

V06

1. Del NFC PN7150, Add CON24, UART1 for GNSS or Debug, SPI2 to CON24, UART2 for BT
 2. Move SMC_B00T0 to Pge 22 .. TP6.
 3. HKs Add Pull-up Resistor .. And add Read state GPIO.
 4. TYPE-C U27 LSX no connect.
 5. Correct Y3 Connect.
 6. Add Voltage Test point .. >40 point
 7. Add SIM DET D6.
 8. CAMERA Modify, Add LDD for DVDD 1.2 and 1.05.
 9. TFT con Modify.
 10. STM32 PA10 NC, UART add Pull-up R108, R135

V07

1. UART1 to LSX, UART2 to GNSS, UART4 to bt, SPI1 to CON24
 2. U329 19PIN add Pull-up R229 .

V08

1. UART2 to LSX
 2. HW state IO add resistor, R48, R66, R145
 3. AG, WiFi ant CON add Debug LC
 4. Add shielding Case Hold.
 5. DEL F12, Modified ID U329 for I9 layer to GND.
 6. INT_M/A/G, NFC_E/N, NFC_C/RQ modified ID to E1 for L2 to GND
 7. ADD R232

V09

1. AUX_P .. AUX_N swapped.
 2. Add R235.
 3. Del R153
 4. LED_G to BM_D3 pin, NFC_JRQ to BM_E1 pin, INT_M/A/G to BM_L4 pin.
 5. R122_R5B to 27K, R123 to 47K.
 6. AG used SA6, ADD u5

V091

1. US_Bpin to SAI1_RXD5, 9pin to SAI1_RXD5.
 2. ADD U7 for CAM_AFMOD, 2.8V 120mA^E
 3. U2 modified USB2642

V092

1. BOOT Resistor Modified.
 2. EMMC 32G.
 3. U3 NC.
 4. PWM_IO modify, MOTO E6, PMIC_5V T7, LED_B K6.

V093

1. R830 NC, R811 10K.
 2. BAT CON Modified for 1000 times.

V094

1. ADD L66 167
 V095
 1. R115 Modified to 200.

V096

1. ADD R153 for TPS65983B Slave.
 2. Modified LM36922 to I2C3, J10 to I2C4.

V097

0. CHG_STATUS_B connect Red LED.
 1. Add N--netof Q8 on S02_NCD.
 2. TPS65982 I2O..IVB0 Connected BUSPOWERZ.
 3. VDD_3V3 add 4x2uf C231....
 4. SYS_3V4..AV3 add 7x2uf C281....
 5. I2T TRS5990 I2U UART_RX 100x R225 connect GND.
 6. Add NET_BT_WAKE
 7. AUDIO_POWER_KEY connect Q2 PIN1.
 8. ADD U68 NTSC2102
 9. BOOT_CFG PU to NVCC_SNVS_3V3
 10. R176 PU to NVCC_SNVS_3V3
 11. R104 10 value.
 12. R842 0402 0.1N
 13. R954 100K
 14. U2 USB2642 2.28 connect GND, 26 connect VDD.
 15. ADD Q9, Modified wifI_REG_ON, BT_REG_ON.
 16. ADD R238 UART2_RXD PU USB_P0_I003V3
 17. ADD Q10, R239, R240,R241
 18. Add TYPEC_HRESET.
 19. PA2 1M .
 20. U147 connect TPS65982
 21. SW5_SW5_SW7 2-3PIN
 22. J50 modified
 23. J12 modified

V098

1. 0 ohm jumpers SPI.
 2. C181 NC
 3.main board usb 2.0 connector
 4.PFET pull up UART2_RX
 5.red LED powered by VSYS
 6. TPS65982 I2C2 10K pull-ups
 7. TPS65982 remove_uab_2.0
 8. TP39 connect USB_BUS for test
 9. SPI_MISO ADD pull-up 10K
 10. ADD u50.U51 , C355,C356

V099

(11) Battery connector (J20) changed to P / N: BA32-111203-01 3pin
 (12) Cancel JSD (flash holder) and move the flash to the rear camera FPC
 (13) change J22 to P / N: OK-06F03A-04
 (14) J9 smartcard (80900222) is changed to SA070112150-105
 (15) Headphone socket (J2) changed to JA-36A1-111
 (16)
 (17) SIM +TF Card changed to SA2101110135-103-01, SIM_CD two port exchange (Change to plastic tray)
 (18) R166, R109 changed to OR
 (19) Connect SMC_Boot0 to D7 pin of imx8mq
 (20) R41470 changed to OR
 (21) ADD CLOCK Crystal(Y1) VALUE=32.768K 10pF +/-20ppm
 (22) Use TUV5801PDBVR instead of LCOU01MR for U21 and U37
 Make R33=1.8K
 Make R70=0.09K
 Remove R234 (0)
 (23) add a test point to pin C2 of the TPS65982 (U27's GPIO1_CFG0)
 (24) add inverter (Q12)
 (25) ADD C339

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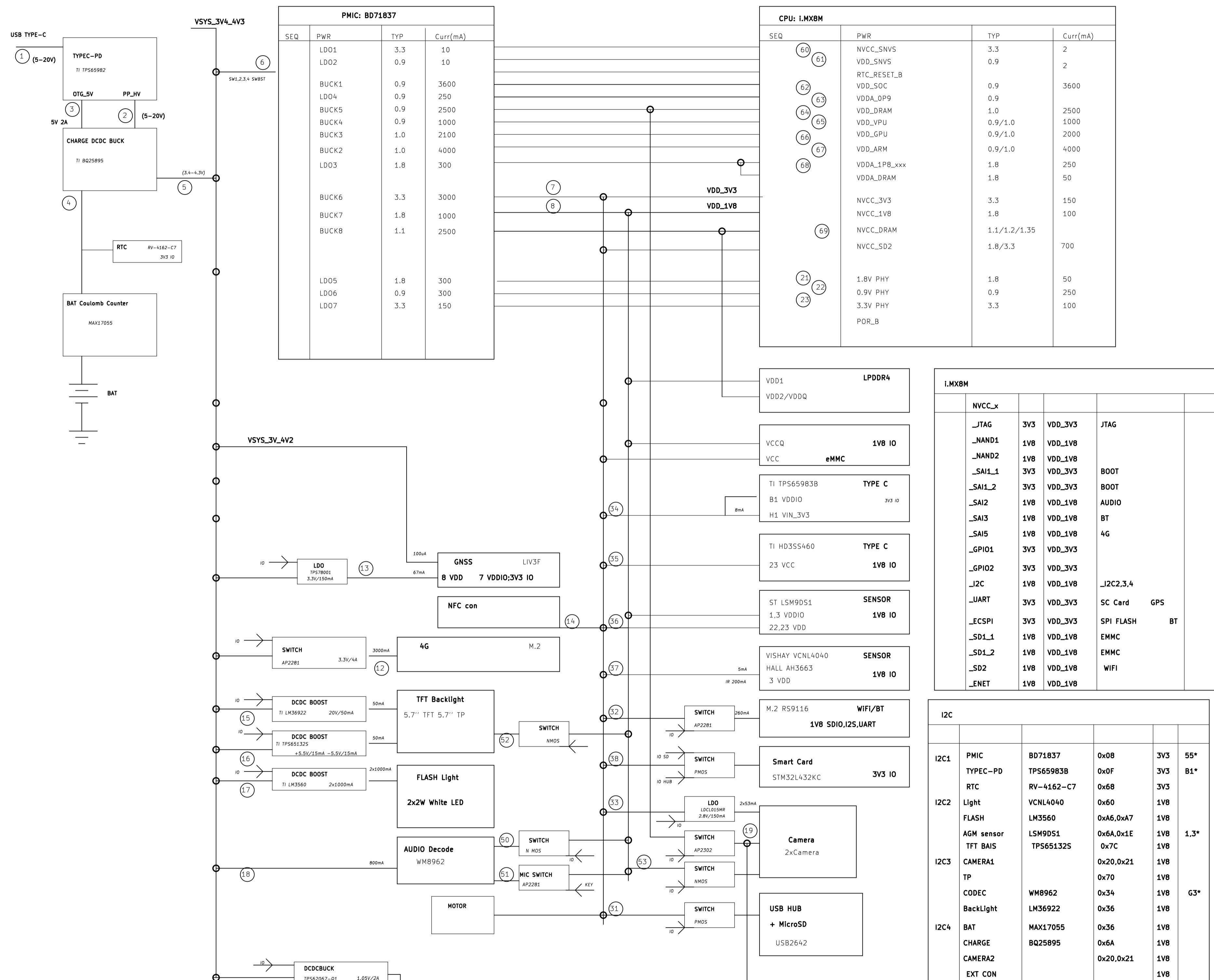
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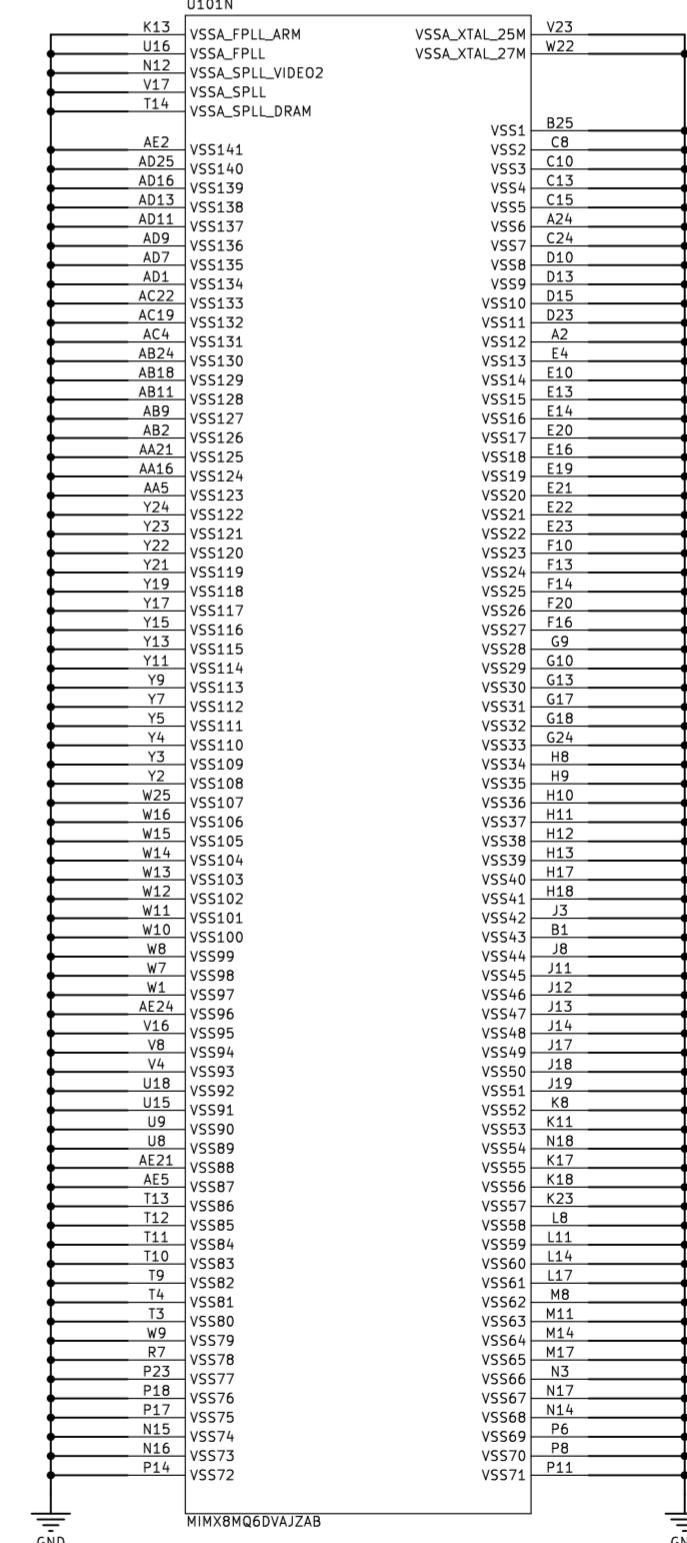
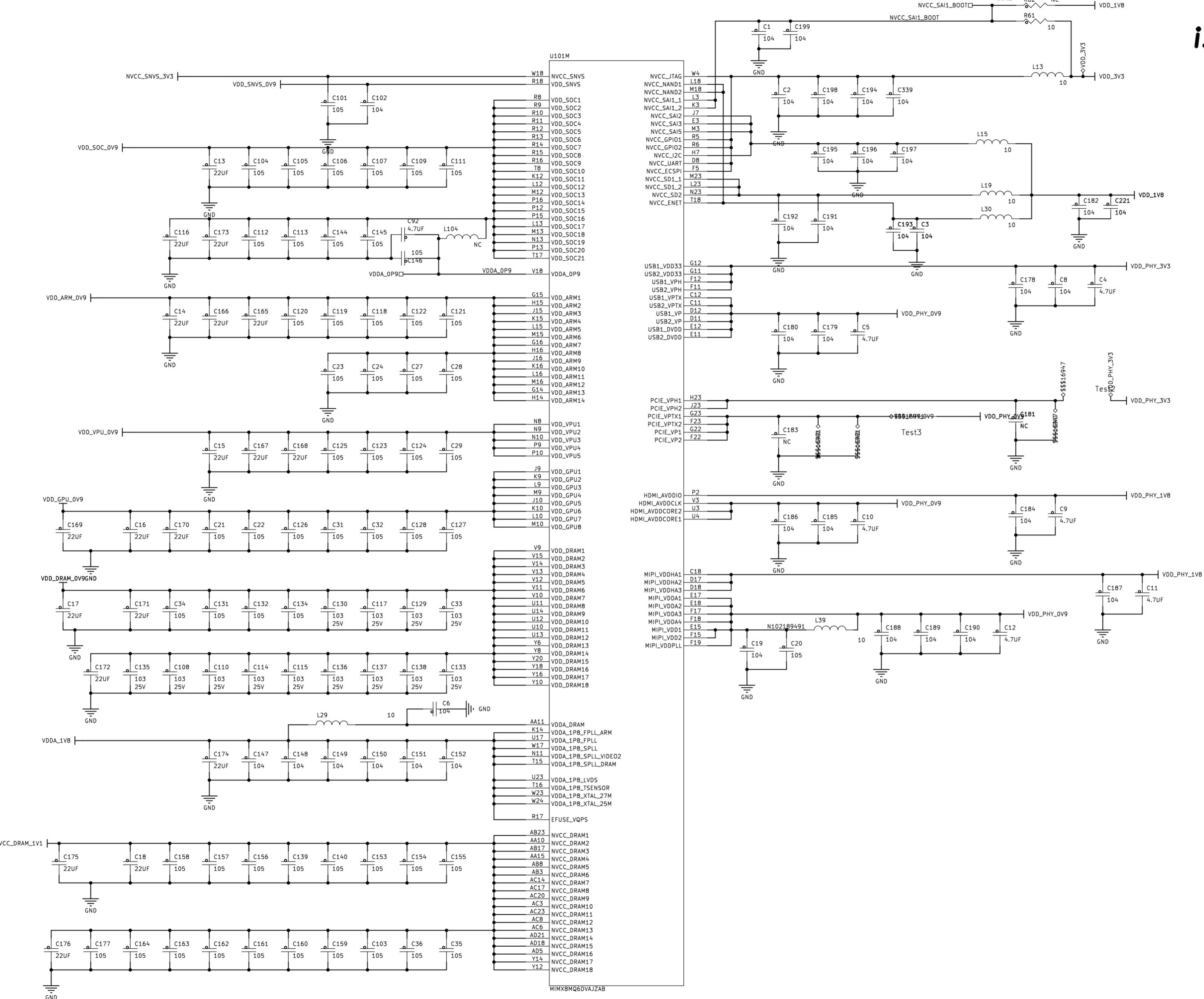
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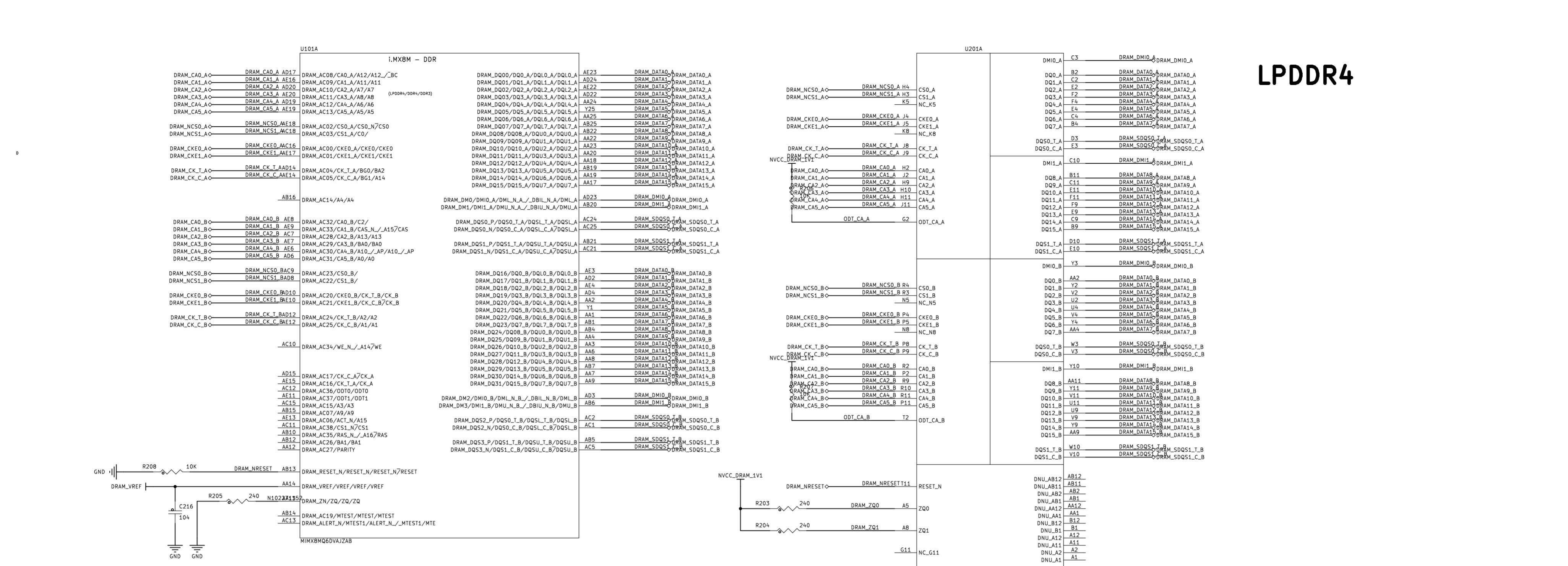
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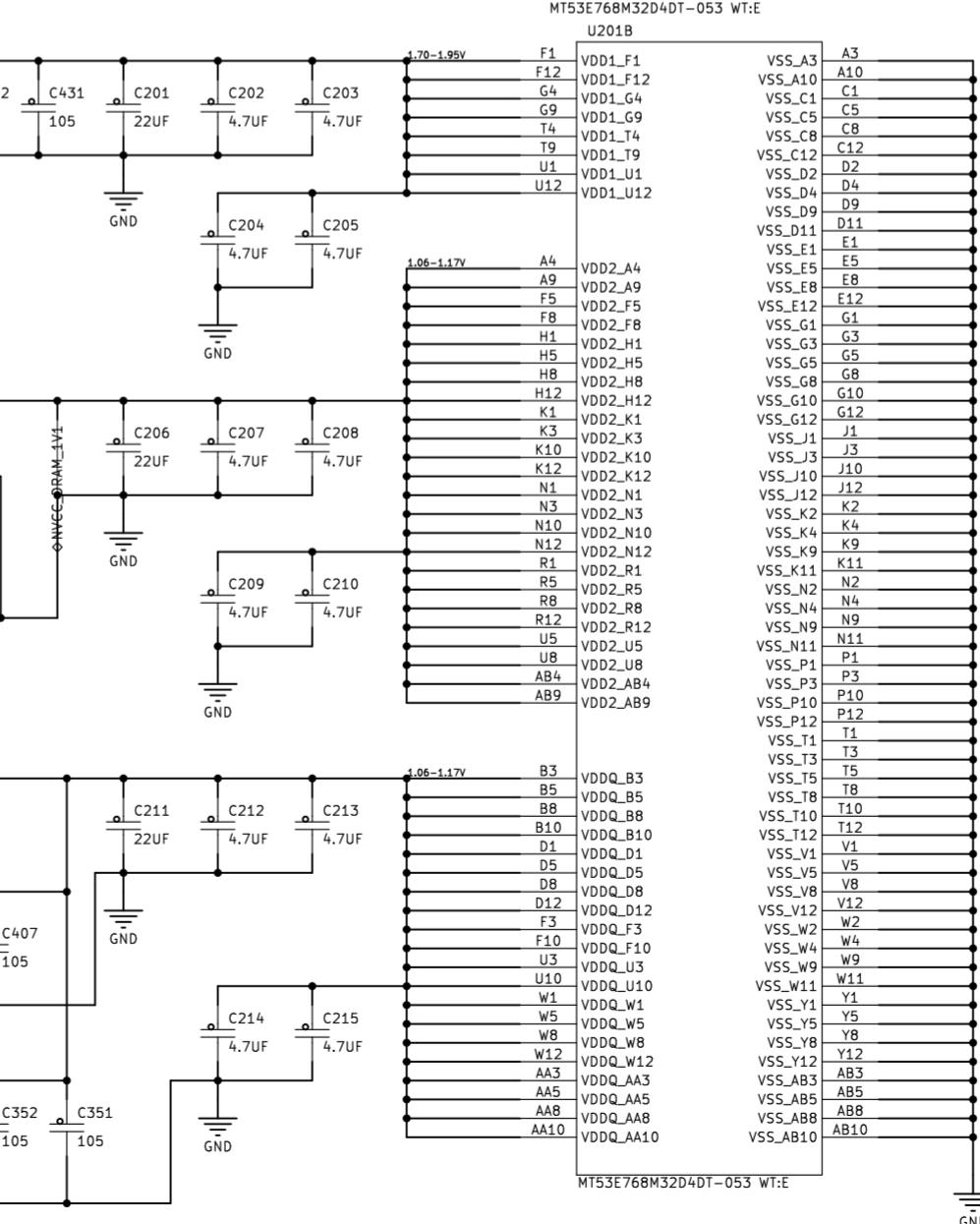
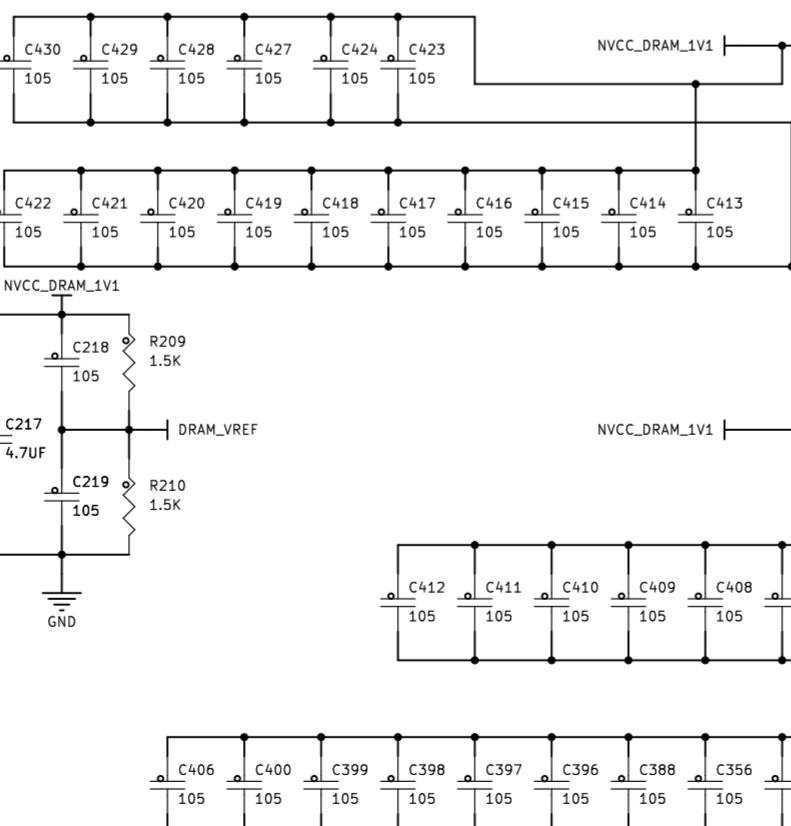
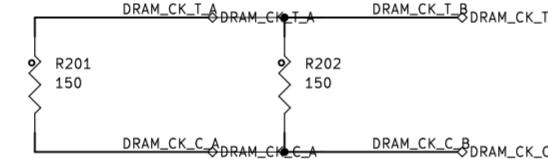






LPDDR4 Power supply voltage

RESET_n is h
VDD1 >= VD
VDD2 >= VD

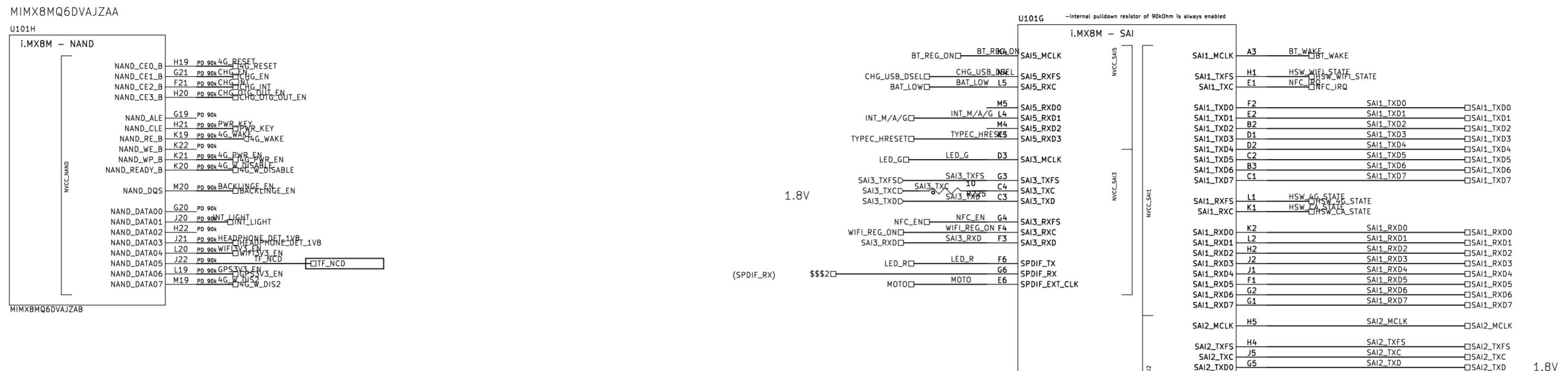


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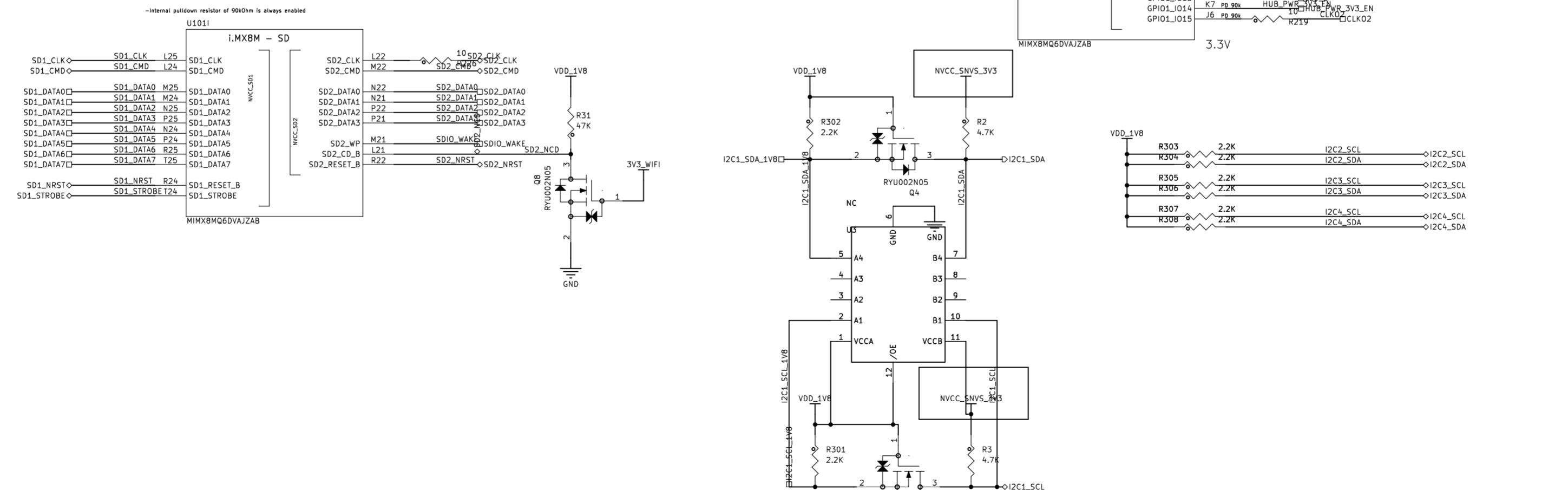
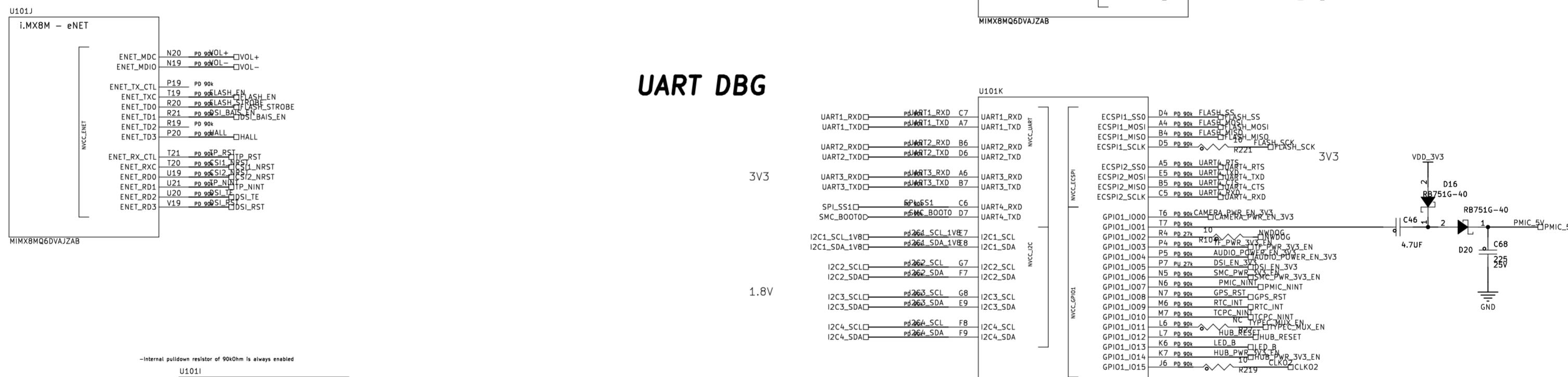
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Size: A2 Date: 2024-03-1
KiCad EDA 8.0.3

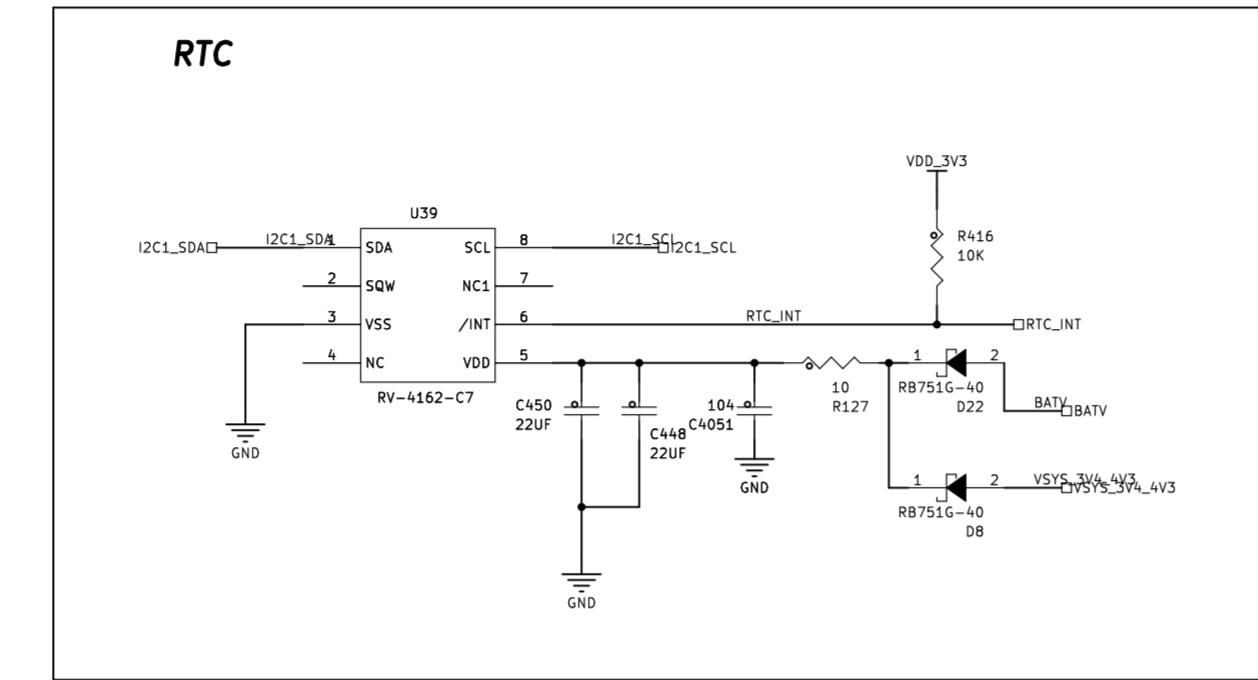
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UART DBG

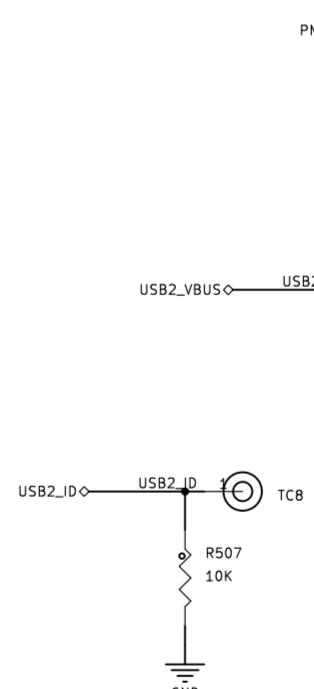
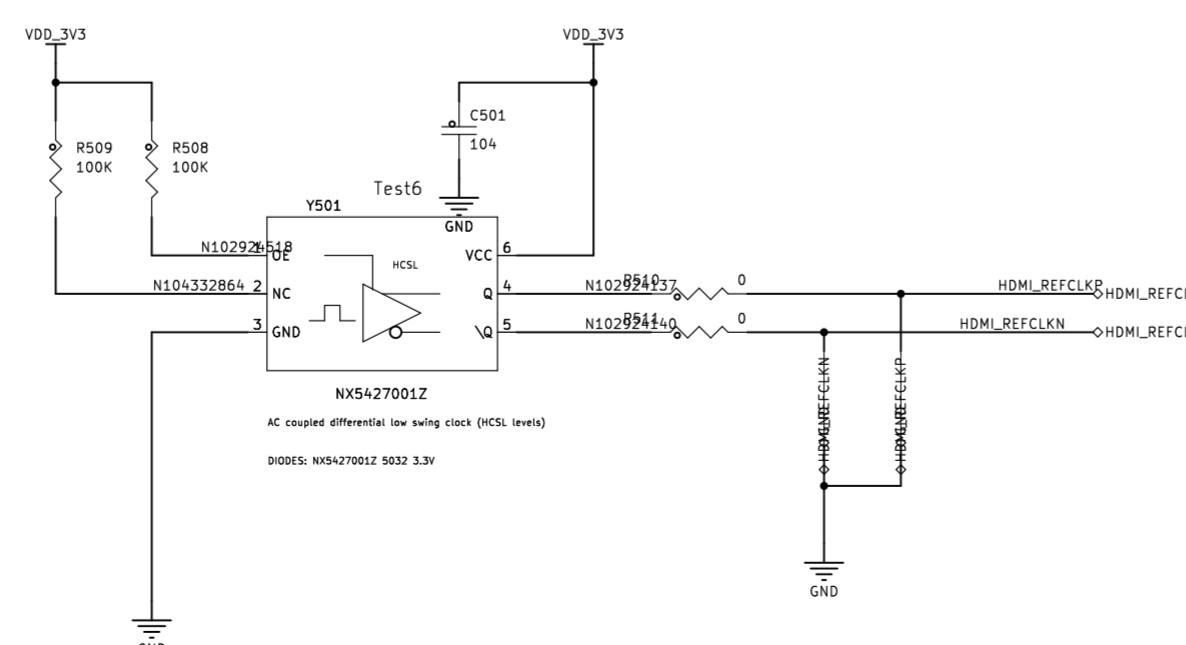
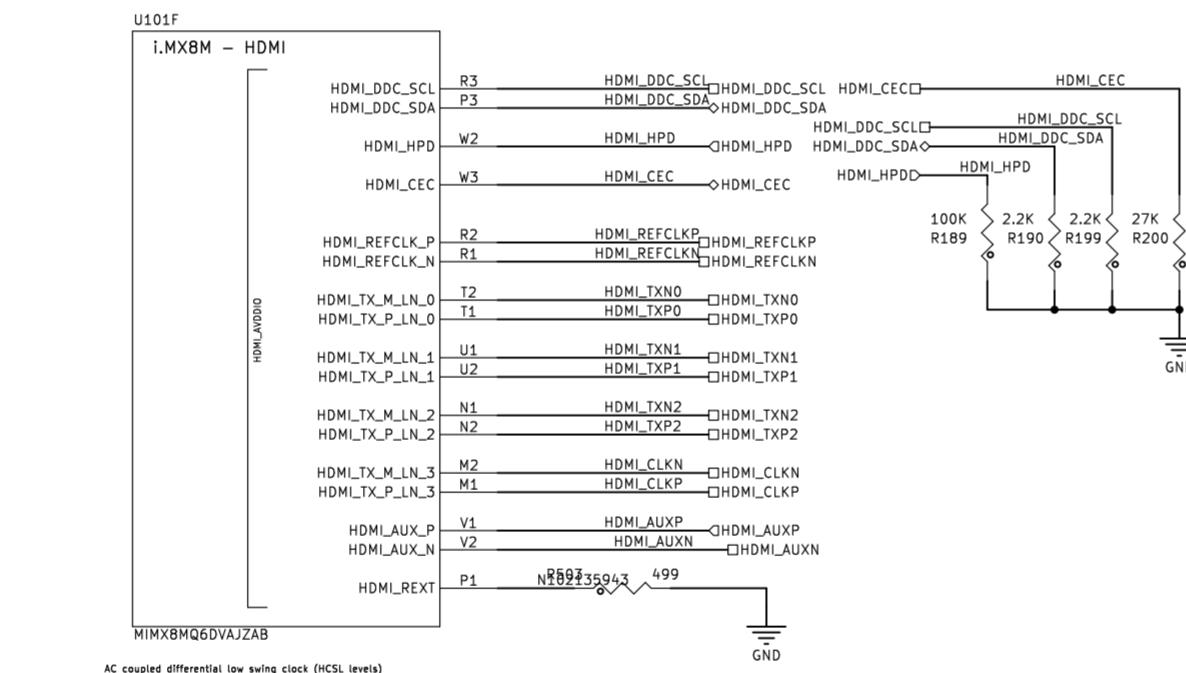
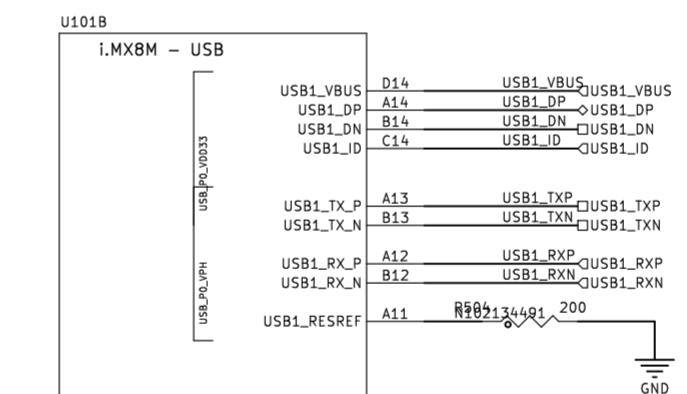
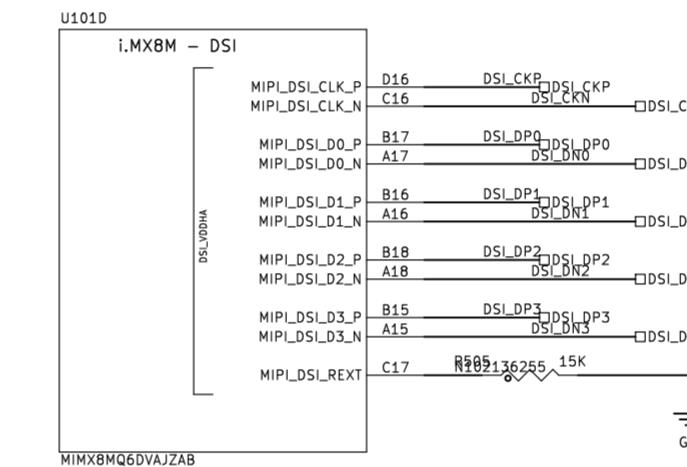
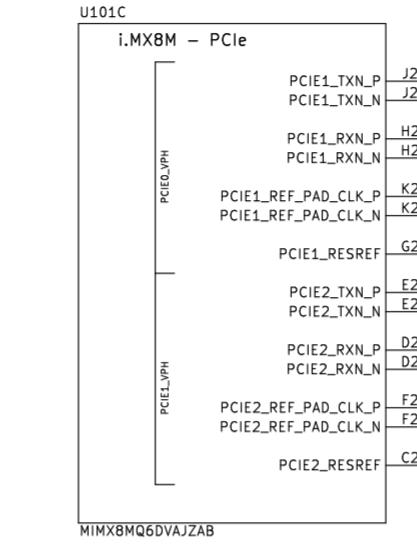
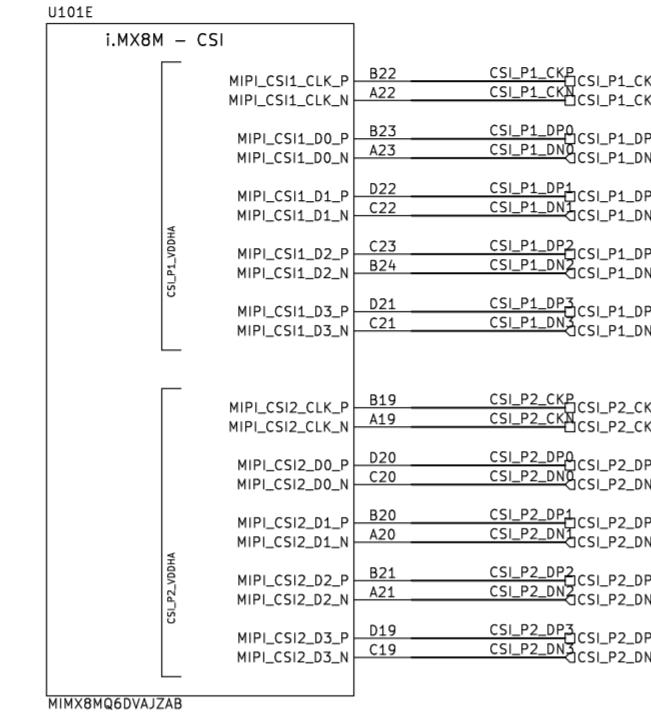


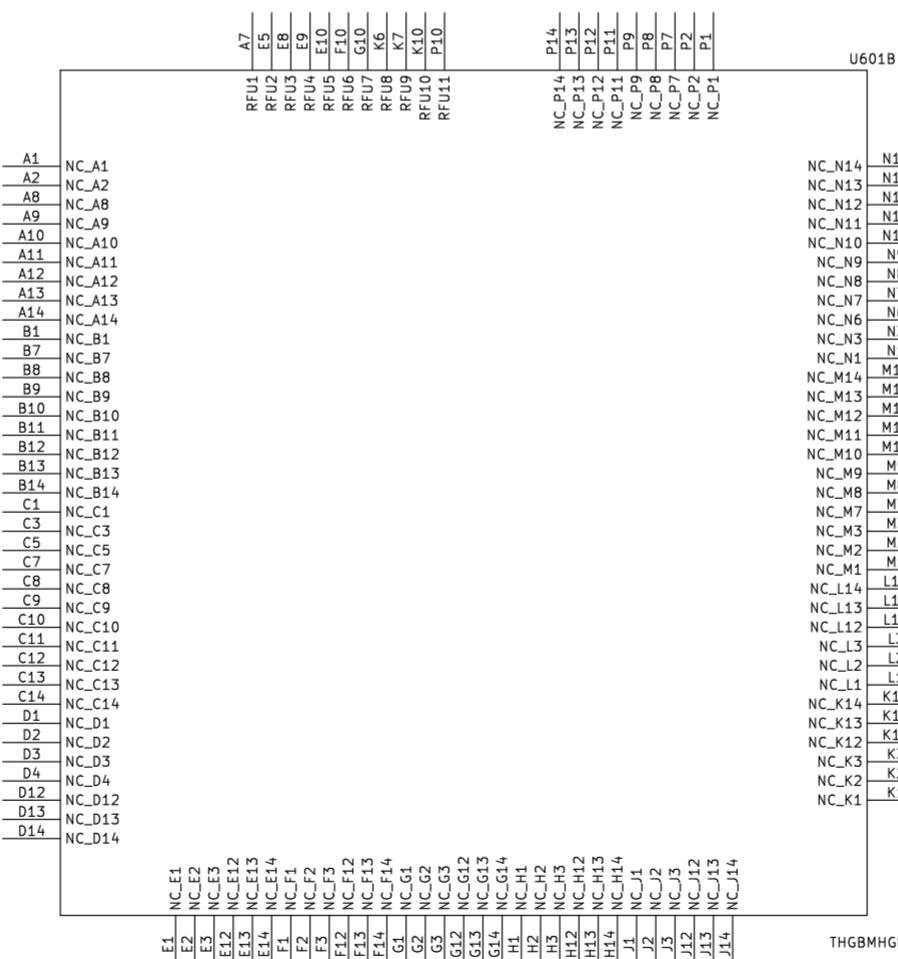
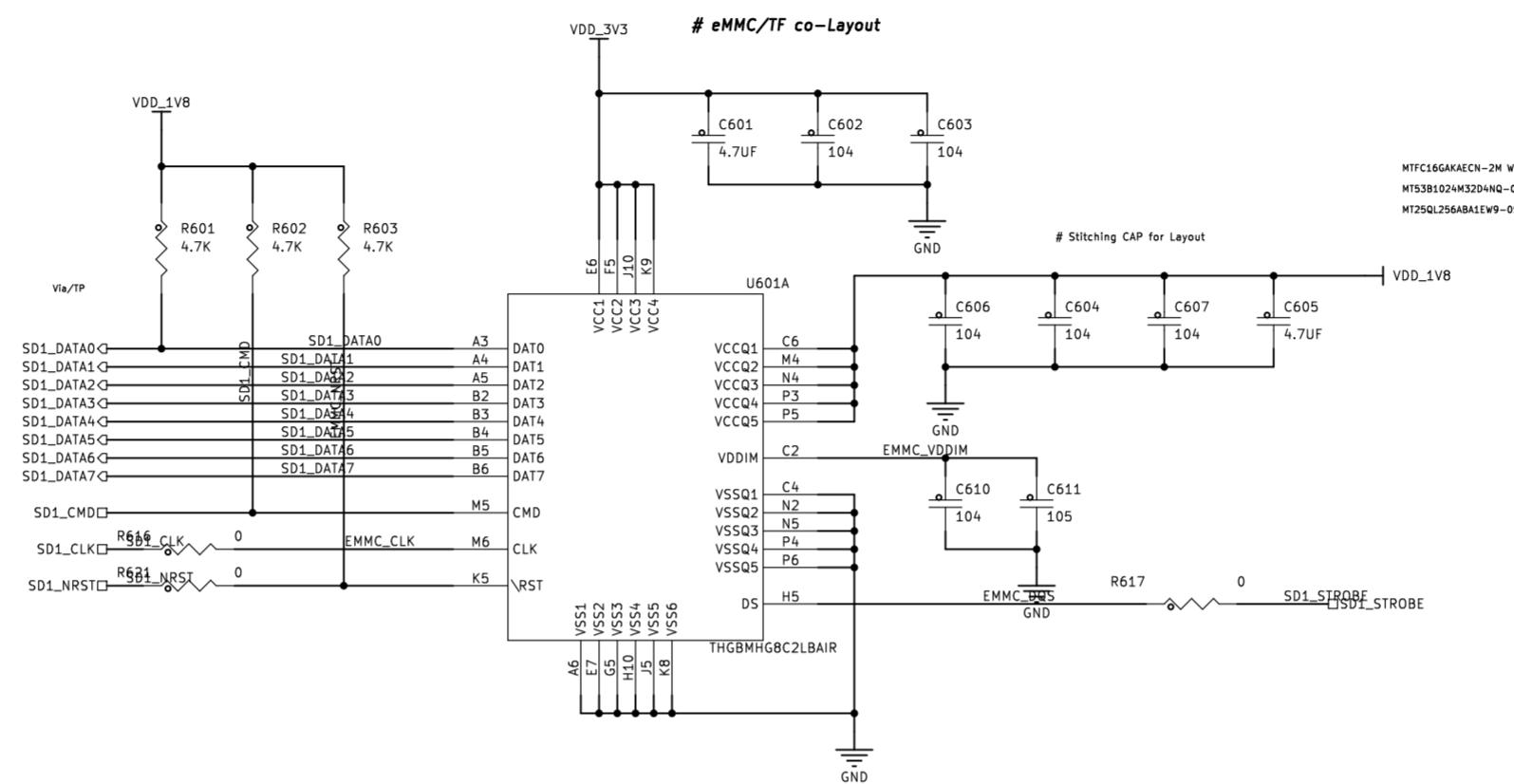
JTAG Debug

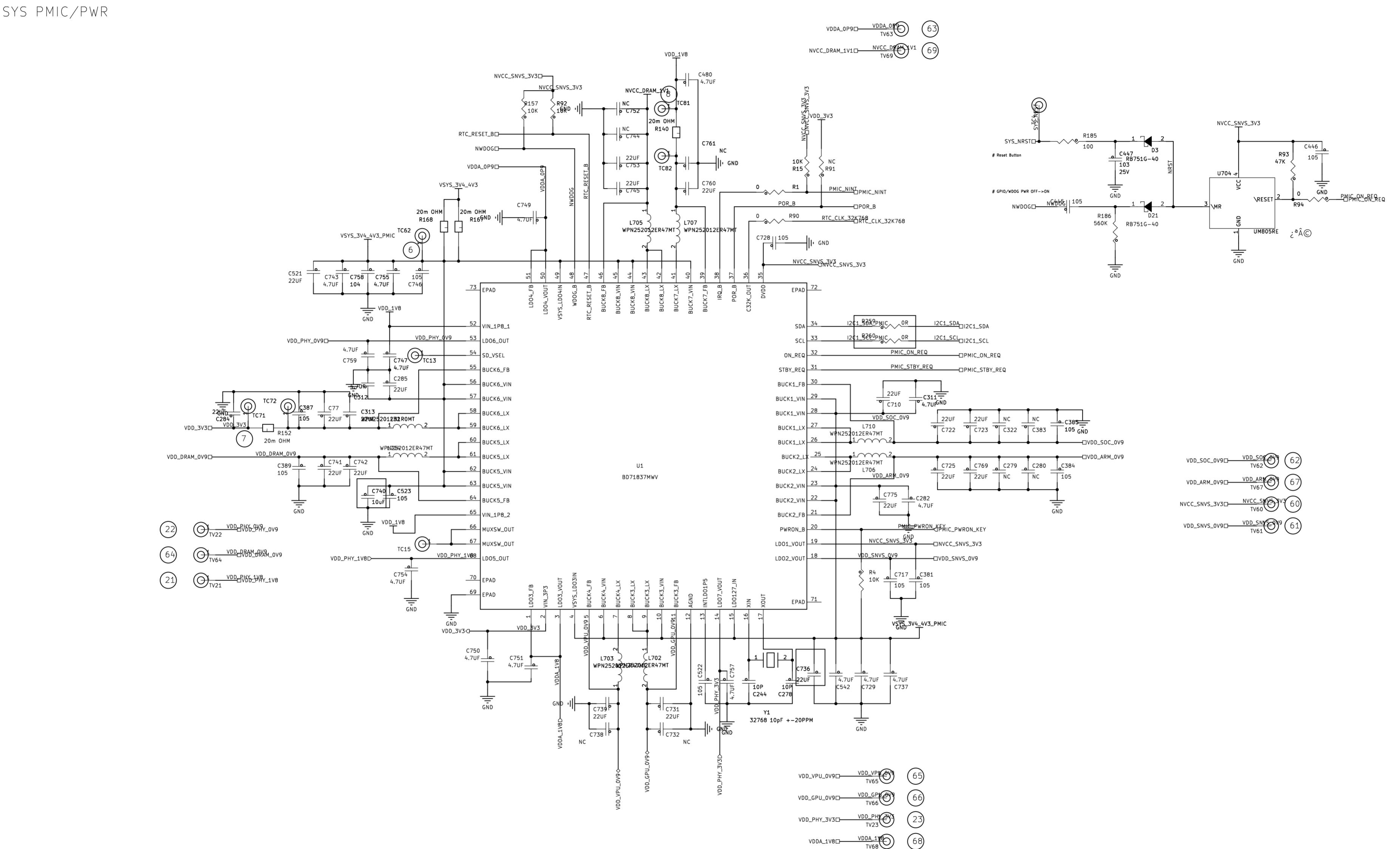


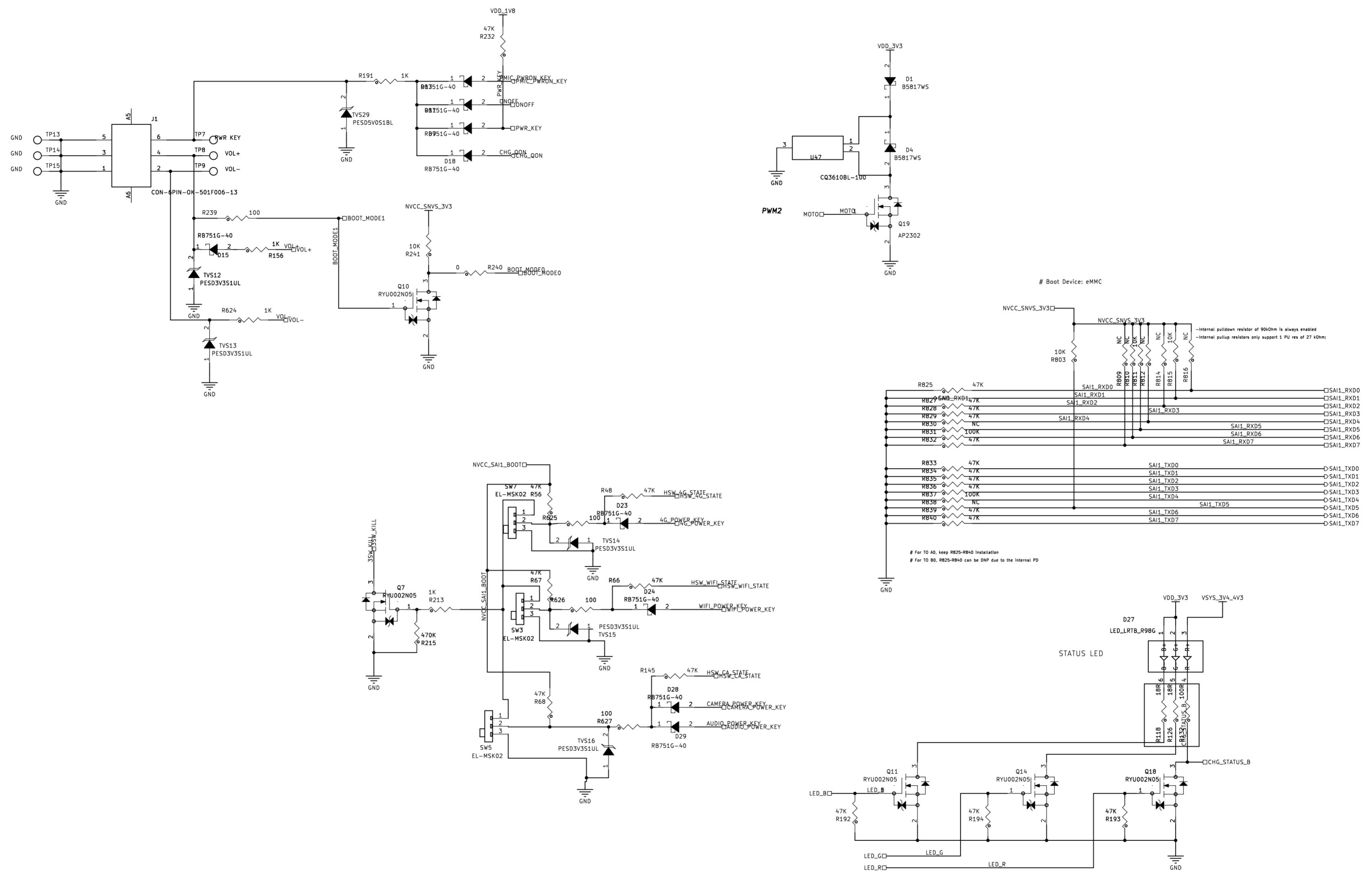
i.MX8M PHY

USB_REF: Attach a 200- Ω , 1% 100-ppm/C precision resistor-to-ground on the board.
 MIPI_DSI_REF: 15K- Ω .
 PCIe: 200- Ω , $\pm 1\%$ μ 100 ppm/ \pm C precision resistor to-ground on the board.
 HDMI: 499L, ($\pm 1\%$ tolerance) resistor to-ground on the board.



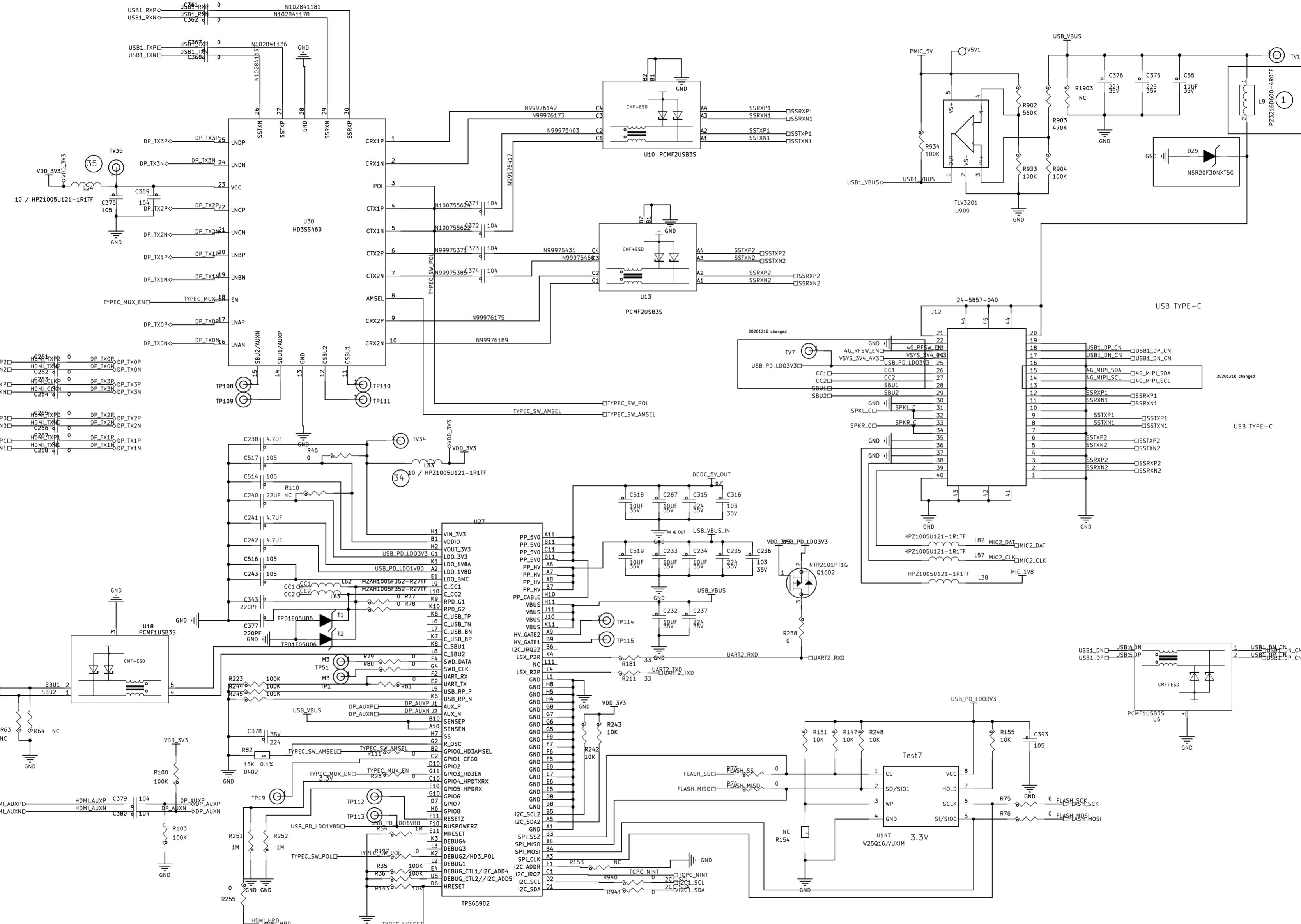
eMMC 5.0 Footprint





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File: C-11_BOOT_CFG.kicad_sch
Title: Librem 5 Mainboard
Size: A2 Date: 2024-03-21
KiCad E.D.A. 8.0.3 Rev: v1.0.6
16: 10/21

USB3.0/2.0 TYPE-C/HOST

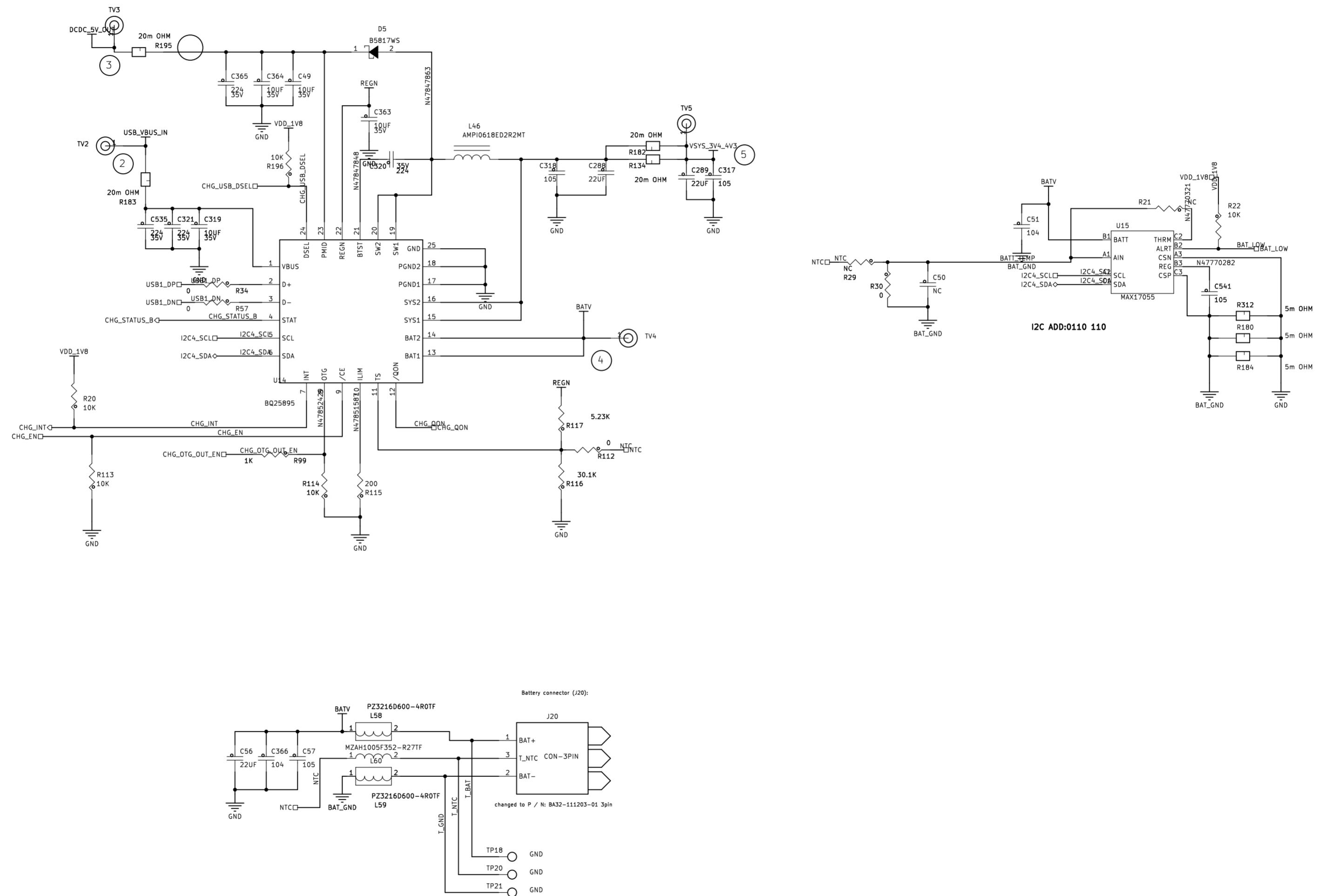


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Title: Librem 5 Mainboard

Size: A2 Date: 2024-03-21
KiCad E.D.A. 8.0.3 Rev: v1.0.6

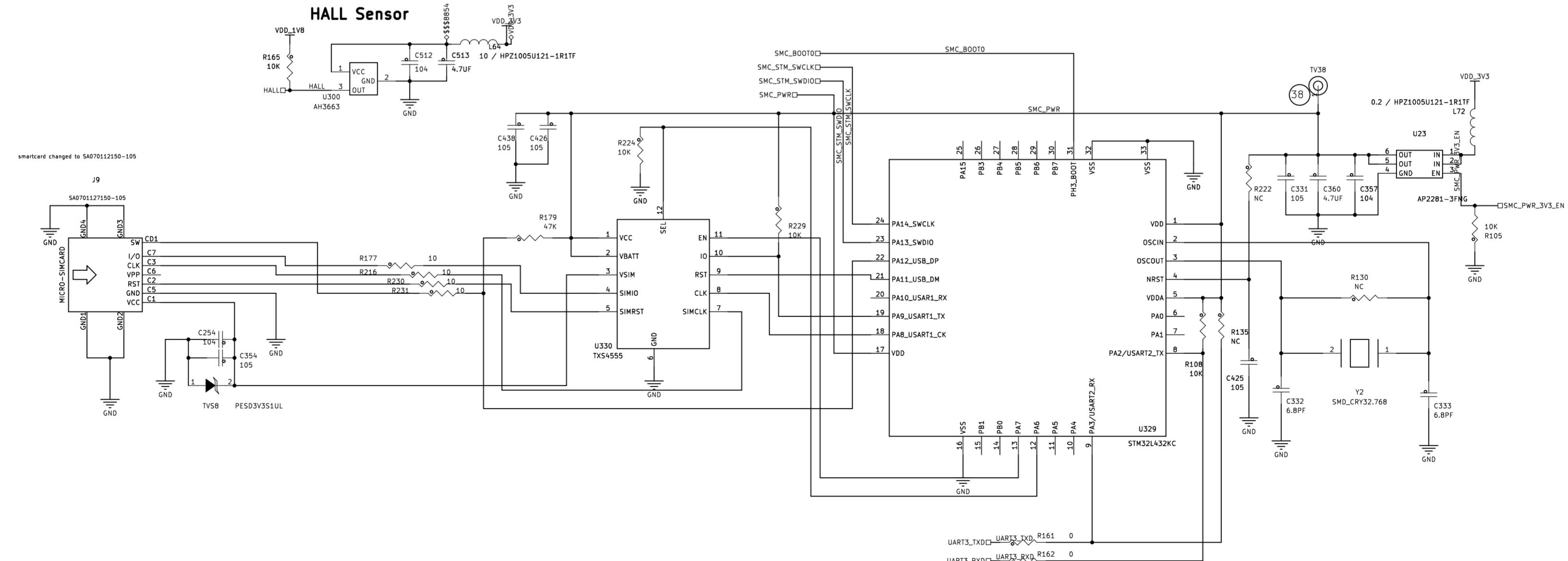


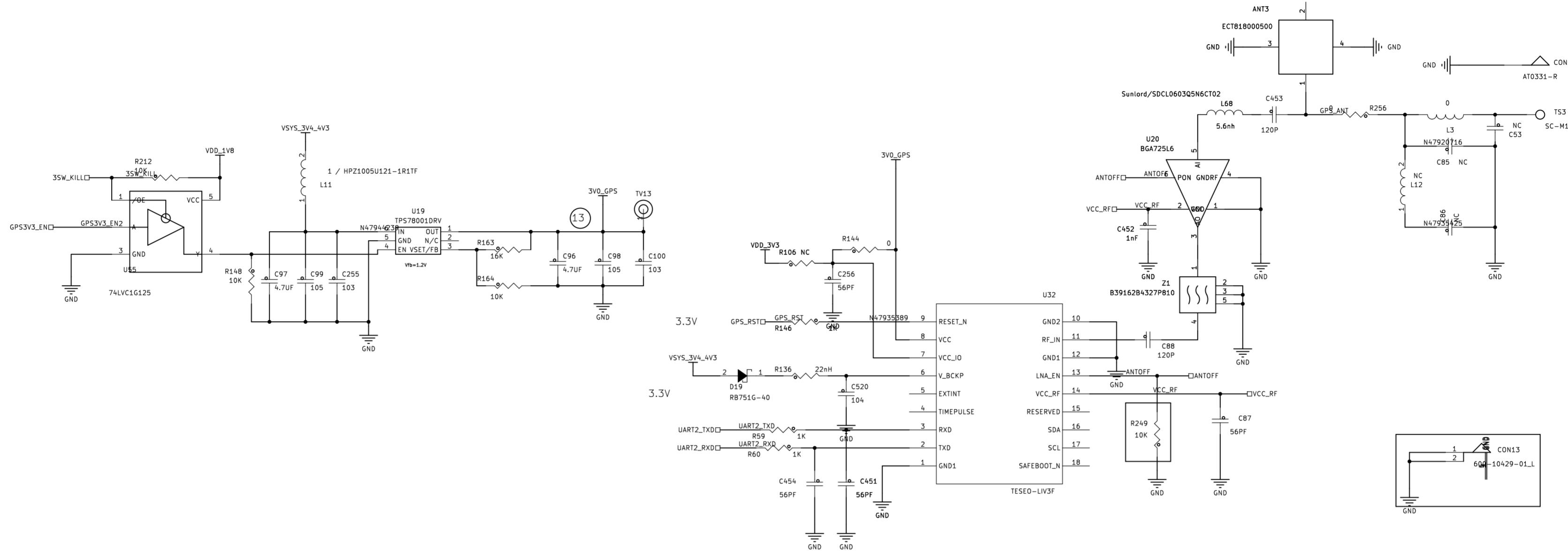


Light Sense

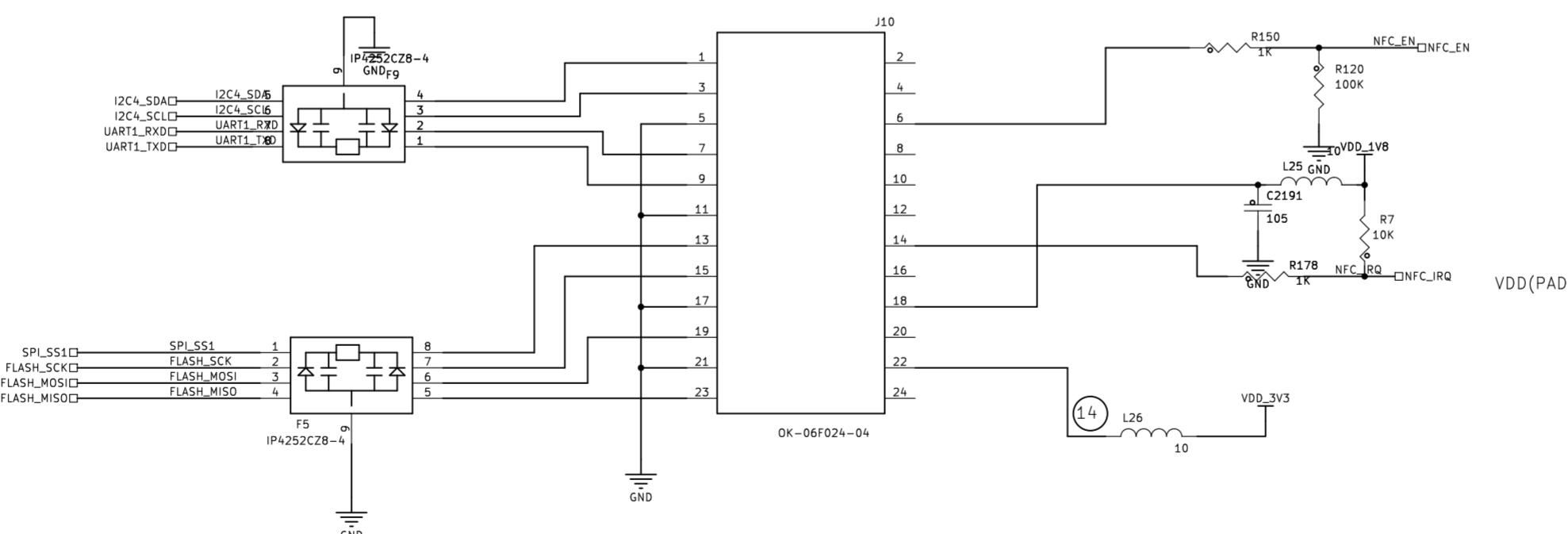
VDD: 2.5~3.6

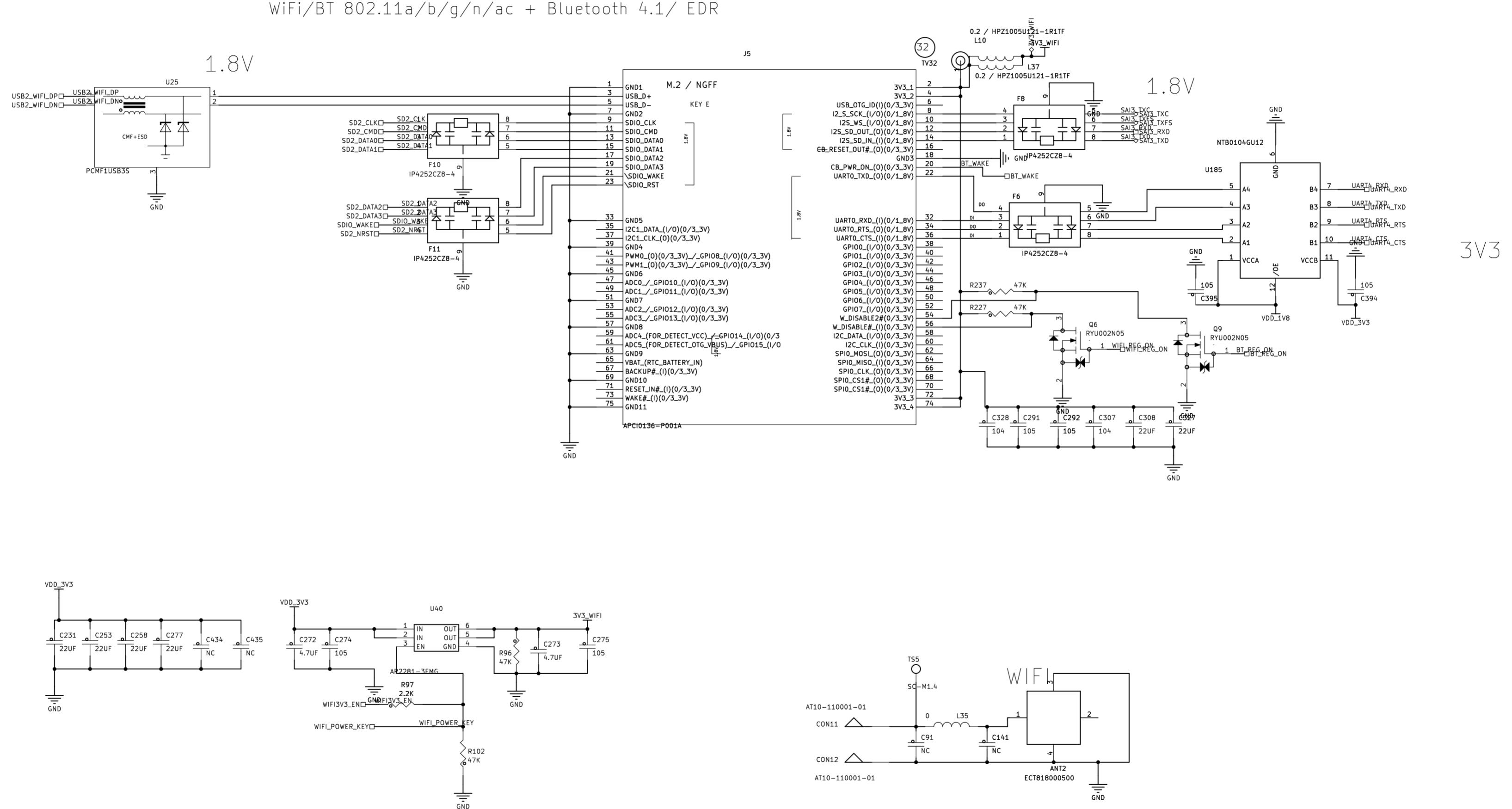
HALL Sensa

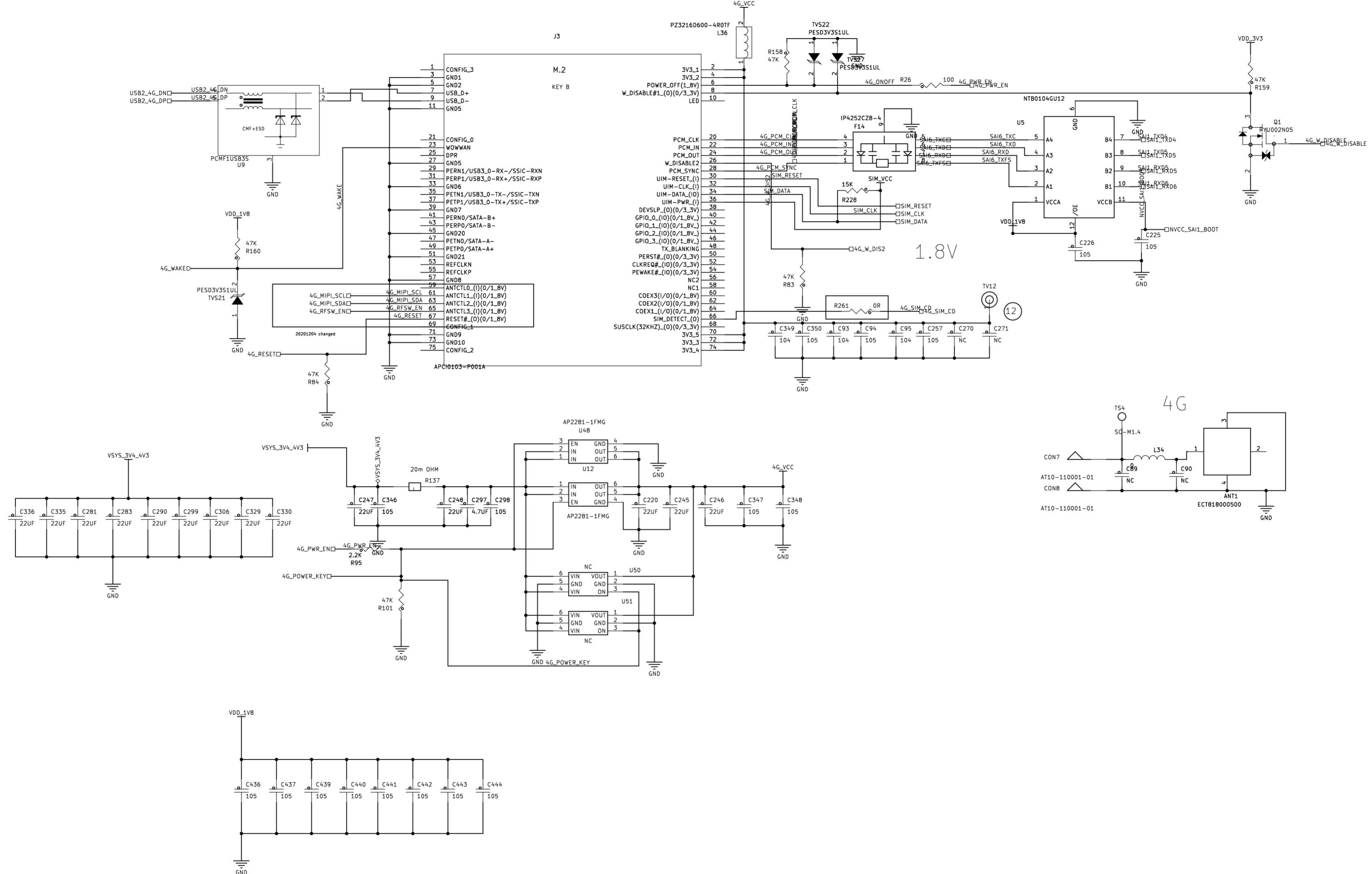


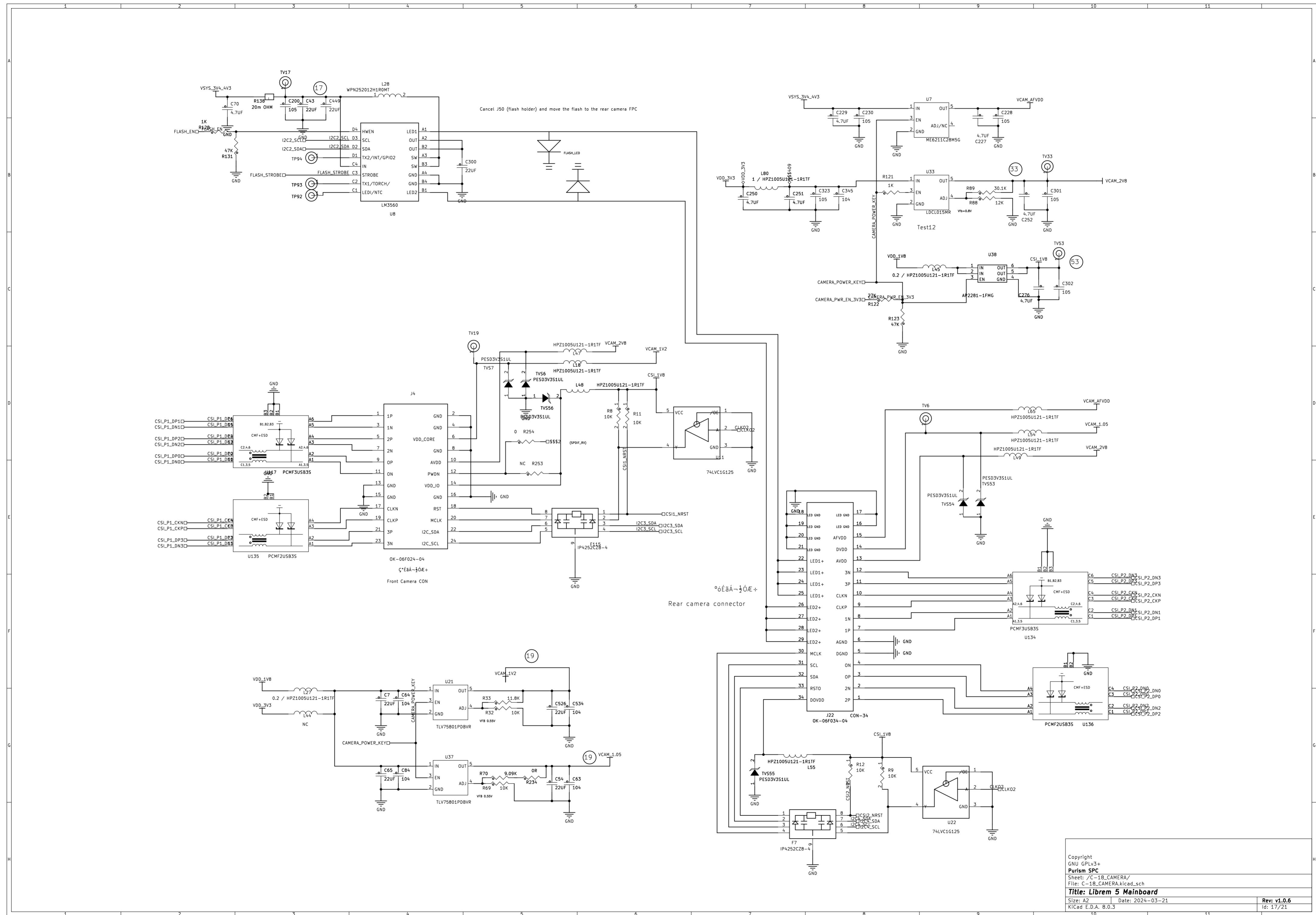


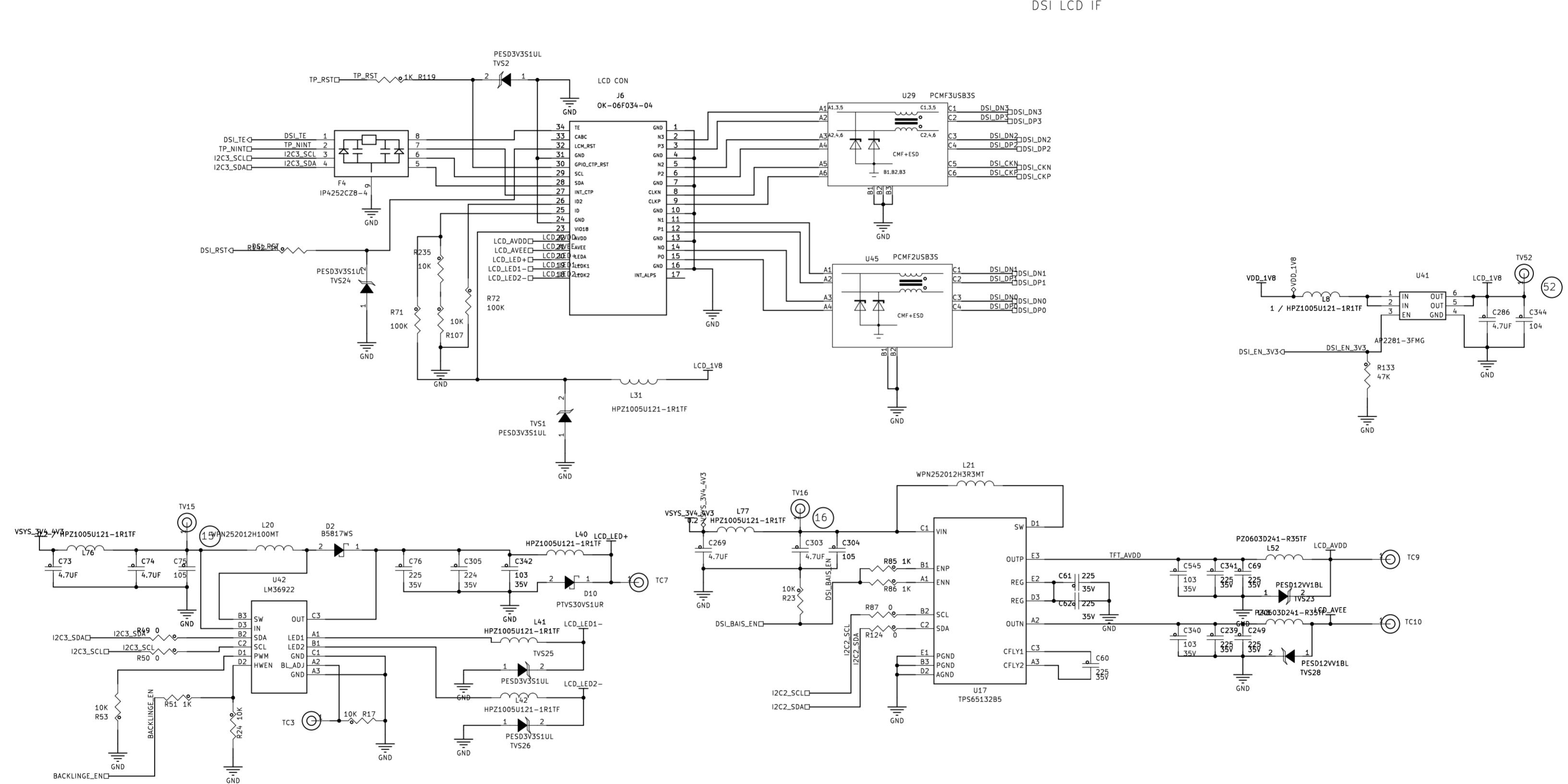
EXT CON



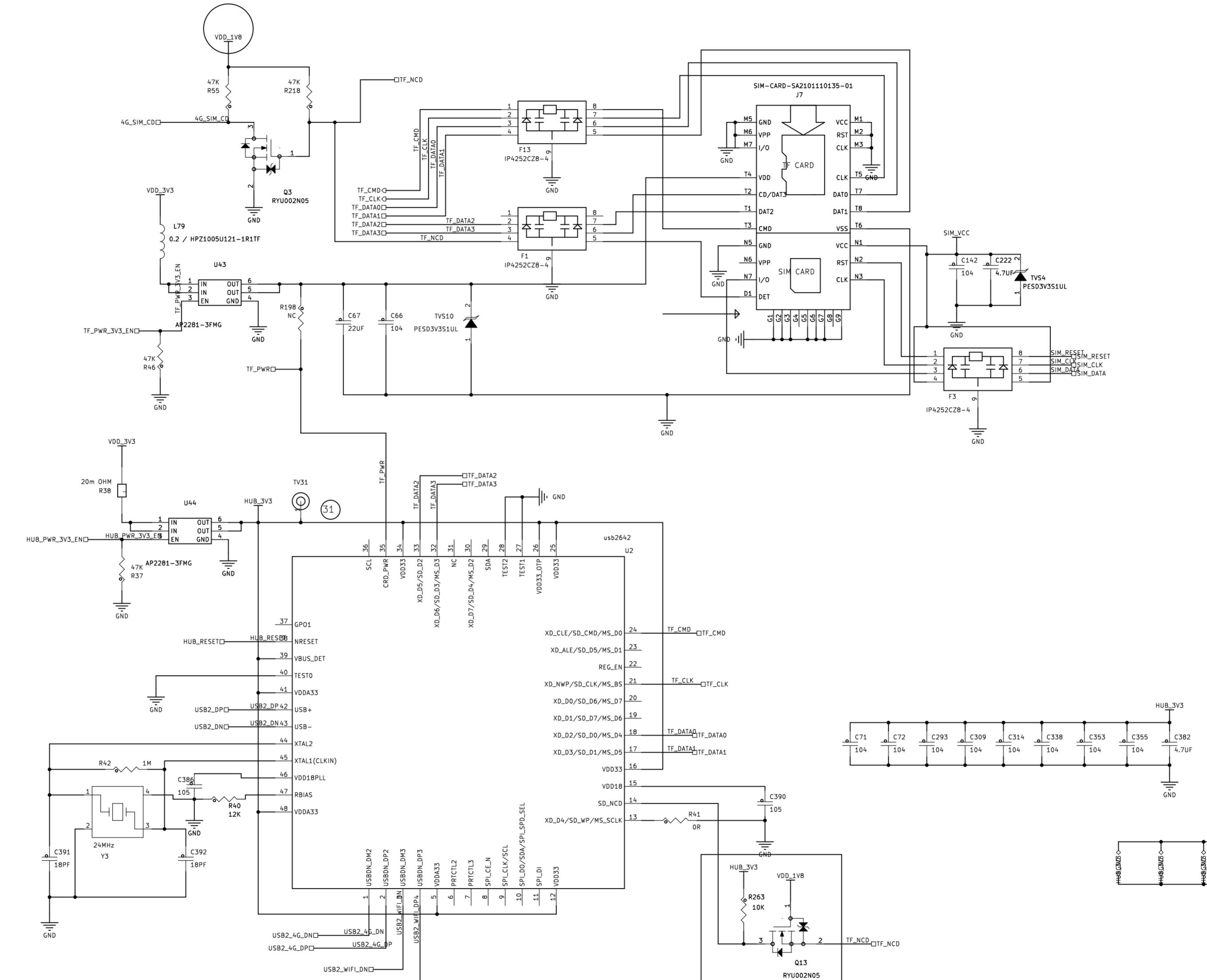




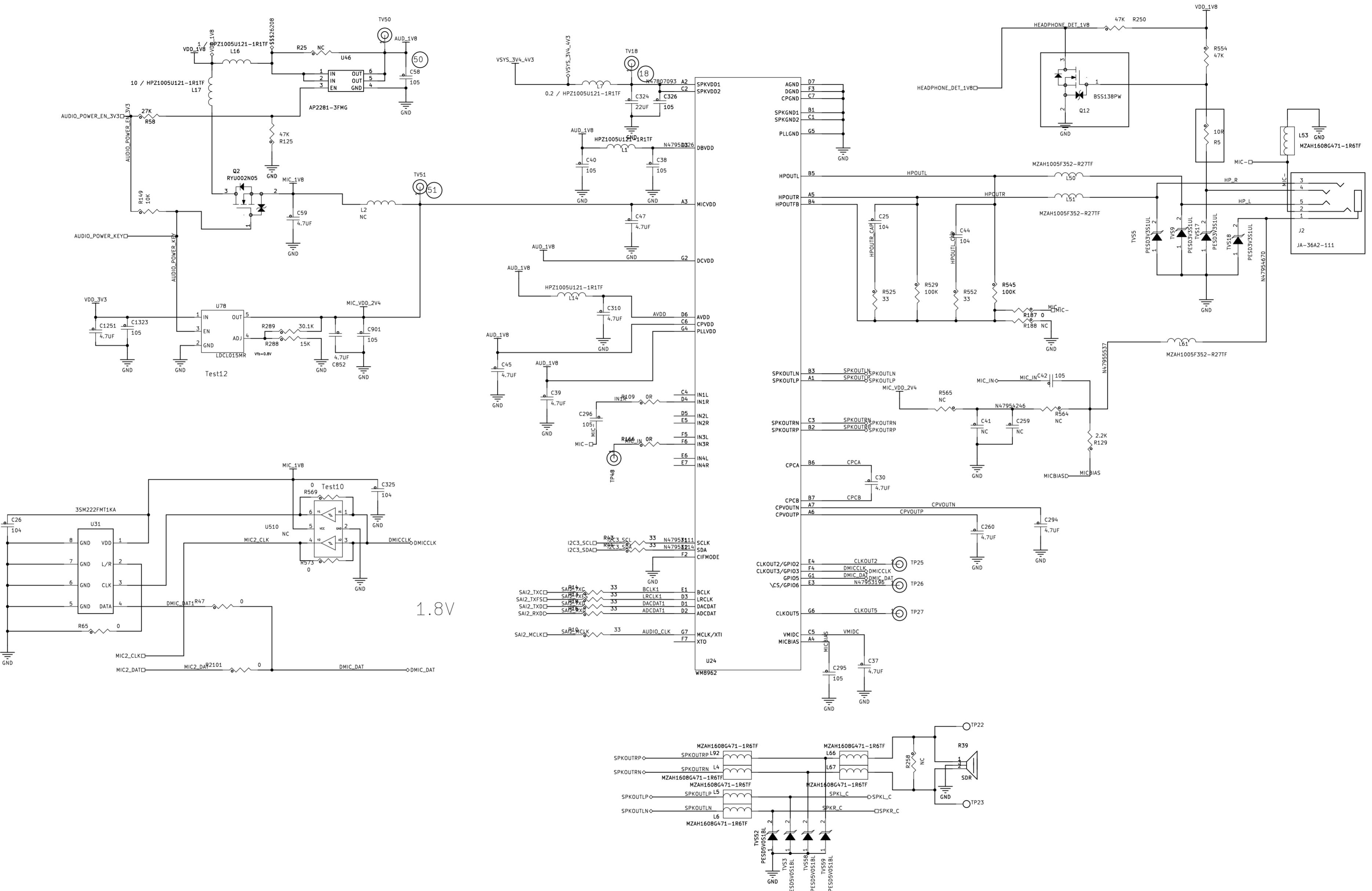




USB HUB + SDIO BRIDGE

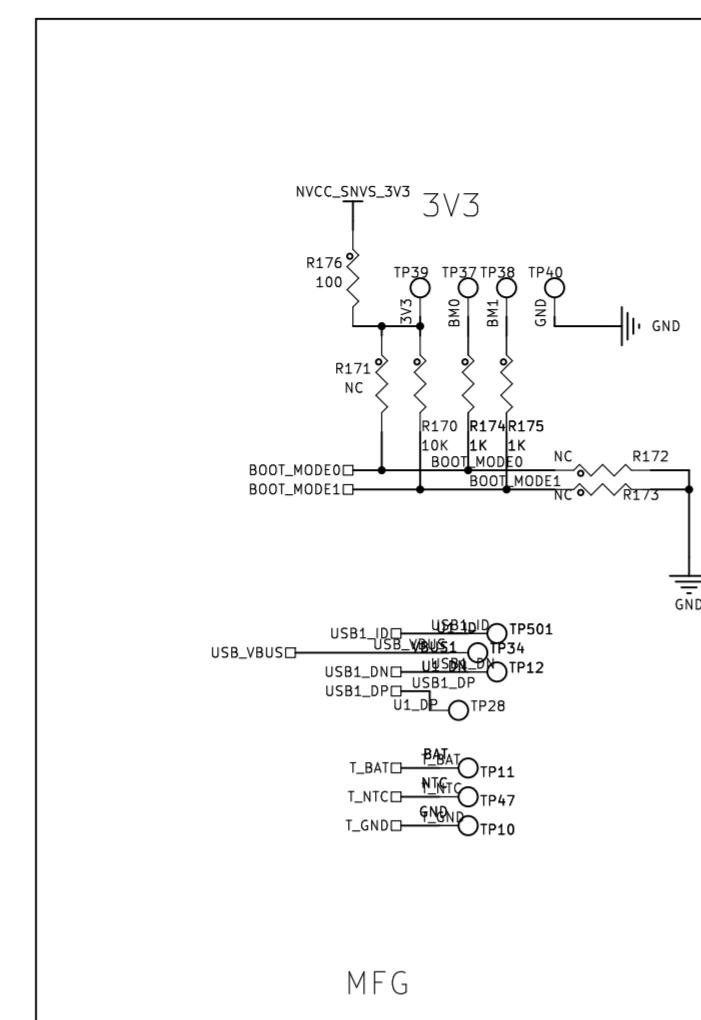


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File: C-20_USB_HUB_SD.kicad_sch
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Size: A2 Date: 2024-03-21
KiCad E.D.A. 8.0.3 Rev: v1.0.6
16: 19/21

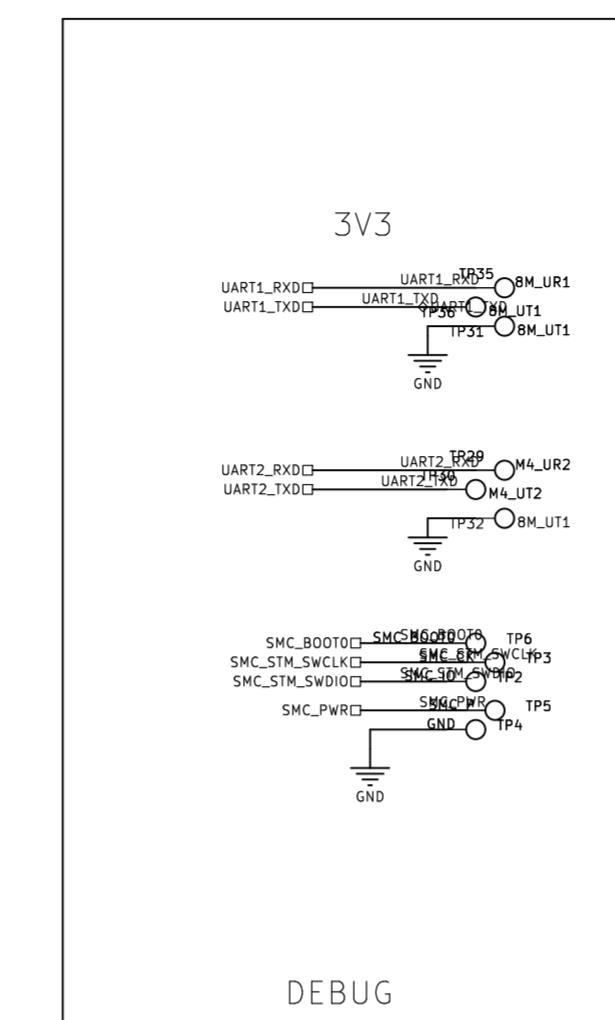


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16: 20/21

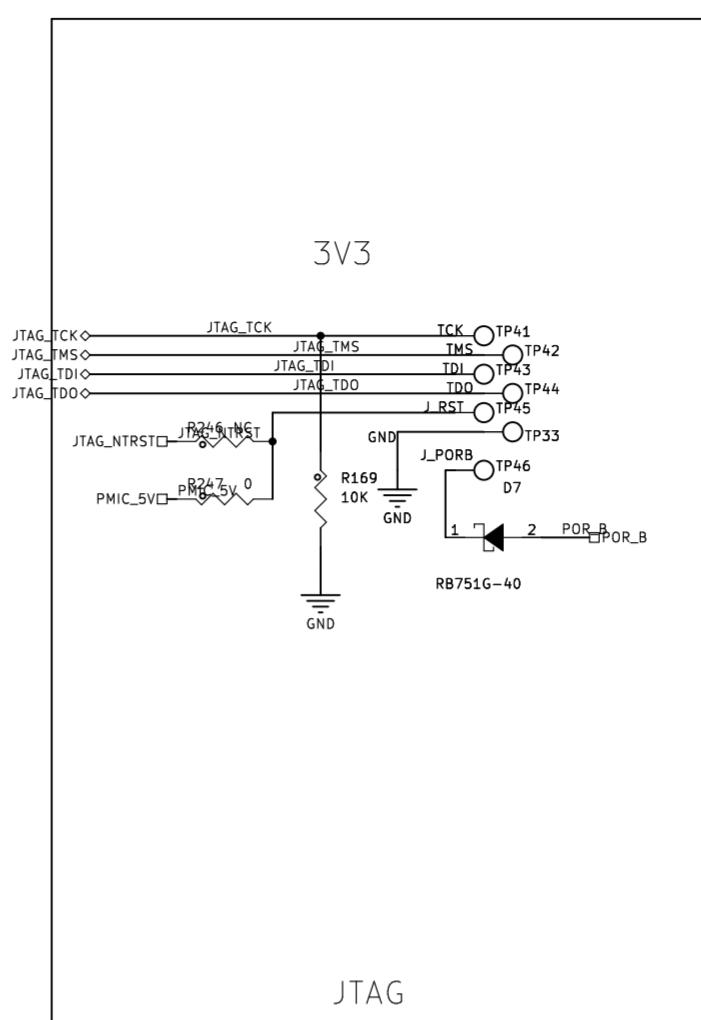
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MFG

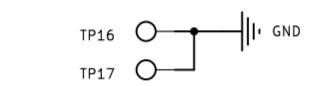
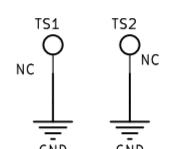


DEBUG



JTAG

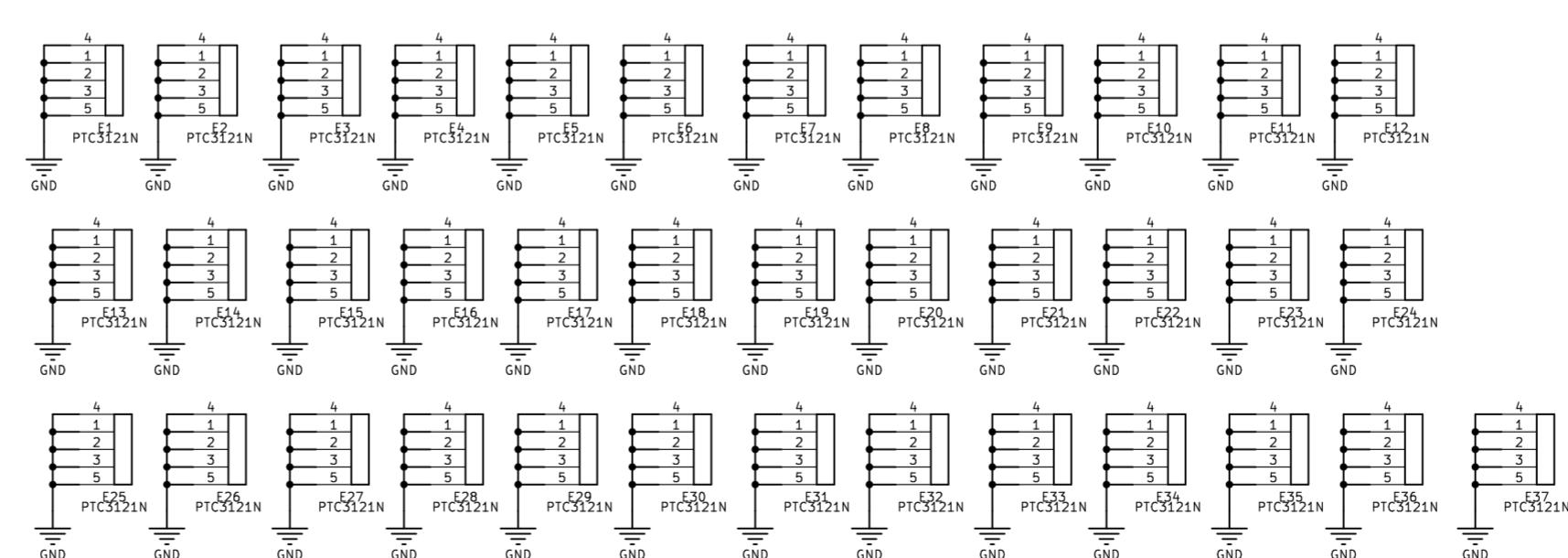
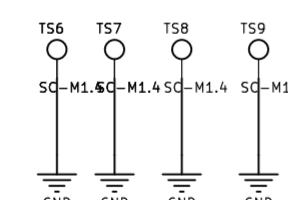
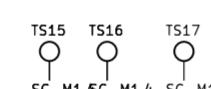
M2 module SCREW



BMODE[1:0]	BOOT TYPE
00	Boot From Fuses
01	Serial Downloader
10	Internal Boot (Development)
11	Reserved

SCREW

Shielding Case



Shielding Case Hold