Baseband Schematic

MODEM Schematic

2. Block Diagramm

3.SOC PWR1

PWR1 interface 1 of 10

AP Temperature DET

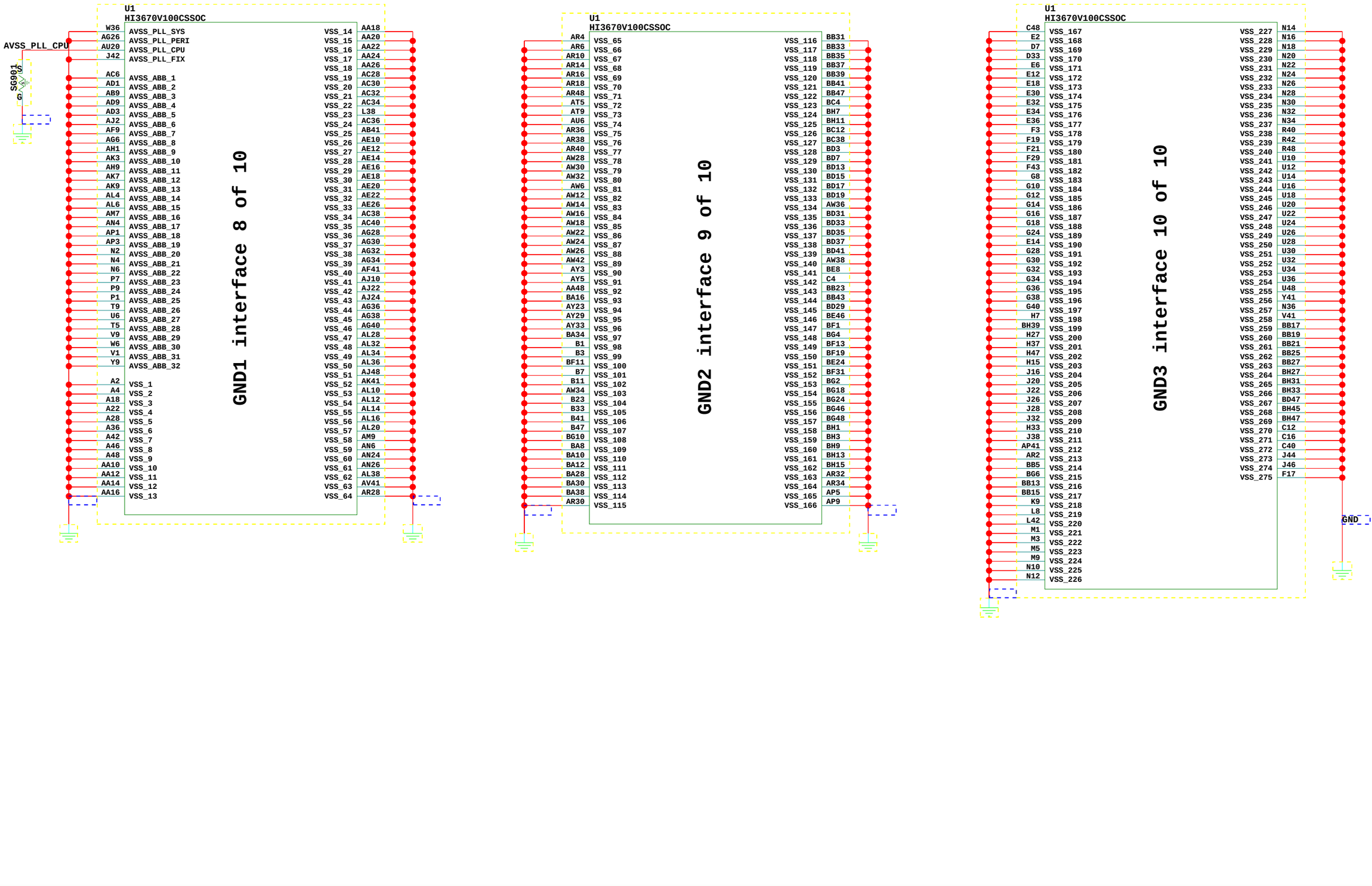
U1
HI3670V100CSSOC

	CPU BIG		GPU	
AJ12	VDD_CPU_B_1	VDD_GPU_1	AU36
AJ14	VDD_CPU_B_2	VDD_GPU_2	AA28
AJ16	VDD_CPU_B_3	VDD_GPU_3	AA30
AJ18	VDD_CPU_B_4	VDD_GPU_4	AA32
AJ20	VDD_CPU_B_5	VDD_GPU_5	AA34
AN10	VDD_CPU_B_6	VDD_GPU_6	AA36
AN12	VDD_CPU_B_7	VDD_GPU_7	AA40
AN14	VDD_CPU_B_8	VDD_GPU_8	AE28
AN16	VDD_CPU_B_9	VDD_GPU_9	AE32
AN20	VDD_CPU_B_10	VDD_GPU_10	AE34
AU10	VDD_CPU_B_11	VDD_GPU_11	AE36
AU14	VDD_CPU_B_12	VDD_GPU_12	AE40
AU16	VDD_CPU_B_13	VDD_GPU_13	AJ28
AU18	VDD_CPU_B_14	VDD_GPU_14	AJ32
		VDD_GPU_15	AJ34
		VDD_GPU_16	AJ36
		VDD_GPU_17	AJ38
		VDD_GPU_18	AJ40
		VDD_GPU_19	AN30
		VDD_GPU_20	AN32
		VDD_GPU_21	AN34
		VDD_GPU_22	AN36
		VDD_GPU_23	AU40
		VDD_GPU_24	AU28
		VDD_GPU_25	AU32
		VDD_GPU_26	AU34
		VDD_GPU_27	AA38
		VDDC_GPU_MEM_1	AE30
		VDDC_GPU_MEM_2	AE38
		VDDC_GPU_MEM_3	AL30
		VDDC_GPU_MEM_4	AN38
		VDDC_GPU_MEM_5	AU30
		VDDC_GPU_MEM_6	AU38
		VDDC_GPU_MEM_7	AJ30
AY11	VDD_CPU_B_T	VDD_GPU_T	AL40
AW10	VSS_CPU_B_T	VSS_GPU_T	AN40
	CPU_PLL	GPU_Tsensor	
AR20	AVDD18_PLL_CPU	AVDD18_TS_GPU	AW40
	CPU_LITTLE		
AL24	VDD_CPU_L_1		
AL26	VDD_CPU_L_2		
AR22	VDD_CPU_L_3		
AR24	VDD_CPU_L_4		
AR26	VDD_CPU_L_5		
AU22	VDD_CPU_L_6		
AU24	VDD_CPU_L_7		
AU26	VDD_CPU_L_8		
	HISEE		
BH35	SWP_VREF		
BH17	SE_OSC_VREF		
AY21	AVDD18_OTP		
	EFUSE		
BA40	VDD18_EFUSE_BISR		
AY39	VDD18_EFUSE_SYS		

PWR1 interface 1 of 10

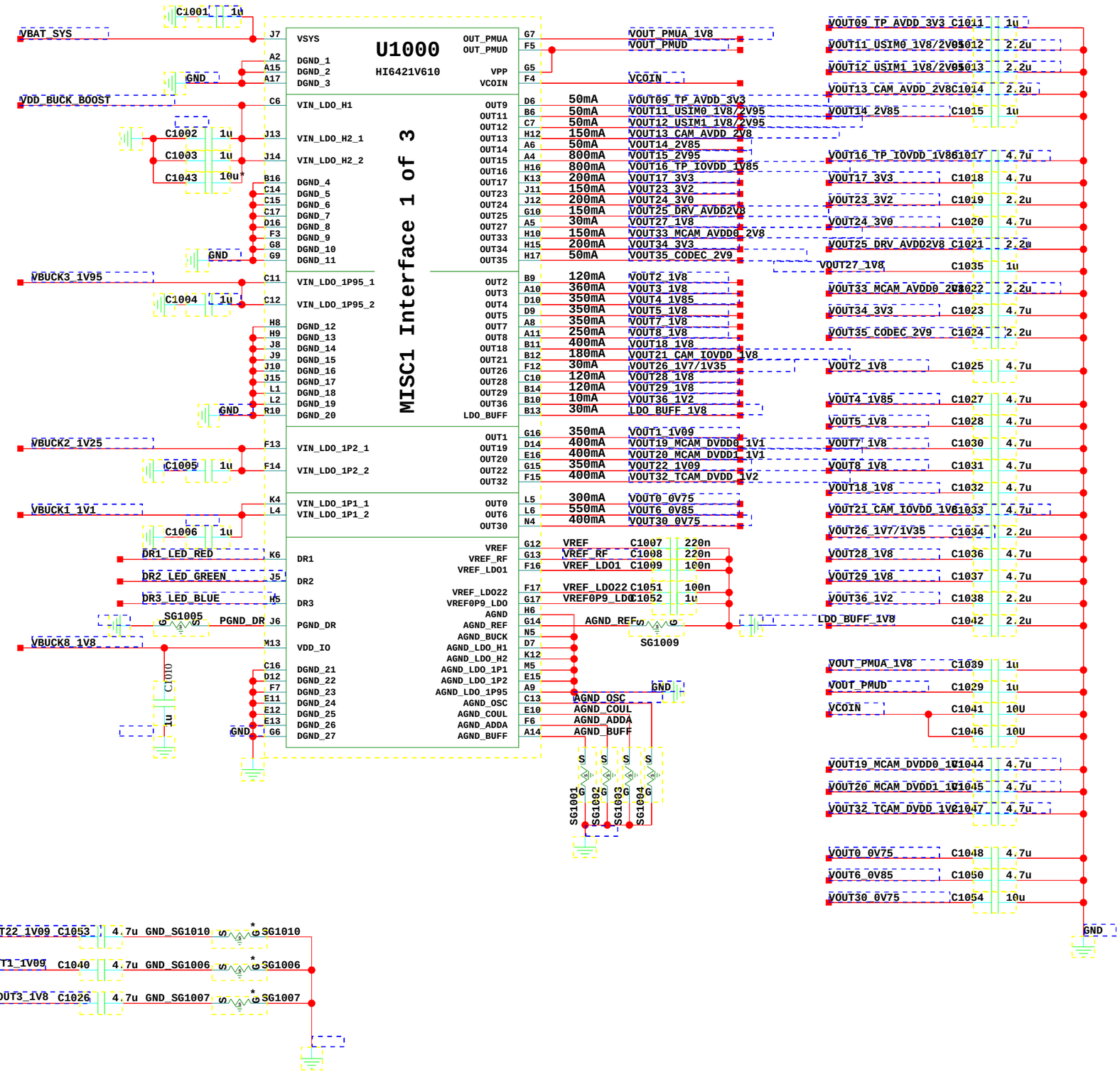
VDD_CPU_B
VDD_CPU_L
VDD_GPU
VOUT5_1V8
VOUT2_1V8
VOUT27_1V8
VBUCK6_0V75
GND
HKADC_IN7
SWP_VREF
SE_OSC_VREF
VDD_CPU_B_REMOTE
VSS_CPU_B_REMOTE
VDD_GPU_REMOTE
VSS_GPU_REMOTE
TP301
TP302
TP304
TP306
TP307
TP308
SG301
SG302
SG304
SG305
C302 1u
C303 10n
C312 10u
C309 10u
C318 10u
C315 10u
C317 10u
C363 10u
C341 4.3u
C342 4.3u
C375 4.3u
C372 4.3u
C371 4.3u
C369 4.3u
C379 4.3u
C376 4.3u
C311 10u
C308 10u
C316 1u
C330 1u
C378 4.3u
C377 4.3u
C382 1u
C355 1u
C354 1u
C323 4.3u
C322 4.3u
C310 1u
C307 1u
C320 10u
C313 10u
C319 10u
C321 10u
C332 10u
C331 10u
C360 4.3u
C362 4.3u
C364 4.3u
C336 4.3u
C365 4.3u
C361 4.3u
C346 1u
C344 1u
C343 1u
C314 10u
C301 4.3u
C380 4.3u
R301 100K
RT301 100K

9.SOC GND


U1
HI3670V100CSSOC
GND1 interface 8 of 10
W36 AVSS_PLL_SYS
AG26 AVSS_PLL_PERI
AU20 AVSS_PLL_CPU
J42 AVSS_PLL_FIX
AC6 AVSS_ABB_1
AD1 AVSS_ABB_2
AB9 AVSS_ABB_3
AD9 AVSS_ABB_4
AD3 AVSS_ABB_5
AJ2 AVSS_ABB_6
AF9 AVSS_ABB_7
AG6 AVSS_ABB_8
AH1 AVSS_ABB_9
AK3 AVSS_ABB_10
AH9 AVSS_ABB_11
AK7 AVSS_ABB_12
AK9 AVSS_ABB_13
AL4 AVSS_ABB_14
AL6 AVSS_ABB_15
AM7 AVSS_ABB_16
AN4 AVSS_ABB_17
AP1 AVSS_ABB_18
AP3 AVSS_ABB_19
N2 AVSS_ABB_20
N4 AVSS_ABB_21
N6 AVSS_ABB_22
P7 AVSS_ABB_23
P9 AVSS_ABB_24
P1 AVSS_ABB_25
T9 AVSS_ABB_26
U6 AVSS_ABB_27
T5 AVSS_ABB_28
V9 AVSS_ABB_29
W6 AVSS_ABB_30
V1 AVSS_ABB_31
Y9 AVSS_ABB_32
A2 VSS_1
A4 VSS_2
A18 VSS_3
A22 VSS_4
A28 VSS_5
A36 VSS_6
A42 VSS_7
A46 VSS_8
A48 VSS_9
AA10 VSS_10
AA12 VSS_11
AA14 VSS_12
AA16 VSS_13
VSS_14 AA18
VSS_15 AA20
VSS_16 AA22
VSS_17 AA24
VSS_18 AA26
VSS_19 AC28
VSS_20 AC30
VSS_21 AC32
VSS_22 AC34
VSS_23 L38
VSS_24 AC36
VSS_25 AB41
VSS_26 AE10
VSS_27 AE12
VSS_28 AE14
VSS_29 AE16
VSS_30 AE18
VSS_31 AE20
VSS_32 AE22
VSS_33 AE26
VSS_34 AC38
VSS_35 AC40
VSS_36 AG28
VSS_37 AG30
VSS_38 AG32
VSS_39 AG34
VSS_40 AF41
VSS_41 AJ10
VSS_42 AJ22
VSS_43 AJ24
VSS_44 AG36
VSS_45 AG38
VSS_46 AG40
VSS_47 AL28
VSS_48 AL32
VSS_49 AL34
VSS_50 AL36
VSS_51 AJ48
VSS_52 AK41
VSS_53 AL10
VSS_54 AL12
VSS_55 AL14
VSS_56 AL16
VSS_57 AL20
VSS_58 AM9
VSS_59 AN6
VSS_60 AN24
VSS_61 AN26
VSS_62 AL38
VSS_63 AV41
VSS_64 AR28
AVSS_PLL_CPU
SG901
G
U1
HI3670V100CSSOC
GND2 interface 9 of 10
AR4 VSS_65
AR6 VSS_66
AR10 VSS_67
AR14 VSS_68
AR16 VSS_69
AR18 VSS_70
AR48 VSS_71
AT5 VSS_72
AT9 VSS_73
AU6 VSS_74
AR36 VSS_75
AR38 VSS_76
AR40 VSS_77
AW28 VSS_78
AW30 VSS_79
AW32 VSS_80
AW6 VSS_81
AW12 VSS_82
AW14 VSS_83
AW16 VSS_84
AW18 VSS_85
AW22 VSS_86
AW24 VSS_87
AW26 VSS_88
AW42 VSS_89
AY3 VSS_90
AY5 VSS_91
AA48 VSS_92
BA16 VSS_93
AY23 VSS_94
AY29 VSS_95
AY33 VSS_96
BA34 VSS_97
B1 VSS_98
B3 VSS_99
BF11 VSS_100
B7 VSS_101
B11 VSS_102
AW34 VSS_103
B23 VSS_104
B33 VSS_105
B41 VSS_106
B47 VSS_107
BG10 VSS_108
BA8 VSS_109
BA10 VSS_110
BA12 VSS_111
BA28 VSS_112
BA30 VSS_113
BA38 VSS_114
AR30 VSS_115
VSS_116 BB31
VSS_117 BB33
VSS_118 BB35
VSS_119 BB37
VSS_120 BB39
VSS_121 BB41
VSS_122 BB47
VSS_123 BC4
VSS_124 BH7
VSS_125 BH11
VSS_126 BC12
VSS_127 BC38
VSS_128 BD3
VSS_129 BD7
VSS_130 BD13
VSS_131 BD15
VSS_132 BD17
VSS_133 BD19
VSS_134 AW36
VSS_135 BD31
VSS_136 BD33
VSS_137 BD35
VSS_138 BD37
VSS_139 BD41
VSS_140 AW38
VSS_141 BE8
VSS_142 C4
VSS_143 BB23
VSS_144 BB43
VSS_145 BD29
VSS_146 BE46
VSS_147 BF1
VSS_148 BG4
VSS_149 BF13
VSS_150 BF19
VSS_151 BE24
VSS_152 BF31
VSS_153 BG2
VSS_154 BG18
VSS_155 BG24
VSS_156 BG46
VSS_157 BG48
VSS_158 BH1
VSS_159 BH3
VSS_160 BH9
VSS_161 BH13
VSS_162 BH15
VSS_163 AR32
VSS_164 AR34
VSS_165 AP5
VSS_166 AP9
U1
HI3670V100CSSOC
GND3 interface 10 of 10
C48 VSS_167
E2 VSS_168
D7 VSS_169
D33 VSS_170
E6 VSS_171
E12 VSS_172
E18 VSS_173
E30 VSS_174
E32 VSS_175
E34 VSS_176
E36 VSS_177
F3 VSS_178
F19 VSS_179
F21 VSS_180
F29 VSS_181
F43 VSS_182
G8 VSS_183
G10 VSS_184
G12 VSS_185
G14 VSS_186
G16 VSS_187
G18 VSS_188
G24 VSS_189
E14 VSS_190
G28 VSS_191
G30 VSS_192
G32 VSS_193
G34 VSS_194
G36 VSS_195
G38 VSS_196
G40 VSS_197
H7 VSS_198
BH39 VSS_199
H27 VSS_200
H37 VSS_201
H47 VSS_202
H15 VSS_203
J16 VSS_204
J20 VSS_205
J22 VSS_206
J26 VSS_207
J28 VSS_208
J32 VSS_209
H33 VSS_210
J38 VSS_211
AP41 VSS_212
AR2 VSS_213
BB5 VSS_214
BG6 VSS_215
BB13 VSS_216
BB15 VSS_217
K9 VSS_218
L8 VSS_219
L42 VSS_220
M1 VSS_221
M3 VSS_222
M5 VSS_223
M9 VSS_224
N10 VSS_225
N12 VSS_226
VSS_227 N14
VSS_228 N16
VSS_229 N18
VSS_230 N20
VSS_231 N22
VSS_232 N24
VSS_233 N26
VSS_234 N28
VSS_235 N30
VSS_236 N32
VSS_237 N34
VSS_238 R40
VSS_239 R42
VSS_240 R48
VSS_241 U10
VSS_242 U12
VSS_243 U14
VSS_244 U16
VSS_245 U18
VSS_246 U20
VSS_247 U22
VSS_248 U24
VSS_249 U26
VSS_250 U28
VSS_251 U30
VSS_252 U32
VSS_253 U34
VSS_254 U36
VSS_255 U48
VSS_256 Y41
VSS_257 N36
VSS_258 V41
VSS_259 BB17
VSS_260 BB19
VSS_261 BB21
VSS_262 BB25
VSS_263 BB27
VSS_264 BH27
VSS_265 BH31
VSS_266 BH33
VSS_267 BD47
VSS_268 BH45
VSS_269 BH47
VSS_270 C12
VSS_271 C16
VSS_272 C40
VSS_273 J44
VSS_274 J46
VSS_275 F17
GND

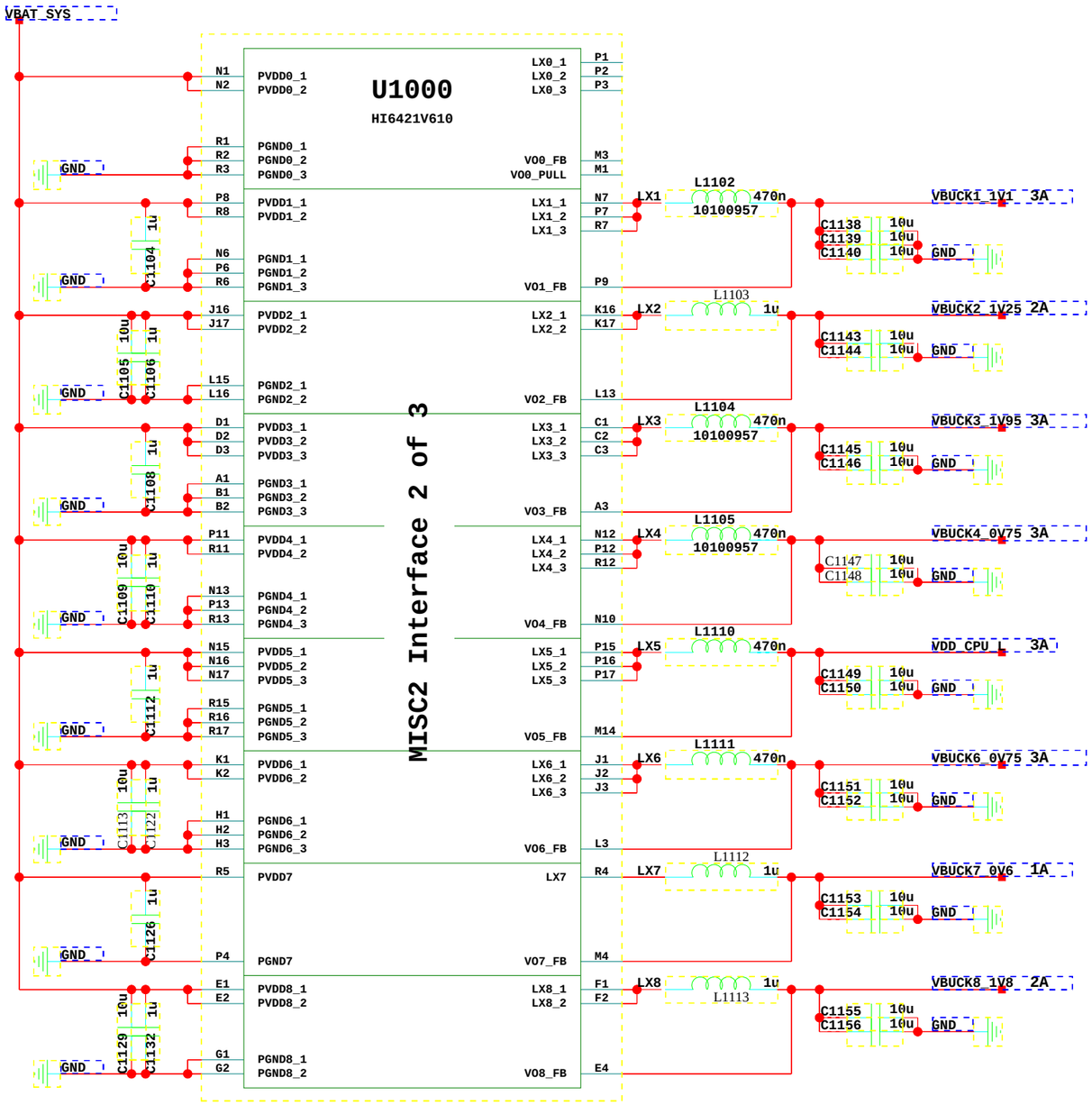
10. Hi6421 LDO

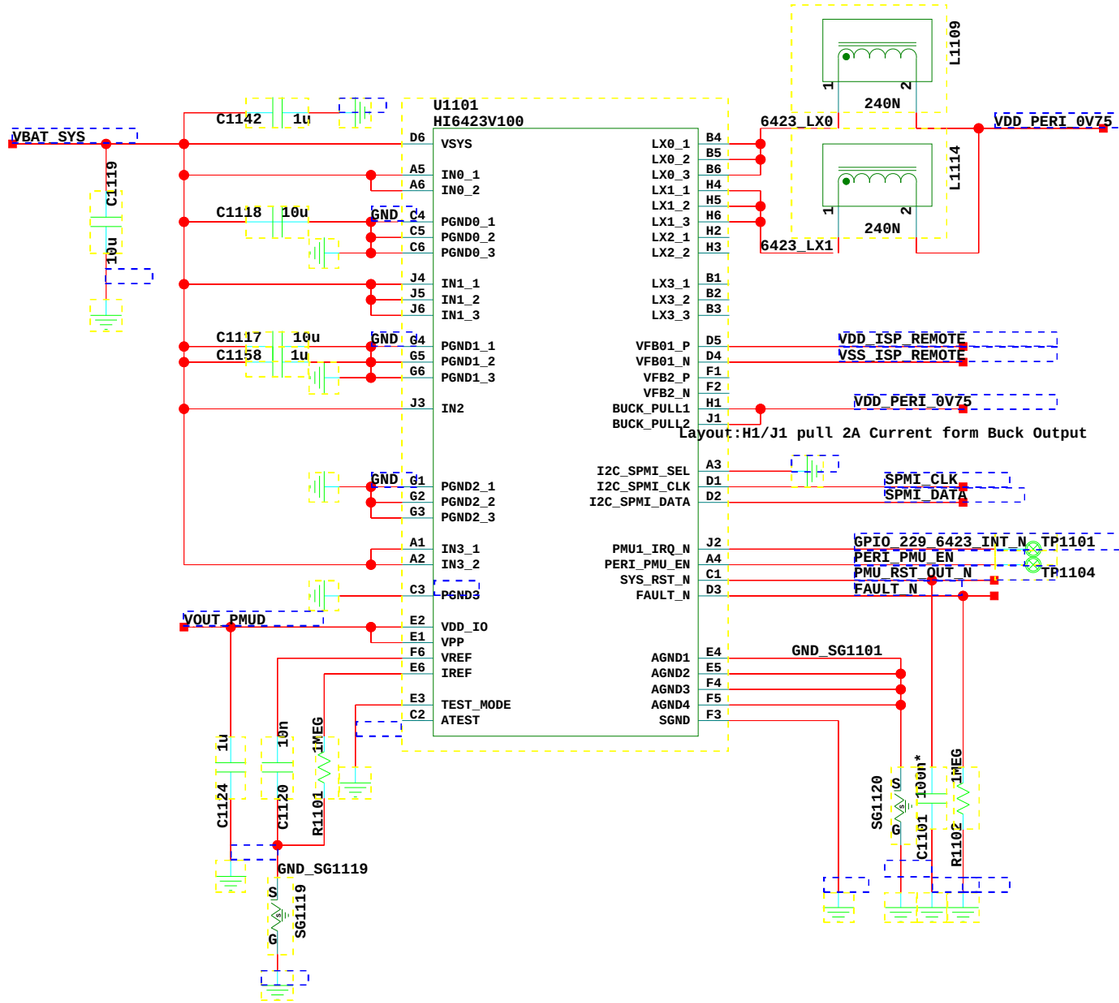
NUM	Vol	Current	Function
LDO0	0.75	300	SOC:UFS,SYS,PLL_SYS
LDO1	1.09	350	RFIC0 AVDD10
LDO2	1.8	120	SOC_EFUSE&HISEE
LDO3	1.8	360	RFIC AVDD18,LNA_VDD
LDO4	1.85	350	LCD&TP 1.8V IO
LDO5	1.8	350	SOC 1.8V AVDD
LDO6	0.85	550	SOC:AVDD085_ABB
LDO7	1.8	350	SOC:AVDD18_ABB
LDO8	1.8	250	IOVDD FOR Codec/RF
LDO9	3.3	50	TP AVDD 3.3V
LDO11	1.8/2.95	50	SIM0
LDO12	1.8/2.95	50	SIM1
LDO13	2.8	150	CAM_AVDD
LDO14	2.85	50	RF switch VDD
LDO15	2.95	800	UFS_VCC
LDO16	2.95	800	TPIO_VDD
LDO17	3.3	200	LCD&TP
LDO18	1.8	400	PERI IOVDD
LDO19	1.2	400	MCAM_DVDD0
LDO20	1.1	400	MCAM_DVDD1
LDO21	1.8	180	CAM IOVDD
LDO22	1.09	350	RESEVERD
LDO23	3.2	150	USB 2.0 PHY
LDO24	2.8	200	Sensor VDD
LDO25	2.85	150	MCAM_DRVVDD
LDO26	1.7	30	38.4MHZ XO CORE
LDO27	1.8	30	HKADC,XOADC
LDO28	1.8	120	RF switch VIO
LDO29	1.8	120	VPH_UFS,PLL_SYS
LDO30	0.75	400	FIX 0.75 For SOC
LDO32	1.1	400	SlaveCAM_DVDD
LDO33	2.8	150	MCAM_AVDD0
LDO34	3.3	200	Laser/FP/PD VDD
LDO35	2.9	50	CODEC_AVDD
LDO36	1.2	10	UFS refclk/rst IO



11.Hi6421 BUCK AND Hi6423

Hi6423





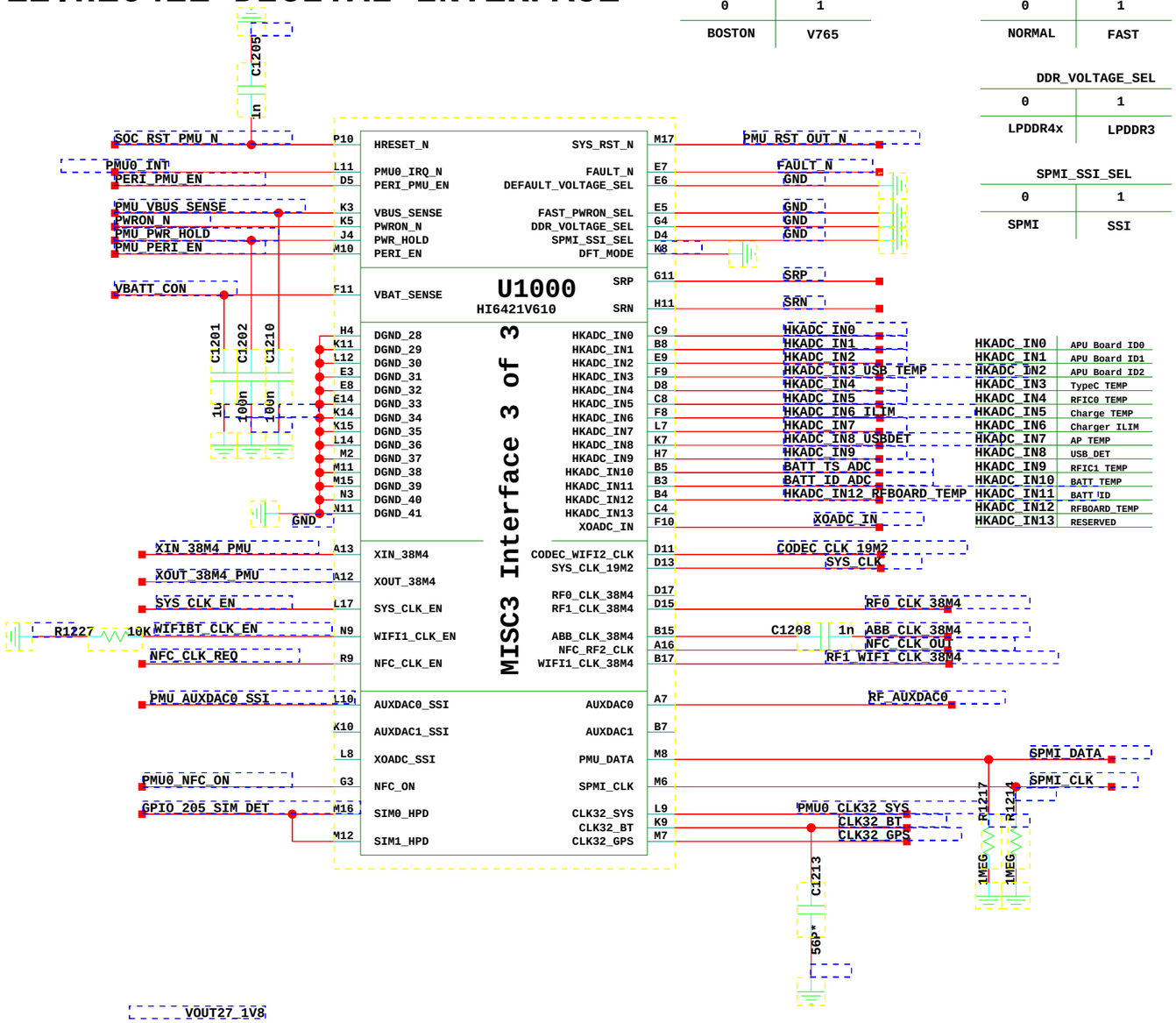
12.Hi6421 DIGITAL INTERFACE

DEFAULT_VOLTAGE_SEL	
0	1
BOSTON	V765

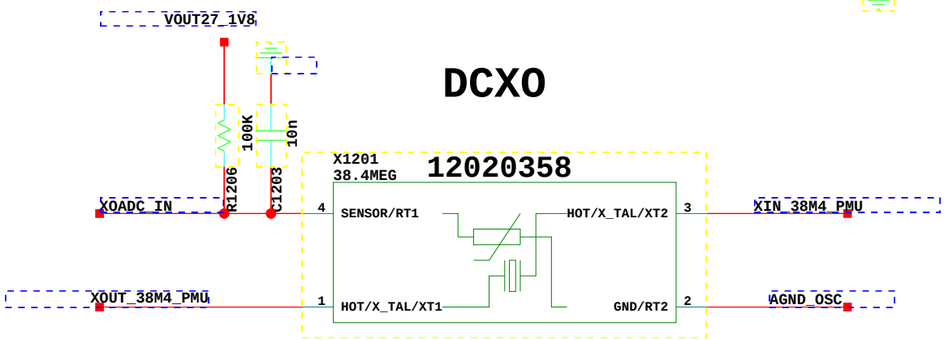
FAST_PWRON_SEL	
0	1
NORMAL	FAST

DDR_VOLTAGE_SEL	
0	1
LPDDR4x	LPDDR3

SPMI_SSI_SEL	
0	1
SPMI	SSI

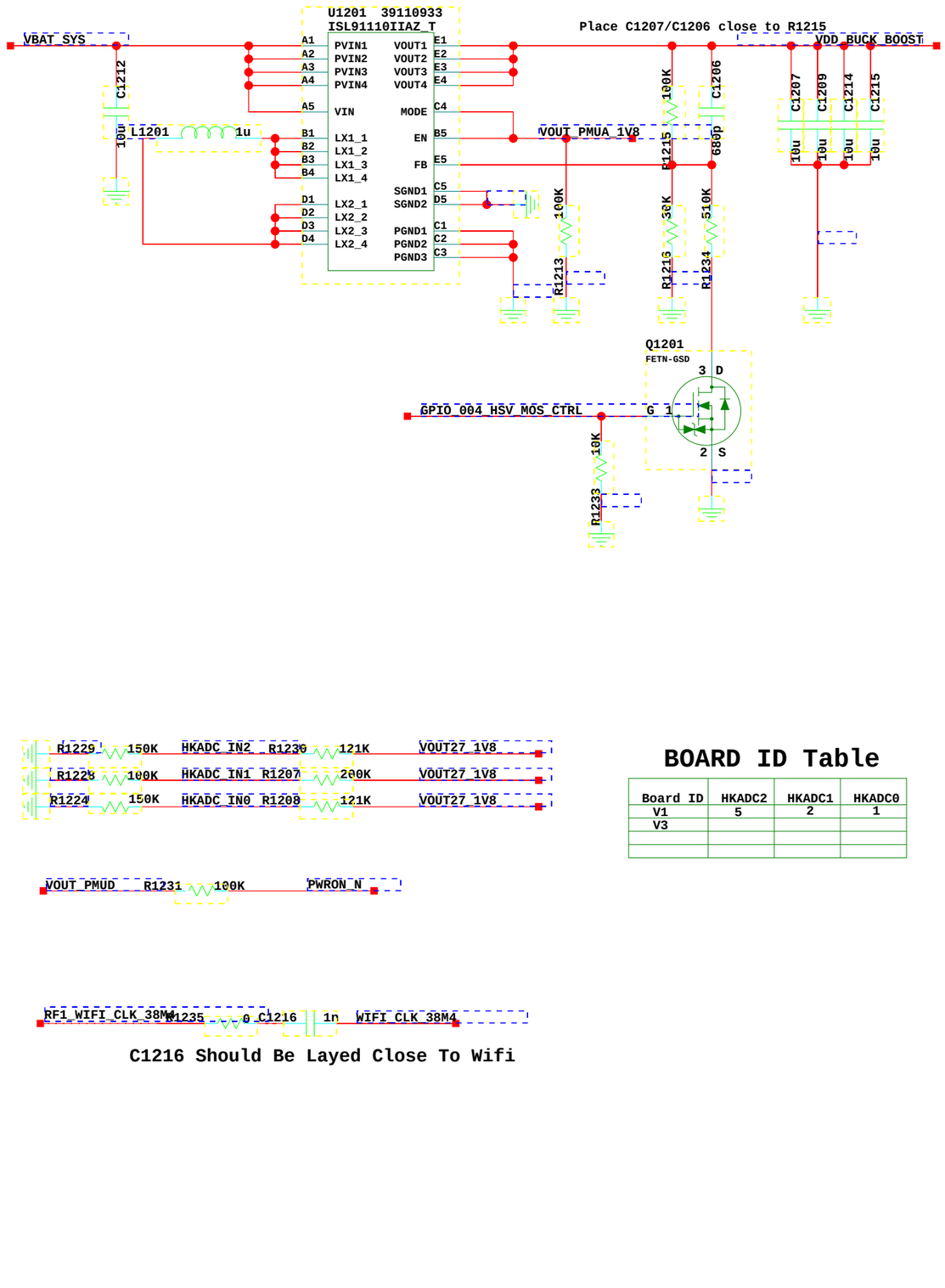


DCXO



BUCK BOOST

Vout=0.8*(1+R1/R2)=3.467V

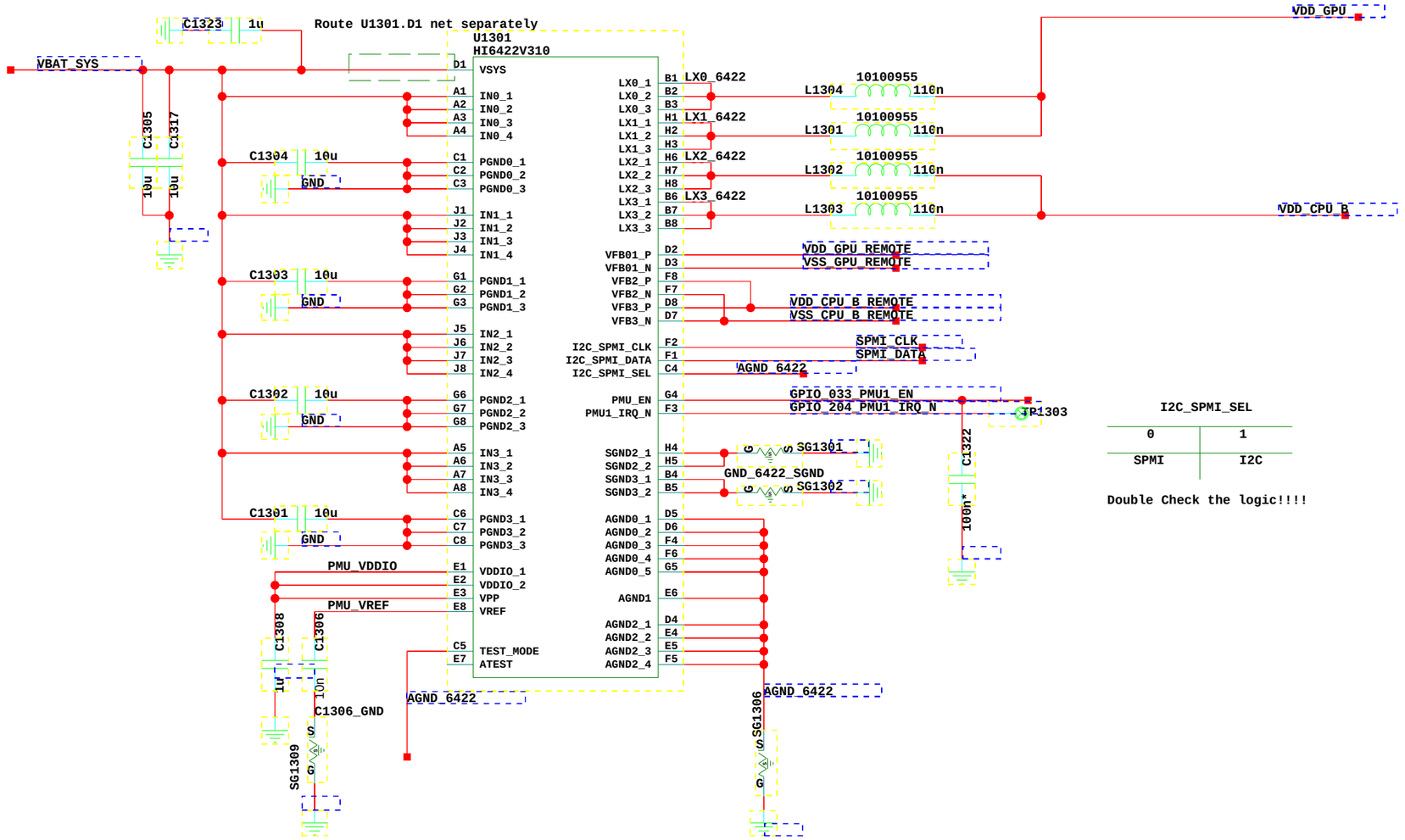


C1216 Should Be Layed Close To Wifi

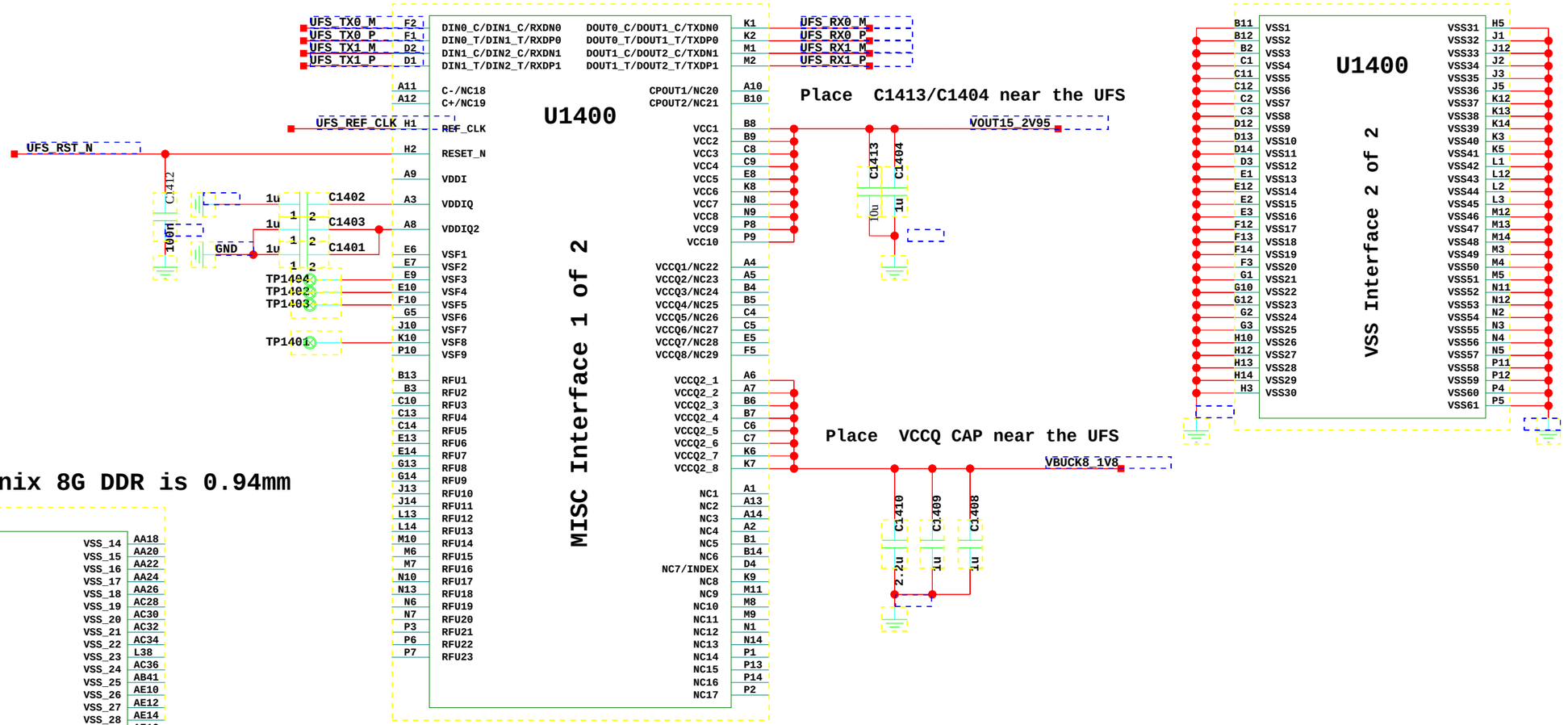
BOARD ID Table

Board ID	HKADC2	HKADC1	HKADC0
V1	5	2	1
V3			

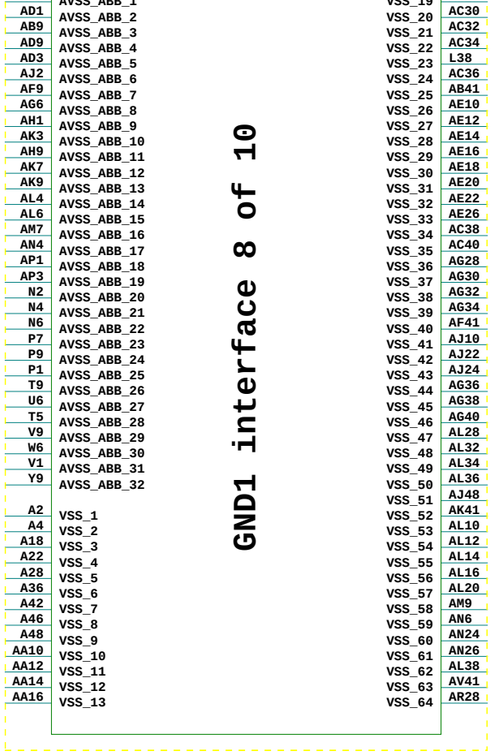
13.Hi6422V300



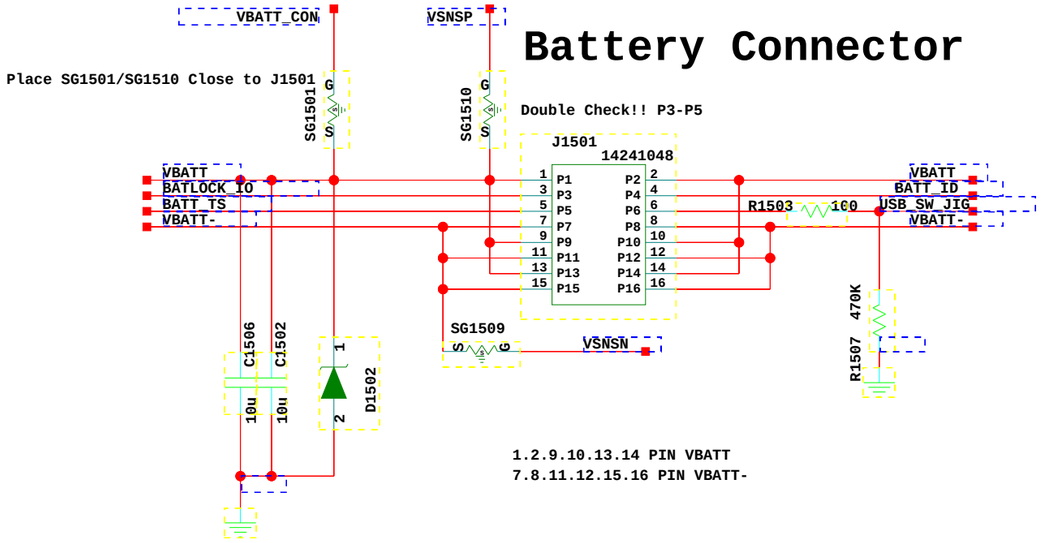
14.UFS



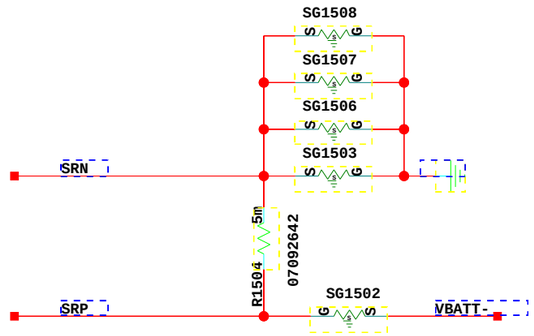
The Height of Hynix 8G DDR is 0.94mm

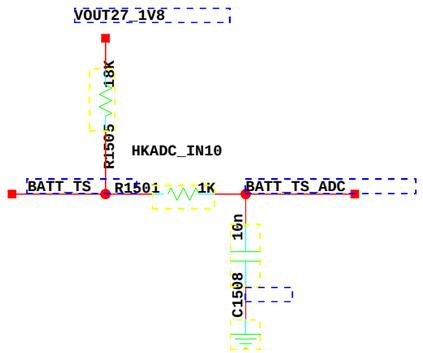


15. Battery & Fuel gauge

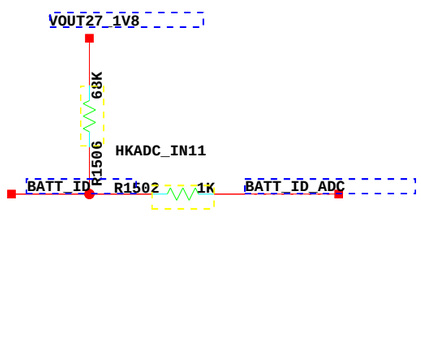


CAD note:1.Trace for 6A
2.Differential trace

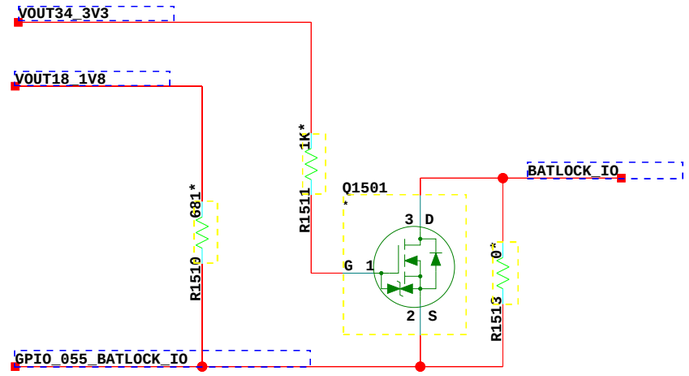




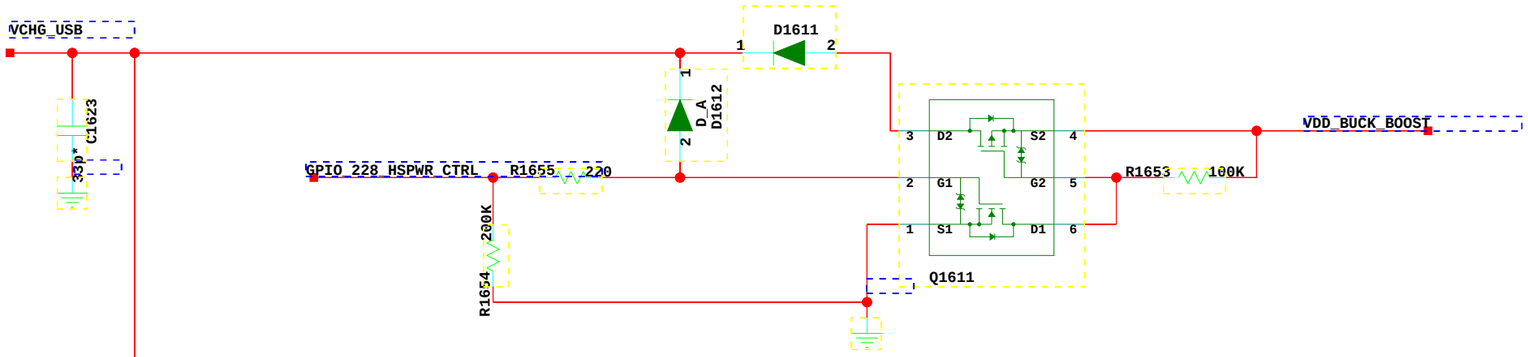
Battery Temperature

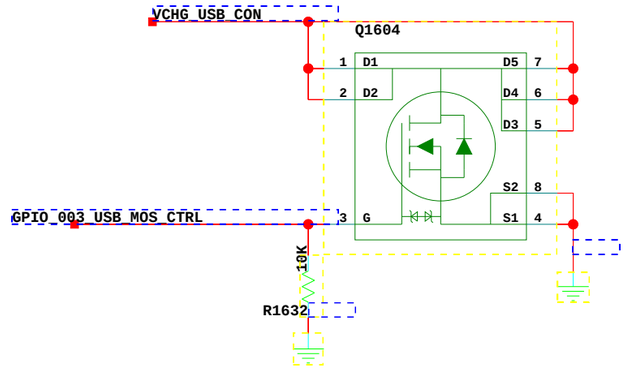


Battery ID

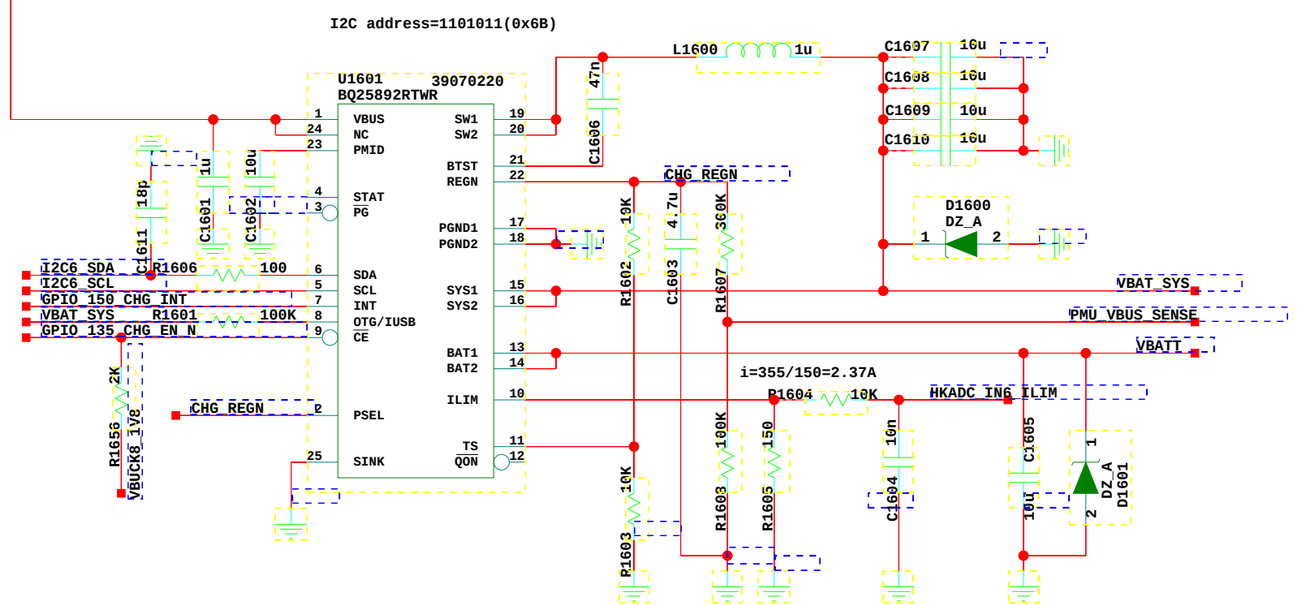


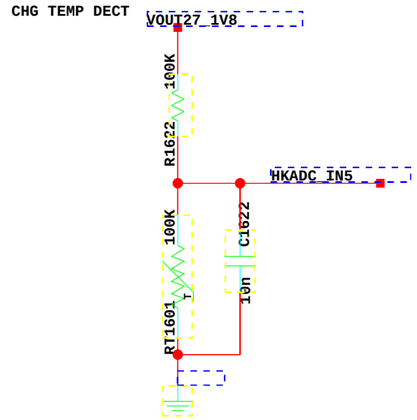
16. Charge Management



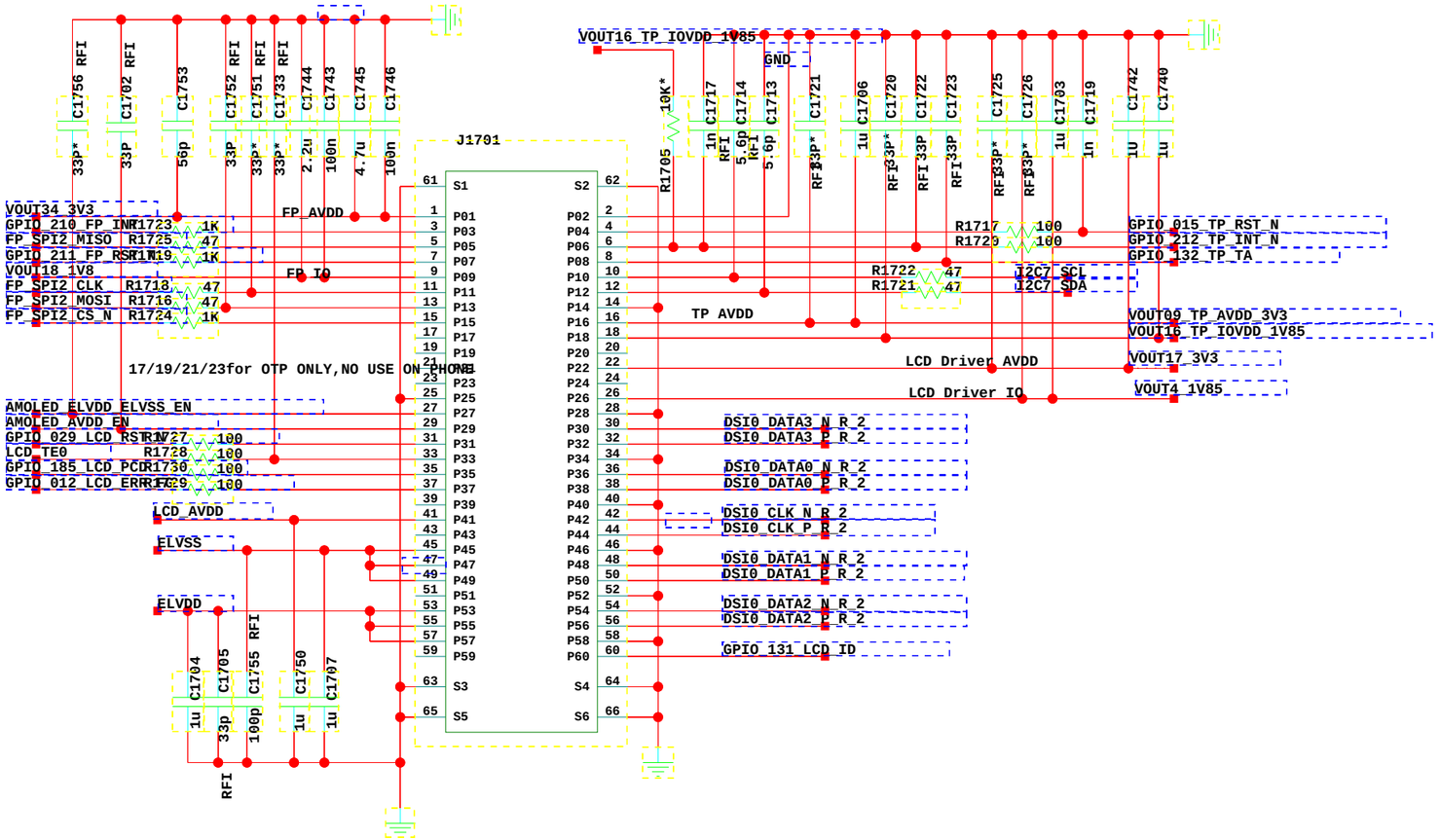


Charger IC

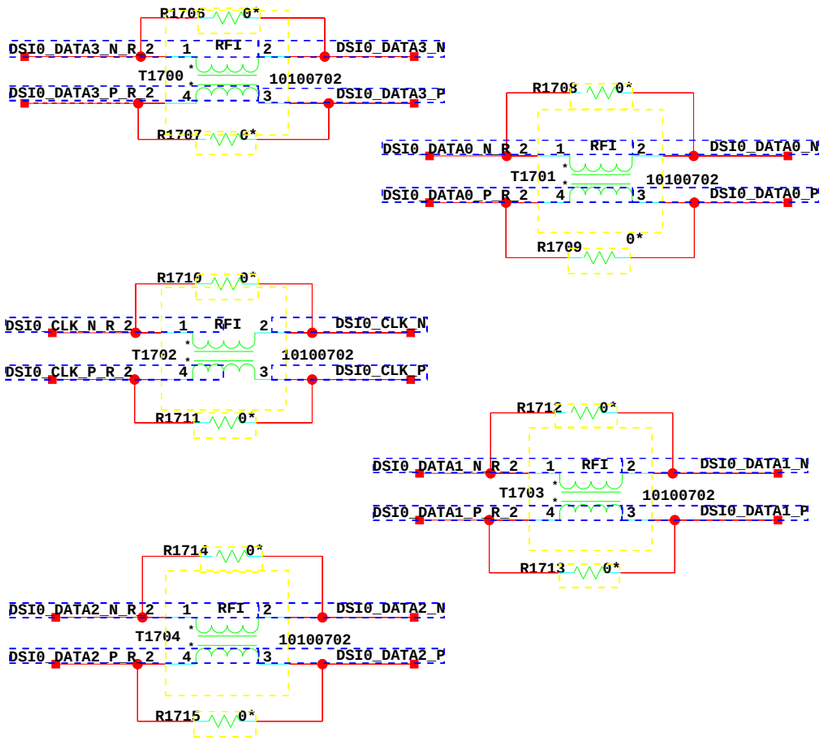




17. LCD Interface

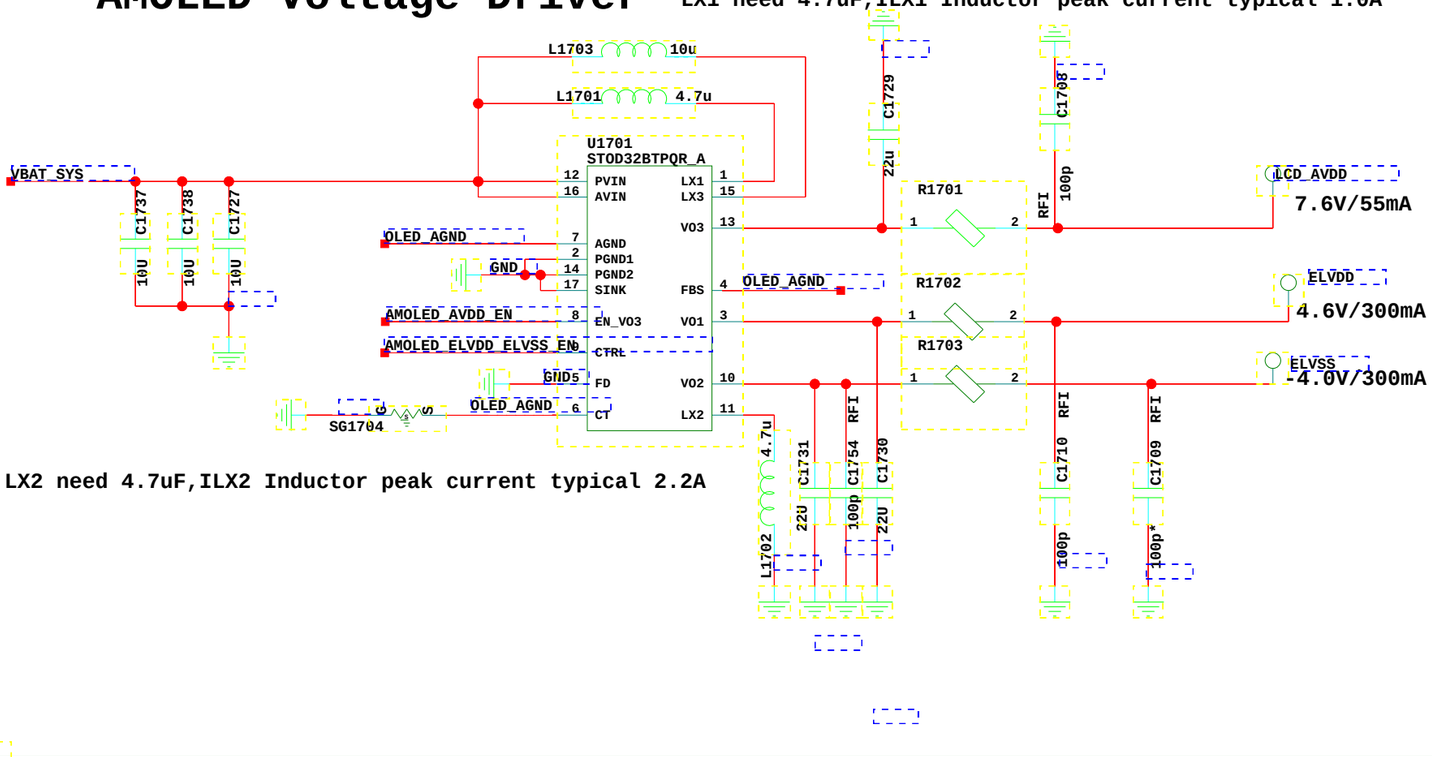


Resistors Share PADs with Inductors



AMOLED Voltage Driver

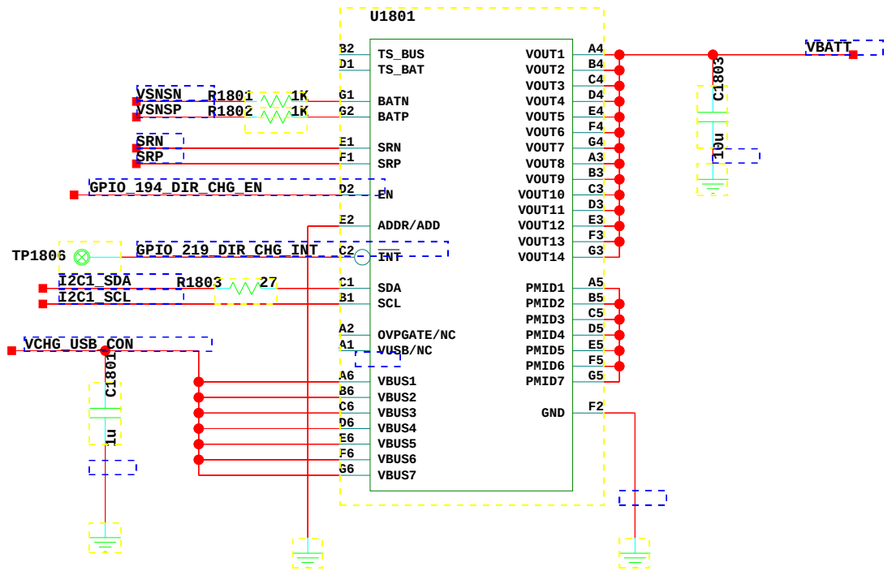
LX1 need 4.7uF,ILX1 Inductor peak current typical 1.0A



LX2 need 4.7uF,ILX2 Inductor peak current typical 2.2A

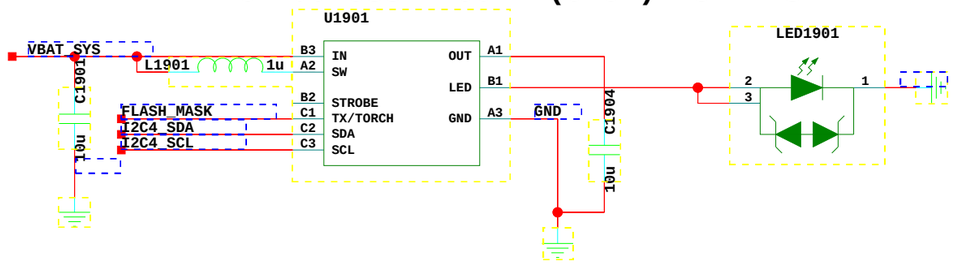
18. Direct Charge LoadSwitch

I2C Address=1100111(0x67)

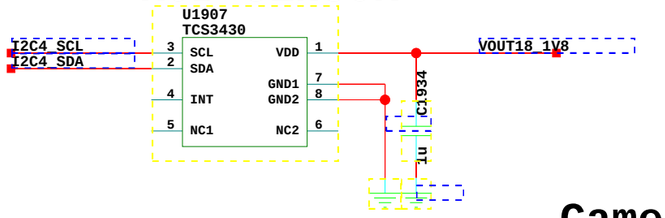


19. Flash LED

I2C Address=1100011(0x63) For TI
I2C Address=1100111(0x67) For MPS

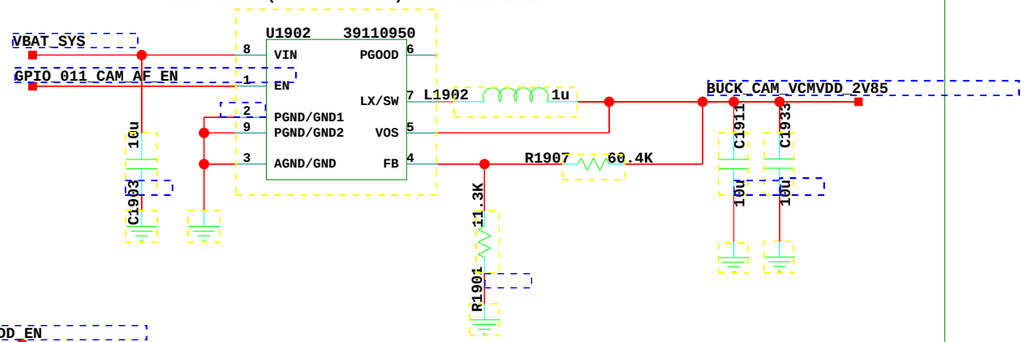


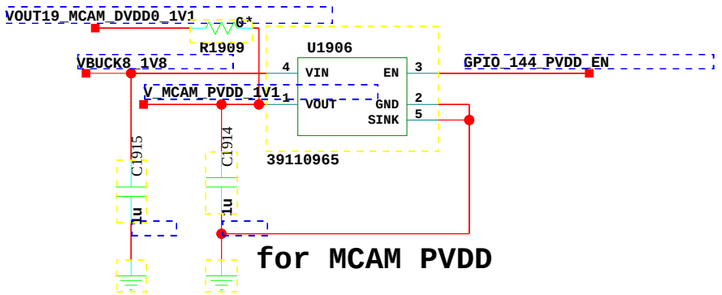
RGB SENSOR



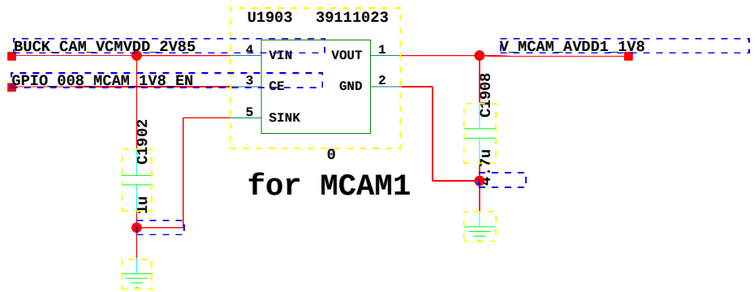
Camera BUCK

VOUT=0.45V*(1+R1901/R1902)=0.45*6.35=2.85V

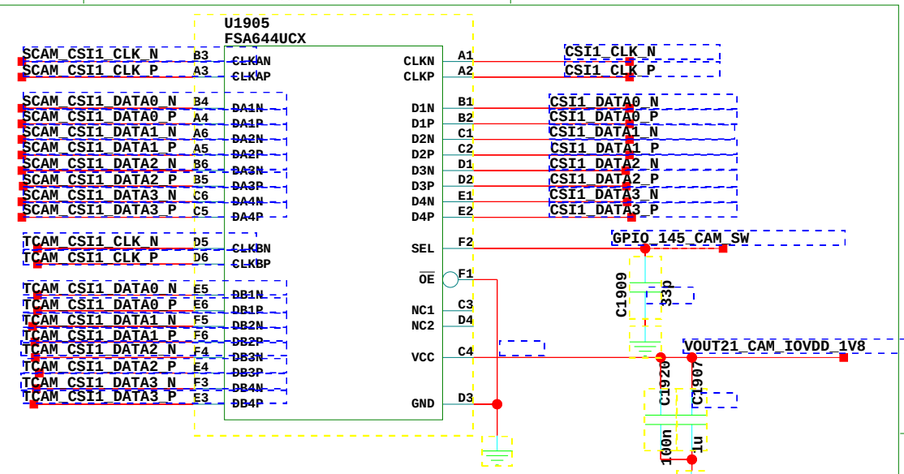


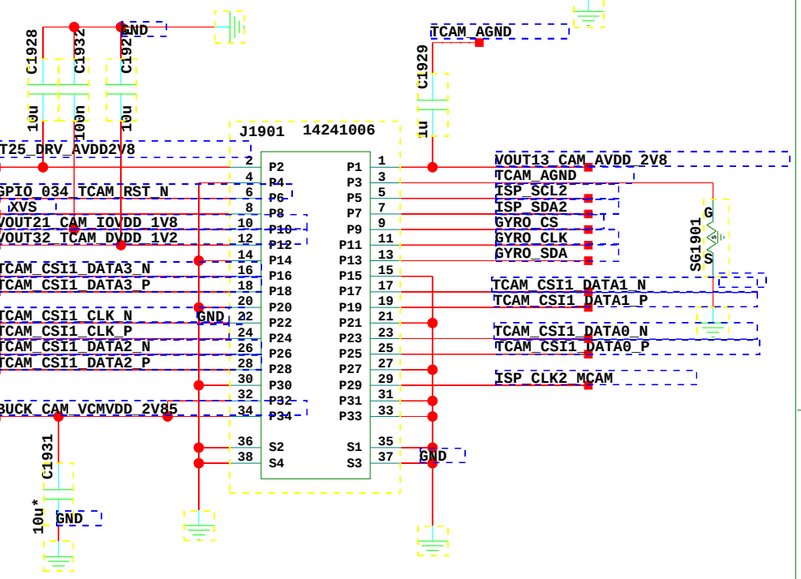


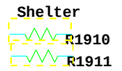
for MCAM PVDD



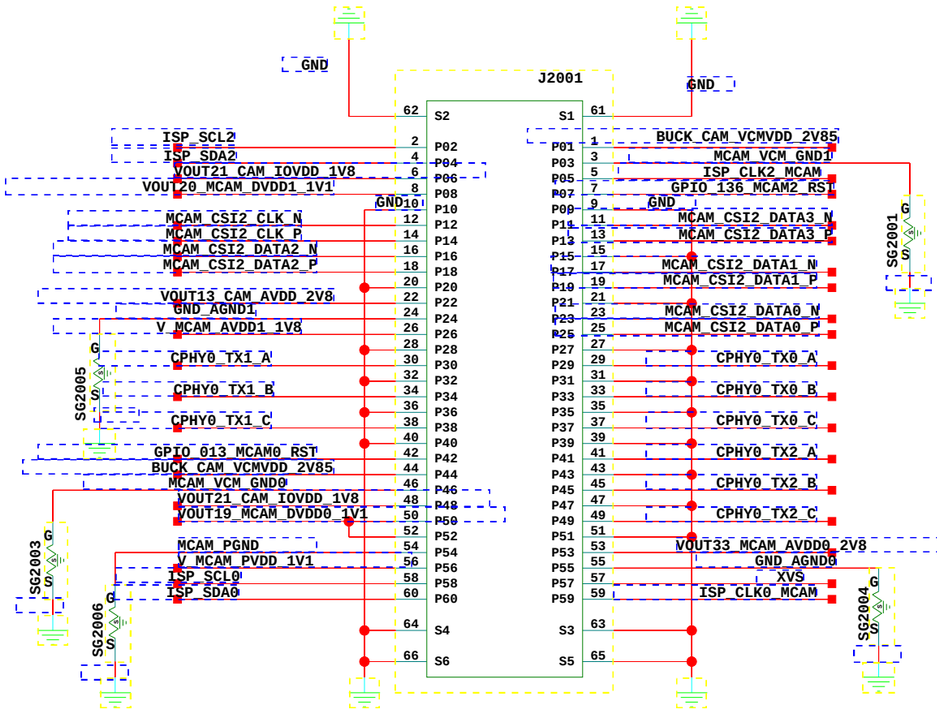
for MCAM1

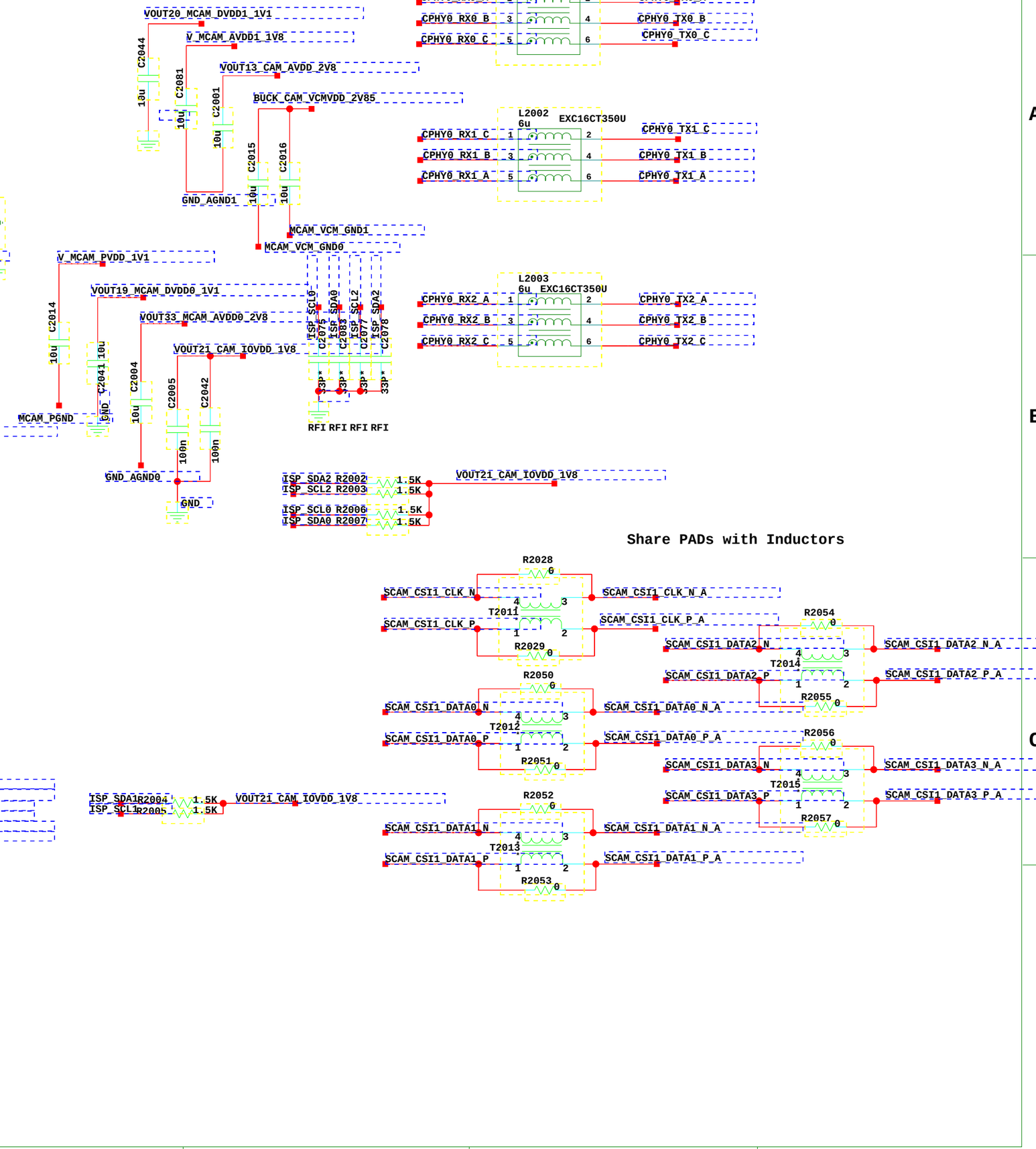


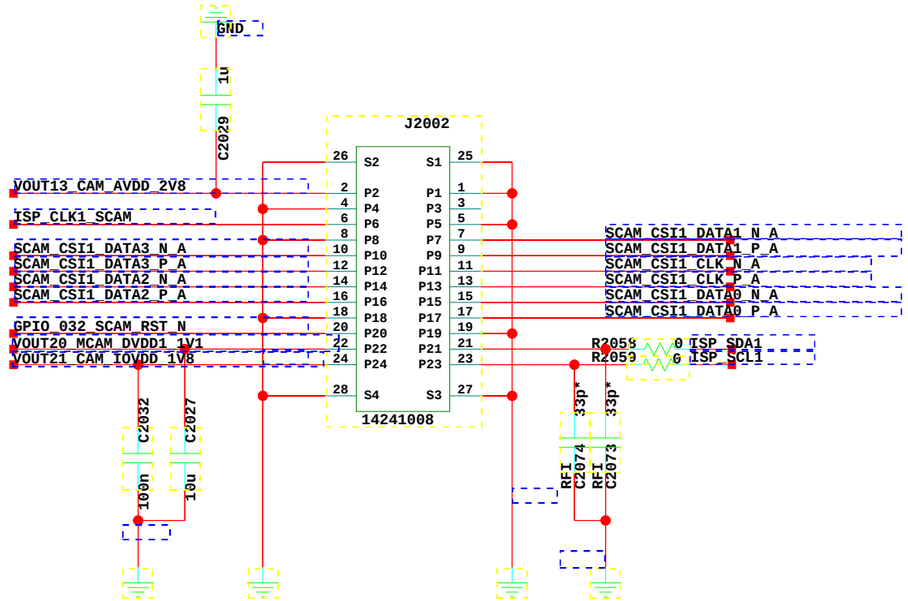




20. Camera


GND
J2001
ISP_SCL2
ISP_SDA2
VOUT21_CAM_IOVDD_1V8
VOUT20_MCAM_DVDD1_1V1
MCAM_CSI2_CLK_N
MCAM_CSI2_CLK_P
MCAM_CSI2_DATA2_N
MCAM_CSI2_DATA2_P
VOUT13_CAM_AVDD_2V8
GND_AGND1
V_MCAM_AVDD1_1V8
CPHY0_TX1_A
CPHY0_TX1_B
CPHY0_TX1_C
GPIO_013_MCAM0_RST
BUCK_CAM_VCMVDD_2V85
MCAM_VCM_GND0
VOUT19_MCAM_DVDD0_1V1
MCAM_PGND
V_MCAM_PVDD_1V1
ISP_SCL0
ISP_SDA0
SG2005
SG2003
SG2006
SG2001
SG2004
BUCK_CAM_VCMVDD_2V85
MCAM_VCM_GND1
ISP_CLK2_MCAM
GPIO_136_MCAM2_RST
GND
MCAM_CSI2_DATA3_N
MCAM_CSI2_DATA3_P
MCAM_CSI2_DATA1_N
MCAM_CSI2_DATA1_P
MCAM_CSI2_DATA0_N
MCAM_CSI2_DATA0_P
CPHY0_TX0_A
CPHY0_TX0_B
CPHY0_TX0_C
CPHY0_TX2_A
CPHY0_TX2_B
CPHY0_TX2_C
VOUT33_MCAM_AVDD0_2V8
GND_AGND0
XVS
ISP_CLK0_MCAM

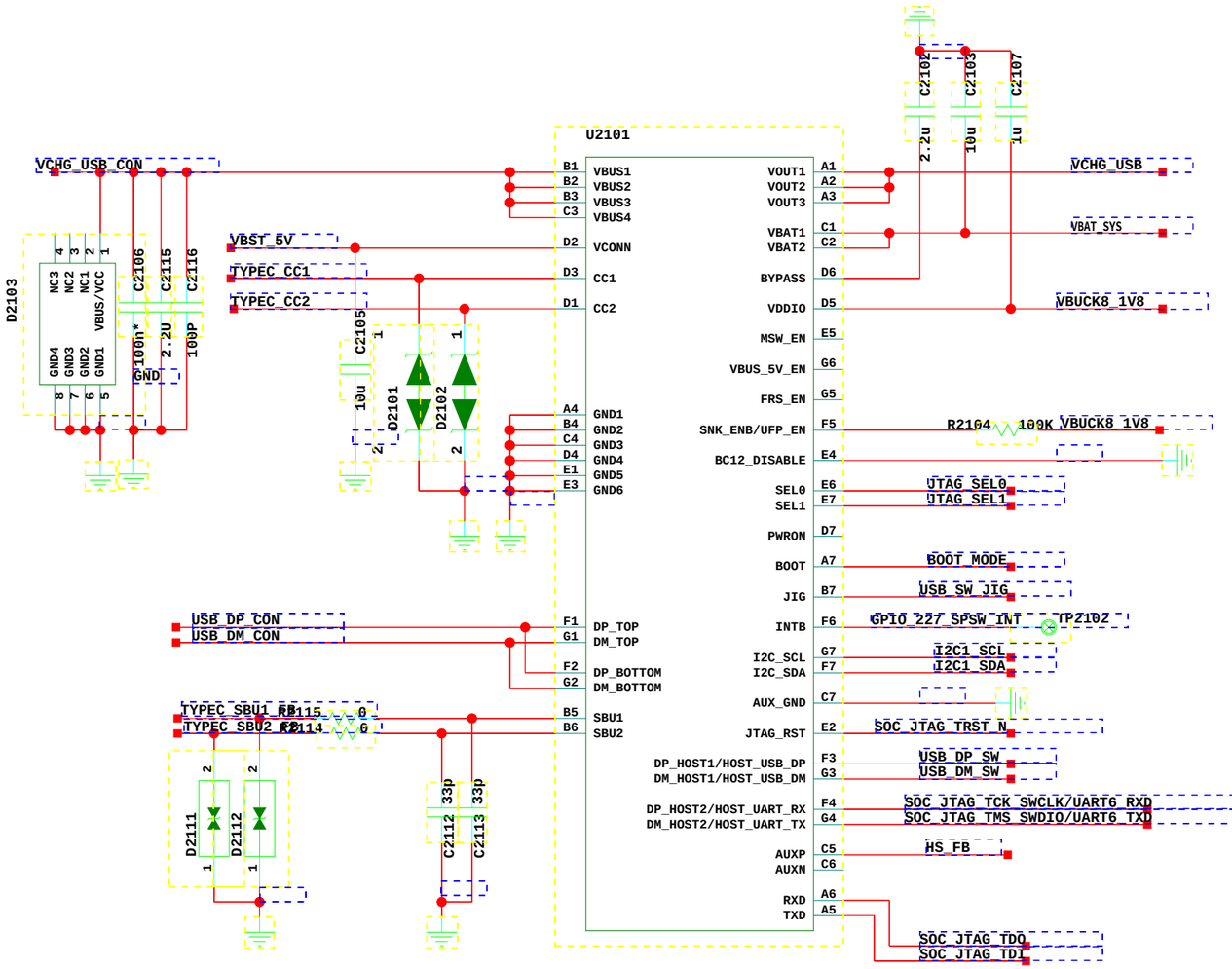

VOUT20_MCAM_DVDD1_1V1
V_MCAM_AVDD1_1V8
VOUT13_CAM_AVDD_2V8
BUCK_CAM_VCMVDD_2V85
GND_AGND1
MCAM_VCM_GND1
MCAM_VCM_GND0
V_MCAM_PVDD_1V1
VOUT19_MCAM_DVDD0_1V1
VOUT33_MCAM_AVDD0_2V8
VOUT21_CAM_IOVDD_1V8
MCAM_PGND
GND_AGND0
GND
ISP_SDA2_R2002 1.5K
ISP_SCL2_R2003 1.5K
ISP_SCL0_R2006 1.5K
ISP_SDA0_R2007 1.5K
L2001 EXC16CT350U 6u
L2002 EXC16CT350U 6u
L2003 EXC16CT350U 6u
CPHY0_RX0_A
CPHY0_RX0_B
CPHY0_RX0_C
CPHY0_TX0_A
CPHY0_TX0_B
CPHY0_TX0_C
CPHY0_RX1_C
CPHY0_RX1_B
CPHY0_RX1_A
CPHY0_TX1_C
CPHY0_TX1_B
CPHY0_TX1_A
CPHY0_RX2_A
CPHY0_RX2_B
CPHY0_RX2_C
CPHY0_TX2_A
CPHY0_TX2_B
CPHY0_TX2_C
RFI RFI RFI RFI
Share PADs with Inductors

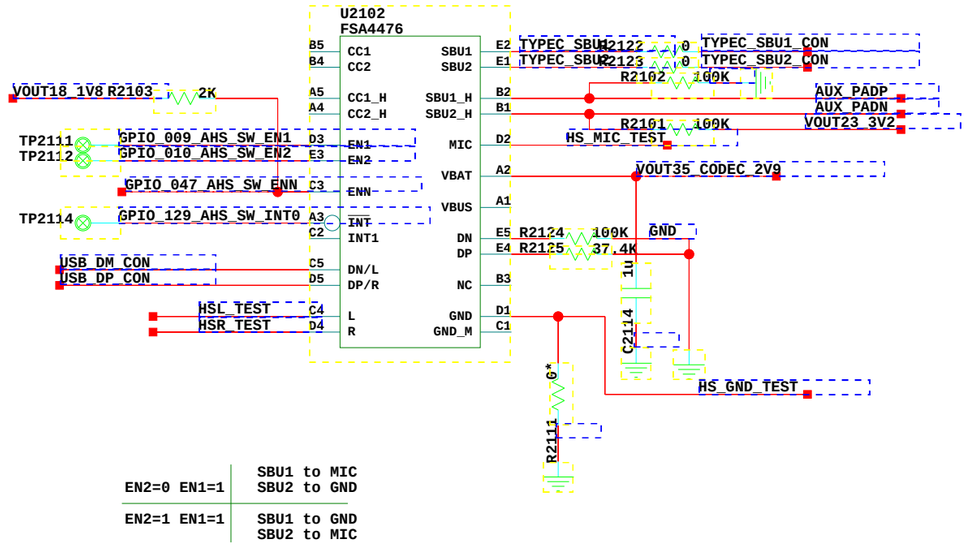

GND
J2002
VOUT13_CAM_AVDD_2V8
ISP_CLK1_SCAM
SCAM_CSI1_DATA3_N_A
SCAM_CSI1_DATA3_P_A
SCAM_CSI1_DATA2_N_A
SCAM_CSI1_DATA2_P_A
GPIO_032_SCAM_RST_N
VOUT20_MCAM_DVDD1_1V1
VOUT21_CAM_IOVDD_1V8
SCAM_CSI1_DATA1_N_A
SCAM_CSI1_DATA1_P_A
SCAM_CSI1_CLK_N_A
SCAM_CSI1_CLK_P_A
SCAM_CSI1_DATA0_N_A
SCAM_CSI1_DATA0_P_A
R2058 0 ISP_SDA1
R2059 0 ISP_SCL1
14241008

ISP_SDA1 R2004 1.5K
ISP_SCL1 R2005 1.5K
VOUT21_CAM_IOVDD_1V8

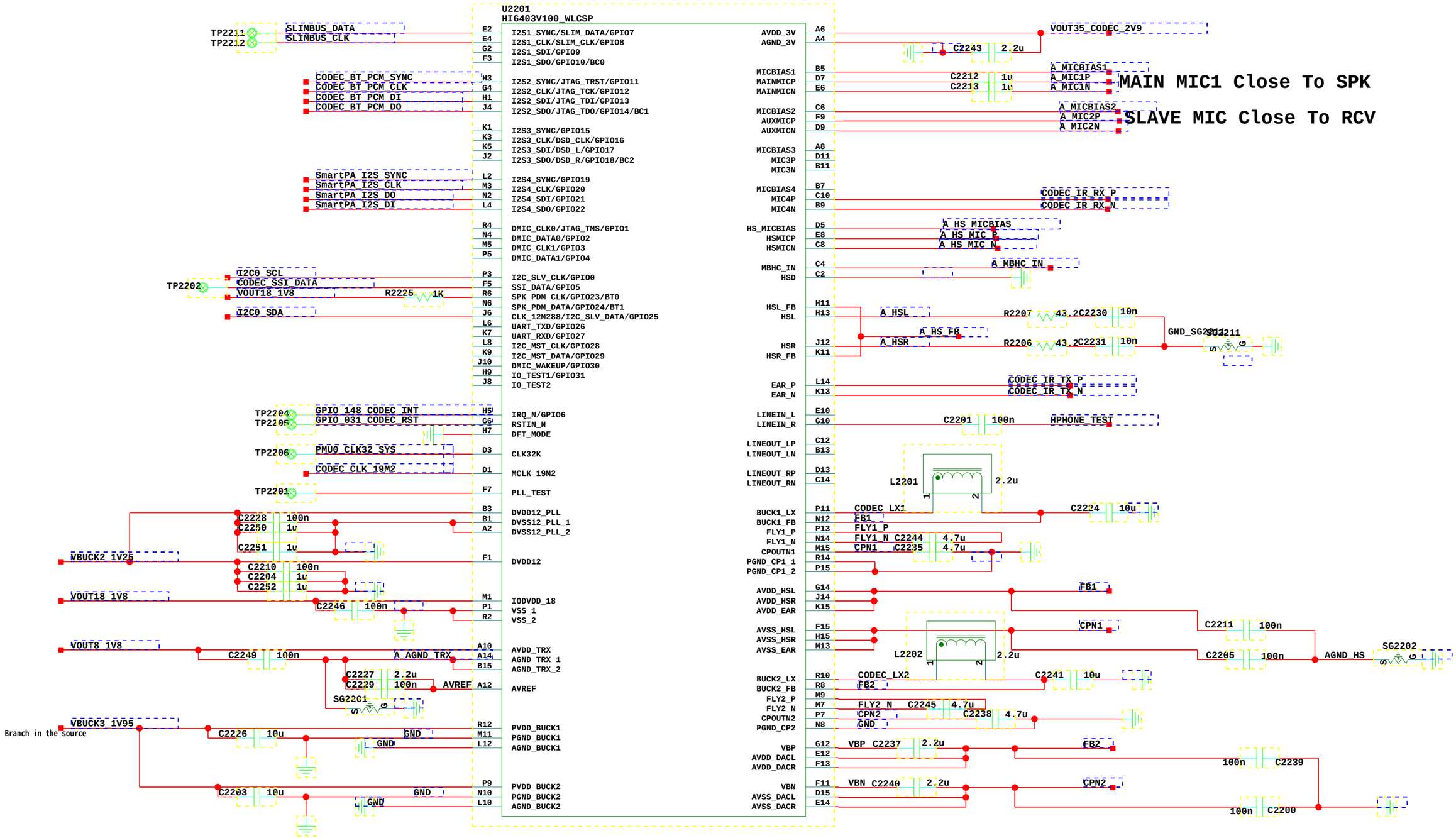
R2028
SCAM_CSI1_CLK_N
SCAM_CSI1_CLK_N_A
T2011
SCAM_CSI1_CLK_P
SCAM_CSI1_CLK_P_A
R2029
R2054
SCAM_CSI1_DATA2_N
SCAM_CSI1_DATA2_N_A
T2014
SCAM_CSI1_DATA2_P
SCAM_CSI1_DATA2_P_A
R2055
R2050
SCAM_CSI1_DATA0_N
SCAM_CSI1_DATA0_N_A
T2012
SCAM_CSI1_DATA0_P
SCAM_CSI1_DATA0_P_A
R2051
R2056
SCAM_CSI1_DATA3_N
SCAM_CSI1_DATA3_N_A
T2015
SCAM_CSI1_DATA3_P
SCAM_CSI1_DATA3_P_A
R2057
R2052
SCAM_CSI1_DATA1_N
SCAM_CSI1_DATA1_N_A
T2013
SCAM_CSI1_DATA1_P
SCAM_CSI1_DATA1_P_A
R2053

21. TYPEC INTERFACE





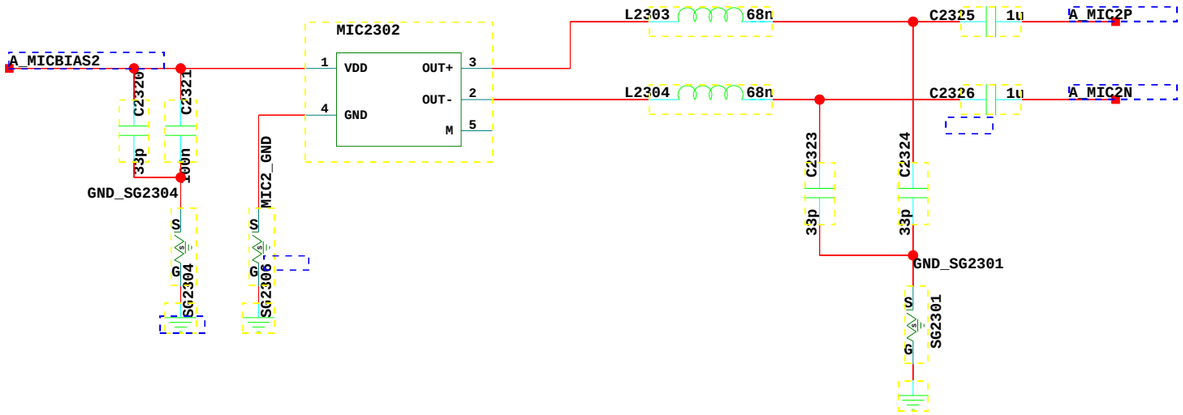
22.CODEC HI6403



BootMode0	BootMode1	Function(BootROM Start)
1	1	NA
1	0	SSI Start
0	1	I2C Start
0	0	SLIMBUS Start

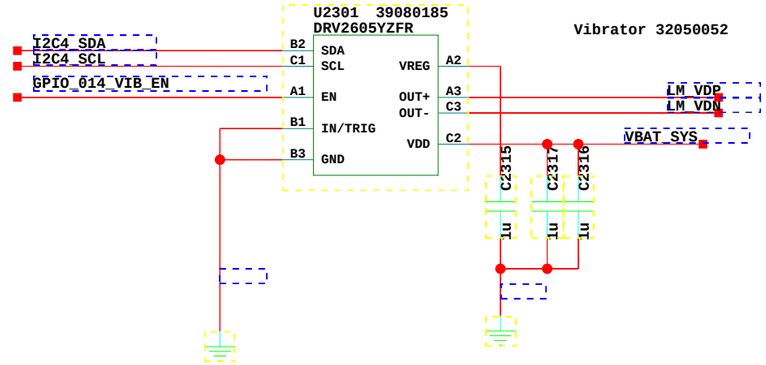
23. MIC/VIB

Slave MIC

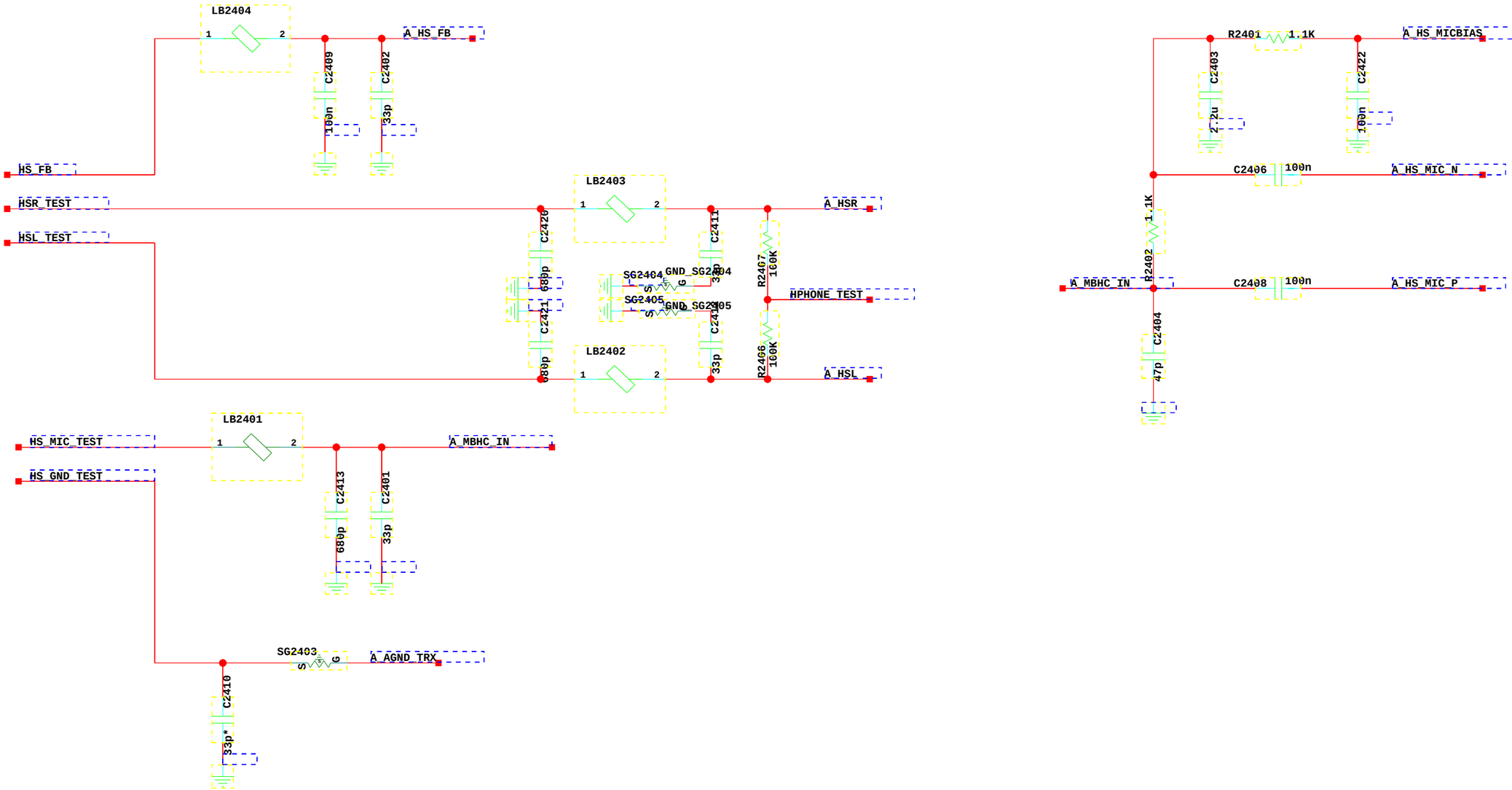


Linear Vibrator Driver

I2C address=1011010(0X5A)

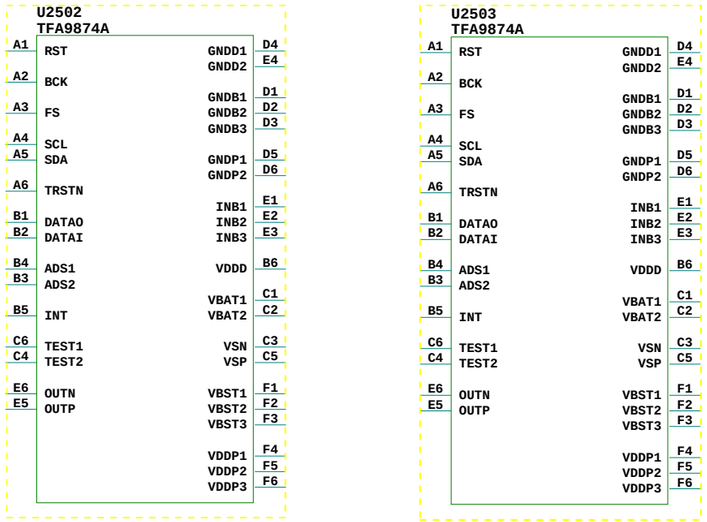


24. Headphone

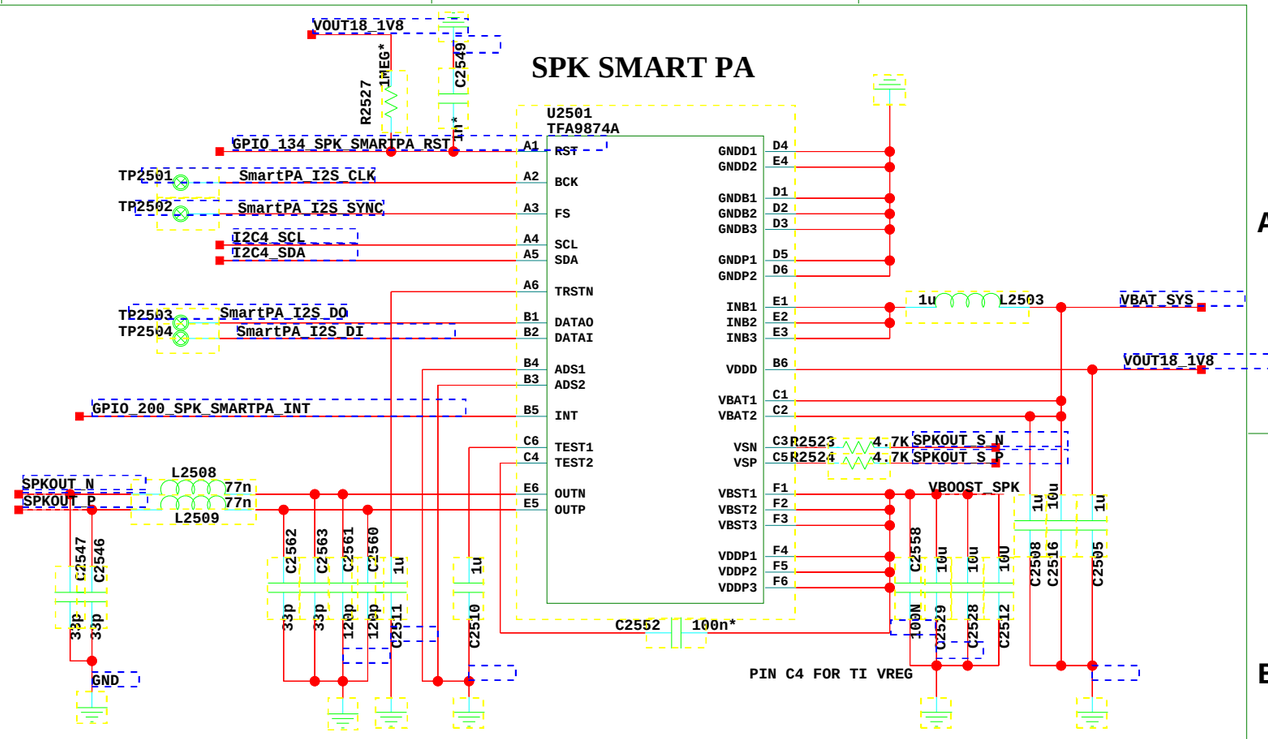


25. Audio

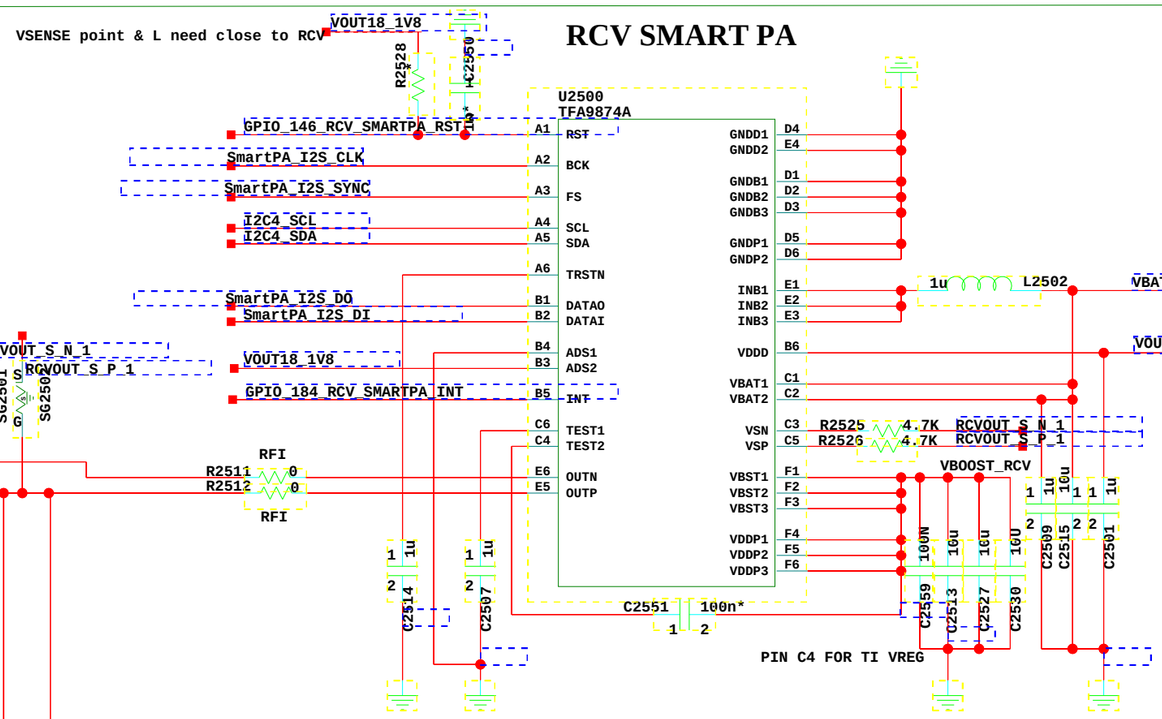
RCV SMART PA FOR CIRRUS SPK SMART PA FOR CIRRUS



SPK SMART PA



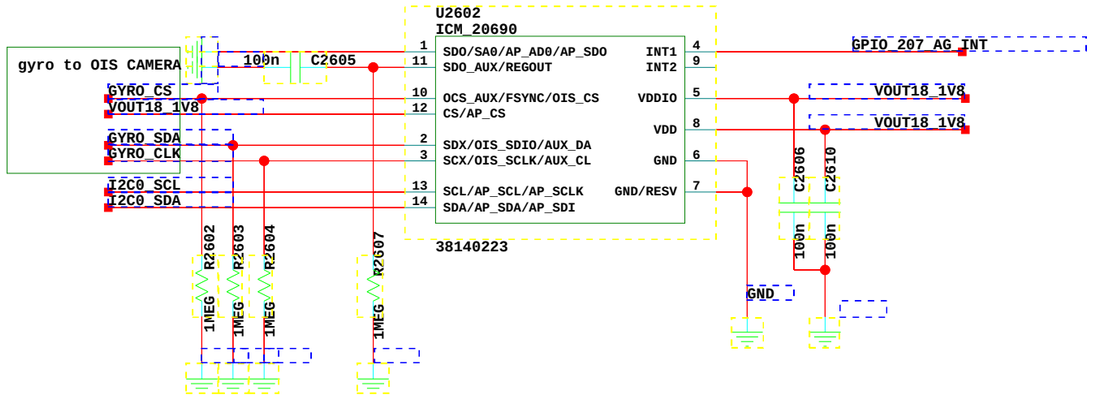
RCV SMART PA



26. X-Sensor

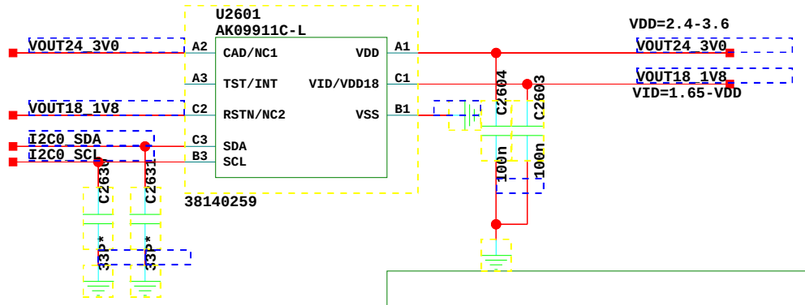
Accelerometer and Gyroscope 6-AXIS SENSOR

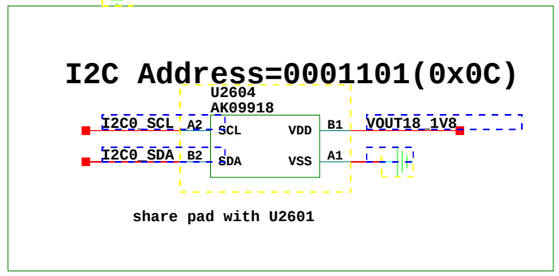
SDO=1 ADDRESS=0X6B(ST)/0X69(INVENSENS)
SDO=0 ADDRESS=0X6A(ST)/0X68(INVENSENS)

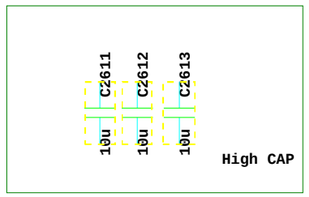


Compass

I2C Address=0101110(0x2E) For YAMAHA
I2C Address=0001101(0x0D) For AKM

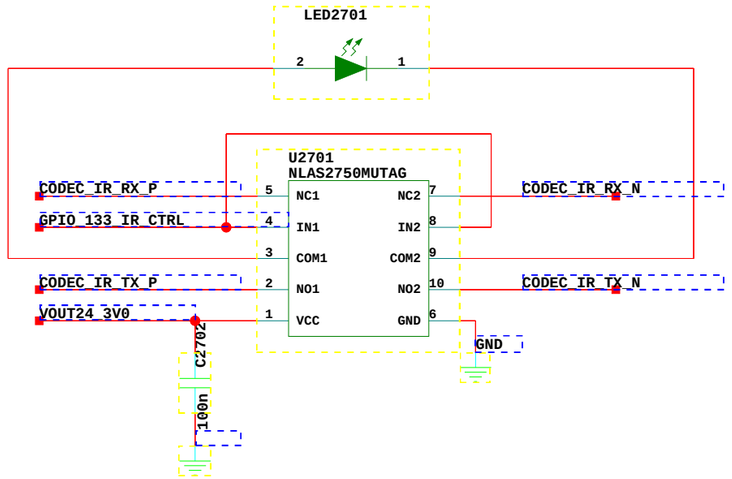




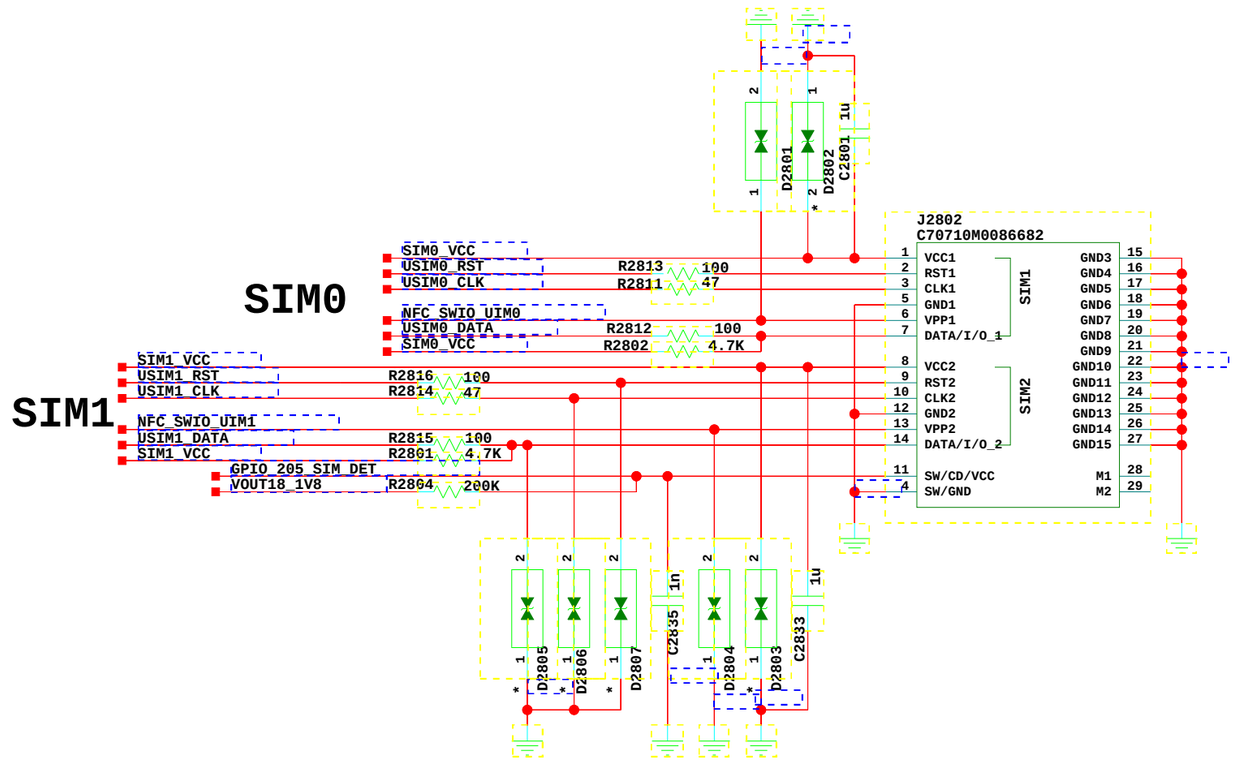


27. X-Sensor+IrDA

IRDA Control

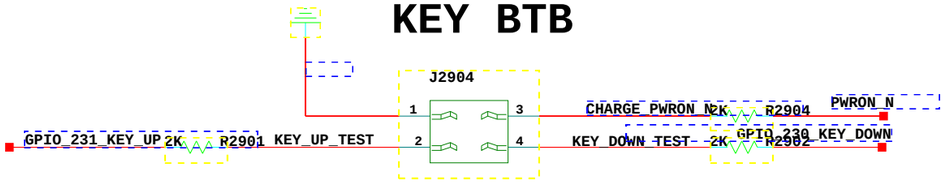


28.SIM/uSD Card

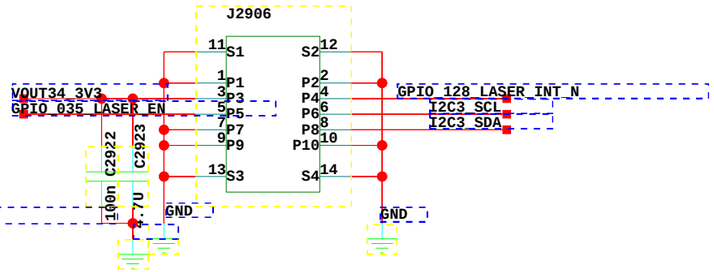


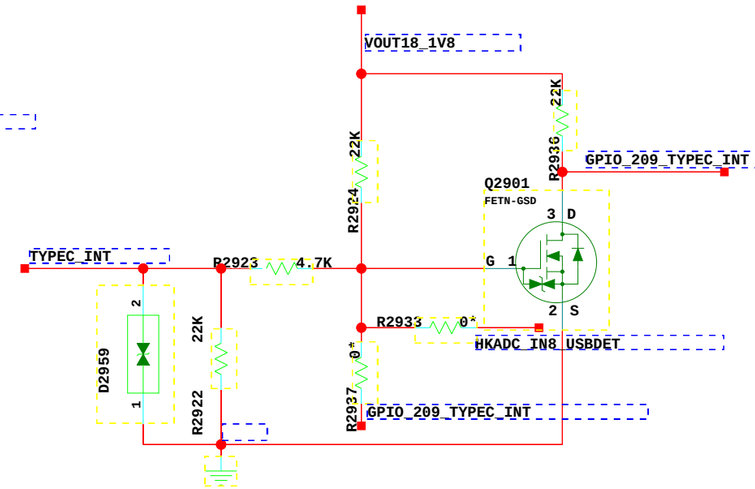
29. FPC Interface

KEY BTB

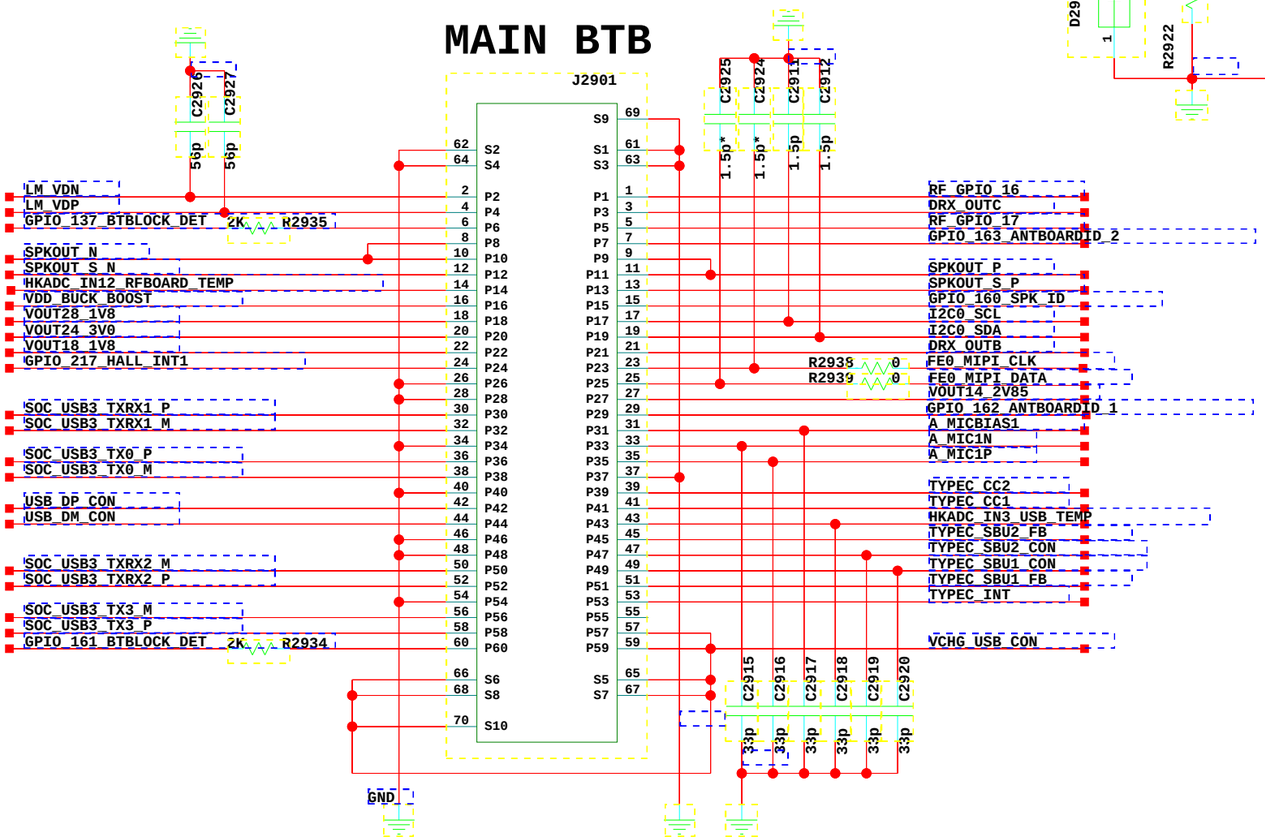


LASER BTB

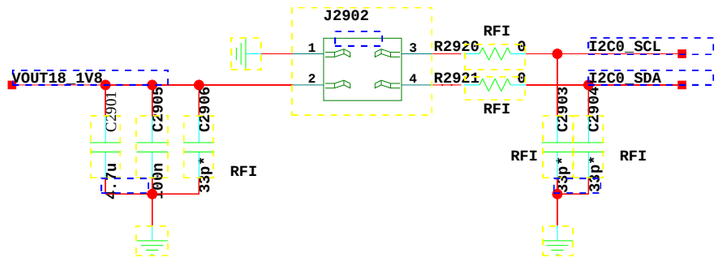


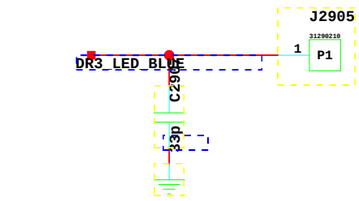


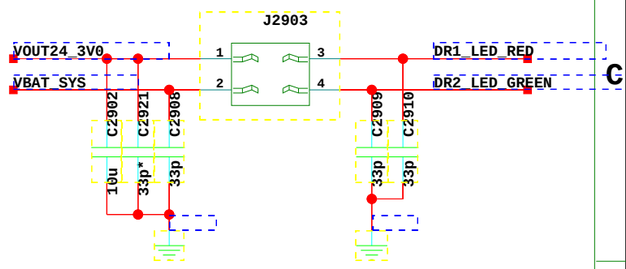
MAIN BTB

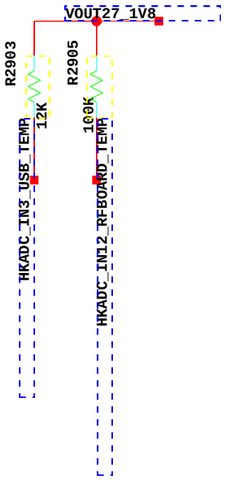


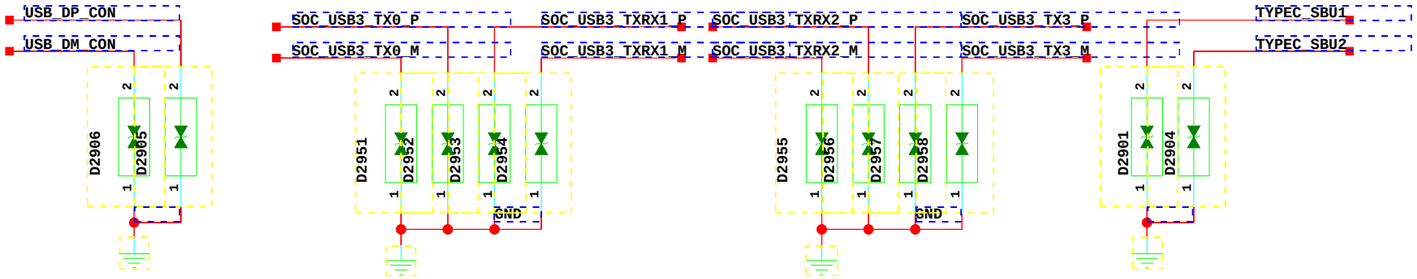
PROXIMITY LIGHT & RGB BTB





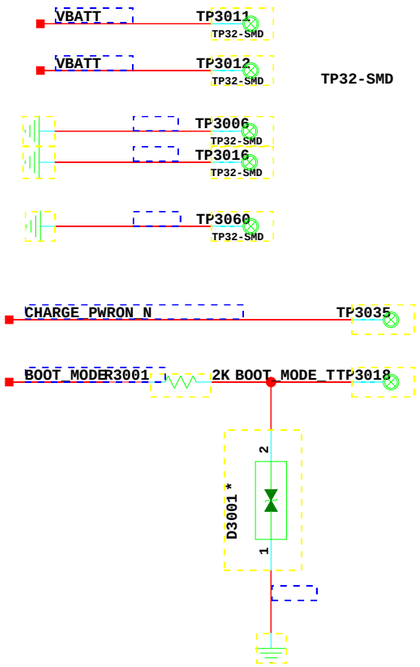




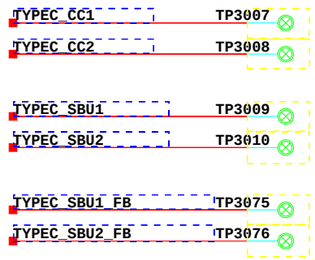


30. Test Points/Shields

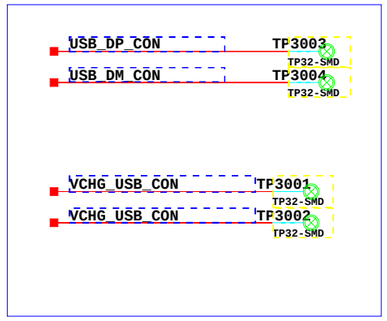
CBT TEST POINT



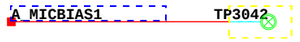
TYPE C



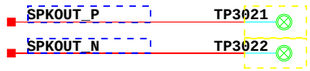
USB



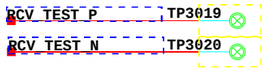
MIC



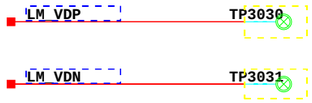
Speaker



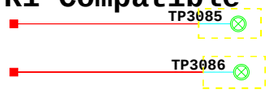
RCV



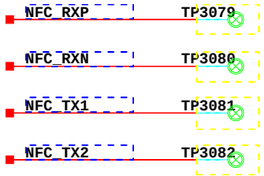
Vibrator



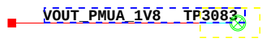
R1 Compatible



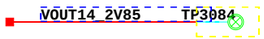
NFC



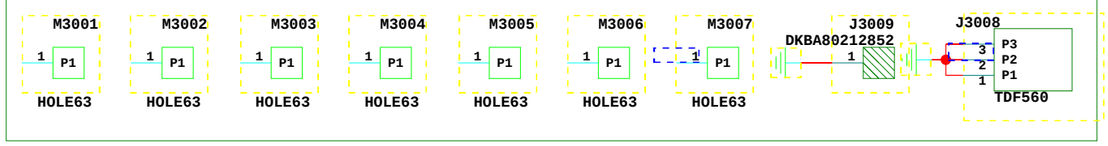
V_BUCK_BOOST



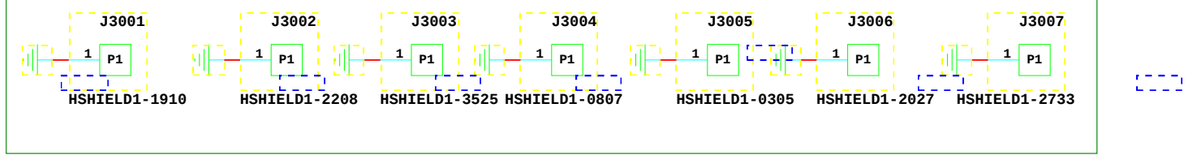
RF



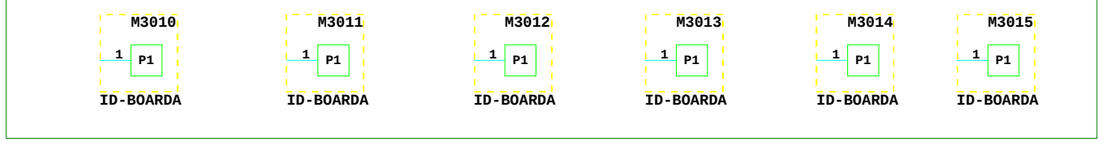
HOLE



SHIELD

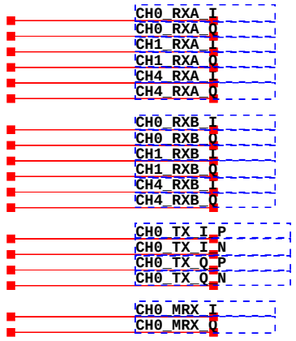


Mark Point

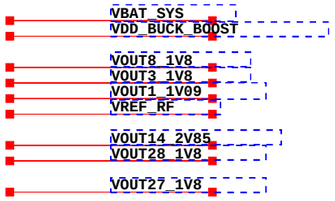


31.RF Interface

RFIC IQ

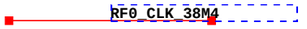


POWER

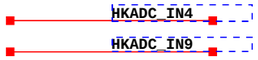


GSM

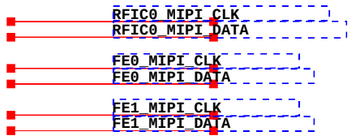
CLK



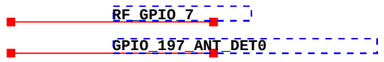
HKADC



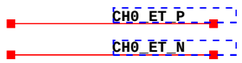
MIPI Interface



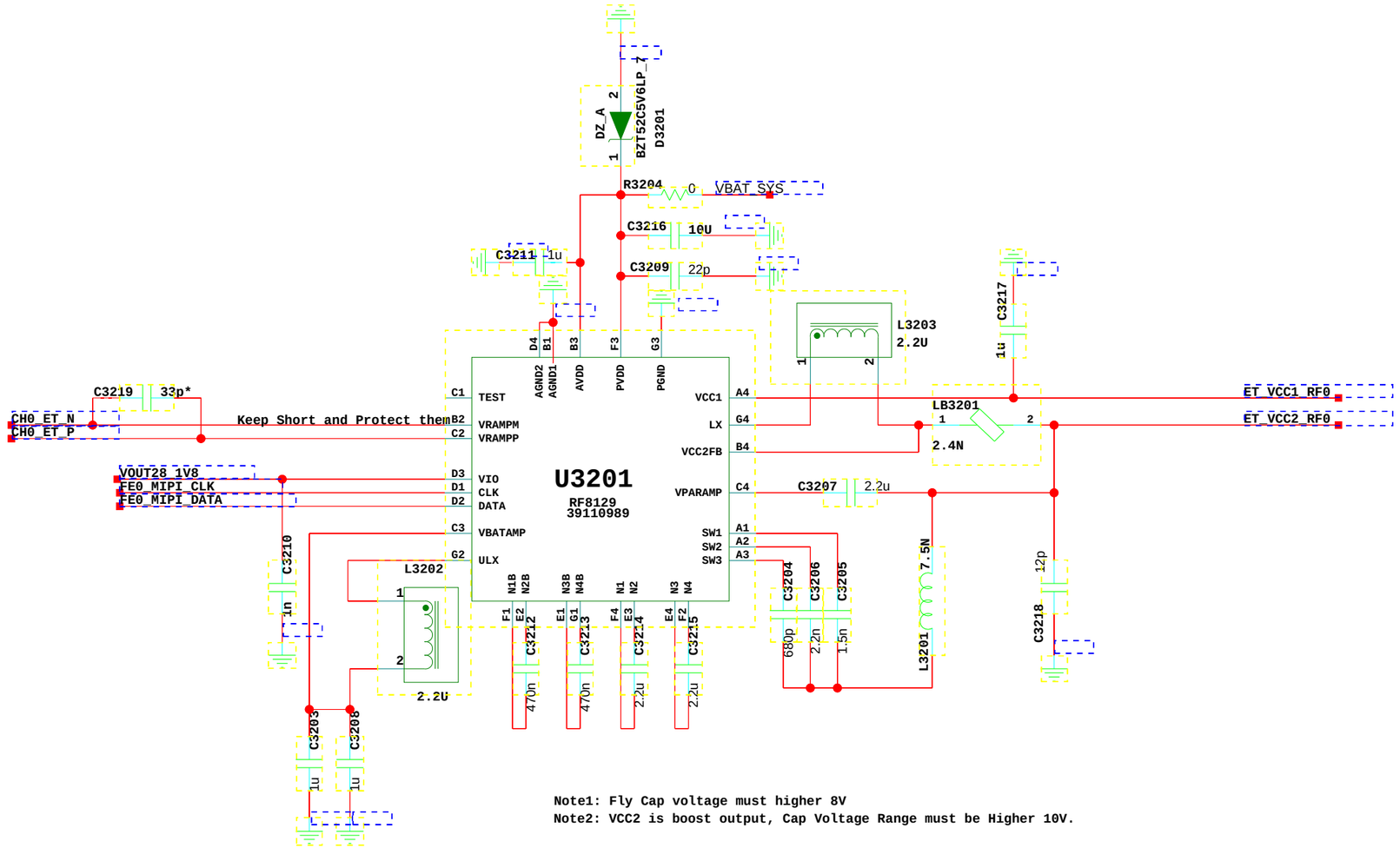
GPIO Interface



ET Interface

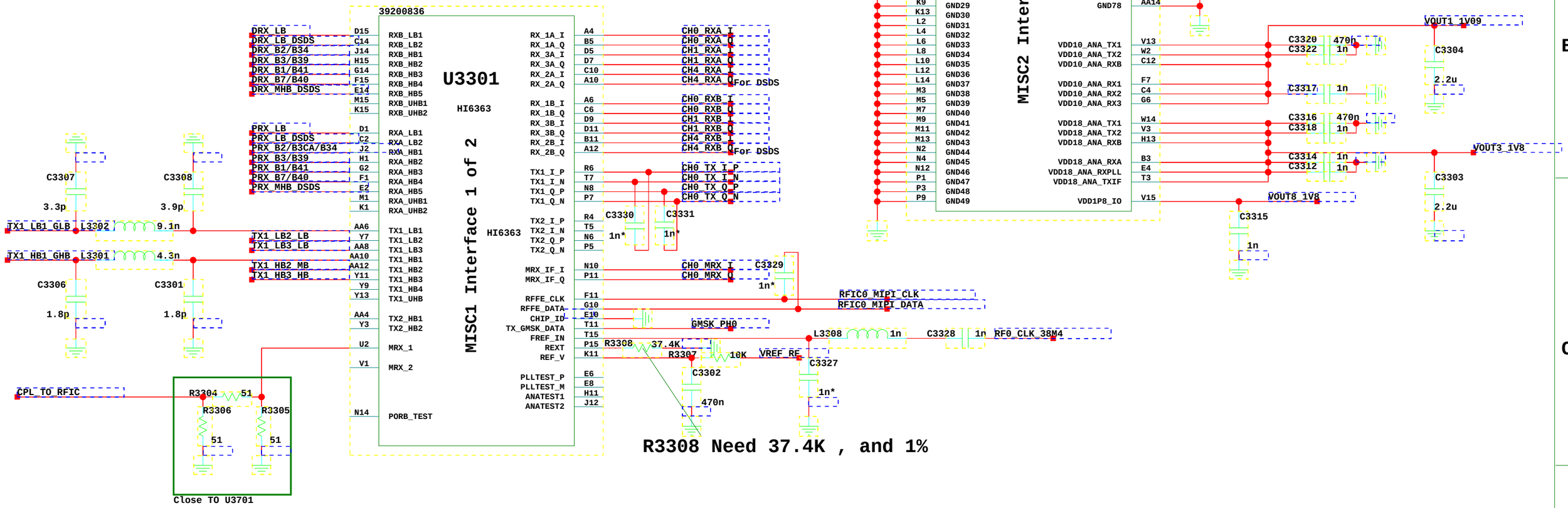


32. RF PMU

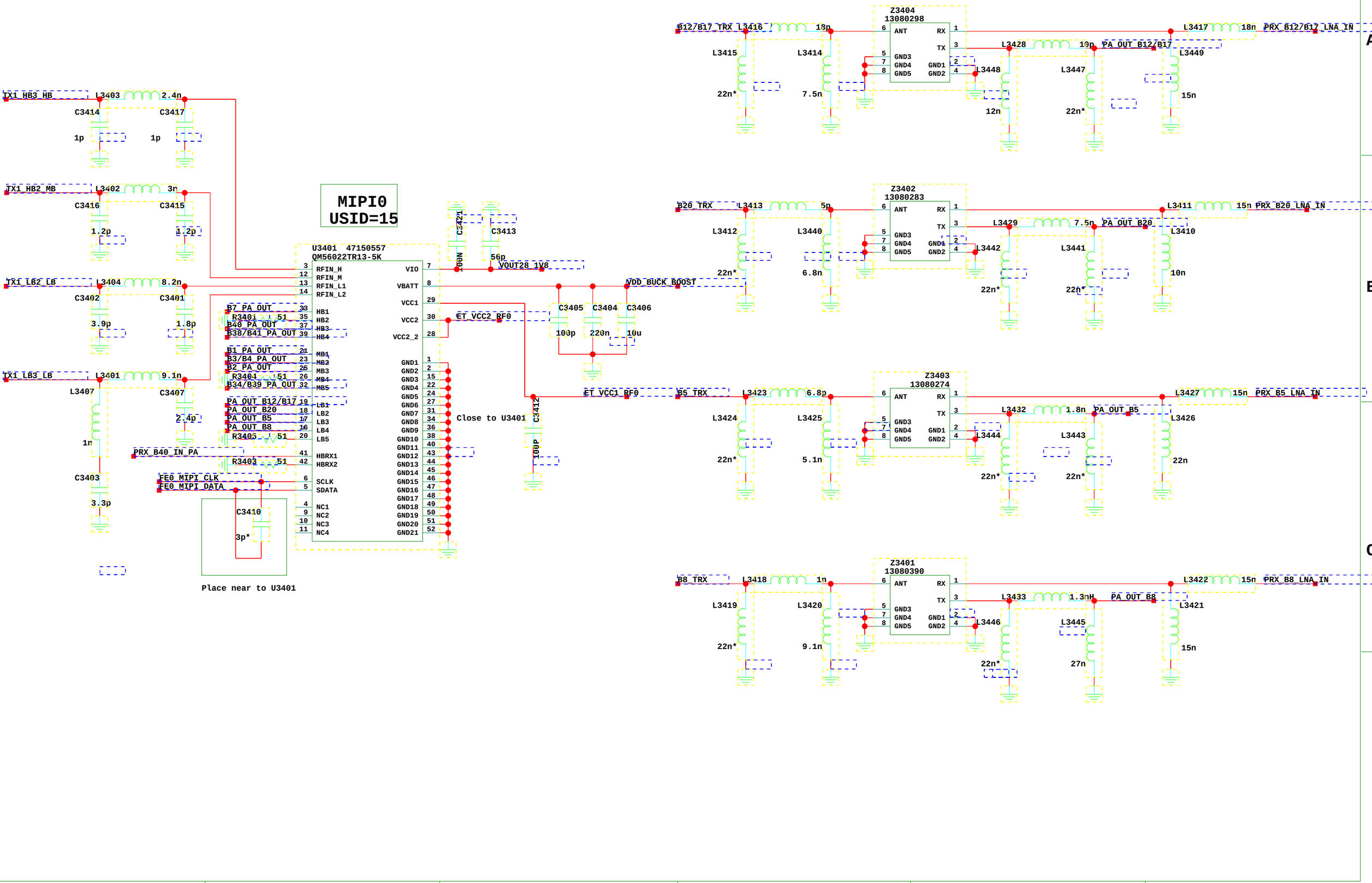


Note1: Fly Cap voltage must higher 8V
Note2: VCC2 is boost output, Cap Voltage Range must be Higher 10V.

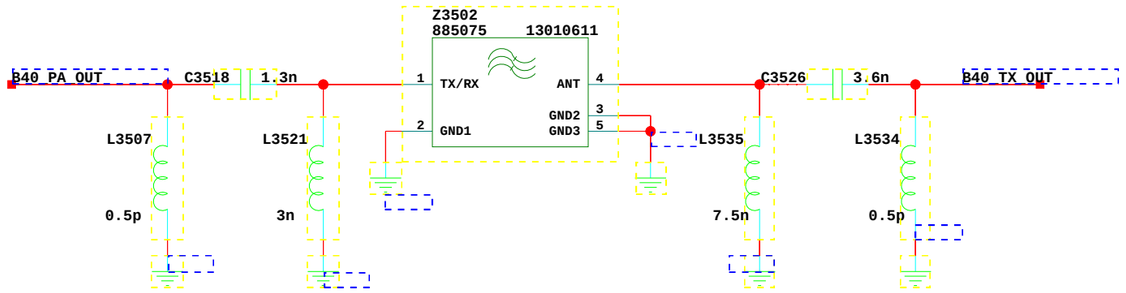
33.RF Transceiver_HI6363 _01

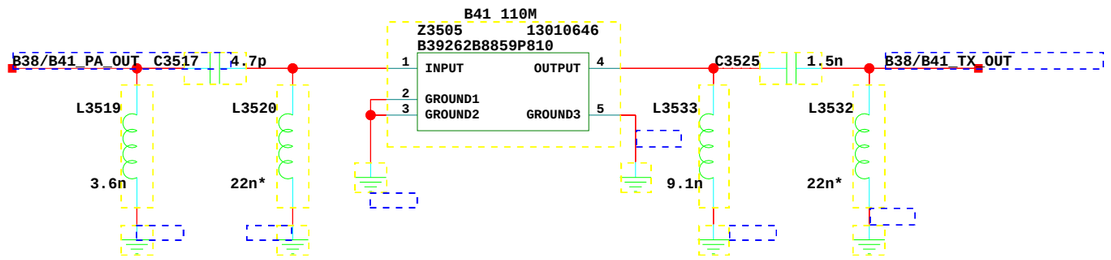


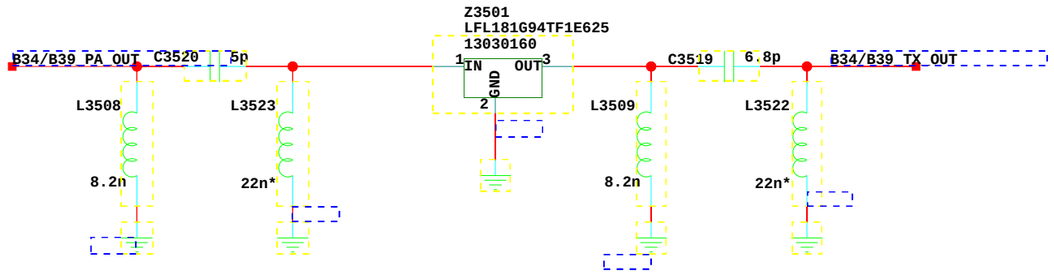
34.PHASE V PA&TRX

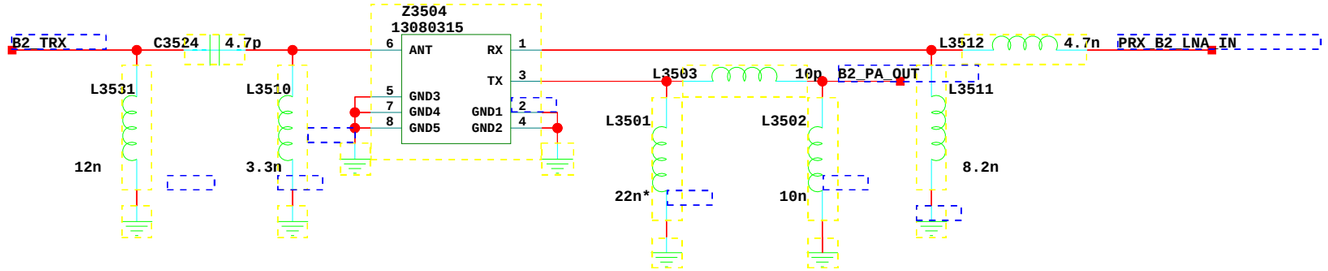


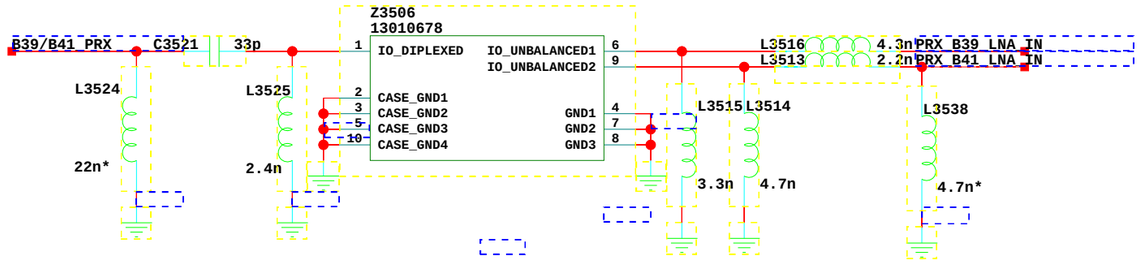
35. TRX

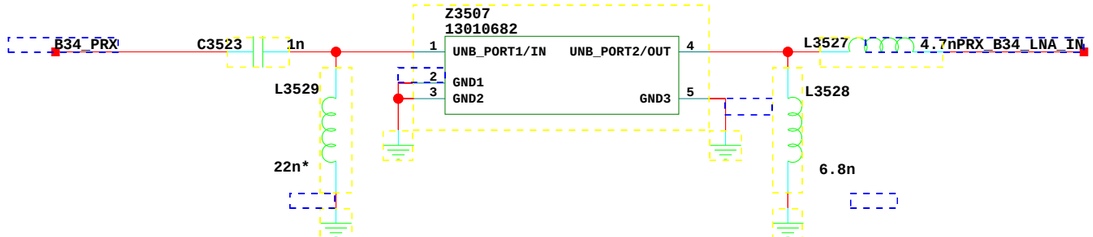

B40_PA_OUT
C3518
1.3n
Z3502
885075
13010611
TX/RX
ANT
GND1
GND2
GND3
C3526
3.6n
B40_TX_OUT
L3507
0.5p
L3521
3n
L3535
7.5n
L3534
0.5p

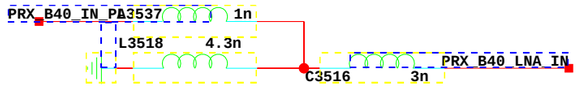

B41 110M
Z3505
13010646
B39262B8859P810
B38/B41_PA_OUT
C3517
4.7p
INPUT
OUTPUT
GROUND1
GROUND2
GROUND3
C3525
1.5n
B38/B41_TX_OUT
L3519
3.6n
L3520
22n*
L3533
9.1n
L3532
22n*


Z3501
LFL181G94TF1E625
13030160
B34/B39_PA_OUT
C3520
5p
IN
OUT
GND
C3519
6.8p
B34/B39_TX_OUT
L3508
8.2n
L3523
22n*
L3509
8.2n
L3522
22n*

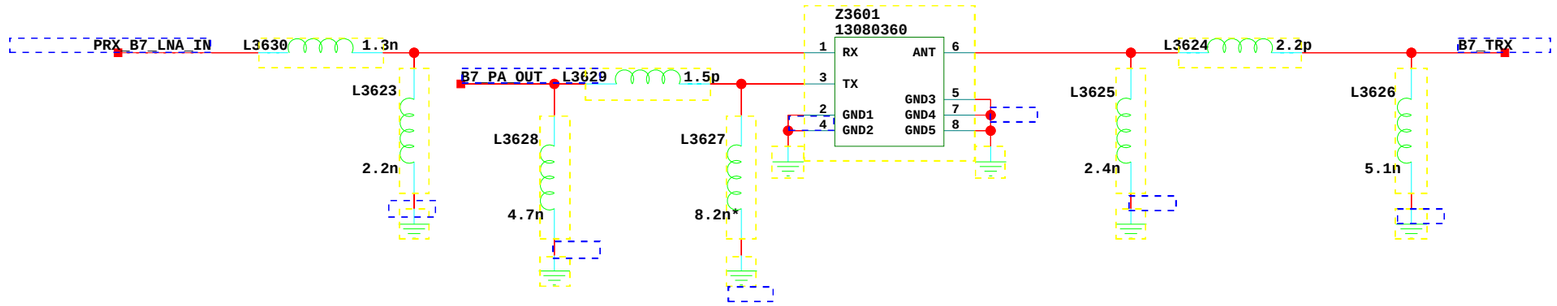

Z3504
13080315
B2_TRX
C3524
4.7p
ANT
RX
TX
GND3
GND4
GND5
GND1
GND2
L3512
4.7n
PRX_B2_LNA_IN
L3503
10n
B2_PA_OUT
L3531
12n
L3510
3.3n
L3501
22n*
L3502
10n
L3511
8.2n

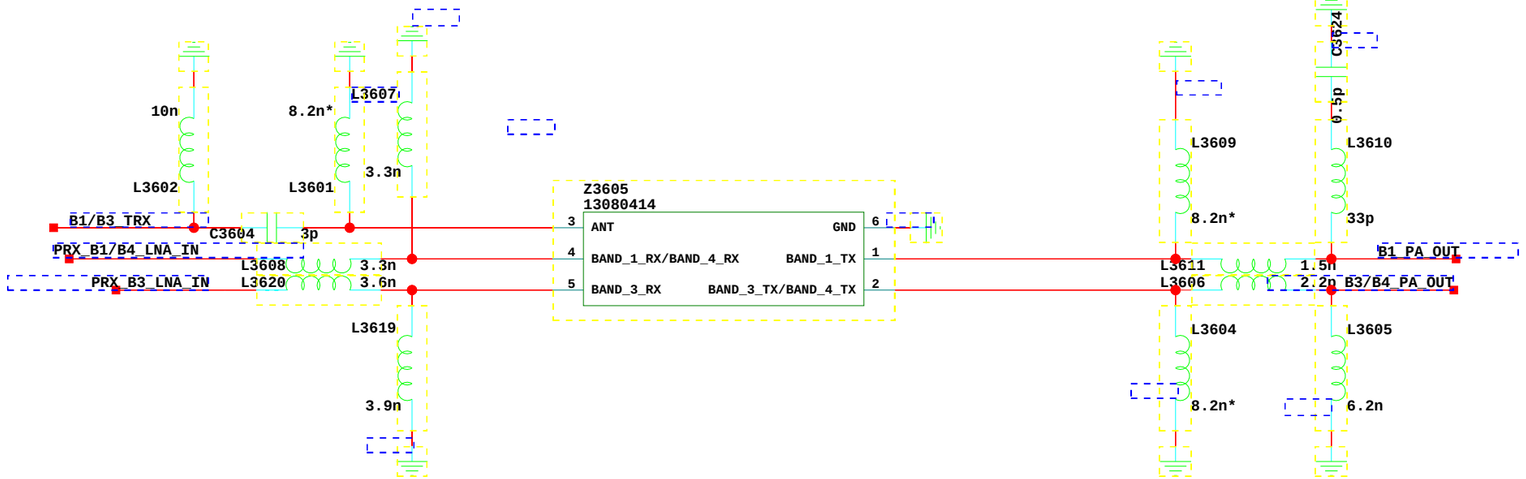

Z3506
13010678
B39/B41_PRX
C3521
33p
IO_DIPLEXED
IO_UNBALANCED1
IO_UNBALANCED2
CASE_GND1
CASE_GND2
CASE_GND3
CASE_GND4
GND1
GND2
GND3
L3516
4.3n
PRX_B39_LNA_IN
L3513
2.2n
PRX_B41_LNA_IN
L3524
22n*
L3525
2.4n
L3515
3.3n
L3514
4.7n
L3538
4.7n*


Z3507
13010682
B34_PRX
C3523
1n
UNB_PORT1/IN
UNB_PORT2/OUT
GND1
GND2
GND3
L3527
4.7n
PRX_B34_LNA_IN
L3529
22n*
L3528
6.8n

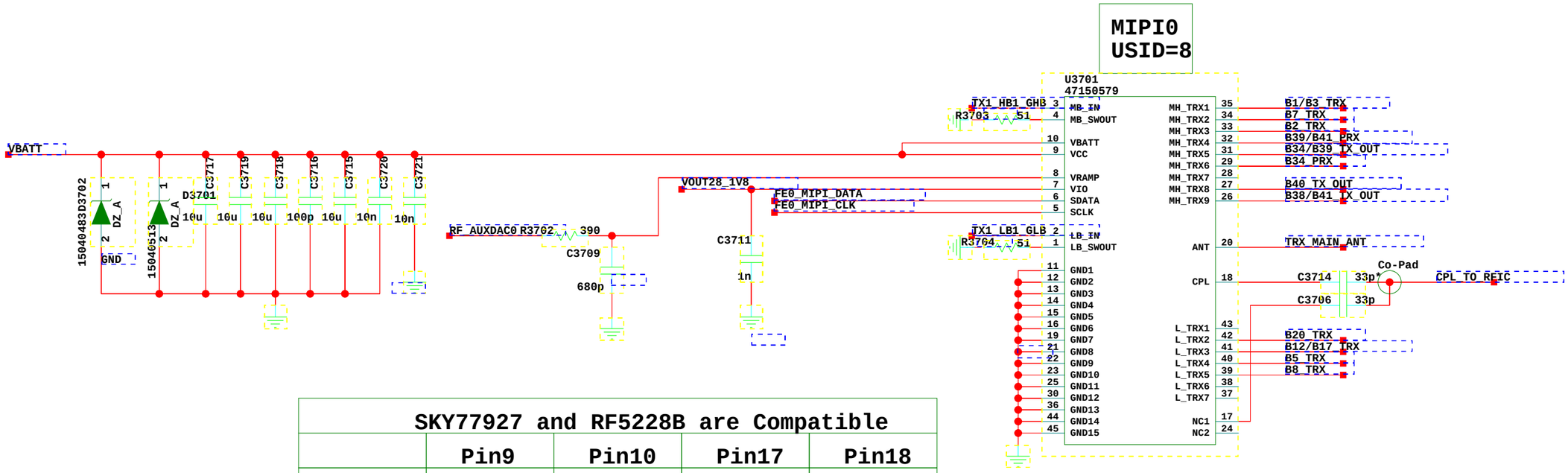

PRX_B40_IN_PA3537
1n
L3518
4.3n
C3516
3n
PRX_B40_LNA_IN

36 B1/3/4/7 TRX

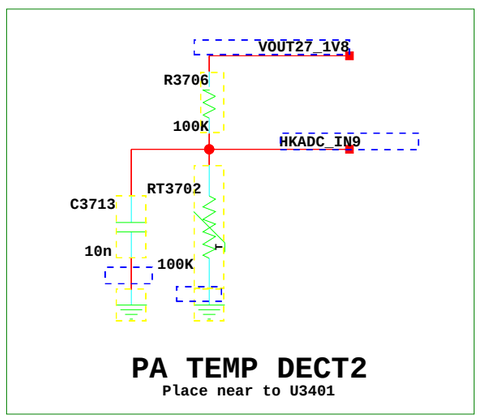

PRX_B7_LNA_IN
L3630
1.3n
L3623
2.2n
B7_PA_OUT
L3629
1.5p
L3628
4.7n
L3627
8.2n*
Z3601
13080360
RX
ANT
TX
GND1
GND2
GND3
GND4
GND5
L3624
2.2p
L3625
2.4n
L3626
5.1n
B7_TRX


10n
L3602
8.2n*
L3607
3.3n
L3601
B1/B3_TRX
C3604
3p
PRX_B1/B4_LNA_IN
L3608
3.3n
PRX_B3_LNA_IN
L3620
3.6n
L3619
3.9n
Z3605
13080414
ANT
GND
BAND_1_RX/BAND_4_RX
BAND_1_TX
BAND_3_RX
BAND_3_TX/BAND_4_TX
L3609
8.2n*
L3611
L3606
L3604
8.2n*
C3624
0.5p
L3610
33p
1.5n
2.2n
L3605
6.2n
B1_PA_OUT
B3/B4_PA_OUT

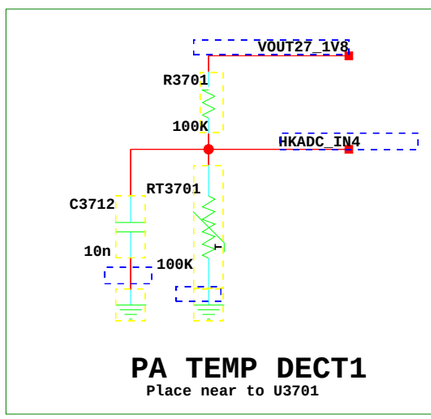
37. TXM



SKY77927 and RF5228B are Compatible				
	Pin9	Pin10	Pin17	Pin18
SKY77927	VSW	VPA	NC	CPL
RF5228B	VPA	VSW	CPL	NC

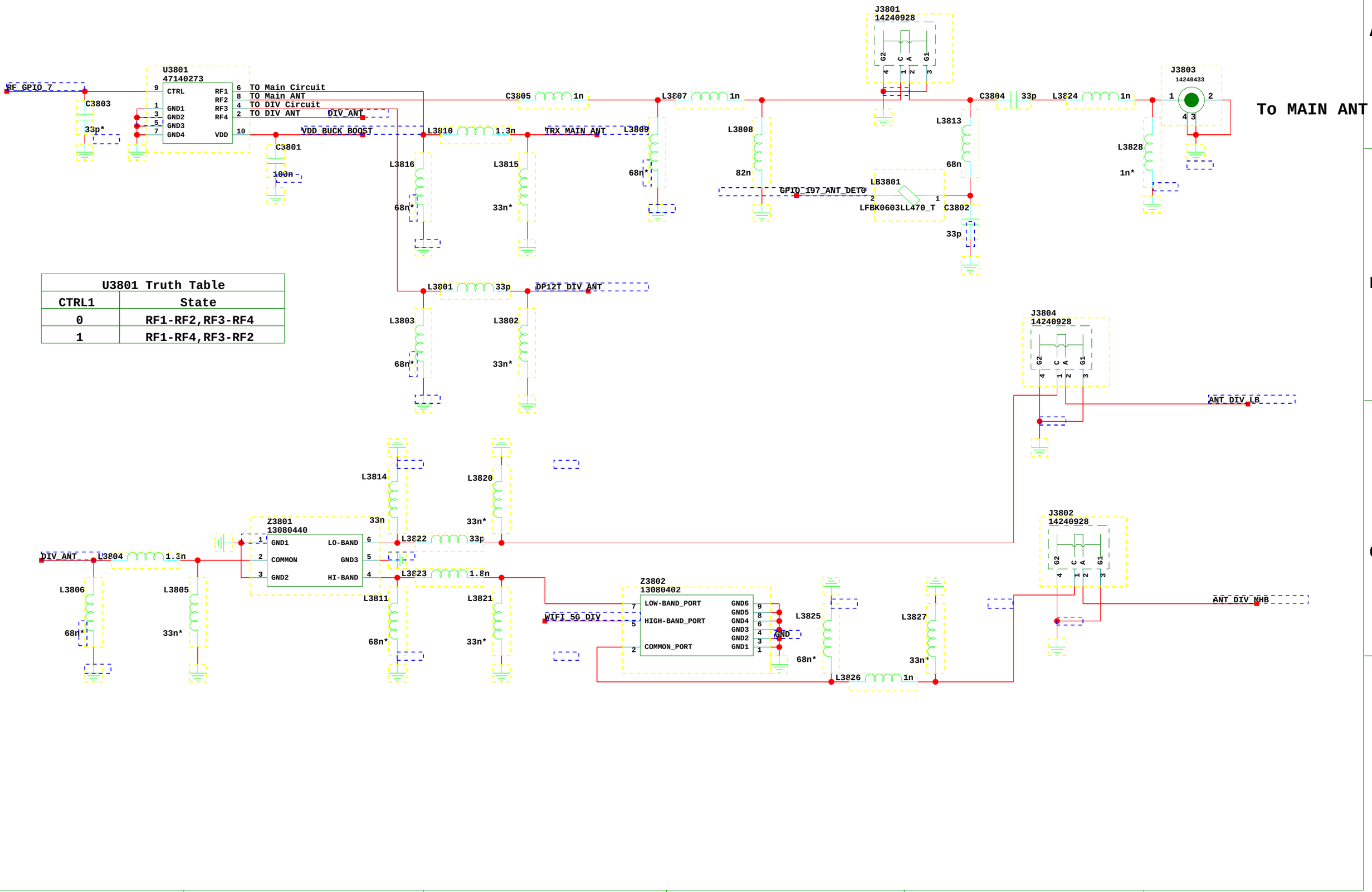


PA TEMP DECT2
Place near to U3401



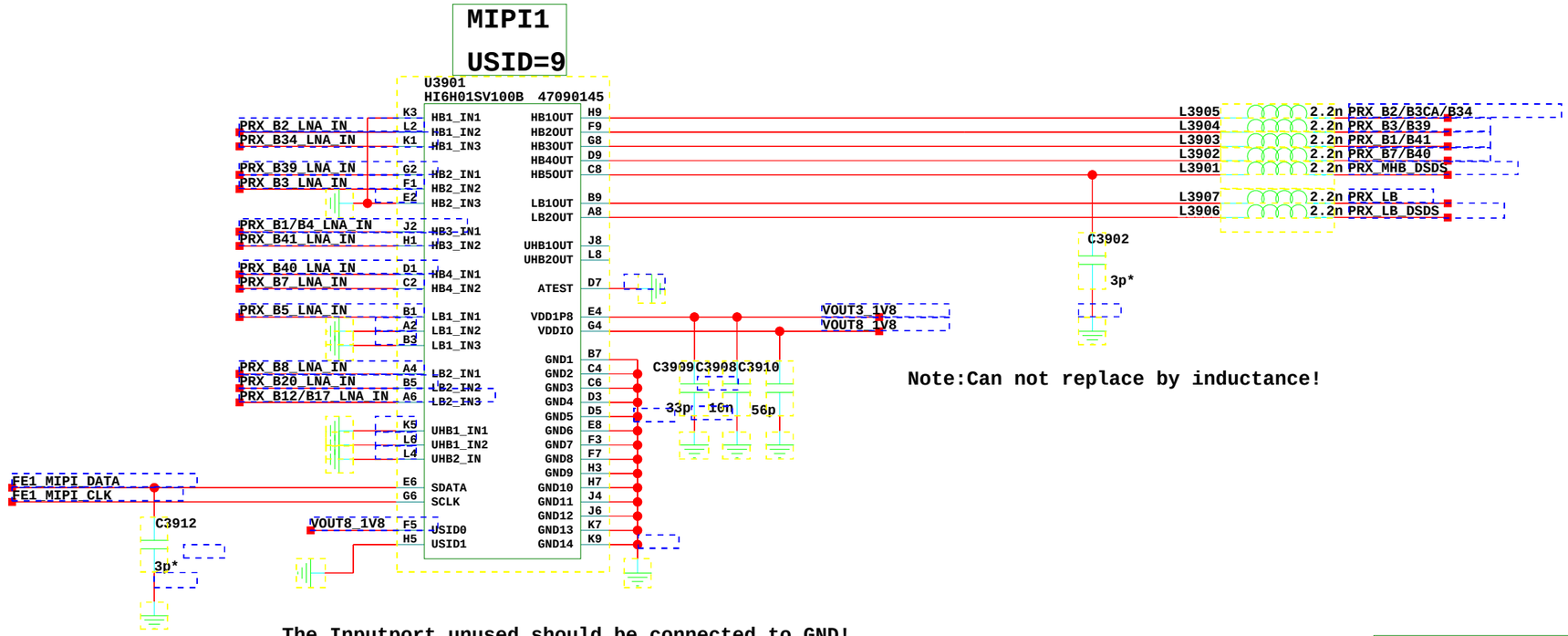
PA TEMP DECT1
Place near to U3701

38. RF Front End Switch



U3801 Truth Table	
CTRL1	State
0	RF1-RF2,RF3-RF4
1	RF1-RF4,RF3-RF2

39 LNA Bank Main

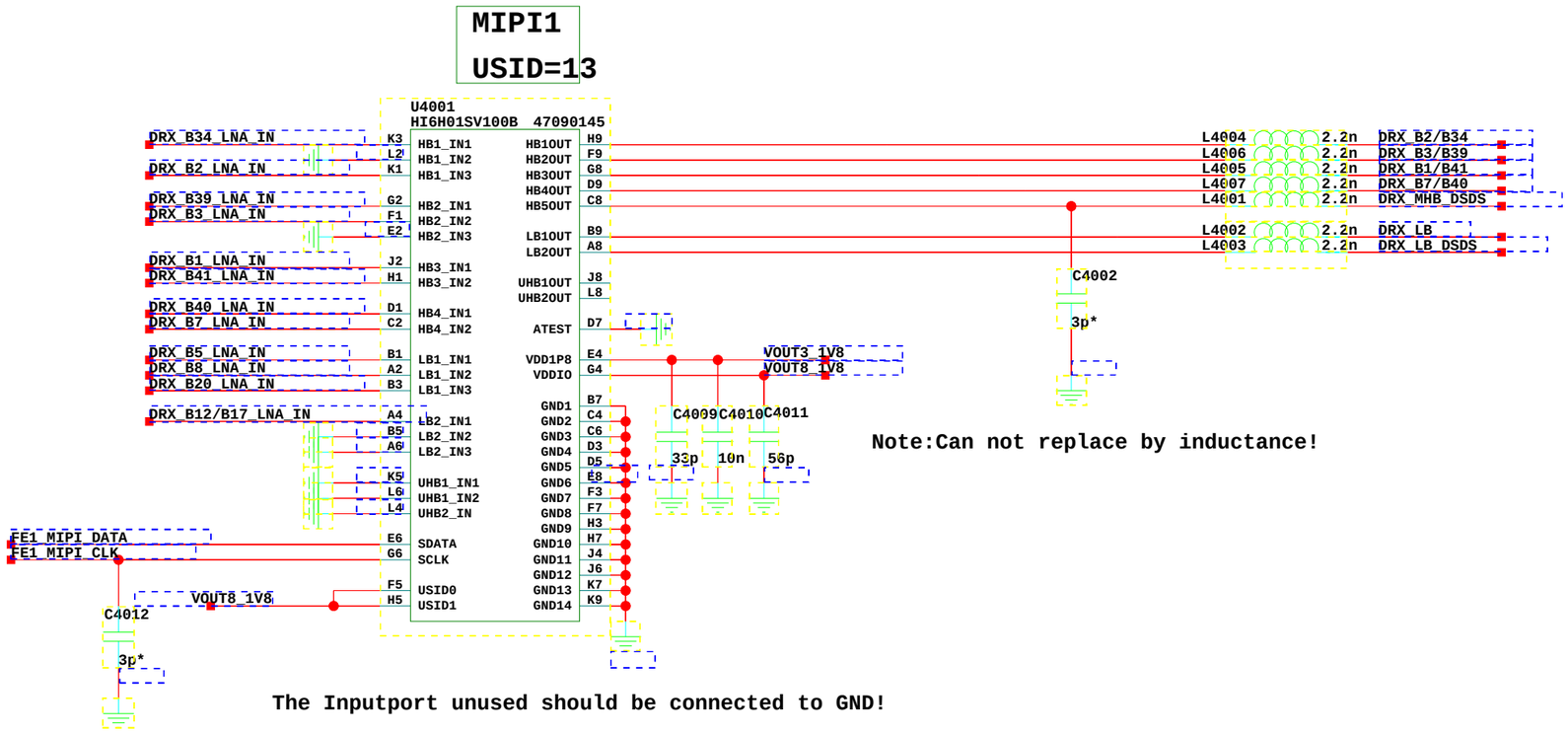


Note:Can not replace by inductance!

The Inputport unused should be connected to GND!

6H01 Frequency Range	
LB1_IN1	460-895MHz
LB1_IN2-3,LB2_IN_1-3	703-960MHz
HB1_IN1-3	1447-2200MHz
HB2_IN1-3	1805-2200MHz
HB3_IN1-2	2000-2690MHz
HB4_IN1-2	2000-2690MHz
UHB1_IN1,UHB2	3400-3800MHz
UHB1_IN2	5150-5925MHz

40 Div LNA Bank

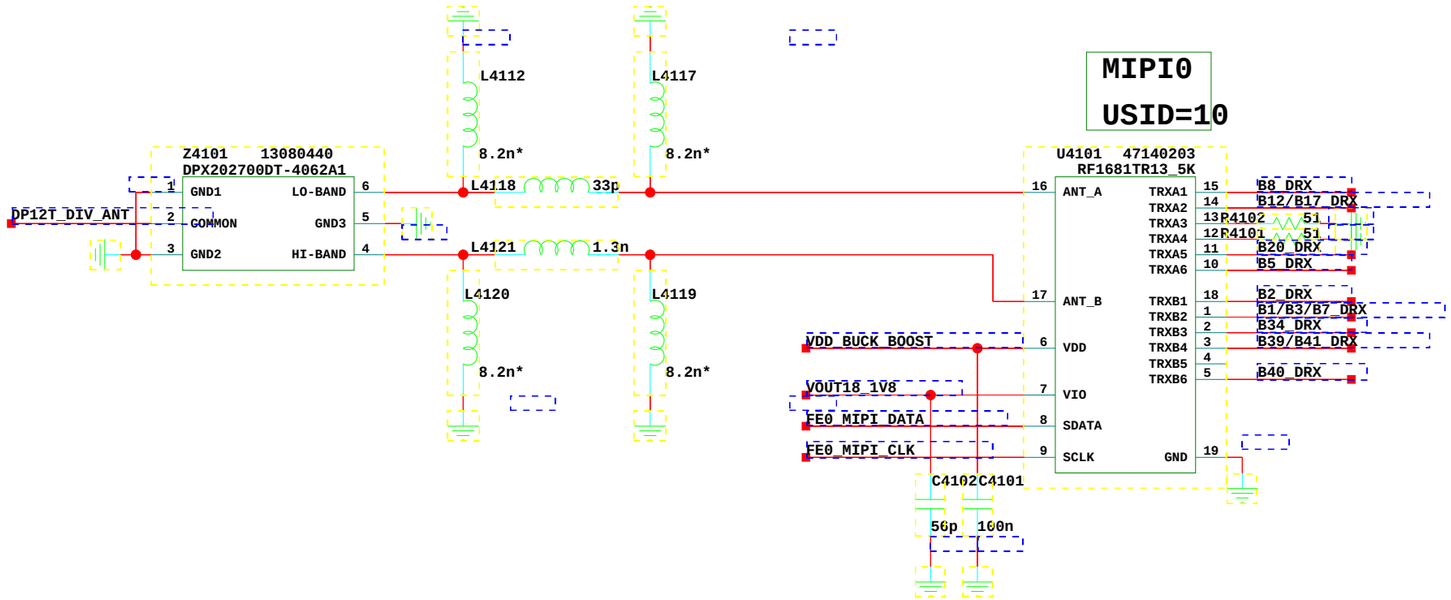


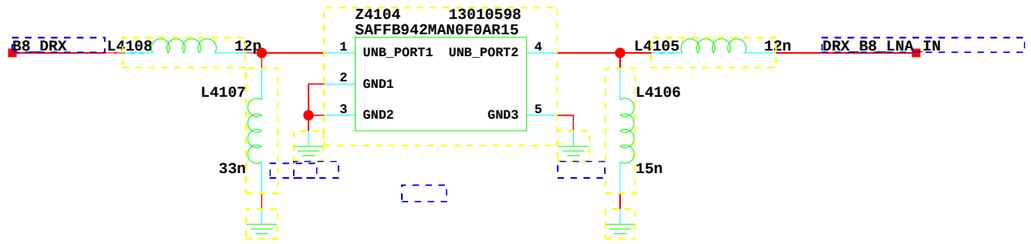
Note:Can not replace by inductance!

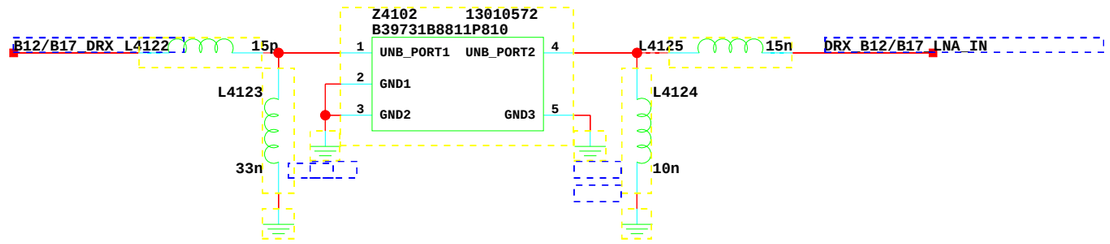
The Inputport unused should be connected to GND!

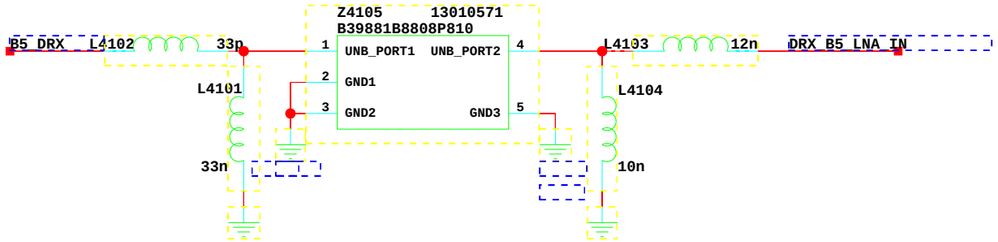
6H01 Frequency Range	
LB1_IN1	460-895MHz
LB1_IN2-3,LB2_IN_1-3	703-960MHz
HB1_IN1-3	1447-2200MHz
HB2_IN1-3	1805-2200MHz
HB3_IN1-2	2000-2690MHz
HB4_IN1-2	2000-2690MHz
UHB1_IN1,UHB2	3400-3800MHz
UHB1_IN2	5150-5925MHz

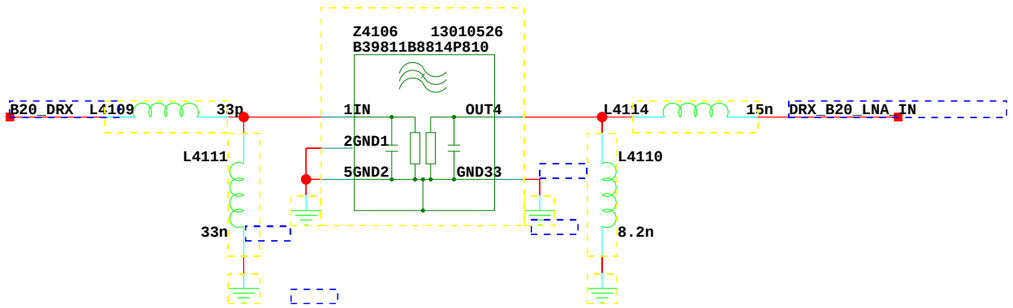
41 DRX LB


MIPI0
USID=10
Z4101 13080440
DPX202700DT-4062A1
GND1
COMMON
GND2
LO-BAND
GND3
HI-BAND
DP12T_DIV_ANT
L4112
8.2n*
L4118
33p
L4117
8.2n*
L4121
1.3n
L4120
8.2n*
L4119
8.2n*
U4101 47140203
RF1681TR13_5K
ANT_A
ANT_B
VDD
VIO
SDATA
SCLK
GND
TRXA1
TRXA2
TRXA3
TRXA4
TRXA5
TRXA6
TRXB1
TRXB2
TRXB3
TRXB4
TRXB5
TRXB6
B8_DRX
B12/B17_DRX
R4102 51
R4101 51
B20_DRX
B5_DRX
B2_DRX
B1/B3/B7_DRX
B34_DRX
B39/B41_DRX
B40_DRX
VDD_BUCK_BOOST
VOUT18_1V8
FE0_MIPI_DATA
FE0_MIPI_CLK
C4102C4101
56p
100n

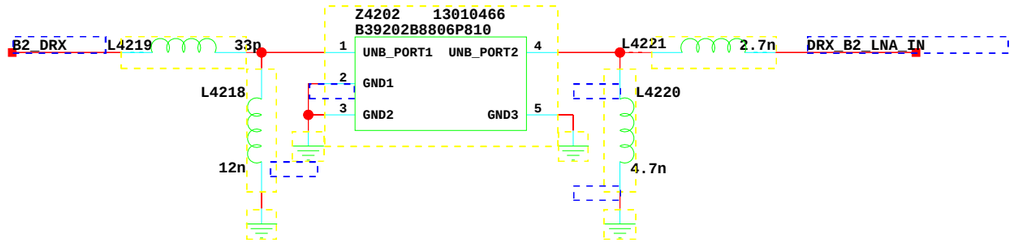

B8_DRX
L4108
12p
Z4104 13010598
SAFFB942MAN0F0AR15
UNB_PORT1
UNB_PORT2
GND1
GND2
GND3
L4107
33n
L4105
12n
DRX_B8_LNA_IN
L4106
15n

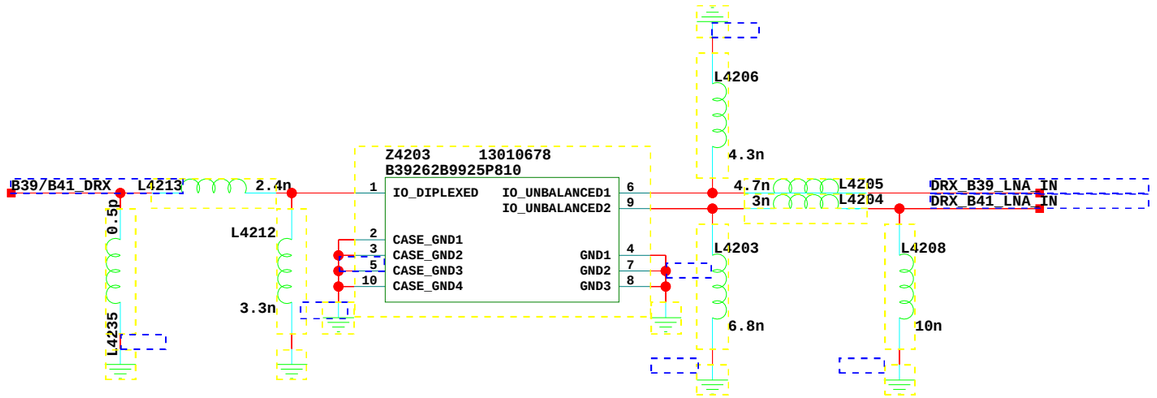

B12/B17_DRX_L4122
15n
Z4102 13010572
B39731B8811P810
UNB_PORT1
UNB_PORT2
GND1
GND2
GND3
L4123
33n
L4125
15n
DRX_B12/B17_LNA_IN
L4124
10n

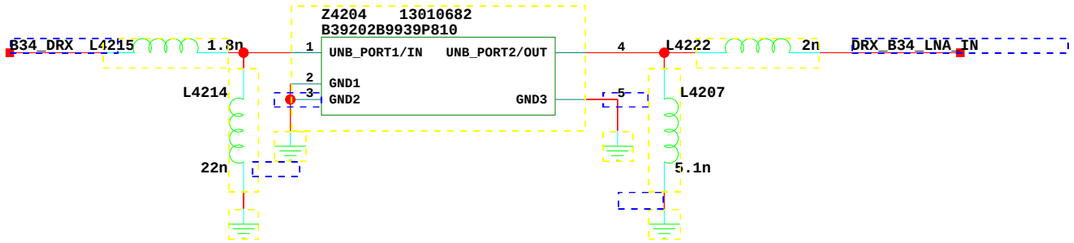

B5_DRX
L4102
33p
Z4105 13010571
B39881B8808P810
UNB_PORT1
UNB_PORT2
GND1
GND2
GND3
L4101
33n
L4103
12n
DRX_B5_LNA_IN
L4104
10n

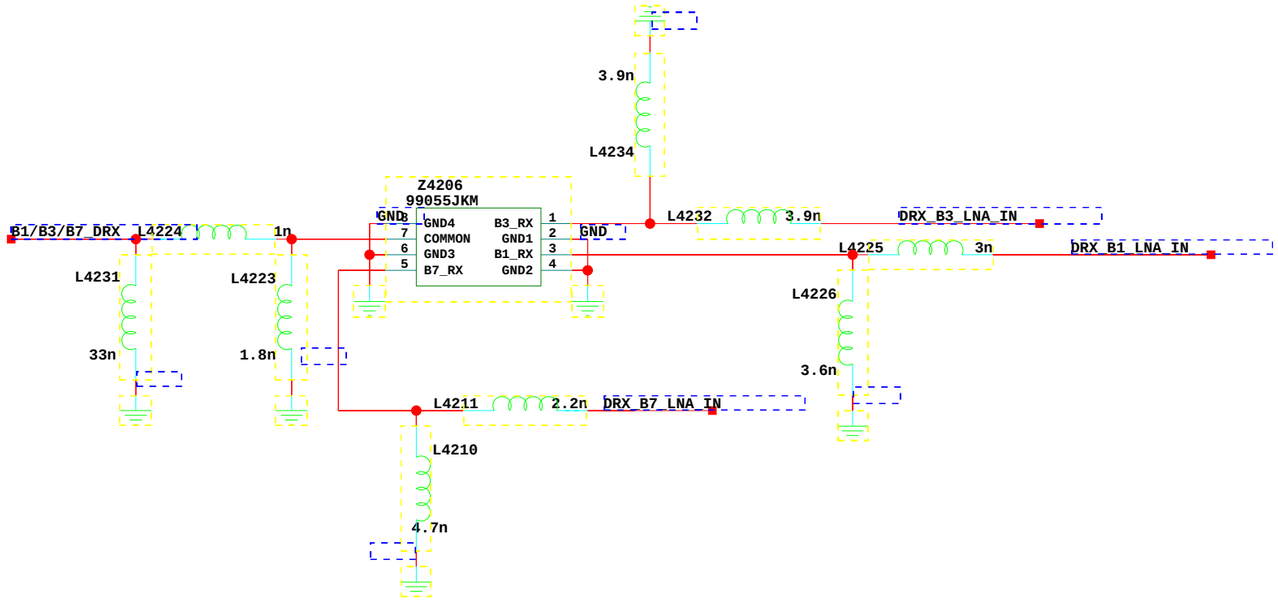

Z4106 13010526
B39811B8814P810
B20_DRX
L4109
33p
1IN
2GND1
5GND2
OUT4
GND33
L4111
33n
L4114
15n
DRX_B20_LNA_IN
L4110
8.2n

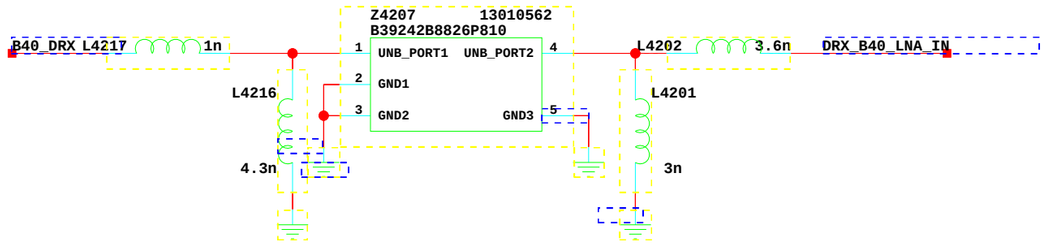
42 DRX MHB


Z4202 13010466
B39202B8806P810
B2_DRX
L4219
33n
UNB_PORT1
UNB_PORT2
GND1
GND2
GND3
L4218
12n
L4221
2.7n
DRX_B2_LNA_IN
L4220
4.7n


Z4203 13010678
B39262B9925P810
B39/B41_DRX
L4213
2.4n
IO_DIPLEXED
IO_UNBALANCED1
IO_UNBALANCED2
CASE_GND1
CASE_GND2
CASE_GND3
CASE_GND4
GND1
GND2
GND3
L4235
0.5p
L4212
3.3n
L4206
4.3n
4.7n
3n
L4205
L4204
DRX_B39_LNA_IN
DRX_B41_LNA_IN
L4203
6.8n
L4208
10n


Z4204 13010682
B39202B9939P810
B34_DRX
L4215
1.8n
UNB_PORT1/IN
UNB_PORT2/OUT
GND1
GND2
GND3
L4214
22n
L4222
2n
DRX_B34_LNA_IN
L4207
5.1n


3.9n
L4234
Z4206
99055JKM
GND
GND4
COMMON
GND3
B7_RX
B3_RX
GND1
GND2
B1_RX
B1/B3/B7_DRX
L4224
1n
L4231
33n
L4223
1.8n
L4232
3.9n
DRX_B3_LNA_IN
L4225
3n
DRX_B1_LNA_IN
L4226
3.6n
L4211
2.2n
DRX_B7_LNA_IN
L4210
4.7n


Z4207 13010562
B39242B8826P810
B40_DRX
L4217
1n
UNB_PORT1
UNB_PORT2
GND1
GND2
GND3
L4216
4.3n
L4202
3.6n
DRX_B40_LNA_IN
L4201
3n

43.B3/B7 MIMO

44. B42/B46

45.RF Transceiver_HI6363 _01

47. Reserved for CDMA Modem

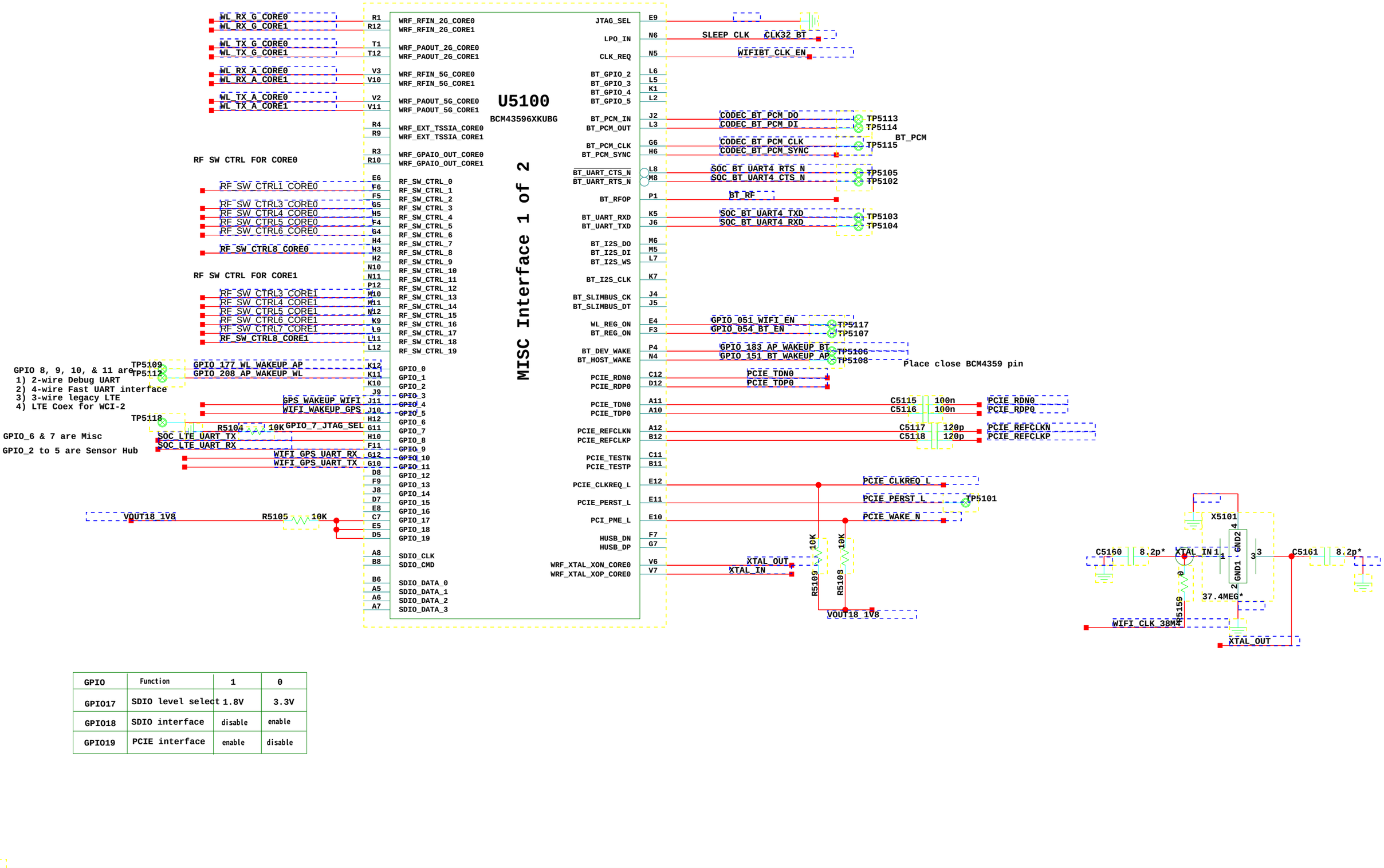
46. Reserved for CDMA Modem

48. Reserved

49. Reserved

50. Reserved

51 BCM4359 BB



GPIO 8, 9, 10, & 11 are
1) 2-wire Debug UART
2) 4-wire Fast UART interface
3) 3-wire legacy LTE
4) LTE Coex for WCI-2

GPIO_6 & 7 are Misc

GPIO_2 to 5 are Sensor Hub

GPIO	Function	1	0
GPIO17	SDIO level select	1.8V	3.3V
GPIO18	SDIO interface	disable	enable
GPIO19	PCIE interface	enable	disable

52 BCM4359 PWR

1) Place VOUT_3P3, VOUT_BTLDO2P5, VOUT_CLDO, VOUT_LNLDO output decaps close to pins
2) Ensure good ground return connection to system ground

C5209 2.2u CRITICAL VOUT_3P3
C5215 1u
CRITICAL VOUT_PA3P3 C5233 1u
C5234 1u
C5212 2.2u CRITICAL VOUT_LNLDO C5235 1u
C5211 4.7u CRITICAL VOUT_CLDO
C5213 470n CRITICAL VOUT_MEM_LDO
C5210 2.2u CRITICAL BT_PA_VDD2P5
C5214 1u CRITICAL VOUT_HLDO

1) Route VOUT_MEMLPLDO to VOUT_MEM_LDO in a short track

U5100
BCM43596XKUBG
PWR Interface 2 of 2

VOUT_CLDO	B5	VDDC1	
	C9	VDDC2	
	H7	VDDC3	
	K6	VDDC4	
	N7	VDDC5	
	C3	VDDC6	
	F12	VDDC7	
	H11	VDDC8	
	L10	VDDC9	
	N9	VDDC10	
VOUT_3P3	E2		
VOUT_PA3P3	G1		
VOUT_LNLDO	D2		
VOUT_CLDO	C2		
VOUT_MEMLPLDO	E3		
VOUT_BTLDO2P5	D1		
VOUT_HLDO	B2		
	P2	BT_LNAVDD1P2	
	L1	BT_IFVDD1P2	
	M1	BT_PLLVDD1P2	
	P3	BT_VCOVDD1P2	
	N1	BT_PAVDD2P5	
	K4	BT_VDDO	
	J3	BT_VDDC1	
	K2	BT_VDDC2	
	L4	BT_VDDC3	
	B10	PLL_AVDD1P2	
	D11	RXTX_AVDD1P2	
	F8	AVDD_BBPLL	
	C4	VDDC_MEM	
	G2	WPT_1P8	
	E1	WPT_3P3	
	F2	SYS_VDDIO	
	G3	WCC_VDDIO	
	B1	SR_VDDBAT5V	
	A2	SR_VLX	
	C1	LDO_VDD1P5	
	F1	LDO_VDDBAT5V	
	D6	VDDIO_RF1	
	M9	VDDIO_RF2	
	F10	VDDIO_1	
	K8	VDDIO_2	
	B7	VDDIO_SD	
	V5	WRF_PMU_VDD1P35_CORE0	
	V8	WRF_PMU_VDD1P35_CORE1	
	R6	WRF_SYNTH_VDD3P3_CORE0	
	R7	WRF_SYNTH_VDD3P3_CORE1	
	U4	WRF_AFE_VDD1P35_CORE0	
	U9	WRF_AFE_VDD1P35_CORE1	
	V1	WRF_PA_VDD3P3_CORE0	
	V12	WRF_PA_VDD3P3_CORE1	
	U5	WRF_SYNTH_VDD1P2_CORE0	
	U8	WRF_SYNTH_VDD1P2_CORE1	
	T2	WRF_TXMIX_VDD_CORE0	
	T11	WRF_TXMIX_VDD_CORE1	
	T6	WRF_XTAL_VDD1P35_CORE0	
	T7	WRF_XTAL_VDD1P35_CORE1	
	U7	WRF_XTAL_VDD1P2_CORE0	
VSSC1	A3		
VSSC2	D9		
VSSC3	H9		
VSSC4	P10		
VSSC5	D3		
VSSC6	E7		
VSSC7	J7		
VSSC8	N8		
VSSC9	H1		
VSSC10	K3		
VSSC11	M4		
SR_PVSS	A1	SG_PVSS_GND	SG5201
PMU_AVSS	B3		
RXTX_AVSS	C10		
PLL_AVSS	D10		GND
AVSS_BBPLL	G8		
BT_IFVSS	M3		
BT_PLLVSS	M2		GND
BT_VCOVSS	N3		
BT_LNAVSS	N2		
WRF_VCO_GND_CORE0	R5		
WRF_VCO_GND_CORE1	R8		
WRF_AFE_GND_CORE0	T3		
WRF_AFE_GND_CORE1	T10		
WRF_SYNTH_GND_CORE0	T5		
WRF_SYNTH_GND_CORE1	T8		
WRF_GENERAL_GND_CORE0	T4		
WRF_GENERAL_GND_CORE1	T9		
WRF_GENERAL2_GND_CORE0	U3		
WRF_GENERAL2_GND_CORE1	U10		
WRF_RX2G_GND_CORE0	R2		
WRF_RX2G_GND_CORE1	R11		
WRF_RX5G_GND_CORE0	V4		
WRF_RX5G_GND_CORE1	V9		
WRF_PA_GND3P3_CORE0	U2		
WRF_PA_GND3P3_CORE1	U11		GND
WRF_XTAL_GND1P2_CORE0	U6		

LB5204 BLM15HG102SN1D
VOUT_LNLDO 1 2 VDD_BT_PLL
C5232 1u
C5231 10p
CRITICAL BT_PA_VDD2P5
C5208 220n
VOUT18_1V8

C5203 1u
VOUT_HLDO 1 2 LB5201 PLL_AVDD1P2
VOUT_HLDO 1 2 LB5202 RXTX_AVDD1P2
C5204 1u
VOUT_HLDO 1 2 LB5203 VDD_BBPLL
C5206 1u
VOUT_MEM_LDO

10100632 L5201 2.2u
C5207 220n
C5205 CRITICAL
SG_PVSS_GND 4.7u
Place C5205 close to B1 CRITICAL
SG_PVSS_GND C5216 4.7u
VDD_BUCK_BOOST
VDD1P35
VOUT_3P3
VOUT18_1V8

1) Place L1 & C36 close to A2,C1 pins
2) use min 30mils line width;
3) Route return ground back to A1,B3 pins as short as possible

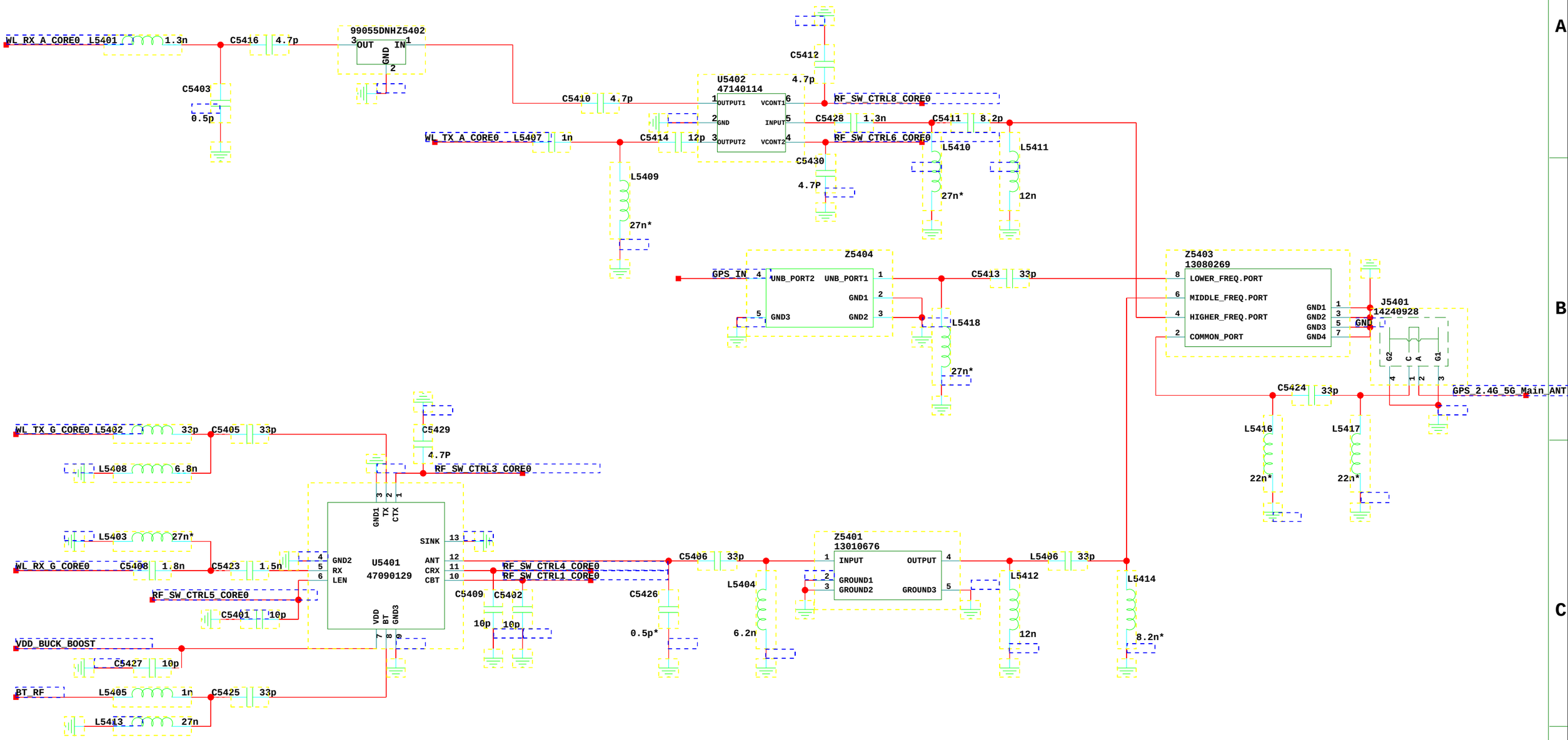
VDD1P35
VDD1P35
C5219 100n
VOUT_3P3
VOUT_3P3
C5220 100n
1u C5223
1u C5225
C5228 1u
VOUT_PA3P3
C5229 VOUT_PA3P3
1u
SYNTH_VDD1P2_CORE0_OUT
WRF_SYNTH_VDD1P2_CORE1
1u C5218
C5221 100n
VOUT_3P3
VOUT_3P3
C5222 100n
C5224 10p
C5226 10p
1u C5227
SYNTH_VDD1P2_CORE0_OUT

Place C5224 close to T6
Place C5226 close to T7
Use star connection for WRF_XTAL_VDD1P35, WRF_PMU_VDD1P35, & WRF_AFE_VDD1P35
Star connection forSYNTH_VDD

Note For Layout:
1) Please place separate capacitors and star connections between Core0 and Core1 for WRF_SYNTH_VDD3P3, WRF_TXMIX_VDD, WRF_AFE_VDD1P35, WRF_XTAL_VDD1P35, and WRF_PMU_VDD1P35
2) Please place all decoupling caps close to chip

53. Reserved

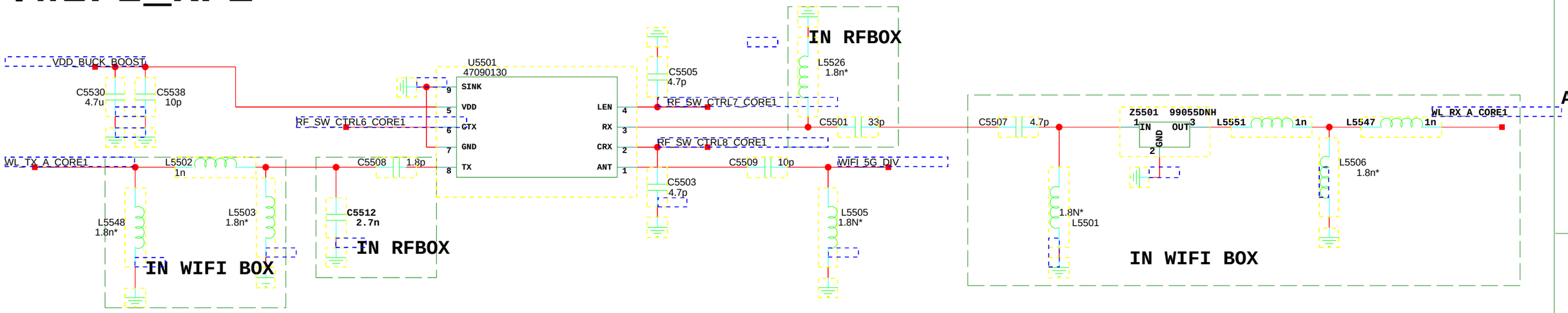
54. WIFI RF0



U5401 Control Logic				
Mode	CBT	CTX	LEN	CRX
ALL OFF	0	0	0	0
WLAN receive LNA	0	0	1	1
WLAN receive bypass	0	0	0	1
Bluetooth	1	0	0	0
WLAN transmit	0	1	0	0

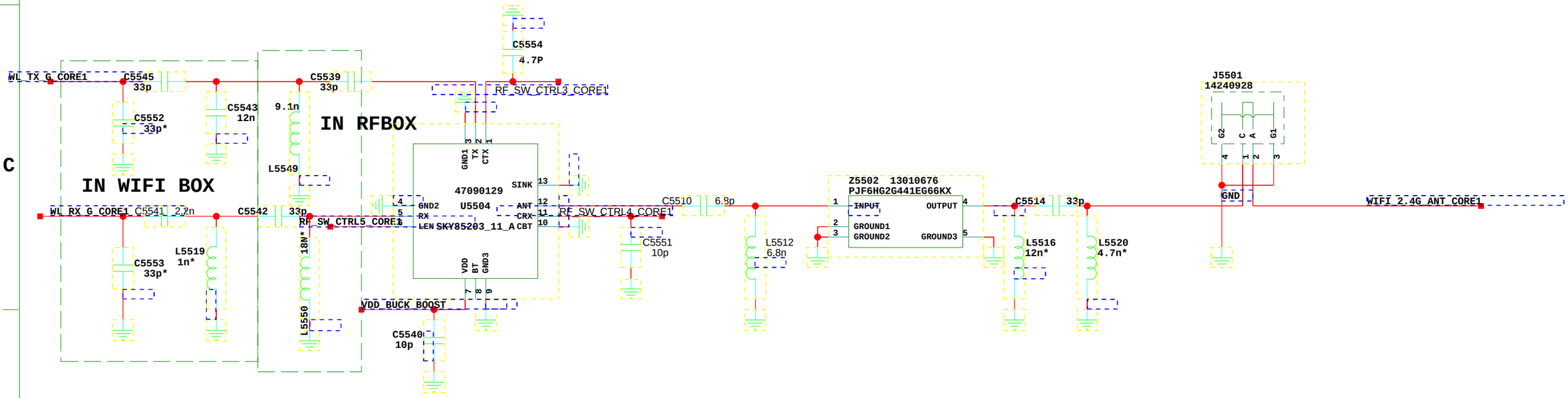
U5402 Truth Table		
State	V1	V2
RFC to RF1-Rx	1	0
RFC to RF2-Tx	0	1

55.WIFI_RF1



1。「L5505&C5509 In RF box

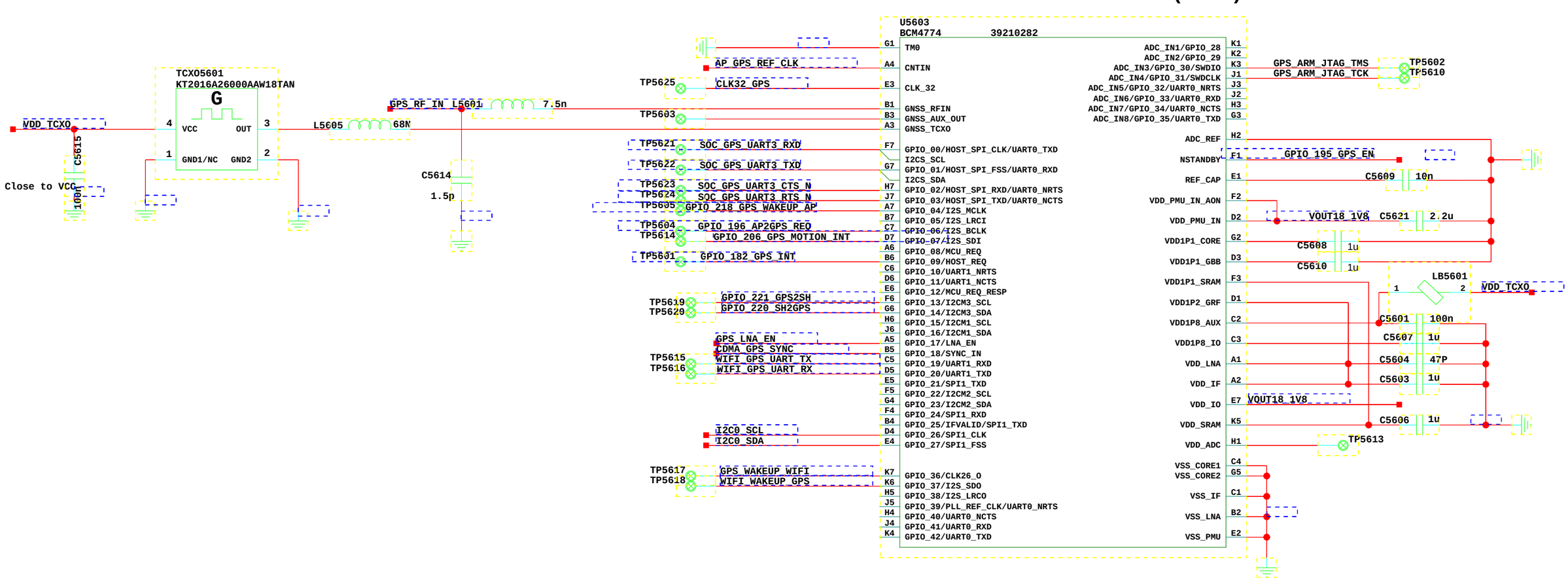
	CRX	LEN	CTX
	C1_CTRL8	C1_CTRL7	C1_CTRL6
5G Rx	1	1	0
5G Rx Bypass	1	0	0
5G Tx	0	0	1



	CBT	CTX	LEN	CRX
		C1_CTRL3	C1_CTRL5	C1_CTRL4
All off	0	0	0	0
2.4G Rx	0	0	1	1
2.4G Rx Bypass	0	0	0	1
2.4G Tx	0	1	0	0

56. GPS

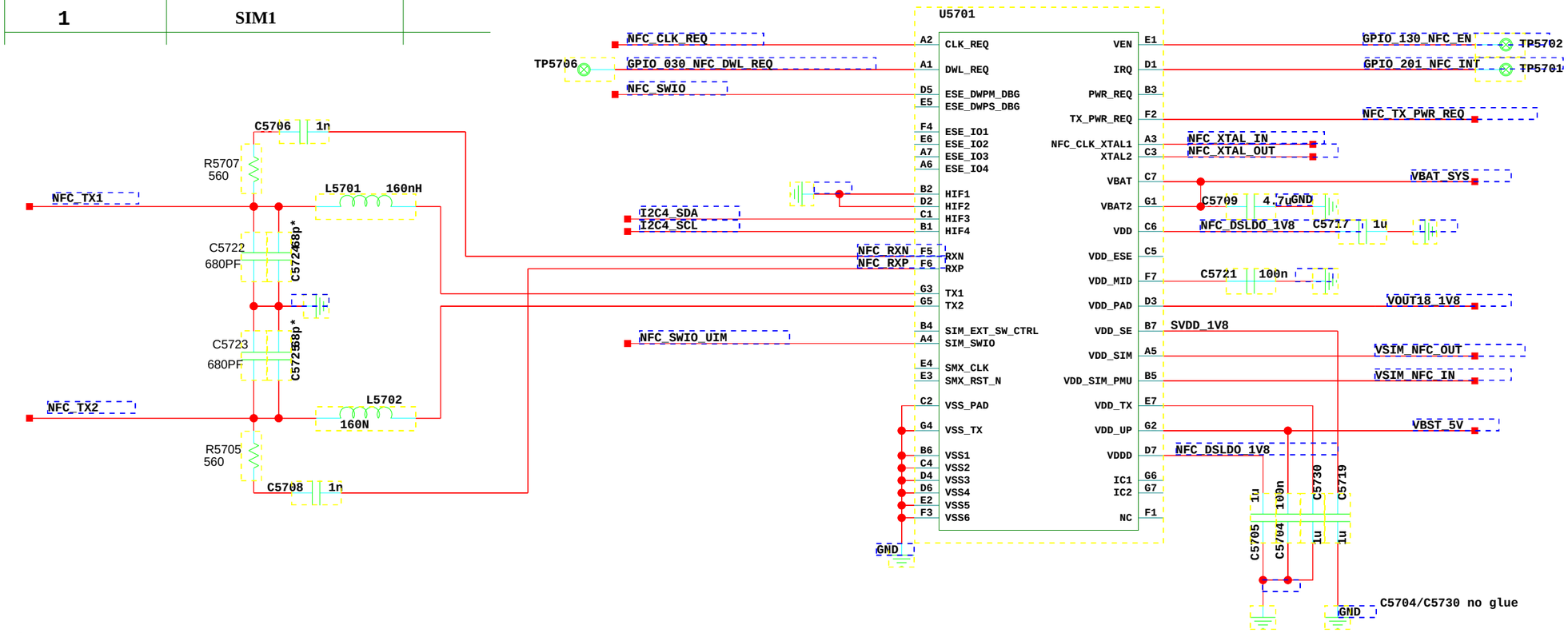
I2C Address=1101001(0x69)



57.NFC

PMU0_NFC_ON	NFC SELECTED SIM	
0	SIM0	
1	SIM1	

I2C address is 0x28



Default bom for NFC dual sim

Bom for NFC single SIM change

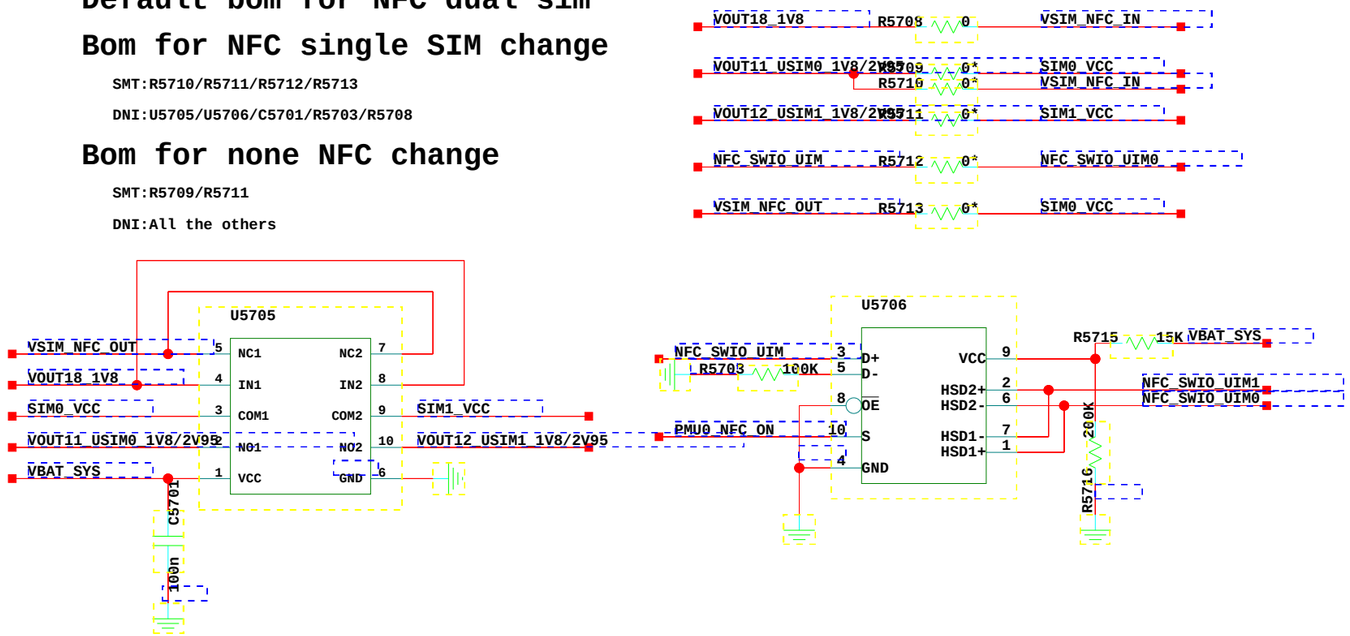
SMT:R5710/R5711/R5712/R5713

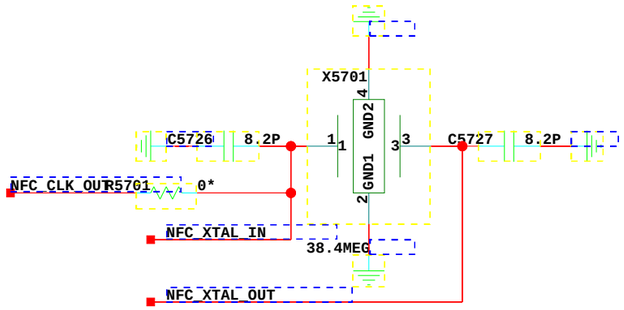
DNI:U5705/U5706/C5701/R5703/R5708

Bom for none NFC change

SMT:R5709/R5711

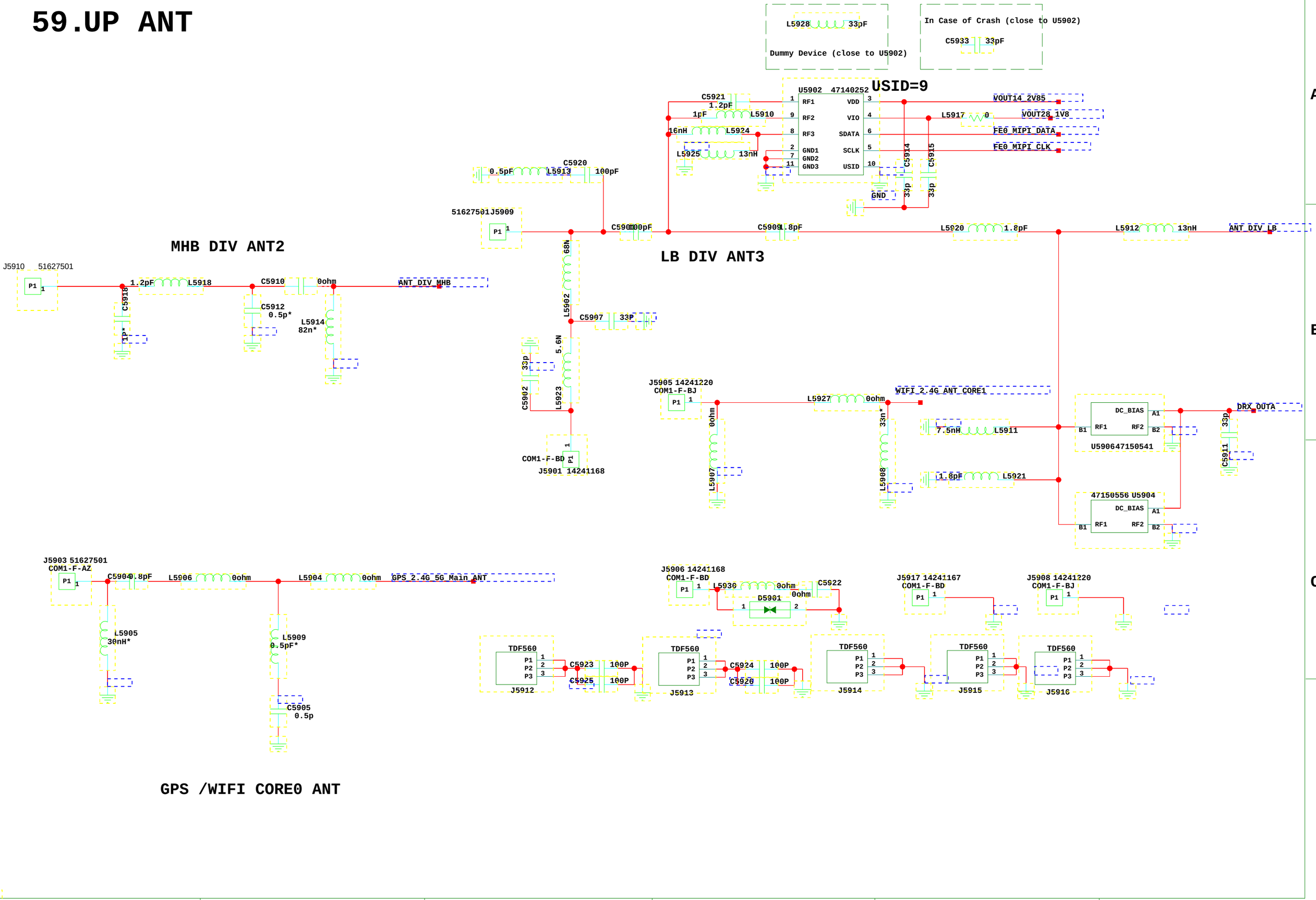
DNI:All the others





58. GPS/WIFI ANT

59.UP ANT


L5928 33pF
Dummy Device (close to U5902)
In Case of Crash (close to U5902)
C5933 33pF
USID=9
U5902 47140252
RF1
RF2
RF3
GND1
GND2
GND3
VDD
VIO
SDATA
SCLK
USID
C5921 1.2pF
1pF L5910
16nH L5924
L5925 13nH
C5920 0.5pF L5913 100pF
VOUT14_2V85
VOUT28_1V8
L5917 0
FE0_MIPI_DATA
FE0_MIPI_CLK
C5914 33p
C5915 33p
GND
51627501J5909
C5900 100pF
C5909 1.8pF
L5920 1.8pF
L5912 13nH
ANT_DIV_LB
LB DIV ANT3
MHB DIV ANT2
J5910 51627501
1.2pF L5918
C5910 0ohm
ANT_DIV_MHB
C5918 1P*
C5912 0.5p*
L5914 82n*
L5902 68N
C5907 33P
C5902 33p
L5923 5.6N
COM1-F-BD
J5901 14241168
J5905 14241220
COM1-F-BJ
L5927 0ohm
WIFI_2.4G_ANT_CORE1
0ohm
L5907
33n*
L5908
7.5nH L5911
1.8pF L5921
DC_BIAS
U590647150541
DRX_OUTA
C5911 33p
47150556 U5904
J5903 51627501
COM1-F-AZ
C5904 0.8pF
L5906 0ohm
L5904 0ohm
GPS_2.4G_5G_Main_ANT
L5905 30nH*
L5909 0.5pF*
C5905 0.5p
J5906 14241168
L5930 0ohm
C5922
D5901
TDF560
C5923 100P
C5925 100P
C5924 100P
C5926 100P
J5912
J5913
J5914
J5915
J5916
J5917 14241167
J5908 14241220
GPS /WIFI CORE0 ANT

60.Antenna Tunner