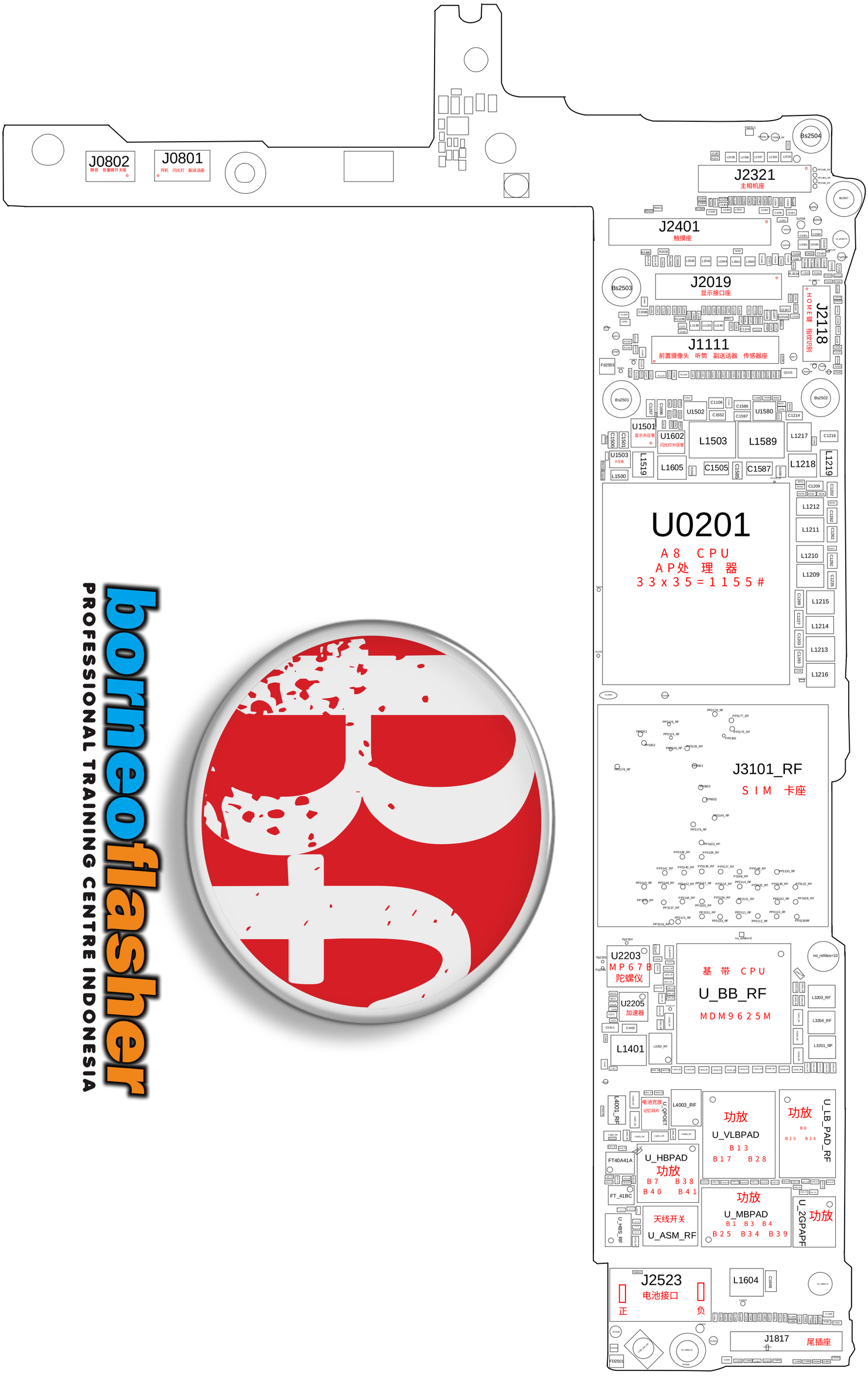
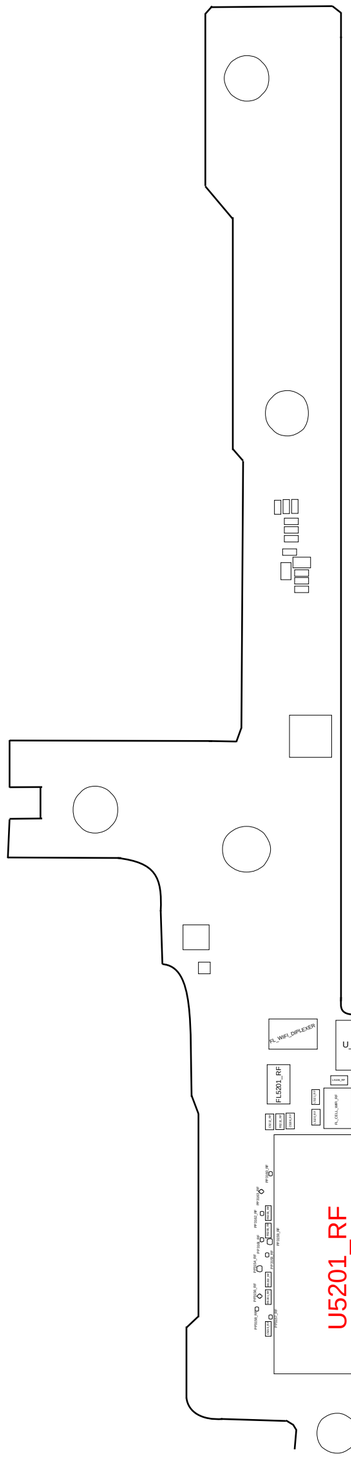
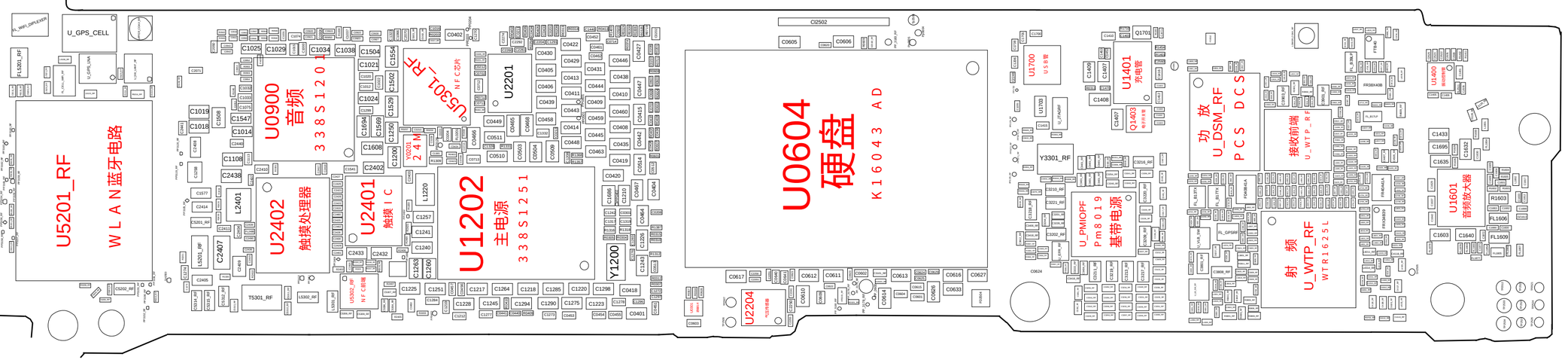


borneoflasher

PROFESSIONAL TRAINING CENTRE INDONESIA





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

CONTENTS

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,X5R,10UF,20%,6.3V,0.65MM,HRTZ,0402	C0610,C0611,C0614,C0634	CRITICAL	NAND_16G
138S0867	1	CAP,X5R,10UF,20%,6.3V,0.65MM,HRTZ,0402	C0613,C0633,C0610,C0611,C0614,C0634	CRITICAL	NAND_32G & NAND_64G
138S00003	1	CAP,X5R,15UF,20%,6.3V,0.65MM,HRTZ,0402	C0613,C0633,C0610,C0611,C0614,C0634	CRITICAL	NAND_128G

ALTERNATE NAND BOM OPTIONS

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S0992	335S0998	ALTERNATE	U0604	TOSHIBA,NAND,16GB
335S1038	335S0998	ALTERNATE	U0604	HYNIX,NAND,16GB
335S1040	335S0994	ALTERNATE	U0604	HYNIX,NAND,64GB
335S00014	335S0994	ALTERNATE	U0604	TOSHIBA,NAND,64GB
335S00015	335S00010	ALTERNATE	U0604	TOSHIBA,NAND128GB
335S00009	335S0994	ALTERNATE	U0604	SANDISK,NAND,64GB,TLC

SHIELD BOM OPTIONS

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

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_FQK0	CRITICAL	EEEE_32G_TDDLTE
825-6838	1	EEEE FOR 639-00210 64GB	EEEE_FQJY	CRITICAL	EEEE_64G_TDDLTE
825-6838	1	EEEE FOR 639-00212 128GB	EEEE_FY9W	CRITICAL	EEEE_128G_TLC_TDDLTE

ALTERNATE BOM OPTIONS

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S1844	152S1836	ALTERNATE	L1604	TY ALT INDUCTOR
152S1842	152S1849	ALTERNATE	L1519	TY ALT INDUCTOR
197S0392	197S0369	ALTERNATE	Y1200	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	SUPPR,TRANS,VARISTOR,AMOTECH
155S0885	155S0610	ALTERNATE	FL1802,FL1803	FERR BD,150OHM,200MA,01005
138S0648	138S0652	ALTERNATE	C1018	CAP,4.7UF,20%,6.3V,0402,H=0.65MM
138S0657	138S0702	ALTERNATE	C1106	CAP,4.3UF,20%,4V,0610
338S00028	338S00017	ALTERNATE	U2203	CARBON, BOSCH, BMI162BC
338S00029	338S00017	ALTERNATE	U2203	CARBON, ST, AP6DS2AA
335S00013	335S0894	ALTERNATE	U0301	ST 8K EEPROM

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

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

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

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

DRAWING TITLE: SCHEM,MLB,N61

Apple Inc.

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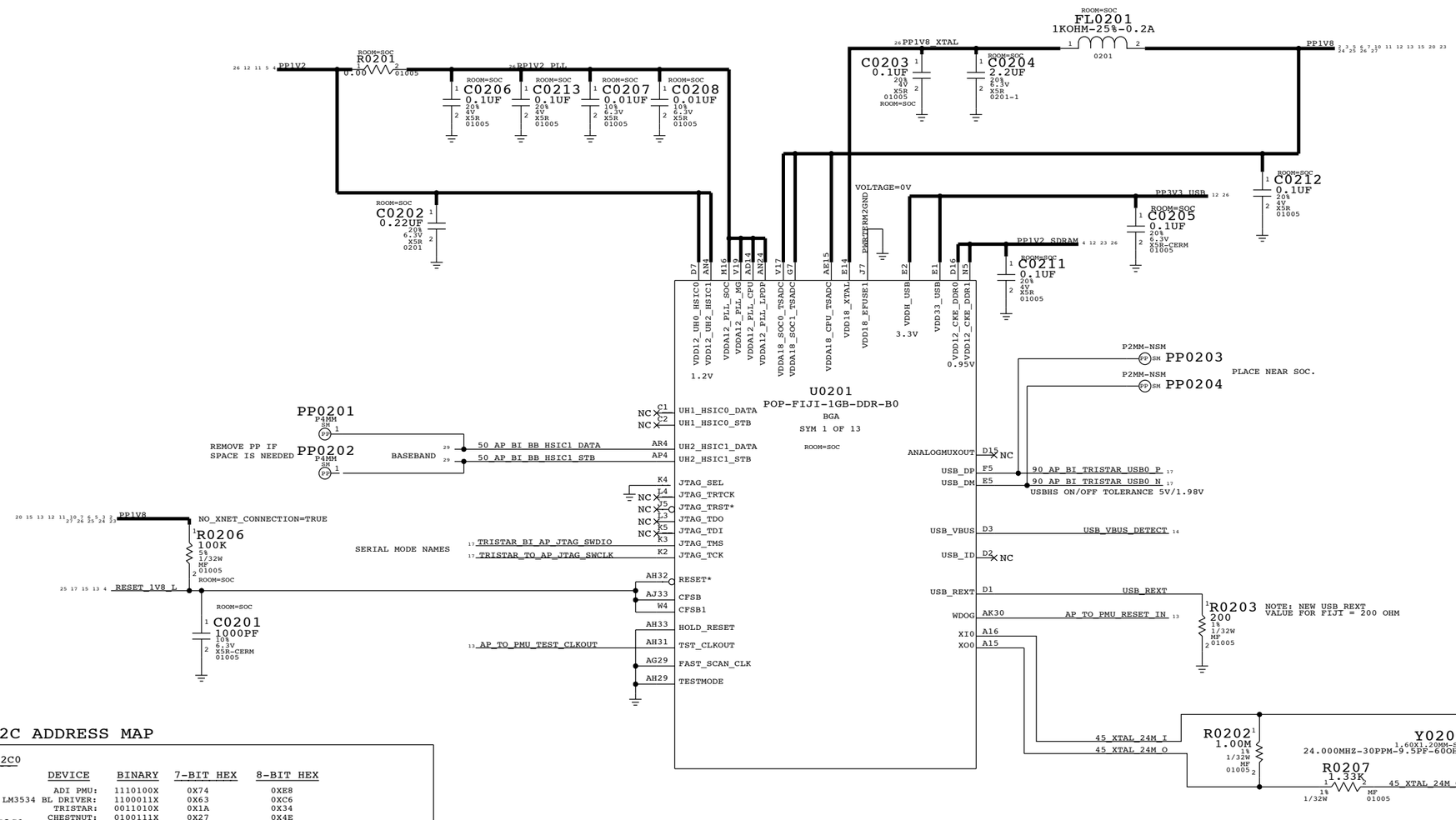
FIJI: JTAG,USB,HSIC,XTAL



I2C ADDRESS MAP

	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

Apple Inc.

DRAWING NUMBER: 051-9903 SIZE: D
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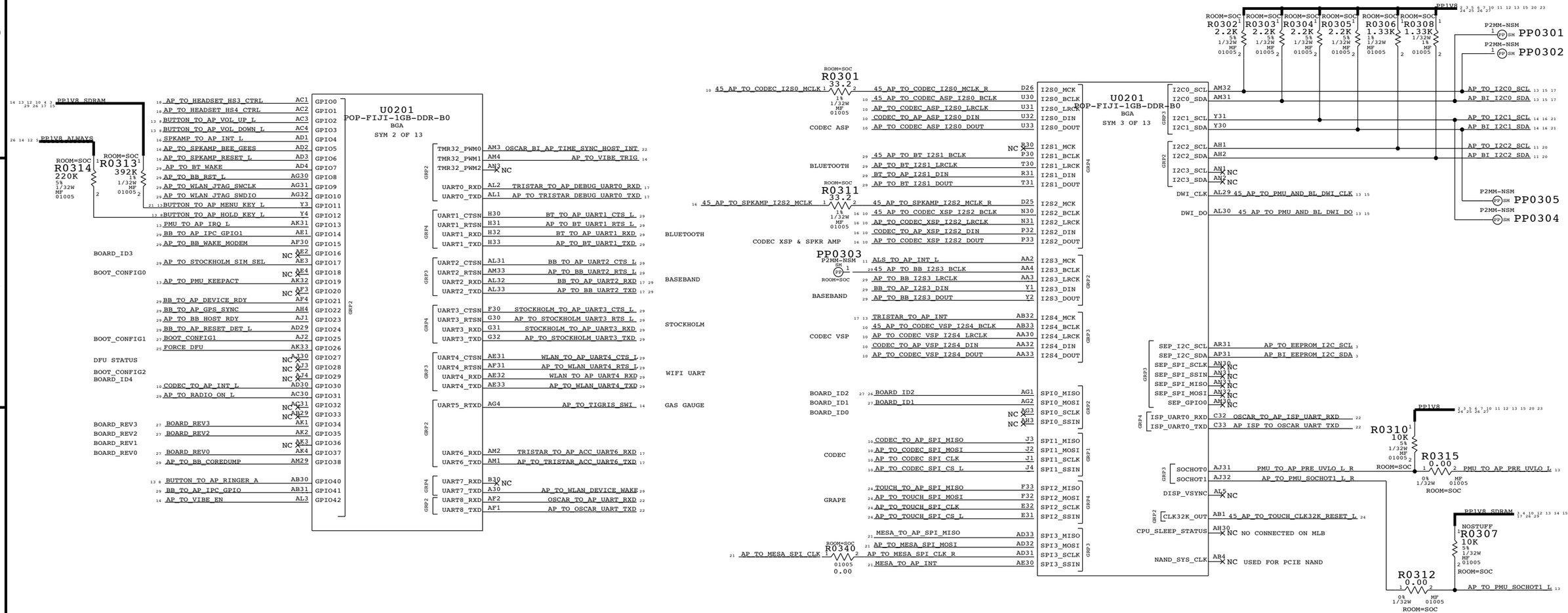
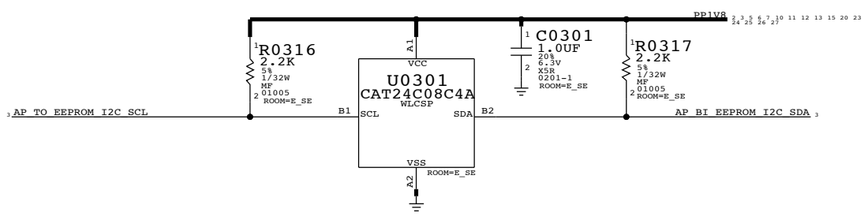
FIJI: DIGITAL I/O,BOOTSTRAPPING



ANTI-ROLLBACK EEPROM

ONSEMI EEPROM

APN:335S0894



REMOVED HOLD + MENU KEY
BUFFERS SINCE NOT NEEDED FOR FIJI

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

PAGE TITLE

SOC:I/OS

Apple Inc.

DRAWING NUMBER 051-9903 SIZE D

REVISION 7.0.0

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

VDDCA, VDD1/2, VDDQ

RESET_1V8_L
NOTE: CKEIN CONFIRMED 1.8V TOLERANT
DDR0_CKEIN
DDR1_CKEIN
45_DDR0_ZQ_CA
45_DDR1_ZQ_CA
45_DDR0_ZQ_DQ
45_DDR1_ZQ_DQ
45_DDR0_VREF_CA
45_DDR1_VREF_CA
45_DDR0_VREF_DQ
45_DDR1_VREF_DQ
R0401 240 1% 1/32W MF 01005 ROOM=SOC
R0402 240 1% 1/32W MF 01005 ROOM=SOC
R0411 240 1% 1/32W MF 01005 ROOM=SOC
R0412 240 1% 1/32W MF 01005 ROOM=SOC
(DDR IMPEDANCE CONTROL)
U0201 POP-FIJI-1GB-DDR-B0 BGA SYM 7 OF 13
VDDCA
PP1V2_SDRAM
VDD2 1.2V
VSS
PP1V8_SDRAM
C0450 2.2UF 20% 6.3V X5R 0201-1
C0451 2.2UF 20% 6.3V X5R 0201-1
C0452 2.2UF 20% 6.3V X5R 0201-1
VDD1 1.8V
PP1V2
C0431 4.3UF 20% 4V CERM 0402
C0467 1.0UF 20% 6.3V X5R 0201-1
C0427 1.0UF 20% 6.3V X5R 0201-1
C0432 1UF 20% 4V CERM 0402
VDDQ
C0426 15PF 1% 16V NP0-C0G-CERM 01005 ROOM=SOC
C0425 0.47UF 20% 6.3V CERM 0402
C0430 0.47UF 20% 6.3V CERM 0402

VDD

PP0V95_FIXED_SOC
C0435 10UF 20% 6.3V CERM-X5R 0402-9 ROOM=SOC
C0438 4.3UF 20% 4V CERM 0402
C0439 4.3UF 20% 4V CERM 0402
C0404 1UF 20% 4V CERM 0402
C0405 1UF 20% 4V CERM 0402
C0476 4.3UF 20% 4V CERM 0402
C0406 0.47UF 20% 6.3V CERM 0402
C0478 10UF 20% 6.3V CERM-X5R 0402-9 ROOM=SOC
U0201 POP-FIJI-1GB-DDR-B0 BGA SYM 10 OF 13
VDD_FIXED 0.95V TBD: 3.3A? @ 105C
VDD_FIXED
VDD_FIXED_SENSE
PP0403 P2MM-NSM ROOM=SOC
45_BUCK5_FB

VDD_CPU, VDD_GPU

PP_GPU
C0442 10UF 20% 6.3V CERM-X5R 0402-9 ROOM=SOC
C0466 10UF 20% 6.3V CERM-X5R 0402-9 ROOM=SOC
C0445 4.3UF 20% 4V CERM 0402
C0448 4.3UF 20% 4V CERM 0402
C0418 1UF 20% 4V CERM 0402
C0419 1UF 20% 4V CERM 0402
C0420 0.47UF 20% 6.3V CERM 0402
C0475 4.3UF 20% 4V CERM 0402
PP_CPU
C0443 0.47UF 20% 6.3V CERM 0402
C0446 0.47UF 20% 6.3V CERM 0402
C0444 1UF 20% 4V CERM 0402
C0409 4.3UF 20% 4V CERM 0402
C0411 4.3UF 20% 4V CERM 0402
C0414 4.3UF 20% 4V CERM 0402
C0408 4.3UF 20% 4V CERM 0402
C0410 4.3UF 20% 4V CERM 0402
C0413 1UF 20% 4V CERM 0402
U0201 POP-FIJI-1GB-DDR-B0 BGA SYM 13 OF 13
VDD_CPU 0.775V - 1.0V TBD: 7.6A? @ 105C
VDD_GPU 0.8V - 0.95V TBD: 3.45A? @ 105C
C0447 10UF 20% 6.3V CERM-X5R 0402-9 ROOM=SOC
45_BUCK0_FB
PP0401 P2MM-NSM ROOM=SOC
VDD_CPU_SENSE
C0415 4.3UF 20% 4V CERM 0402
C0465 1UF 20% 4V CERM 0402
C0449 10UF 20% 6.3V CERM-X5R 0402-9 ROOM=SOC
C0472 2.2UF 20% 6.3V X5R 0201-1
C0471 2.2UF 20% 6.3V X5R 0201-1
C0468 10UF 20% 6.3V CERM-X5R 0402-9 ROOM=SOC
VDD_GPU_SENSE
AG27 45_BUCK1_FB
PP0402 P2MM-NSM ROOM=SOC

VDDCA, VDDQ

PP1V2_SDRAM
C0423 0.01UF 10% 6.3V X5R 01005 ROOM=SOC
R0403 10K 1% 1/32W MF 01005 ROOM=SOC
45_DDR0_VREF_CA
C0424 0.01UF 10% 6.3V X5R 01005 ROOM=SOC
R0404 10K 1% 1/32W MF 01005 ROOM=SOC
C0433 0.01UF 10% 6.3V X5R 01005 ROOM=SOC
R0405 10K 1% 1/32W MF 01005 ROOM=SOC
45_DDR1_VREF_CA
C0434 0.01UF 10% 6.3V X5R 01005 ROOM=SOC
R0406 10K 1% 1/32W MF 01005 ROOM=SOC
NOTE: SOME VENDORS HAVE INTERNAL DIVIDER CIRCUITS

VDD

PP1V2
C0436 0.01UF 10% 6.3V X5R 01005 ROOM=SOC
R0407 4.7K 1% 1/32W MF 01005 ROOM=SOC
45_DDR0_VREF_DQ
C0437 0.01UF 10% 6.3V X5R 01005 ROOM=SOC
R0408 4.7K 1% 1/32W MF 01005 ROOM=SOC
C0440 0.01UF 10% 6.3V X5R 01005 ROOM=SOC
R0409 4.7K 1% 1/32W MF 01005 ROOM=SOC
45_DDR1_VREF_DQ
C0441 0.01UF 10% 6.3V X5R 01005 ROOM=SOC
R0410 4.7K 1% 1/32W MF 01005 ROOM=SOC

SYNC_MASTER=N56_MLB	SYNC_DATE=08/29/2013
PAGE TITLE: SOC:VDDCA,VDD1/2,VDD,VDD_CPU,VDD_GPU	
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FIJI: VDDIOD,VDDIO18,VDD_VAR_SOC

JUST A FEW GNDS

U0201
POP-FIJI-1GB-DDR-B0
BGA
SYM 11 OF 13

U0201
POP-FIJI-1GB-DDR-B0
BGA
SYM 12 OF 13

U0201
POP-FIJI-1GB-DDR-B0
BGA
SYM 9 OF 13

U0201
POP-FIJI-1GB-DDR-B0
BGA
SYM 8 OF 13

VDD_SRAM, VDD_SOC

VDDIOD, VDDIO18

CAPS FOR VDDIOD ARE SHARED WITH VDDQ

PP_VAR_SOC
C0508 10UF 20% 6.3V CERM-X5R 0402-9 ROOM=SOC
C0503 4.3UF 20% 4V CERM 0402 ROOM=SOC
C0507 1UF 20% 4V CERM 0402 ROOM=SOC
C0509 1UF 20% 4V CERM 0402 ROOM=SOC
C0510 0.47UF 20% 6.3V CERM 0402 ROOM=SOC

PP1V2
PP1V8
C0501 2.2UF 20% 6.3V X5R 0201-1 ROOM=SOC
C0502 1UF 20% 4V CERM 0402 ROOM=SOC
C0511 1.0UF 20% 6.3V X5R 0201-1 ROOM=SOC
C0506 0.47UF 20% 6.3V CERM 0402 ROOM=SOC
1.8V
1.2V

GRP7 POWERS GPIO11,12 (BUTTONS)
PP1V8_ALWAYS
C0520 0.1UF 20% X5R 01005 ROOM=SOC

VDD_VAR_SOC
0.90V - 0.95V
1.8A @ 105C

VSS_SENSE
45_BUCK2_FB
VDD_VAR_SOC_SENSE

PP0501
P2MM-NSM
CPU_VSS_SENSE
ROOM=SOC

SYNC_MASTER=N56_MLB	SYNC_DATE=08/29/2013
PAGE TITLE	SOC:GND,VDDIO18,VDDIOD,VDD_VAR_SOC
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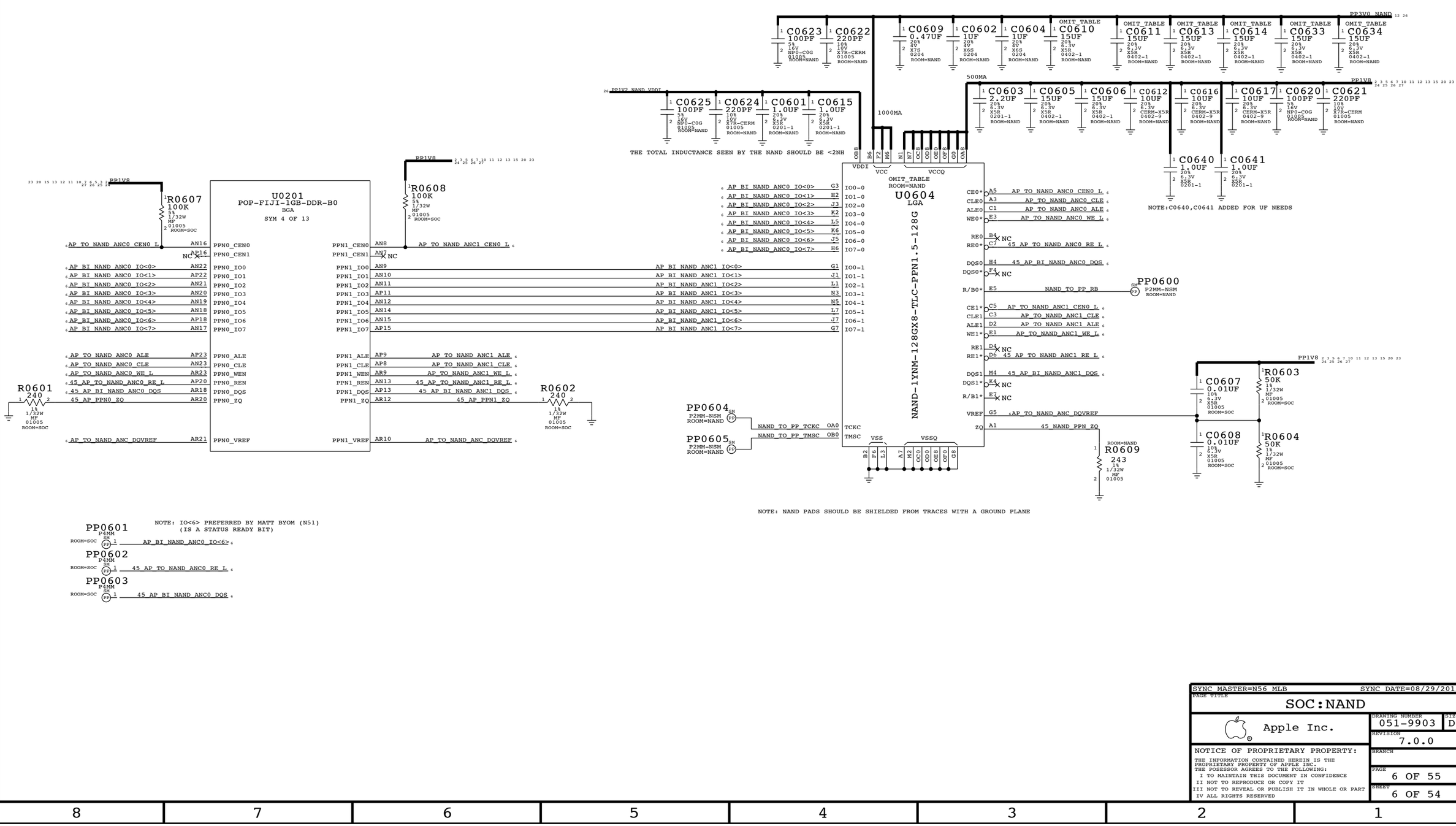
FIJI: NAND + 12X17 NAND PKG

SUPPORT FOR PPN1.5 (1.8V IO) ONLY



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

SYNC_MASTER=N56_MLB SYNC_DATE=08/29/2013

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Apple Inc.

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FIJI: HIGH SPEED DIG (CAM,LCD,LPDP,PCIE)

NOTE: NEED TO EVALUATE PI FOR PP1V0.
CONCERN OVER SHARING IT WITH MIPI AND
PCIE REFCLK WITHOUT A FILTER.

PP1V8
C0714 0.1UF 20% 4V X5R 01005 ROOM=SOC
C0701 0.1UF 20% 4V X5R 01005 ROOM=SOC
PP1V0
C0702 0.1UF 20% 4V X5R 01005 ROOM=SOC
C0715 0.1UF 20% 4V X5R 01005 ROOM=SOC

VDD18_MIPI1D E10
VDD18_MIPI1D F11
VDD18_MIPIC0 E22
VDD18_MIPIC1 F23
1.8V
VDD10_MIPIC E20
VDD10_MIPIC F19
VDD10_MIPIC F21
VDD10_MIPI1D E8
VDD10_MIPI1D F9
1.0V

U0201
POP-FIJI-1GB-DDR-B0
BGA
SYM 5 OF 13

PP1V8
R0704 1.00K 5% 1/32W MF 01005 ROOM=SOC
R0705 1.00K 5% 1/32W MF 01005 ROOM=SOC
R0706 1.00K 5% 1/32W MF 01005 ROOM=SOC
R0708 1.00K 5% 1/32W MF 01005 ROOM=SOC

90_RCAM_TO_AP_MIPI_DATA0_P	A21	MIPI0C_DPDATA0	
90_RCAM_TO_AP_MIPI_DATA0_N	B21	MIPI0C_DNDATA0	
90_RCAM_TO_AP_MIPI_DATA1_P	A22	MIPI0C_DPDATA1	
90_RCAM_TO_AP_MIPI_DATA1_N	B22	MIPI0C_DNDATA1	
90_RCAM_TO_AP_MIPI_DATA2_P	A24	MIPI0C_DPDATA2	
90_RCAM_TO_AP_MIPI_DATA2_N	B24	MIPI0C_DNDATA2	
90_RCAM_TO_AP_MIPI_DATA3_P	A25	MIPI0C_DPDATA3	
90_RCAM_TO_AP_MIPI_DATA3_N	B25	MIPI0C_DNDATA3	
90_RCAM_TO_AP_MIPI_CLK_P	A23	MIPI0C_DPCLK	
90_RCAM_TO_AP_MIPI_CLK_N	B23	MIPI0C_DNCLK	
45_CAM0_REXT	A29	MIPI0C_REXT	
90_AP_TO_LCM_MIPI_DATA0_P	A3	MIPI0D_DPDATA0	
90_AP_TO_LCM_MIPI_DATA0_N	B3	MIPI0D_DNDATA0	
90_AP_TO_LCM_MIPI_DATA1_P	A4	MIPI0D_DPDATA1	
90_AP_TO_LCM_MIPI_DATA1_N	B4	MIPI0D_DNDATA1	
90_AP_TO_LCM_MIPI_DATA2_P	A6	MIPI0D_DPDATA2	
90_AP_TO_LCM_MIPI_DATA2_N	B6	MIPI0D_DNDATA2	
NC	C8	MIPI0D_DPDATA3	
NC	C7	MIPI0D_DNDATA3	
90_AP_TO_LCM_MIPI_CLK_P	A5	MIPI0D_DPCLK	
90_AP_TO_LCM_MIPI_CLK_N	B5	MIPI0D_DNCLK	
	A7	MIPI0D_REXT	

45_LCM_REXT

R0701 4.02K 1% 1/32W MF 01005 ROOM=SOC
R0702 4.02K 1% 1/32W MF 01005 ROOM=SOC

VDD1018_GRP4

ISP0_SCL	E29	AP_TO_RCAM_I2C_SCL	16 23
ISP0_SDA	E30	AP_BI_RCAM_I2C_SDA	16 23
ISP1_SCL	D32	AP_TO_FCAM_I2C_SCL	11
ISP1_SDA	D31	AP_BI_FCAM_I2C_SDA	11
SENSOR0_CLK	D29	45_AP_TO_RCAM_CLK_R	23
SENSOR0_RST	C30	AP_TO_RCAM_SHUTDOWN	23
		SHUTDOWN IS ALSO RESET FCAM	
SENSOR1_CLK	B31	45_AP_TO_FCAM_CLK_R	
SENSOR1_RST	D30	AP_TO_FCAM_SHUTDOWN	11
SENSOR0_ISTRB	C29	NC	
SENSOR0_XSHUTDOWN	D28	AP_TO_STOCKHOLM_DWLD_REQ	29
SENSOR1_ISTRB	C31	NC	
SENSOR1_XSHUTDOWN	A31	CAM_EXT_LDO_EN	23
MIPI1C_REXT	B29	45_CAM1_REXT	
MIPI1C_DPDATA0	A26	90_FCAM_TO_AP_MIPI_DATA0_P	11
MIPI1C_DNDATA0	B26	90_FCAM_TO_AP_MIPI_DATA0_N	11
MIPI1C_DPDATA1	A28	90_FCAM_TO_AP_MIPI_DATA1_P	11
MIPI1C_DNDATA1	B28	90_FCAM_TO_AP_MIPI_DATA1_N	11
MIPI1C_DPCLK	A27	90_FCAM_TO_AP_MIPI_CLK_P	11
MIPI1C_DNCLK	B27	90_FCAM_TO_AP_MIPI_CLK_N	11

R0703 4.02K 1% 1/32W MF 01005 ROOM=SOC

R0707 61.9 1% 1/32W MF 01005 ROOM=SOC
45_AP_TO_RCAM_CLK 23
NOSTUFF C0709 56PF 5% 16V NP0-C0G 01005 ROOM=SOC
R0709 61.9 1% 1/32W MF 01005 ROOM=SOC
45_AP_TO_FCAM_CLK 11
NOSTUFF C0710 56PF 5% 16V NP0-C0G 01005 ROOM=SOC

29 90_WLAN_TO_AP_PCIE1_RXDP_P
C0705 0.1UF X5R 01005 20% 4V
29 90_WLAN_TO_AP_PCIE1_RXDP_N
C0706 0.1UF X5R 01005 20% 4V ROOM=SOC
29 90_AP_TO_WLAN_PCIE1_TXDP_P
C0703 0.1UF X5R 01005 20% 4V ROOM=SOC
29 90_AP_TO_WLAN_PCIE1_TXDP_N
C0704 0.1UF X5R 01005 20% 4V ROOM=SOC
29 90_AP_TO_WLAN_PCIE1_REFCLK1_P
C0720 0.1UF X5R 01005 20% 4V ROOM=SOC
29 90_AP_TO_WLAN_PCIE1_REFCLK1_N
C0721 0.1UF X5R 01005 20% 4V ROOM=SOC

90_WLAN_TO_AP_PCIE1_RXDP_C_P
90_WLAN_TO_AP_PCIE1_RXDP_C_N
90_AP_TO_WLAN_PCIE1_TXDP_C_P
90_AP_TO_WLAN_PCIE1_TXDP_C_N
90_AP_TO_WLAN_PCIE1_REFCLK1_C_P
90_AP_TO_WLAN_PCIE1_REFCLK1_C_N

PP1V8
R0711 1.00K 5% 1/32W MF 01005 ROOM=SOC
29 WLAN_TO_AP_PCIE1_CLKREQ_L

NOTE: IS A FERRITE NEEDED? THERE ARE DCR CONCERNS.

PP0V95_FIXED_SOC
R0712 0.00 01005 ROOM=SOC
PP0V95_FIXED_SOC_PCIE
C0712 2.2UF 20% 4V X5R 0201-1 ROOM=SOC
C0711 0.1UF 20% 4V X5R 01005 ROOM=SOC

NOTE: PLACE NEAR THE PCIE PINS, NOT LPDP.

PP1V0
C0713 1.0UF 20% 6.3V X5R 0201-1 ROOM=SOC
C0708 0.1UF 20% 4V X5R 01005 ROOM=SOC
PP1V8

PWRTERM2GND AL24
PWRTERM2GND AL26
PWRTERM2GND AM23
PWRTERM2GND AM27
VDDA10_LPDP0 E13
VDDA10_LPDP1 D11
VDDA10_LPDP2 E12
VDDA10_LPDP3 D14
VDD095_VPFX0_PCIE F13
VDD095_VPFX1_PCIE
VDD095_VP_PCIE
VDDA10_REFCLK_PCIE
VDD18_VPH_PCIE
1.0V 24MA
0.95V
1.0V
1.8V

POP-FIJI-1GB-DDR-B0
BGA
SYM 6 OF 13
U0201

NC	AR30	LPDP_AUX_P	
NC	AR30	LPDP_AUX_N	
NC	AR26	LPDP_TX0P	
NC	AR26	LPDP_TX0N	
NC	AR27	LPDP_TX1P	
NC	AR27	LPDP_TX1N	
NC	AR28	LPDP_TX2P	
NC	AR28	LPDP_TX2N	
NC	AR29	LPDP_TX3P	
NC	AR29	LPDP_TX3N	
NC	AL28	LPDP_CAL_DRV_OUT	
NC	AR26	LPDP_CAL_VSS_EXT	
NC	B11	PCIE_RX0_P	
NC	A11	PCIE_RX0_M	
NC	B12	PCIE_TX0_P	
NC	A12	PCIE_TX0_M	
NC	A13	PCIE_REF_CLK0_P	
NC	B13	PCIE_REF_CLK0_M	
NC	AB2	PCIE_CLKREQ0_N	
	A10	PCIE_RX1_P	
	B10	PCIE_RX1_M	
	A9	PCIE_TX1_P	
	B9	PCIE_TX1_M	
	A14	PCIE_REF_CLK1_P	
	B14	PCIE_REF_CLK1_M	
	AB3	PCIE_CLKREQ1_N	
45_PCIE_RESREF	A8	PCIE_RESREF	

R0710 200 1% 1/32W MF 01005 ROOM=SOC

ULPI_DATA0	H4	AP_TO_OSCAR_SWDCLK_1V8	22
ULPI_DATA1	H3	AP_BI_OSCAR_SWDIO_1V8	22
ULPI_DATA2	G3	NC	
ULPI_DATA3	G4	AP_TO_LEDDRV_EN	16
ULPI_DATA4	F2	NC	
ULPI_DATA5	G2	NC	
ULPI_DATA6	F3	NC	
ULPI_DATA7	F4	TOUCH_TO_AP_INT_L	24
ULPI_CLK	G5	OSCAR_TO_PMU_HOST_WAKE	13 22
ULPI_DIR	E3	LCM_TO_AP_HIFA_BSYNC	20 24
ULPI_NXT	F1	AP_TO_TOUCH_RESET_L	24
ULPI_STP	E4	AP_TO_LCM_RESET_L	20
EDP_HPD	G29	AP_TO_STOCKHOLM_EN	29

PCIE_REF_PAD_CLK_P	C13	NC	
PCIE_REF_PAD_CLK_M	C12	NC	
GPIO39/PCIE_PERST0_N	AK3	NC	
GPIO43/PCIE_PERST1_N	AL4	AP_TO_WLAN_PCIE1_RST_L	29

RF TEAM: CONFIRMED FD NEEDED
R0719
R0719 100K 5% 1/32W MF 01005

SYNC_MASTER=N56_MLB	SYNC_DATE=08/29/2013
PAGE TITLE	SOC:CAM,LCD,LPDP,PCIE
Apple Inc.	DRAWING NUMBER 051-9903 SIZE D
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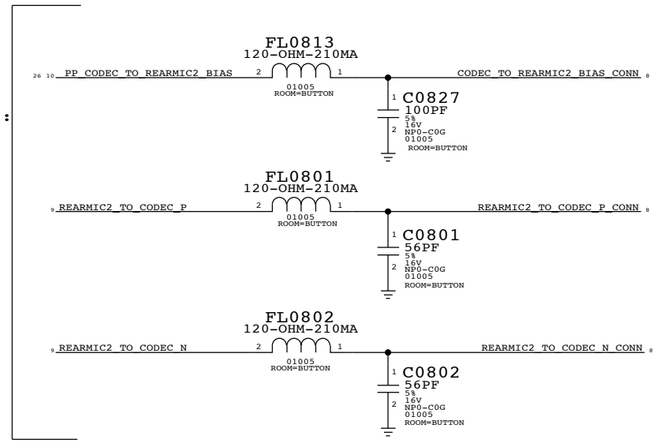
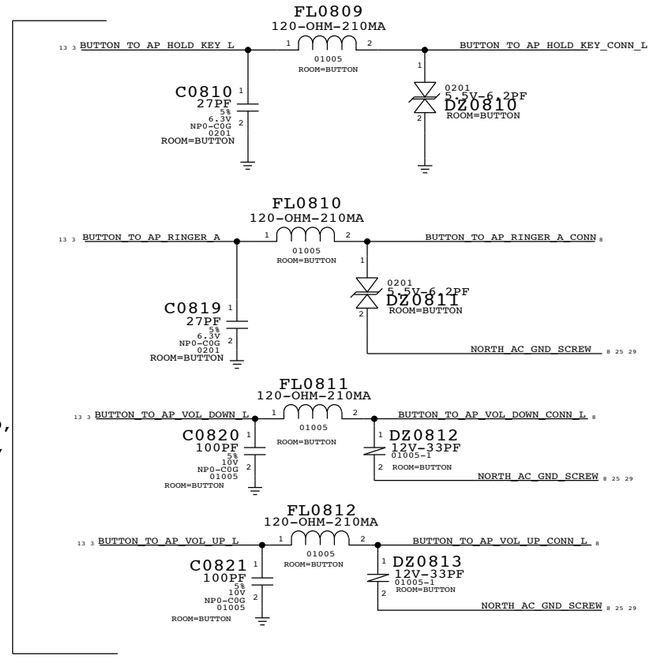
BUTTON FLEX (BUTTONS, ANC REF MIC, STROBE, STROBE_NTC, WIFI FLEX PAC)

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

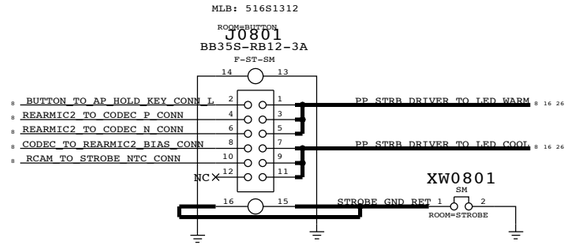


BUTTONS:
RINGER, HOLD,
VOL_UP/DOWN,



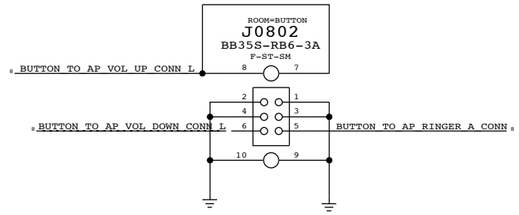
RIGHT BUTTON B2B

MLB: 516S1312

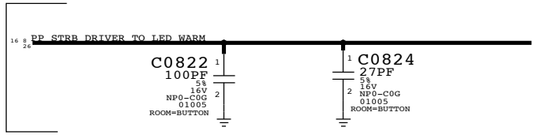


LEFT BUTTON B2B

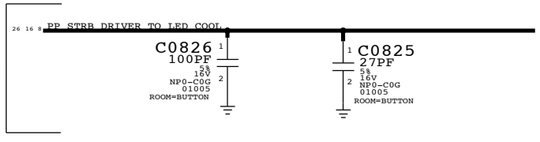
MLB: 516S1315



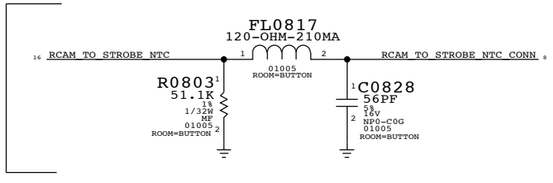
STROBE:
LED WARM



STROBE:
LED COOL



STROBE:
NTC



SYNC MASTER=N61_MLB	SYNC DATE=08/26/2013
PAGE TITLE: IO:BUTTON FLEX CONN	
Apple Inc.	DRAWING NUMBER: 051-9903 SIZE: D
	REVISION: 7.0.0
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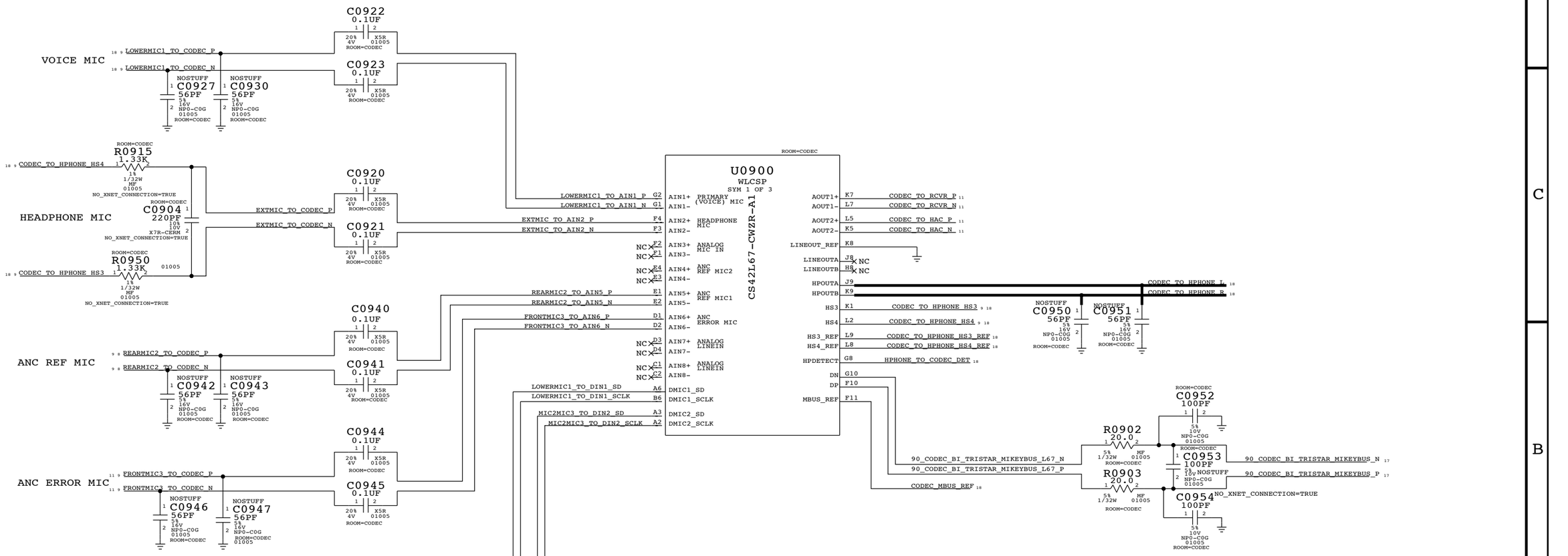
L67 AUDIO CODEC

AUDIO I/O

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



SYNC MASTER=N61 MLB	SYNC DATE=08/26/2013
PAGE TITLE: AUDIO:L67 CODEC (1/2)	
Apple Inc.	DRAWING NUMBER 051-9903 SIZE D
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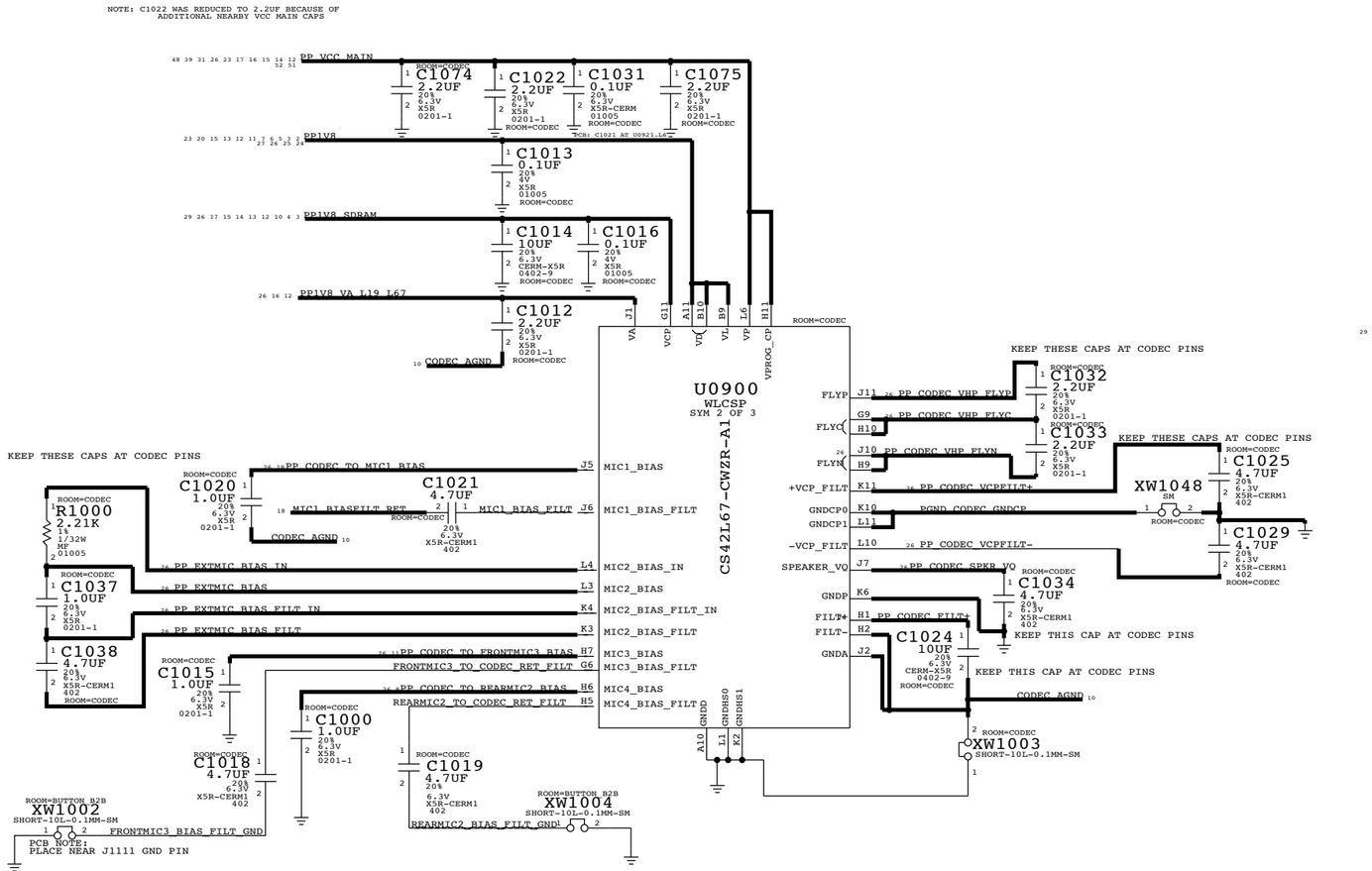
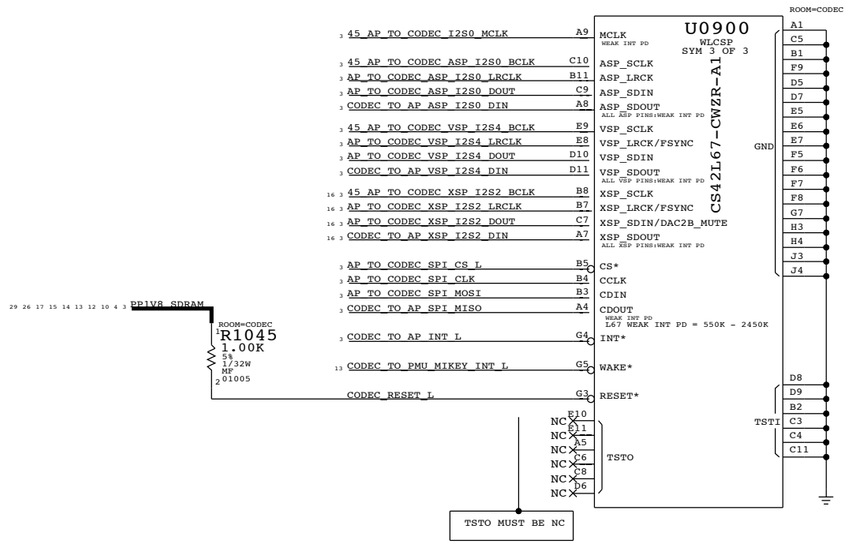
L67 AUDIO CODEC

POWER, MICBIAS



DIGITAL SYSTEM I/O



SYNC MASTER=N61 MLB	SYNC DATE=08/26/2013
PAGE TITLE	AUDIO:L67 CODEC (2/2)
Apple Inc.	DRAWING NUMBER 051-9903 · SIZE D
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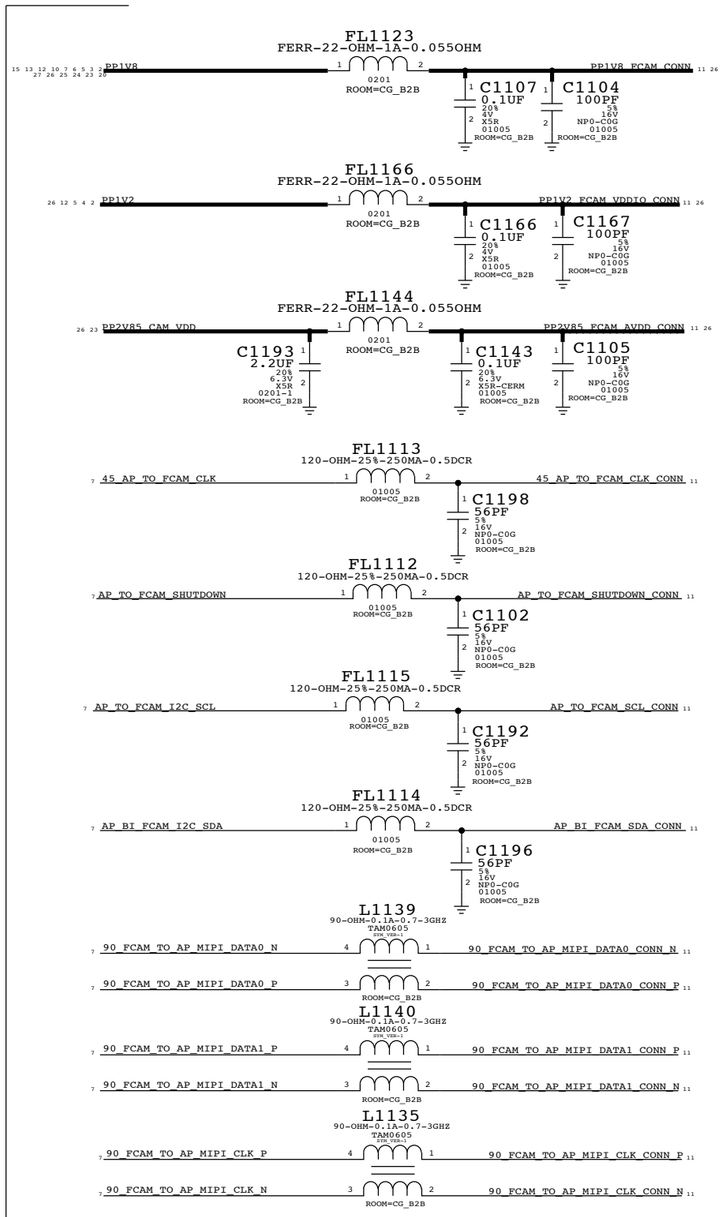
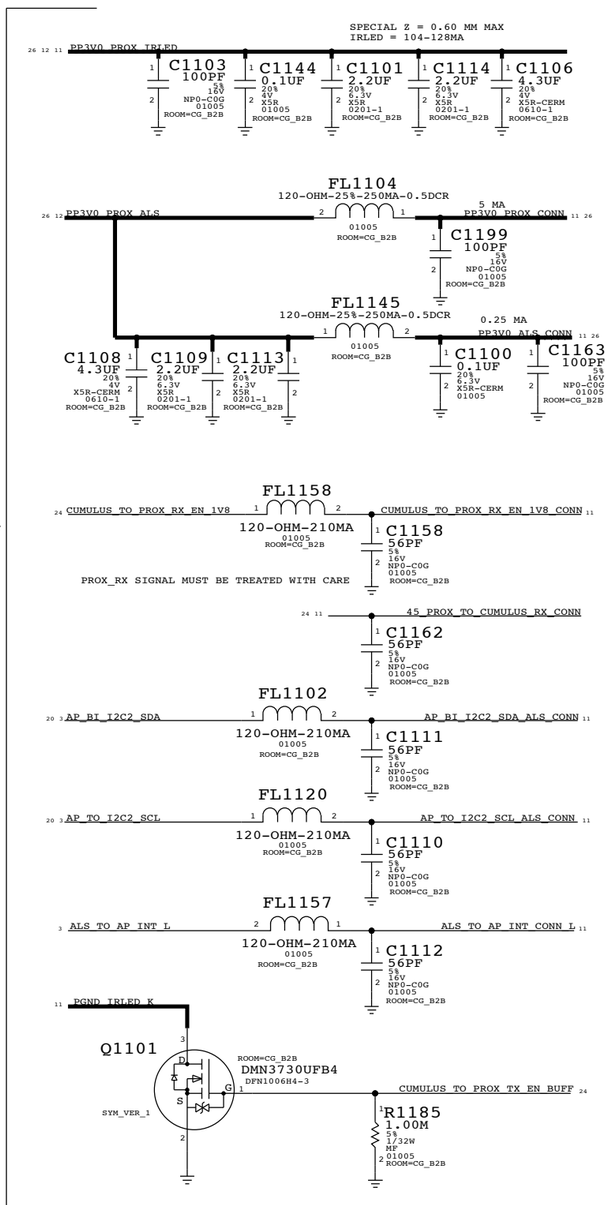
FRONT CAM FLEX B2B

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

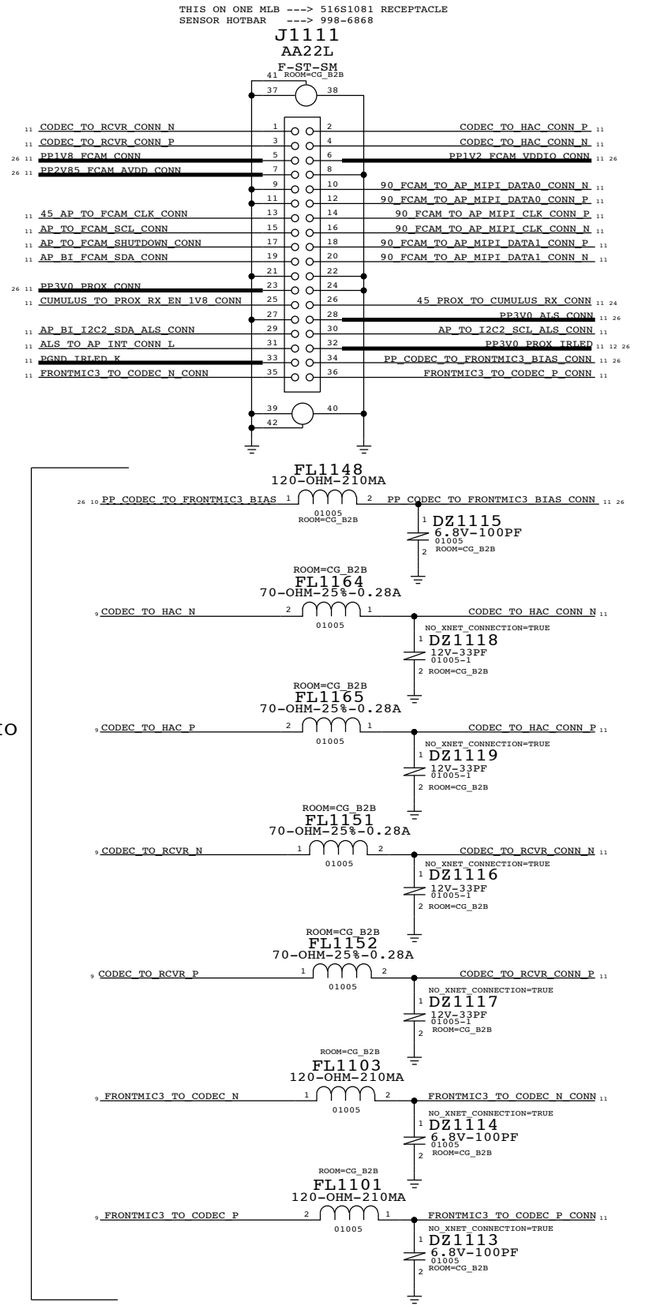
CAMERA



ALS, PROX



AUDIO



SYNC_MASTER=N61_MLB SYNC_DATE=08/26/2013

PAGE TITLE

CAMERA:FRONT FLEX CONN

Apple Inc.

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ADI PMU

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

NOTE: L1210, L1212 BOMOPTIONS CONTROLLED ON PAGE1

APN: 338S1251 (ADI AZ)

U1202
D2186AZE0FJAVAC
FCCSP-N56-N61
SYM 1 OF 3

BAT/USB
BUCK
BUCK INPUT
LDO INPUT
VIBE
XTAL
LDO

DESENSE CAPS FOR VCCMAIN:
C1271: WIFI MODULE
C1272: AP PMU MODULE
BB PMU MODULE:RF SIDE
QPOET MODULE:RF SIDE

SPEC REQUIRES 10NF,
VPUMP RUNS AT 4.6V

VPUMP CAP:
30% DERATED.

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

SOC USB PHY (25 MA)
SPEAKER AMP, CODEC VA (2.5 MA L1419, 3MA L67)
TRISTAR VDH, WIFI_FLEX PAC (? MA)
GYRO, ACCEL, COMPASS (? MA)
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 1V0 MIPI, USB_DVDD, DP (71 MA TOTAL)
PROX LED (102 MA TYP)
ALWAYS ON 1V8 (? MA)

NOTE: 3V +/- 5% PER EUGENE

SYNC MASTER=N56_MLB	SYNC DATE=08/29/2013
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ADI PMU

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

FOREHEAD NTC

ROOM=PMU_ C1359 100PF 5% 6.3V CERM 01005 — R1308 10KOHM-1% 01005 — NO_KNET_CONNECTION=TRUE

FOREHEAD_NTC_P

FOREHEAD_NTC_N

100PF IS NEEDED FOR SAMPLING CAP IN ADC IN PMU

CAMERA NTC

ROOM=PMU_ C1367 100PF 5% 6.3V CERM 01005 — R1310 10KOHM-1% 01005 — NO_KNET_CONNECTION=TRUE

CAM_NTC_P

CAM_NTC_N

100PF IS NEEDED FOR SAMPLING CAP IN ADC IN PMU

RADIO PA NTC

ROOM=PMU_ C1322 100PF 5% 6.3V CERM 01005 — R1390 10KOHM-1% 01005 — NO_KNET_CONNECTION=TRUE

PA_NTC_P

PA_NTC_N

100PF IS NEEDED FOR SAMPLING CAP IN ADC IN PMU

H7P NTC

ROOM=PMU_ C1368 100PF 5% 6.3V CERM 01005 — R1357 10KOHM-1% 01005 — NO_KNET_CONNECTION=TRUE

SOC_NTC_P

SOC_NTC_N

100PF IS NEEDED FOR SAMPLING CAP IN ADC IN PMU

PCB: MAKE XW1328, XW1329 ACCESSIBLE!

XW1304 XW1309 XW1306 XW1308 XW1311 XW1333 XW1314 XW1315 — NO_KNET_CONNECTION=TRUE — ROOM=PMU — SHORT-10L-0.1MM-SM

PLACE THESE XWS AT PMU

APN: 338S1251 (ADI AZ)

AMUX VOLTAGE LIMIT IS APPROX. = VDD_REF = PP_VCC_MAIN

1.8V ---> AMUX_A0 NC A1
1.8V ---> AMUX_A1 NC B1
1.8V ---> AMUX_A2 D2 BUTTON_TO_AP_RINGER_A
1.8V ---> AMUX_A3 E2 BUTTON_TO_AP_VOL_UP_L
1.8V ---> AMUX_A4 E1 BUTTON_TO_AP_VOL_DOWN_L
3.33V ---> AMUX_A5 H6 LCM_TO_CHESTNUT_PWR_EN
AMUX_A6 H5 TRISTAR_TO_PMU_USB_BRICKID_R
AMUX_A7 H4 CHESTNUT_TO_PMU_ADCIN7
BASEBAND ---> AMUX_AY G4 PMU_TO_TP_AMUX_AY
AMUX_B0 J5 RADIO_TO_PMU_ADC_SMPS1
AMUX_B1 J6 RADIO_TO_PMU_ADC_PP_LDO11_VDDIO
1.8V ---> AMUX_B2 NC K5
1.8V ---> AMUX_B3 NC K8
BASEBAND ---> AMUX_B4 L8 45_PMU_TO_WLAN_CLK32K
AMUX_B5 K9 RADIO_TO_PMU_ADC_PP_LDO5_SIM
AMUX_B6 L9 AP_TO_PMU_TEST_CLKOUT
AMUX_B7 L10 RADIO_TO_PMU_ADC_SMPS4
AMUX_BY L4 PMU_TO_TP_AMUX_BY

SCL J4 AP_TO_I2C0_SCL
SDA K4 AP_BI_I2C0_SDA
DWI_CK K15 45_AP_TO_PMU_AND_BL_DWI_CLK
DWI_DI NC K16
DWI_DO J16 45_AP_TO_PMU_AND_BL_DWI_DO
PRE_UVLO F8 PMU_TO_AP_PRE_UVLO_L
RESET_IN1 P3 AP_TO_PMU_RESET_IN
RESET_IN2 R3 TRISTAR_TO_PMU_HOST_RESET
RESET_IN3 P4 AP_TO_PMU_SOCHOT1_L
RESET_V18 R4 RESET_V18_L
IRQ* P2 PMU_TO_AP_IRQ_L
SYS_ALIVE N1 PMU_TO_PHOTON_ALIVE

TDEV1 L15 FOREHEAD_TO_PMU_NTC
TDEV2 R17 CAM_TO_PMU_NTC
TDEV3 P17 PA_TO_PMU_NTC
TDEV4 R19 SOC_TO_PMU_NTC
TCAL P18 45_PMU_TCAL
TBAT NC P19

PP1V8 — R1301 100K 5% 1/32W MF 01005 — C1365 100PF 5% 6.3V CERM 01005 — R1309 3.92K 0.1% 1/20W MF 0201

ROOM=PMU U1202 D2186AZE0FJAVAC FCCSP-N56-N61 SYM 2 OF 3

AMUX: ADC/REFS

IREF F6 45_PMU_IREF
VREF G5 PP_PMU_VREF
VDD_REF E5 PP_PMU_VDD_REF
VDD_RTC F7 PP_PMU_VDD_RTC (FIXED 2.5V, +/-2%)
BRICK_ID N17 TRISTAR_TO_PMU_USB_BRICKID_R
ADC_IN7 N18
ADC_REF E6 NC
ACC_ID N19 NC

AMUX: BUTTONS/DETECT

TMPR_DET F5 NC
ACC_DET R18 NC
BUTTON1 D21 BUTTON_TO_AP_MENU_KEY_L (100-300K INT PU)
BUTTON2 D20 BUTTON_TO_AP_HOLD_KEY_L (100-300K INT PU)
BUTTON3 B20 BUTTON_TO_AP_RINGER_A (100-300K INT PU)
BUTTON4 C20 NC (100-300K INT PU)
KEEPACT L7 AP_TO_PMU_KEEPACT (NO INT PULL)
SHDN N10 NC

AP<->PMU: GPIO

OUT_32K E8 45_PMU_TO_WLAN_CLK32K
GPIO1 F17 CHG_TO_PMU_INT_L
GPIO2 F16 BB_TO_PMU_HOST_WAKE_L
GPIO3 E15 PMU_TO_BB_RST_R_L
GPIO4 F15 TRISTAR_TO_AP_INT
GPIO5 G17 STOCKHOLM_TO_PMU_HOST_WAKE
GPIO6 E17 PMU_TO_OSCAR_RESET_CLK32K_L
GPIO7 E16 WLAN_TO_PMU_HOST_WAKE
GPIO8 E14 CODEC_TO_PMU_MIKEY_INT_L
GPIO9 H16 PMU_TO_BT_REG_ON
GPIO10 G16 BT_TO_PMU_HOST_WAKE
GPIO11 F14 PMU_TO_WLAN_REG_ON
GPIO12 F13 AP_TO_I2C0_SCL
GPIO13 E13 OSCAR_TO_PMU_HOST_WAKE
GPIO14 E12 NC
GPIO15 E11 PMU_TO_BB_VBUS_DET
GPIO16 F12 NC
GPIO17 E10 WLAN_TO_PMU_PCIE_WAKE_L
GPIO18 E9 PMU_TO_ACC_SW_ON
GPIO19 F11 NC
GPIO20 F9 NC
GPIO21 F10 NC

NTC

R1316 200K 1% 1/20W MF 201 — C1317 0.1UF 10% 6.3V CERM-X5R 0201 — C1318 1.0UF 20% 6.3V X5R 0201-1 — C1319 0.1UF 10% 6.3V CERM-X5R 0201

R1331 6.34K 1% 1/32W MF 01005 — TRISTAR_TO_PMU_USB_BRICKID

C1326 0.01UF 10% 6.3V X5R 01005

CHESTNUT_TO_PMU_ADCIN7

C1323 1000PF 10% 6.3V X5R-CERM 01005

PP1V8_SDRAM

R1330 100K 5% 1/32W MF 01005

BUTTON_TO_AP_RINGER_A

R1387 1.00M 5% 1/32W MF 01005

R1312 1.00K 5% 1/32W MF 01005 — PMU_TO_BB_RST_L

ADI OTP:
SEE RADAR 14032884

ROOM=PMU U1202 D2186AZE0FJAVAC FCCSP-N56-N61 SYM 3 OF 3

VSS_BUCK0_5: A15 B15 C15
VSS_BUCK1: A2 B2 C2
VSS_BUCK01: A6 B6 C6
VSS_BUCK4: G20 G21
VSS_BUCK5: A19 B19 C19
VSS_BUCK6: P9
VSS_BUCK012: A10 A11 B10 B11 C10 C11
VSS_BUCK23: H1 H2
VSSA_BUCK0: G8
VSSA_BUCK1: G6
VSSA_BUCK2: H7
VSSA_BUCK3: J7
VSSA_BUCK4: H15
VSSA_BUCK5: G15
VSSA_BUCK6: P8
VSS_SW_CHG: K20 K21
VSS: A20 A21 B21 G7 G10 G11 G12 G13 G14 H8 H9 H10 H11 H12 H13 H14 J8 J9 J10 J11 J12 J13 J14 J15 K11 K12 K13 K14 K17 L12 L13 L14 M1 N14 P1 P11 P13 P15 P16 R1 R2 R16 R20 R21

SYNC_MASTER=N56_MLB SYNC_DATE=08/29/2013

PAGE TITLE: POWER:ADI(2/2)

Apple Inc.

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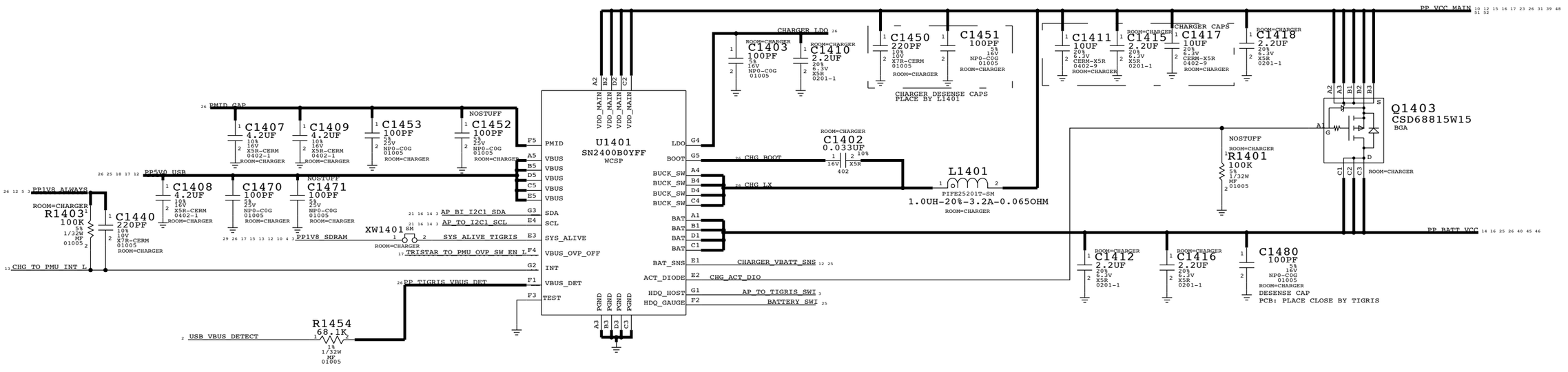
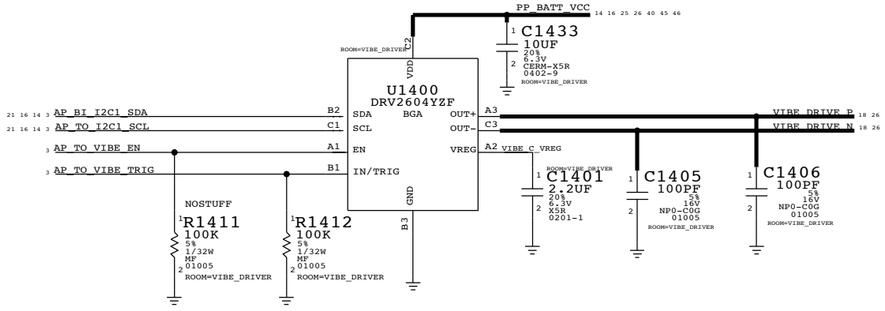
TIGRIS CHARGER & VIBE DRIVER





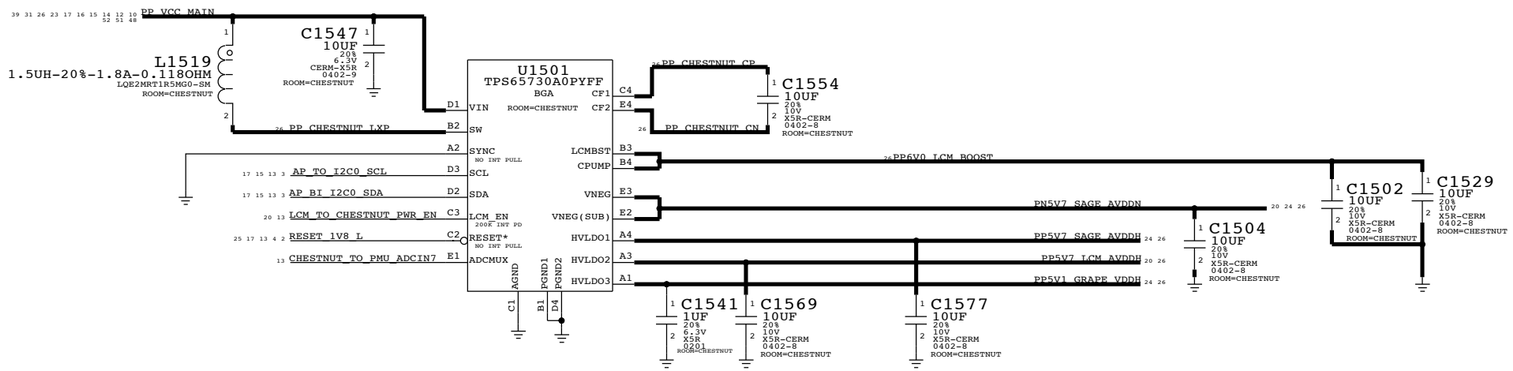
PAGE TITLE
POWER:TIGRISR,VIBE DRIVER

Apple Inc.

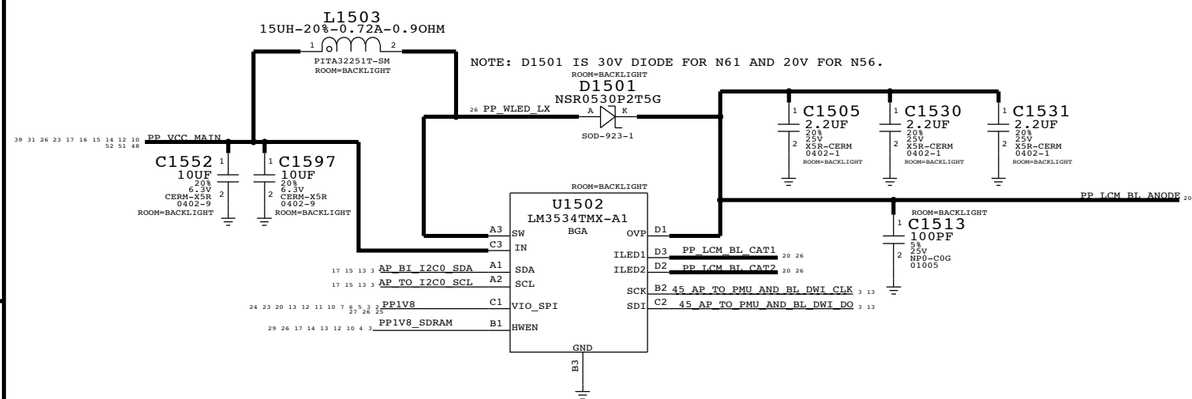
DRAWING NUMBER 051-9903 SIZE D
REVISION 7.0.0
BRANCH
PAGE 14 OF 55
SHEET 14 OF 54

CHESTNUT, BACKLIGHT DRIVER, MESA BOOST

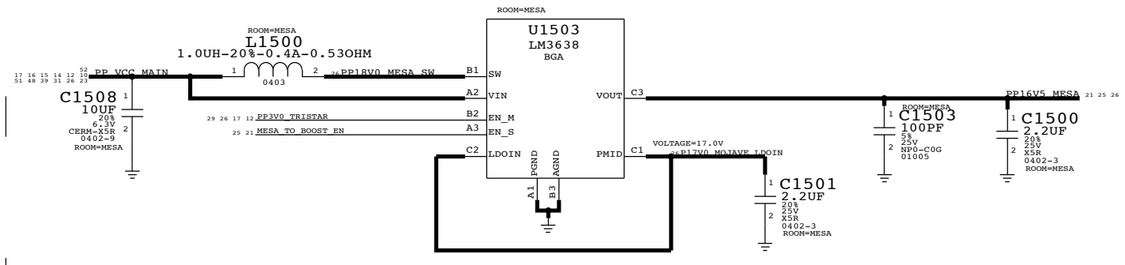
D500 DISPLAY PMU (TI CHESTNUT, 338S1149)



D500 BACKLIGHT DRIVER



APN: 353S3978



SYNC_MASTER=N61_MLB	SYNC_DATE=08/26/2013
PAGE TITLE: DISPLAY:CHESTNUT,BACKLIGHT DRIVER	
Apple Inc.	DRAWING NUMBER: 051-9903 SIZE: D
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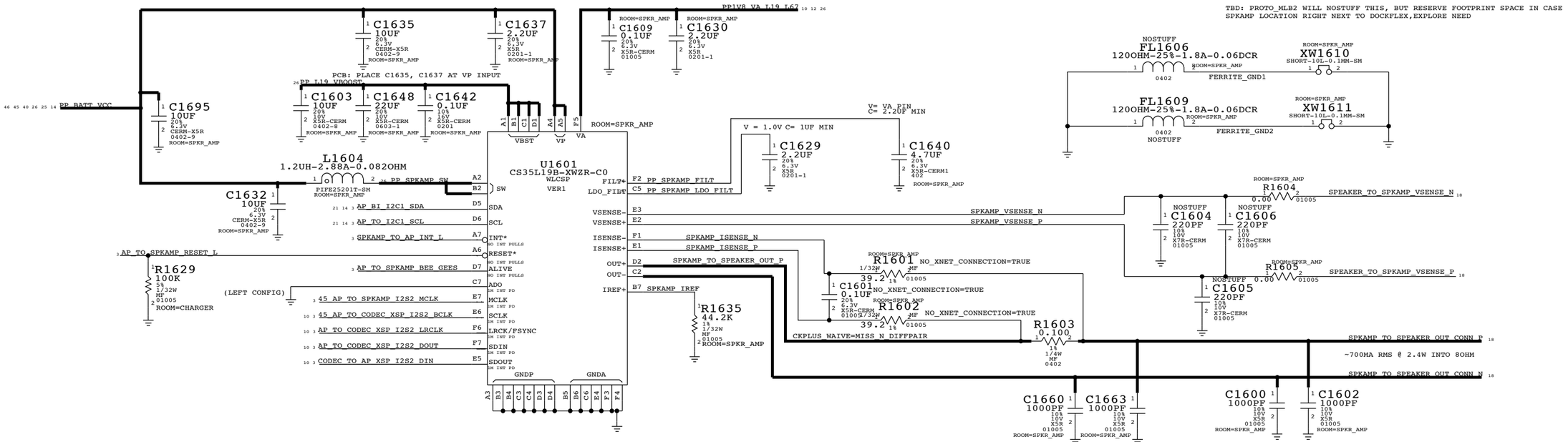
	BRANCH:
	PAGE: 15 OF 55
	SHEET: 15 OF 54

SPEAKER AMP, LED DRIVER

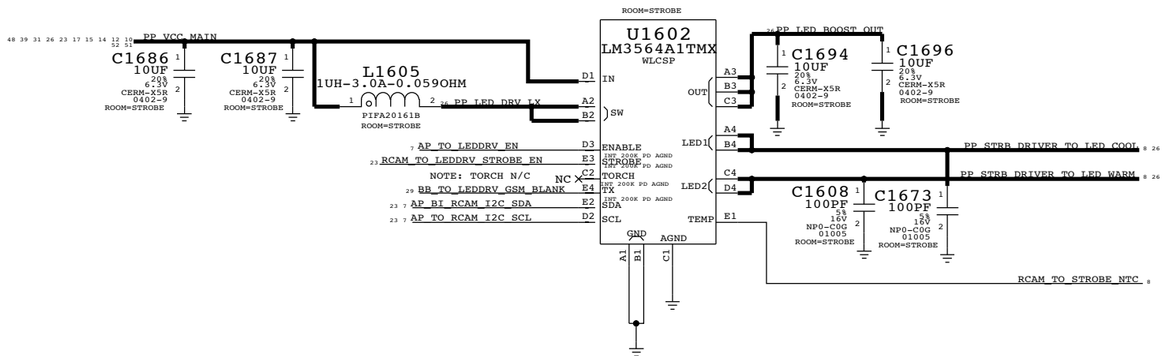
SPEAKER AMP

I2C ADDRESS: 1000000X



STROBE DRIVER

TI: APN 353S3899



SYNC_MASTER=N61_MLB	SYNC_DATE=08/26/2013
PAGE TITLE	AUDIO:SPKR AMP,STROBE
Apple Inc.	DRAWING NUMBER 051-9903 · SIZE D
	REVISION 7.0.0
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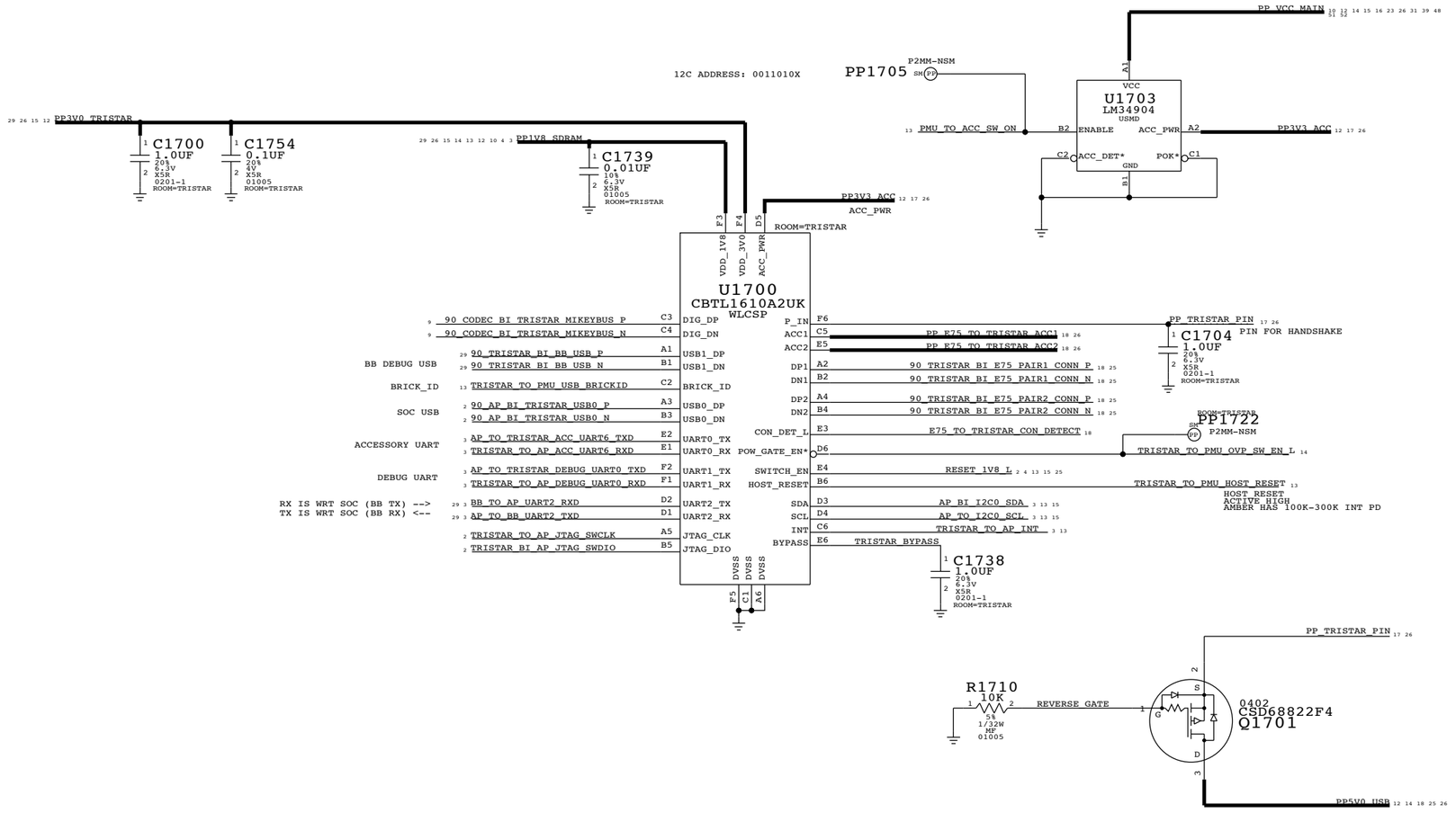
	PAGE 16 OF 55
	SHEET 16 OF 54

TRISTAR2



SYNC MASTER=N61 MLB SYNC DATE=08/26/2013

PAGE TITLE

IO:TRISTAR2

Apple Inc.

DRAWING NUMBER 051-9903 SIZE D

REVISION 7.0.0

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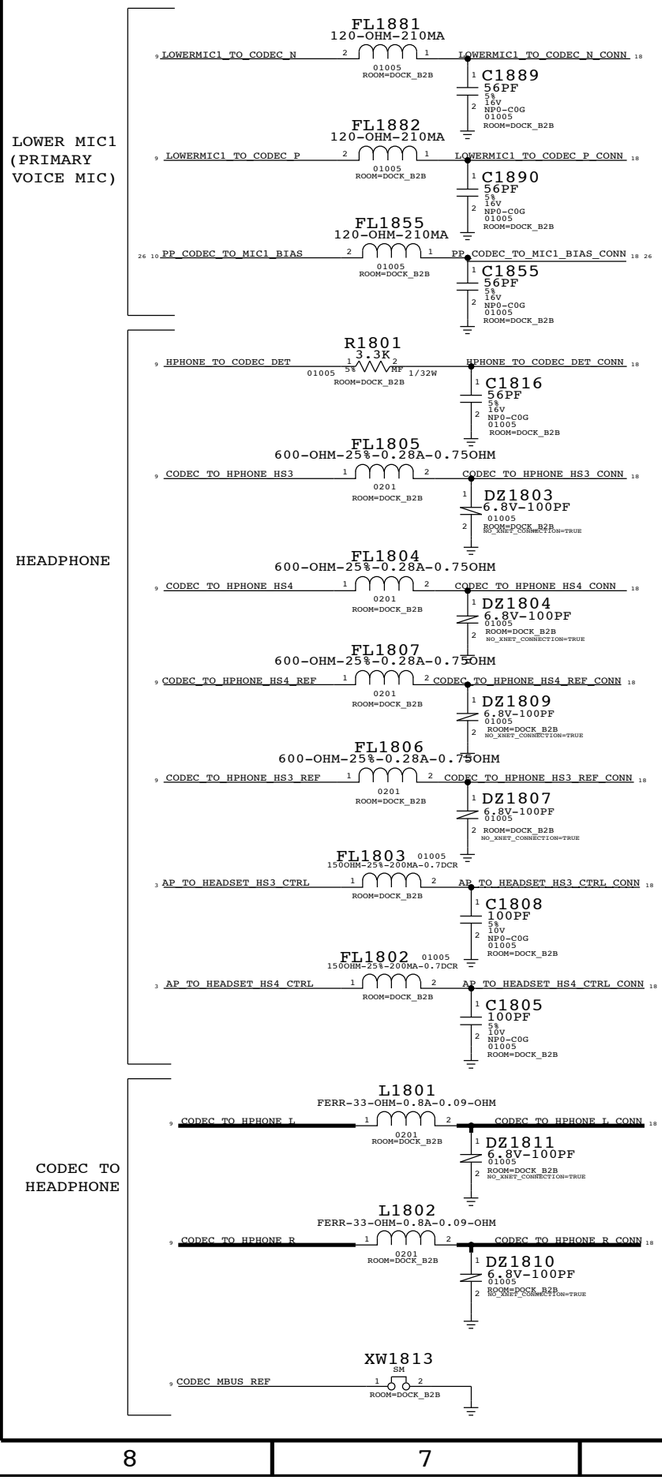
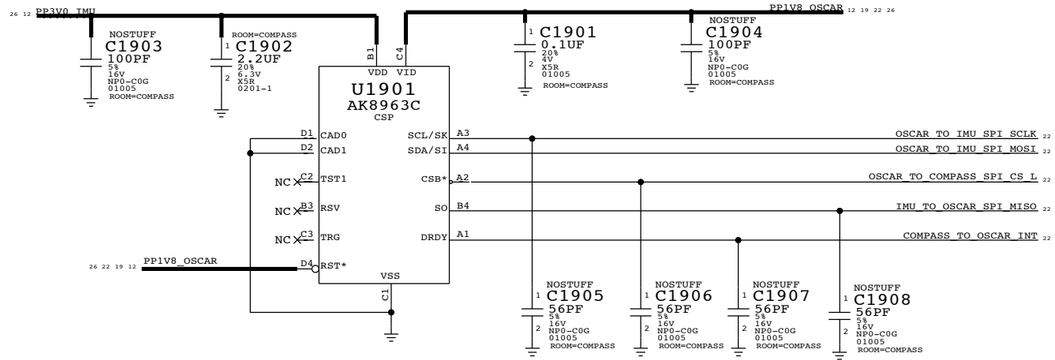
DOCKFLEX B2B (USB VBUS, SPEAKER,ANTENNA LAT SW CTRL, MIC1 (PRIMARY MIC), ACC DET/ID/PWR, E75 DIFFPAIRS)



SYNC MASTER=N61 MLB	SYNC DATE=08/26/2013
PAGE TITLE: IO:DOCK FLEX CONN	
Apple Inc.	DRAWING NUMBER: 051-9903 SIZE: D
	REVISION: 7.0.0
NOTICE OF PROPRIETARY PROPERTY:	BRANCH:
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	PAGE: 18 OF 55
	SHEET: 18 OF 54

COMPASS - AKM COMPASS IN POR LOCATION

COMPASS CSP: 338S1014



SYNC MASTER=N61 MLB SYNC DATE=08/26/2013

PAGE TITLE

SENSORS:COMPASS

Apple Inc.

DRAWING NUMBER 051-9903 SIZE D

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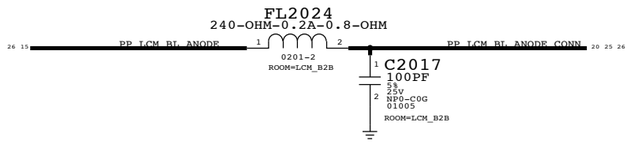
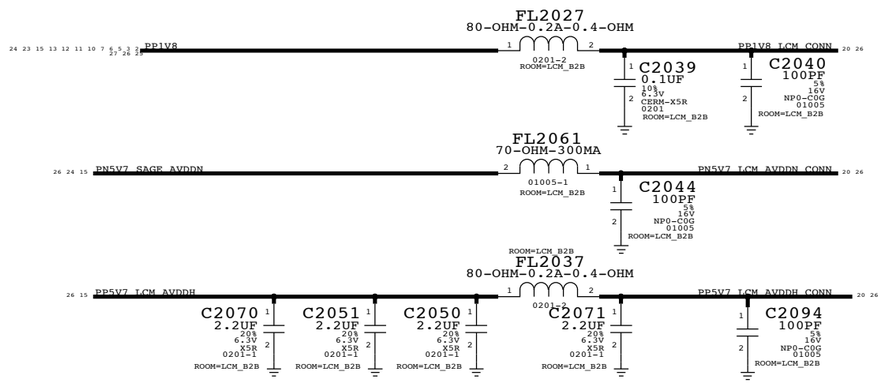
LCD B2B

THIS ONE ON MLB ---> 516S1164

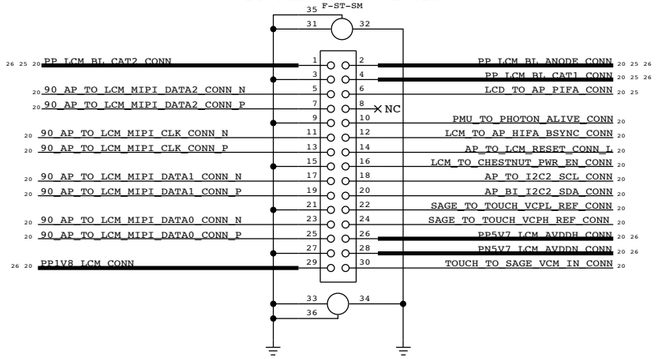
Backlight
(N56 HAS A 2ND SET OF BL SIGNALS ON P. 19).



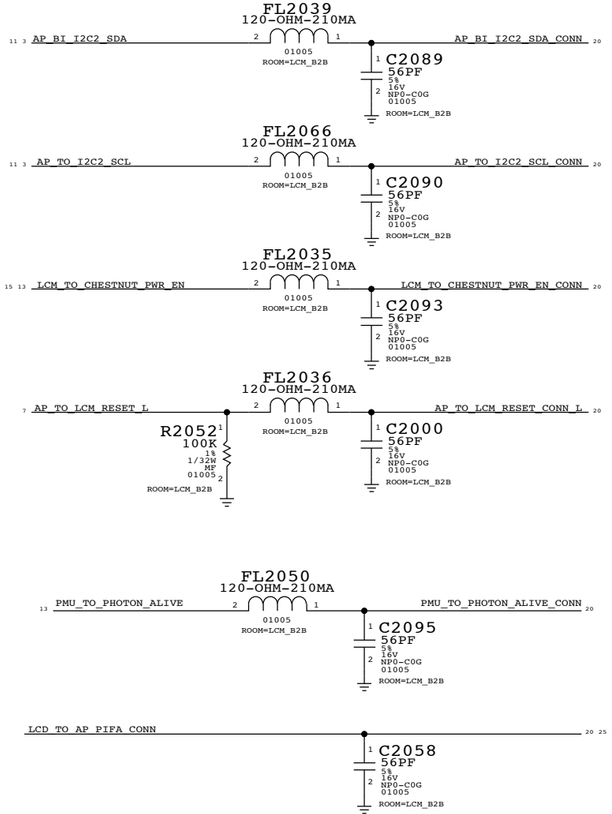
LCM Supplies



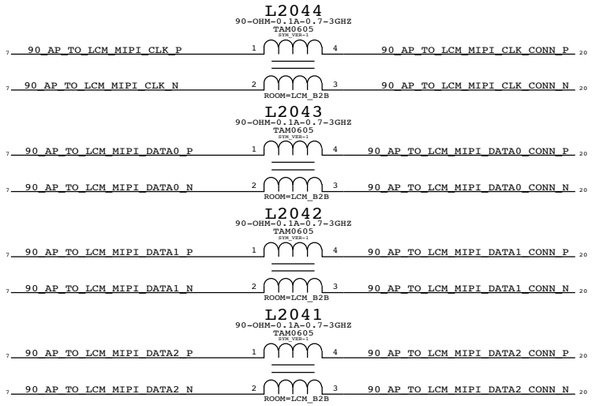
J2019
24-5857-030-001-829
F-ST-SM



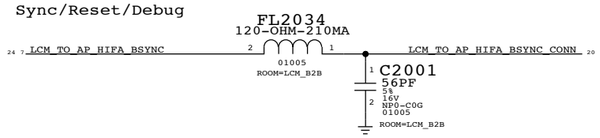
Digital Interfaces



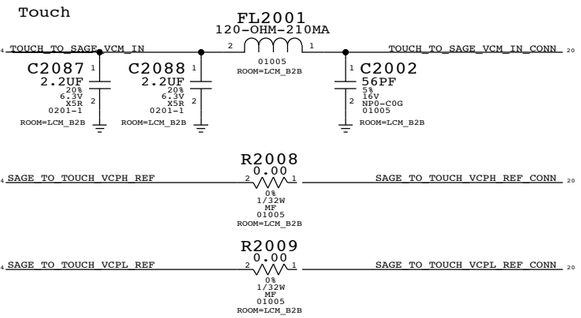
MIPI Common Mode Chokes
(N56 HAS A 4TH MIPI LANE ON P. 19).



Sync/Reset/Debug



Touch



SYNC_MASTER=N61_MLB SYNC_DATE=08/26/2013

PAGE TITLE

DISPLAY:FLEX CONN

Apple Inc.

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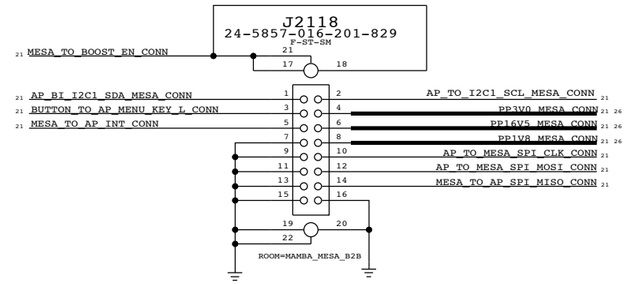
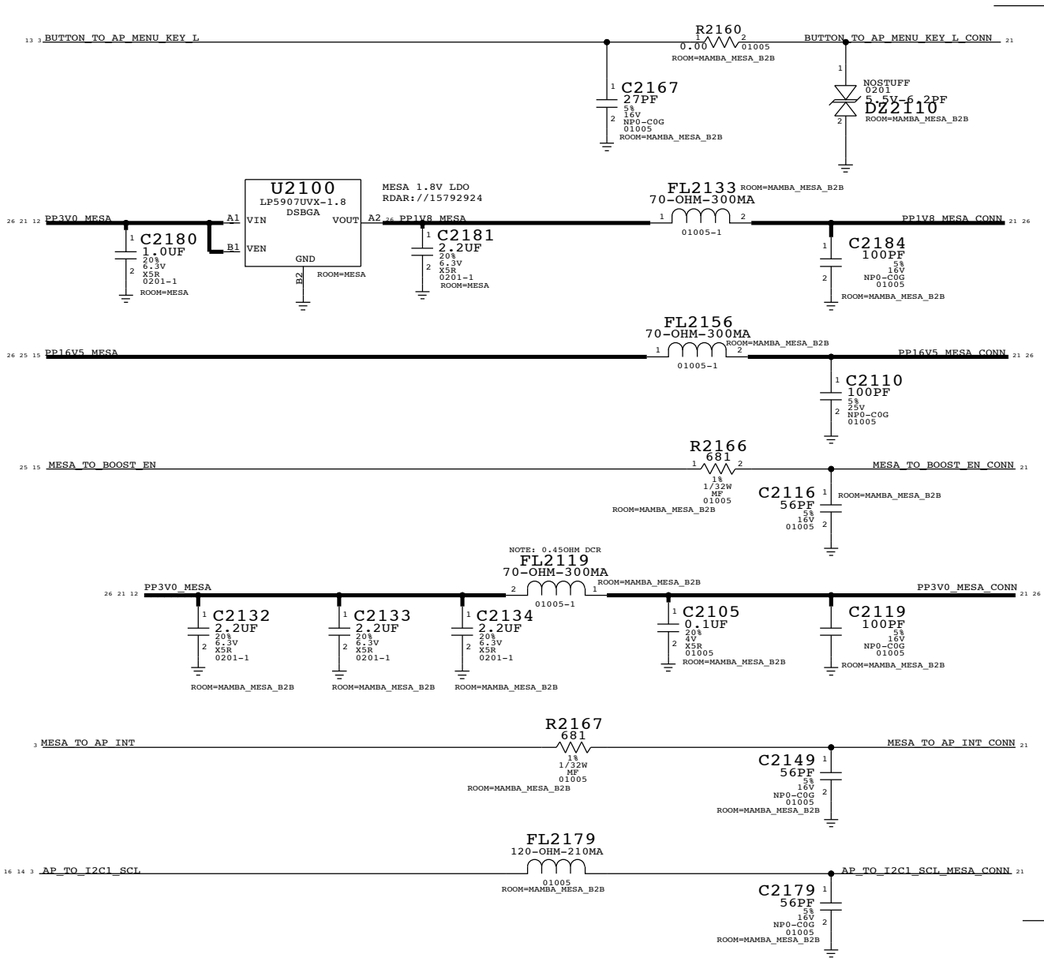
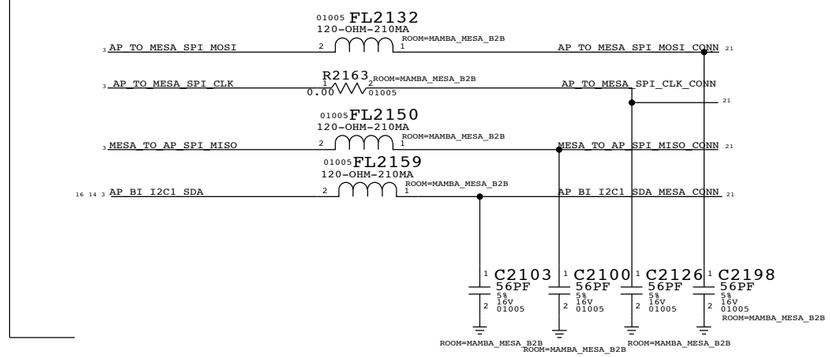
MESA CONNECTOR

MLB: 516S1278





MESA SENSOR:



PAGE TITLE	SENSORS:MESA FLEX CONN
	Apple Inc.
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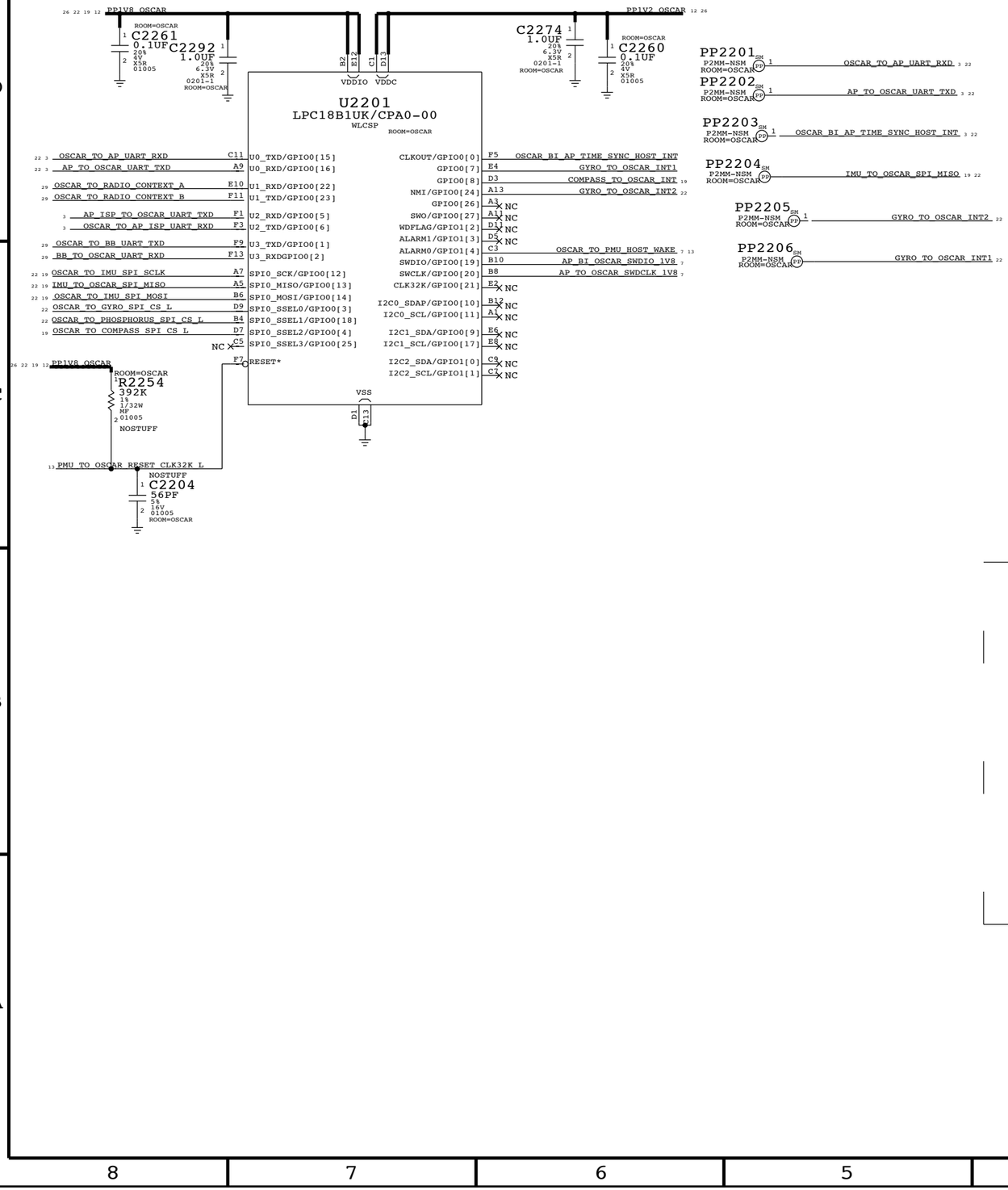
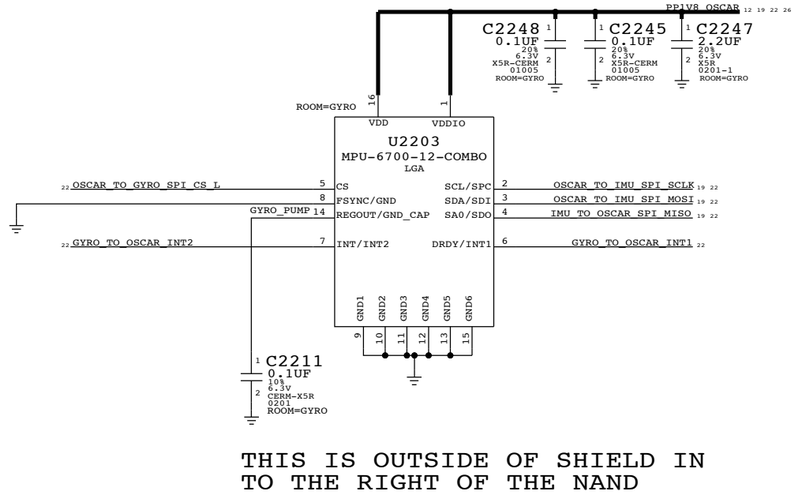
OSCAR + SENSORS

OSCAR VDDIO = 1.8V ALWAYS ON (NEED TO WAKE HOST & RUN PLL)
OSCAR CORE = 1.2V ALWAYS ON (NEED TO RUN IN S2RAM)



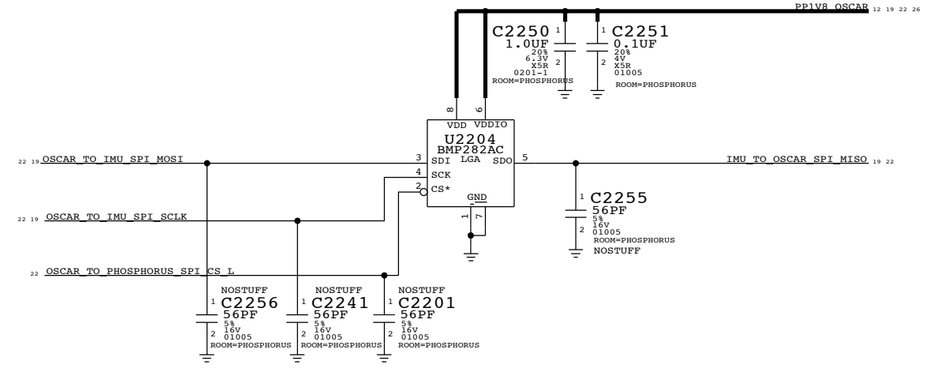
CARBON (ACCEL GYRO COMBO)

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

Apple Inc.

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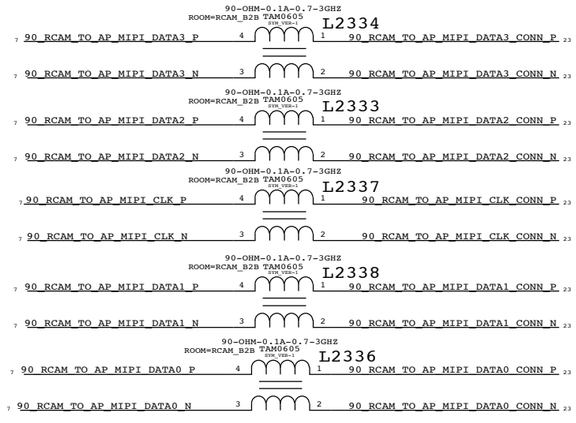
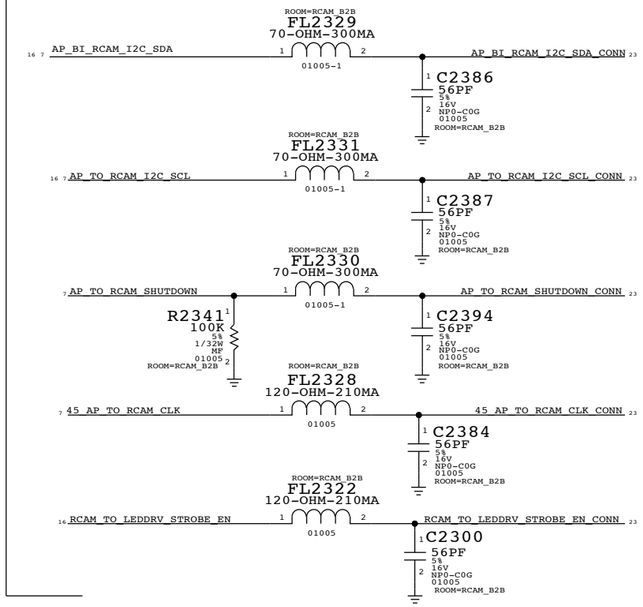
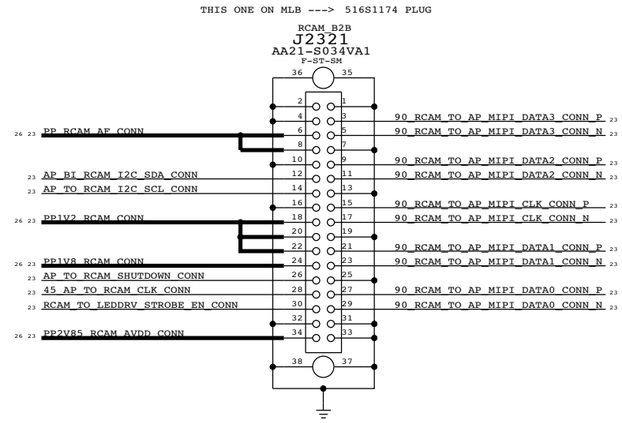
RCAM B2B (REAR CAMERA CONNECTOR)

RCAM:
4-LANE MIPI

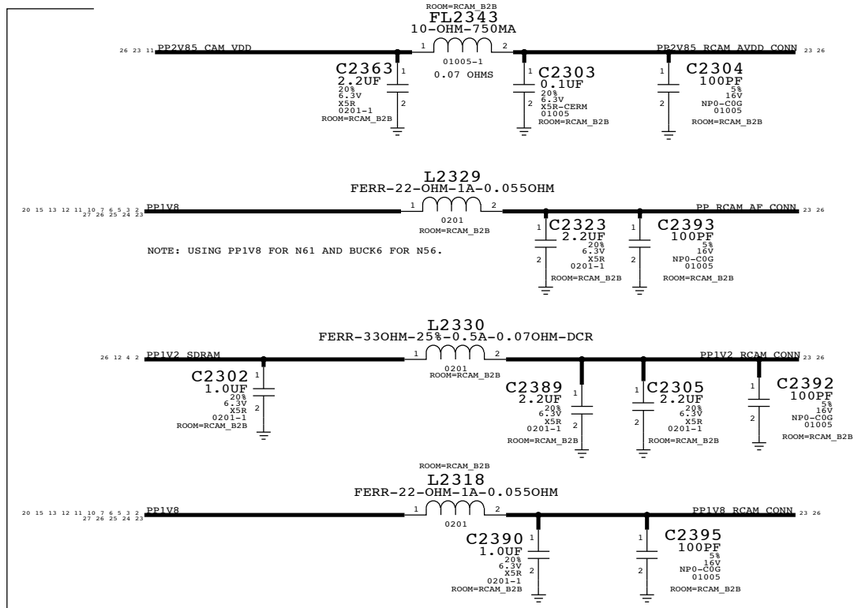


RCAM:
DIGITAL I/F
(I2C,CTRL,CLK)

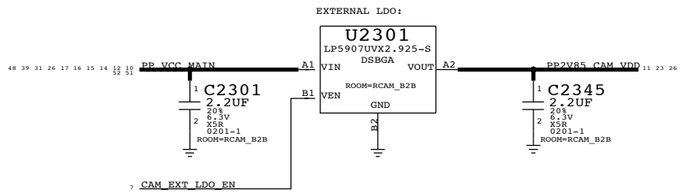




RCAM:
POWER:
(1.8V DVDD)
(2.8V AVDD)
(1.2V VCC)
(1.8V/2V AF)



RCAM/FCAM AVDD RAIL EXT. LDO:



SYNC MASTER=N61 MLB	SYNC DATE=08/26/2013
PAGE TITLE: CAMERA:REAR FLEX CONN	
Apple Inc.	DRAWING NUMBER 051-9903 SIZE D
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Touch (B2B, Driver ICs)

Cumulus

APN: 343S0638

Turn on is later than PP1V8_GRAPE
Turn off is same time as PP1V8_GRAPE

PP5V1_GRAPE_VDDH
PP_CUMULUS_VDDCORE
PP_CUMULUS_VDDANA
PP1V8_GRAPE

C2402 10UF 20% 10V X5R-CERM 0402-8
C2432 4.7UF 20% 6.3V X5R-CERM1 402
C2433 4.7UF 20% 6.3V X5R-CERM1 402
C2403 1.0UF 20% 6.3V X5R 0201-1

Follow Touch routing guidelines
Cumulus sense nets are sensitive

SAGE_TO_CUMULUS_IN<11>	C2417	220PF 10% 01005	C_IN0	B9
SAGE_TO_CUMULUS_IN<4>	C2425	220PF 10% 01005	C_IN1	B8
SAGE_TO_CUMULUS_IN<5>	C2418	220PF 10% 01005	C_IN2	A9
SAGE_TO_CUMULUS_IN<3>	C2426	220PF 10% 01005	C_IN3	B7
SAGE_TO_CUMULUS_IN<1>	C2419	220PF 10% 01005	C_IN4	B6
SAGE_TO_CUMULUS_IN<2>	C2427	220PF 10% 01005	C_IN5	A8
SAGE_TO_CUMULUS_IN<0>	C2420	220PF 10% 01005	C_IN6	B5
SAGE_TO_CUMULUS_IN<9>	C2428	220PF 10% 01005	C_IN7	B4
SAGE_TO_CUMULUS_IN<8>	C2421	220PF 10% 01005	C_IN8	A7
SAGE_TO_CUMULUS_IN<6>	C2429	220PF 10% 01005	C_IN9	B3
SAGE_TO_CUMULUS_IN<10>	C2422	220PF 10% 01005	C_IN10	A6
SAGE_TO_CUMULUS_IN<7>	C2430	220PF 10% 01005	C_IN11	A3

45_PROX_TO_CUMULUS_RX_IN

U2401
CUMULUS-C1
WLBGA

VDDANA	B1	IN0_0	B9
VDDCORE	C1	IN1_0	B8
VDDH	C8	IN2_0	A9
		IN3_0	B7
		IN4_0	B6
		IN5_0	A8
		IN6_0	B5
		IN7_0	B4
		IN8_0	A7
		IN9_0	B3
		IN10_0	A6
		IN11_0	A5
		IN12_0	A4
		IN13_0	B2
		IN14_0	A2
		IN14_1	
VDDIO	C5, F4		
VDDLDO	A1		
		VSTM_0	E9
		VSTM_1	E8
		VSTM_2	F7
		VSTM_3	E6
		VSTM_4	E7
		VSTM_5	F8
		VSTM_6	G9
		VSTM_7	D6
		VSTM_8	D7
		VSTM_9	D8
		VSTM_10	F9
		VSTM_11	D5
		VSTM_12	F6
		VSTM_13	F5
		VSTM_14	G4
		VSTM_15	E5
		VSTM_16	G8
		VSTM_17	G7
		VSTM_18	G6
		VSTM_19	G5
		GPIO_1/CK	G1
		GPIO_2/SD	D4
		GPIO_3	F2
		GPIO_4	F3
		TM_ACS*	C2
		TM_OVR	G3

CUMULUS_TO_MESON_VSTM_OUT_P
CUMULUS_TO_MESON_VSTM_OUT_N
LCM_TO_AP_HIFA_BSYNC_BUFF
CUMULUS_TO_SAGE_BOOST_CLK_EN
TP_CUMULUS_GPIO
CUMULUS_TO_PROX_RX_EN_1V8

R2405 100K 5% 1/32W MF 01005

AP_TO_TOUCH_SPI_CS_L	E4	H_CS*
TOUCH_TO_AP_INT_L	F1	H_INT*
AP_TO_TOUCH_SPI_CLK	D3	H_SCLK
AP_TO_TOUCH_SPI_MOSI	D2	H_SDI
TOUCH_TO_AP_SPI_MISO	R2403 10.2 1% 1/32W MF 01005 → TOUCH_TO_AP_SPI_MISO_R	H_SDO
		JTAG_TCK C4
		JTAG_TDI C3
TOUCH_I2C_SDA		JTAG_TDO E2
PP1V8_GRAPE		JTAG_TMS C6
CUMULUS_TO_PROX_TX_EN_1V8_L		BCFG_RTCK E3
45_AP_TO_TOUCH_CLK32K_RESET_L		CLKIN/RESET* D1
AP_TO_TOUCH_RESET_L		RSTOVR* D5

GND: C7, C9, G2

Radars for XW
rdar://12773579
rdar://12611242

Touch B2B

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

J2401
AA21-S046VA1
F-ST-SM

TOUCH_TO_SAGE_SENSE_IN<7>	2	1	TOUCH_TO_SAGE_SENSE_IN<6>
TOUCH_TO_SAGE_SENSE_IN<10>	4	3	TOUCH_TO_SAGE_SENSE_IN<9>
TOUCH_TO_SAGE_SENSE_IN<11>	6	5	TOUCH_TO_SAGE_SENSE_IN<8>
	8	7	OIC_RIGHT_NET
SAGE_TO_TOUCH_VSTM_OUT<6>	10	9	
SAGE_TO_TOUCH_VSTM_OUT<7>	12	11	SAGE_TO_TOUCH_VSTM_OUT<3>
SAGE_TO_TOUCH_VSTM_OUT<8>	14	13	SAGE_TO_TOUCH_VSTM_OUT<2>
SAGE_TO_TOUCH_VSTM_OUT<9>	16	15	SAGE_TO_TOUCH_VSTM_OUT<4>
SAGE_TO_TOUCH_VSTM_OUT<10>	18	17	SAGE_TO_TOUCH_VSTM_OUT<5>
SAGE_TO_TOUCH_VSTM_OUT<11>	20	19	SAGE_TO_TOUCH_VSTM_OUT<0>
SAGE_TO_TOUCH_VSTM_OUT<13>	22	21	SAGE_TO_TOUCH_VSTM_OUT<1>
SAGE_TO_TOUCH_VSTM_OUT<15>	24	23	SAGE_TO_TOUCH_VSTM_OUT<12>
SAGE_TO_TOUCH_VSTM_OUT<17>	26	25	SAGE_TO_TOUCH_VSTM_OUT<14>
SAGE_TO_TOUCH_VSTM_OUT<19>	28	27	SAGE_TO_TOUCH_VSTM_OUT<16>
SAGE_TO_TOUCH_VSTM_OUT<20>	30	29	SAGE_TO_TOUCH_VSTM_OUT<18>
SAGE_TO_TOUCH_VSTM_OUT<21>	32	31	SAGE_TO_TOUCH_VSTM_OUT<22>
SAGE_TO_TOUCH_VSTM_OUT<0>	34	33	SAGE_TO_TOUCH_VSTM_OUT<23>
PP_SAGE_TO_TOUCH_VCPH_CONN	36	35	PP_SAGE_TO_TOUCH_VCPL_CONN
	38	37	OIC_LEFT_NET
TOUCH_TO_SAGE_SENSE_IN<0>	40	39	
TOUCH_TO_SAGE_SENSE_IN<3>	42	41	TOUCH_TO_SAGE_SENSE_IN<1>
TOUCH_TO_SAGE_SENSE_IN<5>	44	43	TOUCH_TO_SAGE_SENSE_IN<2>
MESON_TO_TOUCH_GUARD_CONN	46	45	TOUCH_TO_SAGE_SENSE_IN<4>
	48	47	
	50	49	

R2488 255K MF 01005 1% 1/32W
R2495 255K MF 01005 1% 1/32W

No decoupling on previous designs

R2407 100K 5% 1/32W MF 01005

U2403
74AUP2G34404GN
SOT1115

LCM_TO_AP_HIFA_BSYNC	1	1A	
CUMULUS_TO_PROX_TX_EN_1V8_L	3	2A	
GND	5	GND	
	6	1Y	LCM_TO_AP_HIFA_BSYNC_BUFF
	4	2Y	CUMULUS_TO_PROX_TX_EN_BUFF
	2	VCC	PP1V8_GRAPE

R2406 100K 5% 1/32W MF 01005

PP_SAGE_TO_TOUCH_VCPH_CONN → R2412 0.00 0% 1/32W MF 01005 → PP_SAGE_TO_TOUCH_VCPH
PP_SAGE_TO_TOUCH_VCPL_CONN → R2411 0.00 0% 1/32W MF 01005 → PP_SAGE_TO_TOUCH_VCPL
MESON_TO_TOUCH_GUARD_CONN → R2433 0.00 1% 1/20W MF 0201 → MESON_TO_TOUCH_GUARD

Optical prox filter
45_PROX_TO_CUMULUS_RX_CONN → C2401 1000PF 10% 6.3V X5R-CERM 01005 → 45_PROX_TO_CUMULUS_RX_C
R2402 22.1K 1% 1/32W MF 01005 → 45_PROX_TO_CUMULUS_RX_IN
C2416 27PF 5% 16V NPO-C0G 01005

Touch probe points

PP2402	P2MM SM	CUMULUS_TO_SAGE_BOOST_CLK_EN
PP2403	P2MM SM	AP_TO_TOUCH_SPI_CS_L
PP2404	P2MM SM	AP_TO_TOUCH_SPI_CLK
PP2405	P2MM-NSM	LCM_TO_AP_HIFA_BSYNC
PP2408	P2MM SM	TP_CUMULUS_GPIO
PP2410	P2MM-NSM	CUMULUS_TO_MESON_VSTM_OUT_N
PP2411	P2MM-NSM	CUMULUS_TO_MESON_VSTM_OUT_P
PP2412	P2MM-NSM	45_AP_TO_TOUCH_CLK32K_RESET_L

I2C pull-ups
PP1V8_GRAPE
R2420 1.8K 5% 1/32W MF 01005
R2421 1.8K 5% 1/32W MF 01005
TOUCH_I2C_SDA
TOUCH_I2C_SCL

Tantalums solved singing caps issue. Validate issue is resolved with Meson and replace with 0402 ceramics.

MESON A1

APN: 343S0694

PP5V7_SAGE_AVDDN
PP5V7_SAGE_AVDDH
C2414 10UF 20% 10V X5R-CERM 0402-8
C2409 10UF 20% 10V X5R-CERM 0402-8
PP1V8
C2415 0.1UF 20% 6.3V X5R-CERM 01005

U2402
MESON-A1
CSP

TOUCH_TO_SAGE_SENSE_IN<7>	E5	SNS_IN0	
TOUCH_TO_SAGE_SENSE_IN<9>	D5	SNS_IN1	
TOUCH_TO_SAGE_SENSE_IN<10>	C5	SNS_IN2	
TOUCH_TO_SAGE_SENSE_IN<8>	B5	SNS_IN3	
TOUCH_TO_SAGE_SENSE_IN<11>	A5	SNS_IN4	
TOUCH_TO_SAGE_SENSE_IN<2>	A7	SNS_IN5	
TOUCH_TO_SAGE_SENSE_IN<4>	A9	SNS_IN6	
TOUCH_TO_SAGE_SENSE_IN<3>	B7	SNS_IN7	
TOUCH_TO_SAGE_SENSE_IN<1>	C7	SNS_IN8	
TOUCH_TO_SAGE_SENSE_IN<0>	D7	SNS_IN9	
TOUCH_TO_SAGE_SENSE_IN<6>	E7	SNS_IN10	
TOUCH_TO_SAGE_SENSE_IN<5>	B9	SNS_IN11	
	C9	SNS_IN12	
	D9	SNS_IN13	
	E9	SNS_IN14	
SAGE_TO_CUMULUS_IN<7>	E6	SNS_OUT0	
SAGE_TO_CUMULUS_IN<9>	D6	SNS_OUT1	
SAGE_TO_CUMULUS_IN<10>	C6	SNS_OUT2	
SAGE_TO_CUMULUS_IN<8>	B6	SNS_OUT3	
SAGE_TO_CUMULUS_IN<11>	A4	SNS_OUT4	
SAGE_TO_CUMULUS_IN<2>	A6	SNS_OUT5	
SAGE_TO_CUMULUS_IN<4>	A8	SNS_OUT6	
SAGE_TO_CUMULUS_IN<3>	B8	SNS_OUT7	
SAGE_TO_CUMULUS_IN<1>	C8	SNS_OUT8	
SAGE_TO_CUMULUS_IN<0>	D8	SNS_OUT9	
SAGE_TO_CUMULUS_IN<6>	E8	SNS_OUT10	
SAGE_TO_CUMULUS_IN<5>	B10	SNS_OUT11	
	C10	SNS_OUT12	
	D10	SNS_OUT13	
	E10	SNS_OUT14	
SAGE_VBIAS	D3	VBIAS	
TOUCH_I2C_SDA	J2	I2C_SDA	
TOUCH_I2C_SCL	J3	I2C_SCL	
	G5	TEST_MUX0	
	H5	TEST_MUX1	
	L3	TEST_MUX2	
	M3	TESTMODE	
LCM_TO_AP_HIFA_BSYNC	M1	BSYNC/SCAN_RESET	
	M2	SCAN CLK	
	L2	SCANOUT	
CUMULUS_TO_SAGE_BOOST_CLK_EN	L1	STEP_CLK/SCAN_IN	
	K4	GCM	
	L4	BOOST_EN/SCAN_EN	
	A2	PLDO_SUP_IN	
PP_SAGE_VBST_OUTH	B1	VBST_OUTH	
PP_SAGE_VBST_OUTL	E1	VBST_OUTL	
PP_SAGE_LX	C1	LX	
PP_SAGE_LY	D1	LY	
	F1	NLDO_SUP_IN	
SAGE_TO_TOUCH_VCPH_REF	B2	VCPH_REF_EN	
SAGE_TO_TOUCH_VCPL_REF	F2	VCPL_REF_EN	
PP_SAGE_TO_TOUCH_VCPL_FILT	G1	VCPL	
PP_SAGE_TO_TOUCH_VCPH	A3	VCPH	
PP_SAGE_VCPL_F	E2	VCPL_F	
	K3	I2C_SLV_ADDR0	
	K2	I2C_SLV_ADDR1	

AVDDH1 D2, AVDDH2 D4, AVDDH3 E3, AVDDH4 G6, AVDDH5 G3, AVDDL G2, VDDIO_DSC J1, VDDIO N3, VDDIO K1
AGND1 C2, AGND2 C4, AGND2 F7, AGND3 E3, AGND3 I5, AGND4 F9, AGND4 H6, AGND4 M6, AGND5 G4, DGND J4, DGND M2

DRV_OUT0	G7	SAGE_TO_TOUCH_VSTM_OUT<22>	
DRV_OUT1	H7	SAGE_TO_TOUCH_VSTM_OUT<16>	
DRV_OUT2	J6	SAGE_TO_TOUCH_VSTM_OUT<15>	
DRV_OUT3	J7	SAGE_TO_TOUCH_VSTM_OUT<17>	
DRV_OUT4	K7	SAGE_TO_TOUCH_VSTM_OUT<12>	
DRV_OUT5	L7	SAGE_TO_TOUCH_VSTM_OUT<14>	
DRV_OUT6	M7	SAGE_TO_TOUCH_VSTM_OUT<8>	
DRV_OUT7	N7	SAGE_TO_TOUCH_VSTM_OUT<2>	
DRV_OUT8	G8	SAGE_TO_TOUCH_VSTM_OUT<21>	
DRV_OUT9	H8	SAGE_TO_TOUCH_VSTM_OUT<0>	
DRV_OUT10	J8	SAGE_TO_TOUCH_VSTM_OUT<13>	
DRV_OUT11	K8	SAGE_TO_TOUCH_VSTM_OUT<1>	
DRV_OUT12	L8	SAGE_TO_TOUCH_VSTM_OUT<5>	
DRV_OUT13	M8	SAGE_TO_TOUCH_VSTM_OUT<4>	
DRV_OUT14	N8	SAGE_TO_TOUCH_VSTM_OUT<6>	
DRV_OUT15	K9	SAGE_TO_TOUCH_VSTM_OUT<10>	
DRV_OUT16	G9	SAGE_TO_TOUCH_VSTM_OUT<23>	
DRV_OUT17	H9	SAGE_TO_TOUCH_VSTM_OUT<18>	
DRV_OUT18	J9	SAGE_TO_TOUCH_VSTM_OUT<20>	
DRV_OUT19	G10	SAGE_TO_TOUCH_VSTM_OUT<19>	
DRV_OUT20	L9	SAGE_TO_TOUCH_VSTM_OUT<9>	
DRV_OUT21	M9	SAGE_TO_TOUCH_VSTM_OUT<7>	
DRV_OUT22	N9	SAGE_TO_TOUCH_VSTM_OUT<3>	
DRV_OUT23	K10	SAGE_TO_TOUCH_VSTM_OUT<11>	
DRV_OUT24	H10	NC	
DRV_OUT25	J10	NC	
DRV_OUT26	L10	NC	
DRV_OUT27	M10	NC	
DRV_IN_P	L6	CUMULUS_TO_MESON_VSTM_OUT_P	
DRV_IN_N	K6	CUMULUS_TO_MESON_VSTM_OUT_N	

PBKG	A1		
PBKG	B4		
PBKG	A10		
PBKG	B3		
PBKG	C3		
PBKG	F6		
PBKG	F10		
PBKG	H1		
PBKG	H2		
PBKG	H3		
PBKG	H4		
PBKG	N10		
PBKG	F4		
PBKG	N1		
PBKG	F5		
PBKG	K5		
PBKG	N6		
VCM_IN_0	E4	TOUCH_TO_MESON_VCM_IN0	
VCM_IN_1	J5	TOUCH_TO_MESON_VCM_IN1	
GO	F8	MESON_TO_TOUCH_GUARD	
AUX_BUF_IN	M4		
AUX_BUF_OUT	M5	NC	
AUX_PLDO_OUT	N5	NC	
AUX_NLDO_OUT	N4	NC	

TOUCH_TO_SAGE_VCM_IN
R2434 0.00 0% 1/32W MF 01005
R2435 0.00 0% 1/32W MF 01005

Meson decoupling
PP_SAGE_VBST_OUTH
C2438 0.33UF 20% 20V TANT 0402
C2410 1000PF 10% 25V X7R-CERM 0201
PP5V7_SAGE_AVDDH
PP_SAGE_VBST_OUTL
C2407 1UF-100OHM 20% 25V TANT 0603-LLP2
C2411 1000PF 10% 25V X7R-CERM 0201
SAGE_TO_TOUCH_VCPH_REF
SAGE_TO_TOUCH_VCPL_REF
C2436 0.01UF 10% 6.3V X5R 01005
C2437 0.01UF 10% 6.3V X5R 01005
PP_SAGE_TO_TOUCH_VCPH
PP_SAGE_VCPL_F
C2404 0.01UF 10% 25V X5R-CERM 0201
C2440 1.0UF 20% 16V X5R-CERM 0201

Meson VCPL rail:
Effective impedance of 3 Ohms, at 115 kHz with 12 V bias.

PP_SAGE_TO_TOUCH_VCPL_FILT → FL2486 10-OHM-750MA 01005-1 → PP_SAGE_TO_TOUCH_VCPL
C2490 100PF 5% 25V NPO-C0G 01005
C2405 2.2UF 20% 25V X5R 0402-3
C2408 1UF 10% 16V X6S-CERM 0402
C2441 0.1UF 10% 16V X5R-CERM 0201

L2401
10UH-20%-0.23A-1.56OHM
PP_SAGE_LX → PSB1614FE → PP_SAGE_LY

SYNC_MASTER=N/A	SYNC_DATE=N/A
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BATT CONN, TPS, STANDOFFS/SHIELDS/FIDUCIALS

BATTERY CONN

THIS ONE ON MLB ---> 516S1239 RCPT

PP_BATT_VCC

C2560 100PF 5% 16V NP0-C0G 01005 ROOM=BATTERY_B2B

C2549 15PF 5% 16V NP0-C0G-CERM 01005 ROOM=BATTERY_B2B

C2550 33PF 5% 16V NP0-C0G-CERM 01005 ROOM=BATTERY_B2B

FL2511 120-OHM-210MA 01005 ROOM=BATTERY_B2B

BATTERY_SWI

C2579 56PF 5% 16V NP0-C0G 01005 ROOM=BATTERY_B2B

BATTERY_SWI_CONN

J2523 RCPT-BATT-2BLADES-0.90 F-SM-SM ROOM=BATTERY_B2B

PCB: PLACE XW2512 AT BATT CONN, PIN 7

XW2512 SHORT-10L-0.25MM-SM ROOM=BATTERY_B2B

CHARGER_VBATT_SNS

PP_BATT_VCC

C2509 100PF 5% 16V NP0-C0G 01005 ROOM=BATTERY_B2B

C2575 220PF 10% 10V X7R-CERM 01005 ROOM=BATTERY_B2B

C2522 56PF 5% 16V NP0-C0G 01005 ROOM=BATTERY_B2B

BATTERY_SWI_CONN

C2561 220PF 10% 10V X7R-CERM 01005 ROOM=BATTERY_B2B

FIDUCIALS

FD2501 FID 0P5SM1P0SQ-NSP

FD2502 FID 0P5SM1P0SQ-NSP

FD2503 FID 0P5SM1P0SQ-NSP

FD2504 FID 0P5SM1P0SQ-NSP

FD2505 FID 0P5SM1P0SQ-NSP

FD2506 FID 0P5SM1P0SQ-NSP

SHIELDS

SH2501 SM OMIT_TABLE 806-8537 SHLD-EMI-UPPER-FRONT-N61

SH2502 SM OMIT_TABLE 806-8538 SHLD-EMI-LOWER-FRONT-N61

SH2503 SM 806-00230 SHLD-EMI-UPPER-EXT-N61

SH2504 SM OMIT_TABLE 806-00424 SHLD-N61-EMI-LOWER-BACK-TALL

SH2506 SM OMIT_TABLE 806-8541 SHLD-EMI-SA-N61

SH2505 SHLD-SNOUT-1-N61 SM NORTH_AC_GND_SCREW CKPLUS_WAIVE=TERMSHORTED 806-7014

COWLING

RETENTION-COAX-N61

CL2501 SM 806-8699

CL2502 TH-NSP SL-1.20X0.40-1.50X0.70-NSP

SCREW HOLES + STANDOFFS

BS2503 860-3948 STDOFF-MLB-UNPLATED-0.85-N61-SM

BS2512 860-7862 STDOFF-2.70OD1.84ID-0.88H-TH

BS2511 STDOFF-2.6OD0.5H-0.5-1.7-TH 50_AP_UAT_FEED 860-8396

BS2510 STDOFF-2.2OD0.25H-0.50-1.70 50_AP_WIFI_5G_CONN_ANT 860-7846

BS2501 860-3948 STDOFF-MLB-UNPLATED-0.85-N61-SM

BS2502 860-3948 STDOFF-MLB-UNPLATED-0.85-N61-SM

BS2504 STDOFF-2.55OD1.41ID-0.99H-SM AP_TO_STOCKHOLM_ANT 860-7861

BS2509 STDOFF-2.70OD1.84ID-0.88H-TH 860-7862

NORTH_AC_GND_SCREW

C2510 220PF 10% 10V X7R-CERM 01005 ROOM=ASSEMBLY

C2511 56PF 5% 16V NP0-C0G 01005 ROOM=ASSEMBLY

C2501 4.7PF +/-0.1PF 16V NP0-C0G 01005 ROOM=ASSEMBLY

C2523 220PF 10% 10V X7R-CERM 01005 ROOM=ASSEMBLY

POWER TP

PP5V0_USB → TP2501 TP-P6 — VBUS

TP2512 TP-P6 — POWER GROUND

PP_BATT_VCC → TP2539 TP-P55 — VBAT

TP2513 TP-P6

TP2545 TP-P55

SUPER TP

PMU_TO_TP_AMUX_AY → TP2506 TP-P55 — ANALOG MUX A OUTPUT

PMU_TO_TP_AMUX_BY → TP2507 TP-P55 — ANALOG MUX B OUTPUT

RESET

RESET_1V8_L → TP2508 TP-P55 — H6P & BB RESET

DFU

FORCE_DFU → TP2509 TP-P55 — FORCE DFU

PP1V8 → PP2510 P4MM SM

TESTPOINTS

MOJAVE TP

MESA_TO_BOOST_EN → TP2569 TP-P55

PP16V5_MESA → TP2570 TP-P55

E75 - USB/UART/ID/POWER

90_TRISTAR_BI_E75_PAIR1_CONN_P → TP2521 TP-P55

90_TRISTAR_BI_E75_PAIR1_CONN_N → TP2522 TP-P55

90_TRISTAR_BI_E75_PAIR2_CONN_P → TP2523 TP-P55

90_TRISTAR_BI_E75_PAIR2_CONN_N → TP2524 TP-P55

PP_E75_TO_TRISTAR_ACC1_CONN → TP2526 TP-P55

PP_E75_TO_TRISTAR_ACC2_CONN → TP2527 TP-P55

TP2535 TP-P55 — TP IS TO HELP WITH USB SI IN THE FACTORY FIXTURE.

E75_TO_TRISTAR_CON_DETECT_CONN → TP2510 TP-P55 — FOR DIAGS

LCM BACKLIGHT

PP_LCM_BL_CAT1_CONN → TP2518 TP-P55 — LCD BACKLIGHT SINK1

PP_LCM_BL_CAT2_CONN → TP2519 TP-P55 — LCD BACKLIGHT SINK2

PP_LCM_BL_ANODE_CONN → TP2520 TP-P55 — LCD BACKLIGHT SOURCE

LCD_TO_AP_PIFA_CONN → TP2517 TP-P55 — LCD PIFA TEST POINT

SYNC_MASTER=N61_MLB SYNC_DATE=08/26/2013

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Apple Inc.

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VOLTAGE PROPERTIES

J55	VOLTAGE=3.3V	PP3V3_USB	2 12
J56	VOLTAGE=1.8V	PP1V8_VA_L19_L67	10 12 16
J57	VOLTAGE=3.0V	PP3V0_TRISTAR	12 15 17 29
J58	VOLTAGE=3.0V	PP3V0_IMU	12 19
J60	VOLTAGE=3.0V	PP3V0_NAND	6 12
J62	VOLTAGE=3.0V	PP3V3_ACC	12 17
J61	VOLTAGE=3.0V	PP3V0_PROX_ALS	11 12
J64	VOLTAGE=4.6V	PP_VCC_MAIN	10 12 14 15 16 17 23 31 39 48 51 52
J65	VOLTAGE=1.0V	PP1V0	7 12
J67	VOLTAGE=3.0V	PP3V0_PROX_IRLED	11 12
J66	VOLTAGE=1.8V	PP1V8_ALWAYS	3 5 12 14
J68	VOLTAGE=3.0V	PP3V0_MESA	12 21
J70	VOLTAGE=1.1V	PP_CPU	4 12
J69	VOLTAGE=1.1V	PP_GPU	4 12
J71	VOLTAGE=1.2V	PP1V2_SDRAM	2 4 12 23
J72	VOLTAGE=1.8V	PP1V8_SDRAM	3 4 10 12 13 14 15 17 29
J73	VOLTAGE=1.8V	PP1V8	2 3 5 6 7 10 11 12 13 15 20 23 24 25 27
J22	VOLTAGE=1.8V	PP1V8_GRAPE	12 24
J76	VOLTAGE=1.8V	PP1V8_OSCAR	12 19 22
J75	VOLTAGE=1.2V	PP1V2_NAND_VDDI	6
J74	VOLTAGE=1.8V	PP_EXTMIC_BIAS_FILT_IN	10
J78	VOLTAGE=1.8V	BOARD_ID2	3 27
J79	VOLTAGE=1.2V	PP1V2	2 4 5 11 12
J80	VOLTAGE=5.0V	PP_E75_TO_TRISTAR_ACC1_CONN	18 25
J81	VOLTAGE=5.0V	PP_E75_TO_TRISTAR_ACC1	17 18
J82	VOLTAGE=22.0V	PP_LCM_BL_ANODE	15 20
J83	VOLTAGE=0.2V	PP_LCM_BL_CAT2	15 20
J84	VOLTAGE=0.2V	PP_LCM_BL_CAT1	15 20
J86	VOLTAGE=0.2V	PP_LCM_BL_CAT2_CONN	20 25
J85	VOLTAGE=0.2V	PP_LCM_BL_CAT1_CONN	20 25
J88	VOLTAGE=-5.7V	PN5V7_SAGE_AVDDN	15 20 24
J89	VOLTAGE=1.2V	PP1V2_OSCAR	12 22
J90	VOLTAGE=3.0V	PP3V0_MESA_CONN	21
J91	VOLTAGE=6V	PP6V0_LCM_BOOST	15
J92	VOLTAGE=5.0V	PP_STRB_DRIVER_TO_LED_WARM	8 16
J96	VOLTAGE=5.0V	PP_STRB_DRIVER_TO_LED_COOL	8 16
J93	VOLTAGE=1.8V	PP_CODEC_TO_MIC1_BIAS	10 18
J97	VOLTAGE=1.8V	PP_EXTMIC_BIAS_IN	10
J98	VOLTAGE=1.8V	PP_EXTMIC_BIAS_FILT	10
J99	VOLTAGE=1.8V	PP_CODEC_TO_FRONTMIC3_BIAS	10 11
J100	VOLTAGE=1.8V	PP_CODEC_TO_REARMIC2_BIAS	8 10
J101	VOLTAGE=1.8V	PP_CODEC_FILT+	10
J102	VOLTAGE=2.2V	PP_CODEC_SPKR_VO	10
J140	VOLTAGE=2.5V	PP_CODEC_VCPFILT-	10
J104	VOLTAGE=2.5V	PP_CODEC_VCPFILT+	10
J106	VOLTAGE=2.5V	PP_CODEC_VHP_FLYN	10
J105	VOLTAGE=0.2V	PP_CODEC_VHP_FLYC	10
J107	VOLTAGE=2.5V	PP_CODEC_VHP_FLYP	10
J108	VOLTAGE=1.8V	PP1V8_FCAM_CONN	11
J109	VOLTAGE=3.0V	PP2V85_FCAM_AVDD_CONN	11
J110	VOLTAGE=1.8V	PP_CODEC_TO_FRONTMIC3_BIAS_CONN	11
J111	VOLTAGE=3.0V	PP3V0_ALS_CONN	11
J112	VOLTAGE=1.2V	PP1V2_FCAM_VDDIO_CONN	11
J113	VOLTAGE=5.0V	PP5V0_USB	12 14 17 18 25
J114	VOLTAGE=5.0V	PP5V0_USB_TO_PMU	12
J116	VOLTAGE=4.6V	PP_BUCK5_LX0	12
J115	VOLTAGE=4.6V	PP_BUCK3_LX	12
J117	VOLTAGE=4.6V	PP_BUCK4_LX	12
J118	VOLTAGE=4.6V	PP_BUCK2_LX	12
J120	VOLTAGE=4.6V	PP_BUCK1_LX1	12
J119	VOLTAGE=4.6V	PP_BUCK1_LX0	12
J121	VOLTAGE=4.6V	PP_BUCK0_LX3	12
J122	VOLTAGE=4.6V	PP_BUCK0_LX2	12
J123	VOLTAGE=4.6V	PP_BUCK0_LX1	12
J124	VOLTAGE=4.6V	PP_BUCK0_LX0	12
J125	VOLTAGE=6.0V	PP_CHESTNUT_LXP	15
J126	VOLTAGE=6.0V	PP_CHESTNUT_CP	15
J127	VOLTAGE=6.0V	PP_CHESTNUT_CN	15
J128	VOLTAGE=5.7V	PP5V7_SAGE_AVDDH	15 24
J129	VOLTAGE=5.7V	PP5V7_LCM_AVDDH	15 20
J130	VOLTAGE=5.1V	PP5V1_GRAPE_VDDH	15 24
J131	VOLTAGE=22.0V	PP_WLED_LX	15
J132	VOLTAGE=18.0V	PP18V0_MESA_SW	15
J133	VOLTAGE=17.0V	P17V0_MOJAVE_LDOIN	15
J134	VOLTAGE=16.5V	PP16V5_MESA	15 21 25
J135	VOLTAGE=8.0V	PP_SPKAMP_SW	16
J136	VOLTAGE=8.0V	PP_L19_VBOOST	16
J137	VOLTAGE=1.8V	PP_SPKAMP_FILT	16
J138	VOLTAGE=1.8V	PP_SPKAMP_LDO_FILT	16
J1	VOLTAGE=5.0V	PP_LED_DRV_LX	16
J2	VOLTAGE=5.0V	PP_LED_BOOST_OUT	16
J4	VOLTAGE=2.9V	PP2V9_LDO9	12
J5	VOLTAGE=1.8V	PP_CODEC_TO_MIC1_BIAS_CONN	18
J7	VOLTAGE=4.6V	PP_E75_TO_TRISTAR_ACC2	17 18
J8	VOLTAGE=4.6V	PP_E75_TO_TRISTAR_ACC2_CONN	18 25
J10	VOLTAGE=1.8V	PP1V8_LCM_CONN	20
J11	VOLTAGE=22.0V	PP_LCM_BL_ANODE_CONN	20 25
J12	VOLTAGE=-5.7V	PN5V7_LCM_AVDDN_CONN	20
J13	VOLTAGE=5.7V	PP5V7_LCM_AVDDH_CONN	20
J16	VOLTAGE=1.8V	PP1V8_MESA	21
J17	VOLTAGE=16.5V	PP16V5_MESA_CONN	21
J14	VOLTAGE=5.0V	PP_TRISTAR_PIN	17
J20	VOLTAGE=1.2V	PP1V2_RCAM_CONN	23
J21	VOLTAGE=1.8V	PP1V8_RCAM_CONN	23
J23	VOLTAGE=3.0V	PP2V85_CAM_VDD	11 23
J24	VOLTAGE=1.8V	PP2V85_RCAM_AVDD_CONN	23
J45	VOLTAGE=1.8V	PP_CUMULUS_VDDCORE	24
J46	VOLTAGE=1.2V	PP_CUMULUS_VDDANA	24
J27	VOLTAGE=13.5V	PP_SAGE_TO_TOUCH_VCPH_CONN	24
J28	VOLTAGE=-12V	PN_SAGE_TO_TOUCH_VCPL_CONN	24
J30	VOLTAGE=13.5V	PP_SAGE_TO_TOUCH_VCPH	24
J29	VOLTAGE=-12V	PN_SAGE_TO_TOUCH_VCPL	24
J31	VOLTAGE=-12V	PN_SAGE_VCPL_F	24
J35	VOLTAGE=5.7V	PP_SAGE_LX	24
J34	VOLTAGE=17.0V	PP_SAGE_LV	24
J38	VOLTAGE=1.8V	PP_PMU_VREF	13
J37	VOLTAGE=14V	PP_SAGE_VBST_OUTH	24
J39	VOLTAGE=5.0V	PP_TIGRIS_VBUS_DET	14
		PP1V8_PLL PP_MIPIOD_VREG BOARD_ID0	
J41	VOLTAGE=2.5V	PP_PMU_VDD_REF	13
J42	VOLTAGE=1.8V	PP_EXTMIC_BIAS	10
J43	VOLTAGE=1.8V	PP1V8_XTAL	2
J44	VOLTAGE=1.8V	PP_PMU_VDD_RTC	13
J48	VOLTAGE=4.6V	PP_BATT_VCC	14 16 25 40 45 46
J49	VOLTAGE=1.8V	PP1V8_MESA_CONN	21
J47	VOLTAGE=3.0V	PP3V0_PROX_CONN	11
J50	VOLTAGE=1.0V	PP0V95_FIXED_SOC	4 7 12
J51	VOLTAGE=1.0V	PP0V95_FIXED_SOC_PCIE	7
J52	VOLTAGE=1.2V	PP1V2_PLL	2
J53	VOLTAGE=1.0V	PP_BUCK5_LX1	12
J54	VOLTAGE=1.0V	PP_VAR_SOC	5 12
J143	VOLTAGE=5.0V	PMID_CAP	14
J142	VOLTAGE=5.0V	CHARGER_LDO	14
J145	VOLTAGE=4.6V	CHG_BOOT	14
J146	VOLTAGE=4.6V	CHG_LX	14
J140	VOLTAGE=3.0V	VIBE_DRIVE_P	14 18
J141	VOLTAGE=3.0V	VIBE_DRIVE_N	14 18
J102	VOLTAGE=1.8V	PP_RCAM_AF_CONN	23
J103	VOLTAGE=-14.0V	PN_SAGE_VBST_OUTL	24
J105	VOLTAGE=-12.0V	PN_SAGE_TO_TOUCH_VCPL_FILT	24
J104	VOLTAGE=2.7V	PP_BB_VDD_2V7_CONN	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

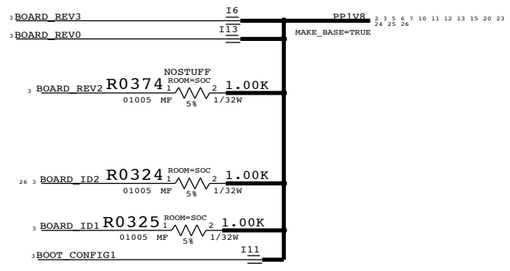
1111	PROTOMLB1
1110	PROTOMLB2
1101	PROTO1
1100	PROTO2
1011	EVT
1010	EVT SPLIT CARBON DOE
1001	CARRIER BUILD <--- SELECTED
1000	DVT

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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RADIO_MLB HIERARCHICAL SYMBOL

POWER

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

CELLULAR HOUSE KEEPING

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

HSIC IPC

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

UART IPC

3	AP_TO_BB_UART2_RTS_L	MAKE_BASE=TRUE	I373	BB_UART_CTS_L	30 35
3	BB_TO_AP_UART2_CTS_L	MAKE_BASE=TRUE	I376	BB_UART_RTS_L	30 35
17 3	AP_TO_BB_UART2_TXD	MAKE_BASE=TRUE	I374	BB_UART_RXD	30 35
17 3	BB_TO_AP_UART2_RXD	MAKE_BASE=TRUE	I375	BB_UART_TXD	30 35

AUDIO I2S

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

OSCAR UART

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

BB DEBUG INTERFACES

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

RADIO ANTENNA CONTROL

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

FCT TESTING

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

UPPER RADIO ANTENNA CONTROL

25	50_AP_WIFI_5G_CONN_ANT	MAKE_BASE=TRUE	I410	50_WIFI_5G_CONN_ANT	50
25	50_AP_UAT_FEED	MAKE_BASE=TRUE	I409	50_UPPER_ANT_FEED	50
	UAT_ANT_GND	MAKE_BASE=TRUE	I411	ANT_GND	50
29 26 17 15 12	PP3V0_TRISTAR	MAKE_BASE=TRUE	I404	PAC_VDD_3V0	53
25 9	NORTH_AC_GND_SCREW	MAKE_BASE=TRUE	I412	NORTH_ANT_GND	50

POWER

26 17 15 14 13 12 10 4 3	PP1V8_SDRAM	MAKE_BASE=TRUE	I314	PP_WL_BT_VDDIO_AP	51
			I315	PP_STOCKHOLM_1V8_S2R	52 54
			I407	RFFE_VIO_S2R	53

WLAN/BT HOUSE KEEPING

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

3	AP_TO_WLAN_JTAG_SWCLK	MAKE_BASE=TRUE	I333	WLAN_JTAG_SWDCLK	30 51
3	AP_TO_WLAN_JTAG_SWDIO	MAKE_BASE=TRUE	I334	WLAN_JTAG_SWDIO	30 51
13	WLAN_TO_PMU_PCIE_WAKE_L	MAKE_BASE=TRUE	I335	WLAN_PCIE_WAKE_L	30 51
3	AP_TO_WLAN_DEVICE_WAKE	MAKE_BASE=TRUE	I336	PCIE_DEV_WAKE	30 51
7	90_WLAN_TO_AP_PCIE1_RXDP_P	MAKE_BASE=TRUE	I337	90_WLAN_PCIE_TDP	30 51
7	90_WLAN_TO_AP_PCIE1_RXDP_N	MAKE_BASE=TRUE	I340	90_WLAN_PCIE_TDN	30 51
7	90_AP_TO_WLAN_PCIE1_TXDP_P	MAKE_BASE=TRUE	I338	90_WLAN_PCIE_RDP	30 51
7	90_AP_TO_WLAN_PCIE1_TXDP_N	MAKE_BASE=TRUE	I339	90_WLAN_PCIE_RDN	30 51
7	90_AP_TO_WLAN_PCIE1_REFCLK1_P	MAKE_BASE=TRUE	I342	90_WLAN_PCIE_REFCLK_P	51
7	90_AP_TO_WLAN_PCIE1_REFCLK1_N	MAKE_BASE=TRUE	I341	90_WLAN_PCIE_REFCLK_N	51
7	WLAN_TO_AP_PCIE1_CLKREQ_L	MAKE_BASE=TRUE	I344	WLAN_PCIE_CLKREQ_L	30 51
7	AP_TO_WLAN_PCIE1_RST_L	MAKE_BASE=TRUE	I343	WLAN_PCIE_PERST_L	30 51

WLAN HSIC IPC

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

BT UART IPC

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

BT AUDIO PCM

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

OSCAR STATES

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

STOCKHOLM

3	STOCKHOLM_TO_AP_UART3_CTS_L	MAKE_BASE=TRUE	I359	STOCKHOLM_RTS_L	30 52
3	AP_TO_STOCKHOLM_UART3_RTS_L	MAKE_BASE=TRUE	I360	STOCKHOLM_CTS_L	30 52
3	STOCKHOLM_TO_AP_UART3_RXD	MAKE_BASE=TRUE	I361	STOCKHOLM_UART_TXD	30 52
3	AP_TO_STOCKHOLM_UART3_TXD	MAKE_BASE=TRUE	I363	STOCKHOLM_UART_RXD	30 52
7	AP_TO_STOCKHOLM_DWLD_REQ	MAKE_BASE=TRUE	I362	STOCKHOLM_FW_DWLD_REQ	52
13	STOCKHOLM_TO_PMU_HOST_WAKE	MAKE_BASE=TRUE	I364	STOCKHOLM_HOST_WAKE	30 52
3	AP_TO_STOCKHOLM_EN	MAKE_BASE=TRUE	I365	STOCKHOLM_ENABLE	52
29 26 17 15 12	PP3V0_TRISTAR	MAKE_BASE=TRUE	I366	STOCKHOLM_VDD_MUX_3V0	54
3	AP_TO_STOCKHOLM_SIM_SEL	MAKE_BASE=TRUE	I367	STOCKHOLM_SIM_SEL	54
25	AP_TO_STOCKHOLM_ANT	MAKE_BASE=TRUE	I406	STOCKHOLM_ANT	52

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AP INTERFACE & DEBUG CONNECTORS

PROBE POINTS

PP3105_RF P2MM SM 1 CLK32K_AP WIFI_BT — 29 51
PP3113_RF P2MM SM 1 BB_COEX_UART_RXD WIFI_BT — 35 51
PP3114_RF P4MM SM 1 BB_COEX_UART_TXD WIFI_BT — 35 51
PP3119_RF P2MM SM 1 BT_UART_TXD WIFI_BT — 29 51
PP3120_RF P2MM-NSM SM 1 BT_UART_RXD WIFI_BT — 29 51
PP3152_RF P2MM SM 1 WAKE_BT WIFI_BT — 29 51
PP3153_RF P2MM SM 1 WLAN_REG_ON WIFI_BT — 29 51
PP3154_RF P4MM SM 1 BT_REG_ON WIFI_BT — 29 51
PP3155_RF P2MM SM 1 HOST_WAKE_WLAN WIFI_BT — 29 51
PP3156_RF P2MM SM 1 WLAN_PCIE_WAKE_L WIFI_BT — 29 51
PP3157_RF P2MM SM 1 WLAN_PCIE_PERST_L WIFI_BT — 29 51
PP3158_RF P2MM SM 1 WLAN_PCIE_CLKREQ_L WIFI_BT — 29 51
PP3159_RF P4MM SM 1 PCIE_DEV_WAKE WIFI_BT — 29 51
PP3160_RF P2MM SM 1 WLAN_UART_RTS_L WIFI_BT — 29 51
PP3161_RF P2MM SM 1 WLAN_UART_CTS_L WIFI_BT — 29 51
PP3162_RF P2MM SM 1 WLAN_UART_RXD WIFI_BT — 29 51
PP3163_RF P2MM SM 1 WLAN_UART_TXD WIFI_BT — 29 51
PP3190_RF P2MM SM 1 WLAN_JTAG_SWDCLK WIFI_BT — 29 51
PP3191_RF P2MM SM 1 WLAN_JTAG_SWDIO WIFI_BT — 29 51

PP3121_RF P2MM-NSM SM 1 STOCKHOLM_HOST_WAKE RADIO_STOCKHOLM — 29 52
PP3122_RF P4MM SM 1 BB_REQUEST_XO_CLK SIM_DEBUG — 32 52
PP3123_RF P2MM-NSM SM 1 STOCKHOLM_UART_RXD RADIO_STOCKHOLM — 29 52
PP3124_RF P2MM SM 1 STOCKHOLM_UART_TXD RADIO_STOCKHOLM — 29 52
PP3125_RF P2MM-NSM SM 1 STOCKHOLM_CTS_L RADIO_STOCKHOLM — 29 52
PP3126_RF P2MM-NSM SM 1 STOCKHOLM_RTS_L RADIO_STOCKHOLM — 29 52
PP3128_RF P2MM SM 1 PP_PN65_VCC_SIM RADIO_STOCKHOLM — 52
PP3174_RF P4MM SM 1 STOCKHOLM_SIM_SWP SIM_DEBUG — 52 54
PP3129_RF P4MM SM 1 REF_CLK_FROM_BB SIM_DEBUG — 32 52
PP3165_RF P4MM SM 1 DSDS_SIM_CLK SIM_DEBUG — 34 54
PP3183_RF P4MM SM 1 DSDS_SIM_RESET SIM_DEBUG — 34 54
PP3184_RF P4MM SM 1 DSDS_SIM_DATA SIM_DEBUG — 34 54
PP3186_RF P4MM SM 1 DSDS_SIM_DETECT SIM_DEBUG — 34
PP3187_RF P4MM SM 1 PP_LDO6 SIM_DEBUG — 31 33 54
PP3188_RF P4MM SM 1 DSDS_SIM_SWP SIM_DEBUG — 54
PP3189_RF P4MM SM 1 DSDS_SIM_DATA_R SIM_DEBUG — 54

PP 3178_RF P2MM-NSM SM 1 BB_SIM_RESET — 30 35
PP 3179_RF P2MM-NSM SM 1 BB_SIM_CLK — 30 35
PP 3180_RF P2MM-NSM SM 1 BB_SIM_DATA — 30 35
PP 3183_RF P2MM-NSM SM 1 BB_SIM_DETECT — 30 35
PP 3184_RF P2MM-NSM SM 1 PP_LDO5 — 30 31 33 54

PP3115_RF P4MM-NSM SM 1 50_BB_HSIC_STROBE SIM_DEBUG — 29 34
PP3116_RF P4MM-NSM SM 1 50_BB_HSIC_DATA SIM_DEBUG — 29 34
PP3101_RF P4MM SM 1 BB_DEBUG_ERROR SIM_DEBUG — 35
PP3102_RF P4MM SM 1 RF_PMIC_RESET_L SIM_DEBUG — 29 32
PP3103_RF P4MM SM 1 PS_HOLD_PMIC SIM_DEBUG — 32
PP3127_RF P4MM SM 1 PMIC_RESOUT_L SIM_DEBUG — 32 34
PP3104_RF P4MM SM 1 MDM_CLK SIM_DEBUG — 32 34
PP3109_RF P4MM SM 1 PP_LDO11 SIM_DEBUG — 30 31 33 34 35 37 38 39
PP3110_RF P4MM SM 1 RADIO_ON_L SIM_DEBUG — 29 32
PP3111_RF P4MM SM 1 SPMI_DATA SIM_DEBUG — 32 34
PP3112_RF P4MM SM 1 SPMI_CLK SIM_DEBUG — 32 34

PP3130_RF P4MM SM 1 BB_JTAG_RST_L SIM_DEBUG — 34
PP3131_RF P4MM SM 1 BB_JTAG_TCK SIM_DEBUG — 34
PP3132_RF P4MM SM 1 BB_JTAG_TMS SIM_DEBUG — 34
PP3133_RF P4MM SM 1 BB_JTAG_TDO SIM_DEBUG — 34
PP3134_RF P4MM SM 1 BB_JTAG_TDI SIM_DEBUG — 34
PP3135_RF P4MM SM 1 BB_JTAG_TRST_L SIM_DEBUG — 34
PP3136_RF P4MM SM 1 BB_DEBUG_STATUS SIM_DEBUG — 35
PP3137_RF P4MM SM 1 BB_CORE_DUMP SIM_DEBUG — 29 35
PP3138_RF P4MM SM 1 BB_USB_VBUS SIM_DEBUG — 29 34
PP3139_RF P4MM SM 1 90_BB_USB_N SIM_DEBUG — 29 34
PP3140_RF P4MM SM 1 90_BB_USB_P SIM_DEBUG — 29 34

PP3141_RF P4MM SM 1 BB_UART_TXD SIM_DEBUG — 29 35
PP3142_RF P4MM SM 1 BB_UART_RXD SIM_DEBUG — 29 35
PP3143_RF P4MM SM 1 BB_UART_RTS_L SIM_DEBUG — 29 35
PP3144_RF P4MM SM 1 BB_UART_CTS_L SIM_DEBUG — 29 35
PP3145_RF P4MM SM 1 BB_HOST_RDY SIM_DEBUG — 29 35
PP3146_RF P4MM SM 1 BB_DEVICE_RDY SIM_DEBUG — 29 35
PP3147_RF P4MM SM 1 BB_GPS_SYNC SIM_DEBUG — 29 35
PP3148_RF P4MM SM 1 BB_WAKE_HOST_L SIM_DEBUG — 29 35
PP3149_RF P4MM SM 1 BB_RESET_DET_L SIM_DEBUG — 29 35
PP3150_RF P4MM SM 1 BB_RST_L SIM_DEBUG — 29 32
PP3151_RF P4MM SM 1 BOOT_HSIC SIM_DEBUG — 30 35

PP3170_RF P4MM SM 1 RFFE1_CLK RF_DEBUG — 35 39 40 41 42 43 44
PP3171_RF P4MM SM 1 RFFE1_DATA RF_DEBUG — 35 39 40 41 42 43 44
PP3172_RF P4MM SM 1 RFFE2_CLK RF_DEBUG — 35 45 46 48
PP3173_RF P4MM SM 1 RFFE2_DATA RF_DEBUG — 35 45 46 48
PP3175_RF P4MM SM 1 BB_I2S_WS RF_DEBUG — 29 35
PP3176_RF P4MM SM 1 BB_I2S_RXD RF_DEBUG — 29 35
PP3177_RF P4MM SM 1 BB_I2S_TXD RF_DEBUG — 29 35
PP3178_RF P4MM SM 1 BB_OTHER_TXD RF_DEBUG — 29 35
PP3179_RF P4MM SM 1 BB_OTHER_RXD RF_DEBUG — 29 35

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
197S0565	197S0593	ALTERNATE	Y3301_RF	KDS 19.2MHZ XTAL
197S0598	197S0593	ALTERNATE	Y3301_RF	AVX 19.2MHZ XTAL
138S00005	138S00003	ALTERNATE	C3216_RF	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

39 38 37 35 34 33 31 30 PP_LDO11
R3102_RF 10K 1% 1/32W MF 01005 — RADIO_BB — 35 30 BOOT_HSIC
R3103_RF 10K 1% 1/32W MF 01005 — RADIO_BB — 35 BOOT_HSIC_USB
R3104_RF 10K 1% 1/32W MF 01005 — RADIO_BB — 35 WATCHDOG_DISABLE

PP3166_RF P4MM SM 1 90_WLAN_PCIE_RDN WIFI_BT — 29 51
PP3167_RF P4MM SM 1 90_WLAN_PCIE_RDP WIFI_BT — 29 51
PP3168_RF P4MM-NSM SM 1 90_WLAN_PCIE_TDN WIFI_BT — 29 51
PP3169_RF P4MM-NSM SM 1 90_WLAN_PCIE_TDP WIFI_BT — 29 51

DIFF-PAIR PROBE POINTS LOCATED OPPOSITE DC-BLOCKS

XW3101_RF SHORT-10L-0.1MM-SM: 33 31 VREG_SMPS1_0V90 — 1 — 2 — ADC_SMPS1 — OUT 29
XW3102_RF SHORT-10L-0.1MM-SM: 38 37 35 34 33 31 30 39 PP_LDO11 — 1 — 2 — ADC_PP_LDO11 — OUT 29
XW3103_RF SHORT-10L-0.1MM-SM: 54 33 31 30 PP_LDO5 — 1 — 2 — ADC_PP_LDO5 — OUT 29
XW3104_RF SHORT-10L-0.1MM-SM: 31 VREG_SMPS4_2V075 — 1 — 2 — ADC_SMPS4 — OUT 29

SIM CARD CONNECTOR

54 33 31 30 PP_LDO5
R3101_RF 15.00K 1% 1/32W MF 01005
C3101_RF 2.2UF 20% 6.3V X5R 0201-1
J3101_RF SIMCARD-RCPT-N61 F-ST-SM
VCC 1
RST 2 — 35 30 IN BB_SIM_RESET
CLK 3 — 35 30 IN BB_SIM_CLK
I/O 7 — BB_SIM_DATA — BI 30 35
DETECT 12 — BB_SIM_DETECT — OUT 30 35
SWP 6 — 4FF_SIM_SWP — BI 30 54
GND 8 9 10 11 13 5

SIM CARD ESD PROTECTION

DZ3102_RF 5.5V-6.2PF 0201: 35 30 BB_SIM_DETECT — 1 — 2
VR3101_RF ESDAVLC5-4BU4 SM: 35 30 BB_SIM_DATA — 1 — 4FF_SIM_SWP — 30 54; 35 30 BB_SIM_RESET — 2 — 3 — BB_SIM_CLK — 30 35; GND 5
PP_LDO5 30 31 33 54 — DZ3101_RF 12V-33PF 01005-1

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SYNC_MASTER=N/A SYNC_DATE=N/A
PAGE TITLE: AP INTERFACE & DEBUG CONNECTORS
Apple Inc.
DRAWING NUMBER 051-9903 SIZE D
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BASEBAND PMU (1 OF 2)

SWITCHERS OUTPUT CAPS

PP_VCC_MAIN
RADIO_PMIC C3270_RF 100PF 5% 16V NP0-C0G 01005
RADIO_PMIC C3224_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3223_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3222_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3216_RF 15UF 20% 6.3V X5R 0402-1
RADIO_PMIC C3221_RF 15UF 20% 6.3V X5R 0402-1

VREG_SMPS1_0V90 (30 31 33)
RADIO_PMIC C3229_RF 20UF 20% 6.3V CERM-X5R 0402
RADIO_PMIC C3231_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3233_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3235_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3249_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3251_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3259_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3260_RF 2.2UF 20% 6.3V X5R 0201-1

VREG_SMPS2_1V25 (31)
RADIO_PMIC C3237_RF 20UF 20% 6.3V CERM-X5R 0402
RADIO_PMIC C3239_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3242_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3244_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3253_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3255_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3258_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3261_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3262_RF 2.2UF 20% 6.3V X5R 0201-1

VREG_SMPS3_0V95 (31)
RADIO_PMIC C3230_RF 20UF 20% 6.3V CERM-X5R 0402
RADIO_PMIC C3232_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3234_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3236_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3250_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3252_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3257_RF 2.2UF 20% 6.3V X5R 0201-1

VREG_SMPS4_2V075 (30 31)
RADIO_PMIC C3238_RF 20UF 20% 6.3V CERM-X5R 0402
RADIO_PMIC C3240_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3241_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3243_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3254_RF 2.2UF 20% 6.3V X5R 0201-1
RADIO_PMIC C3256_RF 2.2UF 20% 6.3V X5R 0201-1

SWITCHERS BULK CAPS

PP_VCC_MAIN (IN) — VBATT_S1
RADIO_PMIC C3217_RF 15UF 20% 6.3V X5R 0402-1

PP_VCC_MAIN (IN) — VBATT_S2
RADIO_PMIC C3218_RF 15UF 20% 6.3V X5R 0402-1

PP_VCC_MAIN (IN) — VBATT_S3
RADIO_PMIC C3219_RF 15UF 20% 6.3V X5R 0402-1

PP_VCC_MAIN (IN) — VBATT_S4
RADIO_PMIC C3220_RF 15UF 20% 6.3V X5R 0402-1

AVDD_BYP
RADIO_PMIC C3226_RF 1.0UF 20% 10V X5R-CERM 0201-1
REF_BYP
RADIO_PMIC C3227_RF 0.1UF 20% 4V X5R 01005
GND_REF

VREG_RF_CLK_BYP
RADIO_PMIC C3228_RF 1.0UF 20% 10V X5R-CERM 0201-1

U_PMICRF
PM8019
BGA
SYM 5 OF 5
REG

VBATT_S1	VDD_INT_BYP
VBATT_S2	REF_BYP
VBATT_S3	GND_REF
VBATT_S4	VDD_S1
VREG_SMPS2_1V25 (31)	VDD_S2
VREG_SMPS4_2V075 (30 31)	VDD_S3
VREG_SMPS4_2V075 (30 31)	VDD_S4
VREG_SMPS3_0V95 (31)	VDD_L1
VREG_SMPS4_2V075 (30 31)	VDD_L2_3
MDM_VREF_LPDDR2 (OUT)	VDD_L7_8_11
PP_VCC_MAIN (IN)	VDD_L9
	VDD_L10
	VDD_L12
	VDD_XO_RFC
	GND
	VREF_DDR2
	VIN_VPH1
	VIN_VPH2

VREG_RFCLK	91
VREG_XO	74
VREG_S1	27
VSW_S1_1	11
VSW_S1_2	16
VREG_S2	82
VSW_S2	93
VREG_S3	62
VSW_S3_1	53
VSW_S3_2	58
VREG_S4	23
VSW_S4_1	6
VSW_S4_2	12
VREG_L1	86
VREG_L2	7
VREG_L3	8
VREG_L4	68
VREG_L5	59
VREG_L6	48
VREG_L7	10
VREG_L8	3
VREG_L9	71
VREG_L10	83
VREG_L11	9
VREG_L12	33
VREG_L13	34
VREG_L14	28

VREG_XO_PMIC

PP_VSW_S1 — VOLTAGE=4.50V — RADIO_PMIC L3201_RF 2.2UH-20%-1.5A-0.160OHM MAKK2016-SM — 1235MA — VREG_SMPS1_0V90 (OUT) (30 31 33)
PP_VSW_S2 — VOLTAGE=4.50V — RADIO_PMIC L3203_RF 2.2UH-20%-1.5A-0.160OHM MAKK2016-SM — 1100MA — VREG_SMPS2_1V25 (OUT) (31)
PP_VSW_S3 — VOLTAGE=4.50V — RADIO_PMIC L3204_RF 2.2UH-20%-1.5A-0.160OHM MAKK2016-SM — 1350MA — VREG_SMPS3_0V95 (OUT) (31)
PP_VSW_S4 — VOLTAGE=4.50V — RADIO_PMIC L3202_RF 2.2UH-20%-1.2A-0.15OHM 0806 — 550MA — VREG_SMPS4_2V075 (OUT) (30 31)

VREG_RX	VOLTAGE=1.225V	PP_LDO1 (OUT)	(33 37 38)
	VOLTAGE=1.80V	PP_LDO2 (OUT)	(33)
	VOLTAGE=1.80V	PP_LDO3 (OUT)	(32 33)
	VOLTAGE=3.075V	PP_LDO4 (OUT)	(33)
VREG_SIM	VOLTAGE=1.80V	PP_LDO5 (OUT)	(30 33 54)
	VOLTAGE=1.80V	PP_LDO6 (OUT)	(30 33 54)
	VOLTAGE=1.90V	PP_LDO7 (OUT)	(33 35)
VREG_TX	VOLTAGE=2.05V	PP_LDO8 (OUT)	(37 38)
	VOLTAGE=1.20V	PP_LDO9 (OUT)	(33)
	VOLTAGE=0.90V	PP_LDO10 (OUT)	(33)
VREG_IO	VOLTAGE=1.80V	PP_LDO11 (OUT)	(30 33 34 35 37 38 39)
	VOLTAGE=0.95V	PP_LDO12 (OUT)	(33)
	VOLTAGE=2.95V	PP_LDO13 (OUT)	(33 50)
	VOLTAGE=5.0V	PP_LDO14_RFSW (OUT)	(29 41 42)

RADIO_PMIC C3201_RF 1.0UF 20% 10V X5R-CERM 0201-1
RADIO_PMIC C3202_RF 10UF 20% 6.3V CERM-X5R 0402-9
RADIO_PMIC C3203_RF 1.0UF 20% 10V X5R-CERM 0201-1
RADIO_PMIC C3204_RF 1.0UF 20% 10V X5R-CERM 0201-1
RADIO_PMIC C3205_RF 1.0UF 20% 10V X5R-CERM 0201-1
RADIO_PMIC C3206_RF 1.0UF 20% 10V X5R-CERM 0201-1
RADIO_PMIC C3207_RF 1.0UF 20% 10V X5R-CERM 0201-1
RADIO_PMIC C3208_RF 1.0UF 20% 10V X5R-CERM 0201-1
RADIO_PMIC C3209_RF 10UF 20% 6.3V CERM-X5R 0402-9
RADIO_PMIC C3210_RF 10UF 20% 6.3V CERM-X5R 0402-9
RADIO_PMIC C3211_RF 10UF 20% 6.3V CERM-X5R 0402-9
RADIO_PMIC C3212_RF 1.0UF 20% 10V X5R-CERM 0201-1
RADIO_PMIC C3213_RF 10UF 20% 6.3V CERM-X5R 0402-9
RADIO_PMIC C3214_RF 1.0UF 20% 10V X5R-CERM 0201-1
RADIO_PMIC C3215_RF 1.0UF 20% 10V X5R-CERM 0201-1

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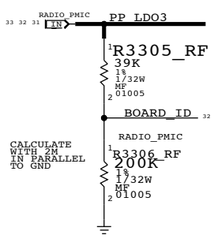
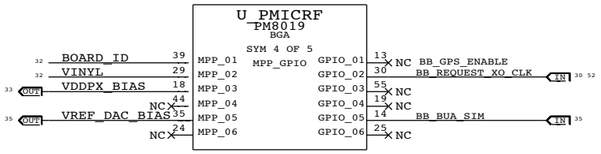
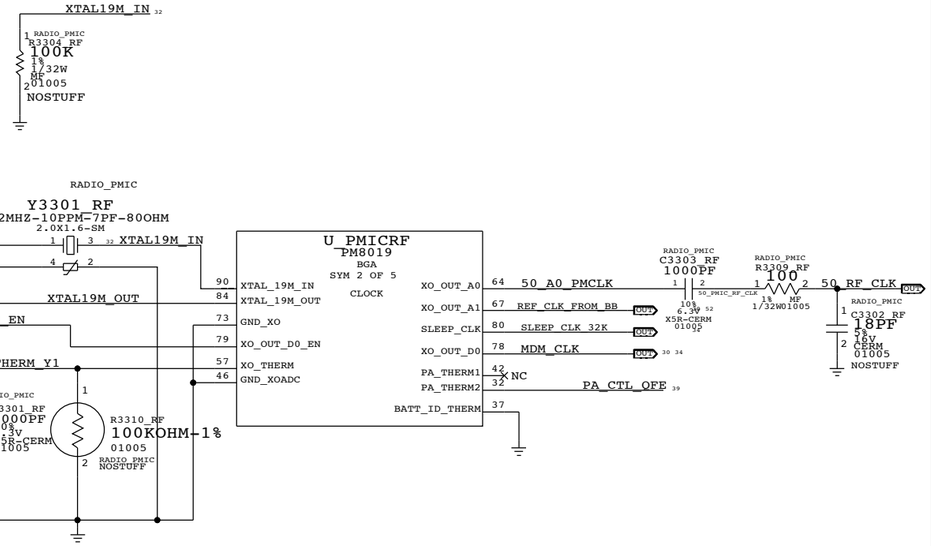
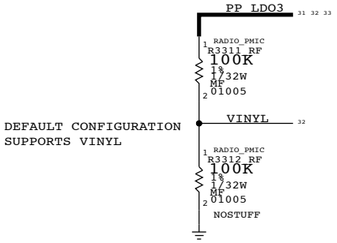
C401
R411
L400
U404

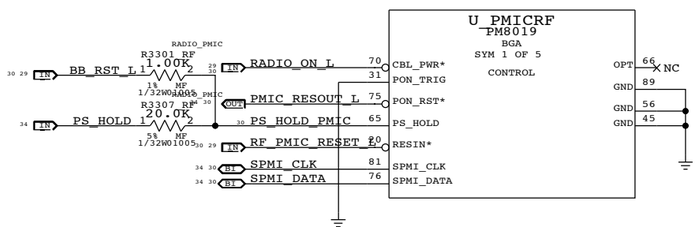
BOARD_ID	REVISION
0.00V	N61 PROTO_MLB1
0.50V	N61 DEV3
0.70V	N61 DEV4
0.90V	N61 PROTO_MLB2
1.10V	N61/N56 PROTO1
1.30V	N61/N56 PROTO2
1.40V	N61/N56 EVT1
1.50V	N61/N56 EVT2 (CARRIER)
1.60V	N61/N56 DVT
1.70V	N61/N56 PVT

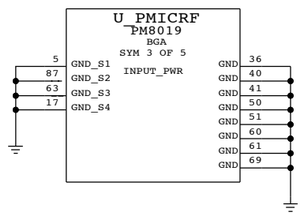












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C538
R500
L500
U502

RADIO_BB
U_BB_RF
ASIC-MDM9625M-333P
BGA
SYM 5 OF 6
PWR

PP_LDO10	(MSM CORE)	E15	VDD_CORE	VDD_P1	F19
		K14	VDD_CORE	VDD_P1	L19
		K15	VDD_CORE	VDD_P1	L20
		L13	VDD_CORE	VDD_P1	M1
		L14	VDD_CORE	VDD_P1	T19
		M8	VDD_CORE	VDD_P2	B20
		M9	VDD_CORE		
		M12	VDD_CORE	VDD_P3	B2
		M13	VDD_CORE	VDD_P3	J19
		N7	VDD_CORE	VDD_P3	K2
		N8	VDD_CORE	VDD_P3	V2
		N11	VDD_CORE	VDD_P3	V5
		N12	VDD_CORE	VDD_P3	V19
		P7	VDD_CORE	VDD_P4	R19
		P10	VDD_CORE	VDD_P5	U19
		P11	VDD_CORE	VDD_P6	V9
PP_LDO12	(MSM MEMORY)	B14	VDD_MEM	VREF_SDC	A19
		F8	VDD_MEM	VREF_UIM	U20
		F9	VDD_MEM	VDD_USB_CORE	V13
		F15	VDD_MEM	VDD_USB_1P8	U11
		G8	VDD_MEM	VDD_USB_3P3	V10
		K10	VDD_MEM	VDD_A2	C12
		L9	VDD_MEM	VDD_A2	C9
		L10	VDD_MEM	VDD_A2	B12
		N15	VDD_MEM	VDD_A1	B9
		P14	VDD_MEM	VDD_A2	C6
		P15	VDD_MEM	VDD_A1	B6
		R7	VDD_MEM	VDD_A1	B15
		R8	VDD_MEM	VDD_PLL	U13
		E5	VDD_MEM	VDD_PLL	R12
VREG_SMPS1_0V90	(MODEM SUB SYSTEM)	F7	VDD_MODEM	VDD_PLL	D17
		F10	VDD_MODEM	VDD_PLL2	E16
		F11	VDD_MODEM	VDD_ALWAYS_ON	T17
		G6	VDD_MODEM	VDD_DDR_CORE_1P8	J20
		G9	VDD_MODEM	VDD_DDR_CORE_1P8	K1
		G10	VDD_MODEM	VDD_DDR_CORE_1P2	E20
		G13	VDD_MODEM	VDD_DDR_CORE_1P2	H1
		G14	VDD_MODEM	VDD_DDR_CORE_1P2	P1
		G15	VDD_MODEM	VDD_DDR_CORE_1P2	P20
		H8	VDD_MODEM	VDD_QFPROM_PRG	W8
		H9	VDD_MODEM		
		H12	VDD_MODEM		
		H13	VDD_MODEM		
		J7	VDD_MODEM		
		J8	VDD_MODEM		
		J11	VDD_MODEM		
		J12	VDD_MODEM		
		K6	VDD_MODEM		
		K7	VDD_MODEM		
		K11	VDD_MODEM		
		L6	VDD_MODEM		

PP_LDO9	(EBI1 PAD)	
PP_LDO13	(SDC1 PAD)	
PP_LDO11	(GENIO PAD)	
PP_LDO6		(UIM1 PAD)
PP_LDO5		(UIM2 PAD)
PP_LDO9	(HSIC PAD)	
VDDPX_BIAS		
PP_LDO12		
PP_LDO2		
PP_LDO4		
PP_LDO7		
PP_LDO1		
PP_LDO1		
PP_LDO10		
PP_LDO3		
NC		
PP_LDO11	(LPDDR2)	
PP_LDO9	(LPDDR2_CORE)	
PP_LDO3	(QFUSE PROGRAMMING)	

RADIO_BB
U_BB_RF
ASIC-MDM9625M-333P
BGA
SYM 6 OF 6
GND

A2	GND	GND	M10
A20	GND	GND	M11
C14	GND	GND	M14
C20	GND	GND	M15
E14	GND	GND	M20
F12	GND	GND	N1
F13	GND	GND	N6
F14	GND	GND	N9
F20	GND	GND	N10
G7	GND	GND	N13
G11	GND	GND	N14
G12	GND	GND	P6
H6	GND	GND	P8
H7	GND	GND	P9
H10	GND	GND	P12
H11	GND	GND	R20
H14	GND	GND	T20
H15	GND	GND	V20
J1	GND	GND	W1
J6	GND	GND	W5
J9	GND	GND	W9
J10	GND	GND	W20
J13	GND	GND	W12
J14	GND	GND	A12
K8	GND	GND	A6
K9	GND	GND	E12
K12	GND	GND	E9
K13	GND	GND	A9
K19	GND	GND	E6
K20	GND	GND	A17
L1	GND	GND	C17
L7	GND	GND	B17
L8	GND	GND	P13
L11	GND	GND	R13
L12	GND	GND	R14
L15	GND	GND	A15
M6	GND		
M7	GND		

(MSM CORE)

PP_LDO10	C3401_RF	C3404_RF	C3407_RF	C3410_RF	C3413_RF	C3416_RF
	C3402_RF	C3405_RF	C3408_RF	C3411_RF	C3414_RF	C3417_RF
	C3403_RF	C3406_RF	C3409_RF	C3412_RF	C3415_RF	C3418_RF

(EBI1 PAD)

PP_LDO9	C3419_RF	C3422_RF
PP_LDO13	C3420_RF	
PP_LDO11	C3421_RF	C3423_RF

(HSIC PAD)

PP_LDO9	C3424_RF	C3427_RF
(SDC/UIM) VDDPX_BIAS	C3425_RF	
PP_LDO12	C3426_RF	C3429_RF

(USB 1.8V)

PP_LDO2	C3427_RF	C3430_RF 0.1UF 01005 NOSTUFF
(COMBO DAC/BBRX) PP_LDO7	C3428_RF	C3431_RF
PP_LDO1	C3429_RF	

(GPS ADC)

PP_LDO1	C3432_RF	C3435_RF
(PLL) PP_LDO10	C3433_RF	C3436_RF
(PLL) PP_LDO3	C3434_RF	C3437_RF

(LPDDR2)

PP_LDO11	C3435_RF	
(LPDDR2 CORE) PP_LDO9	C3436_RF	C3438_RF
(QFUSE) PP_LDO3	C3437_RF	

All C3401_RF–C3438_RF: 2.2UF 20% 4V X5R-CERM 0201 (NOSTUFF where noted)

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C600
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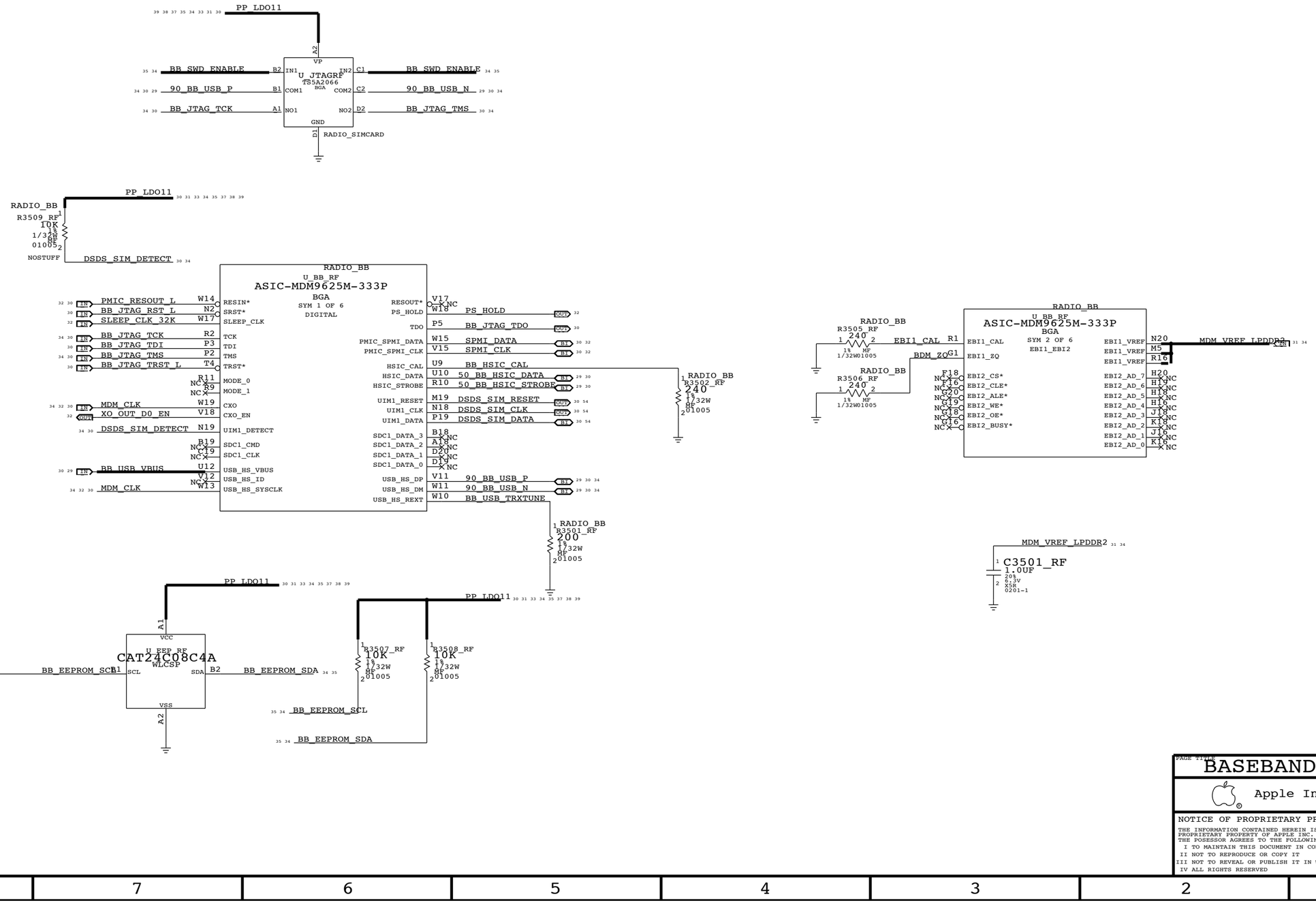
U602



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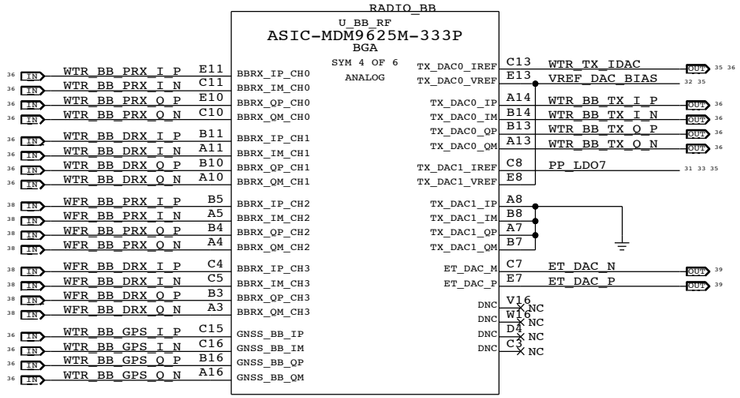
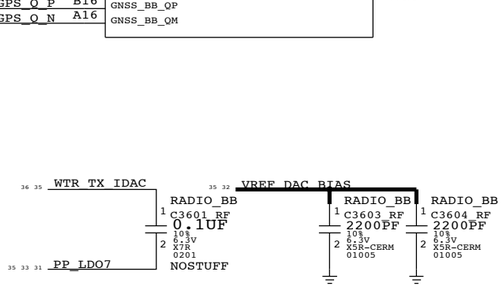
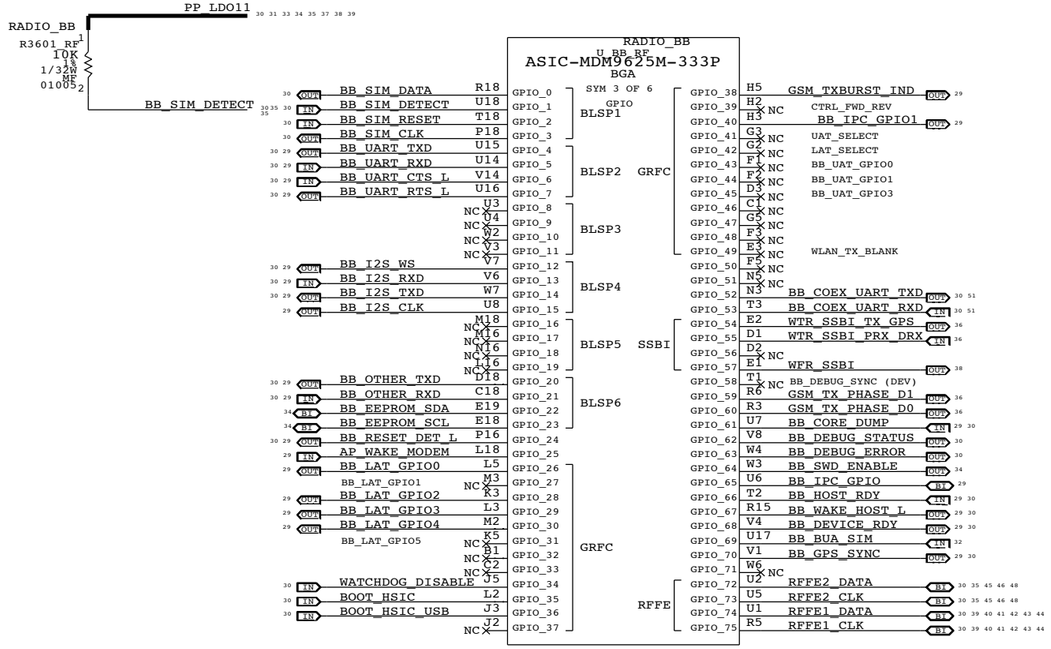
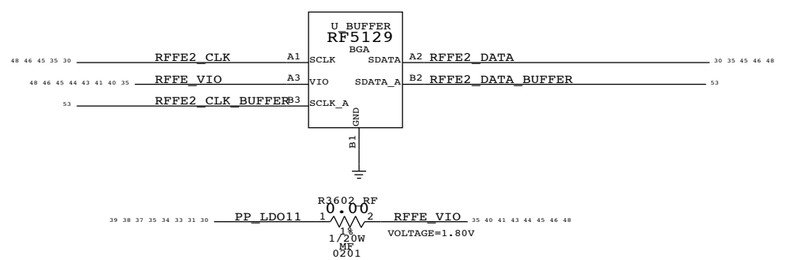
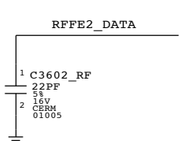
C704
R700
L700
U702











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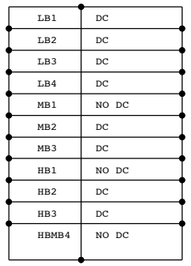
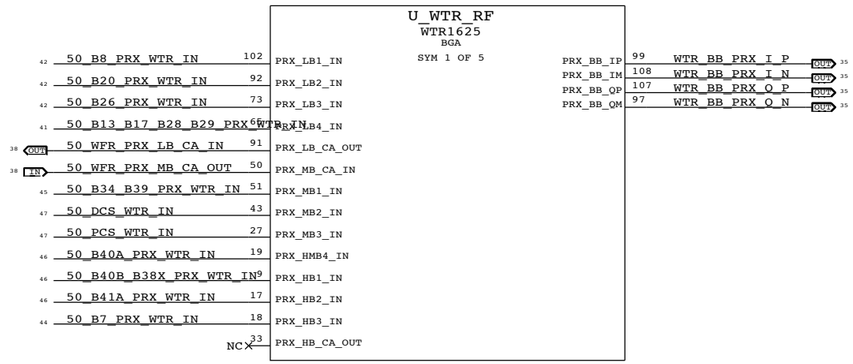
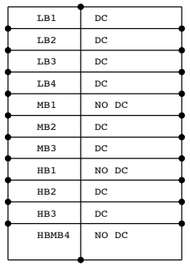
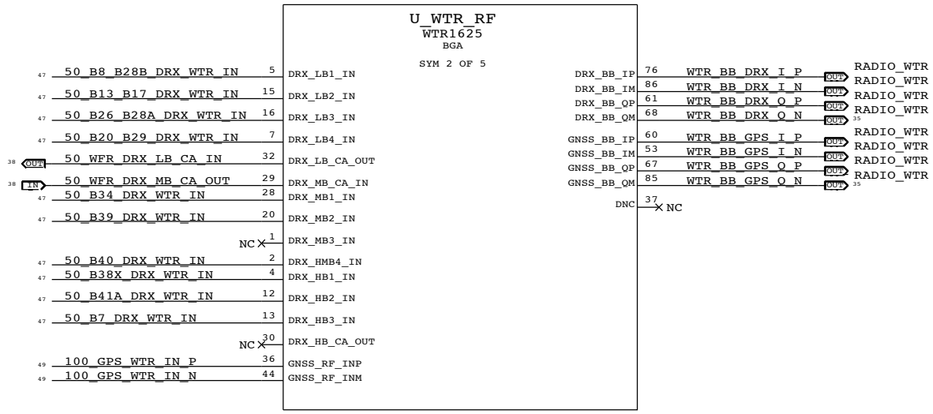
WTR TRANSCEIVER (1 OF 2)

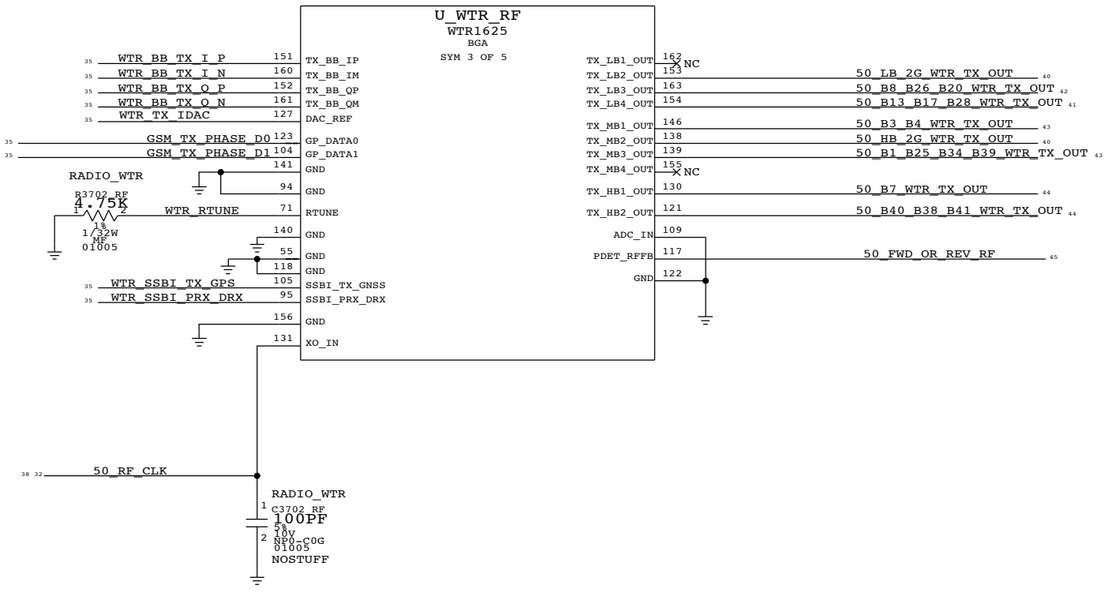
C802
R802
L800
U803











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

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C934
R926
L3802 RF
U902

WTR DECOUPLING CAPS

PP_LDO8 VREG_2V
PP_LDO1 VREG_1P3V
MAKE_BASE=TRUE

VREG_2V — C3801_RF 10UF 20% 6.3V CERM-X5R 0402
VDD_DRX_BB_2V — C3812_RF 100PF 5% 10V NP0-C0G 01005 NOSTUFF
VDD_TX_DA_2V — C3813_RF 100PF 5% 10V NP0-C0G 01005
VDD_PRX_BB_2V / VDD_TX_BBF_2V — C3814_RF 100PF 5% 10V NP0-C0G 01005 NOSTUFF
R3801_RF 0.00 1% 1/20W MF 0201 — VDD_PRX_VCO_2V — C3815_RF 0.1UF 20% 4V X5R 01005
R3802_RF 0.00 1% 1/20W MF 0201 — VDD_SHDR_VCO_2V — C3816_RF 0.1UF 20% 4V X5R 01005
R3803_RF 0.00 1% 1/20W MF 0201 — VDD_TX_VCO_2V — C3817_RF 0.1UF 20% 4V X5R 01005
VDD_TX_PLL_2V — C3802_RF 0.1UF 20% 4V X5R 01005 NOSTUFF
R3808_RF 0.00 0% 1/32W MF 01005 — VDD_XO_2V — C3803_RF 0.1UF 10% 10V X5R-CERM 0201
VDD_FBRX_2V — C3818_RF 0.1UF 20% 4V X5R 01005
I175 — VDD_PRX_2V — C3819_RF 0.1UF 20% 4V X5R 01005 NOSTUFF
PP_LDO11 — VDD_MSM_1P8V — C3811_RF 1.0UF 10% 6.3V X5R-CERM 0201-1

L3801_RF 22NH-3%-0.25A 0201
VDD_PRX_PLL_1P3V — C3820_RF 0.1UF 20% 4V X5R 01005 NOSTUFF
VDD_SHDR_PLL_1P3V — C3821_RF 0.1UF 20% 4V X5R 01005
VDD_PRX_HBMB_1P3V
VDD_SHDR_VCO_1P3V — C3823_RF 0.1UF 20% 4V X5R 01005
VDD_PRX_VCO_1P3V
DELETED C3805 PR REVIEW FEEDBACK
VDD_PRX_LO_HBMB_1P3V — C3806_RF 0.1UF 20% 4V X5R 01005
VDD_TX_SYNTH_1P3V — C3824_RF 0.1UF 20% 4V X5R 01005
VDD_TX_LO_1P3V — C3825_RF 0.1UF 20% 4V X5R 01005
VDD_TX_UPC_1P3V — C3826_RF 100PF 5% 10V NP0-C0G 01005
R3806_RF 0.00 1% 1/20W MF 0201 — VDD_TX_VCO_1P3V — C3807_RF 0.1UF 20% 4V X5R 01005
L3802_RF 8.2NH-3%-0.19A-1.6OHM 01005 — VDD_TX_DA_1P3V — C3827_RF 100PF 5% 10V NP0-C0G 01005 NOSTUFF

VREG_1P3V — C3808_RF 10UF 20% 6.3V CERM-X5R 0402
VDD_PRX_LO_HB_1P3V — C3830_RF 0.1UF 20% 4V X5R 01005
VDD_DRX_LB_1P3V
VDD_PRX_LB_1P3V
VDD_DRX_LO2_1P3V — C3833_RF 0.1UF 20% 4V X5R 01005
VDD_DRX_LO1_1P3V — C3809_RF 0.1UF 20% 4V X5R 01005
VDD_DRX_MB_1P3V
VDD_DRX_HB_1P3V
R3807_RF 0.00 1% 1/20W MF 0201
VDD_GPS_LNA_1P3V — C3828_RF 0.1UF 20% 4V X5R 01005
VDD_GPS — VDD_GPS_BB_1P3V
VDD_GPS_PLL_1P3V — C3829_RF 0.1UF 20% 4V X5R 01005
VDD_GPS_VCO_1P3V

U_WTR_RF
WTR1625
BGA
SYM 4 OF 5

VDD_PRX_VCO_1P3V 90	VDD_RF1_P_VCO	VDD_RF2_T_DA	129 VDD_TX_DA_2V
VDD_PRX_VCO_2V 80	VDD_RF2_P_VCO	VDD_RF1_T_DA	137 VDD_TX_DA_1P3V
VDD_PRX_LO_HB_1P3V 25	VDD_RF1_P_HB_LO	VDD_RF1_T_UPC	136 VDD_TX_UPC_1P3V
VDD_PRX_LB_1P3V 72	VDD_RF1_P_LB	VDD_RF1_T_LO	135 VDD_TX_LO_1P3V
VDD_PRX_HBMB_1P3V 34	VDD_RF1_P_HMB	VDD_RF2_T_BB	126 VDD_TX_BBF_2V
VDD_PRX_LO_HBMB_1P3V 37	VDD_RF1_P_HMB_LO	VDD_RF2_FBRX	116 VDD_FBRX_2V
VDD_PRX_PLL_1P3V 79	VDD_RF1_P_PLL	VDD_RF2_T_VCO	157 VDD_TX_VCO_2V
VDD_PRX_BB_2V 98	VDD_RF2_P_BB	VDD_RF1_T_VCO	149 VDD_TX_VCO_1P3V
VDD_PRX_2V 100	VDD_RF2_P_RX	VDD_RF1_T_SYN	115 VDD_TX_SYNTH_1P3V
VDD_DRX_LO1_1P3V 14	VDD_RF1_D_LB_LO	VDD_RF2_T_PLL	114 VDD_TX_PLL_2V
VDD_DRX_LO2_1P3V 38	VDD_RF1_D_LOM	VDD_RF1_G_LNA	52 VDD_GPS_LNA_1P3V
VDD_DRX_LB_1P3V 31	VDD_RF1_D_LB	VDD_RF1_G_VCO	74 VDD_GPS_VCO_1P3V
VDD_DRX_HB_1P3V 22	VDD_RF1_D_HB	VDD_RF1_G_PLL	93 VDD_GPS_PLL_1P3V
VDD_DRX_MB_1P3V 11	VDD_RF1_D_MB	VDD_RF1_G_BB	59 VDD_GPS_BB_1P3V
VDD_DRX_BB_2V 54	VDD_RF2_D_BB	GND	113
VDD_SHDR_VCO_1P3V 48	VDD_RF1_S_VCO	VDD_RF2_XO	147 VDD_XO_2V
VDD_SHDR_VCO_2V 62	VDD_RF2_S_VCO	VDD_DIO	103 VDD_MSM_1P8V
VDD_SHDR_PLL_1P3V 78	VDD_RF1_S_PLL		

U_WTR_RF
WTR1625
BGA
SYM 5 OF 5

89 GND	GND	111
56 GND	GND	101
83 GND	GND	110
82 GND	GND	145
58 GND	GND	144
35 GND	GND	143
8 GND	GND	128
26 GND	GND	120
64 GND	GND	119
42 GND	GND	106
41 GND	GND	150
81 GND	GND	134
21 GND	GND	159
6 GND	GND	142
24 GND	GND	125
39 GND	GND	124
10 GND	GND	148
3 GND	GND	158
23 GND	GND	133
46 GND	GND	112
49 GND	GND	132
69 GND	GND	45
88 GND	GND	66
70 GND	GND	84
63 GND	GND	75
40 GND	GND	164
47 GND		
87 GND		
77 GND		
96 GND		

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WFR TRANSCEIVER

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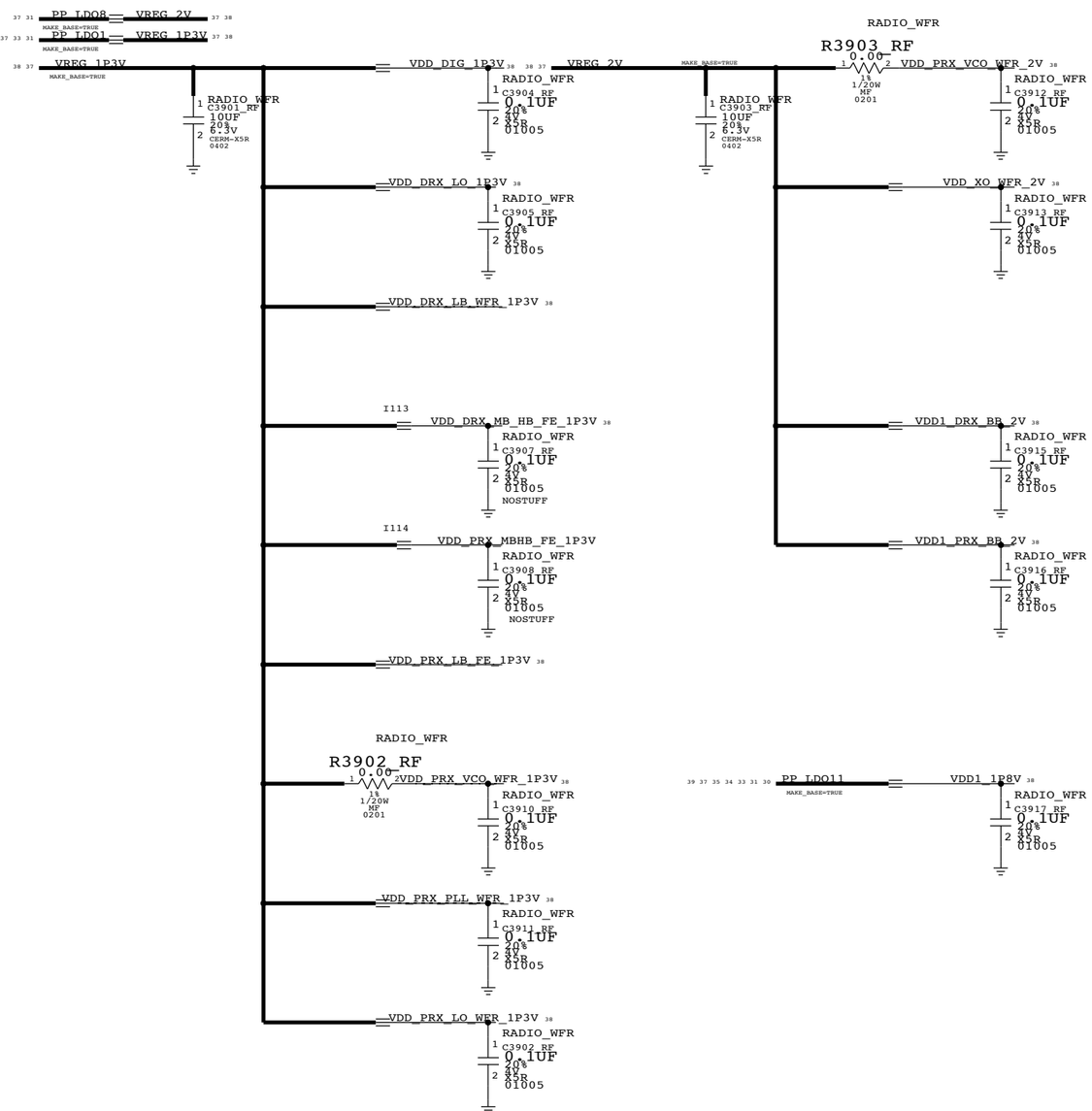
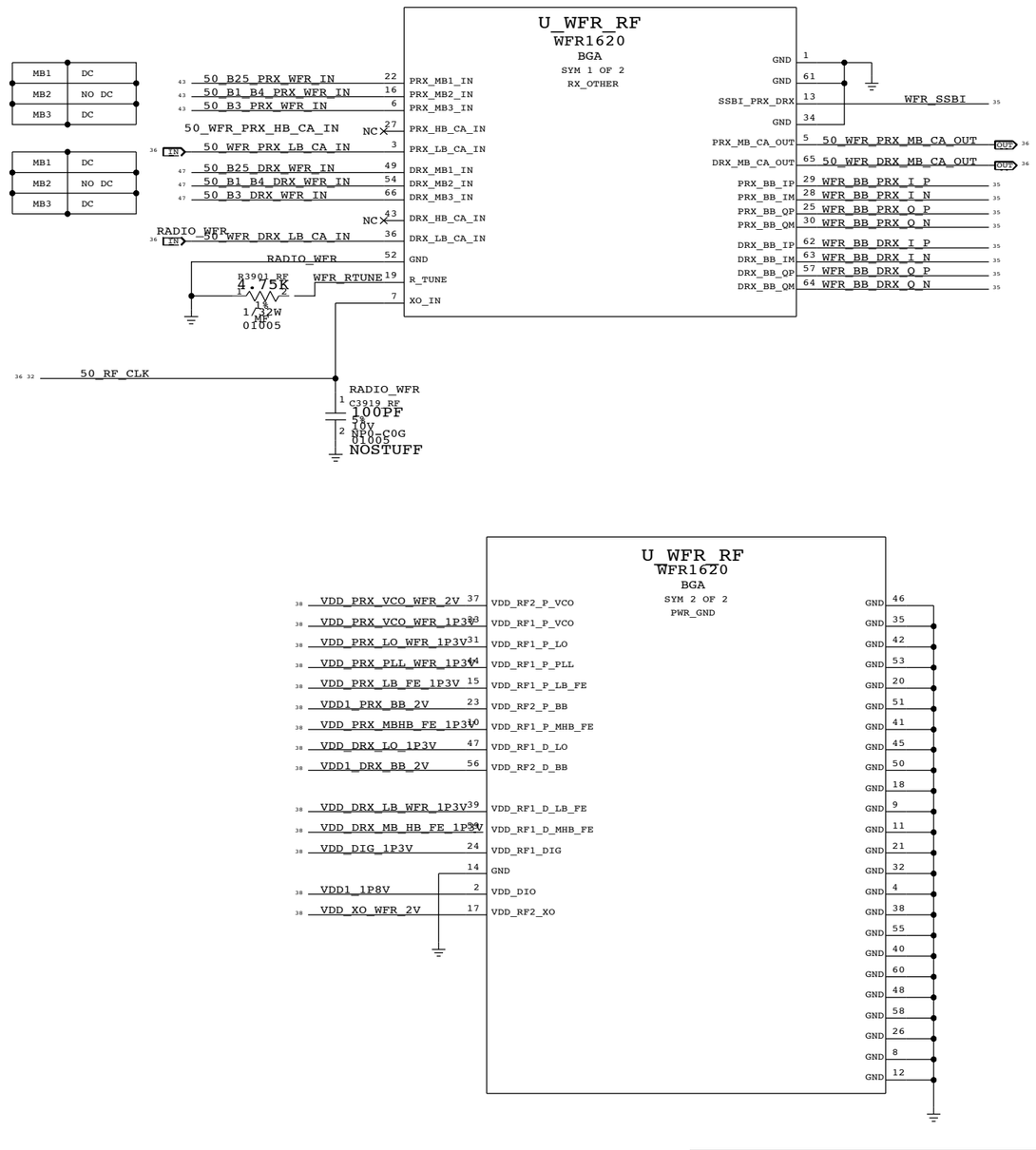
C1019
R1016
L1000
U1002





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QFE DCDC

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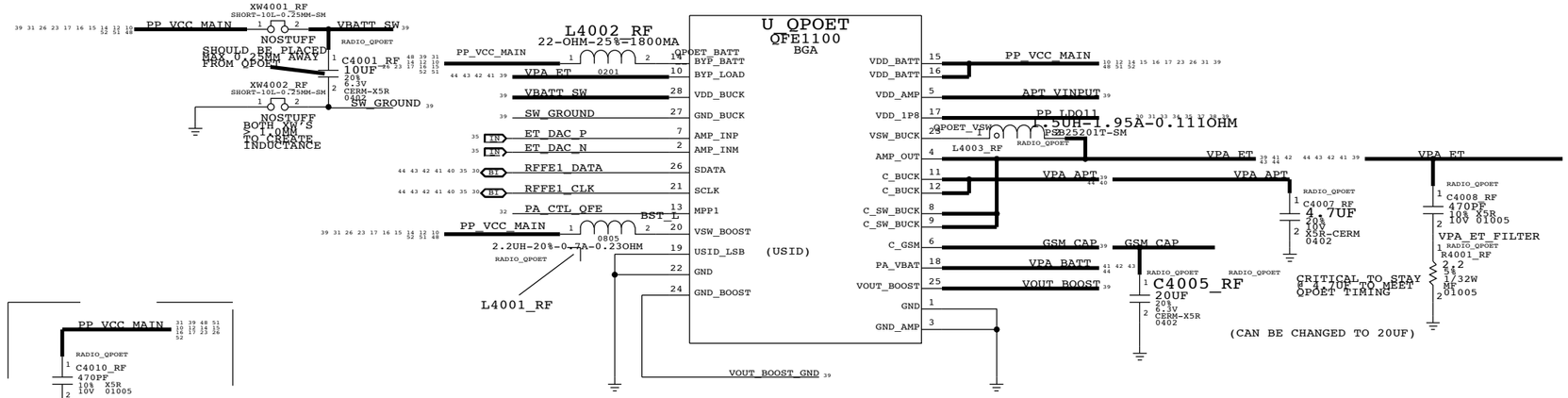
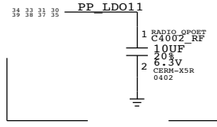
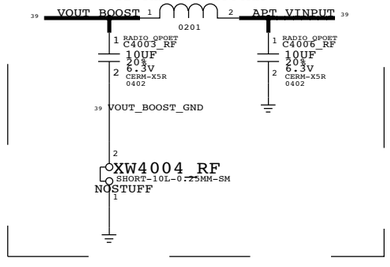
C1110
R1102
L1104
U1101



I/O @ 1.8V



BOOST FILTER



PAGE TITLE: QFE DCDC

Apple Inc.

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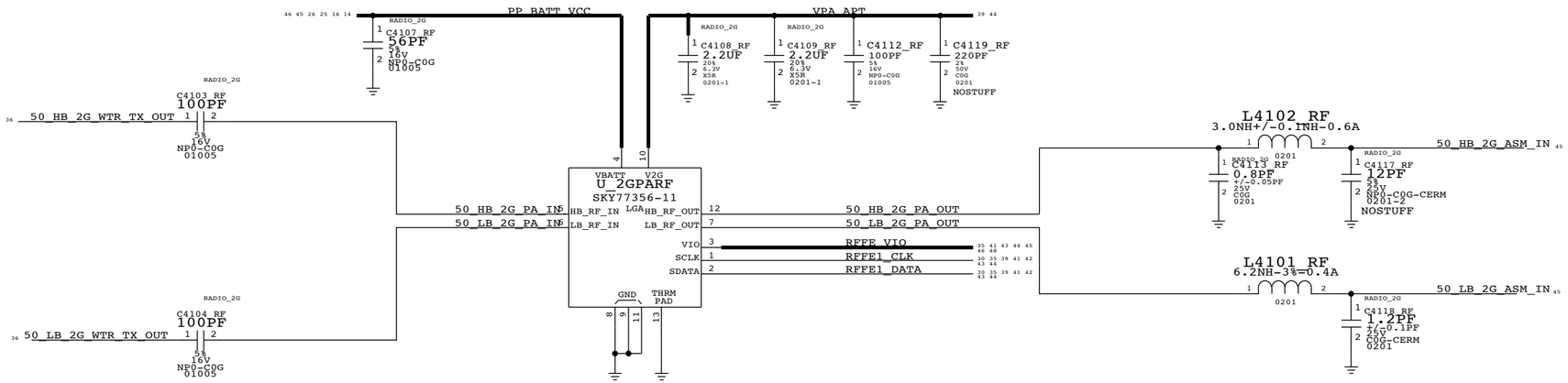
2G PA

C1208
R1200
L1204
U1201



PAGE TITLE: 2G PA

Apple Inc.

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VERY LOW BAND PAD (B13, B17, B28)

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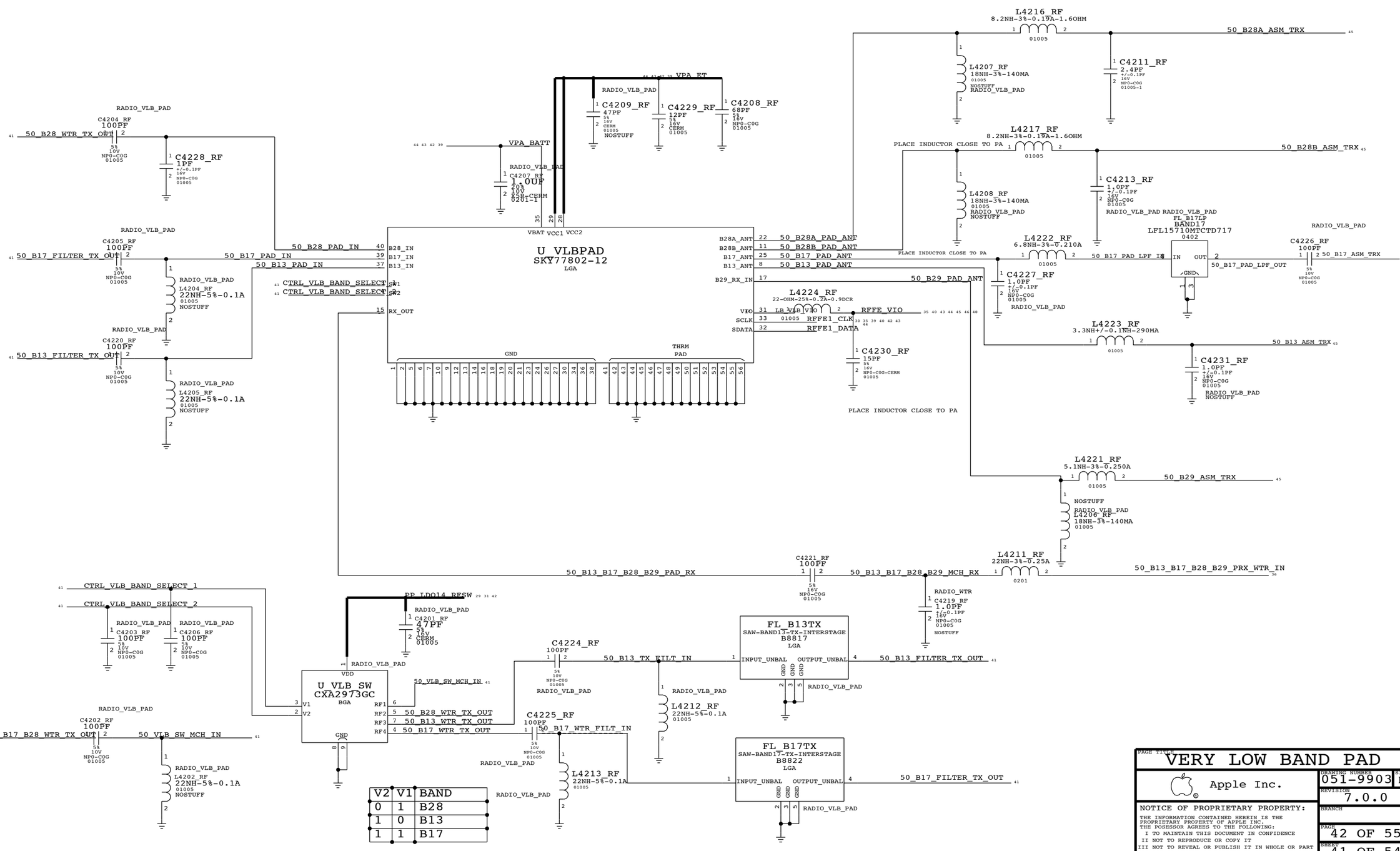
C1332
R1300
L4215 RF
U1304



PAGE TITLE: VERY LOW BAND PAD

Apple Inc.

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LOW BAND PAD (B8, B26, B20)

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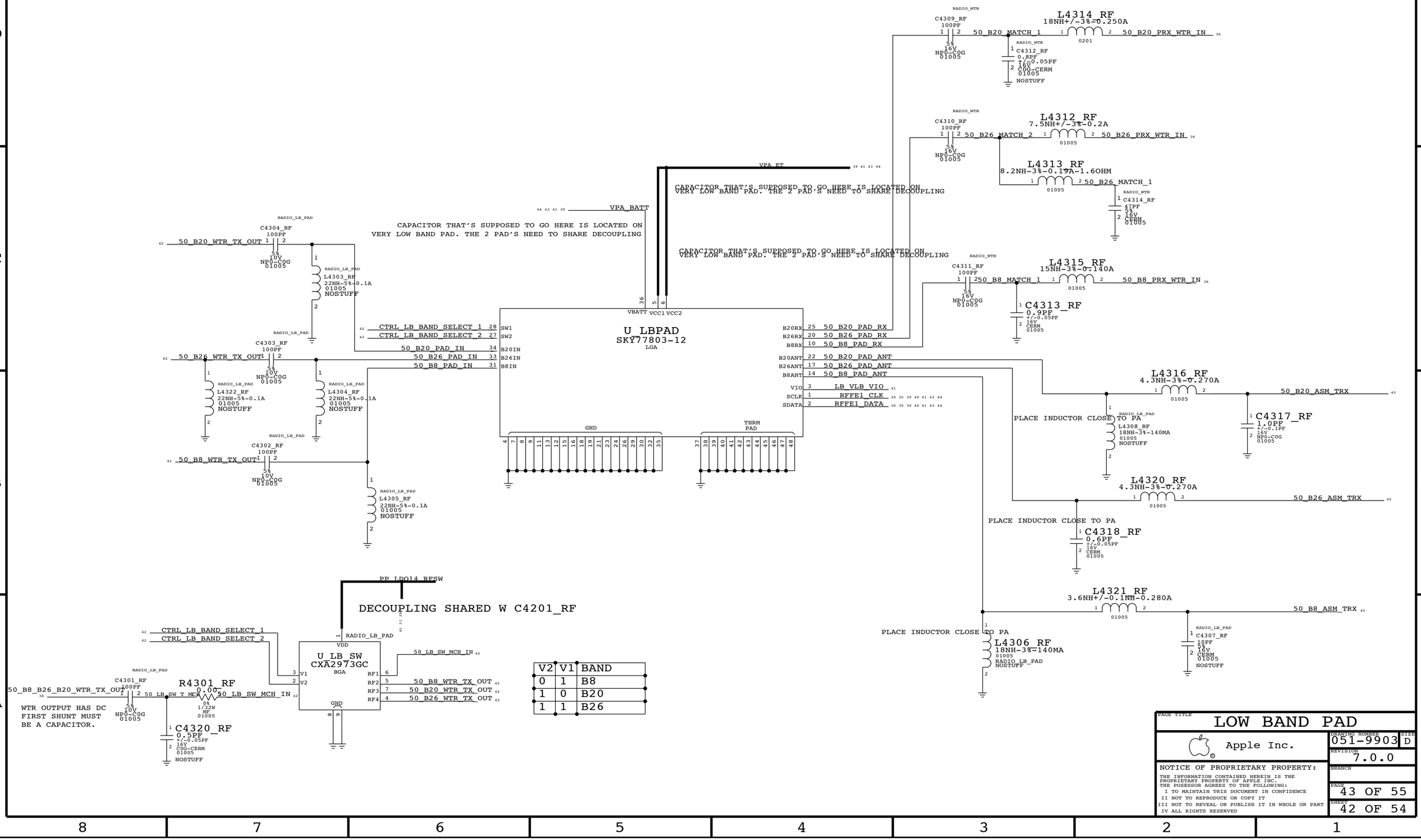
C4318 RF
R1400
L4322 RF
U1402



V2	V1	BAND
0	1	B8
1	0	B20
1	1	B26

PAGE TITLE: LOW BAND PAD

Apple Inc.

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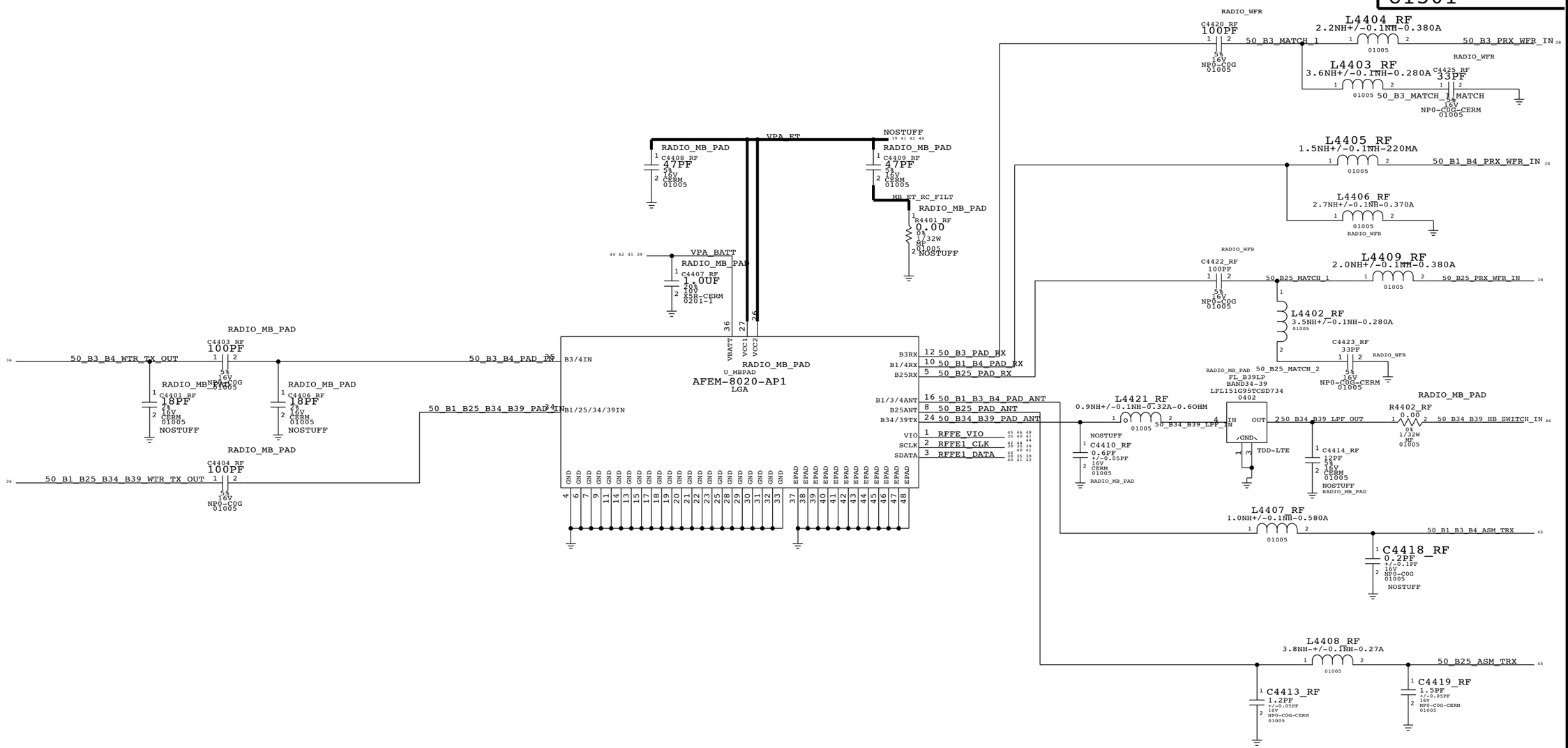
MID BAND PAD (B1, B25, B3, B4, B34, B39)

C4426 RF
R1500
L4409 RF
U1501



PAGE TITLE	MID BAND PAD						
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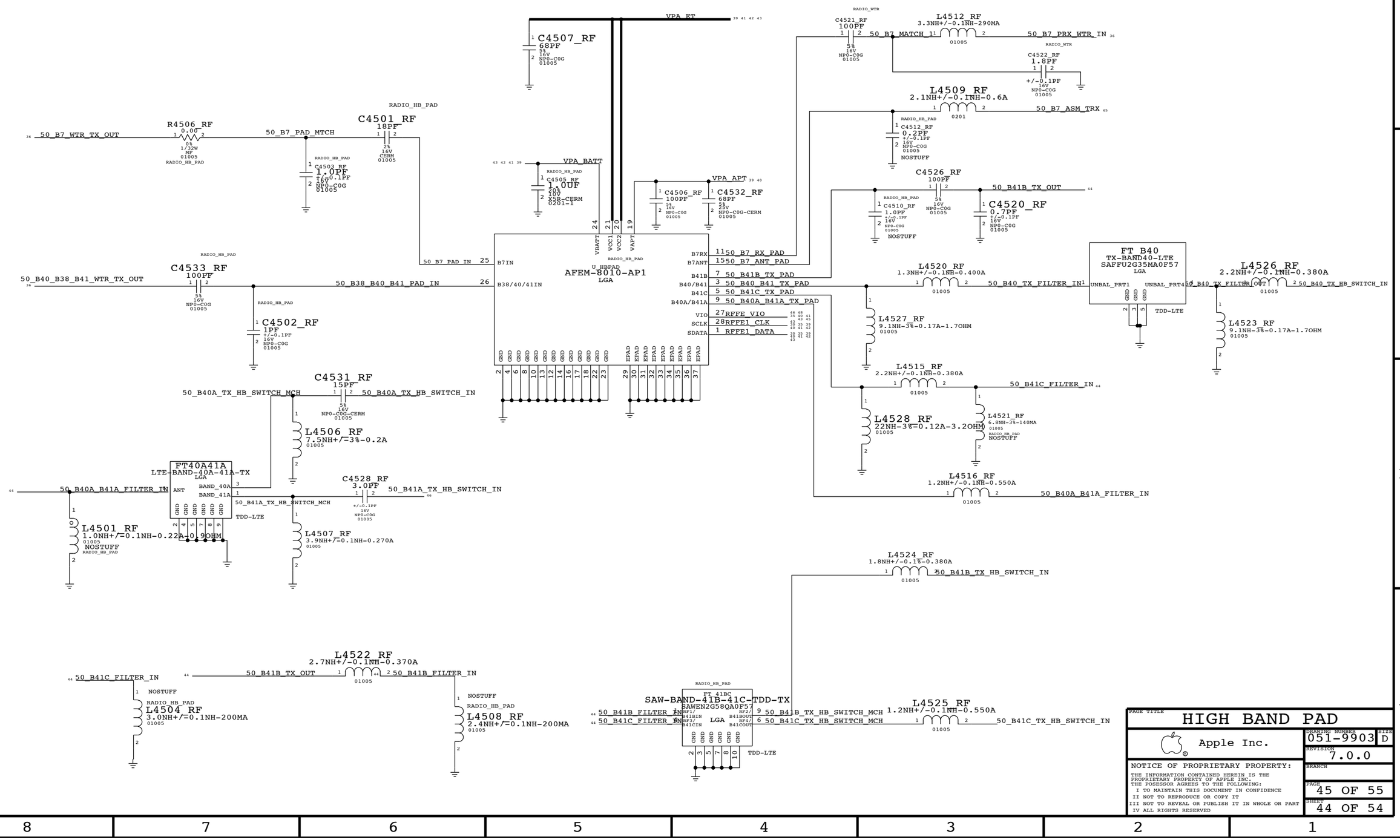
HIGH BAND PAD (B7, B38, B40, B41, XGP)

C4533_RF
R1600
L1616
U1601



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ANTENNA SWITCH

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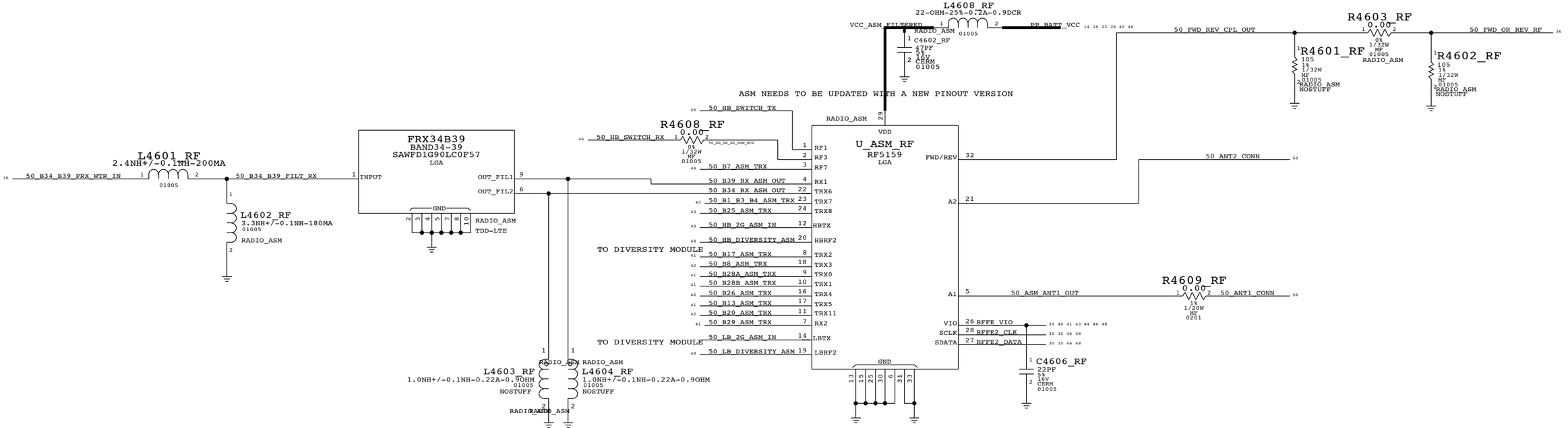
C1702
R1700
L4608 RF
U1702



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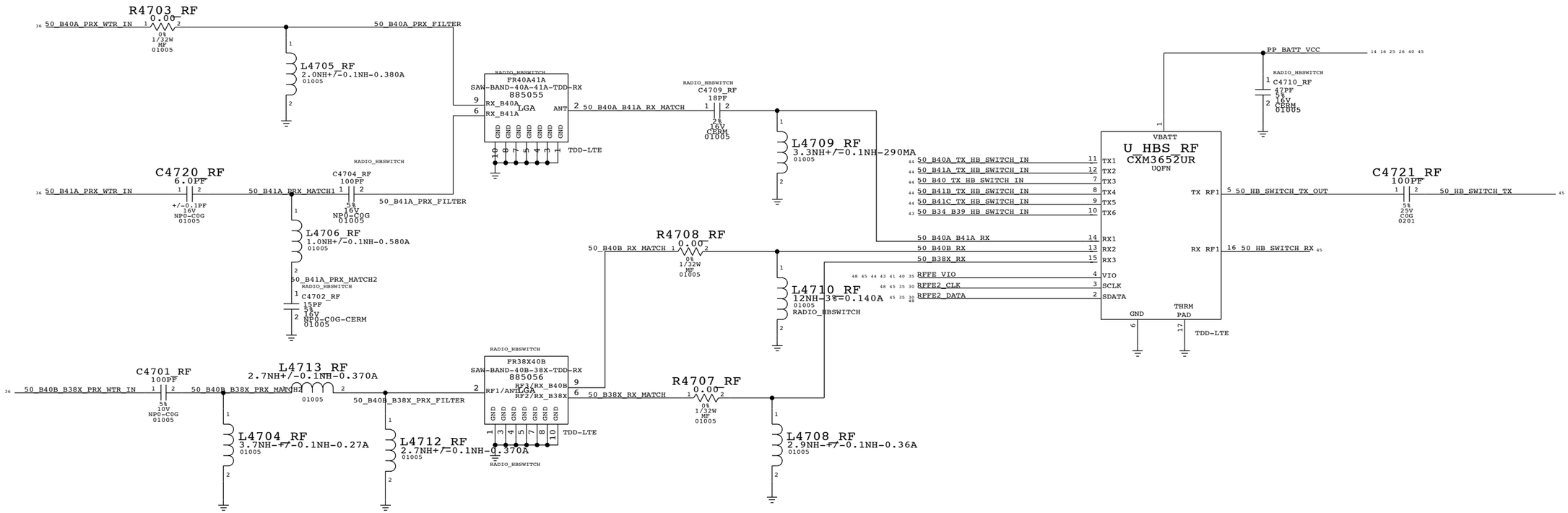
HIGH BAND SWITCH



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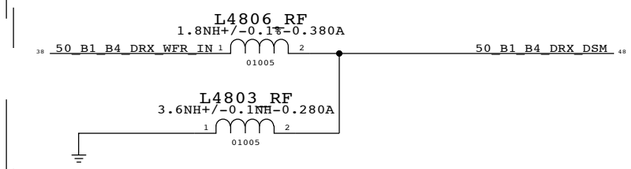
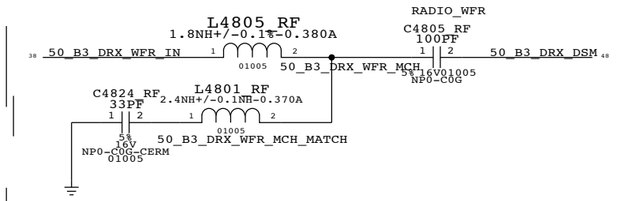
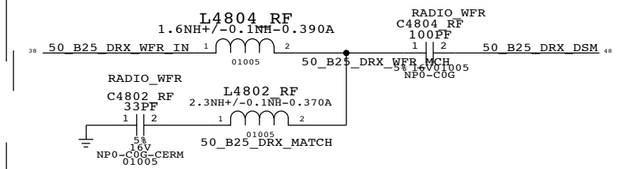
RX DIVERSITY (1)

C4826_RF
R1800
L1829
U1801

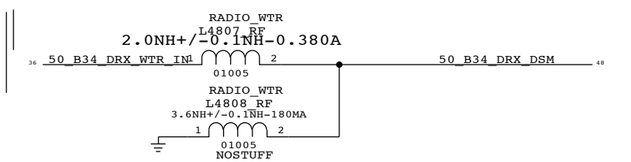
MIDBAND
MIDBAND DIVERSITY - WFR

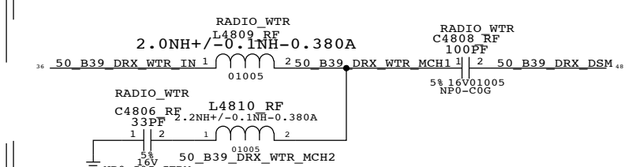




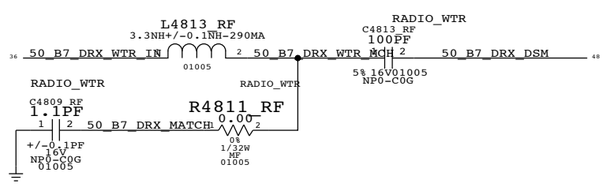


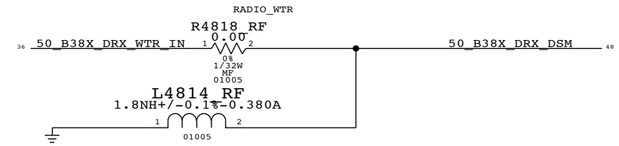
MIDBAND DIVERSITY - WTR

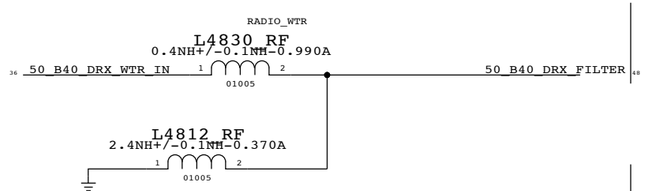


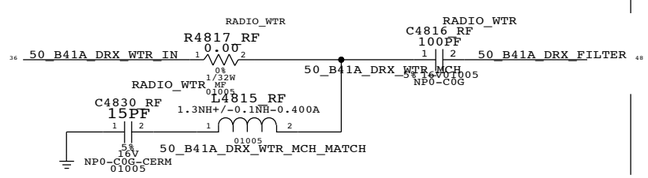


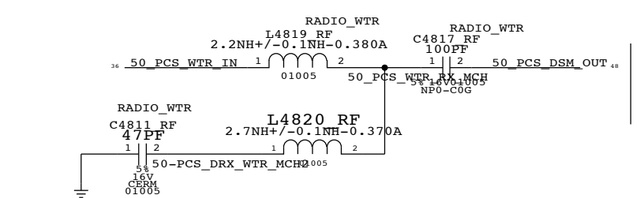
HIGHBAND DIVERSITY - WTR

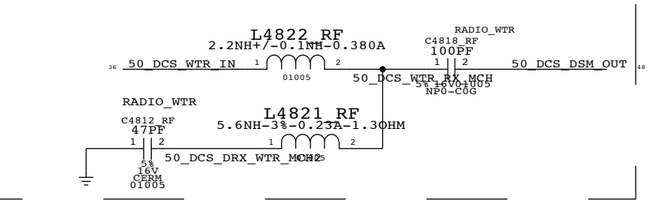




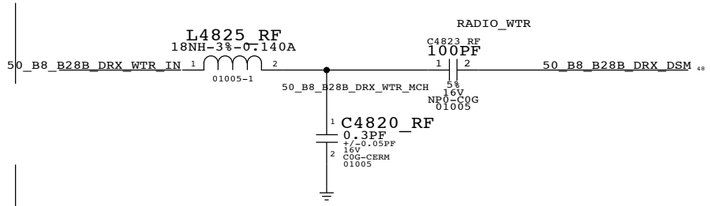


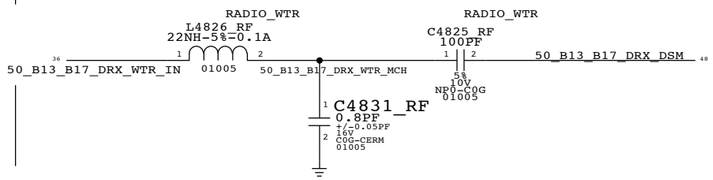


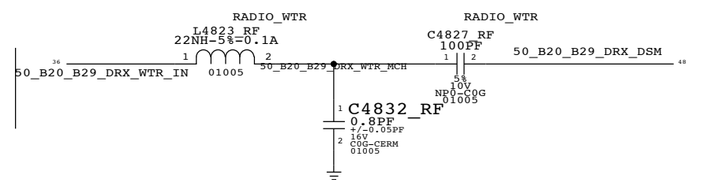


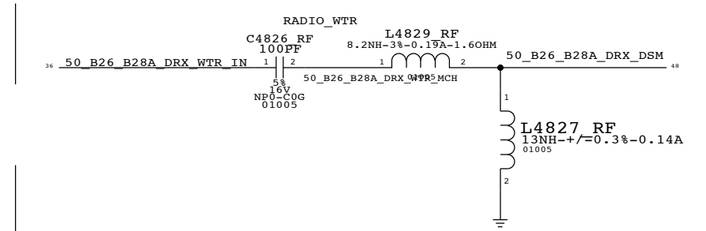


LOWBAND DIVERSITY - WTR









PAGE TITLE: RX DIVERSITY

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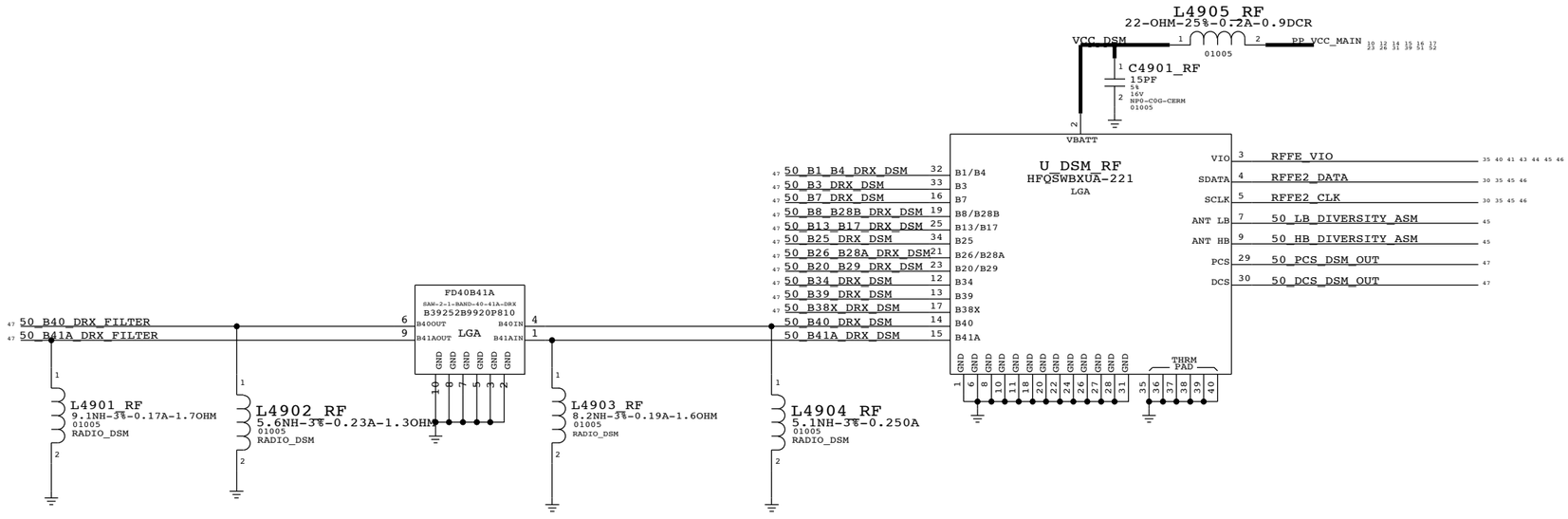
RX DIVERSITY (2)

C1900
R1900
L1900
U1901



PAGE TITLE
GPS

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GPS

C1900
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L1900
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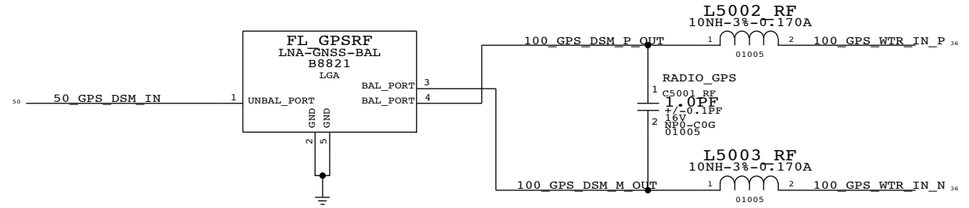

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ANTENNA FEED'S

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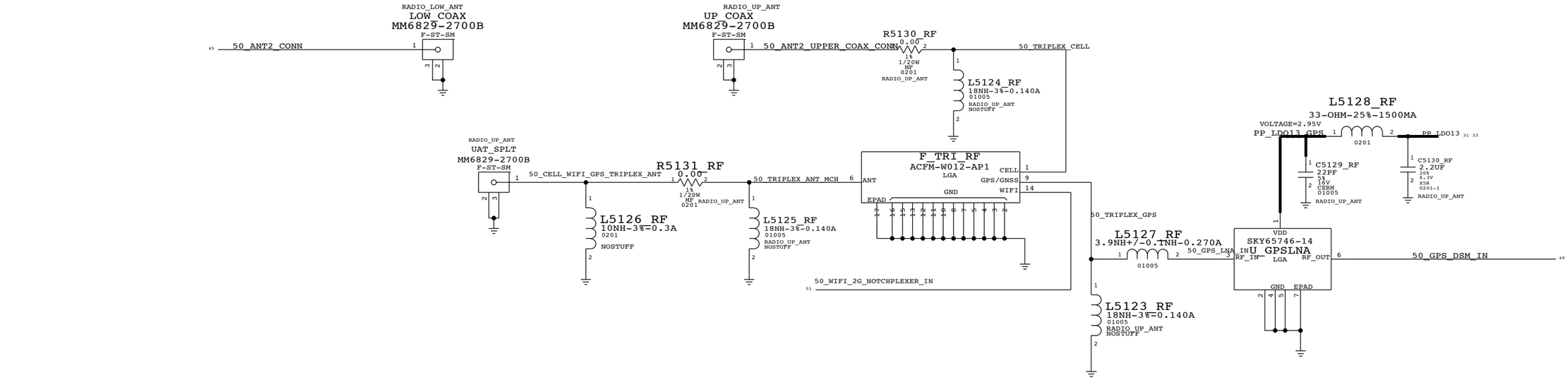
TEST & COAX CONNECTOR FOR LOWER SECTION OF MLB



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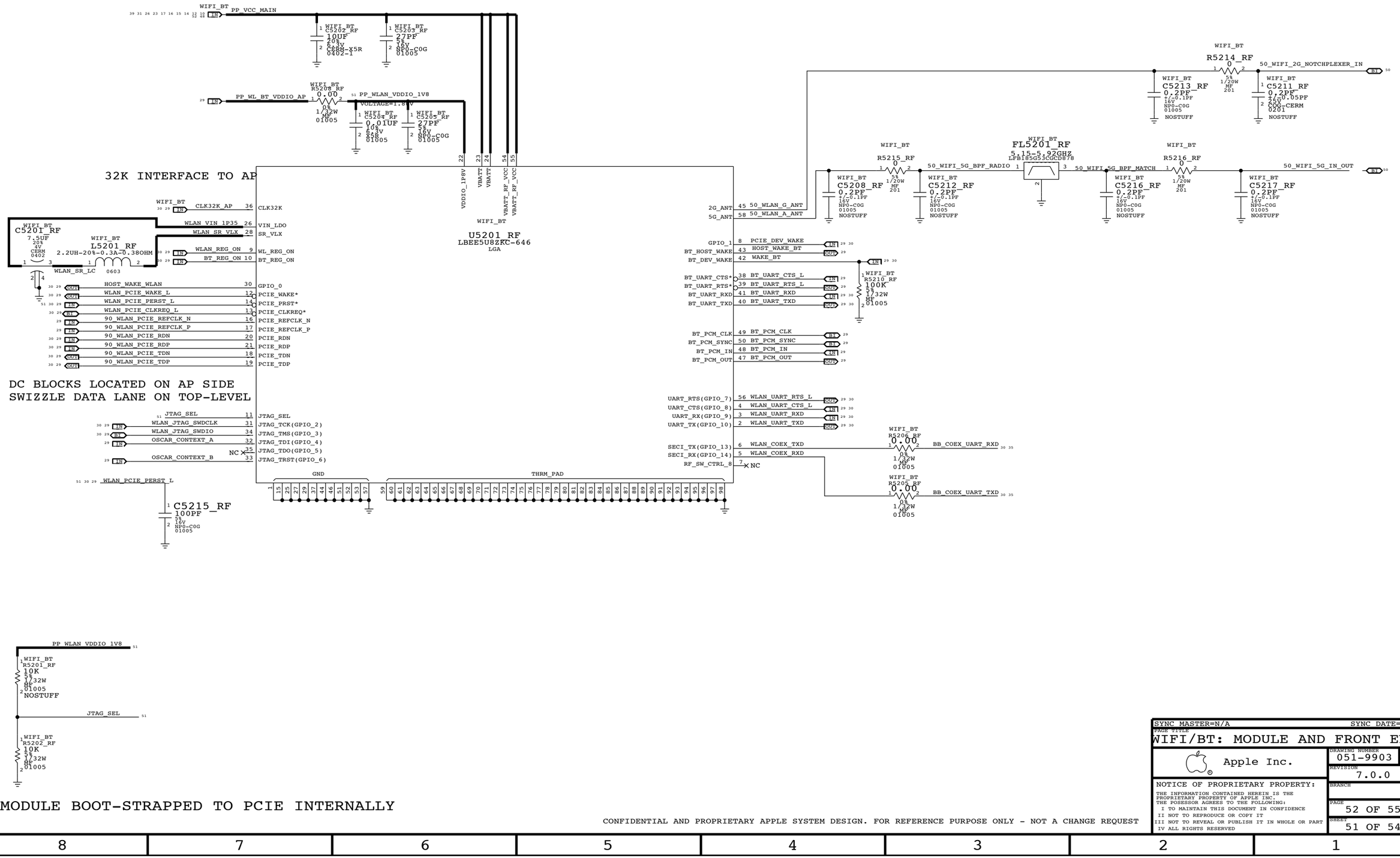
WLAN/BT



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WIFI/BT: MODULE AND FRONT END

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STOCKHOLM

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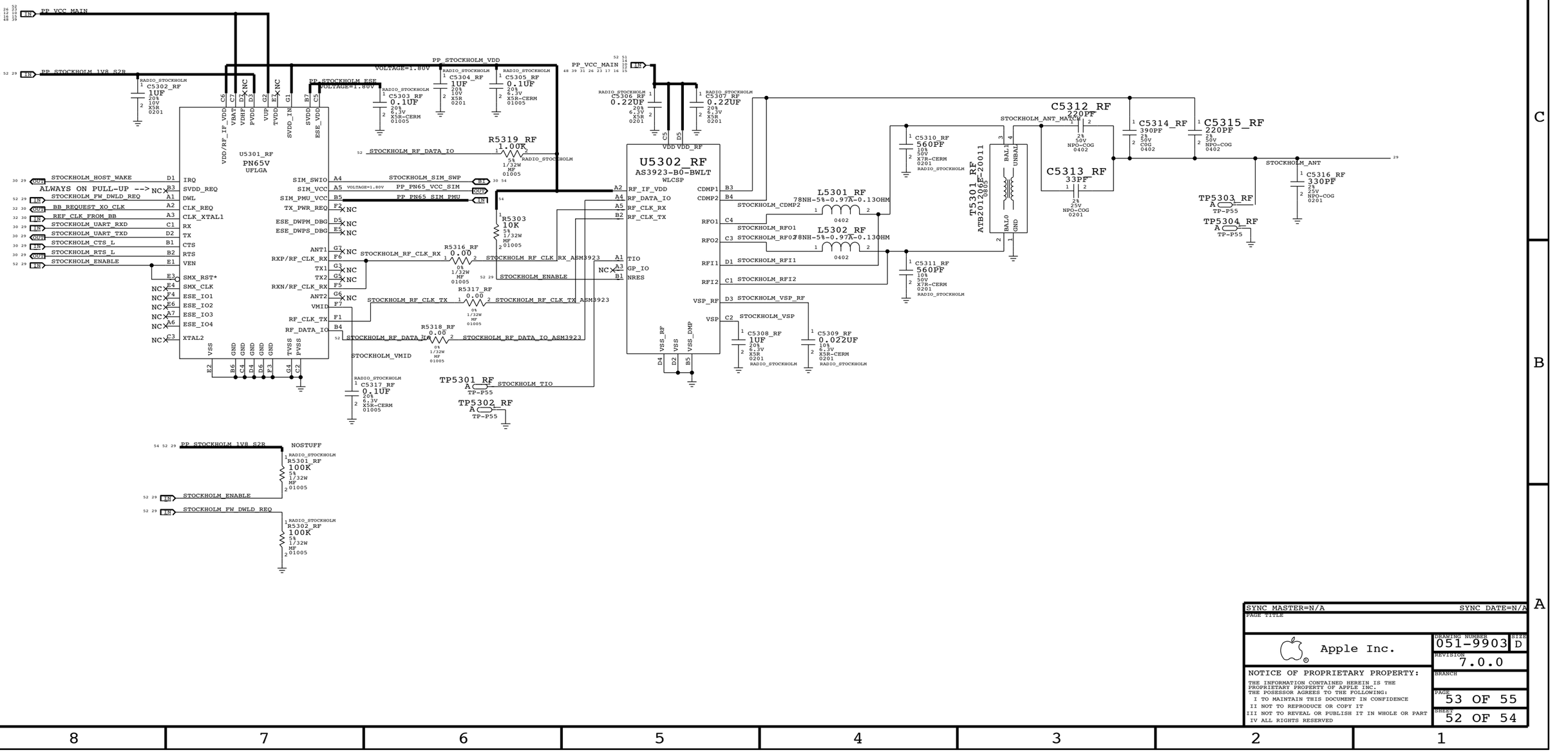
C2101
R2100
L2102
U2100

REMOVING BULK CAP 4.7UF 0402 -->
BECAUSE OF OTHER BULK CAPS IN LAYOUT



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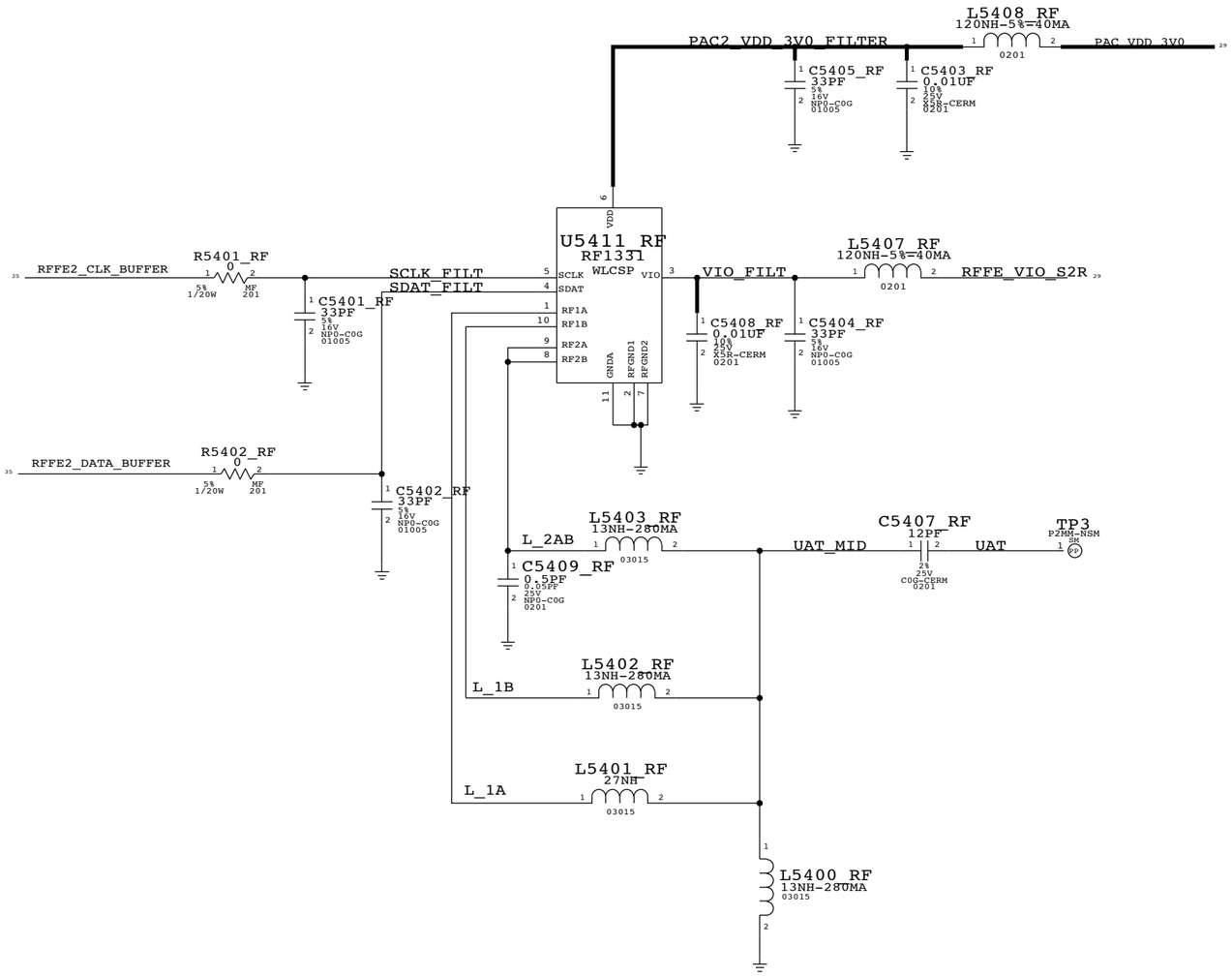
ON-BOARD JUMPER FLEX

UAT JUMPER



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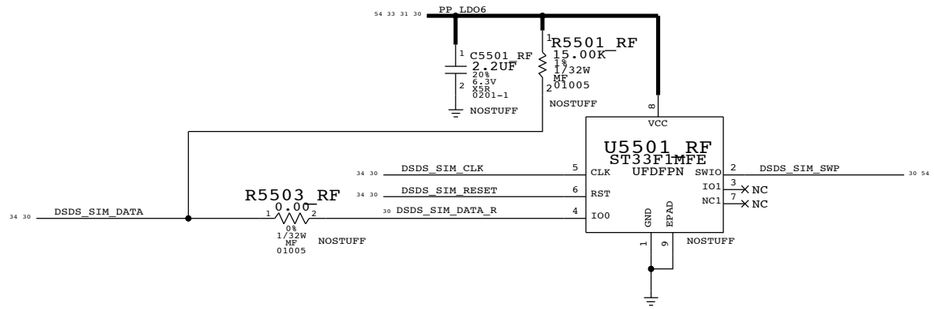
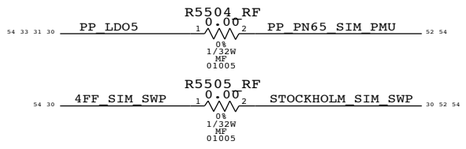
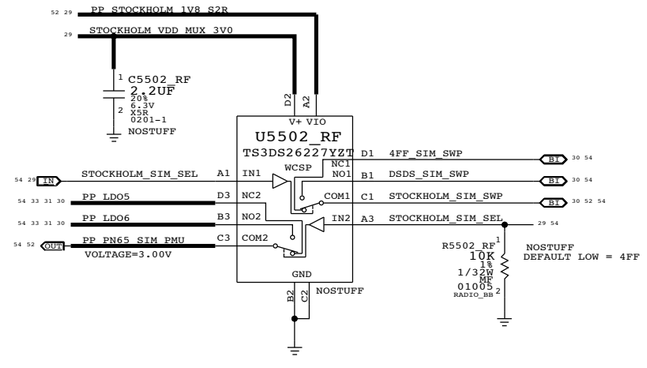
DSDS







PAGE TITLE: JUMPER

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