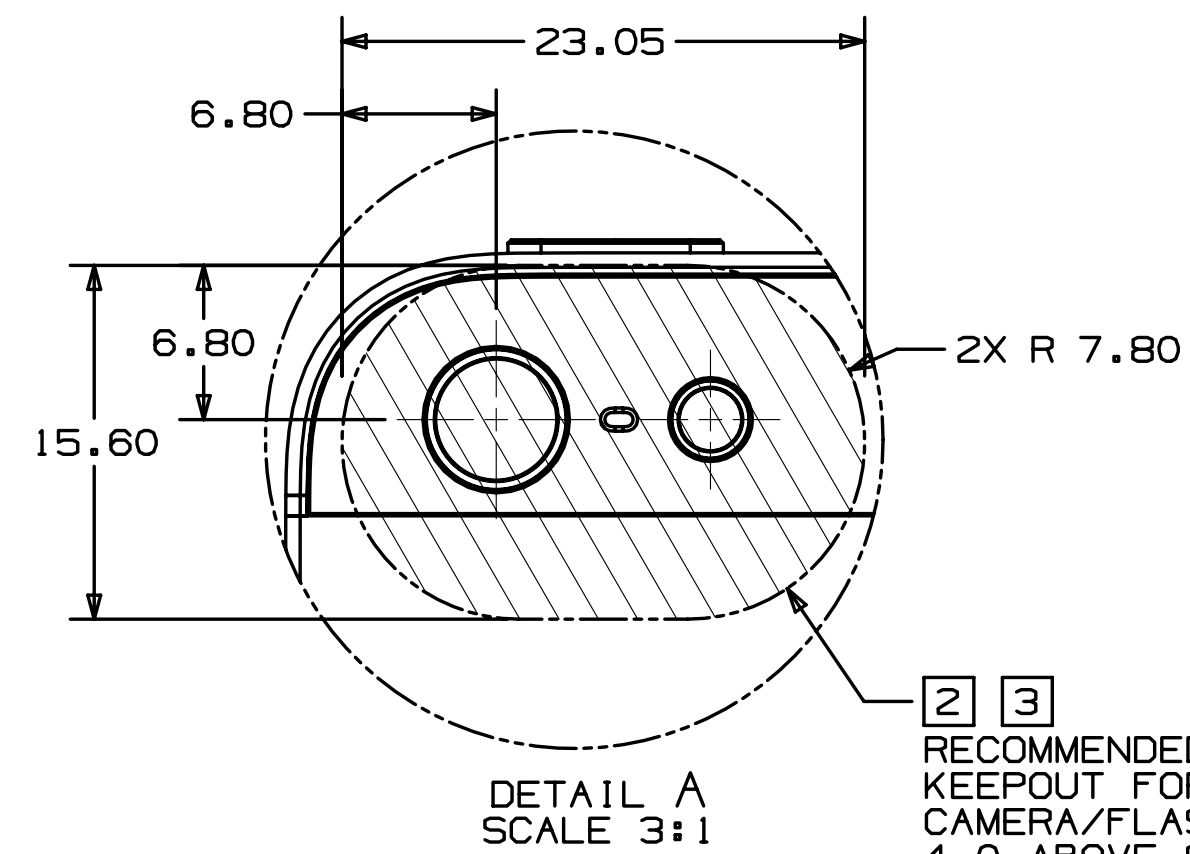
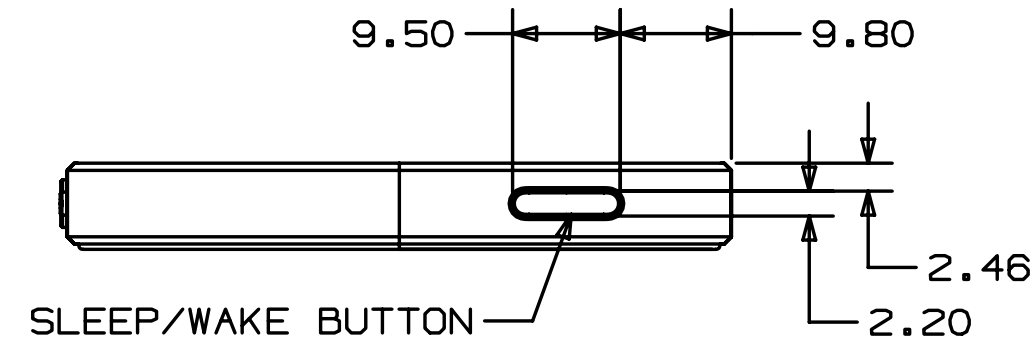
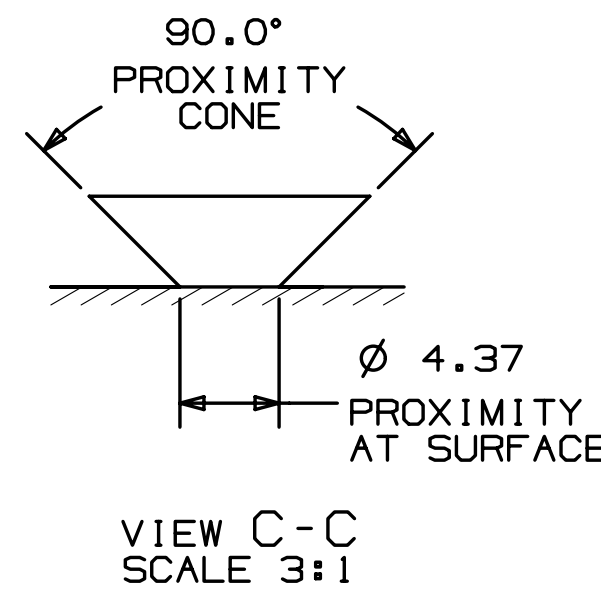
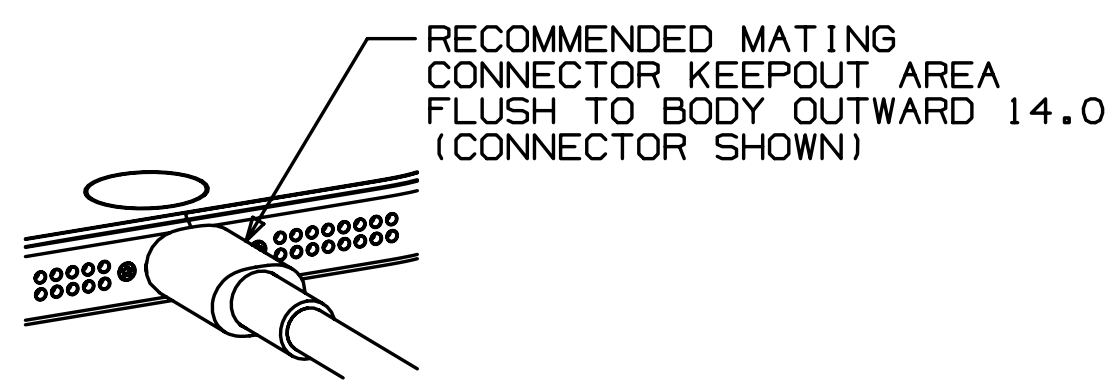
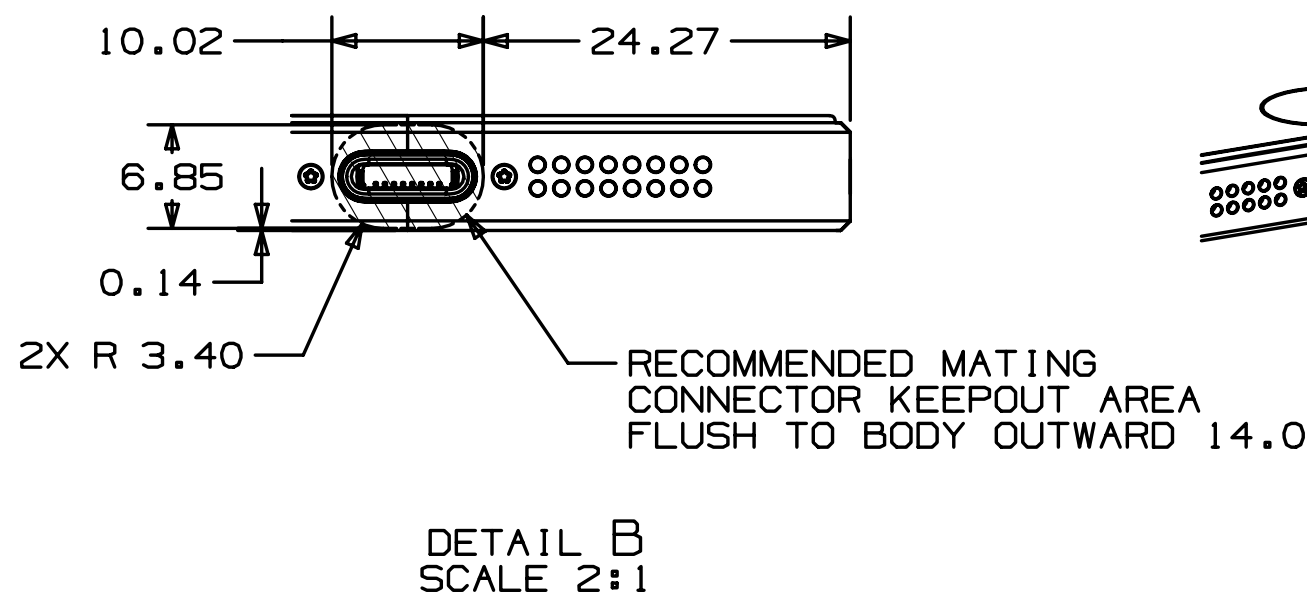
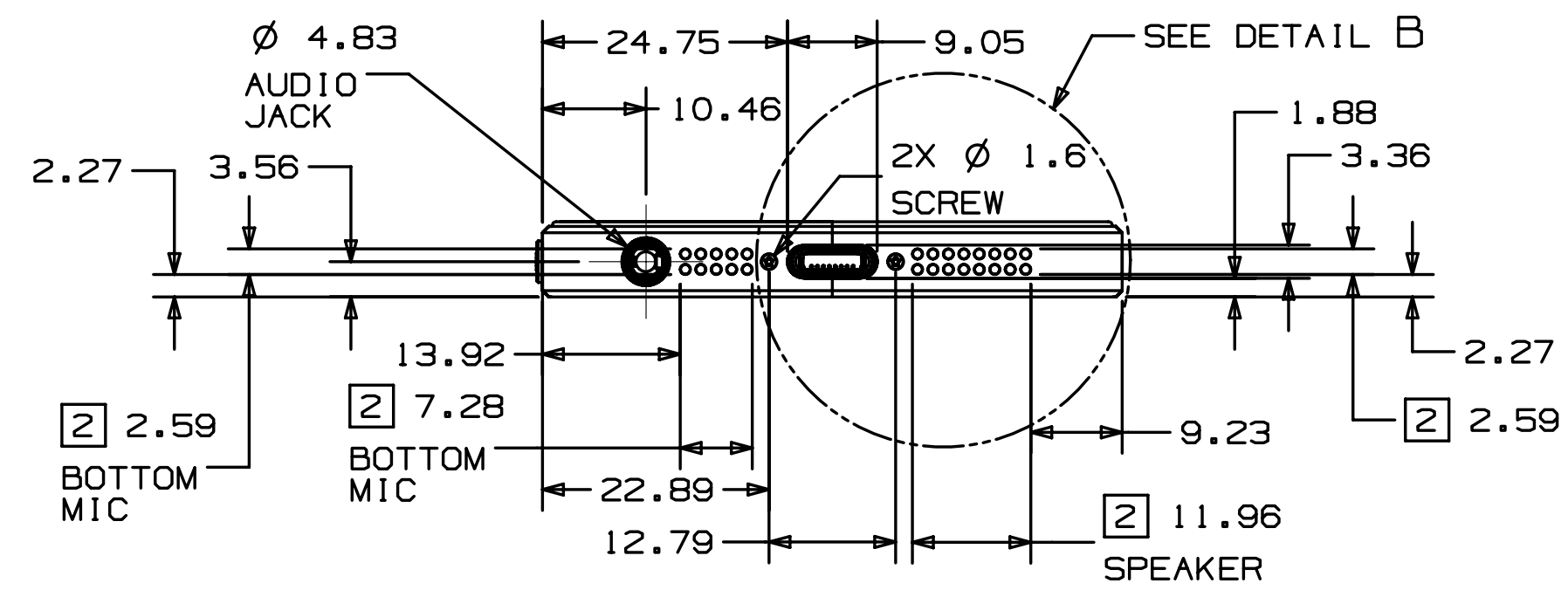
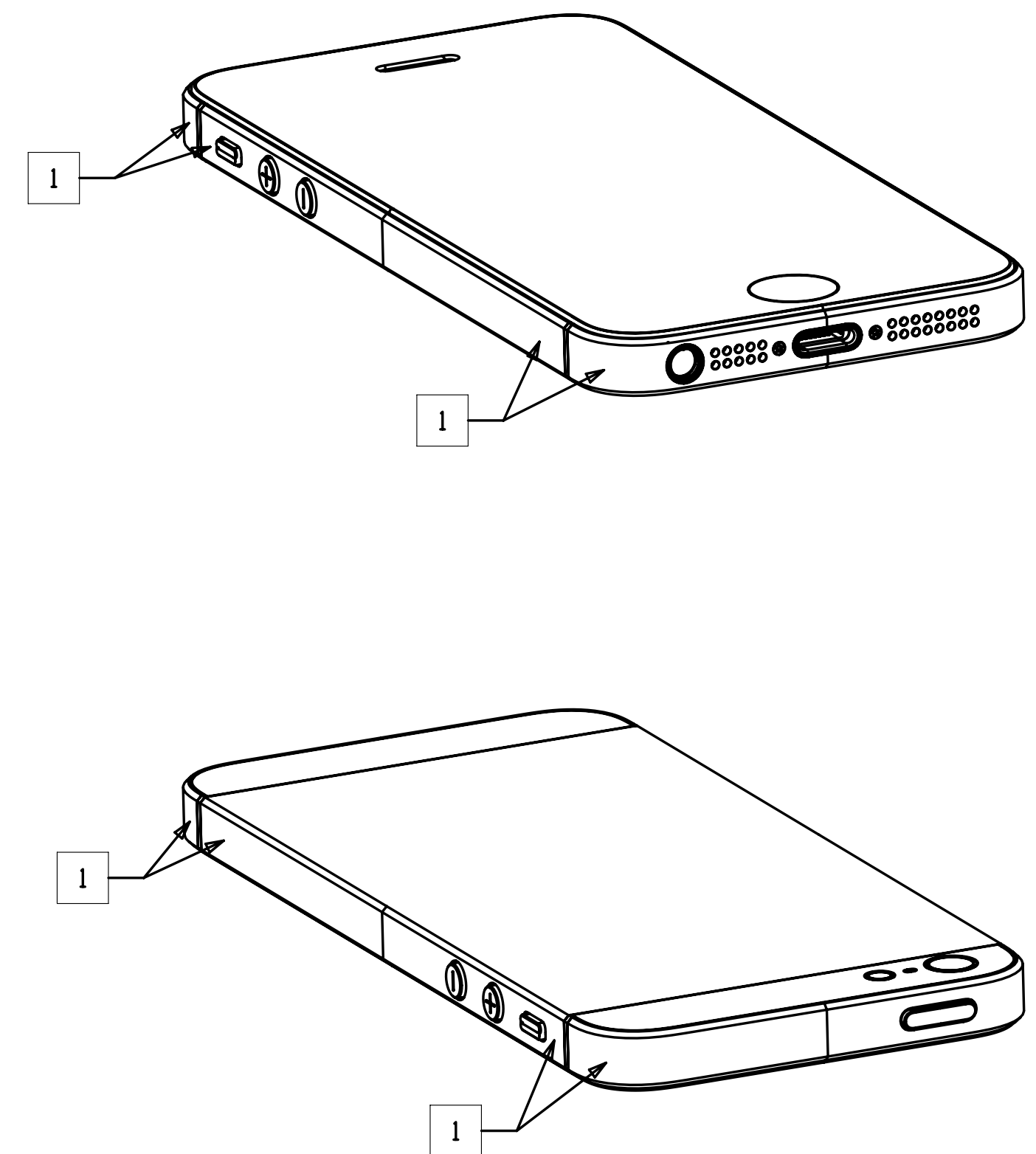
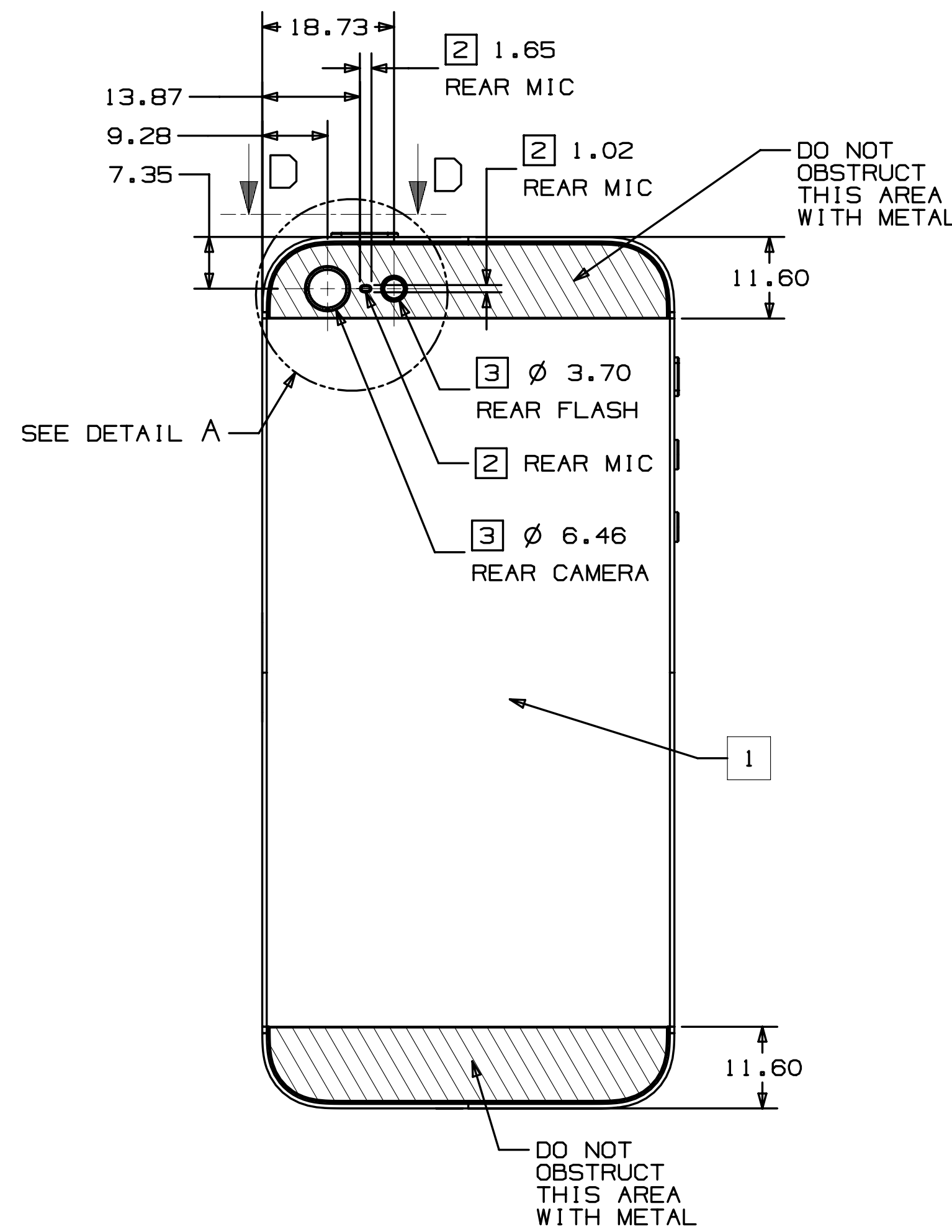
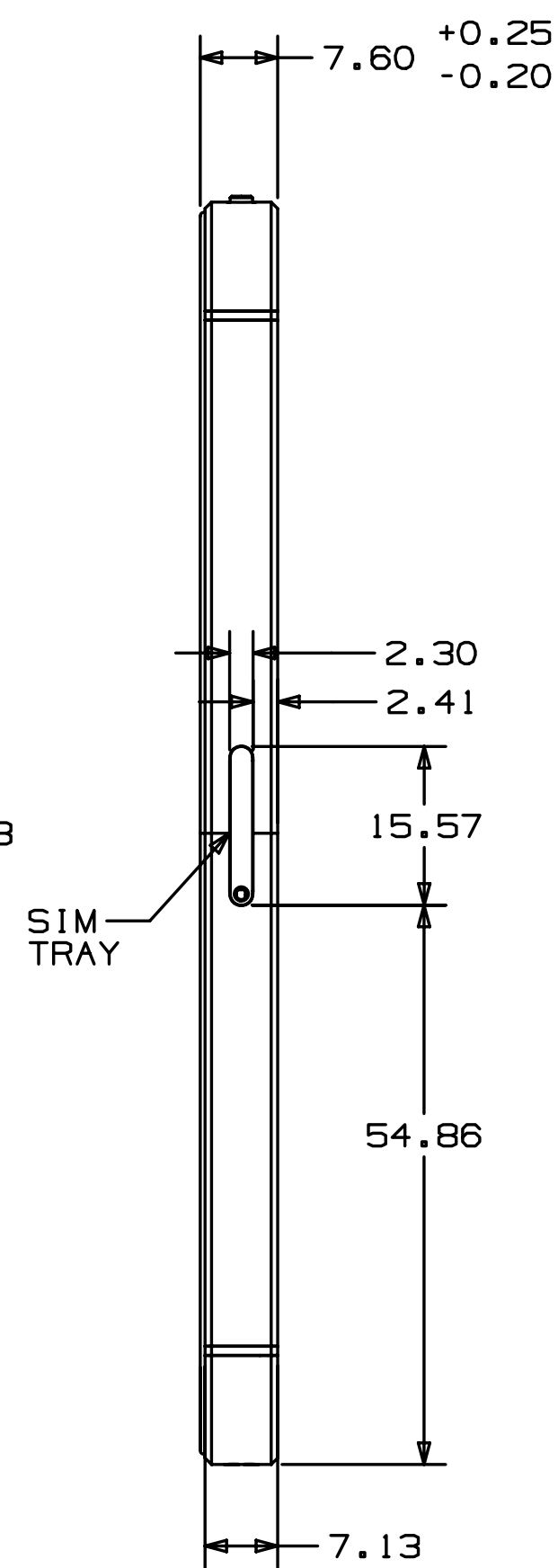
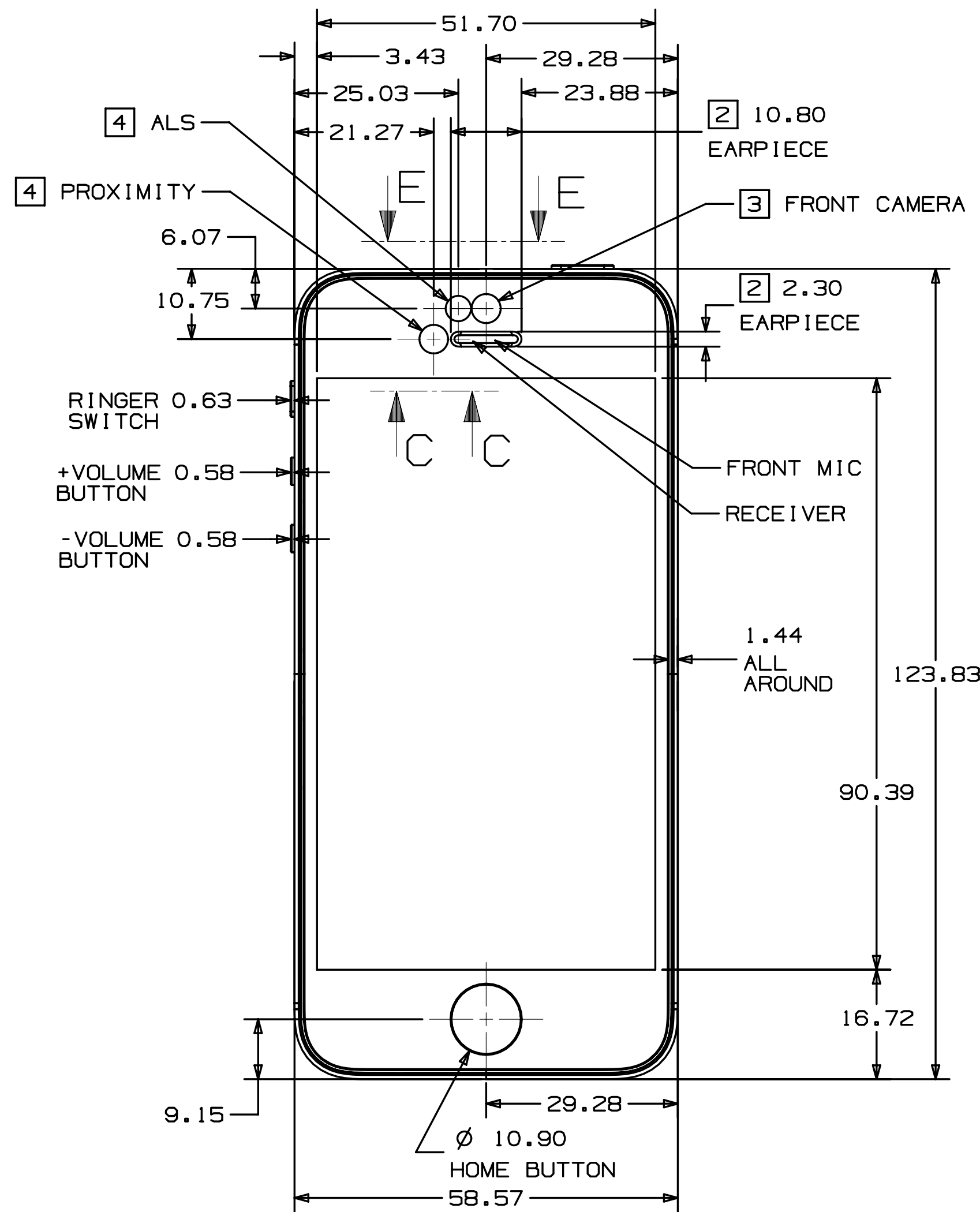
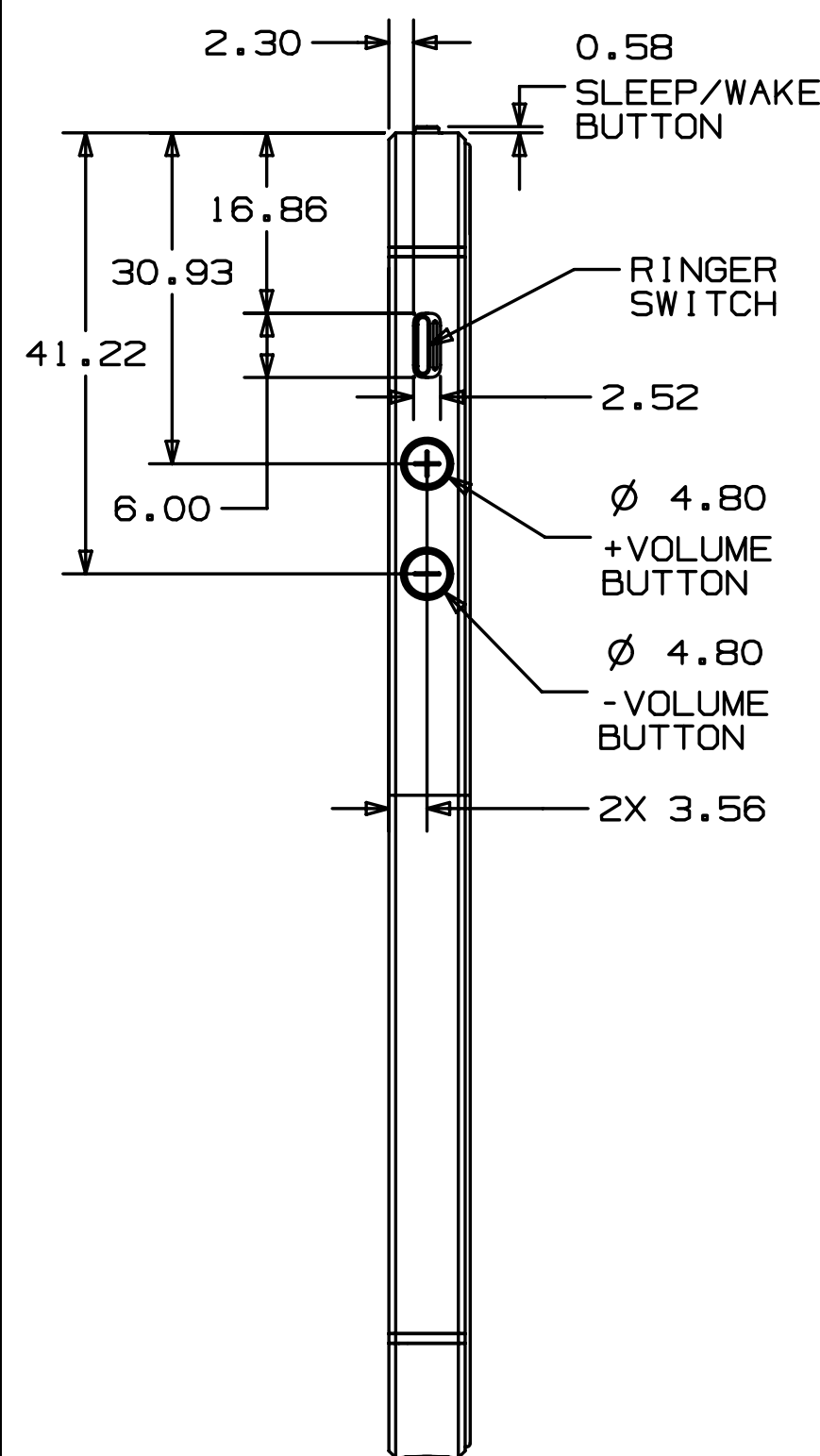
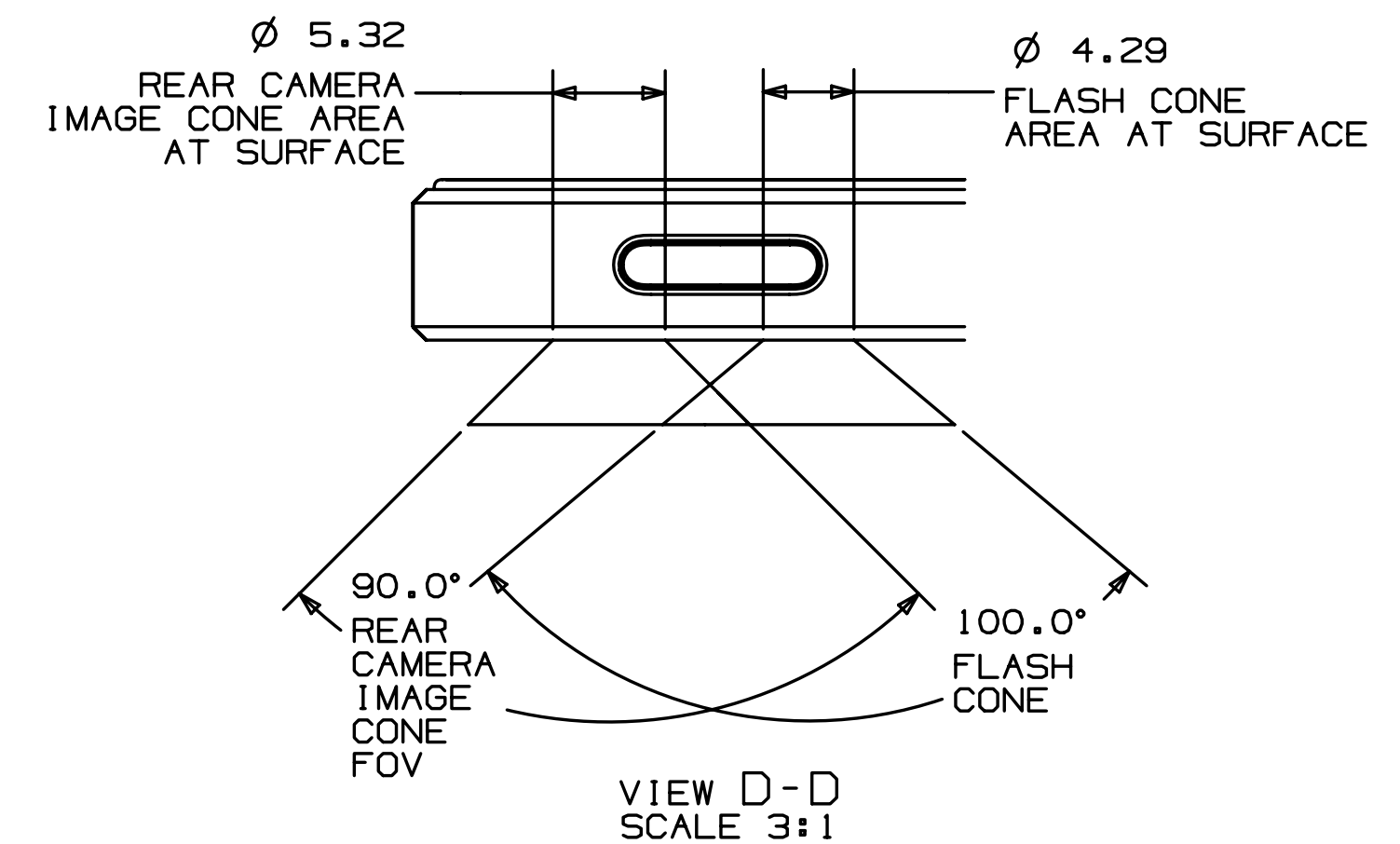
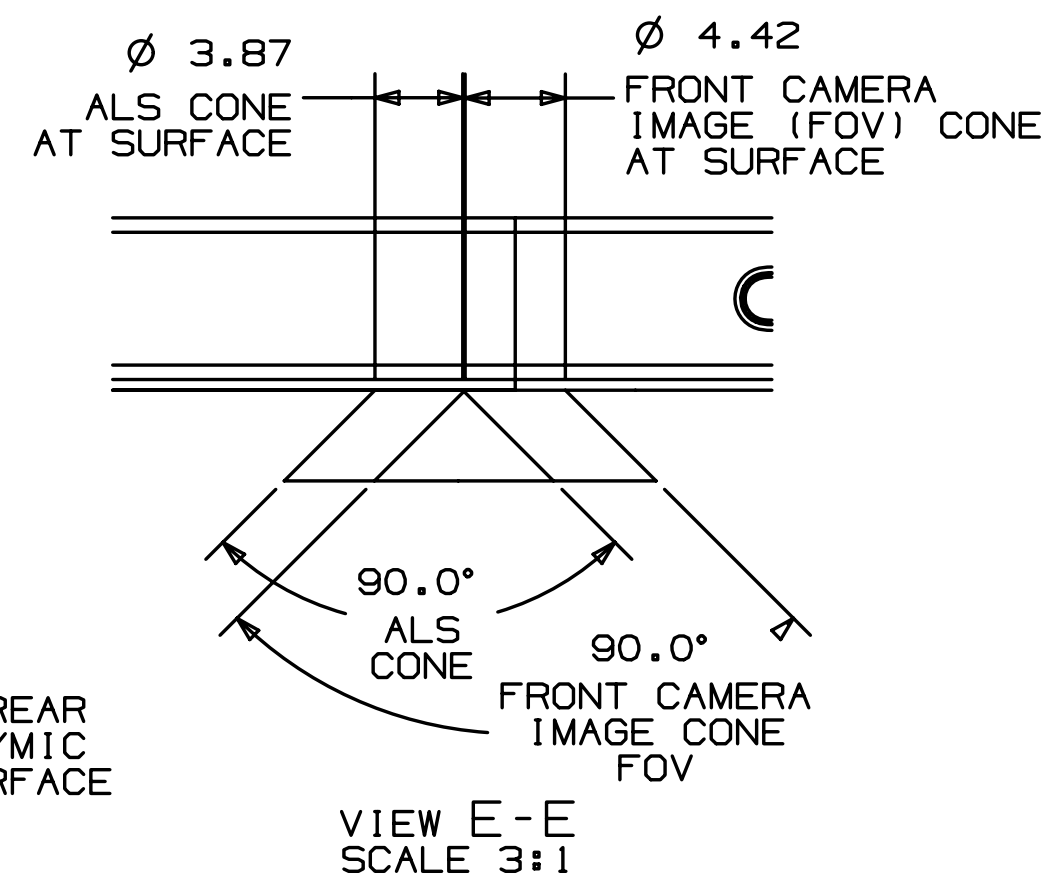


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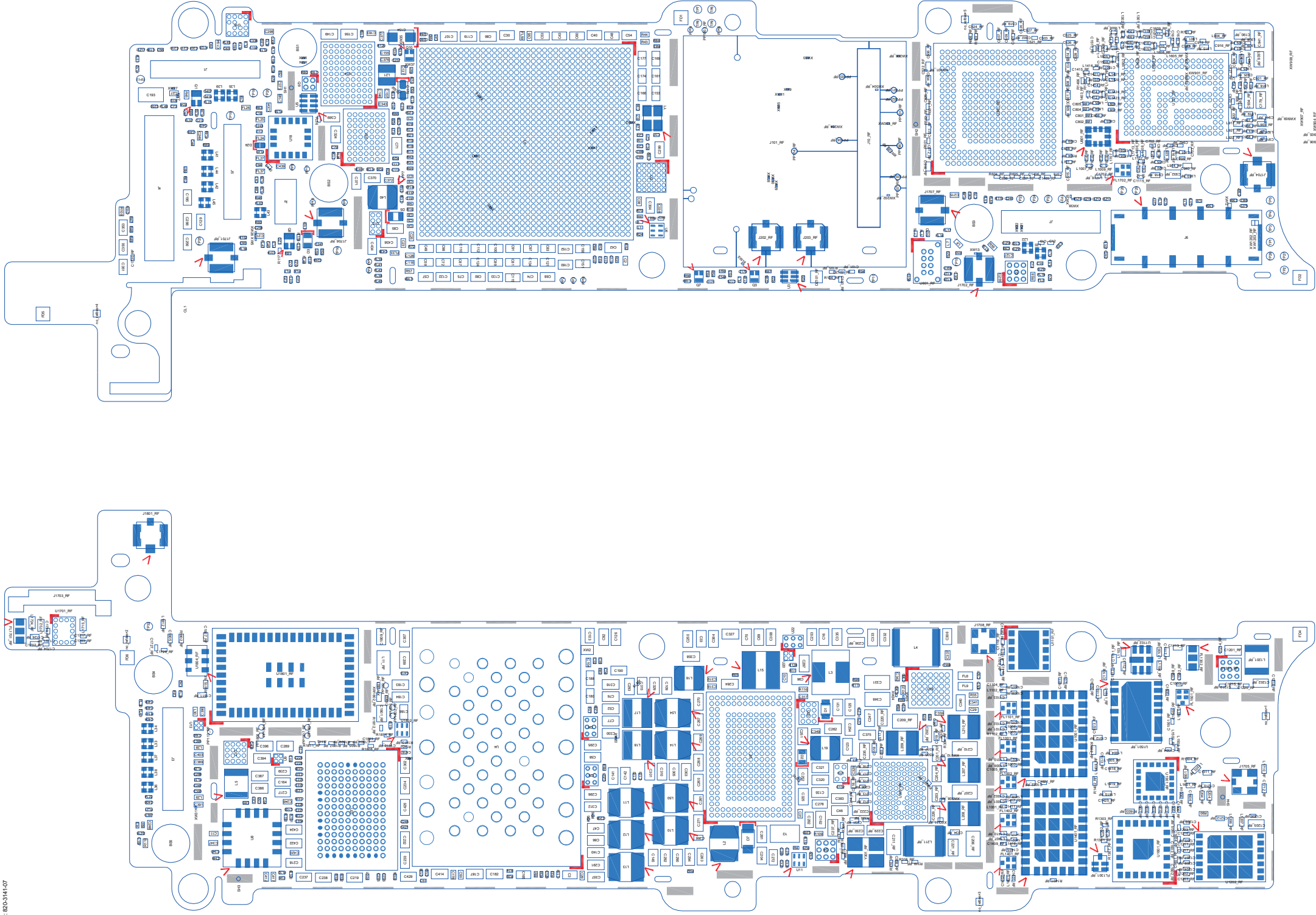
- 1 NO METAL CONTACT WITH iPhone 5 METAL.
- 2 DO NOT OBSTRUCT THE ACOUSTIC OPENINGS: FRONT MIC, REAR MIC, EARPIECE, AND SPEAKER.
- 3 DO NOT OBSTRUCT THE IMAGING FEATURES: FRONT CAMERA, REAR CAMERA, REAR FLASH.
- 4 DO NOT OBSTRUCT THE PROXIMITY SENSOR OR ALS (AMBIENT LIGHT SENSOR).



2 3 RECOMMENDED KEEPOUT FOR REAR CAMERA/FLASH/MIC 4.0 ABOVE SURFACE



METRIC		Apple Inc.	
DRAFTER APPLE INC.	DATE 09/12/12	NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC.	
DESIGNER APPLE INC.	DATE 09/12/12	©2010 APPLE INC. ALL RIGHTS RESERVED. APPLE, THE APPLE LOGO, AND iPhone ARE TRADEMARKS OF APPLE INC., REGISTERED IN THE U.S. AND OTHER COUNTRIES.	
DIMENSIONS ARE IN MILLIMETERS		TITLE IPHONE 5	
TOLERANCES		DRAWING NUMBER	
X.X	±0.4	REV.	
X.XX	±0.20		
X.XXX	±0.100		
ANGLES ±0.5°			
DO NOT SCALE DRAWINGS			
THIRD ANGLE PROJECTION	SIZE D	SCALE NONE	SHT 1 OF 1



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

REV	ECN	DESCRIPTION OF REVISION	CK APPD	DATE
11	0001447874	ENGINEERING RELEASED		2012-05-02

# N41 SINGLE BRD EVT3

## Mon Apr 30 16:28:35 2012

PDF PAGE	CSA PAGE	CONTENTS	SYNC MASTER	DATE
2	2	H5P JTAG, USB ,PLL	N/A	N/A
3	3	H5P GPIO & CONTROL	N/A	N/A
4	4	H5P IO POWER	N/A	N/A
5	5	H5P SOC/CPU/SRAM PWR	N/A	N/A
6	6	H5P W/ NAND	N/A	N/A
7	7	H5P VIDEO	N/A	N/A
8	8	BUTTON CONNECTOR	N/A	N/A
9	9	CS42L65 AUDIO CODEC (1/2)	N/A	N/A
10	10	CS42L65 AUDIO CODEC (2/2)	N/A	N/A
11	11	CG FLEX CONNECTOR	N/A	N/A
12	12	AGATHA PMU(1/2)	N/A	N/A
13	13	AGATHA PMU(2/2)	N/A	N/A
14	14	ACCEL, GYRO, COMPASS, SPK AMP	N/A	N/A
15	15	TRISTAR	N/A	N/A
16	16	DOCK CONNECTOR	N/A	N/A
17	17	GRAPE & CONNECTOR	N/A	N/A
18	18	LCM CONNECTOR	N/A	N/A
19	19	STROBE & NEGATIVE RAIL	N/A	N/A
20	20	CAM0 CONNECTOR	N/A	N/A
21	21	BATTERY & RF INT.	N/A	N/A
22	22	TEST POINTS	N/A	N/A

### N41 BOM CALLOUTS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-9113	1	N41 SINGLE_BRD SCHEMATIC	SCH	Y	?
820-3141	1	N41 SINGLE_BRD PCB	PCB	Y	?
825-6383	1	LABEL FOR N41 639-3259	EEEE_DWJG	Y	EEEE_16G
825-6383	1	LABEL FOR N41 639-3420	EEEE_DY6Q	Y	EEEE_32G
825-6383	1	LABEL FOR N41 639-3421	EEEE_DY6R	Y	EEEE_64G
825-6383	1	LABEL FOR N42 639-2456	EEEE_DNVD	Y	EEEE_16G_N42
825-6383	1	LABEL FOR N41 639-3858	EEEE_F322	Y	EEEE_32G_N42
825-6383	1	LABEL FOR N41 639-3859	EEEE_F321	Y	EEEE_64G_N42

N41 = BAND 17 COMP  
 N42 = BAND 13 COMP

### NAND OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S0871	1	NAND, 20NM, 16GX8, MLC, PPN1.5	U4	?	NAND_16G
335S0872	1	NAND, 20NM, 32GX8, MLC, PPN1.5	U4	?	NAND_32G
335S0873	1	NAND, 20NM, 64GX8, MLC, PPN1.5	U4	?	NAND_64G

### RADIO\_MLB TDMA CAP OPTION

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
138S0711	3	10UF 0402 6.3V RANDOM	C235_RF, C236_RF, C237_RF	Y	?
138S0711	2	10UF 0402 6.3V RANDOM	C1201_RF, C1801_RF	Y	?

### INDUCTOR 607-XXXX SUBBOM GEN

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S1547	4	IND, PWR, 1.5UH, 1.95A, 111MOHM, 2520	L10, L50, L14, L54	Y	CPU0_1_TDK_SUBBOM
152S1696	3	IND, PWR, 2.2UH, 1.45A, 138MOHM, 2520	L11, L12, L13	Y	SOC_CYNTEC_SUBBOM
152S1695	4	IND, PWR, 1.5UH, 1.95A, 111MOHM, 2520	L10, L50, L14, L54	Y	CPU0_1_CYNTEC_SUBBOM
152S1432	3	IND, PWR, 2.2UH, 1.45A, 125MOHM, 2520	L11, L12, L13	Y	SOC_TDK_SUBBOM

### INDUCTOR SUBBOM ADDITION

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
607-9979	1	CPU0_1, PWR IND SUBBOM	CPU_IND	Y	?
607-9980	1	SOC, PWR IND SUBBOM	SOC_IND	Y	?

### ALTERNATES

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S0648	138S0652	?	?	4.7UF CERM 0402 6.3V
138S0703	138S0648	?	?	4.7UF CERM 0402 6.3V
138S0702	138S0657	?	?	4.3UF CERM 0610 4V
138S0697	138S0695	?	?	1UF CERM 0204 4V
138S0746	138S0705	?	?	10UF CERM 0402 10V
138S0739	138S0706	?	?	1UF CERM 0201 10V
197S0369	197S0392	?	?	TXC 32KHZ XTAL ALT
197S0399	197S0392	?	?	NDK 32KHZ XTAL ALT
155S0667	155S0583	?	?	PANASONIC CMC
107S0146	107S0208	?	?	TDK 10K NTC ALT
152S1696	152S1432	?	L2	CYNTEC 2.2UH IND ALT
152S1604	152S1518	?	L16	TDK 2.2UH IND ALT
152S1602	152S1518	?	L16	CYNTEC 2.2UH IND ALT
152S1602	152S1604	?	L19	CYNTEC 2.2UH IND ALT
311S0591	311S0273	?	?	74LVCI932 OR GATE ALT
311S0548	311S0398	?	?	74AUP1008 AND GATE ALT
311S0560	311S0515	?	?	74LV2G07 BUFFER ALT
339S0177	339S0176	?	?	H5P ALT
339S0178	339S0176	?	?	H5P ALT
155S0773	155S0453	?	?	TAIYO ALT FERRITE

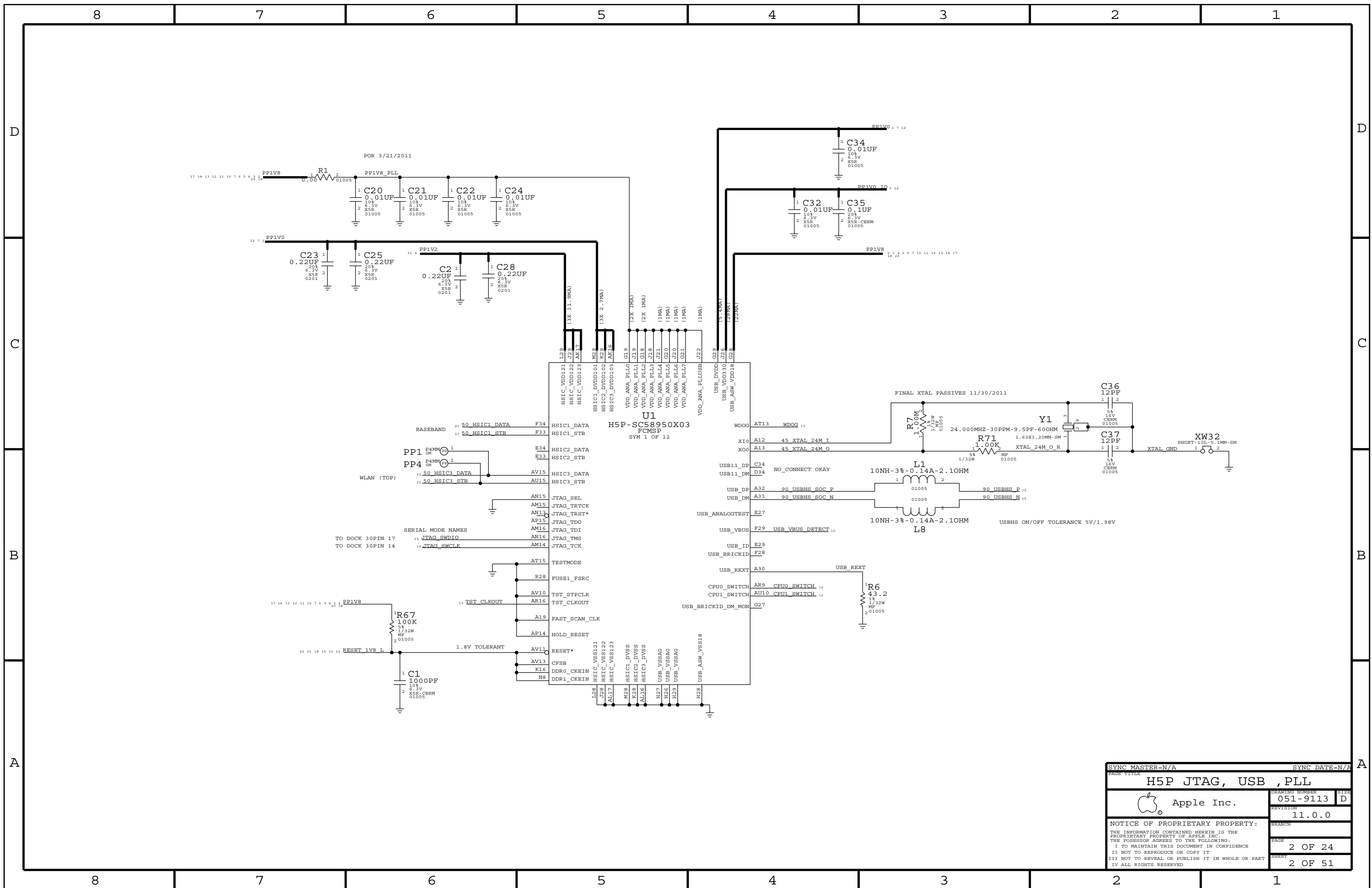
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335S0881	335S0871	NAND_16G	U4	SAMSUNG 16G
335S0900	335S0871	NAND_16G	U4	SANDISK 16G
335S0879	335S0872	NAND_32G	U4	TOSHIBA 32G
335S0882	335S0872	NAND_32G	U4	SAMSUNG 32G
335S0901	335S0872	NAND_32G	U4	SANDISK 32G
335S0880	335S0873	NAND_64G	U4	TOSHIBA 64G
335S0883	335S0873	NAND_64G	U4	SAMSUNG 64G
335S0902	335S0873	NAND_64G	U4	SANDISK 64G

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
607-9983	607-9979	?	CPU_IND	ALT CPU CYNTEC SUBBOM
607-9984	607-9980	?	SOC_IND	ALT SOC CYNTEC SUBBOM

SCH 051-9113  
 BRD 820-3141  
 MCO 056-4519  
 BOM 639-3259 (16GB) BTR N41  
 BOM 639-3420 (32GB) BST N41  
 BOM 639-3421 (64GB) ULT N41  
 BOM 639-2456 (16GB) BTR N42  
 BOM 639-3858 (32GB) BST N42  
 BOM 639-3839 (64GB) ULT N42

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S0895	335S0874	?	U601_RF	WINBOND ALT
197S0437	197S0410	?	Y301_RF	KYROCHRA 19.2MHZ XTAL ALT
197S0409	197S0410	?	Y301_RF	RAKON 19.2MHZ XTAL ALT

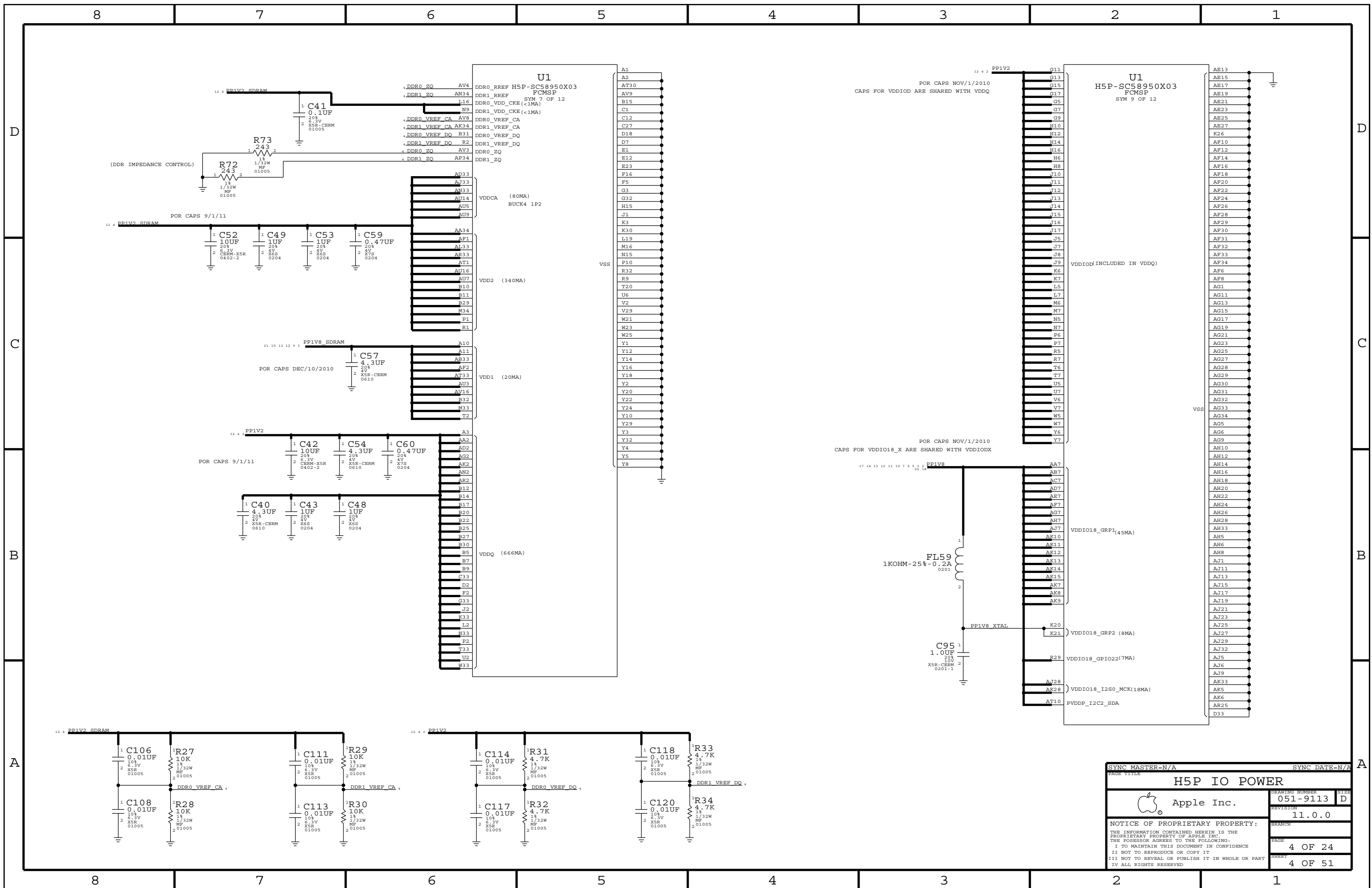
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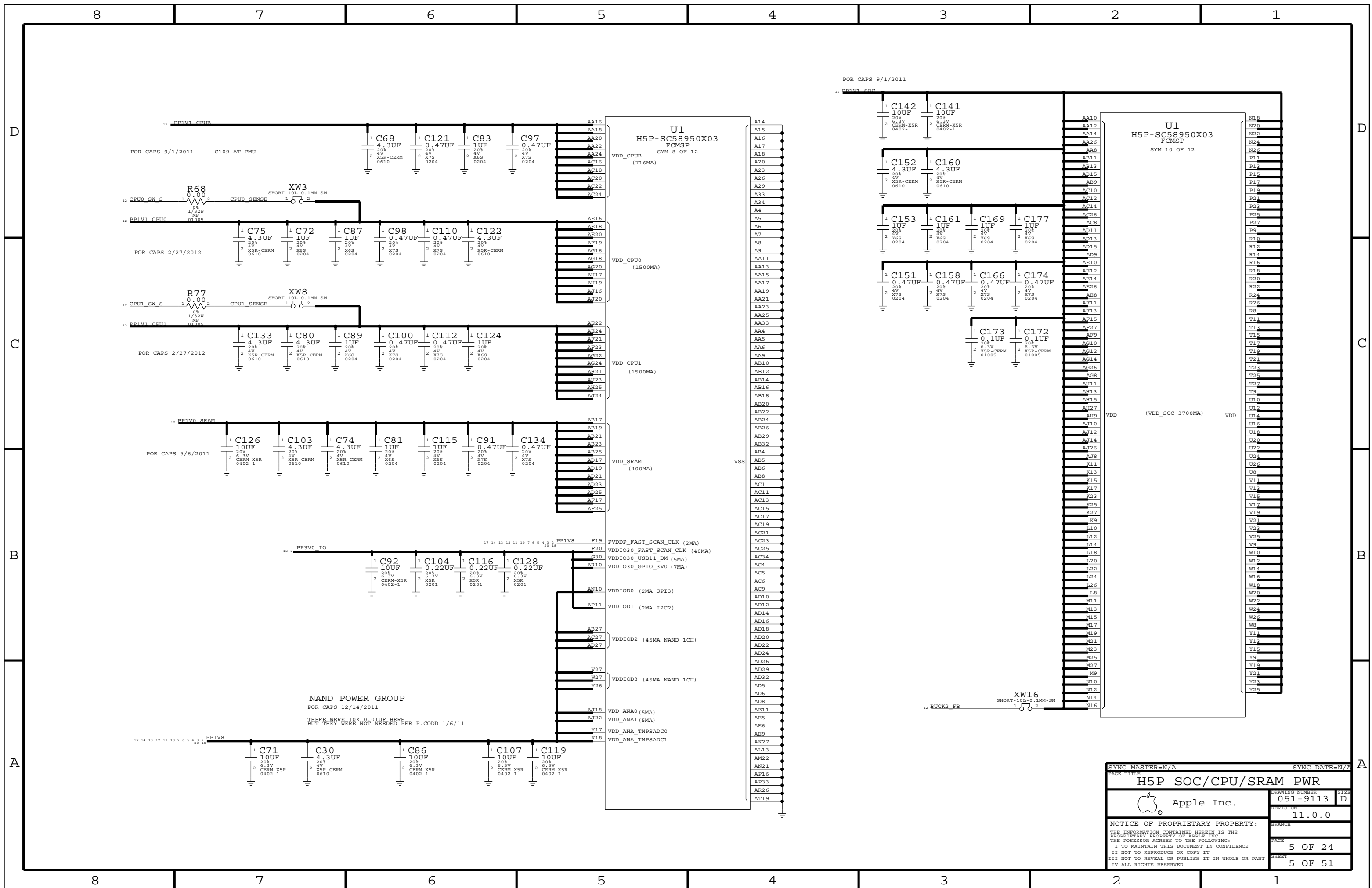
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DRAWING NUMBER 051-9113		SIZE D	
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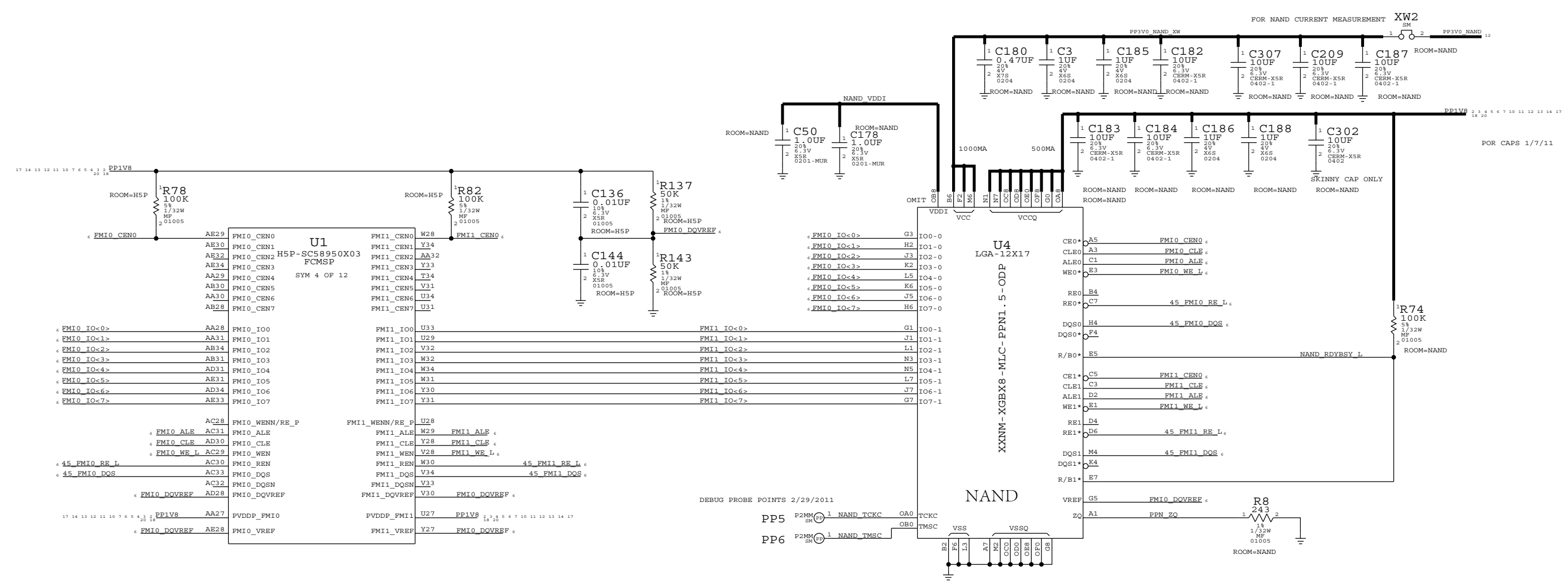
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<b>H5P SOC/CPU/SRAM PWR</b>			
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# NAND

SUPPORT FOR PPN1.5 AND PPN1.0 W/ 1.8V IO ONLY

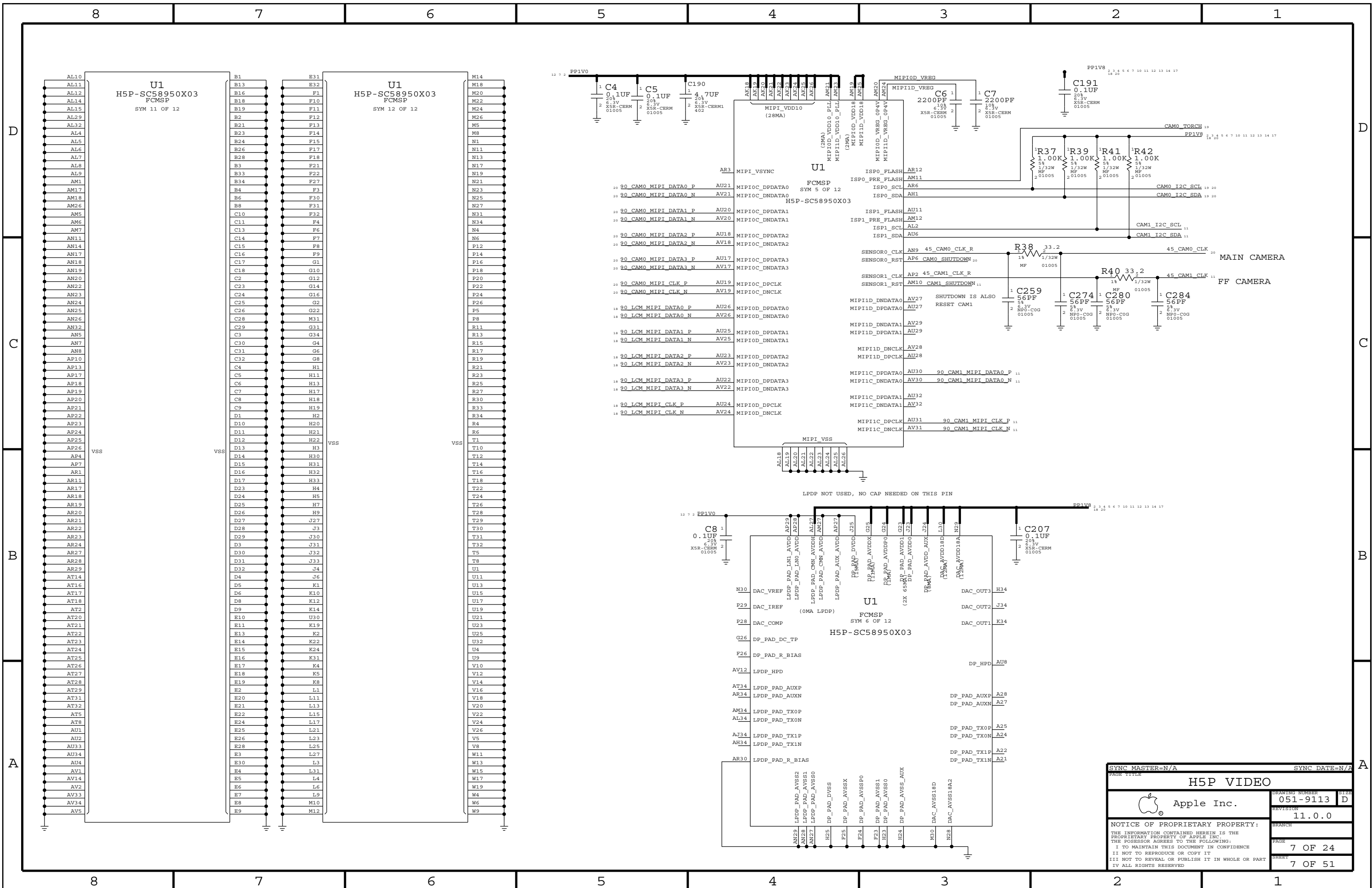


DEBUG PROBE POINTS 2/29/2011

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

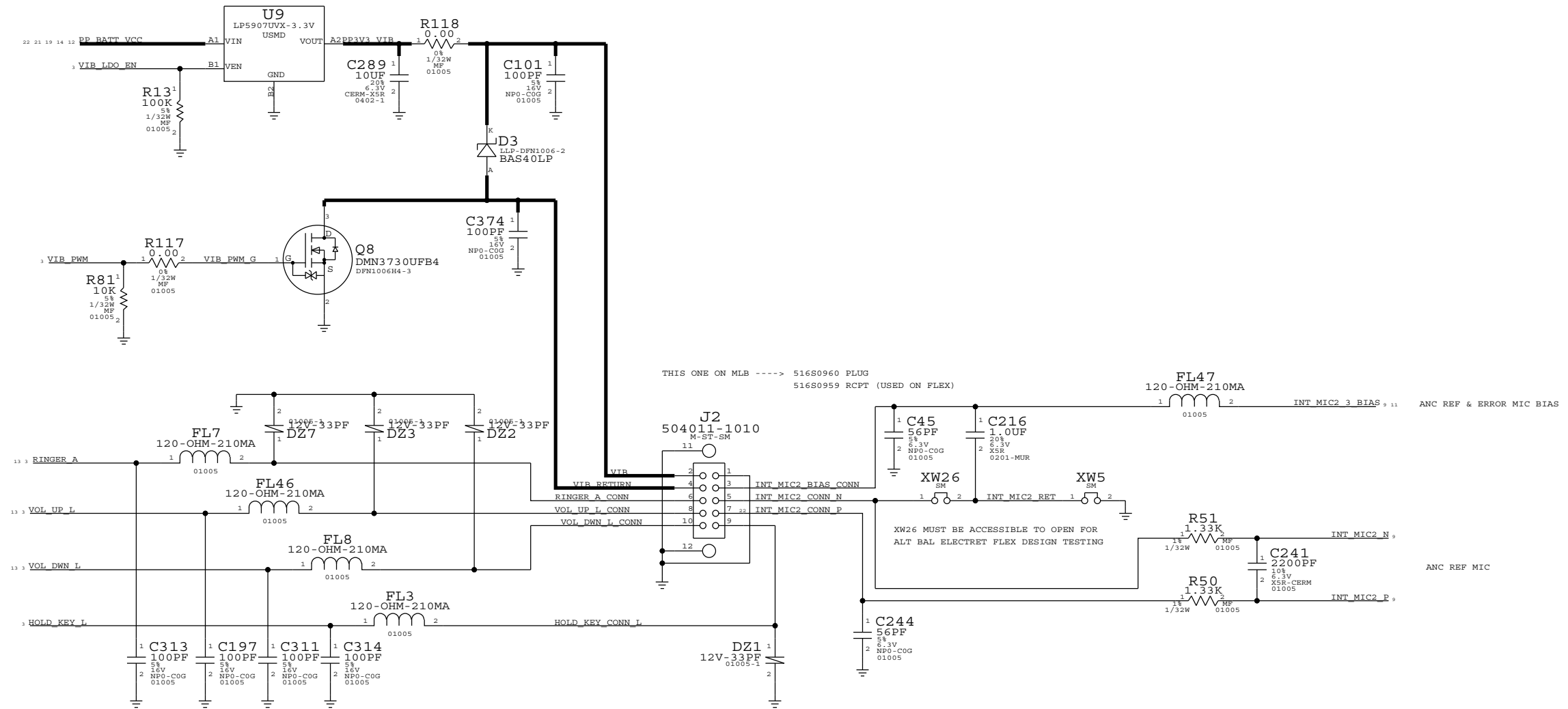
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- PP3 P4MM SH 1 45\_FMI0\_RE\_L
- PP10 P4MM SH 1 45\_FMI0\_DQS

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<b>H5P VIDEO</b>			
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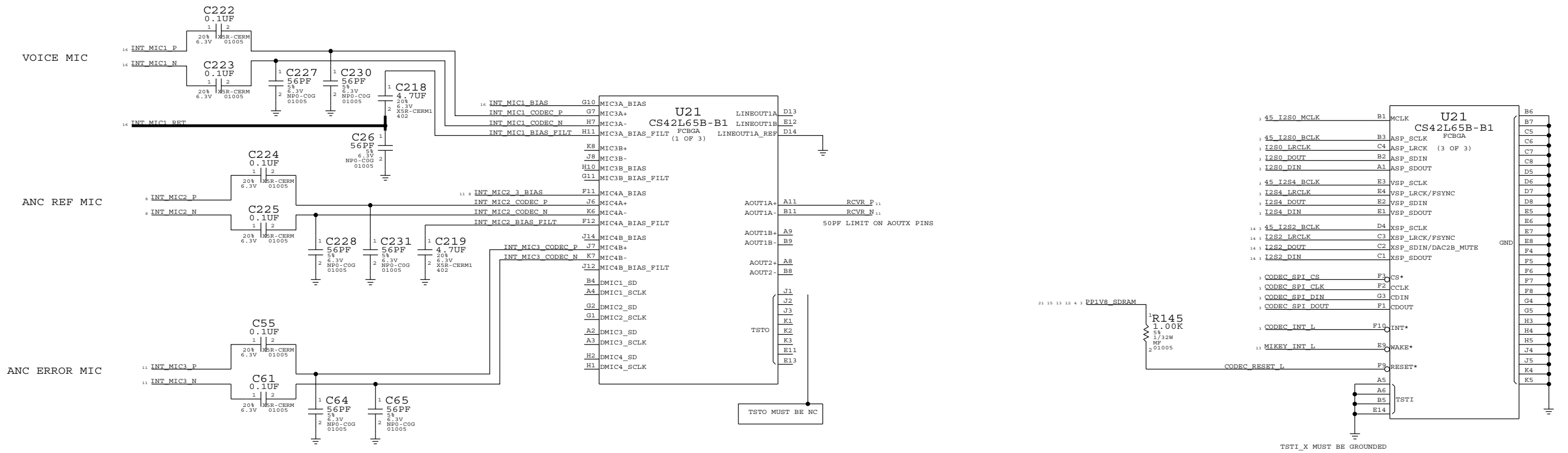
SHARES INPUT CAPS WITH STROBE DRIVER



SYNC MASTER=N/A		SYNC DATE=N/A	
<b>BUTTON CONNECTOR</b>			
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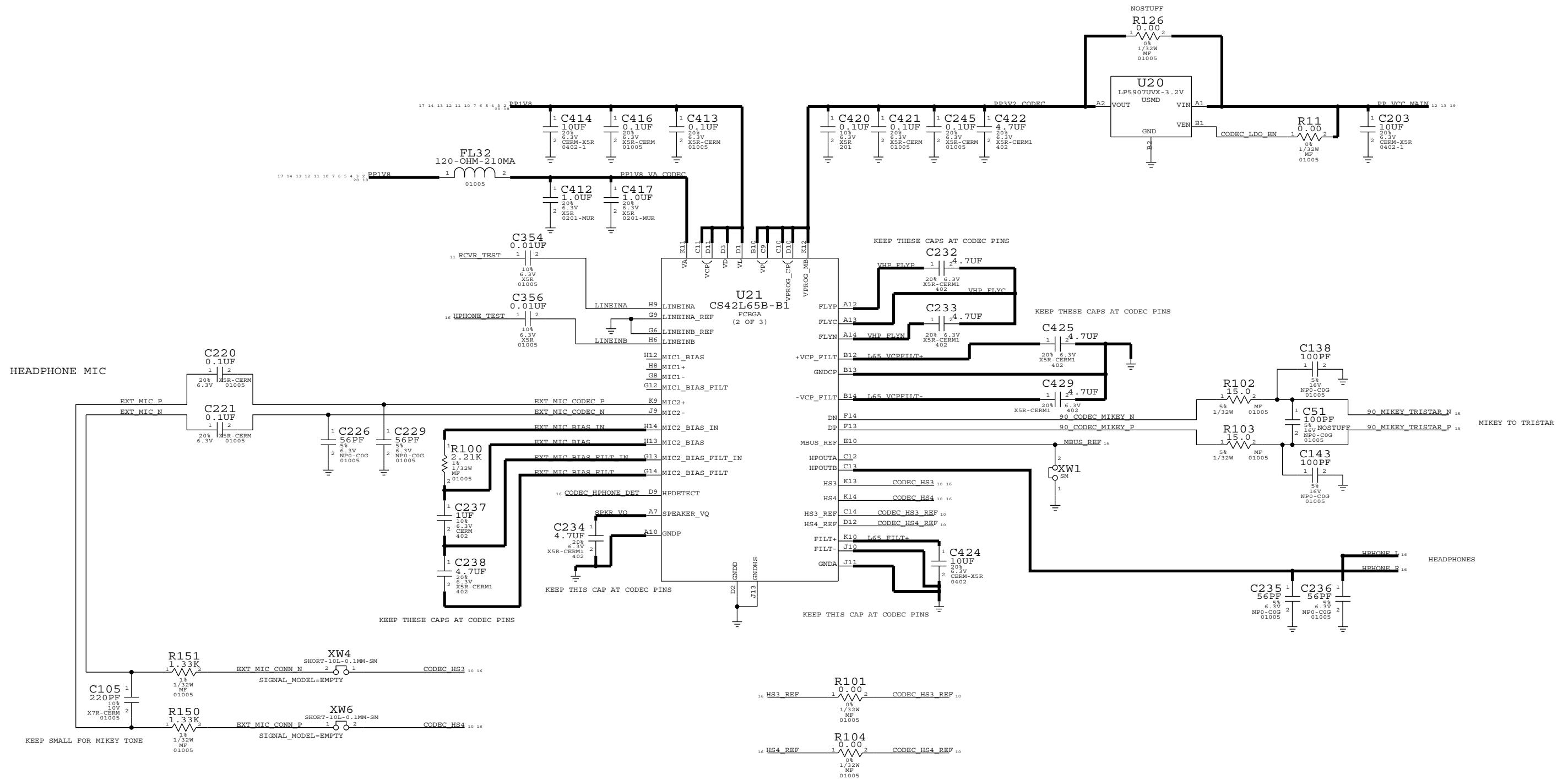


# CS42L65 AUDIO CODEC

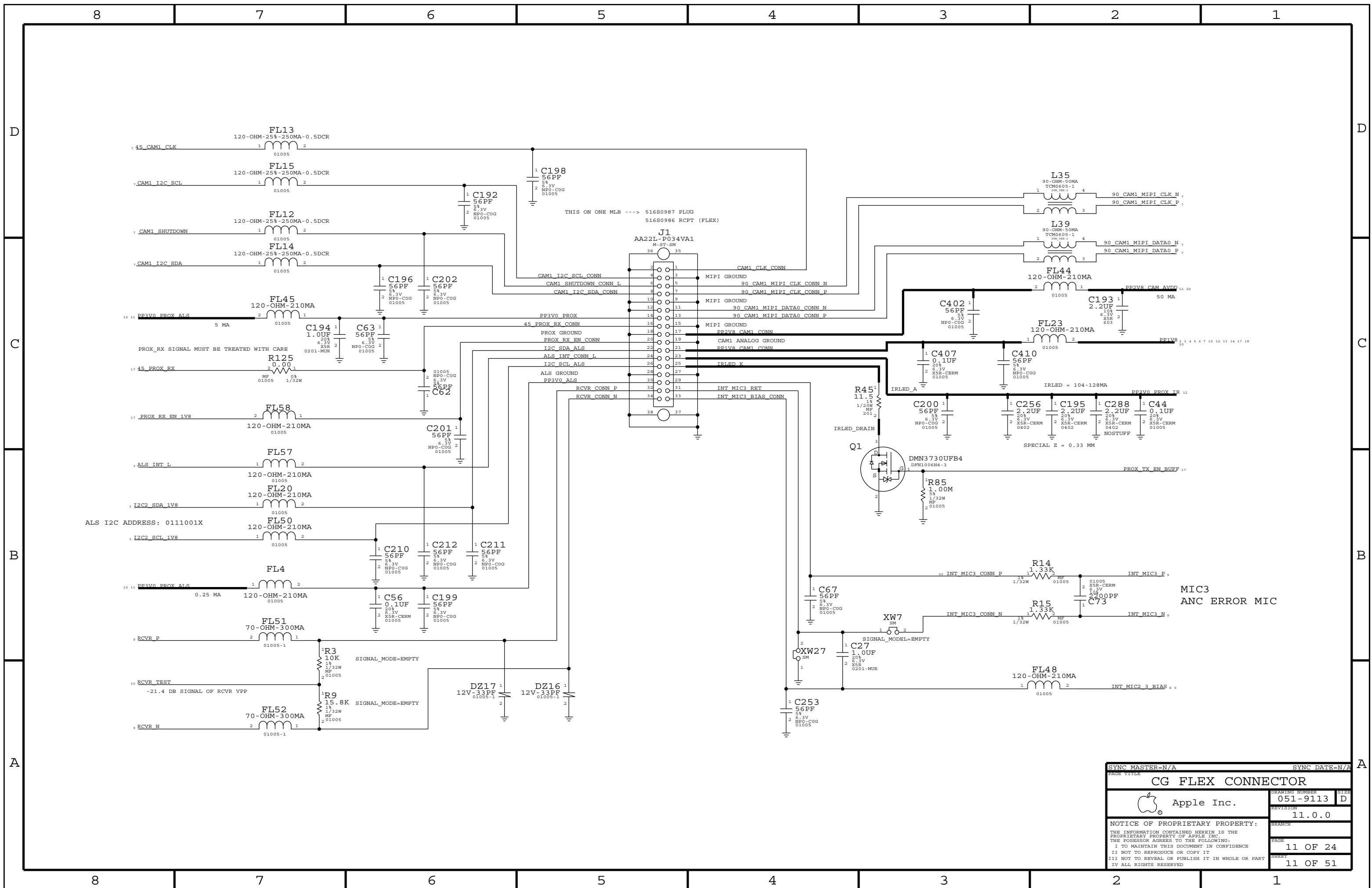


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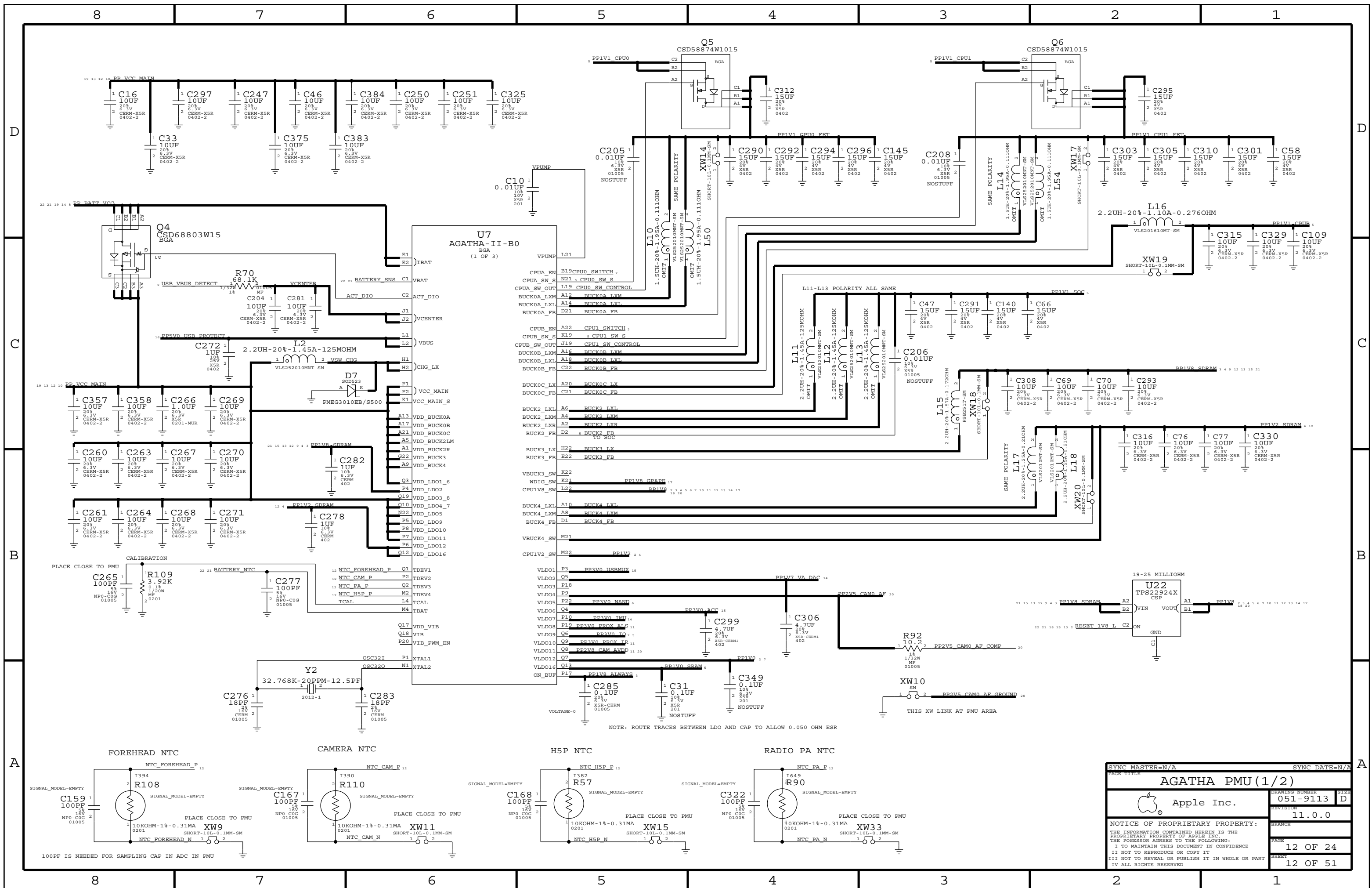
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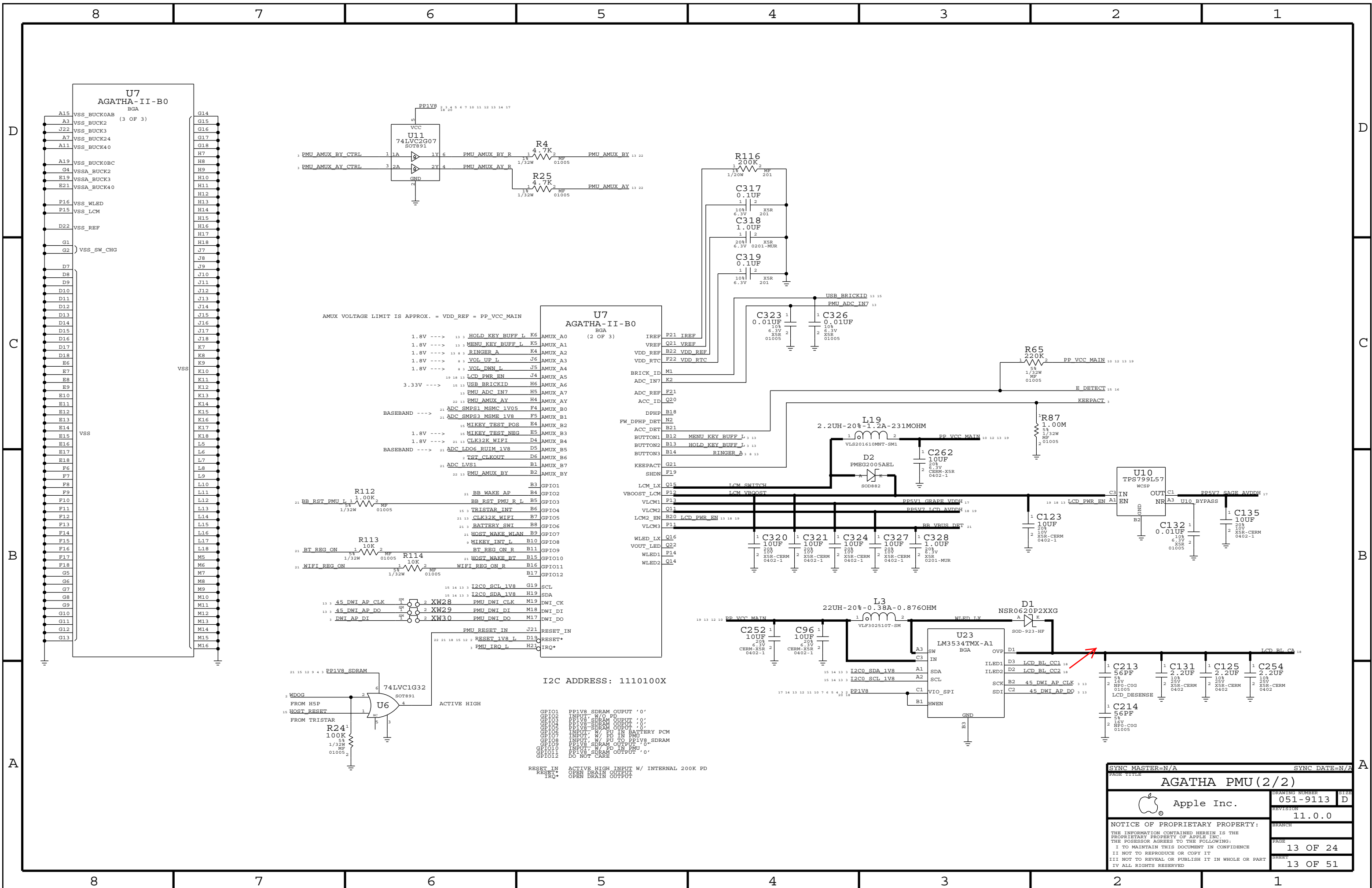
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<b>CG FLEX CONNECTOR</b>			
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AGATHA PMU (2/2)

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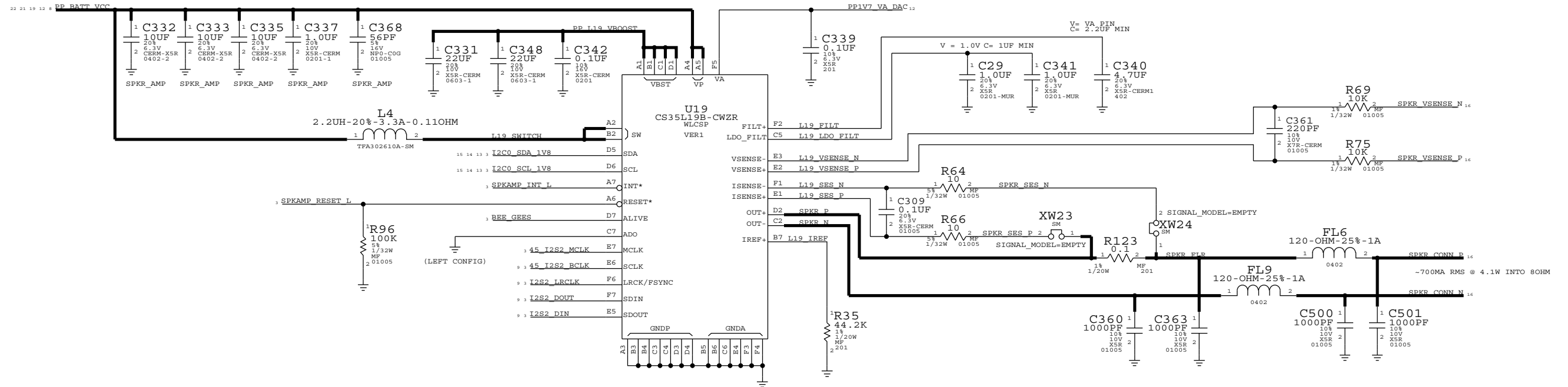
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BRANCH: 13 OF 24

SHEET: 13 OF 51

# SPEAKER AMP

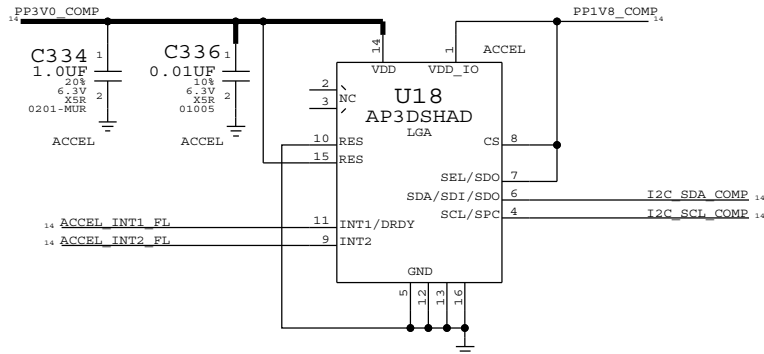
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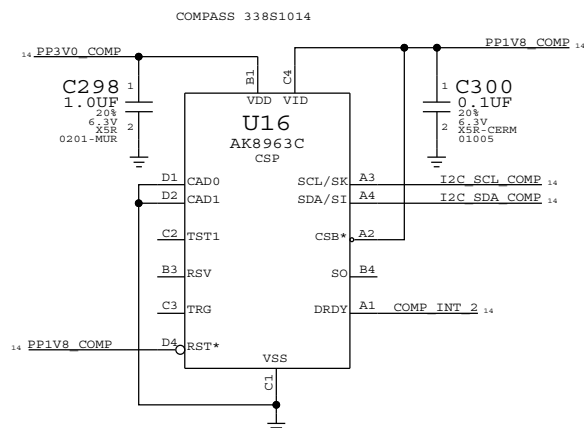
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## COMPASS 2

I2C ADDR: 0001100X



## GYRO 20KHZ

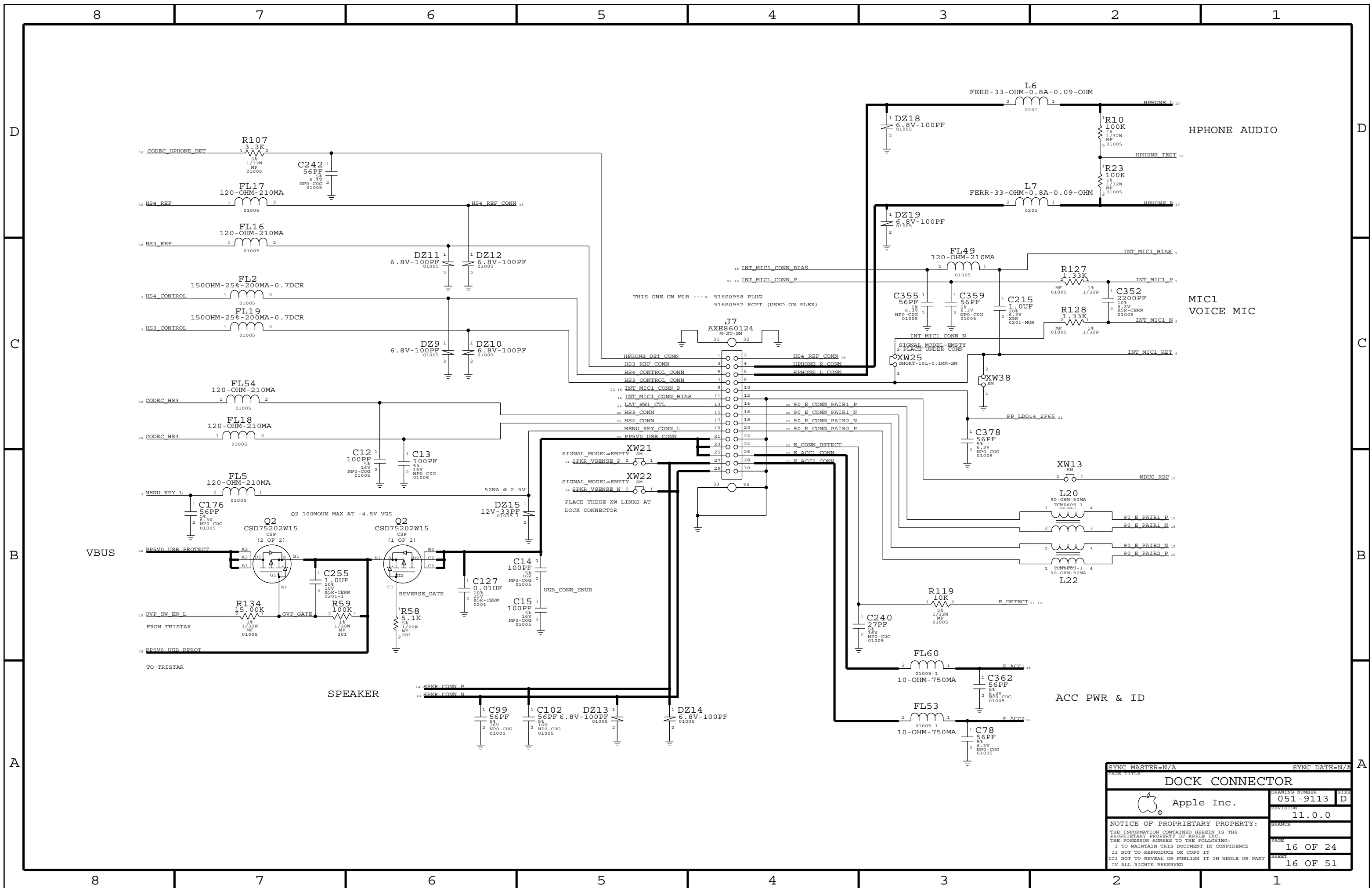
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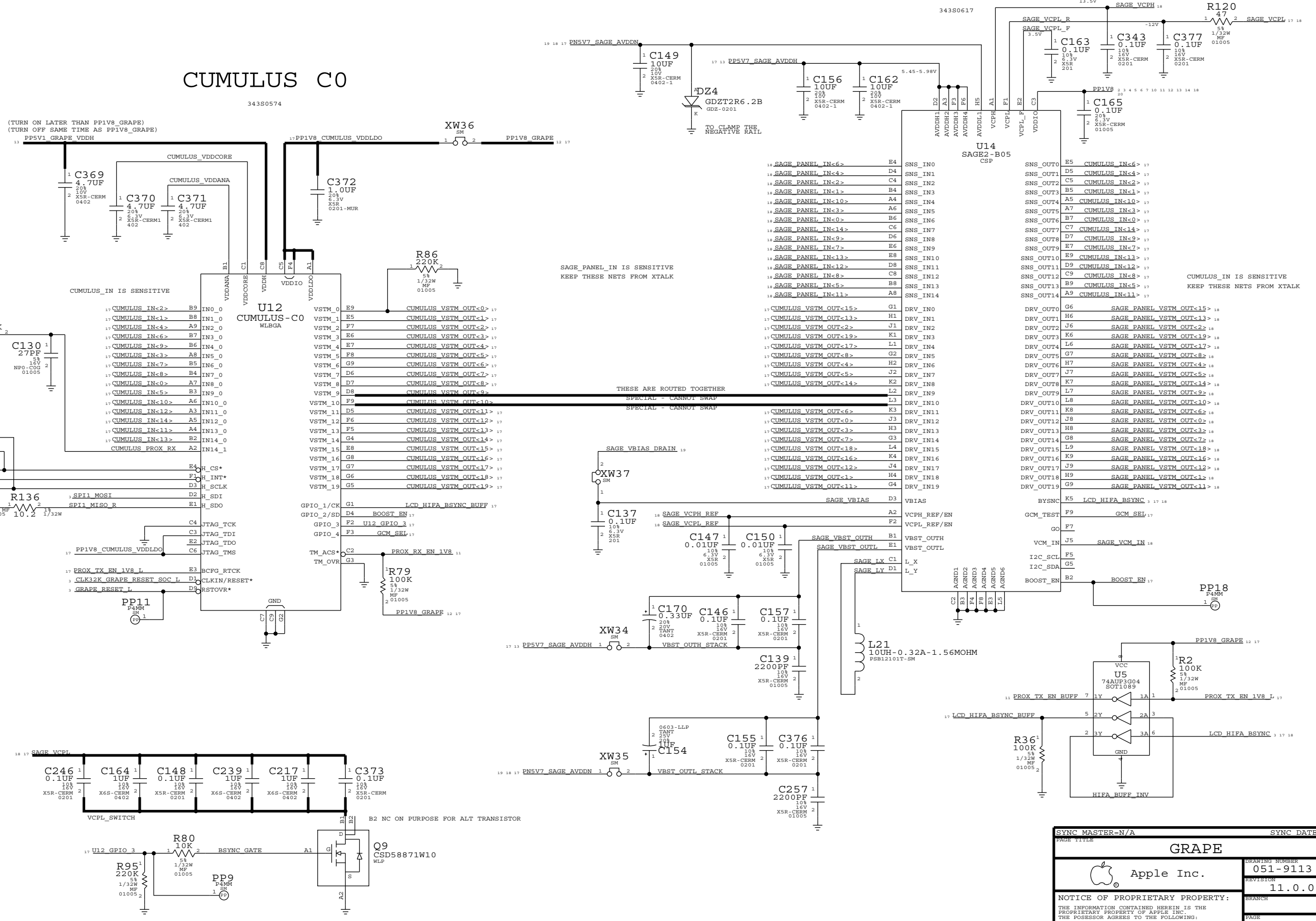




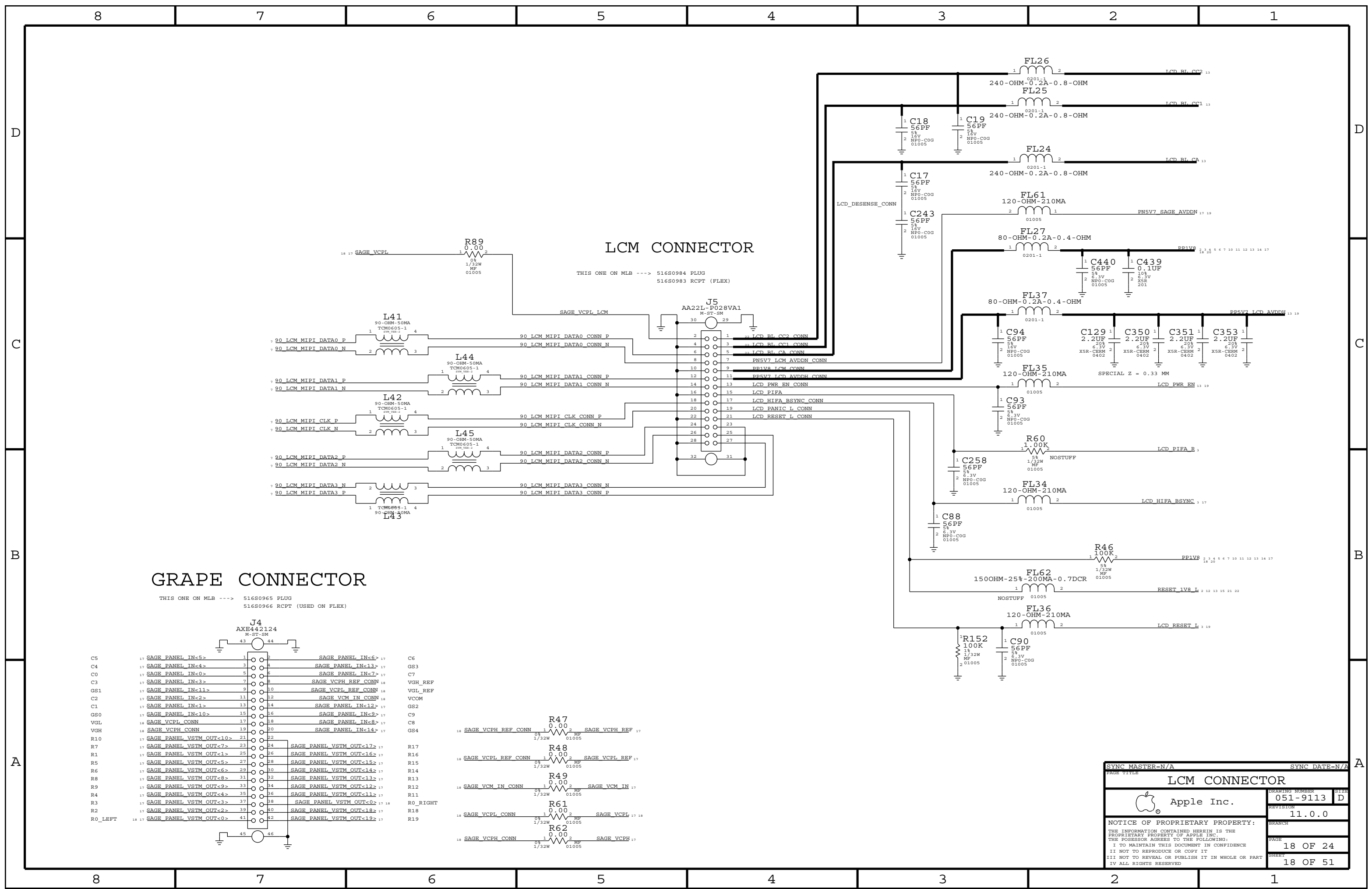
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<b>DOCK CONNECTOR</b>			
Apple Inc.		DRAWING NUMBER	SIZE
		051-9113	D
		REVISION	
		11.0.0	
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# SAGE2 B0

## CUMULUS C0



PAGE TITLE		SYNC DATE=N/A	
<b>GRAPE</b>			
Apple Inc.		DRAWING NUMBER	051-9113
		REVISION	11.0.0
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		PAGE	17 OF 24
		SHEET	17 OF 51



### LCM CONNECTOR

THIS ONE ON MLB ---> 516S0984 PLUG  
516S0983 RCPT (FLEX)

### GRAPE CONNECTOR

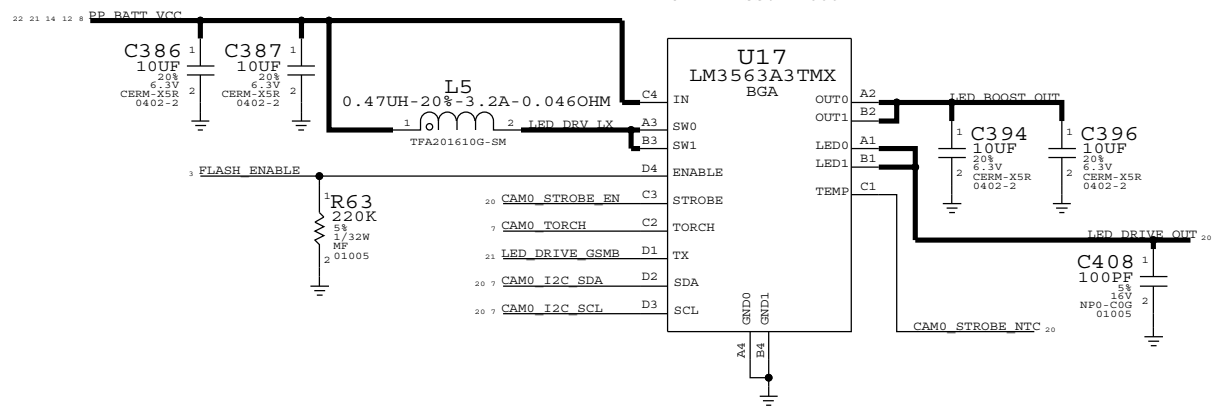
THIS ONE ON MLB ---> 516S0965 PLUG  
516S0966 RCPT (USED ON FLEX)

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

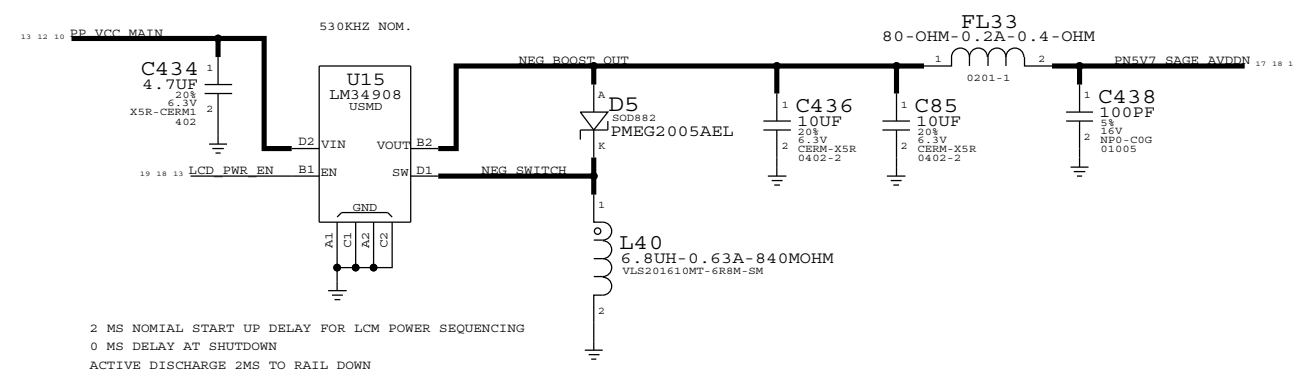
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<b>LCM CONNECTOR</b>			
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# LED DRIVER

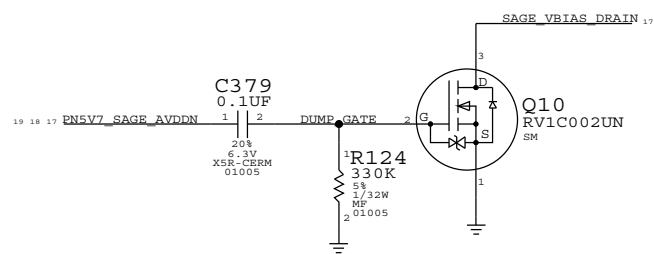
I2C ADDRESS: 1100011X



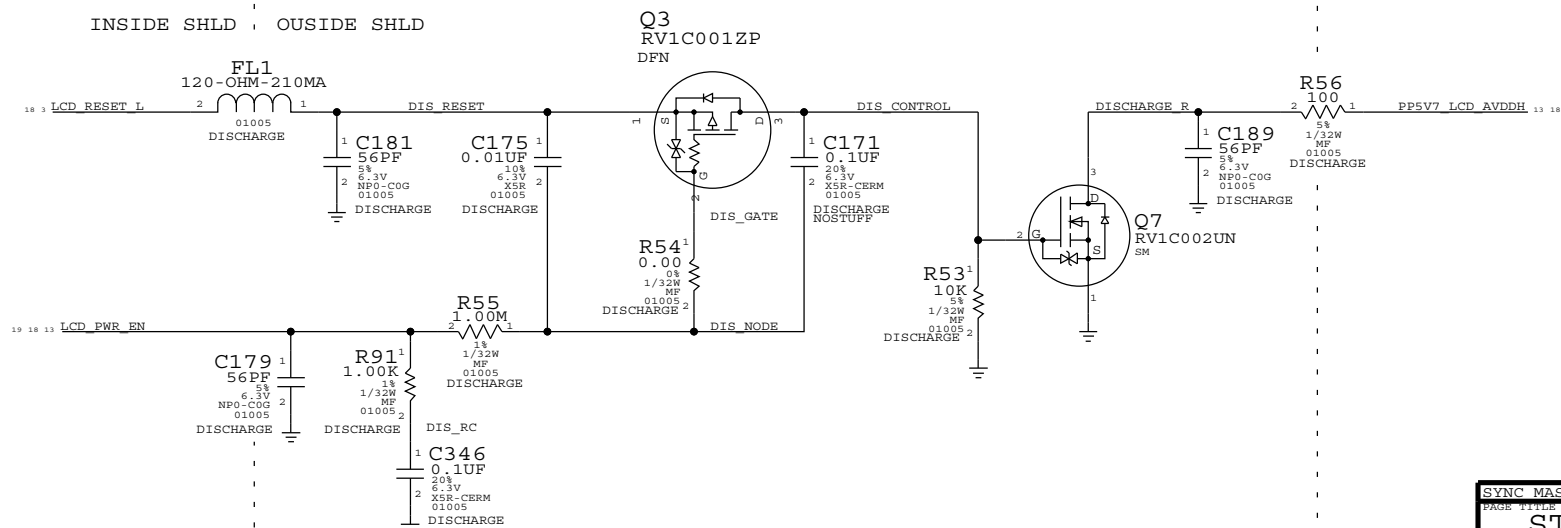
# NEGATIVE BOOST SUPPLY



# SAGE\_VBIAS DISCHARGE

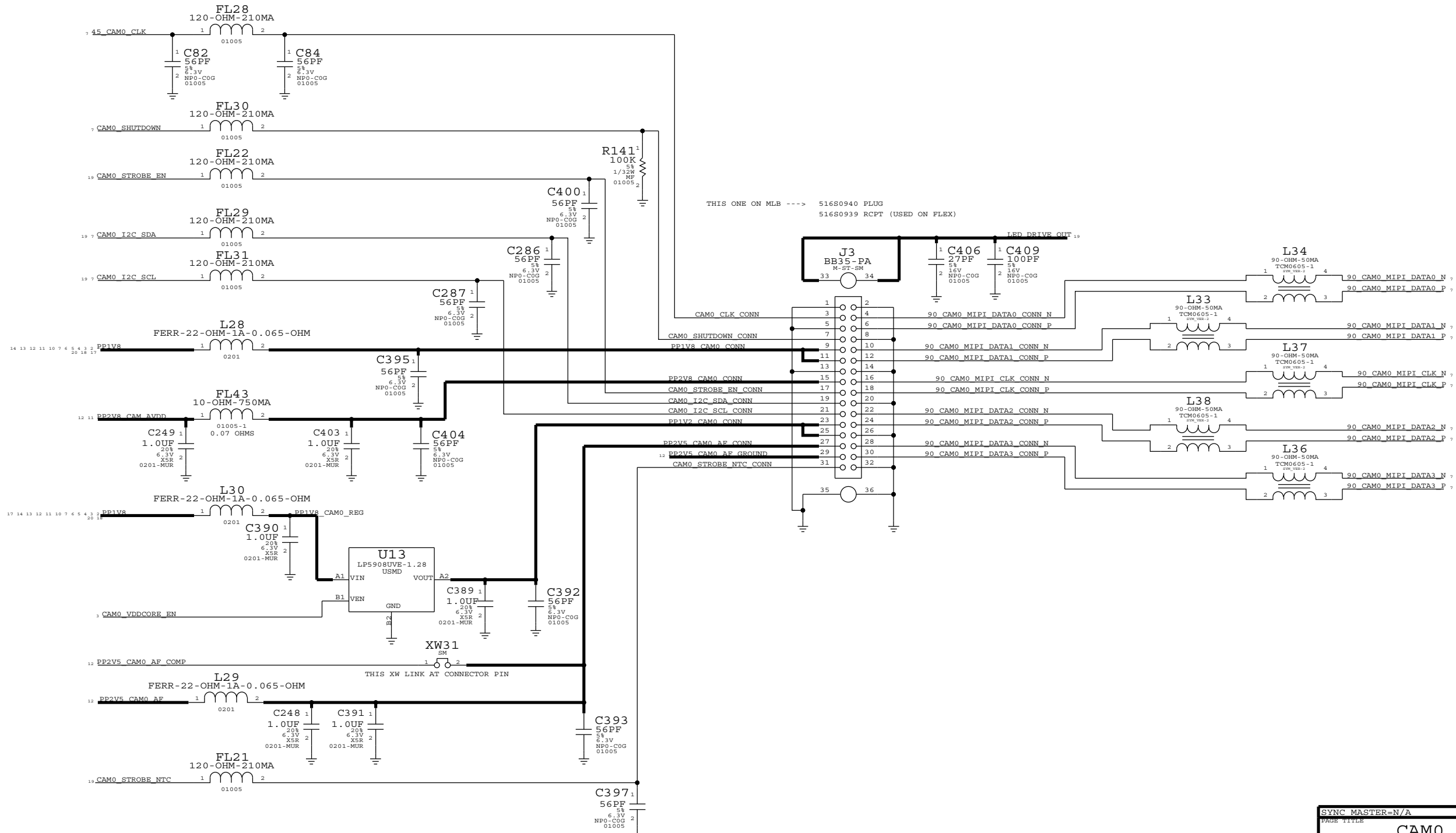


THIS CIRCUIT IS BEHIND THE SIM TRAY



SYNC MASTER=N/A		SYNC DATE=N/A	
<b>STROBE &amp; NEGATIVE RAIL</b>			
		DRAWING NUMBER	051-9113
		REVISION	11.0.0
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		PAGE	19 OF 24
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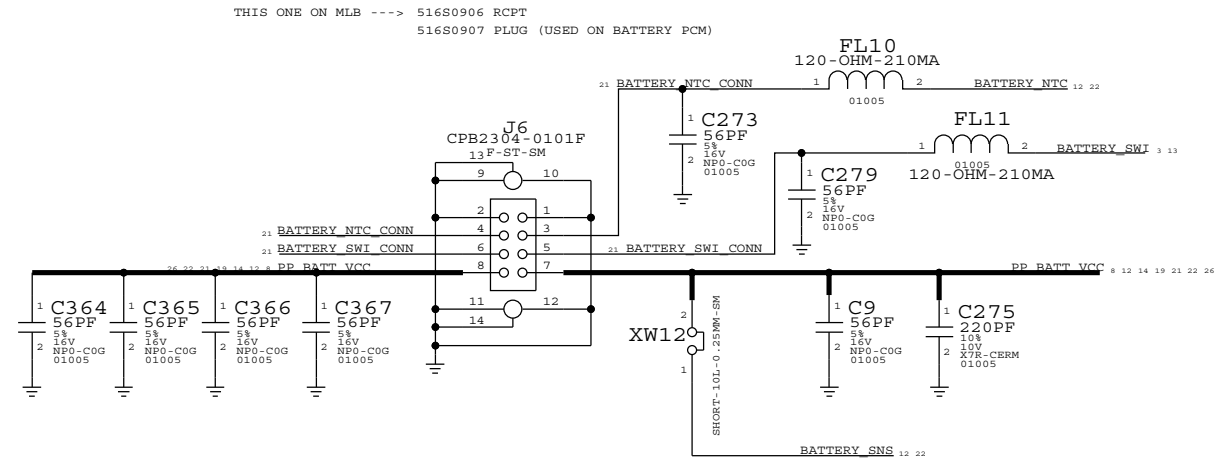
# CAM0: MAIN CAMERA CONNECTOR



CAMO CONNECTOR		DRAWING NUMBER 051-9113	SIZE D
Apple Inc.		REVISION 11.0.0	
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### BATTERY CONN

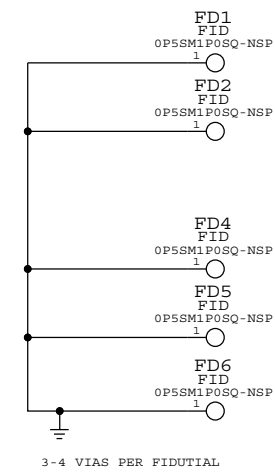


### AP/RADIO INTERFACE

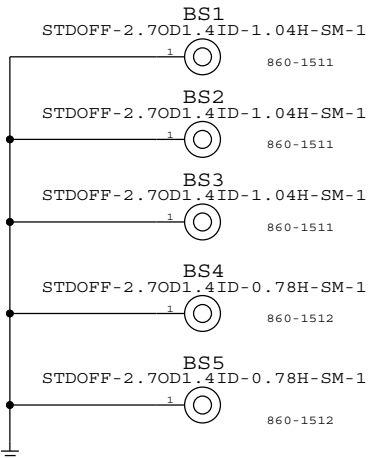
SUBDESIGN\_SUFFIX=RF I594

26 22 21 19 14 12	PP BATT VCC	MAKE BASE-TRUE	PP_BATT_VCC_CONN	AP_HSIC3_RDY	MAKE BASE-TRUE	AP_HSIC3_RDY	3 42
26 1	RADIO_ON_L	MAKE BASE-TRUE	RADIO_ON_L	DEV_HSIC3_RDY	MAKE BASE-TRUE	DEV_HSIC3_RDY	3 42
26 3	BB RESET_DET_L	MAKE BASE-TRUE	RESET_DET_L	BB_JTAG_TCK	MAKE BASE-TRUE	BB_JTAG_TCK	3 26
26 11	BB_RST_PMU_L	MAKE BASE-TRUE	RESET_PMU_L	BB_JTAG_TDI	MAKE BASE-TRUE	BB_JTAG_TDI	3 26
26 4	BB_RST_L	MAKE BASE-TRUE	BB_RST_L	BB_JTAG_TMS	MAKE BASE-TRUE	BB_JTAG_TMS	3 26
26 13	BB_WAKE_AP	MAKE BASE-TRUE	HOST_WAKE_BB	BB_JTAG_TRST_L	MAKE BASE-TRUE	BB_JTAG_TRST_L	3 26
26 15	RESET_V18_L	MAKE BASE-TRUE	RF_RESET_L	BB_JTAG_TDO	MAKE BASE-TRUE	BB_JTAG_TDO	3 26
26 3	PBL_RUN_BB_HSIC1_RDY	MAKE BASE-TRUE	PBL_RUN_BB_HSIC1_RDY				
30 3	BB_HSIC1_REMOTE_WAKE	MAKE BASE-TRUE	BB_HSIC1_REMOTE_WAKE				
30 15	LED_DRIVE_GSM	MAKE BASE-TRUE	TX_GTR_THRESH				
26 11	BB_VBUS_DET	MAKE BASE-TRUE	BB_USB_VBUS				
26 11	90_BB_USB_N	MAKE BASE-TRUE	90_BB_USB_D_N				
26 11	90_BB_USB_P	MAKE BASE-TRUE	90_BB_USB_D_P				
26 3	UART1_RTS_L	MAKE BASE-TRUE	BB_UART_CTS_L	RADIO_MLB			
26 3	UART1_CTS_L	MAKE BASE-TRUE	BB_UART_RTS_L				
26 3	UART1_TXD	MAKE BASE-TRUE	BB_UART_RXD				
26 3	UART1_RXD	MAKE BASE-TRUE	BB_UART_TXD				
30 3	BB_PP_SYNC	MAKE BASE-TRUE	PP_SYNC				
30 3	45_I2S1_BCLK	MAKE BASE-TRUE	BB_I2S_CLK				
30 3	I2S1_DOUT	MAKE BASE-TRUE	BB_I2S_RXD				
30 3	I2S1_DIN	MAKE BASE-TRUE	BB_I2S_TXD				
30 3	I2S1_LRCLK	MAKE BASE-TRUE	BB_I2S_WS				
26 13	ADC_SMP31_MSMC_1V05	MAKE BASE-TRUE	ADC_SMP31_MSMC_1V05				
26 13	ADC_SMP31_MSME_1V8	MAKE BASE-TRUE	ADC_SMP31_MSME_1V8				
26 13	ADC_LDO6_RUIM_1V8	MAKE BASE-TRUE	ADC_LDO6_RUIM_1V8				
26 13	ADC_LVS1	MAKE BASE-TRUE	ADC_LVS1				
42 15 13 9 4 3	PP1V8_SDRAM	MAKE BASE-TRUE	PP_WL_BT_VDDIO_AP				
26 11	WIFI_REG_ON	MAKE BASE-TRUE	WLAN_REG_ON				
26 11	BT_REG_ON	MAKE BASE-TRUE	BT_REG_ON				
42 3	UART4_TXD	MAKE BASE-TRUE	WLAN_UART_RXD				
42 3	UART4_RXD	MAKE BASE-TRUE	WLAN_UART_TXD				
42 3	HOST_WAKE_WLAN	MAKE BASE-TRUE	HOST_WAKE_WLAN				
26 3	BT_WAKE	MAKE BASE-TRUE	BT_WAKE				
42 11	CLK32K_WIFI	MAKE BASE-TRUE	CLK32K_AP				
42 13	HOST_WAKE_BT	MAKE BASE-TRUE	HOST_WAKE_BT				
42 3	UART3_RTS_L	MAKE BASE-TRUE	BT_UART_CTS_L				
42 3	UART3_CTS_L	MAKE BASE-TRUE	BT_UART_RTS_L				
26 3	UART3_TXD	MAKE BASE-TRUE	BT_UART_RXD				
26 3	UART3_RXD	MAKE BASE-TRUE	BT_UART_TXD				
42 3	45_I2S3_BCLK	MAKE BASE-TRUE	BT_PCM_CLK				
42 3	I2S3_DOUT	MAKE BASE-TRUE	BT_PCM_IN				
42 3	I2S3_DIN	MAKE BASE-TRUE	BT_PCM_OUT				
42 3	I2S3_LRCLK	MAKE BASE-TRUE	BT_PCM_SYNC				
26 3	50_HSIC1_DATA	MAKE BASE-TRUE	50_HSIC_BB_DATA				
26 3	50_HSIC1_STB	MAKE BASE-TRUE	50_HSIC_BB_STROBE				
30 3	AP_WAKE_MODEM	MAKE BASE-TRUE	AP_WAKE_MODEM				
42 2	50_HSIC3_DATA	MAKE BASE-TRUE	50_HSIC_WLAN_DATA				
42 2	50_HSIC3_STB	MAKE BASE-TRUE	50_HSIC_WLAN_STROBE				
26 3	AP_HSIC1_RDY	MAKE BASE-TRUE	AP_HSIC1_RDY				
27 16	PP_LDO14_2P65	MAKE BASE-TRUE	PP_LDO14_2P65				
26 16	LAT_SW1_CTL	MAKE BASE-TRUE	LAT_SW1_CTL				
42 1	WLAN_HSIC3_RESUME	MAKE BASE-TRUE	WLAN_HSIC3_RESUME				

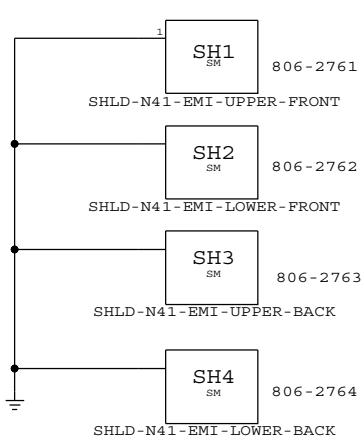
### FIDUCIALS



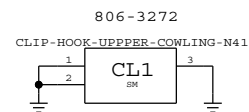
### STANDOFFS



### SHIELDS



### UPPER COWLING CLIP/HOOK



SYNC MASTER=N/A		SYNC DATE=N/A	
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Apple Inc.	DRAWING NUMBER	051-9113	SIZE
	REVISION	11.0.0	D
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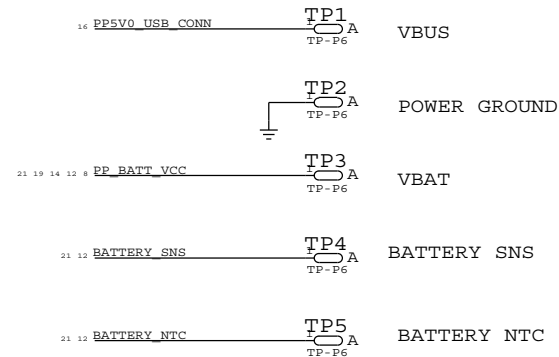
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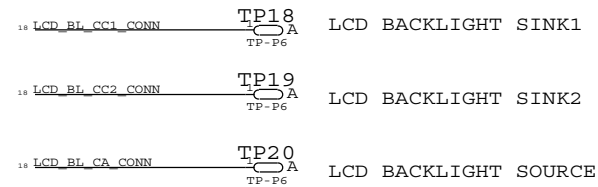
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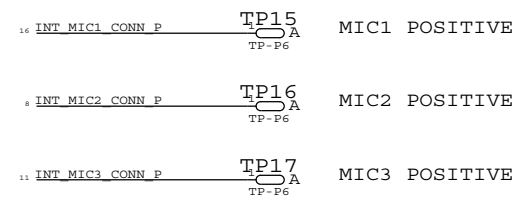
### POWER TP



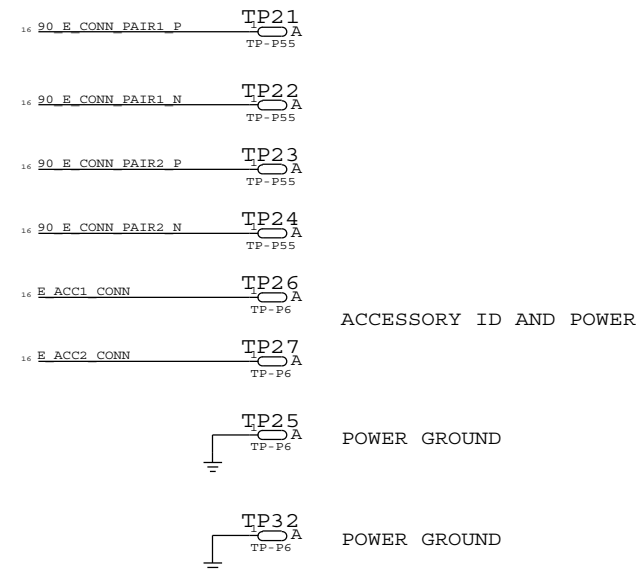
### LCM BACKLIGHT



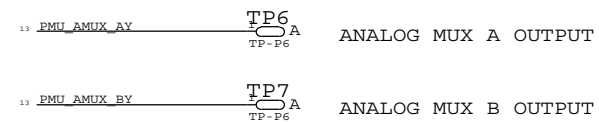
### MIC AUDIO



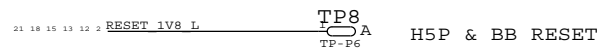
### E75 - USB/UART/ID/POWER



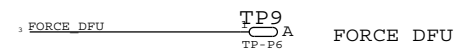
### SUPER TP



### RESET

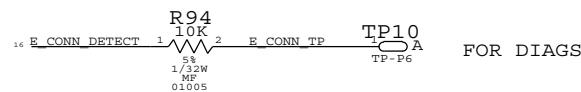
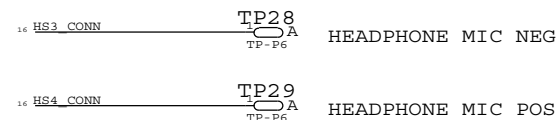


### DFU



DRIVE MIC WRT NEAREST GROUND TEST POINT

### HEADPHONE MIC



D

D

C

C

B

B

A

A

SYNC MASTER=N/A		SYNC DATE=N/A	
<b>TEST POINTS</b>			
		DRAWING NUMBER	051-9113
		REVISION	11.0.0
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1

# RADIO BOM OPTIONS

CONFIDENTIAL AND PROPRIETARY APPLE SYSTEM DESIGN. FOR REFERENCE PURPOSES ONLY - NOT A CHANGE REQUEST.

## HW ID PA ID BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
118S0685	1	PA_ID RES DIVIDER	R304_RF	Y	B4_17
118S0656	1	PA_ID RES DIVIDER	R304_RF	Y	B3_13
118S0719	1	PA_ID RES DIVIDER	R302_RF	Y	B4_17
118S0685	1	PA_ID RES DIVIDER	R302_RF	Y	B3_13

## SPI NOR BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S0874	1	SERIAL SPI NOR - MICRONIX	U601_RF	Y	B4_17
335S0874	1	SERIAL SPI NOR - MICRONIX	U601_RF	Y	B3_13

## B5/B5E BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S3415	1	SKY77487 BAND 5/8 PAD	U1001_RF	Y	B4_17
353S3568	1	SKY77491 BAND5E/8 PAD	U1001_RF	Y	B3_13
155S0552	1	BAND5 TX SAW	FL1001_RF	Y	B4_17
155S0742	1	BAND5/BC10 TX SAW	FL1001_RF	Y	B3_13
152S1563	1	1.5NH, INDUCTOR - MURATA	L1001_RF	Y	B4_17
152S1662	1	1.5NH, INDUCTOR - TDK	L1001_RF	Y	B3_13
152S1577	1	15NH, INDUCTOR - MURATA	L1002_RF	Y	B4_17
152S1665	1	15NH, INDUCTOR - TDK	L1002_RF	Y	B3_13
152S1576	1	12NH, INDUCTOR - MURATA	L1003_RF	Y	B4_17
152S1664	1	12NH, INDUCTOR - TDK	L1003_RF	Y	B3_13
152S1570	1	4.7NH, INDUCTOR - MURATA	L1010_RF	Y	B4_17
152S1663	1	4.7NH, INDUCTOR - TDK	L1010_RF	Y	B3_13

## B13/17 BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S1328	1	4.3NH INDUCTOR - 0201	C1111_RF	Y	B4_17
152S1353	1	3.6NH INDUCTOR - 0201	C1111_RF	Y	B3_13
131S0198	1	1.8PF CAPACITOR - 0201	L1103_RF	Y	B4_17
118S0724	1	0 OHM JUMPER - 0201	C1112_RF	Y	B4_17
131S0204	1	22PF CAPACITOR - 0201	C1112_RF	Y	B3_13
118S0724	1	0 OHM JUMPER - 0201	L1105_RF	Y	B4_17
152S1443	1	2.0NH INDUCTOR - 0201	L1105_RF	Y	B3_13
152S1320	1	7.5NH INDUCTOR - 0201	C1113_RF	Y	B4_17
131S0166	1	39PF CAPACITOR - 0201	C1113_RF	Y	B3_13
131S0176	1	2.4PF CAPACITOR - 0201	C1117_RF	Y	B4_17

## DCDC BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S1648	1	POWER INDUCTOR - TAIYO YUDEN	L1201_RF	Y	B4_17
152S1648	1	POWER INDUCTOR - TAIYO YUDEN	L1201_RF	Y	B3_13
152S1570	1	4.7NH, INDUCTOR - MURATA	L1205_RF	Y	B4_17
152S1663	1	4.7NH, INDUCTOR - TDK	L1205_RF	Y	B3_13

## WIFI BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
339S0171	1	WIFI MODULE - MURATA	U1801_RF	Y	B4_17
339S0171	1	WIFI MODULE - MURATA	U1801_RF	Y	B3_13

## SINGING CAP BOM OPTIONS

NEED TO COPY FROM AP TABLE WHEN STAN FINISHES

## B13/17 BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0620	1	BAND17 TX SAW	FL1101_RF	Y	B4_17
155S0619	1	BAND13 TX SAW	FL1101_RF	Y	B3_13
353S3567	1	BAND17 PAM - SKYWORKS	U1101_RF	Y	B4_17
353S3441	1	BAND13 PAM - AVAGO	U1101_RF	Y	B3_13
155S0709	1	BAND17 DUPLEXER - MURATA	U1102_RF	Y	B4_17
155S0738	1	BAND13 DUPLEXER - EPCOS	U1102_RF	Y	B3_13
152S1336	1	BAND17 INDUCTOR - 8.2NH	L1104_RF	Y	B4_17
152S1342	1	BAND13 INDUCTOR - 15NH	L1104_RF	Y	B3_13
152S1577	1	15NH, INDUCTOR - MURATA	L1102_RF	Y	B4_17
152S1576	1	12NH, INDUCTOR - MURATA	L1102_RF	Y	B3_13

## B2 PAD BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S3715	1	TQM666084 B2 TQS PAD	U1501_RF	Y	B4_17
353S3459	1	TQM666083 B25 TQS PAD	U1501_RF	Y	B3_13

## DIVERISTY MODULE BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S3516	1	B17 MURATA DIVERSITY MODULE	U1601_RF	Y	B4_17
353S3562	1	B13/BC10 DIVERSITY MODULE	U1601_RF	Y	B3_13

## B3/DCS1800 BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0596	1	DCS1800 RX FIL	FL1301_RF	Y	B4_17
155S0729	1	BAND3 RX FIL	FL1301_RF	Y	B3_13
155S0695	1	THRU LINE	FL1302_RF	Y	B4_17
155S0722	1	BAND13 TX LPF	FL1302_RF	Y	B3_13
152S1656	1	3.0NH INDUCTOR	R1301_RF	Y	B3_13
117S0161	1	0OHM RES	R1302_RF	Y	B4_17
118S0652	1	49.90HM RES	R1303_RF	Y	B3_13
118S0652	1	49.90HM RES	R1305_RF	Y	B4_17
152S1562	1	1.2NH INDUCTOR	L1304_RF	Y	B4_17
152S1720	1	1.8NH INDUCTOR	L1304_RF	Y	B3_13
152S1562	1	1.2NH INDUCTOR	L1305_RF	Y	B4_17
152S1720	1	1.8NH INDUCTOR	L1305_RF	Y	B3_13
152S1569	1	3.9NH INDUCTOR	L1301_RF	Y	B4_17
152S1570	1	4.7NH INDUCTOR	L1301_RF	Y	B3_13

## B3/B4 RX BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S1570	1	4.7NH INDUCTOR - 01005	C1414_RF	Y	B4_17
131S0375	1	1.0PF CAPACITOR - 01005	C1415_RF	Y	B4_17
131S0375	1	1.0PF CAPACITOR - 01005	C1420_RF	Y	B4_17
152S1570	1	4.7NH INDUCTOR - 01005	L1416_RF	Y	B4_17
152S1571	1	5.6NH INDUCTOR - 01005	C1414_RF	Y	B3_13
131S0377	1	1.2PF CAPACITOR - 01005	C1415_RF	Y	B3_13
131S0377	1	1.2PF CAPACITOR - 01005	C1420_RF	Y	B3_13
152S1571	1	5.6NH INDUCTOR - 01005	L1416_RF	Y	B3_13
131S0219	1	10PF CAPACITOR - 01005	L1420_RF	Y	B4_17
131S0219	1	10PF CAPACITOR - 01005	L1421_RF	Y	B4_17
152S1562	1	1.2NH INDUCTOR - 01005	L1420_RF	Y	B3_13
152S1562	1	1.2NH INDUCTOR - 01005	L1421_RF	Y	B3_13
152S1328	1	4.3NH INDUCTOR - 0201	R1402_RF	Y	B4_17
152S1688	1	3.5NH INDUCTOR - 0201	C1416_RF	Y	B4_17
152S1284	1	3.3NH INDUCTOR - 0201	R1402_RF	Y	B3_13
152S1284	1	3.3NH INDUCTOR - 0201	C1416_RF	Y	B3_13

## B3/B4 TX BOM OPTIONS

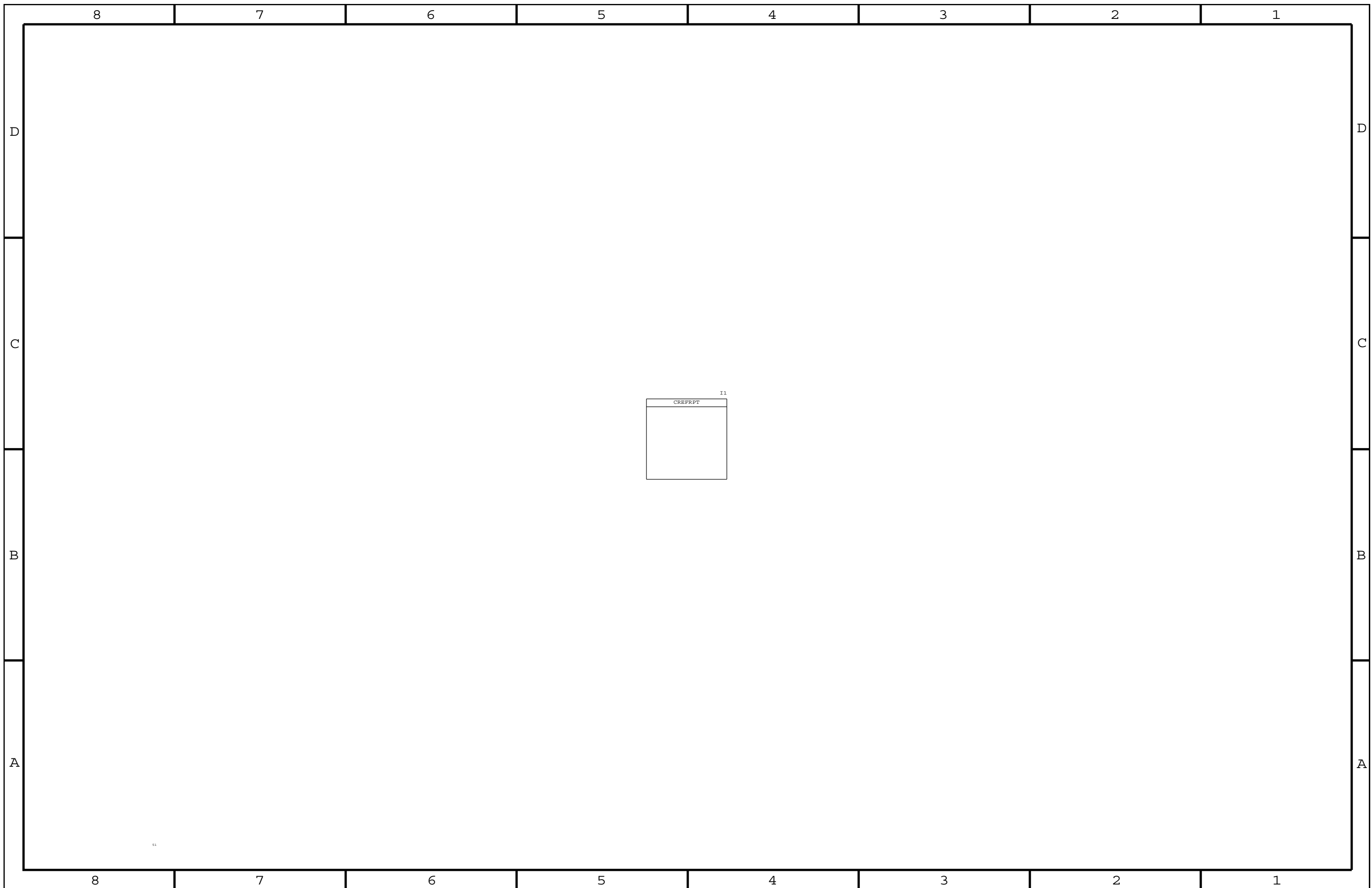
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0215	1	22PF CAPACITOR - 01005	L1417_RF	Y	B4_17
152S1569	1	3.9NH INDUCTOR - 01005	L1417_RF	Y	B3_13
131S0369	1	0.5PF CAPACITOR - 01005	L1408_RF	Y	B3_13
152S1284	1	3.3NH INDUCTOR - 0201	C1425_RF	Y	B4_17
152S1705	1	2.7NH INDUCTOR - 0201	L1419_RF	Y	B4_17
131S0551	1	1.2PF CAPACITOR - 0201	L1415_RF	Y	B4_17
152S1284	1	3.3NH INDUCTOR - 0201	C1425_RF	Y	B3_13
152S1705	1	2.7NH INDUCTOR - 0201	L1419_RF	Y	B3_13
131S0551	1	1.2PF CAPACITOR - 0201	L1415_RF	Y	B3_13

## B3/B4 BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S3255	1	B1/4 PAD - AVAGO	U1401_RF	Y	B4_17
353S3443	1	B1/3 PAD - AVAGO	U1401_RF	Y	B3_13
155S0590	1	B4 TX FIL	FL1402_RF	Y	B4_17
155S0712	1	B3 TX FIL	FL1402_RF	Y	B3_13

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REVISION		11.0.0	BRANCH	
PAGE		23 OF 24	SHEET	
SHEET		23 OF 51		

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

REV	ECN	DESCRIPTION OF REVISION	CK APPD	DATE
11	0001447874	ENGINEERING RELEASED		2012-05-02

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# N41 RADIO\_MLB SUBDESIGN

## RADIO - 04/30/2012: SUBDESIGN

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02	AP INTERFACE AND DEBUG CONNECTORS
03	BASEBAND PMU (1 OF 2)
04	BASEBAND PMU (2 OF 2)
05	BASEBAND (1 OF 2)
06	BASEBAND (2 OF 2) & SERIAL EEPROM
07	RF TRANSCEIVER (1 OF 3)
08	RF TRANSCEIVER SWITCHING NETWORKS (2 OF 3)
09	RF TRANSCEIVER DECOUPLING (3 OF 3)
10	BAND 5/8 PAD
11	BAND 13 INTERSTAGE, PA, AND DUPLEXER
12	2G PA, PA DCDC CONVERTER
13	ASM, DCS RX
14	BAND 1/4 PAD
15	BAND 2 PAD
16	RX DIVERSITY
17	GPS
18	WLAN/BT
19	BOM OPTION TABLES

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-9119	1	N41_RADIO_MLB	SCH	Y	
825-2029	1	EEE FOR 639-2482	EEEE_DNVM	Y	B4_17
825-2029	1	EEE FOR 639-3241	EEEE_DW3L	Y	B3_13

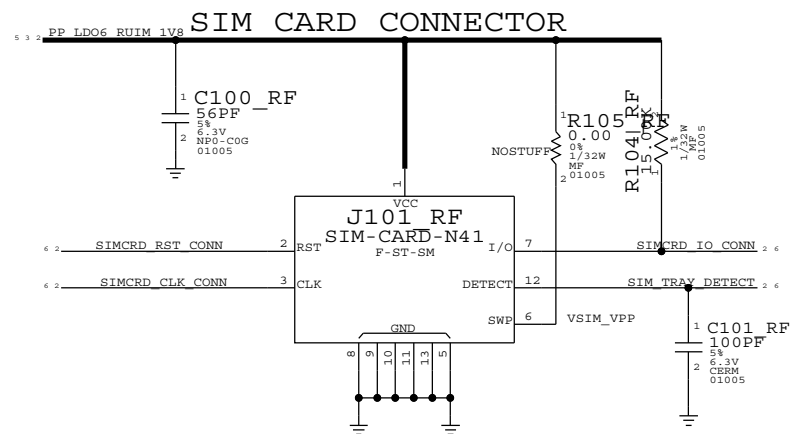
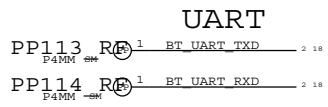
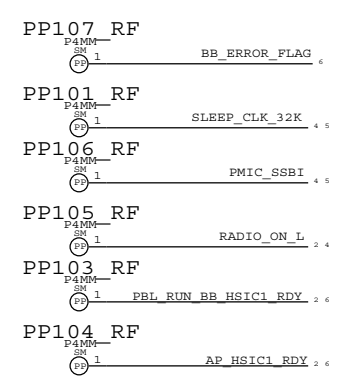
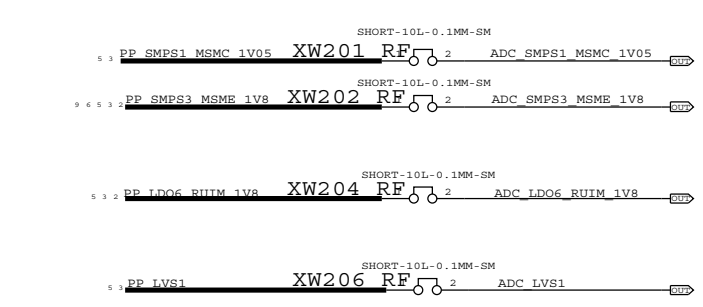
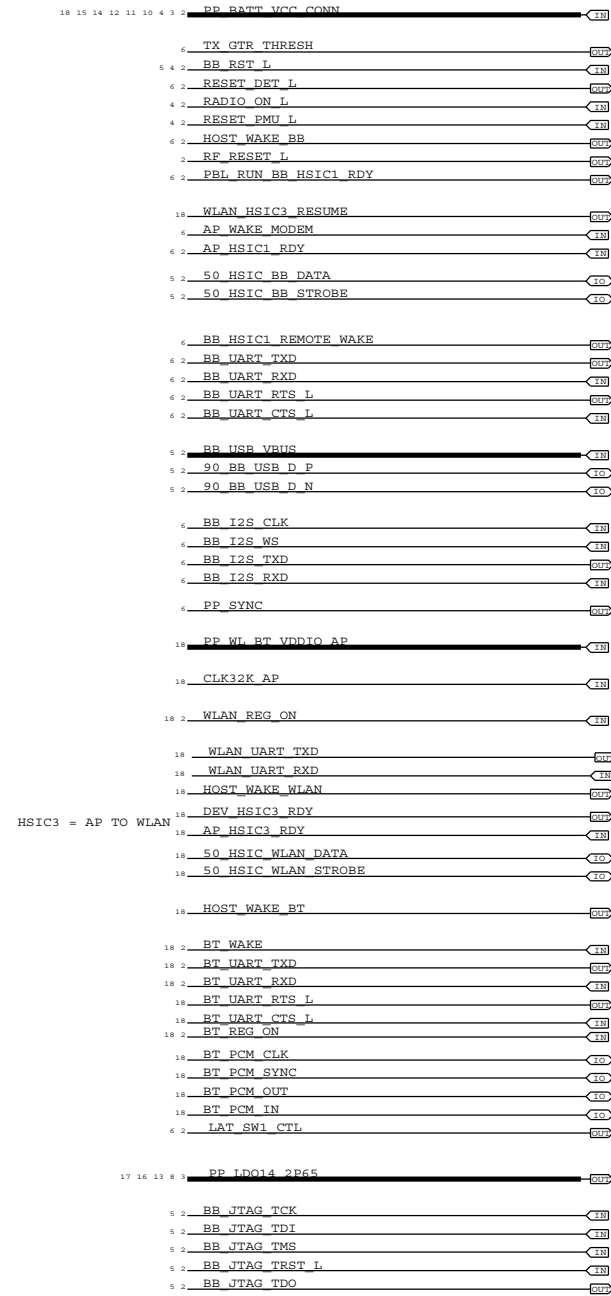
SCH #: 051-9119  
 BOM (B4\_17): 639-2482  
 BOM (B3\_13): 639-3241

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		SHEET	25 OF 51

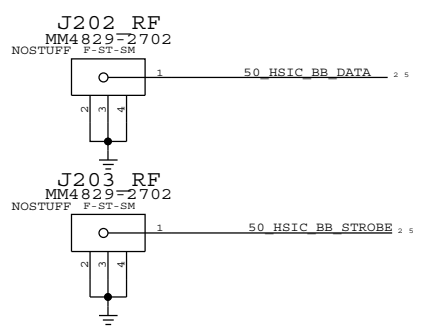
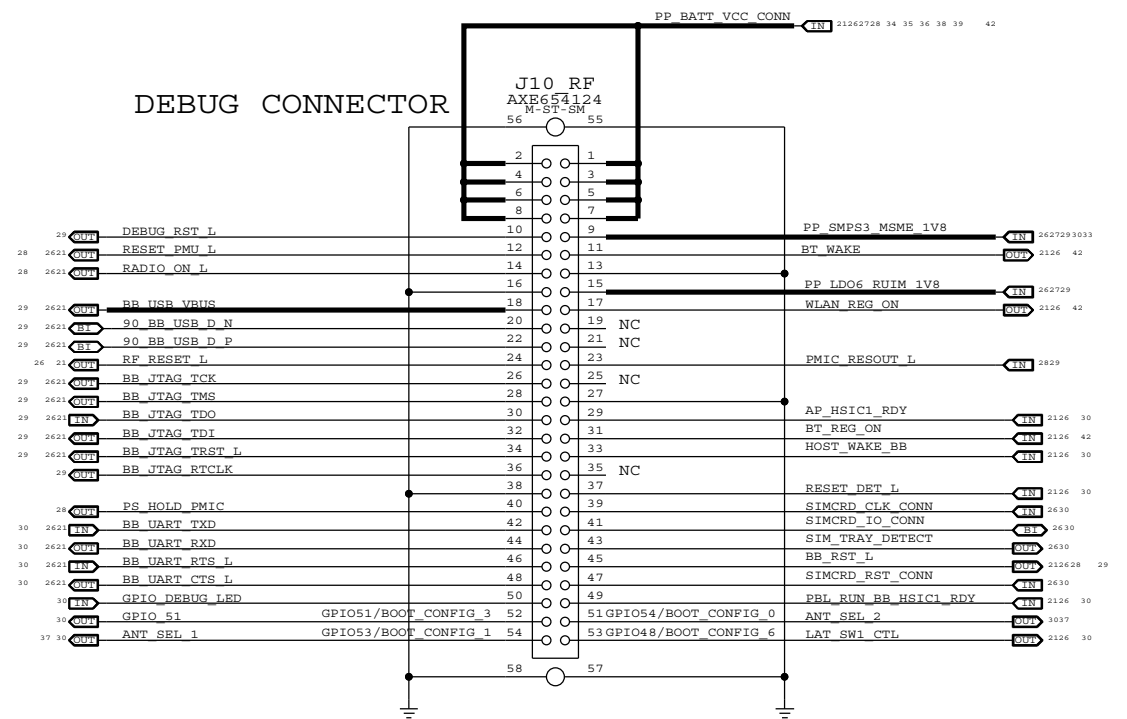
# AP INTERFACE & DEBUG CONNECTOR

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## AP CONNECTIONS



## DEBUG CONNECTOR



BOOT OPTIONS	BOOT_CONFIG SW REGISTER VALUE	GPIO/BOOT_CONFIG CONFIGURATION								
		6	5	4	3	2	1	0		
BOOT_DEFAULT_OPTION	0X00	X	0	0	0	0	0	0	0	X
BOOT_NAND_OPTION	0X01	X	1	0	0	0	0	0	1	X
BOOT_HSIC_OPTION	0X02	X	1	0	0	0	0	1	0	X
BOOT_USB_OPTION	0X03	X	1	0	0	0	0	1	1	X
ENABLE SAHARA PROTOCOL	0X08	X	1	0	0	1	0	X	X	X

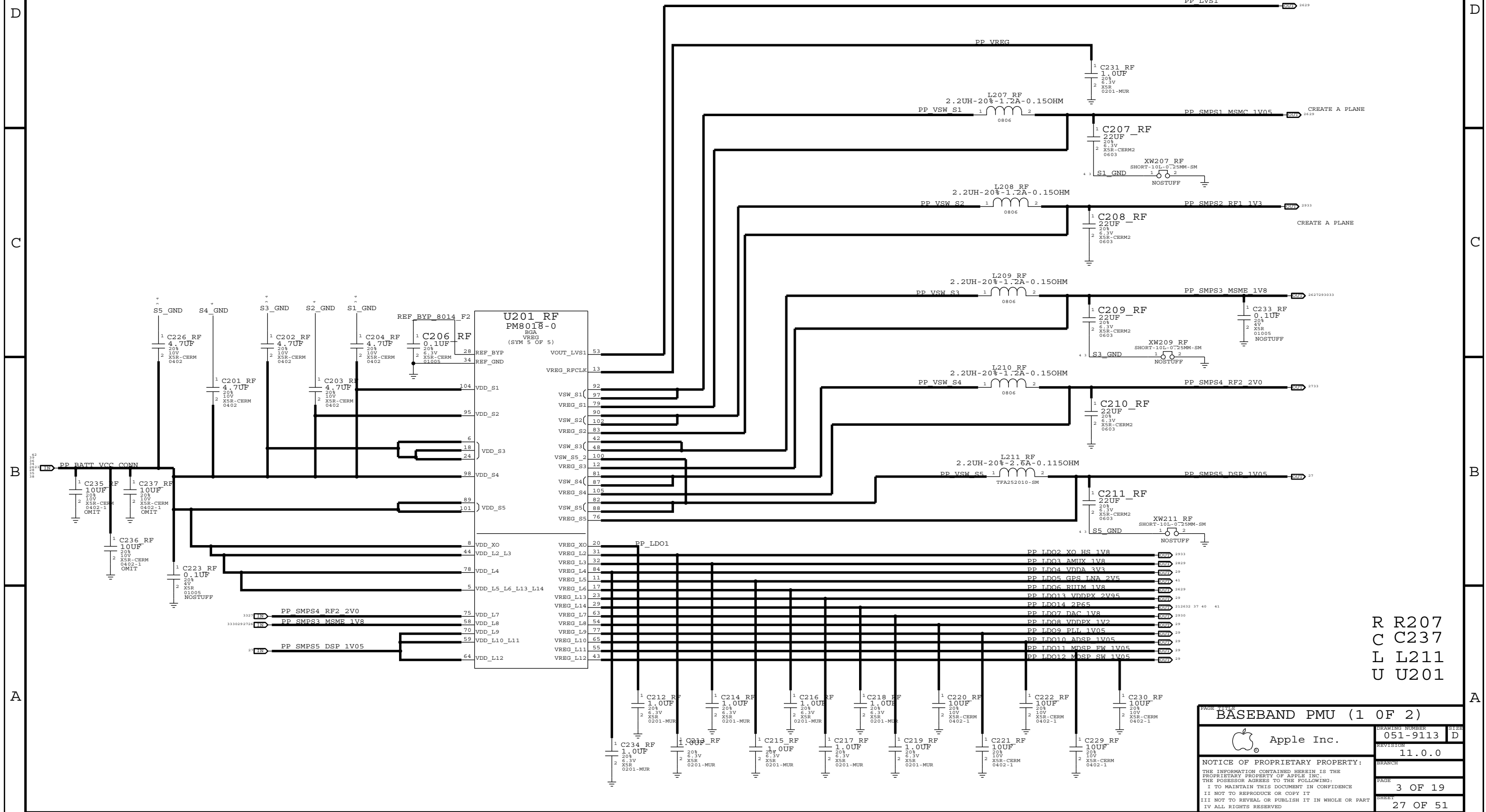
R R105  
C C101  
XWXW206  
DZDZ101  
U U101

SYSTEM & DEBUG CONNECTORS		
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	SIZE	D



# BASEBAND PMU (1 OF 2)

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R R207  
C C237  
L L211  
U U201

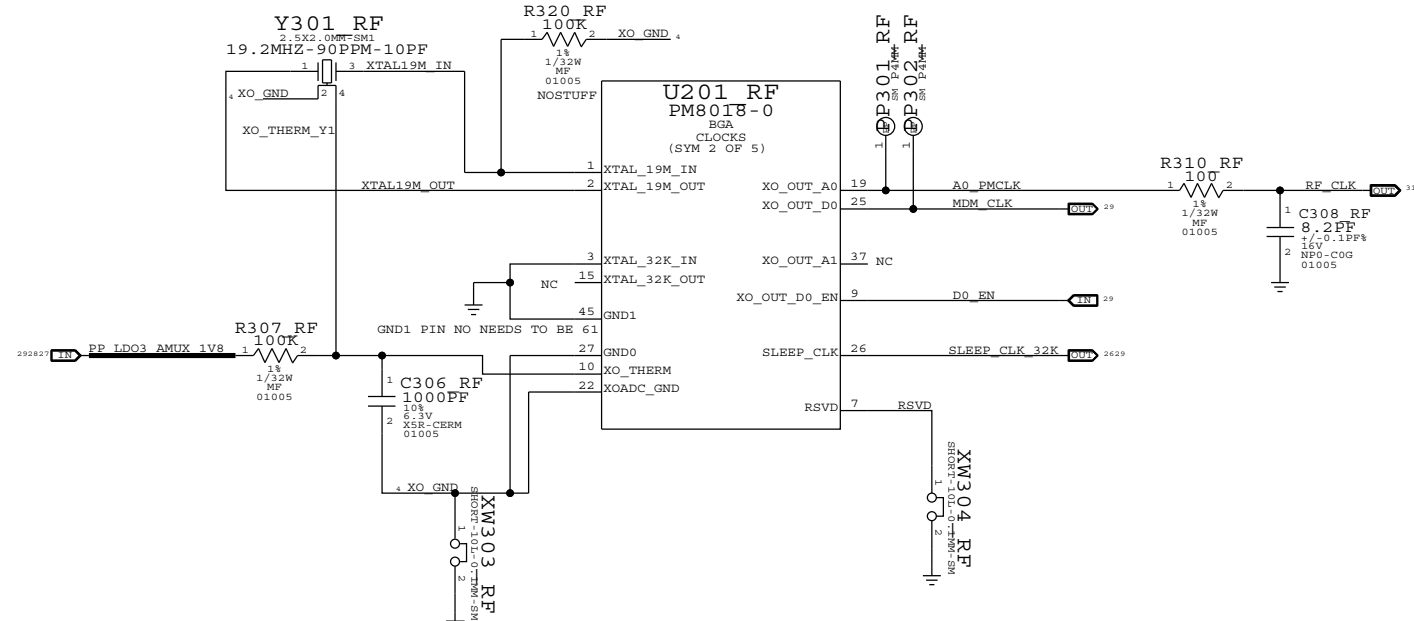
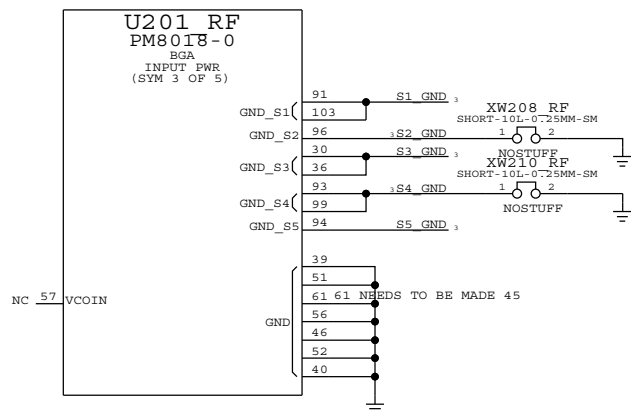
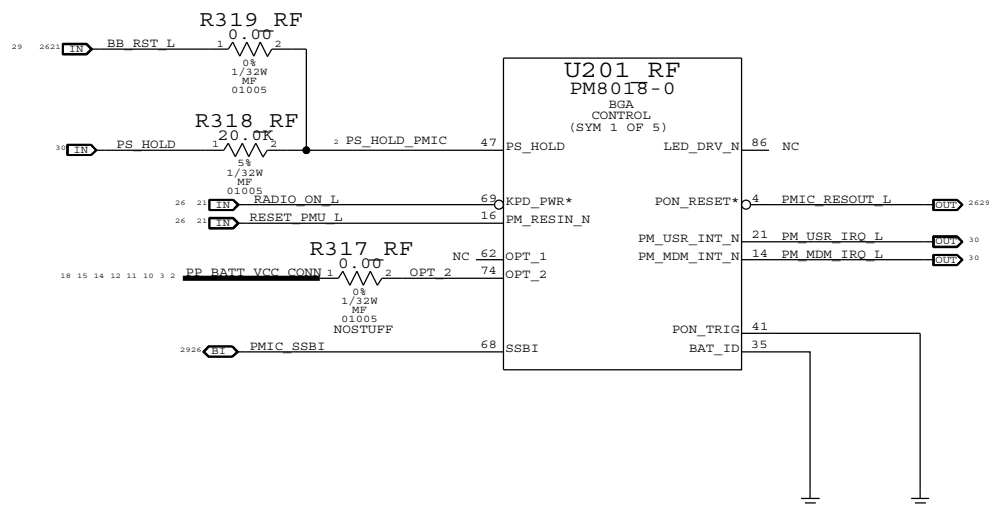
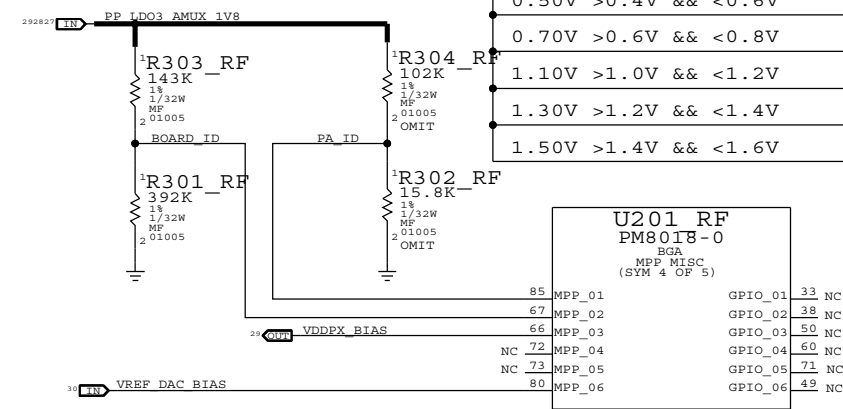
BASEBAND PMU (1 OF 2)		
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# BASEBAND PMU (2 OF 2)

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BOARD_ID	REVISION
0.25V : >0.2V && <0.4V	PROTO1
0.50V : >0.4V && <0.6V	PROTO2
0.70V : >0.6V && <0.8V	PROTO3
0.90V : >0.8V && <1.0V	EVT1
1.10V : >1.0V && <1.2V	EVT2
1.30V : >1.2V && <1.4V	EVT3

PA_ID	PA CONFIG
0.25V >0.2V && <0.4V	B4_17 MAIN
0.50V >0.4V && <0.6V	BUILD MATRIX
0.70V >0.6V && <0.8V	BUILD MATRIX
1.10V >1.0V && <1.2V	B3_13 MAIN
1.30V >1.2V && <1.4V	BUILD MATRIX
1.50V >1.4V && <1.6V	BUILD MATRIX

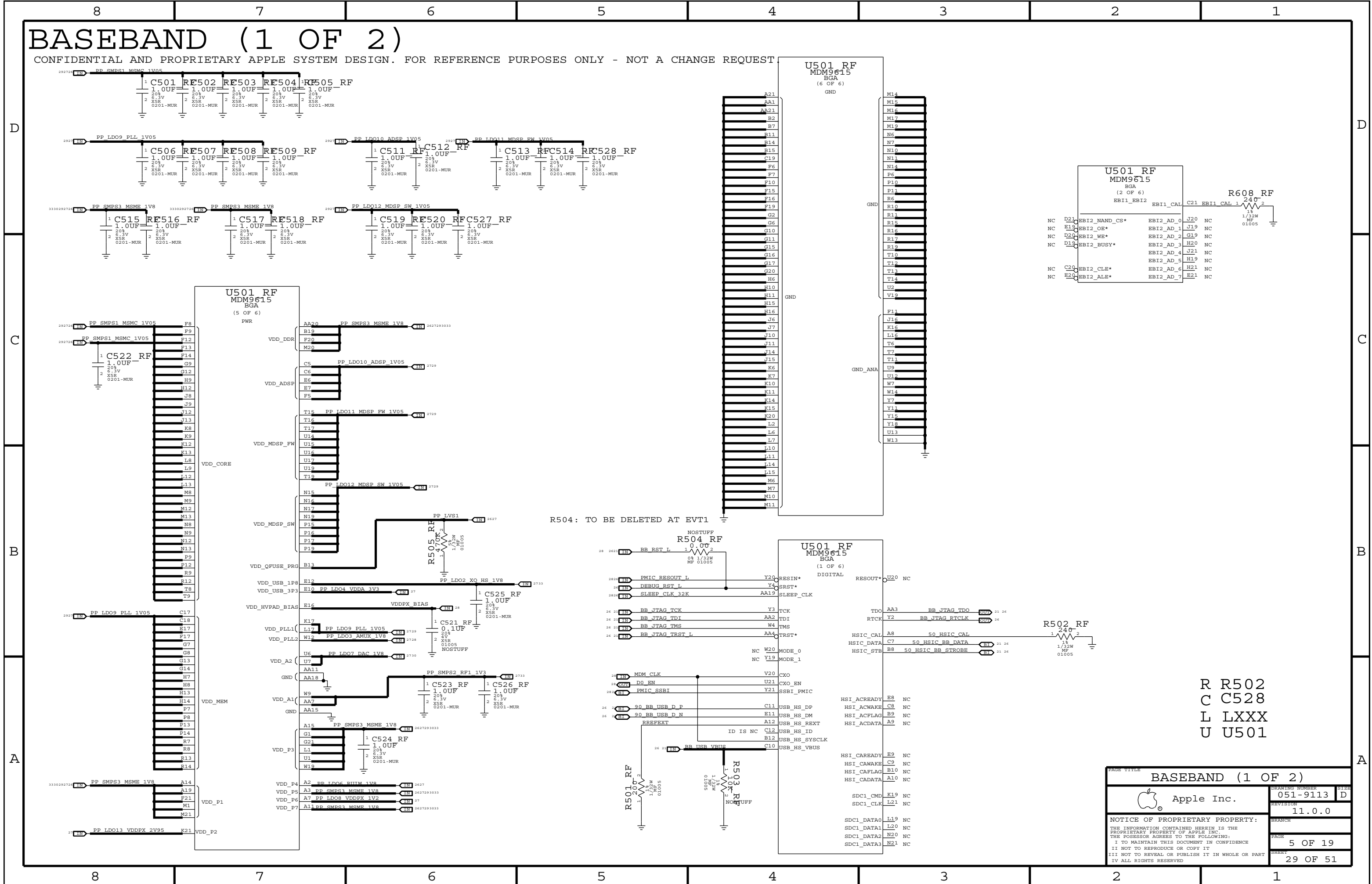


R R320  
C C309  
L LXXX  
U U301  
XW XW305

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28 OF 51		

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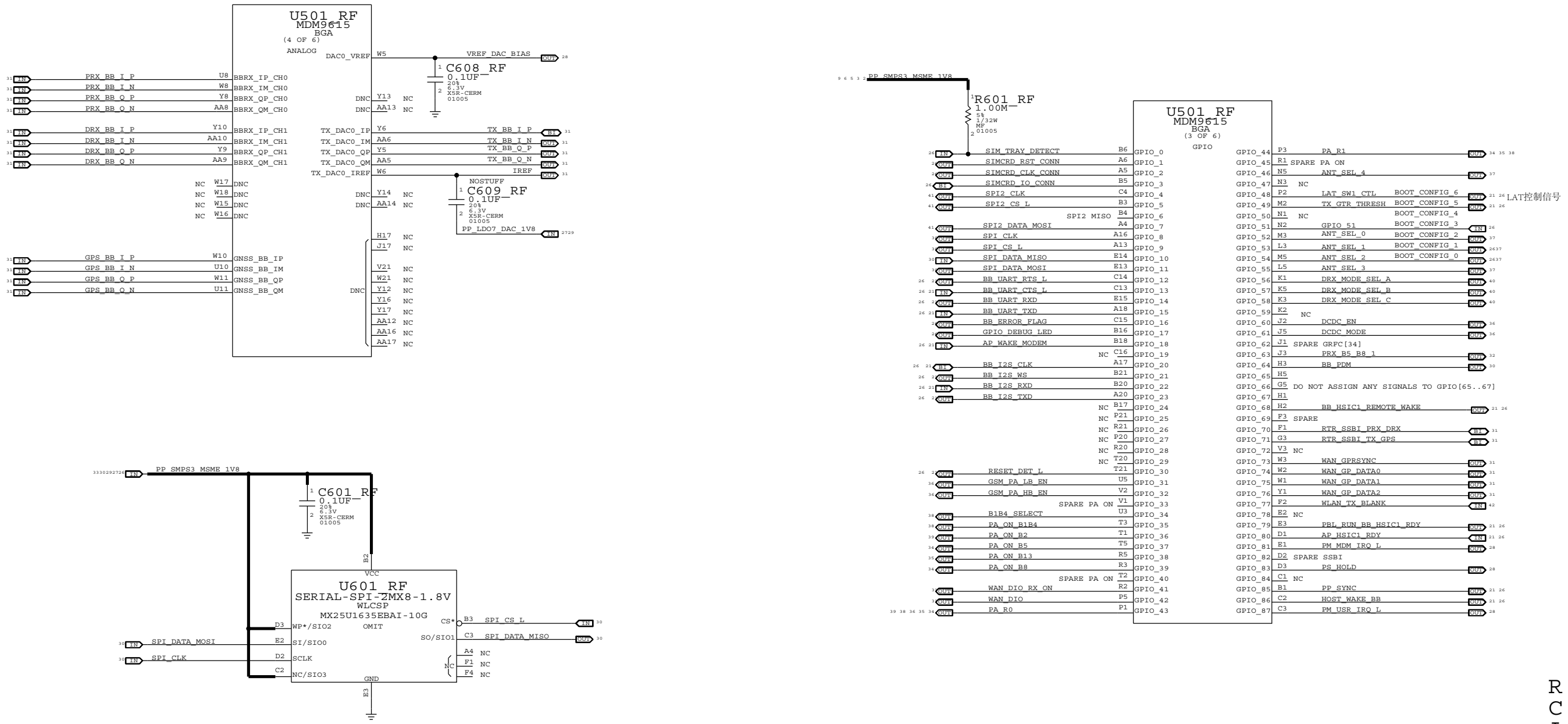
R504: TO BE DELETED AT EVT1

R R502  
C C528  
L LXXX  
U U501

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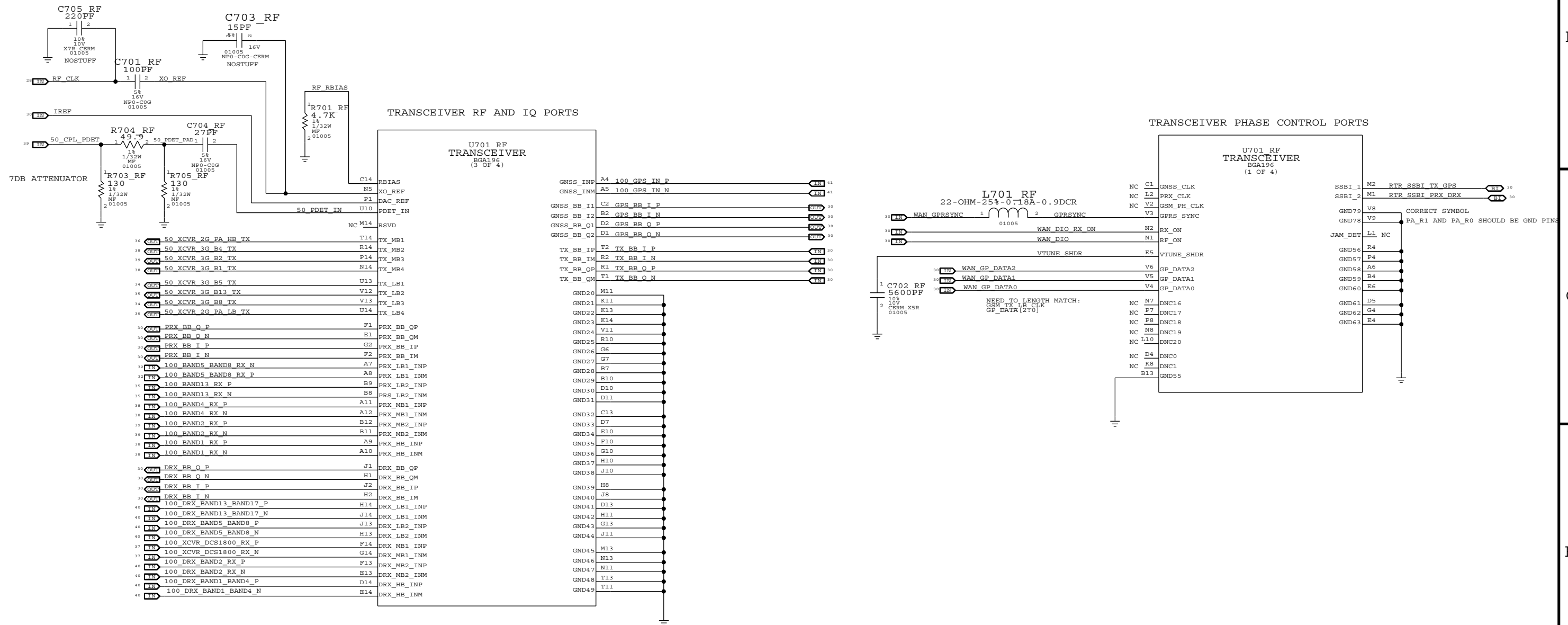


R R608  
C C609  
L L601

PAGE TITLE <b>MOBILE DATA MODEM (2 OF 2)</b>		
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# RF TRANSCEIVER (1 OF 3)

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R R705  
C C705  
L L701  
U U701

RF TRANSCEIVER (1 OF 3)		
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# RF TRANSCEIVER SWITCHING NETWORKS (2 OF 3)

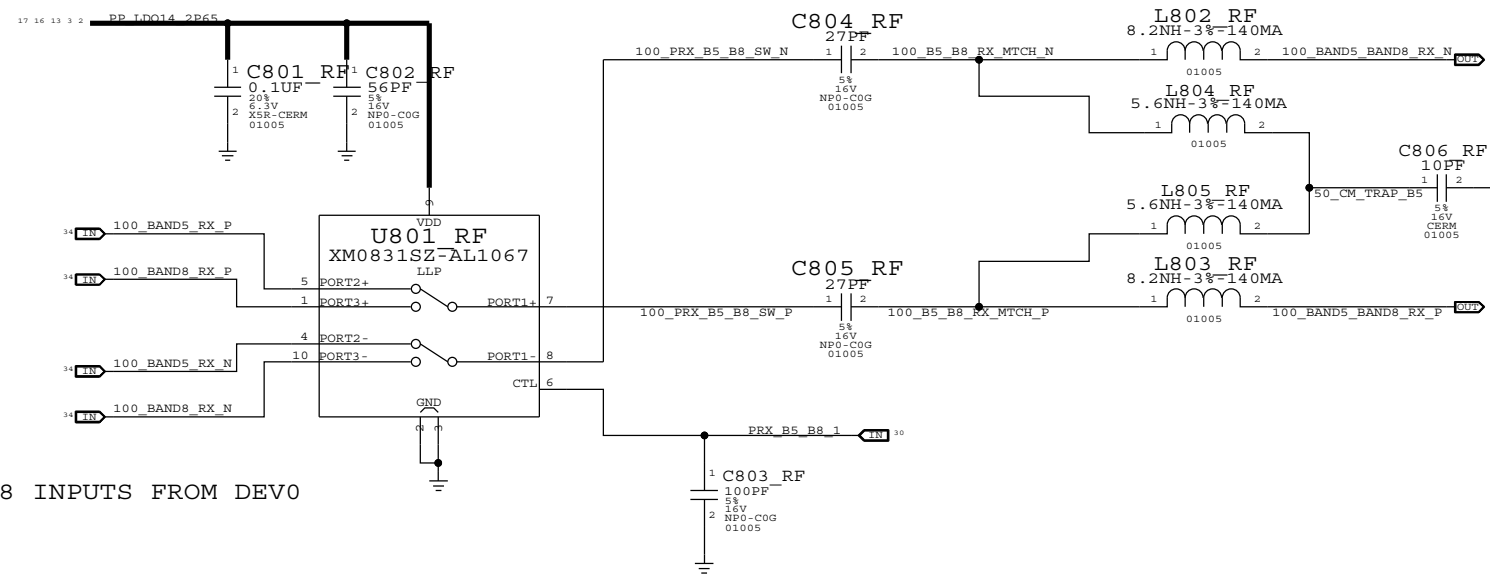
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## BAND 5/BAND 8 PRX TRANSCEIVER SWITCH

### XM0830SZ SWITCH LOGIC

PRX_B5_B8	ACTIVE BAND	PORT
HIGH	8	PORT 1 TO PORT 3
LOW	5	PORT 1 TO PORT 2

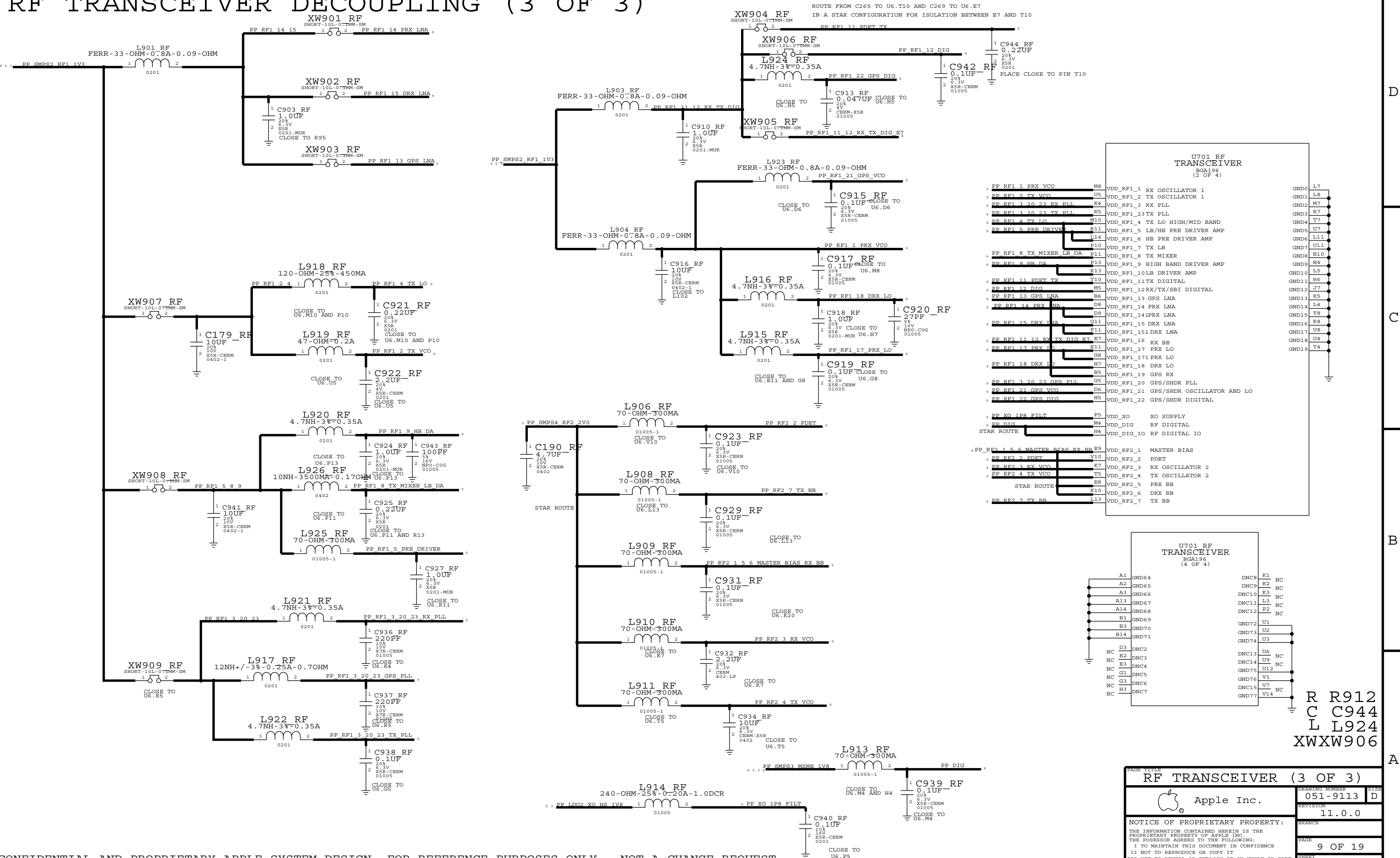
SWAPPED BAND5 AND BAND8 INPUTS FROM DEVO



R RXXX  
C C806  
L L803  
U U801

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# RF TRANSCEIVER DECOUPLING (3 OF 3)



U701 RF TRANSCEIVER (BGA196, 2 OF 4)

PP RF1 1 PRX VCO	M8	VDD_RF1_1 RX OSCILLATOR 1	GND0	L7
PP RF1 2 TX VCO	U5	VDD_RF1_2 TX OSCILLATOR 1	GND1	L8
PP RF1 3 20 23 RX PLL	K4	VDD_RF1_3 RX PLL	GND2	M7
PP RF1 3 20 23 TX PLL	R5	VDD_RF1_23 TX PLL	GND3	R7
PP RF1 4 TX LO	M10	VDD_RF1_4 TX LO HIGH/MID BAND	GND4	T7
PP RF1 5 PRE DRIVER	R11	VDD_RF1_5 LB/HB PRE DRIVER AMP	GND5	U7
	L14	VDD_RF1_6 HB PRE DRIVER AMP	GND6	L11
	P10	VDD_RF1_7 TX LB	GND7	U11
PP RF1 8 TX MIXER LB DA	P11	VDD_RF1_8 TX MIXER	GND8	N10
PP RF1 9 HB DA	P13	VDD_RF1_9 HIGH BAND DRIVER AMP	GND9	N4
	R13	VDD_RF1_10 LB DRIVER AMP	GND10	L5
PP RF1 11 PDET TX	T10	VDD_RF1_11 TX DIGITAL	GND11	H6
PP RF1 12 DIG	M5	VDD_RF1_12 RX/TX/SBI DIGITAL	GND12	J7
PP RF1 13 GPS LNA	B6	VDD_RF1_13 GPS LNA	GND13	K5
PP RF1 14 PRX LNA	D8	VDD_RF1_14 PRX LNA	GND14	L4
PP RF1 15 DRX LNA	D9	VDD_RF1_141 PRX LNA	GND15	T8
	G11	VDD_RF1_15 DRX LNA	GND16	R8
	F11	VDD_RF1_151 DRX LNA	GND17	U4
PP RF1 11 12 RX TX DIG E7	P11	VDD_RF1_16 RX BB	GND18	U8
PP RF1 17 PRX LO	G8	VDD_RF1_17 PRX LO	GND19	T4
PP RF1 18 DRX LO	H7	VDD_RF1_171 PRX LO		
	H7	VDD_RF1_18 DRX LO		
	B5	VDD_RF1_19 GPS RX		
PP RF1 3 20 23 GPS PLL	G5	VDD_RF1_20 GPS/SHDR PLL		
PP RF1 21 GPS VCO	D6	VDD_RF1_21 GPS/SHDR OSCILLATOR AND LO		
PP RF1 22 GPS DIG	H5	VDD_RF1_22 GPS/SHDR DIGITAL		
PP XO 1PB FILT	P5	VDD_XO XO SUPPLY		
PP DIG	M4	VDD_DIG RF DIGITAL IO		
STAR ROUTE	H4	VDD_DIG_IO RF DIGITAL IO		
PP RF2 1 5 6 MASTER BIAS RX BB	E9	VDD_RF2_1 MASTER BIAS		
PP RF2 2 PDET	V10	VDD_RF2_2 PDET		
PP RF2 3 RX VCO	K7	VDD_RF2_3 RX OSCILLATOR 2		
PP RF2 4 TX VCO	T5	VDD_RF2_4 TX OSCILLATOR 2		
STAR ROUTE	E8	VDD_RF2_5 PRX BB		
	K10	VDD_RF2_6 DRX BB		
PP RF2 7 TX BB	L13	VDD_RF2_7 TX BB		

U701 RF TRANSCEIVER (BGA196, 4 OF 4)

A1	GND64	DNC8	K1	NC
A2	GND65	DNC9	K2	NC
A3	GND66	DNC10	K3	NC
A13	GND67	DNC11	L3	NC
A14	GND68	DNC12	P2	NC
B1	GND69	GND72	U1	
B3	GND70	GND73	U2	
B14	GND71	GND74	U3	
D3	DNC2	DNC13	U6	NC
E2	DNC3	DNC14	U9	NC
E3	DNC4	GND75	U12	NC
G1	DNC5	GND76	V1	
G3	DNC6	DNC15	V7	NC
H3	DNC7	GND77	V14	

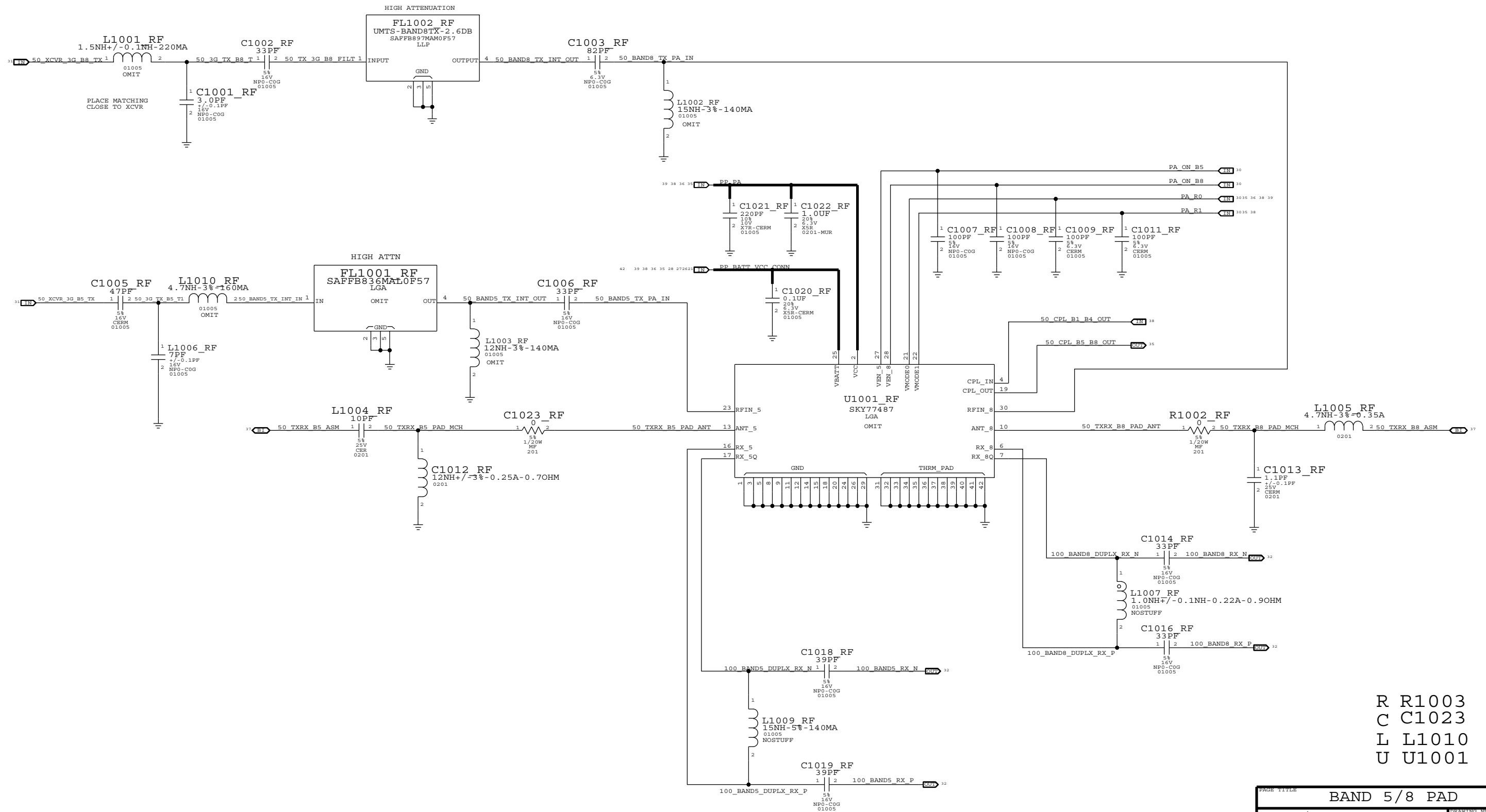
- R R912
- C C944
- L L924
- XW XW906

RF TRANSCEIVER (3 OF 3)

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# BAND 5/8 PAD

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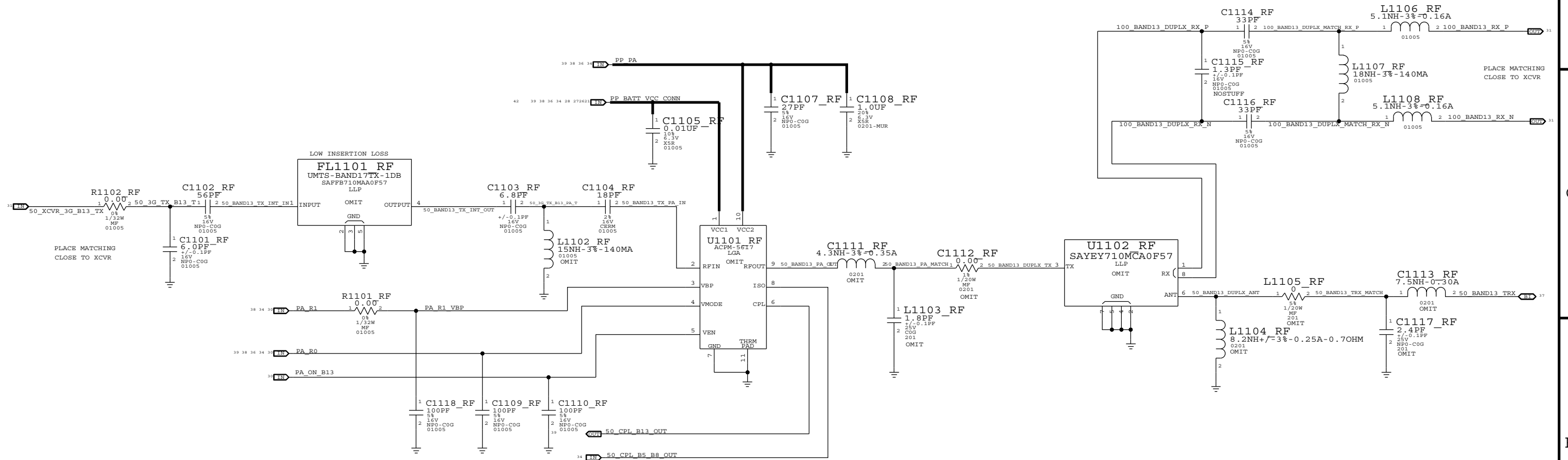
R R1003  
C C1023  
L L1010  
U U1001

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BAND 5/8 PAD		
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# B13/17 INTERSTAGE, PA, AND DUPLEXER

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## PA POWER MODES

MODE	PA_R0	PA_R1
LOW	HIGH	HIGH
MEDIUM	LOW	HIGH
HIGH	LOW	LOW

FLFL1101  
R R1102  
C C1118  
L L1108  
U U1102

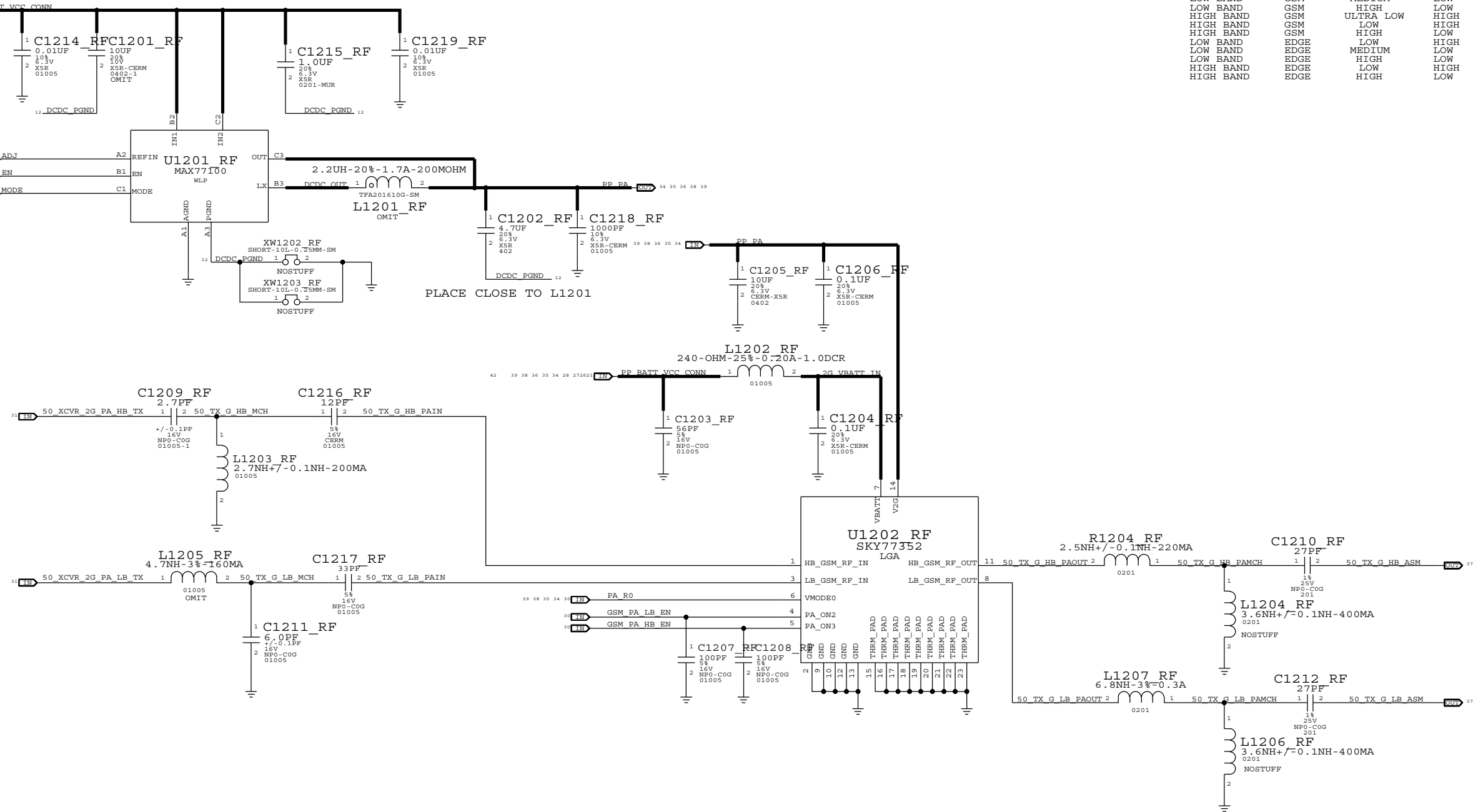
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BAND 13 PA		
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11.0.0		11 OF 19
		SHEET
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# 2G PA, PA DC/DC CONVERTER

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## 2G PA GAIN MODES

BAND	MODE	GAIN MODE	PA R1	PCL RANGE
LOW BAND	GSM	ULTRA LOW	HIGH	16 TO 19
LOW BAND	GSM	LOW	HIGH	14 TO 15
LOW BAND	GSM	MEDIUM	LOW	7 TO 13
LOW BAND	GSM	HIGH	LOW	5 TO 6
HIGH BAND	GSM	ULTRA LOW	HIGH	10 TO 15
HIGH BAND	GSM	LOW	HIGH	7 TO 9
HIGH BAND	GSM	HIGH	LOW	0 TO 6
LOW BAND	EDGE	LOW	HIGH	15 TO 19
LOW BAND	EDGE	MEDIUM	LOW	10 TO 14
LOW BAND	EDGE	HIGH	LOW	8 TO 9
HIGH BAND	EDGE	LOW	HIGH	9 TO 15
HIGH BAND	EDGE	HIGH	LOW	2 TO 8

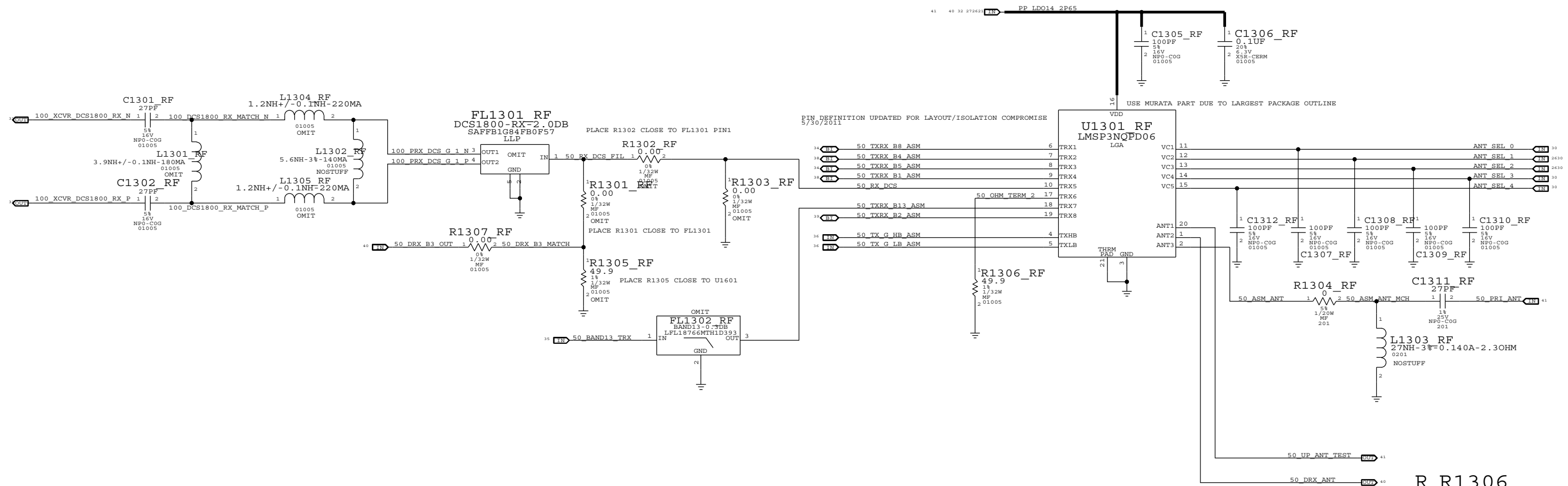


R R1209  
C C1220  
L L1207  
U U1202

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# ASM, DCS RX

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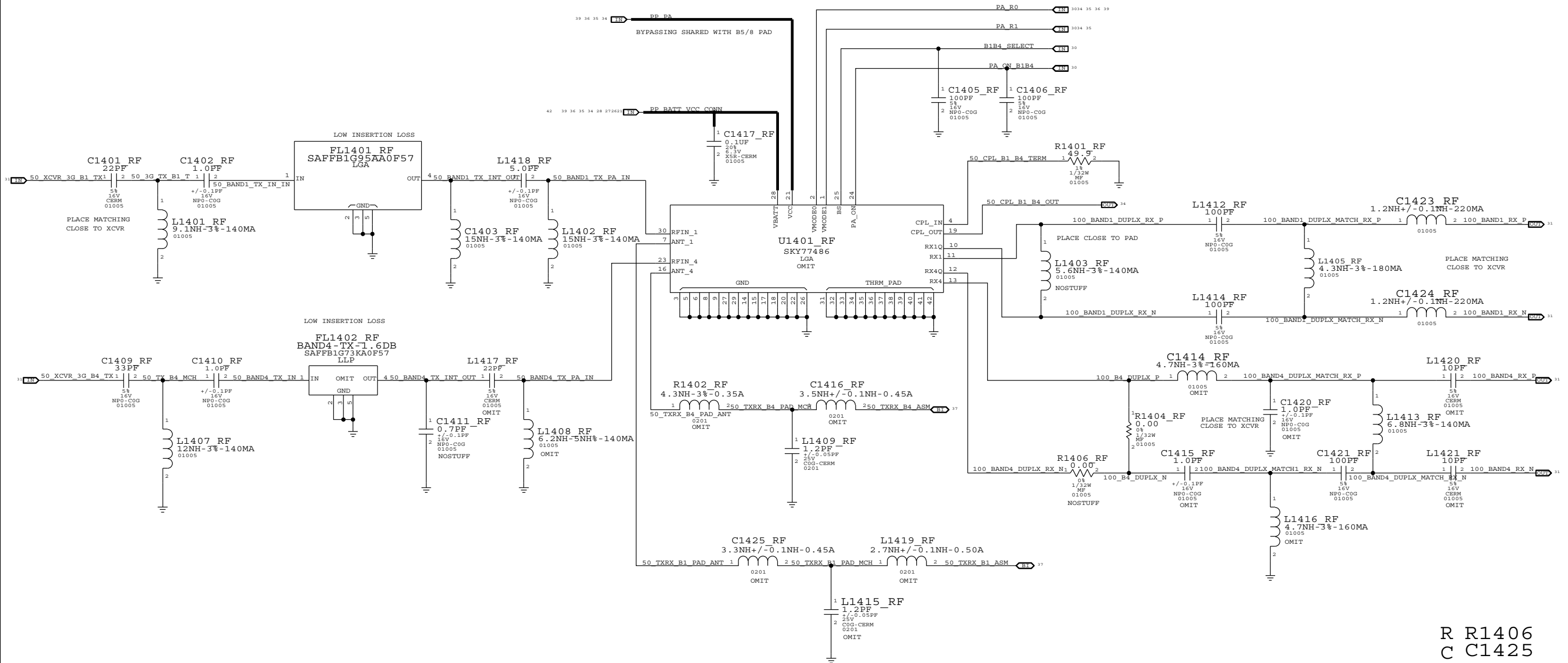


R R1306  
C C1312  
L 1305  
U U1301  
FL FL1302


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# BAND 1/4 PAD

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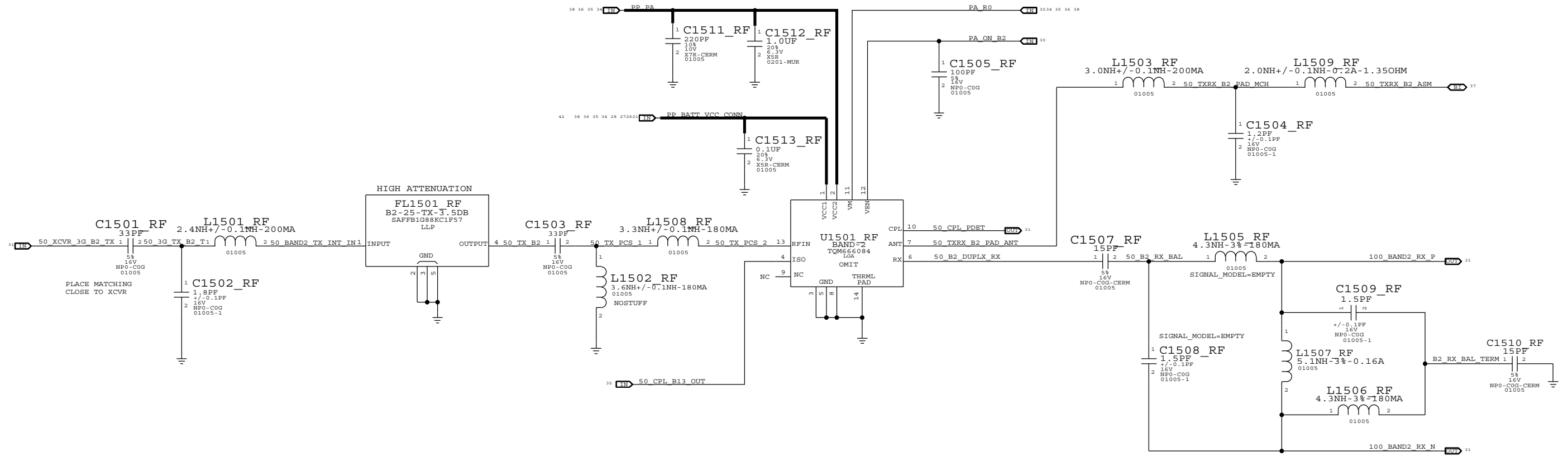


R R1406  
 C C1425  
 L L1422  
 U U1401  
 FL FL1101

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# BAND2 PAD

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- R R1501
- C C1513
- L L1509
- U U1501
- FL FL1501

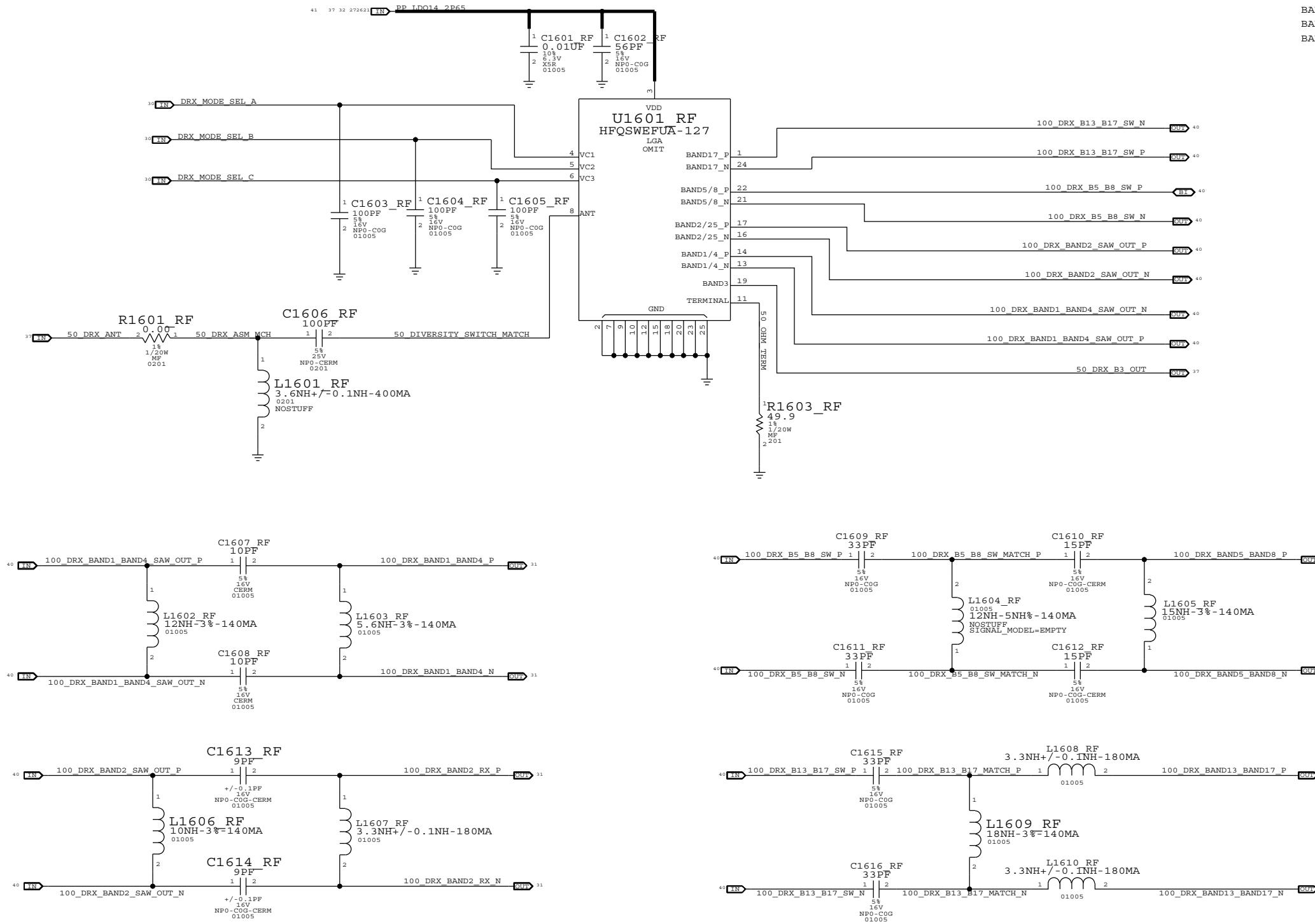
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# RX DIVERSITY


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## DIVERSITY MODULE LOGIC

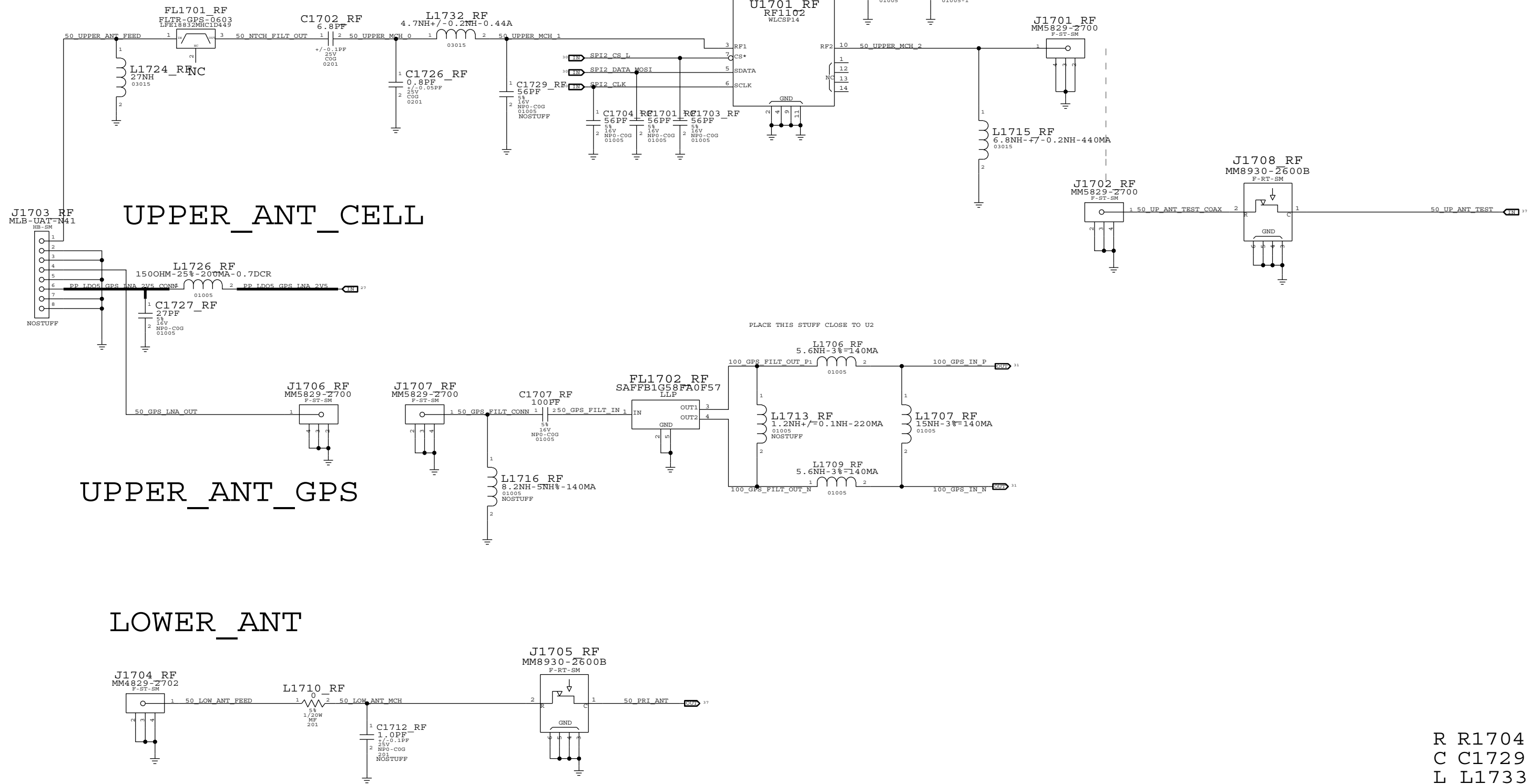
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=====			
BAND 1/4			
BAND 2			
BAND 5			
BAND 8			
BAND 13/17			



R.R1603  
C C1616  
L L1610  
U U1601

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# GPS



## UPPER\_ANT\_CELL

## UPPER\_ANT\_GPS

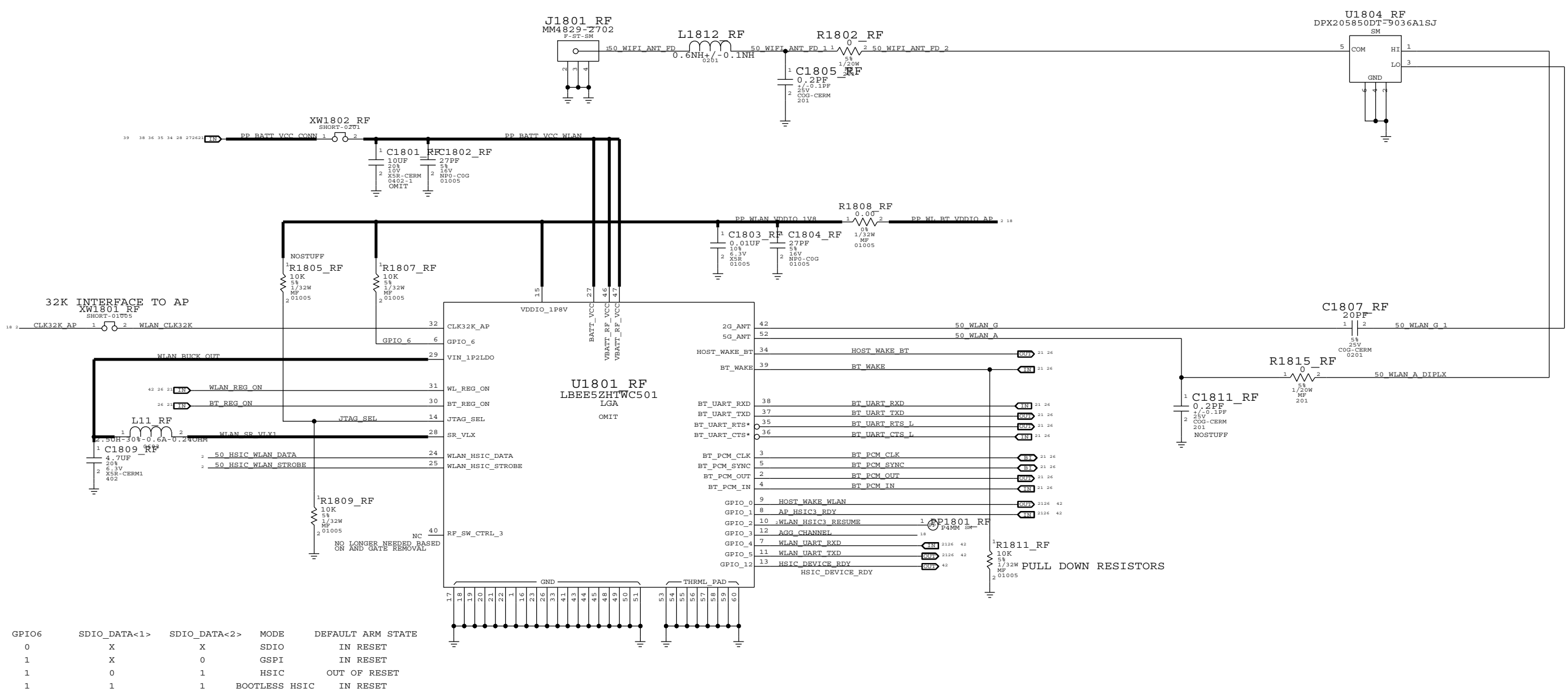
## LOWER\_ANT

- R R1704
- C C1729
- L L1733
- U U1703


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# WLAN/BT

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- R R1815
- C C1811
- L L1812
- U U1802
- J J1802

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<b>WIFI/BT</b>		
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# RADIO BOM OPTIONS

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## HW ID PA ID BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
118S0685	1	PA_ID RES DIVIDER	R304_RF	Y	B4_17
118S0656	1	PA_ID RES DIVIDER	R304_RF	Y	B3_13
118S0719	1	PA_ID RES DIVIDER	R302_RF	Y	B4_17
118S0685	1	PA_ID RES DIVIDER	R302_RF	Y	B3_13

## SPI NOR BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S0874	1	SERIAL SPI NOR - MICRONIX	U601_RF	Y	B4_17
335S0874	1	SERIAL SPI NOR - MICRONIX	U601_RF	Y	B3_13

## B5/B5E BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S3415	1	SKY77487 BAND 5/8 PAD	U1001_RF	Y	B4_17
353S3568	1	SKY77491 BAND5E/8 PAD	U1001_RF	Y	B3_13
155S0552	1	BAND5 TX SAW	FL1001_RF	Y	B4_17
155S0742	1	BAND5/BC10 TX SAW	FL1001_RF	Y	B3_13
152S1563	1	1.5NH, INDUCTOR - MURATA	L1001_RF	Y	B4_17
152S1662	1	1.5NH, INDUCTOR - TDK	L1001_RF	Y	B3_13
152S1577	1	15NH, INDUCTOR - MURATA	L1002_RF	Y	B4_17
152S1665	1	15NH, INDUCTOR - TDK	L1002_RF	Y	B3_13
152S1576	1	12NH, INDUCTOR - MURATA	L1003_RF	Y	B4_17
152S1664	1	12NH, INDUCTOR - TDK	L1003_RF	Y	B3_13
152S1570	1	4.7NH, INDUCTOR - MURATA	L1010_RF	Y	B4_17
152S1663	1	4.7NH, INDUCTOR - TDK	L1010_RF	Y	B3_13

## B13/17 BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S1328	1	4.3NH INDUCTOR - 0201	C1111_RF	Y	B4_17
152S1353	1	3.6NH INDUCTOR - 0201	C1111_RF	Y	B3_13
131S0198	1	1.8PF CAPACITOR - 0201	L1103_RF	Y	B4_17
118S0724	1	0 OHM JUMPER - 0201	C1112_RF	Y	B4_17
131S0204	1	22PF CAPACITOR - 0201	C1112_RF	Y	B3_13
118S0724	1	0 OHM JUMPER - 0201	L1105_RF	Y	B4_17
152S1443	1	2.0NH INDUCTOR - 0201	L1105_RF	Y	B3_13
152S1320	1	7.5NH INDUCTOR - 0201	C1113_RF	Y	B4_17
131S0166	1	39PF CAPACITOR - 0201	C1113_RF	Y	B3_13
131S0176	1	2.4PF CAPACITOR - 0201	C1117_RF	Y	B4_17

## DCDC BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S1648	1	POWER INDUCTOR - TAIYO YUDEN	L1201_RF	Y	B4_17
152S1648	1	POWER INDUCTOR - TAIYO YUDEN	L1201_RF	Y	B3_13
152S1570	1	4.7NH, INDUCTOR - MURATA	L1205_RF	Y	B4_17
152S1663	1	4.7NH, INDUCTOR - TDK	L1205_RF	Y	B3_13

## WIFI BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
339S0171	1	WIFI MODULE - MURATA	U1801_RF	Y	B4_17
339S0171	1	WIFI MODULE - MURATA	U1801_RF	Y	B3_13

SINGING CAP BOM OPTIONS  
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WHEN STAN FINISHES

## B13/17 BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0620	1	BAND17 TX SAW	FL1101_RF	Y	B4_17
155S0619	1	BAND13 TX SAW	FL1101_RF	Y	B3_13
353S3567	1	BAND17 PAM - SKYWORKS	U1101_RF	Y	B4_17
353S3441	1	BAND13 PAM - AVAGO	U1101_RF	Y	B3_13
155S0709	1	BAND17 DUPLEXER - MURATA	U1102_RF	Y	B4_17
155S0738	1	BAND13 DUPLEXER - EPCOS	U1102_RF	Y	B3_13
152S1336	1	BAND17 INDUCTOR - 8.2NH	L1104_RF	Y	B4_17
152S1342	1	BAND13 INDUCTOR - 15NH	L1104_RF	Y	B3_13
152S1577	1	15NH, INDUCTOR - MURATA	L1102_RF	Y	B4_17
152S1576	1	12NH, INDUCTOR - MURATA	L1102_RF	Y	B3_13

## B2 PAD BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S3715	1	TQM666084 B2 TQS PAD	U1501_RF	Y	B4_17
353S3459	1	TQM666083 B25 TQS PAD	U1501_RF	Y	B3_13

## DIVERISTY MODULE BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S3516	1	B17 MURATA DIVERSITY MODULE	U1601_RF	Y	B4_17
353S3562	1	B13/BC10 DIVERSITY MODULE	U1601_RF	Y	B3_13

## B3/DCS1800 BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0596	1	DCS1800 RX FIL	FL1301_RF	Y	B4_17
155S0729	1	BAND3 RX FIL	FL1301_RF	Y	B3_13
155S0695	1	THRU LINE	FL1302_RF	Y	B4_17
155S0722	1	BAND13 TX LFF	FL1302_RF	Y	B3_13
152S1656	1	3.0NH INDUCTOR	R1301_RF	Y	B3_13
117S0161	1	00HM RES	R1302_RF	Y	B4_17
118S0652	1	49.90HM RES	R1303_RF	Y	B3_13
118S0652	1	49.90HM RES	R1305_RF	Y	B4_17
152S1562	1	1.2NH INDUCTOR	L1304_RF	Y	B4_17
152S1720	1	1.8NH INDUCTOR	L1304_RF	Y	B3_13
152S1562	1	1.2NH INDUCTOR	L1305_RF	Y	B4_17
152S1720	1	1.8NH INDUCTOR	L1305_RF	Y	B3_13
152S1569	1	3.9NH INDUCTOR	L1301_RF	Y	B4_17
152S1570	1	4.7NH INDUCTOR	L1301_RF	Y	B3_13

## B3/B4 RX BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S1570	1	4.7NH INDUCTOR - 01005	C1414_RF	Y	B4_17
131S0375	1	1.0PF CAPACITOR - 01005	C1415_RF	Y	B4_17
131S0375	1	1.0PF CAPACITOR - 01005	C1420_RF	Y	B4_17
152S1570	1	4.7NH INDUCTOR - 01005	L1416_RF	Y	B4_17
152S1571	1	5.6NH INDUCTOR - 01005	C1414_RF	Y	B3_13
131S0377	1	1.2PF CAPACITOR - 01005	C1415_RF	Y	B3_13
131S0377	1	1.2PF CAPACITOR - 01005	C1420_RF	Y	B3_13
152S1571	1	5.6NH INDUCTOR - 01005	L1416_RF	Y	B3_13
131S0219	1	10PF CAPACITOR - 01005	L1420_RF	Y	B4_17
131S0219	1	10PF CAPACITOR - 01005	L1421_RF	Y	B4_17
152S1562	1	1.2NH INDUCTOR - 01005	L1420_RF	Y	B3_13
152S1562	1	1.2NH INDUCTOR - 01005	L1421_RF	Y	B3_13
152S1328	1	4.3NH INDUCTOR - 0201	R1402_RF	Y	B4_17
152S1688	1	3.5NH INDUCTOR - 0201	C1416_RF	Y	B4_17
152S1284	1	3.3NH INDUCTOR - 0201	R1402_RF	Y	B3_13
152S1284	1	3.3NH INDUCTOR - 0201	C1416_RF	Y	B3_13

## B3/B4 TX BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0215	1	22PF CAPACITOR - 01005	L1417_RF	Y	B4_17
152S1569	1	3.9NH INDUCTOR - 01005	L1417_RF	Y	B3_13
131S0369	1	0.5PF CAPACITOR - 01005	L1408_RF	Y	B3_13
152S1284	1	3.3NH INDUCTOR - 0201	C1425_RF	Y	B4_17
152S1705	1	2.7NH INDUCTOR - 0201	L1419_RF	Y	B4_17
131S0551	1	1.2PF CAPACITOR - 0201	L1415_RF	Y	B4_17
152S1284	1	3.3NH INDUCTOR - 0201	C1425_RF	Y	B3_13
152S1705	1	2.7NH INDUCTOR - 0201	L1419_RF	Y	B3_13
131S0551	1	1.2PF CAPACITOR - 0201	L1415_RF	Y	B3_13

## B3/B4 BOM OPTIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S3255	1	B1/4 PAD - AVAGO	U1401_RF	Y	B4_17
353S3443	1	B1/3 PAD - AVAGO	U1401_RF	Y	B3_13
155S0590	1	B4 TX FIL	FL1402_RF	Y	B4_17
155S0712	1	B3 TX FIL	FL1402_RF	Y	B3_13

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8	7	6	5	4	3	2	1
Title: Basenet Report Design: single_brd Date: Apr 30 16:27:24 2012							
Base nets and synonyms for single_brd_lib.SINGLE_BRD(@single_brd_lib.single_brd(sch_1))							
Base Signal	Synonyms	Location ((Zone) [dir])	Location ((Zone) [dir])	Location ((Zone) [dir])	Location ((Zone) [dir])	Location ((Zone) [dir])	Location ((Zone) [dir])
45_CAM0_CLK	45_CAM0_CLK - @single_brd_lib.SINGLE_BRD	7C1 20D7	90_CAM0_MIPI_DATA3_C CONN_P 90_CAM0_MIPI_DATA3_N @single_brd_lib.SINGLE_BRD 90_CAM0_MIPI_DATA3_P @single_brd_lib.SINGLE_BRD	20B4 7C5 20B1 7C5 20B1	ALS_INT_CONN_L - ALS_INT_CONN_L - @single_brd_lib.SINGLE_BRD		
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BB_I2S_CLK	BB_I2S_CLK - @single_brd_lib.RADIO_MLB(1594_page 19)	26C8 30B4	90_LCM_MIPI_DATA1_P @single_brd_lib.SINGLE_BRD	7C5 18C7	2688 42A4 42B3		
45_I2S2_BCLK	45_I2S2_BCLK - @single_brd_lib.SINGLE_BRD	3D4 9C2 14C5	90_LCM_MIPI_DATA2_CO NN_N 90_LCM_MIPI_DATA2_CO NN_P 90_LCM_MIPI_DATA2_N @single_brd_lib.SINGLE_BRD	18B5 18B5 7C5 18B7	2688 42A4 42B3		
45_I2S2_MCK_R	45_I2S2_MCK_R - @single_brd_lib.SINGLE_BRD	3D5	90_LCM_MIPI_DATA2_P @single_brd_lib.SINGLE_BRD	7C5 18B7	2688 42A4 42B3		
45_I2S2_MCLK	45_I2S2_MCLK - @single_brd_lib.SINGLE_BRD	3D5 14C5	90_LCM_MIPI_DATA3_CO NN_N 90_LCM_MIPI_DATA3_CO NN_P 90_LCM_MIPI_DATA3_N @single_brd_lib.SINGLE_BRD	18B5 18B5 7C5 18B7	2688 42A4 42B3		
45_I2S3_BCLK	45_I2S3_BCLK - @single_brd_lib.SINGLE_BRD	3C4 21B4	90_MIKEY_DIG_N @single_brd_lib.SINGLE_BRD 90_MIKEY_DIG_P @single_brd_lib.SINGLE_BRD	15C6 15C6	2688 42A4 42B3		
BT_PCM_CLK	BT_PCM_CLK - @single_brd_lib.RADIO_MLB(1594_page 19)	26B8 42B3	90_MIKEY_TRISTAR_N @single_brd_lib.SINGLE_BRD 90_MIKEY_TRISTAR_P @single_brd_lib.SINGLE_BRD	10C1 15C8 10C1 15C8	2688 42A4 42B3		
45_I2S4_BCLK	45_I2S4_BCLK - @single_brd_lib.SINGLE_BRD	3C4 9C2	90_USBHS_N @single_brd_lib.SINGLE_BRD 90_USBHS_P @single_brd_lib.SINGLE_BRD	2B3 15B5 2B3 15B5	2688 42A4 42B3		
45_PROX_RX	45_PROX_RX - @single_brd_lib.SINGLE_BRD	11C8 17C8	90_USBHS_SOC_N @single_brd_lib.SINGLE_BRD 90_USBHS_SOC_P @single_brd_lib.SINGLE_BRD	2B4 2B4	2688 42A4 42B3		
45_PROX_RX_CONN	45_PROX_RX_CONN - @single_brd_lib.SINGLE_BRD	11C5	ACCEL_INT1 @single_brd_lib.SINGLE_BRD ACCEL_INT1_FL @single_brd_lib.SINGLE_BRD ACCEL_INT2_FL @single_brd_lib.SINGLE_BRD	3B5 14A5 14A6 14B8 14A6 14B8	2688 42A4 42B3		
45_XTAL_24M_I	45_XTAL_24M_I - @single_brd_lib.SINGLE_BRD	2C4	ACT_DIO @single_brd_lib.SINGLE_BRD	12C6	2688 42A4 42B3		
45_XTAL_24M_O	45_XTAL_24M_O - @single_brd_lib.SINGLE_BRD	2B4	ADC_LD06_RUIM_IV8 @single_brd_lib.SINGLE_BRD	13B6 21C4	2688 42A4 42B3		
50_HSIC1_DATA	50_HSIC1_DATA - @single_brd_lib.SINGLE_BRD	2C6 21B4	ADC_LD06_RUIM_IV8 - @single_brd_lib.RADIO_MLB(1594_page 19)	26D5	2688 42A4 42B3		
50_HSIC_BB_DATA	50_HSIC_BB_DATA - @single_brd_lib.RADIO_MLB(1594_page 19)	26B3 26D8 29B3	ADC_LV51 @single_brd_lib.SINGLE_BRD ADC_LV51 - @single_brd_lib.SINGLE_BRD ADC_LV51 @single_brd_lib.RADIO_MLB(1594_page 19)	13B6 21C4 26D5 26D5	2688 42A4 42B3		
50_HSIC1_STB	50_HSIC1_STB - @single_brd_lib.SINGLE_BRD	2C6 21B4	ADC_SMPS3_MSMC_IV05 @single_brd_lib.SINGLE_BRD ADC_SMPS3_MSMC_IV05 - @single_brd_lib.SINGLE_BRD ADC_SMPS3_MSMC_IV05 @single_brd_lib.RADIO_MLB(1594_page 19)	13C6 21C4 26D5 26D5	2688 42A4 42B3		
50_HSIC_BB_STROBE	50_HSIC_BB_STROBE - @single_brd_lib.RADIO_MLB(1594_page 19)	26B3 26C8 29B3	ACCEL_INT2_I @single_brd_lib.SINGLE_BRD	3A7 14A5	2688 42A4 42B3		
50_HSIC3_DATA	50_HSIC3_DATA - @single_brd_lib.SINGLE_BRD	2B6 21B4	BT_REG_ON @single_brd_lib.SINGLE_BRD BT_REG_ON - @single_brd_lib.SINGLE_BRD BT_REG_ON - @single_brd_lib.SINGLE_BRD	12C6 12C6 12C6	2688 42A4 42B3		
50_HSIC_WLAN_DATA	50_HSIC_WLAN_DATA - @single_brd_lib.RADIO_MLB(1594_page 19)	26B8 42B7	BT_WAKE @single_brd_lib.SINGLE_BRD BT_WAKE - @single_brd_lib.SINGLE_BRD BT_WAKE @single_brd_lib.RADIO_MLB(1594_page 19)	13B6 13B6 3B7 21B4	2688 42A4 42B3		
50_HSIC3_STB	50_HSIC3_STB - @single_brd_lib.SINGLE_BRD	2B6 21B4	BT_WAKE - @single_brd_lib.SINGLE_BRD	3B7 21B4	2688 42A4 42B3		
90_BB_USB_N	90_BB_USB_N - @single_brd_lib.SINGLE_BRD	15B5 21C4	BUCK0A_FB @single_brd_lib.SINGLE_BRD BUCK0A_LXL @single_brd_lib.SINGLE_BRD BUCK0A_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_BB_USB_P	90_BB_USB_P - @single_brd_lib.SINGLE_BRD	26C3 26C8 29A5	BUCK0B_FB @single_brd_lib.SINGLE_BRD BUCK0B_LXL @single_brd_lib.SINGLE_BRD BUCK0B_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_CLK_CON N_N	90_CAM0_MIPI_CLK_CON N_N - @single_brd_lib.SINGLE_BRD	20C4	BUCK0B_FB - @single_brd_lib.SINGLE_BRD BUCK0B_LXL @single_brd_lib.SINGLE_BRD BUCK0B_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_CLK_CON N_P	90_CAM0_MIPI_CLK_CON N_P - @single_brd_lib.SINGLE_BRD	20B4	BUCK0C_FB @single_brd_lib.SINGLE_BRD BUCK0C_LXL @single_brd_lib.SINGLE_BRD BUCK0C_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_CLK_N	90_CAM0_MIPI_CLK_N - @single_brd_lib.SINGLE_BRD	7C5 20C1	BUCK0D_FB @single_brd_lib.SINGLE_BRD BUCK0D_LXL @single_brd_lib.SINGLE_BRD BUCK0D_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_CLK_P	90_CAM0_MIPI_CLK_P - @single_brd_lib.SINGLE_BRD	7C5 20C1	BUCK0E_FB @single_brd_lib.SINGLE_BRD BUCK0E_LXL @single_brd_lib.SINGLE_BRD BUCK0E_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA0_C CONN_N	90_CAM0_MIPI_DATA0_C CONN_N - @single_brd_lib.SINGLE_BRD	20C4	BUCK0F_FB @single_brd_lib.SINGLE_BRD BUCK0F_LXL @single_brd_lib.SINGLE_BRD BUCK0F_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA0_C CONN_P	90_CAM0_MIPI_DATA0_C CONN_P - @single_brd_lib.SINGLE_BRD	20C4	BUCK0G_FB @single_brd_lib.SINGLE_BRD BUCK0G_LXL @single_brd_lib.SINGLE_BRD BUCK0G_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA0_N	90_CAM0_MIPI_DATA0_N - @single_brd_lib.SINGLE_BRD	7D5 20C1	BUCK0H_FB @single_brd_lib.SINGLE_BRD BUCK0H_LXL @single_brd_lib.SINGLE_BRD BUCK0H_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA0_P	90_CAM0_MIPI_DATA0_P - @single_brd_lib.SINGLE_BRD	7D5 20C1	BUCK0I_FB @single_brd_lib.SINGLE_BRD BUCK0I_LXL @single_brd_lib.SINGLE_BRD BUCK0I_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA1_C CONN_N	90_CAM0_MIPI_DATA1_C CONN_N - @single_brd_lib.SINGLE_BRD	20C4	BUCK0J_FB @single_brd_lib.SINGLE_BRD BUCK0J_LXL @single_brd_lib.SINGLE_BRD BUCK0J_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA1_C CONN_P	90_CAM0_MIPI_DATA1_C CONN_P - @single_brd_lib.SINGLE_BRD	20C4	BUCK0K_FB @single_brd_lib.SINGLE_BRD BUCK0K_LXL @single_brd_lib.SINGLE_BRD BUCK0K_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA1_N	90_CAM0_MIPI_DATA1_N - @single_brd_lib.SINGLE_BRD	7D5 20C1	BUCK0L_FB @single_brd_lib.SINGLE_BRD BUCK0L_LXL @single_brd_lib.SINGLE_BRD BUCK0L_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA1_P	90_CAM0_MIPI_DATA1_P - @single_brd_lib.SINGLE_BRD	7D5 20C1	BUCK0M_FB @single_brd_lib.SINGLE_BRD BUCK0M_LXL @single_brd_lib.SINGLE_BRD BUCK0M_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA2_C CONN_N	90_CAM0_MIPI_DATA2_C CONN_N - @single_brd_lib.SINGLE_BRD	20B4	BUCK0N_FB @single_brd_lib.SINGLE_BRD BUCK0N_LXL @single_brd_lib.SINGLE_BRD BUCK0N_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA2_C CONN_P	90_CAM0_MIPI_DATA2_C CONN_P - @single_brd_lib.SINGLE_BRD	20B4	BUCK0O_FB @single_brd_lib.SINGLE_BRD BUCK0O_LXL @single_brd_lib.SINGLE_BRD BUCK0O_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA2_N	90_CAM0_MIPI_DATA2_N - @single_brd_lib.SINGLE_BRD	7C5 20B1	BUCK0P_FB @single_brd_lib.SINGLE_BRD BUCK0P_LXL @single_brd_lib.SINGLE_BRD BUCK0P_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA2_P	90_CAM0_MIPI_DATA2_P - @single_brd_lib.SINGLE_BRD	7C5 20B1	BUCK0Q_FB @single_brd_lib.SINGLE_BRD BUCK0Q_LXL @single_brd_lib.SINGLE_BRD BUCK0Q_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA3_C CONN_N	90_CAM0_MIPI_DATA3_C CONN_N - @single_brd_lib.SINGLE_BRD	20B4	BUCK0R_FB @single_brd_lib.SINGLE_BRD BUCK0R_LXL @single_brd_lib.SINGLE_BRD BUCK0R_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA3_C CONN_P	90_CAM0_MIPI_DATA3_C CONN_P - @single_brd_lib.SINGLE_BRD	20B4	BUCK0S_FB @single_brd_lib.SINGLE_BRD BUCK0S_LXL @single_brd_lib.SINGLE_BRD BUCK0S_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA3_N	90_CAM0_MIPI_DATA3_N - @single_brd_lib.SINGLE_BRD	7D5 20C1	BUCK0T_FB @single_brd_lib.SINGLE_BRD BUCK0T_LXL @single_brd_lib.SINGLE_BRD BUCK0T_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		
90_CAM0_MIPI_DATA3_P	90_CAM0_MIPI_DATA3_P - @single_brd_lib.SINGLE_BRD	7D5 20C1	BUCK0U_FB @single_brd_lib.SINGLE_BRD BUCK0U_LXL @single_brd_lib.SINGLE_BRD BUCK0U_LXM @single_brd_lib.SINGLE_BRD	12C5 12C5 12C5	2688 42A4 42B3		









8		7		6		5		4		3		2		1	
Title: Cref Part Report Design: single_brd Date: Apr 30 16:27:24 2012															
BS1	PCB_STANDOFF	single_brd[2187]	C113	CAP_01005	single_brd[4A7]	C218_RF	CAP_0201-MUR	radio_mlb[27A4]single_brd[21]	C326	CAP_01005	single_brd[13C4]				
BS2	PCB_STANDOFF	single_brd[2187]	C114	CAP_01005	single_brd[4A6]	C219	CAP_402	single_brd[9C6]	C327	CAP_0402-1	single_brd[13B3]				
BS3	PCB_STANDOFF	single_brd[2187]	C115	CAP_0204	single_brd[5C6]	C219_RF	CAP_0201-MUR	radio_mlb[27A4]single_brd[21]	C328	CAP_0201-MUR	single_brd[13B3]				
BS5	PCB_STANDOFF	single_brd[2187]	C116	CAP_0201	single_brd[5B6]	C220	CAP_01005	single_brd[10C7]	C329	CAP_0402-2	single_brd[12C1]				
C1	CAP_01005	single_brd[2A6]	C117	CAP_01005	single_brd[4A6]	C220_RF	CAP_0402-1	radio_mlb[27A3]single_brd[21]	C330	CAP_0402-2	single_brd[12C1]				
C2	CAP_0201	single_brd[2C6]	C118	CAP_01005	single_brd[4A5]	C221	CAP_01005	single_brd[10C7]	C331	CAP_0603-1	single_brd[14D6]				
C3	CAP_0204	single_brd[6D3]	C119	CAP_0402-1	single_brd[5A5]	C221_RF	CAP_0402-1	radio_mlb[27A3]single_brd[21]	C332	CAP_0402-2	single_brd[14D7]				
C4	CAP_01005	single_brd[7D5]	C120	CAP_01005	single_brd[4A5]	C222	CAP_01005	single_brd[9C7]	C333	CAP_0402-2	single_brd[14D7]				
C5	CAP_01005	single_brd[7D5]	C121	CAP_0204	single_brd[5D6]	C222_RF	CAP_0402-1	radio_mlb[27A3]single_brd[21]	C334	CAP_0201-MUR	single_brd[14B8]				
C6	CAP_01005	single_brd[7D3]	C122	CAP_0610	single_brd[5C6]	C223	CAP_01005	single_brd[9C7]	C335	CAP_0402-2	single_brd[14D7]				
C7	CAP_01005	single_brd[7D3]	C123	CAP_0402-1	single_brd[13B2]	C223_RF	CAP_01005	radio_mlb[27B8]single_brd[21]	C336	CAP_01005	single_brd[14B8]				
C8	CAP_01005	single_brd[7B4]	C124	CAP_0204	single_brd[5C6]	C224	CAP_01005	single_brd[9C7]	C337	CAP_0201-1	single_brd[14D6]				
C9	CAP_01005	single_brd[21C6]	C125	CAP_0402	single_brd[13A1]	C225	CAP_01005	single_brd[9C7]	C338	CAP_0201-MUR	single_brd[15B4]				
C10	CAP_201	single_brd[12D5]	C126	CAP_0402-1	single_brd[5C7]	C226	CAP_01005	single_brd[10C6]	C339	CAP_201	single_brd[14D4]				
C11	CAP_0201	single_brd[14A1]	C127	CAP_0201	single_brd[16B6]	C226_RF	CAP_0402	radio_mlb[27C8]single_brd[21]	C340	CAP_402	single_brd[14D3]				
C12	CAP_01005	single_brd[16B6]	C128	CAP_0201	single_brd[5B6]	C227	CAP_01005	single_brd[9C7]	C341	CAP_0201-MUR	single_brd[14D3]				
C13	CAP_01005	single_brd[16B6]	C129	CAP_0402	single_brd[18C2]	C228	CAP_01005	single_brd[9C7]	C342	CAP_0201	single_brd[14D5]				
C14	CAP_01005	single_brd[16B5]	C130	CAP_0402	single_brd[17C7]	C229	CAP_01005	single_brd[10C6]	C343	CAP_0402	single_brd[14B2]				
C15	CAP_01005	single_brd[16B5]	C131	CAP_0402	single_brd[13A2]	C229_RF	CAP_0402-1	radio_mlb[27A3]single_brd[21]	C344	CAP_01005	single_brd[14B2]				
C16	CAP_0402-2	single_brd[12D8]	C132	CAP_01005	single_brd[13B2]	C230	CAP_01005	single_brd[9C7]	C345	CAP_01005	single_brd[14B2]				
C17	CAP_01005	single_brd[11B4]	C133	CAP_0610	single_brd[5C7]	C230_RF	CAP_0402-1	radio_mlb[27A2]single_brd[21]	C346	CAP_01005	single_brd[19A5]				
C18	CAP_01005	single_brd[18D3]	C134	CAP_0204	single_brd[5C6]	C231	CAP_01005	single_brd[9C6]	C347	CAP_0201-MUR	single_brd[14B1]				
C19	CAP_01005	single_brd[18D3]	C135	CAP_0402-1	single_brd[13B1]	C231_RF	CAP_0201-MUR	radio_mlb[27D3]single_brd[21]	C348	CAP_0603-1	single_brd[14D5]				
C20	CAP_01005	single_brd[2D6]	C136	CAP_01005	single_brd[6C5]	C232	CAP_402	single_brd[10C4]	C349	CAP_201	single_brd[12A4]				
C21	CAP_01005	single_brd[2D6]	C137	CAP_201	single_brd[17B4]	C233	CAP_402	single_brd[10C4]	C350	CAP_0402	single_brd[18C2]				
C22	CAP_01005	single_brd[2D6]	C138	CAP_01005	single_brd[10C2]	C233_RF	CAP_01005	radio_mlb[27C2]single_brd[21]	C351	CAP_0402	single_brd[18C1]				
C23	CAP_0201	single_brd[2C7]	C139	CAP_01005	single_brd[17B3]	C234	CAP_402	single_brd[10B5]	C352	CAP_01005	single_brd[16C2]				
C24	CAP_01005	single_brd[2D6]	C140	CAP_0402	single_brd[12C3]	C234_RF	CAP_0201-MUR	radio_mlb[27A5]single_brd[21]	C353	CAP_0402	single_brd[18C1]				
C25	CAP_0201	single_brd[2C6]	C141	CAP_0402-1	single_brd[5D3]	C235	CAP_01005	single_brd[10B2]	C354	CAP_01005	single_brd[10C6]				
C26	CAP_01005	single_brd[9C6]	C142	CAP_0402-1	single_brd[5D3]	C235_RF	CAP_0402-1	radio_mlb[27B8]single_brd[21]	C355	CAP_01005	single_brd[16C3]				
C27	CAP_0201-MUR	single_brd[3C6]	C143	CAP_01005	single_brd[10B2]	C236	CAP_01005	single_brd[10B2]	C356	CAP_01005	single_brd[10C6]				
C28	CAP_0201-MUR	single_brd[14D3]	C144	CAP_01005	single_brd[6C5]	C236_RF	CAP_0402-1	radio_mlb[27B8]single_brd[21]	C357	CAP_0402-2	single_brd[12C8]				
C30	CAP_0610	single_brd[5A7]	C145	CAP_0402	single_brd[12D3]	C237	CAP_402	single_brd[10B6]	C358	CAP_0402-2	single_brd[12C8]				
C31	CAP_201	single_brd[12A5]	C146	CAP_0201	single_brd[17B4]	C237_RF	CAP_0402-1	radio_mlb[27B8]single_brd[21]	C359	CAP_01005	single_brd[16C3]				
C32	CAP_01005	single_brd[2D4]	C147	CAP_01005	single_brd[17B4]	C238	CAP_402	single_brd[10B6]	C360	CAP_01005	single_brd[14C3]				
C33	CAP_0402-2	single_brd[12D8]	C148	CAP_0201	single_brd[17A6]	C239	CAP_0402	single_brd[17A6]	C361	CAP_01005	single_brd[14D2]				
C34	CAP_01005	single_brd[2D4]	C149	CAP_0402-1	single_brd[17D4]	C240	CAP_01005	single_brd[16B3]	C362	CAP_01005	single_brd[16A3]				
C35	CAP_01005	single_brd[2D4]	C150	CAP_01003	single_brd[17B3]	C241	CAP_01005	single_brd[8B3]	C363	CAP_01005	single_brd[14C2]				
C36	CAP_01005	single_brd[2C2]	C151	CAP_0204	single_brd[5C3]	C242	CAP_01005	single_brd[16D7]	C364	CAP_01005	single_brd[21C8]				
C37	CAP_0201-MUR	single_brd[15C7]	C152	CAP_0610	single_brd[5D3]	C243	CAP_01005	single_brd[18D3]	C365	CAP_01005	single_brd[21C8]				
C39	CAP_01005	single_brd[15C5]	C153	CAP_0204	single_brd[5D3]	C244	CAP_01005	single_brd[8B4]	C366	CAP_01005	single_brd[21C8]				
C40	CAP_0610	single_brd[4B7]	C154	CAP_P_0603-LLP	single_brd[17A4]	C245	CAP_01005	single_brd[10D4]	C367	CAP_01005	single_brd[21C7]				
C41	CAP_01005	single_brd[4D7]	C155	CAP_0201	single_brd[17A3]	C246	CAP_0201	single_brd[17A7]	C368	CAP_01005	single_brd[14D6]				
C42	CAP_0402-2	single_brd[4B7]	C156	CAP_0402-1	single_brd[17D3]	C247	CAP_0402-2	single_brd[12D7]	C369	CAP_0402	single_brd[17D7]				
C43	CAP_0204	single_brd[4B7]	C157	CAP_0201	single_brd[17B3]	C248	CAP_0201-MUR	single_brd[20A6]	C370	CAP_402	single_brd[17D7]				
C44	CAP_01005	single_brd[11C2]	C158	CAP_0204	single_brd[5C3]	C249	CAP_0201-MUR	single_brd[20B7]	C371	CAP_402	single_brd[17D6]				
C45	CAP_01005	single_brd[8B4]	C159	CAP_01005	single_brd[12A8]	C250	CAP_0402-2	single_brd[12D6]	C372	CAP_0201-MUR	single_brd[17D6]				
C46	CAP_0402-2	single_brd[12D7]	C160	CAP_0610	single_brd[5D3]	C251	CAP_0402-2	single_brd[12D6]	C373	CAP_0201	single_brd[17A6]				
C47	CAP_01005	single_brd[12C3]	C161	CAP_0204	single_brd[5D3]	C252	CAP_0402-1	single_brd[13B4]	C374	CAP_01005	single_brd[8C6]				
C48	CAP_0204	single_brd[4B7]	C162	CAP_0402-1	single_brd[17D3]	C253	CAP_01005	single_brd[11A4]	C375	CAP_0402-2	single_brd[12D7]				
C49	CAP_0204	single_brd[4C7]	C163	CAP_201	single_brd[17D2]	C254	CAP_0402	single_brd[13A1]	C376	CAP_0201	single_brd[17A3]				
C50	CAP_0201-MUR	single_brd[6C4]	C164	CAP_0402	single_brd[17A7]	C255	CAP_0201-1	single_brd[16B7]	C377	CAP_0201	single_brd[17D1]				
C51	CAP_01005	single_brd[10C2]	C165	CAP_01005	single_brd[17D2]	C256	CAP_0402	single_brd[11C3]	C378	CAP_01005	single_brd[16C3]				
C52	CAP_0402-2	single_brd[4C7]	C166	CAP_0204	single_brd[5C3]	C257	CAP_01005	single_brd[17A3]	C379	CAP_01005	single_brd[19B7]				
C53	CAP_0204	single_brd[4C7]	C167	CAP_01005	single_brd[12A7]	C258	CAP_01005	single_brd[18B3]	C380	CAP_01005	single_brd[15C6]				
C54	CAP_0610	single_brd[4B7]	C168	CAP_01005	single_brd[12A5]	C259	CAP_01005	single_brd[7C3]	C381	CAP_01005	single_brd[15C5]				
C55	CAP_01005	single_brd[9B7]	C169	CAP_0204	single_brd[5D3]	C260	CAP_0402-2	single_brd[12B8]	C382	CAP_01005	single_brd[15C4]				
C56	CAP_01005	single_brd[18A6]	C170	CAP_P_0402	single_brd[17B4]	C261	CAP_0402-2	single_brd[12B8]	C383	CAP_0402-2	single_brd[12D7]				
C57	CAP_0610	single_brd[15C7]	C171	CAP_01005	single_brd[19B4]	C262	CAP_0402-1	single_brd[13B3]	C384	CAP_0402-2	single_brd[12D6]				
C59	CAP_0204	single_brd[4C6]	C172	CAP_01005	single_brd[5C3]	C263	CAP_0402-2	single_brd[12B8]	C386	CAP_0402-2	single_brd[19D7]				
C60	CAP_0204	single_brd[4B6]	C173	CAP_01005	single_brd[5C3]	C264	CAP_0402-2	single_brd[12B8]	C387	CAP_0402-2	single_brd[19D7]				
C61	CAP_01005	single_brd[9B7]	C174	CAP_0204	single_brd[5C3]	C265	CAP_01005	single_brd[12B8]	C389	CAP_0201-MUR	single_brd[20B6]				
C62	CAP_01005	single_brd[11C6]	C175	CAP_01005	single_brd[19B4]	C266	CAP_0201-MUR	single_brd[12C8]	C390	CAP_0201-MUR	single_brd[20B7]				
C63	CAP_01005	single_brd[11C6]	C176	CAP_01005	single_brd[16B7]	C267	CAP_0402-2	single_brd[12B8]	C391	CAP_0201-MUR	single_brd[20A6]				
C64	CAP_01005	single_brd[9B7]	C177	CAP_0204	single_brd[5D3]	C268	CAP_0402-2	single_brd[12B8]	C392	CAP_01005	single_brd[20B6]				
C65	CAP_01005	single_brd[9B6]	C178	CAP_0204	single_brd[5C4]	C269	CAP_0402-2	single_brd[12C7]	C393	CAP_01005	single_brd[20A5]				
C66	CAP_0402	single_brd[12C3]	C179	CAP_0610	single_brd[19A5]	C270	CAP_0402-2	single_brd[12B7]	C394	CAP_0402-2	single_brd[19D5]				
C67	CAP_01005	single_brd[11B4]	C179_RF	CAP_0402-1	radio_mlb[33C7]single_brd[21]	C271	CAP_0402-2	single_brd[12B7]	C395	CAP_01005	single_brd[20C6]				
C68	CAP_0610	single_brd[5D6]	C180	CAP_0204	single_brd[6D4]	C272	CAP_0402	single_brd[12C7]	C396	CAP_0402-2	single_brd[19D5]				
C69	CAP_0402-2	single_brd[12C2]	C181	CAP_01005	single_brd[19B5]	C273	CAP_01005	single_brd[21D6]	C397	CAP_01005	single_brd[20A5]				
C70	CAP_0402-2	single_brd[12C2]	C182	CAP_0402-1	single_brd[6D3]	C274	CAP_01005	single_brd[7C2]	C400	CAP_01005	single_brd[20C5]				
C71	CAP_0402-1	single_brd[5A7]	C183	CAP_0402-1	single_brd[6D3]	C275	CAP_01005	single_brd[21C6]	C402	CAP_01005	single_brd[11C3]				
C72	CAP_0204	single_brd[5C7]	C184	CAP_0402-1	single_brd[6D3]	C276	CAP_01005	single_brd[12A7]	C403	CAP_0201-MUR	single_brd[20B6]				
C73	CAP_01005	single_brd[11B2]	C185	CAP_0204	single_brd[6D3]	C277	CAP_01005	single_brd[12B7]	C404	CAP_01005	single_brd[20B6]				
C74	CAP_0610	single_brd[5C7]	C186	CAP_0204	single_brd[6D3]	C278	CAP_402	single_brd[12B7]	C406	CAP_01005	single_brd[20C4]				
C75	CAP_0610	single_brd[5C7]	C187	CAP_0402-1	single_brd[6D2]	C279	CAP_01005	single_brd[21D6]	C408	CAP_01005	single_brd[19C5]				
C76	CAP_0402-2	single_brd[12C3]	C188	CAP_0204	single_brd[6D2]	C280	CAP_01005	single_brd[7C2]	C409	CAP_01005	single_brd[20C3]				
C77	CAP_0402-2	single_brd[12C1]	C189	CAP_01005	single_brd[19B3]	C281	CAP_0402-2	single_brd[12C7]	C410	CAP_01005	single_brd[11C3]				
C78	CAP_01005	single_brd[16A3]	C190	CAP_402	single_brd[7D4]	C282	CAP_402	single_brd[7D4]	C412	CAP_0201-MUR	single_brd[10C5]				
C79	CAP_01005	single_brd[17C8]	C190_RF	CAP_0402	radio_mlb[33B5]single_brd[21]	C283	CAP_01005	single_brd[12A6]	C413	CAP_01005	single_brd[10D5]				
C80	CAP_0610	single_brd[5C7]	C191	CAP_01005	single_brd[7D2]	C284	CAP_01005	single_brd[7							





