

1. ALL RESISTANCE VALUES ARE IN OHMS, 0.1 WATT +/- 5%.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS.
3. ALL CRYSTALS & OSCILLATOR VALUES ARE IN HERTZ.

Thu Apr 17 17:11:44 2014

N61 CARRIER BUILD

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NAND BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S0998	1	NAND, 19NM, 16GX8, MLC, PPN1.5	U0604	CRITICAL	NAND_16G
335S0993	1	NAND, 19NM, 32GX8, MLC, PPN1.5	U0604	CRITICAL	NAND_32G
335S0994	1	NAND, 19NM, 64GX8, MLC, PPN1.5	U0604	CRITICAL	NAND_64G
335S00010	1	NAND, 19NM, 128GX8, TLC, PPN1.5	U0604	CRITICAL	NAND_128G
138S0867	1	DAP, X5R, 10UF, 20%, 6.3V, 0.65MM, HRTZ, 0402	C0610, C0611, C0614, C0634	CRITICAL	NAND_16G
138S0867	1	DAP, X5R, 10UF, 20%, 6.3V, 0.65MM, HRTZ, 0402	C0613, C0633, C0610, C0611, C0614, C0634	CRITICAL	NAND_32G & NAND_64G
138S00003	1	DAP, X5R, 15UF, 20%, 6.3V, 0.65MM, HRTZ, 0402	C0613, C0633, C0610, C0611, C0614, C0634	CRITICAL	NAND_128G

ALTERNATE NAND BOM OPTIONS

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS
335S0992	335S0998	ALTERNATE	U0604	TOSHIBA, NAND, 16GB
335S1038	335S0998	ALTERNATE	U0604	HYUNIX, NAND, 16GB
335S1040	335S0994	ALTERNATE	U0604	HYUNIX, NAND, 64GB
335S00014	335S0994	ALTERNATE	U0604	TOSHIBA, NAND, 4GB
335S00015	335S00010	ALTERNATE	U0604	TOSHIBA, NAND12GB
335S00009	335S0994	ALTERNATE	U0604	SANDISK, NAND, 64GB, TLC

SHIELD BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
604-00241	1	SUBASSY, SHIELD, UPPER FRONT, N61	SH2501	CRITICAL	COMMON
604-00242	1	SUBASSY, SHIELD, LOWER FRONT, N61	SH2502	CRITICAL	COMMON
604-00243	1	SUBASSY, SHIELD, LOWER BACK, N61	SH2504	CRITICAL	COMMON
604-00244	1	SUBASSY, SA SHIELD, N61	SH2506	CRITICAL	COMMON

SCH 051-9903
BRD 820-3486
MCO 056-6825

BOM 639-4237 (16GB, BETTER)
BOM 639-5838 (32GB, BEST)
BOM 639-5839 (64GB, ULTRA)

BOM 639-00208 (16GB, BETTER, DTD)
BOM 639-00209 (32GB, BEST, DTD)
BOM 639-00210 (64GB, ULTRA, DTD)

BOM 639-00025 (128GB, SUPREME, TLC) BOM 639-00212 (128GB, SUPREME, TLC, DTD)

REV	ECN	DESCRIPTION OF REVISION	CK APPD DATE
7	0002727241	ENGINEERING RELEASED	2014-04-18

N61 BOM CALLOUTS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-9903	1	SCH, MLB, N61	SCH	CRITICAL	?
820-3486	1	PCBF, MLB, N61	PCB	CRITICAL	?
825-6838	1	EEEE FOR 639-4237 16GB	EEEE_G16T	CRITICAL	EEEE_16G
825-6838	1	EEEE FOR 639-5838 32GB	EEEE_G16R	CRITICAL	EEEE_32G
825-6838	1	EEEE FOR 639-5839 64GB	EEEE_G16Q	CRITICAL	EEEE_64G
825-6838	1	EEEE FOR 639-00025 128GB	EEEE_G16N	CRITICAL	EEEE_128G
825-6838	1	EEEE FOR 639-00208 16GB	EEEE_P9F8	CRITICAL	EEEE_16G_TDDLTE
825-6838	1	EEEE FOR 639-00209 32GB	EEEE_FQK0	CRITICAL	EEEE_32G_TDDLTE
825-6838	1	EEEE FOR 639-00210 64GB	EEEE_FQJY	CRITICAL	EEEE_64G_TDDLTE
825-6838	1	EEEE FOR 639-00212 128GB	EEEE_FY9W	CRITICAL	EEEE_128G_TLC_TDDLTE

ALTERNATE BOM OPTIONS

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S1844	152S1836	ALTERNATE	L1604	TY ALT INDUCTOR
152S1842	152S1849	ALTERNATE	L1519	TY ALT INDUCTOR
197S0392	197S0369	ALTERNATE	Y1200	ESPN ALT XTAL
197S0399	197S0369	ALTERNATE	Y1200	NSK ALT XTAL
338S1285	338S1202	ALTERNATE	U1601	L21 SPKAMP
152S2034	152S2033	ALTERNATE	U0309, L1211, L1212	1.2MM 1.0UH, CYNTEC
152S00004	152S2049	ALTERNATE	U0210, L1212, L1214	1.2MM 0.47UH, CYNTEC
339S00005	339S0246	ALTERNATE	U0201	FIJI, B0, SAMSUNG
339S0247	339S0246	ALTERNATE	U0201	FIJI, B0, HYNIX
339S00006	339S0246	ALTERNATE	U0201	FIJI, B1, E
339S00007	339S0246	ALTERNATE	U0201	FIJI, B1, H
339S00008	339S0246	ALTERNATE	U0201	FIJI, B1, S
155S0773	155S0453	ALTERNATE		TY 120OHM FERRITE
118S0764	118S0717	ALTERNATE	R1309	3.92KOHM, 01005
343S0688	343S0638	ALTERNATE	U2401	CUMULUS C1, FAB4
138S00005	138S00003	ALTERNATE	C1290	15UF, 0402, HRTZL CAP
155S00011	155S00008	ALTERNATE	L1135	CMC, 90OHM, MURATA
377S0168	377S0140	ALTERNATE	D21113	SUPP, TRANS, VARISTOR, AMUTECH
155S0885	155S0610	ALTERNATE	FL1802, FL1801	FERR NO, 150OHM, 200MA, 01005
138S0648	138S0652	ALTERNATE	C1018	CAP, 4.7UF, 20V, 4.3V, 0402, W-C, 60MH
138S0657	138S0702	ALTERNATE	C1106	CAP, 4.3UF, 20V, 4V, 0410
338S00028	338S00017	ALTERNATE	J2203	CARBON, BOSCH, BMI162BC
338S00029	338S00017	ALTERNATE	J2203	CARBON, ST, AP6DS2AA
335S00013	335S0894	ALTERNATE	U0301	ST BK REPRON

DRAWING TITLE	
SCHEM, MLB, N61	
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	051-9903
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	BRANCH
	PAGE
	1 OF 55
	SHEET
	1 OF 54

FIJI: DIGITAL I/O, BOOTSTRAPPING

D

C

B

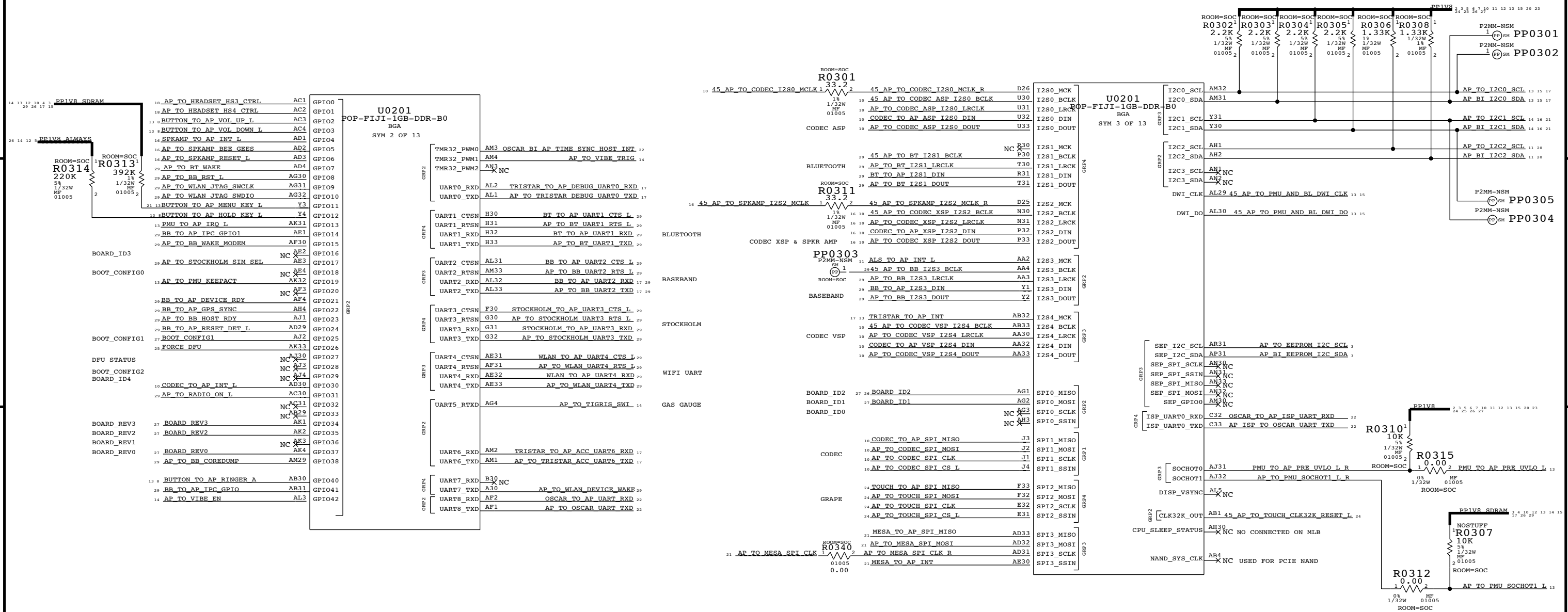
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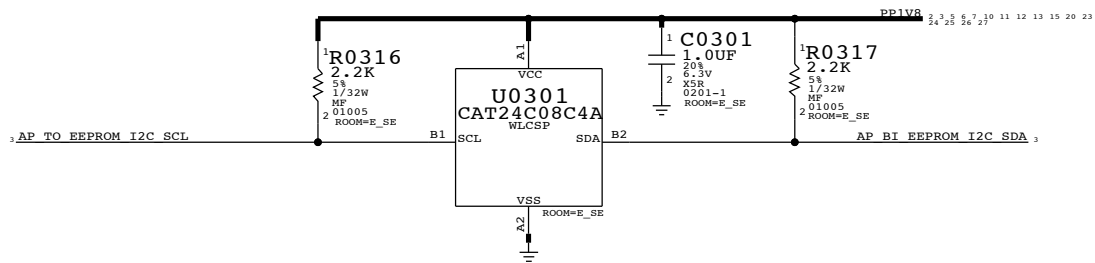
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A



ANTI-ROLLBACK EEPROM
ONSEMI EEPROM
APN:335S0894



REMOVED HOLD + MENU KEY
BUFFERS SINCE NOT NEEDED FOR FIJI

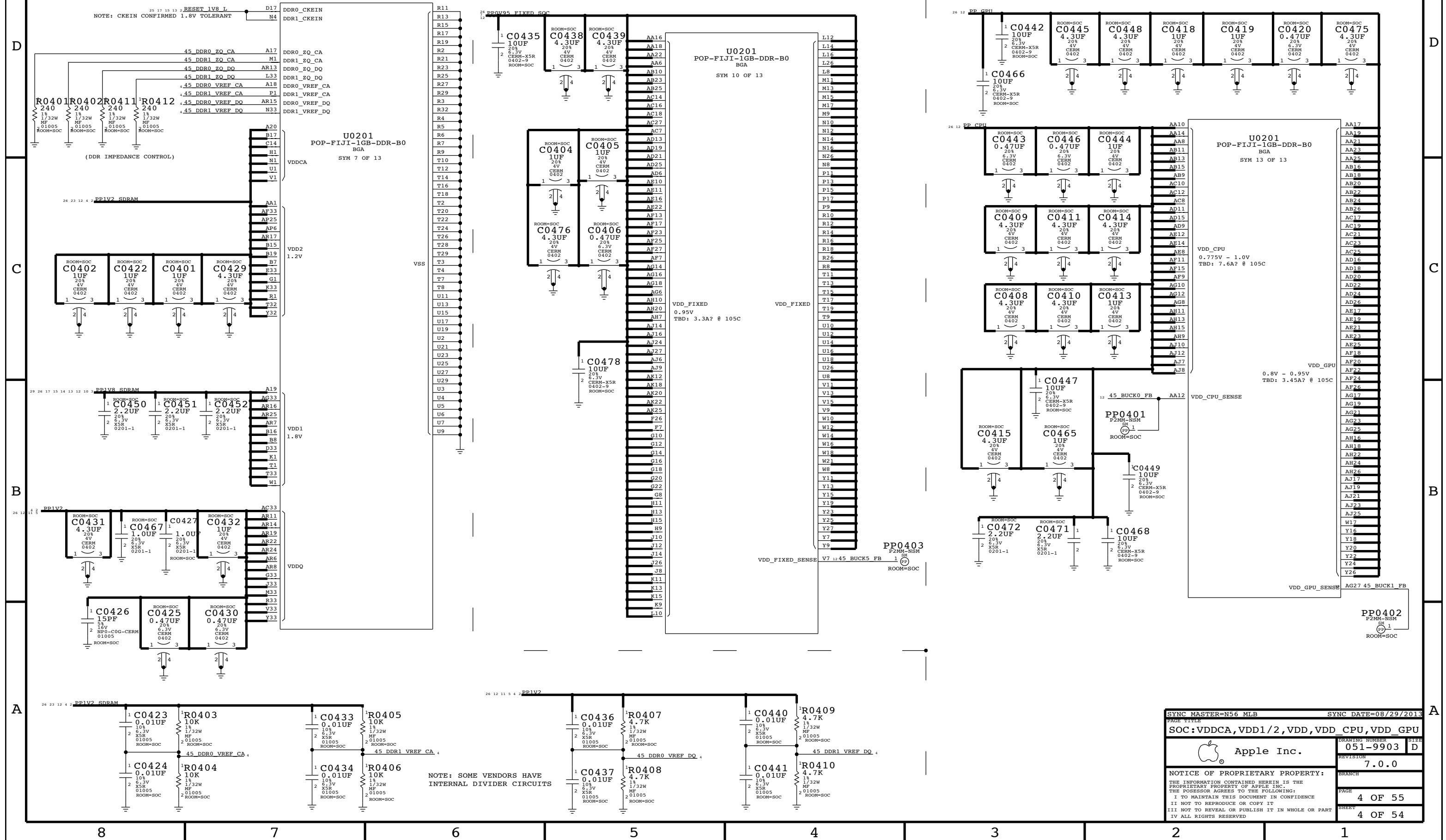
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FIJI: VDDCA, VDD1/2, VDDQ, VDD, VDD_FIXED, VDD_CPU, VDD_GPU

VDDCA, VDD1/2, VDDQ

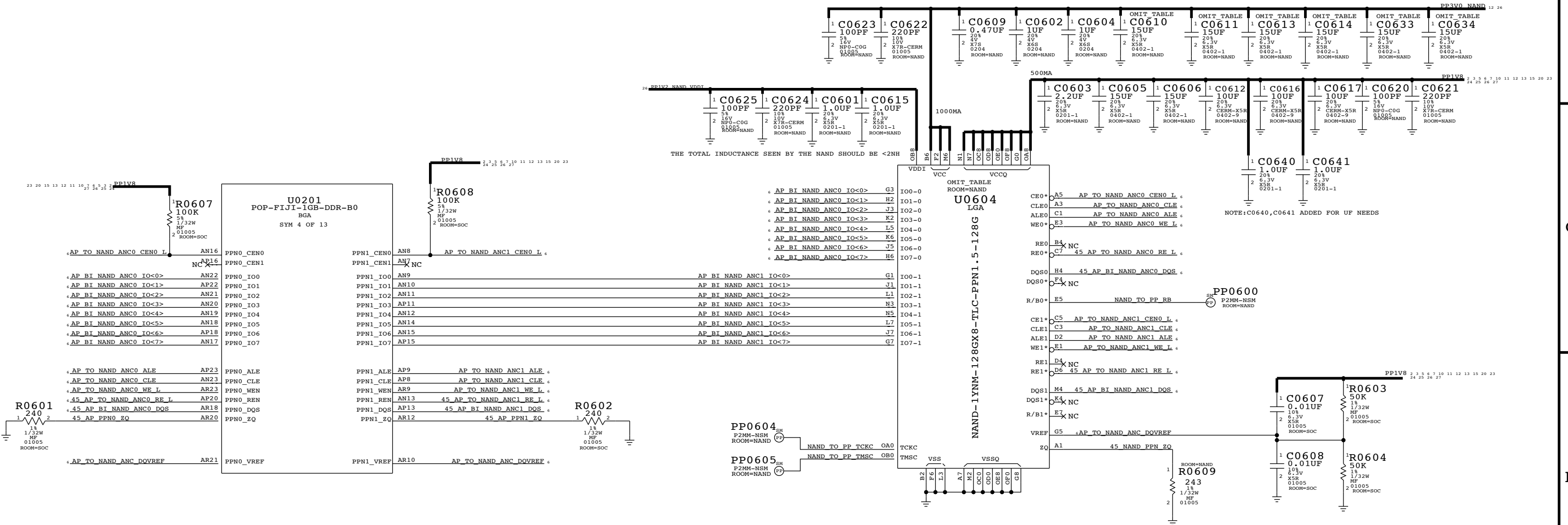
VDD

VDD_CPU, VDD_GPU



FIJI: NAND + 12X17 NAND PKG

SUPPORT FOR PPN1.5 (1.8V IO) ONLY



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

PP0601 P4MM
ROOM=SOC 1 AP BI NAND ANCO IO<6> 45
PP0602 P4MM
ROOM=SOC 1 45 AP TO NAND ANCO RE L 45
PP0603 P4MM
ROOM=SOC 1 45 AP BI NAND ANCO DQS 45

SYNC MASTER=N56 MLB		SYNC DATE=08/29/2013	
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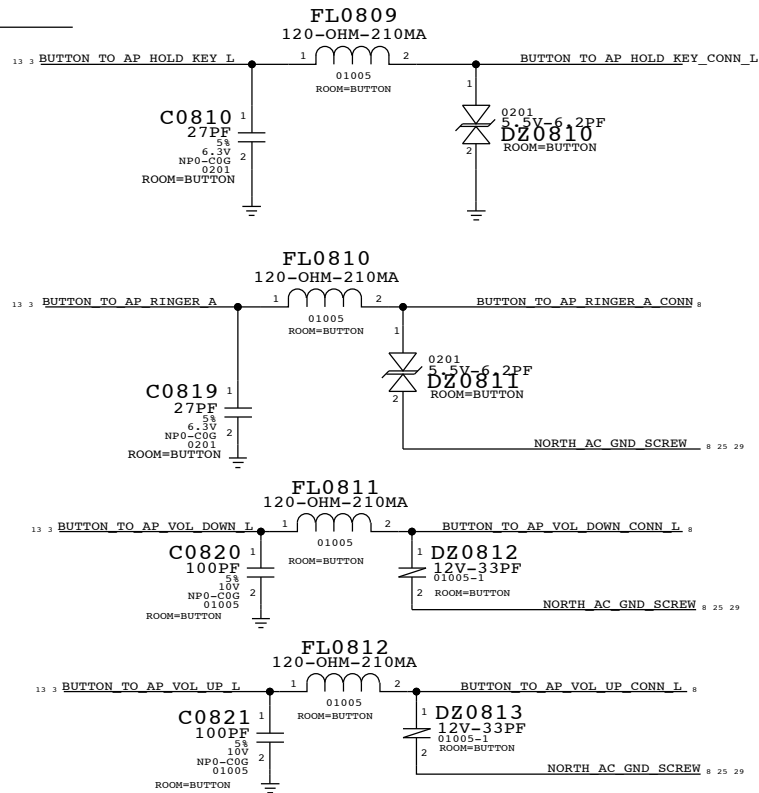
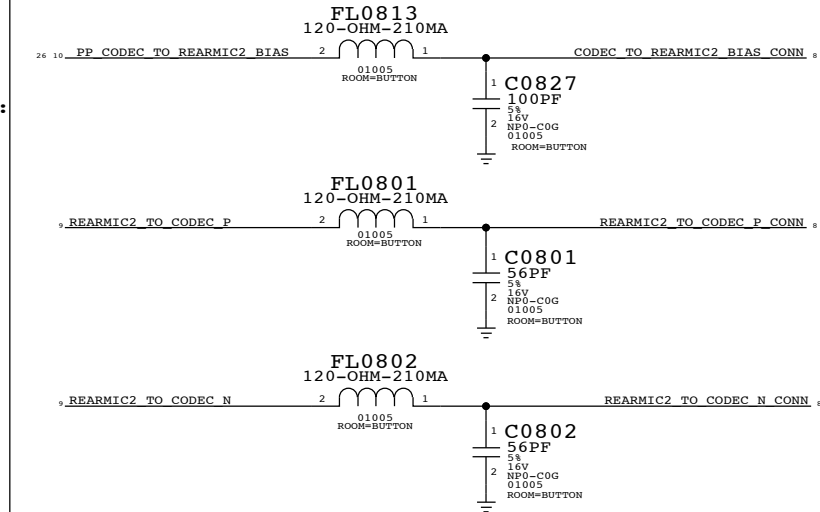
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8 7 6 5 4 3 2 1

BUTTON FLEX (BUTTONS, ANC REF MIC, STROBE, STROBE_NTC, WIFI FLEX PAC)

D

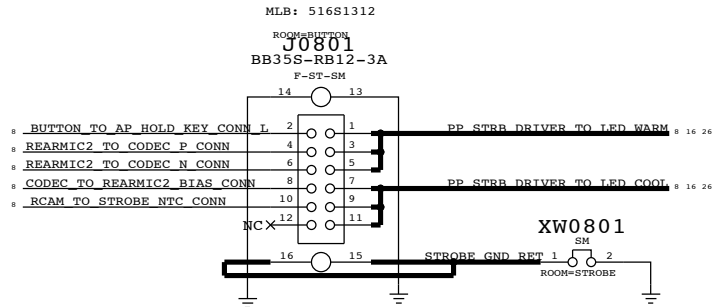
MIC2 (ANC REF MIC):
MIC2/4 BIAS,
MIC2_P,_N



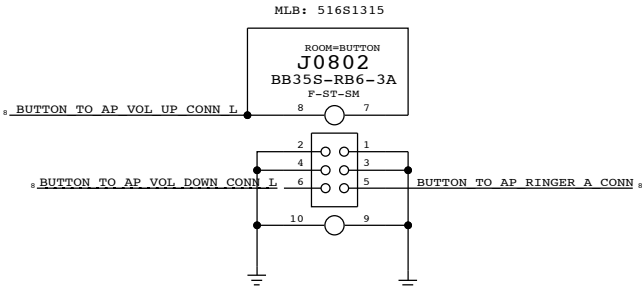
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BUTTONS:
RINGER, HOLD,
VOL_UP/DOWN,

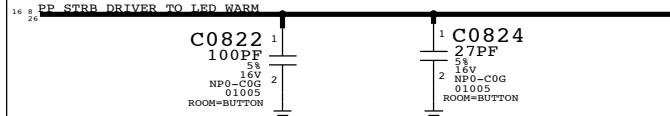
RIGHT BUTTON B2B



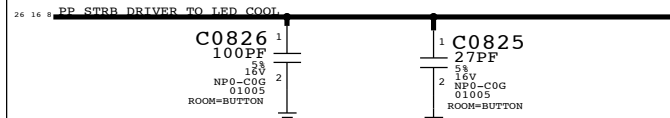
LEFT BUTTON B2B



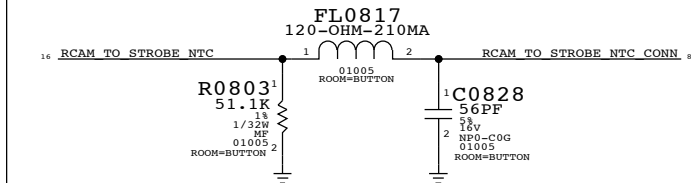
STROBE:
LED WARM



STROBE:
LED COOL



STROBE:
NTC

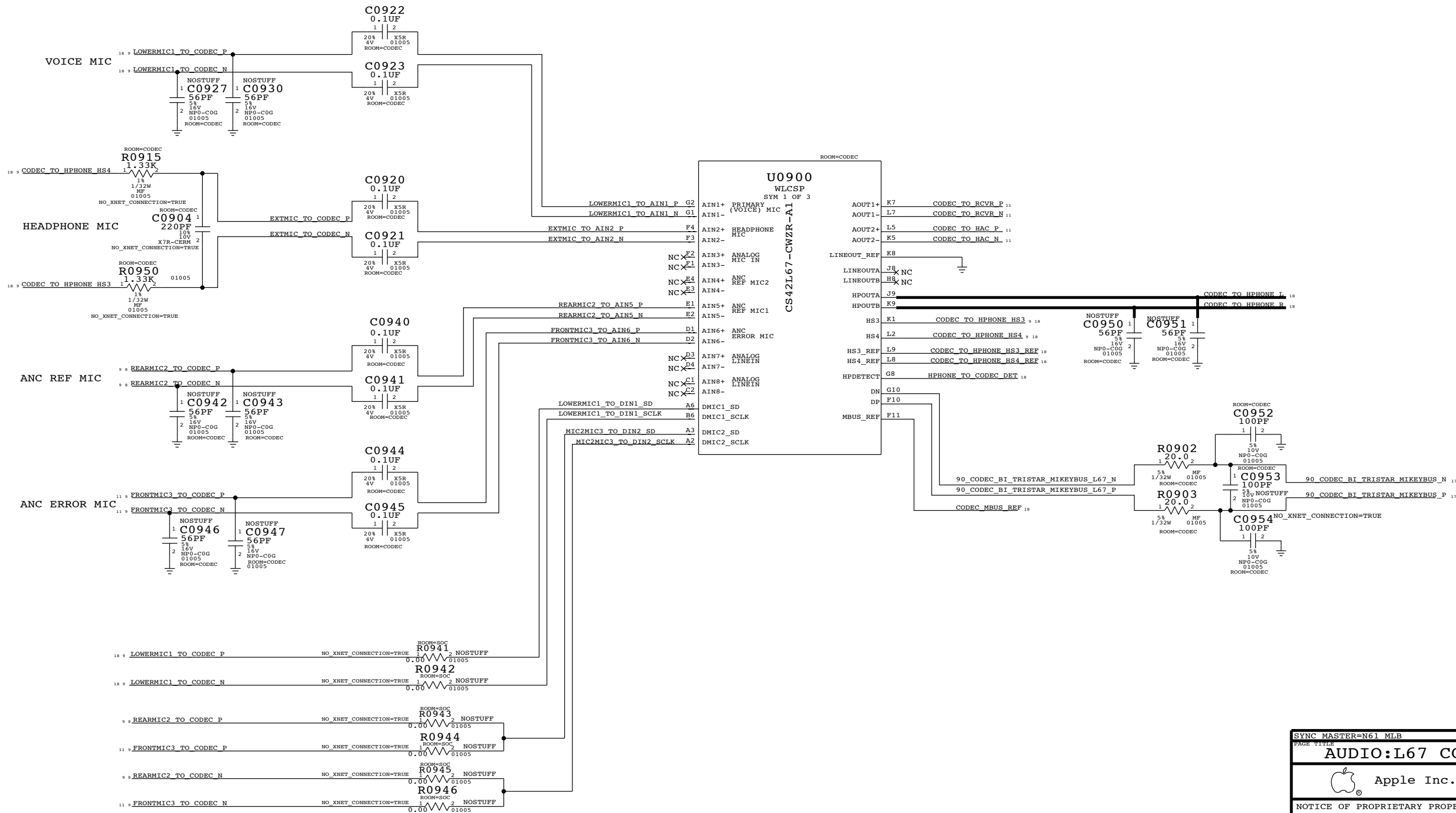


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L67 AUDIO CODEC

AUDIO I/O

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

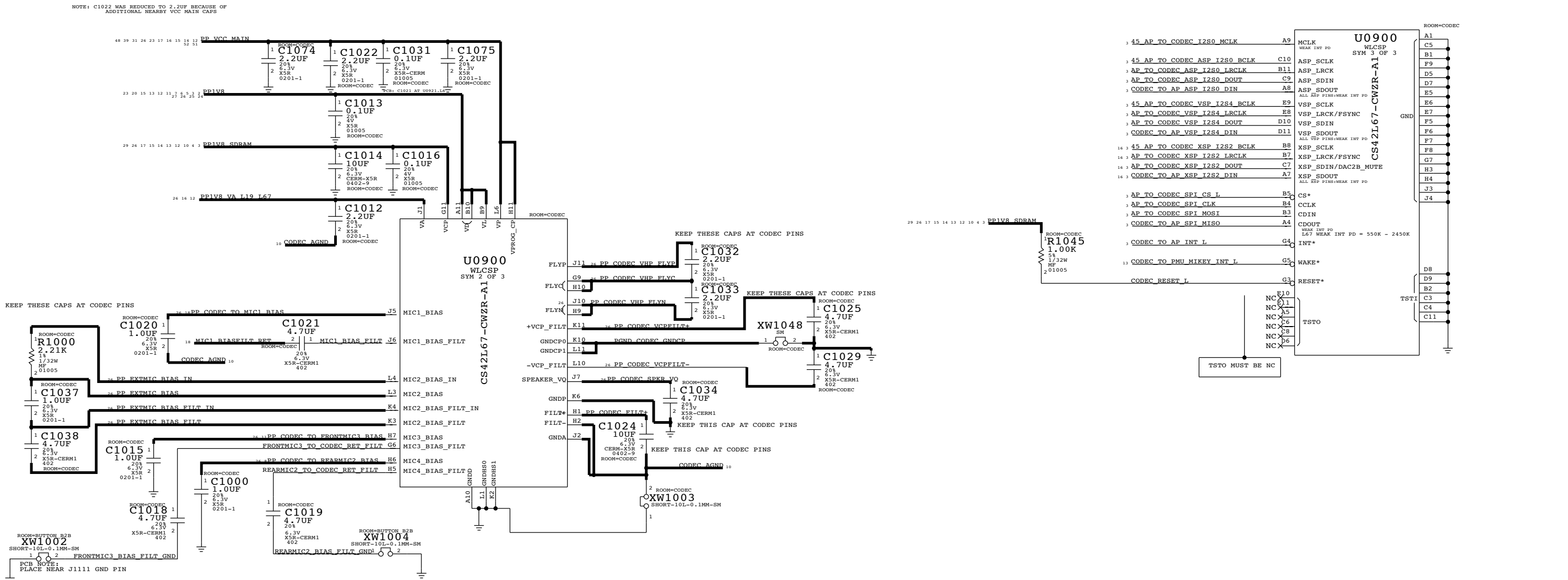


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L67 AUDIO CODEC

POWER, MICBIAS

DIGITAL SYSTEM I/O



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FRONT CAM FLEX B2B

(FCAM, PROX, ALS, RECEIVER, ANC ERROR MIC)

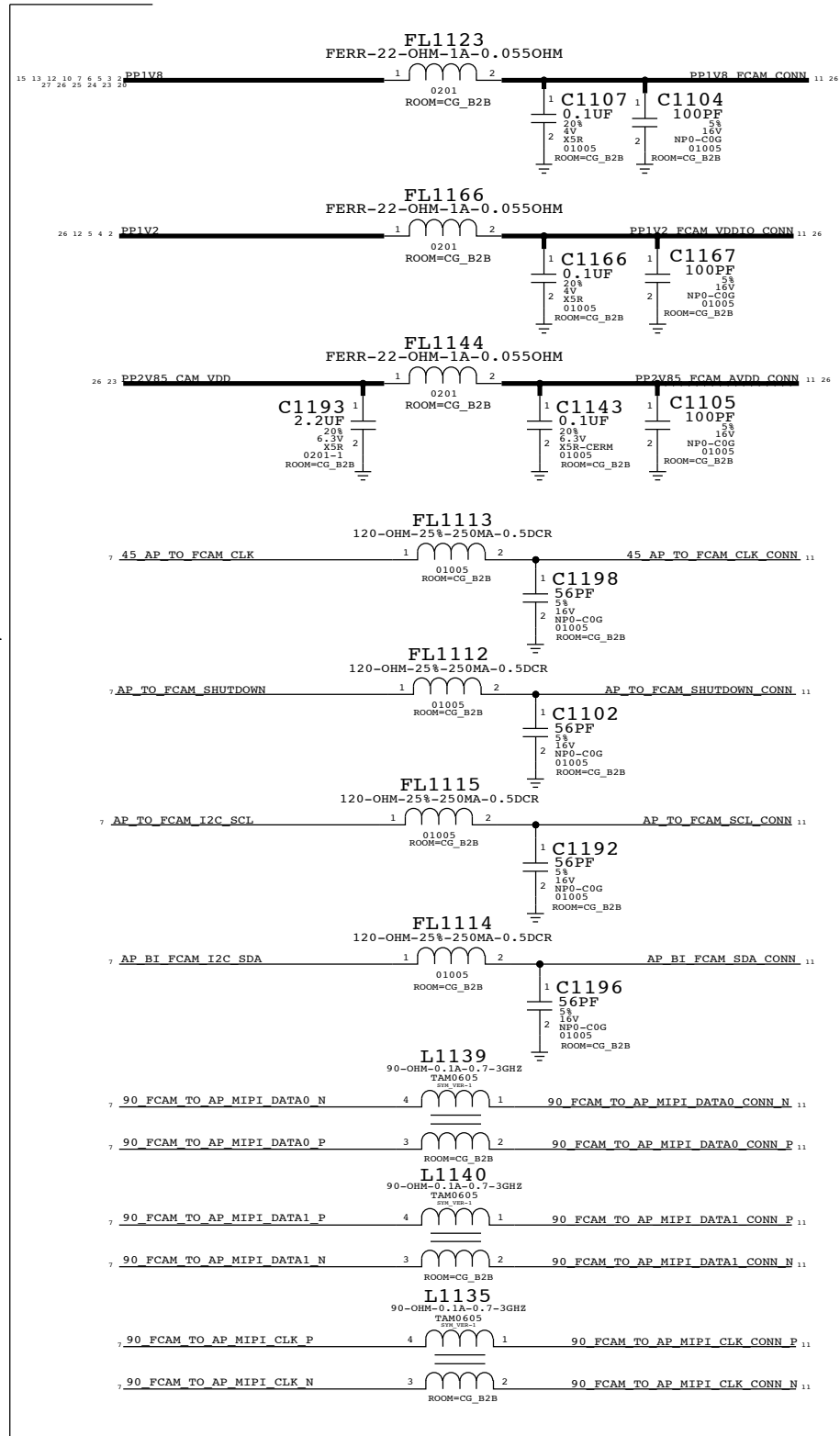
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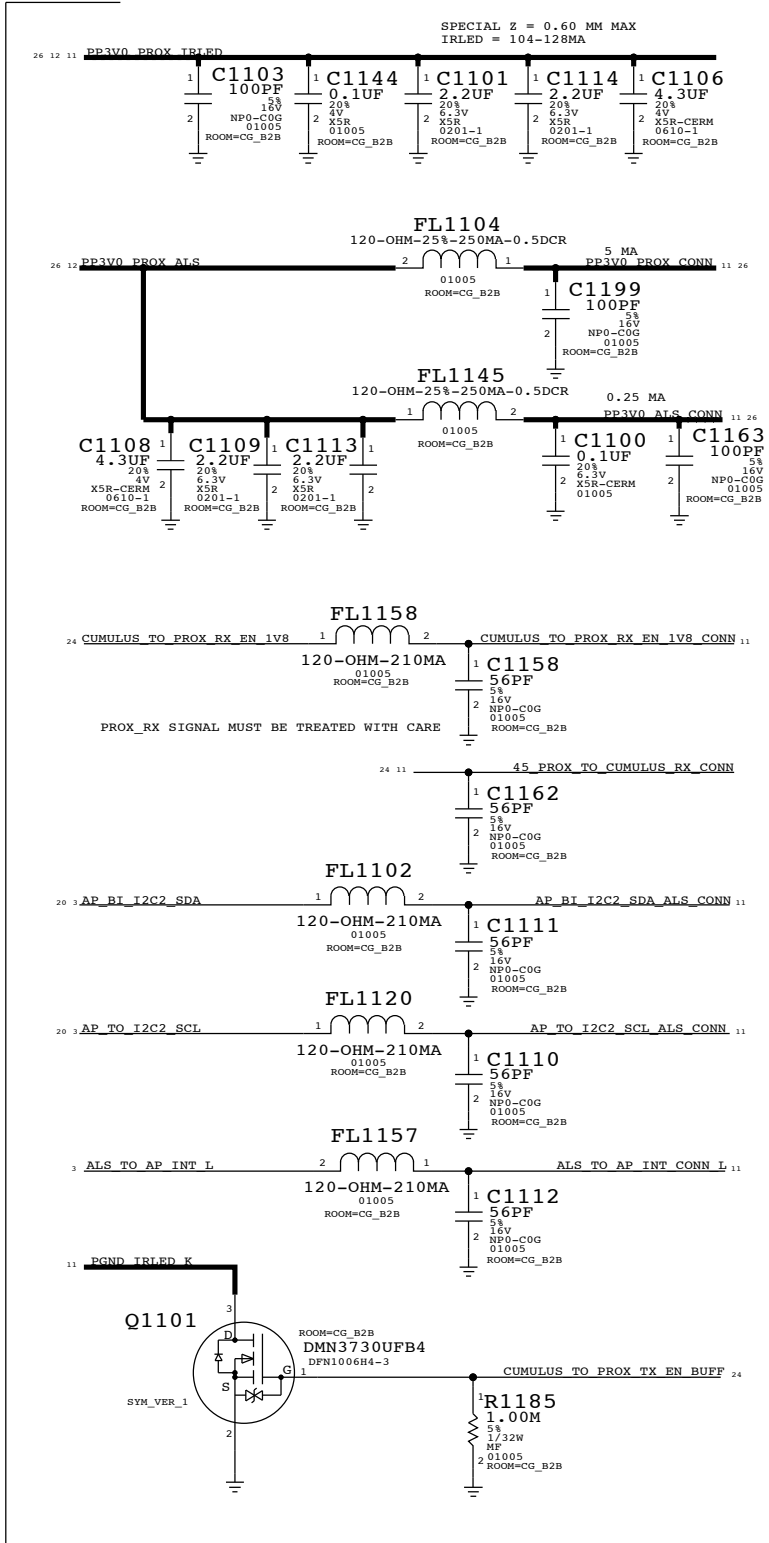
CAMERA

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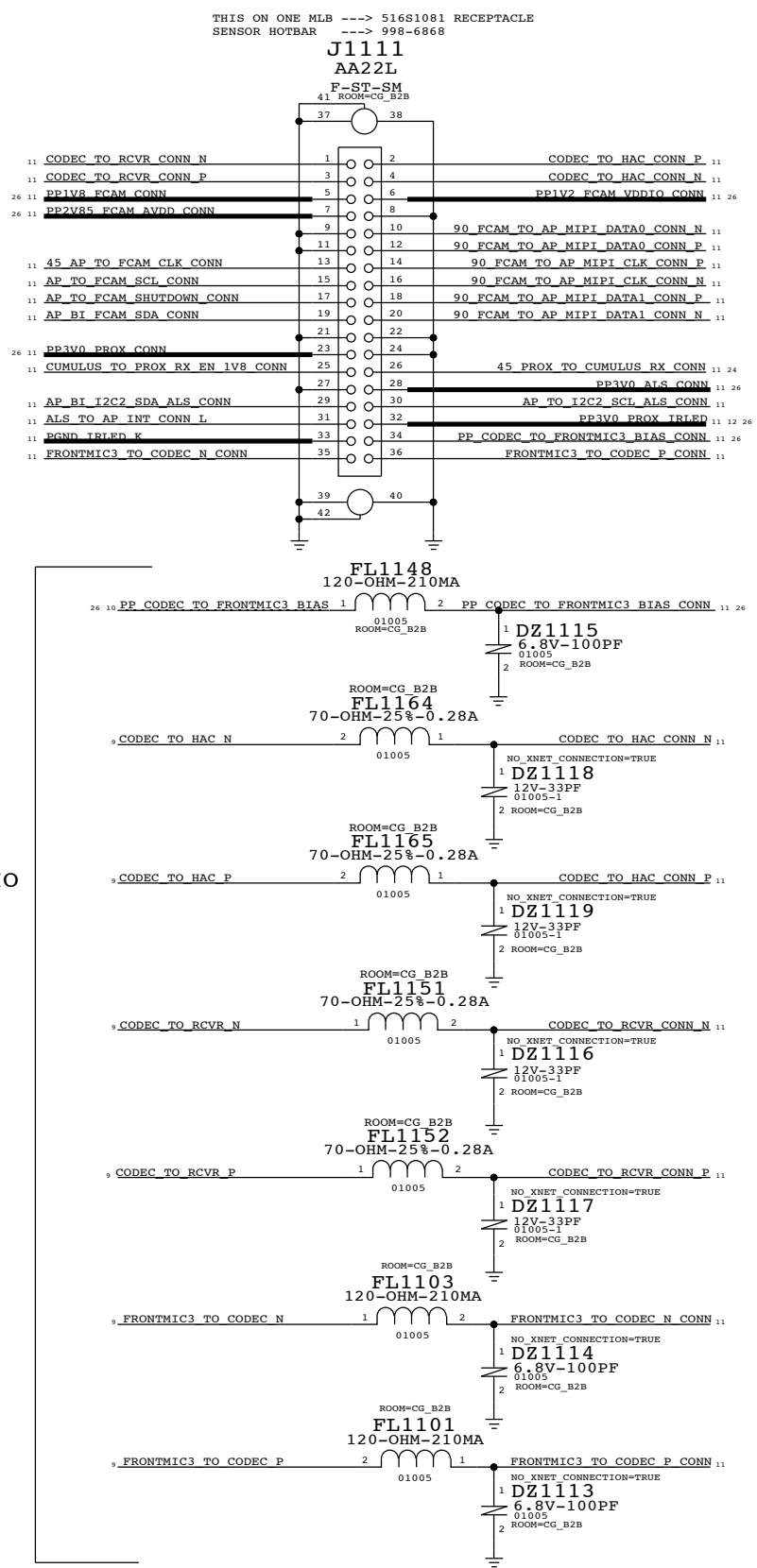
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ALS,
PROX

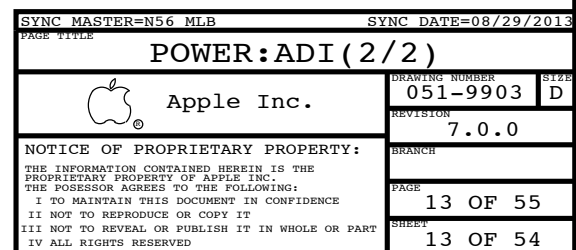


AUDIO

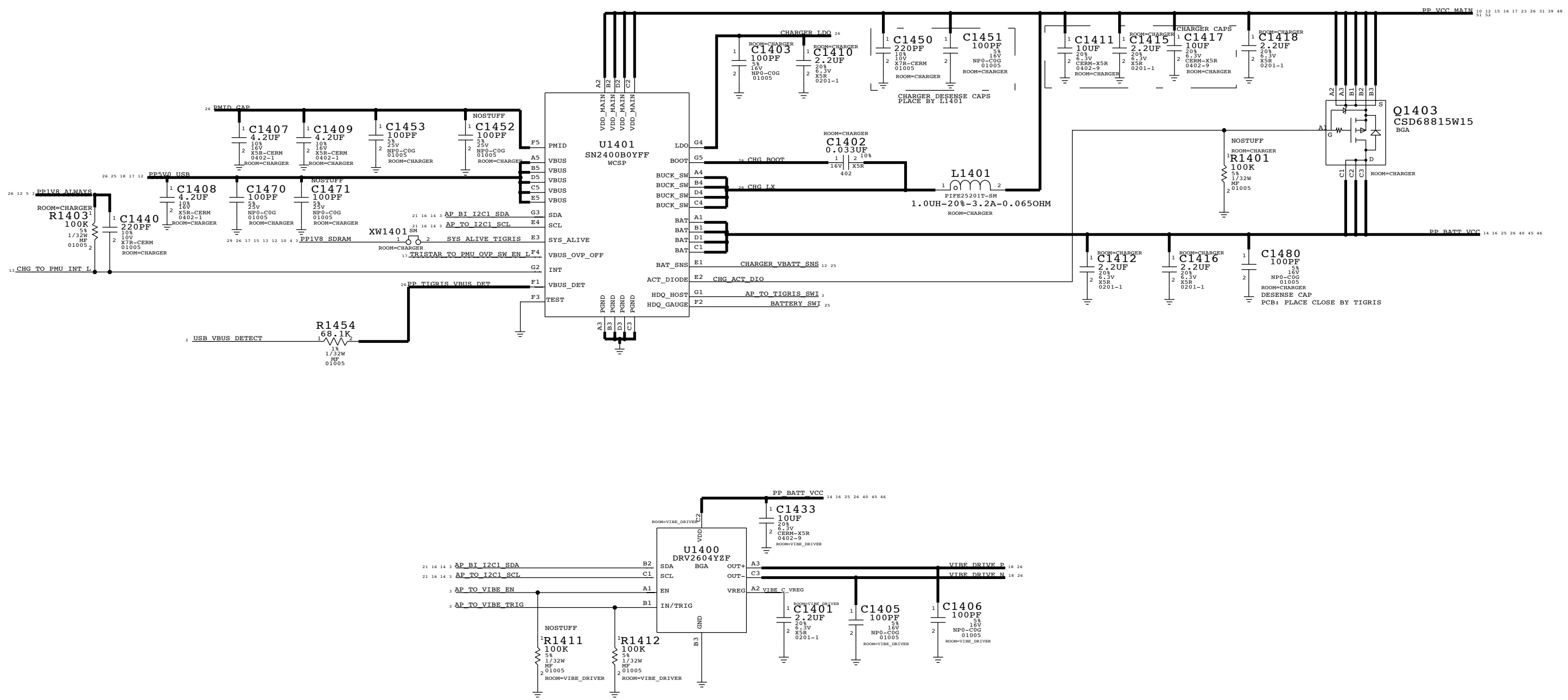


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```
(AMUX, GPIO, BUTTONS, ADC, THERMISTORS, SYSTEM I/F, GND)
```



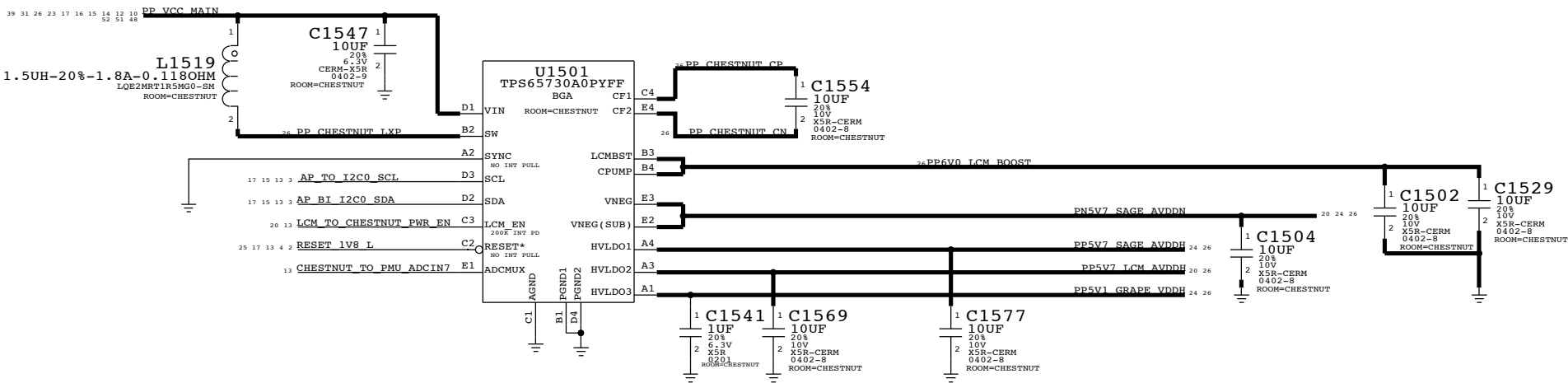
TIGRIS CHARGER & VIBE DRIVER



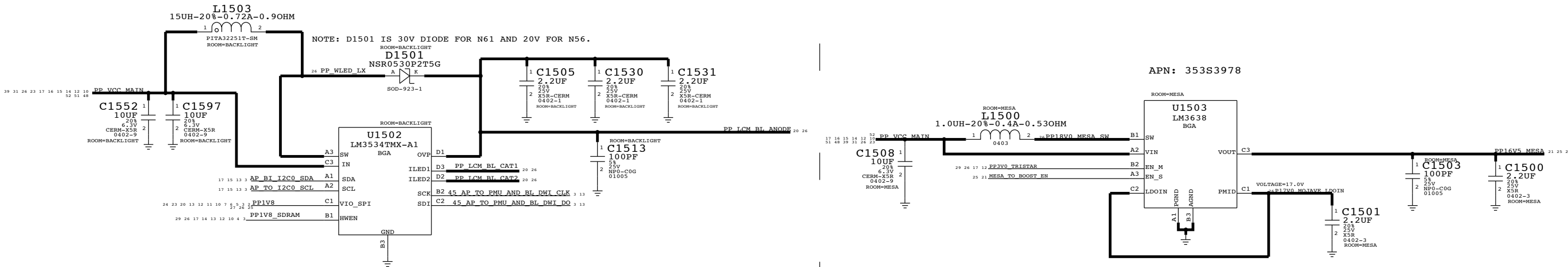
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POWER:TIGRISR,VIBE DRIVER		
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CHESTNUT, BACKLIGHT DRIVER, MESA BOOST

D500 DISPLAY PMU (TI CHESTNUT, 338S1149)



D500 BACKLIGHT DRIVER

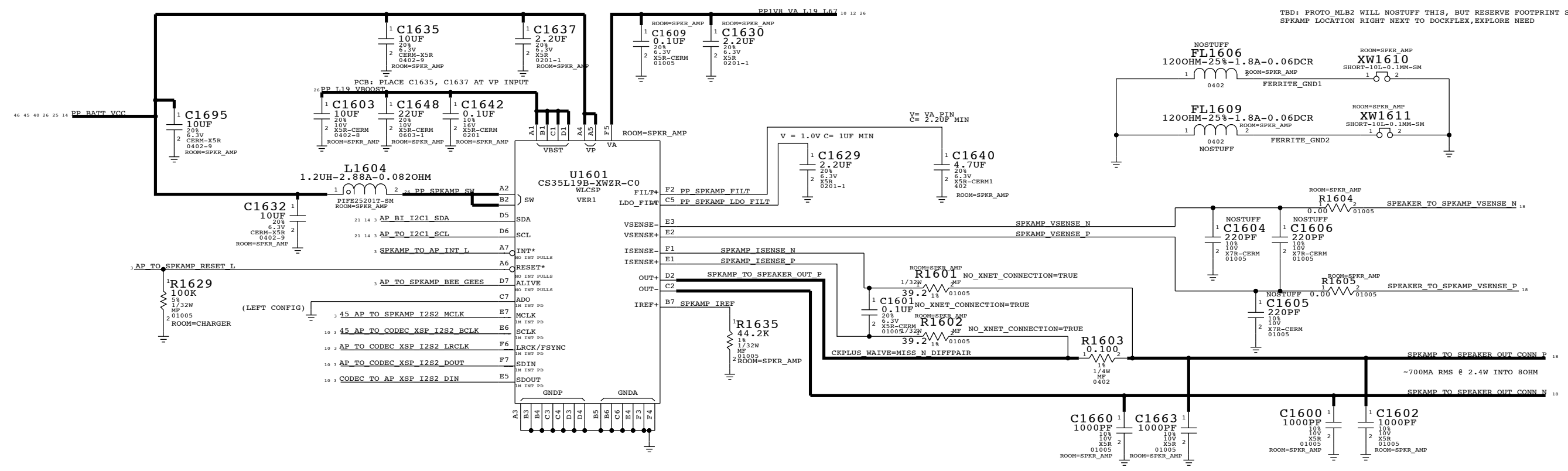


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DISPLAY:CHESTNUT, BACKLIGHT DRIVER		051-9903	
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SPEAKER AMP, LED DRIVER

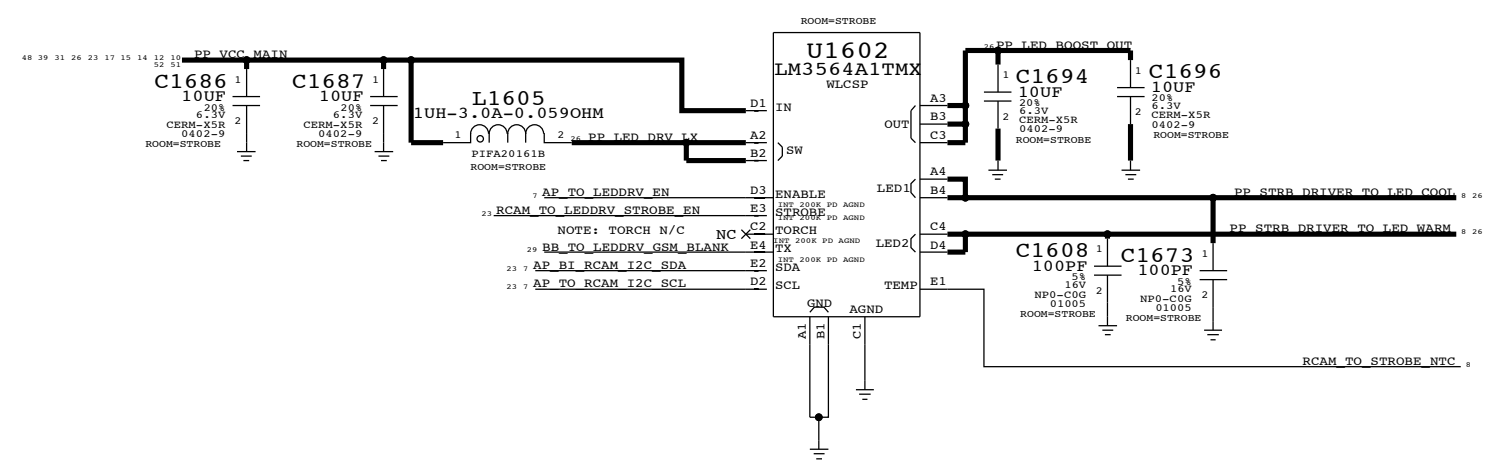
SPEAKER AMP

I2C ADDRESS: 1000000X



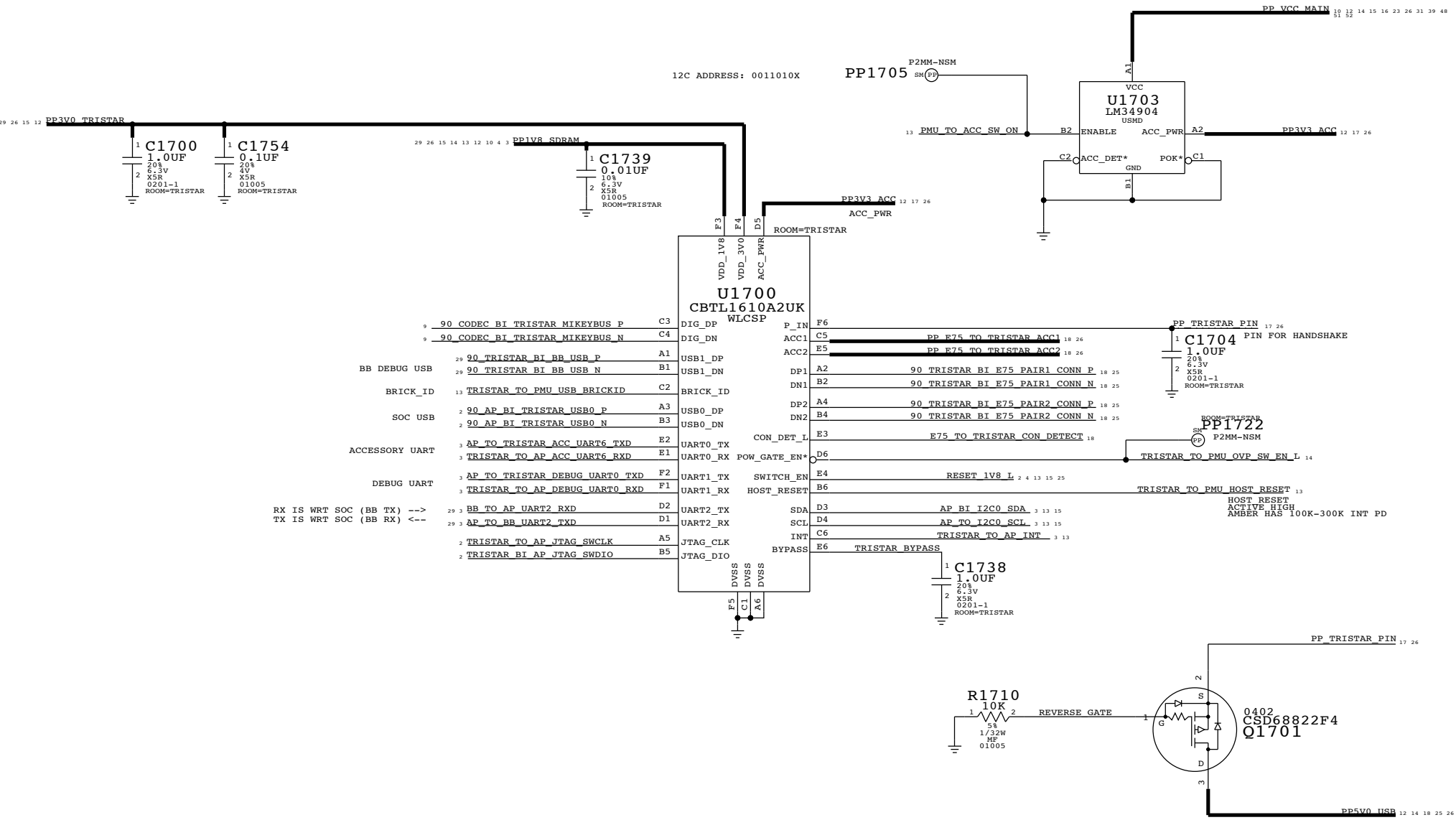
STROBE DRIVER

TI: APN 353S3899



SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
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 Apple Inc.		DRAWING NUMBER	051-9903
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TRISTAR2



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

D

LOWER MIC1
(PRIMARY
VOICE MIC)

C

HEADPHONE

B

CODEC TO
HEADPHONE

A

ACCESSORY:
VIBE
DRIVE

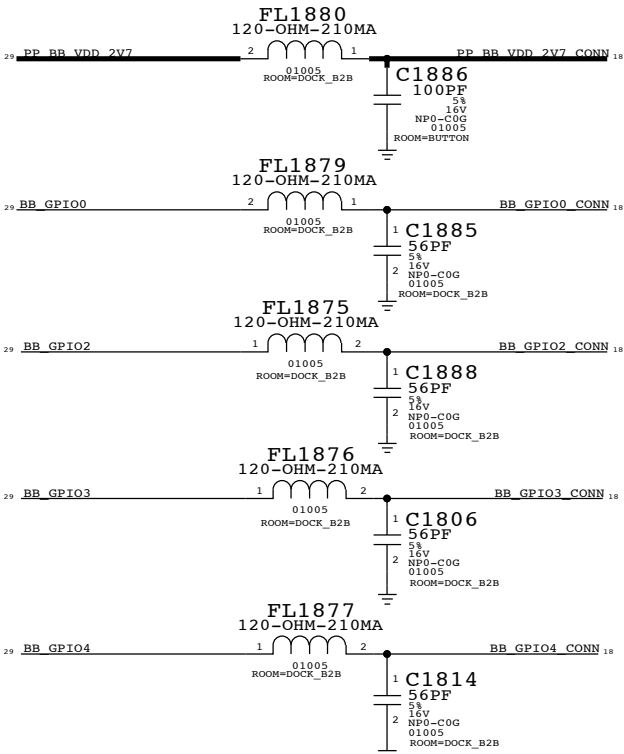
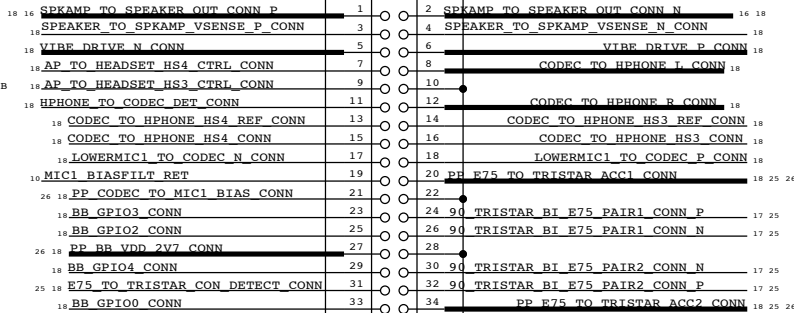
SPEAKER:
LEADS,
VSENSE

TRISTAR

USB
VBUS

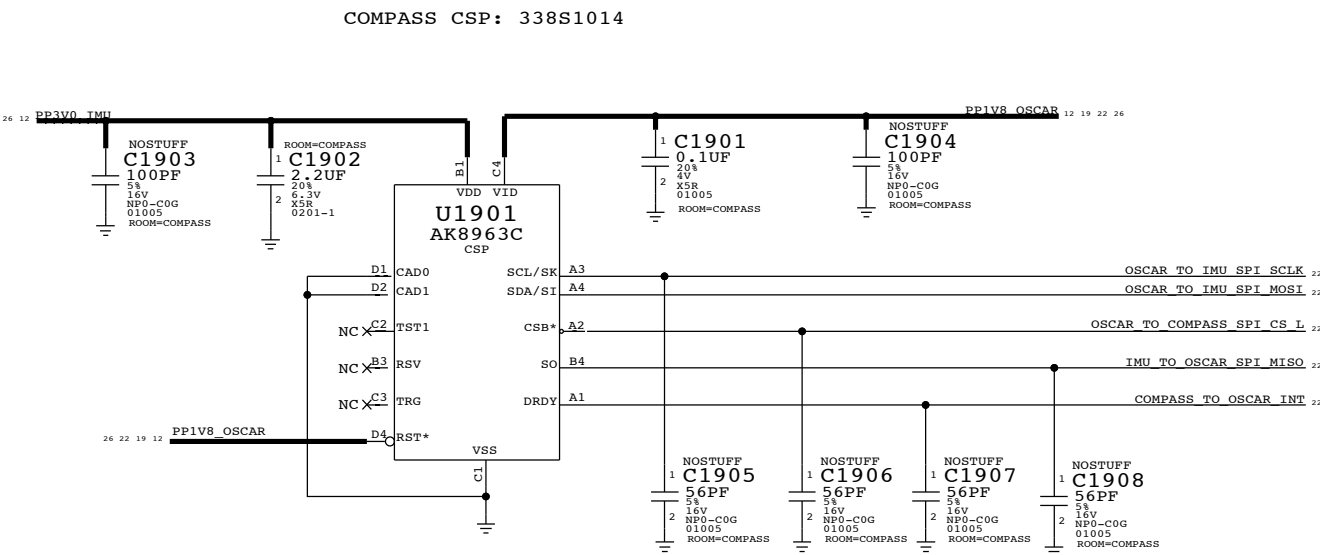
ANTENNA

MLB: 516S1281 (RCPT)
ROOM=DOCK_B2B J1817
24-5859-036-201-829
F-ST-SM



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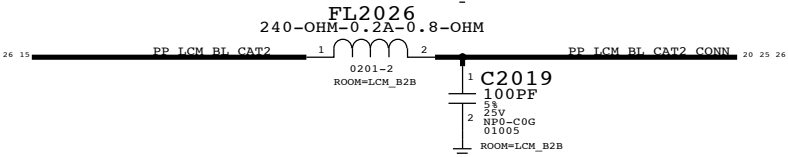
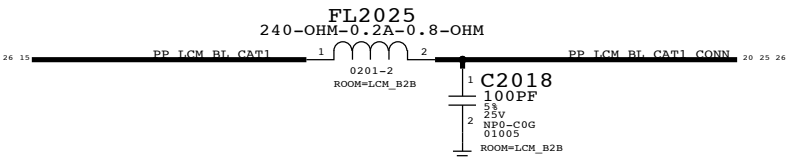
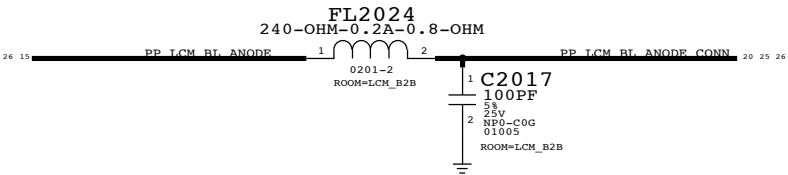
COMPASS - AKM COMPASS IN POR LOCATION



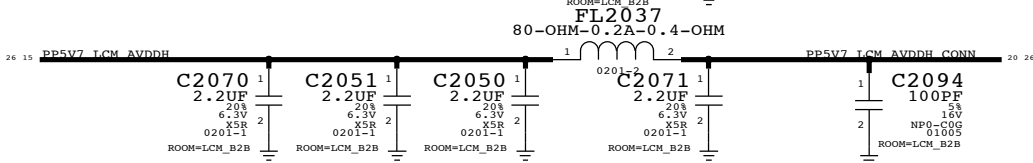
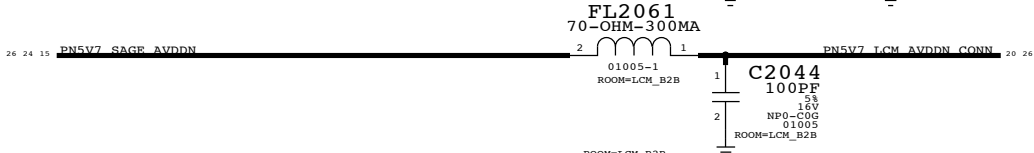
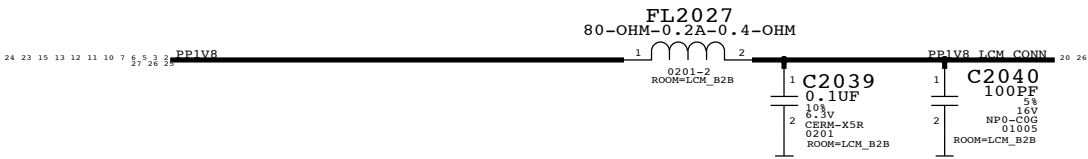
LCD B2B

Backlight

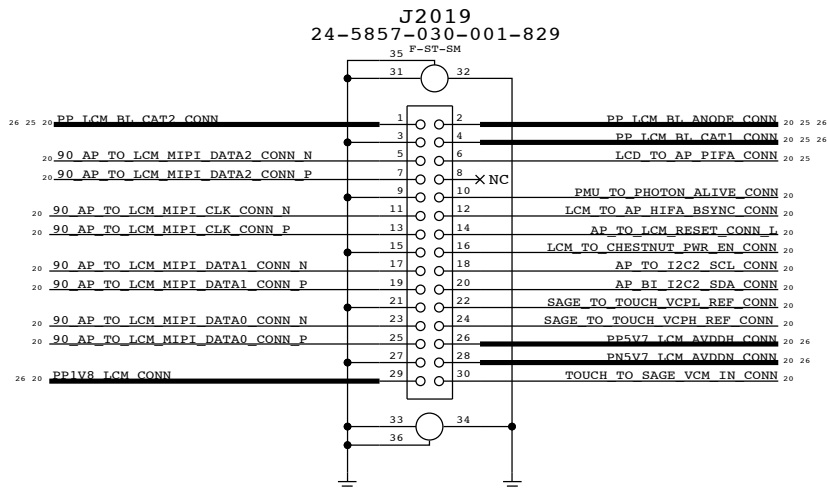
(N56 HAS A 2ND SET OF BL SIGNALS ON P. 19).



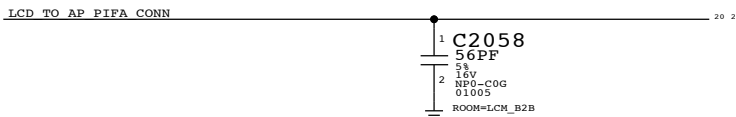
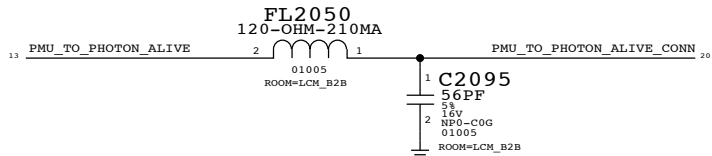
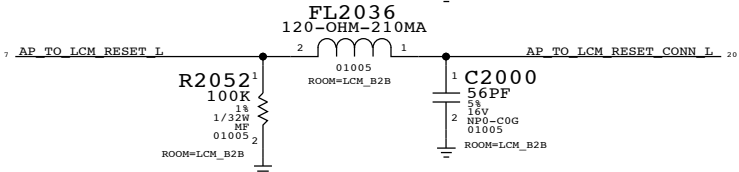
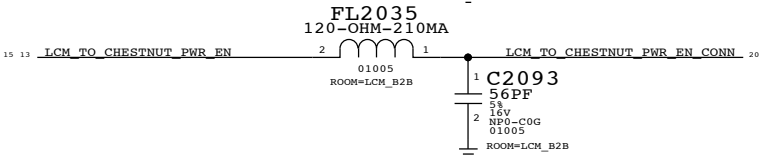
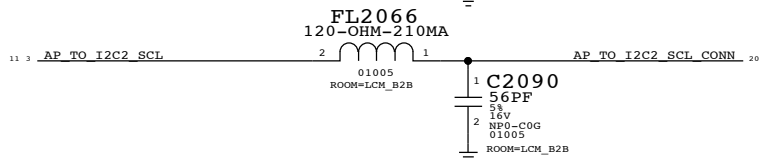
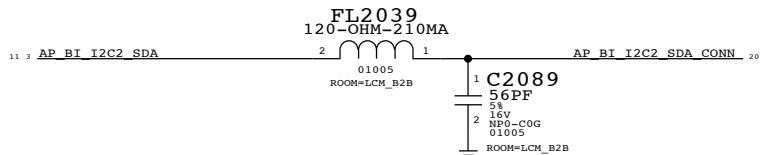
LCM Supplies



THIS ONE ON MLB ----> 516S1164

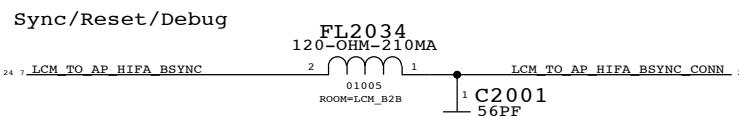
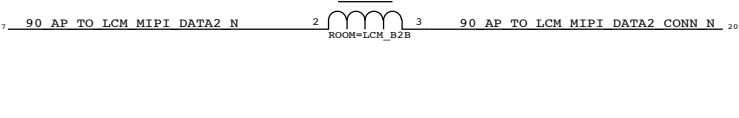
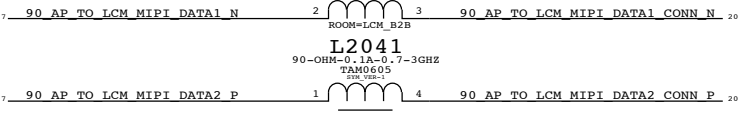
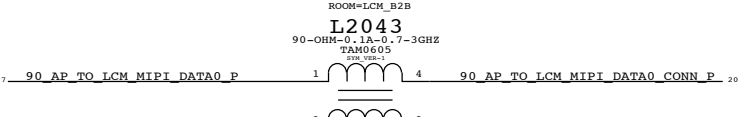
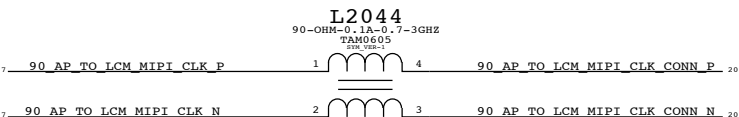


Digital Interfaces

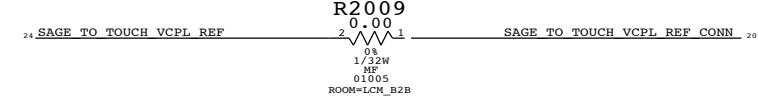
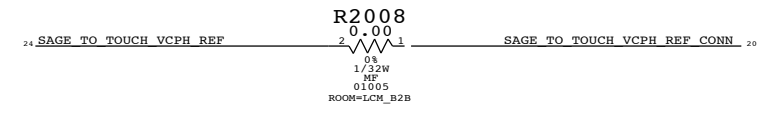
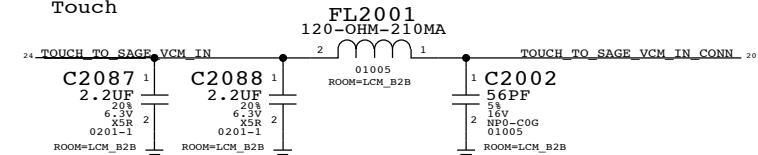


MIPI Common Mode Chokes

(N56 HAS A 4TH MIPI LANE ON P. 19).

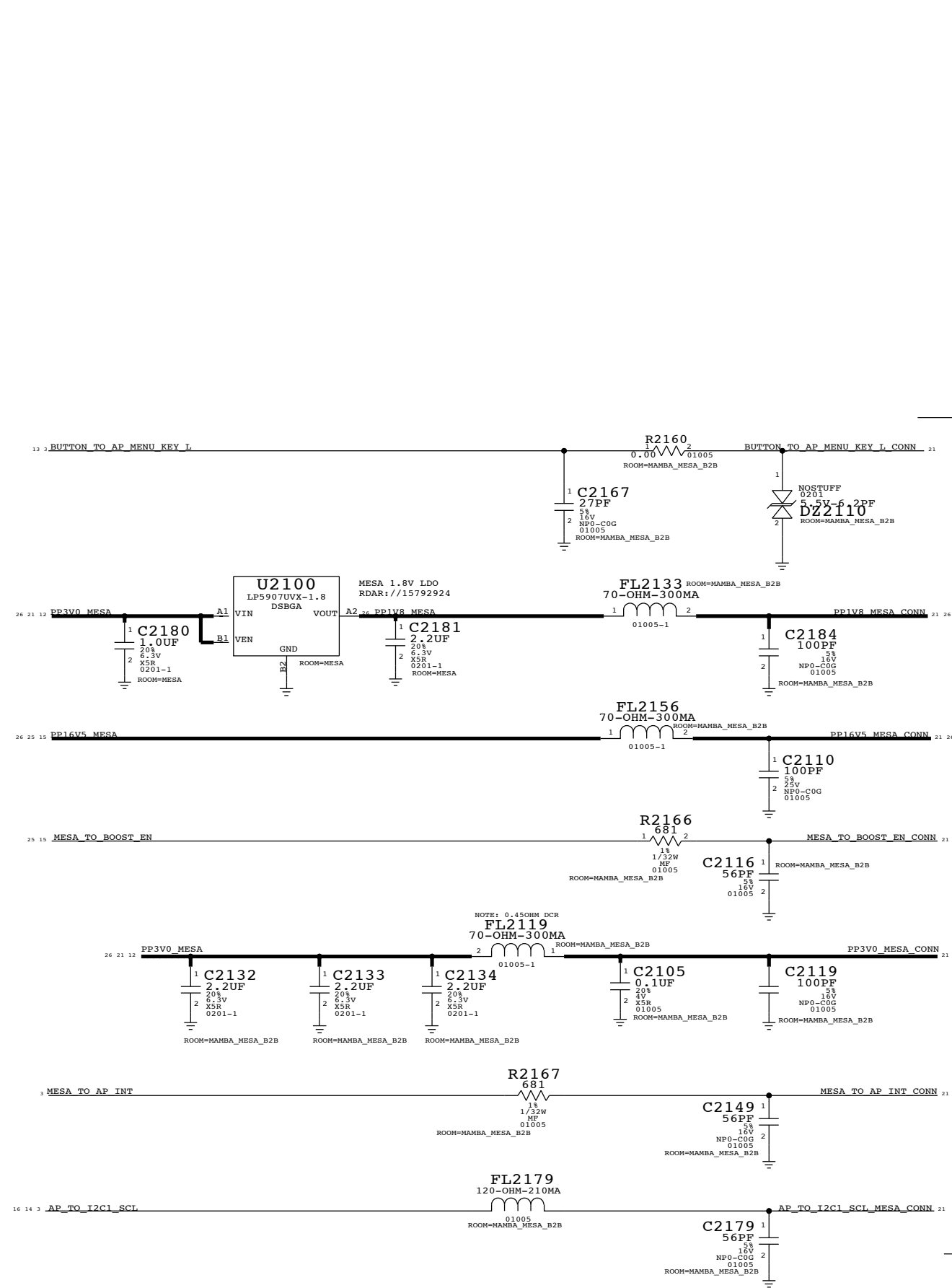


Touch

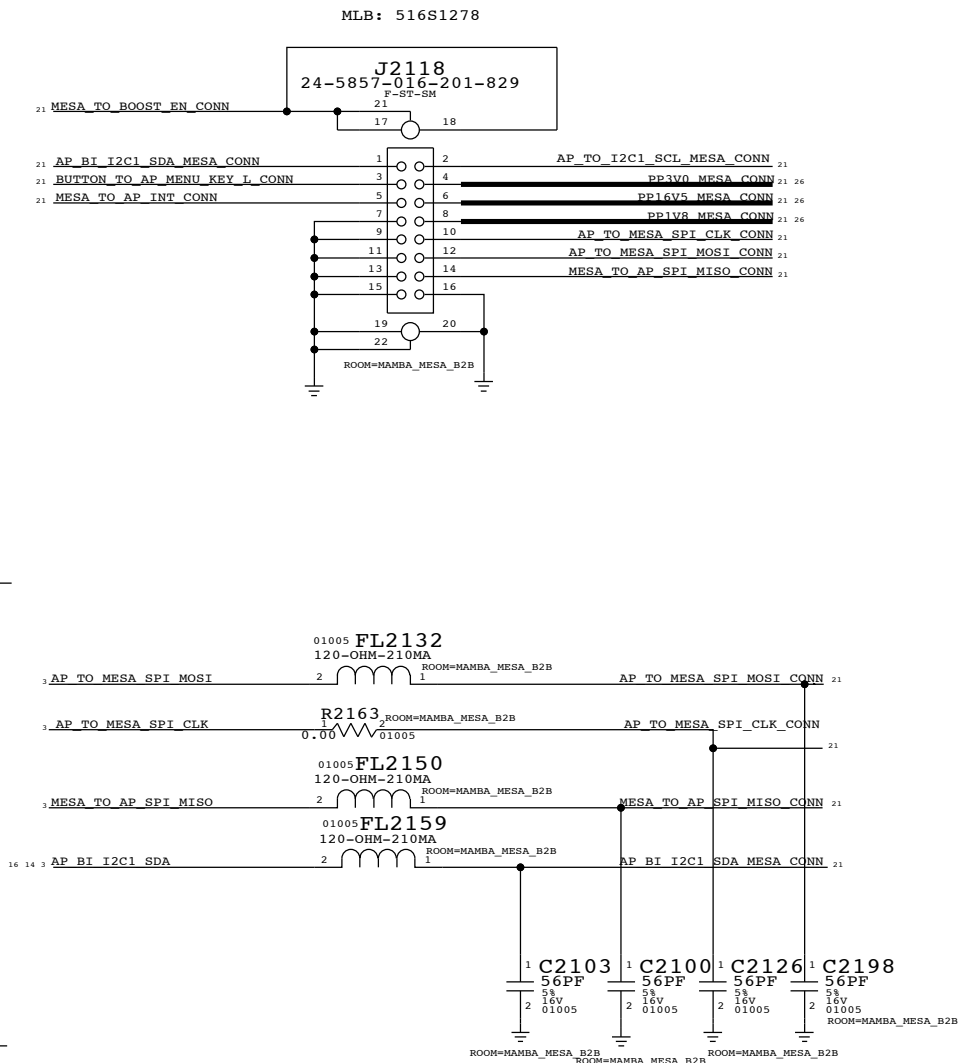


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		PAGE	20 OF 55
		SHEET	20 OF 54

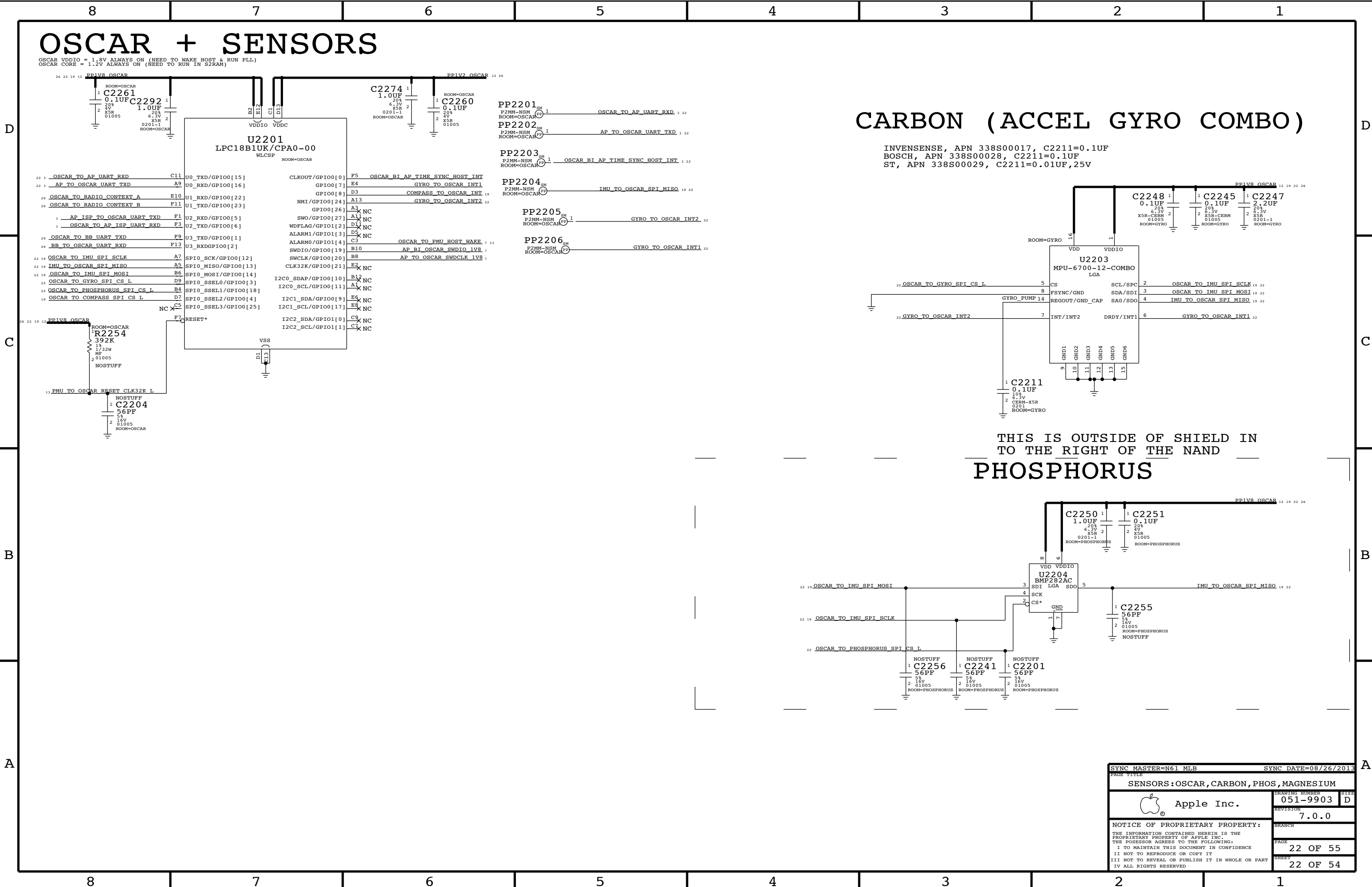
MESA CONNECTOR



MESA SENSOR:

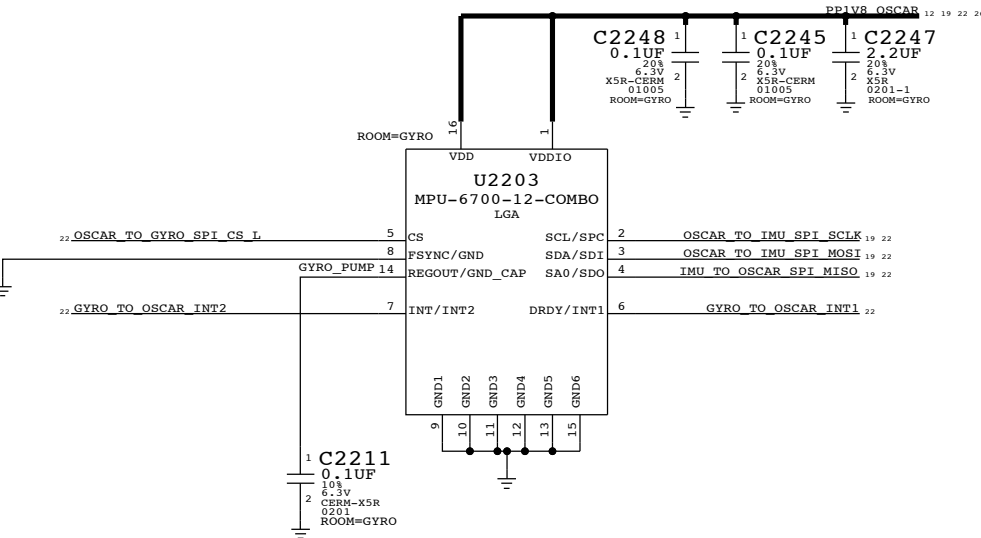


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	SHEET	21 OF 54



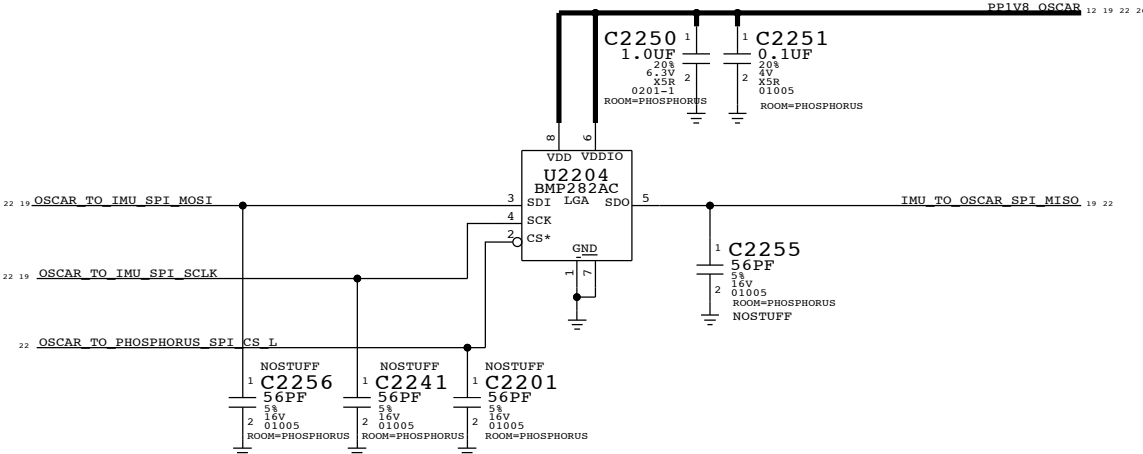
CARBON (ACCEL GYRO COMBO)

INVENSENSE, APN 338S00017, C2211=0.1UF
BOSCH, APN 338S00028, C2211=0.1UF
ST, APN 338S00029, C2211=0.01UF,25V



THIS IS OUTSIDE OF SHIELD IN
TO THE RIGHT OF THE NAND

PHOSPHORUS



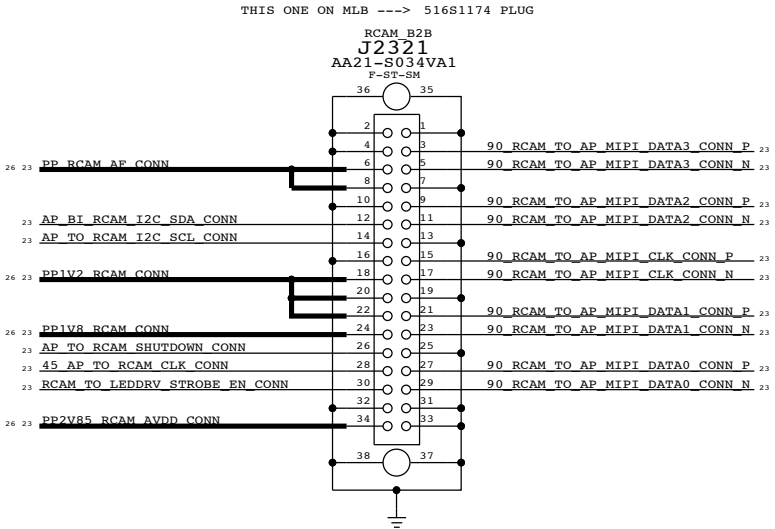
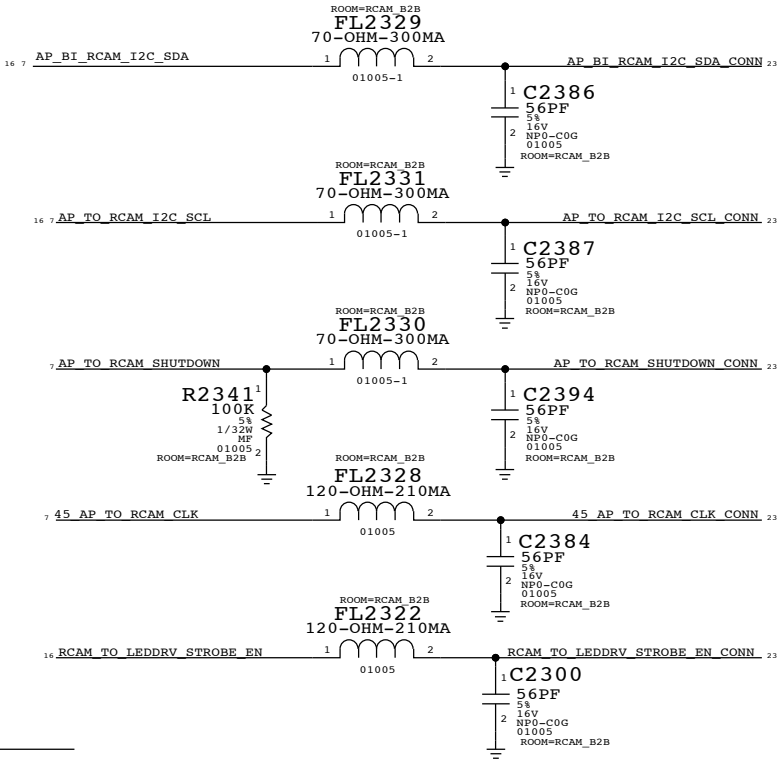
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		SHEET	22 OF 54

RCAM B2B (REAR CAMERA CONNECTOR)

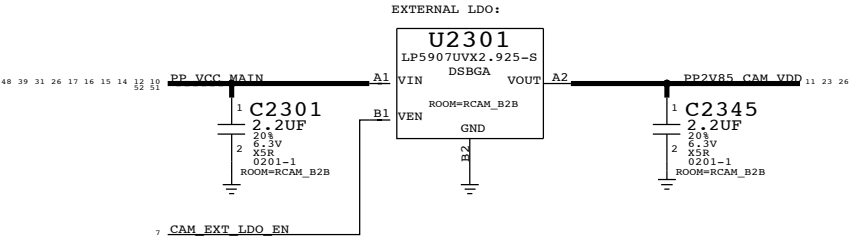
RCAM:
4-LANE MIPI

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

RCAM:
POWER:
(1.8V DVDD)
(2.8V AVDD)
(1.2V VCC)
(1.8V/2V AF)



RCAM/FCAM AVDD RAIL EXT. LDO:



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CAMERA:REAR FLEX CONN			
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8	7	6	5	4	3	2	1
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8	7	6	5	4	3	2	1
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D

C

B

A

D

C

B

A

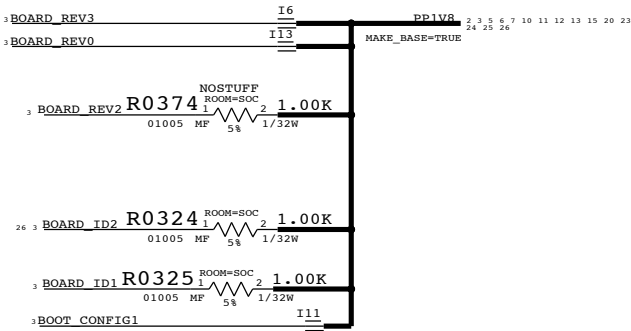
N61 SPECIFIC

BOOTSTRAPPING (BOARD_REV, BOARD_ID, BOOT_CFG)

```
BOARD_REV[3:0]={GPIO34, GPIO35, GPIO36, GPIO37}  
FLOAT=LOW, PULLUP=HIGH  
1111 PROTOMLB1  
1110 PROTOMLB2  
1101 PROTO1  
1100 PROTO2  
1011 EVT  
1010 EVT SPLIT CARBON DOE  
1001 CARRIER BUILD <--- SELECTED  
1000 DVT
```

```
BOARD_ID[4:0]={GPIO29, GPIO16, SPI00_MISO, SPI0_MOSI, SPI0_SCLK}  
FLOAT=LOW, PULLUP=HIGH  
00100 N56, T133 MLB  
00101 N56 DEV  
00110 FIJI N61 MLB <--- SELECTED
```

```
BOOT_CONFIG[2:0]={GPIO28, GPIO25, GPIO18}  
FLOAT=LOW, PULLUP=HIGH  
000 SPI0  
001 SPI0 TEST MODE  
010 NAND <--- SELECTED  
011 NAND TEST MODE  
100 NVME  
101 NVME TEST MODE  
111 FAST SPI
```



RADIO_MLB HIERARCHICAL SYMBOL

POWER

VCC_MAIN, VBAT GOES TO RADIO_MLB DIRECTLY
CHECK ALL PAGES IN RF SIDE!

POWER



CELLULAR HOUSE KEEPING

3	AP_TO_RADIO_ON_L	MAKE_BASE=TRUE	I325	RADIO_ON_L	30 32
3	BB_TO_AP_RESET_DET_L	MAKE_BASE=TRUE	I324	BB_RESET_DET_L	30 35
13	PMU_TO_BB_RST_L	MAKE_BASE=TRUE	I326	RF_PMIC_RESET_L	30 32
3	AP_TO_BB_RST_L	MAKE_BASE=TRUE	I327	BB_RST_L	30 32
3	AP_TO_BB_WAKE_MODEM	MAKE_BASE=TRUE	I329	AP_WAKE_MODEM	35
13	BB_TO_PMU_HOST_WAKE_L	MAKE_BASE=TRUE	I328	BB_WAKE_HOST_L	30 35
3	BB_TO_AP_IPC_GPIO	MAKE_BASE=TRUE	I331	BB_IPC_GPIO	35
16	BB_TO_LEDDRV_GSM_BLANK	MAKE_BASE=TRUE	I330	GSM_TXBURST_IND	35
3	BB_TO_AP_GPS_SYNC	MAKE_BASE=TRUE	I332	BB_GPS_SYNC	30 35

WLAN/BT HOUSE KEEPING

13	45_PMU_TO_WLAN_CLK32K	MAKE_BASE=TRUE	I316	CLK32K_AP	30 51
13	PMU_TO_WLAN_REG_ON	MAKE_BASE=TRUE	I317	WLAN_REG_ON	30 51
13	WLAN_TO_PMU_HOST_WAKE	MAKE_BASE=TRUE	I318	HOST_WAKE_WLAN	30 51
13	PMU_TO_BT_REG_ON	MAKE_BASE=TRUE	I319	BT_REG_ON	30 51
3	AP_TO_BT_WAKE	MAKE_BASE=TRUE	I320	WAKE_BT	30 51
13	BT_TO_PMU_HOST_WAKE	MAKE_BASE=TRUE	I321	HOST_WAKE_BT	51

HSIC IPC

2	50_AP_BI_BB_HSIC1_DATA	MAKE_BASE=TRUE	I368	50_BB_HSIC_DATA	30 34
3	50_AP_BI_BB_HSIC1_STB	MAKE_BASE=TRUE	I369	50_BB_HSIC_STROBE	30 34
3	AP_TO_BB_HOST_RDY	MAKE_BASE=TRUE	I371	BB_HOST_RDY	30 35
3	BB_TO_AP_DEVICE_RDY	MAKE_BASE=TRUE	I370	BB_DEVICE_RDY	30 35
3	BB_TO_AP_IPC_GPIO1	MAKE_BASE=TRUE	I372	BB_IPC_GPIO1	35

UART IPC

3	AP_TO_BB_UART2_RTS_L	MAKE_BASE=TRUE	I373	BB_UART_CTS_L	30 35
3	BB_TO_AP_UART2_CTS_L	MAKE_BASE=TRUE	I374	BB_UART_RTS_L	30 35
17 3	AP_TO_BB_UART2_TXD	MAKE_BASE=TRUE	I374	BB_UART_RXD	30 35
17 3	BB_TO_AP_UART2_RXD	MAKE_BASE=TRUE	I375	BB_UART_TXD	30 35

AUDIO I2S

3	45_AP_TO_BB_I2S3_BCLK	MAKE_BASE=TRUE	I377	BB_I2S_CLK	35
3	AP_TO_BB_I2S3_DOUT	MAKE_BASE=TRUE	I378	BB_I2S_RXD	30 35
3	BB_TO_AP_I2S3_DIN	MAKE_BASE=TRUE	I379	BB_I2S_TXD	30 35
3	AP_TO_BB_I2S3_LRCLK	MAKE_BASE=TRUE	I380	BB_I2S_WS	30 35

OSCAR UART

22	OSCAR_TO_BB_UART_TXD	MAKE_BASE=TRUE	I382	BB_OTHER_RXD	30 35
22	BB_TO_OSCAR_UART_RXD	MAKE_BASE=TRUE	I381	BB_OTHER_TXD	30 35

BB DEBUG INTERFACES

3	AP_TO_BB_COREDUMP	MAKE_BASE=TRUE	I384	BB_CORE_DUMP	30 35
13	PMU_TO_BB_VBUS_DET	MAKE_BASE=TRUE	I387	BB_USB_VBUS	30 34
17	90_TRISTAR_BI_BB_USB_N	MAKE_BASE=TRUE	I386	90_BB_USB_N	30 34
17	90_TRISTAR_BI_BB_USB_P	MAKE_BASE=TRUE	I388	90_BB_USB_P	30 34

RADIO ANTENNA CONTROL

18	PP_BB_VDD_2V7	MAKE_BASE=TRUE	I389	PP_LDO14_RFSW	31 41 42
18	BB_GPIO0	MAKE_BASE=TRUE	I390	BB_LAT_GPIO0	35
18	BB_GPIO2	MAKE_BASE=TRUE	I391	BB_LAT_GPIO2	35
18	BB_GPIO3	MAKE_BASE=TRUE	I392	BB_LAT_GPIO3	35
18	BB_GPIO4	MAKE_BASE=TRUE	I394	BB_LAT_GPIO4	35

FCT TESTING

13	RADIO_TO_PMU_ADC_SMPS1	MAKE_BASE=TRUE	I395	ADC_SMPS1	30
13	RADIO_TO_PMU_ADC_PP_LDO11_VDDIO	MAKE_BASE=TRUE	I396	ADC_PP_LDO11	30
13	RADIO_TO_PMU_ADC_PP_LDO5_SIM	MAKE_BASE=TRUE	I398	ADC_PP_LDO5	30
13	RADIO_TO_PMU_ADC_SMPS4	MAKE_BASE=TRUE	I397	ADC_SMPS4	30

UPPER RADIO ANTENNA CONTROL

25	50_AP_WIFI_5G_CONN_ANT	MAKE_BASE=TRUE	I410	50_WIFI_5G_CONN_ANT	50
25	50_AP_UAT_FEED	MAKE_BASE=TRUE	I409	50_UPPER_ANT_FEED	50
	UAT_ANT_GND	MAKE_BASE=TRUE	I411	ANT_GND	50
29 26 17 15 12	PP3V0_TRISTAR	MAKE_BASE=TRUE	I404	PAC_VDD_3V0	53
25 8	NORTH_AC_GND_SCREW	MAKE_BASE=TRUE	I412	NORTH_ANT_GND	50

WLAN HSIC IPC

3	WLAN_TO_AP_UART4_RXD	MAKE_BASE=TRUE	I345	WLAN_UART_TXD	30 51
3	AP_TO_WLAN_UART4_TXD	MAKE_BASE=TRUE	I348	WLAN_UART_RXD	30 51
3	WLAN_TO_AP_UART4_CTS_L	MAKE_BASE=TRUE	I347	WLAN_UART_RTS_L	30 51
3	AP_TO_WLAN_UART4_RTS_L	MAKE_BASE=TRUE	I346	WLAN_UART_CTS_L	30 51

BT UART IPC

3	AP_TO_BT_UART1_RTS_L	MAKE_BASE=TRUE	I349	BT_UART_CTS_L	51
3	BT_TO_AP_UART1_CTS_L	MAKE_BASE=TRUE	I352	BT_UART_RTS_L	51
3	AP_TO_BT_UART1_TXD	MAKE_BASE=TRUE	I351	BT_UART_RXD	30 51
3	BT_TO_AP_UART1_RXD	MAKE_BASE=TRUE	I350	BT_UART_TXD	30 51

BT AUDIO PCM

3	45_AP_TO_BT_I2S1_BCLK	MAKE_BASE=TRUE	I354	BT_PCM_CLK	51
3	AP_TO_BT_I2S1_DOUT	MAKE_BASE=TRUE	I353	BT_PCM_IN	51
3	BT_TO_AP_I2S1_DIN	MAKE_BASE=TRUE	I355	BT_PCM_OUT	51
3	AP_TO_BT_I2S1_LRCLK	MAKE_BASE=TRUE	I356	BT_PCM_SYNC	51

OSCAR STATES

22	OSCAR_TO_RADIO_CONTEXT_A	MAKE_BASE=TRUE	I358	OSCAR_CONTEXT_A	51
22	OSCAR_TO_RADIO_CONTEXT_B	MAKE_BASE=TRUE	I357	OSCAR_CONTEXT_B	51

STOCKHOLM

3	STOCKHOLM_TO_AP_UART3_CTS_L	MAKE_BASE=TRUE	I359	STOCKHOLM_RTS_L	30 52
3	AP_TO_STOCKHOLM_UART3_RTS_L	MAKE_BASE=TRUE	I360	STOCKHOLM_CTS_L	30 52
3	STOCKHOLM_TO_AP_UART3_RXD	MAKE_BASE=TRUE	I361	STOCKHOLM_UART_TXD	30 52
3	AP_TO_STOCKHOLM_UART3_TXD	MAKE_BASE=TRUE	I362	STOCKHOLM_UART_RXD	30 52
3	AP_TO_STOCKHOLM_DWLD_REQ	MAKE_BASE=TRUE	I362	STOCKHOLM_FW_DWLD_REQ	52
13	STOCKHOLM_TO_PMU_HOST_WAKE	MAKE_BASE=TRUE	I364	STOCKHOLM_HOST_WAKE	30 52
3	AP_TO_STOCKHOLM_EN	MAKE_BASE=TRUE	I365	STOCKHOLM_ENABLE	52
29 26 17 15 12	PP3V0_TRISTAR	MAKE_BASE=TRUE	I366	STOCKHOLM_VDD_MUX_3V0	54
3	AP_TO_STOCKHOLM_SIM_SEL	MAKE_BASE=TRUE	I367	STOCKHOLM_SIM_SEL	54
25	AP_TO_STOCKHOLM_ANT	MAKE_BASE=TRUE	I406	STOCKHOLM_ANT	52

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AP INTERFACE & DEBUG CONNECTORS

PROBE POINTS

PP3105 RF	P2MM	SM 1	CLK32K_AP	29 51
PP3113 RF	P4MM	SM 1	BB COEX UART_RXD	35 51
PP3114 RF	P4MM	SM 1	BB COEX UART_TXD	35 51
PP3119 RF	P2MM	SM 1	BT UART_TXD	29 51
PP3120 RF	P2MM-NSM	SM 1	BT UART_RXD	29 51
PP3152 RF	P2MM	SM 1	WAKE_BT	29 51
PP3153 RF	P2MM	SM 1	WLAN_REG_ON	29 51
PP3154 RF	P4MM	SM 1	BT_REG_ON	29 51
PP3155 RF	P2MM	SM 1	HOST_WAKE_WLAN	29 51
PP3156 RF	P2MM	SM 1	WLAN_PCIE_WAKE_L	29 51
PP3157 RF	P2MM	SM 1	WLAN_PCIE_PERST_L	29 51
PP3158 RF	P2MM	SM 1	WLAN_PCIE_CLKREQ_L	29 51
PP3159 RF	P4MM	SM 1	PCIE_DEV_WAKE	29 51
PP3160 RF	P2MM	SM 1	WLAN_UART_RTS_L	29 51
PP3161 RF	P2MM	SM 1	WLAN_UART_CTS_L	29 51
PP3162 RF	P2MM	SM 1	WLAN_UART_RXD	29 51
PP3163 RF	P2MM	SM 1	WLAN_UART_TXD	29 51
PP3190 RF	P2MM	SM 1	WLAN_JTAG_SWDCLK	29 51
PP3191 RF	P2MM	SM 1	WLAN_JTAG_SWDIO	29 51

PP3121 RF	P2MM-NSM	SM 1	STOCKHOLM_HOST_WAKE	29 52
PP3122 RF	P4MM	SM 1	BB_REQUEST_XO_CLK	32 52
PP3123 RF	P2MM-NSM	SM 1	STOCKHOLM_UART_RXD	29 52
PP3124 RF	P2MM	SM 1	STOCKHOLM_UART_TXD	29 52
PP3125 RF	P2MM-NSM	SM 1	STOCKHOLM_CTS_L	29 52
PP3126 RF	P2MM-NSM	SM 1	STOCKHOLM_RTS_L	29 52
PP3128 RF	P2MM	SM 1	PP_PN65_VCC_SIM	52
PP3144 RF	P4MM	SM 1	STOCKHOLM_SIM_SWP	52 54
PP3129 RF	P4MM	SM 1	REF_CLK_FROM_BB	32 52
PP3164 RF	P2MM	SM 1	DSDS_SIM_CLK	34 54
PP3183 RF	P4MM	SM 1	DSDS_SIM_RESET	34 54
PP3184 RF	P4MM	SM 1	DSDS_SIM_DATA	34 54
PP3185 RF	P4MM	SM 1	DSDS_SIM_DETECT	34
PP3187 RF	P4MM	SM 1	PP_LDO6	31 33 54
PP3188 RF	P4MM	SM 1	DSDS_SIM_SWP	54
PP3189 RF	P4MM	SM 1	DSDS_SIM_DATA_R	54
PP 3178 RF	P2MM-NSM	SM 1	BB_SIM_RESET	30 35
PP 3179 RF	P2MM-NSM	SM 1	BB_SIM_CLK	30 35
PP 3180 RF	P2MM-NSM	SM 1	BB_SIM_DATA	30 35
PP 3183 RF	P2MM-NSM	SM 1	BB_SIM_DETECT	30 35
PP 3184 RF	P2MM-NSM	SM 1	PP_LDO5	30 31 33 54

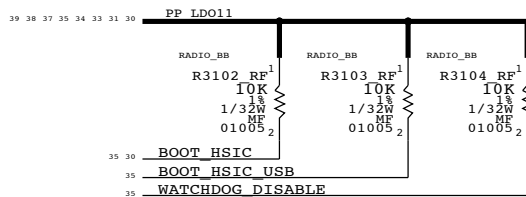
PP3115 RF	P4MM-NSM	SM 1	50_BB_HSIC_STROBE	29 34
PP3127 RF	P4MM	SM 1	50_BB_HSIC_DATA	29 34
PP3101 RF	P4MM	SM 1	BB_DEBUG_ERROR	35
PP3102 RF	P4MM	SM 1	RF_PMIC_RESET_L	29 32
PP3103 RF	P4MM	SM 1	PS_HOLD_PMIC	32
PP3127 RF	P4MM	SM 1	PMIC_RESOUT_L	32 34
PP3104 RF	P4MM	SM 1	MDM_CLK	32 34
PP3109 RF	P4MM	SM 1	PP_LDO11	30 31 33 34 35 37 38
PP3110 RF	P4MM	SM 1	RADIO_ON_L	29 32
PP3111 RF	P4MM	SM 1	SPMI_DATA	32 34
PP3112 RF	P4MM	SM 1	SPMI_CLK	32 34

PP3130 RF	P4MM	SM 1	BB_JTAG_RST_L	34
PP3131 RF	P4MM	SM 1	BB_JTAG_TCK	34
PP3132 RF	P4MM	SM 1	BB_JTAG_TMS	34
PP3133 RF	P4MM	SM 1	BB_JTAG_TDO	34
PP3134 RF	P4MM	SM 1	BB_JTAG_TDI	34
PP3135 RF	P4MM	SM 1	BB_JTAG_TRST_L	34
PP3136 RF	P4MM	SM 1	BB_DEBUG_STATUS	35
PP3137 RF	P4MM	SM 1	BB_CORE_DUMP	29 35
PP3138 RF	P4MM	SM 1	BB_USB_VBUS	29 34
PP3139 RF	P4MM	SM 1	90_BB_USB_N	29 34
PP3140 RF	P4MM	SM 1	90_BB_USB_P	29 34

PP3141 RF	P4MM	SM 1	BB_UART_TXD	29 35
PP3142 RF	P4MM	SM 1	BB_UART_RXD	29 35
PP3143 RF	P4MM	SM 1	BB_UART_RTS_L	29 35
PP3144 RF	P4MM	SM 1	BB_UART_CTS_L	29 35
PP3145 RF	P4MM	SM 1	BB_HOST_RDY	29 35
PP3146 RF	P4MM	SM 1	BB_DEVICE_RDY	29 35
PP3147 RF	P4MM	SM 1	BB_GPS_SYNC	29 35
PP3148 RF	P4MM	SM 1	BB_WAKE_HOST_L	29 35
PP3149 RF	P4MM	SM 1	BB_RESET_DET_L	29 35
PP3150 RF	P4MM	SM 1	BB_RST_L	29 32
PP3151 RF	P4MM	SM 1	BOOT_HSIC	30 35

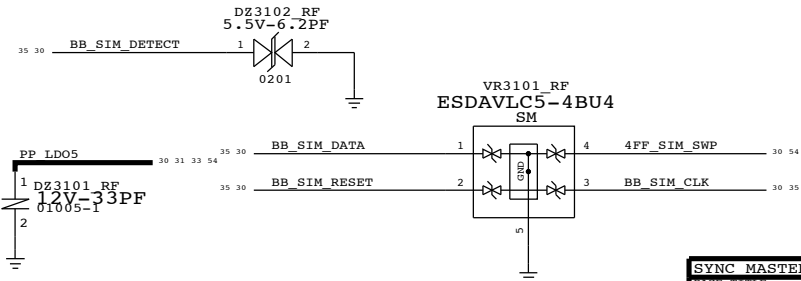
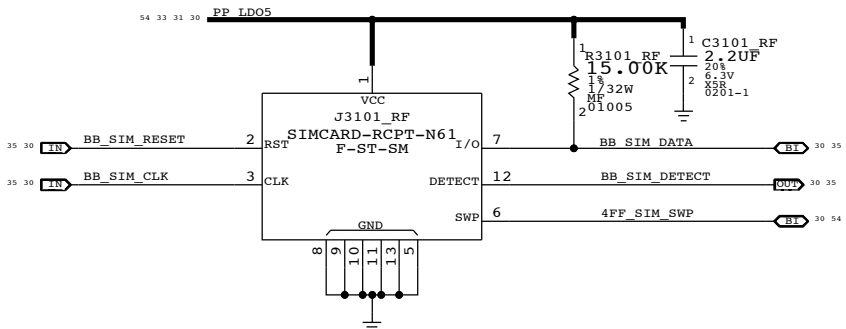
PP3170 RF	P4MM	SM 1	RF_FE1_CLK	35 39 40 41 42 43 44
PP3171 RF	P4MM	SM 1	RF_FE1_DATA	35 39 40 41 42 43 44
PP3172 RF	P4MM	SM 1	RF_FE2_CLK	35 45 46 48
PP3173 RF	P4MM	SM 1	RF_FE2_DATA	35 45 46 48
PP3175 RF	P4MM	SM 1	BB_I2S_WS	29 35
PP3176 RF	P4MM	SM 1	BB_I2S_RXD	29 35
PP3177 RF	P4MM	SM 1	BB_I2S_TXD	29 35
PP3178 RF	P4MM	SM 1	BB_OTHER_TXD	29 35
PP3179 RF	P4MM	SM 1	BB_OTHER_RXD	29 35

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
197S0565	197S0593	ALTERNATE	Y3301_RF	KDS 19.2MHZ XTAL
197S0598	197S0593	ALTERNATE	Y3301_RF	AVX 19.2MHZ XTAL
138S00005	138S00003	ALTERNATE	C3216_RF	150F CAPACITOR
138S0739	138S0706	ALTERNATE	C4207_RF	1.00UF CAPACITOR
138S0945	138S0706	ALTERNATE	C4207_RF	1.00UF CAPACITOR
138S1103	138S0719	ALTERNATE	C4007_RF	4.7UF CAPACITOR
339S0231	339S0228	ALTERNATE	U5201_RF	CORONA MODULE USI
339S0242	339S0228	ALTERNATE	U5201_RF	CORONA MODULE TDK
155S00024	155S0950	ALTERNATE	F_TRI_RF	TRIPLEXER BIN2



SIM CARD ESD PROTECTION

SIM CARD CONNECTOR



PP3166 RF	P4MM	SM 1	90_WLAN_PCIE_RDN	29 51
PP3167 RF	P4MM	SM 1	90_WLAN_PCIE_RDP	29 51
PP3168 RF	P4MM-NSM	SM 1	90_WLAN_PCIE_TDN	29 51
PP3169 RF	P4MM-NSM	SM 1	90_WLAN_PCIE_TDP	29 51

DIFF-PAIR PROBE POINTS LOCATED OPPOSITE DC-BLOCKS

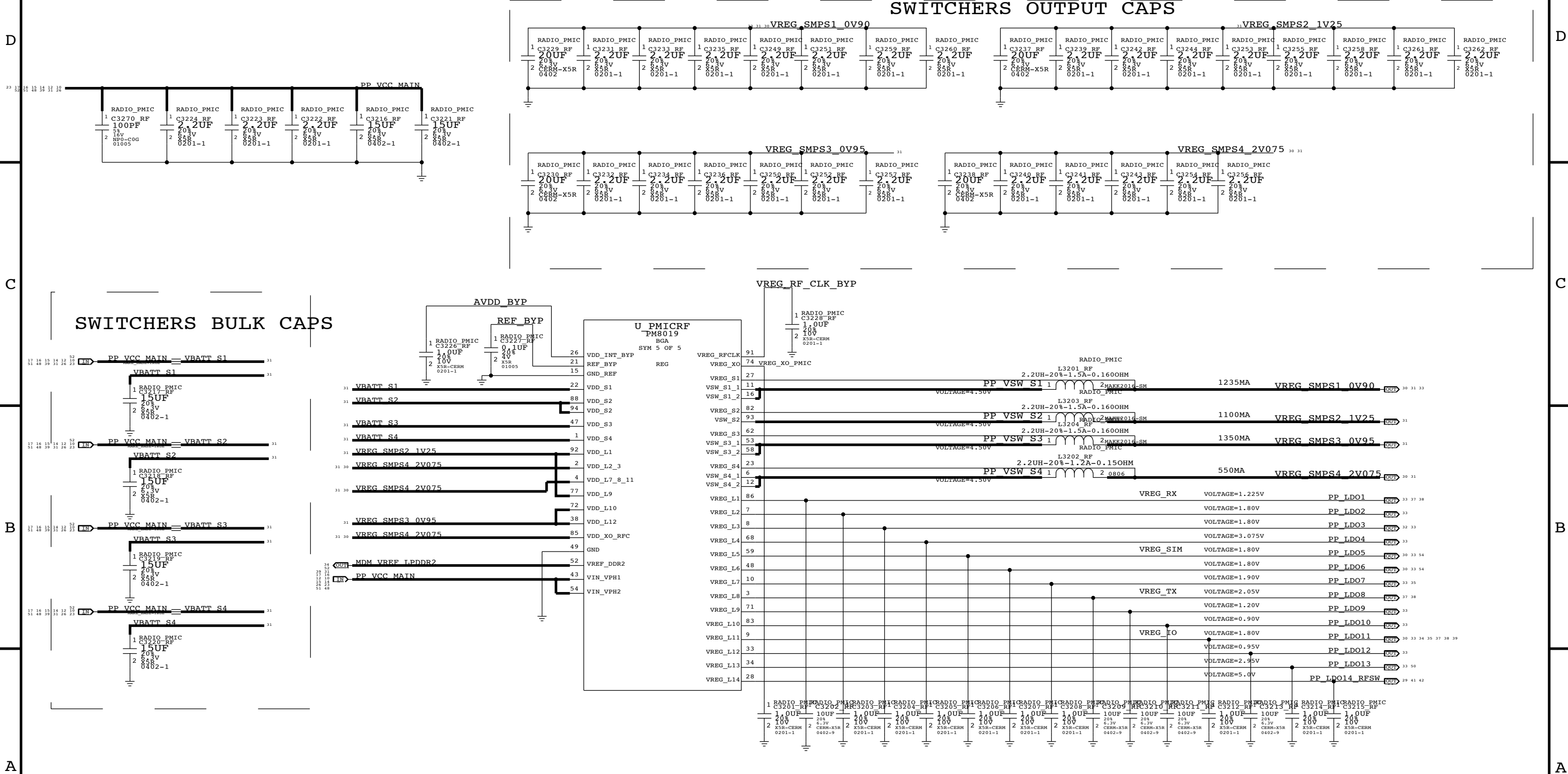
XW3101 RF	SHORT-10L-0.1MM-SM	ADC_SMPS1	29
VREG_SMPS1_0V90	1 0 2	ADC_SMPS1	29
XW3102 RF	SHORT-10L-0.1MM-SM	ADC_PP_LDO11	29
PP_LDO11	1 0 2	ADC_PP_LDO11	29
XW3103 RF	SHORT-10L-0.1MM-SM	ADC_PP_LDO5	29
PP_LDO5	1 0 2	ADC_PP_LDO5	29
XW3104 RF	SHORT-10L-0.1MM-SM	ADC_SMPS4	29
VREG_SMPS4_2V075	1 0 2	ADC_SMPS4	29

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BASEBAND PMU (1 OF 2)

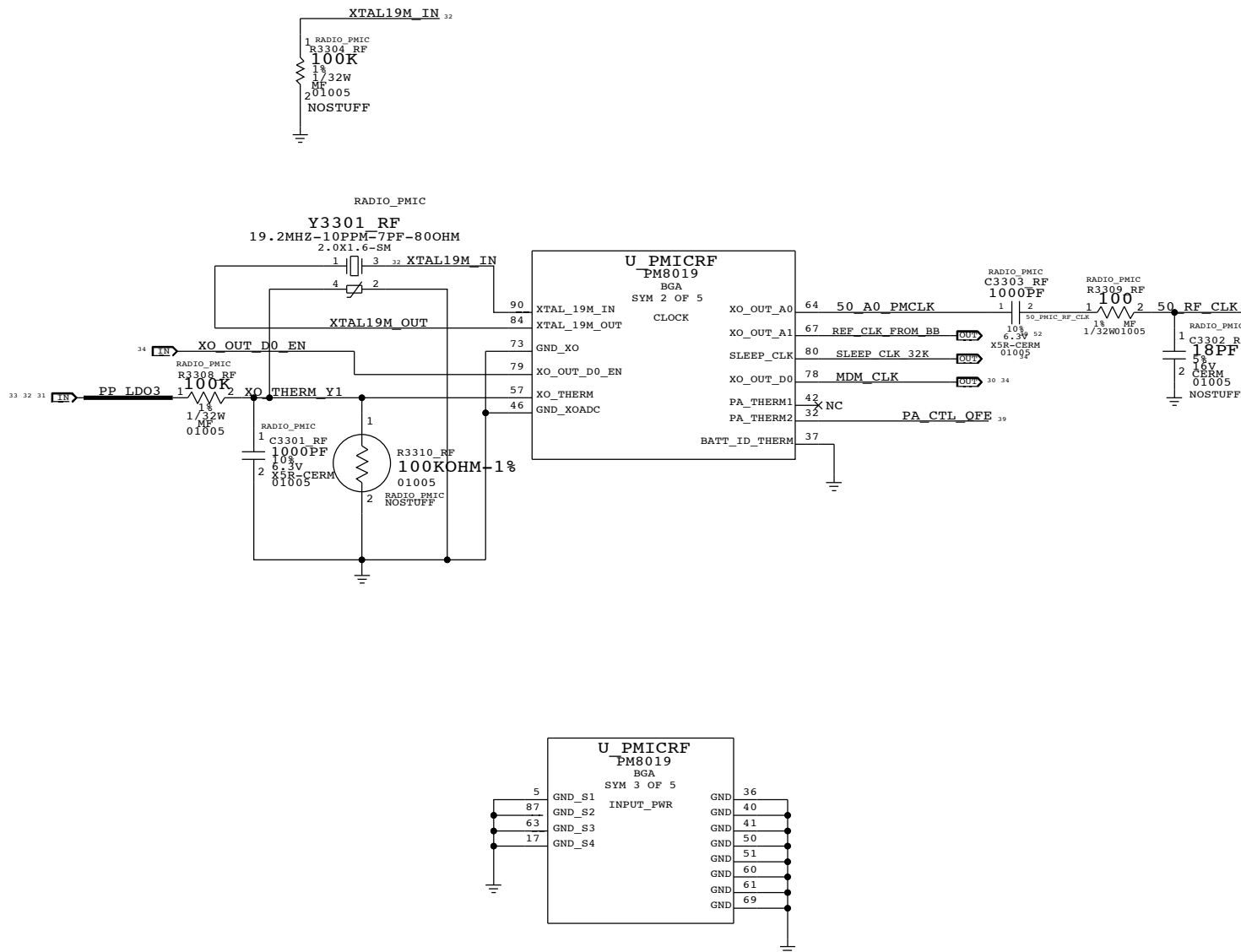
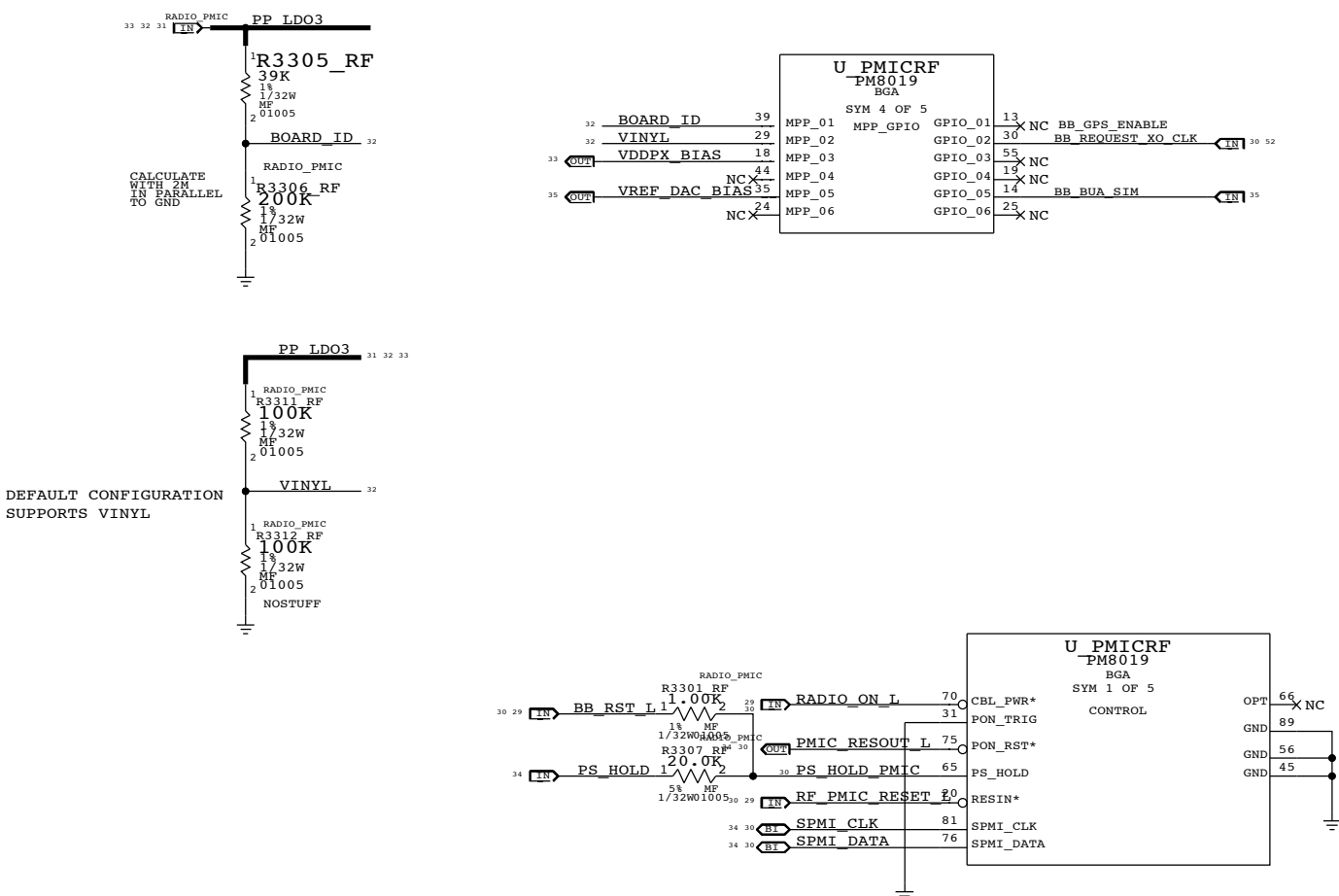
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C401
R411
L400
U404

BOARD	REVISION
0.00V	N61 PROTO MLB1
0.50V	N61 DEV3
0.70V	N61 DEV4
0.90V	N61 PROTO MLB2
1.10V	N61/N56 PROTO1
1.30V	N61/N56 PROTO2
1.40V	N61/N56 EVT1
1.50V	N61/N56 EVT2 (CARRIER)
1.60V	N61/N56 DVT
1.70V	N61/N56 PVT



BASEBAND (1 OF 3)

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C538
R500
L500
U502

D

C

B

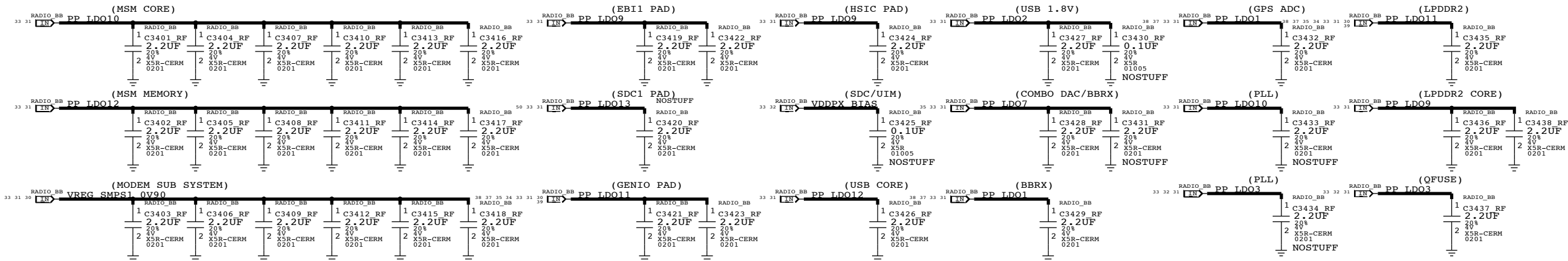
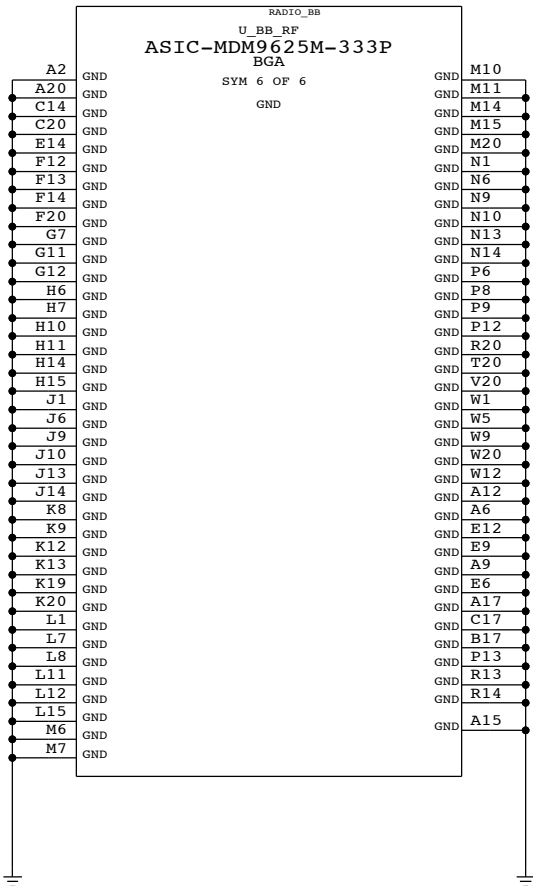
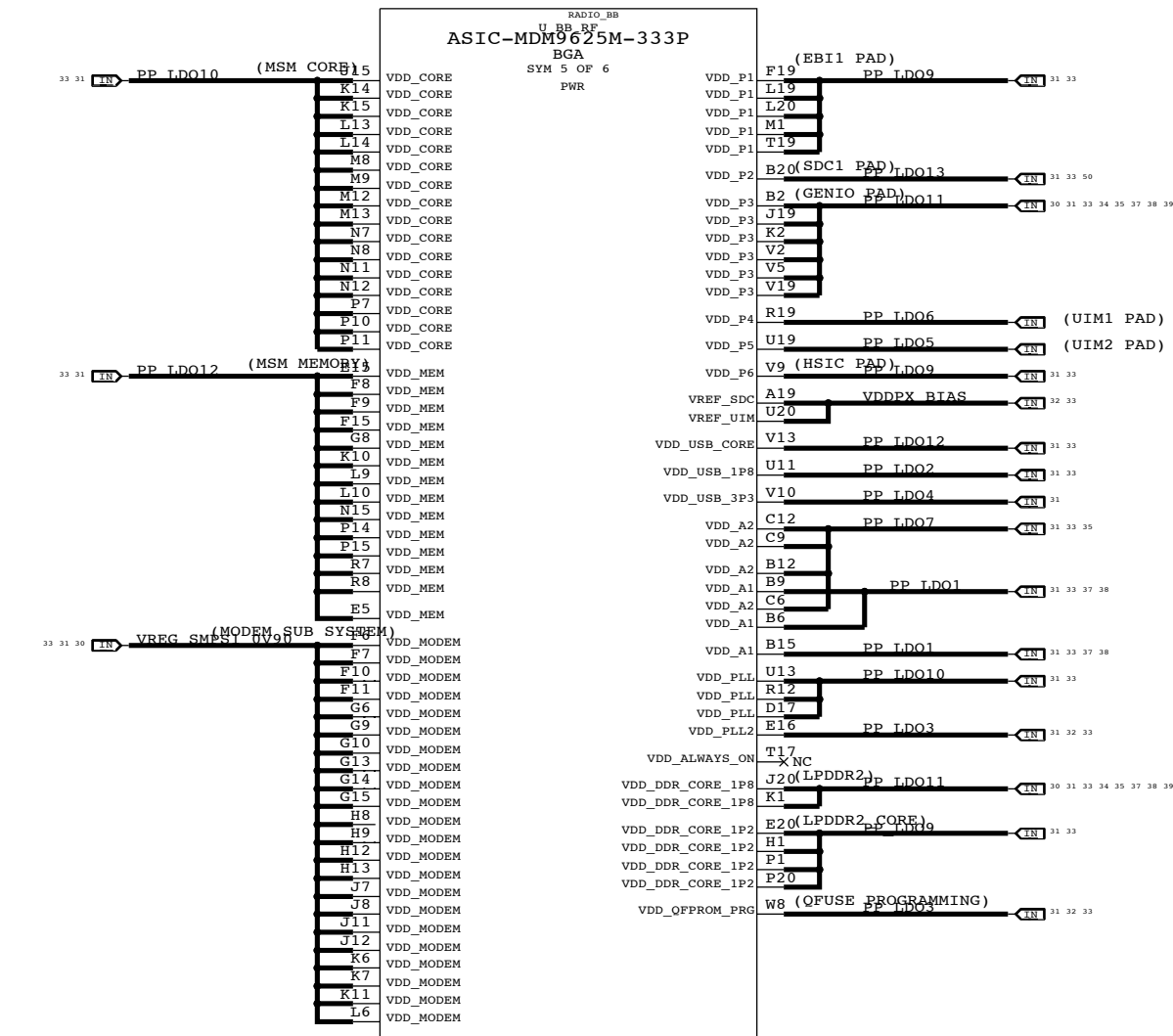
A

D

C

B

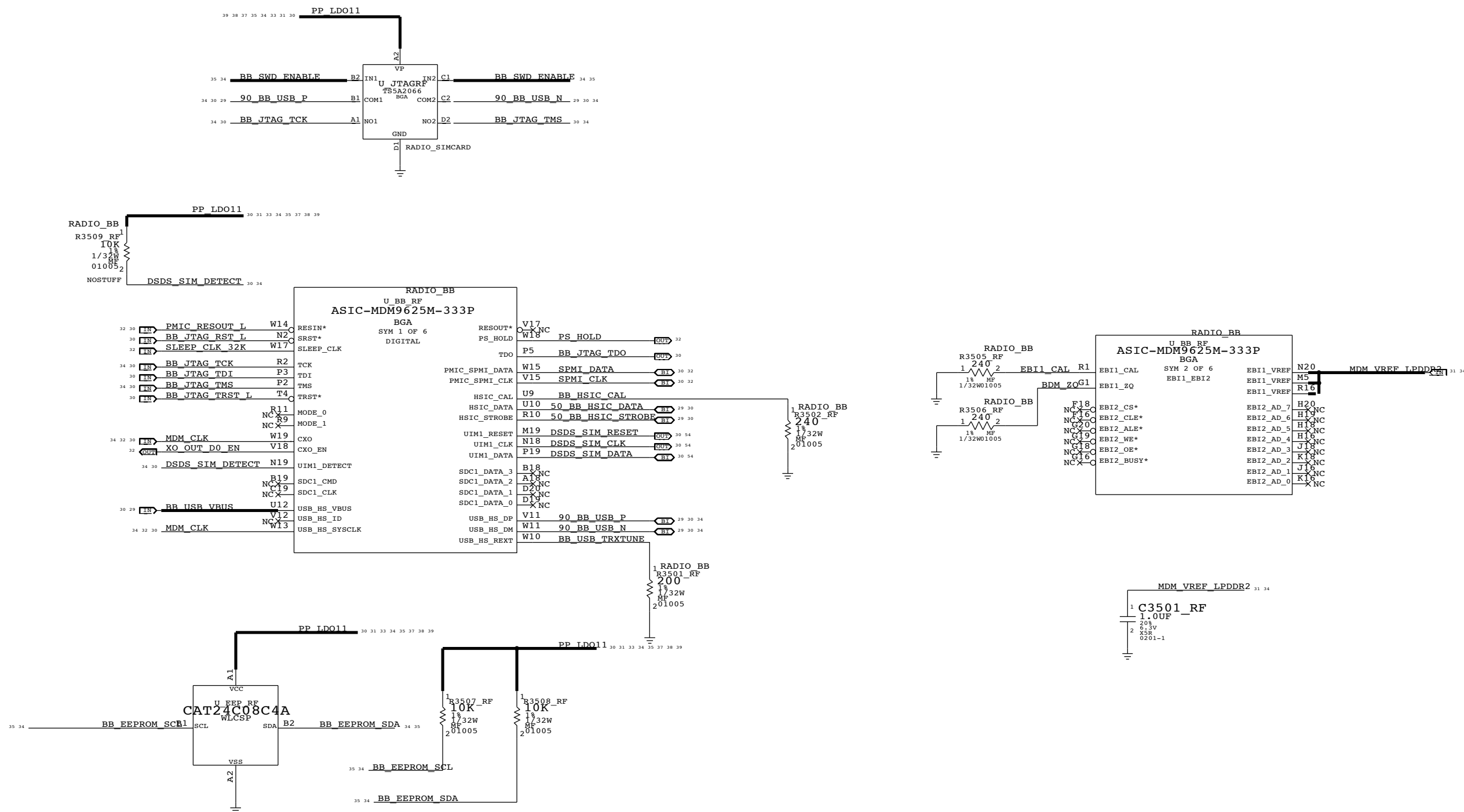
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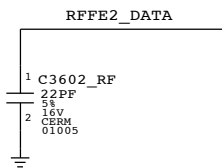
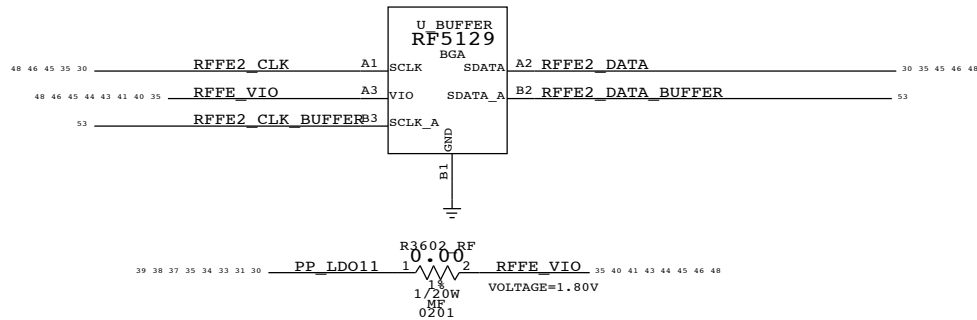
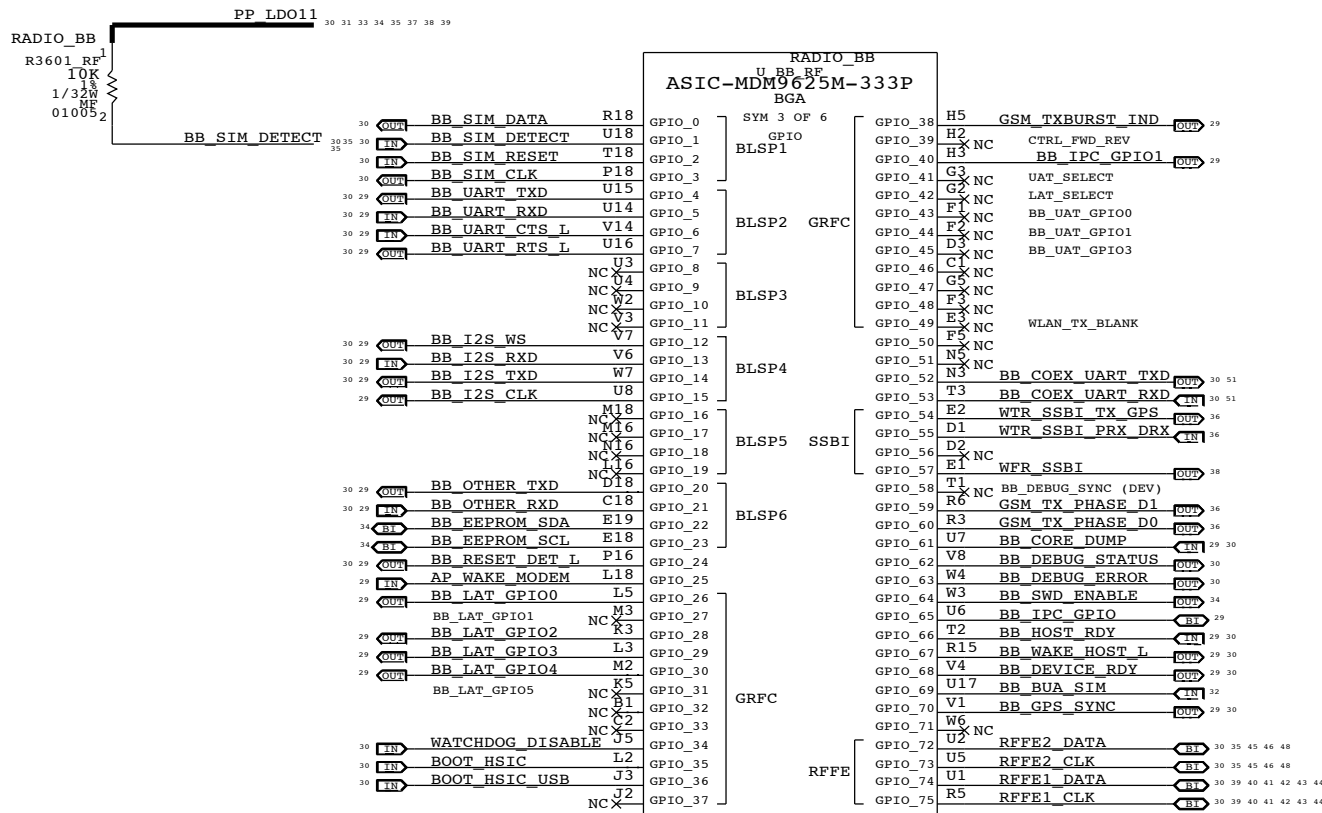
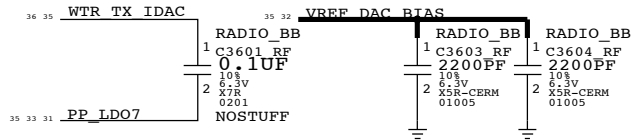
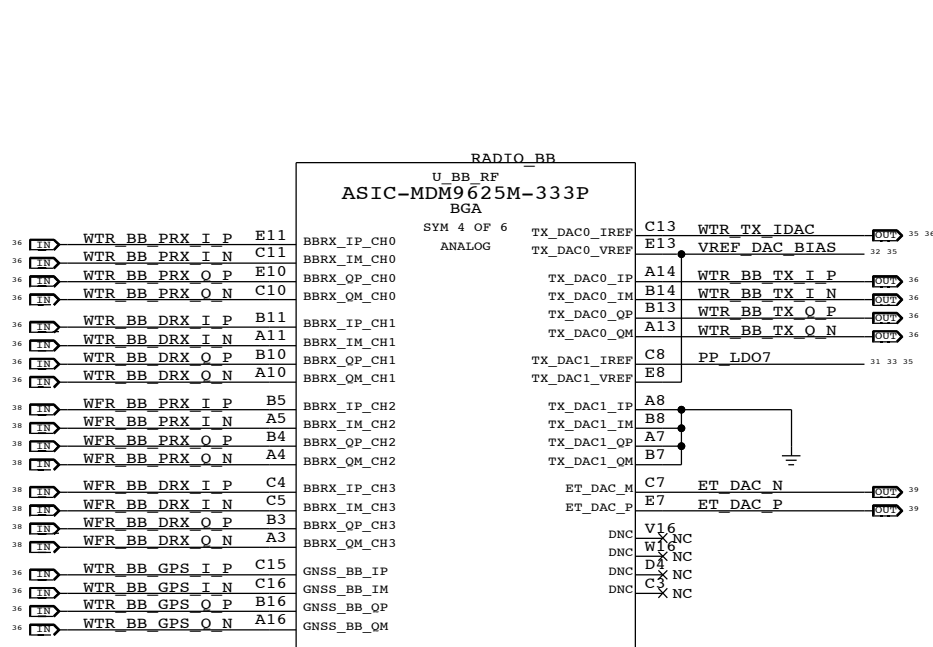
C600
R606
L600
U602



BASEBAND (3 OF 3)

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C704
R700
L700
U702



MOBILE DATA MODEM (2 OF 2)

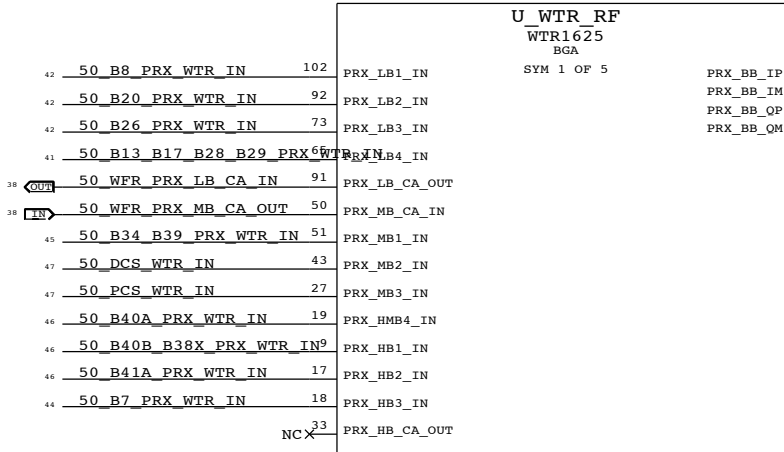
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WTR TRANSCEIVER (1 OF 2)

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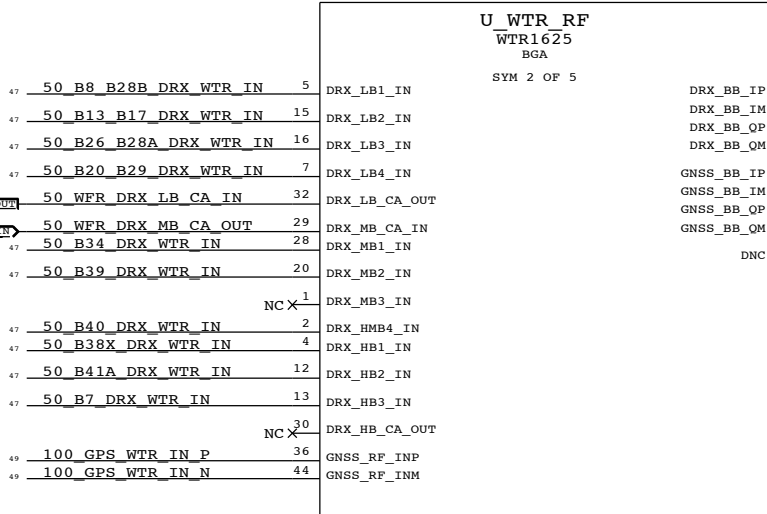
C802
R802
L800
U803

LB1	DC
LB2	DC
LB3	DC
LB4	DC
MB1	NO DC
MB2	DC
MB3	DC
HB1	NO DC
HB2	DC
HB3	DC
HMB4	NO DC



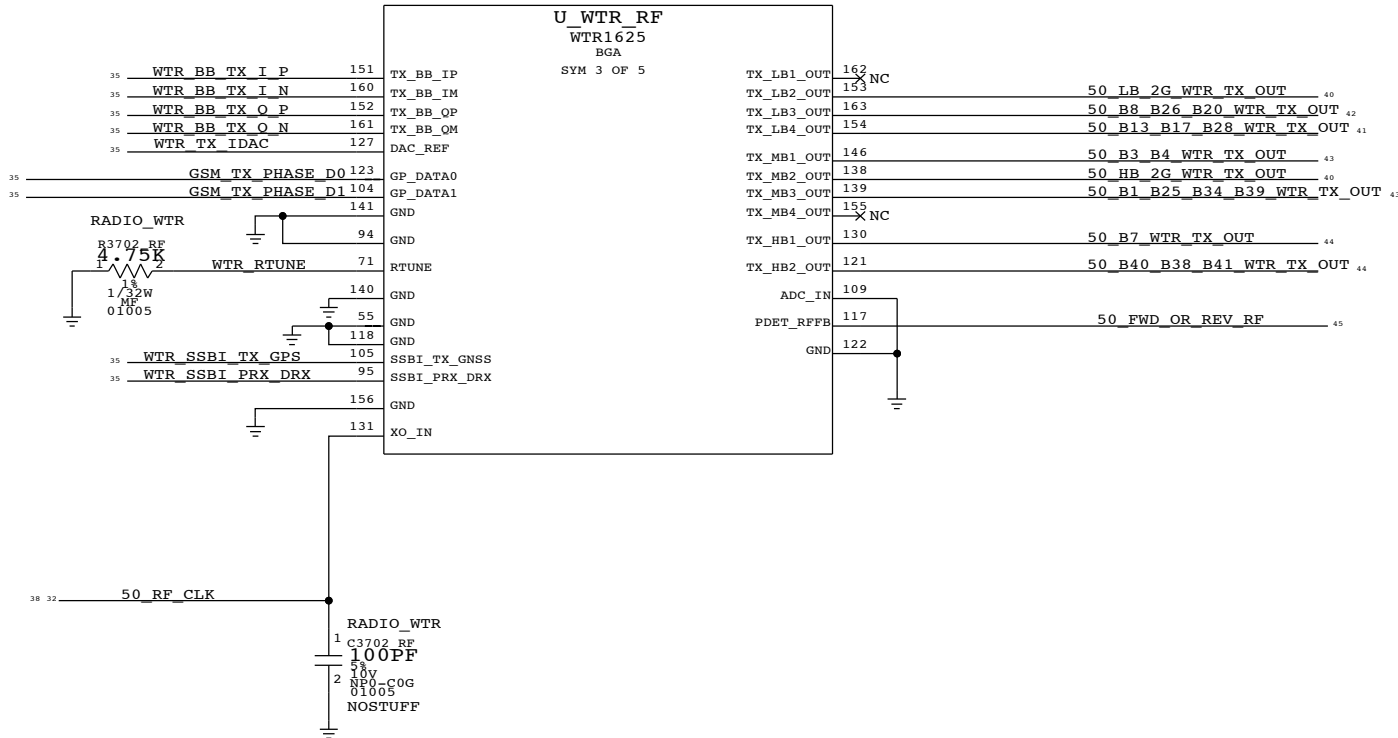
PRX_BB_IP	99	WTR_BB_PRX_I_P	OUT 35
PRX_BB_IM	108	WTR_BB_PRX_I_N	OUT 35
PRX_BB_OP	107	WTR_BB_PRX_O_P	OUT 35
PRX_BB_OM	97	WTR_BB_PRX_O_N	OUT 35

LB1	DC
LB2	DC
LB3	DC
LB4	DC
MB1	NO DC
MB2	DC
MB3	DC
HB1	NO DC
HB2	DC
HB3	DC
HMB4	NO DC



DRX_BB_IP	76	WTR_BB_DRX_I_P	OUT RADIO_WTR
DRX_BB_IM	86	WTR_BB_DRX_I_N	OUT RADIO_WTR
DRX_BB_OP	61	WTR_BB_DRX_O_P	OUT RADIO_WTR
DRX_BB_OM	68	WTR_BB_DRX_O_N	OUT RADIO_WTR
GNSS_BB_IP	60	WTR_BB_GPS_I_P	OUT RADIO_WTR
GNSS_BB_IM	53	WTR_BB_GPS_I_N	OUT RADIO_WTR
GNSS_BB_OP	67	WTR_BB_GPS_O_P	OUT RADIO_WTR
GNSS_BB_OM	85	WTR_BB_GPS_O_N	OUT RADIO_WTR

DNCX NC



RF_CLK IS SHARED BETWEEN WTR AND WFR. LENGTH DIFFERENCE BETWEEN THE TWO SHOULD BE < 5MM.

RF TRANSCEIVER (1 OF 3)

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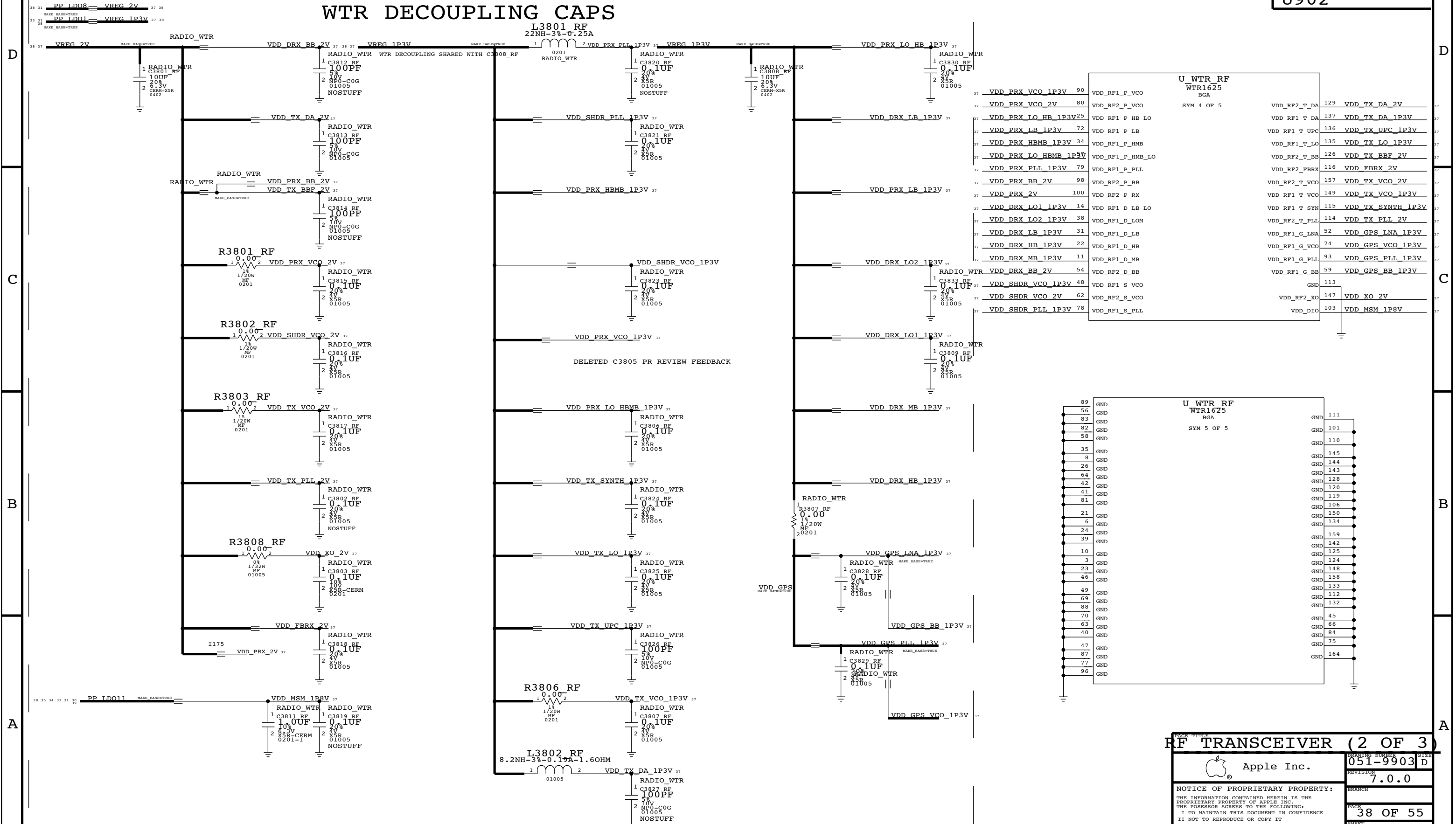
WTR TRANSCEIVER (2 OF 2)

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C934	
R926	
L3802	RF
U902	

WTR DECOUPLING CAPS

L3801 RF
22NH-3%-0.25A



PAGE TITLE
RF TRANSCEIVER (2 OF 3)



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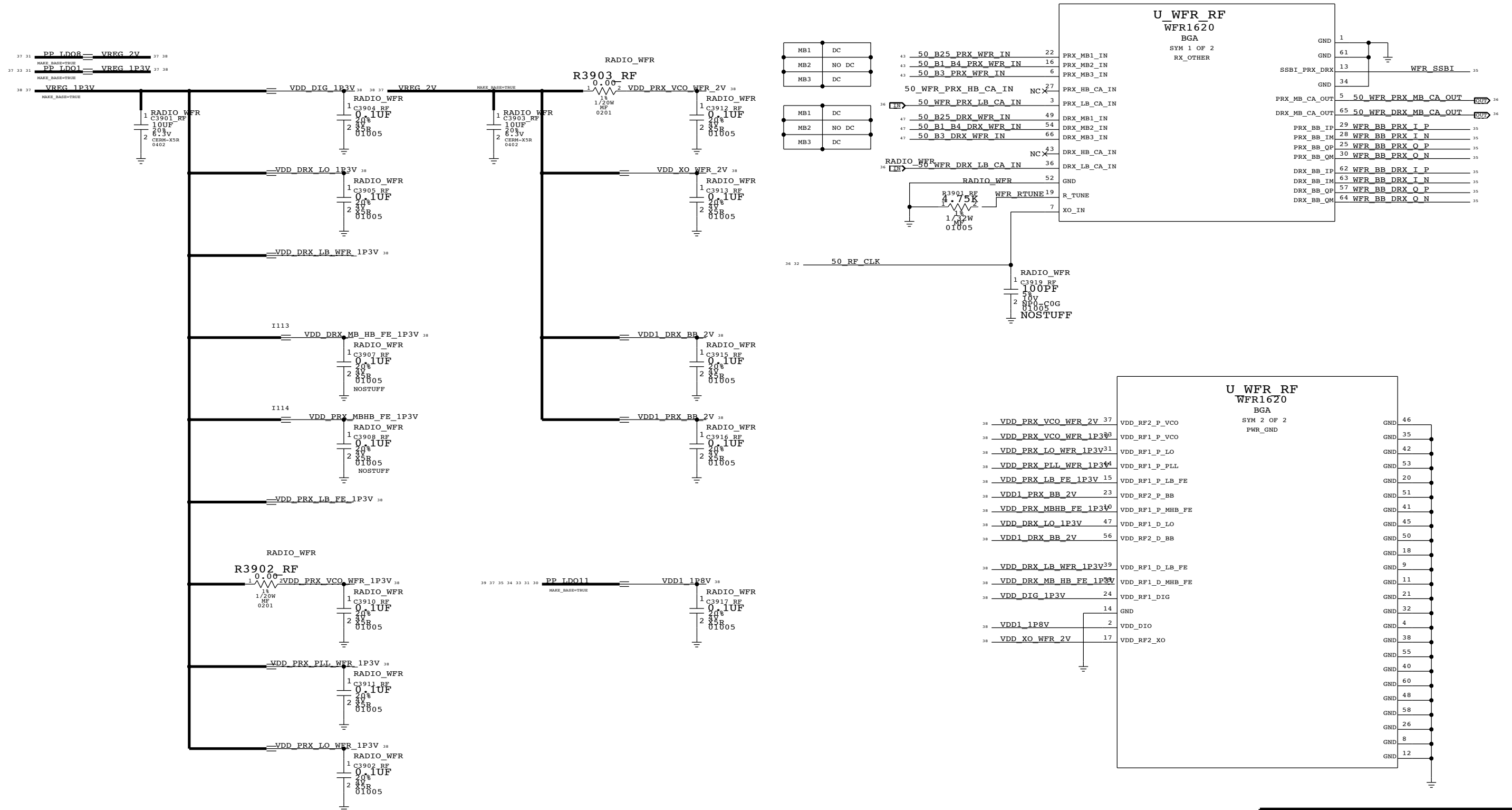
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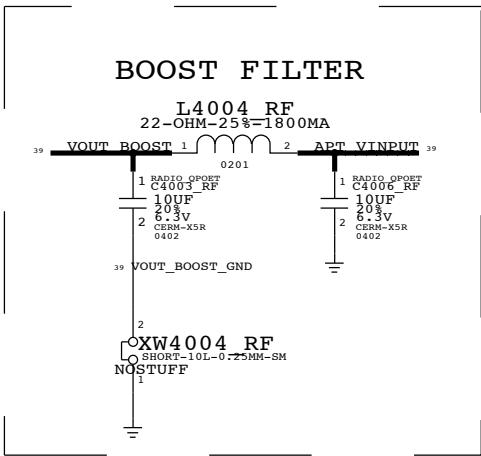
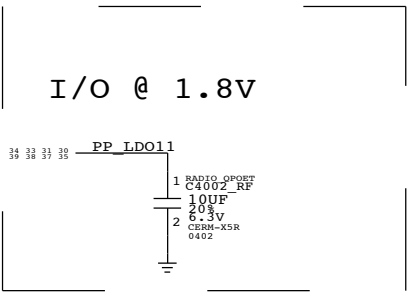
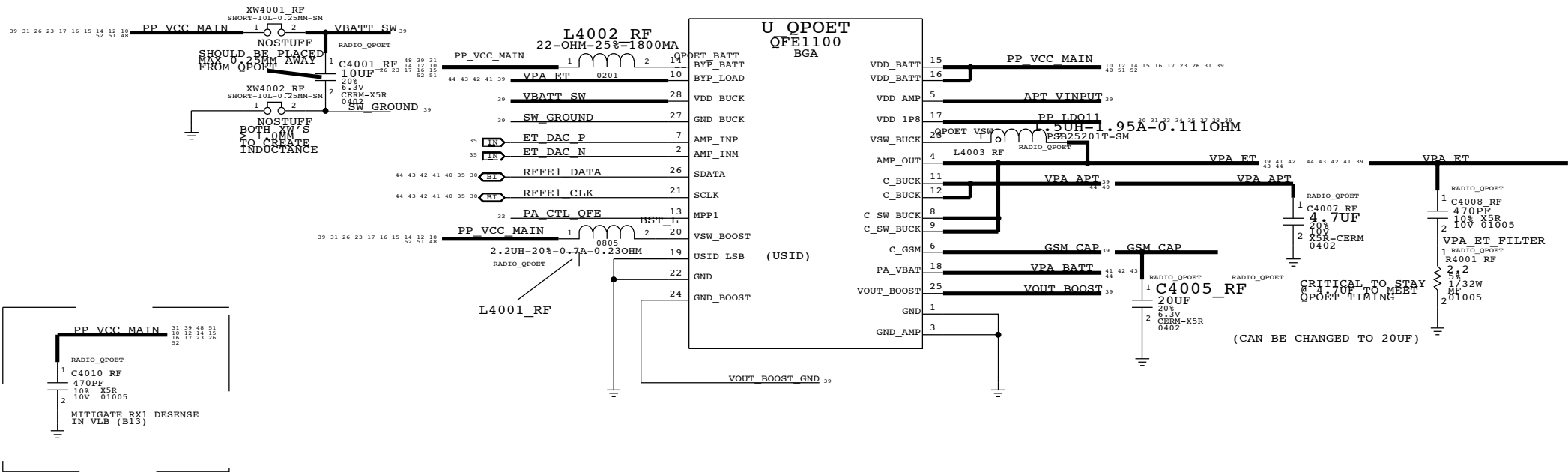
C1019
R1016
L1000
U1002



QFE DCDC

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C1110
R1102
L1104
U1101

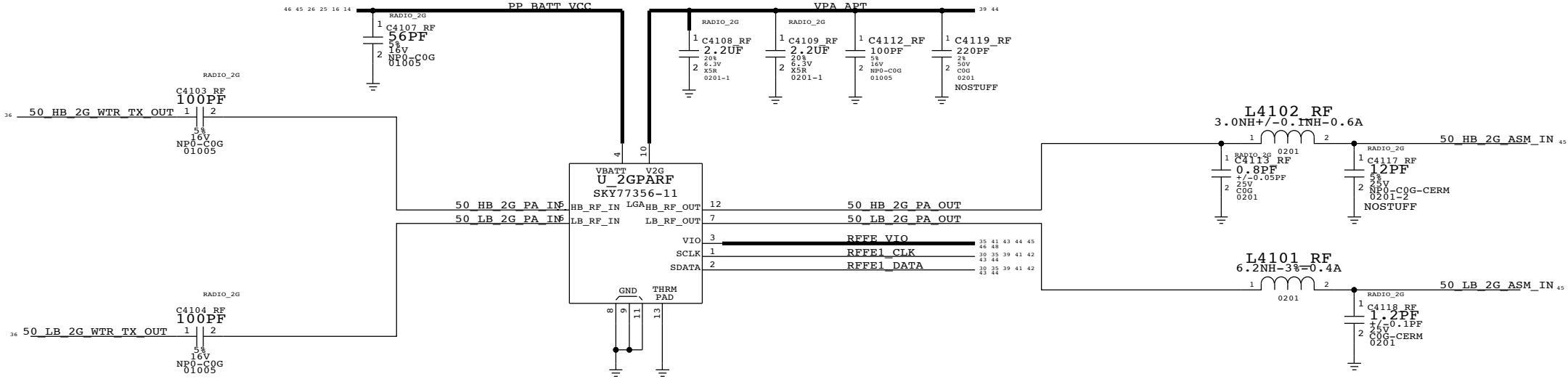


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2G PA

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C1208
R1200
L1204
U1201



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VERY LOW BAND PAD (B13, B17, B28)

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C1332
R1300
L4215 RF
U1304

D

C

B

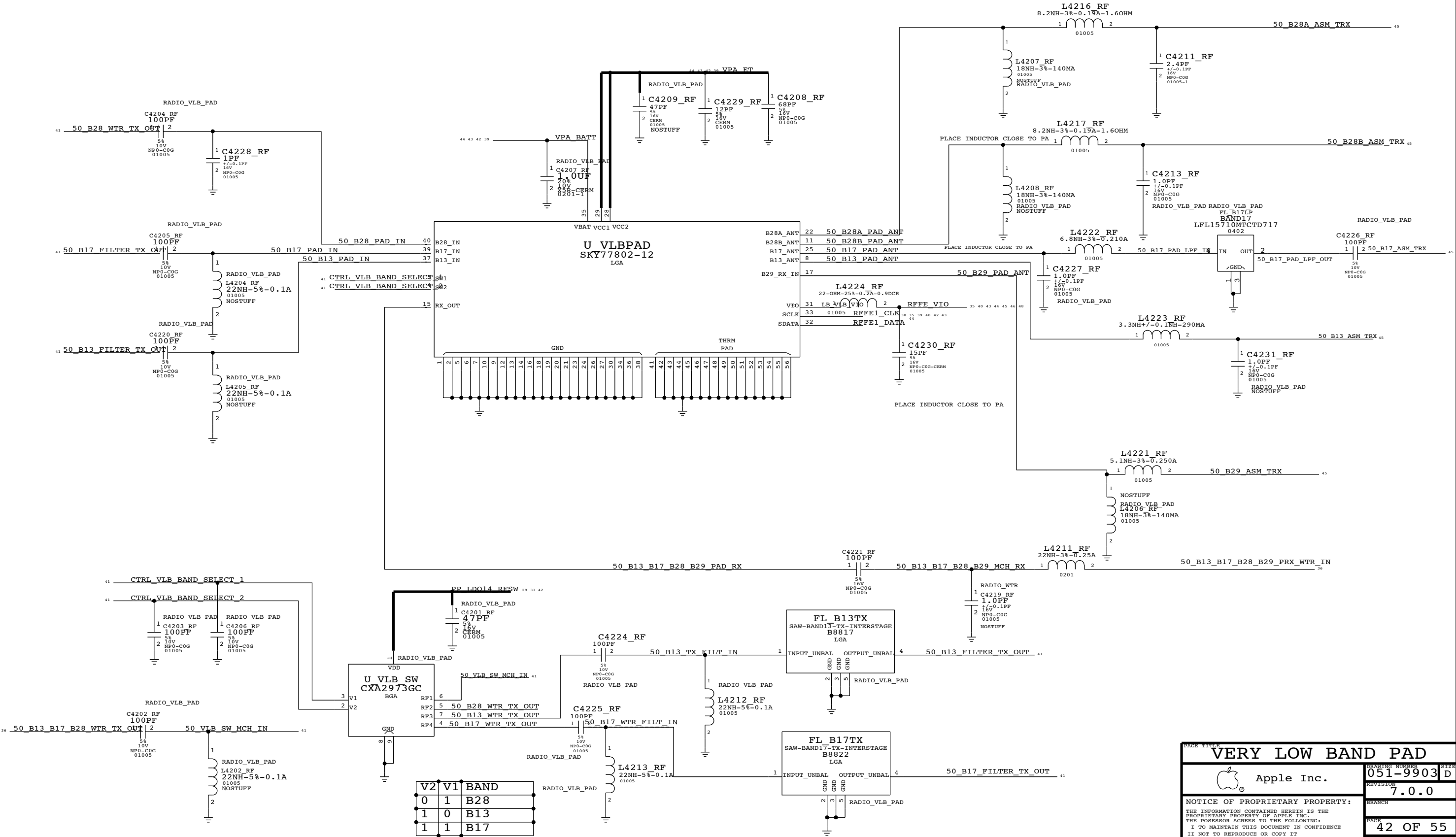
A

D

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LOW BAND PAD (B8, B26, B20)

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C4318 RF
R1400
L4322 RF
U1402

D

C

B

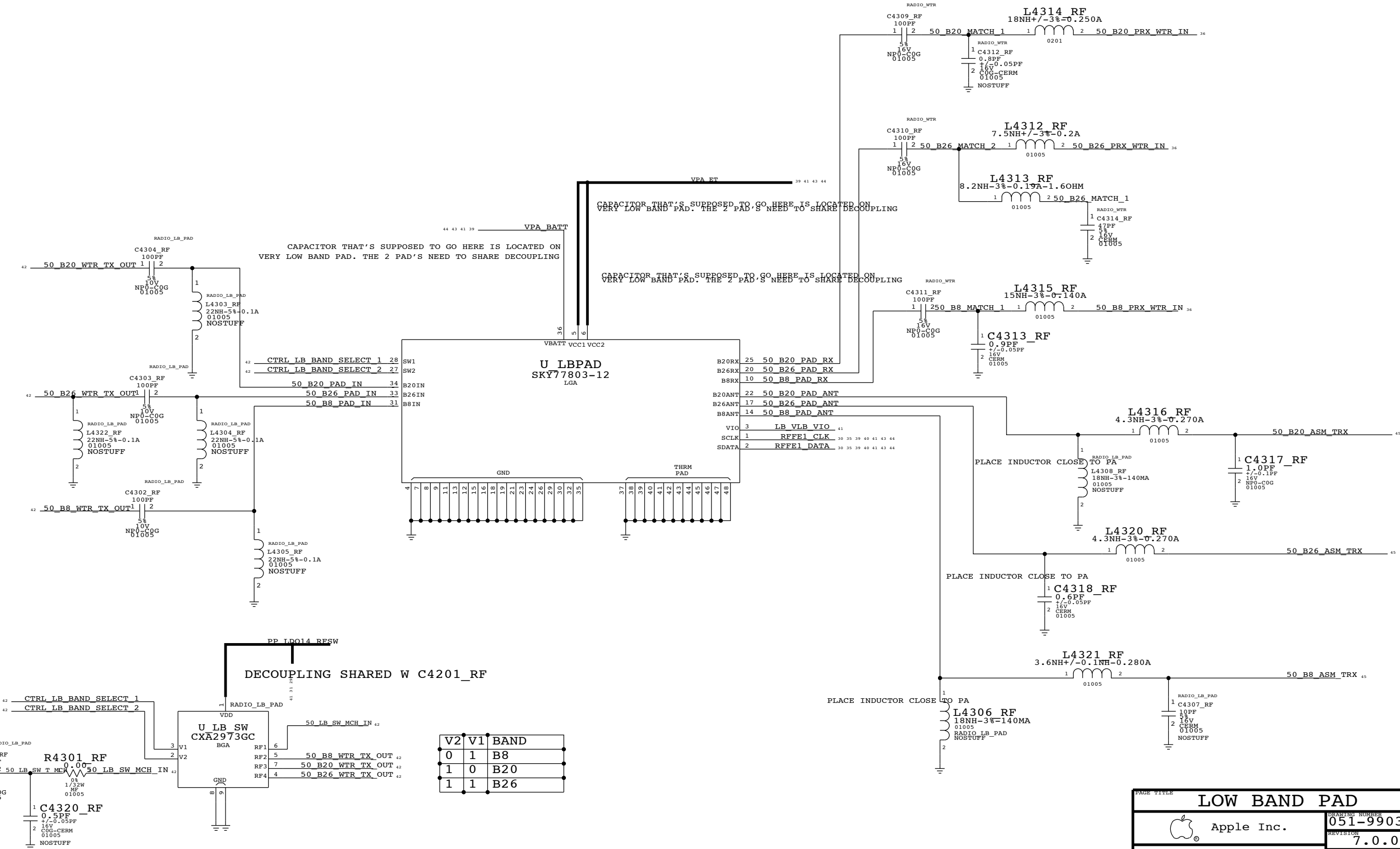
A

D

C

B

A

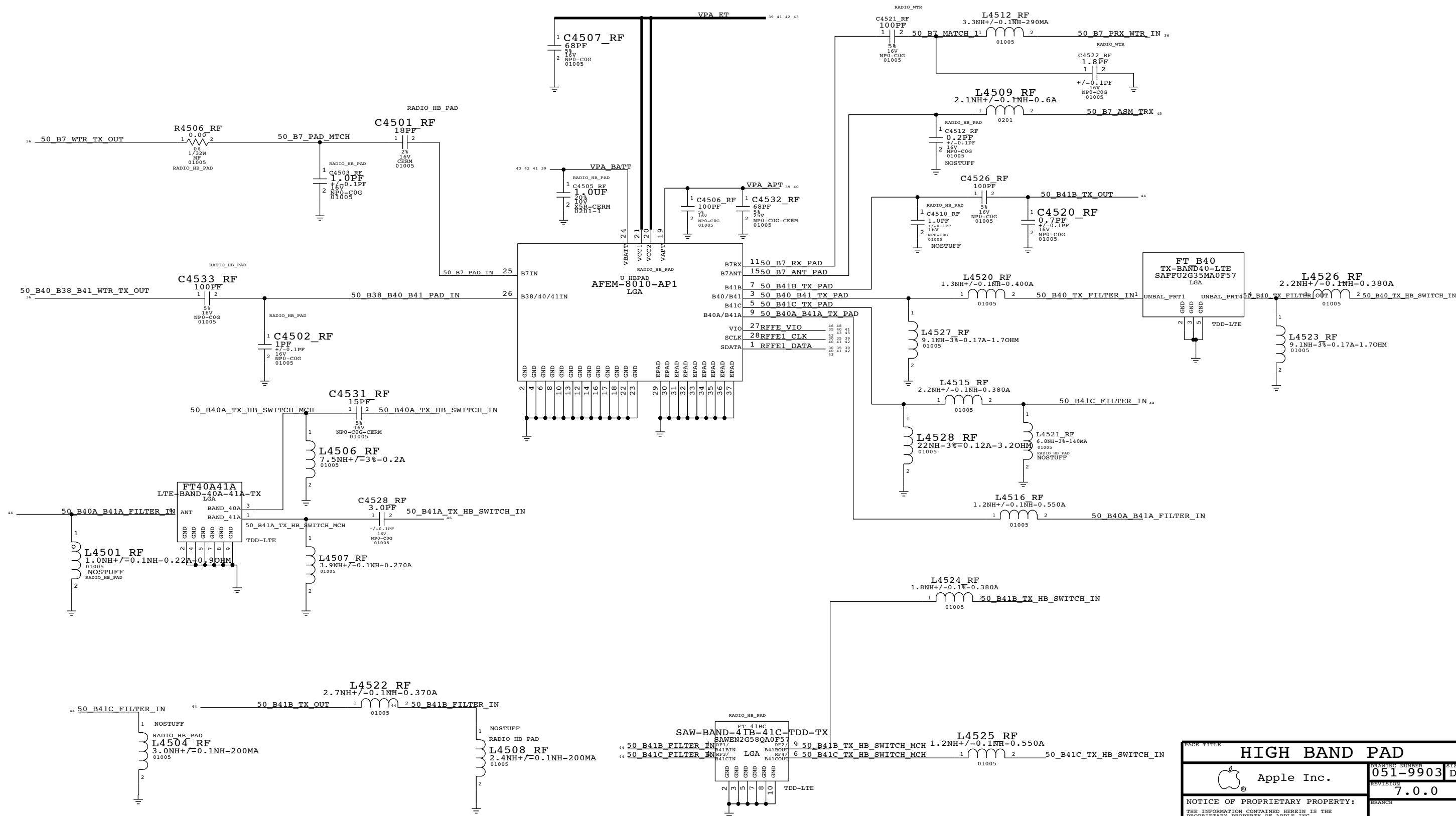


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HIGH BAND PAD (B7, B38, B40, B41, XGP)

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C4533 RF
R1600
L1616
U1601

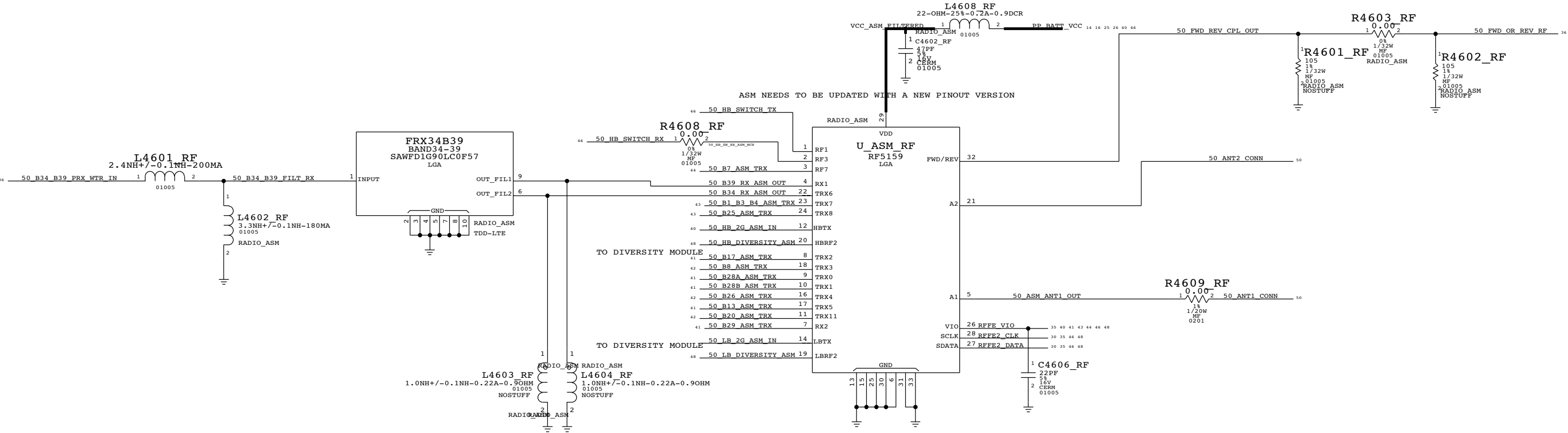


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ANTENNA SWITCH

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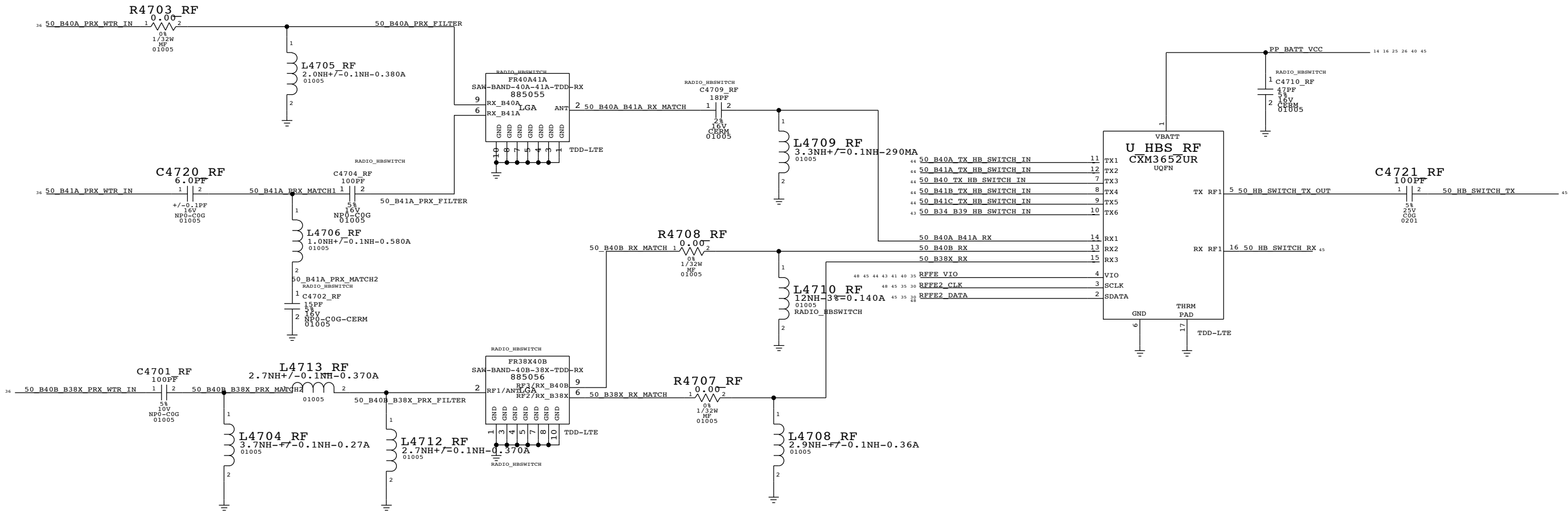
C1702
R1700
L4608 RF
U1702



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HIGH BAND SWITCH

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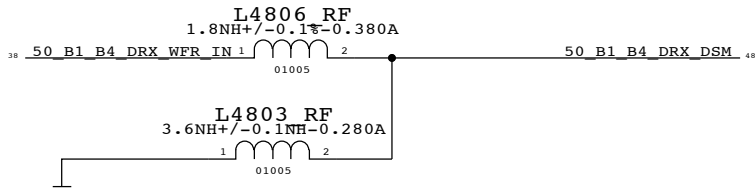
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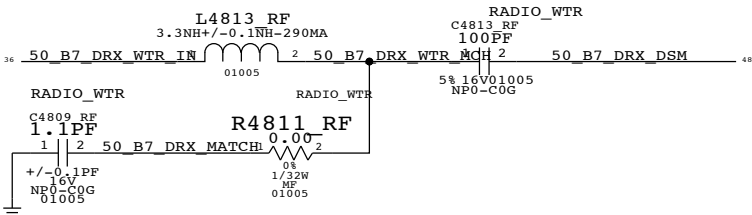
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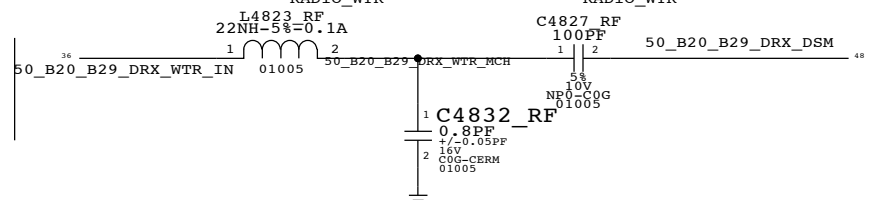
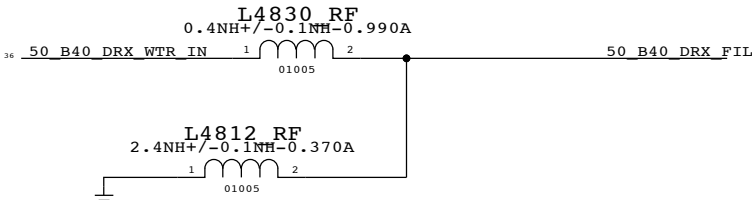
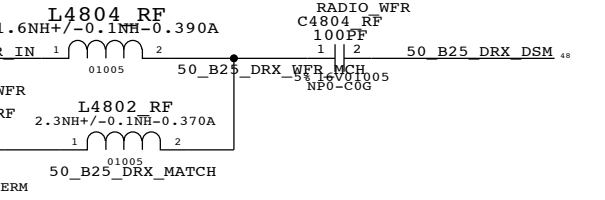
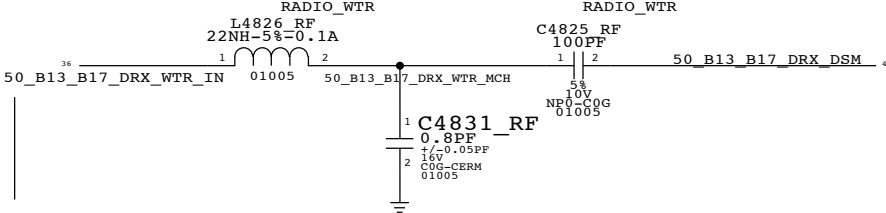
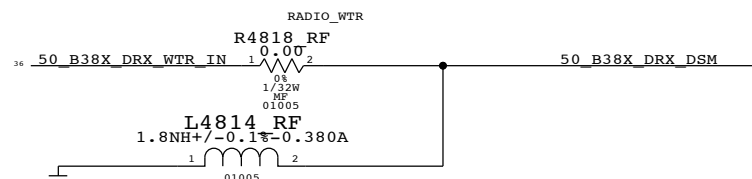
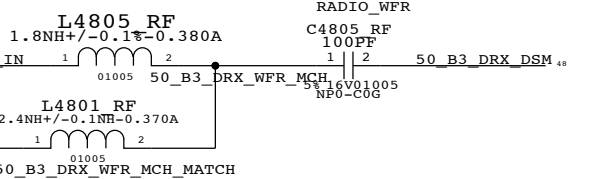
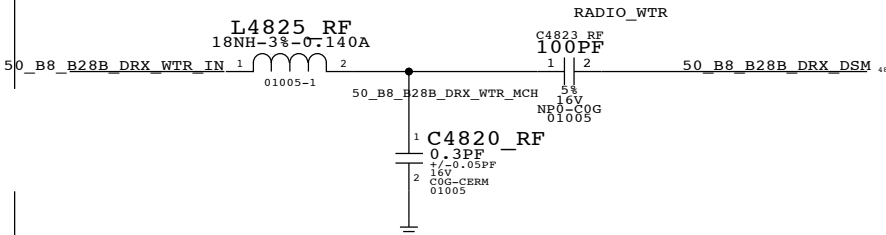
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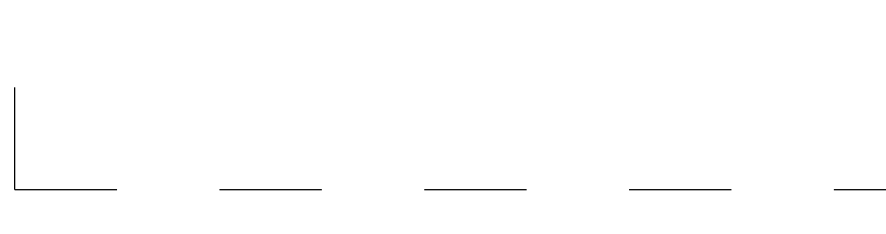
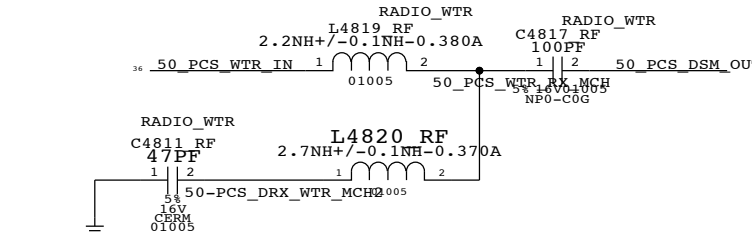
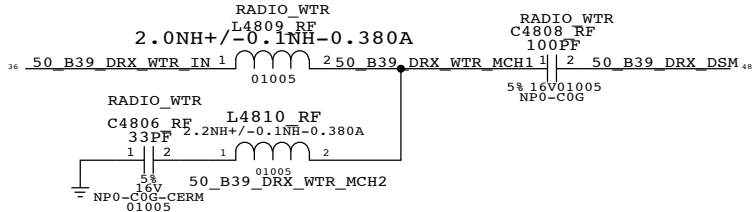
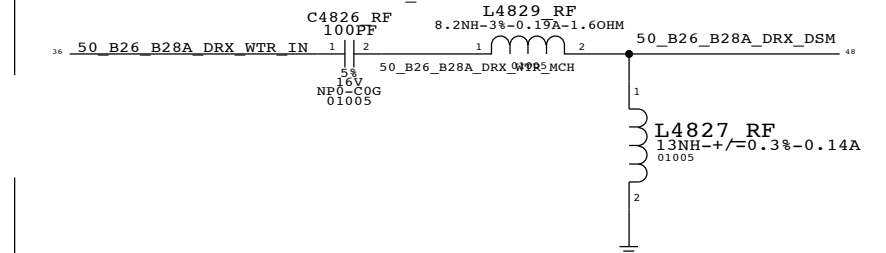
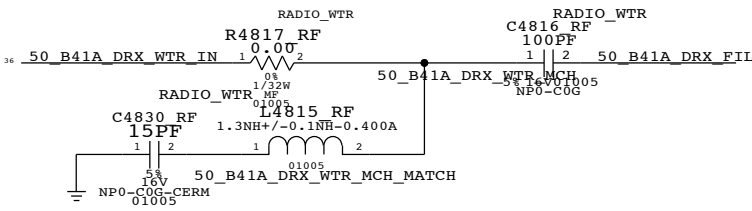
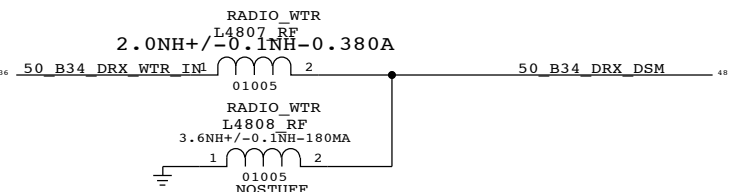
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LOWBAND DIVERSITY - WTR



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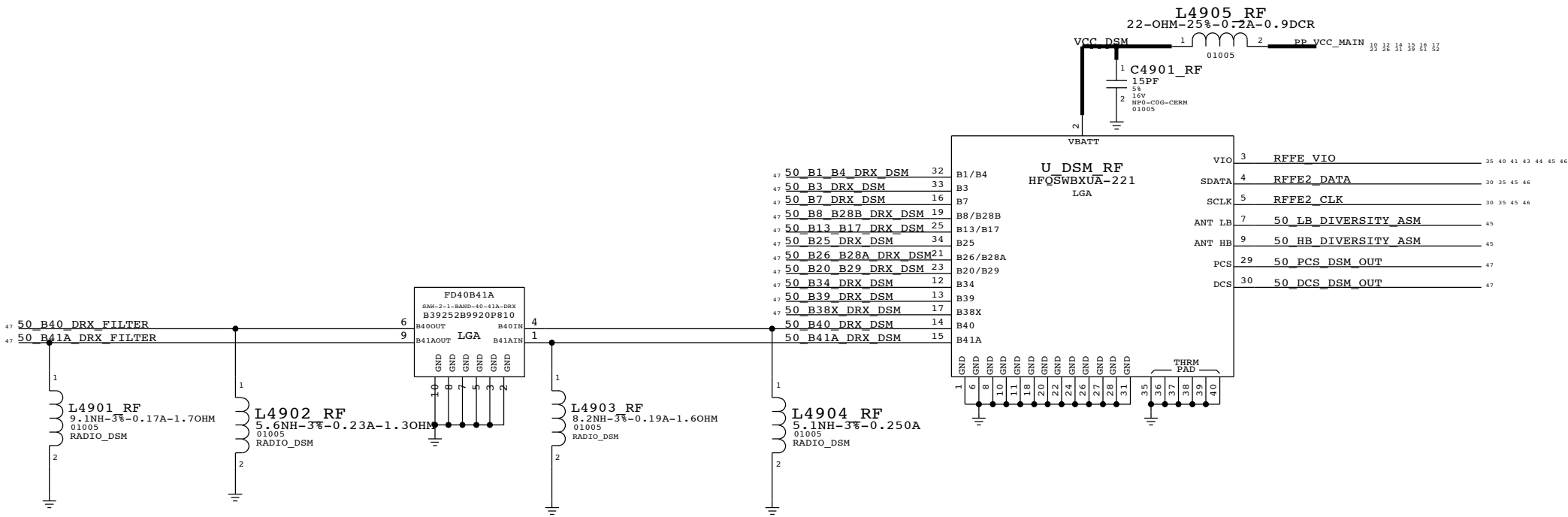
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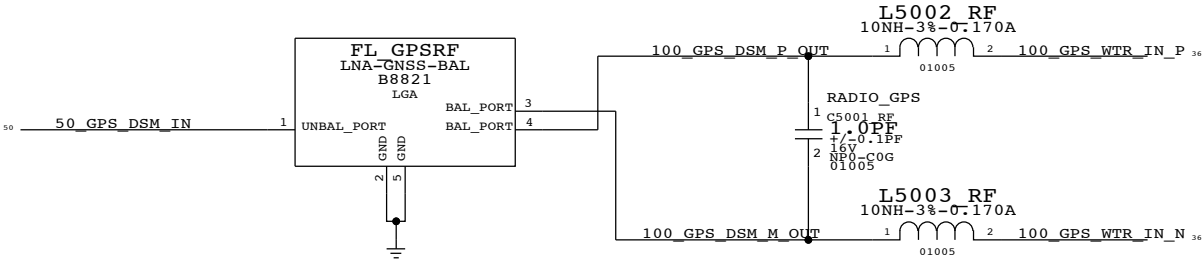


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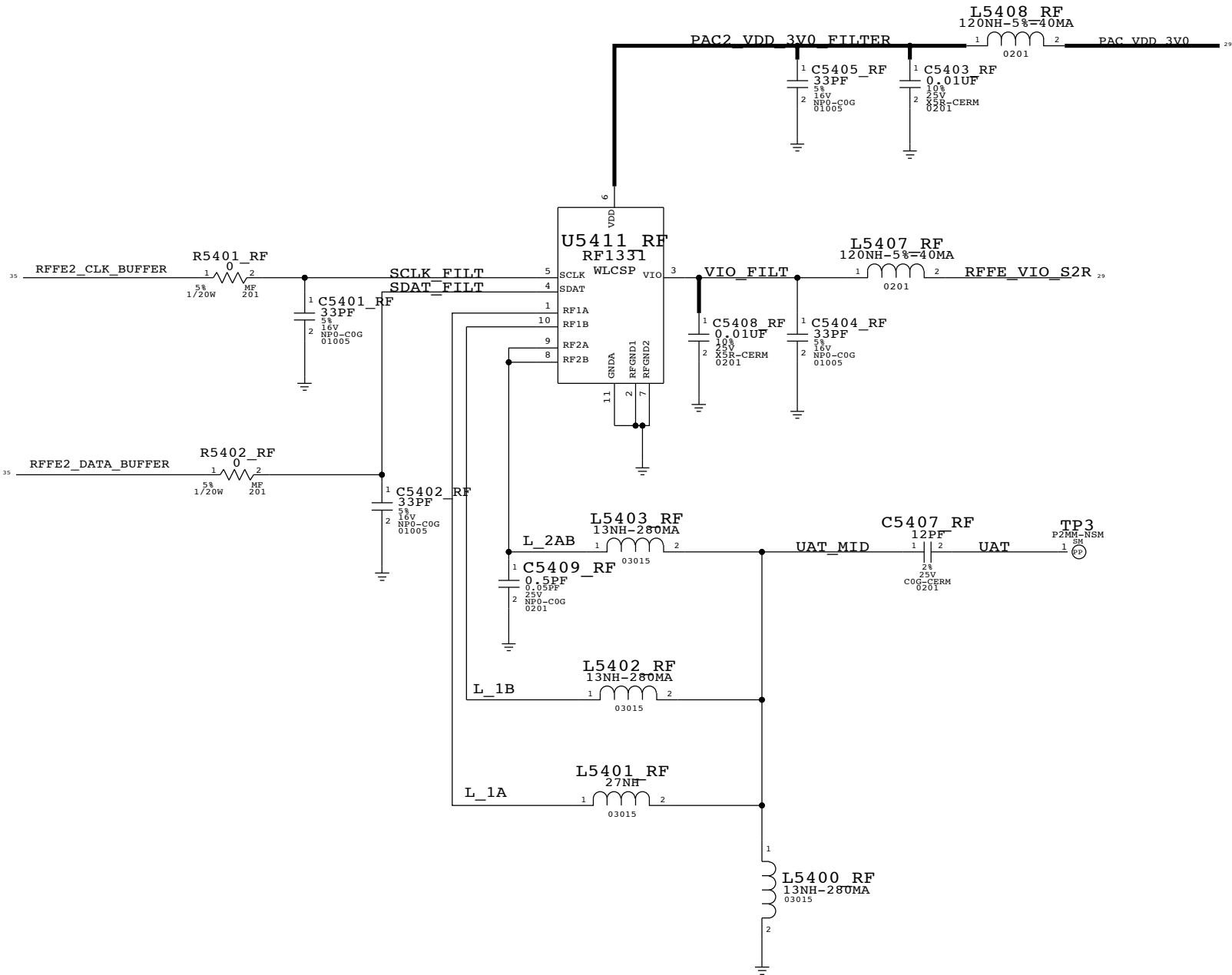
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ON-BOARD JUMPER FLEX

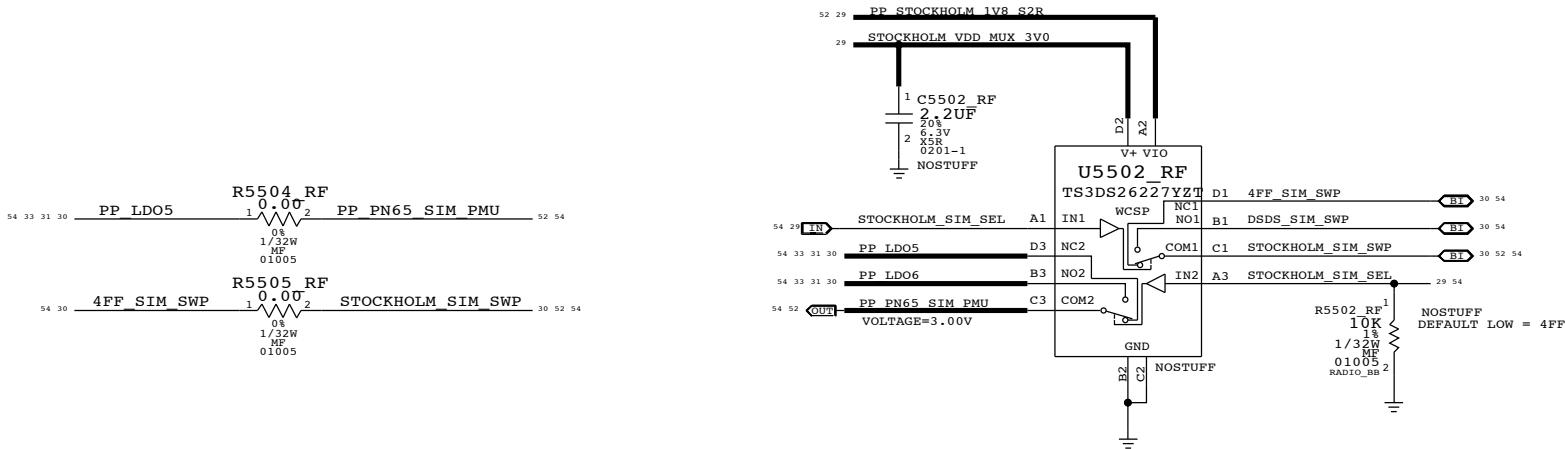
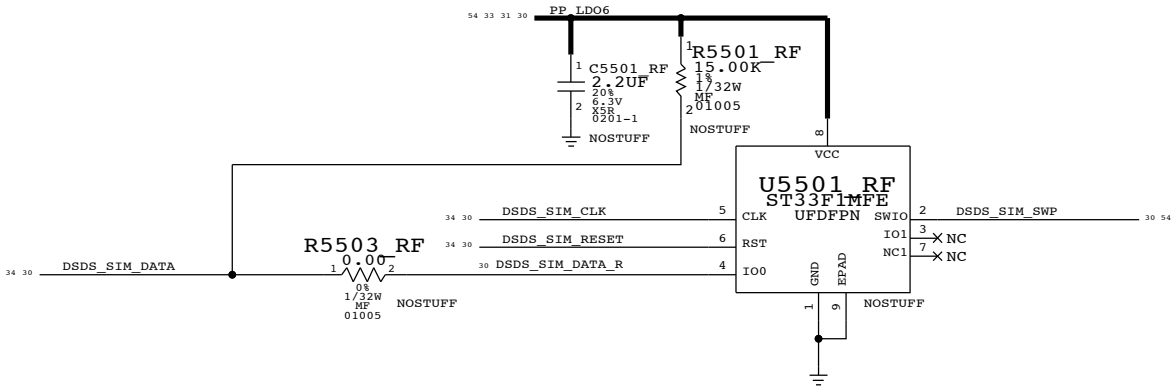
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