

VIETMOBILE.VN

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.

REV	ECN	DESCRIPTION OF REVISION	CK APPD	DATE
4	0003980769	ENGINEERING RELEASED		2015-03-27

# N66 MLB - EVT\_MD

LAST\_MODIFICATION= Tue Mar 24 12:47:11 2015

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SCH 051-00094  
 BRD 820-00040  
 MCO 056-00472

BOM 639-00299 (BETTER)  
 BOM 639-00301 (ULTRA)  
 BOM 639-00302 (SUPREME)  
 BOM 639-01063 (BETTER, RF2)  
 BOM 639-01064 (ULTRA, RF2)  
 BOM 639-01065 (SUPREME, RF2)  
 BOM 639-01116 (BETTER, RFC)  
 BOM 639-01117 (ULTRA, RFC)  
 BOM 639-01118 (SUPREME, RFC)

BOM 639-01119 (BETTER, M)  
 BOM 639-01122 (ULTRA, M)  
 BOM 639-01125 (SUPREME, M)  
 BOM 639-01120 (BETTER, RF2, M)  
 BOM 639-01123 (ULTRA, RF2, M)  
 BOM 639-01126 (SUPREME, RF2, M)  
 BOM 639-01121 (BETTER, RFC, M)  
 BOM 639-01124 (ULTRA, RFC, M)  
 BOM 639-01127 (SUPREME, RFC, M)



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DRAWING TITLE		SCHEM,MLB,N66	
Apple Inc.	DRAWING NUMBER	051-00094	SIZE
	REVISION	4.0.0	D
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## Active Diode Alternate

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
376S00106	376S00047	ALTERNATE	Q2300	DIODES INC. ACT DIODE

## NAND BOM Options

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00039	1	NAND_T,80,1Y,MLC,16GB,818,VLDG70	U1500	CRITICAL	NAND_16G
335S00040	1	NAND_T,80,1Y,MLC,64GB,818,VLDG70	U1500	CRITICAL	NAND_64G
335S00079	1	NAND_H,80,1Y,TLC,128GB,818,VLDG70	U1500	CRITICAL	NAND_128G

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00074	335S00039	ALTERNATE	U1500	H, 80, 1Y, MLC, 16Gb8
335S00075	335S00040	ALTERNATE	U1500	H, 80, 1Y, MLC, 64Gb8
335S00078	335S00040	ALTERNATE	U1500	H, 80, 1Y, TLC, 64Gb8
335S00082	335S00040	ALTERNATE	U1500	T, 80, 1Z, TLC, 64Gb8
335S00064	335S00040	ALTERNATE	U1500	S, 80, 1Z, TLC, 64Gb8
335S00083	335S00079	ALTERNATE	U1500	T, 80, 1Z, TLC, 128Gb8
335S00065	335S00079	ALTERNATE	U1500	S, 80, 1Z, TLC, 128Gb8

## Carbon BOM Options

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
338S1163	1	DISCRETE ACCEL, BOSCH	U3030	CRITICAL	NOSTUFF
338S1163	1	DISCRETE ACCEL, BOSCH	U3030	CRITICAL	CARBON_INVENSENSE
338S00017	1	CARBON, INVENSENSE	U3010	CRITICAL	CARBON_INVENSENSE
132S0395	1	C3013, 0.10UF, INVENSENSE OPTION	C3013	CRITICAL	CARBON_INVENSENSE
338S00029	1	CARBON, ST	U3010	CRITICAL	CARBON_ST
132S0391	1	C3013, 0.01UF, ST OPTION	C3013	CRITICAL	CARBON_ST
338S00087	1	CARBON, INVENSENSE MPU-6800	U3010	CRITICAL	CARBON_INVENSENSE_6800
132S0395	1	C3013, 0.10UF, INVENSENSE OPTION	C3013	CRITICAL	CARBON_INVENSENSE_6800

## Power Inductor Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S00117	152S00074	ALTERNATE	\$?	IND, 10UH, 1.2A, 0.005 OHM, 2015
152S00118	152S00075	ALTERNATE	\$?	IND, 10UH, 1.2A, 0.005 OHM, 2015
152S00120	152S00077	ALTERNATE	\$?	IND, 10UH, 1.2A, 0.005 OHM, 2015
152S00121	152S00081	ALTERNATE	\$?	IND, 10UH, 1.2A, 0.005 OHM, 2015
152S00123	152S1936	ALTERNATE	\$?	IND, 10UH, 1.2A, 0.005 OHM, 2015
152S2052	152S1929	ALTERNATE	\$?	IND, 10UH, 1.2A, 0.005 OHM, 2015

## SIM Callouts

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
512S00013	1	SIM, Integrated Eject, N66	J3001_RF	CRITICAL	COMMON

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
512S00015	512S00013	ALTERNATE	J3001_RF	SIM, INTEGRATED EJECT, N71

NOTE: Revisit for Carrier

## Shield Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
613-01503	806-02349	ALTERNATE	SH0500	Upper Front shield
613-01504	806-02350	ALTERNATE	SH0501	Lower Front shield
806-02655	806-02352	ALTERNATE	SH0503	Upper Back shield
806-03410	806-02352	ALTERNATE	SH0503	Upper Back shield
806-02656	806-02353	ALTERNATE	SH0504	Lower Back shield
806-03411	806-02353	ALTERNATE	SH0504	Lower Back shield

NOTE: Revisit for Carrier

## Schematic & PCB Callouts

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-00094	1	SCH,SINGLE_BRD,N66	SCH	CRITICAL	?
820-00040	1	PCBF,SINGLE_BRD,N66	PCB	CRITICAL	?
825-6838	1	EEEE CODE FOR 639-00299	EEEE_G360	CRITICAL	EEEE_BETTER
825-6838	1	EEEE CODE FOR 639-00301	EEEE_G35W	CRITICAL	EEEE_ULTRA
825-6838	1	EEEE CODE FOR 639-00302	EEEE_G35V	CRITICAL	EEEE_SUPREME
825-6838	1	EEEE CODE FOR 639-01063	EEEE_GKXY	CRITICAL	EEEE_BETTER_RF2
825-6838	1	EEEE CODE FOR 639-01064	EEEE_GKL0	CRITICAL	EEEE_ULTRA_RF2
825-6838	1	EEEE CODE FOR 639-01065	EEEE_GKL1	CRITICAL	EEEE_SUPREME_RF2
825-6838	1	EEEE CODE FOR 639-01116	EEEE_GLL7	CRITICAL	EEEE_BETTER_RFC
825-6838	1	EEEE CODE FOR 639-01117	EEEE_GLL4	CRITICAL	EEEE_ULTRA_RFC
825-6838	1	EEEE CODE FOR 639-01118	EEEE_GLL1	CRITICAL	EEEE_SUPREME_RFC
825-6838	1	EEEE CODE FOR 639-01119	EEEE_GLL2	CRITICAL	EEEE_BETTER_M
825-6838	1	EEEE CODE FOR 639-01122	EEEE_GLL3	CRITICAL	EEEE_ULTRA_M
825-6838	1	EEEE CODE FOR 639-01125	EEEE_GLL6	CRITICAL	EEEE_SUPREME_M
825-6838	1	EEEE CODE FOR 639-01120	EEEE_GLL8	CRITICAL	EEEE_BETTER_RF2_M
825-6838	1	EEEE CODE FOR 639-01123	EEEE_GLL0	CRITICAL	EEEE_ULTRA_RF2_M
825-6838	1	EEEE CODE FOR 639-01126	EEEE_GLLC	CRITICAL	EEEE_SUPREME_RF2_M
825-6838	1	EEEE CODE FOR 639-01121	EEEE_GLKY	CRITICAL	EEEE_BETTER_RFC_M
825-6838	1	EEEE CODE FOR 639-01124	EEEE_GLL5	CRITICAL	EEEE_ULTRA_RFC_M
825-6838	1	EEEE CODE FOR 639-01127	EEEE_GLL9	CRITICAL	EEEE_SUPREME_RFC_M

## PMU/SOC BOM Options

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
998-01699	1	IC,PMU,APR2020,A0,A2,2000HM,2100B,CDF380	U2000	POR
118S0631	1	RES,MP,100 OHM,14,1/32W,01005	R0730	POR
131S0307	1	CAP,CER,NPO/COG,100PF,5A,16V,01005	C0730	POR
339S00057	1	DEV FUSED, H DRAM	U0600	POR

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
998-02438	1	IC,PMU,APR2020,A0,A2,2000HM,2100B,CDF380	U2000	M
118S00009	1	RES,MP,3.01KOHM,14,1/32W,01005	R0730	M
131S0307	1	CAP,CER,NPO/COG,100PF,5A,16V,01005	C0730	NOSTUFF
339S00067	1	M DEV FUSED, M DRAM	U0600	M

## Maui AP Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
339S00058	339S00057	ALTERNATE	U0600	DEV FUSED, M DRAM
339S00059	339S00057	ALTERNATE	U0600	DEV FUSED, S DRAM
339S00068	339S00067	ALTERNATE	U0600	M DEV FUSED, M DRAM

## Low Noise Caps

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
138S0867	3	CAP,X5R,100P,20V,6,3V,0.40MM,HEX12L,0402	C2085, C2086, C2087	CAPS_NORMAL
998-01223	3	CAP,X5R,100P,20V,6,3V,0.40MM,HEX12L,0402	C2085, C2086, C2087	CAPS_LOW_NOISE

## SEP EEPROM Alternate

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00066	335S0946	ALTERNATE	U0900	IC,EEPROM,1024B,1,9V,1.5C,WC001,000001

## Global Capacitor Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
118S0764	118S0717	ALTERNATE	?	RES, 3.92K, 0.1%, 0201
138S0702	138S0657	ALTERNATE	?	CAP, X5R, 4.7UF, 4V, 0610
138S00006	138S0835	ALTERNATE	?	CAP, S-TERR, 4.7UF, 4V, 0402
138S00005	138S00003	ALTERNATE	?	CAP, X5R, 100P, 6.3V, 0.40MM, 0402, TAIYO
138S00048	138S00003	ALTERNATE	?	CAP, X5R, 100P, 6.3V, 0.40MM, 0402, KYOCERA
138S0648	138S0652	ALTERNATE	?	CAP, X5R, 4.7UF, 4V, 0.40MM, 0402, TAIYO
132S0400	132S0436	ALTERNATE	?	CAP, X5R, 0.22UF, 6.3V, 01005, TDK
138S00032	138S0831	ALTERNATE	?	CAP, X5R, 2.2UF, 6.3V, 0201, TAIYO
138S00049	138S0831	ALTERNATE	?	CAP, X5R, 2.2UF, 6.3V, 0201, KYOCERA
138S00024	138S0986	ALTERNATE	?	CAP, X5R, 100P, 6.3V, 0402, TAIYO
138S0706	138S0739	ALTERNATE	?	CAP, X5R, 10P, 10V, 0402, 0201, MURATA
138S0945	138S0739	ALTERNATE	?	CAP, X5R, 10P, 10V, 0402, 0201, KYOCERA

## Global Ferrite Alternates


PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S2052	152S1929	ALTERNATE	?	IND, 1UH, 1.2A, 0603
155S0773	155S0453	ALTERNATE	?	FERR, 1200HM, 0.80MM DCR, 01005
155S0653	155S0511	ALTERNATE	?	FERR, 330HM, 0.050MM DCR, 0201
155S00067	155S0581	ALTERNATE	?	FERR, 2400HM, 0.350MM DCR, 0201
155S00012	155S00009	ALTERNATE	?	FLTR, 65 OHMS, 0605
155S0960	155S0941	ALTERNATE	?	FERR, 70 OHMS, 01005

## Global Varistor Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
377S0168	377S0140	ALTERNATE	?	VARISTOR, 6KV, 150PF, 01005

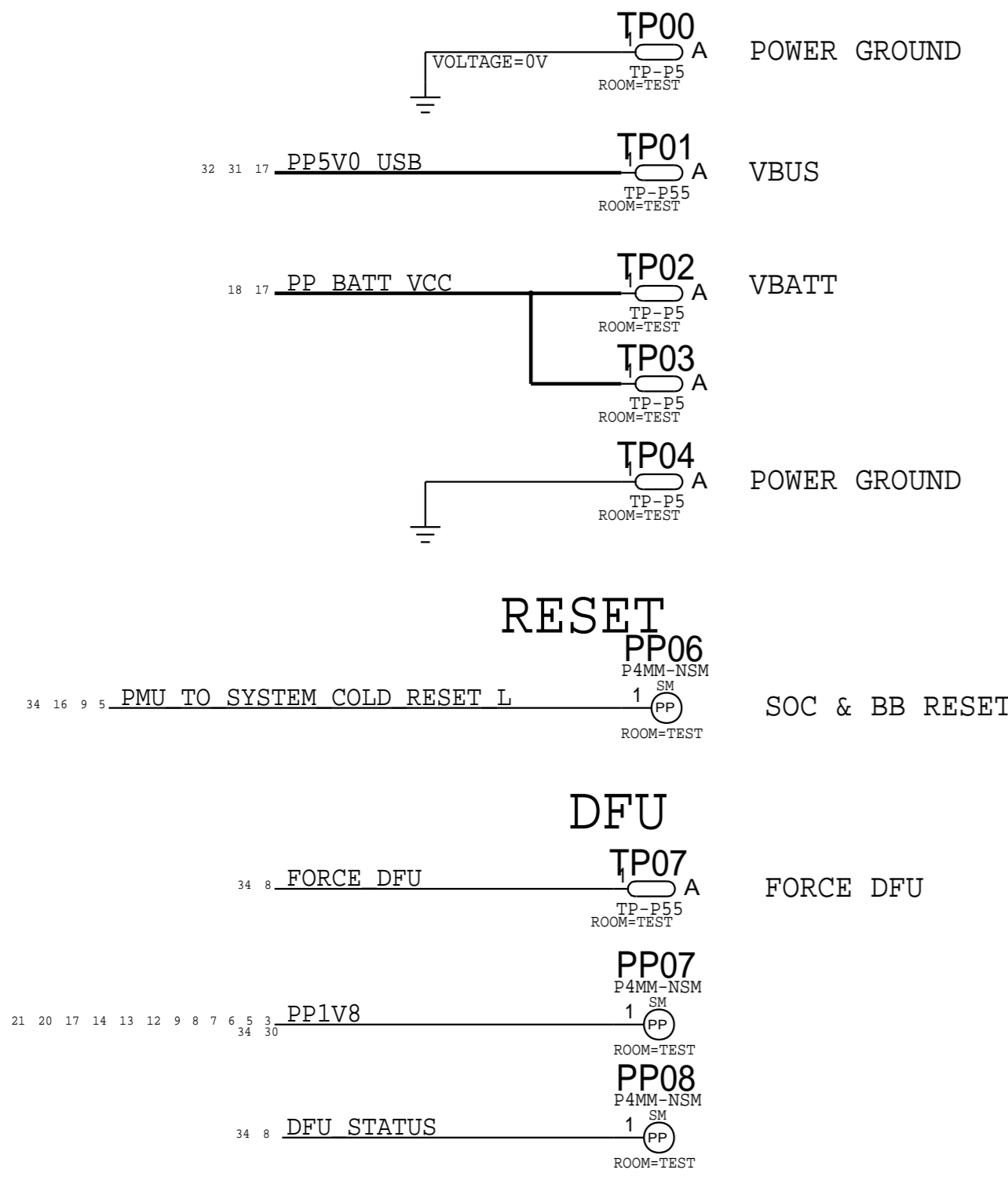
## DDR PLL Alternate

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
155S00095	155S00068	ALTERNATE	FL1280	FERR 90,1000HM,10A,100MM,020M,01005

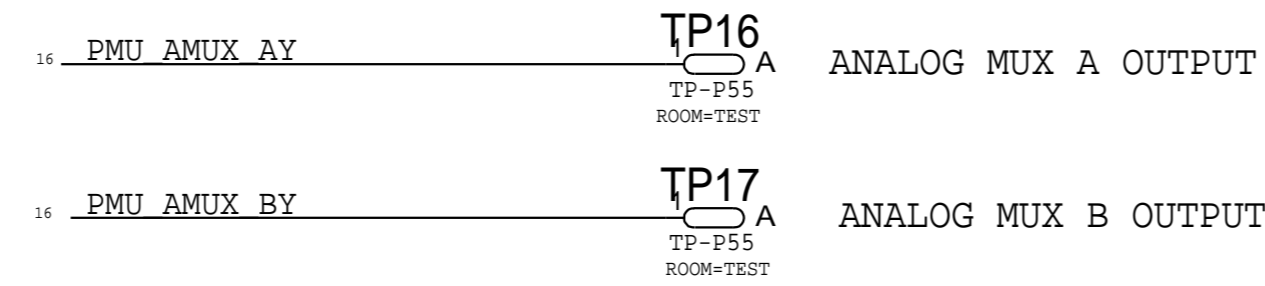
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# TESTPOINTS

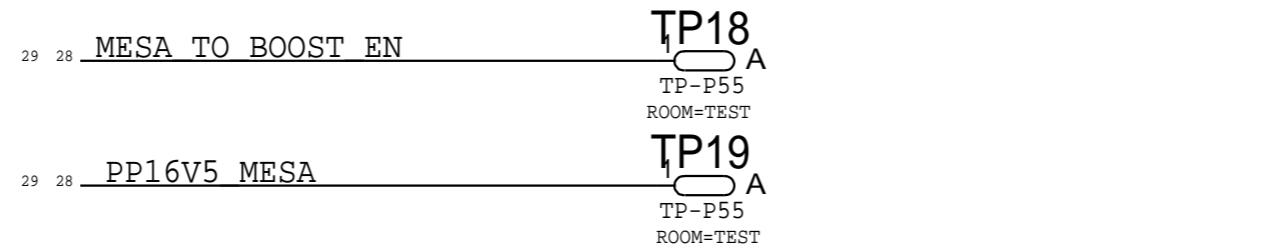
## POWER



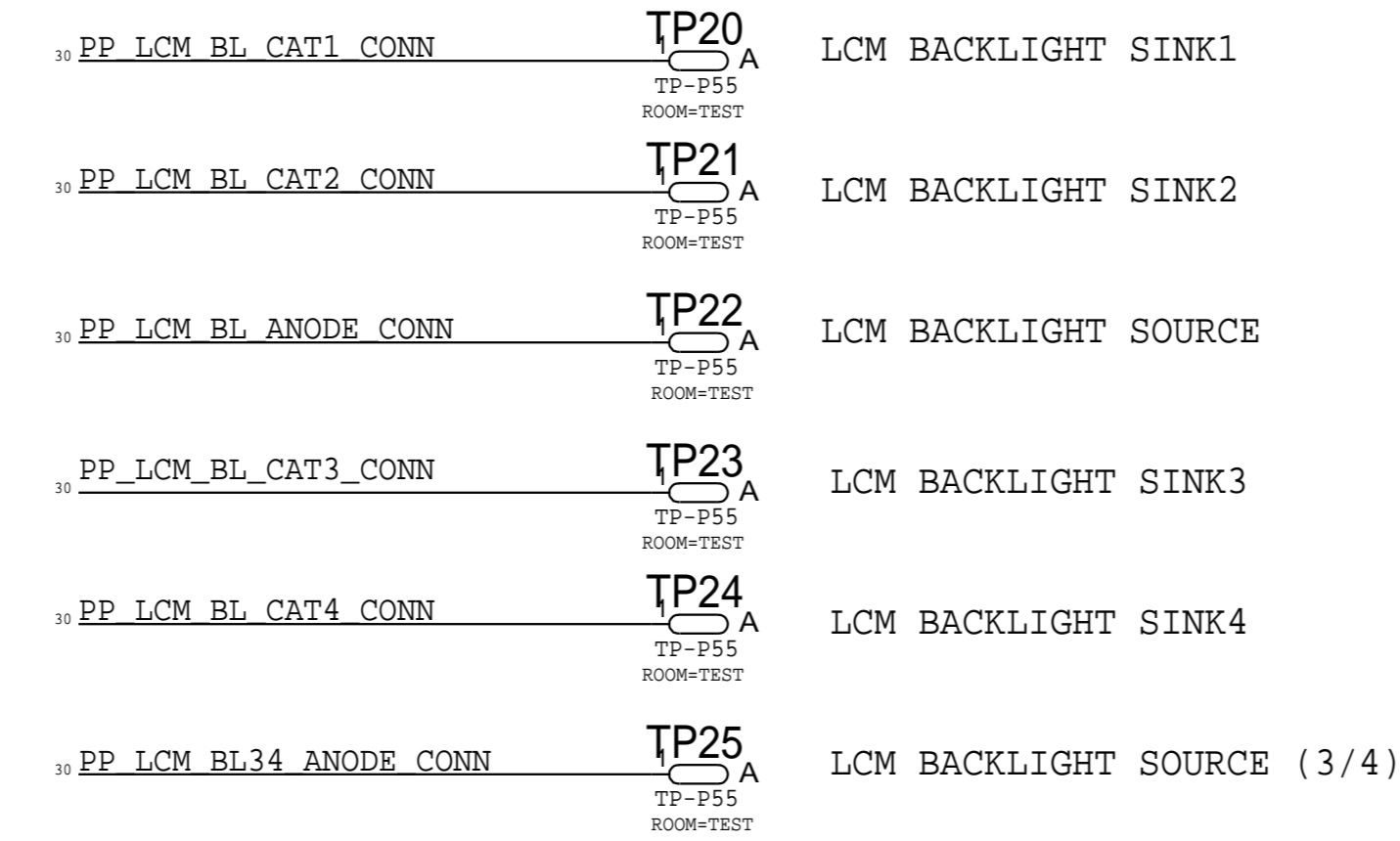
## AMUX



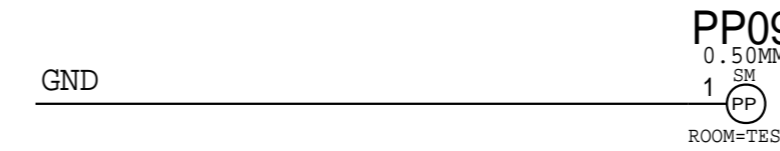
## MOJAVE



## LCM



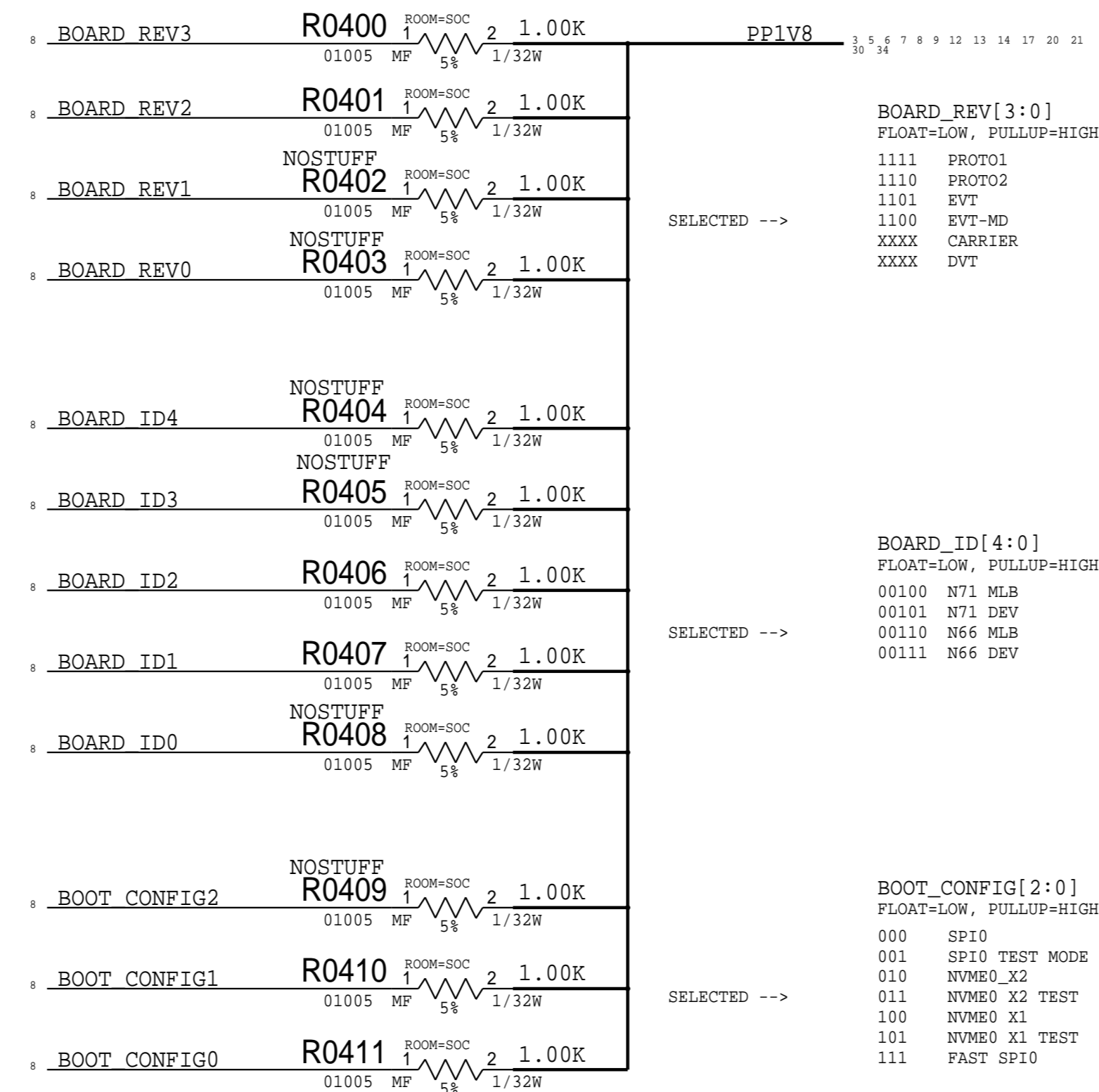
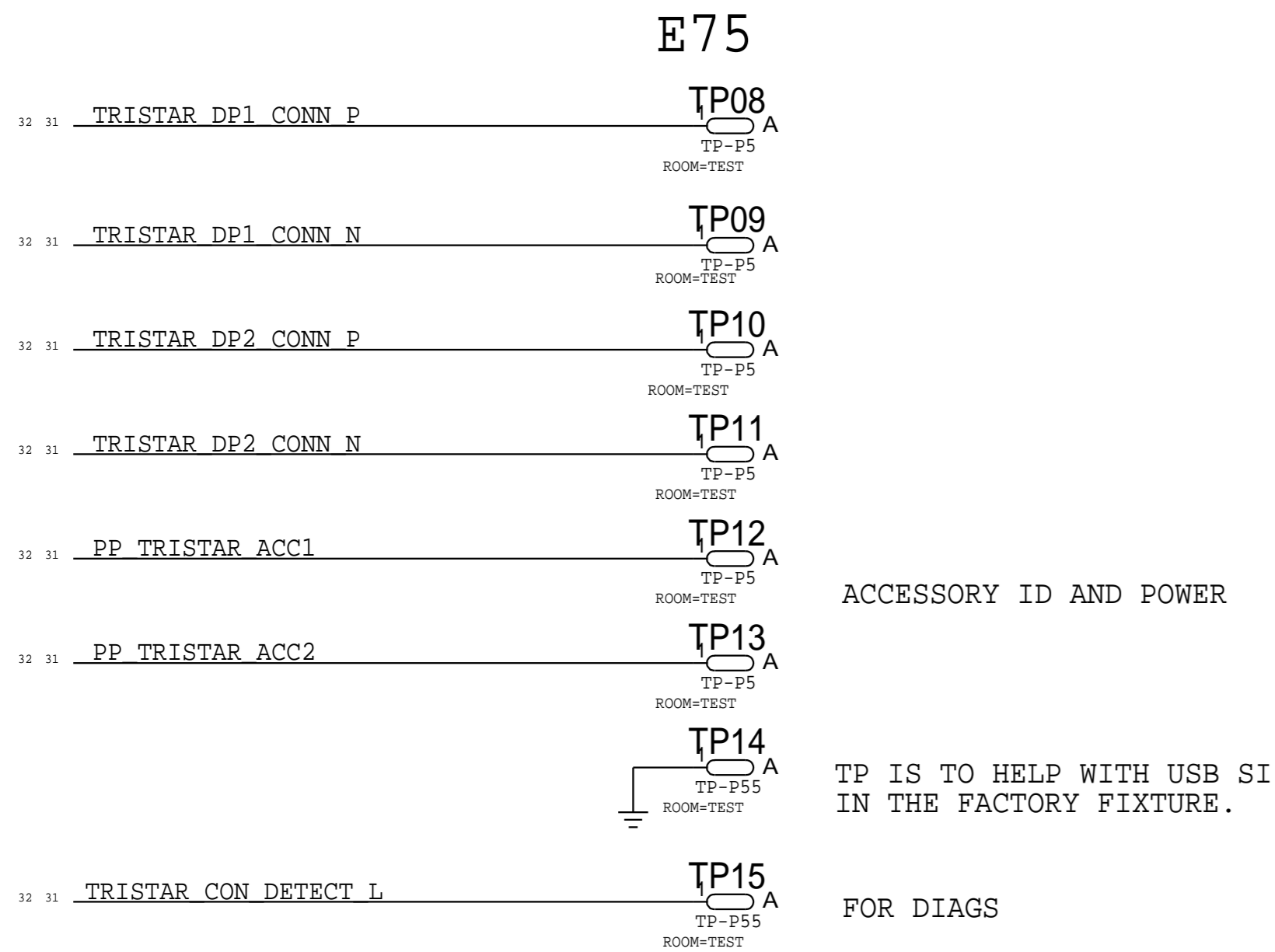
## UAT GND Ring Opening



## N66 I2C DEVICE MAP

I2C BUS	DEVICE	BINARY	7-BIT HEX	8-BIT HEX
I2C0	ANTIGUA PMU	1110100X	0X74	0XE8
	CHESTNUT	0100111X	0X27	0X4E
	BACKLIGHT 1	1100011X	0X62	0XC4
I2C1	TIGRIS	1110101X	0X75	0XE9
	ARC DRIVER	1000001X	0X41	0X82
	SPEAKER AMP	1000000X	0X40	0X80
	TRISTAR	0011010X	0X1A	0X34
I2C2	ALS	0101001X	0X29	0X52
	DISP EEPROM	1010001X	0X51	0XA2
OWL	UNUSED	N/A	N/A	N/A
	BACKLIGHT 2	1100011X	0X62	0XC4
ISP I2C0	REAR CAM	TBD	TBD	TBD
	LED DRIVER	1100011X	0X63	0XC6
ISP I2C1	FRONT CAM	0010000X	0X10	0X20
	TOUCH I2C	MESON	1000000X	0x40
TOUCH I2C	MAMBA	1100000X	0x60	0xc0
	DOPPLER	1011000X	0x58	0xb0
	SEP I2C	SEP EEPROM	1010001X	0x51

## BOOTSTRAPPING: BOARD REV BOARD ID BOOT CONFIG



PAGE TITLE		SYSTEM:N66 SPECIFIC	
Apple Inc.	DRAWING NUMBER	051-00094	SIZE
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6

5

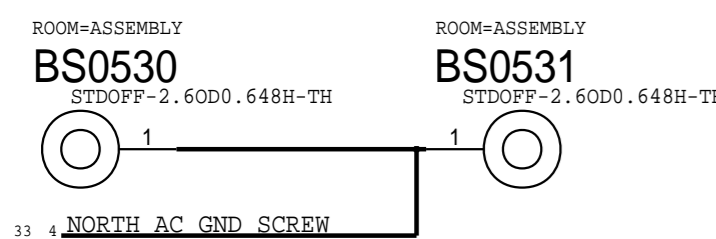
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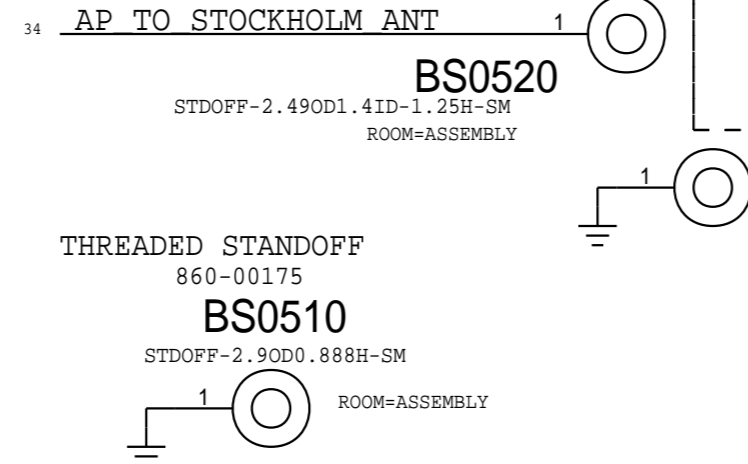
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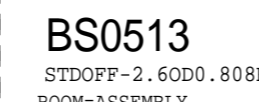
TUBE STANDOFF  
860-00177



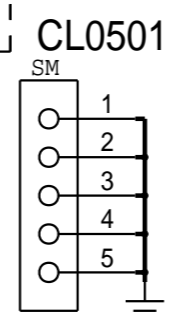
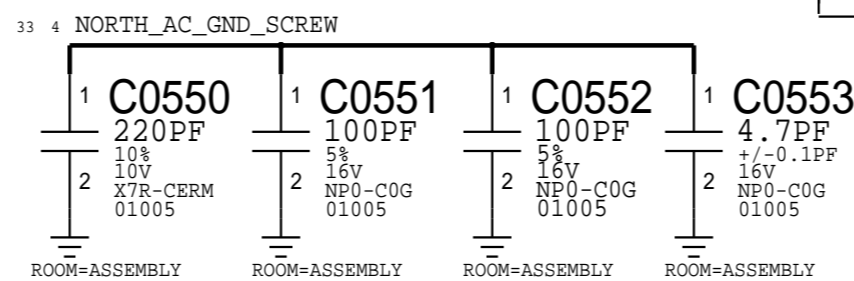
TUBE STANDOFF: STOCKHOLM FEED  
860-5189



TUBE STANDOFF  
860-00176



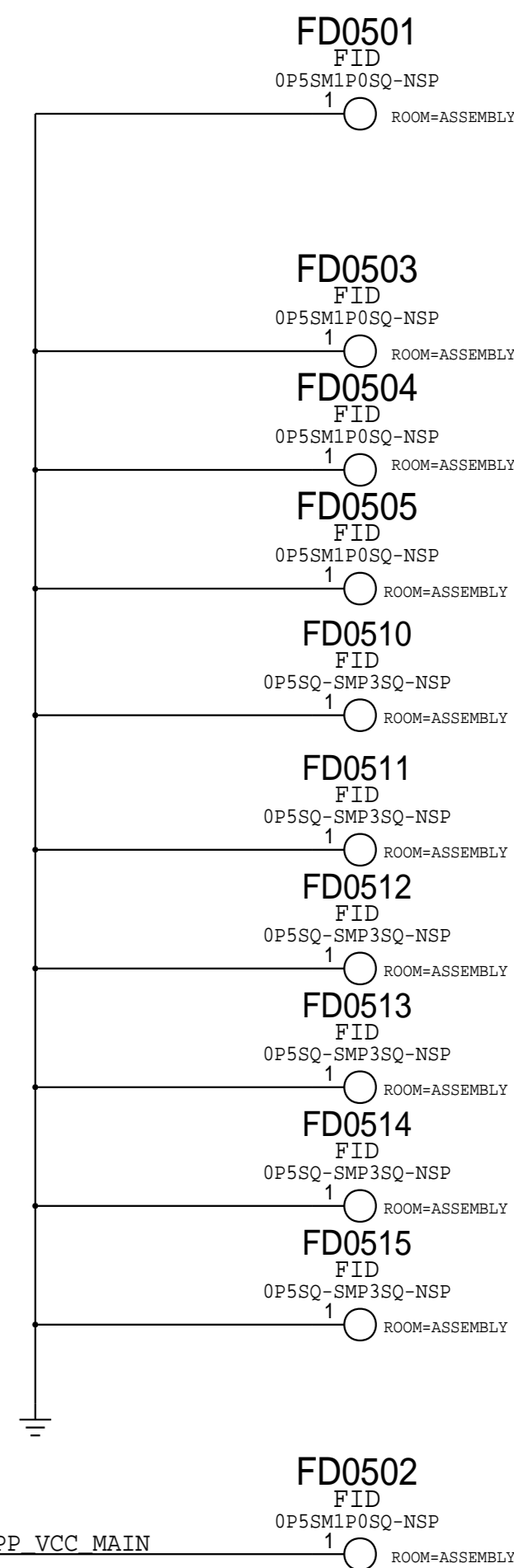
MLB NORTH PENINSULA AC CHASSIS SHORT  
(BLOCKS DC CURRENT THROUGH COMPASS REGION)



COAX CLIP BRACE  
806-02354

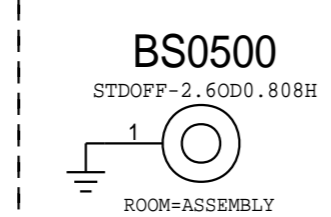
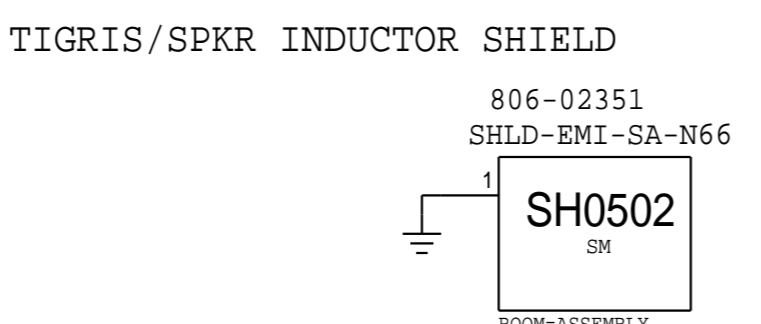
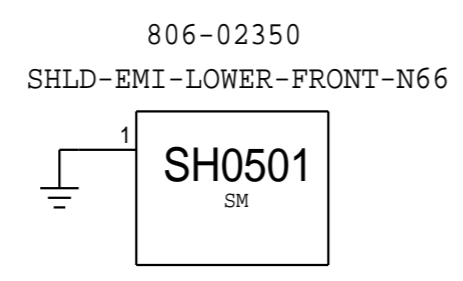
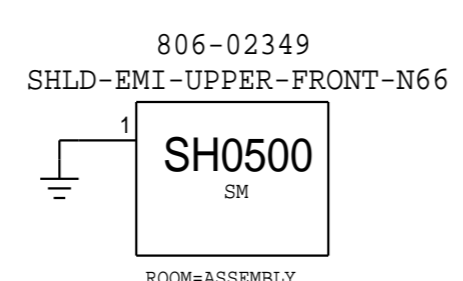
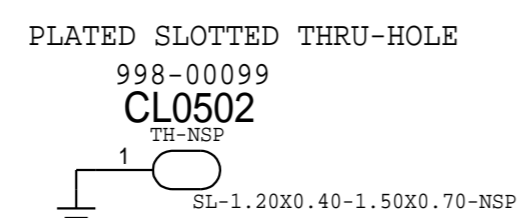
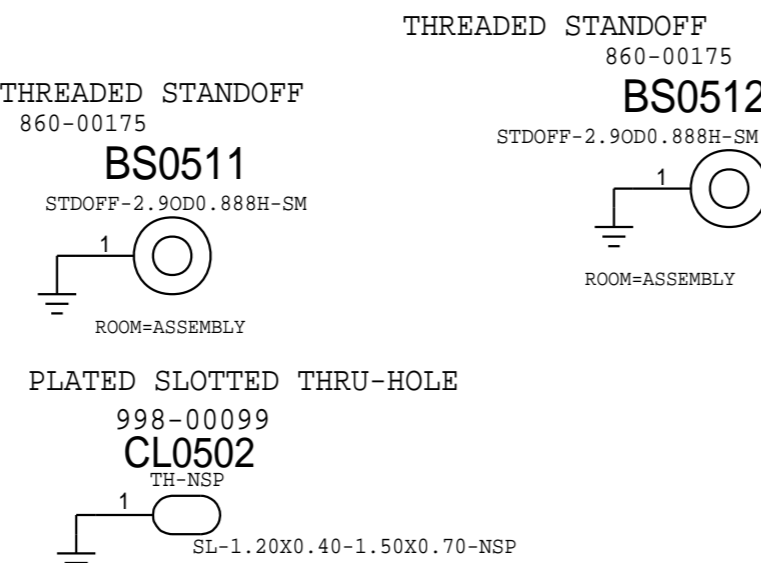
TUDO: TUNE AC CAPS FOR ANTENNA RF GND

FIDUCIALS

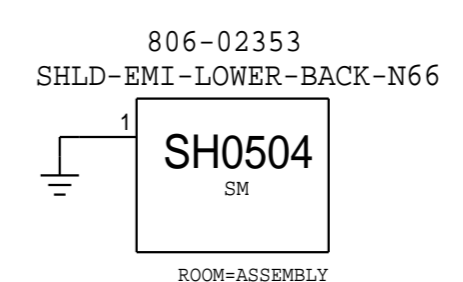
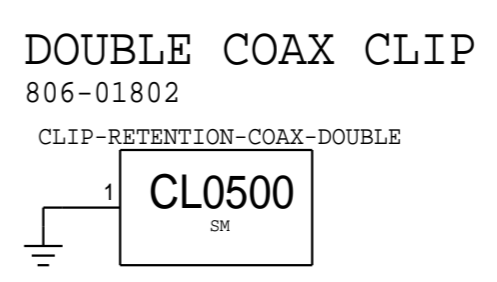
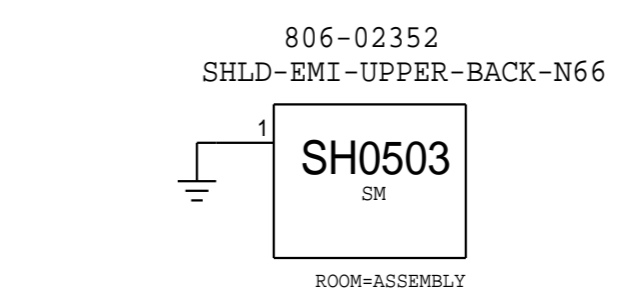


TOP SIDE

BOTTOM SIDE



SOUTH TUBE STANDOFF  
860-00176



PAGE TITLE		
SYSTEM: MECHANICAL COMPONENTS		
Apple Inc.	DRAWING NUMBER	051-00094
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	PAGE	5 OF 49
	SHEET	4 OF 60

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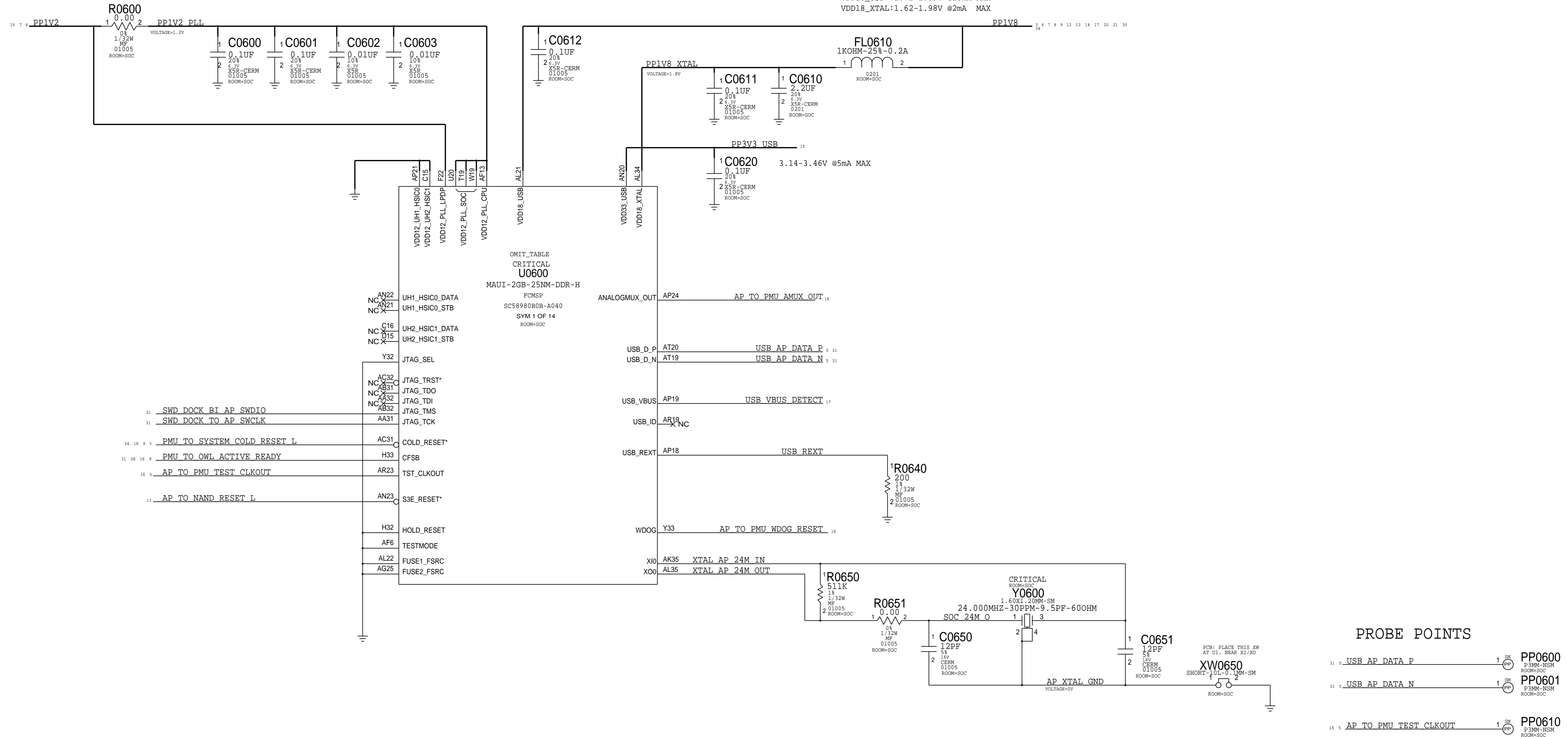
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1

# MAUI - USB, JTAG, XTAL

VDD12\_PLL\_LFDP: 1.14-1.26V @2mA MAX  
 VDD12\_PLL\_SOC: 1.14-1.26V @12mA MAX  
 VDD12\_PLL\_CPU: 1.14-1.26V @2mA MAX

VDD18\_USB: 1.71-1.89V @20mA MAX  
 VDD18\_XTAL: 1.62-1.98V @2mA MAX



## PROBE POINTS

- 31 USB AP DATA P 1 SM PP0600
- 31 USB AP DATA N 1 SM PP0601
- 16 AP TO PMU TEST CLKOUT 1 SM PP0610

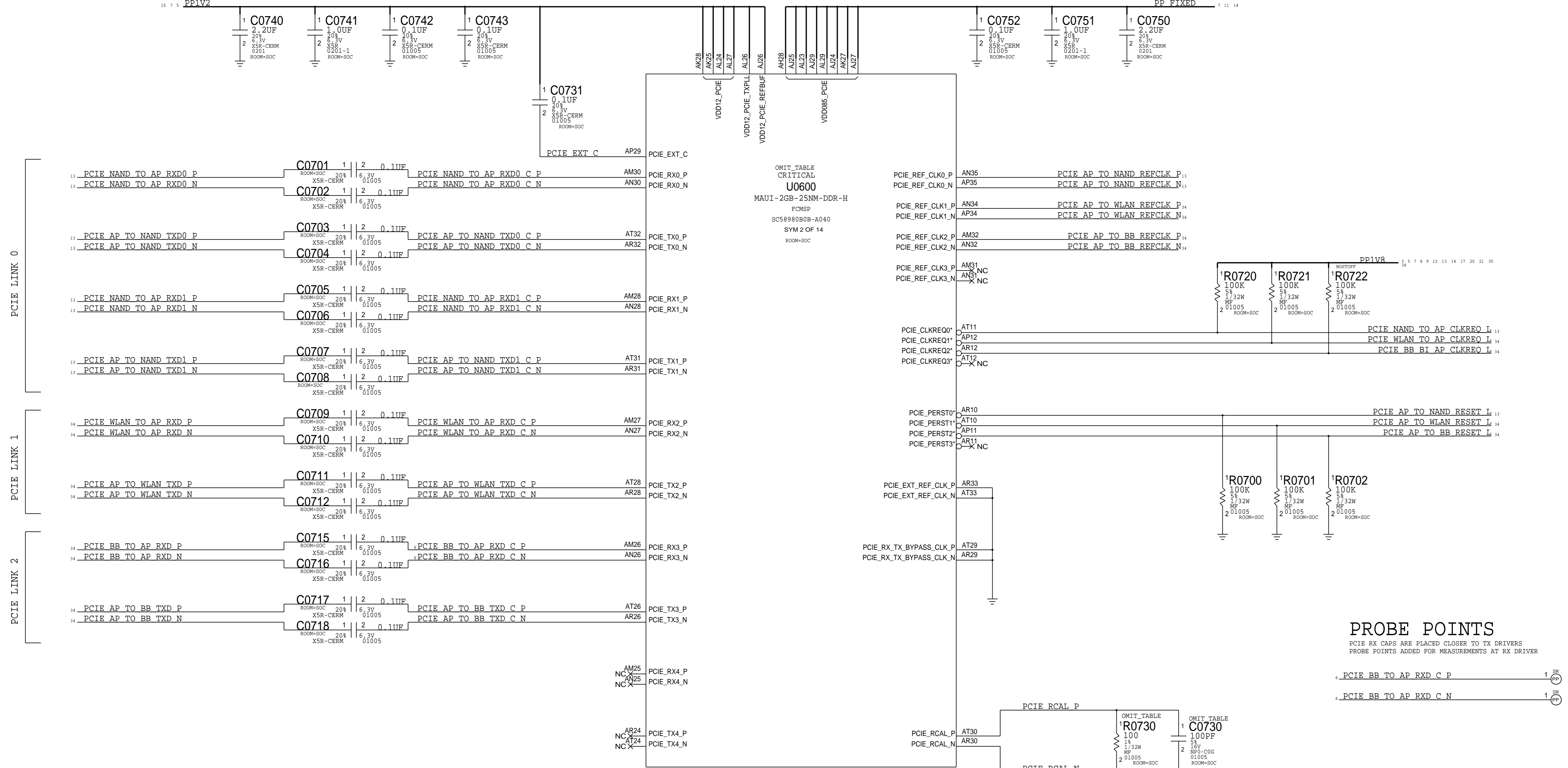
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PAGE	6 OF 49		BRANCH
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# MAUI - PCIE INTERFACES

VDD12\_PCIE\_REFBUF: 1.08-1.26V @50mA MAX  
 VDD12\_PCIE\_TXPLL: 1.08-1.32V @10mA MAX  
 VDD12\_PCIEB: 1.14-1.26V @115mA MAX  
 PPIV2

VDD085\_PCIE: 0.802-TBDV @TBDmA MAX

PP\_FIXED



## PROBE POINTS

PCIE RX CAPS ARE PLACED CLOSER TO TX DRIVERS  
 PROBE POINTS ADDED FOR MEASUREMENTS AT RX DRIVER

- PCIE BB TO AP RXD C P 1 PP0706
- PCIE BB TO AP RXD C N 1 PP0707

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# MAUI - CAMERA & DISPLAY INTERFACES

8 7 6 5 4 3 2 1

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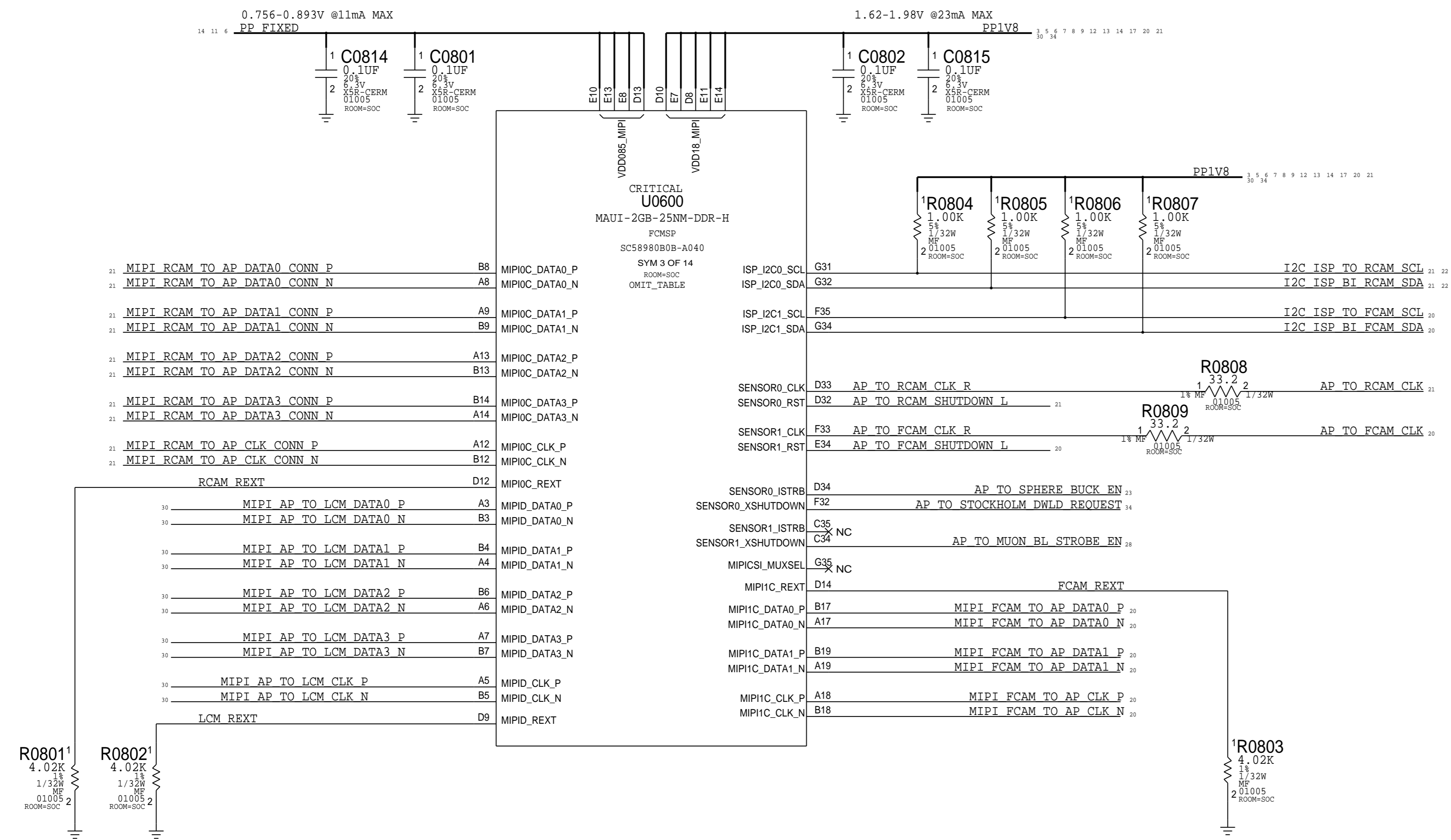
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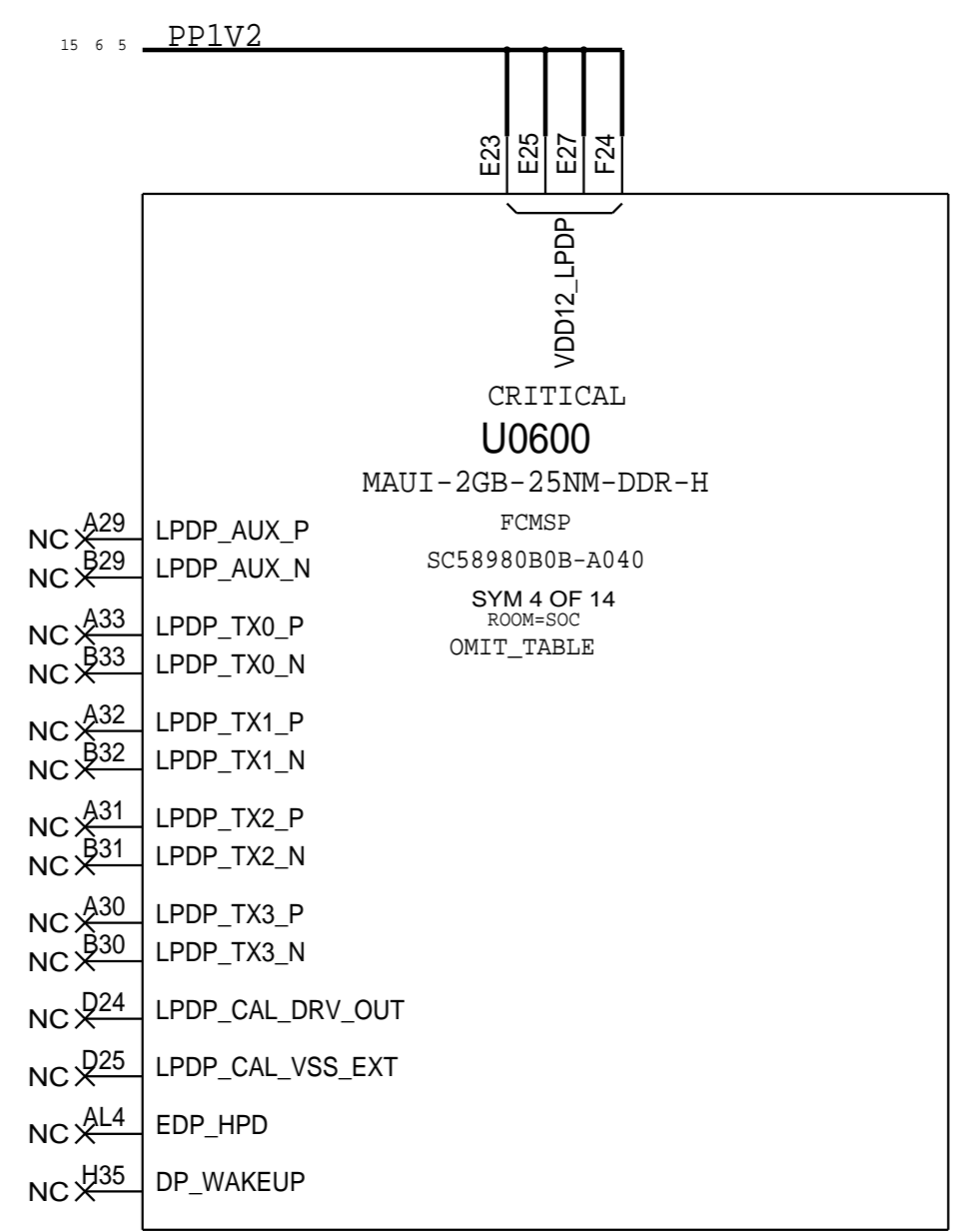
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NOTE: VDD12\_LPDP SHOULD BE POWERED  
EVEN WHEN LPDP IS NOT USED



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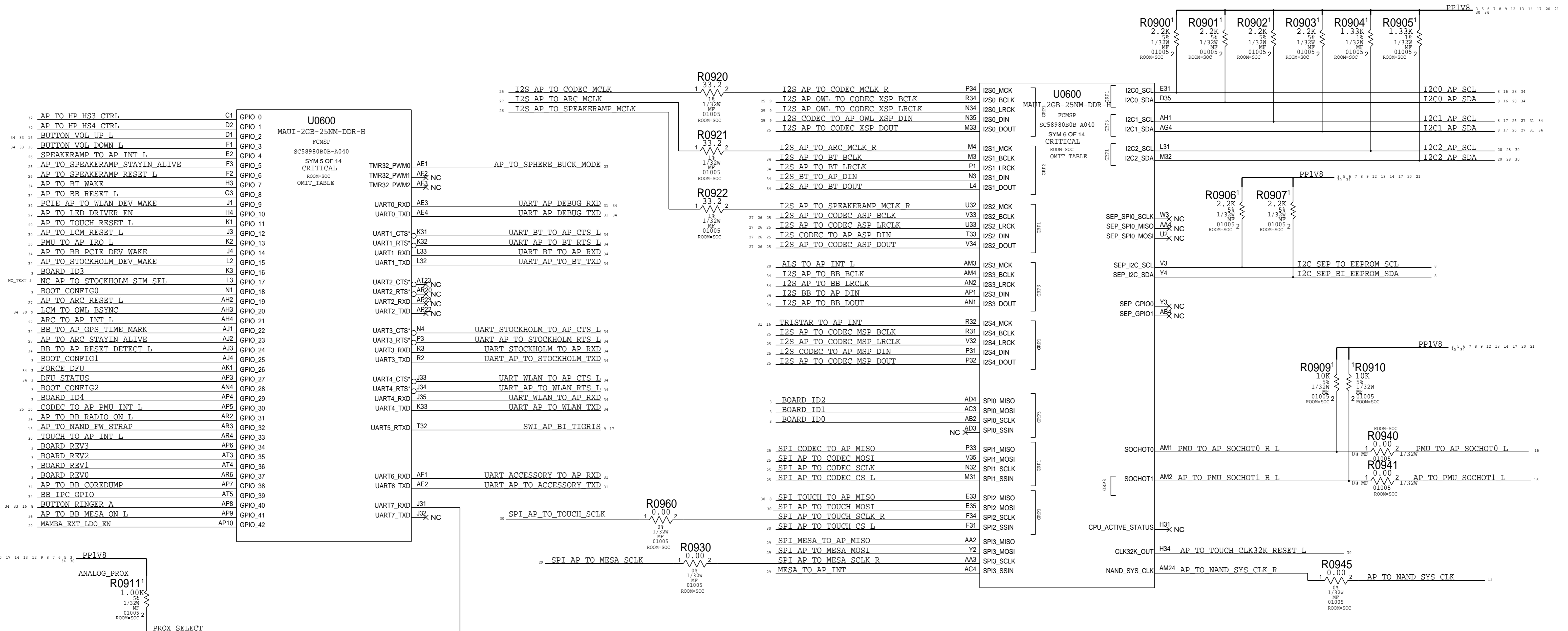
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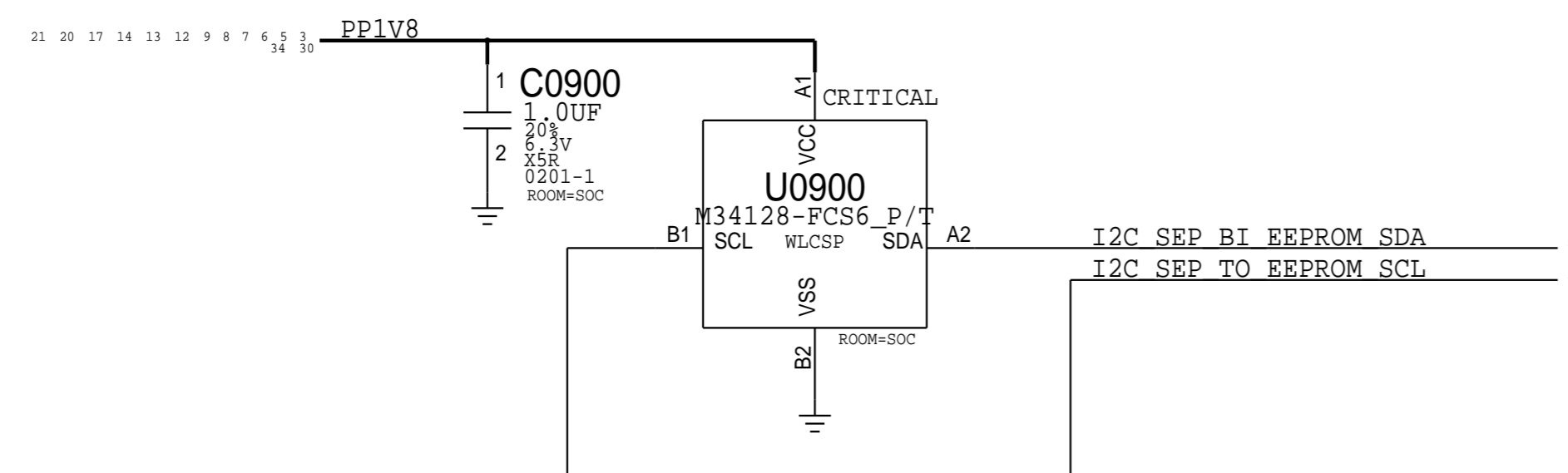


# MAUI - GPIO & SERIAL INTERFACES

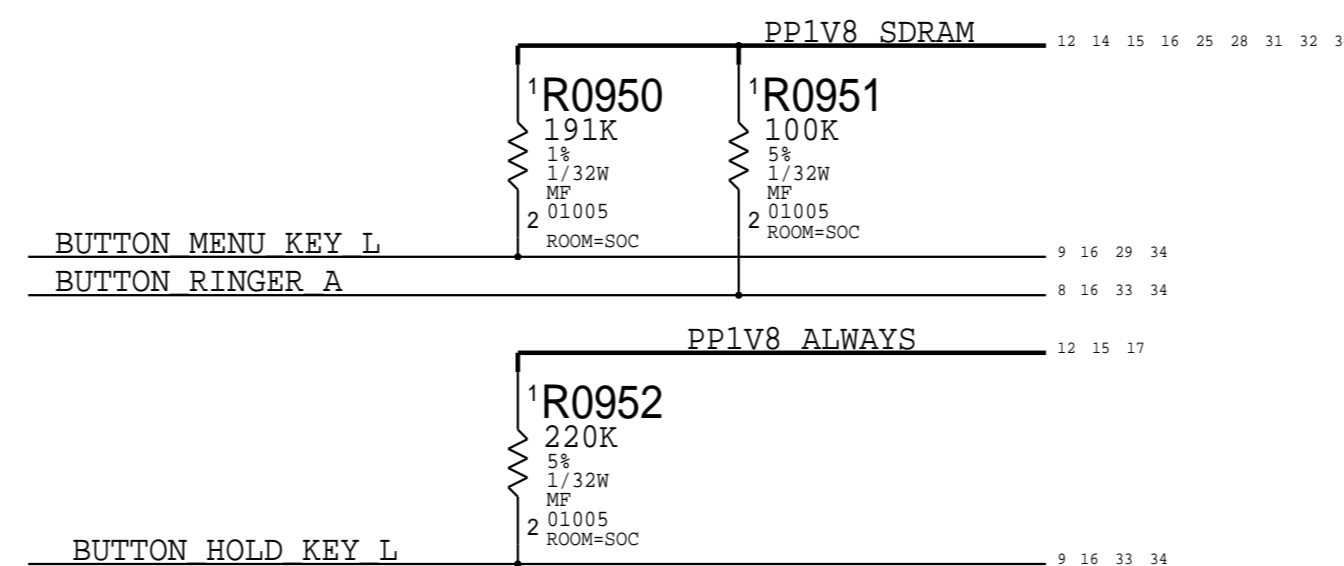


PIN J31 (UART7\_RXD) SHOULD BE SET TO INTERNAL PULL-DOWN.  
STUFF R0911 FOR ANALOG PROX.  
NOSTUFF R0911 FOR DOPPLER PROX.

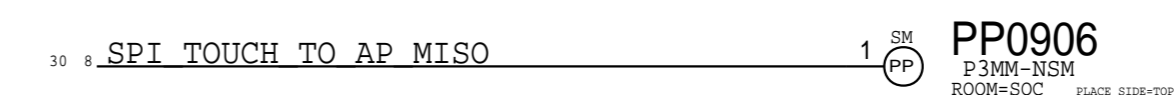
**ANTI-ROLLBACK EEPROM**  
128kbit  
APN: 335S0946



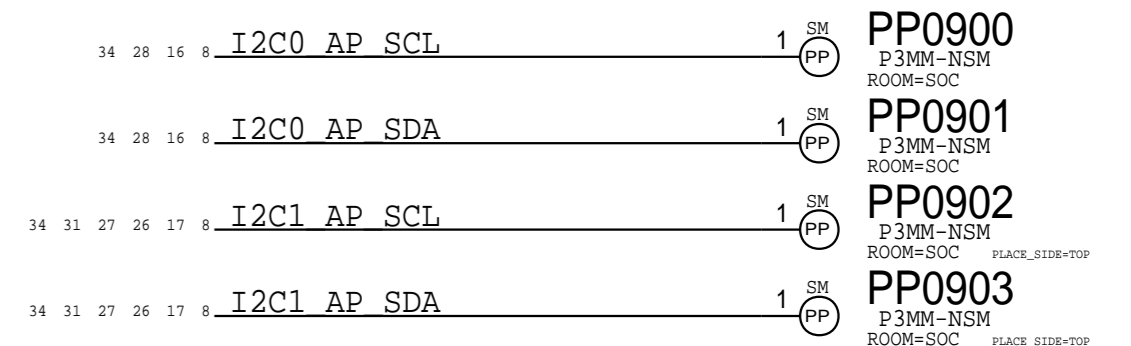
**BUTTON PULL-UP RESISTORS**



**SPI PROBE POINTS**



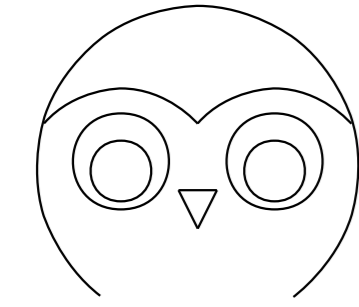
**I2C PROBE POINTS**



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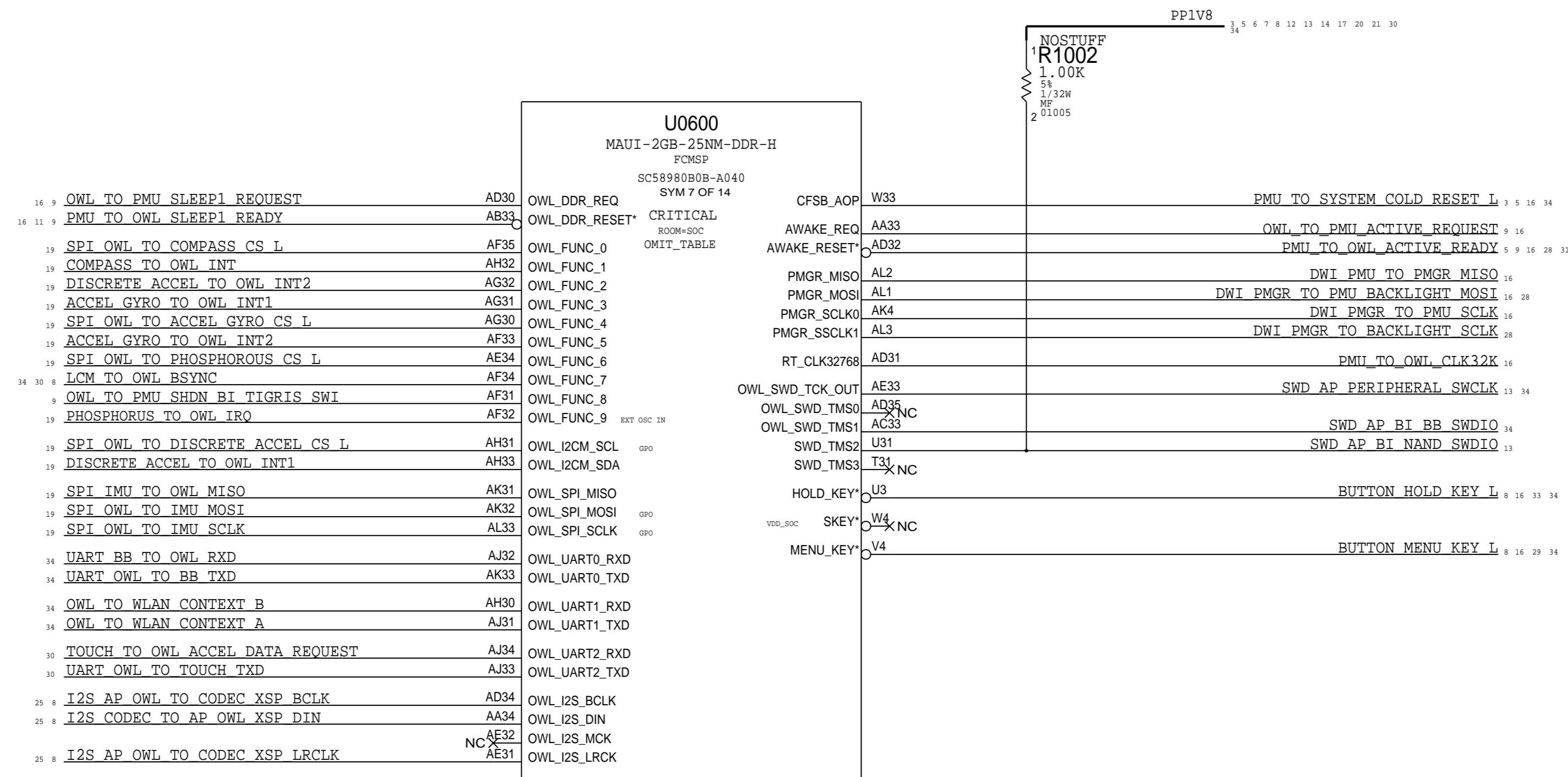
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MAUI - OWL

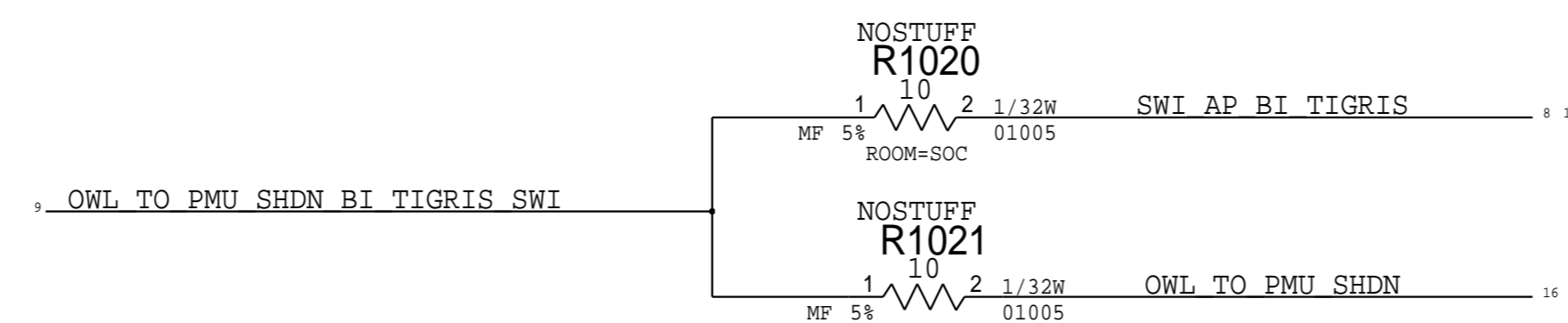


POWER STATE CONTROL PROBE POINTS

16	OWL_TO_PMU_ACTIVE_REQUEST	1	SM	PP1020
16	PMU_TO_OWL_ACTIVE_READY	1	SM	PP1021
16	OWL_TO_PMU_SLEEP1_REQUEST	1	SM	PP1022
16	PMU_TO_OWL_SLEEP1_READY	1	SM	PP1023

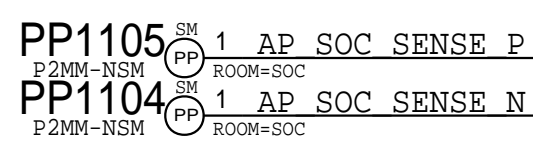
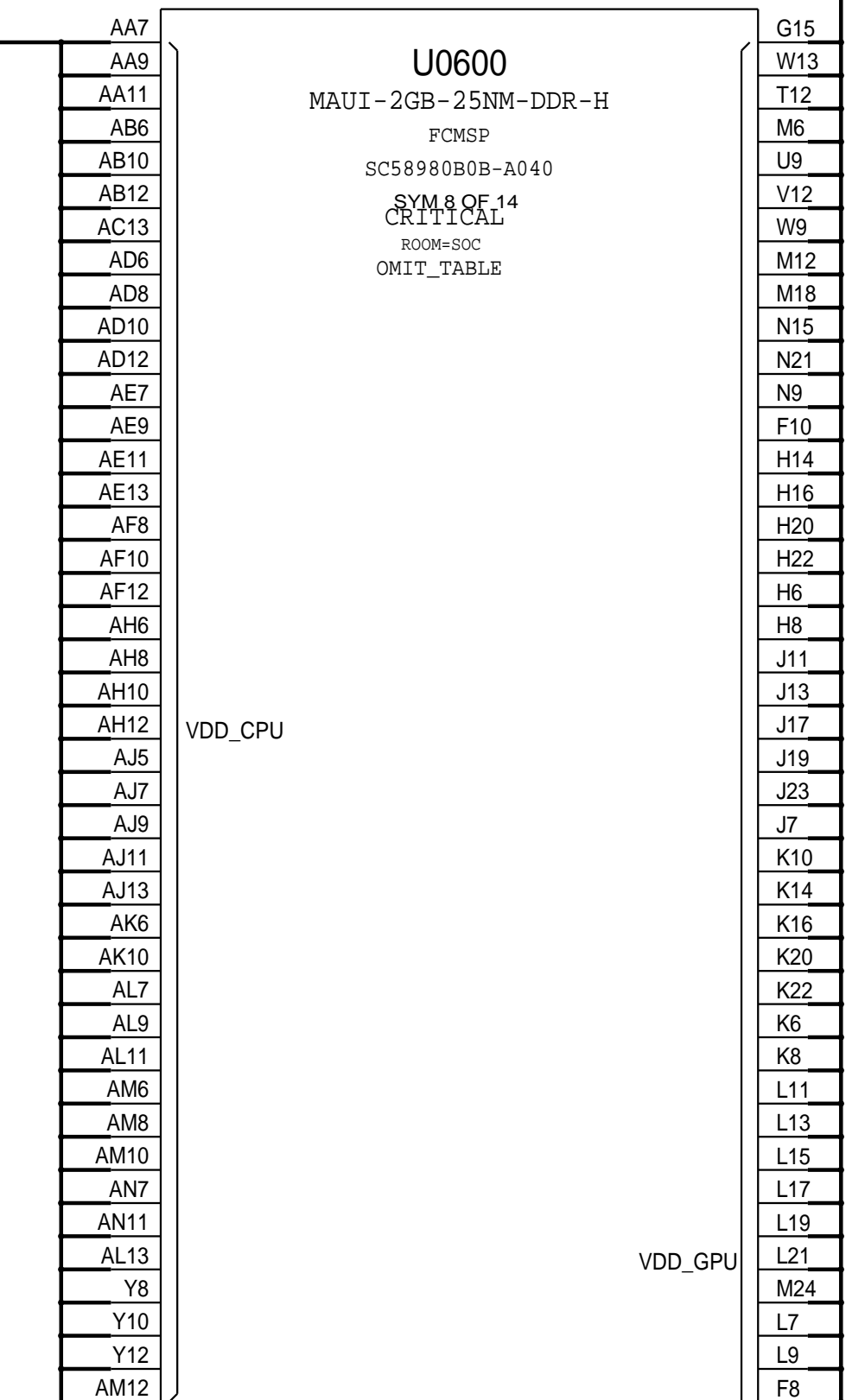
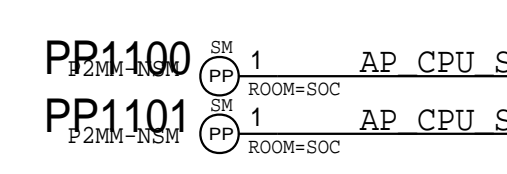
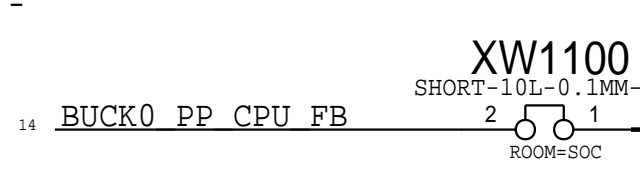
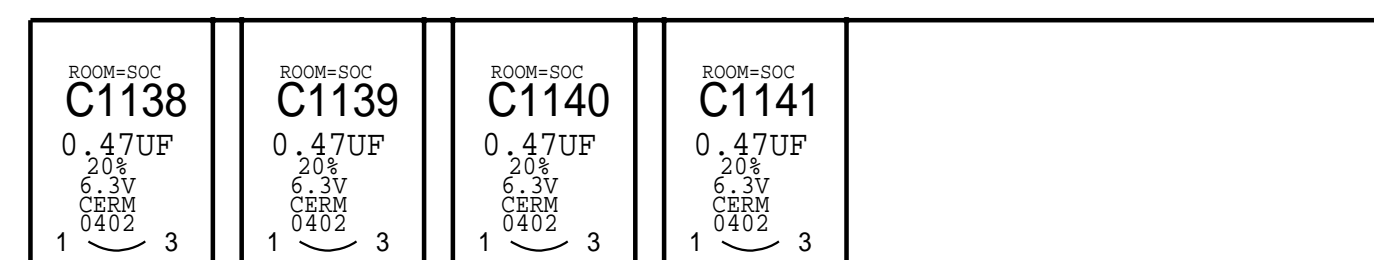
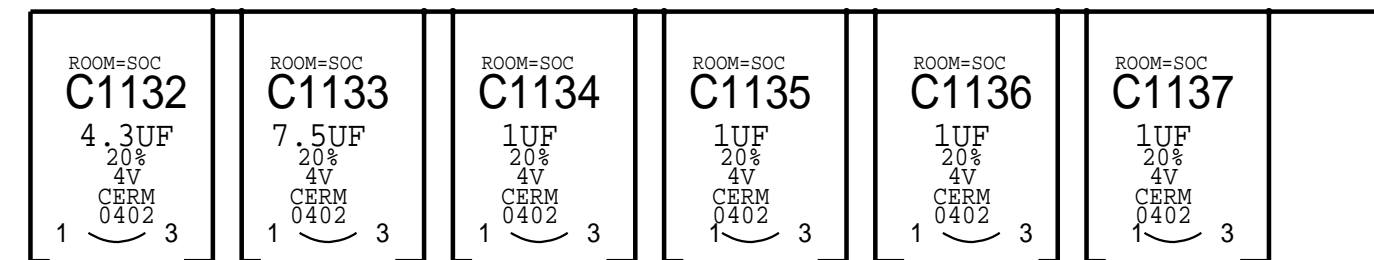
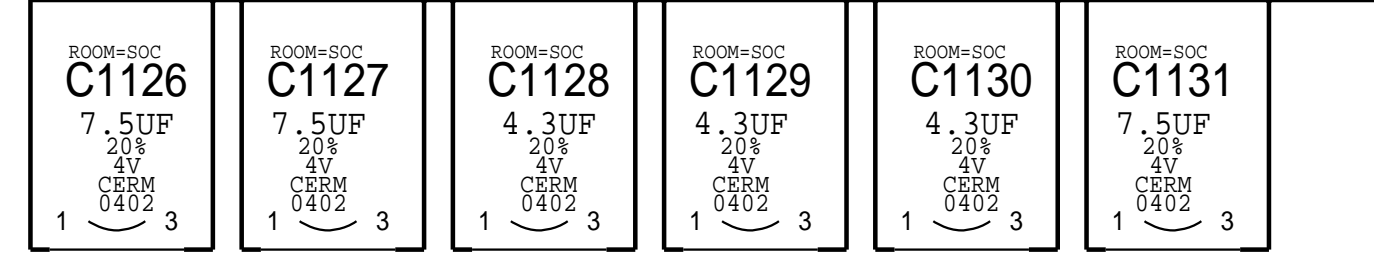
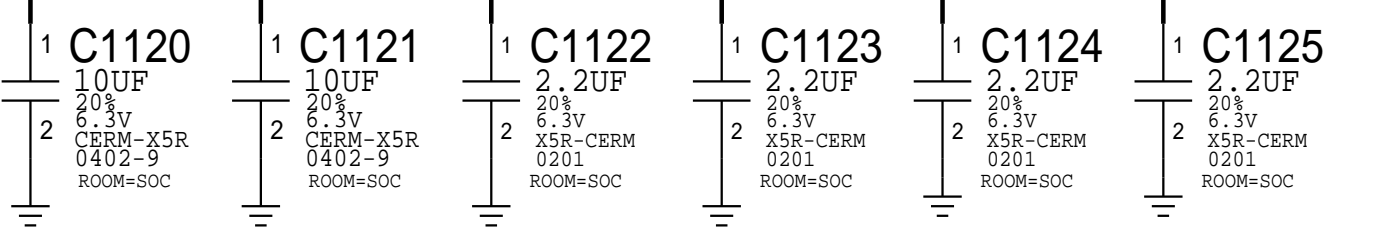
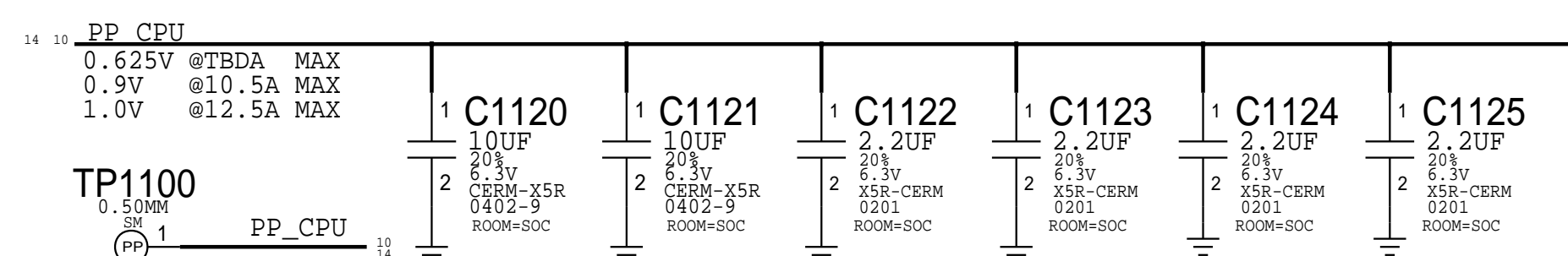
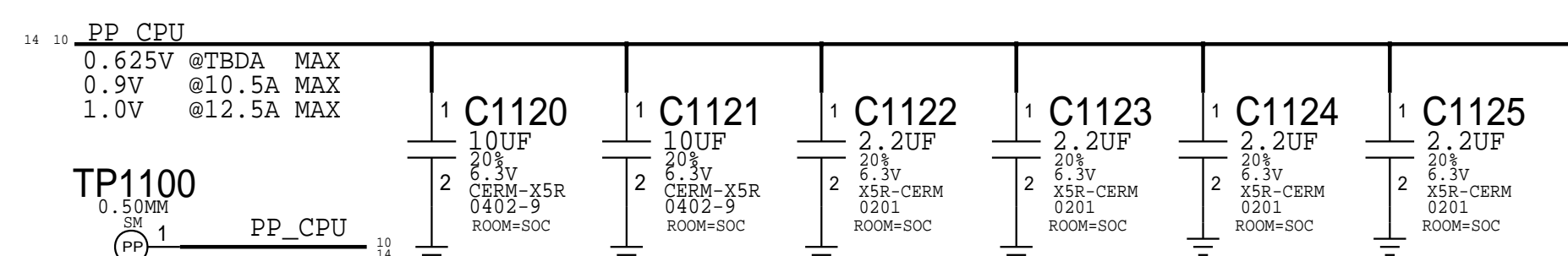
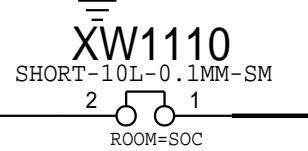
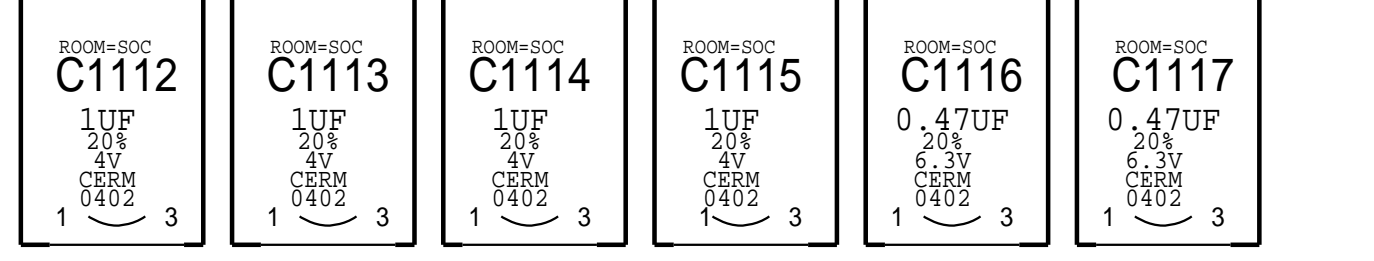
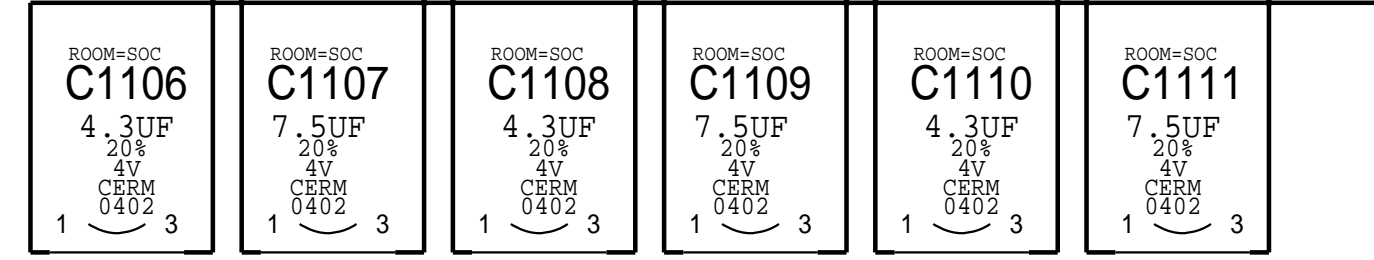
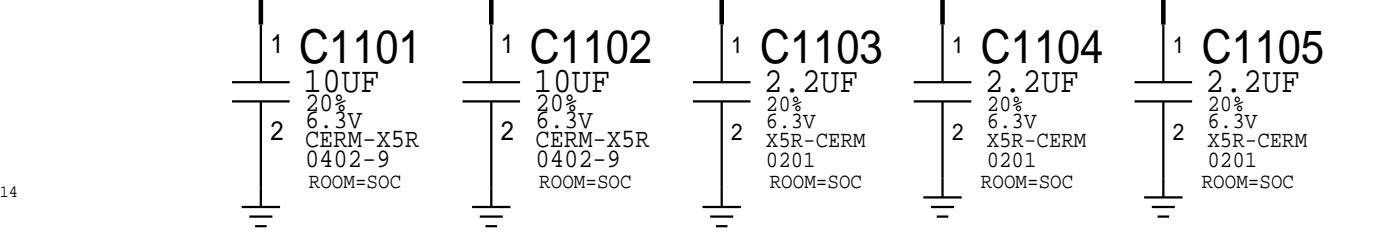
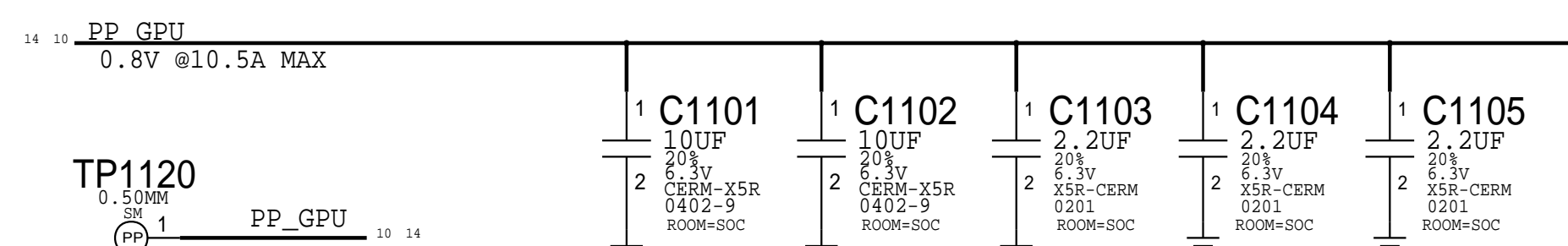
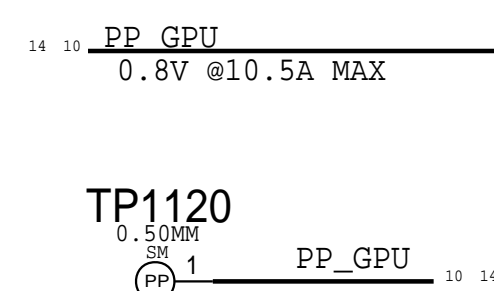


OWL SYSTEM SHUTDOWN OPTION

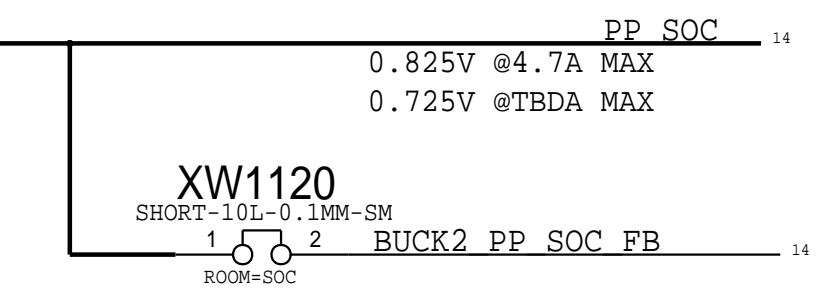
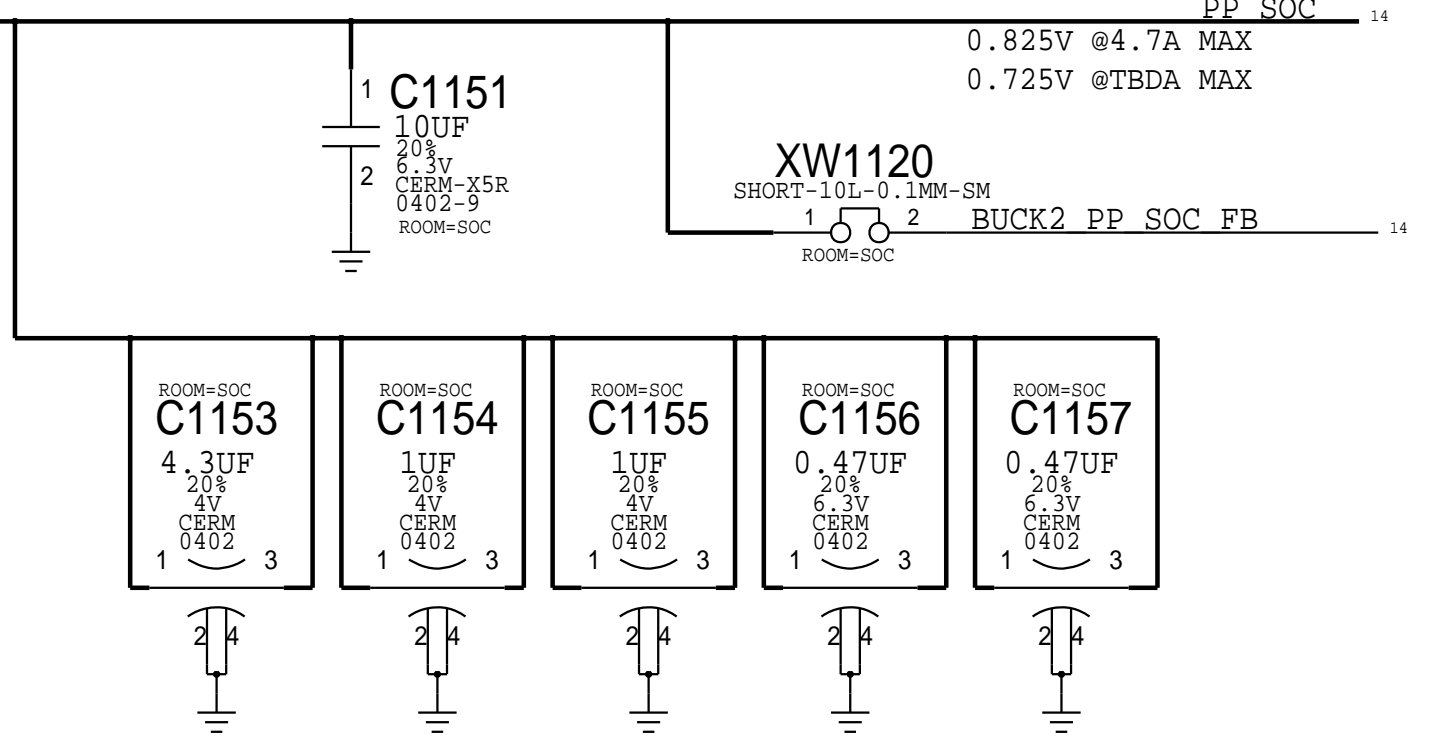
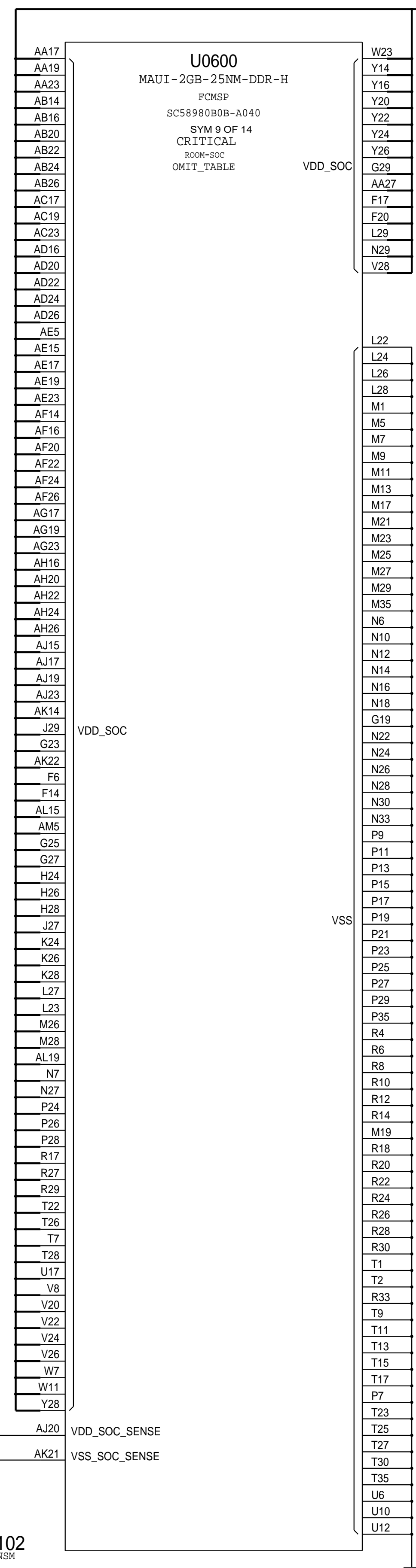


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		10 OF 49	
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# MAUI - CPU, GPU & SOC RAILS

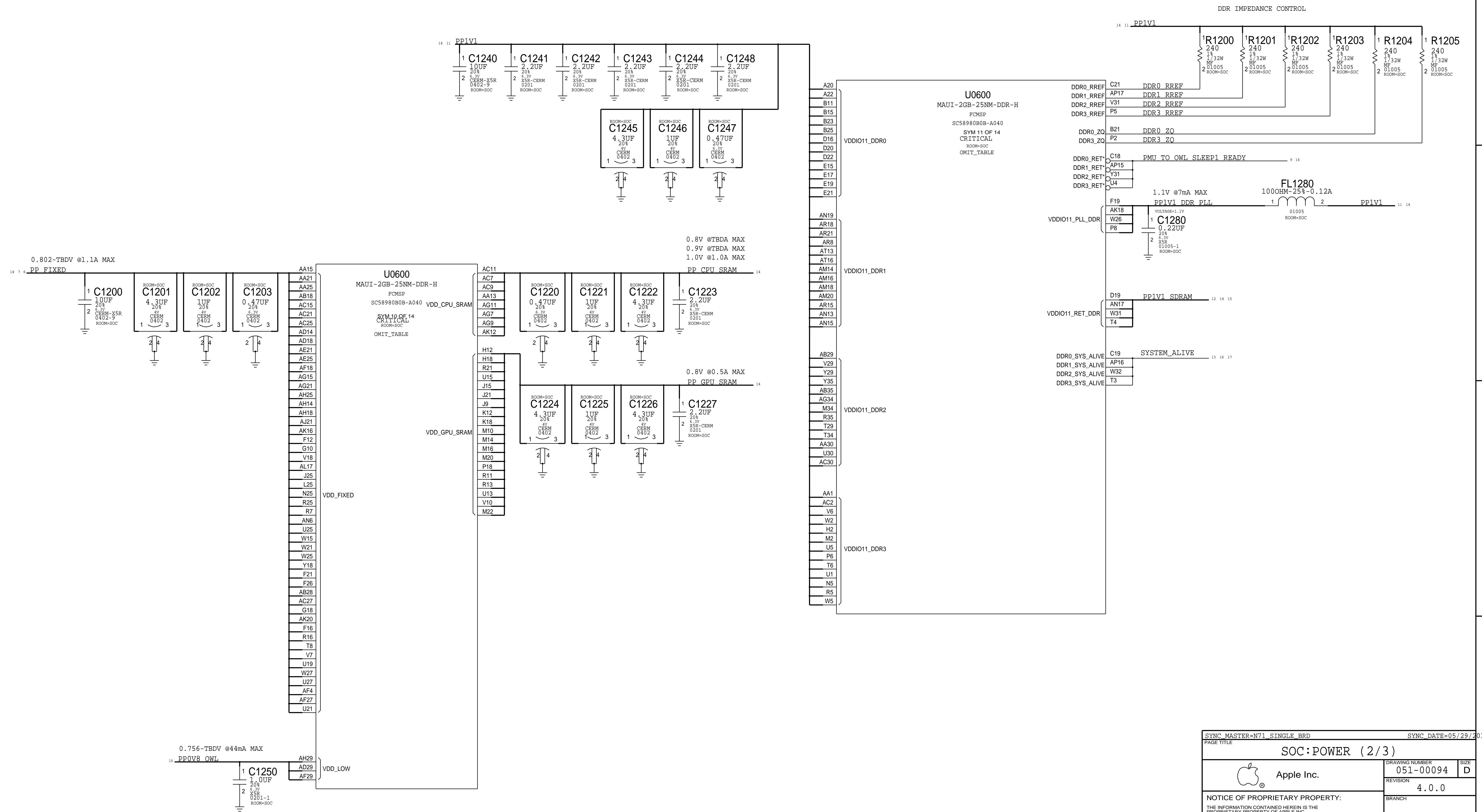


NOTE: AP\_GPU\_SENSE\_P probe location @ R2205.2



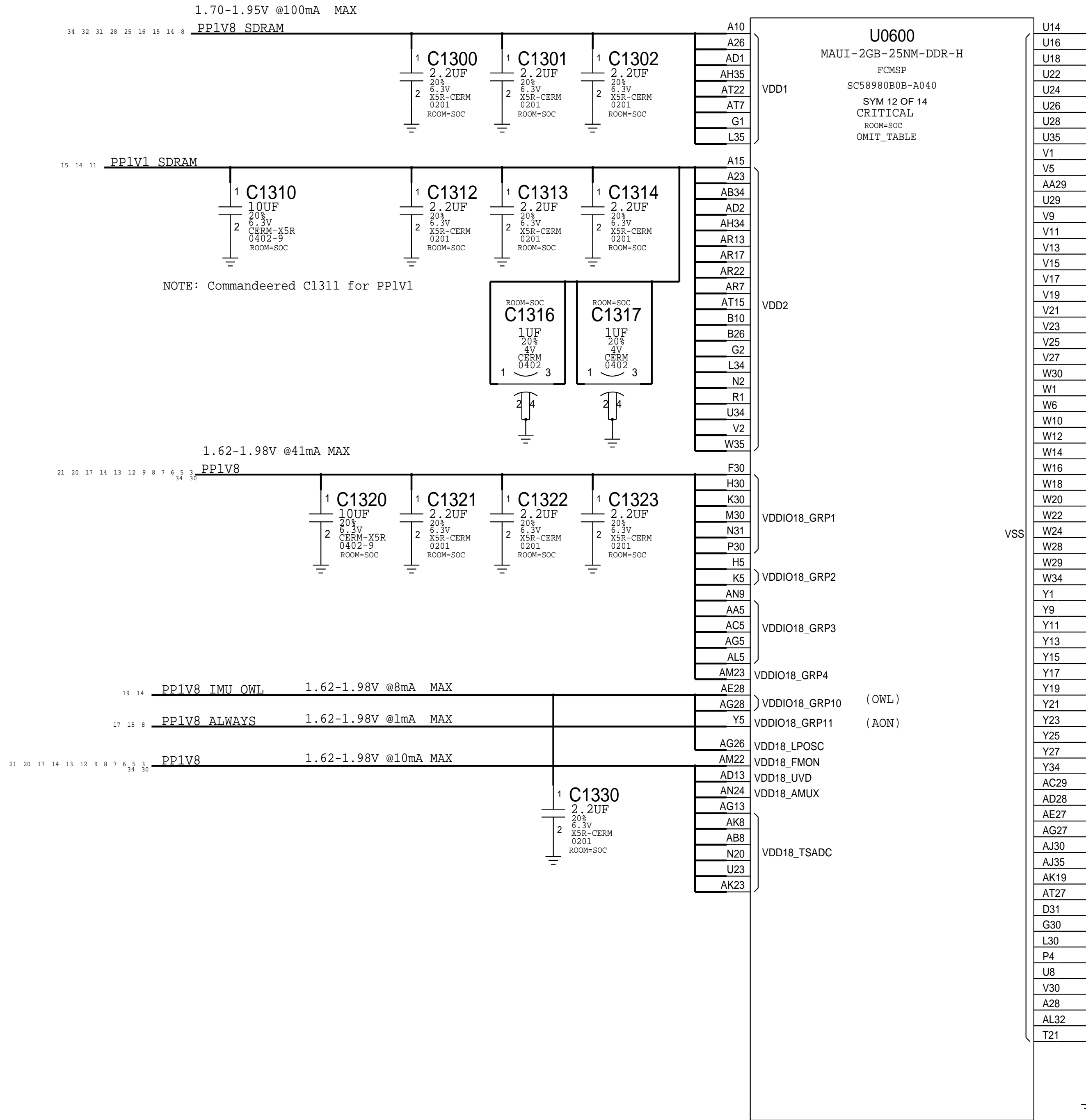
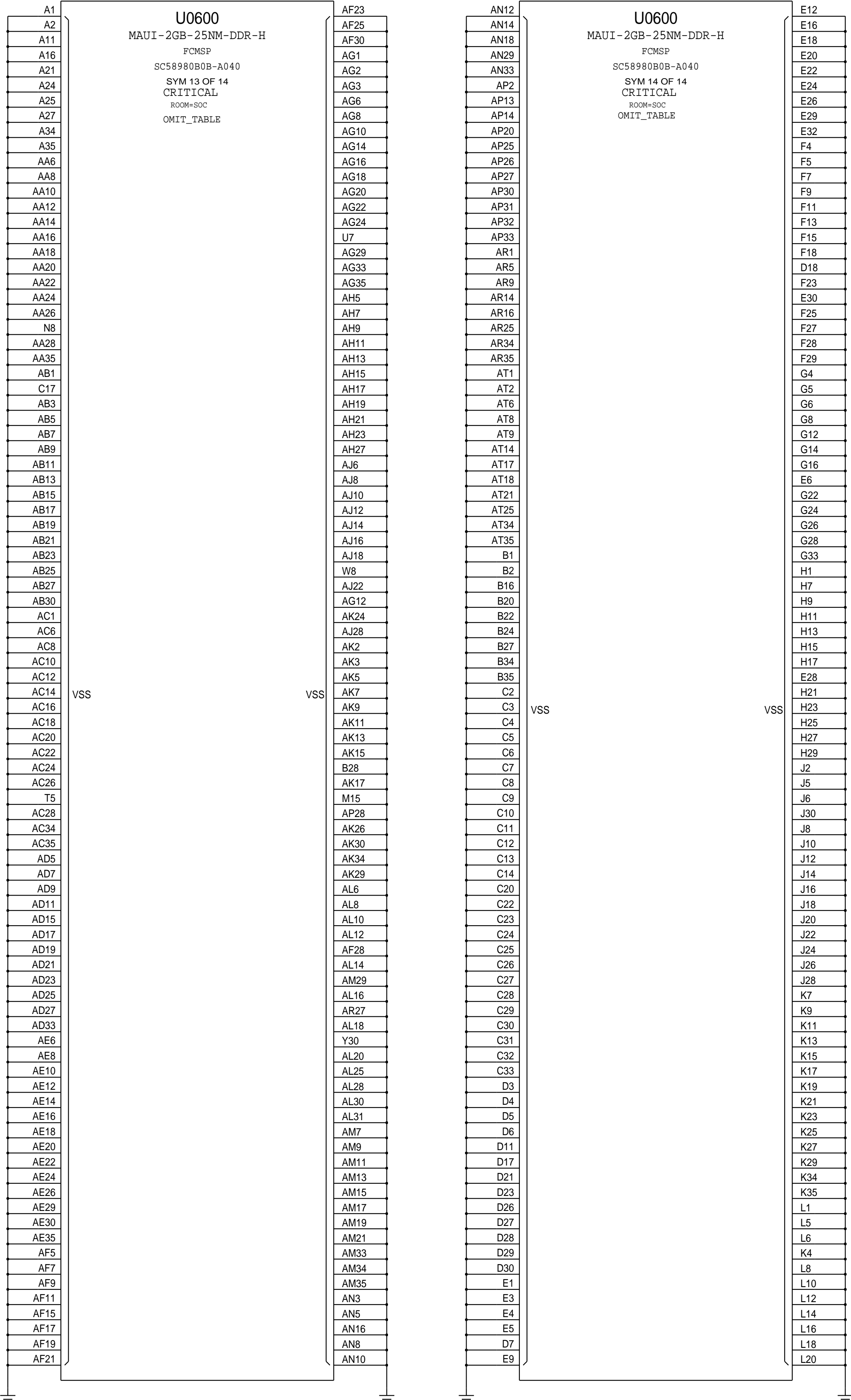
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# MAUI - POWER SUPPLIES



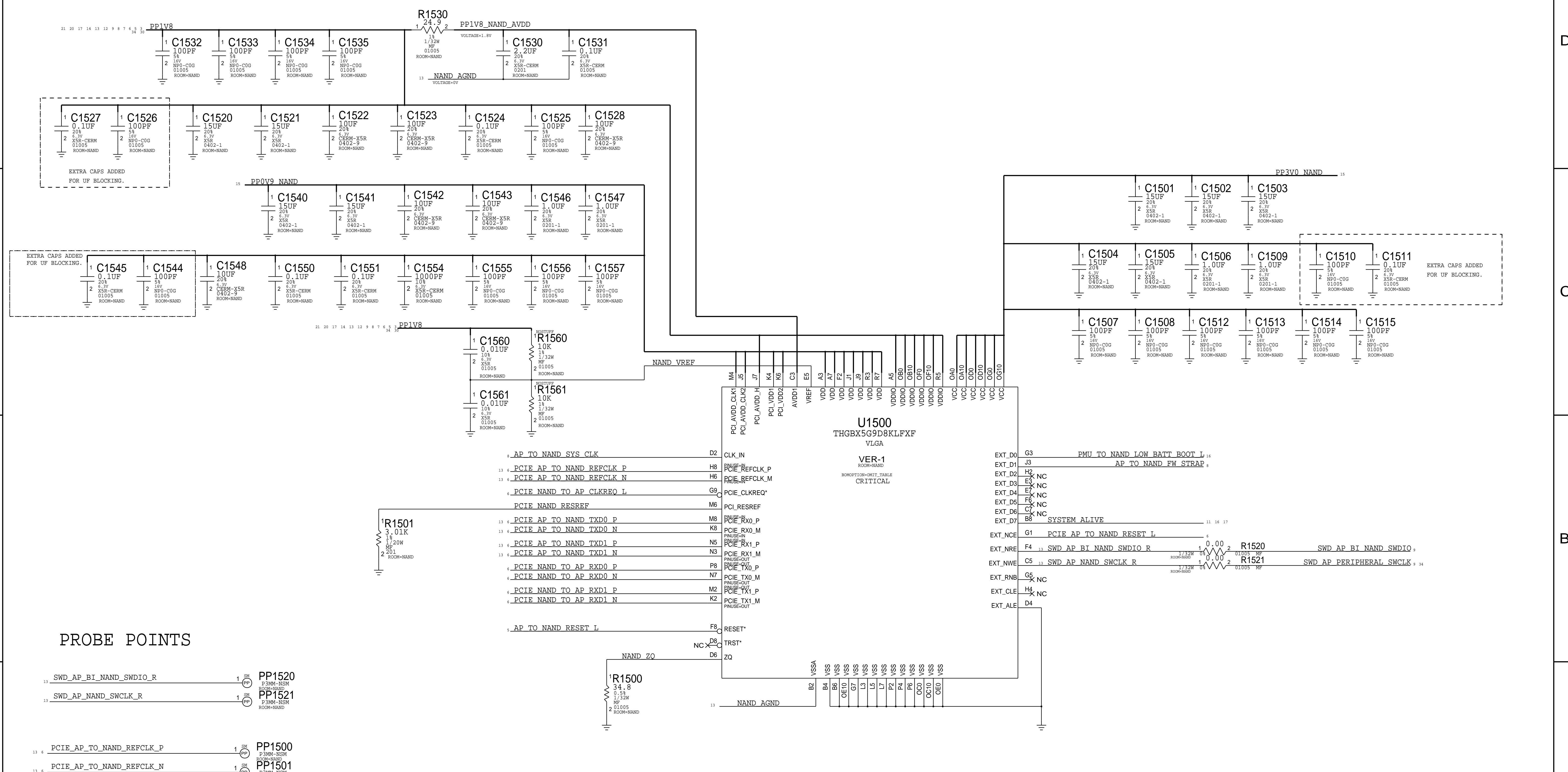
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# MAUI - POWER SUPPLIES



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# S3E NAND

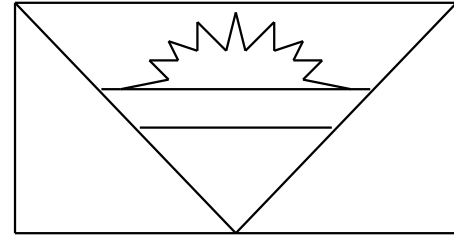


## PROBE POINTS

13	SWD_AP_BI_NAND_SWDIO_R	1	SM	PP1520	P3MM-N5M ROOM=NAND
13	SWD_AP_NAND_SWCLK_R	1	SM	PP1521	P3MM-N5M ROOM=NAND
13	PCIE_AP_TO_NAND_REFCLK_P	1	SM	PP1500	P3MM-N5M ROOM=NAND
13	PCIE_AP_TO_NAND_REFCLK_N	1	SM	PP1501	P3MM-N5M ROOM=NAND
13	PCIE_AP_TO_NAND_TXD0_P	1	SM	PP1502	P3MM-N5M ROOM=NAND
13	PCIE_AP_TO_NAND_TXD0_N	1	SM	PP1503	P3MM-N5M ROOM=NAND
13	PCIE_AP_TO_NAND_TXD1_P	1	SM	PP1504	P3MM-N5M ROOM=NAND
13	PCIE_AP_TO_NAND_TXD1_N	1	SM	PP1505	P3MM-N5M ROOM=NAND

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# ANTIGUA PMU - Buck Supplies



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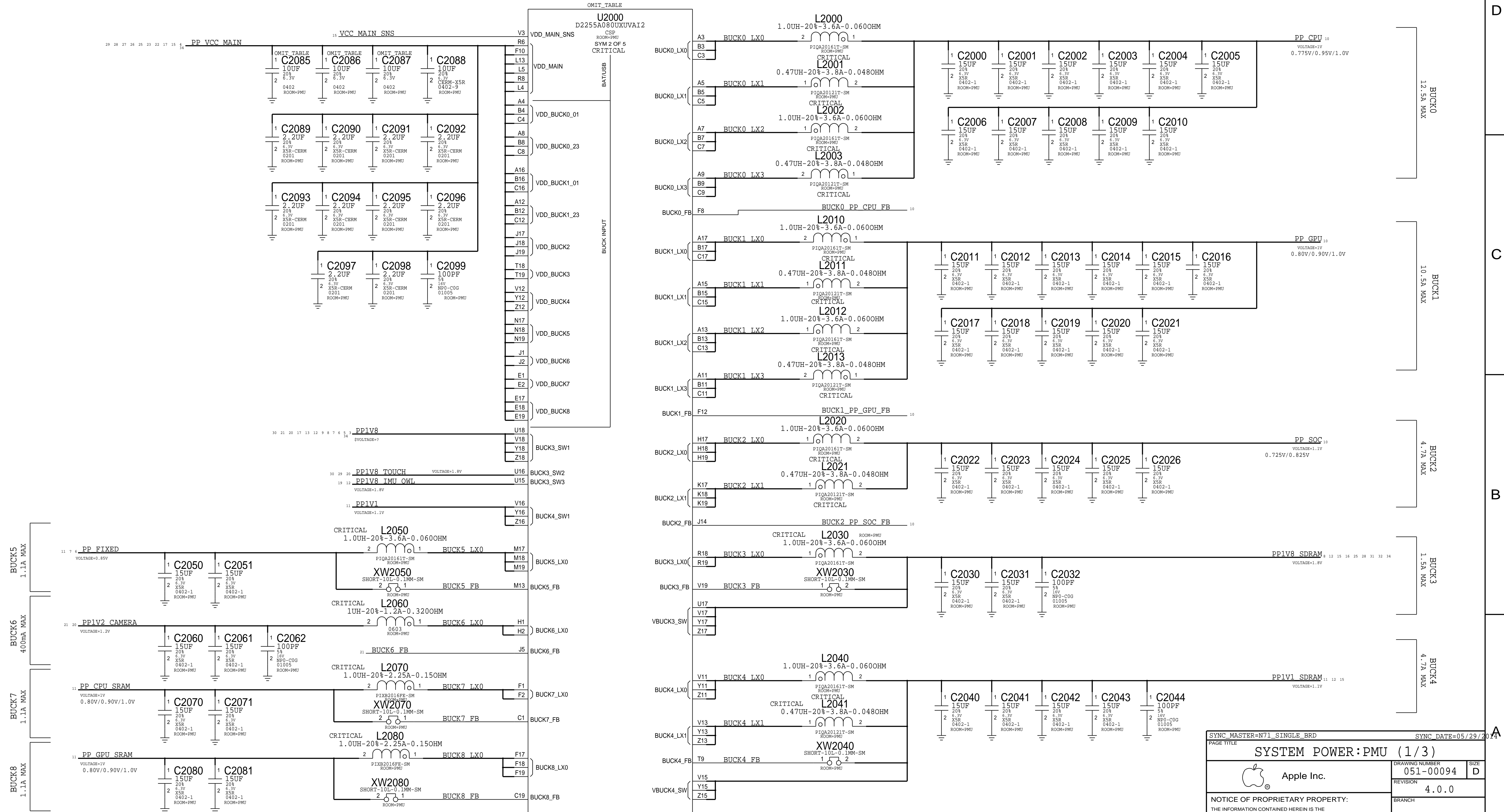
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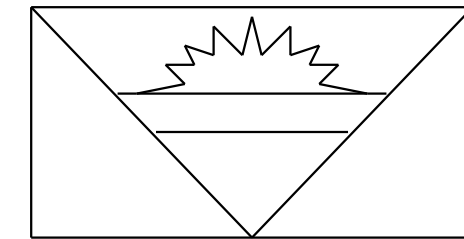
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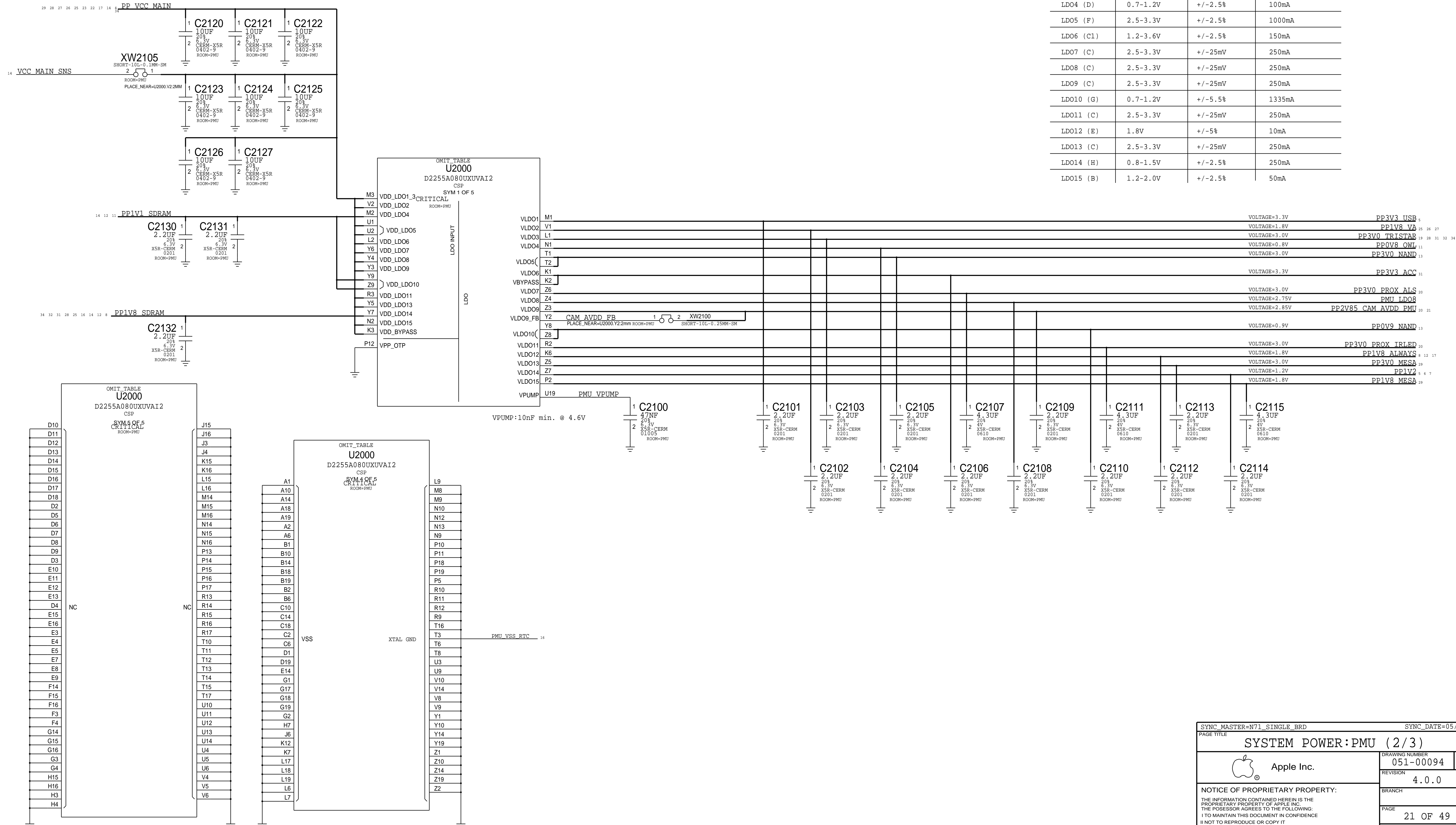
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# ANTIGUA PMU - LDOs



## ANTIGUA LDO SPECS

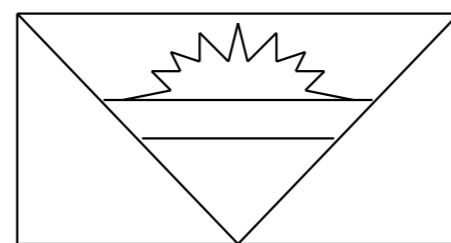
LDO#	ADJ. RANGE	ACCURACY	MAX. CURRENT
LDO1 (A)	2.5-3.3V	+/-1.4%	50mA
LDO2 (B)	1.2-2.0V	+/-2.5%	50mA
LDO3 (A)	2.5-3.3V	+/-1.4%	50mA
LDO4 (D)	0.7-1.2V	+/-2.5%	100mA
LDO5 (F)	2.5-3.3V	+/-2.5%	100mA
LDO6 (C1)	1.2-3.6V	+/-2.5%	150mA
LDO7 (C)	2.5-3.3V	+/-25mV	250mA
LDO8 (C)	2.5-3.3V	+/-25mV	250mA
LDO9 (C)	2.5-3.3V	+/-25mV	250mA
LDO10 (G)	0.7-1.2V	+/-5.5%	1335mA
LDO11 (C)	2.5-3.3V	+/-25mV	250mA
LDO12 (E)	1.8V	+/-5%	10mA
LDO13 (C)	2.5-3.3V	+/-25mV	250mA
LDO14 (H)	0.8-1.5V	+/-2.5%	250mA
LDO15 (B)	1.2-2.0V	+/-2.5%	50mA



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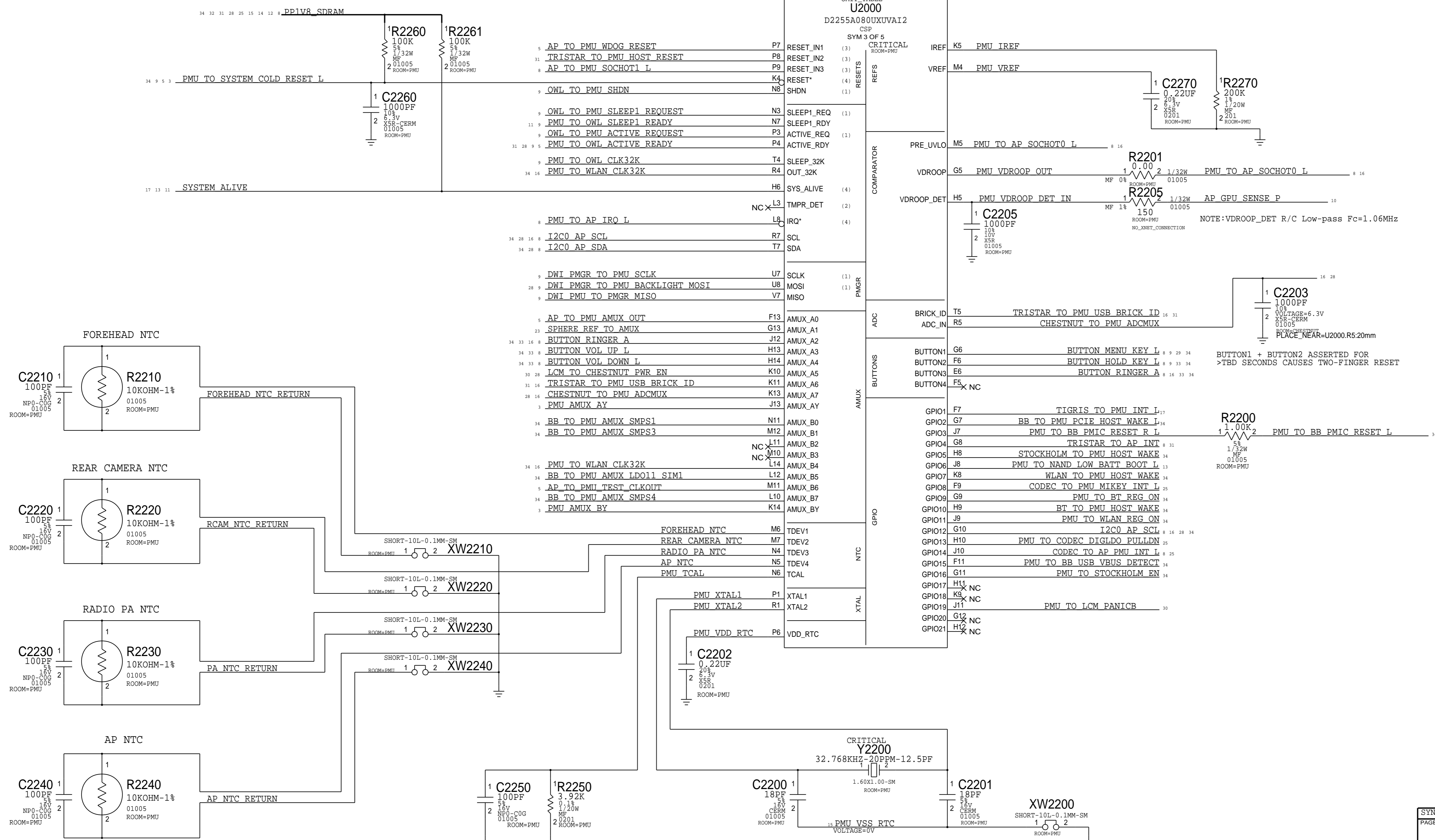


# ANTIGUA PMU - GPIOs, NTCs



CONTROL PIN NOTES:

- NOTE (1): INPUT PULL-DOWN 100-300k
- NOTE (2): INPUT PULL-DOWN 1M
- NOTE (3): INPUT PULL-UP OR DOWN 100k-300k
- NOTE (4): OUTPUT OPEN-DRAIN, REQUIRES PULL-UP

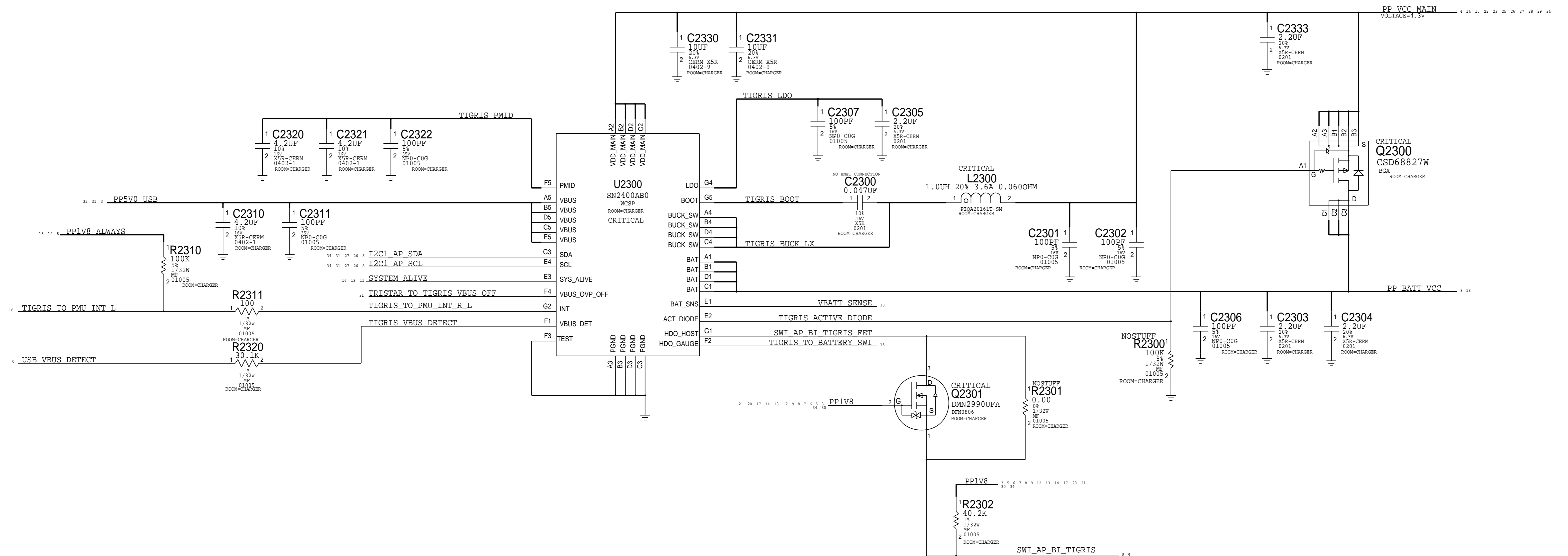


NOTE: 100PF CAPS ARE THE SAMPLING CAPS FOR PMU ADC

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# TIGRIS CHARGER

APN: 343S0693



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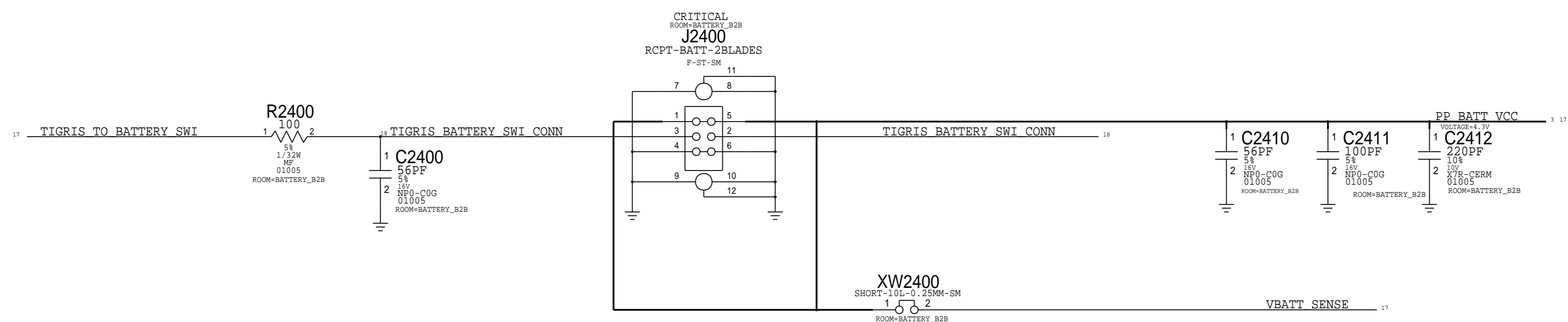
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1

# BATTERY CONNECTOR

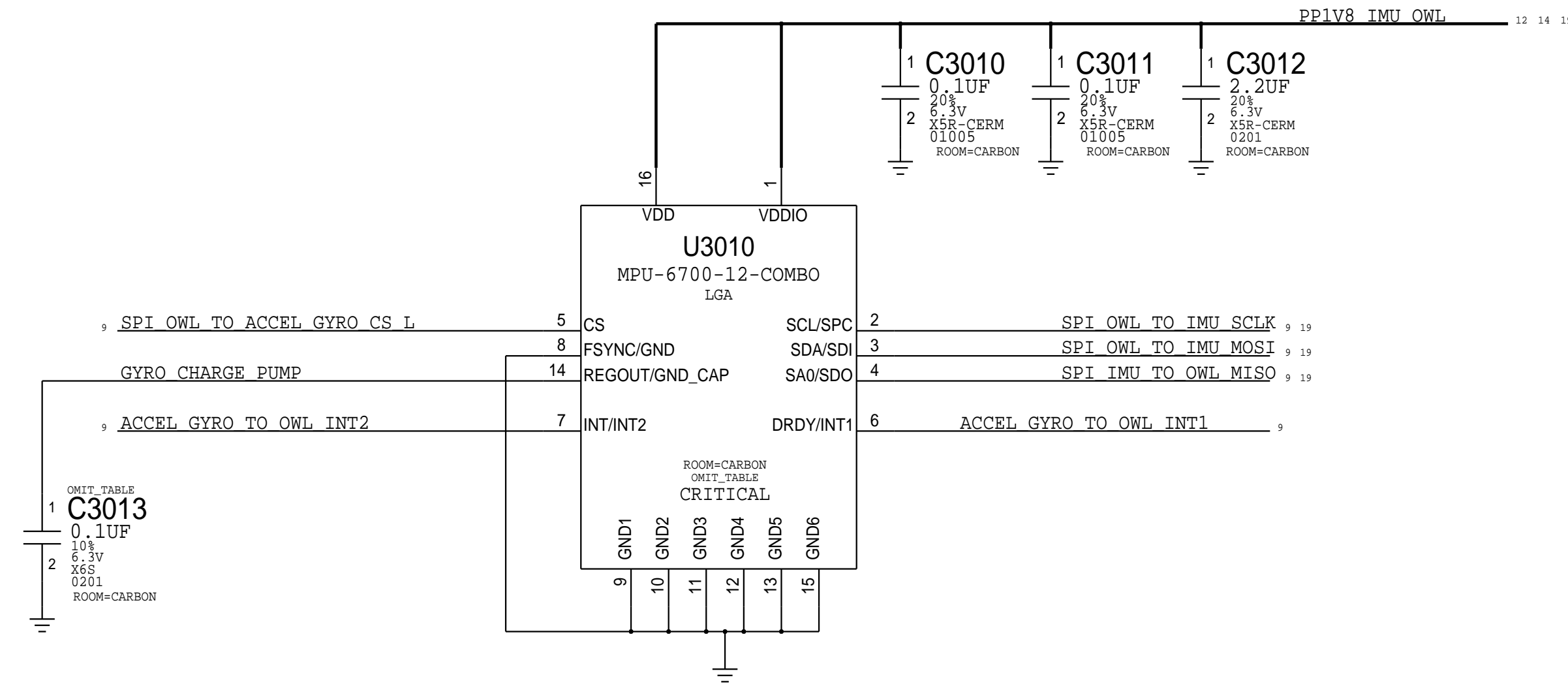
THIS ONE ON MLB ---> 516S00104 (RCPT)  
516????? (PLUG)



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SYSTEM POWER: BATTERY CONN			
	DRAWING NUMBER	051-00094	SIZE
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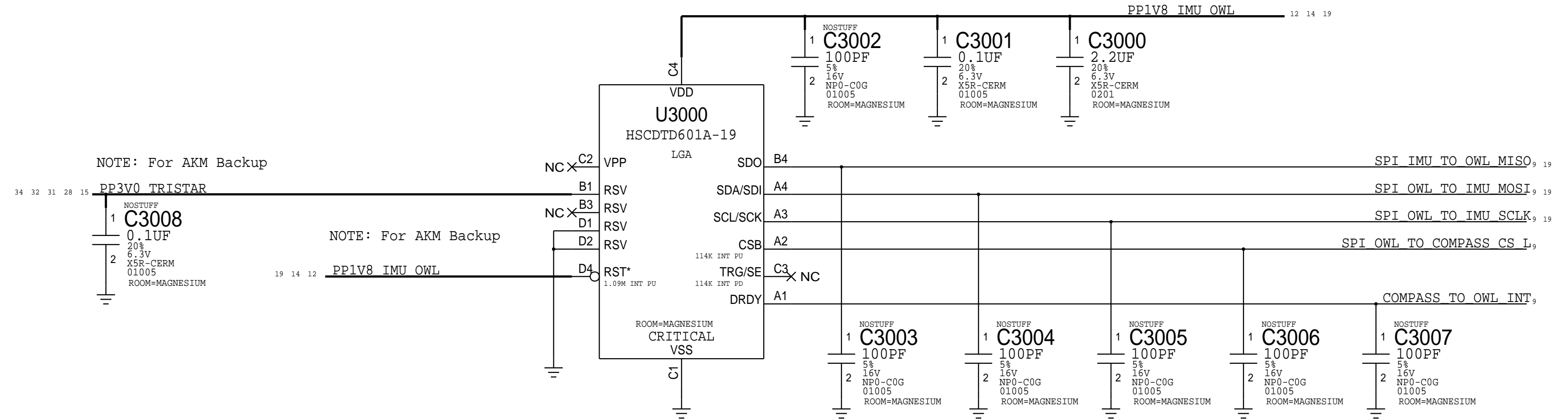
# CARBON - ACCEL & GYRO

ST (APN 338S00029): C3013=0.01UF  
 INVENSENSE, MPU-6700 (APN 338S00017): C3013=0.1UF  
 \*DOE\* INVENSENSE, MPU-6800 (APN 338S00087): C3013=0.1UF



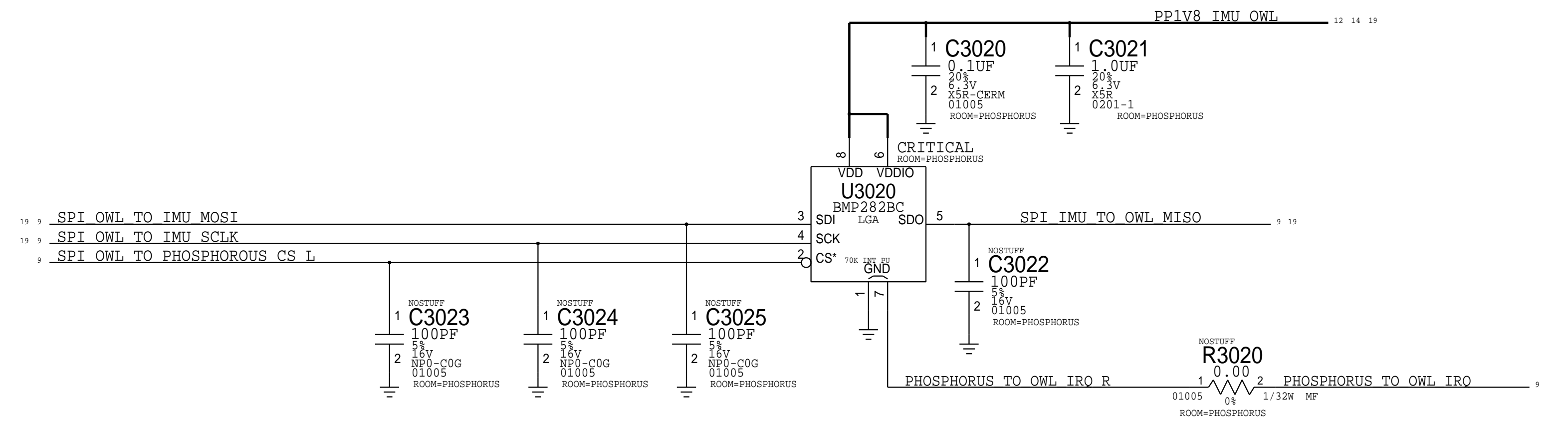
# MAGNESIUM - COMPASS

APN: 338S00084



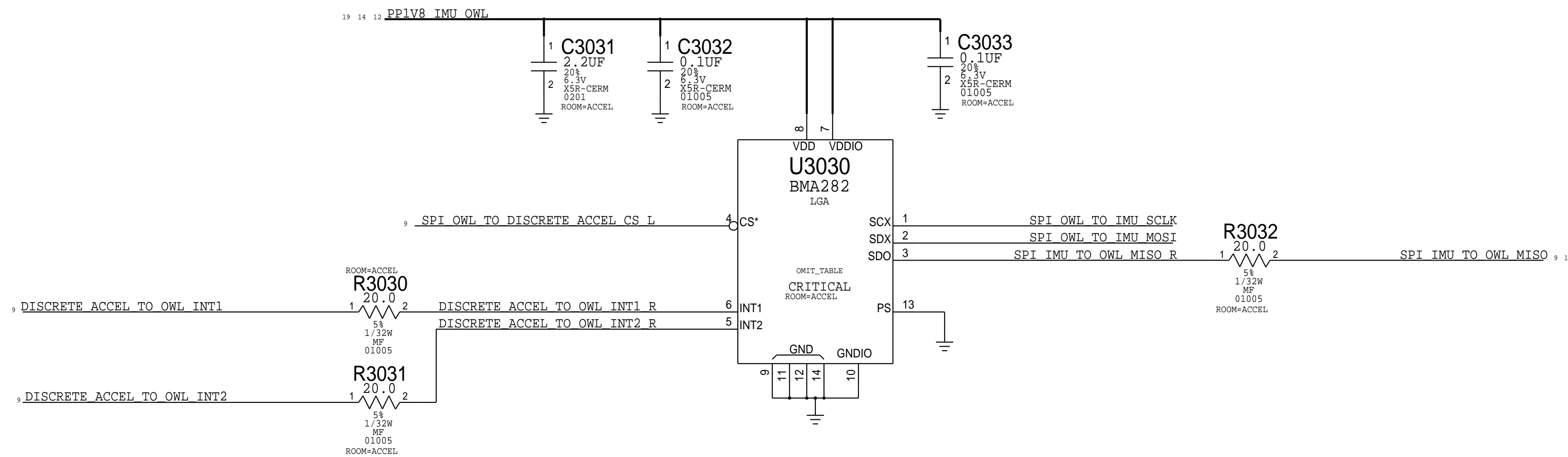
# PHOSPHOROUS

BOSCH (APN:338S00044)



# DISCRETE ACCEL

BOSCH APN 338S1163  
 NO-STUFF for Invensense DOE



R3020 SHOULD BE STUFFED FOR ST PHOSPHOROUS ONLY.  
 FOR BOSCH PHOSPHOROUS, PINS 1 AND 7 ARE SHORTED INTERNALLY,  
 SO NO NEED FOR 0-OHM TO GROUND OPTION ON PIN 7.

SYNC_MASTER=N71_SINGLE_BRD		SYNC_DATE=05/29/2014	
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SENSORS: MOTION SENSORS		DRAWING NUMBER	
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		BRANCH	
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		SHEET	
		19 OF 60	

# FRONT CAMERA FLEX

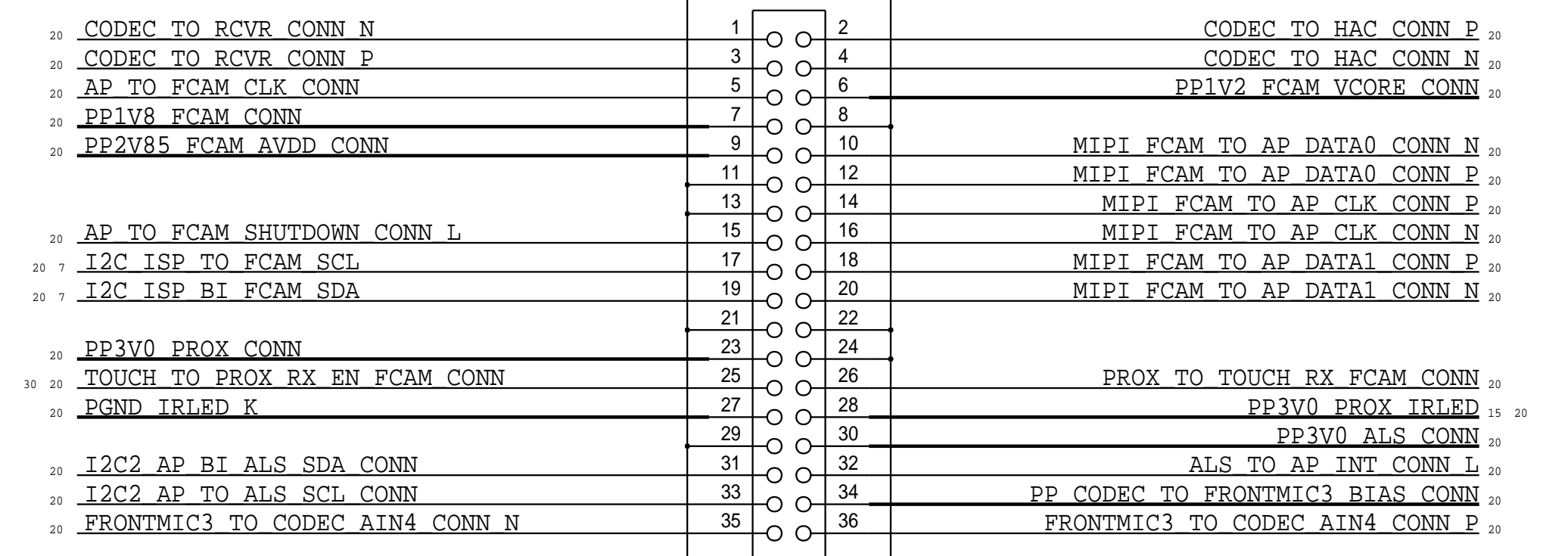
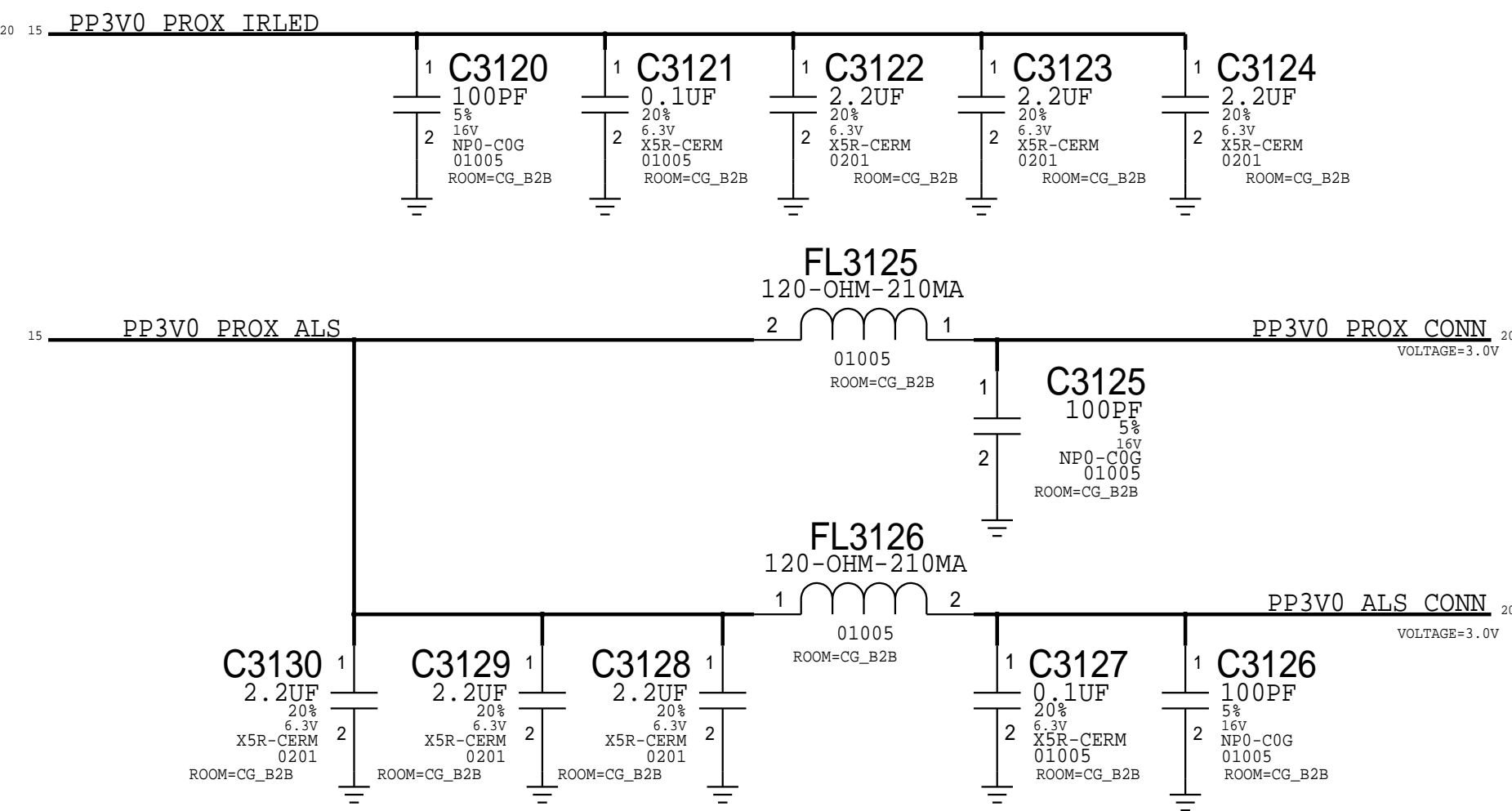
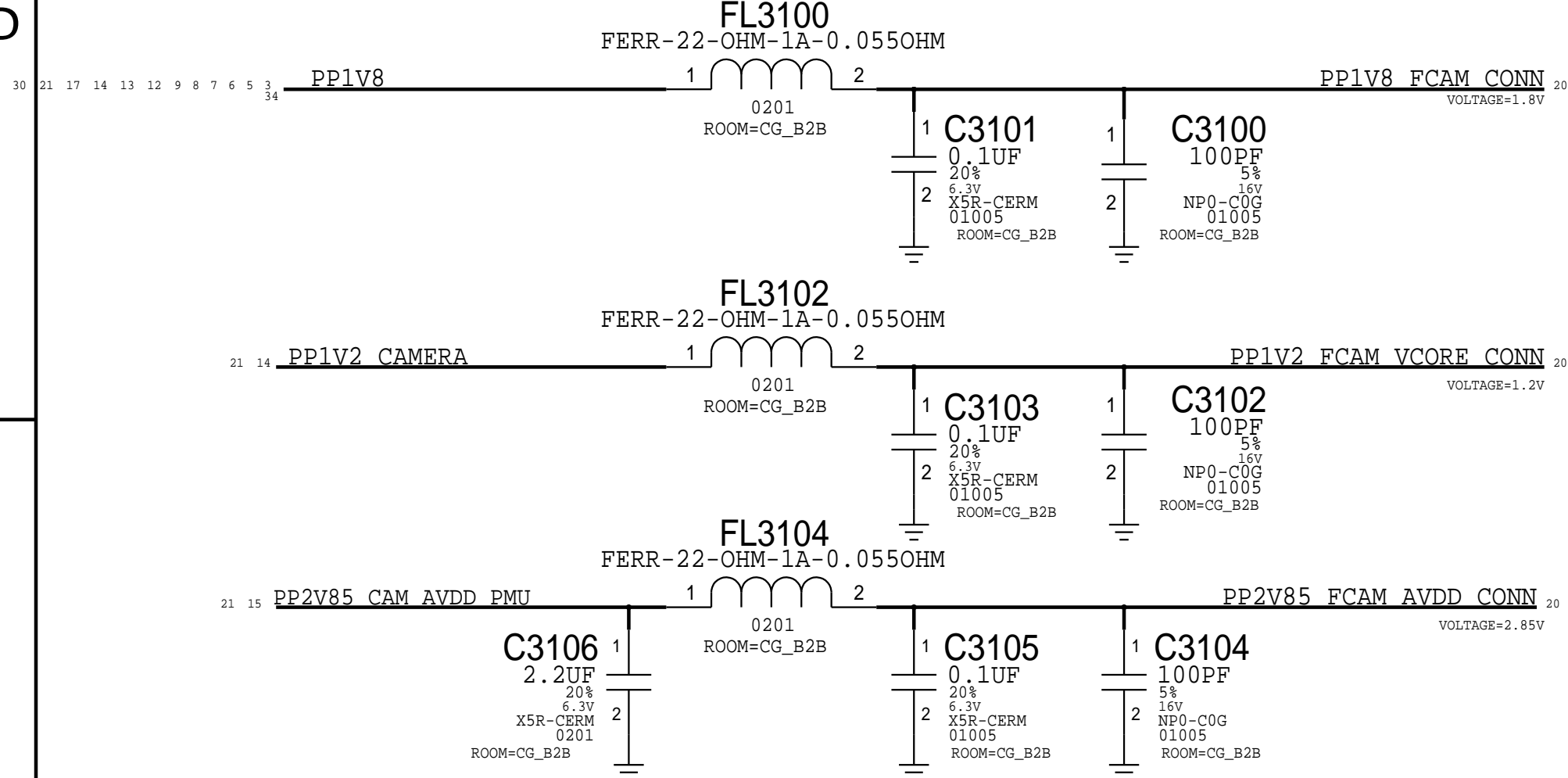
## PROX & ALS POWER

## FCAM CONNECTOR

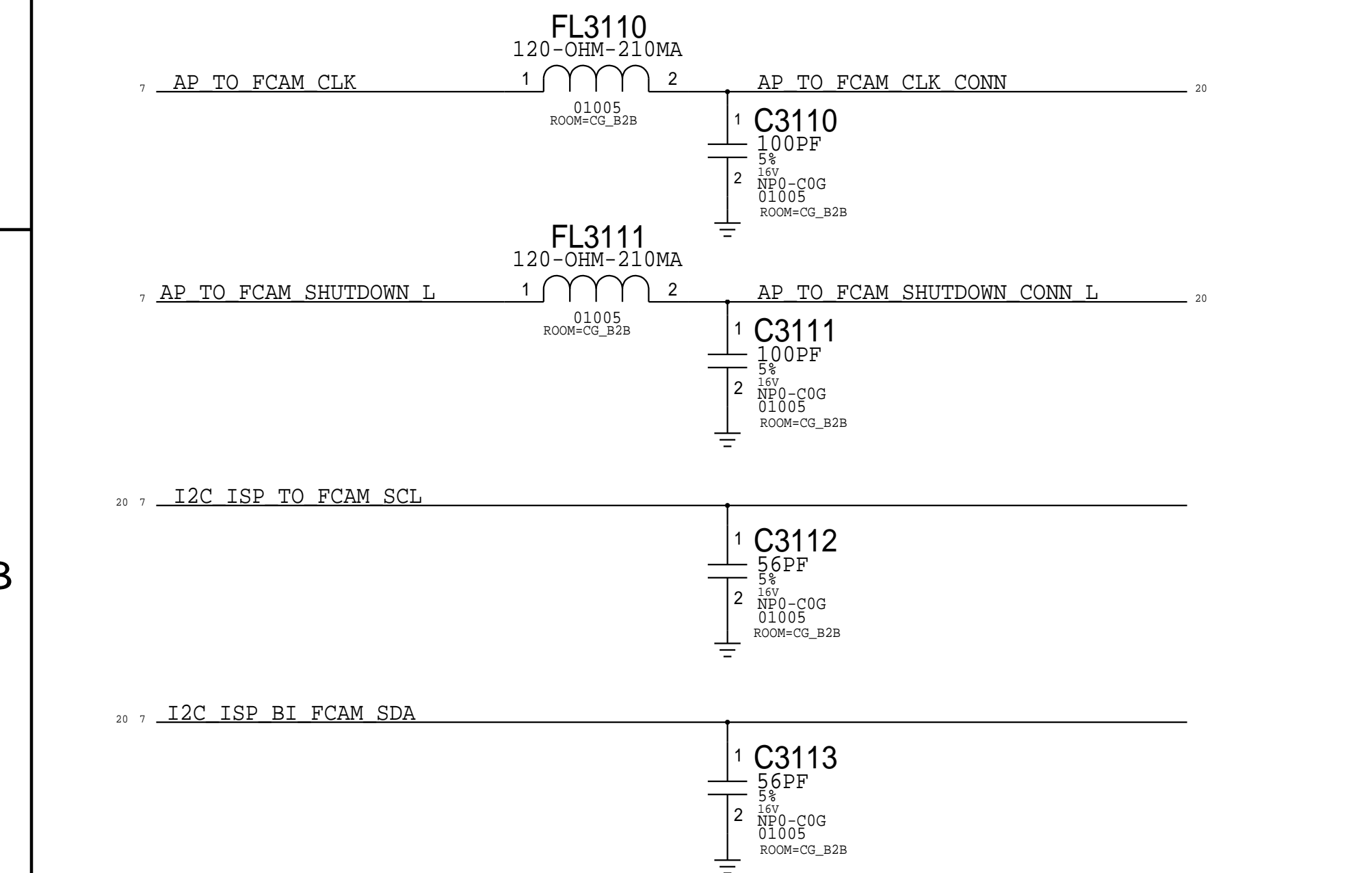
MLB: 516S1081 (RCPT)  
FLEX: 516S1177 (PLUG)

CRITICAL  
J3100  
AA22L  
F-ST-SM  
ROOM=CG\_B2B

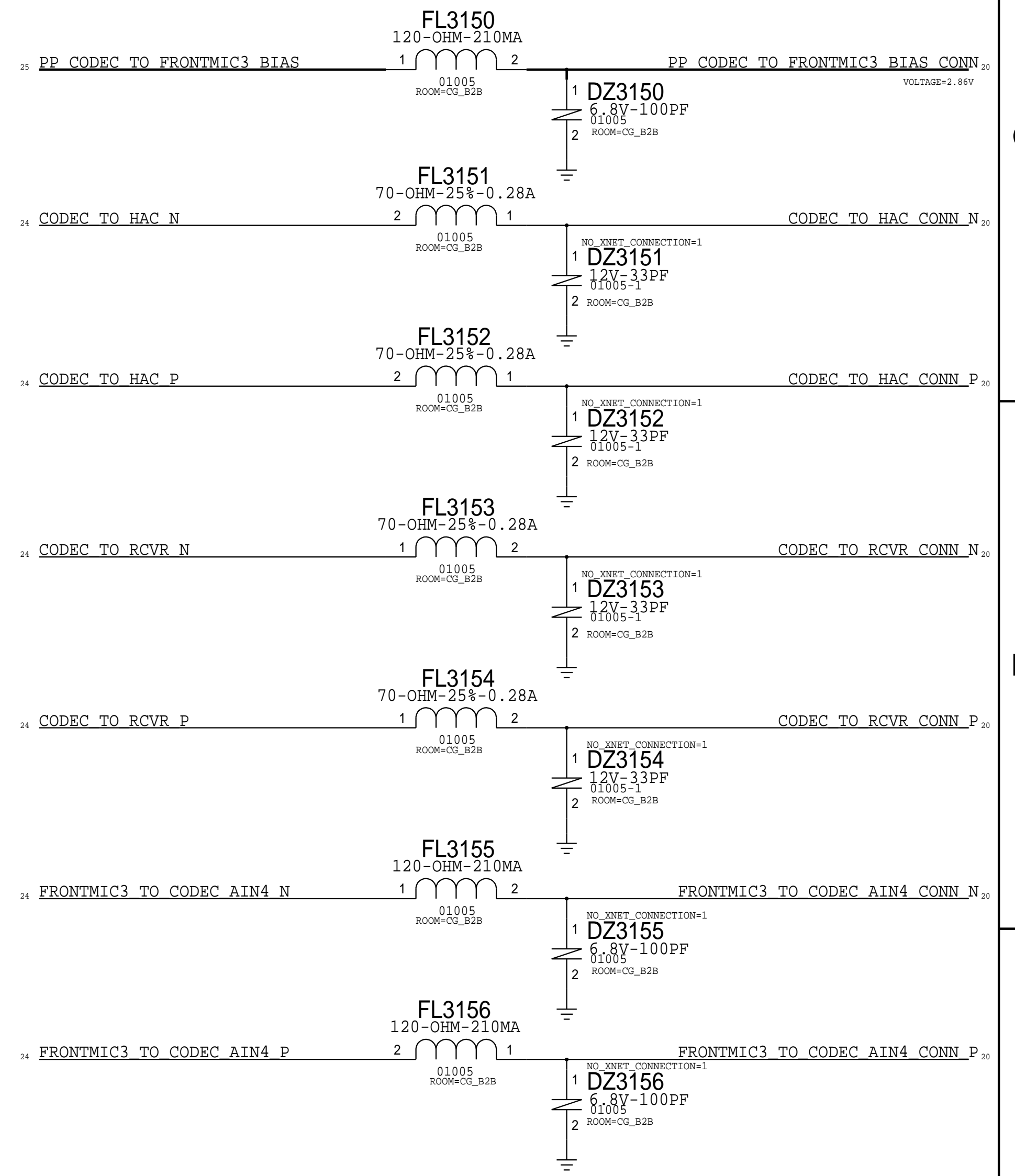
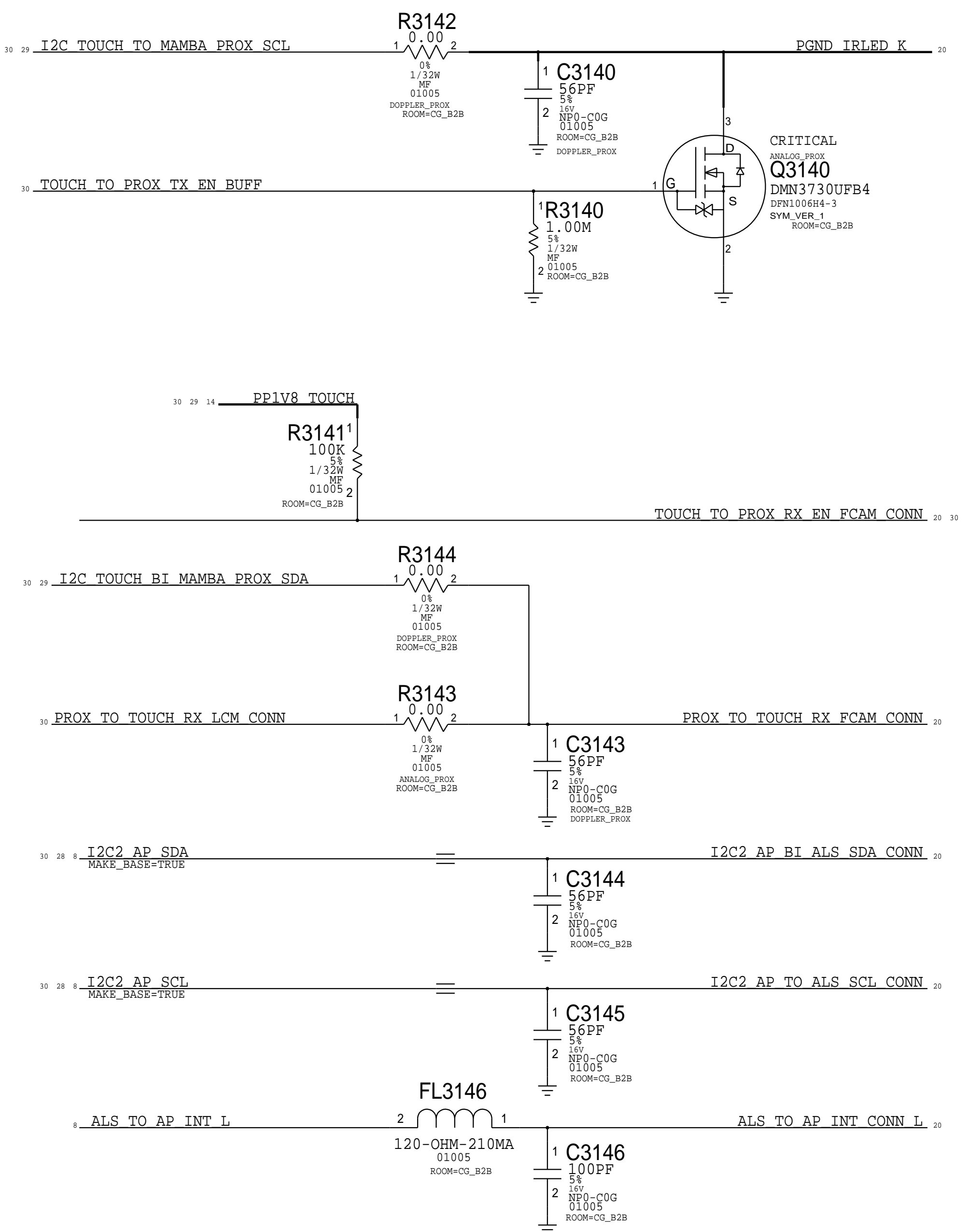
## CAMERA POWER



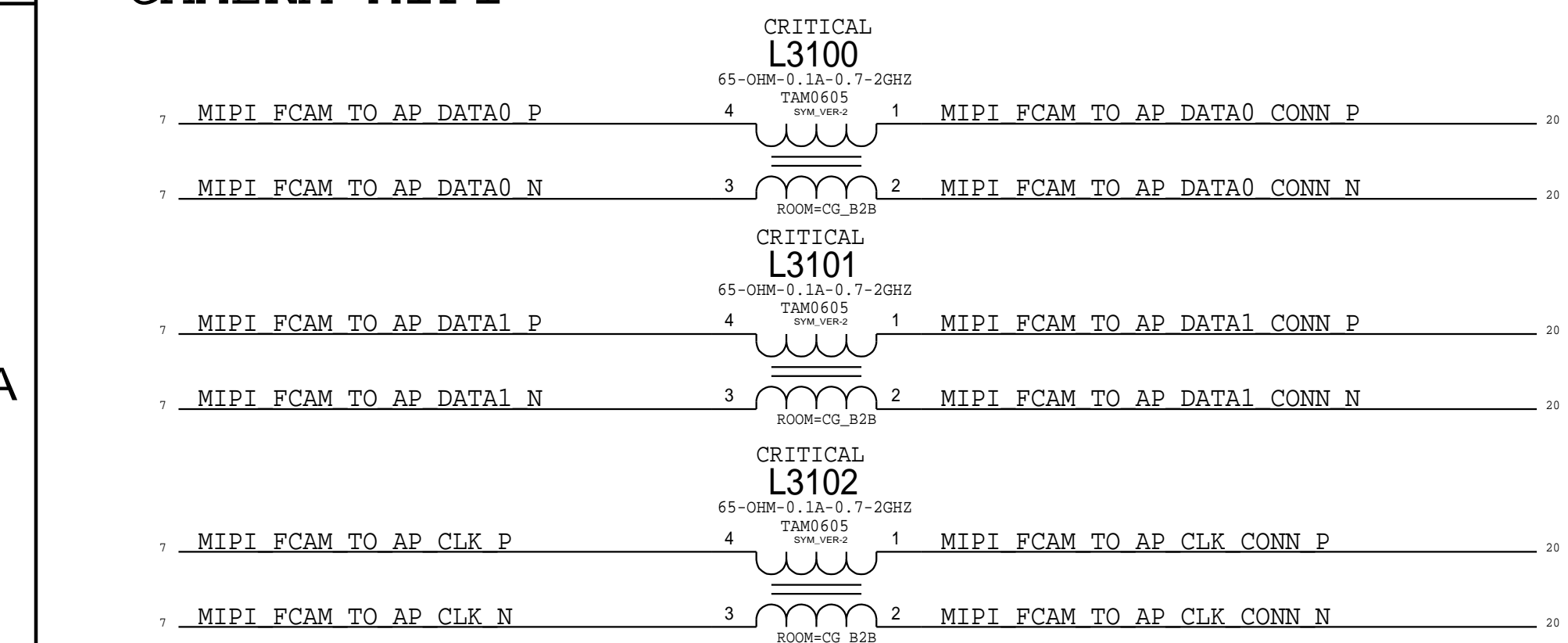
## CAMERA I/O



## PROX & ALS INTERFACE



## CAMERA MIPI



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# REAR CAMERA FLEX

## CAMERA POWER/MAMBA LDO

## RCAM CONNECTOR

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FLEX: 516S00042 (PLUG)

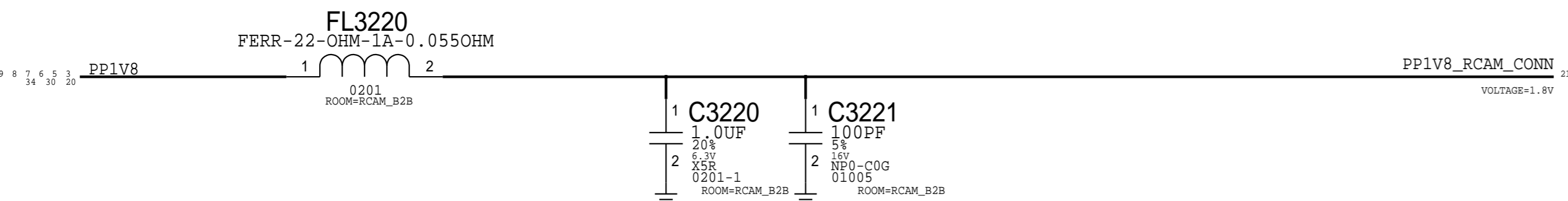
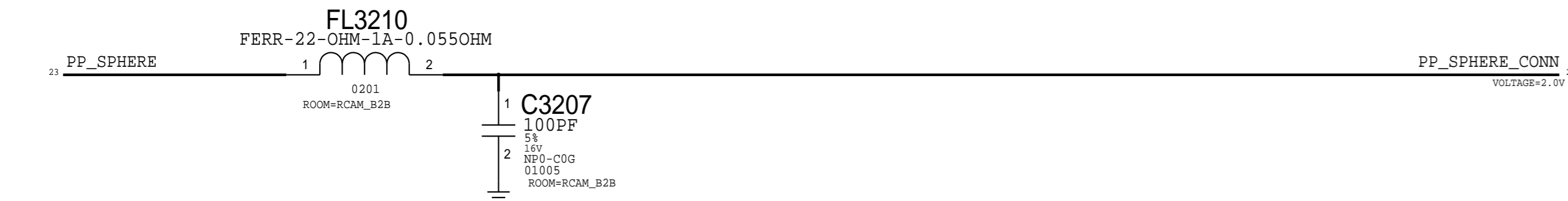
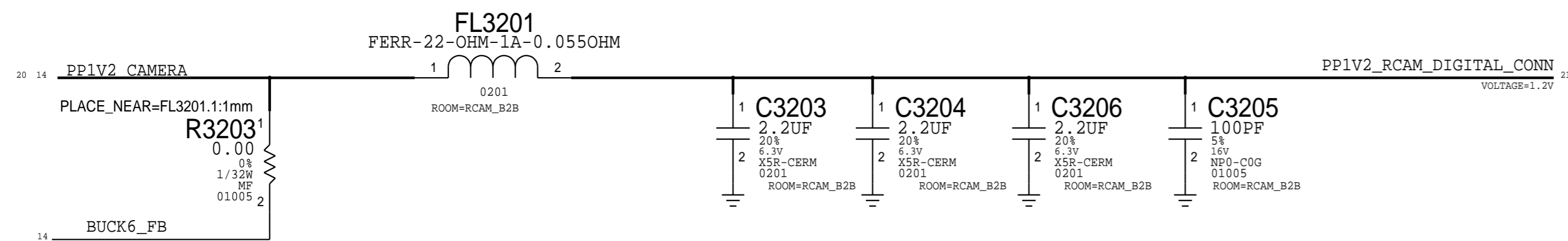
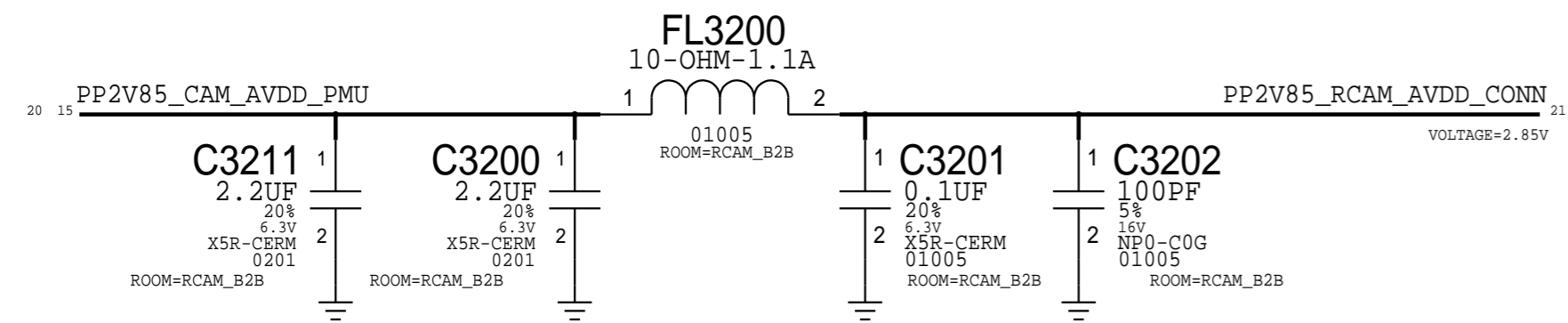
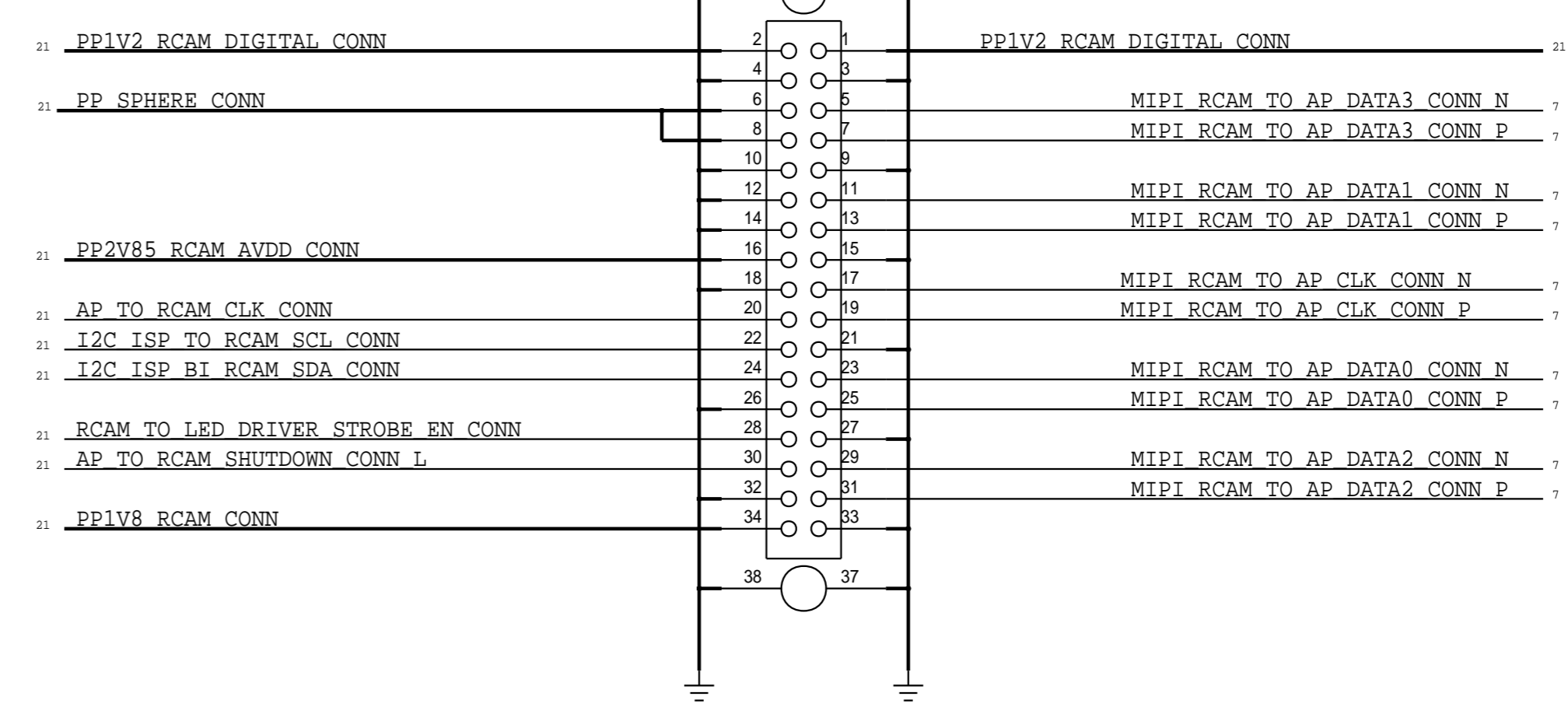
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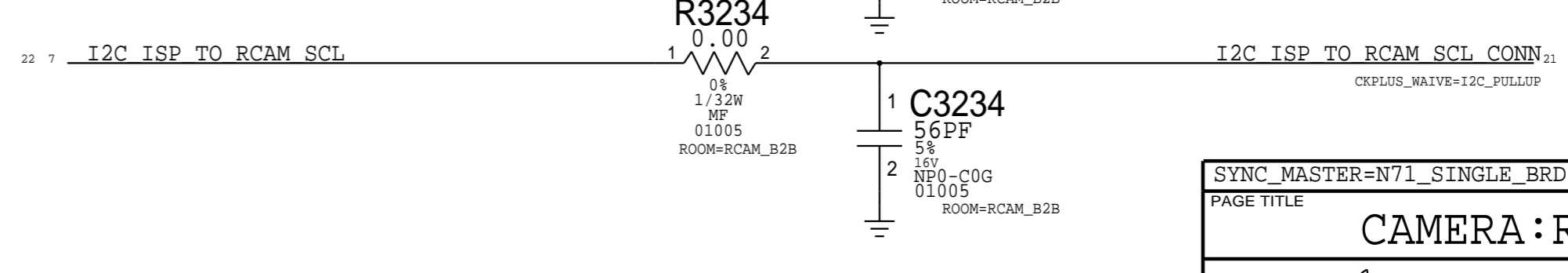
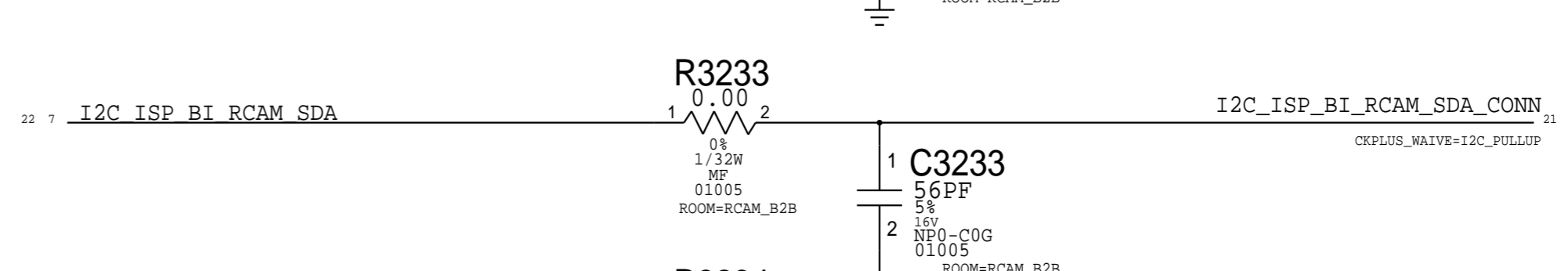
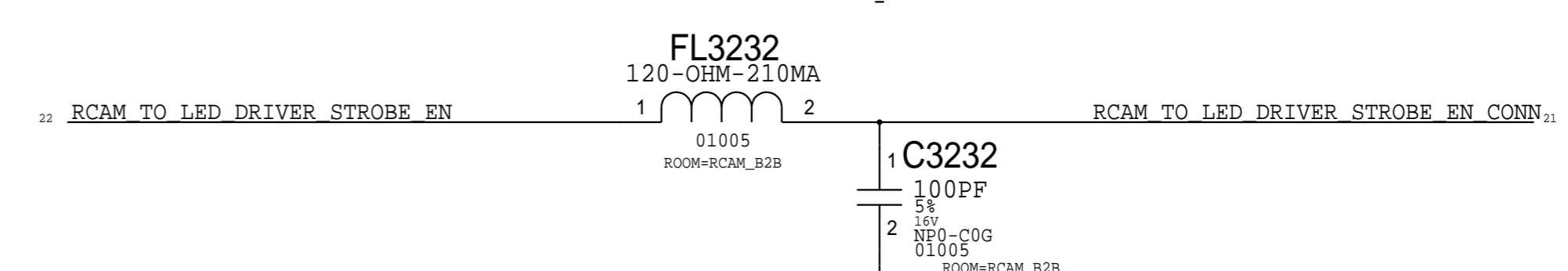
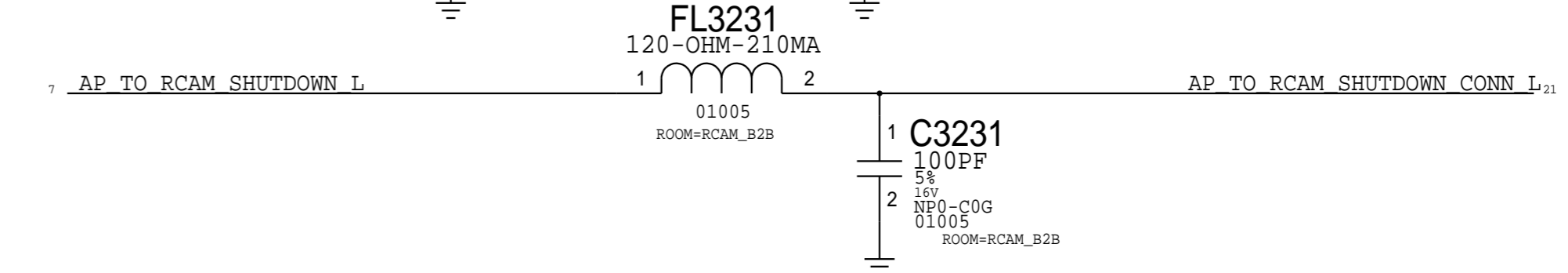
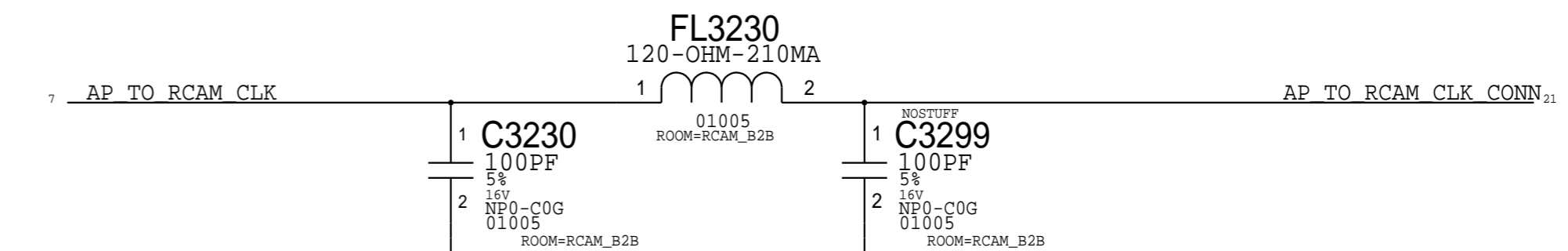
J3200

AA26-S034VA1

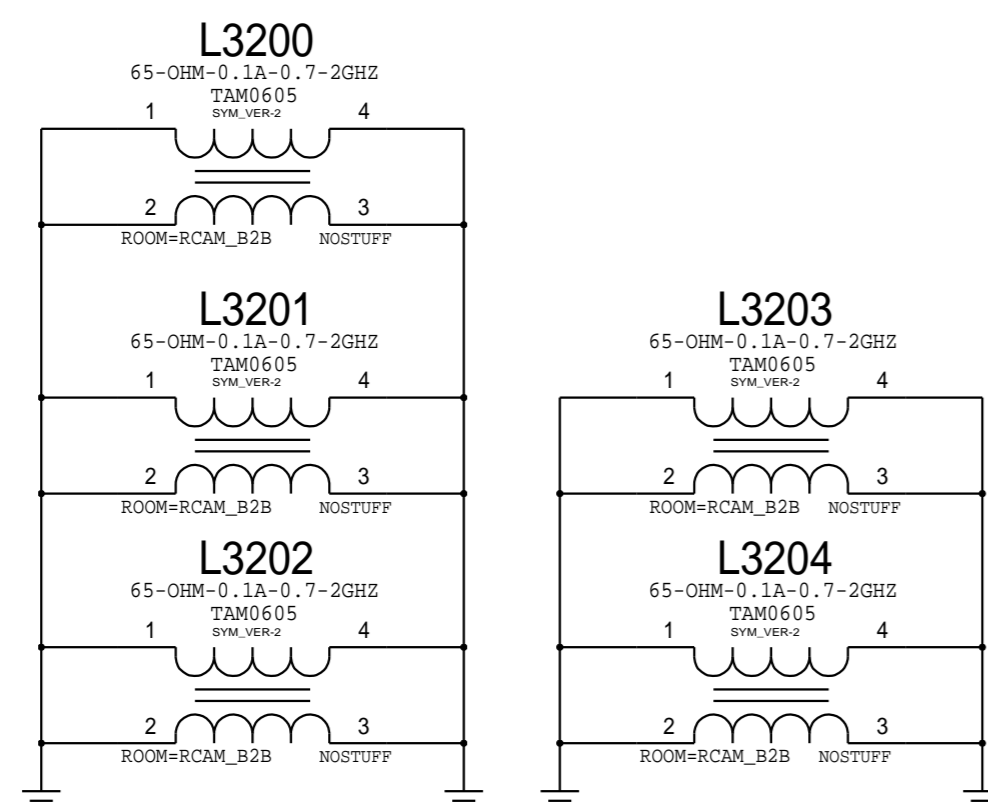
P-55-08



### Digital I/O



### MIPI Common-Mode Chokes

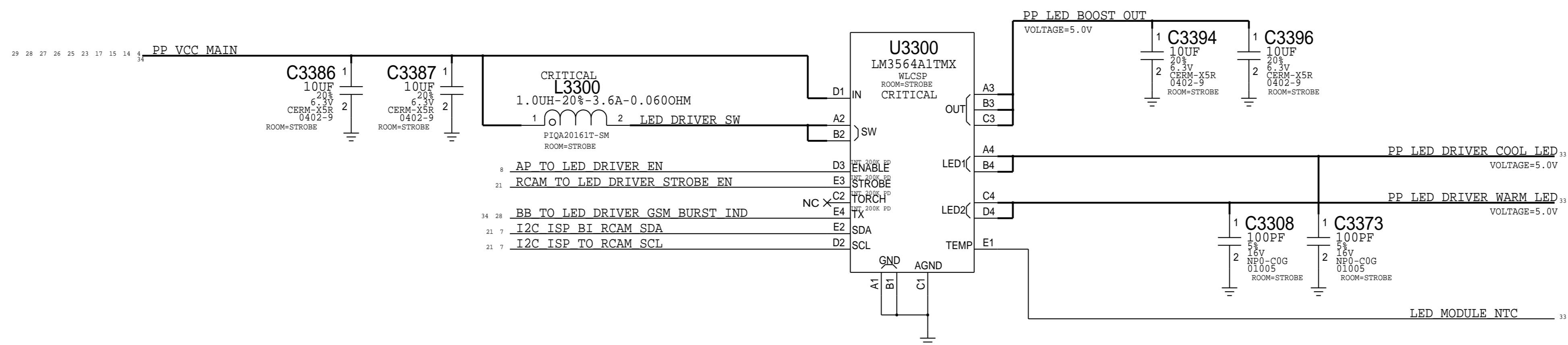


### Placeholder Footprints

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# DUAL LED STROBE DRIVER

APN: 353S3899



SYNC_MASTER=N71_SINGLE_BRD		SYNC_DATE=05/29/2014	
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Apple Inc.	DRAWING NUMBER	051-00094	SIZE
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		SHEET	22 OF 60

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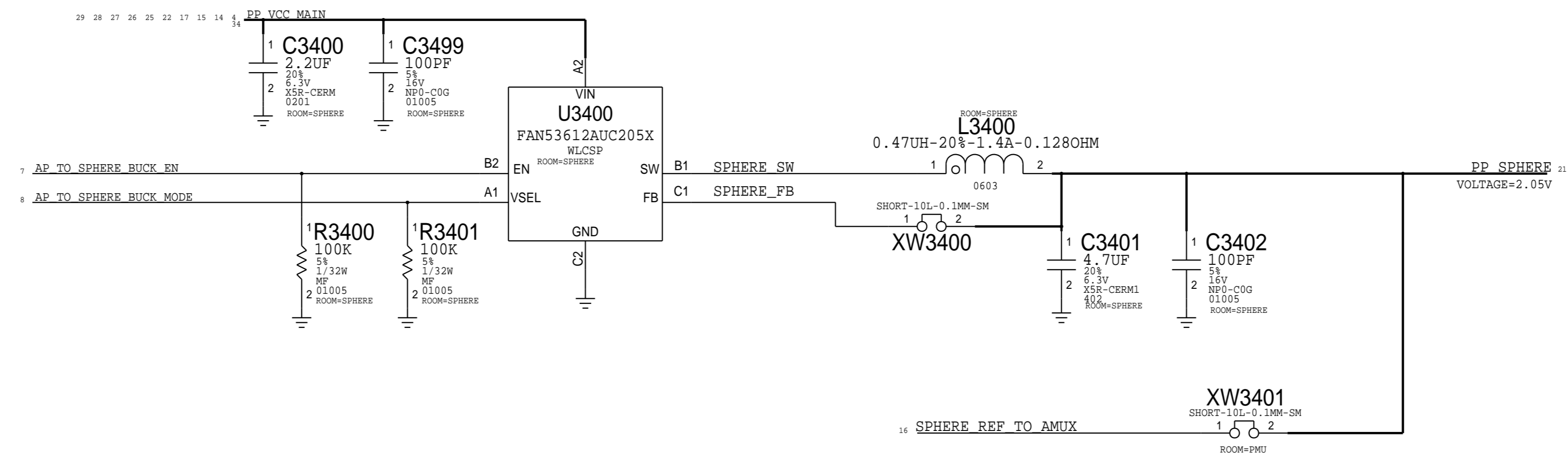
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A

# Sphere Driver

APN: 353S00413



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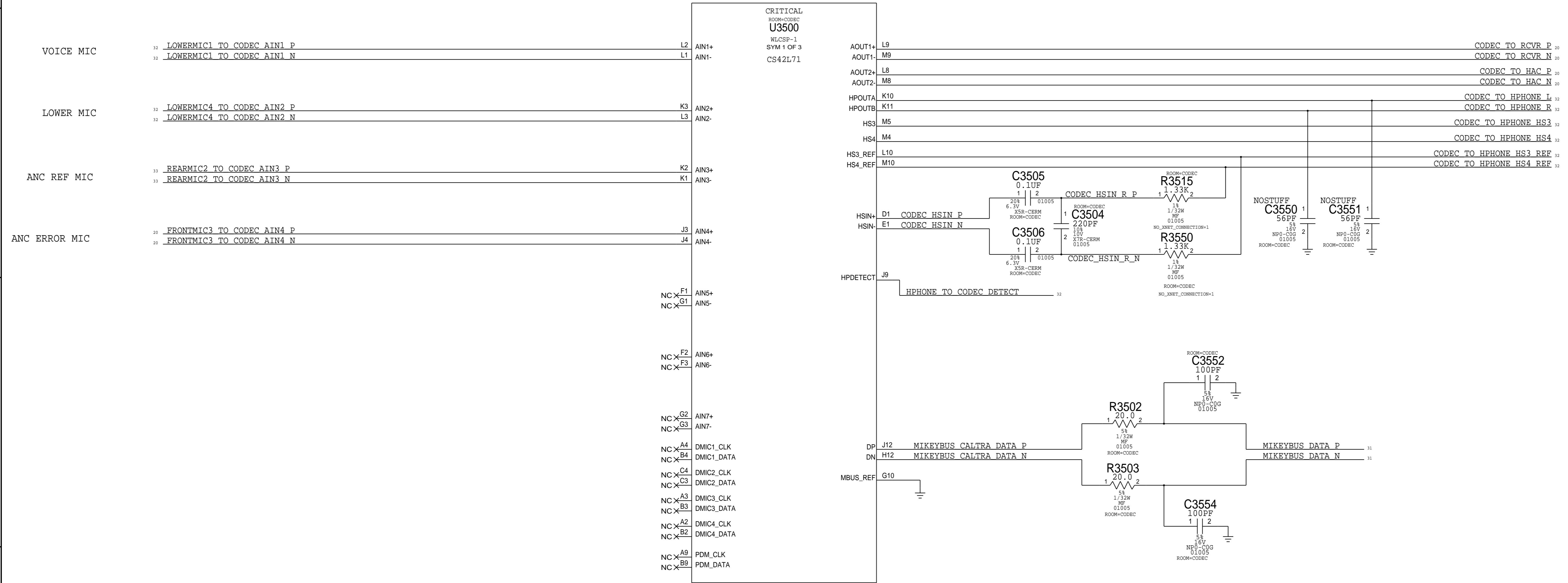
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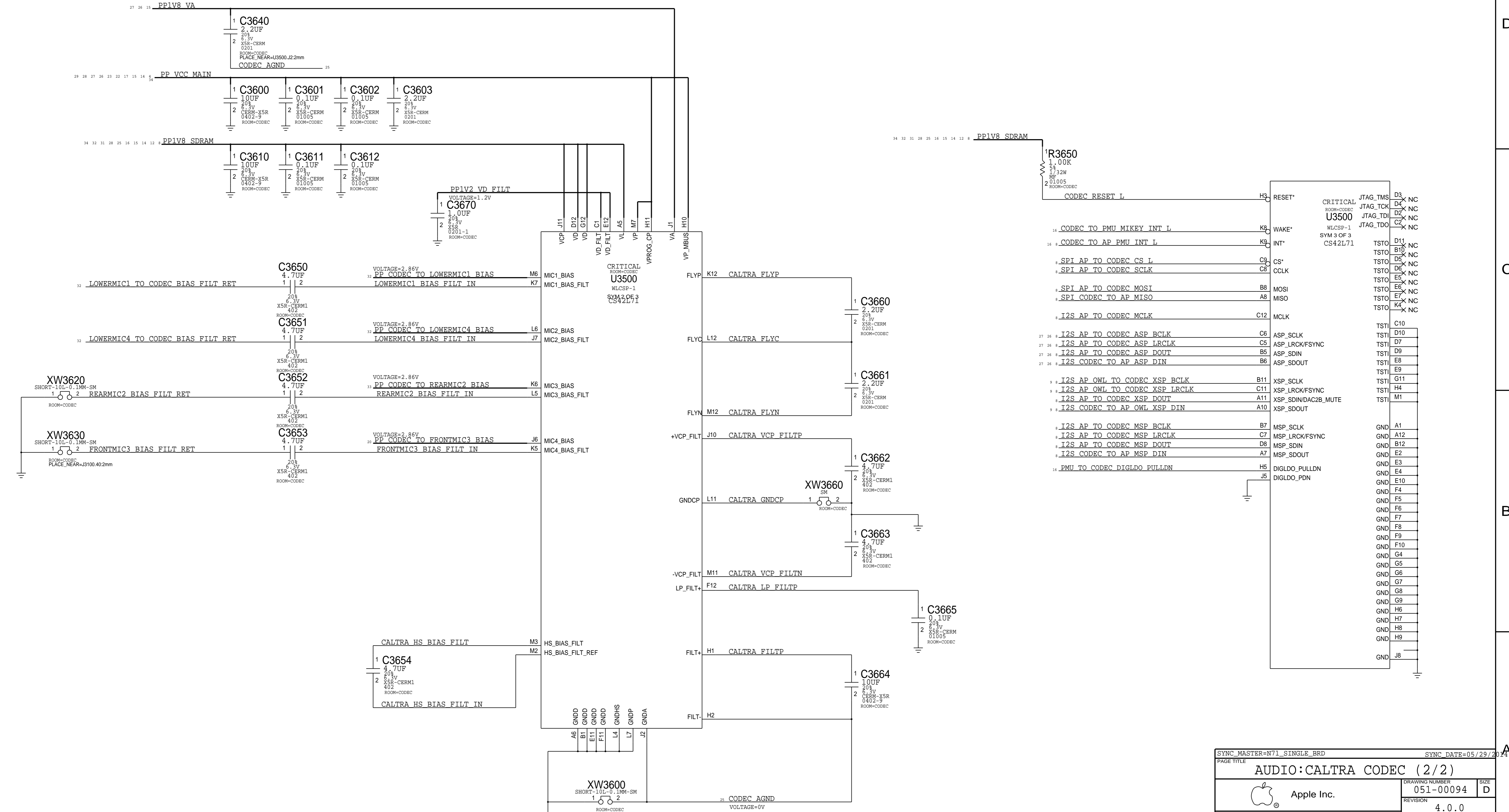
# CALTRA AUDIO CODEC (ANALOG INPUTS & OUTPUTS)

APN: 338S00105



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		PAGE	35 OF 49
		SHEET	24 OF 60

# CALTRA AUDIO CODEC (POWER & I/O)

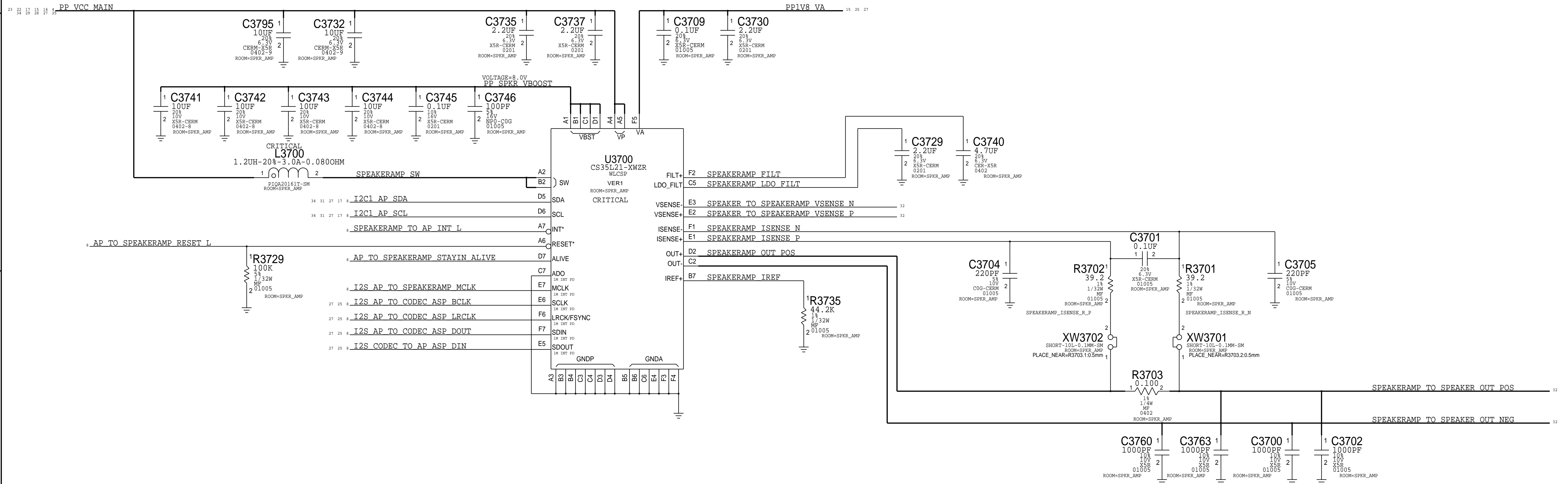


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D4	NC		D8	NC	
D2	NC		D5	NC	
C2	NC		D6	NC	
			D7	NC	
			D9	NC	
			D4	NC	
			D5	NC	
			D6	NC	
			D7	NC	
			D8	NC	
			D9	NC	
			D10	NC	
			D11	NC	
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# SPEAKER AMPLIFIER

APN: 338S1285  
I2C ADDRESS: 1000000

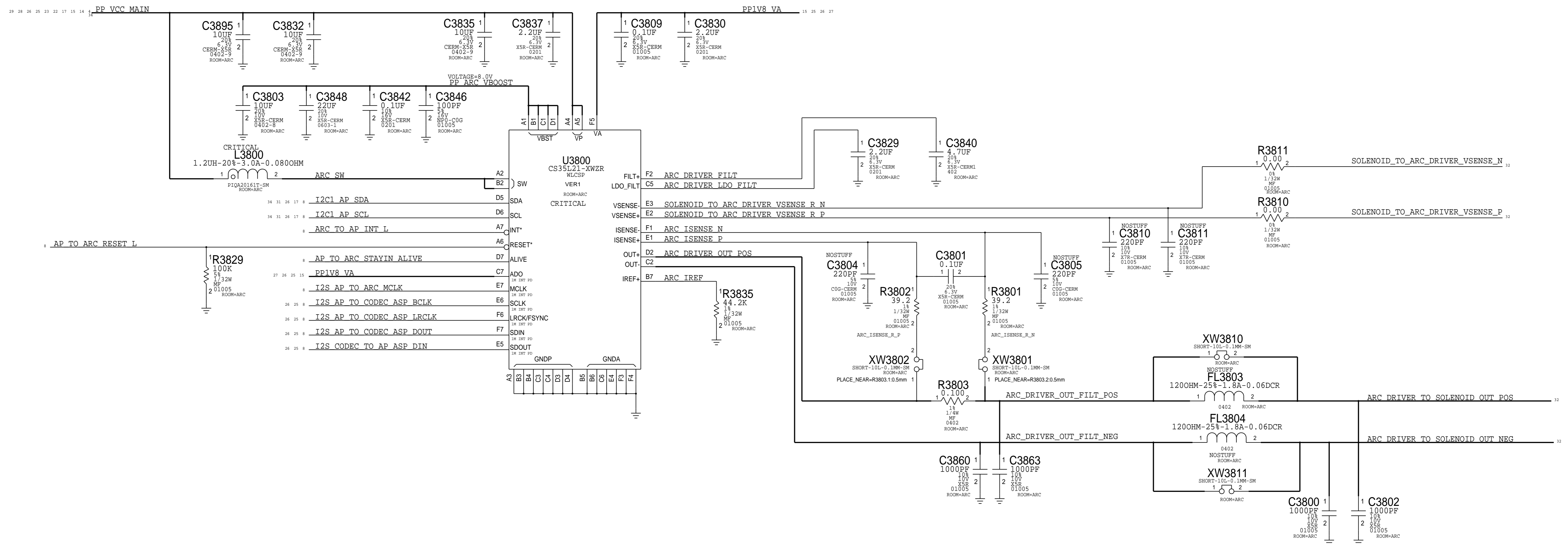


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# ARC DRIVER

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I2C ADDRESS: 1000001

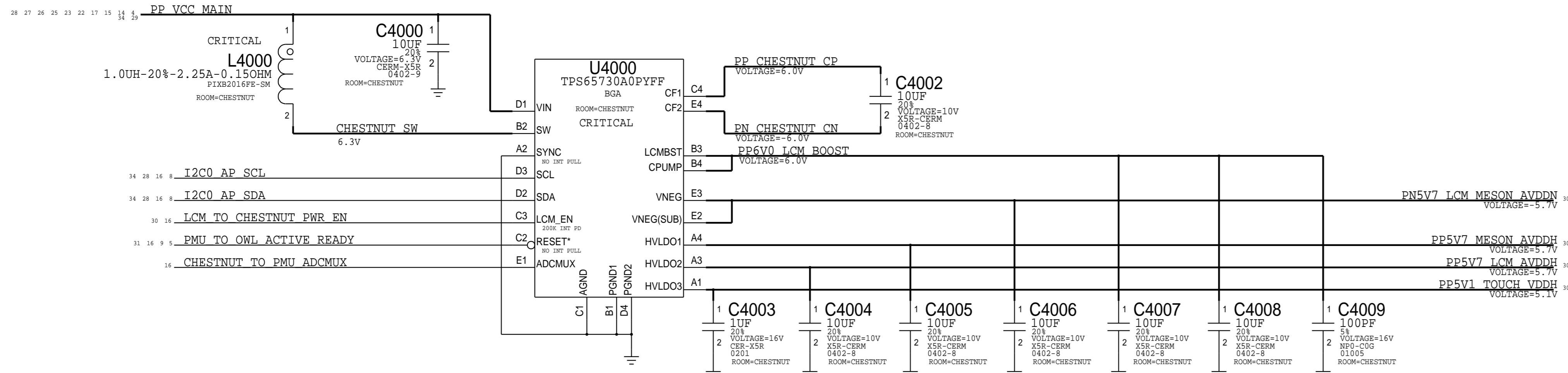


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# DISPLAY & TOUCH - POWER SUPPLIES

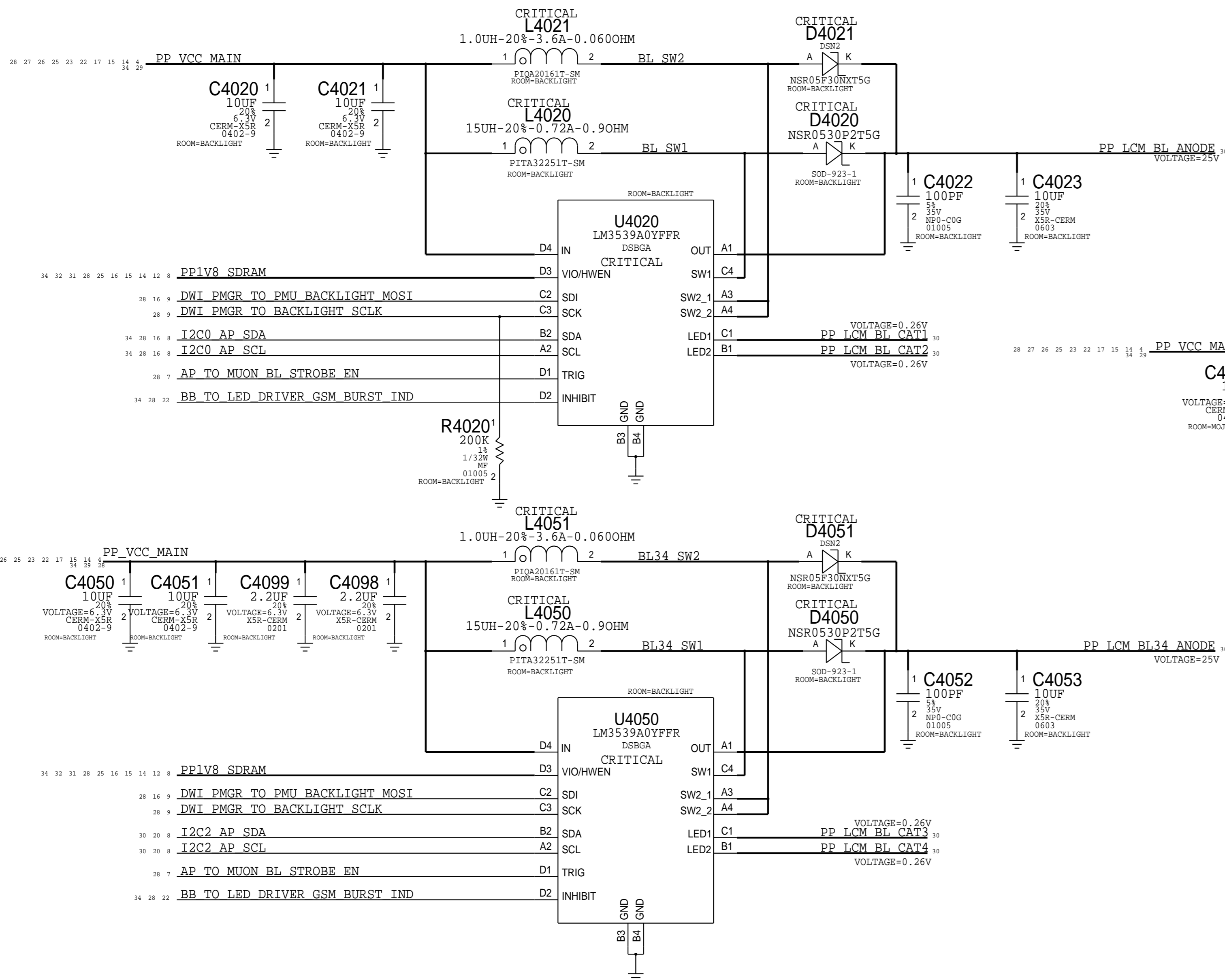
## CHESTNUT DISPLAY PMU

APN: 338S1172



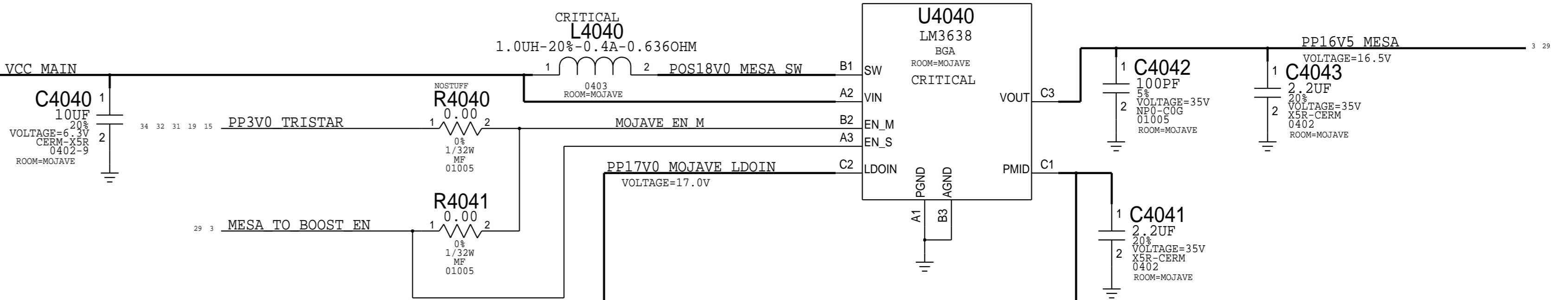
## LED BACKLIGHT DRIVERS

APN: 353S00407



## MOJAVE MESA BOOST

APN: 353S3978



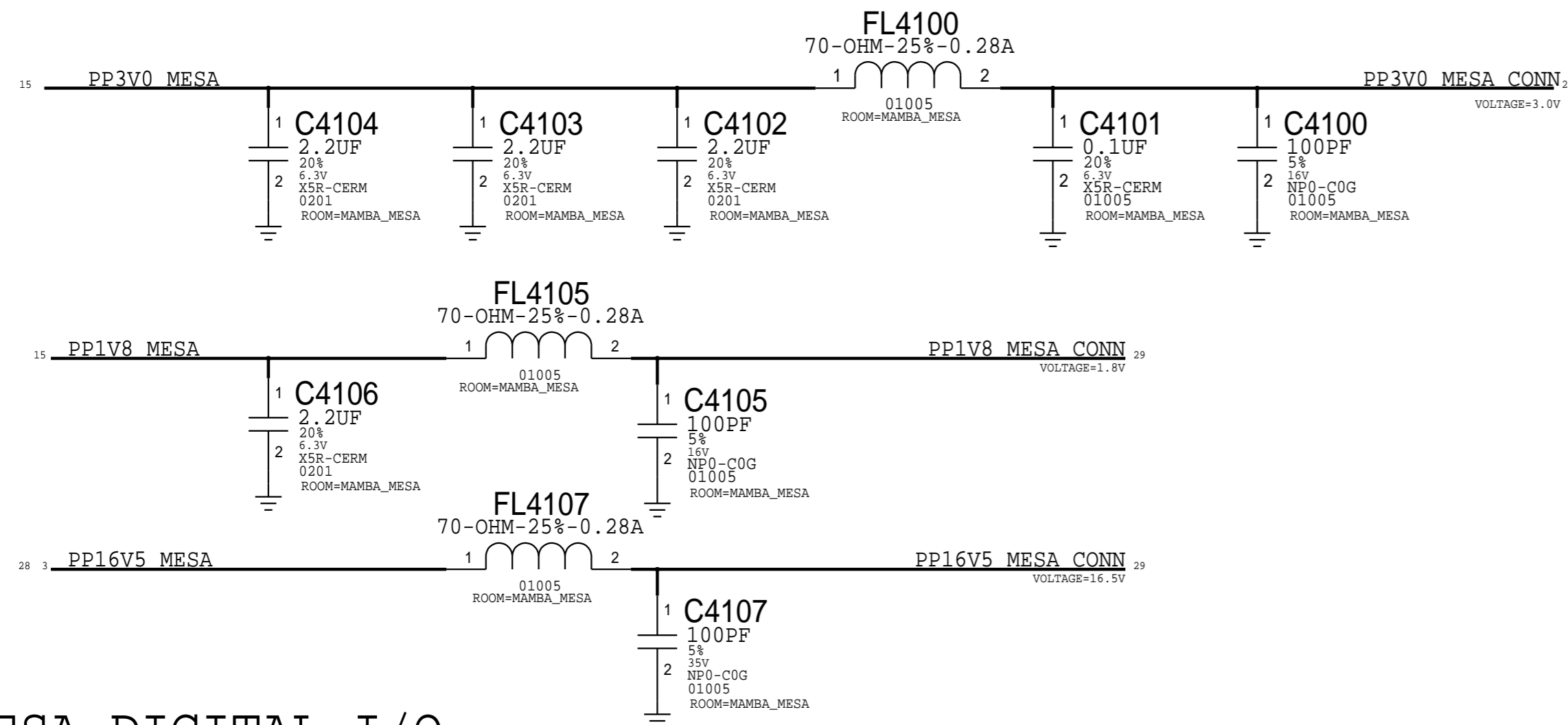
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# MAMBA & MESA FLEX

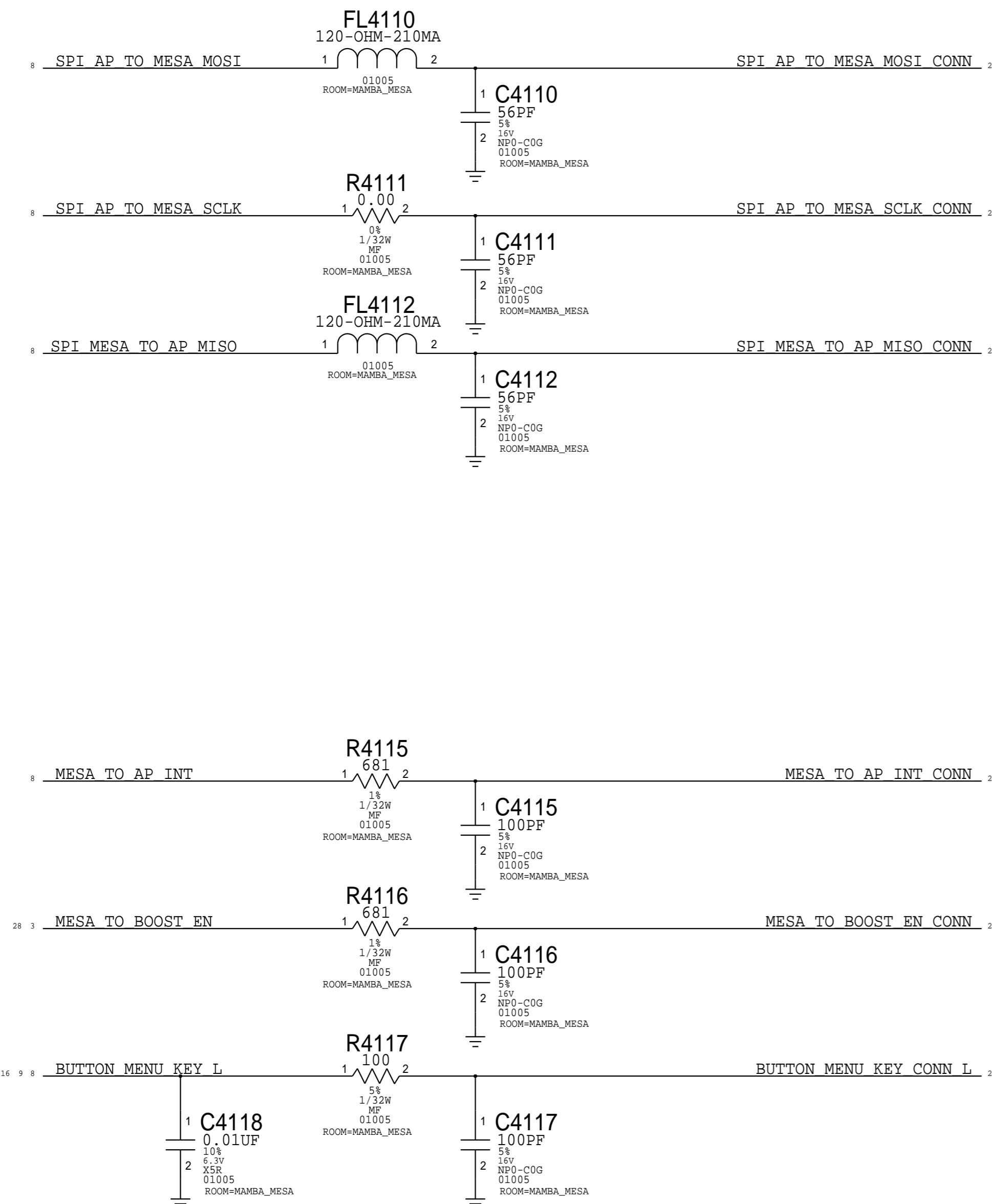
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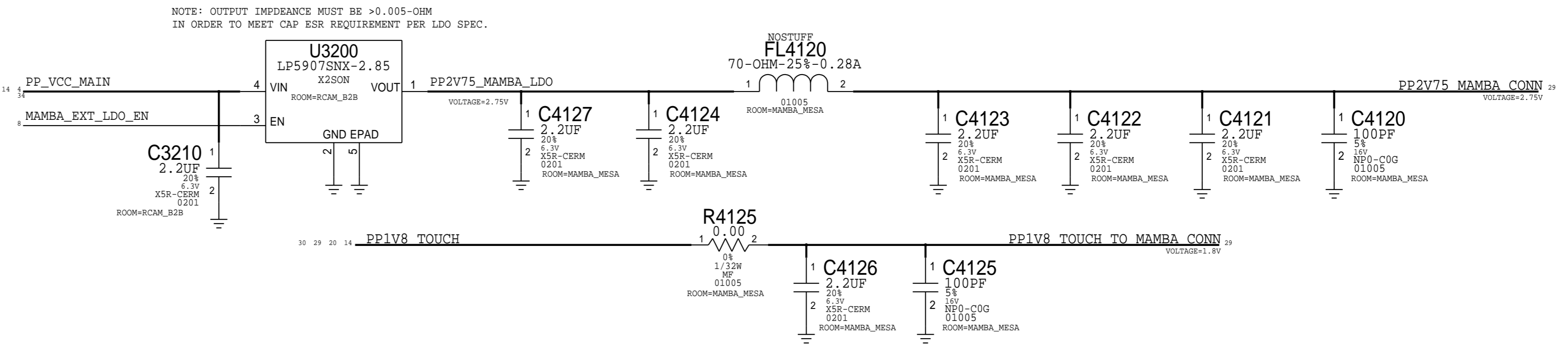
### MESA POWER



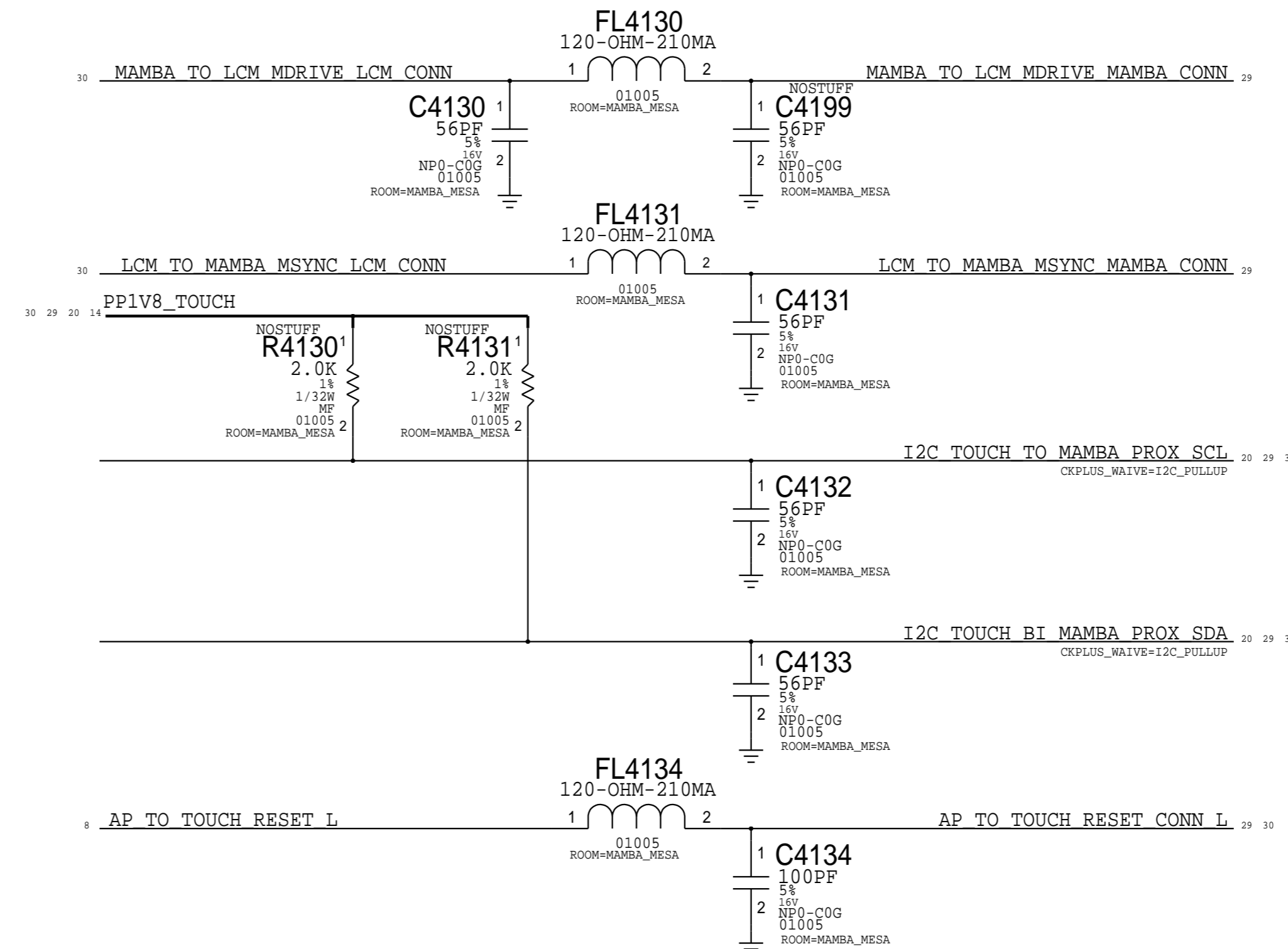
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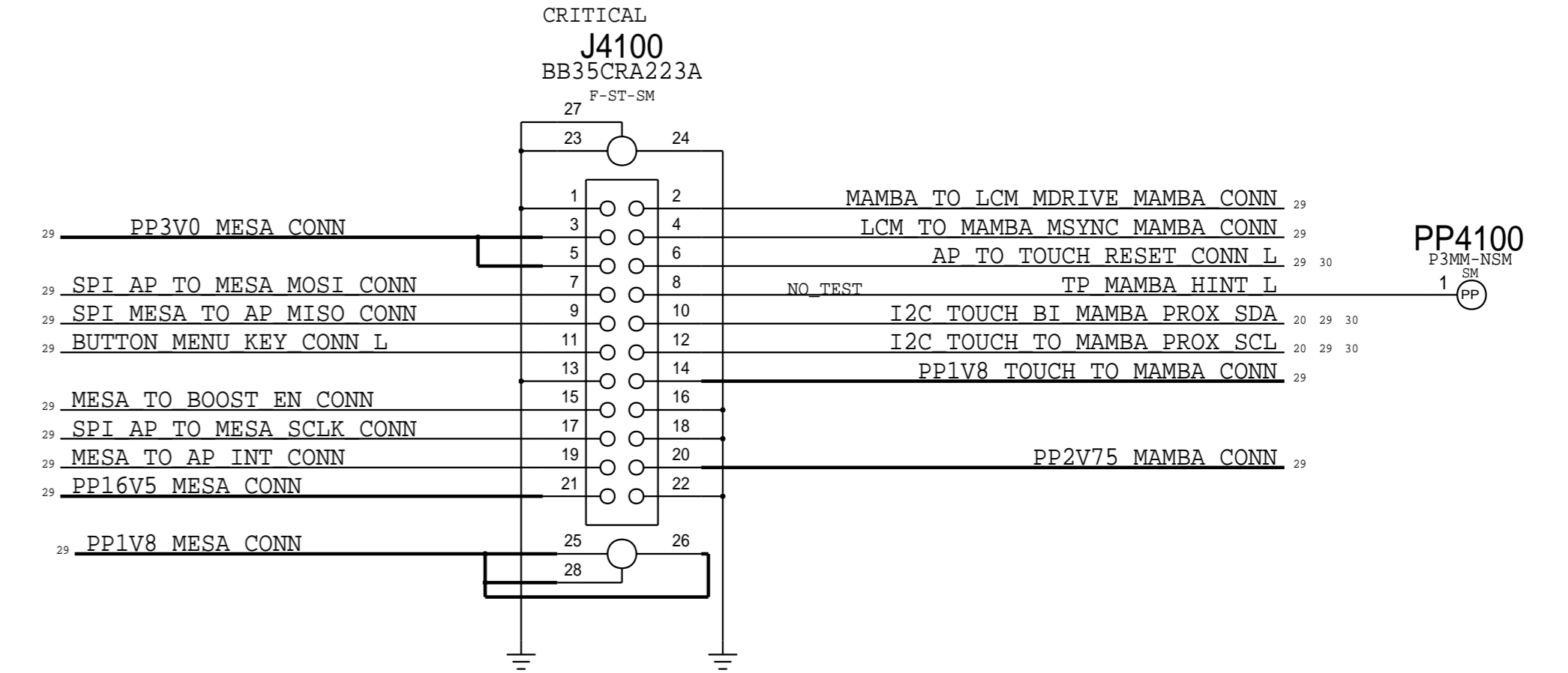
### MAMBA POWER



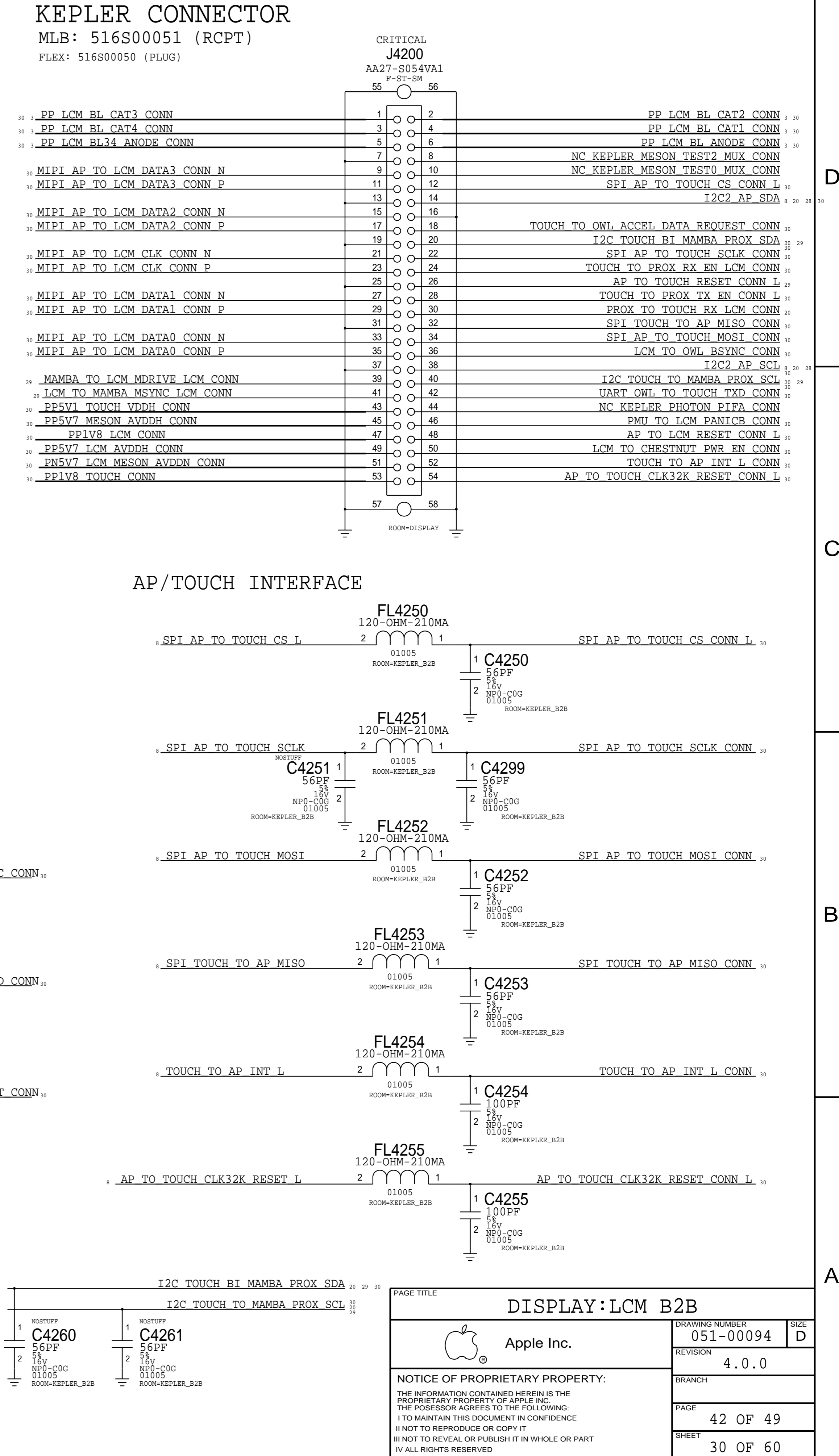
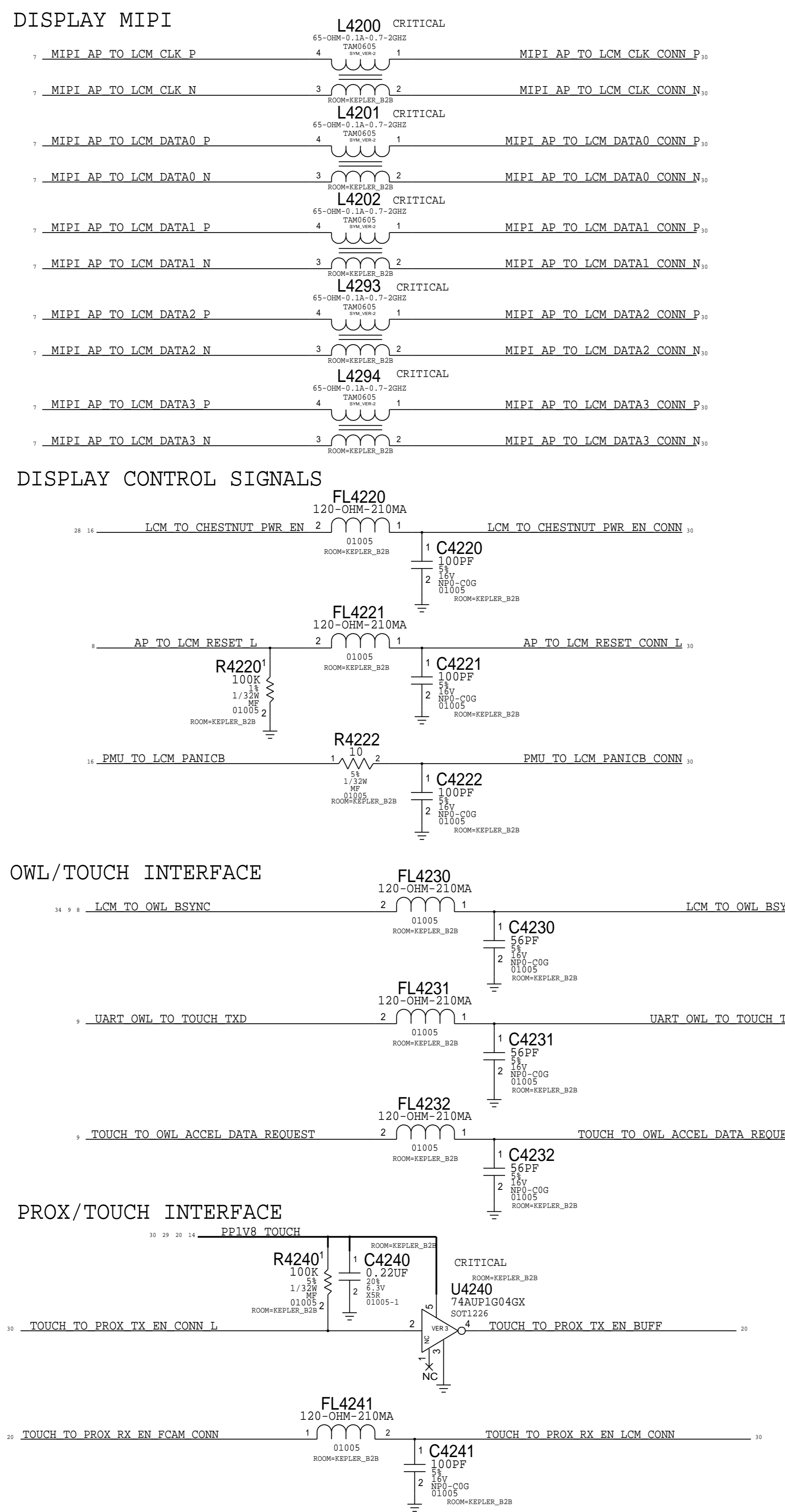
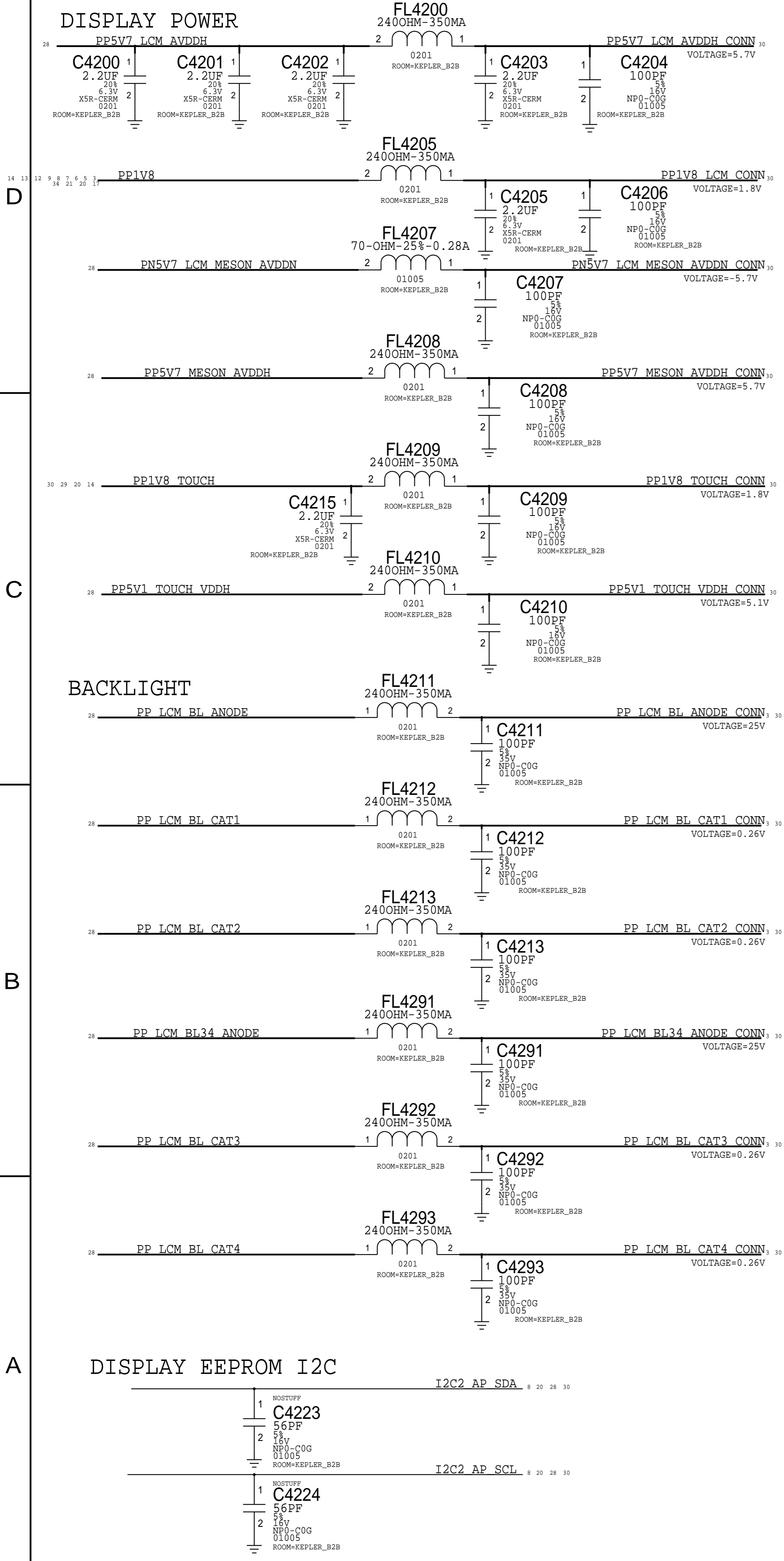
### MAMBA DIGITAL I/O



NOTE:MAMBA I2C PULL-UPS TO PP1V8 TOUCH INSIDE KEPLER  
ADDING R4130, R4131 AS OPTION FOR TWEAKING VALUE



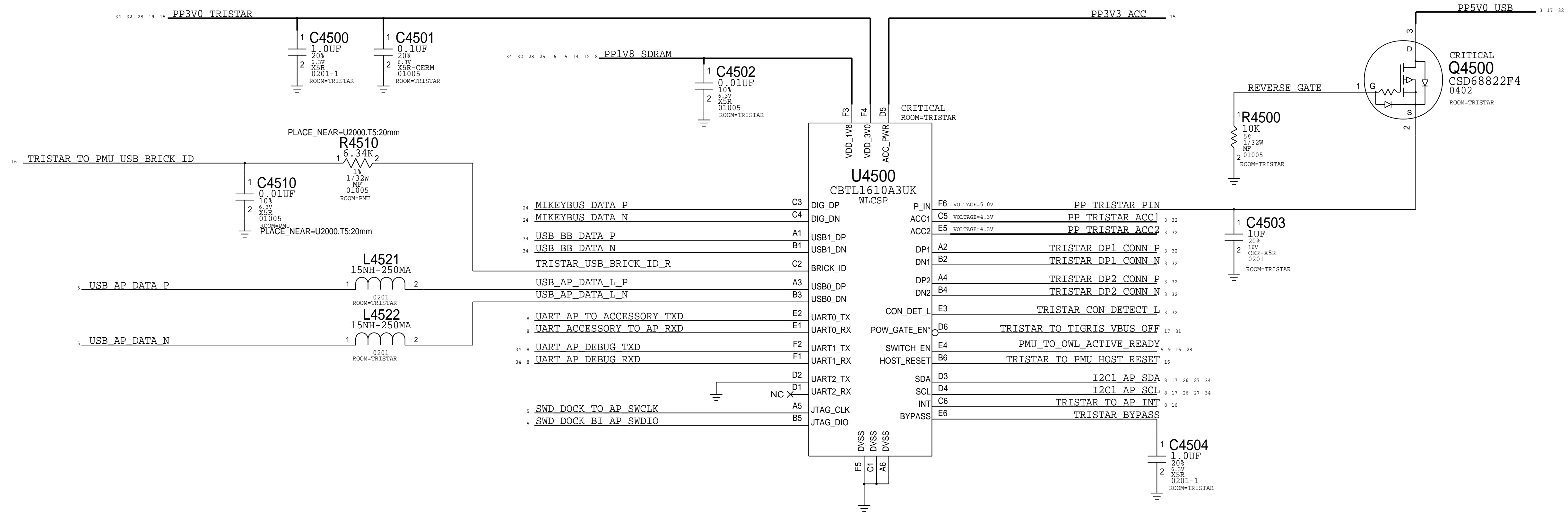
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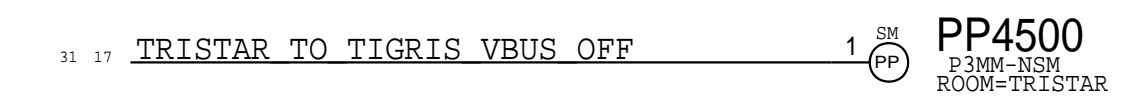
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# TRISTAR 2

APN: 343S0695



## PROBE POINTS

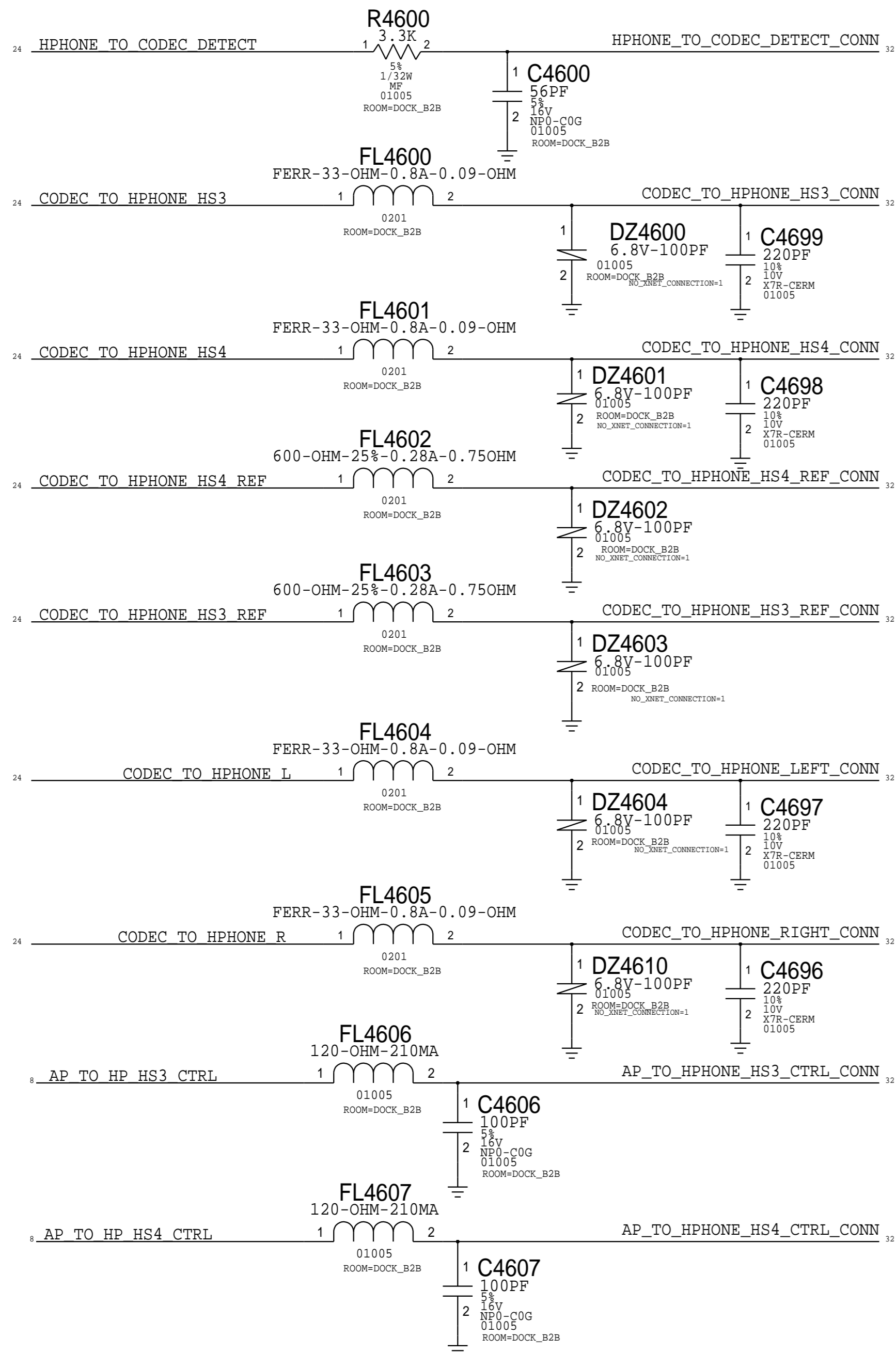


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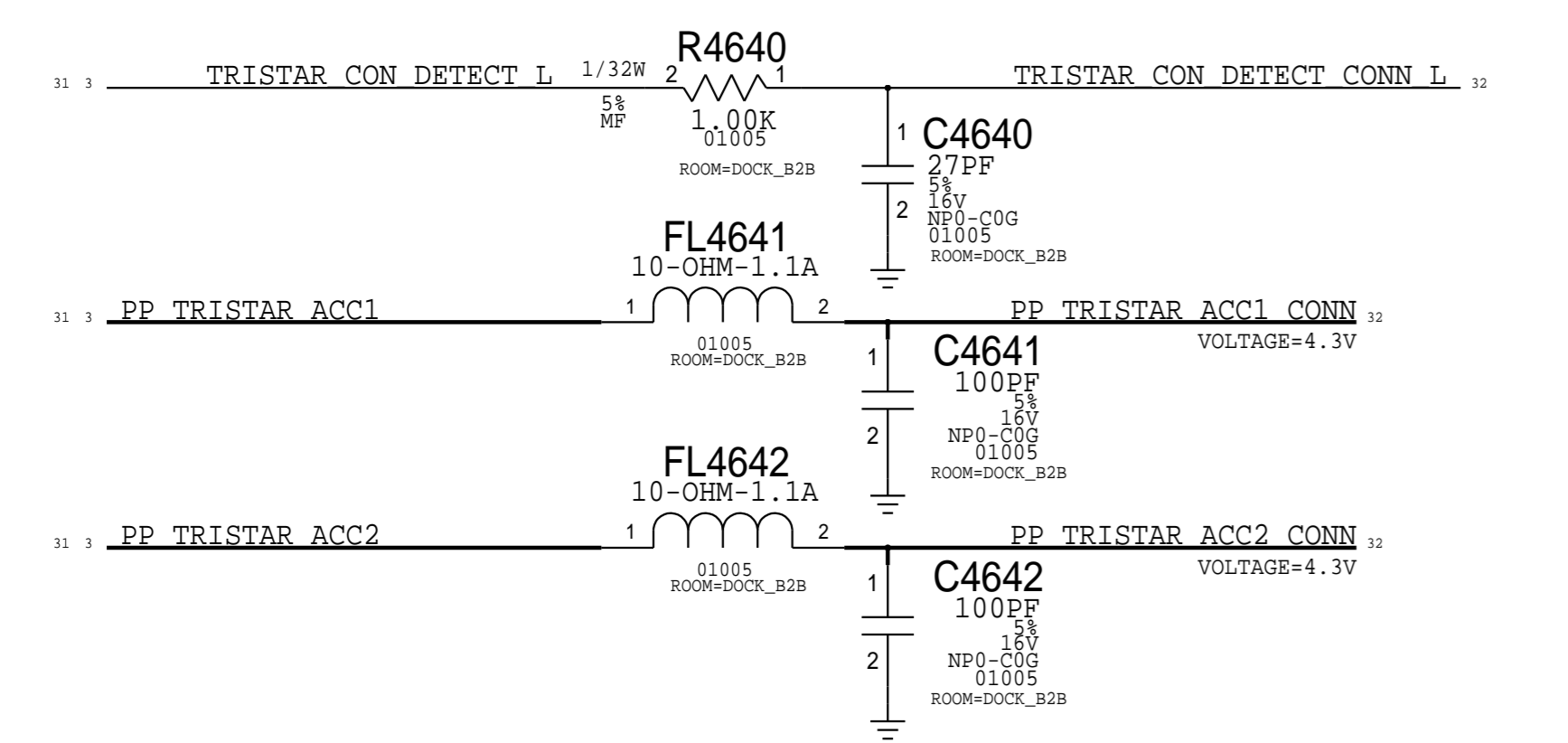


# DOCK FLEX CONNECTOR

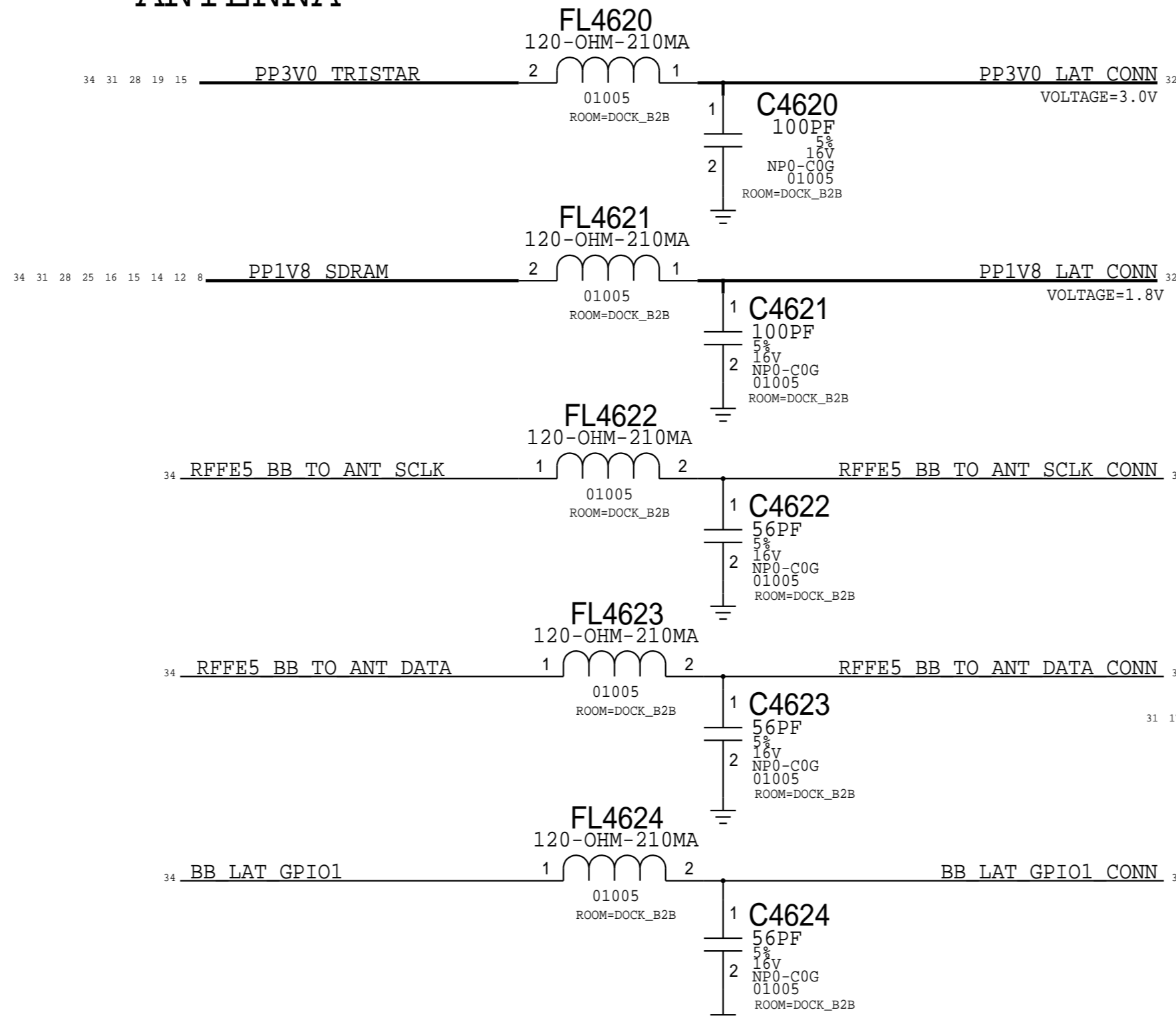
## AUDIO JACK



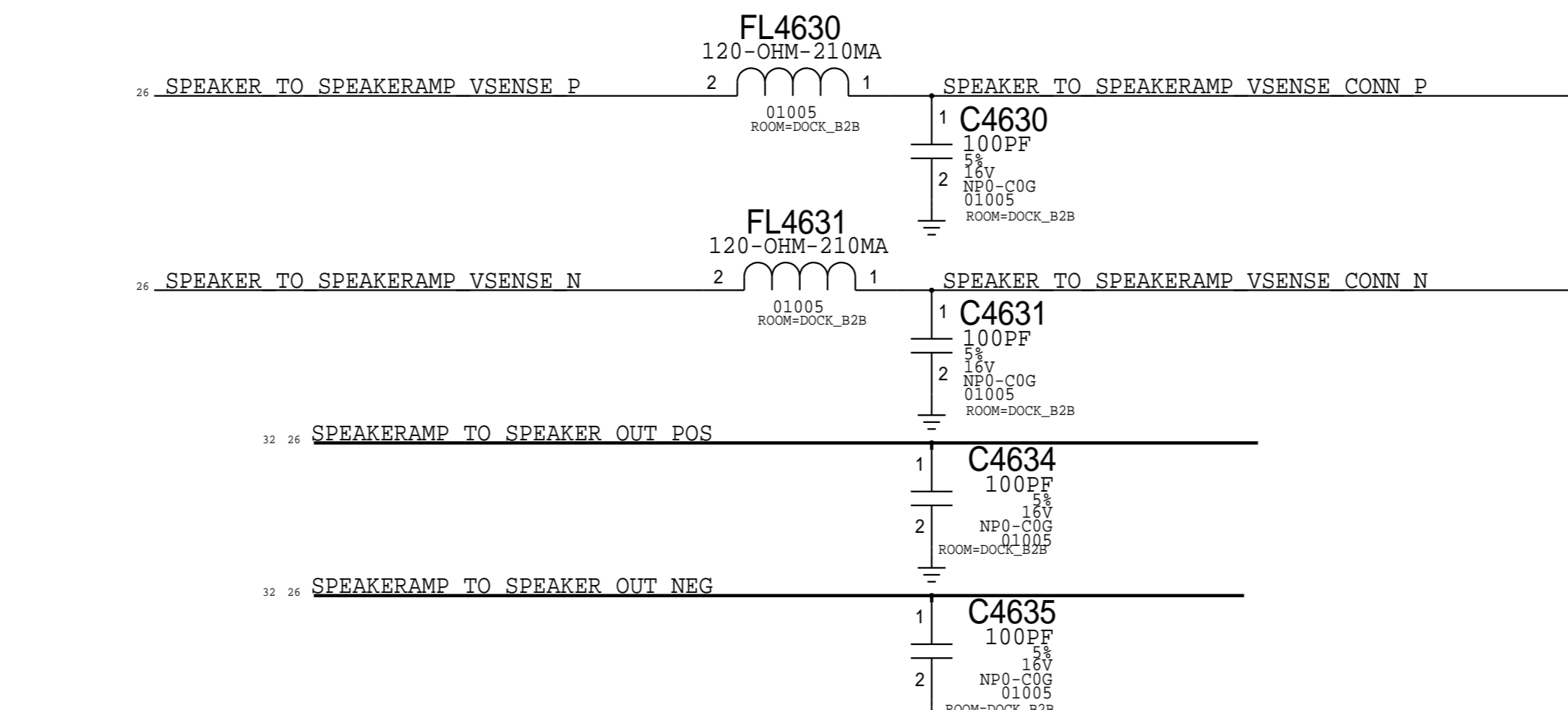
## TRISTAR



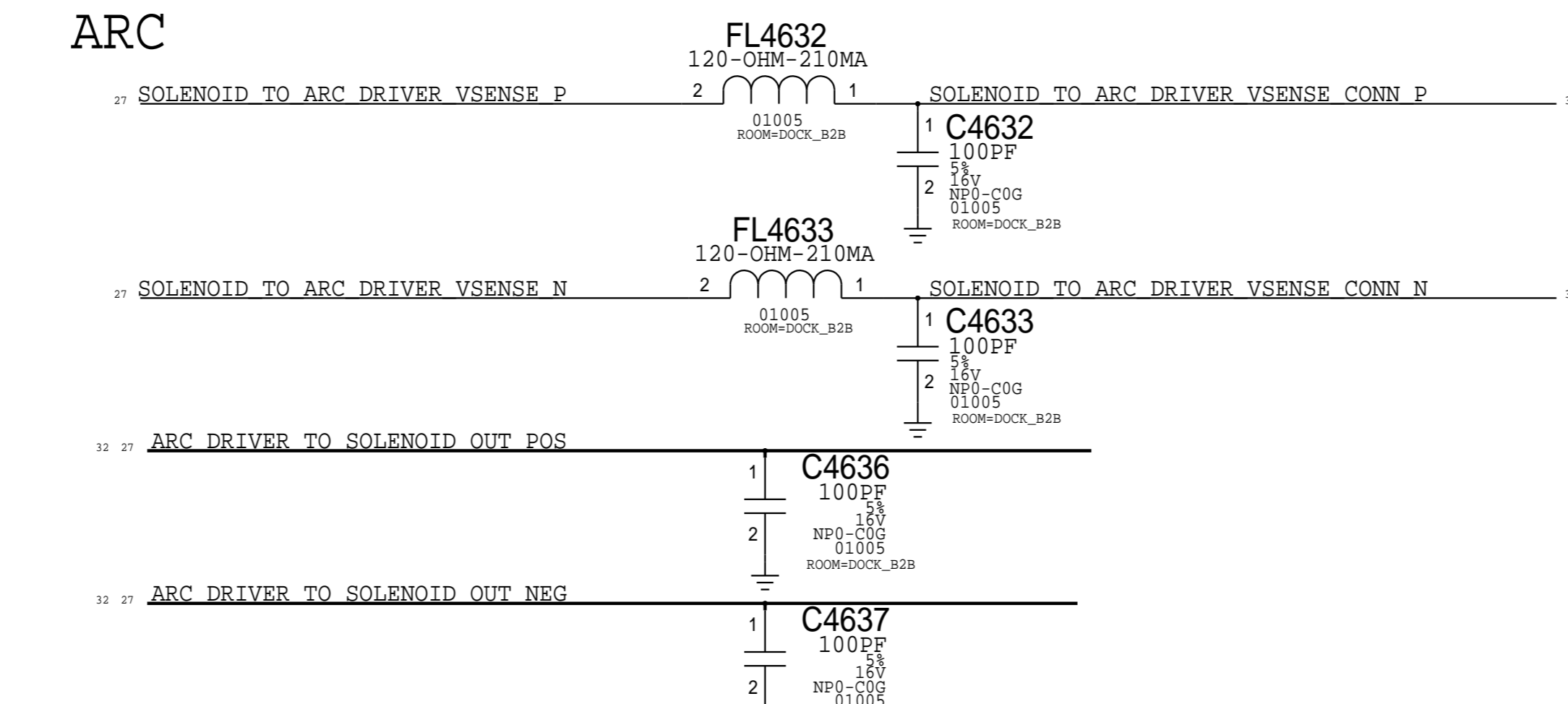
## ANTENNA



## SPEAKER



## ARC

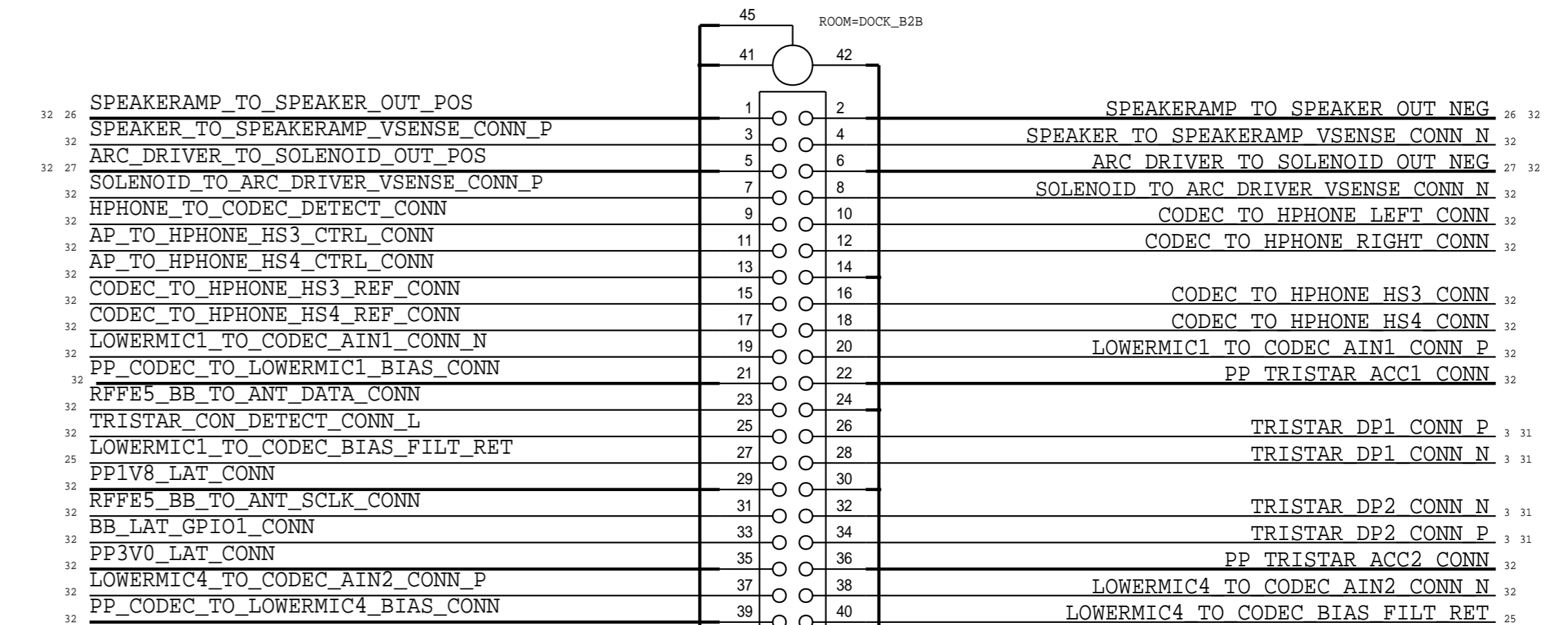


# DOCK FLEX CONNECTOR

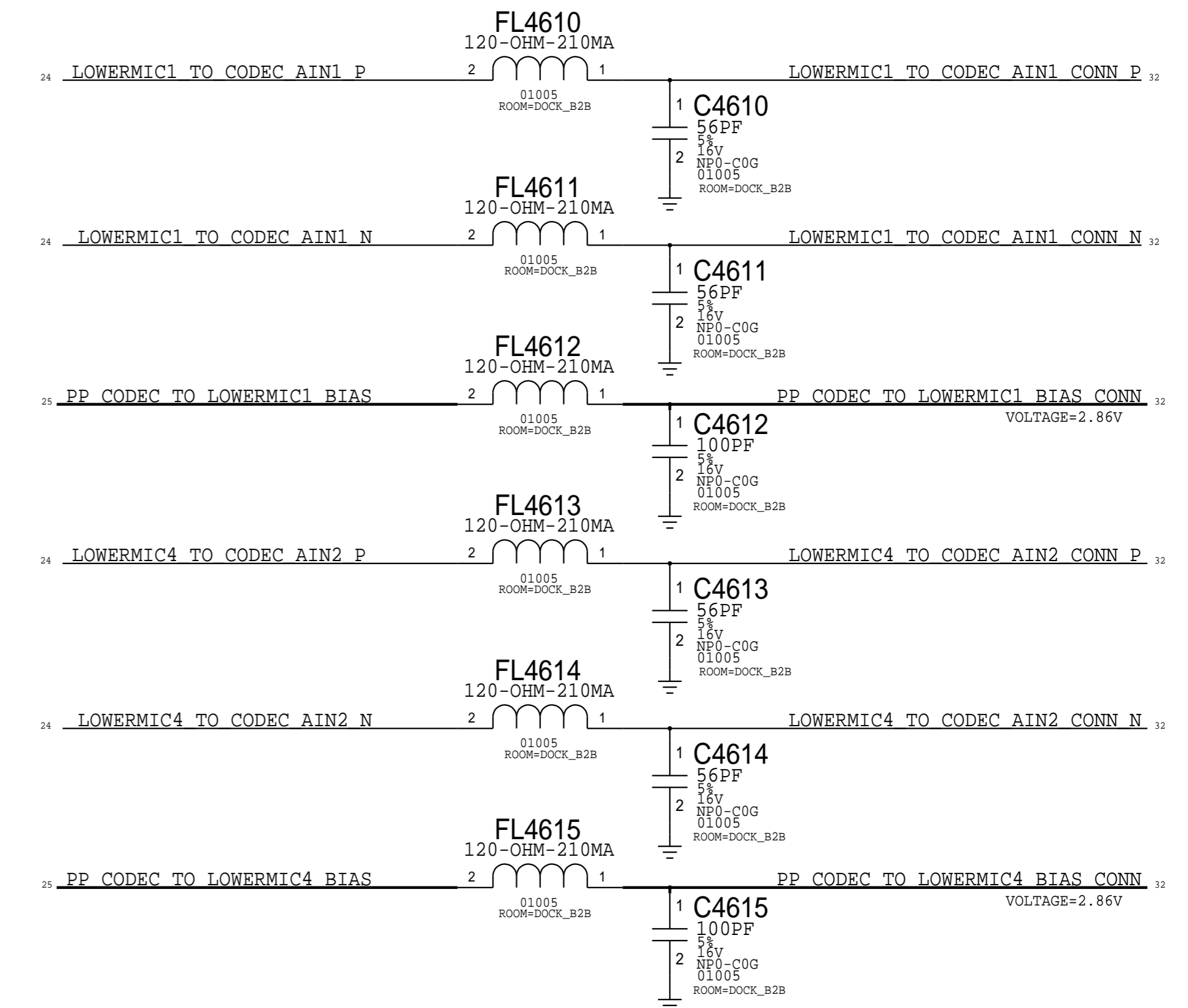
MLB: 516S00033 (RCPT)

FLEX: 516S00034 (PLUG)

CRITICAL  
J4600  
24-5859-04-XXX-829  
F-ST-SM



## LOWER MIC1/4



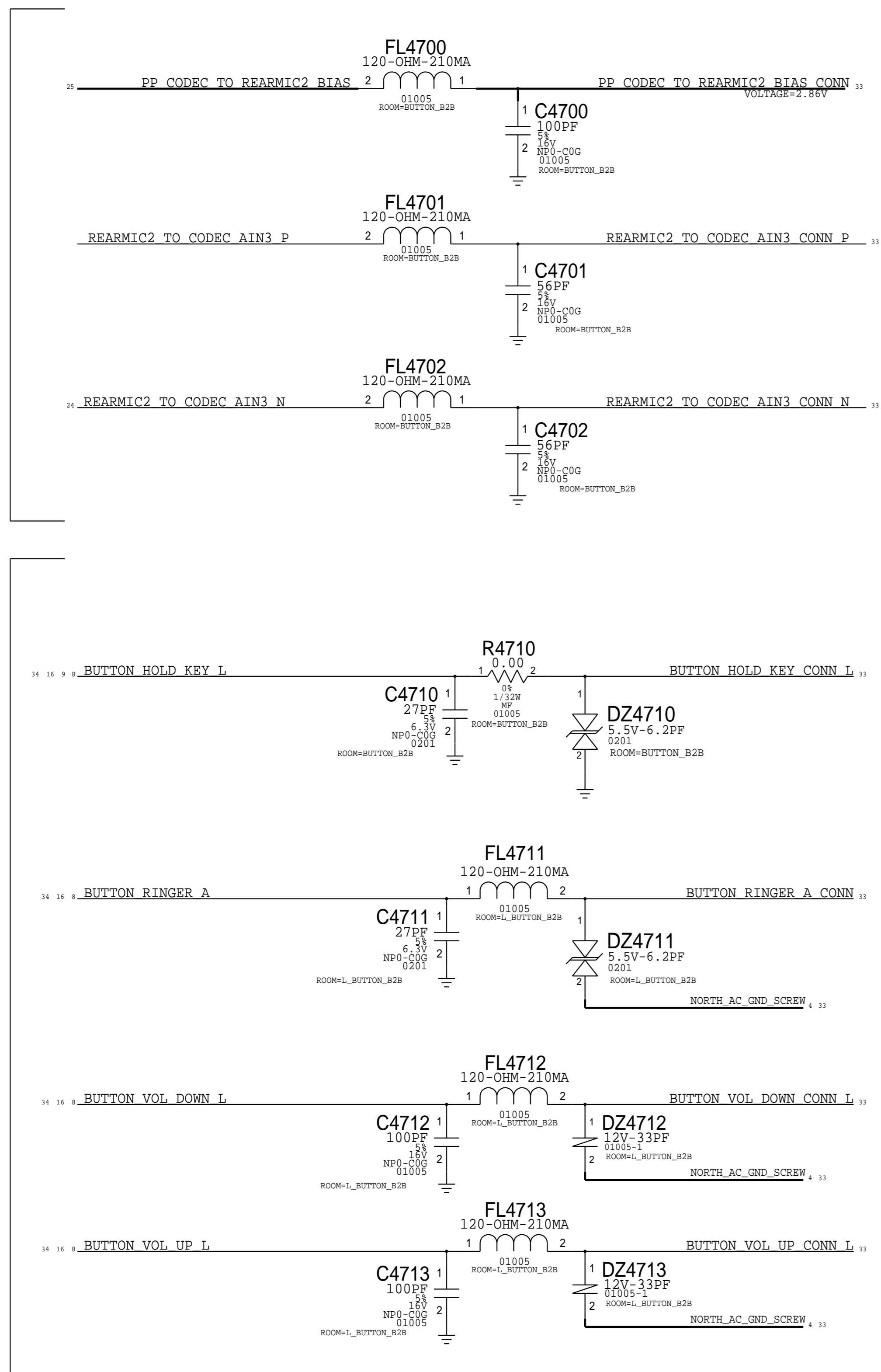
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REVISION		4.0.0	
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# BUTTON FLEX

MIC2  
ANC REF MIC

BUTTONS:  
HOLD  
RINGER  
VOL UP/DOWN



STROBE:  
WARM LED  
COOL LED  
MODULE NTC

## RIGHT BUTTON FLEX CONNECTOR

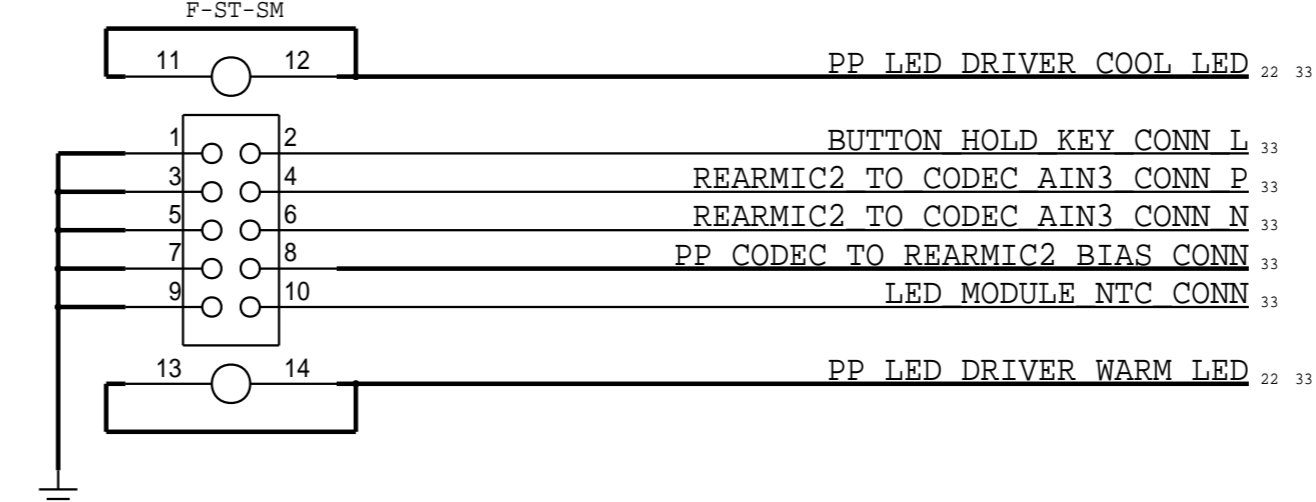
MLB: 516S00047 (RCPT)

FLEX: 516S00046 (PLUG)

CRITICAL

ROOM=BUTTON\_B2B

**J4700**  
BM28P0.6-10DS-0.35V  
F-ST-SM



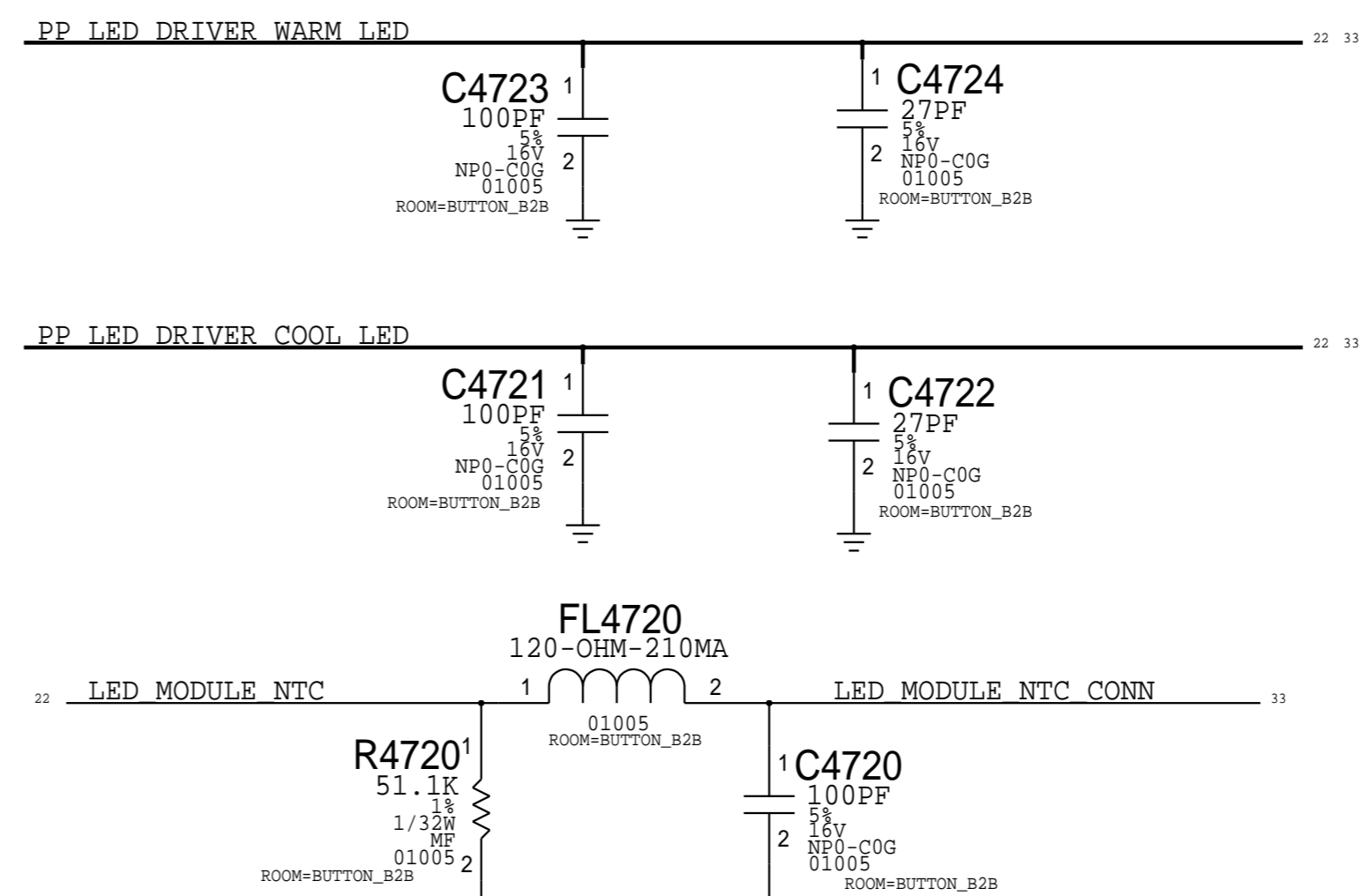
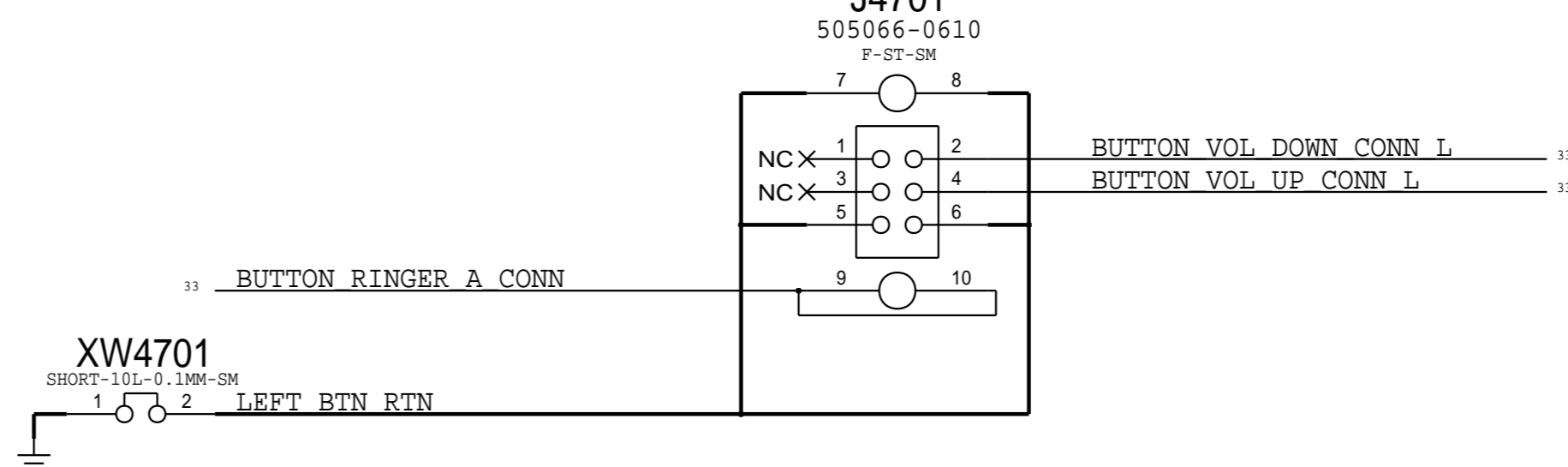
## LEFT BUTTON FLEX CONNECTOR

MLB: 516S1317

CRITICAL

ROOM=L\_BUTTON\_B2B


**J4701**  
505066-0610  
F-ST-SM



SYNC_MASTER=N71_SINGLE_BRD		SYNC_DATE=05/29/2014	
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<b>I/O:BUTTON FLEX B2B</b>			
	DRAWING NUMBER	051-00094	SIZE D
	REVISION	4.0.0	
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		SHEET	33 OF 60

# BASEBAND, WLAN, BT & STOCKHOLM

		RADIO_MLB_MIMO		SUBDESIGN_SUFFIX=RF	
		SHARED POWER			
28 27 26 25 23 22 17 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	PP_VCC_MAIN	PP_VCC_MAIN			
37 32 31 28 19 15	PP3V0_TRISTAR	PP3V0_TRISTAR			
39 32 31 28 25 16 15 14 12 8	PP1V8_SDRAM	PP1V8_SDRAM			
		BASEBAND	WLAN		
39 6	PCIE_AP_TO_BB_TXD_P	PCIE0_AP_TO_BB_TX_P		PCIE_AP_TO_WLAN_TXD_P	59
39 6	PCIE_AP_TO_BB_TXD_N	PCIE0_AP_TO_BB_TX_N		PCIE_AP_TO_WLAN_TXD_N	59
39 6	PCIE_BB_TO_AP_RXD_P	PCIE0_BB_TO_AP_TX_P		PCIE_WLAN_TO_AP_RXD_P	59
39 6	PCIE_BB_TO_AP_RXD_N	PCIE0_BB_TO_AP_TX_N		PCIE_WLAN_TO_AP_RXD_N	59
39 6	PCIE_AP_TO_BB_REFCLK_P	PCIE0_AP_TO_BB_REFCLK_P		PCIE_AP_TO_WLAN_REFCLK_P	59
39 6	PCIE_AP_TO_BB_REFCLK_N	PCIE0_AP_TO_BB_REFCLK_N		PCIE_AP_TO_WLAN_REFCLK_N	59
39 6	PCIE_AP_TO_BB_RESET_L	PCIE0_AP_TO_BB_PERST_L		PCIE_AP_TO_WLAN_RESET_L	59
39 6	PCIE_BB_BI_AP_CLKREQ_L	PCIE0_AP_TO_BB_CLKREQ_L			
39 16	BB_TO_PMU_PCIE_HOST_WAKE_L	PCIE0_BB_TO_PMU_HOST_WAKE_L			
39 6	AP_TO_BB_PCIE_DEV_WAKE	PCIE0_AP_TO_BB_DEV_WAKE			
39 6	I2S_AP_TO_BB_LRCLK	I2S_AP_TO_BB_WS		PCIE_AP_TO_WLAN_DEV_WAKE	59
39 6	I2S_AP_TO_BB_BCLK	I2S_AP_TO_BB_CLK		PCIE_WLAN_TO_AP_CLKREQ_L	59
39 6	I2S_AP_TO_BB_DOUT	I2S_AP_TO_BB_TX			
39 6	I2S_BB_TO_AP_DIN	I2S_BB_TO_AP_TX			
44 6	AP_TO_BB_RADIO_ON_L	AP_TO_BBPMU_RADIO_ON_L			
39 16	PMU_TO_BB_PMIC_RESET_L	PMU_TO_BBPMU_RESET_L			
44 6	AP_TO_BB_RESET_L	AP_TO_BB_RST_L			
43 6	BB_TO_AP_RESET_DETECT_L	BB_TO_AP_RESET_DET_L			
39 22	BB_TO_LED_DRIVER_GSM_BURST_IND	BB_TO_AP_GSM_TXBURST_IND			
39 6	AP_TO_BB_MESA_ON_L	AP_TO_BB_MESA_ON_L			
39 6	BB_TO_AP_GPS_TIME_MARK	BB_TO_AP_GPS_TIME_MARK			
39 6	AP_TO_BB_COREDUMP	AP_TO_BB_COREDUMP_TRIG			
43 6	BB_IPC_GPIO	AP_TO_BB_IPC_GPIO			
39 9 6	LCM_TO_OWL_BSYN	TOUCH_TO_BBPMU_FORCE_PWM			
39 9	UART_OWL_TO_BB_TXD	UART0_OWL_TO_BB_TX			
39 9	UART_BB_TO_OWL_RXD	UART0_BB_TO_OWL_TX			
42 31	USB_BB_DATA_P	USB_BB_P			
42 31	USB_BB_DATA_N	USB_BB_N			
44 16	PMU_TO_BB_USB_VBUS_DETECT	USB_BB_VBUS_DETECT			
42 13 9	SWD_AP_PERIPHERAL_SWCLK	SWD_CLK_BB_JTAG_TCK			
39 9	SWD_AP_BI_BB_SWDIO	SWD_IO_BB_JTAG_TMS			
36 32	RFFE5_BB_TO_ANT_SCLK	75_RFFE5_SCLK_BB			
36 32	RFFE5_BB_TO_ANT_DATA	75_RFFE5_SDATA_BB			
43 32	BB_LAT_GPIO1	RFFE_BUFFER_LAT_GPIO1			
45 16	BB_TO_PMU_AMUX_LDO11_SIM1	BB_TO_PMU_AMUX_LDO11_SIM1			
45 16	BB_TO_PMU_AMUX_SMP31	BB_TO_PMU_AMUX_SMP31			
45 16	BB_TO_PMU_AMUX_SMP33	BB_TO_PMU_AMUX_SMP33			
45 16	BB_TO_PMU_AMUX_SMP34	BB_TO_PMU_AMUX_SMP34			
60 4	AP_TO_STOCKHOLM_ANT	STOCKHOLM_ANT			
		ANT	BLUETOOTH		
			I2S_AP_TO_BT_LRCLK	I2S_AP_TO_BT_LRCLK	59
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			I2S_BT_TO_AP_DIN	I2S_BT_TO_AP_DIN	59
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			UART1_BT_TO_AP_RTS_L	UART_BT_TO_AP_CTS_L	59
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			BT_TO_PMU_HOST_WAKE	BT_TO_PMU_HOST_WAKE	59
			AP_TO_BT_WAKE	AP_TO_BT_WAKE	59
		STOCKHOLM			
		UART3_AP_TO_STOCKHOLM_TXD	UART_AP_TO_STOCKHOLM_TXD		39
		UART3_AP_TO_STOCKHOLM_RTS_L	UART_AP_TO_STOCKHOLM_RTS_L		39
		UART3_STOCKHOLM_TO_AP_TXD	UART_STOCKHOLM_TO_AP_RXD		39
		UART3_STOCKHOLM_TO_AP_RTS_L	UART_STOCKHOLM_TO_AP_CTS_L		39
			PMU_TO_STOCKHOLM_EN	PMU_TO_STOCKHOLM_EN	60
			STOCKHOLM_TO_PMU_HOST_WAKE	STOCKHOLM_TO_PMU_HOST_WAKE	60
			AP_TO_STOCKHOLM_DEV_WAKE	AP_TO_STOCKHOLM_DEV_WAKE	60
			AP_TO_STOCKHOLM_FW_DWLD_REQ	AP_TO_STOCKHOLM_FW_DWLD_REQ	60
		AP DEBUG			
		PP1V8			
		DFU_STATUS			
		FORCE_DFU			
16 9 5 3	PMU_TO_SYSTEM_COLD_RESET_L	PMU_TO_SYSTEM_COLD_RESET_L			
39 28 16	I2C0_AP_SCL	I2C0_AP_SCL			
39 28 16	I2C0_AP_SDA	I2C0_AP_SDA			
39 31 27 26 17	I2C1_AP_SCL	I2C1_AP_SCL			
39 31 27 26 17	I2C1_AP_SDA	I2C1_AP_SDA			
39 33 16 9	BUTTON_HOLD_KEY_L	BUTTON_HOLD_KEY_L			
39 29 16 9	BUTTON_MENU_KEY_L	BUTTON_MENU_KEY_L			
39 33 16	BUTTON_RINGER_A	BUTTON_RINGER_A			
39 33 16	BUTTON_VOL_DOWN_L	BUTTON_VOL_DOWN_L			
39 33 16	BUTTON_VOL_UP_L	BUTTON_VOL_UP_L			
	NC_PMU_GPIO20	PMU_GPIO20			
	NC_PMU_GPIO21	PMU_GPIO21			
	NC_OWL_FUNC2	OWL_FUNC2			
	NC_AP_RESERVED2	AP_RESERVED2			
31 6	UART_AP_DEBUG_RXD	AP_RESERVED1			
31 6	UART_AP_DEBUG_TXD	AP_RESERVED0			
	NC_PMU_AMUX_AY	PMU_AMUX_AY			
	NC_PMU_AMUX_BY	PMU_AMUX_BY			

PAGE TITLE		BASEBAND:RADIO SYMBOL	
 Apple Inc.		DRAWING NUMBER	051-00094
		REVISION	4.0.0
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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.

REV	ECN	DESCRIPTION OF REVISION	CK APPD	DATE
4	0003980769	ENGINEERING RELEASED		2015-03-27

# N66 RADIO\_MLB\_MIMO - EVT\_MD

## MARCH 26, 2015

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12	38	CELLULAR TRANSCEIVER: POWER
13	39	CELLULAR TRANSCEIVER: PRX PORTS
14	40	CELLULAR TRANSCEIVER: DRX/GPS PORTS
15	41	CELLULAR TRANSCEIVER: TX PORTS
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17	43	CELLULAR FRONT END: MB PAD
18	44	CELLULAR FRONT END: HB PAD
19	45	CELLULAR FRONT END: 2G PA
20	46	CELLULAR FRONT END: LB ASM
21	47	CELLULAR FRONT END: MB-HB ASM
22	48	CELLULAR FRONT END: DIVERSITY
23	49	SIM
24	50	WIFI/BT: WIFI/BT MODULE
25	51	STOCKHOLM

### ROW HB PAD MATCHING BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
15281907	1	3.3NH, INDUCTOR	L4105_RF	ROW
15282007	1	8.2NH, INDUCTOR	L4401_RF	ROW
13180426	1	22PF, CAPACITOR	C4405_RF	ROW
15282042	1	1.8NH, INDUCTOR	C4406_RF	ROW
13180425	1	0.5PF, CAPACITOR	L4407_RF	ROW
15282041	1	10.0NH, INDUCTOR	L4403_RF	ROW
131800071	1	33PF, CAPACITOR	C4407_RF	ROW
152800143	1	15NH, INDUCTOR	L4404_RF	ROW
131800071	1	33PF, CAPACITOR	C4408_RF	ROW
11780108	1	51 OHM, RESISTOR	L4410_RF	ROW
13180599	1	1.5PF, CAPACITOR	C3921_RF	ROW
152800052	1	3.4NH, INDUCTOR	L3910_RF	ROW
11780201	1	0 OHM, RESISTOR	L3911_RF	ROW
15282039	1	3.8NH, INDUCTOR	L3919_RF	ROW
13180414	1	5.0PF, CAPACITOR	C4410_RF	ROW

### RF2 HB PAD MATCHING BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
15281990	1	3.0NH, INDUCTOR	L4105_RF	RF2
13180377	1	1.2PF, CAPACITOR	C4108_RF	RF2
13180631	1	0.3PF, CAPACITOR	L4401_RF	RF2
15282042	1	1.8NH, INDUCTOR	C4405_RF	RF2
15282041	1	1.8NH, INDUCTOR	C4406_RF	RF2
13180631	1	0.3PF, CAPACITOR	L4407_RF	RF2
131800001	1	0.1PF, CAPACITOR	L4403_RF	RF2
15282051	1	1.3NH, INDUCTOR	C4407_RF	RF2
15282051	1	1.3NH, INDUCTOR	C4408_RF	RF2
13180805	1	100PF, CAPACITOR	C4409_RF	RF2
13180431	1	0.2PF, CAPACITOR	L4410_RF	RF2
13180381	1	1.6PF, CAPACITOR	C3921_RF	RF2
152800027	1	3.7NH, INDUCTOR	L3910_RF	RF2
11780201	1	0 OHM, RESISTOR	L3911_RF	RF2
15282045	1	3.0NH, INDUCTOR	L3919_RF	RF2
152800052	1	3.4NH, INDUCTOR	L3912_RF	RF2
13180599	1	1.5PF, CAPACITOR	C3922_RF	RF2
13180630	1	27PF, CAPACITOR	C3911_RF	RF2
13180414	1	5.0PF, CAPACITOR	C4410_RF	RF2

### RFC HB PAD MATCHING BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
15281907	1	3.3NH, INDUCTOR	L4105_RF	RF2
15282007	1	8.2NH, INDUCTOR	L4401_RF	RF2
13180426	1	22PF, CAPACITOR	C4405_RF	RF2
15282042	1	1.8NH, INDUCTOR	C4406_RF	RF2
13180425	1	0.5PF, CAPACITOR	L4407_RF	RF2
15282041	1	10.0NH, INDUCTOR	L4403_RF	RF2
131800071	1	33PF, CAPACITOR	C4407_RF	RF2
152800143	1	15NH, INDUCTOR	L4404_RF	RF2
131800071	1	33PF, CAPACITOR	C4408_RF	RF2
11780108	1	51 OHM, RESISTOR	L4410_RF	RF2
13180599	1	1.5PF, CAPACITOR	C3921_RF	RF2
152800052	1	3.4NH, INDUCTOR	L3910_RF	RF2
11780201	1	0 OHM, RESISTOR	L3911_RF	RF2
15282039	1	3.8NH, INDUCTOR	L3919_RF	RF2
13180414	1	5.0PF, CAPACITOR	C4410_RF	RF2

### RF2 LB PAD MATCHING BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
13180551	1	1.2PF, CAPACITOR	L4203_RF	RF2
15282004	1	3.3NH, INDUCTOR	C4205_RF	RF2
13180551	1	1.2PF, CAPACITOR	L4204_RF	RF2
15282020	1	3.6NH, INDUCTOR	C4206_RF	RF2
13180551	1	1.2PF, CAPACITOR	L4205_RF	RF2
152800202	1	4.0NH, INDUCTOR	C4207_RF	RF2
13180336	1	1.3PF, CAPACITOR	L4206_RF	RF2
15282022	1	4.3NH, INDUCTOR	C4208_RF	RF2
13180555	1	1.0PF, CAPACITOR	L4207_RF	RF2
152800052	1	3.4NH, INDUCTOR	C4209_RF	RF2
13180551	1	1.2PF, CAPACITOR	L4209_RF	RF2
152800158	1	4.1NH, INDUCTOR	C4211_RF	RF2
131800070	1	1.3PF, CAPACITOR	L4210_RF	RF2
152800180	1	4.2NH, INDUCTOR	C4212_RF	RF2
13180560	1	1.1PF, CAPACITOR	L4211_RF	RF2
152800027	1	3.7NH, INDUCTOR	C4213_RF	RF2
152800202	1	4.0NH, INDUCTOR	L4201_RF	RF2
15282045	1	3.0NH, INDUCTOR	R4201_RF	RF2
15282056	1	5.6NH, INDUCTOR	L4202_RF	RF2
15281996	1	15NH, INDUCTOR	C3913_RF	RF2
131800074	1	30PF, CAPACITOR	L3902_RF	RF2
15281995	1	12NH, INDUCTOR	C3902_RF	RF2

### HB PAD

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
353800376	1	IC_PWR AMP_HB_PAD_TQS	UHBPA_RF	ROW
35384494	1	IC_PWR AMP_HB_PAD_AVAGO	UHBPA_RF	RF2
353800376	1	IC_PWR AMP_HB_PAD_TQS	UHBPA_RF	RF2

### LB PAD

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
353800461	1	IC_PWR AMP_LB_PAD_SKWS	ULBPA_RF	ROW
353800056	1	IC_PWR AMP_LB_PAD_MURATA	ULBPA_RF	RF2
353800461	1	IC_PWR AMP_LB_PAD_SKWS	ULBPA_RF	RF2

### VINYL

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
337800125	1	IC_VINYL	U5101_RF	ROW
337800125	1	IC_VINYL	U5101_RF	RF2

### VINYL RESISTOR

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
11780161	1	0 OHM, RESISTOR	R3402_RF	RF2

### RFC LB PAD MATCHING BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
13180555	1	1.0PF, CAPACITOR	L4203_RF	RF2
152800158	1	4.1NH, INDUCTOR	C4205_RF	RF2
13180425	1	0.5PF, CAPACITOR	L4204_RF	RF2
15282053	1	4.7NH, INDUCTOR	C4206_RF	RF2
13180555	1	1.0PF, CAPACITOR	L4205_RF	RF2
152800027	1	3.7NH, INDUCTOR	C4207_RF	RF2
13180557	1	0.7PF, CAPACITOR	L4206_RF	RF2
15282001	1	2.4NH, INDUCTOR	C4208_RF	RF2
13180351	1	0.4PF, CAPACITOR	L4207_RF	RF2
15282002	1	2.7NH, INDUCTOR	C4209_RF	RF2
15282002	1	2.7NH, INDUCTOR	C4211_RF	RF2
15282056	1	5.6NH, INDUCTOR	C4212_RF	RF2
13180340	1	2.0PF, CAPACITOR	L4219_RF	RF2
15282021	1	1.5NH, INDUCTOR	C4213_RF	RF2
11880724	1	0 OHM, RESISTOR	R4201_RF	RF2
13180551	1	1.2PF, CAPACITOR	L4601_RF	RF2
15281342	1	15NH, INDUCTOR	L3902_RF	RF2
13180630	1	27PF, CAPACITOR	C3902_RF	RF2

### ROW LB PAD MATCHING BOM OPTIONS

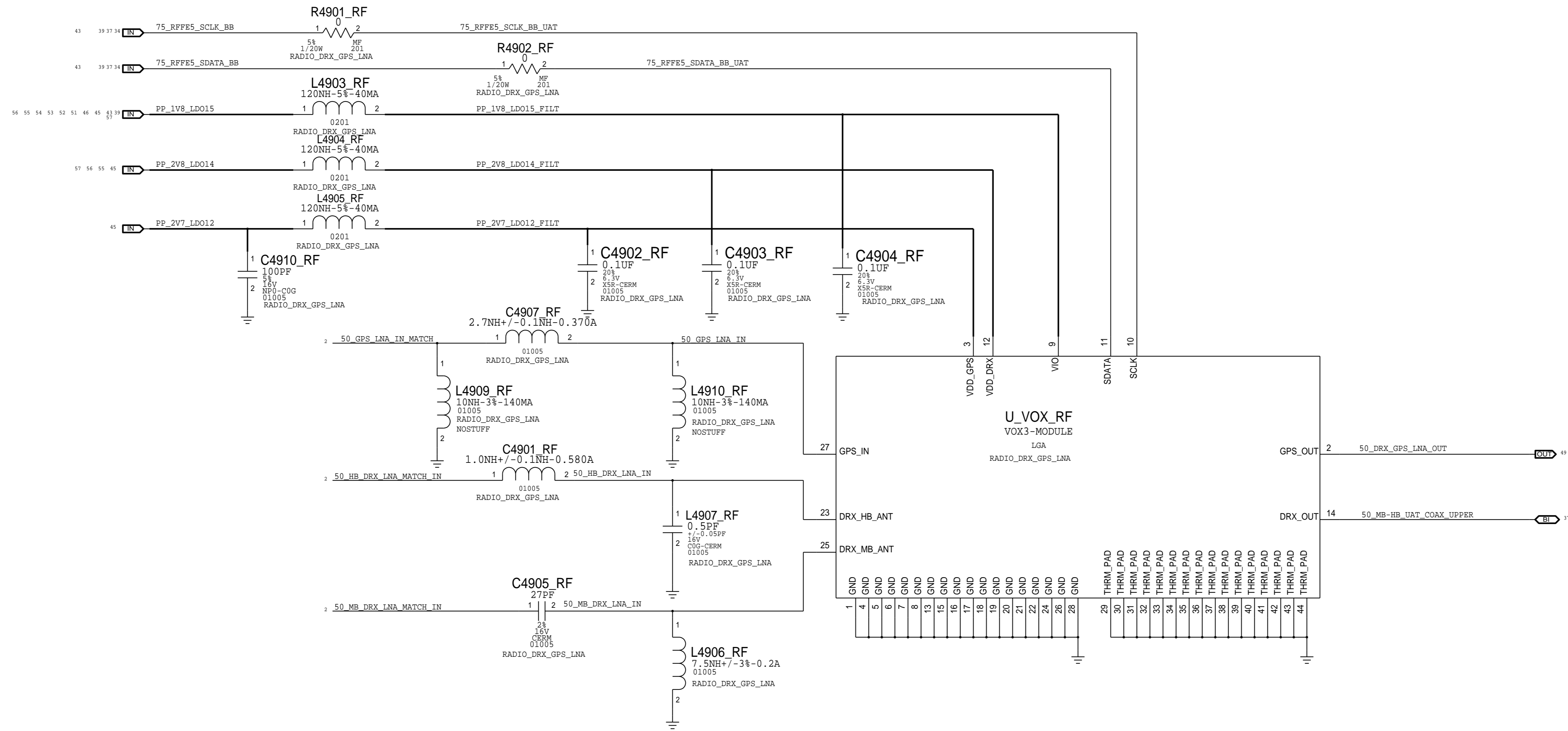
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
13180555	1	1.0PF, CAPACITOR	L4203_RF	ROW
152800158	1	4.1NH, INDUCTOR	C4205_RF	ROW
13180425	1	0.5PF, CAPACITOR	L4204_RF	ROW
15282053	1	4.7NH, INDUCTOR	C4206_RF	ROW
13180555	1	1.0PF, CAPACITOR	L4205_RF	ROW
152800027	1	3.7NH, INDUCTOR	C4207_RF	ROW
13180557	1	0.7PF, CAPACITOR	L4206_RF	ROW
15282001	1	2.4NH, INDUCTOR	C4208_RF	ROW
13180351	1	0.4PF, CAPACITOR	L4207_RF	ROW
15282002	1	2.7NH, INDUCTOR	C4209_RF	ROW
15282002	1	2.7NH, INDUCTOR	C4211_RF	ROW
15282056	1	5.6NH, INDUCTOR	C4212_RF	ROW
13180340	1	2.0PF, CAPACITOR	L4219_RF	ROW
15282021	1	1.5NH, INDUCTOR	C4213_RF	ROW
11880724	1	0 OHM, RESISTOR	R4201_RF	ROW
13180551	1	1.2PF, CAPACITOR	L4601_RF	ROW
15281342	1	15NH, INDUCTOR	L3902_RF	ROW
13180630	1	27PF, CAPACITOR	C3902_RF	ROW

DRAWING TITLE		SCHEM, MLB, N66	
DRAWING NUMBER		051-00094	SIZE D
REVISION		4.0.0	
BRANCH			
PAGE		1 OF 51	
SHEET		35 OF 60	

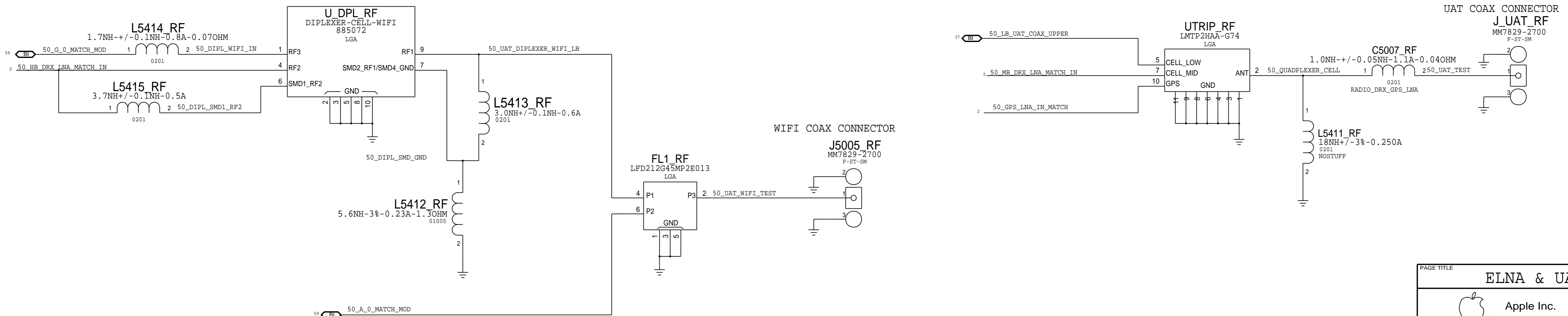
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# N66-SPECIFIC RADIO PAGE 2

## DIVERSITY LNA



## UAT ANT FEED



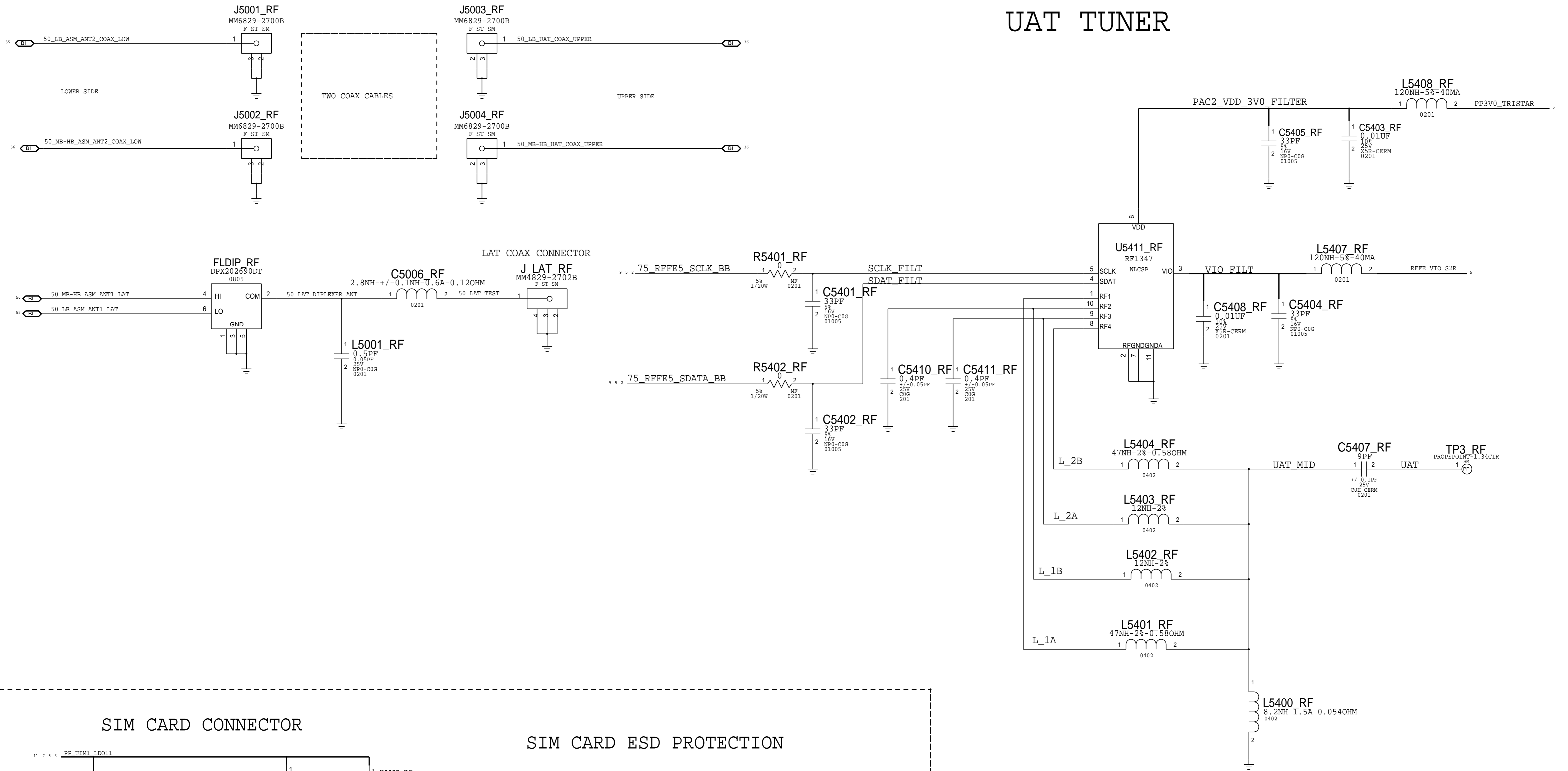
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ELNA & UAT ANT FEED		051-0094		D
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		SHEET		36 OF 60

# N66-SPECIFIC RADIO PAGE 3

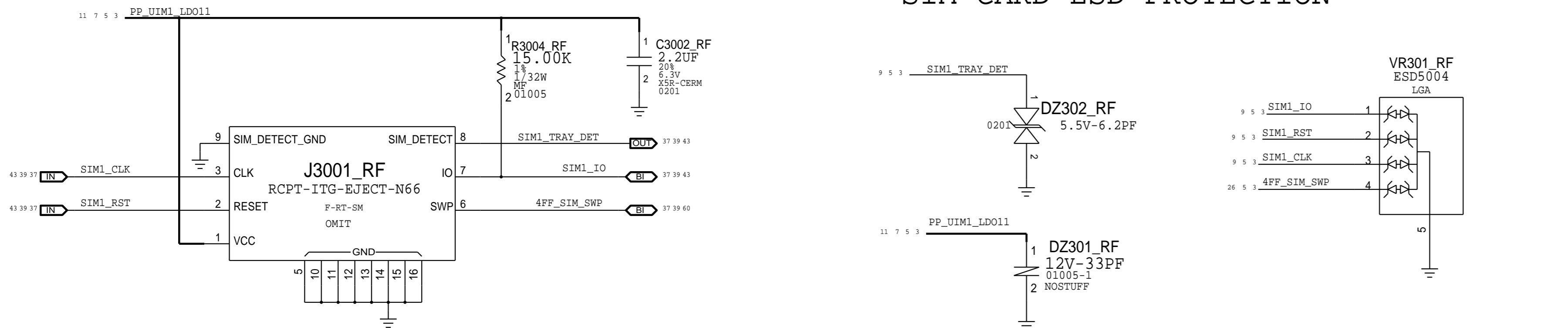
## ANTENNA FEEDS AND CONNECTORS

## UAT TUNER



## SIM CARD CONNECTOR

## SIM CARD ESD PROTECTION

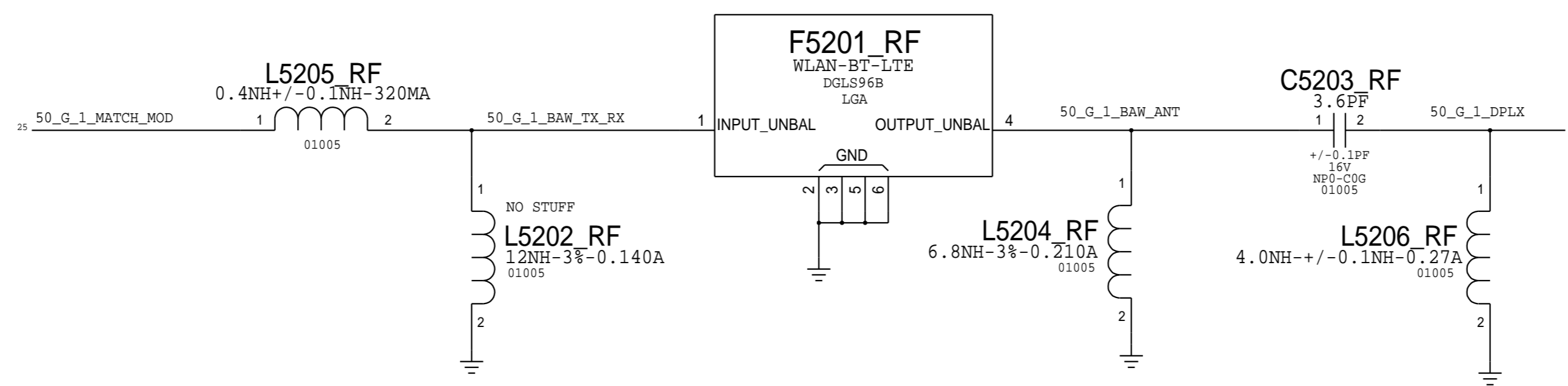



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PAGE TITLE		CELLULAR FRONT END: ANTENNA CONNECTORS AND FEEDS	
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# N66-SPECIFIC RADIO PAGE 4

## WLAN LAT 2.4GHZ BAW BPF



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		PAGE	4 OF 51
		SHEET	38 OF 60

# AP TO BB/WLAN/BT/SH CONNECTIONS

# MLB PROBE POINTS

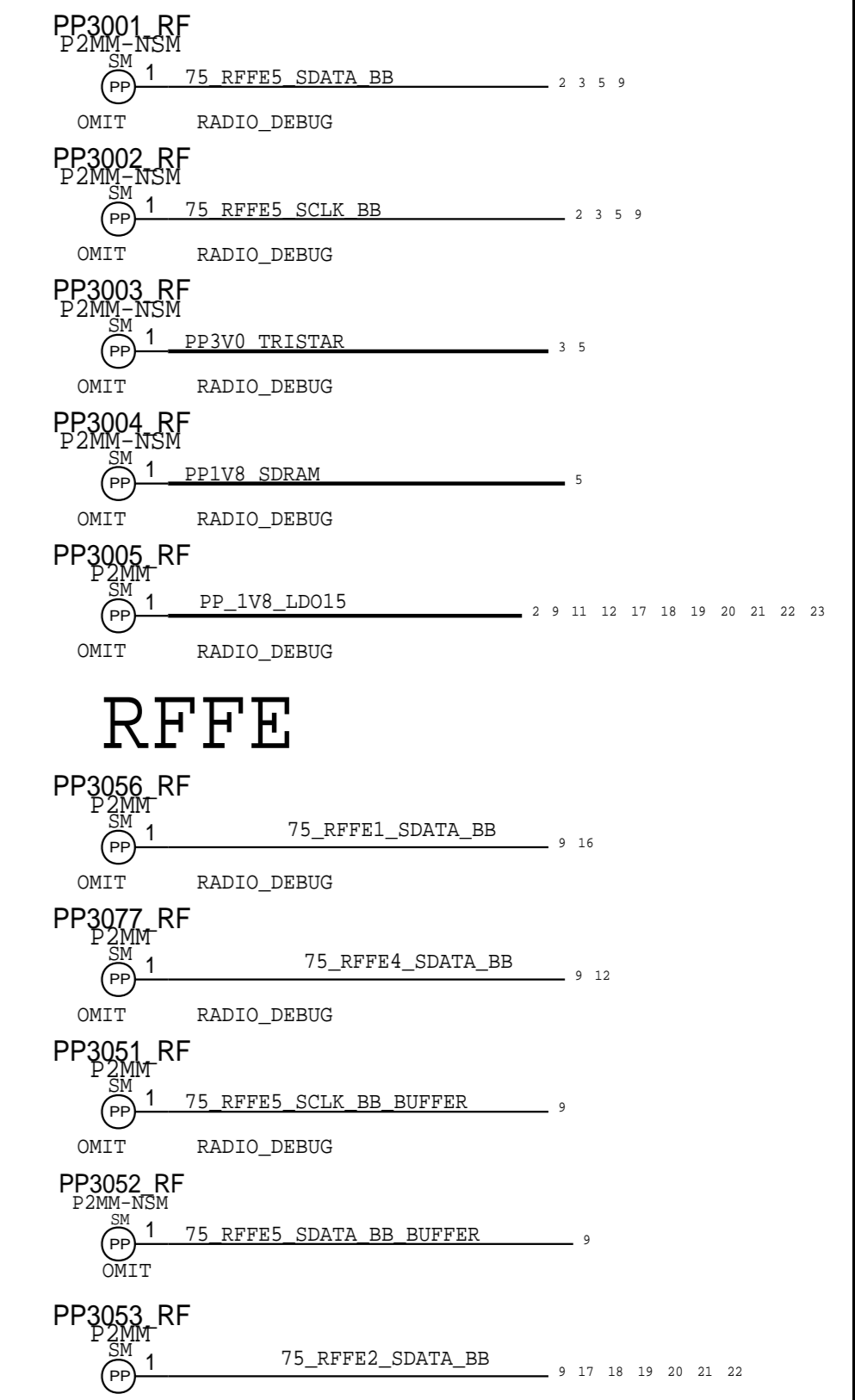
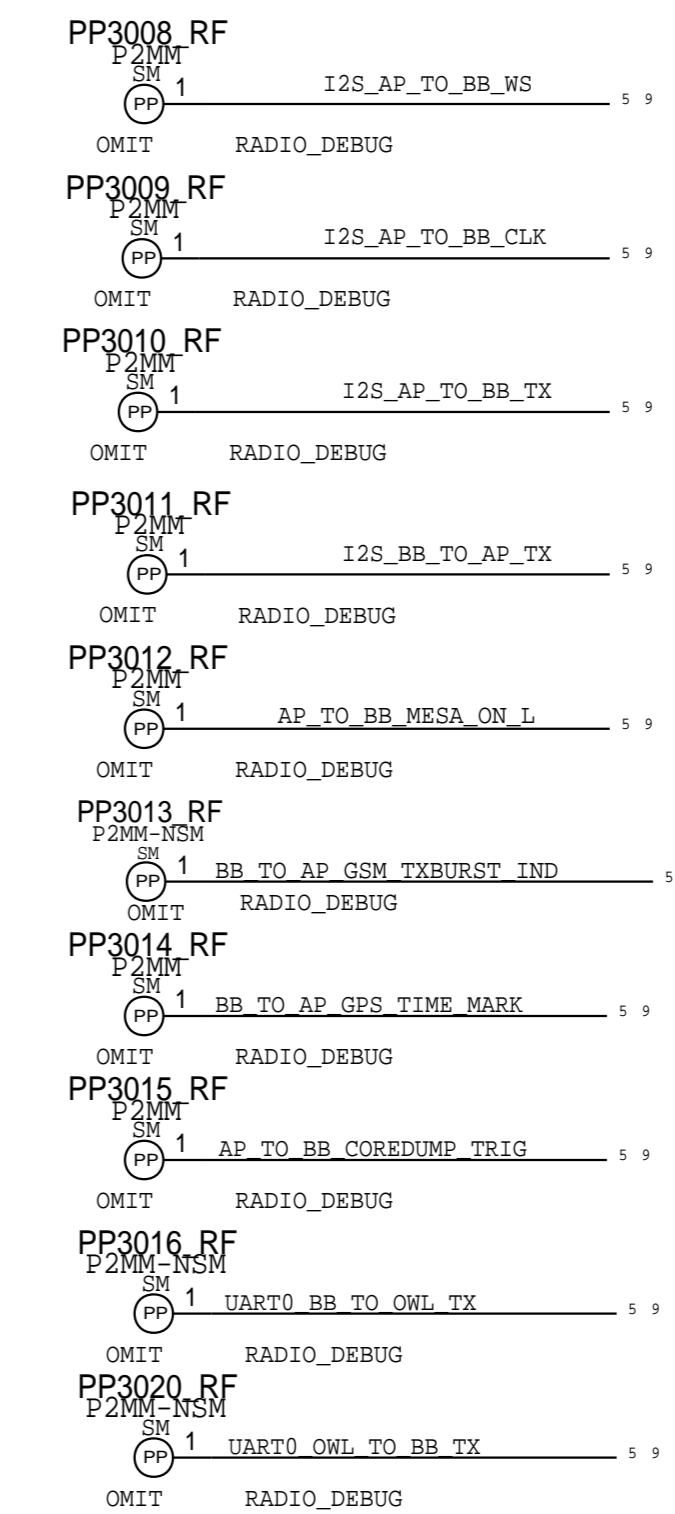
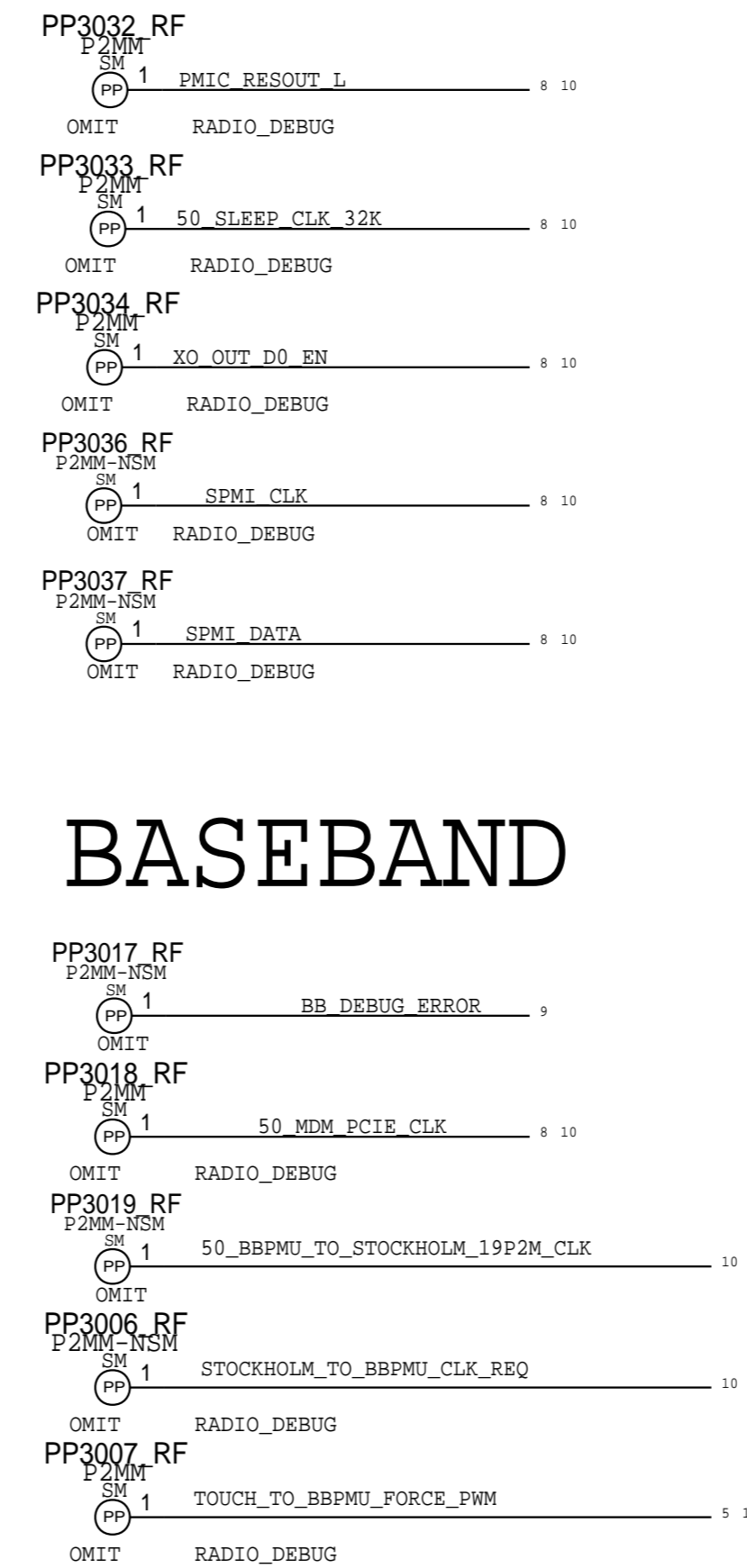
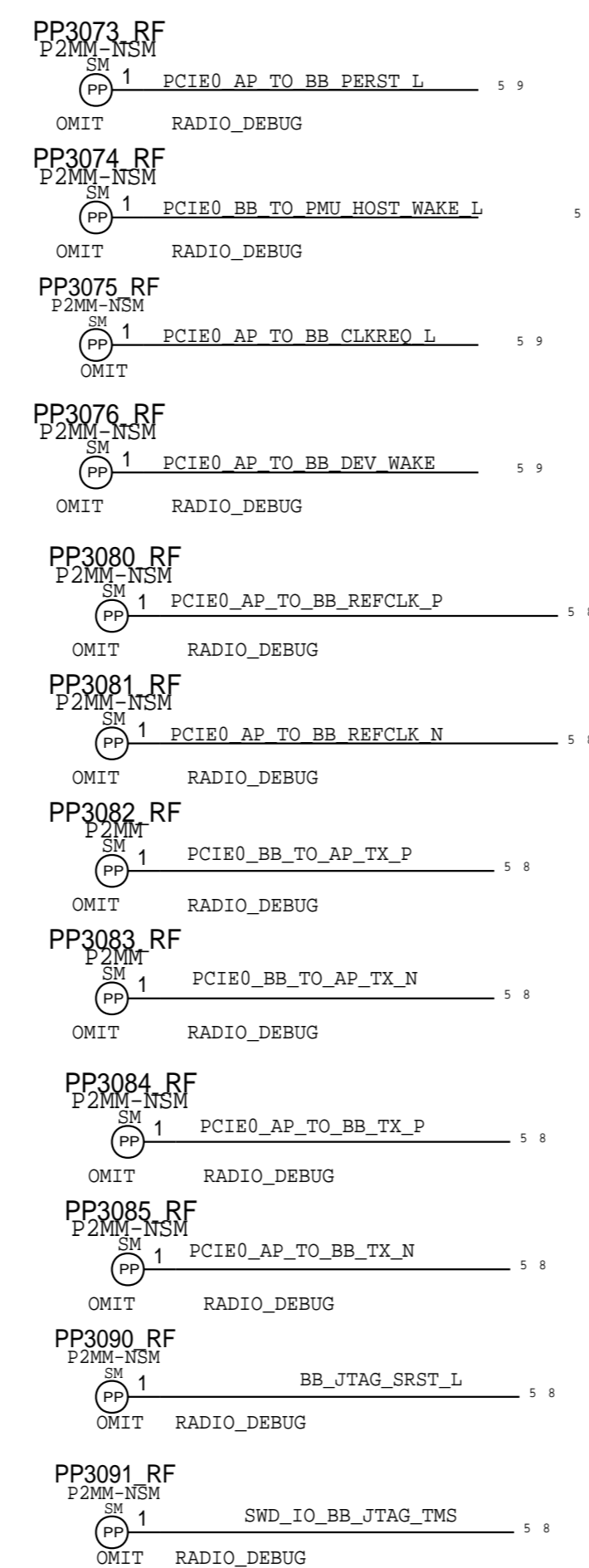
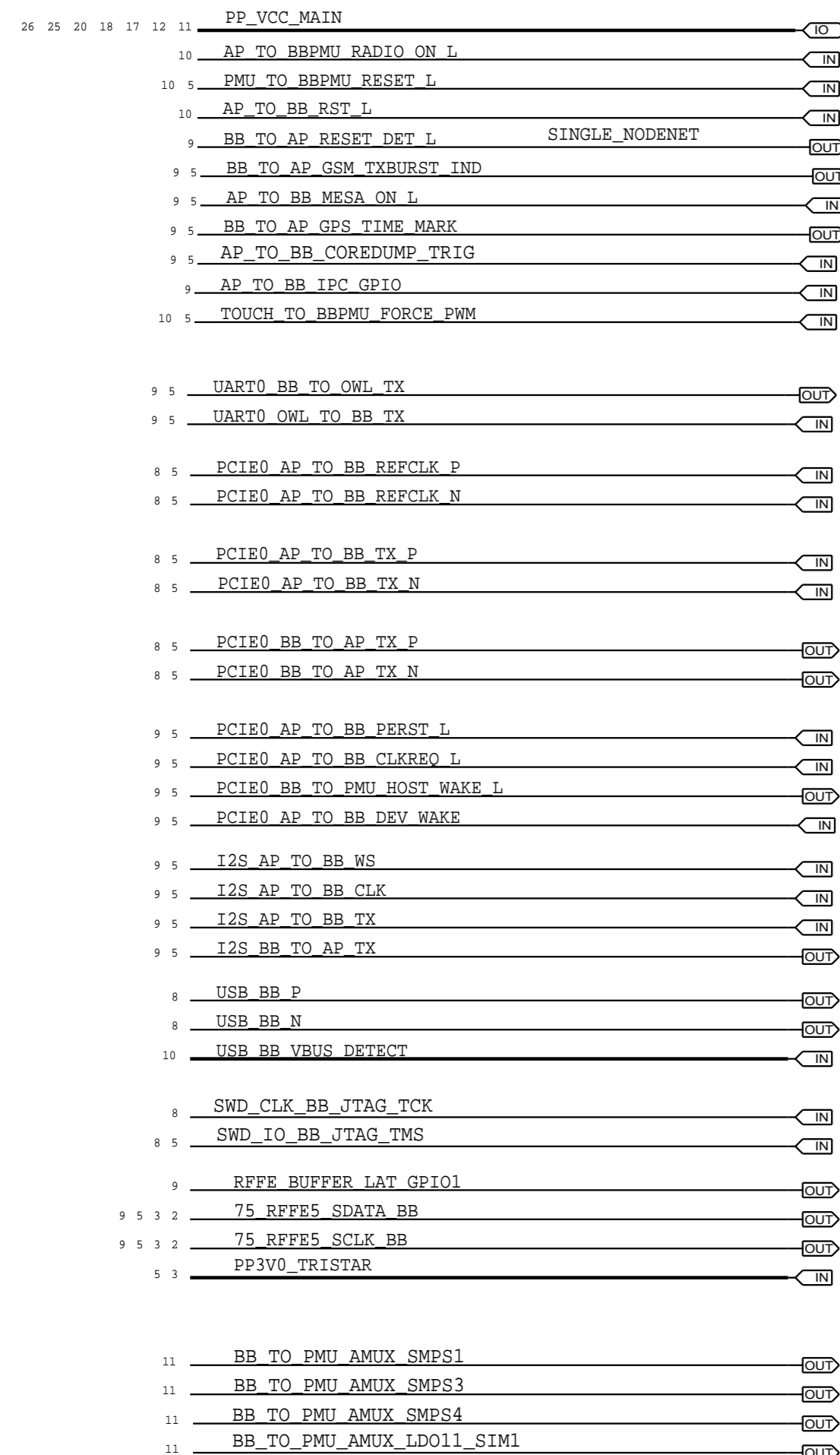
## BASEBAND

## WLAN/BT

## PCIE

## PMU

## ANT TUNER



## RFFE

## BASEBAND

## DEBUG CONNECTOR

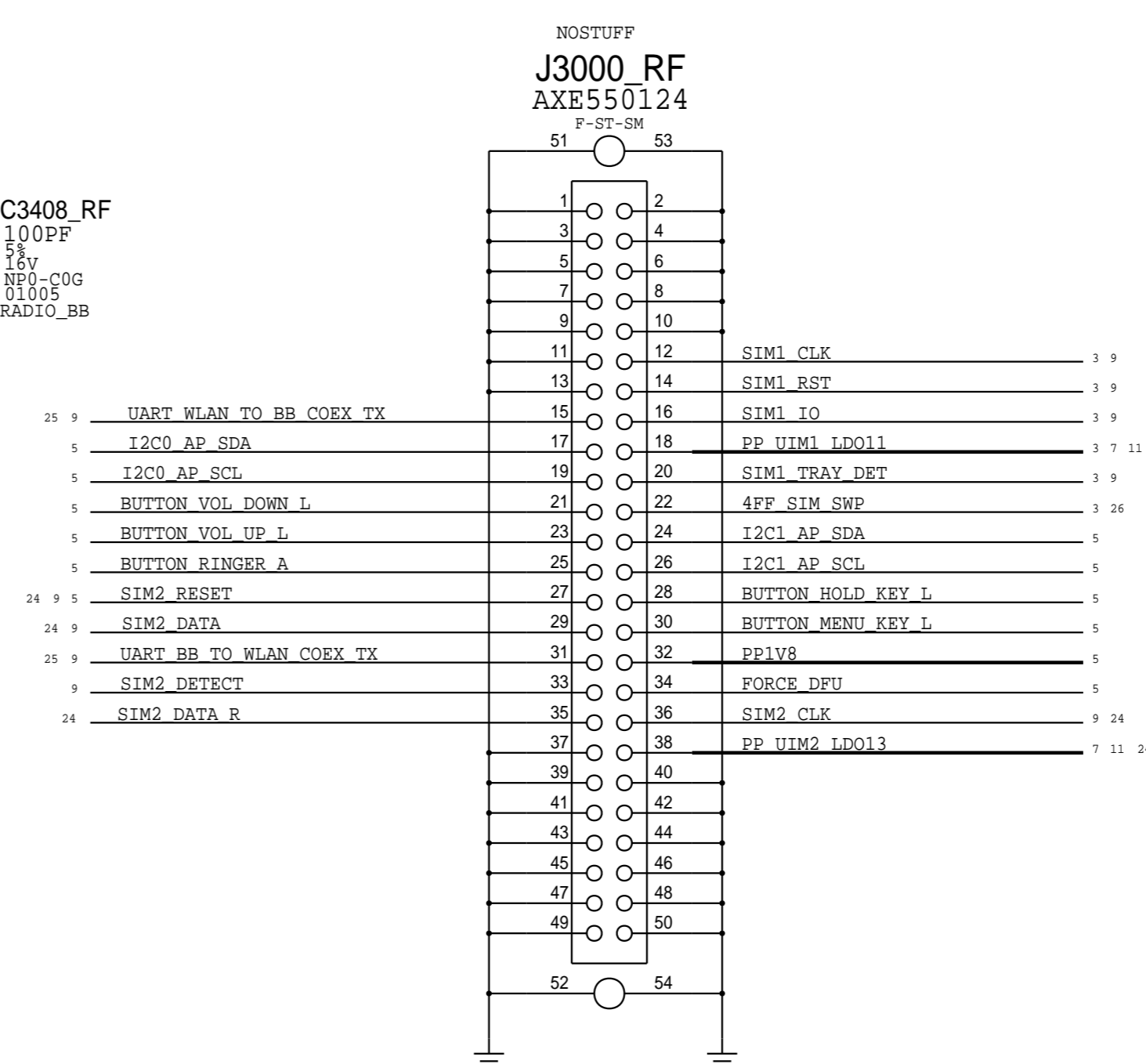
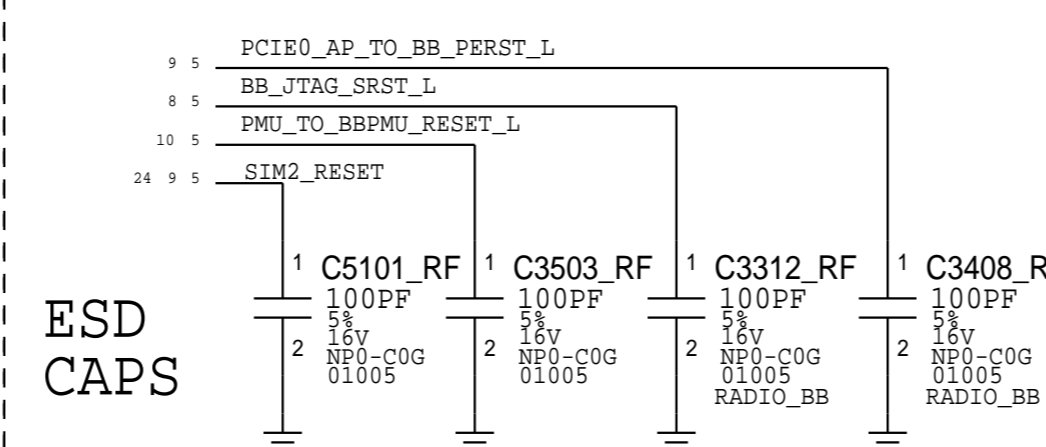
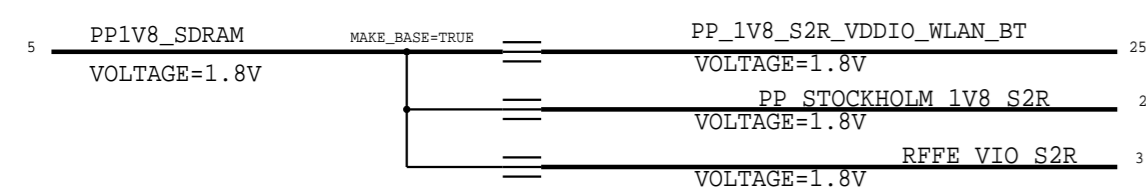
## STOCKHOLM

## AP DEBUG

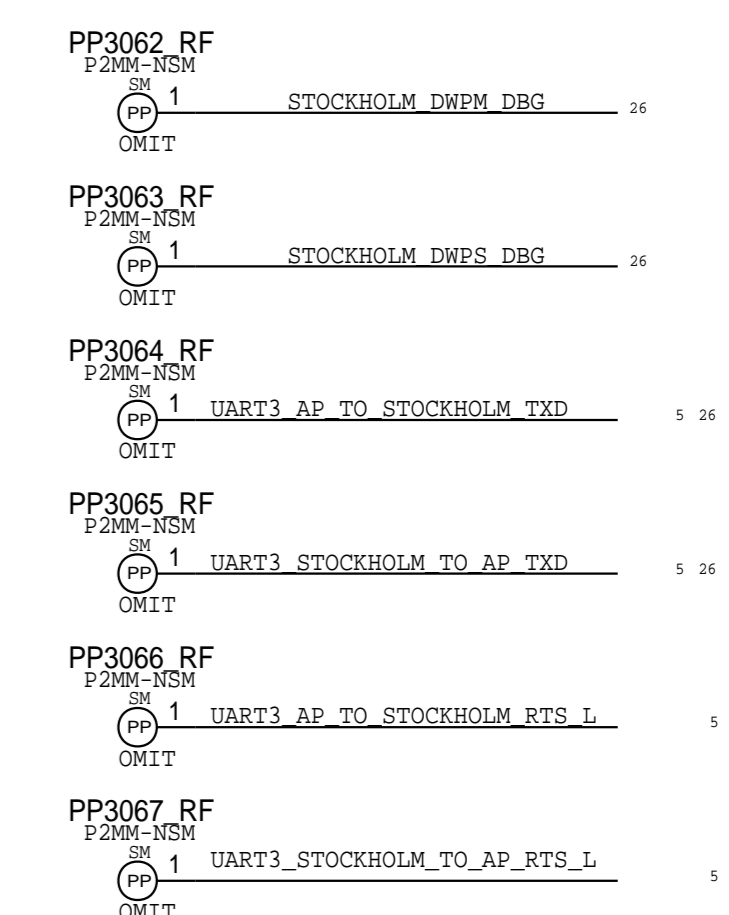
## STOCKHOLM

## ANT

## POWER



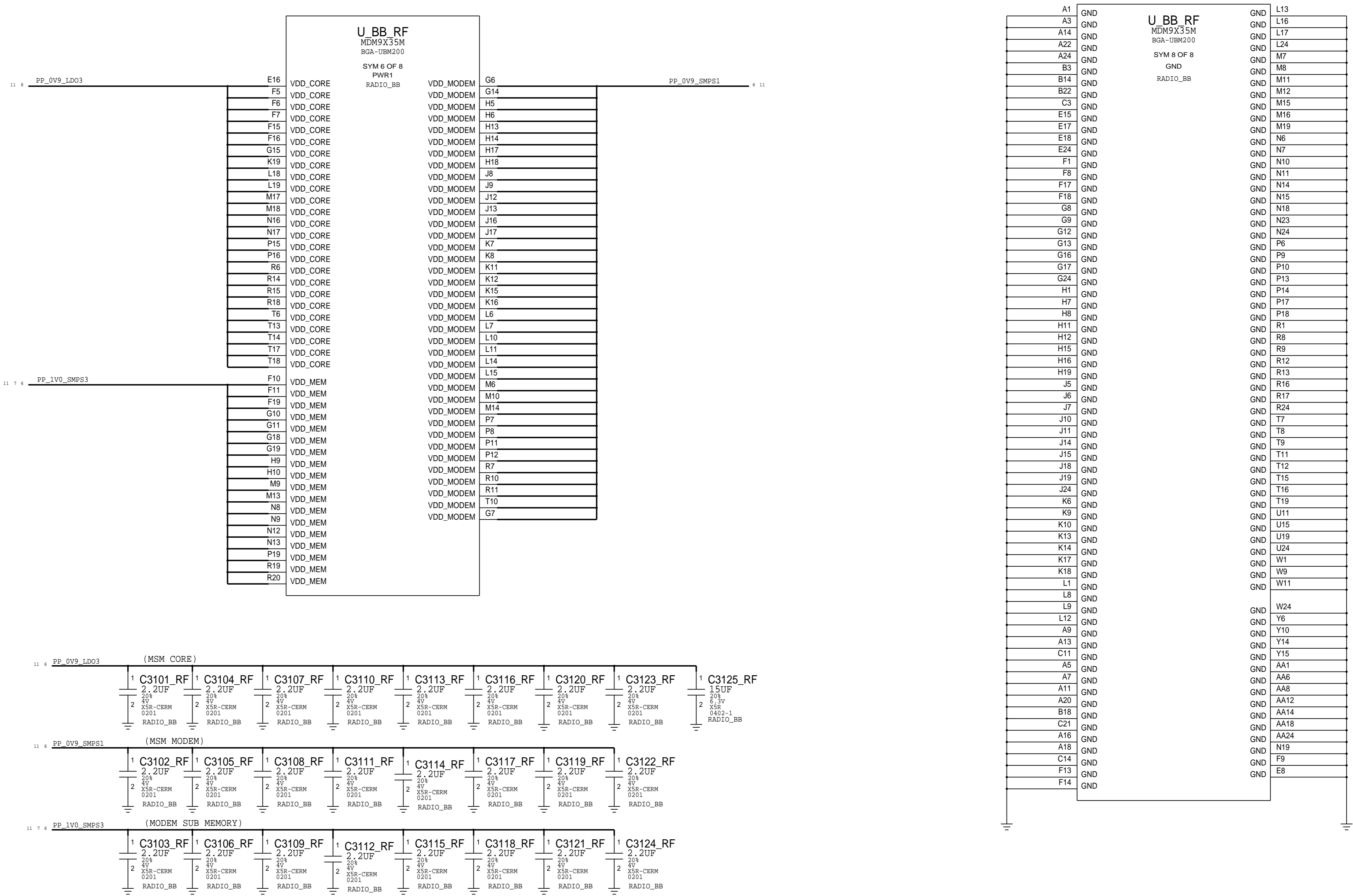
## STOCKHOLM



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DEBUG CONN & TEST POINTS		051-00094	D
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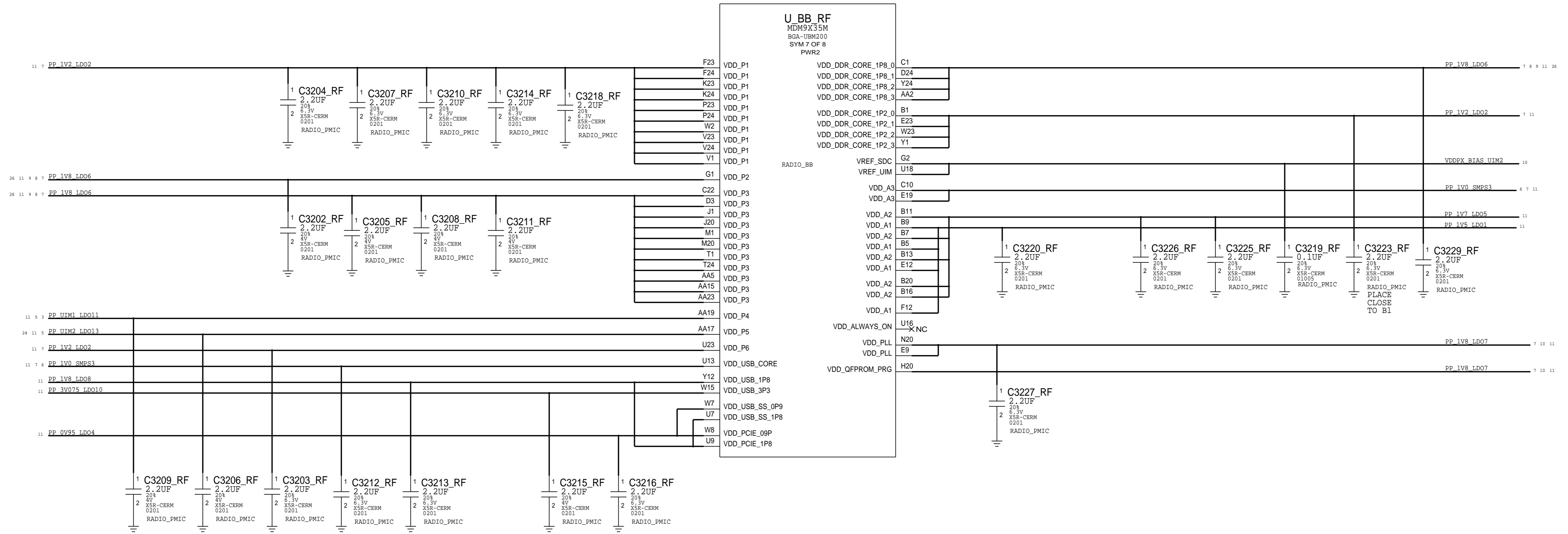


# BASEBAND: POWER 1



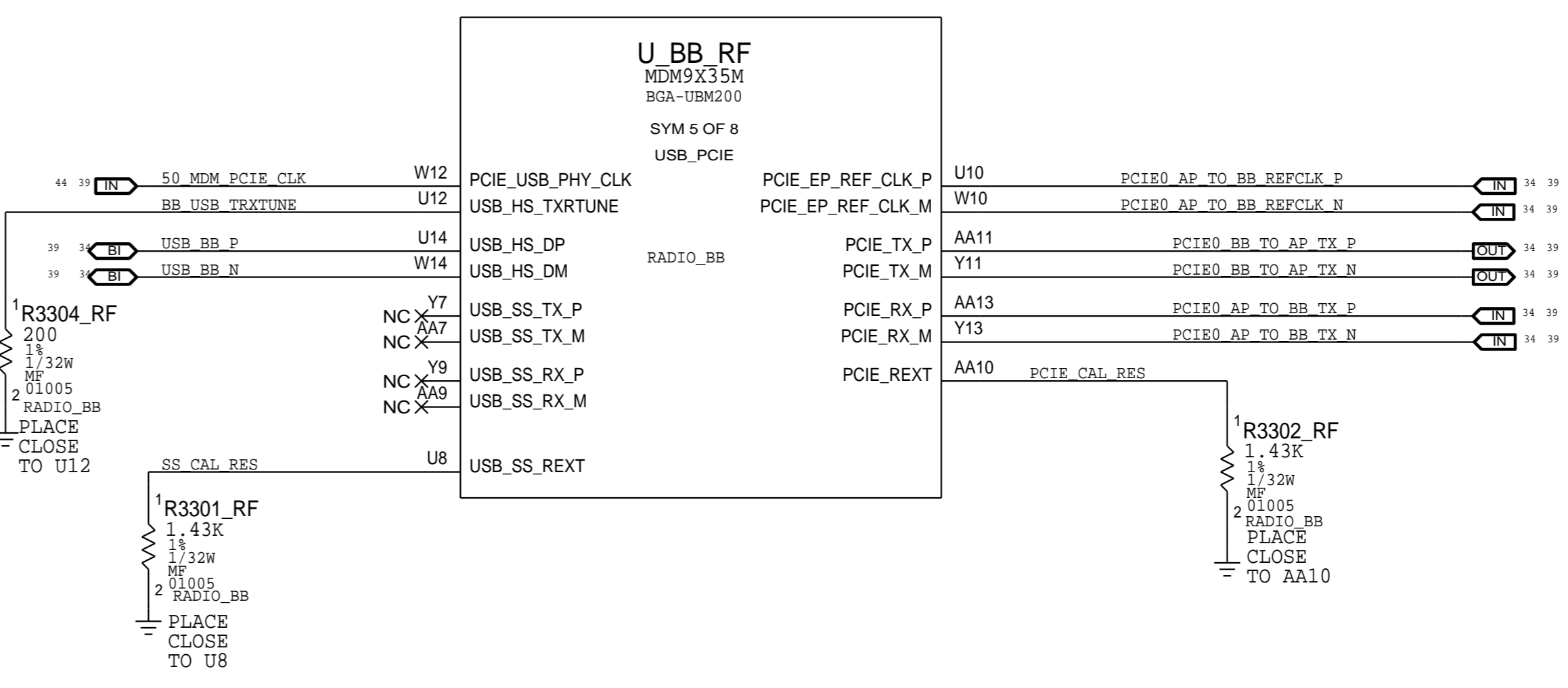
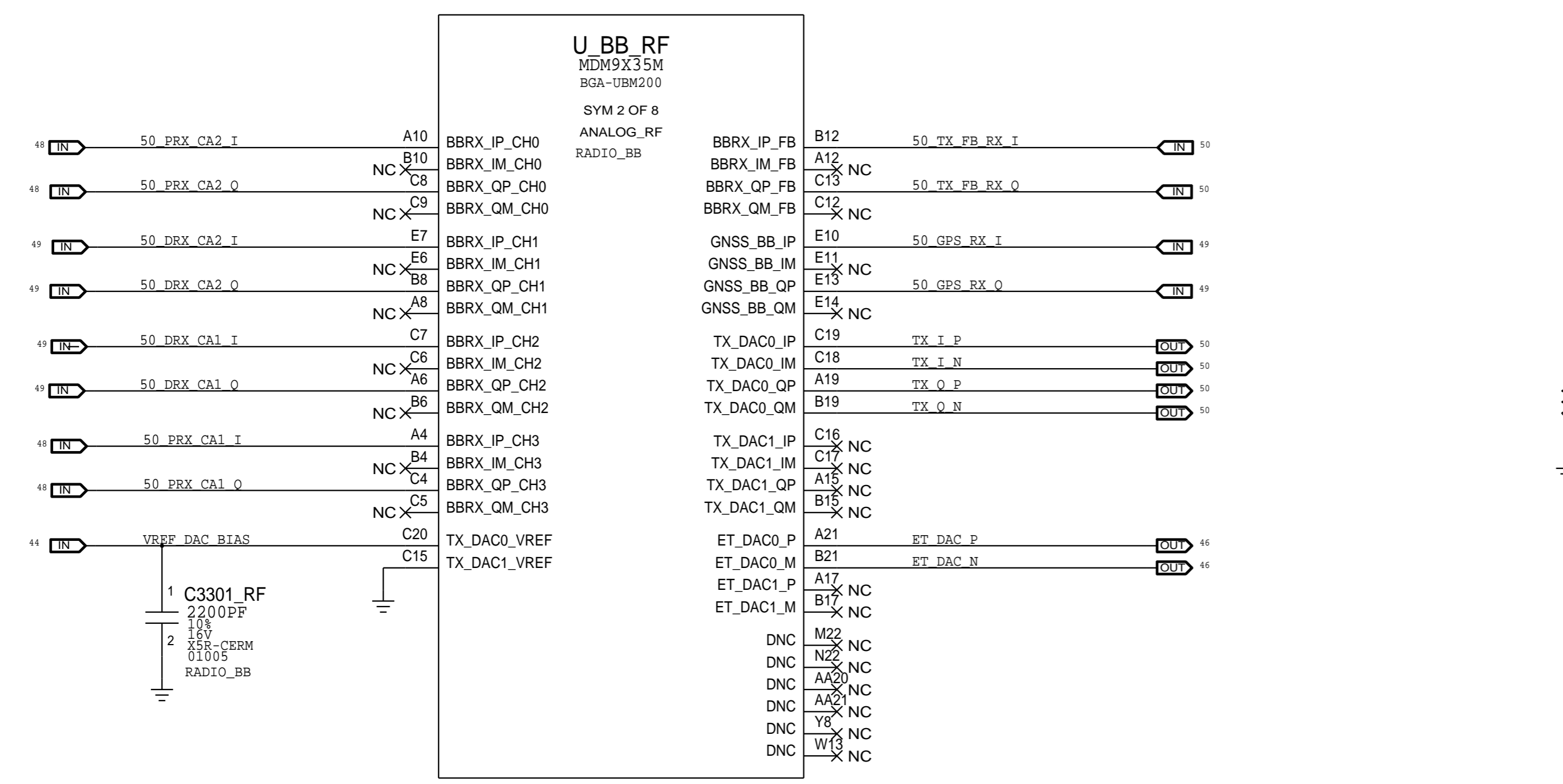
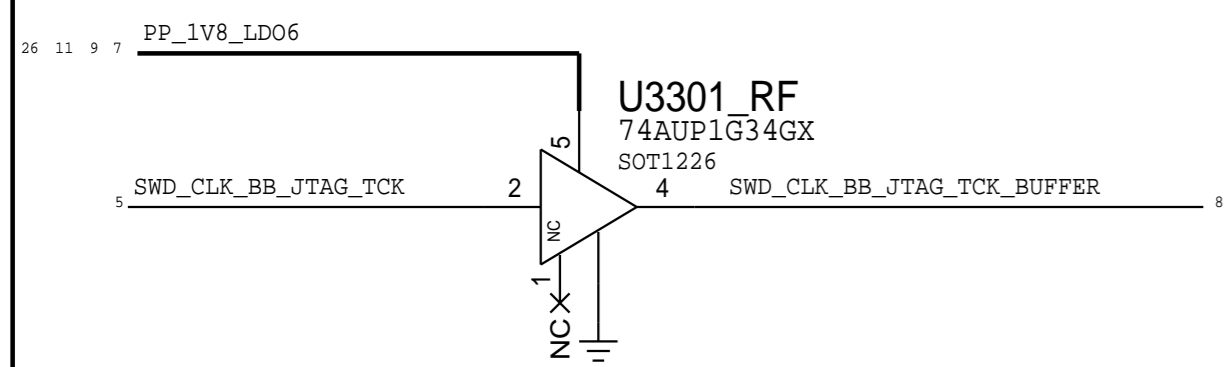
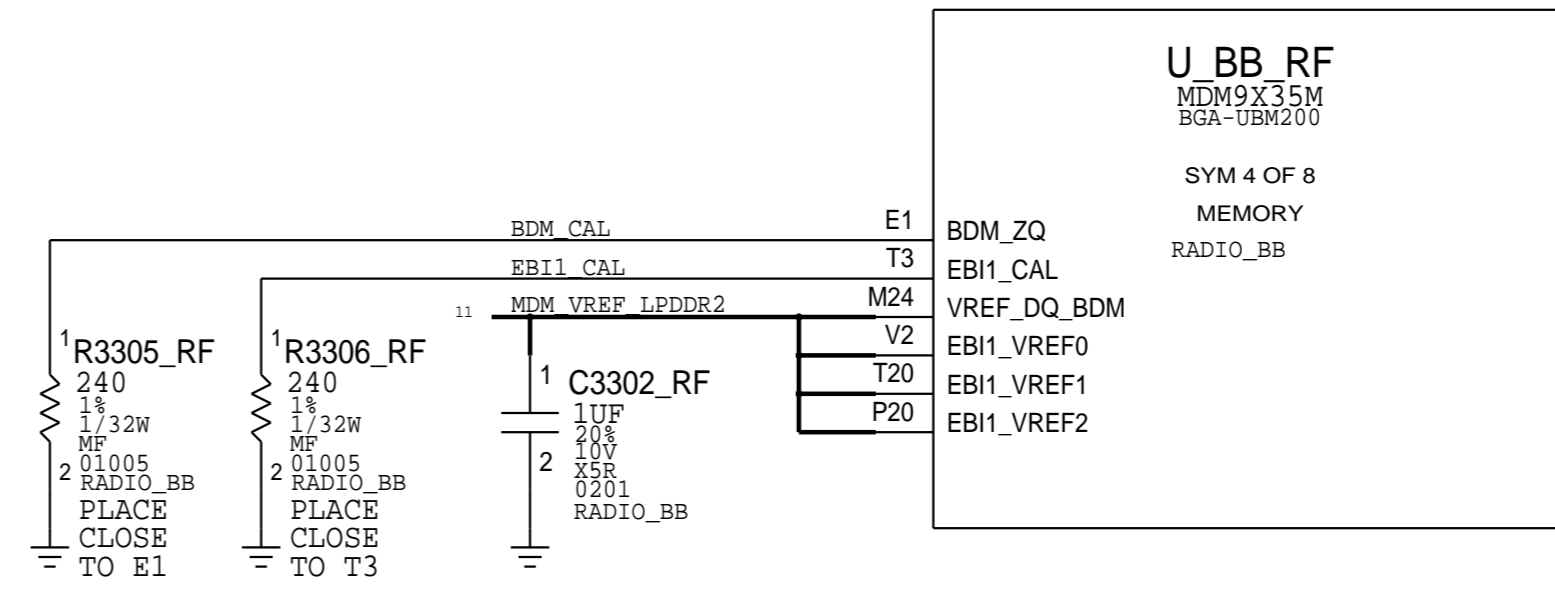
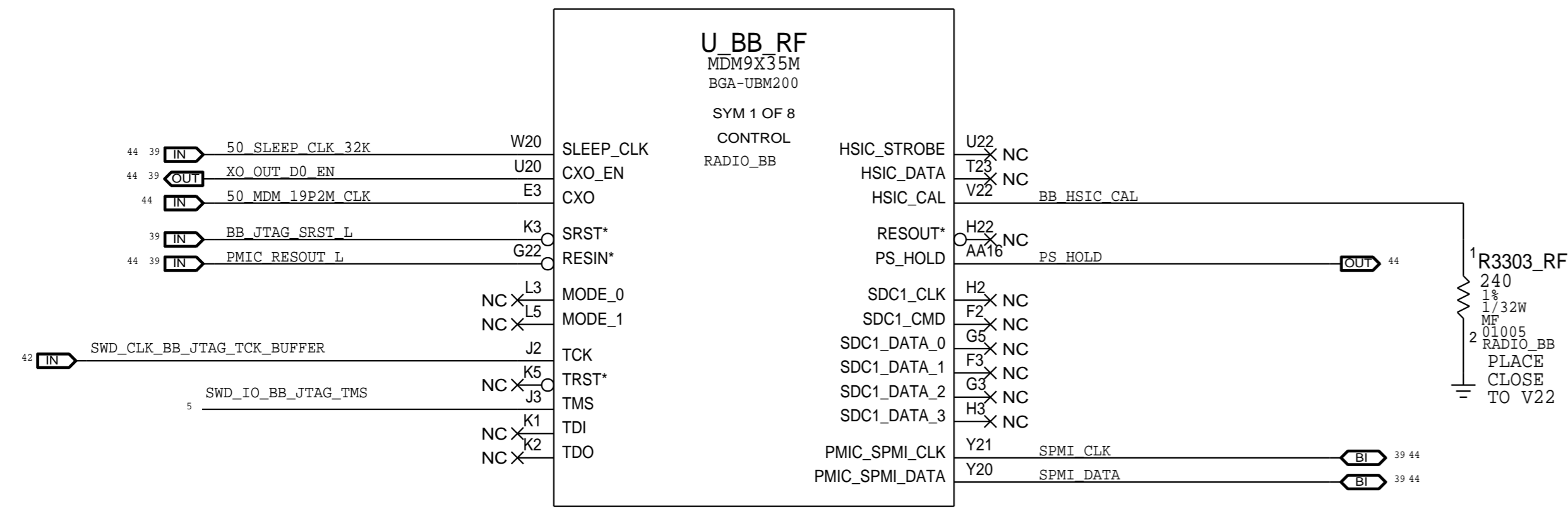
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# BASEBAND: POWER 2



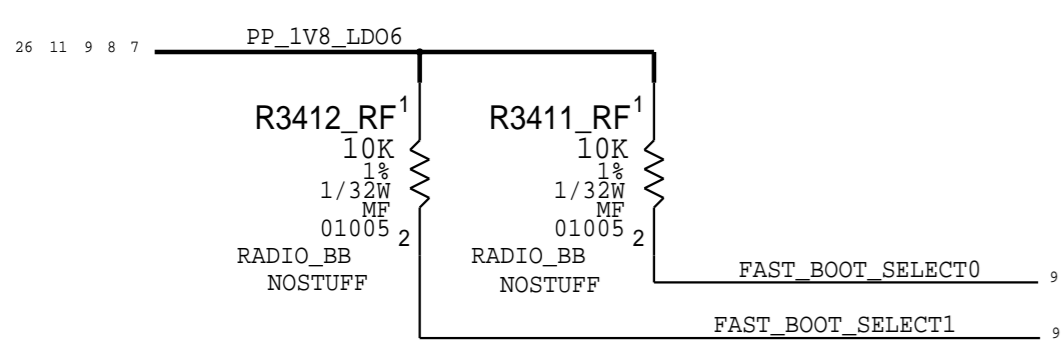
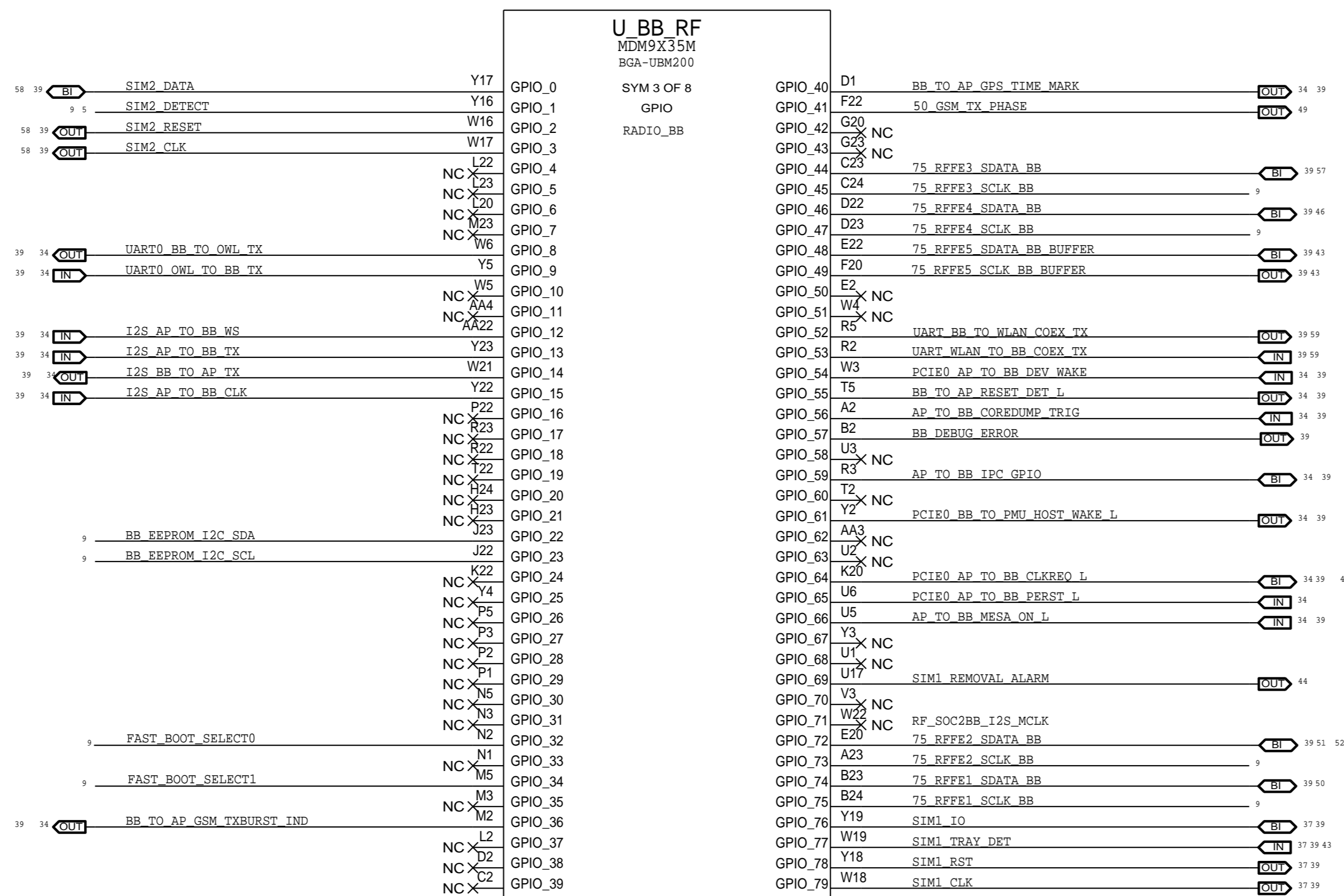
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# BASEBAND: CONTROL AND INTERFACES



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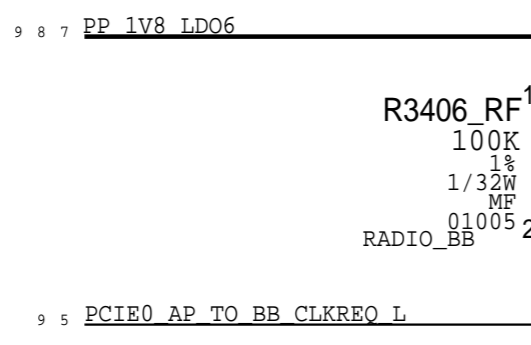
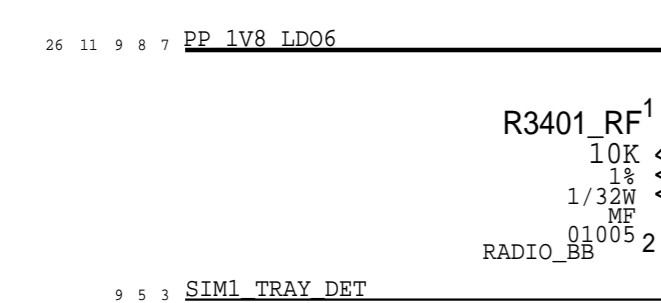
# BASEBAND: GPIOs



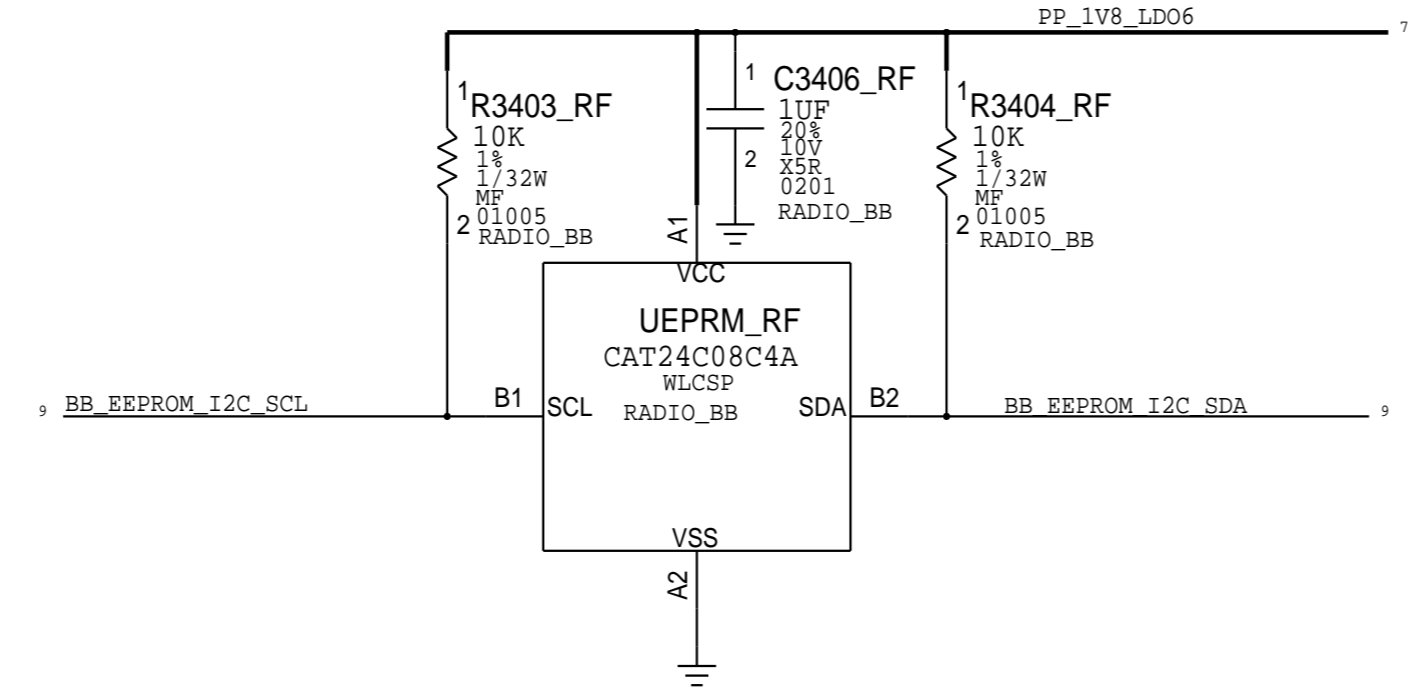
STUFF R3411 FOR PCIE BOOT (UNFUSED BB)  
STUFF R3412 FOR USB BOOT (UNFUSED BB)

OPTION	SEL2	SEL1	SEL0
GPIO	35	34	32
PCIE	0	0	1
HSUSB	0	1	0
HSIC	0	1	1

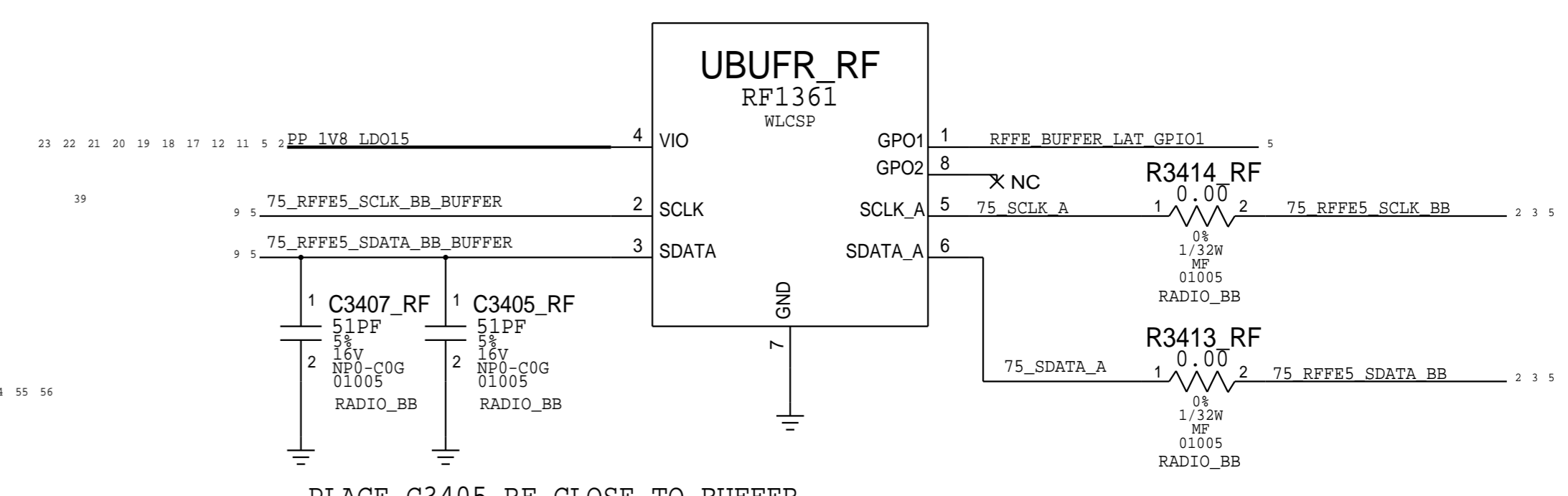
NOSTUFF R3402 WHEN VINLY PRESENT  
STUFF R3402 WHEN VINLY NOT PRESENT



## BB EEPROM

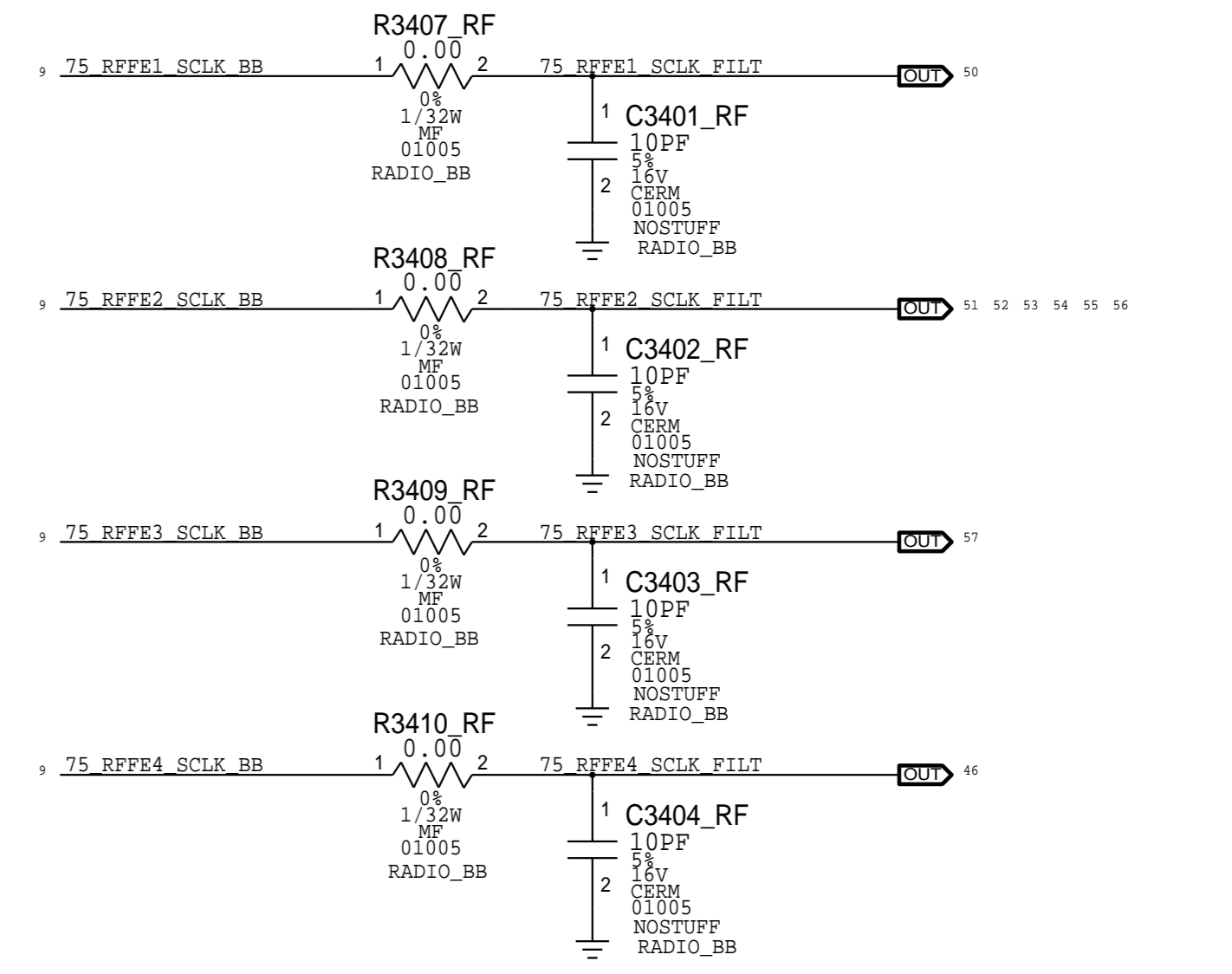


BUFFER ON RFFE5  
SCLK/SDATA\_A IS OUTPUT



PLACE C3405\_RF CLOSE TO BUFFER  
PLACE C3407\_RF CLOSE TO MDM

## RFFE CLOCK FILTERS



## RFFE USAGE TABLE

- RFFE1 WTR
- RFFE2 LB/MB/HB PAD, 2G PA, LB/MB/HB ASM
- RFFE3 DIV ASM
- RFFE4 QPOET
- RFFE5 DIV LNA, ANT TUNERS

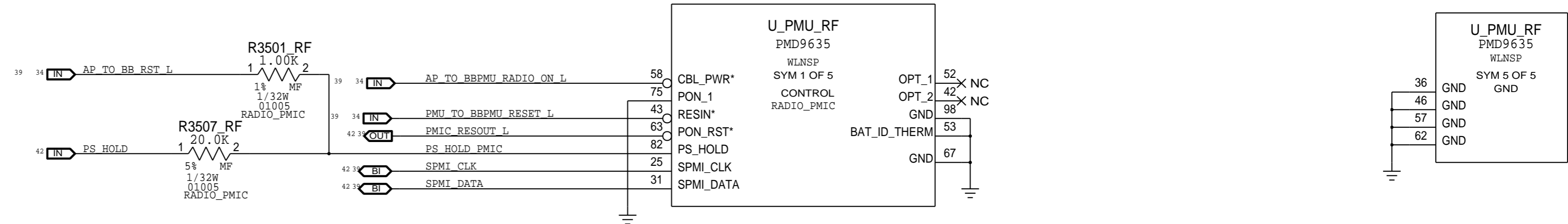
PCIE PULL-UPS TO BB RAIL

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CELLULAR BASEBAND: GPIOs		051-00094	D
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# PMU: CONTROL AND CLOCKS

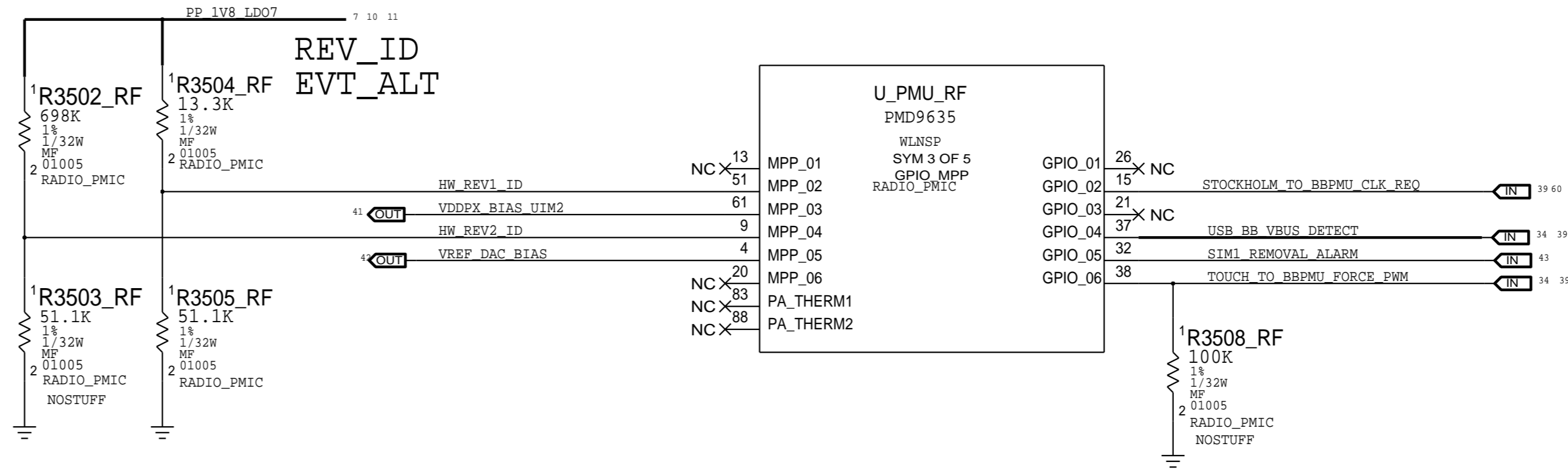
## RESET AND CONTROL: PMU

HW_REV2_ID	R3502	R3503	CONFIG
1.80V	698K	-	MLB
0.12V	698K	51.1K	SELF GEN

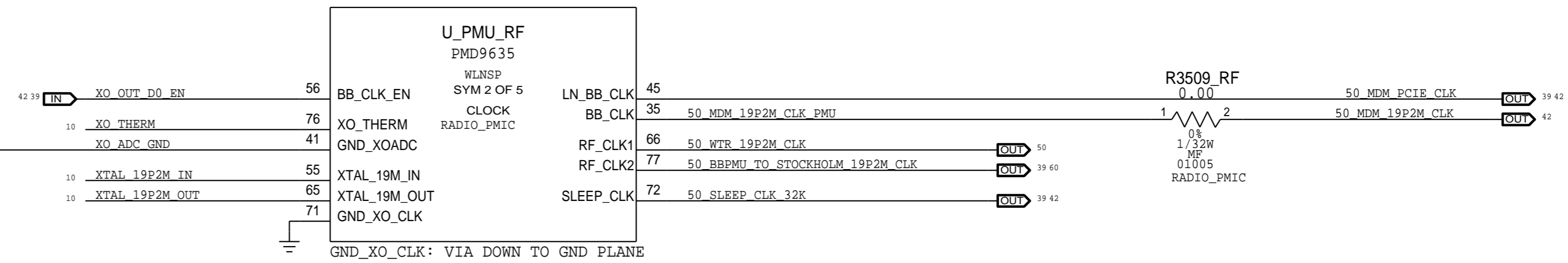
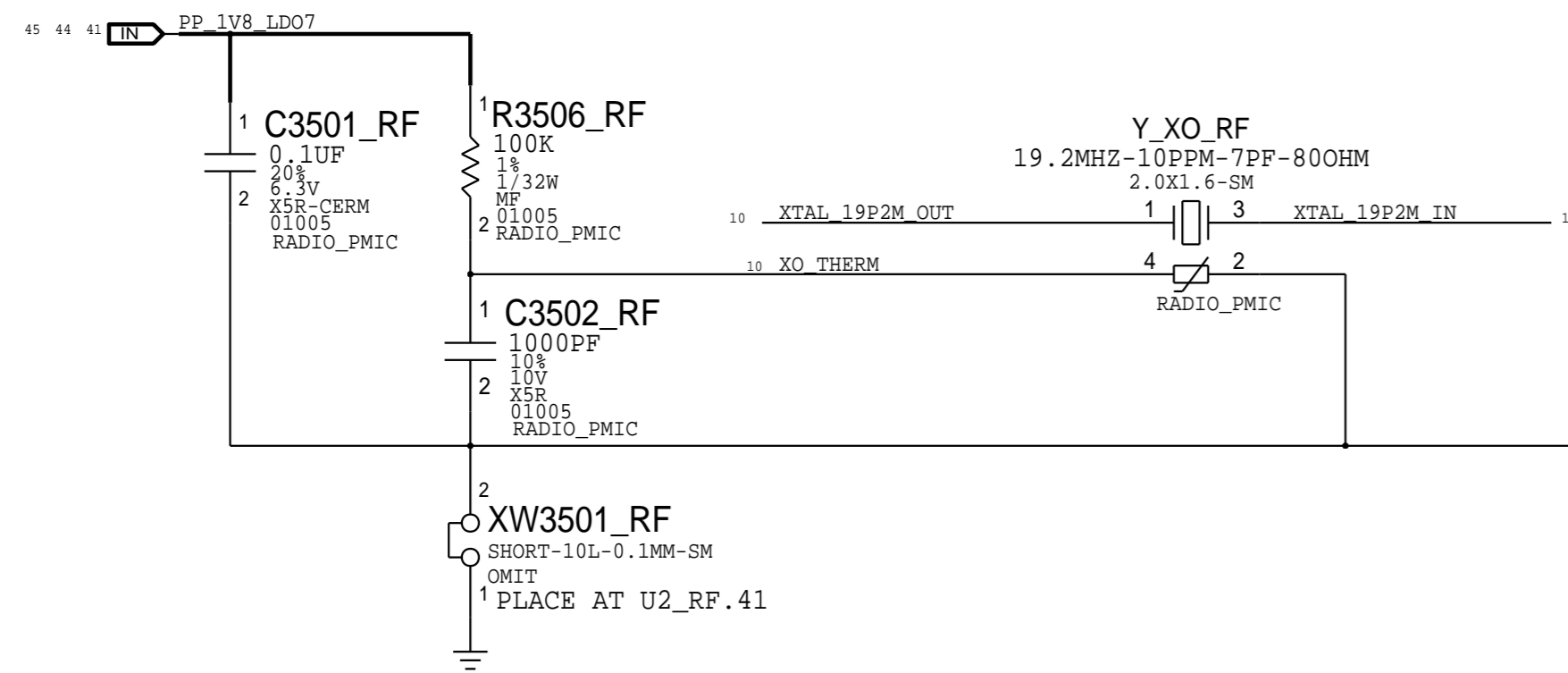


## MPPS AND GPIOs: PMU

HW_REV_ID	R3504	R3505	REVISION
0.10V	887K	51.1K	DEV1
0.30V	255K	51.1K	DEV2
0.50V	124K	51.1K	DEV3
0.70V	82.5K	51.1K	DEV4/PROTOMLB1
0.90V	51.1K	51.1K	PROTOMLB2
1.10V	31.6K	51.1K	DEV5/PROTO1
1.20V	50K	100K	PROTO2
1.31V	39K	105K	EVT
1.43V	13.3K	51.1K	EVT_ALT
1.55V	8.25K	51.1K	CARRIER BUILD
1.63V	5.23K	51.1K	DVT
1.80V	10K	-	PVT



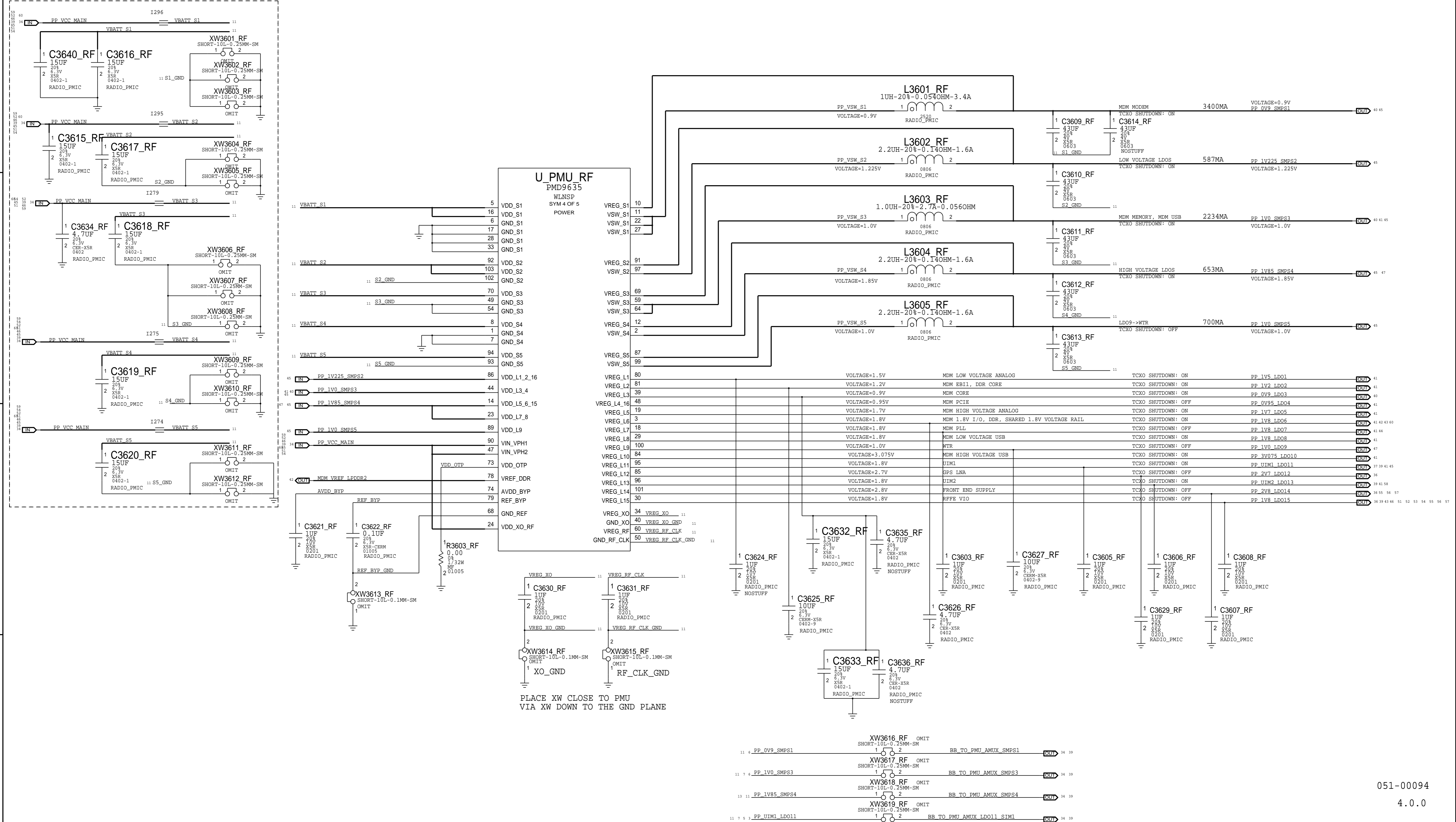
## XTAL AND CLOCK: PMU



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CELLULAR PMU: CONTROL AND CLOCKS		
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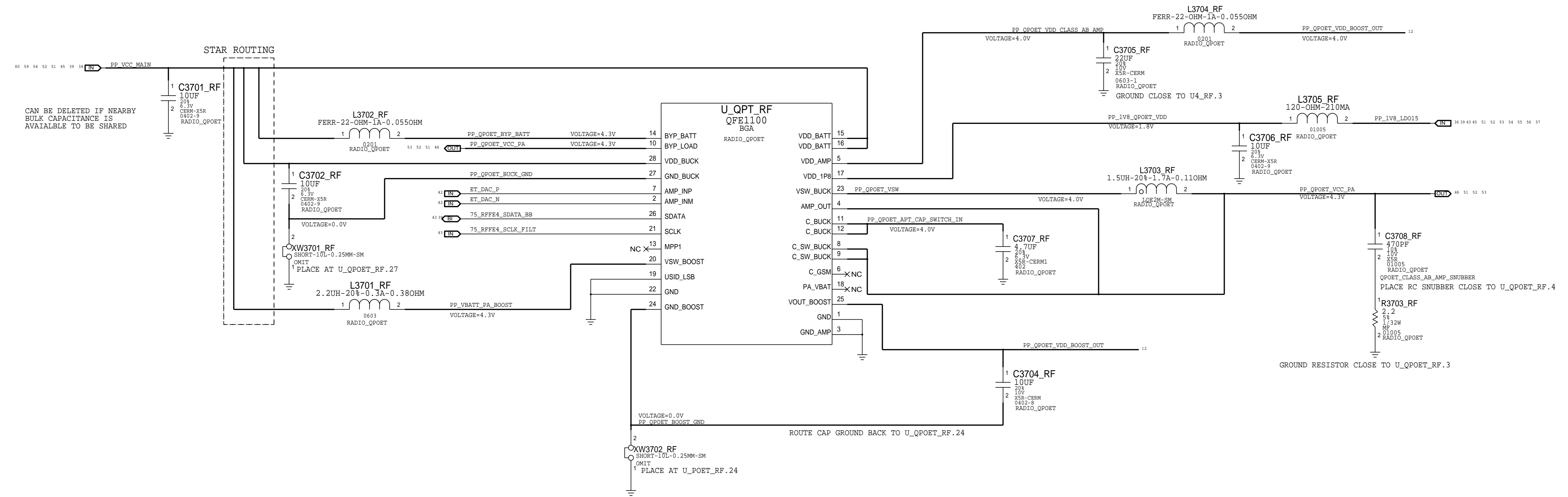
# PMU: SWITCHERS AND LDOS


## SWITCHERS BULK CAPS



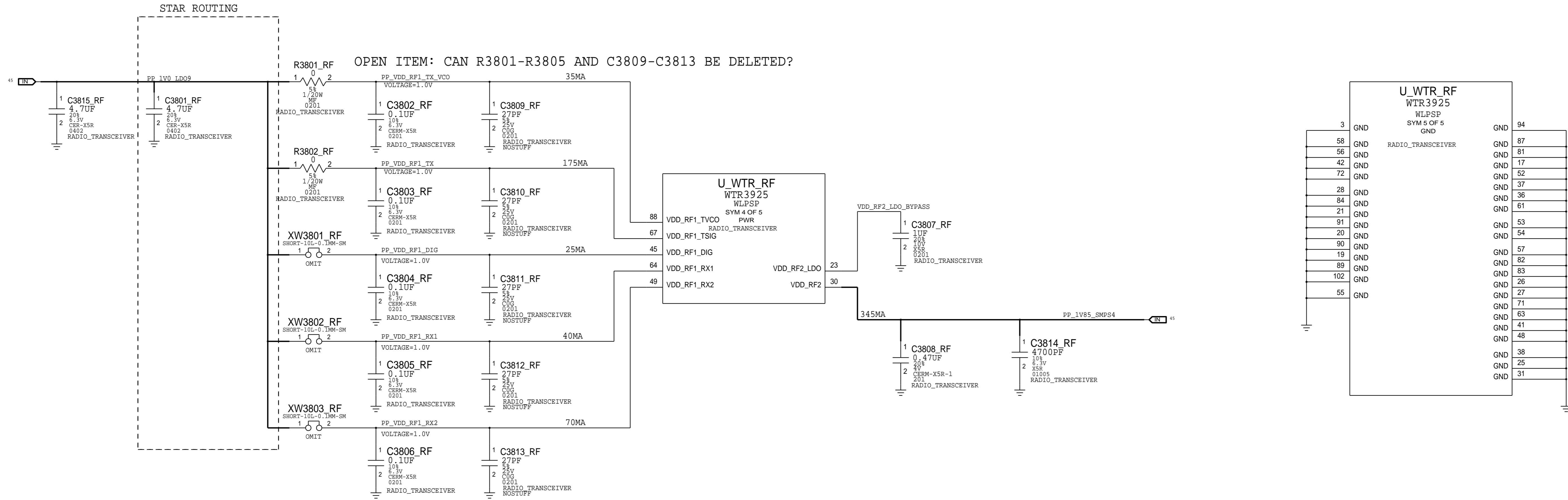
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# PMU: ET MODULATOR



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# TRANSCEIVER: POWER

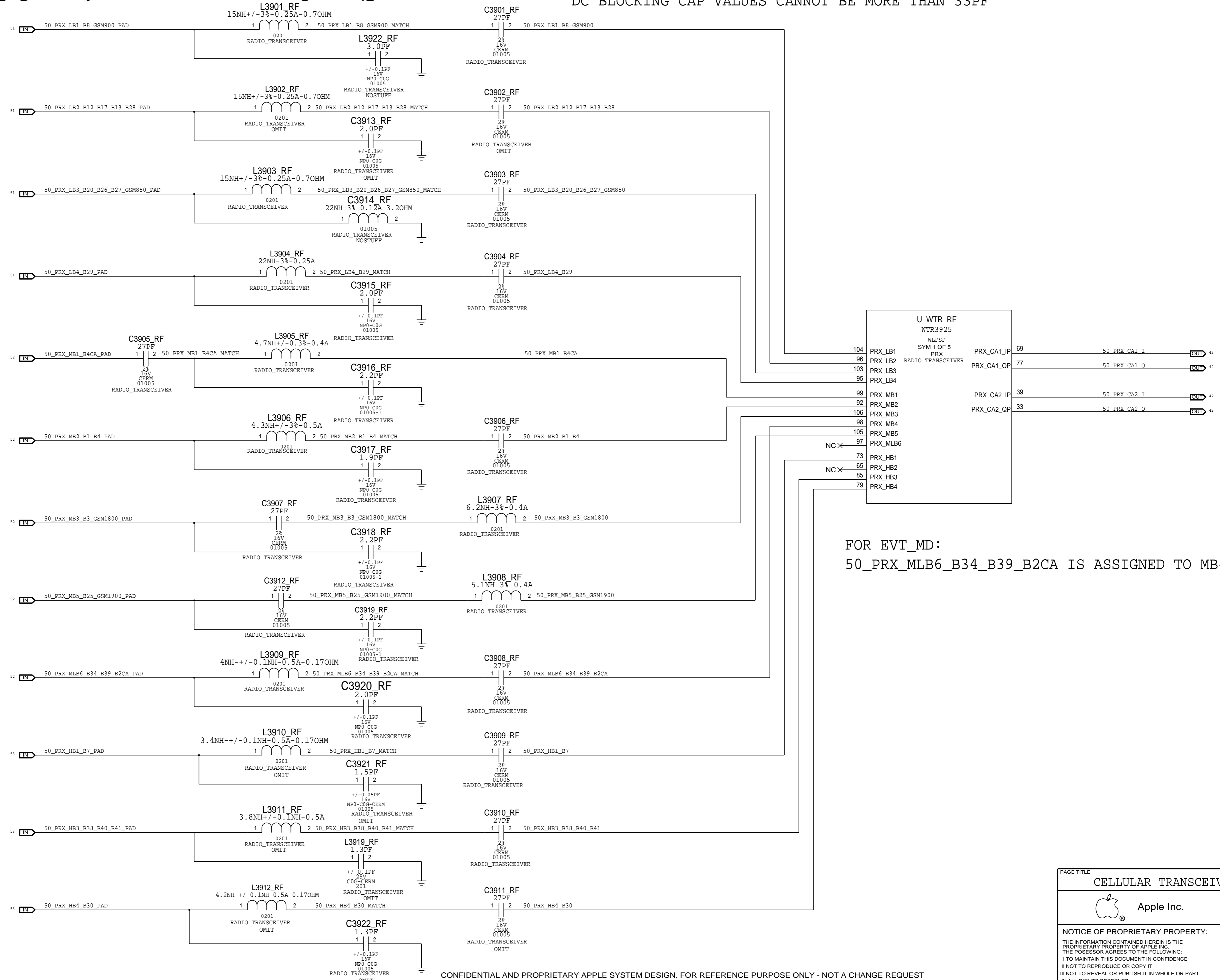


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# TRANSCEIVER: PRX PORTS

DC BLOCKING CAP VALUES CANNOT BE MORE THAN 33PF



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REVISION		4.0.0	
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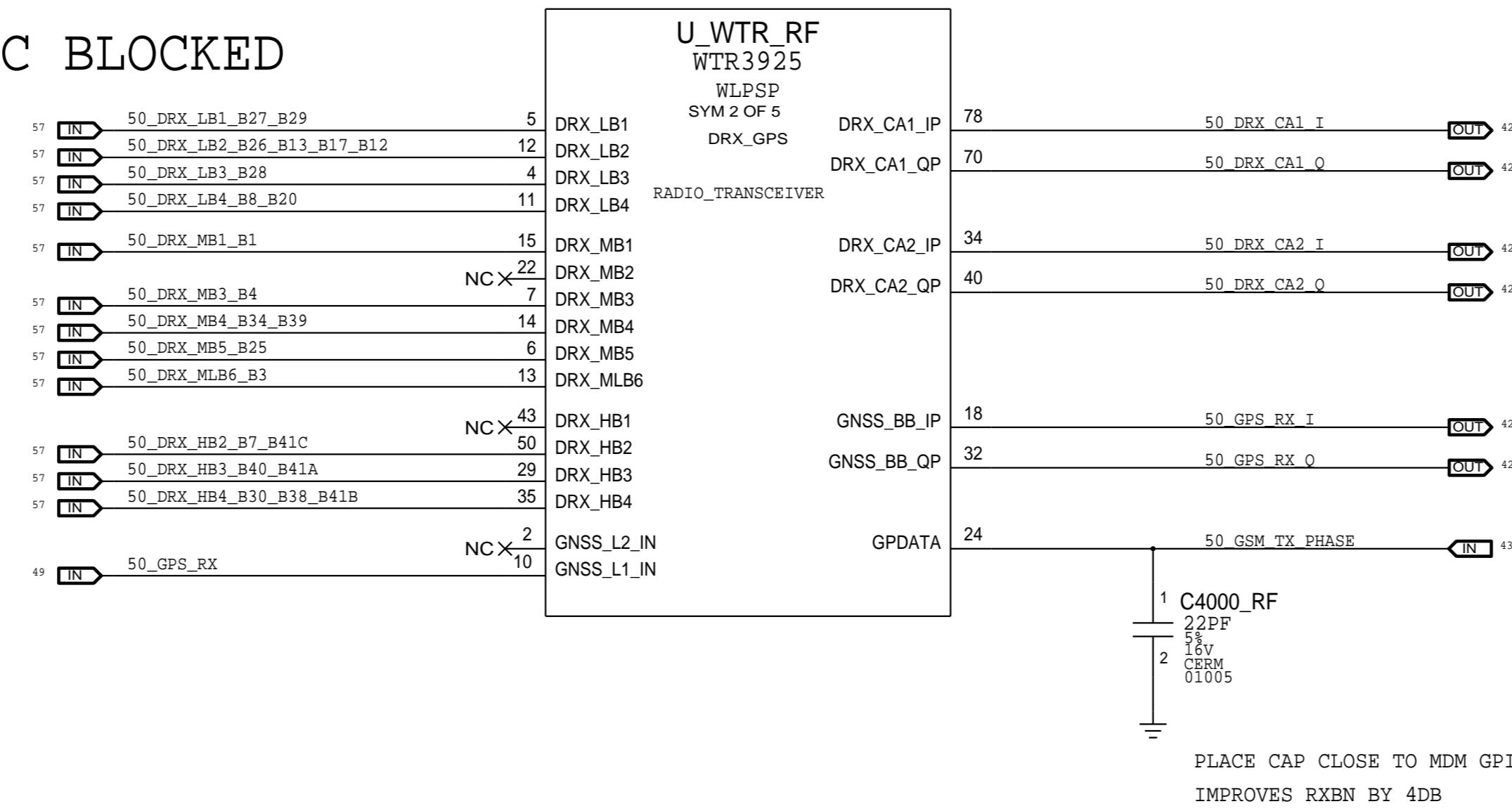
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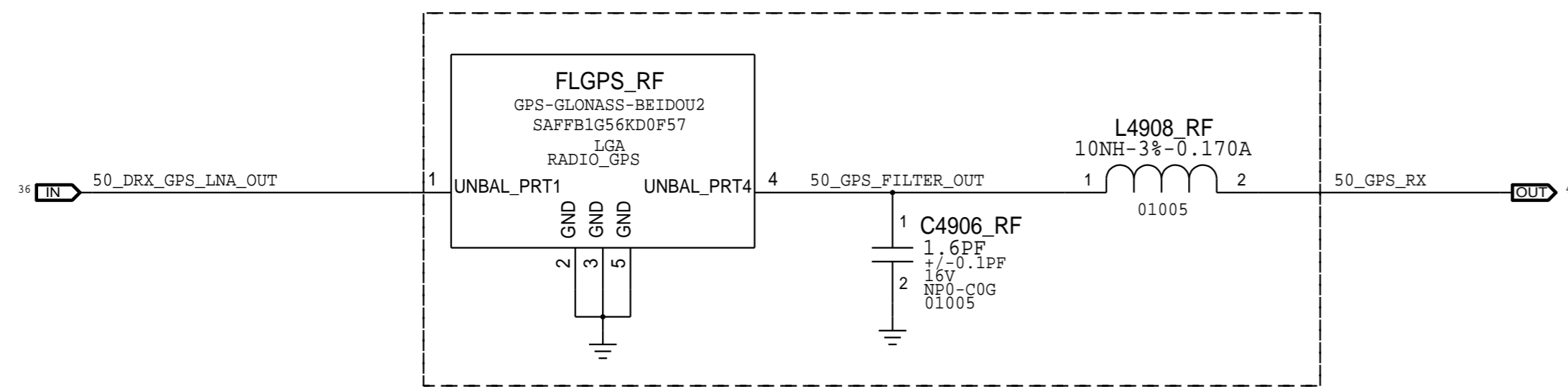
# TRANSCEIVER: DRX/GPS PORTS

DRX MODULE PORTS ARE DC BLOCKED



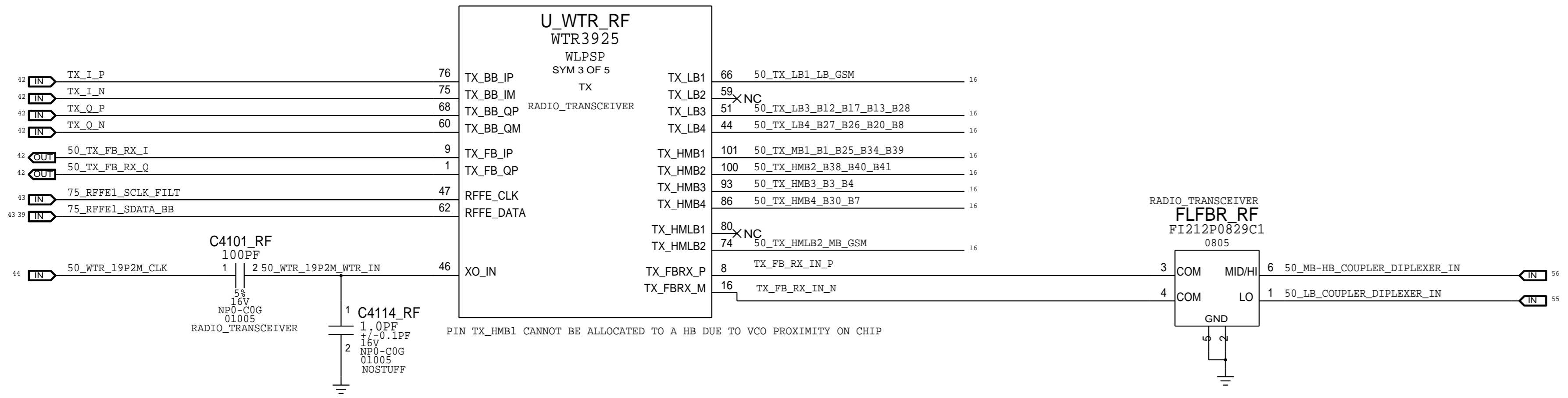
## GPS FILTER

PLACE NEAR U\_WTR

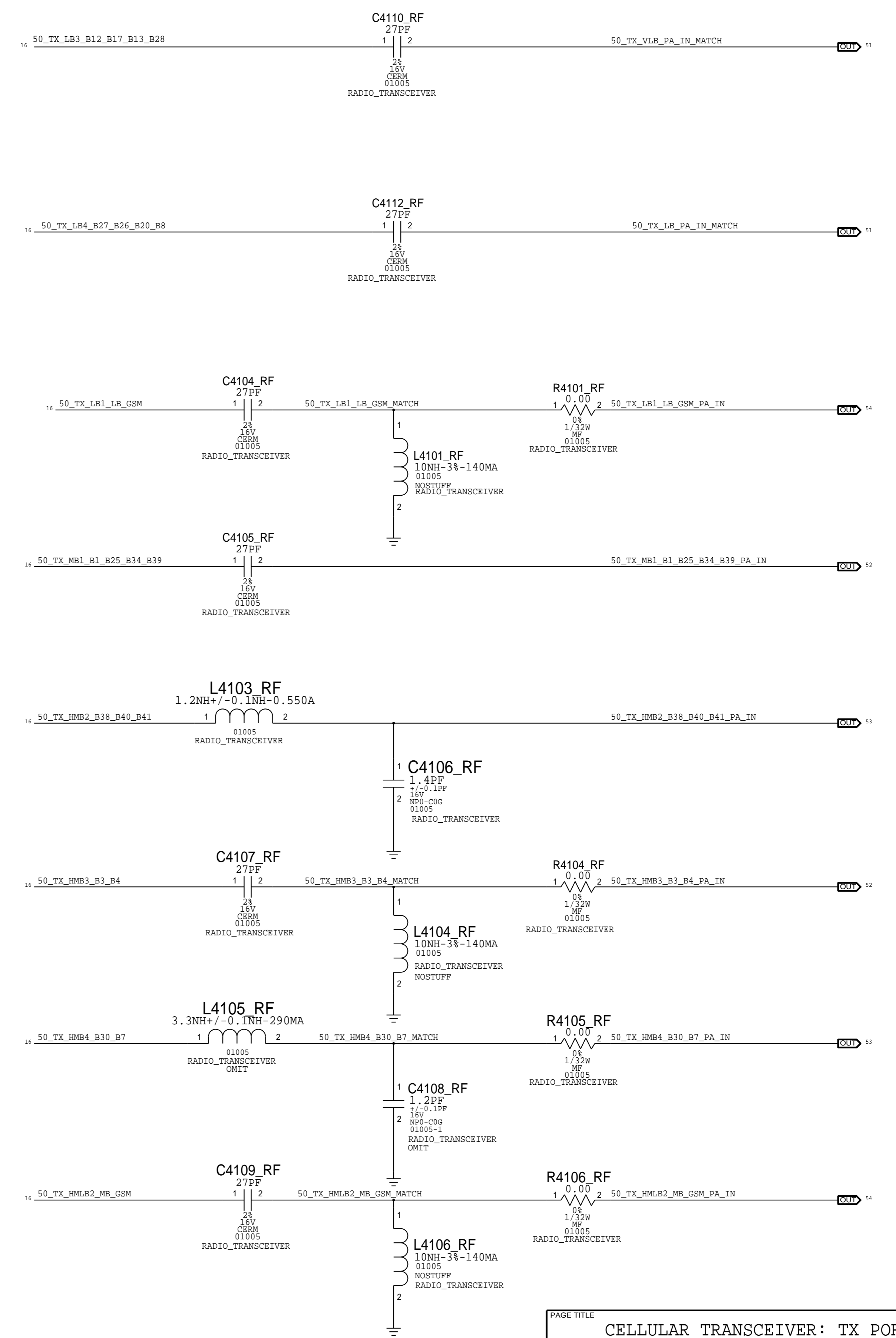


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# TRANSCEIVER: TX PORTS

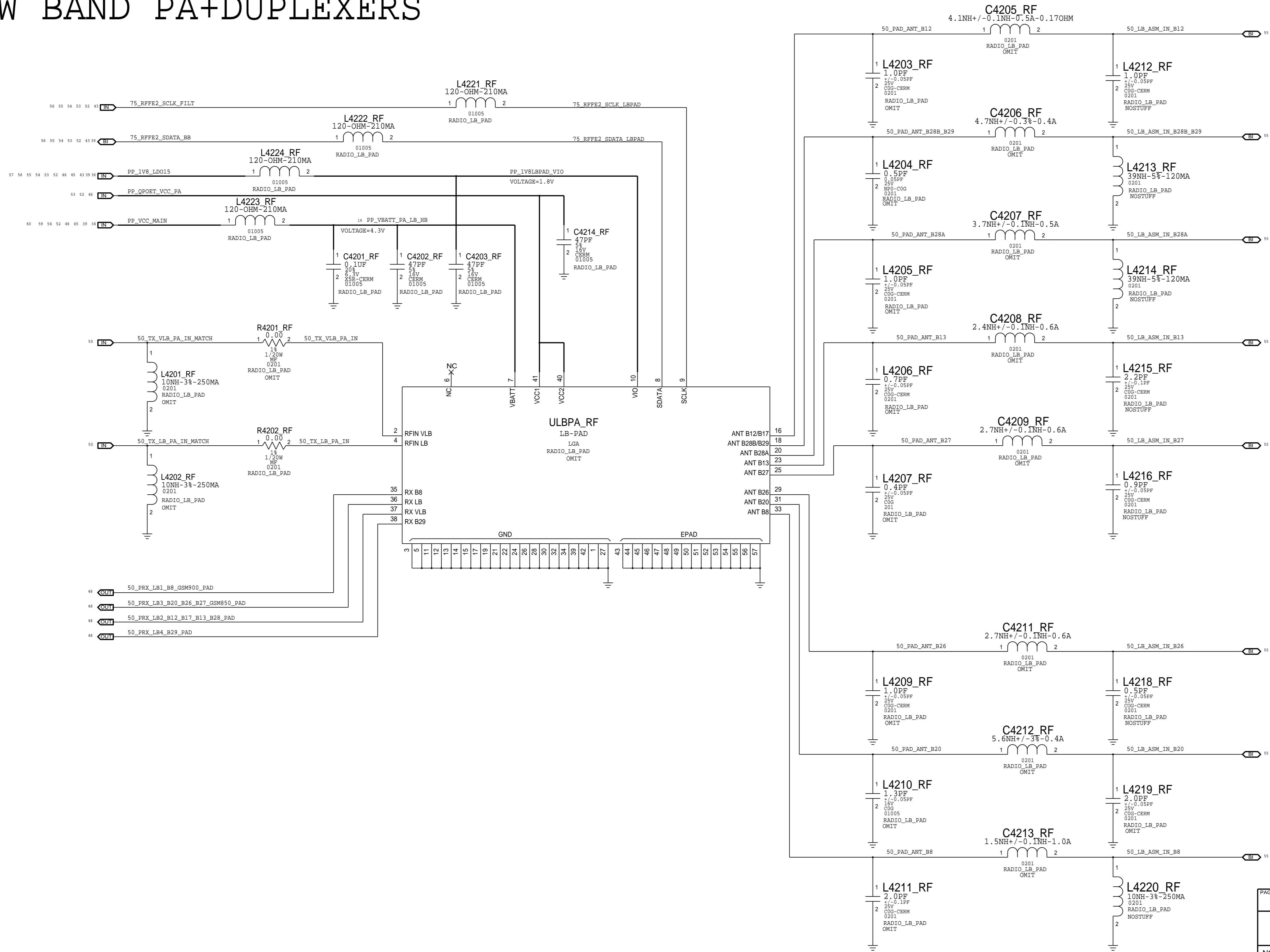


B12/13 TX INTERSTAGE FILTER REMOVED



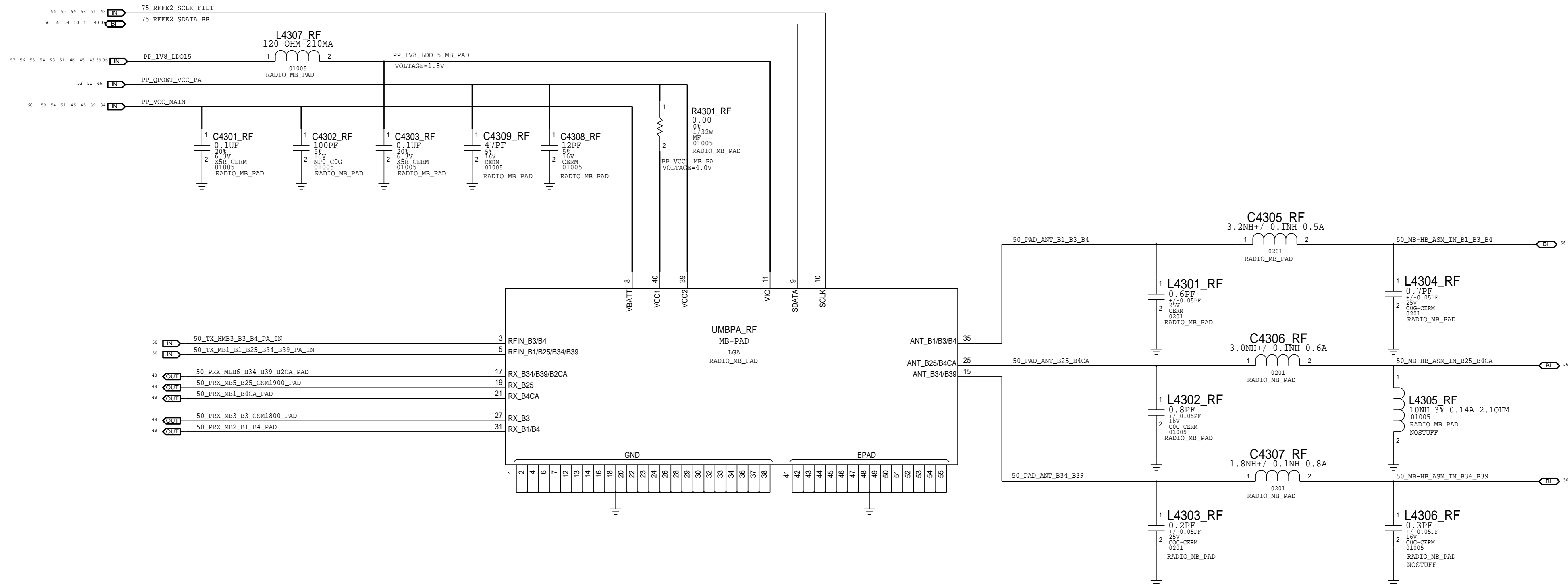
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# LOW BAND PA+DUPLEXERS



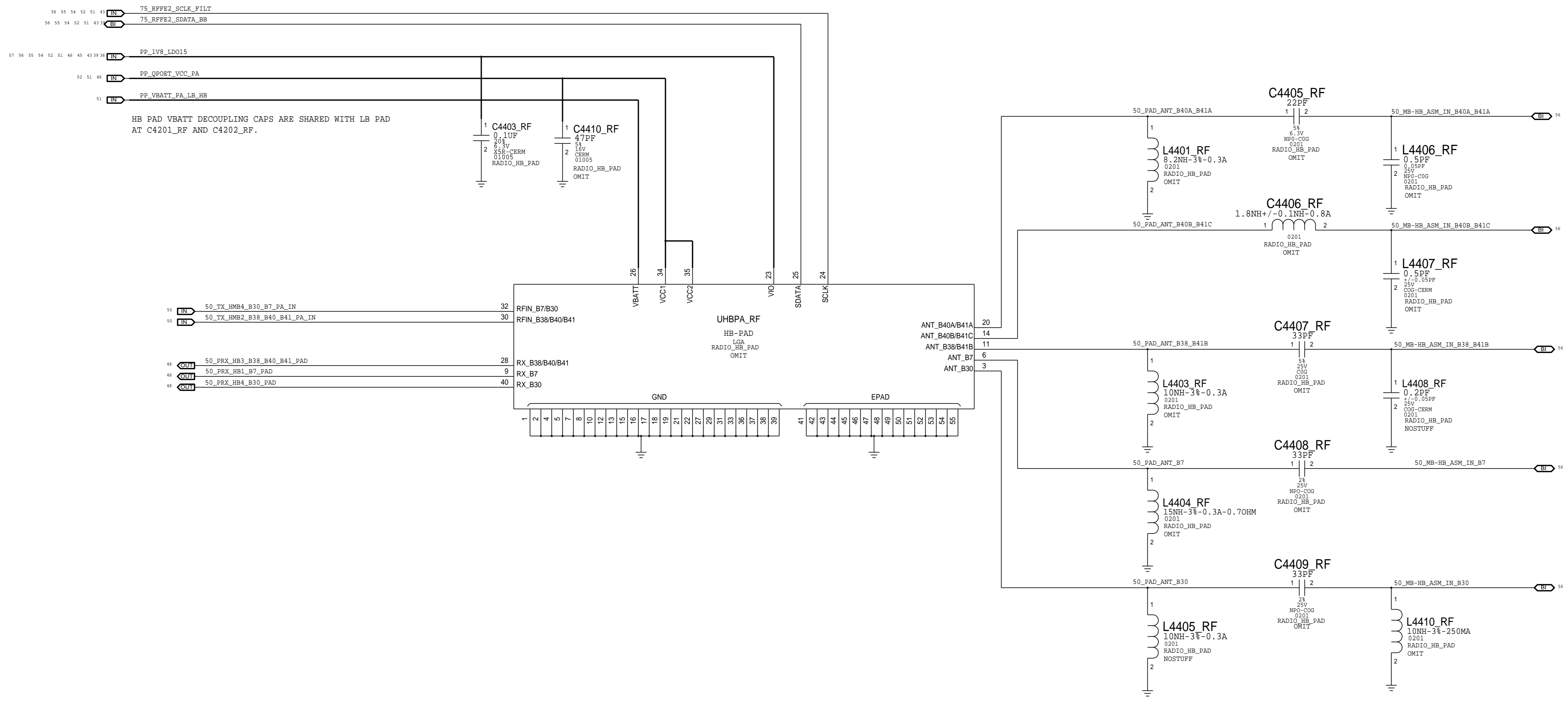
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# MID BAND PA+DUPLEXERS



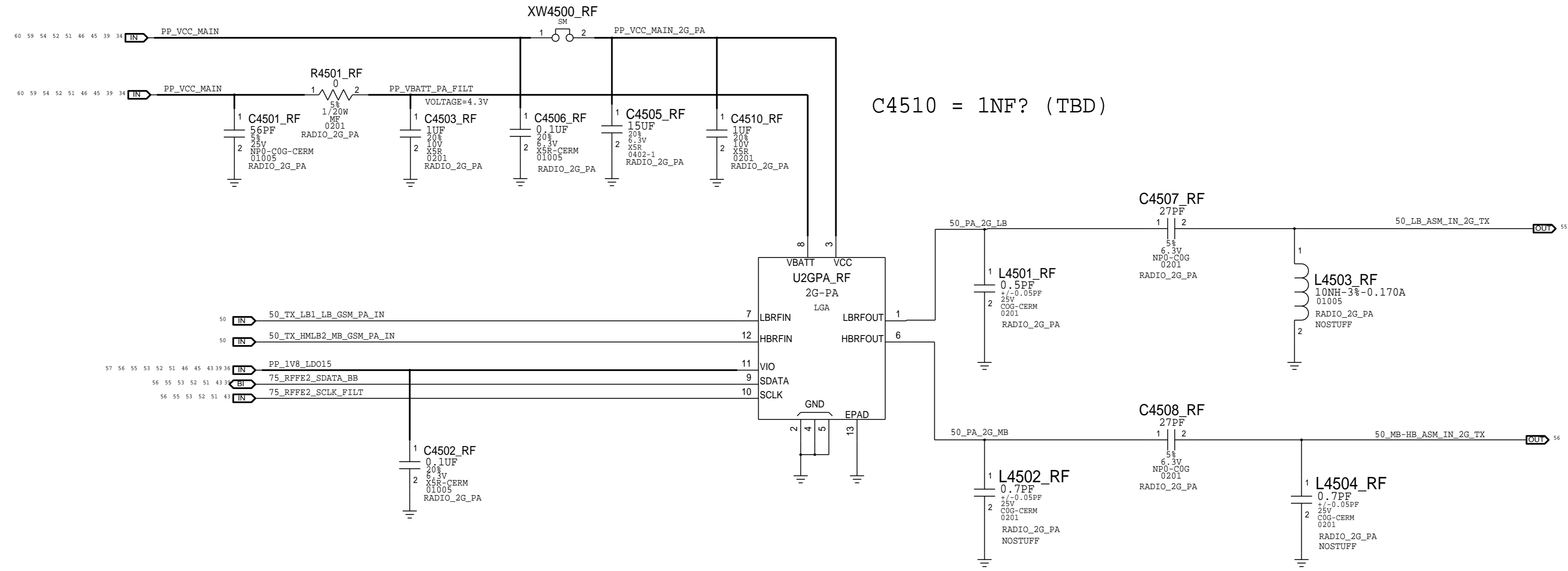
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# HIGH BAND PA+DUPLEXERS



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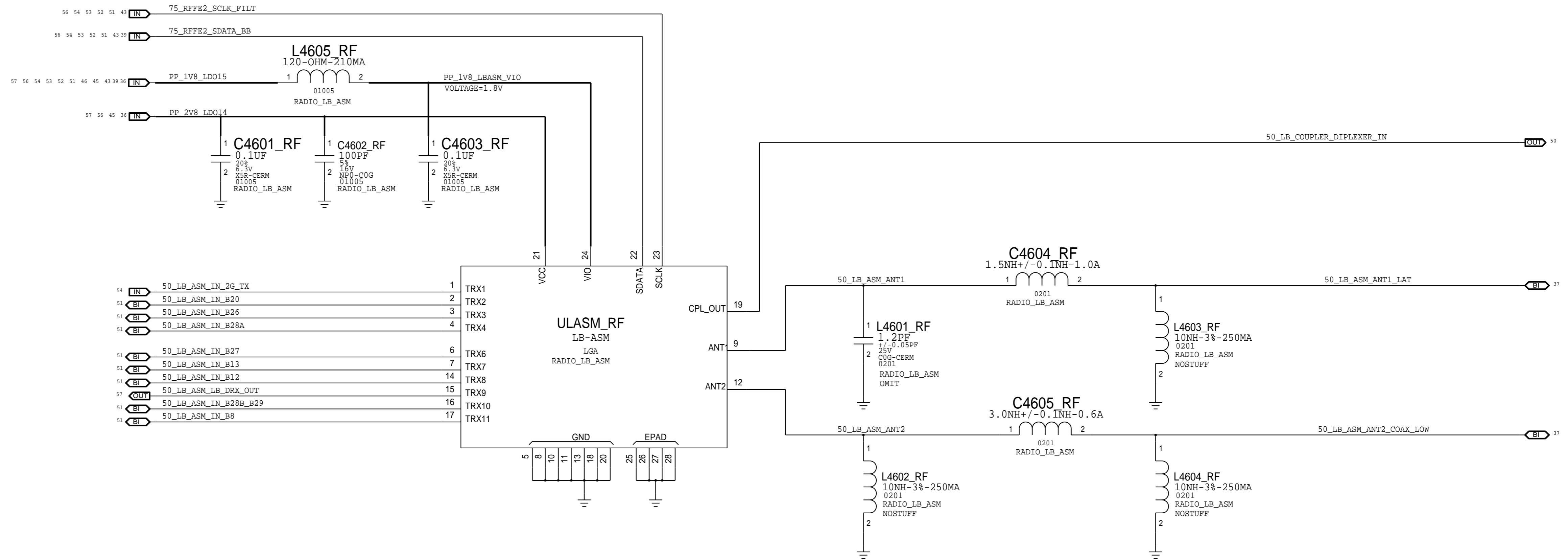
# 2G PA



C4510 = 1NF? (TBD)

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# LOW BAND ANTENNA SWITCH MODULE



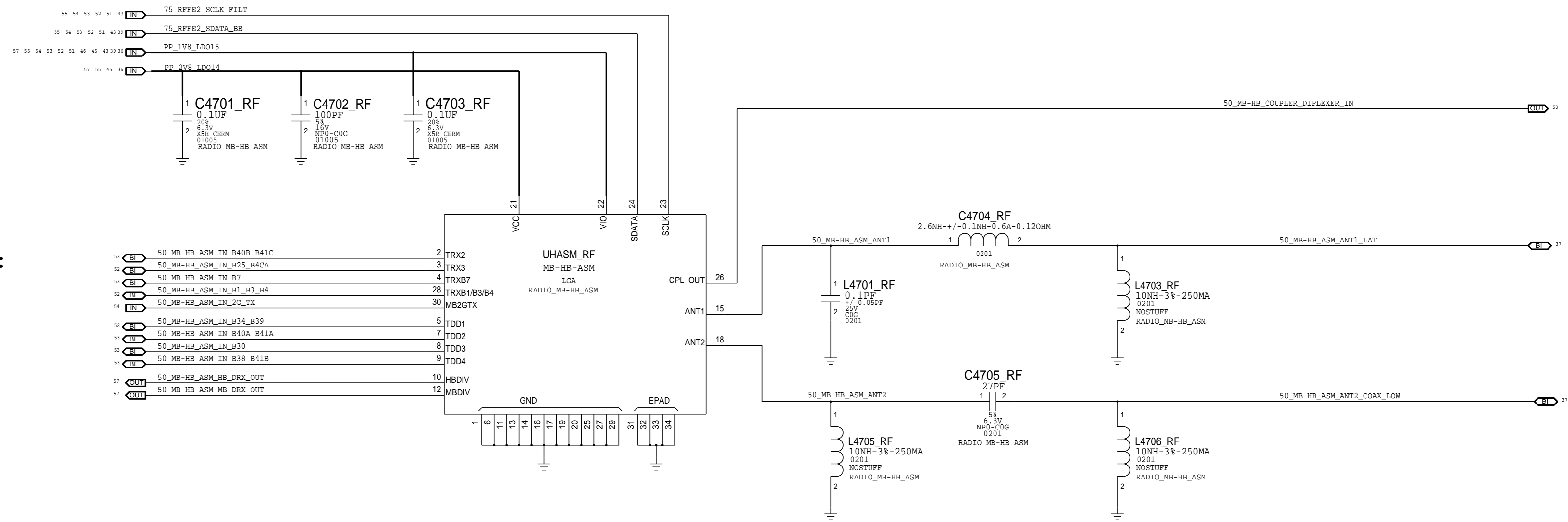
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# MID-HIGH BAND ANTENNA SWITCH MODULE

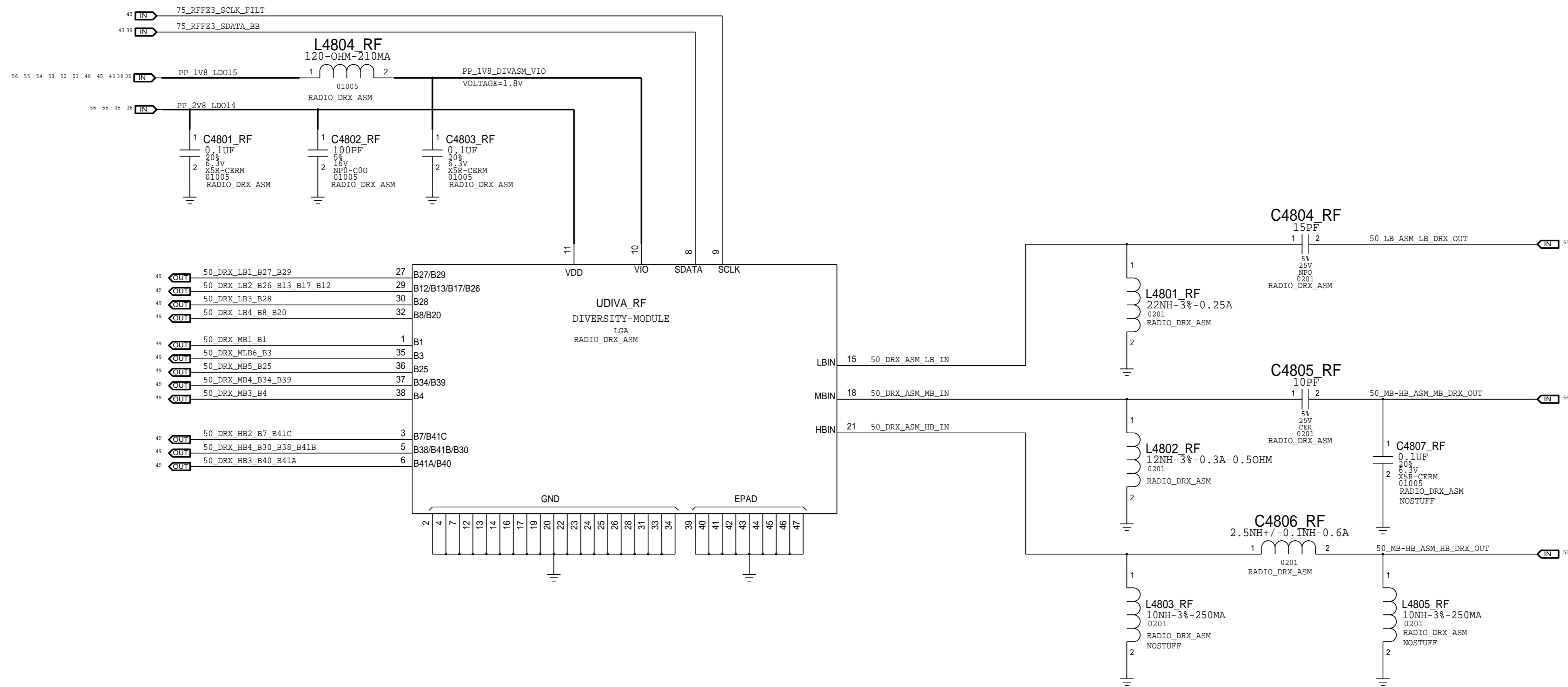
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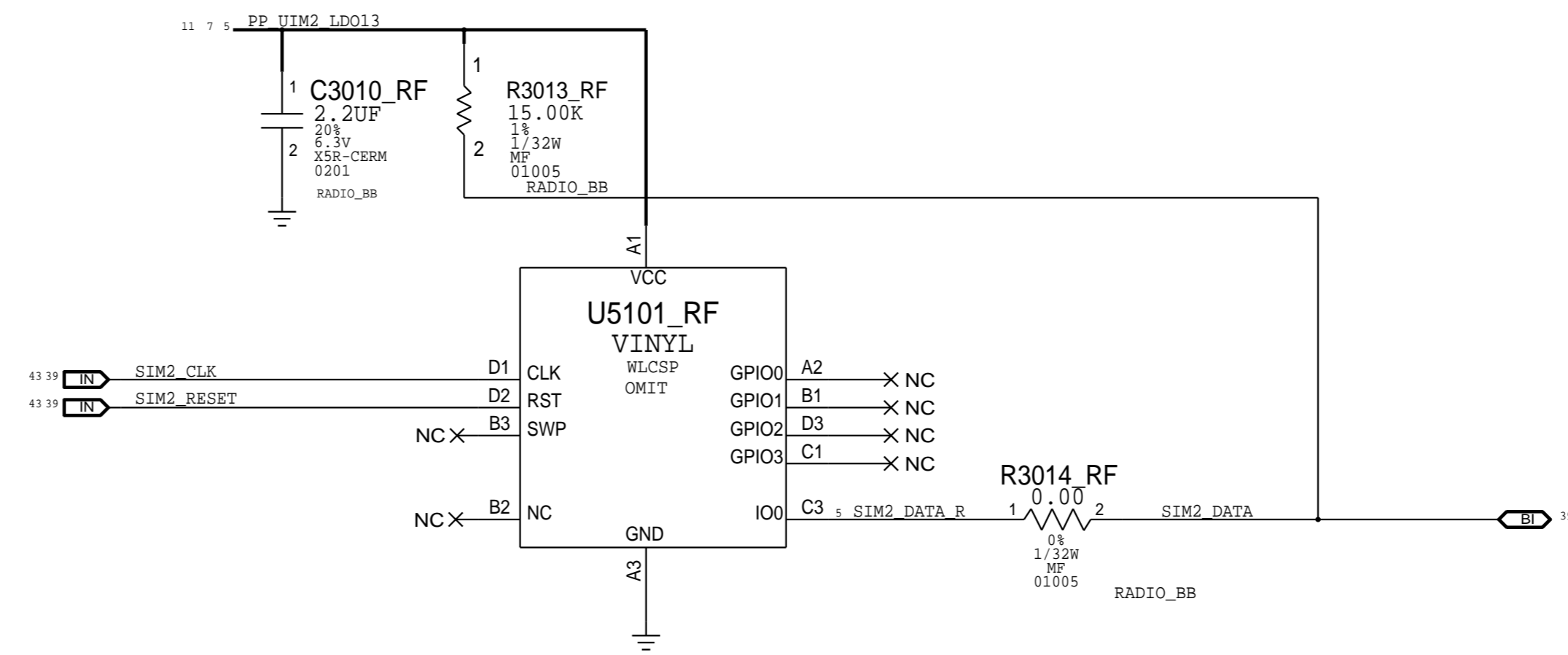
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# DIVERSITY MODULE



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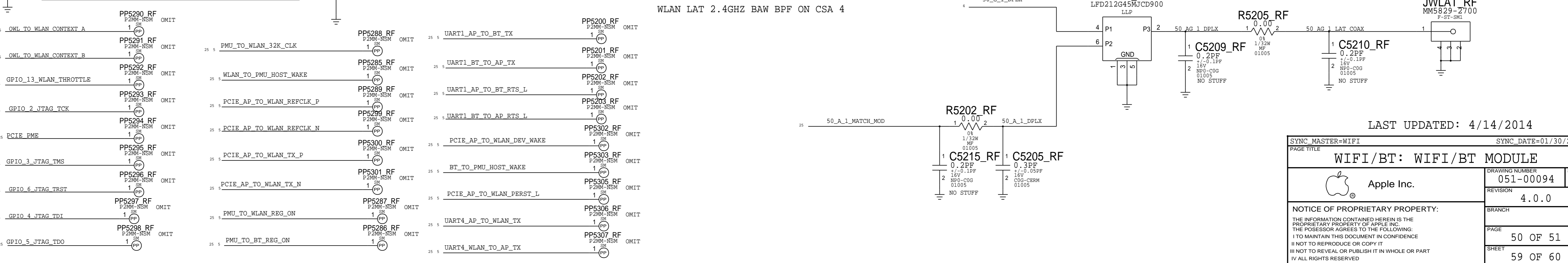
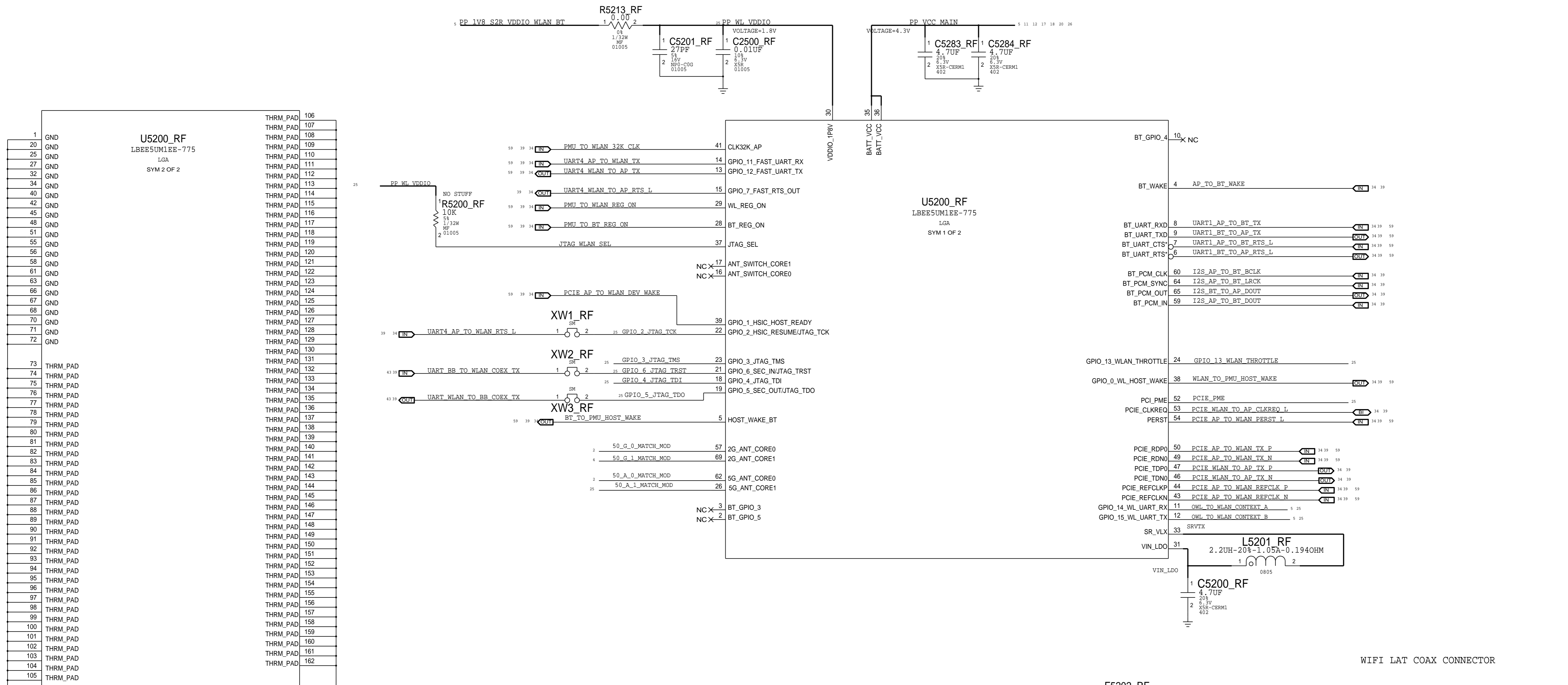
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# WIFI/BT



LAST UPDATED: 4/14/2014

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# STOCKHOLM

ALL NETNAMES NEED TO BE CHECKED

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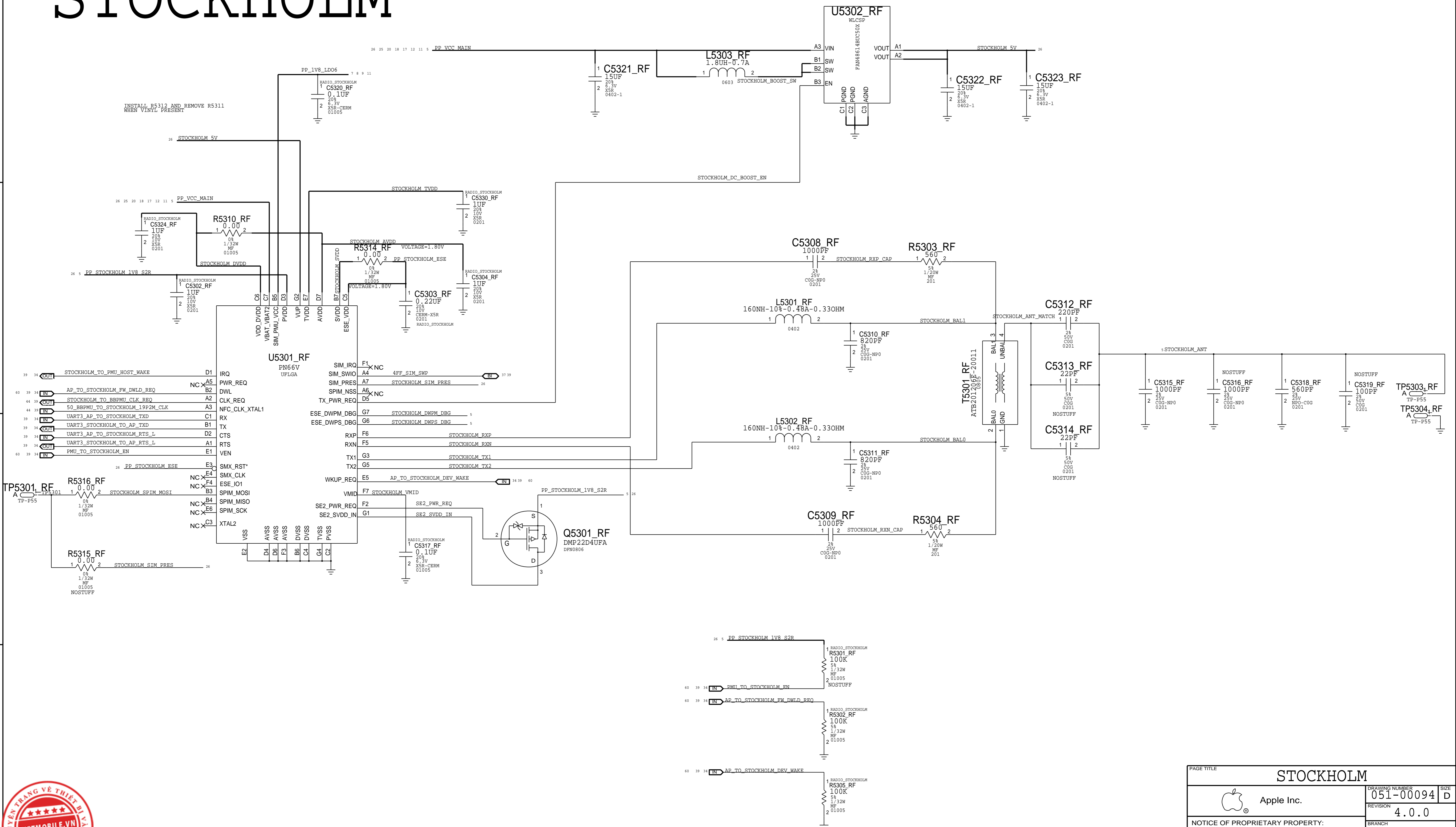
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