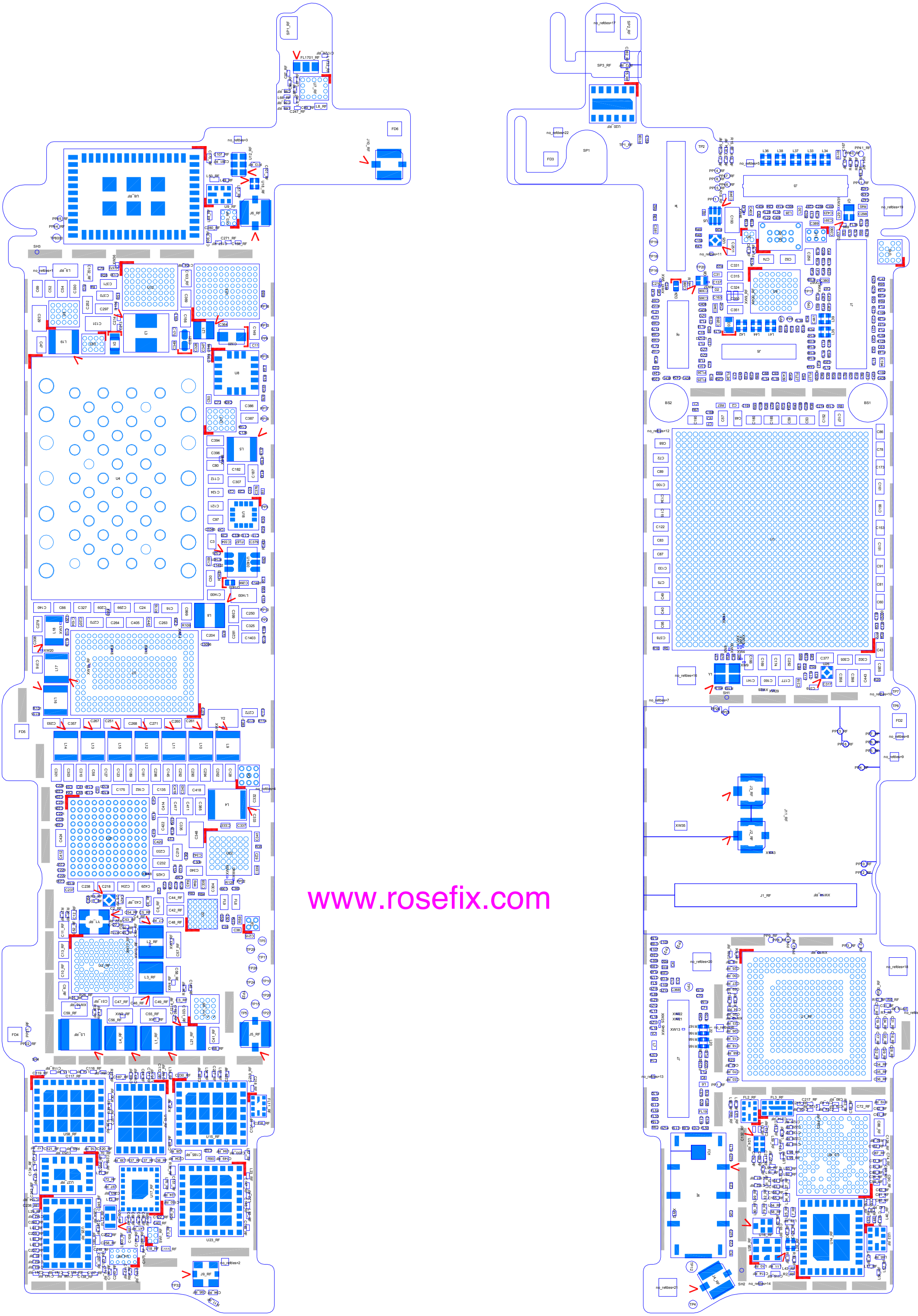


PDF PAGE	CSA PAGE	CONTENTS	SYNC MASTER	DATE
2	2	H6P JTAG,USB,PLL,HSIC,XTAL	N/A	N/A
3	3	H6P DIGITAL I/O,BOOTSTRAPPING	N/A	N/A
4	4	H6P VDDCA,VDD1/2,VDD,VDD_CPU,VDD_GPU	N/A	N/A
5	5	H6P GND,VDDIO18,VDDIOD,VDD_SRAM,VDD_SOC	N/A	N/A
6	6	H6P NAND,NAND 12X17	N/A	N/A
7	7	H6P HIGH SPEED DIG (CAM,LCM,DP)	N/A	N/A
8	8	BUTTON FLEX B2B	N/A	N/A
9	9	L67 AUDIO CODEC (1/2)	N/A	N/A
10	10	L67 AUDIO CODEC (2/2)	N/A	N/A
11	11	FRONT CAM FLEX B2B	N/A	N/A
12	12	AMBER PMU(1/2)	N/A	N/A
13	13	AMBER PMU(2/2)	N/A	N/A
14	14	CHESTNUT,BACKLIGHT DRIVER,MESA BOOST	N/A	N/A
15	15	SPKR AMP + STROBE DRIVER	N/A	N/A
16	16	TRISTAR,EEPROM	N/A	N/A
17	17	DOCKFLEX B2B	N/A	N/A
18	18	D403 (TOUCH B2B, DRIVER ICS)	N/A	N/A
19	19	LCM B2B	N/A	N/A
20	20	OSCAR + SENSORS	N/A	N/A
21	21	REAR CAM B2B	N/A	N/A
22	22	BATT B2B, TPS, PD FEATURES	N/A	N/A
23	23	VOLTAGE PROPERTIES		
24	24	RADIO_MLB HIERARCH. SYMBOL	N/A	N/A
25	25	Cross Reference Page		
26	26	Cross Reference Page		
27	27	Cross Reference Page		

SCH 051-9681
BRD 820-3382
MCO 056-5179
BOM 639-4159 (16GB) X152
BOM 639-4160 (32GB) X152
BOM 639-3973 (64GB) X152

COMPASS BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
639-4269	1	COMPASS INTERPOSER X152/X145	U16	Y	COMPASS_INTERPOSER

HORIZONTAL AND OTHER CAP BOM OPTIONS

	PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
PP_VCC_MAIN BULK CAP (AP)	138S0801	5	HRZNTL CAPS_1: 10UF,0402,6.3V	C422,C399,C405,C417,C418	Y	HRZNTL_CAP_GRP1
	138S0801	5	HRZNTL CAPS_2: 10UF,0402,6.3V	C250,C251,C325,C357,C358	Y	HRZNTL_CAP_GRP2
	138S0801	5	HRZNTL CAPS_3: 10UF,0402,6.3V	C260,C263,C267,C270,C261	Y	HRZNTL_CAP_GRP3
	138S0801	4	HRZNTL CAPS_4: 10UF,0402,6.3V	C264,C268,C271,C385	Y	HRZNTL_CAP_GRP4
	138S0801	4	HRZNTL CAPS_5: 10UF,0402,6.3V	C398,C411,C252,C297	Y	HRZNTL_CAP_GRP5
PP_BATT_VCC BULK CAP (AP)	138S0801	5	HRZNTL CAPS_6: 10UF,0402,6.3V	C386,C387,C333,C332,C335	Y	HRZNTL_CAP_GRP6
PP_BATT_VCC BULK CAP (RF)	138S0801	3	HRZNTL CAPS_7: 10UF,0402,6.3V	C42_RF,C43_RF,C44_RF	Y	HRZNTL_CAP_GRP7
	138S0801	1	HRZNTL CAPS_8: 10UF,0402,6.3V	C1201_RF	Y	HRZNTL_CAP_GRP8
PP_VCC_MAIN BULK CAP (RF)	138S0801	1	HRZNTL CAPS_9: 10UF,0402,6.3V	C103_RF	Y	HRZNTL_CAP_GRP9
PP3V0_NAND BULK CAP	138S0801	4	HRZNTL CAPS_10: 10UF,0402,6.3V	C182,C307,C209,C187	Y	HRZNTL_CAP_GRP10
PP5V7_SAGE_AVDDH BULK CAP	138S0794	2	HRZNTL CAPS_11: 10UF,0402,10V	C52,C156	Y	HRZNTL_CAP_GRP11

INDUCTOR BOM OPTIONS

	PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
BUCK0 SLAVE	152S1785	3	BUCK0 SLAVE IND: 0.47UH, TFA-A TDK	L10,L12,L14	Y	IND_BUCK0_SLV_P47UH_TFA-A_TDK
	152S1834	3	BUCK0 SLAVE IND: 0.47UH, CYNTEC	L10,L12,L14	Y	IND_BUCK0_SLV_P47UH_CYNTEC
	152S1839	3	BUCK0 SLAVE IND: 0.47UH, TAIYO	L10,L12,L14	Y	IND_BUCK0_SLV_P47UH_TAIYO
BUCKXX MASTER	152S1807	6	AMBER BUCKXX IND: 1UH TFA-A TDK	L9,L11,L13,L15,L16,L17	Y	IND_BUCKXX_1UH_TFA-A_TDK
	152S1801	6	AMBER BUCKXX IND: 1UH CYNTEC	L9,L11,L13,L15,L16,L17	Y	IND_BUCKXX_1UH_CYNTEC
	152S1840	6	AMBER BUCKXX IND: 1UH TAIYO	L9,L11,L13,L15,L16,L17	Y	IND_BUCKXX_1UH_TAIYO
STROBE	152S1807	1	STROBE IND: 1UH TFA-A TDK	L5	Y	IND_STROBE_1UH_TFA-A_TDK
	152S1801	1	STROBE IND: 1UH CYNTEC	L5	Y	IND_STROBE_1UH_CYNTEC
	152S1840	1	STROBE IND: 1UH TAIYO	L5	Y	IND_STROBE_1UH_TAIYO
BUCK5	152S1809	1	BUCK5 2012 IND: 1UH TFA-A TDK	L18	Y	IND_BUCK5_1UH_TFA-A_TDK
	152S1835	1	BUCK5 2012 IND: 1UH CYNTEC	L18	Y	IND_BUCK5_1UH_CYNTEC
	152S1843	1	BUCK5 2012 IND: 1UH TAIYO	L18	Y	IND_BUCK5_1UH_TAYIO
SPKR AMP	152S1836	1	SPKR AMP IND: 1.2UH CYNTEC	L4	Y	IND_SPKRAMP_1P2UH_CYNTEC
	152S1844	1	SPKR AMP IND: 1.2UH TAIYO	L4	Y	IND_SPKAMP_1P2UH_TAIYO
CHARGER	152S1721	1	CHARGER IND: 2.2UH TAIYO	L8	Y	IND_CHGR_2P2UH_TAIYO

FOR CHESTNUT BOMTABLE - SEE PG 14
FOR RADIO BOMTABLE - SEE PG 24
FOR MISC R/L/C ALTS - SEE PG 2

I2C ADDRESS MAP

I2C0

DEVICE	BINARY	7-BIT HEX	8-BIT HEX
AMBER PMU:	1110100X	0X74	0XE8
CS35L19B AMP:	1000000X	0X40	0X80
LM3534 BL DRIVER:	1100011X	0X63	0XC6
TRISTAR:	0011010X	0X1A	0X34
CHESTNUT:	0100111X	0X27	0X4E

I2C1

CT814 ALS:	0101001X	0X29	0X52

RCAM I2C

OPEL STROBE DRIVER:	1100011X	0X63	0XC6
REAR FACING CAM:	0010000X	0X10	0X20
ADI VCM AF DRIVER:	0001110X	0X0E	0X1C
ROHM VCM AF DRIVER:	0001100X	0X0C	0X18

FCAM I2C

FRONT FACING CAM:	0110110X	0X36	0X6C

NOTE: ACCEL, GYRO, COMPASS ALL USING SPI (VIA OSCAR) FOR AP COMMUNICATION.

X152 BOM CALLOUTS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-9681	1	SCH, SINGLE_BRD, X152	SCH	Y	?
820-3382	1	PCBF, SINGLE_BRD, X152	PCB	Y	?
825-6838	1	EEEE FOR 639-4159 16GB	EEEE_F7V1	Y	EEEE_16G
825-6838	1	EEEE FOR 639-4160 32GB	EEEE_F7V2	Y	EEEE_32G
825-6838	1	EEEE FOR 639-3973 64GB	EEEE_F4LR	Y	EEEE_64G
339S0206	1	H6P + 1GB SAMSUNG	U1	Y	H6P_1GB_SAMSUNG
339S0207	1	H6P + 1GB ELPIDA	U1	Y	H6P_1GB_ELPIDA
339S0208	1	H6P + 1GB HYNIX	U1	Y	H6P_1GB_HYNIX

OSCAR BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
337S4370	1	OSCAR CSP	U9	Y	OSCAR_CSP
337S4417	1	OSCAR FCLGA	U9	Y	OSCAR_FCLGA

OPEL BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S3899	1	TI OPEL	U17	Y	OPEL_TI

NAND BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S0930	1	NAND,19NM,16GX8,MLC,PPN1.5	U4	Y	NAND_16G_HYNIX
335S0931	1	NAND,19NM,32GX8,MLC,PPN1.5	U4	Y	NAND_32G_HYNIX
335S0932	1	NAND,19NM,64GX8,MLC,PPN1.5	U4	Y	NAND_64G_HYNIX

NAND BOM ALTERNATES

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S0921	335S0930	NAND_16G_TOSH	U4	?
335S0933	335S0930	NAND_16G_SAND	U4	?
335S0922	335S0931	NAND_32G_TOSH	U4	?
335S0934	335S0931	NAND_32G_SAND	U4	?
335S0923	335S0932	NAND_64G_TOSH	U4	?
335S0935	335S0932	NAND_64G_SAND	U4	?

USB GOLDENEYE BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0583	2	E75 COMMON MODE CHOKES	L20,L22	Y	CMC_E75_DIFFPAIRS
152S1737	2	USB TX 10UH SERIES INDUCTORS	R163,R164	Y	USB_TX_SERIES_IND

TRISTAR BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
343S0614	1	CBTL1608A1UK,WCSP,TRISTAR	U2	Y	TRISTAR
343S0639	1	CBTL1610A0UK,WCSP.TRISTAR2	U2	Y	TRISTAR2
117S0202	2	RES 20OHM 01005 5%, TRISTAR2	R102,R103	Y	TRISTAR2
118S0671	2	RES 15OHM 01005 5%, TRISTAR	R102,R103	Y	TRISTAR

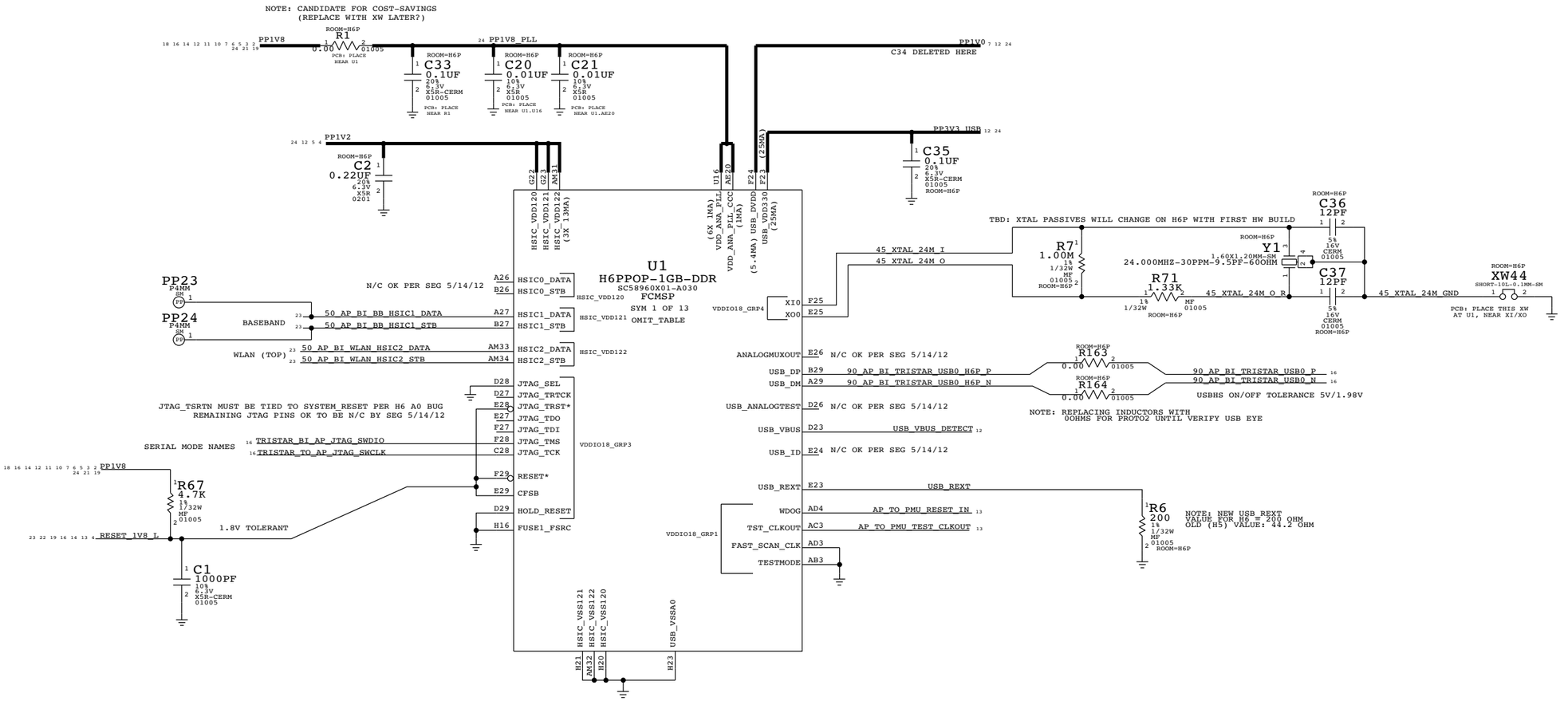
AUDIO BOM OPTION

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0556	2	FERRITE 0402 P140HM 1A	FL6, FL9	Y	SPKAMP_FERRITE_REG
155S0731	2	FERRITE 0402 P06OHM 1P8A	FL6, FL9	Y	SPKAMP_FERRITE_LOWDCR
116S0004	2	RESISTOR 0402 0OHM 1A	FL6, FL9	Y	SPKAMP_FERRITE_0OHM
132S0396	2	CAP 01005 10V 1000PF	C500, C501	Y	SPKAMP_CAPFILT_1000PF
132S0437	2	CAP 01005 10V 150PF	C500, C501	Y	SPKAMP_CAPFILT_150PF
131S0283	2	CAP 01005 10V 100PF	DZ13, DZ14	Y	SPKAMP_ESDFILT_100PF
338S1077	1	CLASSD AMP, L19	U22	Y	SPKAMP_IC_L19
338S1161	1	CLASSD AMP, L20	U22	Y	SPKAMP_IC_L20
117S0002	1	0201 0OHM	R128	Y	SPKAMP_SENSE_R_L20
118S0583	1	0201 0.1OHM	R128	Y	SPKAMP_SENSE_R_L19

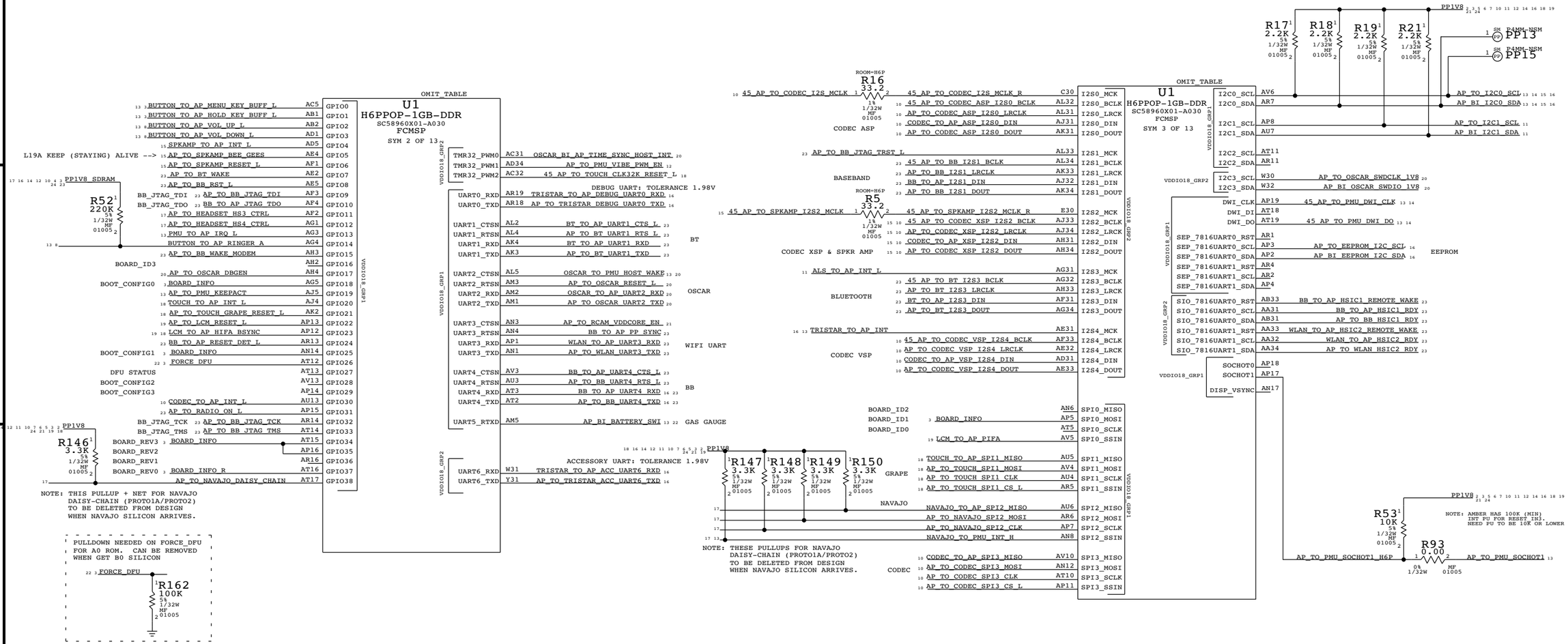
H6P: JTAG, USB, PLL, HSIC, XTAL

MISC COMPONENTS ALTERNATES

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
107S0146	107S0208			ALT FOR THERMISTOR
138S0702	138S0657			?
138S0697	138S0695			?
138S0746	138S0705			?
138S0739	138S0706			?
155S0773	155S0453			?
155S0667	155S0583			?
335S0895	335S0874			?
138S0703	138S0648			?



H6P: DIGITAL I/O, BOOTSTRAPPING



BOOTSTRAPPING (BOARD_REV, BOARD_ID, BOOT_CFG)

BOARD_REV[3:0]={GPIO34, GPIO35, GPIO36, GPIO37}
FLOAT=LOW, PULLUP=HIGH

1111	PROTO2/2A, TRISAR/L19	
1110	PROTO2A, TRISTAR2/L20	
1101	EVT1 MAIN BUILD	<--- SELECTED
1100	EVT1 MESA BUILD	<--- DNP R3000 TO SELECT

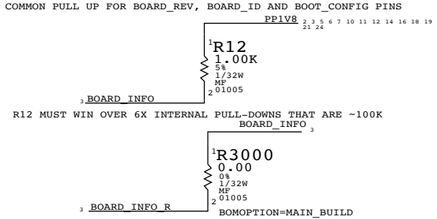
BOARD_ID[3:0]={GPIO16, SPIO0_MISO, SPI0_MOSI, SPI0_SCLK}
FLOAT=LOW, PULLUP=HIGH

0000	X145 MLB	
0001	X145 DEV	
0010	X152 MLB	<--- SELECTED
0011	X152 DEV	

BOOT_CONFIG[3:0]={GPIO29_CONFIG3,GPIO28_CONFIG2,GPIO25_CONFIG1,GPIO18_CONFIG0}
FLOAT=LOW, PULLUP=HIGH

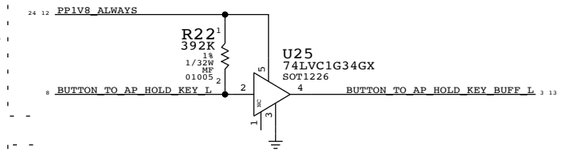
0000	SPIO
0001	SPIO TEST MODE
0010	NAND
0011	NAND TEST MODE <--- SELECTED

COMMON PULL UP FOR BOARD_REV, BOARD_ID AND BOOT_CONFIG PINS

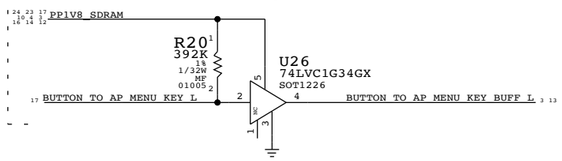


MENU & POWER / HOLD KEY BUFFER

PCB: PLACE THIS TOP SIDE, NORTH END OF SINGLE_BRD

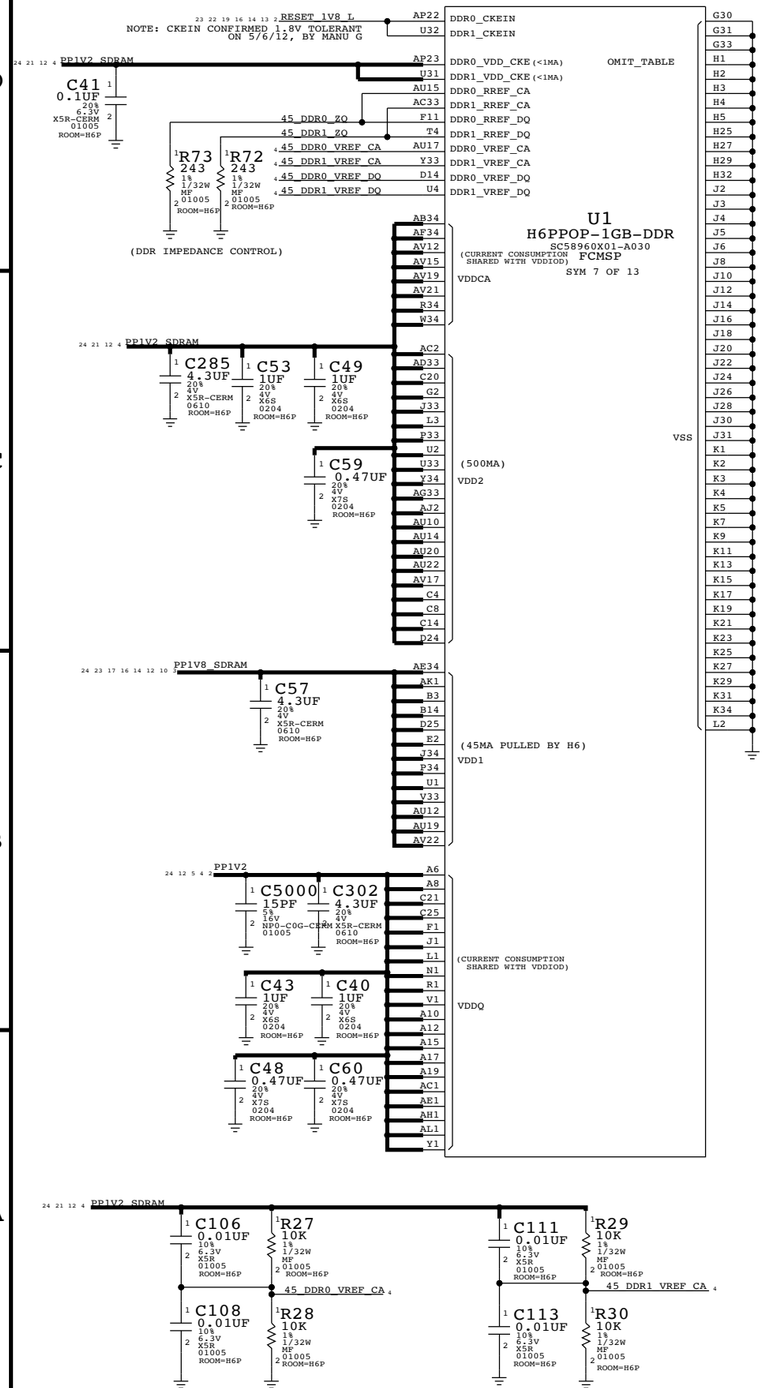


PCB: PLACE THIS BOTTOM SIDE, SOUTH END OF SINGLE_BRD

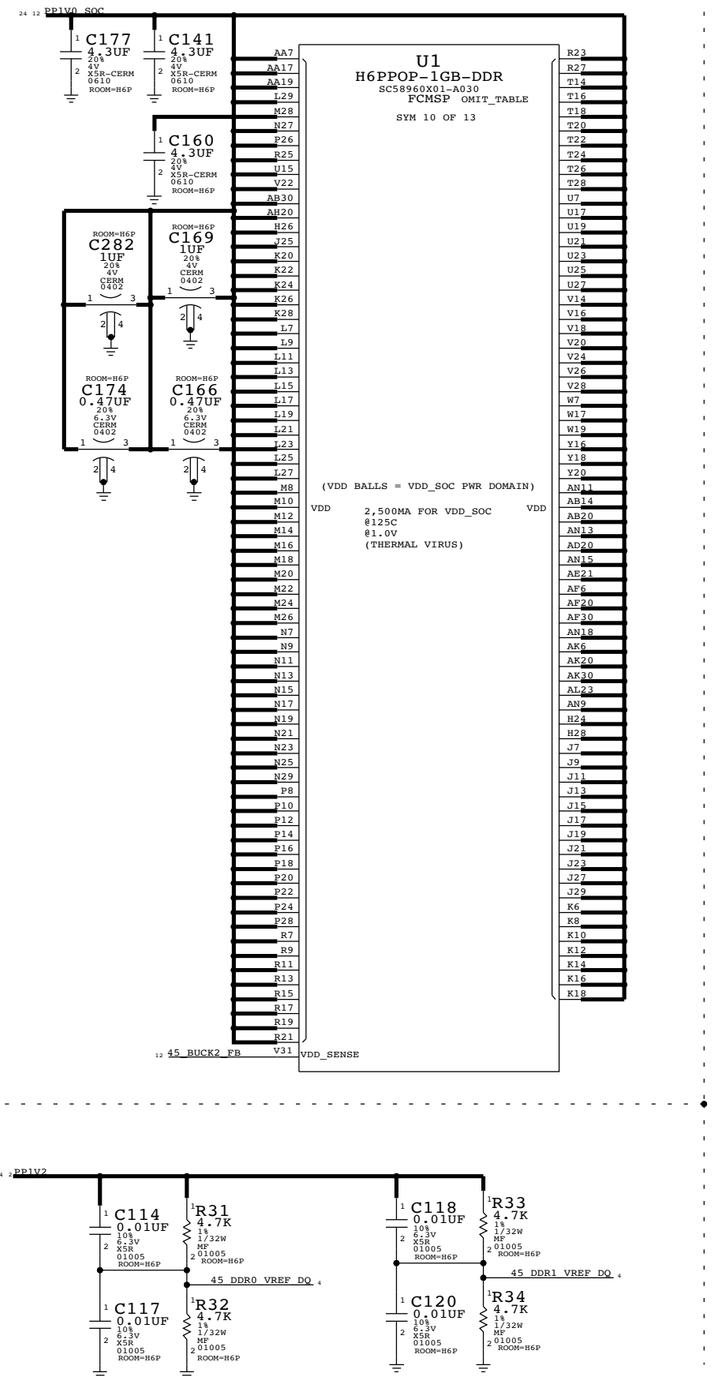


H6P: GND, VDDCA, VDD1/2, VDD, VDD_CPU, VDD_GPU

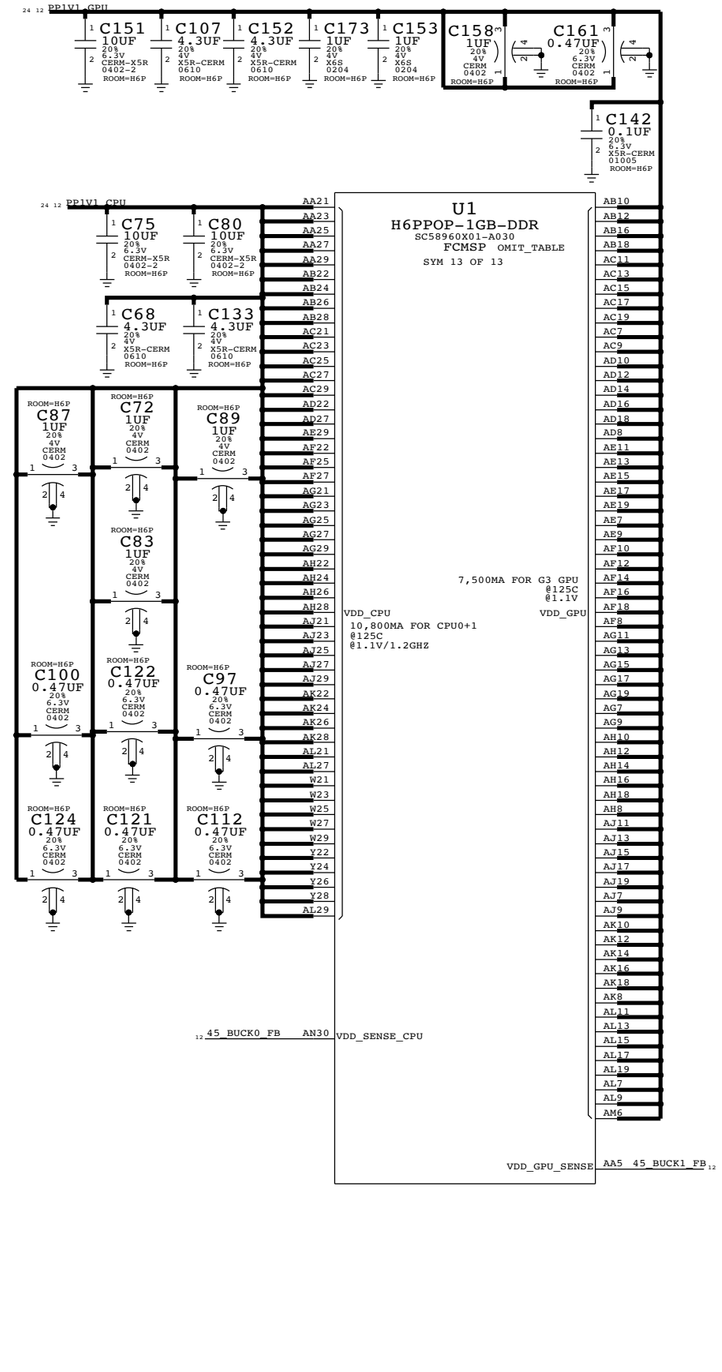
VDDCA, VDD1/2, VDDQ



VDD



VDD_CPU, VDD_GPU



H6P (GND, VDDIO18, VDDIOD, VDD_SRAM, VDD_SOC)

JUST A FEW GNDS

U1
H6PPOP-1GB-DDR
SC58960X01-A030
FCMSP
SYM 12 OF 13
OMIT_TABLE

AN32 AN33 AN34 AP6 AP20 AP21 AP24 AP25 AP26 AP27 AP28 AP29 AP30 AP31 AP32 AR3 AR8 AR12 AR15 AR17 AR20 AR21 AR22 AR23 AR24 AR25 AR28 AR29 AR32 AT1 AT4 AT6 AT20 AT21 AT22 AT23 AT24 AT25 AT26 AT27 AT28 AT29 AT30 AT31 AT32 AU1 AU2 AU11 AU16 AU18 AU21 AU33 AU34 AV1 AV2 AV9 AV11 AV14 AV16 AV18 AV20 AV33 AV34 B1 B2 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B15 B16 B17 B18 B19 B25 B28 B30 B33 B34 C1 C2 C3 C5 C6 C7 C9 — VSS

C10 C11 C12 C13 C15 C16 C17 C18 C19 C22 C23 C24 C26 C27 C29 C31 D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13 D15 D16 D17 D18 D19 D20 D21 D22 D32 E1 E3 E4 E5 E6 E7 E8 E9 E10 E11 E12 E13 E14 E15 E18 E19 E20 E21 E22 E31 E32 E34 F2 F3 F4 F5 F6 F7 F8 F9 F10 F12 F13 F14 F15 F26 F30 F31 G1 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12 G13 G14 G15 G26 G28 — VSS

U1
H6PPOP-1GB-DDR
SC58960X01-A030
FCMSP
SYM 11 OF 13
OMIT_TABLE

A1 A2 A3 A4 A5 A7 A9 A11 A13 A14 A16 A18 A25 A28 A30 A33 A34 AA1 AA2 AA3 AA4 AA8 AA10 AA12 AA14 AA16 AA18 AA22 AA24 AA26 AA28 AA30 AB5 AB7 AB9 AB11 AB13 AB15 AB17 AB19 AB21 AB23 AB25 AB27 AB29 AB32 AC4 AC8 AC10 AC12 AC14 AC16 AC18 AC20 AC22 AC24 AC26 AC28 AC30 AC34 AD2 AD7 AD9 AD11 AD13 AD15 AD17 AD19 AD21 AD23 AD25 AD29 AD32 AE3 AE8 AE10 AE12 AE14 AE16 AE18 AE22 AE24 AE26 AE28 AF5 AF7 AF9 AF11 AF13 AF15 AF17 AF19 — VSS

AF21 AF23 AF29 AF32 AG2 AG8 AG10 AG12 AG14 AG16 AG18 AG20 AG22 AG24 AG26 AG28 AG30 AH5 AH7 AH9 AH11 AH13 AH15 AH17 AH19 AH21 AH23 AH25 AH27 AH29 AH32 AJ1 AJ3 AJ8 AJ10 AJ12 AJ14 AJ16 AJ18 AJ22 AJ24 AJ26 AJ28 AJ30 AK5 AK7 AK9 AK11 AK13 AK15 AK17 AK19 AK21 AK23 AK27 AK29 AK32 AL3 AL6 AL8 AL10 AL12 AL14 AL16 AL18 AL20 AL22 AL24 AL26 AL28 AL30 AM4 AM7 AM18 AM30 AN2 AN5 AN7 AB6 AM9 AM11 AM13 AN16 AM15 AN19 AN20 AN21 AN22 AN23 AN24 AN31 — VSS

VDDIOD, VDDIO18

U1
H6PPOP-1GB-DDR
SC58960X01-A030
FCMSP
SYM 9 OF 13
OMIT_TABLE

24 12 4 2 PP1V2

CAPS FOR VDDIOD ARE SHARED WITH VDDQ

AM20 AM21 AM22 AM23 AM24 — VDDIOD_DDR0CA

R29 T29 U29 V29 — VDDIOD_DDR1CA

AA6 H6 H7 H8 H9 H10 H11 H12 H13 H14 H15 M6 N6 P6 R6 T6 U6 V6 W6 Y6 — VDDIOD_DDRDQ (1000MA)

R33 T1 T2 T3 T5 T7 T9 T11 T13 T15 T17 T19 T21 T23 T25 T27 T30 T31 T32 T33 T34 U3 U5 U8 U10 U12 U14 U18 U20 U22 U24 U26 U28 U30 U34 V2 V3 V4 V5 V7 V9 V11 V13 V15 V17 V19 V21 V23 V25 V27 V30 V32 V34 W1 W2 W3 W4 W5 W8 W10 W12 W14 W16 W18 W20 W22 W24 W26 W28 W33 Y2 Y3 Y4 Y5 Y7 Y9 Y11 Y13 Y15 Y17 Y19 Y21 Y23 Y27 Y29 Y32 AM17 Y30 AC6 AE6 AG6 AJ6 AE30 — VSS

CAPS FOR VDDIO18_X ARE SHARED WITH VDDIODX

14 12 11 10 7 6 5 3 2 24 21 19 18 16 PP1V8

C30 4.7UF 20% 6.3V X5R 402 ROOM=H6P
C78 1UF 20% 4V X6S 0204 ROOM=H6P
C86 1UF 20% 4V X6S 0204 ROOM=H6P
C95 0.47UF 20% 4V X7S 0204 ROOM=H6P

AD6 AH6 AM8 AM10 AM12 AM14 AM16 AM19 — VDDIO18_GRP1 (65MA) (GPIO,UART,SPI,I2C) (SENSOR,SOCHOT,PMU)

AD30 AH30 — VDDIO18_GRP2 (20MA) (I2S,TMR,SIO,GPIO,UART)

G25 G27 H30 K30 M30 P30 G29 — VDDIO18_GRP3 (31MA) (PPN,GPIO,JTAG)

ROOM=H6P
FL67
1KOHM-25%-0.2A
0201

PP1V8_XTAL — G24 — VDDIO18_GRP4 (2MA) (XTAL I/O)

C379 1.0UF 20% 10V X5R-CERM 0201-1 ROOM=H6P

VDD_SRAM, VDD_SOC

U1
H6PPOP-1GB-DDR
SC58960X01-A030
FCMSP
SYM 8 OF 13
OMIT_TABLE

L4 L5 L6 L8 L10 L12 L14 L16 L18 L20 L22 L24 L26 L28 L30 L33 M1 M2 M3 M4 M5 M7 M9 M11 M13 M15 M17 M19 M21 M23 M25 M27 M29 M31 N2 N3 N4 N5 N8 N10 N12 N14 N16 N18 N20 N22 N24 N26 N28 N30 N33 P1 P2 P3 P4 P5 P7 P9 P11 P13 P15 P17 P19 P21 P23 P25 P27 P29 R2 R3 R4 R5 R8 R10 R12 R14 R16 R18 R20 R22 R24 R26 R28 R30 R31 — VSS

24 12 PP1V0_SRAM

C305 4.3UF 20% 4V X5R-CERM 0610 ROOM=H6P
C81 1UF 20% 4V X6S 0204 ROOM=H6P
C115 1UF 20% 4V X6S 0204 ROOM=H6P

AD24 AD26 AD28 AE23 AE25 AE27 AF24 AF26 AF28 AK25 Y25 — VDD_SRAM_CPU 1,500MA FOR CYCLONE + M$ SRAM @125C @1.0V

C91 0.47UF 20% 4V X7S 0204 ROOM=H6P
C134 0.47UF 20% 4V X7S 0204 ROOM=H6P

AA9 AA11 AA13 AA15 AB8 T8 T10 T12 U9 U11 U13 V8 V10 V12 W9 W11 W13 W15 Y8 Y10 Y12 Y14 — VDD_SRAM_SOC (1500MA)

16 14 12 11 10 7 6 5 3 2 24 21 19 18 PP1V8

C85 0.1UF 20% 6.3V X5R-CERM 01005 ROOM=H6P

AJ20 AA20 AB4 H22 — VDD_ANA_TMPSADC0(2.5MA) VDD_ANA_TMPSADC1(2.5MA) VDD_ANA_TMPSADC2(2.5MA) VDD_ANA_TMPSADC3(2.5MA)

H6P NAND + 12X17 NAND PKG

SUPPORT FOR PPN1.5 (1.8V IO) ONLY

PCB: THIS XW ON OUTER LAYER, ACCESSIBLE FOR REWORK

XW2 SM ROOM=NAND

PP3V0_NAND_XW — PP3V0_NAND

C180 0.47UF 20% 4V X7S 0204 ROOM=NAND
C3 1UF 20% 4V X6S 0204 ROOM=NAND
C185 1UF 20% 4V X6S 0204 ROOM=NAND
C182 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=NAND OMIT_TABLE
C307 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=NAND OMIT_TABLE
C209 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=NAND OMIT_TABLE
C187 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=NAND OMIT_TABLE

PP1V8

C50 2.2UF 20% 4V X5R-CERM 0201 ROOM=NAND
C376 2.2UF 20% 4V X5R-CERM 0201 ROOM=NAND
C377 15UF 20% 4V X5R 0402 ROOM=NAND
C378 15UF 20% 4V X5R 0402 ROOM=NAND
C999 10UF 20% 6.3V X5R-CERM 0402-1 ROOM=NAND

1000MA 500MA

R160 100K 5% 1/32W MF 01005 ROOM=NAND — NOSTUFF
R161 100K 5% 1/32W MF 01005 ROOM=NAND — NOSTUFF

R78 100K 5% 1/32W MF 01005 ROOM=H6P
R82 100K 5% 1/32W MF 01005 ROOM=H6P
C136 0.01UF 10% 6.3V X5R 01005 ROOM=H6P
C144 0.01UF 10% 6.3V X5R 01005 ROOM=H6P
R137 50K 1% 1/32W MF 01005 ROOM=H6P
R143 50K 1% 1/32W MF 01005 ROOM=H6P

AP_TO_NAND_ANC0_CEN0_L — AP_TO_NAND_ANC1_CEN0_L — AP_TO_NAND_ANC_DQVREF

U1 H6PPOP-1GB-DDR SC58960X01-A030 FCMSP SYM 4 OF 13 OMIT_TABLE

AP_BI_NAND_ANC0_IO<0>	B32	PPN0_IO0	PPN1_IO0 M34 — AP_BI_NAND_ANC1_IO<0>
AP_BI_NAND_ANC0_IO<1>	C32	PPN0_IO1	PPN1_IO1 M33 — AP_BI_NAND_ANC1_IO<1>
AP_BI_NAND_ANC0_IO<2>	C33	PPN0_IO2	PPN1_IO2 L32 — AP_BI_NAND_ANC1_IO<2>
AP_BI_NAND_ANC0_IO<3>	C34	PPN0_IO3	PPN1_IO3 M32 — AP_BI_NAND_ANC1_IO<3>
AP_BI_NAND_ANC0_IO<4>	F32	PPN0_IO4	PPN1_IO4 K32 — AP_BI_NAND_ANC1_IO<4>
AP_BI_NAND_ANC0_IO<5>	F33	PPN0_IO5	PPN1_IO5 J32 — AP_BI_NAND_ANC1_IO<5>
AP_BI_NAND_ANC0_IO<6>	F34	PPN0_IO6	PPN1_IO6 H33 — AP_BI_NAND_ANC1_IO<6>
AP_BI_NAND_ANC0_IO<7>	G34	PPN0_IO7	PPN1_IO7 H34 — AP_BI_NAND_ANC1_IO<7>
AP_TO_NAND_ANC0_ALE	A31	PPN0_ALE	PPN1_ALE N34 — AP_TO_NAND_ANC1_ALE
AP_TO_NAND_ANC0_CLE	B31	PPN0_CLE	PPN1_CLE P31 — AP_TO_NAND_ANC1_CLE
AP_TO_NAND_ANC0_WE_L	A32	PPN0_WEN	PPN1_WEN N32 — AP_TO_NAND_ANC1_WE_L
45_AP_TO_NAND_ANC0_RE_L	D33	PPN0_REN	PPN1_REN L31 — 45_AP_TO_NAND_ANC1_RE_L
45_AP_BI_NAND_ANC0_DQS	D34	PPN0_DQS	PPN1_DQS L34 — 45_AP_BI_NAND_ANC1_DQS
45_AP_PPN0_ZQ	E33	PPN0_ZQ	PPN1_ZQ K33 — 45_AP_PPN1_ZQ
AP_TO_NAND_ANC_DQVREF	D31	PPN0_VREF	PPN1_VREF N31 — AP_TO_NAND_ANC_DQVREF

VDDIO18_GRP3

R153 240 1% 1/32W MF 01005 ROOM=H6P
R55 240 1% 1/32W MF 01005 ROOM=H6P

U4 LGA-12X17 XXNM-XGB8-MLC-PPN1.5-ODP

AP_BI_NAND_ANC0_IO<0>	G3	IO0-0	IO0-1 G1 — AP_BI_NAND_ANC1_IO<0>
AP_BI_NAND_ANC0_IO<1>	H2	IO1-0	IO1-1 J1 — AP_BI_NAND_ANC1_IO<1>
AP_BI_NAND_ANC0_IO<2>	J3	IO2-0	IO2-1 L1 — AP_BI_NAND_ANC1_IO<2>
AP_BI_NAND_ANC0_IO<3>	K2	IO3-0	IO3-1 N3 — AP_BI_NAND_ANC1_IO<3>
AP_BI_NAND_ANC0_IO<4>	L5	IO4-0	IO4-1 N5 — AP_BI_NAND_ANC1_IO<4>
AP_BI_NAND_ANC0_IO<5>	K6	IO5-0	IO5-1 L7 — AP_BI_NAND_ANC1_IO<5>
AP_BI_NAND_ANC0_IO<6>	J5	IO6-0	IO6-1 J7 — AP_BI_NAND_ANC1_IO<6>
AP_BI_NAND_ANC0_IO<7>	H6	IO7-0	IO7-1 G7 — AP_BI_NAND_ANC1_IO<7>
AP_TO_NAND_ANC0_CEN0_L	A5	CE0*	CE1* C5 — AP_TO_NAND_ANC1_CEN0_L
AP_TO_NAND_ANC0_CLE	A3	CLE0	CLE1 C3 — AP_TO_NAND_ANC1_CLE
AP_TO_NAND_ANC0_ALE	C1	ALE0	ALE1 D2 — AP_TO_NAND_ANC1_ALE
AP_TO_NAND_ANC0_WE_L	E3	WE0*	WE1* E1 — AP_TO_NAND_ANC1_WE_L
45_AP_TO_NAND_ANC0_RE_L	C7	RE0*	RE1* D6 — 45_AP_TO_NAND_ANC1_RE_L
45_AP_BI_NAND_ANC0_DQS	H4	DQS0	DQS1 M4 — 45_AP_BI_NAND_ANC1_DQS
	F4	DQS0*	DQS1* K4
NAND_RDYBSY0	E5	R/B0*	R/B1* E7 — NAND_RDYBSY1
AP_TO_NAND_ANC_DQVREF	G5	VREF	
45_NAND_PPN_ZQ	A1	ZQ	

VDDI VCC VCCQ OMIT_TABLE ROOM=NAND

PP17 P4MM-NSM ROOM=NAND — NAND_TO_PP_TCKC — OA0 TCKC
PP19 P4MM-NSM ROOM=NAND — NAND_TO_PP_TMSC — OB0 TMSC

VSS: B2 F6 L3 A7 M2 OC0 OD0 OE8 OF0 G8
VSSQ

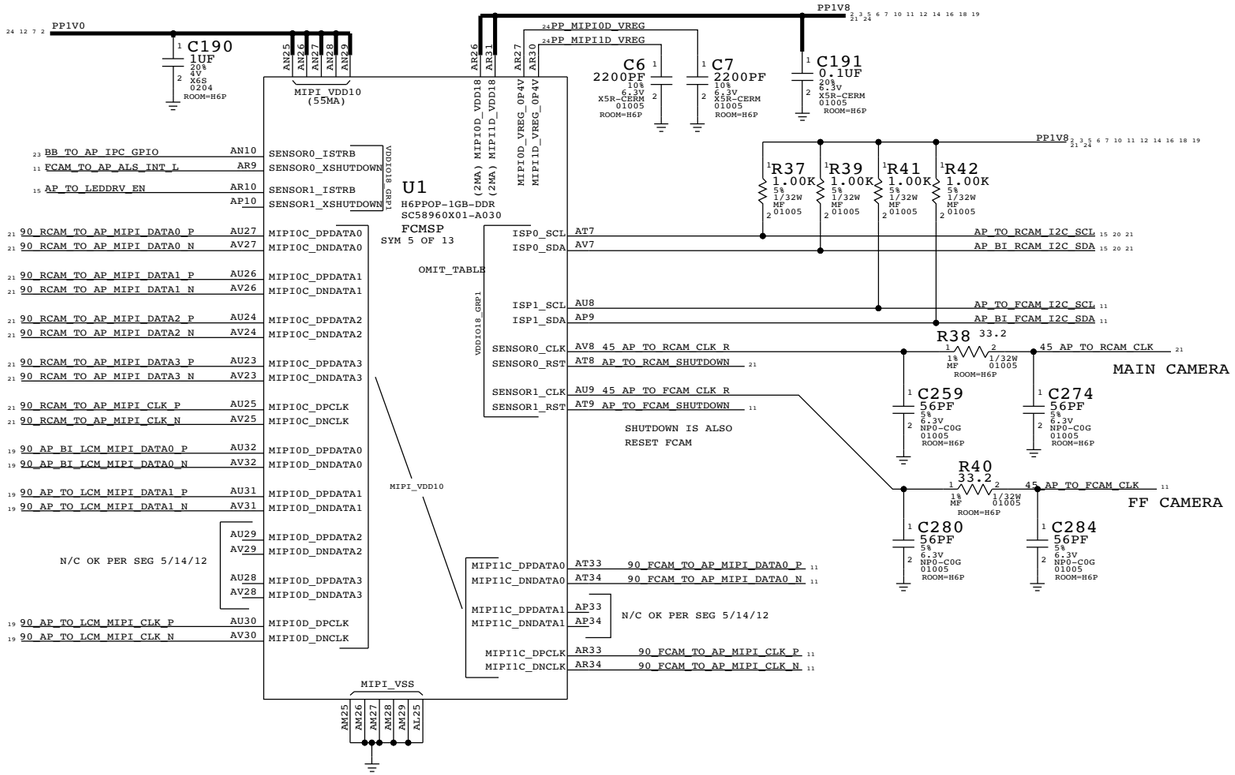
R8 243 1% 1/32W MF 01005 ROOM=NAND

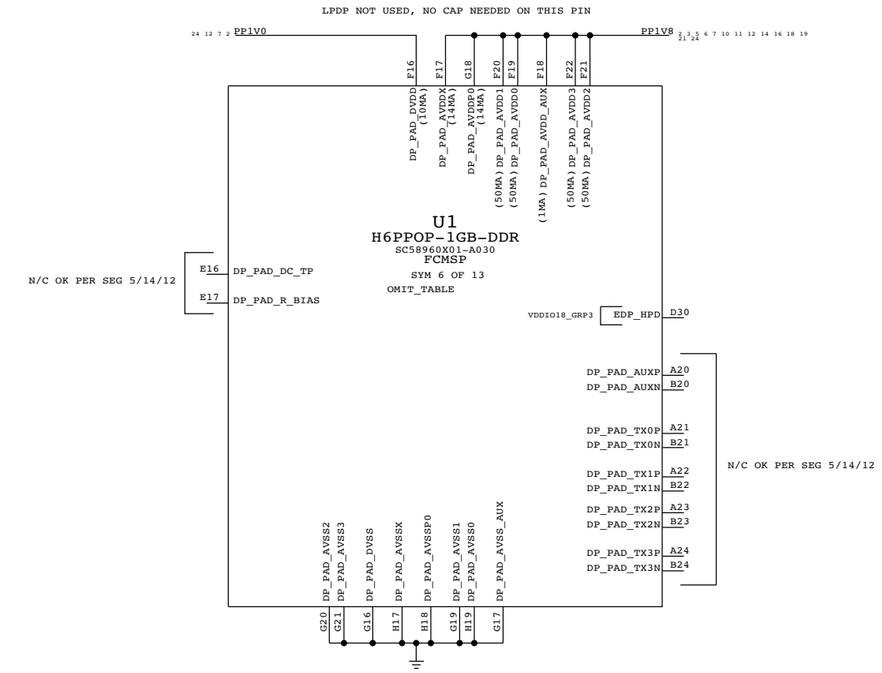
NOTE: NAND PADS SHOULD BE SHIELDED FROM TRACES WITH A GROUND PLANE

NOTE: IO<6> PREFERRED BY MATT BYOM (IS A STATUS READY BIT)

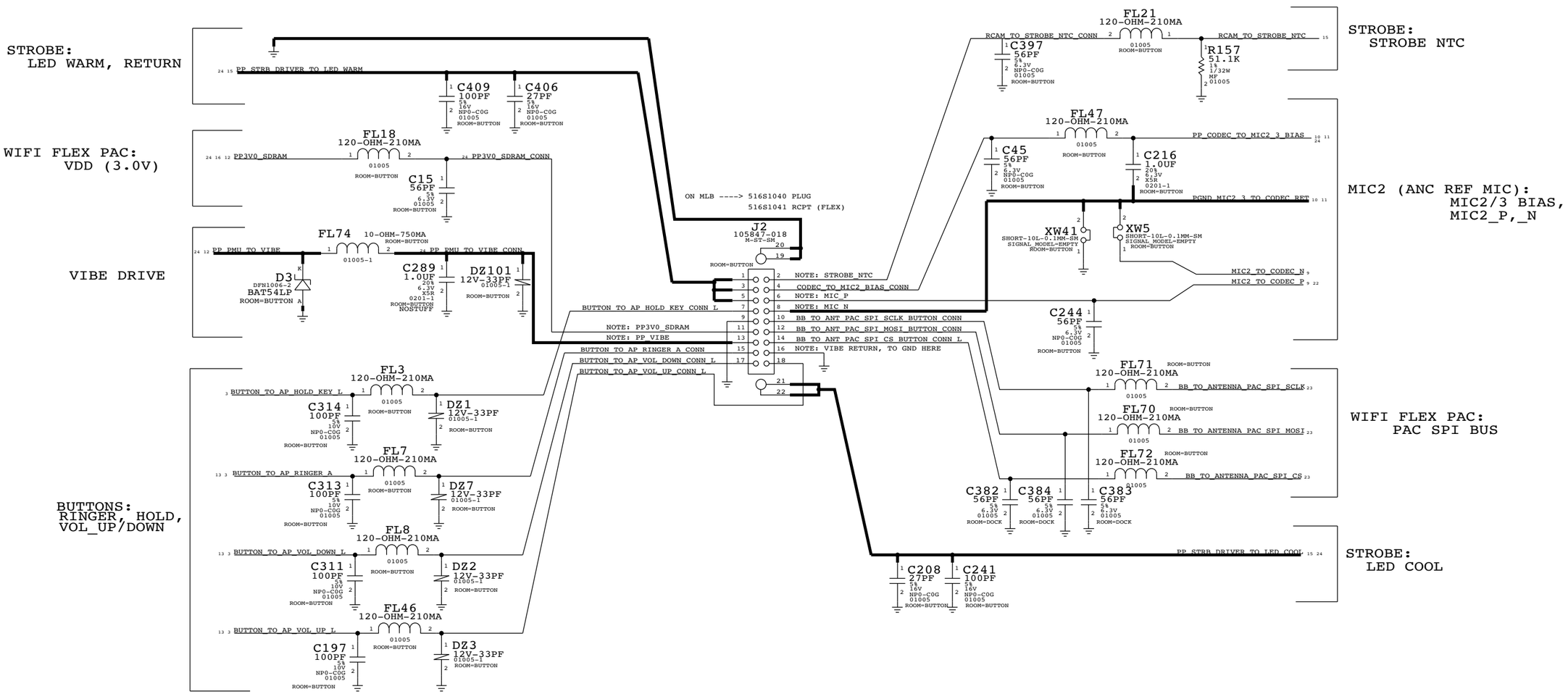
PP2 P4MM-NSM ROOM=H6P — AP_BI_NAND_ANC0_IO<6>
PP3 P4MM-NSM ROOM=H6P — 45_AP_TO_NAND_ANC0_RE_L
PP10 P4MM-NSM ROOM=H6P — 45_AP_BI_NAND_ANC0_DQS

H6P HIGH SPEED DIG (CAM, LCD, DP)





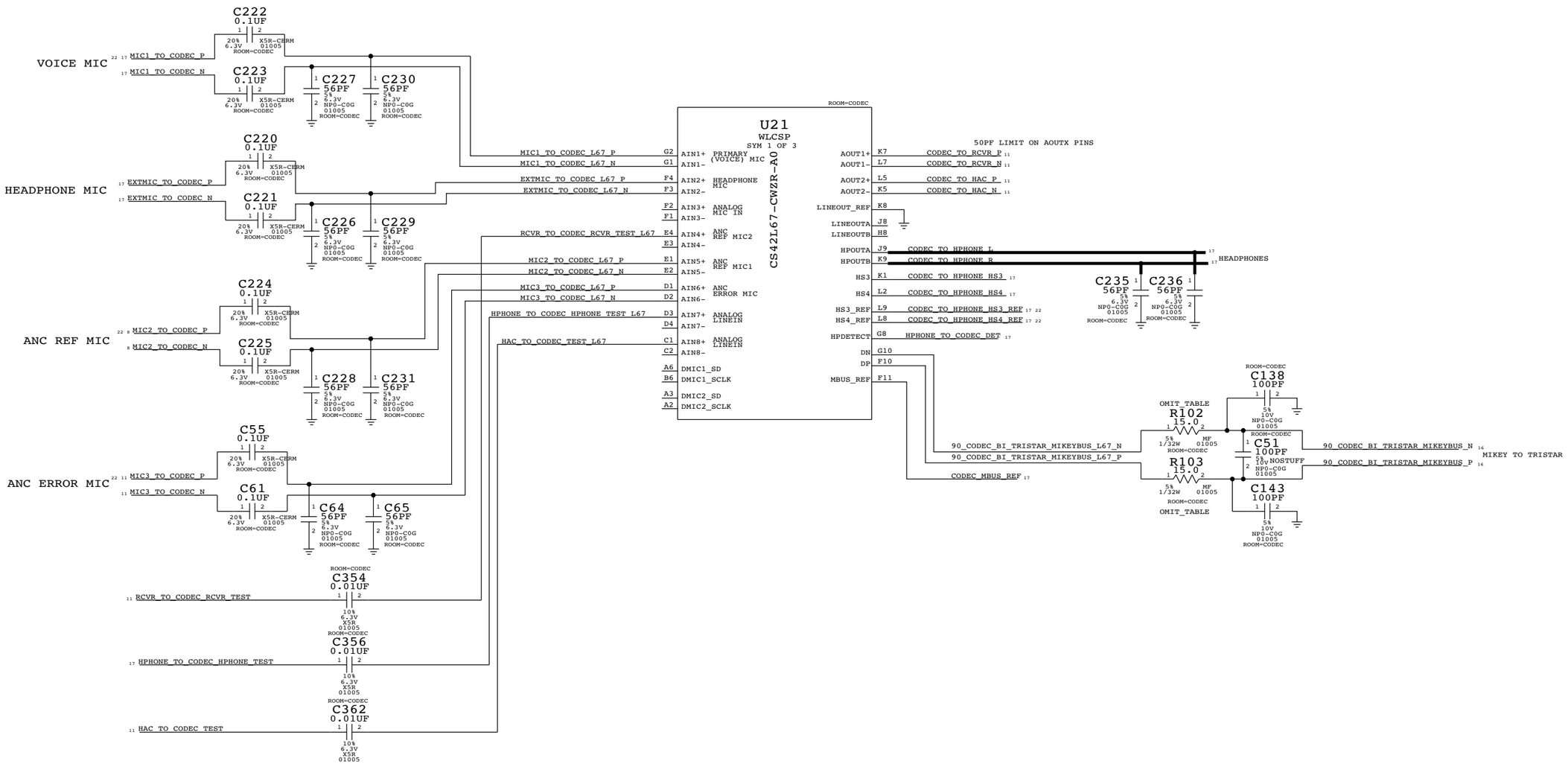
BUTTON FLEX (VIBE DRIVER, BUTTONS, ANC REF MIC, STROBE, STROBE_NTC)



L67 AUDIO CODEC

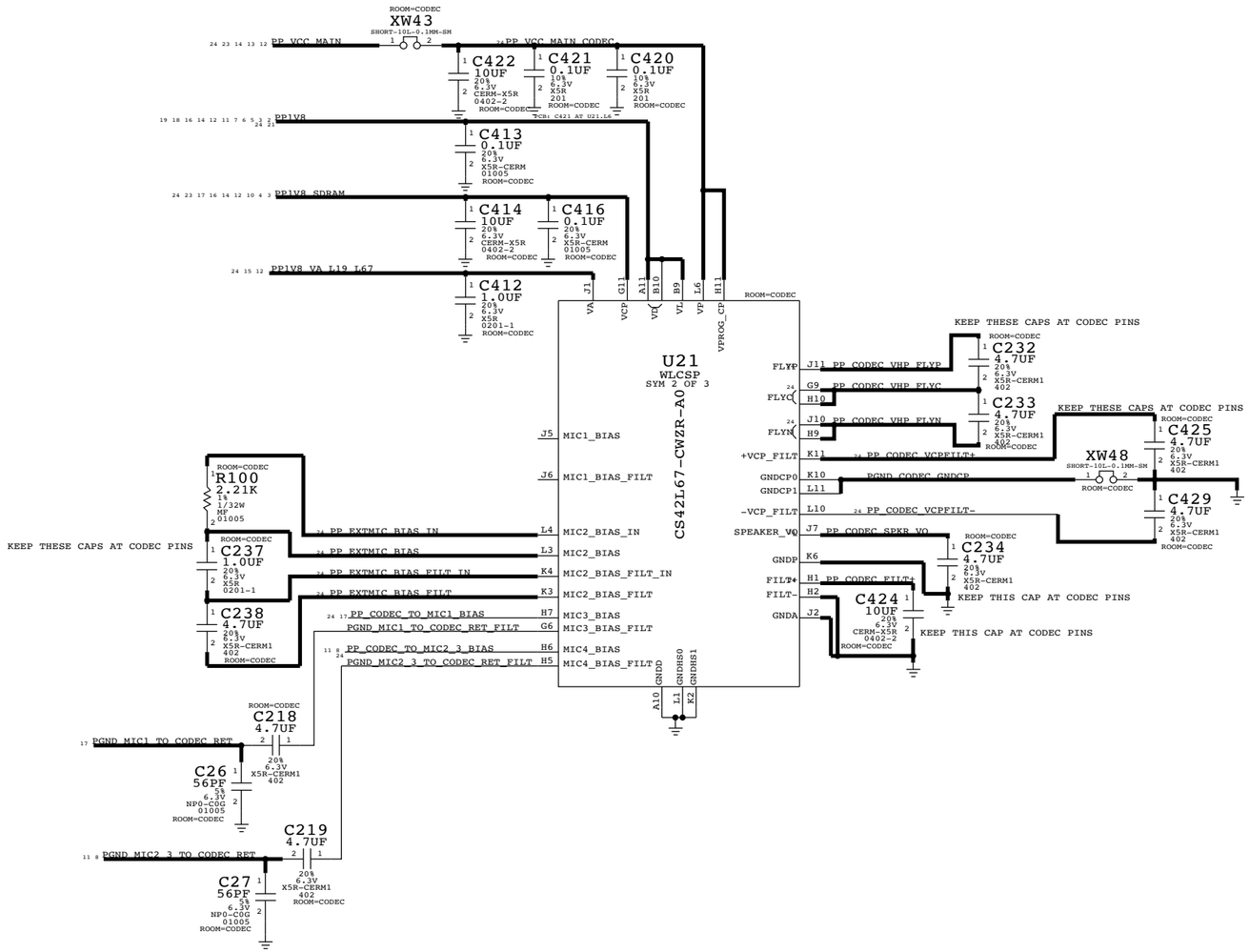
AUDIO I/O

(ANALOG MIC IN, DIG MIC IN, HPOUT, LINEOUT, RECEIVER OUT, MIKEYBUS)

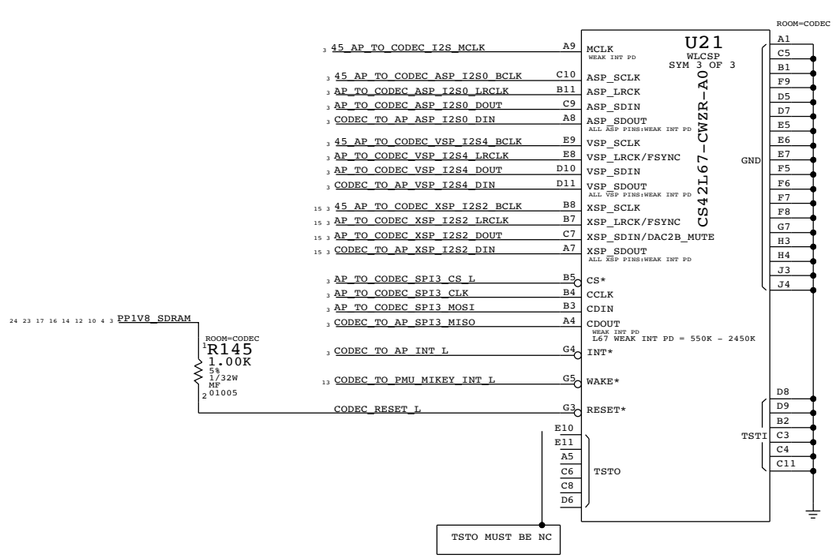


L67 AUDIO CODEC

POWER, MICBIAS



DIGITAL SYSTEM I/O



FRONT CAM FLEX B2B (FCAM, PROX, ALS, RECEIVER, ANC ERROR MIC)

FCAM:
CLK, I2C, SHDN

PROX: POWER,
RX, RX_EN

ALS: POWER,
I2C, INT

HAC

RECEIVER

NOTE: CONN GENDER SWAPPED AT PROTO2
THIS ON ONE MLB ---> 516S0986 RCPT
516S0987 PLUG (FLEX)

PCB: PLACE THESE AT J1 CONN

PROX_RX SIGNAL MUST BE TREATED WITH CARE

FCAM:
POWER AND MIPI

MIC3
(ANC ERROR MIC)

FCAM ALS INT

PROX: PWR, TX EN

NOTE: J1.29 IS GND ON POR BOARDS,
J1.29 IS ALS_INT FROM FF CAM FOR
SPECIAL CONFIG OF PROTO2
(CONTROLLED VIA BOMOPTION)

IRLED = 104-128MA

SPECIAL Z = 0.60 MM MAX

AMBER PMU

(BUCK, LDO, VIBE DRIVER, 32K, CHARGER)

TO DO: GEERTJAN TO UPDATE VALUE
OF R70 WITH H6P (EXPECTED TO CHANGE)

R70 68.1K 1/32W MF 01005 ROOM=PMU

USB_VBUS_DETECT

C3096 56PF 5% 16V NP0-C0G 01005 ROOM=PMU

C204 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=PMU

C281 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=PMU

TRISTAR_TO_PMU_OVP_SW_EN_L

NOTE: THIS SIGNAL (ACT HI) WILL OPEN VBUS

PP_PMU_VCENTER

PP5V0_USB_PROT

C272 1UF 10% 25V X5R 402 ROOM=PMU

PP_BATT_VCC

Q4 APN: 376S1131

Q4 CSD68815W15 BGA ROOM=PMU

L8 2.2UH-20%-1.7A-200MOHM TFA201610G-PSE20161T2R2 OMIT_TABLE

PP_BUCK0_LX0
PP_BUCK0_LX1
PP_BUCK0_LX2
PP_BUCK0_LX3
PP_BUCK1_LX0
PP_BUCK1_LX1
PP_BUCK2_LX
PP_BUCK3_LX
PP_BUCK4_LX
PP_BUCK5_LX

U7 AMBER-PMC FCCSP-0.84MM (1 OF 3)

F5 VBUS_OVP_OFF 500-300K INT PU TO VBUS
K1 K2 VCENTER
L1 L2 M1 M2 VBUS
F1 F2 IBAT
BATTERY_TO_PMU_SENSE E2 VBAT
PMU_ACT_DIO C1 ACT_DIO
PP_BUCK_VSW_CHG J1 J2 CHG_LX
G1 G2 VCC_MAIN
D2 VCC_MAIN_S

BAT/USB

A16 B16 VDD_BUCK1
C4 VDD_BUCK001_2
A13 B13 C13 VDD_BUCK2
C16 VDD_BUCK1_2
F20 F21 VDD_BUCK3
A20 B20 C20 VDD_BUCK4
K20 K21 VDD_BUCK5
A4 B4 VDD_BUCK001
A9 B9 C9 VDD_BUCK023

BUCK INPUT

M12 VDD_LDO6
N13 VDD_LDO2
M6 VDD_LDO1_3
M7 VDD_LDO4_7
M14 VDD_LDO5
M8 VDD_LDO8_9
M10 VDD_LDO10
M11 VDD_LDO11_13

LDO INPUT

N5 VDD_VIB
P5 VIB
M5 VIB_PWM_EN 150K PU TO 1V8
D1 XTAL1
E1 XTAL2
G10 VSS_RTC

VIBE

XTAL

PP1V2_SDRAM

C278 1UF 10% 6.3V CERM 402 ROOM=PMU

PP_VCC_MAIN
PP_PMU_TO_VIBE
AP_TO_PMU_VIBE_PWM_EN

C96 56PF 5% 16V NP0-C0G 01005 ROOM=PMU

C343 1.0UF 20% 6.3V X5R 0201-1 ROOM=PMU

45_PMU_TO_XTAL_OSC32
45_XTAL_TO_PMU_OSC32

Y2 32.768K-20PPM-12.5PF 2012 ROOM=PMU

C276 18PF 5% 16V CERM 01005 ROOM=PMU

C283 18PF 5% 16V CERM 01005 ROOM=PMU

XW1 SHORT-10L-0.1MM-SM ROOM=PMU

PCB: PLACE THIS XW AT C276/C283

45_AMBER_VSS_RTC

PP_VCC_MAIN

C266 1.0UF 20% 6.3V X5R 0201-1 ROOM=PMU

C357 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C358 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C260 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C263 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C267 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C270 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C261 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C264 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C268 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C271 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C385 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C398 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C411 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

PP_VCC_MAIN

C399 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C405 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C417 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C418 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C250 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C251 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

C325 10UF 20% 6.3V CERM-X5R 0402-1 ROOM=PMU OMIT_TABLE

SAME POLARITY

L9 1.0UH-20%-2.5A-0.075OHM TFA201610G-SM ROOM=PMU OMIT_TABLE

L10 1.0UH-20%-2.5A-0.075OHM TFA201610G-SM ROOM=PMU OMIT_TABLE

L11 1.0UH-20%-2.5A-0.075OHM TFA201610G-SM ROOM=PMU OMIT_TABLE

L12 1.0UH-20%-2.5A-0.075OHM TFA201610G-SM ROOM=PMU OMIT_TABLE

NOTE: L10, L12 BOMOPTIONS CONTROLLED ON PAGE1

C290 15UF 20% 4V X5R 0402 ROOM=PMU

C292 15UF 20% 4V X5R 0402 ROOM=PMU

C294 15UF 20% 4V X5R 0402 ROOM=PMU

C135 15UF 20% 4V X5R 0402 ROOM=PMU

C296 15UF 20% 4V X5R 0402 ROOM=PMU

C145 15UF 20% 4V X5R 0402 ROOM=PMU

C162 15UF 20% 4V X5R 0402 ROOM=PMU

C128 15UF 20% 4V X5R 0402 ROOM=PMU

C181 15UF 20% 4V X5R 0402 ROOM=PMU

C262 15UF 20% 4V X5R 0402 ROOM=PMU

R11 10 NOSTUFF 5% 1/32W MF 01005 ROOM=PMU

PCB: R11 LOCAL FEEDBACK FOR TESTING

45_BUCK0_FB

H6 VDD_CPU 10.8A MAX

SAME POLARITY

L13 1.0UH-20%-2.5A-0.075OHM TFA201610G-SM ROOM=PMU OMIT_TABLE

L14 0.47UH-20%-3.2A-0.046OHM TFA201610G-SM ROOM=PMU OMIT_TABLE

C303 15UF 20% 4V X5R 0402 ROOM=PMU

C127 15UF 20% 4V X5R 0402 ROOM=PMU

C310 15UF 20% 4V X5R 0402 ROOM=PMU

C301 15UF 20% 4V X5R 0402 ROOM=PMU

C58 15UF 20% 4V X5R 0402 ROOM=PMU

R115 10 NOSTUFF 5% 1/32W MF 01005 ROOM=PMU

PCB: THIS RESISTOR FOR LOCAL FEEDBACK

45_BUCK1_FB

PP1V1_GPU

H6 VDD_GPU PMU: 5.0A MAX

L15 1.0UH-20%-2.5A-0.075OHM TFA201610G-SM ROOM=PMU

NOTE: PP1V0_SOC_STATIC AT 1.0V. NO DVFM ON THIS RAIL PER SEG.

C123 15UF 20% 4V X5R 0402 ROOM=PMU

C175 15UF 20% 4V X5R 0402 ROOM=PMU

C189 15UF 20% 4V X5R 0402 ROOM=PMU

R117 10 NOSTUFF 5% 1/32W MF 01005 ROOM=PMU

45_BUCK2_FB

PP1V0_SOC

H6 VDD 2.5A MAX

BUCK0_FB
BUCK1_FB
BUCK2_FB
BUCK3_FB
BUCK3_SW1
BUCK3_SW2
BUCK3_SW3
VBUCK3_SW
BUCK4_FB
VBUCK4_SW
BUCK4_SW1
BUCK4_SW2
BUCK5_FB

PP1V8_GRAPE
PP1V8_OSCAR
PP1V2
PP1V2_OSCAR

VLDO1 (50MA) N6 2.5V-3.3V, +/-77.5MV
VLDO2 (50MA) P13 1.2V-1.9V, +/-42.5MV
VLDO3 (50MA) P6 2.5V-3.3V, +/-75MV
VLDO4 (50MA) P7 2.5V-3.6V, +/-75MV
VLDO5 (1000MA) P14 2.5V-3.6V, +/-75MV
VLDO6 (150MA) P12 1.2V-3.6V, +/-82.5MV
VLDO7 (250MA) N7 2.5V-3.6V, +/-75MV
VLDO8 (250MA) P8 2.5V-3.6V, +/-70MV
VLDO9 (250MA) N9 2.5V-3.6V, +/-71.25MV
VLDO9_FB N8
VLDO10 (100MA) P9 0.6V-1.4V, +/-25MV
VLDO11 (250MA) P10 2.5V-3.6V, +/-82.5MV
VLDO12 (5MA) K16 FIXED 1.8V, +/-5%
VLDO13 (250MA) P11 2.5V-3.6V, +/-71.25MV
VPUMP P15 45_PMU_VPUMP

LDO

VPUMP CAP: SPEC REQUIRES 10NF, 50% DERATED. VPUMP RUNS AT 4.6V

C10 0.1UF 20% 6.3V X5R-CERM 01005 ROOM=PMU

C104 1.0UF 20% 6.3V X5R 0201-1 ROOM=PMU

C109 1.0UF 20% 6.3V X5R 0201-1 ROOM=PMU

C299 4.7UF 20% 6.3V X5R-CERM1 402 ROOM=PMU

C207 1.0UF 20% 6.3V X5R 0201-1 ROOM=PMU

C16 4.7UF 20% 6.3V X5R-CERM1 402 ROOM=PMU

REMOVED LDO9 CAPS PER RDAR://12552087

CHANGED LDO8 CAP PER RDAR://12525301

C442 1.0UF 20% 6.3V X5R 0201-1 ROOM=PMU

C24 4.7UF 20% 6.3V X5R-CERM1 402 ROOM=PMU

C291 0.1UF 20% 6.3V X5R-CERM 01005 ROOM=PMU

C419 1.0UF 20% 6.3V X5R 0201-1 ROOM=PMU

CHANGED LDO11 CAP PER RDAR://12518153

OMIT_TABLE L16 1.0UH-20%-2.5A-0.075OHM TFA201610G-SM ROOM=PMU

XW18 SHORT-10L-0.1MM-SM ROOM=PMU

C293 15UF 20% 4V X5R 0402 ROOM=PMU

C443 15UF 20% 4V X5R 0402 ROOM=PMU

PP1V8_SDRAM

H6 VDD1(BUCK3)=0.045A MAX, (BUCK3_SW1=0.500A MAX, BUCK3_SW2=0.7A MAX, BUCK3_SW3=0.7A MAX) TOTAL=0.545A MAX

OMIT_TABLE L17 1.0UH-20%-2.5A-0.075OHM TFA201610G-SM ROOM=PMU

XW20 SHORT-10L-0.1MM-SM ROOM=PMU

C308 10UF 20% 4V X5R 0402 ROOM=PMU

C316 15UF 20% 4V X5R 0402 ROOM=PMU

PP1V2_SDRAM

H6 VDD2(A, VDD2 (, BUCK4)=0.500A MAX, BUCK4_SW1=1.000A MAX, BUCK4_SW2=0.100A MAX) TOTAL=1.600A MAX

OMIT_TABLE L18 1.0UH-20%-2.2A-0.170OHM TFA201210G-SM ROOM=PMU

XW3 SHORT-10L-0.1MM-SM ROOM=PMU

NOTE: PP1V0_SRAM_STATIC AT 1.0V. NO DVFM ON THIS RAIL PER SEG.

C140 15UF 20% 4V X5R 0402 ROOM=PMU

C66 15UF 20% 4V X5R 0402 ROOM=PMU

C327 15UF 20% 4V X5R 0402 ROOM=PMU

PP1V0_SRAM

H6 VDD_SRAM, VDD_SRAM_SOC 1.5A MAX

NOTE: 6 TURNS OF PP2V5_RCAM_AF_COMP WAS THE MAGIC NUMBER FOR N41.

PLACE AT PMU AREA

THIS VALUE NEEDS TUNING LATER

R119 10.2 1% 1/32W MF 01005 ROOM=PMU

PP2V5_RCAM_AF
PP2V5_RCAM_AF_COMP

XW10 SM ROOM=PMU

PGND_RCAM_AF_RET

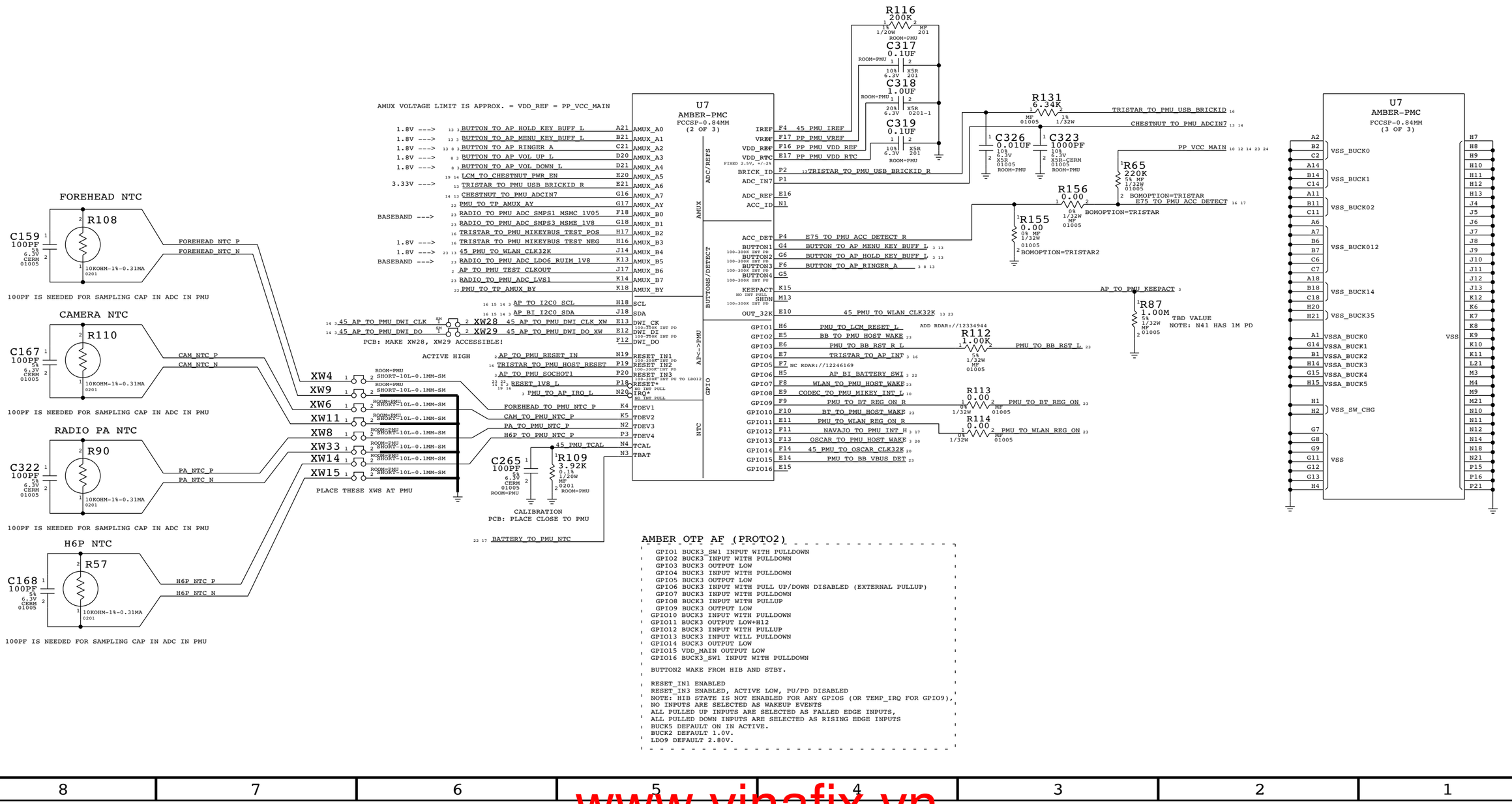
THIS XW LINK AT PMU AREA

TO DO: REVIEW ALL LDO ASSIGNMENTS
(CHECK VDD LDO INPUT SOURCE
CHECK CURRENT RATING FOR LDO OUT
VS. LOAD REQUIREMENT AT DESTINATION, ETC)

PP3V3_USB — SOC USB PHY (25 MA)
PP1V8_VA_L19_L67 — SPEAKER AMP, CODEC VA (2.5 MA L19, 3MA L67)
PP3V0_SDRAM — TRISTAR VDH, WIFI_FLEX PAC (NOTE: 3V +/- 5% PER EUGENE)
PP3V0_TMU — GYRO, ACCEL, COMPASS (? MA)
PP3V0_NAND — NAND (? MA)
PP3V0_ACC — ACCESSORY POWER (? MA)
PP3V0_PROX_ALS — PROX/ALS VDD (PROX: 0.75/1.2 MA ALS: 0.175/0.25 MA [TYP/MAX])
PP2V5_RCAM_AF — REAR CAM AUTO FOCUS (120MA PEAK, PROBABLY CAP AT 80MA)
PP2V85_CAM_AVDD — REAR/FRONT CAM AVDD (? MA)
45_CAM_AVDD_FB
PP1V0 — SOC 1V0 MIPI, USB_DVDD, DP (71 MA TOTAL)
PP3V0_PROX_IRLED — PROX LED (102 MA TYP)
PP1V8_ALWAYS — ALWAYS ON 1V8 (? MA)
PP3V0_NAVAJO

AMBER PMU

(AMUX, GPIO, BUTTONS, ADC, THERMISTORS, SYSTEM I/F, GND)

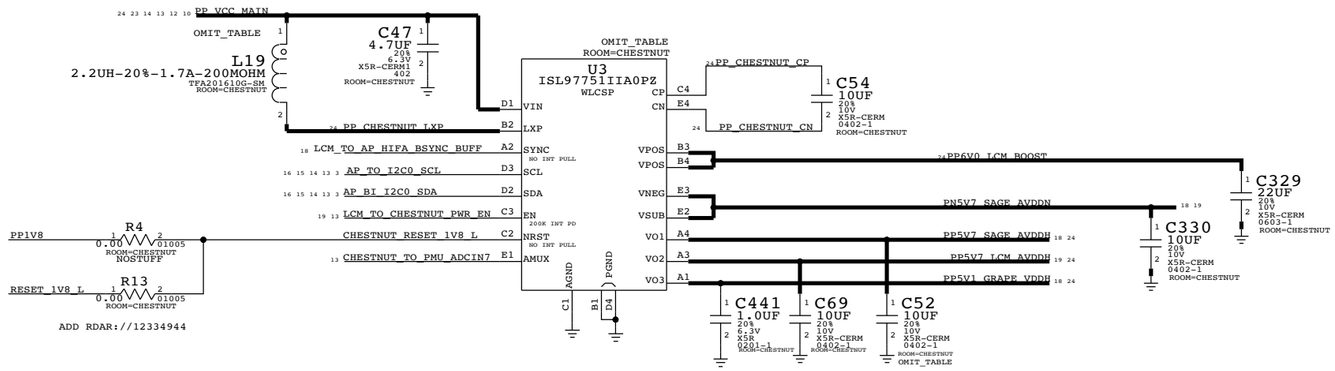


CHESTNUT, BACKLIGHT DRIVER, MESA BOOST

CHESTNUT BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
338S1172	1	TI CHESTNUT	U3	Y	CHESTNUT_TI
152S1842	1	TI CHESTNUT IND - 1.5UH TAIYO	L19	Y	CHESTNUT_TI_TAIYO
152S1802	1	TI CHESTNUT IND - 1.5UH CYNTEC	L19	Y	CHESTNUT_TI_CYNTEC
338S1168	1	INTERSIL CHESTNUT	U3	Y	CHESTNUT_INTERSIL
152S1805	1	INTERSIL CHESTNUT IND - 2.2UH TFA-A	L19	Y	CHESTNUT_INTERSIL_TFA-A

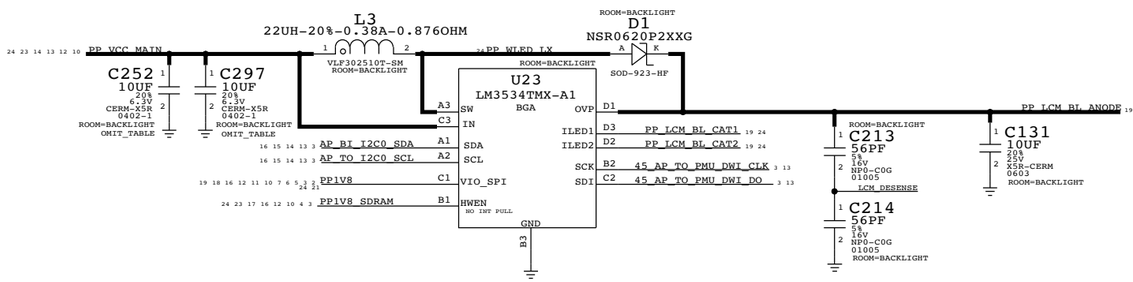
D403 DISPLAY PMU (INTERSIL CHESTNUT, 338S1148) (TI CHESTNUT, 338S1149)



SAGE NEG BOOST TIMING INFO:

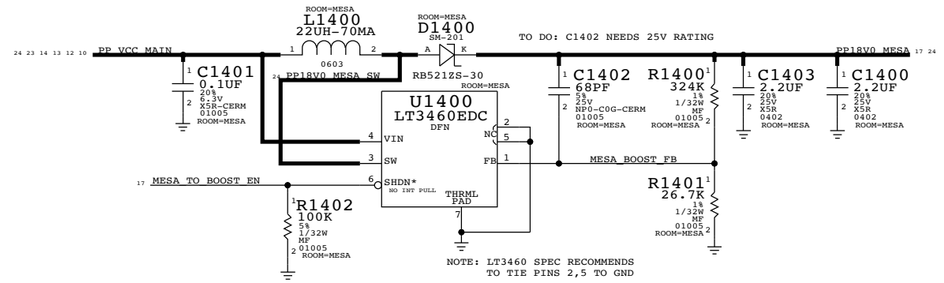
2 MS NOMIAL START UP DELAY FOR LCM POWER SEQUENCING
0 MS DELAY AT SHUTDOWN
ACTIVE DISCHARGE 2MS TO RAIL DOWN

D403 BACKLIGHT DRIVER



NOTE: STACKED TO MEET VOLTAGE REQ, LOOK INTO 18+V CAPS

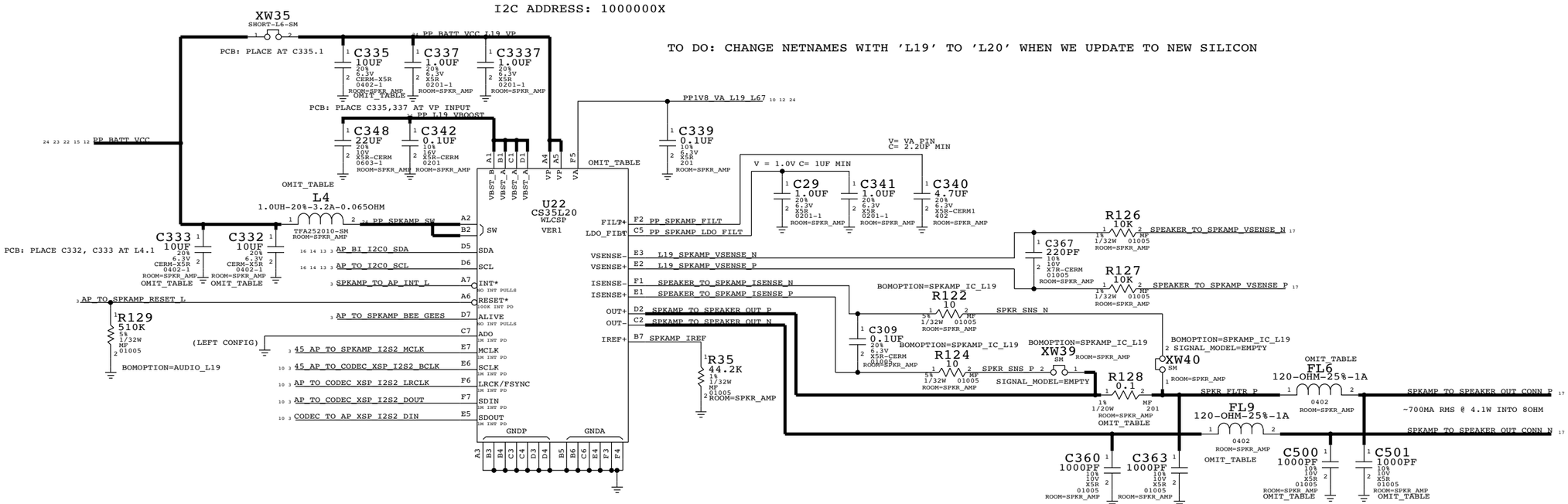
MESA BOOST



NOTE: LT3460 SPEC RECOMMENDS TO TIE PINS 2,5 TO GND

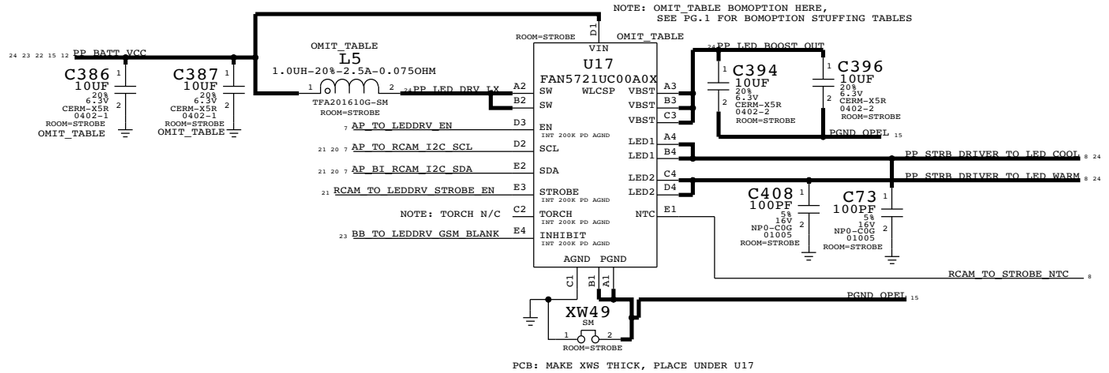
SPEAKER AMP, LED DRIVER

SPEAKER AMP (TO BE REPLACED WITH L20)

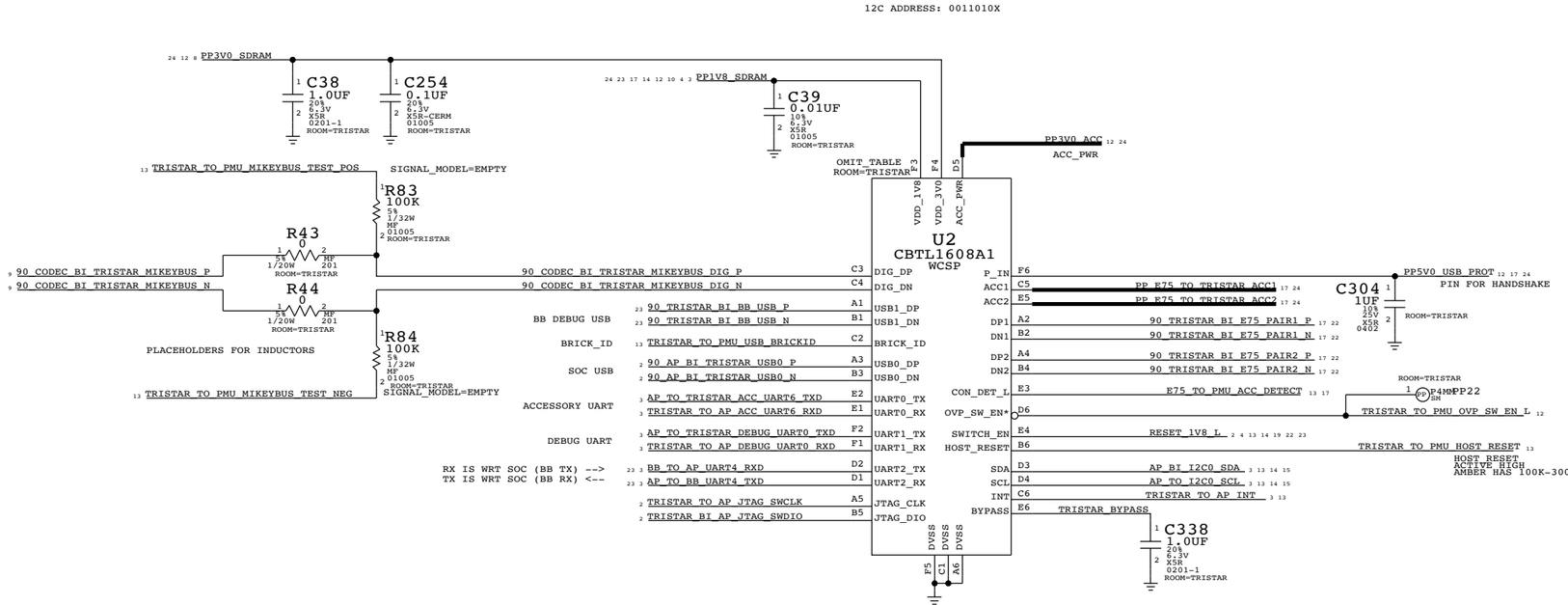


STROBE DRIVER (OPEL)

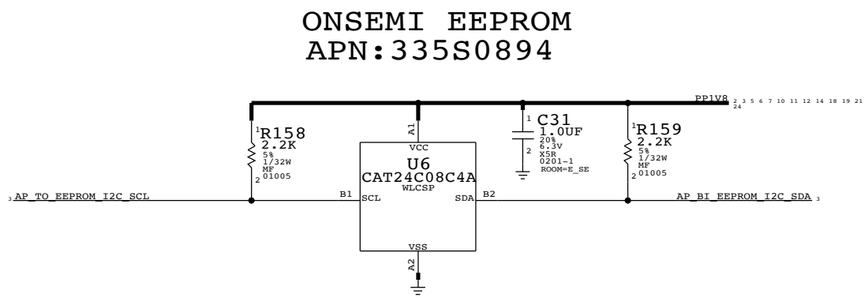
TI: APN 353S3899
FAIRCHILD: APN 353S3839



TRISTAR



EEPROM



DOCKFLEX B2B (USB VBUS, MENU BTN, SPEAKER, HP, HP EXTMIC, NAVAJO, ANTENNA LAT SW CTRL, MIC1 (PRIMARY MIC), ACC DET/ID/PWR, E75 DIFFPAIRS)

NAVAJO:
VDD(1.8V)
VBOOST(18V)
BOOST_EN

HPHONE:
HS3/HS4,
HPDET,
HS3/HS4 REF,
(+EXTMIC)
HS3/HS4 CTRL

MENU BUTTON

MIC1
(PRIMARY MIC)

ANTENNA:
PAC 2.65V

SPEAKER:
SPEAKER LEADS
VSENSE,

USB VBUS

NAVAJO:
VDD (3.0V)
SPI

HPHONE AUDIO

BATTERY NTC

ANTENNA:
LAT SW CTRL

E75 DIFFPAIRS

ACCESSORY:
DETECT,
ID, PWR

TO DO: C110 16V FOR NOW.
NEED 25V RATING

PCB: PLACE AT J7.GND PIN (PCB CAN CHOOSE)

THIS ONE ON MLB ---> 516S1032 PLUG
516S1031 RCPT (USED ON FLEX)

NOTE: NOSTUFF FL19 FOR PROTO1A/2
NEED DAISY CHAIN GPIO INSTEAD

NOTE: PP5V0_USB_CONN

PCB: PLACE ON TOP OF L20, L22 FOOTPRINT
0OHM PLACEHOLDERS FOR E75 PAIRS
TO REDUCE OVERALL DCR ON USB

Q2 APN: 376S1130
29MOHM MAX AT -4.5V VGS

NOTE: KEEP R58 AT 0201 FOR POWER DISSIPATION IN CASE OF -20V RVP EVENT

D403 (B2B,DRIVER ICS)

CUMULUS C1

343S0638

(TURN ON LATER THAN PP1V8_GRAPE)
(TURN OFF SAME TIME AS PP1V8_GRAPE)

24 14 PP5V1_GRAPE_VDDH

C369 10UF 20% 10V X5R-CERM 0402-1 ROOM=CUMULUS

24 PP_CUMULUS_VDDCORE

24 PP_CUMULUS_VDDANA

C370 4.7UF 20% 6.3V X5R-CERM1 402 ROOM=CUMULUS

C371 4.7UF 20% 6.3V X5R-CERM1 402 ROOM=CUMULUS

24 18 PP1V8_CUMULUS_VDDLDO

XW36 SM ROOM=CUMULUS

PP1V8_GRAPE 12 18 24

C372 1.0UF 20% 6.3V X5R 0201-1 ROOM=CUMULUS

45_PROX_TO_CUMULUS_RX 11

C79 1000PF 10% 6.3V X5R-CERM 01005 ROOM=CUMULUS

45_PROX_TO_CUMULUS_RX_FILT

R26 22.1K 1% 1/32W MF 01005 ROOM=CUMULUS

C130 27PF 5% 16V NP0-C0G 01005 ROOM=CUMULUS

CUMULUS_IN IS SENSITIVE

18 SAGE_TO_CUMULUS_IN<2>	B9	IN0_0	
18 SAGE_TO_CUMULUS_IN<1>	B8	IN1_0	
18 SAGE_TO_CUMULUS_IN<6>	A9	IN2_0	
18 SAGE_TO_CUMULUS_IN<7>	B7	IN3_0	
18 SAGE_TO_CUMULUS_IN<4>	B6	IN4_0	
18 SAGE_TO_CUMULUS_IN<8>	A8	IN5_0	
18 SAGE_TO_CUMULUS_IN<3>	B5	IN6_0	
18 SAGE_TO_CUMULUS_IN<5>	B4	IN7_0	
18 SAGE_TO_CUMULUS_IN<9>	A7	IN8_0	
18 SAGE_TO_CUMULUS_IN<0>	B3	IN9_0	
18 SAGE_TO_CUMULUS_IN<14>	A6	IN10_0	
18 SAGE_TO_CUMULUS_IN<10>	A3	IN11_0	
18 SAGE_TO_CUMULUS_IN<13>	A5	IN12_0	
18 SAGE_TO_CUMULUS_IN<11>	A4	IN13_0	
18 SAGE_TO_CUMULUS_IN<12>	B2	IN14_0	
45_PROX_TO_CUMULUS_RX_IN	A2	IN14_1	

U12 CUMULUS-C1 WLBGA
CUMULUS C1 SILICON RDAR://12551355

VDDANA B1, VDDCORE C1, VDDH C8, VDDIO C5 F4 A1, VDDLDO

VSTM_0	E9	CUMULUS_TO_SAGE_VSTM_OUT<2>	18
VSTM_1	E5	CUMULUS_TO_SAGE_VSTM_OUT<5>	18
VSTM_2	F7	CUMULUS_TO_SAGE_VSTM_OUT<16>	18
VSTM_3	E6	CUMULUS_TO_SAGE_VSTM_OUT<18>	18
VSTM_4	E7	CUMULUS_TO_SAGE_VSTM_OUT<17>	18
VSTM_5	F8	CUMULUS_TO_SAGE_VSTM_OUT<11>	18
VSTM_6	G9	CUMULUS_TO_SAGE_VSTM_OUT<13>	18
VSTM_7	D6	CUMULUS_TO_SAGE_VSTM_OUT<7>	18
VSTM_8	D7	CUMULUS_TO_SAGE_VSTM_OUT<3>	18
VSTM_9	D8	CUMULUS_TO_SAGE_VSTM_OUT<9>	
VSTM_10	F9	CUMULUS_TO_SAGE_VSTM_OUT<10>	
VSTM_11	D5	CUMULUS_TO_SAGE_VSTM_OUT<1>	18
VSTM_12	F6	CUMULUS_TO_SAGE_VSTM_OUT<4>	18
VSTM_13	F5	CUMULUS_TO_SAGE_VSTM_OUT<8>	18
VSTM_14	G4	CUMULUS_TO_SAGE_VSTM_OUT<12>	18
VSTM_15	E8	CUMULUS_TO_SAGE_VSTM_OUT<0>	18
VSTM_16	G8	CUMULUS_TO_SAGE_VSTM_OUT<15>	18
VSTM_17	G7	CUMULUS_TO_SAGE_VSTM_OUT<19>	18
VSTM_18	G6	CUMULUS_TO_SAGE_VSTM_OUT<14>	18
VSTM_19	G5	CUMULUS_TO_SAGE_VSTM_OUT<6>	18

GPIO_1/CK	G1	NOTE: LCM_TO_AP_HIFA_BSYNC_BUFF	
GPIO_2/SD	D4	CUMULUS_TO_SAGE_BOOST_EN	18
GPIO_3	F2	U12_GPIO_3	1 PP PP9 ROOM=CUMULUS
GPIO_4	F3	CUMULUS_TO_SAGE_GCM_SEL	18
TM_ACS*	C2	CUMULUS_TO_PROX_RX_EN_1V8	11
TM_OVR	G3		

R86 220K 5% 1/32W MF 01005 ROOM=CUMULUS

R79 100K 5% 1/32W MF 01005 SM P4MM-NSM

PP1V8_GRAPE 12 18 24

GND: C7, C9, C2

3 AP_TO_TOUCH_SPI1_CS_L	E4	H_CS*	
3 TOUCH_TO_AP_INT_L	F1	H_INT*	
3 AP_TO_TOUCH_SPI1_CLK	D3	H_SCLK	
3 AP_TO_TOUCH_SPI1_MOSI	D2	H_SDI	
	E1	H_SDO	
3 TOUCH_TO_AP_SPI1_MISO	R136 10.2 1% 1/32W MF 01005 ROOM=CUMULUS	TOUCH_TO_AP_SPI1_MISO_R	
	C4	JTAG_TCK	
	C3	JTAG_TDI	
	E2	JTAG_TDO	
24 18 PP1V8_CUMULUS_VDDLDO	C6	JTAG_TMS	
18 CUMULUS_TO_PROX_TX_EN_1V8_L	E3	BCFG_RTCK	
3 45_AP_TO_TOUCH_CLK32K_RESET_L	R51 0.00 5% 1/32W MF 01005 ROOM=CUMULUS	45_AP_TO_TOUCH_CLK32K_RESET_L_XW	D1 CLKIN/RESET*
3 AP_TO_TOUCH_GRAPE_RESET_L			D9 RSTOVR*

(ALSO A RESET IF CLOCK STOPS) WIRED UP BY DEFAULT

TO BE USED AS TP RDAR://12608163

PP7 P4MM SM PP ROOM=CUMULUS

PP8 P4MM SM PP ROOM=CUMULUS

TOUCH B2B

J4 504459-4210 M-ST-SM ROOM=TOUCH_B2B

ON MLB ---> 516S1061 PLUG
516S1060 RCPT (ON FLEX)

C5	18 TOUCH_TO_SAGE_SENSE_IN<5>	1	2	TOUCH_TO_SAGE_SENSE_IN<6> 18	C6
C4	18 TOUCH_TO_SAGE_SENSE_IN<4>	3	4	TOUCH_TO_SAGE_SENSE_IN<13> 18	GS3
C0	18 TOUCH_TO_SAGE_SENSE_IN<0>	5	6	TOUCH_TO_SAGE_SENSE_IN<7> 18	C7
C3	18 TOUCH_TO_SAGE_SENSE_IN<3>	7	8	SAGE_TO_TOUCH_VCPH_REF_CONN 18	VGH_REF
GS1	18 TOUCH_TO_SAGE_SENSE_IN<11>	9	10	SAGE_TO_TOUCH_VCPL_REF_CONN 18	VGL_REF
C2	18 TOUCH_TO_SAGE_SENSE_IN<2>	11	12	TOUCH_TO_SAGE_VCM_IN_CONN 18	VCOM
C1	18 TOUCH_TO_SAGE_SENSE_IN<1>	13	14	TOUCH_TO_SAGE_SENSE_IN<12> 18	GS2
GS0	18 TOUCH_TO_SAGE_SENSE_IN<10>	15	16	TOUCH_TO_SAGE_SENSE_IN<9> 18	C9
VGL	24 18 PP_SAGE_TO_TOUCH_VCPL_CONN	17	18	TOUCH_TO_SAGE_SENSE_IN<8> 18	C8
VGH	24 18 PP_SAGE_TO_TOUCH_VCPH_CONN	19	20	TOUCH_TO_SAGE_SENSE_IN<14> 18	GS4
R10	18 SAGE_TO_TOUCH_VSTM_OUT<10>	21	22		
R7	18 SAGE_TO_TOUCH_VSTM_OUT<7>	23	24	SAGE_TO_TOUCH_VSTM_OUT<17> 18	R17
R1	18 SAGE_TO_TOUCH_VSTM_OUT<1>	25	26	SAGE_TO_TOUCH_VSTM_OUT<16> 18	R16
R5	18 SAGE_TO_TOUCH_VSTM_OUT<5>	27	28	SAGE_TO_TOUCH_VSTM_OUT<15> 18	R15
R6	18 SAGE_TO_TOUCH_VSTM_OUT<6>	29	30	SAGE_TO_TOUCH_VSTM_OUT<14> 18	R14
R8	18 SAGE_TO_TOUCH_VSTM_OUT<8>	31	32	SAGE_TO_TOUCH_VSTM_OUT<13> 18	R13
R9	18 SAGE_TO_TOUCH_VSTM_OUT<9>	33	34	SAGE_TO_TOUCH_VSTM_OUT<12> 18	R12
R4	18 SAGE_TO_TOUCH_VSTM_OUT<4>	35	36	SAGE_TO_TOUCH_VSTM_OUT<11> 18	R11
R3	18 SAGE_TO_TOUCH_VSTM_OUT<3>	37	38	SAGE_TO_TOUCH_VSTM_OUT<0> 18	R0_RIGHT
R2	18 SAGE_TO_TOUCH_VSTM_OUT<2>	39	40	SAGE_TO_TOUCH_VSTM_OUT<18> 18	R18
R0_LEFT	18 SAGE_TO_TOUCH_VSTM_OUT<0>	41	42	SAGE_TO_TOUCH_VSTM_OUT<19> 18	R19

43 44

ROOM=TOUCH_B2B

R47 0.00 5% 1/32W MF 01005: 18 SAGE_TO_TOUCH_VCPH_REF_CONN — SAGE_TO_TOUCH_VCPH_REF 18

R48 0.00 5% 1/32W MF 01005: 18 SAGE_TO_TOUCH_VCPL_REF_CONN — SAGE_TO_TOUCH_VCPL_REF 18

R49 0.00 5% 1/32W MF 01005: 18 TOUCH_TO_SAGE_VCM_IN_CONN — TOUCH_TO_SAGE_VCM_IN 18

R61 0.00 5% 1/32W MF 01005: 18 24 PP_SAGE_TO_TOUCH_VCPL_CONN — PP_SAGE_TO_TOUCH_VCPL 18 19 24

R62 0.00 5% 1/32W MF 01005: 24 18 PP_SAGE_TO_TOUCH_VCPH_CONN — PP_SAGE_TO_TOUCH_VCPH 18 24

SAGE2 B06

343S0628

24 19 18 PP_SAGE_TO_TOUCH_VCPL

C381 0.1UF 10% 16V X5R-CERM 0201 ROOM=SAGE

C306 0.1UF 10% 16V X5R-CERM 0201 ROOM=SAGE

C315 1UF 10% 16V X6S-CERM 0402 ROOM=SAGE

C324 1UF 10% 16V X6S-CERM 0402 ROOM=SAGE

C331 1UF 10% 16V X6S-CERM 0402 ROOM=SAGE

~12V

24 18 PP_SAGE_TO_TOUCH_VCPH 13.5V

C170 0.1UF 10% 16V X5R-CERM 0201 ROOM=SAGE

C365 0.1UF 10% 16V X5R-CERM 0201 ROOM=SAGE

PP_SAGE_VCPL_F 18 24 3.5V

C163 0.1UF 10% 6.3V X5R 201 ROOM=SAGE

PP1V8 2 3 5 6 7 10 11 12 14 16 19 21 24

C165 0.1UF 20% 4.3V X5R-CERM 01005 ROOM=SAGE

19 14 PN5V7_SAGE_AVDDN

C149 10UF 20% 10V X5R-CERM 0402-1 ROOM=SAGE

DZ4 GDZT2R6.2B GDZ-0201 ROOM=SAGE
TO CLAMP THE NEGATIVE RAIL

24 18 14 PP5V7_SAGE_AVDDH 5.45-5.98V

C156 10UF 20% 10V X5R-CERM 0402-1 ROOM=SAGE OMIT_TABLE

SAGE_PANEL_IN IS SENSITIVE
KEEP THESE NETS FROM XTALK

18 TOUCH_TO_SAGE_SENSE_IN<4>	E4	SNS_IN0	
18 TOUCH_TO_SAGE_SENSE_IN<3>	D4	SNS_IN1	
18 TOUCH_TO_SAGE_SENSE_IN<5>	C4	SNS_IN2	
18 TOUCH_TO_SAGE_SENSE_IN<0>	B4	SNS_IN3	
18 TOUCH_TO_SAGE_SENSE_IN<12>	A4	SNS_IN4	
18 TOUCH_TO_SAGE_SENSE_IN<7>	A6	SNS_IN5	
18 TOUCH_TO_SAGE_SENSE_IN<10>	B6	SNS_IN6	
18 TOUCH_TO_SAGE_SENSE_IN<1>	C6	SNS_IN7	
18 TOUCH_TO_SAGE_SENSE_IN<11>	D6	SNS_IN8	
18 TOUCH_TO_SAGE_SENSE_IN<2>	E6	SNS_IN9	
18 TOUCH_TO_SAGE_SENSE_IN<13>	E8	SNS_IN10	
18 TOUCH_TO_SAGE_SENSE_IN<14>	D8	SNS_IN11	
18 TOUCH_TO_SAGE_SENSE_IN<8>	C8	SNS_IN12	
18 TOUCH_TO_SAGE_SENSE_IN<9>	B8	SNS_IN13	
18 TOUCH_TO_SAGE_SENSE_IN<6>	A8	SNS_IN14	

18 CUMULUS_TO_SAGE_VSTM_OUT<8>	G1	DRV_IN0	
18 CUMULUS_TO_SAGE_VSTM_OUT<6>	H1	DRV_IN1	
18 CUMULUS_TO_SAGE_VSTM_OUT<12>	J1	DRV_IN2	
18 CUMULUS_TO_SAGE_VSTM_OUT<1>	K1	DRV_IN3	
18 CUMULUS_TO_SAGE_VSTM_OUT<7>	L1	DRV_IN4	
18 CUMULUS_TO_SAGE_VSTM_OUT<15>	G2	DRV_IN5	
18 CUMULUS_TO_SAGE_VSTM_OUT<14>	H2	DRV_IN6	
18 CUMULUS_TO_SAGE_VSTM_OUT<18>	J2	DRV_IN7	
18 CUMULUS_TO_SAGE_VSTM_OUT<5>	K2	DRV_IN8	
	L2	DRV_IN9	
	L3	DRV_IN10	
18 CUMULUS_TO_SAGE_VSTM_OUT<4>	K3	DRV_IN11	
18 CUMULUS_TO_SAGE_VSTM_OUT<19>	J3	DRV_IN12	
18 CUMULUS_TO_SAGE_VSTM_OUT<13>	H3	DRV_IN13	
18 CUMULUS_TO_SAGE_VSTM_OUT<16>	G3	DRV_IN14	
18 CUMULUS_TO_SAGE_VSTM_OUT<3>	L4	DRV_IN15	
18 CUMULUS_TO_SAGE_VSTM_OUT<2>	K4	DRV_IN16	
18 CUMULUS_TO_SAGE_VSTM_OUT<0>	J4	DRV_IN17	
18 CUMULUS_TO_SAGE_VSTM_OUT<11>	H4	DRV_IN18	
18 CUMULUS_TO_SAGE_VSTM_OUT<17>	G4	DRV_IN19	
SAGE_VBIAS	D3	VBIAS	
	A2	VCPH_REF/EN	
	F2	VCPL_REF/EN	
24 PP_SAGE_VBST_OUTH	B1	VBST_OUTH	
24 PP_SAGE_VBST_OUTL	E1	VBST_OUTL	
24 PP_SAGE_LX	C1	L_X	
24 PP_SAGE_LV	D1	L_Y	

U15 SAGE2-B06 CSP

SNS_OUT0	E5	SAGE_TO_CUMULUS_IN<4>	18
SNS_OUT1	D5	SAGE_TO_CUMULUS_IN<3>	18
SNS_OUT2	C5	SAGE_TO_CUMULUS_IN<5>	18
SNS_OUT3	B5	SAGE_TO_CUMULUS_IN<0>	18
SNS_OUT4	A5	SAGE_TO_CUMULUS_IN<12>	18
SNS_OUT5	A7	SAGE_TO_CUMULUS_IN<7>	18
SNS_OUT6	B7	SAGE_TO_CUMULUS_IN<10>	18
SNS_OUT7	C7	SAGE_TO_CUMULUS_IN<1>	18
SNS_OUT8	D7	SAGE_TO_CUMULUS_IN<11>	18
SNS_OUT9	E7	SAGE_TO_CUMULUS_IN<2>	18
SNS_OUT10	E9	SAGE_TO_CUMULUS_IN<13>	18
SNS_OUT11	D9	SAGE_TO_CUMULUS_IN<14>	18
SNS_OUT12	C9	SAGE_TO_CUMULUS_IN<8>	18
SNS_OUT13	B9	SAGE_TO_CUMULUS_IN<9>	18
SNS_OUT14	A9	SAGE_TO_CUMULUS_IN<6>	18

CUMULUS_IN IS SENSITIVE
KEEP THESE NETS FROM XTALK

DRV_OUT0	G6	SAGE_TO_TOUCH_VSTM_OUT<8>	18
DRV_OUT1	H6	SAGE_TO_TOUCH_VSTM_OUT<6>	18
DRV_OUT2	J6	SAGE_TO_TOUCH_VSTM_OUT<12>	18
DRV_OUT3	K6	SAGE_TO_TOUCH_VSTM_OUT<1>	18
DRV_OUT4	L6	SAGE_TO_TOUCH_VSTM_OUT<7>	18
DRV_OUT5	G7	SAGE_TO_TOUCH_VSTM_OUT<15>	18
DRV_OUT6	H7	SAGE_TO_TOUCH_VSTM_OUT<14>	18
DRV_OUT7	J7	SAGE_TO_TOUCH_VSTM_OUT<18>	18
DRV_OUT8	K7	SAGE_TO_TOUCH_VSTM_OUT<5>	18
DRV_OUT9	L7	SAGE_TO_TOUCH_VSTM_OUT<9>	18
DRV_OUT10	L8	SAGE_TO_TOUCH_VSTM_OUT<10>	18
DRV_OUT11	K8	SAGE_TO_TOUCH_VSTM_OUT<4>	18
DRV_OUT12	J8	SAGE_TO_TOUCH_VSTM_OUT<19>	18
DRV_OUT13	H8	SAGE_TO_TOUCH_VSTM_OUT<13>	18
DRV_OUT14	G8	SAGE_TO_TOUCH_VSTM_OUT<16>	18
DRV_OUT15	L9	SAGE_TO_TOUCH_VSTM_OUT<3>	18
DRV_OUT16	K9	SAGE_TO_TOUCH_VSTM_OUT<2>	18
DRV_OUT17	J9	SAGE_TO_TOUCH_VSTM_OUT<0>	18
DRV_OUT18	H9	SAGE_TO_TOUCH_VSTM_OUT<11>	18
DRV_OUT19	G9	SAGE_TO_TOUCH_VSTM_OUT<17>	18
BSYNC	K5	LCM_TO_AP_HIFA_BSYNC	3 18 19
GCM_TEST	F9	CUMULUS_TO_SAGE_GCM_SEL	18
GO	F7		
VCM_IN	J5	TOUCH_TO_SAGE_VCM_IN	18
I2C_SCL	F5		
I2C_SDA	G5		
BOOST_EN	B2	CUMULUS_TO_SAGE_BOOST_EN	18

PP11 F4MM SM PP ROOM=SAGE

PP18 SM P4MM-NSM PP ROOM=SAGE

SAGE_VBIAS_DRAIN

Q6 RV1C002UN SM ROOM=SAGE

SAGE_DUMP_GATE 2

R121 1.00M 5% 1/32W MF 01005 ROOM=SAGE

C366 0.1UF 10% 16V X5R-CERM 0201 ROOM=SAGE

THESE ARE ROUTED TOGETHER
SPECIAL - CANNOT SWAP
SPECIAL - CANNOT SWAP

XW37 SM

24 19 PP_SAGE_VCPL_F

D2 SM-201 DSF01S30SC NOSTUFF

18 SAGE_TO_TOUCH_VCPH_REF
18 SAGE_TO_TOUCH_VCPL_REF

C150 0.01UF 10% 6.3V X5R 01005 ROOM=SAGE

C147 0.01UF 10% 6.3V X5R 01005 ROOM=SAGE

C137 0.1UF 10% 6.3V X5R 201 ROOM=SAGE

C321 0.33UF 20% 20V TANT 0402 ROOM=SAGE

C328 1000PF 10% 25V X7R-CERM 0201 ROOM=SAGE

C349 1000PF 10% 25V X7R-CERM 0201 ROOM=SAGE

24 18 14 PP5V7_SAGE_AVDDH

L21 10UH-0.32A-1.56OHM PSB121017-SM ROOM=SAGE

C320 1UF 0603-LLP TANT 25V 20% ROOM=SAGE

C346 1000PF 10% 25V X7R-CERM 0201 ROOM=SAGE

C364 1000PF 10% 25V X7R-CERM 0201 ROOM=SAGE

PP1V8_GRAPE 12 18 24

U5 74AUP2G3404GN SOT1115 VCC GND

R2 100K 5% 1/32W MF 01005

14 LCM_TO_AP_HIFA_BSYNC_BUFF — LCM_TO_AP_HIFA_BSYNC 3 18 19

11 CUMULUS_TO_PROX_TX_EN_BUFF — CUMULUS_TO_PROX_TX_EN_1V8_L 18

R36 100K 5% 1/32W MF 01005

LCM B2B

LCM:
2-LANE MIPI

TO DO: R89 CANDIDATE FOR REMOVAL
DRI: LCD/TOUCH TEAM. KEEP AS OF 5/30/12

R89 0.00 5% 1/32W MF 01005 ROOM=LCM_B2B
24 18 PP_SAGE_TO_TOUCH_VCPL — SAGE_TO_TOUCH_VCPL_LCM_CONN

L41 90-OHM-50MA TCM0605-1 STW_YEB-2 ROOM=LCM_B2B
7 90_AP_BI_LCM_MIPI_DATA0_P — 90_AP_BI_LCM_MIPI_DATA0_CONN_P
7 90_AP_BI_LCM_MIPI_DATA0_N — 90_AP_BI_LCM_MIPI_DATA0_CONN_N

L44 90-OHM-50MA TCM0605-1 STW_YEB-2 ROOM=LCM_B2B
7 90_AP_TO_LCM_MIPI_DATA1_P — 90_AP_TO_LCM_MIPI_DATA1_CONN_P
7 90_AP_TO_LCM_MIPI_DATA1_N — 90_AP_TO_LCM_MIPI_DATA1_CONN_N

L42 90-OHM-50MA TCM0605-1 STW_YEB-2 ROOM=LCM_B2B
7 90_AP_TO_LCM_MIPI_CLK_P — 90_AP_TO_LCM_MIPI_CLK_CONN_P
7 90_AP_TO_LCM_MIPI_CLK_N — 90_AP_TO_LCM_MIPI_CLK_CONN_N

THIS ONE ON MLB ---> 516S1051 PLUG
516S1050 RCPT (FLEX)

ROOM=LCM_B2B
J5
BM15AP-0.8-22DP-0.35V
M-ST-SM

24		
23		
2	1	PN5V7_LCM_AVDDN
4	3	24 PP5V7_LCM_AVDDH_CONN
6	5	24 PP1V8_LCM_CONN
8	7	LCM_TO_CHESTNUT_PWR_EN_CONN
10	9	AP_TO_LCM_RESET_CONN_L
12	11	LCM_TO_AP_HIFA_BSYNC_CONN
14	13	LCM_TO_AP_PANIC_L
16	15	LCM_TO_AP_PIFA_CONN
18	17	24 PP_LCM_BL_ANODE_CONN
20	19	24 PP_LCM_BL_CAT1_CONN
22	21	24 PP_LCM_BL_CAT2_CONN
25		
26		

LCM:
POWER
(1.8V DVDD)
(+5.7V AVDD)
(-5.7V AVDD)

ROOM=LCM_B2B
FL61 70-OHM-300MA 01005-1
PN5V7_SAGE_AVDDN 14 18

C444 56PF 5% 16V NP0-C0G 01005 ROOM=LCM_B2B

0.450MOHM DCR
FL37 80-OHM-0.2A-0.4-OHM 0201-1 ROOM=LCM_B2B 0.400MOHM DCR
PP5V7_LCM_AVDDH 14 24

C94 56PF 5% 16V NP0-C0G 01005 ROOM=LCM_B2B

C350 4.7UF 20% 6.3V X5R 402 ROOM=LCM_B2B
C351 4.7UF 20% 6.3V X5R 402 ROOM=LCM_B2B

SPECIAL Z = 0.60 MM
FL27 80-OHM-0.2A-0.4-OHM 0201-1 ROOM=LCM_B2B 0.400MOHM DCR
PP1V8 2 3 5 6 7 10 11 12 14 16 18 19 21 24

C440 56PF 5% 6.3V NP0-C0G 01005 ROOM=LCM_B2B
C439 0.1UF 10% 6.3V X5R 201 ROOM=LCM_B2B

FL35 120-OHM-210MA 01005 ROOM=LCM_B2B
LCM_TO_CHESTNUT_PWR_EN 13 14

C93 56PF 5% 6.3V NP0-C0G 01005 ROOM=LCM_B2B

TO DO: REMOVE R91 AFTER PROTO2.
CHESTNUT HAS 200K INT PD ON THIS PIN.
NOSTUFF FOR PROTO2
R91 100K 5% 1/32W MF 01005 ROOM=LCM_B2B NOSTUFF

ADD RDAR://12334944
R24 100K 5% 1/32W MF 01005 ROOM=LCM_B2B NOSTUFF
PP1V8

FL36 120-OHM-210MA 01005
AP_TO_LCM_RESET_L 3

R152 100K 1% 1/32W MF 01005 ROOM=LCM_B2B
C90 56PF 5% 6.3V NP0-C0G 01005 ROOM=LCM_B2B

R14 0.00 5% 1/32W MF 01005 ROOM=LCM_B2B NOSTUFF
PMU_TO_LCM_RESET_L
ADD RDAR://12334944

FL34 120-OHM-210MA 01005 ROOM=LCM_B2B
LCM_TO_AP_HIFA_BSYNC 3 18

C88 56PF 5% 6.3V NP0-C0G 01005 ROOM=LCM_B2B

PP1V8 2 3 5 6 7 10 11 12 14 16 18 19 21 24

R46 100K 5% 1/32W MF 01005

ROOM=LCM_B2B
FL62 150OHM-25%-200MA-0.7DCR 01005
NOSTUFF
RESET_1V8_L 2 4 13 14 16 22 23

C295 56PF 5% 6.3V NP0-C0G 01005 ROOM=LCM_B2B

R60 1.00K 5% 1/32W MF 01005 ROOM=LCM_B2B NOSTUFF
LCM_TO_AP_PIFA 3

C258 56PF 5% 6.3V NP0-C0G 01005 ROOM=LCM_B2B

ROOM=LCM_B2B
FL24 0201-1 240-OHM-0.2A-0.8-OHM
PP_LCM_BL_ANODE 14 24

LCM:
DIGITAL I/F
(PWR_EN, RESET
PIFA, BSYNC)

LCM:
BACKLIGHT

ROOM=LCM_B2B
C17 56PF 5% 16V NP0-C0G 01005
LCM_DESENSE_CONN

C243 56PF 5% 16V NP0-C0G 01005 ROOM=LCM_B2B

ROOM=LCM_B2B
FL25 0201-1 240-OHM-0.2A-0.8-OHM
PP_LCM_BL_CAT1 14 24

C18 56PF 5% 16V NP0-C0G 01005 ROOM=LCM_B2B

ROOM=LCM_B2B
FL26 0201-1 240-OHM-0.2A-0.8-OHM
PP_LCM_BL_CAT2 14 24

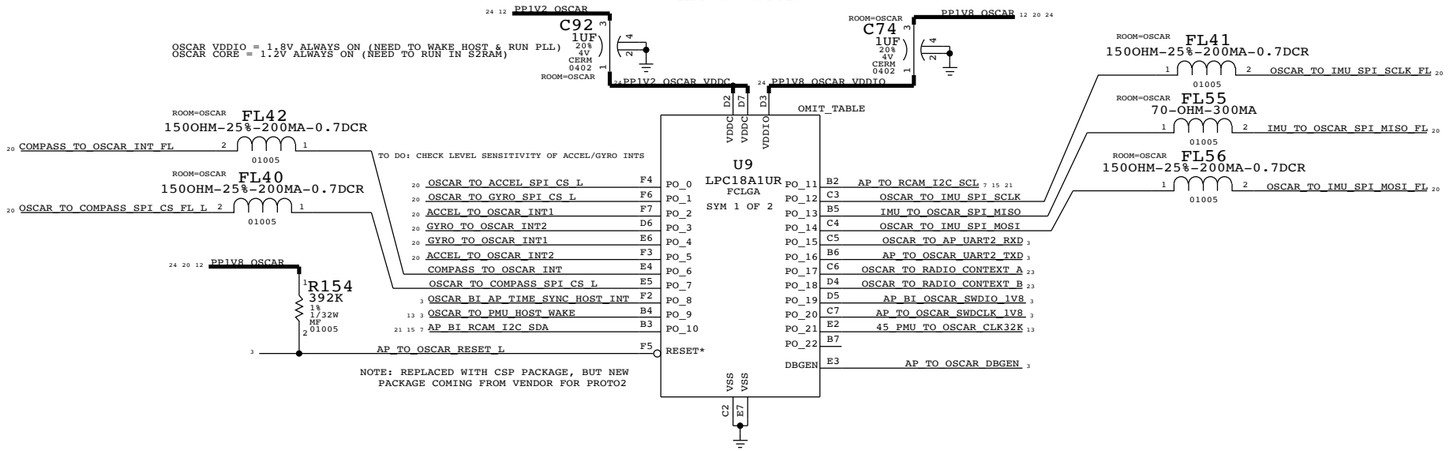
C19 56PF 5% 16V NP0-C0G 01005 ROOM=LCM_B2B

PCB: ALL 56PF CAPS GO AT CONN

OSCAR + SENSORS

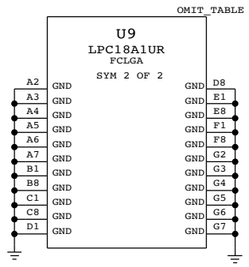
OSCAR MODULE (CONFORMAL COATED)

APN 337S4417



OSCAR MODULE GND BALLS

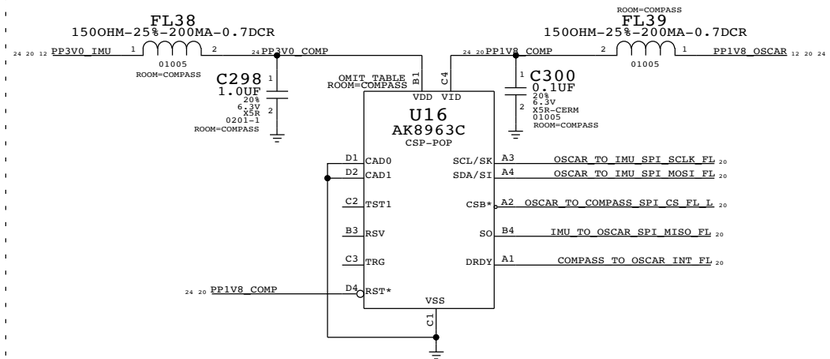
(THIS SYMBOL DOES NOT EXIST ON OSCAR CSP)



THIS PART OUTSIDE OF SHIELD

COMPASS

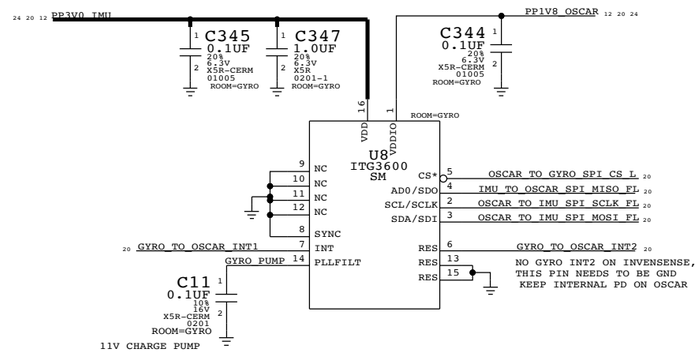
COMPASS CSP: 338S1014
COMPASS INTERPOSER (FOOTPRINT ONLY): 998-5120
COMPASS INTERPOSER MODULE: 639-4269



THESE PARTS INSIDE OF SHIELD

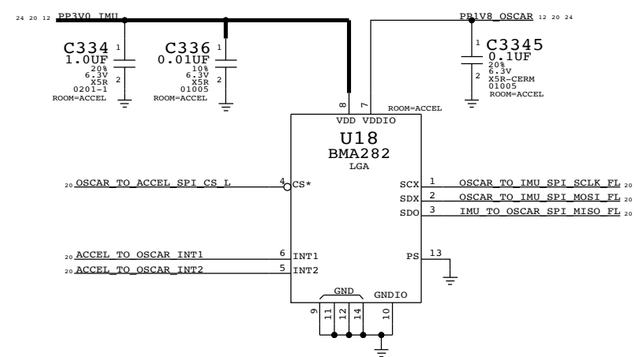
GYRO

X152: INVENSENSE ITG-3600, APN 338S1135



ACCELEROMETER

X152: BOSCH BMA282, APN 338S1163

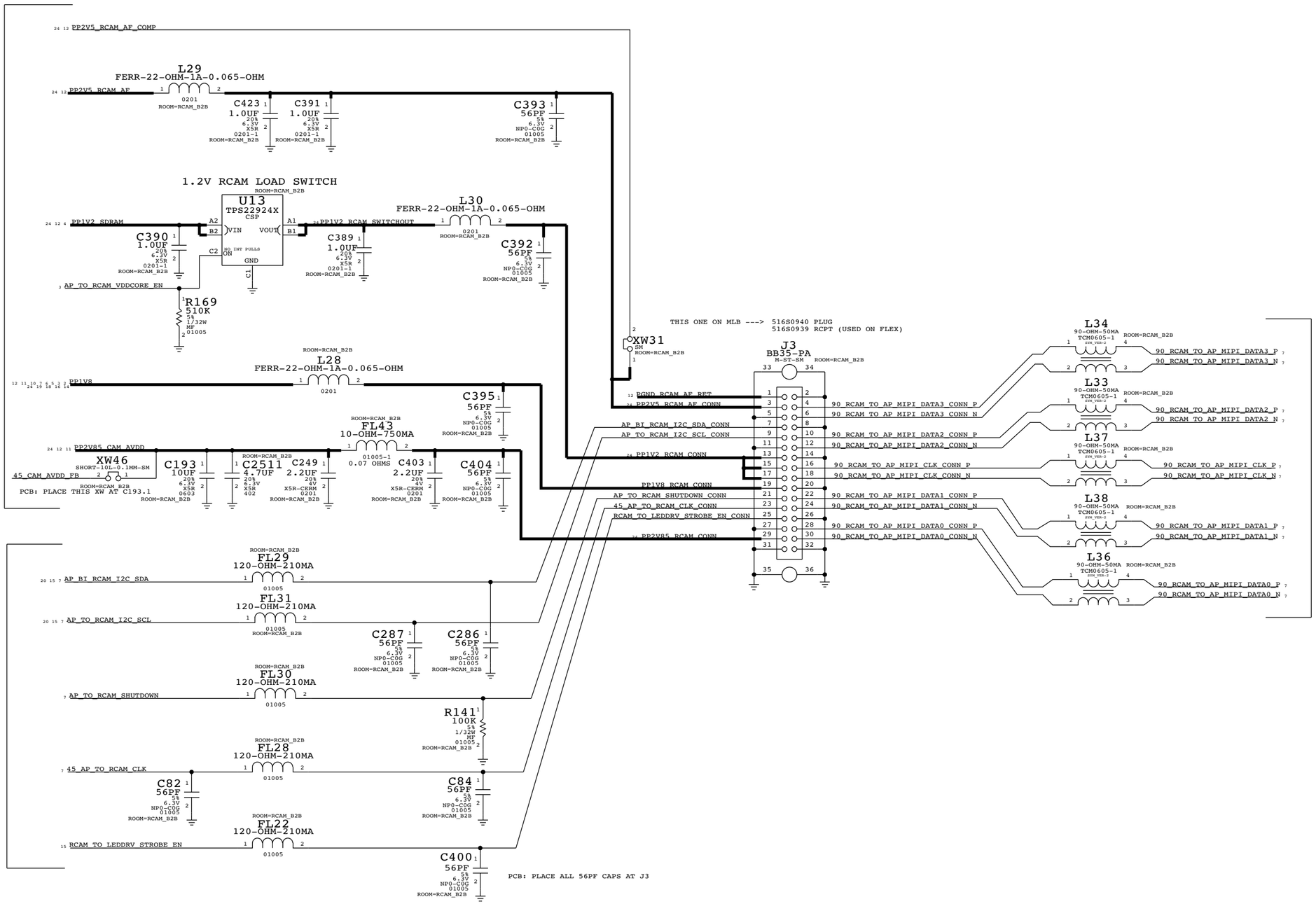


RCAM B2B (REAR CAMERA CONNECTOR)

RCAM:
POWER:
(1.8V DVDD)
(2.8V AVDD)
(1.2V VCC)
(2.5V AF)

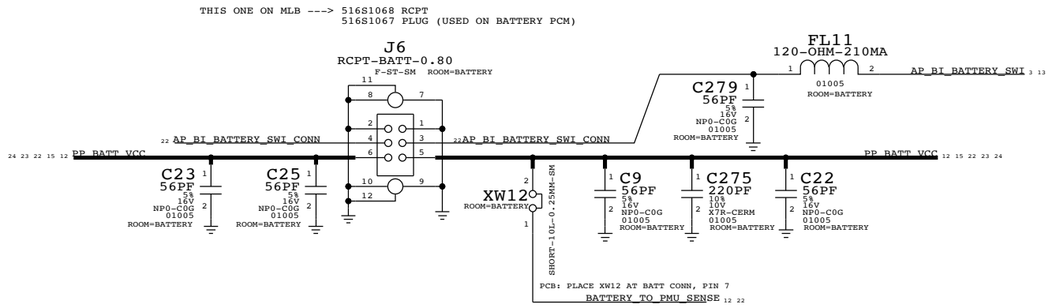
RCAM:
DIGITAL I/F
(I2C,CTRL,CLK)

RCAM:
4-LANE MIPI

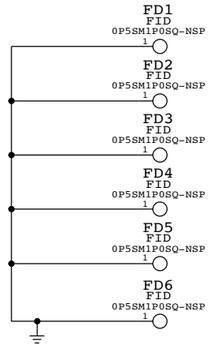


BATT CONN, TPS, STANDOFFS/SHIELDS/FIDUCIALS

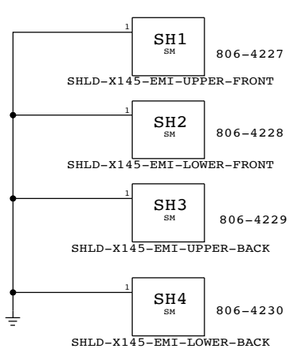
BATTERY CONN



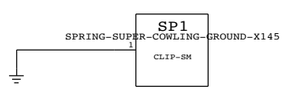
FIDUCIALS



SHIELDS



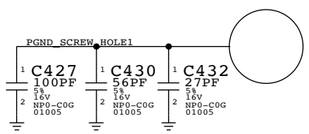
COWLING



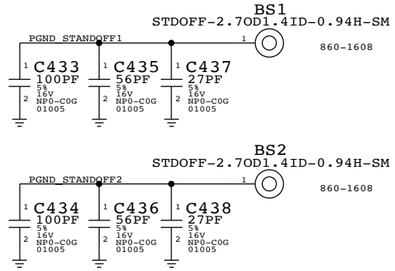
AC COUPLED SCREW HOLES + STANDOFFS

(ON NORTH END OF SINGLE_BRD, TO MITIGATE COMPASS RETURN CURRENTS)

SCREW HOLES



STANDOFFS



TESTPOINTS

POWER TP

PP5V0_USB_CONN	TP1	VBUS
	TP2	POWER GROUND (SUPERSIZE)
PP_BATT_VCC	TP12	VBAT (SUPERSIZE)
BATTERY_TO_PMU_SENSE	TP4	BATTERY SNS
BATTERY_TO_PMU_NTC	TP5	BATTERY NTC

SUPER TP

PMU_TO_TP_AMUX_AY	TP6	ANALOG MUX A OUTPUT
PMU_TO_TP_AMUX_BY	TP7	ANALOG MUX B OUTPUT

RESET

RESET_1V8_L	TP8000	H6P & BB RESET

DFU

FORCE_DFU	TP9	FORCE DFU

HEADPHONE MIC

CODEC_TO_HPHONE_HS3_REF	TP28	HEADPHONE MIC NEG
CODEC_TO_HPHONE_HS4_REF	TP29	HEADPHONE MIC POS

LCM BACKLIGHT

PP_LCM_BL_CAT1_CONN	TP18	LCD BACKLIGHT SINK1
PP_LCM_BL_CAT2_CONN	TP19	LCD BACKLIGHT SINK2
PP_LCM_BL_ANODE_CONN	TP20	LCD BACKLIGHT SOURCE

E75 - USB/UART/ID/POWER

90_TRISTAR_BI_E75_PAIR1_P	TP21	
90_TRISTAR_BI_E75_PAIR1_N	TP22	
90_TRISTAR_BI_E75_PAIR2_P	TP23	
90_TRISTAR_BI_E75_PAIR2_N	TP24	
PP_E75_TO_TRISTAR_ACC1_CONN	TP26	ACCESSORY ID AND POWER
PP_E75_TO_TRISTAR_ACC2_CONN	TP27	
	TP32	POWER GROUND
E75_TO_PMU_ACC_DETECT_CONN	TP10	FOR DIAGS

MIC AUDIO

MIC1_TO_CODEC_P	TP15	MIC1 POSITIVE
MIC2_TO_CODEC_P	TP16	MIC2 POSITIVE
MIC3_TO_CODEC_P	TP17	MIC3 POSITIVE

DRIVE MIC WRT NEAREST GROUND TEST POINT

SPKAMP_TO_SPEAKER_OUT_CONN_P	TP3	SPKR POSITIVE (ADDED PER RDAR://12460740)
SPKAMP_TO_SPEAKER_OUT_CONN_N	TP11	SPKR NEGATIVE

VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<0>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<1>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<2>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<3>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<4>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<5>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<6>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<7>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<8>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<9>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<10>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<11>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<12>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<13>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<14>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<15>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<16>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<17>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<18>	
VOLTAGE=4.55V	CUMULUS_TO_SAGE_VSTM_OUT<19>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<0>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<1>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<2>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<3>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<4>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<5>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<6>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<7>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<8>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<9>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<10>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<11>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<12>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<13>	
VOLTAGE=4.55V	TOUCH_TO_SAGE_SENSE_IN<14>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<0>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<1>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<2>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<3>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<4>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<5>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<6>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<7>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<8>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<9>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<10>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<11>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<12>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<13>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<14>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<15>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<16>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<17>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<18>	
VOLTAGE=4.55V	SAGE_TO_TOUCH_VSTM_OUT<19>	

VOLTAGE=3.8V	CODEC_TO_RCVR_P	
VOLTAGE=3.8V	CODEC_TO_RCVR_N	
VOLTAGE=3.8V	CODEC_TO_RCVR_CONN_P	
VOLTAGE=3.8V	CODEC_TO_RCVR_CONN_N	
VOLTAGE=3.8V	CODEC_TO_HAC_P	
VOLTAGE=3.8V	CODEC_TO_HAC_N	
VOLTAGE=3.8V	CODEC_TO_HAC_CONN_P	
VOLTAGE=3.8V	CODEC_TO_HAC_CONN_N	
VOLTAGE=3.114V	CODEC_TO_HPHONE_L	
VOLTAGE=3.114V	CODEC_TO_HPHONE_R	
VOLTAGE=3.114V	CODEC_TO_HPHONE_L_CONN	
VOLTAGE=3.114V	CODEC_TO_HPHONE_R_CONN	
VOLTAGE=2.7V	CODEC_TO_HPHONE_HS3	
VOLTAGE=2.7V	CODEC_TO_HPHONE_HS4	
VOLTAGE=2.7V	CODEC_TO_HPHONE_HS3_REF	
VOLTAGE=2.7V	CODEC_TO_HPHONE_HS4_REF	
VOLTAGE=2.7V	CODEC_TO_HPHONE_HS3_CONN	
VOLTAGE=2.7V	CODEC_TO_HPHONE_HS4_CONN	
VOLTAGE=2.7V	CODEC_TO_HPHONE_HS3_REF_CONN	
VOLTAGE=2.7V	CODEC_TO_HPHONE_HS4_REF_CONN	
VOLTAGE=4.3V	HPHONE_TO_CODEC_DET	
VOLTAGE=4.3V	HPHONE_TO_CODEC_DET_CONN	
VOLTAGE=2.5V	90_CODEC_BI_TRISTAR_MIKEYBUS_L67_P	
VOLTAGE=2.5V	90_CODEC_BI_TRISTAR_MIKEYBUS_L67_N	
VOLTAGE=2.5V	90_CODEC_BI_TRISTAR_MIKEYBUS_P	
VOLTAGE=2.5V	90_CODEC_BI_TRISTAR_MIKEYBUS_N	
VOLTAGE=2.5V	90_CODEC_BI_TRISTAR_MIKEYBUS_DIG_P	
VOLTAGE=2.5V	90_CODEC_BI_TRISTAR_MIKEYBUS_DIG_N	
VOLTAGE=2.5V	TRISTAR_TO_PMU_MIKEYBUS_TEST_POS	
VOLTAGE=2.5V	TRISTAR_TO_PMU_MIKEYBUS_TEST_NEG	
VOLTAGE=1.8V	MIC1_TO_CODEC_L67_P	
VOLTAGE=1.8V	MIC1_TO_CODEC_L67_N	
VOLTAGE=1.8V	MIC1_TO_CODEC_P	
VOLTAGE=1.8V	MIC1_TO_CODEC_N	
VOLTAGE=1.8V	MIC2_TO_CODEC_L67_P	
VOLTAGE=1.8V	MIC2_TO_CODEC_L67_N	
VOLTAGE=1.8V	MIC2_TO_CODEC_P	
VOLTAGE=1.8V	MIC2_TO_CODEC_N	
VOLTAGE=1.8V	MIC3_TO_CODEC_L67_P	
VOLTAGE=1.8V	MIC3_TO_CODEC_L67_N	
VOLTAGE=1.8V	MIC3_TO_CODEC_P	
VOLTAGE=1.8V	MIC3_TO_CODEC_N	
VOLTAGE=3.8V	RCVR_TO_CODEC_RCVR_TEST	
VOLTAGE=3.8V	RCVR_TO_CODEC_RCVR_TEST_L67	
VOLTAGE=3.114V	HPHONE_TO_CODEC_HPHONE_TEST	
VOLTAGE=3.114V	HPHONE_TO_CODEC_HPHONE_TEST_L67	
VOLTAGE=3.8V	HAC_TO_CODEC_TEST	
VOLTAGE=3.8V	HAC_TO_CODEC_TEST_L67	
VOLTAGE=2.85V	45_CAM_AVDD_FB	
VOLTAGE=4.6V	45_PMU_VPUMP	
VOLTAGE=4.3V	PMU_ACT_DIO	
VOLTAGE=3.6V	TRISTAR_TO_PMU_OVP_SW_EN_L	
VOLTAGE=3.2V	USB_VBUS_DETECT	
VOLTAGE=5.25V	TRISTAR_TO_PMU_USB_BRICKID	
VOLTAGE=5.25V	TRISTAR_TO_PMU_USB_BRICKID_R	

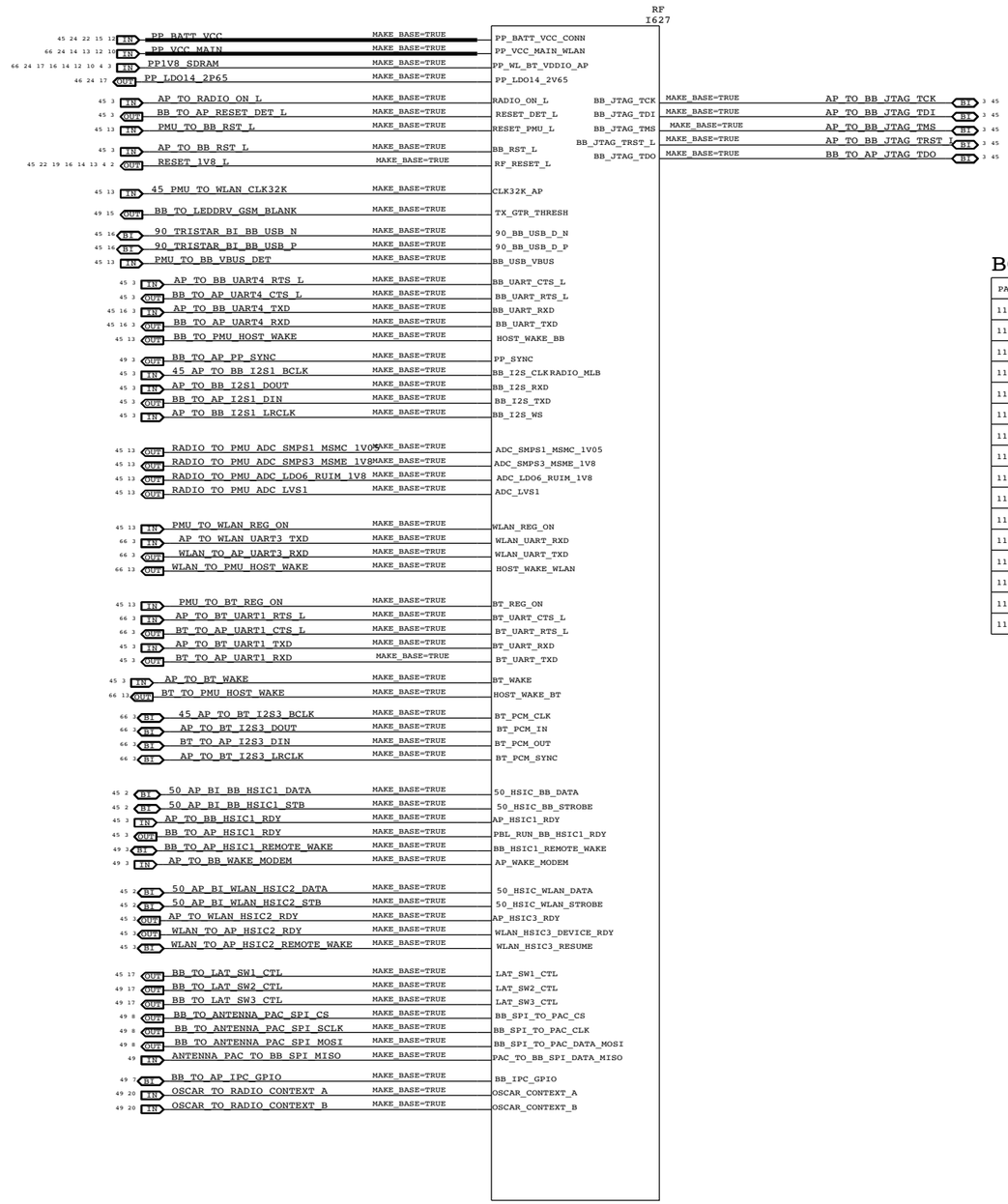
VOLTAGE=2.5V	BATTERY_TO_PMU_NTC	
VOLTAGE=2.5V	BATTERY_NTC_CONN	
VOLTAGE=4.2V	BATTERY_TO_PMU_SENSE	
VOLTAGE=18V	MESA_BOOST_FB	
VOLTAGE=8V	SPEAKER_TO_SPKAMP_VSENSE_P	
VOLTAGE=8V	SPEAKER_TO_SPKAMP_VSENSE_N	
VOLTAGE=8V	L19_SPKAMP_VSENSE_P	
VOLTAGE=8V	L19_SPKAMP_VSENSE_N	
VOLTAGE=8V	SPEAKER_TO_SPKAMP_ISENSE_P	
VOLTAGE=8V	SPEAKER_TO_SPKAMP_ISENSE_N	
VOLTAGE=8V	SPKR_SNS_P	
VOLTAGE=8V	SPKR_SNS_N	
VOLTAGE=8V	SPKR_FLTR_P	
VOLTAGE=8V	SPKAMP_TO_SPEAKER_OUT_CONN_P	
VOLTAGE=8V	SPKAMP_TO_SPEAKER_OUT_CONN_N	
VOLTAGE=8V	SPKAMP_TO_SPEAKER_OUT_P	
VOLTAGE=8V	SPKAMP_TO_SPEAKER_OUT_N	
VOLTAGE=5.25V	90_TRISTAR_BI_E75_PAIR1_P	
VOLTAGE=5.25V	90_TRISTAR_BI_E75_PAIR1_N	
VOLTAGE=5.25V	90_TRISTAR_BI_E75_PAIR2_P	
VOLTAGE=5.25V	90_TRISTAR_BI_E75_PAIR2_N	
VOLTAGE=5.25V	90_TRISTAR_BI_E75_PAIR1_CONN_P	
VOLTAGE=5.25V	90_TRISTAR_BI_E75_PAIR1_CONN_N	
VOLTAGE=5.25V	90_TRISTAR_BI_E75_PAIR2_CONN_P	
VOLTAGE=5.25V	90_TRISTAR_BI_E75_PAIR2_CONN_N	
VOLTAGE=3.0V	TRISTAR_BYPASS	
VOLTAGE=-5.7V	PN5V7_SAGE_AVDDN	
VOLTAGE=-5.7V	PN5V7_LCM_AVDDN	
VOLTAGE=-5.7V	SAGE_DUMP_GATE	
VOLTAGE=2.5V	SAGE_VBIAS	
VOLTAGE=2.5V	SAGE_VBIAS_DRAIN	
VOLTAGE=-12V	SAGE_TO_TOUCH_VCPL_LCM_CONN	
VOLTAGE=11V	GYRO_PUMP	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<0>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<1>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<2>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<3>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<4>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<5>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<6>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<7>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<8>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<9>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<10>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<11>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<12>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<13>	
VOLTAGE=XV	SAGE_TO_CUMULUS_IN<14>	
VOLTAGE=18.0V	PP16V5_MESA	
VOLTAGE=18.0V	PP16V5_MESA_DOCK_CONN	
VOLTAGE=18.0V	PP16V5_MESA_SW	
VOLTAGE=1.0V	PP1V0	
VOLTAGE=1.0V	PP1V0_SOC	
VOLTAGE=1.0V	PP1V0_SRAM	
VOLTAGE=1.1V	PP1V1_CPU	
VOLTAGE=1.1V	PP1V1_GPU	
VOLTAGE=1.2V	PP1V2	
VOLTAGE=1.2V	PP1V2_NAND_VDDI	
VOLTAGE=1.2V	PP1V2_OSCAR	
VOLTAGE=1.2V	PP1V2_OSCAR_VDDC	
VOLTAGE=1.2V	PP1V2_RCAM_CONN	
VOLTAGE=1.2V	PP1V2_RCAM_SWITCHOUT	
VOLTAGE=1.2V	PP1V2_SDRAM	

VOLTAGE=1.8V	PP1V8	
VOLTAGE=1.8V	PP1V8_ALWAYS	
VOLTAGE=1.8V	PP1V8_COMP	
VOLTAGE=1.8V	PP1V8_CUMULUS_VDDLDO	
VOLTAGE=1.8V	PP1V8_FCAM_CONN	
VOLTAGE=1.8V	PP1V8_GRAPE	
VOLTAGE=1.8V	PP1V8_LCM_CONN	
VOLTAGE=1.8V	PP1V8_OSCAR	
VOLTAGE=1.8V	PP1V8_OSCAR_VDDIO	
VOLTAGE=1.8V	PP1V8_PLL	
VOLTAGE=1.8V	PP1V8_RCAM_CONN	
VOLTAGE=1.8V	PP1V8_SDRAM	
VOLTAGE=1.8V	PP1V8_SDRAM_DOCK_CONN	
VOLTAGE=1.8V	PP1V8_VA_L19_L67	
VOLTAGE=1.8V	PP1V8_XTAL	
VOLTAGE=2.5V	PP2V5_RCAM_AF	
VOLTAGE=2.5V	PP2V5_RCAM_AF_COMP	
VOLTAGE=2.5V	PP2V5_RCAM_AF_CONN	
VOLTAGE=2.8V	PP2V85_CAM_AVDD	
VOLTAGE=2.8V	PP2V85_FCAM_CONN	
VOLTAGE=2.8V	PP2V85_RCAM_CONN	
VOLTAGE=3.0V	PP3V0_ACC	
VOLTAGE=3.0V	PP3V0_ALS	
VOLTAGE=3.0V	PP3V0_COMP	
VOLTAGE=3.0V	PP3V0_IMU	
VOLTAGE=3.0V	PP3V0_NAND	
VOLTAGE=3.0V	PP3V0_NAND_XW	
VOLTAGE=3.0V	PP3V0_NAVAJO	
VOLTAGE=3.0V	PP3V0_NAVAJO_CONN	
VOLTAGE=3.0V	PP3V0_PROX	
VOLTAGE=3.0V	PP3V0_PROX_ALS	
VOLTAGE=3.0V	PP3V0_PROX_IRLED	
VOLTAGE=3.0V	PP3V0_SDRAM	
VOLTAGE=3.0V	PP3V0_SDRAM_CONN	
VOLTAGE=3.3V	PP3V3_USB	
VOLTAGE=5.0V	PP5V0_USB_CONN	
VOLTAGE=5.0V	PP5V0_USB_PROT	
VOLTAGE=5.1V	PP5V1_GRAPE_VDDH	
VOLTAGE=5.7V	PP5V7_AVDDH	
VOLTAGE=5.7V	PP5V7_LCM_AVDDH_CONN	
VOLTAGE=5.7V	PP5V7_SAGE_AVDDH	
VOLTAGE=6V	PP6V0_LCM_BOOST	
VOLTAGE=4.3V	PP_BATT_VCC	
VOLTAGE=4.3V	PP_BATT_VCC_L19_VP	
VOLTAGE=4.3V	PP_BUCK0_LX0	
VOLTAGE=4.3V	PP_BUCK0_LX1	
VOLTAGE=4.3V	PP_BUCK0_LX2	
VOLTAGE=4.3V	PP_BUCK0_LX3	
VOLTAGE=4.3V	PP_BUCK1_LX0	
VOLTAGE=4.3V	PP_BUCK1_LX1	
VOLTAGE=4.3V	PP_BUCK2_LX	
VOLTAGE=4.3V	PP_BUCK3_LX	
VOLTAGE=4.3V	PP_BUCK4_LX	
VOLTAGE=4.3V	PP_BUCK5_LX	
VOLTAGE=-6V	PP_CHESTNUT_CN	
VOLTAGE=6V	PP_CHESTNUT_CP	
VOLTAGE=6V	PP_CHESTNUT_LXP	
VOLTAGE=1.8V	PP_CODEC_FILT+	
VOLTAGE=2.2V	PP_CODEC_SPKR_VQ	
VOLTAGE=2.7V	PP_CODEC_TO_MIC1_BIAS	
VOLTAGE=2.7V	PP_CODEC_TO_MIC1_BIAS_CONN	
VOLTAGE=2.7V	PP_CODEC_TO_MIC2_3_BIAS	
VOLTAGE=2.7V	PP_CODEC_TO_MIC3_BIAS_CONN	
VOLTAGE=2.5V	PP_CODEC_VCPFILT+	
VOLTAGE=-2.5V	PP_CODEC_VCPFILT-	

VOLTAGE=0.2V	PP_CODEC_VHP_FLYC	
VOLTAGE=-2.5V	PP_CODEC_VHP_FLYN	
VOLTAGE=2.5V	PP_CODEC_VHP_FLYP	
VOLTAGE=1.6V	PP_CUMULUS_VDDANA	
VOLTAGE=1.6V	PP_CUMULUS_VDDCORE	
VOLTAGE=4.3V	PP_E75_TO_TRISTAR_ACC1	
VOLTAGE=4.3V	PP_E75_TO_TRISTAR_ACC1_CONN	
VOLTAGE=4.3V	PP_E75_TO_TRISTAR_ACC2	
VOLTAGE=4.3V	PP_E75_TO_TRISTAR_ACC2_CONN	
VOLTAGE=2.7V	PP_EXTMIC_BIAS	
VOLTAGE=2.7V	PP_EXTMIC_BIAS_FILT	
VOLTAGE=2.7V	PP_EXTMIC_BIAS_FILT_IN	
VOLTAGE=2.7V	PP_EXTMIC_BIAS_IN	
VOLTAGE=8V	PP_L19_VBOOST	
VOLTAGE=22V	PP_LCM_BL_ANODE	
VOLTAGE=22V	PP_LCM_BL_ANODE_CONN	
VOLTAGE=0.2V	PP_LCM_BL_CAT1	
VOLTAGE=0.2V	PP_LCM_BL_CAT1_CONN	
VOLTAGE=0.2V	PP_LCM_BL_CAT2	
VOLTAGE=0.2V	PP_LCM_BL_CAT2_CONN	
VOLTAGE=2.65V	PP_LDO14_2P65	
VOLTAGE=2.5V	CHESTNUT_TO_PMU_ADCIN7	
VOLTAGE=5V	E75_TO_PMU_ACC_DETECT	
VOLTAGE=5V	E75_TO_PMU_ACC_DETECT_R	
VOLTAGE=5V	PMU_TO_TP_AMUX_AY	
VOLTAGE=5V	PMU_TO_TP_AMUX_BY	
VOLTAGE=2.5V	FOREHEAD_TO_PMU_NTC_P	
VOLTAGE=2.5V	CAM_TO_PMU_NTC_P	
VOLTAGE=2.5V	PA_TO_PMU_NTC_P	
VOLTAGE=2.5V	H6P_TO_PMU_NTC_P	
VOLTAGE=2.5V	45_PMU_TCAL	
VOLTAGE=5V	PP_LED_BOOST_OUT	
VOLTAGE=5V	PP_LED_DRV_LX	
VOLTAGE=0.4V	PP_MIPI0D_VREG	
VOLTAGE=0.4V	PP_MIPI1D_VREG	
VOLTAGE=3.4V	PP_PMU_TO_VIBE	
VOLTAGE=3.4V	PP_PMU_TO_VIBE_CONN	
VOLTAGE=5.25V	PP_PMU_VCENTER	
VOLTAGE=4.3V	PP_PMU_VDD_REF	
VOLTAGE=2.5V	PP_PMU_VDD_RTC	
VOLTAGE=1.2V	PP_PMU_VREF	
VOLTAGE=5.25V	PP_PMU_VSW_CHG	
VOLTAGE=5.7V	PP_SAGE_LX	
VOLTAGE=17V	PP_SAGE_LY	
VOLTAGE=13.5V	PP_SAGE_TO_TOUCH_VCPH	
VOLTAGE=13.5V	PP_SAGE_TO_TOUCH_VCPH_CONN	
VOLTAGE=-12V	PP_SAGE_TO_TOUCH_VCPL	
VOLTAGE=-12V	PP_SAGE_TO_TOUCH_VCPL_CONN	
VOLTAGE=18V	PP_SAGE_VBST_OUTH	
VOLTAGE=-14V	PP_SAGE_VBST_OUTL	
VOLTAGE=-12V	PP_SAGE_VCPL_F	
VOLTAGE=1.8V	PP_SPKAMP_FILT	
VOLTAGE=1V	PP_SPKAMP_LDO_FILT	
VOLTAGE=8V	PP_SPKAMP_SW	
VOLTAGE=5V	PP_STRB_DRIVER_TO_LED_COOL	
VOLTAGE=5V	PP_STRB_DRIVER_TO_LED_WARM	
VOLTAGE=4.3V	PP_VCC_MAIN	
VOLTAGE=4.3V	PP_VCC_MAIN_CODEC	
VOLTAGE=22V	PP_WLED_LX	

RADIO_MLB HIERARCHICAL SYMBOL

AP/RADIO INTERFACE



BOARD_ID BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
118S0621	1	1.00M 1% 01005	R25_RF	Y	N51_CFG_A
118S0732	1	50K 1% 01005	R26_RF	Y	N51_CFG_A
117S0159	1	470K 5% 01005	R25_RF	Y	N51_CFG_B
118S0626	1	100K 1% 01005	R26_RF	Y	N51_CFG_B
118S0626	1	100K 1% 01005	R25_RF	Y	N53_CFG_A
118S0726	1	162K 1% 01005	R26_RF	Y	N53_CFG_A
118S0626	1	100K 1% 01005	R25_RF	Y	N53_CFG_B
118S0623	1	267K 1% 01005	R26_RF	Y	N53_CFG_B
118S0659	1	255K 1% 01005	R25_RF	Y	N48_CFG_A
118S0626	1	100K 1% 01005	R26_RF	Y	N48_CFG_A
118S0689	1	147K 1% 01005	R26_RF	Y	N48_CFG_B
118S0626	1	100K 1% 01005	R26_RF	Y	N48_CFG_B
118S0626	1	100K 1% 01005	R25_RF	Y	N49_CFG_A
118S0650	1	499K 1% 01005	R26_RF	Y	N49_CFG_A
118S0732	1	50K 1% 01005	R25_RF	Y	N49_CFG_B
118S0621	1	1.00M 1% 01005	R26_RF	Y	N49_CFG_B

BOARD_ID BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
118S0621	1	1.00M 1% 01005	R25_RF	Y	N51_CFG_A
118S0732	1	50K 1% 01005	R26_RF	Y	N51_CFG_A
117S0159	1	470K 5% 01005	R25_RF	Y	N51_CFG_B
118S0626	1	100K 1% 01005	R26_RF	Y	N51_CFG_B
118S0626	1	100K 1% 01005	R25_RF	Y	N53_CFG_A
118S0726	1	162K 1% 01005	R26_RF	Y	N53_CFG_A
118S0626	1	100K 1% 01005	R25_RF	Y	N53_CFG_B
118S0623	1	267K 1% 01005	R26_RF	Y	N53_CFG_B
118S0659	1	255K 1% 01005	R25_RF	Y	N48_CFG_A
118S0626	1	100K 1% 01005	R26_RF	Y	N48_CFG_A
118S0689	1	147K 1% 01005	R26_RF	Y	N48_CFG_B
118S0626	1	100K 1% 01005	R26_RF	Y	N48_CFG_B
118S0626	1	100K 1% 01005	R25_RF	Y	N49_CFG_A
118S0650	1	499K 1% 01005	R26_RF	Y	N49_CFG_A
118S0732	1	50K 1% 01005	R25_RF	Y	N49_CFG_B
118S0621	1	1.00M 1% 01005	R26_RF	Y	N49_CFG_B

SCH :951-2770
BOM :639-3973
BOARD :820-3382

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
951-2446	1	X152_RADIO_MLB	SCH	Y	
825-2029	1	EEE FOR 939-0308	EEEE_????	Y	NA

AP INTERFACE & DEBUG CONNECTORS

AP CONNECTIONS

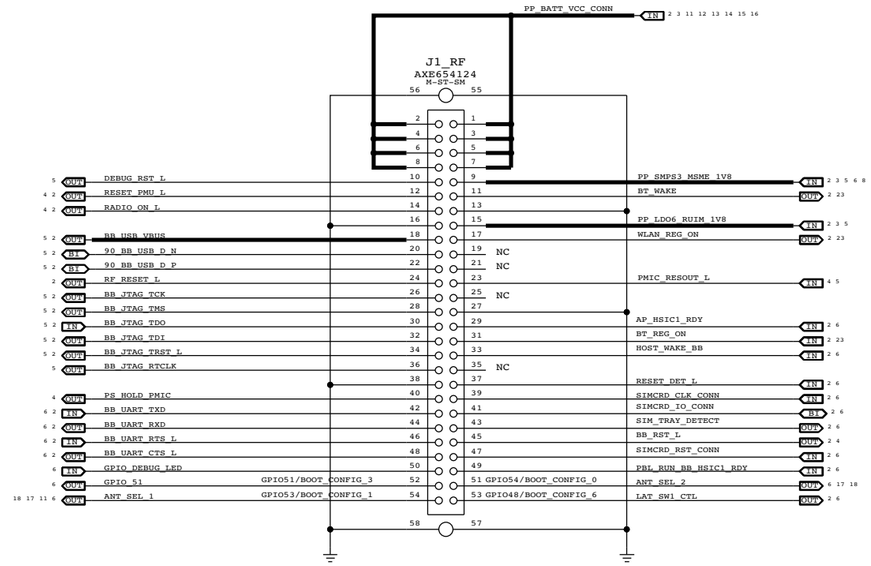
IN = FROM AP
OUT = TO AP

16 15 14 13 12 11 3 2	PP_BATT_VCC_CONN	OUT	
23	PP_VCC_MAIN_WLAN	OUT	
6	TX_GTR_THRESH	OUT	
4 2	BB_RST_L	IN	
6 2	RESET_DET_L	OUT	
4 2	RADIO_ON_L	IN	
4 2	RESET_PMU_L	IN	
6 2	HOST_WAKE_BB	OUT	
2	RF_RESET_L	OUT	
6 2	PBL_RUN_BB_HSIC1_RDY	OUT	
23 2	WLAN_HSIC3_RESUME	OUT	
6	AP_WAKE_MODEM	OUT	
6 2	AP_HSIC1_RDY	IN	
5 2	50_HSIC_BB_DATA	IO	
5 2	50_HSIC_BB_STROBE	IO	
6	BB_HSIC1_REMOTE_WAKE	OUT	
6 2	BB_UART_TXD	OUT	
6 2	BB_UART_RXD	IN	
6 2	BB_UART_RTS_L	OUT	
6 2	BB_UART_CTS_L	IN	
5 2	BB_USB_VBUS	IN	
5 2	90_BB_USB_D_P	IO	
5 2	90_BB_USB_D_N	IO	
6 2	BB_I2S_CLK	IN	
6 2	BB_I2S_WS	IN	
6 2	BB_I2S_TXD	OUT	
6 2	BB_I2S_RXD	IN	
6	PP_SYNC	OUT	
23	PP_WL_BT_VDDIO_AP	IN	
23 2	CLK32K_AP	IN	
23 2	WLAN_REG_ON	IN	
23	WLAN_UART_TXD	OUT	
23	WLAN_UART_RXD	IN	
23	HOST_WAKE_WLAN	OUT	
23 2	WLAN_HSIC3_DEVICE_RDY	OUT	
23 2	AP_HSIC3_RDY	IN	
23 2	50_HSIC_WLAN_DATA	IO	
23 2	50_HSIC_WLAN_STROBE	IO	
23	HOST_WAKE_BT	OUT	
23 2	BT_WAKE	IN	
23 2	BT_UART_TXD	OUT	
23 2	BT_UART_RXD	IN	
23	BT_UART_RTS_L	OUT	
23	BT_UART_CTS_L	IN	
23 2	BT_REG_ON	IN	
23	BT_PCM_CLK	IO	
23	BT_PCM_SYNC	IO	
23	BT_PCM_OUT	IO	
23	BT_PCM_IN	IO	
6 2	LAT_SW1_CTL	OUT	
6	LAT_SW2_CTL	OUT	
6	LAT_SW3_CTL	OUT	
20 6	BB_SPI_TO_PAC_CS	OUT	
20 6	BB_SPI_TO_PAC_DATA_MOSI	OUT	
20 6	BB_SPI_TO_PAC_CLK	OUT	
20 6	PAC_TO_BB_SPI_DATA_MISO	IN	
20 18 17 11 10 3	PP_LDO14_2V65	OUT	
5 2	BB_JTAG_TCK	IN	
5 2	BB_JTAG_TDI	IN	
5 2	BB_JTAG_TMS	IN	
5 2	BB_JTAG_TRST_L	IN	
5 2	BB_JTAG_TDO	OUT	
2	ADC_SMPS1_MSMC_1V05	OUT	
2	ADC_SMPS3_MSME_1V8	OUT	
2	ADC_LDO6_RUIM_1V8	OUT	
2	ADC_LVS1	OUT	
6	BB_IPC_GPIO	OUT	
23 6	OSCAR_CONTEXT_A	IN	
23 6	OSCAR_CONTEXT_B	IN	

PROBE POINTS

PP1_RF — P4MM — SM PT 1 — BB_ERROR_FLAG — 6
PP2_RF — P4MM — SM PT 1 — SLEEP_CLK_32K — 4 5
PP3_RF — P4MM — SM PT 1 — PMIC_SSBI — 4 5
PP11_RF — P4MM — SM PT 1 — CLK32K_AP — 2 23
PP14_RF — P4MM — SM PT 1 — AP_HSIC3_RDY — 2 23
PP15_RF — P4MM — SM PT 1 — WLAN_HSIC3_DEVICE_RDY — 2 23
PP18_RF — P4MM — SM PT 1 — WLAN_HSIC3_RESUME — 2 23
PP19_RF — P4MM — SM PT 1 — WTR_SSBI_TX_GPS — 6 7
PP20_RF — P4MM — SM PT 1 — WTR_SSBI_PRX_DRX — 6 7
PP21_RF — P4MM — SM PT 1 — WTR_RX_ON — 6 7
PP22_RF — P4MM — SM PT 1 — WTR_RF_ON — 6 7
PP40_RF — P4MM — SM PT 1 — WLAN_COEX_TXD — 23
PP41_RF — P4MM — SM PT 1 — LTE_COEX_TXD — 6 23
PP42_RF — P4MM-NSM — SM PT 1 — 50_HSIC_BB_STROBE — 2 5
PP43_RF — P4MM-NSM — SM PT 1 — 50_HSIC_BB_DATA — 2 5
PP44_RF — P4MM — SM PT 1 — 50_HSIC_WLAN_STROBE — 2 23
PP45_RF — P4MM — SM PT 1 — 50_HSIC_WLAN_DATA — 2 23
PP46_RF — P4MM — SM PT 1 — BT_UART_TXD — 2 23
PP47_RF — P4MM — SM PT 1 — BT_UART_RXD — 2 23
PP4_RF — P4MM — SM PT 1 — BB_I2S_CLK — 2 6
PP5_RF — P4MM — SM PT 1 — BB_I2S_WS — 2 6
PP6_RF — P4MM — SM PT 1 — BB_I2S_RXD — 2 6
PP7_RF — P4MM — SM PT 1 — BB_I2S_TXD — 2 6
PP8_RF — P4MM-NSM — SM PT 1 — SIMCRD_RST_CONN — 2 6
PP9_RF — P4MM-NSM — SM PT 1 — SIMCRD_CLK_CONN — 2 6
PP10_RF — P4MM — SM PT 1 — SPI_DATA_MOSI — 6
PP12_RF — P4MM — SM PT 1 — SPI_CLK — 6
PP13_RF — P4MM — SM PT 1 — SPI_CS_L — 6
PP16_RF — P4MM — SM PT 1 — SPI_DATA_MISO — 6

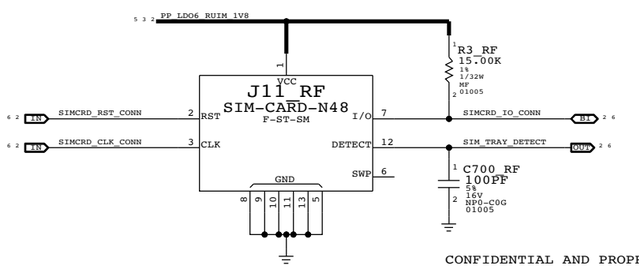
DEBUG CONNECTOR



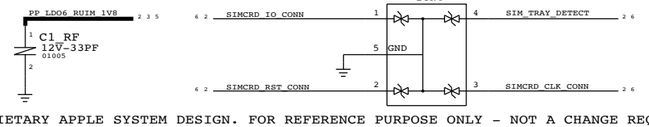
BOOT OPTIONS	BOOT_CONFIG SW REGISTER VALUE	GPIO/BOOT_CONFIG CONFIGURATION							
		6	5	4	3	2	1	0	
		47	48	49	50	51	52	53	54	55
BOOT_DEFAULT_OPTION	0X00	X	0	0	0	0	0	0	X
BOOT_NAND_OPTION	0X01	X	1	0	0	0	0	1	X
BOOT_HSIC_OPTION	0X02	X	1	0	0	0	1	0	X
BOOT_USB_OPTION	0X03	X	1	0	0	0	1	1	X
ENABLE SAHARA PROTOCOL	0X08	X	1	0	0	1	0	X	X

J2_RF — MM4829-2702 — F-ST-SM — NOSTUFF — 1 — 50_HSIC_BB_DATA — 2 5
J3_RF — MM4829-2702 — F-ST-SM — NOSTUFF — 1 — 50_HSIC_BB_STROBE — 2 5

SIM CARD CONNECTOR



SIM CARD ESD PROTECTION

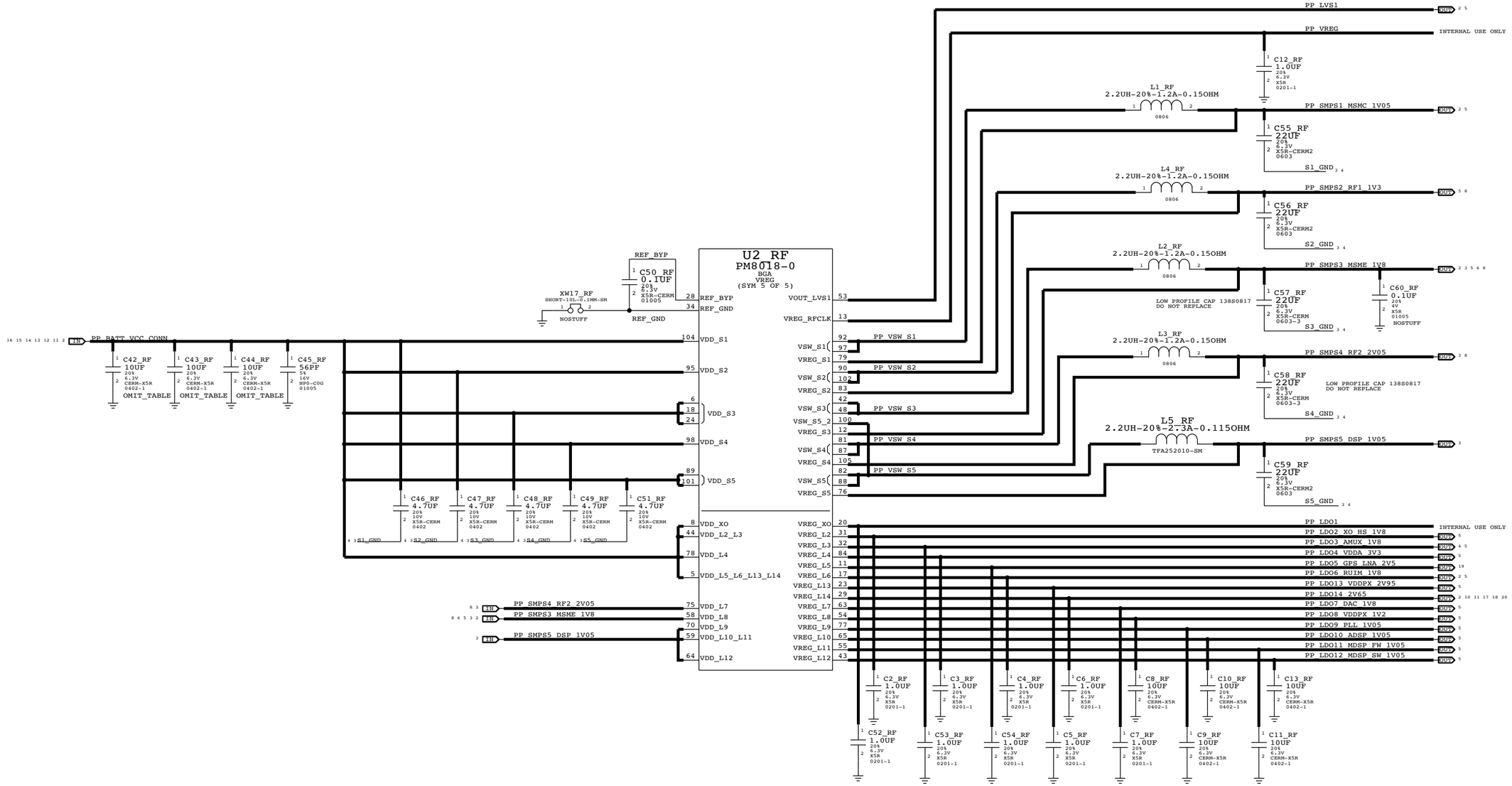


XW12_RF / XW13_RF / XW14_RF / XW15_RF

SHORT-10L-0.1MM-SM

PP_SMPS1_MSMC_1V05 — ADC_SMPS1_MSMC_1V05
PP_SMPS3_MSME_1V8 — ADC_SMPS3_MSME_1V8
PP_LDO6_RUIM_1V8 — ADC_LDO6_RUIM_1V8
PP_LVS1 — ADC_LVS1

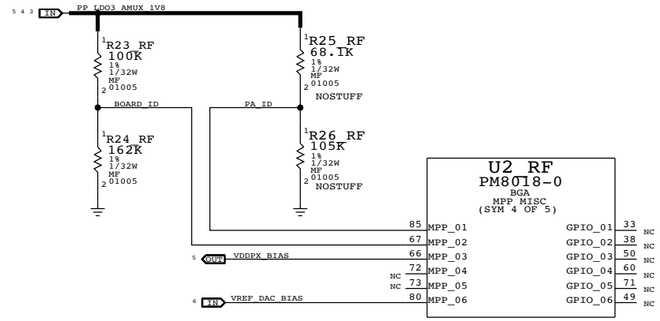
PMU (1 OF 2)



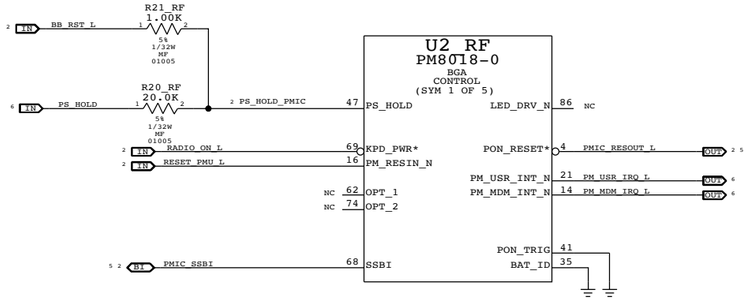
PMU (2 OF 2)

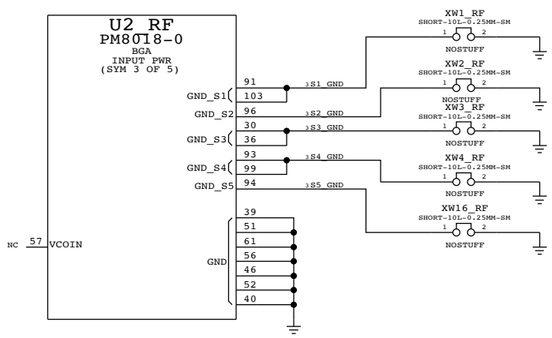
PA_ID	CONFIG
1.1V	CONFIG A
1.3V	CONFIG B
1.5V	CONFIG C
1.7V	CONFIG D

BOARD_ID	REVISION
0.7V	PROTO1
0.9V	PROTO2
1.1V	EVT1
1.3V	EVT2
1.5V	DVT
1.7V	PVT

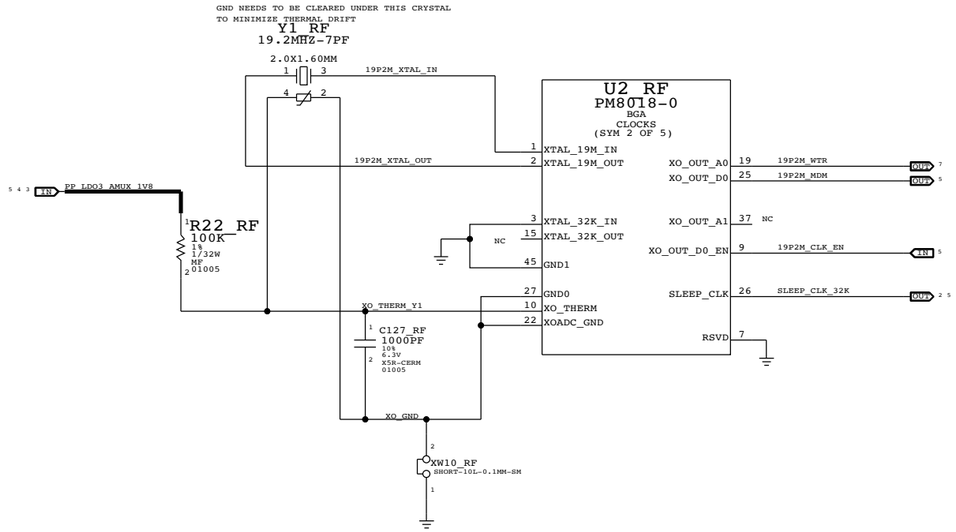


AP SECTION NEEDS ITS OWN THERMISTOR PLACED NEAR THE PA'S.

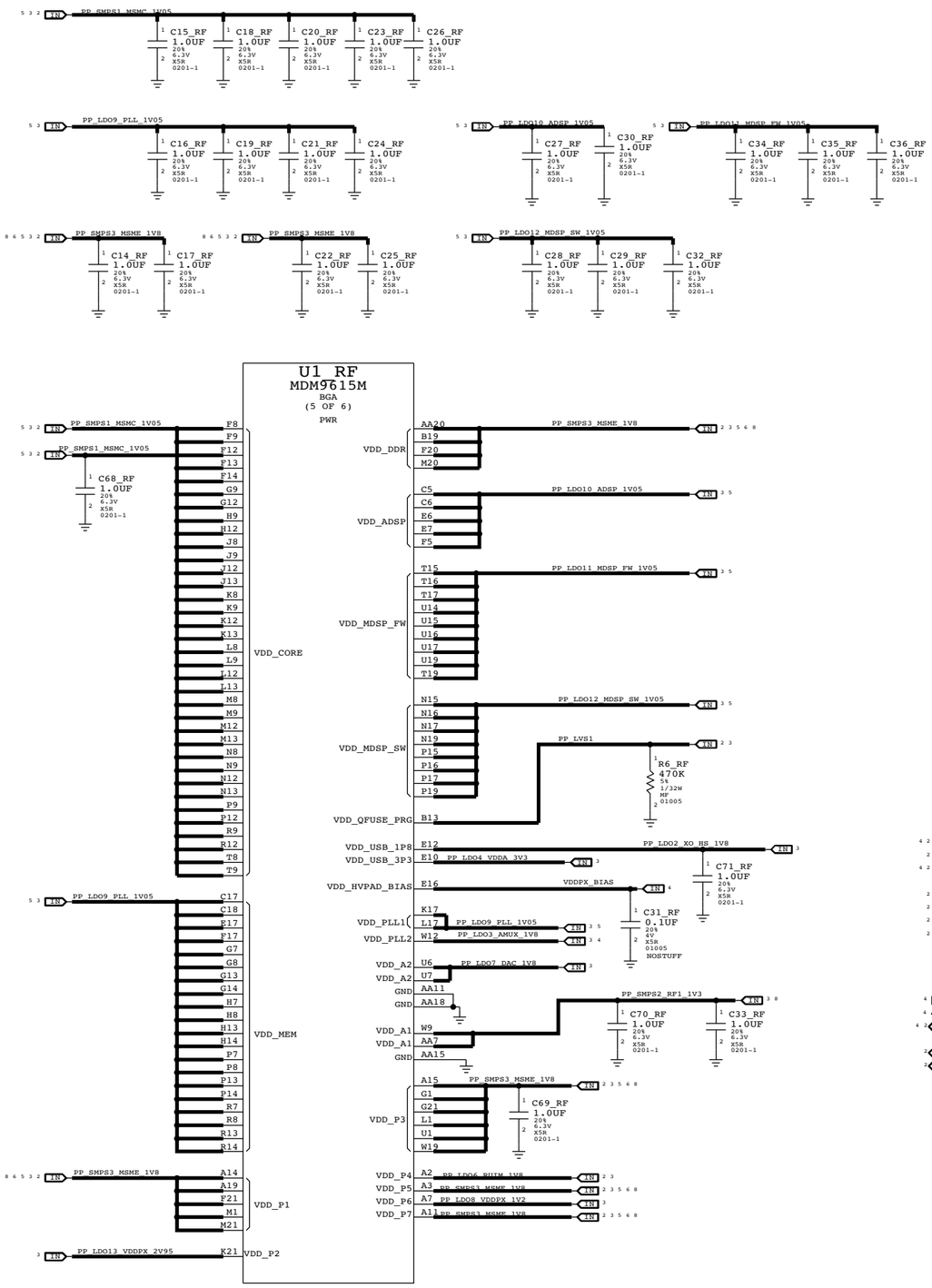




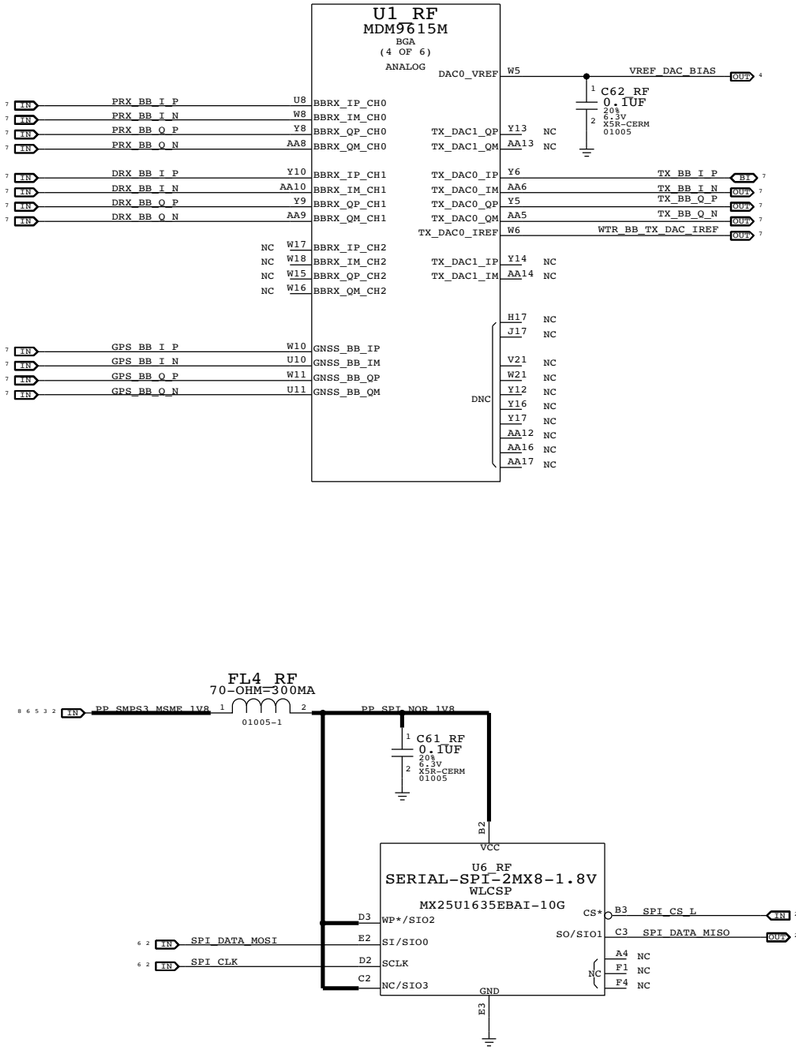
GND NEEDS TO BE CLEARED UNDER THIS CRYSTAL
TO MINIMIZE THERMAL DRIFT

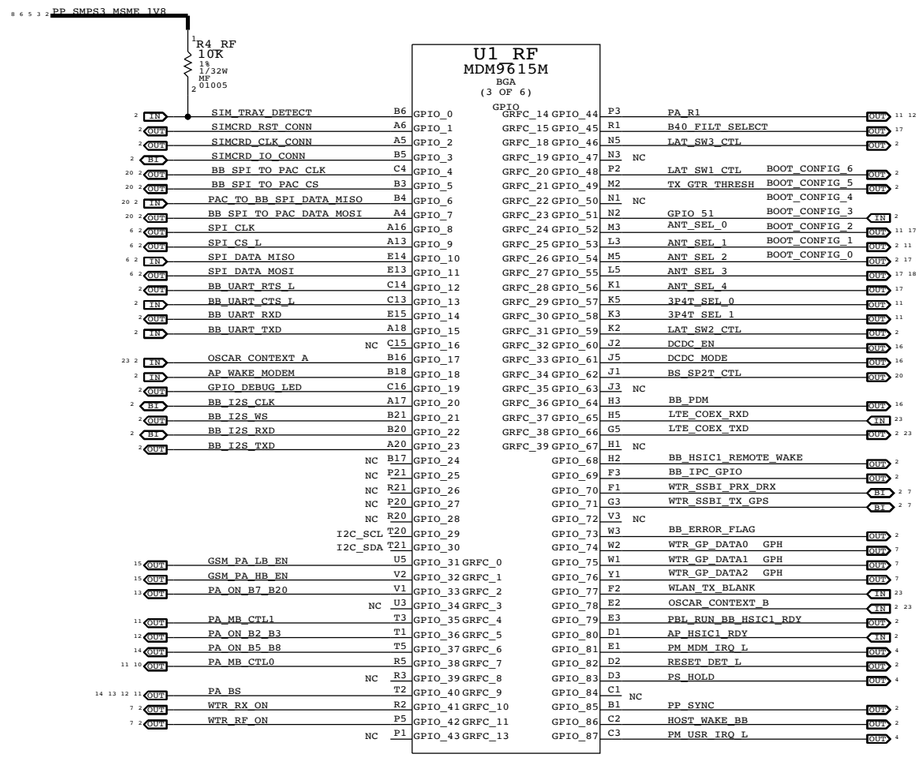


BASEBAND (1 OF 2)



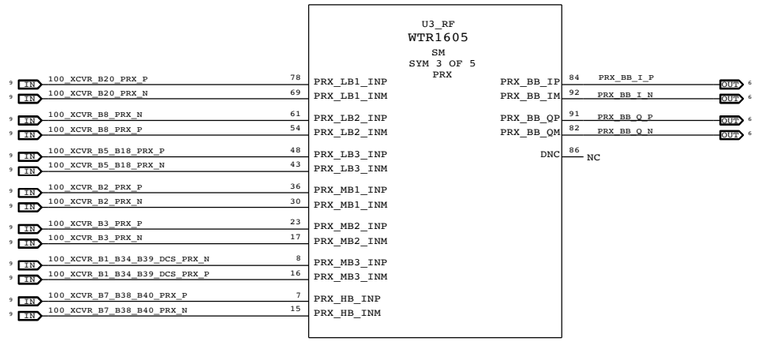
BASEBAND (2 OF 2)



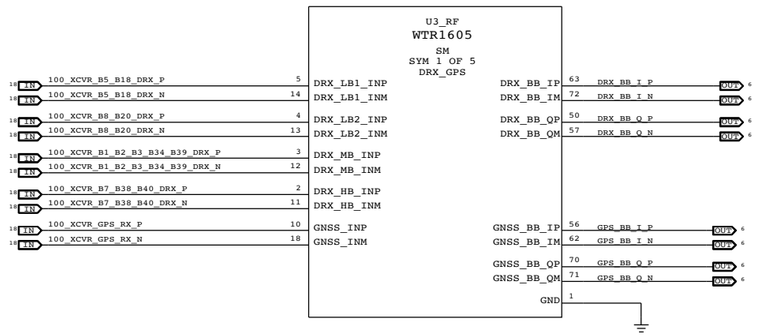


RF TRANSCEIVER (1 OF 2)

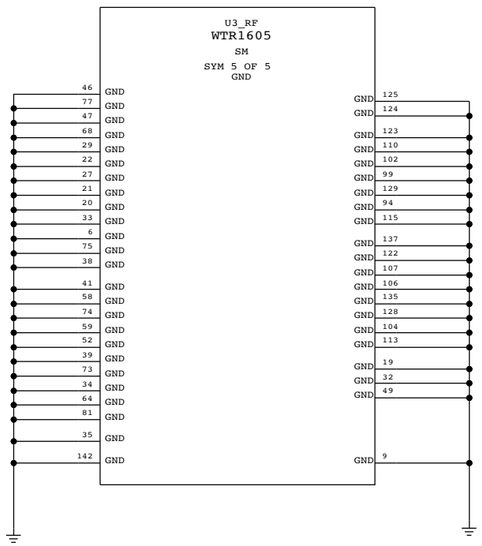
PRX TRANSCEIVER RF AND IQ PORTS



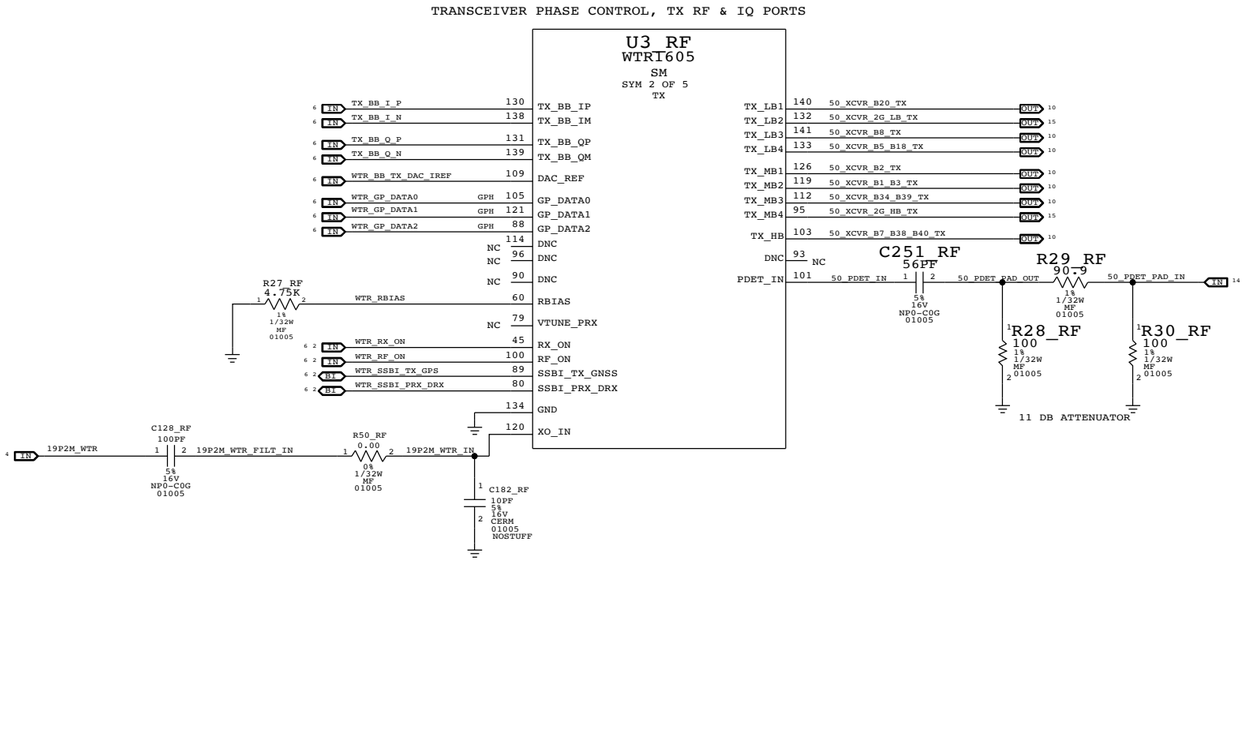
DRX TRANSCEIVER RF AND IQ PORTS



TRANSCEIVER GROUND CONNECTIONS

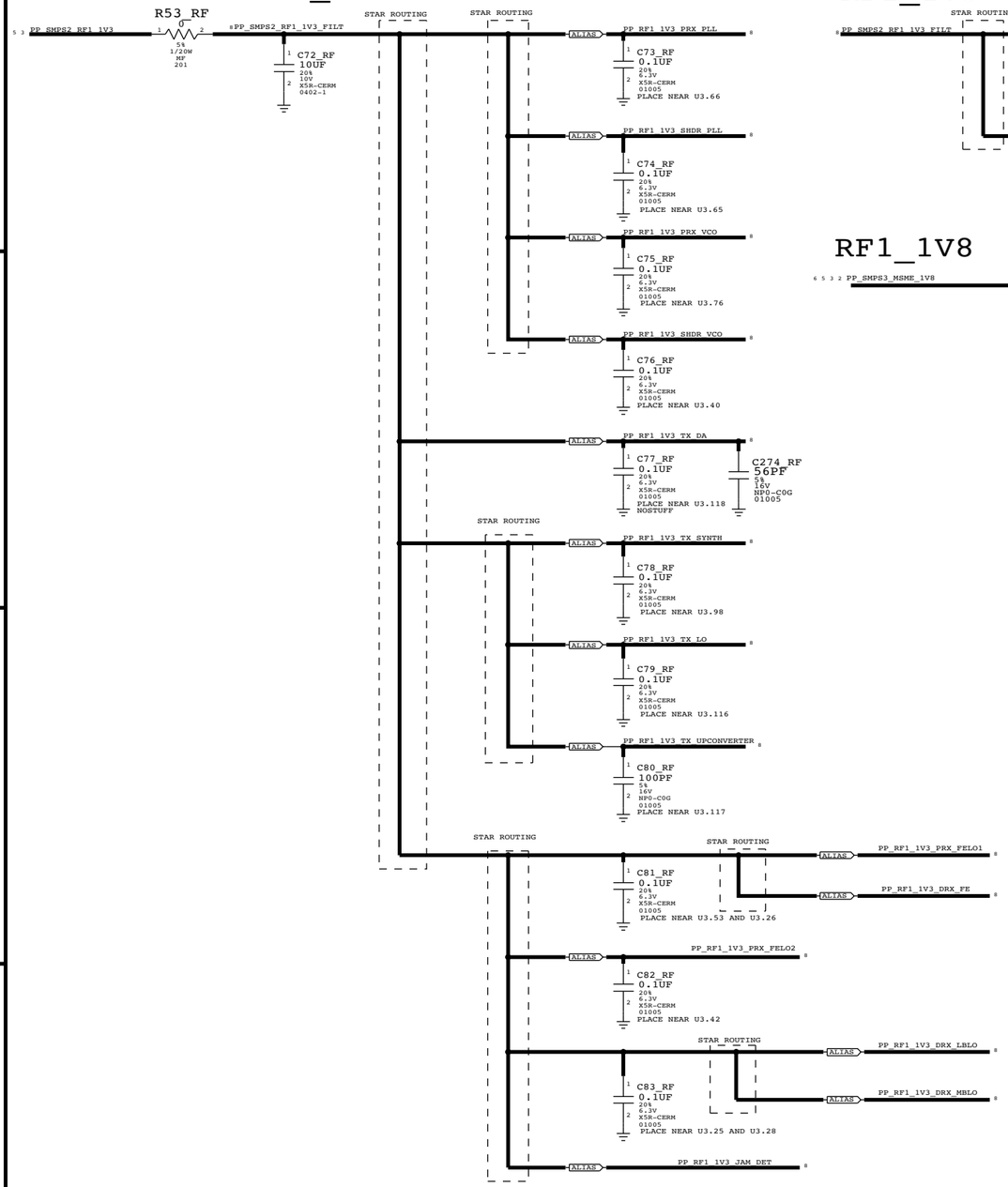


TRANSCEIVER PHASE CONTROL, TX RF & IQ PORTS

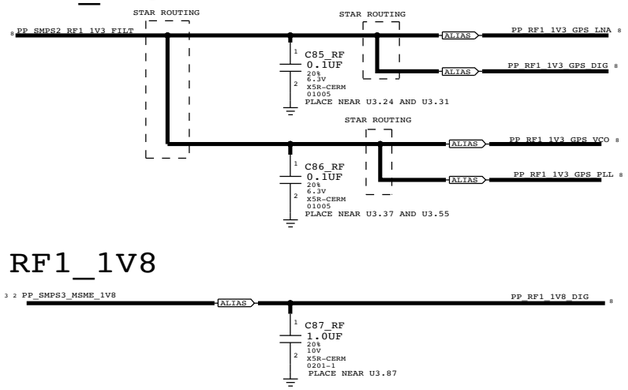


RF TRANSCEIVER (2 OF 2)

RF1_1V3

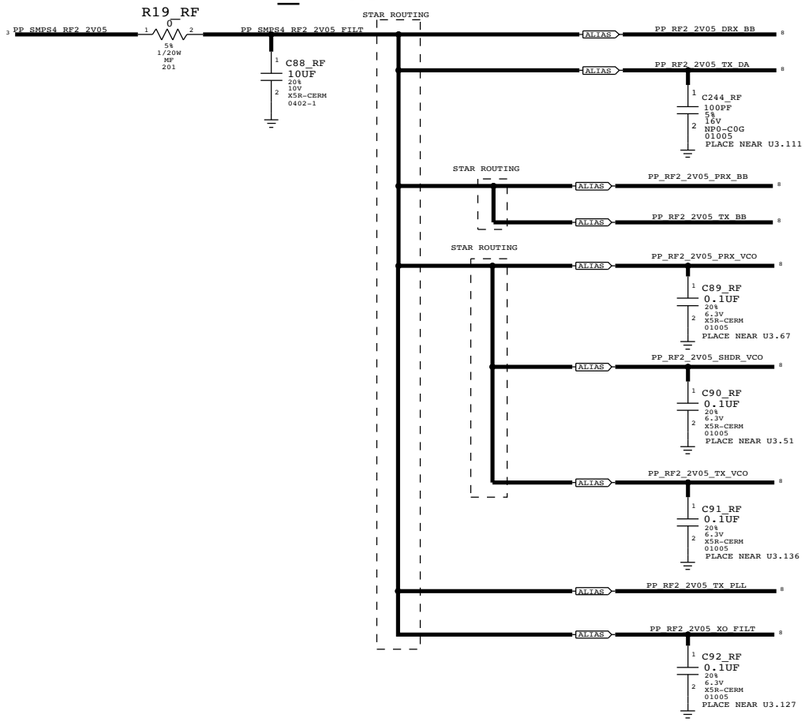


RF1_1V3

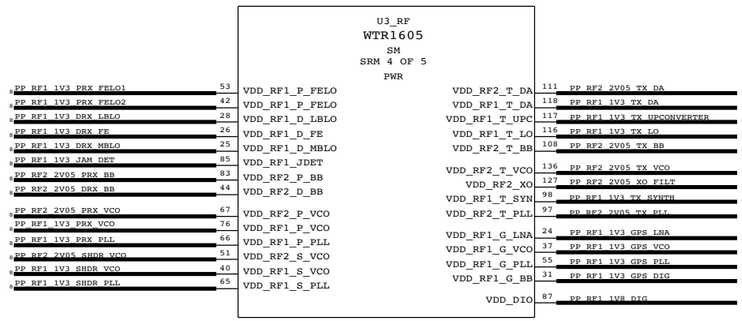


RF1_1V8

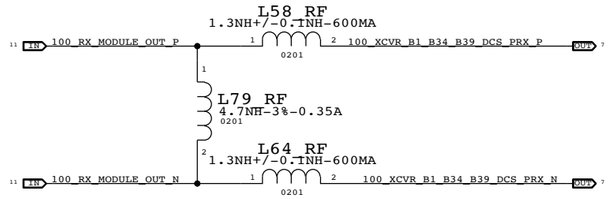
RF2_2V05

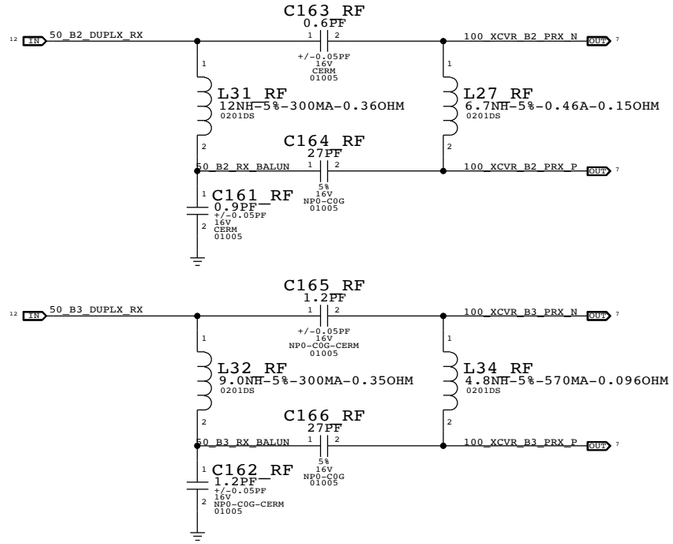


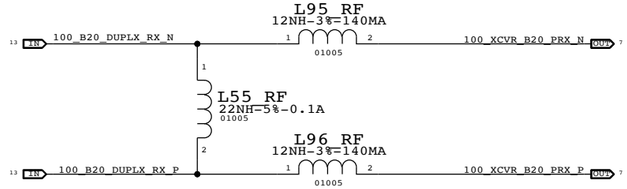
TRANSCEIVER POWER CONNECTIONS

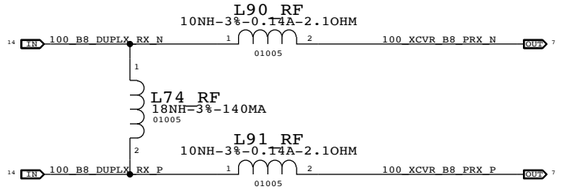


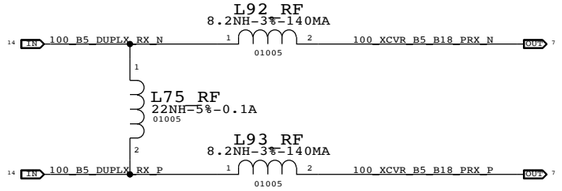
RX MATCHING

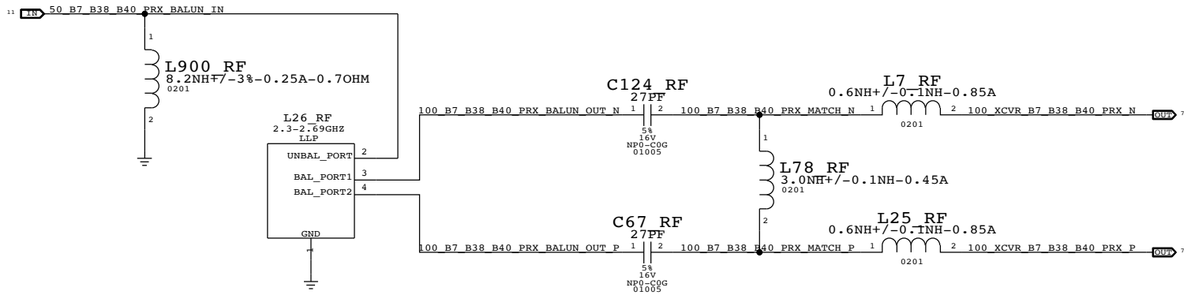


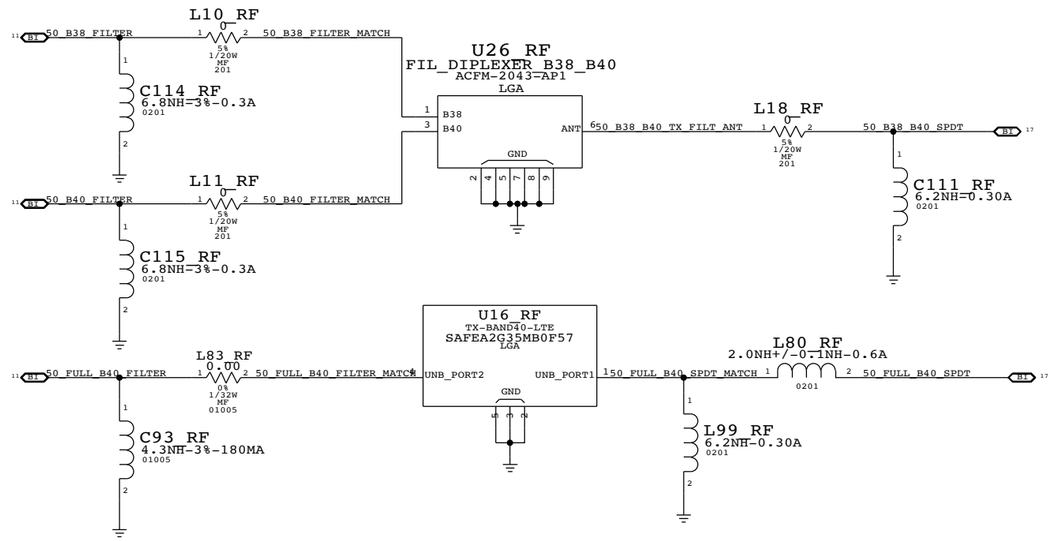




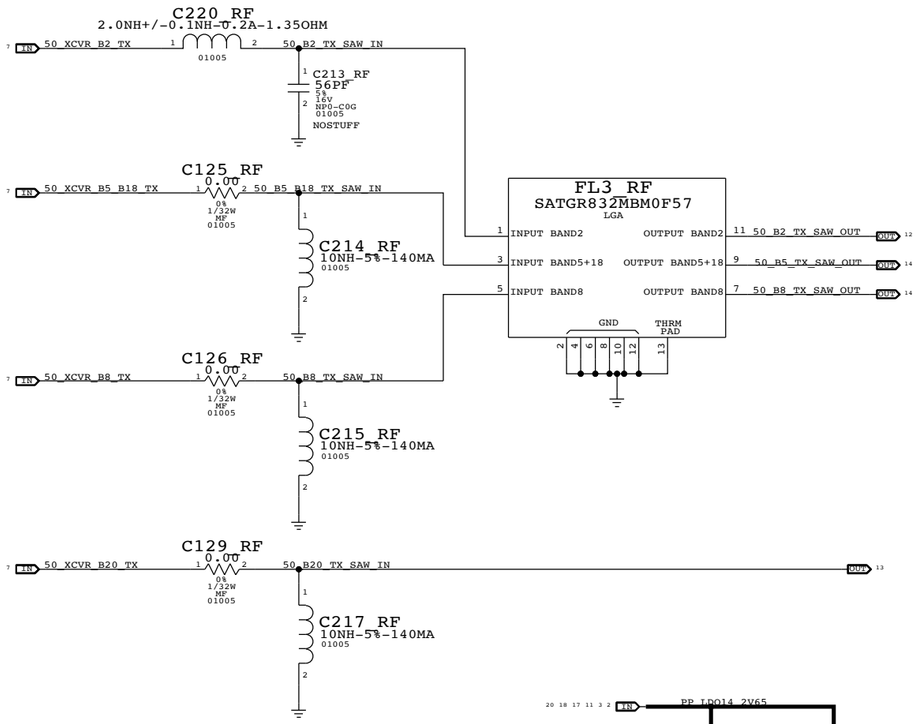


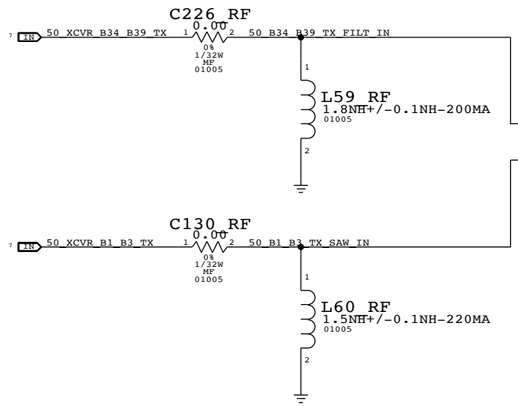


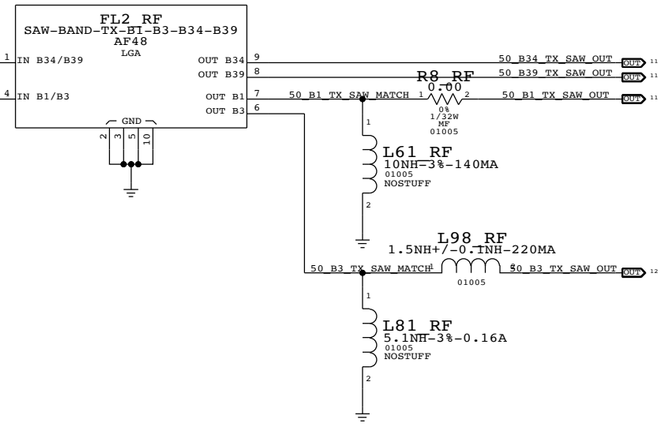


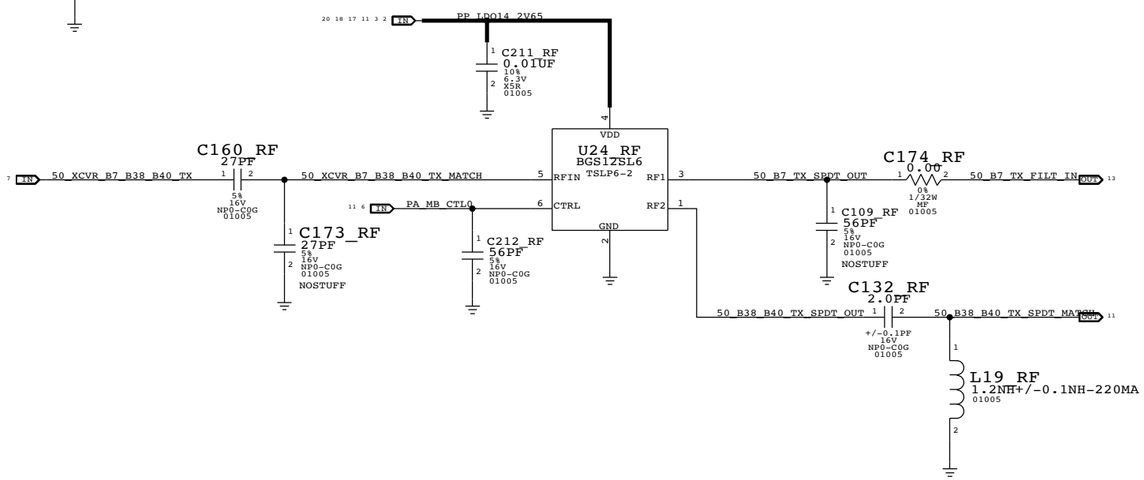


TX INTERSTAGE FILTERS

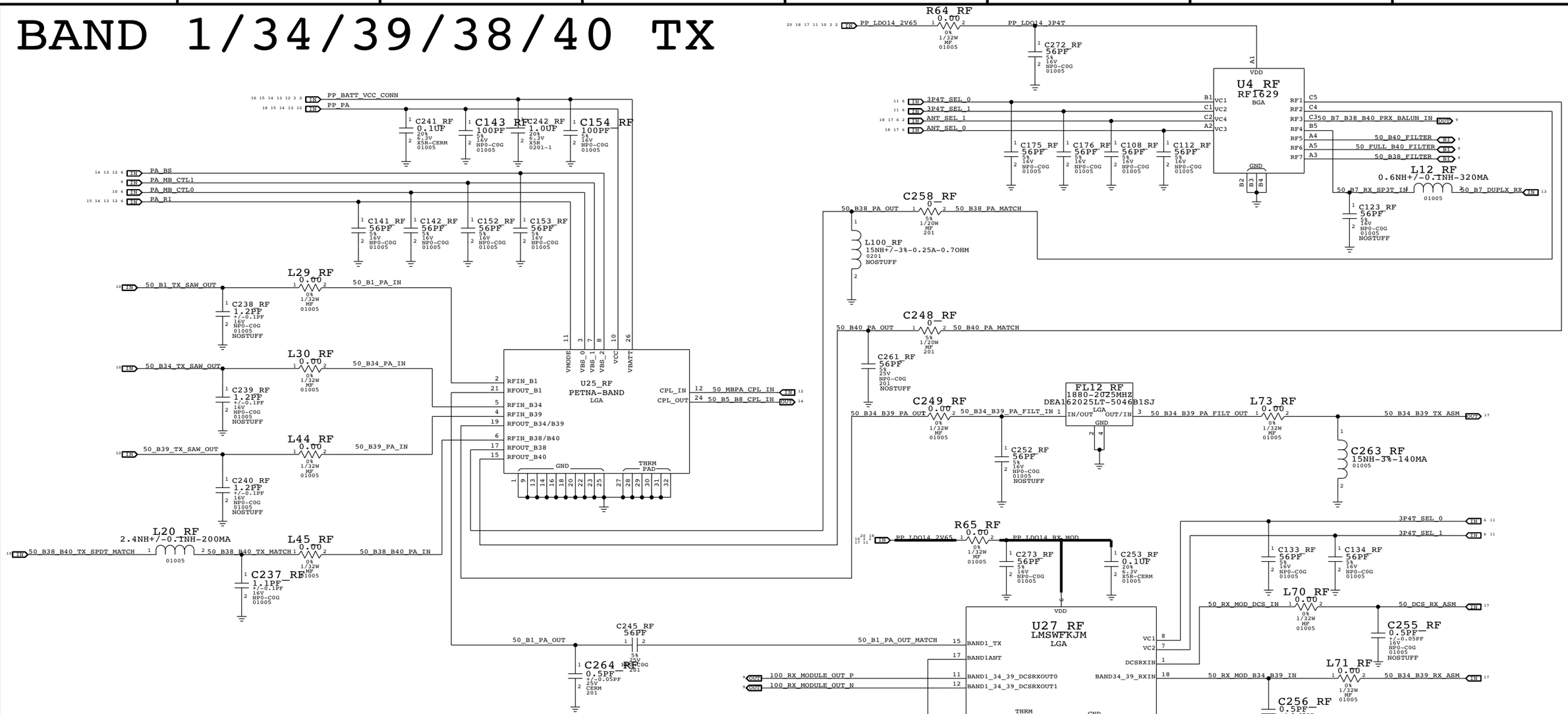






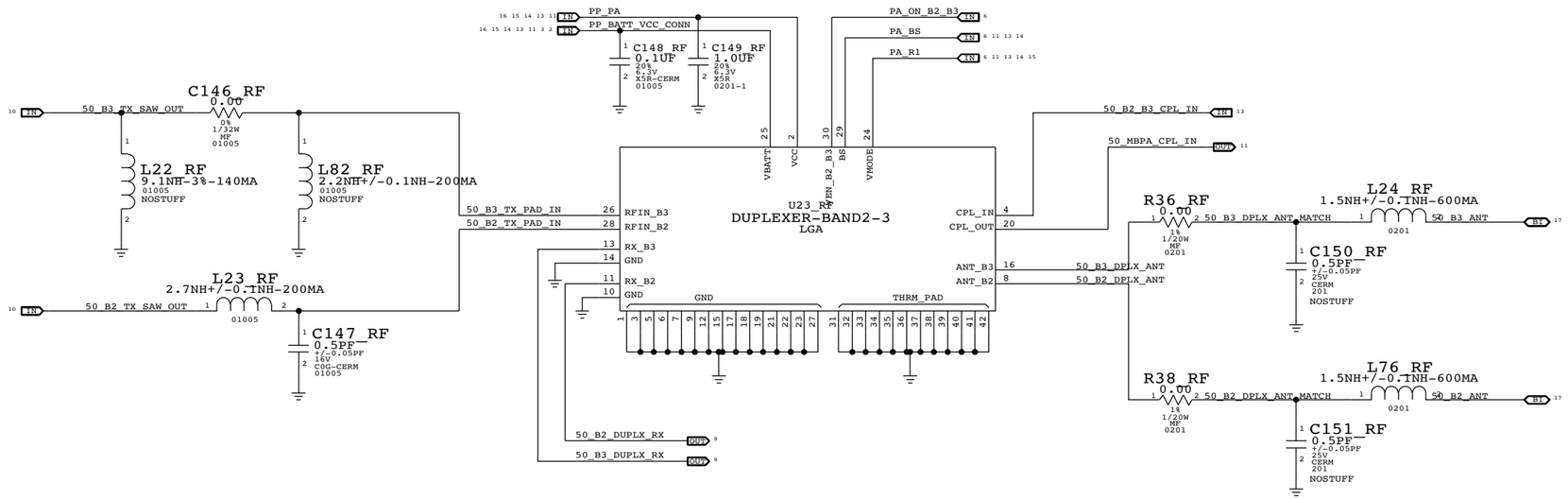


BAND 1/34/39/38/40 TX



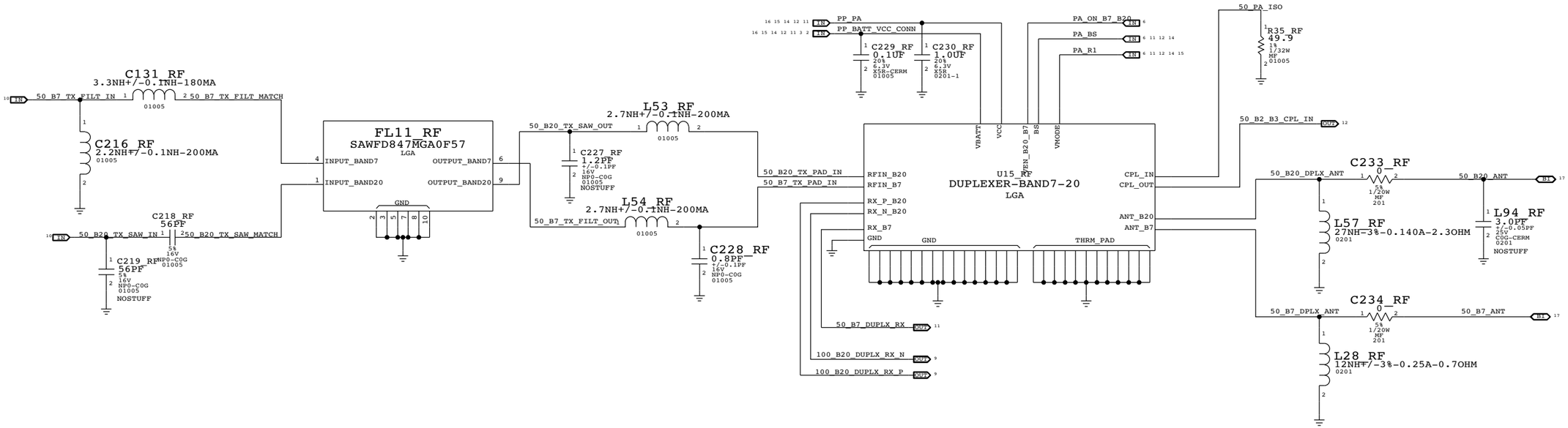
BAND	PA POWER MODE	PA_BS	PA_CTL1	PA_CTL0	PA_R1
OFF	X	X	0	0	0
B1	HPM	X	1	0	0
B1	LPM	X	1	0	1
B34	HPM	1	0	1	0
B34	LPM	1	0	1	1
B39	HPM	0	0	1	0
B39	LPM	0	0	1	1
B38	HPM	1	1	1	0
B38	LPM	1	1	1	1
B40	HPM	0	1	1	0
B40	LPM	0	1	1	1

BAND 2/3 PAD



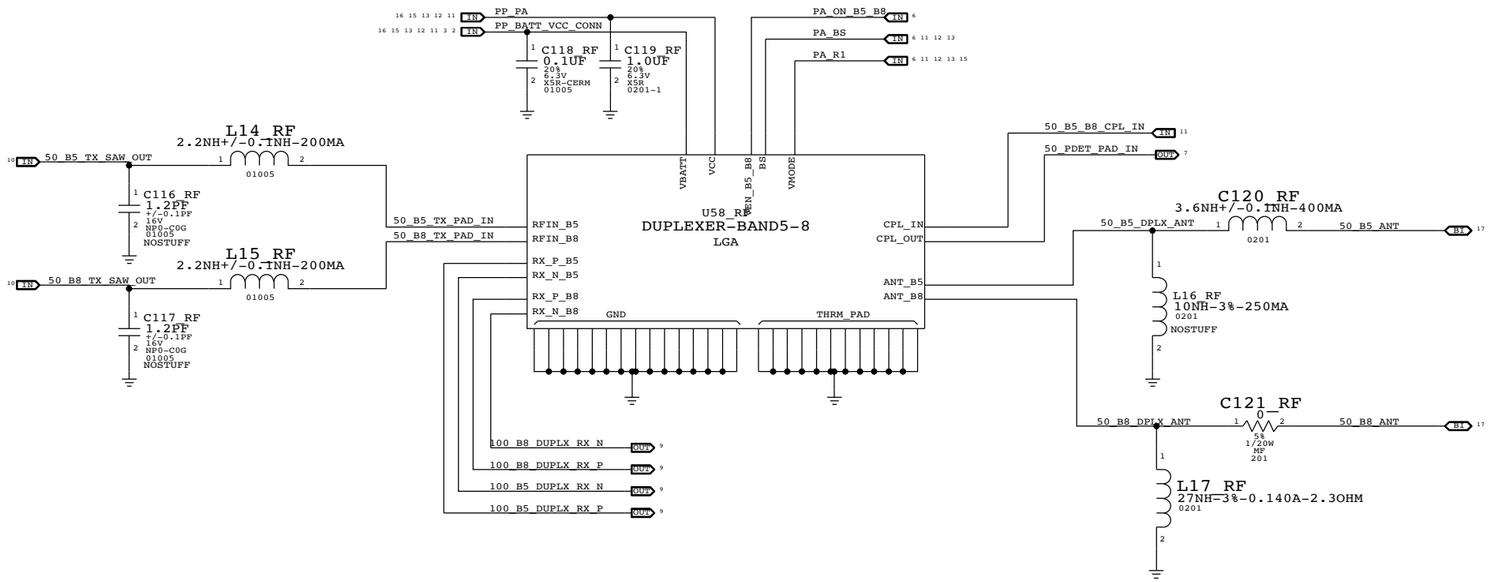
BAND	PA_POWER_MODE	PA_BS	PA_ON_B2_B3	PA_R1
OFF	X	X	0	X
B3	HPM	0	1	0
B3	LPM	0	1	1
B2	HPM	1	1	0
B2	LPM	1	1	1

BAND 20/7 PAD



BAND	PA POWER MODE	PA_BS	PA_ON_B20_B7	PA_R1
OFF	X	X	0	X
B20	HPM	0	1	0
B20	LPM	0	1	1
B7	HPM	1	1	0
B7	LPM	1	1	1

BAND 5/8 PAD

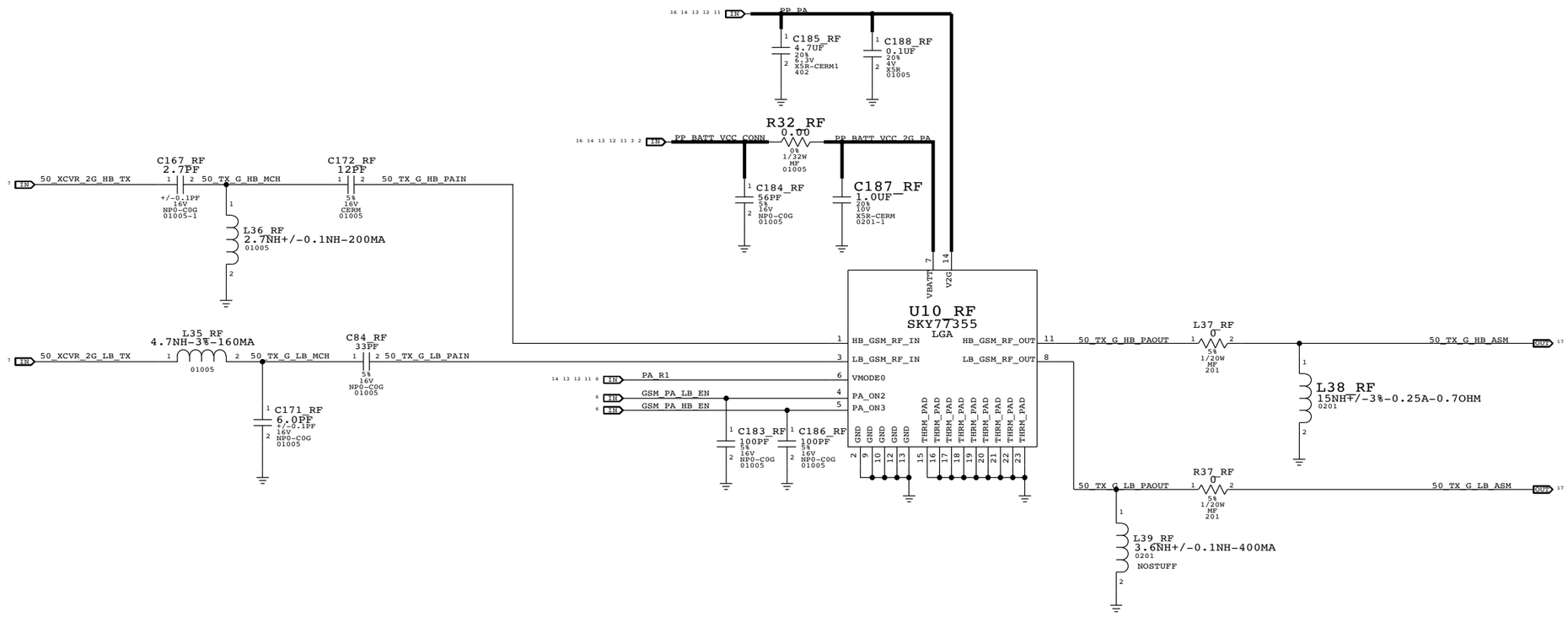


BAND	PA POWER MODE	PA_BS	PA_ON_B5_B8	PA_R1
OFF	X	X	0	X
B5	HPM	0	1	0
B5	LPM	0	1	1
B8	HPM	1	1	0
B8	LPM	1	1	1

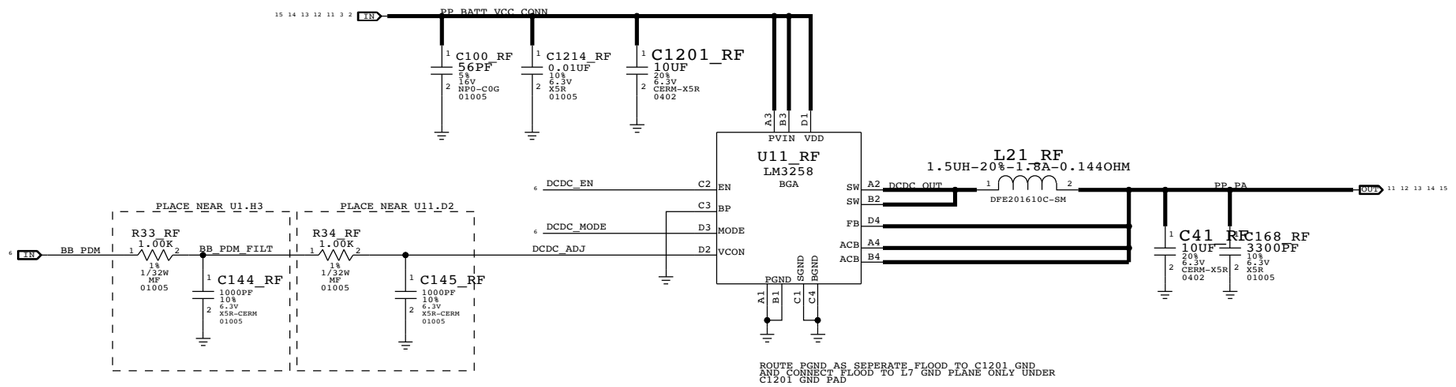
2G PA

2G PA GAIN MODES

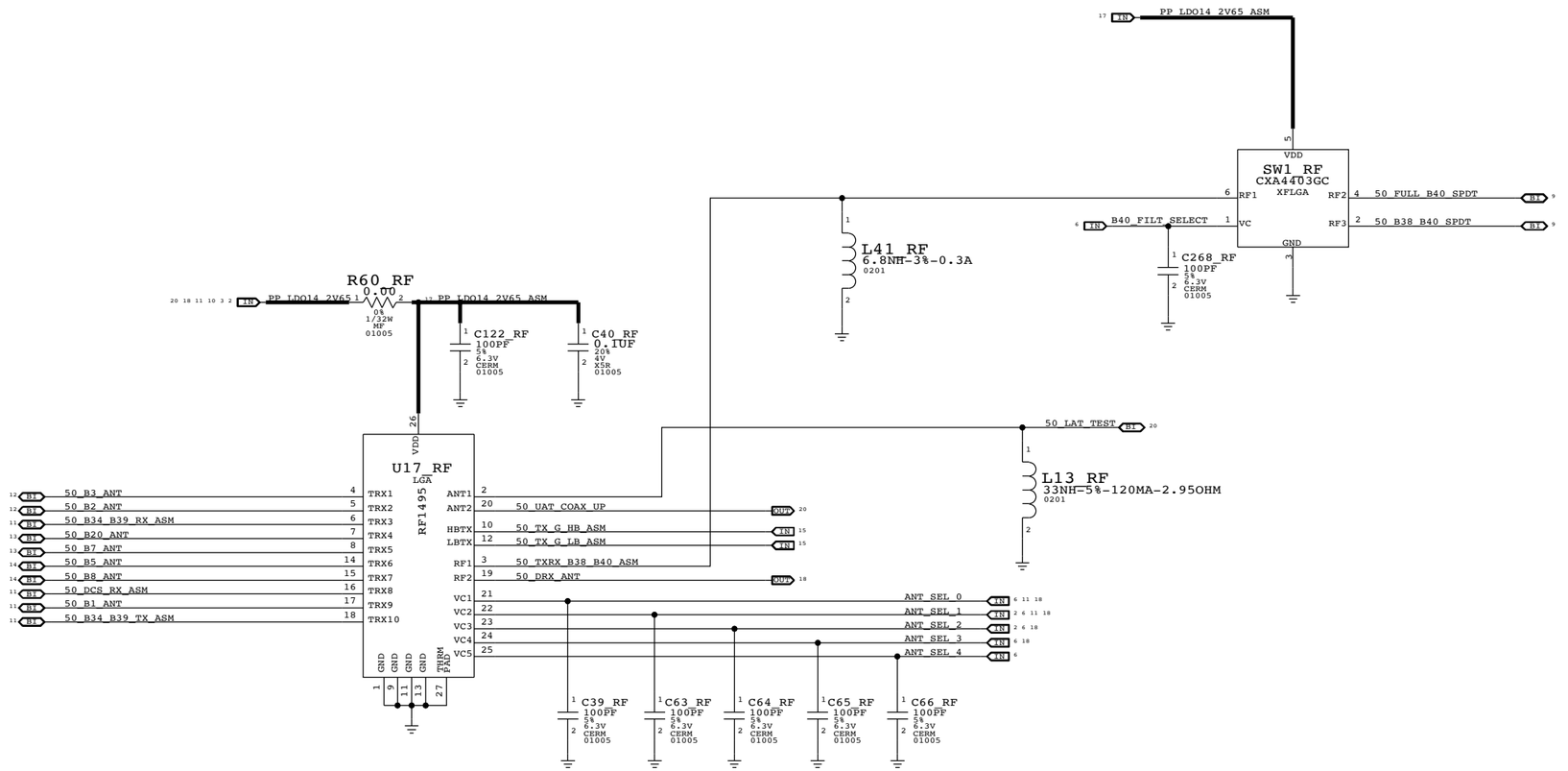
BAND	MODE	GAIN MODE	PA_R1	PCL RANGE
LOW BAND	GSM	ULTRA LOW	HIGH	16 TO 19
LOW BAND	GSM	LOW	HIGH	14 TO 15
LOW BAND	GSM	MEDIUM	LOW	7 TO 13
LOW BAND	GSM	HIGH	LOW	5 TO 6
HIGH BAND	GSM	ULTRA LOW	HIGH	10 TO 15
HIGH BAND	GSM	LOW	HIGH	7 TO 9
HIGH BAND	GSM	HIGH	LOW	0 TO 6
LOW BAND	EDGE	LOW	HIGH	15 TO 19
LOW BAND	EDGE	MEDIUM	LOW	10 TO 14
LOW BAND	EDGE	HIGH	LOW	8 TO 9
HIGH BAND	EDGE	LOW	HIGH	9 TO 15
HIGH BAND	EDGE	HIGH	LOW	2 TO 8



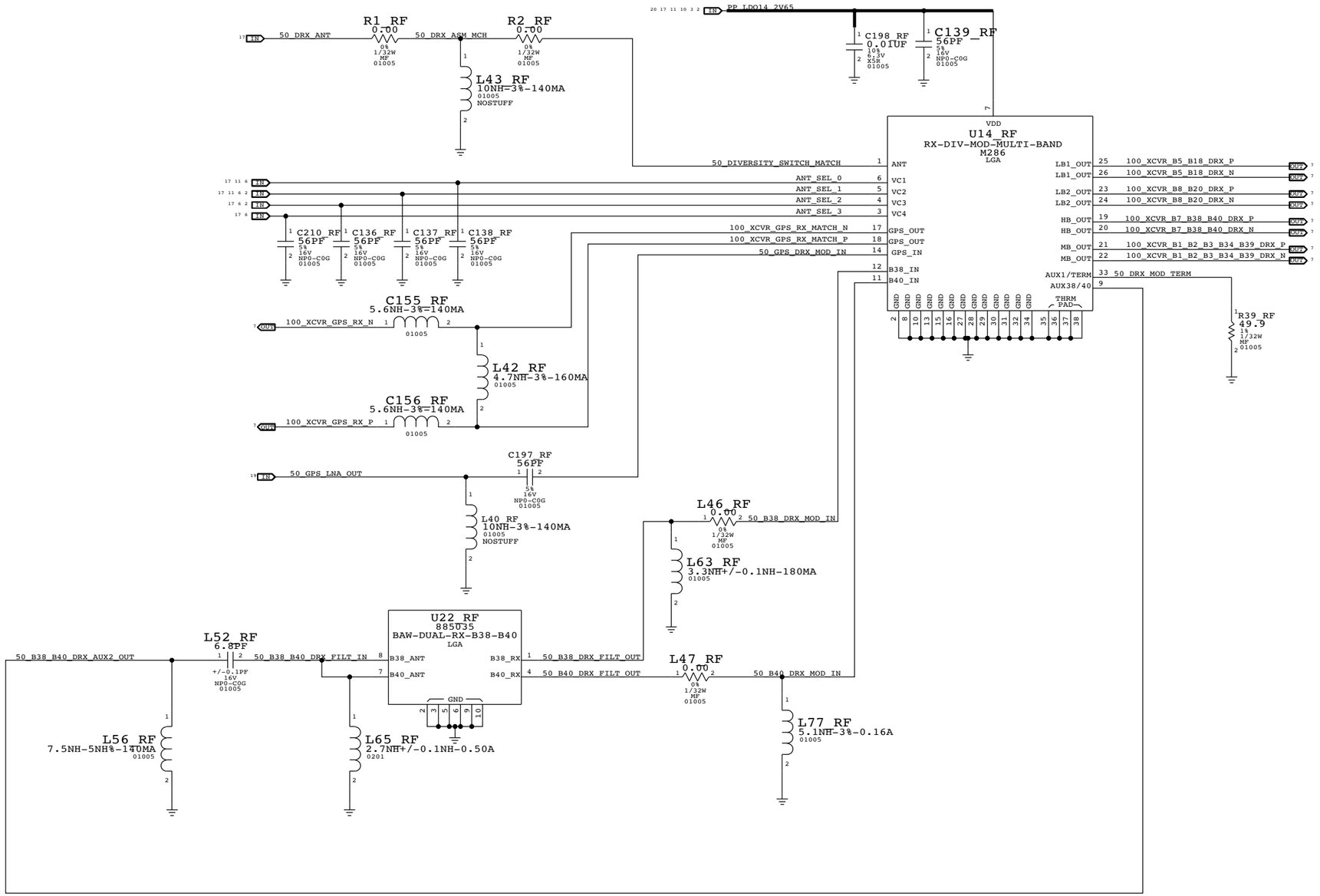
PA DC/DC CONVERTER



PRIMARY ASM

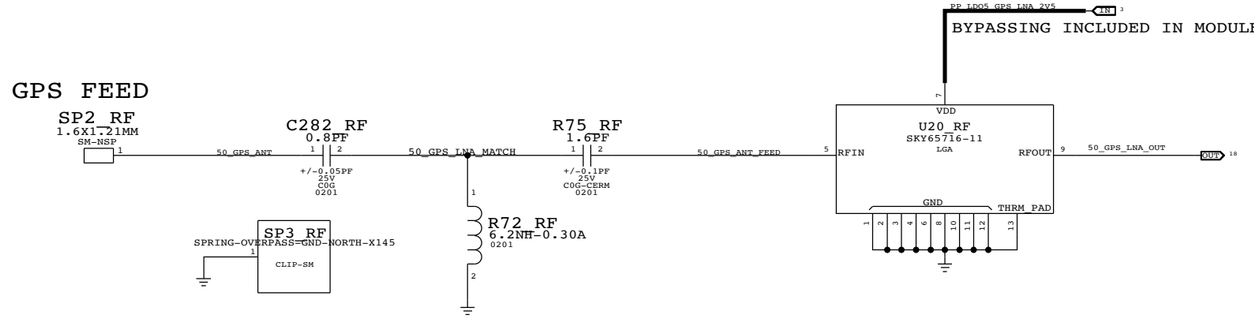


RX DIVERSITY



GPS

BYPASSING INCLUDED IN MODULE



ANTENNA FEEDS

UAT1

SP1_RF
1.6X1.21MM
SM-NSP
50_UPPER_ANT_FEED

FL1701_RF
FLTR-GPS-0603
LFE18832MHC1D449
NC

L1732_RF
2.4NH+/-0.2NH-0.57A-0.07OHM
03015
50_NTCH_FILT_OUT
50_UPPER_MCH_1

C1726_RF
0.8PF
+/-0.1PF
16V
NPO-C0G
01005

L69_RF
5.6NH-3%-140MA
01005
PP_LDO14_PAC_2V65
PP_LDO14_2V65

C247_RF
56PF
5%
16V
NPO-C0G
01005

C99_RF
0.01UF
10%
6.3V
X5R
01005

U7_RF
RFI112
WLCSP
VDD
MISO
RF1
CS
MOSI
SCLK
RF2
NC
GND

TP1_RF
A
TP-P6

U18_RF
0.3-2170MHZ
LLP
IN/OUT
OUT/IN
GND
50_UAT_CELL
50_UAT1_LPF

L6_RF
5.6NH-3%-140MA
01005
PAC_TO_BB_SPI_DATA_MISO
PAC_TO_BB_SPI_DATA_MISO_FILT

L66_RF
5.6NH-3%-140MA
01005
BB_SPI_TO_PAC_CS
BB_SPI_TO_PAC_CS_FILT

L67_RF
5.6NH-3%-140MA
01005
BB_SPI_TO_PAC_DATA_MOSI
BB_SPI_TO_PAC_DATA_MOSI_FILT

L68_RF
5.6NH-3%-140MA
01005
BB_SPI_TO_PAC_CLK
BB_SPI_TO_PAC_CLK_FILT

C96_RF
56PF
5%
16V
NPO-C0G
01005

C97_RF
56PF
5%
16V
NPO-C0G
01005

C98_RF
56PF
5%
16V
NPO-C0G
01005

C38_RF
56PF
5%
16V
NPO-C0G
01005

L8_RF
6.2NH-390MA
03015

L48_RF
1.7NH+/-0.1NH-0.60A
0201
50_WLAN_G
50_EXTRACTOR_WIFI

C271_RF
56PF
5%
16V
NPO-C0G
01005

C157_RF
0.01UF
10%
6.3V
X5R
01005

PP_LDO14_2V65

U9_RF
885041
DIPLEXER-CELL-WIFI
LGA
ANT
SMD3/WLAN
SMD2_ANT/
SMD4_GND
RF2/CELL_SMD1
SMD1
GND

L51_RF
4.7NH-3%-0.35A
0201
50_EXTRACTOR_CELL
50_B7_B38_B40_SPDT

U13_RF
CXA4011GC
XFLGA
VDD
RF1
RF2
VC1
RF
GND

UAT1 COAX

J6_RF
MM5829-2700
F-ST-SM

J5_RF
MM5829-2700
F-ST-SM

50_UAT_COAX_DOWN
50_UAT_COAX_UP

BS_SP2T_CTL

C158_RF
56PF
5%
16V
NP0-C0G
01005

UAT2

DPX165950DT-8030C1
U12_RF
SM
LOW_BAND
HIGH_BAND
COMMON
GND
50_UAT2_DIPLEX
50_WLAN_A

L50_RF
3.4NH-3%-0.45A
0201
50_EXTRACTOR_DIPLEX_1

L49_RF
5.6NH-3%-140MA
01005

J10_RF
MM5829-2700
F-ST-SM
50_UAT2_ANT_FD

C101_RF
0.2PF
+/-0.1PF
25V
C0G-CERM
201
NOSTUFF

R13_RF
0
5%
1/20W
MF
201
250_UAT2_ANT_MATCH

LAT

J4_RF
MM5829-2700
F-ST-SM
50_LAT_COAX

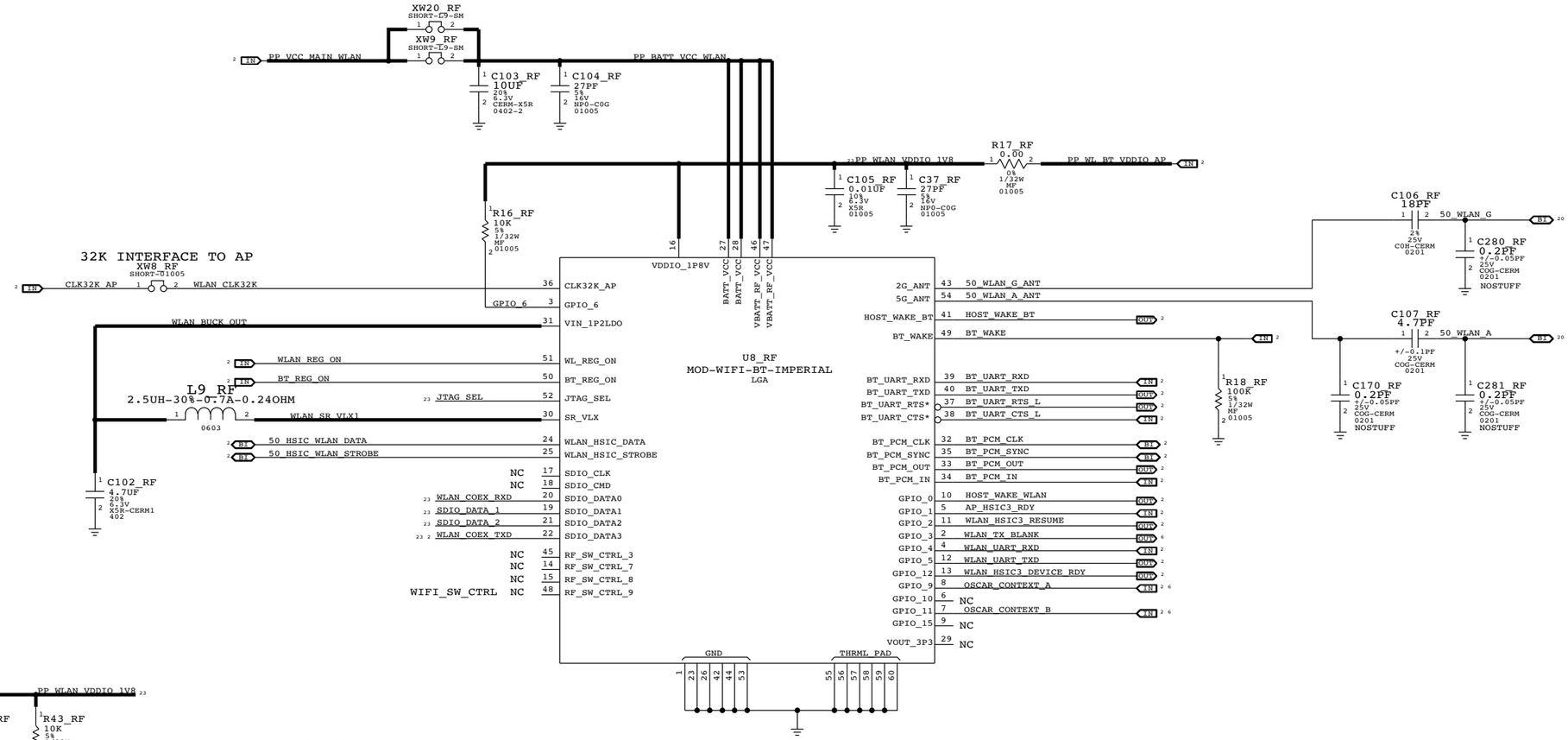
R11_RF
3.0NH+/-0.1NH-0.45A
0201
50_LAT_MATCH

C94_RF
1.0PF
+/-0.1PF
25V
NP0-C0G
201
NOSTUFF

C95_RF
1.0PF
+/-0.1PF
25V
NP0-C0G
201
NOSTUFF

J9_RF
MM8930-2600B
F-RT-SM
GND
50_LAT_TEST

WLAN/BT



PULL-UP ON GPIO6, SDIO_DATA_2 & PULL-DOWN ON SDIO_DATA_1 REQUIRED FOR HSIC BOOTSTRAPPING