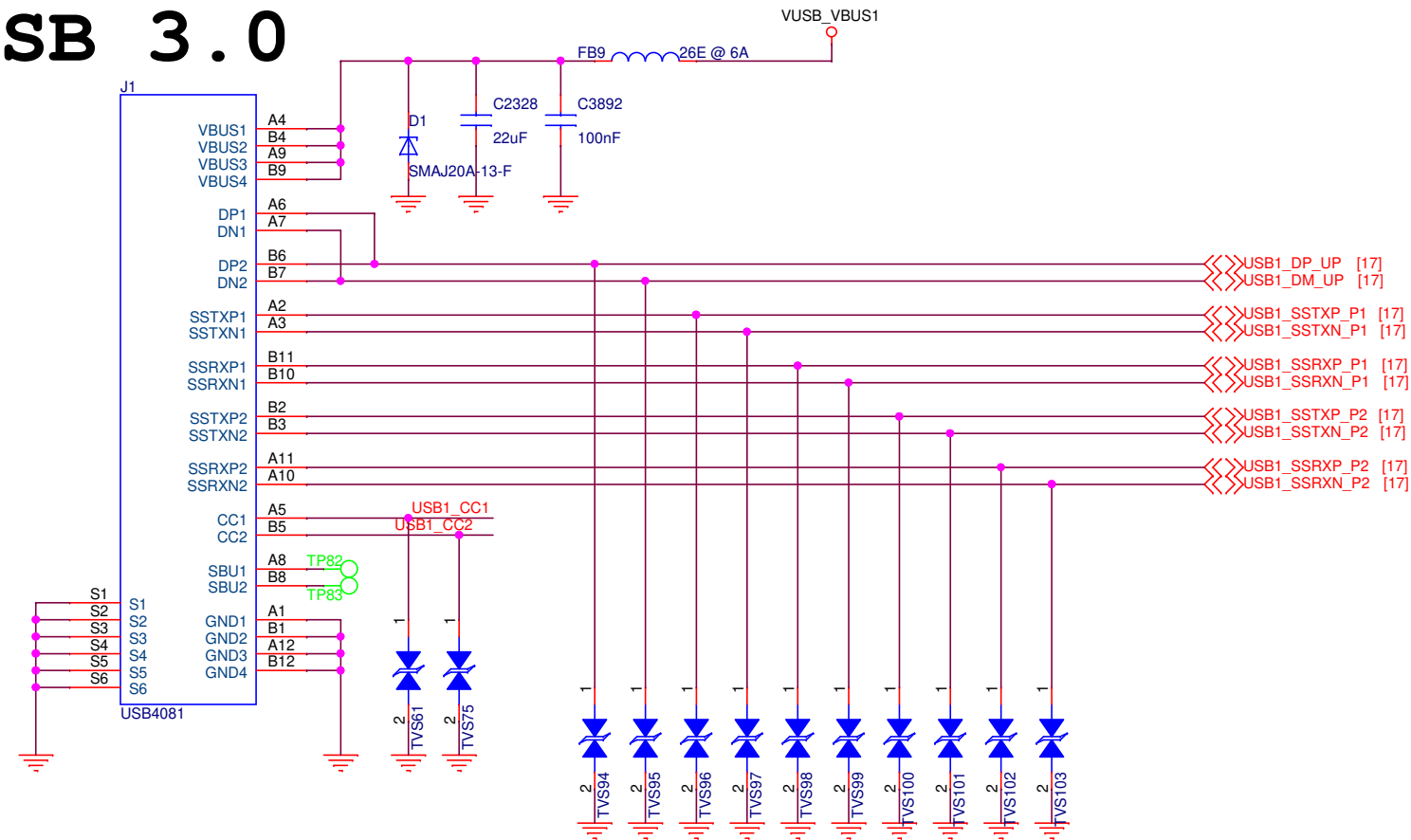
HWREV_1	HWREV_0	REV_A
0	0	A1
0	1	B1
1	0	C1
1	1	D1

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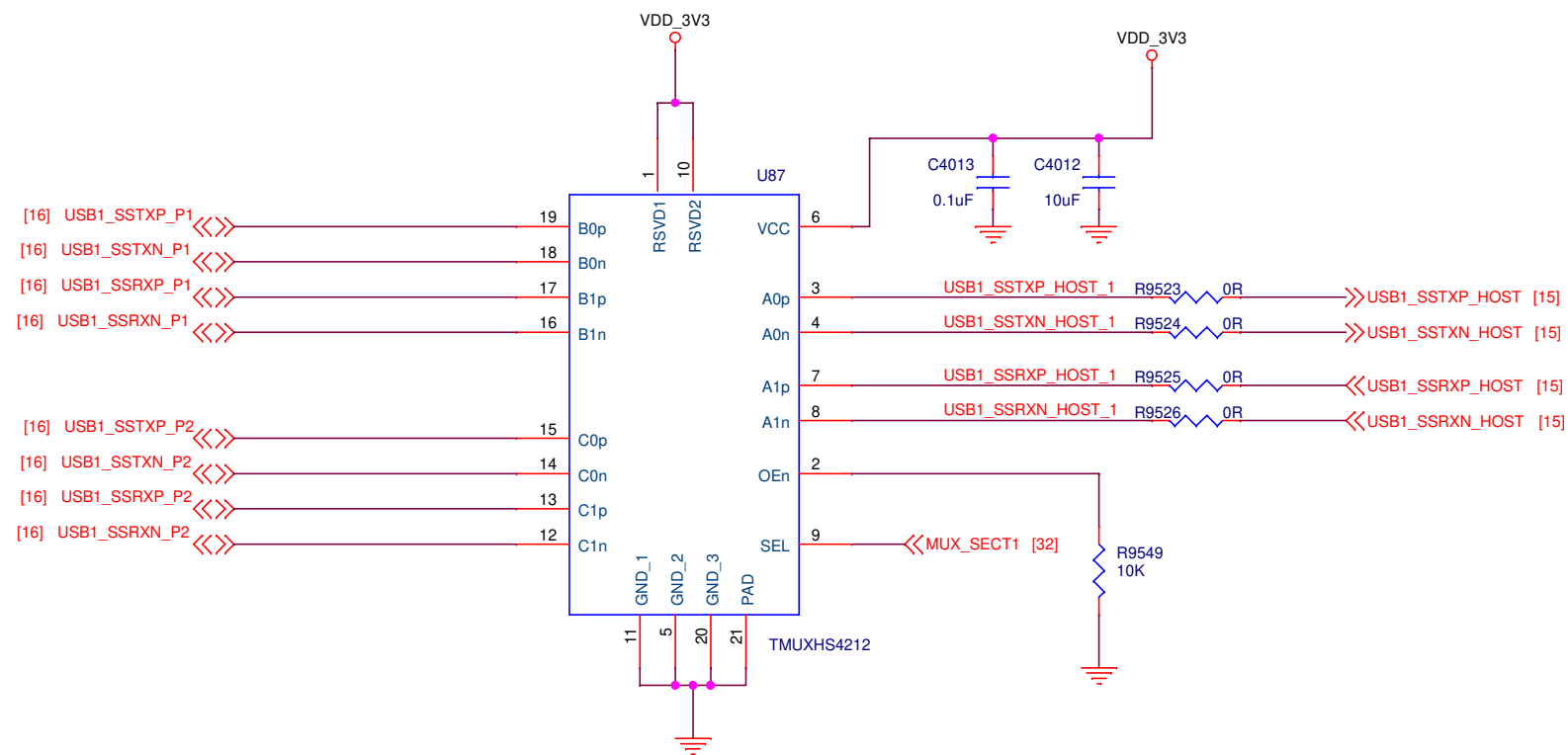
USB 3.0

[illegible]

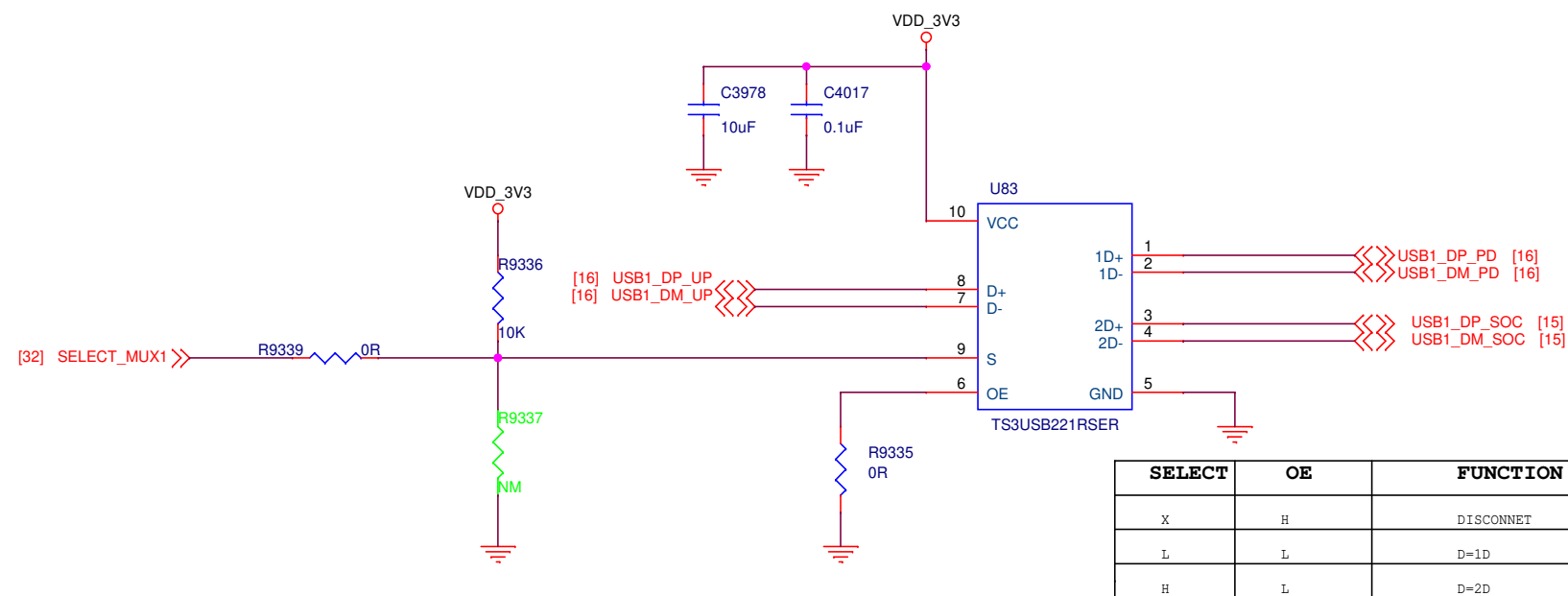
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USB 1 MUX CONNECTION

USB 3.0



USB 2.0

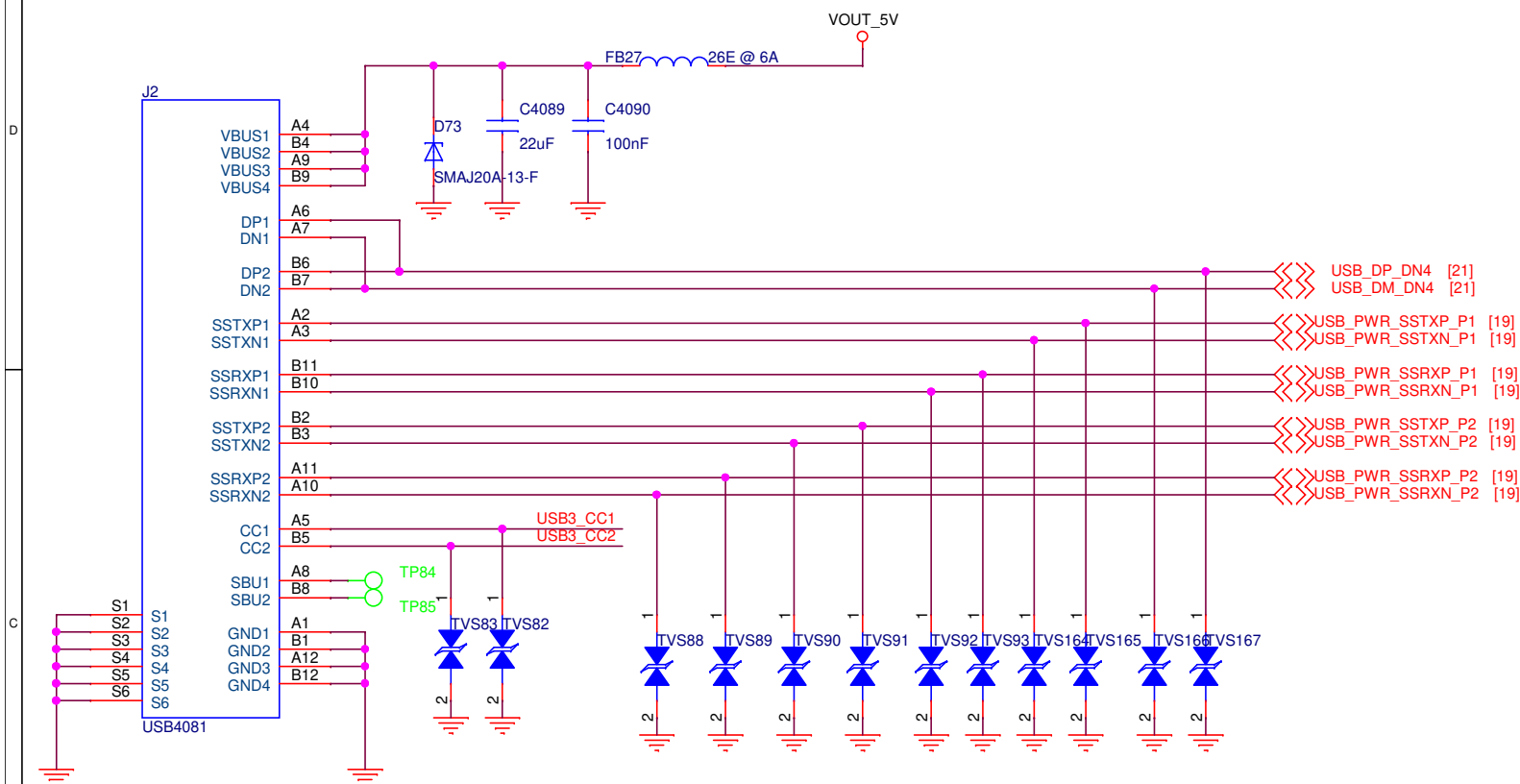


SELECT	OE	FUNCTION
X	H	DISCONNCT
L	L	D=1D
H	L	D=2D

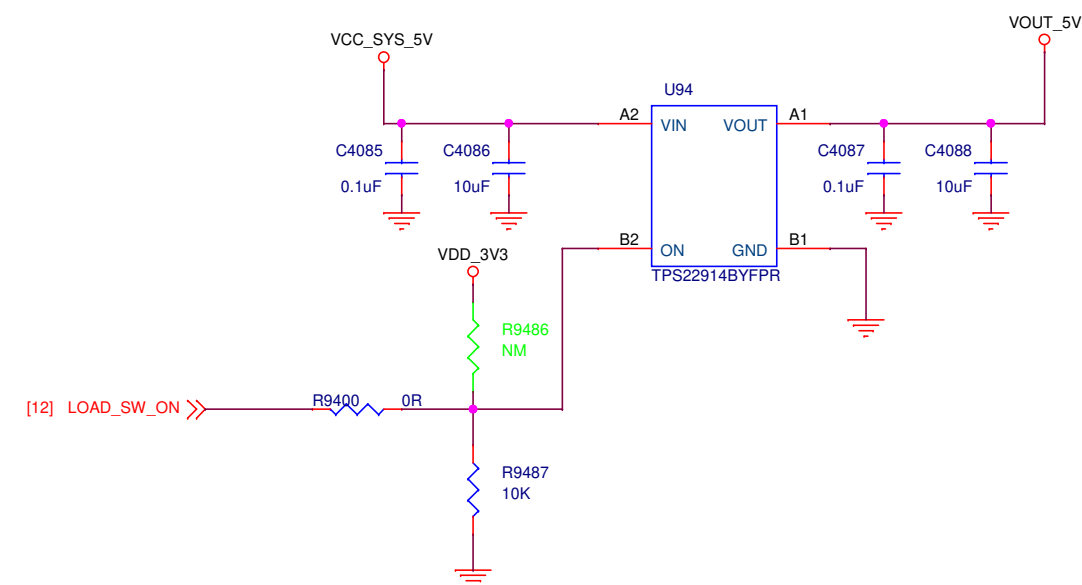
NM

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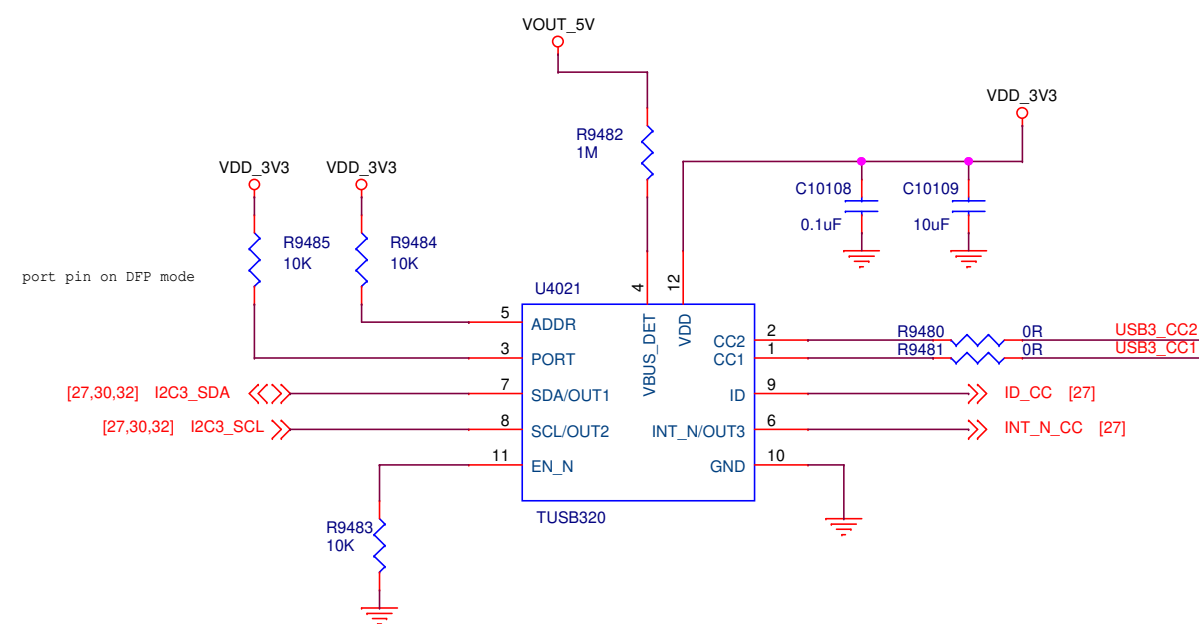
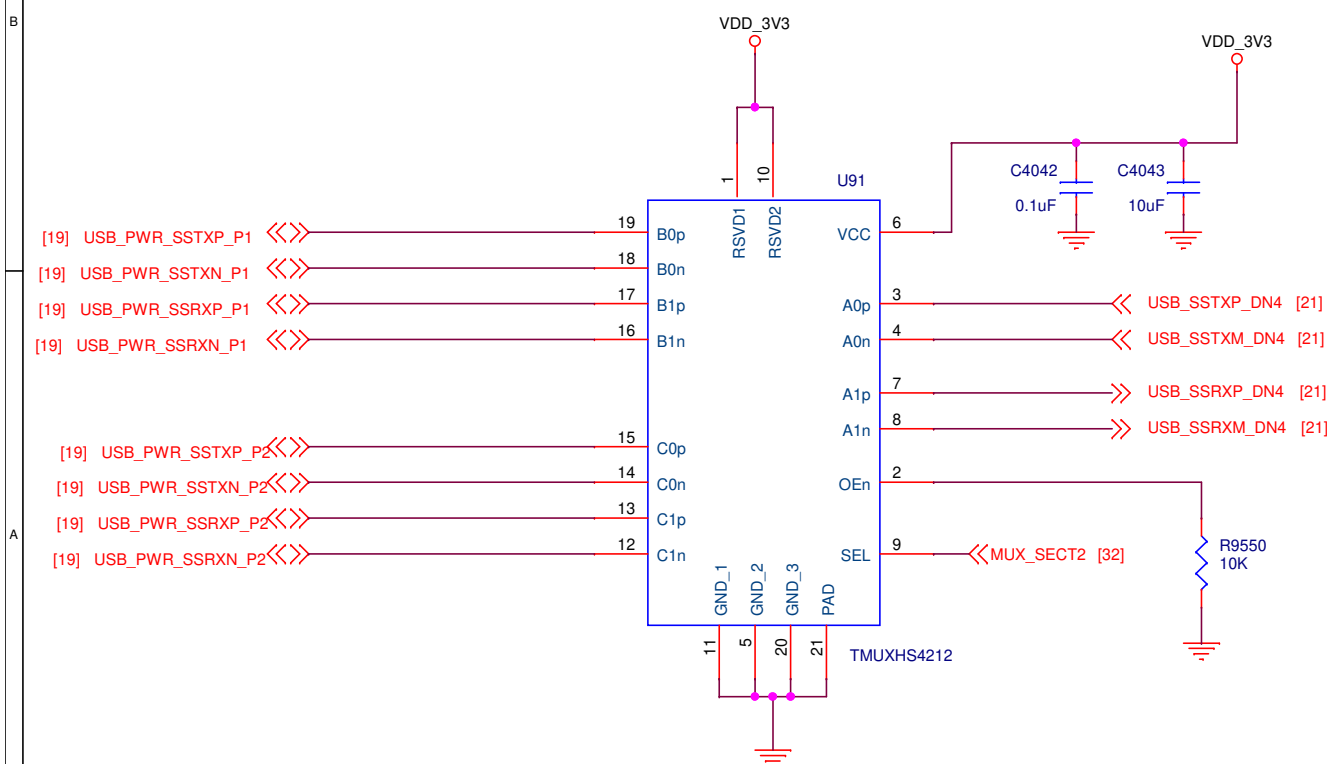
USB 3 CONNECTION



Load Switch



USB MUX

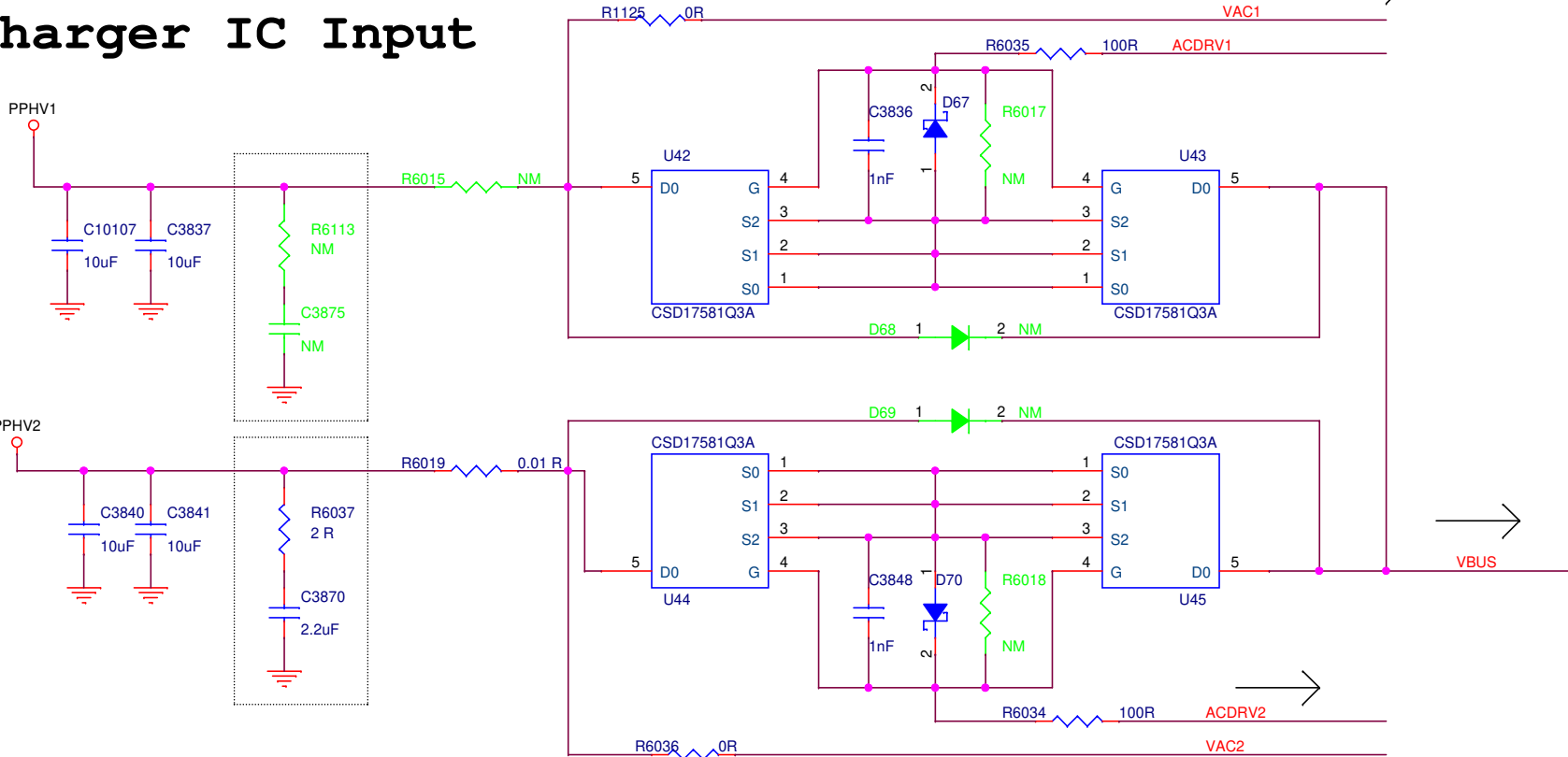


NM

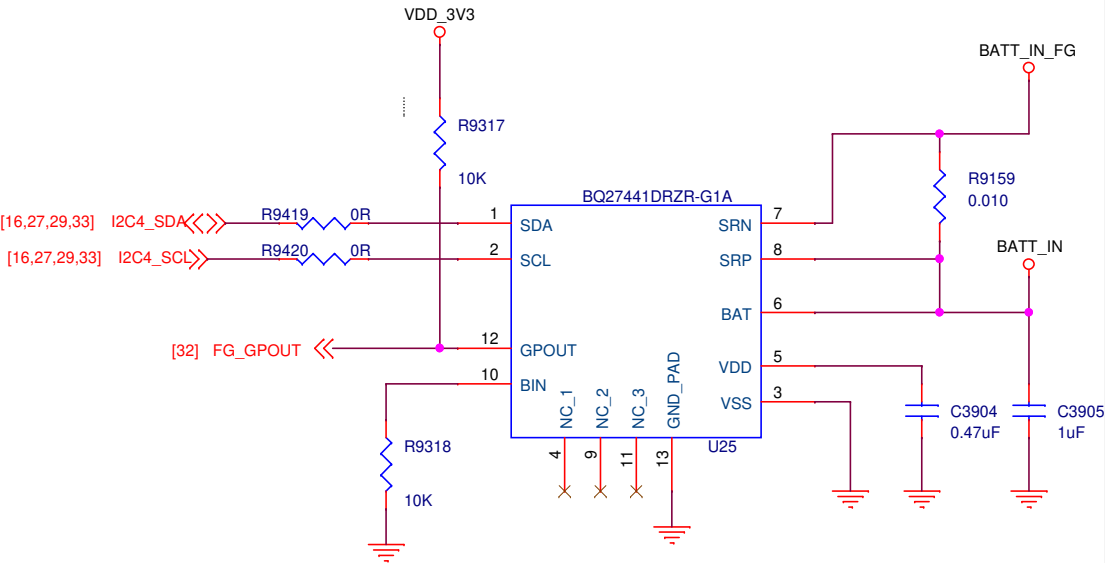


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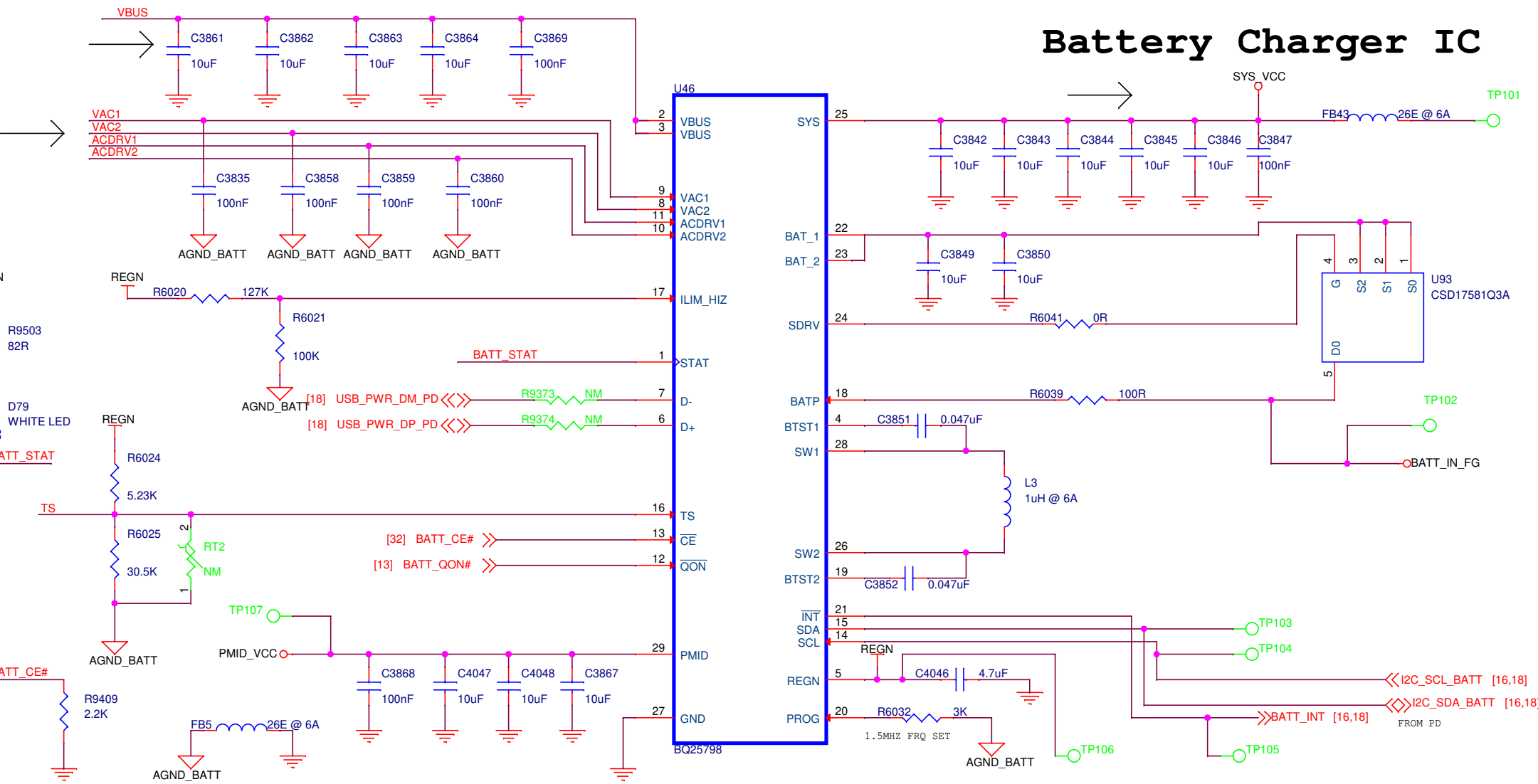
Charger IC Input



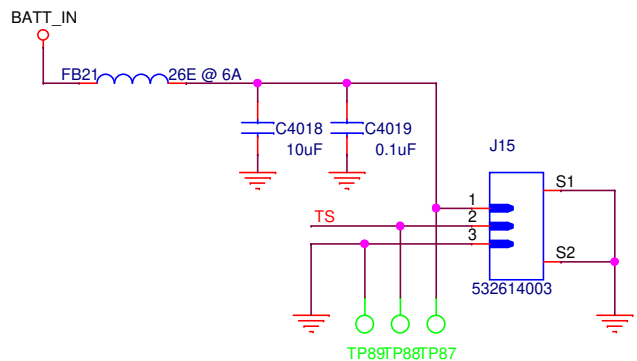
FUEL GUAGE



Battery Charger IC

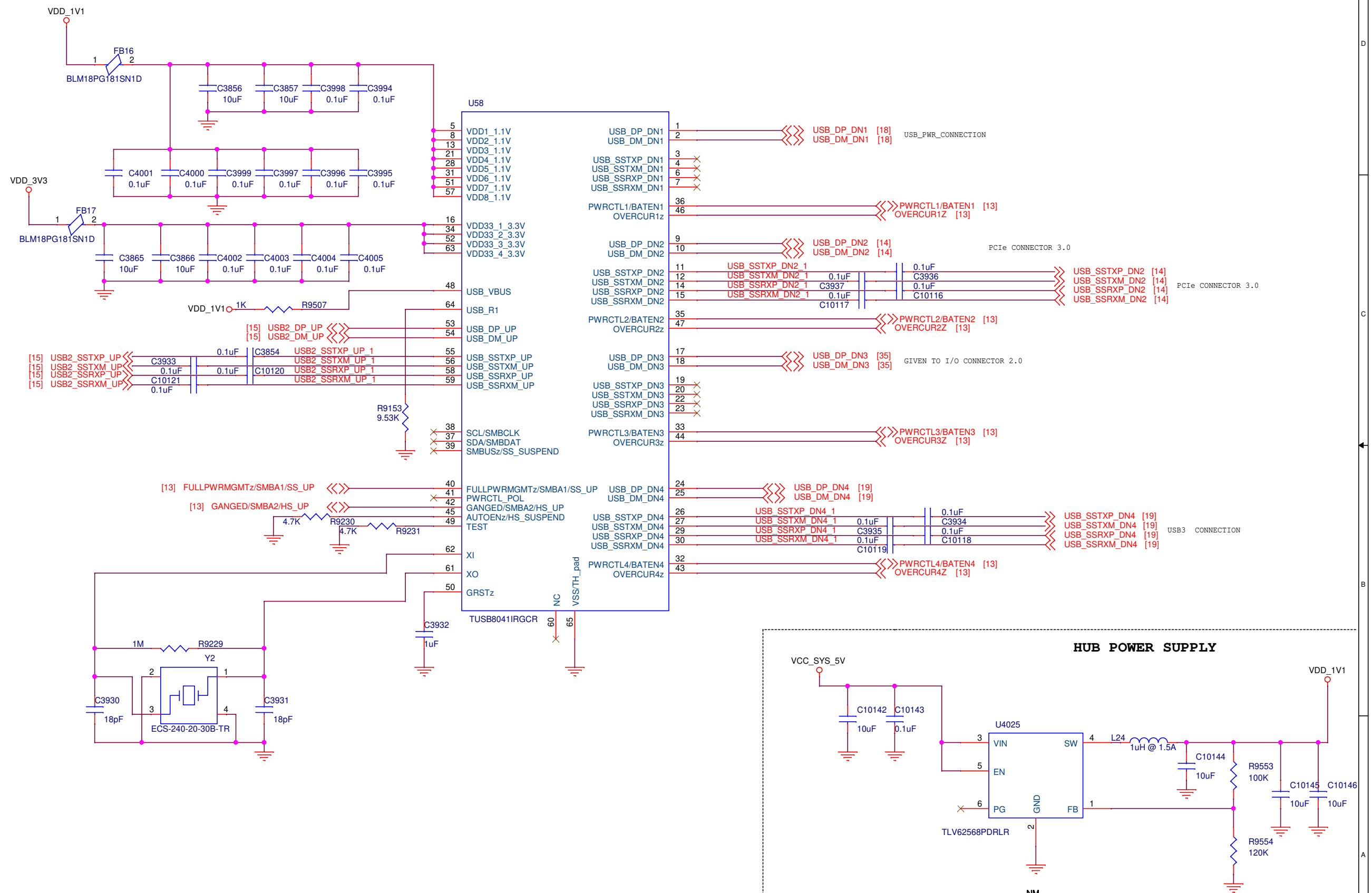


Battery Connector

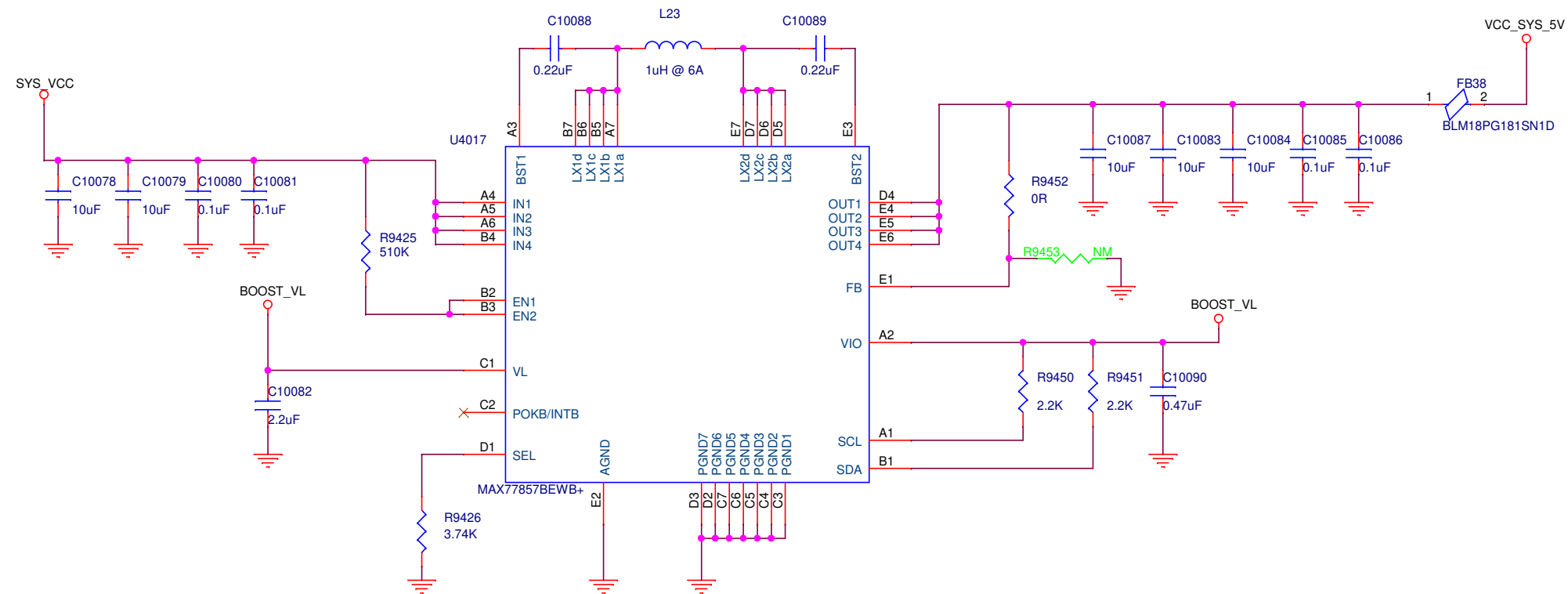


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	Size: A3	Rev: A0
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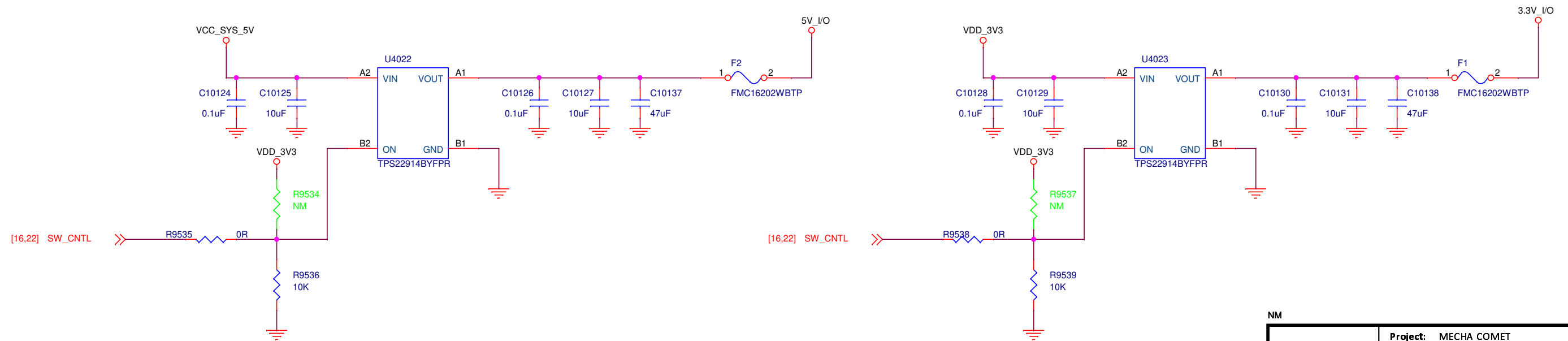
USB HUB



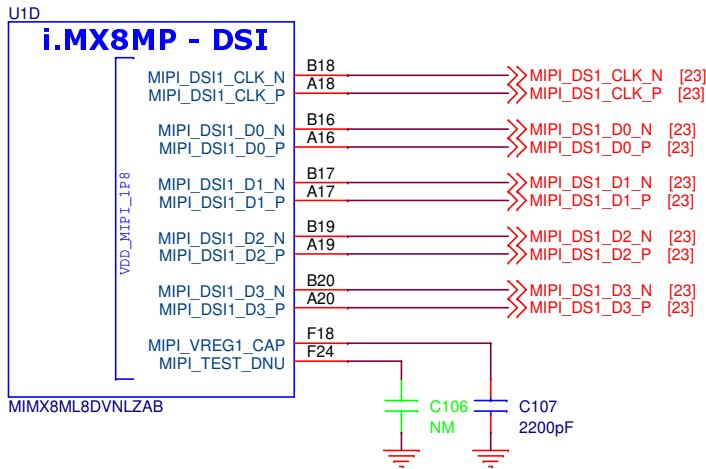
BUCK BOOST CIRCUIT



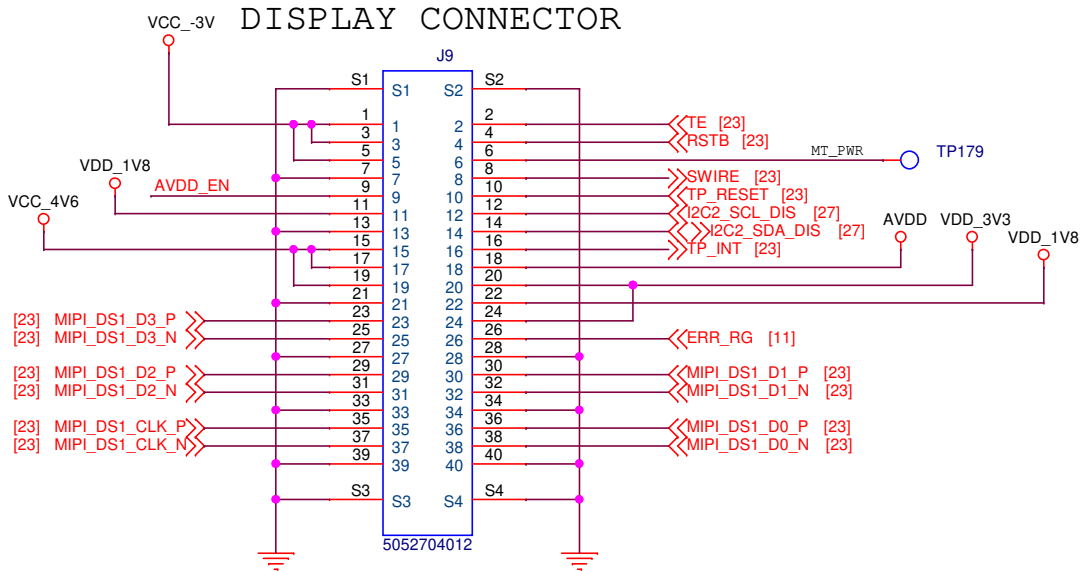
LOAD SWITCH FOR I/O CONNECTOR



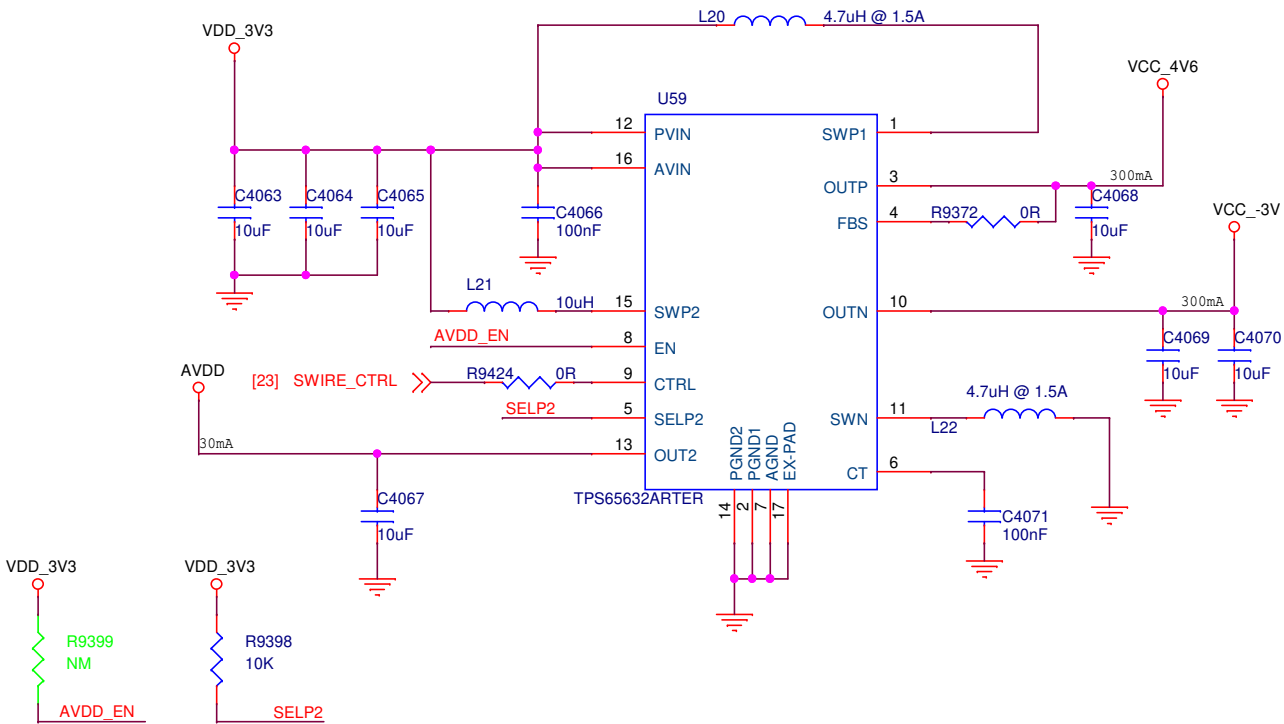
i.MX8M Plus DSI



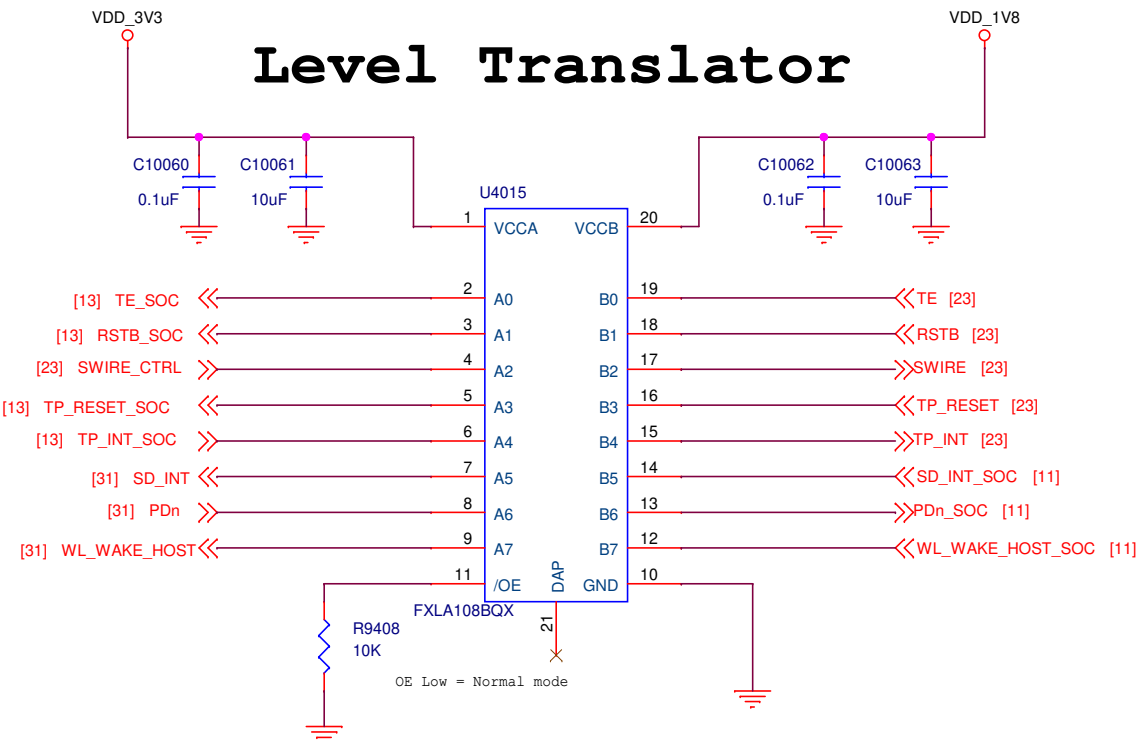
MIPI_TEST_DNU is for internal test, can be left floating for normal use.



Display Supply



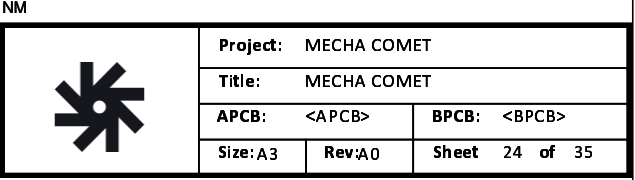
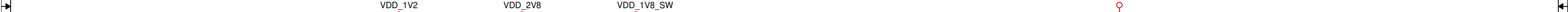
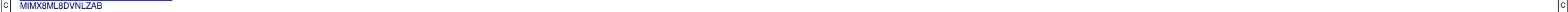
Level Translator



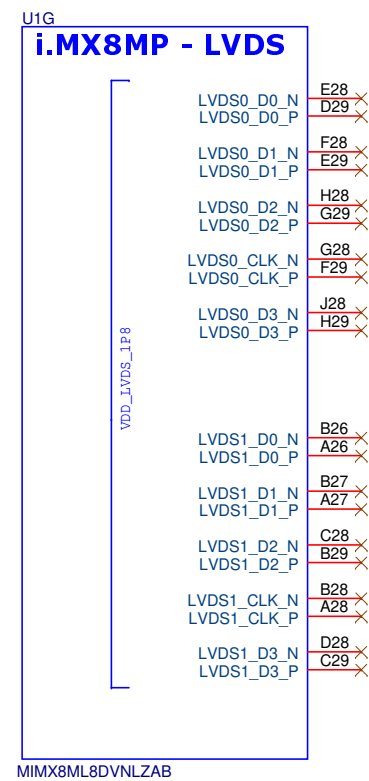
NM



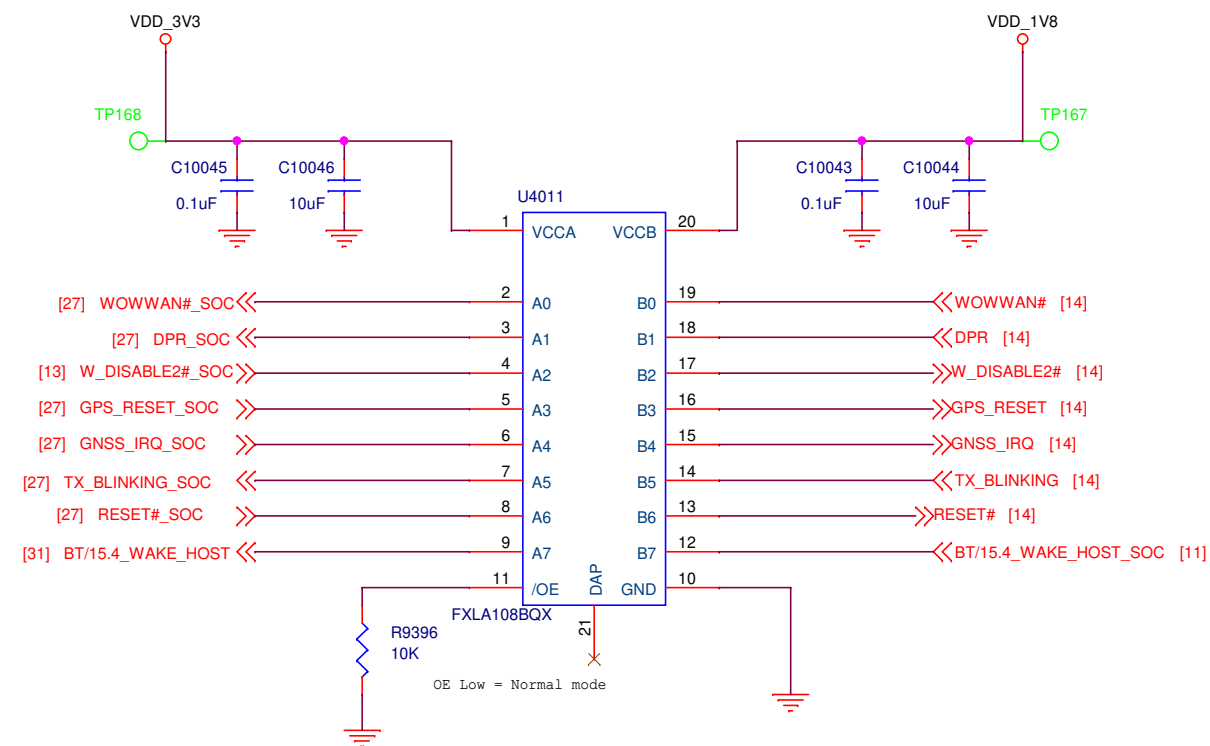
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i.MX8M Plus LVDS



LEVEL TRANSLATOR FOR PCIE

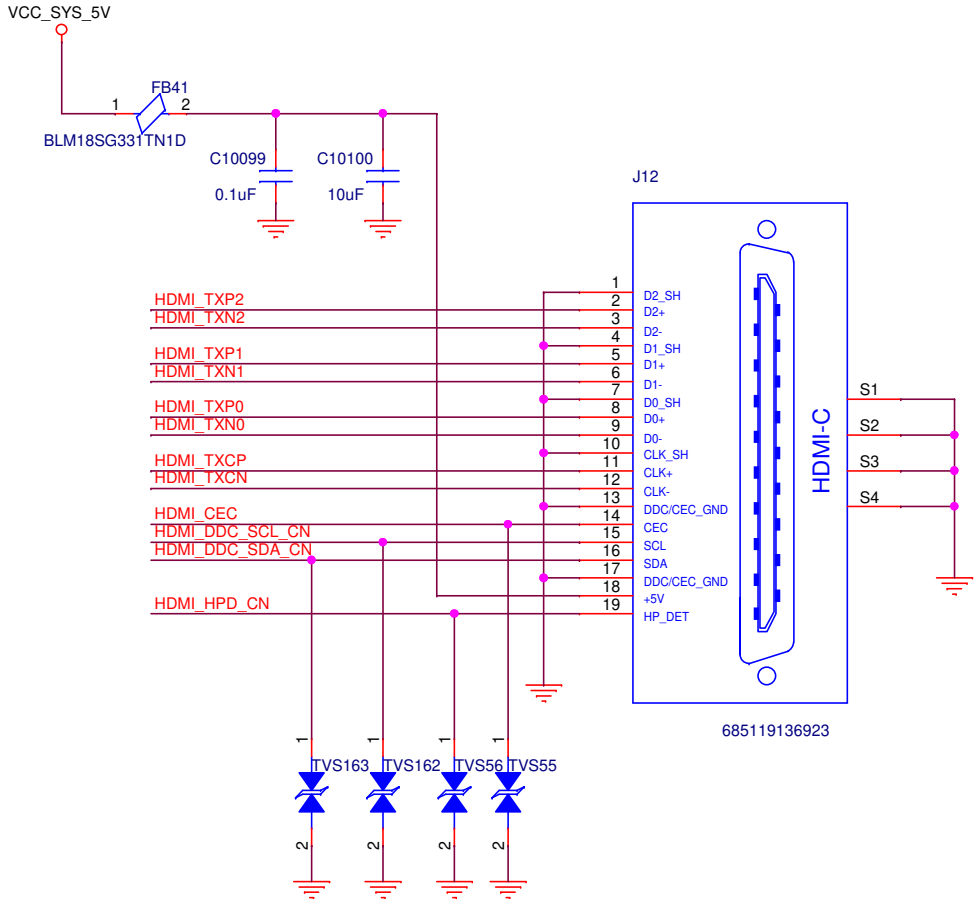
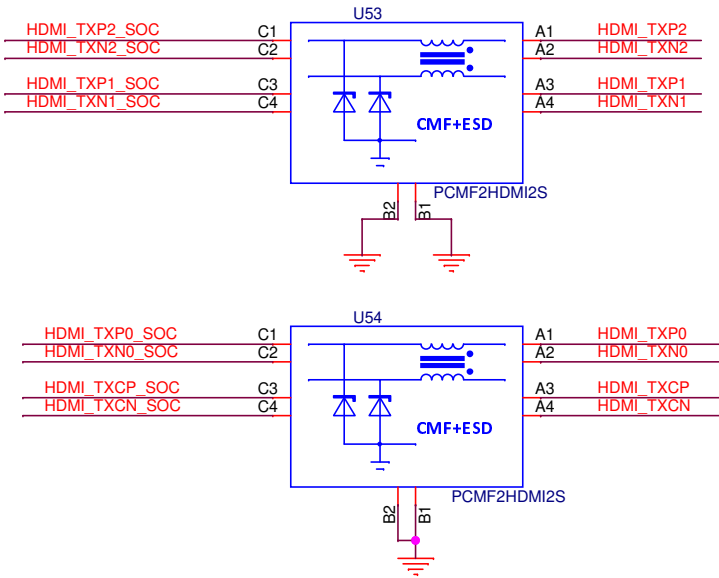
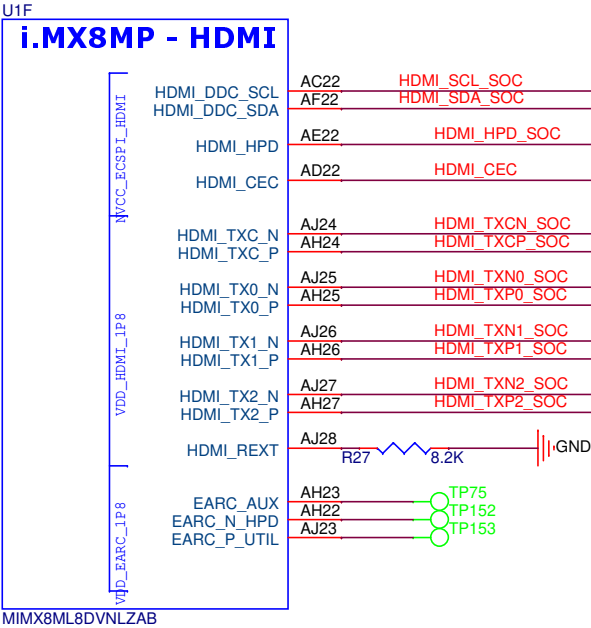


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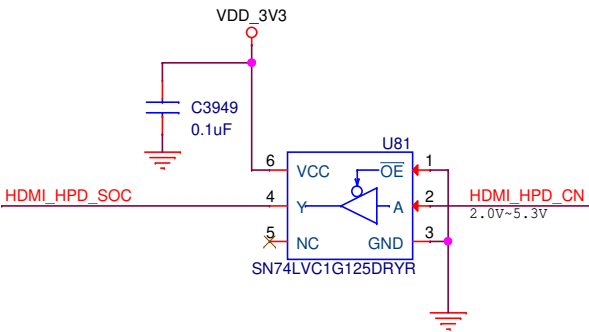
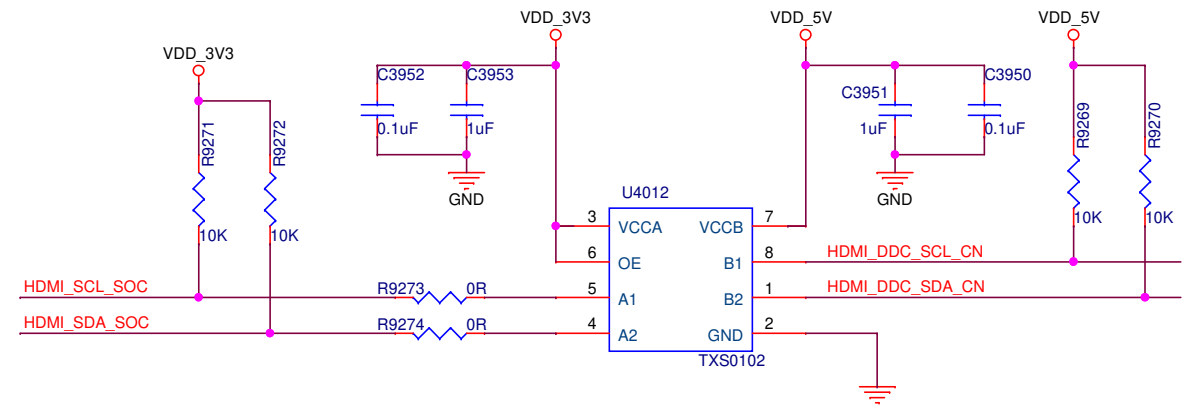


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i.MX8M Plus HDMI



LEVEL TRANSLATOR FOR HDMI

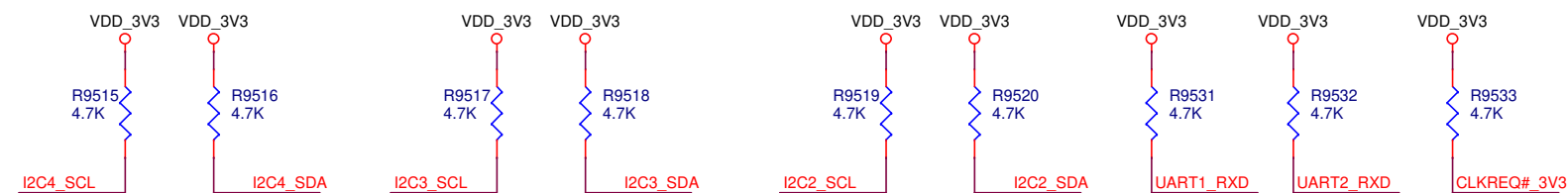
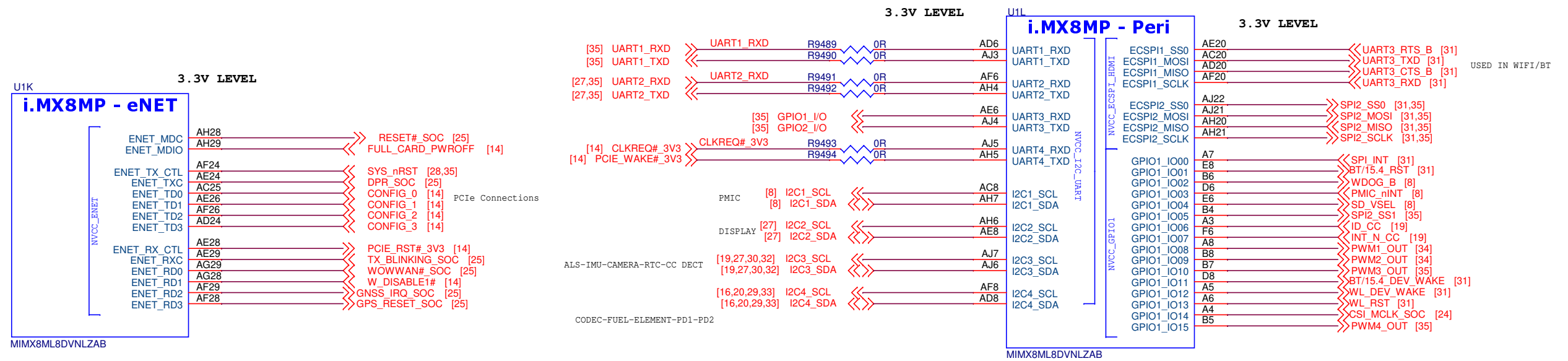


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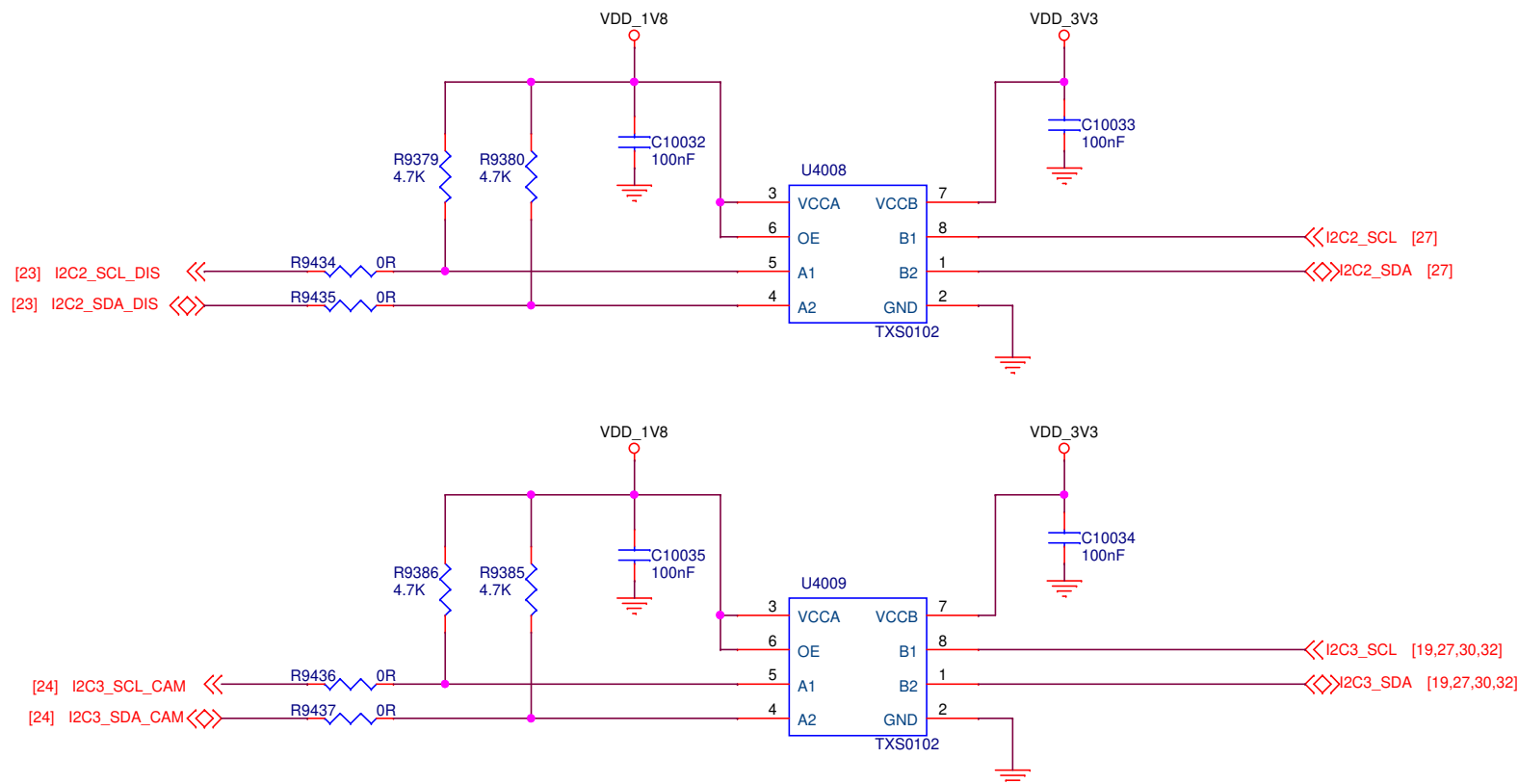


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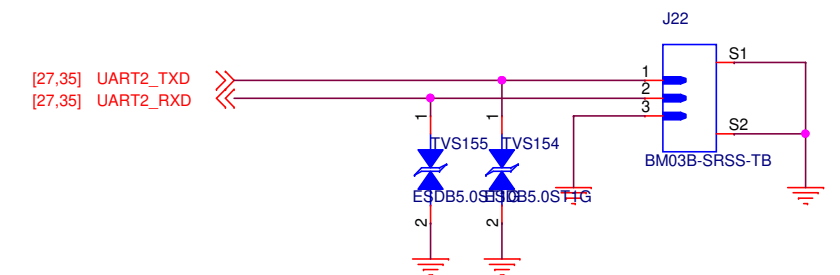
i.MX8M Plus MISC1



LEVEL TRANSLATOR I2C

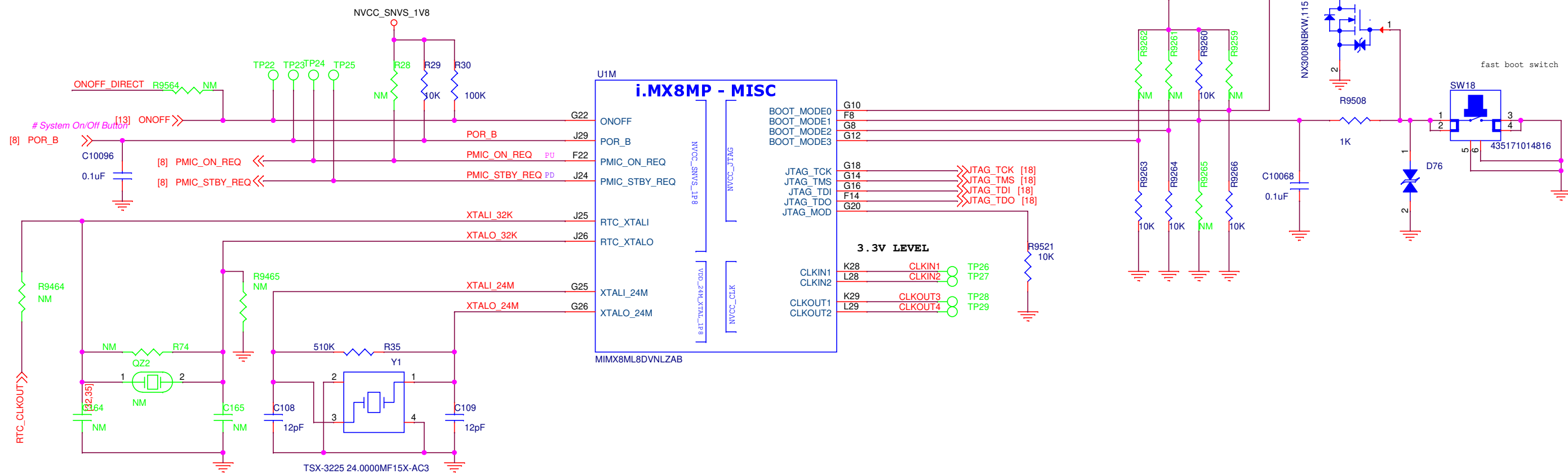


Debug CONNECTOR



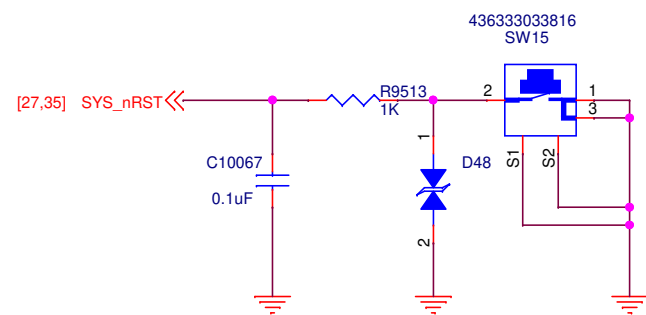
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Title: MECHA COMET			
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i.MX8M Plus MISC2

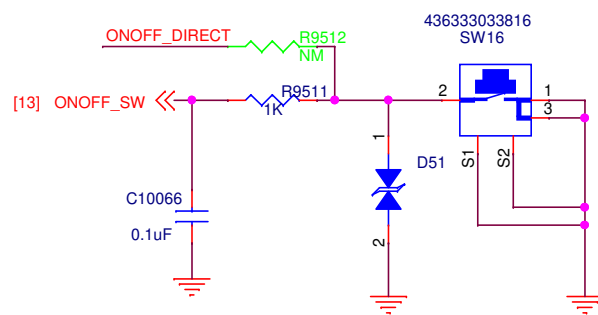


HARDWARE SWITCHES

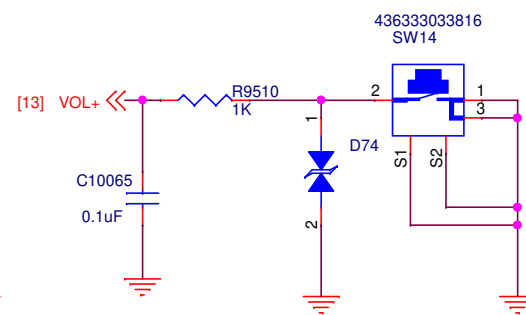
PMIC RESET



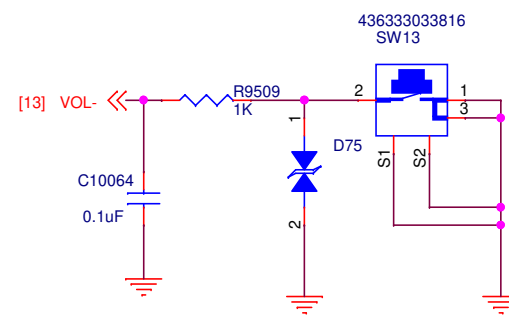
FUNCTION SWITCH



VOLUME SWITCH

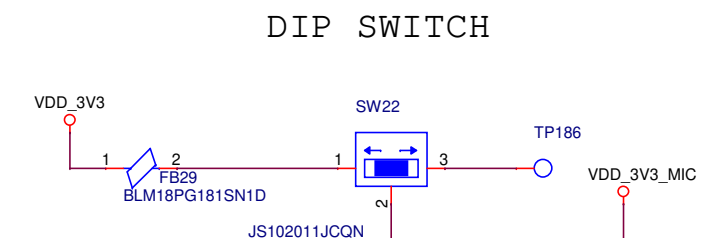
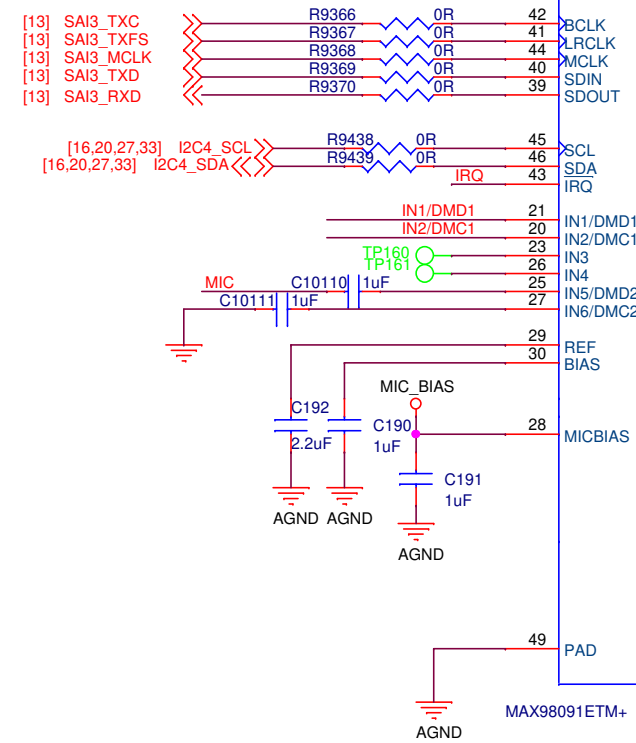
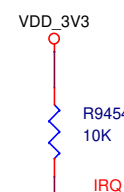
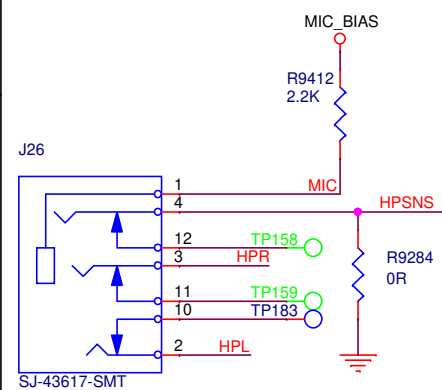
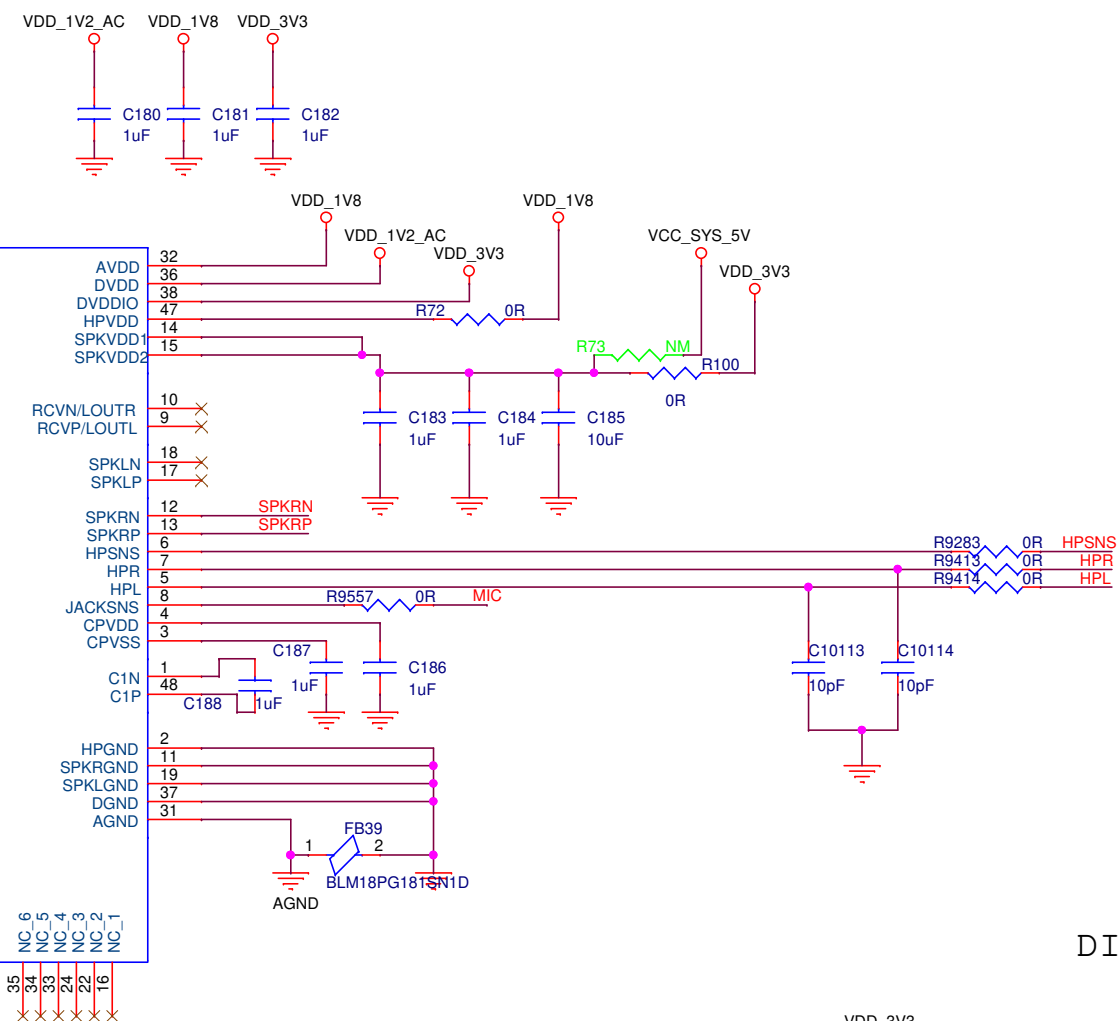
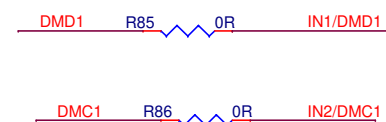
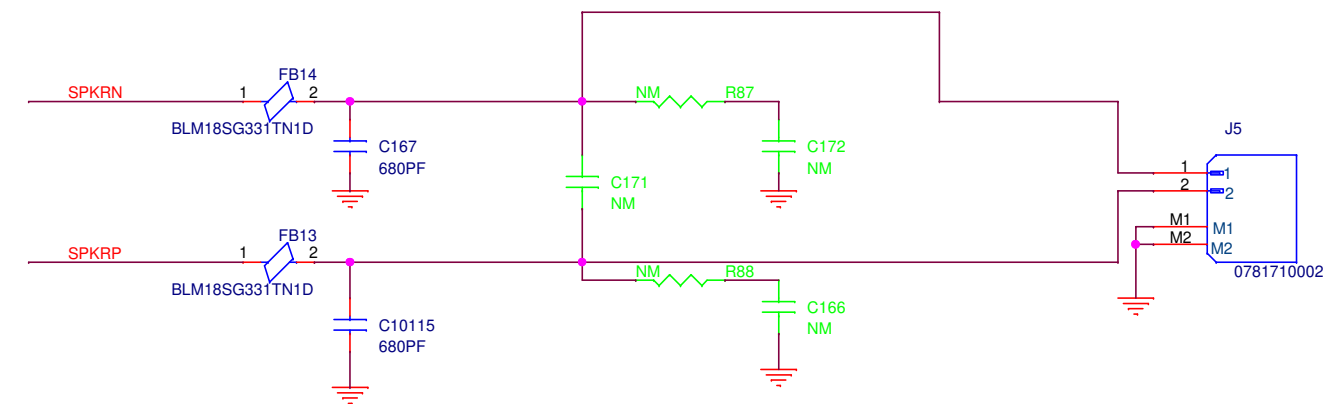
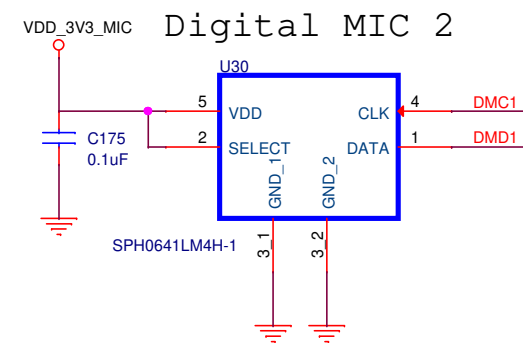
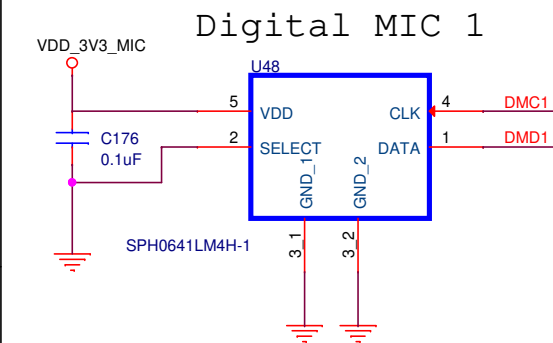


VOLUME SWITCH

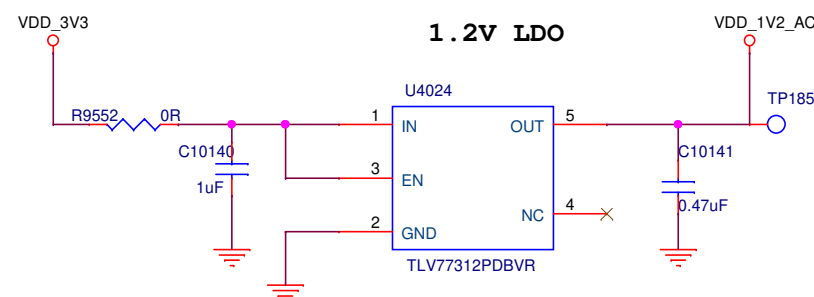


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Audio Codec

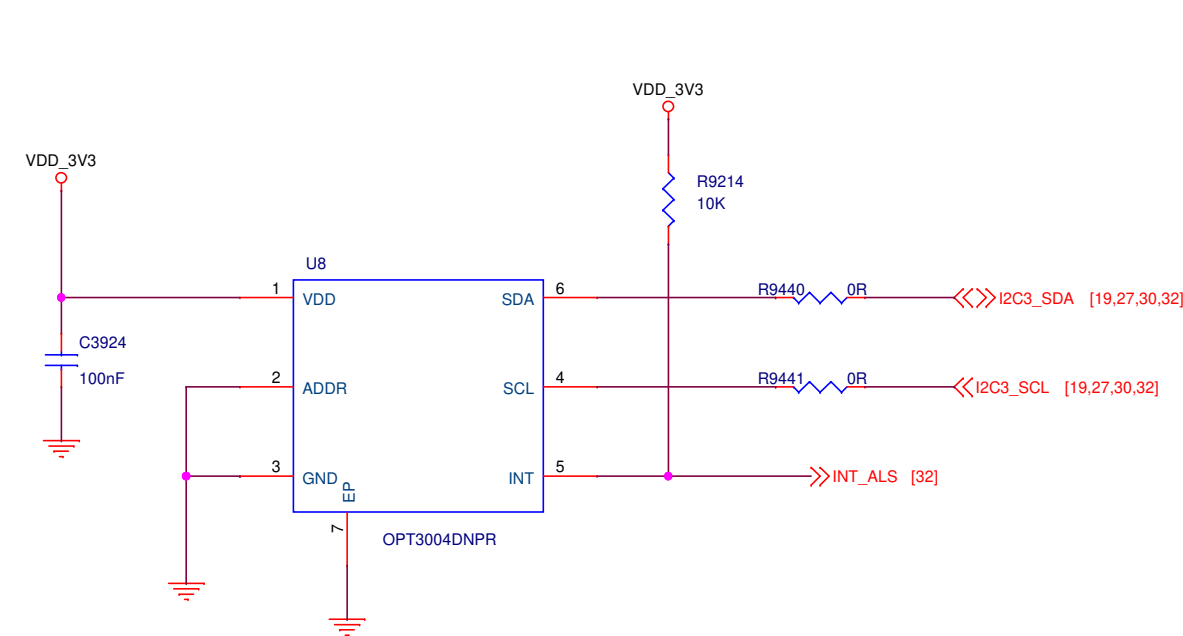


CODEC SUPPLY

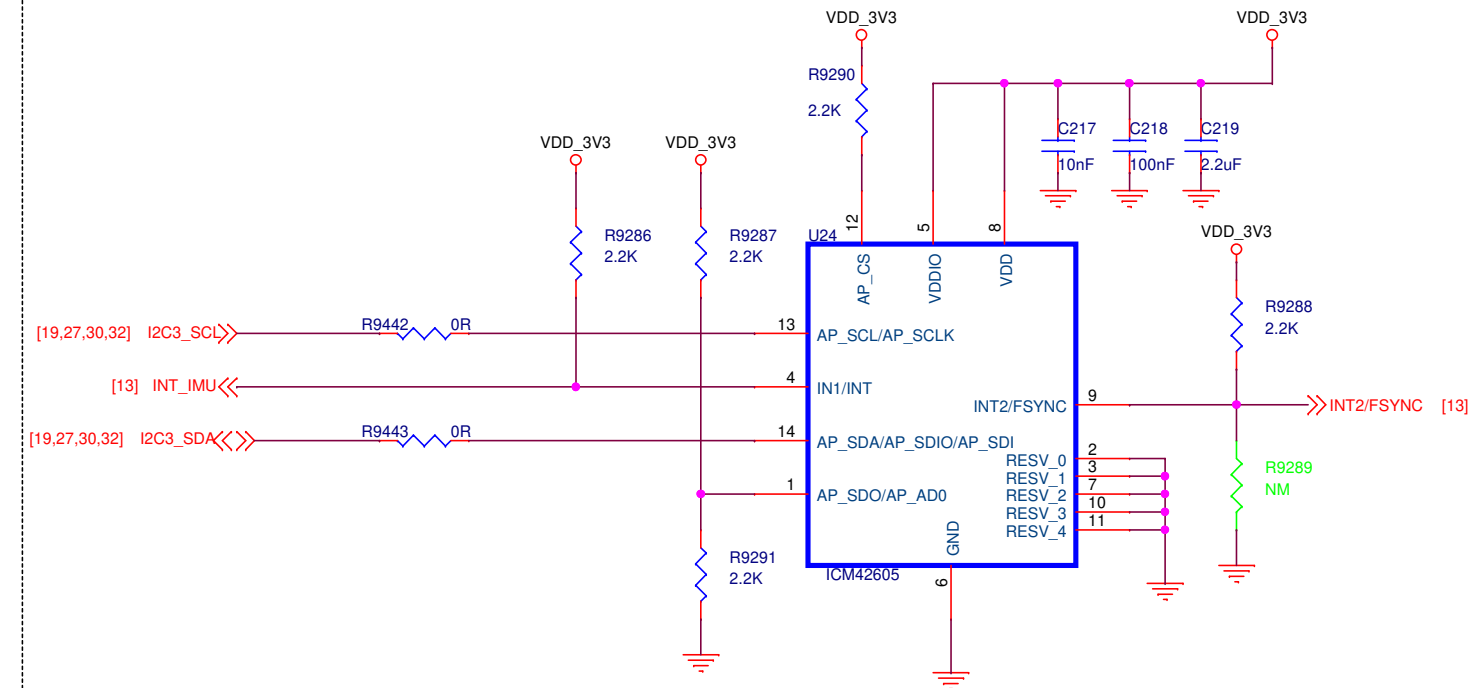


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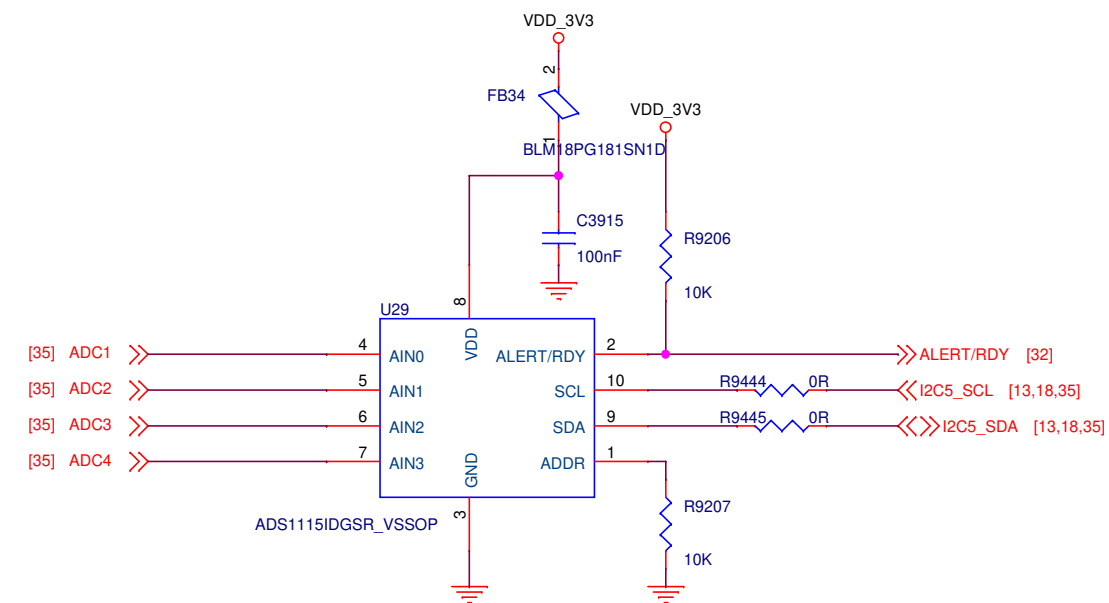
ALS Section



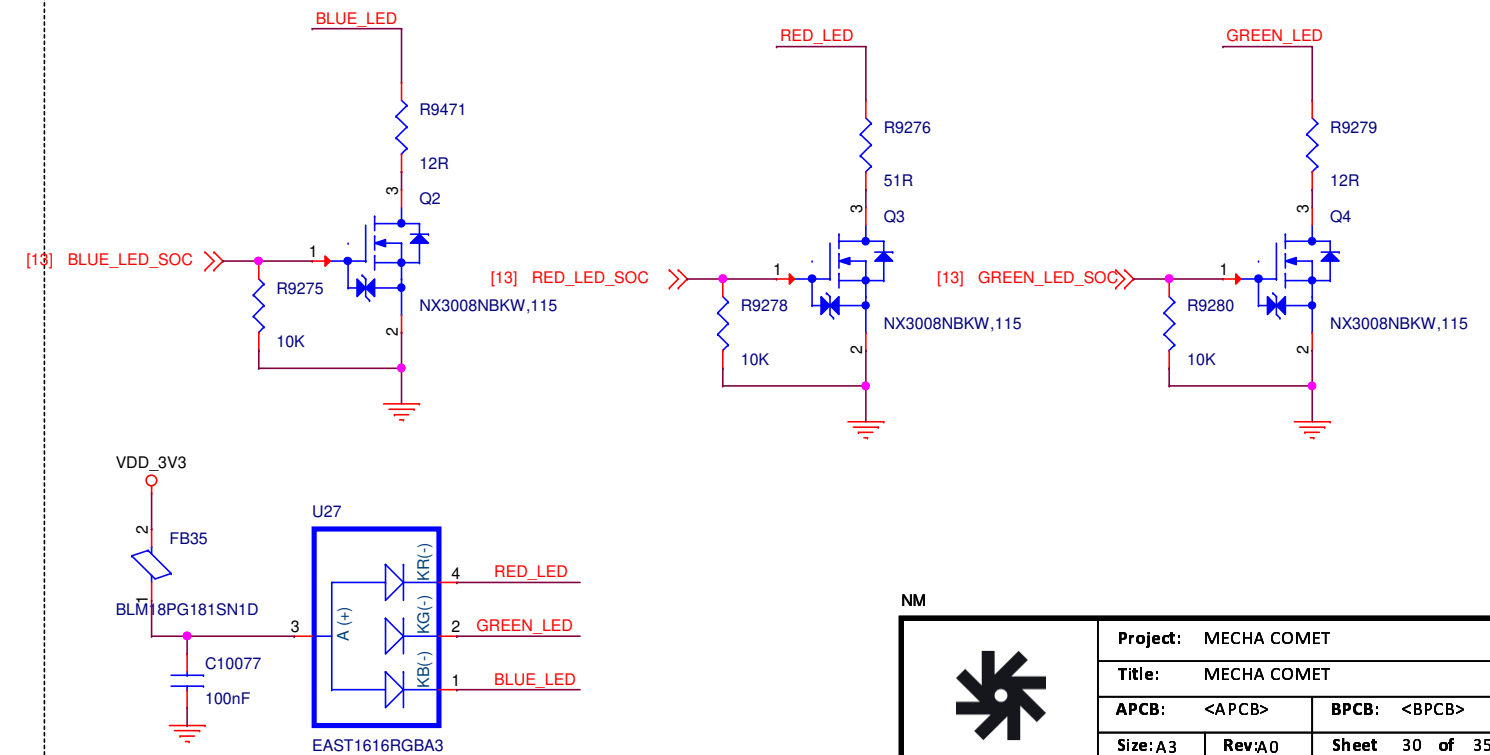
IMU Section



ADC Section

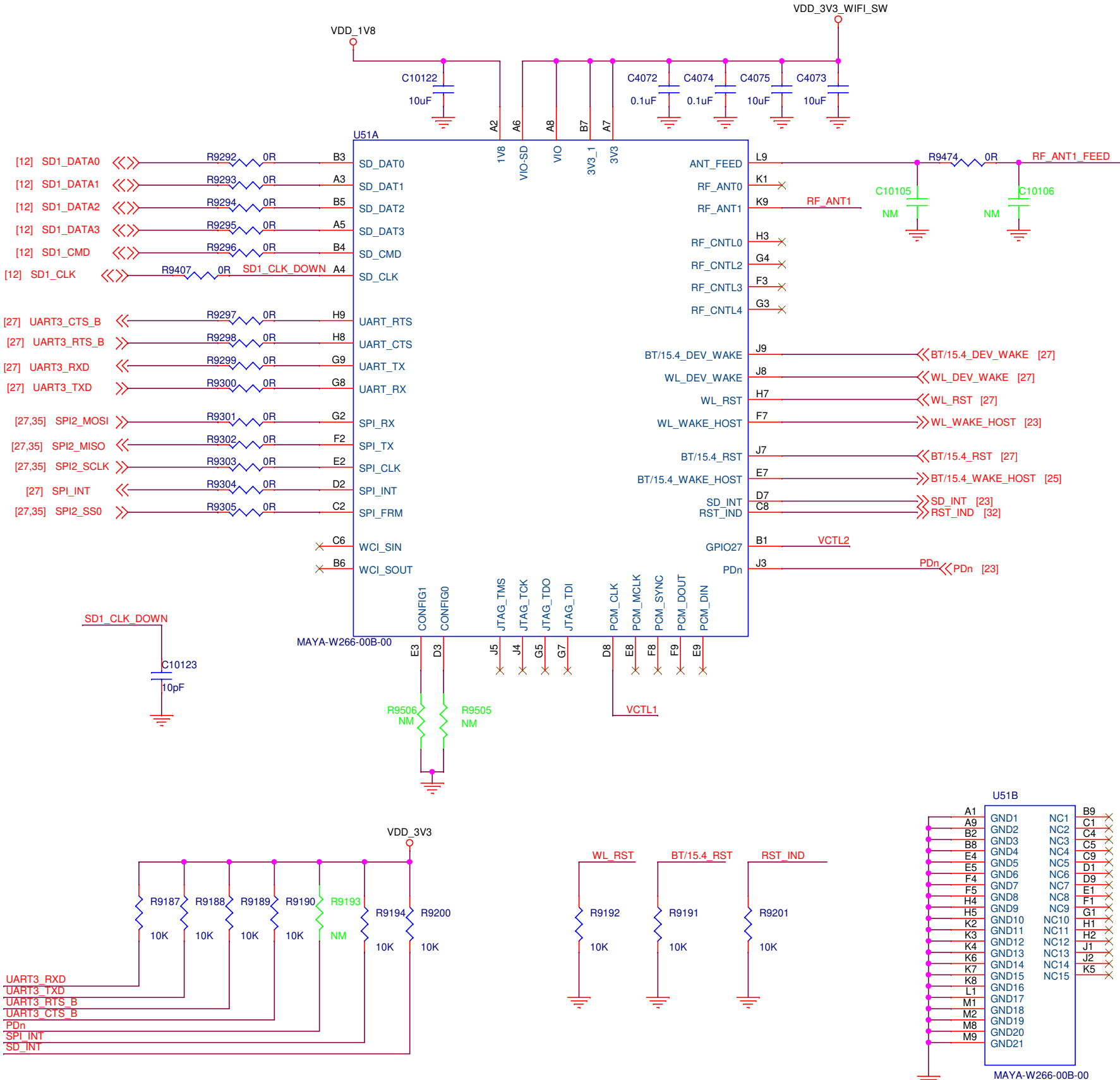


RGB LED Section

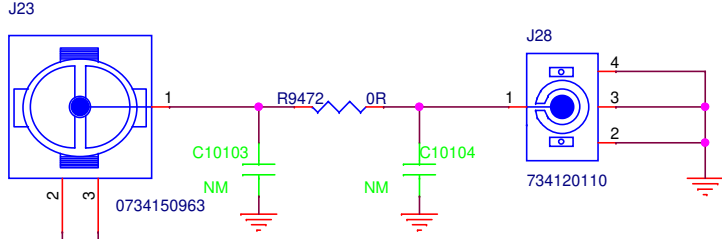


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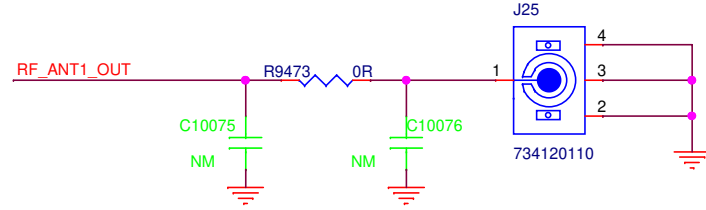
i.MX8M Plus WIFI/BLE



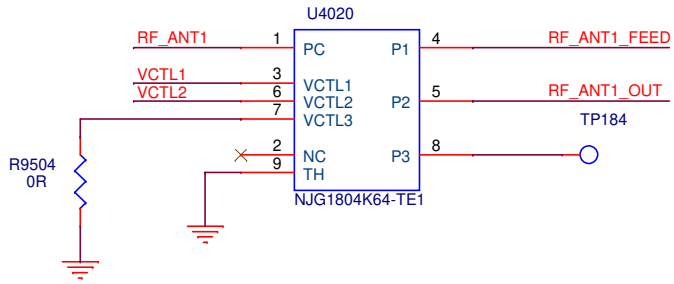
MMCX CONNECTOR



UFL CONNECTOR

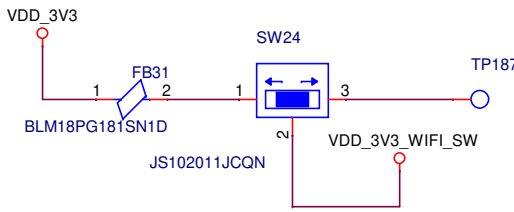


UFL CONNECTOR



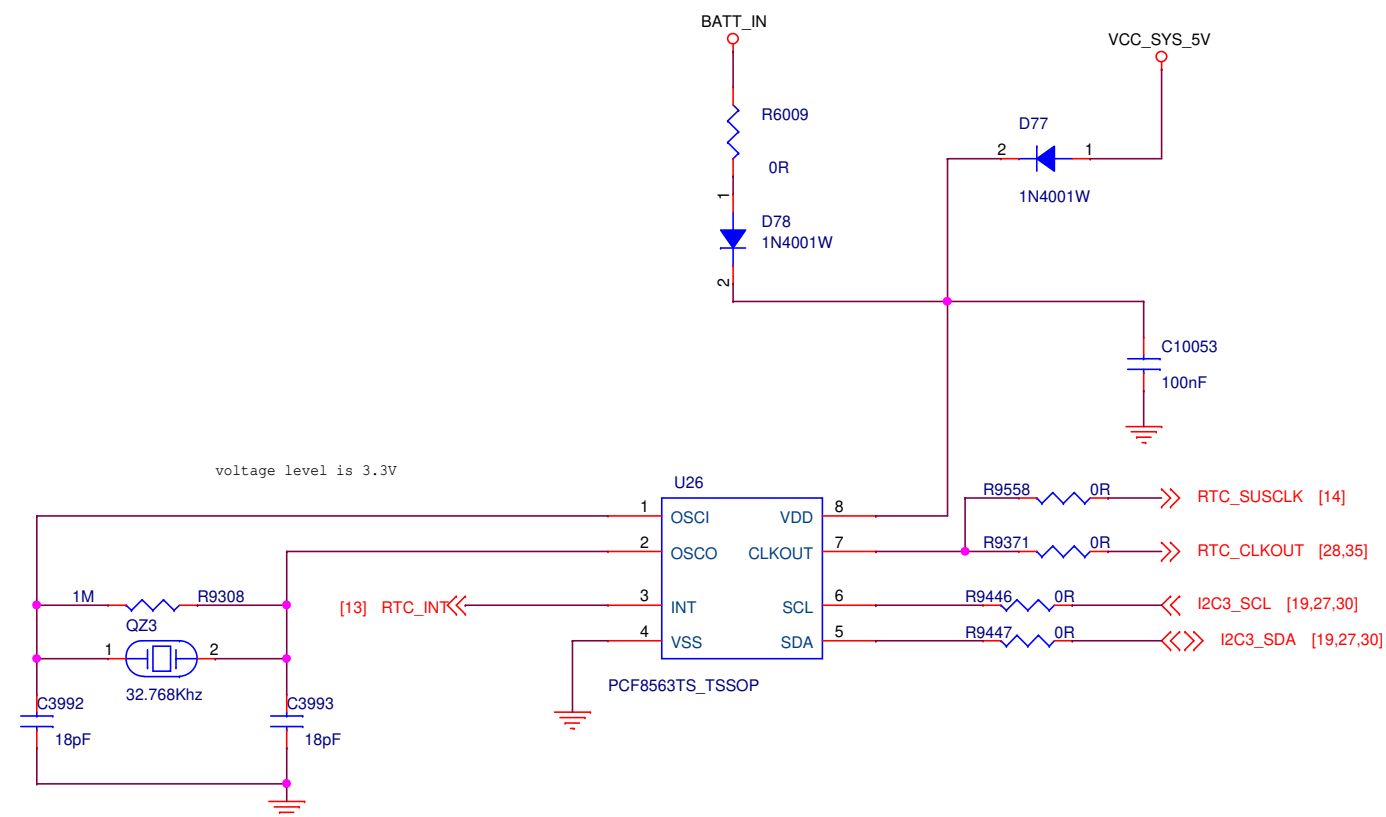
VCTL1	VCTL2	VCTL3	PATH
H	L	L	PC-P1
L	H	L	PC-P2
L	L	H	PC-P3

DIP SWITCH

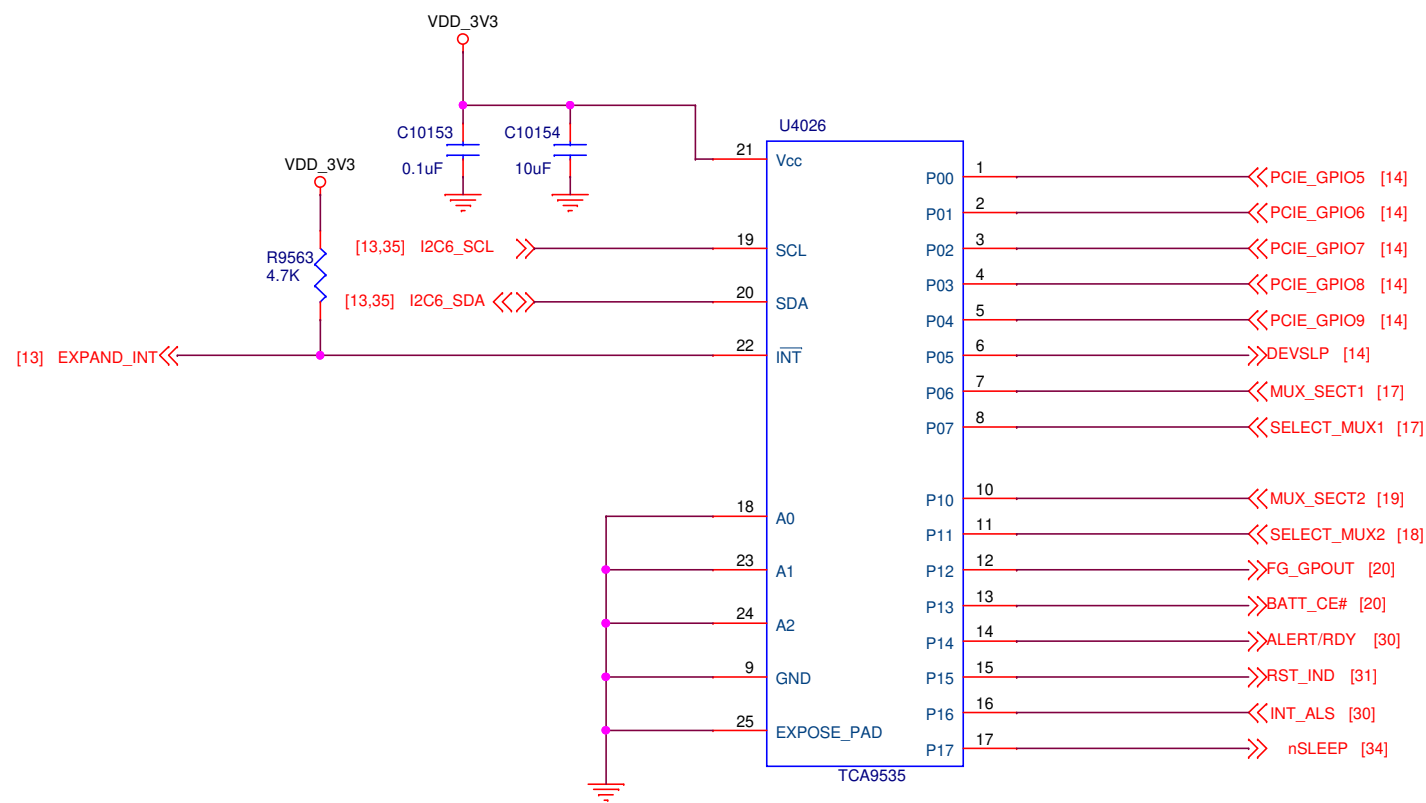


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RTC Circuit



GPIO EXPANDER



NOTE :

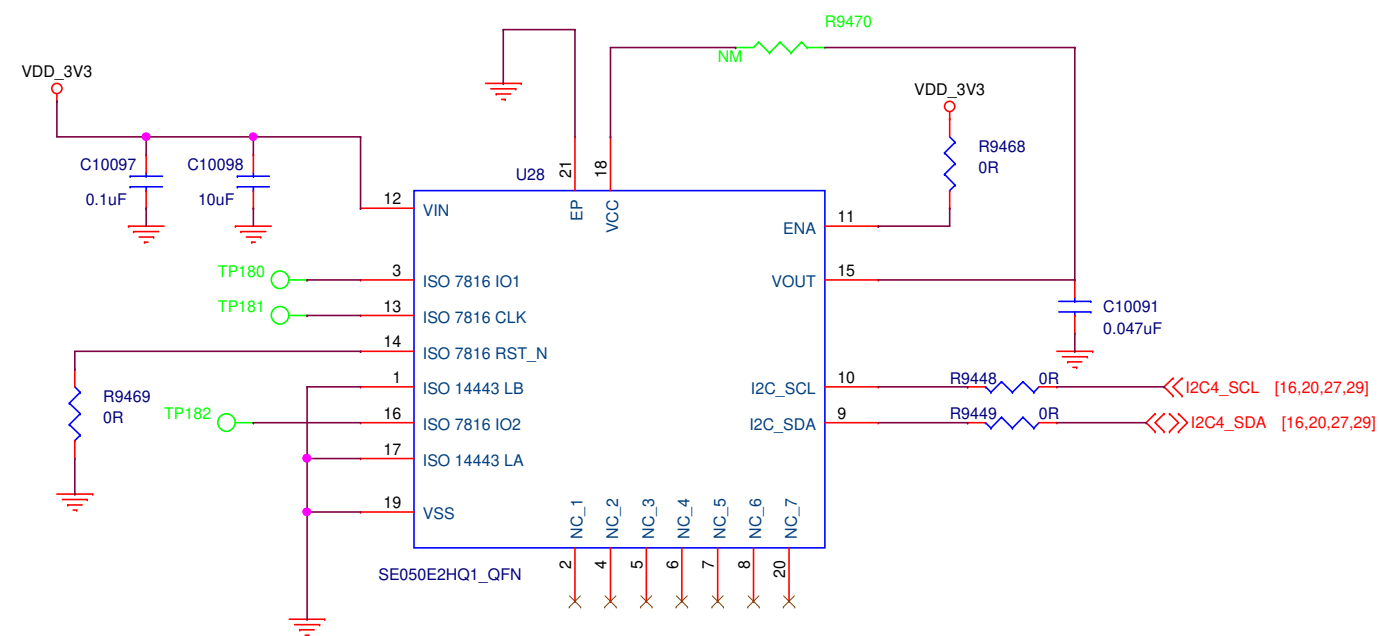
8 bit I2C ADDRESS			
L / W	01000000	=	0x40
H / R	01000001	=	0x41

7 bit I2C ADDRESS			
INPUTS			
A2	A1	A0	I2C Bus Target Address
L	L	L	0x20
L	L	H	0x21
L	H	L	0x22
L	H	H	0x23
H	L	L	0x24
H	L	H	0x25
H	H	L	0x26
H	H	H	0x27

NM

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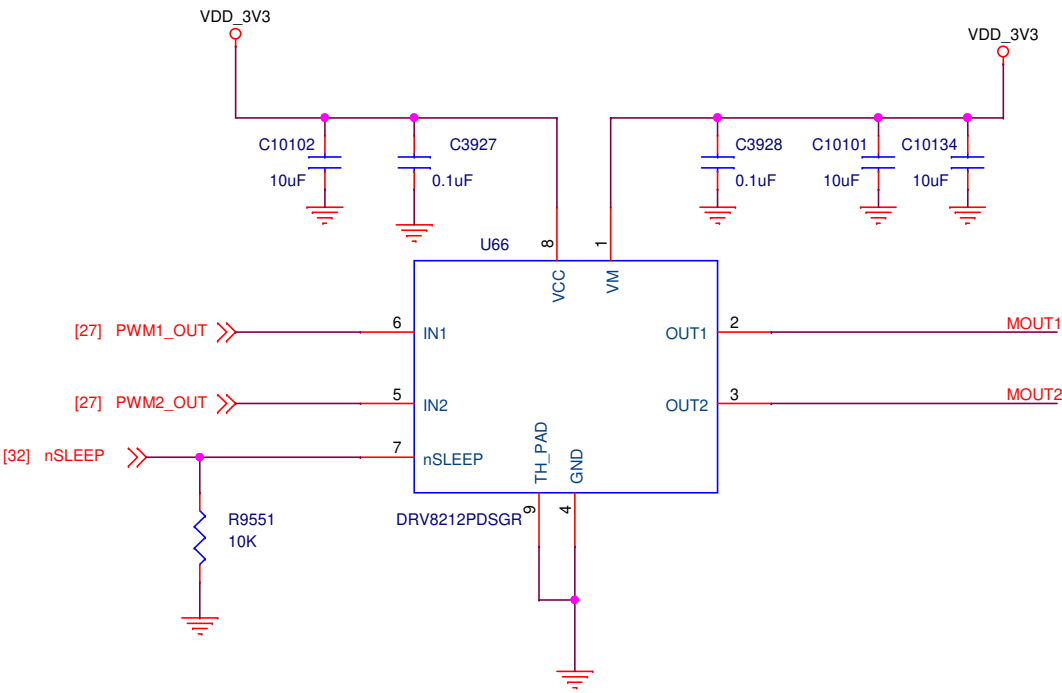
Secure Element



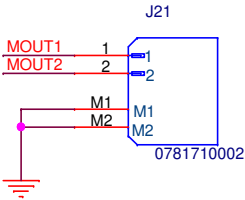
NM

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HAPTIC MOTOR DRIVER



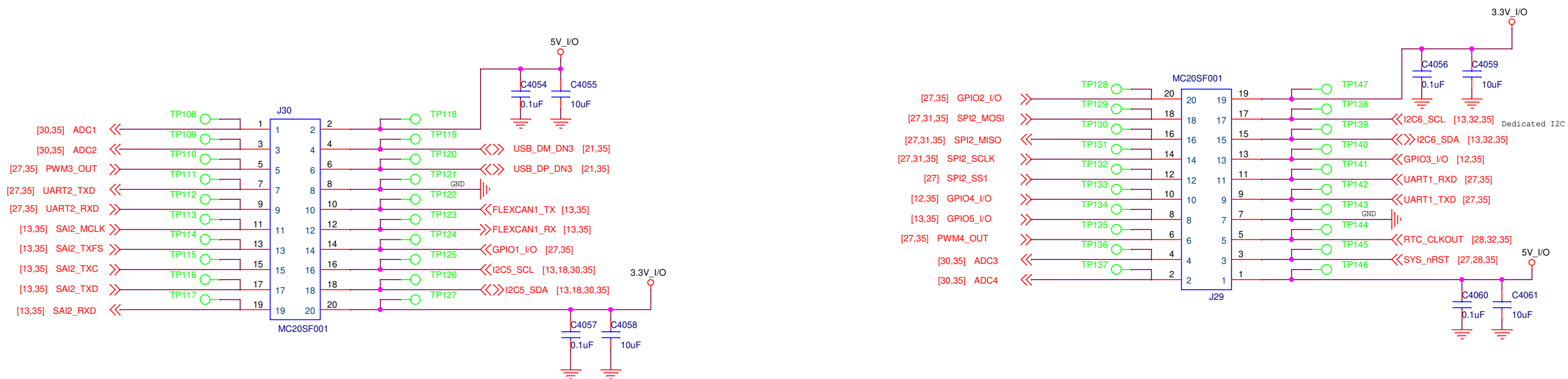
MOTOR CONNECTOR



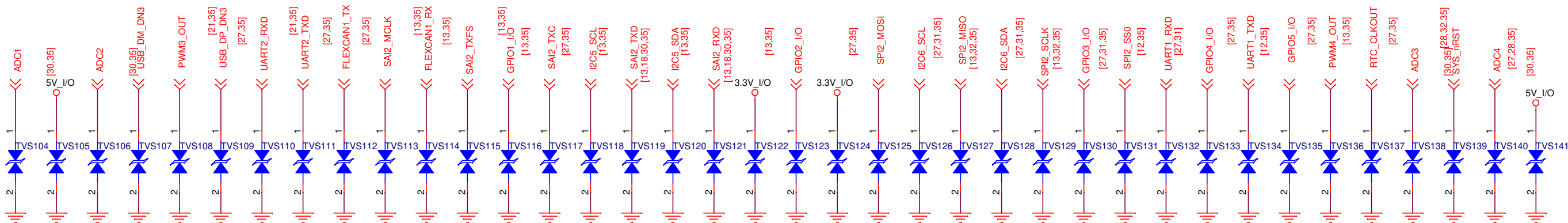
nSLEEP	IN1	IN2	OUT1	OUT2	DESCRIPTION
0	X	X	HI-Z	HI-Z	Low-power sleep mode
1	0	0	HI-Z	HI-Z	Coast (H-bridge Hi-Z)
1	0	1	L	H	REVERSE (OUT2>>OUT1)
1	1	0	H	L	FORWARD (OUT1>>OUT2)
1	1	1	L	L	Brake (low-side slow decay)

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40 pin I/O Connector



ESD Diode



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