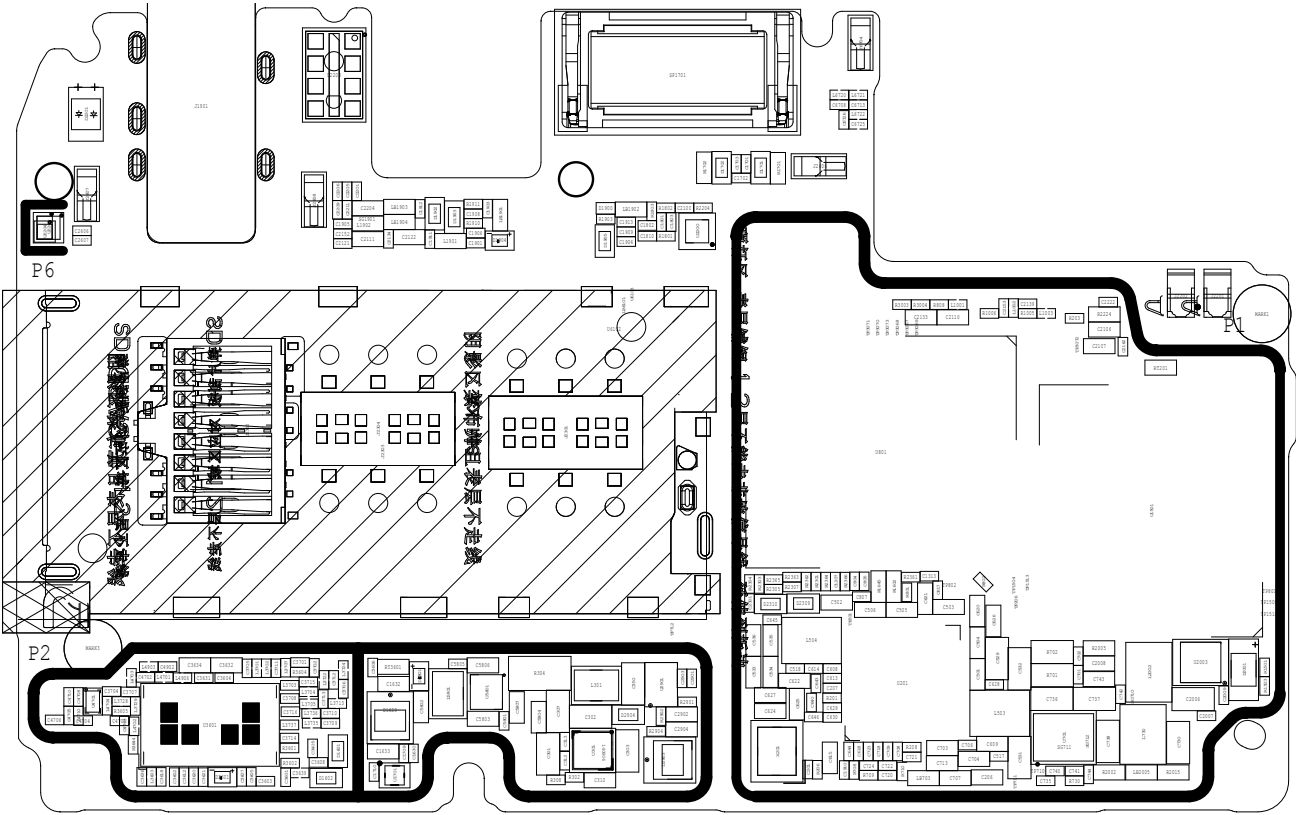
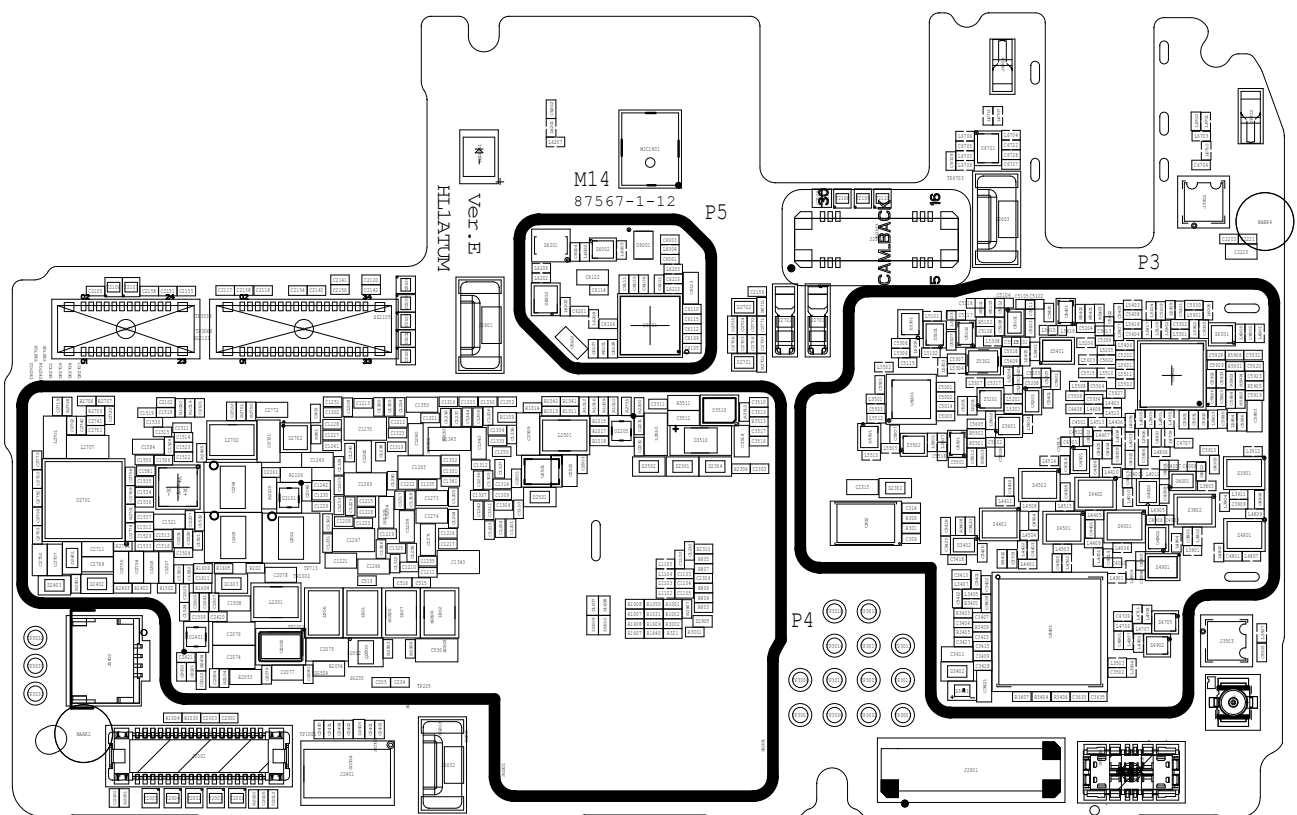


VIETMOBILE.VN



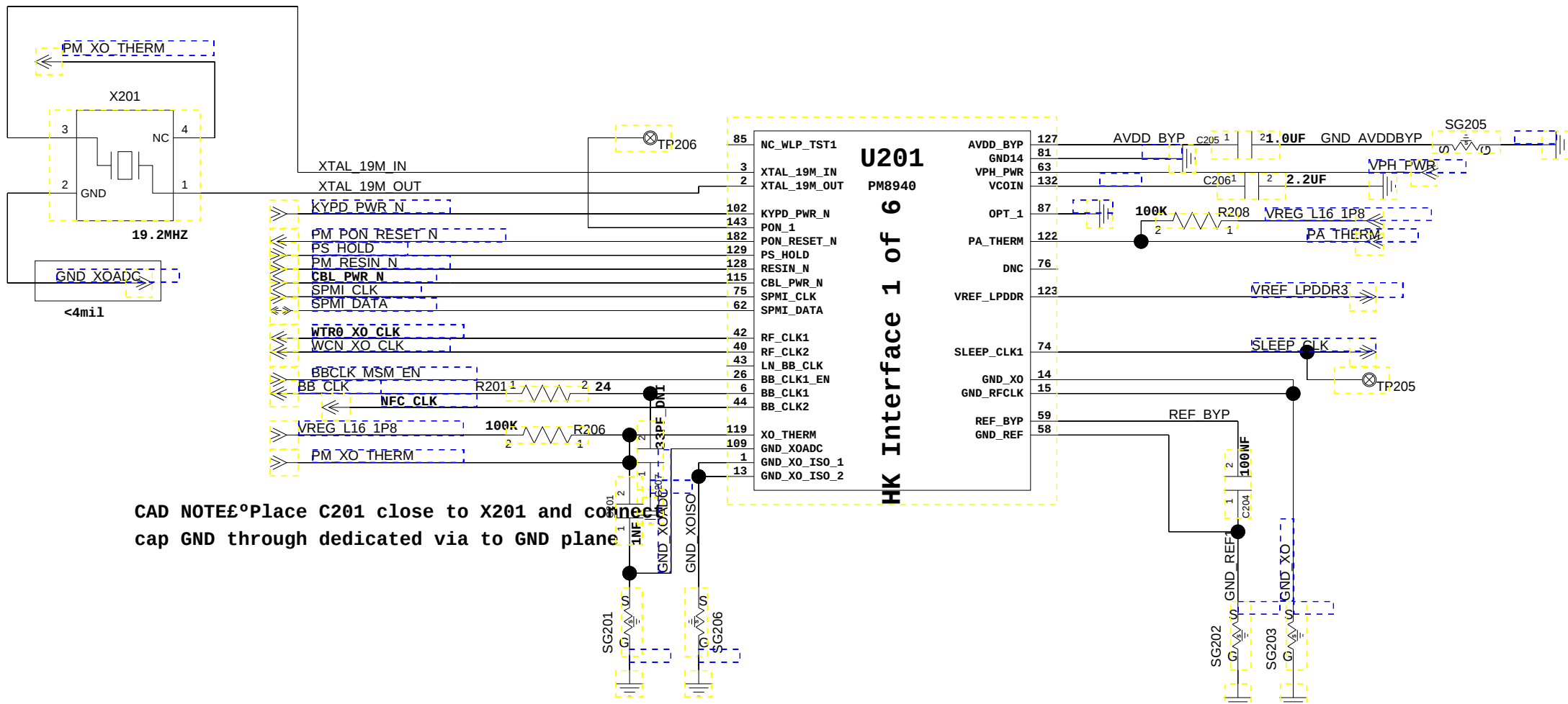
87567_1_12M14_Assembly_BOTTOM

VIETMOBILE.VN



	1	2	3	4	5	6
A	AP SCHEMETIC					
B	1. Contents 2. PM8940 Control 3. PMI8952 Charge 4. PMI8952 Power 5. PM8940 SMPS 6. PM8940 LDO 7. PM8940 CODEC 8. MSM8940 Control 9. MSM8940 EBI 10. MSM8940 GPIO 11. MSM8940 MIPI 12. MSM8940 Power1 13. MSM8940 Power2 14. MSM8940 GND 15. eMMC and LPDDR3 16. Battery/USB IF. 17. Speaker 18. MIC 19. Earphone 20. LCD/CTP IF. 21. Camera IF. 22. Sensor 23. SIM/TF IF. 24. Sidekey 25. Reserved (CTP IF.) 26. Test Points 27. NFC (PN548) 28. Fingerprint Module IF. 29. Shielding 30. Sub PCB IF.		31.RF Interface 32.RESERVED 33.Main Antenna Switcher 34.RESERVED 35.RESERVED 36.RESERVED 37.QFE2320(MMPA) 38.Circuit of MMPA 39.TRX_B1 40.TRX_B8 41.TRX_B5 42.TRX_B3/GSM1900 43.RESERVED 44.RESERVED 45.DRX LNA B3/B26 46.RESERVED 47.TRX_B41 48.RESERVED 49.RESERVED 50.RESERVED 51.DRX LNA B41/B1 52.DRX_B1/B3/B26 53.RESERVED 54.DRX_B41 55.DRX_ANT_SWITCH 56.WTR4905 57.RESERVED 58.ET_APT		59.GPS 60.WIFI/BT BB 61.WIFI/BT RF 62.Reserved 63.NFC 64.RESERVED 65.RESERVED 66.ANT Match 67.MAIN ANT Tuner 68.DRX ANT Tuner 69.Reserved	
C						
D						
	1	2	3		5	6

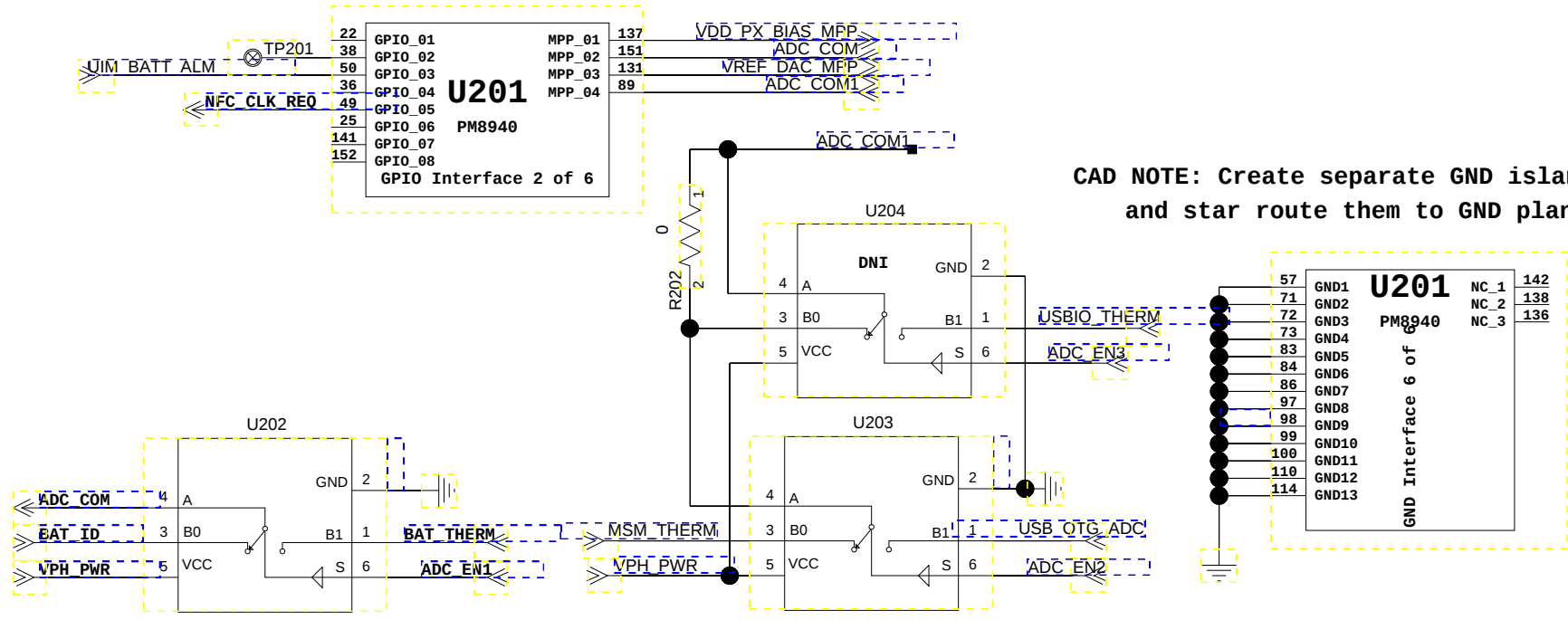
2. PM8940 Control



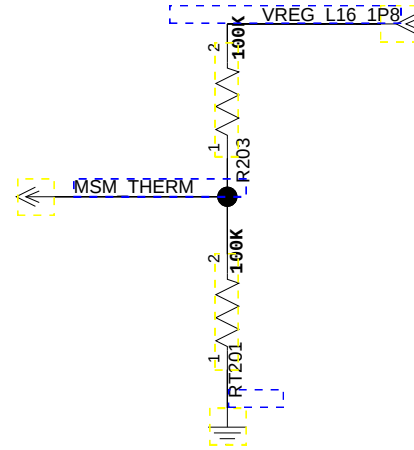
CAD NOTE: Place C201 close to X201 and connect cap GND through dedicated via to GND plane

Do not share GND_XO_ISO with other grounds

Place RT201 in a thermally quiet area.

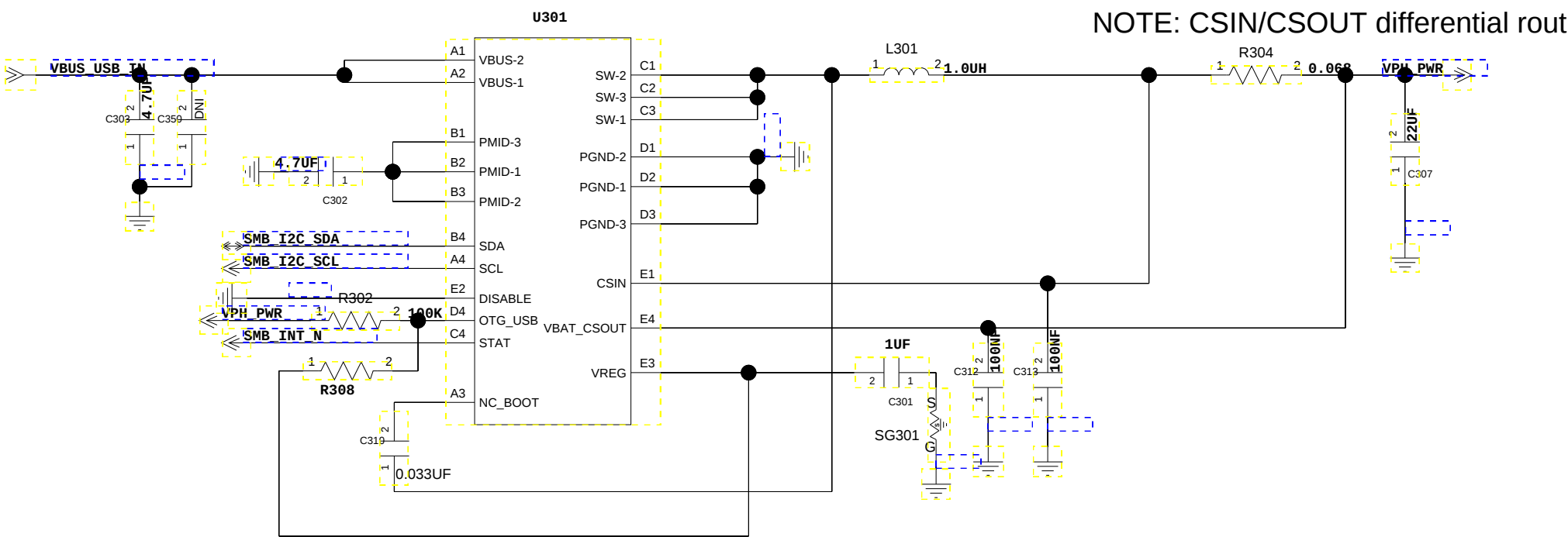


CAD NOTE: Create separate GND islands for PMIC and CODEC GND balls and star route them to GND plane. Remaining are PMIC GND balls.

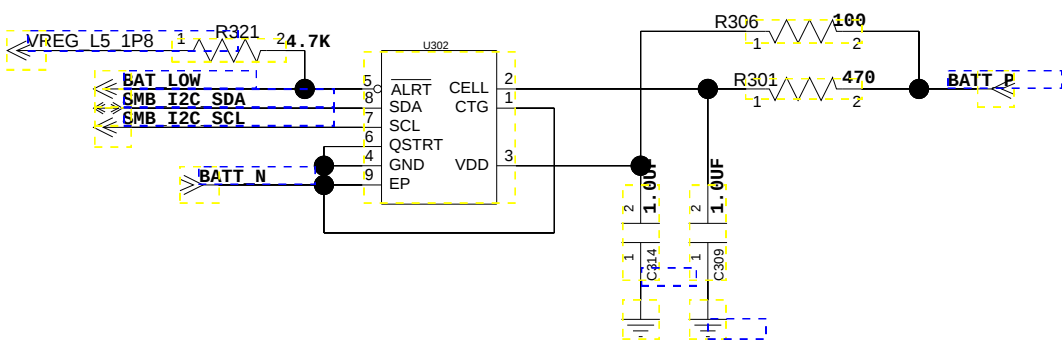


3. Charge

Charger



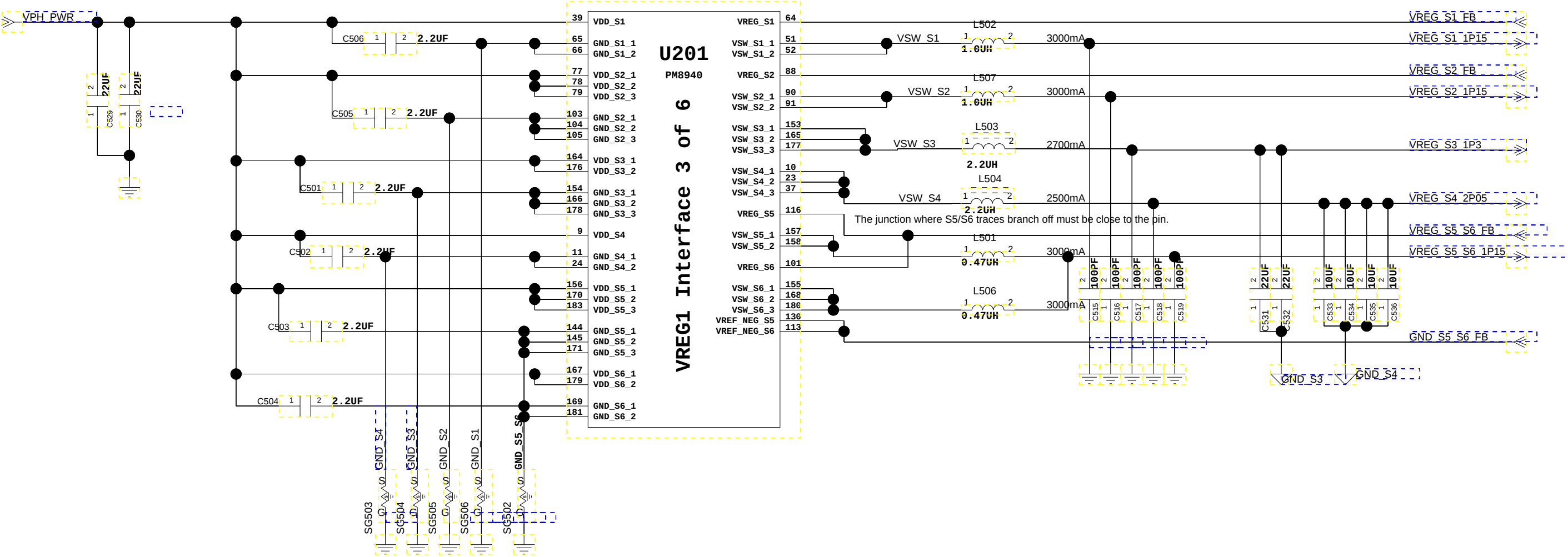
GAUGE



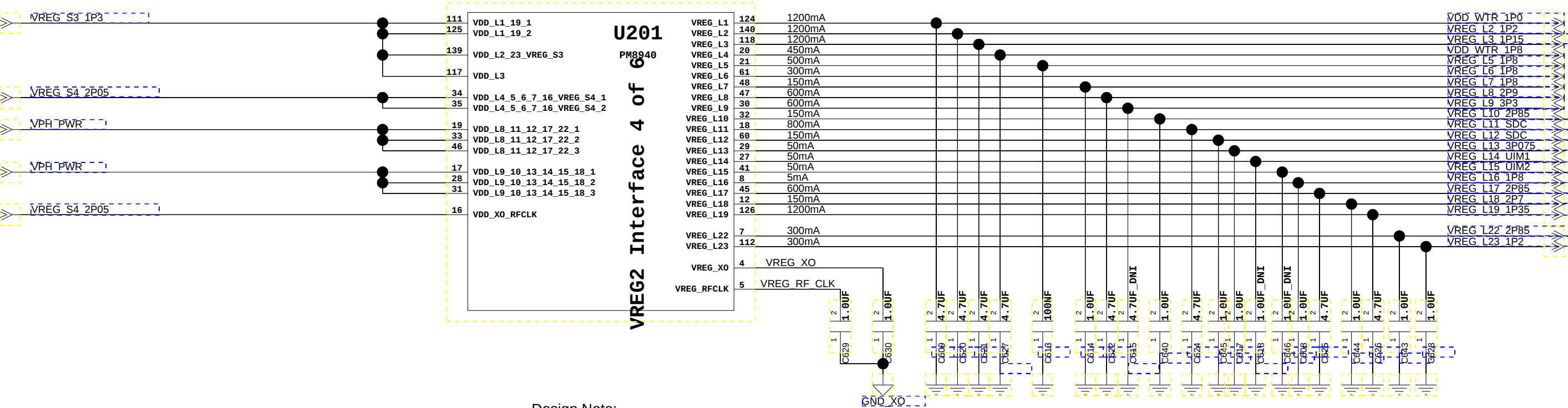
	1	2	3	4	5	6
A						
B						
C						
D						

4. PMI8952 Power

5. PM8940 SMPS



6. PM8940 LDO



Design Note:

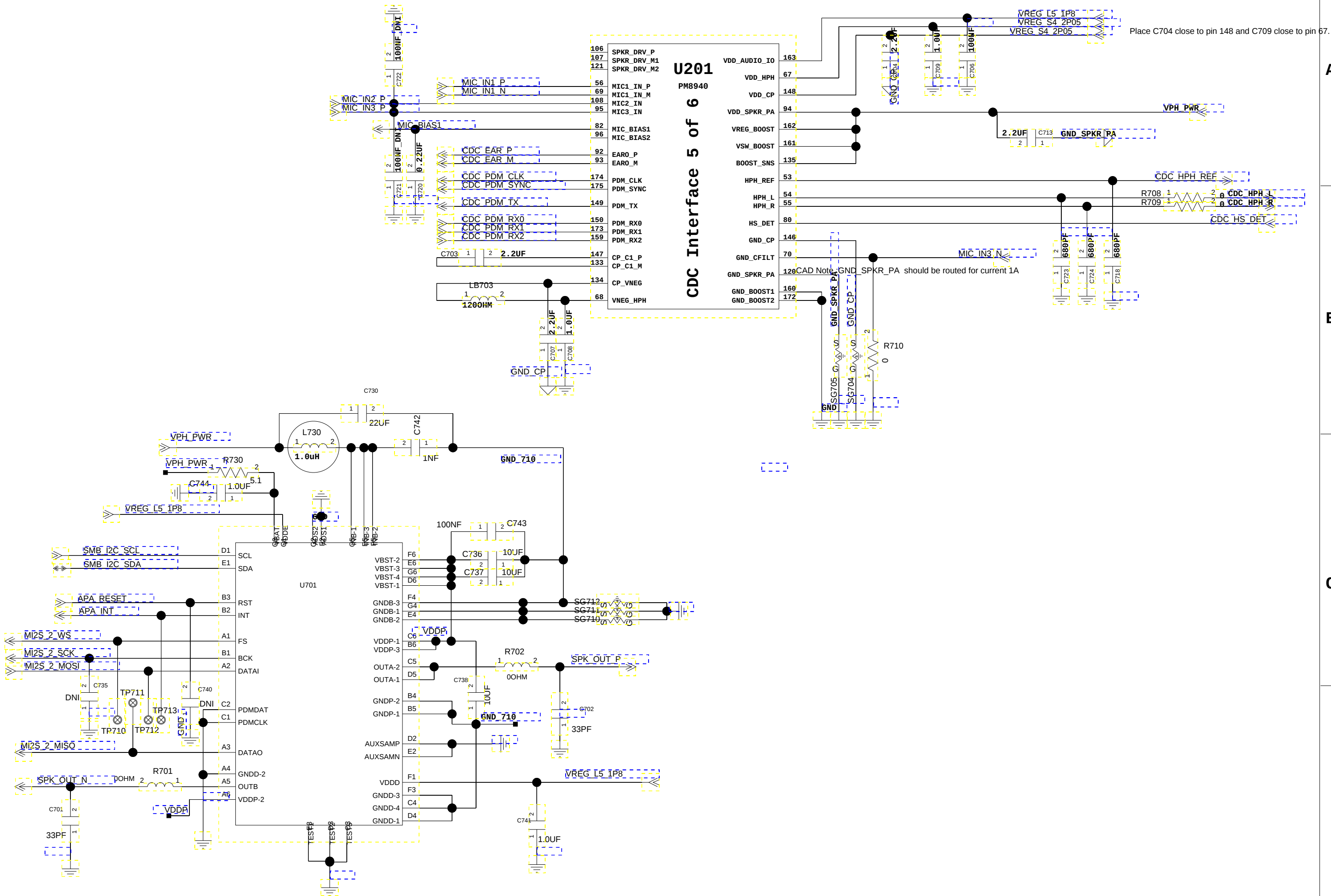
PSEUDO CAPLESS LDOs:

L4*, L6, L8*, L9*, L10, L11*, L12, L14, L15, L17*, L18, L22, L23

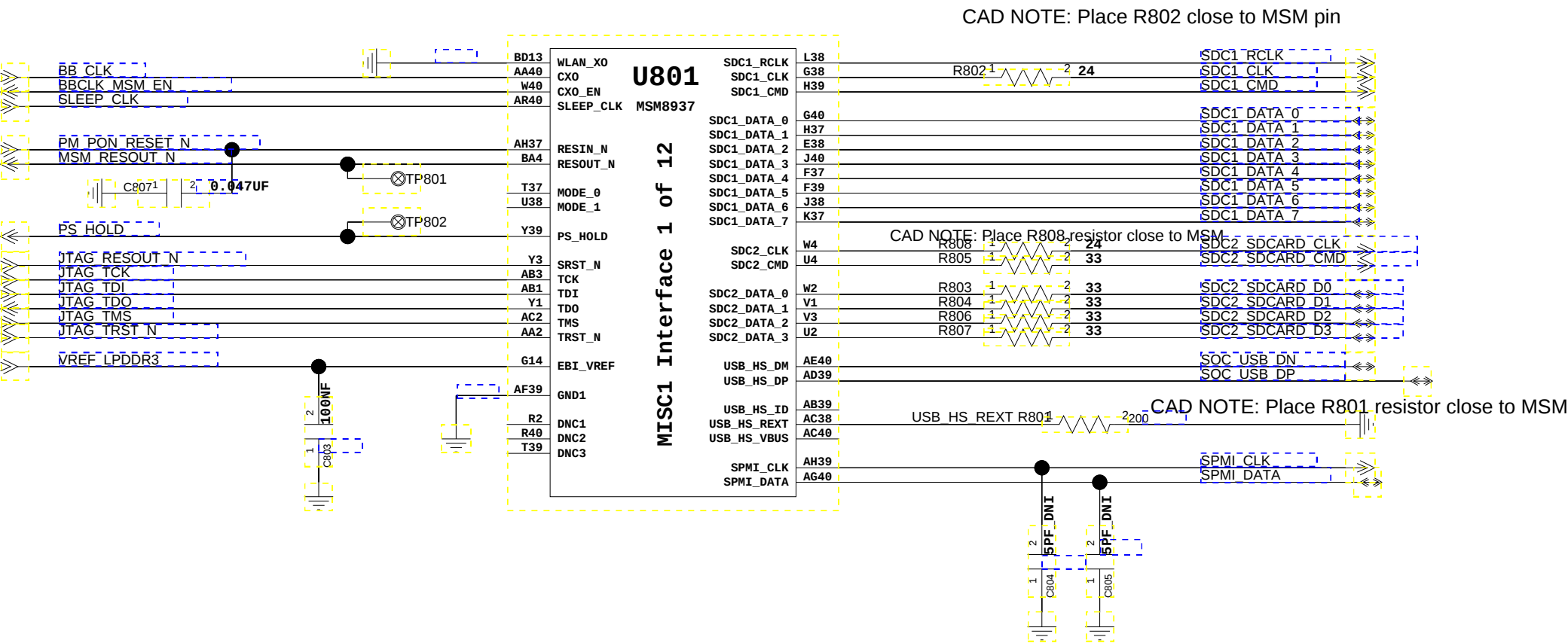
L4*, L8*, L9*, L11*, L17*, still need validation as Pseudo-capless

L5, L7, L13, L16 have internal PMIC Loads and require local CAPs.

7. PM8940 CODEC



8. MSM8917 Control



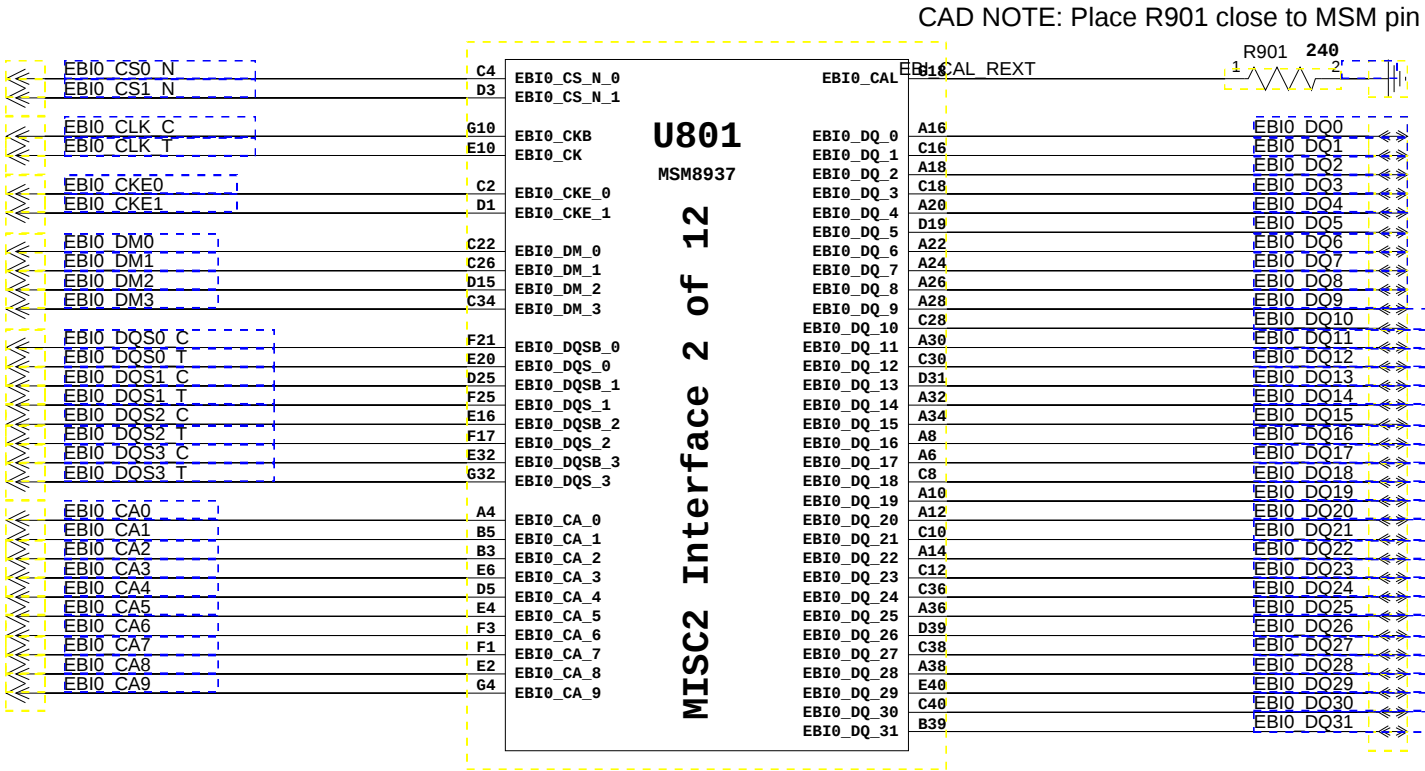
CAD NOTE: Place R802 close to MSM pin

CAD NOTE: Place R808 resistor close to MSM

CAD NOTE: Place R801 resistor close to MSM

CAD NOTE: SPMI should be well shielding and protected from MSM to PM/PMI side
please star routing SPMI_CLK/DATA from MSM to PM/PMI respectively

9. MSM8917 EBI



A

****BOM Notes:**

TRT_AL00/AL10/TL10: MSM8940-1 39200783

TRT_LX1/LX2/LX3: MSM8940-3 39200813

B

C

**BOM Notes

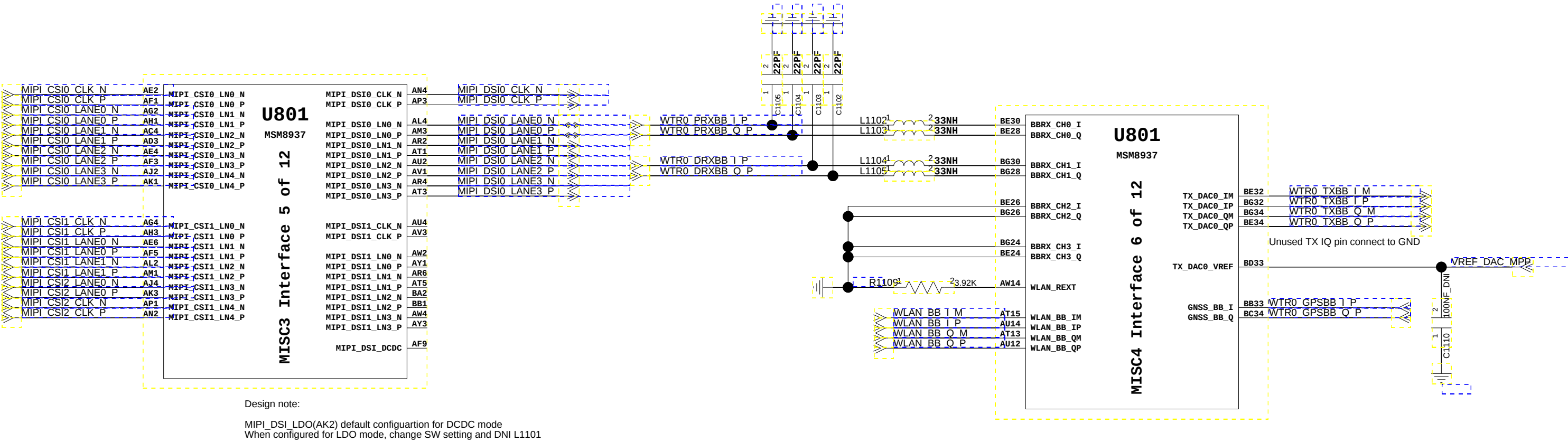
D

BOOT_CFG [3:1]	
0b000	SDC1->SDC2->USB2.0
0b010	SDC1
0b100	SDC2-> SDC1

GPIO PIN	BOOT_CONFIG
GPIO_3	BOOT_CONFIG[0]/WDG_DISABLE
GPIO_111	BOOT_CONFIG[1]
GPIO_112	BOOT_CONFIG[2]
GPIO_88	BOOT_CONFIG[3]

TRT-AL00 and TRT-AL00A use the same board ID

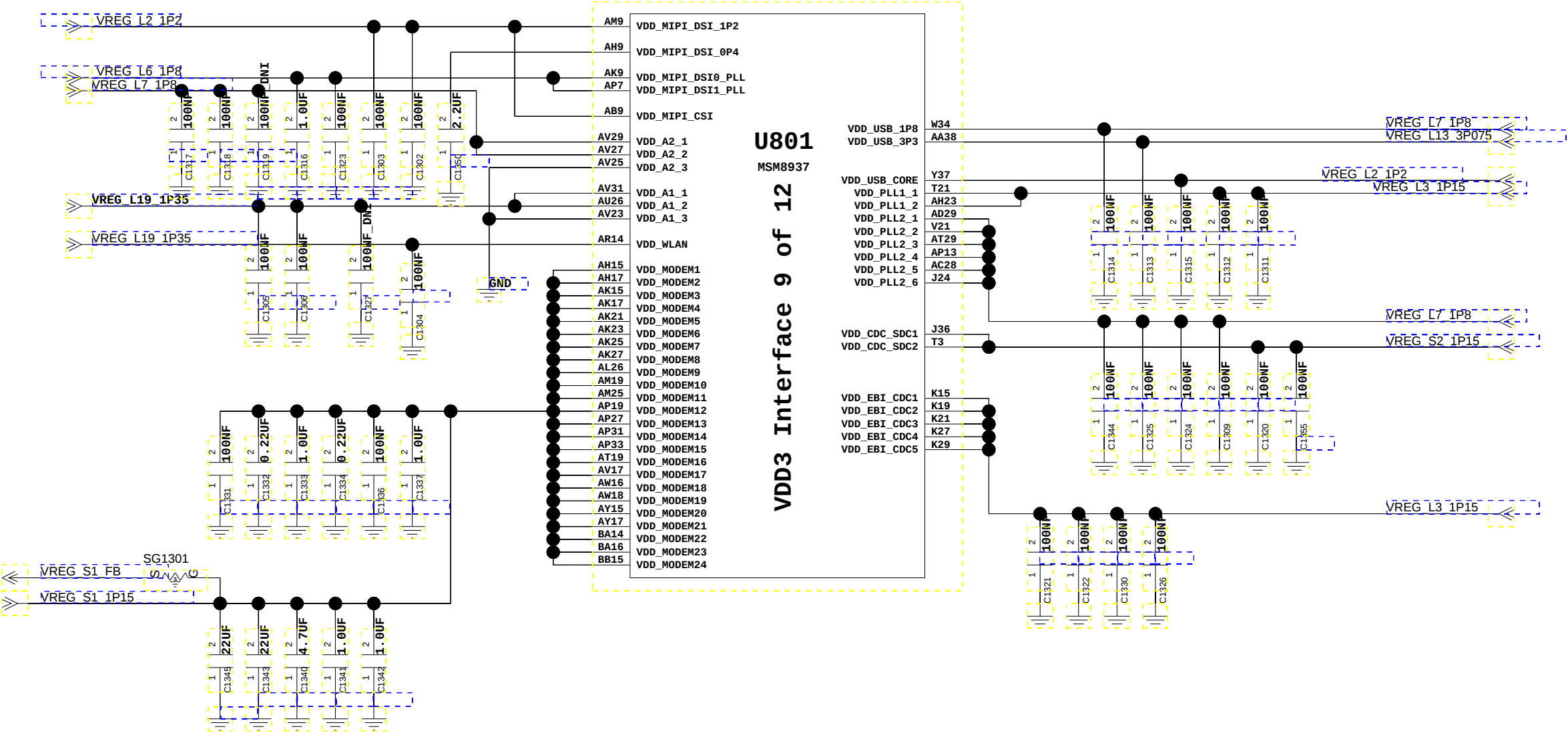
11. MSM8917 MIPI



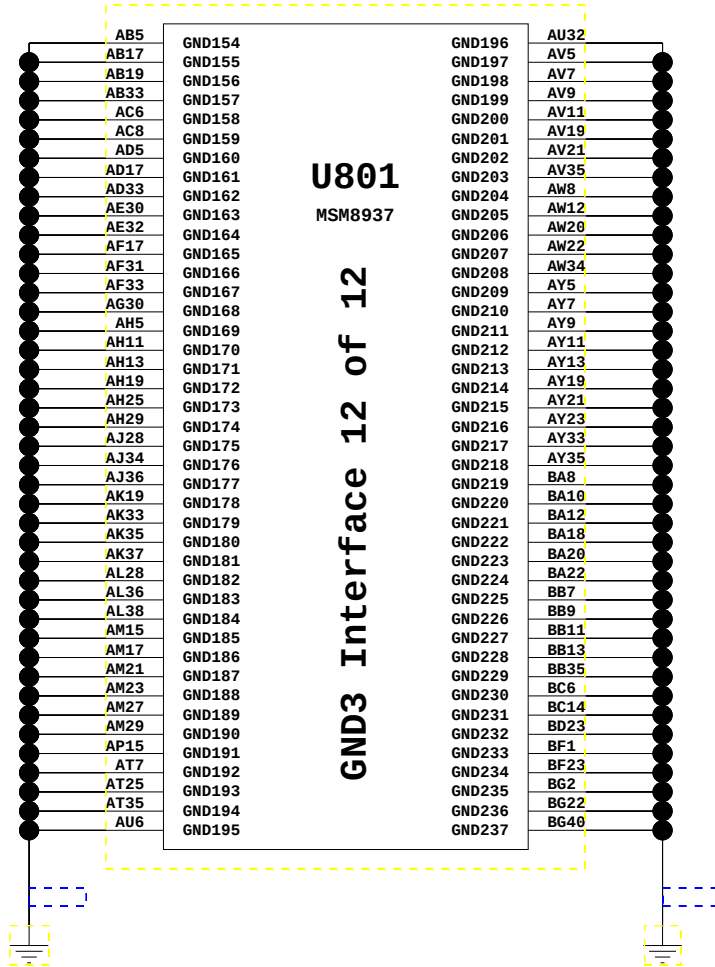
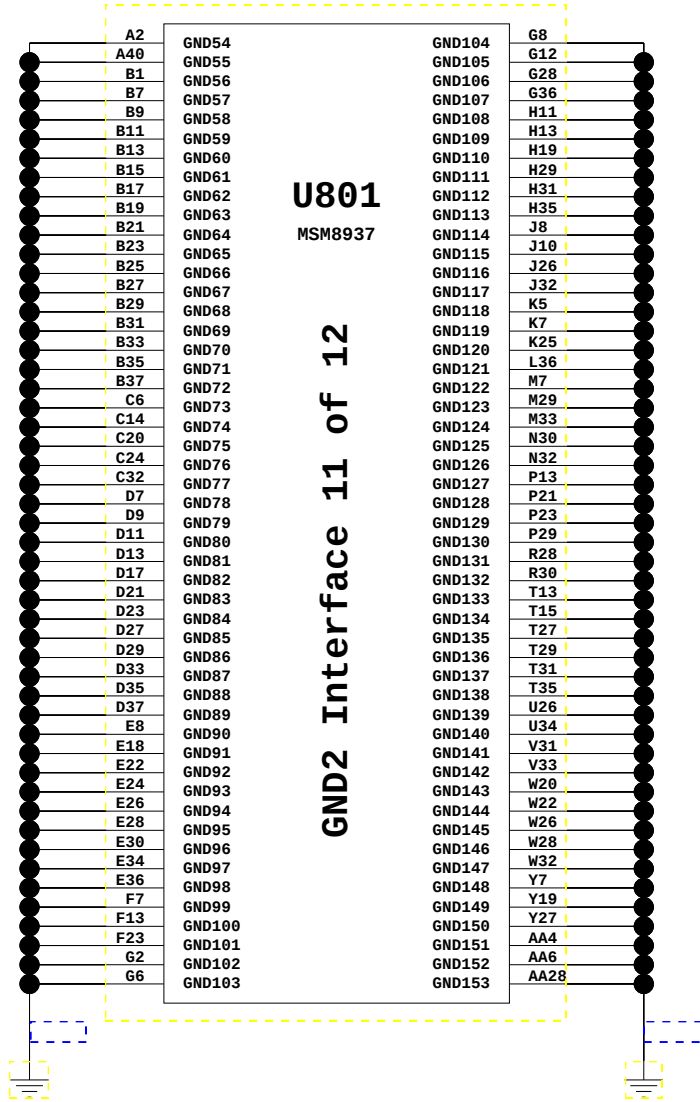
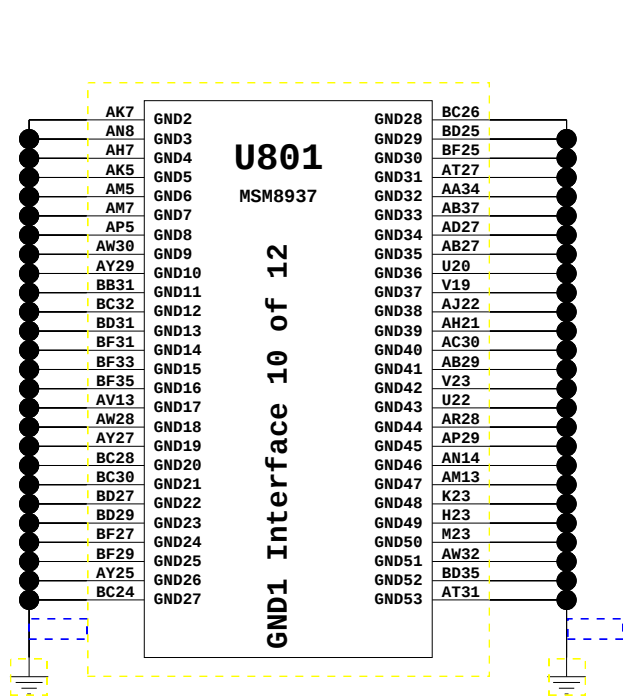
D



13. MSM8917 Power2



14. MSM8917 GND

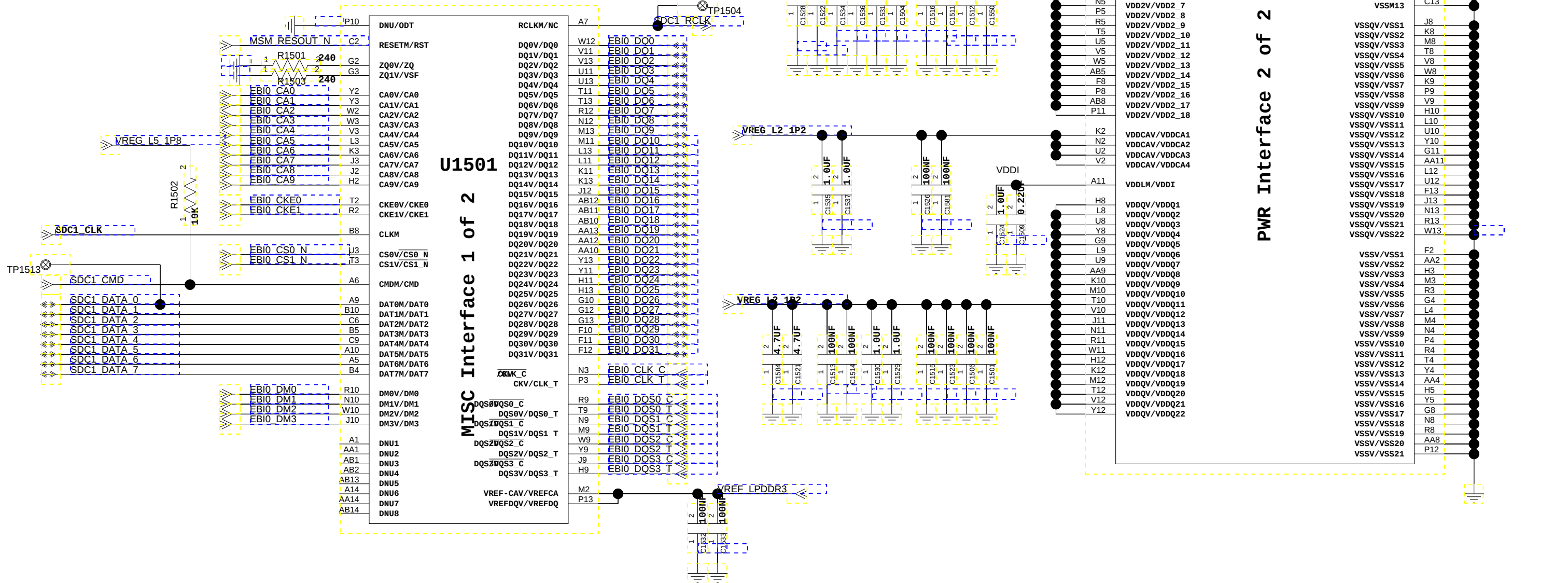


15. eMMC and LPDDR3

**BOM Notes:

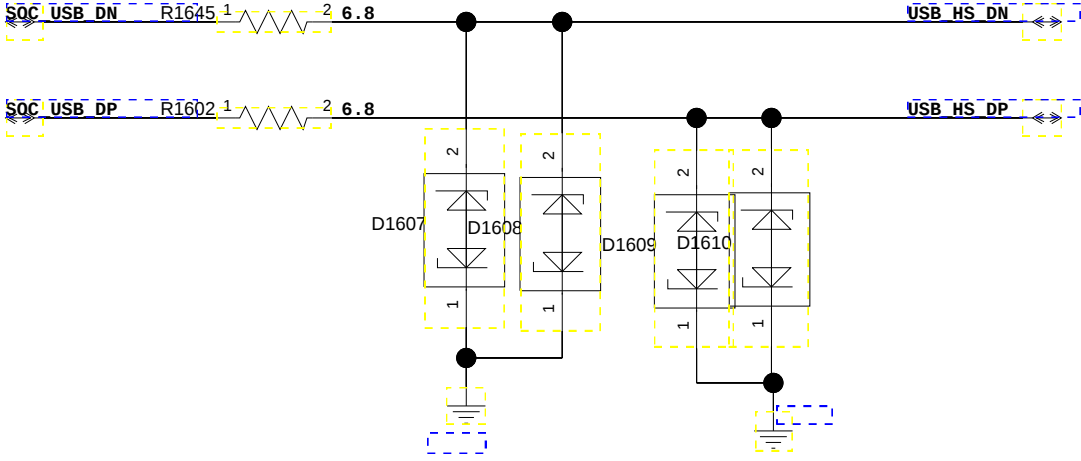
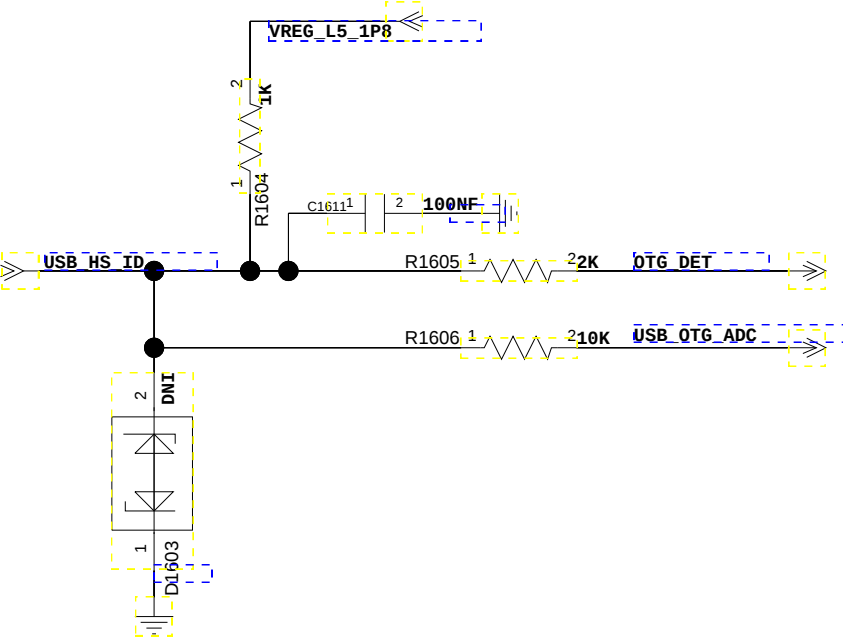
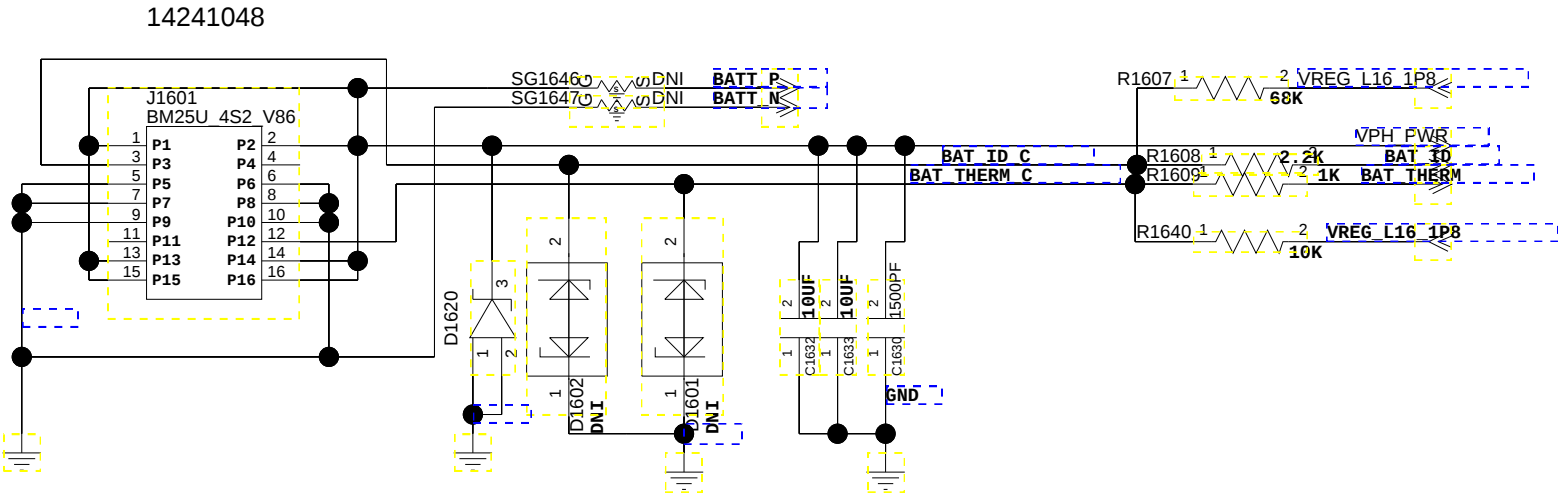
TRT_LX1/LX2/LX3: 2G LPDDR3+16G EMMC 40060810

TRT_AL00/TL10: 3G LPDDR3+32G EMMC 40060812



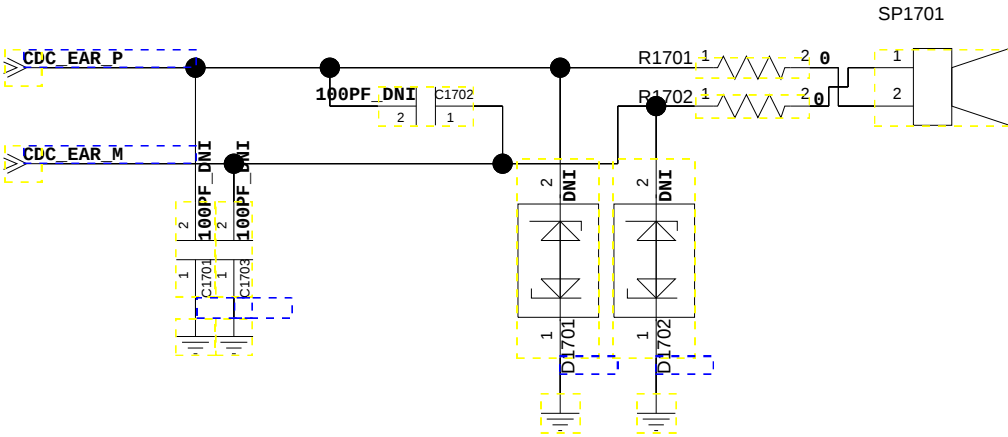
16. Battery/USB IF.

Battery Conector

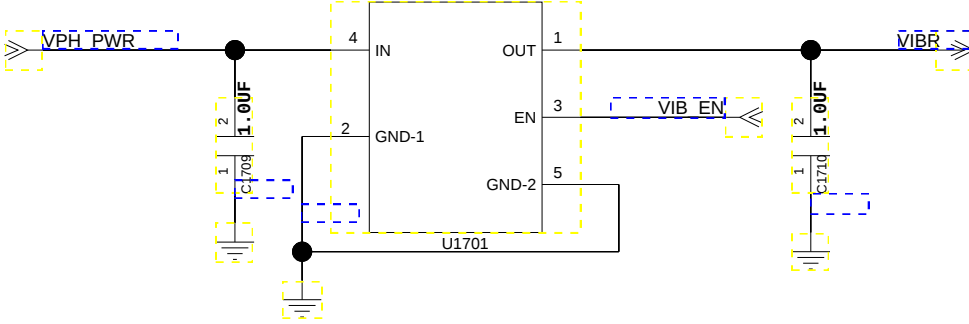


17. Receiver/SPK/Vibrator

Receiver

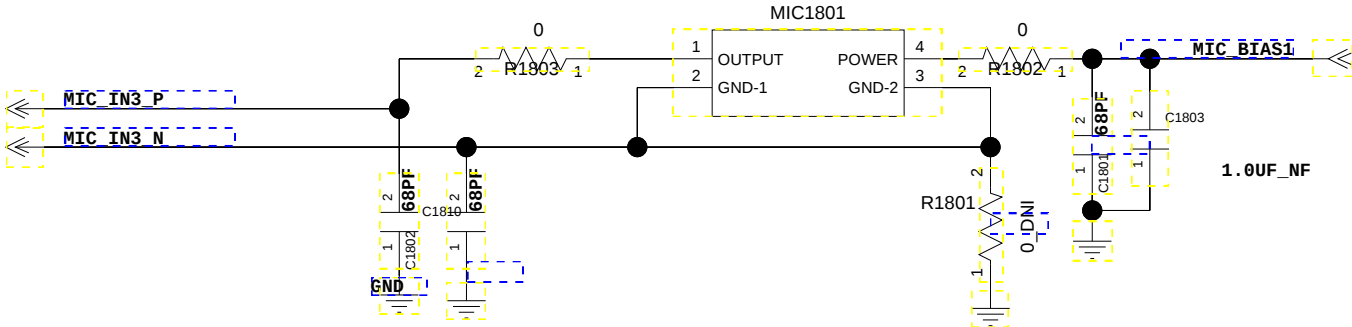


Vibrator



18. MIC

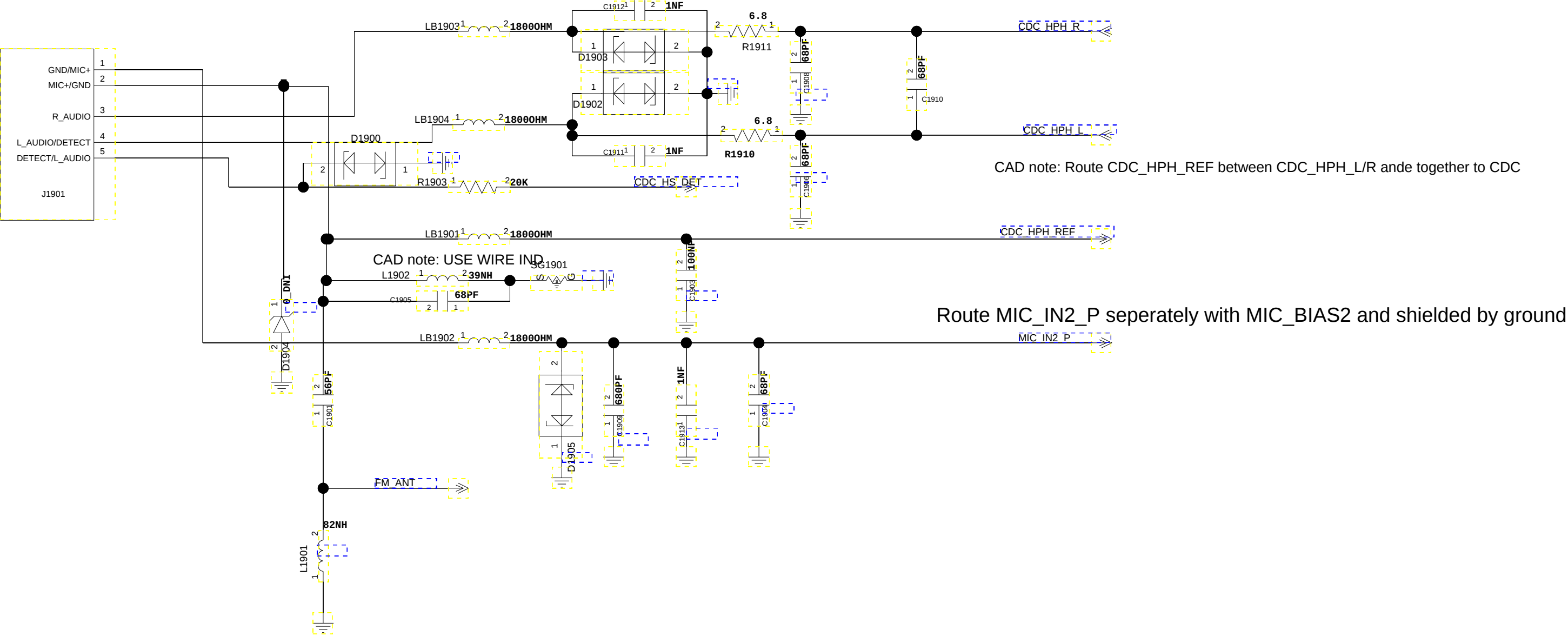
Secondary Mic



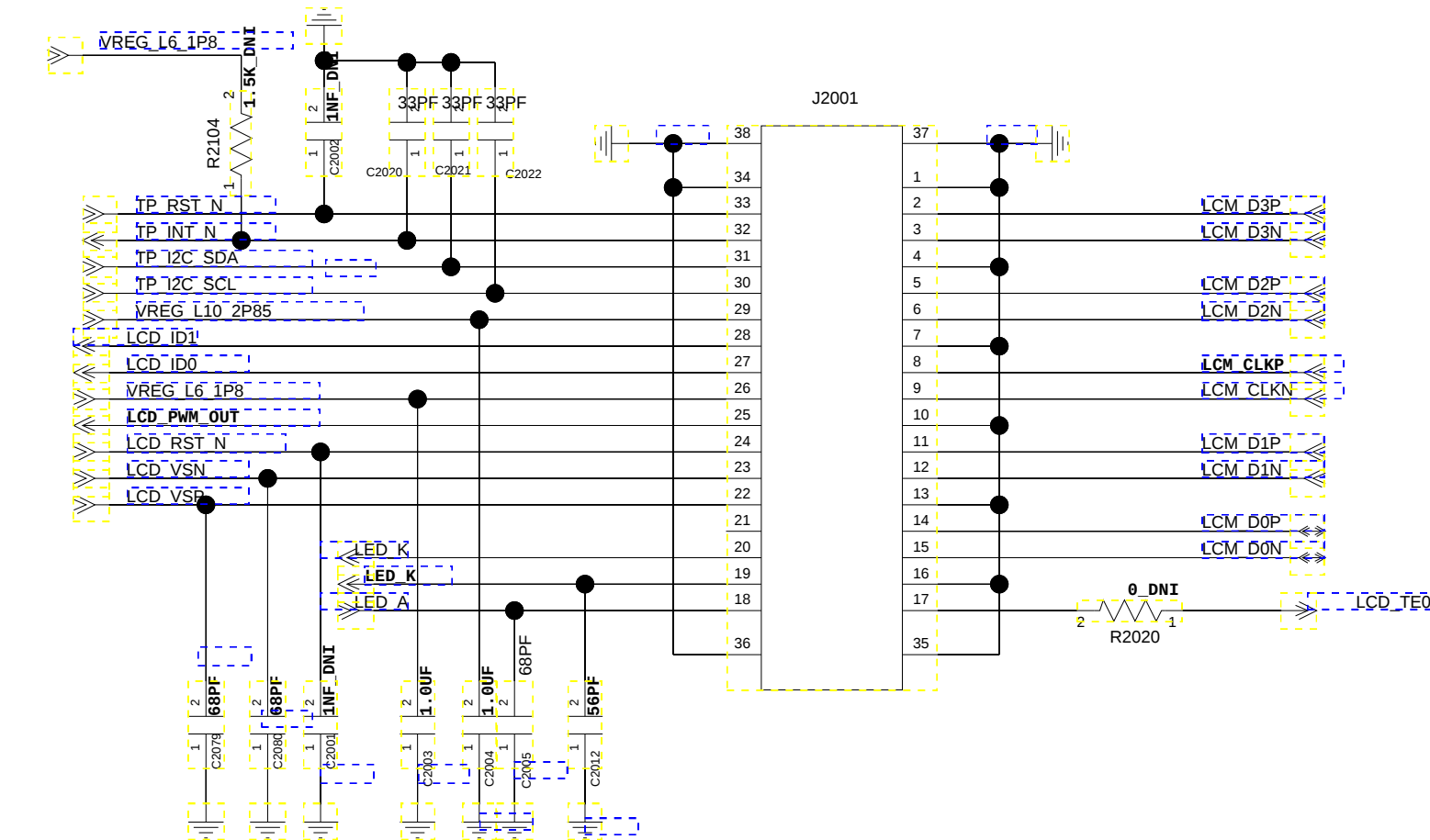
CAD NOTE:
route with differential pair to the CODEC

19. Earphone

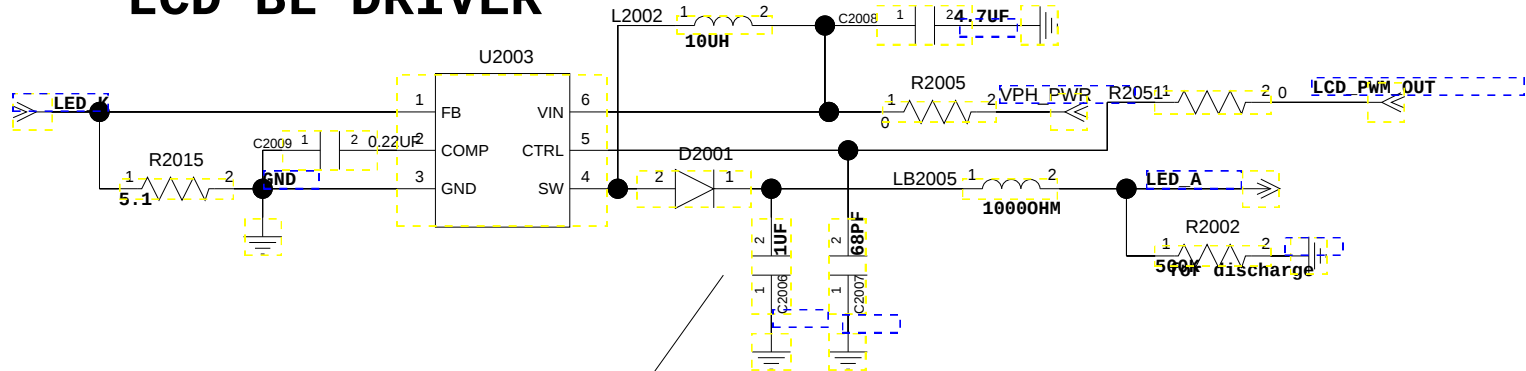
Earphone



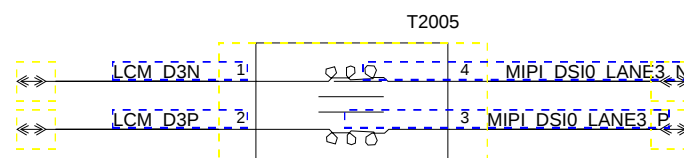
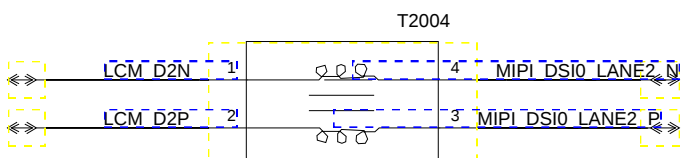
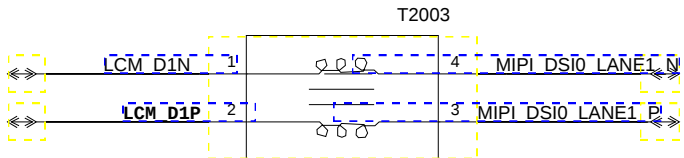
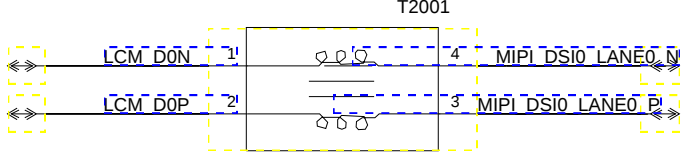
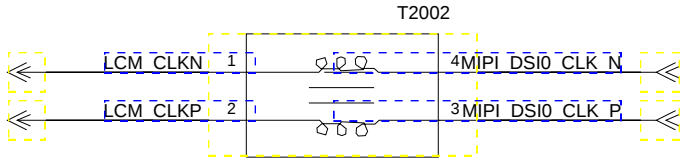
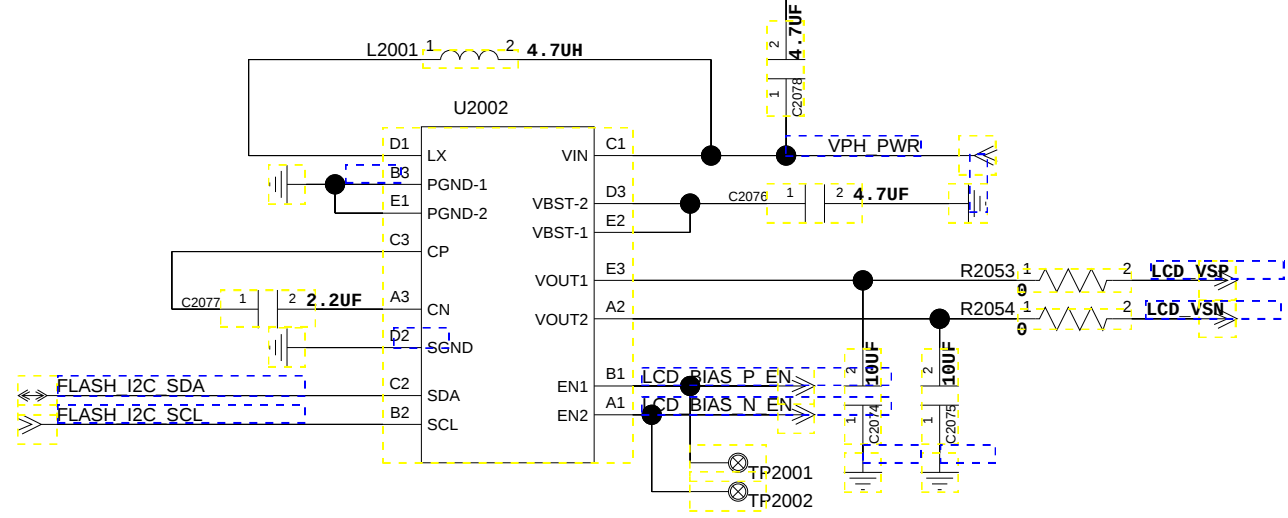
20. LCD/CTP IF.



LCD BL DRIVER

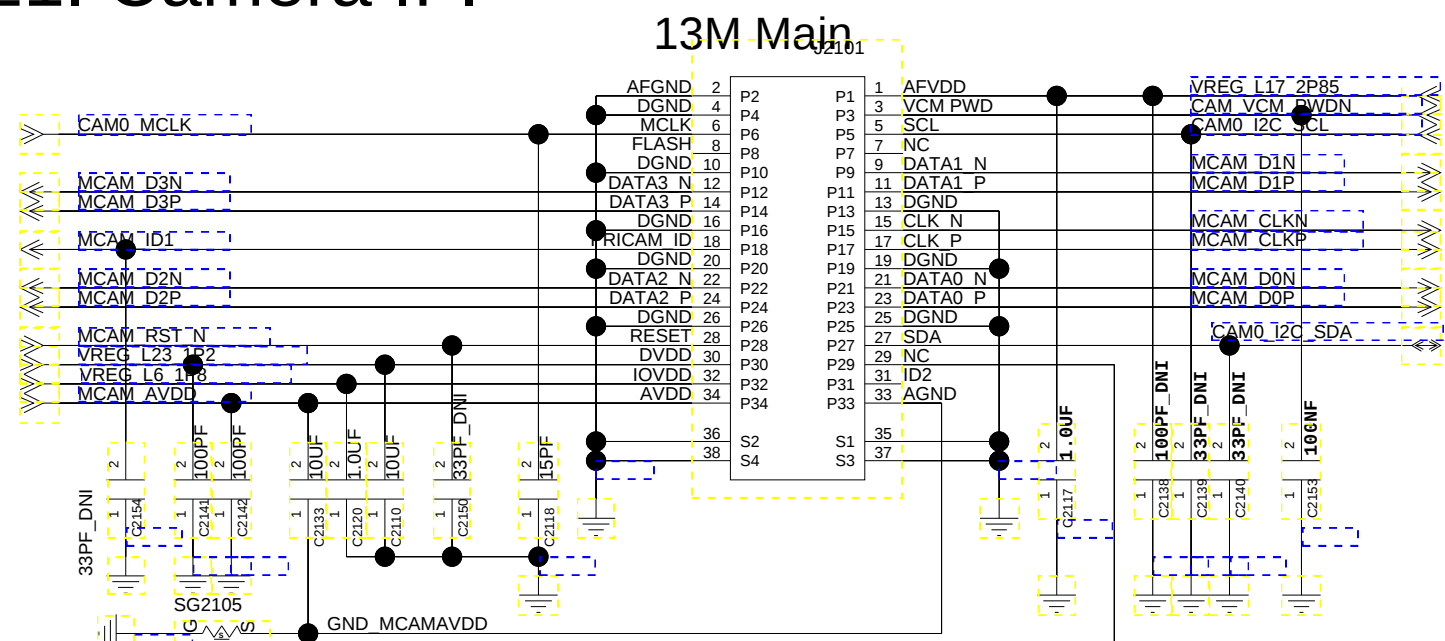


LCD POS/NEG Voltage Driver

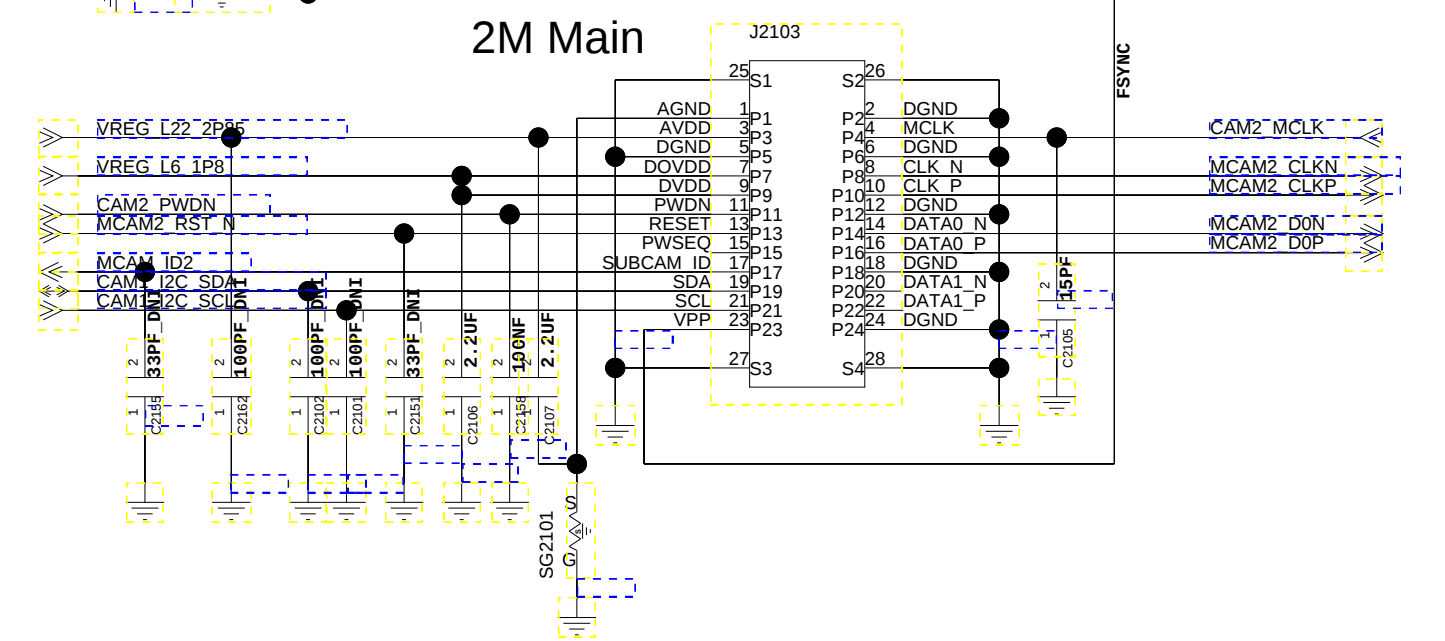


21. Camera IF.

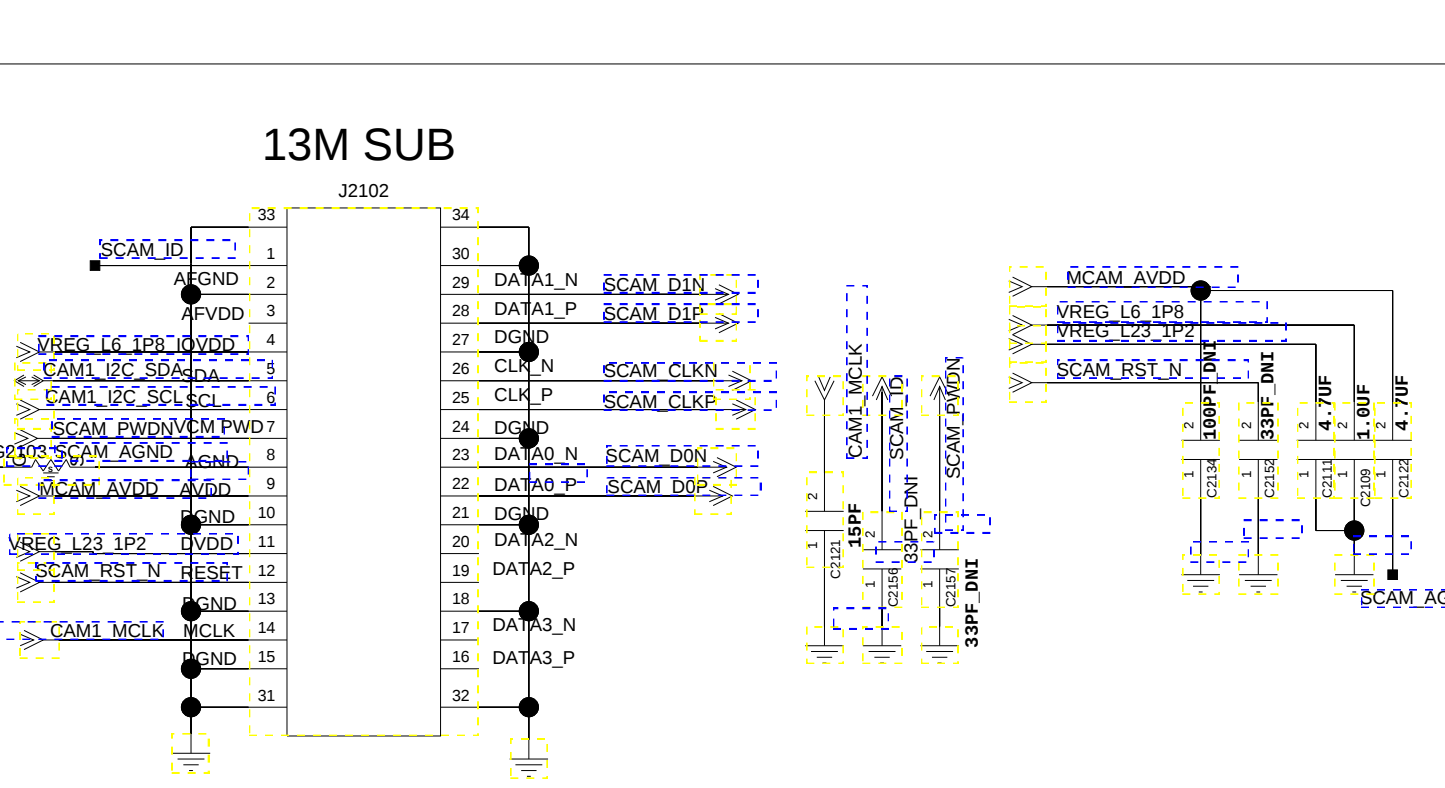
A



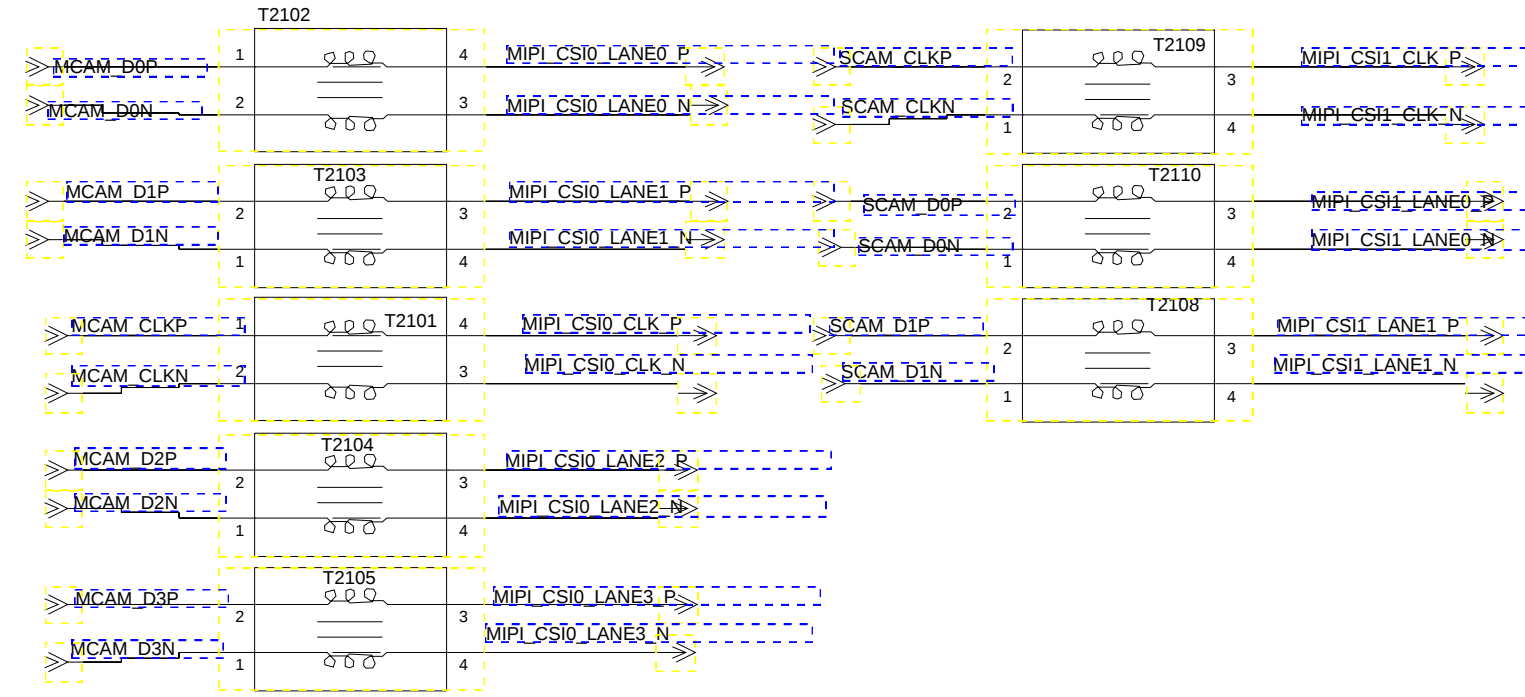
B



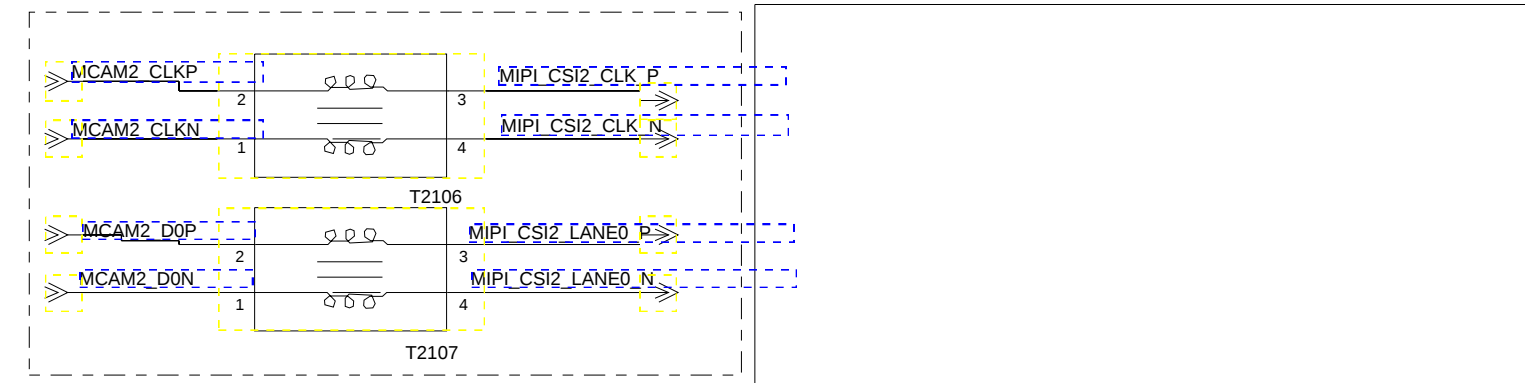
C



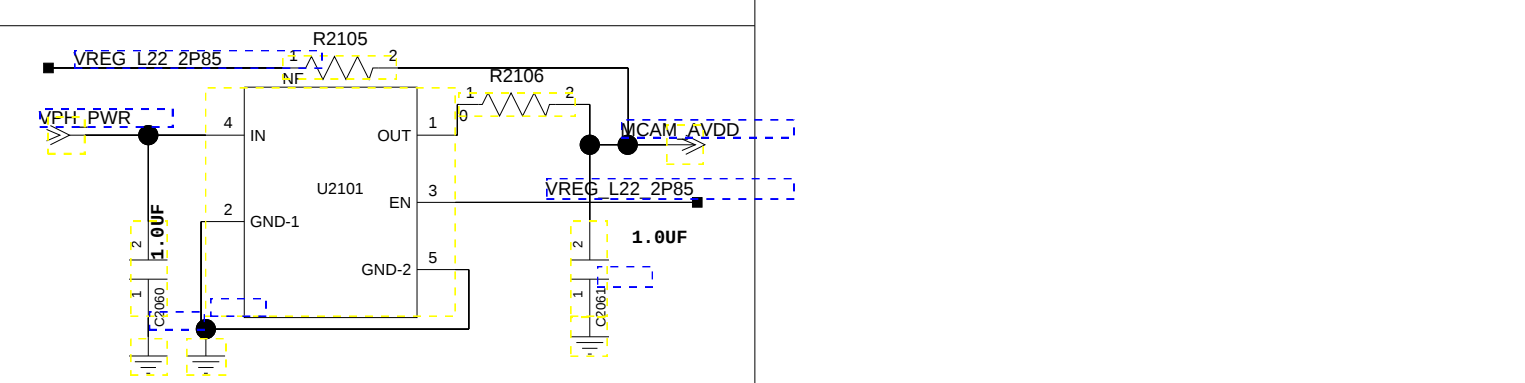
D



A



B



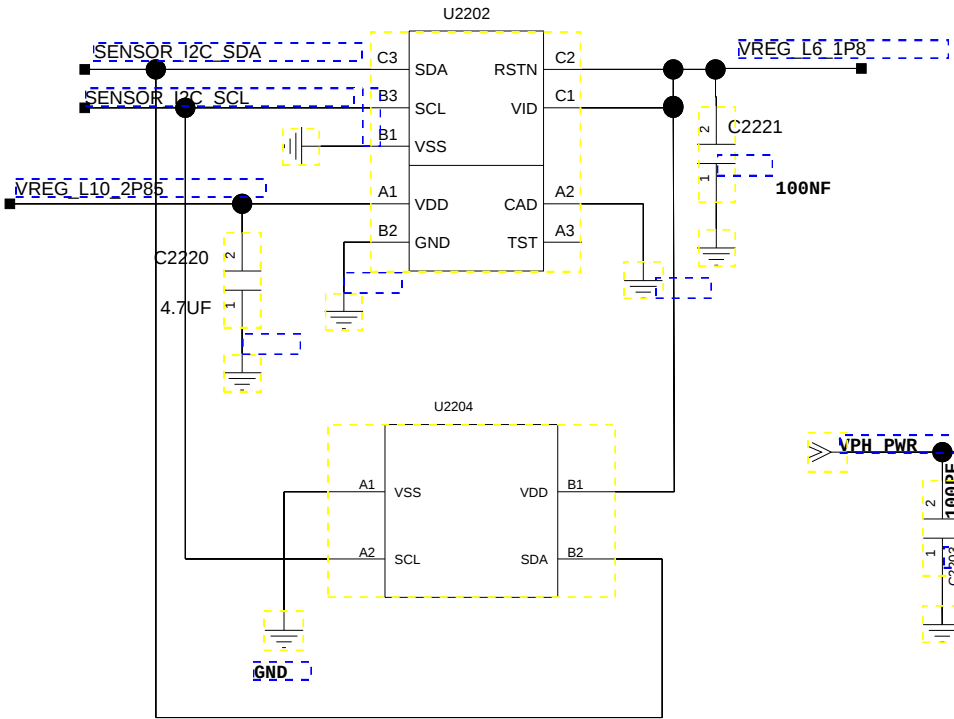
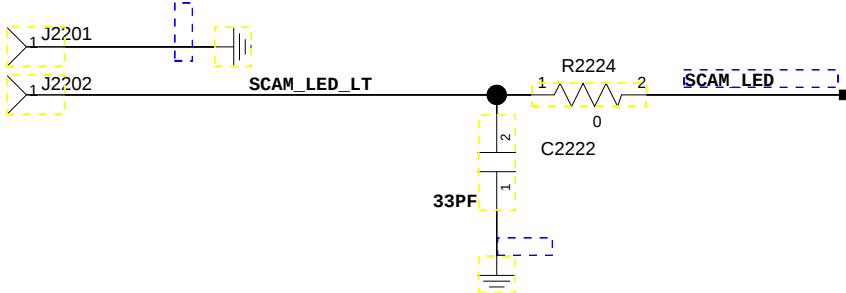
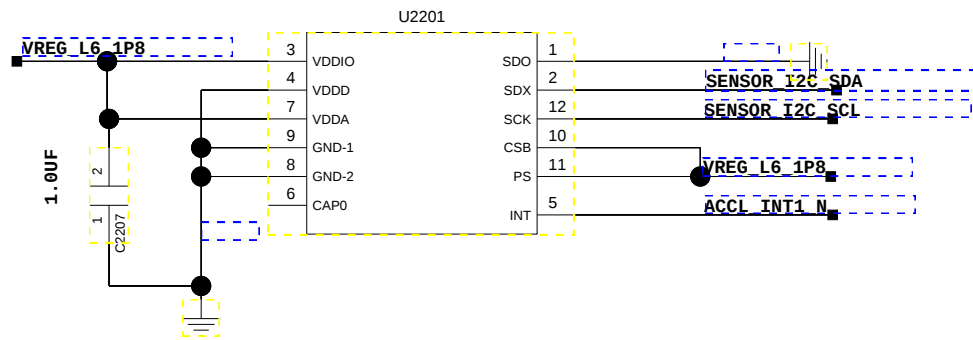
C

5

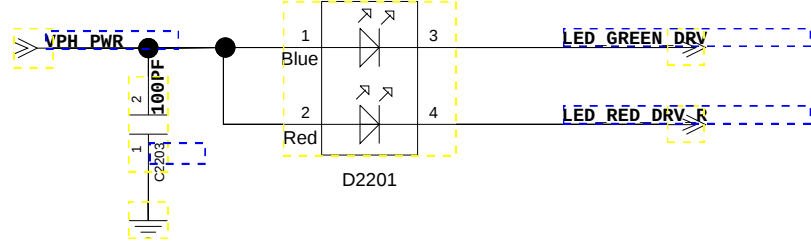
6

22. Sensor

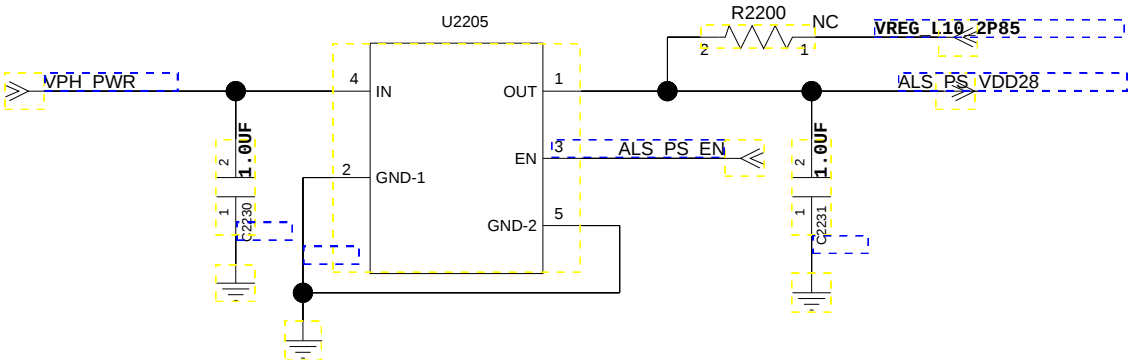
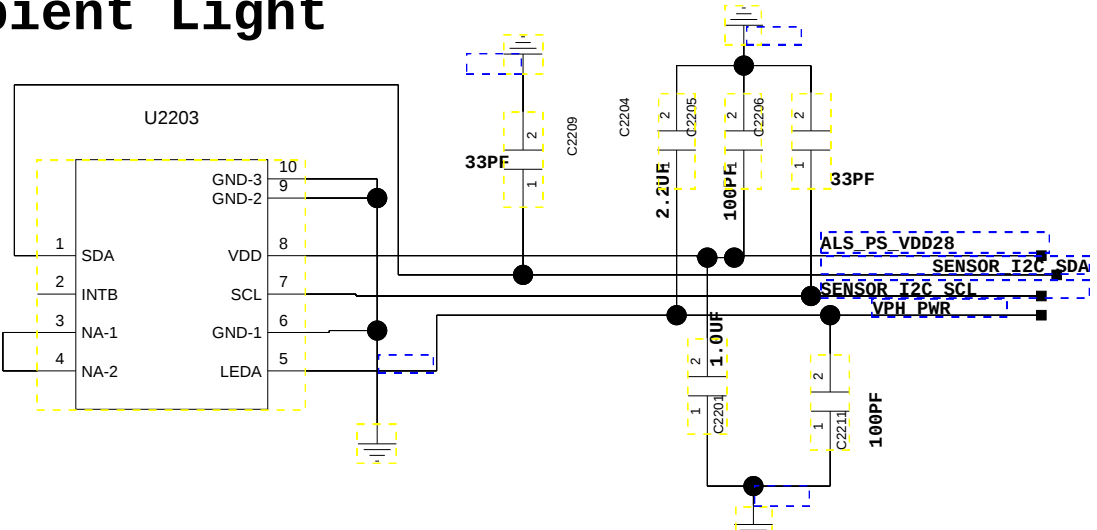
Accelerometer



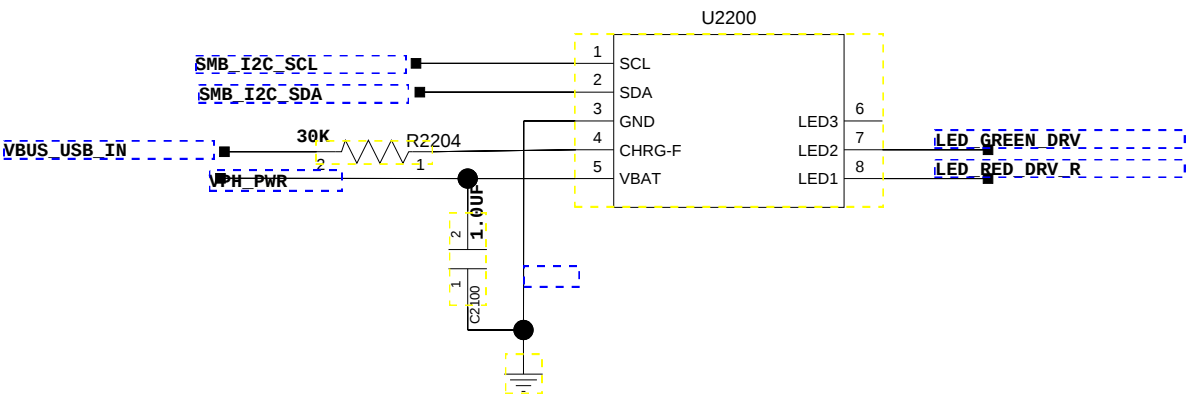
Status indicator



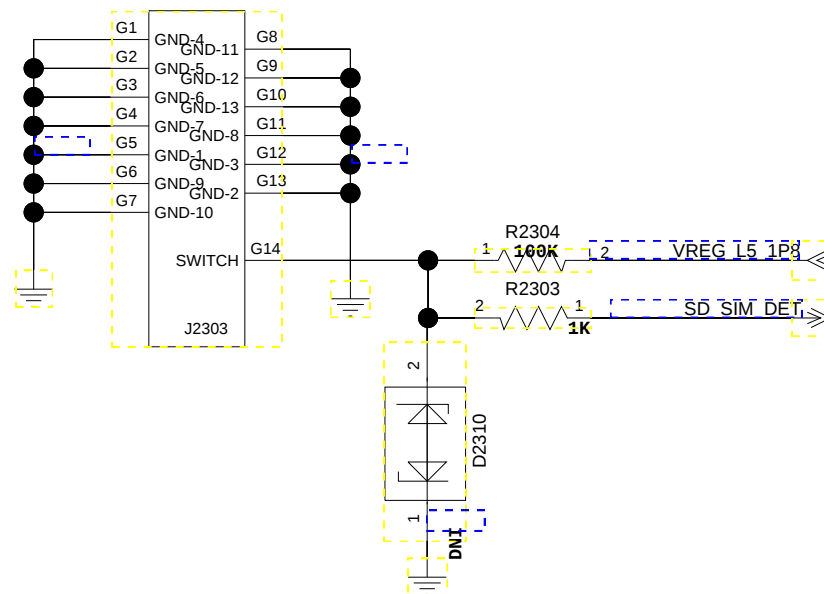
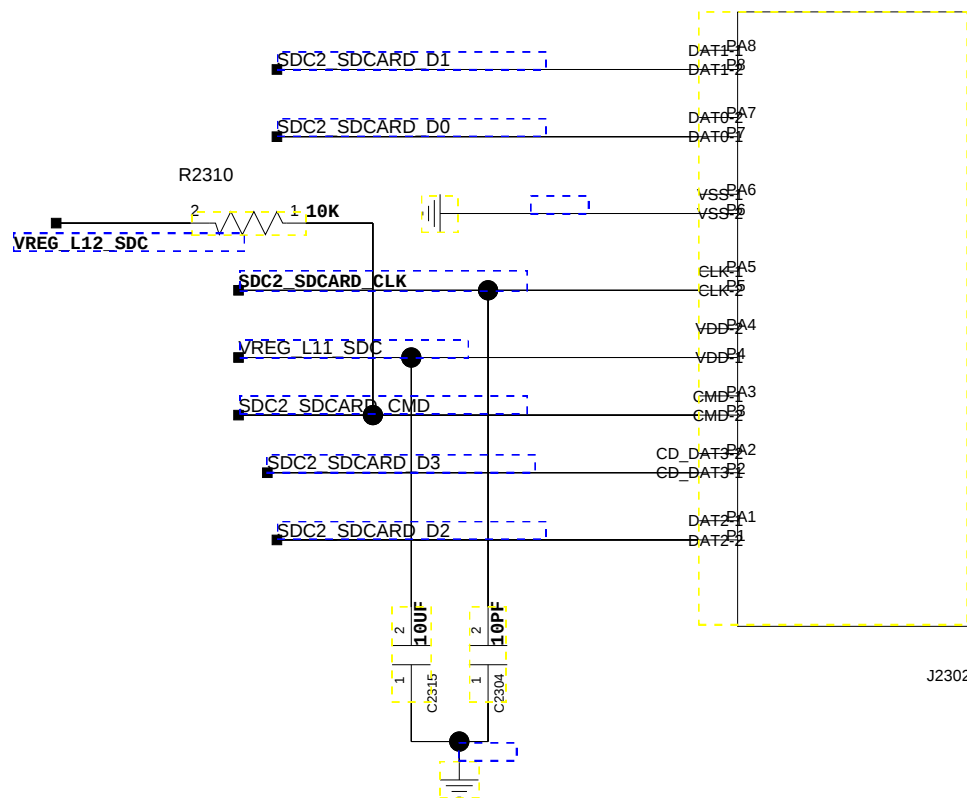
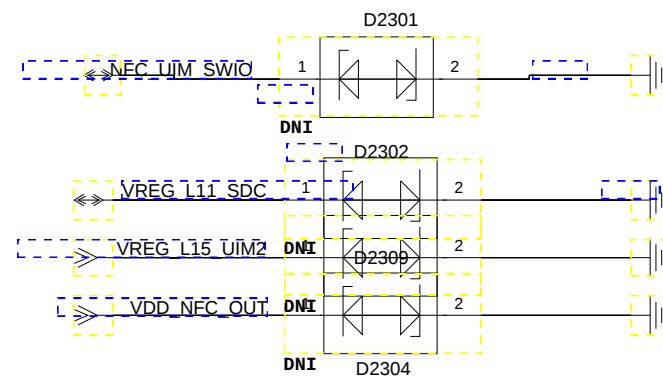
Ambient Light



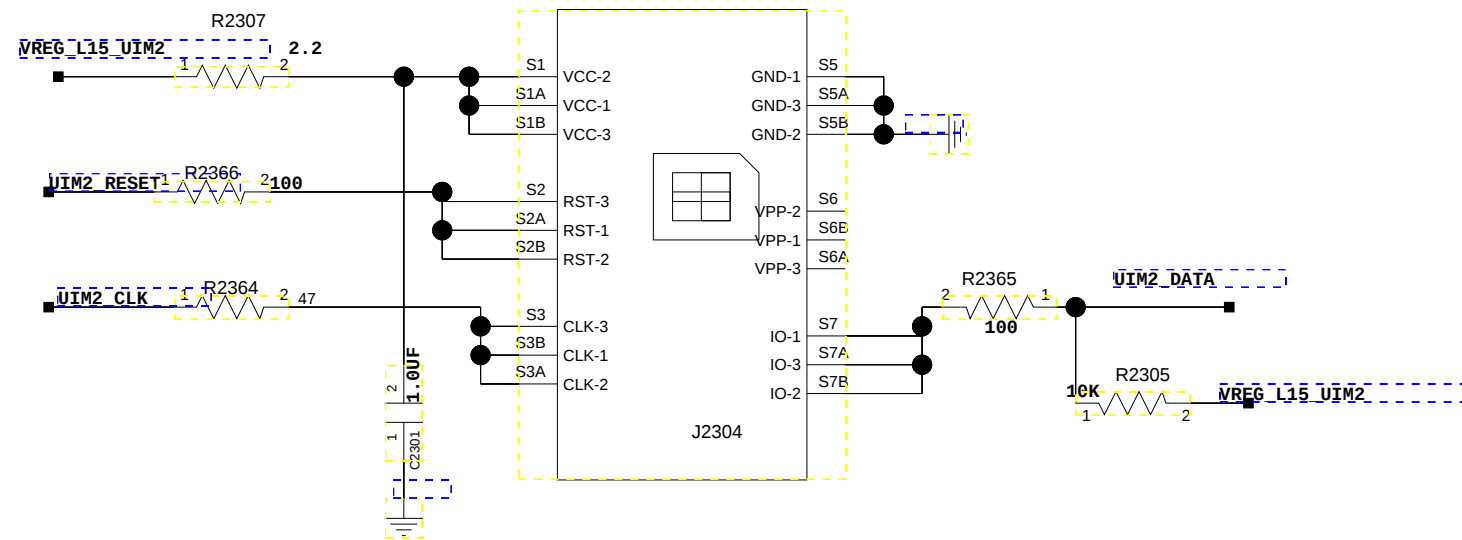
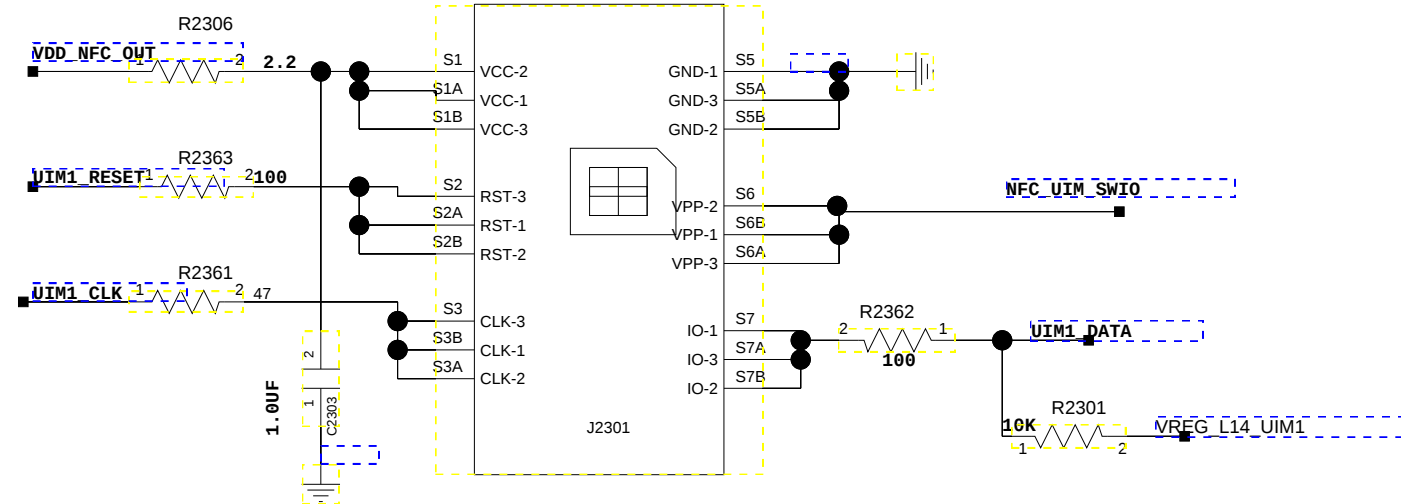
Status indicator



23. SIM/TF IF.



Nano SIM Card 1 TDL/UL/TDS/WCDMA/CDMA/GSM



24. Sidekey

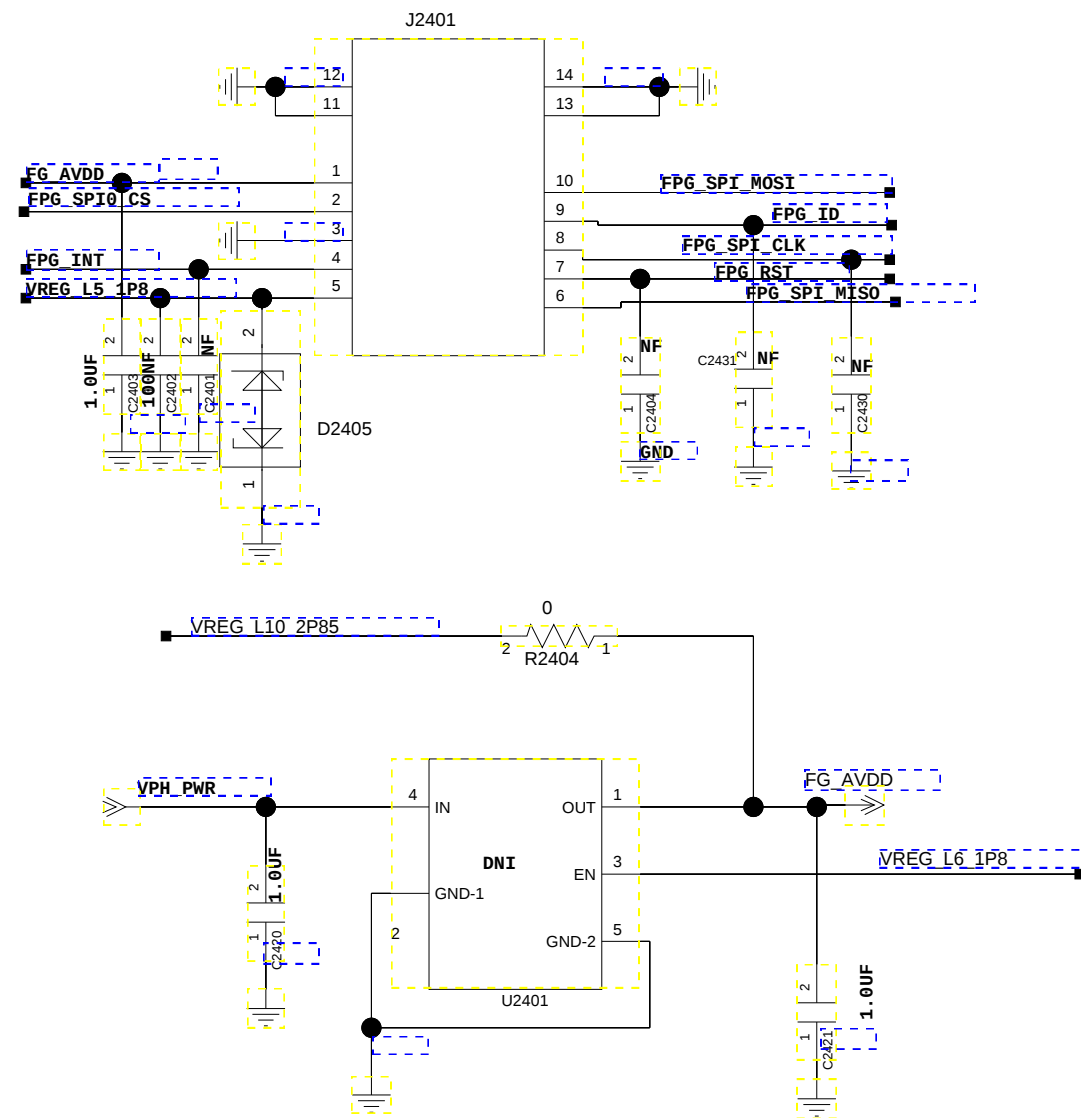
FingerPrint BTB

BOM Note:

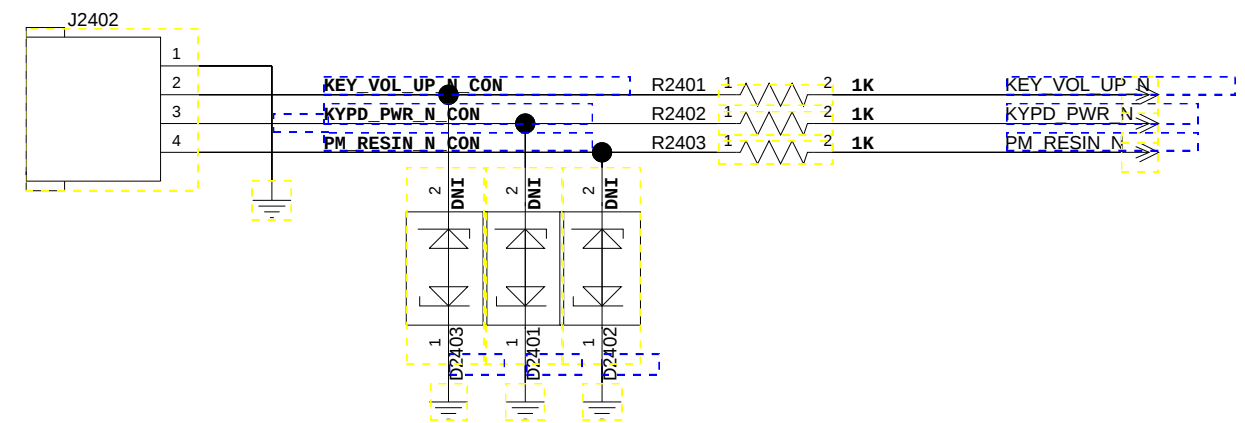
TRT_AL00/AL10/TL10 support FingerPrint;

TRT_LX1/LX2/LX3 not support FingerPrint,and all components of FingerPrint can DNI.

FingerPrint Module code is 23100012

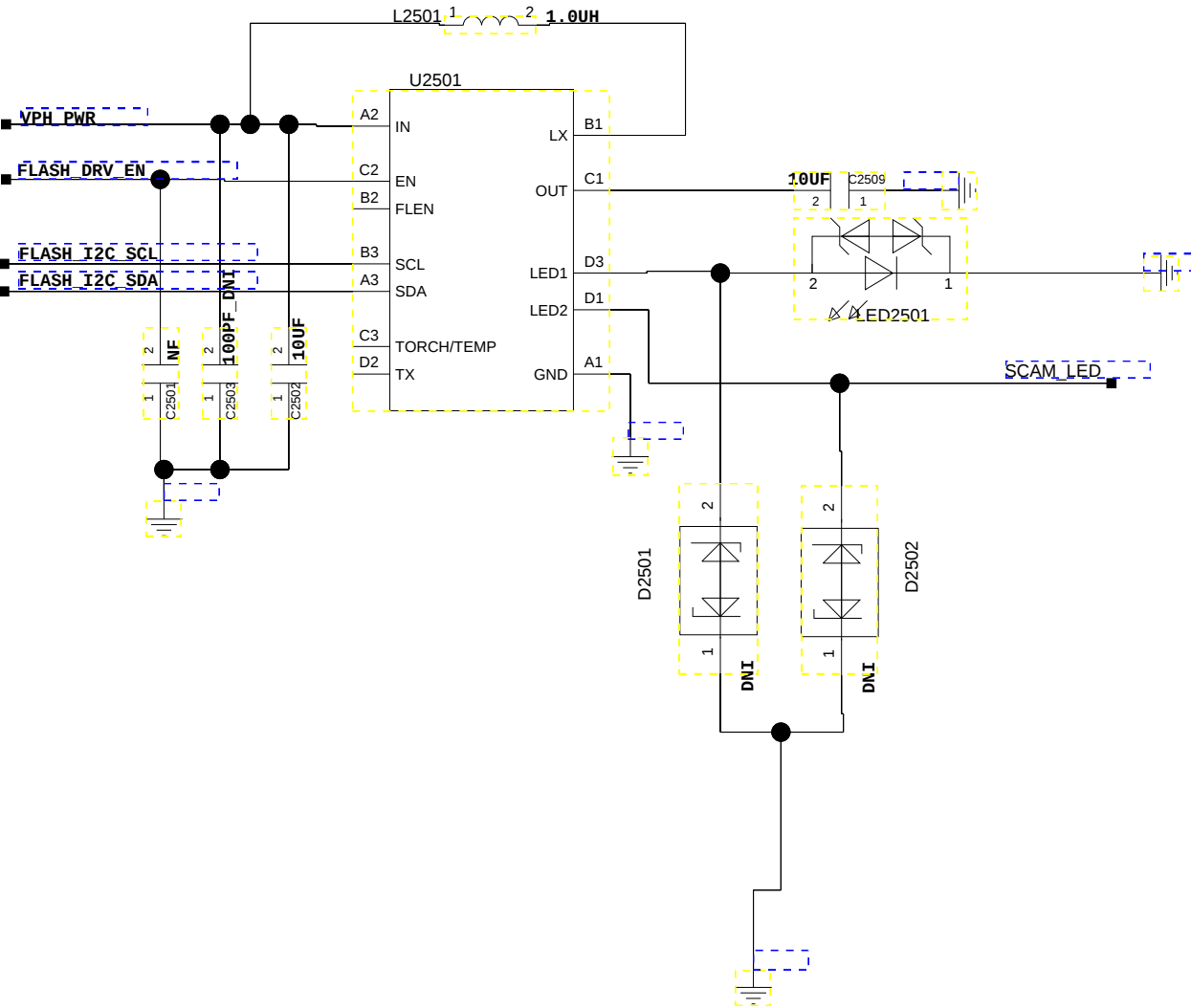


KEY BTB



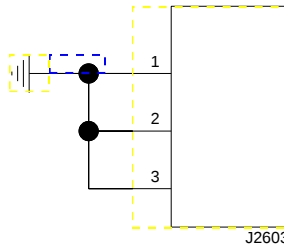
QC design notice: keep C_load < 10pf on KPD_PWR_N, RESIN_N, so D2401 D2402 change to 15040436

25. Flash

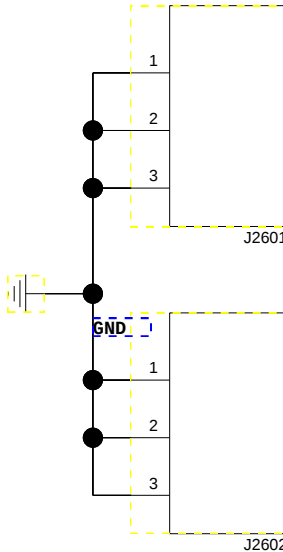


26. Shielding

Sub camera BTB bracket

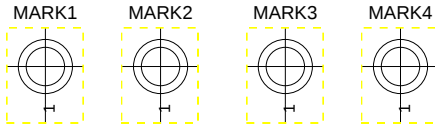


Shielding

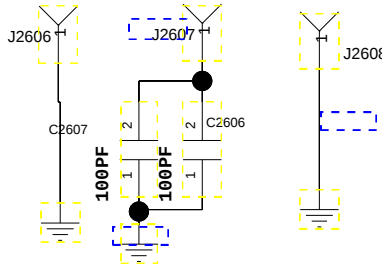


GND springs

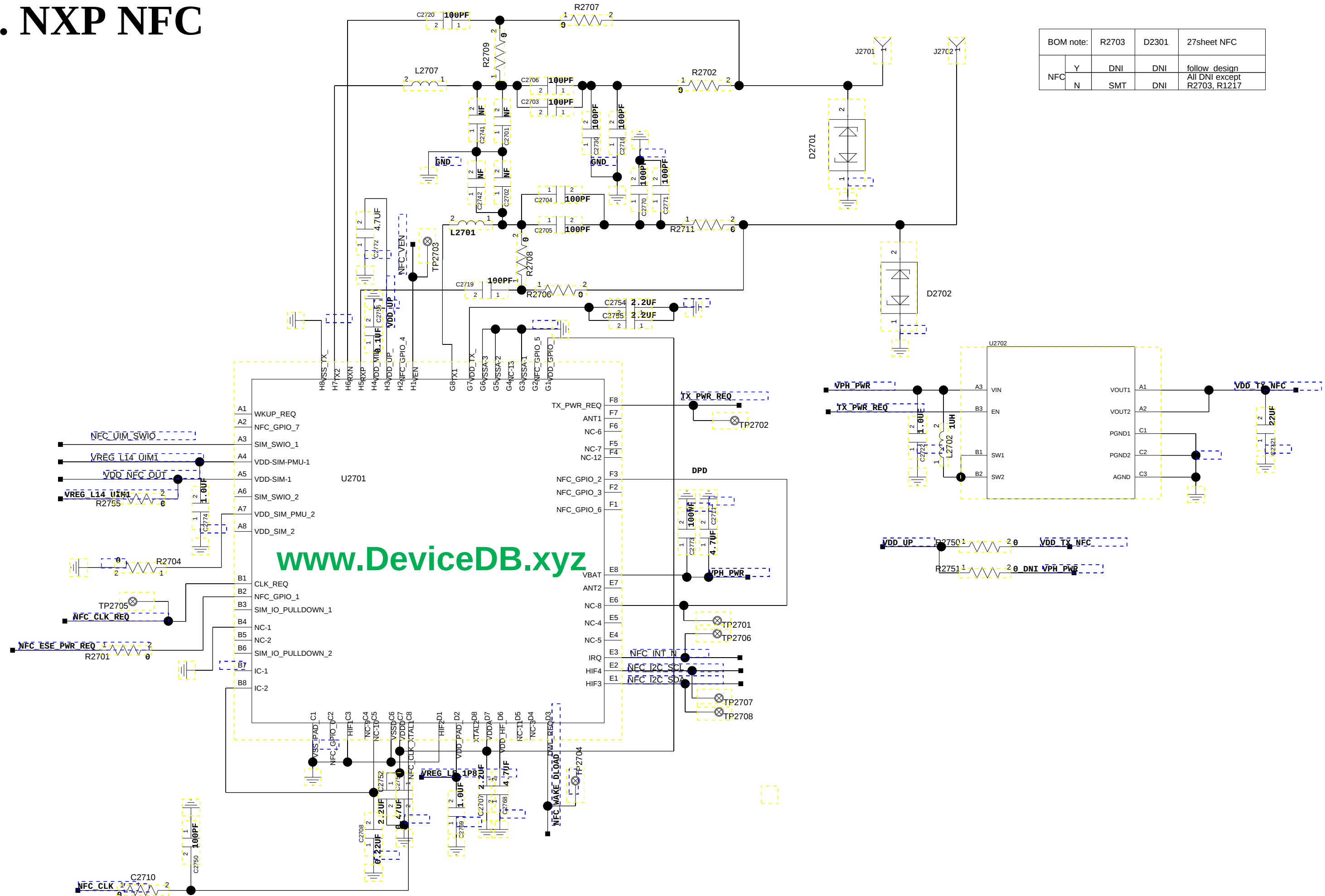
MARK POINT



HOLE



27. NXP NFC

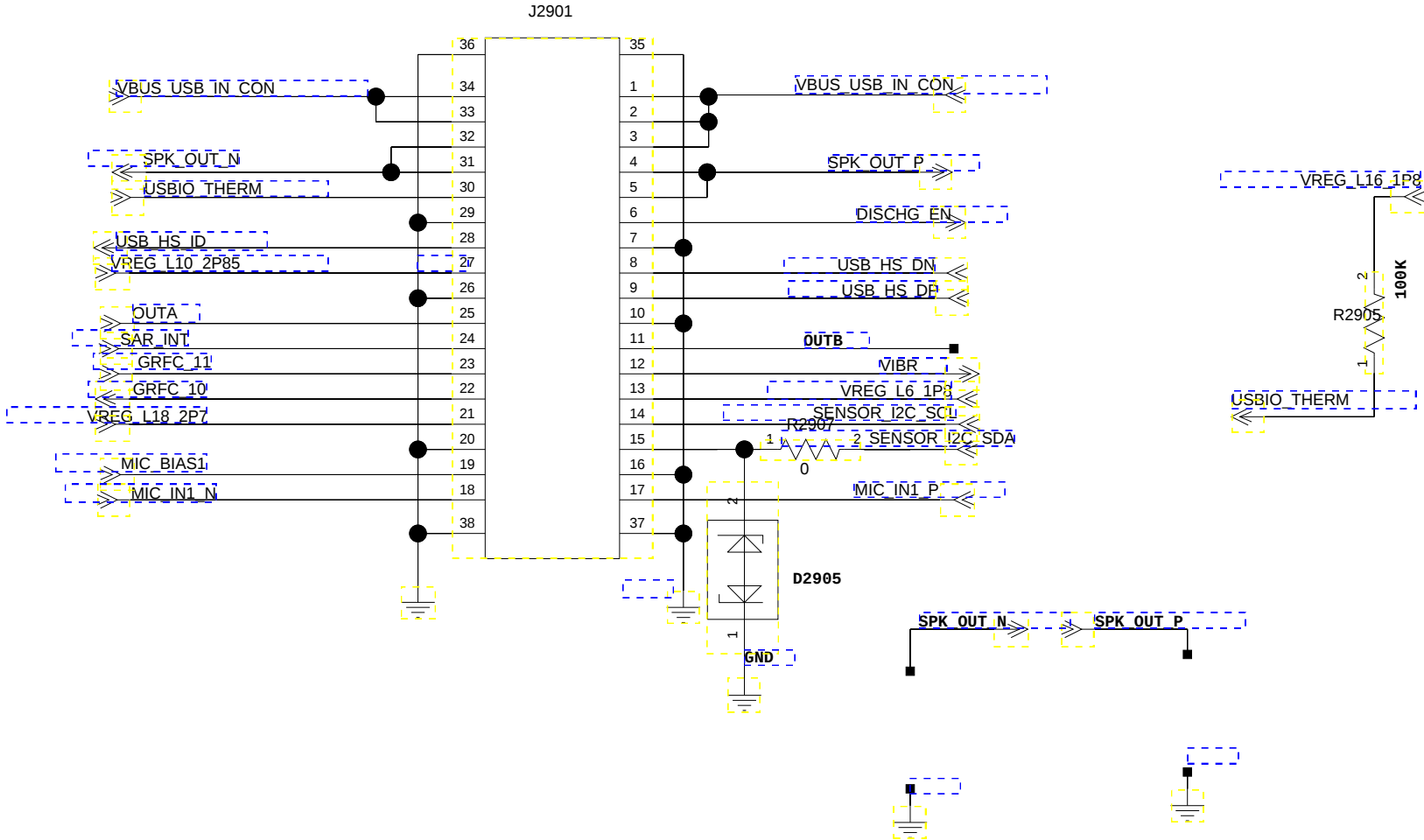


BOM note:		R2703	D2301	27sheet NFC
NFC	Y	DNI	DNI	follow design
	N	SMT	DNI	All DNI except R2703, R1217

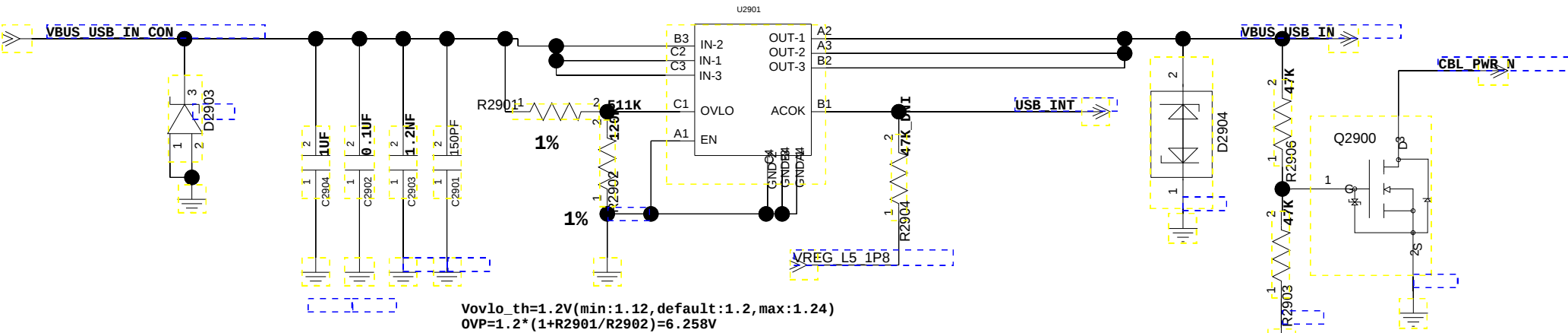
28. DPS_ALS					
1	2	3	4	5	6
A					
B					
C					
D					
1	2	3		5	6

29. Sub FPC IF

Main FPC BTB

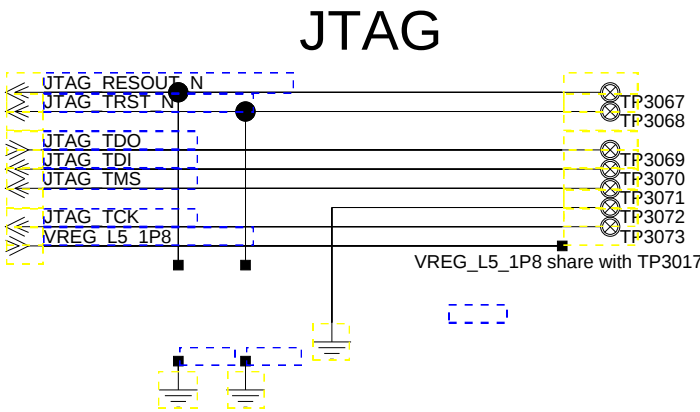
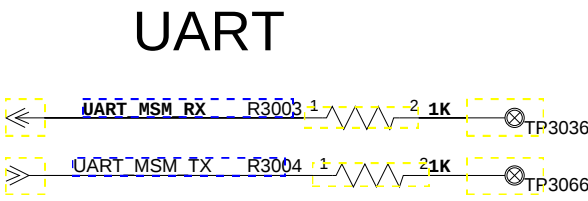
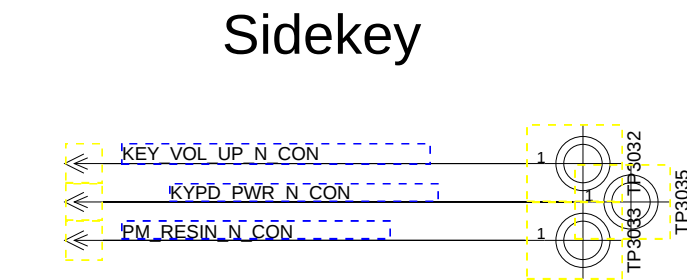
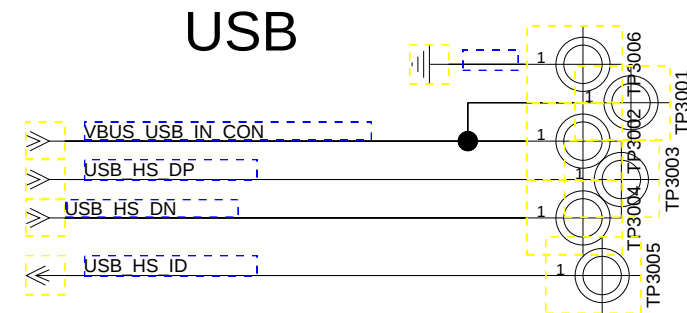
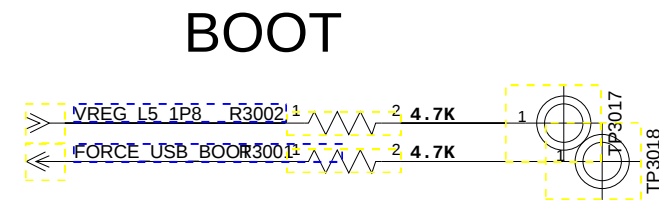
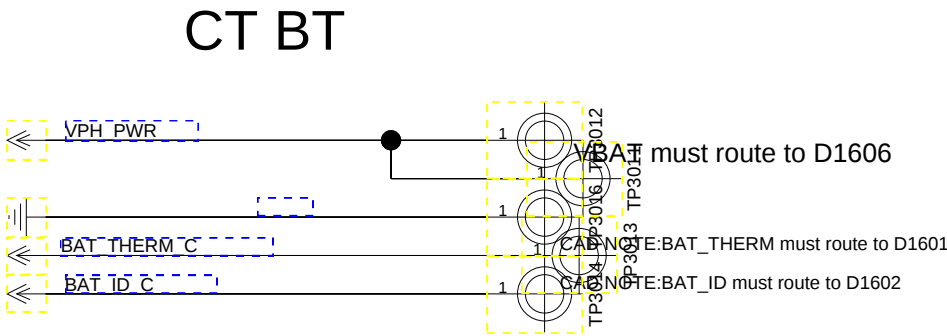


Plase close to J2901 placement



Vovlo_th=1.2V(min:1.12,default:1.2,max:1.24)
OVP=1.2*(1+R2901/R2902)=6.258V

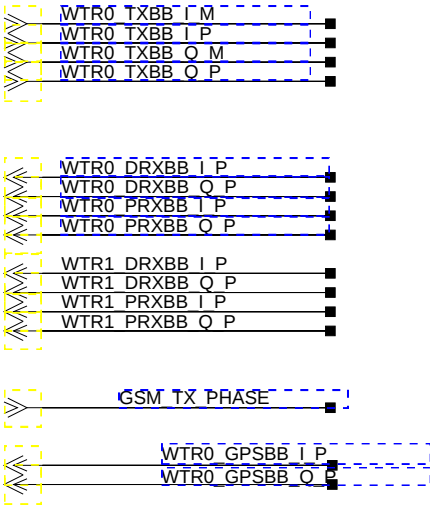
30. Test Points.



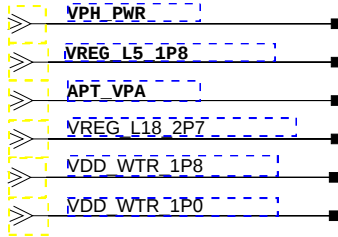
31.RF Interface

- 32_RF Transceiver0
- 33_APT Power
- 34_Reserved
- 35_TRX B12/17/20/28 PRX_B34
- 36_MMMB PA SKY77643
- 37_TRX B1/2/3/4/5/7/8
- 38_TX MATCHING CIRCUIT of B38/40/41
- 39_PRX B39/41/38/G850/900/1800/1900
- 40_TXM SKY77916
- 41_DIV_ANT1_SWITCH
- 42_DRX B1/4_2/3_5/20_7_8/12/17_28
- 43_DRX B39/41/38/40
- 44_DPDT
- 45_DIV_ANT1_TUNER
- 46_ANTENNA MATCH
- 47_Reserved
- 48_Reserved
- 49_Reserved
50. backup
51. backup
52. backup
- 53_Reserved
- 54_Reserved
- 55_Reserved
- 56_Reserved
- 57_Reserved
- 58_Reserved
- 59_Reserved
- 60_Reserved
- 61_Reserved
- 62_Reserved
- 63_Reserved
- 64_Reserved
- 65_Reserved
- 66_Reserved
- 67_WIFI/GPS ANTENNA MATCH
- 68_Reserved

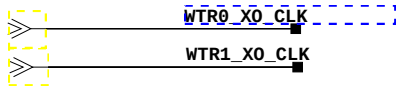
WTR2965 RF Interface



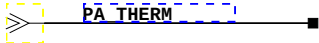
Power



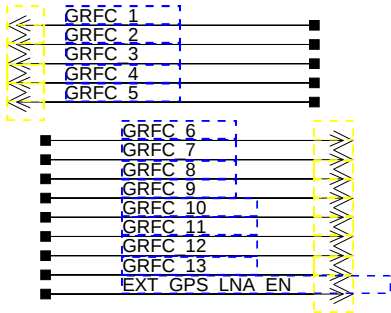
CLOCK



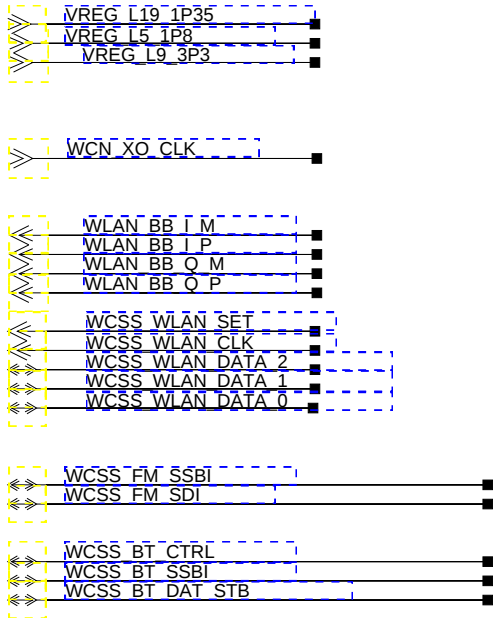
PA temperature



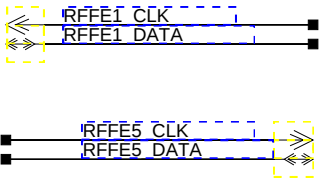
GPIO Interface



WCN3615 Interface



MIPI Interface

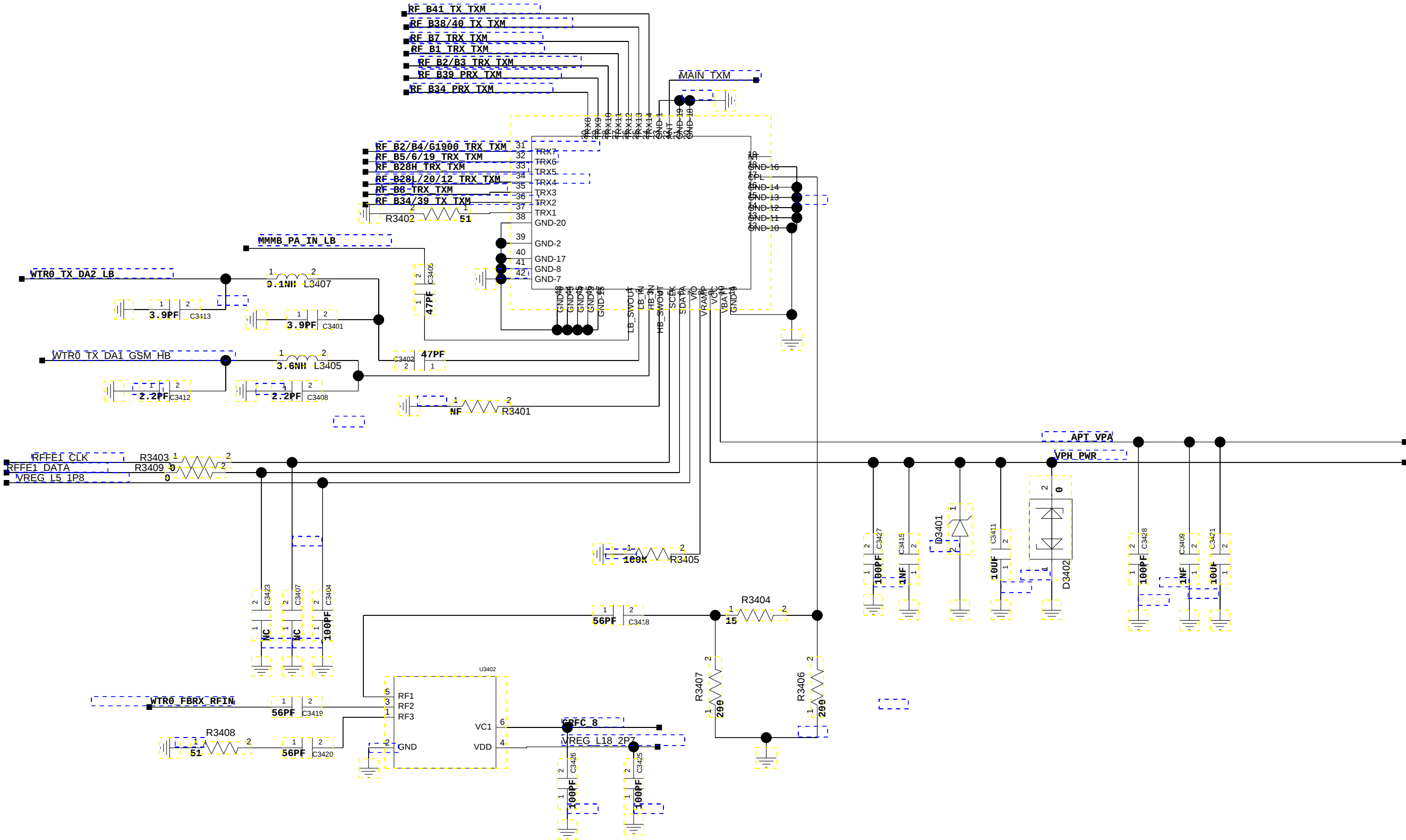


	1	2	3	4	5	6
A	32_Reserved					
B						
C						
D						
	1	2	3		5	6

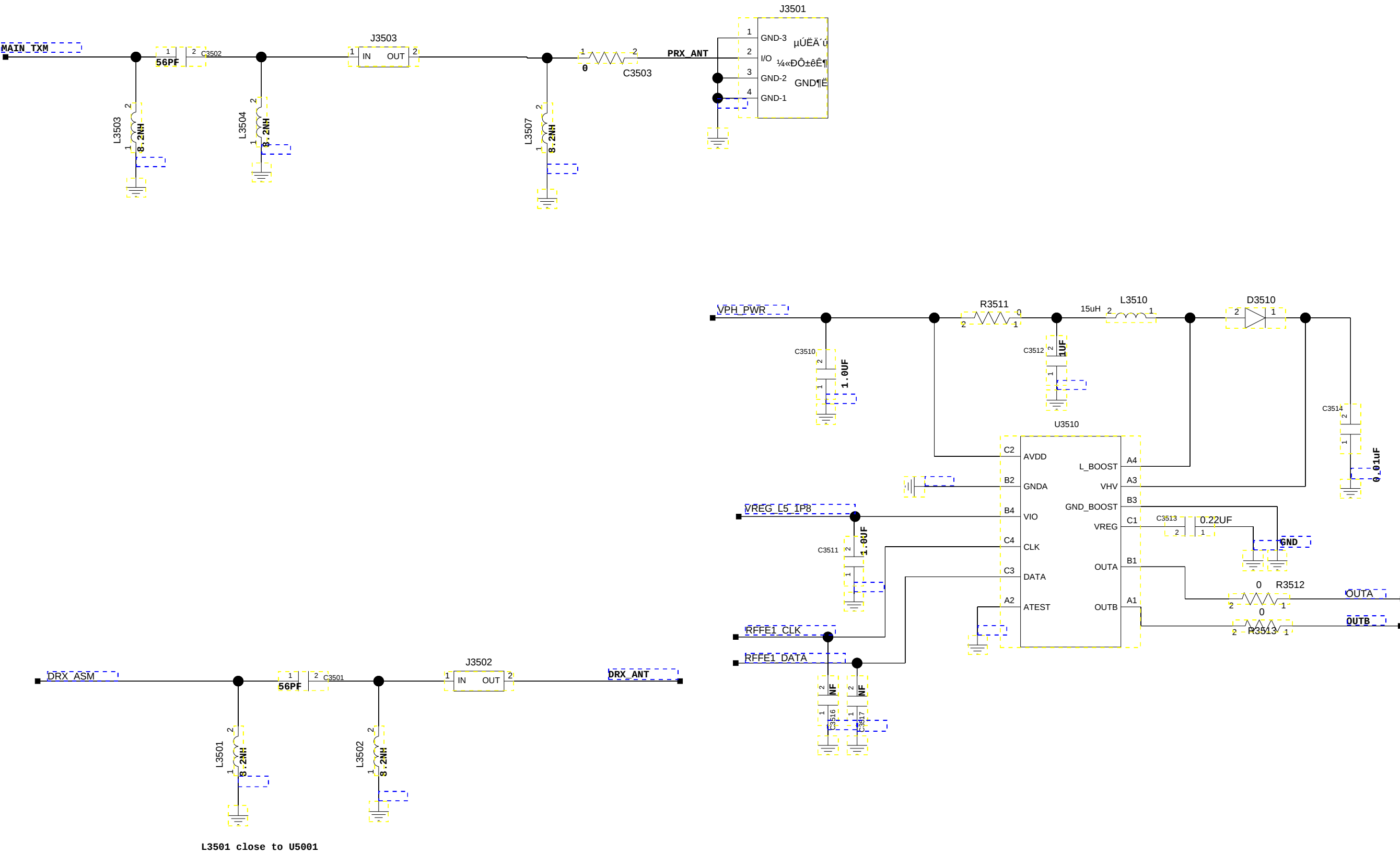
	1	2	3	4	5	6
A	33.Reserved					
B						
C						
D						

34_Primary ASM

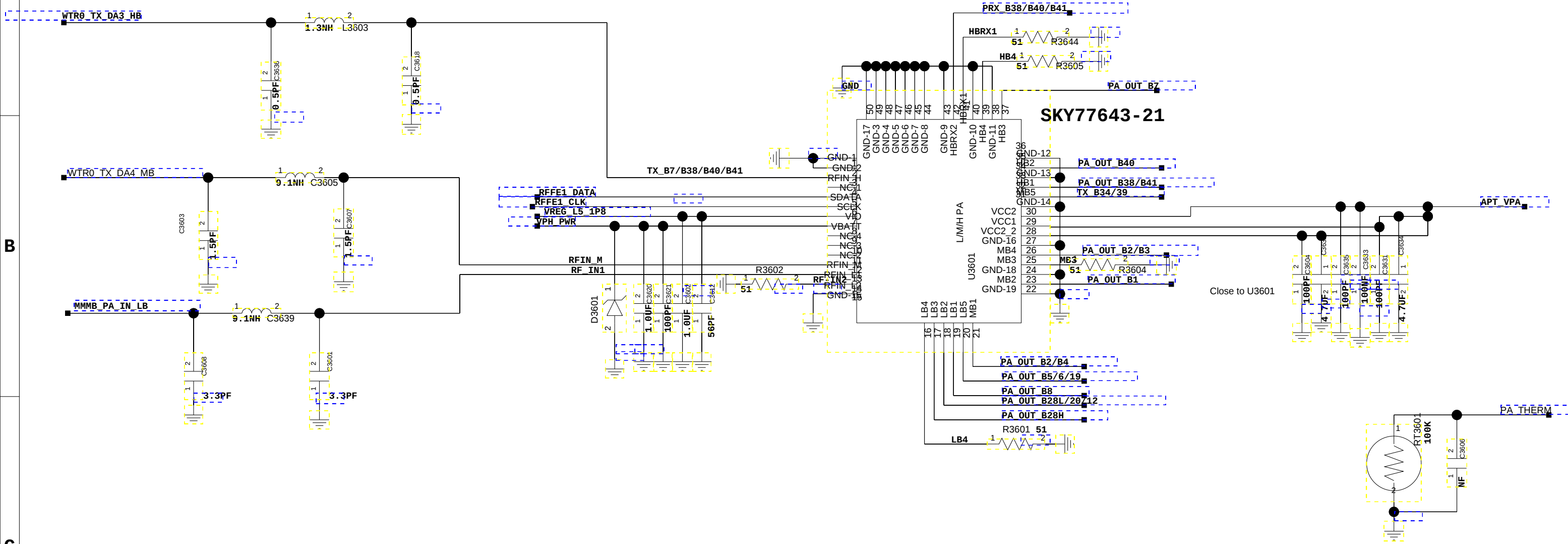
TRX11 タリヲB2 ニ范舁3
TRX9 タリヲB4 ニ范舁2



35_RF SWITCH

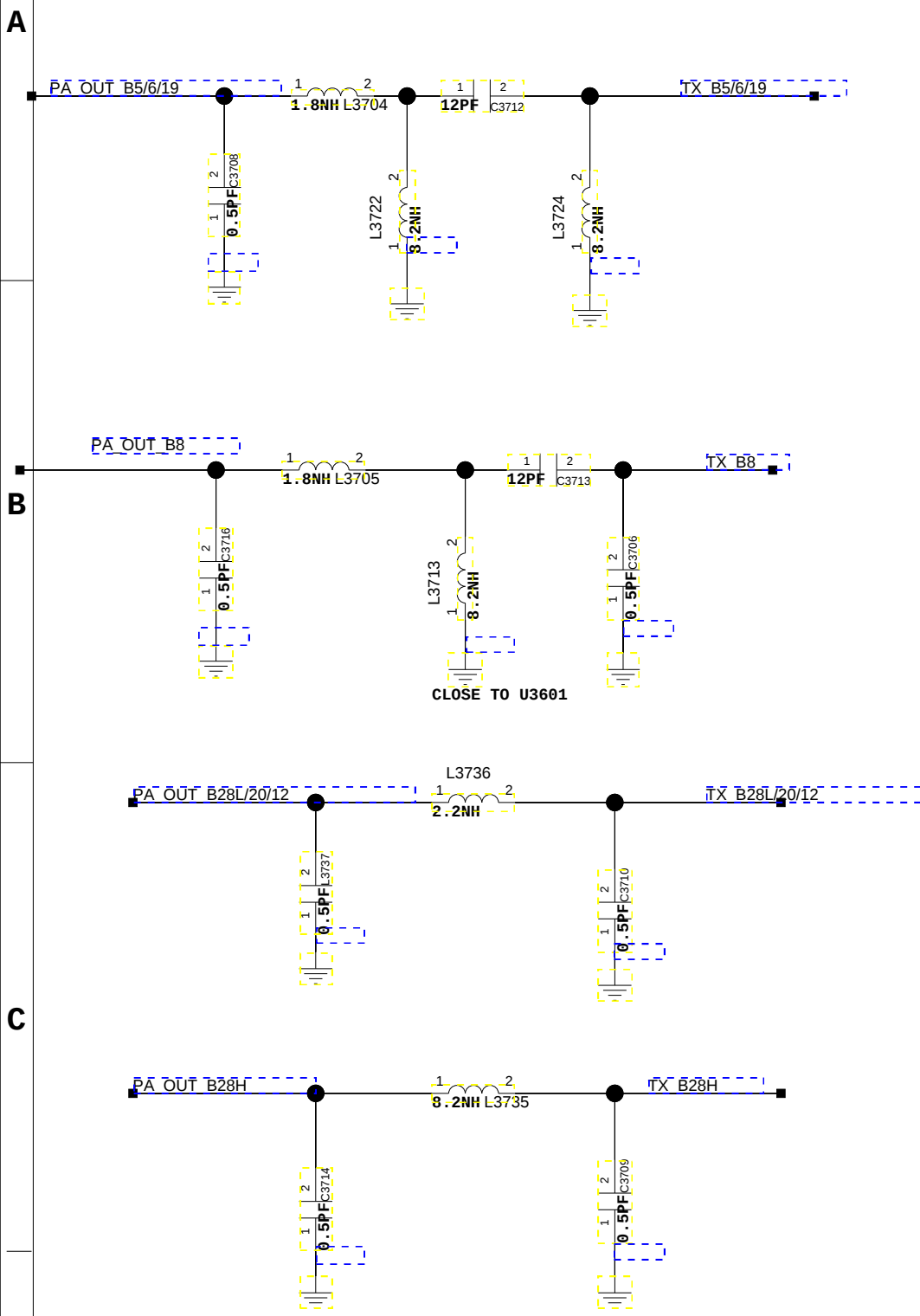


36_MMPA

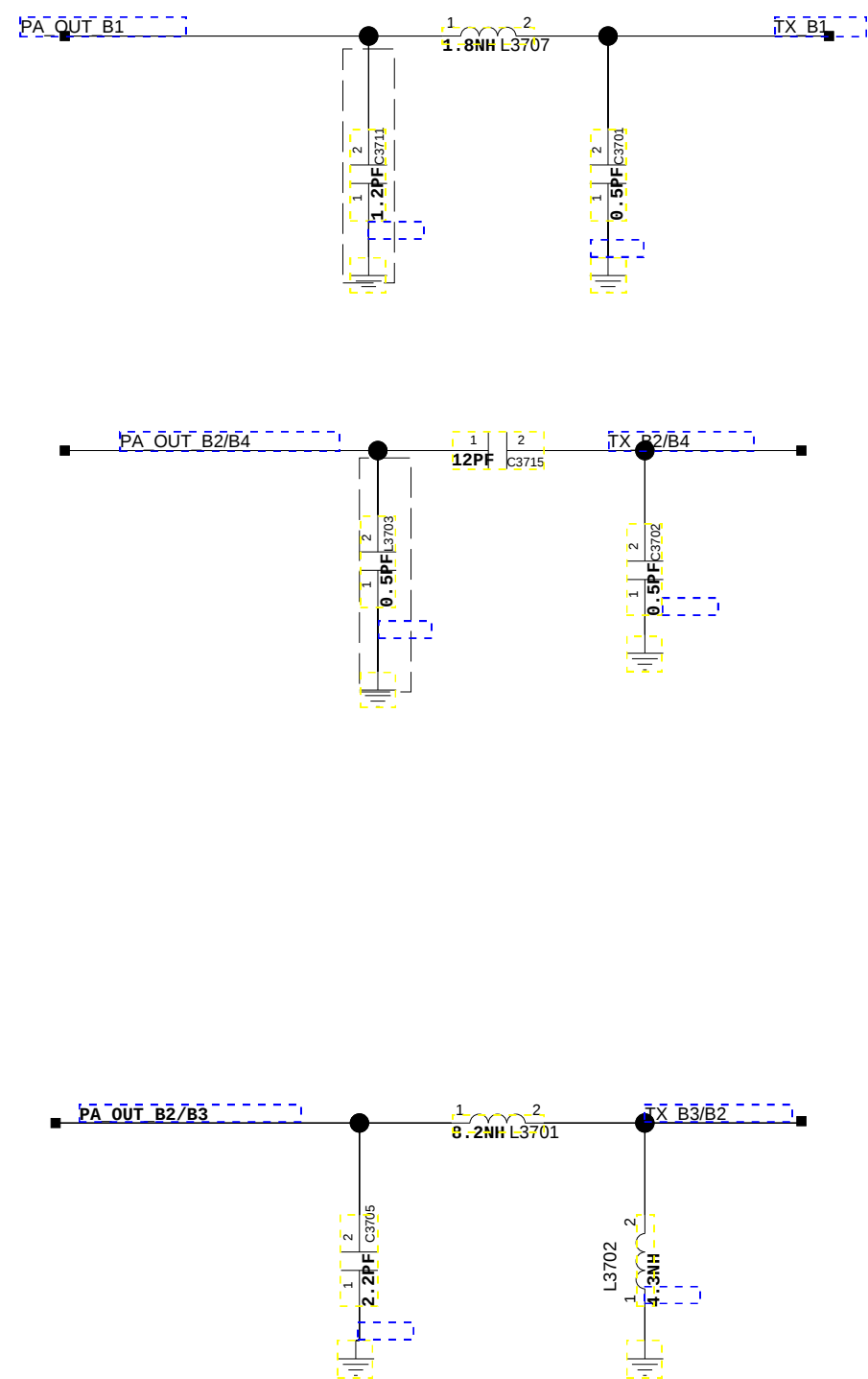


37_MATCHING_CIRCUIT_of_MMMBPA

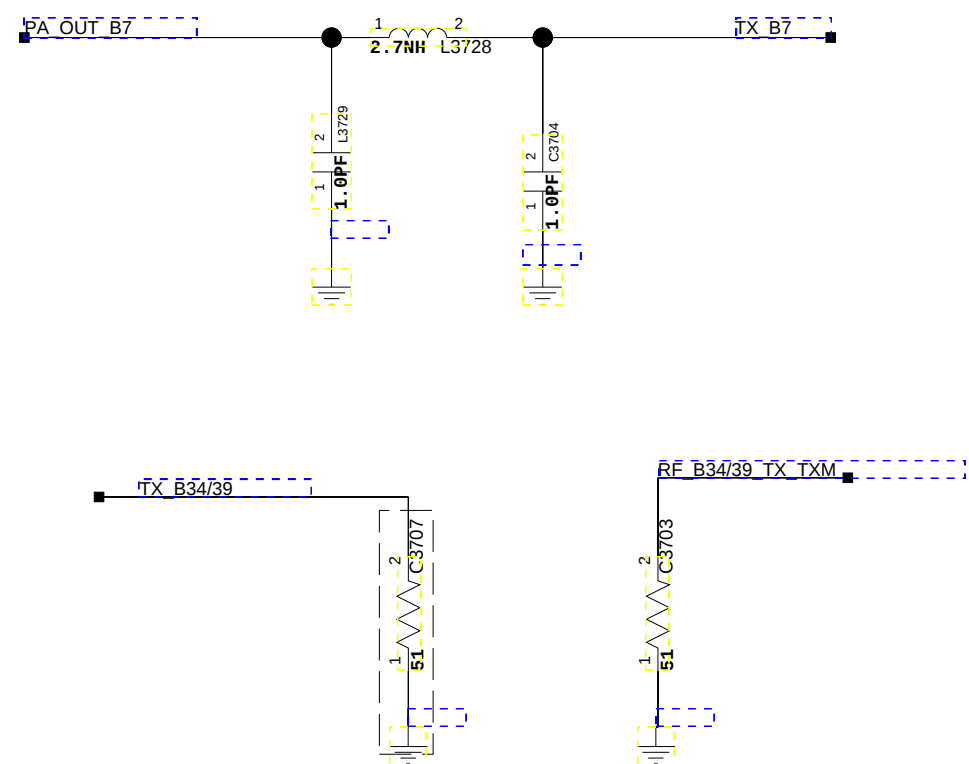
Close to MMMB PA



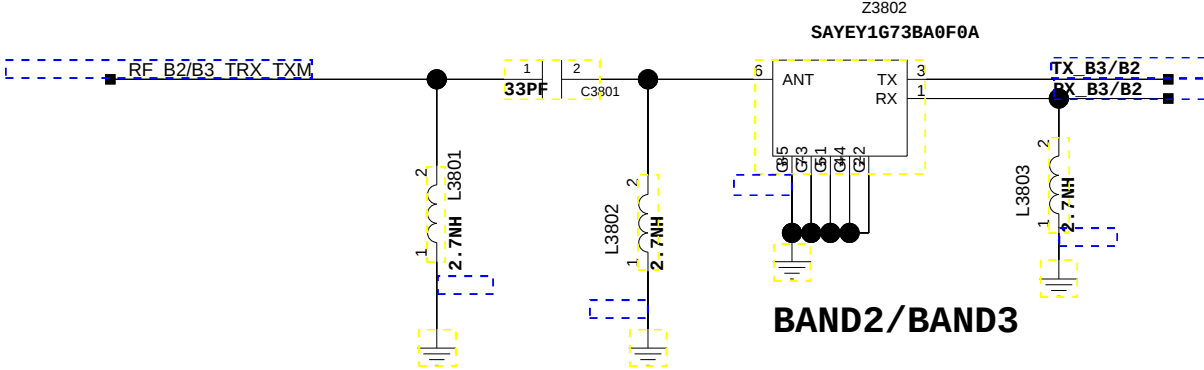
Close to MMMB PA



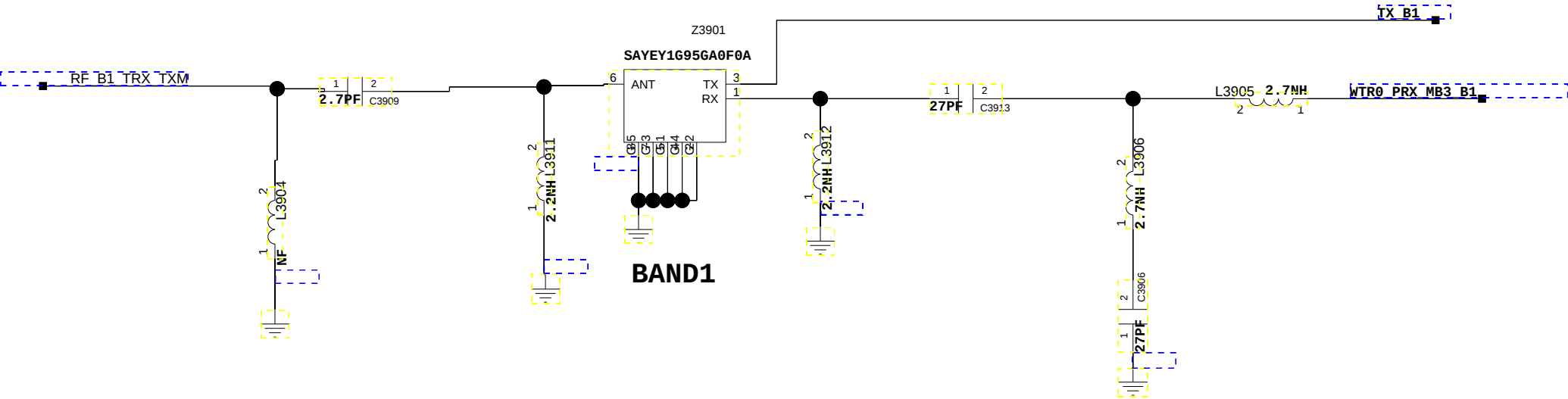
Close to MMMB PA



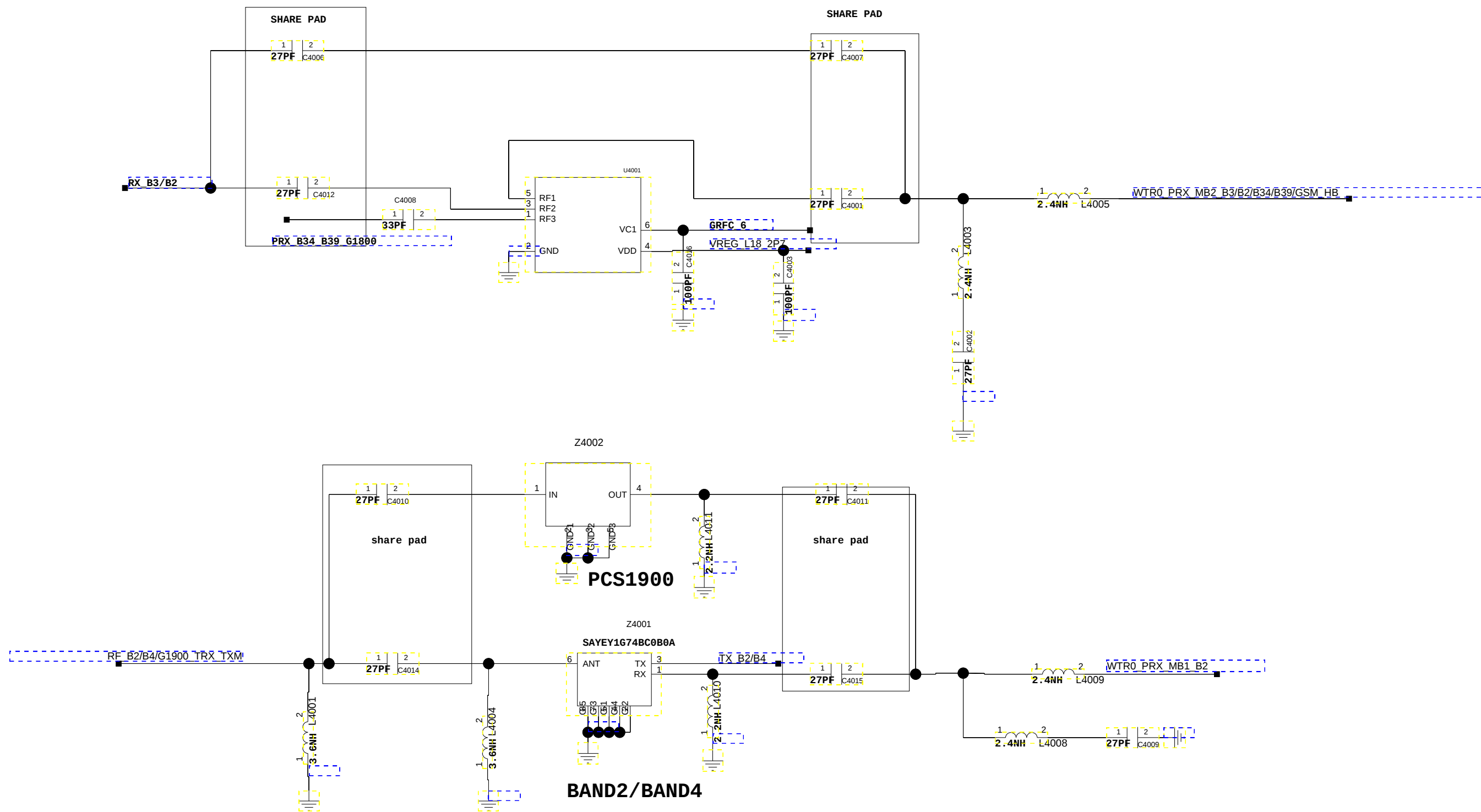
38_Reserved



39_TRX B1TRX



40 TRX B2



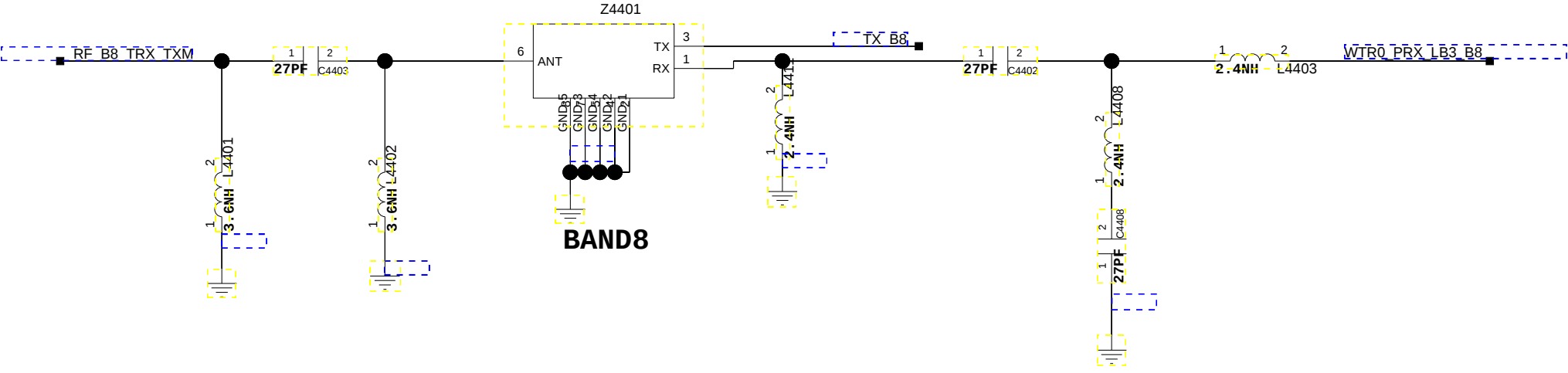
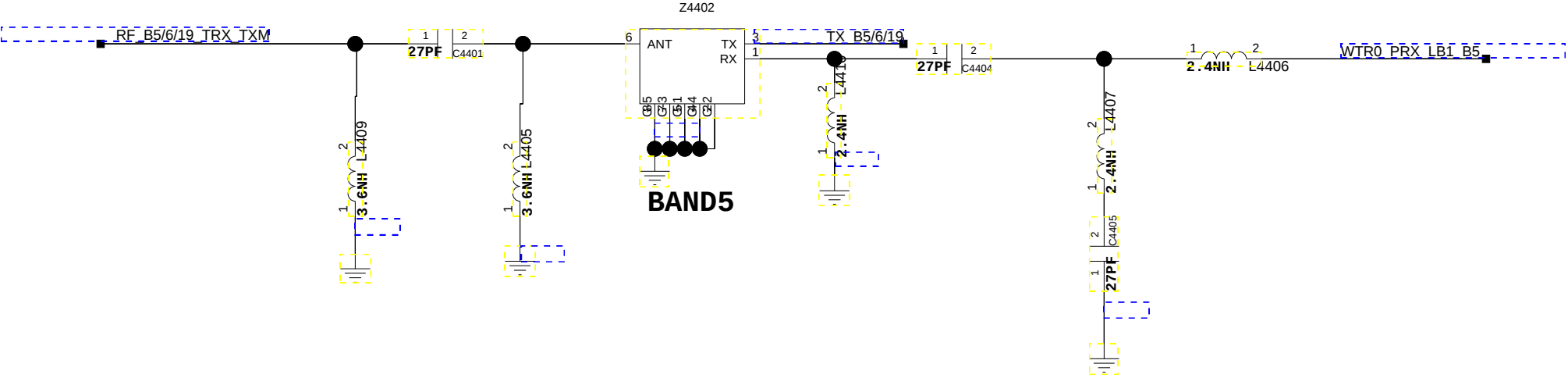
41_Reserved					
1	2	3	4	5	6
A					
B					
C					
D					
1	2	3		5	6

	1	2	3	4	5	6
A						
B						
C						
D						

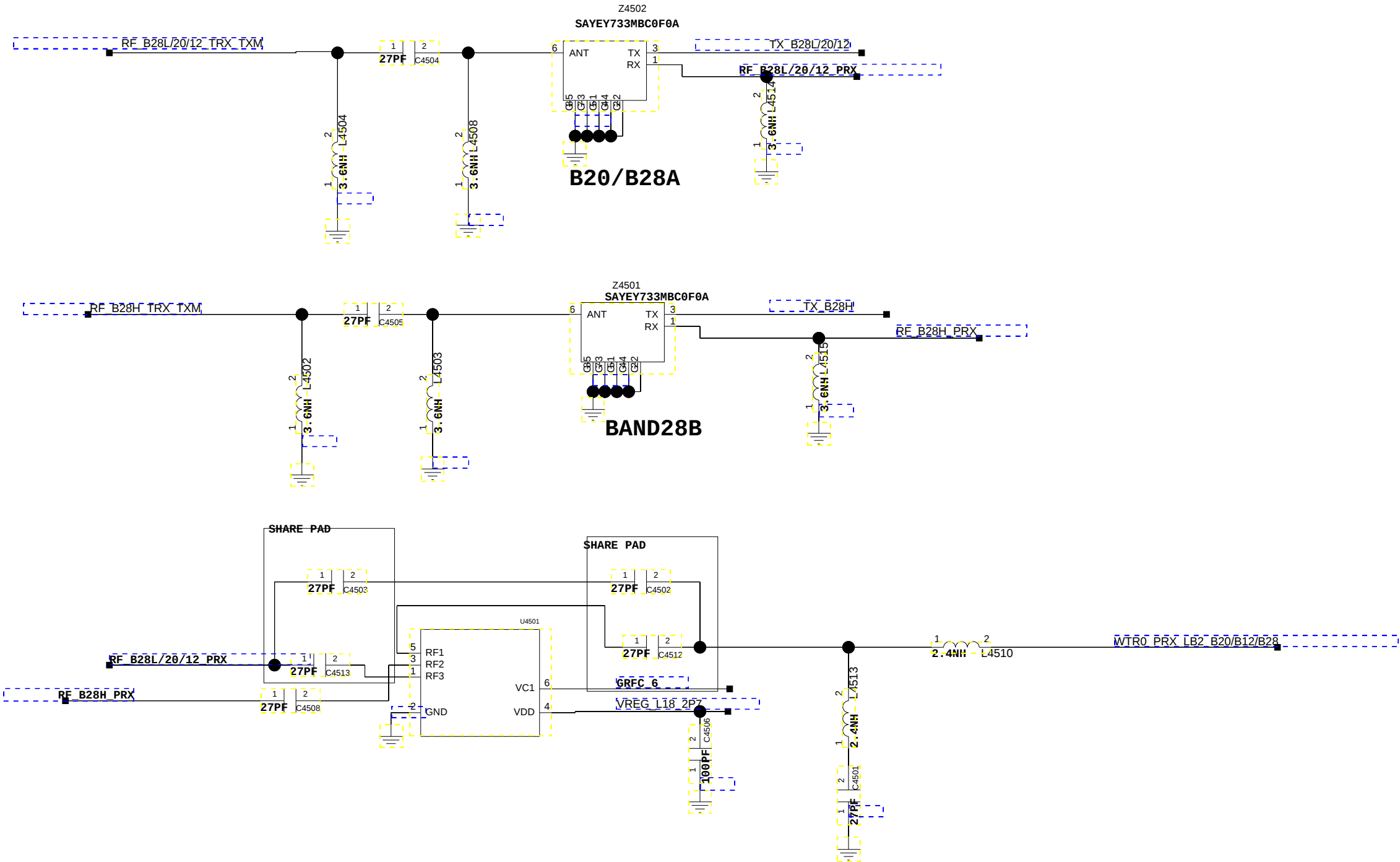
42_Reserved

43_Reserved					
1	2	3	4	5	6
A					
B					
C					
D					
1	2	3		5	6

44_TRX_B5/8



45 TRX B20/28

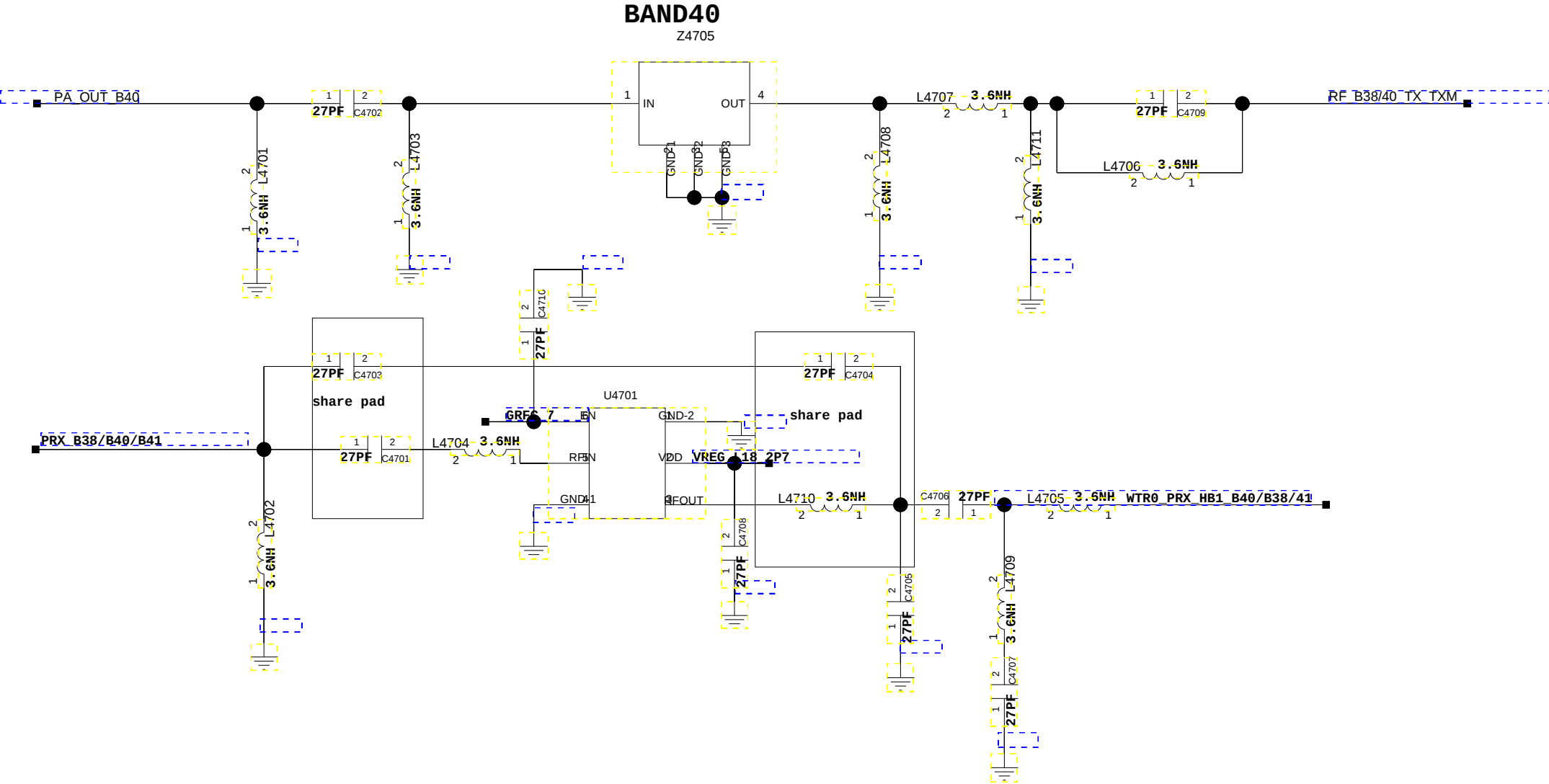


	1	2	3	4	5	6
A						
B						
C						
D						

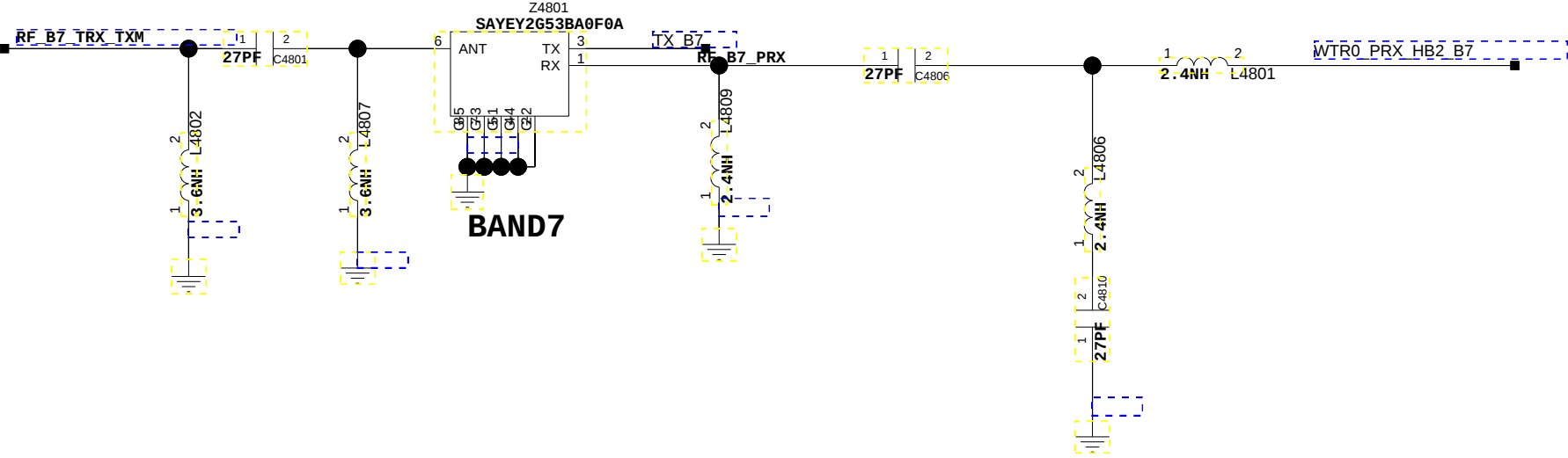
46_TRX_B34/B39



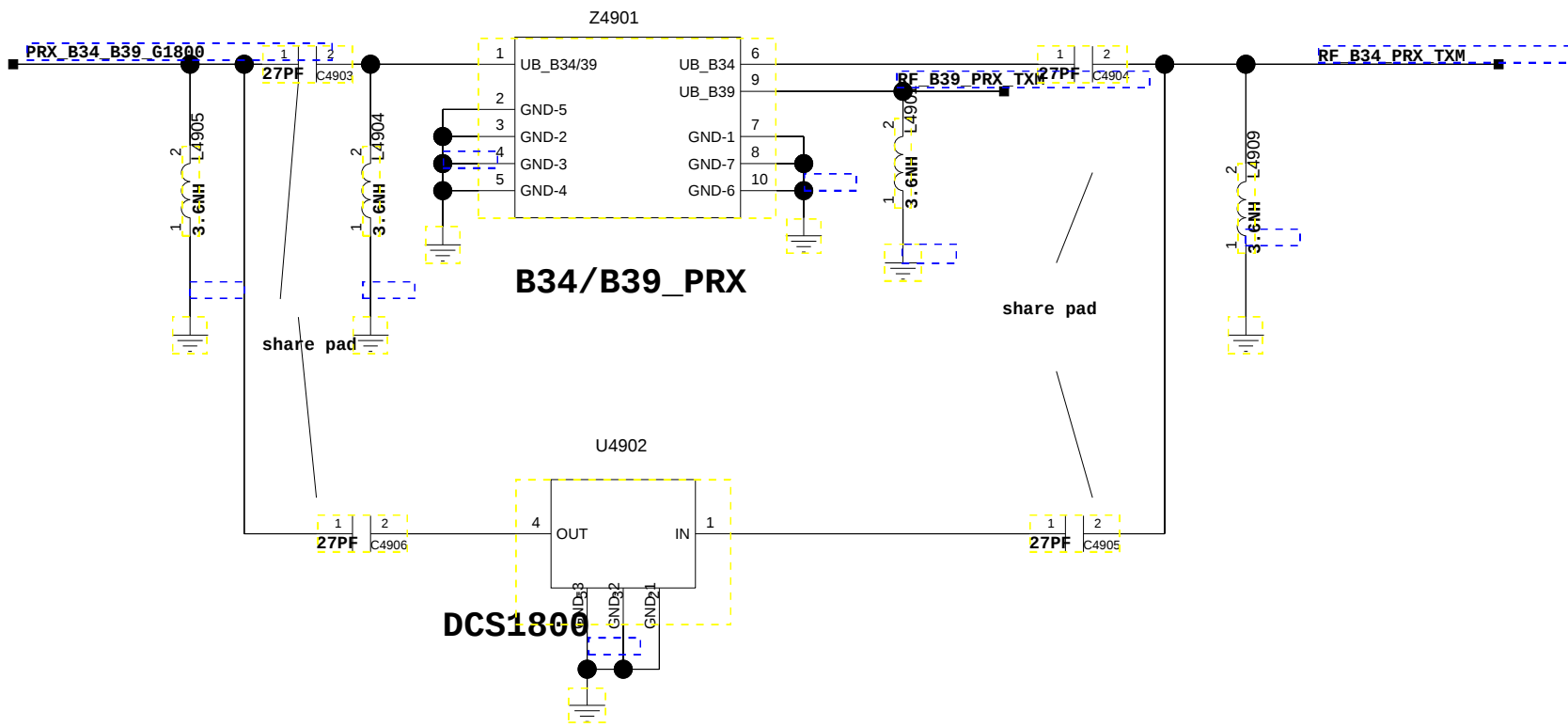
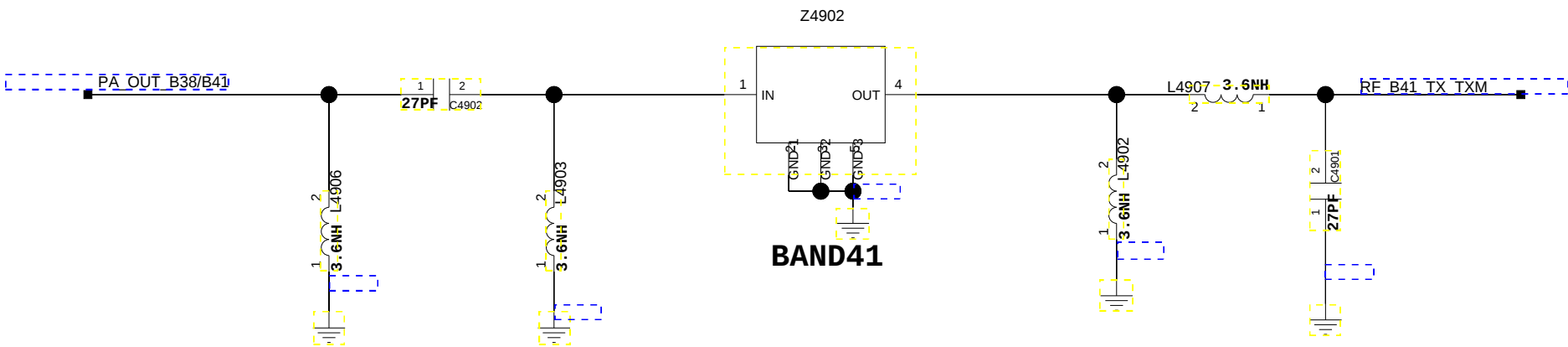
47_TRX_40&PRX_B38/B41



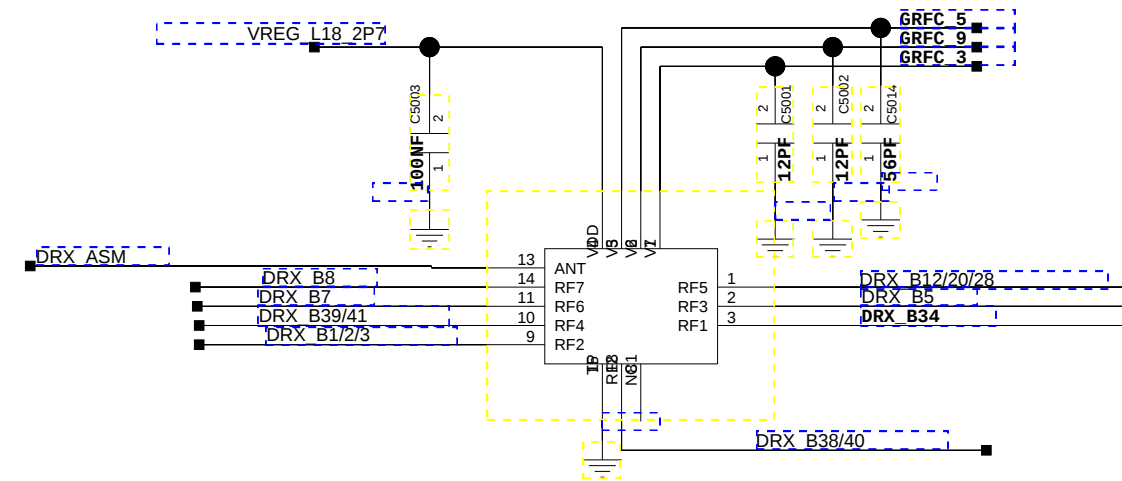
48_TRX_B7



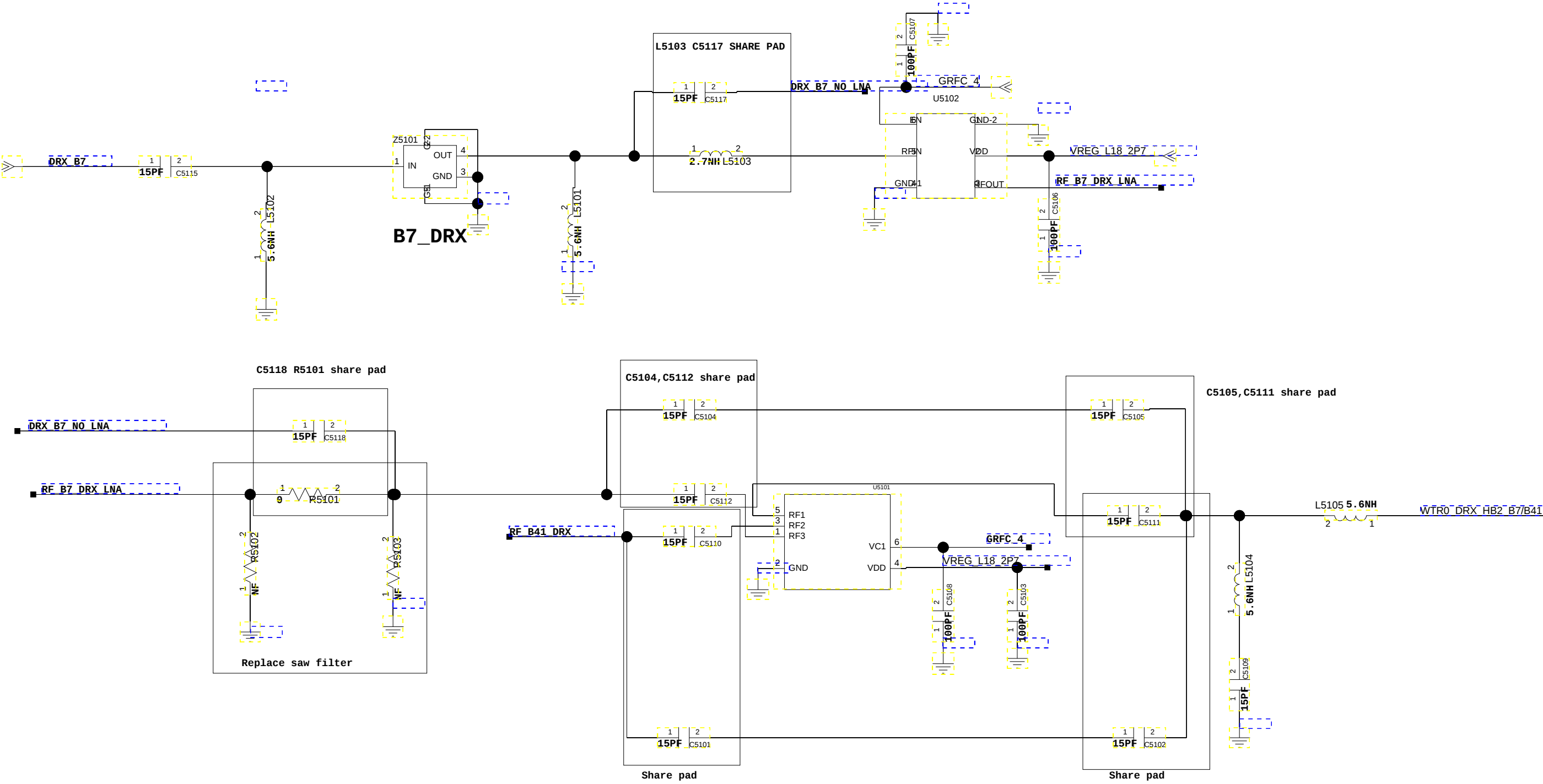
49_TRX_B38/B41&PRX_B34/B39



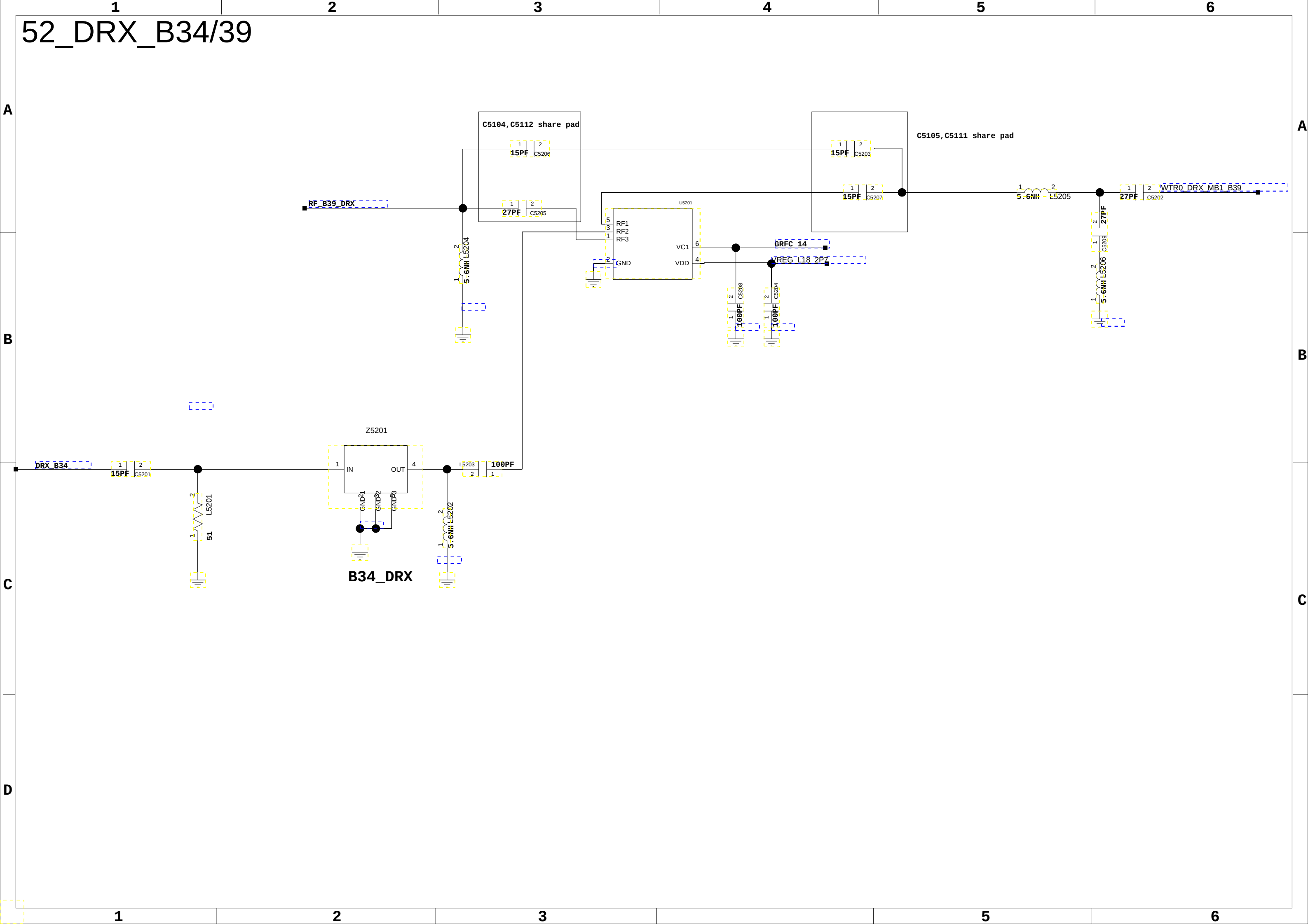
50_Diversity_ASM



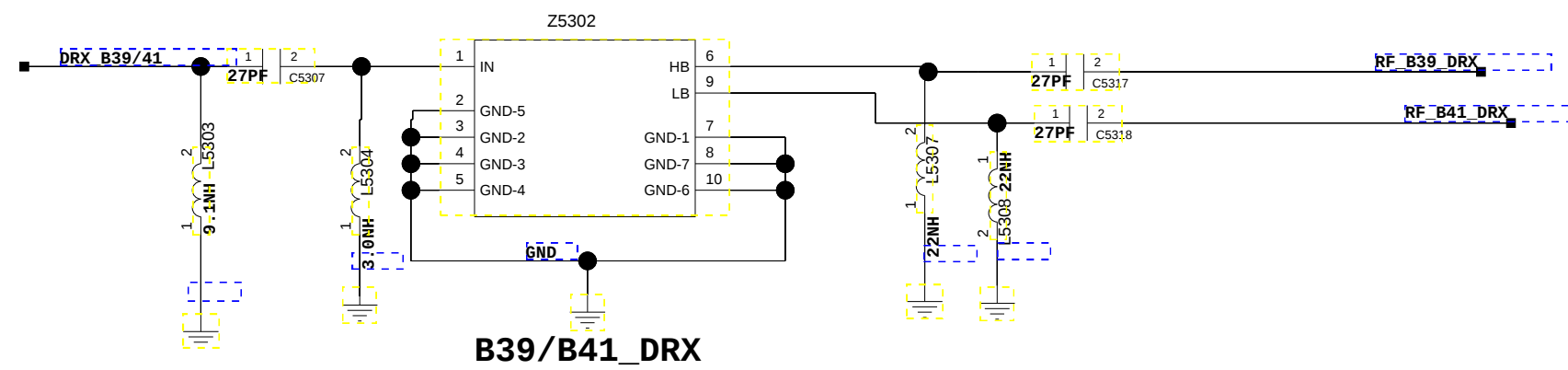
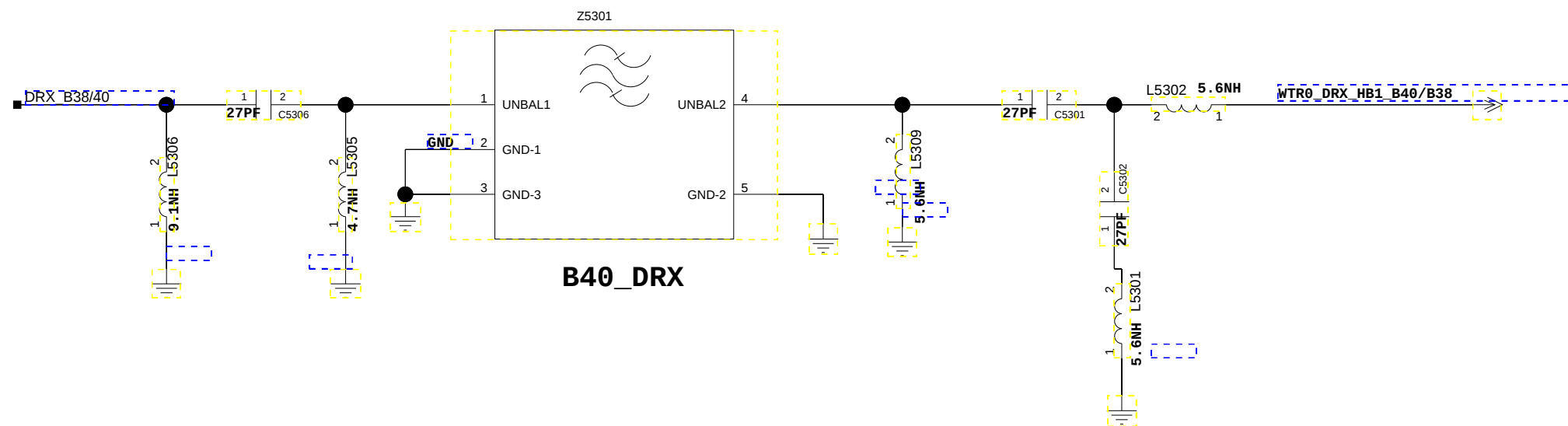
51_DRX_B7



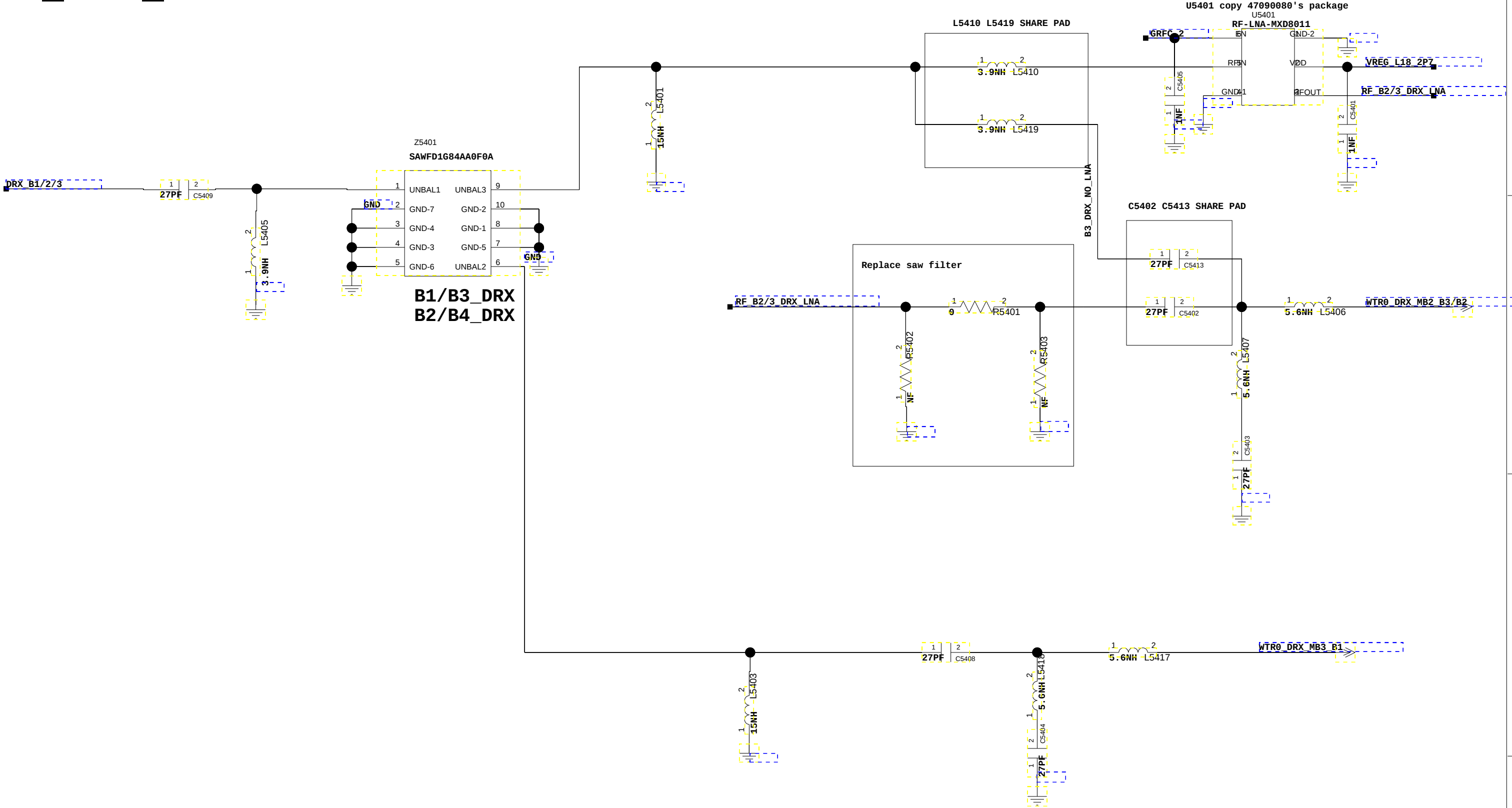
52_DRX_B34/39



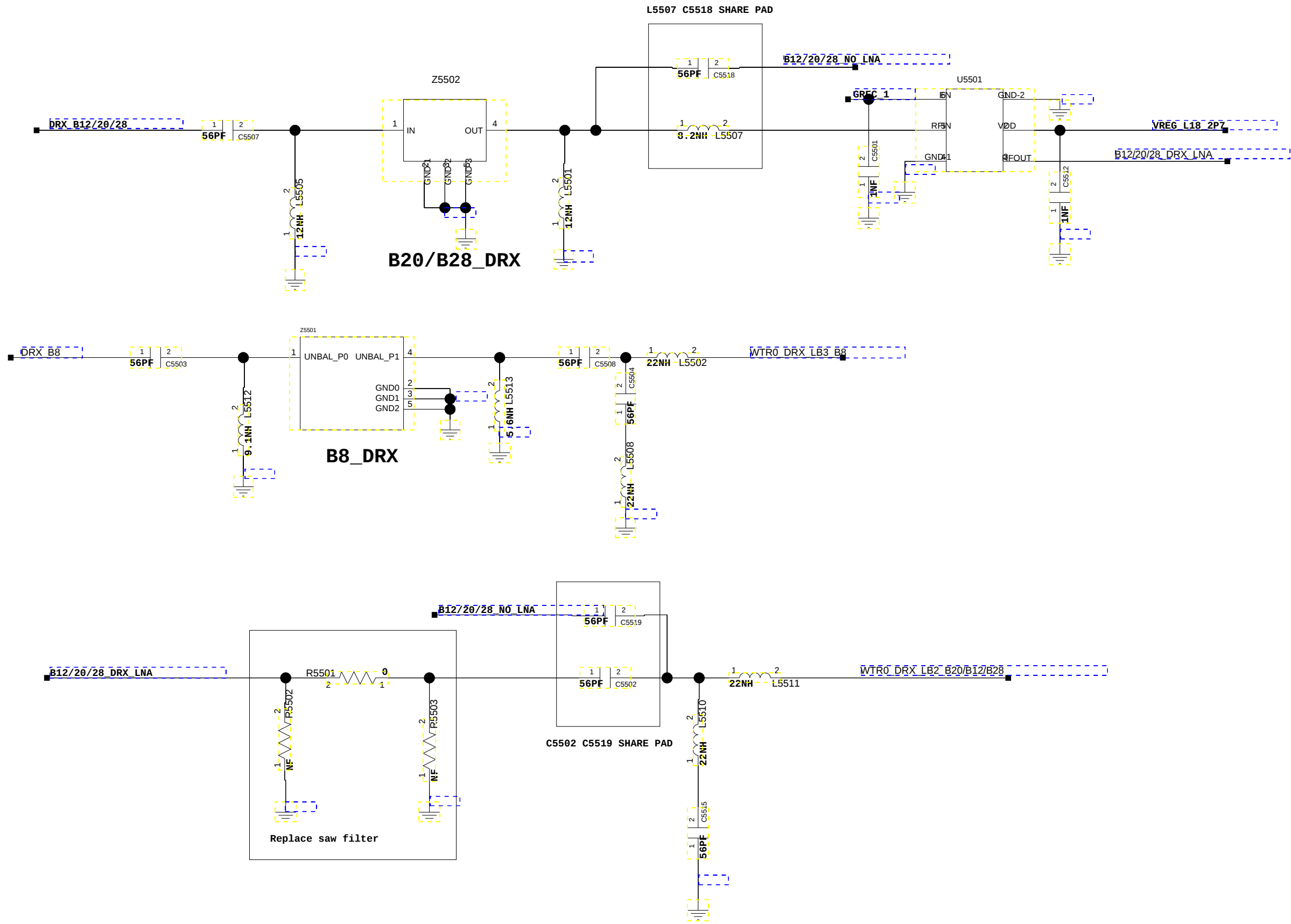
53_DRX_B38/39/40/41



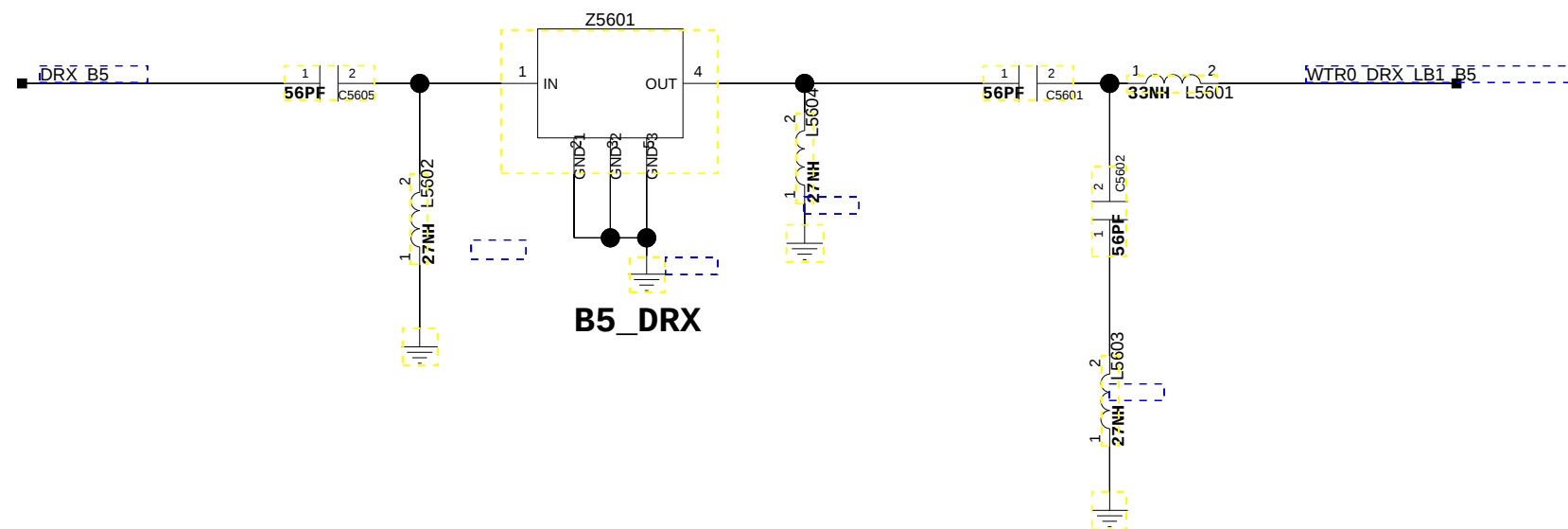
54_DRX_B1/2/3/4



55_DRX_B28/20/12/8

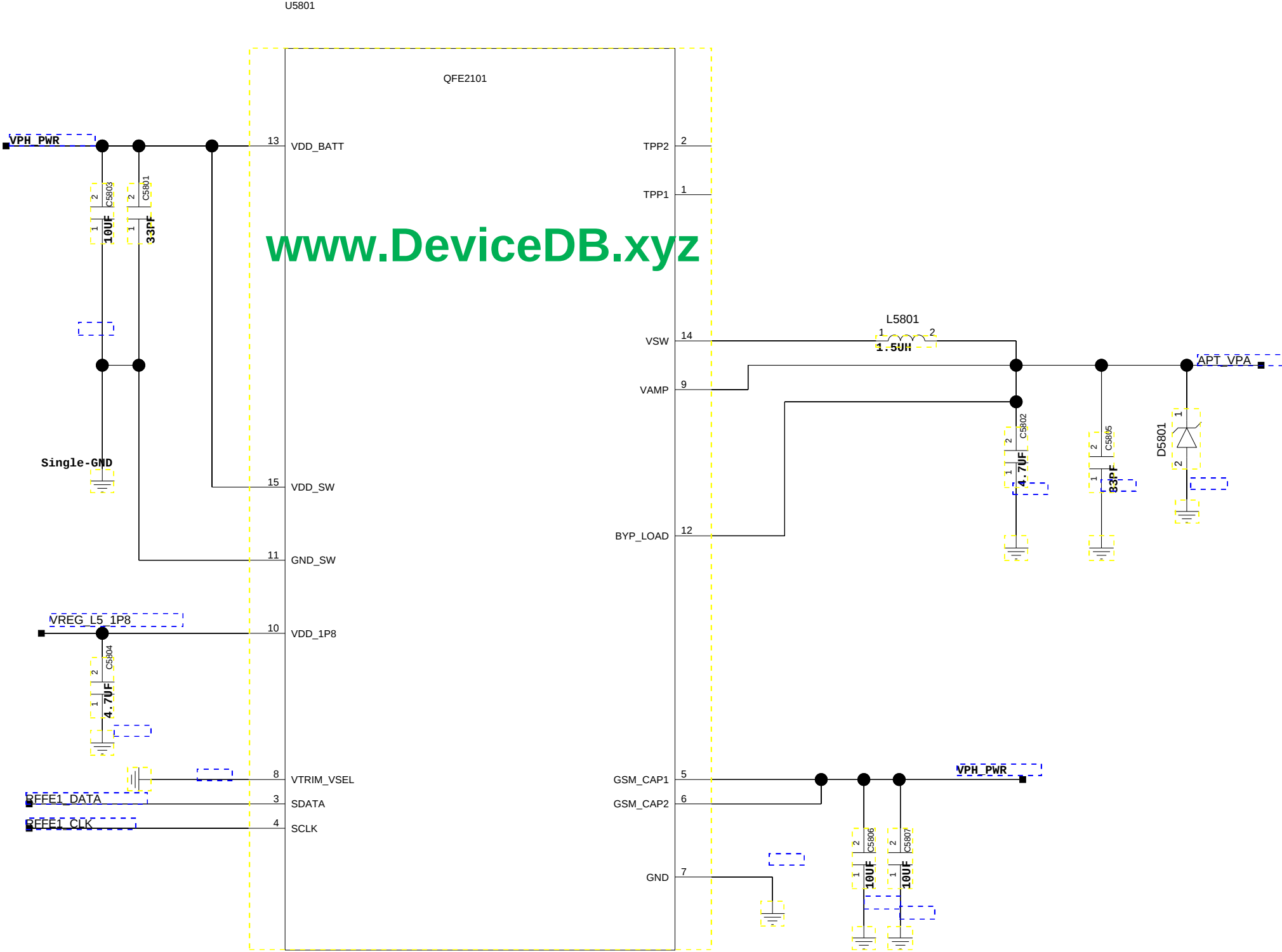


56_DRX_B5

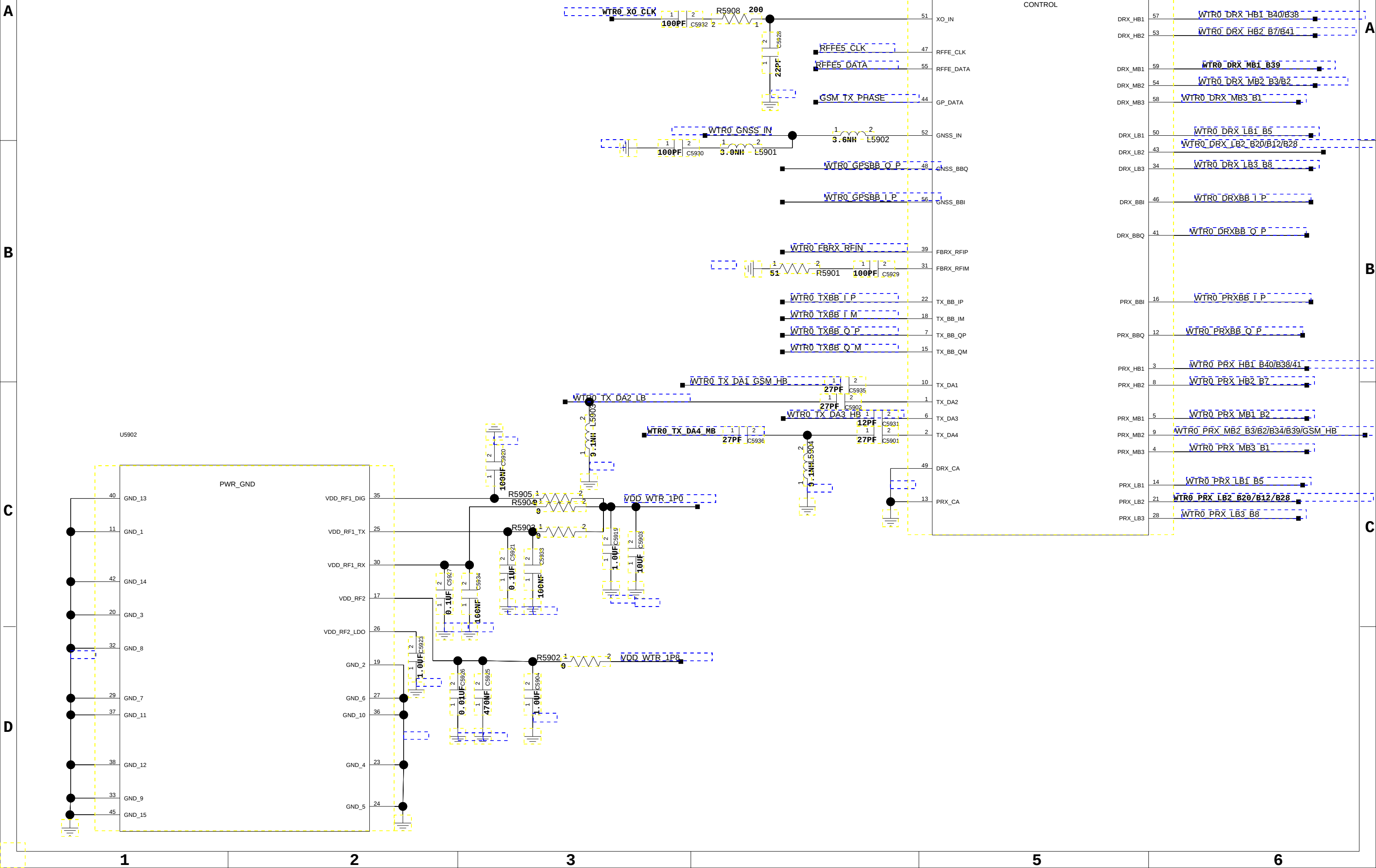


57_Reserved					
1	2	3	4	5	6
A					
B					
C					
D					
1	2	3		5	6

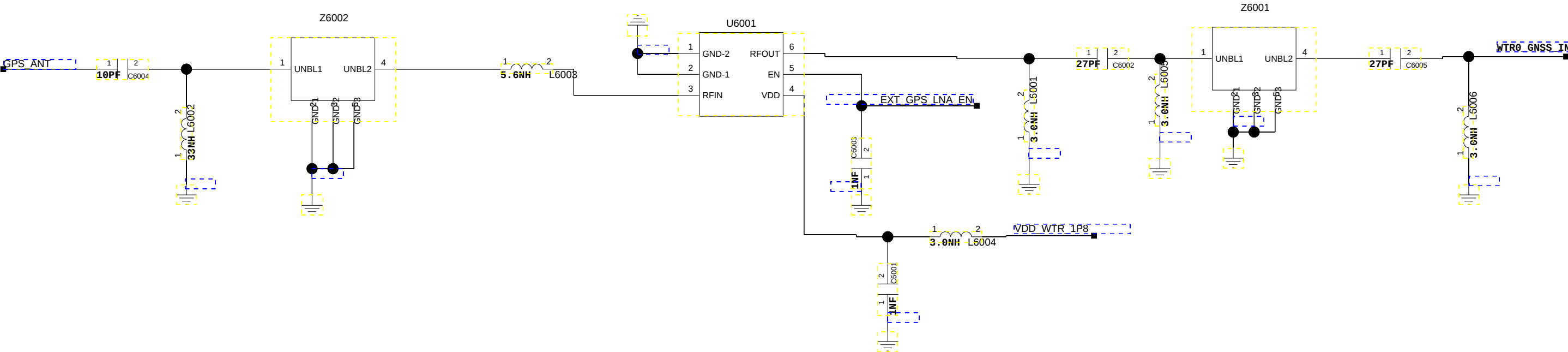
58.ET APT



59.WTR2965

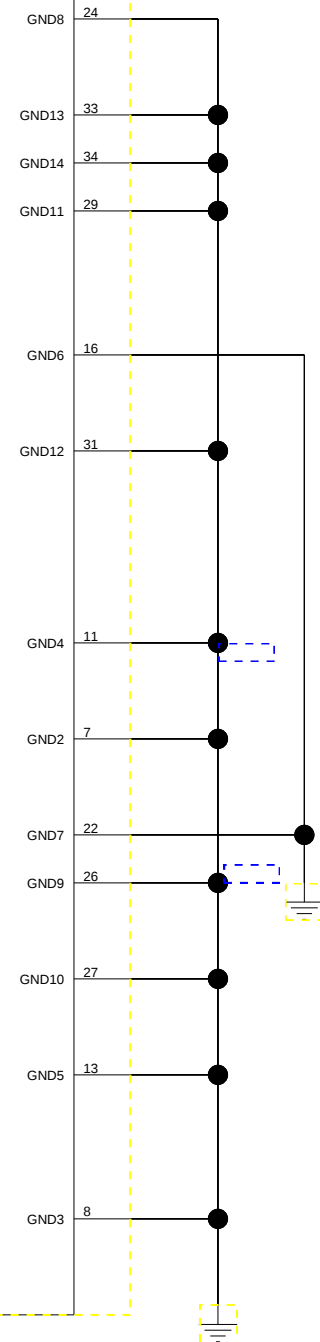
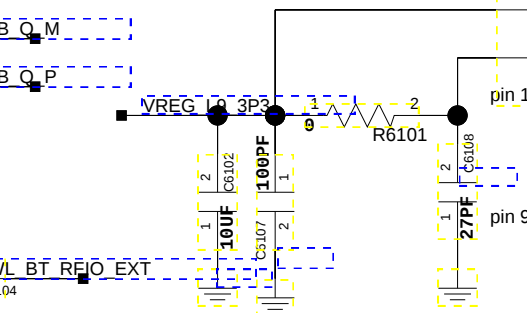
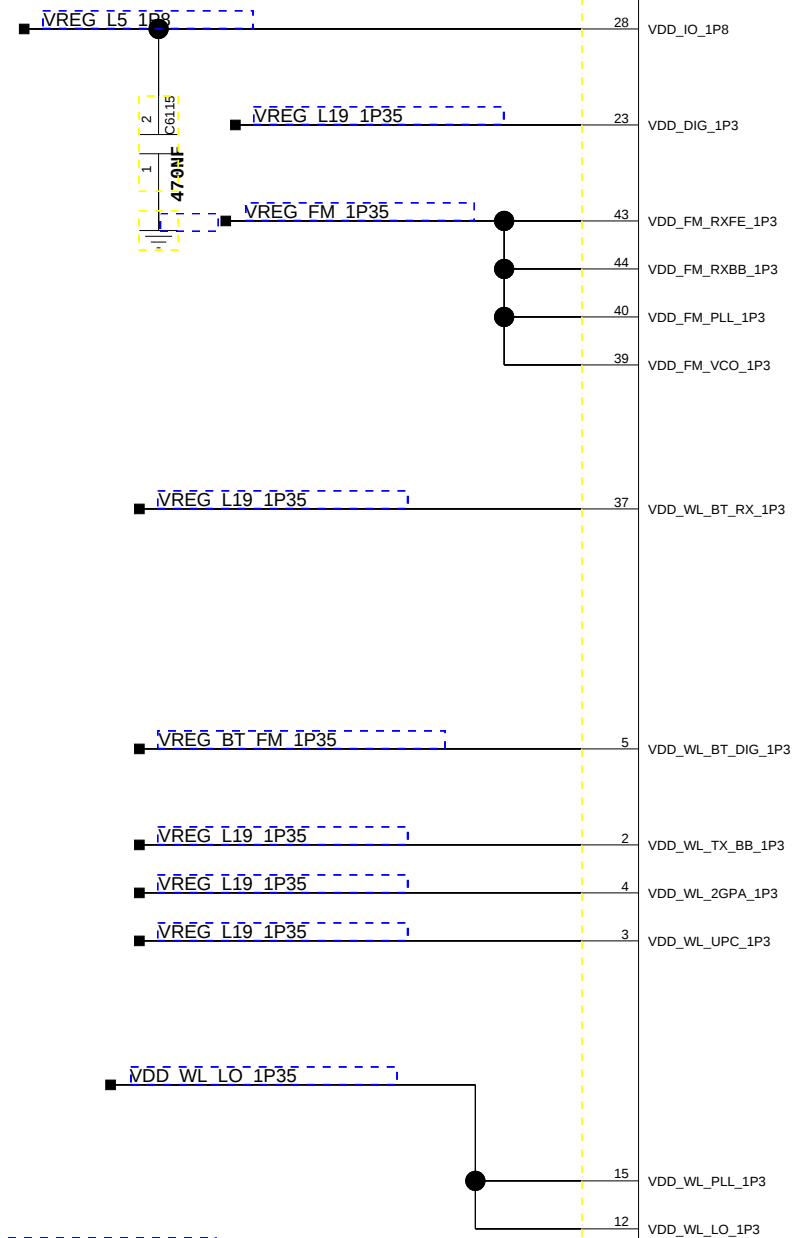
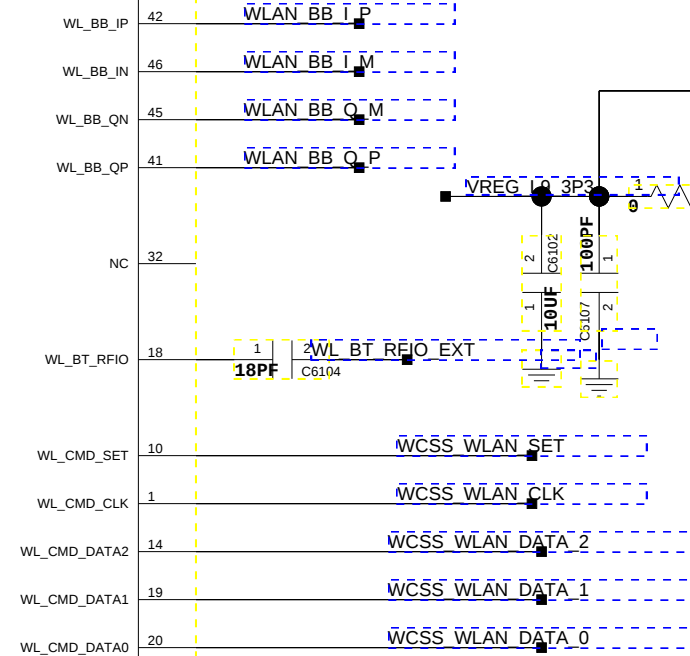
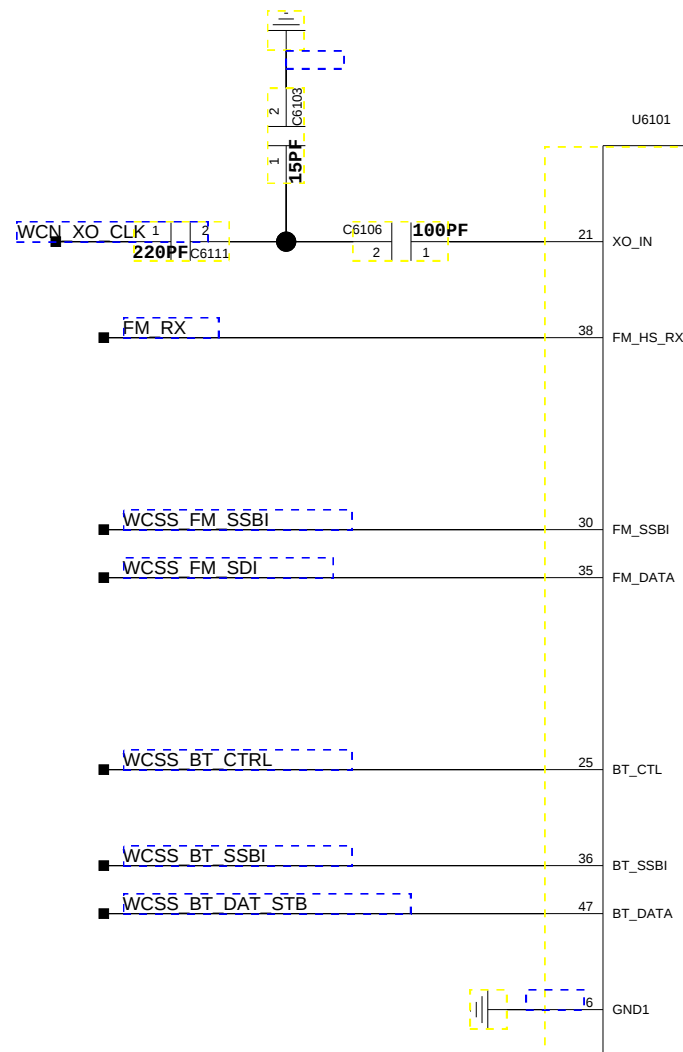
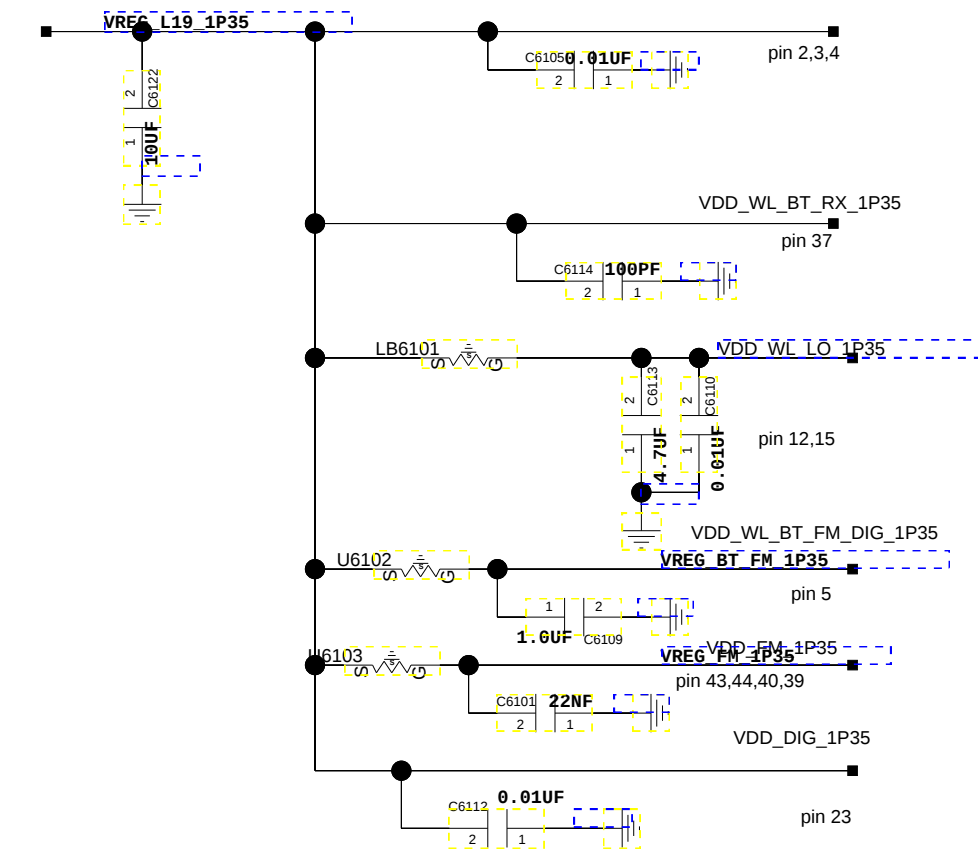


60_GPS

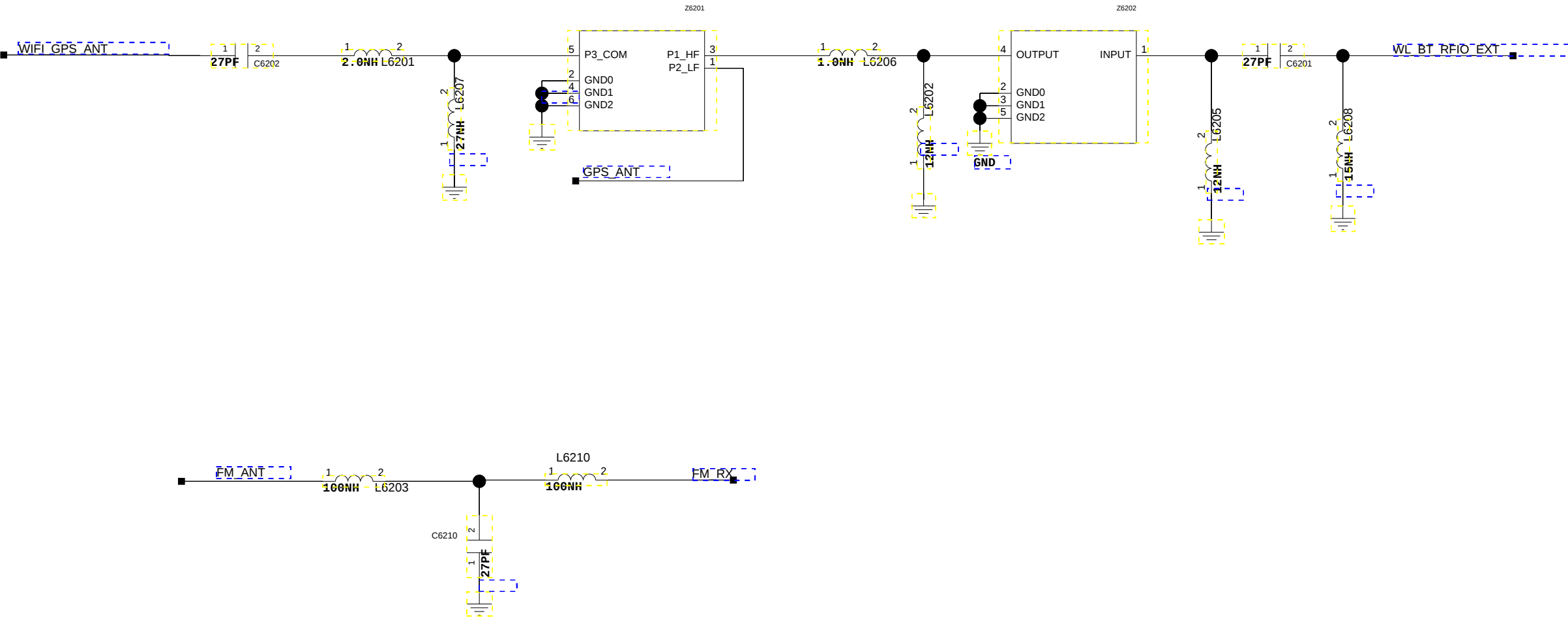


61_WCN3615 BB

VDD_WL_TXBB_1P35/VDD_WL_PA_1P35/VDD_WL_UPC_1P35



62_WCN3615 RF



	1	2	3	4	5	6
A	65.Reserved					
B						
C						
D						

1

2

3

4

5

6

66 ANT TUNER

A

A

B

B

C

C

D

1

2

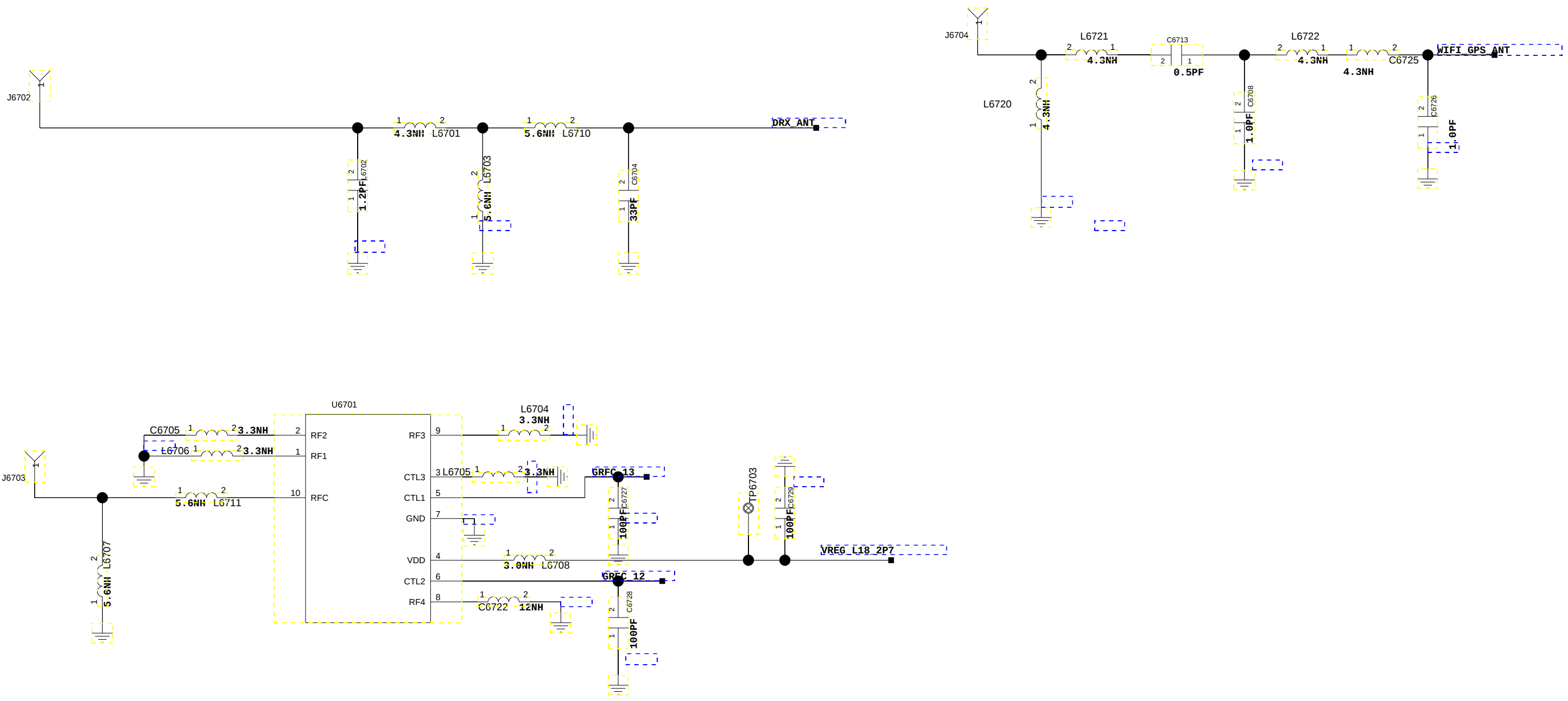
3

5

6

67.ANTENNA MATCH

DIV Ant



	1	2	3	4	5	6
A	69.Reserved					
B						
C						
D						
	1	2	3		5	6

	1	2	3	4	5	6
A	69.Reserved					
B						
C						
D						