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1. ALL RESISTANCE VALUES ARE IN OHMS, 0.1 WATT +/- 5%. 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS. 3. ALL CRYSTALS & OSCILLATOR VALUES ARE IN HERTZ.												REV	ECN	DESCRIPTION OF REVISION	CK APPD DATE
												4	0011084069	ENGINEERING RELEASED	2018-01-26
SCHEM, MLB, X1190															
D	PAGE	CSA	CONTENTS	SYNC	DATE	PAGE	CSA	CONTENTS	SYNC	DATE	PAGE	CSA	CONTENTS	SYNC	DATE
	1	1	Table of Contents	SILU	05/24/2017	51	52	I2C Connections 1	RAYMOND	10/02/2017	101	106	VR GPU Core	SILU	05/24/2017
	2	2	BOM Configuration 1	SEAN	11/29/2017	52	53	I2C Connections 2	RAYMOND	10/02/2017	102	107	GPU Baffin GPIO/CLK/Straps	SEAN	04/19/2017
	3	3	BOM Configuration 2	SEAN	11/29/2017	53	54	Power Sensors High Side	RAYMOND	10/09/2017	103	108	GPU Baffin DP/GPIO	SILU	07/27/2017
	4	4	PD Parts	ZIFENG_CONSTRAINTS	03/03/2017	54	55	Power Sensors Load Side	RAYMOND	10/13/2017	104	109	GPU Baffin VSS/Misc	SEAN	11/09/2017
	5	5	CPU DMI/PEG/FDI/RSVD	ZIFENG	09/07/2017	55	56	Power Sensors Extended 1	RAYMOND	10/13/2017	105	110	USB-C HIGH SPEED 1	J132	05/11/2017
	6	6	CPU Clock/Misc/JTAG/CFG	j380_mlb	02/09/2017	56	57	Power Sensors Extended 2	RAYMOND	10/13/2017	106	111	USB-C HIGH SPEED 2	ADITYA	04/03/2017
	7	7	CPU DDR4 Interfaces	j380_mlb	02/09/2017	57	58	Thermal Sensors	RAYMOND	06/28/2017	107	112	USB-C T Support	ADITYA	04/19/2017
	8	8	CPU Power	ZIFENG_CONSTRAINTS	02/24/2017	58	59	Power Sensor Extended 3	RAYMOND	10/13/2017	108	113	USB-C PORT CONTROLLER A	ZIFENG	05/26/2017
	9	9	CPU Ground	j380_mlb	02/09/2017	59	60	Fans/SMC/AMUX Support	RAYMOND	06/13/2017	109	114	USB-C PORT CONTROLLER B	ZIFENG	05/26/2017
C	10	10	CPU Decoupling 1	SILU	03/29/2017	60	62	Audio Placeholder	j132-audio	03/15/2017	110	115	USB-C CONNECTOR A	SILU_J680	08/09/2017
	11	11	CPU Decoupling 2	SILU	05/24/2017	61	63	Audio Jack Codec	TROY	07/24/2017	111	116	USBC T Connector Support	ADITYA	04/05/2017
	12	12	PCH RTC/CLK/ESPI/PM	ZIFENG	05/18/2017	62	64	Audio Left Amplifiers	TROY	12/11/2017	112	117	USB-C T 5V VR	SILU	05/11/2017
	13	13	PCH DMI/JTAG/SPI/HDA	SILU	07/27/2017	63	65	Audio Right Amplifiers	TROY	12/11/2017	113	118	GDDR5 VRAM FB 3	j680_copy	02/01/2017
	14	14	PCH PCI-E/USB	ZIFENG	05/18/2017	64	66	Audio Flex Connectors	TROY	03/22/2017	114	119	GDDR5 VRAM FB 4	j680_copy	02/01/2017
	15	15	PCH GPIO/MISC/NCTF	ZIFENG	05/18/2017	65	67	Keyboard & Trackpad 1	j132	03/23/2017	115	120	Power Alias 1	SILU	05/01/2017
	16	16	PCH Power	ZIFENG	05/18/2017	66	68	Keyboard & Trackpad 2	j132	03/23/2017	116	121	Power Alias 2	SILU	06/27/2017
	17	17	PCH Decoupling	ZIFENG	05/18/2017	67	69	VR 3.3V G3H & Battery Conn	SILU	04/27/2017	117	122	Signal Alias	METE	05/10/2017
	18	18	CPU/PCH Merged XDP	ZIFENG	05/24/2017	68	70	PBUS Supply & Battery Charger	ZIFENG	05/24/2017	118	123	High speed No Testpoints	RAYMOND	06/02/2017
	19	19	Chipset Support 1	SILU	08/09/2017	69	71	IMVP IC	SILU	05/24/2017	119	124	DFU TEST POINTS	RAYMOND	08/07/2017
B	20	20	Chipset Support 2	ZIFENG	05/18/2017	70	72	IMVP VCC Block	SILU	05/24/2017	120	125	FCT TESTPOINTS 2	RAYMOND	08/07/2017
	21	22	DDR4 VREF Margining	j380_mlb	02/09/2017	71	73	IMVP SA Block	SILU	05/10/2017	121	126	ICT, MAC-1 ,EE Testpoints	RAYMOND	08/31/2017
	22	23	DDR4 SDRAM Channel A 1	j380_mlb	02/09/2017	72	74	IMVP GT Block	SILU	05/24/2017	122	127	Desense Caps 1	SEAN	06/27/2017
	23	24	DDR4 SDRAM Channel A 2	j380_mlb	02/09/2017	73	76	Power - 5V 3.3V Supply	SILU	05/16/2017	123	128	Desense Caps 2	j380_mlb	02/09/2017
	24	25	DDR4 SDRAM Channel B 1	j380_mlb	02/09/2017	74	77	VR 2.5V & 1.2V/VTT	SILU	05/01/2017	124	129	Desense Caps 3	blah	06/27/2017
	25	26	DDR4 SDRAM Channel B 2	j380_mlb	02/09/2017	75	78	PMIC BUCKS AND SWS	SILU	06/06/2017	125	130	Memory Bite/Byte Swizzle	j380_mlb	02/09/2017
	26	27	DDR4 Termination	j380_mlb	02/10/2017	76	79	PMIC LDOs	SILU	07/10/2017	126	140	Dev Support	Debug	05/03/2017
	27	28	USB-C HIGH SPEED 1	J132	05/11/2017	77	80	PMIC GPIOs & Control	SILU	07/27/2017	127	141	BOM-639 2.2GHz	SEAN	11/29/2017
	28	29	USB-C HIGH SPEED 2	ADITYA	03/30/2017	78	81	VR VCCIO	SILU	05/10/2017	128	143	BOM-639 2.6GHz	j380_mlb	02/09/2017
	29	30	USB-C X Support	ADITYA	04/19/2017	79	82	Power FETs	SILU	06/27/2017	129	144	BOM-639 2.9GHz	j380_mlb	02/09/2017
A	30	31	USB-C PORT CONTROLLER A	ZIFENG	05/26/2017	80	83	SOC/PMIC Aliases	SILU	08/09/2017	130	147	BOM Alt Table	SEAN	11/29/2017
	31	32	USB-C PORT CONTROLLER B	ZIFENG	05/26/2017	81	84	LCD Backlight Driver	RAYMOND	08/07/2017	131	200	Dev Support	ADITYA	03/22/2017
	32	33	USB-C CONNECTOR A	SILU_J680	08/09/2017	82	85	eDP Display Connector	SEAN	08/09/2017					
	33	34	USBC X Connector Support	ADITYA	04/05/2017	83	86	SSD0 S4E 0	j137_gs5_redhead	01/26/2017					
	34	35	TBT 5V REGULATOR	J132	04/05/2017	84	87	SSD0 S4E 1	j137_gs5_redhead	01/26/2017					
	35	36	WIFI/BT: Support	J132	03/29/2017	85	88	SSD0 S4E 2	j137_gs5_redhead	01/26/2017					
	36	37	WIFI/BT: MODULE 1	METE	05/10/2017	86	89	SSD0 S4E 3	j137_gs5_redhead	01/26/2017					
	37	38	AP & BT Conn	METE	08/11/2017	87	90	SSD0 PMIC & VR	j137_gs5_redhead	01/26/2017					
	38	39	SoC GPIO/SEP/USB/DDR/Test	SILU	05/26/2017	88	91	SSD1 S4E 0	j137_gs5_redhead	01/26/2017					
	39	40	SoC AOP/AON/SMC	SILU	03/22/2017	89	92	SSD1 S4E 1	j137_gs5_redhead	01/26/2017					
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D	X1190 BOM Groups														
	BOM GROUP		BOM OPTIONS												
	X1190_8L		ALTERNATE,S4E_L5,S4E_L6,S4E_L7,S4E_L8,OCARINA_2,S4E_X4PLUS,S4E_X8												
	X1190_6L		ALTERNATE,S4E_L5,S4E_L6,OCARINA_2,S4E_X4PLUS,S4E_X6												
	X1190_COMMON		SCH,PCB,COMMON,ALTERNATE,X1190_COMMON1,X1190_COMMON2,X1190_PROGPARTS,VRAM_ALTS												
	X1190_COMMON1		CPUPEG:X8X4X4,EDP:YES,BOARD_ID,BOARD_REV:011,SE:PROD_2017,EN_VP0R_LPS:YES												
	X1190_COMMON2		SKIP_5V3V3:AUDIBLE,XDP:YES,SYSDET:FET,VCCSPI:3V3,OCARINA_I2C:1K,SVID_PU:CORE,RF_TUNING,PBUS:3S												
	X1190_PROGPARTS		UPCROM_PROG:P1,WIFI_ROM:P0,BT_ROM:P2												
	X1190_SNS		LOADISNS,LOADRC:YES,SENSOR:DEV												
	X1190_DEVEL:ENG		ALTERNATE,X1190_SNS,DBGLSD,XDP_CONN,USBC_DBG,DBQ_BTN,WIFI_DBG,DBQ_FAN,GPUROM:BLANK,VITAMIN-C:YES,PCC:YES,GPU_ROM:YES,BOOTCFG0												
X1190_DEVEL:DVT		ALTERNATE,LOADRC:NO													
X1190_DEVEL:PVT		ALTERNATE,LOADRC:NO													
BOM Variants															
BOM NUMBER		BOM NAME				BOM OPTIONS									
685-00179		COMMON PARTS,MLB,X1190				X1190_COMMON									
685-00193		S4E 8L Parts,MLB,X1190				X1190_8L									
685-00198		S4E 6L Parts,MLB,X1190				X1190_6L									
985-00362		DEV,MLB,X1190				X1190_DEVEL:ENG									
PART NUMBER		QTY	DESCRIPTION			REFERENCE DES	CRITICAL	BOM OPTION							
685-00179		1	COMMON PARTS, MLB, X1190			BASE	CRITICAL	BASE_BOM							
685-00193		1	S4E 8L PARTS (8L),MLB,X1190			8L	CRITICAL	BOM_8L							
985-00362		1	DEV PARTS,MLB,X1190			DEVEL	CRITICAL	DEVEL_BOM							
685-00198		1	S4E 6L PARTS (6L),MLB,X1190			6L	CRITICAL	BOM_6L							
DRAM Options															
BOM GROUP		BOM OPTIONS													
MC_32G		32G_MICRON_2400, RAMCFG4:L, RAMCFG3:L, RAMCFG2:L, RAMCFG1:L													
HY_32G		32G_HYNIX_2400, RAMCFG4:L, RAMCFG3:L, RAMCFG2:L, RAMCFG1:L, RAMCFG0:L													
HY_16G		16G_HYNIX_2400, RAMCFG4:L, RAMCFG3:L, RAMCFG1:L, RAMCFG0:L													
MC_16G		16G_MICRON_2400, RAMCFG4:L, RAMCFG3:L, RAMCFG1:L													
S4E Options															
BOM GROUP		BOM OPTIONS													
TS_256_PMLC		S4E_256_TB,SOC:1GB,SSD0_NAND_VCC:2.5V													
WD_256_PMLC		S4E_256_WD,SOC:1GB,SSD0_NAND_VCC:2.5V													
TS_512_PMLC		S4E_512_TB,SOC:1GB,SSD0_NAND_VCC:2.5V													
WD_512_PMLC		S4E_512_WD,SOC:1GB,SSD0_NAND_VCC:2.5V													
TS_1TB_PMLC		S4E_1TB_TB,SOC:2GB,SSD0_NAND_VCC:2.5V,SSD1_NAND_VCC:2.5V													
WD_1TB_PMLC		S4E_1TB_WD,SOC:2GB,SSD0_NAND_VCC:2.5V,SSD1_NAND_VCC:2.5V													
TS_2TB_PMLC		S4E_2TB_TB,SOC:2GB,SSD0_NAND_VCC:2.5V,SSD1_NAND_VCC:2.5V													
WD_2TB_PMLC		S4E_2TB_WD,SOC:2GB,SSD0_NAND_VCC:2.5V,SSD1_NAND_VCC:2.5V													
SM_2TB_3DV4		S4E_2TB_SM,SOC:2GB,SSD0_NAND_VCC:2.5V,SSD1_NAND_VCC:2.5V													
SM_4TB_3DV4		S4E_4TB_SM,SOC:2GB,SSD0_NAND_VCC:2.5V,SSD1_NAND_VCC:2.5V													
TS_2TB_TLC		TLC_2TB_TB,SOC:2GB,SSD0_NAND_VCC:2.5V,SSD1_NAND_VCC:2.5V													
WD_2TB_TLC		TLC_2TB_WD,SOC:2GB,SSD0_NAND_VCC:2.5V,SSD1_NAND_VCC:2.5V													
BOARD ID															
BOM GROUP		BOM OPTIONS													
BOARD_ID		BOARDID0,BOARDID1,BOARDID3													
VRAM ALT BOM GROUPS															
BOM NUMBER		BOM NAME				BOM OPTIONS									
685-00221		VRAM PARTS,HYNIX,2X,MLB,X1190				FB_4GB_HYNIX									
685-00222		VRAM PARTS,MICRON,2X,MLB,X1190				FB_4GB_MICRON									
685-00223		VRAM PARTS,SAMSUNG,2X,MLB,X1190				FB_4GB_SAMSUNG									
685-00224		VRAM PARTS,HYNIX,1Z,MLB,X1190				FB_4GB_HYNIX_1Z									
685-00225		VRAM PARTS,MICRON,1Z,MLB,X1190				FB_4GB_MICRON_1Z									
VRAM SUB-BOM															
PART NUMBER		QTY	DESCRIPTION			REFERENCE DES	CRITICAL	BOM OPTION							
685-00221		1	VRAM PARTS,HYNIX,2X,MLB,X1190			VRAMSSSS	CRITICAL	VRAM_ALTS							
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BOM Configuration 1

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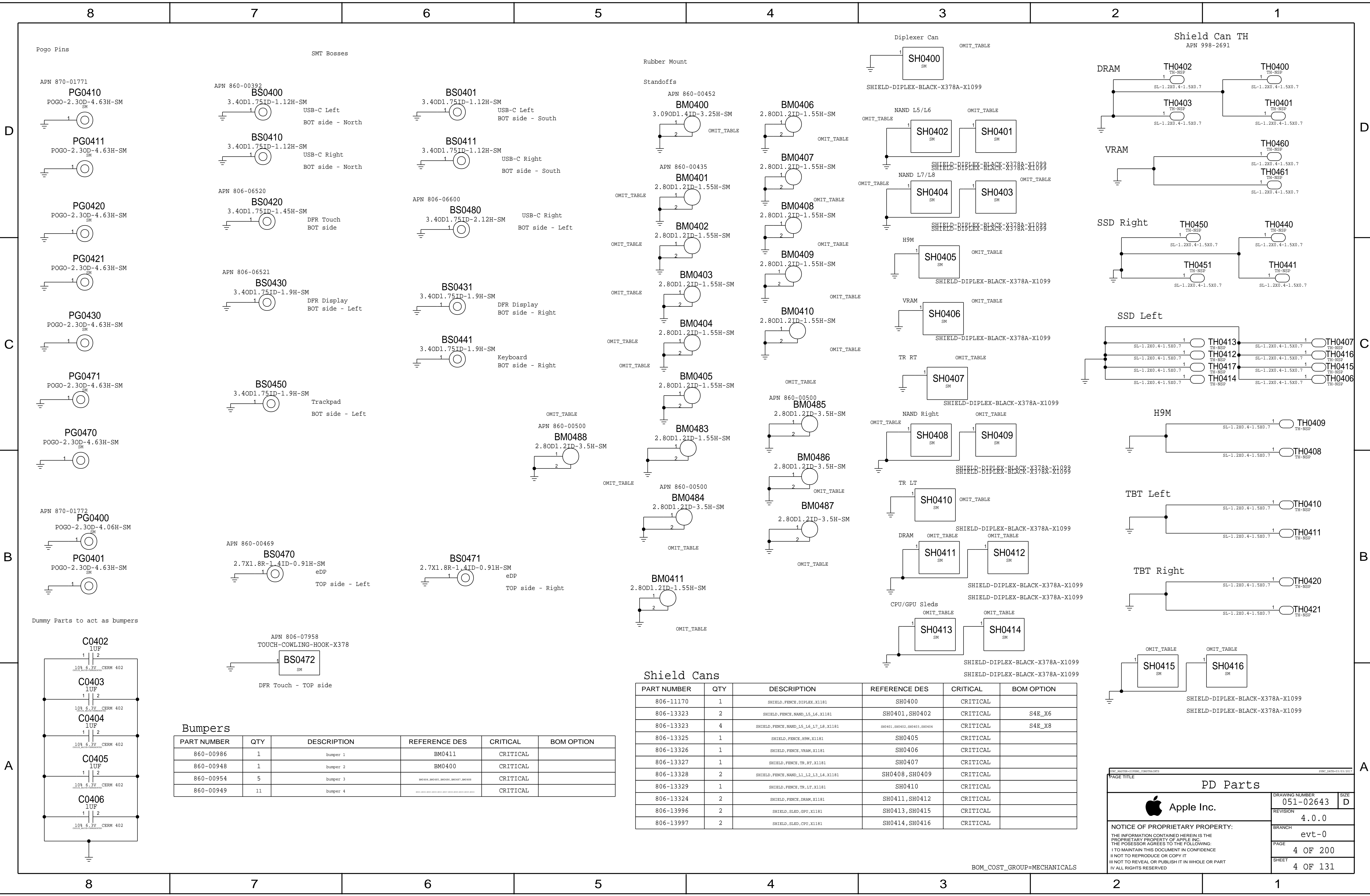
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D	<div>GPU Baffin</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>337S00493</td><td>1</td><td>GPU,AMD,BAFFIN_ULX,A3,0.83,QS,BGA769</td><td>UA000</td><td>CRITICAL</td><td>BAFFIN_ULX</td></tr><tr><td>337S00494</td><td>1</td><td>GPU,AMD,BAFFIN_PROX,A3,0.83,QS,BGA769</td><td>UA000</td><td>CRITICAL</td><td>BAFFIN_PROX</td></tr><tr><td>998-04866</td><td>1</td><td>INTERPOSER,AMD,C989,BGA769,VDDCI/MVDD</td><td>UA000</td><td>CRITICAL</td><td>STARDUST:VDDCI_MVDD</td></tr><tr><td>998-04867</td><td>1</td><td>INTERPOSER,AMD,C988,BGA769,VDDC</td><td>UA000</td><td>CRITICAL</td><td>STARDUST:VDDC</td></tr></table> <div>FB VDRAM Parts</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>333S00074</td><td>4</td><td>IC,GDDR5,8Gb,7Gbps,1.5V,25NM,B,170 BGA</td><td>UA400,UA450,UA500,UA550</td><td>CRITICAL</td><td>FB_4GB_SAMSUNG</td></tr><tr><td>333S00075</td><td>4</td><td>IC,GDDR5,8Gb,7Gbps,1.5V,25NM,A,170 BGA</td><td>UA400,UA450,UA500,UA550</td><td>CRITICAL</td><td>FB_4GB_MICRON</td></tr><tr><td>333S00100</td><td>4</td><td>IC,GDDR5,8Gb,7Gbps,1.5V,25NM,A,170 BGA</td><td>UA400,UA450,UA500,UA550</td><td>CRITICAL</td><td>FB_4GB_HYNIX</td></tr><tr><td>333S00173</td><td>4</td><td>IC,GDDR5,8Gb,7Gbps,1.5V,12NM,A,170 BGA</td><td>UA400,UA450,UA500,UA550</td><td>CRITICAL</td><td>FB_4GB_MICRON_1Z</td></tr><tr><td>333S00175</td><td>4</td><td>IC,GDDR5,8Gb,7Gbps,1.5V,12NM,A,170 BGA</td><td>UA400,UA450,UA500,UA550</td><td>CRITICAL</td><td>FB_4GB_HYNIX_1Z</td></tr></table> <div>CPU Parts CFL (Needs to be updated)</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>337S00509</td><td>1</td><td>CPU,CFLB,QF87,QS,U0,2.2,45W,1.1,1GA1440</td><td>U0500</td><td>CRITICAL</td><td>CPU_CFL:2.2</td></tr><tr><td>337S00510</td><td>1</td><td>CPU,CFL-H,QF86,QS,U0,2.6,6C,45W,1.15,BGA1440</td><td>U0500</td><td>CRITICAL</td><td>CPU_CFL:2.6</td></tr><tr><td>337S00513</td><td>1</td><td>CPU,CFL-H,QP20,QS,U0,2.9,6C,45W,1.2,BGA1440</td><td>U0500</td><td>CRITICAL</td><td>CPU_CFL:2.9</td></tr><tr><td>998-12472</td><td>1</td><td>INTERPOSER,CFH-H,BGA1440</td><td>U0500</td><td>CRITICAL</td><td>CPU_SKL:SOCKET</td></tr></table> <div>Main DRAM Parts</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>333S00131</td><td>16</td><td>IC,SDRAM,DDR4-2400,16GBIT,20NM,BGA78</td><td></td><td>CRITICAL</td><td>32G_MICRON_2400</td></tr><tr><td>333S00134</td><td>16</td><td>IC,SDRAM,DDR4-2400,16GBIT,20NM,BGA78</td><td></td><td>CRITICAL</td><td>32G_HYNIX_2400</td></tr><tr><td>333S00147</td><td>16</td><td>IC,SDRAM,DDR4-2400,8GBIT,20NM,BGA78</td><td></td><td>CRITICAL</td><td>16G_HYNIX_2400</td></tr><tr><td>333S00163</td><td>16</td><td>IC,SDRAM,DDR4-2400,8GBIT,20NM,BGA78</td><td></td><td>CRITICAL</td><td>16G_MICRON_2400</td></tr></table> <div>PCH CNL-H (Needs to be updated)</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>337S00523</td><td>1</td><td>IC,CNL,PCH-H,USFF,QNYP,QS,B0,BGA499</td><td>U1200</td><td>CRITICAL</td><td></td></tr></table> <div>ACE &amp; Ridges (Needs to Be Updated)</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>353S01442</td><td>4</td><td>IC,CD3215,ACE,C0,USB_PWR_SW,BLNR,BGA96</td><td>U3100,U3200,UB300,UB400</td><td>CRITICAL</td><td></td></tr><tr><td>338S00408</td><td>2</td><td>IC,TBT,TITAN RIDGE DP,QUXK,QS,C1,CSP337</td><td>U2800,UB000</td><td>CRITICAL</td><td></td></tr></table> <div>Hall Effect AMR</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>677-10608</td><td>2</td><td>SUBASSY T600 PCB,A,AMR,,INTERPOSER,,X1190</td><td>J4800,J4801</td><td>CRITICAL</td><td></td></tr></table> <div>Power Controllers</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>353S01525</td><td>1</td><td>IC,ISL9240HBI2,PMU,SO20NA,WCSF40,2.1X3.3MM</td><td>U7000</td><td>CRITICAL</td><td></td></tr><tr><td>338S00267</td><td>1</td><td>IC,PMU,P650839,7X7MM,BGA168</td><td>U7800</td><td>CRITICAL</td><td></td></tr><tr><td>353S01229</td><td>1</td><td>IC,SUPPLY,INTERSIL,ISL6277AHR2,SV12,0,QFN48</td><td>UA600</td><td>CRITICAL</td><td></td></tr><tr><td>353S00928</td><td>1</td><td>IC,ISL9582BA,IMV98 CPU BIOS,QFN48,6X6MM</td><td>U7100</td><td>CRITICAL</td><td></td></tr></table> <div>Harpoon</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>339S00458</td><td>1</td><td>IC,MODULE,WIFI/BT,MEIRATA,HARPON,M,EST,7,1GA385</td><td>U3730</td><td>CRITICAL</td><td></td></tr></table> <table><tr><td>PART NUMBER</td><td>ALTERNATE FOR PART NUMBER</td><td>BOM OPTION</td><td>REF DES</td><td>COMMENTS:</td></tr><tr><td>339S00428</td><td>339S00458</td><td></td><td>ALL</td><td>IC,MODULE,WIFI/BT,HARPON,EST,EST,5,1GA385</td></tr></table> <div>USB-C Connector</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>998-12556</td><td>2</td><td>CONN,PCPT,56+4,P+0,35,B+5,7,BELD,TERR</td><td>J3300,JB500</td><td>CRITICAL</td><td></td></tr></table> <div>Ocarina</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>338S00410</td><td>1</td><td>IC,PMU,OCARINA,D2499A0,OTP-AG,WLCS956</td><td>U9000</td><td>CRITICAL</td><td></td></tr><tr><td>338S00410</td><td>1</td><td>IC,PMU,OCARINA,D2499A0,OTP-AG,WLCS956</td><td>U9500</td><td>CRITICAL</td><td>OCARINA_2</td></tr></table>									PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	337S00493	1	GPU,AMD,BAFFIN_ULX,A3,0.83,QS,BGA769	UA000	CRITICAL	BAFFIN_ULX	337S00494	1	GPU,AMD,BAFFIN_PROX,A3,0.83,QS,BGA769	UA000	CRITICAL	BAFFIN_PROX	998-04866	1	INTERPOSER,AMD,C989,BGA769,VDDCI/MVDD	UA000	CRITICAL	STARDUST:VDDCI_MVDD	998-04867	1	INTERPOSER,AMD,C988,BGA769,VDDC	UA000	CRITICAL	STARDUST:VDDC	PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	333S00074	4	IC,GDDR5,8Gb,7Gbps,1.5V,25NM,B,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_SAMSUNG	333S00075	4	IC,GDDR5,8Gb,7Gbps,1.5V,25NM,A,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_MICRON	333S00100	4	IC,GDDR5,8Gb,7Gbps,1.5V,25NM,A,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_HYNIX	333S00173	4	IC,GDDR5,8Gb,7Gbps,1.5V,12NM,A,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_MICRON_1Z	333S00175	4	IC,GDDR5,8Gb,7Gbps,1.5V,12NM,A,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_HYNIX_1Z	PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	337S00509	1	CPU,CFLB,QF87,QS,U0,2.2,45W,1.1,1GA1440	U0500	CRITICAL	CPU_CFL:2.2	337S00510	1	CPU,CFL-H,QF86,QS,U0,2.6,6C,45W,1.15,BGA1440	U0500	CRITICAL	CPU_CFL:2.6	337S00513	1	CPU,CFL-H,QP20,QS,U0,2.9,6C,45W,1.2,BGA1440	U0500	CRITICAL	CPU_CFL:2.9	998-12472	1	INTERPOSER,CFH-H,BGA1440	U0500	CRITICAL	CPU_SKL:SOCKET	PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	333S00131	16	IC,SDRAM,DDR4-2400,16GBIT,20NM,BGA78		CRITICAL	32G_MICRON_2400	333S00134	16	IC,SDRAM,DDR4-2400,16GBIT,20NM,BGA78		CRITICAL	32G_HYNIX_2400	333S00147	16	IC,SDRAM,DDR4-2400,8GBIT,20NM,BGA78		CRITICAL	16G_HYNIX_2400	333S00163	16	IC,SDRAM,DDR4-2400,8GBIT,20NM,BGA78		CRITICAL	16G_MICRON_2400	PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	337S00523	1	IC,CNL,PCH-H,USFF,QNYP,QS,B0,BGA499	U1200	CRITICAL		PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	353S01442	4	IC,CD3215,ACE,C0,USB_PWR_SW,BLNR,BGA96	U3100,U3200,UB300,UB400	CRITICAL		338S00408	2	IC,TBT,TITAN RIDGE DP,QUXK,QS,C1,CSP337	U2800,UB000	CRITICAL		PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	677-10608	2	SUBASSY T600 PCB,A,AMR,,INTERPOSER,,X1190	J4800,J4801	CRITICAL		PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	353S01525	1	IC,ISL9240HBI2,PMU,SO20NA,WCSF40,2.1X3.3MM	U7000	CRITICAL		338S00267	1	IC,PMU,P650839,7X7MM,BGA168	U7800	CRITICAL		353S01229	1	IC,SUPPLY,INTERSIL,ISL6277AHR2,SV12,0,QFN48	UA600	CRITICAL		353S00928	1	IC,ISL9582BA,IMV98 CPU BIOS,QFN48,6X6MM	U7100	CRITICAL		PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	339S00458	1	IC,MODULE,WIFI/BT,MEIRATA,HARPON,M,EST,7,1GA385	U3730	CRITICAL		PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:	339S00428	339S00458		ALL	IC,MODULE,WIFI/BT,HARPON,EST,EST,5,1GA385	PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	998-12556	2	CONN,PCPT,56+4,P+0,35,B+5,7,BELD,TERR	J3300,JB500	CRITICAL		PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	338S00410	1	IC,PMU,OCARINA,D2499A0,OTP-AG,WLCS956	U9000	CRITICAL		338S00410	1	IC,PMU,OCARINA,D2499A0,OTP-AG,WLCS956	U9500	CRITICAL	OCARINA_2	
PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION																																																																																																																																																																																																																																																															
337S00493	1	GPU,AMD,BAFFIN_ULX,A3,0.83,QS,BGA769	UA000	CRITICAL	BAFFIN_ULX																																																																																																																																																																																																																																																															
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998-04866	1	INTERPOSER,AMD,C989,BGA769,VDDCI/MVDD	UA000	CRITICAL	STARDUST:VDDCI_MVDD																																																																																																																																																																																																																																																															
998-04867	1	INTERPOSER,AMD,C988,BGA769,VDDC	UA000	CRITICAL	STARDUST:VDDC																																																																																																																																																																																																																																																															
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333S00074	4	IC,GDDR5,8Gb,7Gbps,1.5V,25NM,B,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_SAMSUNG																																																																																																																																																																																																																																																															
333S00075	4	IC,GDDR5,8Gb,7Gbps,1.5V,25NM,A,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_MICRON																																																																																																																																																																																																																																																															
333S00100	4	IC,GDDR5,8Gb,7Gbps,1.5V,25NM,A,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_HYNIX																																																																																																																																																																																																																																																															
333S00173	4	IC,GDDR5,8Gb,7Gbps,1.5V,12NM,A,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_MICRON_1Z																																																																																																																																																																																																																																																															
333S00175	4	IC,GDDR5,8Gb,7Gbps,1.5V,12NM,A,170 BGA	UA400,UA450,UA500,UA550	CRITICAL	FB_4GB_HYNIX_1Z																																																																																																																																																																																																																																																															
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333S00131	16	IC,SDRAM,DDR4-2400,16GBIT,20NM,BGA78		CRITICAL	32G_MICRON_2400																																																																																																																																																																																																																																																															
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333S00147	16	IC,SDRAM,DDR4-2400,8GBIT,20NM,BGA78		CRITICAL	16G_HYNIX_2400																																																																																																																																																																																																																																																															
333S00163	16	IC,SDRAM,DDR4-2400,8GBIT,20NM,BGA78		CRITICAL	16G_MICRON_2400																																																																																																																																																																																																																																																															
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353S01442	4	IC,CD3215,ACE,C0,USB_PWR_SW,BLNR,BGA96	U3100,U3200,UB300,UB400	CRITICAL																																																																																																																																																																																																																																																																
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338S00410	1	IC,PMU,OCARINA,D2499A0,OTP-AG,WLCS956	U9500	CRITICAL	OCARINA_2																																																																																																																																																																																																																																																															
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	<div>Programmable Parts</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>335S00199</td><td>1</td><td>IC,1Mbit SERIAL FLASH 2X3X0.6MM UPDFN8 PKG</td><td>UA701</td><td>CRITICAL</td><td>GPUROM:BLANK</td></tr><tr><td>341S01017</td><td>1</td><td>T29,TR1(V2.1),NEW-PROTO-2,X1190</td><td>U2890</td><td>CRITICAL</td><td>UPCROM_PROG:P1</td></tr><tr><td>341S01018</td><td>1</td><td>T29,TR2(V2.1),NEW-PROTO-2,X1190</td><td>UB090</td><td>CRITICAL</td><td>UPCROM_PROG:P1</td></tr><tr><td>341S01025</td><td>1</td><td>IC,BT ROM, EVT,VXX, X1190</td><td>U3750</td><td>CRITICAL</td><td>BT_ROM:P2</td></tr><tr><td>341S00725</td><td>1</td><td>IC,WIFI ROM, PROTO0, X1190</td><td>U3710</td><td>CRITICAL</td><td>WIFI_ROM:P0</td></tr></table> <div>H9M</div> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>339S00373</td><td>1</td><td>POP,GIBRALTAR+2GB 21NM,H,B0,SKX,CSP1406</td><td>U3900</td><td>CRITICAL</td><td>SOC:2GB</td></tr></table> <table><tr><td>PART NUMBER</td><td>ALTERNATE FOR PART NUMBER</td><td>BOM OPTION</td><td>REF DES</td><td>COMMENTS:</td></tr><tr><td>339S00373</td><td>339S00372</td><td></td><td>ALL</td><td>2GB,20NM,M,B0,SKX,CSP1406</td></tr><tr><td>339S00378</td><td>339S00372</td><td></td><td>ALL</td><td>2GB,21NM,H,B0,ATK,CSP1406</td></tr><tr><td>339S00377</td><td>339S00372</td><td></td><td>ALL</td><td>2GB,20NM,M,B0,ATK,CSP1406</td></tr></table> <table><tr><th>PART NUMBER</th><th>QTY</th><th>DESCRIPTION</th><th>REFERENCE DES</th><th>CRITICAL</th><th>BOM OPTION</th></tr><tr><td>339S00376</td><td>1</td><td>POP,GIBRALTAR+1GB 21NM,H,B0,ATK,CSP1406</td><td>U3900</td><td>CRITICAL</td><td>SOC:1GB</td></tr></table> <table><tr><td>PART NUMBER</td><td>ALTERNATE FOR PART NUMBER</td><td>BOM OPTION</td><td>REF DES</td><td>COMMENTS:</td></tr><tr><td>339S00375</td><td>339S00376</td><td></td><td>ALL</td><td>1GB,20NM,M,B0,ATK,CSP1406</td></tr><tr><td>339S00371</td><td>339S00376</td><td></td><td>ALL</td><td>1GB,21NM,H,B0,SKX,CSP1406</td></tr><tr><td>339S00370</td><td>339S00376</td><td></td><td>ALL</td><td>1GB,21NM,M,B0,SKX,CSP1406</td></tr></table> <div>S4E Parts</div> <div>256GB</div> <table><tr><td>335S00324</td><td>4</td><td>NAND,3DV3,85GBP,XXX,S4E,170G,SD,ULGA110</td><td>U8600,U8700,U8800,U8900</td><td>CRITICAL</td><td>S4E_256_WD</td></tr><tr><td>998-12418</td><td>4</td><td>NAND,3DV3,85GBP,S4E,170G,T,SUBX,ULGA110</td><td>U8600,U8700,U8800,U8900</td><td>CRITICAL</td><td>S4E_256_TB</td></tr><tr><td>998-12419</td><td>998-12418</td><td></td><td>ALL</td><td>SUBW</td><td></td></tr></table> <div>512GB</div> <table><tr><td>335S00325</td><td>4</td><td>NAND,3DV3,128GBP,XXX,S4E,170G,SD,ULGA110</td><td>U8600,U8700,U8800,U8900</td><td>CRITICAL</td><td>S4E_512_WD</td></tr><tr><td>998-12420</td><td>4</td><td>NAND,3DV3,128GBP,S4E,170G,T,SUBX,ULGA110</td><td>U8600,U8700,U8800,U8900</td><td>CRITICAL</td><td>S4E_512_TB</td></tr><tr><td>998-12421</td><td>998-12420</td><td></td><td>ALL</td><td>SUBW</td><td></td></tr></table> <div>1TB</div> <table><tr><td>335S00326</td><td>6</td><td>NAND,3DV3,170GBP,XXX,S4E,170G,SD,ULGA110</td><td>U8600,U8700,U8800,U8900,U9100,U9200</td><td>CRITICAL</td><td>S4E_1TB_WD</td></tr><tr><td>998-12422</td><td>6</td><td>NAND,3DV3,170GBP,S4E,170G,T,SUBX,ULGA110</td><td>U8600,U8700,U8800,U8900,U9100,U9200</td><td>CRITICAL</td><td>S4E_1TB_TB</td></tr><tr><td>998-12423</td><td>998-12422</td><td></td><td>ALL</td><td>SUBW</td><td></td></tr></table> <div>2TB</div> <table><tr><td>335S00327</td><td>8</td><td>NAND,3DV3,256GBP,XXX,S4E,170G,SD,ULGA110</td><td>U8600,U8700,U8800,U8900,U9100,U9200,U9400</td><td>CRITICAL</td><td>S4E_2TB_WD</td></tr><tr><td>335S00321</td><td>8</td><td>NAND,3DV4,256GBP,XXX,S4E,256G,SS,ULGA110</td><td>U8600,U8700,U8800,U8900,U9100,U9200,U9400</td><td>CRITICAL</td><td>S4E_2TB_SM</td></tr><tr><td>998-12424</td><td>8</td><td>NAND,3DV3,256GBP,S4E,170G,T,SUBX,ULGA110</td><td>U8600,U8700,U8800,U8900,U9100,U9200,U9400</td><td>CRITICAL</td><td>S4E_2TB_TB</td></tr><tr><td>998-12426</td><td>998-12424</td><td></td><td>ALL</td><td>SUBW</td><td></td></tr></table> <div>4TB</div> <table><tr><td>335S00322</td><td>8</td><td>NAND,3DV4,512GBP,S4E,256G,SS,ULGA110</td><td>U8600,U8700,U8800,U8900,U9100,U9200,U9400</td><td>CRITICAL</td><td>S4E_4TB_SM</td></tr></table> <div>2TB TLC</div> <table><tr><td>335S00228</td><td>8</td><td>NAND,3DV3,256GBT,S4E,256G,T,SLGA110</td><td>U8600,U8700,U8800,U8900,U9100,U9200,U9300,U9400</td><td>CRITICAL</td><td>TLC_2TB_TB</td></tr><tr><td>335S00247</td><td>8</td><td>NAND,3DV3,256GBT,S4E,256G,SD,SLGA110</td><td>U8600,U8700,U8800,U8900,U9100,U9200,U9300,U9400</td><td>CRITICAL</td><td>TLC_2TB_WD</td></tr></table>									PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	335S00199	1	IC,1Mbit SERIAL FLASH 2X3X0.6MM UPDFN8 PKG	UA701	CRITICAL	GPUROM:BLANK	341S01017	1	T29,TR1(V2.1),NEW-PROTO-2,X1190	U2890	CRITICAL	UPCROM_PROG:P1	341S01018	1	T29,TR2(V2.1),NEW-PROTO-2,X1190	UB090	CRITICAL	UPCROM_PROG:P1	341S01025	1	IC,BT ROM, EVT,VXX, X1190	U3750	CRITICAL	BT_ROM:P2	341S00725	1	IC,WIFI ROM, PROTO0, X1190	U3710	CRITICAL	WIFI_ROM:P0	PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	339S00373	1	POP,GIBRALTAR+2GB 21NM,H,B0,SKX,CSP1406	U3900	CRITICAL	SOC:2GB	PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:	339S00373	339S00372		ALL	2GB,20NM,M,B0,SKX,CSP1406	339S00378	339S00372		ALL	2GB,21NM,H,B0,ATK,CSP1406	339S00377	339S00372		ALL	2GB,20NM,M,B0,ATK,CSP1406	PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION	339S00376	1	POP,GIBRALTAR+1GB 21NM,H,B0,ATK,CSP1406	U3900	CRITICAL	SOC:1GB	PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:	339S00375	339S00376		ALL	1GB,20NM,M,B0,ATK,CSP1406	339S00371	339S00376		ALL	1GB,21NM,H,B0,SKX,CSP1406	339S00370	339S00376		ALL	1GB,21NM,M,B0,SKX,CSP1406	335S00324	4	NAND,3DV3,85GBP,XXX,S4E,170G,SD,ULGA110	U8600,U8700,U8800,U8900	CRITICAL	S4E_256_WD	998-12418	4	NAND,3DV3,85GBP,S4E,170G,T,SUBX,ULGA110	U8600,U8700,U8800,U8900	CRITICAL	S4E_256_TB	998-12419	998-12418		ALL	SUBW		335S00325	4	NAND,3DV3,128GBP,XXX,S4E,170G,SD,ULGA110	U8600,U8700,U8800,U8900	CRITICAL	S4E_512_WD	998-12420	4	NAND,3DV3,128GBP,S4E,170G,T,SUBX,ULGA110	U8600,U8700,U8800,U8900	CRITICAL	S4E_512_TB	998-12421	998-12420		ALL	SUBW		335S00326	6	NAND,3DV3,170GBP,XXX,S4E,170G,SD,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200	CRITICAL	S4E_1TB_WD	998-12422	6	NAND,3DV3,170GBP,S4E,170G,T,SUBX,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200	CRITICAL	S4E_1TB_TB	998-12423	998-12422		ALL	SUBW		335S00327	8	NAND,3DV3,256GBP,XXX,S4E,170G,SD,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9400	CRITICAL	S4E_2TB_WD	335S00321	8	NAND,3DV4,256GBP,XXX,S4E,256G,SS,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9400	CRITICAL	S4E_2TB_SM	998-12424	8	NAND,3DV3,256GBP,S4E,170G,T,SUBX,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9400	CRITICAL	S4E_2TB_TB	998-12426	998-12424		ALL	SUBW		335S00322	8	NAND,3DV4,512GBP,S4E,256G,SS,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9400	CRITICAL	S4E_4TB_SM	335S00228	8	NAND,3DV3,256GBT,S4E,256G,T,SLGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9300,U9400	CRITICAL	TLC_2TB_TB	335S00247	8	NAND,3DV3,256GBT,S4E,256G,SD,SLGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9300,U9400	CRITICAL	TLC_2TB_WD																																																							
PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION																																																																																																																																																																																																																																																															
335S00199	1	IC,1Mbit SERIAL FLASH 2X3X0.6MM UPDFN8 PKG	UA701	CRITICAL	GPUROM:BLANK																																																																																																																																																																																																																																																															
341S01017	1	T29,TR1(V2.1),NEW-PROTO-2,X1190	U2890	CRITICAL	UPCROM_PROG:P1																																																																																																																																																																																																																																																															
341S01018	1	T29,TR2(V2.1),NEW-PROTO-2,X1190	UB090	CRITICAL	UPCROM_PROG:P1																																																																																																																																																																																																																																																															
341S01025	1	IC,BT ROM, EVT,VXX, X1190	U3750	CRITICAL	BT_ROM:P2																																																																																																																																																																																																																																																															
341S00725	1	IC,WIFI ROM, PROTO0, X1190	U3710	CRITICAL	WIFI_ROM:P0																																																																																																																																																																																																																																																															
PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION																																																																																																																																																																																																																																																															
339S00373	1	POP,GIBRALTAR+2GB 21NM,H,B0,SKX,CSP1406	U3900	CRITICAL	SOC:2GB																																																																																																																																																																																																																																																															
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339S00373	339S00372		ALL	2GB,20NM,M,B0,SKX,CSP1406																																																																																																																																																																																																																																																																
339S00378	339S00372		ALL	2GB,21NM,H,B0,ATK,CSP1406																																																																																																																																																																																																																																																																
339S00377	339S00372		ALL	2GB,20NM,M,B0,ATK,CSP1406																																																																																																																																																																																																																																																																
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339S00376	1	POP,GIBRALTAR+1GB 21NM,H,B0,ATK,CSP1406	U3900	CRITICAL	SOC:1GB																																																																																																																																																																																																																																																															
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339S00375	339S00376		ALL	1GB,20NM,M,B0,ATK,CSP1406																																																																																																																																																																																																																																																																
339S00371	339S00376		ALL	1GB,21NM,H,B0,SKX,CSP1406																																																																																																																																																																																																																																																																
339S00370	339S00376		ALL	1GB,21NM,M,B0,SKX,CSP1406																																																																																																																																																																																																																																																																
335S00324	4	NAND,3DV3,85GBP,XXX,S4E,170G,SD,ULGA110	U8600,U8700,U8800,U8900	CRITICAL	S4E_256_WD																																																																																																																																																																																																																																																															
998-12418	4	NAND,3DV3,85GBP,S4E,170G,T,SUBX,ULGA110	U8600,U8700,U8800,U8900	CRITICAL	S4E_256_TB																																																																																																																																																																																																																																																															
998-12419	998-12418		ALL	SUBW																																																																																																																																																																																																																																																																
335S00325	4	NAND,3DV3,128GBP,XXX,S4E,170G,SD,ULGA110	U8600,U8700,U8800,U8900	CRITICAL	S4E_512_WD																																																																																																																																																																																																																																																															
998-12420	4	NAND,3DV3,128GBP,S4E,170G,T,SUBX,ULGA110	U8600,U8700,U8800,U8900	CRITICAL	S4E_512_TB																																																																																																																																																																																																																																																															
998-12421	998-12420		ALL	SUBW																																																																																																																																																																																																																																																																
335S00326	6	NAND,3DV3,170GBP,XXX,S4E,170G,SD,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200	CRITICAL	S4E_1TB_WD																																																																																																																																																																																																																																																															
998-12422	6	NAND,3DV3,170GBP,S4E,170G,T,SUBX,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200	CRITICAL	S4E_1TB_TB																																																																																																																																																																																																																																																															
998-12423	998-12422		ALL	SUBW																																																																																																																																																																																																																																																																
335S00327	8	NAND,3DV3,256GBP,XXX,S4E,170G,SD,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9400	CRITICAL	S4E_2TB_WD																																																																																																																																																																																																																																																															
335S00321	8	NAND,3DV4,256GBP,XXX,S4E,256G,SS,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9400	CRITICAL	S4E_2TB_SM																																																																																																																																																																																																																																																															
998-12424	8	NAND,3DV3,256GBP,S4E,170G,T,SUBX,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9400	CRITICAL	S4E_2TB_TB																																																																																																																																																																																																																																																															
998-12426	998-12424		ALL	SUBW																																																																																																																																																																																																																																																																
335S00322	8	NAND,3DV4,512GBP,S4E,256G,SS,ULGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9400	CRITICAL	S4E_4TB_SM																																																																																																																																																																																																																																																															
335S00228	8	NAND,3DV3,256GBT,S4E,256G,T,SLGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9300,U9400	CRITICAL	TLC_2TB_TB																																																																																																																																																																																																																																																															
335S00247	8	NAND,3DV3,256GBT,S4E,256G,SD,SLGA110	U8600,U8700,U8800,U8900,U9100,U9200,U9300,U9400	CRITICAL	TLC_2TB_WD																																																																																																																																																																																																																																																															
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	<div>BOM Configuration 2</div> <table><tr><td rowspan="2"> Apple Inc.</td><td>DRAWING NUMBER</td><td>051-02643</td><td>SIZE</td><td>D</td></tr><tr><td>REVISION</td><td colspan="3">4.0.0</td></tr><tr><td rowspan="3">NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR 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</td><td>BRANCH</td><td colspan="3">evt-0</td></tr><tr><td>PAGE</td><td colspan="3">3 OF 200</td></tr><tr><td>SHEET</td><td colspan="3">3 OF 131</td></tr></table>									 Apple Inc.	DRAWING NUMBER	051-02643	SIZE	D	REVISION	4.0.0			NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR 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	BRANCH	evt-0			PAGE	3 OF 200			SHEET	3 OF 131																																																																																																																																																																																																																																							
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Bumpers

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
860-00986	1	bumper 1	BM0411	CRITICAL	
860-00948	1	bumper 2	BM0400	CRITICAL	
860-00954	5	bumper 3	BM0484, BM0485, BM0486, BM0487, BM0488	CRITICAL	
860-00949	11	bumper 4	BM0411, BM0400, BM0484, BM0485, BM0486, BM0487, BM0488	CRITICAL	

Shield Cans

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
806-11170	1	SHIELD, FENCE, DIPLEX, X1181	SH0400	CRITICAL	
806-13323	2	SHIELD, FENCE, NAND_L5_L6, X1181	SH0401, SH0402	CRITICAL	S4E_X6
806-13323	4	SHIELD, FENCE, NAND_L5_L6_L7_L8, X1181	SH0401, SH0402, SH0403, SH0404	CRITICAL	S4E_X8
806-13325	1	SHIELD, FENCE, H9M, X1181	SH0405	CRITICAL	
806-13326	1	SHIELD, FENCE, VRAM, X1181	SH0406	CRITICAL	
806-13327	1	SHIELD, FENCE, TR_RT, X1181	SH0407	CRITICAL	
806-13328	2	SHIELD, FENCE, NAND_L1_L2_L3_L4, X1181	SH0408, SH0409	CRITICAL	
806-13329	1	SHIELD, FENCE, TR_LT, X1181	SH0410	CRITICAL	
806-13324	2	SHIELD, FENCE, DRAM, X1181	SH0411, SH0412	CRITICAL	
806-13996	2	SHIELD, SLED, GPU, X1181	SH0413, SH0415	CRITICAL	
806-13997	2	SHIELD, SLED, CPU, X1181	SH0414, SH0416	CRITICAL	


BOM\_COST\_GROUP=MECHANICALS

SYRC MASTER-EXPEND-CONTRACTS

SYRC DATE:03/01/2017

PAGE TITLE

PD Parts

 Apple Inc.

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051-02643

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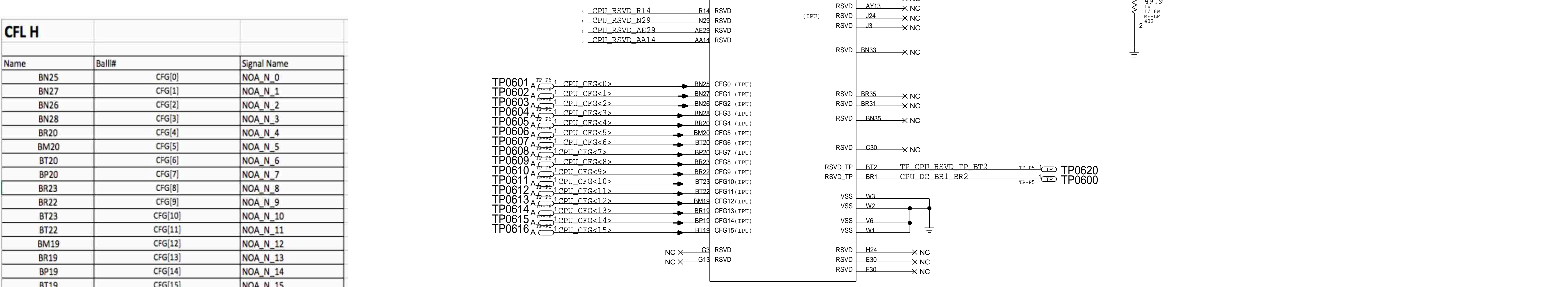
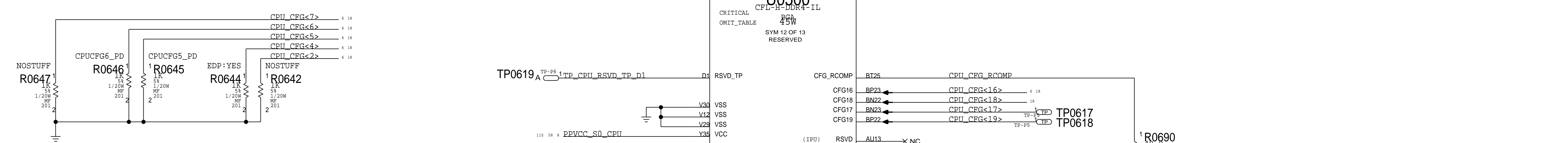
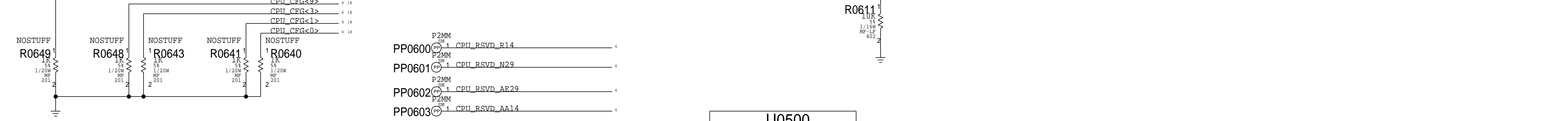
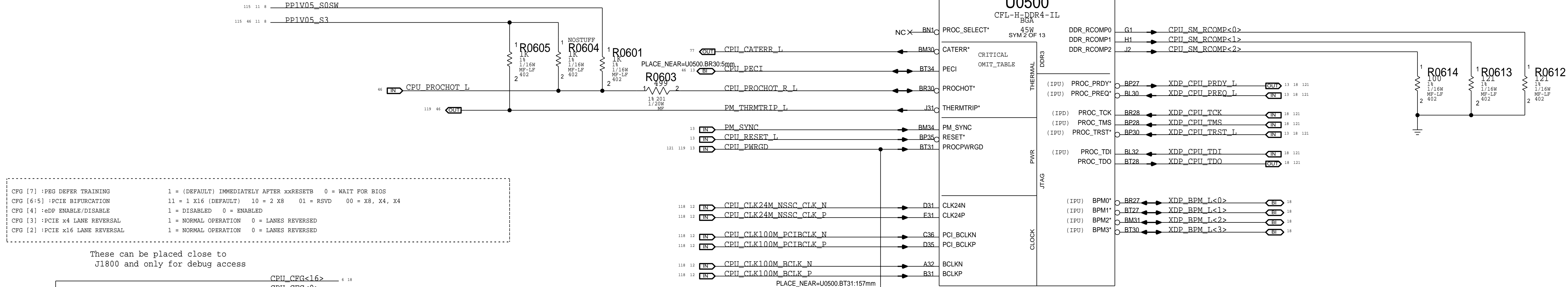
PAGE  
4 OF 200

SHEET  
4 OF 131

SIZE  
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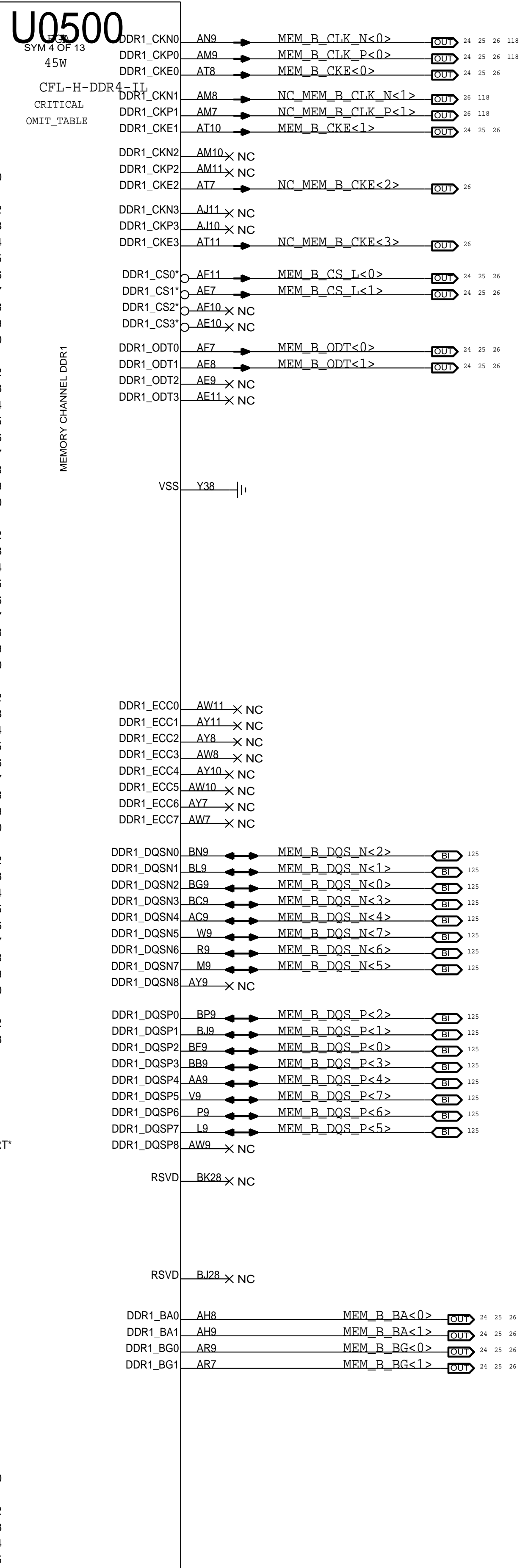
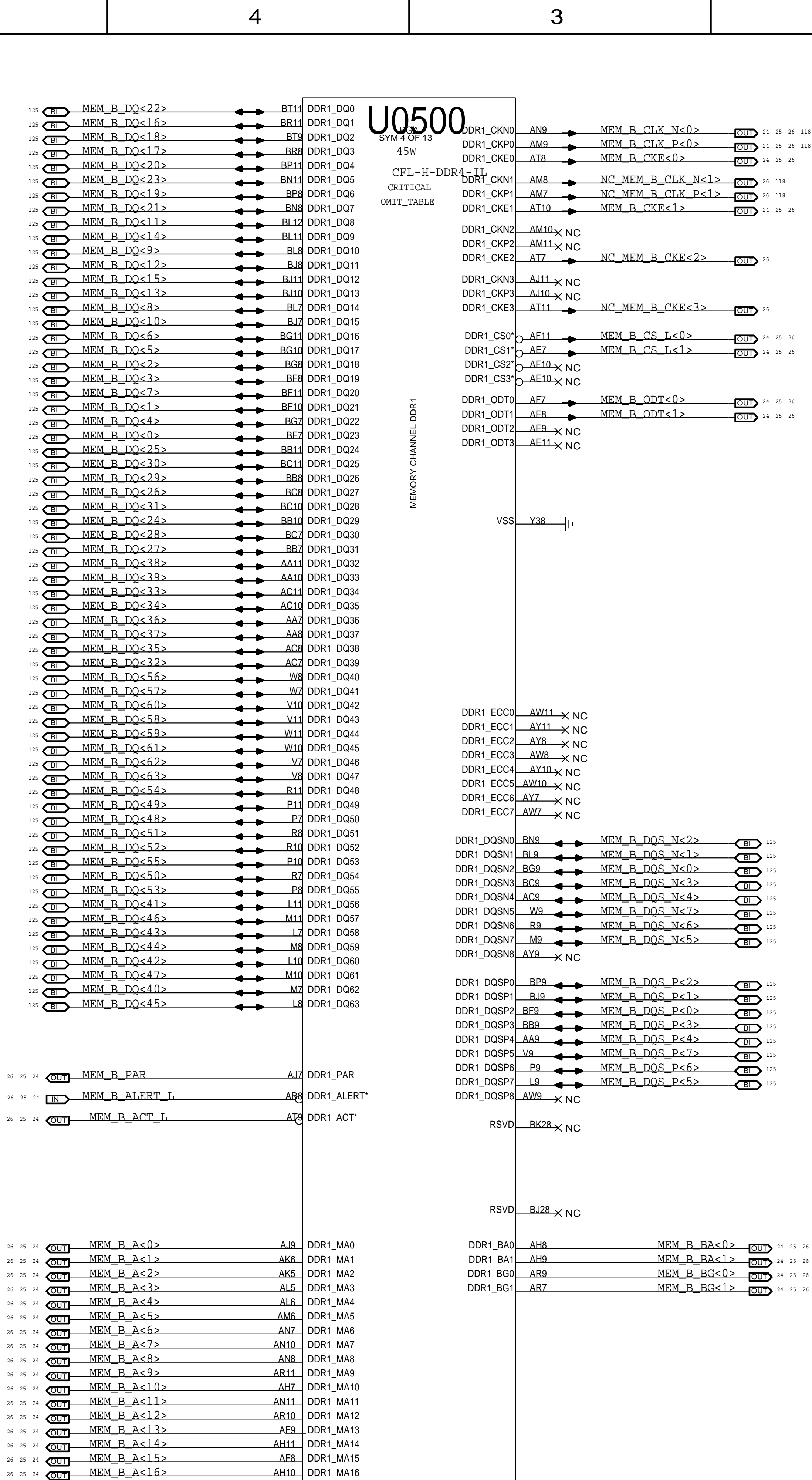
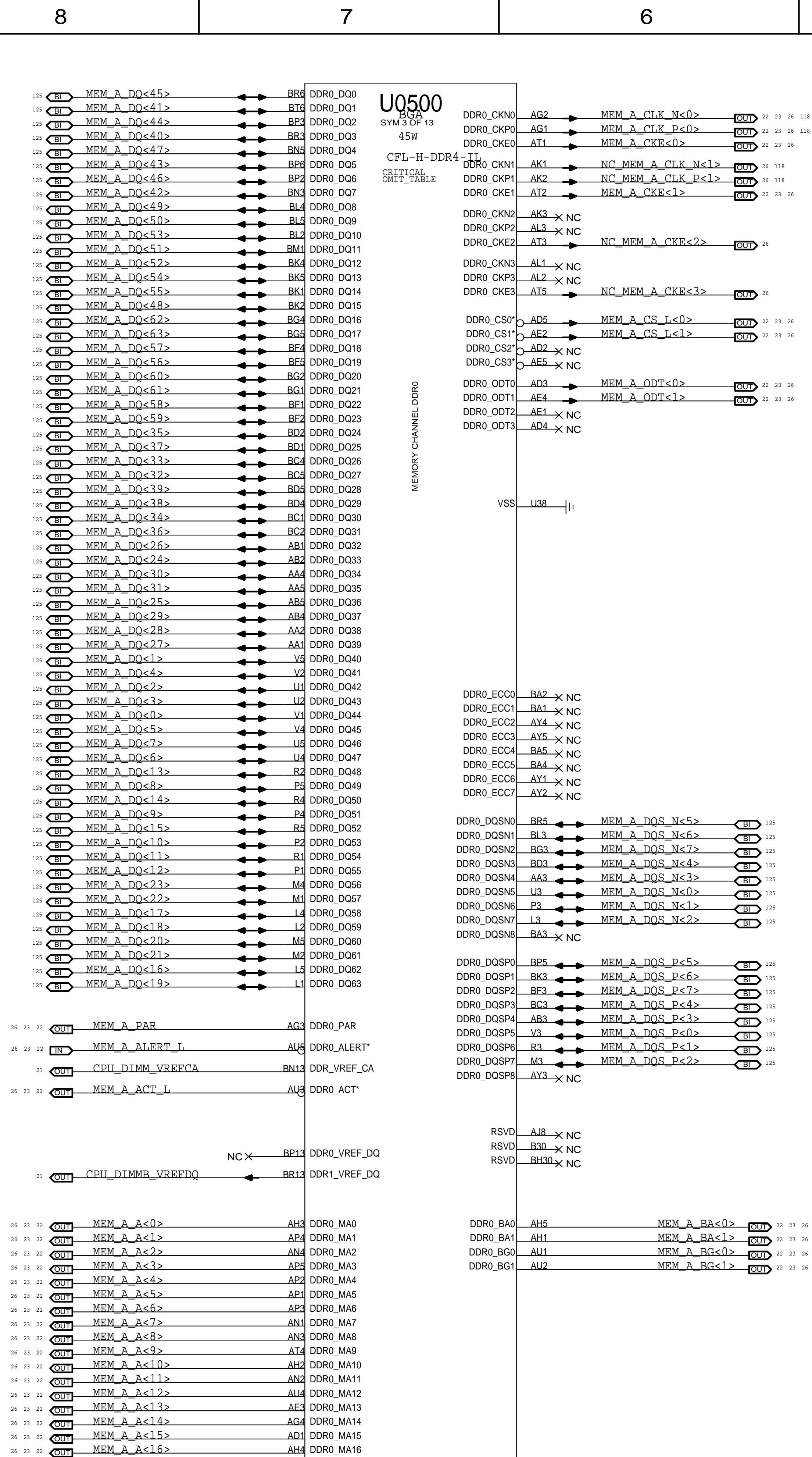
CFL H		
Name	Ball#	Signal Name
BN25	CFG[0]	NOA_N_0
BN27	CFG[1]	NOA_N_1
BN26	CFG[2]	NOA_N_2
BN28	CFG[3]	NOA_N_3
BR20	CFG[4]	NOA_N_4
BM20	CFG[5]	NOA_N_5
BT20	CFG[6]	NOA_N_6
BP20	CFG[7]	NOA_N_7
BR23	CFG[8]	NOA_N_8
BR22	CFG[9]	NOA_N_9
BT23	CFG[10]	NOA_N_10
BT22	CFG[11]	NOA_N_11
BM19	CFG[12]	NOA_N_12
BR19	CFG[13]	NOA_N_13
BP19	CFG[14]	NOA_N_14
BT19	CFG[15]	NOA_N_15
BN23	CFG[17]	NOA_STB_P_0
BP22	CFG[19]	NOA_STB_P_1
D1	RSVD_TP	PEG_VIEW0
E1	RSVD_TP	PEG_VIEW1
E2	RSVD_TP	PEG_VIEW3
E3	IST_TRIG	PEG_VIEW2
BT2	RSVD_TP	DDR_VIEW1
BR1	RSVD_TP	DDR_VIEW0

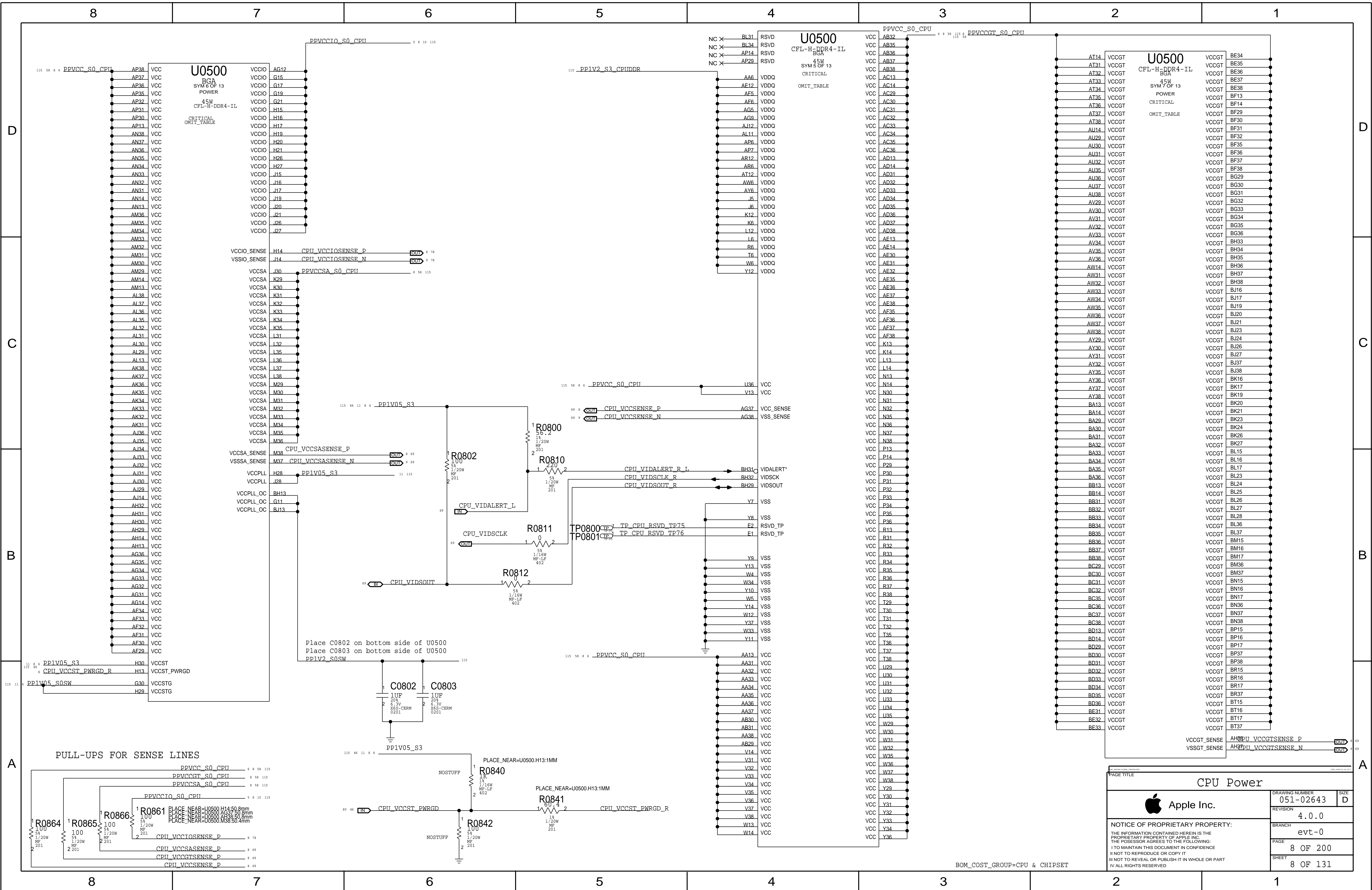
BOM GROUP	BOM OPTIONS
CPUPEG:X8X8	CPUCFG5_PD
CPUPEG:X8X4X4	CPUCFG6_PD,CPUCFG5_PD

PAGE TITLE		
CPU Clock/Misc/JTAG/CFG		
DRAWING NUMBER		SIZE
051-02643		D
REVISION		4.0.0
BRANCH		evt-0
PAGE		6 OF 200
SHEET		6 OF 131

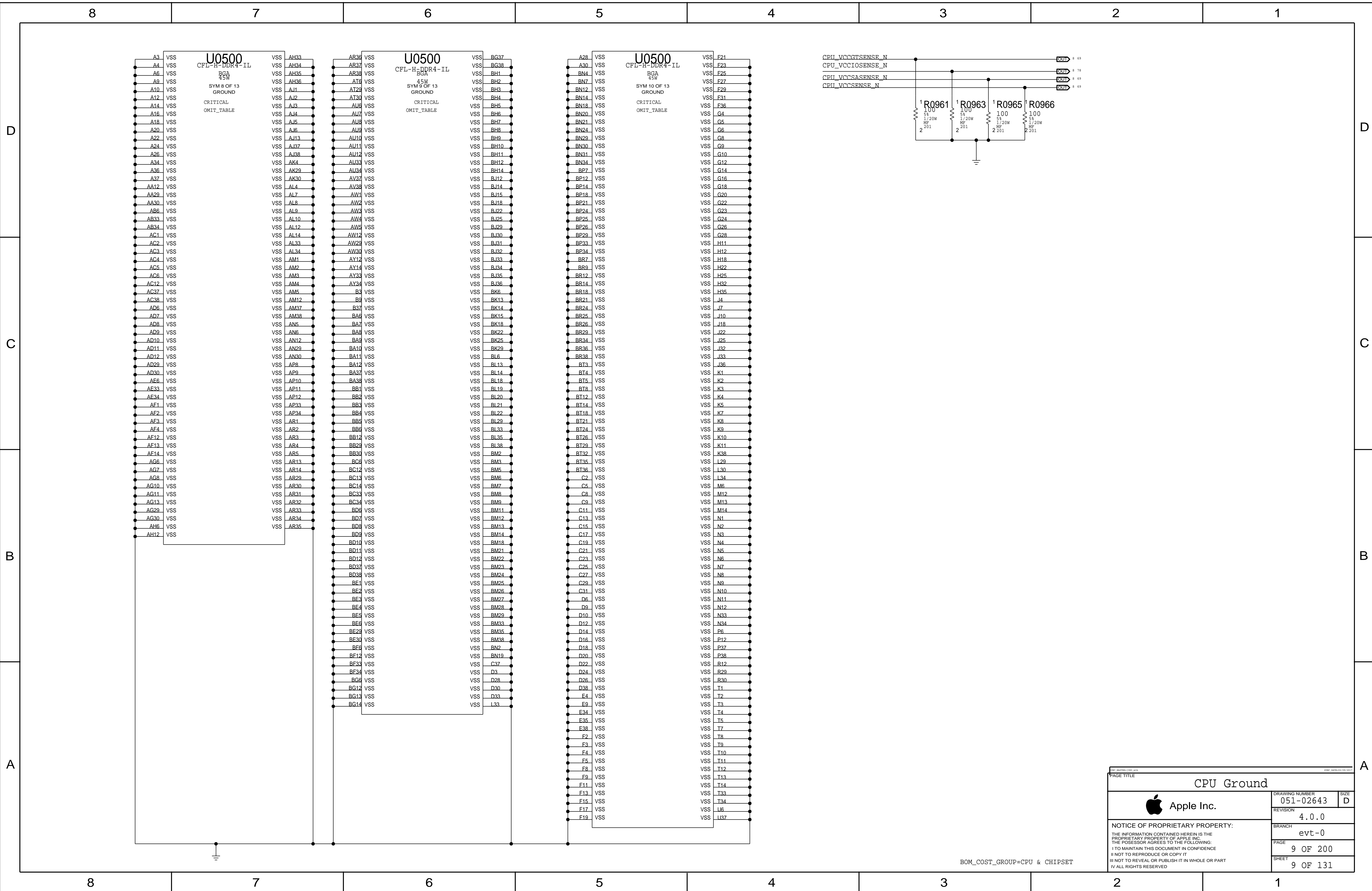
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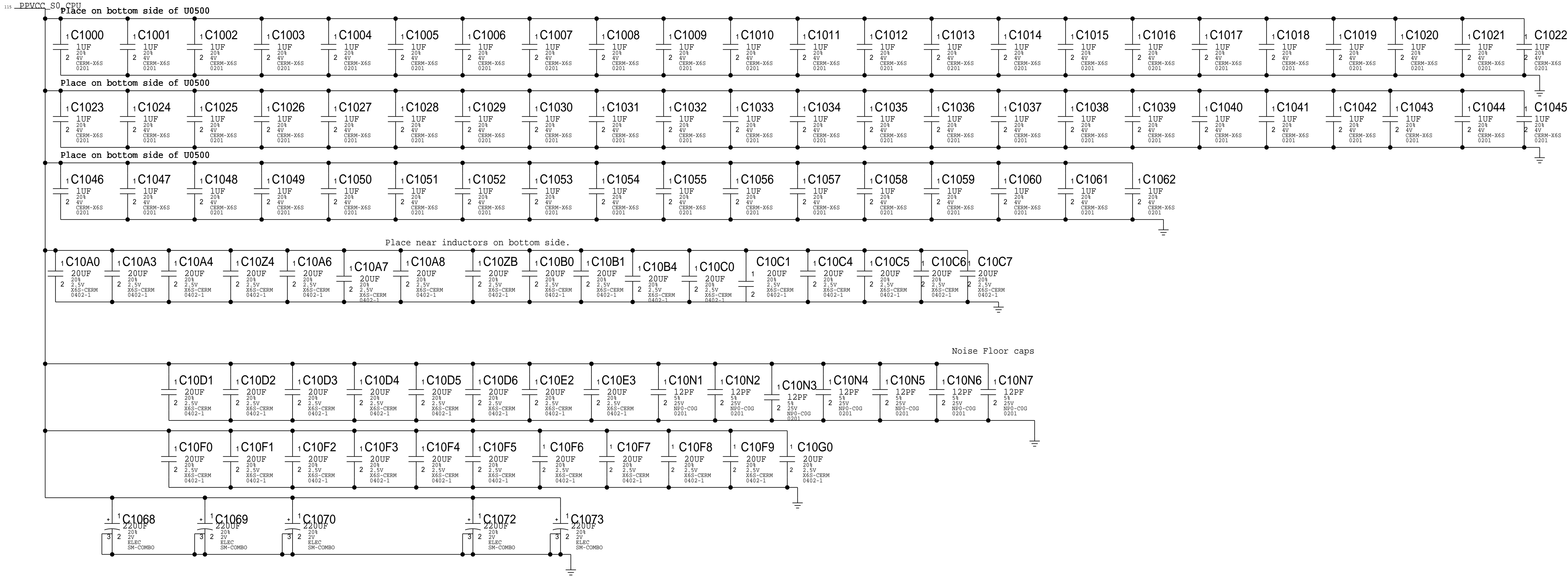


CPU VCORE Decoupling

Intel recommendation: 5x 220uF ESR 5m ohms ESL 1.9nH each,4x 47uF 0805 8x22uF 0603, 28x 10uF 0402, 3x 10uF 0402, 69x 1uF 0201  
Apple Implementation:

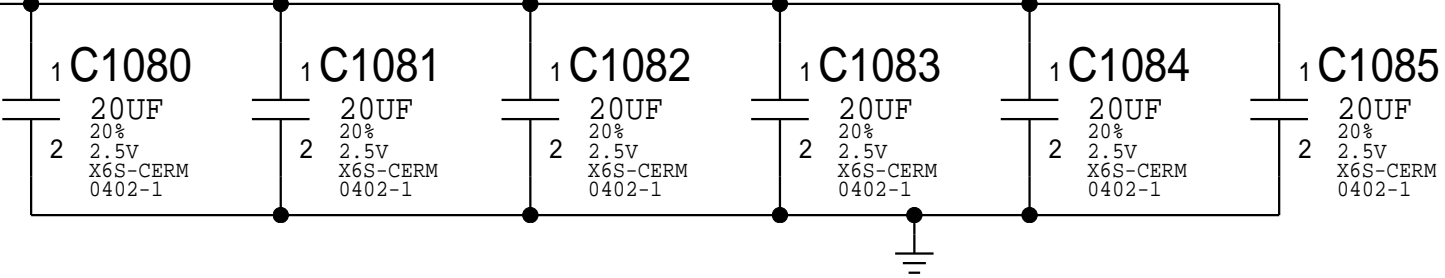
Vcc CPU Core Decoupling from 20140905 BOM

Board Edge: 2x 220uF, 4x 47uF rest on the back side



122 115 \_PPIV2\_S3\_CPUDDR

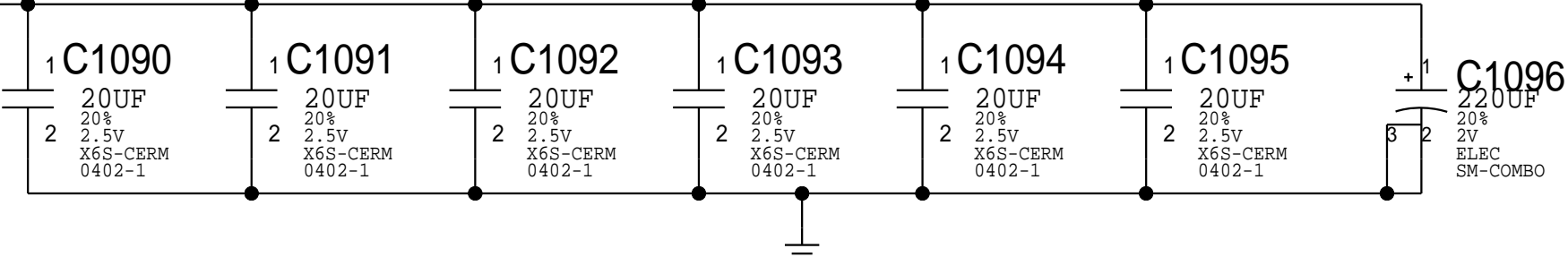
Place on bottom side of U0500.



CPU VDDQ Decoupling

Intel recommendation: 10x 10uF 0402, 4x 22uF 0602  
Apple Implementation:

Place on bottom side of U0500

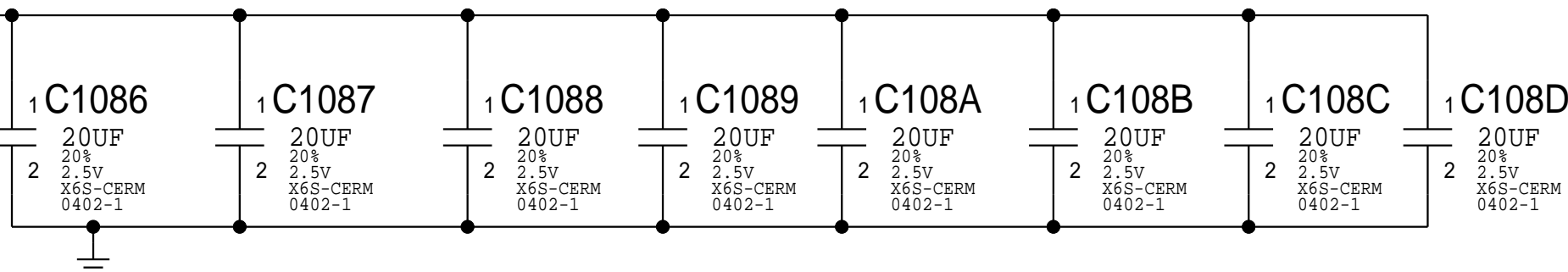


CPU VCCIO Decoupling

Intel recommendation: 3x 10uF 0402 (opposite CPU)  
Apple Implementation:

Place near U0500 on bottom side

115 # S BPVCCIO\_S0\_CPU



NOTE: Intel decoupling recommendations from CBR schematics for Skylake H doc#557227 and PDG section 48.1 (document# 546884)

BOM\_COST\_GROUP=CPU & CHIPSET

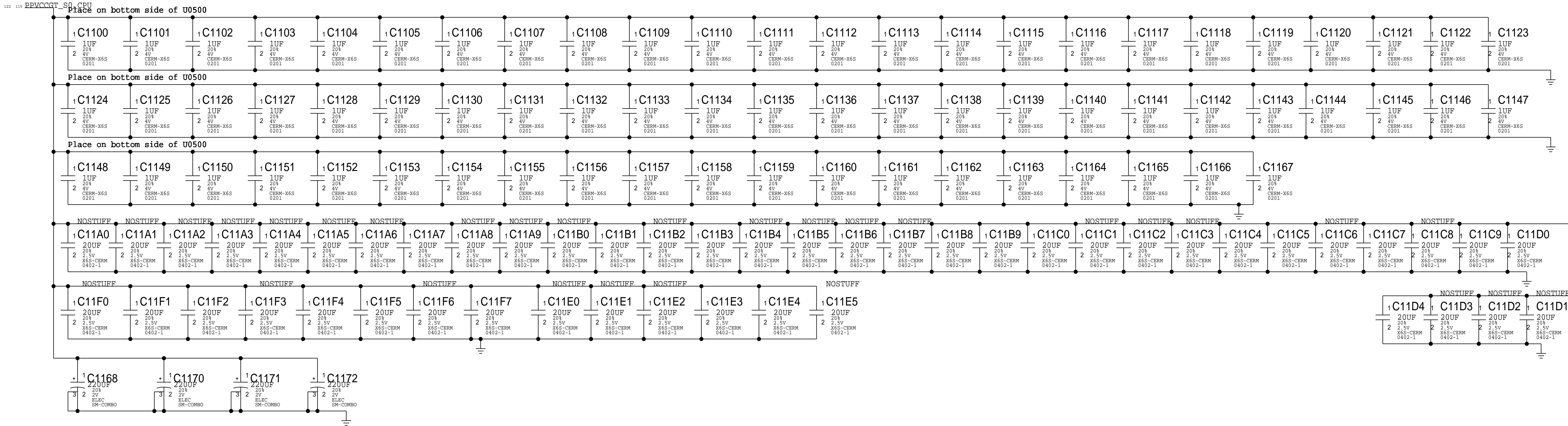
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CPU Decoupling 1		
	DRAWING NUMBER	051-02643
	REVISION	4.0.0
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	PAGE	10 OF 200
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CPU VGTSlice Decoupling

Intel recommendation: 7x 220uF, 6x 47uF 0805, 6x 22uF 0603, 35x 10uF 0402, 68 1uF 0201  
Apple Implementation:

Vcc GT Slice Core Decoupling from 20140905 BOM

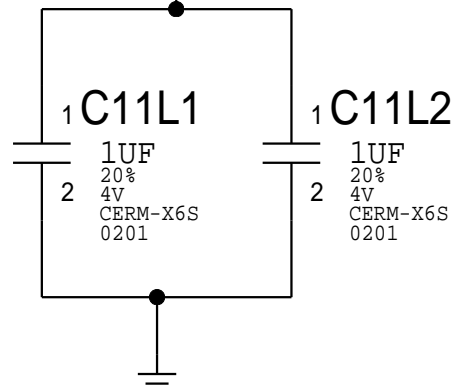
Board Edge: 4x220uF, 7x 47uF rest on back side



CPU VCCSTG Decoupling

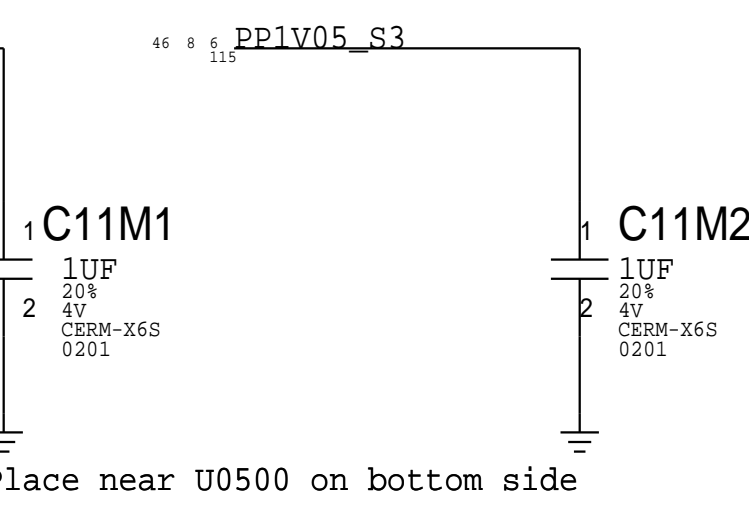
115 8 PPIV05\_S0SW

Place near U0500 on bottom side



CPU VCCPLL and VCCST Decoupling

115 8 PPIV05\_S3




CPU VCCSA Decoupling

Intel recommendation: 2x 220uF, 1x 47uF 0805, 1x 22uF, 7x 10uF 0402, 3x 1uF 0201  
Apple Implementation: 2x 220uF, 1x 22uF on board edge, everything else on back side

NOTE: Intel decoupling recommendations from CBR schematics for Skylake H doc#557227 and PDG section 48.1 (document# 546884)

BOM\_COST\_GROUP=CPU & CHIPSET

PAGE TITLE		
CPU Decoupling 2		
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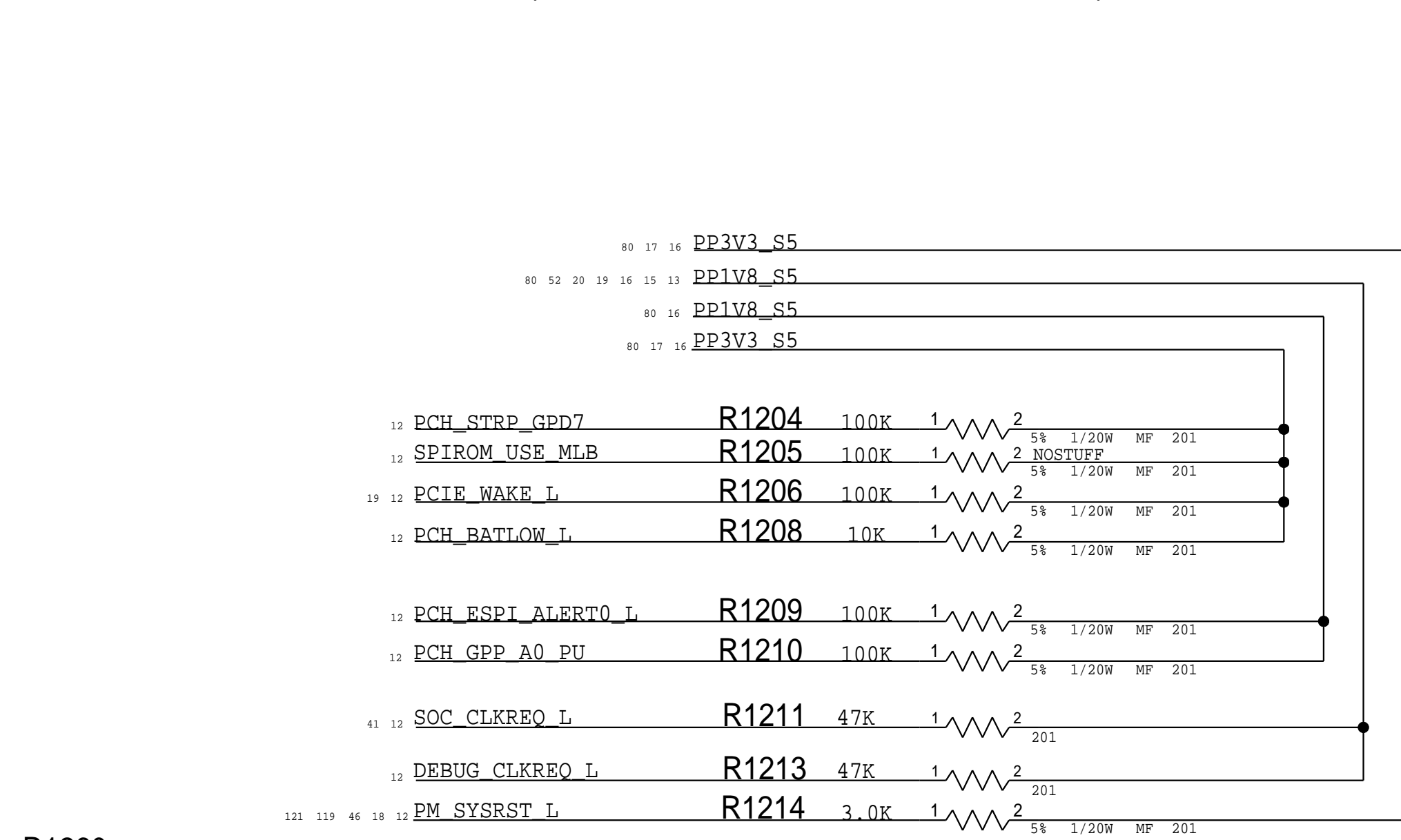
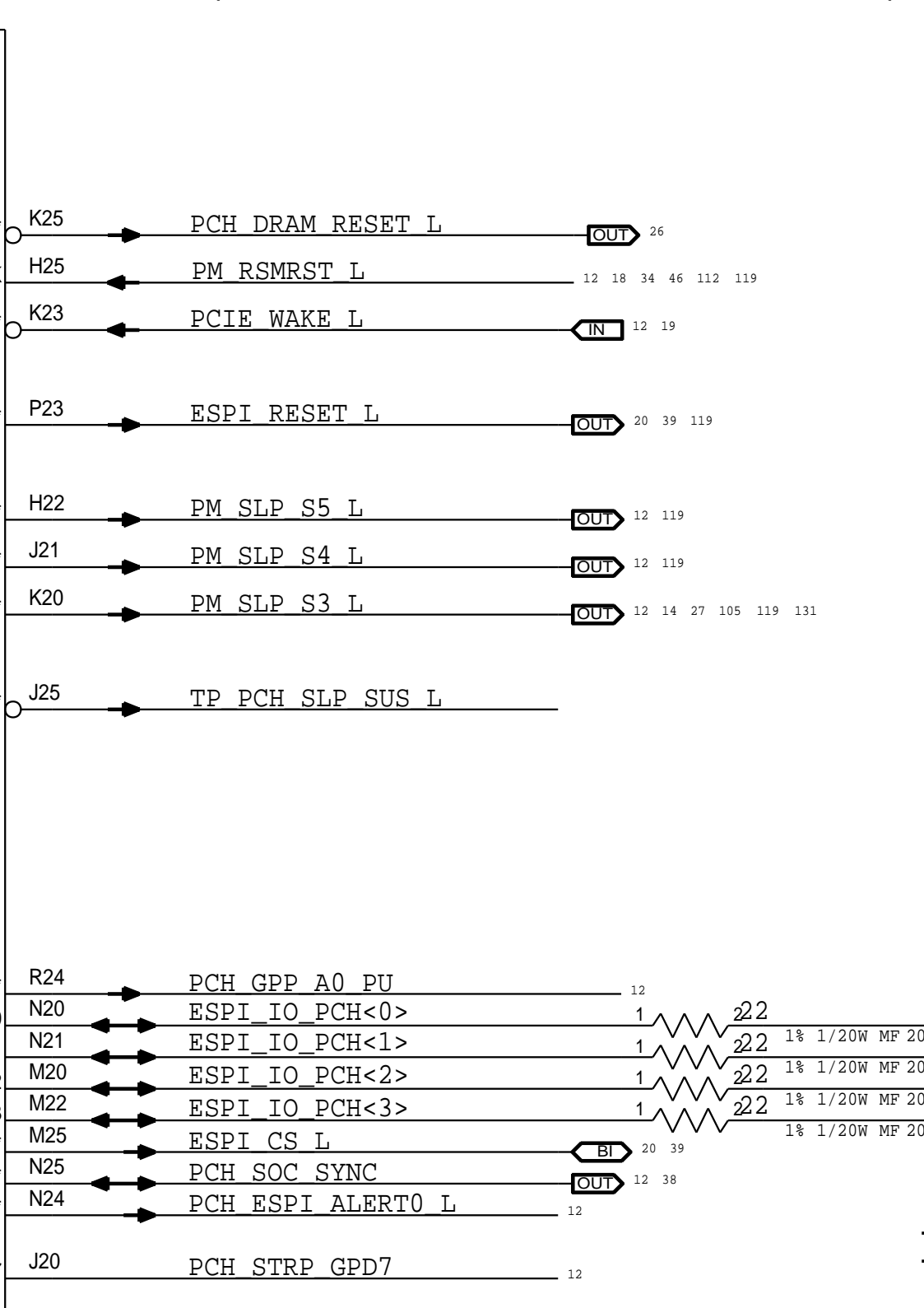
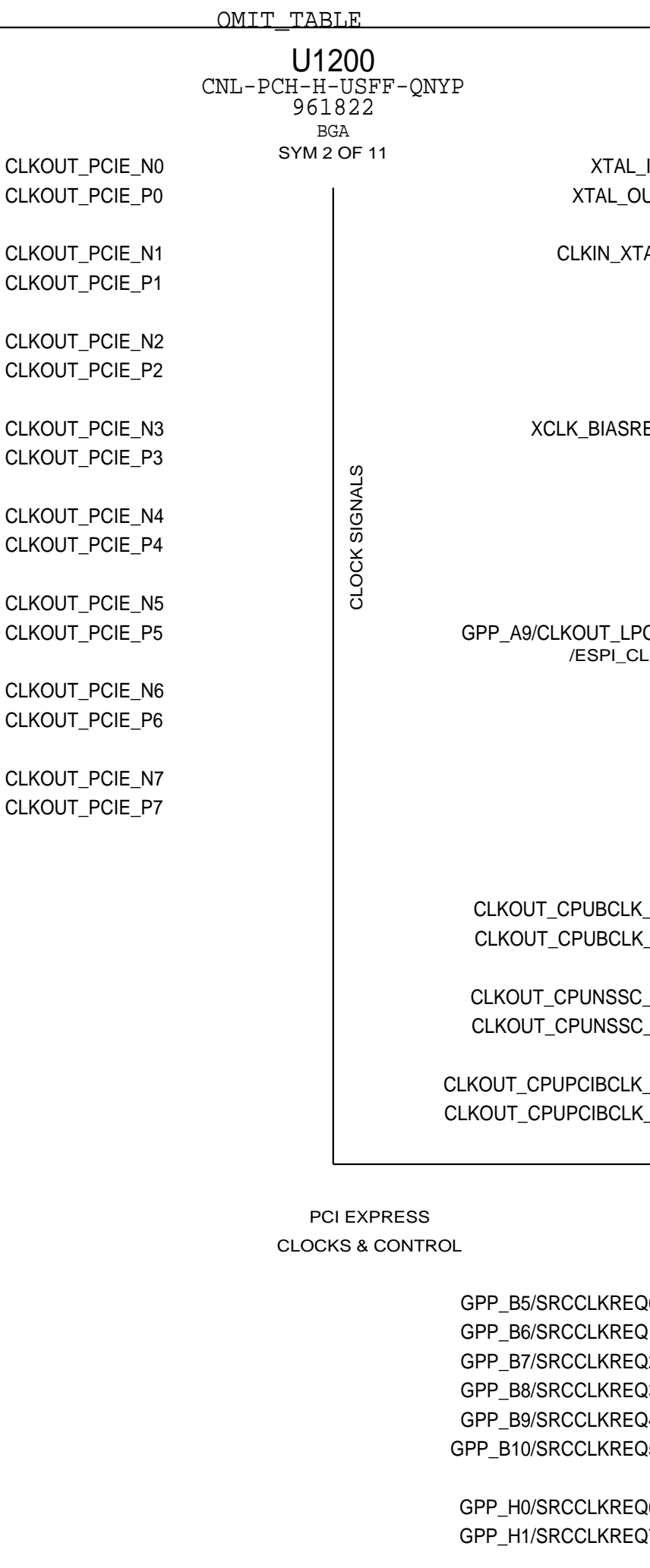
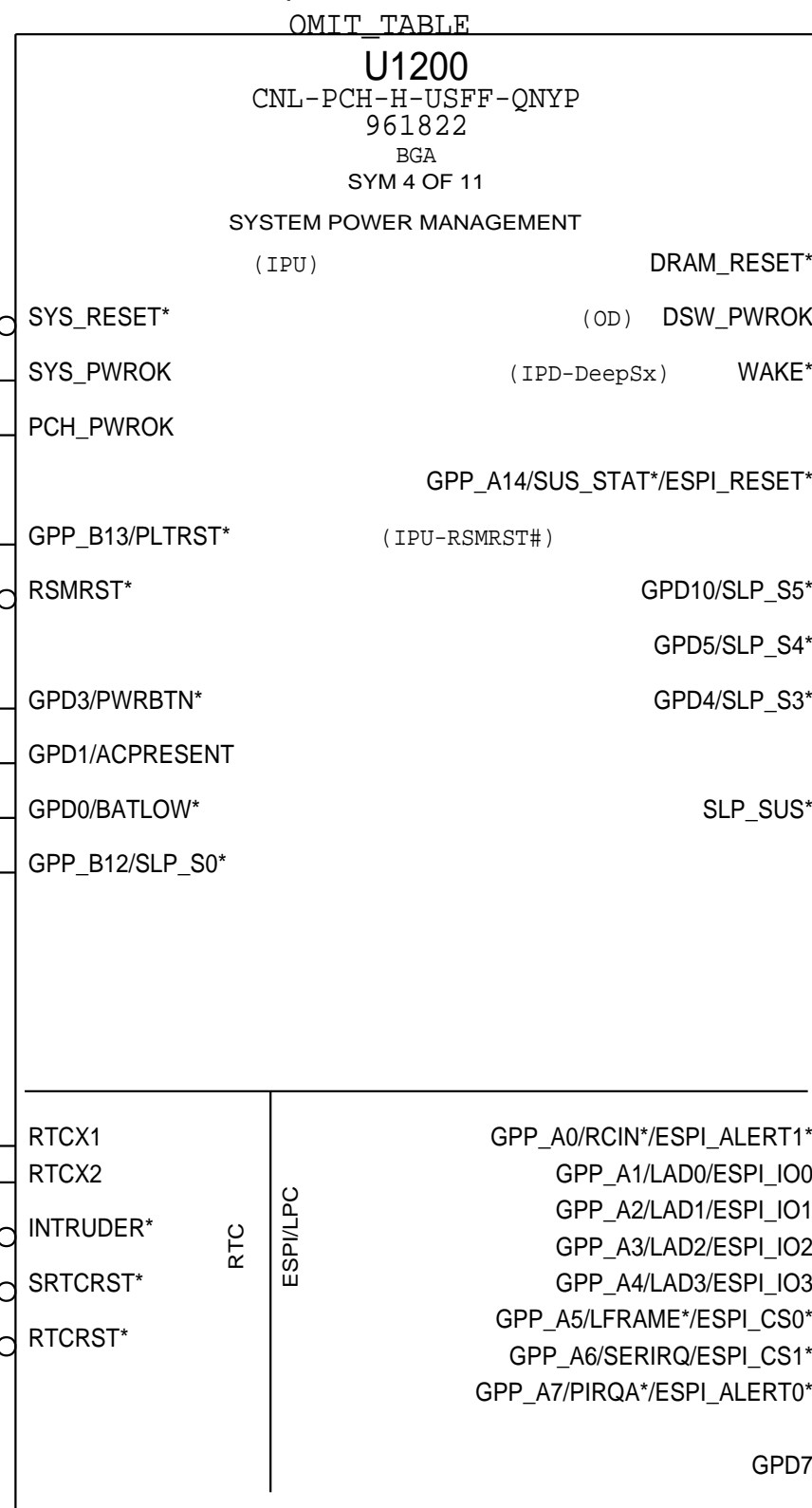
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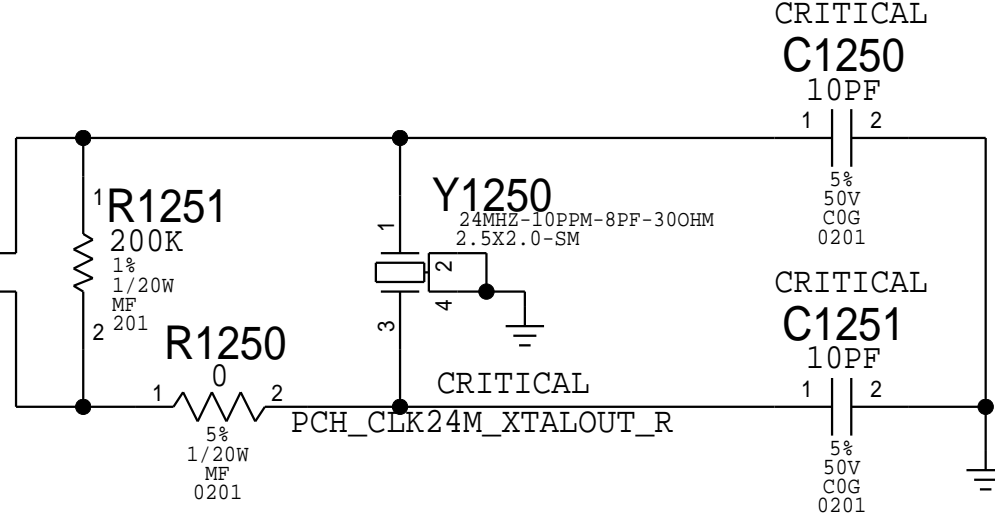
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NEED TO CHANGE PER INTEL SPEC

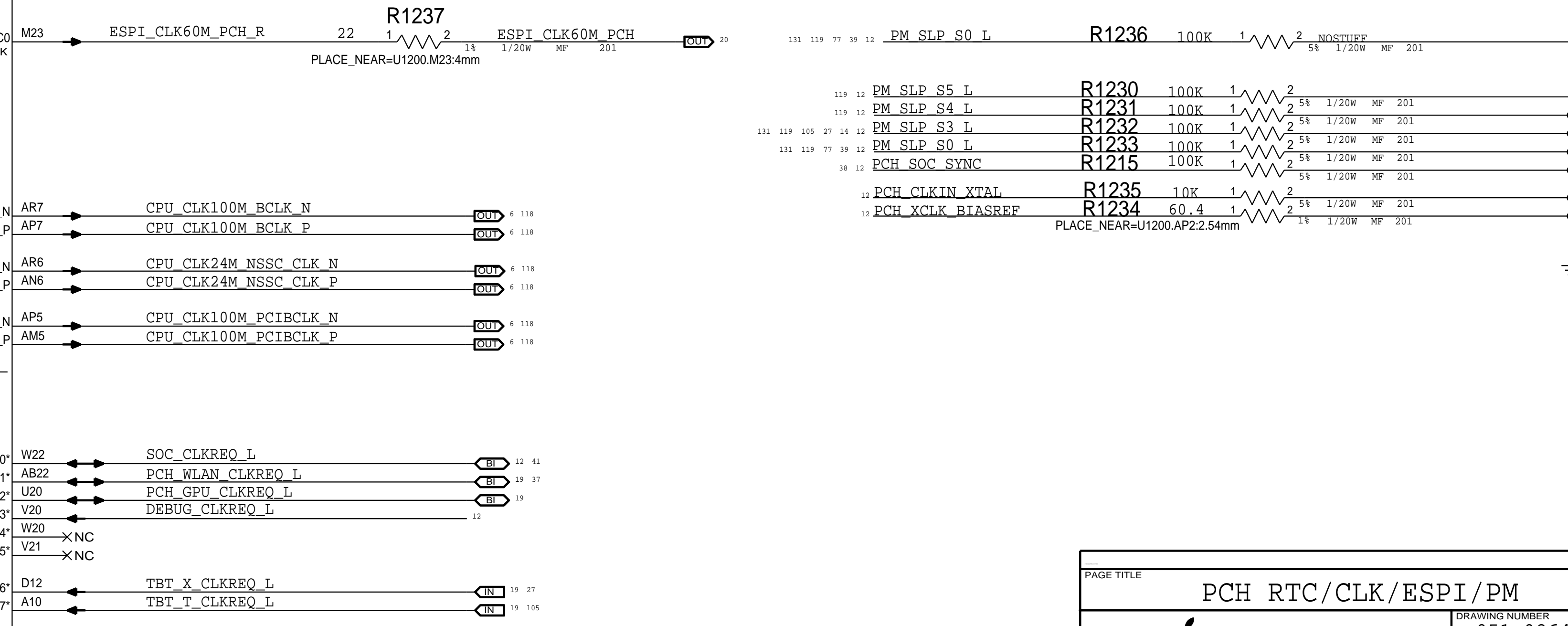



$$C_{e1} = C_{e2} = 2 * (C_L - C_S - C_1) = 2 * (8 - 0.7) = 14.6 \text{ pF}$$

$$C_L = \text{Load Capacitance} = 8 \text{ pF}$$

$$C_S = \text{Trace Capacitance} + \text{XTAL Pad Capacitance} = 0.7 \text{ pF}$$

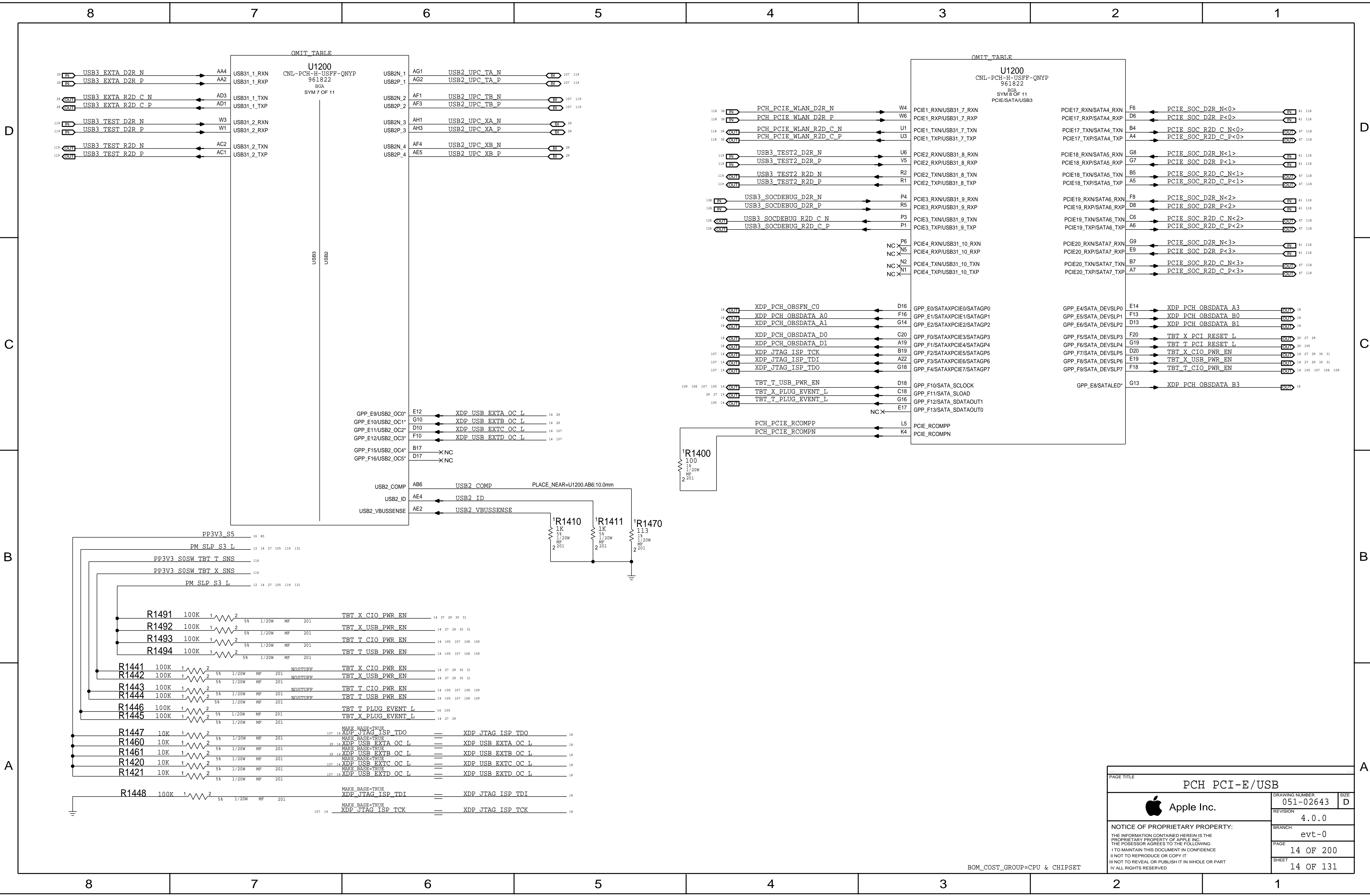
$$C_1 = \text{PCH Pin Capacitance} = 0$$



PAGE TITLE		
PCH_RTC/CLK/ESPI/PM		
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	REVISION	4.0.0
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	PAGE	12 OF 200
	SHEET	12 OF 131

BOM\_COST\_GROUP=CPU & CHIPSET

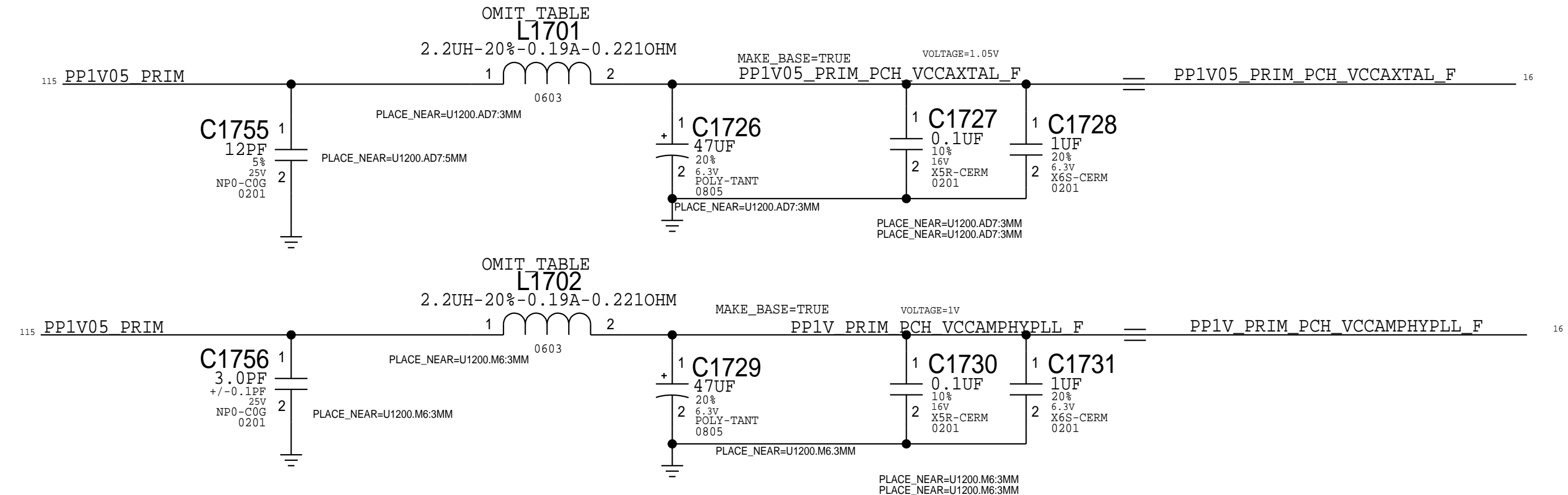
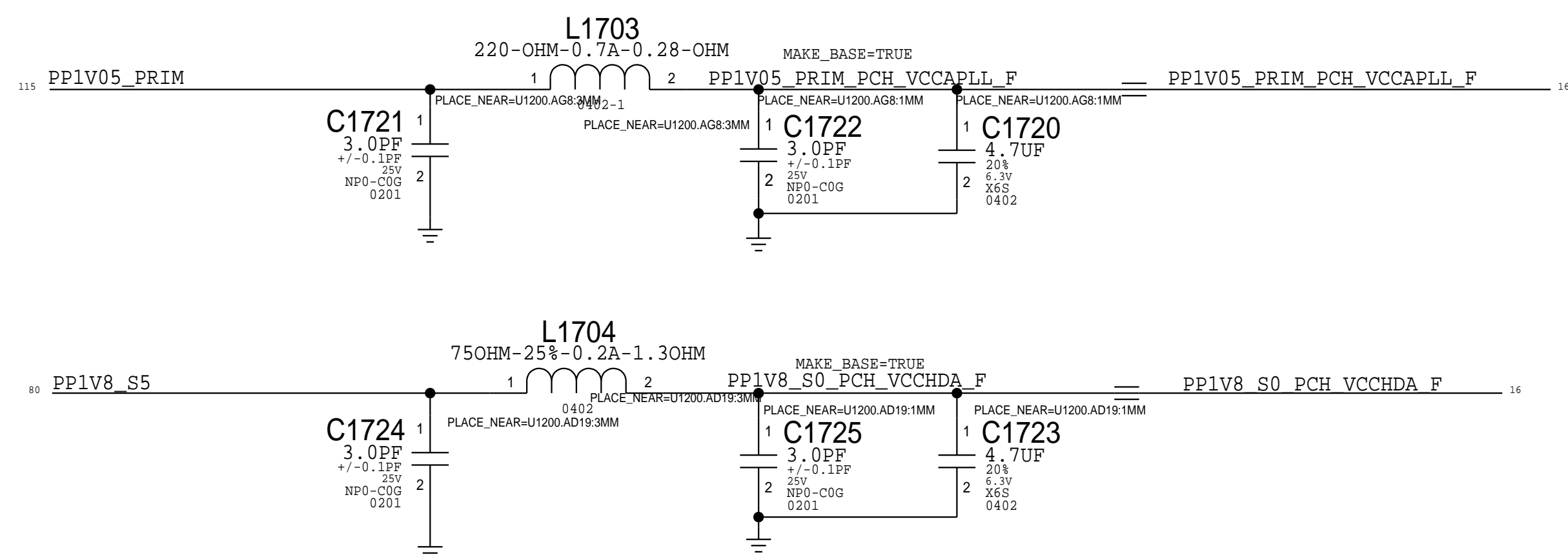
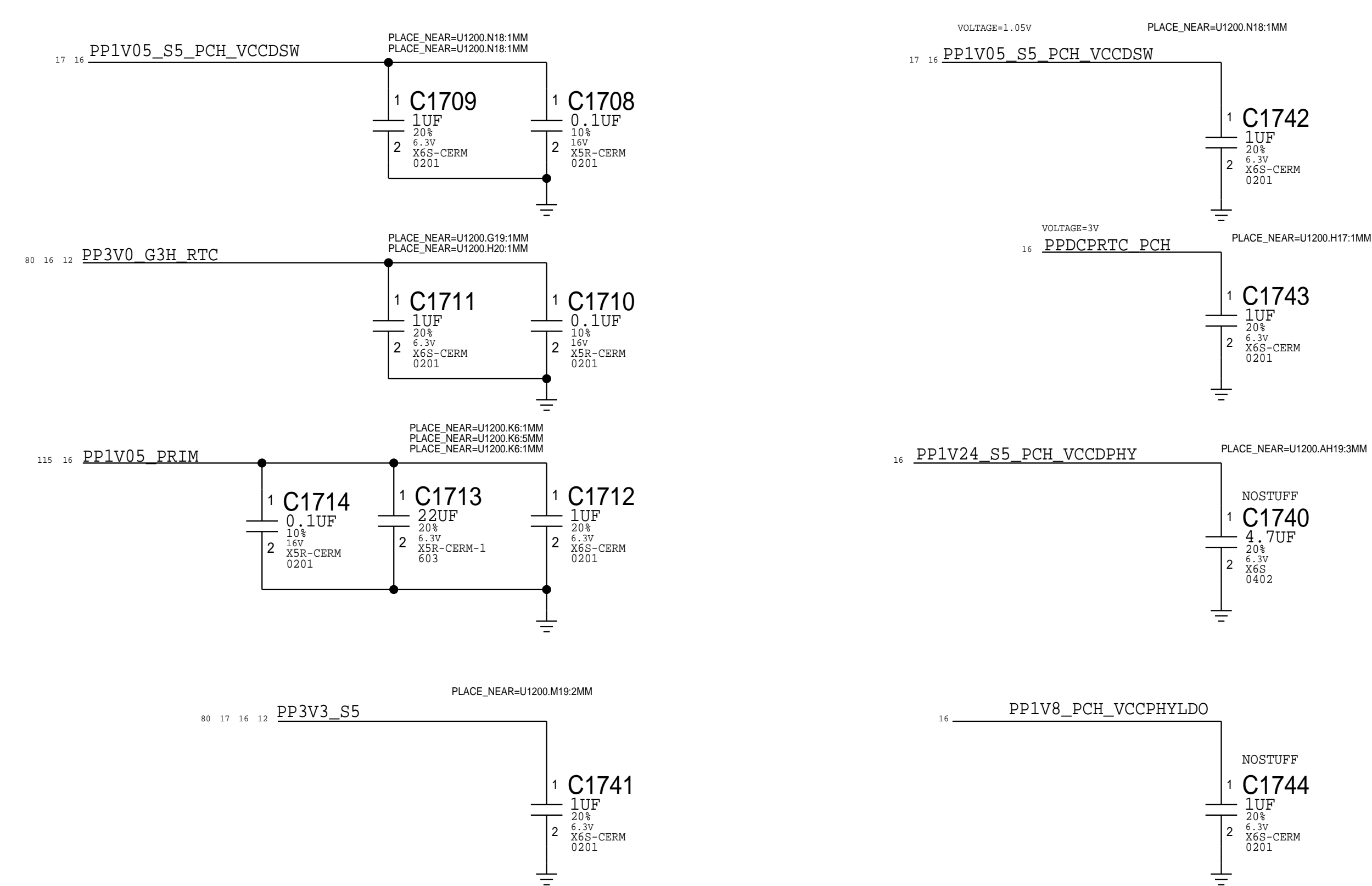
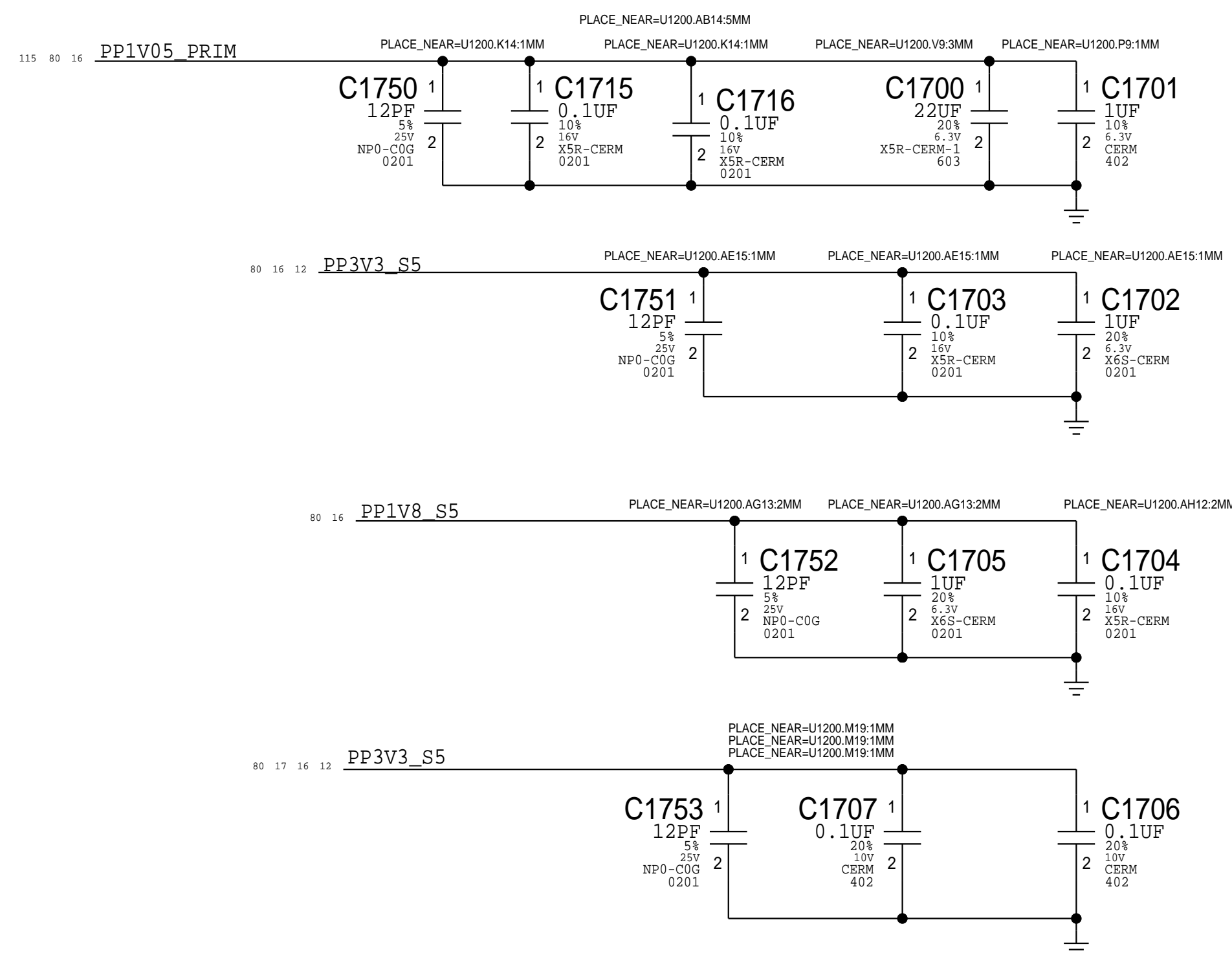









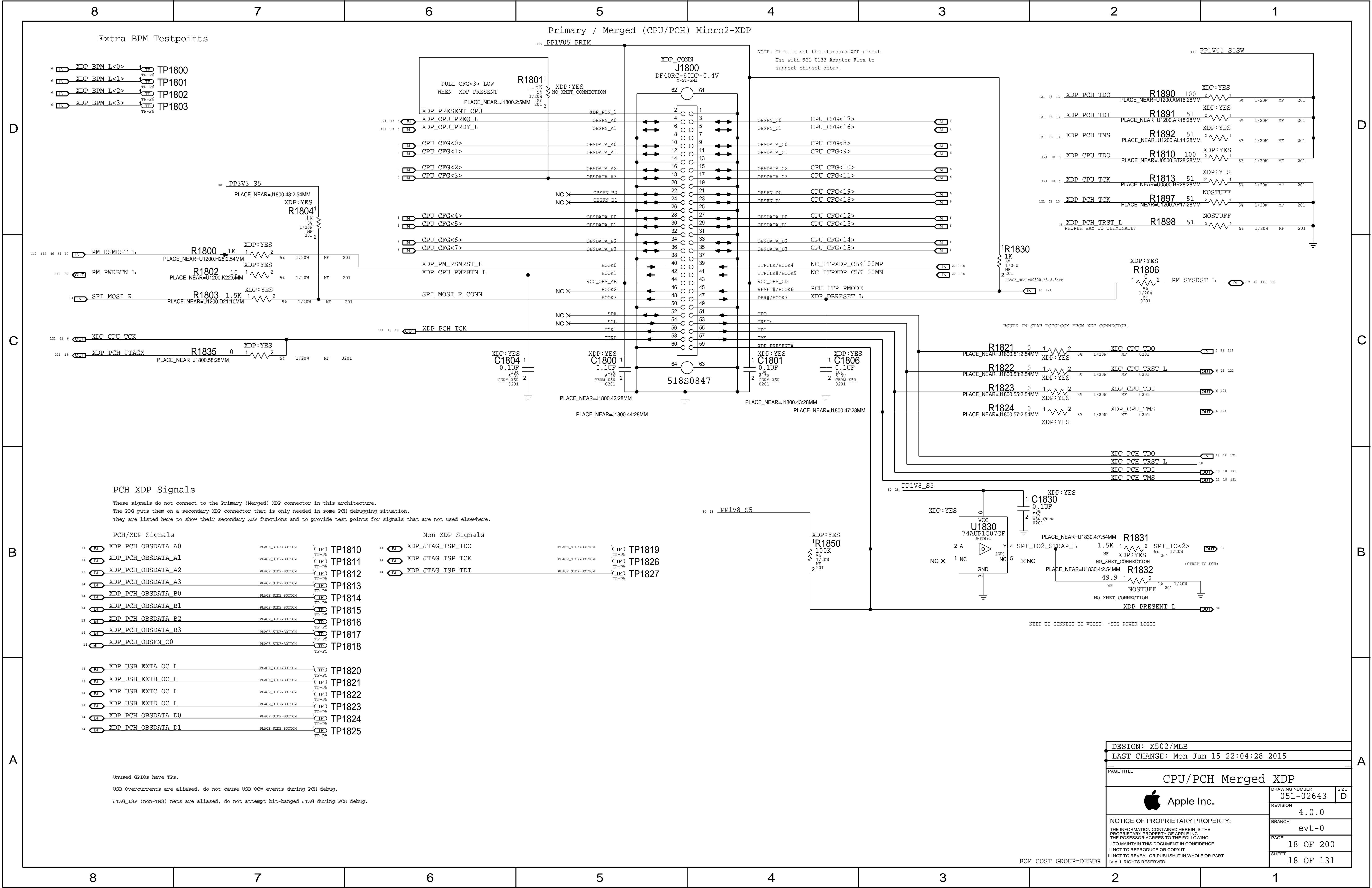




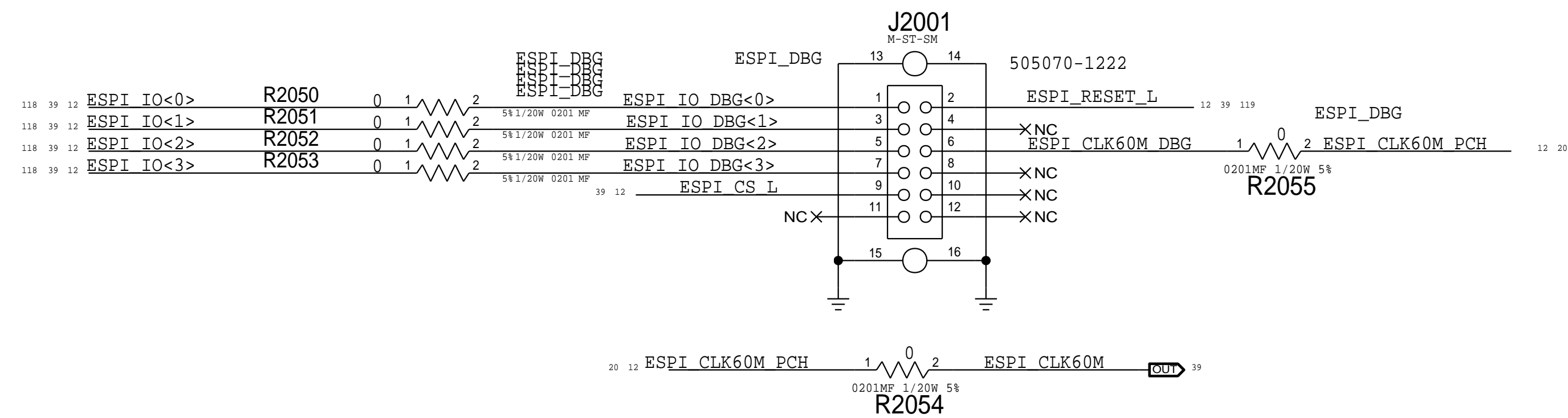
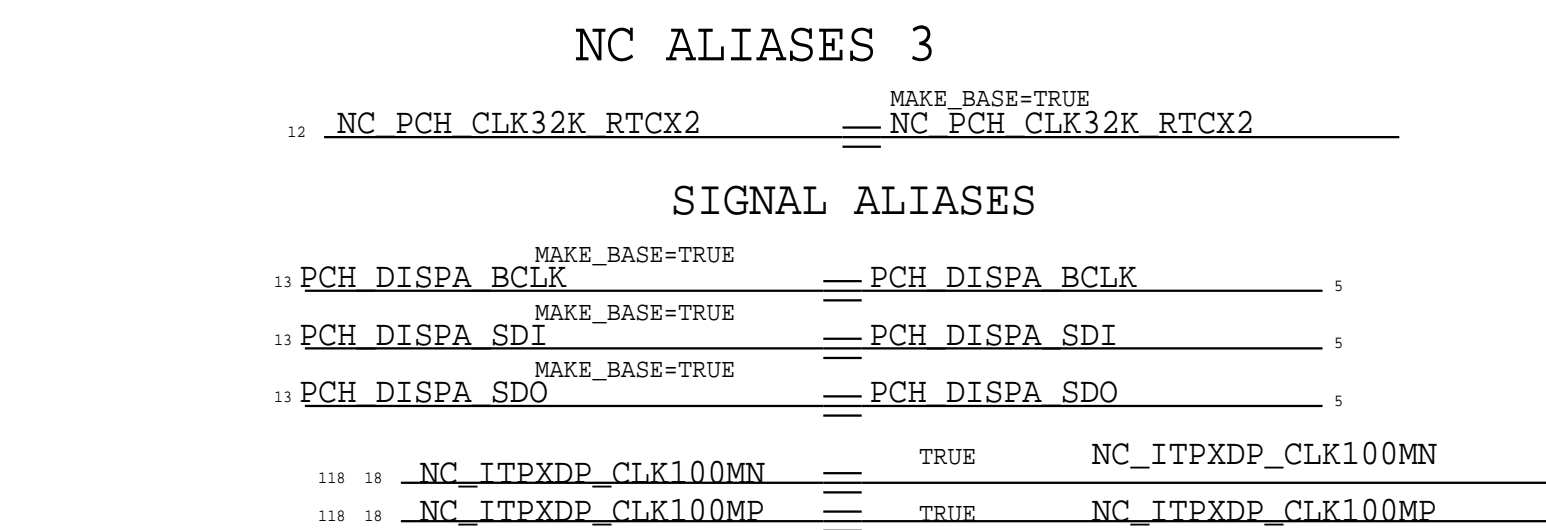
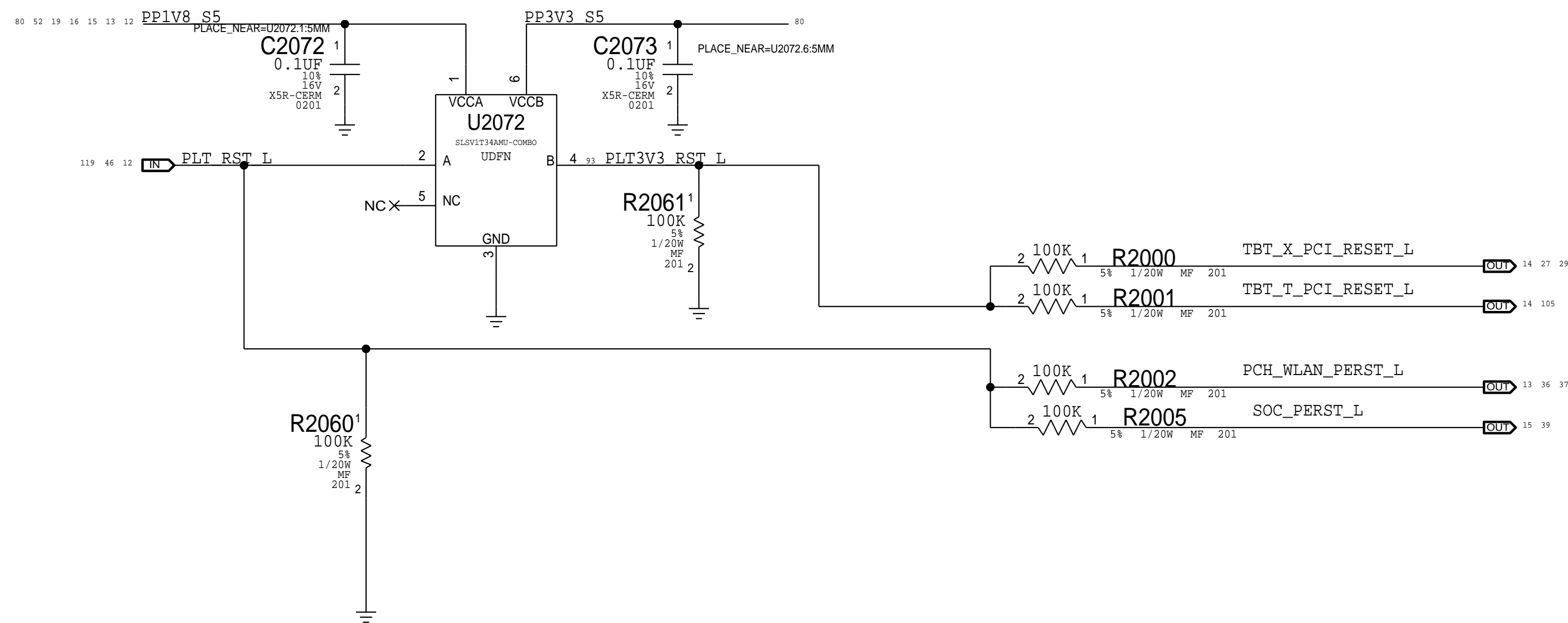
PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
113S0022	2	RES,MF,1A MAX,00HM,5%,0603	L1701,L1702		

PAGE TITLE			
PCH Decoupling			
 Apple Inc.	DRAWING NUMBER		SIZE
	051-02643		D
	REVISION		
	4.0.0		
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CPU-Based Margining  
VRef Dividers

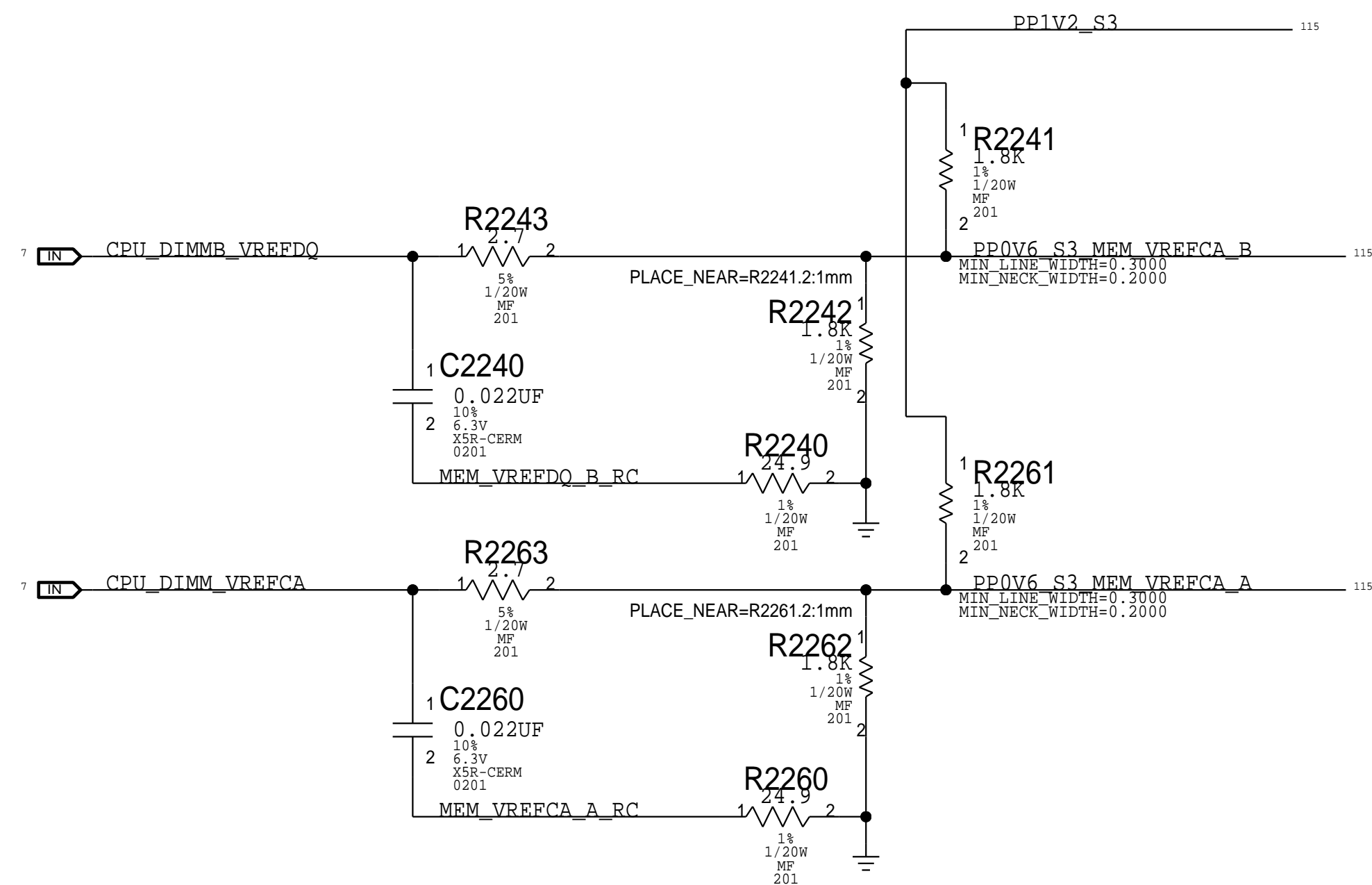
DDR4 VDDQ = 1.2V

MINIMUM Step Size = 0.50% \* VDDQ = 6.0mV per step  
TYPICAL Step Size = 0.65% \* VDDQ = 7.8mV per step  
MAXIMUM Step Size = 0.80% \* VDDQ = 9.6mV per step


KBL PLATFORM GUIDE Page.102 FOR DDR4 X8 MEMORY DOWN

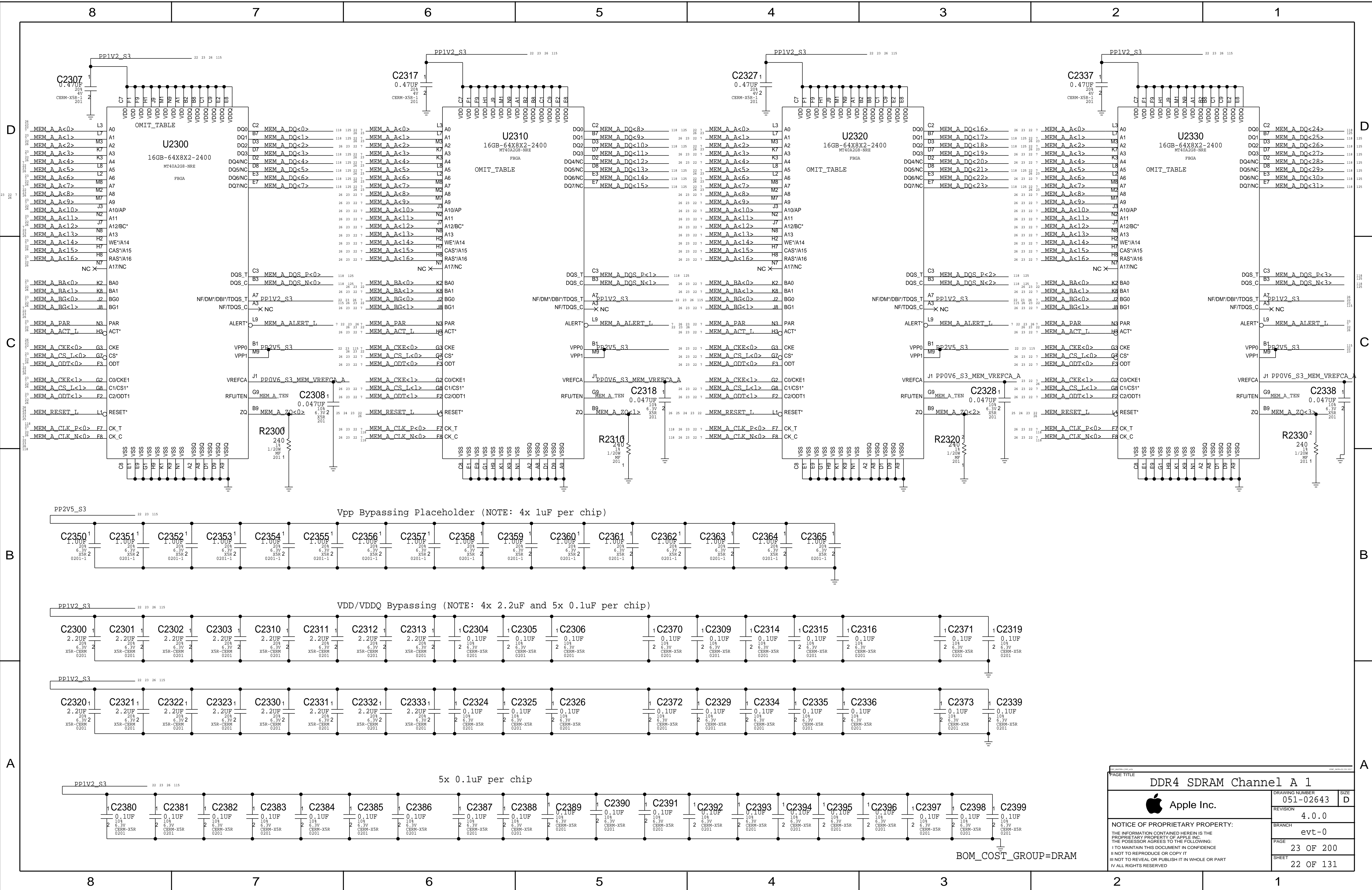
DDR0\_VREF\_DQ = Not Used

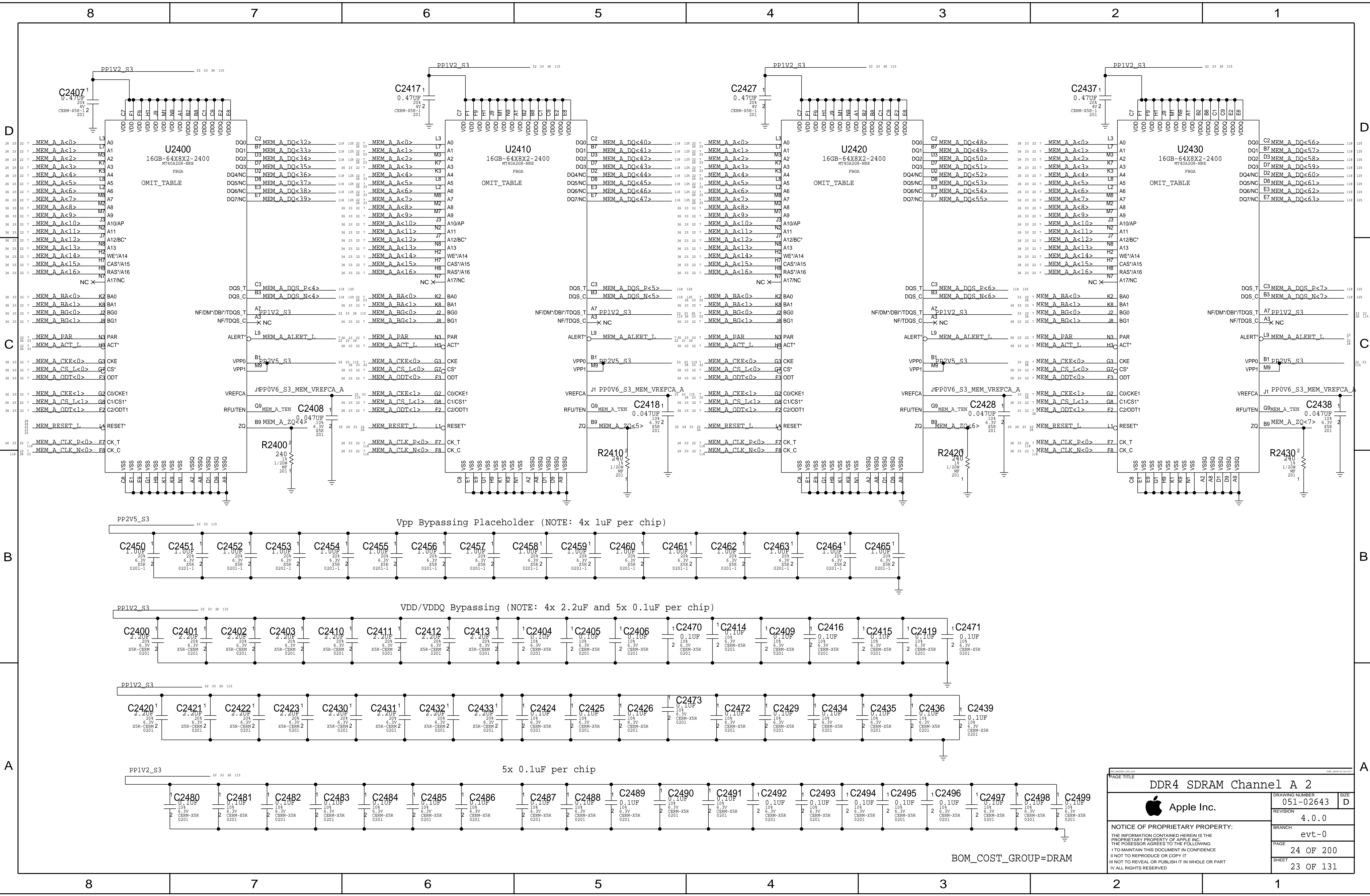
DDR1\_VREF\_DQ = Reference For Channel B  
DDR1\_VREF\_CA = Reference For Channel A

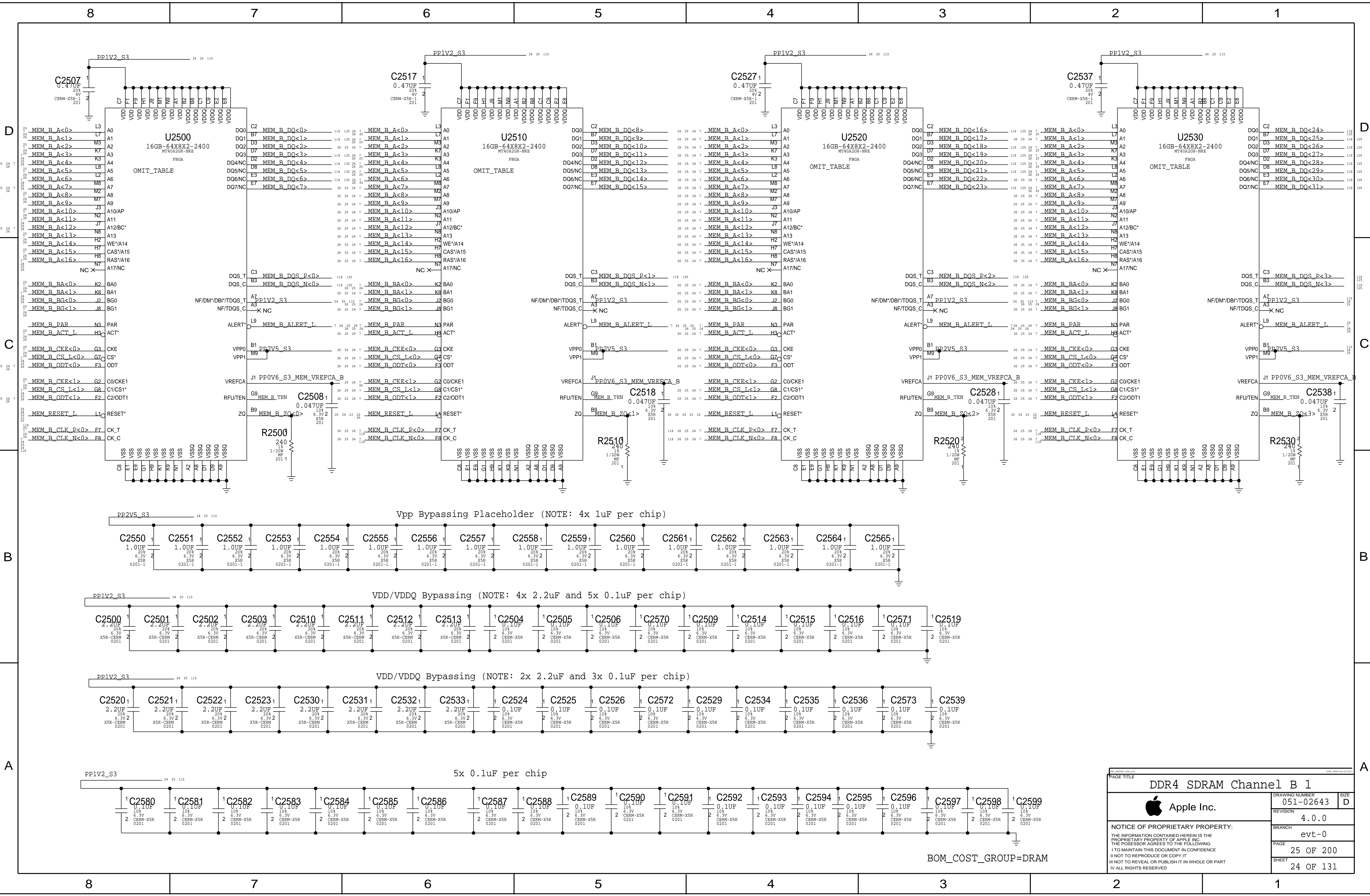


BOM\_COST\_GROUP=DRAM

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		evt-0			
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		21 OF 131			

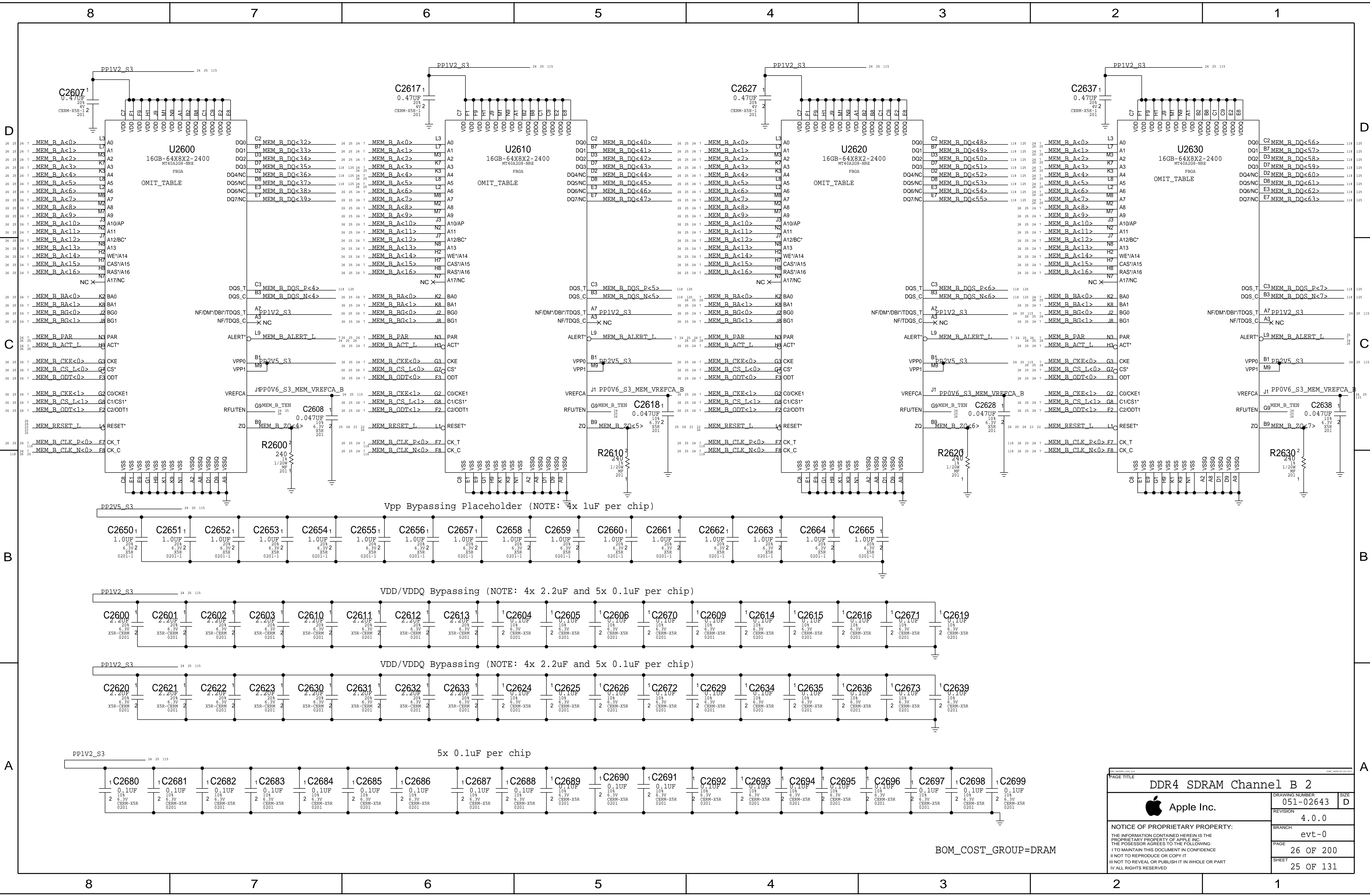






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DDR4 SDRAM Channel B 1		
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PAGE TITLE		
DDR4 SDRAM Channel B 2		
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BOM\_COST\_GROUP=DRAM

8

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2

1

JEDEC 4.20.18 Unbuffered SODIMM Raw Card F spec recommends 36 Ohm term to VTT for CS,CKE,ODT and 36 Ohm for BA,A,RAS,CAS,WE

D

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B

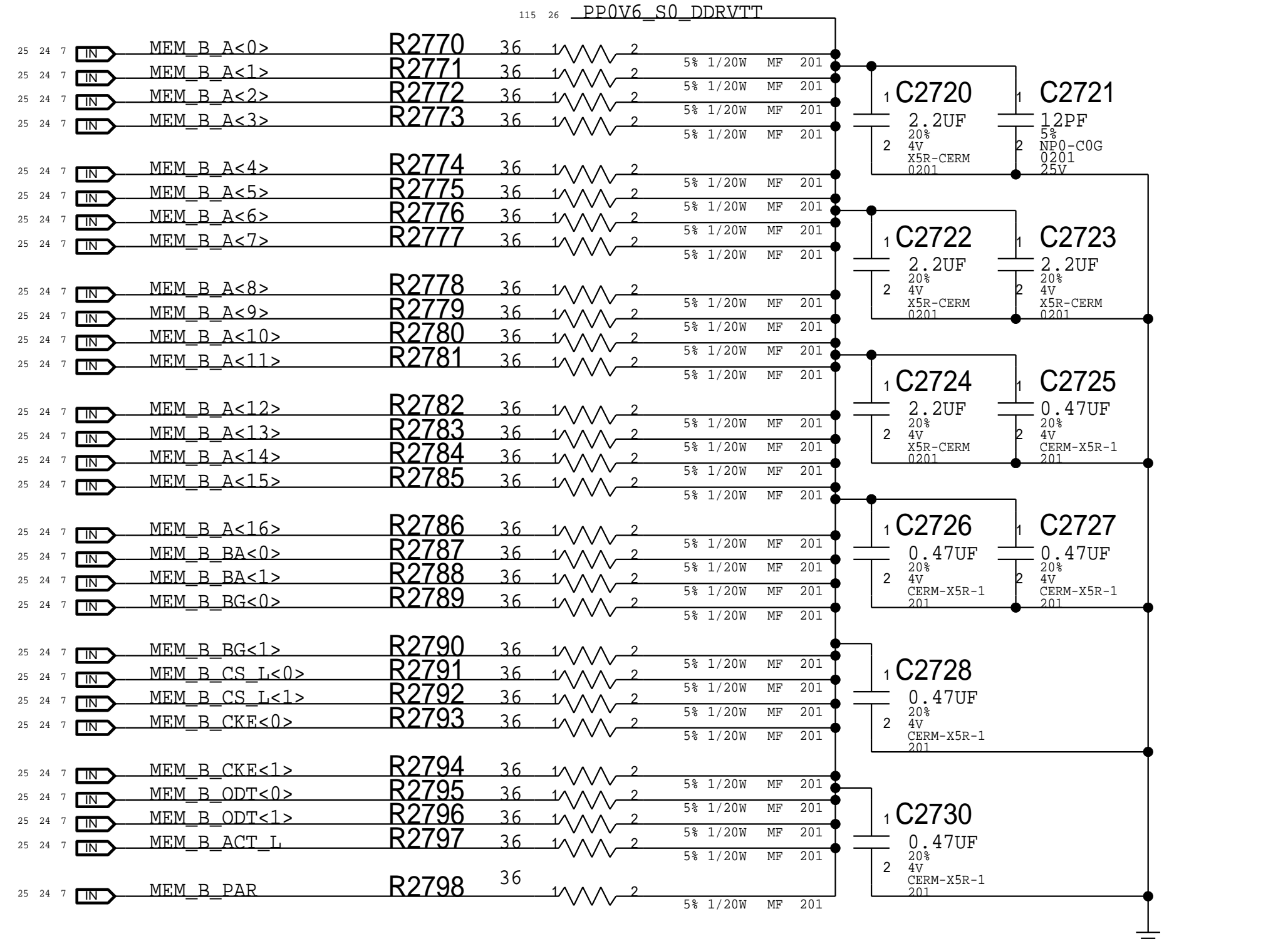
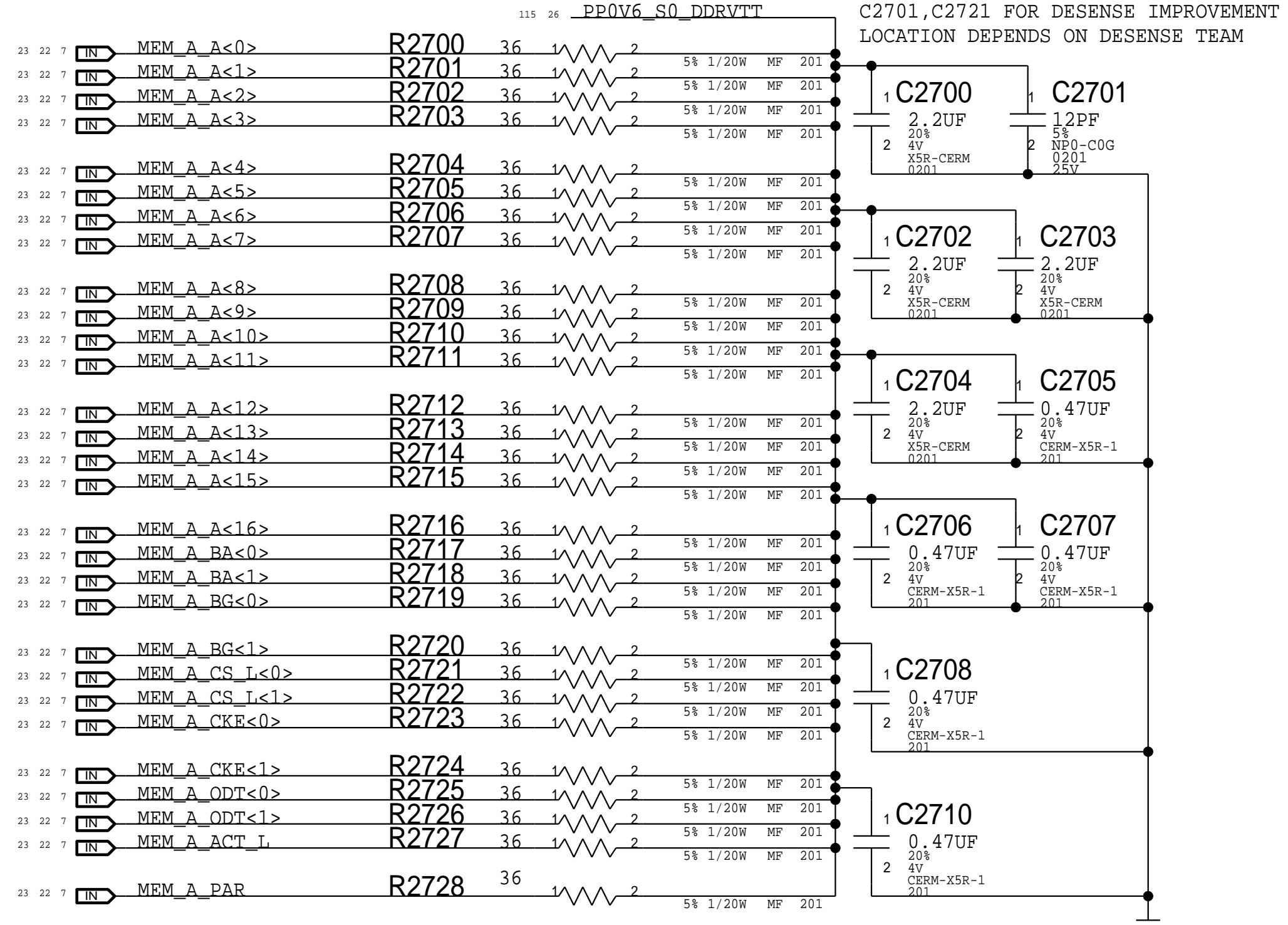
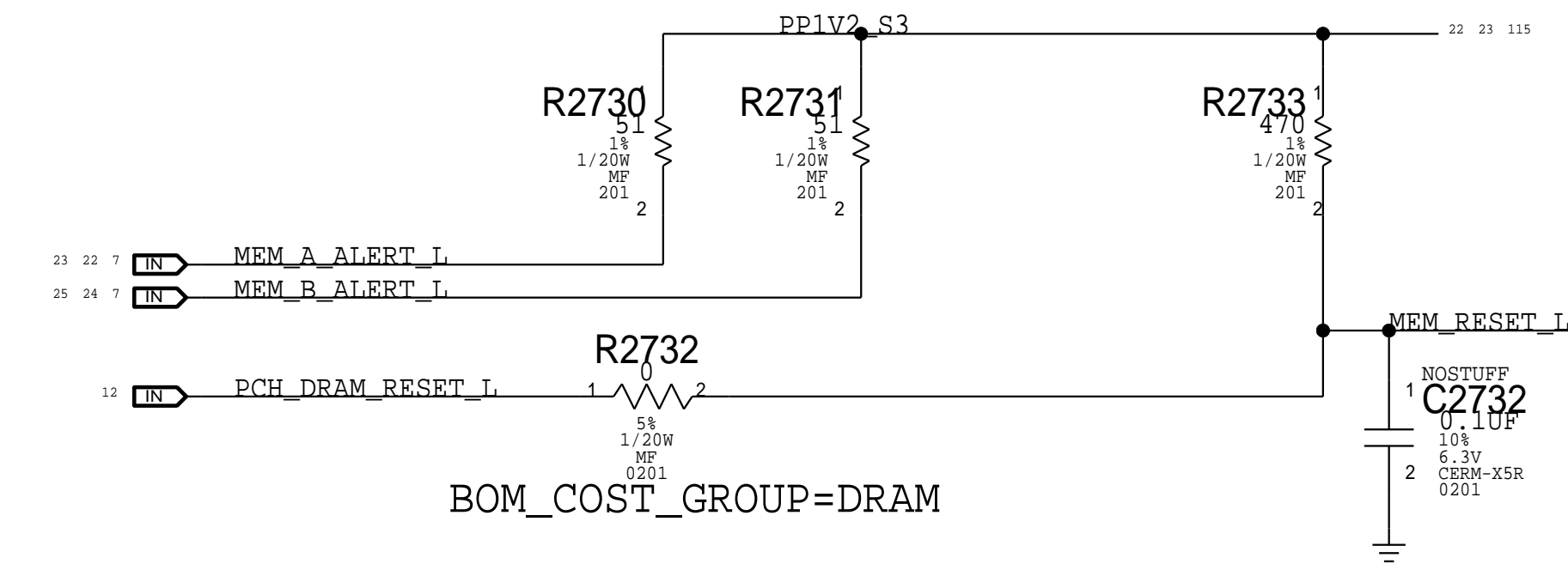
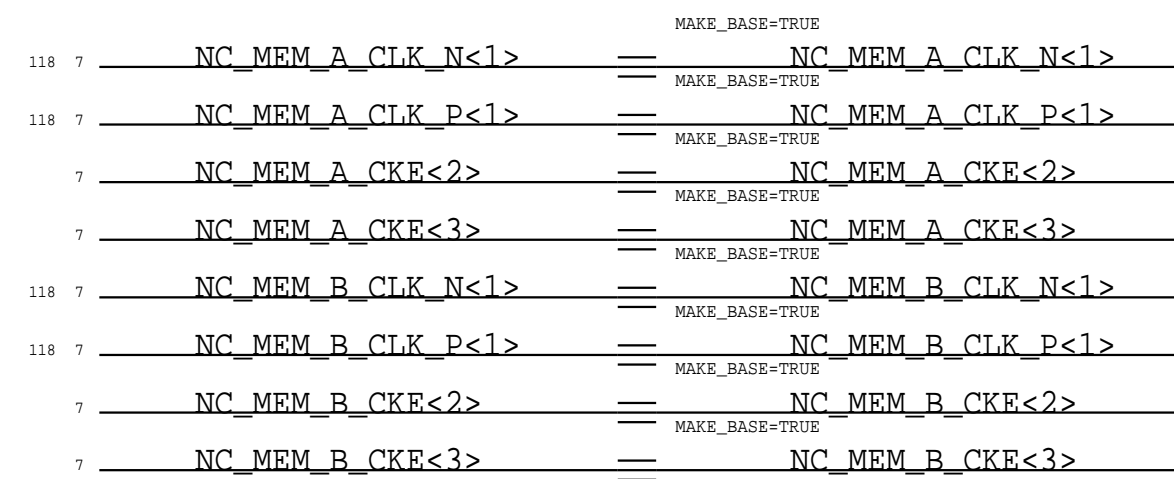
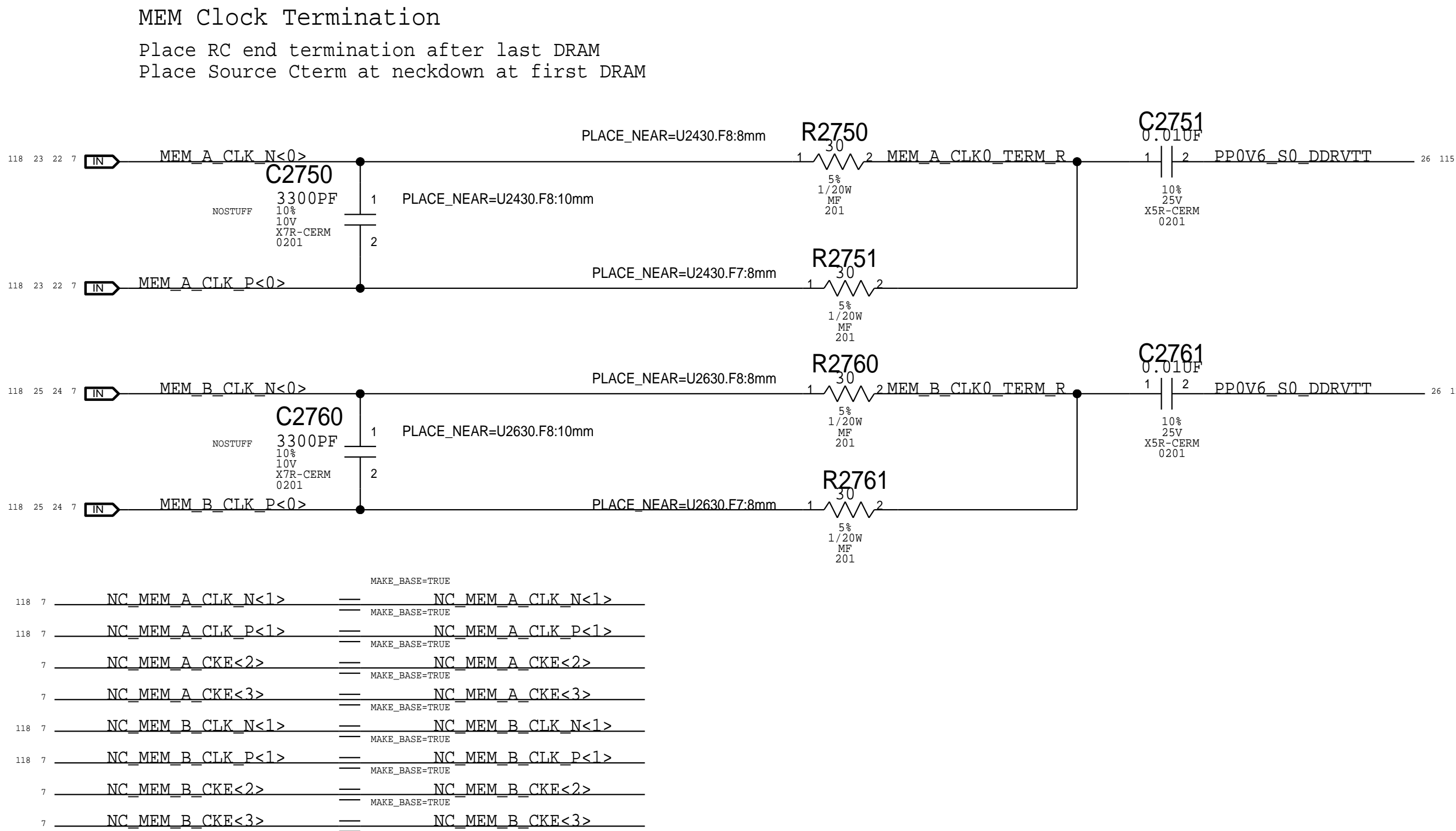
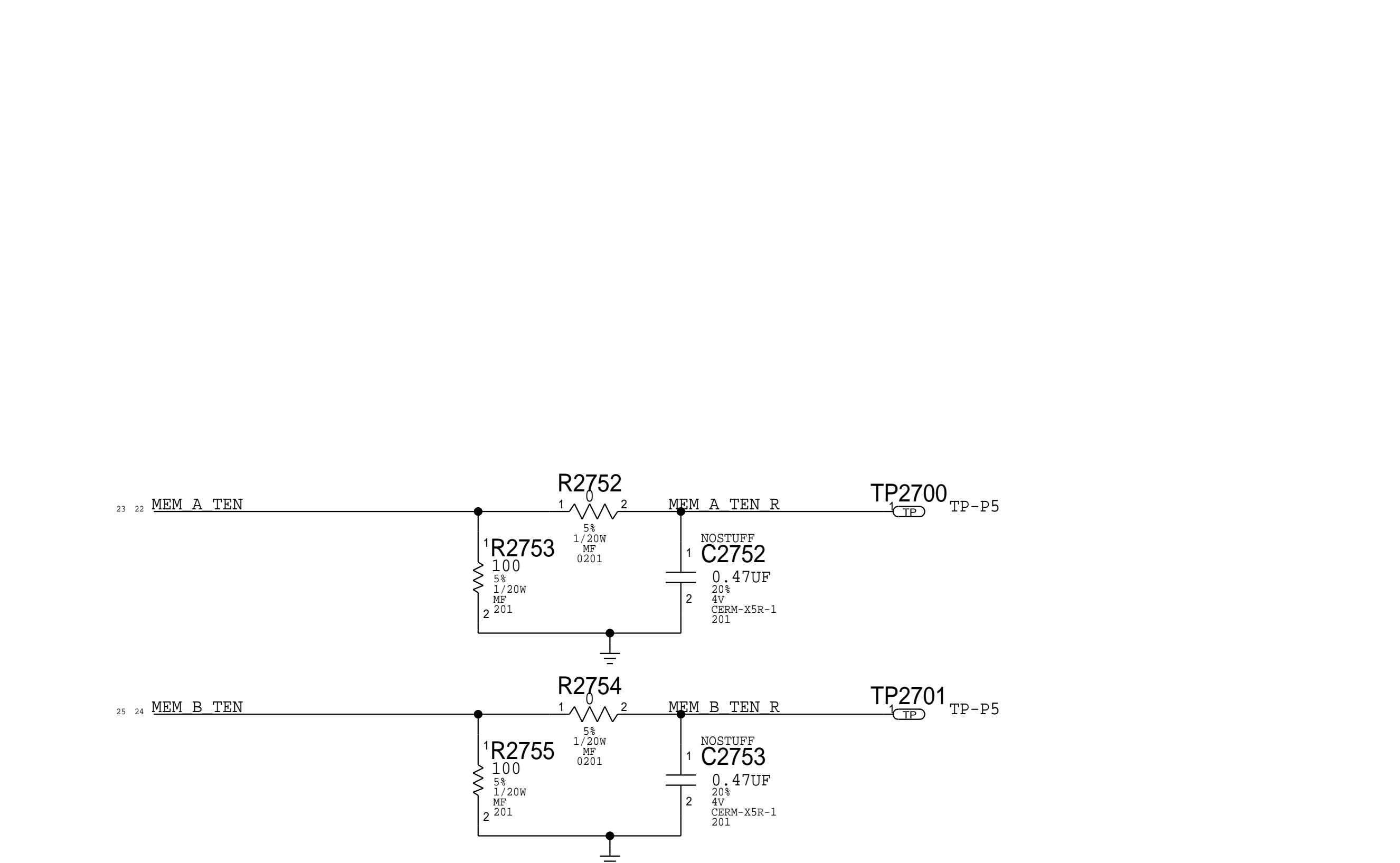
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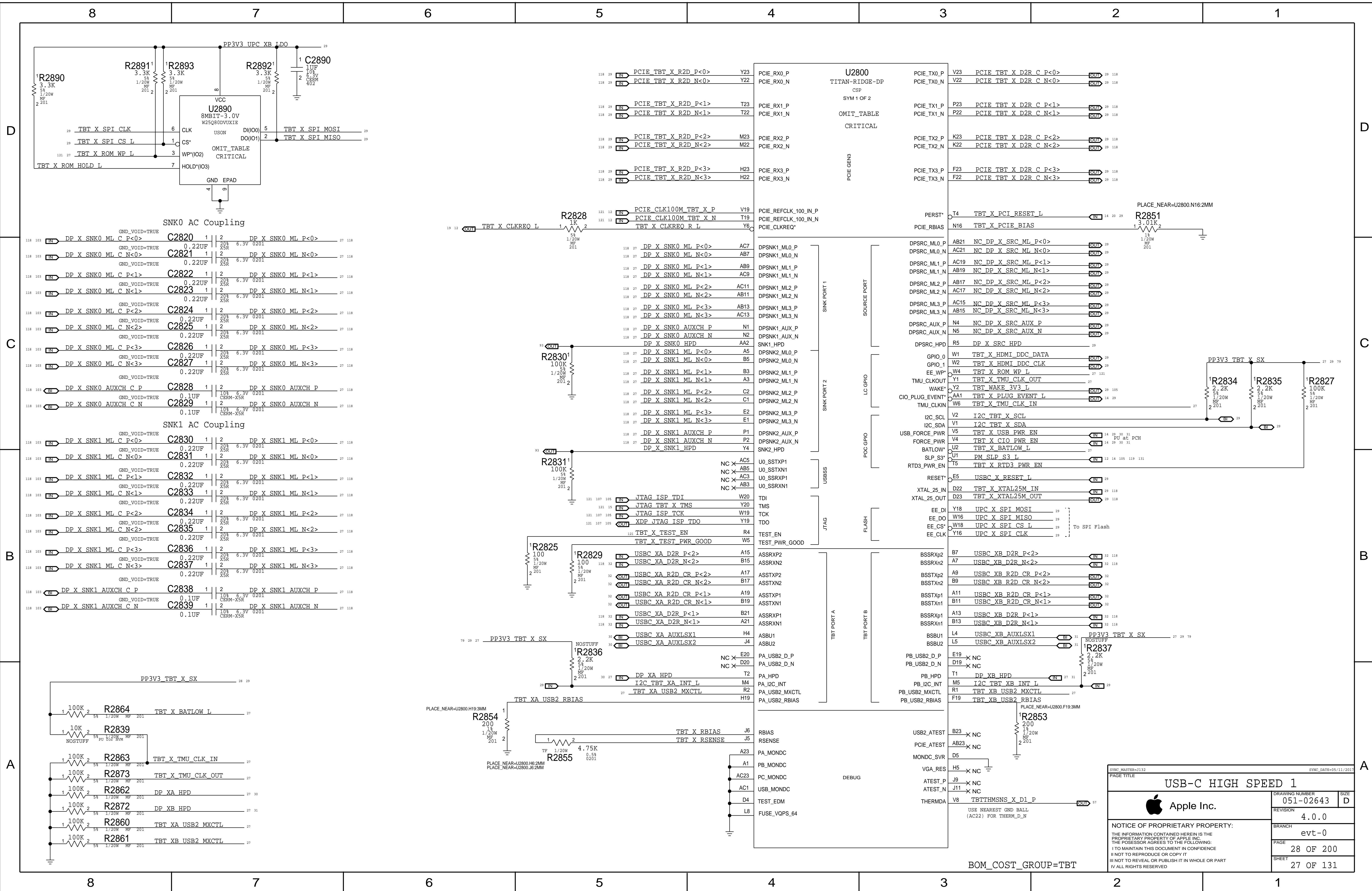
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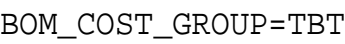


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			26 OF 131









## D



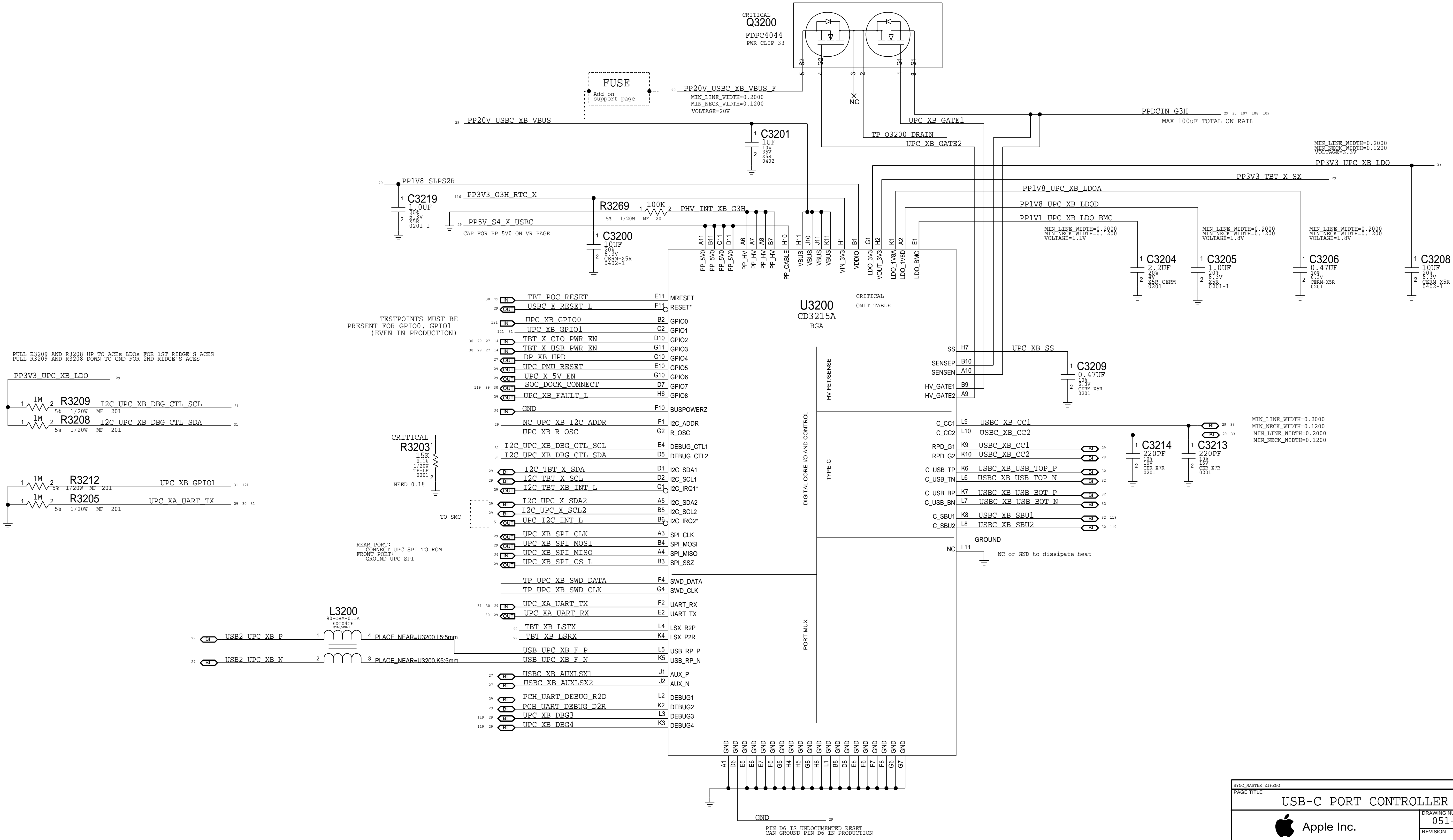
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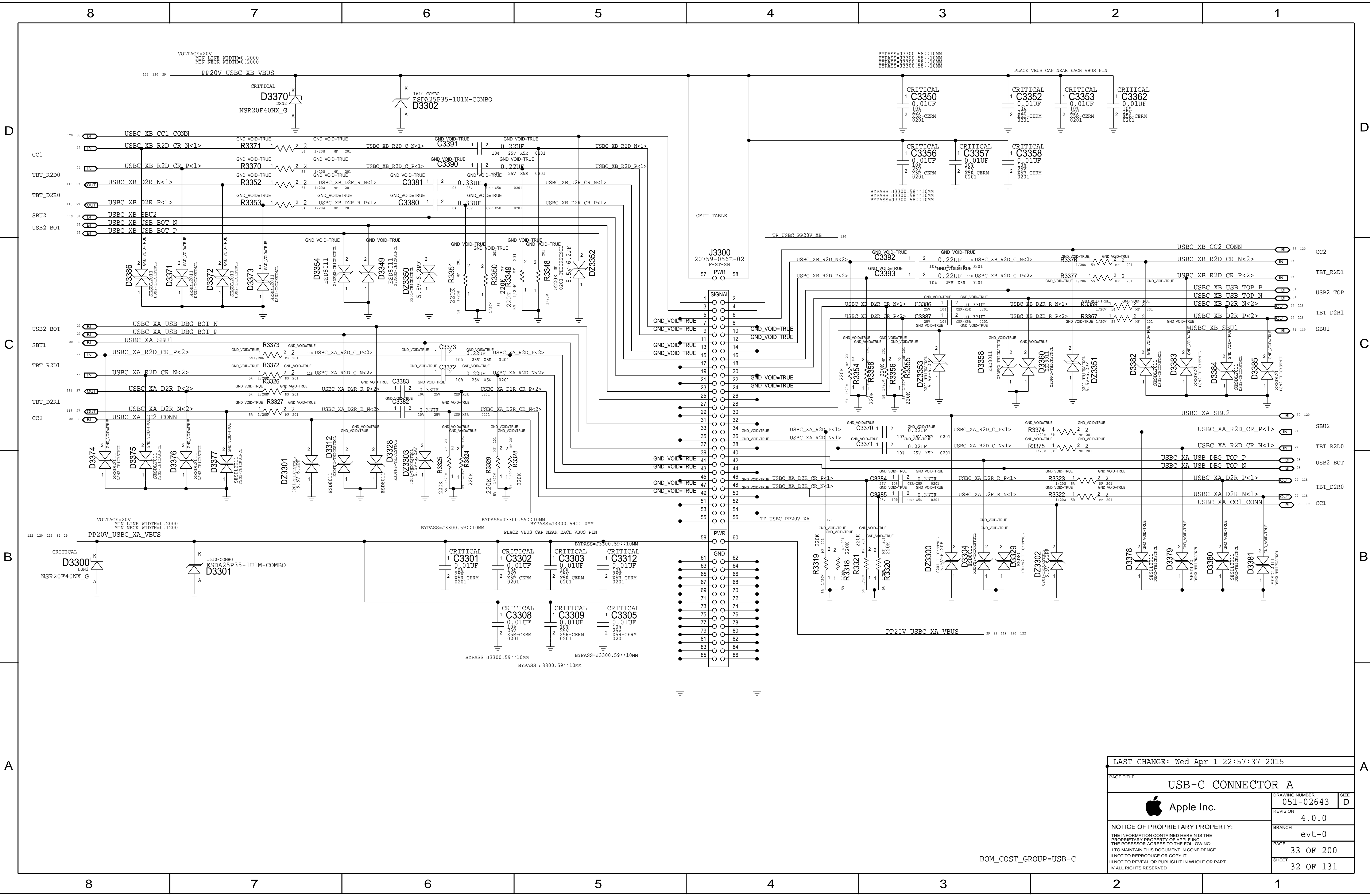
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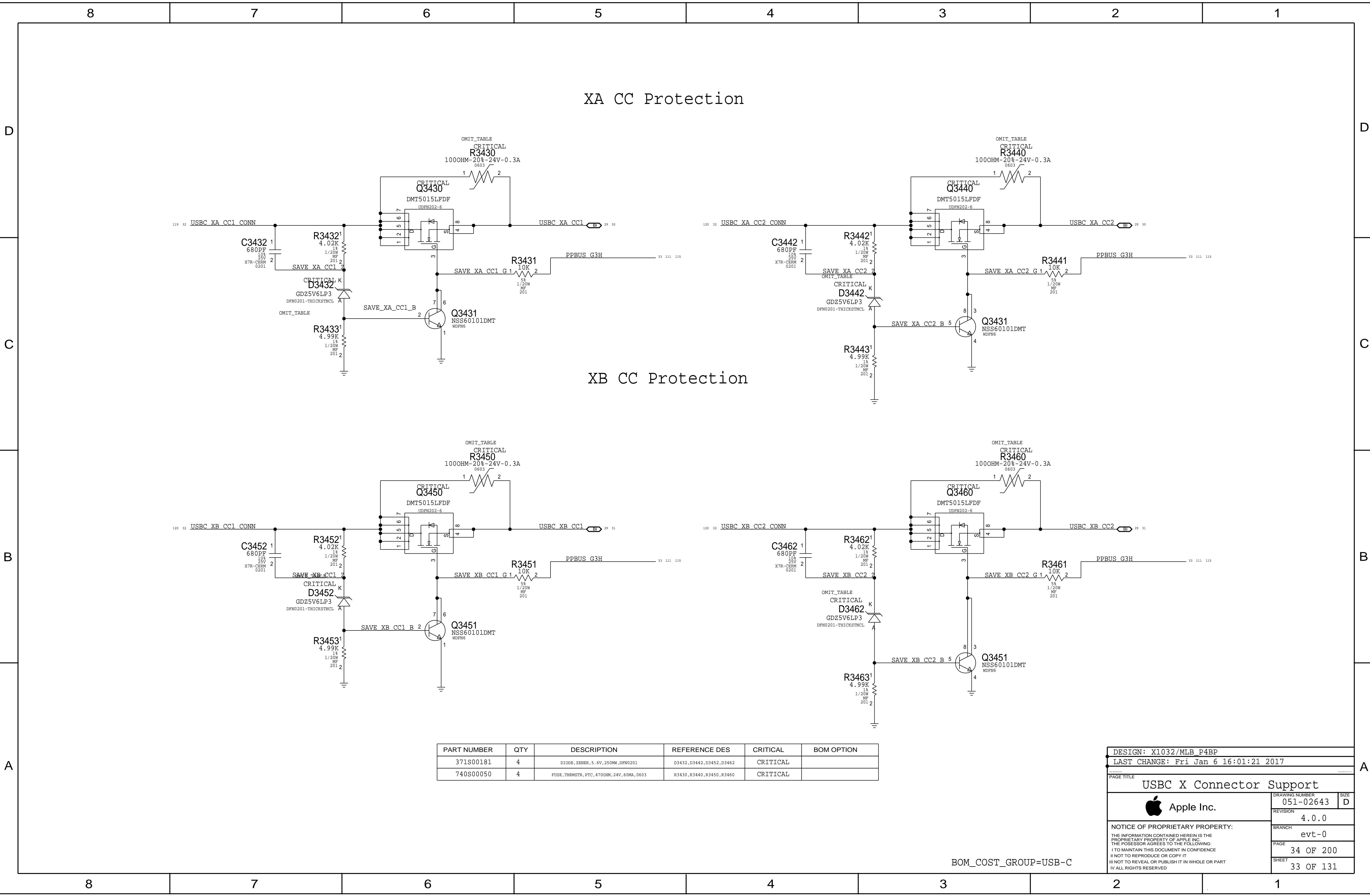
BOM\_COST\_GROUP=USB-C

# SECONDARY ACE USB-C PORT CONTROLLER (UPC)










PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
371S00181	4	DIODE, 28NER, 5.6V, 250MW, DFN0201	D3432, D3442, D3452, D3462	CRITICAL	
740S00050	4	FUSE, THERMSTR, PTC, 4700HM, 24V, 60MA, 0603	R3430, R3440, R3450, R3460	CRITICAL	

DESIGN: X1032/MLB\_P4BP

LAST CHANGE: Fri Jan 6 16:01:21 2017

PAGE TITLE

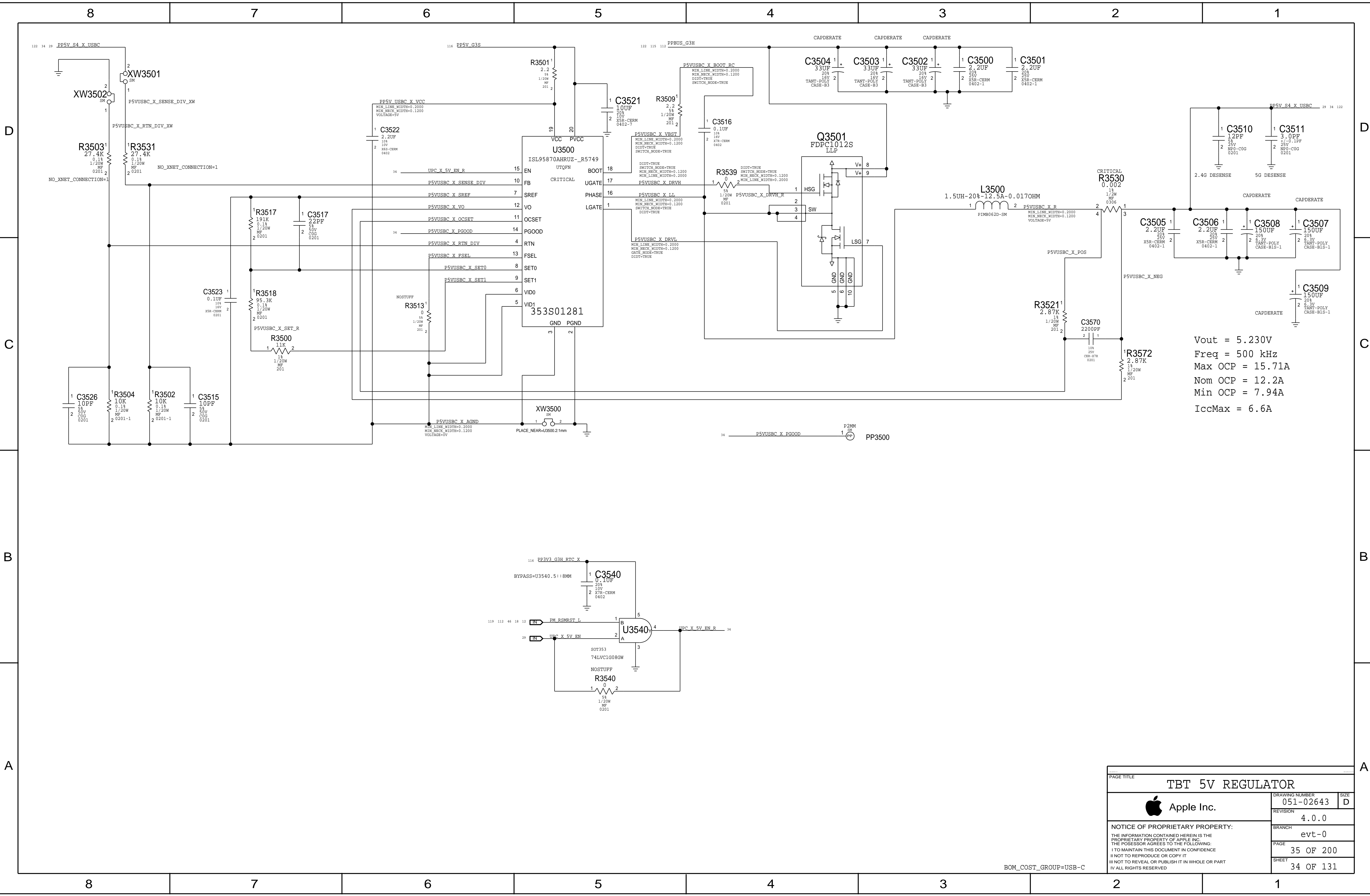
USBC X Connector Support

 Apple Inc.

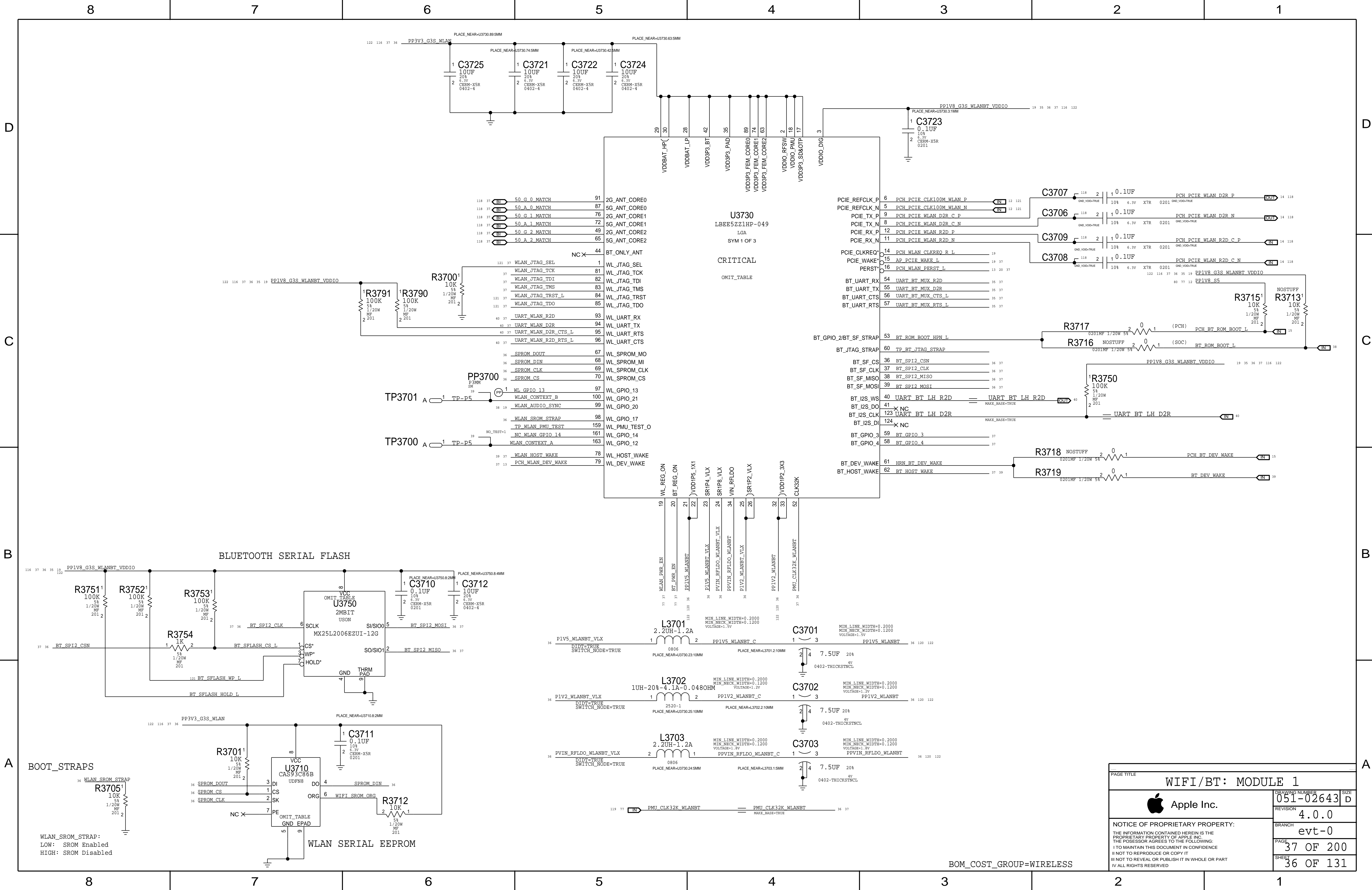
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BOM\_COST\_GROUP=USB-C







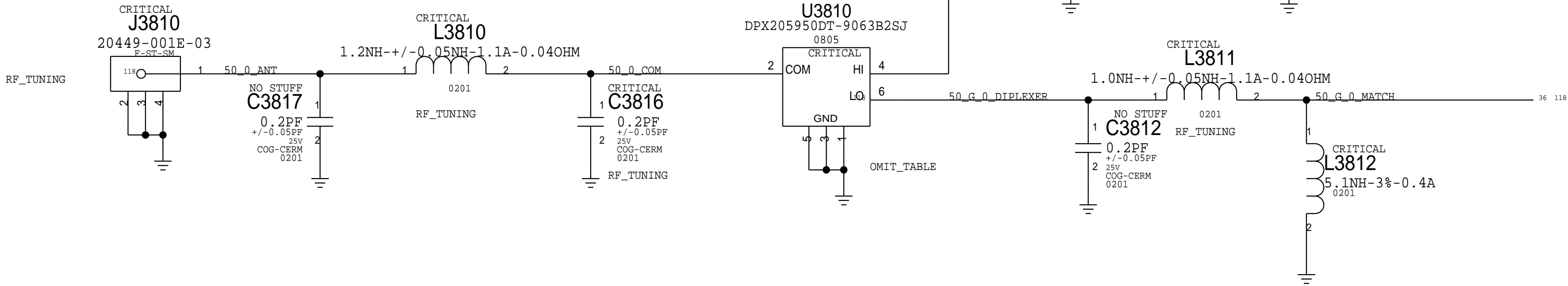
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	SHEET	36 OF 131

BOM\_COST\_GROUP=WIRELESS

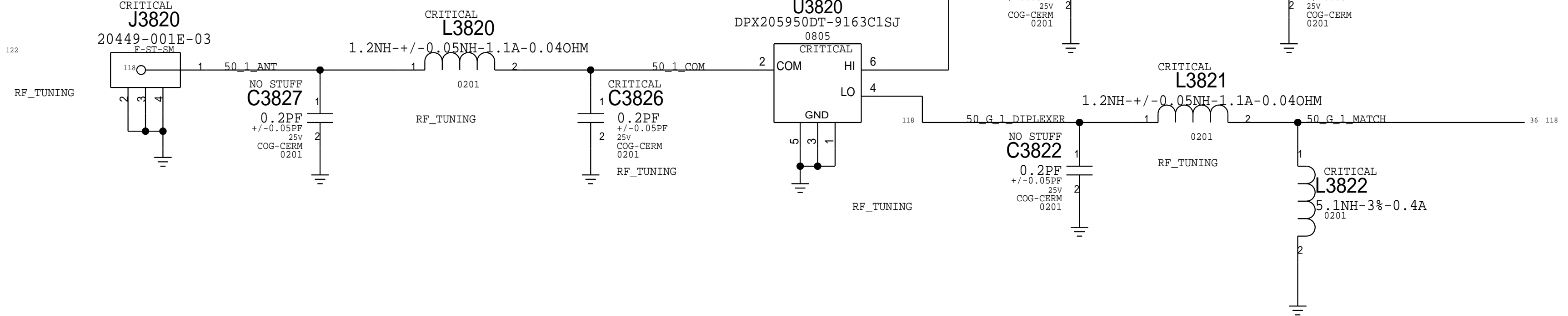


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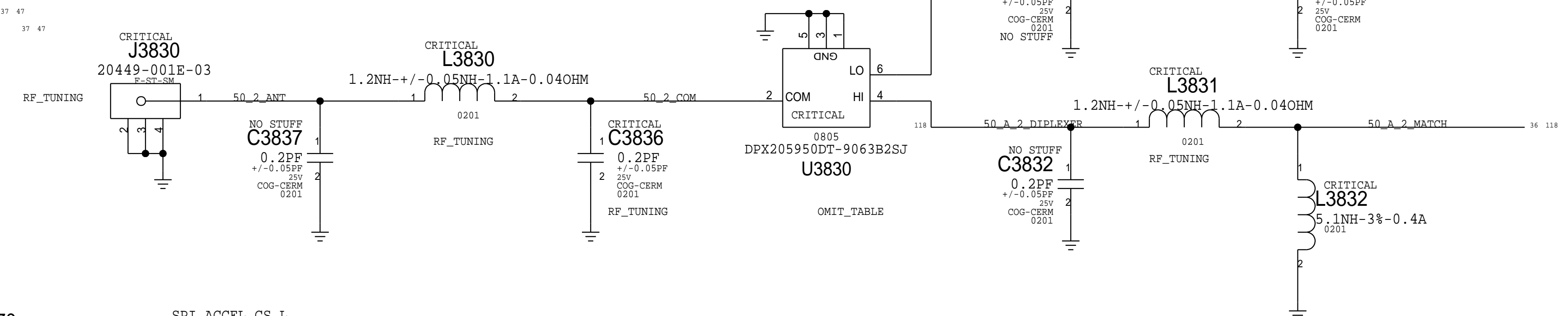
CORE0 DIPLEXER AND MATCHING NETWORK



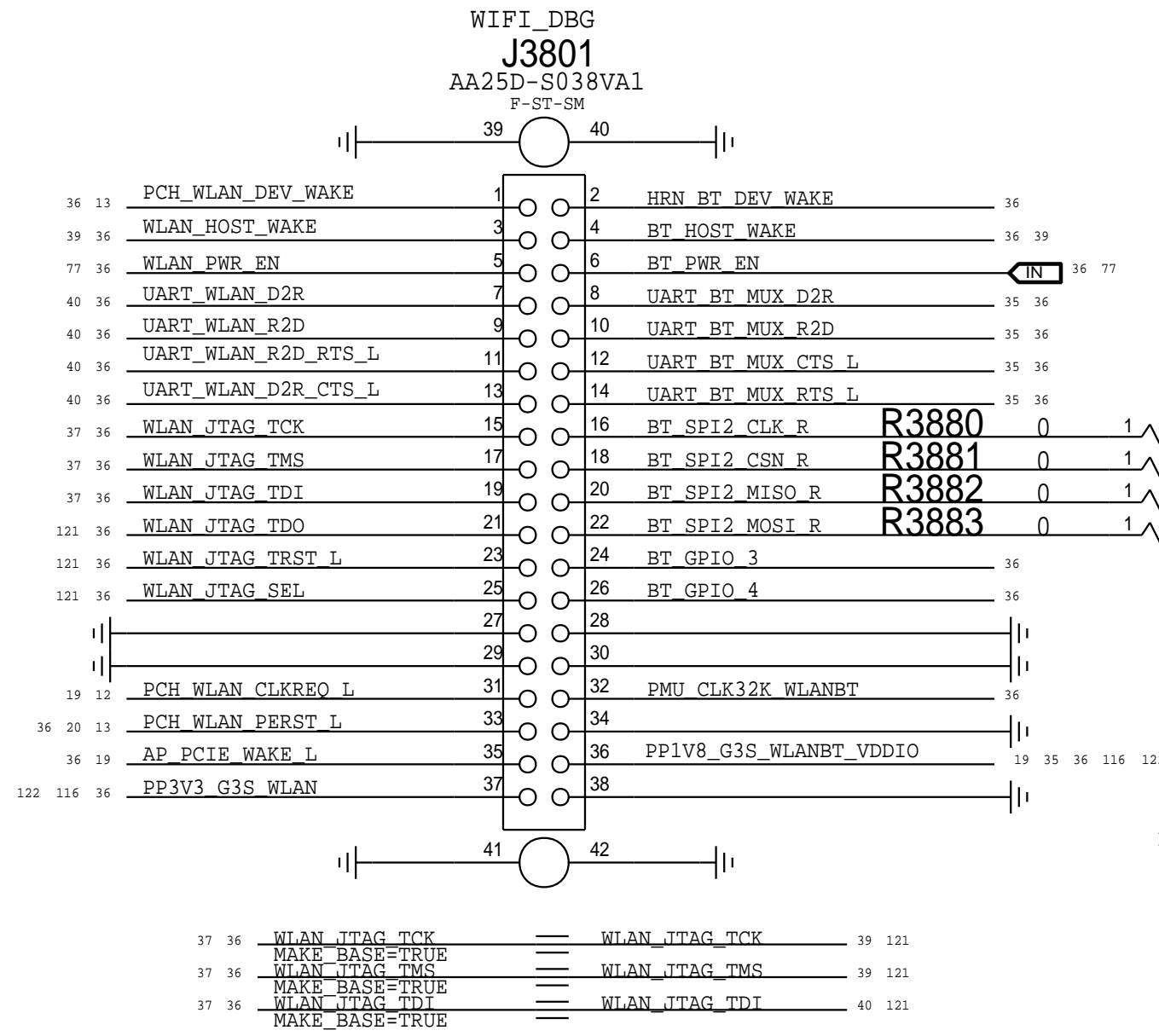
CORE1 DIPLEXER AND MATCHING NETWORK



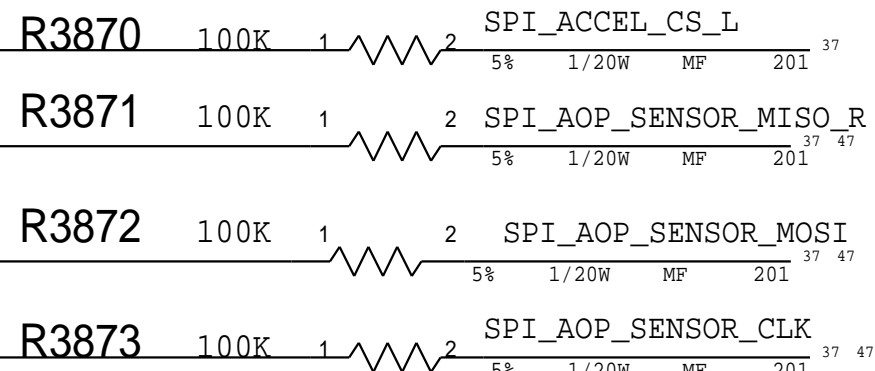
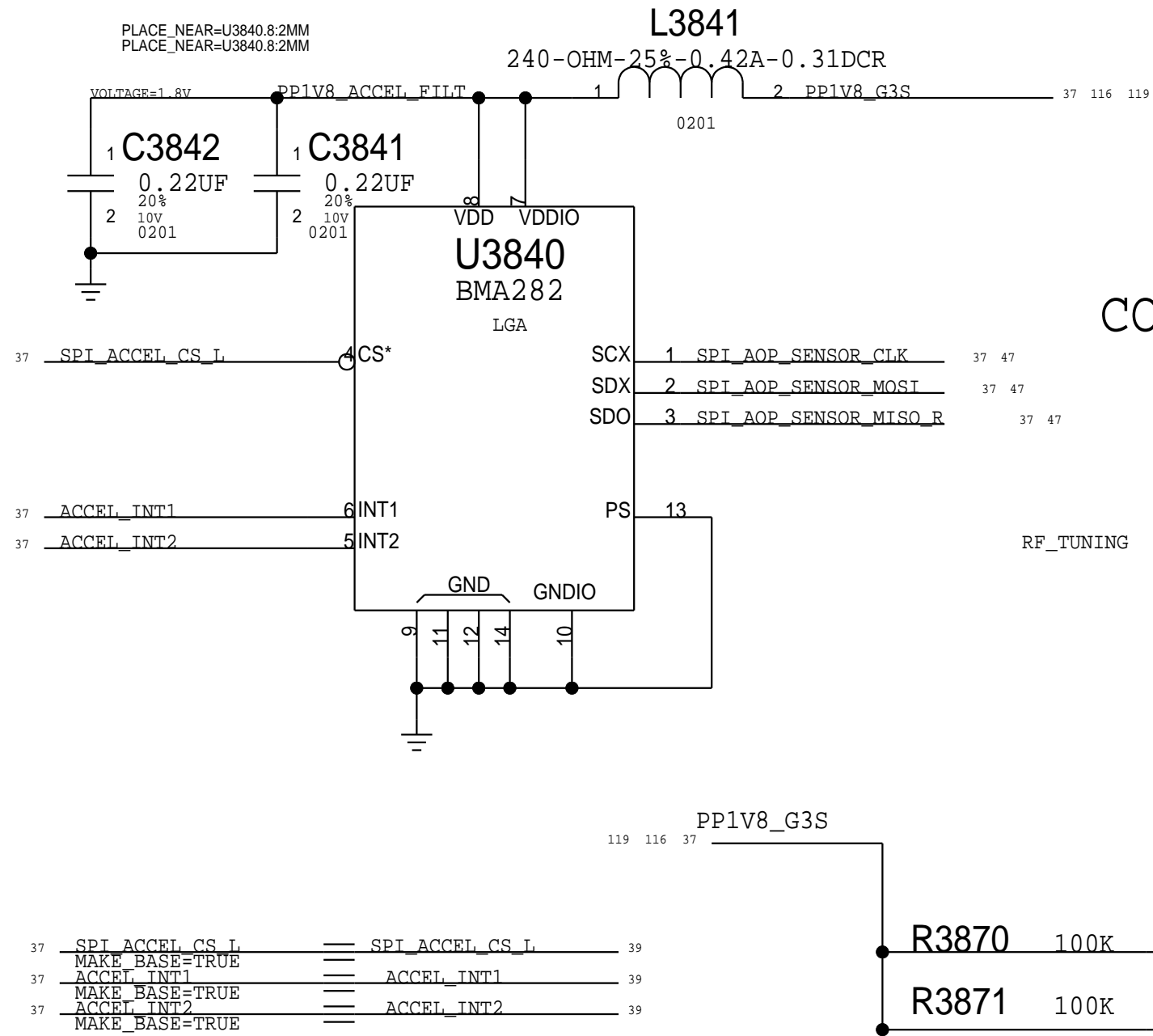
CORE2/Aux DIPLEXER AND MATCHING NETWORK



DEBUG CONNECTOR

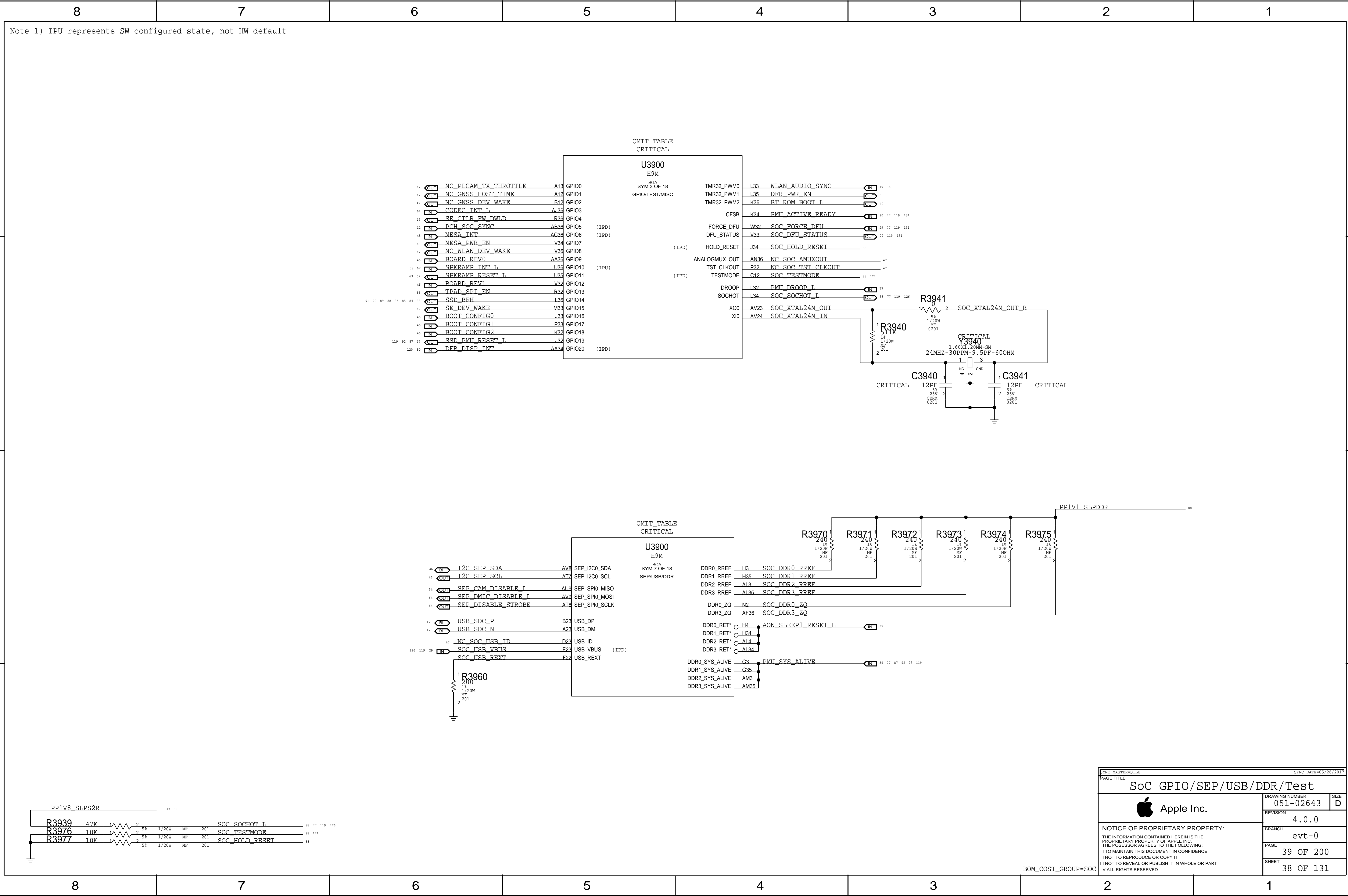


ACCELERATION SENSOR

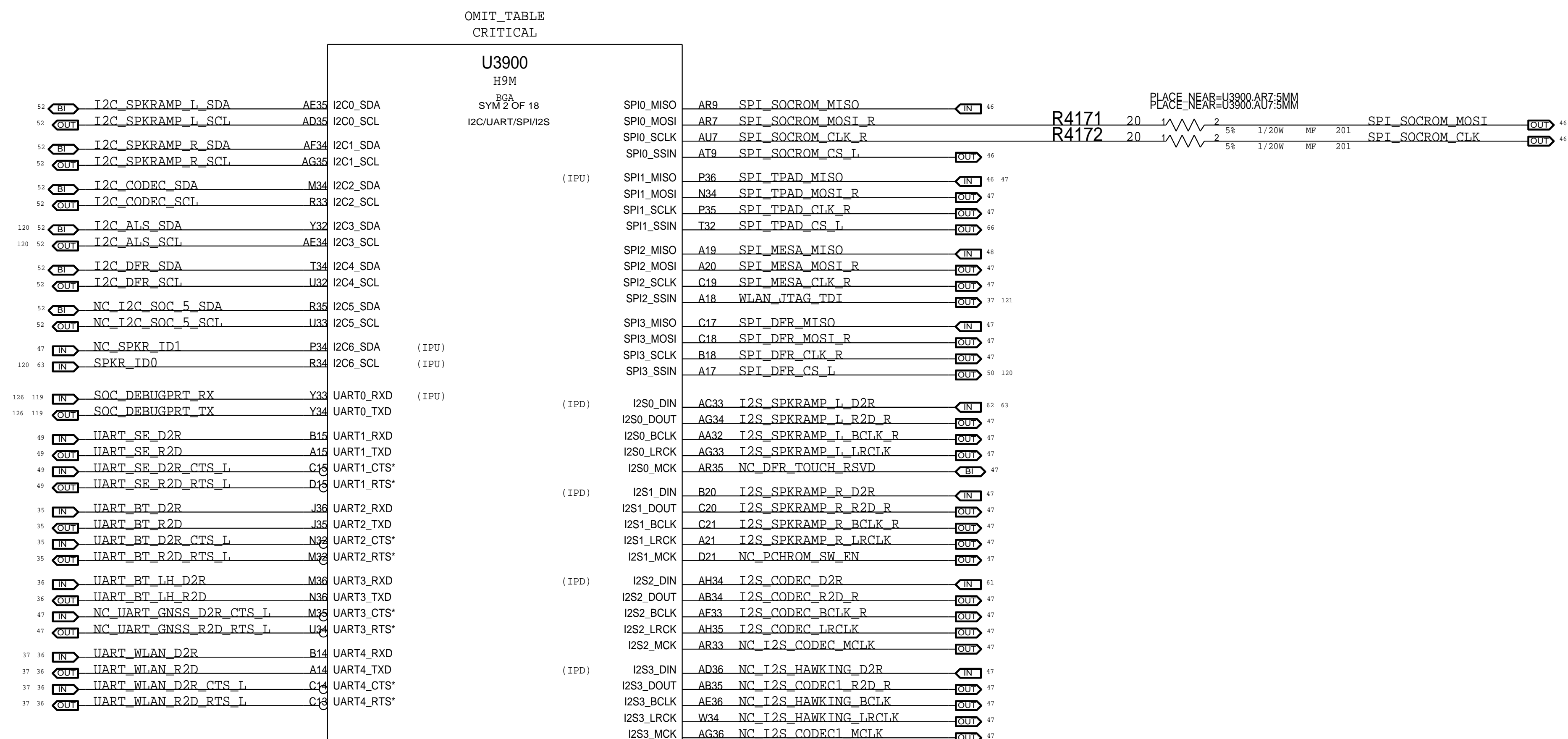
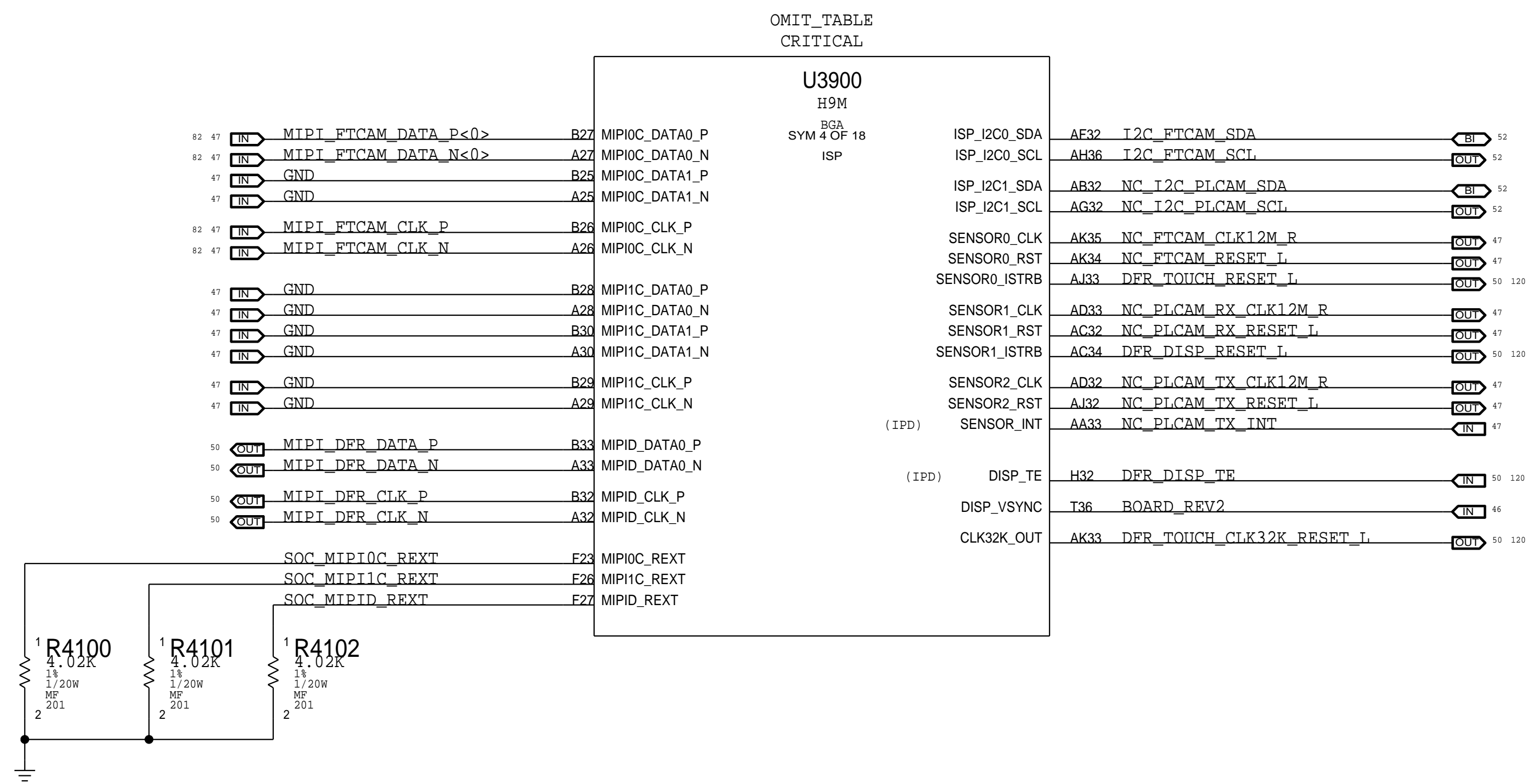


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BOM\_COST\_GROUP=SOC



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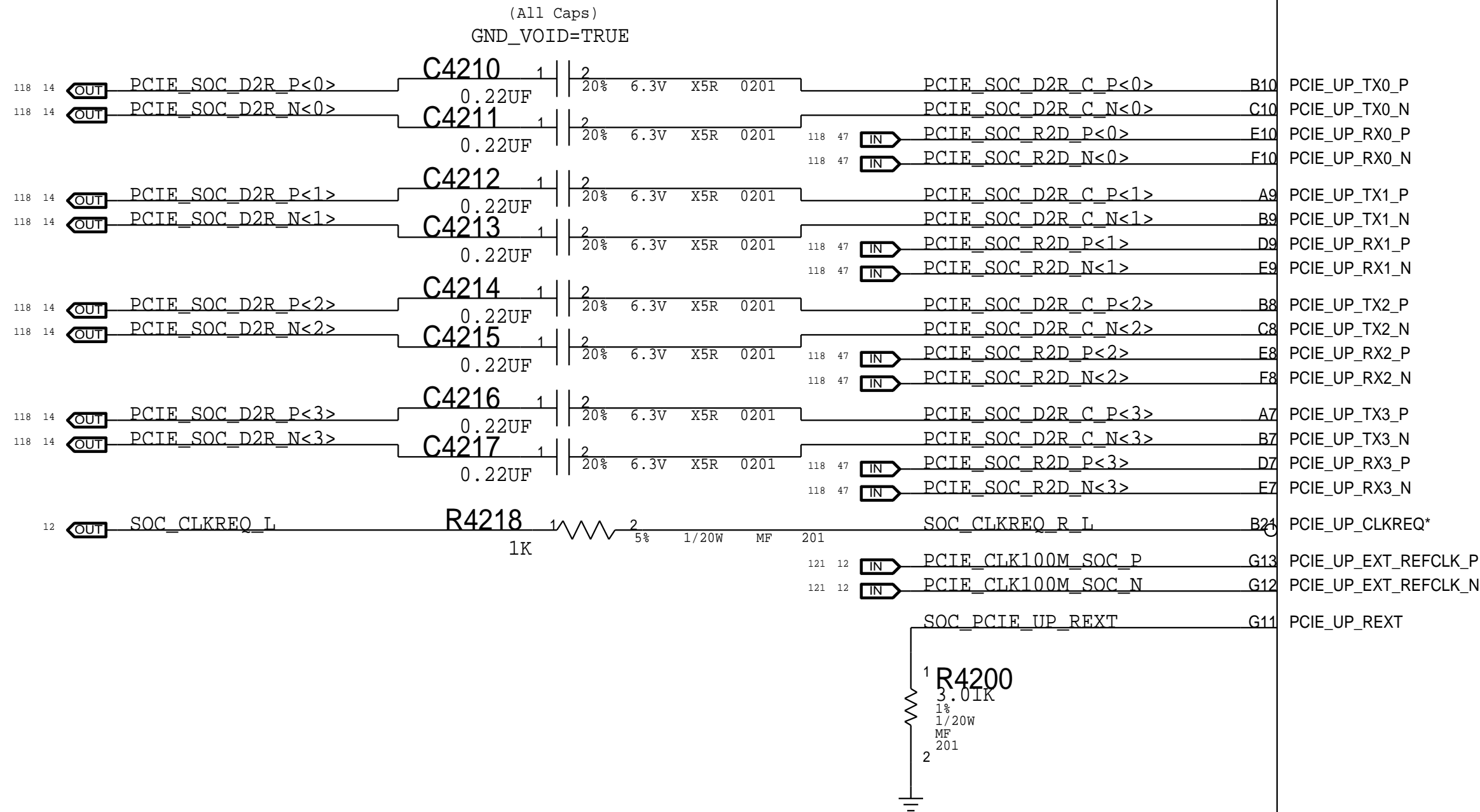
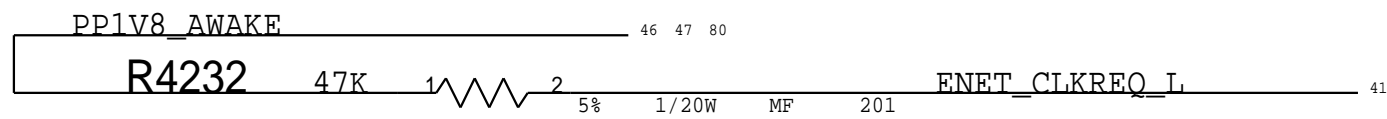
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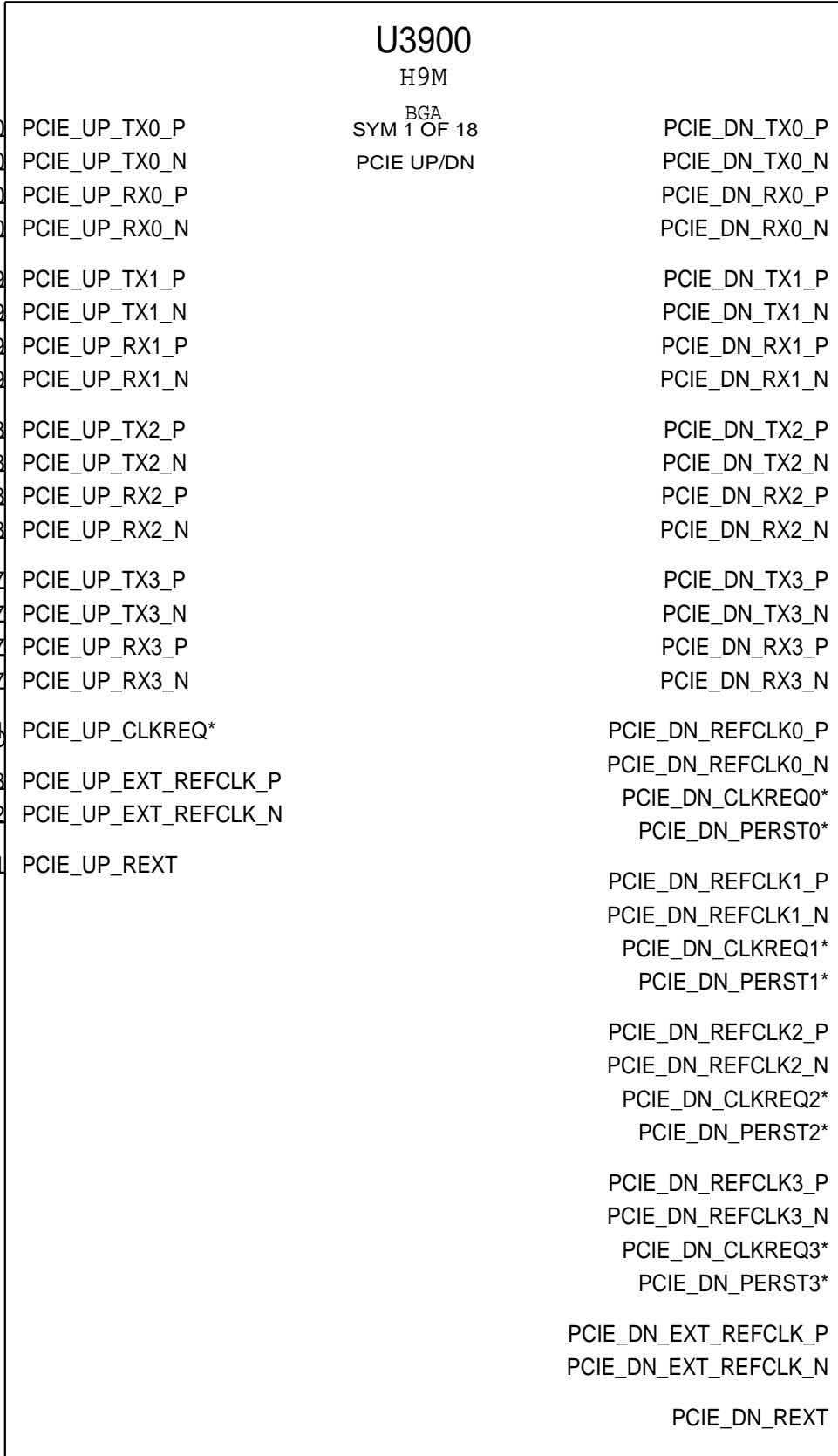
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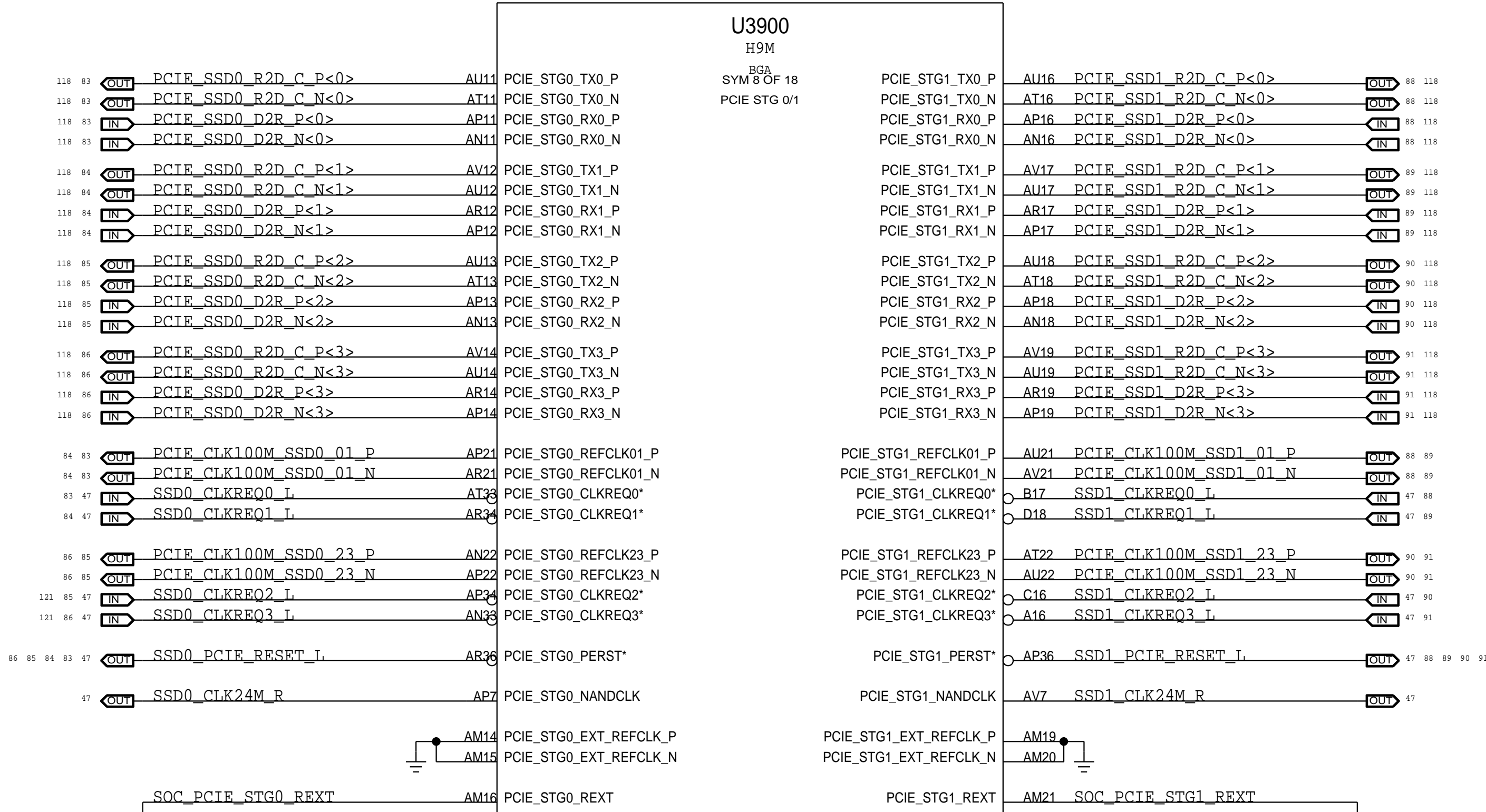
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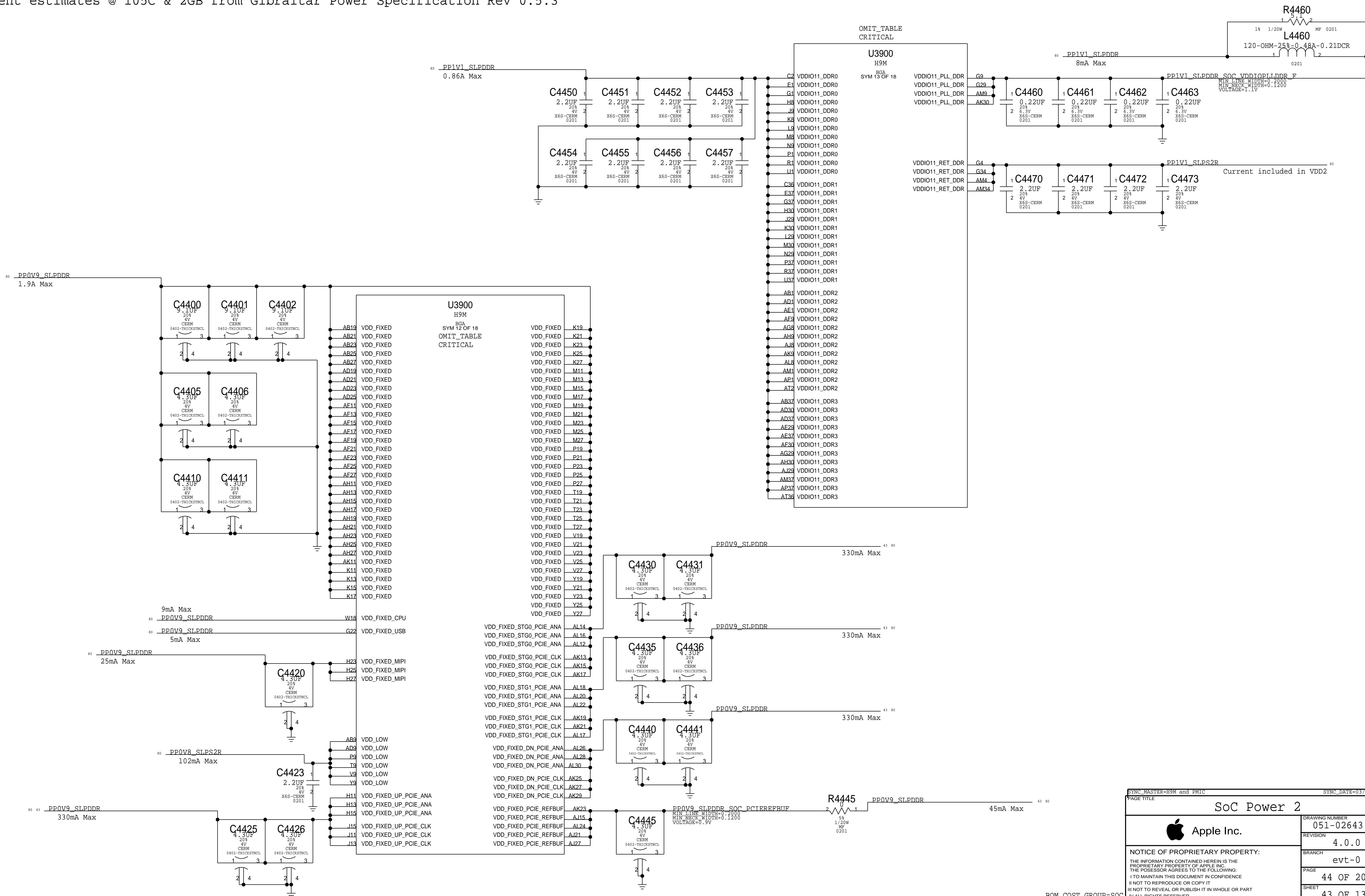


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PAGE		42 OF 200	
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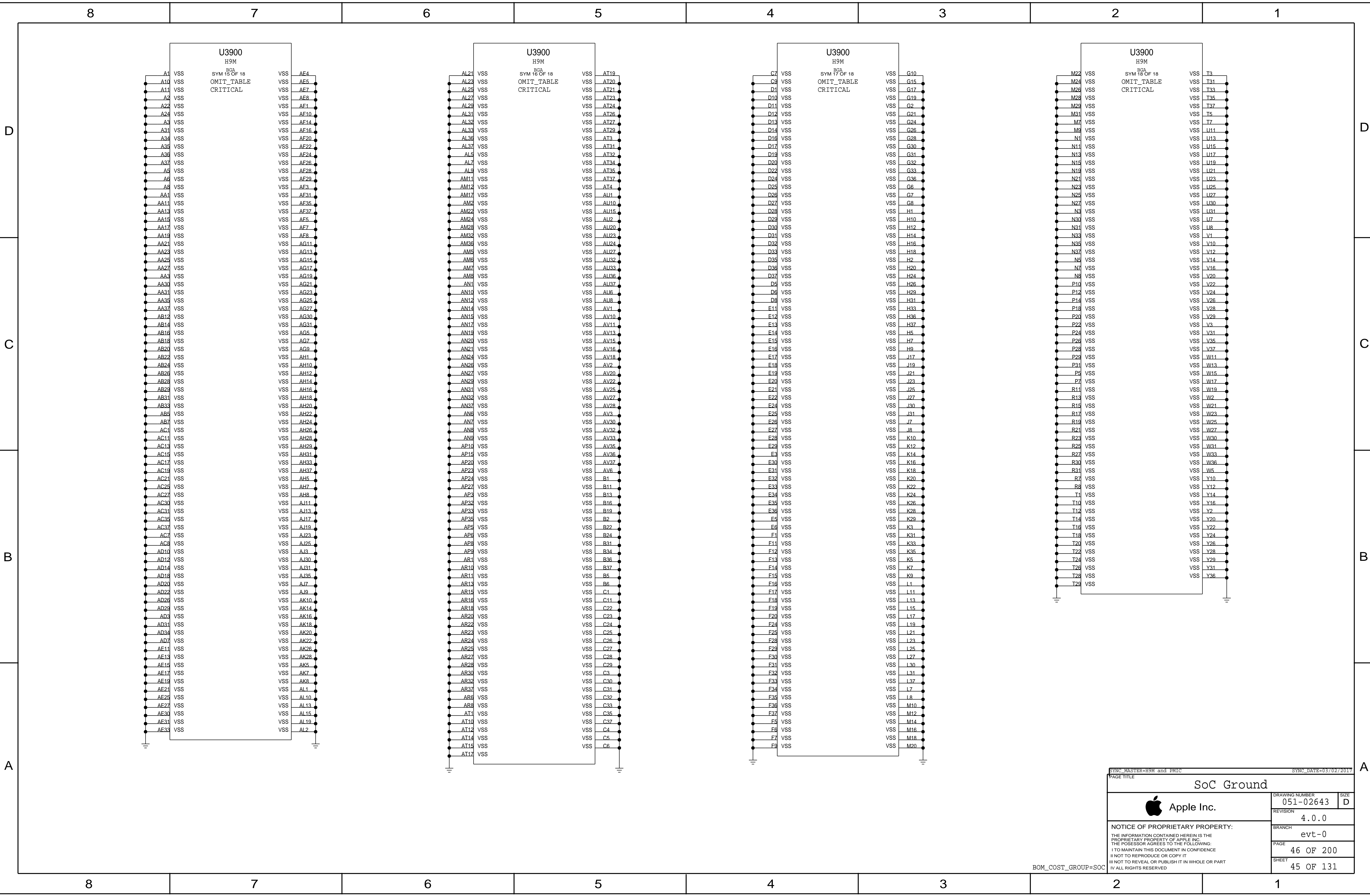



Current estimates @ 105C & 2GB from Gibraltar Power Specification Rev 0.5.3





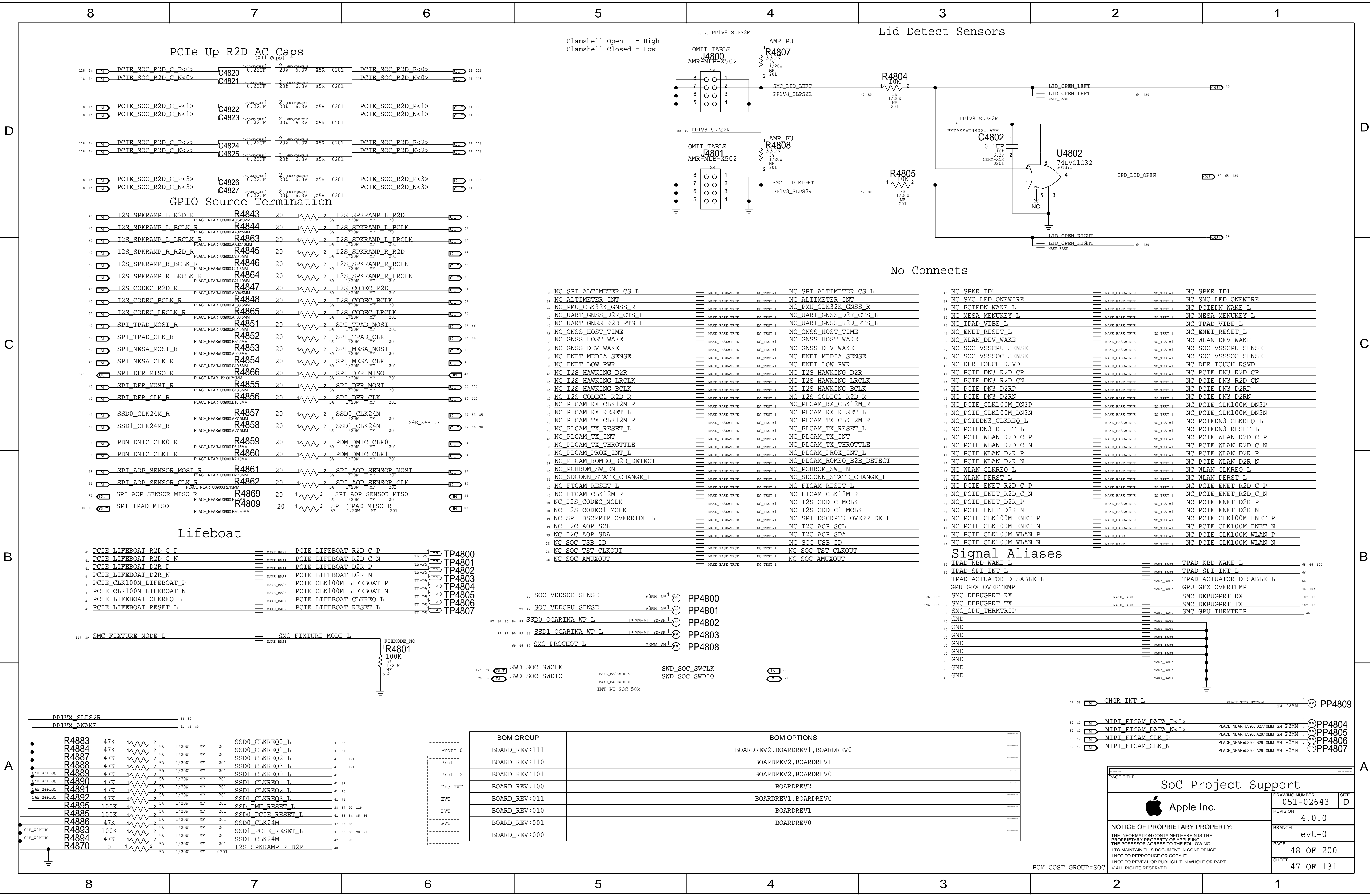




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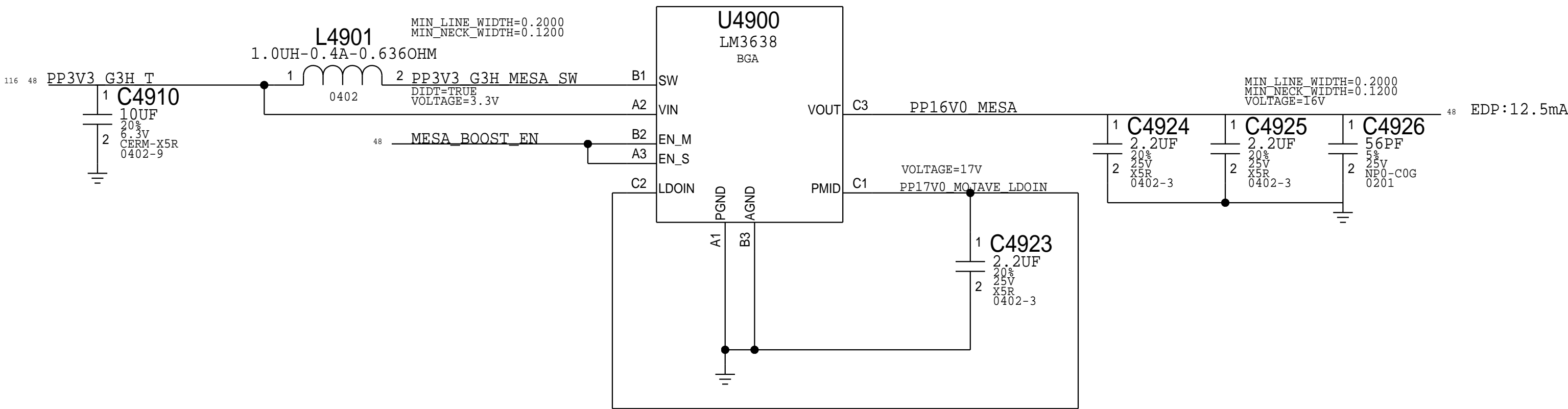
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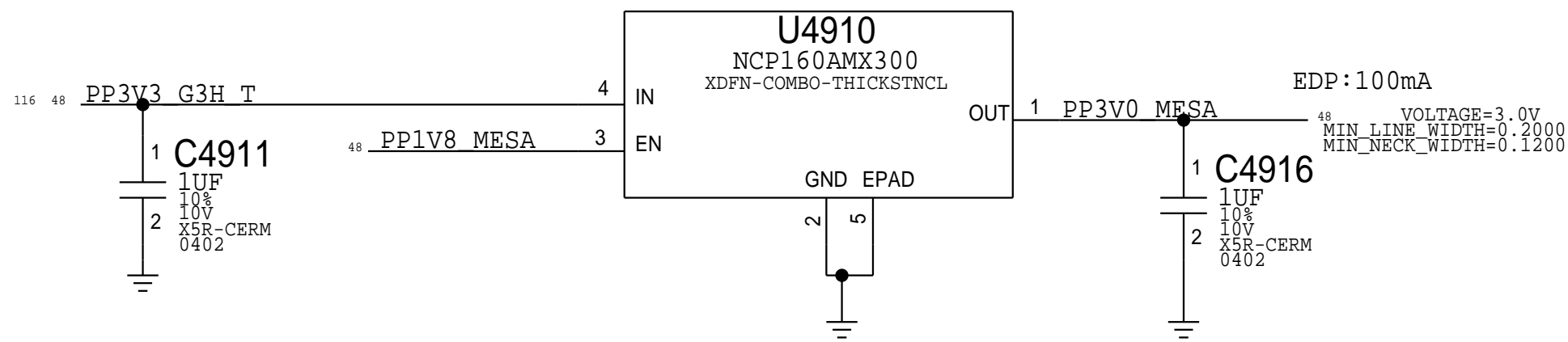
ISOLATE FROM OTHER COMPONENTS/NETS AS MUCH AS POSSIBLE

MOJAVE 16V BOOST

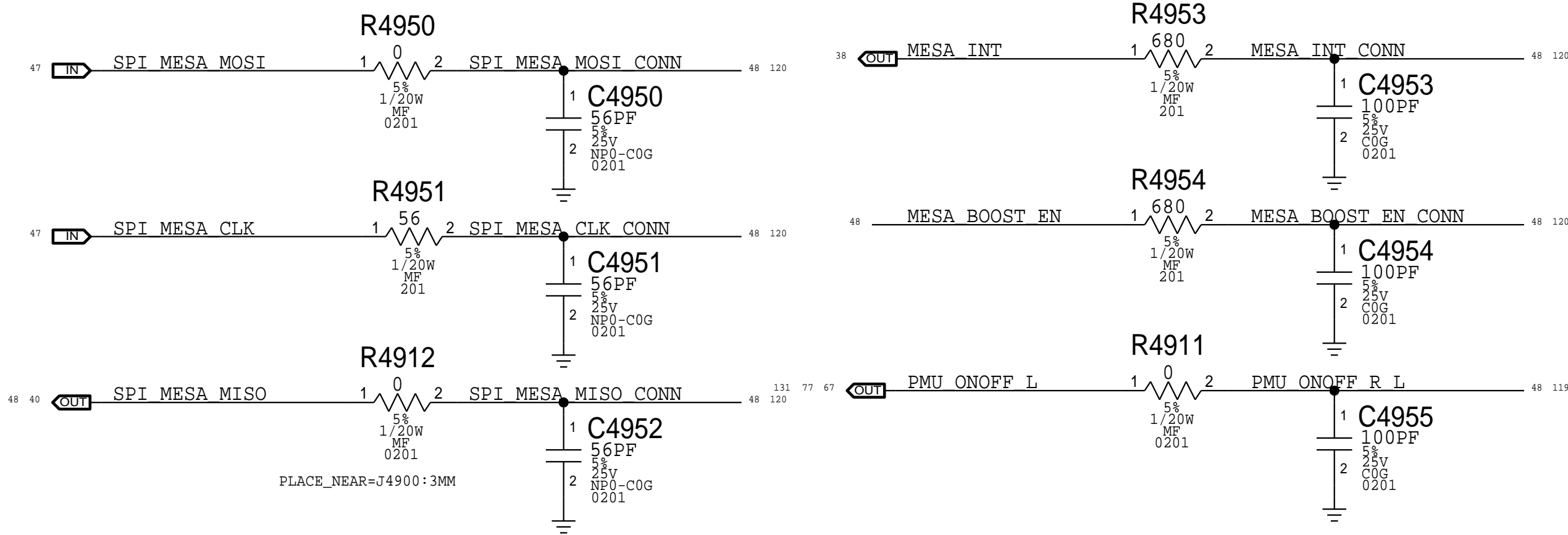
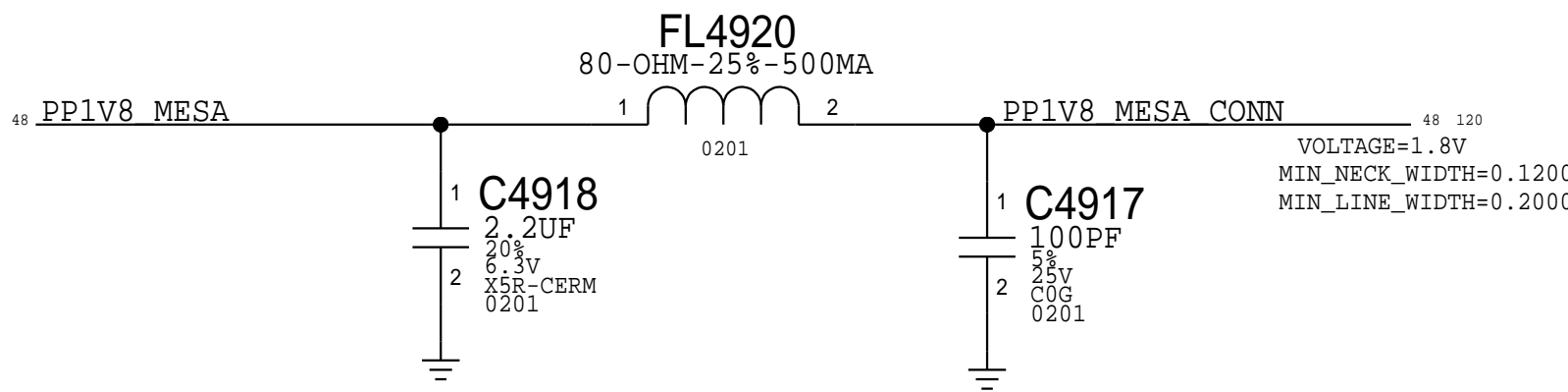
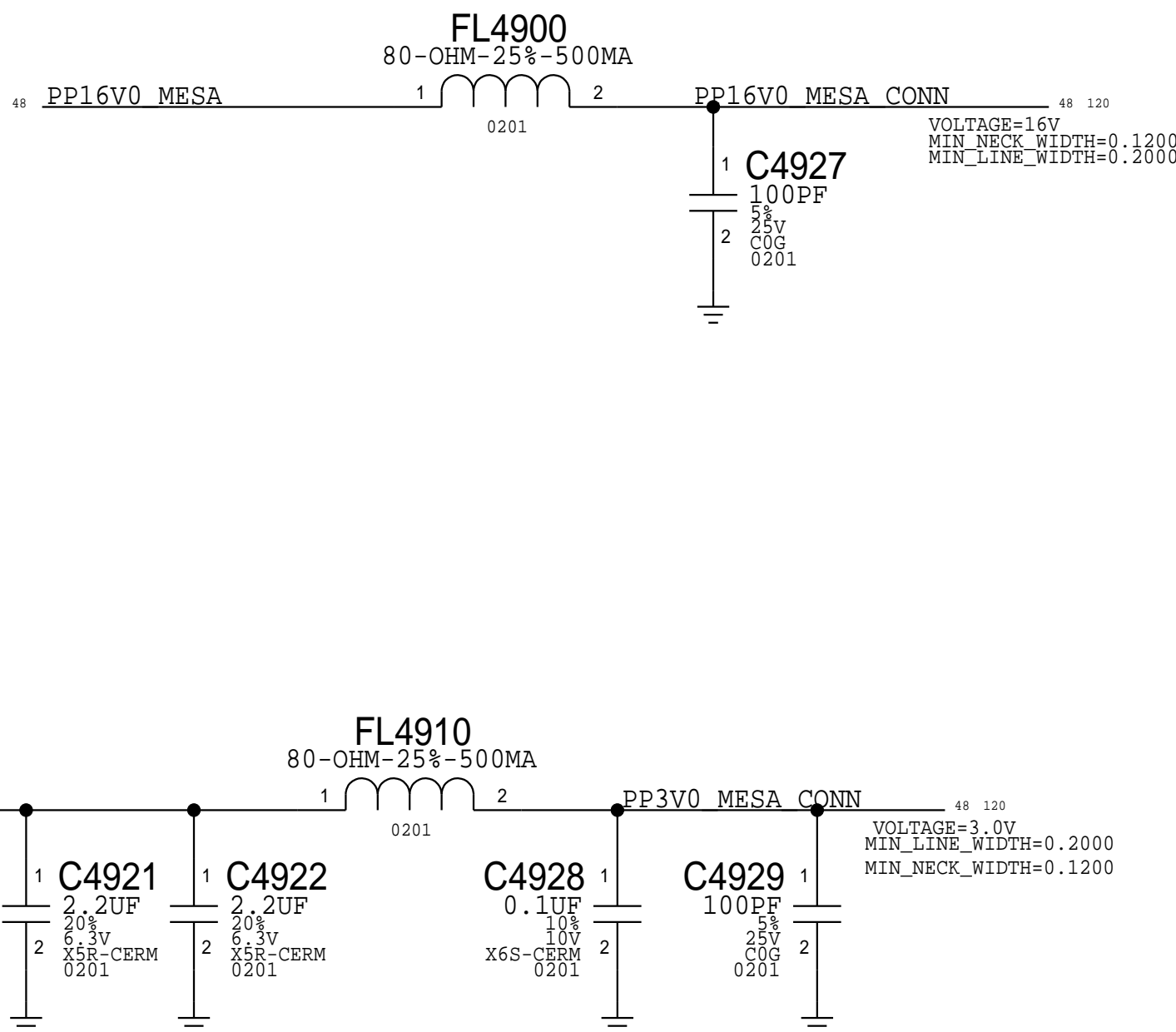
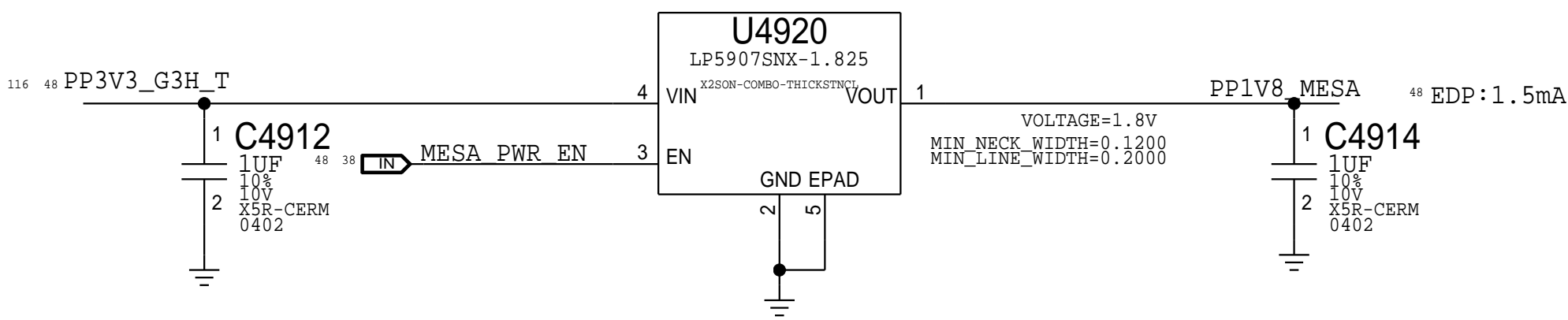


3.0V MESA

Option to feed LDO from 5V in case of dropout issue

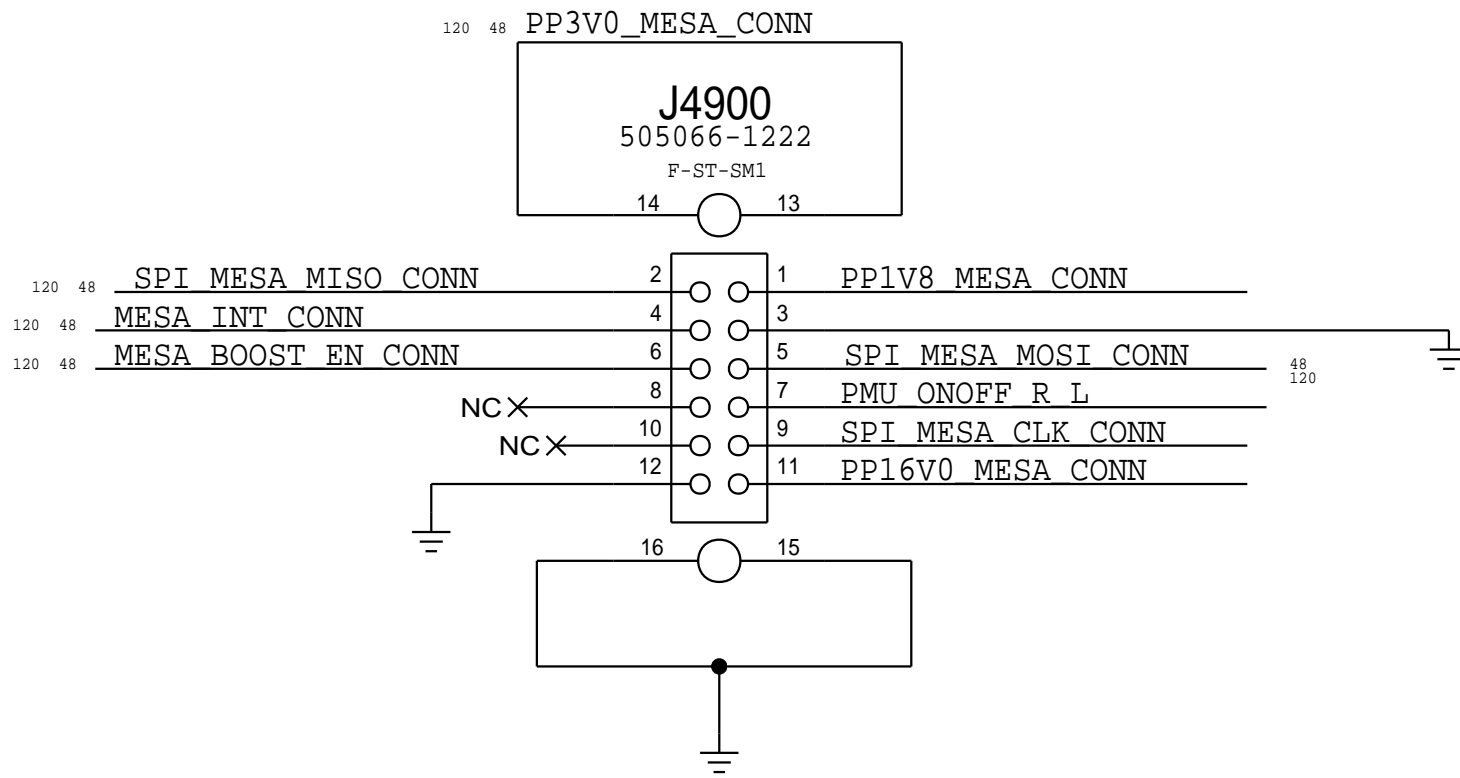


1.8V MESA



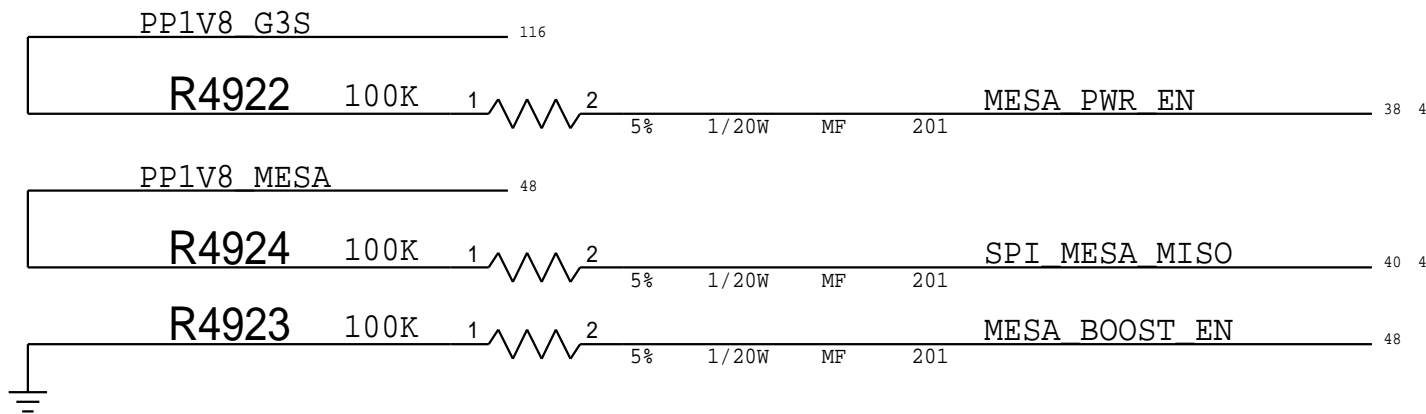
MESA FLEX CONNECTOR

Protol Connector for X434/X435 Support  
PLUG (516S00115) - X434/ X435 Jumper  
Recptacle (516S00203) - X362/X363 MLB




Mesa Power Sequencing Requirements

Power On: 1V8 -> 3V3 -> 16V0



BOM\_COST\_GROUP=T151

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MESA			
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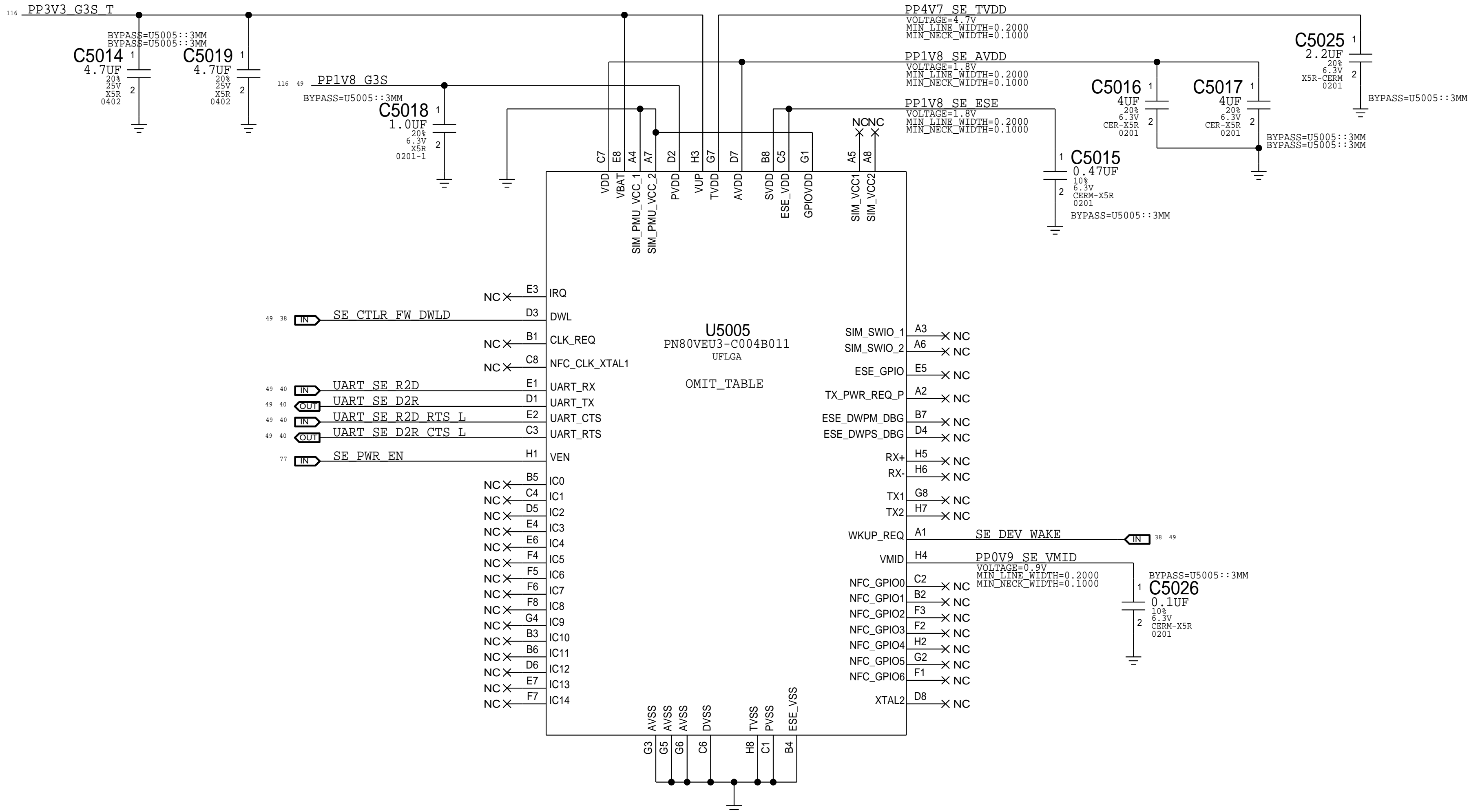
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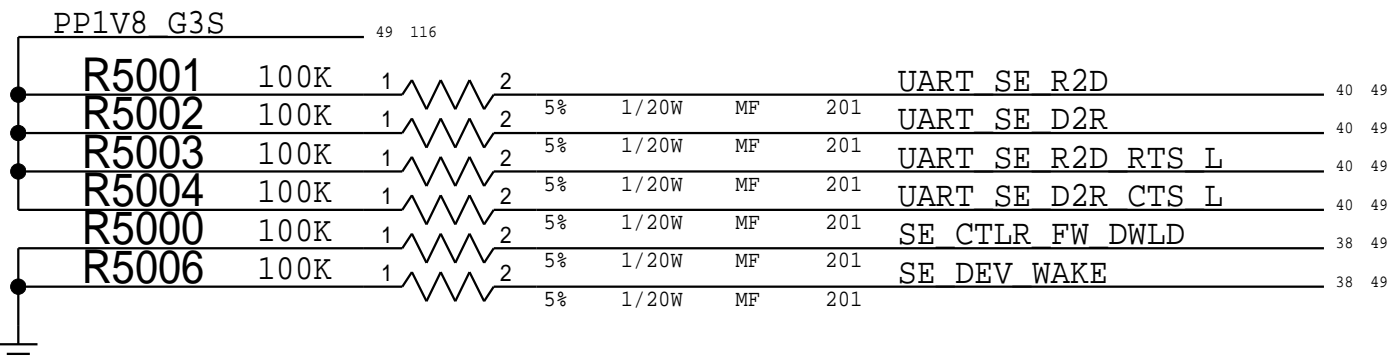
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STOCKHOLM 2017



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338S00253	1	IC,RTM4,ES2.1,PN80V,PRD,UFLGA64	U5005	CRITICAL	SE:PROD_2017



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T208 Support

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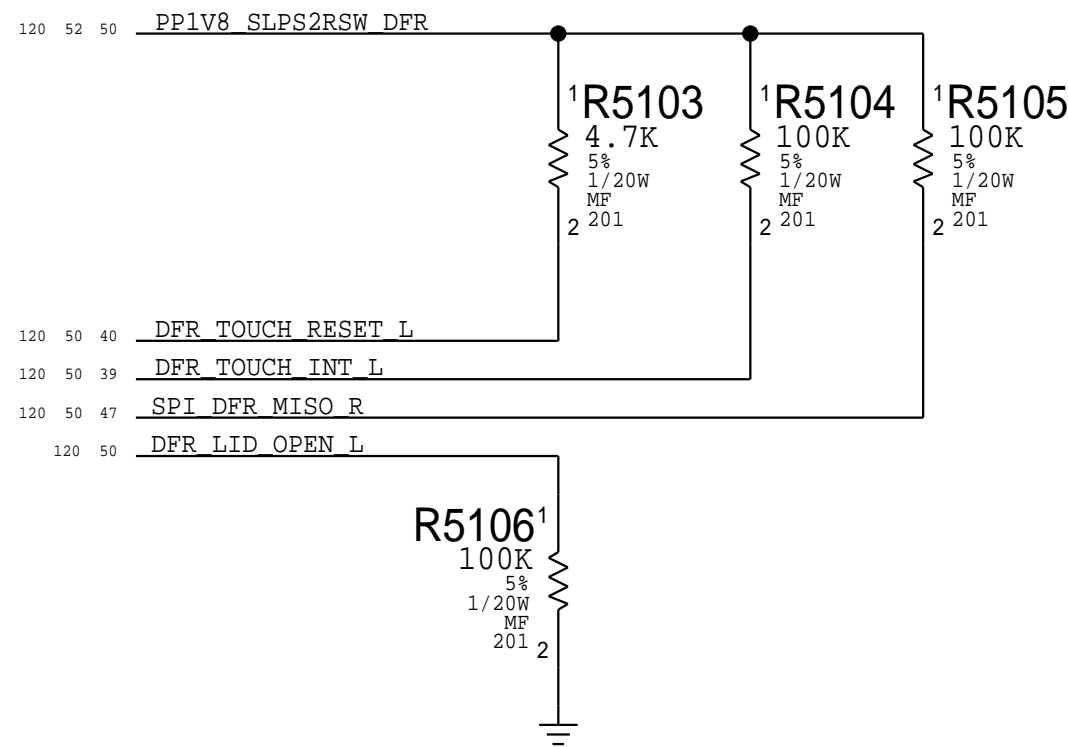
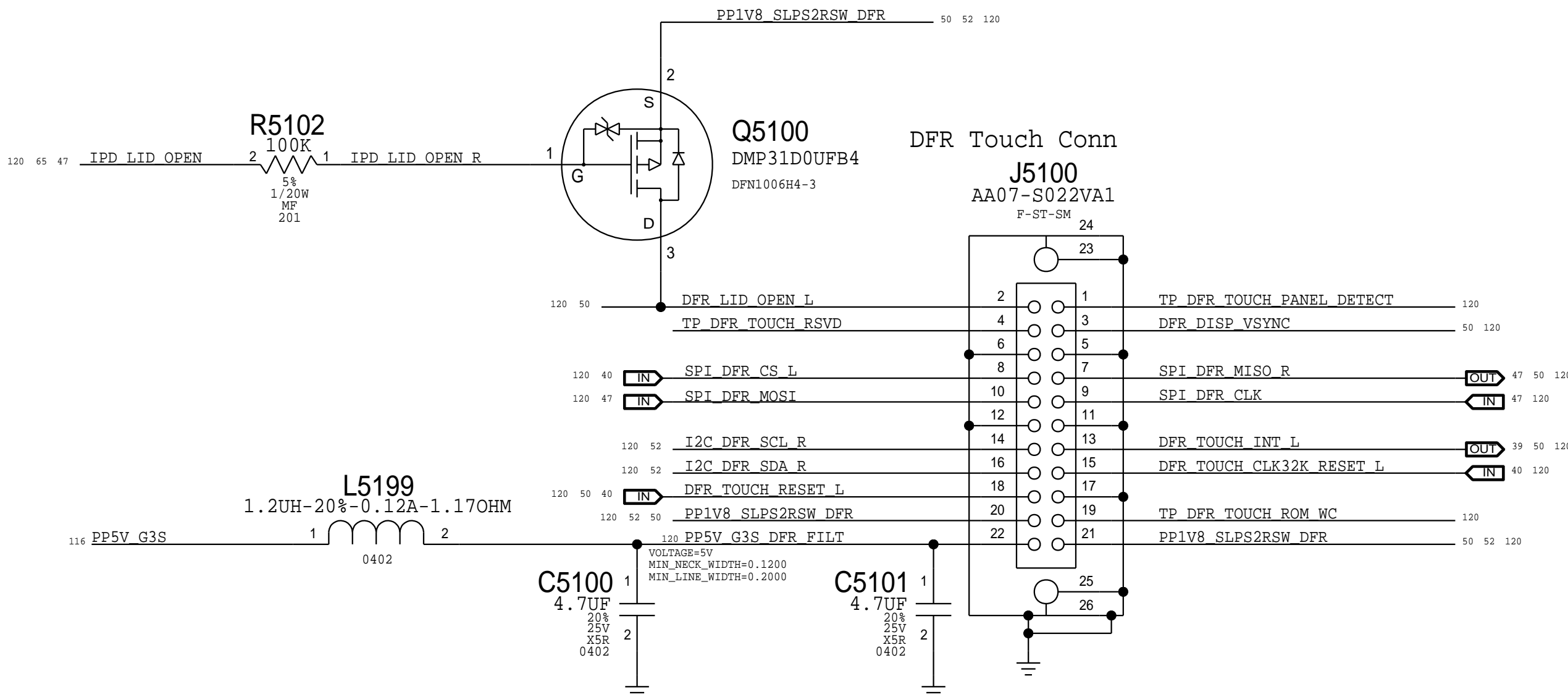
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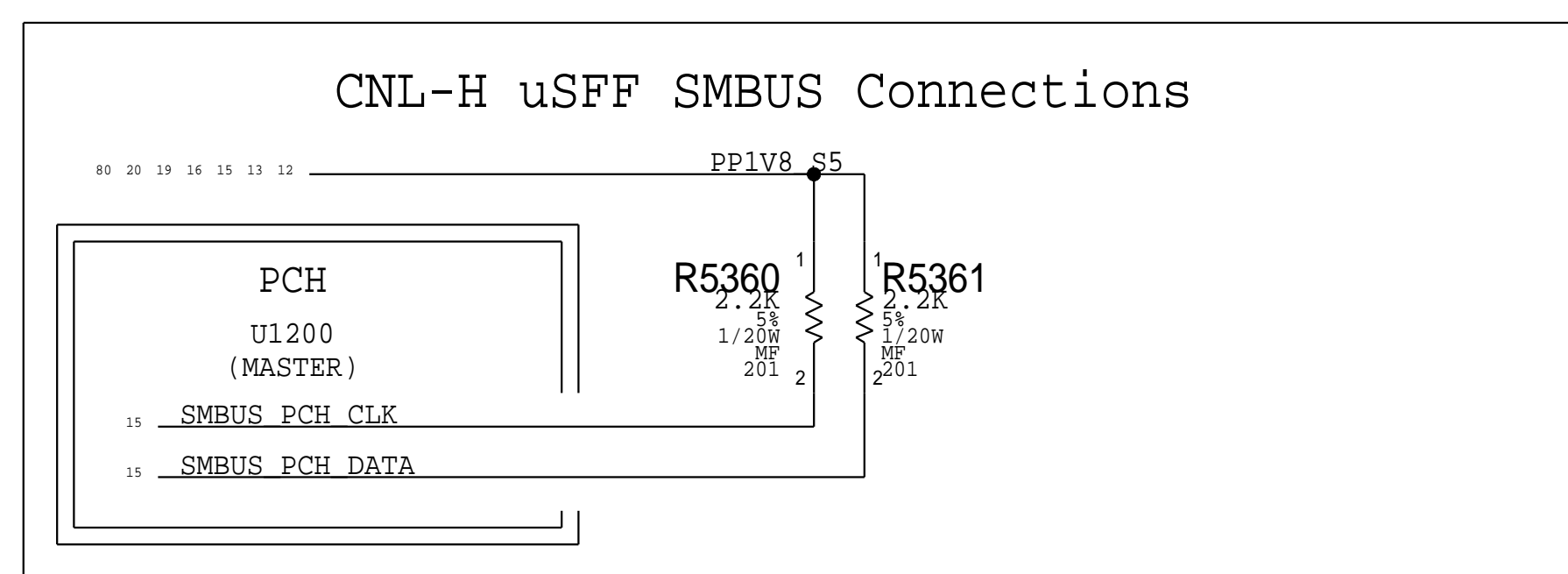
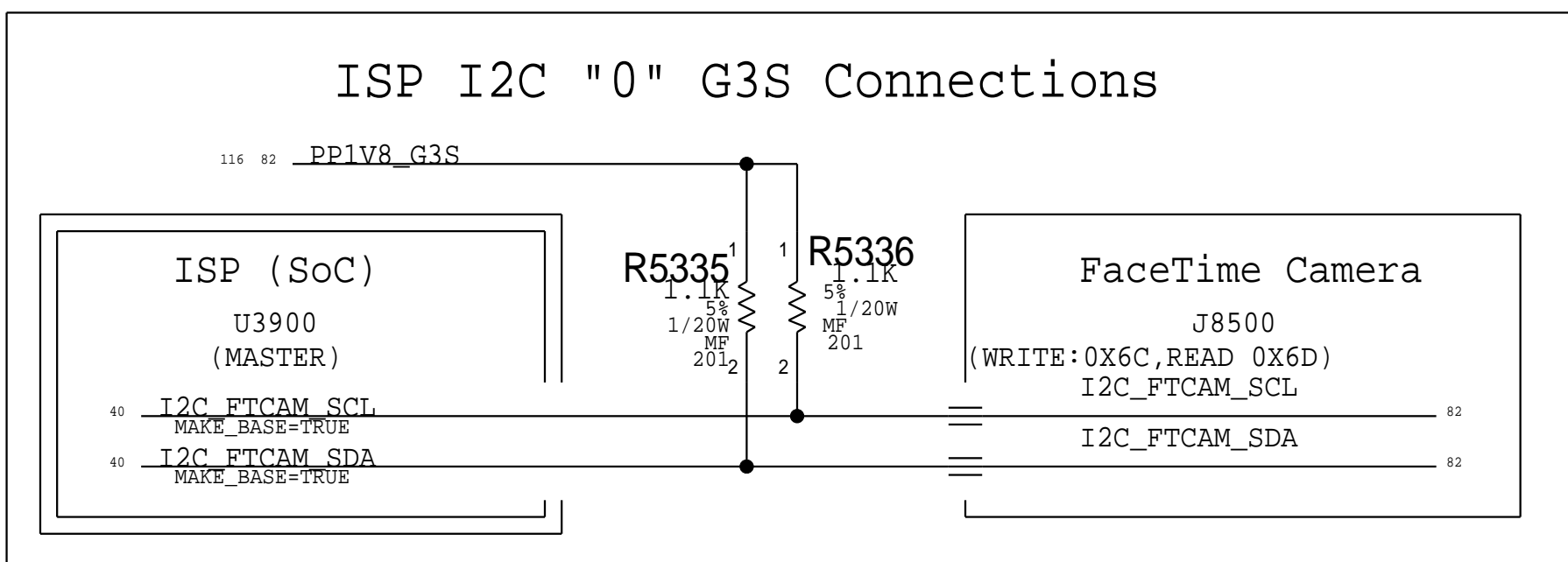
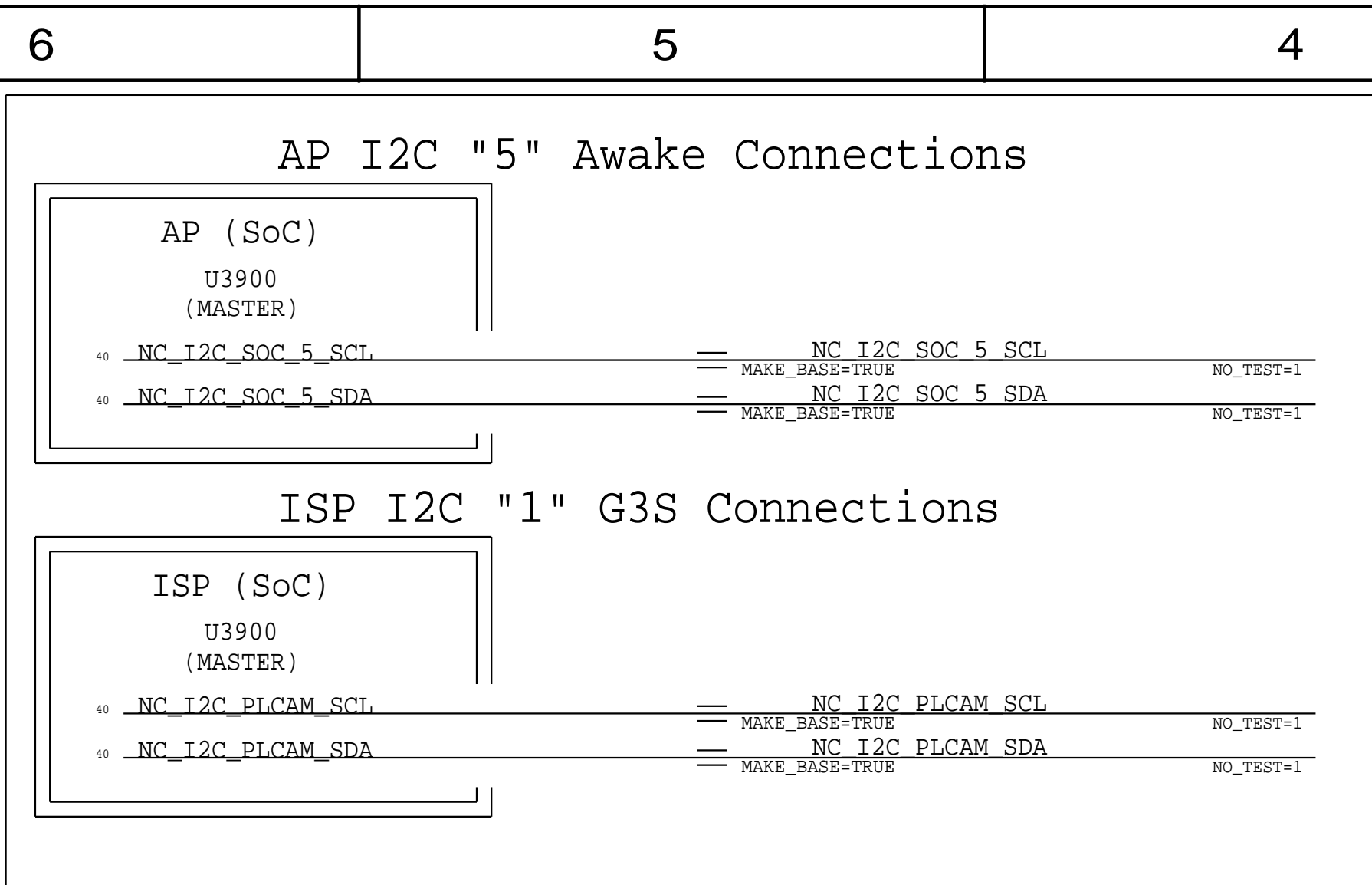
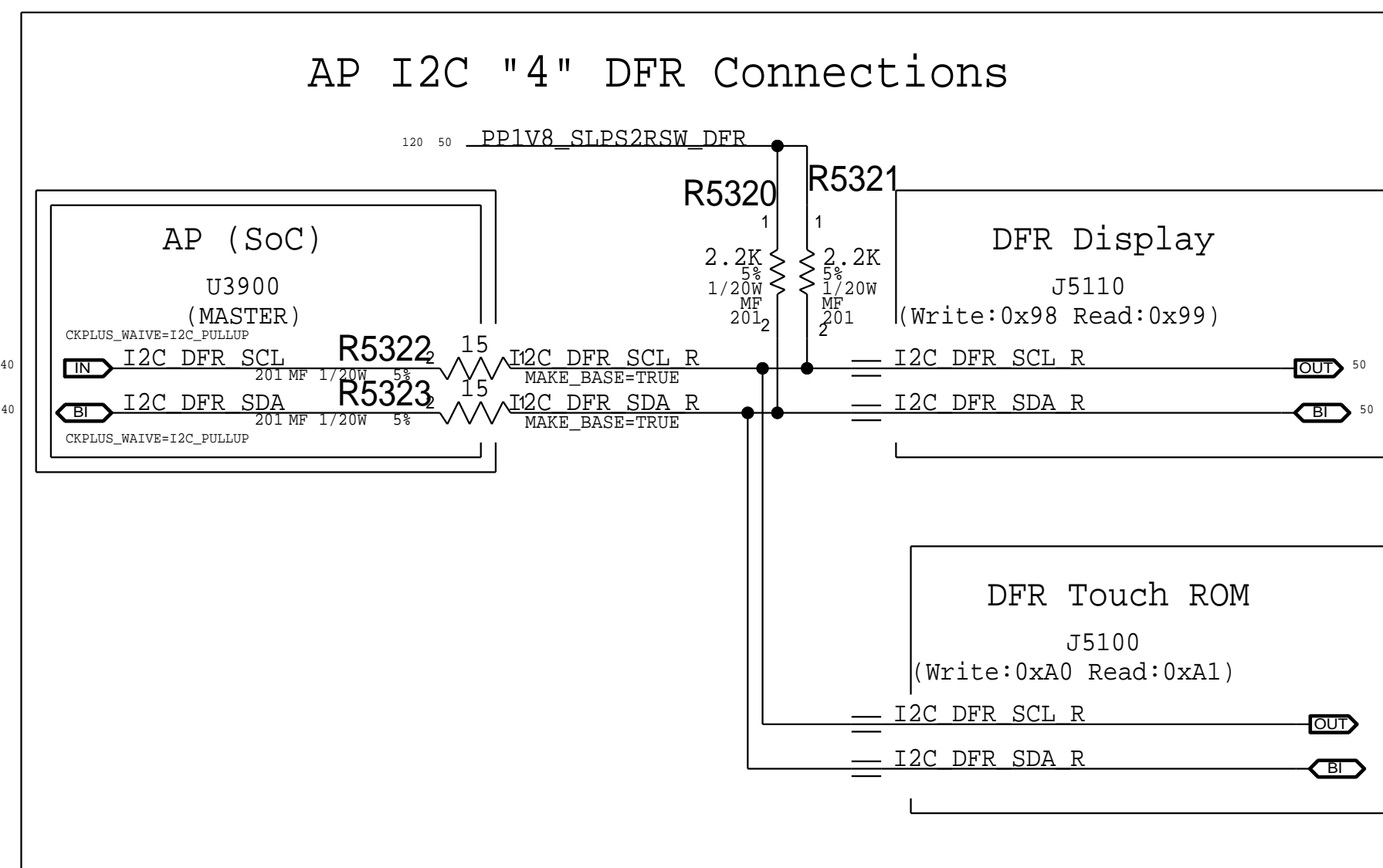
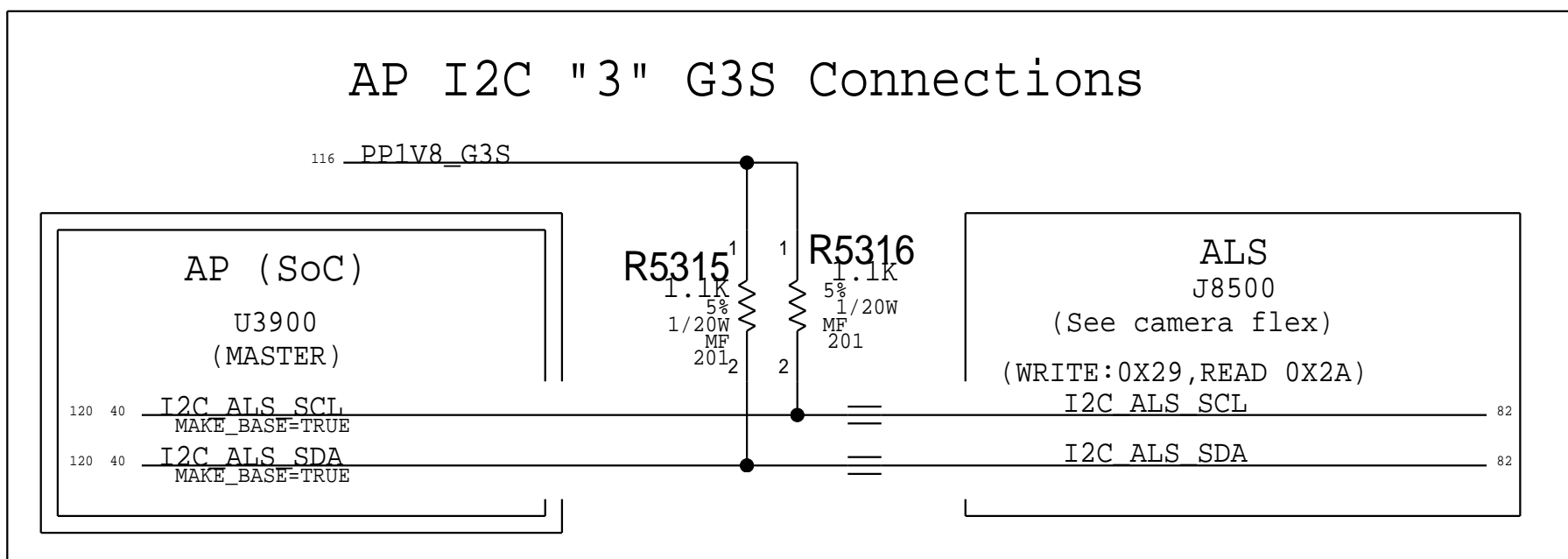
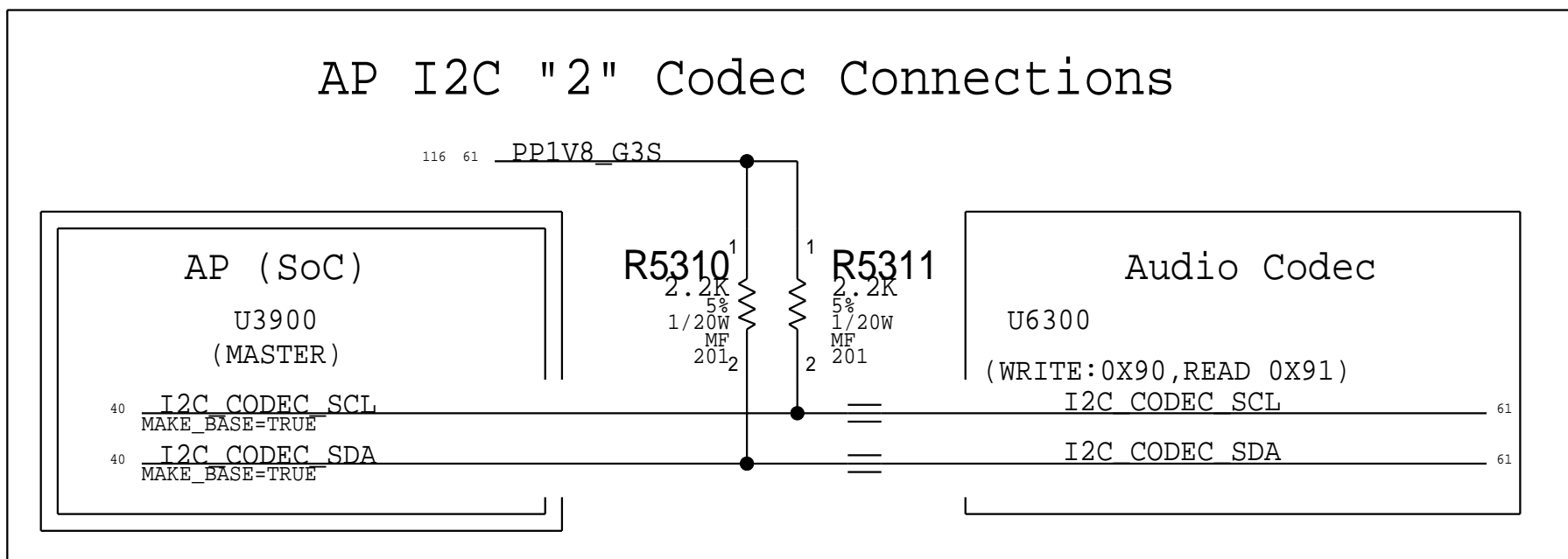
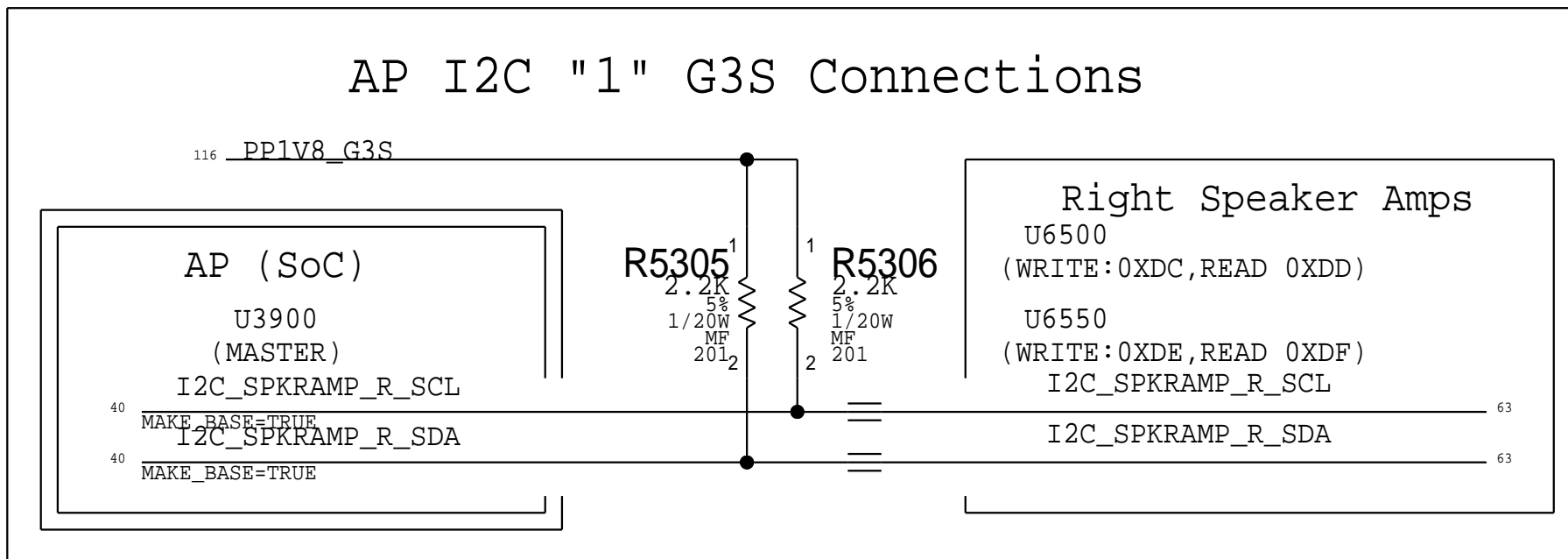
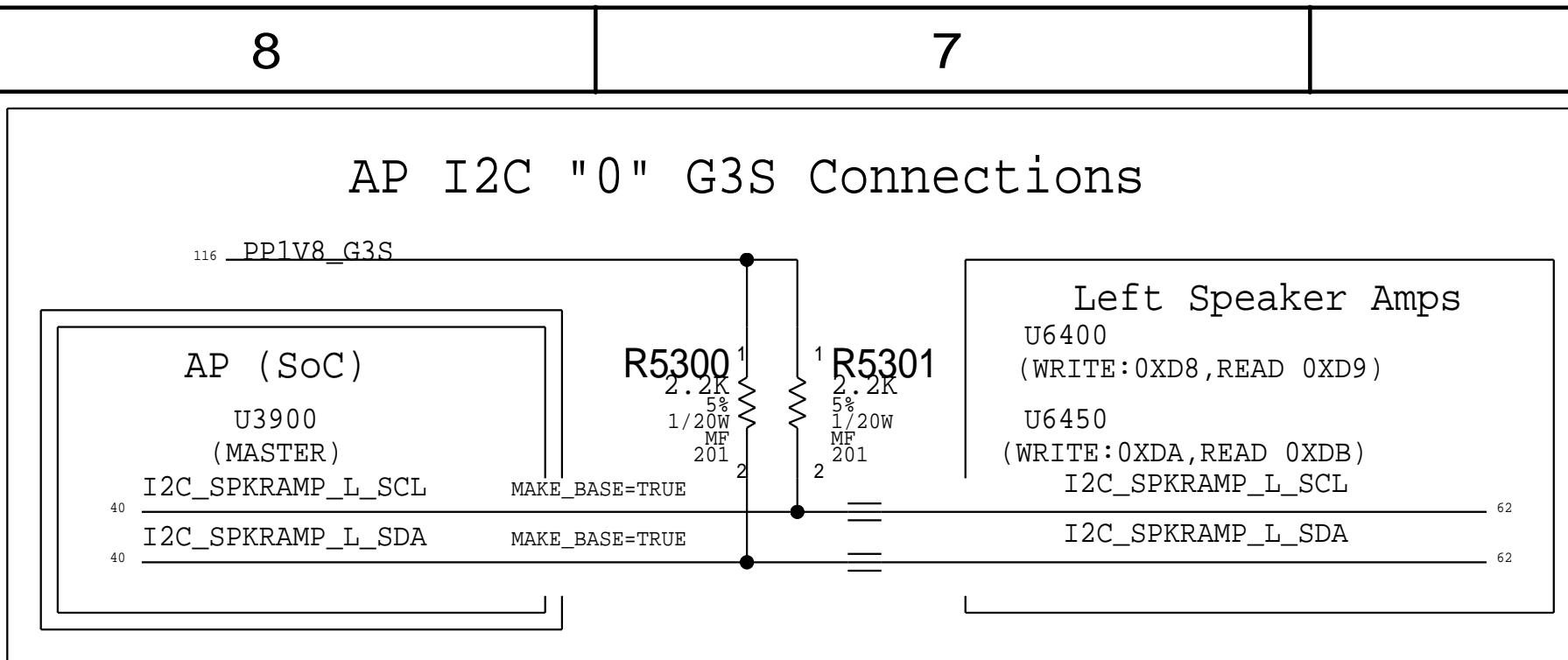
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2		1
I2C Device Address		
Device	SMC IF	ADDR. (8b)
ACE XA	I2C0	0X70/1
ACE XB	I2C0	0X7E/F
ACE TA	I2C0	0X40/1
ACE TB	I2C0	0X4E/F
EADC1	I2C1	0X10/1
EADC2	I2C1	0X12/3
Temp. Sensor Left	I2C2	0X98/9
Temp. Sensor Right	I2C2	0X96/7
CPU, MEM, WLAN Thermal	I2C2	0X90/1
GPU Analog Die Thermal	I2C2	0X92/3
GPU Digital Die Thermal	I2C2	0X82/3
TCON	I2C3	0X20-3F
GMUX IOEXP	I2C3	0X44/5
Charger	I2C4	0X12/3
Battery	I2C4	0X16/7
Calpe	I2C4	0XE8/9
Trackpad	I2C5	0X98/9
SSD0	I2C6	0XF2/3
SSD1	I2C6	0XF0/1
SoC IF		
Left Spkr Amp. (U6400)	I2C0	0XD8/9
Left Spkr Amp. (U6450)	I2C0	0XDA/B
Right Spkr Amp. (U6500)	I2C1	0XDC/D
Right Spkr Amp. (U6550)	I2C1	0XDE/F
Audio Codec	I2C2	0X90/1
ALS	I2C3	0X29/A
DFR Display	I2C4	0X98/9
DFR Touch	I2C4	0XA0/1
NC.	I2C5	
NC. Spkr ID1	I2C6_SDA	
Spkr ID0	I2C6_SCL	
ISP IF		
FT Camera	I2C0	0X6C/D
NC.	I2C1	
AOP IF		
NC.	I2C0	
PCH IF		
NC.	PULL-UP	

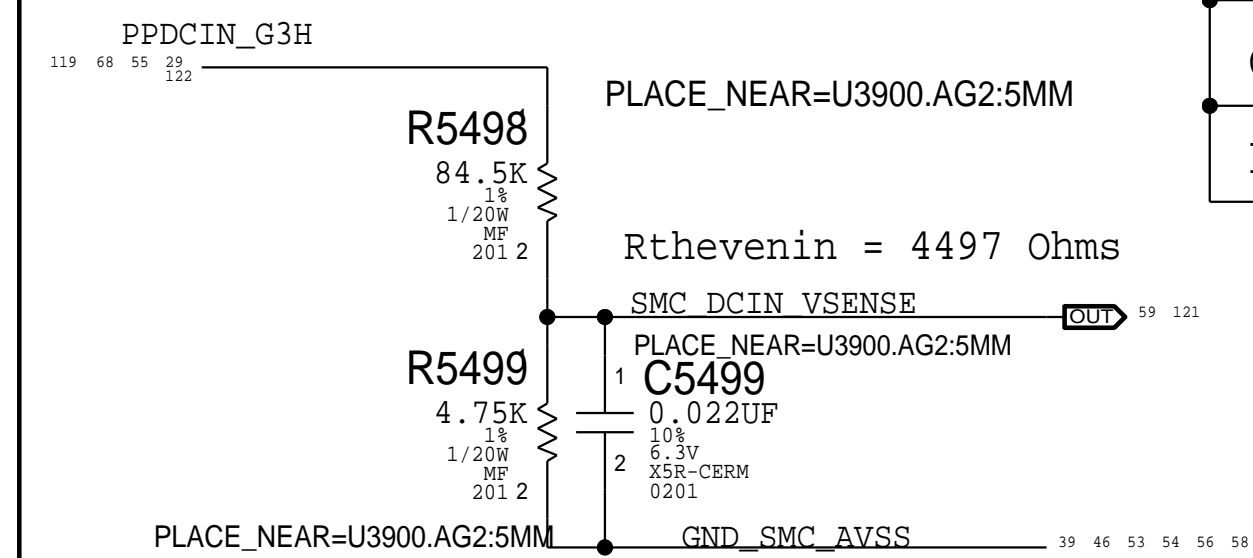
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BOM\_COST\_GROUP=SMC



## DC-IN Voltage Sense (VD0R)

Gain: 0.05322x  
Vnominal: 20 V, Range: 23.49 V  
SMC ADC: 00  
Enables DC-In VSense divider when AC present.  
2.2KHz

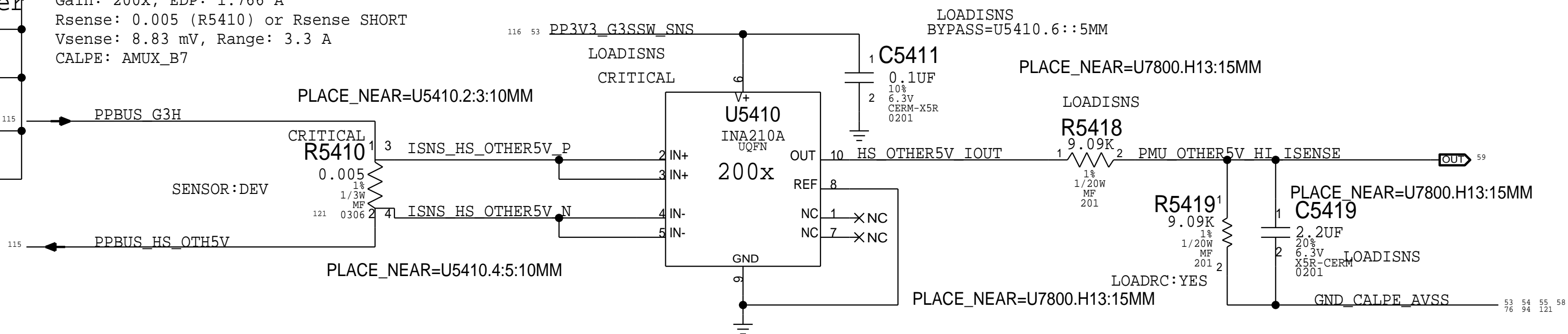


## J680 SENSOR SETTINGS

CHIP	Vref(V)	Vmax	SMC sample Freq.	ADR RC filter
H9M	1.25	1.8	10khz	0.1ms
CALPE	1.5	5	100hz	10ms
EADC	2.5	5	1-2hz (10hz)	100ms

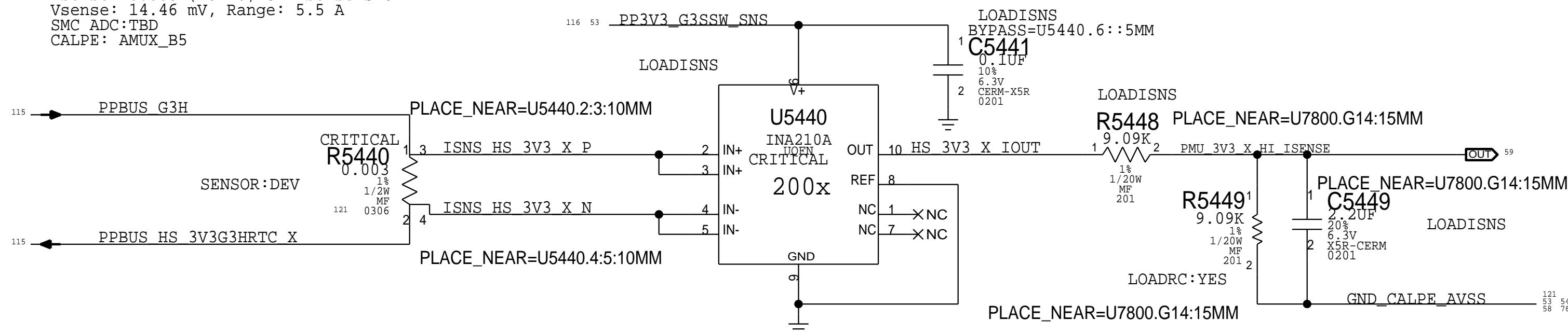
## OTHER 5V High Side Current Sense (IO5R)

Gain: 200x, EDP: 1.766 A  
Rsense: 0.005 (R5410) or Rsense SHORT  
Vsense: 8.83 mV, Range: 3.3 A  
CALPE: AMUX\_B7



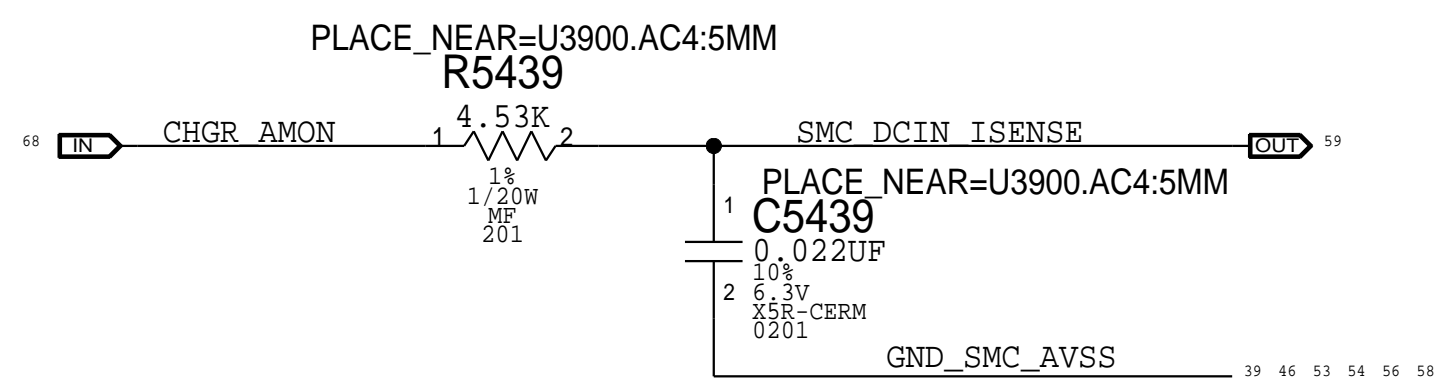
## LEFT SIDE 3.3V High Side Current Sense (IOLR)

Gain: 200x, EDP: 4.82 A  
Rsense: 0.003 (R5440) or Rsense SHORT  
Vsense: 14.46 mV, Range: 5.5 A  
SMC ADC: TBD  
CALPE: AMUX\_B5



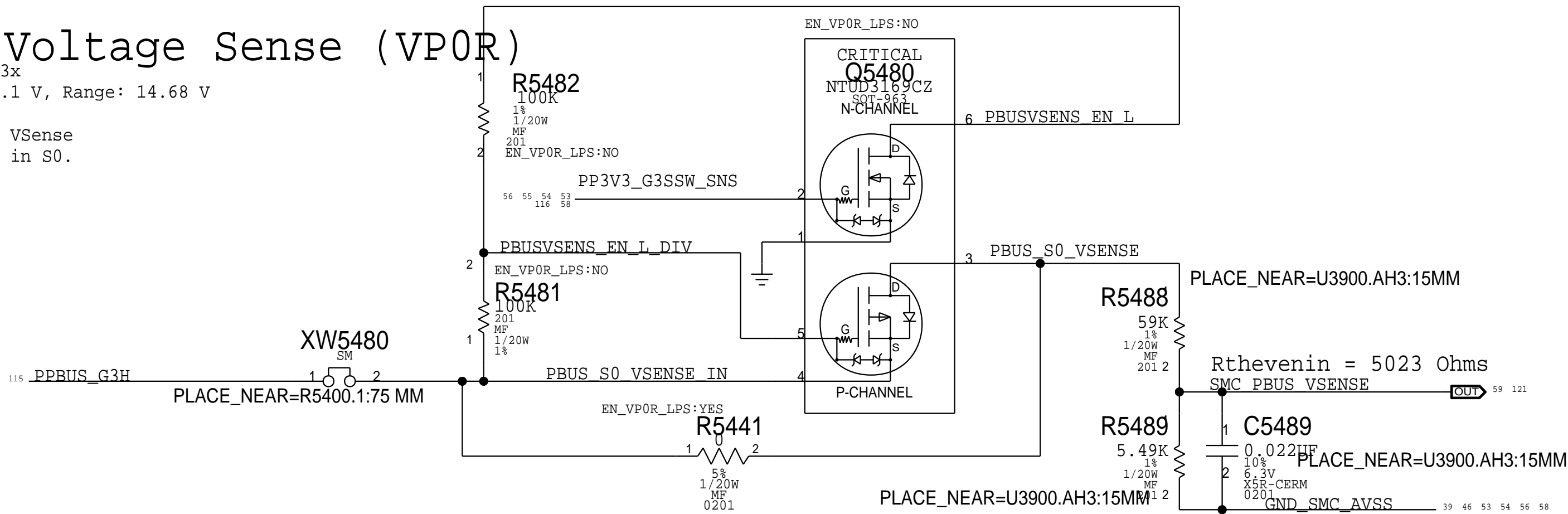
## DC-IN Current Sense (ID0R)

DISCharger Gain: 20x, EDP: 4.6 A  
Rsense: 0.010 (R7020)  
SMC ADC: 01



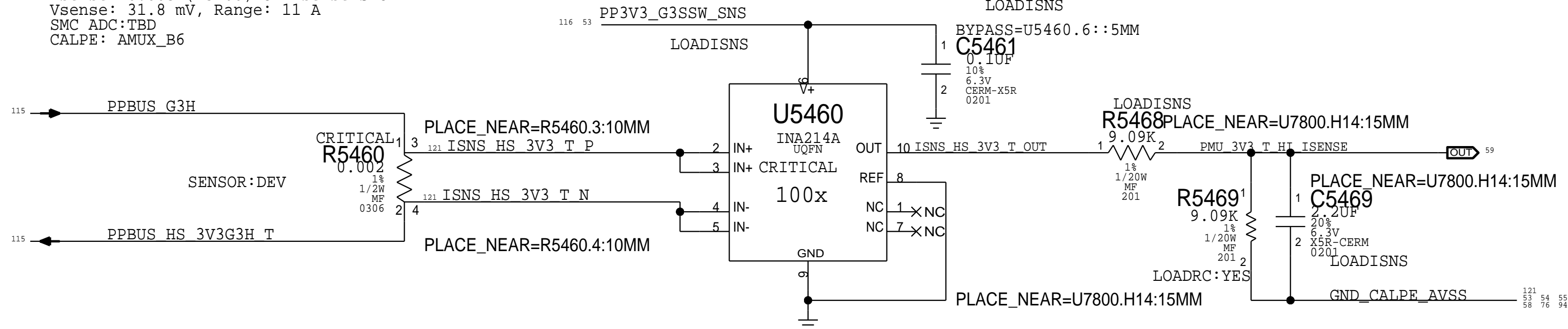
## PBUS Voltage Sense (VP0R)

Gain: 0.08513x  
Vnominal: 13.1 V, Range: 14.68 V  
SMC ADC: 02  
Enables PBUS VSense divider when in S0.  
divider when in S0.



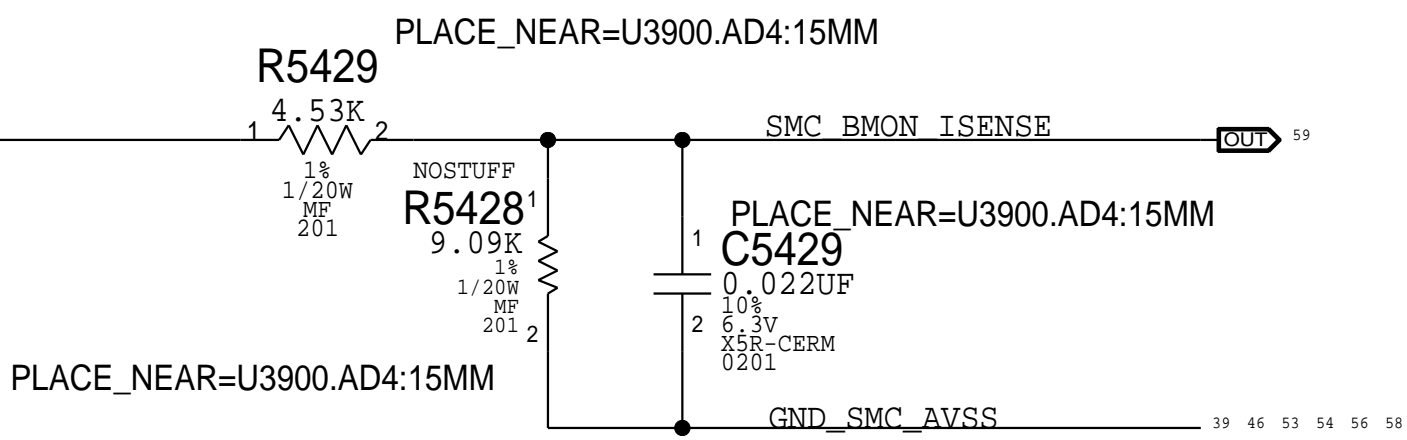
## RIGHT SIDE 3.3V High Side Current Sense (IORR)

Gain: 100x, EDP: 10.6 A  
Rsense: 0.003 (R5460) or Rsense SHORT  
Vsense: 31.8 mV, Range: 11 A  
SMC ADC: TBD  
CALPE: AMUX\_B6



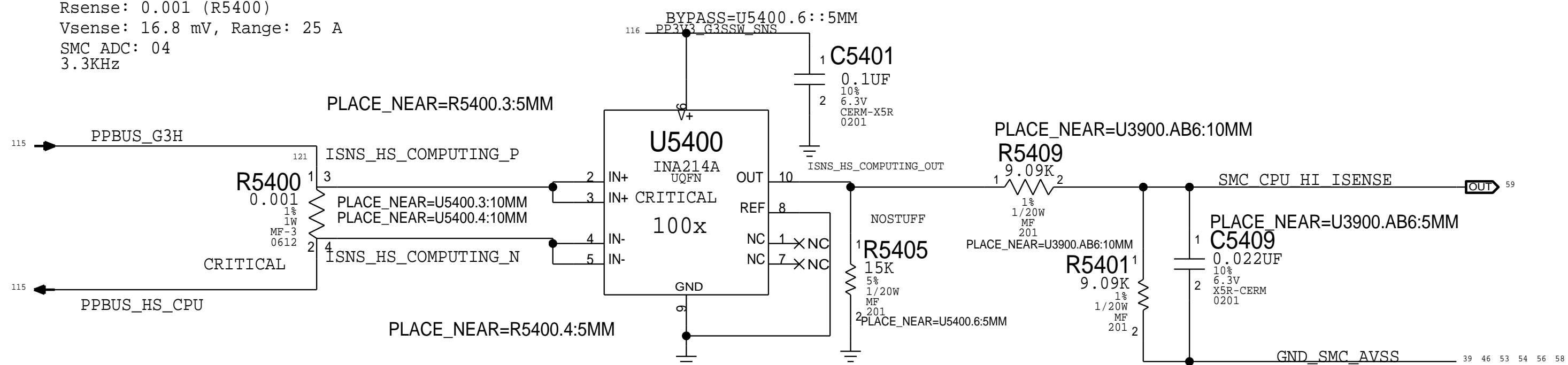
## Discharger BMON Current Sense (IPBR)

Charger Gain: 8X OR 64x, Use 8X, EDP: 25 A  
Rsense: 0.005 (R7060)  
SMC ADC: 03



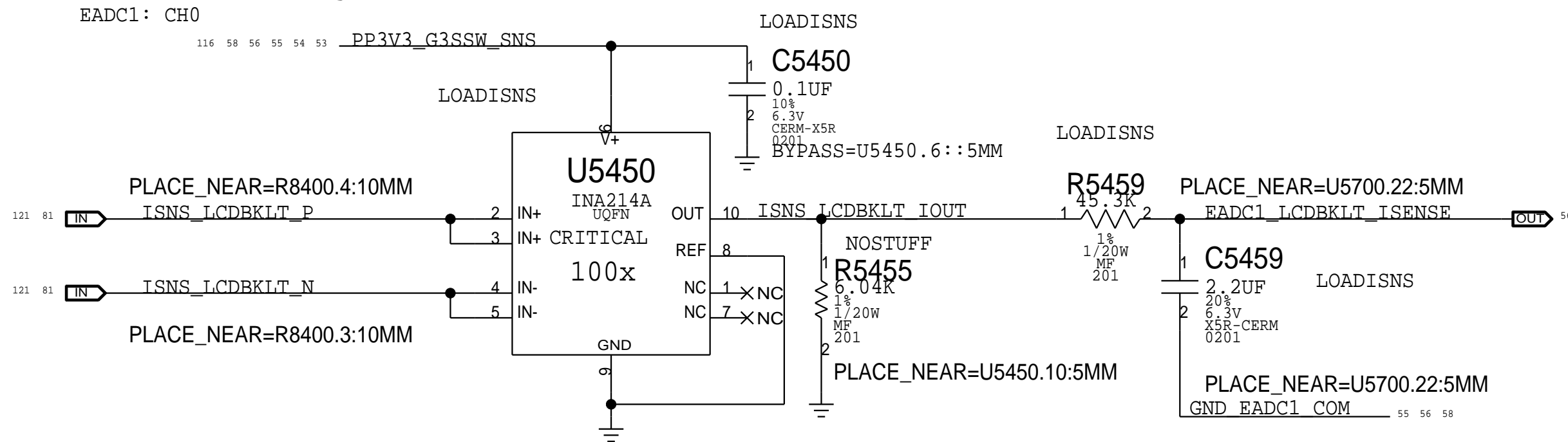
## CPU High Side Curent Sense (IC0R)

Gain: 100x, EDP: 16.8 A  
Rsense: 0.001 (R5400)  
Vsense: 16.8 mV, Range: 25 A  
SMC ADC: 04  
3.3KHz




## LCD Backlight Current Sense (IBLR)

Gain: 100x, EDP: 0.87 A  
Rsense: 0.025 (R8400)  
Vsense: 21.75 mV, Range: 1.32 A  
EADC1: CH0



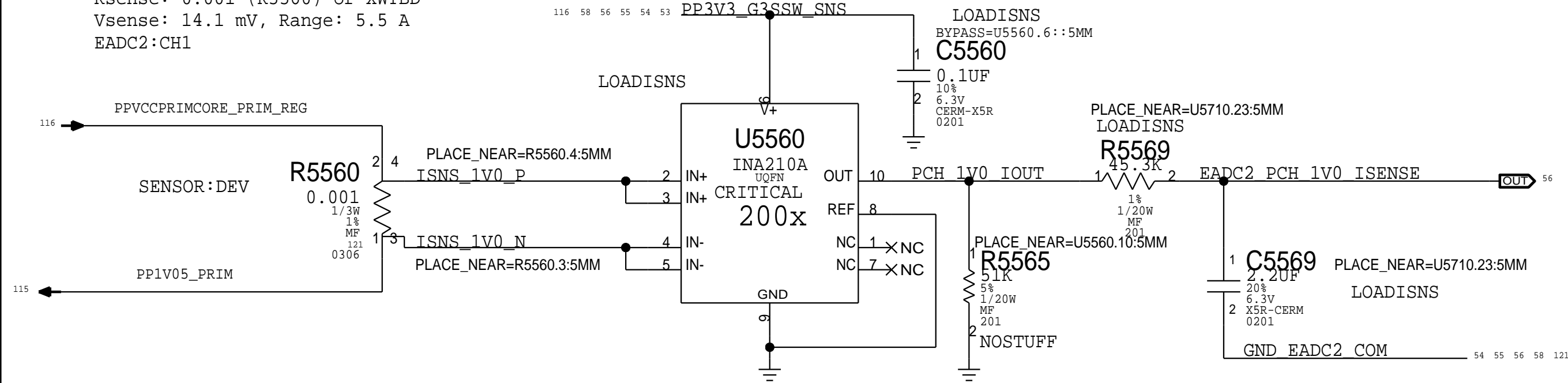
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PAGE TITLE		
Power Sensors High Side		
 Apple Inc.	DRAWING NUMBER	051-02643
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BOM\_COST\_GROUP=SENSORS

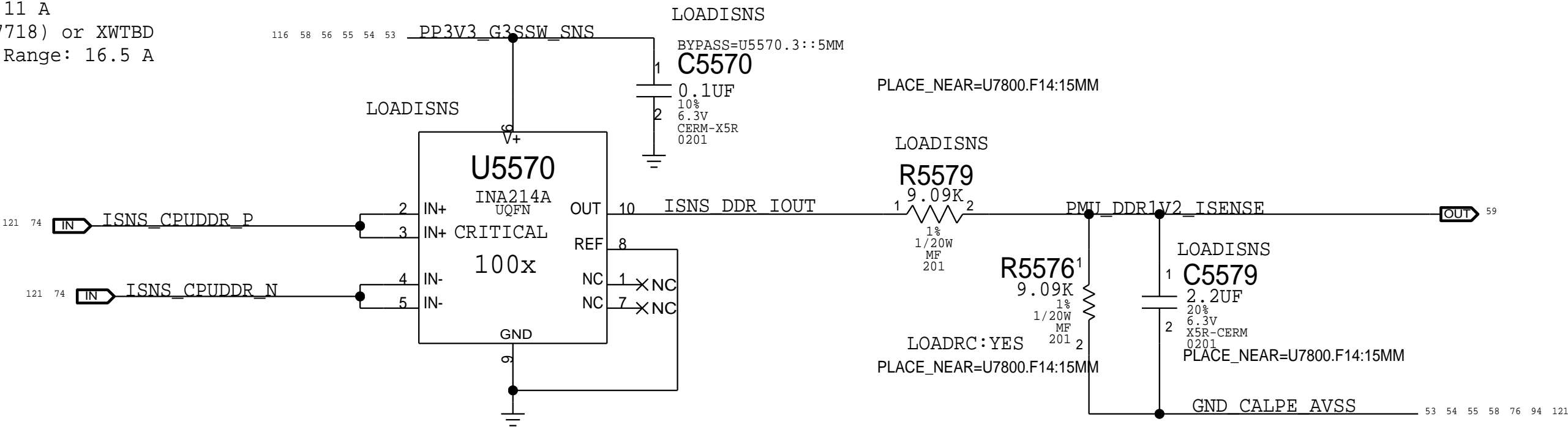
PCH 1.0V Current Sense (IS1C)

Gain: 200x, EDP: 4.7 A  
Rsense: 0.001 (R5560) or XWTBD  
Vsense: 14.1 mV, Range: 5.5 A  
EADC2:CH1



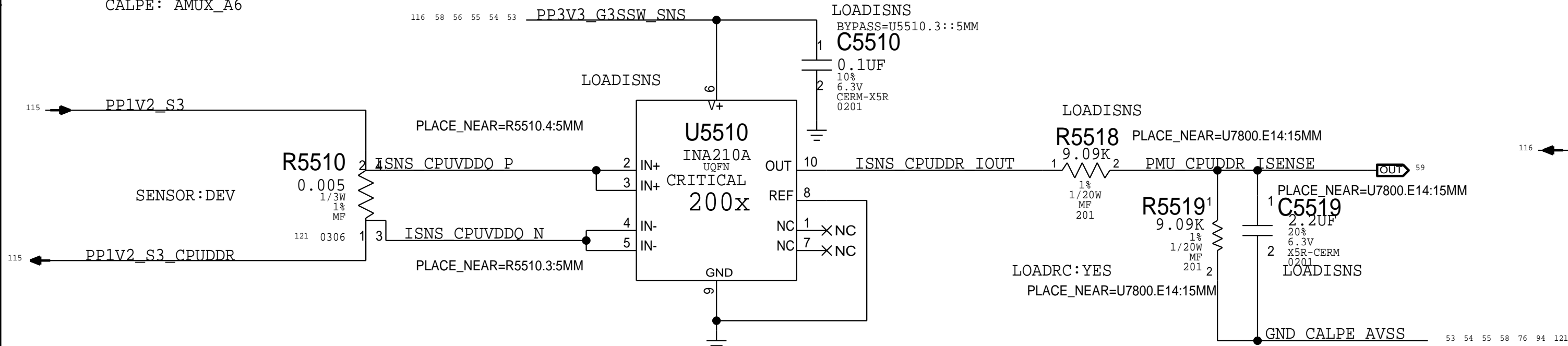
DDR4 1.2V Current Sense (IM0C)

Gain: 100x, EDP: 11 A  
Rsense: 0.002 (R7718) or XWTBD  
Vsense: 22.2 mV, Range: 16.5 A  
CALPE: AMUX\_A7



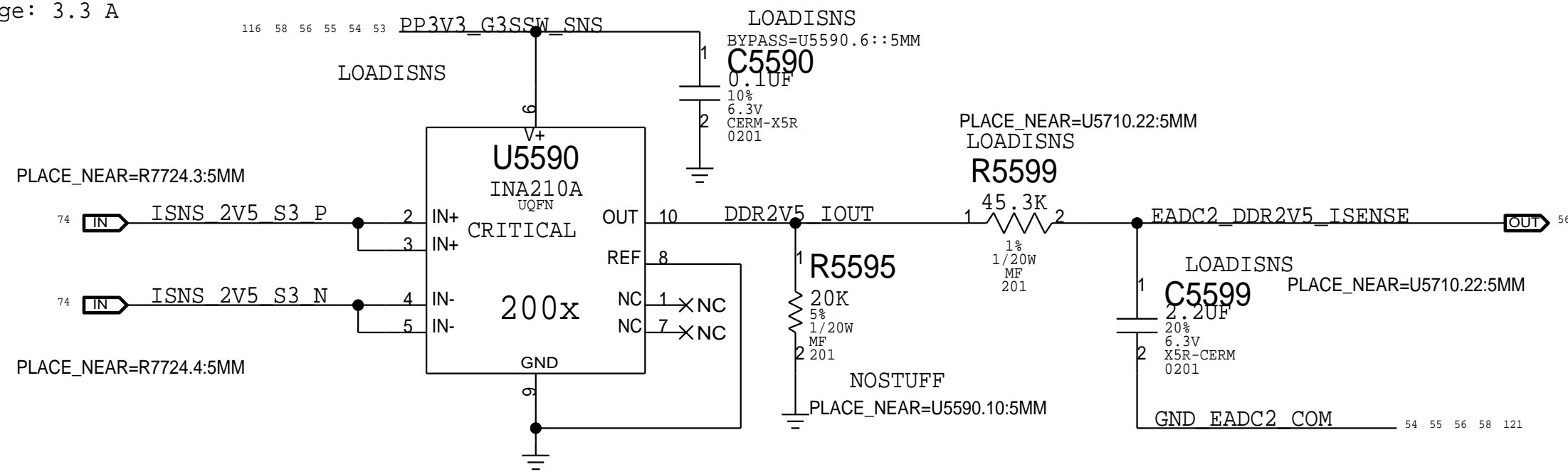
CPUDDR 1.2V Curent Sense (IMCC)

Gain: 200x, EDP: 2.8 A  
Rsense: 0.005 (R5510)  
Vsense: 14 mV, Range: 3 A  
CALPE: AMUX\_A6



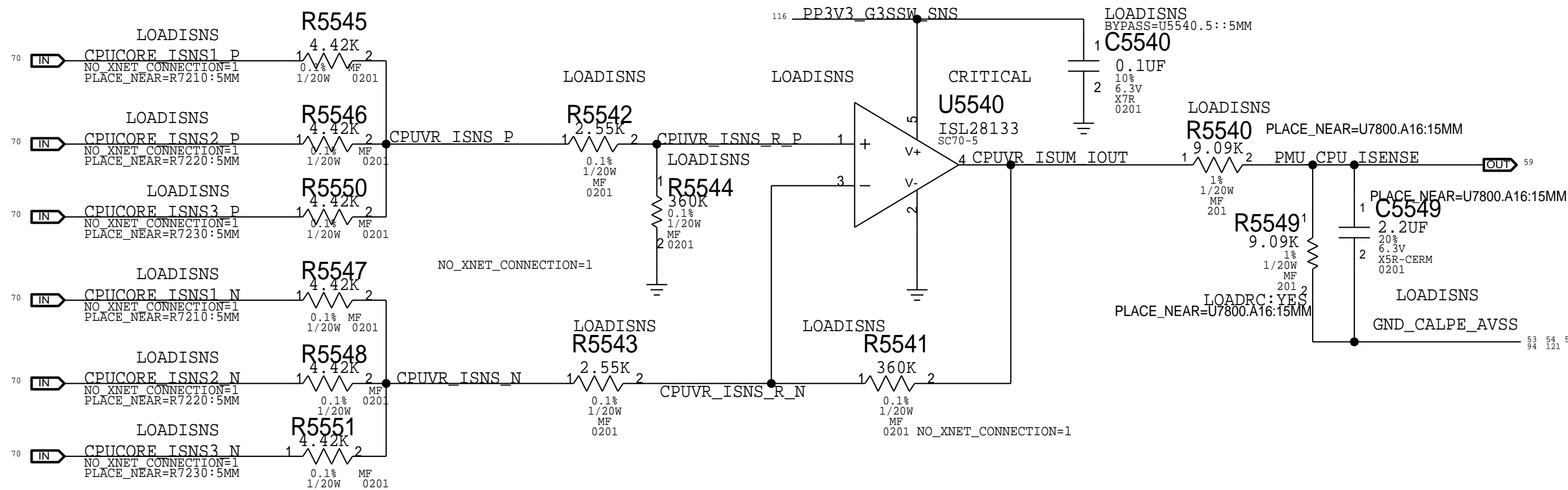
2.5V Current Sense (IM1C)

Gain: 200x, EDP: 2.24 A  
Rsense: 0.005 (R7724) or Rsense SHORT  
Vsense: 11.2 mV, Range: 3.3 A  
EADC2: CH0



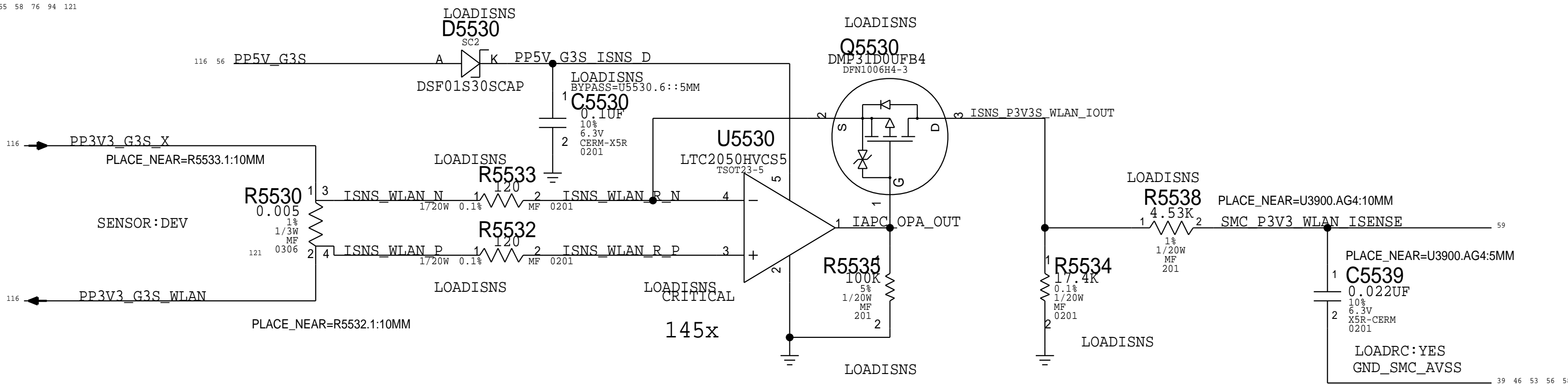
CPU Core Curent Sense (ICAC)

Gain: 89.48x, EDP: 128 A  
Rsense: 3x of 0.00075  
R7210,R7220,R7230),Rsum: 0.00025  
Vsense:16.75 mV, Range: 134.11 A  
CALPE AMUX: A0



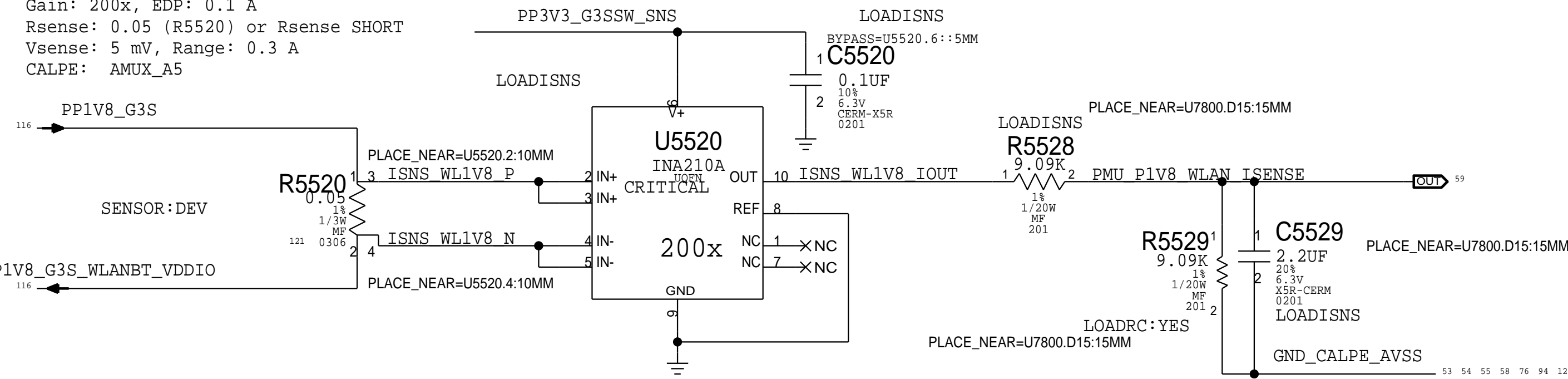
WLANBT 3V3 Current Sense (IAPC)

Gain: 200x, EDP: 1.5 A  
Rsense: 0.005 (R5530) or Rsense SHORT  
Vsense: 7.5 mV, Range: 1.72 A  
SMC: ADC 06



WLANBT 1V8 Current Sense (IA8C)

Gain: 200x, EDP: 0.1 A  
Rsense: 0.05 (R5520) or Rsense SHORT  
Vsense: 5 mV, Range: 0.3 A  
CALPE: AMUX\_A5

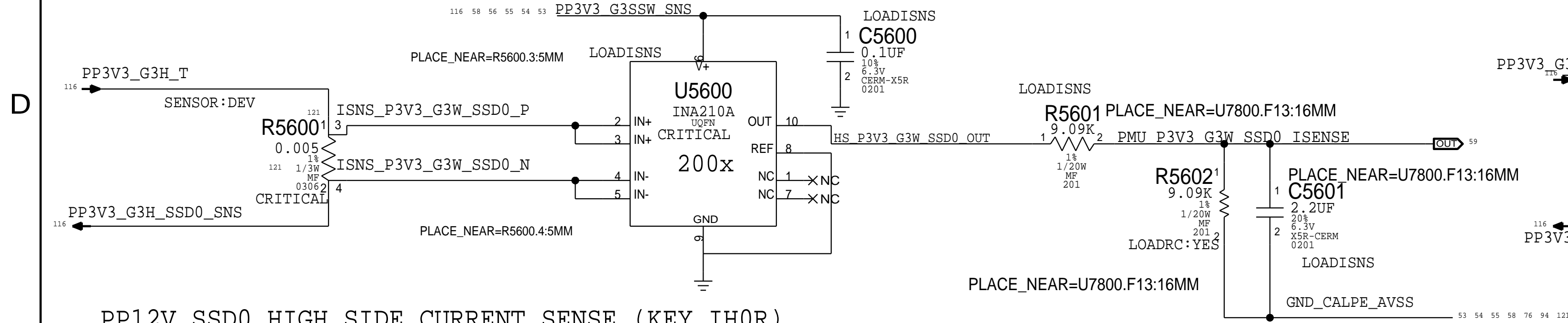


PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
117S0008	5	RBS,MTL FLIM,100K,1/16W,0201,SMD,LP	R5576,R5519,R5549,C5539,R5529		LOADRC:NO

PAGE TITLE		
Power Sensors Load Side		
Apple Inc.	DRAWING NUMBER	051-02643
	REVISION	4.0.0
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	PAGE	55 OF 200
	SHEET	54 OF 131

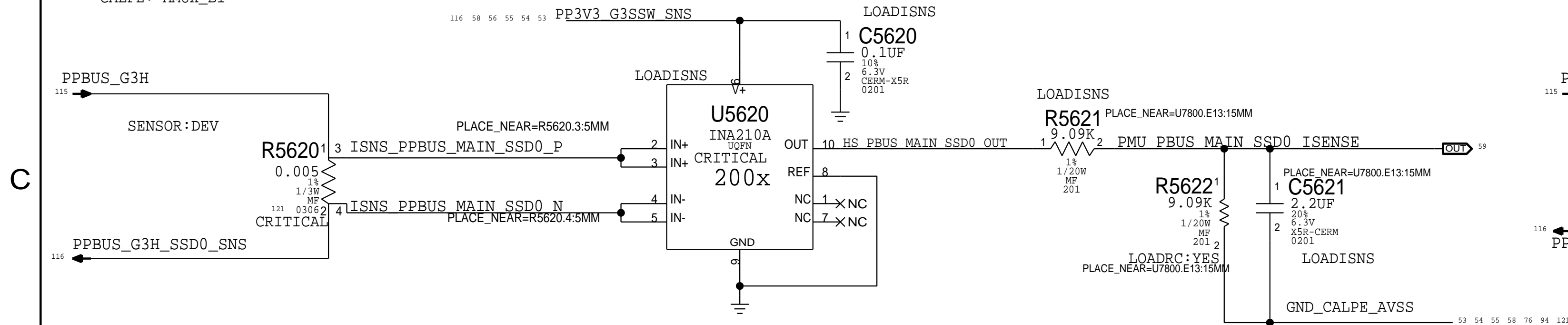
## PP3V3\_G3W\_SSD0 HIGH SIDE CURRENT SENSE (KEY IH0C)

```
GAIN: 200X, EDP: 1.48 A
RSENSE: 0.005 (RK710) OR RSENSE SHORT
VSENSE: 13 MV, RANGE: 2.5 A
CALPE: AMUX_B3
```



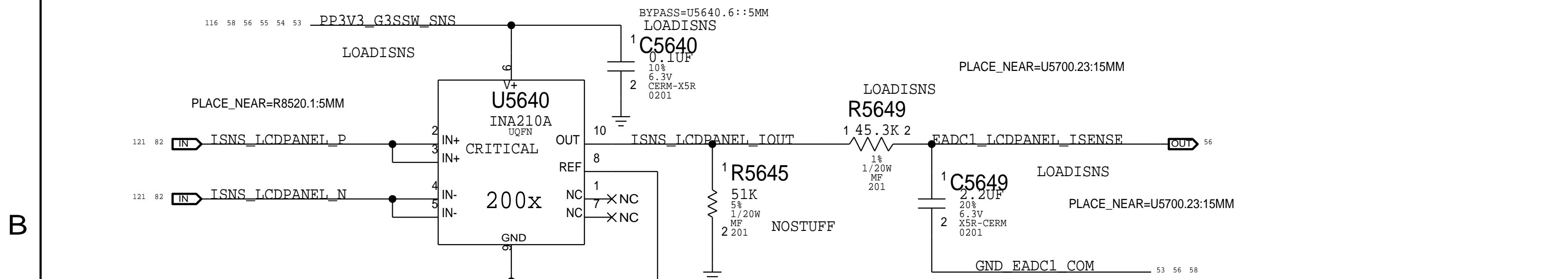
## PP12V SSD0 HIGH SIDE CURRENT SENSE (KEY IH0R)

```
GAIN: 200X, EDP: 0.5 A
RSENSE: 0.005 (RK610) OR RSENSE SHORT
VSENSE: 13 MV, RANGE: 2.5 A
CALPE: AMUX_B1
```



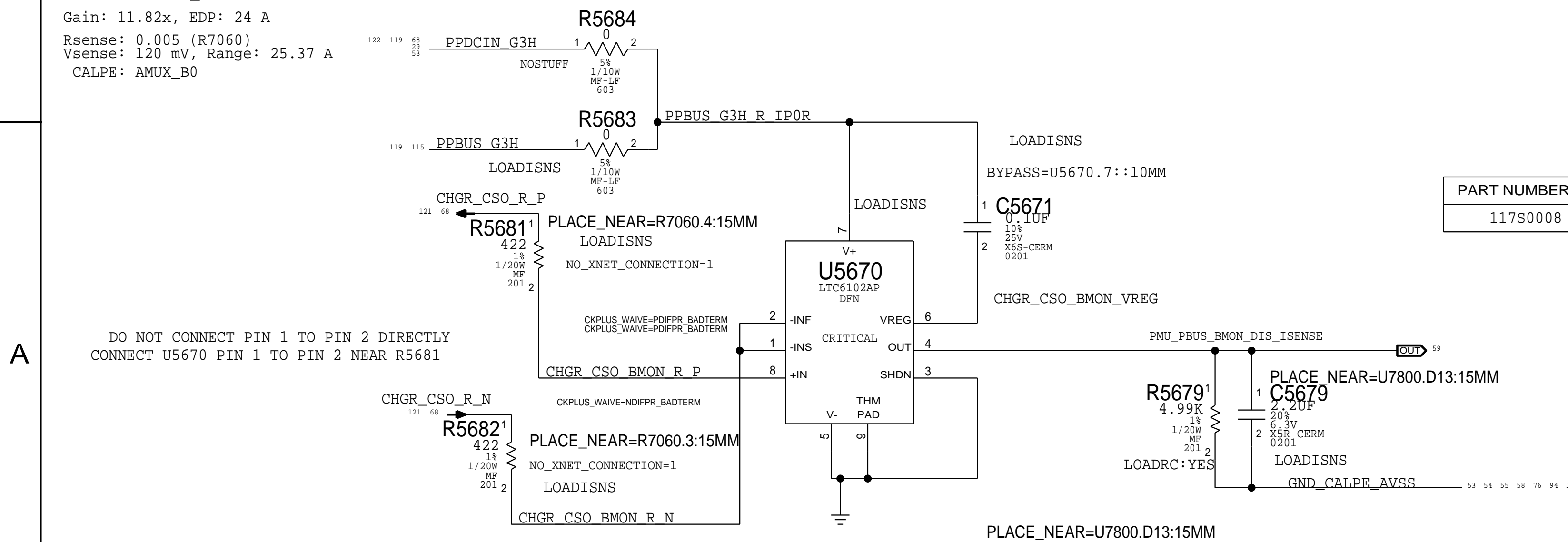
## LCD Panel Current Sense (ILDC)

Gain: 200x. EDP: 1 A  
RSENSE: 0.01 (R8520) or Rsense SHORT  
Vsense: 5 mV, Range: 1.25 A  
EADC1: CH1



## Battery BMON Discrete Current Sense (IP0R)

```
Gain: 11.82x, EDP: 24 A
Rsense: 0.005 (R7060)
Vsense: 120 mV, Range: 25.37 A
CALPE: AMUX_B0
```

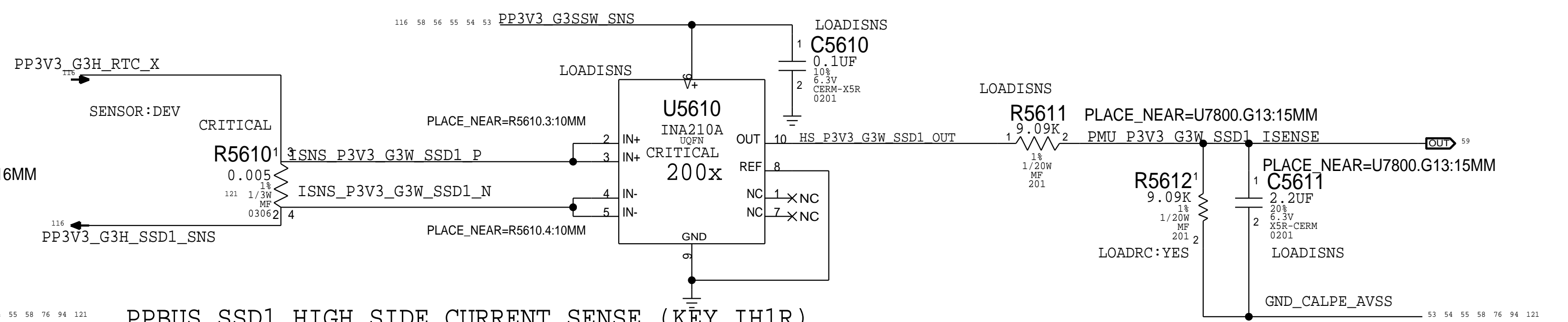


## PP3V3 G3W SSD1 HIGH SIDE CURRENT SENSE (KEY IH1C)

```

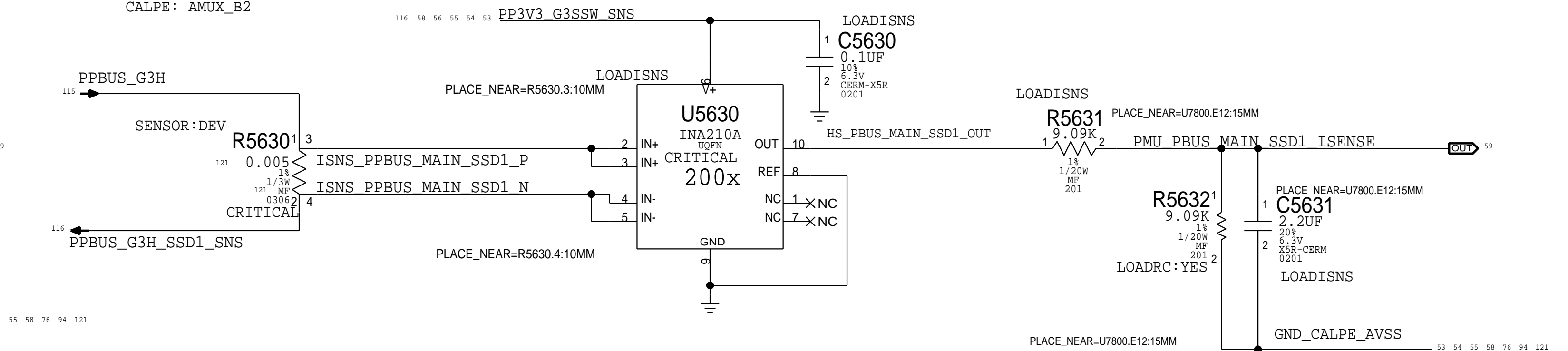
GAIN: 200X, EDP: 1.48 A
RSENSE: 0.005 (RK760) OR RSENSE SHORT
VSENSE: 13 MV, RANGE: 2.5 A
CALPE: AMUX_B4

```



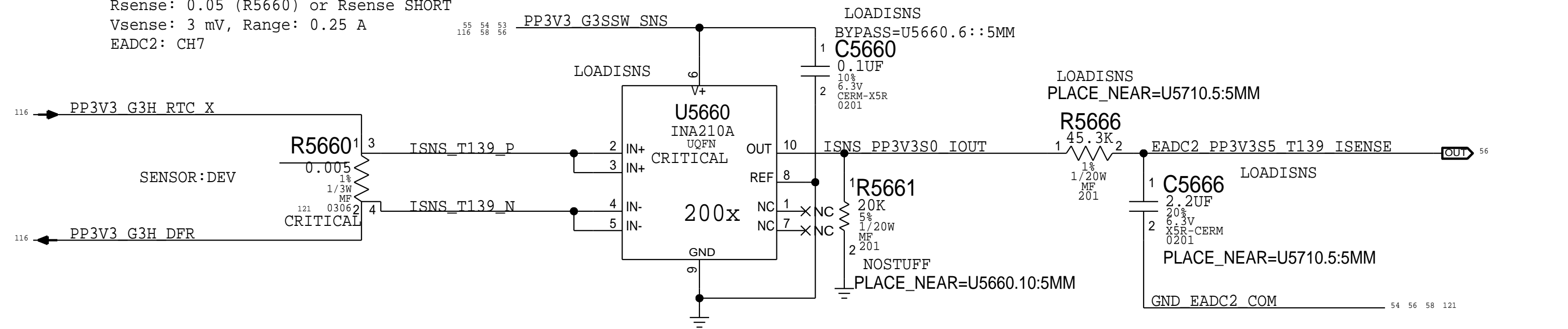
## PPBUS SSD1 HIGH SIDE CURRENT SENSE (KEY IH1R)

```
GAIN: 200X, EDP: 0.5 A
RSENSE: 0.005 (R5607) OR RSENSE SHORT
VSENSE: 13 MV, RANGE: 2.5 A
CALPE: AMUX_B2
```




## T139 Current Sense (IF3C)

Gain: 200x, EDP: 0.06 A  
Rsense: 0.05 (R5660) or Rse  
Vsense: 3 mV, Range: 0.25 A  
EADC2: CH7



PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
117S0008	5	RES,MTL FLIM,100K,1/16W,Q201,SMD,LF	R5602,R5612,R5622,R5632,R5679		LOADRC:NO

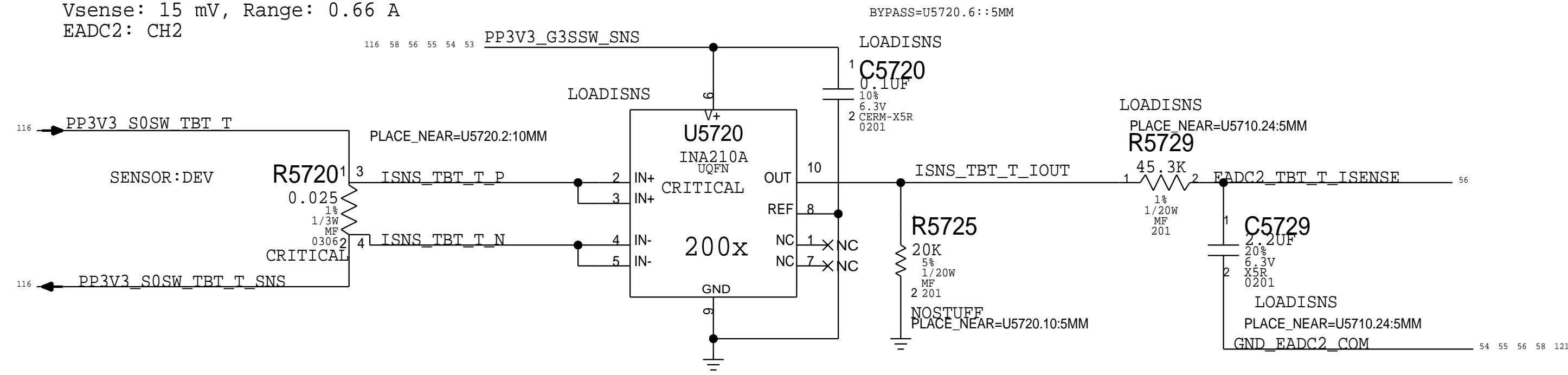
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Power Sensors Extended 1		051-02643		D	
 Apple Inc.		REVISION		4.0.0	
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		SHEET		55 OF 131	

BOM\_COST\_GROUP=SENSORS



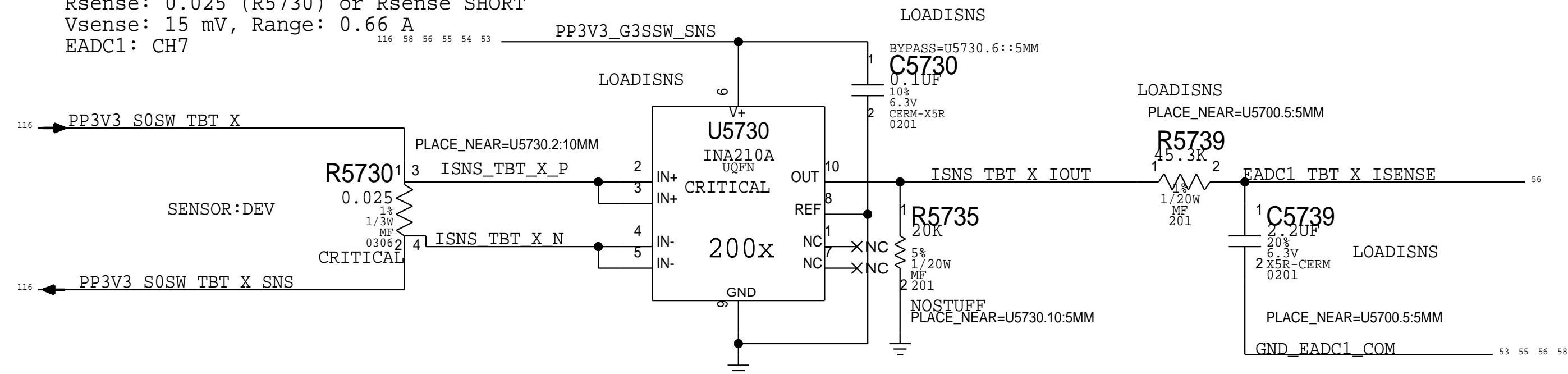
## Thunderbolt TBT RIGHT Current Sense (IURC)

Gain: 200x, EDP: 0.6 A  
Rsense: 0.025 (R5720) or Rsense SHORT  
Vsense: 15 mV, Range: 0.66 A  
EADC2: CH2



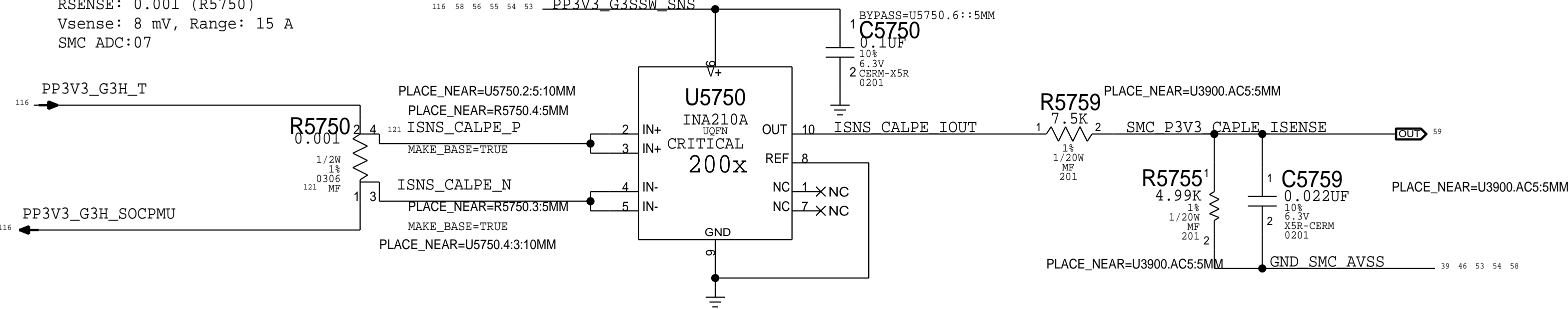
## Thunderbolt TBT LEFT Current Sense (IULC)

Gain: 200x, EDP: 0.6 A  
Rsense: 0.025 (R5730) or Rsense SHORT  
Vsense: 15 mV, Range: 0.66 A  
EADC1: CH7



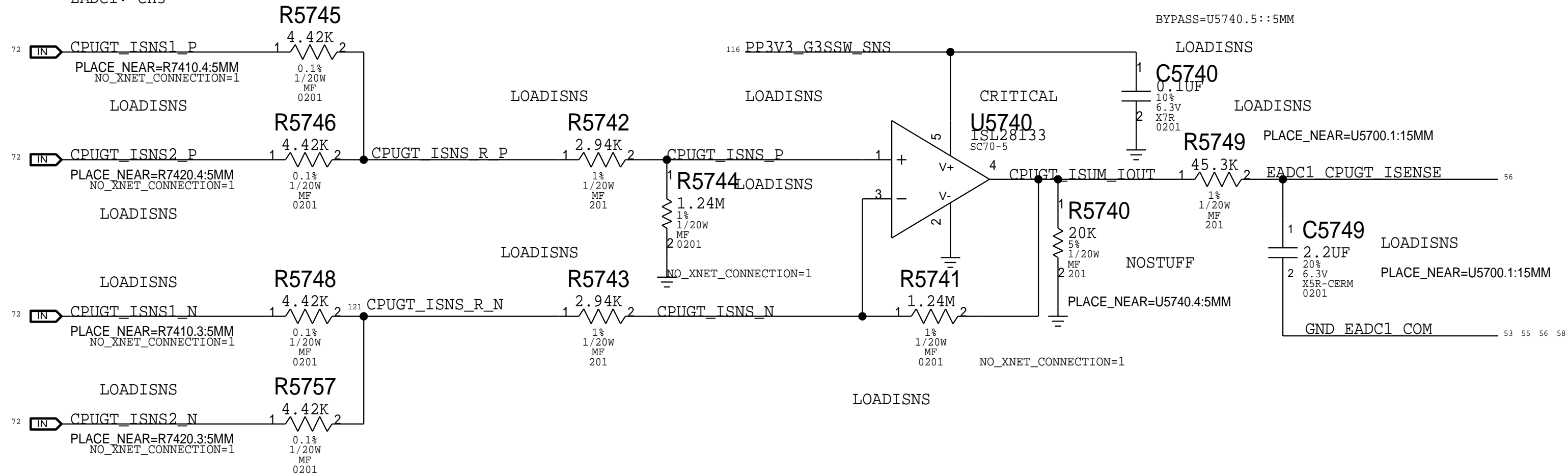
## Calpe 3V3 Current Sense (ISLC)

Gain: 200x, EDP: 8 A  
RSENSE: 0.001 (R5750)  
Vsense: 8 mV, Range: 15 A  
SMC ADC: 07



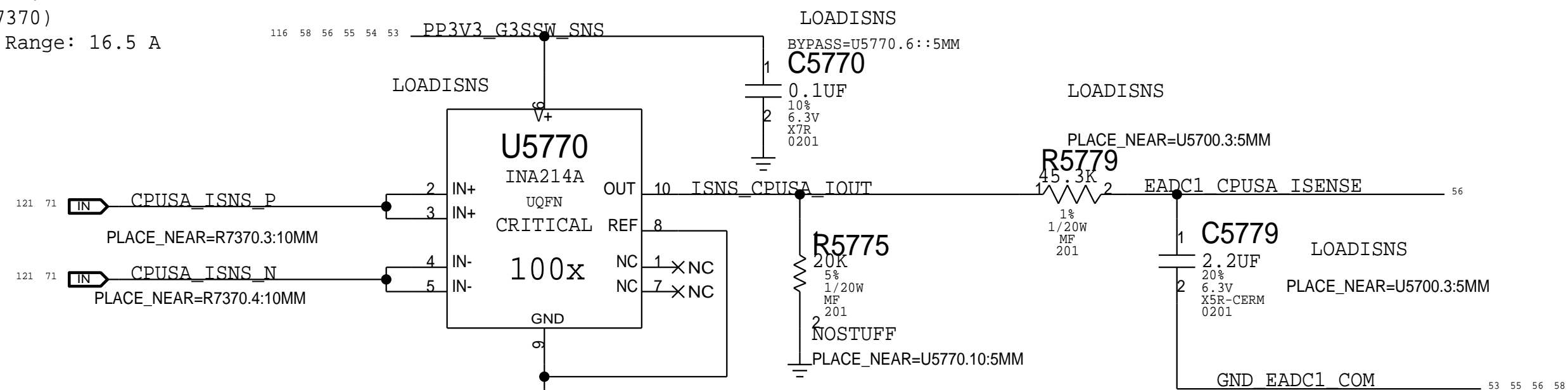
## CPU GT Current Sense (ICTC)

Gain: 240.78x, EDP: 32 A  
Rsense: 2x of 0.00075 (R7410, R7420), Rsum: 0.000375  
Vsense: 12 mV, Range: 36.55 A  
EADC1: CH3



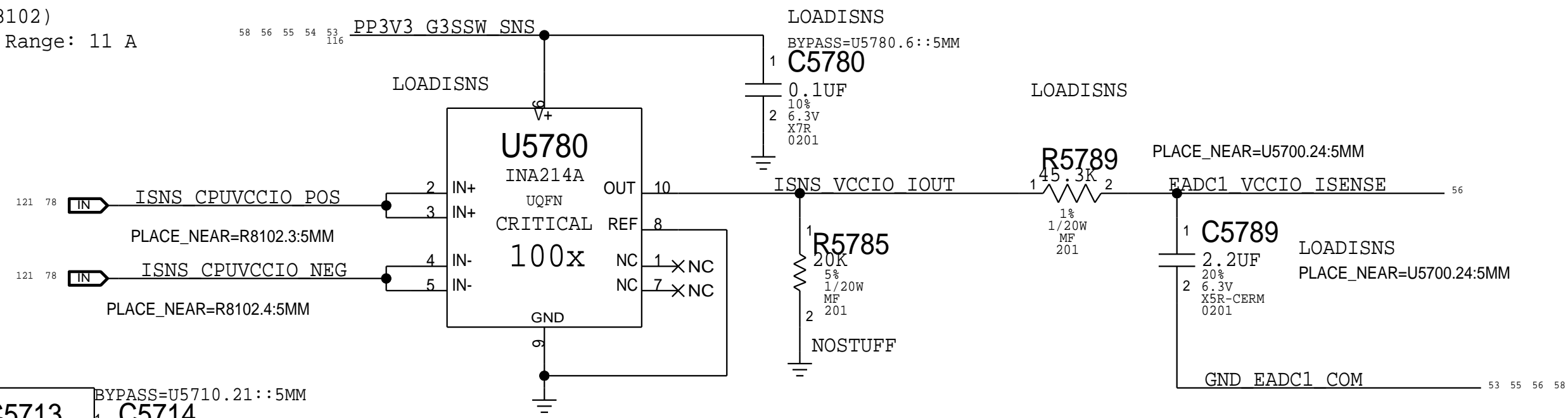
## CPU SA Current Sense (ICSC)

Gain: 100x, EDP: 11.1 A  
Rsense: 0.002 (R7370)  
Vsense: 22.2 mV, Range: 16.5 A  
EADC1: CH5

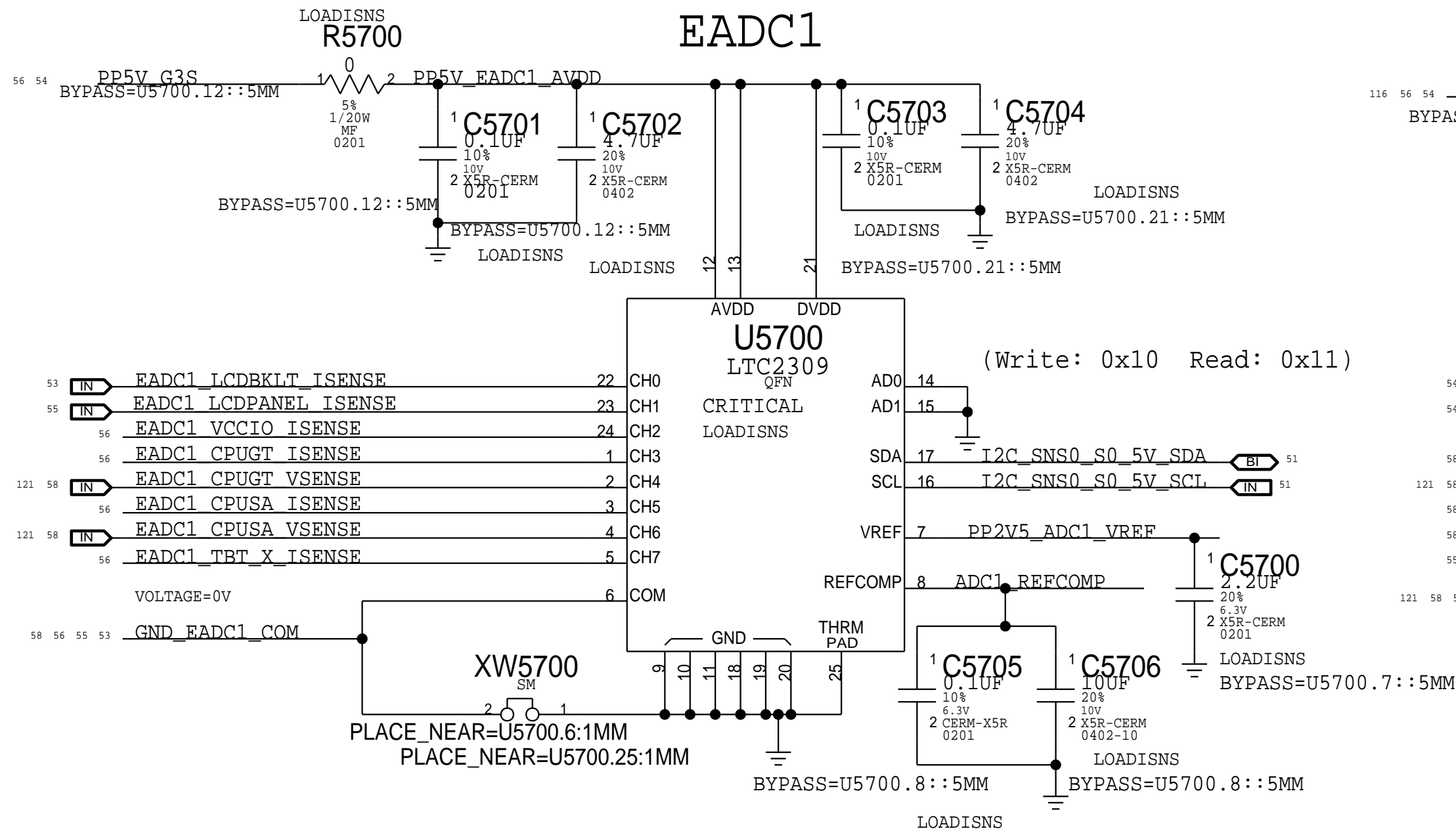


## CPU VCCIO Current Sense (ICIC)

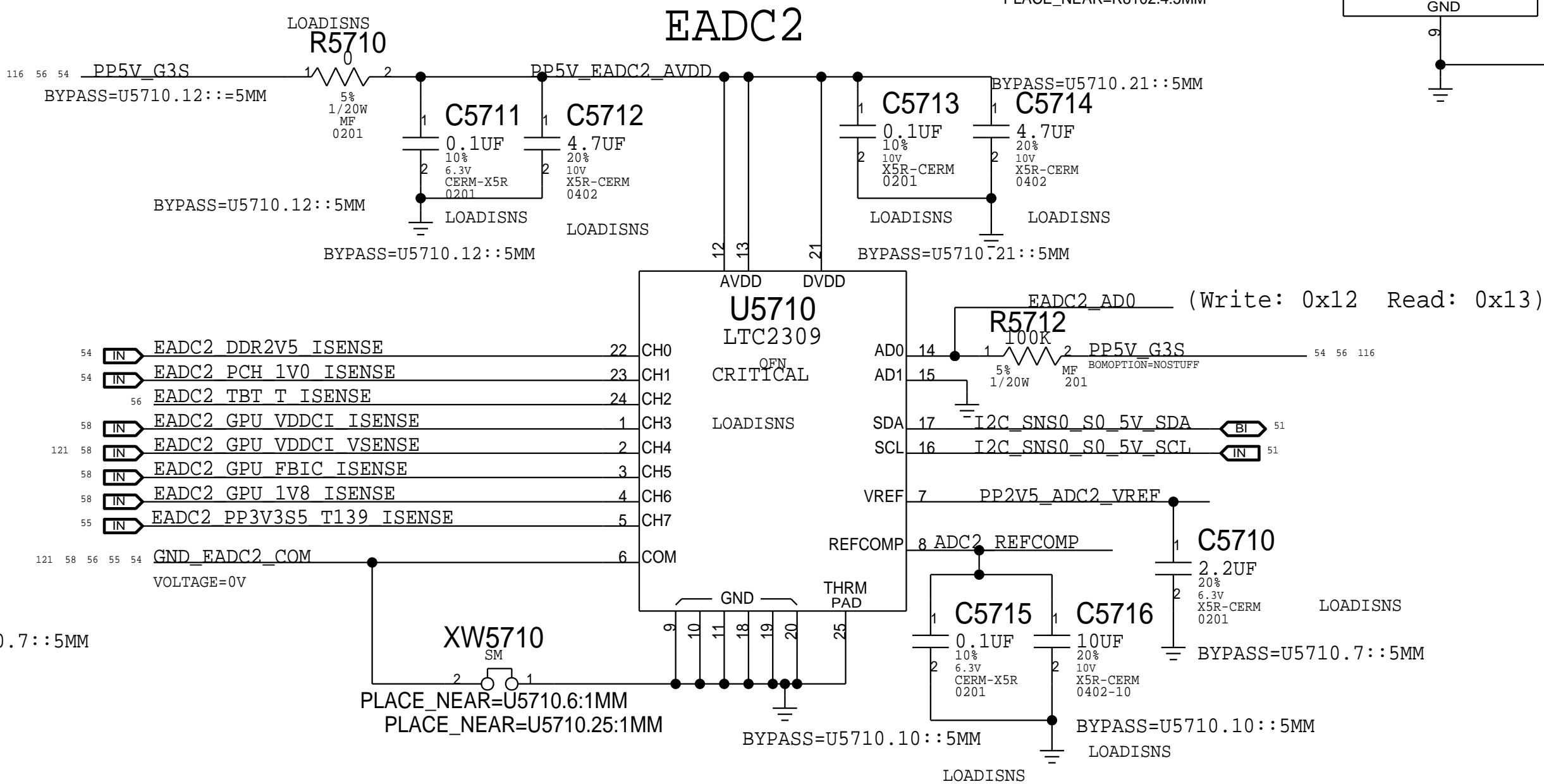
Gain: 100x, EDP: 6.4 A  
Rsense: 0.003 (R8102)  
Vsense: 19.2 mV, Range: 11 A  
EADC1: CH2



## EADC1

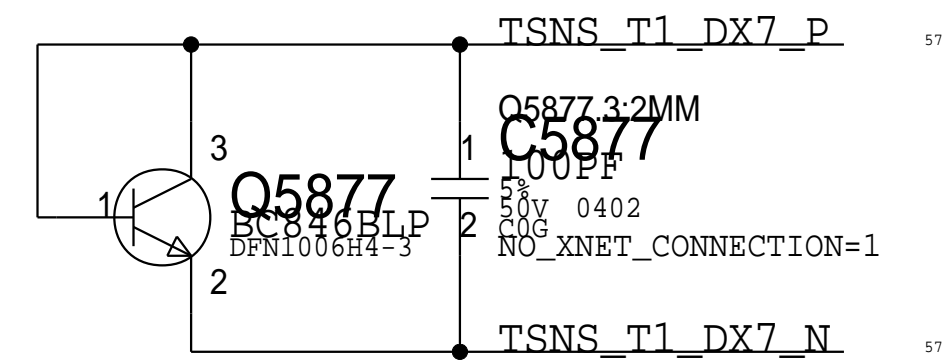
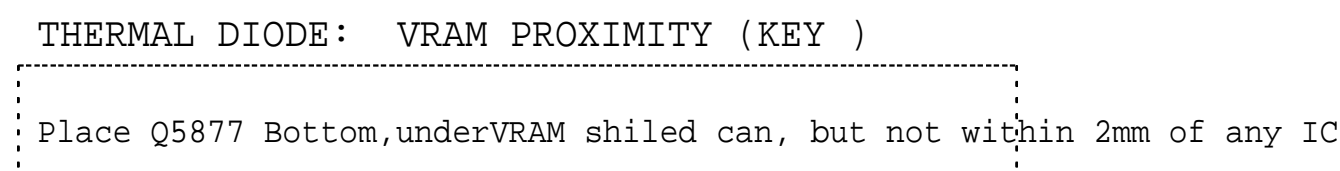


## EADC2



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	SHEET	56 OF 131

BOM\_COST\_GROUP=SENSORS

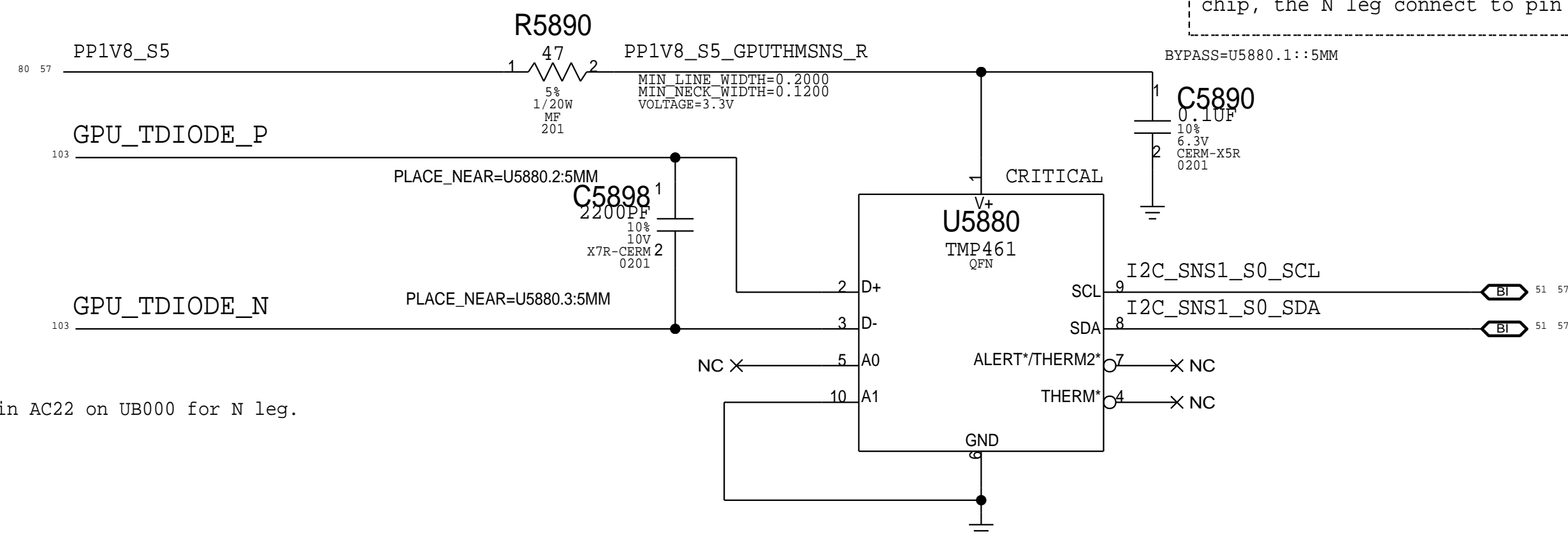


```

THERMAL DIODE: GPU ANALOG DIE (KEY TA0P)
-----
Connect GPU Analog Die to U5870 channel 8

```

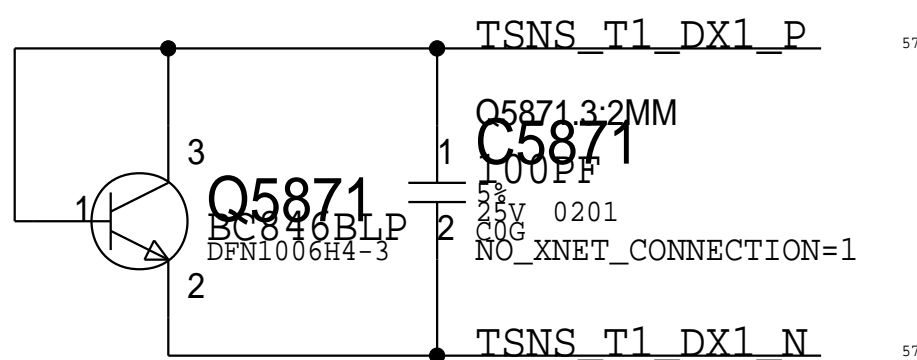
GPU Digital DIE TG0D:  
U5880 I2C Address:TMP461 A0->Floating A1->GND 0X92/0X93



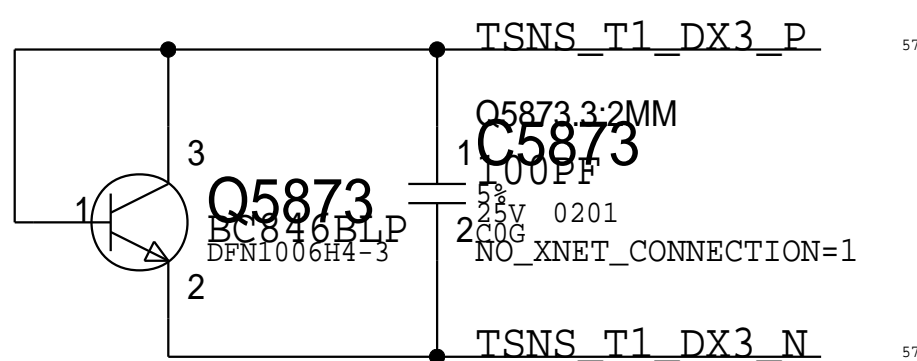
THERMAL DIODE: CPU PROX (KEY TC0P)

---

Placement Note:  
Place Q5871 under the CPU ON BOTTOM SIDE

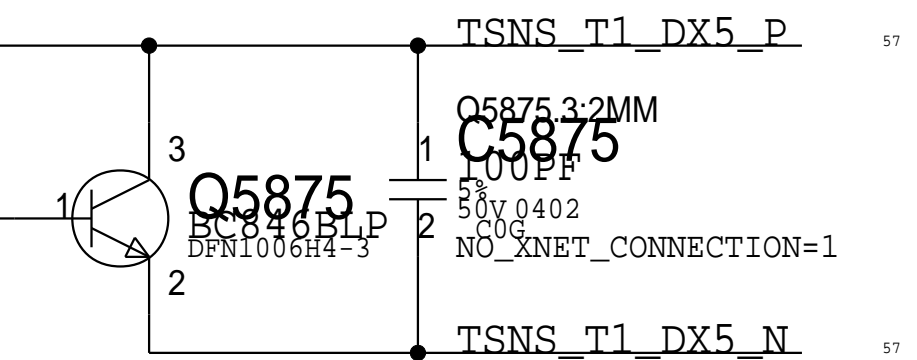


-----  
THERMAL DIODE: FIN STACK RIGHT (KEY TH1H)  
-----  
Placement Note:  
-----  
Place Q5873 AT THE CORNER NEAR RIGHT FAN, ON THE TOP SIDE  
-----



THERMAL DIODE: X100 PROXIMITY (KEY TWOP)

Place Q5875 near X100 on bottom



```

Thermal Sensor A:
Thunderbolt Die,  Airflow Left
U5850 I2C Address:TMP461 A1->Floating A0->Floating 0X98/0X99

```

Thermal Diode: TBT Die (TTLD)

-----

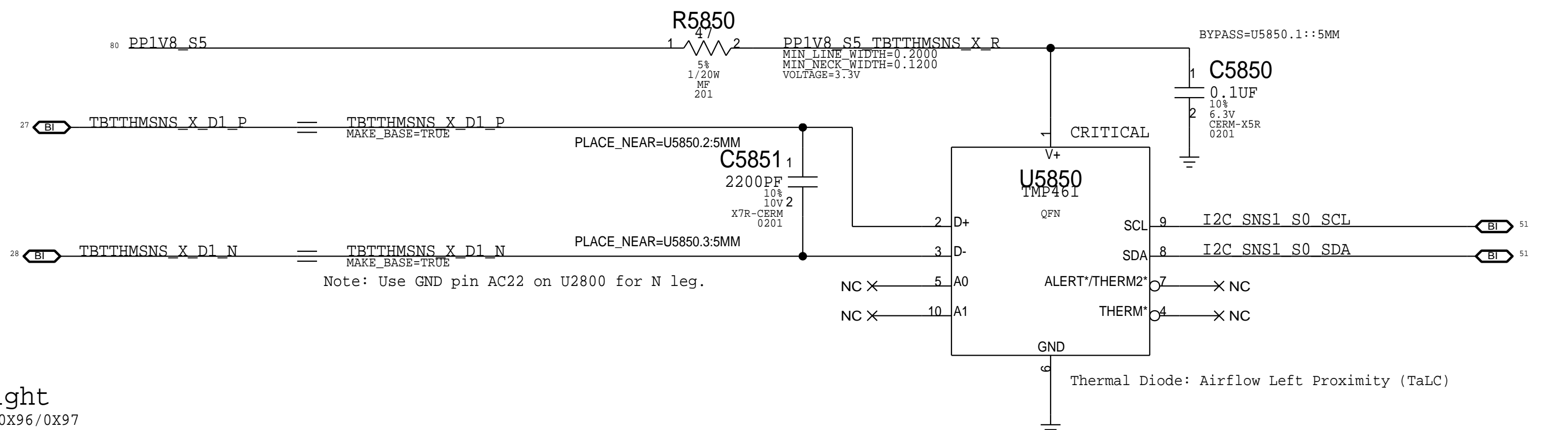
Placement Note:  
The P leg connects to THERMDA pin of the TBT chip, the N leg connect to pin AC22.

```

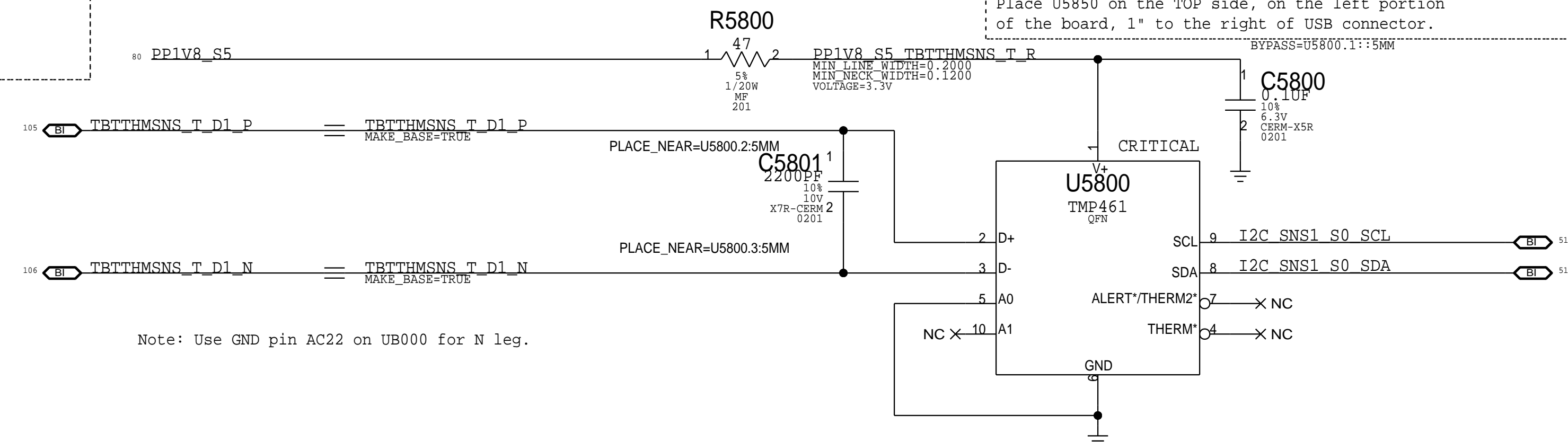
Thermal Sensor C:
Thunderbolt Die, Air Flow Right
U5800 I2C Address:TMP461 A1->Floating A0->GND 0X96/0X97
Thermal Diode: TBT Die (TTRD)

```

**Placement Note:**  
The P leg connects to THERMDA pin of the TBT chip, the N leg connect to pin AC22.

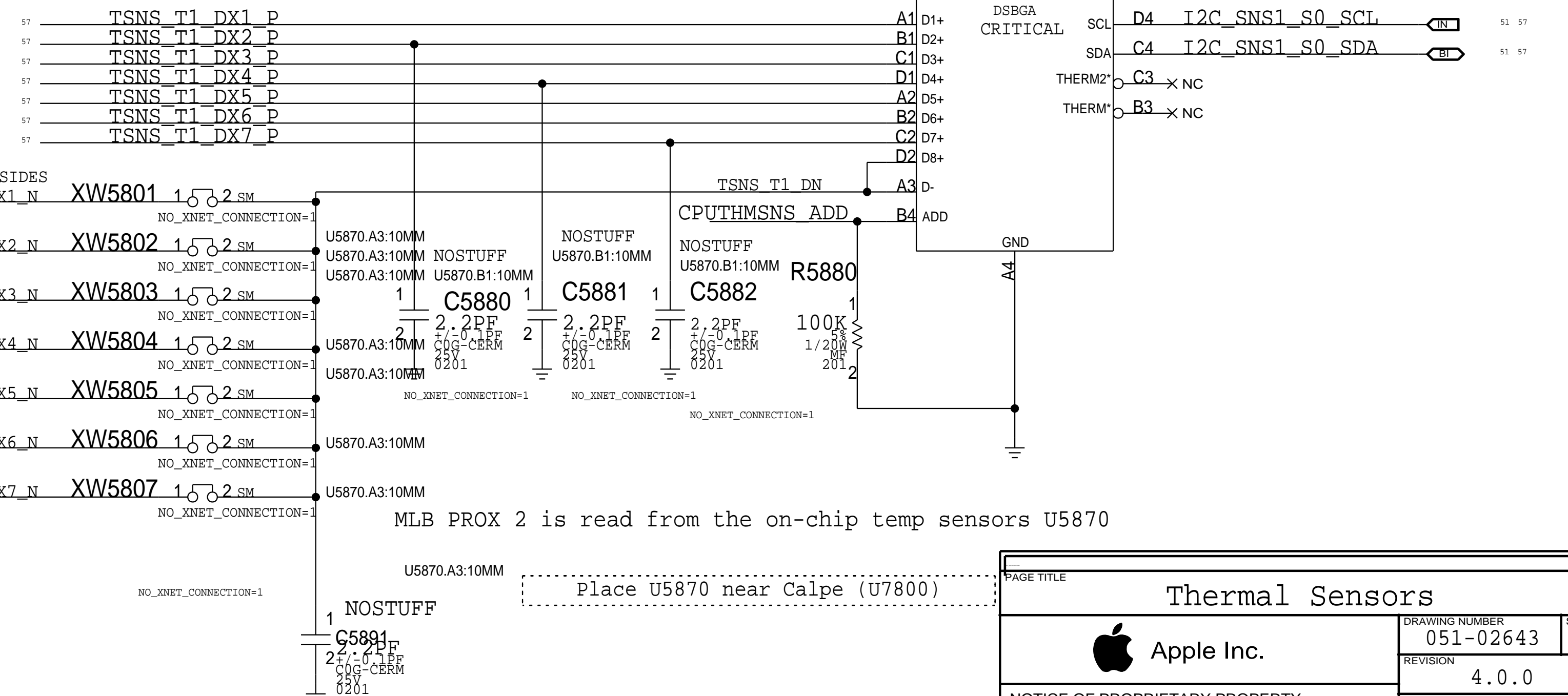
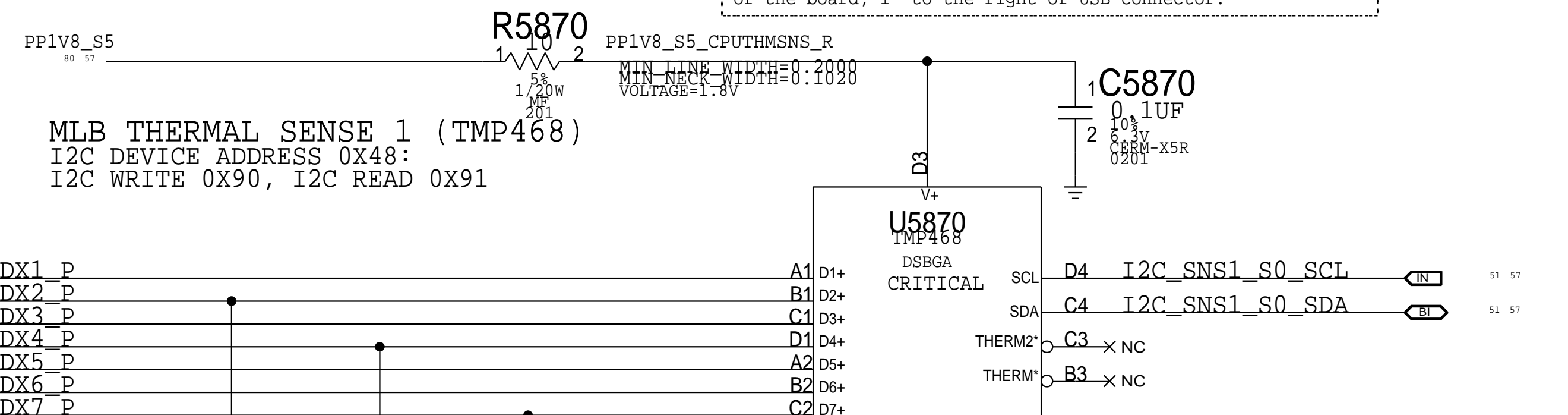


```
-----
Placement Note:
Place U5850 on the TOP side, on the left portion
of the board, 1" to the right of USB connector.
-----
```




Thermal Diode: Airflow Right Proximity (TaRC)

Placement Note:  
Place U5800 on the TOP side, on the left portion  
of the board, 1" to the right of USB connector.



MLB PROX 2 is read from the on-chip temp sensors U5870

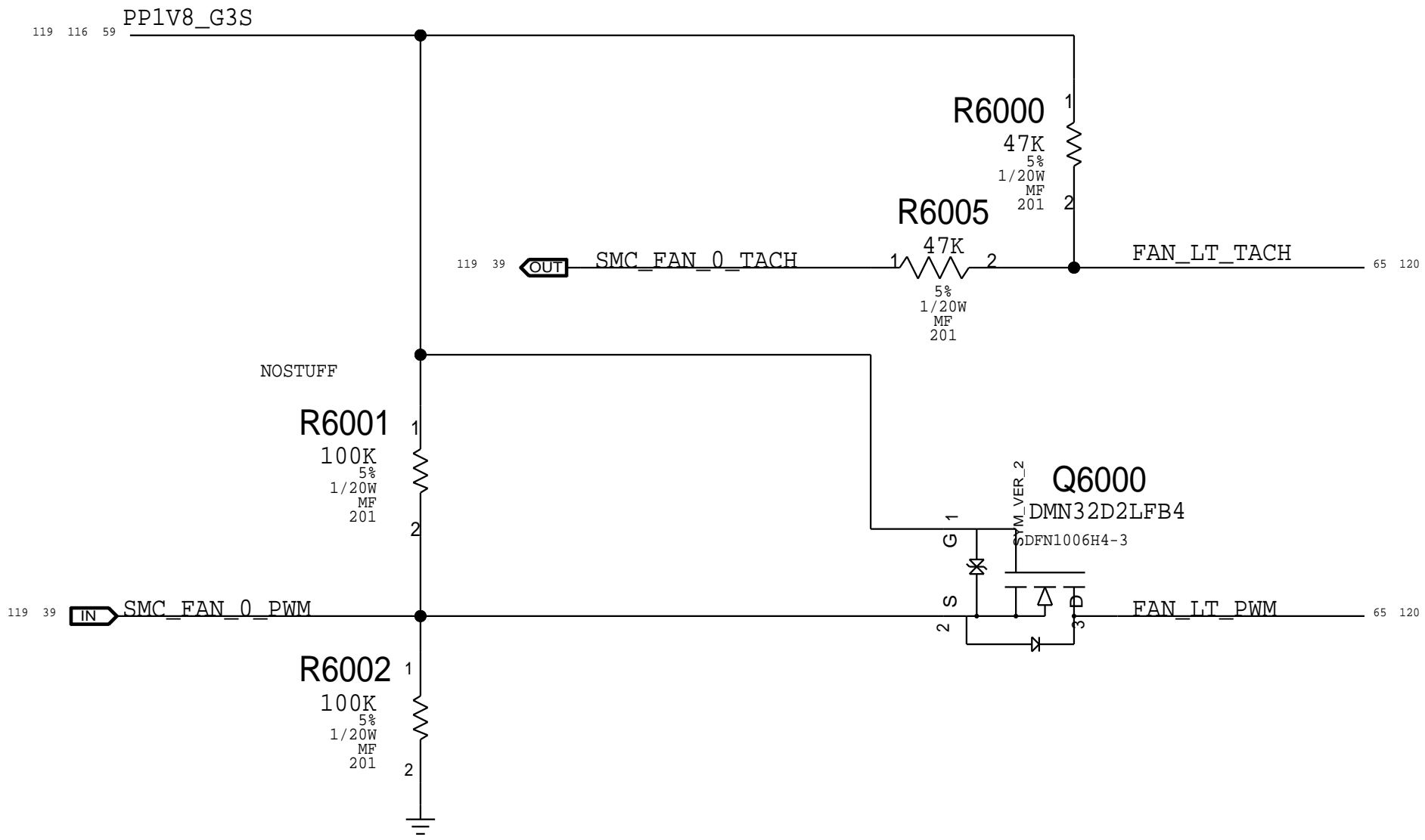
Place U5870 near Calpe (U7800)

PAGE TITLE		Thermal Sensors	
 Apple Inc.	DRAWING NUMBER	051-02643	SIZE D
	REVISION	4.0.0	
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		SHEET	57 OF 131

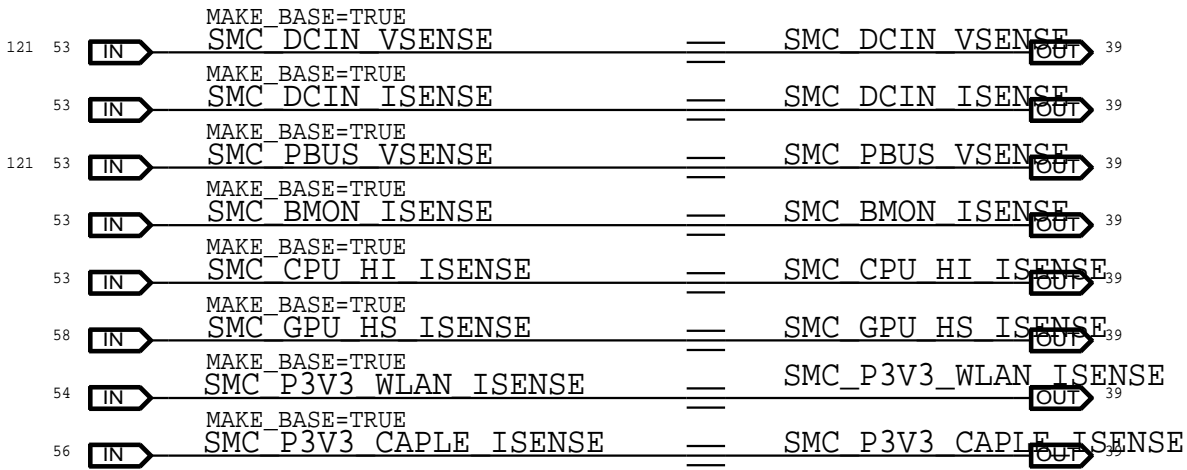




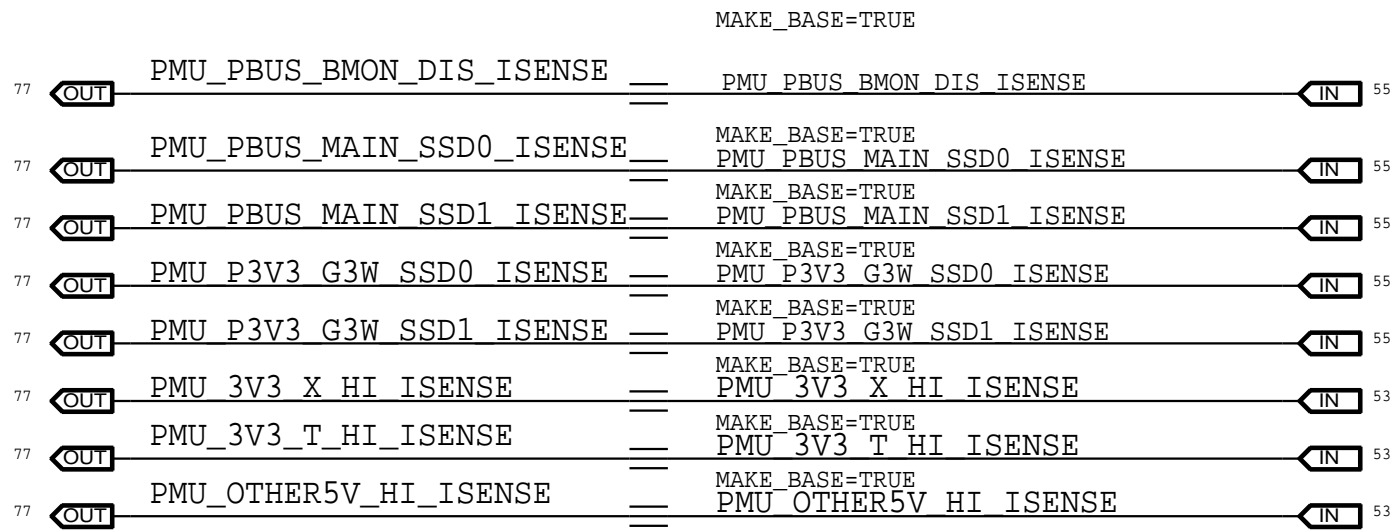
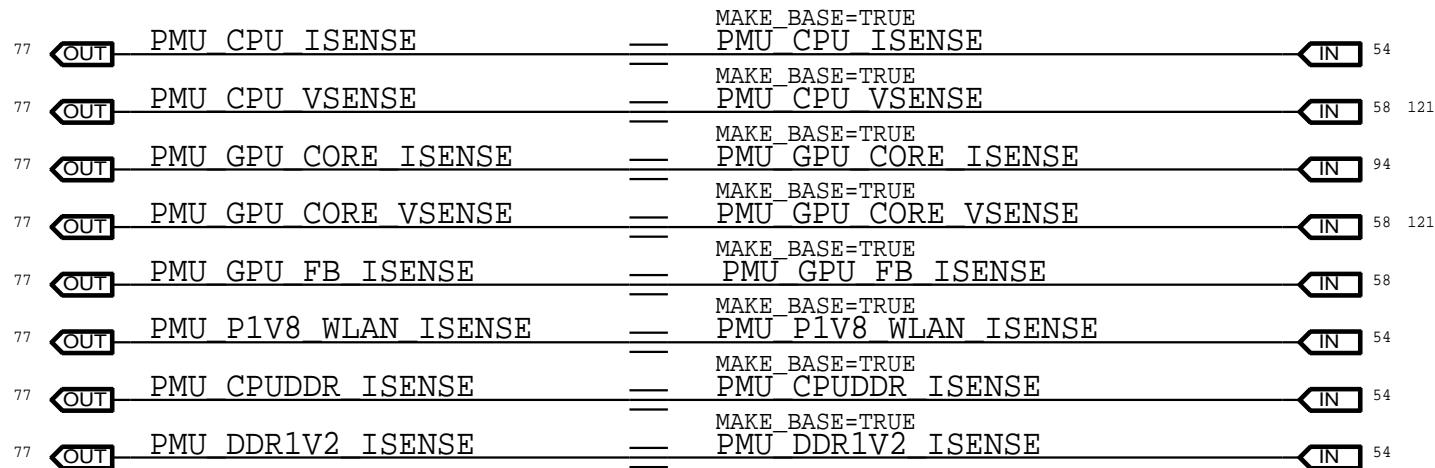
# FAN CONNECTOR




## H9M SMC ADC Assignments



## CALPE AMUX Assignments



BOM\_COST\_GROUP=FAN

PAGE TITLE		
Fans/SMC/AMUX Support		
 Apple Inc.	DRAWING NUMBER	051-02643
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	PAGE	60 OF 200
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8		7		6		5		4		3		2		1			
D																D	
C																C	
B																B	
A																A	
8		7		6		5		4		3		2		1			


DESIGN: X502/DEV\_MLB\_U

LAST CHANGE: Wed Feb 18 17:12:24 2015

051-02643 131 1312

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SIZE

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BOM\_COST\_GROUP=AUDIO

DESIGN: X502/DEV\_MLB\_U


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FILE: 000000-01-02.makdoc

DATE: 2015-02-18 17:12:24

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DBOM\_COST\_GROUP=AUDIO

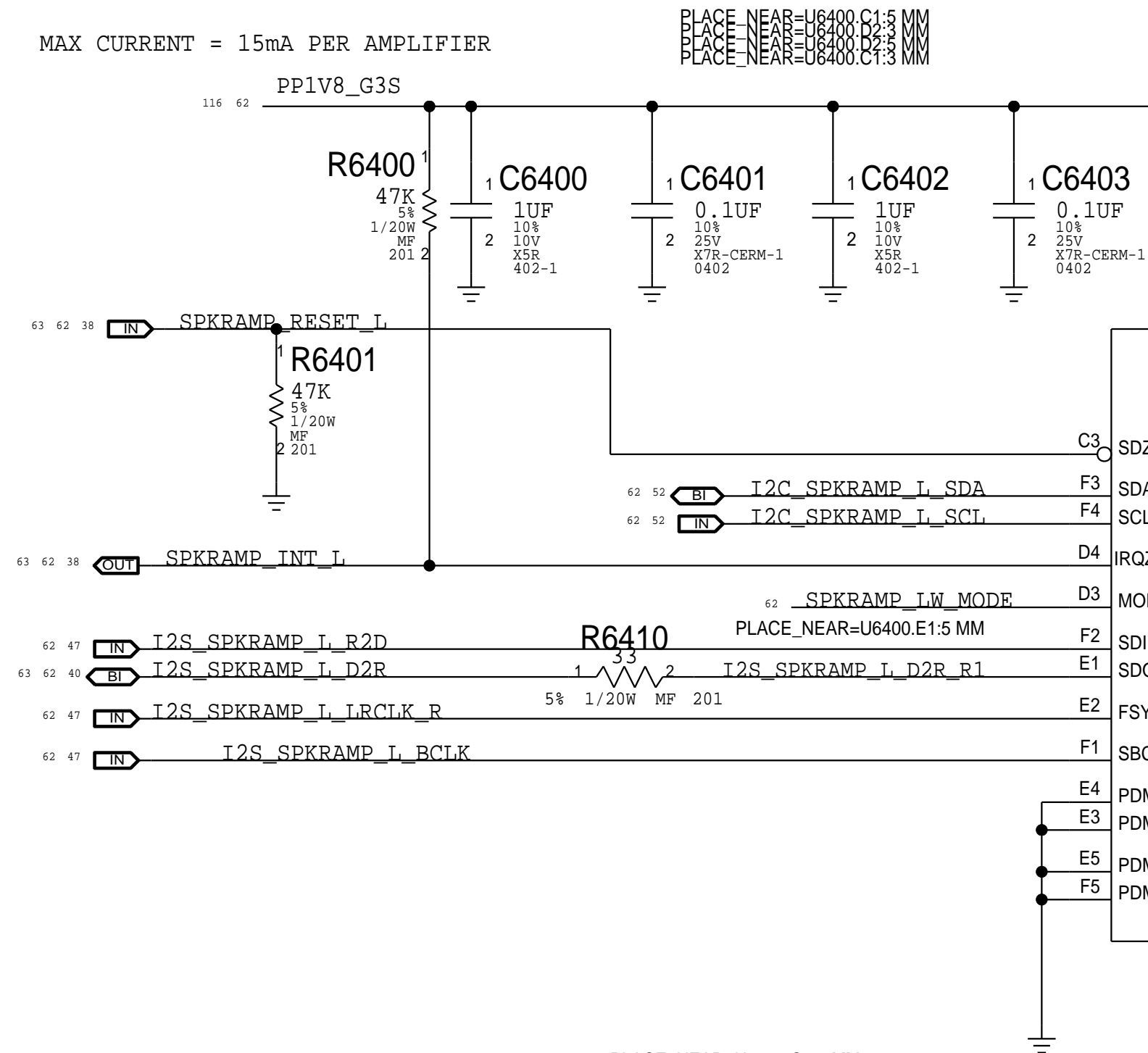


## 2X MONO SPEAKER LEFT AMPLIFIERS

APN: 353S01252

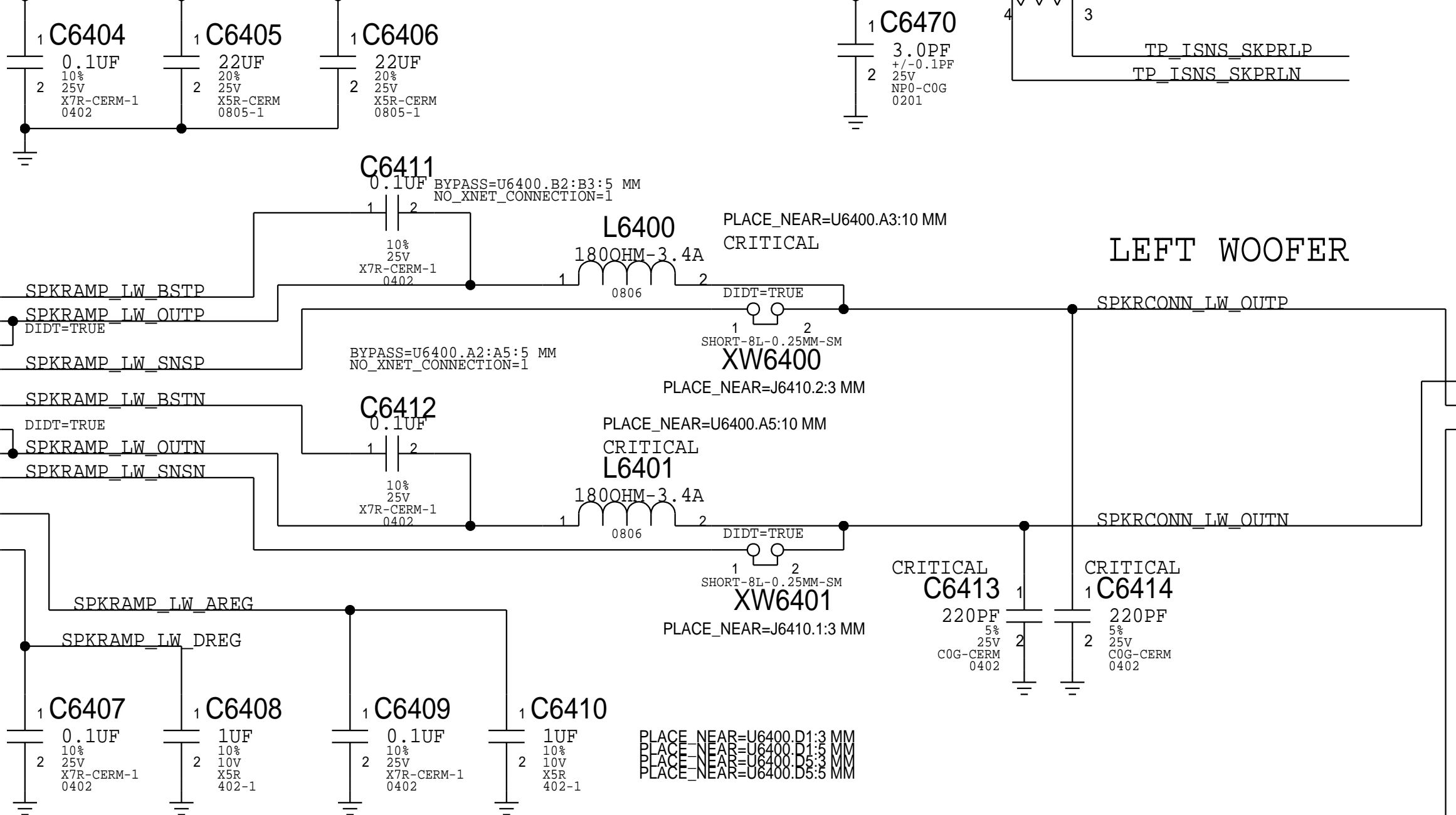
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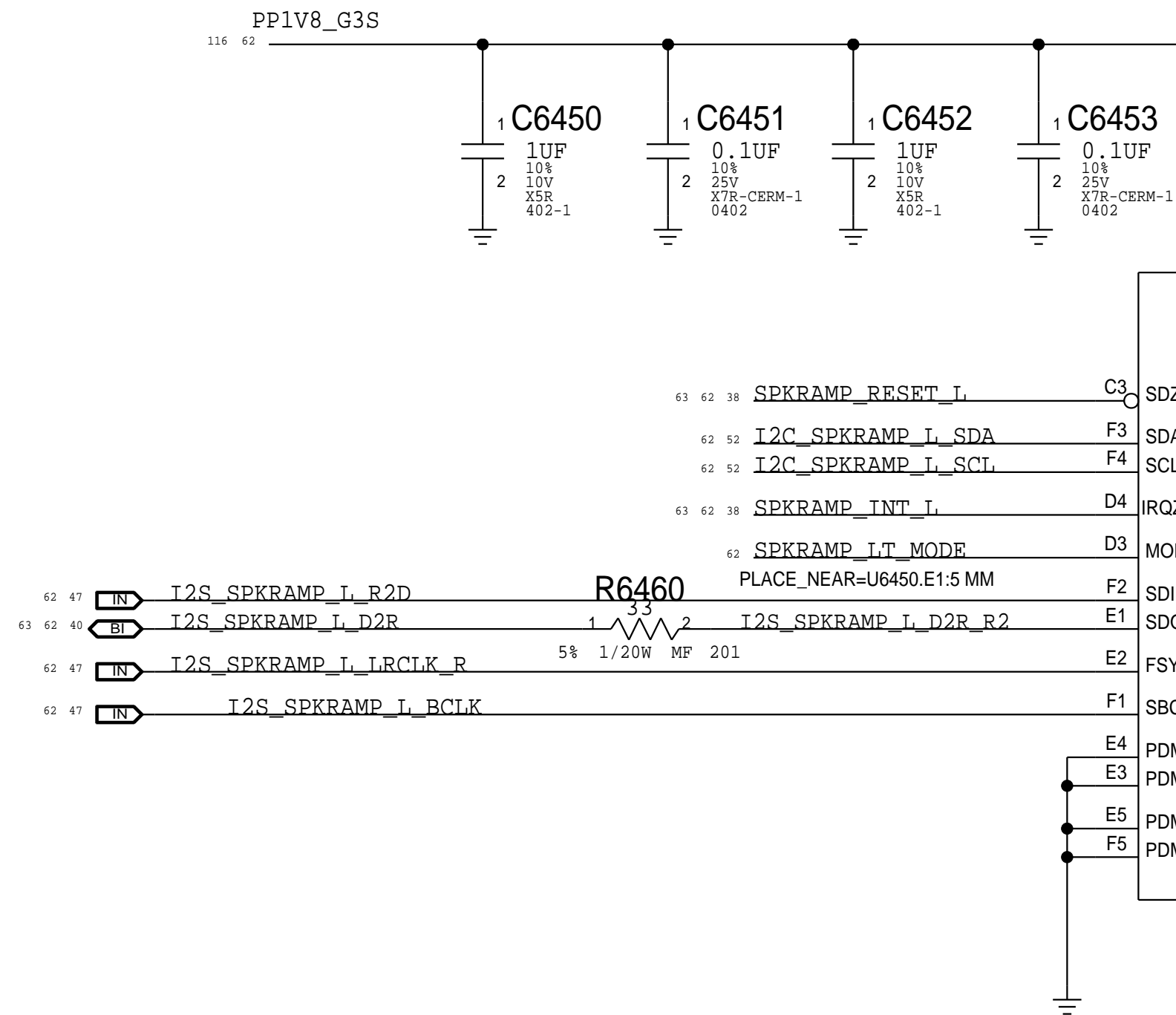


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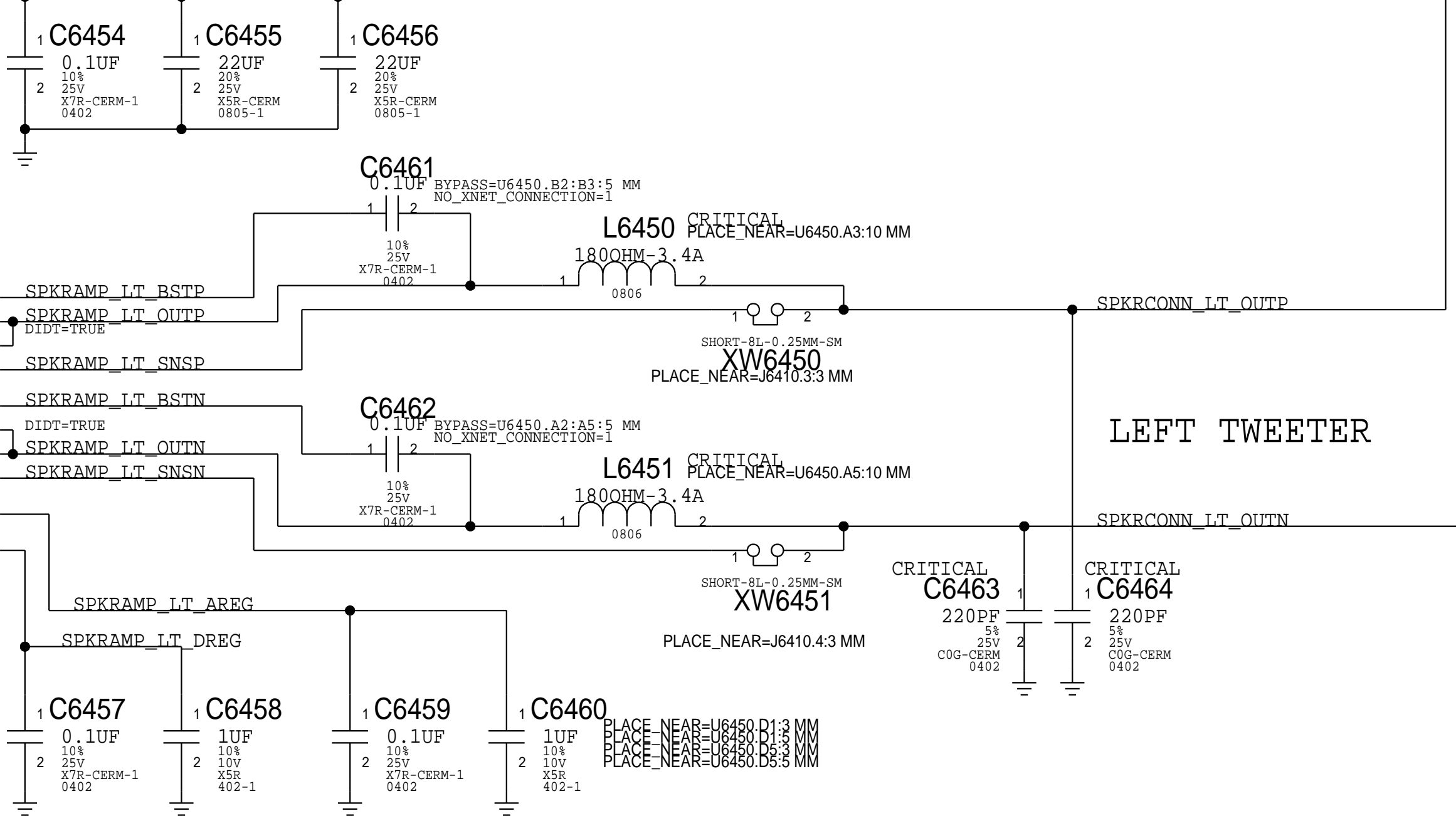


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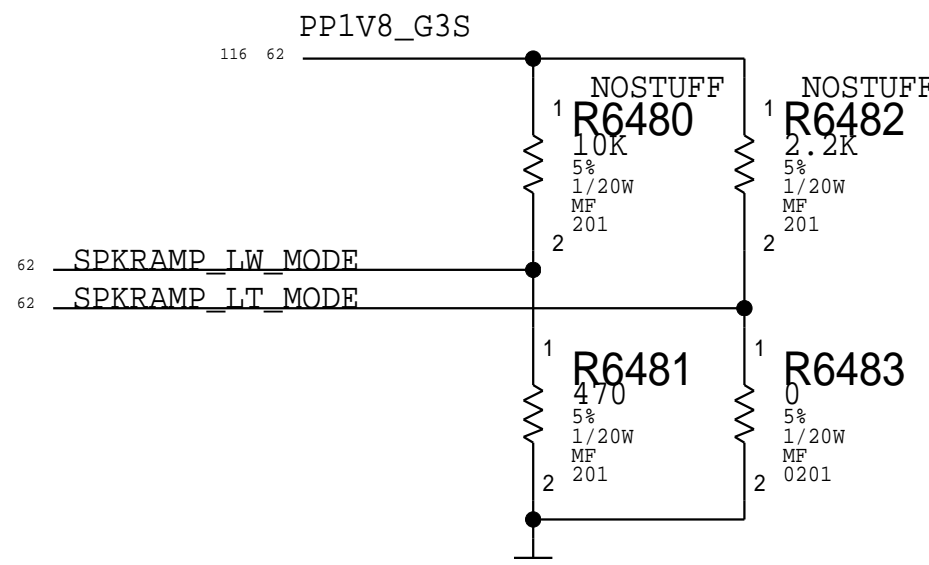
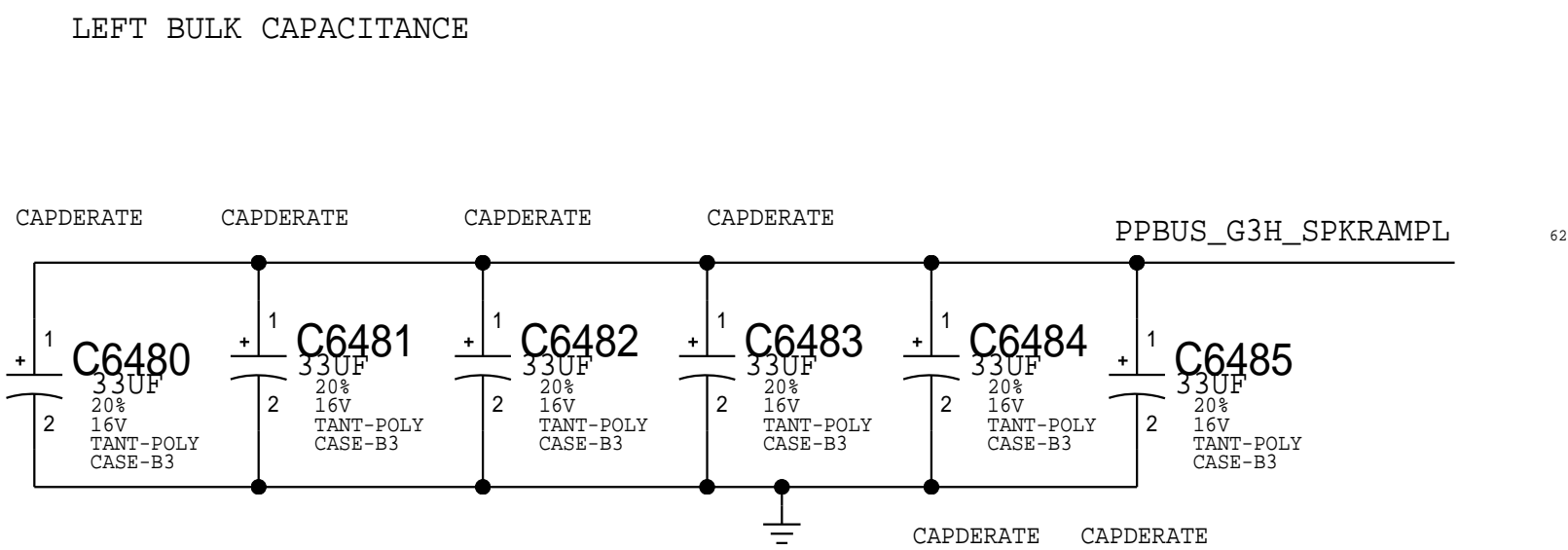


PLACE\_NEAR=U6450.C4:10 MM  
PLACE\_NEAR=U6450.C4:3 MM

MAX CURRENT = 2A PER AMPLIFIER




LEFT BULK CAPACITANCE



I2C ADDRESS		
MODE PIN	7-BIT	CHANNEL
GND	0x31	L TW
470 to GND	0x32	L WF
470 to IOVDD	0x33	R TW
2k2 to GND	0x34	R WF
2k2 to IOVDD	0x35	
10k to GND	0x36	
10k to IOVDD	0x37	
47k to IOVDD	0x38	

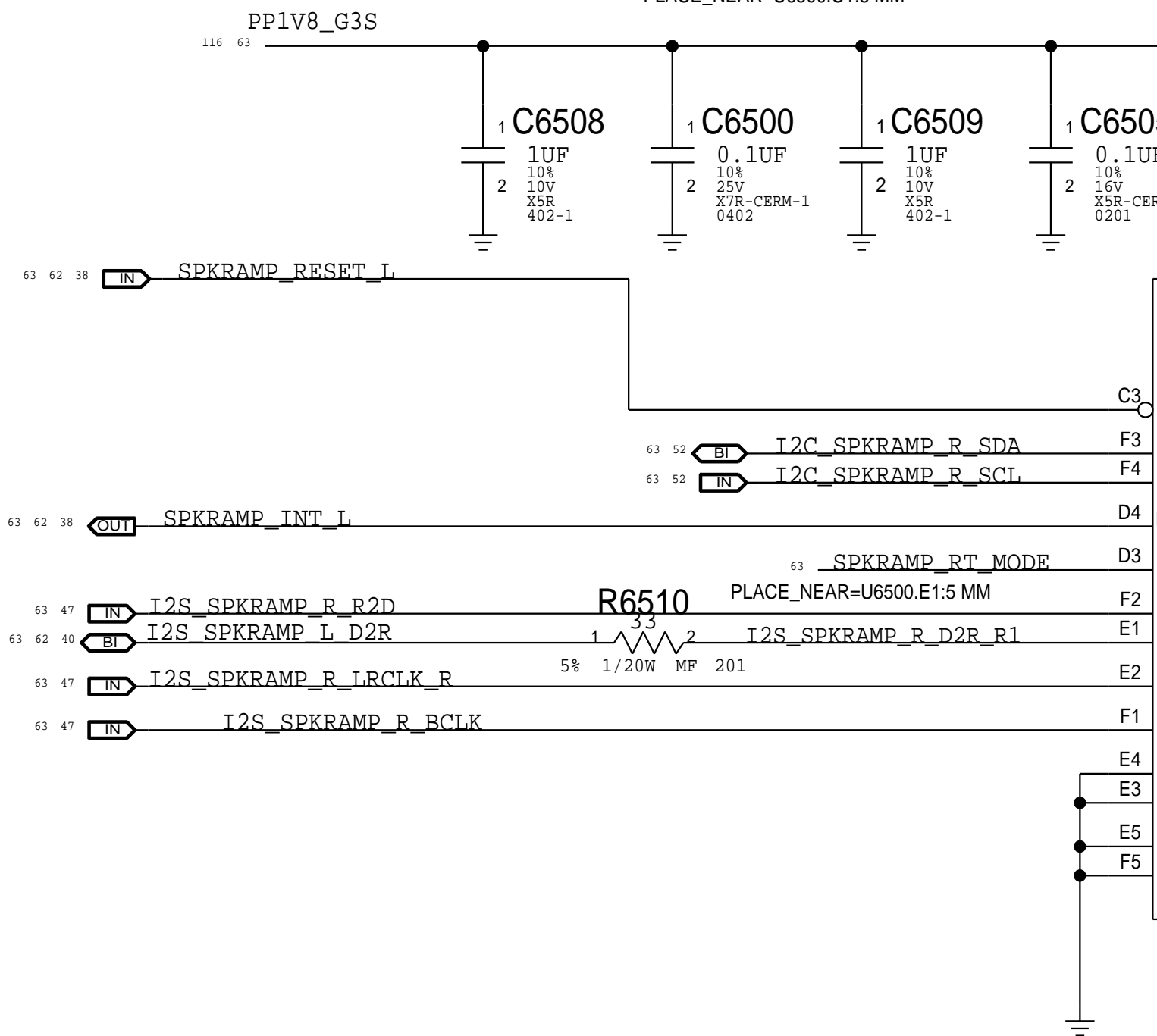
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SYNC_MASTER=TROY		SYNC_DATE=12/11/2017	
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Audio Left Amplifiers			
 Apple Inc.	DRAWING NUMBER		SIZE
	051-02643		D
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	BRANCH		evt-0
	PAGE		64 OF 200
	SHEET		62 OF 131

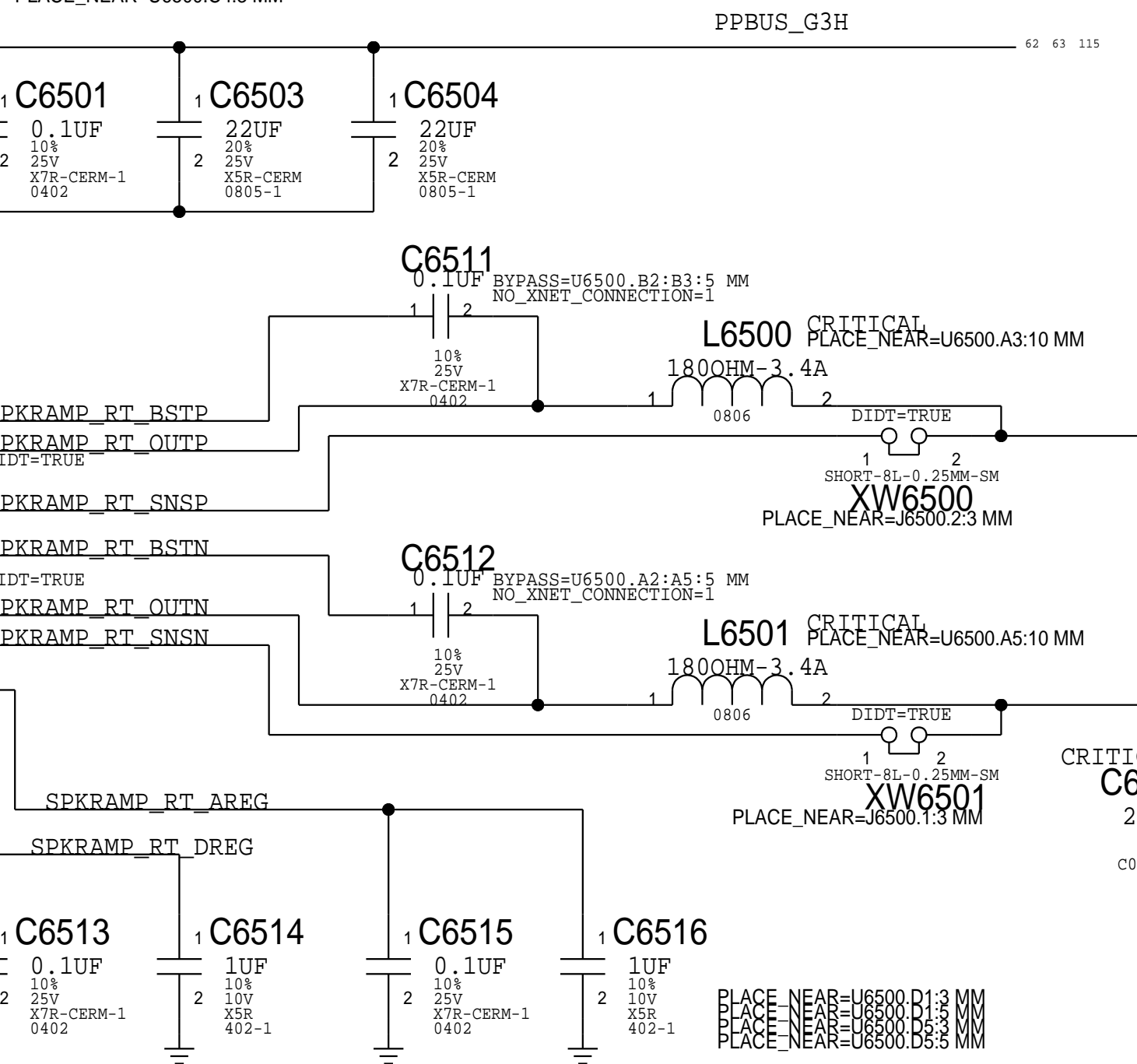
2X MONO SPEAKER RIGHT AMPLIFIERS

APN: 353S01252  
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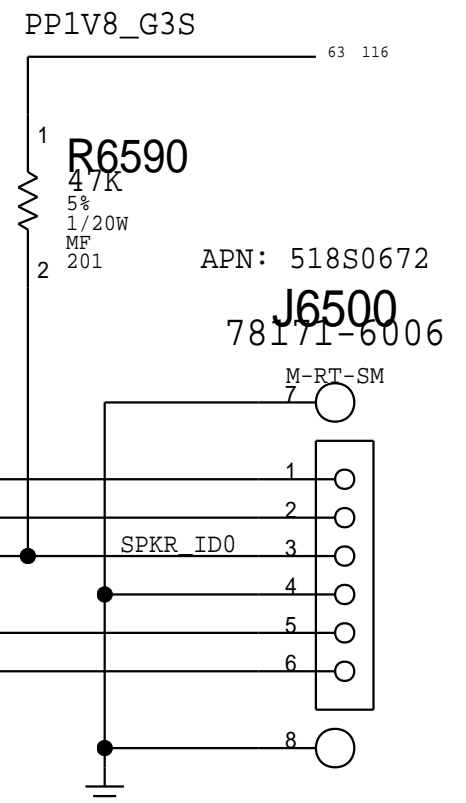
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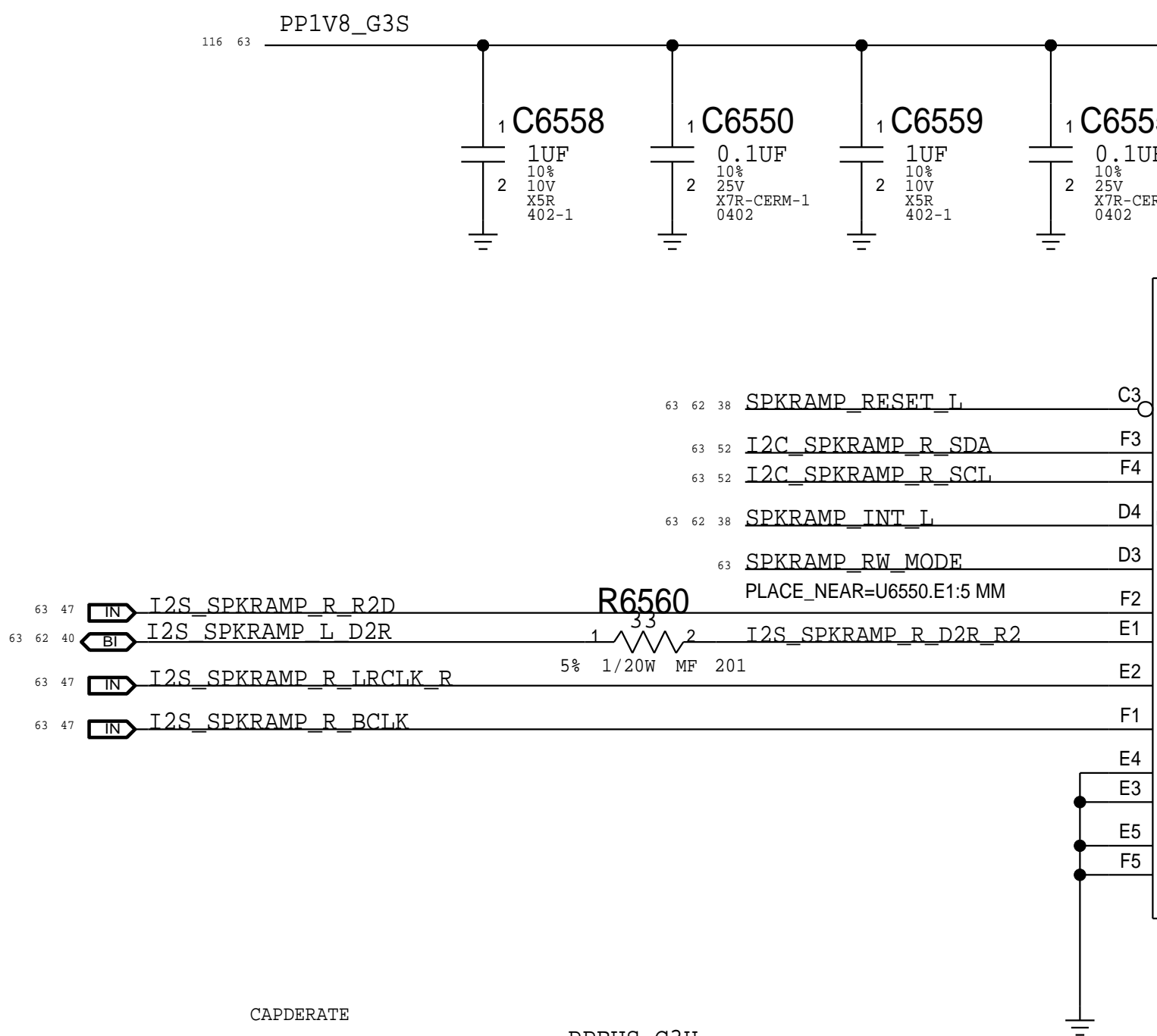
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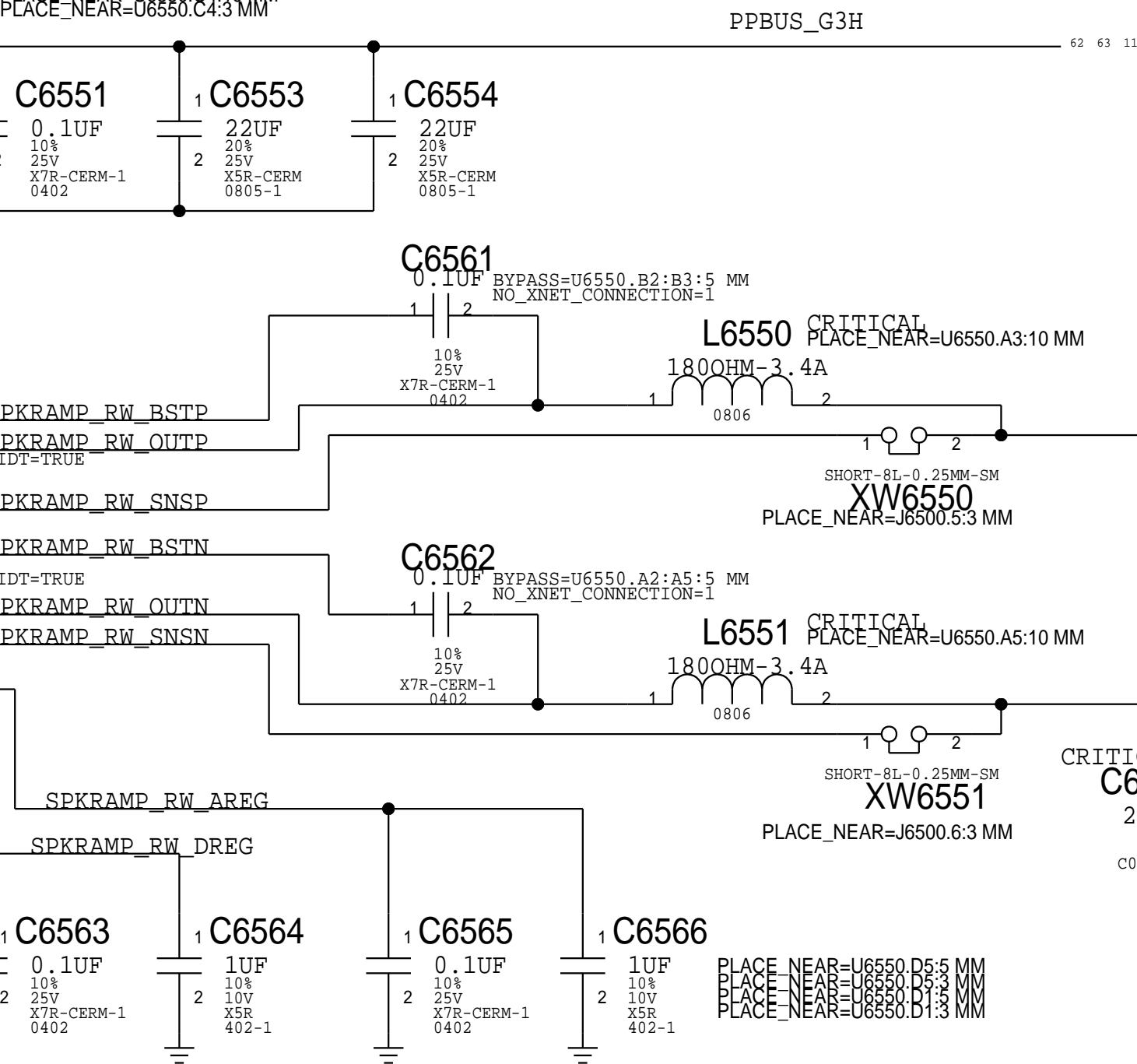
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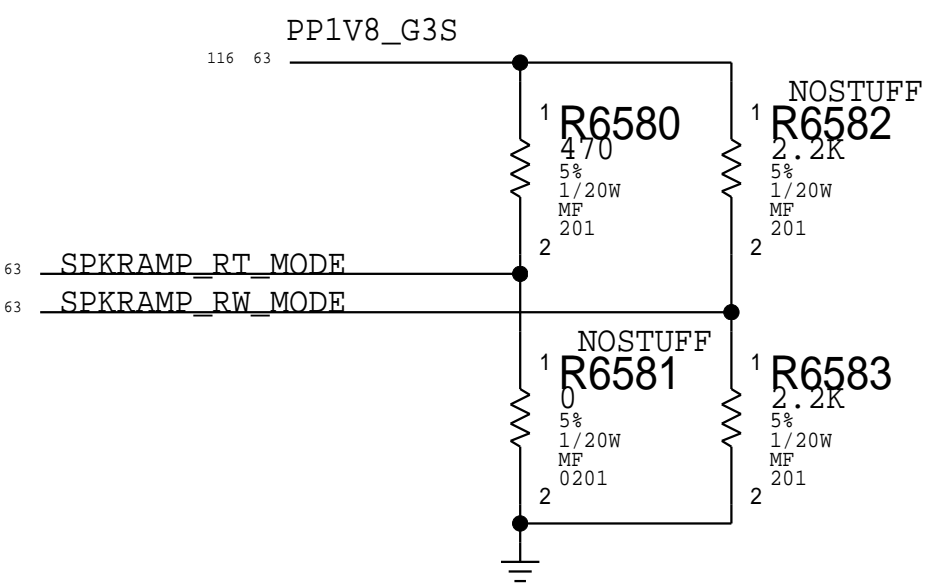
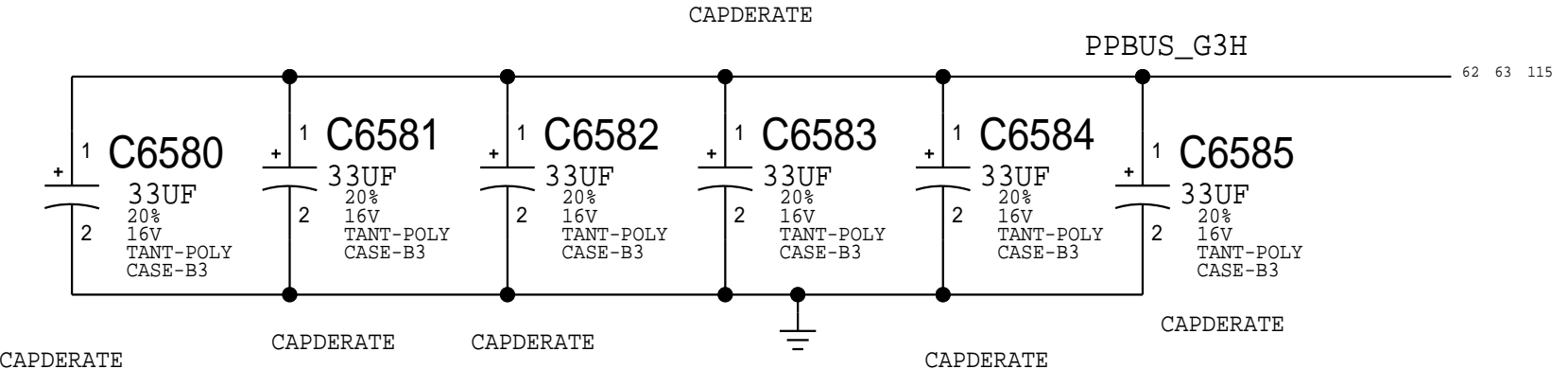
MAX CURRENT = 15mA PER AMPLIFIER



MAX CURRENT = 2A PER AMPLIFIER



RIGHT WOOFER



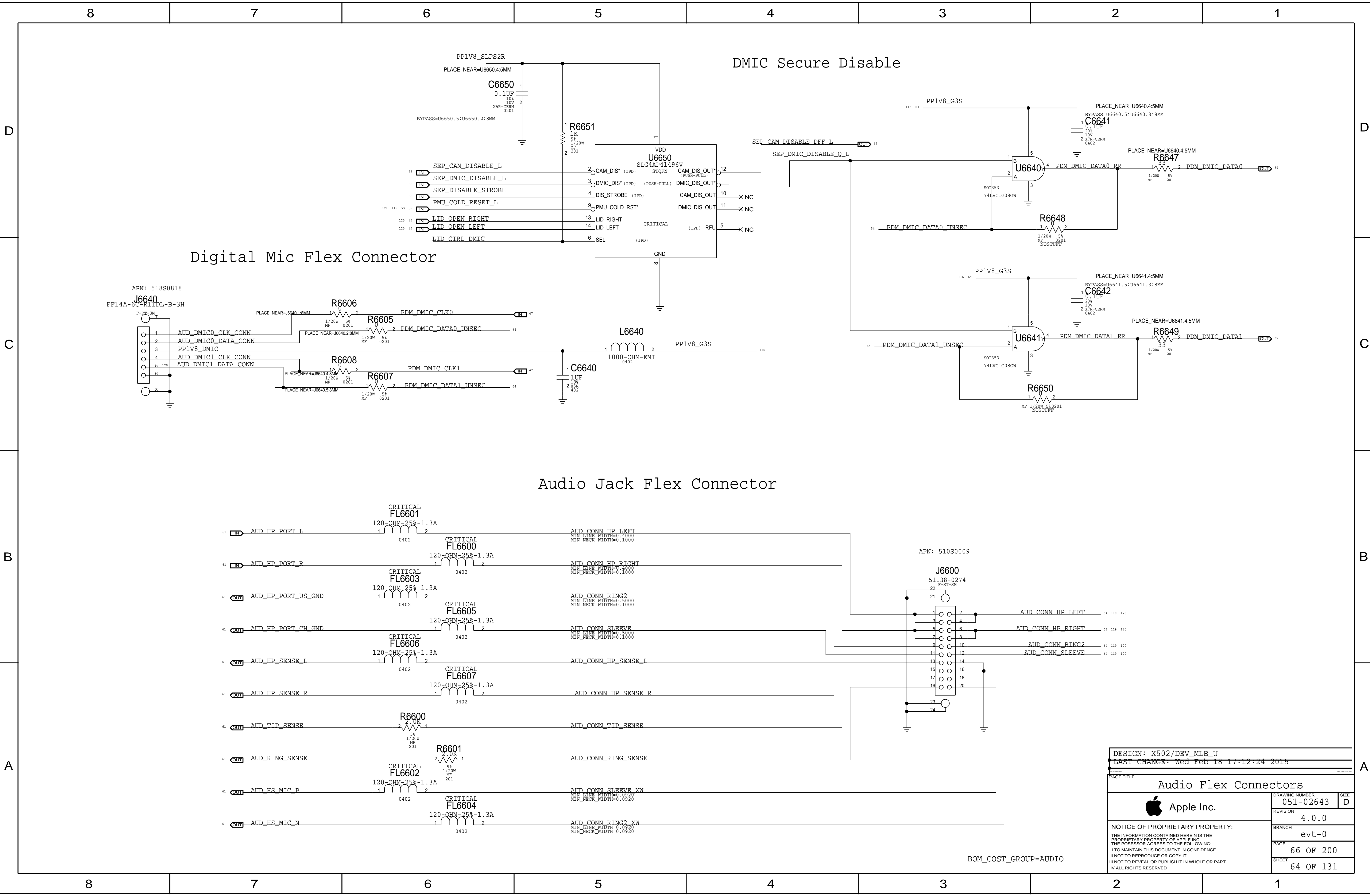
I2C ADDRESS		
MODE	PIN	7-BIT CHANNEL
GND	0x31	L TW
470 to GND	0x32	L WF
470 to IOVDD	0x33	R TW
2k2 to GND	0x34	R WF
2k2 to IOVDD	0x35	
10k to GND	0x36	
10k to IOVDD	0x37	
47k to IOVDD	0x38	


BOM\_COST\_GROUP=AUDIO

Audio Right Amplifiers

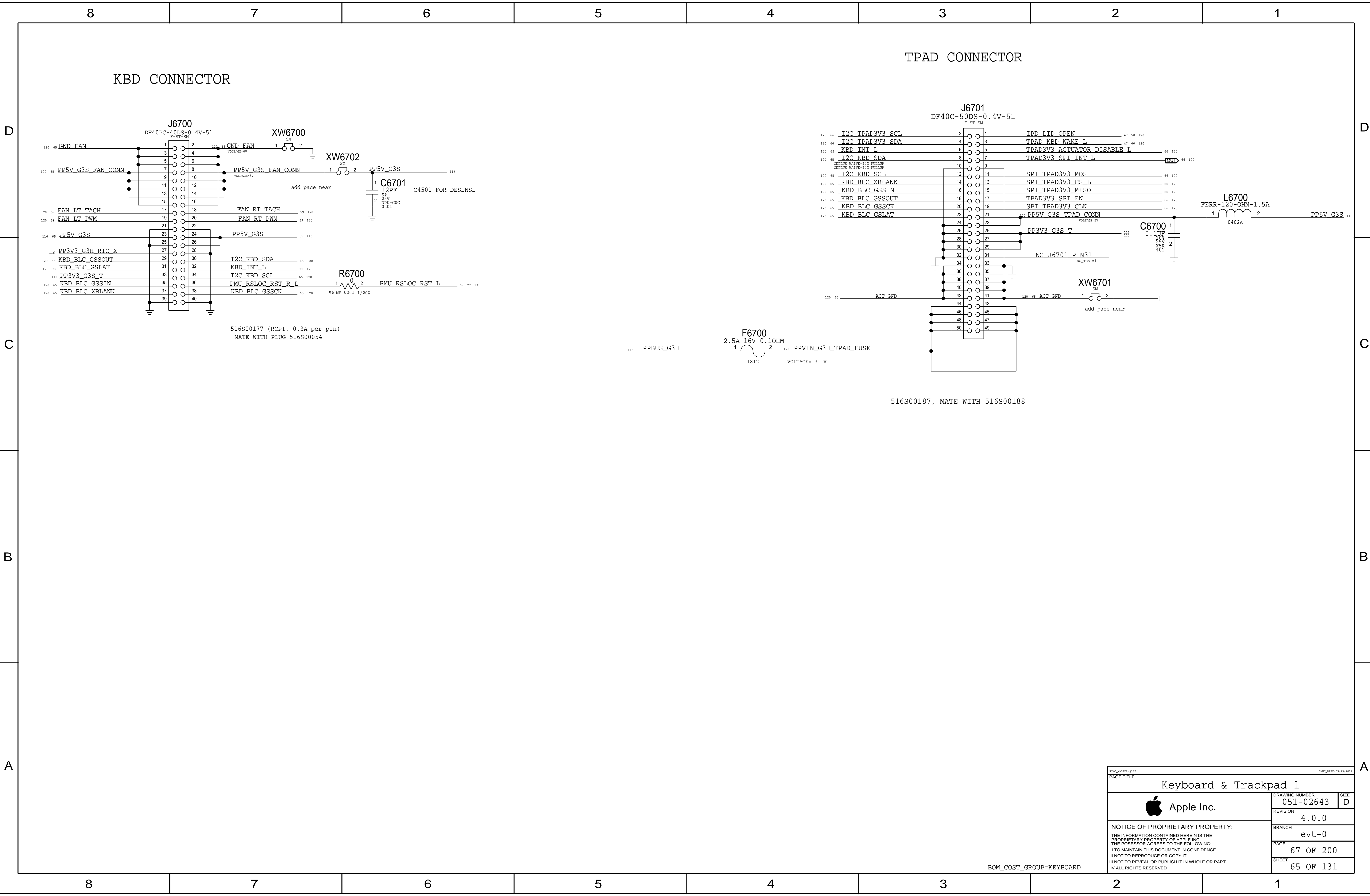
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Audio Flex Connectors		
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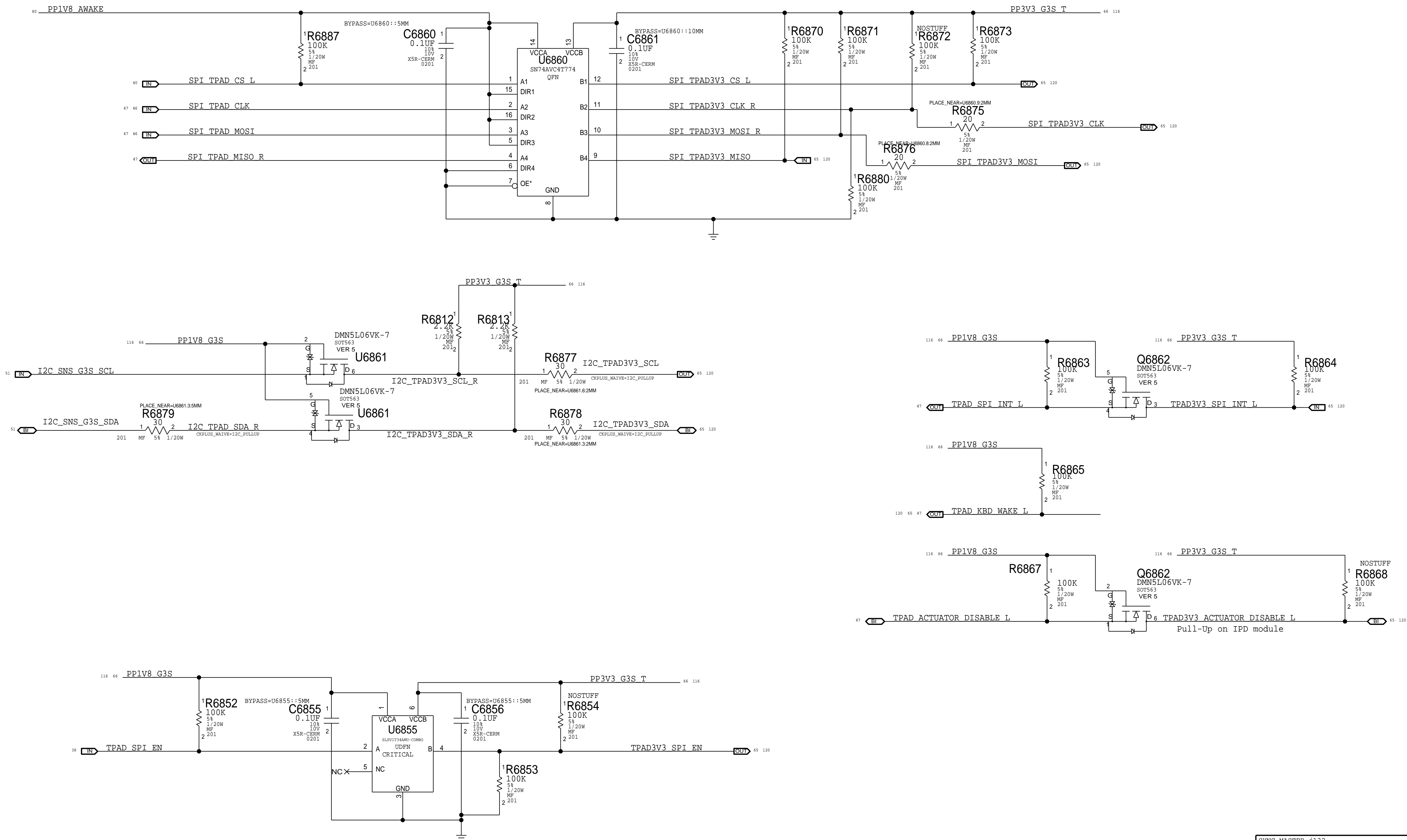
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PAGE TITLE			PAGE TITLE		
Keyboard & Trackpad 1			Keyboard & Trackpad 1		
 Apple Inc.			DRAWING NUMBER	051-02643	SIZE
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			PAGE	67 OF 200	
			SHEET	65 OF 131	



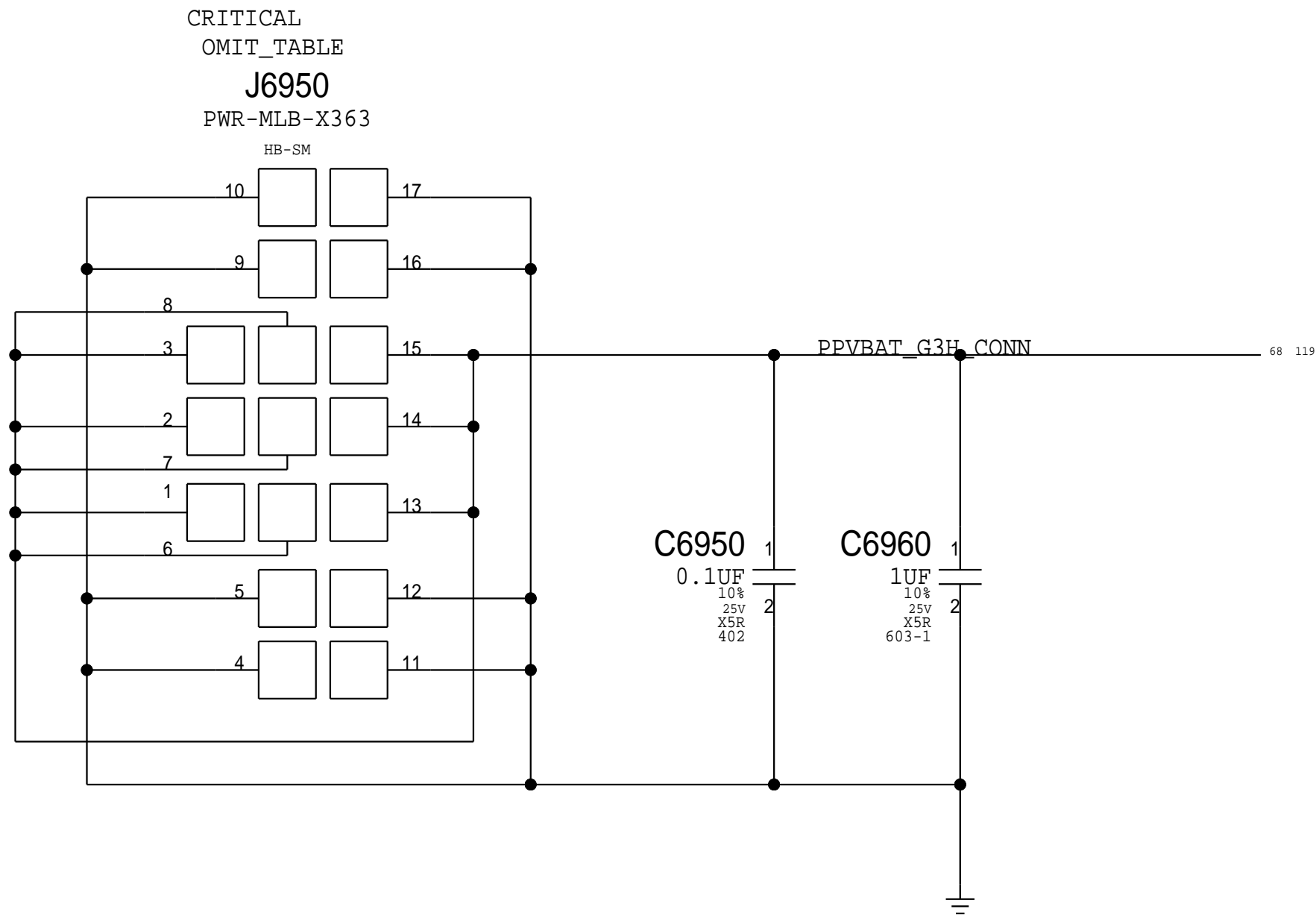
Trackpad Level Shifting



BOM\_COST\_GROUP=KEYBOARD

SYNC_MASTER=j132		SYNC_DATE=03/23/2017	
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Keyboard & Trackpad 2			
 Apple Inc.	DRAWING NUMBER		SIZE
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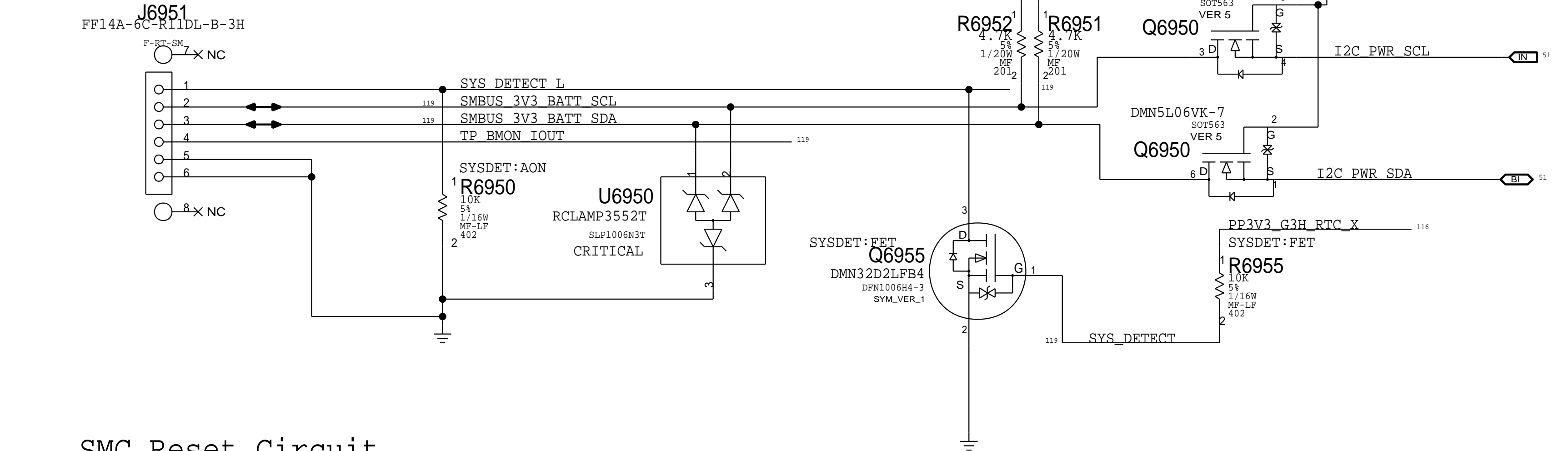
J80 Battery Hotbar Flex Pads 998-03902  
Flex Pad TO MLB 998-03780.



BMU POWER FLEX HOTBAR'd TO THE MLB:

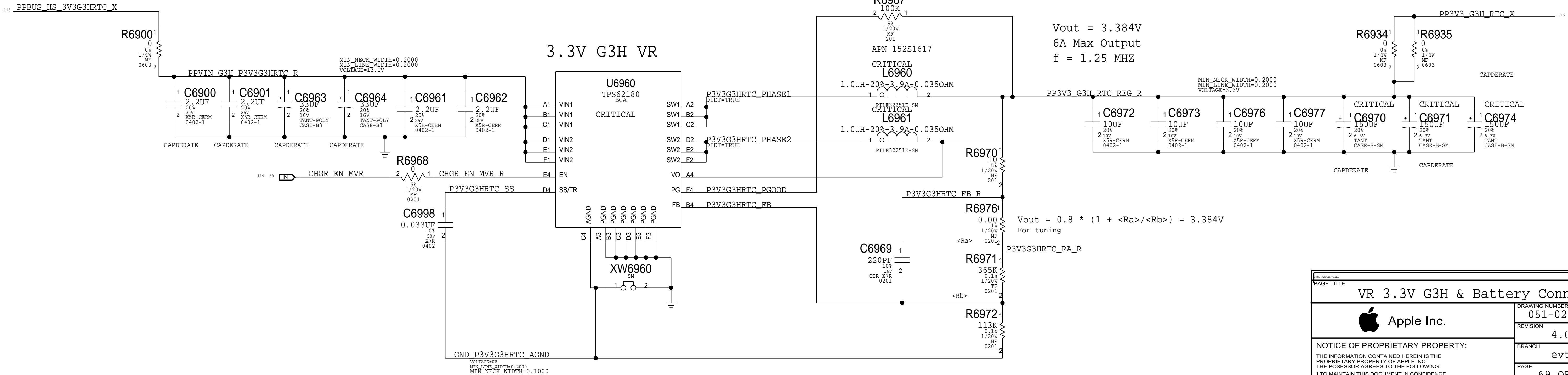
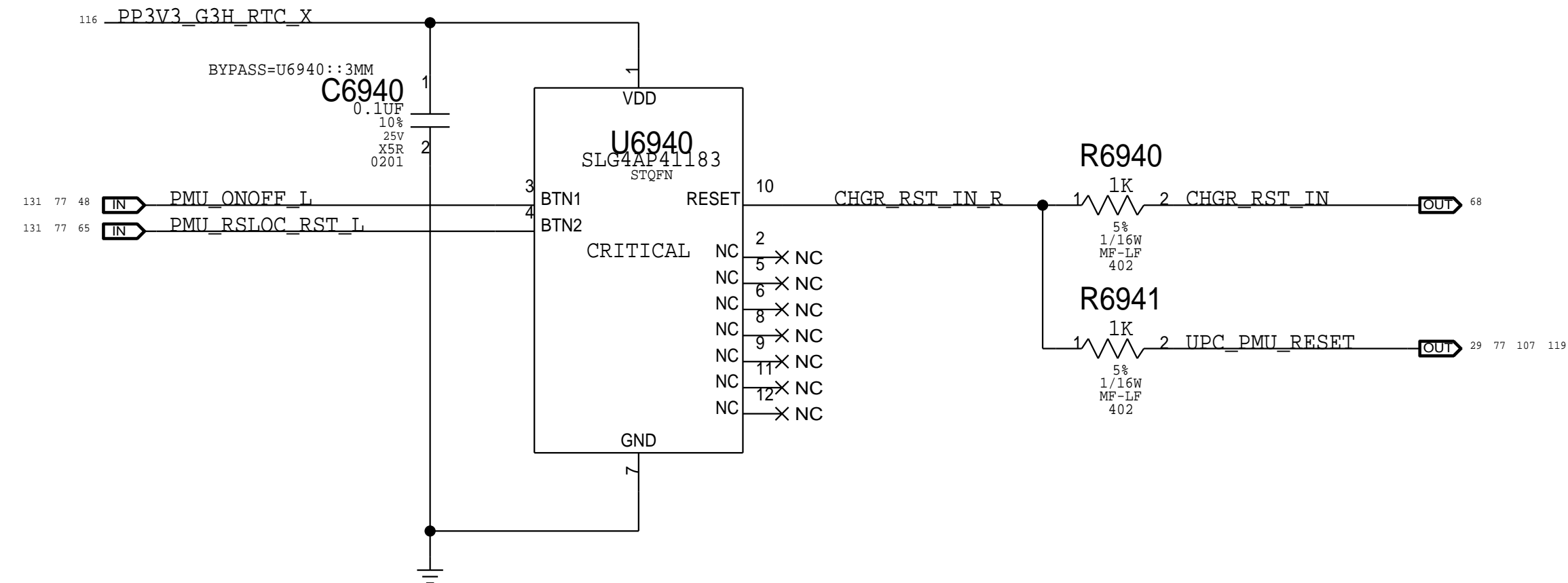
PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
632-00862	1	PCBA, FLEX, BMU PWR, X363	J6950	CRITICAL	

APN:518S0818



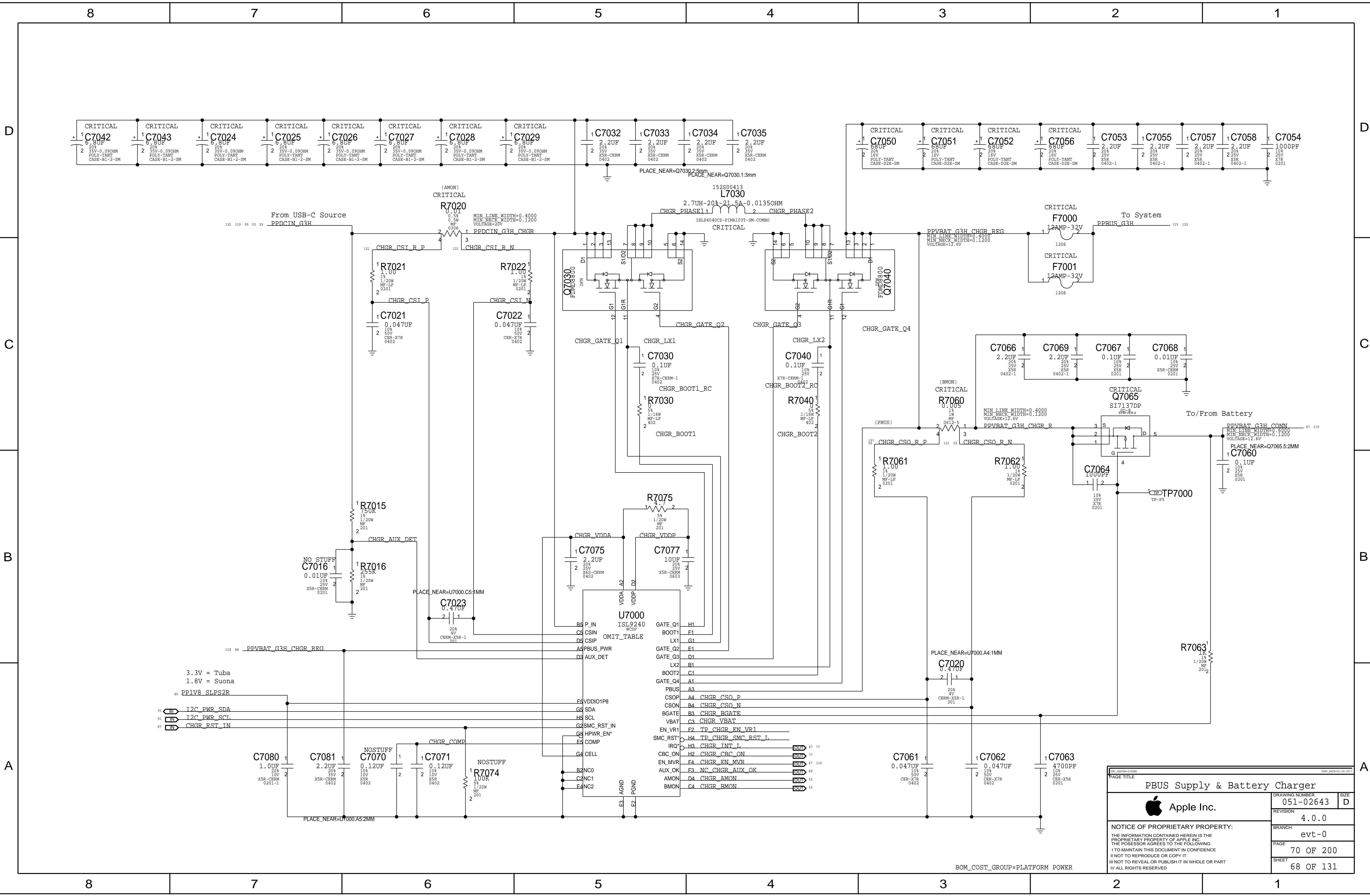
### SMC Reset Circuit

Right Shift & Left Option Control  
followed by ON OFF button press.

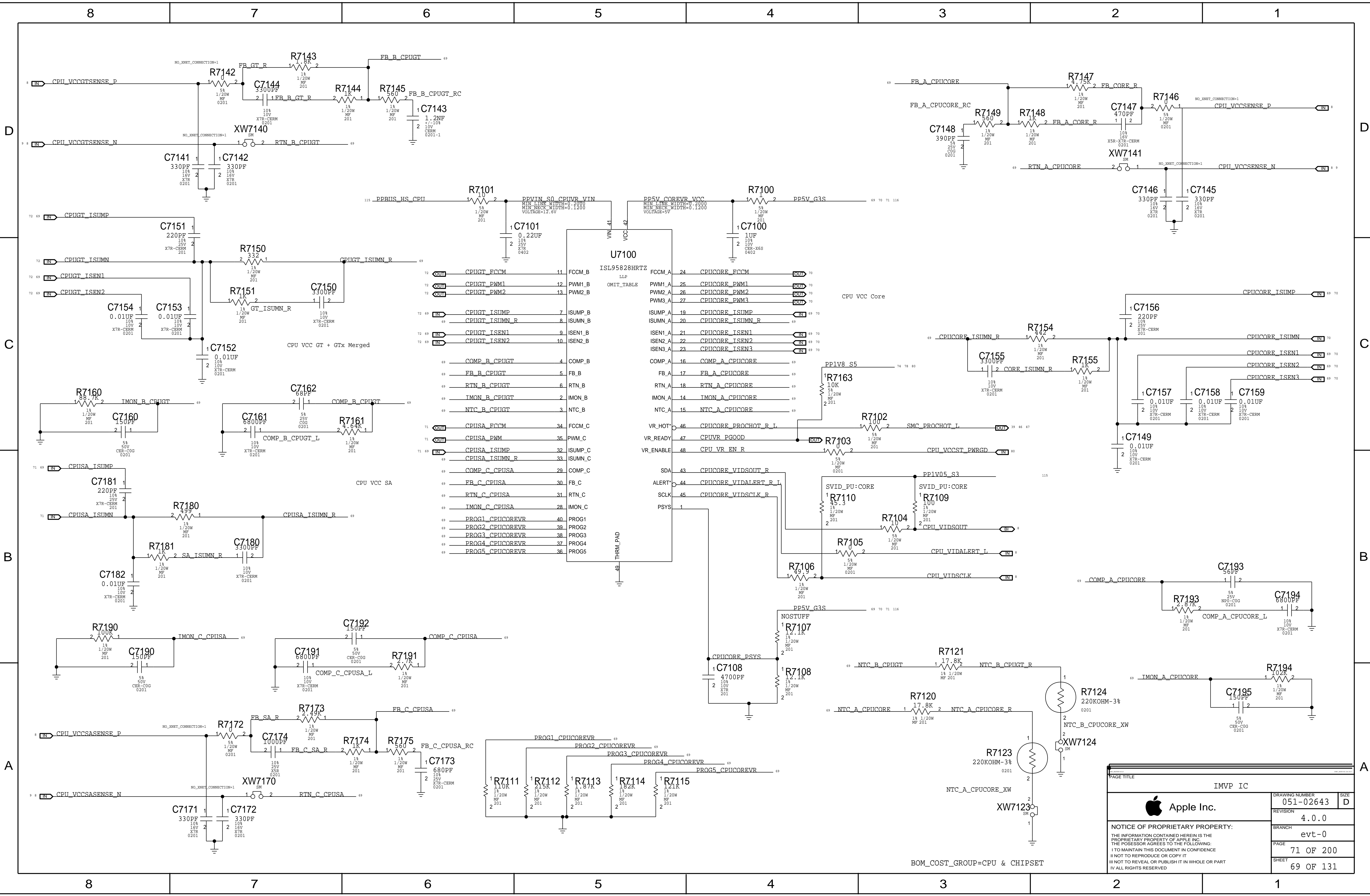


BOM\_COST\_GROUP=PLATFORM POWER

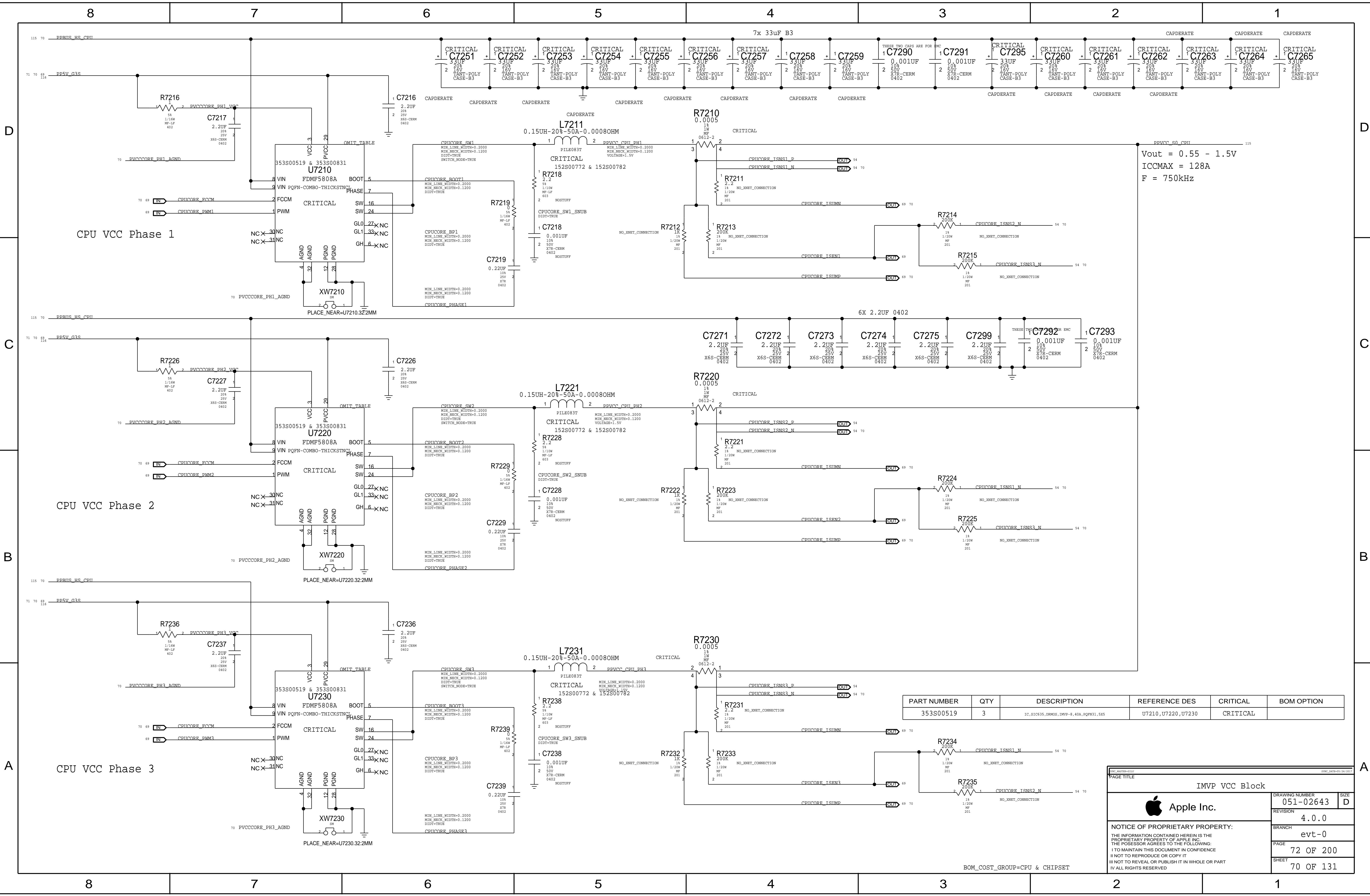
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VR 3.3V G3H & Battery Conn		
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PAGE TITLE			DRAWING NUMBER		SIZE
PBUS Supply & Battery Charger			051-02643		D
Apple Inc.			REVISION		4.0.0
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			PAGE		70 OF 200
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Vout = 0.55 - 1.5V  
ICCMAX = 128A  
F = 750kHz

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
353S00519	3	IC, SiC635, DRMOS, IMVP-8, 40A, PQFN31, 5x5	U7210, U7220, U7230	CRITICAL	

PAGE TITLE		IMVP VCC Block	
		DRAWING NUMBER	051-02643
		SIZE	D
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		BRANCH	evt-0
		PAGE	72 OF 200
		SHEET	70 OF 131

BOM\_COST\_GROUP=CPU & CHIPSET





D

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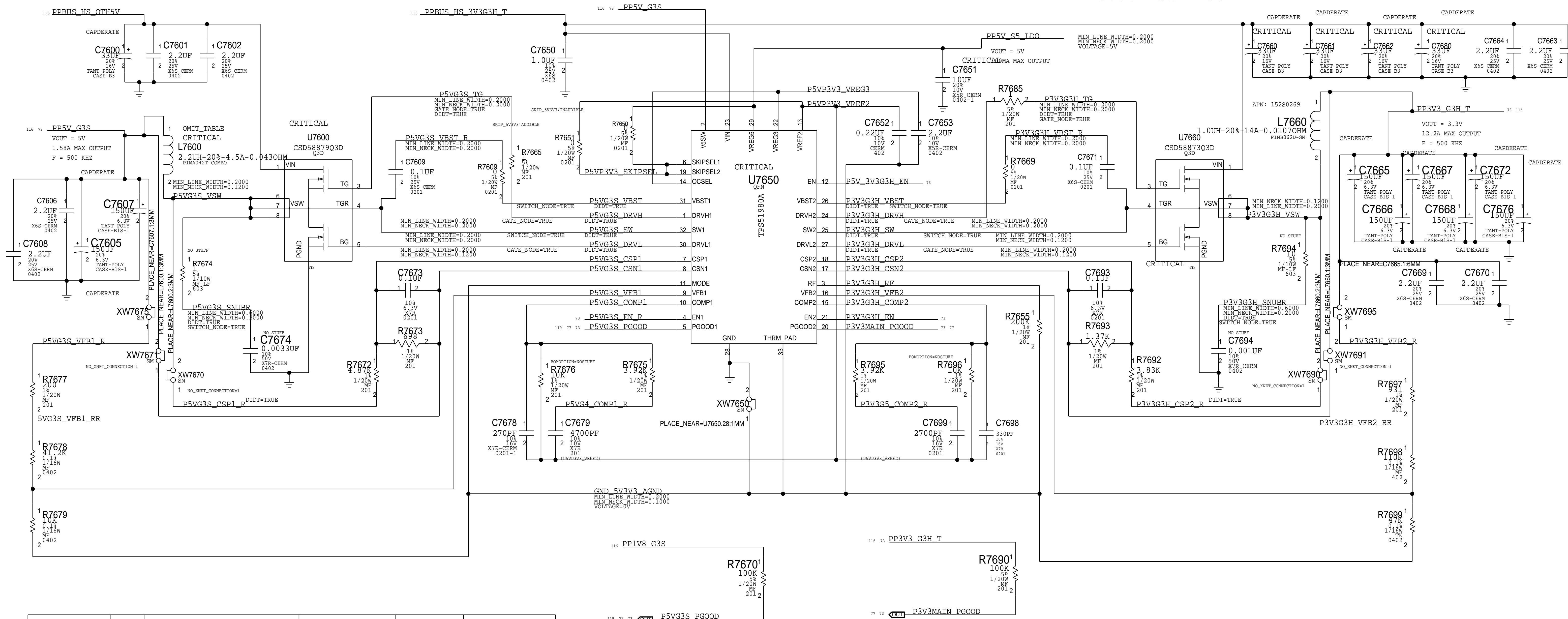
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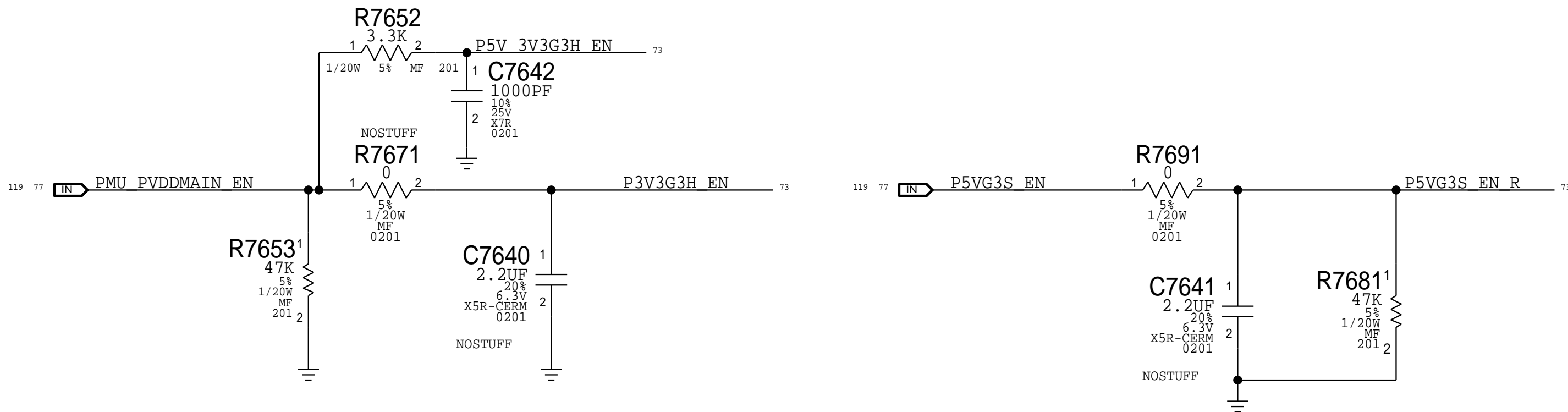
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5V S0 - V5


3.3V DSW - V6

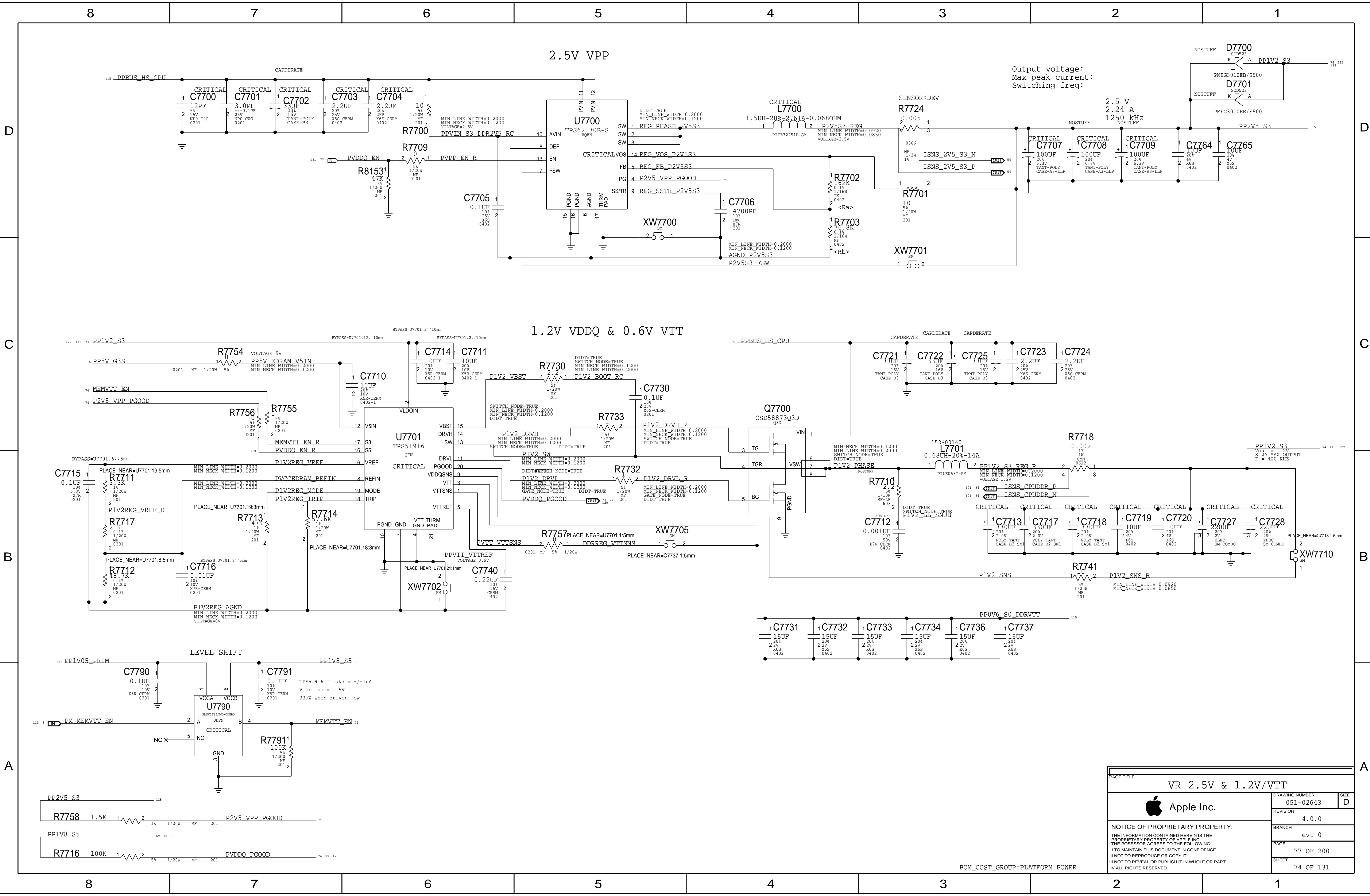



PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
152S00703	1	IND_MLD, 2.20H, 20%, 43mOhm, 5.5A, 4.2x4.2mm	L7600	CRITICAL	



BOM\_COST\_GROUP=PLATFORM POWER

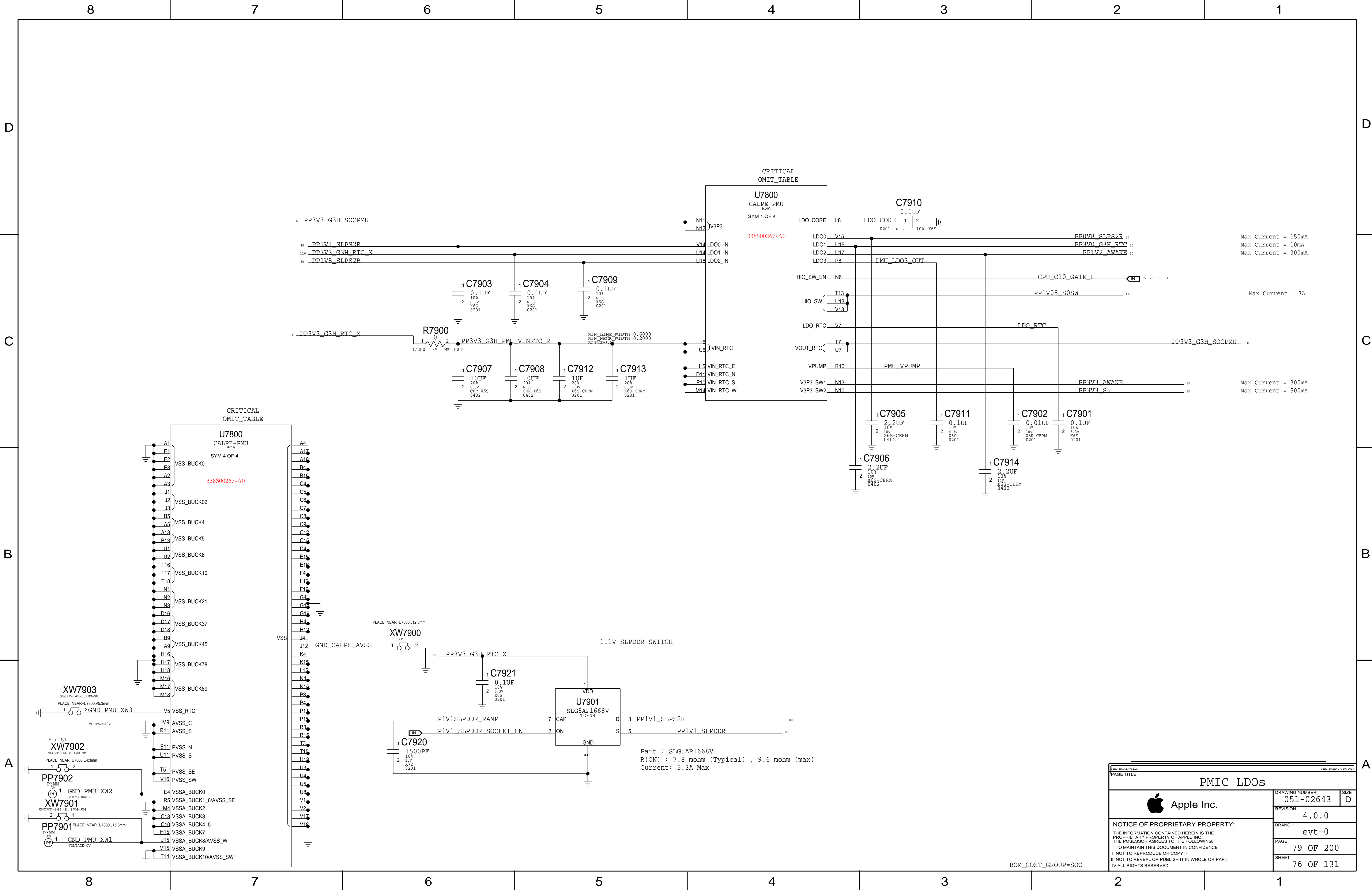
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PAGE TITLE		
VR 2.5V & 1.2V/VTT		
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	REVISION	4.0.0
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PAGE TITLE		
PMIC LDOs		
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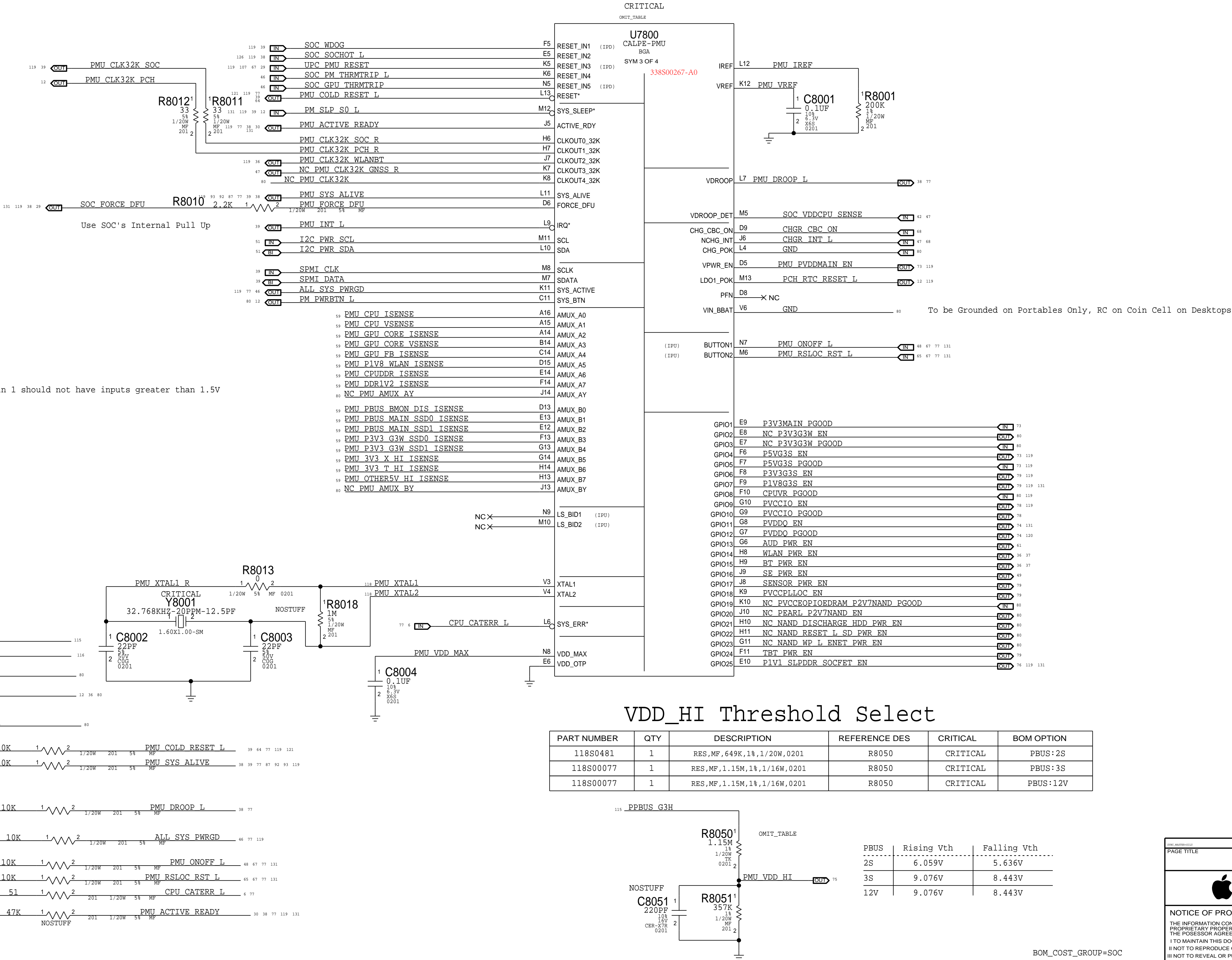
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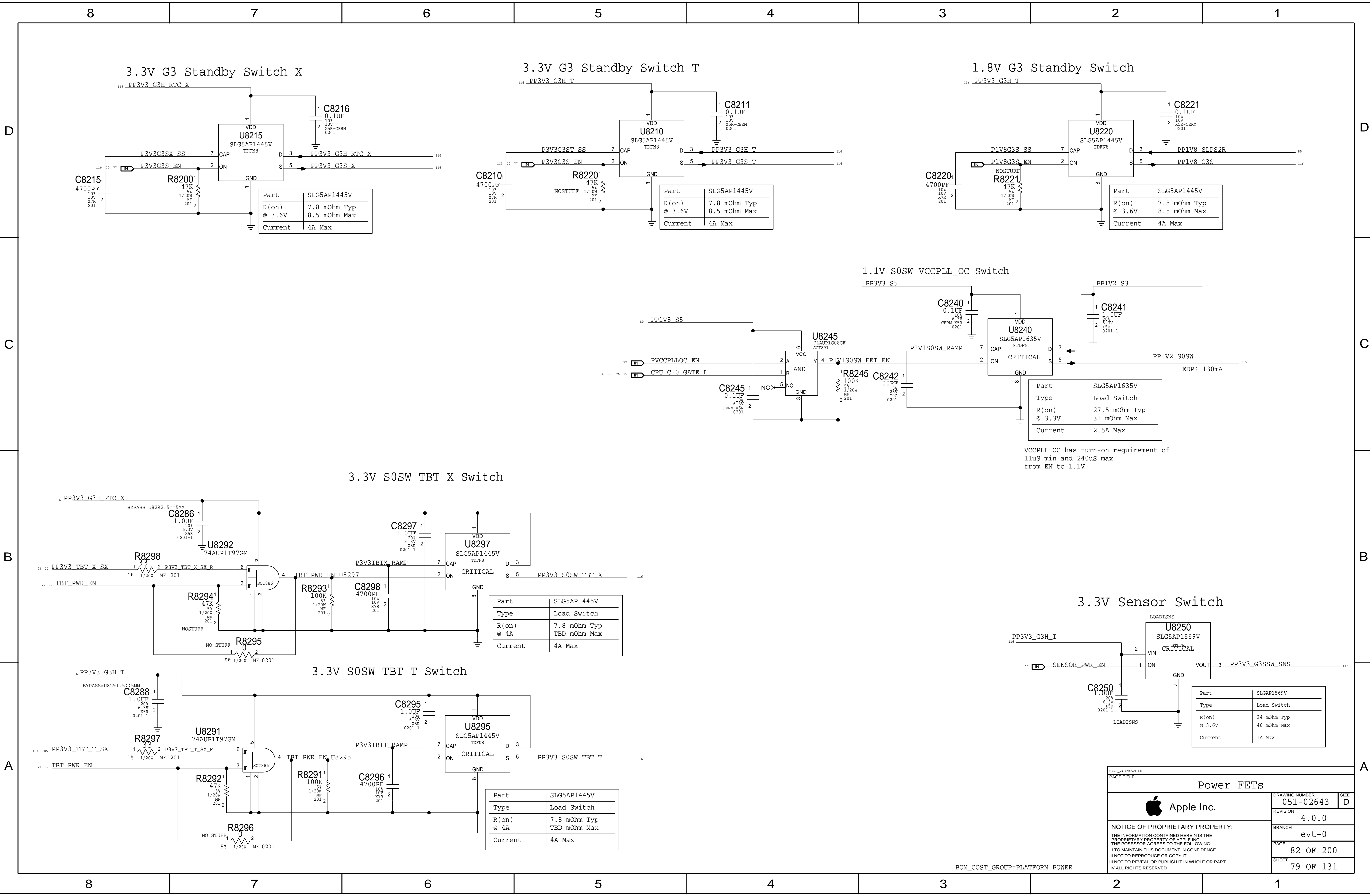
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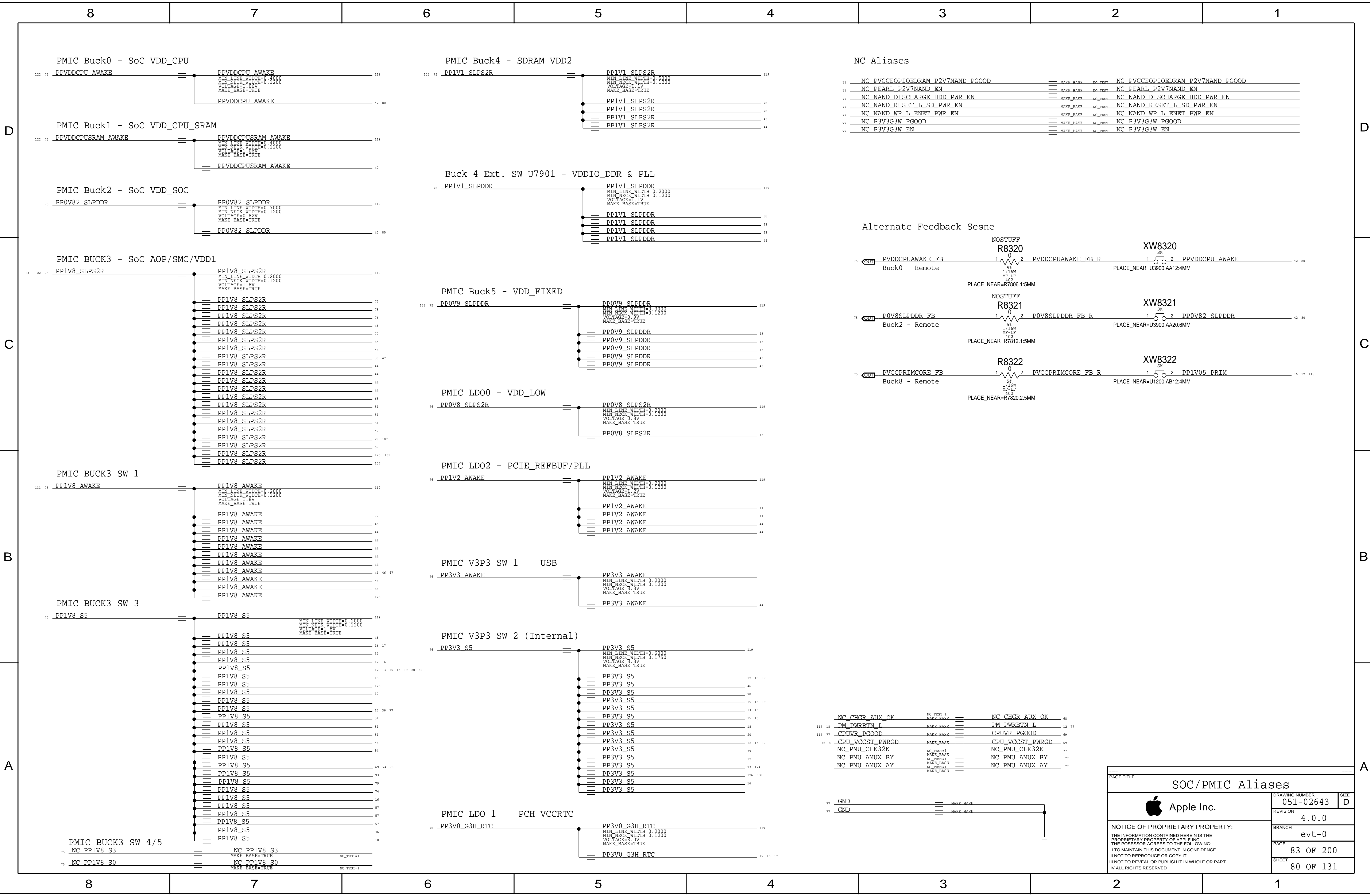
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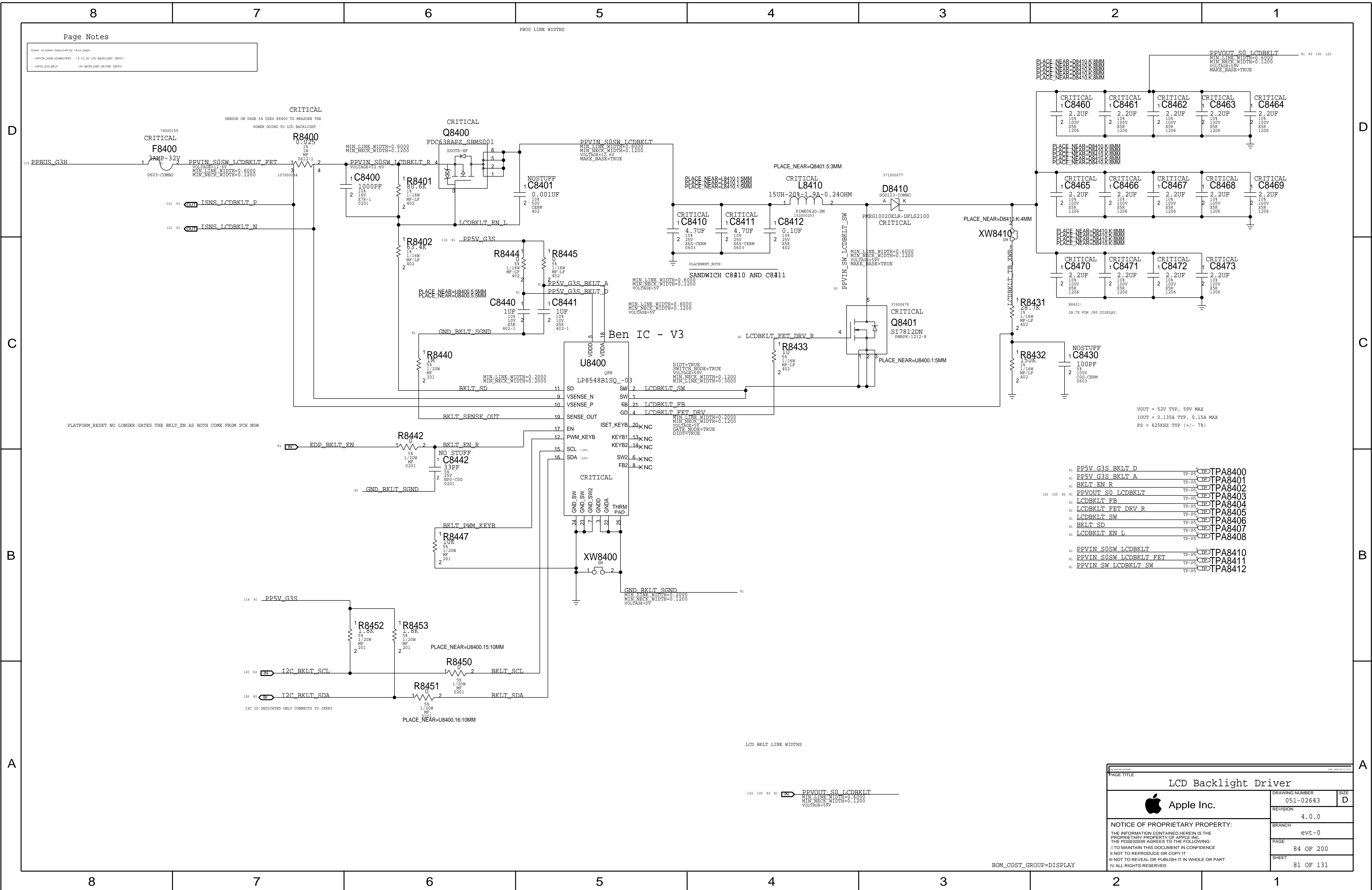
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		PAGE	82 OF 200
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BOM\_COST\_GROUP=PLATFORM POWER



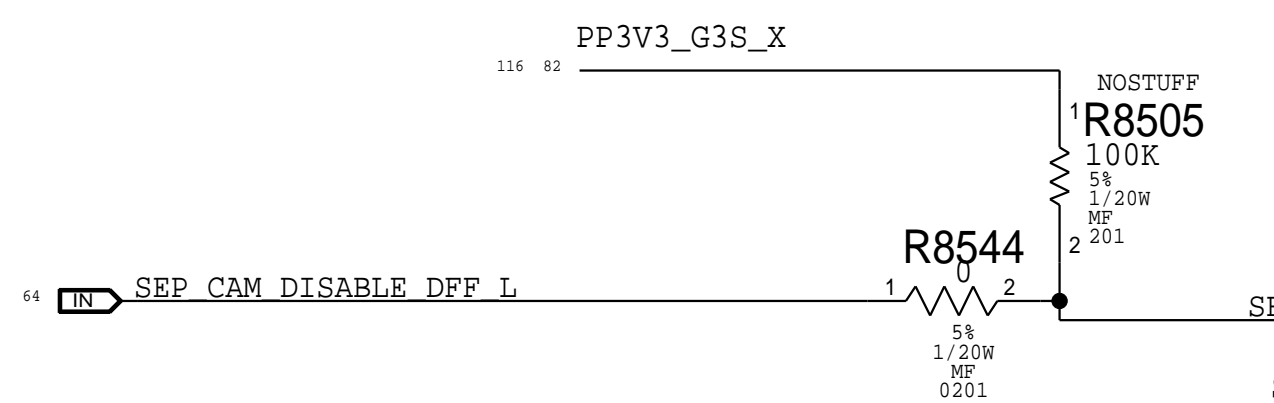
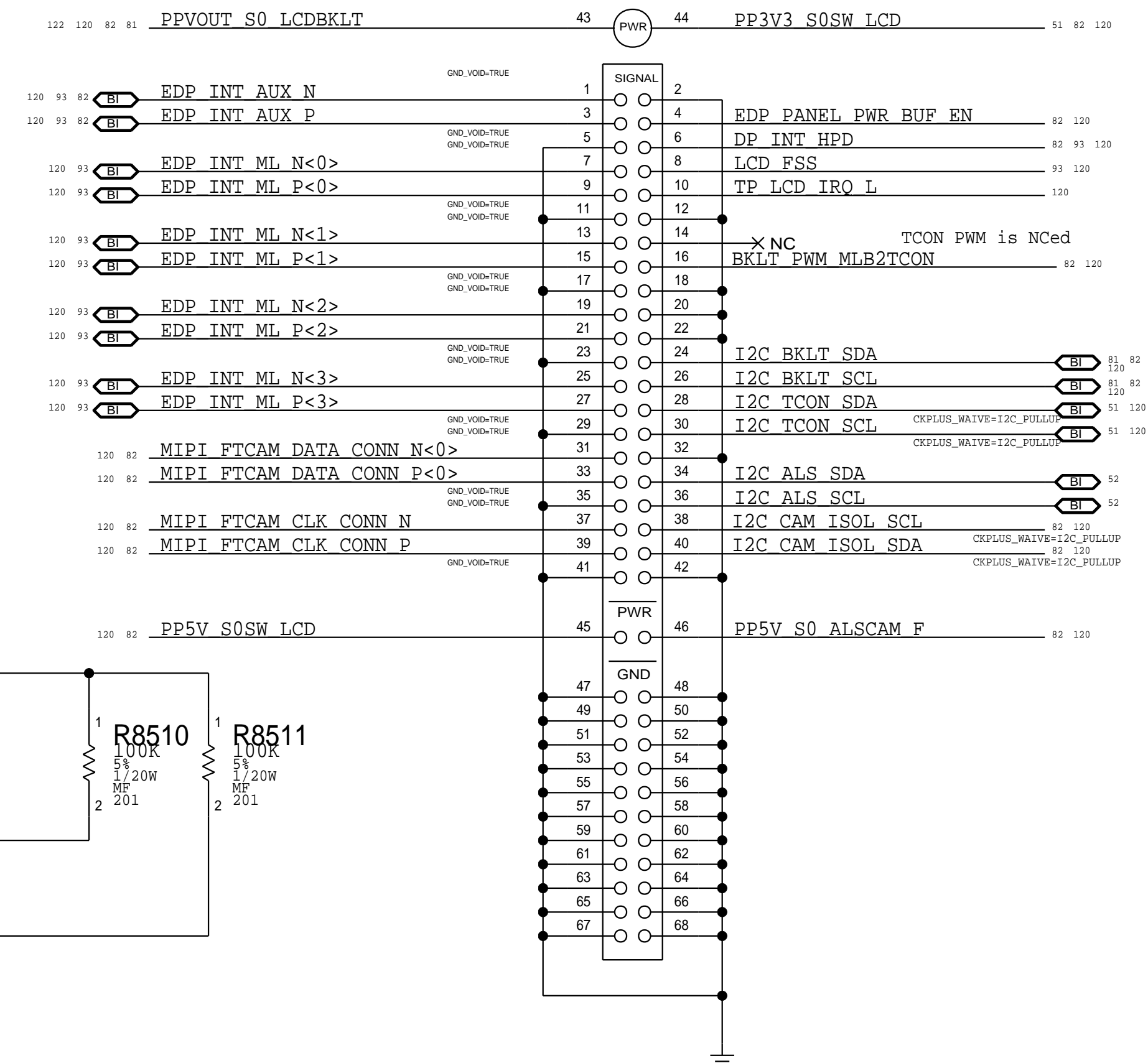
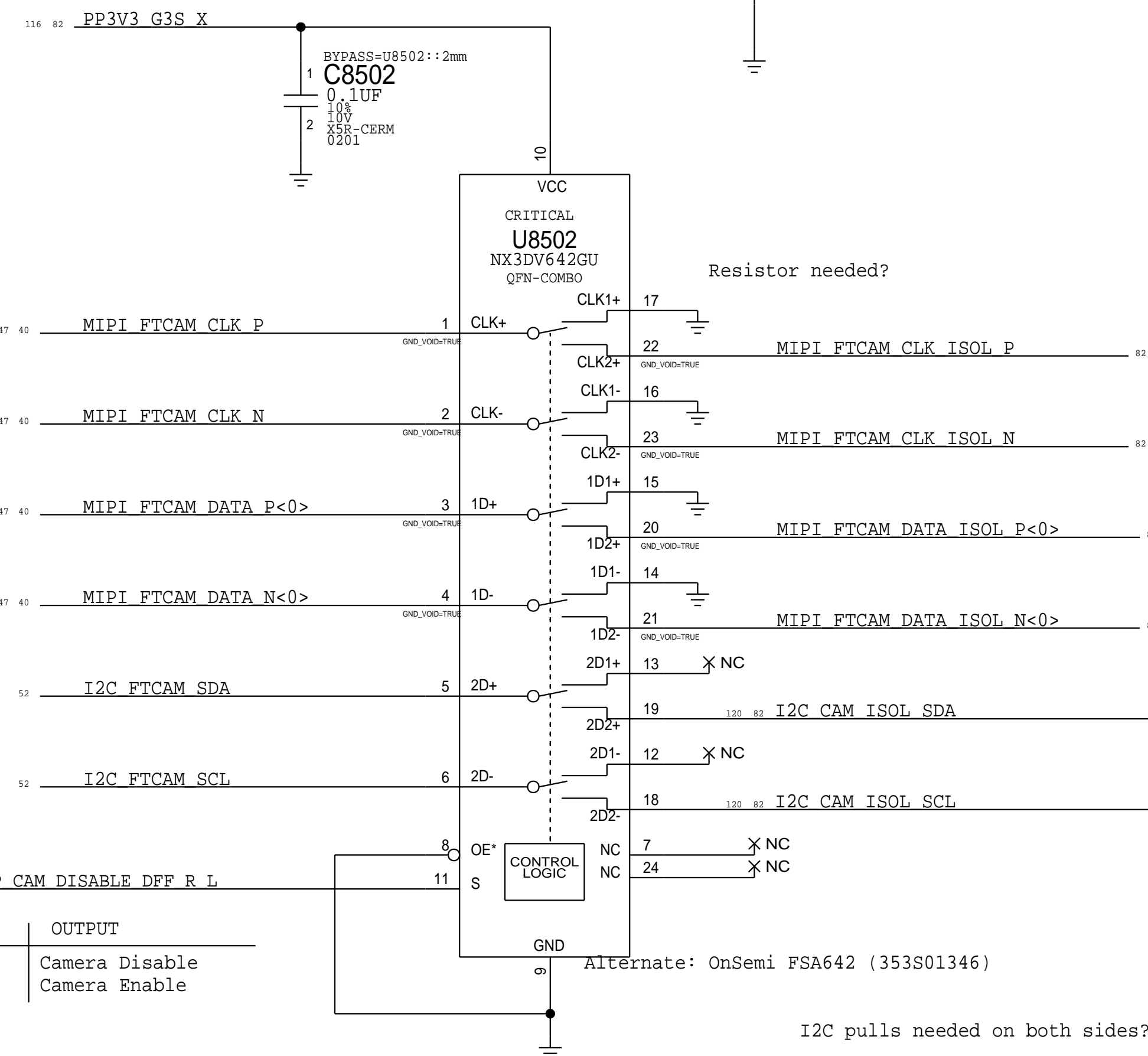
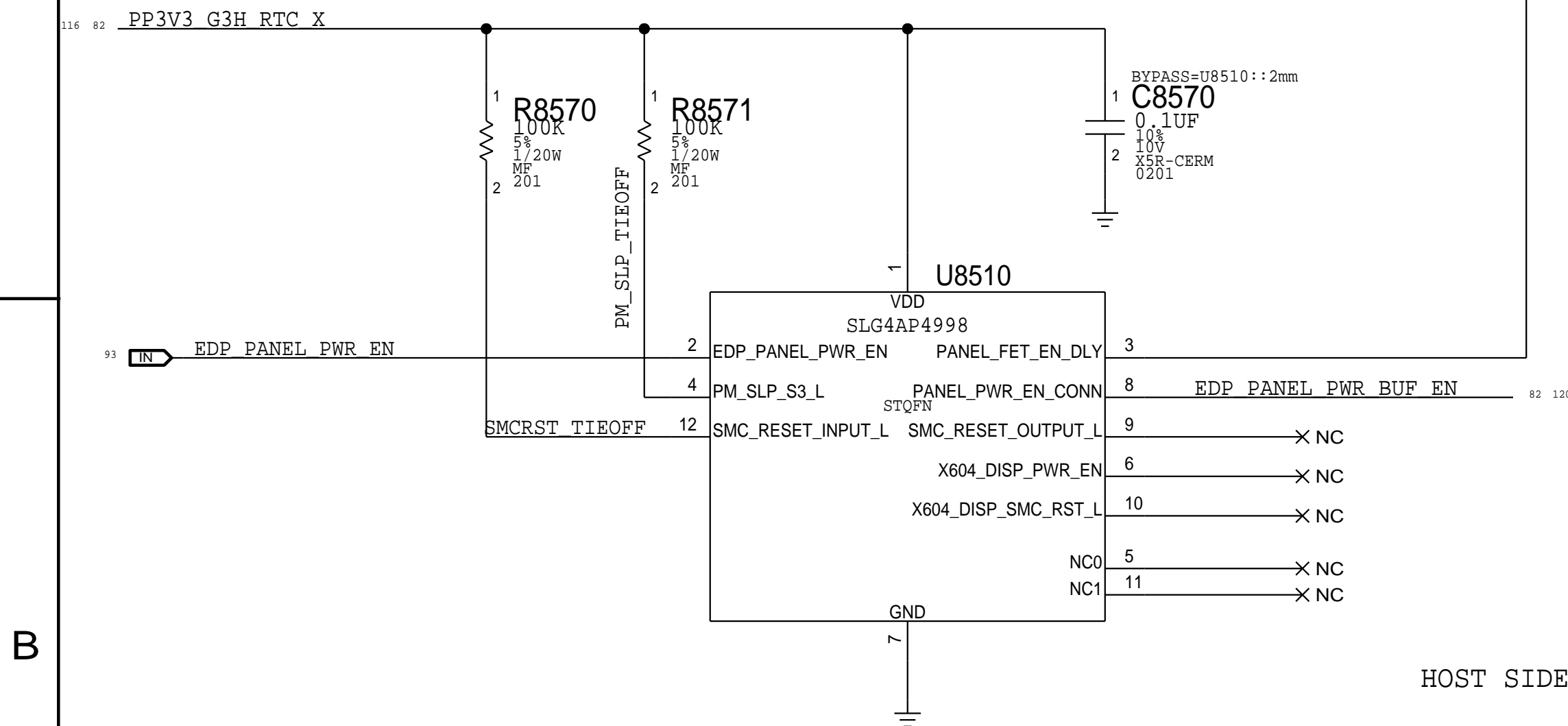
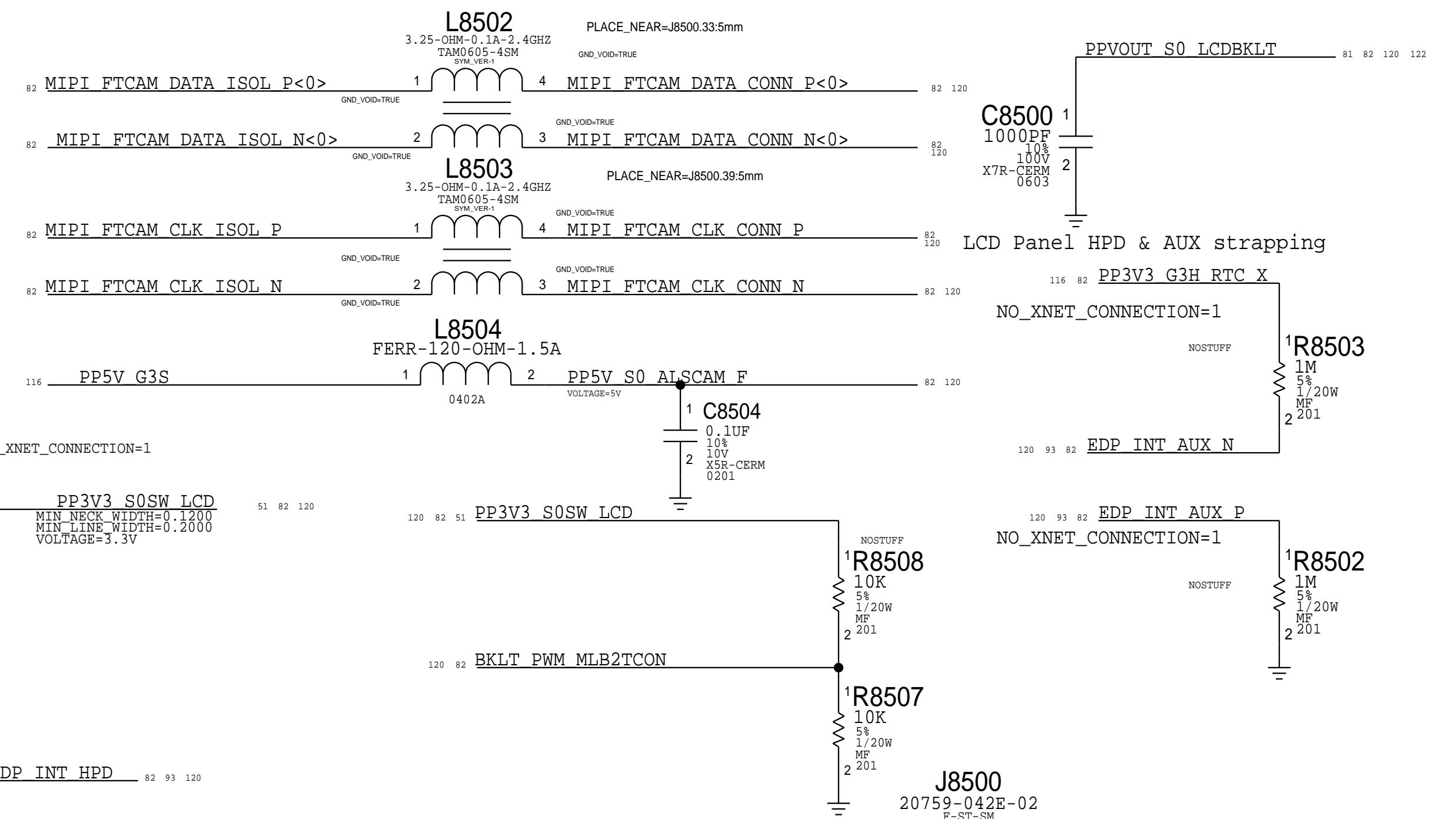
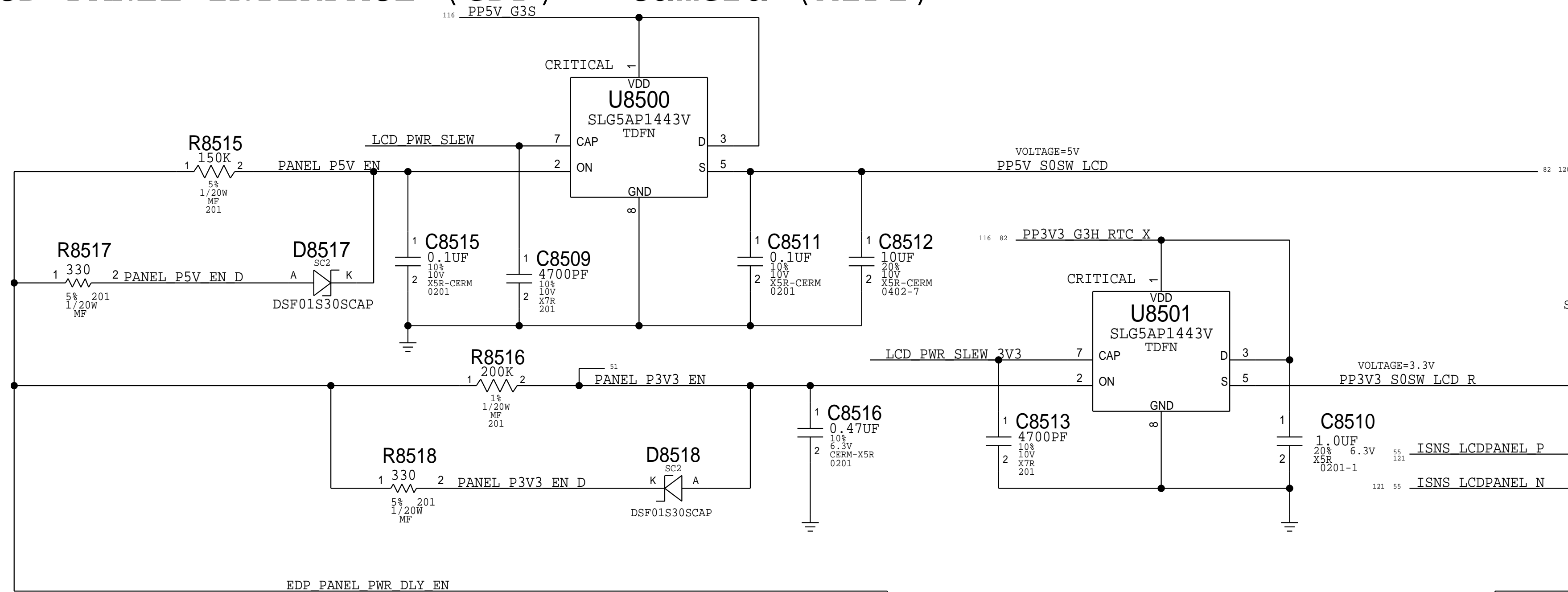


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## LCD PANEL INTERFACE (eDP) + Camera (MIPI)

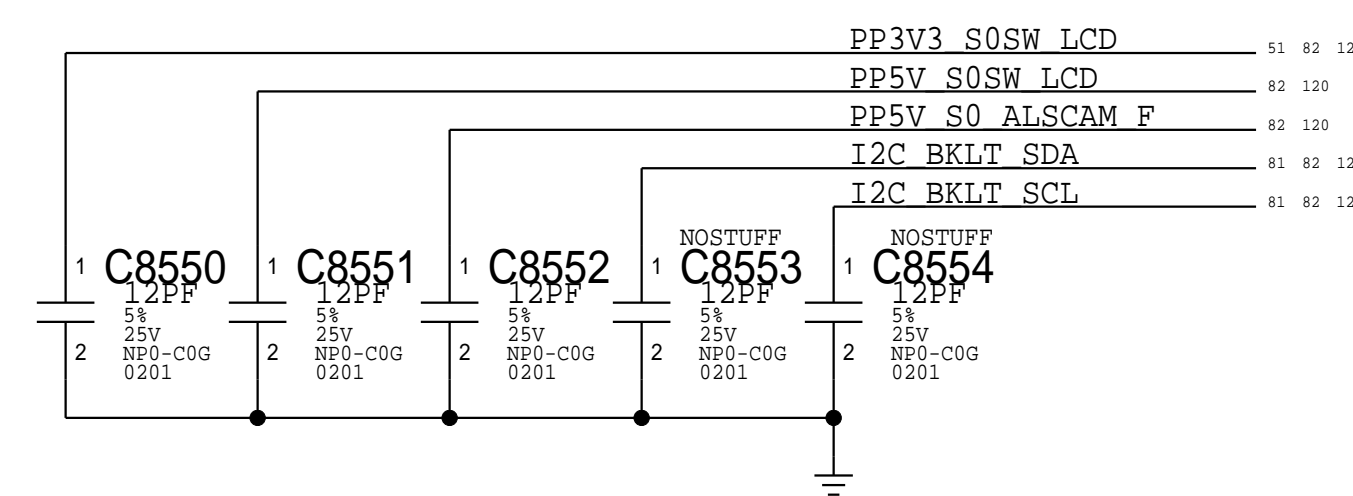
## MIPIC FILTERING




S	OUTPUT
L	Camera Disable
H	Camera Enable

Alternate: OnSemi FSA642 (353S01346)

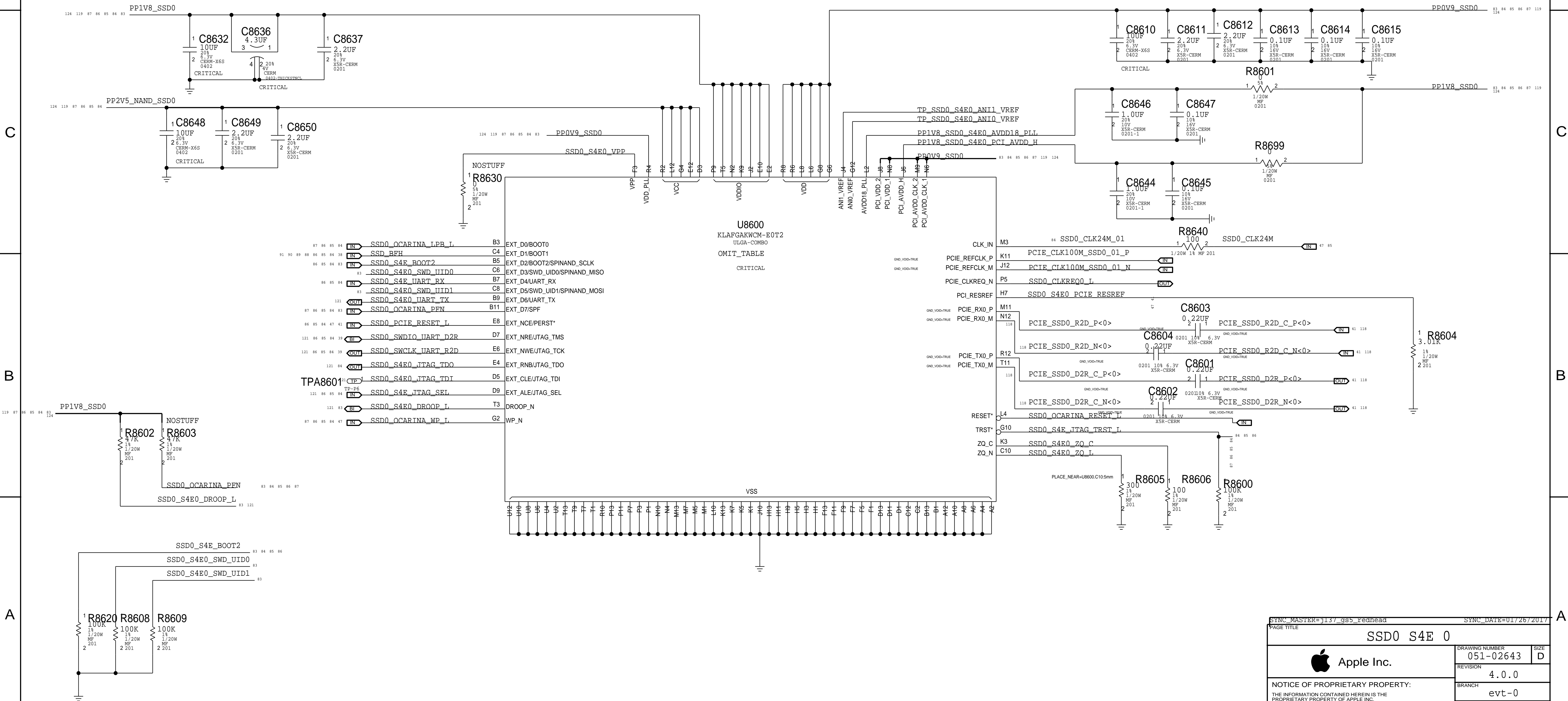
I2C pulls needed on both sides???



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eDP Display Connector			
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BOM\_COST\_GROUP=DISPLAY

# S4E0

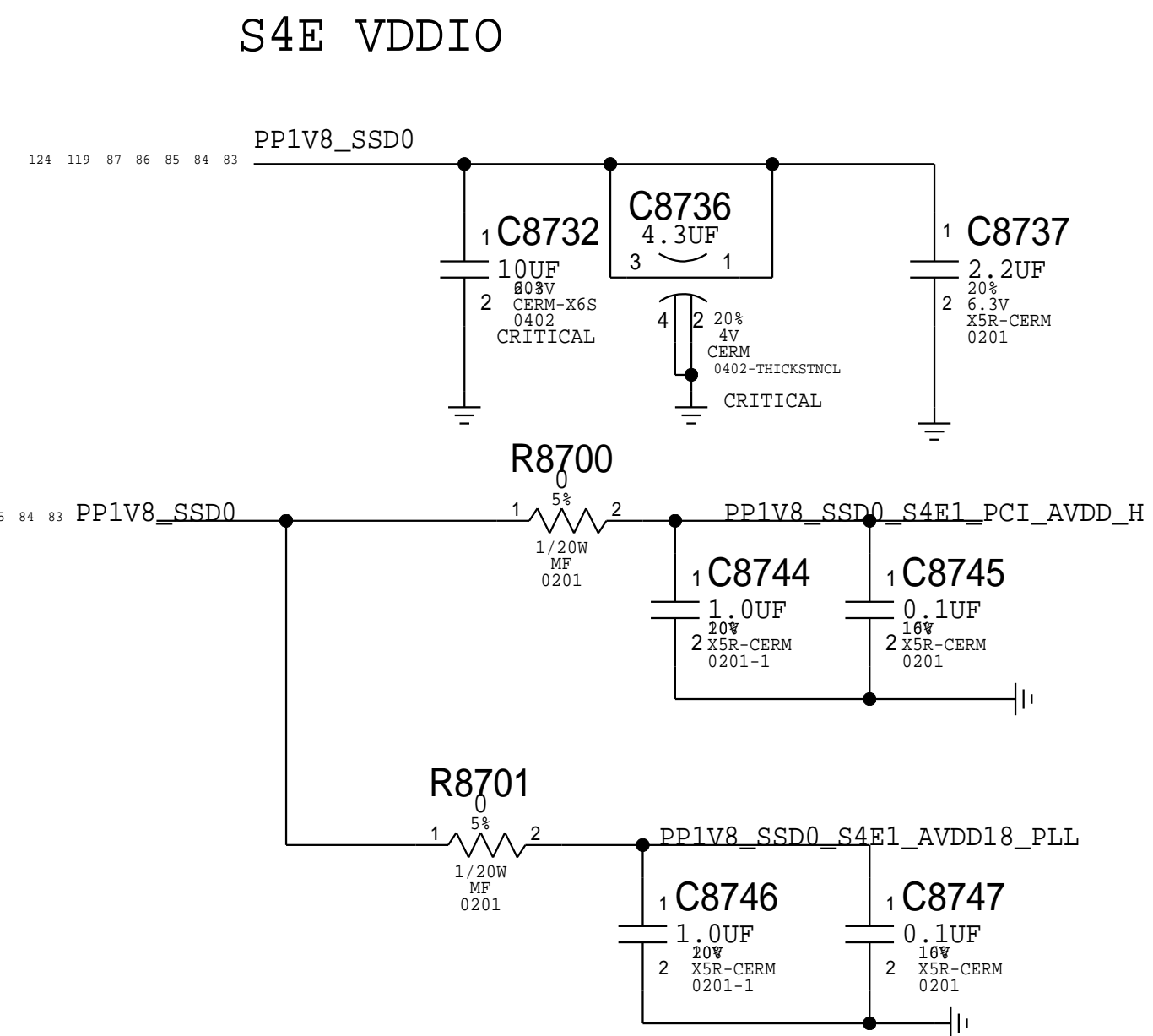
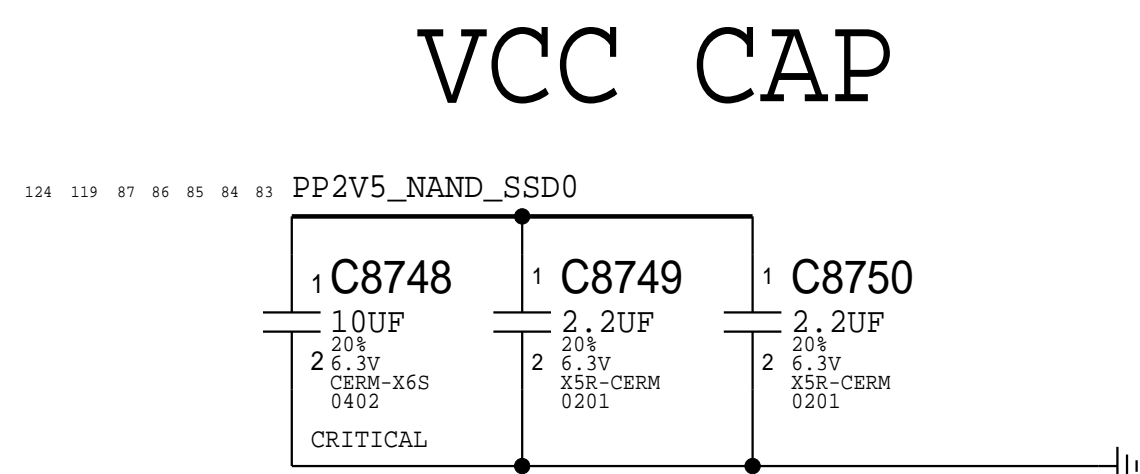
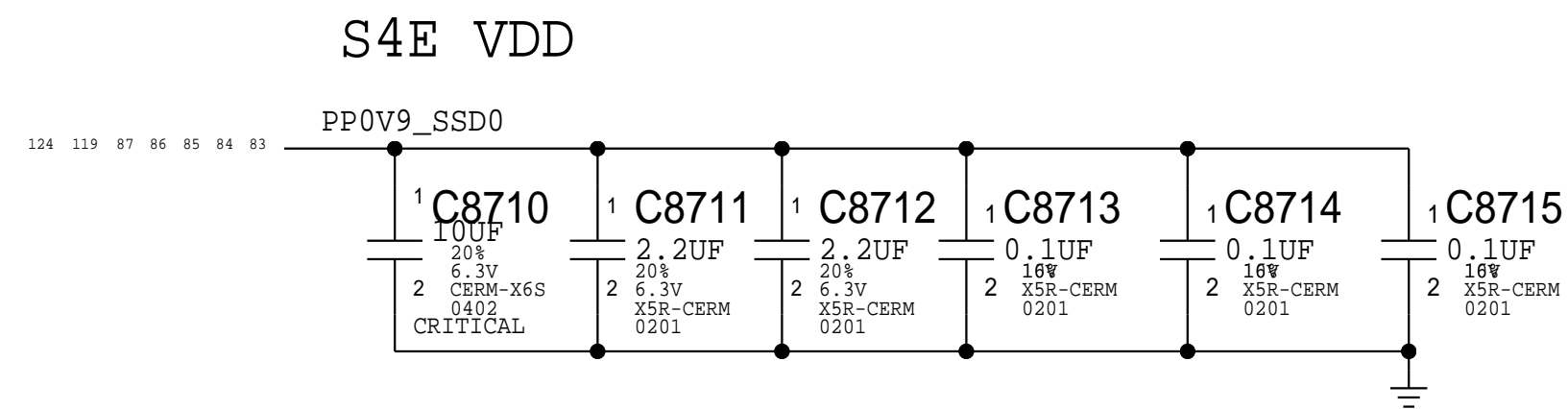
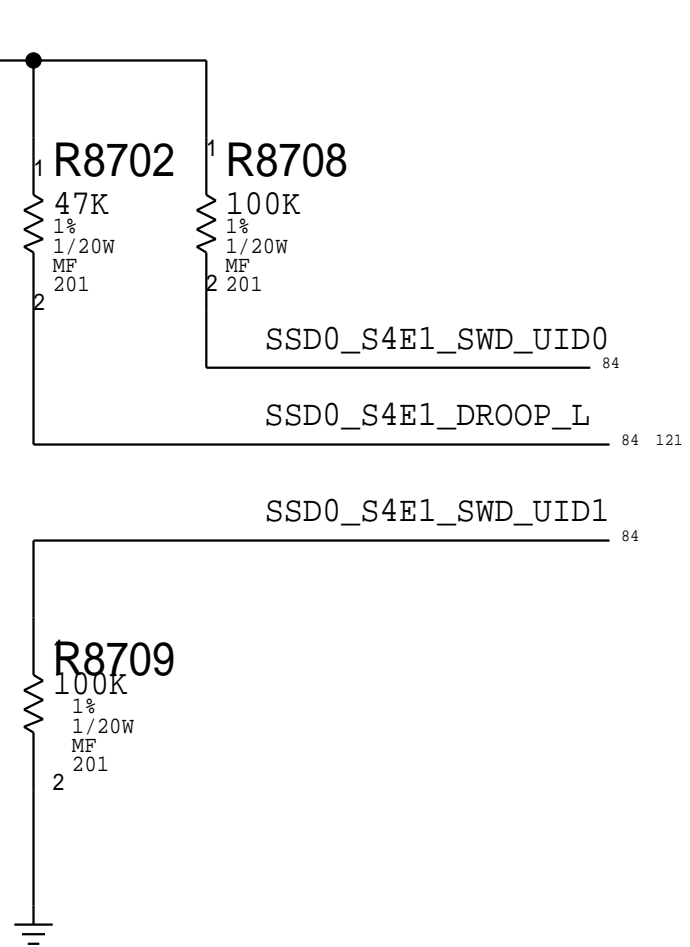
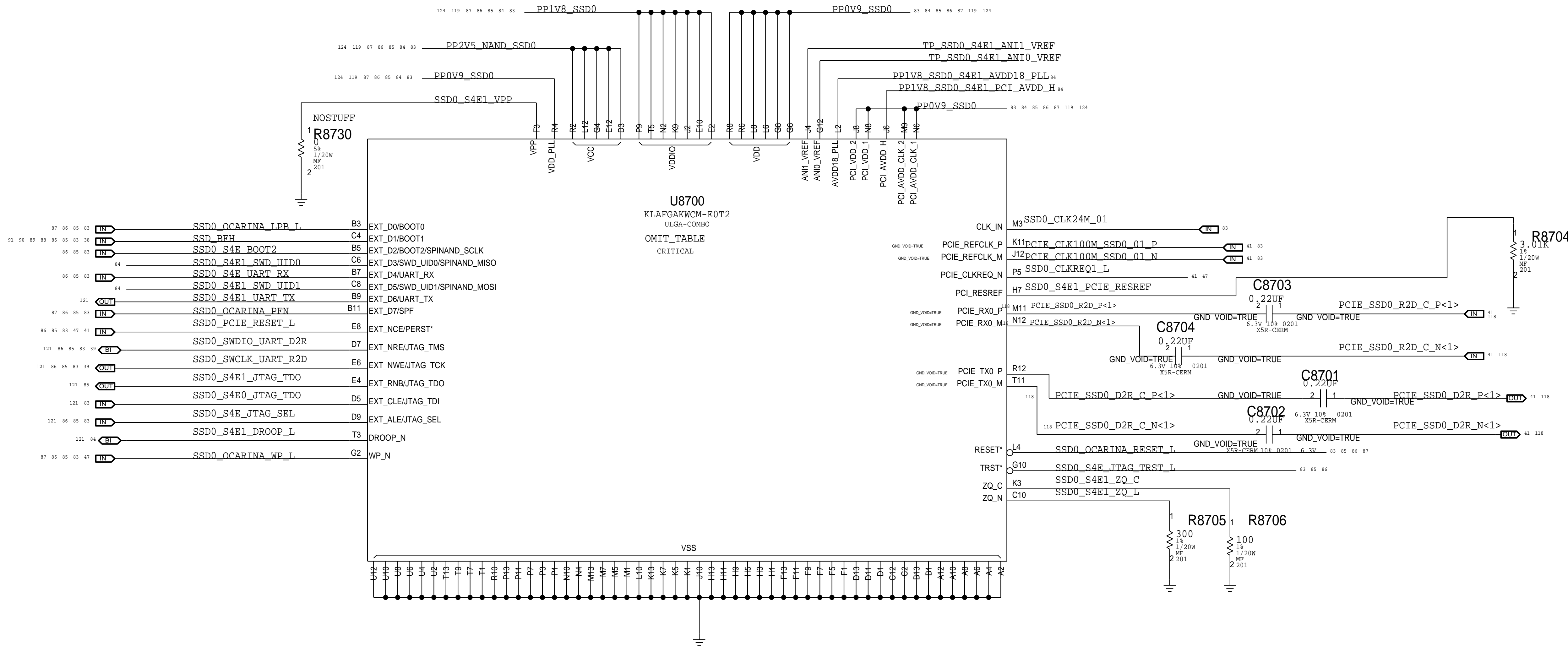



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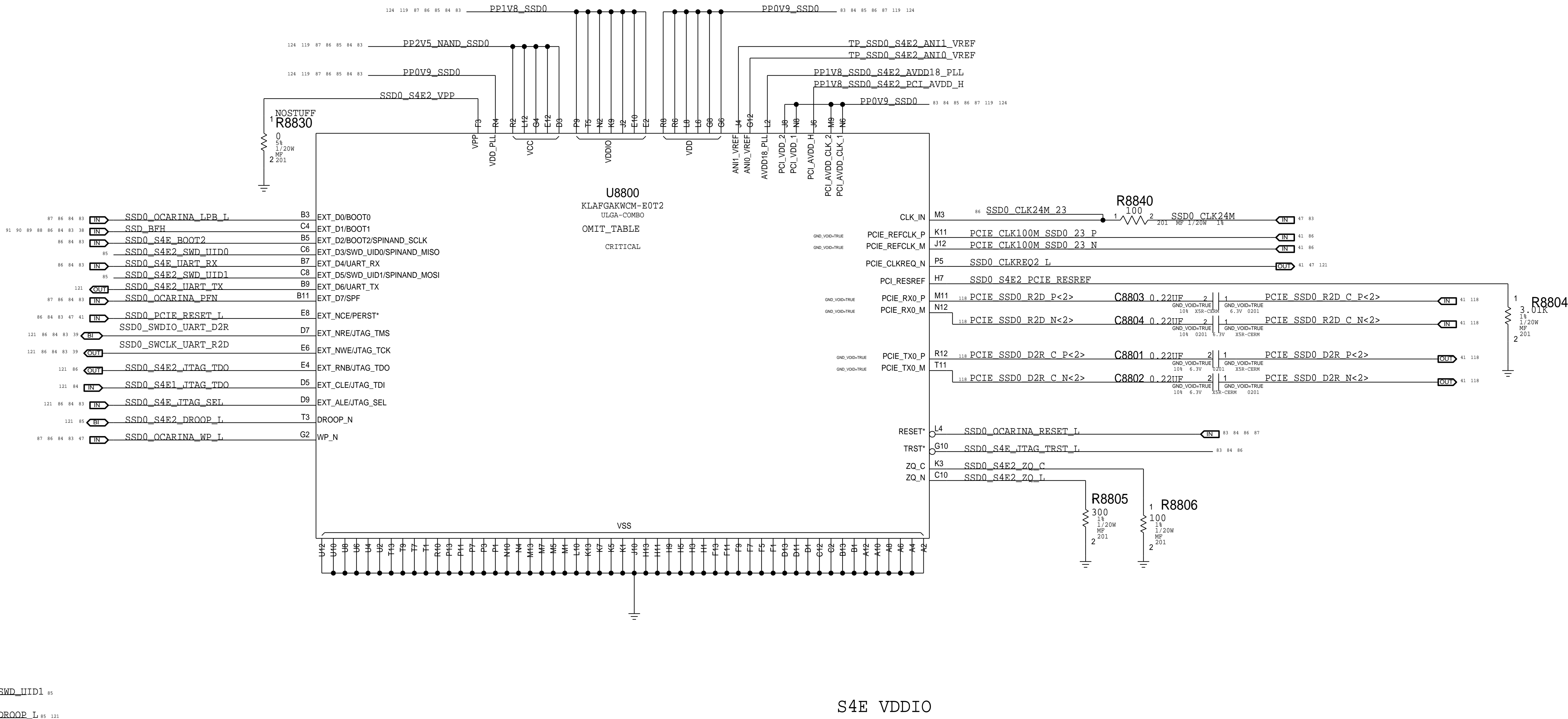


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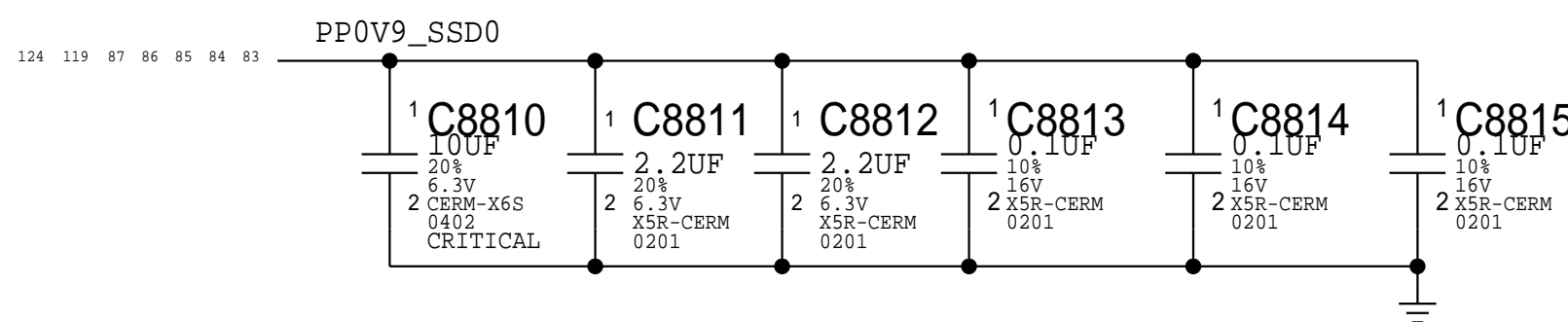
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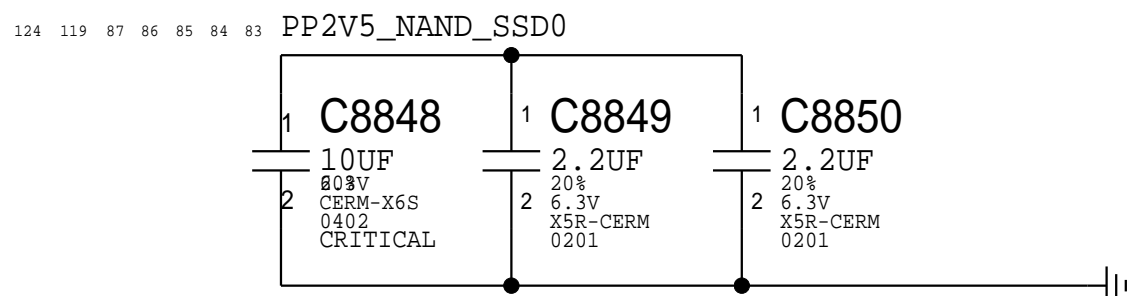
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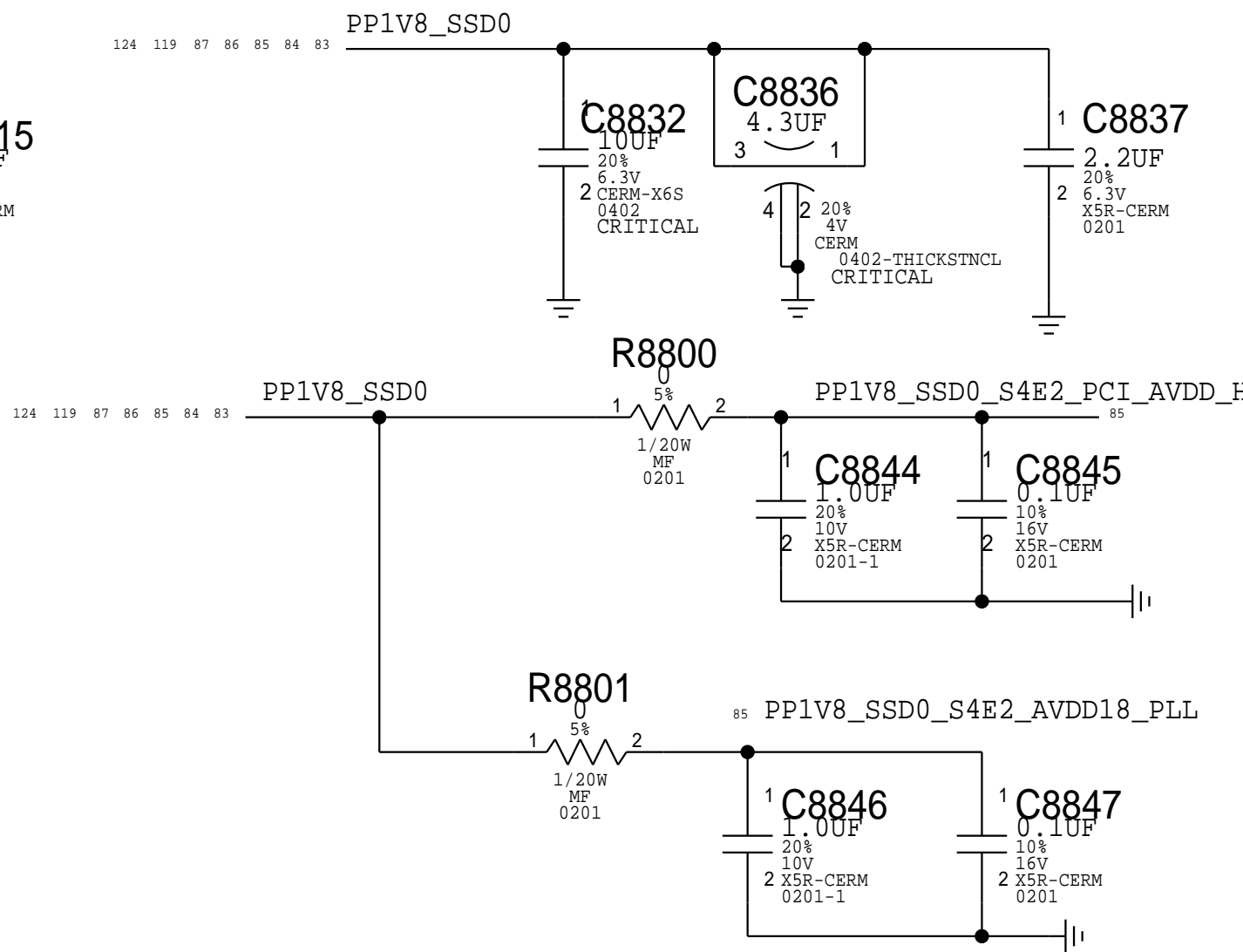
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VCC CAP



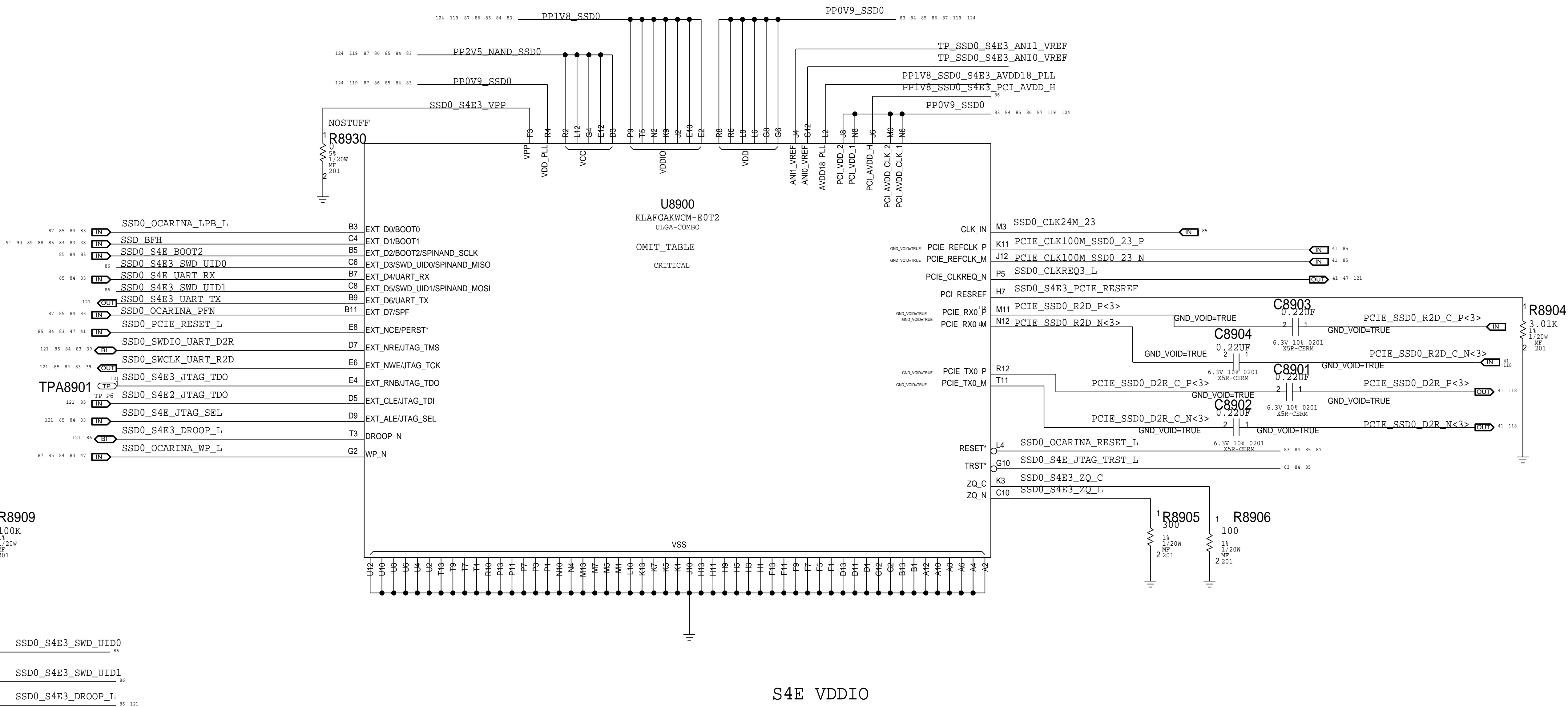
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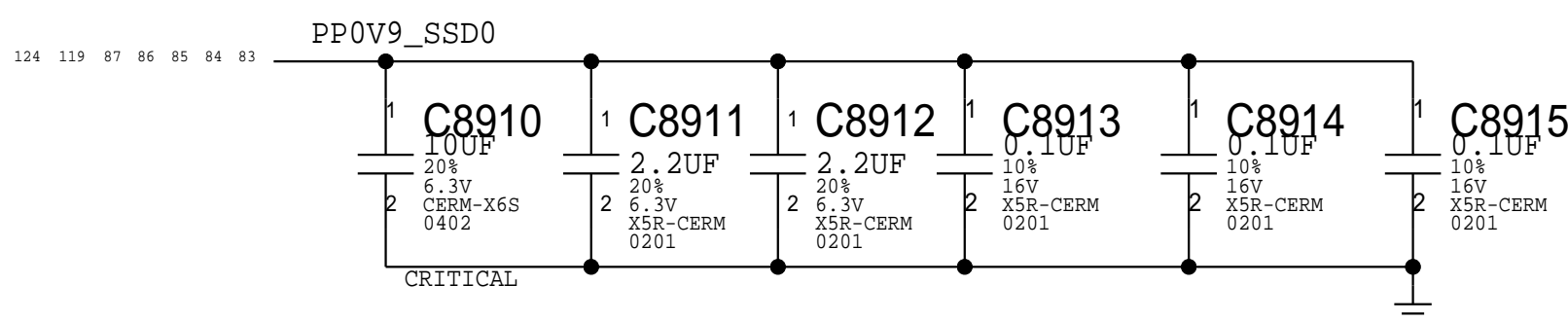
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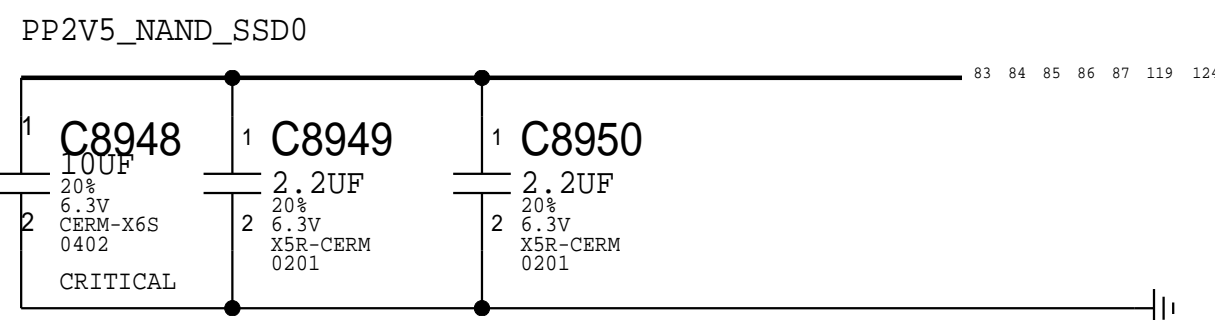
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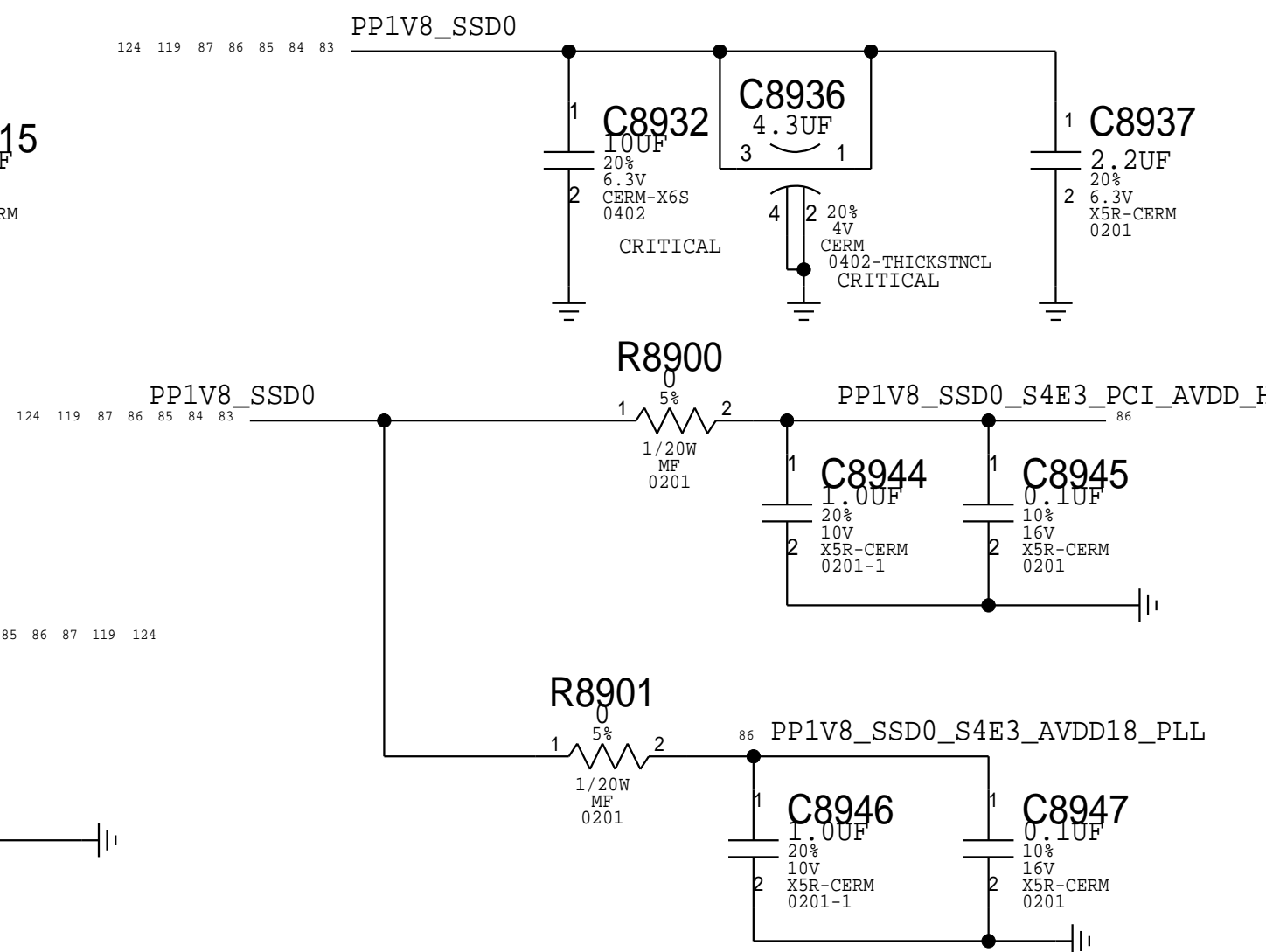
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## VCC CAP



## S4E VDDIO



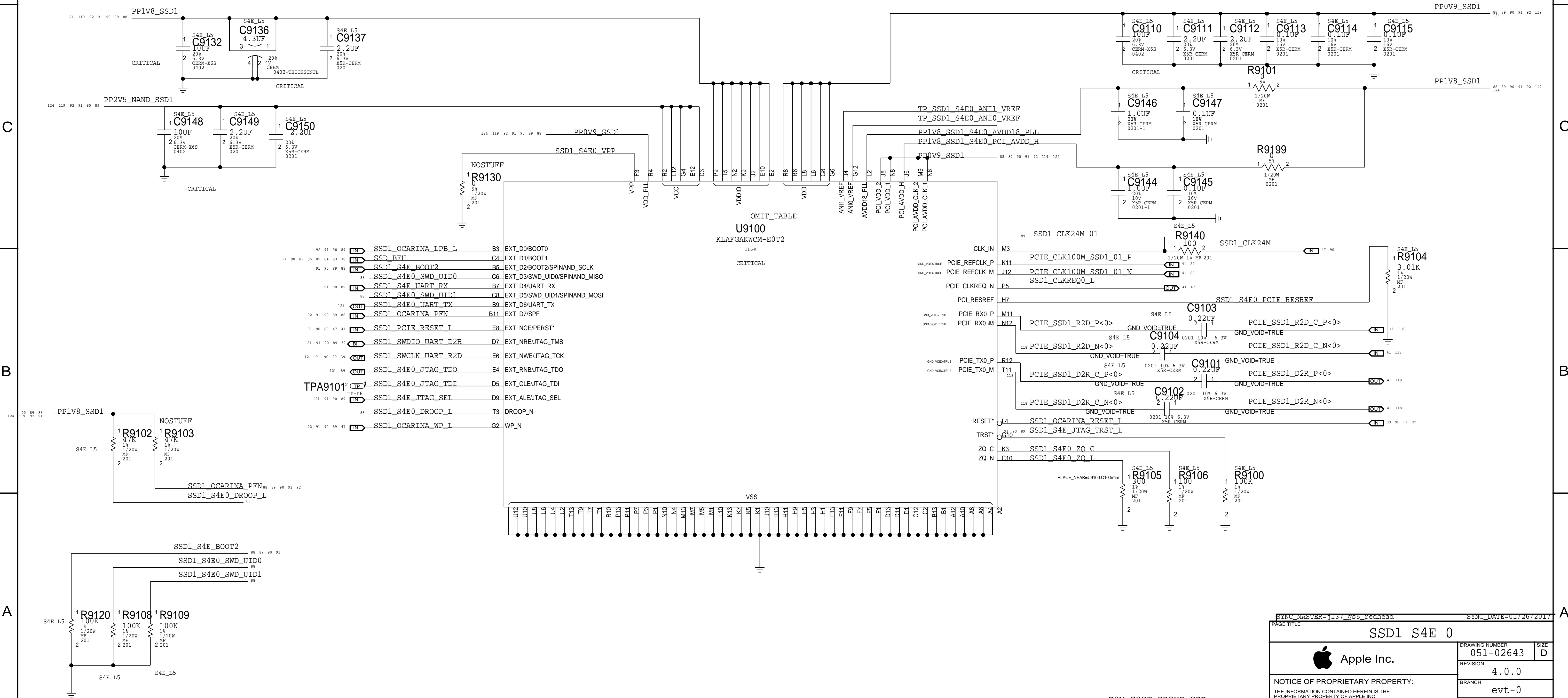
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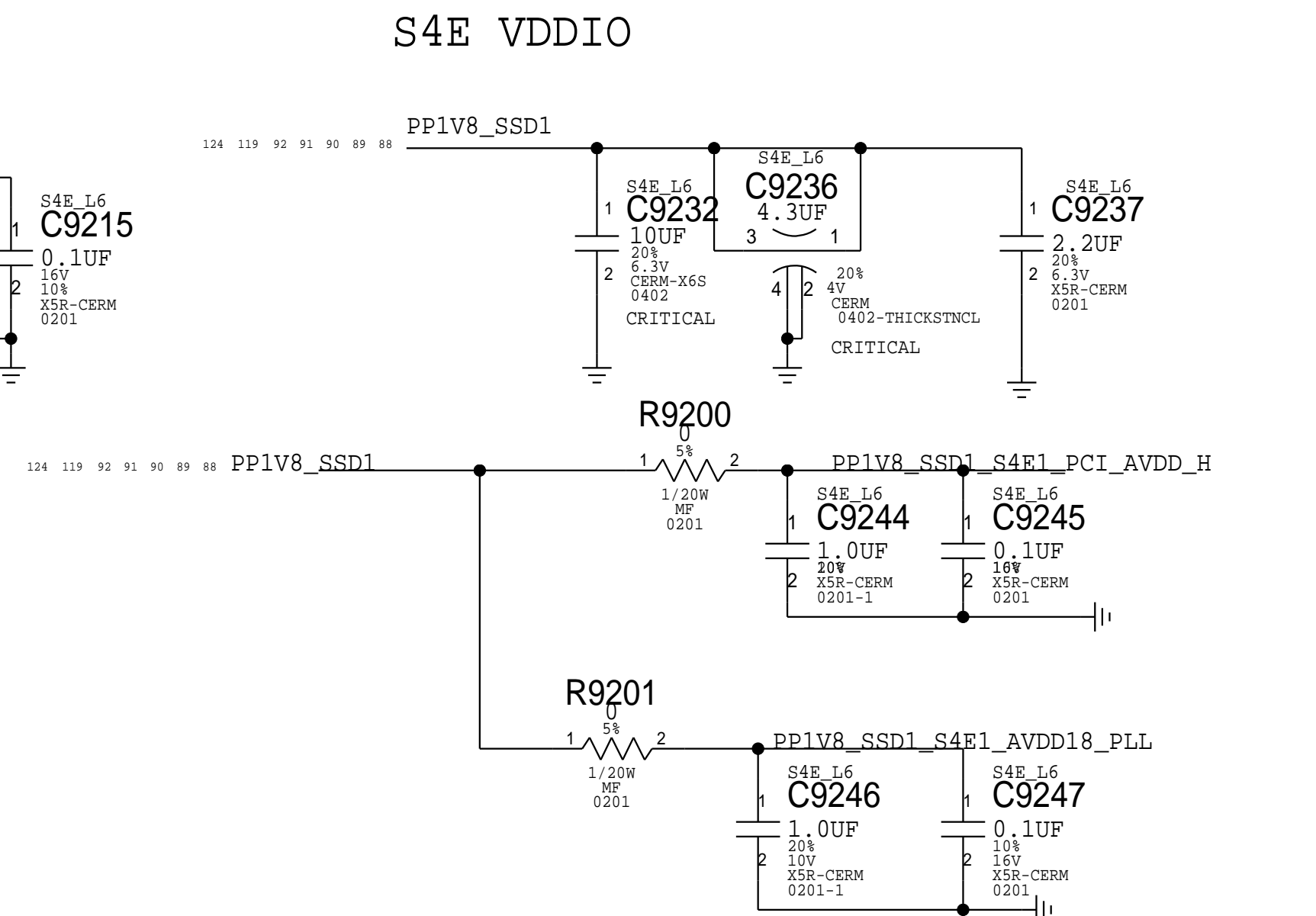
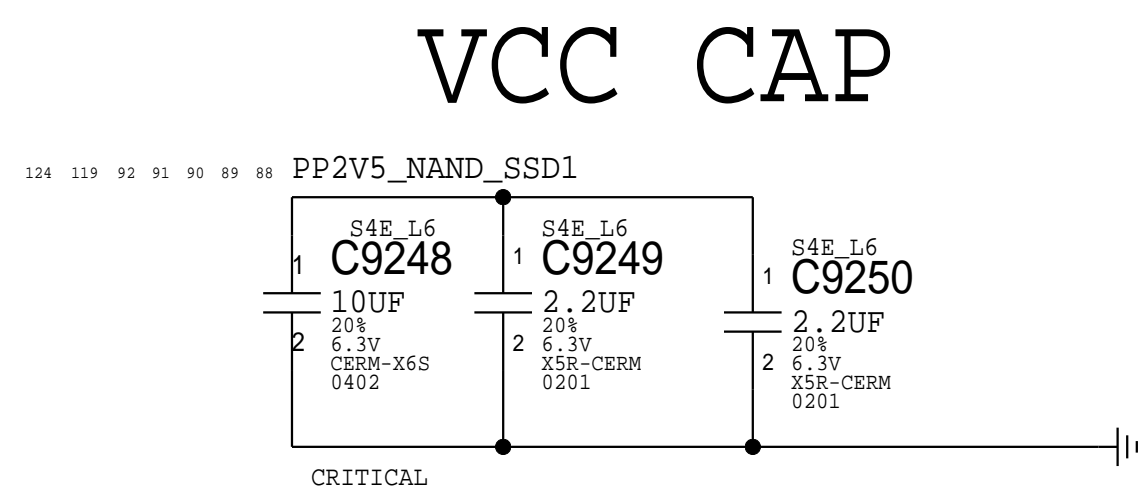
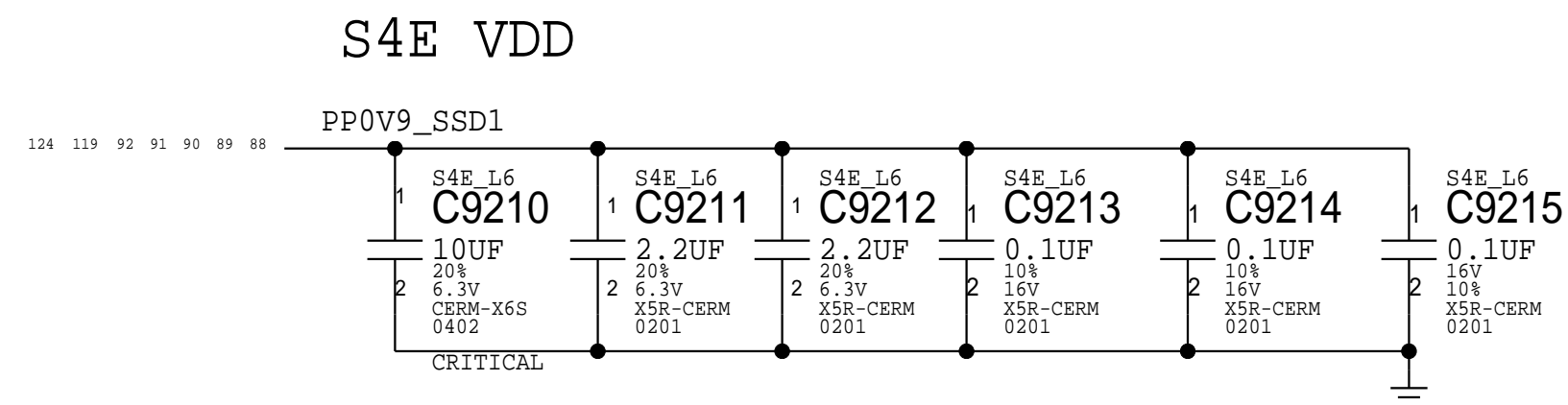
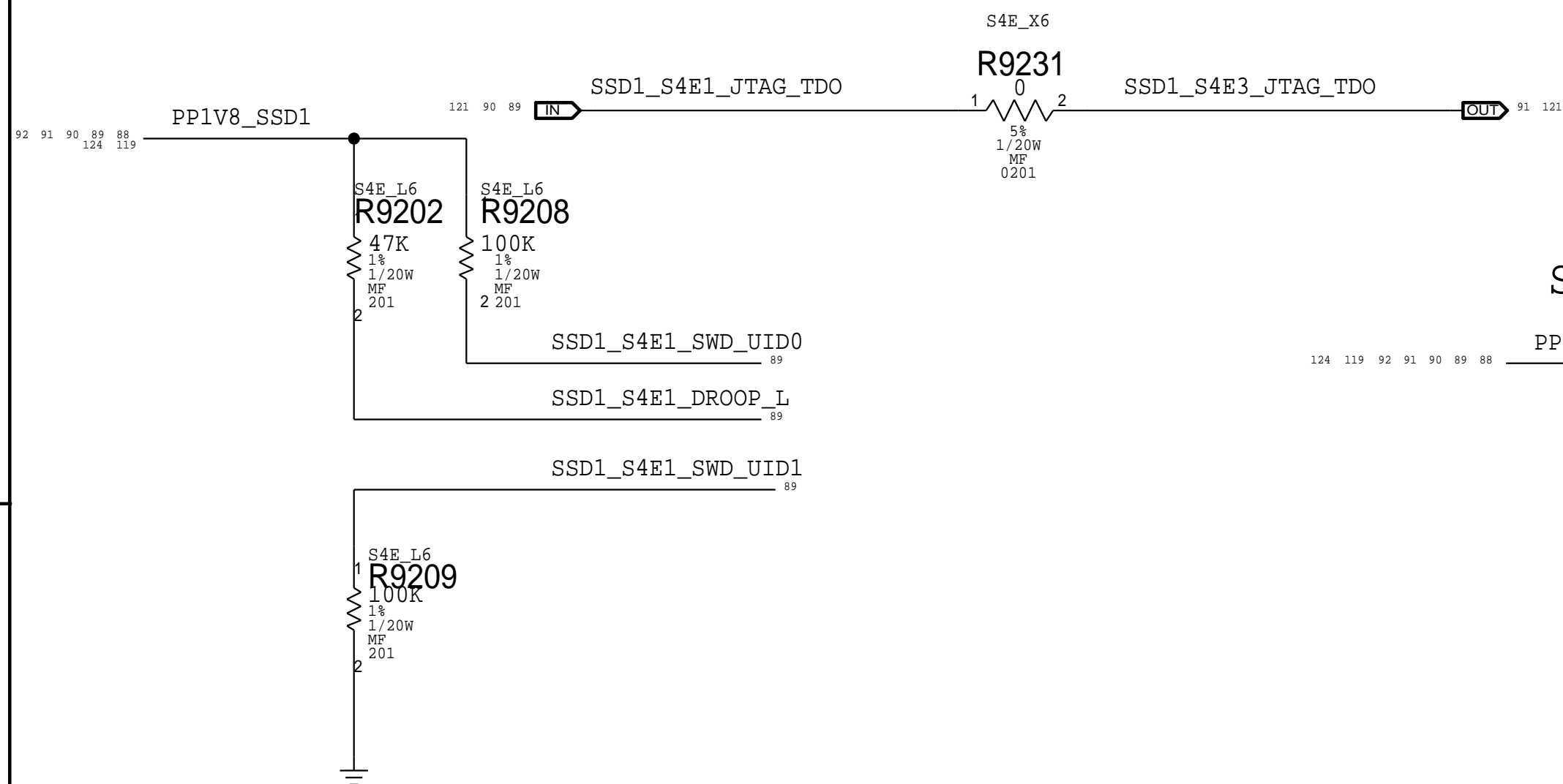
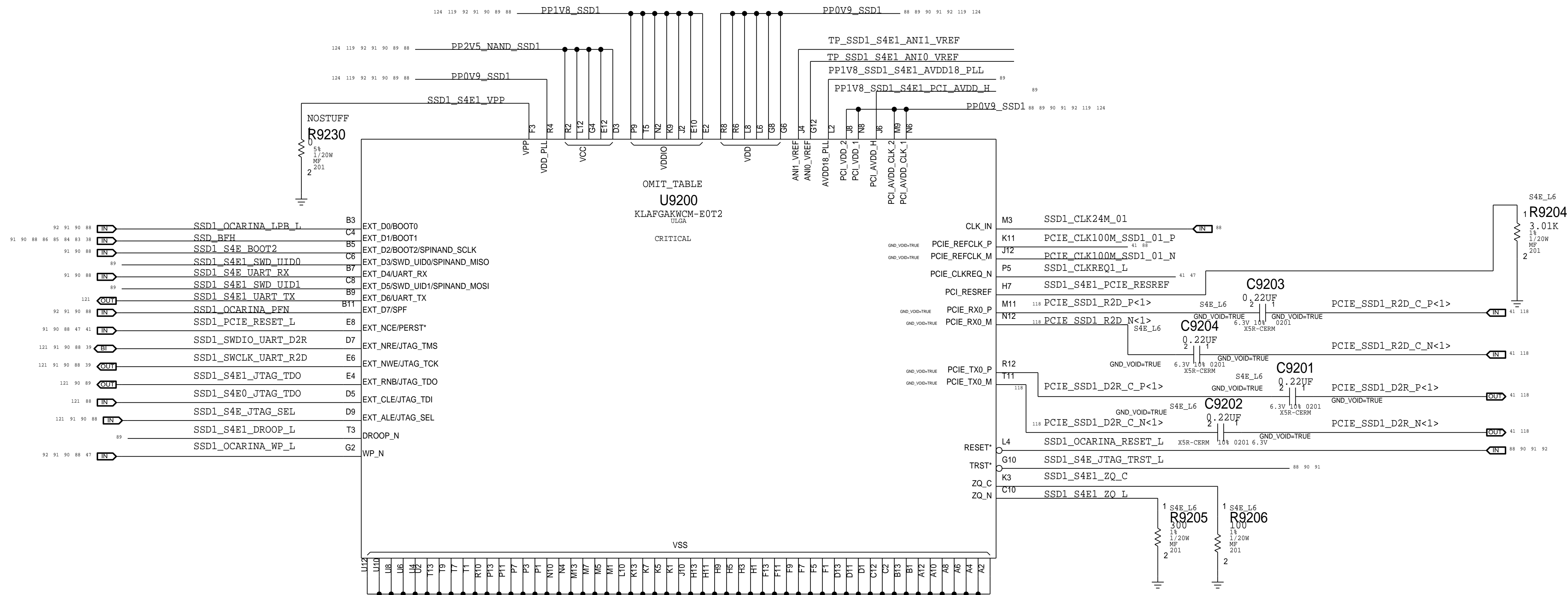
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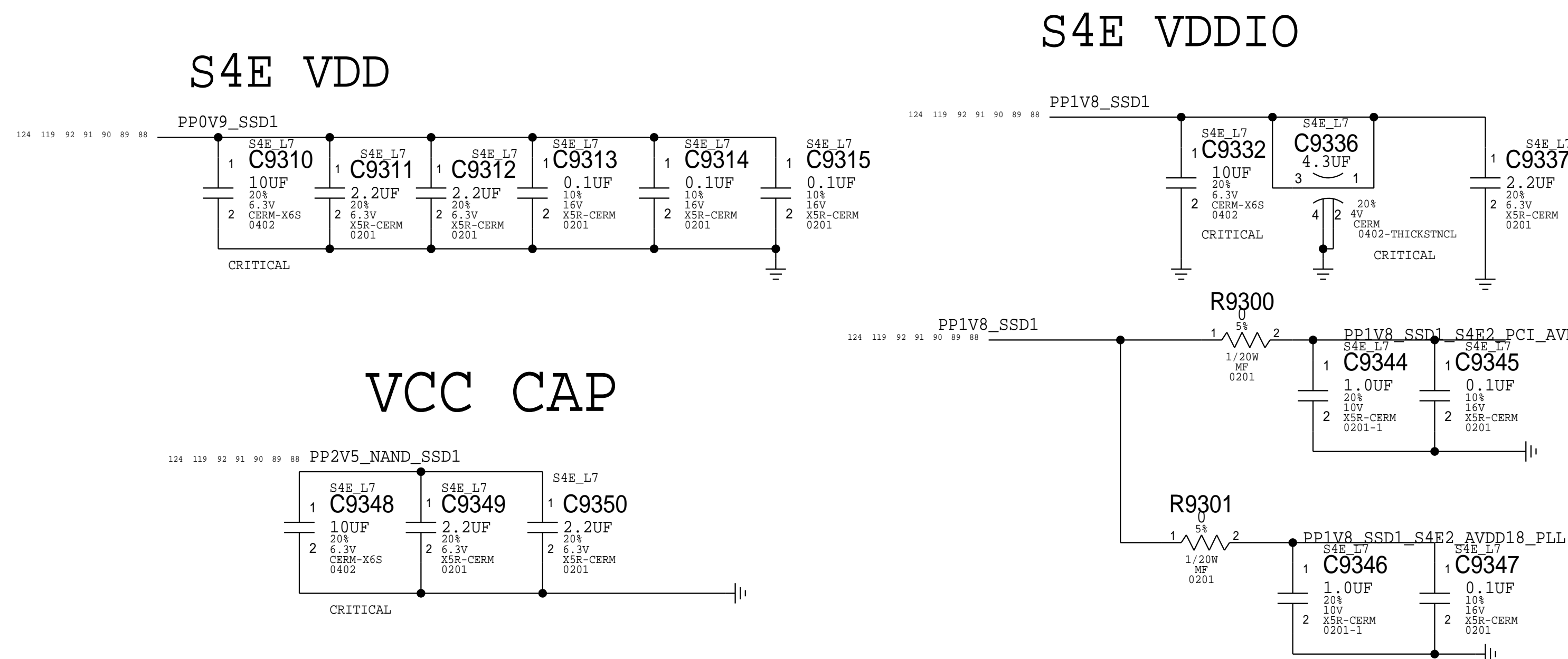
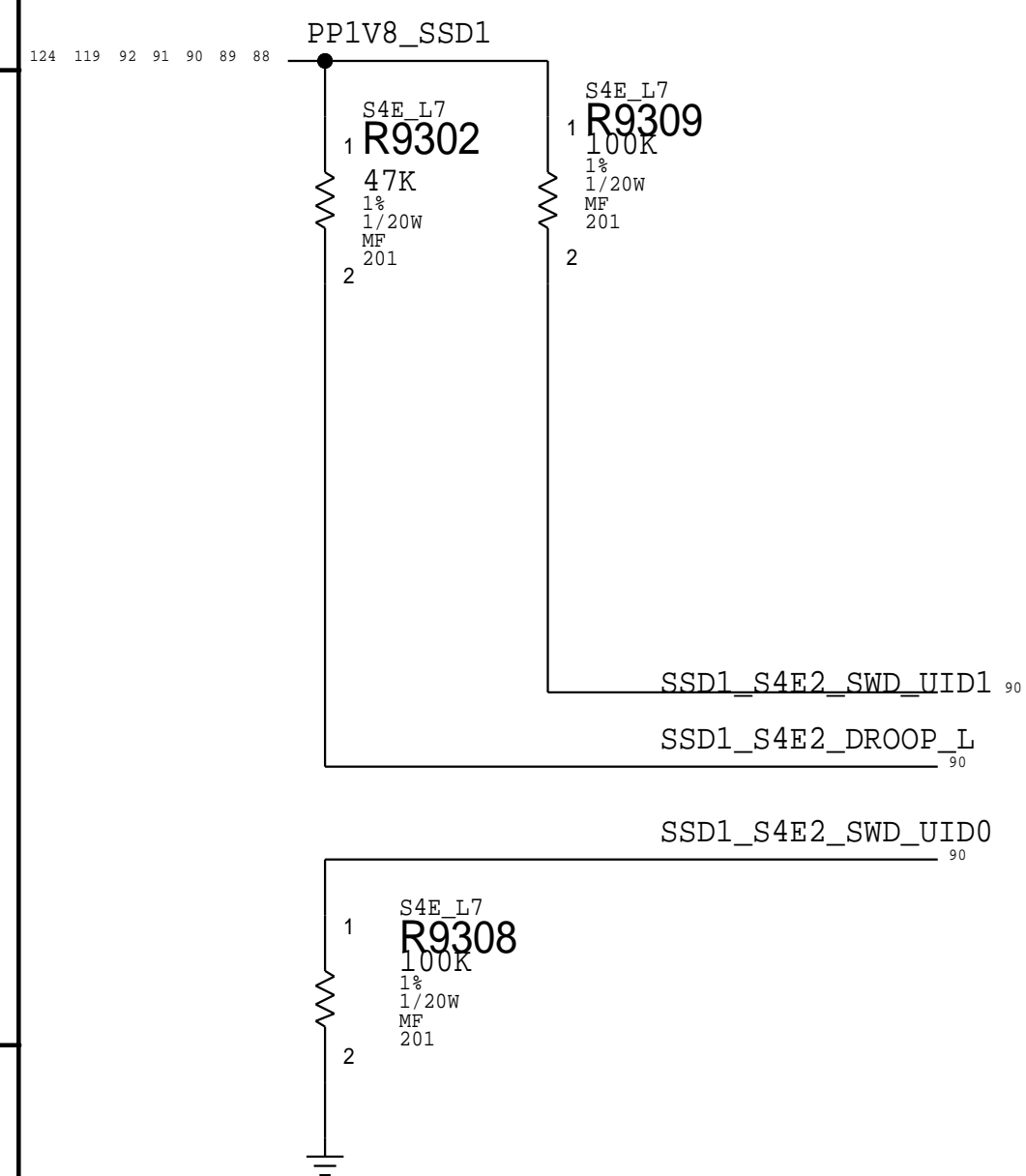
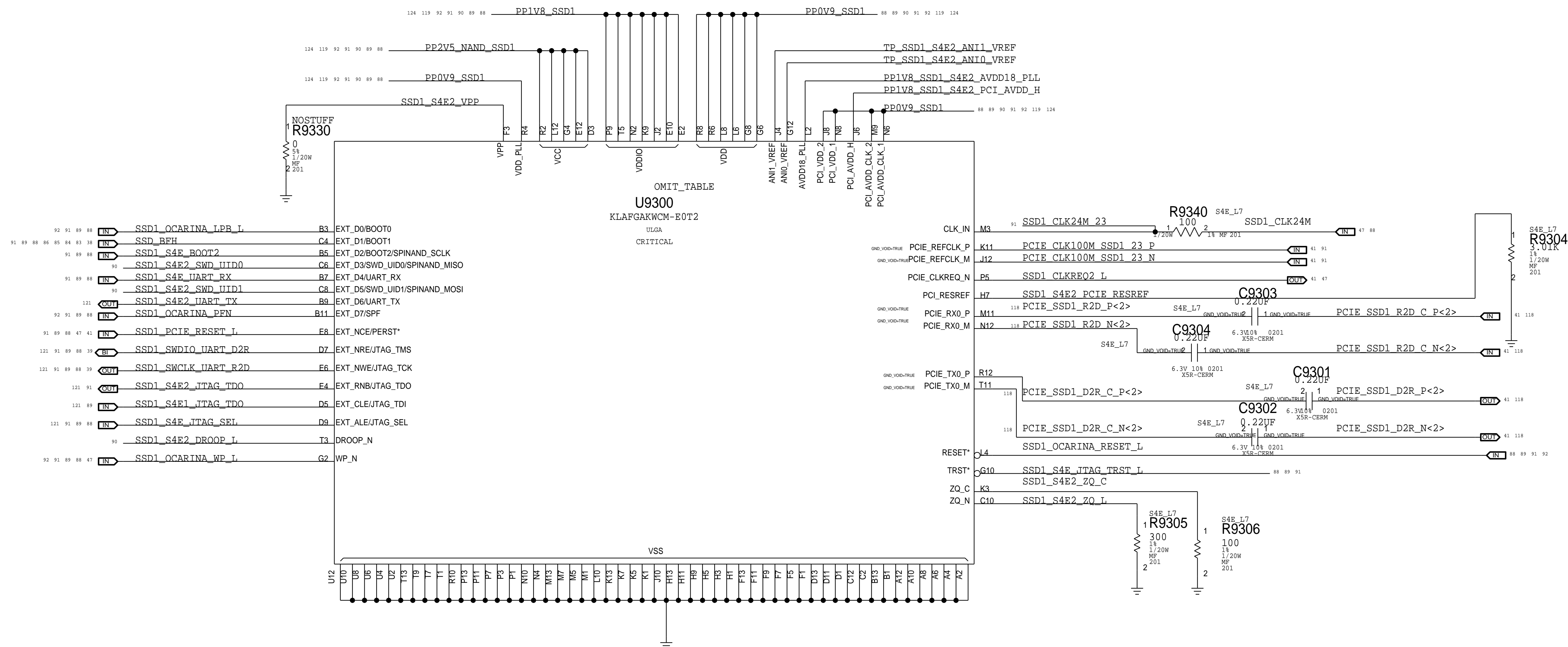
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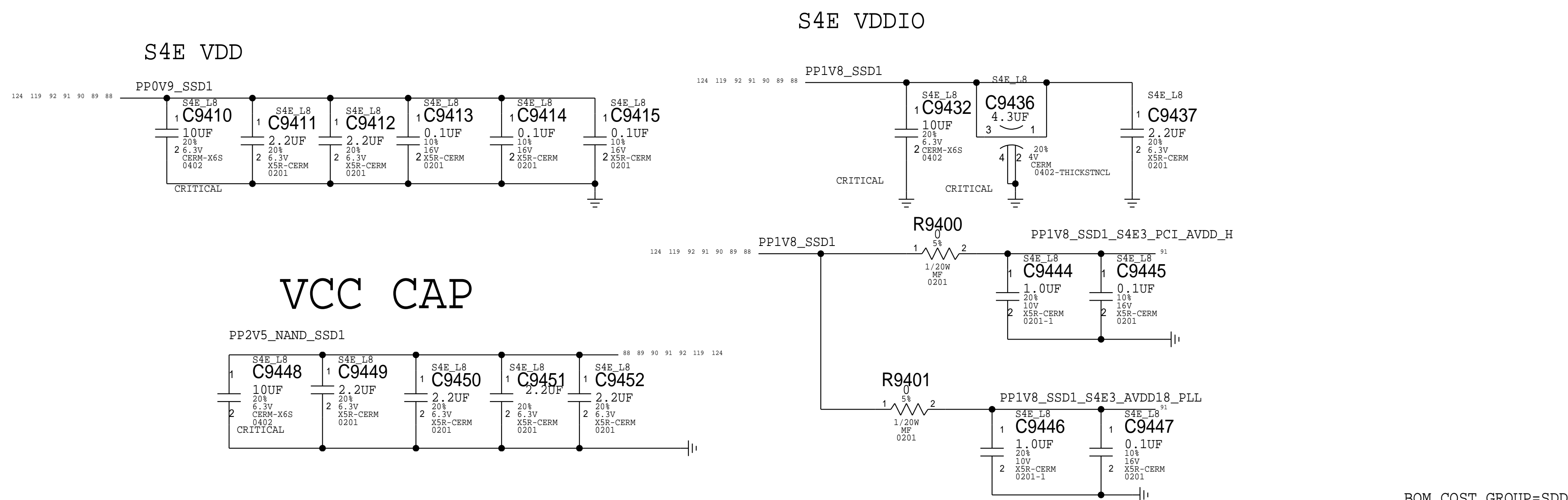
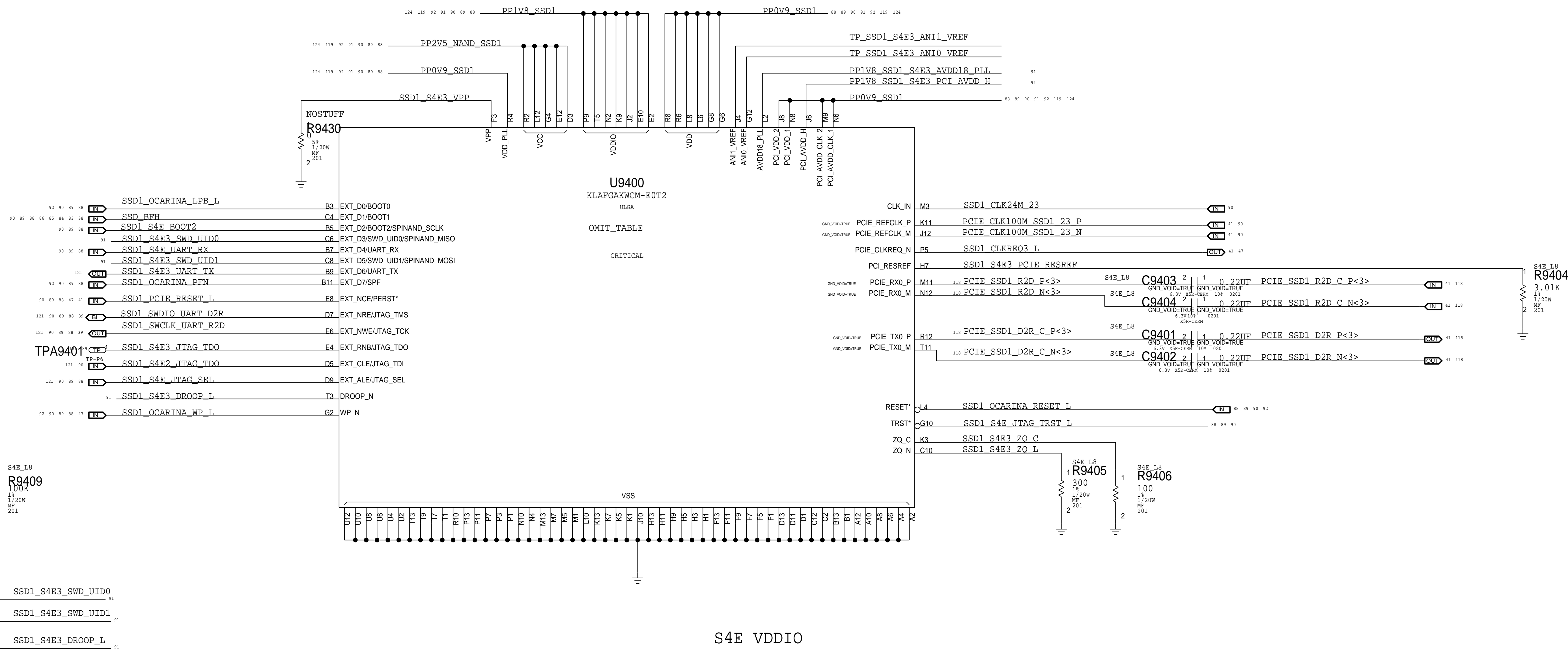



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GMUX GPIO Expander

DP 2:1 ANALOG MUX

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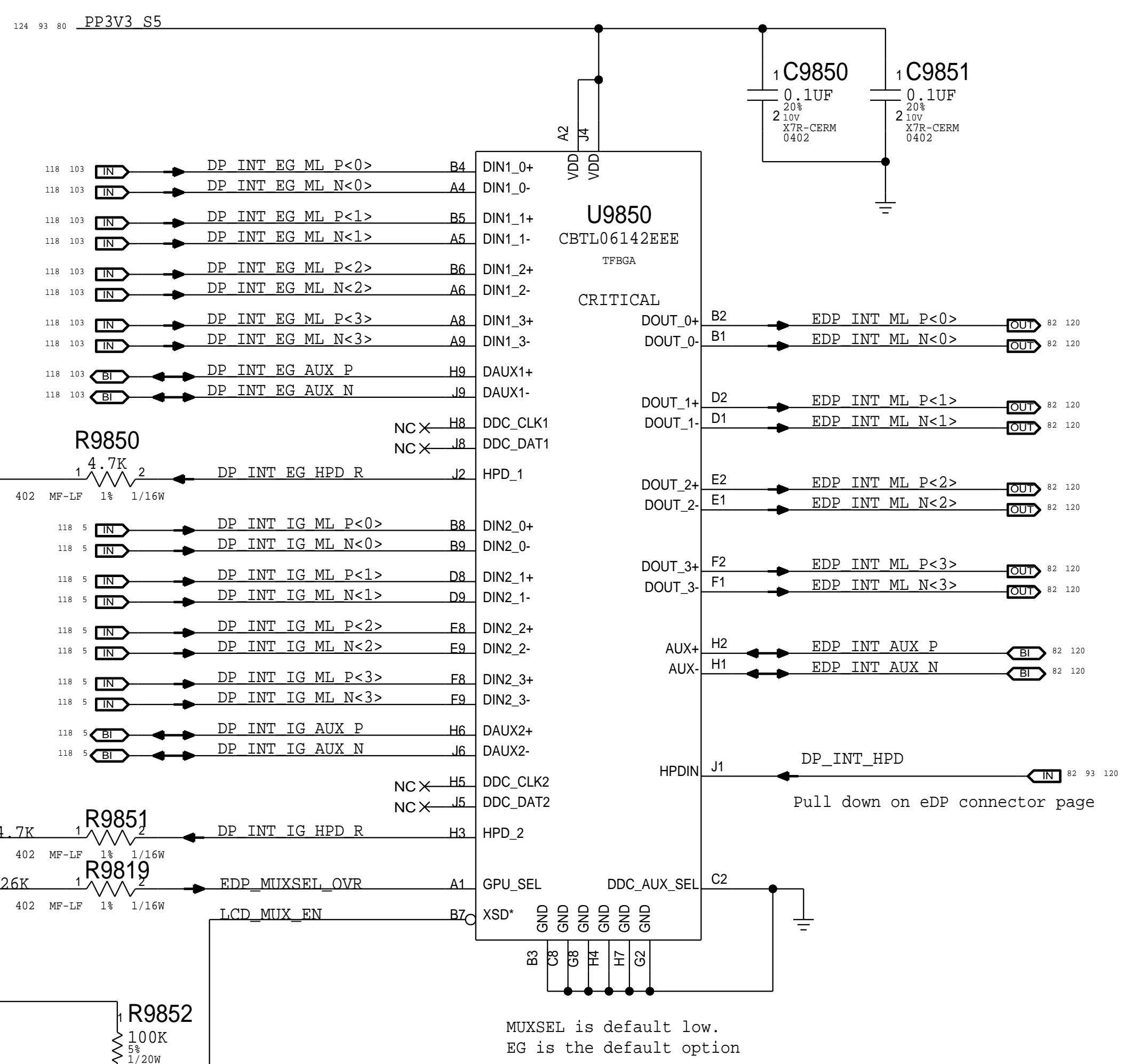
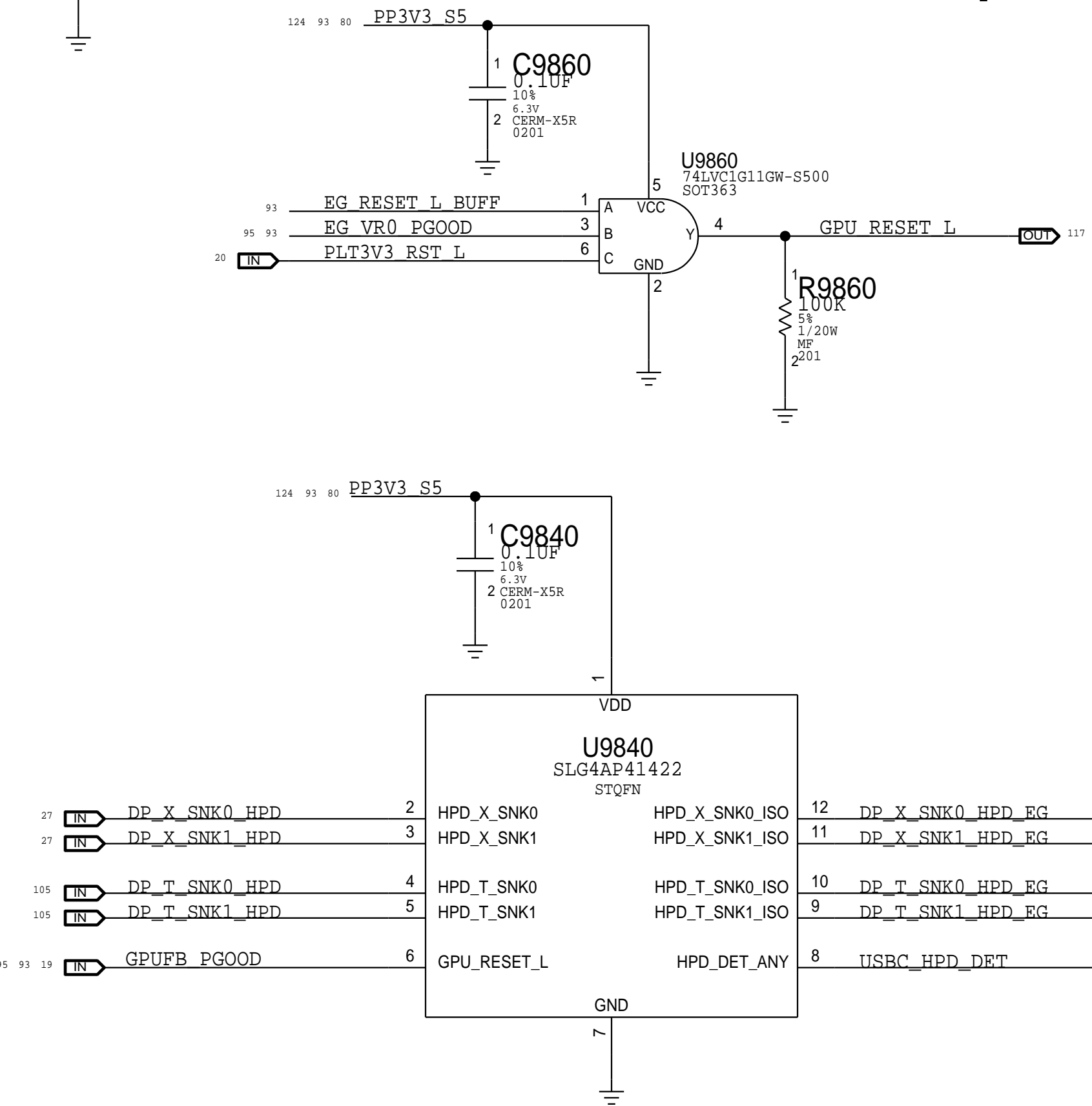
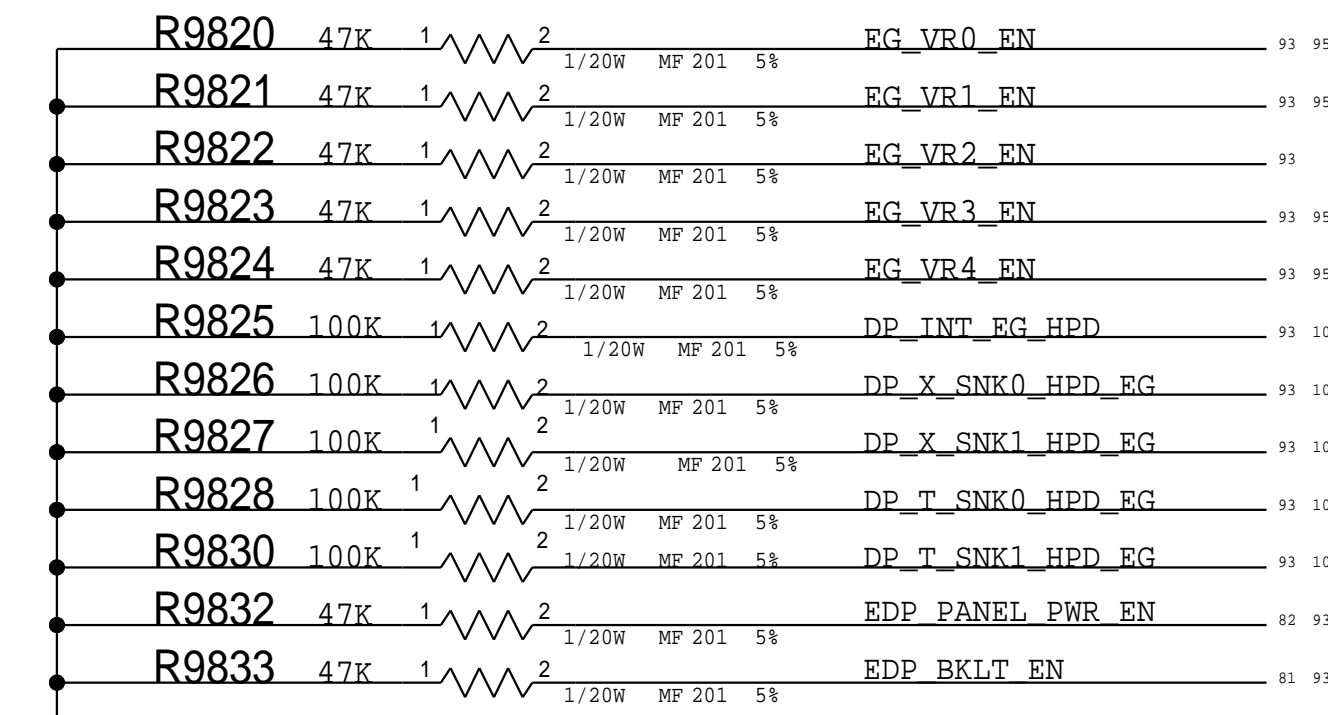
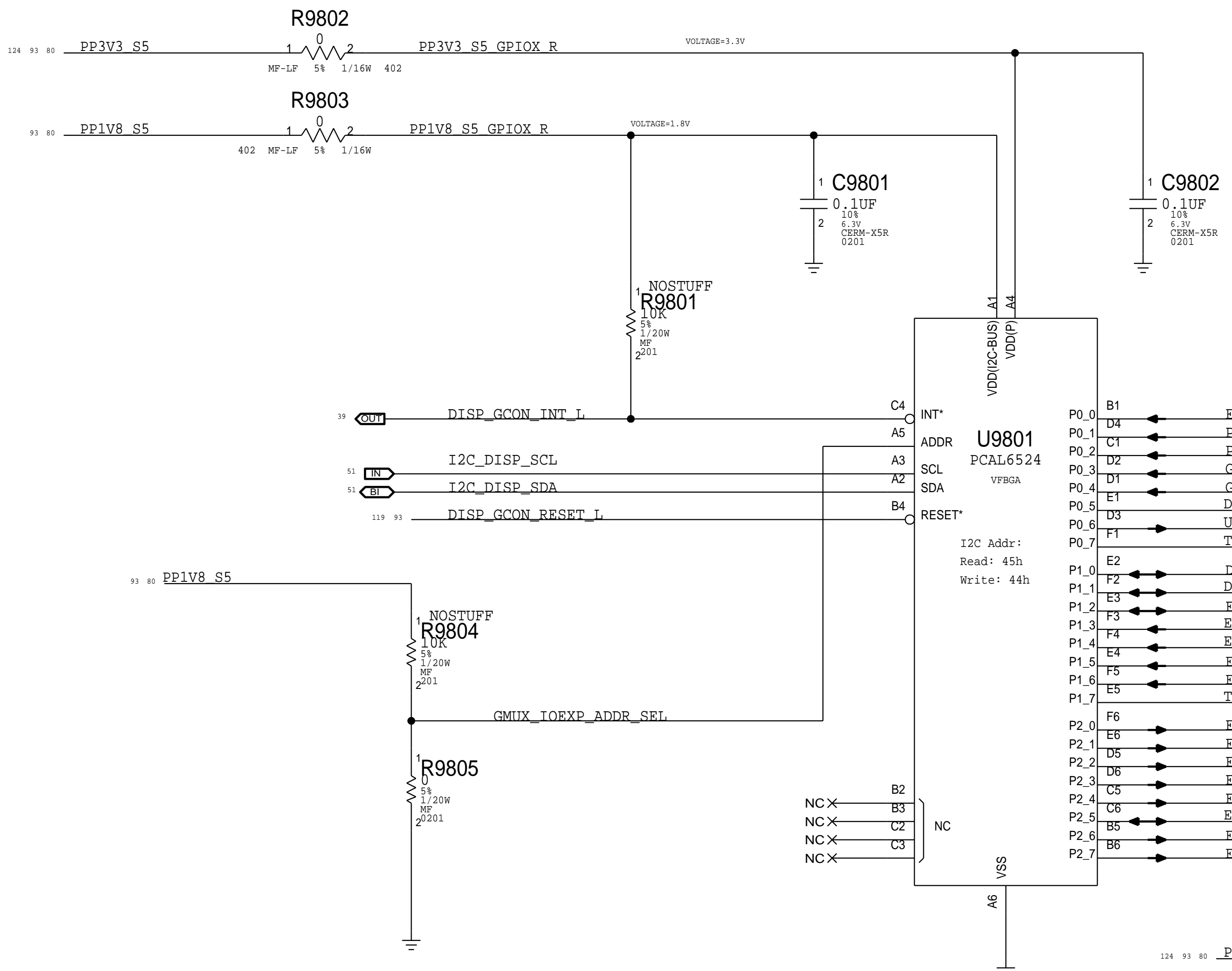
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BOM\_COST\_GROUP=GRAPHICS

EDP Mux		
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PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
117S0008	1	RES,MTL,FLIM,100K,1/16W,0201,SMD,LF	R9961		LOADRC:NO

D

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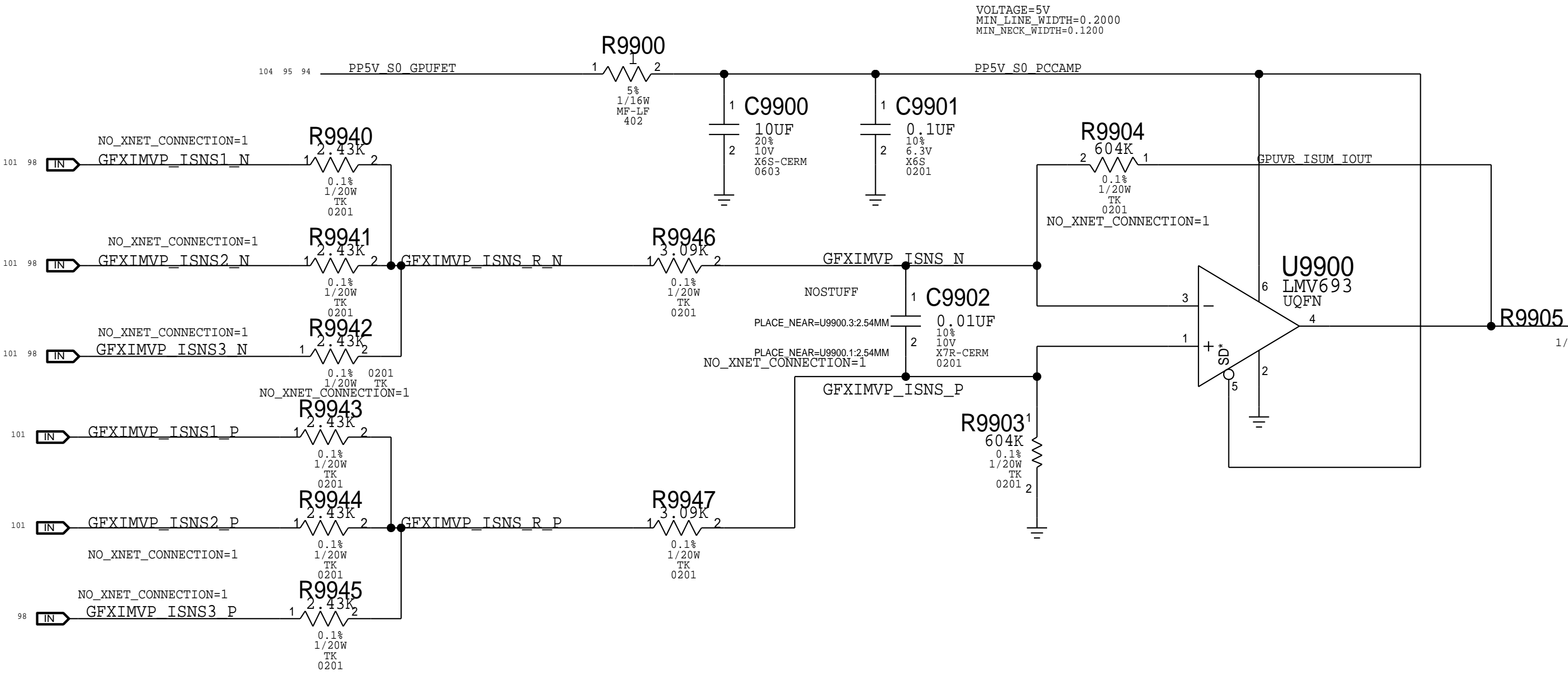
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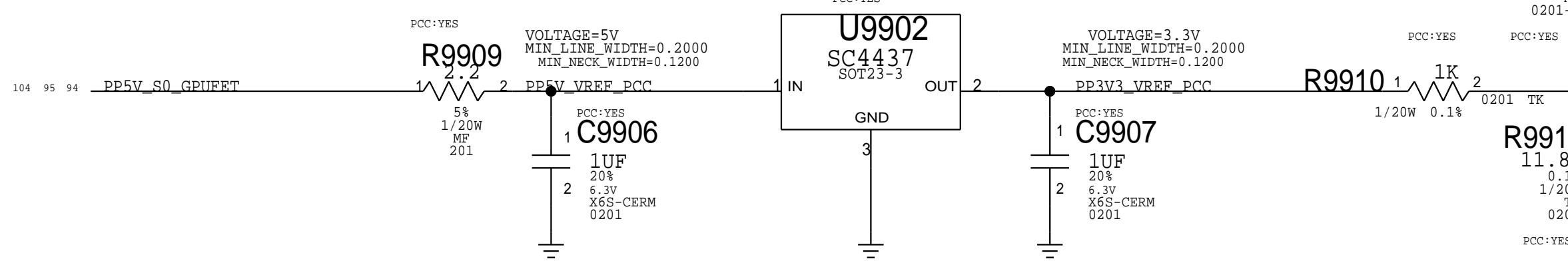
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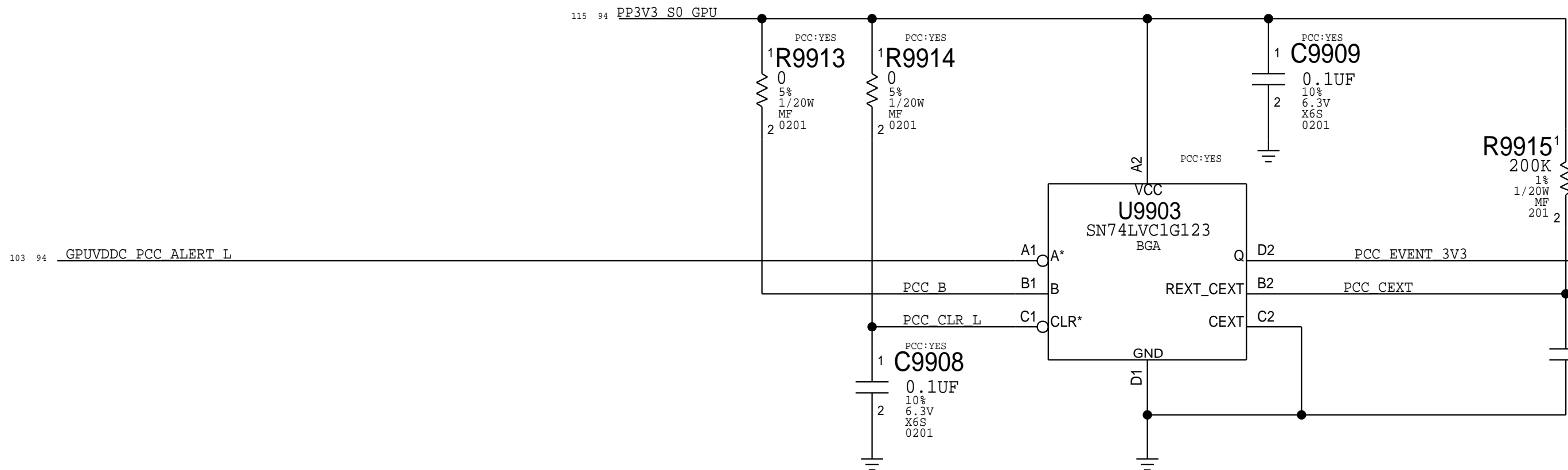
## High Speed Summing AMP



## Trip Point Voltage Gen

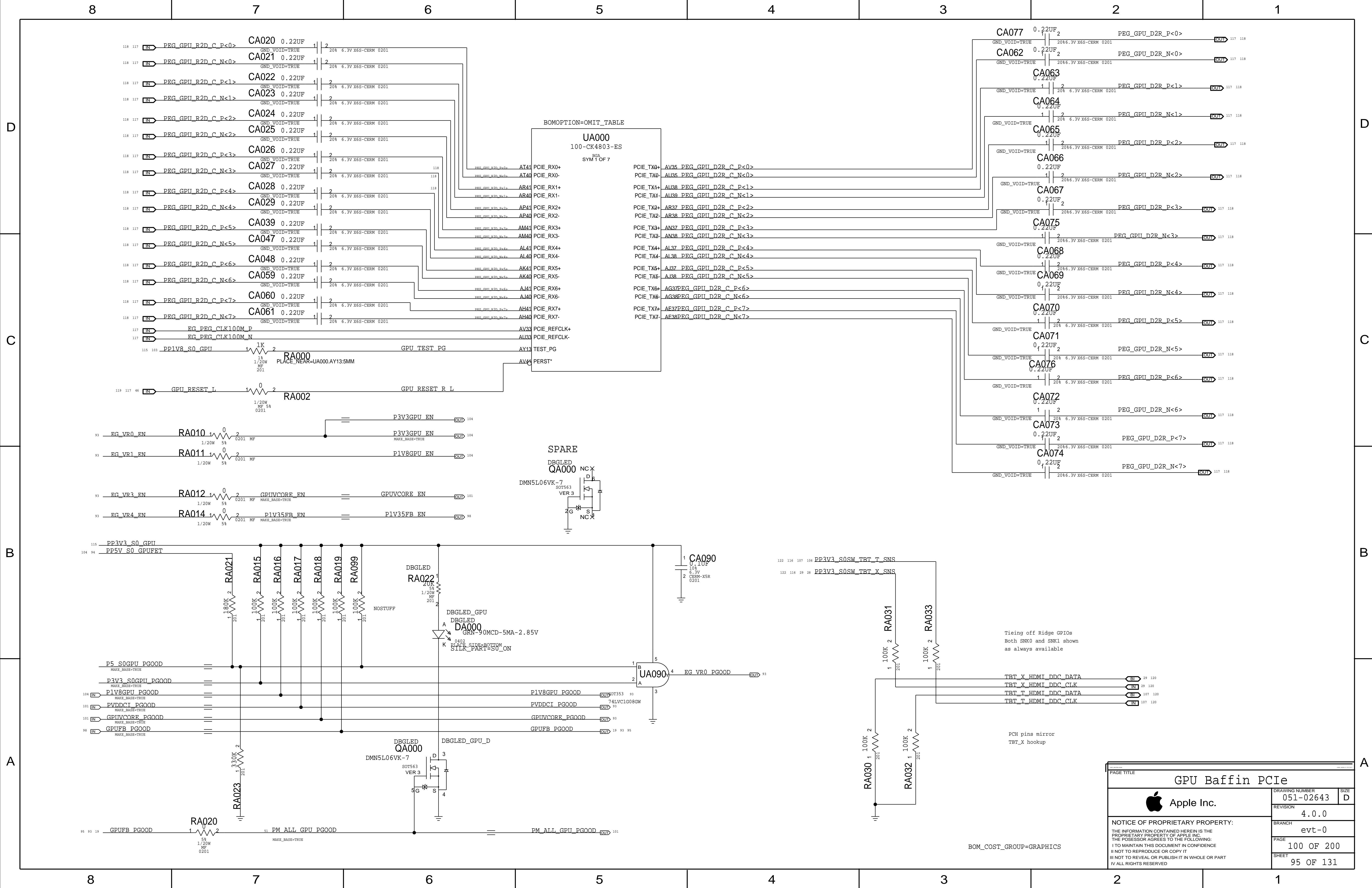


## Pulse Stretcher

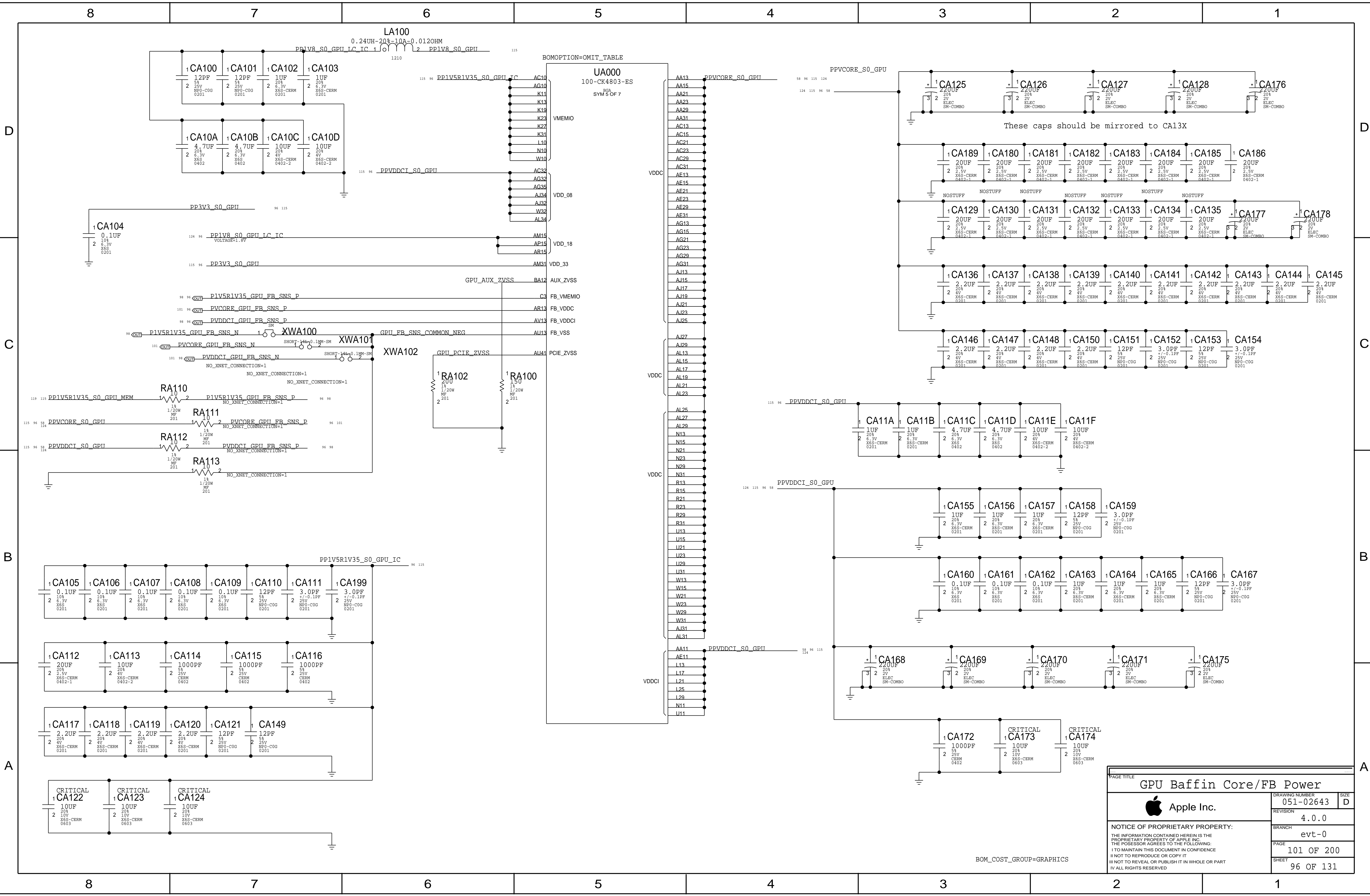


GPU PCC		
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	SHEET	94 OF 131

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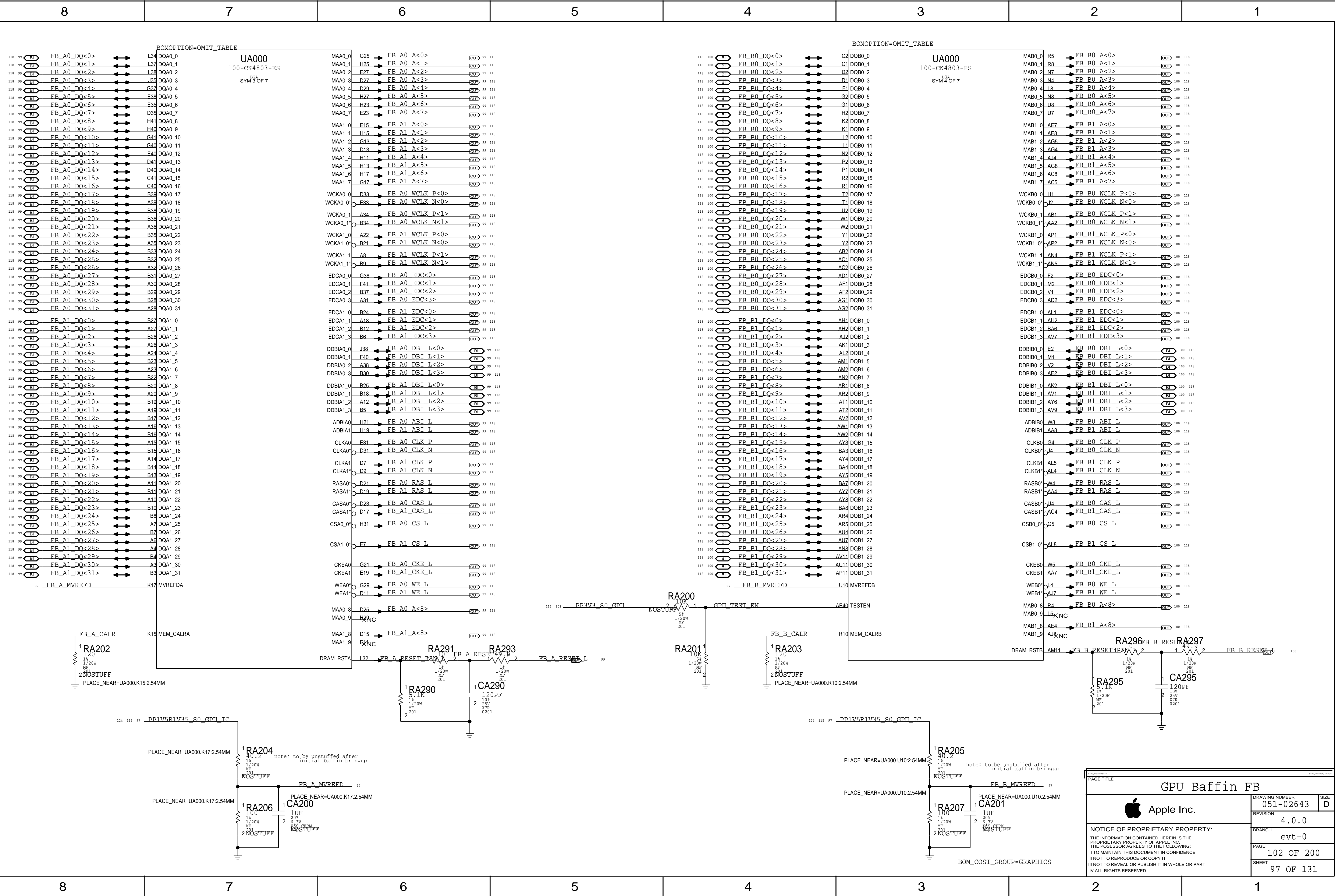


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GPU Baffin PCIe		
	DRAWING NUMBER	051-02643
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	PAGE	100 OF 200
	SHEET	95 OF 131

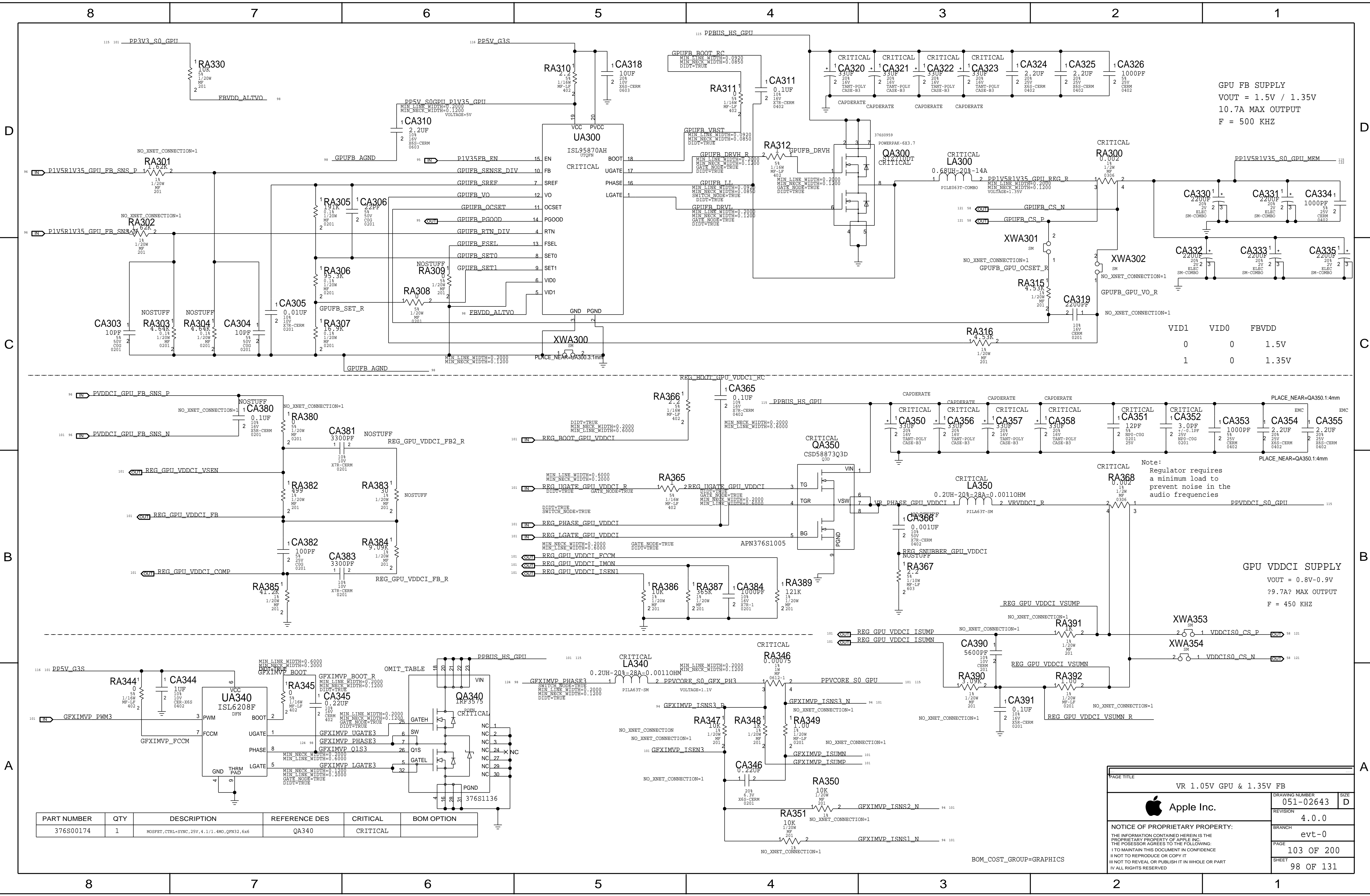


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GPU Baffin Core/FB Power		
	DRAWING NUMBER	051-02643
	REVISION	4.0.0
	BRANCH	evt-0
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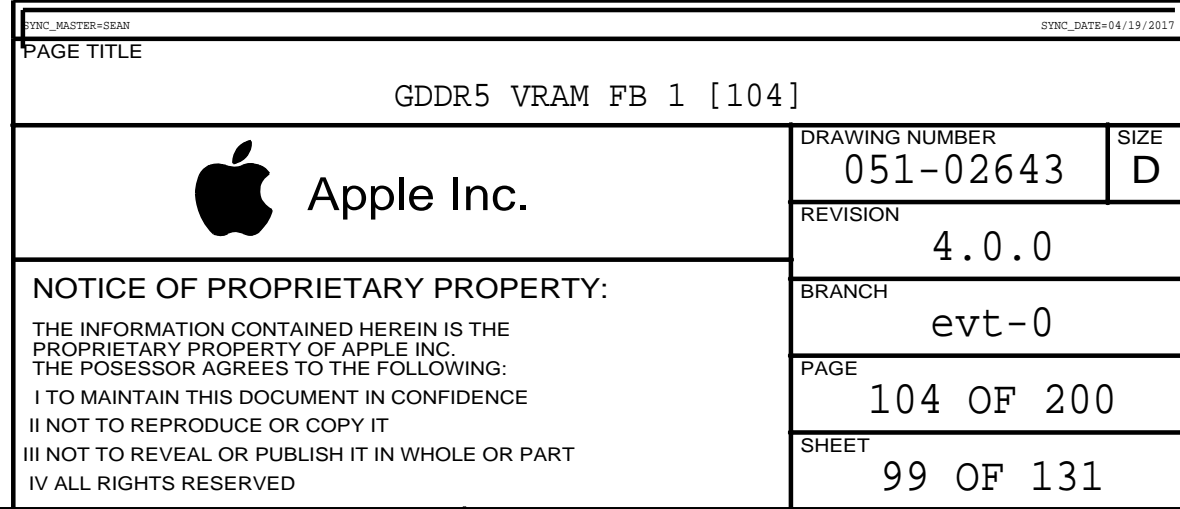


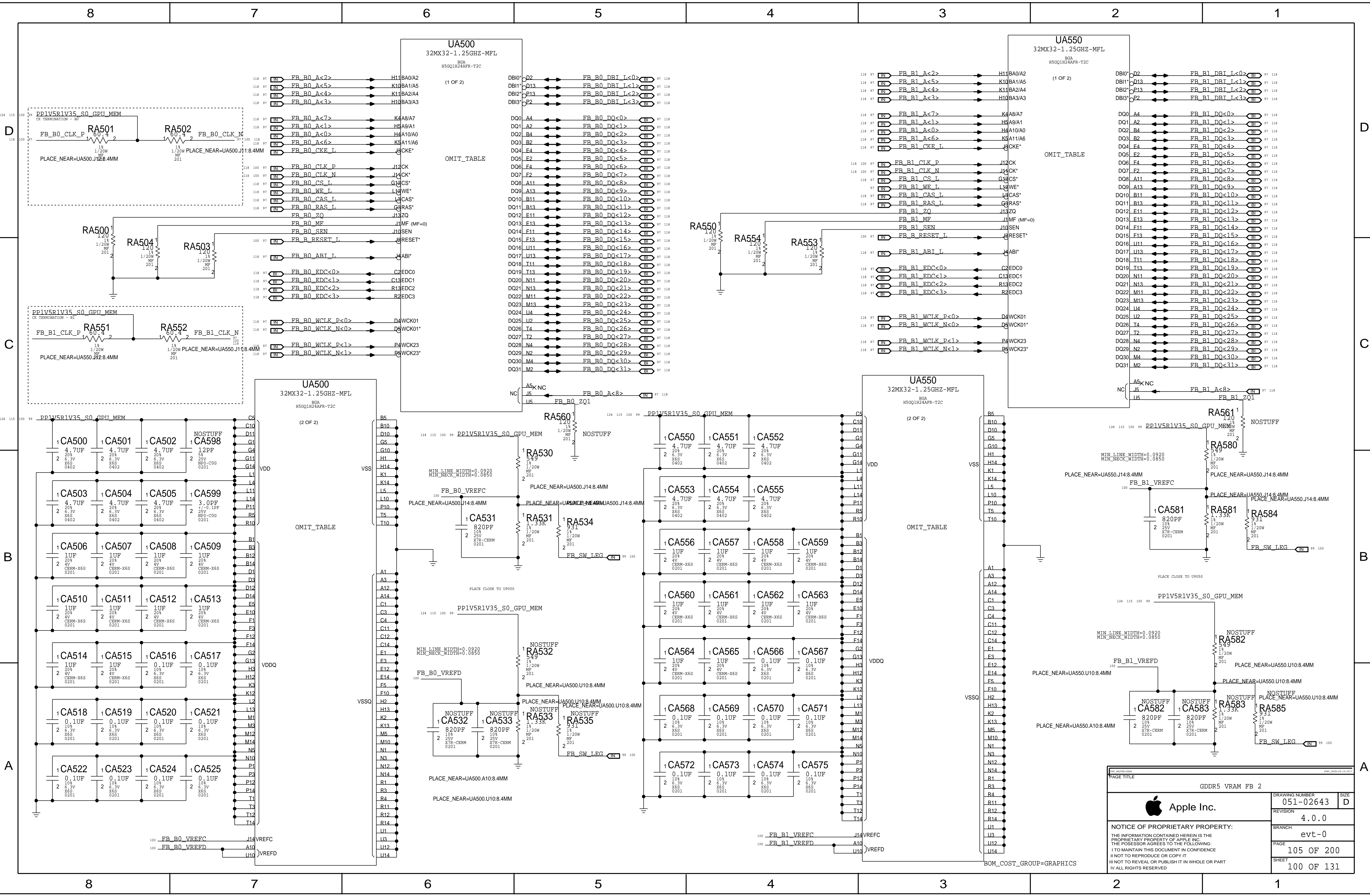




PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
376S00174	1	MOSFET, CTRL+SYNC, 25V, 4.1/1.4MO, QFN32, 6x6	QA340	CRITICAL	

PAGE TITLE			VR 1.05V GPU & 1.35V FB	
		DRAWING NUMBER	051-02643	SIZE
		REVISION	4.0.0	D
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		PAGE	103 OF 200	
		SHEET	98 OF 131	



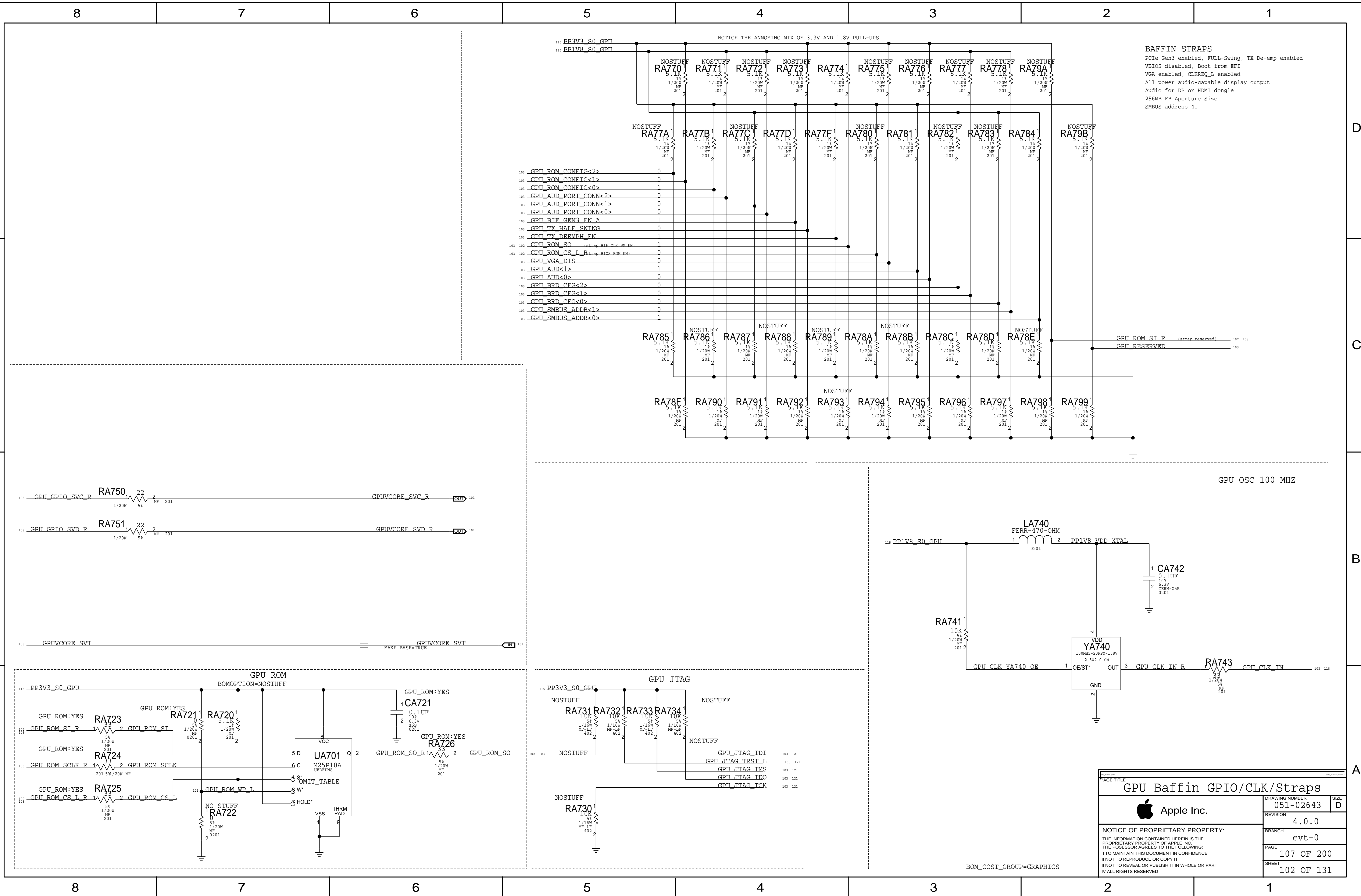


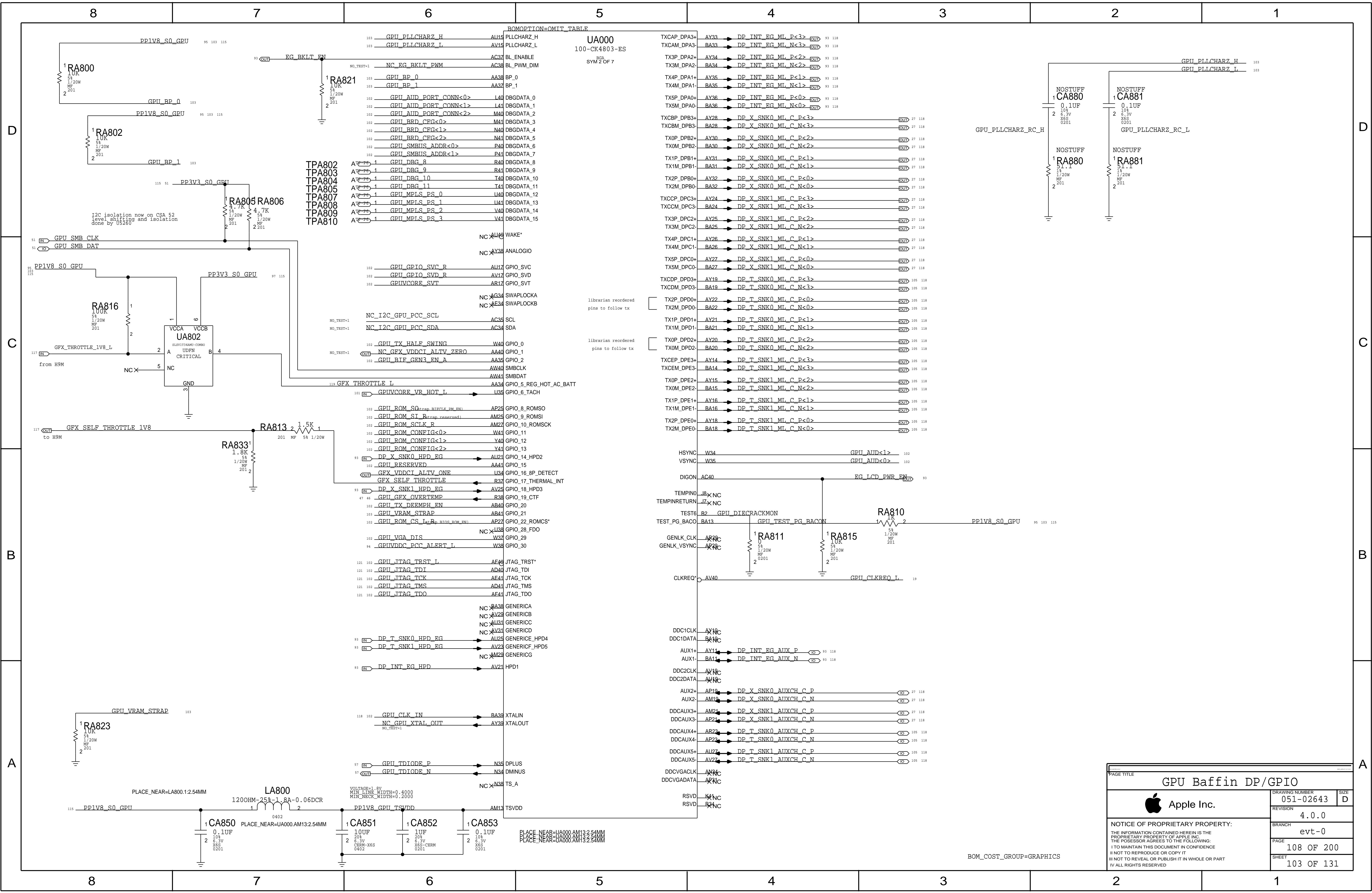
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		REVISION	4.0.0
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		PAGE	105 OF 200
		SHEET	100 OF 131



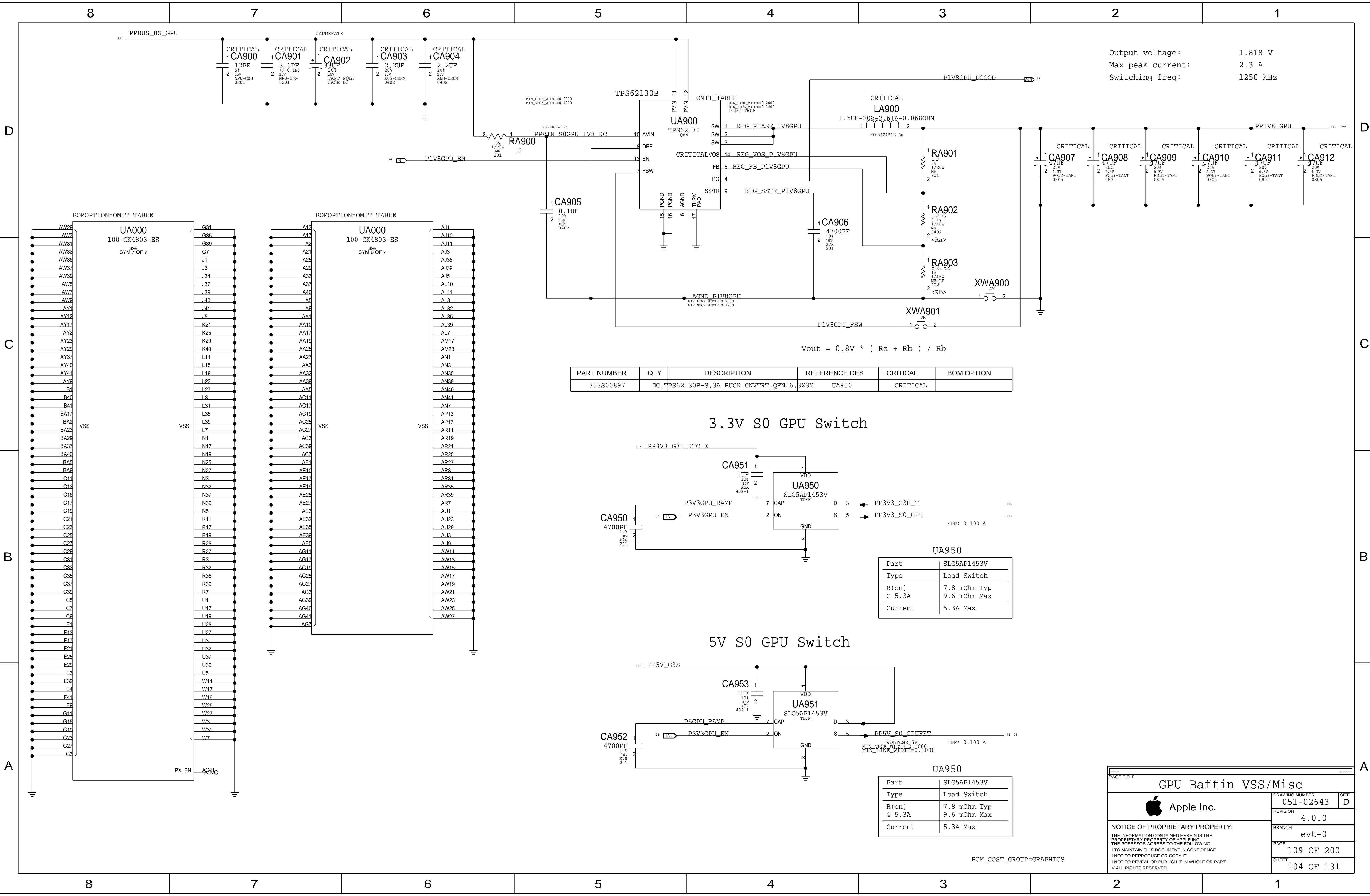


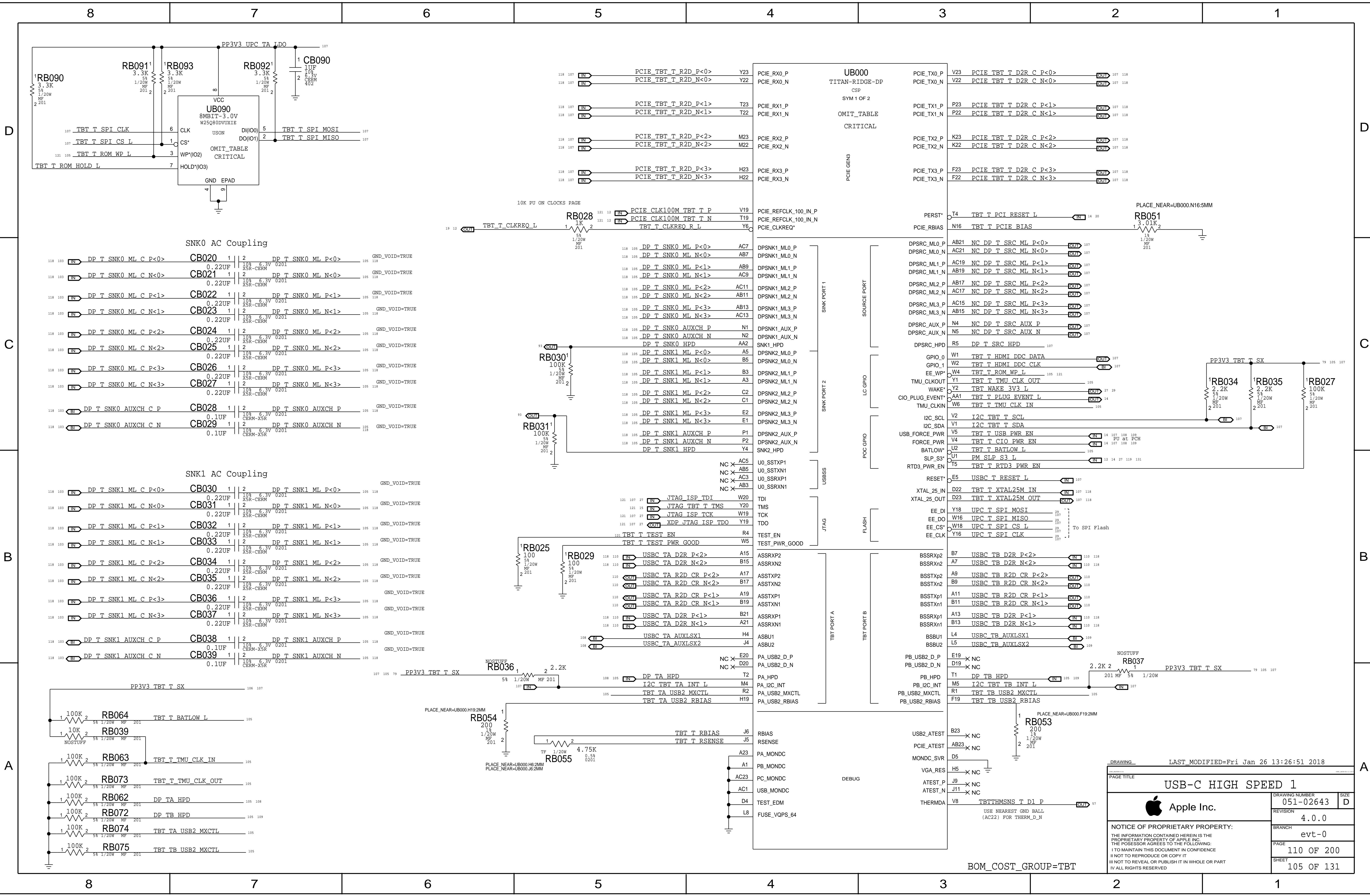







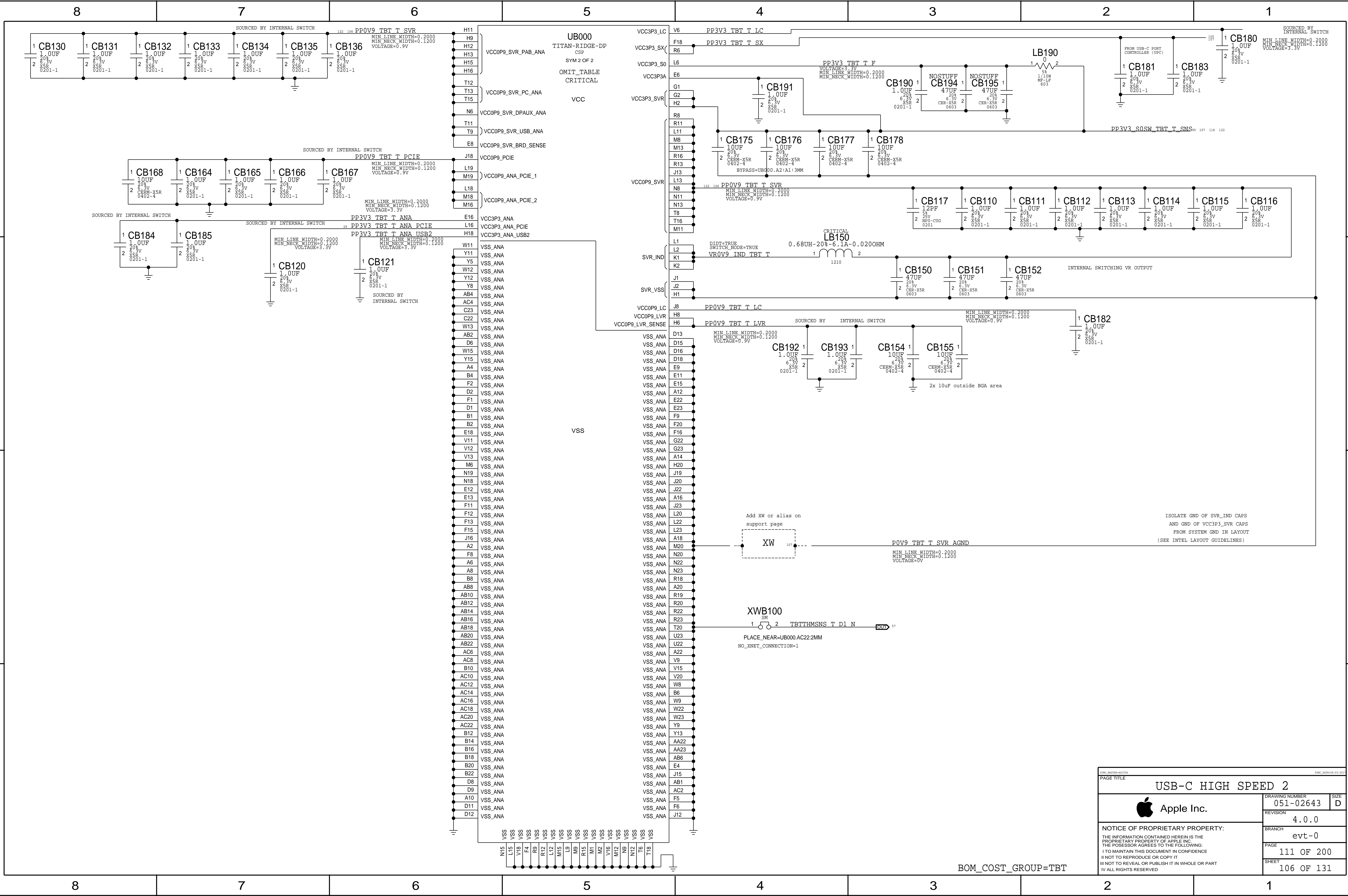
GPU Baffin DP/GPIO		
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	REVISION	4.0.0
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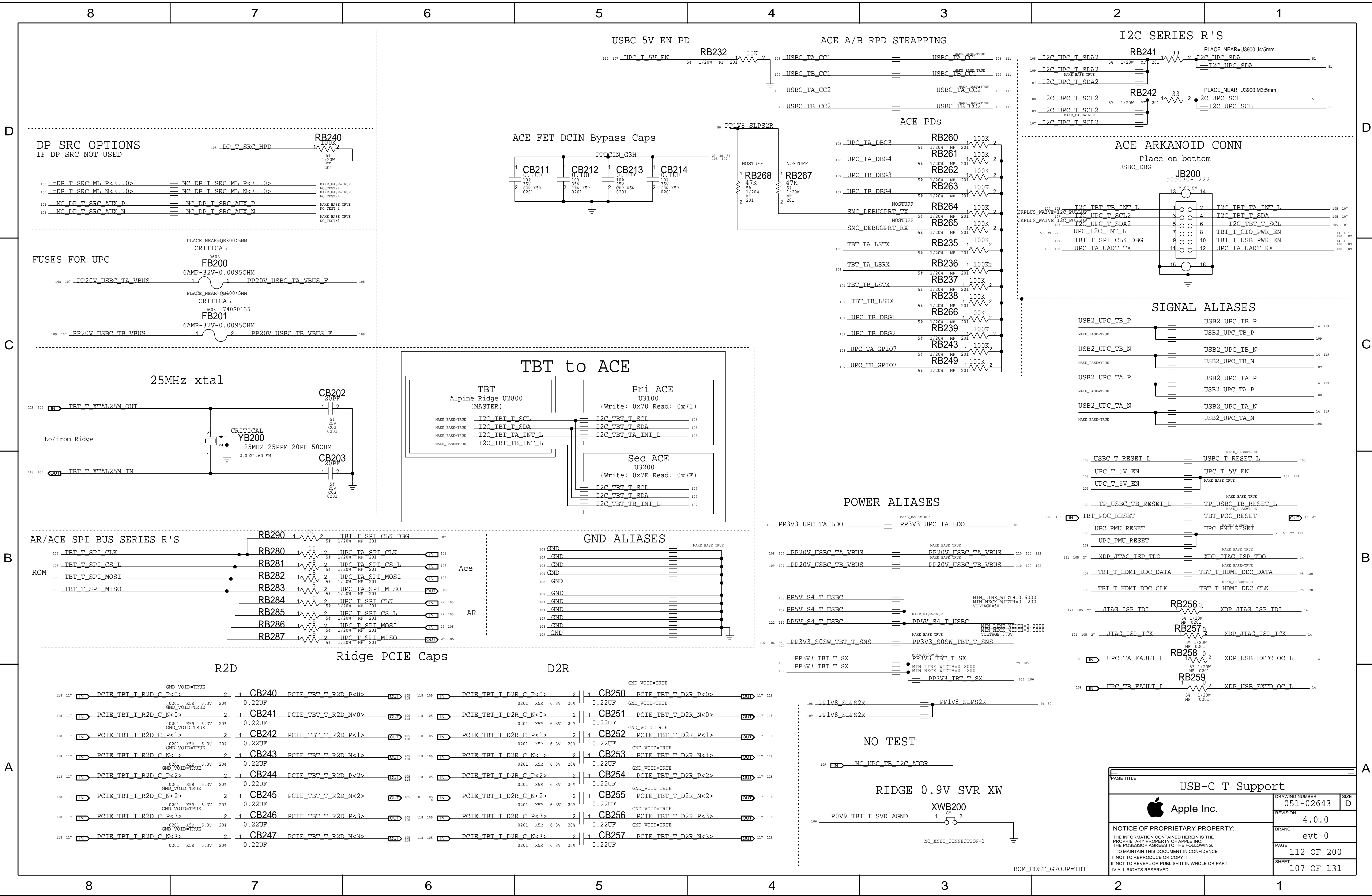




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 Apple Inc.		DRAWING NUMBER	051-02643
		REVISION	4.0.0
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		PAGE	110 OF 200
		SHEET	105 OF 131







## D



B

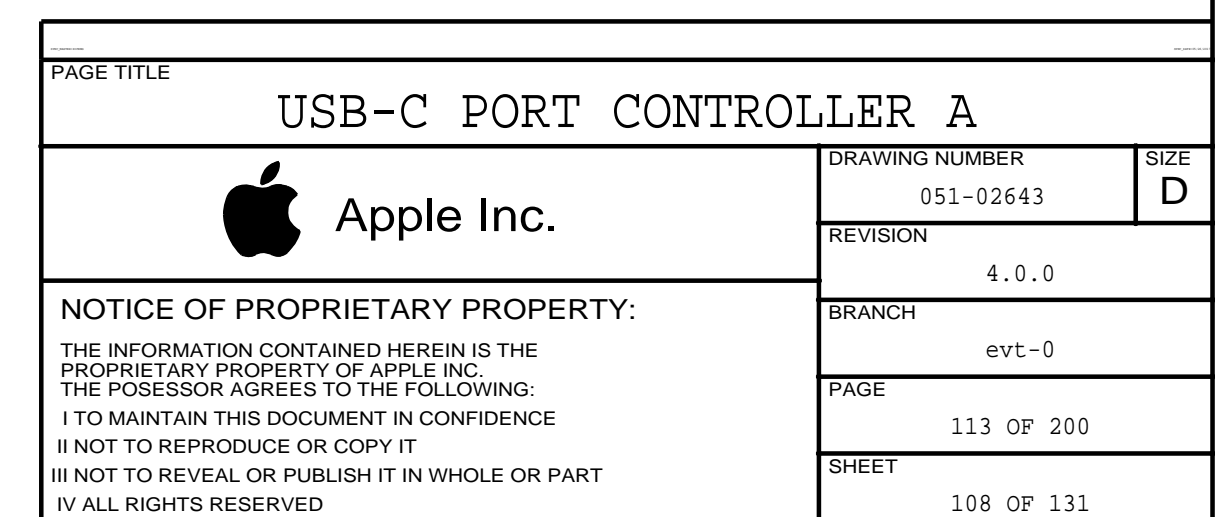
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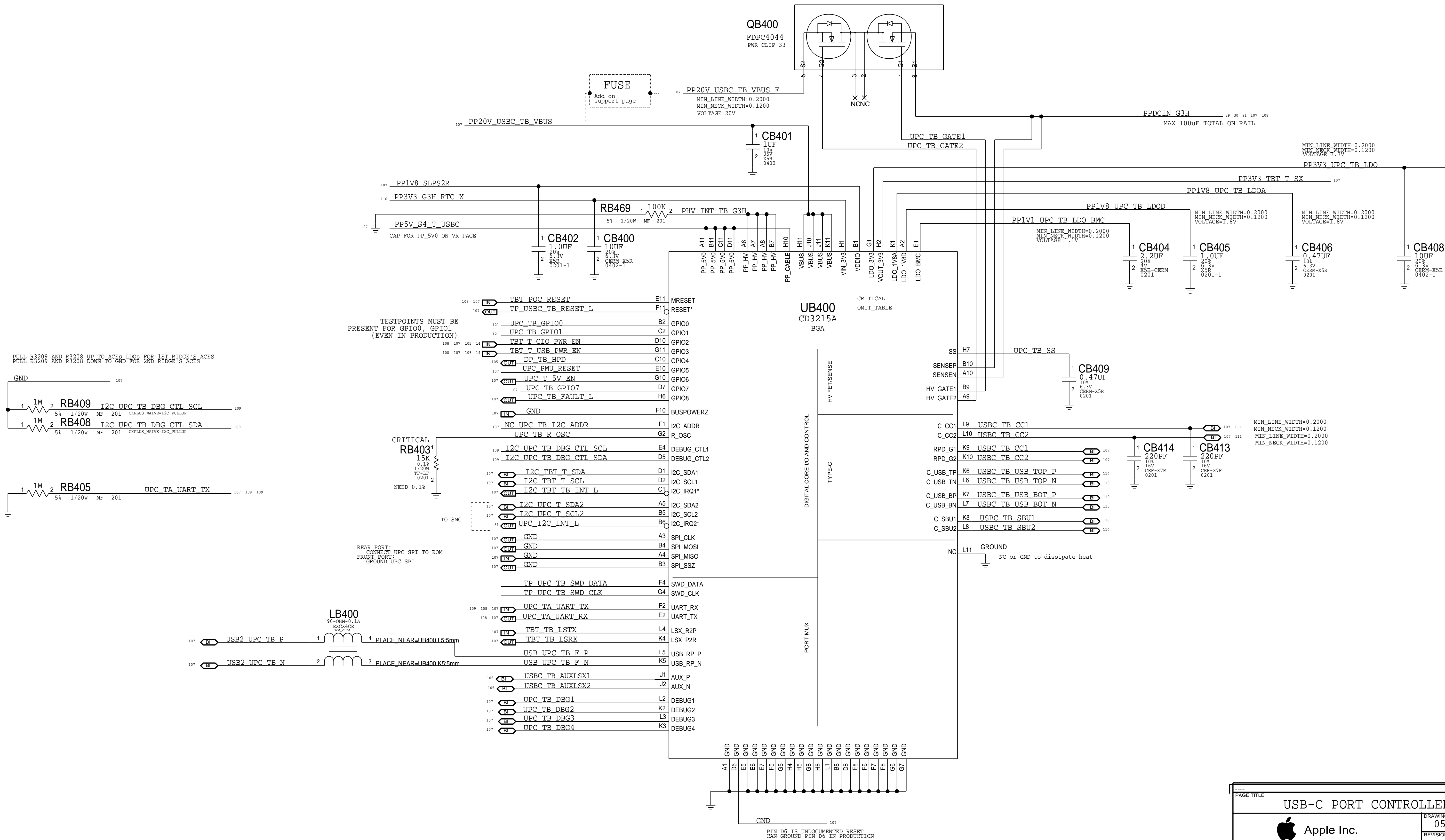
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BOM\_COST\_GROUP=USB-C

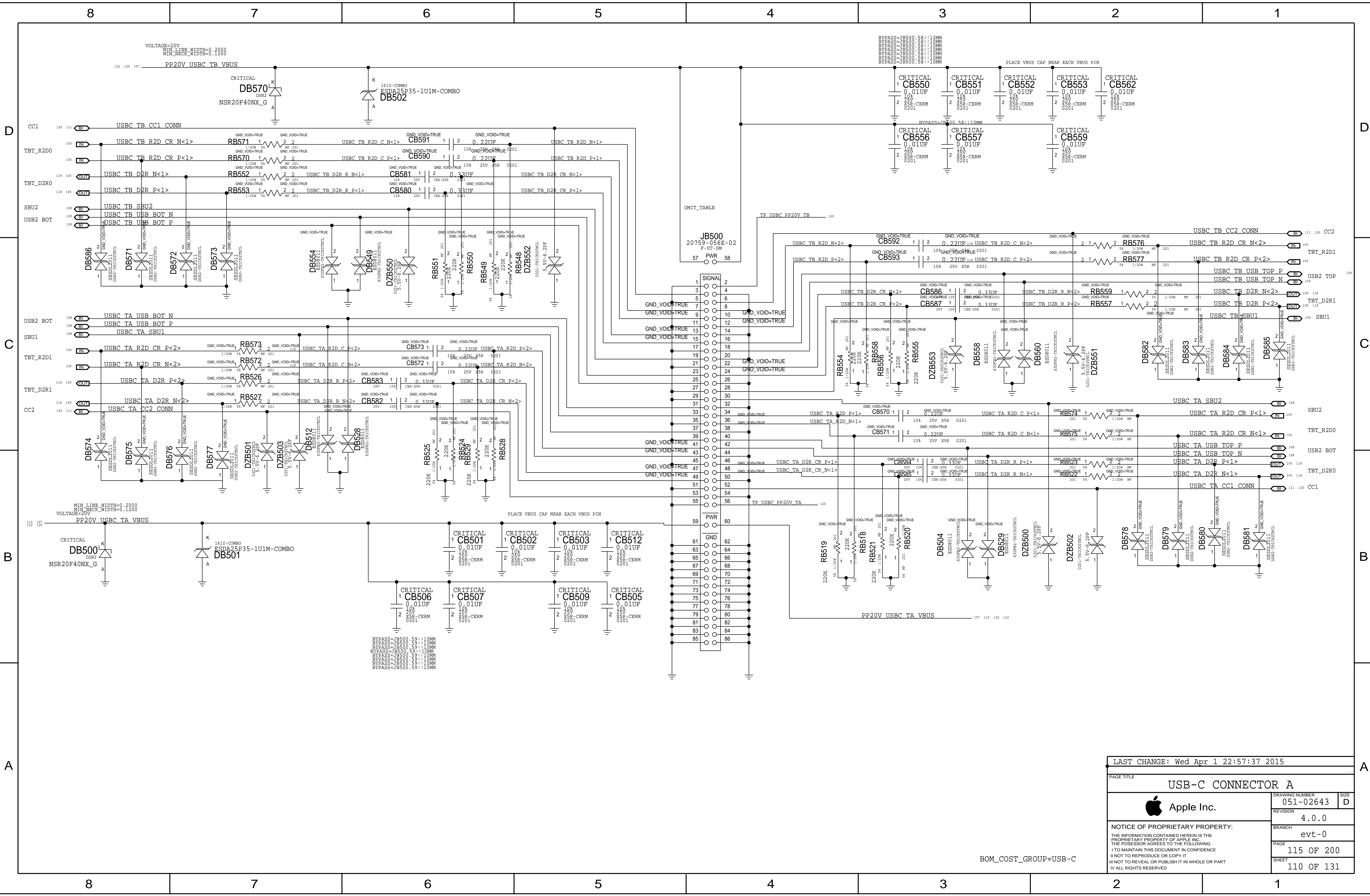
# SECONDARY ACE USB-C PORT CONTROLLER (UPC)




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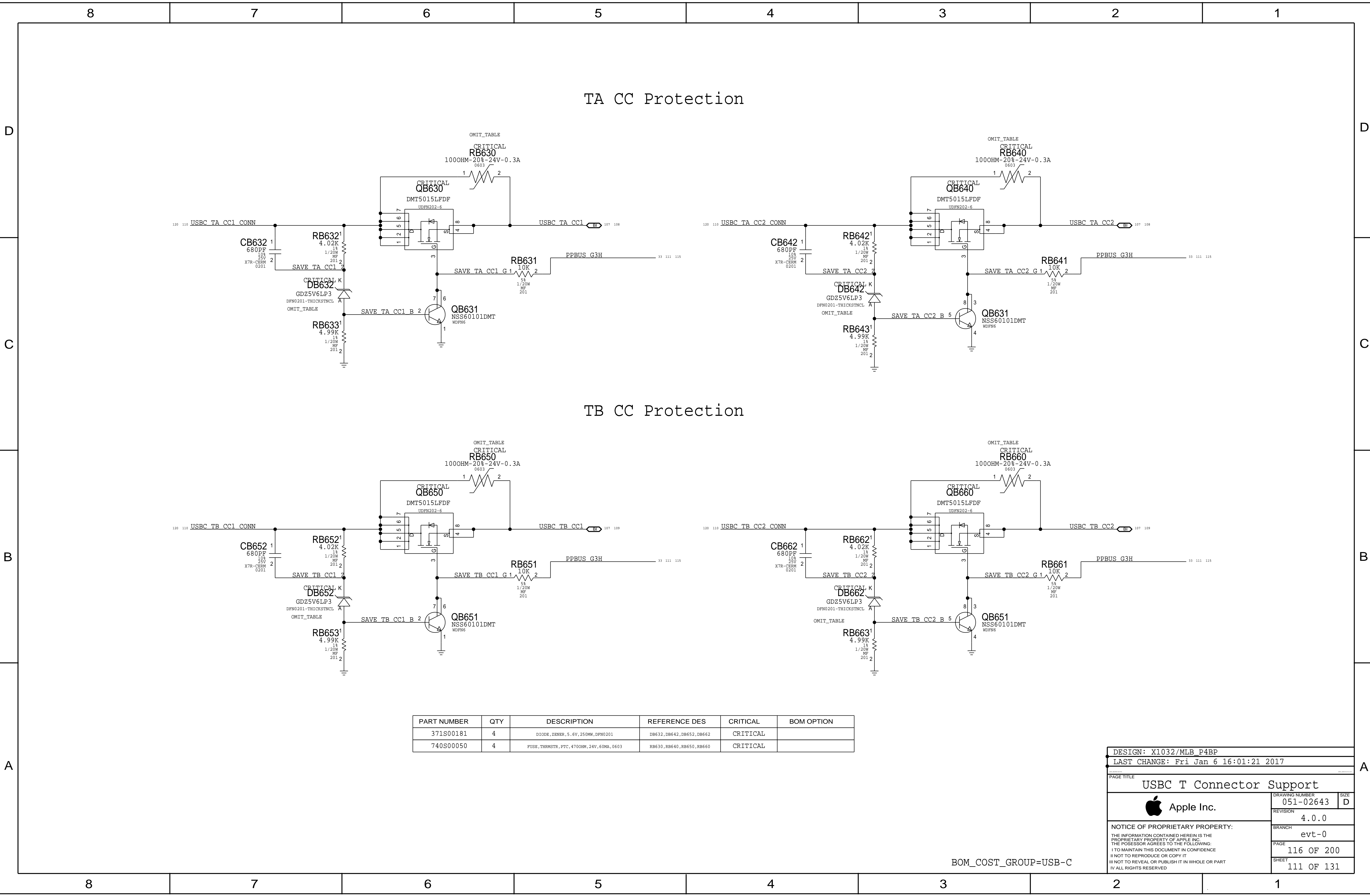
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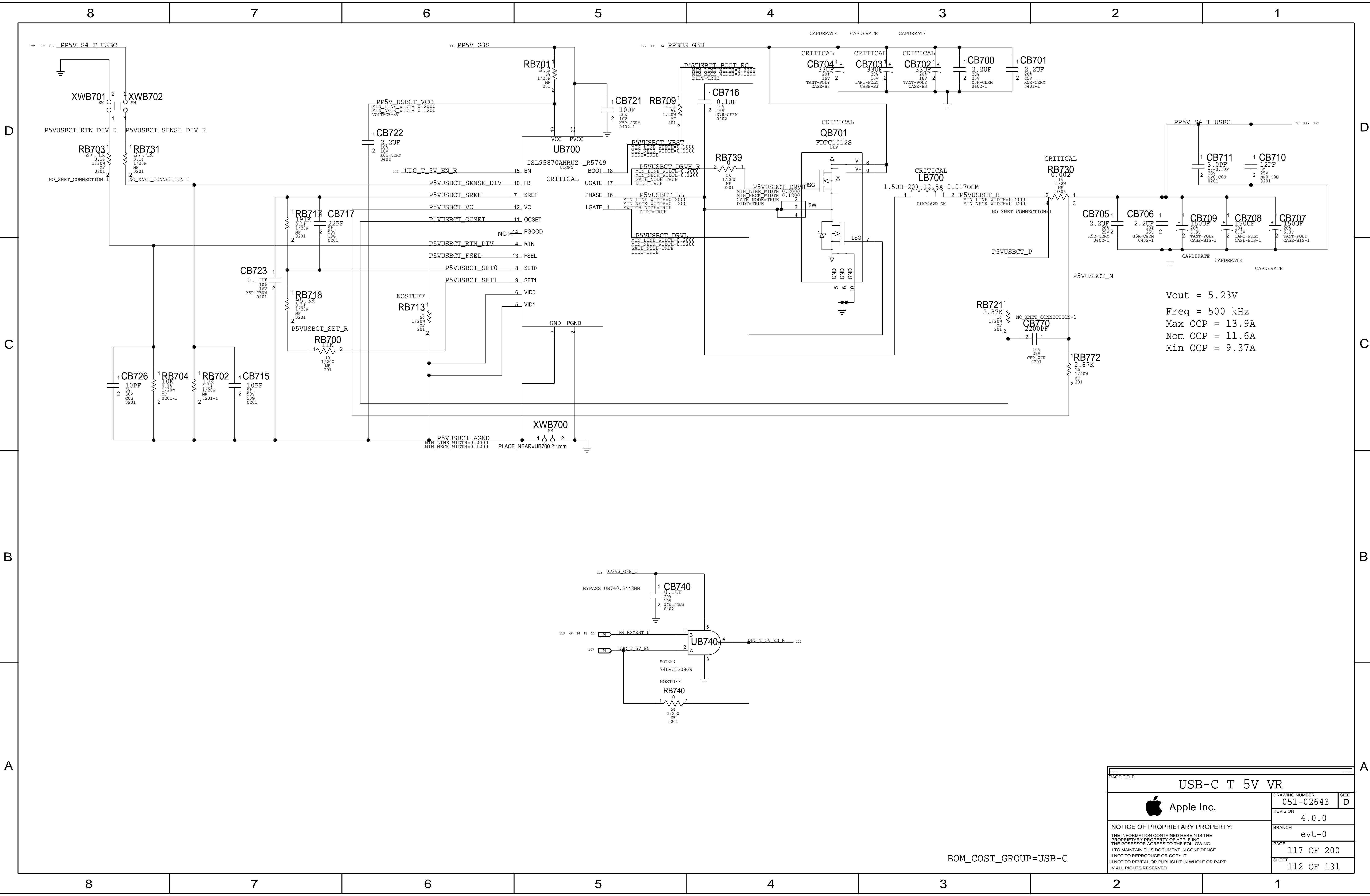
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PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
371S00181	4	DIODE,ZENER,5.6V,250MW,DFN0201	DB632,DB642,DB652,DB662	CRITICAL	
740S00050	4	FUSE,THRMSTR,PTC,4700HM,24V,60MA,0603	RB630,RB640,RB650,RB660	CRITICAL	

DESIGN: X1032/MLB_P4BP		
LAST CHANGE: Fri Jan 6 16:01:21 2017		
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PAGE TITLE		
USB-C T 5V VR		
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	PAGE	117 OF 200
	SHEET	112 OF 131

BOM\_COST\_GROUP=USB-C

8		7		6		5		4		3		2		1			
D																D	
C																C	
B																B	
A																A	
8		7		6		5		4		3		2		1			

ITEM\_MASTER=ITEM\_COPY


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		PAGE		118 OF 200	
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BOM\_COST\_GROUP=GRAPHICS




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																D	
																C	
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PAGE TITLE			GDDR5 VRAM FB 4		
 Apple Inc.		DRAWING NUMBER		051-02643	
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		PAGE		119 OF 200	
		SHEET		114 OF 131	

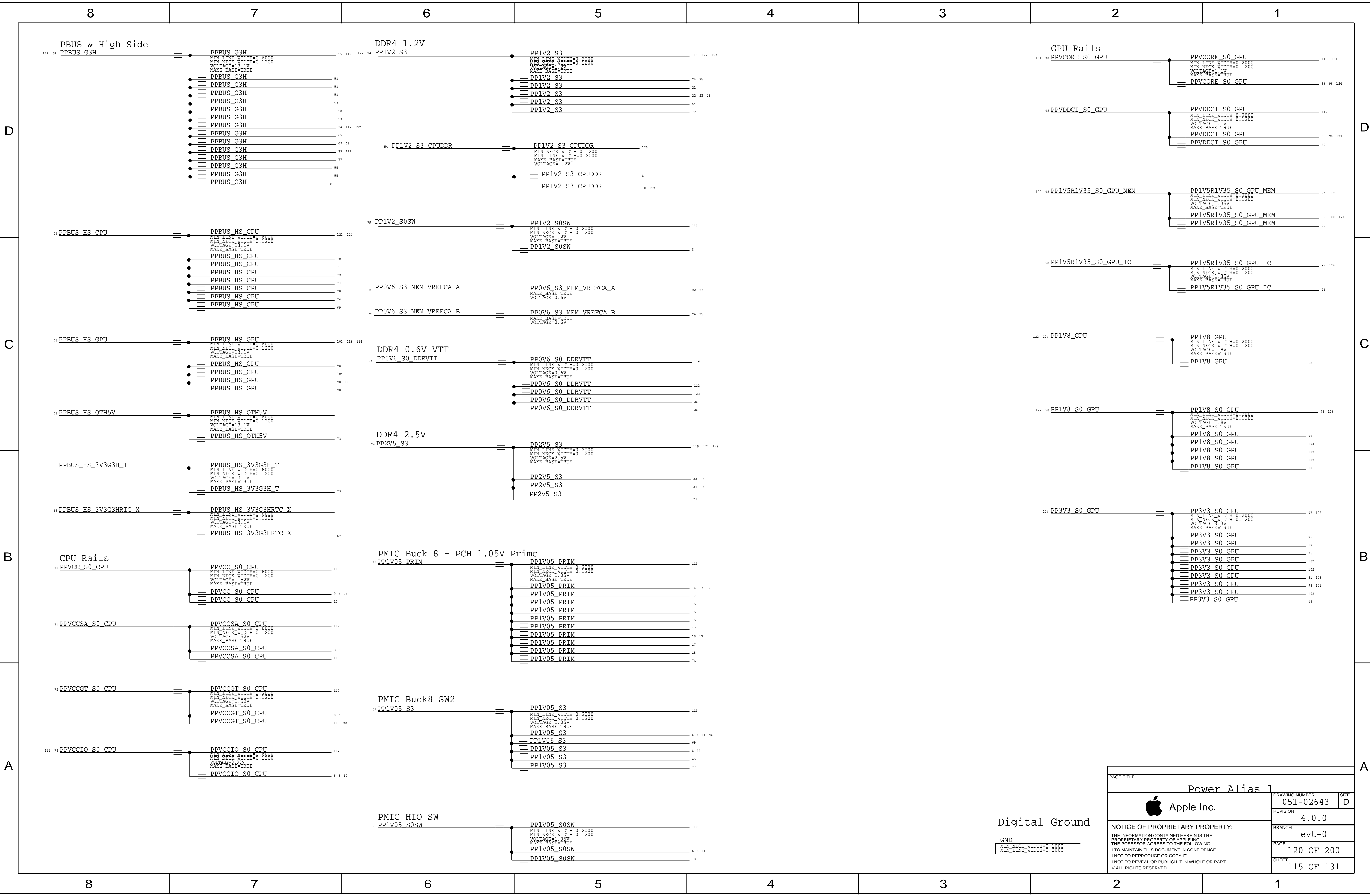
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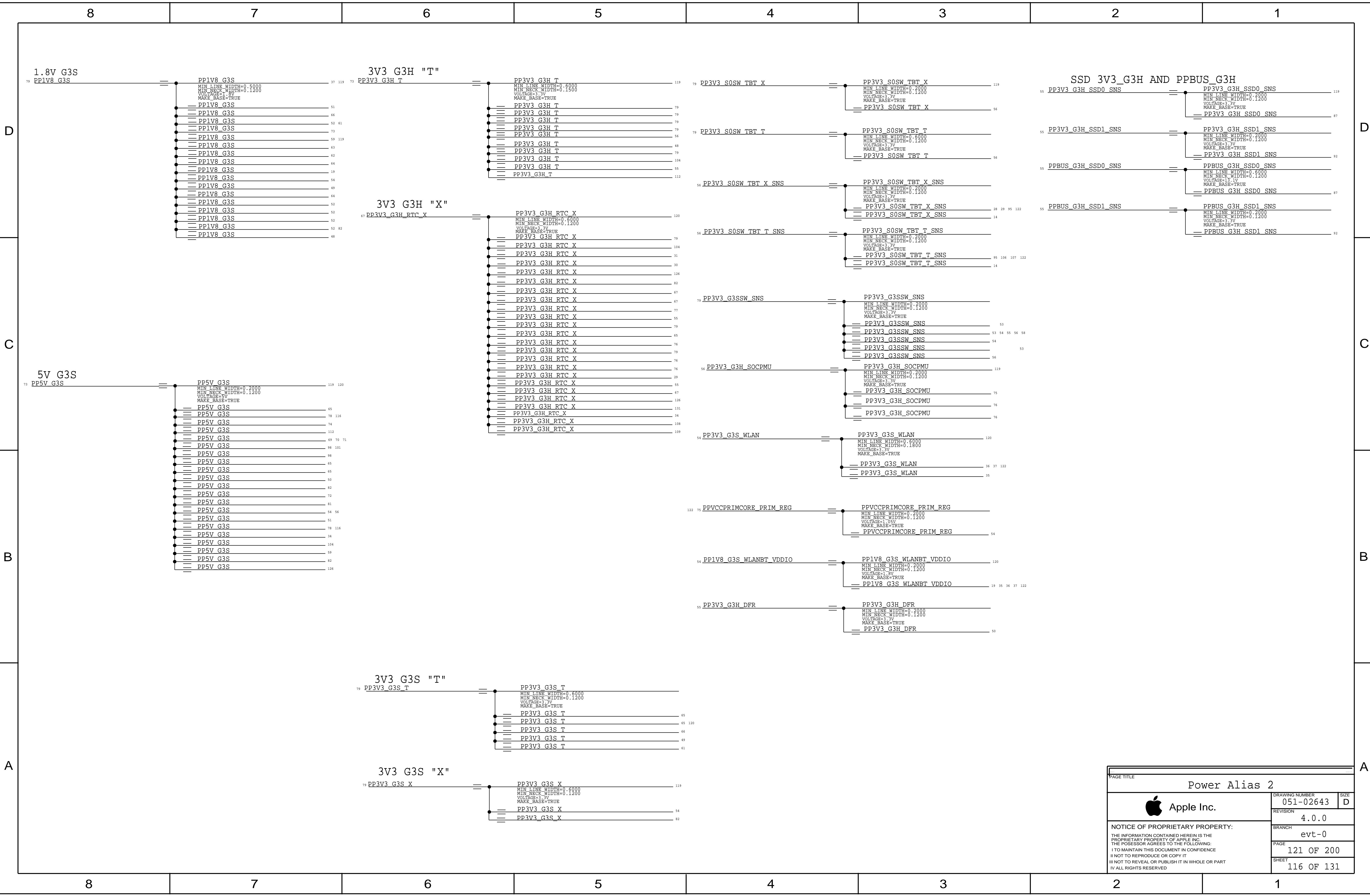
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		SHEET		114 OF 131	

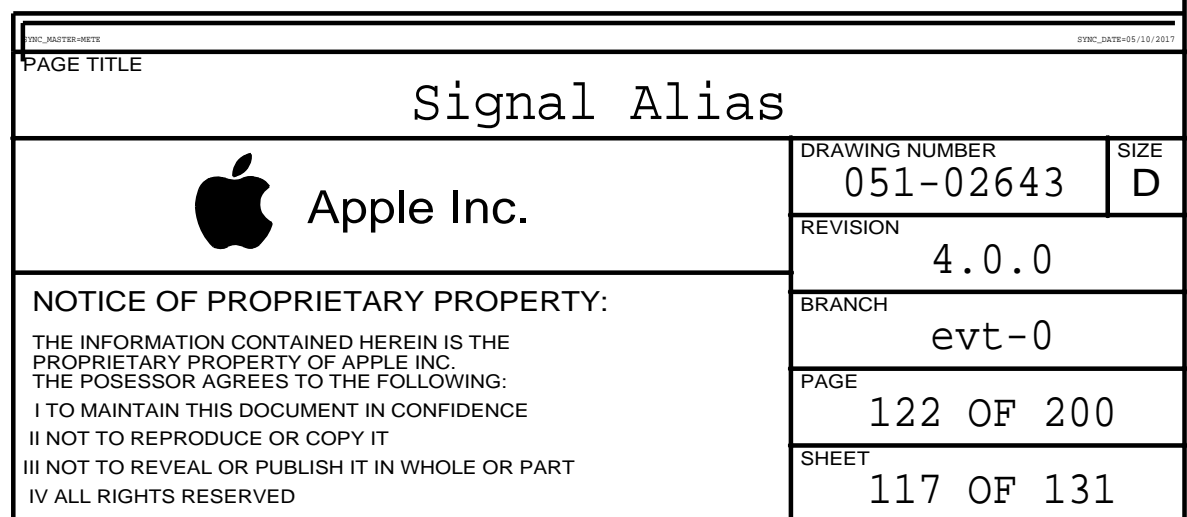
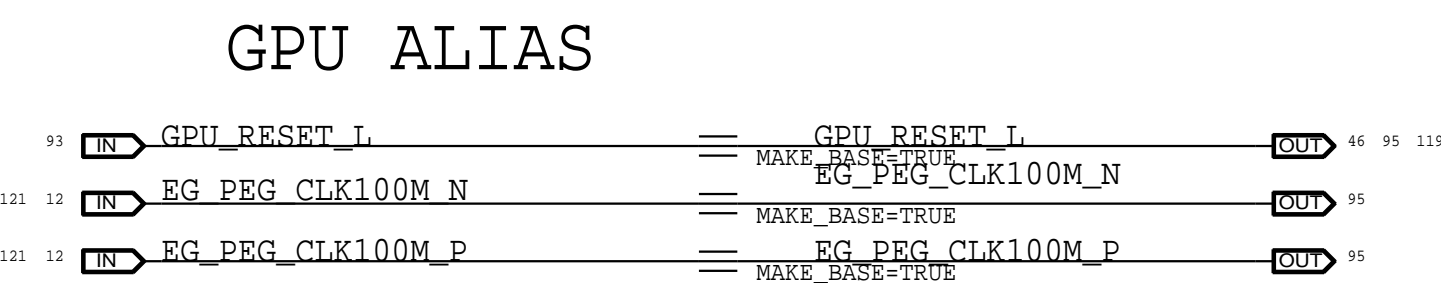
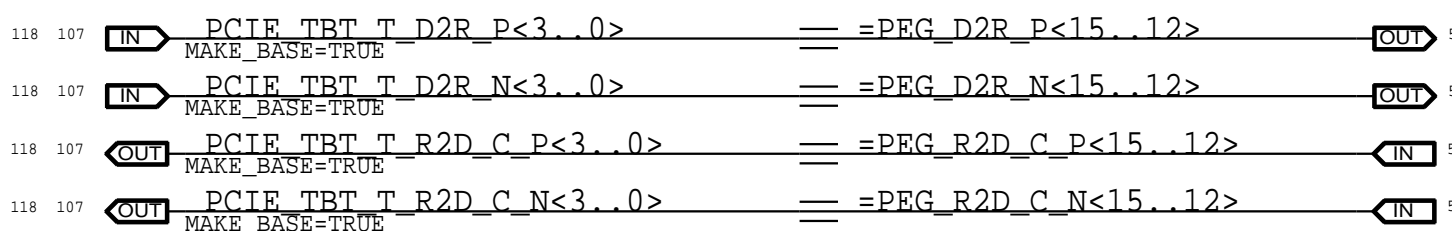
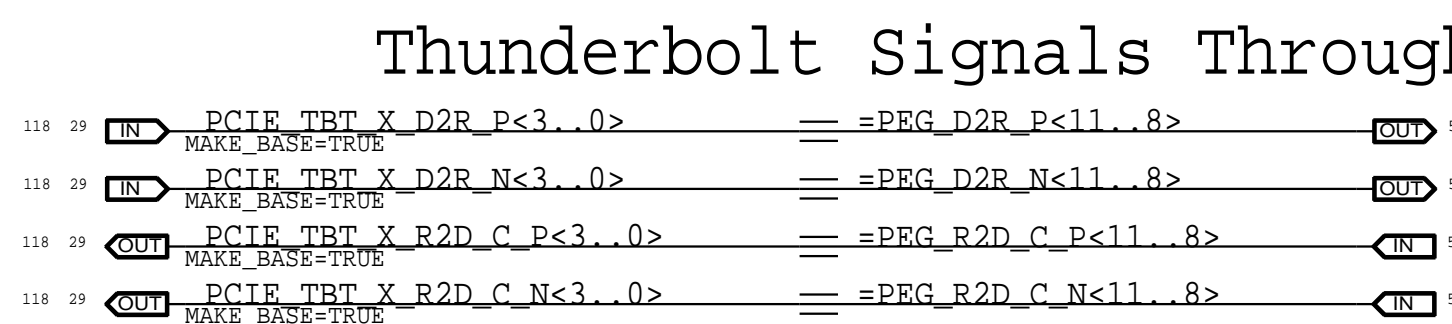
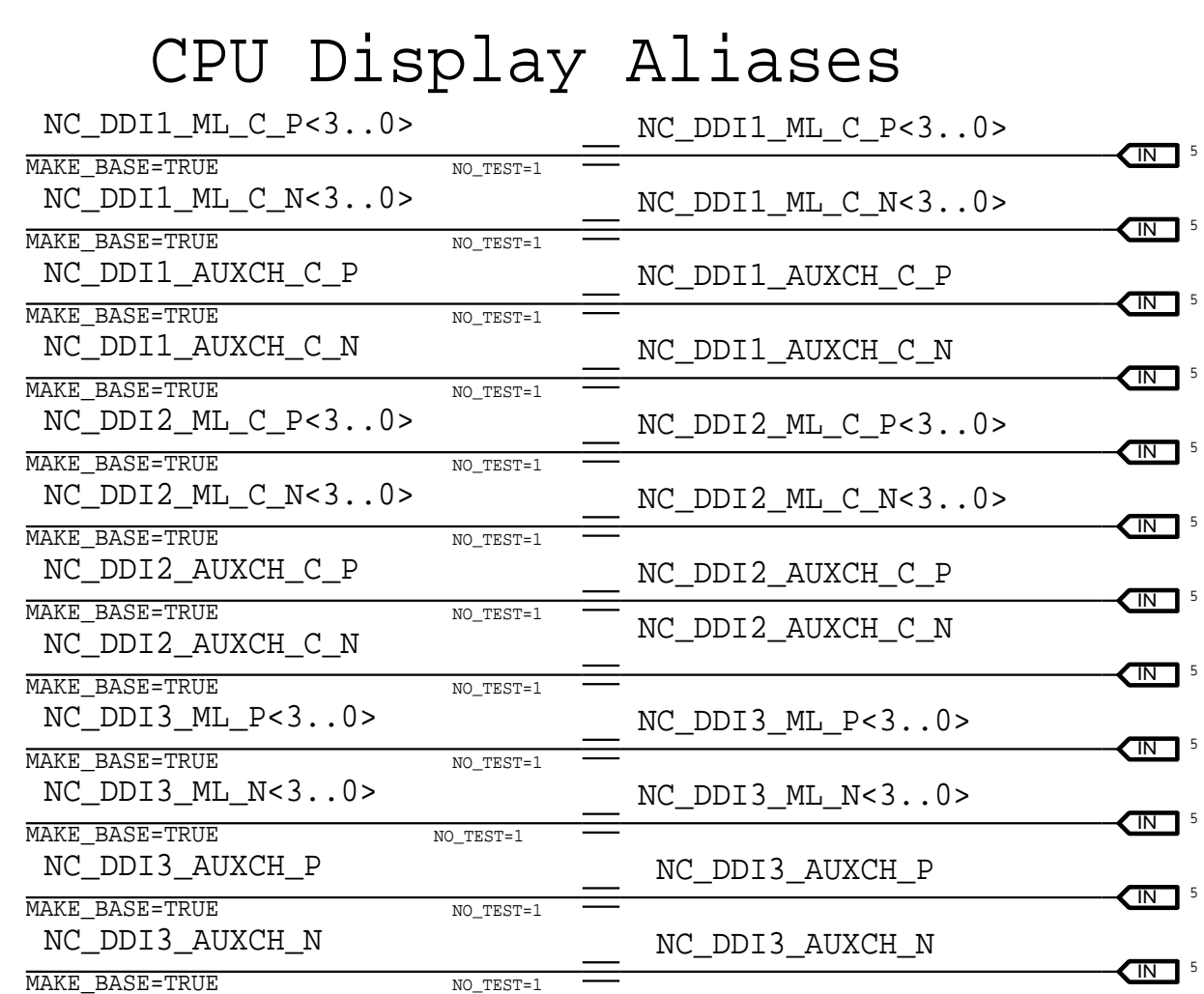
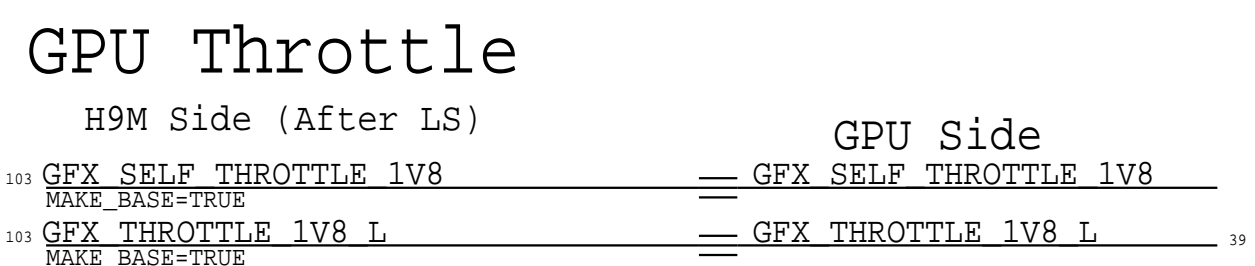
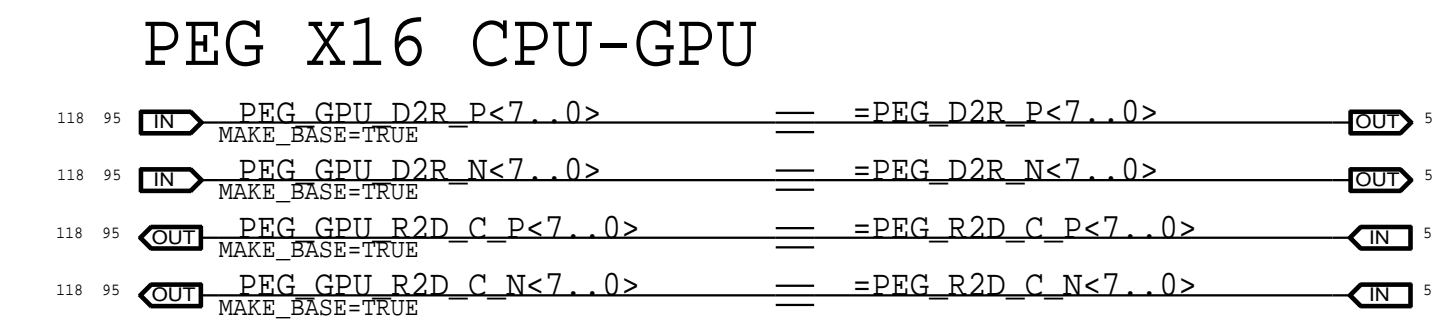
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Power Alias 2		
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ICT TESTPOINTS , High Speed NO\_TEST

H9M SSD NAND

PEG

117	95	IN	PEG_GPU_D2R_N<7..0>	NO_TEST=1
117	95	IN	PEG_GPU_D2R_P<7..0>	NO_TEST=1
117	95	IN	PEG_GPU_R2D_C_N<7..0>	NO_TEST=1
117	95	IN	PEG_GPU_R2D_C_P<7..0>	NO_TEST=1
117	29	IN	PCIE_TBT_X_D2R_P<3..0>	NO_TEST=1
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117	107	IN	PCIE_TBT_T_D2R_P<3..0>	NO_TEST=1
117	107	IN	PCIE_TBT_T_D2R_N<3..0>	NO_TEST=1
107	105	IN	PCIE_TBT_T_D2R_C_P<3..0>	NO_TEST=1
107	105	IN	PCIE_TBT_T_D2R_C_N<3..0>	NO_TEST=1
29	27	IN	PCIE_TBT_X_D2R_C_P<3..0>	NO_TEST=1
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107	105	IN	PCIE_TBT_T_R2D_P<3..0>	NO_TEST=1
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117	107	IN	PCIE_TBT_T_R2D_C_P<3..0>	NO_TEST=1
117	107	IN	PCIE_TBT_T_R2D_C_N<3..0>	NO_TEST=1
95	95	IN	PEG_GPU_D2R_C_N<7..0>	NO_TEST=1
95	95	IN	PEG_GPU_D2R_C_P<7..0>	NO_TEST=1
95	95	IN	PEG_GPU_R2D_N<7..0>	NO_TEST=1
95	95	IN	PEG_GPU_R2D_P<7..0>	NO_TEST=1

CPU/PCH CLK

12	6	IN	CPU_CLK24M_NSSC_CLK_N	NO_TEST=1
12	6	IN	CPU_CLK24M_NSSC_CLK_P	NO_TEST=1
12	6	IN	CPU_CLK100M_PCTBCLK_N	NO_TEST=1
12	6	IN	CPU_CLK100M_PCTBCLK_P	NO_TEST=1
12	6	IN	CPU_CLK100M_BCLK_N	NO_TEST=1
12	6	IN	CPU_CLK100M_BCLK_P	NO_TEST=1

20	18	IN	NC_ITPXDP_CLK100MN	
20	18	IN	NC_ITPXDP_CLK100MP	

MUX

93	5	IN	DP_INT_IG_ML_N<3..0>	NO_TEST=1
93	5	IN	DP_INT_IG_ML_P<3..0>	NO_TEST=1
93	5	IN	DP_INT_IG_AUX_N	NO_TEST=1
93	5	IN	DP_INT_IG_AUX_P	NO_TEST=1
103	93	IN	DP_INT_EG_ML_N<3..0>	NO_TEST=1
103	93	IN	DP_INT_EG_ML_P<3..0>	NO_TEST=1
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103	93	IN	DP_INT_EG_AUX_P	NO_TEST=1

H9M ESPI

39	20	12	IN	ESPI_IO<0>	NO_TEST=1
39	20	12	IN	ESPI_IO<1>	NO_TEST=1
39	20	12	IN	ESPI_IO<2>	NO_TEST=1
39	20	12	IN	ESPI_IO<3>	NO_TEST=1
39			IN	ESPI_IO_R<0>	NO_TEST=1
39			IN	ESPI_IO_R<1>	NO_TEST=1
118	39		IN	ESPI_IO_R<3>	NO_TEST=1
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TBT\_X\_XTAL25M\_OUT

TBT\_X\_XTAL25M\_IN

TBT\_T\_XTAL25M\_OUT

TBT\_T\_XTAL25M\_IN

GPU\_CLK\_IN

MEM

26	23	22	7	IN	MEM_A_CLK_P<1..0>	NO_TEST=1
26	23	22	7	IN	MEM_A_CLK_N<1..0>	NO_TEST=1
				IN	MEM_A_DQ<63..0>	NO_TEST=1
125	23	22		IN	MEM_B_DQ<63..0>	NO_TEST=1
125	23	22		IN	MEM_A_DQS_P<7..0>	NO_TEST=1
125	23	22		IN	MEM_A_DQS_N<7..0>	NO_TEST=1
125	23	22		IN	MEM_B_DQS_P<7..0>	NO_TEST=1
125	23	22		IN	MEM_B_DQS_N<7..0>	NO_TEST=1

26	25	24	7	IN	MEM_B_CLK_P<1..0>	NO_TEST=1
26	25	24	7	IN	MEM_B_CLK_N<1..0>	NO_TEST=1

WIFI

37			IN	50_0_ANT	NO_TEST=1
37			IN	50_1_ANT	NO_TEST=1
37			IN	50_2_ANT	NO_TEST=1
37			IN	50_0_COM	NO_TEST=1
37			IN	50_1_COM	NO_TEST=1
37			IN	50_2_COM	NO_TEST=1
37			IN	50_A_0_DIPLEXER	NO_TEST=1
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37			IN	50_G_0_DIPLEXER	NO_TEST=1
37	36		IN	50_G_0_MATCH	NO_TEST=1
37			IN	50_A_1_DIPLEXER	NO_TEST=1
37	36		IN	50_A_1_MATCH	NO_TEST=1
37			IN	50_G_1_DIPLEXER	NO_TEST=1
37	36		IN	50_G_1_MATCH	NO_TEST=1
37			IN	50_A_2_DIPLEXER	NO_TEST=1
37	36		IN	50_A_2_MATCH	NO_TEST=1
37			IN	50_G_2_DIPLEXER	NO_TEST=1
37	36		IN	50_G_2_MATCH	NO_TEST=1

USB-C T

110	105	IN	USBC_TA_D2R_P<2..1>	NO_TEST=1
110	105	IN	USBC_TA_D2R_N<2..1>	NO_TEST=1
110		IN	USBC_TA_R2D_C_P<2..1>	NO_TEST=1
110		IN	USBC_TA_R2D_C_N<2..1>	NO_TEST=1

110	105	IN	USBC_TB_D2R_P<2..1>	NO_TEST=1
110	105	IN	USBC_TB_D2R_N<2..1>	NO_TEST=1
110		IN	USBC_TB_R2D_C_P<2..1>	NO_TEST=1
110		IN	USBC_TB_R2D_C_N<2..1>	NO_TEST=1

86	85	84	83	IN	PCIE_SSD0_R2D_P<3..0>	NO_TEST=1
86	85	84	83	IN	PCIE_SSD0_R2D_N<3..0>	NO_TEST=1
86	85	84	41	IN	PCIE_SSD0_D2R_P<3..0>	NO_TEST=1
86	85	84	41	IN	PCIE_SSD0_D2R_N<3..0>	NO_TEST=1
86	85	84	41	IN	PCIE_SSD0_R2D_C_P<3..0>	NO_TEST=1
86	85	84	41	IN	PCIE_SSD0_R2D_C_N<3..0>	NO_TEST=1
86	85	84	83	IN	PCIE_SSD0_D2R_C_P<3..0>	NO_TEST=1
86	85	84	83	IN	PCIE_SSD0_D2R_C_N<3..0>	NO_TEST=1

91	90	89	88	IN	PCIE_SSD1_R2D_P<3..0>	NO_TEST=1
91	90	89	88	IN	PCIE_SSD1_R2D_N<3..0>	NO_TEST=1
91	90	89	41	IN	PCIE_SSD1_D2R_P<3..0>	NO_TEST=1
91	90	89	41	IN	PCIE_SSD1_D2R_N<3..0>	NO_TEST=1
91	90	89	41	IN	PCIE_SSD1_R2D_C_P<3..0>	NO_TEST=1
91	90	89	41	IN	PCIE_SSD1_R2D_C_N<3..0>	NO_TEST=1
91	90	89	88	IN	PCIE_SSD1_D2R_C_P<3..0>	NO_TEST=1
91	90	89	88	IN	PCIE_SSD1_D2R_C_N<3..0>	NO_TEST=1

XTAL

118	29	27	IN	TBT_X_XTAL25M_OUT	NO_TEST=1
12			IN	PCH_CLK24M_XTALOUT	NO_TEST=1
77			IN	PMU_XTAL1	NO_TEST=1
77			IN	PMU_XTAL2	NO_TEST=1

PCH/AR

36	14	IN	PCH_PCIE_WLAN_D2R_N	NO_TEST=1
36	14	IN	PCH_PCIE_WLAN_D2R_P	NO_TEST=1
36	14	IN	PCH_PCIE_WLAN_R2D_C_N	NO_TEST=1
36	14	IN	PCH_PCIE_WLAN_R2D_C_P	NO_TEST=1
36		IN	PCH_PCIE_WLAN_D2R_C_P	NO_TEST=1
36		IN	PCH_PCIE_WLAN_D2R_C_N	NO_TEST=1
36		IN	PCH_PCIE_WLAN_R2D_P	NO_TEST=1
36		IN	PCH_PCIE_WLAN_R2D_N	NO_TEST=1

PCH/SOC

47	41	IN	PCIE_SOC_R2D_P<3..0>	NO_TEST=1	
47	41	IN	PCIE_SOC_R2D_N<3..0>	NO_TEST=1	
47	14	IN	PCIE_SOC_D2R_P<3..0>	NO_TEST=1	
47	14	IN	PCIE_SOC_D2R_N<3..0>	NO_TEST=1	
47	14	IN	PCIE_SOC_R2D_C_P<3..0>	NO_TEST=1	
47	14	IN	PCIE_SOC_R2D_C_N<3..0>	NO_TEST=1	
41			IN	PCIE_SOC_D2R_C_P<3..0>	NO_TEST=1
41			IN	PCIE_SOC_D2R_C_N<3..0>	NO_TEST=1

BAFFIN FRAME BUFFER

99	97	IN	FB_A1_CS_L	NO_TEST=1	
99	97	IN	FB_A0_CKE_L	NO_TEST=1	
99	97	IN	FB_A1_CKE_L	NO_TEST=1	
99	97	IN	FB_A0_WE_L	NO_TEST=1	
99	97	IN	FB_A1_WE_L	NO_TEST=1	
100	97	IN	FB_B1_CS_L	NO_TEST=1	
100	97	IN	FB_B0_CKE_L	NO_TEST=1	
100	97	IN	FB_B1_CKE_L	NO_TEST=1	
118	100	97	IN	FB_B0_WE_L	NO_TEST=1
118	100	97	IN	FB_B0_WE_L	NO_TEST=1
100	97	IN	FB_B0_CLK_P	NO_TEST=1	
100	97	IN	FB_B1_CLK_N	NO_TEST=1	
100	97	IN	FB_B1_CLK_P	NO_TEST=1	
100	97	IN	FB_B0_RAS_L	NO_TEST=1	
100	97	IN	FB_B1_RAS_L	NO_TEST=1	
100	97	IN	FB_B0_CAS_L	NO_TEST=1	
100	97	IN	FB_B1_CAS_L	NO_TEST=1	
100	97	IN	FB_B0_CS_L	NO_TEST=1	
99	97	IN	FB_A0_DQ<31..0>	NO_TEST=1	
99	97	IN	FB_A1_DQ<31..0>	NO_TEST=1	
99	97	IN	FB_A0_A<8..0>	NO_TEST=1	
99	97	IN	FB_A1_A<8..0>	NO_TEST=1	
99	97	IN	FB_A0_WCLK_N<1..0>	NO_TEST=1	
99	97	IN	FB_A0_WCLK_P<1..0>	NO_TEST=1	
99	97	IN	FB_A1_WCLK_N<1..0>	NO_TEST=1	
99	97	IN	FB_A1_WCLK_P<1..0>	NO_TEST=1	
99	97	IN	FB_A0_EDC<3..0>	NO_TEST=1	
99	97	IN	FB_A1_EDC<3..0>	NO_TEST=1	
99	97	IN	FB_A0_DBI_L<3..0>	NO_TEST=1	
99	97	IN	FB_A1_DBI_L<3..0>	NO_TEST=1	
99	97	IN	FB_A0_ABT_L	NO_TEST=1	
99	97	IN	FB_A1_ABT_L	NO_TEST=1	
99	97	IN	FB_A0_CLK_N	NO_TEST=1	
99	97	IN	FB_A0_CLK_P	NO_TEST=1	
99	97	IN	FB_A1_CLK_N	NO_TEST=1	
99	97	IN	FB_A1_CLK_P	NO_TEST=1	
99	97	IN	FB_A0_RAS_L	NO_TEST=1	
99	97	IN	FB_A1_RAS_L	NO_TEST=1	
99	97	IN	FB_A0_CAS_L	NO_TEST=1	
99	97	IN	FB_A1_CAS_L	NO_TEST=1	
99	97	IN	FB_A0_CS_L	NO_TEST=1	
100	97	IN	FB_B0_CLK_N	NO_TEST=1	
100	97	IN	FB_B0_DQ<31..0>	NO_TEST=1	
100	97	IN	FB_B1_DQ<31..0>	NO_TEST=1	
100	97	IN	FB_B0_A<8..0>	NO_TEST=1	
100	97	IN	FB_B1_A<8..0>	NO_TEST=1	
100	97	IN	FB_B0_WCLK_N<1..0>	NO_TEST=1	
100	97	IN	FB_B0_WCLK_P<1..0>	NO_TEST=1	
100	97	IN	FB_B1_WCLK_N<1..0>	NO_TEST=1	
100	97	IN	FB_B1_WCLK_P<1..0>	NO_TEST=1	
100	97	IN	FB_B0_EDC<3..0>	NO_TEST=1	
100	97	IN	FB_B1_EDC<3..0>	NO_TEST=1	
100	97	IN	FB_B0_DBI_L<3..0>	NO_TEST=1	
100	97	IN	FB_B1_DBI_L<3..0>	NO_TEST=1	
100	97	IN	FB_B0_ABT_L	NO_TEST=1	
100	97	IN	FB_B1_ABT_L	NO_TEST=1	

USB-C X

32	27	IN	USRC_XB_D2R_N<2..1>	NO_TEST=1
32	27	IN	USRC_XB_D2R_P<2..1>	NO_TEST=1
32	27	IN	USRC_XA_D2R_P<2..1>	NO_TEST=1
32	27	IN	USRC_XB_R2D_C_P<2..1>	NO_TEST=1
32	27	IN	USRC_XA_D2R_N<2..1>	NO_TEST=1
32		IN	USRC_XB_R2D_C_N<2..1>	NO_TEST=1
32		IN	USRC_XA_R2D_C_P<2..1>	NO_TEST=1
32		IN	USRC_XA_R2D_C_N<2..1>	NO_TEST=1

DMI

13	5	IN	DMI_S2N_P<3..0>	NO_TEST=1
13	5	IN	DMI_S2N_N<3..0>	NO_TEST=1
13	5	IN	DMI_N2S_P<3..0>	NO_TEST=1
13	5	IN	DMI_N2S_N<3..0>	NO_TEST=1

DP - CPU/ACE

103	27	IN	DP_X_SNK0_ML_C_N<3..0>	NO_TEST=1
103	27	IN	DP_X_SNK0_ML_C_P<3..0>	NO_TEST=1
		IN	DP_X_SNK0_ML_N<3..0>	NO_TEST=1
		IN	DP_X_SNK0_ML_P<3..0>	NO_TEST=1
103	27	IN	DP_X_SNK1_ML_C_N<3..0>	NO_TEST=1
103	27	IN	DP_X_SNK1_ML_C_P<3..0>	NO_TEST=1
		IN	DP_X_SNK1_ML_N<3..0>	NO_TEST=1
		IN	DP_X_SNK1_ML_P<3..0>	NO_TEST=1
105	103	IN	DP_T_SNK0_ML_C_N<3..0>	NO_TEST=1
105	103	IN	DP_T_SNK0_ML_C_P<3..0>	NO_TEST=1
		IN	DP_T_SNK0_ML_N<3..0>	NO_TEST=1
		IN	DP_T_SNK0_ML_P<3..0>	NO_TEST=1
105	103	IN	DP_T_SNK1_ML_C_N<3..0>	NO_TEST=1
105	103	IN	DP_T_SNK1_ML_C_P<3..0>	NO_TEST=1
		IN	DP_T_SNK1_ML_N<3..0>	NO_TEST=1
		IN	DP_T_SNK1_ML_P<3..0>	NO_TEST=1
103	27	IN	DP_X_SNK0_AUXCH_C_P	NO_TEST=1
103	27	IN	DP_X_SNK0_AUXCH_C_N	NO_TEST=1
105	103	IN	DP_T_SNK0_AUXCH_C_P	NO_TEST=1
105	103	IN	DP_T_SNK0_AUXCH_C_N	NO_TEST=1
27		IN	DP_X_SNK0_AUXCH_P	NO_TEST=1
27		IN	DP_X_SNK0_AUXCH_N	NO_TEST=1
105	103	IN	DP_T_SNK1_AUXCH_P	NO_TEST=1
105	103	IN	DP_T_SNK1_AUXCH_N	NO_TEST=1
27		IN	DP_X_SNK1_AUXCH_P	NO_TEST=1
27		IN	DP_X_SNK1_AUXCH_N	NO_TEST=1
105	103	IN	DP_T_SNK1_AUXCH_P	NO_TEST=1
105	103	IN	DP_T_SNK1_AUXCH_N	NO_TEST=1

CPU/EDP

27			IN	DP_X_SNK1_AUXCH_P	NO_TEST=1
27					



## FCT TEST POINTS (TOP SIDE OF MLB)

8

7

6

5

4

3

2

1

## DFR/MESA (FCT)

TPC500	A	1 TP-P5		
TPC501	A	1 TP-P5		
TPC502	A	1 TP-P5	MIPI DFR CLK CONN FILT P	50
TPC503	A	1 TP-P5	DFR DISP VSYNC	50
TPC505	A	1 TP-P5	DFR DISP TE	40 50
TPC504	A	1 TP-P5	MIPI DFR CLK CONN FILT N	50
TPC506	A	1 TP-P5		
TPC507	A	1 TP-P5	MIPI DFR DATA CONN FILT P	50
TPC524	A	1 TP-P5	MIPI DFR DATA CONN FILT N	50
TPC510	A	1 TP-P5	DFR DISP RESET L	40 50
TPC516	A	1 TP-P5	PP3V3 G3HSW DFR	50 120
TPC508	A	1 TP-P5	DFR DISP INT	38 50
TPC518	A	1 TP-P5	PP3V3 G3HSW DFR	50 120
TPC511	A	1 TP-P5		
TPC512	A	1 TP-P5		
TPC521	A	1 TP-P5	TP DFR TOUCH PANEL DETECT	50
TPC522	A	1 TP-P5	DFR LID OPEN L	50
TPC515	A	1 TP-P5		
TPC520	A	1 TP-P5		
TPC527	A	1 TP-P5	SPI DFR MISO R	47 50
TPC528	A	1 TP-P5	SPI DFR CS L	40 50
TPC533	A	1 TP-P5	DFR TOUCH INT L	39 50
TPC535	A	1 TP-P5	DFR TOUCH CLK32K RESET L	40 50
TPC534	A	1 TP-P5	I2C DFR SCL R	50 52
TPC536	A	1 TP-P5	I2C DFR SDA R	50 52
TPC538	A	1 TP-P5	DFR TOUCH RESET L	40 50
TPC530	A	1 TP-P5	SPI DFR MOSI	47 50
TPC525	A	1 TP-P5		
TPC526	A	1 TP-P5		
TPC529	A	1 TP-P5	SPI DFR CLK	47 50
TPC539	A	1 TP-P5	TP DFR TOUCH ROM WC	50
TPC540	A	1 TP-P5	PP1V8 SLPS2RSW DFR	50 52 120
TPC542	A	1 TP-P5	PP5V G3S DFR FILT	50
TPC541	A	1 TP-P5	PP1V8 SLPS2RSW DFR	50 52 120
TPC544	A	1 TP-P5	SPI MESA MISO CONN	48
TPC543	A	1 TP-P5	PP1V8 MESA CONN	48
TPC550	A	1 TP-P5	SPI MESA CLK CONN	48
TPC531	A	1 TP-P5		
TPC532	A	1 TP-P5		
TPC546	A	1 TP-P5	MESA INT CONN	48
TPC547	A	1 TP-P5	SPI MESA MOSI CONN	48
TPC548	A	1 TP-P5	MESA BOOST EN CONN	48
TPC552	A	1 TP-P5	PP16V0 MESA CONN	48
TPC537	A	1 TP-P5		
TPC554	A	1 TP-P5	PP3V0 MESA CONN	48 120
TPC554	A	1 TP-P5	PP3V0 MESA CONN	48 120
TPC555	A	1 TP-P5		
TPC545	A	1 TP-P5		
TPC553	A	1 TP-P5		

## TBT/DP

TPC517	A	1 TP-P5	TBT X HDMI DDC DATA	29 95
TPC518	A	1 TP-P5	TBT X HDMI DDC CLK	29 95
TPC519	A	1 TP-P5	TBT T HDMI DDC DATA	95 107
TPC5N0	A	1 TP-P5	TBT T HDMI DDC CLK	95 107

## FAN , Keyboard,Trackpad Test Points

TPC556	A	1 TP-P5	GND FAN	65 120
TPC557	A	1 TP-P5	GND FAN	65 120
TPC558	A	1 TP-P5	PP5V G3S FAN CONN	65 120
TPC559	A	1 TP-P5	PP5V G3S FAN CONN	65 120
TPC560	A	1 TP-P5	FAN LT TACH	59 65
TPC561	A	1 TP-P5	FAN RT TACH	59 65
TPC562	A	1 TP-P5	FAN LT PWM	59 65
TPC563	A	1 TP-P5	FAN RT PWM	59 65
TPC564	A	1 TP-P5		
TPC565	A	1 TP-P5		
TPC571	A	1 TP-P5	GND FAN	65 120
TPC572	A	1 TP-P5	GND FAN	65 120
TPC576	A	1 TP-P5	I2C TPAD3V3 SCL	65 66
TPC570	A	1 TP-P5	TPAD KBD WAKE L	47 65 66
TPC566	A	1 TP-P5	I2C TPAD3V3 SDA	65 66
TPC567	A	1 TP-P5	TPAD3V3 ACTUATOR DISABLE L	65 66
TPC568	A	1 TP-P5	I2C KBD SDA	65
TPC569	A	1 TP-P5	TPAD3V3 SPI INT L	65 66
TPC578	A	1 TP-P5	IPD LID OPEN	47 50 65
TPC523	A	1 TP-P5	PP5V G3S	116 119
TPC524	A	1 TP-P5	PP5V G3S	116 119
TPC574	A	1 TP-P5	PMU RSLOC RST R L	65
TPC575	A	1 TP-P5	PP3V3 G3H RTC X	116

TPC571	A	1 TP-P5		
TPC588	A	1 TP-P5	ACT GND	65 120
TPC586	A	1 TP-P5	ACT GND	65 120
TPC579	A	1 TP-P5	KBD BLC GSSOUT	65
TPC578	A	1 TP-P5	TPAD3V3 SPI EN	65 66
TPC585	A	1 TP-P5	PP3V3 G3S T	65 116 120
TPC584	A	1 TP-P5	PP3V3 G3S T	65 116 120
TPC583	A	1 TP-P5	KBD BLC GSLAT	65
TPC582	A	1 TP-P5	PP5V G3S TPAD CONN	65
TPC581	A	1 TP-P5	KBD BLC GSSCK	65
TPC580	A	1 TP-P5	SPI TPAD3V3 CLK	65 66
TPC591	A	1 TP-P5	PPVIN G3H TPAD FUSE	65 120
TPC590	A	1 TP-P5	PPVIN G3H TPAD FUSE	65 120
TPC589	A	1 TP-P5	PPVIN G3H TPAD FUSE	65 120
TPC577	A	1 TP-P5	KBD BLC GSSIN	65
TPC576	A	1 TP-P5	SPI TPAD3V3 MISO	65 66
TPC575	A	1 TP-P5	KBD BLC XBLANK	65
TPC574	A	1 TP-P5	SPI TPAD3V3 CS L	65 66
TPC572	A	1 TP-P5	SPI TPAD3V3 MOSI	65 66
TPC573	A	1 TP-P5	I2C KBD SCL	65
TPC587	A	1 TP-P5		

TPC5M0

## WIRELESS

TPC5H9	A	1 TP-P5	PP3V3 G3S WLAN	116
TPC5I0	A	1 TP-P5	PP1V8 G3S WLANBT VDDIO	116
TPC5L0	A	1 TP-P5	PPVIN_RFLDO_WLANBT	36 122
TPC5L1	A	1 TP-P5	PP1V2 WLANBT	36 122
TPC5L2	A	1 TP-P5	PP1V5 WLANBT	36 122

## HALL EFFECT

TPC5I1	A	1 TP-P5	LID OPEN LEFT	47 64
TPC5I2	A	1 TP-P5	LID OPEN RIGHT	47 64

## MEMORY

TPC5I3	A	1 TP-P5	PVDDQ_PGOOD	74 77
TPC5I7	A	1 TP-P5	PP1V2_S3_CPUDDR	115

## AUDIO

TPC592	A	1 TP-P5	AUD DMIC0 CLK CONN	64
TPC593	A	1 TP-P5	AUD DMIC0 DATA CONN	64
TPC594	A	1 TP-P5	PP1V8 DMIC	64
TPC595	A	1 TP-P5	AUD DMIC1 CLK CONN	64
TPC596	A	1 TP-P5	AUD DMIC1 DATA CONN	64
TPC597	A	1 TP-P5		
TPC5A1	A	1 TP-P5	SPKRCONN LW OUTN	62 120
TPC5B1	A	1 TP-P5	SPKRCONN LW OUTN	62 120
TPC5B4	A	1 TP-P5	SPKRCONN LW OUTN	62 120
TPC5A0	A	1 TP-P5	SPKRCONN LW OUTP	62 120
TPC5G0	A	1 TP-P5	SPKRCONN LW OUTP	62 120
TPC5G1	A	1 TP-P5	SPKRCONN LW OUTP	62 120
TPC598	A	1 TP-P5	SPKRCONN LT OUTN	62 120
TPC5G2	A	1 TP-P5	SPKRCONN LT OUTN	62 120
TPC5M3	A	1 TP-P5	SPKRCONN LT OUTN	62 120
TPC599	A	1 TP-P5	SPKRCONN LT OUTP	62 120
TPC5M4	A	1 TP-P5	SPKRCONN LT OUTP	62 120
TPC5M5	A	1 TP-P5	SPKRCONN LT OUTP	62 120
TPC5A6	A	1 TP-P5	SPKRCONN RW OUTP	63 120
TPC5G6	A	1 TP-P5	SPKRCONN RW OUTP	63 120
TPC5M7	A	1 TP-P5	SPKRCONN RW OUTP	63 120
TPC5Y9	A	1 TP-P5	SPKRCONN RW OUTN	63 120
TPC5G8	A	1 TP-P5	SPKRCONN RW OUTN	63 120
TPC5M9	A	1 TP-P5	SPKRCONN RW OUTN	63 120
TPC5A3	A	1 TP-P5	SPKRCONN RT OUTN	63 120
TPC5L3	A	1 TP-P5	SPKRCONN RT OUTN	63 120
TPC5L4	A	1 TP-P5	SPKRCONN RT OUTN	63 120
TPC5A4	A	1 TP-P5	SPKRCONN RT OUTP	63 120
TPC5L5	A	1 TP-P5	SPKRCONN RT OUTP	63 120
TPC5L6	A	1 TP-P5	SPKRCONN RT OUTP	63 120
TPC5B8	A	1 TP-P5	AUD CONN RING SENSE	64
TPC5B7	A	1 TP-P5	AUD CONN RING2 XW	64 119
TPC5B6	A	1 TP-P5	AUD CONN TIP SENSE	64 119
TPC5B5	A	1 TP-P5	AUD CONN HP SENSE R	64 119

TPC5A7	A	1 TP-P5		
TPC5B3	A	1 TP-P5	AUD CONN HP SENSE L	64 119
TPC5A8	A	1 TP-P5	AUD CONN HP LEFT	64 119
TPC5A9	A	1 TP-P5	AUD CONN HP RIGHT	64 119
TPC5B0	A	1 TP-P5	AUD CONN RING2	64 119
TPC5B2	A	1 TP-P5	AUD CONN SLEEVE	64 119
TPC5K0	A	1 TP-P5		

TPC5K1	A	1 TP-P5	AUD CONN SLEEVE XW	64 119
TPC5A5	A	1 TP-P5	SPKR ID0	40 63
TPC5A2	A	1 TP-P5		

## EDP , CAMERA,ALS


TPC5C0	A	1 TP-P5	EDP INT AUX N	62 93
TPC5C1	A	1 TP-P5		
TPC5C2	A	1 TP-P5	EDP INT AUX P	62 93
TPC5C3	A	1 TP-P5	EDP PANEL PWR BUF EN	62
TPC5C4	A	1 TP-P5		
TPC5C9	A	1 TP-P5	TP LCD IRQ L	62
TPC5C5	A	1 TP-P5	EDP INT ML P<0>	62 93
TPC5C5	A	1 TP-P5	DP INT HPD	62 93
TPC5C6	A	1 TP-P5	EDP INT ML N<0>	62 93
TPC5C7	A	1 TP-P5	LCD FSS	62 93
TPC5D5	A	1 TP-P5	EDP INT ML P<2>	62 93
TPC5D3	A	1 TP-P5	EDP INT ML N<2>	62 93
TPC5D1	A	1 TP-P5	EDP INT ML N<1>	62 93
TPC5D2	A	1 TP-P5	EDP INT ML P<1>	62 93
TPC5D0	A	1 TP-P5		
TPC5D7	A	1 TP-P5	I2C BKLT SDA	61 82
TPC5D0	A	1 TP-P5	EDP INT ML P<3>	62 93
TPC5D9	A	1 TP-P5	I2C BKLT SCL	61 82
TPC5D8	A	1 TP-P5	EDP INT ML N<3>	62 93
TPC5D4	A	1 TP-P5		
TPC5E1	A	1 TP-P5	I2C TCON SDA	51 82
TPC5E4	A	1 TP-P5	MIPI FTCAM DATA CONN N<0>	62
TPC5D6	A	1 TP-P5		
TPC5D3	A	1 TP-P5	I2C TCON SCL	51 82
TPC5D1	A	1 TP-P5	I2C CAM ISOL SDA	62
TPC5I1	A	1 TP-P5	MIPI FTCAM CLK CONN P	62
TPC5I10	A	1 TP-P5	I2C CAM ISOL SCL	62
TPC5I19	A	1 TP-P5	MIPI FTCAM CLK CONN N	62
TPC5I18	A	1 TP-P5	I2C ALS SCL	40 52
TPC5I22	A	1 TP-P5		
TPC5I16	A	1 TP-P5	MIPI FTCAM DATA CONN P<0>	62
TPC5I17	A	1 TP-P5	I2C ALS SDA	40 52
TPC5I15	A	1 TP-P5	PP5V_S0_ALSCAM_F	62
TPC5I13	A	1 TP-P5		
TPC5I14	A	1 TP-P5	PPVIN_S0SW_LCDBKLT_R	61
TPC5I13	A	1 TP-P5	PPVOUT_S0_LCDBKLT	61 82 122
TPC5I4	A	1 TP-P5	PP3V3_S0SW_LCD	51 82 120
TPC5F6	A	1 TP-P5	PP5V_S0SW_LCD	62
TPC5F5	A	1 TP-P5	PP3V3_S0SW_LCD	51 82 120
TPC5F8	A	1 TP-P5		
TPC5M1	A	1 TP-P5	BKLT_PWM_MLB2TCON	62

## USBC (PLACE NEAR CONNECTOR)

TPC5G3	A	1 TP-P5	TP USBC PP20V XB	32
TPC5N3	A	1 TP-P5	TP USBC PP20V XA	32
TPC5G4	A	1 TP-P5	USBC XA_SBU1	30 32
TPC5G5	A	1 TP-P5	USBC XA_SBU2	30 32
TPC5G7	A	1 TP-P5	USBC XA_CC2 CONN	32 33
TPC5G9	A	1 TP-P5	PP20V USBC XB_VBUS	29 32 120 122
TPC5H0	A	1 TP-P5	PP20V USBC XA_VBUS	29 32 120 122
TPC5H1	A	1 TP-P5	TP USBC PP20V TB	110
TPC5H2	A	1 TP-P5	TP USBC PP20V TA	110
TPC5H3	A	1 TP-P5	PP20V USBC TB_VBUS	107 110 120 122
TPC5H4	A	1 TP-P5	PP20V USBC TA_VBUS	107 110 120 122
TPC5H8	A	1 TP-P5	PP20V USBC XA_VBUS	29 32 120 122
TPC5H9	A	1 TP-P5	PP20V USBC XA_VBUS	29 32 120 122
TPC5J1	A	1 TP-P5	PP20V USBC XB_VBUS	29 32 120 122
TPC5J2	A	1 TP-P5	PP20V USBC XB_VBUS	29 32 120 122
TPC5J3	A	1 TP-P5	PP20V USBC XB_VBUS	29 32 120 122
TPC5J4	A	1 TP-P5	PP20V USBC XB_VBUS	29 32 120 122
TPC5J5	A	1 TP-P5	PP20V USBC TA_VBUS	107 110 120 122
TPC5H5	A	1 TP-P5		
TPC5H6	A	1 TP-P5		
TPC5H7	A	1 TP-P5		
TPC5H8	A	1 TP-P5		
TPC5M2	A	1 TP-P5		
TPC5K3	A	1 TP-P5		
TPC5K3	A	1 TP-P5		
TPC5J4	A	1 TP-P5	PP20V USBC TA_VBUS	107 110 120 122
TPC5J5	A	1 TP-P5	PP20V USBC TA_VBUS	107 110 120 122
TPC5J6	A	1 TP-P5	PP20V USBC TB_VBUS	107 110 120 122
TPC5J7	A	1 TP-P5	PP20V USBC TB_VBUS	107 110 120 122
TPC5J8	A	1 TP-P5	PP20V USBC TB_VBUS	107 110 120 122
TPC5N8	A	1 TP-P5	USBC XB_CC1 CONN	32 33
TPC5N8	A	1 TP-P5	USBC XB_CC2 CONN	32 33

TPC5O1	A	1 TP-P5	USBC TA_CC1 CONN	110 111
TPC5O2	A	1 TP-P5	USBC TA_CC2 CONN	110 111
TPC5O3	A	1 TP-P5	USBC TB_CC1 CONN	110 111
TPC5O4	A	1 TP-P5	USBC TB_CC2 CONN	110 111

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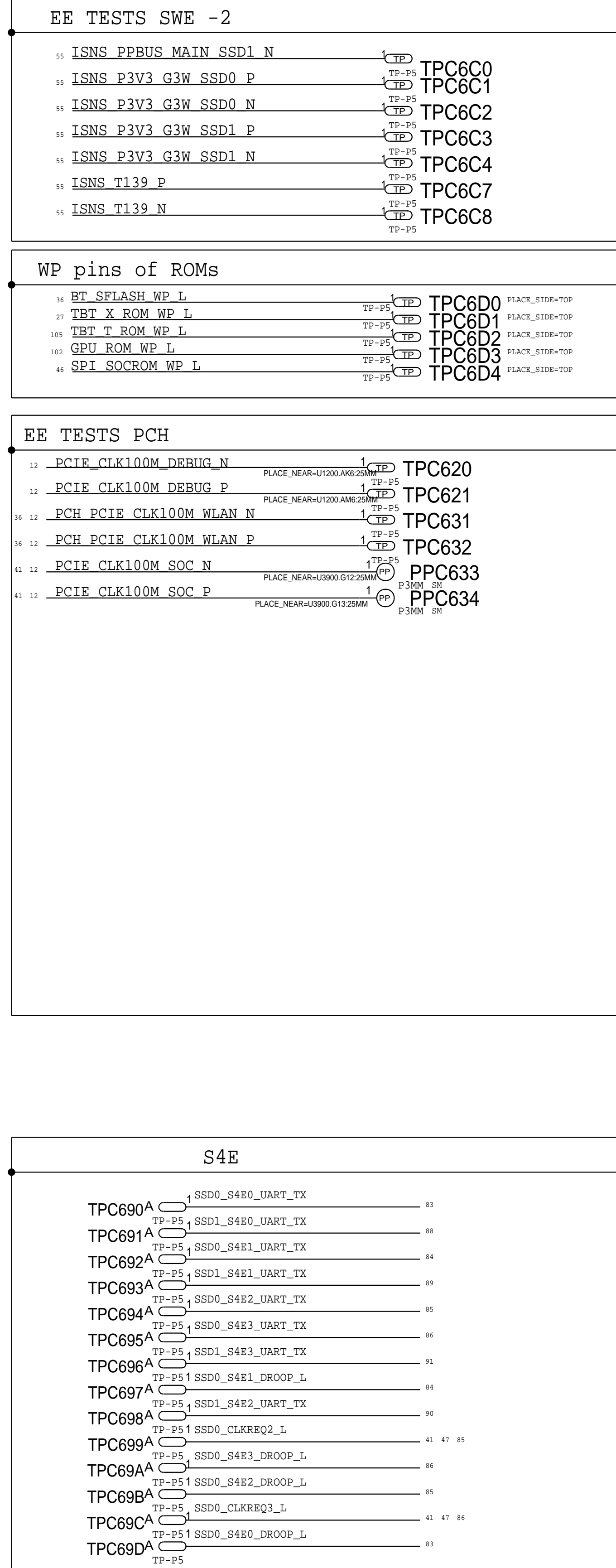
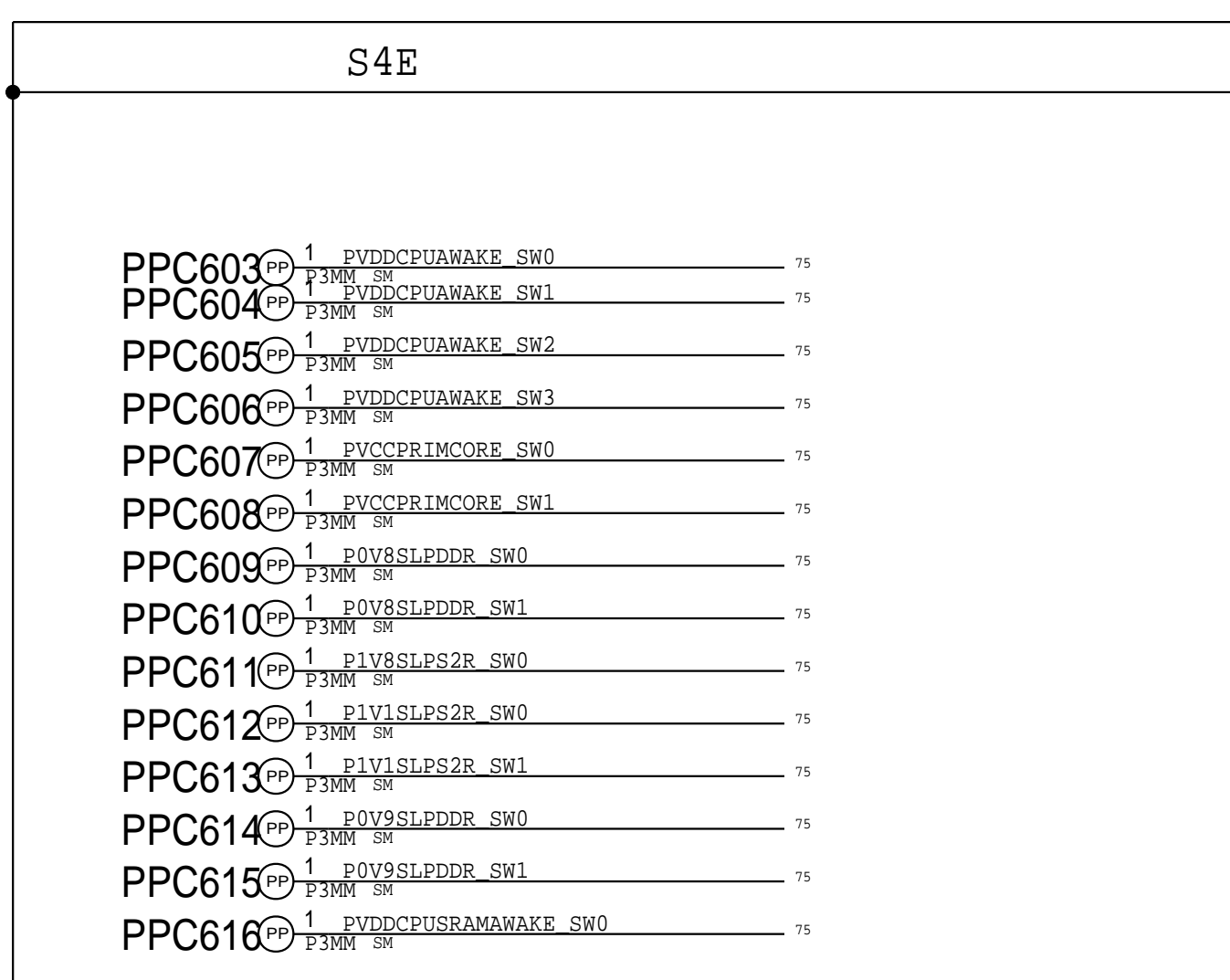


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## B

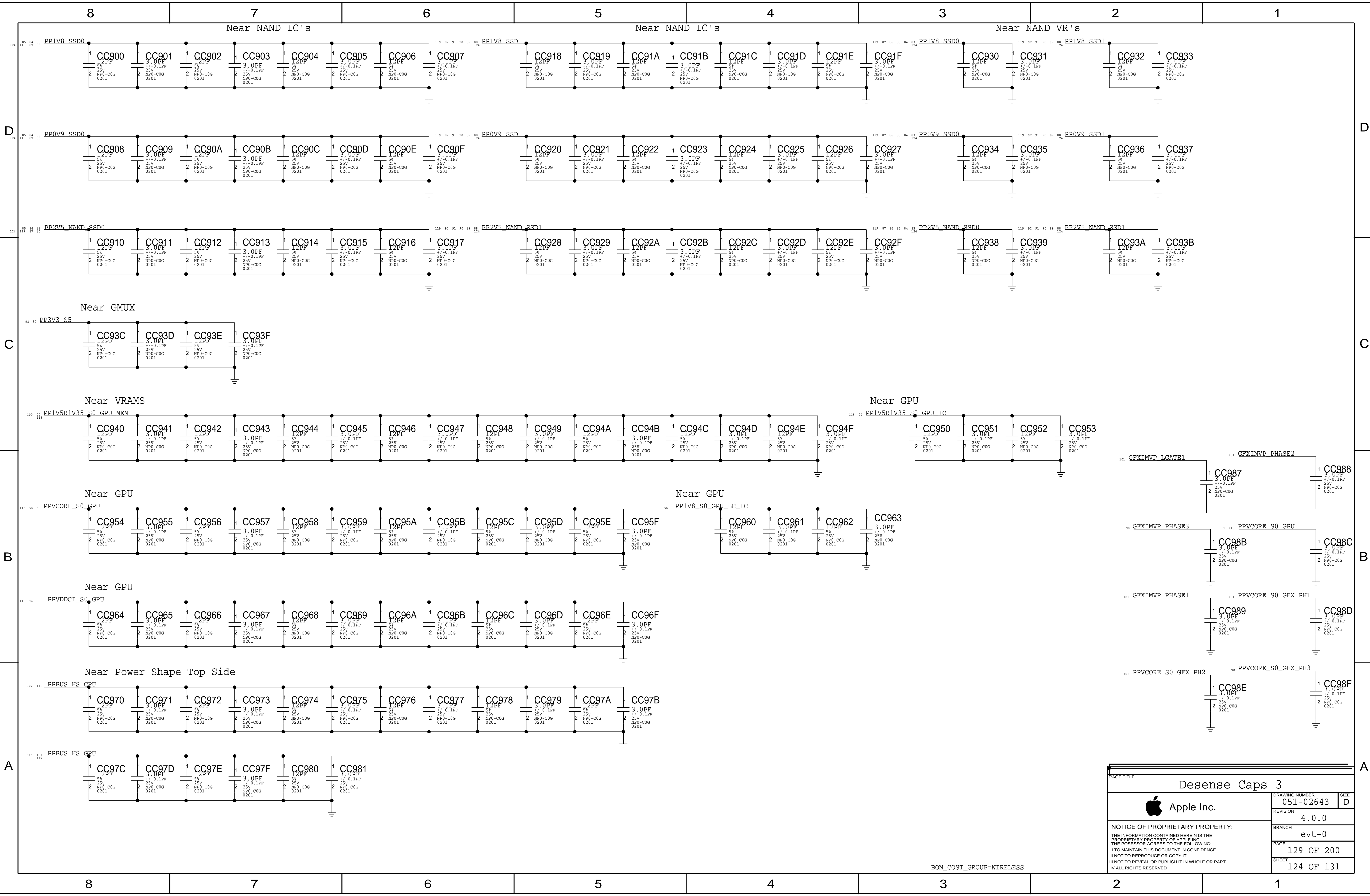
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JP8J

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JP8M

2.9GHZ CPU, 16GB DRAM, PRX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05793	MLB, 2.9GHZ,MC-16,PRX,WD-256,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05794	MLB, 2.9GHZ,MC-16,PRX,TS-256,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_256_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05795	MLB, 2.9GHZ, HY-16, PRX, WD-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05796	MLB, 2.9GHZ, HY-16, PRX, TS-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_256_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05797	MLB, 2.9GHZ,MC-16,PRX,WD-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05798	MLB, 2.9GHZ,MC-16,PRX,TS-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05799	MLB, 2.9GHZ, HY-16, PRX, WD-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05800	MLB, 2.9GHZ, HY-16, PRX, TS-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05801	MLB, 2.9GHZ,MC-16,PRX,WD-1TB,X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05802	MLB, 2.9GHZ, MC-16, PRX, TS-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05803	MLB, 2.9GHZ, HY-16, PRX, WD-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05804	MLB, 2.9GHZ, HY-16, PRX, TS-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05805	MLB, 2.9GHZ,MC-16,PRX,WD-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05806	MLB, 2.9GHZ,MC-16,PRX,TS-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05807	MLB, 2.9GHZ,MC-16,PRX,SM-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05808	MLB, 2.9GHZ, HY-16, PRX, WD-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05809	MLB, 2.9GHZ, HY-16, PRX, TS-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05810	MLB, 2.9GHZ, HY-16, PRX, SM-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 4TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05811	MLB, 2.9GHZ,MC-16,PRX,SM-4TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_4TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05812	MLB, 2.9GHZ, HY-16, PRX, SM-4TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_4TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 32GB DRAM, PRX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05833	MLB, 2.9GHZ,MC-32,PRX,WD-256,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05834	MLB, 2.9GHZ,DEVEL_BOM,TS_256_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9	
639-05835	MLB, 2.9GHZ, HY-32, PRX, WD-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05836	MLB, 2.9GHZ, HY-32, PRX, TS-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_256_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 32GB DRAM, PRX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05837	MLB, 2.9GHZ,MC-32,PRX,WD-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05838	MLB, 2.9GHZ,MC-32,PRX,TS-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05839	MLB, 2.9GHZ, HY-32, PRX, WD-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05840	MLB, 2.9GHZ, HY-32, PRX, TS-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 32GB DRAM, PRX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05841	MLB, 2.9GHZ,MC-32,PRX,WD-1TB,X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05842	MLB, 2.9GHZ,MC-32,PRX,TS-1TB,X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05843	MLB, 2.9GHZ, HY-32, PRX, WD-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05844	MLB, 2.9GHZ, HY-32, PRX, TS-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 32GB DRAM, PRX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05845	MLB, 2.9GHZ,MC-32,PRX,WD-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05846	MLB, 2.9GHZ,MC-32,PRX,TS-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05847	MLB, 2.9GHZ,MC-32,PRX,SM-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05848	MLB, 2.9GHZ, HY-32, PRX, WD-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05849	MLB, 2.9GHZ, HY-32, PRX, TS-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05850	MLB, 2.9GHZ, HY-32, PRX, SM-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9

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JPCQ

2.9GHZ CPU, 32GB DRAM, PRX GPU, 4TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05851	MLB, 2.9GHZ,MC-32,PRX,SM-4TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_4TB_PMLC,MC_32G,BAFFIN_PROX,CPU_CFL:2.9
639-05852	MLB, 2.9GHZ, HY-32, PRX, SM-4TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_4TB_PMLC,HY_32G,BAFFIN_PROX,CPU_CFL:2.9

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JPDG

2.9GHZ CPU, 32GB DRAM, ULX GPU, 4TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05871	MLB, 2.9GHZ,MC-32,ULX,SM-4TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_4TB_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05872	MLB, 2.9GHZ, HY-32, ULX, SM-4TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_4TB_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, ULX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05813	MLB, 2.9GHZ,MC-16,ULX,WD-256,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05814	MLB, 2.9GHZ,MC-16,ULX,TS-256,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_256_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05815	MLB, 2.9GHZ, HY-16, ULX, WD-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05816	MLB, 2.9GHZ, HY-16, ULX, TS-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_256_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, ULX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05817	MLB, 2.9GHZ,MC-16,ULX,WD-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05818	MLB, 2.9GHZ,MC-16,ULX,TS-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05819	MLB, 2.9GHZ, HY-16, ULX, WD-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05820	MLB, 2.9GHZ, HY-16, ULX, TS-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, ULX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05821	MLB, 2.9GHZ,MC-16,ULX,WD-1TB,X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05822	MLB, 2.9GHZ, MC-16, ULX, TS-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05823	MLB, 2.9GHZ, HY-16, ULX, WD-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05824	MLB, 2.9GHZ, HY-16, ULX, TS-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, ULX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05825	MLB, 2.9GHZ,MC-16,ULX,WD-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05826	MLB, 2.9GHZ,MC-16,ULX,TS-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05827	MLB, 2.9GHZ,MC-16,ULX,SM-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05828	MLB, 2.9GHZ, HY-16, ULX, WD-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05829	MLB, 2.9GHZ, HY-16, ULX, TS-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05830	MLB, 2.9GHZ, HY-16, ULX, SM-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9

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JP9W

JP9X

2.9GHZ CPU, 16GB DRAM, ULX GPU, 4TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05831	MLB, 2.9GHZ,MC-16,ULX,SM-4TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_4TB_PMLC,MC_16G,BAFFIN_ULX,CPU_CFL:2.9
639-05832	MLB, 2.9GHZ, HY-16, ULX, SM-4TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_4TB_PMLC,HY_16G,BAFFIN_ULX,CPU_CFL:2.9

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JPCR

JPCT

JPCV

JPCW

2.9GHZ CPU, 32GB DRAM, ULX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05853	MLB, 2.9GHZ,MC-32,ULX,WD-256,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05854	MLB, 2.9GHZ,MC-32,ULX,TS-256,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_256_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05855	MLB, 2.9GHZ, HY-32, ULX, WD-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05856	MLB, 2.9GHZ, HY-32, ULX, TS-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_256_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9

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JPCX

JPCY

JPD0

JPD1

2.9GHZ CPU, 32GB DRAM, ULX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05857	MLB, 2.9GHZ,MC-32,ULX,WD-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05858	MLB, 2.9GHZ,MC-32,ULX,TS-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05859	MLB, 2.9GHZ, HY-32, ULX, WD-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05860	MLB, 2.9GHZ, HY-32, ULX, TS-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9

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JPD2

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JPD5

2.9GHZ CPU, 32GB DRAM, ULX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05861	MLB, 2.9GHZ,MC-32,ULX,WD-1TB,X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05862	MLB, 2.9GHZ,MC-32,ULX,TS-1TB,X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05863	MLB, 2.9GHZ, HY-32, ULX, WD-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05864	MLB, 2.9GHZ, HY-32, ULX, TS-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9

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JPD6

JPD7

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JPD9

JPDC

JPDD

2.9GHZ CPU, 32GB DRAM, ULX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05865	MLB, 2.9GHZ,MC-32,ULX,WD-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05866	MLB, 2.9GHZ,MC-32,ULX,TS-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05867	MLB, 2.9GHZ,MC-32,ULX,SM-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,MC_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05868	MLB, 2.9GHZ, HY-32, ULX, WD-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05869	MLB, 2.9GHZ, HY-32, ULX, TS-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9
639-05870	MLB, 2.9GHZ, HY-32, ULX, SM-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,HY_32G,BAFFIN_ULX,CPU_CFL:2.9

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JP8M

2.9GHZ CPU, 16GB DRAM, PRX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05793	MLB, 2.9GHZ,MC-16,PRX,WD-256,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05794	MLB, 2.9GHZ,MC-16,PRX,TS-256,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_256_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05795	MLB, 2.9GHZ, HY-16, PRX, WD-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_256_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05796	MLB, 2.9GHZ, HY-16, PRX, TS-256, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_256_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05797	MLB, 2.9GHZ,MC-16,PRX,WD-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05798	MLB, 2.9GHZ,MC-16,PRX,TS-512,X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05799	MLB, 2.9GHZ, HY-16, PRX, WD-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,WD_512_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05800	MLB, 2.9GHZ, HY-16, PRX, TS-512, X1190	ALTERNATE,BASE_BOM,DEVEL_BOM,TS_512_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05801	MLB, 2.9GHZ,MC-16,PRX,WD-1TB,X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05802	MLB, 2.9GHZ, MC-16, PRX, TS-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05803	MLB, 2.9GHZ, HY-16, PRX, WD-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,WD_1TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05804	MLB, 2.9GHZ, HY-16, PRX, TS-1TB, X1190	ALTERNATE,BASE_BOM,BOM_6L,DEVEL_BOM,TS_1TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05805	MLB, 2.9GHZ,MC-16,PRX,WD-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05806	MLB, 2.9GHZ,MC-16,PRX,TS-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05807	MLB, 2.9GHZ,MC-16,PRX,SM-2TB,X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,MC_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05808	MLB, 2.9GHZ, HY-16, PRX, WD-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,WD_2TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05809	MLB, 2.9GHZ, HY-16, PRX, TS-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,TS_2TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9
639-05810	MLB, 2.9GHZ, HY-16, PRX, SM-2TB, X1190	ALTERNATE,BASE_BOM,BOM_8L,DEVEL_BOM,SM_2TB_PMLC,HY_16G,BAFFIN_PROX,CPU_CFL:2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05793	MLB, 2.9GHZ, MC-16, PRX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05794	MLB, 2.9GHZ, MC-16, PRX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05795	MLB, 2.9GHZ, HY-16, PRX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05796	MLB, 2.9GHZ, HY-16, PRX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05797	MLB, 2.9GHZ, MC-16, PRX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05798	MLB, 2.9GHZ, MC-16, PRX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05799	MLB, 2.9GHZ, HY-16, PRX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05800	MLB, 2.9GHZ, HY-16, PRX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9

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JP8T

JP8V

JP8X

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05801	MLB, 2.9GHZ, MC-16, PRX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05802	MLB, 2.9GHZ, MC-16, PRX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05803	MLB, 2.9GHZ, HY-16, PRX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05804	MLB, 2.9GHZ, HY-16, PRX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05805	MLB, 2.9GHZ, MC-16, PRX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05806	MLB, 2.9GHZ, MC-16, PRX, TS-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, TS_2TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05807	MLB, 2.9GHZ, MC-16, PRX, SM-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_2TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05808	MLB, 2.9GHZ, HY-16, PRX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05809	MLB, 2.9GHZ, HY-16, PRX, TS-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, TS_2TB_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05810	MLB, 2.9GHZ, HY-16, PRX, SM-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_2TB_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 4TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05811	MLB, 2.9GHZ, MC-16, PRX, SM-4TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_4TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05812	MLB, 2.9GHZ, HY-16, PRX, SM-4TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_4TB_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9

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JP9Y

JPC0

JPC1

JPC2

2.9GHZ CPU, 32GB DRAM, PRX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05833	MLB, 2.9GHZ, MC-32, PRX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05834	MLB, 2.9GHZ, MC-32, PRX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05835	MLB, 2.9GHZ, HY-32, PRX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05836	MLB, 2.9GHZ, HY-32, PRX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9

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JPC3

JPC4

JPC5

JPC6

2.9GHZ CPU, 32GB DRAM, PRX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05837	MLB, 2.9GHZ, MC-32, PRX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05838	MLB, 2.9GHZ, MC-32, PRX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05839	MLB, 2.9GHZ, HY-32, PRX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05840	MLB, 2.9GHZ, HY-32, PRX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9

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JPC7

JPC8

JPC9

JPCD

2.9GHZ CPU, 32GB DRAM, PRX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05841	MLB, 2.9GHZ, MC-32, PRX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05842	MLB, 2.9GHZ, MC-32, PRX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05843	MLB, 2.9GHZ, HY-32, PRX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05844	MLB, 2.9GHZ, HY-32, PRX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9

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JPCF

JPCG

JPCJ

JPCJ

JPCL

JPCM

2.9GHZ CPU, 32GB DRAM, PRX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05845	MLB, 2.9GHZ, MC-32, PRX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05846	MLB, 2.9GHZ, MC-32, PRX, TS-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, TS_2TB_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05847	MLB, 2.9GHZ, MC-32, PRX, SM-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_2TB_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05848	MLB, 2.9GHZ, HY-32, PRX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05849	MLB, 2.9GHZ, HY-32, PRX, TS-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, TS_2TB_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05850	MLB, 2.9GHZ, HY-32, PRX, SM-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_2TB_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9

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JPCN

JPCQ

2.9GHZ CPU, 32GB DRAM, PRX GPU, 4TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05851	MLB, 2.9GHZ, MC-32, PRX, SM-4TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_4TB_PMLC, MC_32G, BAFFIN_PROX, CPU_CFL: 2.9
639-05852	MLB, 2.9GHZ, HY-32, PRX, SM-4TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_4TB_PMLC, HY_32G, BAFFIN_PROX, CPU_CFL: 2.9

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JPDF

JPDG

2.9GHZ CPU, 32GB DRAM, ULX GPU, 4TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05871	MLB, 2.9GHZ, MC-32, ULX, SM-4TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_4TB_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05872	MLB, 2.9GHZ, HY-32, ULX, SM-4TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_4TB_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9

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JP9C

2.9GHZ CPU, 16GB DRAM, ULX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05813	MLB, 2.9GHZ, MC-16, ULX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05814	MLB, 2.9GHZ, MC-16, ULX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05815	MLB, 2.9GHZ, HY-16, ULX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05816	MLB, 2.9GHZ, HY-16, ULX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9

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JP9F

JP9G

JP9H

2.9GHZ CPU, 16GB DRAM, ULX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05817	MLB, 2.9GHZ, MC-16, ULX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05818	MLB, 2.9GHZ, MC-16, ULX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05819	MLB, 2.9GHZ, HY-16, ULX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05820	MLB, 2.9GHZ, HY-16, ULX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9

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JP9J

JP9K

JP9L

JP9M

2.9GHZ CPU, 16GB DRAM, ULX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05821	MLB, 2.9GHZ, MC-16, ULX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05822	MLB, 2.9GHZ, MC-16, ULX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05823	MLB, 2.9GHZ, HY-16, ULX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05824	MLB, 2.9GHZ, HY-16, ULX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9

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JP9N

JP9P

JP9Q

JP9R

JP9T

JP9V

2.9GHZ CPU, 16GB DRAM, ULX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05825	MLB, 2.9GHZ, MC-16, ULX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05826	MLB, 2.9GHZ, MC-16, ULX, TS-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, TS_2TB_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05827	MLB, 2.9GHZ, MC-16, ULX, SM-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_2TB_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05828	MLB, 2.9GHZ, HY-16, ULX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05829	MLB, 2.9GHZ, HY-16, ULX, TS-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, TS_2TB_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05830	MLB, 2.9GHZ, HY-16, ULX, SM-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_2TB_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9

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JP9W

JP9X

2.9GHZ CPU, 16GB DRAM, ULX GPU, 4TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05831	MLB, 2.9GHZ, MC-16, ULX, SM-4TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_4TB_PMLC, MC_16G, BAFFIN_ULX, CPU_CFL: 2.9
639-05832	MLB, 2.9GHZ, HY-16, ULX, SM-4TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_4TB_PMLC, HY_16G, BAFFIN_ULX, CPU_CFL: 2.9

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JPCR

JPCT

JPCV

JPCW

2.9GHZ CPU, 32GB DRAM, ULX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05853	MLB, 2.9GHZ, MC-32, ULX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05854	MLB, 2.9GHZ, MC-32, ULX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05855	MLB, 2.9GHZ, HY-32, ULX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05856	MLB, 2.9GHZ, HY-32, ULX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9

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JPCX

JPCY

JPD0

JPD1

2.9GHZ CPU, 32GB DRAM, ULX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05857	MLB, 2.9GHZ, MC-32, ULX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05858	MLB, 2.9GHZ, MC-32, ULX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05859	MLB, 2.9GHZ, HY-32, ULX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05860	MLB, 2.9GHZ, HY-32, ULX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9

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JPD2

JPD3

JPD4

JPD5

2.9GHZ CPU, 32GB DRAM, ULX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05861	MLB, 2.9GHZ, MC-32, ULX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05862	MLB, 2.9GHZ, MC-32, ULX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05863	MLB, 2.9GHZ, HY-32, ULX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05864	MLB, 2.9GHZ, HY-32, ULX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9

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JPD6

JPD7

JPD8

JPD9

JPDC

JPDD

2.9GHZ CPU, 32GB DRAM, ULX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05865	MLB, 2.9GHZ, MC-32, ULX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05866	MLB, 2.9GHZ, MC-32, ULX, TS-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, TS_2TB_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05867	MLB, 2.9GHZ, MC-32, ULX, SM-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_2TB_PMLC, MC_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05868	MLB, 2.9GHZ, HY-32, ULX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05869	MLB, 2.9GHZ, HY-32, ULX, TS-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, TS_2TB_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9
639-05870	MLB, 2.9GHZ, HY-32, ULX, SM-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_2TB_PMLC, HY_32G, BAFFIN_ULX, CPU_CFL: 2.9

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JP8J

JP8K

JP8L

JP8M

2.9GHZ CPU, 16GB DRAM, PRX GPU, 256GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05793	MLB, 2.9GHZ, MC-16, PRX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05794	MLB, 2.9GHZ, MC-16, PRX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05795	MLB, 2.9GHZ, HY-16, PRX, WD-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_256_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05796	MLB, 2.9GHZ, HY-16, PRX, TS-256, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_256_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9

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JP8N

JP8P

JP8Q

JP8R

2.9GHZ CPU, 16GB DRAM, PRX GPU, 512GB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05797	MLB, 2.9GHZ, MC-16, PRX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05798	MLB, 2.9GHZ, MC-16, PRX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05799	MLB, 2.9GHZ, HY-16, PRX, WD-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, WD_512_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05800	MLB, 2.9GHZ, HY-16, PRX, TS-512, X1190	ALTERNATE, BASE_BOM, DEVEL_BOM, TS_512_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9

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JP8T

JP8V

JP8X

JP8Y

2.9GHZ CPU, 16GB DRAM, PRX GPU, 1TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05801	MLB, 2.9GHZ, MC-16, PRX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05802	MLB, 2.9GHZ, MC-16, PRX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05803	MLB, 2.9GHZ, HY-16, PRX, WD-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, WD_1TB_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05804	MLB, 2.9GHZ, HY-16, PRX, TS-1TB, X1190	ALTERNATE, BASE_BOM, BOM_6L, DEVEL_BOM, TS_1TB_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2.9

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2.9GHZ CPU, 16GB DRAM, PRX GPU, 2TB S4E

BOM NUMBER	BOM NAME	BOM OPTIONS
639-05805	MLB, 2.9GHZ, MC-16, PRX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05806	MLB, 2.9GHZ, MC-16, PRX, TS-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, TS_2TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05807	MLB, 2.9GHZ, MC-16, PRX, SM-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, SM_2TB_PMLC, MC_16G, BAFFIN_PROX, CPU_CFL: 2.9
639-05808	MLB, 2.9GHZ, HY-16, PRX, WD-2TB, X1190	ALTERNATE, BASE_BOM, BOM_8L, DEVEL_BOM, WD_2TB_PMLC, HY_16G, BAFFIN_PROX, CPU_CFL: 2





