

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

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

# N61 CARRIER BUILD

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44	HIGH BAND PAD	N61_RADIO_MLB	03/24/2014
45	ANTENNA SWITCH	N61_RADIO_MLB	03/24/2014
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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	CAP,XSR,10UF,20%,6.3V,0.65MM,HRTZ,0402	C0610,C0611,C0614,C0634	CRITICAL	NAND_16G
138S0867	1	CAP,XSR,10UF,20%,6.3V,0.65MM,HRTZ,0402	C0613,C0633,C0610,C0611,C0614,C0634	CRITICAL	NAND_32G & NAND_64G
138S00003	1	CAP,XSR,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	J0604	TOSHIBA,NAND,16GB
335S1038	335S0998	ALTERNATE	J0604	HYNIX,NAND,16GB
335S1040	335S0994	ALTERNATE	J0604	HYNIX,NAND,64GB
335S00014	335S0994	ALTERNATE	J0604	TOSHIBA,NAND,64GB
335S00015	335S00010	ALTERNATE	J0604	TOSHIBA,NAND128GB
335S00009	335S0994	ALTERNATE	J0604	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

## 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_F98F	CRITICAL	EEEE_16G_TDDLTE
825-6838	1	EEEE FOR 639-00209 32GB	EEEE_F9KQ	CRITICAL	EEEE_32G_TDDLTE
825-6838	1	EEEE FOR 639-00210 64GB	EEEE_F9JY	CRITICAL	EEEE_64G_TDDLTE
825-6838	1	EEEE FOR 639-00212 128GB	EEEE_F9Y9	CRITICAL	EEEE_128G_TLC_TDDLTE

## ALTERNATE BOM OPTIONS

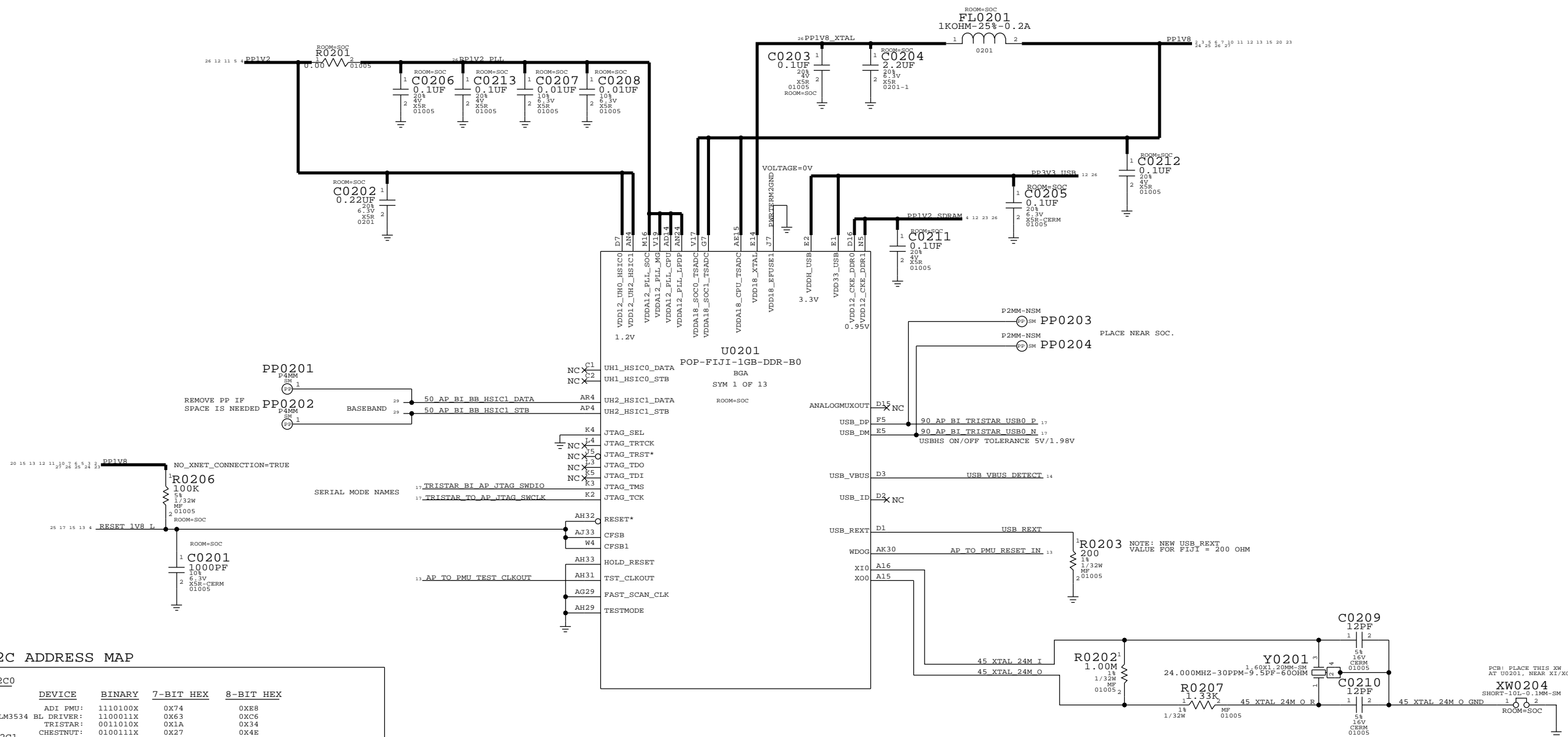
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152S1844	152S1836	ALTERNATE	L1604	TY ALT INDUCTOR
152S1842	152S1849	ALTERNATE	L1519	TY ALT INDUCTOR
197S0392	197S0369	ALTERNATE	Y1200	ESPON ALT XTAL
197S0399	197S0369	ALTERNATE	Y1200	NDK ALT XTAL
338S1285	338S1202	ALTERNATE	U1601	L21 SPKAMP
152S2034	152S2033	ALTERNATE	L1209,L1211,L1213	1.2MM 1.0UH, CYNTEC
152S00004	152S2049	ALTERNATE	L1210,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	DZ1113	SUPPL,TRANS,VARIABLE,MOTEC
155S0895	155S0610	ALTERNATE	FL1802,FL1803	FERRE 80,150OHM,200MA,01005
138S0648	138S0652	ALTERNATE	C1018	CAP,4.7UF,20%,6.3V,0402,040-65MM
138S0657	138S0702	ALTERNATE	C1106	CAP,4.7UF,20%,4V,0402
338S00028	338S00017	ALTERNATE	J2203	CARBON,BOBCH,BMI162BC
338S00029	338S00017	ALTERNATE	J2203	CARBON,ST,AP60S2AA
335S00013	335S0894	ALTERNATE	J0301	ST BK REPRCM

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

BOM 639-4237 (16GB,BETTER)      BOM 639-00208 (16GB,BETTER,DTD)  
 BOM 639-5838 (32GB,BEST)      BOM 639-00209 (32GB,BEST,DTD)  
 BOM 639-5839 (64GB,ULTRA)      BOM 639-00210 (64GB,ULTRA,DTD)  
 BOM 639-00025 (128GB,SUPREME,TLC)      BOM 639-00212 (128GB,SUPREME,TLC,DTD)

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# FIJI: JTAG, USB, HSIC, XTAL



## I2C ADDRESS MAP

I2C0	DEVICE	BINARY	7-BIT HEX	8-BIT HEX
I2C0	ADI PMU:	1110100X	0X74	0XE8
	LM3534 BL DRIVER:	1100011X	0X63	0XC6
	TRISTAR:	0011010X	0X1A	0X34
	CHESTNUT:	0100111X	0X27	0X4E
I2C1	TIGRIS CHARGER:	1110101X	0X75	0XEA
	LINEAR VIBE:	1011010X	0X5A	0XB4
	CS35L19B AMP:	1000000X	0X40	0X80
	MESA EEPROM (MEMORY):	1010110X	0X56	0XAC
	MESA EEPROM (ID):	1011110X	0X5E	0XBC
I2C2	CT814 ALS:	0101001X	0X29	0X52
	DISPLAY EEPROM:	1010001X	0X51	0XA2
RCAM I2C	OPEL STROBE DRIVER:	1100011X	0X63	0XC6
	REAR FACING CAM:	0010000X	0X10	0X20
	VCM AF DRIVER:	0001100X	0X0C	0X18
FCAM I2C	FRONT FACING CAM:	0010000X	0X10	0X20

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

SYNC MASTER=N56 MLB SYNC DATE=08/29/2013

PAGE TITLE: SOC:MAIN

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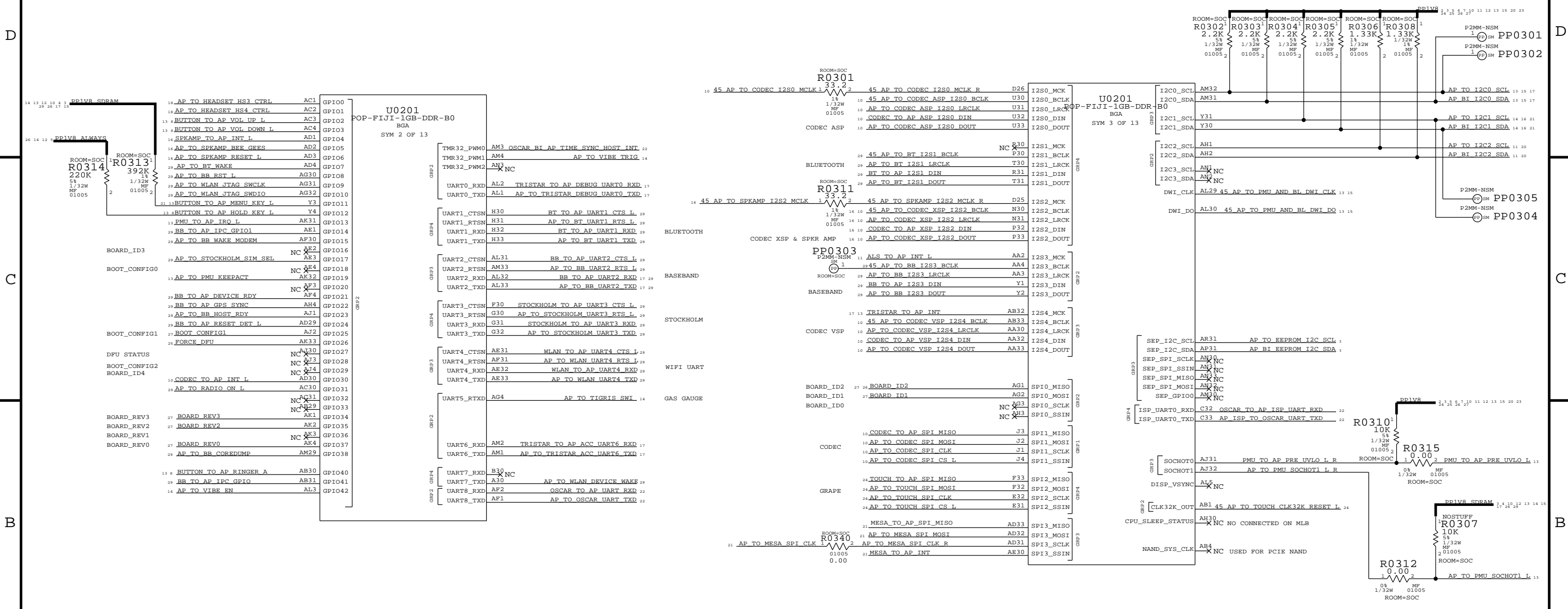
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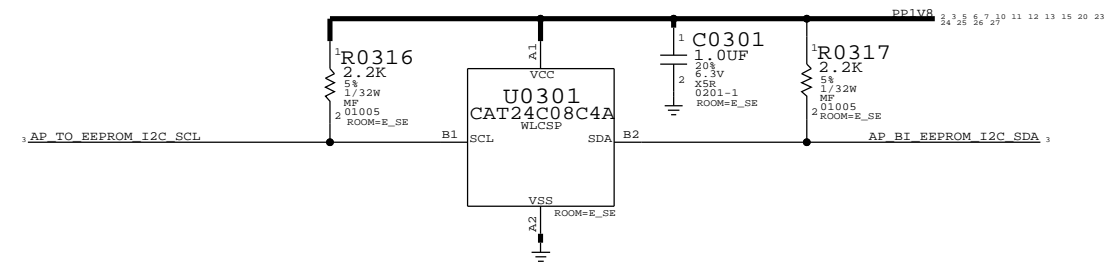
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# FIJI: DIGITAL I/O, BOOTSTRAPPING



ANTI-ROLLBACK EEPROM  
ONSEMI EEPROM  
APN: 335S0894

REMOVED HOLD + MENU KEY  
BUFFERS SINCE NOT NEEDED FOR FIJI



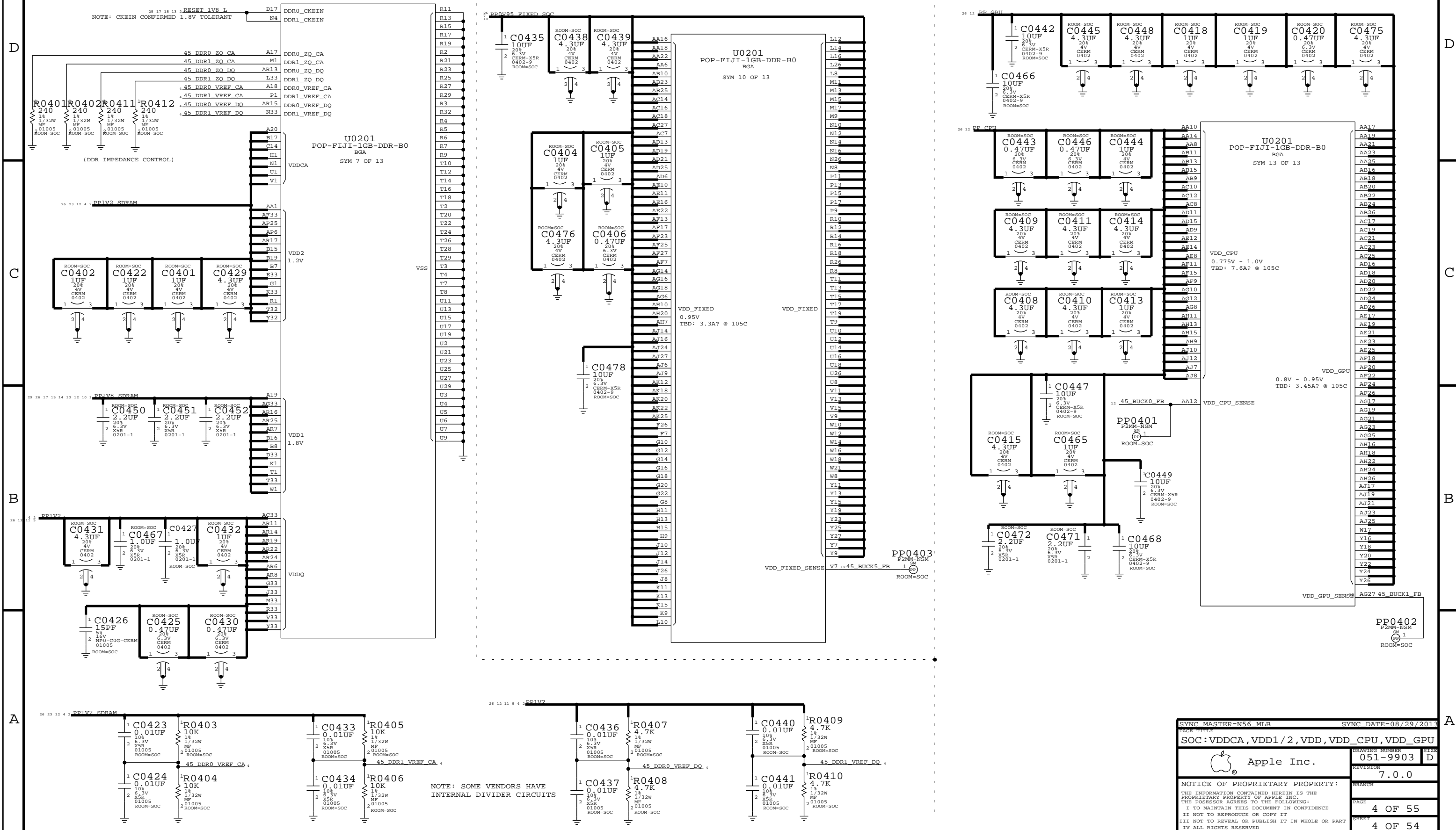
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# FIJI: VDDCA, VDD1/2, VDDQ, VDD, VDD\_FIXED, VDD\_CPU, VDD\_GPU

VDDCA, VDD1/2, VDDQ

VDD

VDD\_CPU, VDD\_GPU



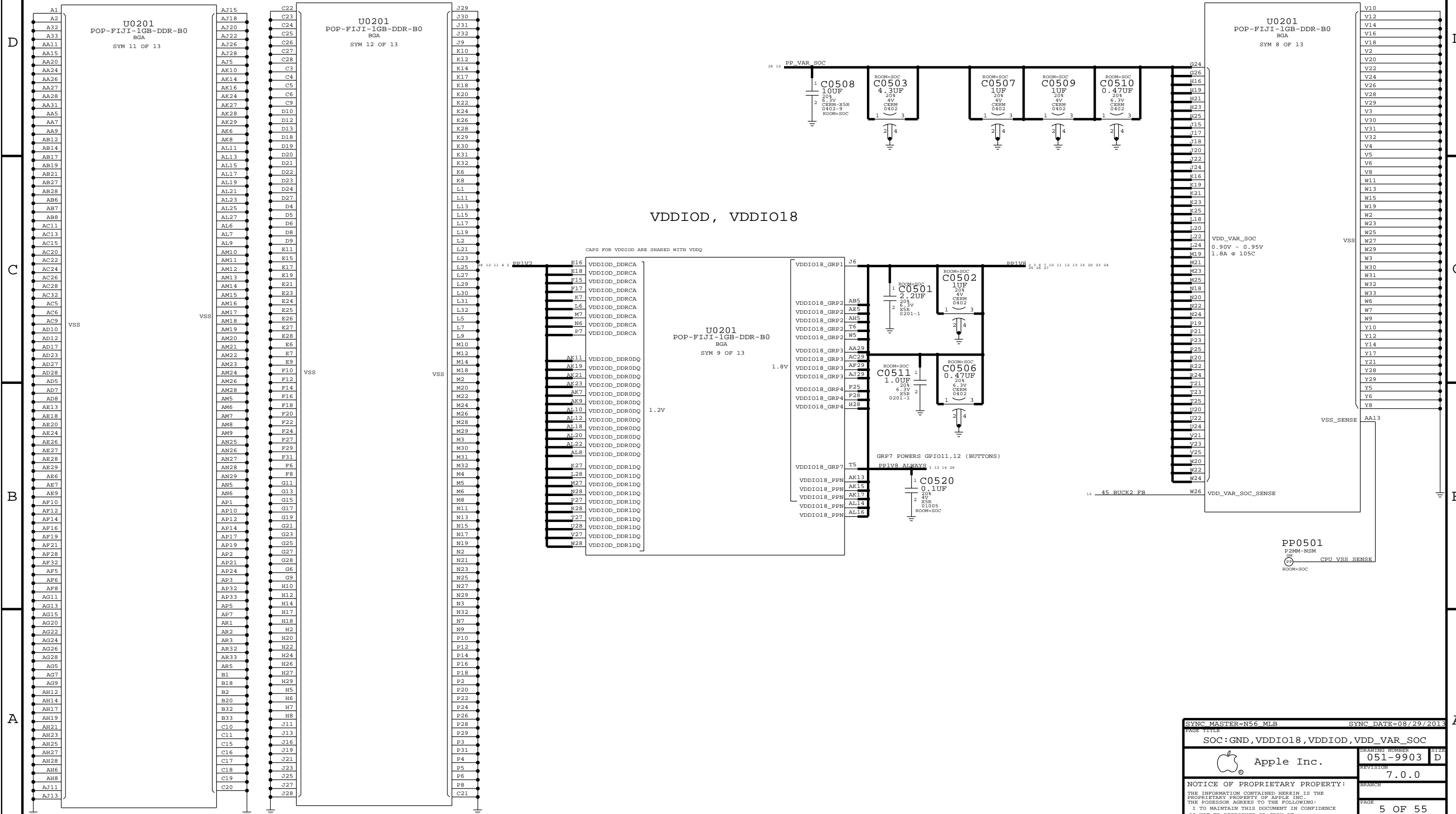
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# FIJI: VDDIOD, VDDIO18, VDD\_VAR\_SOC

JUST A FEW GNDS

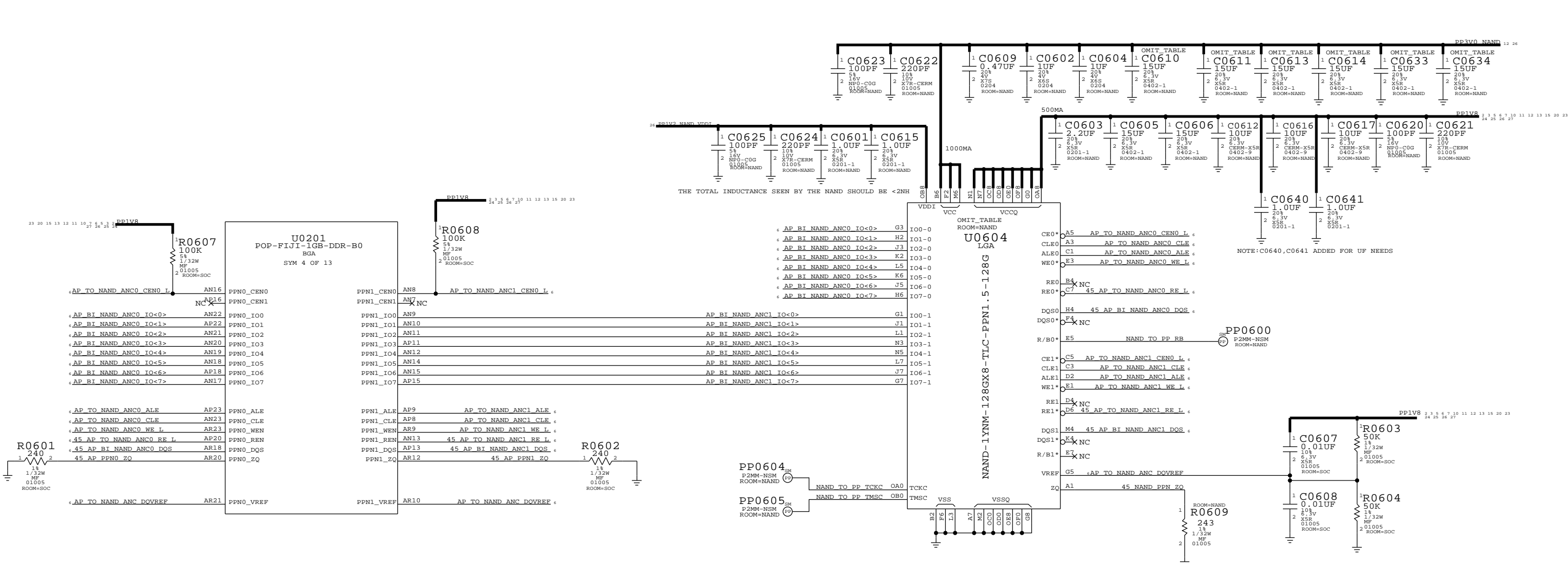
VDD\_SRAM, VDD\_SOC



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# FIJI: NAND + 12X17 NAND PKG

SUPPORT FOR PPN1.5 (1.8V IO) ONLY



THE TOTAL INDUCTANCE SEEN BY THE NAND SHOULD BE <2NH

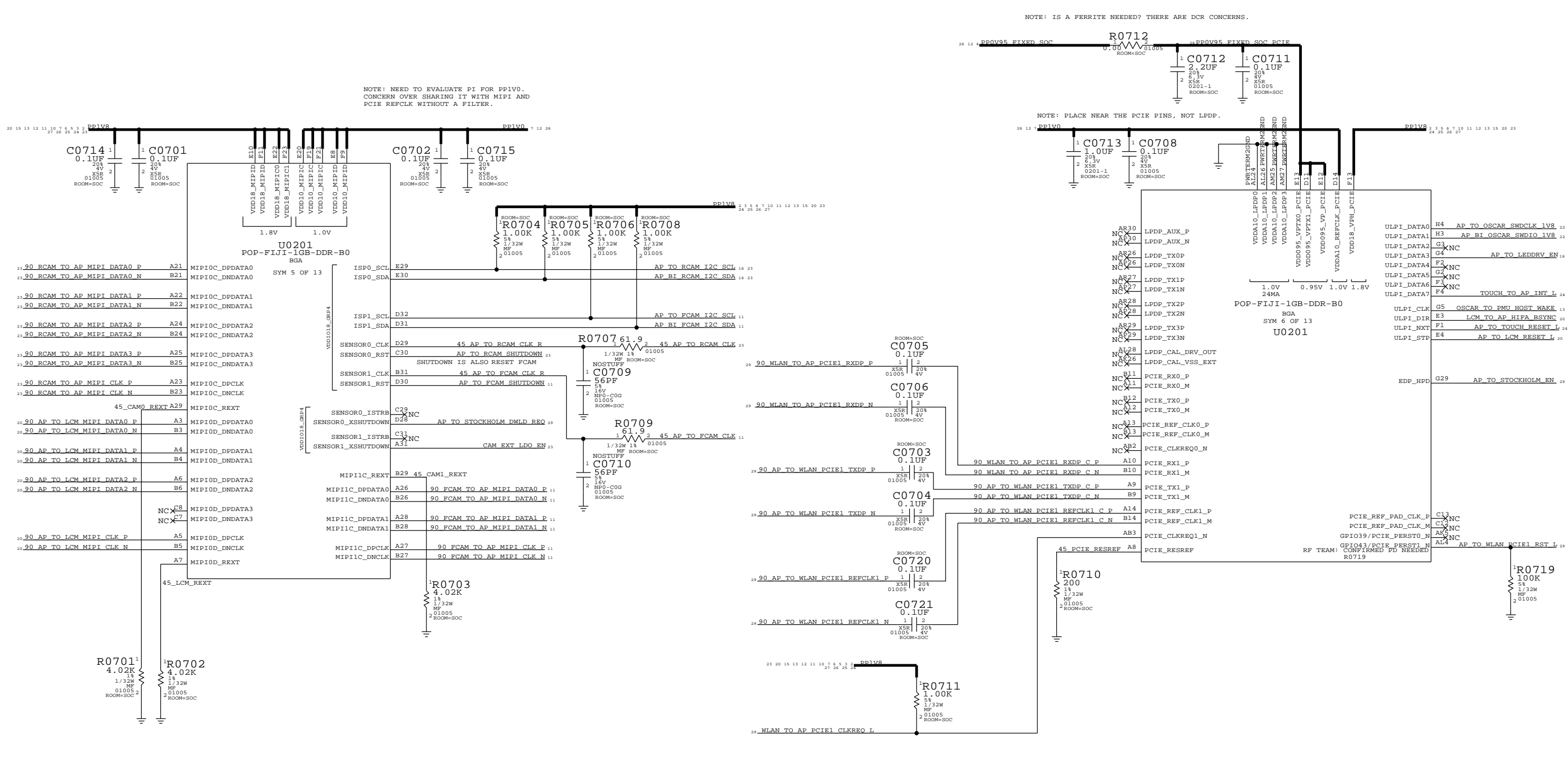
NOTE: C0640, C0641 ADDED FOR UF NEEDS

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

- PP0601 P4MM ROOM=SOC 1 AP BI NAND ANCO IO<6> NOTE: IO<6> PREFERRED BY MATT BYOM (N51) (IS A STATUS READY BIT)
- PP0602 P4MM ROOM=SOC 1 45 AP TO NAND ANCO RE L
- PP0603 P4MM ROOM=SOC 1 45 AP BI NAND ANCO DQS

SYNC MASTER=N56 MLB		SYNC DATE=08/29/2013	
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SOC: NAND		DRAWING NUMBER	SIZE
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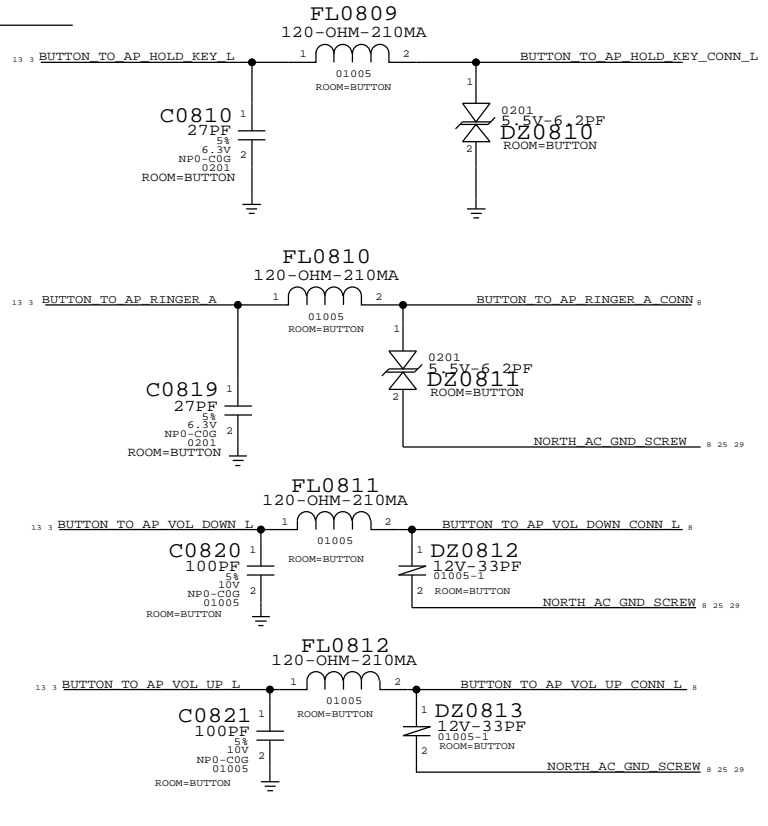
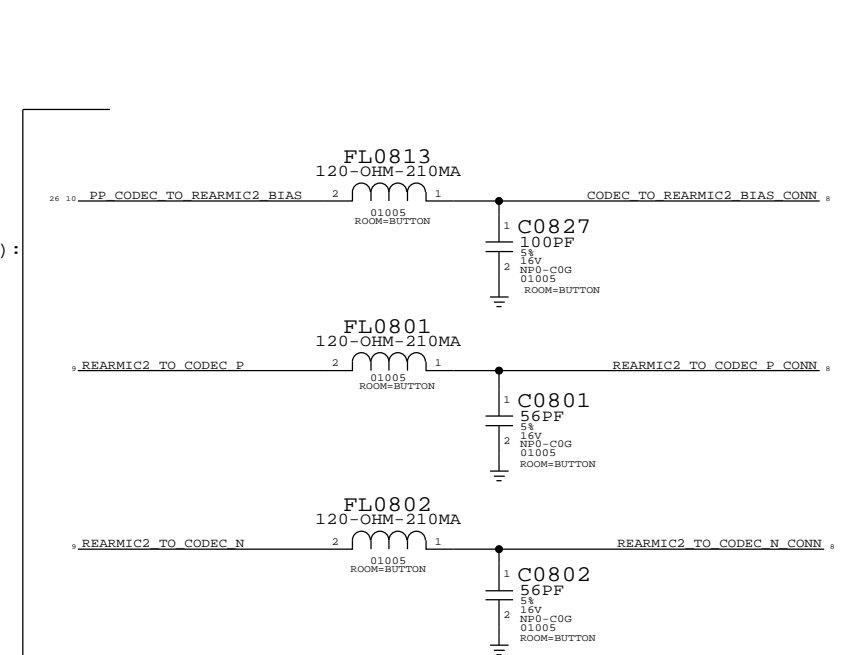
# FIJI: HIGH SPEED DIG (CAM, LCD, LPDP, PCIE)



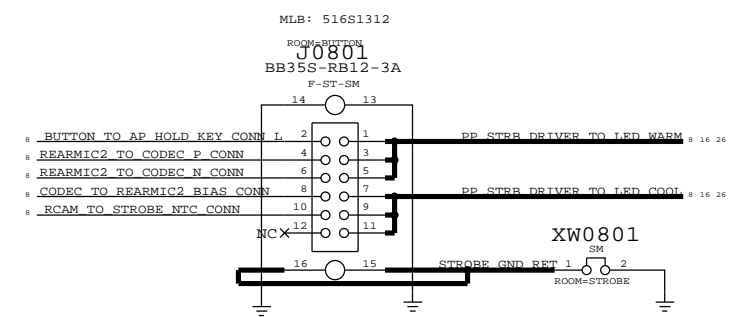
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# BUTTON FLEX (BUTTONS, ANC REF MIC, STROBE, STROBE\_NTC, WIFI FLEX PAC)

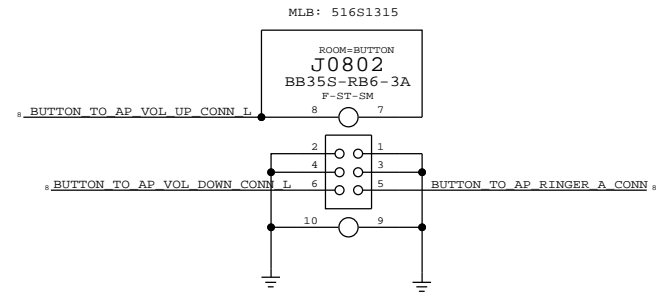
MIC2 (ANC REF MIC):  
MIC2\_4 BIAS,  
MIC2\_P,\_N



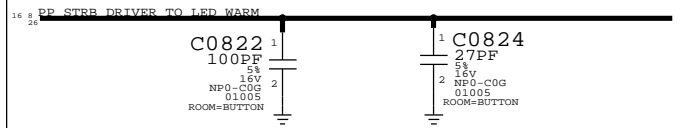
## RIGHT BUTTON B2B



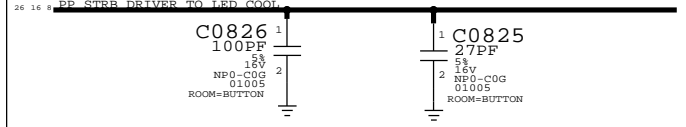
## LEFT BUTTON B2B



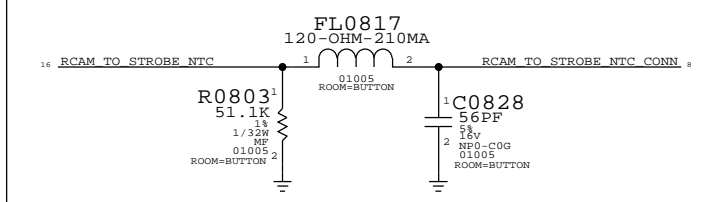
STROBE:  
LED WARM



STROBE:  
LED COOL



STROBE:  
NTC



BUTTONS:  
RINGER, HOLD,  
VOL\_UP/DOWN,

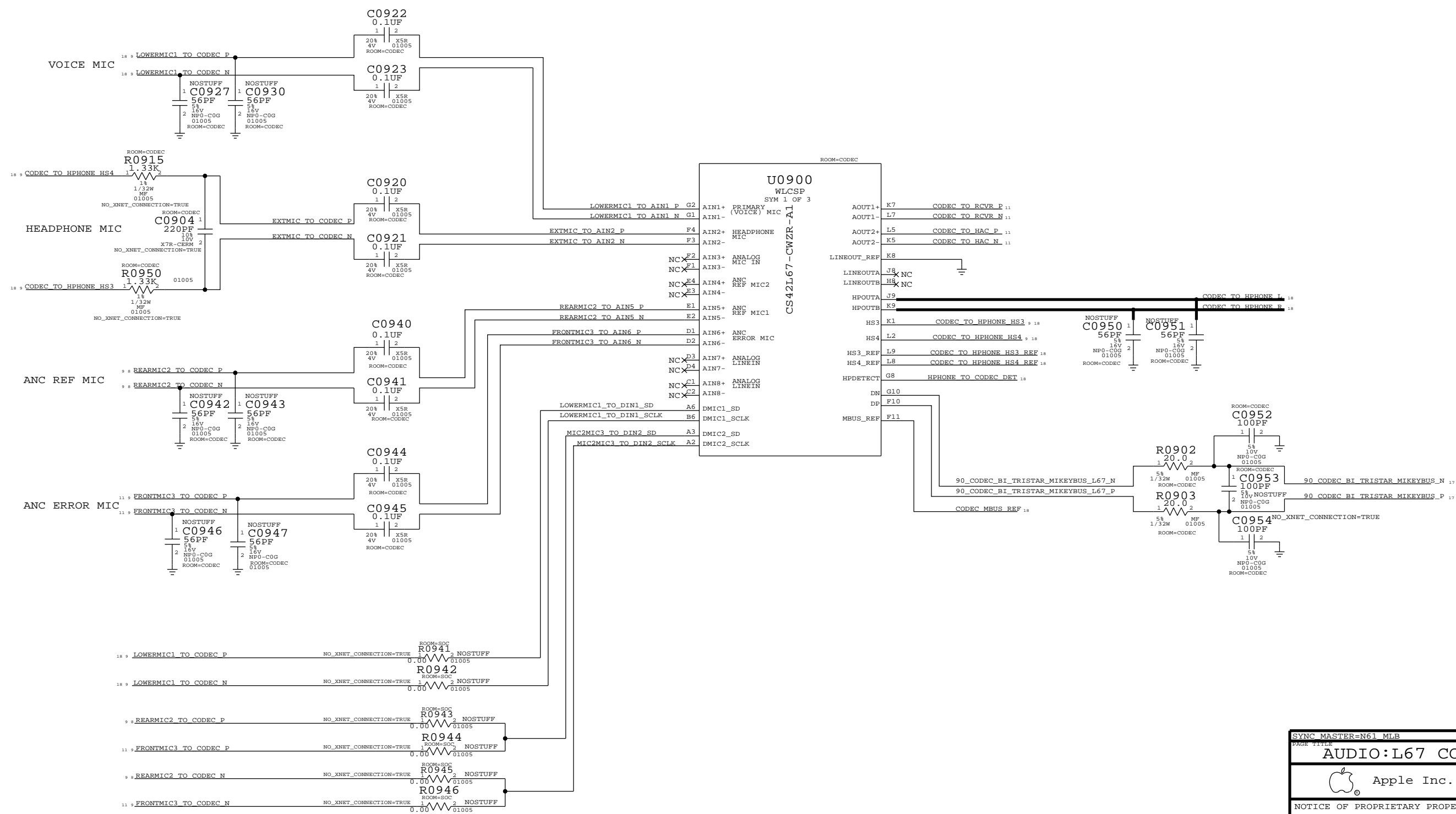
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# L67 AUDIO CODEC

## AUDIO I/O

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



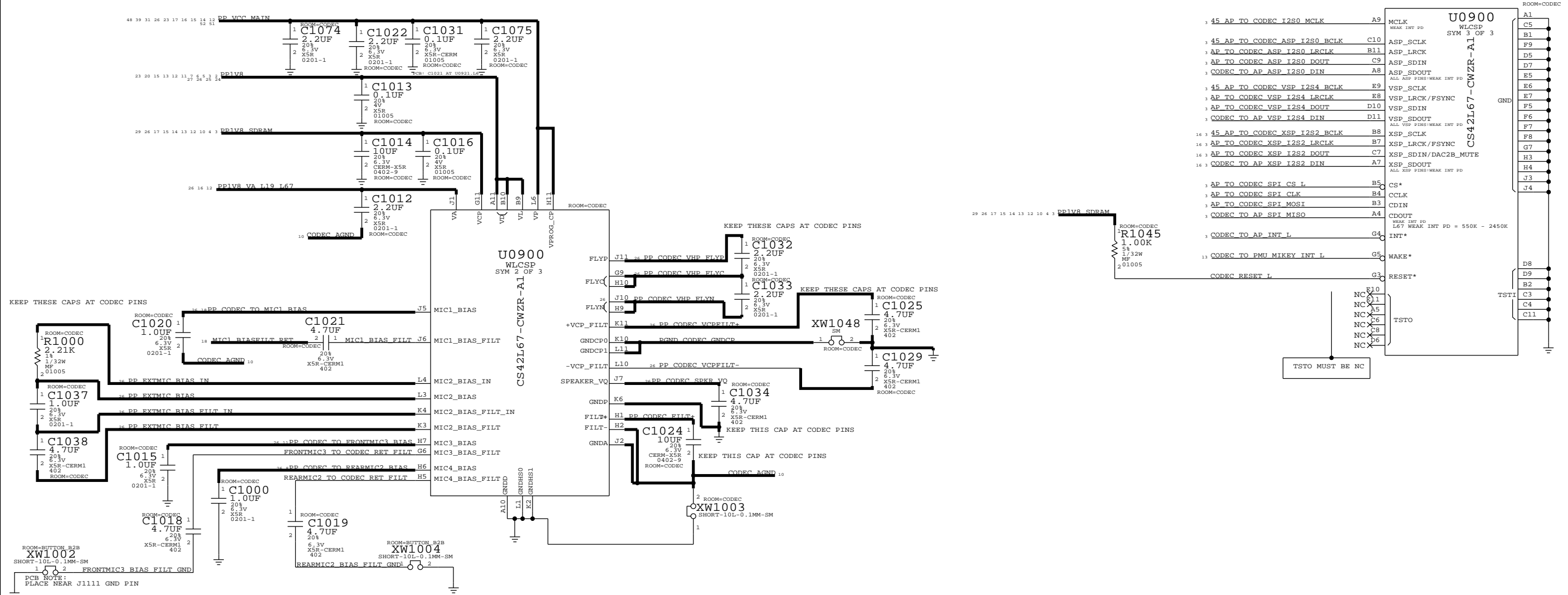
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# L67 AUDIO CODEC

## POWER, MICBIAS

## DIGITAL SYSTEM I/O

NOTE: C1022 WAS REDUCED TO 2.2UF BECAUSE OF ADDITIONAL NEARBY VCC MAIN CAPS

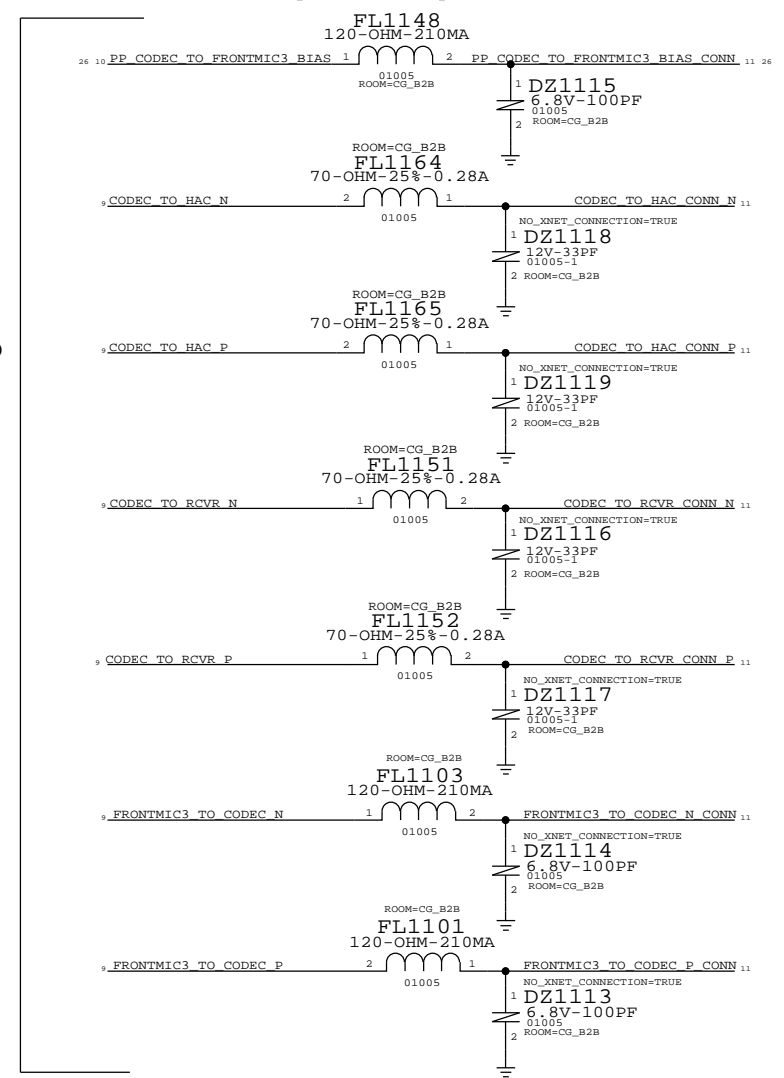
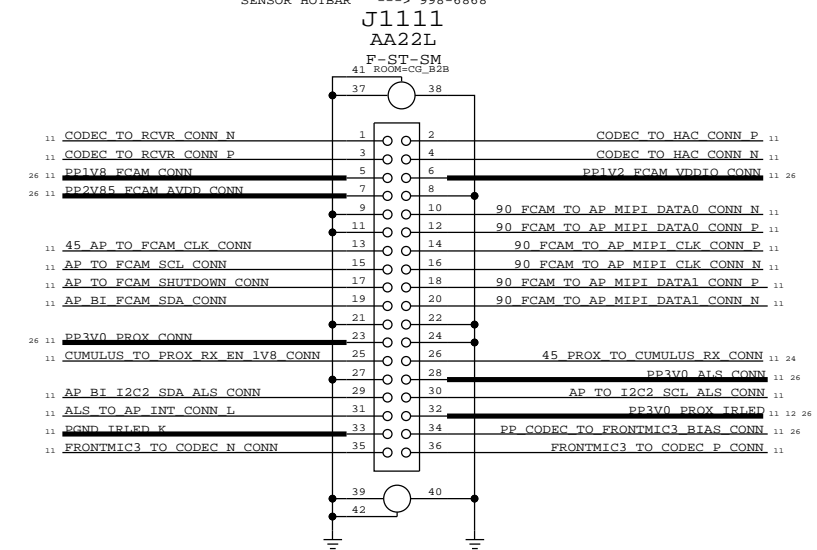


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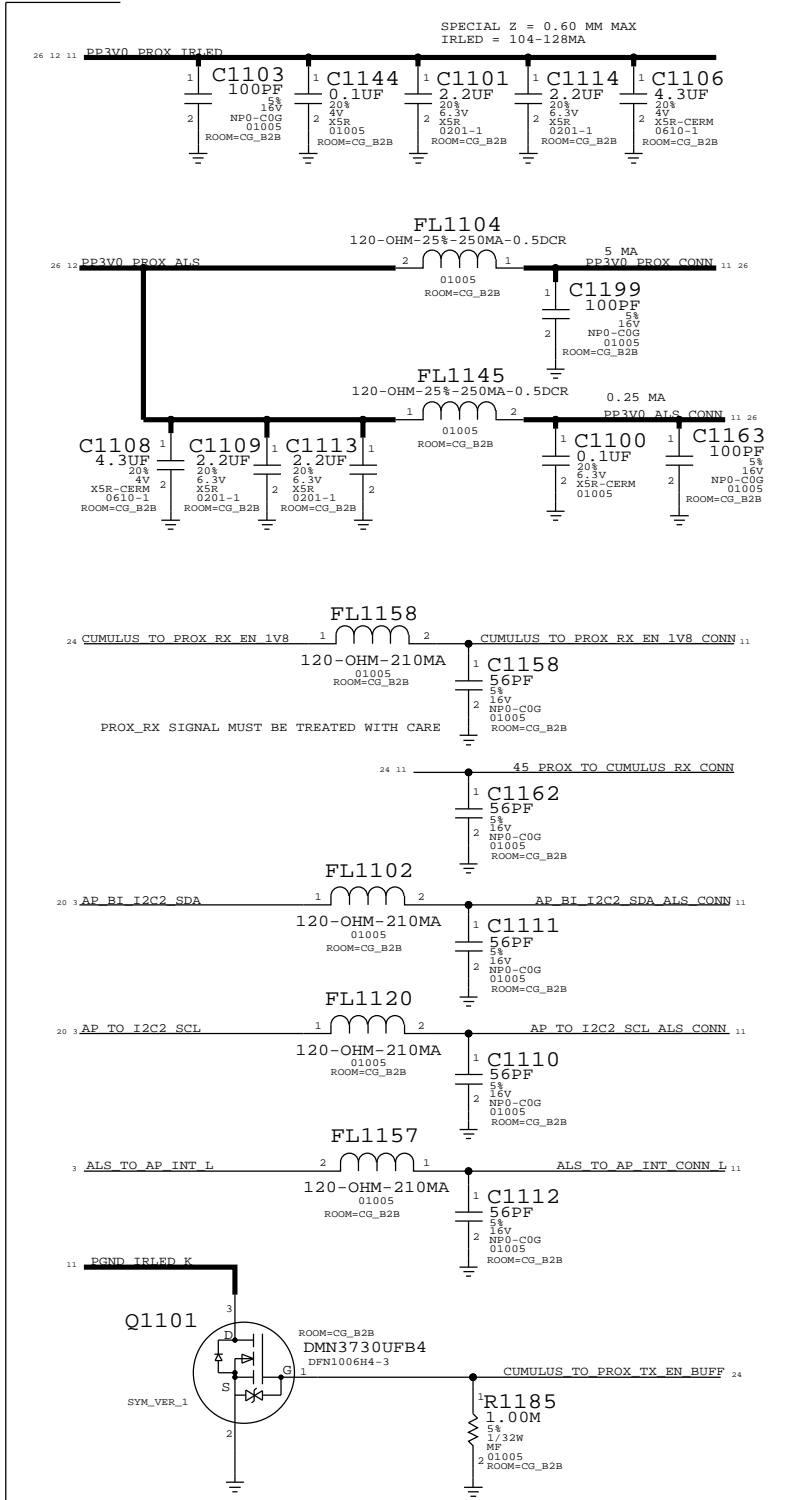
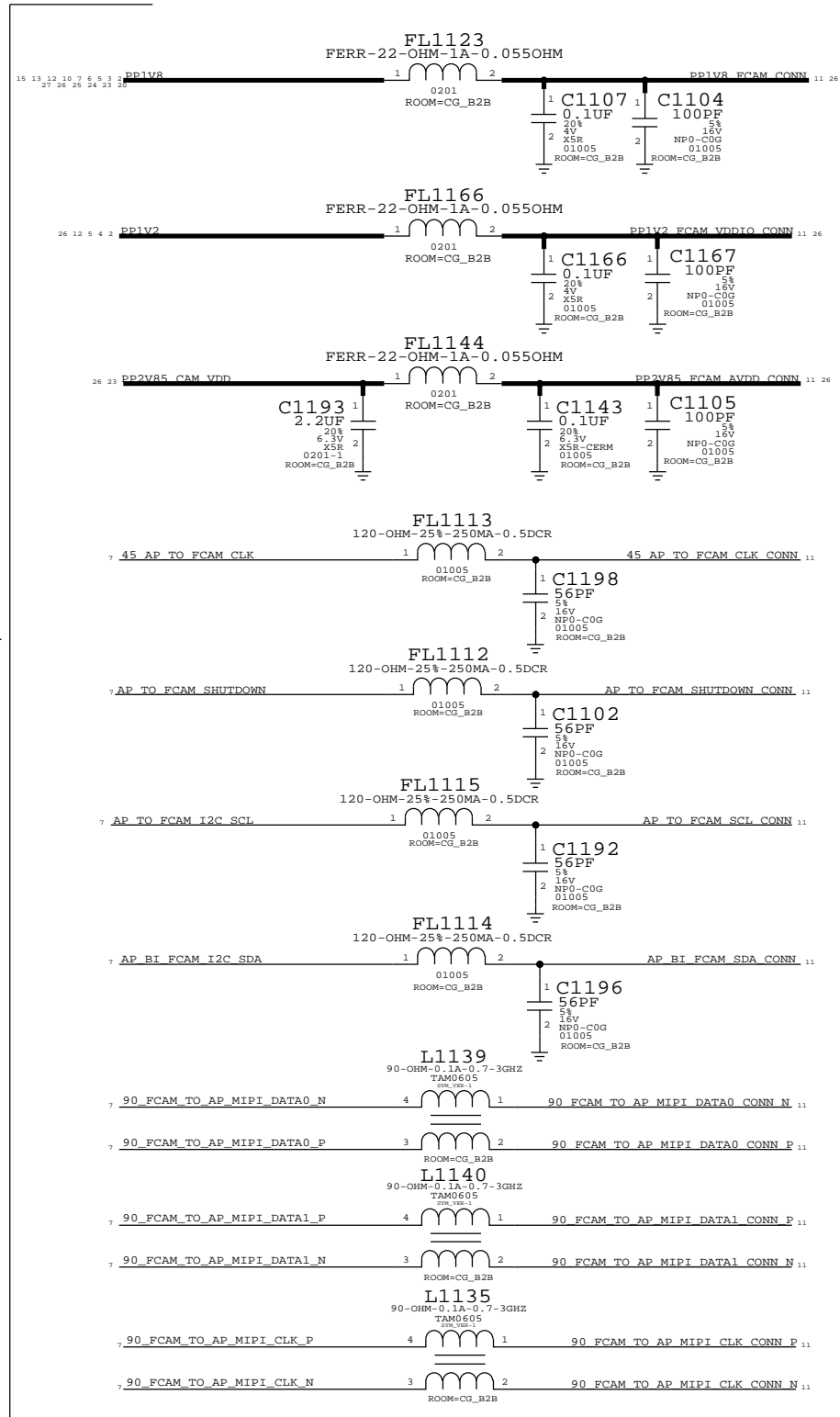
# FRONT CAM FLEX B2B

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

THIS ON ONE MLB ---> 516S1081 RECEPTACLE  
SENSOR HOTBAR ---> 998-6868



SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
CAMERA: FRONT FLEX CONN			
Apple Inc.		DRAWING NUMBER	051-9903
		REVISION	7.0.0
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CAMERA

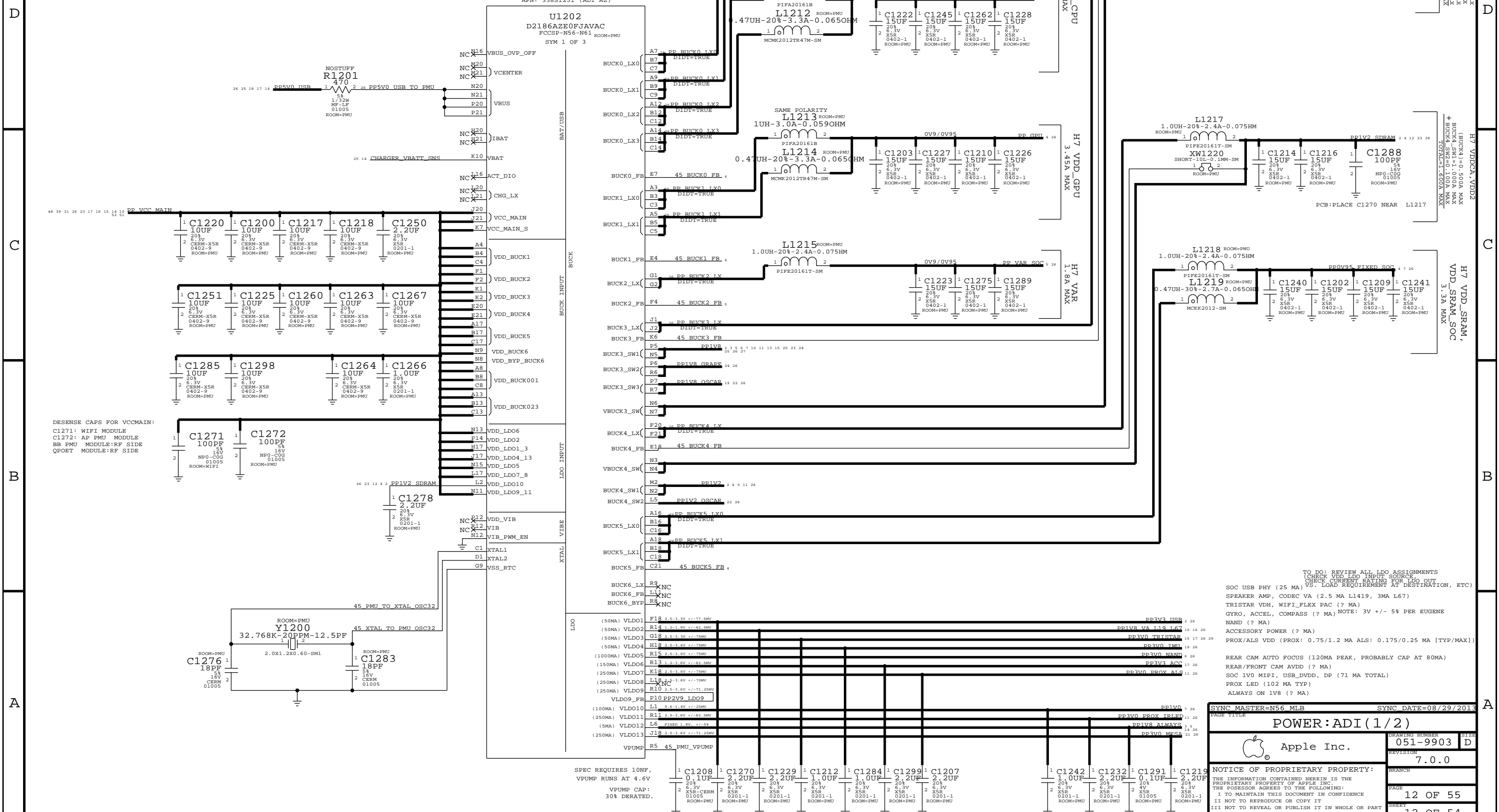
ALS,  
PROX

AUDIO

A

A

# ADI PMU (BUCK, LDO, VIBE DRIVER, 32K, CHARGER)



TO DO: REVIEW ALL LDO ASSIGNMENTS (CHECK VDD LDO INPUT SOURCE)  
 CHECK CURRENT RATING FOR LDO OUT  
 CHECK CURRENT RATING FOR LDO OUT  
 SPEAKER AMP, CODEC VA (2.5 MA L1419, 3MA L67)  
 TRISTAR VDH, WIFI\_FLEX PAC (? MA)  
 GYRO, ACCEL, COMPASS (? MA) NOTE: 3V +/- 5% PER EUGENE  
 NAND (? MA)  
 ACCESSORY POWER (? MA)  
 PROX/ALS VDD (PROX: 0.75/1.2 MA ALS: 0.175/0.25 MA [TYP/MAX])  
 REAR CAM AUTO FOCUS (120MA PEAK, PROBABLY CAP AT 80MA)  
 REAR/FRONT CAM AVDD (? MA)  
 SOC IVO MIPI, USB\_DVDD, DP (71 MA TOTAL)  
 PROX LED (102 MA TYP)  
 ALWAYS ON IVB (? MA)

SYNC MASTER=N56 MLB SYNC DATE=08/29/2013

POWER:ADI (1 / 2)

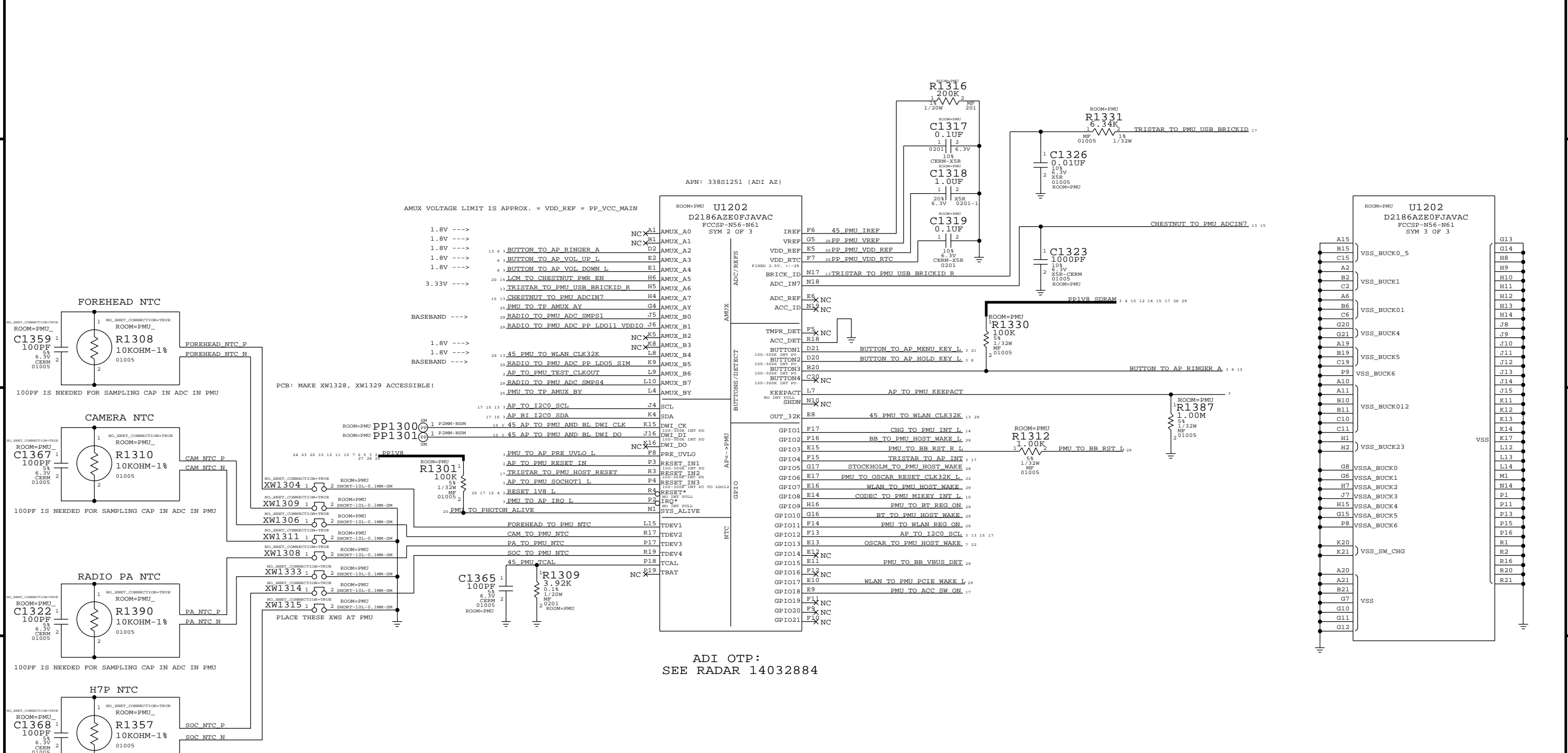
Apple Inc.

DRAWING NUMBER: 051-9903 SIZE: D  
 REVISION: 7.0.0  
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 SHEET: 12 OF 54

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# ADI PMU

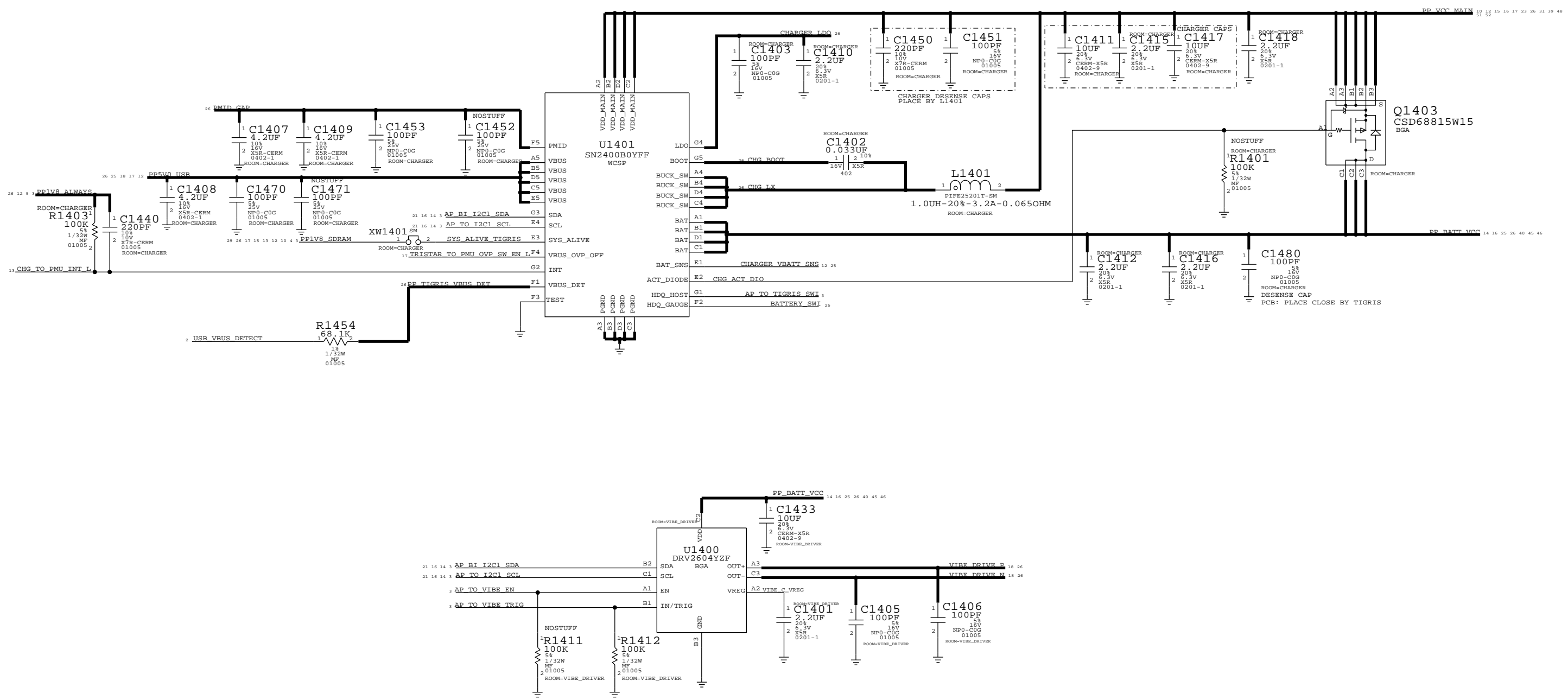
(AMUX, GPIO, BUTTONS, ADC, THERMISTORS, SYSTEM I/F, GND)



SYNC MASTER=N56 MLB		SYNC DATE=08/29/2013	
PAGE TITLE <b>POWER:ADI ( 2 / 2 )</b>			
Apple Inc.	DRAWING NUMBER	051-9903	SIZE D
	REVISION	7.0.0	
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# TIGRIS CHARGER & VIBE DRIVER

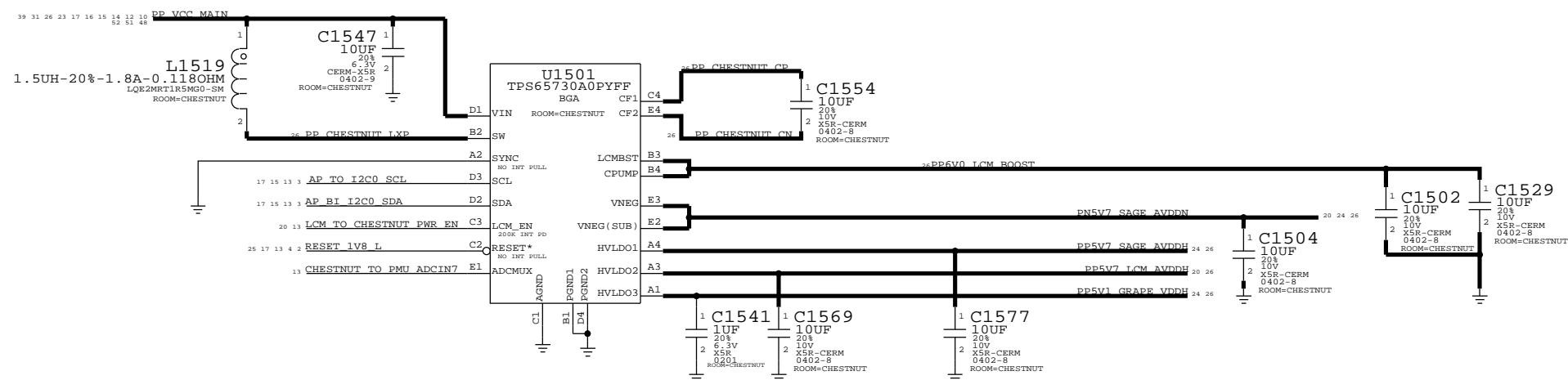


DRAWING NUMBER			051-9903		
REVISION			7.0.0		
PAGE			14 OF 55		
SHEET			14 OF 54		

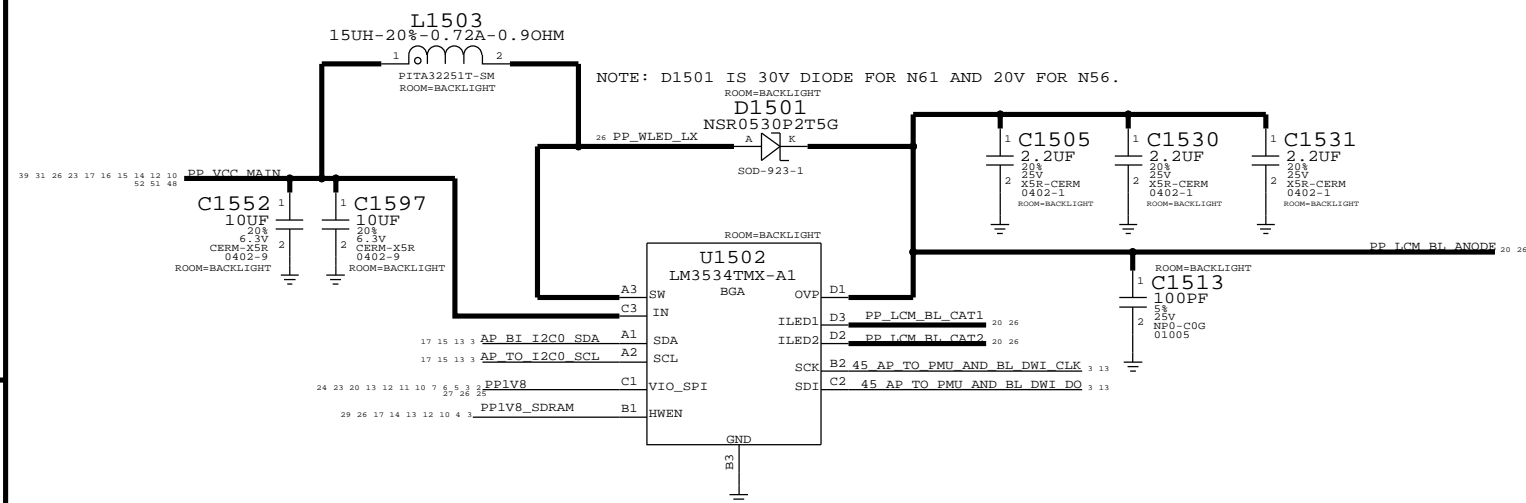
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# CHESTNUT, BACKLIGHT DRIVER, MESA BOOST

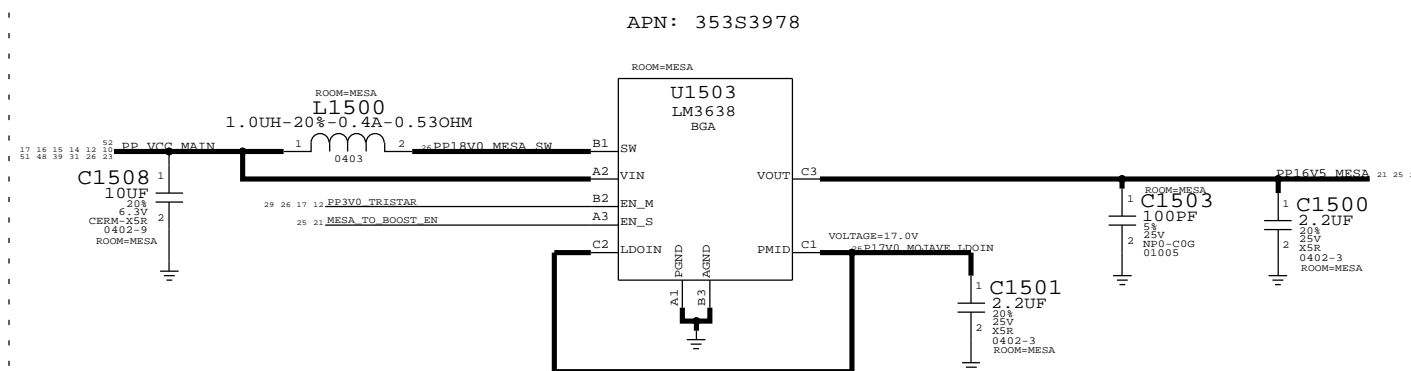
## D500 DISPLAY PMU (TI CHESTNUT, 338S1149)



## D500 BACKLIGHT DRIVER



## MESA BOOST A0

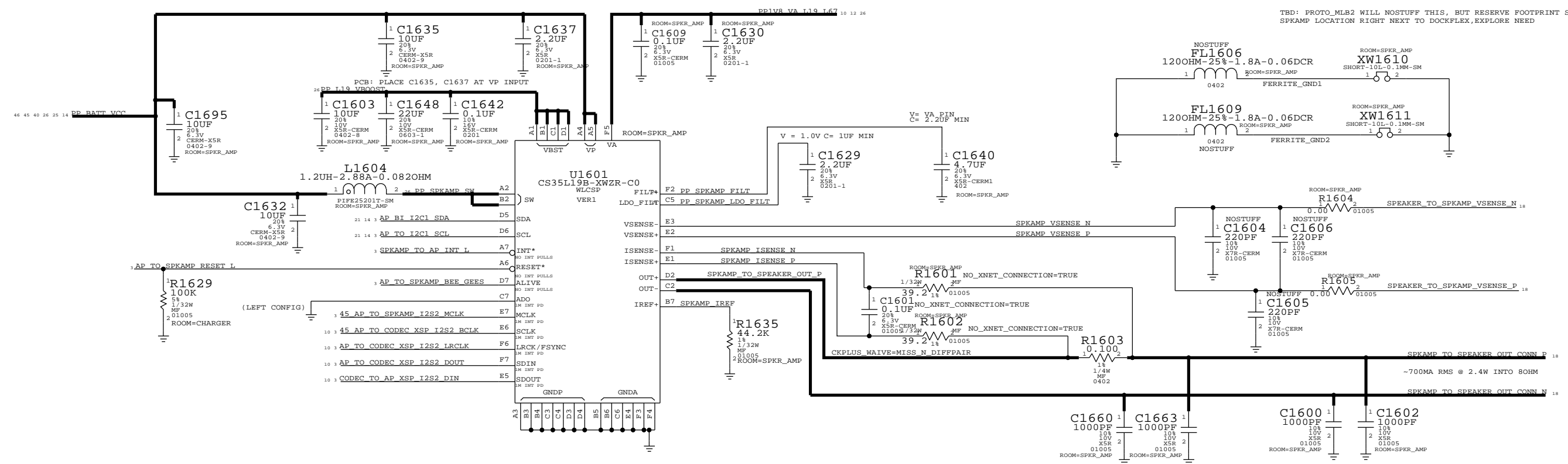


SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
PAGE TITLE DISPLAY:CHESTNUT, BACKLIGHT DRIVER			
DRAWING NUMBER 051-9903		SIZE D	
REVISION 7.0.0		BRANCH	
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# SPEAKER AMP, LED DRIVER

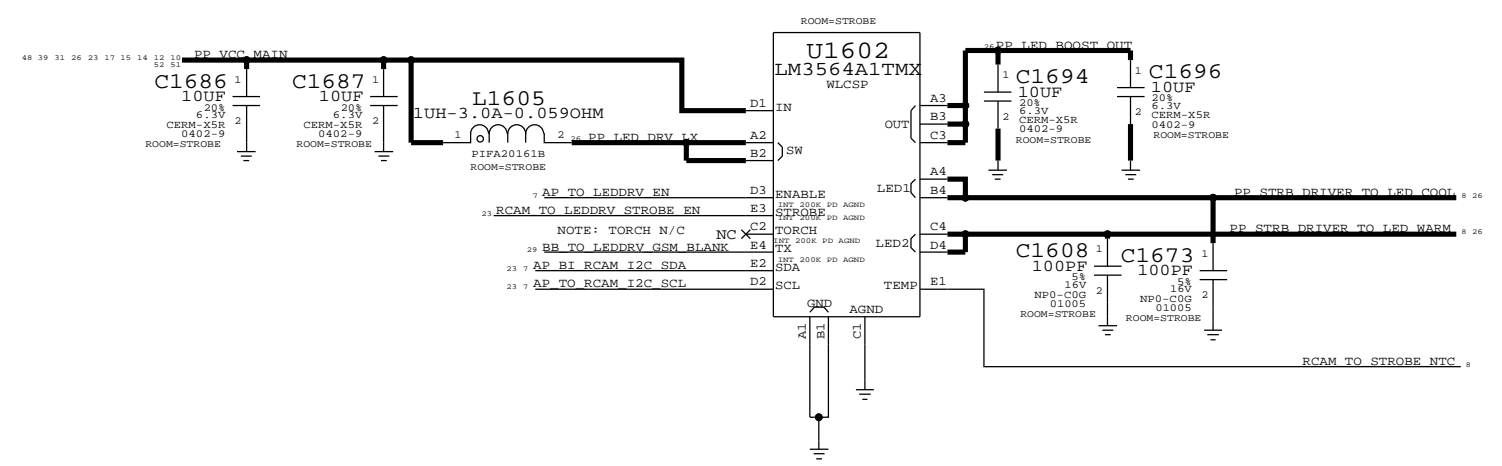
## SPEAKER AMP

I2C ADDRESS: 1000000X



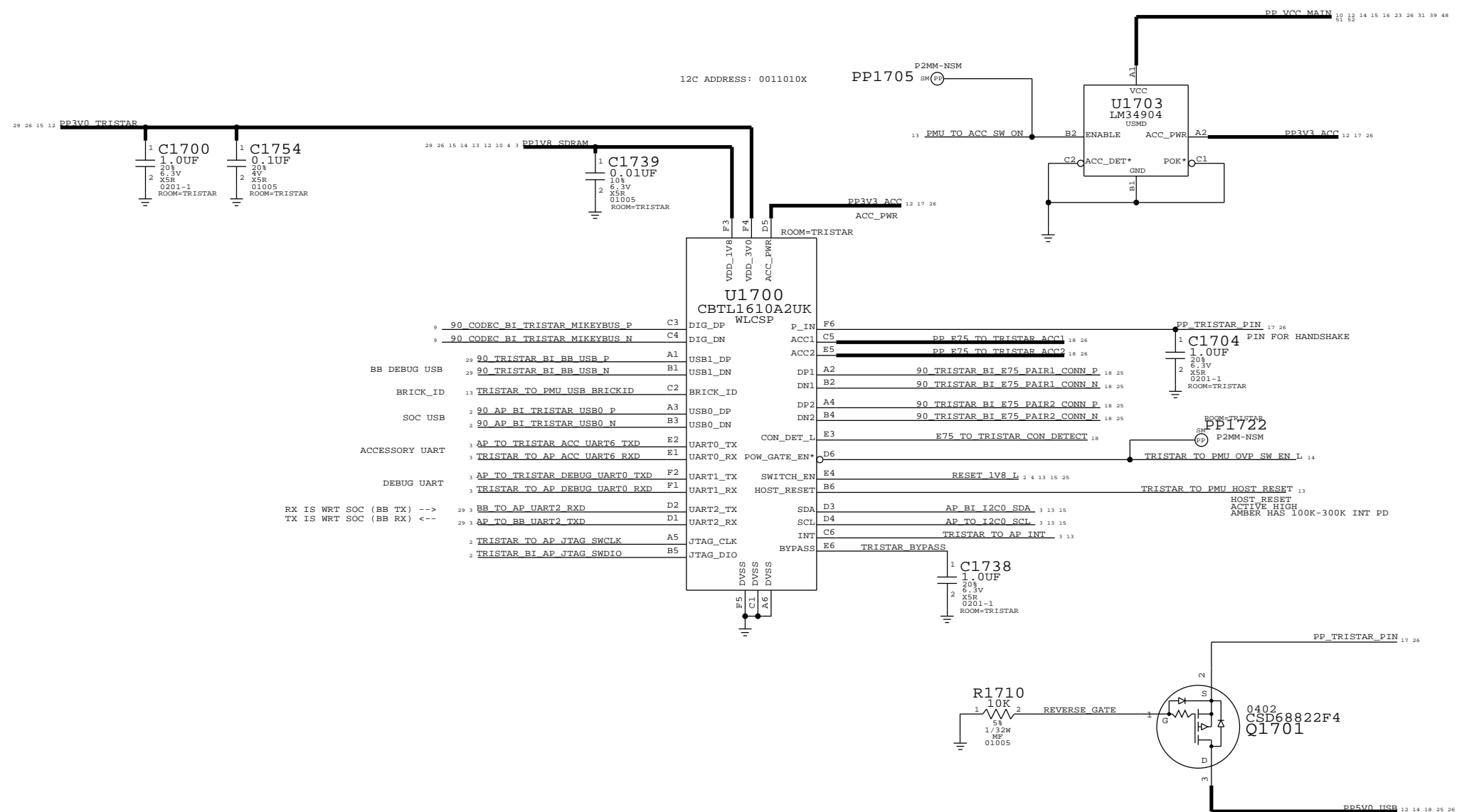
## STROBE DRIVER

TI: APN 353S3899



SYNC MASTER=N61_MLB		SYNC DATE=08/26/2013	
PAGE TITLE			
AUDIO:SPKR AMP,STROBE		DRAWING NUMBER	051-9903
Apple Inc.		REVISION	7.0.0
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# TRISTAR2



SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
<b>IO:TRISTAR2</b>			
Apple Inc.		DRAWING NUMBER	051-9903
		REVISION	7.0.0
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		PAGE	17 OF 55
		SHEET	17 OF 54

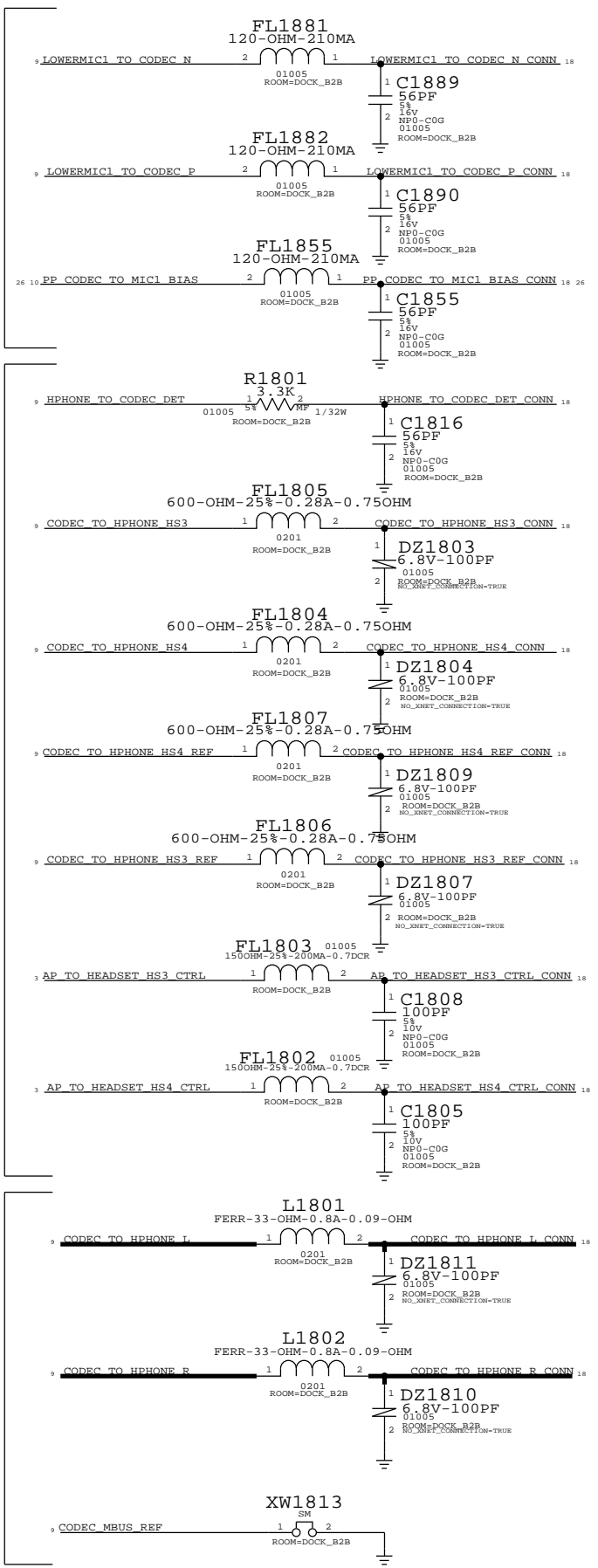
# DOCKFLEX B2B (USB VBUS, SPEAKER, ANTENNA LAT SW CTRL, MIC1 (PRIMARY MIC), ACC DET/ID/PWR, E75 DIFFPAIRS)

D LOWER MIC1 (PRIMARY VOICE MIC)

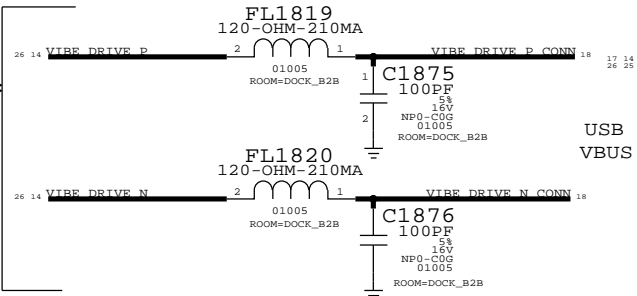
C HEADPHONE

B

A CODEC TO HEADPHONE

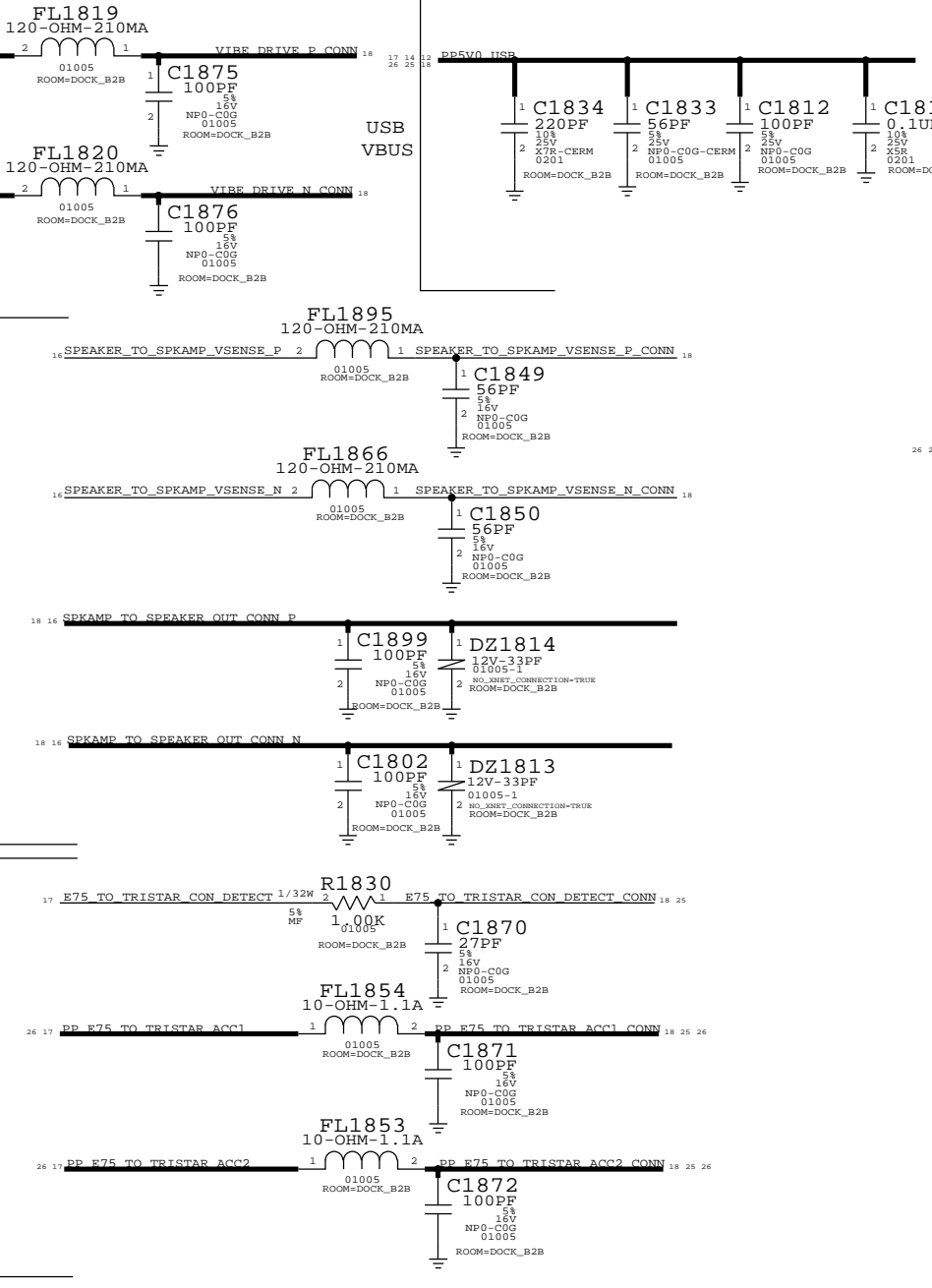


ACCESSORY VIBE DRIVE

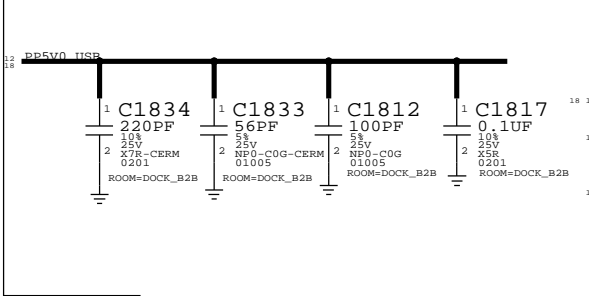


SPEAKER: LEADS, VSENSE

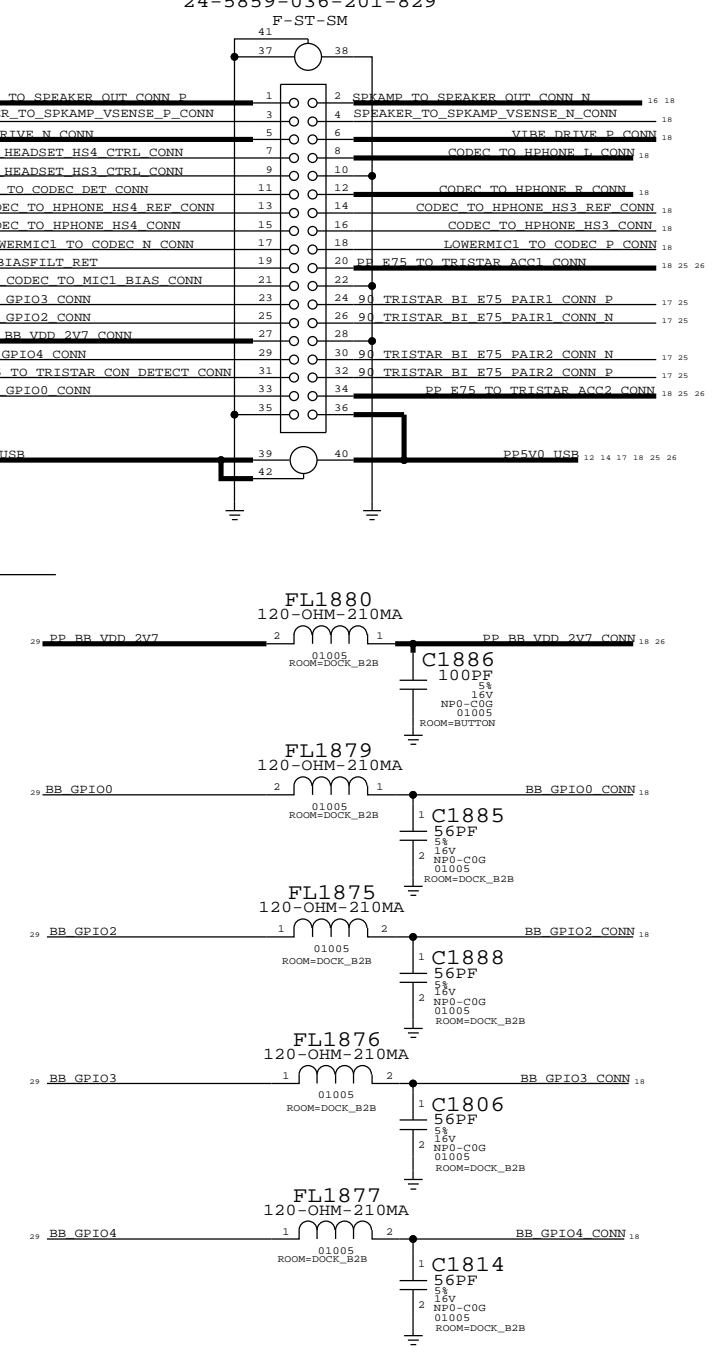
TRISTAR



USB VBUS



ANTENNA

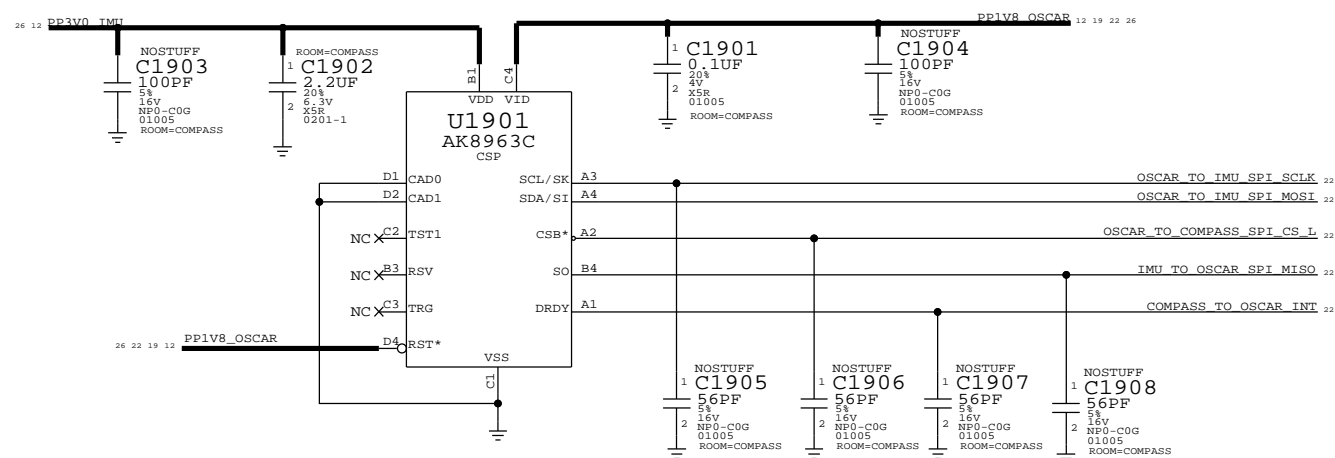


SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
PAGE TITLE			
<b>IO:DOCK FLEX CONN</b>			
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# COMPASS - AKM COMPASS IN POR LOCATION

COMPASS CSP: 338S1014

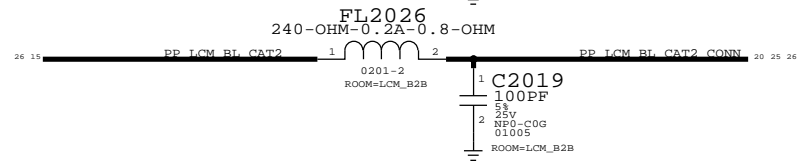
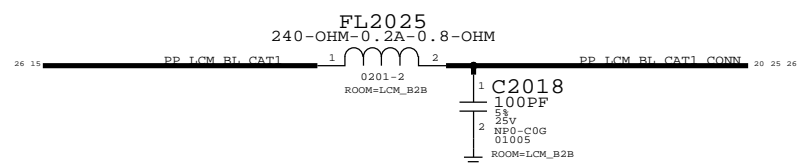
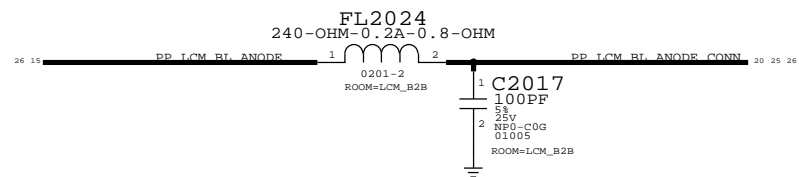


SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
PAGE TITLE			
SENSORS: COMPASS			
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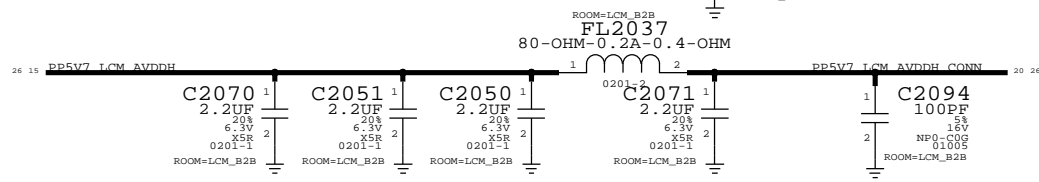
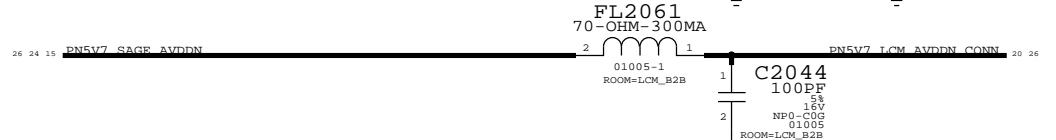
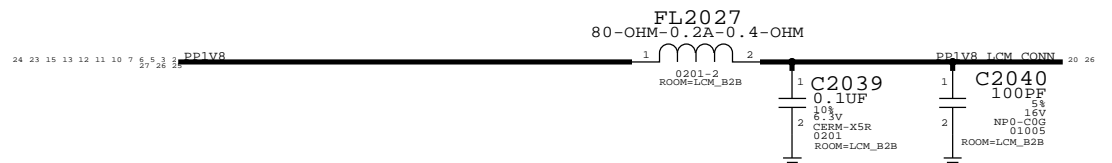
# LCD B2B

## Backlight

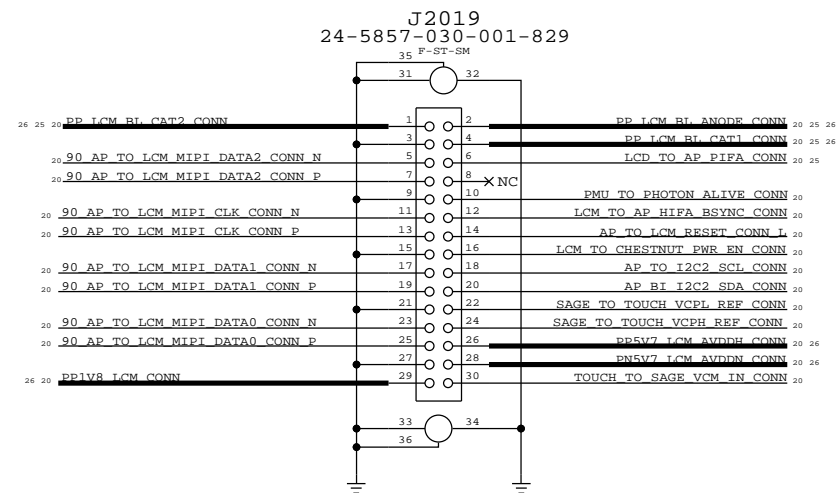
(N56 HAS A 2ND SET OF BL SIGNALS ON P. 19).



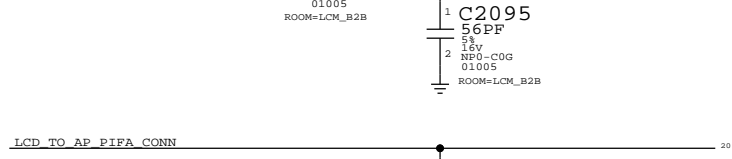
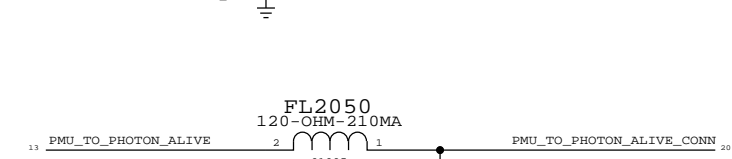
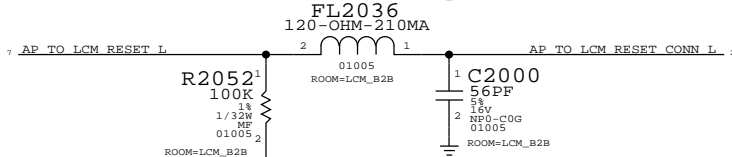
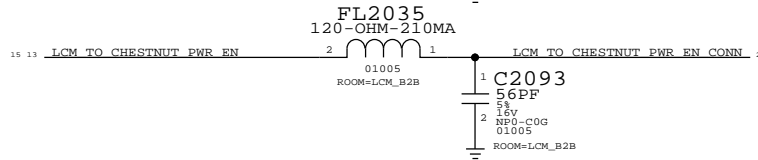
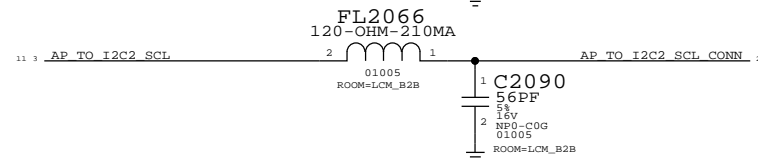
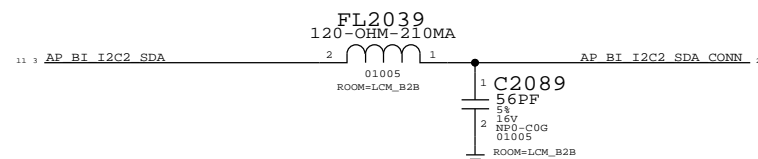
## LCM Supplies



THIS ONE ON MLB ---> 516S1164

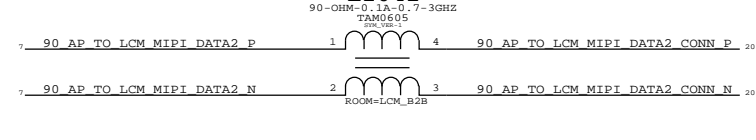
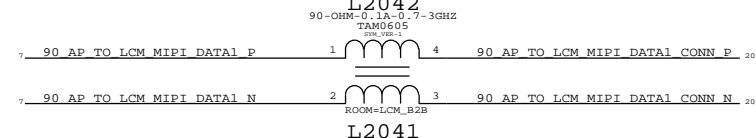
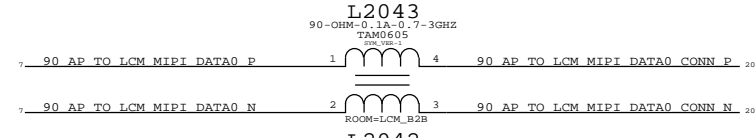
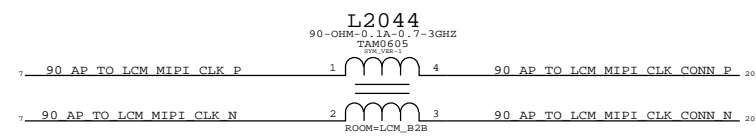


## Digital Interfaces

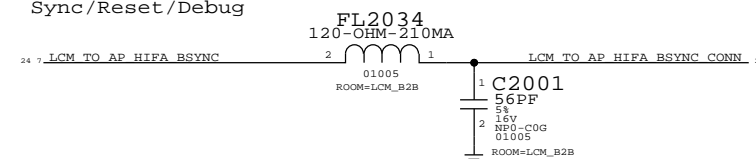


## MIPI Common Mode Chokes

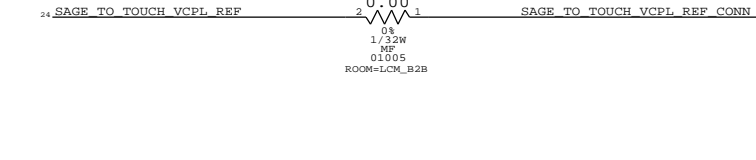
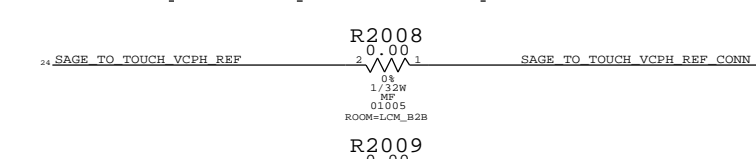
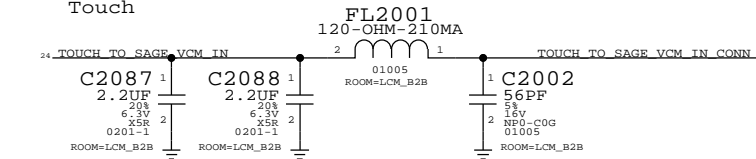
(N56 HAS A 4TH MIPI LANE ON P. 19).



## Sync/Reset/Debug

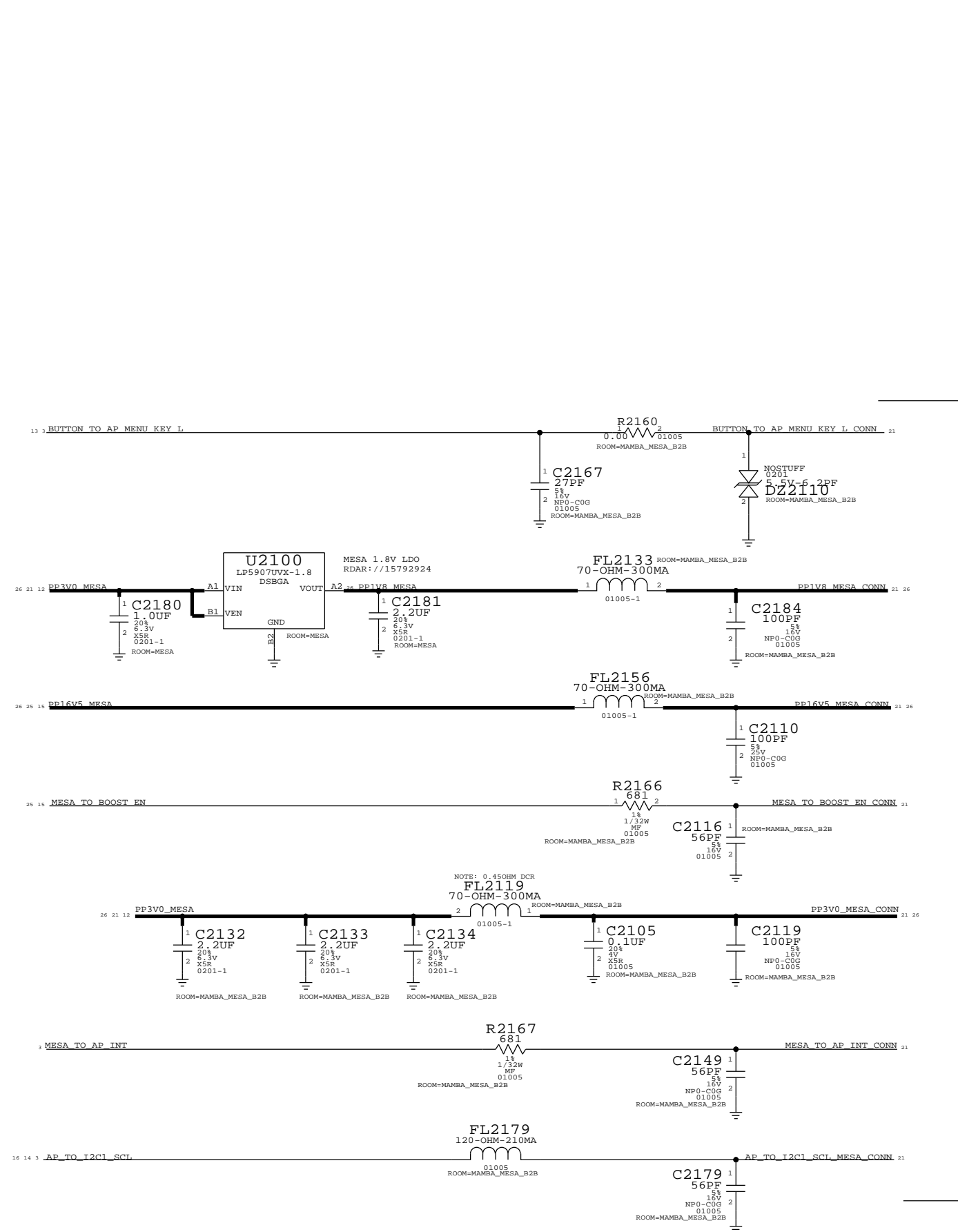


## Touch

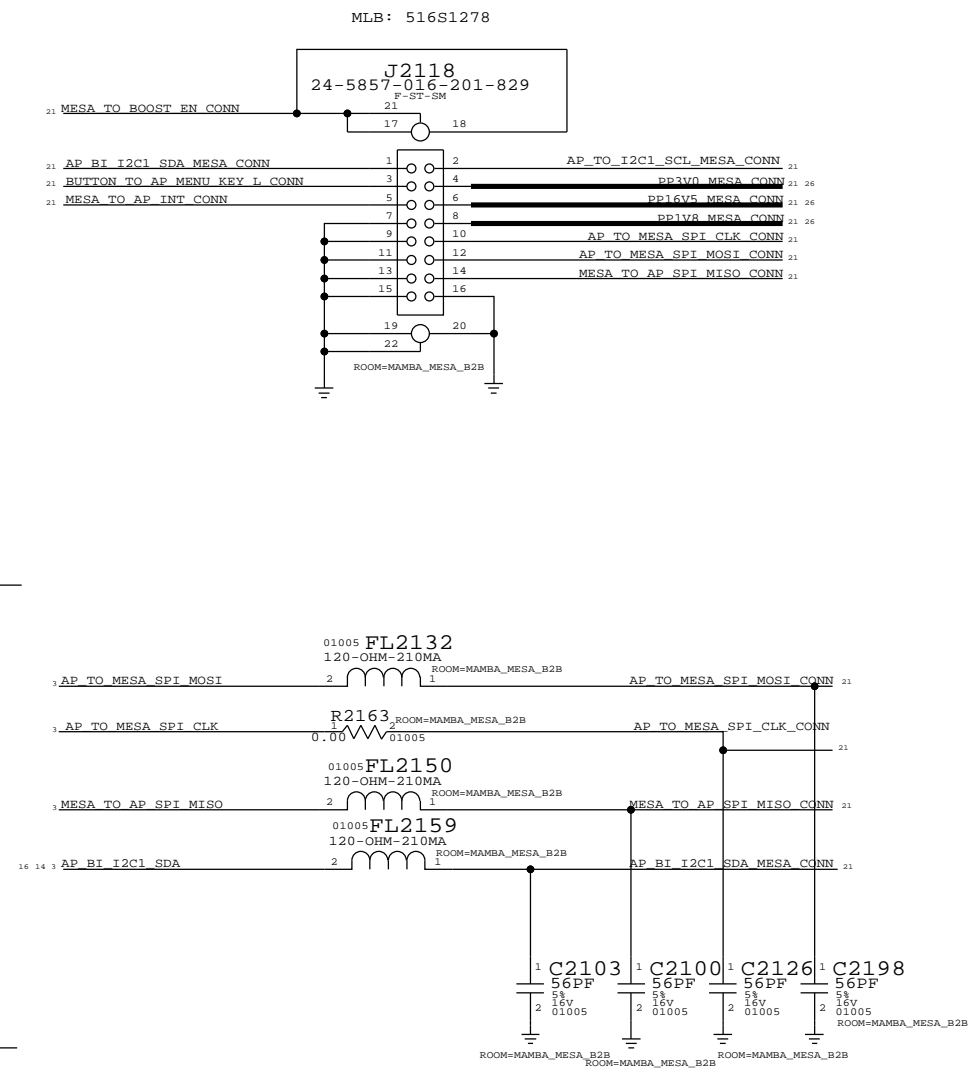


SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
PAGE TITLE			
<b>DISPLAY: FLEX CONN</b>			
Apple Inc.	DRAWING NUMBER	051-9903	SIZE D
	REVISION	7.0.0	
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# MESA CONNECTOR



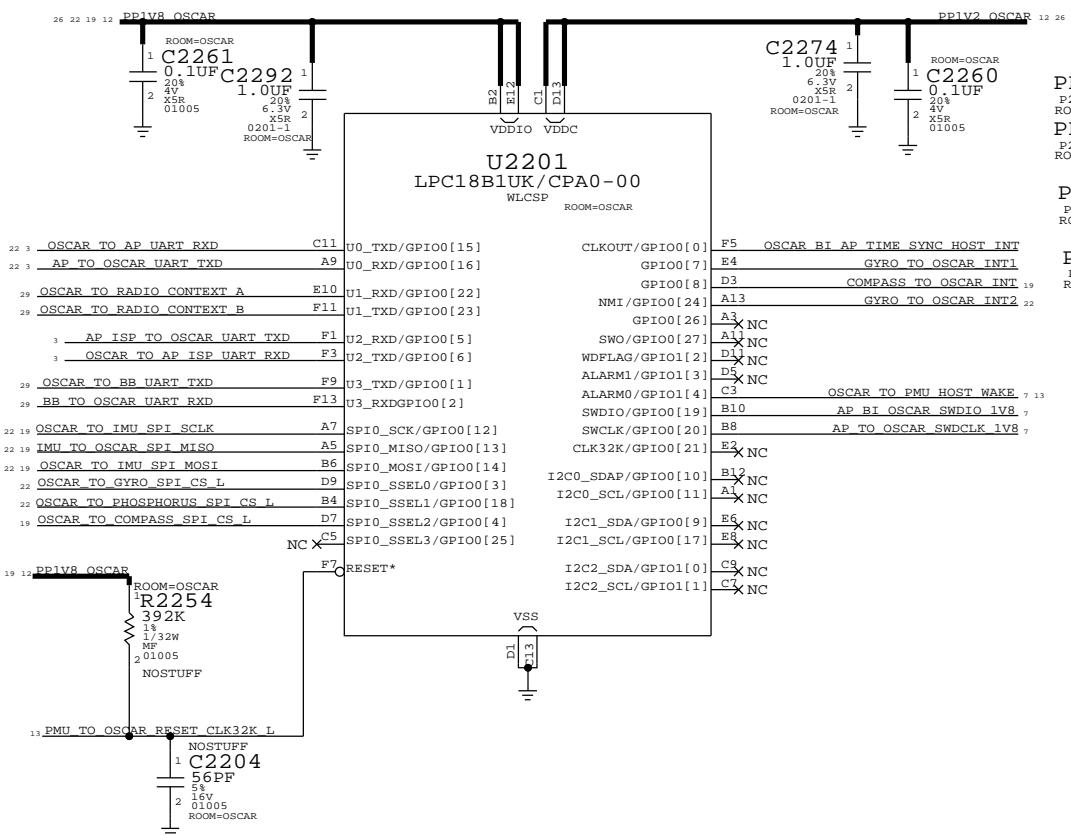
### MESA SENSOR:



PAGE TITLE		
SENSORS:MESA FLEX CONN		
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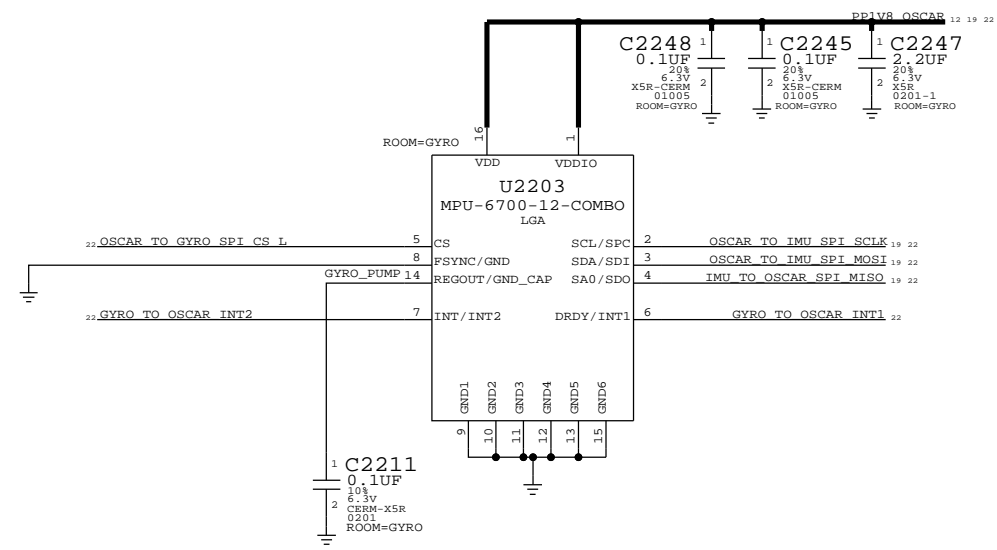
# OSCAR + SENSORS

OSCAR VDDIO = 1.8V ALWAYS ON (NEED TO MAKE HOST & RUN PLL)  
OSCAR CORE = 1.2V ALWAYS ON (NEED TO RUN IN SDRAM)

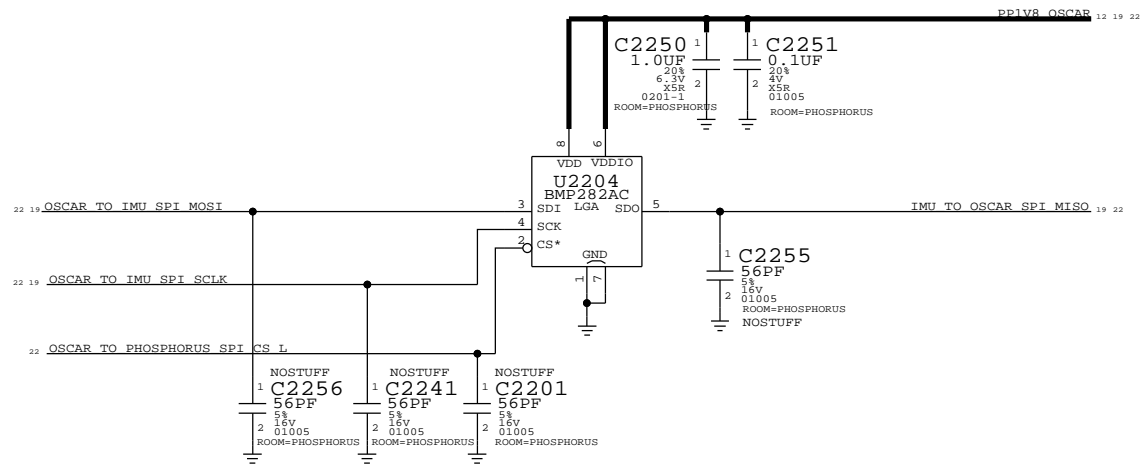


# CARBON (ACCEL GYRO COMBO)

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



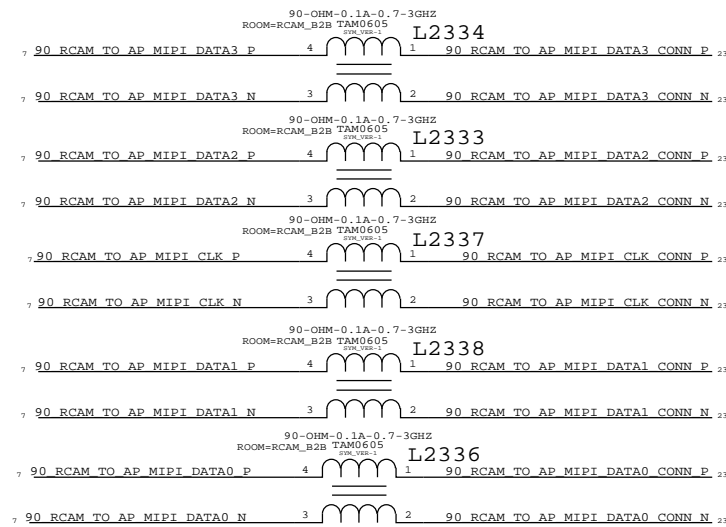
THIS IS OUTSIDE OF SHIELD IN  
TO THE RIGHT OF THE NAND  
PHOSPHORUS



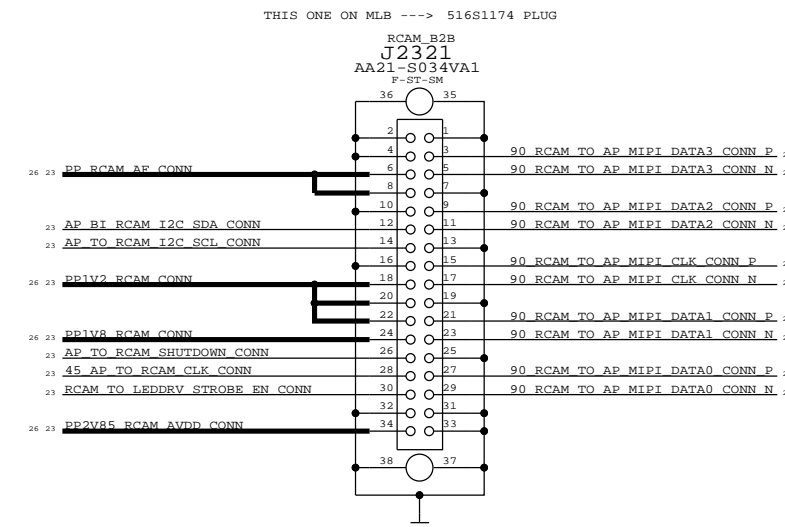
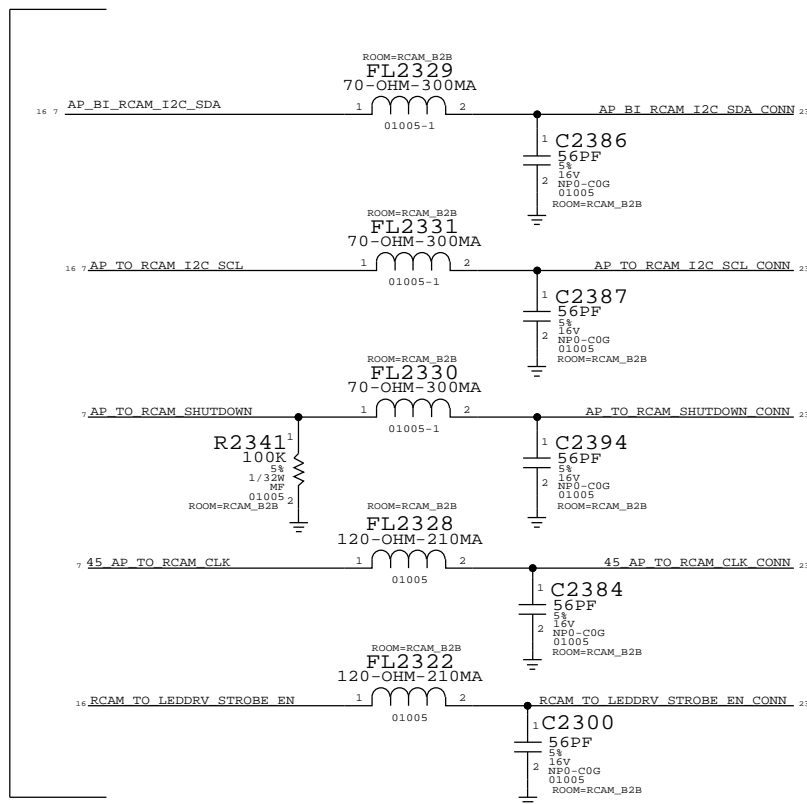
SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
PAGE TITLE			
SENSORS: OSCAR, CARBON, PHOS, MAGNESIUM			
DRAWING NUMBER		051-9903	
REVISION		7.0.0	
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# RCAM B2B (REAR CAMERA CONNECTOR)

RCAM:  
4-LANE MIPI

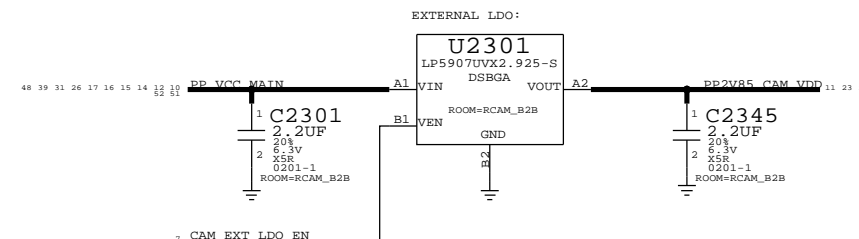
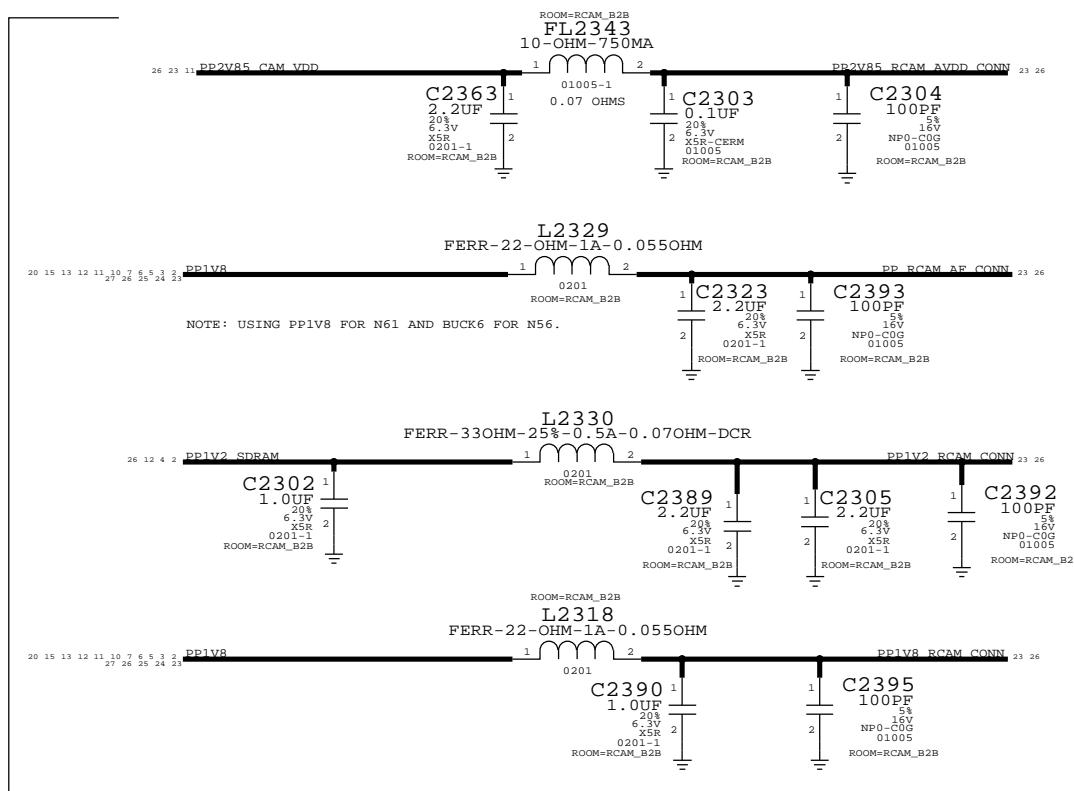


RCAM:  
DIGITAL I/F  
(I2C, CTRL, CLK)



RCAM/FCAM AVDD RAIL EXT. LDO:

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



SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
CAMERA:REAR FLEX CONN			
Apple Inc.		DRAWING NUMBER	051-9903
		REVISION	7.0.0
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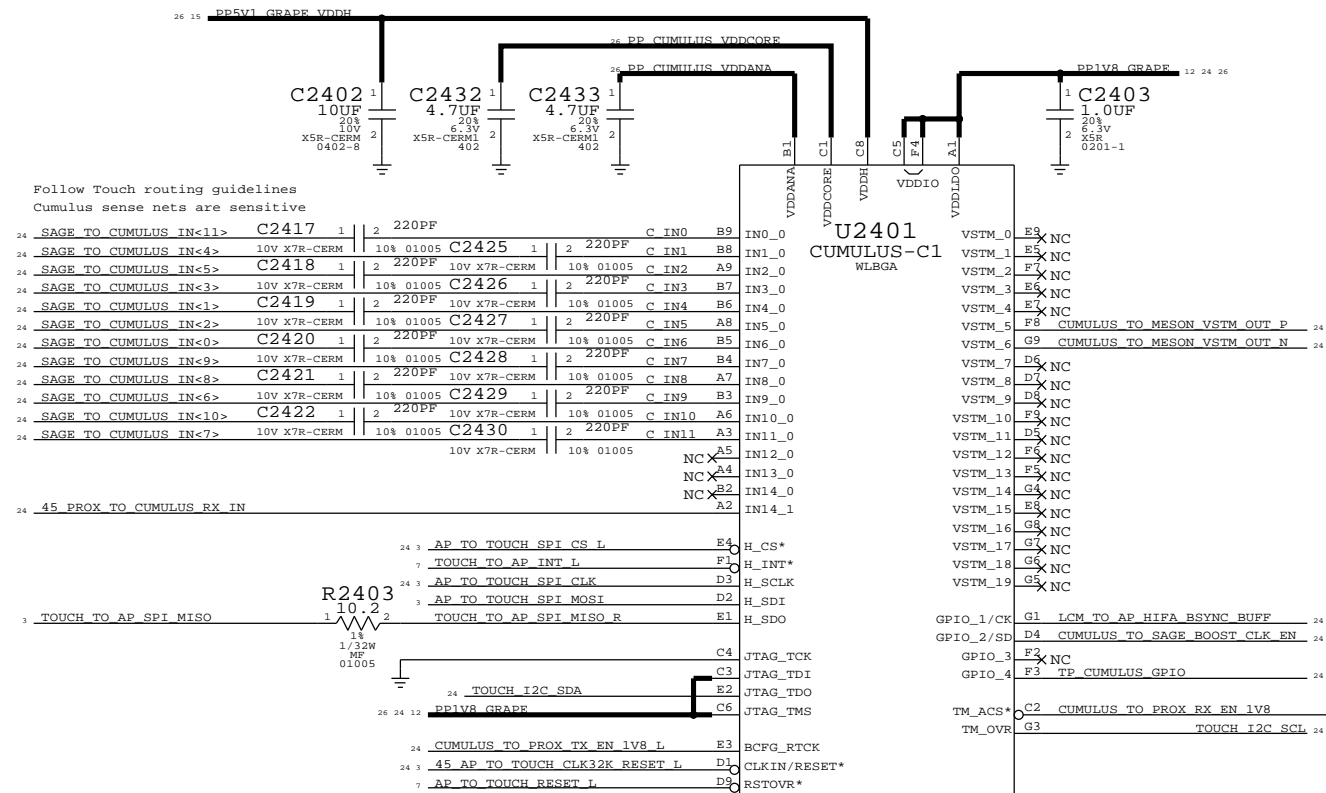


Touch (B2B, Driver ICs)

Cumulus

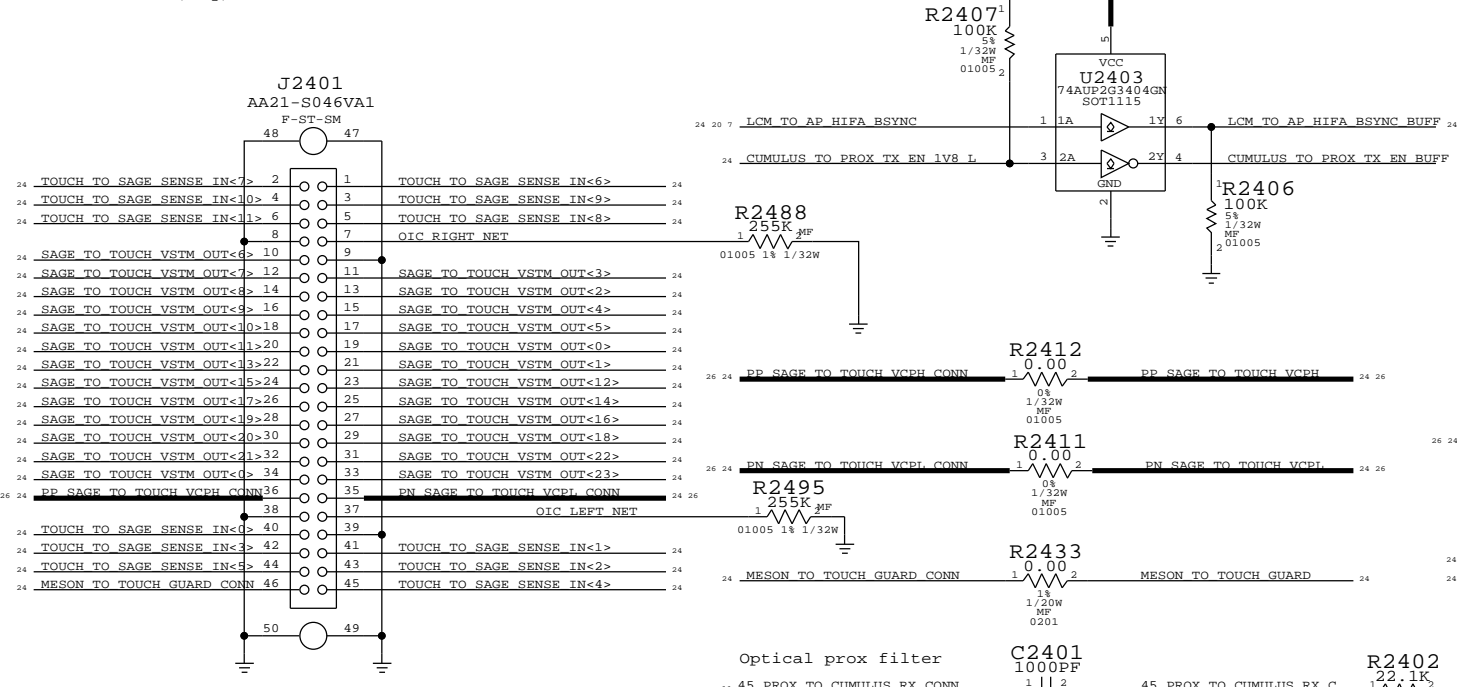
APN: 343S0638

Turn on is later than PPIV8\_GRAPE  
Turn off is same time as PPIV8\_GRAPE

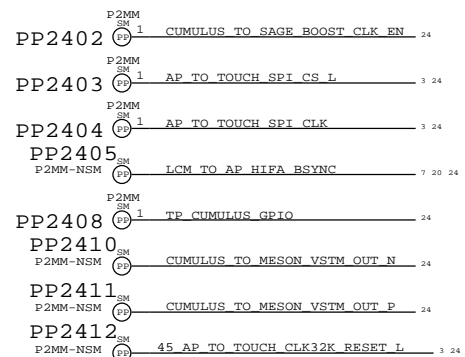


Touch B2B

MLB APN : 516S1086 (Receptacle)  
Flex APN: 516S1087 (Plug)



Touch probe points



MESON A1

APN: 343S0694

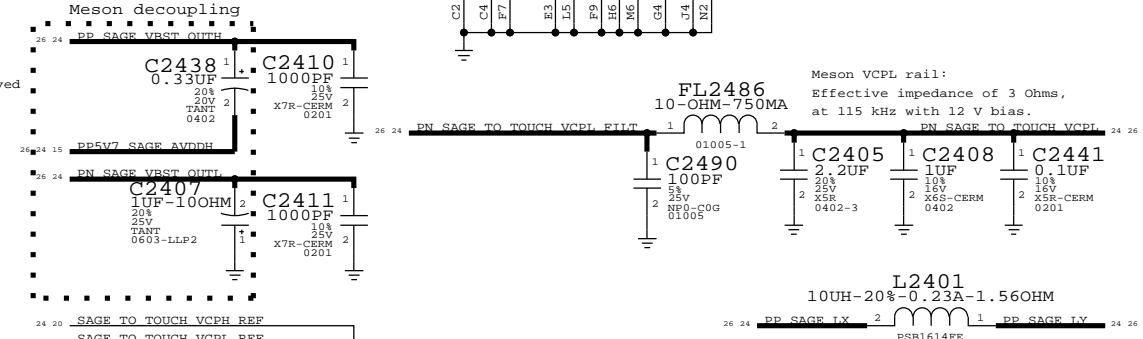
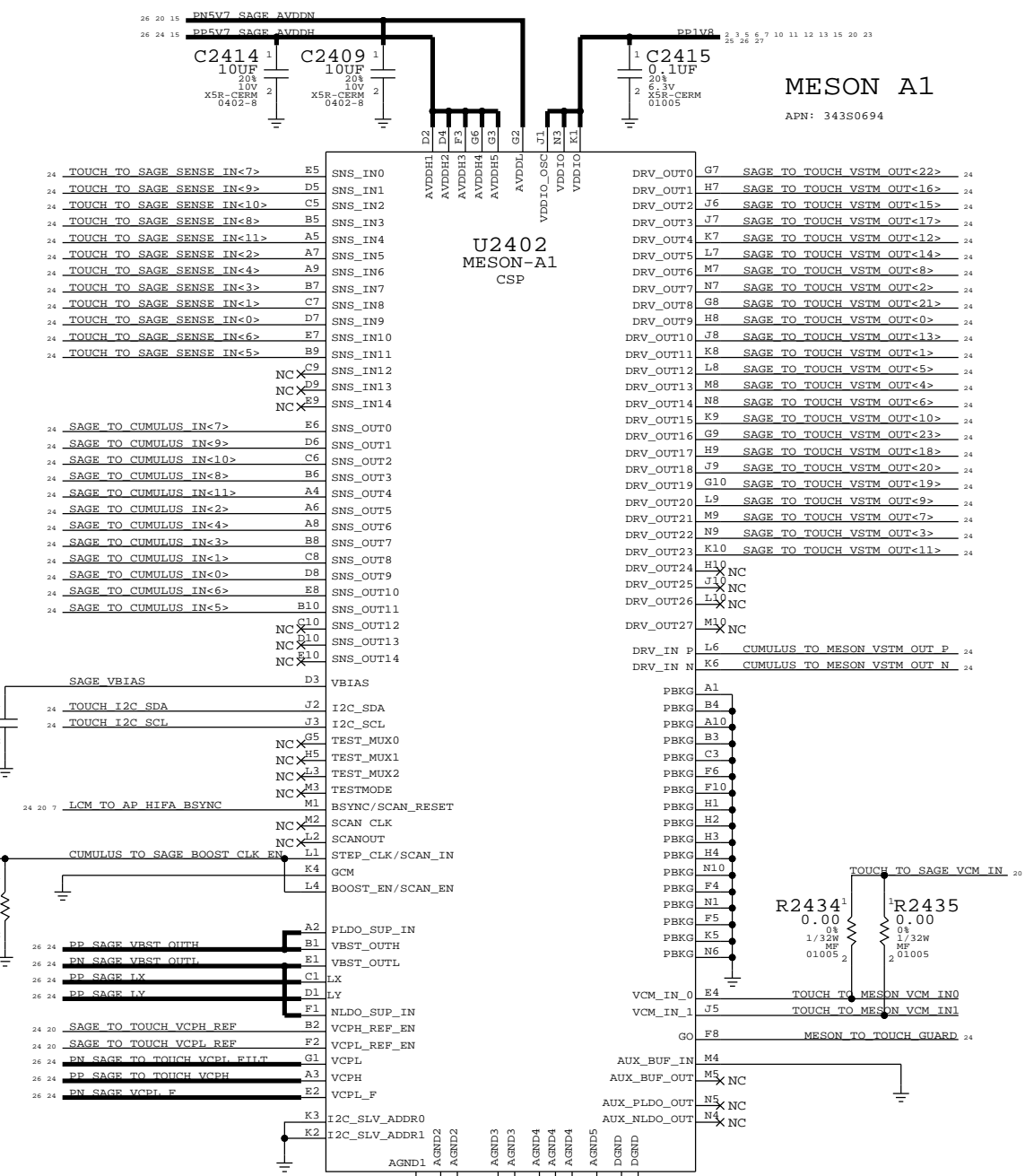
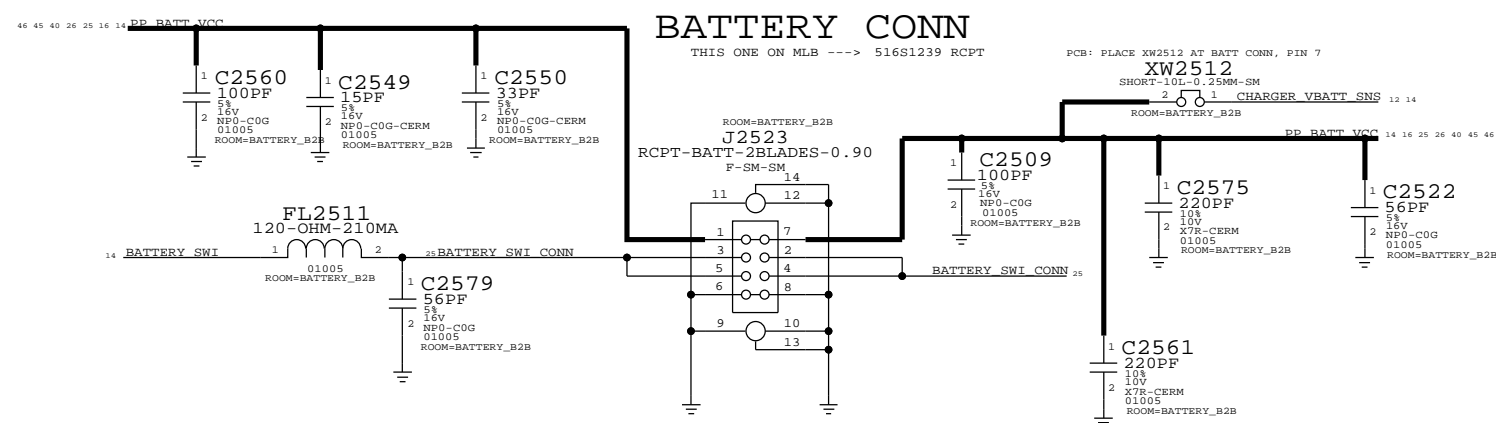


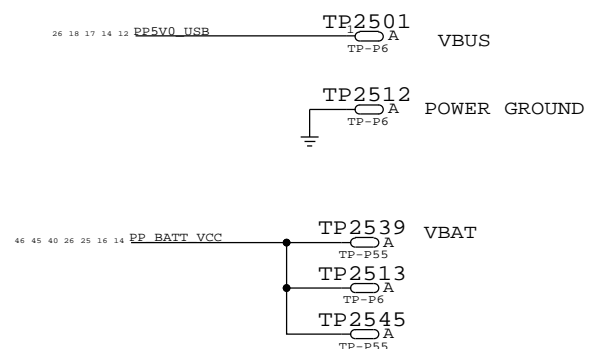
Table with drawing information including title 'TOUCH : CUMULUS, MESON', Apple Inc. logo, drawing number '051-9903', revision '7.0.0', and page numbers '24 OF 55' and '24 OF 54'.

# BATT CONN, TPS, STANDOFFS / SHIELDS / FIDUCIALS

D

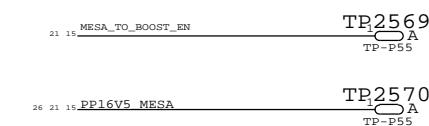


## POWER TP

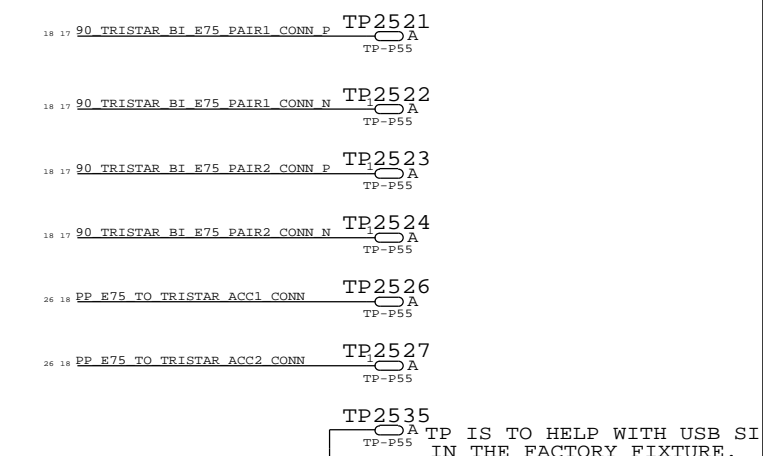


## TESTPOINTS

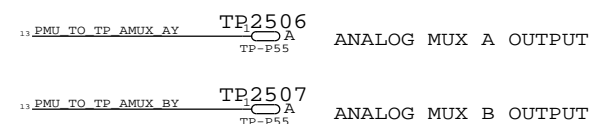
### MOJAVE TP



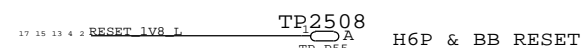
### E75 - USB/UART/ID/POWER



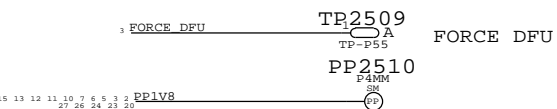
## SUPER TP



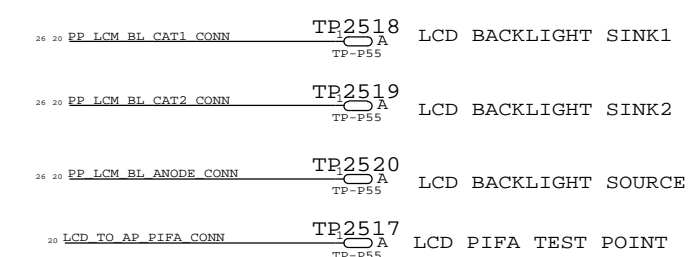
## RESET



## DFU

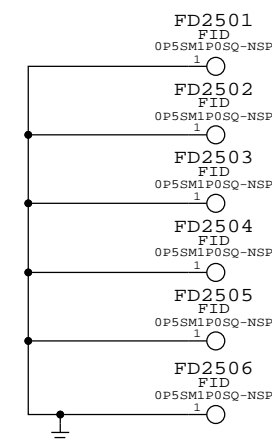


### LCM BACKLIGHT

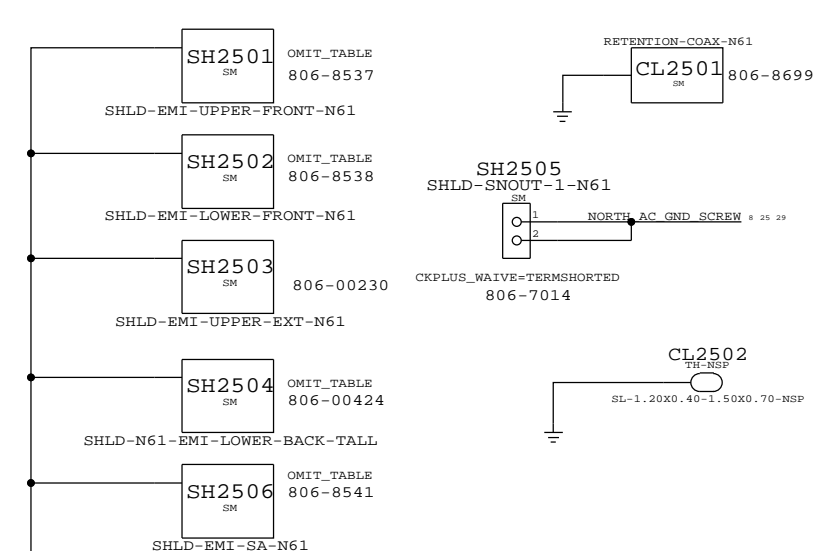


C

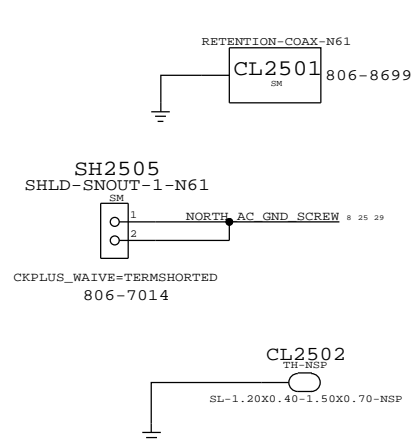
## FIDUCIALS



## SHIELDS

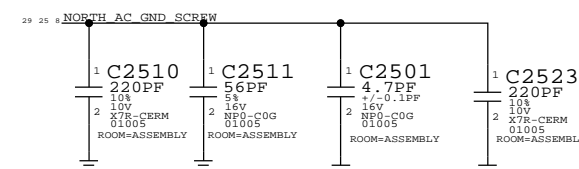
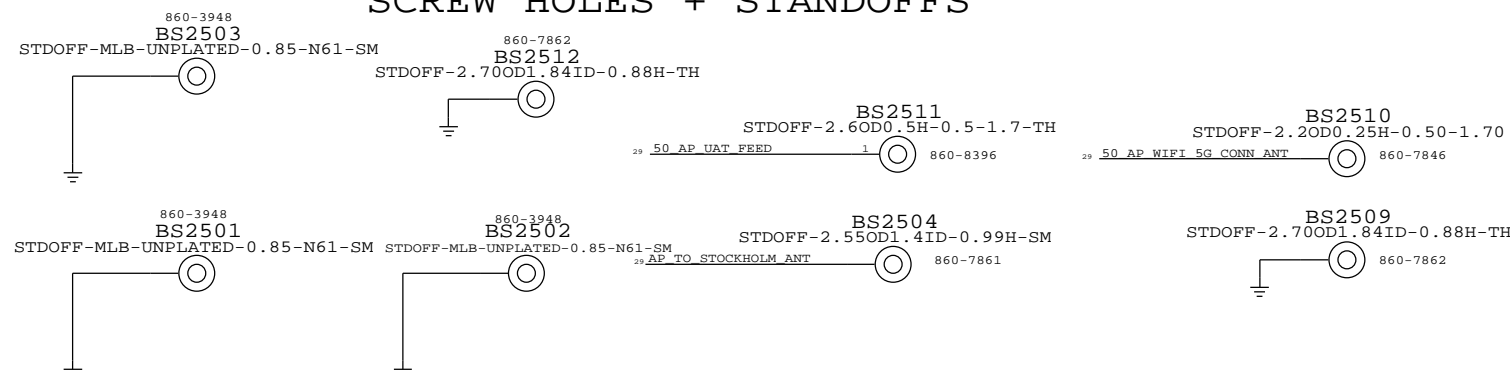


## COWLING



B

## SCREW HOLES + STANDOFFS



A

SYNC MASTER=N61 MLB		SYNC DATE=08/26/2013	
POWER: BATT CONN, TPS, PD FEATURES			
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		REVISION	7.0.0
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A

# VOLTAGE PROPERTIES

PP3V3 USB	VOLTAGE=3.3V	2 12
PP1V8 VA I19 I67	VOLTAGE=1.8V	10 12 16
PP3V0 TRISTAR	VOLTAGE=3.0V	12 15 17 29
PP3V0 TMI	VOLTAGE=3.0V	12 19
PP3V0 NAND	VOLTAGE=3.0V	6 12
PP3V3 ACC	VOLTAGE=3.0V	12 17
PP3V0 PROX AIS	VOLTAGE=3.0V	11 12
PP VCC MAIN	VOLTAGE=4.6V	10 12 14 15 16 17 23 31 39
PP1V0	VOLTAGE=1.0V	7 12
PP3V0 PROX TRIPD	VOLTAGE=3.0V	11 12
PP1V8 ALWAYS	VOLTAGE=1.8V	3 5 12 14
PP3V0 MESA	VOLTAGE=3.0V	12 21
PP CPU	VOLTAGE=1.1V	4 12
PP GPU	VOLTAGE=1.1V	4 12
PP1V2 SDRAM	VOLTAGE=1.2V	2 4 12 23
PP1V8 SDRAM	VOLTAGE=1.8V	3 4 10 12 13 14 15 17 29
PP1V8	VOLTAGE=1.8V	3 4 5 7 10 11 12 13 15 20 23
PP1V8 GRAPE	VOLTAGE=1.8V	12 24
PP1V8 OSCAR	VOLTAGE=1.8V	12 19 22
PP1V2 NAND VDDT	VOLTAGE=1.2V	6
PP EXTMIC BIAS FILT IN	VOLTAGE=1.8V	10
BOARD_ID2	VOLTAGE=1.8V	3 27
PP1V2	VOLTAGE=1.2V	3 4 5 11 12
PP_E75_TO_TRISTAR_ACC1_CONN	VOLTAGE=5.0V	18 25
PP_E75_TO_TRISTAR_ACC1	VOLTAGE=5.0V	17 18
PP_LCM_BL_ANODE	VOLTAGE=22.0V	15 20
PP_LCM_BL_CAT2	VOLTAGE=0.2V	15 20
PP_LCM_BL_CAT1	VOLTAGE=0.2V	15 20
PP_LCM_BL_CAT2_CONN	VOLTAGE=0.2V	20 25
PP_LCM_BL_CAT1_CONN	VOLTAGE=0.2V	20 25
PNSV7 SAGE AVDDN	VOLTAGE=-5.7V	15 20 24
PP1V2 OSCAR	VOLTAGE=1.2V	12 22
PP3V0 MESA_CONN	VOLTAGE=3.0V	21
PP6V0 LCM BOOST	VOLTAGE=6V	15
PP_STRB_DRIVER_TO_LED_WARM	VOLTAGE=5.0V	8 16
PP_STRB_DRIVER_TO_LED_COOL	VOLTAGE=5.0V	8 16
PP_CODEC_TO_MIC1_BIAS	VOLTAGE=1.8V	10 18
PP_EXTMIC_BIAS_IN	VOLTAGE=1.8V	10
PP_EXTMIC_BIAS_EFM	VOLTAGE=1.8V	10
PP_CODEC_TO_FRONTMIC2_BIAS	VOLTAGE=1.8V	10 11
PP_CODEC_TO_REARMIC2_BIAS	VOLTAGE=1.8V	8 10
PP_CODEC_FILT+	VOLTAGE=1.8V	10
PP_CODEC_SPKR_VO	VOLTAGE=2.2V	10
PP_CODEC_VCPBLT-	VOLTAGE=2.5V	10
PP_CODEC_VCPBLT+	VOLTAGE=2.5V	10
PP_CODEC_VHP_FLN	VOLTAGE=2.5V	10
PP_CODEC_VHP_FLV	VOLTAGE=0.2V	10
PP_CODEC_VHP_FLV2	VOLTAGE=2.5V	10
PP1V8 ECAM_CONN	VOLTAGE=1.8V	11
PP2V85 ECAM AVDD_CONN	VOLTAGE=3.0V	11
PP_CODEC_TO_FRONTMIC1_BIAS_CONN	VOLTAGE=1.8V	11
PP3V0 ALS_CONN	VOLTAGE=3.0V	11
PP1V2 ECAM VDDIO_CONN	VOLTAGE=1.2V	11
PP5V0 USB	VOLTAGE=5.0V	12 14 17 18 25
PP5V0 USB_TO_EMU	VOLTAGE=5.0V	12
PP_BUCK5_LX0	VOLTAGE=4.6V	12
PP_BUCK3_LX	VOLTAGE=4.6V	12
PP_BUCK4_LX	VOLTAGE=4.6V	12
PP_BUCK2_LX	VOLTAGE=4.6V	12
PP_BUCK1_LX1	VOLTAGE=4.6V	12
PP_BUCK1_LX0	VOLTAGE=4.6V	12
PP_BUCK0_LX3	VOLTAGE=4.6V	12
PP_BUCK0_LX2	VOLTAGE=4.6V	12
PP_BUCK0_LX1	VOLTAGE=4.6V	12
PP_BUCK0_LX0	VOLTAGE=4.6V	12
PP_CHESTNUT_LXP	VOLTAGE=6.0V	15
PP_CHESTNUT_CP	VOLTAGE=6.0V	15
PP_CHESTNUT_CN	VOLTAGE=6.0V	15
PP5V7 SAGE AVDDH	VOLTAGE=5.7V	15 24
PP5V7 LCM AVDDH	VOLTAGE=5.7V	15 24
PP5V1 GRAPE VDDH	VOLTAGE=5.1V	15 24
PP_NLED_LX	VOLTAGE=22.0V	15
PP18V0 MESA_SW	VOLTAGE=18.0V	15
PP17V0 MESA_SW	VOLTAGE=17.0V	15
PP16V5 MESA	VOLTAGE=16.5V	15 21 25
PP_SPKAMP_SW	VOLTAGE=8.0V	16
PP_L19_VBOOST	VOLTAGE=8.0V	16
PP_SPKAMP_FILT	VOLTAGE=1.8V	16
PP_SPKAMP_LDO_FILT	VOLTAGE=1.8V	16
PP_LED_DRV_LX	VOLTAGE=5.0V	16
PP_LED_BOOST_OUT	VOLTAGE=5.0V	16
PP2V9_LDO9	VOLTAGE=2.9V	12
PP_CODEC_TO_MIC1_BIAS_CONN	VOLTAGE=1.8V	18
PP_E75_TO_TRISTAR_ACC2	VOLTAGE=4.6V	17 18
PP_E75_TO_TRISTAR_ACC2_CONN	VOLTAGE=4.6V	18 25
PP1V8 LCM_CONN	VOLTAGE=1.8V	20
PP_LCM_BL_ANODE_CONN	VOLTAGE=22.0V	20 25
PPNSV7 LCM AVDDN_CONN	VOLTAGE=-5.7V	20
PPNSV7 LCM AVDDH_CONN	VOLTAGE=5.7V	20
PP1V8 MESA	VOLTAGE=1.8V	21
PP16V5 MESA_CONN	VOLTAGE=16.5V	21
PP_TRISTAR_PIN	VOLTAGE=5.0V	17
PP1V2 ECAM_CONN	VOLTAGE=1.2V	23
PP1V8 ECAM_CONN	VOLTAGE=1.8V	23
PP2V85 CAM VDD	VOLTAGE=3.0V	11 23
PP2V85 ECAM AVDD_CONN	VOLTAGE=1.8V	23
PP_CUMULUS_VDDCORE	VOLTAGE=1.8V	24
PP_CUMULUS_VDDANA	VOLTAGE=1.2V	24
PP_SAGE_TO_TOUCH_VCPH_CONN	VOLTAGE=13.5V	24
PP_SAGE_TO_TOUCH_VCPH_CONN	VOLTAGE=-12V	24
PP_SAGE_TO_TOUCH_VCPH	VOLTAGE=13.5V	24
PP_SAGE_TO_TOUCH_VCPH	VOLTAGE=-12V	24
PP_SAGE_VCPH_F	VOLTAGE=-12V	24
PP_SAGE_LX	VOLTAGE=5.7V	24
PP_SAGE_LX	VOLTAGE=17.0V	24
PP_EMU_VREF	VOLTAGE=1.8V	13
PP_SAGE_VBST_OUTH	VOLTAGE=14V	24
PP_TIGRIS_VBUS_DET	VOLTAGE=5.0V	14
PP1V8_FLL	VOLTAGE=1.8V	13
PP_MIPIOD_VREG	VOLTAGE=2.5V	13
BOARD_ID0	VOLTAGE=1.8V	10
PP_EMU_VDD_RBE	VOLTAGE=1.8V	13
PP_EXTMIC_BIAS	VOLTAGE=1.8V	10
PP1V8_VTAL	VOLTAGE=1.8V	2
PP_EMU_VDD_RTC	VOLTAGE=1.8V	13
PP_BATT_VCC	VOLTAGE=4.6V	14 16 25 40 45 46
PP1V8 MESA_CONN	VOLTAGE=1.8V	21
PP3V0 PROX_CONN	VOLTAGE=3.0V	11
PP0V95 FIXED SOC	VOLTAGE=1.0V	4 7 12
PP0V95 FIXED SOC PCIE	VOLTAGE=1.0V	7
PP1V2_BLL	VOLTAGE=1.2V	2
PP_BUCK5_LX1	VOLTAGE=1.0V	12
PP_VAR_SOC	VOLTAGE=1.0V	5 12
PPMID_CAP	VOLTAGE=5.0V	14
CHARGER_LDO	VOLTAGE=5.0V	14
CHG_BOOT	VOLTAGE=4.6V	14
CHG_LX	VOLTAGE=4.6V	14
VIBR_DRIVE_P	VOLTAGE=3.0V	14 18
VIBR_DRIVE_N	VOLTAGE=3.0V	14 18
PP_BCAM_AE_CONN	VOLTAGE=1.8V	23
PP_SAGE_VBST_OUTH	VOLTAGE=-14.0V	24
PP_SAGE_TO_TOUCH_VCPH_FILT	VOLTAGE=-12.0V	24
PP_BB_VDD_2V7_CONN	VOLTAGE=2.7V	18

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# N61 SPECIFIC

## BOOTSTRAPPING (BOARD\_REV, BOARD\_ID, BOOT\_CFG)

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

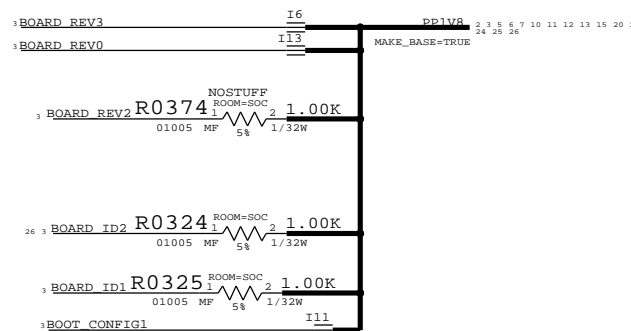
```
1111 PROTOMLB1
1110 PROTOMLB2
1101 PROTO1
1100 PROTO2
1011 EVT
1010 EVT SPLIT CARBON DOE
1001 CARRIER BUILD <--- SELECTED
1000 DVT
```

```
BOARD_ID[4:0]={GPIO29, GPIO16, SPI0_MISO, SPI0_MOSI, SPI0_SCLK}
```

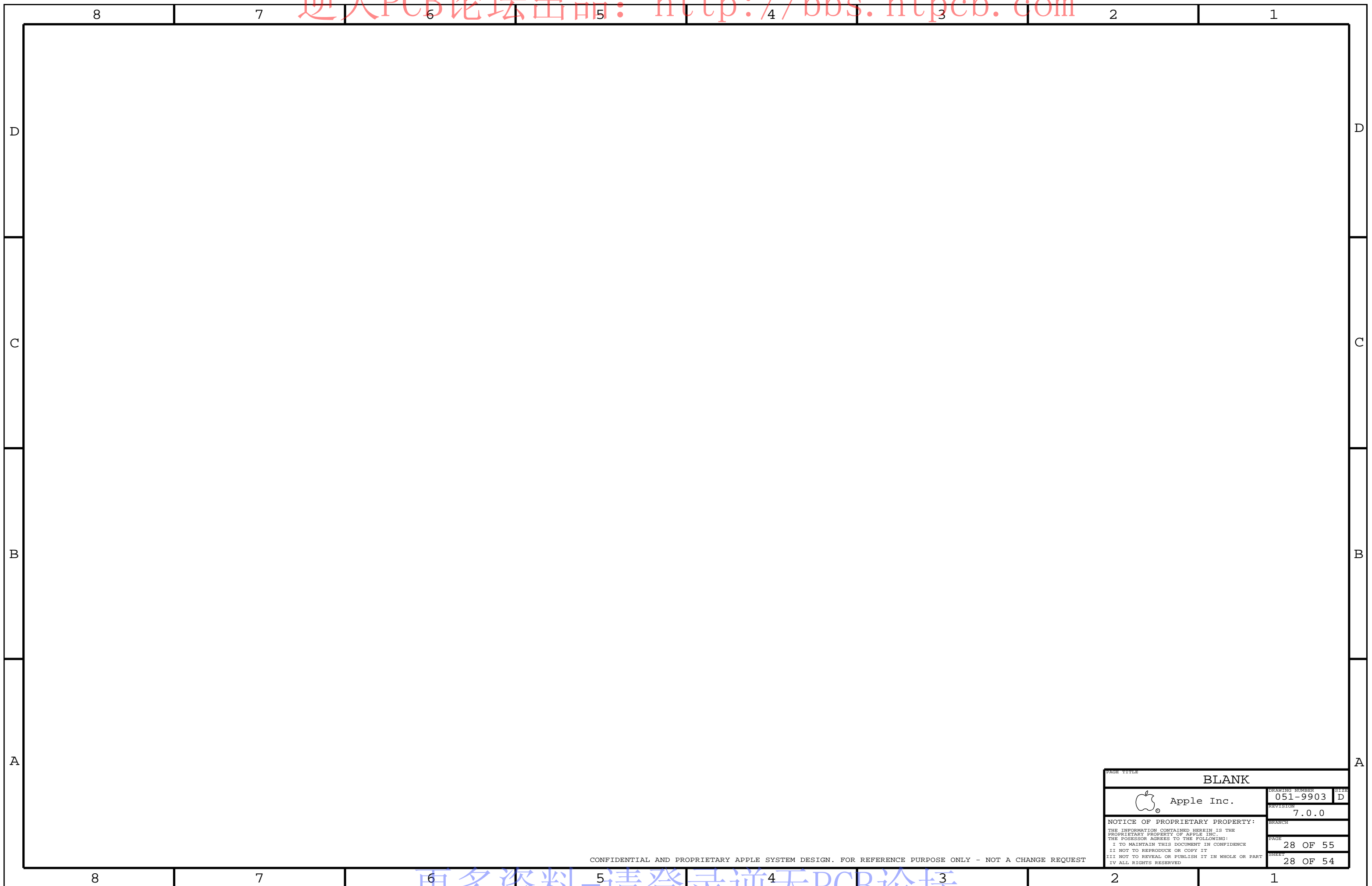
```
FLOAT=LOW, PULLUP=HIGH
00100 N56, T133 MLB
00101 N56 DEV
00110 FIJI N61 MLB <--- SELECTED
```


```
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
```



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	SIZE	D



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# RADIO\_MLB HIERARCHICAL SYMBOL

## POWER

VCC\_MAIN, VBAT GOES TO RADIO\_MLB DIRECTLY  
CHECK ALL PAGES IN RF SIDE!



## CELLULAR HOUSE KEEPING

AP_TO_RADIO_ON_L	I325	RADIO_ON_L	30 32
BB_TO_AP_RESET_DET_L	I324	BB_RESET_DET_L	30 35
PMU_TO_BB_RST_L	I323	RF_PMIC_RESET_L	30 32
AP_TO_BB_RST_L	I322	BB_RST_L	30 32
AP_TO_BB_WAKE_MODEM	I329	AP_WAKE_MODEM	35
BB_TO_PMU_HOST_WAKE_L	I328	BB_WAKE_HOST_L	30 35
BB_TO_AP_IPC_GPIO	I327	BB_IPC_GPIO	35
BB_TO_LEDDRVM_GSM_BLANK	I326	GSM_TXBURST_IND	35
BB_TO_AP_GPS_SYNC	I325	BB_GPS_SYNC	30 35

## WLAN/BT HOUSE KEEPING

45_PMU_TO_WLAN_CLK32K	I316	CLK32K_AP	30 51
PMU_TO_WLAN_REG_ON	I315	WLAN_REG_ON	30 51
WLAN_TO_PMU_HOST_WAKE	I314	HOST_WAKE_WLAN	30 51
PMU_TO_BT_REG_ON	I313	BT_REG_ON	30 51
AP_TO_BT_WAKE	I312	WAKE_BT	30 51
BT_TO_PMU_HOST_WAKE	I311	HOST_WAKE_BT	51

## HSIC IPC

50_AP_BI_BB_HSIC1_DATA	I368	50_BB_HSIC_DATA	30 34
50_AP_BI_BB_HSIC1_STB	I367	50_BB_HSIC_STROBE	30 34
AP_TO_BB_HOST_RDY	I371	BB_HOST_RDY	30 35
BB_TO_AP_DEVICE_RDY	I370	BB_DEVICE_RDY	30 35
BB_TO_AP_IPC_GPIO1	I372	BB_IPC_GPIO1	35

AP TO WLAN JTAG SWCLK	I333	WLAN JTAG SWCLK	30 51
AP TO WLAN JTAG SWDIO	I334	WLAN JTAG SWDIO	30 51
WLAN TO PMU PCIE WAKE L	I335	WLAN_PCIE_WAKE_L	30 51
AP TO WLAN DEVICE WAKE	I336	PCIE_DEV_WAKE	30 51
90_WLAN_TO_AP_PCIE1_RXDP_P	I337	90_WLAN_PCIE_TDP	30 51
90_WLAN_TO_AP_PCIE1_RXDP_N	I338	90_WLAN_PCIE_TDN	30 51
90_AP_TO_WLAN_PCIE1_TXDP_P	I339	90_WLAN_PCIE_RDP	30 51
90_AP_TO_WLAN_PCIE1_TXDP_N	I340	90_WLAN_PCIE_RDN	30 51
90_AP_TO_WLAN_PCIE1_REFCLK1_P	I341	90_WLAN_PCIE_REFCLK_P	51
90_AP_TO_WLAN_PCIE1_REFCLK1_N	I342	90_WLAN_PCIE_REFCLK_N	51
WLAN TO AP_PCIE1_CLKREQ_L	I343	WLAN_PCIE_CLKREQ_L	30 51
AP TO WLAN_PCIE1_RST_L	I344	WLAN_PCIE_PERST_L	30 51

## UART IPC

AP_TO_BB_UART2_RTS_L	I373	BB_UART_CTS_L	30 35
BB_TO_AP_UART2_CTS_L	I374	BB_UART_RTS_L	30 35
AP_TO_BB_UART2_TXD	I375	BB_UART_RXD	30 35
BB_TO_AP_UART2_RXD	I376	BB_UART_TXD	30 35

## WLAN HSIC IPC

WLAN_TO_AP_UART4_RXD	I345	WLAN_UART_TXD	30 51
AP_TO_WLAN_UART4_TXD	I346	WLAN_UART_RXD	30 51
WLAN_TO_AP_UART4_CTS_L	I347	WLAN_UART_RTS_L	30 51
AP_TO_WLAN_UART4_RTS_L	I348	WLAN_UART_CTS_L	30 51

## AUDIO I2S

45_AP_TO_BB_I2S3_BCLK	I377	BB_I2S_CLK	35
AP_TO_BB_I2S3_DOUT	I378	BB_I2S_RXD	30 35
BB_TO_AP_I2S3_DIN	I379	BB_I2S_TXD	30 35
AP_TO_BB_I2S3_LRCLK	I380	BB_I2S_WS	30 35

## BT UART IPC

AP_TO_BT_UART1_RTS_L	I349	BT_UART_CTS_L	51
BT_TO_AP_UART1_CTS_L	I350	BT_UART_RTS_L	51
AP_TO_BT_UART1_TXD	I351	BT_UART_RXD	30 51
BT_TO_AP_UART1_RXD	I352	BT_UART_TXD	30 51

## OSCAR UART

OSCAR_TO_BB_UART_TXD	I382	BB_OTHER_RXD	30 35
BB_TO_OSCAR_UART_RXD	I381	BB_OTHER_TXD	30 35

## BT AUDIO PCM

45_AP_TO_BT_I2S1_BCLK	I354	BT_PCM_CLK	51
AP_TO_BT_I2S1_DOUT	I355	BT_PCM_IN	51
BT_TO_AP_I2S1_DIN	I356	BT_PCM_OUT	51
AP_TO_BT_I2S1_LRCLK	I357	BT_PCM_SYNC	51

## BB DEBUG INTERFACES

AP_TO_BB_COREDUMP	I384	BB_CORE_DUMP	30 35
PMU_TO_BB_VBUS_DET	I387	BB_USB_VBUS	30 34
90_TRISTAR_BI_BB_USB_N	I386	90_BB_USB_N	30 34
90_TRISTAR_BI_BB_USB_P	I385	90_BB_USB_P	30 34

## OSCAR STATES

OSCAR_TO_RADIO_CONTEXT_A	I358	OSCAR_CONTEXT_A	51
OSCAR_TO_RADIO_CONTEXT_B	I359	OSCAR_CONTEXT_B	51

## RADIO ANTENNA CONTROL

PP_BB_VDD_2V7	I389	PP_LD014_RFSW	31 41 42
BB_GPIO0	I390	BB_LAT_GPIO0	35
BB_GPIO2	I391	BB_LAT_GPIO2	35
BB_GPIO3	I392	BB_LAT_GPIO3	35
BB_GPIO4	I394	BB_LAT_GPIO4	35

## STOCKHOLM

STOCKHOLM_TO_AP_UART3_CTS_L	I359	STOCKHOLM_RTS_L	30 52
AP_TO_STOCKHOLM_UART3_RTS_L	I360	STOCKHOLM_CTS_L	30 52
STOCKHOLM_TO_AP_UART3_RXD	I361	STOCKHOLM_UART_TXD	30 52
AP_TO_STOCKHOLM_UART3_TXD	I362	STOCKHOLM_UART_RXD	30 52
AP_TO_STOCKHOLM_DWLD_REQ	I363	STOCKHOLM_FW_DWLD_REQ	52
STOCKHOLM_TO_PMU_HOST_WAKE	I364	STOCKHOLM_HOST_WAKE	30 52
AP_TO_STOCKHOLM_EN	I365	STOCKHOLM_ENABLE	53
PP3V0_TRISTAR	I366	STOCKHOLM_VDD_MIX_3V0	54
AP_TO_STOCKHOLM_SIM_SEL	I367	STOCKHOLM_SIM_SEL	54
AP TO STOCKHOLM ANT	I406	STOCKHOLM_ANT	52

## FCT TESTING

RADIO_TO_PMU_ADC_SMP51	I395	ADC_SMP51	30
RADIO_TO_PMU_ADC_PP_LD011_VDDIO	I396	ADC_PP_LD011	30
RADIO_TO_PMU_ADC_PP_LD05_SIM	I397	ADC_PP_LD05	30
RADIO_TO_PMU_ADC_SMP54	I398	ADC_SMP54	30

## UPPER RADIO ANTENNA CONTROL

50_AP_WIFI_5G_CONN_ANT	I410	50_WIFI_5G_CONN_ANT	50
50_AP_UAT_FEED	I409	50_UPPER_ANT_FEED	50
UAT_ANT_GND	I411	ANT_GND	50
PP3V0_TRISTAR	I404	PAC_VDD_3V0	53
NORTH_AC_GND_SCREW	I412	NORTH_ANT_GND	50

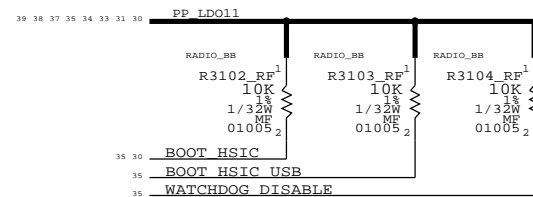
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# AP INTERFACE & DEBUG CONNECTORS

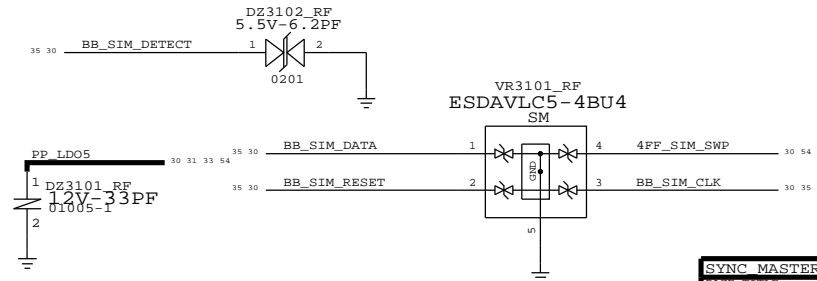
## PROBE POINTS

PP3105_RF P2MM-SM 1 CLK32K_AP WIFI_BT	29 51	PP3121_RF P2MM-SM 1 STOCKHOLM_HOST_WAKE RADIO_STOCKHOLM	29 52	PP3115_RF P4MM-SM 1 50_BB_HSIC_STROBE SIM_DEBUG	29 34	PP3130_RF P4MM-SM 1 BB_JTAG_RST_L SIM_DEBUG	34	PP3141_RF P4MM-SM 1 BB_UART_TXD SIM_DEBUG	29 35	PP3170_RF P4MM-SM 1 RFFE1_CLK RF_DEBUG	35 39 40 41 42 43 44
PP3113_RF P4MM-SM 1 BB_COEX_UART_RXD WIFI_BT	35 51	PP3122_RF P4MM-SM 1 BB_REQUEST_XO_CLK RADIO_STOCKHOLM	32 52	PP3116_RF P4MM-SM 1 50_BB_HSIC_DATA SIM_DEBUG	29 34	PP3131_RF P4MM-SM 1 BB_JTAG_TCK SIM_DEBUG	34	PP3142_RF P4MM-SM 1 BB_UART_RXD SIM_DEBUG	29 35	PP3171_RF P4MM-SM 1 RFFE1_DATA RF_DEBUG	35 39 40 41 42 43 44
PP3114_RF P4MM-SM 1 BB_COEX_UART_TXD WIFI_BT	35 51	PP3123_RF P2MM-NSM 1 STOCKHOLM_UART_RXD RADIO_STOCKHOLM	29 52	PP3101_RF P4MM-SM 1 BB_DEBUG_ERROR SIM_DEBUG	35	PP3132_RF P4MM-SM 1 BB_JTAG_TMS SIM_DEBUG	34	PP3143_RF P4MM-SM 1 BB_UART_RTS_L SIM_DEBUG	29 35	PP3172_RF P4MM-SM 1 RFFE2_CLK RF_DEBUG	35 45 46 48
PP3119_RF P2MM-SM 1 BT_UART_TXD WIFI_BT	29 51	PP3124_RF P2MM-SM 1 STOCKHOLM_UART_TXD RADIO_STOCKHOLM	29 52	PP3102_RF P4MM-SM 1 RF_PMIC_RESET_L SIM_DEBUG	29 32	PP3133_RF P4MM-SM 1 BB_JTAG_TDO SIM_DEBUG	34	PP3144_RF P4MM-SM 1 BB_UART_CTS_L SIM_DEBUG	29 35	PP3173_RF P4MM-SM 1 RFFE2_DATA RF_DEBUG	35 45 46 48
PP3120_RF P2MM-NSM 1 BT_UART_RXD WIFI_BT	29 51	PP3125_RF P2MM-NSM 1 STOCKHOLM_CTS_L RADIO_STOCKHOLM	29 52	PP3103_RF P4MM-SM 1 PS_HOLD_PMIC SIM_DEBUG	32	PP3134_RF P4MM-SM 1 BB_JTAG_TDI SIM_DEBUG	34	PP3145_RF P4MM-SM 1 BB_HOST_RDY SIM_DEBUG	29 35	PP3175_RF P4MM-SM 1 BB_I2S_WS RF_DEBUG	29 35
PP3152_RF P2MM-SM 1 WAKE_BT WIFI_BT	29 51	PP3126_RF P2MM-NSM 1 STOCKHOLM_RTS_L RADIO_STOCKHOLM	29 52	PP3127_RF P4MM-SM 1 PMIC_RESOUT_L SIM_DEBUG	32 34	PP3135_RF P4MM-SM 1 BB_JTAG_TRST_L SIM_DEBUG	34	PP3146_RF P4MM-SM 1 BB_DEVICE_RDY SIM_DEBUG	29 35	PP3176_RF P4MM-SM 1 BB_I2S_RXD RF_DEBUG	29 35
PP3153_RF P4MM-SM 1 WLAN_REG_ON WIFI_BT	29 51	PP3128_RF P4MM-SM 1 PP_PN65_VCC_SIM RADIO_STOCKHOLM	52	PP3104_RF P4MM-SM 1 MDM_CLK SIM_DEBUG	32 34	PP3136_RF P4MM-SM 1 BB_DEBUG_STATUS SIM_DEBUG	35	PP3147_RF P4MM-SM 1 BB_GPS_SYNC SIM_DEBUG	29 35	PP3177_RF P4MM-SM 1 BB_I2S_TXD RF_DEBUG	29 35
PP3154_RF P4MM-SM 1 BT_REG_ON WIFI_BT	29 51	PP3174_RF P4MM-SM 1 STOCKHOLM_SIM_SWP SIM_DEBUG	52 54	PP3109_RF P4MM-SM 1 PP_LD011 SIM_DEBUG	30 31 33 34 35 37 38	PP3137_RF P4MM-SM 1 BB_CORE_DUMP SIM_DEBUG	29 35	PP3148_RF P4MM-SM 1 BB_WAKE_HOST_L SIM_DEBUG	29 35	PP3178_RF P4MM-SM 1 BB_OTHER_TXD RF_DEBUG	29 35
PP3155_RF P2MM-SM 1 HOST_WAKE_WLAN WIFI_BT	29 51	PP3129_RF P4MM-SM 1 REF_CLK_FROM_BB SIM_DEBUG	32 52	PP3110_RF P4MM-SM 1 RADIO_ON_L SIM_DEBUG	29 32	PP3138_RF P4MM-SM 1 BB_USB_VBUS SIM_DEBUG	34	PP3149_RF P4MM-SM 1 BB_RESET_DET_L SIM_DEBUG	29 35	PP3179_RF P4MM-SM 1 BB_OTHER_RXD RF_DEBUG	29 35
PP3156_RF P2MM-SM 1 WLAN_PCIE_WAKE_L WIFI_BT	29 51	PP3165_RF P4MM-SM 1 DSDS_SIM_CLK SIM_DEBUG	34 54	PP3111_RF P4MM-SM 1 SPMI_DATA SIM_DEBUG	32 34	PP3139_RF P4MM-SM 1 90_BB_USB_N SIM_DEBUG	29 34	PP3150_RF P4MM-SM 1 BB_RST_L SIM_DEBUG	29 32		
PP3157_RF P2MM-SM 1 WLAN_PCIE_PERST_L WIFI_BT	29 51	PP3183_RF P4MM-SM 1 DSDS_SIM_RESET SIM_DEBUG	34 54	PP3112_RF P4MM-SM 1 SPMI_CLK SIM_DEBUG	32 34	PP3140_RF P4MM-SM 1 90_BB_USB_P SIM_DEBUG	29 34	PP3151_RF P4MM-SM 1 BOOT_HSIC SIM_DEBUG	30 35		
PP3158_RF P4MM-SM 1 WLAN_PCIE_CLKREQ_L WIFI_BT	29 51	PP3184_RF P4MM-SM 1 DSDS_SIM_DATA SIM_DEBUG	34 54								
PP3159_RF P4MM-SM 1 PCIE_DEV_WAKE WIFI_BT	29 51	PP3188_RF P4MM-SM 1 DSDS_SIM_DETECT SIM_DEBUG	34								
PP3160_RF P2MM-SM 1 WLAN_UART_RTS_L WIFI_BT	29 51	PP3187_RF P4MM-SM 1 PP_LD06 SIM_DEBUG	31 33 54								
PP3161_RF P2MM-SM 1 WLAN_UART_CTS_L WIFI_BT	29 51	PP3188_RF P4MM-SM 1 DSDS_SIM_SWP SIM_DEBUG	54								
PP3162_RF P2MM-SM 1 WLAN_UART_RXD WIFI_BT	29 51	PP3189_RF P4MM-SM 1 DSDS_SIM_DATA_R SIM_DEBUG	54								
PP3163_RF P2MM-SM 1 WLAN_UART_TXD WIFI_BT	29 51										
PP3190_RF P4MM-SM 1 WLAN_JTAG_SWCLK WIFI_BT	29 51	PP 3178_RF P2MM-NSM 1 BB_SIM_RESET SIM_DEBUG	30 35								
PP3191_RF P4MM-SM 1 WLAN_JTAG_SWDIO WIFI_BT	29 51	PP 3179_RF P2MM-NSM 1 BB_SIM_CLK SIM_DEBUG	30 35								
		PP 3180_RF P2MM-NSM 1 BB_SIM_DATA SIM_DEBUG	30 35								
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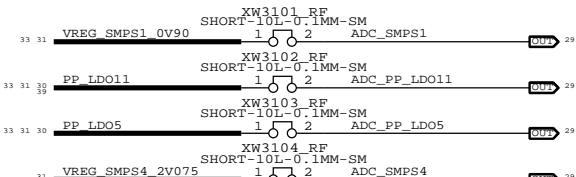
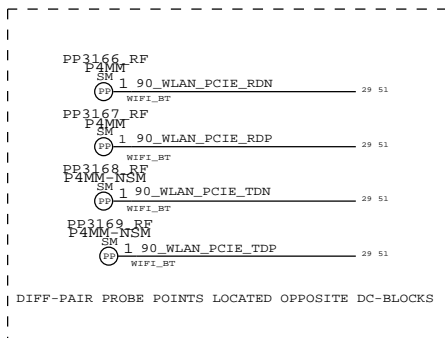
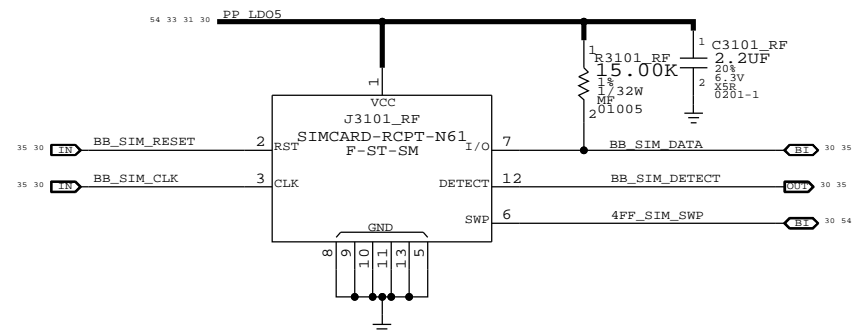
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197S0598	197S0593	ALTERNATE	Y3301_RF	AVX 19.2MHZ XTAL
138S00005	138S00003	ALTERNATE	C3216_RF	15UF CAPACITOR
138S0739	138S0706	ALTERNATE	C4207_RF	1.0UF CAPACITOR
138S0945	138S0706	ALTERNATE	C4207_RF	1.0UF CAPACITOR
138S1103	138S0719	ALTERNATE	C4007_RF	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



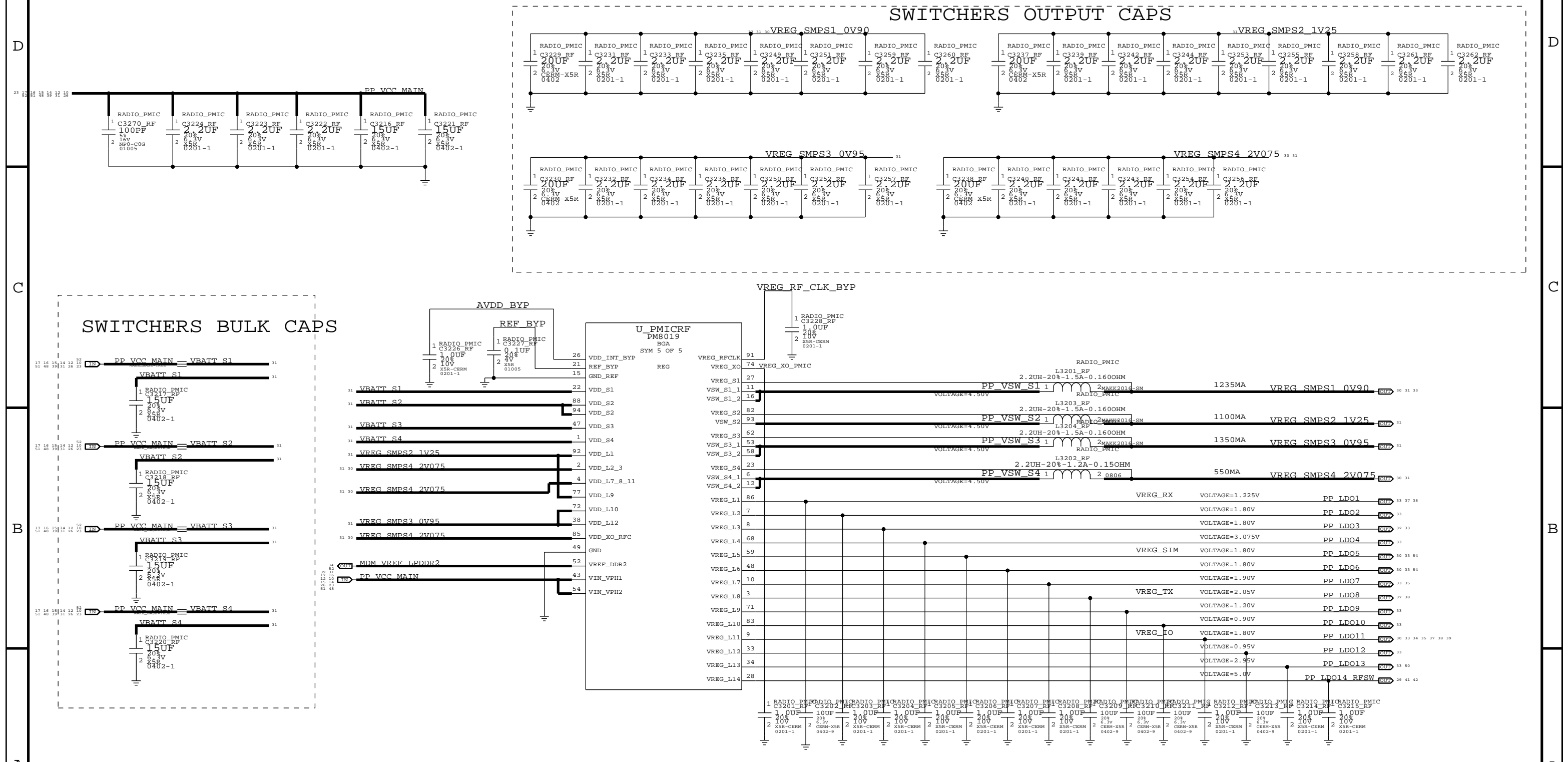
## SIM CARD CONNECTOR



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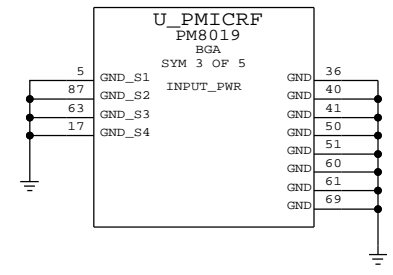
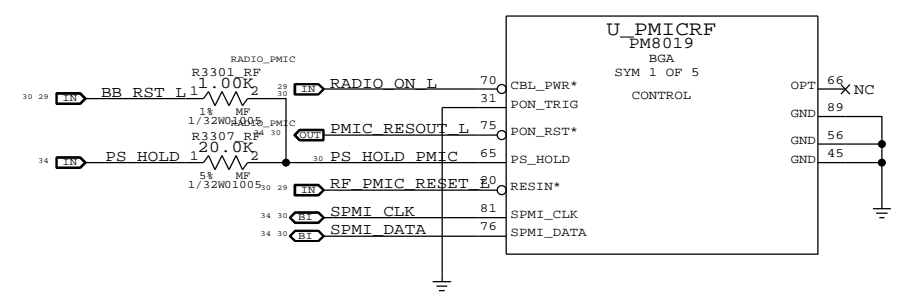
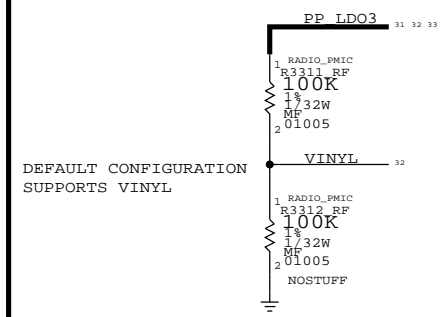
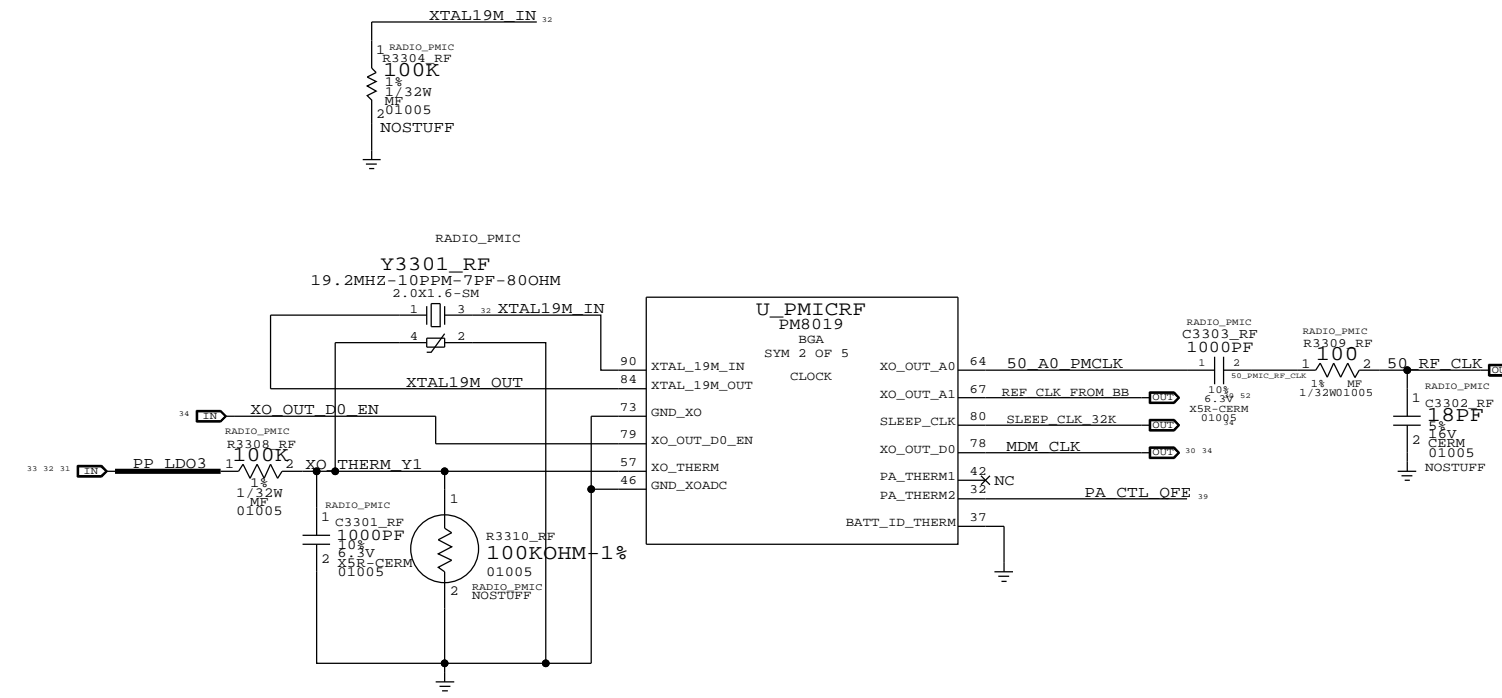
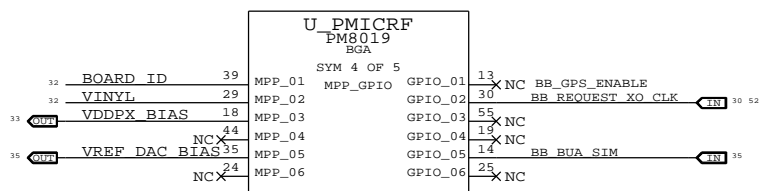
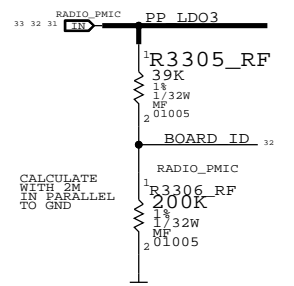
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C401  
R411  
L400  
U404

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 PMU (2 OF 2)**

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REVISION: 7.0.0

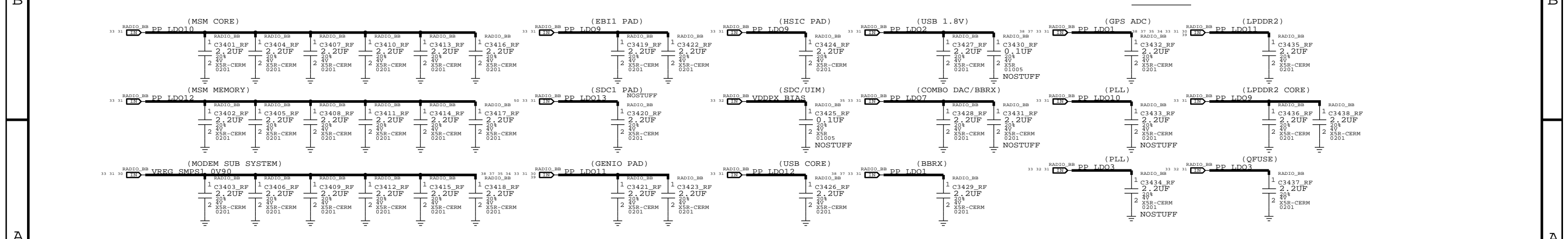
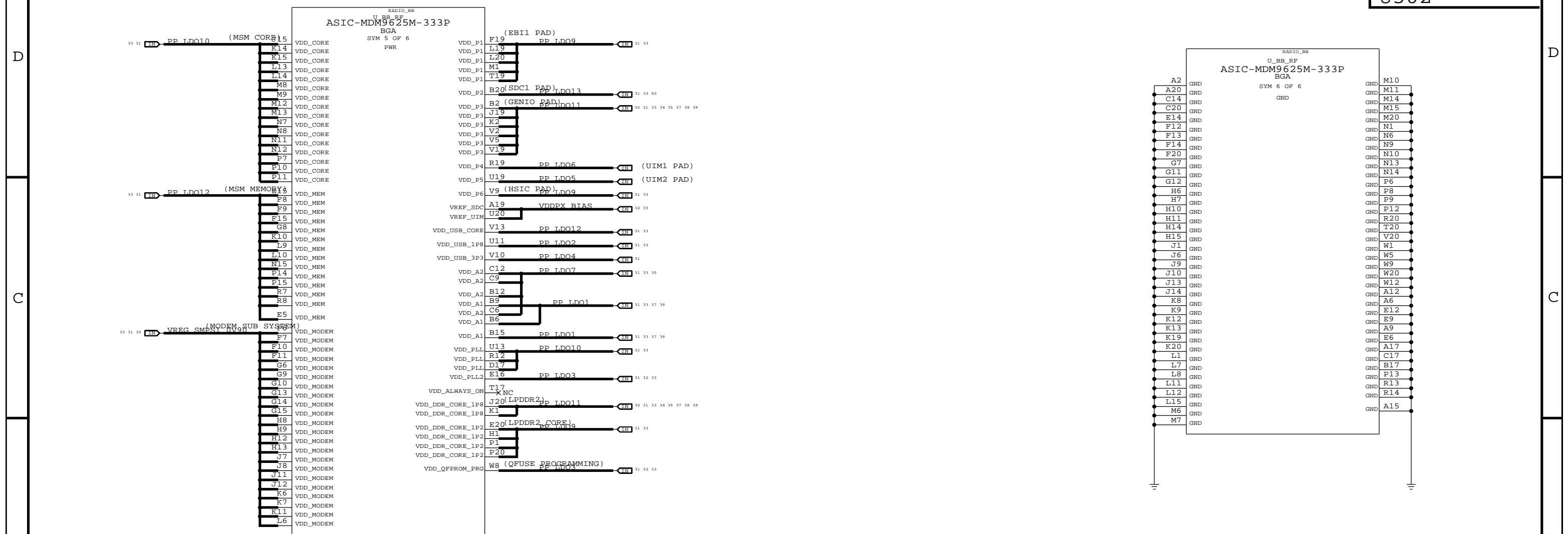
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C538
R500
L500
U502



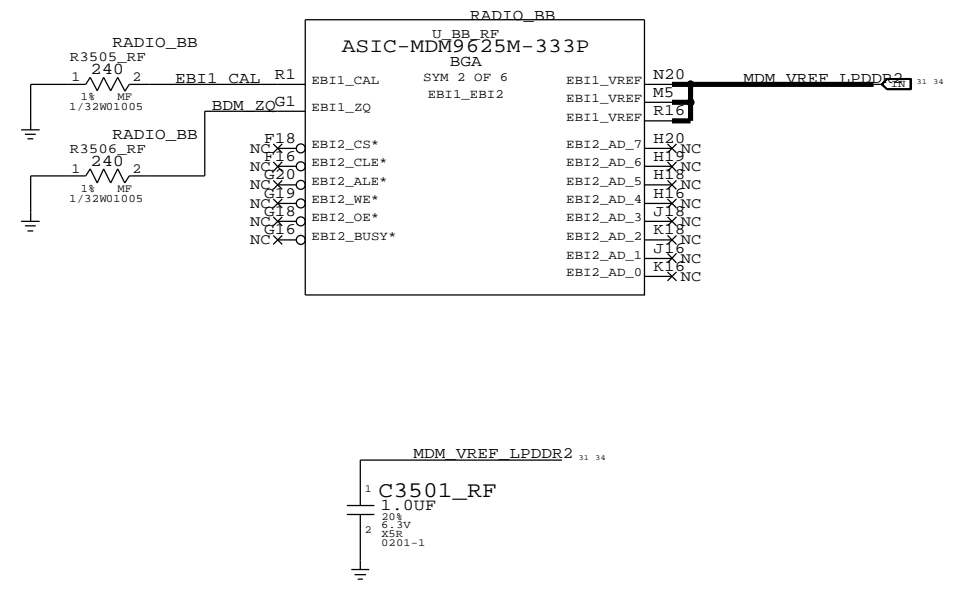
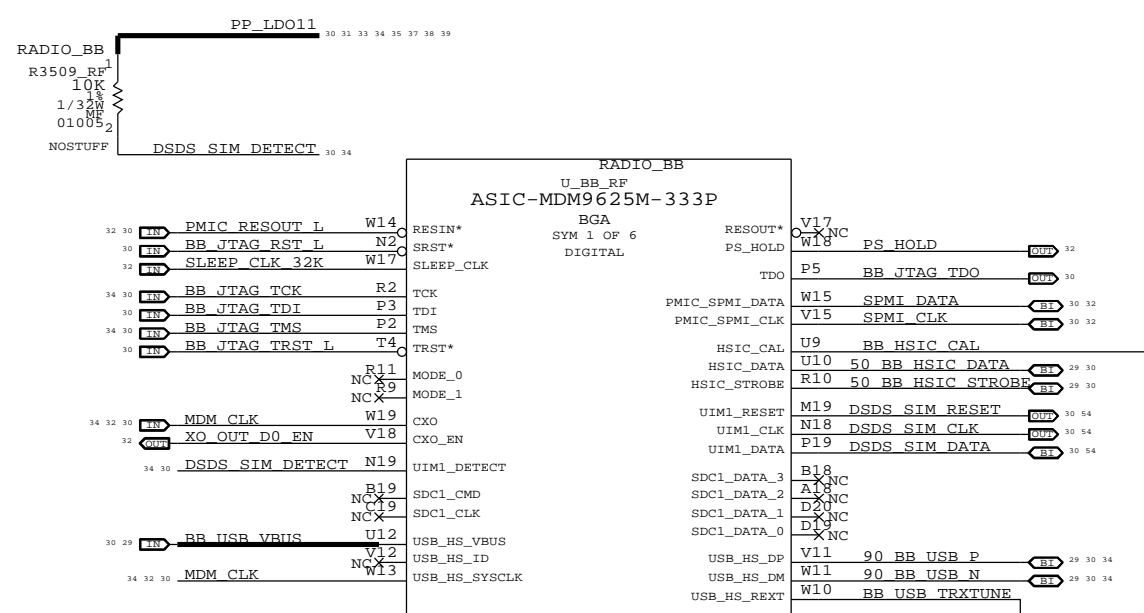
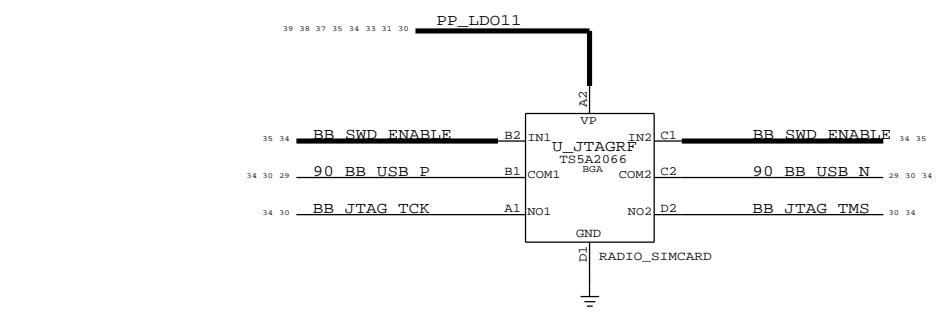
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C600
R606
L600
U602

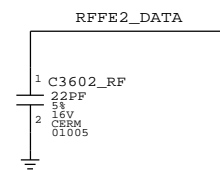
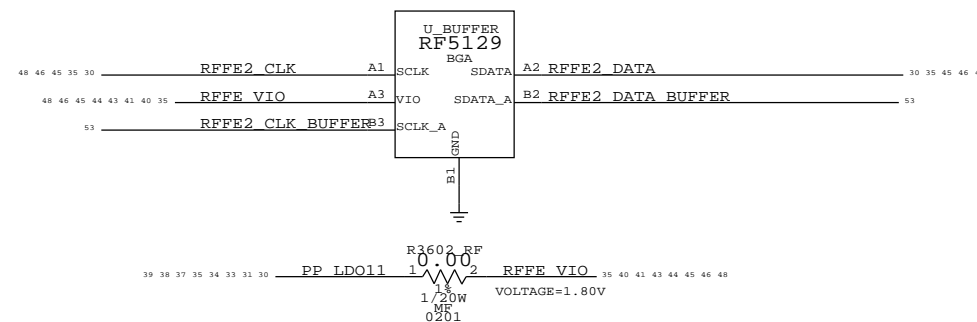
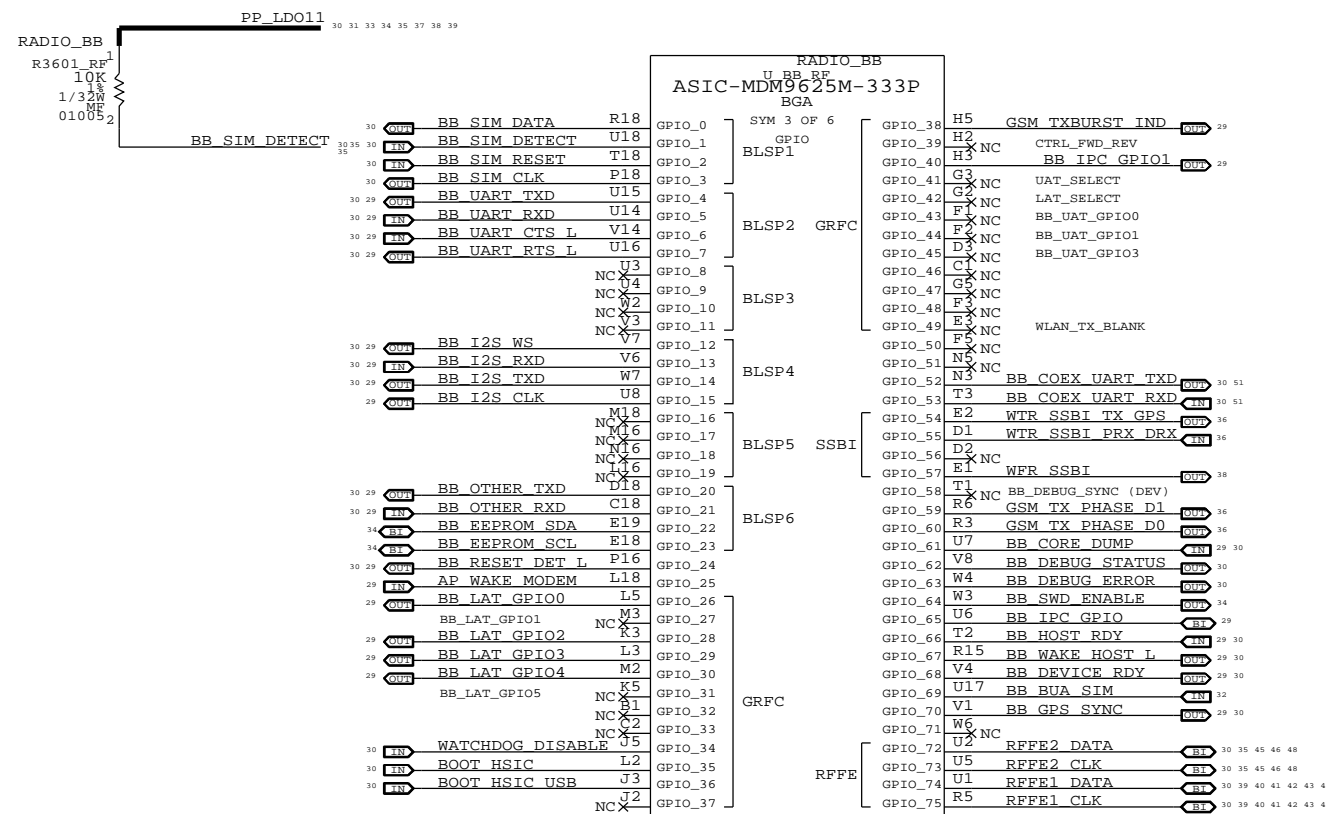
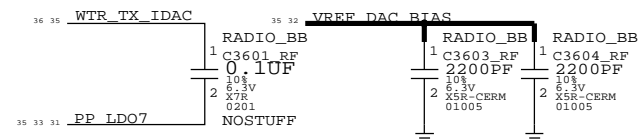
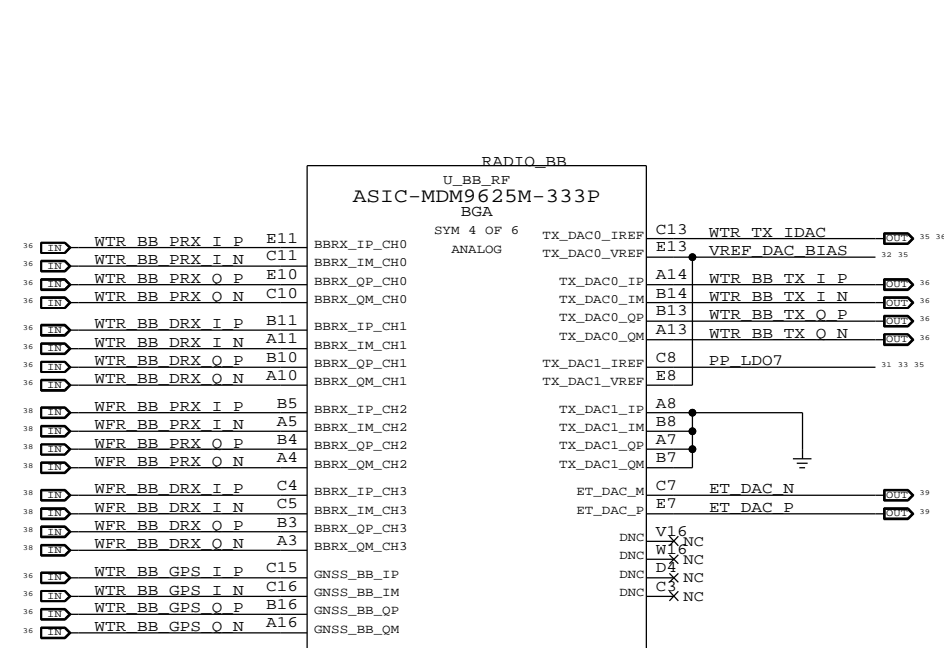


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C704  
R700  
L700  
U702



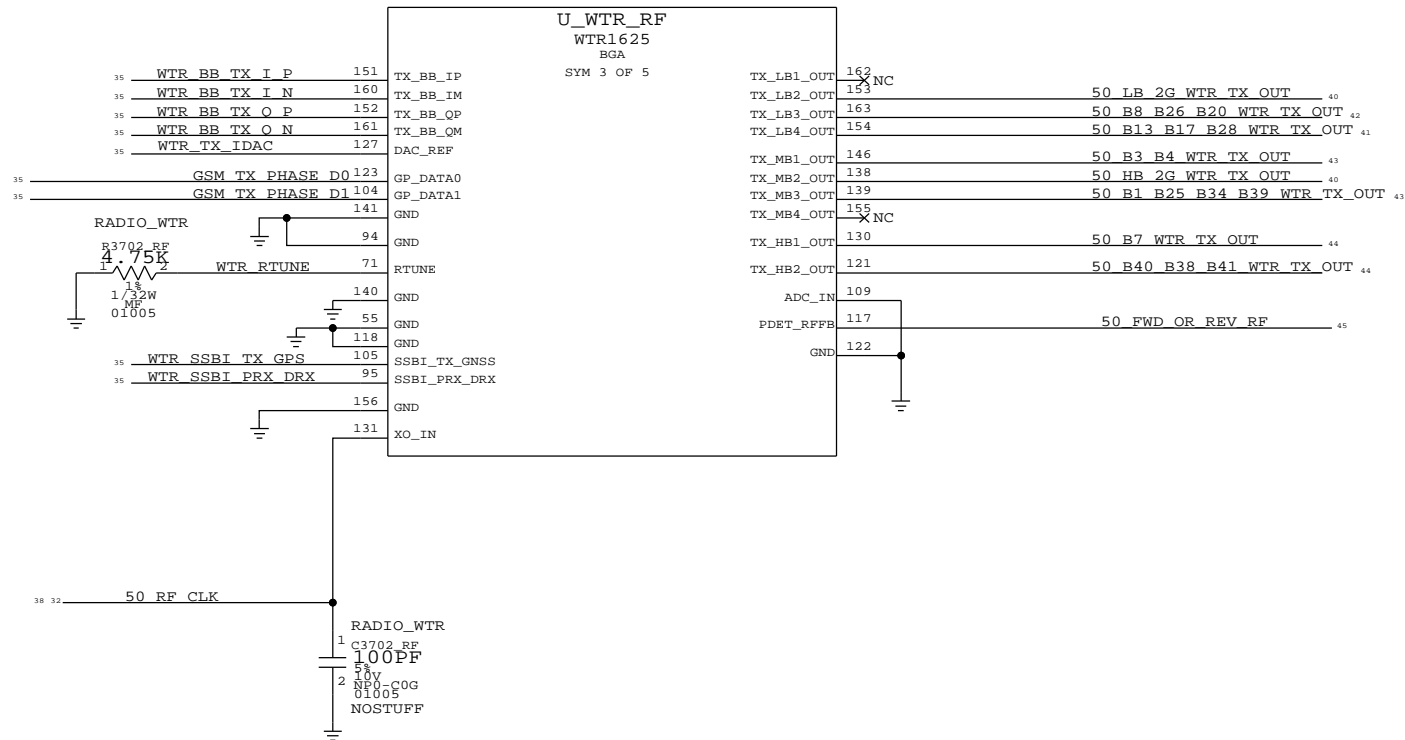
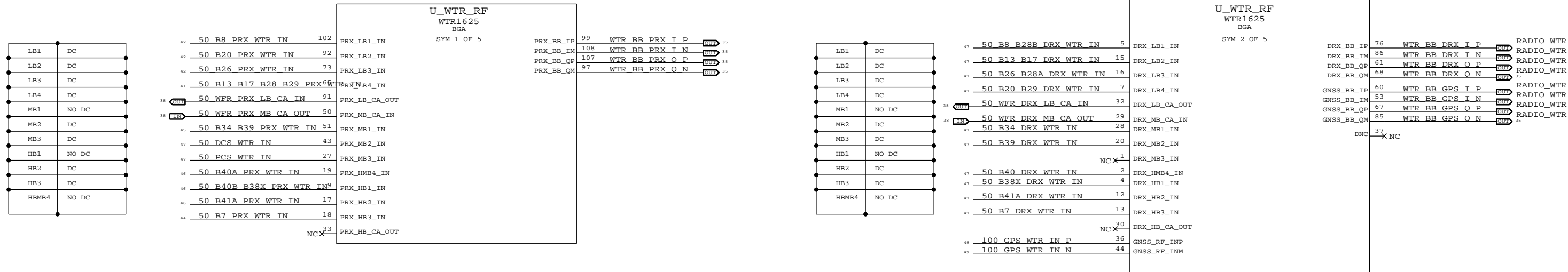
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# WTR TRANSCEIVER (1 OF 2)

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C802
R802
L800
U803



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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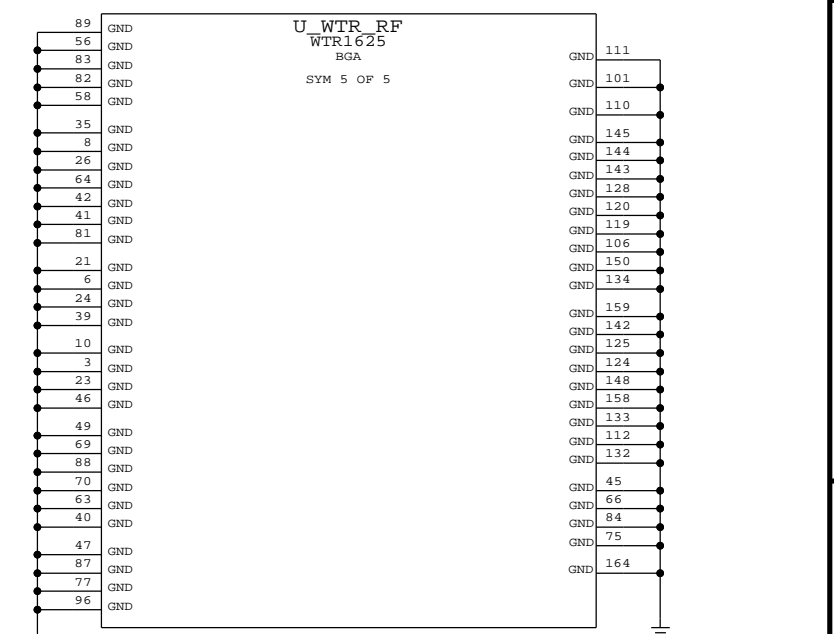
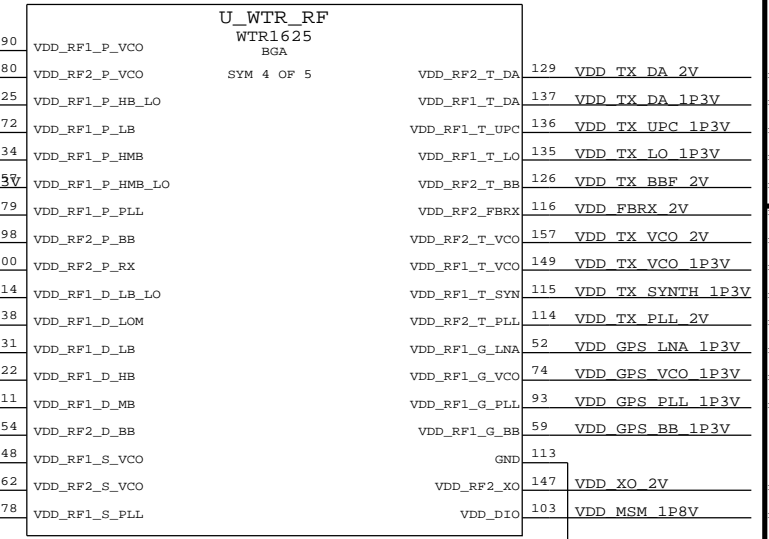
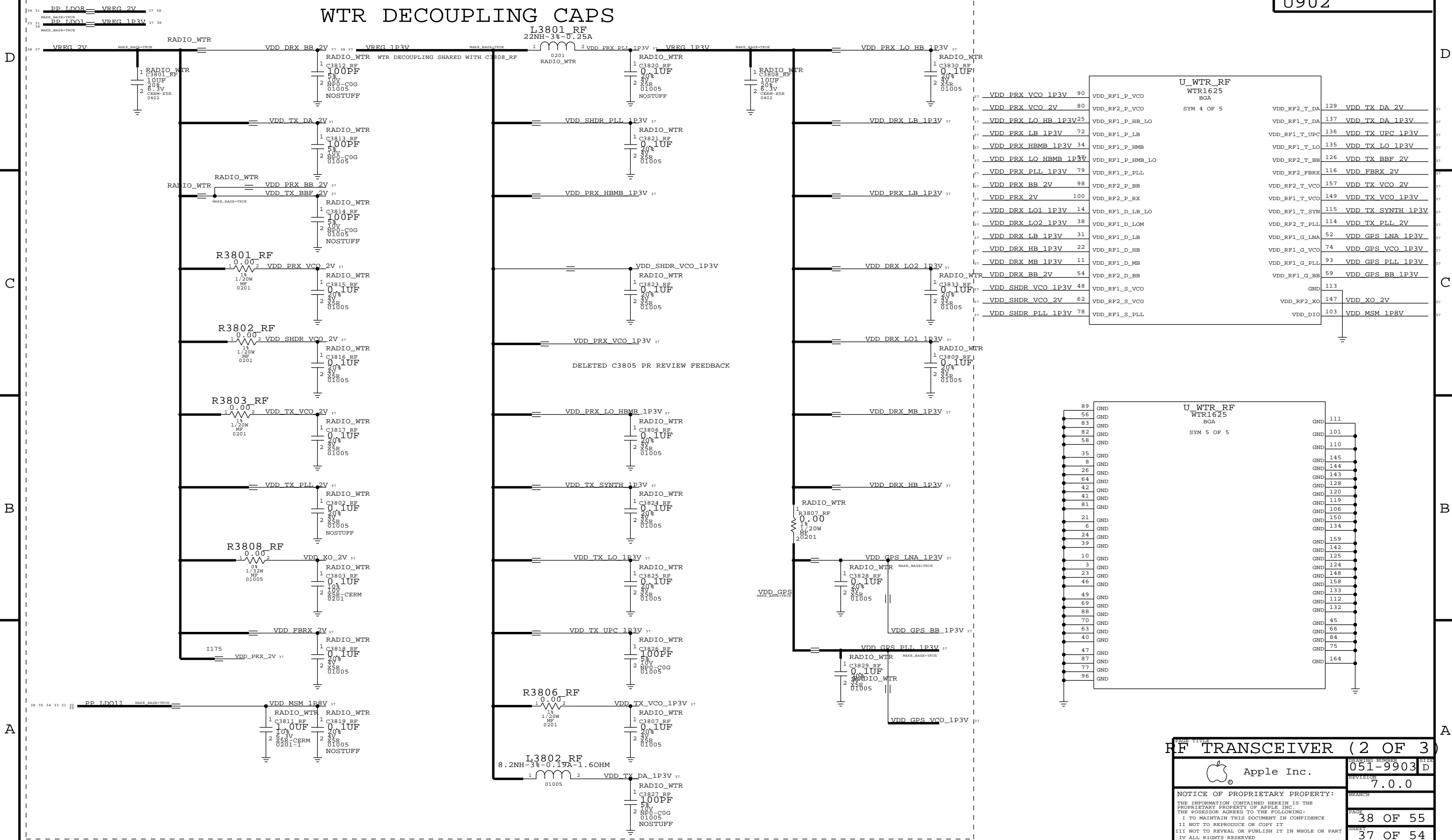
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C934
R926
L3802_RF
U902

## WTR DECOUPLING CAPS

L3801\_RF  
22NH-3%-0.25A



RF TRANSCEIVER (2 OF 3)

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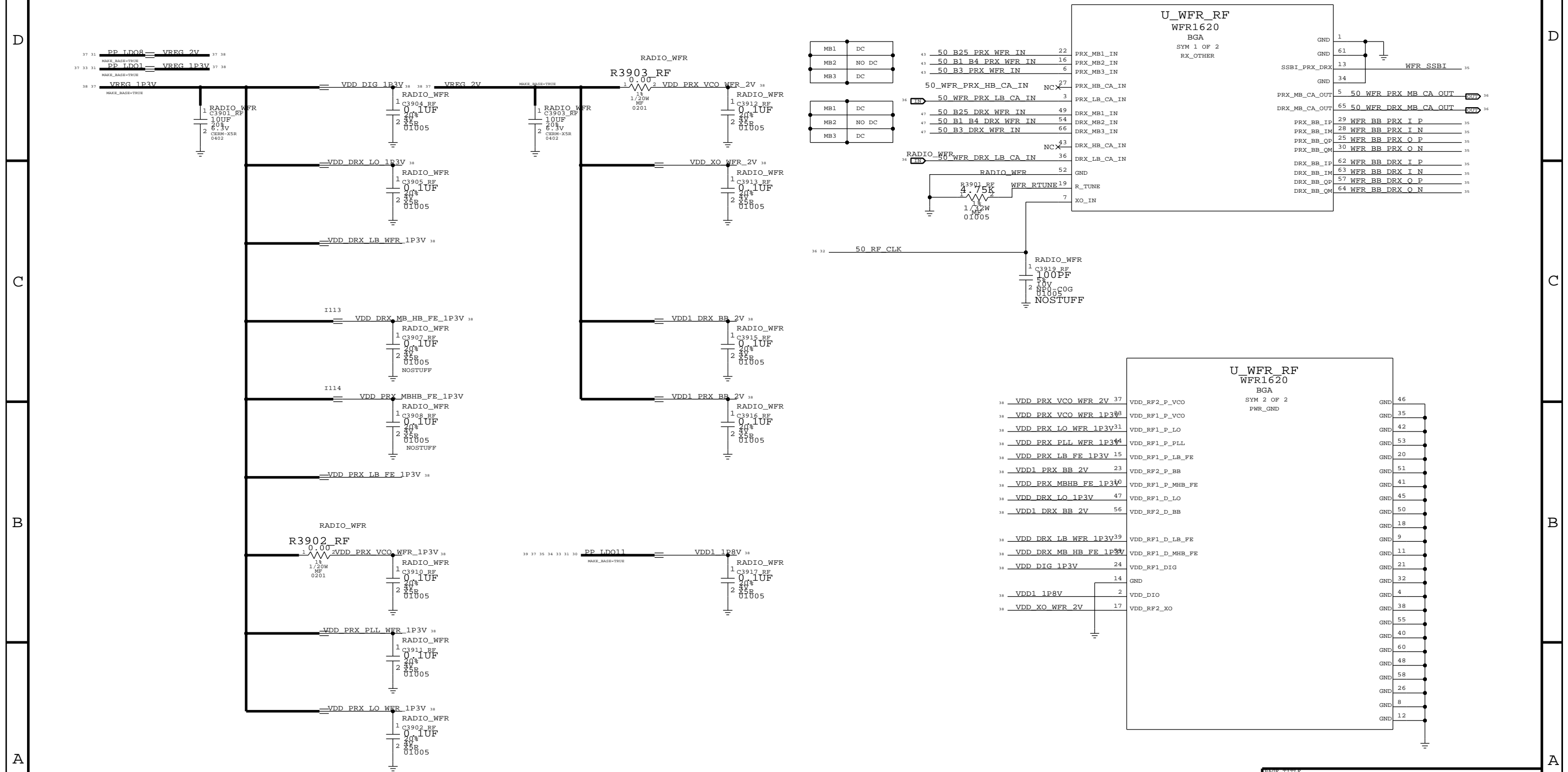
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# WFR TRANSCEIVER

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C1019
R1016
L1000
U1002



RF TRANSCEIVER (3 OF 3)

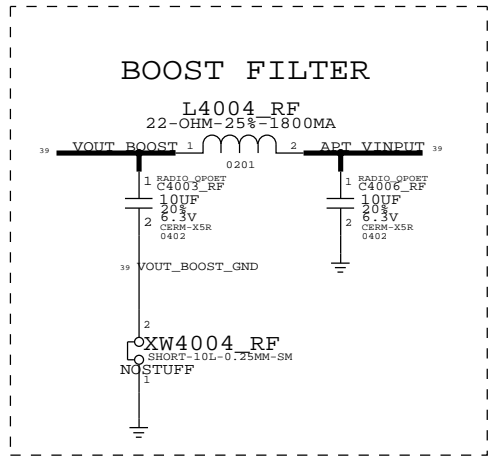
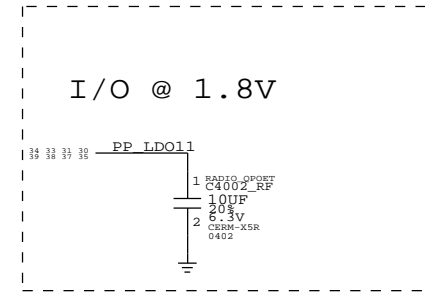
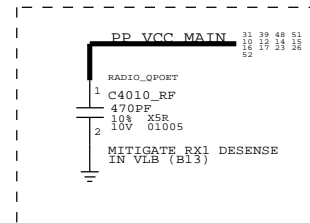
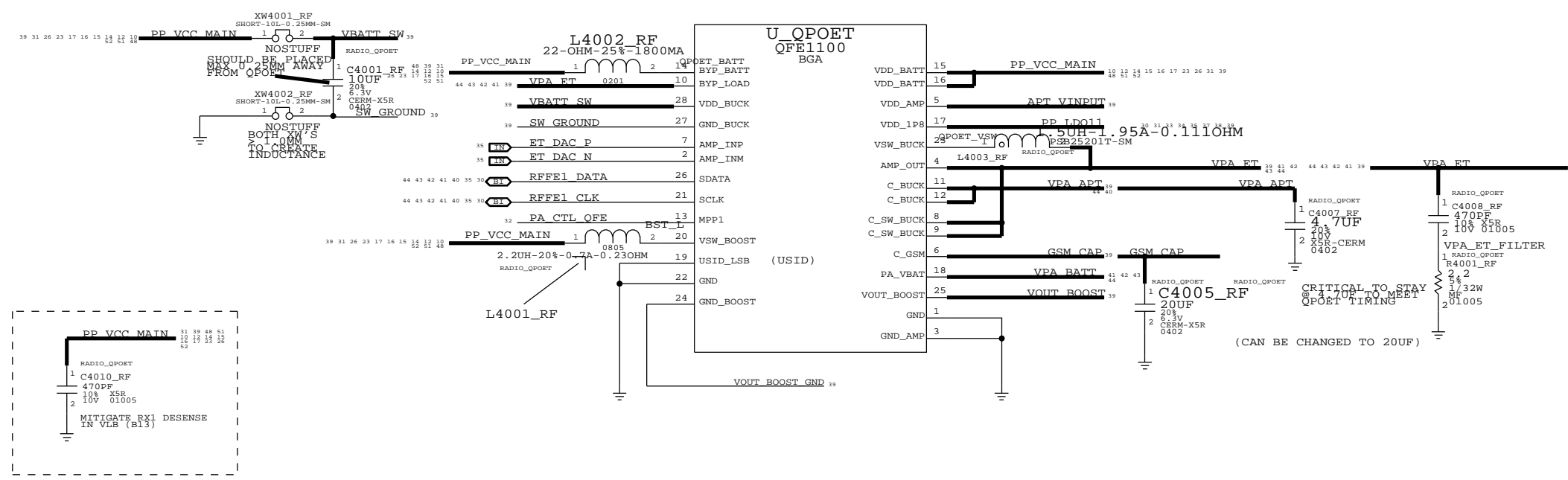
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# QFE DCDC

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C1110
R1102
L1104
U1101



PAGE TITLE		
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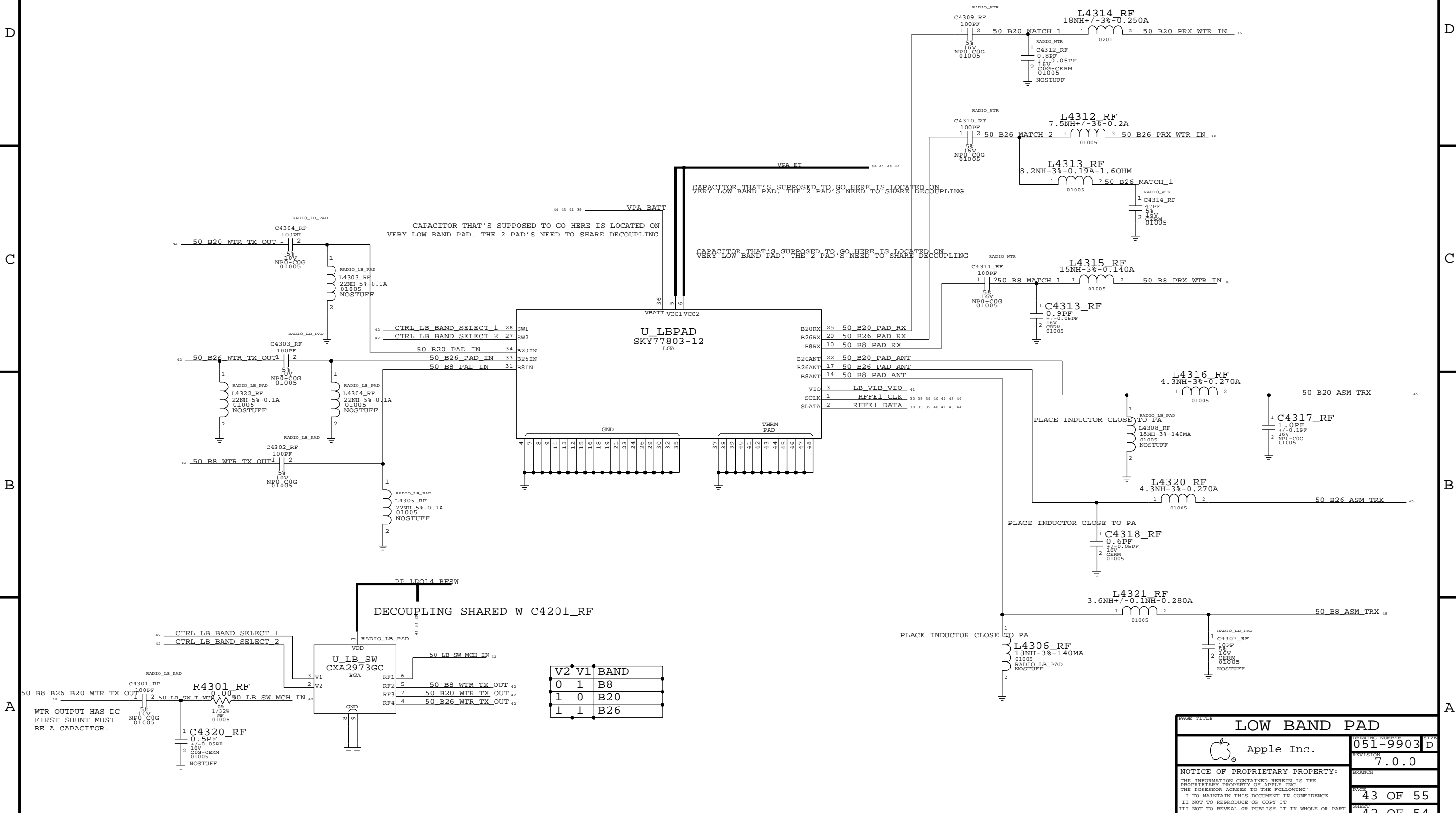




# LOW BAND PAD (B8, B26, B20)

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C4318_RF
R1400
L4322_RF
U1402



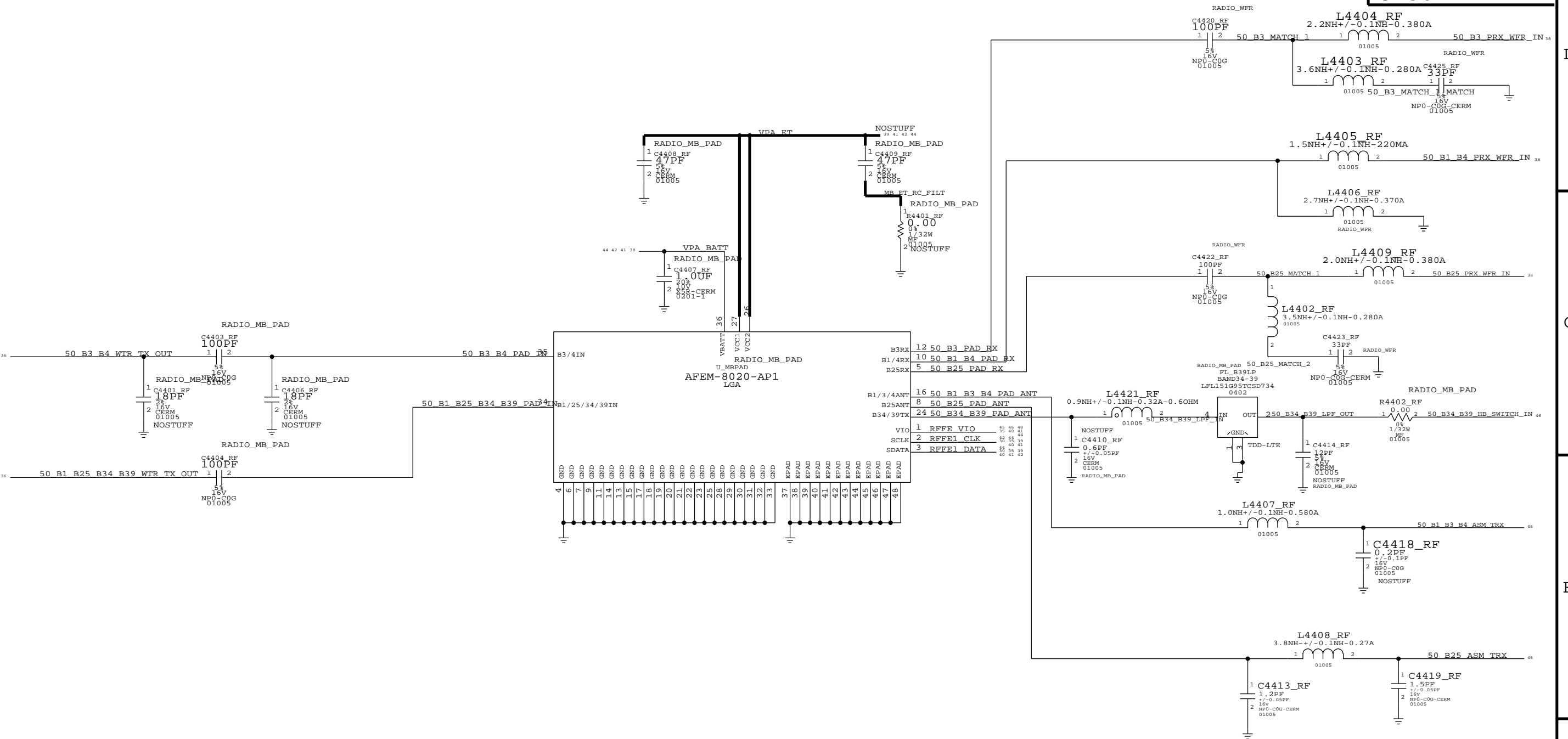
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# MID BAND PAD (B1, B25, B3, B4, B34, B39)

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C4426\_RF  
R1500  
L4409\_RF  
U1501

D  
C  
B  
A



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

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C4533_RF
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L1616
U1601

D

D

C

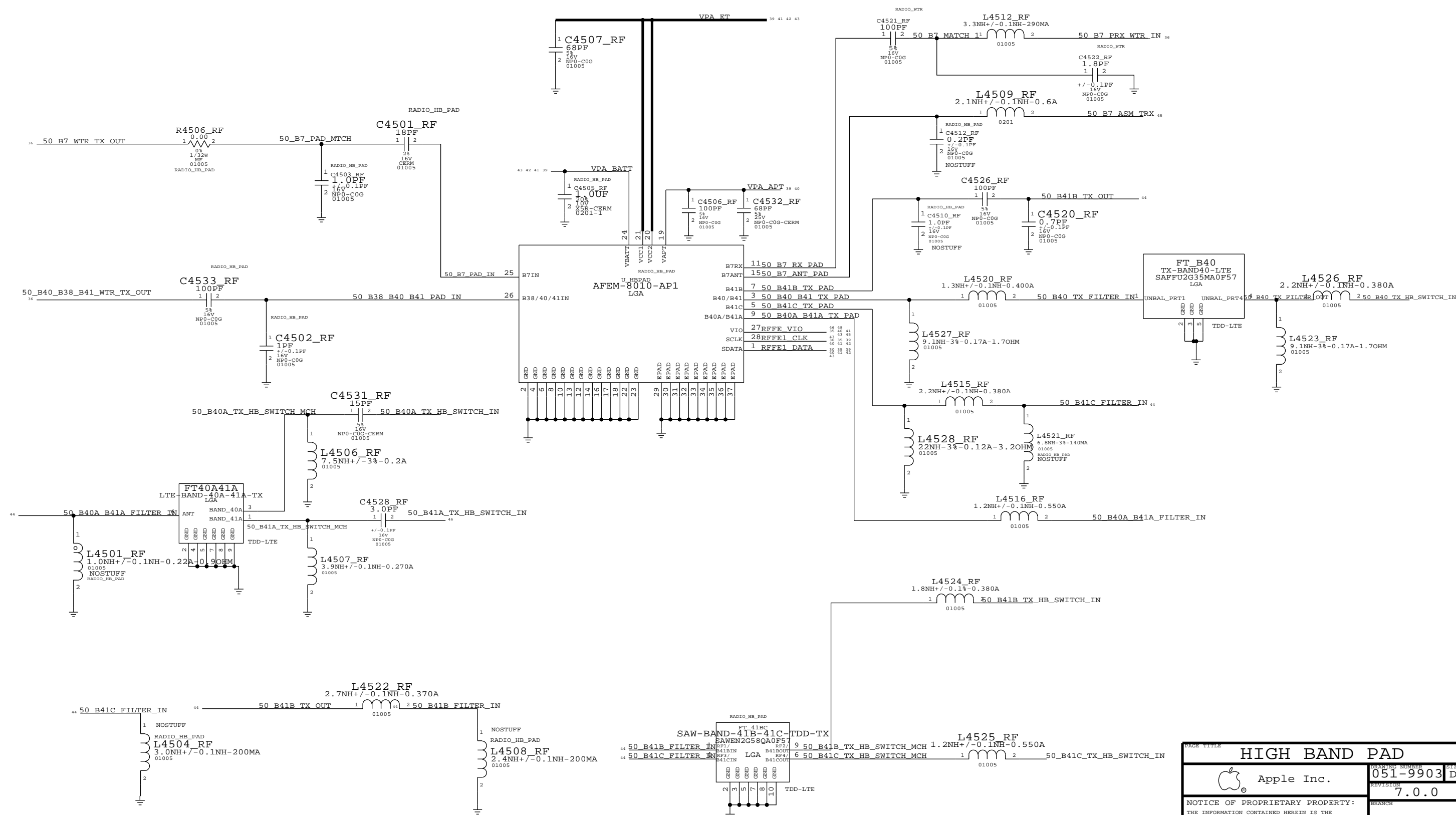
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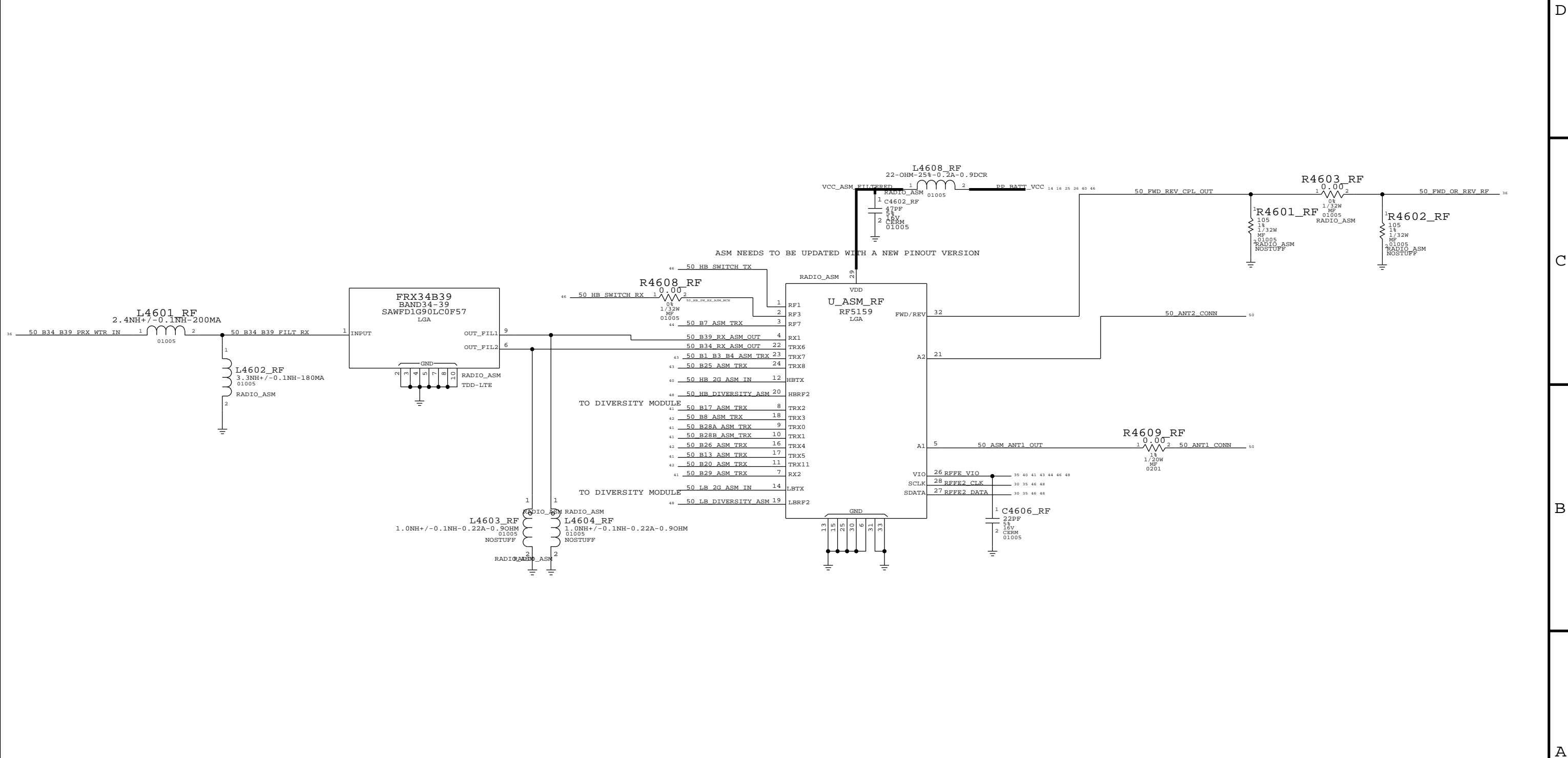


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# ANTENNA SWITCH

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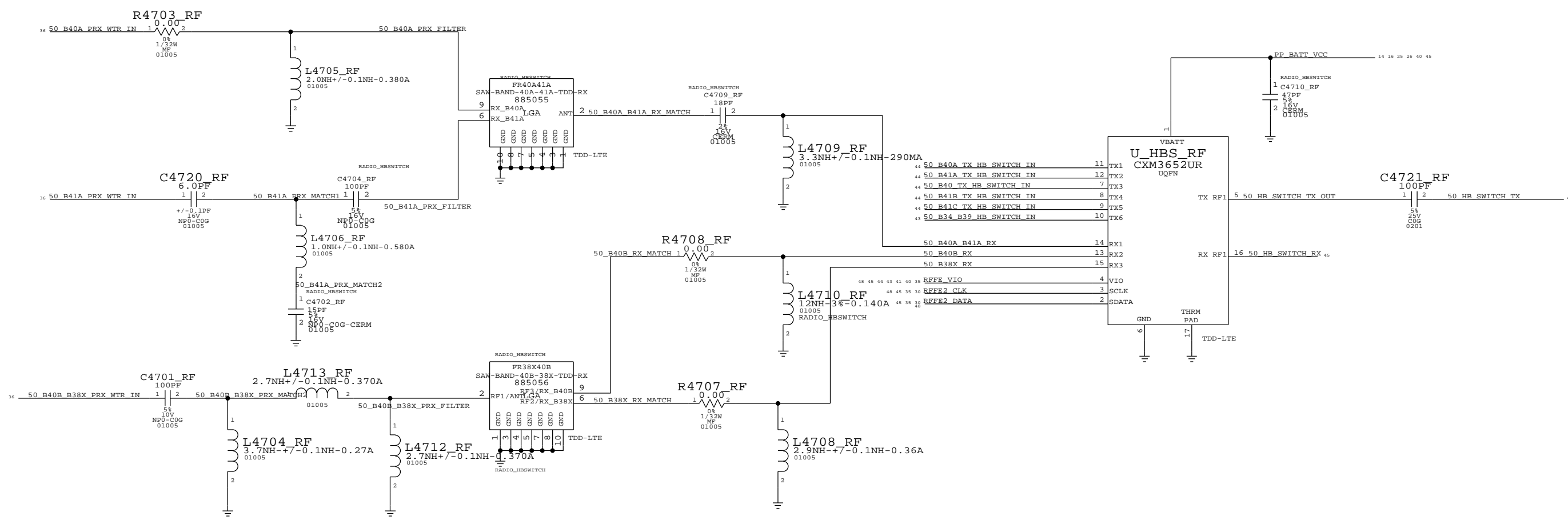
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# HIGH BAND SWITCH

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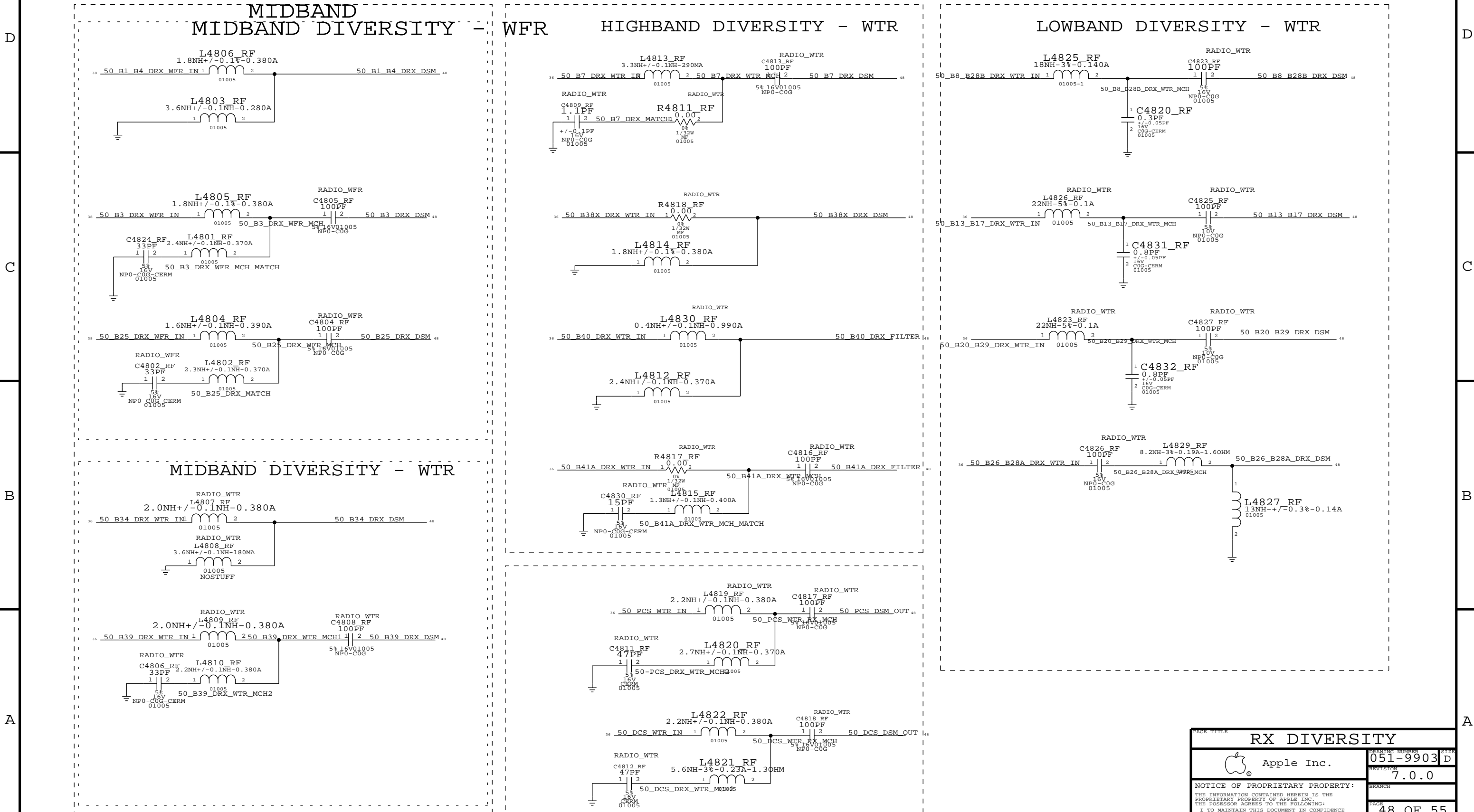
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REVISION			7.0.0			BRANCH					
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# RX DIVERSITY (1)

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U1801

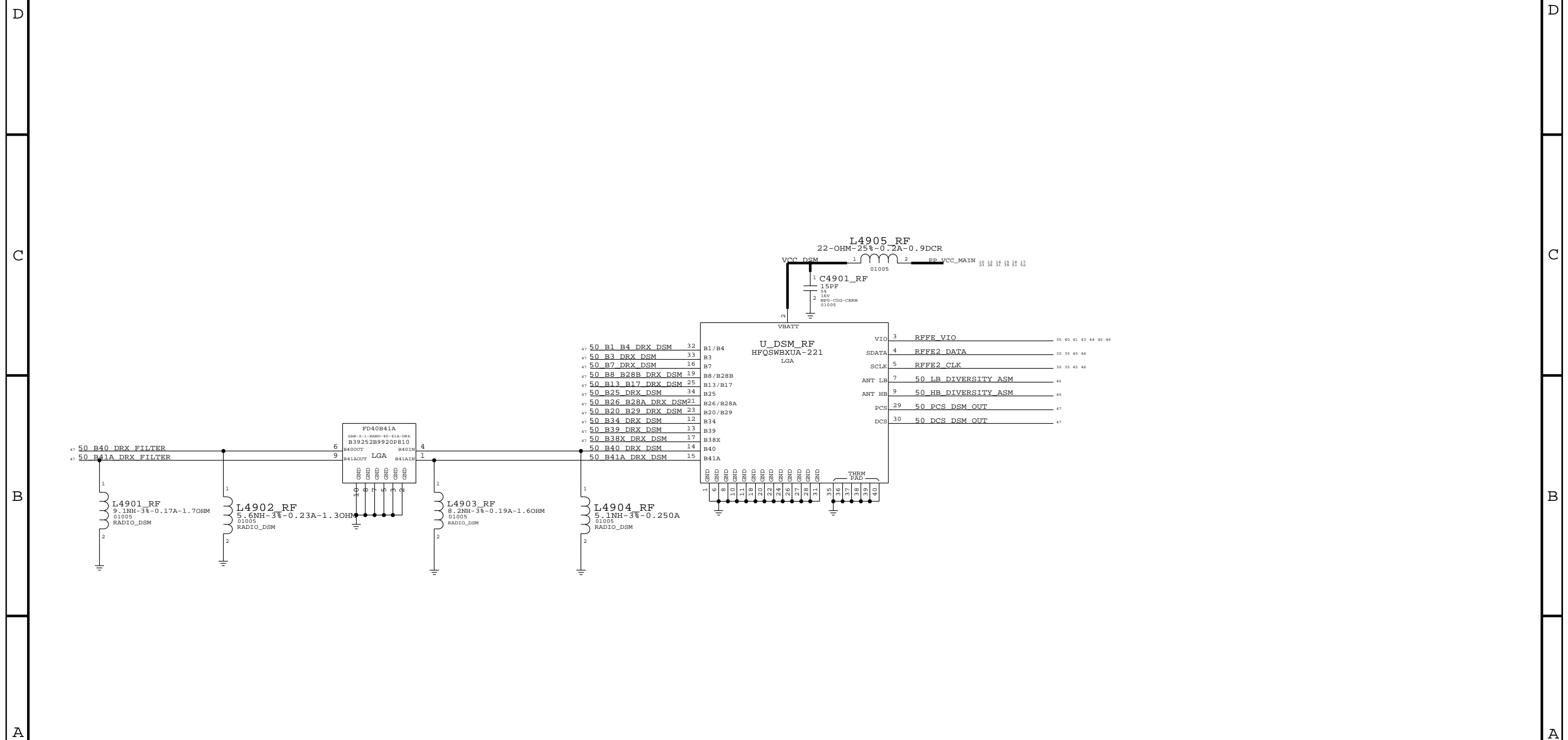


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# RX DIVERSITY (2)

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C1900
R1900
L1900
U1901



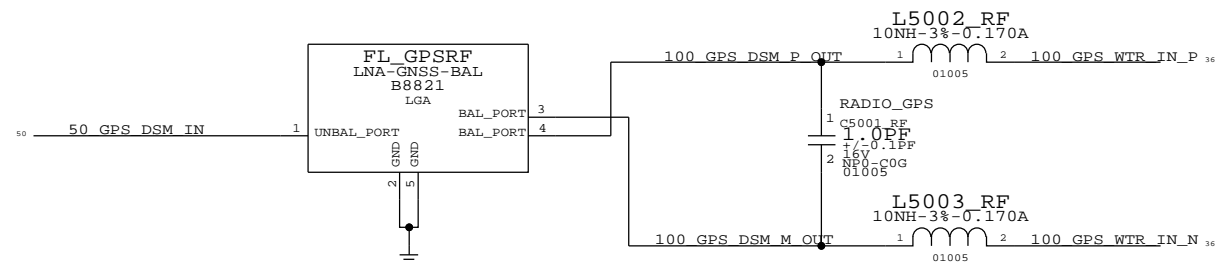
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# GPS

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C1900
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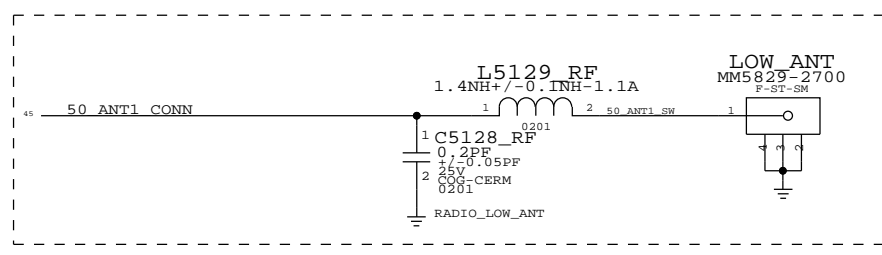
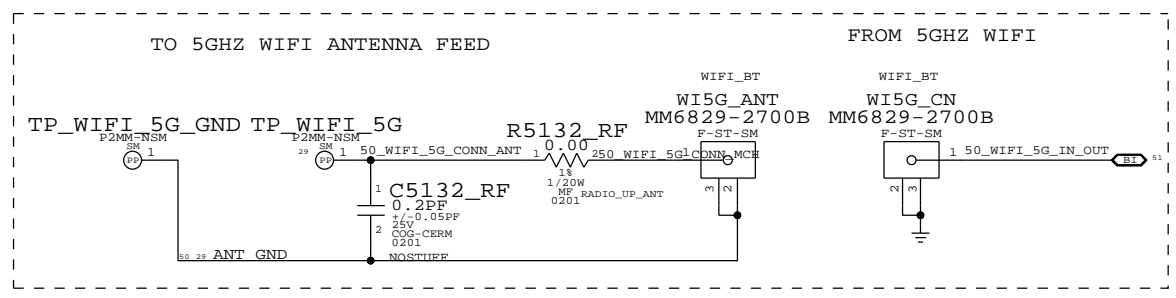
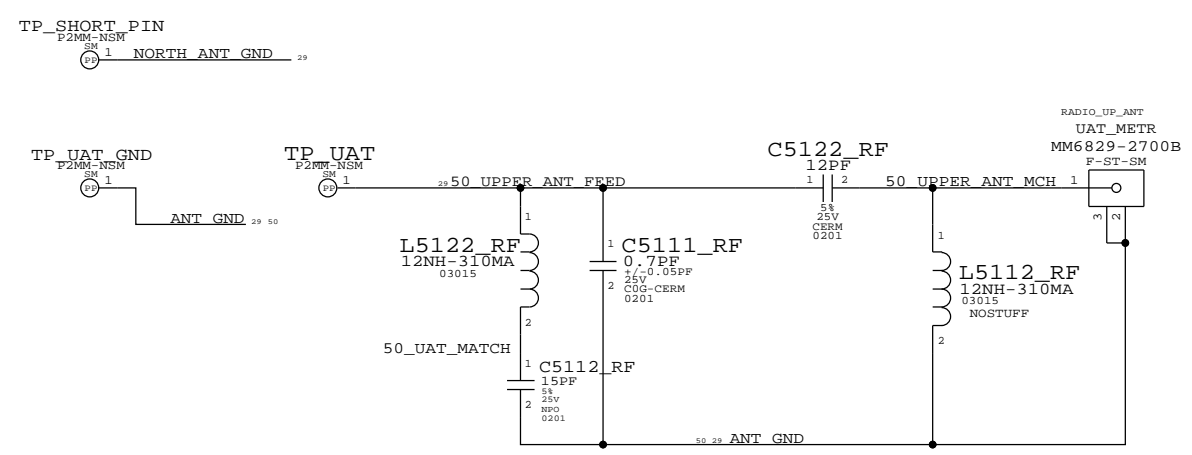
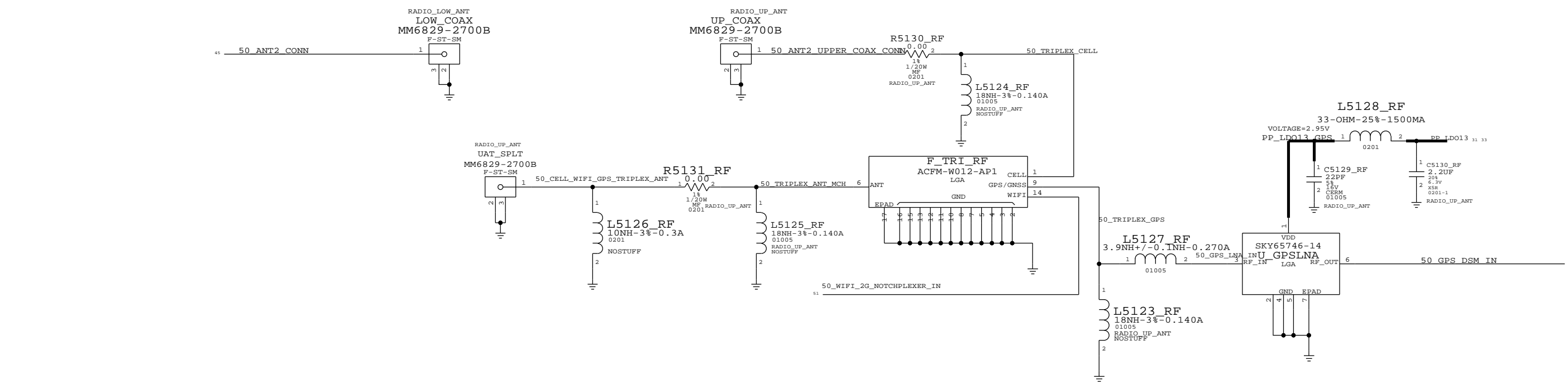


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# ANTENNA FEED'S

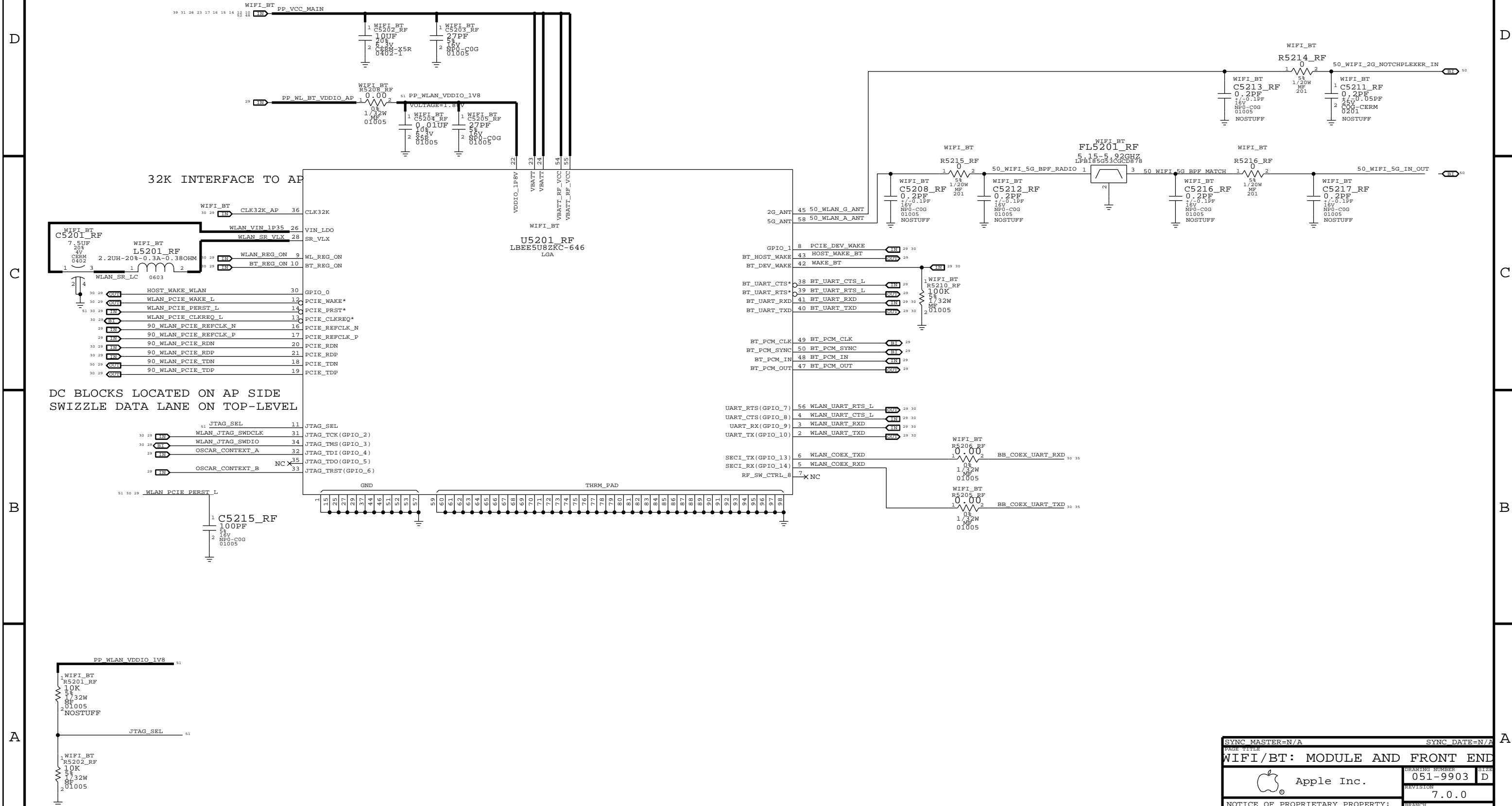
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TEST & COAX CONNECTOR FOR LOWER SECTION OF MLB



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# WLAN/BT



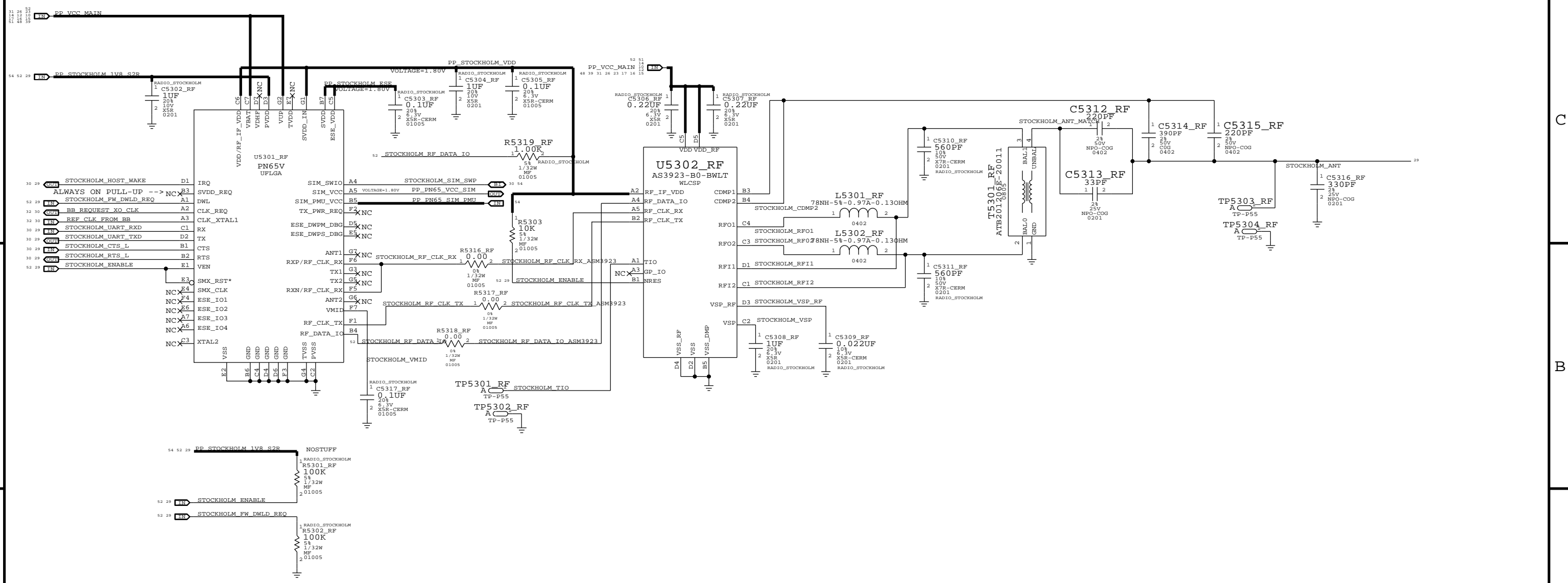
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# STOCKHOLM

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C2101
R2100
L2102
U2100

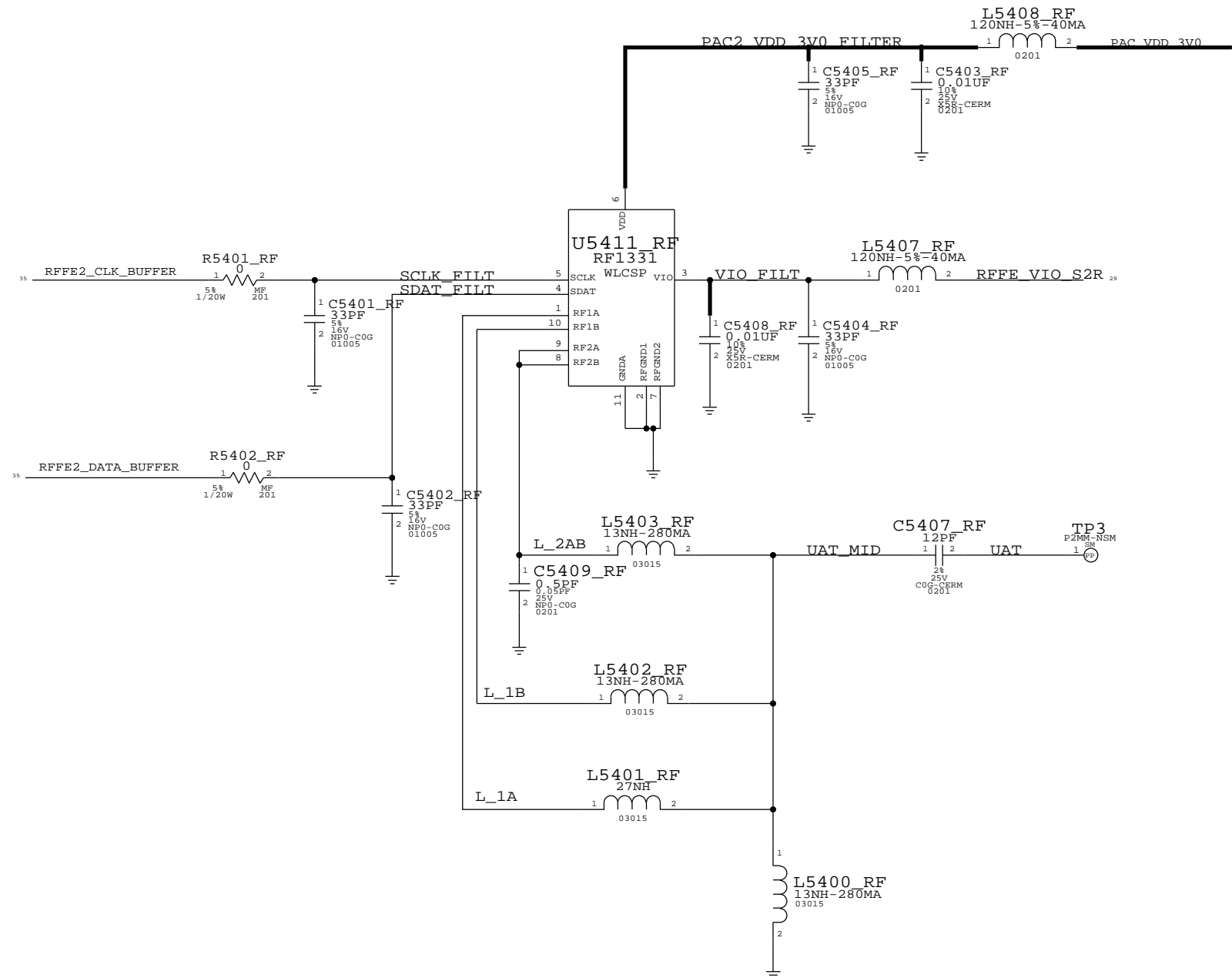
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BECAUSE OF OTHER BULK CAPS IN LAYOUT




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## UAT JUMPER

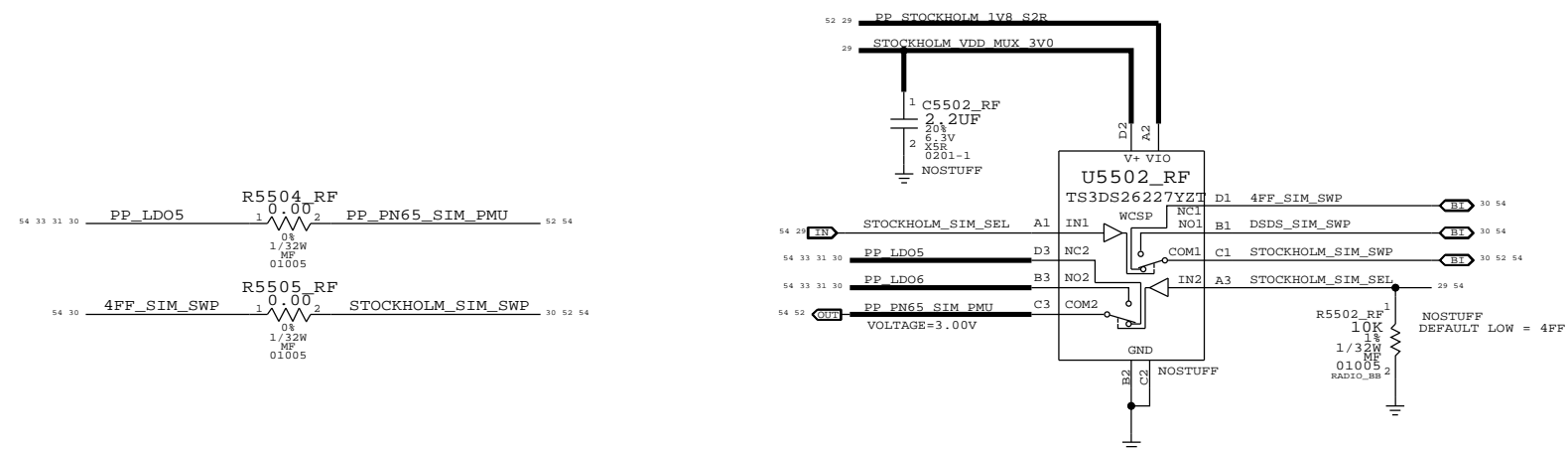
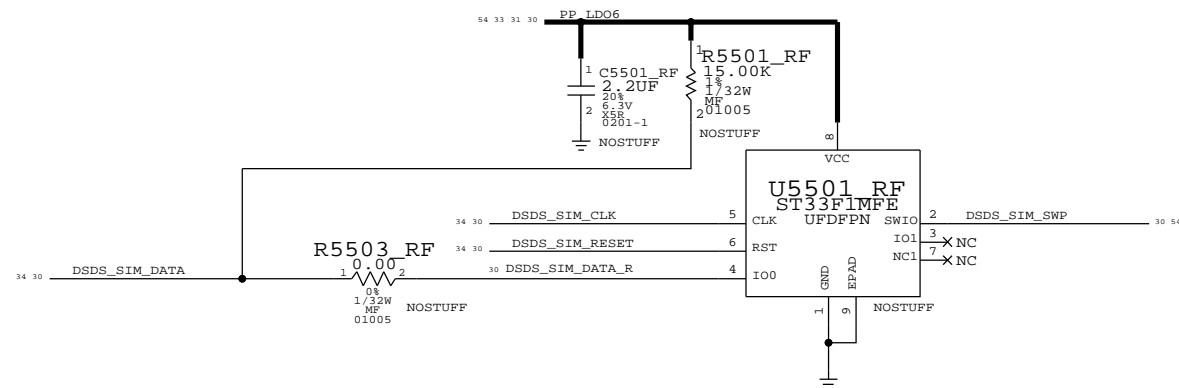


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# DSDS

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