

8		7		6		5		4		3		2		1							
1. ALL RESISTANCE VALUES ARE IN OHMS, 0.1 WATT +/- 5%.														REV		ECN		DESCRIPTION OF REVISION		CK APPR DATE	
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS.																					
3. ALL CRYSTALS & OSCILLATOR VALUES ARE IN HERTZ.														5		003292277		ENGINEERING RELEASED		2022-01-20	
X2487 MLB																					
D	1	1	TABLE OF CONTENTS																		
	2	2	REFERENCE DESIGN SYNC TABLES																		
	3	4	PD PARTS																		
	4	5	SOC: CONFIG STRAPS																		
	5	6	SOC: CIO, MIPI	T585_REF_SOC_H14G_0.53.0																	
	6	7	SOC: RESETS, DEBUG, MISC	T585_REF_SOC_H14G_0.53.0																	
	7	8	SOC: GPIOs	T585_REF_SOC_H14G_0.53.0																	
	8	9	SOC: GPIOs	T585_REF_SOC_H14G_0.53.0																	
	9	10	SOC: LPDP, PCIE	T585_REF_SOC_H14G_0.53.0																	
	10	19	SOC: SPI NOR, SEP ROM	T585_REF_SOC_H14G_0.52.0																	
	11	20	SOC: PROJECT SUPPORT (1/3)																		
	12	21	SOC: PROJECT SUPPORT (2/3)																		
	13	22	SOC: PROJECT SUPPORT (3/3)																		
	14	23	SOC: POWER PCPU	T585_REF_SOC_H14G_0.53.0																	
	15	24	SOC: POWER PCPU	T585_REF_SOC_H14G_0.53.0																	
	16	25	SOC: POWER SRAM	T585_REF_SOC_H14G_0.53.0																	
	17	26	SOC: POWER GRAPHICS	T585_REF_SOC_H14G_0.53.0																	
	18	27	SOC: POWER MEMORY	T585_REF_SOC_H14G_0.53.0																	
	C	19	28	SOC: POWER FIXED	T585_REF_SOC_H14G_0.53.0																
		20	29	SOC: POWER VDDI2	T585_REF_SOC_H14G_0.53.0																
21		30	SOC: POWER VDDIO, VDD LOW, CIO	T585_REF_SOC_H14G_0.33.0																	
22		40	SOC: GND	T585_REF_SOC_H14G_0.53.0																	
23		50	Secure Element	T585_REF_SE_CERES_0.15.0																	
24		51	BATTERY CONNECTORS																		
25		52	FBUS SUPPLY & BATTERY CHARGER	T585_REF_CHARGER_SUONA_0.60.0																	
26		53	BATTERY CHARGER SUPPORT	T585_REF_CHARGER_SUONA_0.60.0																	
27		54	HV POWER SUPPORT																		
28		57	POWER: 3V8 AON (1/2)	T585_REF_VR_ICDMAN_1.43.0																	
29		58	POWER: 3V8 AON (2/2)	T585_REF_VR_ICDMAN_1.43.0																	
30		59	POWER: 3V8 AON SUPPORT																		
31		77	SPMU: INPUT PWR, BULK, BSTLQ	T585_REF_PMO_STONE_VALE_PORTABLES_0.104.1																	
32		78	SPMU: LDO, SW	T585_REF_PMO_STONE_VALE_PORTABLES_0.104.1																	
33		79	SPMU: GPIO, VSS	T585_REF_PMO_STONE_VALE_PORTABLES_0.104.1																	
34		80	SPMU: ALIASES, SUPPORT	REL_X2487_MLB 08/16/2021																	
35		81	MPMU: INPUT PWR, BUCK 0, 1, 2	T585_REF_PMO_STONE_VALE_PORTABLES_0.104.1																	
36		82	MPMU: BUCK 3, 4, 7, 9, 11, 13, SW	T585_REF_PMO_STONE_VALE_PORTABLES_0.104.1																	
37		83	MPMU: LDO	T585_REF_PMO_STONE_VALE_PORTABLES_0.104.1																	
38		84	MPMU: MISC CKT, VSS	T585_REF_PMO_STONE_VALE_PORTABLES_0.104.1																	
39	85	MPMU: GPIO	T585_REF_PMO_STONE_VALE_PORTABLES_0.104.1																		
B	40	86	MPMU: ALIAS, PULLS	REL_X2487_MLB 08/16/2021																	
	41	87	MPMU: SUPPORT	J491_KSAITO_MLB_2.15.1																	
	42	88	PMU: SUPPORT = FF	REL_X2487_MLB 06/24/2021																	
	43	122	POWER: 5V S2 TPS62130	T585_REF_VR_5V_TPS62130_0.13.0																	
	44	124	POWER: 3V3 S2, 5V S2 SUPPORT	T668_MLB 03/26/2020																	
	45	127	POWER: 3V3 S2	T585_REF_VR_3V3_TPS62135_0.16.0																	
	46	128	POWER: EXTERNAL SWITCHES																		
	47	130	SOC I2C: AP (1/2)																		
	48	131	SOC I2C: AP (2/2)																		
	49	132	SOC I2C: SMC (1/2)																		
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	53	136	SENSORS: POWER HIGH SIDE (2/2)	REL_X2487_MLB 12/10/2021																	
	54	137	SENSORS: POWER LOAD SIDE (1/2)	REL_X2487_MLB 12/10/2021																	
	55	138	SENSORS: POWER LOAD SIDE (2/2)	REL_X2487_MLB 12/10/2021																	
	56	139	SENSORS: EADC	REL_X2487_MLB 08/16/2021																	
	57	140	SENSORS: POWER SUPPORT	REL_X2487_MLB 08/16/2021																	
	58	141	SENSORS: THERMAL	REL_X2487_MLB 08/16/2021																	
	59	144	SENSORS: MOTION	T585_REF_THU_SOVEREIGN_0.15.0																	
	60	145	FAN	ALTREN_X2487_MLB 07/26/2021																	
	61	147	USB-C: CONNECTOR(S)																		
	62	150	USB-C: High Speed ATCO	T585_REF_USBC_LFWA_ACE2_PARR0T_0.33.0																	
	63	151	USB-C: High Speed ATC1	T585_REF_USBC_LFWA_ACE2_PARR0T_0.33.0																	
	64	152	USB-C: Support 1 ATC01	T585_REF_USBC_LFWA_ACE2_PARR0T_0.33.0																	
	65	153	USB-C: Support 2 ATC01																		
	66	154	USB-C: Port Controller ATCO	T585_REF_USBC_LFWA_ACE2_PARR0T_0.33.0																	
	67	155	USB-C: Port Controller ATC1																		
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	69	157	USB-C: HS Level Shifters	T585_REF_USBC_LFWA_ACE2_PARR0T_0.33.0																	
	70	158	USB-C: 5V Regulator	T585_REF_USBC_VR_128642_1.0.8.0																	
71	159	USB-C: ATC01 REGULATORS																			
72	162	USB-C: PROJECT SUPPORT																			
73	200	WIFI/BT: MODULE																			
74	201	WIFI/BT: ANTENNA and GND																			
75	220	STORAGE: SSD0 SSE <0>	T585_REF_STORAGE_S56_0.40.1																		
76	221	STORAGE: SSD0 SSE <1>	T585_REF_STORAGE_S56_0.40.1																		
77	230	STORAGE: SSD SUPPORT																			
78	236	DISPLAY: CONNECTOR, PWR	ALTREN_X2487_MLB 06/09/2021																		
79	237	DISPLAY POWER SEQUENCER	T585_REF_PANELPMR_BN3_0.9.0																		
80	238	BEN: CONTROLLER																			
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82	242	SECDIS: AMR	T585_REF_SECDIS_AMR_H14X_0.5.0																		
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84	245	AUDIO JACK CODEC	T585_REF_CODEC_CARLOW_1.5.0																		
85	246	AUDIO AMPLIFIERS (1/2)	T585_REF_SPEKAMP_S012776_3.7.0																		
86	247	AUDIO AMPLIFIERS (2/2)	T585_REF_SPEKAMP_S012776_3.7.0																		
87	248	AUDIO CONNECTORS: AMPS																			
88	249	AUDIO CONNECTORS: DMIC, JACK																			
89	250	KEYBOARD BLC CONNECTORS																			
90	251	KEYBOARD IOX, SUPPORT	T585_REF_KBD_30PIN_0.9.0																		
91	252	KEYBOARD SIGNAL CONNECTOR, ESD																			
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94	256	TOUCHID SUPPORT																			
95	257	DFR SUPPORT 1																			
96	258	DFR SUPPORT 2																			
97	266	FCT (1/2)	RELVIN_X2487_MLB 07/19/2021																		
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	Apple Inc.																				
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REF_USBC_LFPA_ACE2_FARRROT	150,151,153,155,156,159	UPDATE RT13 TO B1 APN. MOVED TO DUAL RIS. FOR CSA 159 ADDED OMIT_TABLE ON DISCHARGER FETS TO ALLOW DIFFERENT ALTERNATES																																																																																																																																																							
REF_WIRELESS_RASPUTIN	200,201	NEEDED TO ADD RF CORN BOM OPTION, CHANGE 100M CLK TPS TO PPS, ADD BOM TABLE CONTROL, AND FIX OVERLAPPING IPU TEXT NOTES																																																																																																																																																							
REF_PANELPWR_W03	237	RELAX PLACE NEAR FOR C7770 PER <RDAR://79585996>																																																																																																																																																							
REF_CODEC_CARLOW	245	RELAX PLACE NEARS FOR CR511, CR510, AND ALSO UPDATE 0402 FOOTPRINT <RDAR://82845344>																																																																																																																																																							
REF_MESA_SUPPORT	256	HIGH DCR TO THE MESA MODULE REQUIRES A HIGHER VOUT SET POINT ON IV8 LDO THAN THE REF DESIGN HAS																																																																																																																																																							
REF_DFR_V3_SUPPORT	257,258	RELAX PLACE NEARS FOR C7703, C7706, CT421, CT821. ADD BOM_COST_GROUP=DFR TO CSA 248. REPLACE UT860 <RDAR://79479906>. UPDATE QT700 NET NAME																																																																																																																																																							
B									B																																																																																																																																																
A									A																																																																																																																																																
	8	7	6	5	4	3	2	1																																																																																																																																																	

THIS VIDEO

REFERENCE DESIGN SYNC TABLES

 Apple Inc.

051-07793

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5.0.0

evt-1

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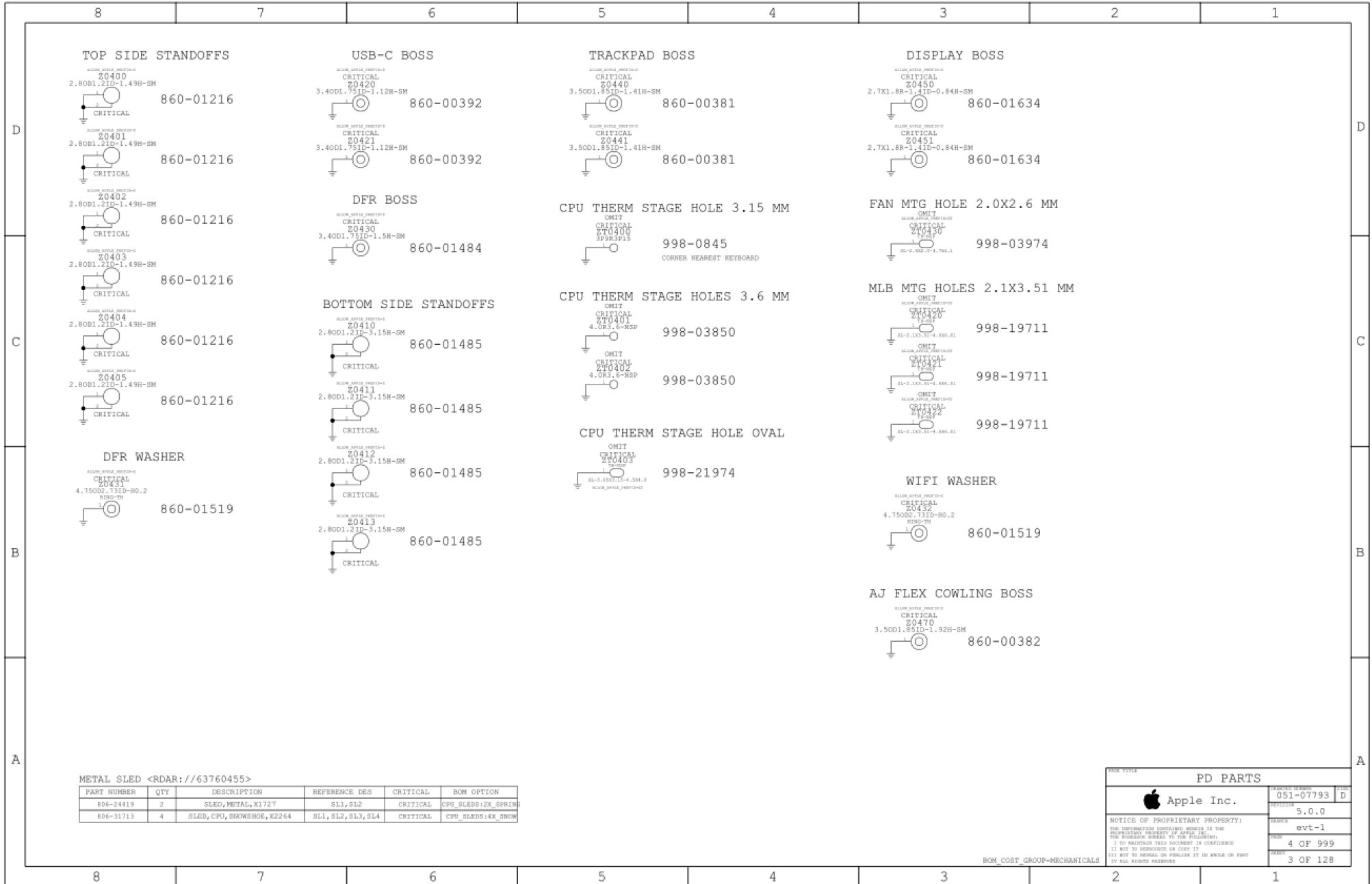
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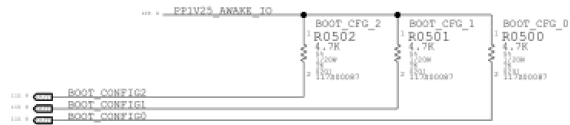
METAL SLED <RDAR://63760455>

PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
806-24413	2	SLED,METAL,X1727	SL1,SL2	CRITICAL	CPU_SLEDS:2X_SPRIN
806-21713	4	SLED,CPU,SHOWSHOE,X2264	SL1,SL2,SL3,SL4	CRITICAL	CPU_SLEDS:4X_SHOW

BOM\_COST\_GROUP=MECHANICALS

PD PARTS			
 Apple Inc.	CREATED NUMBER	051-07793	TYPE
	REVISION	5.0.0	D
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	PAGE	4 OF 999	
	STATUS	3 OF 128	

## Ⓐ BOOT CONFIG ID

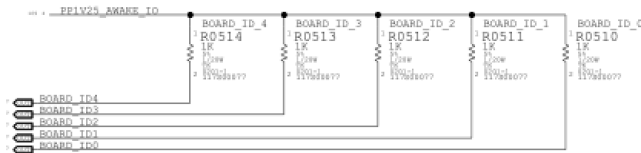


MLB BOOT\_CONFIG\_ID[2:0] = 0B001

BOOT_CFG[2:0]	MODE
000	NAND, 1.2V SPI0, 12MHz, TESTMODE
001	NOR, 1.2V SPI1, 40MHz
010	NAND, 1.2V SPI0, 12MHz
011	NAND, 1.2V SPI0, 40MHz
100	NOR, 1.2V SPI1, 12MHz, TESTMODE
101	NOR, 1.2V SPI1, 40MHz, TESTMODE
110	NOR, 1.2V SPI1, 60MHz, TESTMODE
111	NOR, 1.2V SPI1, 12MHz

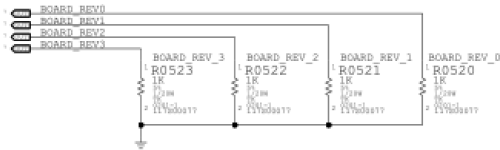
BOOT AND POWER UARCH SPEC 2.1.5 (SECTION 2.2, TABLE 2.3):

## Ⓑ BOARD ID



MLB BOARD\_ID[7:0] = 0B 0010 1010  
<RDAR://77282291>

## Ⓒ BOARD REV



STUFFING RESISTOR MEANS 0

BOARD\_REV[3:0] =

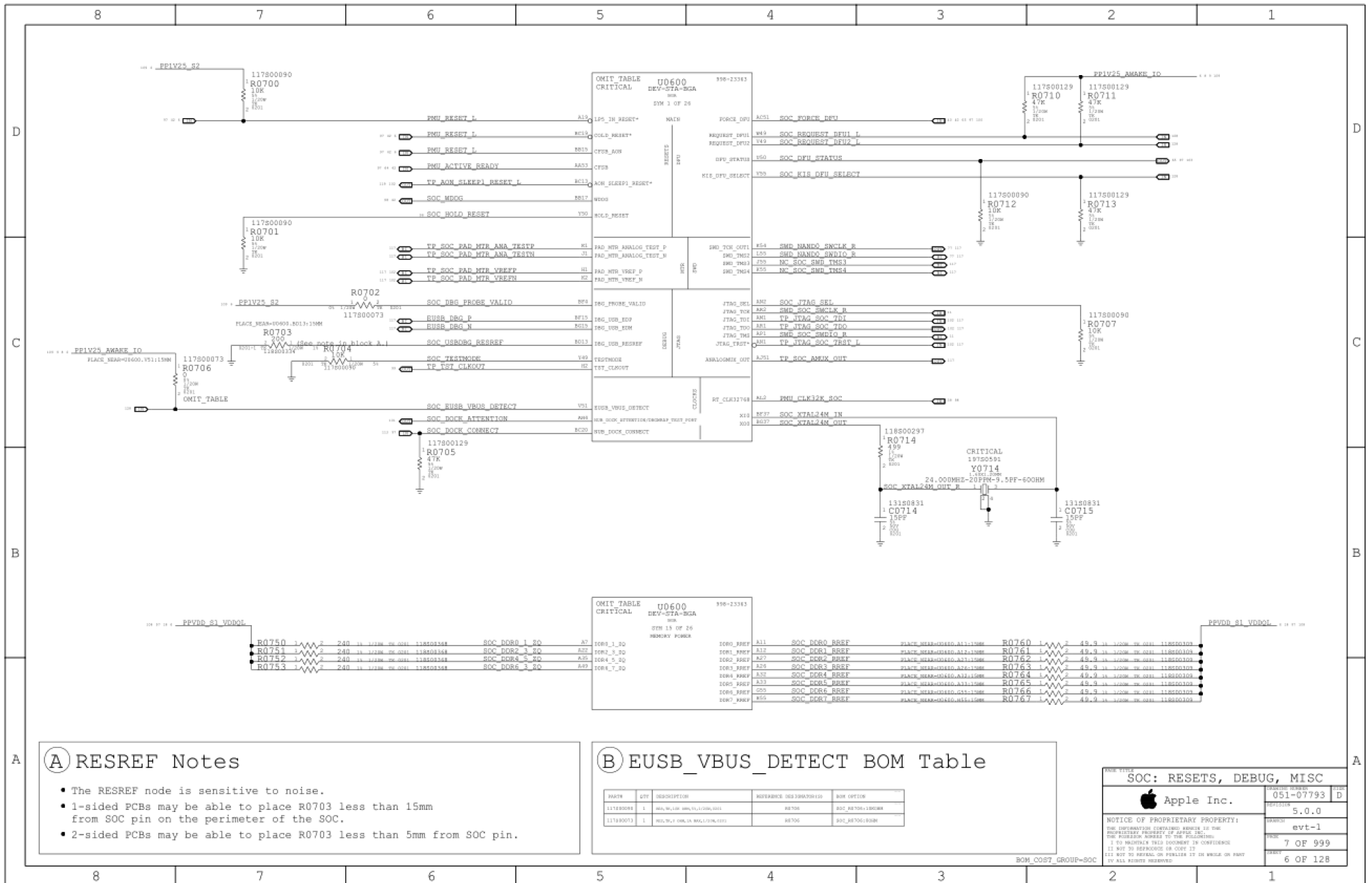
0000	: FAB 1 : PROTO 0
0001	: FAB 2 : PROTO 1
0010	: FAB 3 : PROTO 1-1
0011	: FAB 4 : PROTO 1-2
0100	: FAB 5 : EVT
0101	: FAB 6 : TBD
0110	: FAB 7 : TBD

SOC: CONFIG STRAPS			
Apple Inc.	IDENTITY NUMBER	051-07793	DATE
	REVISION	5.0.0	D
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	PAGE	4 OF 128	

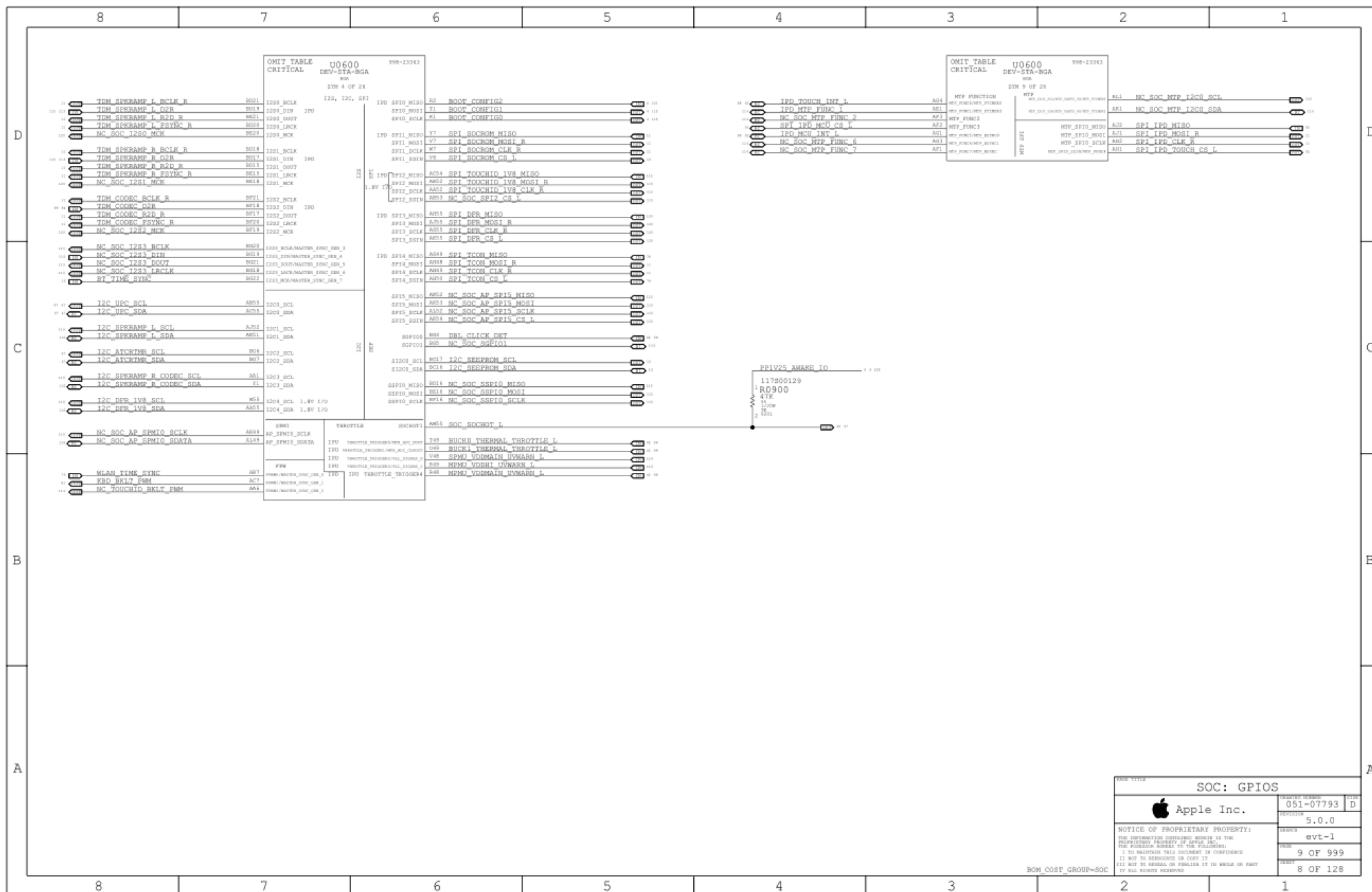
BOM\_COST\_GROUP=SOC





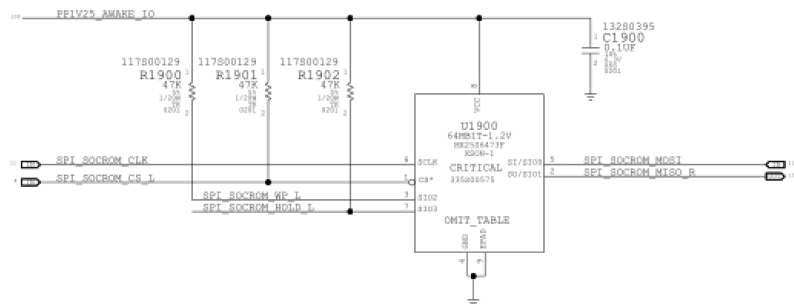


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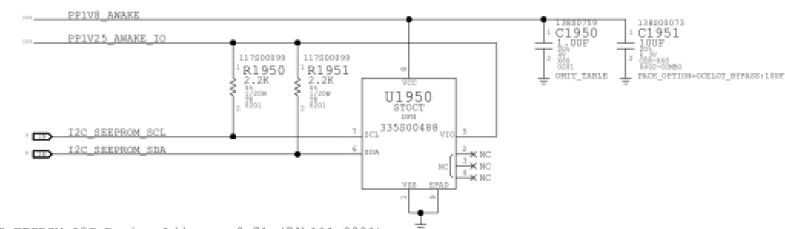




Ⓐ SPI ROM



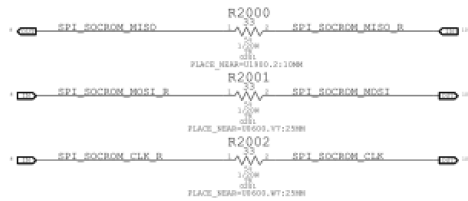
ⓑ SEP EEPROM



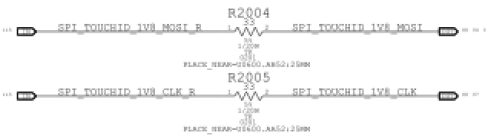
```
SEP EEPROM I2C Device Address: 0x71 (7'b111_0001)
```

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	NON OPTIM
11800759	1	CAP,50K,10P,100,4V,X68,8201	C1958		OCLEQT_REFANS=10P
11800388	1	CAP,COR,8.10P,10V,6.3V,X68,8201	C1960		OCLEQT_REFANS=100NF

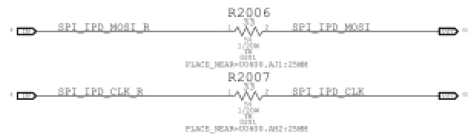
# SOC ROM SOURCE TERMINATIONS



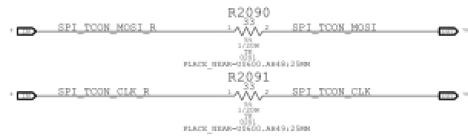
# TOUCHID SOURCE TERMINATIONS



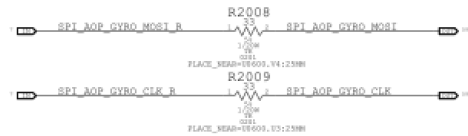
# IPD SOURCE TERMINATIONS



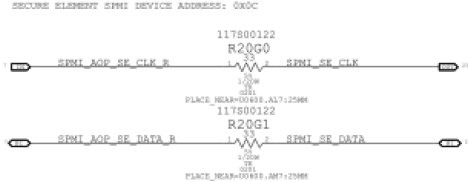
# TCON SOURCE TERMINATIONS



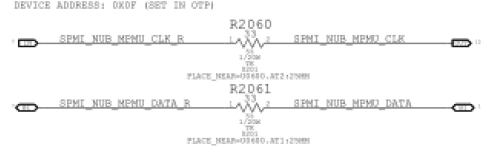
# IMU SOURCE TERMINATIONS



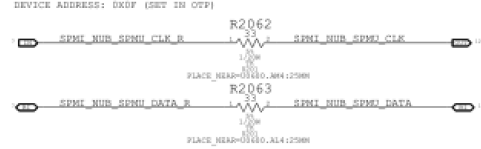
# SECURE ELEMENT SPMI



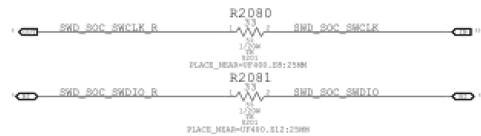
# SOC SPMI MPMU



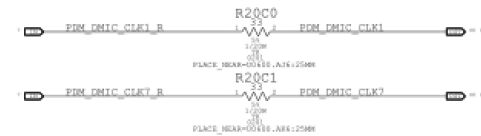
# SOC SPMI SPMU



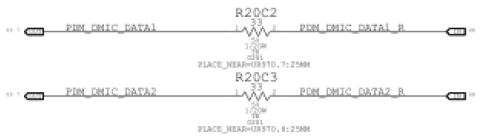
# SOC SWD SERIES R



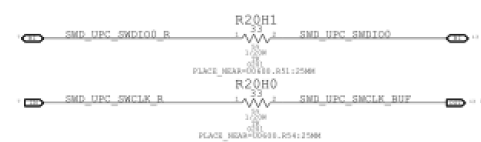
# DMIC SOURCE TERMINATIONS



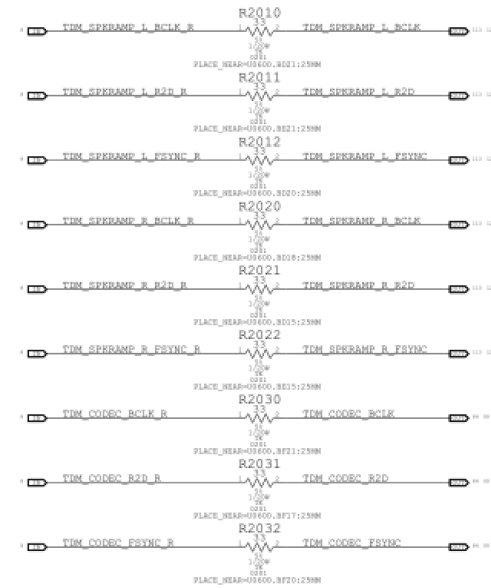
# DMIC SERIES R



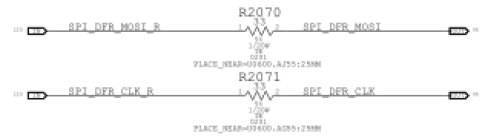
# UPC SWD



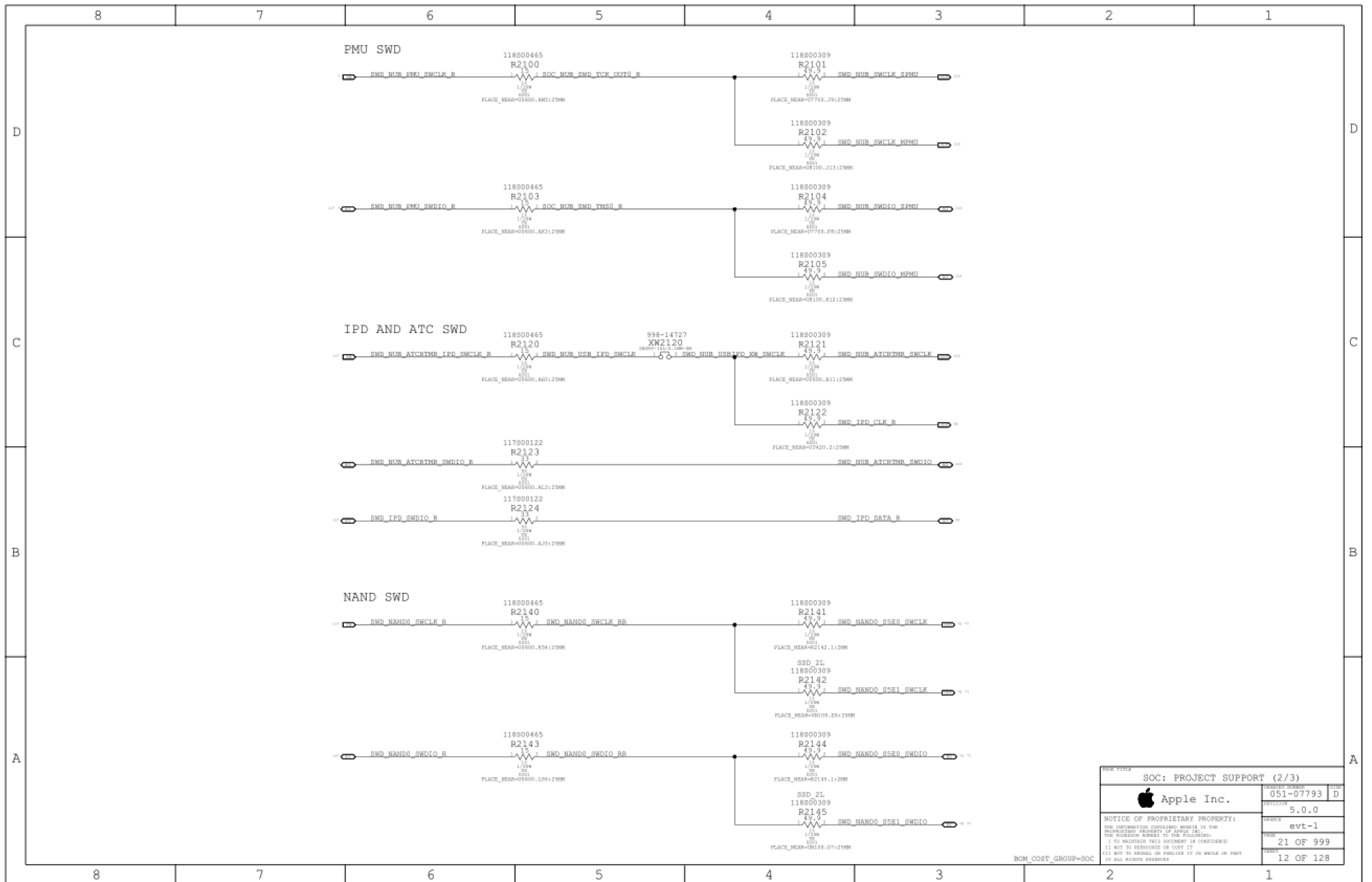
# TDM SOURCE TERMINATIONS




# DFR SOURCE TERMINATIONS

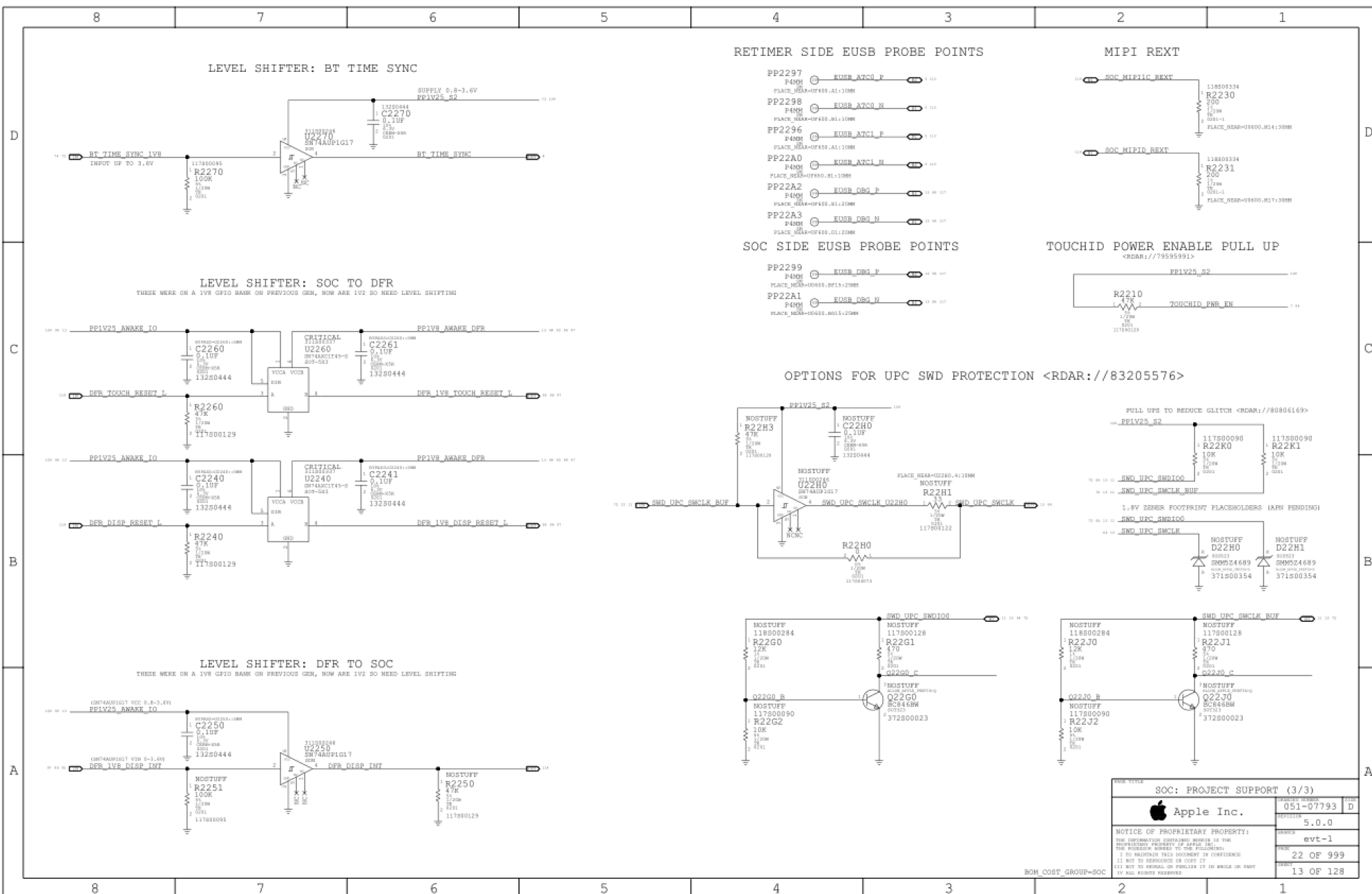


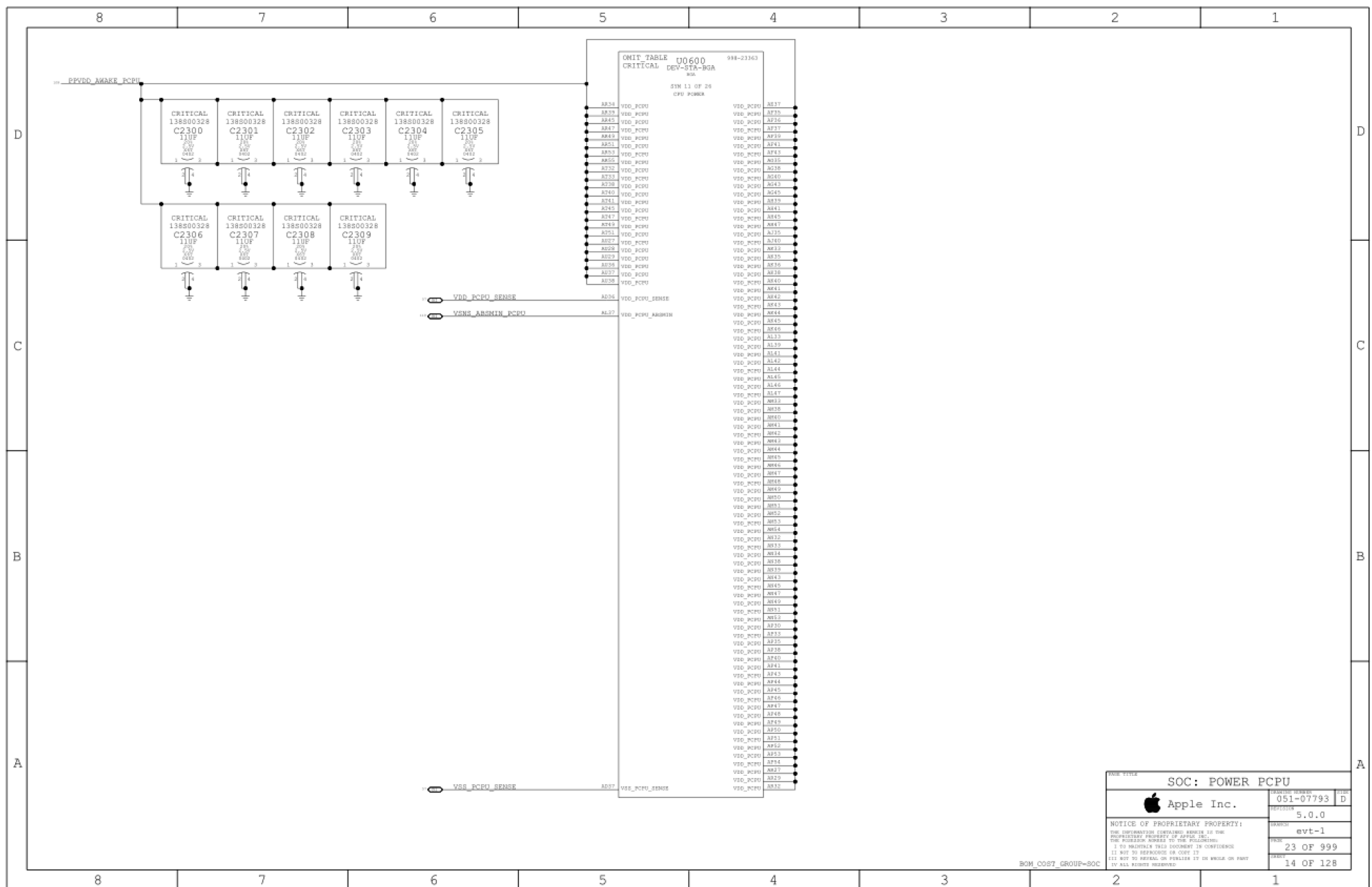
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Apple Inc.	051-07793	5.0.0	D
	evt-1	20 OF 999	11 OF 128
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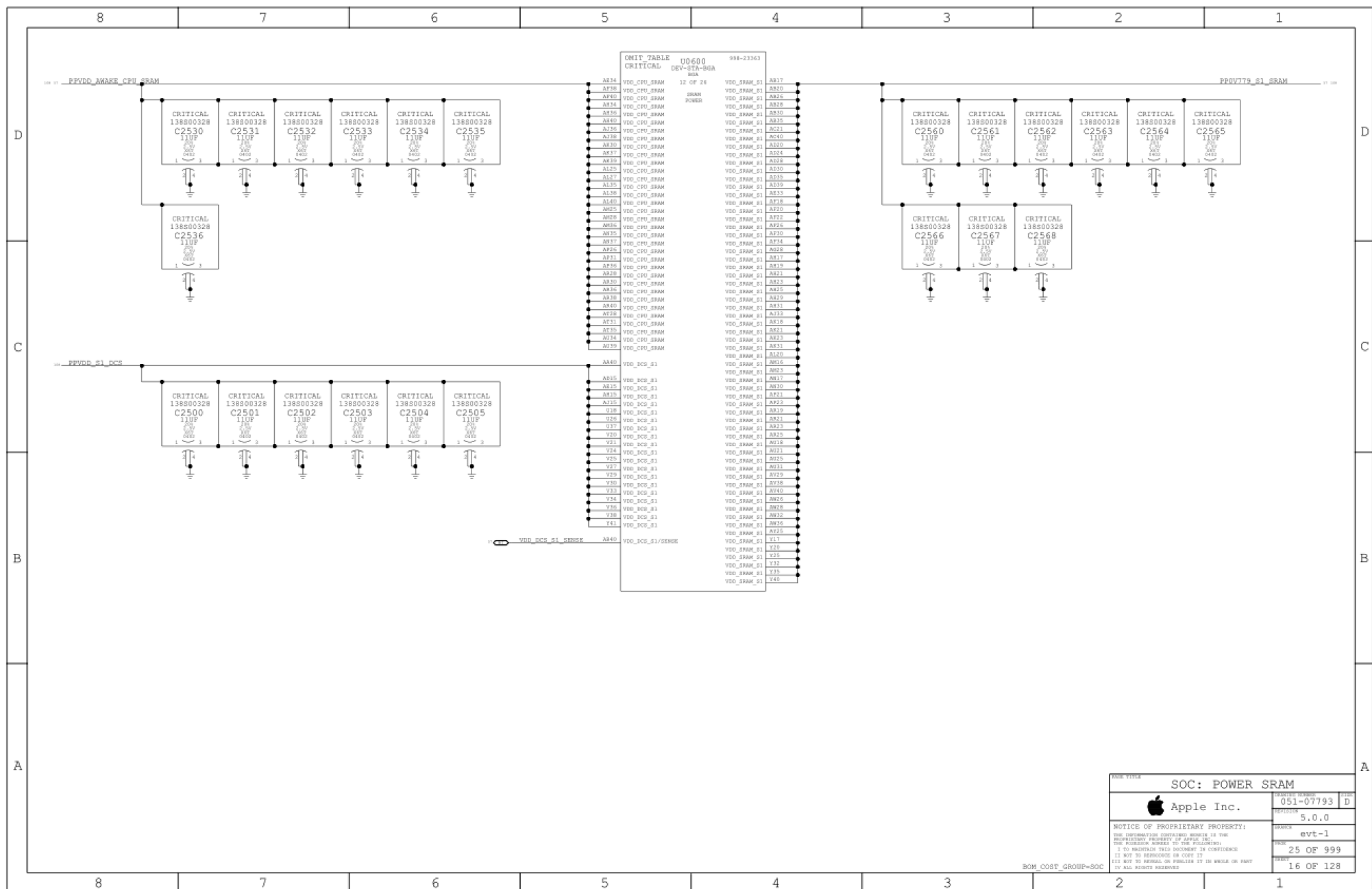
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	PAGE	21 OF 999	
	PAGE	12 OF 128	

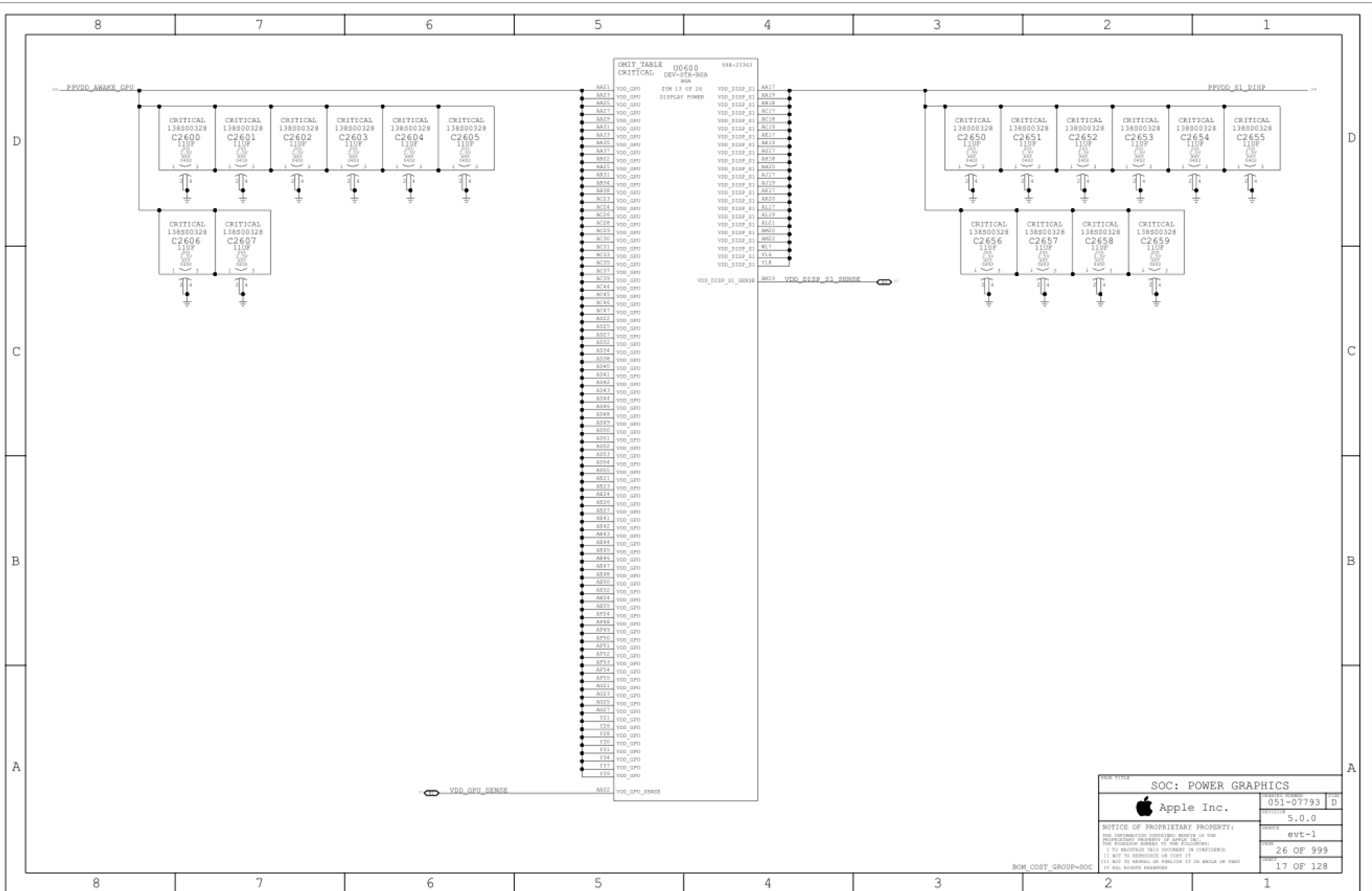







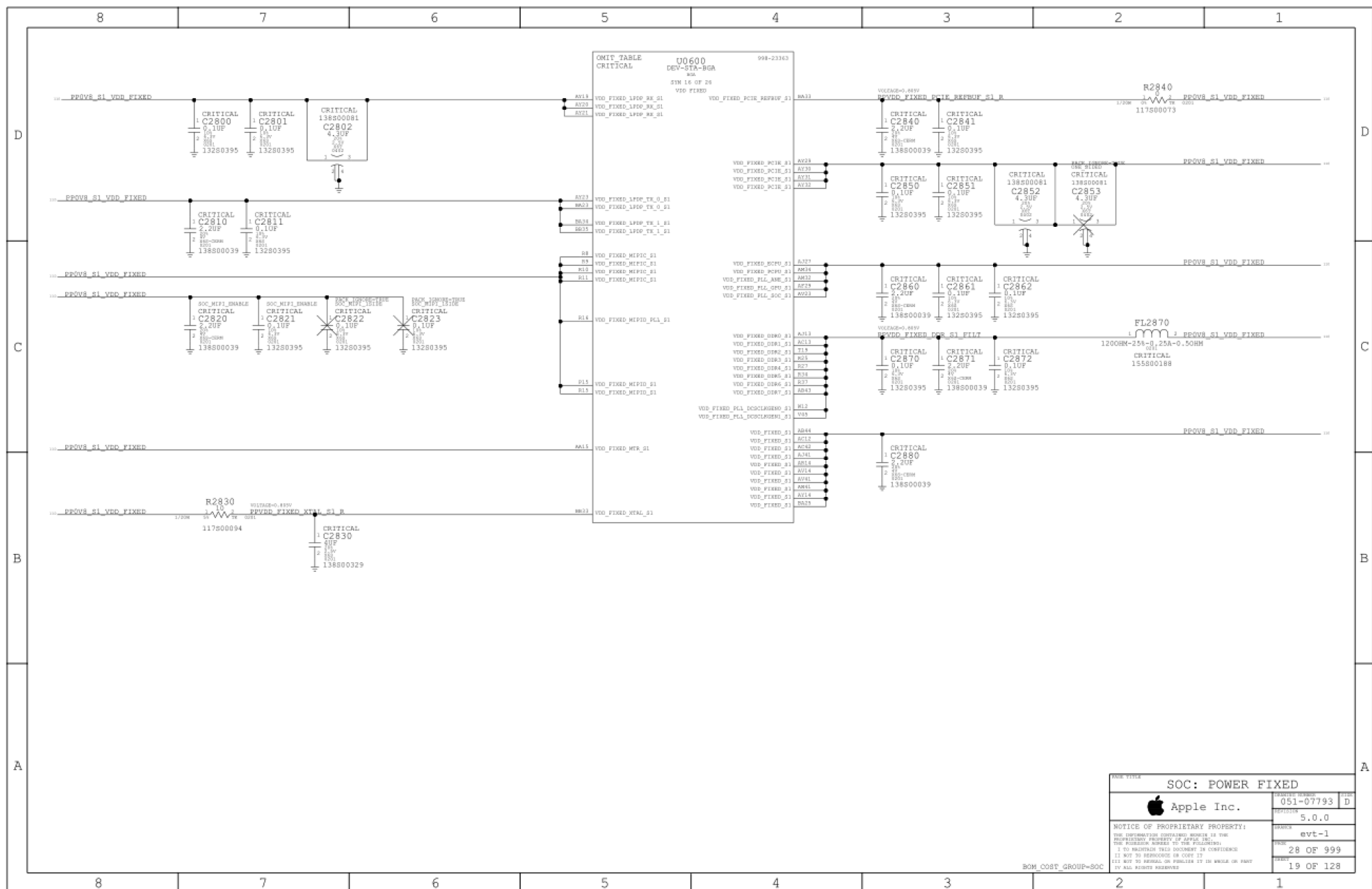


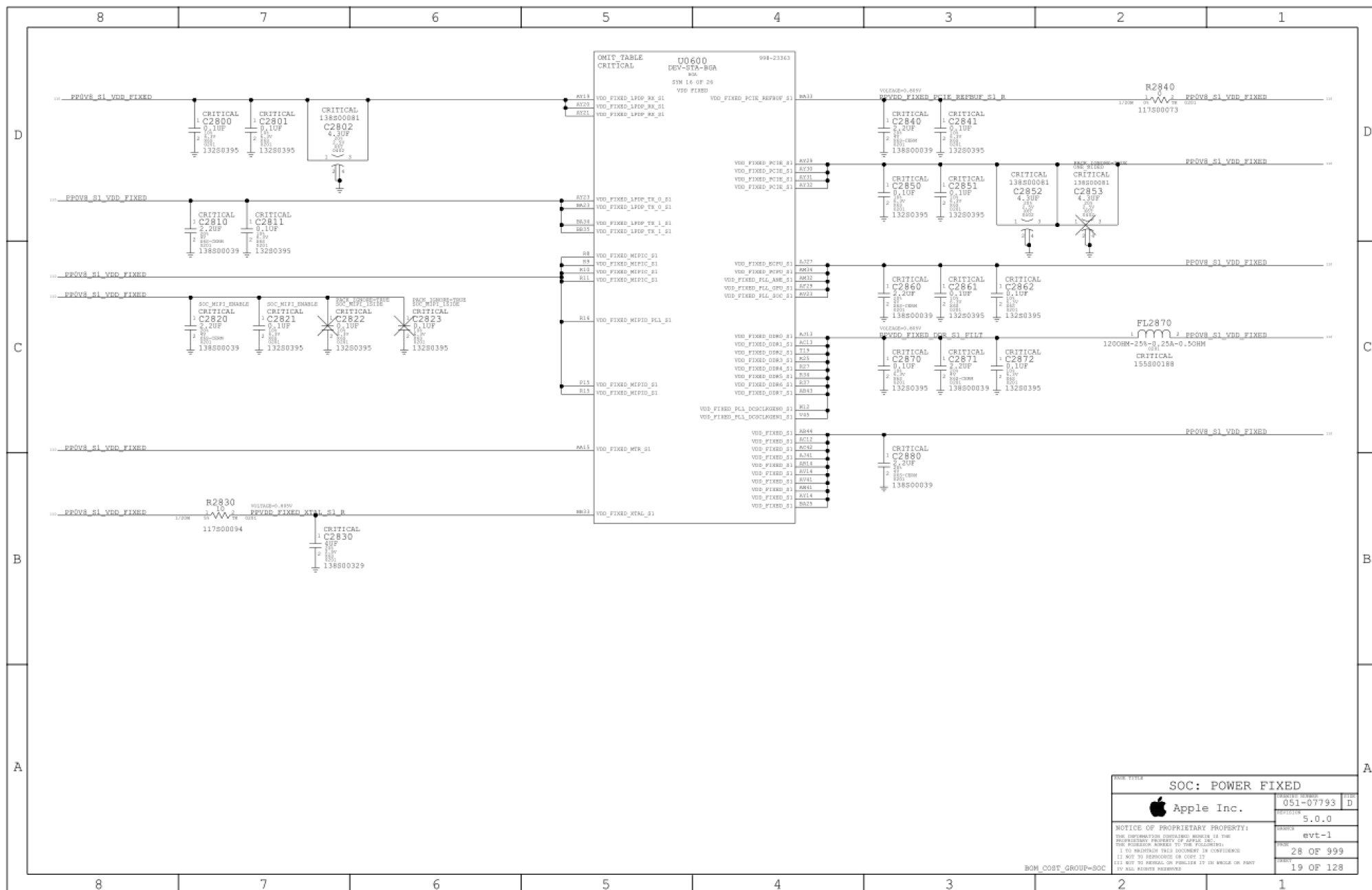





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PAGE		26 OF 999	17 OF 128



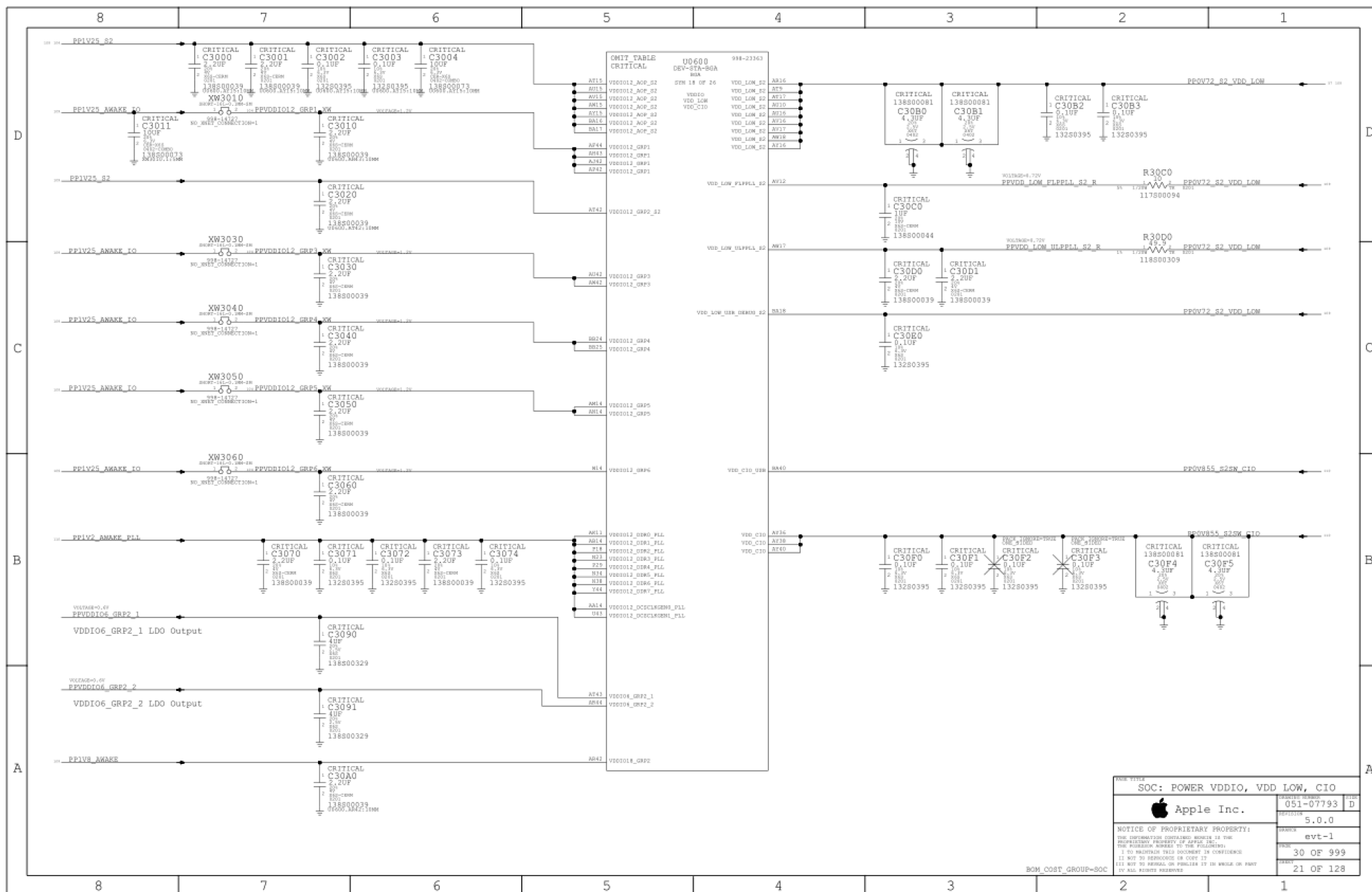


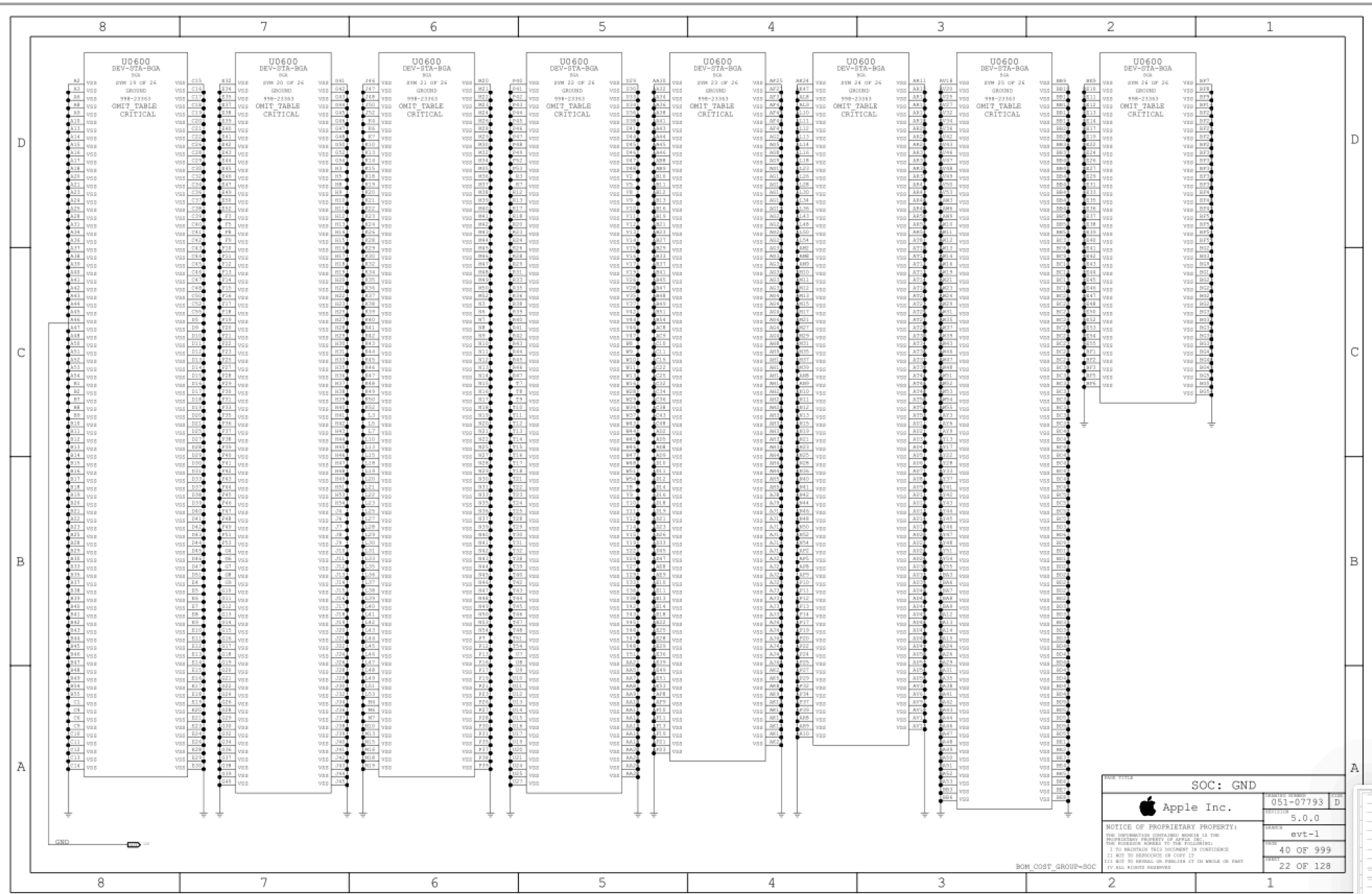


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SHEET TITLE		SOC: GND	
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BOM\_COST\_GROUP=SOC


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*** OK2INTEGRATE ***
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Per TGA Power Block Diagram v0.3



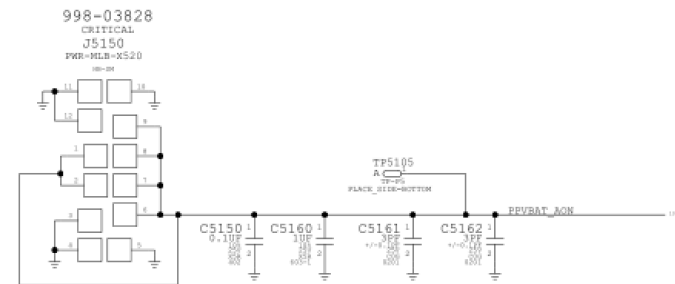
100Mm: 102Mm As per MCF preliminary estimate, final pending

BCM COST GROUP=SECURE ELEMENT

PAGE TITLE			
Secure Element			
	Apple Inc.		
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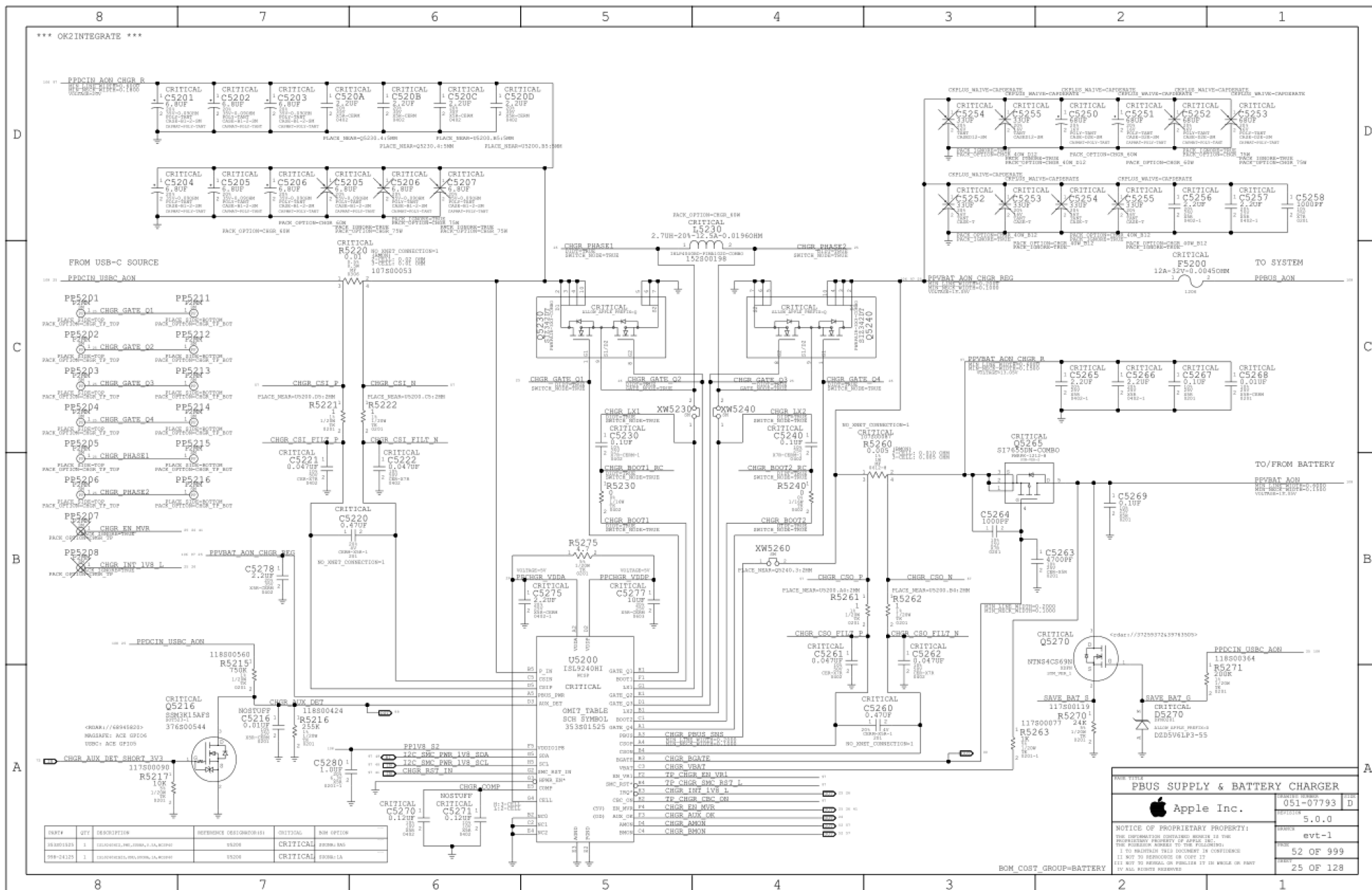
BMU POWER FLEX IS SOLDERED TO MLB.




PART NUMBER	QTY	DESCRIPTION	REFERENCE DES	CRITICAL	BOM OPTION
632-00731	1	PCBA, FLEX, BMU PWR, X502	J5150	CRITICAL	

NAME TITLE			
BATTERY CONNECTORS			
 Apple Inc.	SEARCHED INDEXED	PAGE	
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	REVISION		
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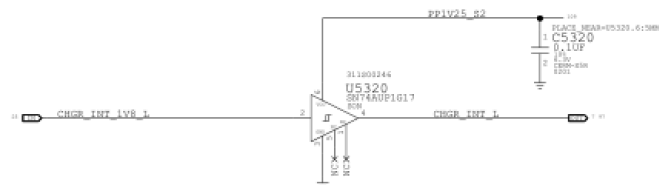
BOM\_COST\_GROUP=BATTERY



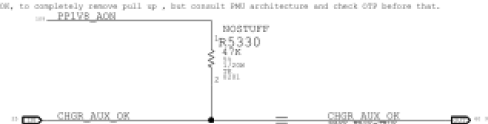
SNR#	QTY	DESCRIPTION	REFERENCE ORIGINATOR(S)	CRTICAL	NM OPTION
999-24125	1	131040400012, PWR, 1000W, 5.0A, BC1040	US208	CRITICAL	FROM: BAO
999-24125	1	131040400012, PWR, 1000W, 5.0A, BC1040	US208	CRITICAL	FROM: LA

FORM TITLE		GRANDER NUMBER	DISC
PBUS SUPPLY & BATTERY CHARGER		051-07793	D
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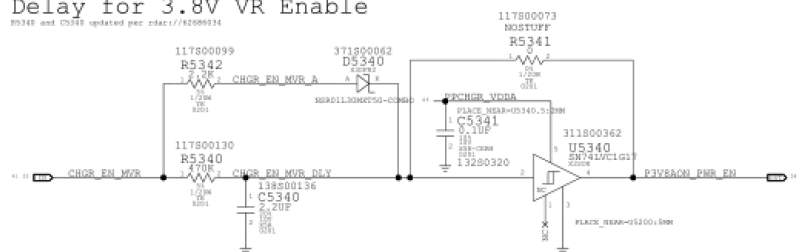
CHGR INT L Level Translation




OK, to completely remove pull up , but consult PMU architecture and check OT9 before that.



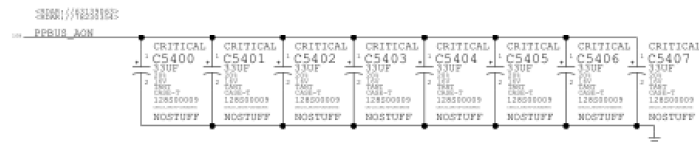
## NS348 and US348 updated per rdarc://62689034



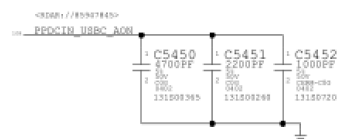
BATTERY CHARGER SUPPORT			
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BOM COST GROUP=BATTERY

# PBUS CAPS FOR SPF COMPLIANCE



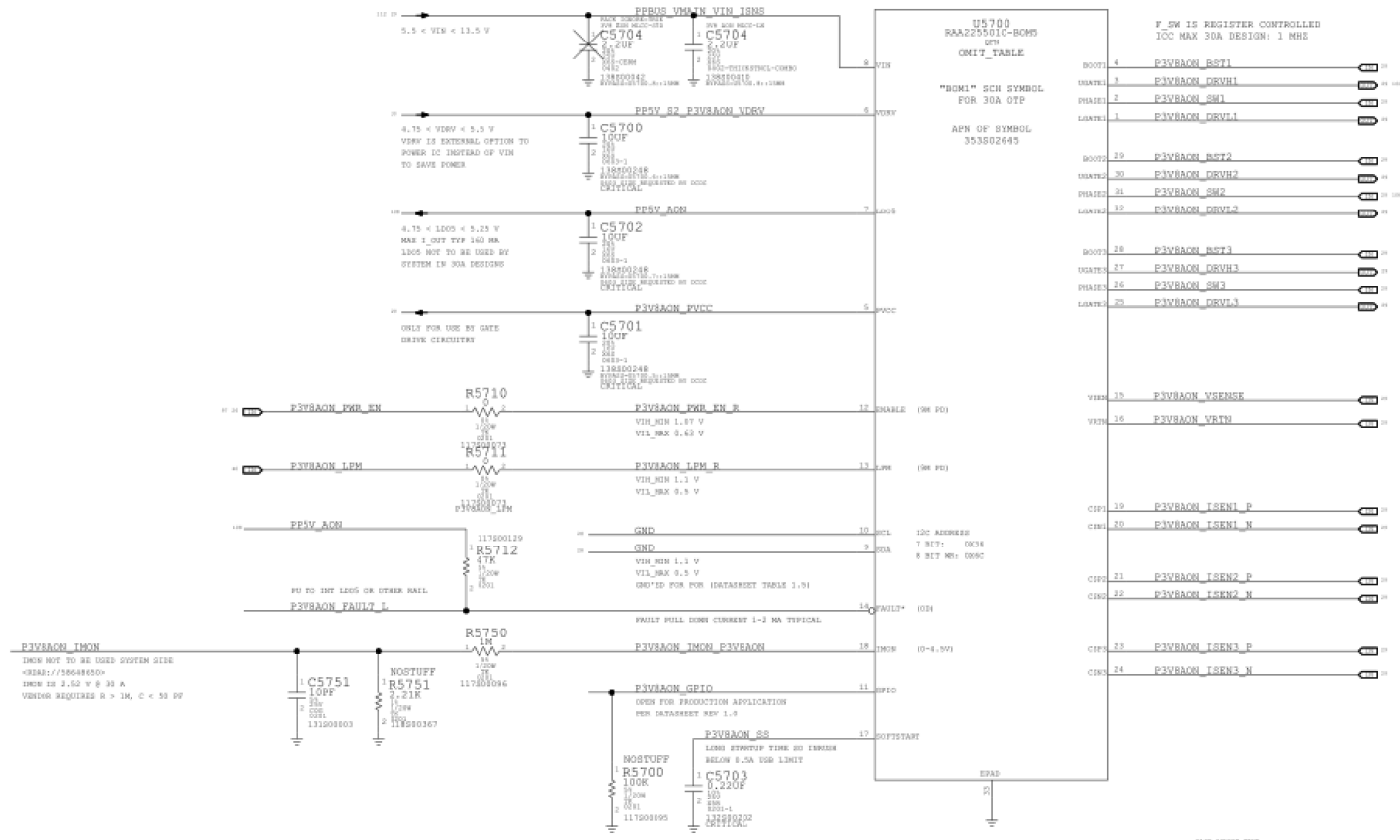
# DCIN CAPS FOR RESONANCE MITIGATION



HV POWER SUPPORT			
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	VERSION	evt-1	
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BOM_COST_GROUP=PLATFORM POWER		27 OF 128	



# 3V8 AON CONTROLLER 30A ICC MAX



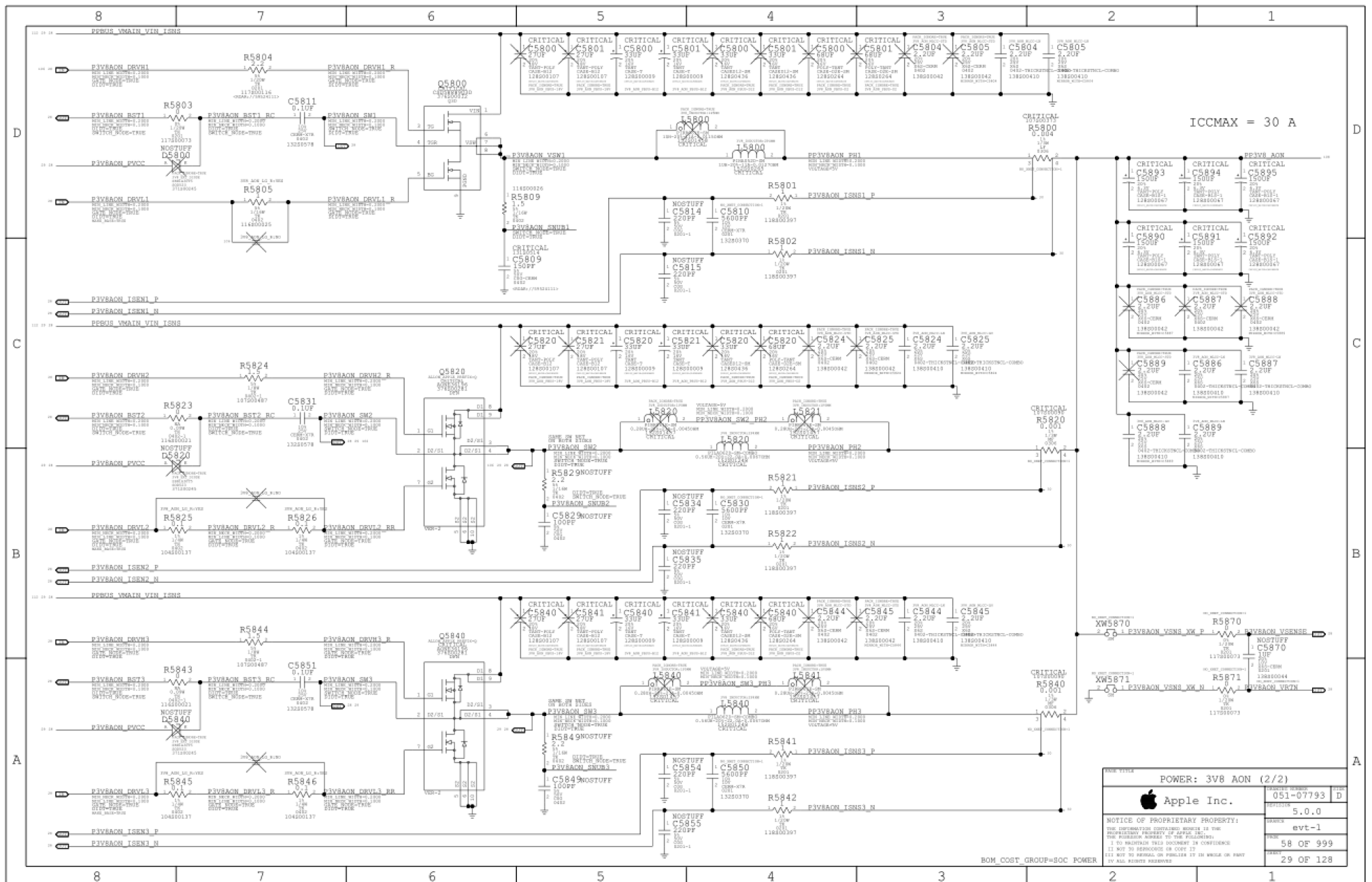
30A OTP CHANGES DOCUMENTED IN: <BOM>//61619460  
BOM IS A CONTINUATION OF BOM1 SINCE BOM1 IS PROHIB FOR TGA PROGRAMS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATION(S)	CRITICAL	NON OPTION
35300216	1	IC:RAA2255010A,1-H VOLT REGULATOR	U5700	CRITICAL	PP3V8AON_ICU0
35300212	1	IC:RAA2255010A,1-AON,AL,OFF-BIAS,OFF	U5700	CRITICAL	PP3V8AON_ICU01_R000
35300244	1	IC:RAA2255010A,1-AON,AL,OFF-BIAS,OFF	U5700	CRITICAL	PP3V8AON_ICU01_R001
35300249	1	IC:RAA2255010A,1-AON,AL,OFF-BIAS,OFF	U5700	CRITICAL	PP3V8AON_ICU01_R002
35300274	1	IC:RAA2255010A,1-AON,AL,OFF-BIAS,OFF	U5700	CRITICAL	PP3V8AON_ICU01_R003
35300292	1	IC:RAA2255010A,1-AON,AL,OFF-BIAS,OFF	U5700	CRITICAL	PP3V8AON_ICU01_R004
35300243	1	IC:RAA2255010A,1-AON,AL,OFF-BIAS,OFF	U5700	CRITICAL	PP3V8AON_ICU01_R170

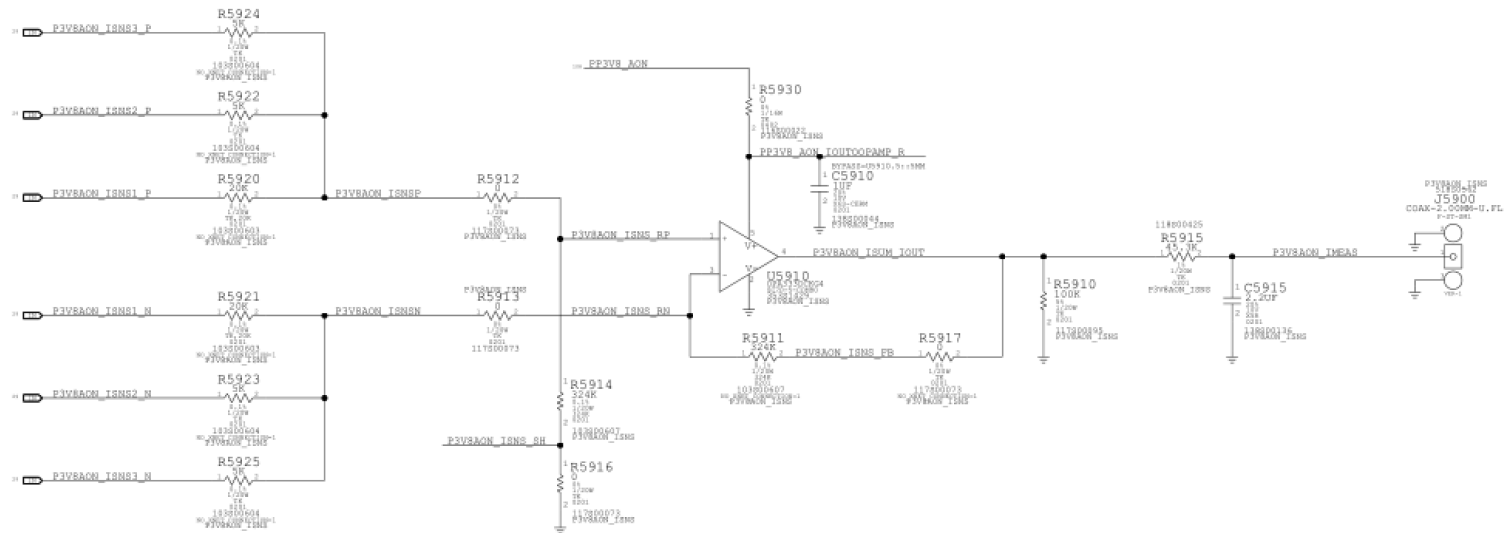
<- 30A BOM1 OTP FOR PROGRAMS ARE GOING TO RAMP WITH  
<- NEW BOM1 OTP FOR FUTURE PROGRAMS

POWER: 3V8 AON (1/2)			
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BOM\_COST\_GROUP=BOC POWER



VMAIN CURRENT SENSE AMPLIFIER  
<RDAR://71648260>



ZERO OHM RESISTOR TO ALLOW ACCESS TO VDRV

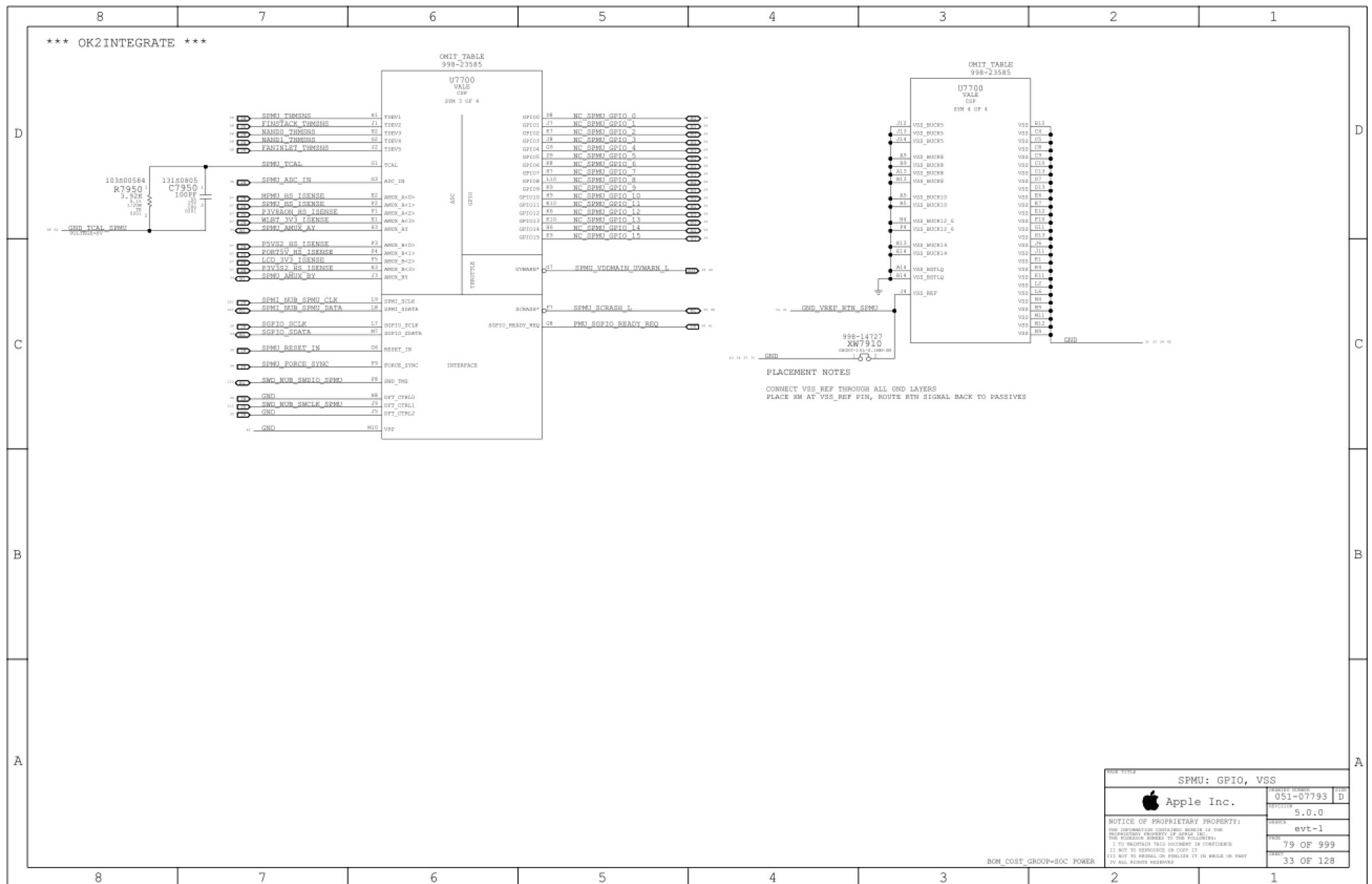


POWER: 3VB AON SUPPORT			
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	evt-1		59 OF 999
	30 OF 128		

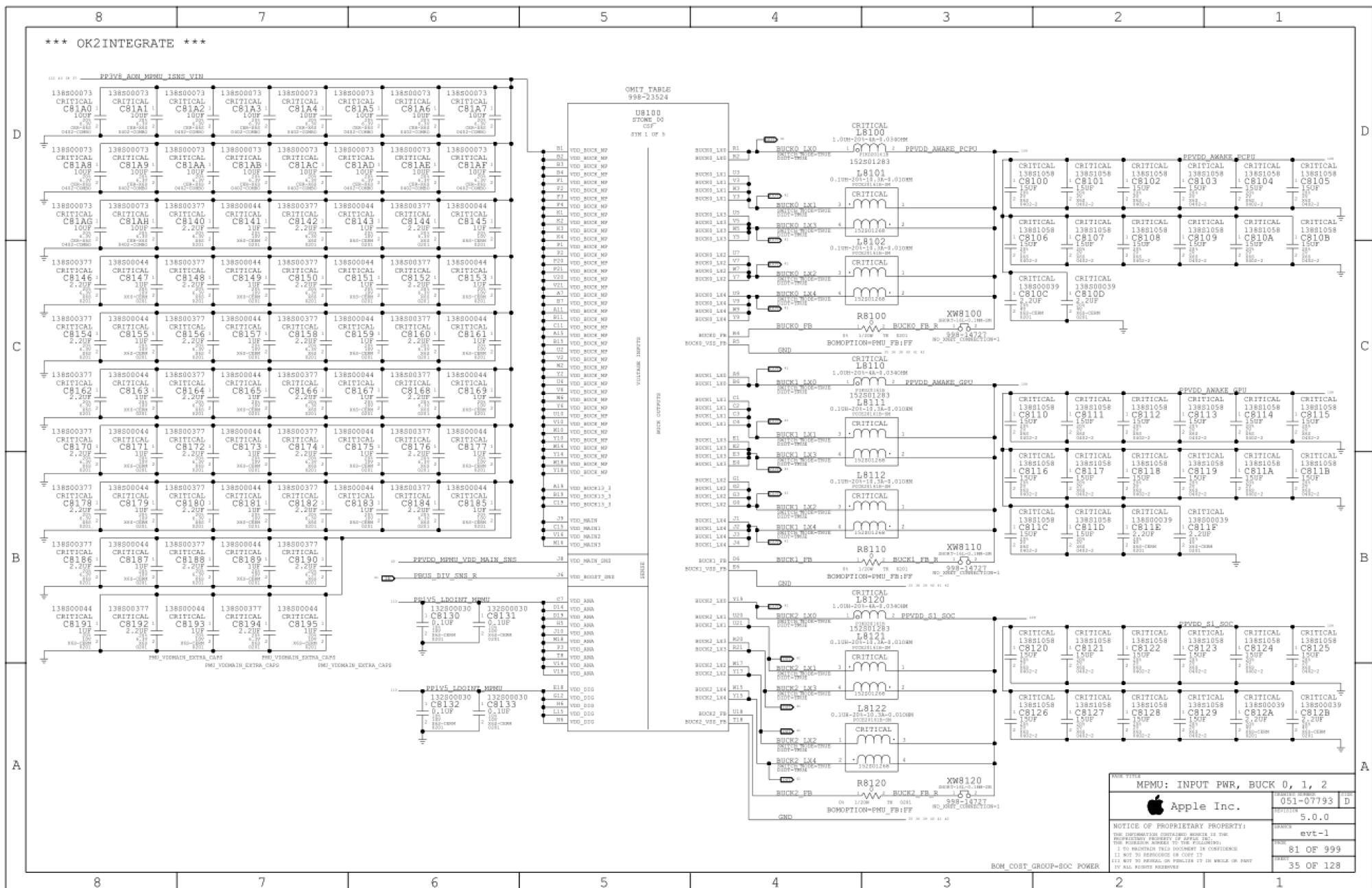
BOM\_COST\_GROUP=PLATFORM POWER



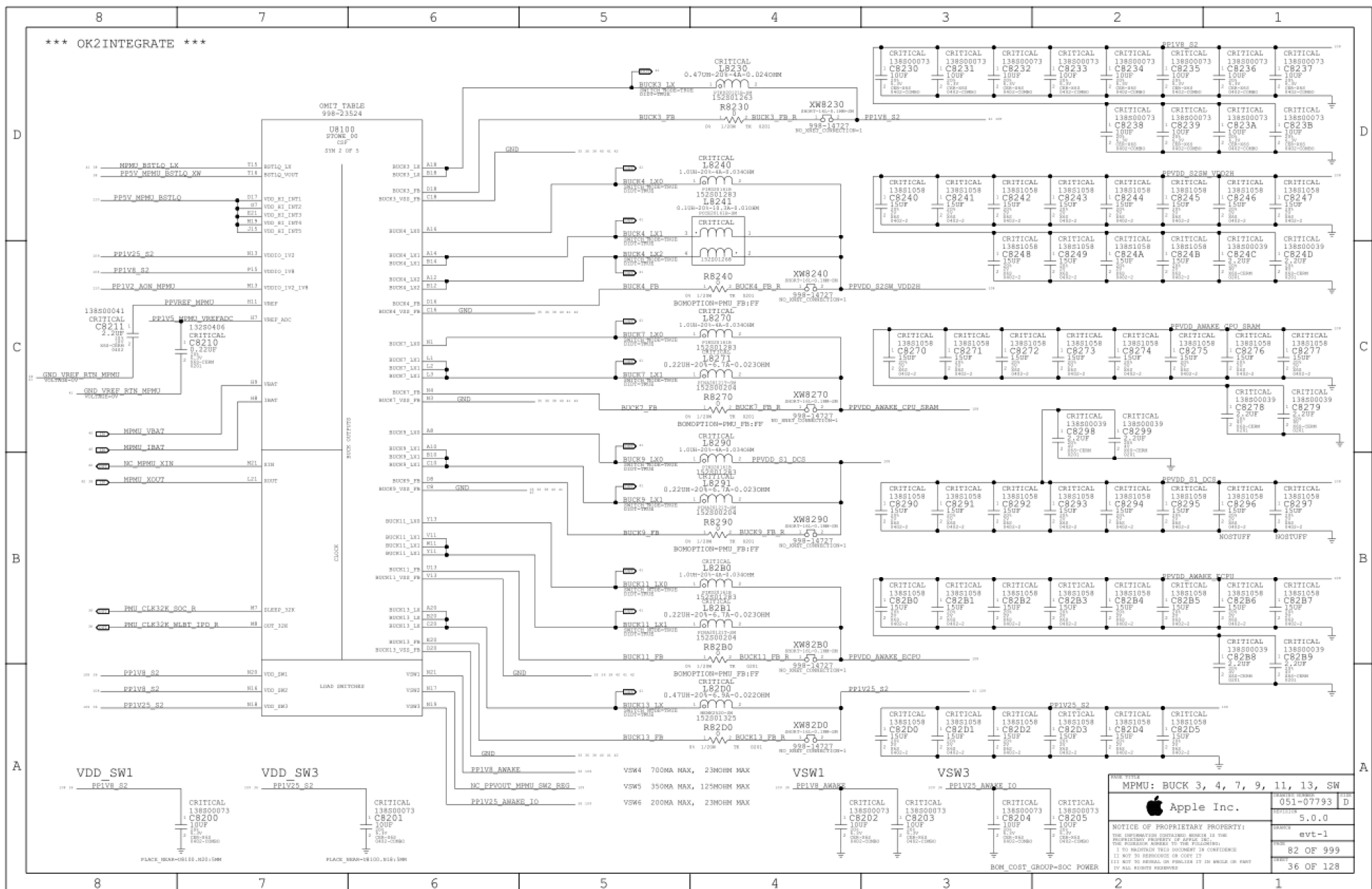






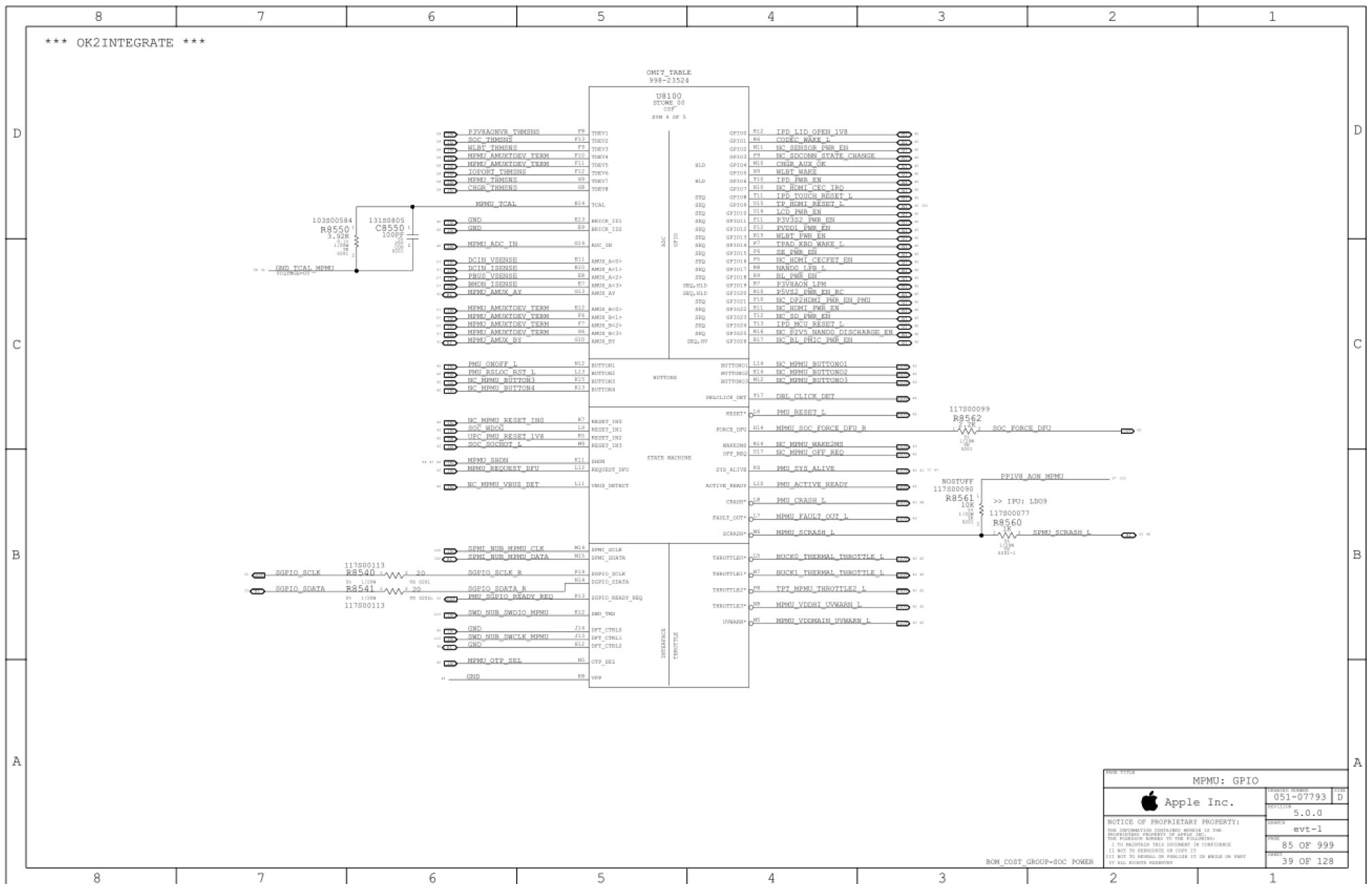


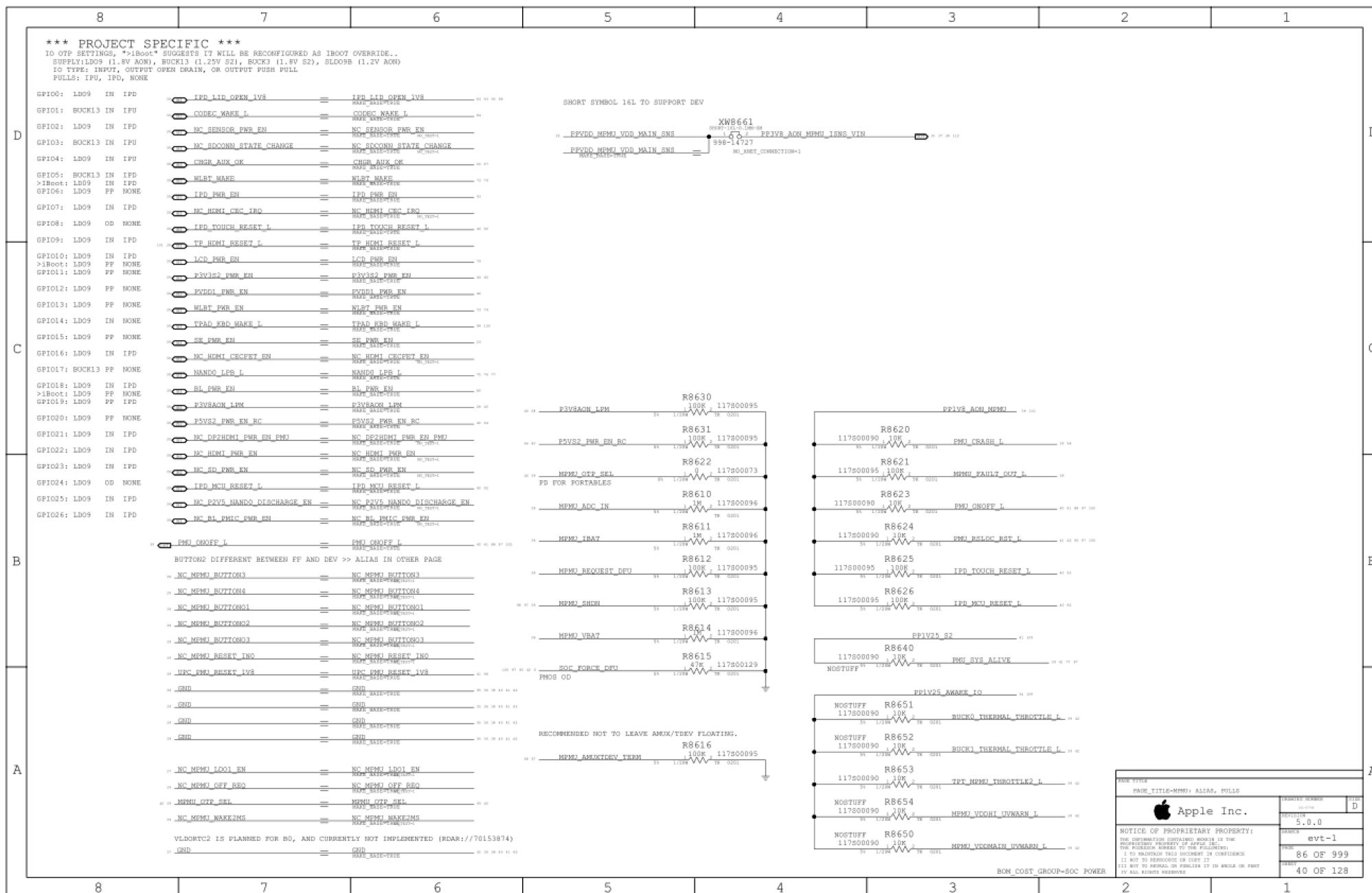




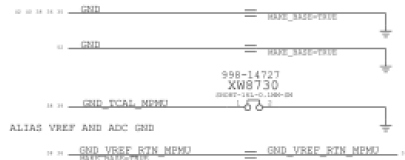




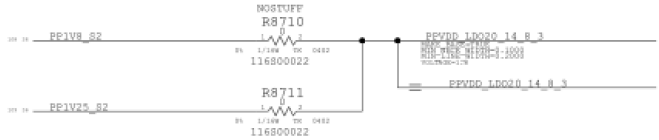




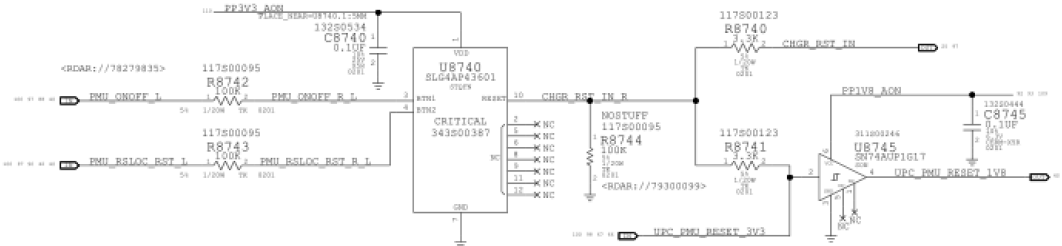
# \*\*\* PROJECT SPECIFIC \*\*\*



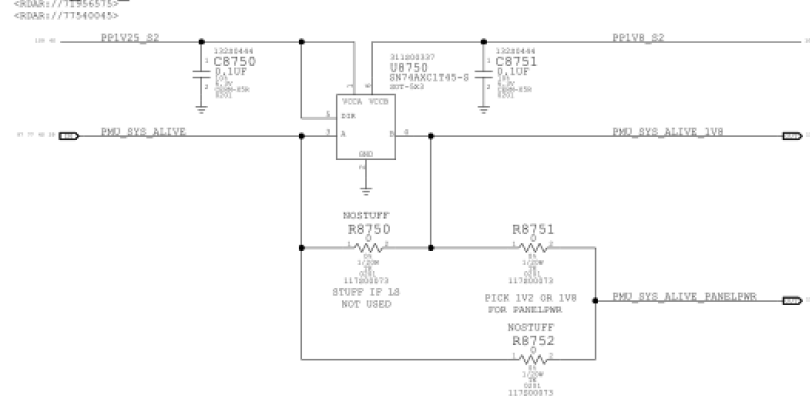
## BUCK3/BUCK13 OPTION FOR LDO3/8/14/20 VDDIN



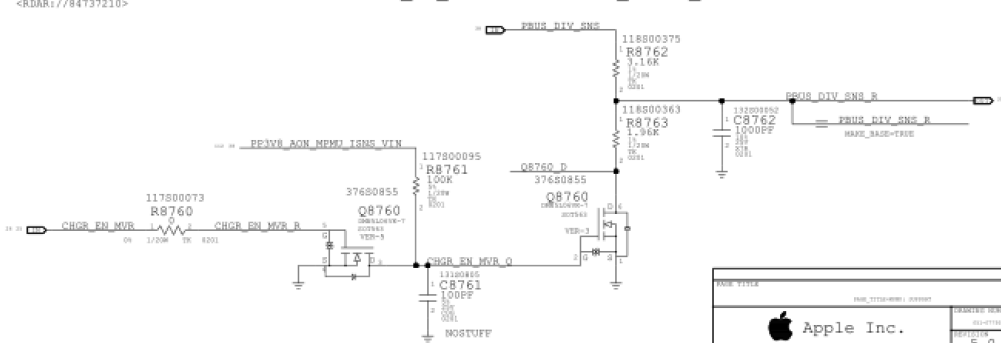
## CHARGER RESET CIRCUIT



## PMU SYS ALIVE LEVEL SHIFTING



## EARLY PMU CRASH SIGNAL FROM CHGR\_EN\_MVR (PULLS VDD\_BOOST\_SNS DOWN)



## ANALOG PROBE POINTS

BUCK0_LX0	PP8700	BUCK3_LX	PP8730
BUCK0_LX1	PP8701	BUCK4_LX0	PP8740
BUCK0_LX2	PP8702	BUCK4_LX1	PP8741
BUCK0_LX3	PP8703	BUCK4_LX2	PP8742
BUCK0_LX4	PP8704	BUCK7_LX0	PP8770
BUCK1_LX0	PP8710	BUCK7_LX1	PP8771
BUCK1_LX1	PP8711	BUCK9_LX0	PP8790
BUCK1_LX2	PP8712	BUCK9_LX1	PP8791
BUCK1_LX3	PP8713	BUCK11_LX0	PP87B0
BUCK1_LX4	PP8714	BUCK11_LX1	PP87B1
BUCK2_LX0	PP8720	BUCK13_LX	PP87D0
BUCK2_LX1	PP8721	MEMU_RSTIO_LX	PP87F0
BUCK2_LX2	PP8722	MEMU_AMUX_AY	PP8750
BUCK2_LX3	PP8723	MEMU_AMUX_BY	PP8751
BUCK2_LX4	PP8724		

## SIGNAL PROBE POINTS

PMU_SGPT0_READY_SIG	TP8700
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	87 OF 999		
	41 OF 128		

	8	7	6	5	4	3	2	1	
	*** PROJECT SPECIFIC ***								
	ALIAS SPECIFIC TO FF (DIFFER FOR DEV)								
D	<div><div><div>17</div><div>PMU_RELLOC_RST_L</div><div>==</div><div>PMU_RELLOC_RST_L</div><div>42 41 30 37 120</div></div><div><div>18</div><div>MC_MPMU_XIN</div><div>==</div><div>MC_MPMU_XIN</div><div>40 39 37 36</div></div><div><div>19</div><div>SOC_WDOG</div><div>==</div><div>SOC_WDOG</div><div>4 38</div></div><div><div>20</div><div>SOC_SOCHOT_L</div><div>==</div><div>SOC_SOCHOT_L</div><div>4 37</div></div><div><div>21</div><div>PMU_RESET_L</div><div>==</div><div>PMU_RESET_L</div><div>4 37</div></div><div><div>22</div><div>PMU_ACTIVE_READY</div><div>==</div><div>PMU_ACTIVE_READY</div><div>4 36 37</div></div><div><div>23</div><div>DBL_CLICK_DET</div><div>==</div><div>DBL_CLICK_DET</div><div>4 36</div></div><div><div>24</div><div>SOC_FORCE_DEU</div><div>==</div><div>SOC_FORCE_DEU</div><div>4 35 36 37 38</div></div></div>								D
	<div><div><div>25</div><div>BUCK0_THERMAL_THROTTLE_L</div><div>==</div><div>BUCK0_THERMAL_THROTTLE_L</div><div>4 36</div></div><div><div>26</div><div>BUCK1_THERMAL_THROTTLE_L</div><div>==</div><div>BUCK1_THERMAL_THROTTLE_L</div><div>4 36</div></div><div><div>27</div><div>7PT_MPMU_THROTTLE2_L</div><div>==</div><div>7PT_MPMU_THROTTLE2_L</div><div>40 36 37</div></div><div><div>28</div><div>MPMU_VDDCH1_UVWARN_L</div><div>==</div><div>MPMU_VDDCH1_UVWARN_L</div><div>40 35</div></div><div><div>29</div><div>MPMU_VDDMAIN_UVWARN_L</div><div>==</div><div>MPMU_VDDMAIN_UVWARN_L</div><div>4 36</div></div></div> <div>VBUS_DET SET AS IPV PER OTP (RDAR://71130901) ADD BACKUP FOR DEV BOT MC FOR FF.</div> <div><div><div>30</div><div>MC_MPMU_VBUS_DET</div><div>==</div><div>MC_MPMU_VBUS_DET</div><div>40 36 37</div></div><div><div>31</div><div>GPU</div><div>==</div><div>GPU</div><div>31 30 29 30 31</div></div></div>								C
C	<div><div><div>32</div><div>SPMU_VDDMAIN_UVWARN_L</div><div>==</div><div>SPMU_VDDMAIN_UVWARN_L</div><div>40 35</div></div><div><div>33</div><div>GPU</div><div>==</div><div>GPU</div><div>31 30 31</div></div></div>								B
B	<div><div><div>34</div><div>MPMU_XOUT</div><div>==</div><div>MPMU_XOUT</div><div>36 36</div></div></div>								A
A									A
	8	7	6	5	4	3	2	1	

PMU: SUPPORT - FF

051-07793

Apple Inc.

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evt-1

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42 OF 128

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BOM\_COST\_GROUP=SOC POWER

BOM\_COST\_GROUP-SOC\_POWER

FORM TITLE		PMU: SUPPORT - FF	
 Apple Inc.	051-07793	051-07793	051-07793
	5.0.0		
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\* OK2INTEGRATE \*

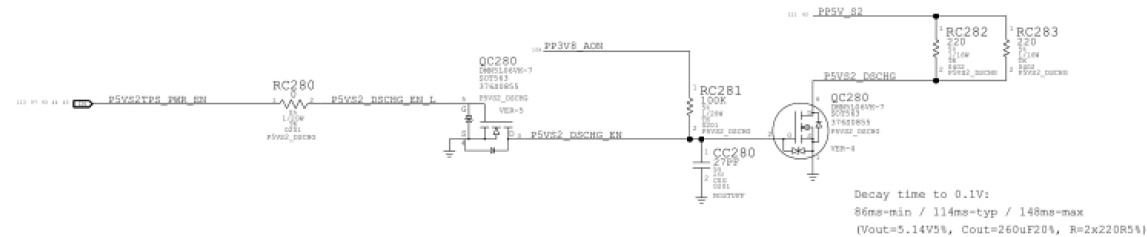
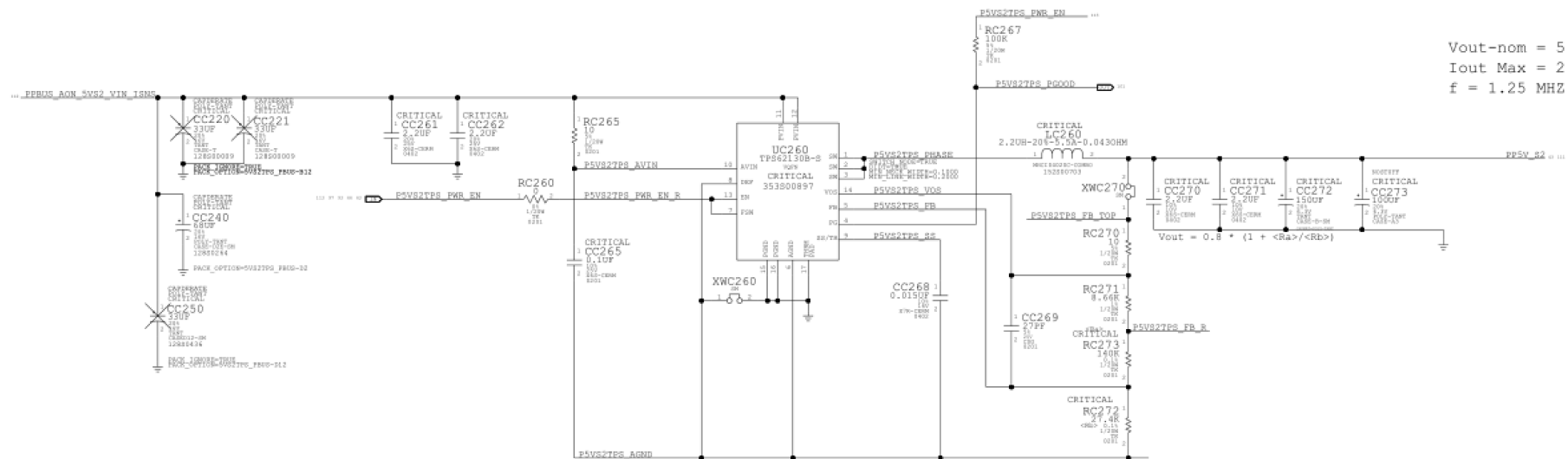
### 5V\_S2 Voltage Regulator (low power option)

SET ONE OPTION FOR PBUS CAPS

```
PACK_OPTION=5VS2TPS_PBUS-B12
PACK_OPTION=5VS2TPS_PBUS-D2
PACK_OPTION=5VS2TPS_PBUS-D12
```


START UP TIME = 4.7/7.5/10.5 MS  
(min/typ/max)

Vout-nom = 5.14V  
Iout Max = 2.1A  
f = 1.25 MHz

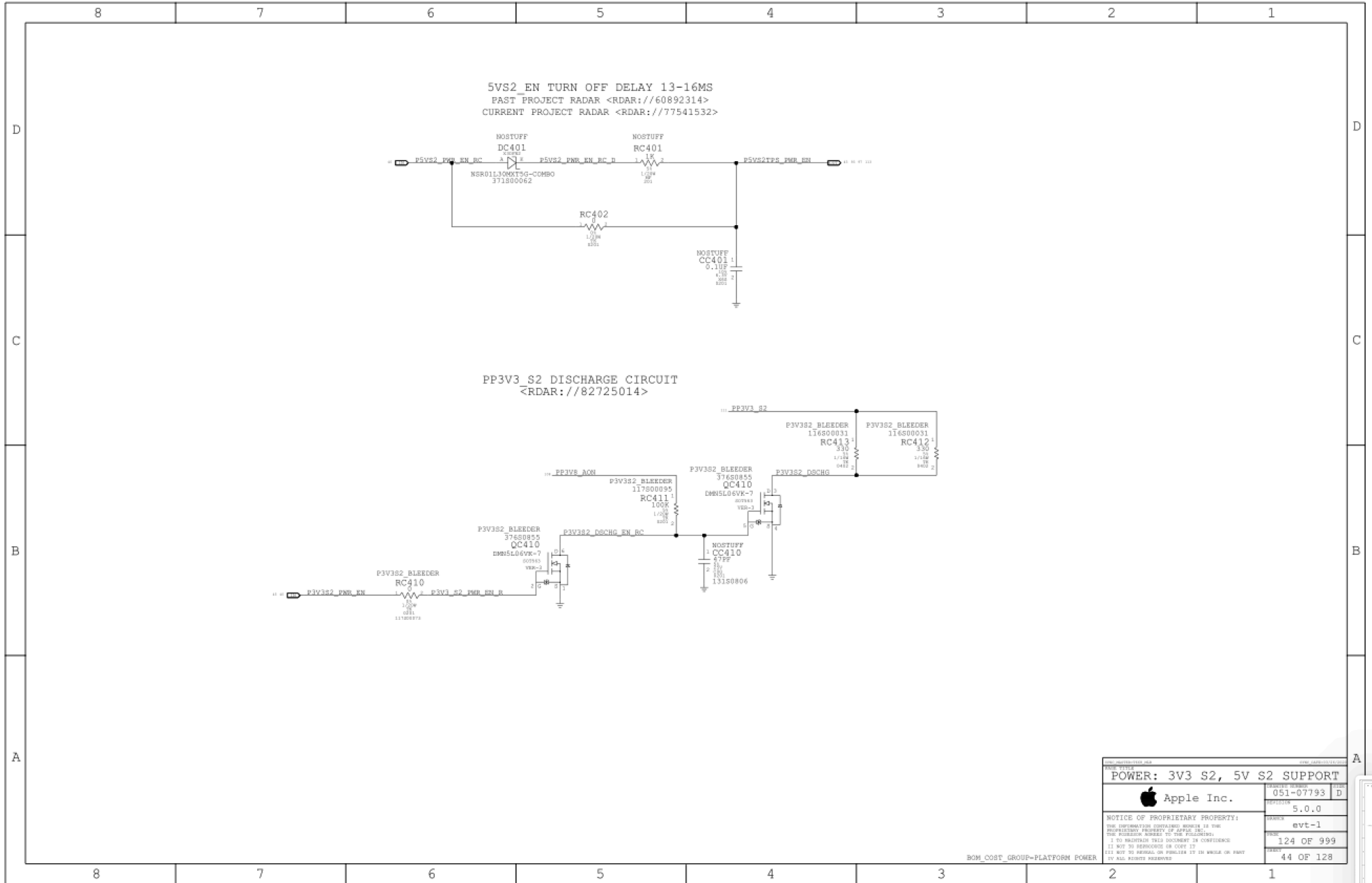


Decay time to 0.1V:  
86ms-min / 114ms-typ / 148ms-max  
(Vout=5.14V5%, Cout=260uF20%, R=2x220R5%)

BOM\_COST\_GROUP=PLATFORM POWER

NAME TITLE			
POWER: 5V S2 TPS62130			
 Apple Inc.	GRANTED SERIAL	PART D	
	051-07793		
	REVISION	5.0.0	
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11 NOT TO REPRODUCE OR OTHERWISE			
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	DATE	43 OF 128	





POWER: 3V3 S2, 5V S2 SUPPORT	
Apple Inc.	051-07793
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124 OF 999	44 OF 128

BOM\_COST\_GROUP=PLATFORM POWER

\* OK2INTEGRATE \*

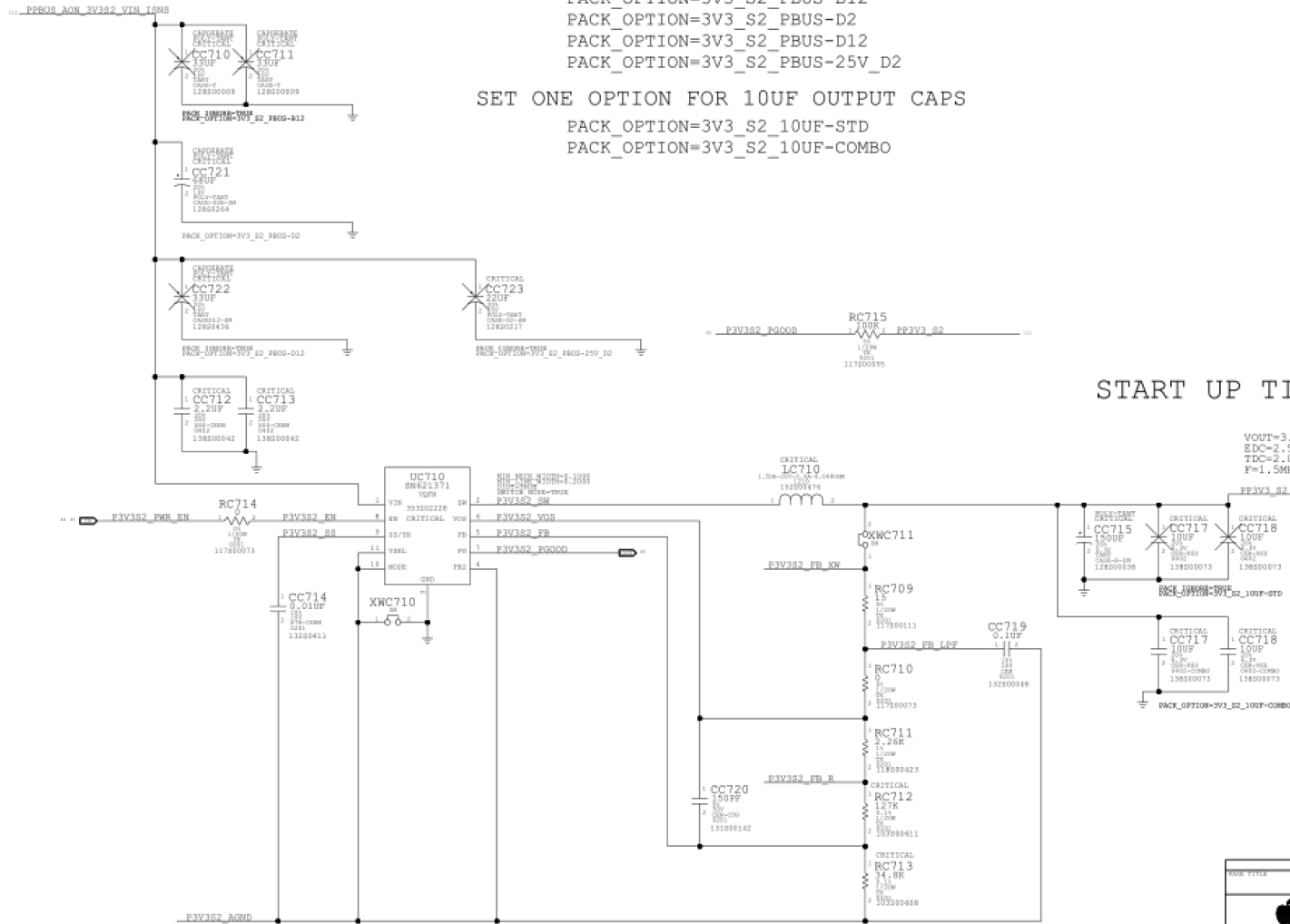
## 3V3\_S2 VR

SET ONE OPTION FOR PBUS CAPS

PACK\_OPTION=3V3\_S2\_PBUS-B12  
PACK\_OPTION=3V3\_S2\_PBUS-D2  
PACK\_OPTION=3V3\_S2\_PBUS-D12  
PACK\_OPTION=3V3\_S2\_PBUS-25V\_D2

SET ONE OPTION FOR 10UF OUTPUT CAPS

PACK\_OPTION=3V3\_S2\_10UF-STD  
PACK\_OPTION=3V3\_S2\_10UF-COMBO



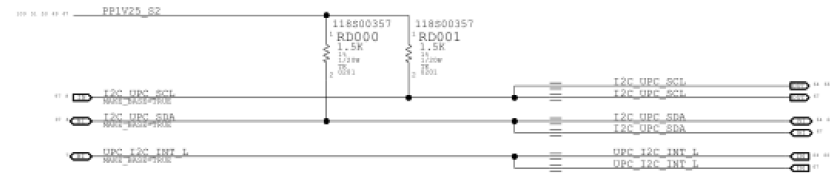
POWER: 3V3 S2			
Apple Inc.	051-07793	051	D
	5.0.0		
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BGM\_COST\_GROUP=PLATFORM POWER



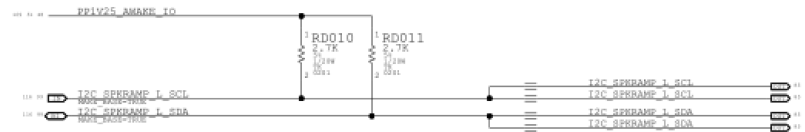
## AP\_I2C0

DEVICE	DIAGS BUS	7B	8B WR
UPC 0	0	0X38	0X70
UPC 1		0X3F	0X7E
ALL CALL		0X6B	0XD6



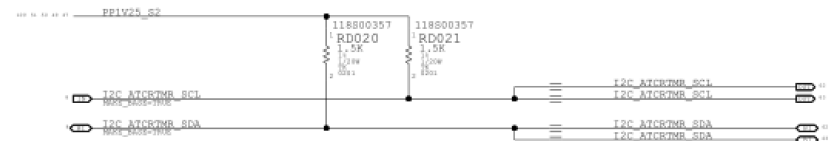
## AP\_I2C1


DEVICE	DIAGS BUS	7B	8B WR
SPKRAMP A	1	0X38	0X70
SPKRAMP B		0X39	0X72



## AP\_I2C2

DEVICE	DIAGS BUS	7B	8B WR
RT13 0	2	0X18	0X30
RT13 1		0X19	0X32

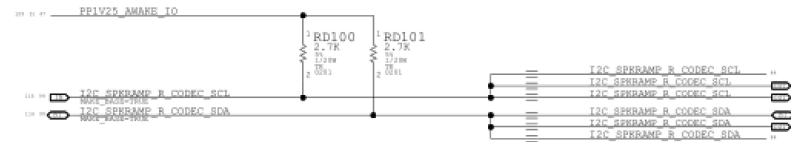


SOC I2C: AP (1/2)			
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	5.0.0	5.0.0	D
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BOM\_COST\_GROUP=50C

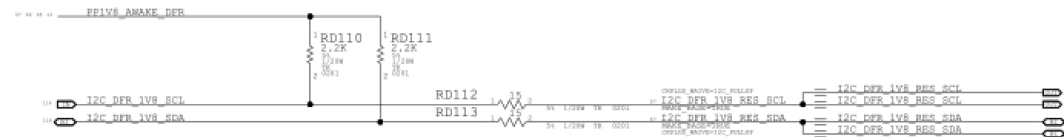
## AP\_I2C3


DEVICE	DIAGS BUS	7B	8B WR
SPKRAMP D	3	0X3B	0X76
SPKRAMP E		0X3C	0X78
CODEC		0X4B	0X96



## AP\_I2C4

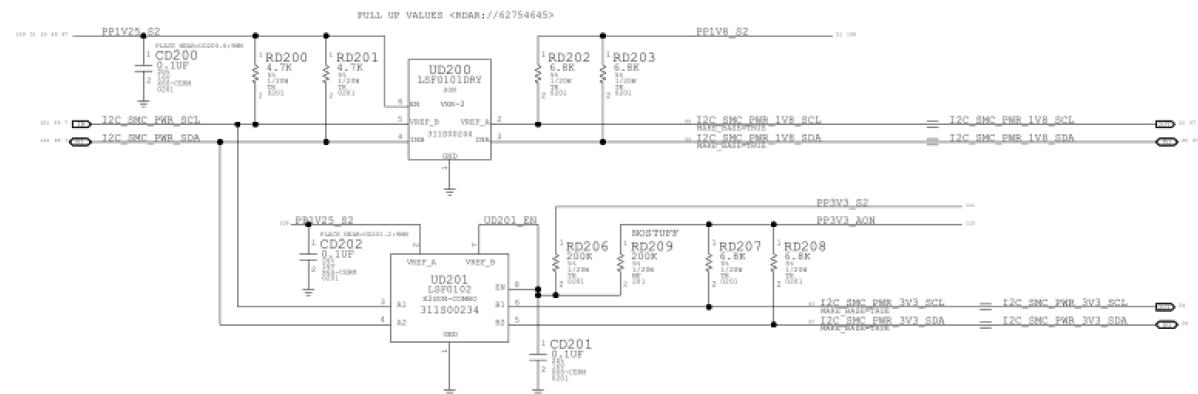
DEVICE	DIAGS BUS	7B	8B WR
DFR DISP DRIVER	4	0X4C	0X98
DFR TOUCH EEPROM		0X50	0XA0
DFR DISP TEMP SENSE		0X77	0X77



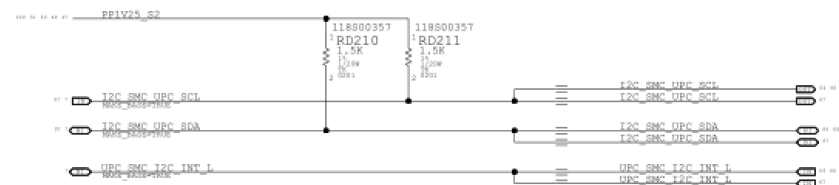
SOC TITLE			
SOC I2C: AP (2/2)			
 Apple Inc.	DESIGN NUMBER	051-07793	TYPE
	REVISION	5.0.0	D
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		PAGE	131 OF 999
		DATE	48 OF 128

BOM\_COST\_GROUP=SOC

DEVICE	DIAGS BUS	7B	8B WR
CHARGER	8	0x09	0x12
BNU		0x0B	0x16



DEVICE	DIAGS BUS	7B	8B WR
UPC 0	9	0x38	0x70
UPC 1		0x3F	0x7E
ALL CALL		0x6B	0xD6

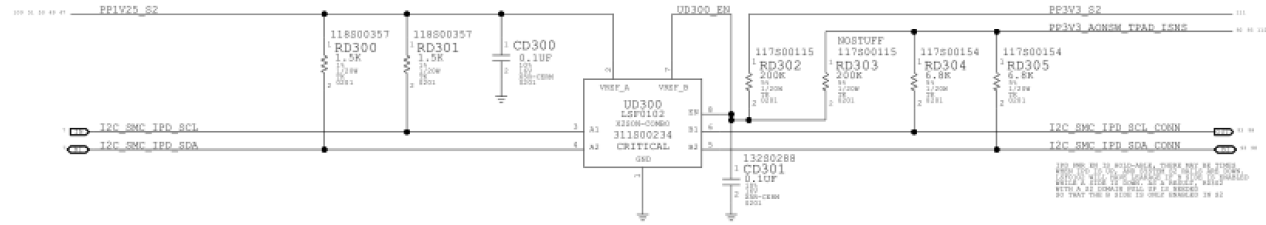


DEVICE	DIAGS BUS	7B	8B WR
NONE	N/A	N/A	N/A

SMC I2C 2 NC PER SYS ARCH V09

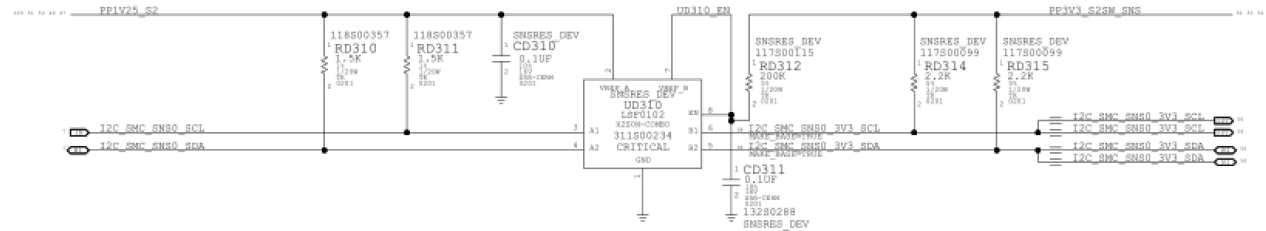
# SMC\_I2C3

DEVICE	DIAGS BUS	7B	8B WR
PALM REST TEMP	11	0x4C	0x98



# SMC\_I2C4

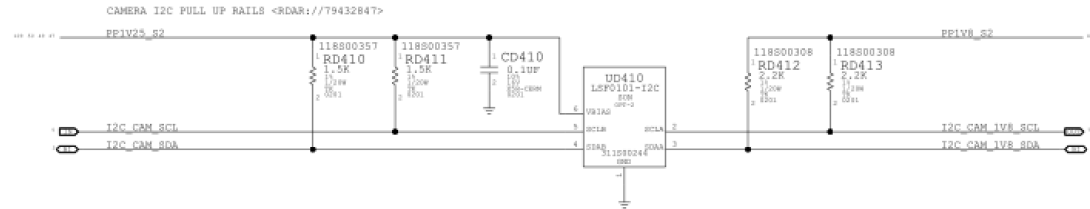
DEVICE	DIAGS BUS	7B	8B WR
DEV ADC 1	12	0x17	0x2E
DEV ADC 2		0x10	0x20



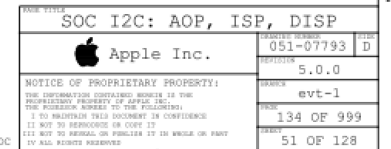
BOM TITLE			
SOC I2C: SMC (2/2)			
Apple Inc.	PROJECT NUMBER	051-07793	REV
	REVISION	5.0.0	D
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BOM\_COST\_GROUP=SOC

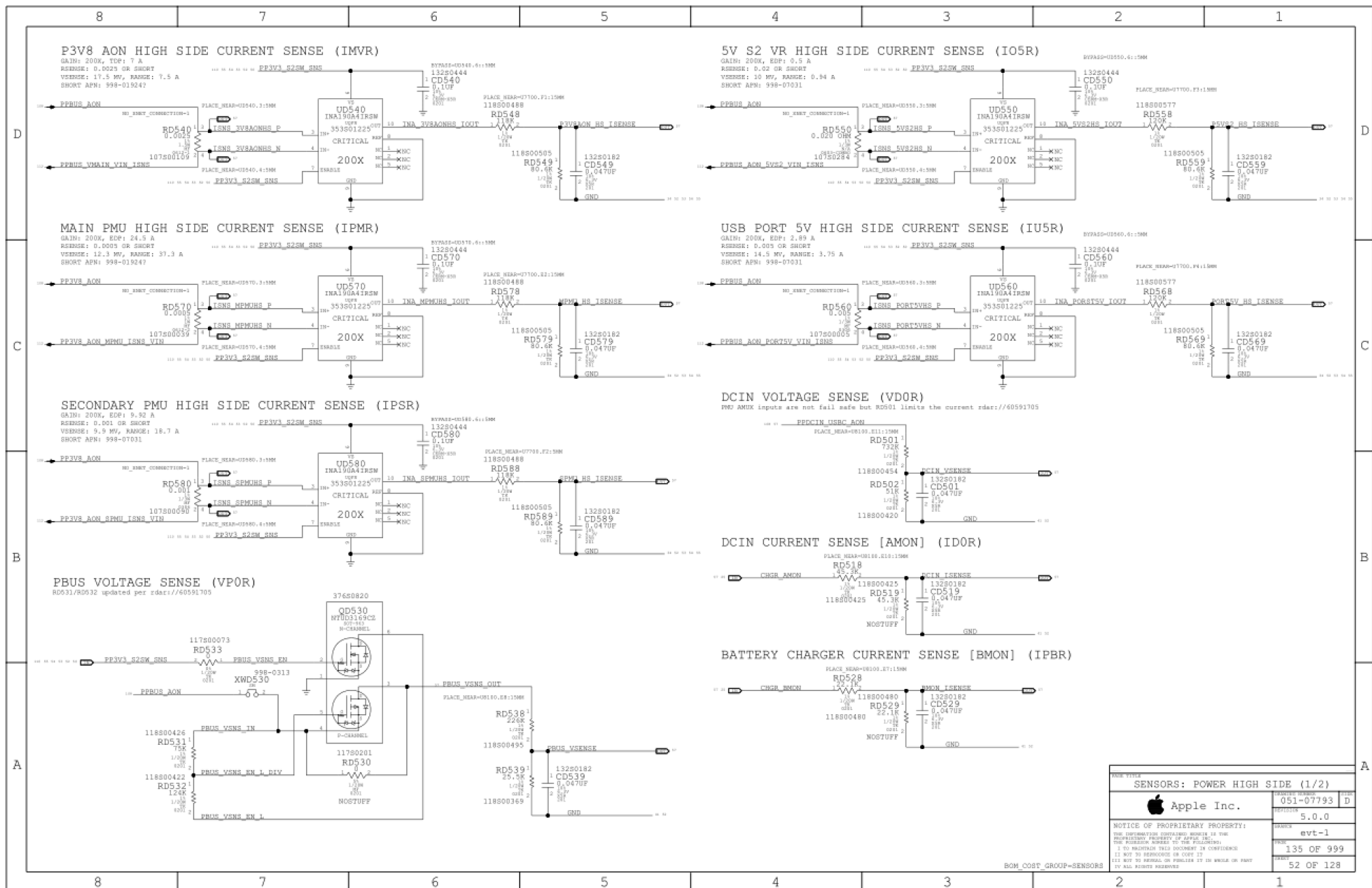
DEVICE	DIAGS BUS	7B	8B WR
ALS	5	0x29	0x32




DEVICE	DIAGS BUS	7B	8B WR
CAMERA PMIC	7	0x10	0x20
CAMERA SENSOR		0x36	0x6C

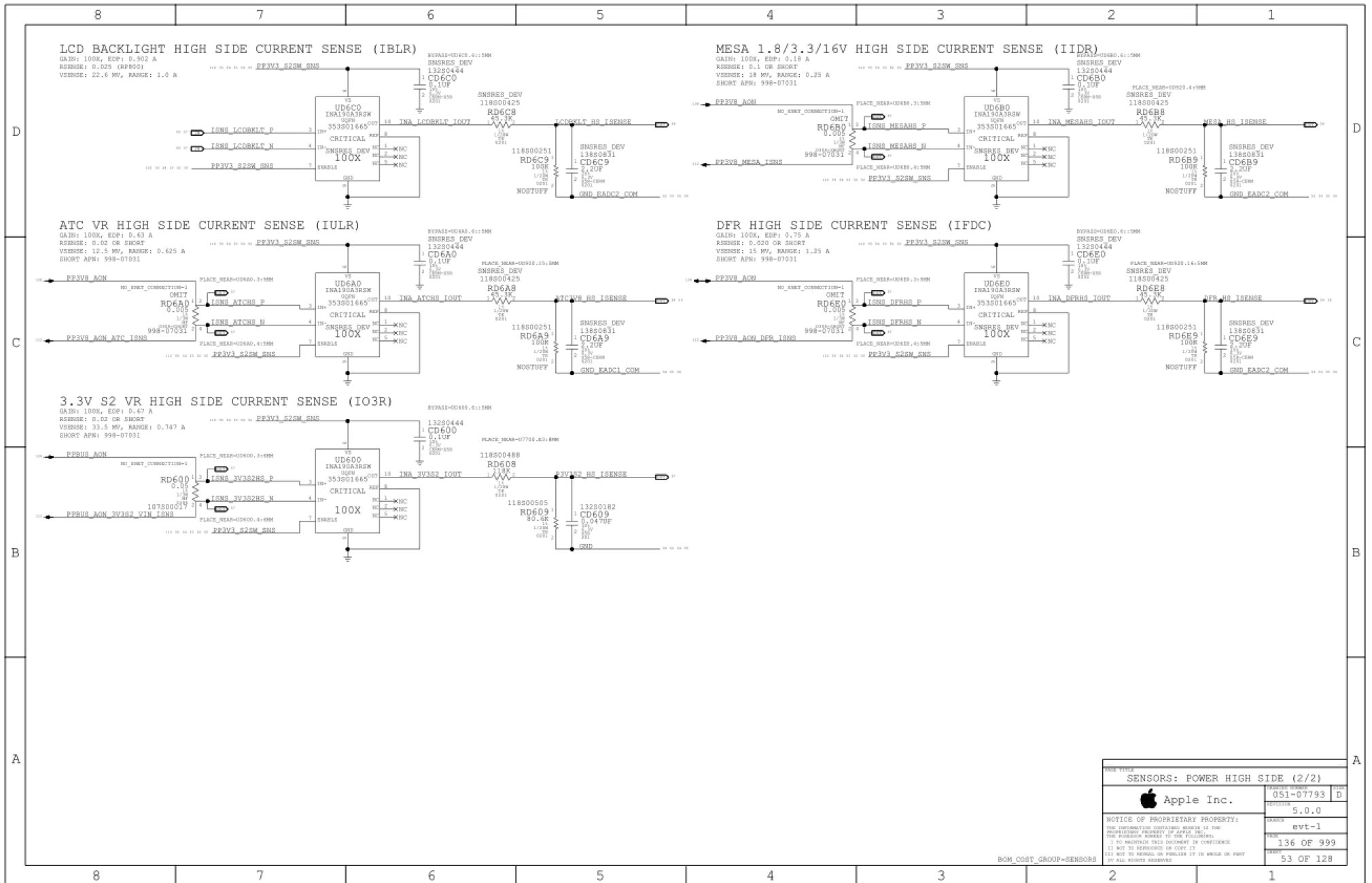


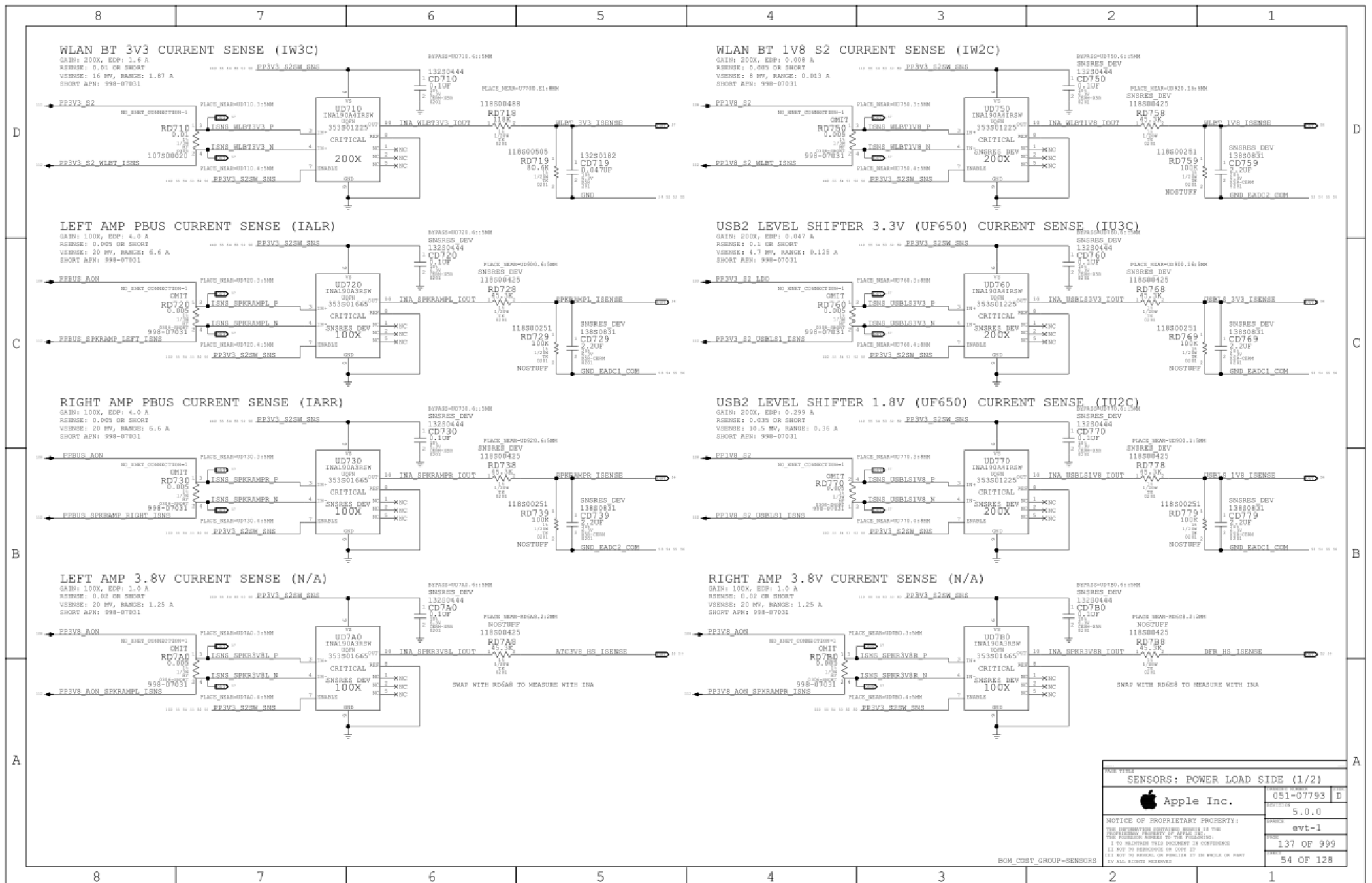


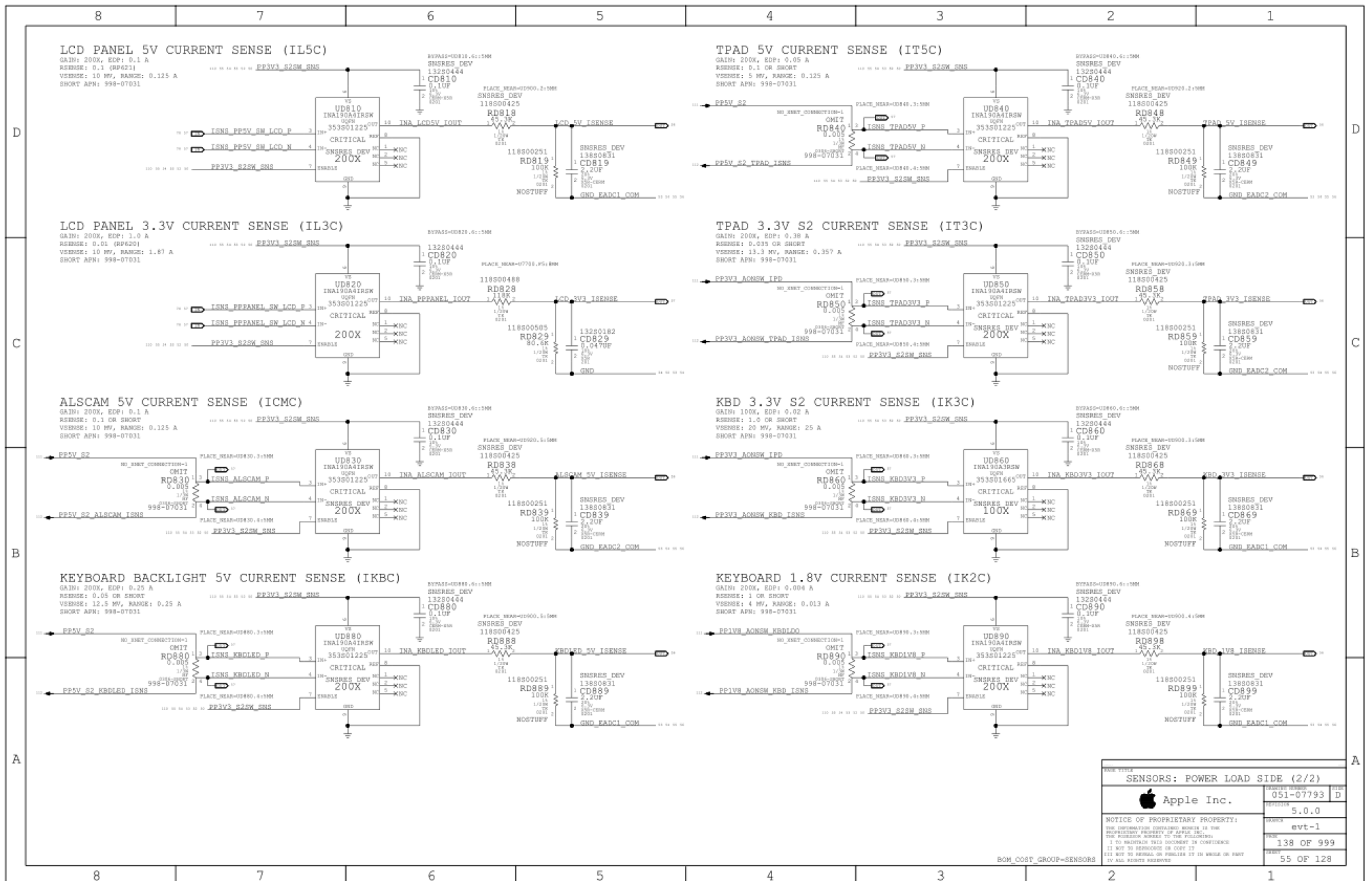


PART TYPE			
SENSORS: POWER HIGH SIDE (1/2)			
 Apple Inc.	DESIGNER	051-07793	100
	REVISION	5.0.0	D
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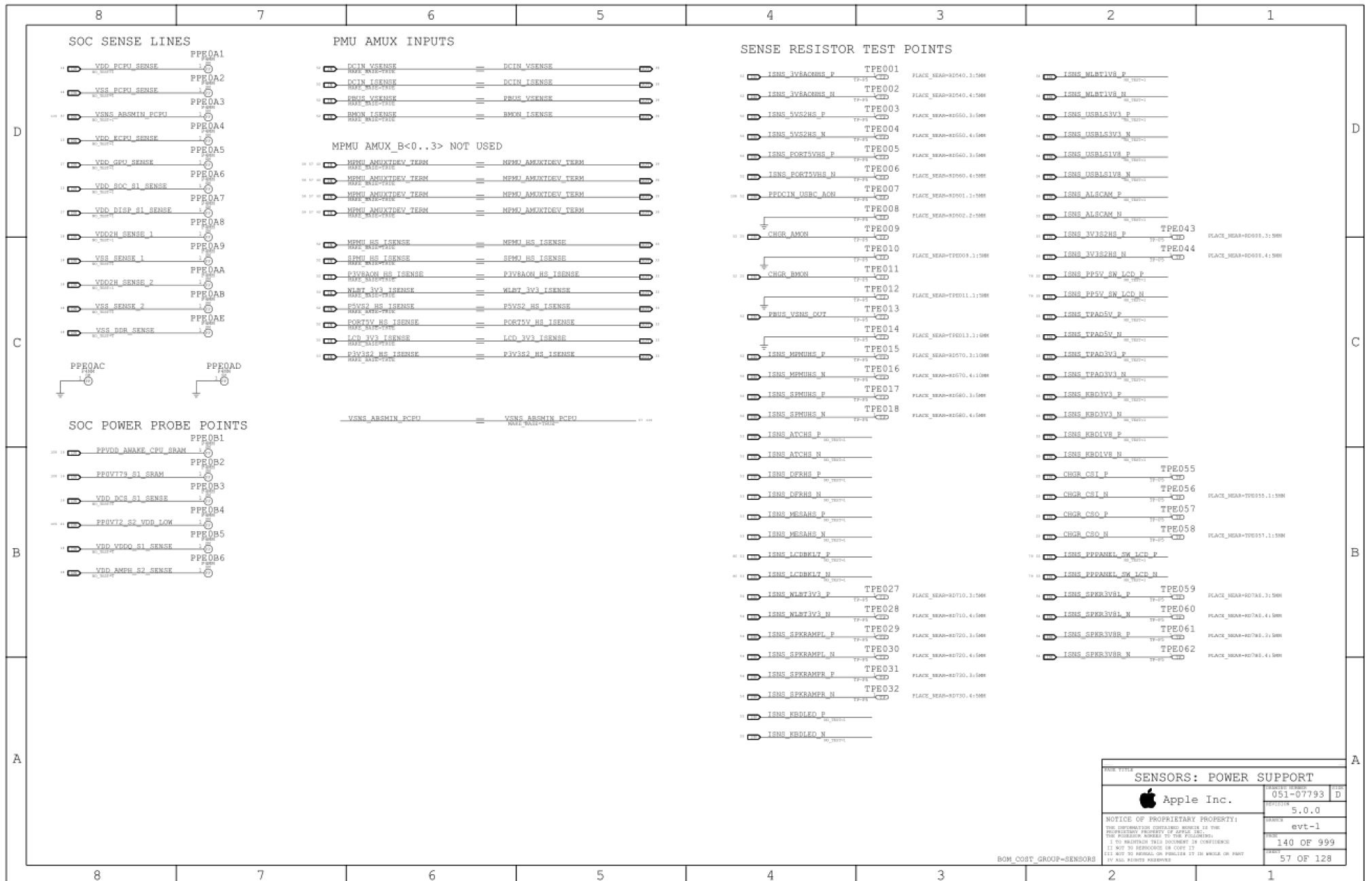
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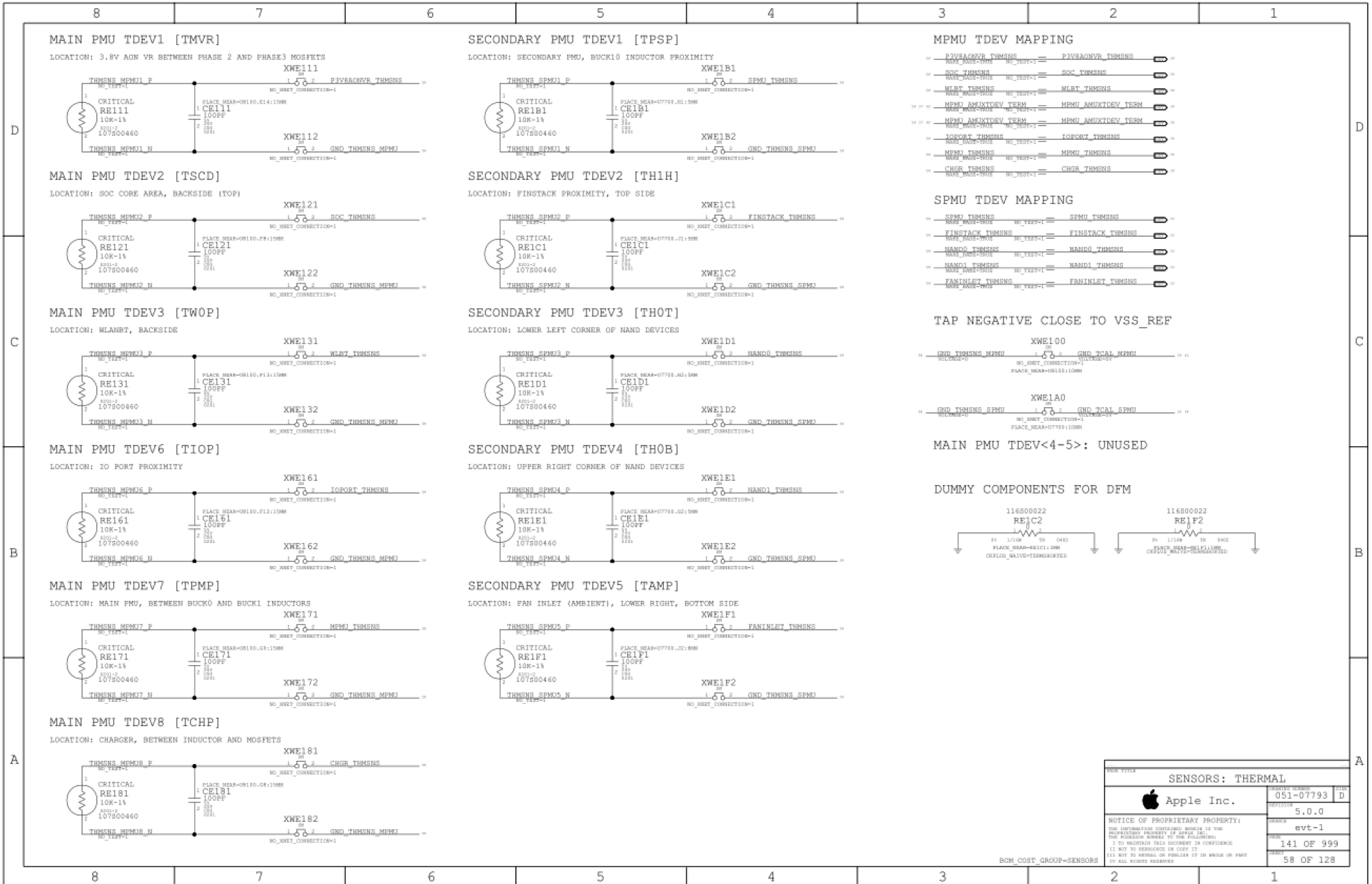








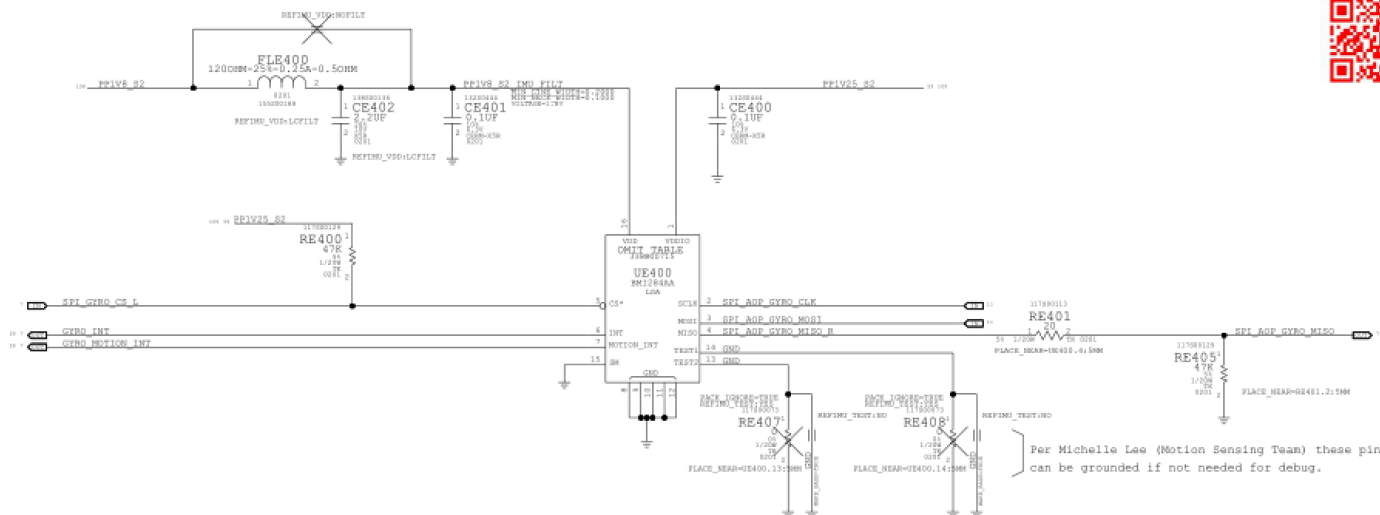




\*\*\* OK2INTEGRATE \*\*\*

## A Sovereign Accelerometer and Gyroscope

Datasheet Radar:



MFG: Bosch  
MPN: BM1284AA  
APN: 338800715  
URL: <https://www.bosch-sensortec.com/products/motion-sensors/imus/>  
Radar: radar://61521702 (Sovereign: Datasheet)

## B Test Points



## C Sovereign BOM Options

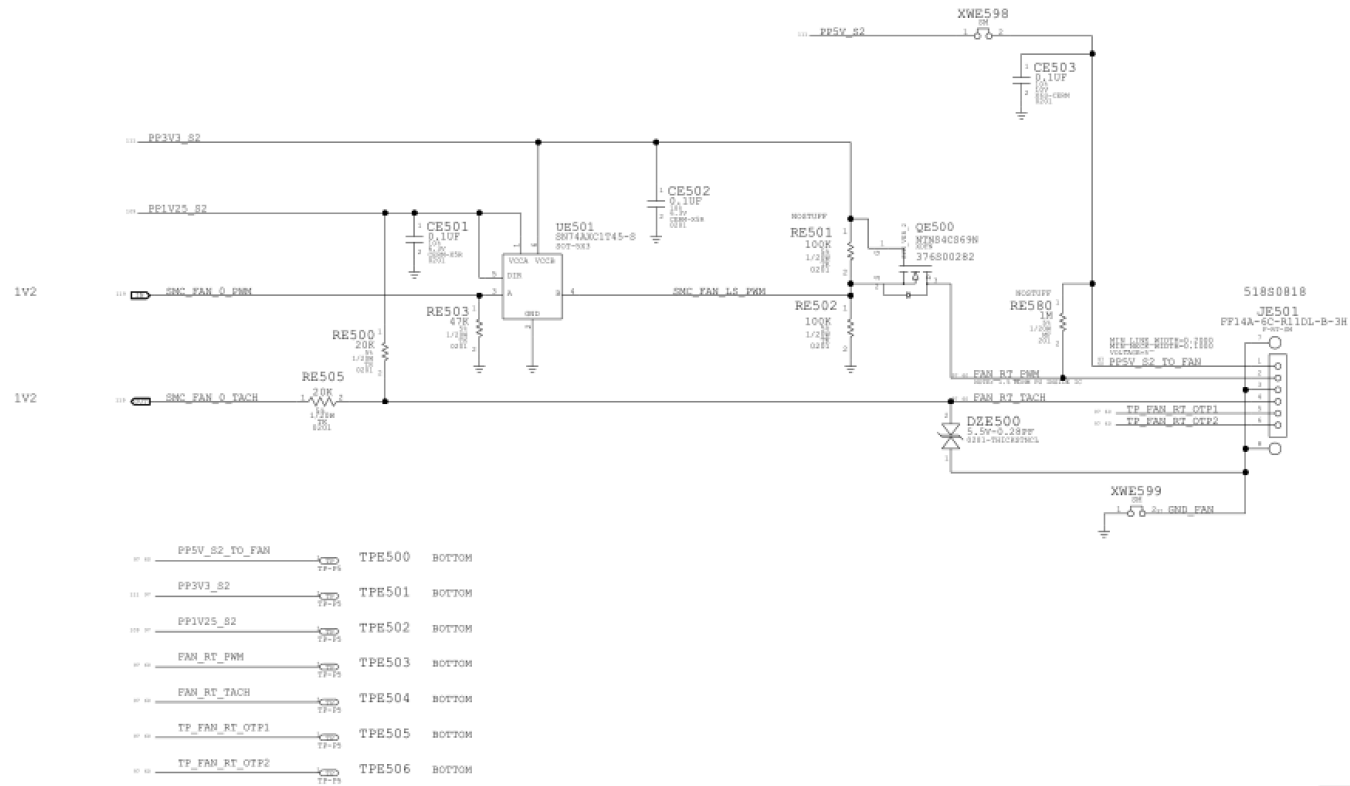
PART	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
338800715	1	IC, MEMS, 3D, 6DOF, 4-1.5G/1.5G/1.5G	IMU	CRITICAL	REFVDD=0.50V
338800840	1	IC, MEMS, 3D, 6DOF, 4-1.5G/1.5G/1.5G	IMU	CRITICAL	REFVDD=0.50V

SENSORS: MOTION		
Apple Inc.	051-07793	D
	5.0.0	
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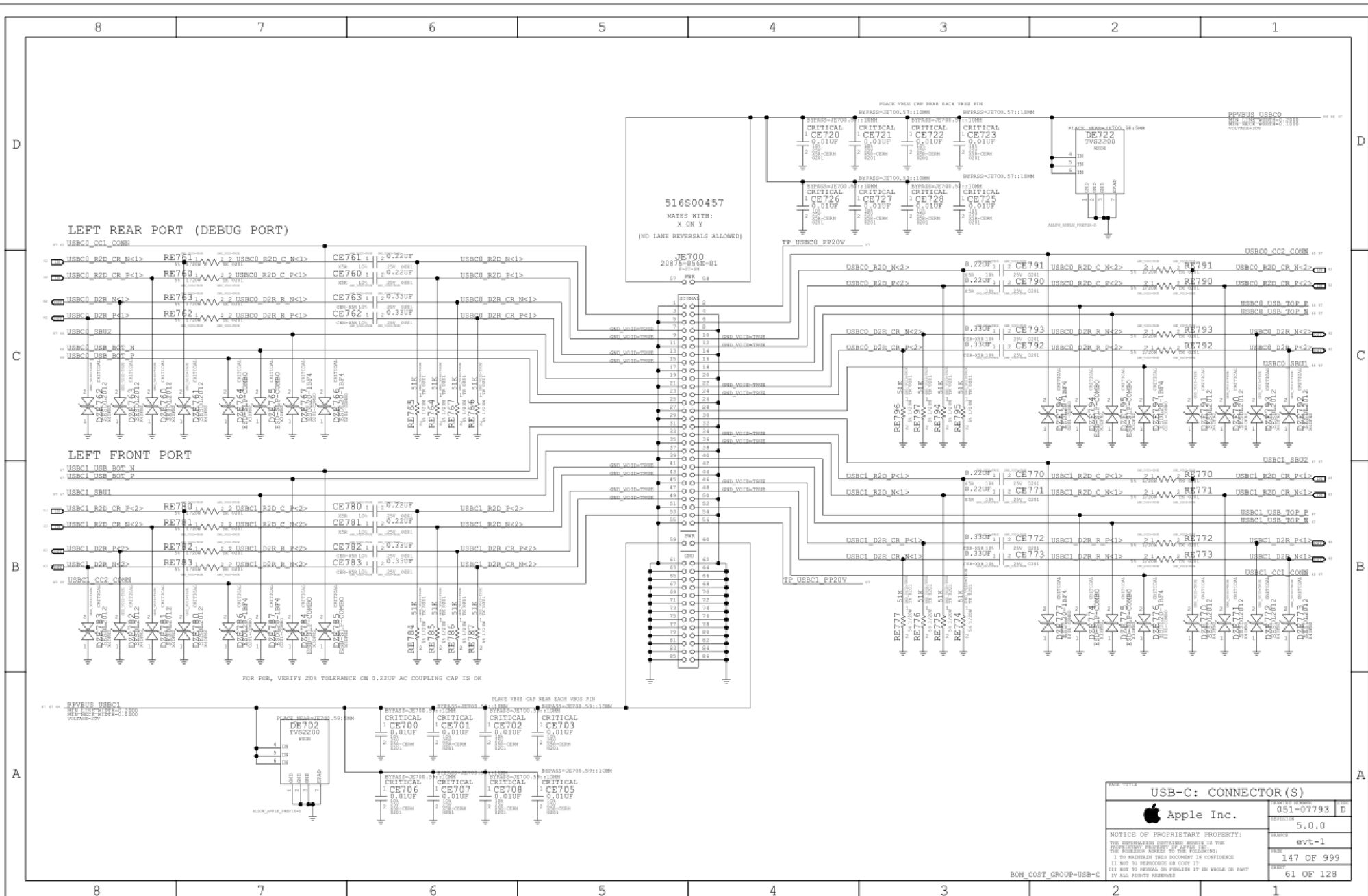


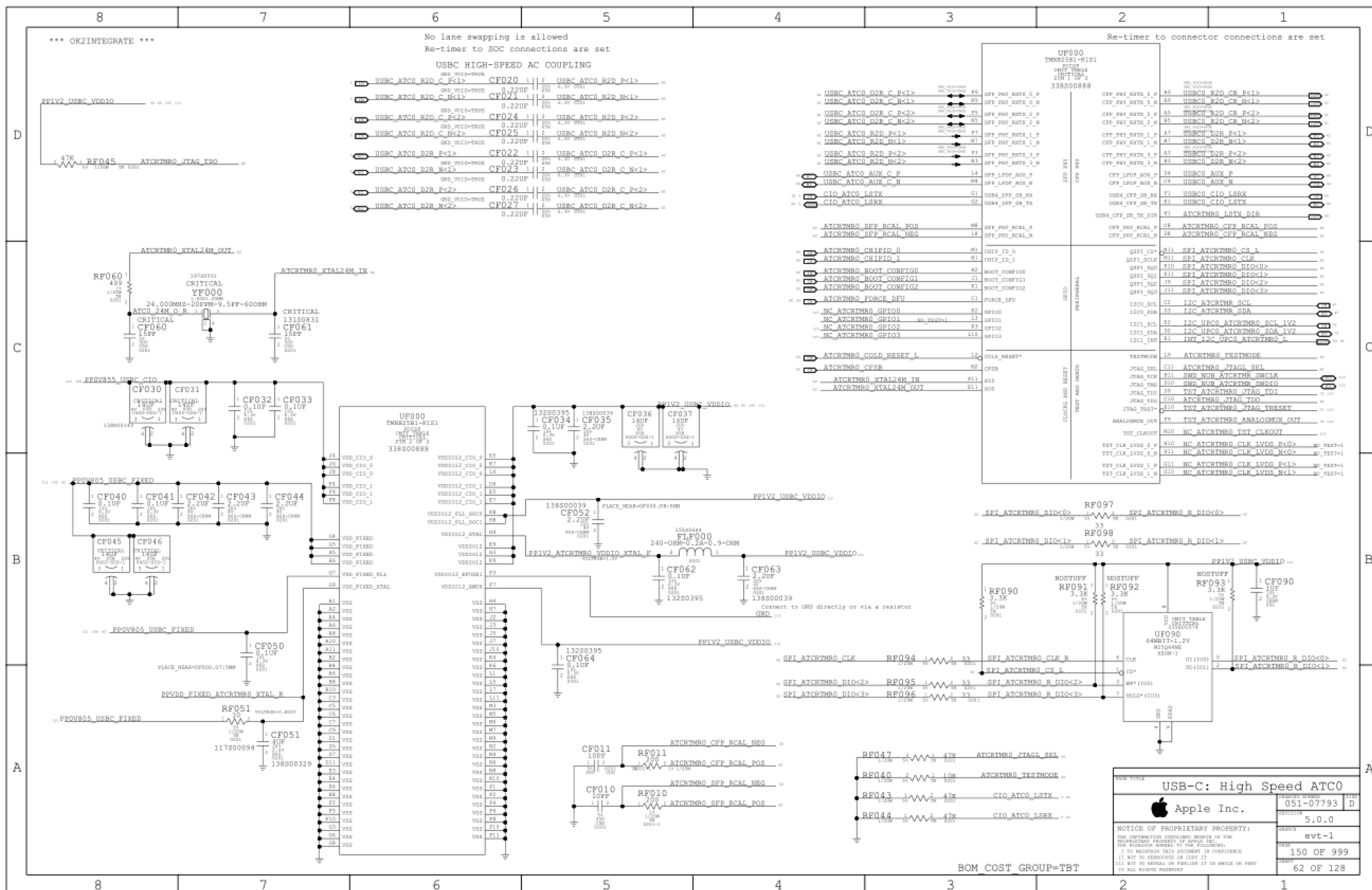
# FAN CONTROL



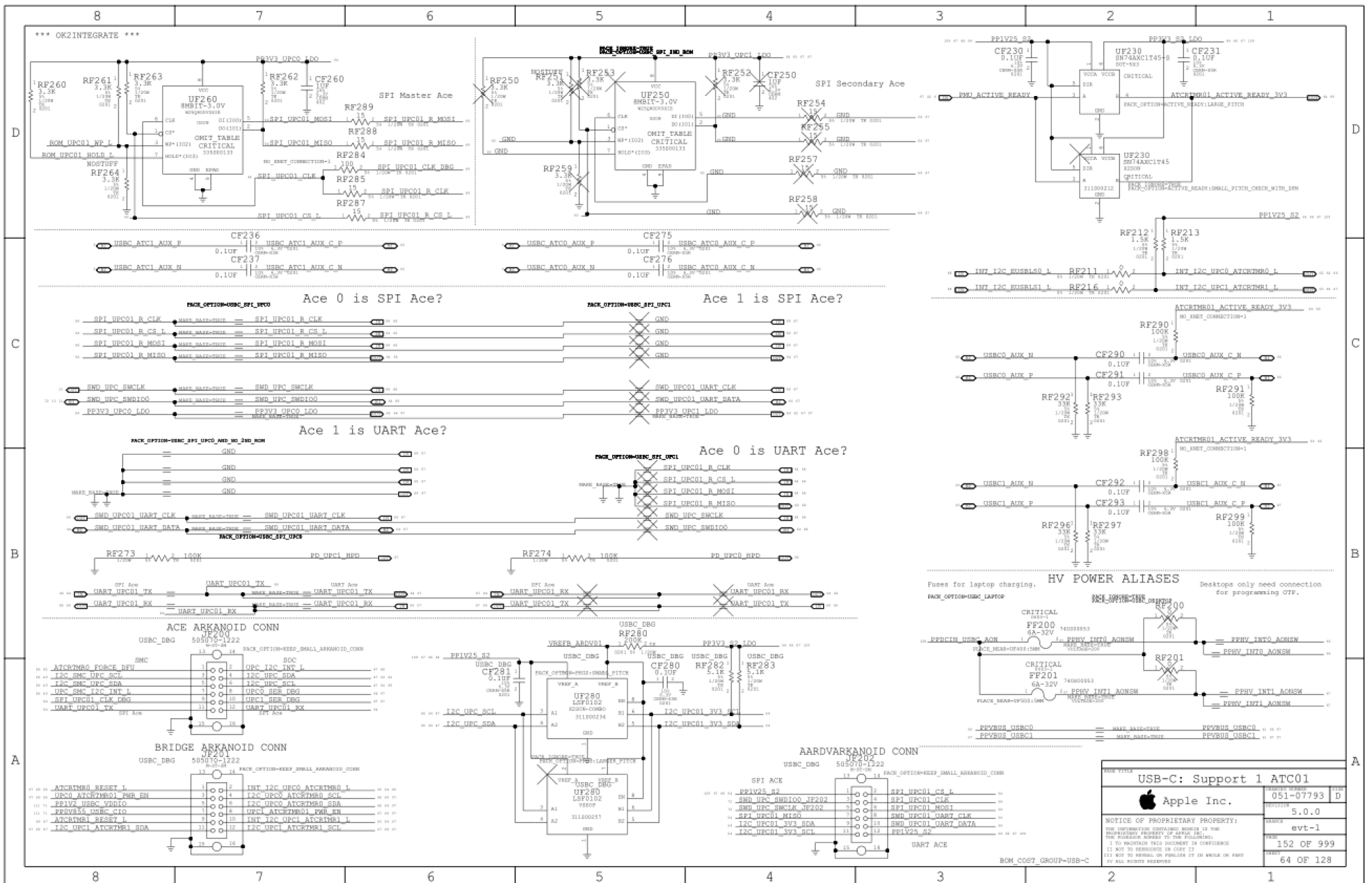
FAN		051-07793	
Apple Inc.		5.0.0	
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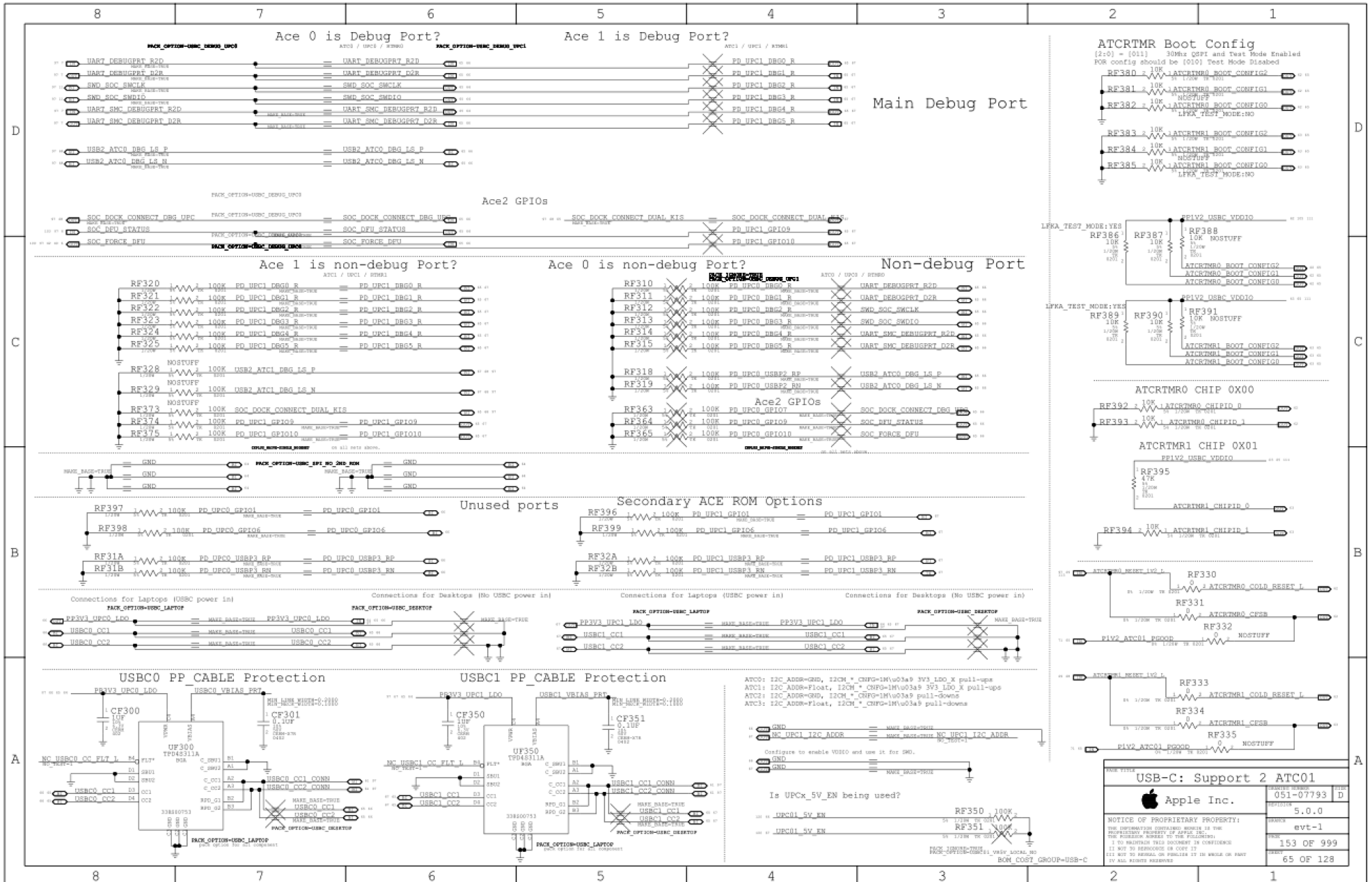
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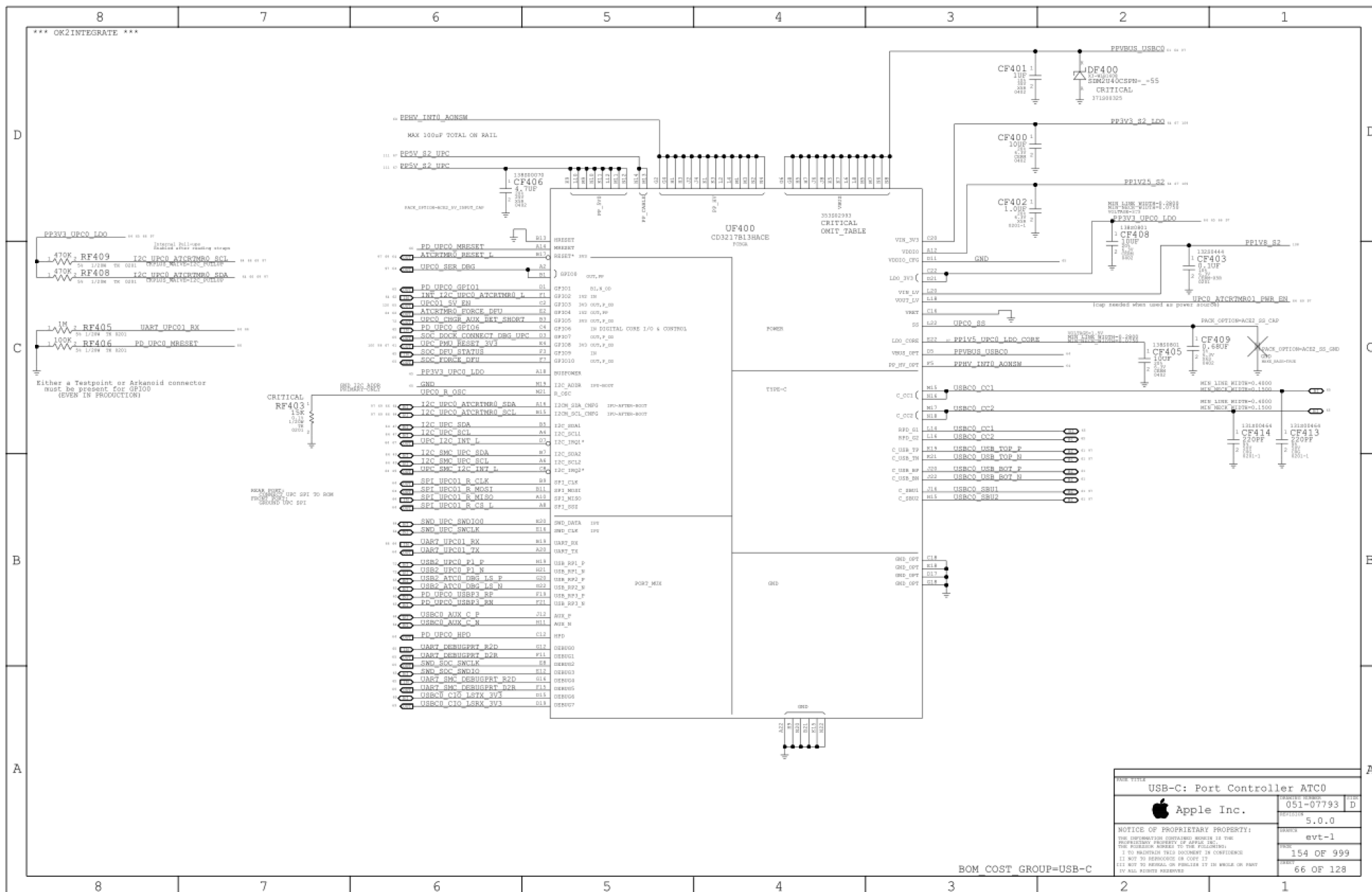





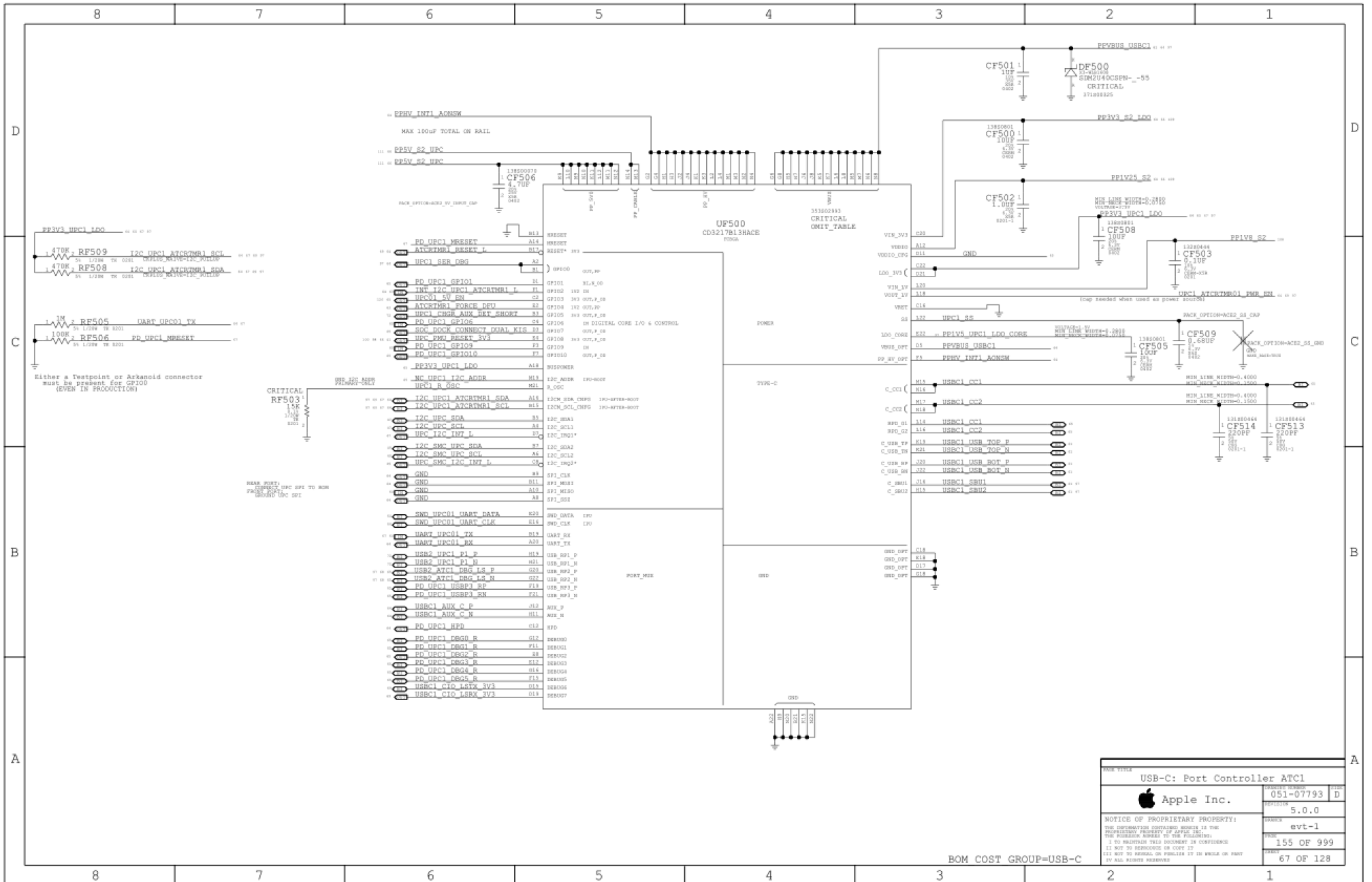








USB-C: Port Controller ATC0  Apple Inc.		DATED HERE 051-07793 5.0.0
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USB-C: Port Controller ATC1		
Apple Inc.	REVISION	051-07793
	REVISION	5.0.0
NOTICE OF PROPRIETARY PROPERTY:	REVISION	evt-1
	REVISION	155 OF 999
BOM COST GROUP=USB-C		67 OF 128





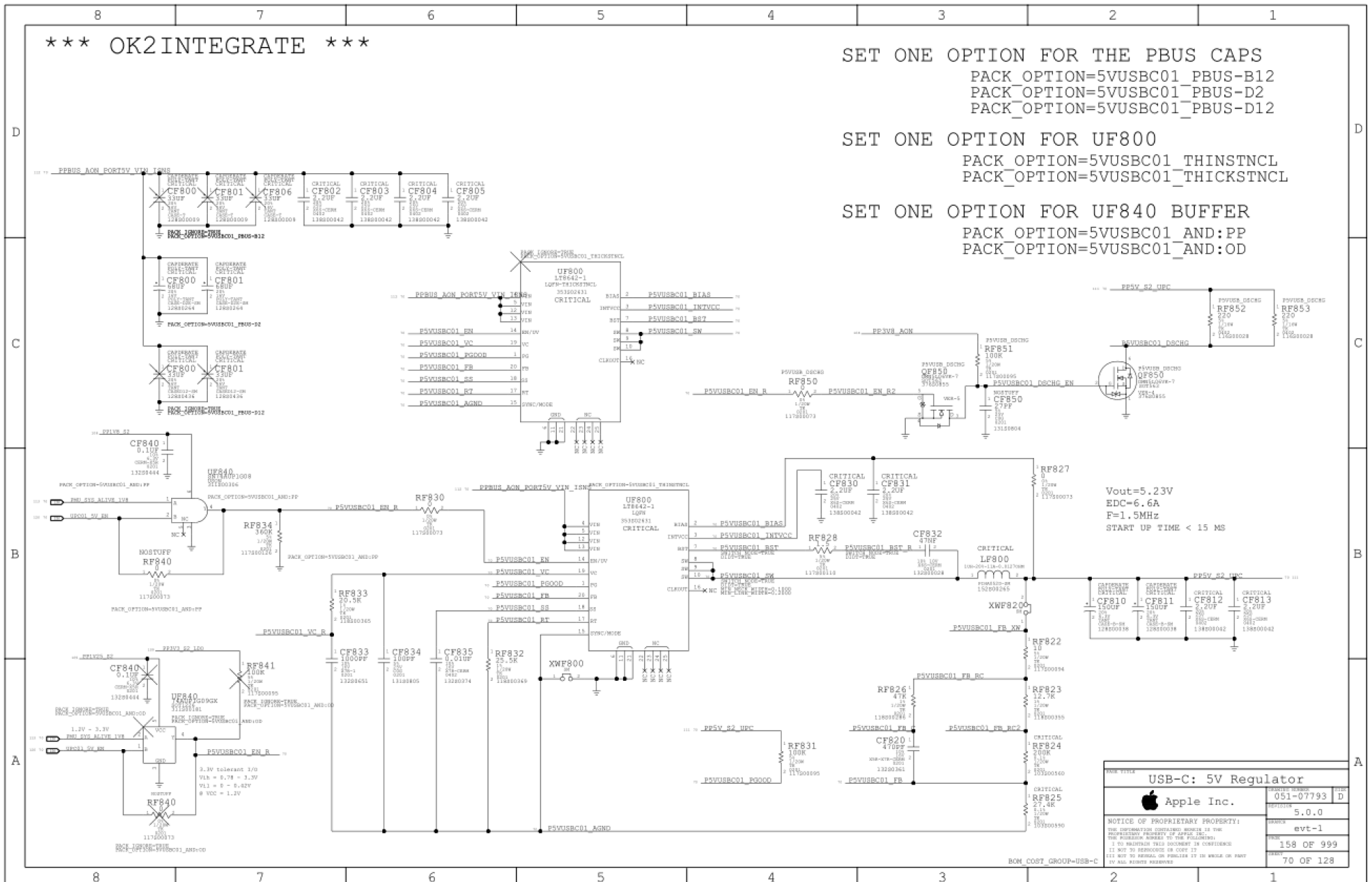



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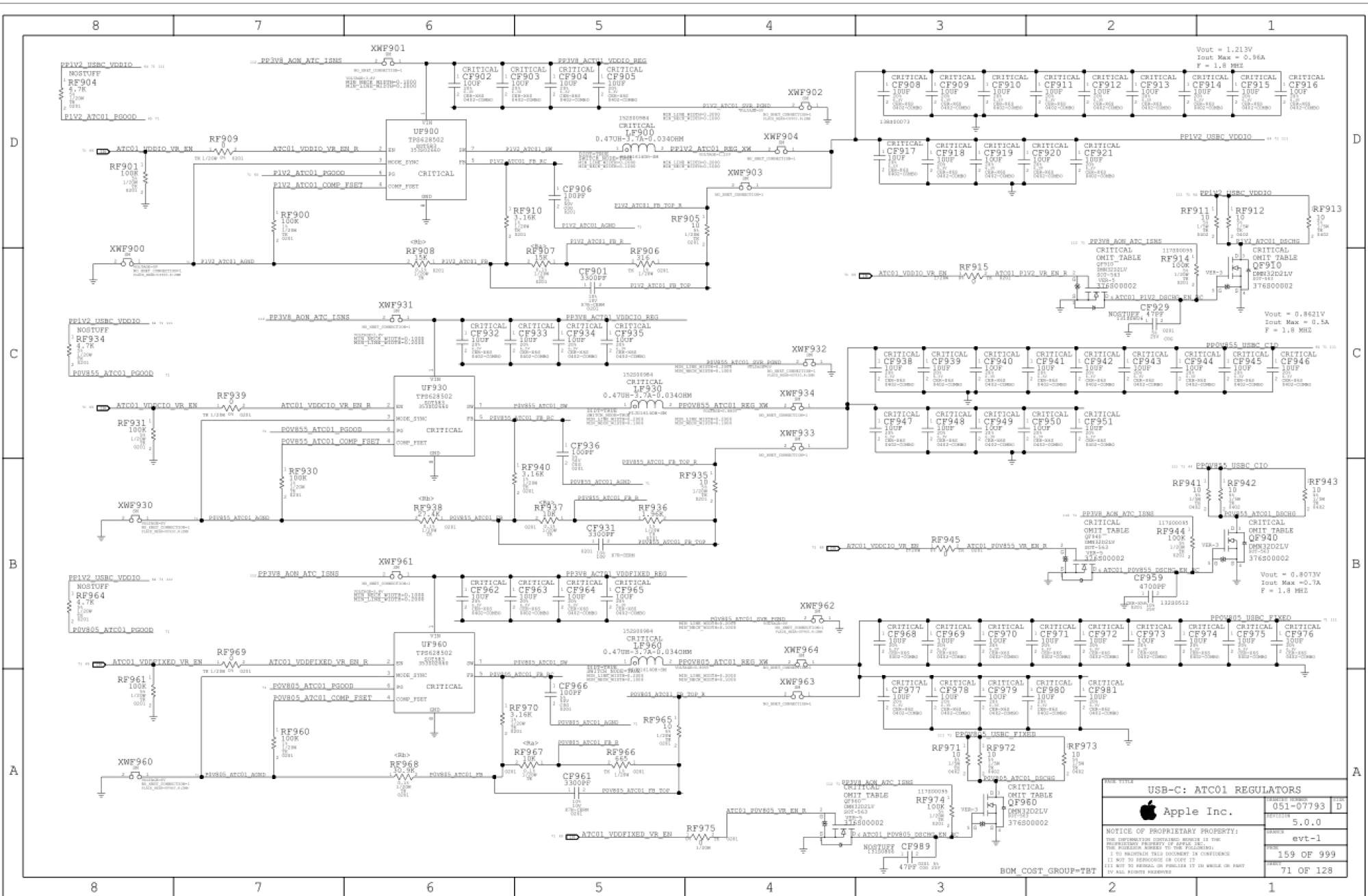
SET ONE OPTION FOR THE PBUS CAPS  
 PACK\_OPTION=5VUSBC01\_PBUS-B12  
 PACK\_OPTION=5VUSBC01\_PBUS-D2  
 PACK\_OPTION=5VUSBC01\_PBUS-D12


SET ONE OPTION FOR UF800  
 PACK\_OPTION=5VUSBC01\_THINSTNCL  
 PACK\_OPTION=5VUSBC01\_THICKSTNCL

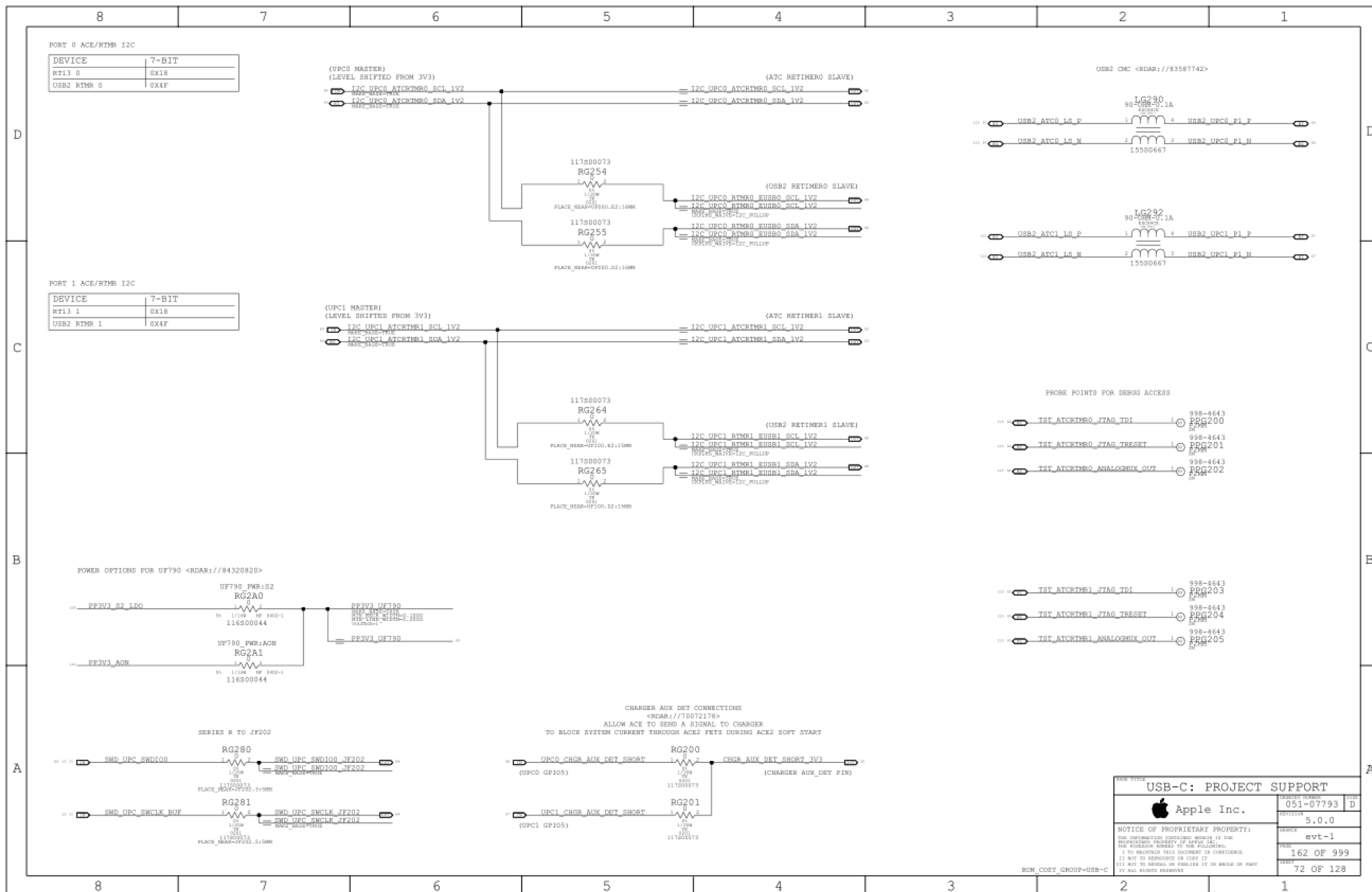
SET ONE OPTION FOR UF840 BUFFER  
 PACK\_OPTION=5VUSBC01\_AND:PP  
 PACK\_OPTION=5VUSBC01\_AND:OD



USB-C: 5V Regulator			
 Apple Inc.	DESIGN NUMBER	051-07793	REV
	REVISION	5.0.0	
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DATE	158 OF 999	REV	70 OF 128



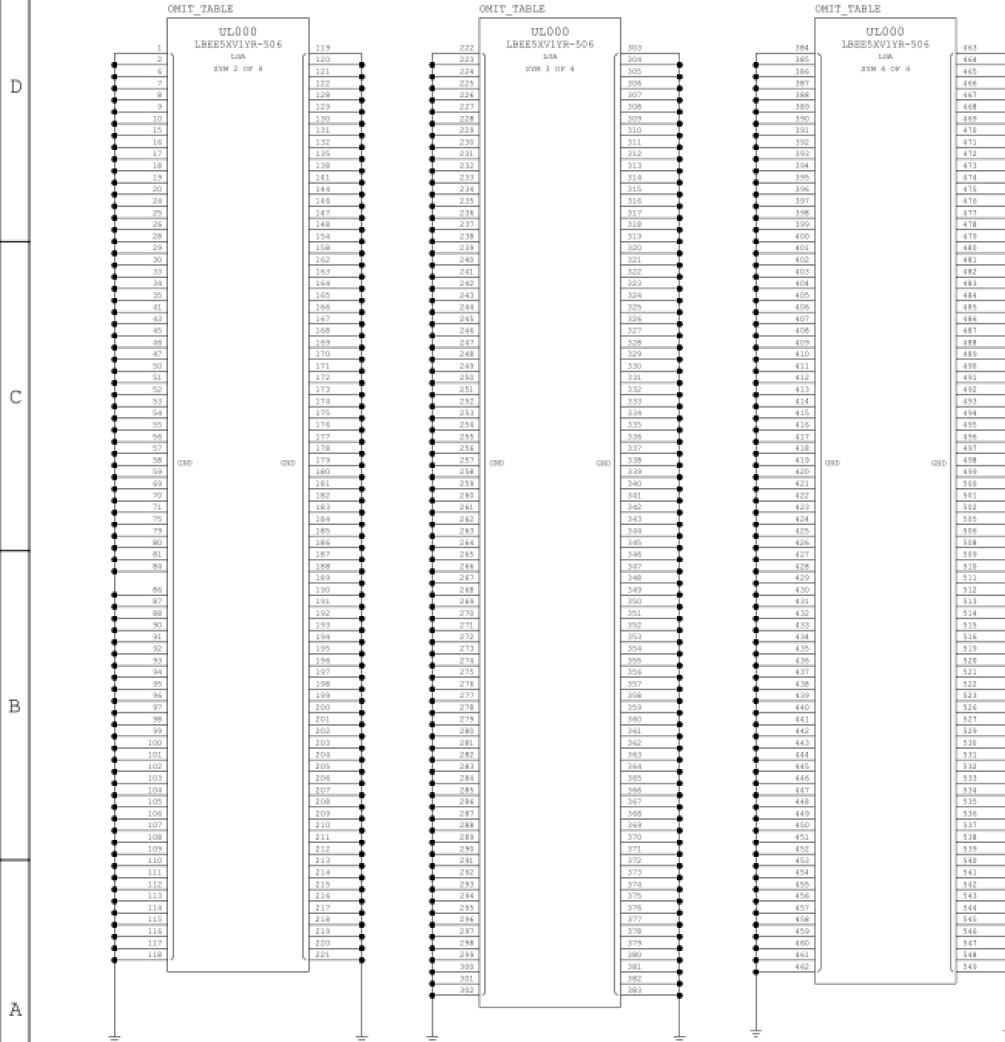
USB-C: ATC01 REGULATORS			
 Apple Inc.	DESIGN NUMBER	051-07793	D
	REVISION	5.0.0	
	DESIGN	evt-1	
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	PAGE	71 OF 128	





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# ANTENNA CONNECTORS

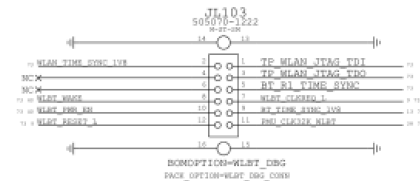


2G\_C1  
5G\_C0  
BT\_C0

2G\_C0  
5G\_C1  
BT\_C1

BT\_C0\_DED

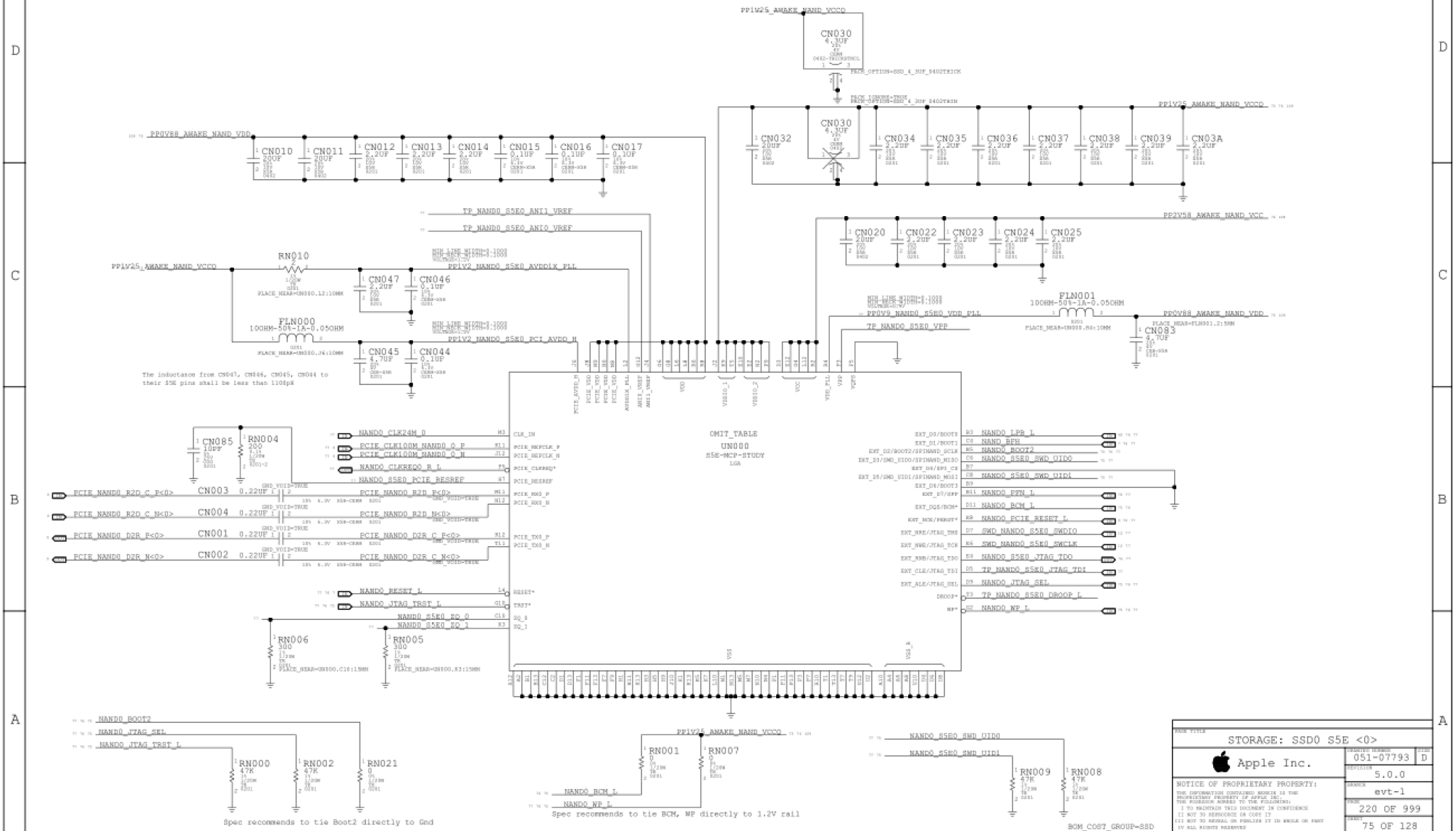
## WLBT DEBUG CONNECTOR



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# NAND0 S5E0

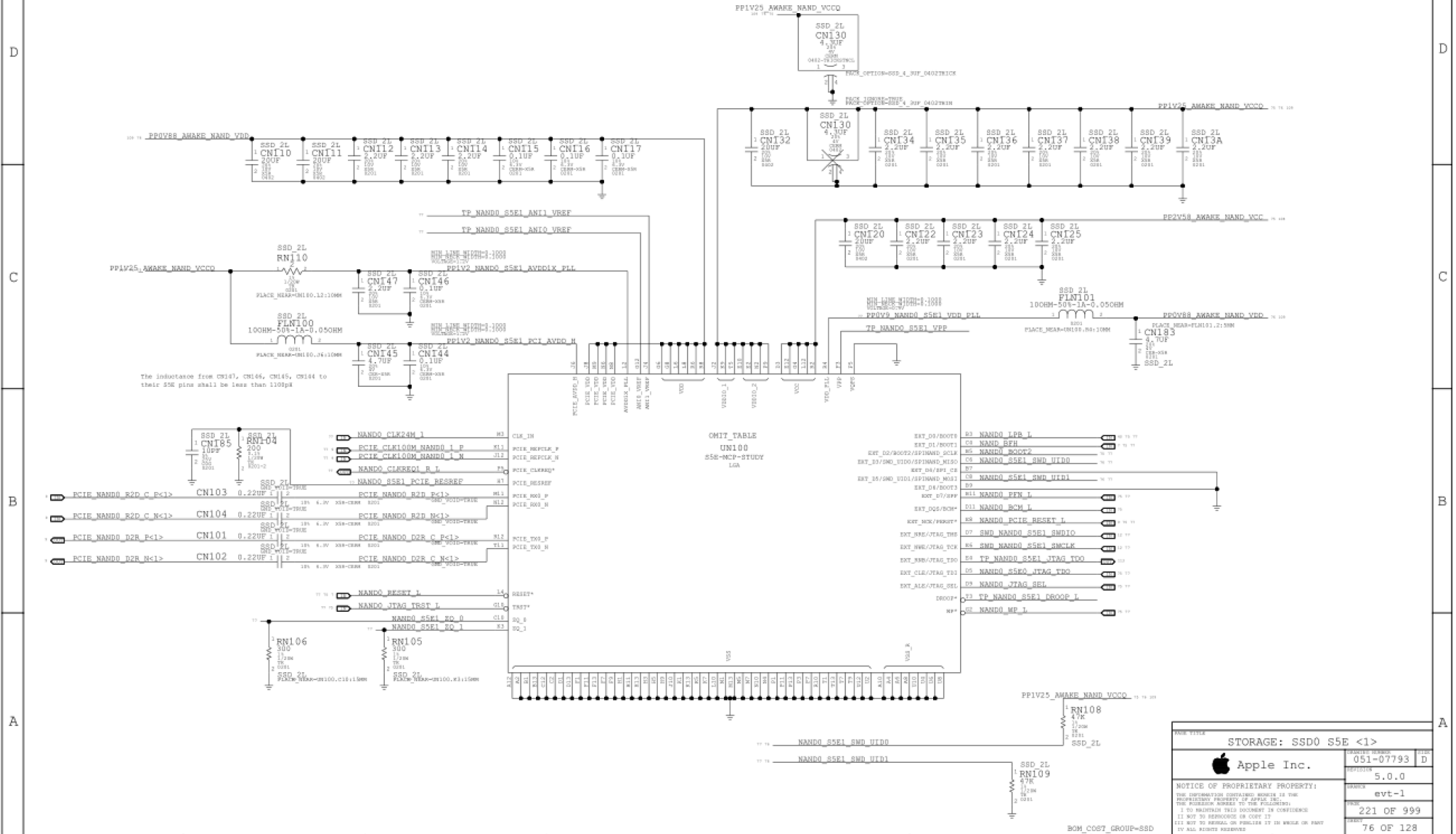


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Apple Inc.	051-07793 D
5.0.0	
evt-1	
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75 OF 128	



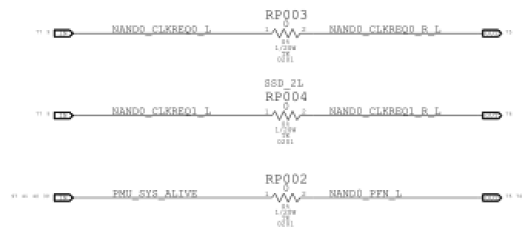
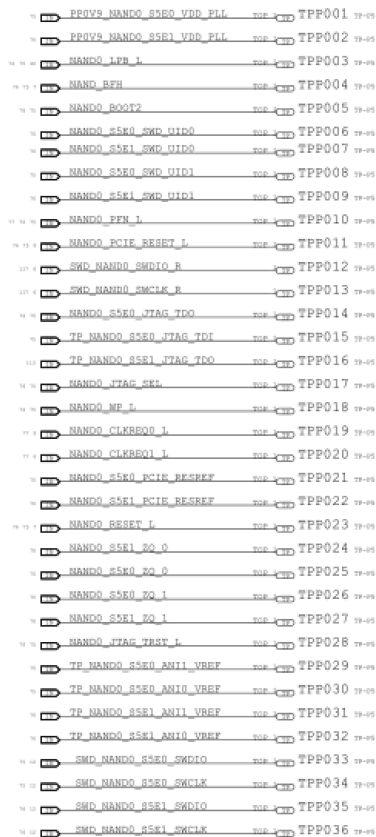
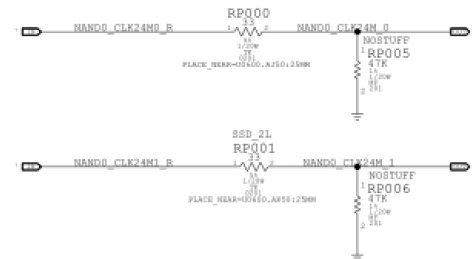
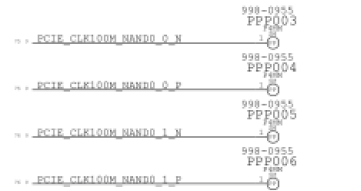
\*\*\* OK2INTEGRATE \*\*\*

# NAND0 S5E1



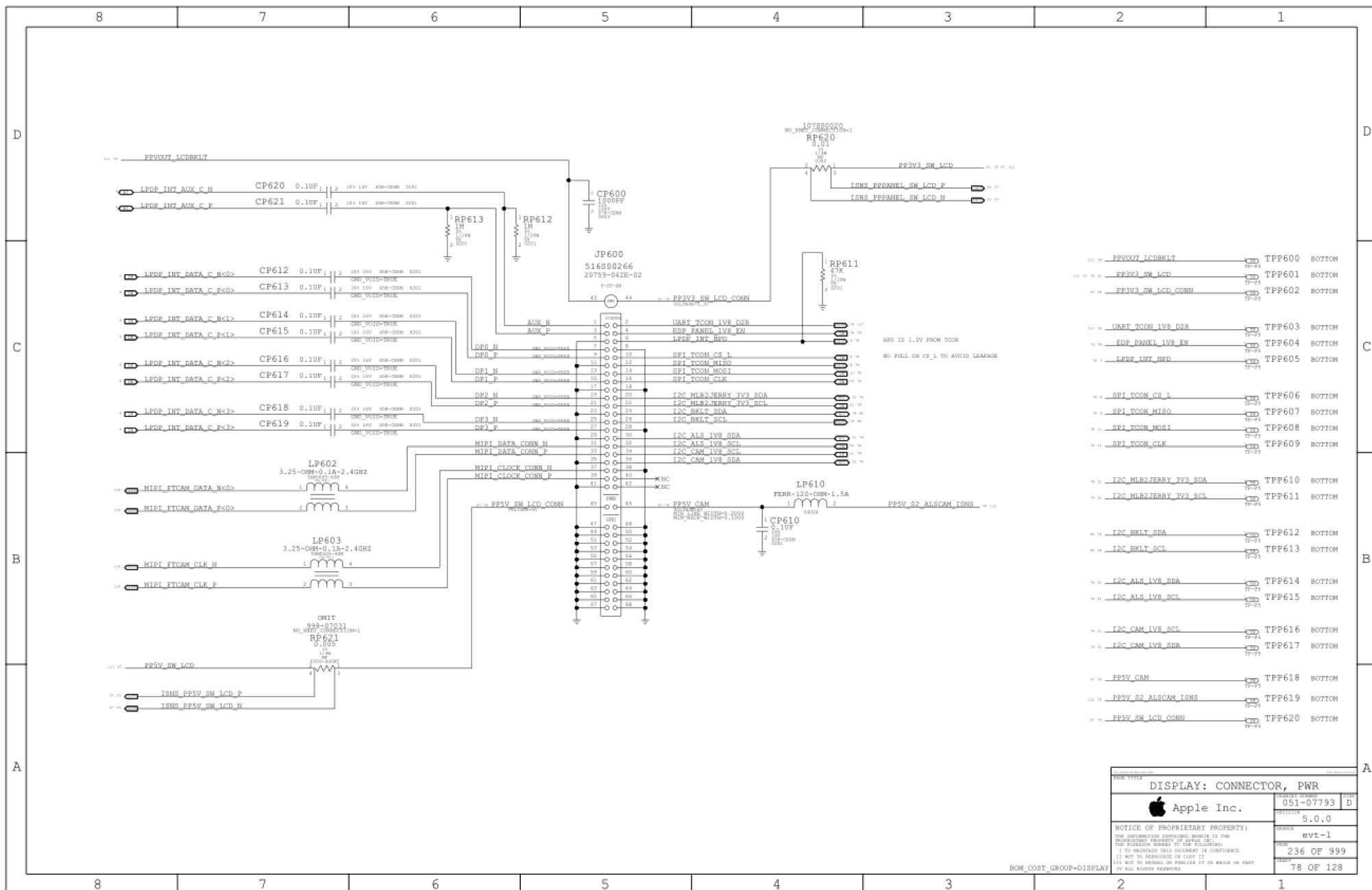
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STORAGE: SSD0 S5E <1>	
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# SSD 24M CLOCK TERMINATIONS

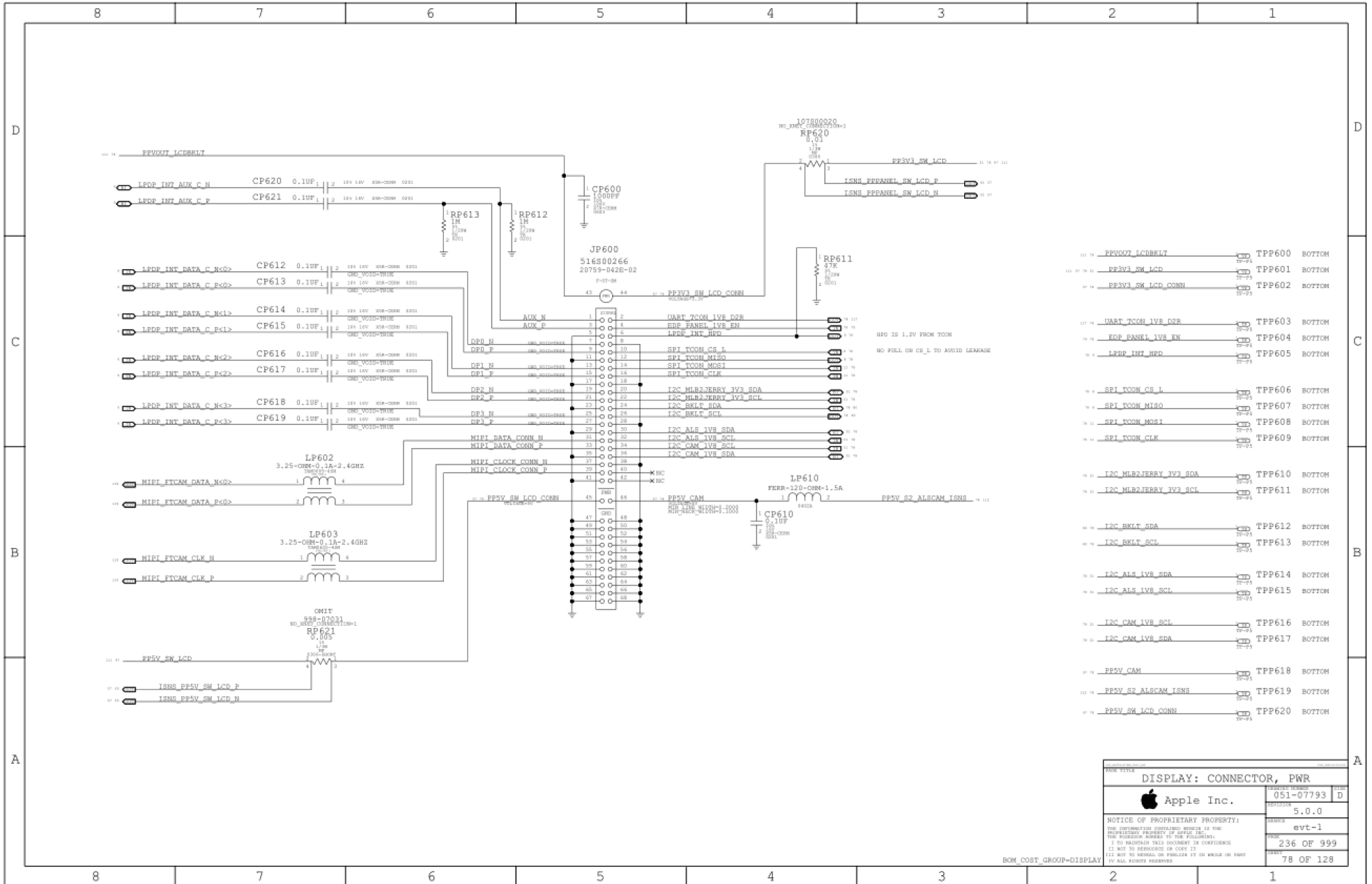


SYM SOURCE			
PAGE 1/1			
STORAGE: SSD SUPPORT			
Apple Inc.		051-07793	D
		5.0.0	
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BCM\_COST\_GROUP=SSD



FORM TITLE		DATE	
<h1>DISPLAY: CONNECTOR, PWR</h1>			
 <b>Apple Inc.</b>		<b>GRANTED NUMBER</b> <b>051-07793</b>	<b>TYPE</b> <b>D</b>
		<b>REVISION</b> <b>5.0.0</b>	
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		<b>GRAND</b> <b>evt-1</b>	
		<b>PRICE</b> <b>236 OF 999</b>	
		<b>REMARK</b> <b>78 OF 128</b>	



NAME TITLE		DISPLAY: CONNECTOR, PWR	
Apple Inc.		051-07793	D
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## 371S00077/371S00180 (COMBO) FOOTPRINT IN LAYOUT

BACKLIGHT BOOST VOLTAGE LEVEL BASED ON NUMBER OF LEDS PER STRING

PART#	QTY	DESCRIPTION	REFERENCE DESCRIPTION	CRTICAL	BOX OPTION
L1100070	2	402, 10, 4 GMS, 10, 100, 1000	RP844, RP845		NAC_10_1000000_10_1000
L1100001	2	402, 10, 4 GMS, 10, 100, 1000	RP844, RP845		NAC_10_1000000_10_1000

[illegible]

114800167	2	200, 250, 300, 350, 400, 450	RP844, RP845	RLC 5V 200mA/100mA
138509614	2	CBP, CBL, 250, 100, 100, 100, 0482	CP840, CP841	RLC 5V CAP:1 UF
138500670	2	CBP, CBL, 250, 4, 75F, 20V, 250, 5002	CP840, CP841	RLC 5V CAP:40F UF

D

## C

B

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C

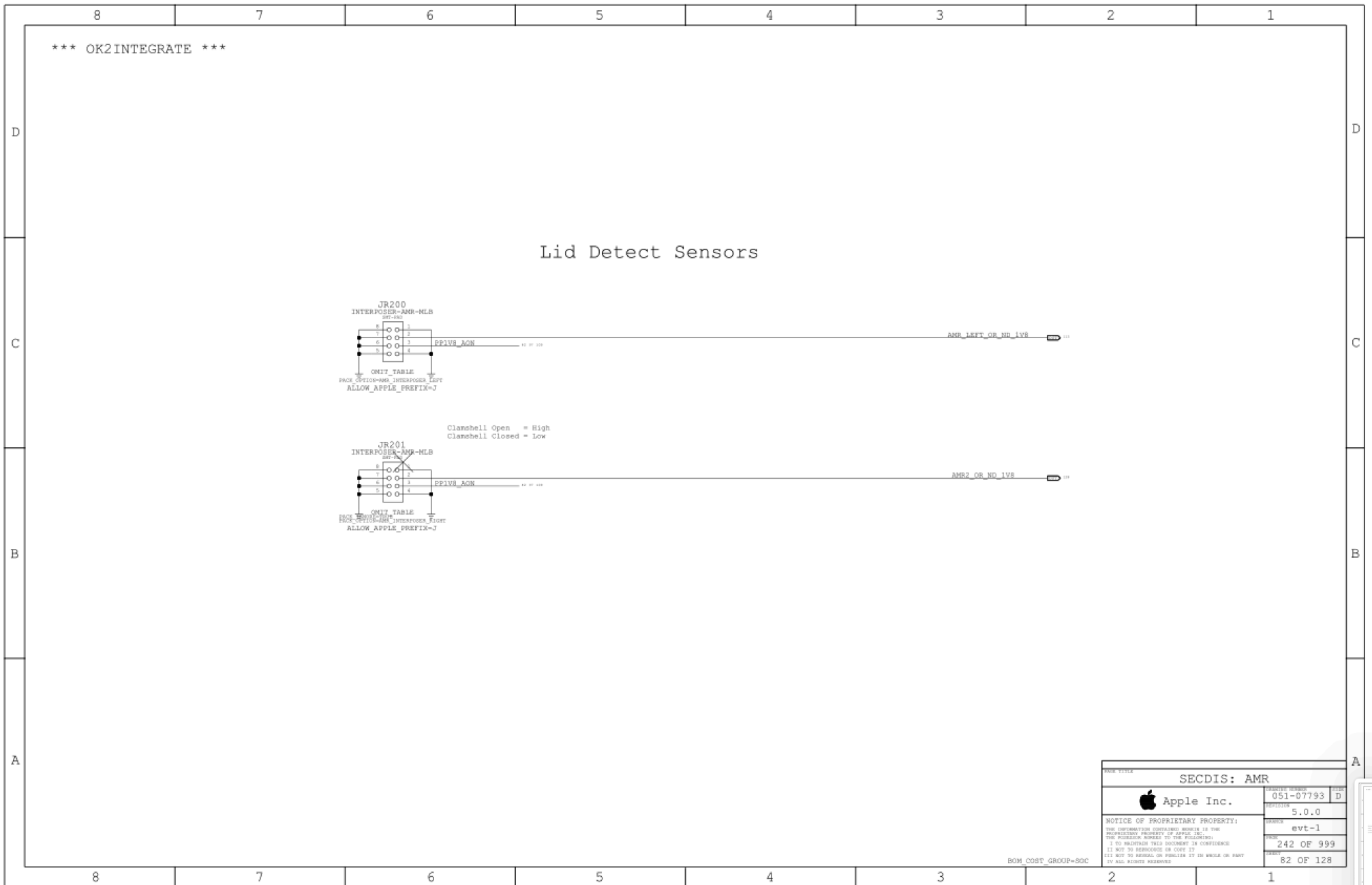
E


A

PART#	QTY	DESCRIPTION	REFERENCE DES398A79RC00	CRITICAL	BOM OPTION
13180141	1	GA2,000, 144V, 15, 1000, 000	CP876		NLC XRD JM BQCK BQCKA

BOM COST GROUP=DISPLAY

PAGE TITLE			
<b>BEN: KEYBOARD</b>			
	<b>Apple Inc.</b>	ISSUANCE NUMBER <b>051-07793</b>	DIVISION <b>D</b>
		REVISION <b>5.0.0</b>	
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LAY		DATE <b>01 OF 128</b>	

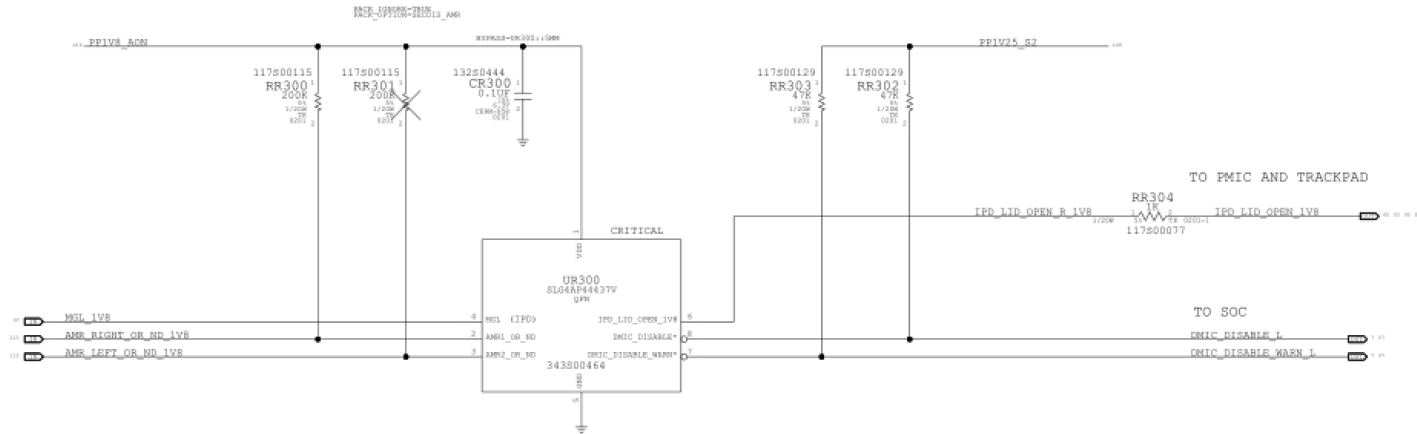



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		PAGE	242 OF 999
		PAGE	82 OF 128



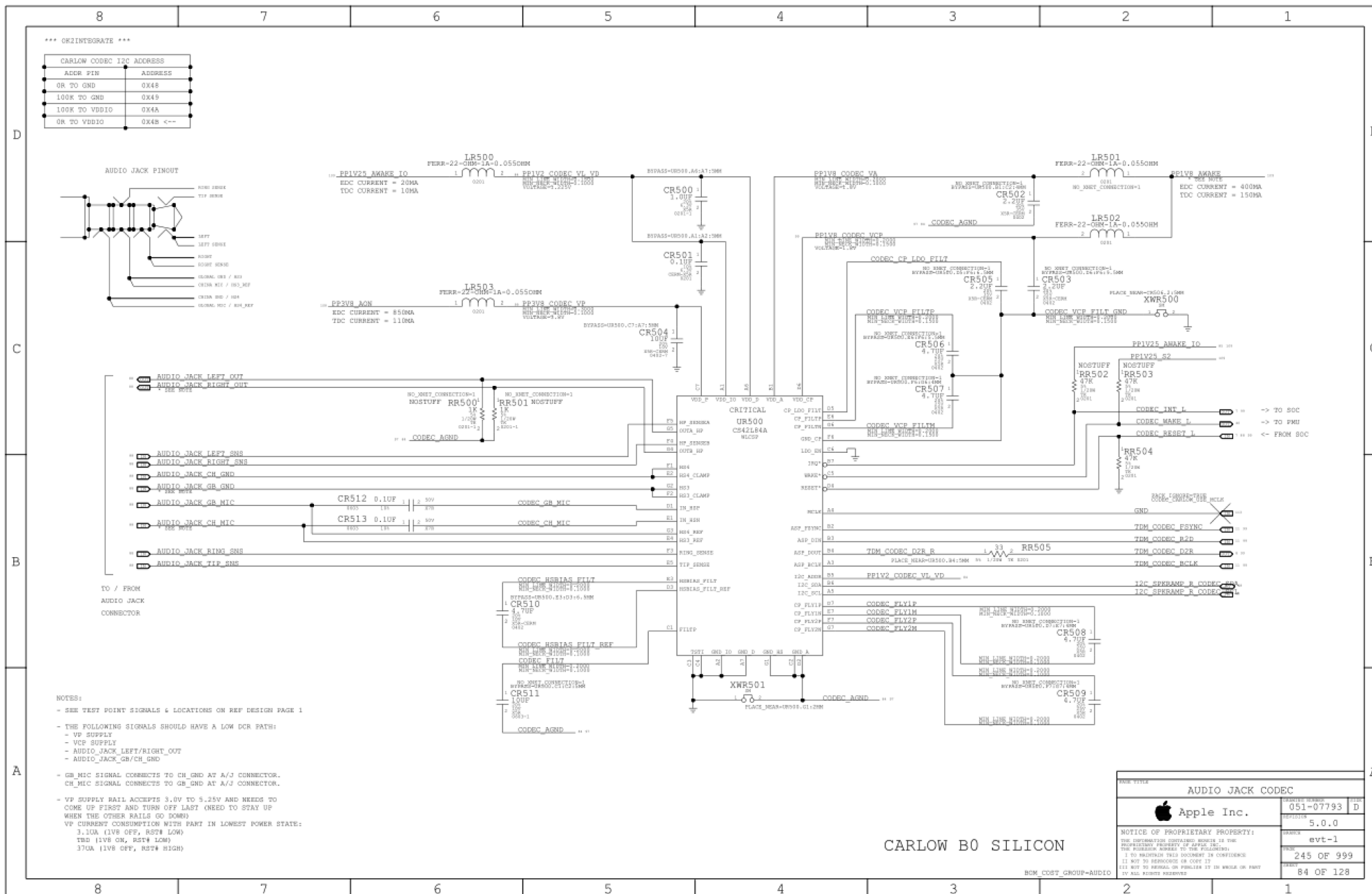
\*\*\* OK2INTEGRATE \*\*\*

## LID SECDIS LOGIC



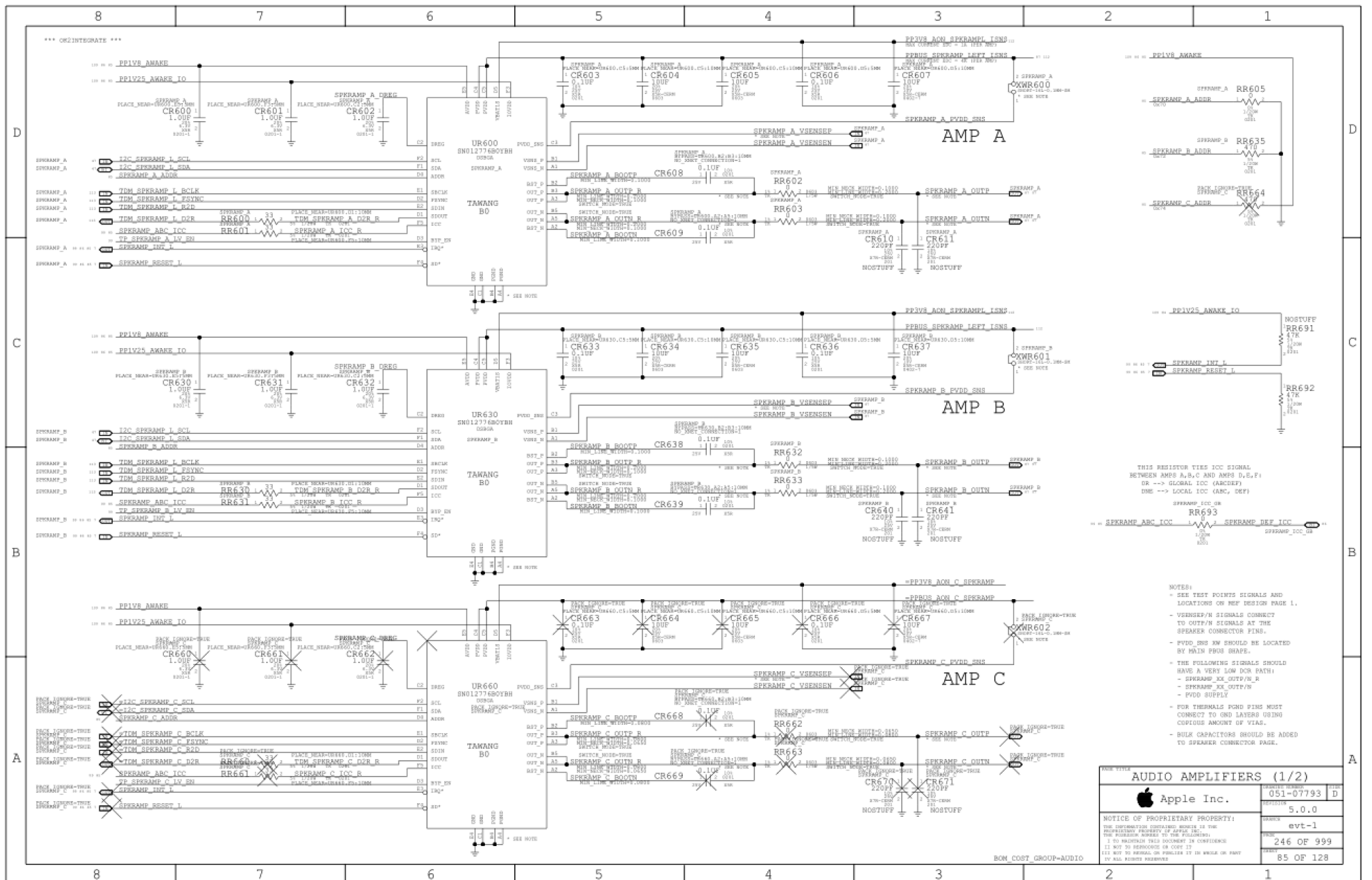
PAGE THREE			
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 Apple Inc.	DESIGN NUMBER	051-07793	DATE
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	VERSION	evt-1	
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PAGE		243 OF 999	
PAGE		83 OF 128	

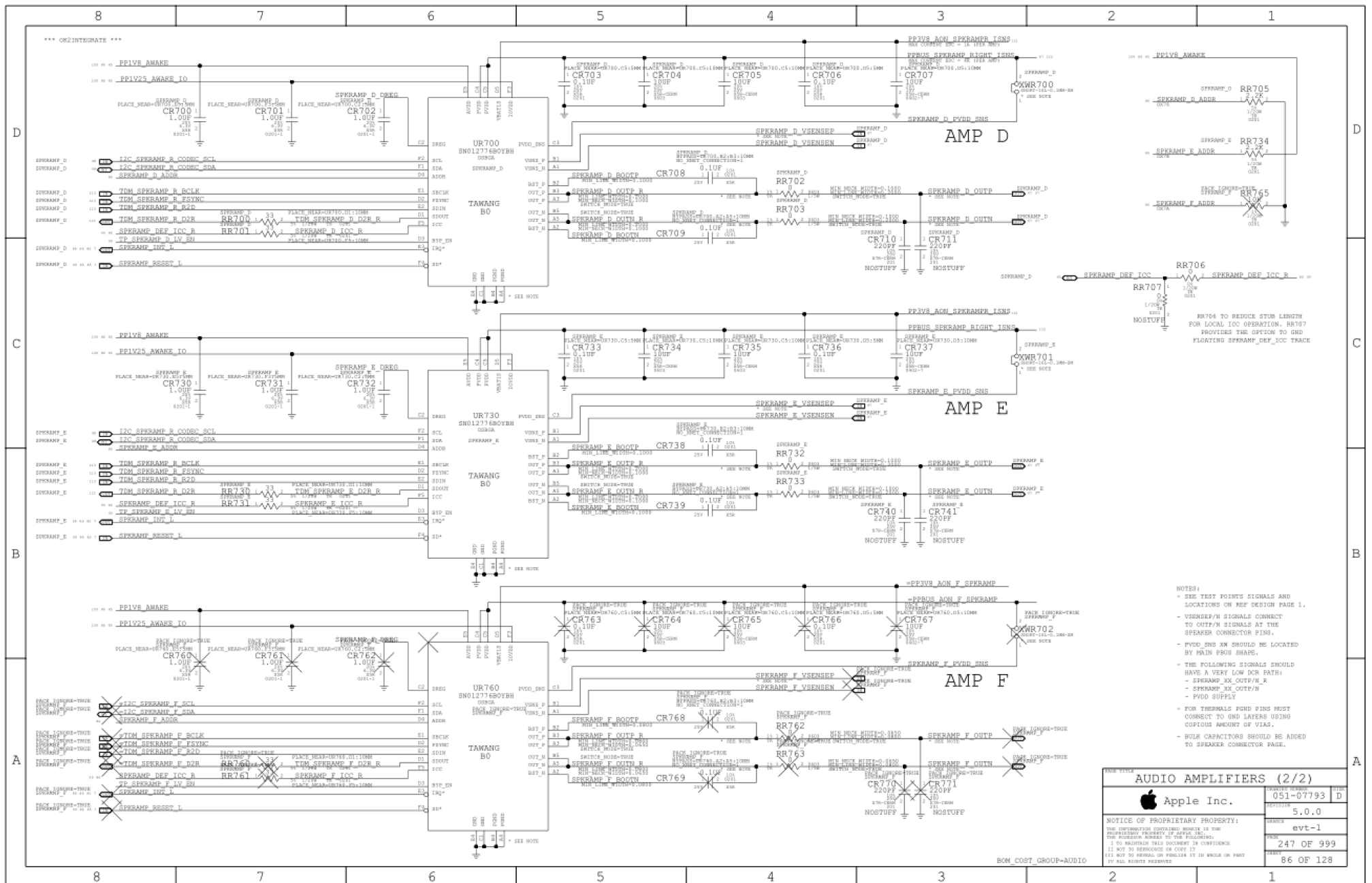
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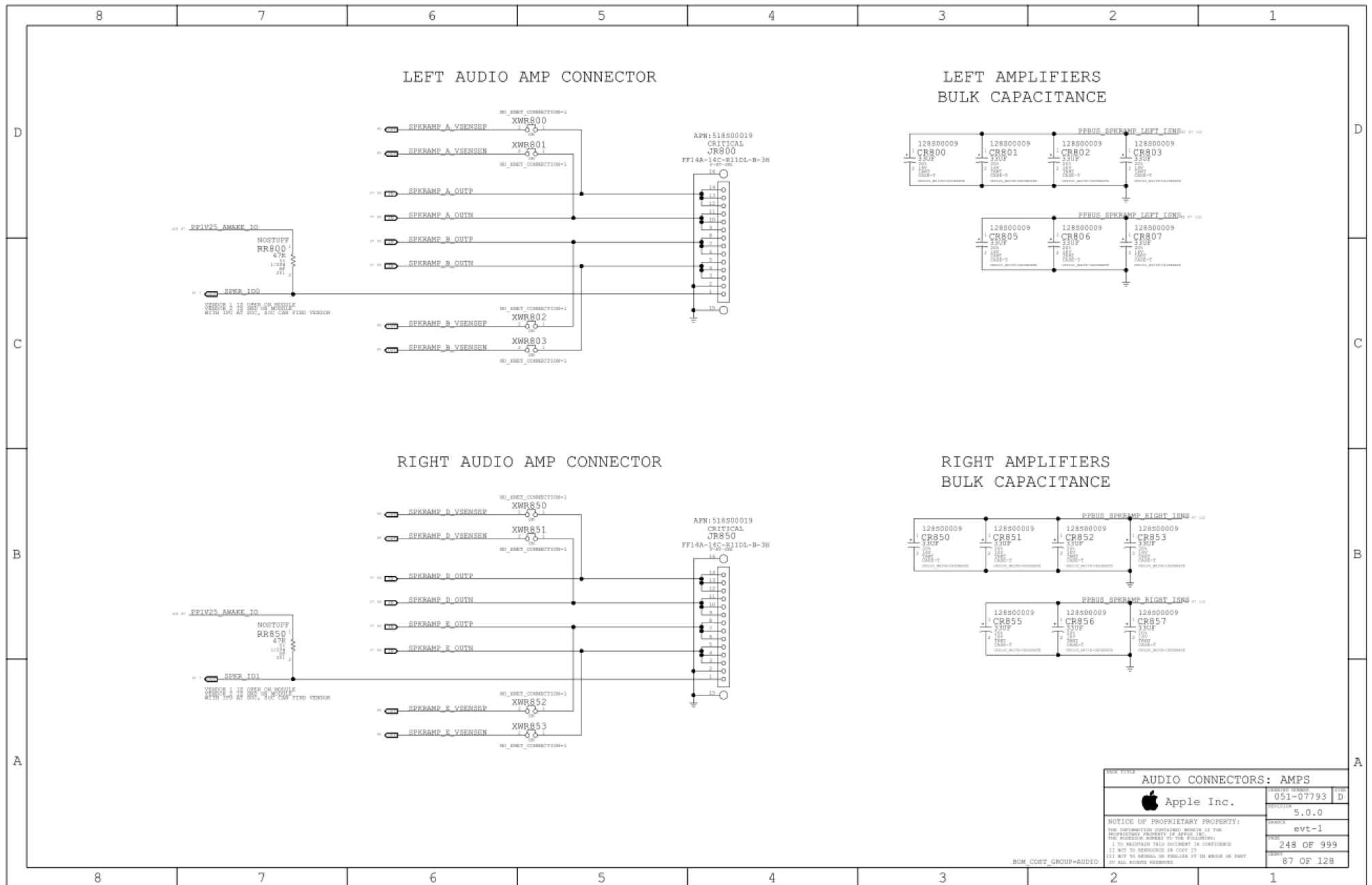
AUDIO JACK CODEC			
Apple Inc.	DESIGN NUMBER	051-07793	TYPE
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	PAGE	245 OF 999	
BOM_COST_GROUP-AUDIO		PAGE	84 OF 128

CARLOW B0 SILICON

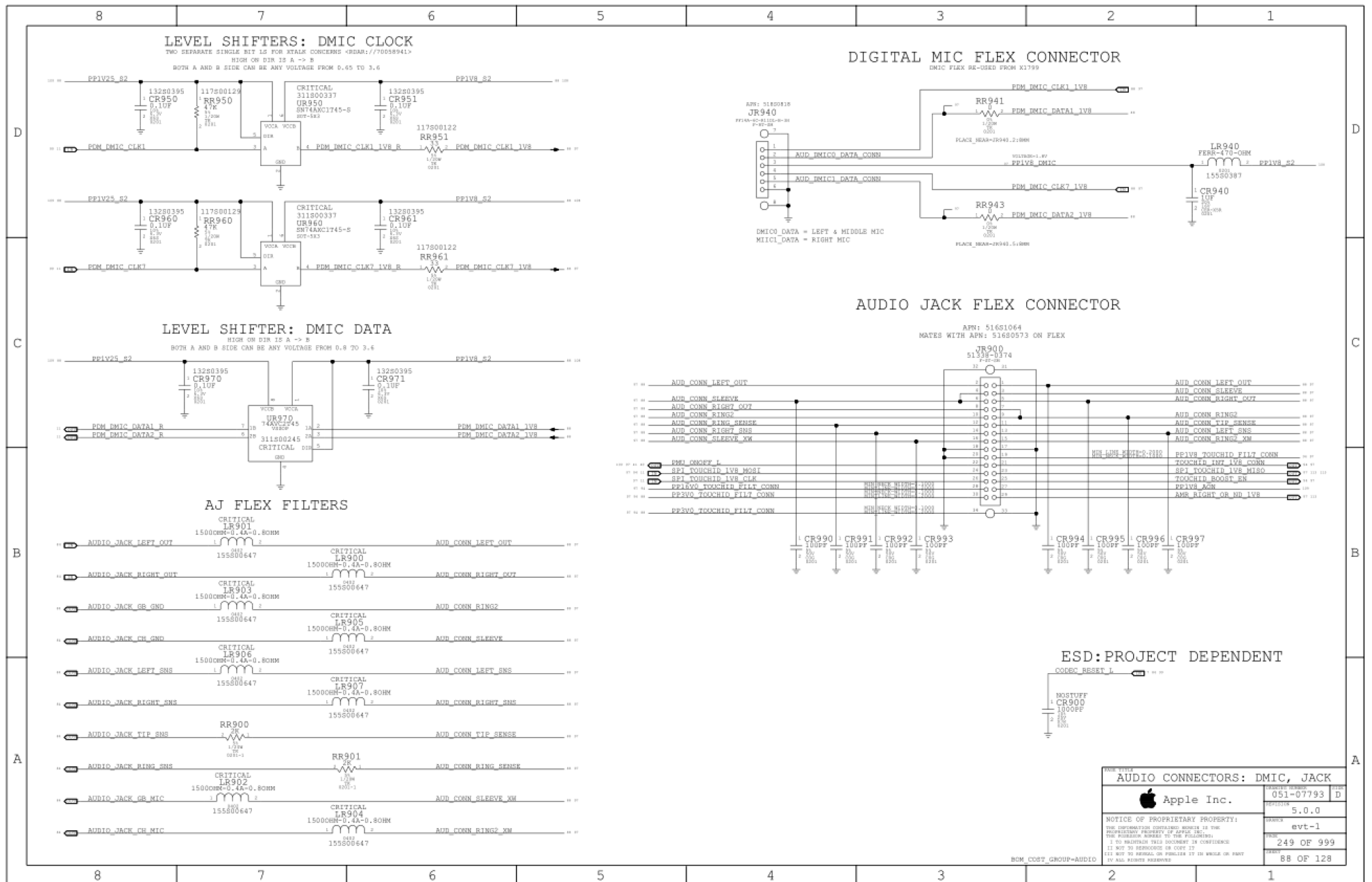


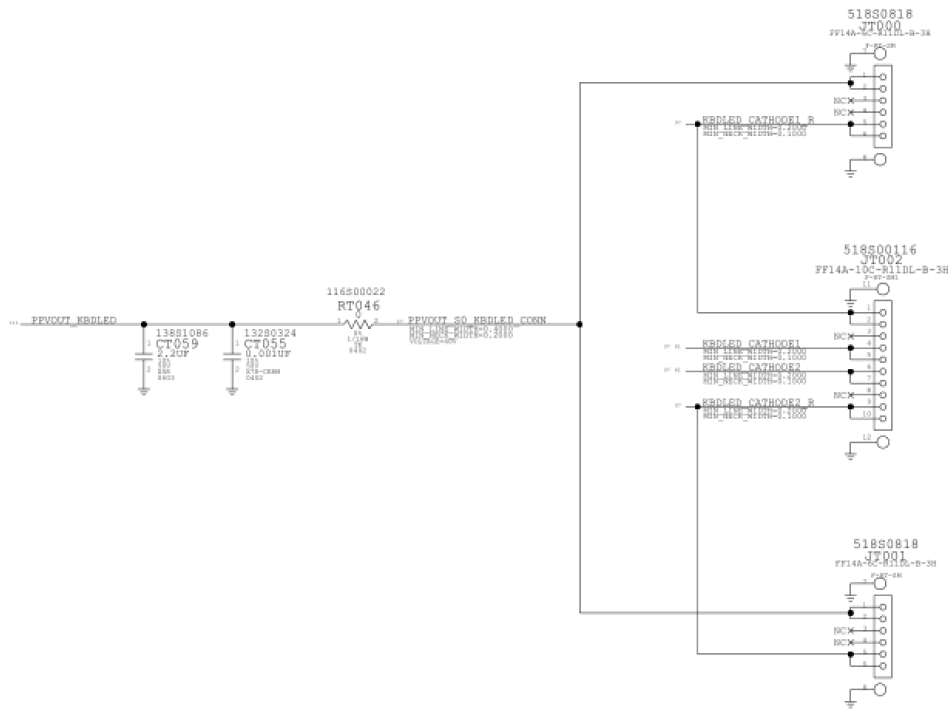


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 Apple Inc.	DESIGN NUMBER	051-07793	D
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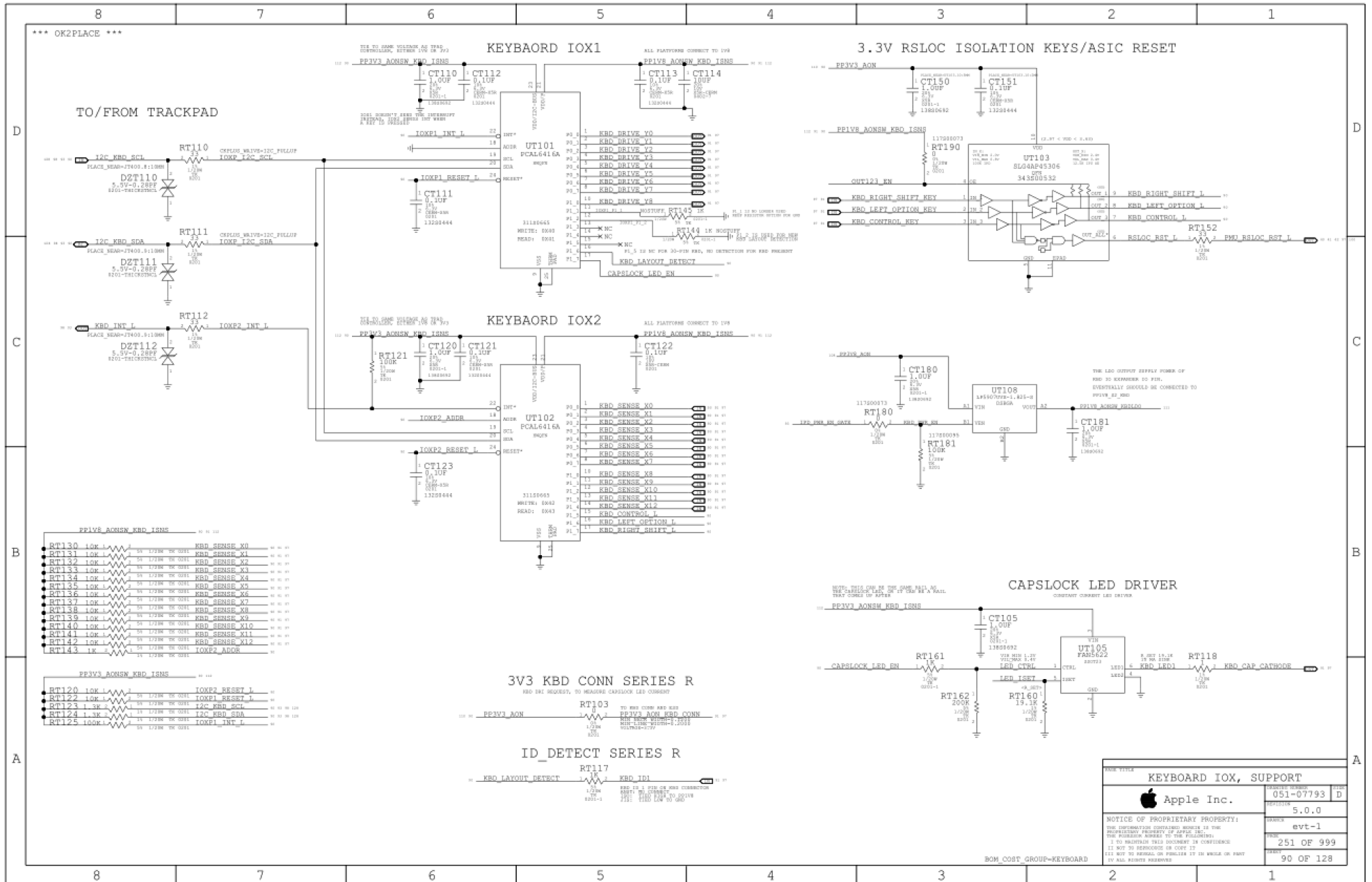
AUDIO CONNECTORS: AMPS			
Apple Inc.	051-07793	5.0.0	D
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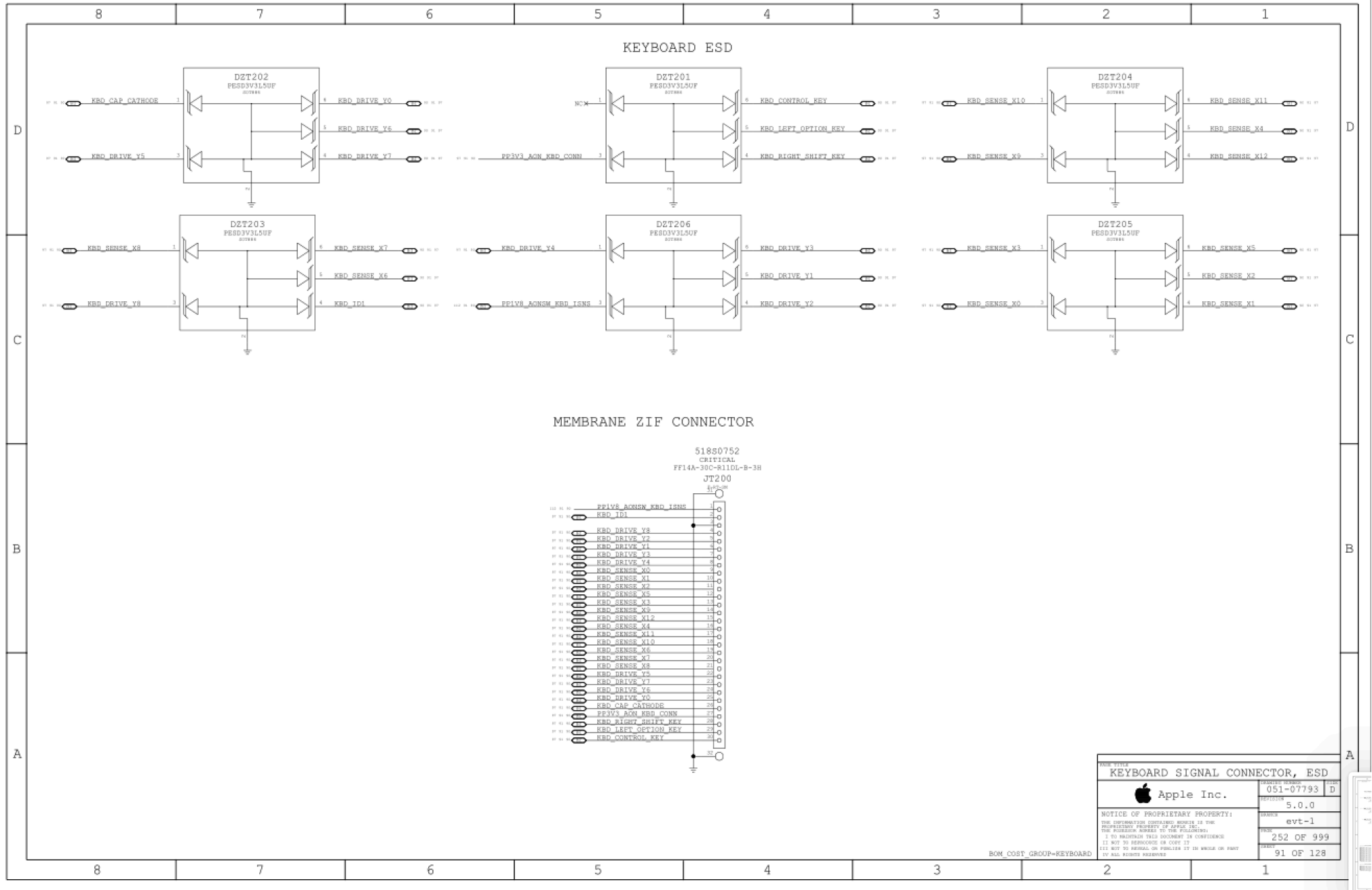
KEYBOARD BLC CONNECTORS		
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	PAGE	250 OF 999
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BOM\_COST\_GROUP=KEYBOARD

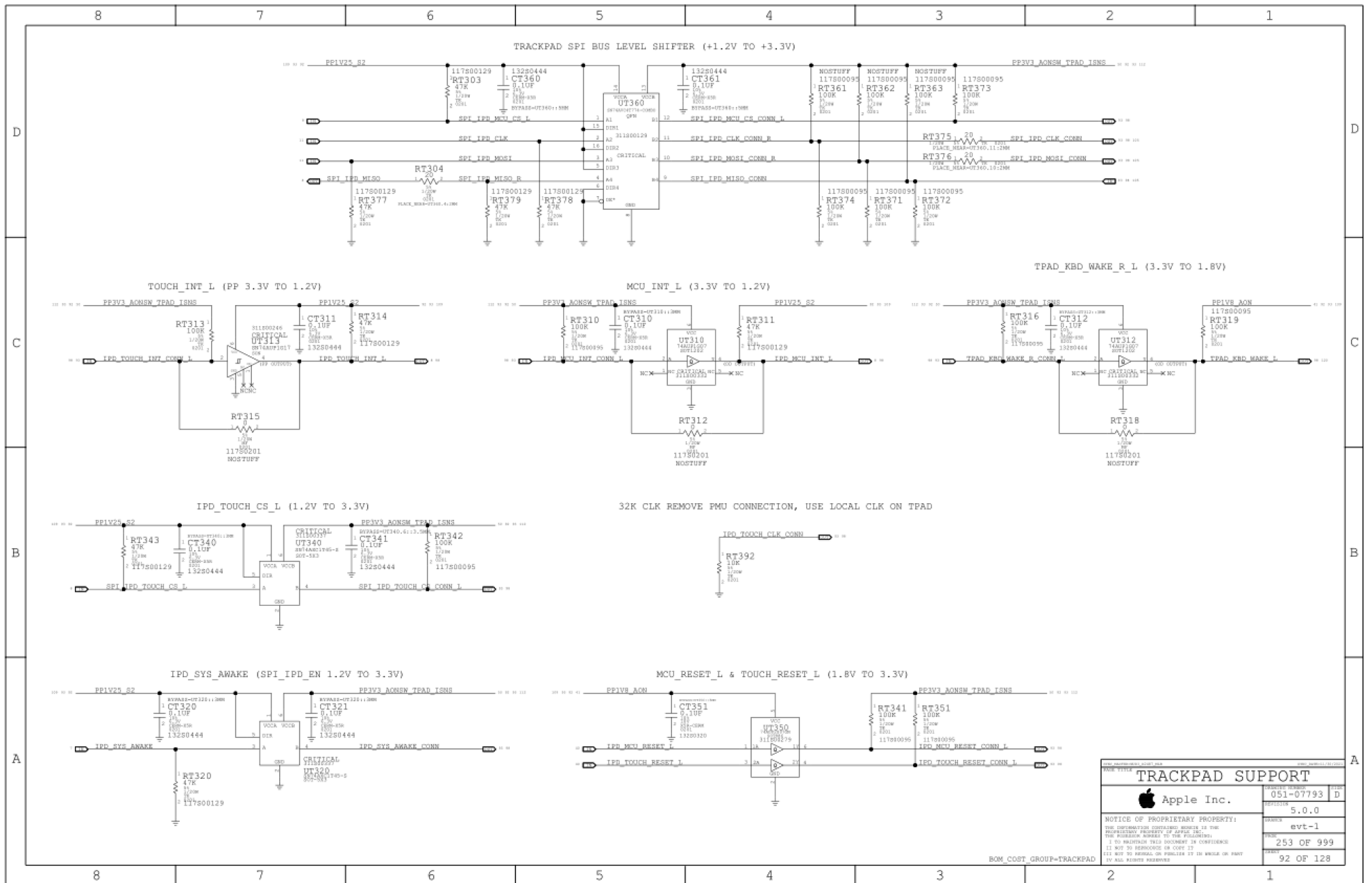



BOM TITLE		
KEYBOARD IOX, SUPPORT		
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KEYBOARD SIGNAL CONNECTOR, ESD			
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TRACKPAD SUPPORT			
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BOM COST GROUP=TOUCHID

1

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**DFR V3 SUPPORT**

**DFR TOUCH CONN**

**DFR DISP CONN**

**DFR 1.8V LDO**

**DFR 3.3V LDO**

OUTPUT VOLTAGE	1.8V +/- 2%
INPUT (MAX RMS)	250mA
DROPOUT VOLTAGE	800V TYP @ 250MA
OCIP (MIN)	250 MA
ACTIVE DISCHARGE	250 OHM TYP
MAX OUTPUT CAP	

OUTPUT VOLTAGE	3.3V +/- 2%
INPUT (MAX RMS)	250mA
DROPOUT VOLTAGE	800V TYP @ 250MA
OCIP (MIN)	250 MA
ACTIVE DISCHARGE	250 OHM TYP
MAX OUTPUT CAP	

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**DFR SUPPORT 1**

**Apple Inc.**

**051-07793**

**5.0.0**


**501-1**

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**95 OF 128**

OUTPUT VOLTAGE	1.8V $\pm$ 2%
LOAD (MAX AVH)	250mA
INPUT VOLTAGE	800V TYP @ 250mA
OCF (MIN)	250 MA
ACTIVE DISCHARGE	280 OHM TYP
MAX OUTPUT CAP	

OUTPUT VOLTAGE	3.3V $\pm$ 2%
LOAD (MAX AVG)	250mA
INPUT VOLTAGE	80mV TYP @ 250mA
CCF (MIN)	250 MA
ACTIVE DISCHARGE	280 OHM TYP
MAX OUTPUT CAP	

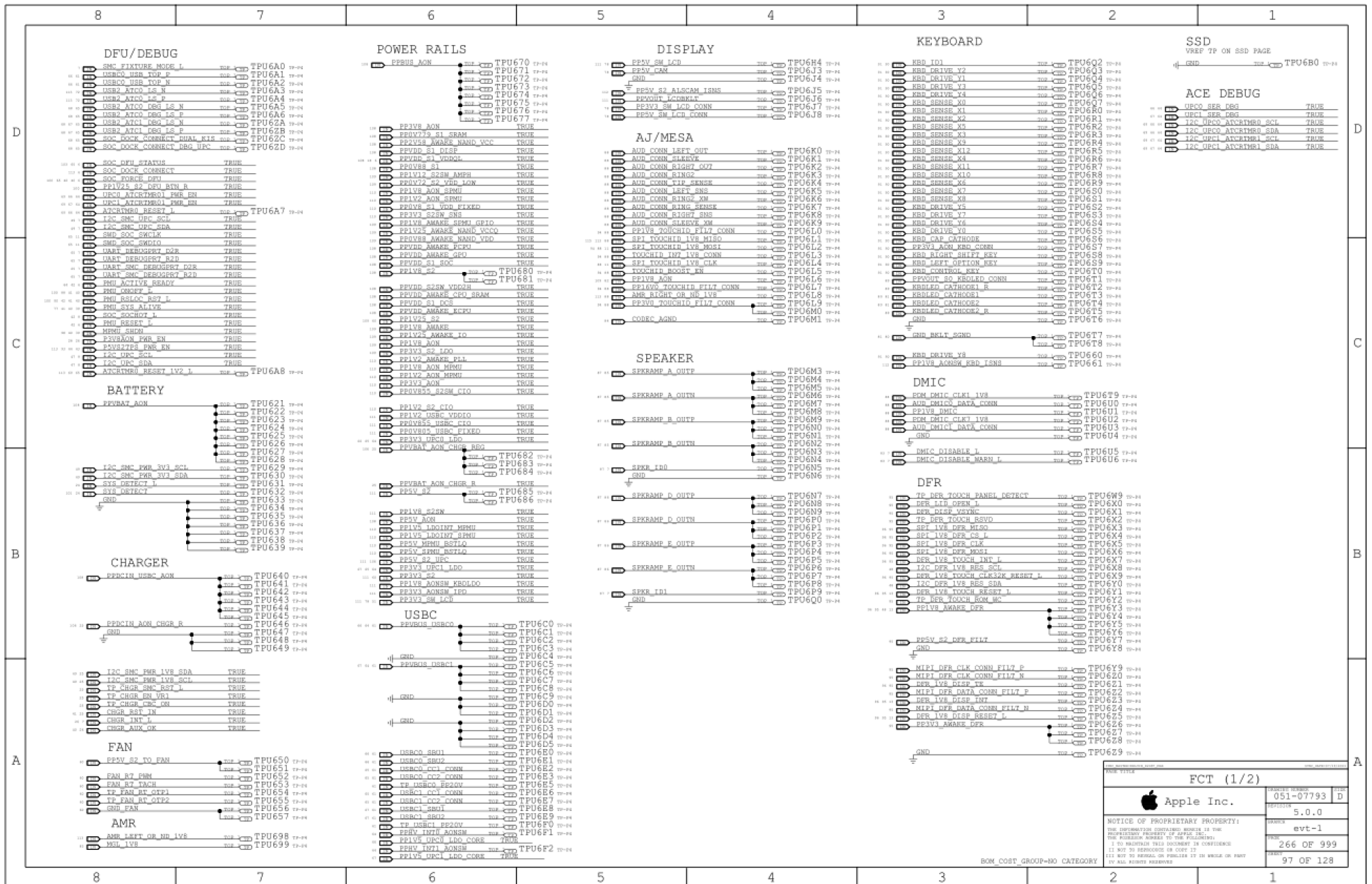
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		PAGE	95 OF 128

# DFR V3 SUPPORT



DFR SUPPORT 2	
Apple Inc.	051-07793
5.0.0	evt-1
258 OF 999	96 OF 128

BCM\_COST\_GROUP=DFR



# TRACKPAD

PP5V_S2_IPD_CONN	TPU7M0	TPU7M1
I2C_KBD_SCL	TRUE	
I2C_KBD_SDA	TRUE	
I2C_SMC_IPD_SCL_CONN	TRUE	
I2C_SMC_IPD_SDA_CONN	TRUE	
IPD_L1D_OPEN_LV8	TRUE	
IPD_MCU_INT_L	TRUE	
IPD_MCU_RESET_CONN_L	TRUE	
IPD_SYS_AWAKE_CONN	TRUE	
IPD_TOUCH_CLK_CONN	TRUE	
IPD_TOUCH_INT_L	TRUE	
IPD_TOUCH_RESET_CONN_L	TRUE	
KBD_INT_L	TRUE	
SPI_IPD_CLK_CONN	TRUE	
SPI_IPD_MISO_CONN	TRUE	
SPI_IPD_MOSI_CONN	TRUE	
TPAD_KNO_WAKE_L	TRUE	
GND	TPU7M2	TPU7M3
IPD_MCU_INT_CONN_L	TRUE	
SPI_IPD_TOUCH_CLK_CONN_L	TRUE	
SPI_IPD_MCU_CS_CONN_L	TRUE	
IPD_MTP_FUNC_L_CONN	TRUE	
IPD_L1D_OPEN_LV8	TRUE	
TPAD_KNO_WAKE_L	TRUE	
SMD_IPD_DATA_CONN	TRUE	
SMD_IPD_CLK_CONN	TRUE	
ACT_GND	TRUE	
TPAD_KNO_WAKE_R_CONN_L	TRUE	
IPD_TOUCH_INT_CONN_L	TRUE	
PP3V3_AONSW_TPAD_ISMR	TRUE	

# WIFI/BT

PE1V8_S2_WLBT_ISSNS	TRUE
PP3V3_S2_WLBT_ISSNS	TRUE

# MISC

I2C_SMC_SNSD_3V3_SCL	TRUE
I2C_SMC_SNSD_3V3_SDA	TRUE

# THROTTLE/PMU

PMU_CRASH_L	TRUE
SPMU_SCRASH_L	TRUE
BUCK0_THERMAL_THROTTLE_L	TRUE
BUCK1_THERMAL_THROTTLE_L	TRUE
SPMU_VDDMAIN_UVWARN_L	TRUE
MEM0_VDDMAIN_UVWARN_L	TRUE
MEM0_VDDMAIN_UVWARN_L	TRUE
SPMU_SCRASH_L	TRUE
PMU_CLK32K_S0C	TRUE
PMU_CLK32K_WLBT	TRUE
MPU1_SHDN	TRUE
UPC_PMU_RESET_LV8	TRUE
UPC_PMU_RESET_3V3	TRUE
SOC_WDOG	TRUE
DRG_CLICK_DET	TRUE

# RF SEQUENCE

SOC_HOLD_RESET	TRUE
----------------	------

FCT (2/2)	
Apple Inc.	051-07793 D
5.0.0	
evt-1	
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98 OF 128	

BOM\_COST\_GROUP=NO CATEGORY



D

C

B

A

<RDAR://70680903>

TP\_TST\_CLKOUT1

TPU810

TPU811

SPKRAMP

TPU820

TPU821

TPU822

TPU823

TPU824

TPU825

TPU827

TPU828

TPU832

TPU833

TPU834

TPU835

TPU836

TPU837

TPU838

TPU839

TPU840

TPU841

TPU842

TPU843

CODEC

TPU850

TPU851

TPU852

TPU853

TPU854

TPU855

TPU856

TPU857

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TPU890

TPU891

TPU892

TPU893

TPU894

TPU895


DMIC

TPU860

TPU861

TPU862

TPU863

BOM NUMBER=95116162 M16		BOM DATE=01/18/2021	
TP SUPPORT			
 Apple Inc.		PRODUCT NUMBER	TPU
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		PAGE	268 OF 999
		REMARK	99 OF 128

BOM\_COST\_GROUP=400 CATEGORY

TPU850

TPU851

TPU852

TPU853

TPU854

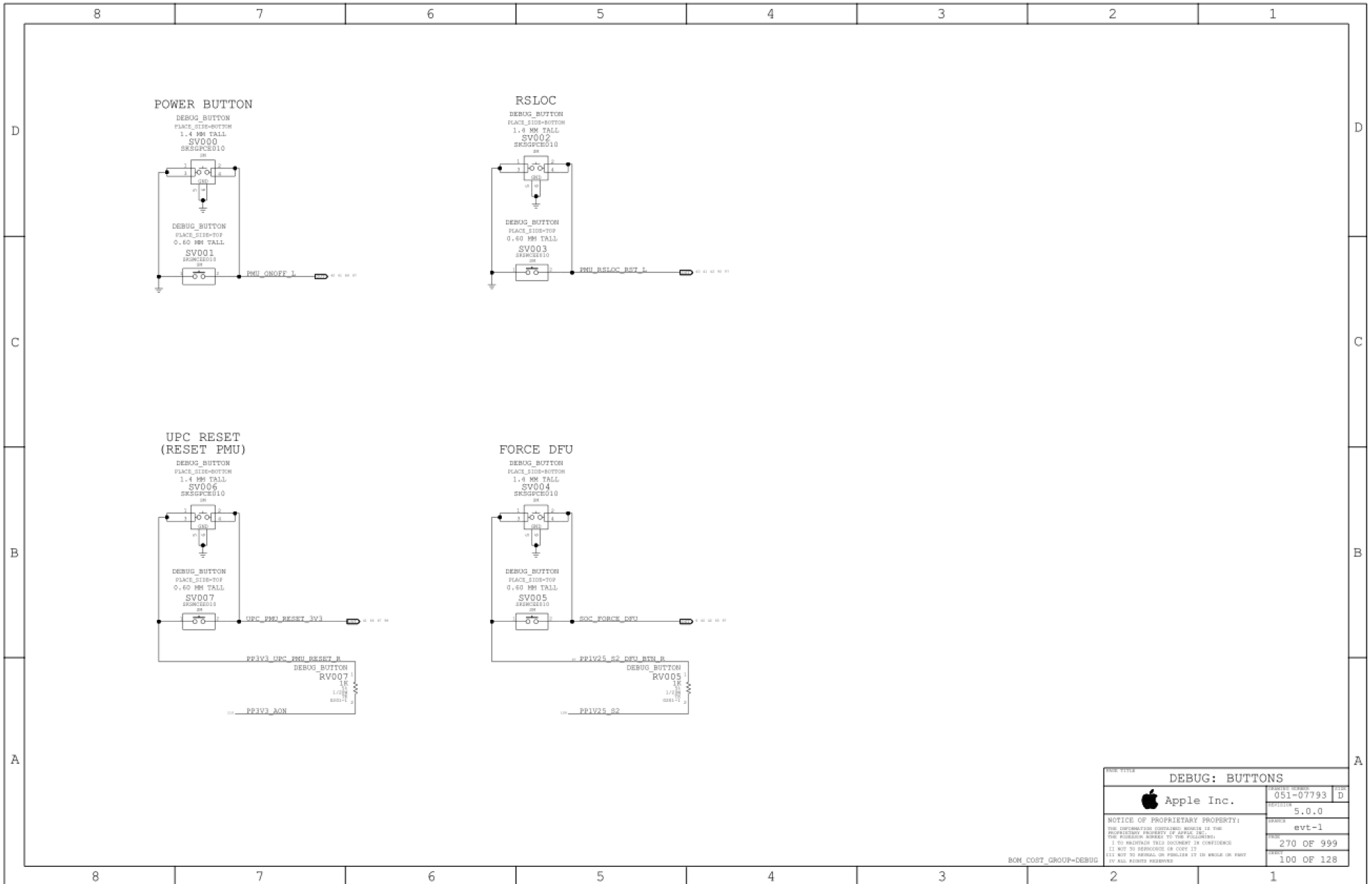
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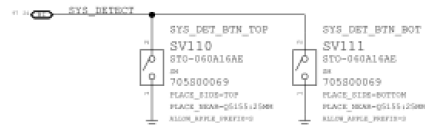
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Apple Inc.		REVISION	5.0.0
NOTICE OF PROPRIETARY PROPERTY:		STATUS	evt-1
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BOM\_COST\_GROUP=400 CATEGORY

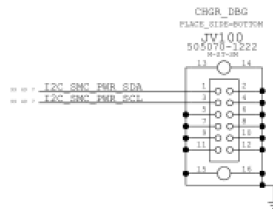


PAGE TITLE			
DEBUG: BUTTONS			
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	REVISION	5.0.0	D
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		PAGE	270 OF 999
		PRINT	100 OF 128

# BUTTONS TO DISCONNECT BATTERY WITHOUT UNPLUGGING FLEX



# CHARGER ARKANOID CONN



# MADI DEBUG INTERFACE

PLACE ON BOTTOM SIDE EASILY ACCESSIBLE  
<RDAR:///70197137>



# HPD TMU CLKOUT TEST POINTS

<RDAR:///78124579>



# MPMU FORCE SYNC TP

IN STONE, FORCE\_SYNC IFORCE ROCKS TO PMU IS OVERLOADED ON GPIO 9  
<RDAR:///71572056>



# DOCK ATTENTION TP

<RDAR:///71293051>



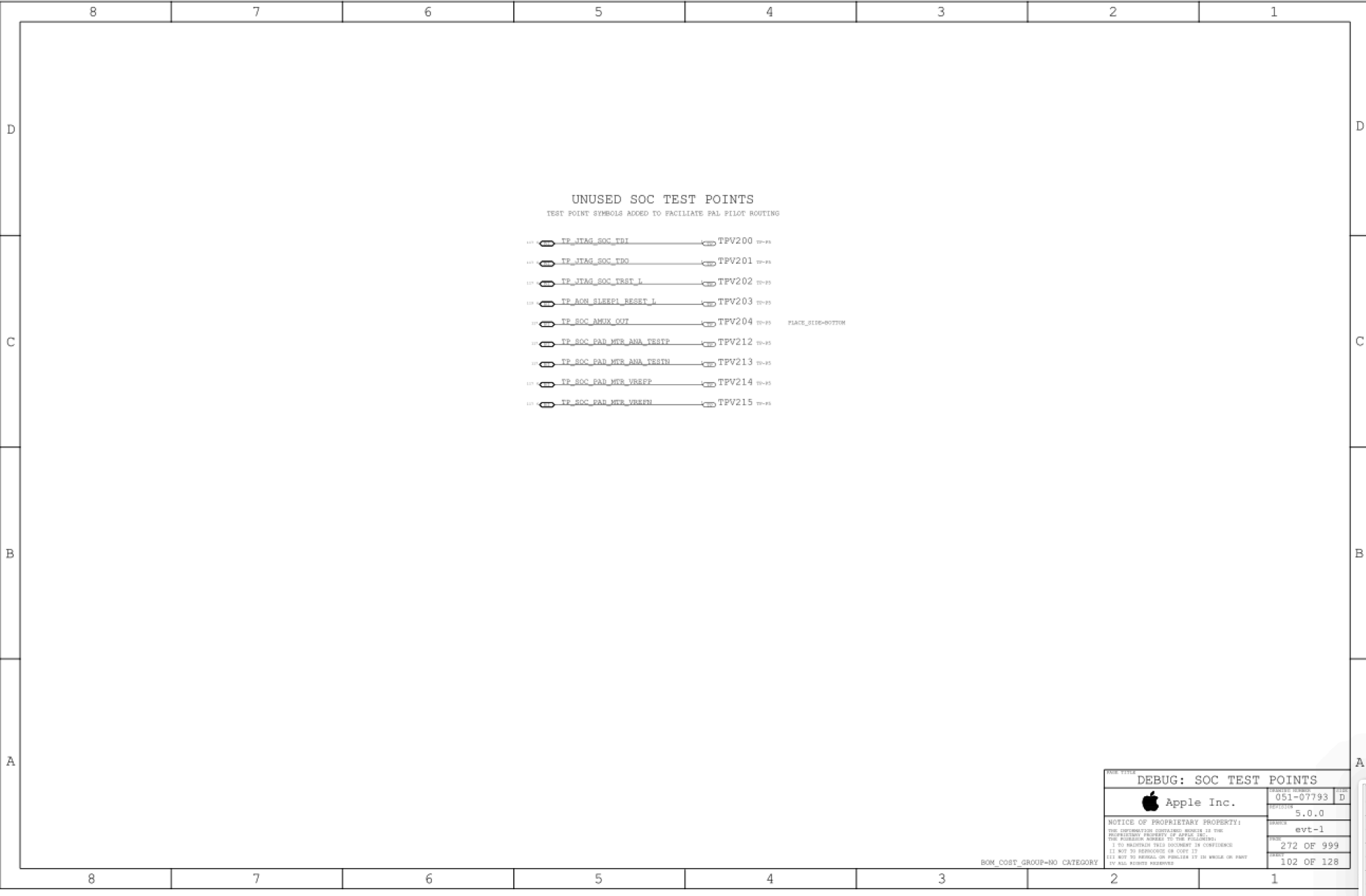
# 5V VR PGOOD


TP REMOVE CHECKPLUS WARNING SINCE THE PGOOD HAS A OFFPAGE, AND IT NO LONGER GOES TO CHARGER SWITCHOVER



PAGE TITLE			
DEBUG: MISC			
Apple Inc.	PRINTED NUMBER	051-07793	DATE
	REVISION	5.0.0	D
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		PAGE	271 OF 999
		PAGE	101 OF 128

BOM\_COST\_GROUP=DEBUG



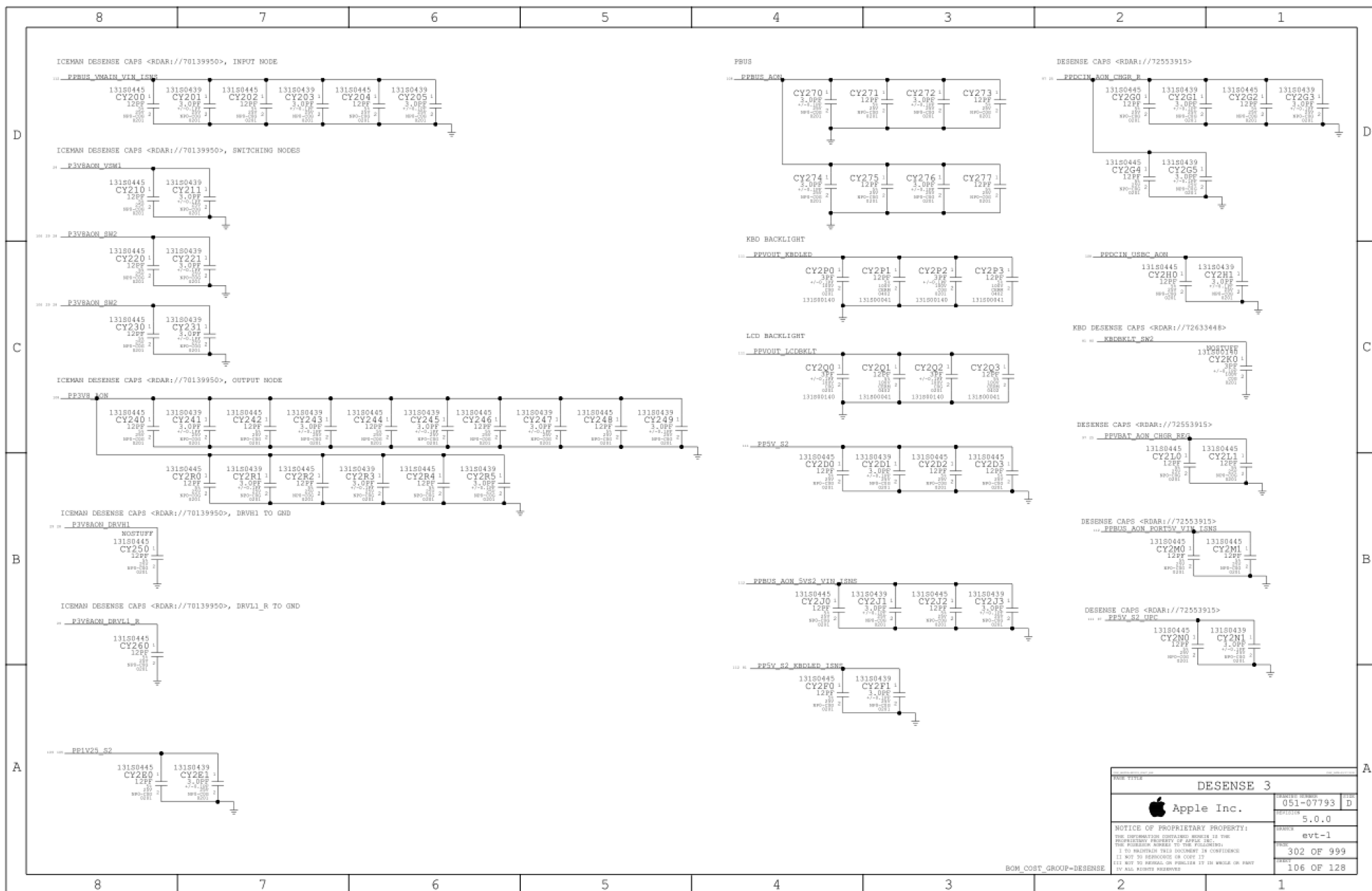
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	REVISION	5.0.0	D
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		PAGE	272 OF 999
		PAGE	102 OF 128

BOM\_COST\_GROUP=NO CATEGORY



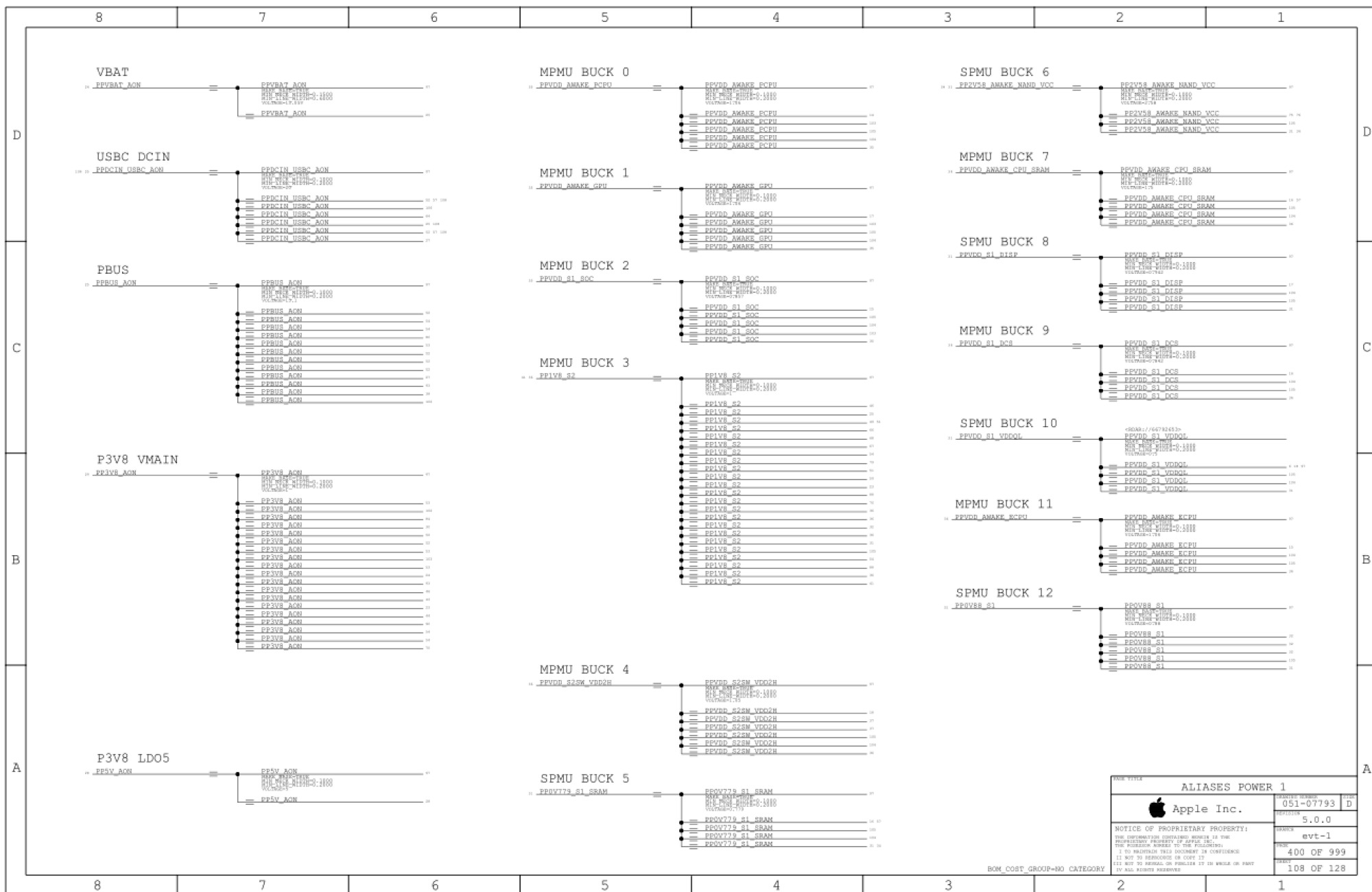


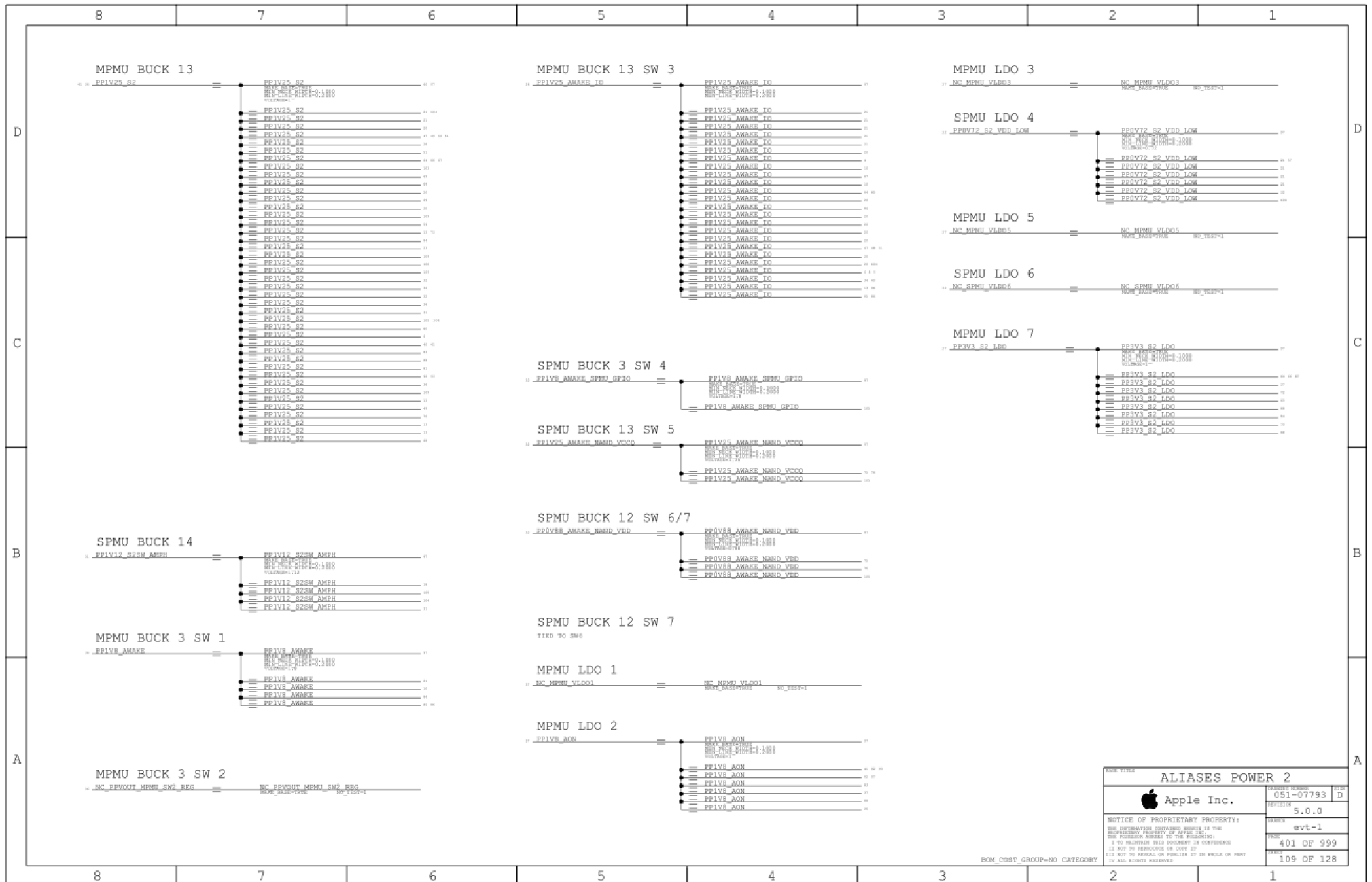





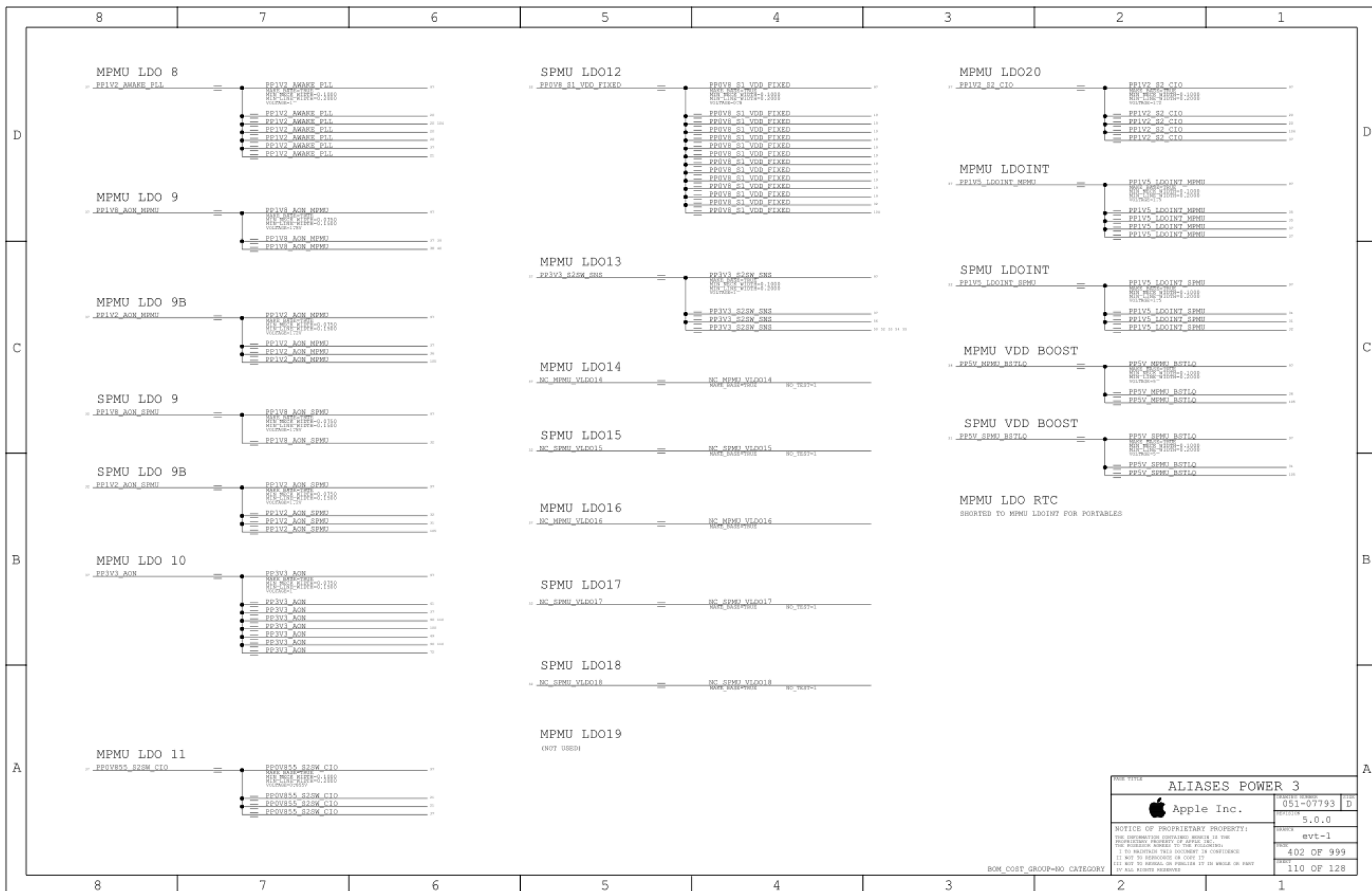


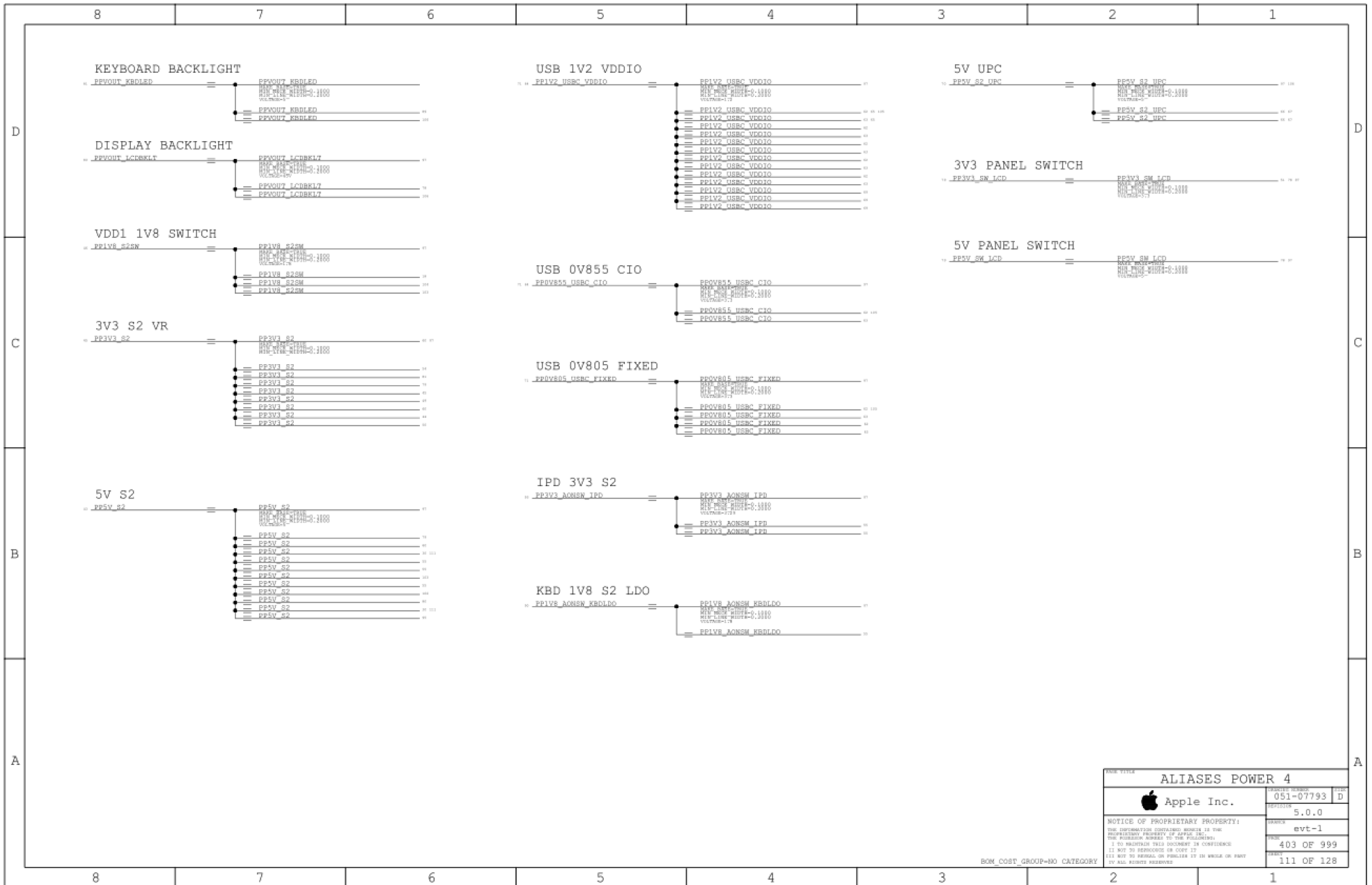







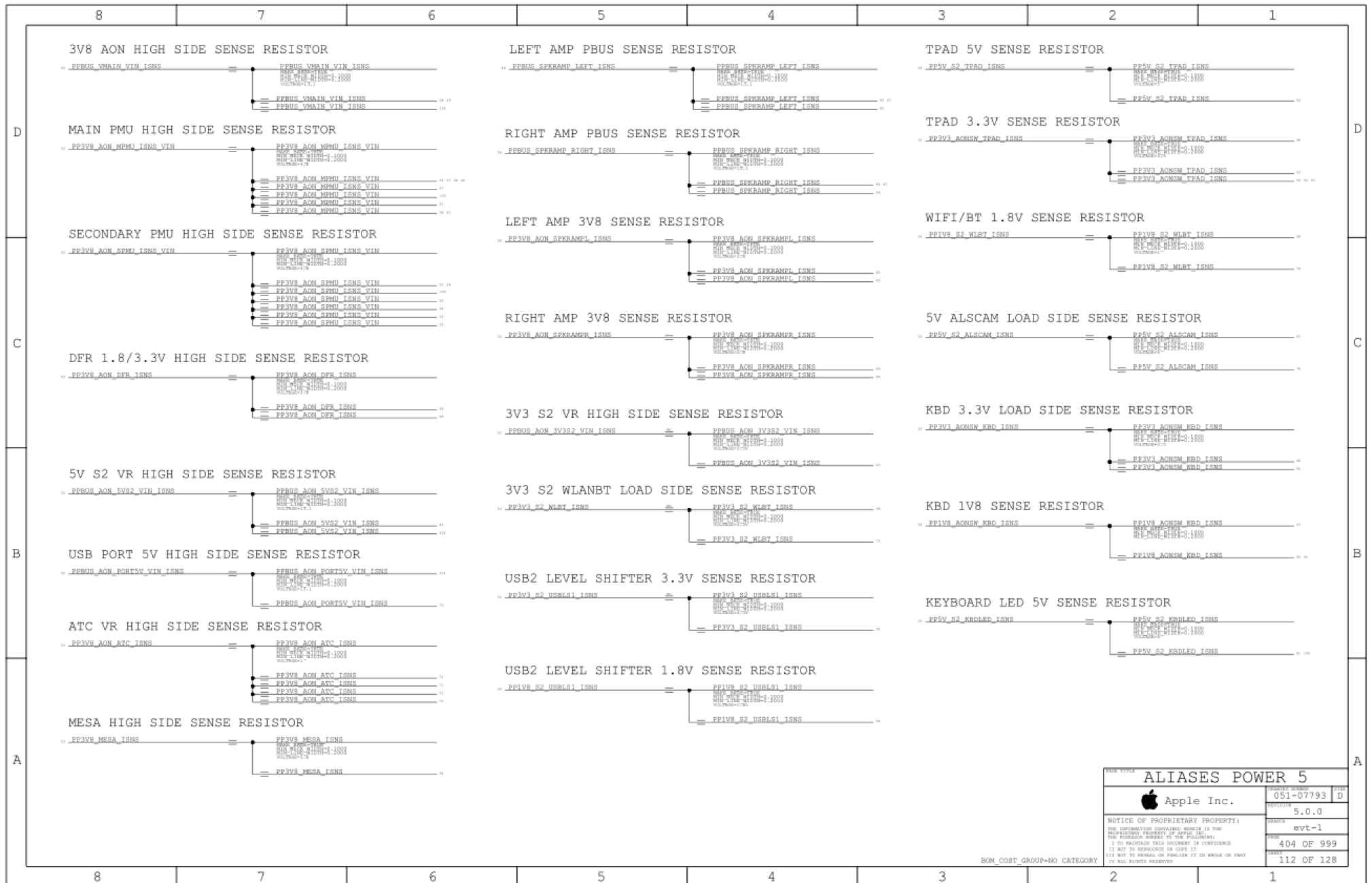
FILE TITLE		
ALIASES POWER 2		
 Apple Inc.	DESIGN NUMBER	051-07793
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	PAGE	401 OF 999
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FILE TITLE			
ALIASES POWER 4			
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	REVISION	403 OF 999	
	ITEM	111 OF 128	

BOM\_COST\_GROUP=80 CATEGORY



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	8	7	6	5	4	3	2	1		
D	AP GPIO (AWAKE)			AOP GPIO (S2)			MTP GPIO			D
	NC_SOC_AP_GPIO_01 == NC_SOC_AP_GPIO_01 NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NC_SMD_QPC_SMDIO1_B == NC_SMD_QPC_SMDIO1_B NC_SOC_AP_GPIO_10 == NC_SOC_AP_GPIO_10 NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO DFR_TOUCH_RESET_L == DFR_TOUCH_RESET_L DFR_DISP_RESET_L == DFR_DISP_RESET_L DFR_DISP_INT == DFR_DISP_INT NC_SOC_AP_GPIO_18 == NC_SOC_AP_GPIO_18 DFR_TOUCH_INT_L == DFR_TOUCH_INT_L NC_SOC_AP_GPIO_20 == NC_SOC_AP_GPIO_20 NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NC_SOC_AP_GPIO_23 == NC_SOC_AP_GPIO_23 DFR_FWR_EN == DFR_FWR_EN NC_SOC_AP_GPIO_25 == NC_SOC_AP_GPIO_25 NC_SOC_AP_GPIO_26 == NC_SOC_AP_GPIO_26			NC_SOC_AOP_FUNC_0 == NC_SOC_AOP_FUNC_0 NC_SOC_AOP_FUNC_1 == NC_SOC_AOP_FUNC_1 NC_SOC_AOP_FUNC_2 == NC_SOC_AOP_FUNC_2 NC_SOC_AOP_FUNC_3 == NC_SOC_AOP_FUNC_3 NC_ALS_INT_L == NC_ALS_INT_L NC_SPT_DP2HDMT_HOLD_L == NC_SPT_DP2HDMT_HOLD_L NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NC_HDMI_CEC_AOP_TX == NC_HDMI_CEC_AOP_TX NC_HDMI_CEC_AOP_RX == NC_HDMI_CEC_AOP_RX NC_WLAN_CONTEXT_A == NC_WLAN_CONTEXT_A NC_WLAN_CONTEXT_B == NC_WLAN_CONTEXT_B NC_SPT_IAS_CS_L == NC_SPT_IAS_CS_L NC_HDMI_HPD_AOP == NC_HDMI_HPD_AOP			NO ALIAS NEEDED FOR THIS GPIO IPD_MTP_FUNC_1 == IPD_MTP_FUNC_1 NC_SOC_MTP_FUNC_2 == NC_SOC_MTP_FUNC_2 NO ALIAS NEEDED FOR THIS GPIO NOTE: MTP GPIO 4 DOES NOT EXIST NO ALIAS NEEDED FOR THIS GPIO NC_SOC_MTP_FUNC_6 == NC_SOC_MTP_FUNC_6 NC_SOC_MTP_FUNC_7 == NC_SOC_MTP_FUNC_7			
C	SGPIO			NUB GPIO (S2)			THROTTLE			C
	NO ALIAS NEEDED FOR THIS GPIO NC_SOC_SGPIO1 == NC_SOC_SGPIO1			NC_SOC_NUB_FUNC_0 == NC_SOC_NUB_FUNC_0 NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO AOP_LEAP_MADI_IN == AOP_LEAP_MADI_IN AOP_LEAP_MADI_OUT == AOP_LEAP_MADI_OUT NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NC_SOC_NUB_GPIO_7 == NC_SOC_NUB_GPIO_7 NC_SOC_NUB_GPIO_8 == NC_SOC_NUB_GPIO_8 NC_SOC_AOP_FUNC19 == NC_SOC_AOP_FUNC19 NC_SOC_AOP_FUNC20 == NC_SOC_AOP_FUNC20 NO ALIAS NEEDED FOR THIS GPIO NC_SOC_NUB_GPIO_12 == NC_SOC_NUB_GPIO_12			SEMU_VIDMATH_UVWARN_L == SEMU_VIDMATH_UVWARN_L NC_BE1TBOOST_THROT_L == NC_BE1TBOOST_THROT_L MEMU_VDRCH_UVWARN_L == MEMU_VDRCH_UVWARN_L			
B	ISP GPIO			ISP GPIO						B
	NC_FTCAM_RESET_L == NC_FTCAM_RESET_L NC_SOC_ISP_GPIO_1 == NC_SOC_ISP_GPIO_1 NC_SOC_ISP_GPIO_2 == NC_SOC_ISP_GPIO_2 NC_SOC_ISP_GPIO_3 == NC_SOC_ISP_GPIO_3			NO ALIAS NEEDED FOR THIS GPIO NO ALIAS NEEDED FOR THIS GPIO NC_TOUCHID_BKLT_FWM == NC_TOUCHID_BKLT_FWM						
A	SMC GPIO									A
	NO ALIAS NEEDED FOR THIS GPIO NC_SOC_SMC_GPIO_1 == NC_SOC_SMC_GPIO_1									
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ALIASES SOC GPIO

BOM\_COST\_GROUP=NO CATEGORY

BOM\_COST\_GROUP=NO CATEGORY


ALIASES SOC GPIO			
 Apple Inc.	DRAFTED NUMBER 051-07793	REVISION 5.0.0	DATE D
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	DRAWN evt-1	CHECKED 420 OF 999	TOTAL 114 OF 128



	8	7	6	5	4	3	2	1					
D	<p>AP SPI (AWAKE)</p> <p>113 + + B007_CONFIG2 == B007_CONFIG2 + + 113 NAME: B007-PAKE</p> <p>113 + + B007_CONFIG1 == B007_CONFIG1 + + 113 NAME: B007-PAKE</p> <p>113 + + B007_CONFIG0 == B007_CONFIG0 + + 113 NAME: B007-PAKE</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>. SPI_TOUCHID_I2S_MISO == SPI_TOUCHID_I2S_MISO + + 113 NAME: B007-PAKE</p> <p>. SPI_TOUCHID_I2S_MOSI_R == SPI_TOUCHID_I2S_MOSI_R + + 113 NAME: B007-PAKE</p> <p>. SPI_TOUCHID_I2S_CLK_R == SPI_TOUCHID_I2S_CLK_R + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_SPI2_CS_L == NC_SOC_SPI2_CS_L + + 113 NAME: B007-PAKE</p> <p>AP SPI 3 ALIASES MOVED TO FORM FACTOR SPECIFIC PAGE</p> <p>AP SPI 3 ALIASES MOVED TO FORM FACTOR SPECIFIC PAGE</p> <p>AP SPI 3 ALIASES MOVED TO FORM FACTOR SPECIFIC PAGE</p> <p>AP SPI 3 ALIASES MOVED TO FORM FACTOR SPECIFIC PAGE</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>. NC_SOC_AP_SPI5_MISO == NC_SOC_AP_SPI5_MISO + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_AP_SPI5_MOSI == NC_SOC_AP_SPI5_MOSI + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_AP_SPI5_SCLK == NC_SOC_AP_SPI5_SCLK + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_AP_SPI5_CS_L == NC_SOC_AP_SPI5_CS_L + + 113 NAME: B007-PAKE</p>				<p>AOP SPI (S2)</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>. NC_SPI_AOP_SENSORS_MISO == NC_SPI_AOP_SENSORS_MISO + + 113 NAME: B007-PAKE</p> <p>. NC_SPI_AOP_SENSORS_MOSI_R == NC_SPI_AOP_SENSORS_MOSI_R + + 113 NAME: B007-PAKE</p> <p>. NC_SPI_AOP_SENSORS_CLK_R == NC_SPI_AOP_SENSORS_CLK_R + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_AOP_SPI1_CS_L == NC_SOC_AOP_SPI1_CS_L + + 113 NAME: B007-PAKE</p> <p>AOP I2S</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>113 TIM_SPREAMP_L_D2R == TIM_SPREAMP_L_D2R + + 113 NAME: B007-PAKE</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>AP I2S 0 MCK ALIASES MOVED TO FORM FACTOR SPECIFIC PAGE</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>113 TIM_SPREAMP_R_D2R == TIM_SPREAMP_R_D2R + + 113 NAME: B007-PAKE</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>AP I2S 1 MCK ALIASES MOVED TO FORM FACTOR SPECIFIC PAGE</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>AP I2S 2 MCK ALIASES MOVED TO FORM FACTOR SPECIFIC PAGE</p> <p>. NC_SOC_I2S3_SCLK == NC_SOC_I2S3_SCLK + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_I2S3_DIN == NC_SOC_I2S3_DIN + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_I2S3_DOUT == NC_SOC_I2S3_DOUT + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_I2S3_LBCLK == NC_SOC_I2S3_LBCLK + + 113 NAME: B007-PAKE</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p>				<p>AOP I2S</p> <p>. NC_AOP_I2S0_SCLK == NC_AOP_I2S0_SCLK + + 113 NAME: B007-PAKE</p> <p>. NC_AOP_I2S0_DIN == NC_AOP_I2S0_DIN + + 113 NAME: B007-PAKE</p> <p>. NC_AOP_I2S0_DOUT == NC_AOP_I2S0_DOUT + + 113 NAME: B007-PAKE</p> <p>. NC_AOP_I2S0_LBCLK == NC_AOP_I2S0_LBCLK + + 113 NAME: B007-PAKE</p> <p>. NC_FDM_IMIC_CLK2_R == NC_FDM_IMIC_CLK2_R + + 113 NAME: B007-PAKE</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>. NC_FDM_IMIC_DATA4 == NC_FDM_IMIC_DATA4 + + 113 NAME: B007-PAKE</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p>				D
C									C				
B	<p>SEP SPI</p> <p>. NC_SOC_SSPI0_MISO == NC_SOC_SSPI0_MISO + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_SSPI0_MOSI == NC_SOC_SSPI0_MOSI + + 113 NAME: B007-PAKE</p> <p>. NC_SOC_SSPI0_SCLK == NC_SOC_SSPI0_SCLK + + 113 NAME: B007-PAKE</p>								B				
	<p>DISP SPI</p> <p>. I2C_DISP_RKLT_SCL == I2C_DISP_RKLT_SCL + + 113 NAME: B007-PAKE</p> <p>. I2C_DISP_RKLT_SDA == I2C_DISP_RKLT_SDA + + 113 NAME: B007-PAKE</p> <p>. NC_SPI_DISP_RKLT_CLK_R == NC_SPI_DISP_RKLT_CLK_R + + 113 NAME: B007-PAKE</p> <p>. NC_SPI_DISP_RKLT_CS_L == NC_SPI_DISP_RKLT_CS_L + + 113 NAME: B007-PAKE</p>												
A	<p>MTP SPI</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p> <p>NO ALIAS NEEDED FOR THIS GPIO</p>								A				
	8	7	6	5	4	3	2	1					

FILE TYPE

ALIASES SOC SPI, I2S

 Apple Inc.

051-07793 D

5.0.0

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FILE TITLE			
ALIASES SOC SPI, I2S			
 Apple Inc.	DESIGN NUMBER	051-07793	DATE
	REVISION	5.0.0	D
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[illegible]

	8	7	6	5	4	3	2	1		
	AP UART (AWAKE)			SWD AND JTAG			TEST AND DEBUG			
	NO ALIAS NEEDED FOR THIS GPIO			NO ALIAS NEEDED FOR THIS GPIO			NO ALIAS NEEDED FOR THIS GPIO			
	NO ALIAS NEEDED FOR THIS GPIO			NO ALIAS NEEDED FOR THIS GPIO			NO ALIAS NEEDED FOR THIS GPIO			
D	MC_S0C_AP_UART1_CTS_L	==	NC_S0C_AP_UART1_CTS_L	..SMD_NAND0_SMC1X_R	==	SMD_NAND0_SMC1X_R	TP_S0C_AMUX_OUT	==	TP_S0C_AMUX_OUT	
	MC_S0C_AP_UART1_RTS_L	==	NC_S0C_AP_UART1_RTS_L	..SMD_NAND0_SMDIO_R	==	SMD_NAND0_SMDIO_R	TP_S0C_PAD_MTR_ANA_TESTP	==	TP_S0C_PAD_MTR_ANA_TESTP	
	MC_S0C_AP_UART1_RXD	==	NC_S0C_AP_UART1_RXD	..MC_S0C_SMD_TMS3	==	NC_S0C_SMD_TMS3	TP_S0C_PAD_MTR_ANA_TESTN	==	TP_S0C_PAD_MTR_ANA_TESTN	
	MC_S0C_AP_UART1_TXD	==	NC_S0C_AP_UART1_TXD	..MC_S0C_SMD_TMS4	==	NC_S0C_SMD_TMS4	TP_S0C_PAD_MTR_VREFP	==	TP_S0C_PAD_MTR_VREFP	
	MC_UART_MLAN_D2R_CTS_L	==	NC_UART_MLAN_D2R_CTS_L	NO ALIAS NEEDED FOR THIS GPIO			TP_S0C_PAD_MTR_VREFN	==	TP_S0C_PAD_MTR_VREFN	
	MC_UART_MLAN_R2D_RTS_L	==	NC_UART_MLAN_R2D_RTS_L	..SMD_NUR_ATCCTMR_IPD_SMC1X_R	==	SMD_NUR_ATCCTMR_IPD_SMC1X_R	NO ALIAS NEEDED FOR THIS GPIO			
	MC_UART_MLAN_D2R	==	NC_UART_MLAN_D2R	..SMD_NUR_PMI_SMDIO_R	==	SMD_NUR_PMI_SMDIO_R	EUSB_DBG_P	==	EUSB_DBG_P	
	MC_UART_MLAN_R2D	==	NC_UART_MLAN_R2D	..SMD_IPD_SMDIO_R	==	SMD_IPD_SMDIO_R	EUSB_DBG_N	==	EUSB_DBG_N	
	MC_S0C_AP_UART3_CTS_L	==	NC_S0C_AP_UART3_CTS_L	NO ALIAS NEEDED FOR THIS GPIO			NO ALIAS NEEDED FOR THIS GPIO			
	MC_S0C_AP_UART3_RTS_L	==	NC_S0C_AP_UART3_RTS_L	..TP_JTAG_S0C_TDI	==	TP_JTAG_S0C_TDI				
	MC_S0C_AP_UART3_RXD	==	NC_S0C_AP_UART3_RXD	..TP_JTAG_S0C_TDO	==	TP_JTAG_S0C_TDO				
	MC_S0C_AP_UART3_TXD	==	NC_S0C_AP_UART3_TXD	NO ALIAS NEEDED FOR THIS GPIO						
	MC_S0C_AP_UART4_RXD	==	NC_S0C_AP_UART4_RXD	..TP_JTAG_S0C_TBST_L	==	TP_JTAG_S0C_TBST_L				
	MC_S0C_AP_UART4_TXD	==	NC_S0C_AP_UART4_TXD							
C	UART_TCON_IVS_D2R	==	UART_TCON_IVS_D2R							
	MC_S0C_AP_UART6_R2D	==	NC_S0C_AP_UART6_R2D							
	MC_S0C_AP_UART7_D2R	==	NC_S0C_AP_UART7_D2R							
	MC_S0C_AP_UART7_R2D	==	NC_S0C_AP_UART7_R2D							
	AOP UART									
	MC_S0C_AOP_UART0_RXD	==	NC_S0C_AOP_UART0_RXD							
	MC_S0C_AOP_UART0_TXD	==	NC_S0C_AOP_UART0_TXD							
	MC_S0C_AOP_UART1_RXD	==	NC_S0C_AOP_UART1_RXD							
	MC_S0C_AOP_UART1_TXD	==	NC_S0C_AOP_UART1_TXD							
	MC_S0C_AOP_UART2_RXD	==	NC_S0C_AOP_UART2_RXD							
	MC_S0C_AOP_UART2_TXD	==	NC_S0C_AOP_UART2_TXD							
	SMC UART									
	NO ALIAS NEEDED FOR THIS GPIO									
	NO ALIAS NEEDED FOR THIS GPIO									
B										

FILE TYPE			
ALIASES SOC UART, DBG			
	Apple Inc.	DOCUMENT NUMBER	051-07793
		REVISION	5.0.0
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D

C

B

A

PCIE

NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO

, NC\_S0C\_GP\_PCIE\_RX1\_P == NC\_S0C\_GP\_PCIE\_RX1\_P  
, NC\_S0C\_GP\_PCIE\_RX1\_N == NC\_S0C\_GP\_PCIE\_RX1\_N  
, NC\_S0C\_GP\_PCIE\_TX1\_P == NC\_S0C\_GP\_PCIE\_TX1\_P  
, NC\_S0C\_GP\_PCIE\_TX1\_N == NC\_S0C\_GP\_PCIE\_TX1\_N  
, NC\_S0C\_GP\_PCIE\_CLK1\_100M\_P == NC\_S0C\_GP\_PCIE\_CLK1\_100M\_P  
, NC\_S0C\_GP\_PCIE\_CLK1\_100M\_N == NC\_S0C\_GP\_PCIE\_CLK1\_100M\_N  
, NC\_S0C\_GP\_PCIE\_CLKREQ\_1\_L == NC\_S0C\_GP\_PCIE\_CLKREQ\_1\_L  
, NC\_S0C\_GP\_PCIE\_PERRST\_1\_L == NC\_S0C\_GP\_PCIE\_PERRST\_1\_L  
, NC\_S0C\_GP\_PCIE\_RX2P == NC\_S0C\_GP\_PCIE\_RX2P  
, NC\_S0C\_GP\_PCIE\_RX2N == NC\_S0C\_GP\_PCIE\_RX2N  
, NC\_S0C\_GP\_PCIE\_TX2P == NC\_S0C\_GP\_PCIE\_TX2P  
, NC\_S0C\_GP\_PCIE\_TX2N == NC\_S0C\_GP\_PCIE\_TX2N  
, NC\_S0C\_GP\_PCIE\_CLK100M2P == NC\_S0C\_GP\_PCIE\_CLK100M2P  
, NC\_S0C\_GP\_PCIE\_CLK100M2N == NC\_S0C\_GP\_PCIE\_CLK100M2N  
, NC\_S0C\_GP\_PCIE\_CLKREQ02L == NC\_S0C\_GP\_PCIE\_CLKREQ02L  
, NC\_S0C\_GP\_PCIE\_PERRST2L == NC\_S0C\_GP\_PCIE\_PERRST2L  
, NC\_S0C\_GP\_PCIE\_RX3\_P == NC\_S0C\_GP\_PCIE\_RX3\_P  
, NC\_S0C\_GP\_PCIE\_RX3\_N == NC\_S0C\_GP\_PCIE\_RX3\_N  
, NC\_S0C\_GP\_PCIE\_TX3\_P == NC\_S0C\_GP\_PCIE\_TX3\_P  
, NC\_S0C\_GP\_PCIE\_TX3\_N == NC\_S0C\_GP\_PCIE\_TX3\_N  
, NC\_S0C\_GP\_PCIE\_CLK3\_100M\_P == NC\_S0C\_GP\_PCIE\_CLK3\_100M\_P  
, NC\_S0C\_GP\_PCIE\_CLK3\_100M\_N == NC\_S0C\_GP\_PCIE\_CLK3\_100M\_N  
, NC\_S0C\_GP\_PCIE\_CLKREQ\_3\_L == NC\_S0C\_GP\_PCIE\_CLKREQ\_3\_L  
, NC\_S0C\_GP\_PCIE\_PERRST\_3\_L == NC\_S0C\_GP\_PCIE\_PERRST\_3\_L

NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO

STORAGE PCIE

NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO

NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
, NC\_S0C\_ST\_PCIE\_PERRST\_1\_L == NC\_S0C\_ST\_PCIE\_PERRST\_1\_L  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO

DISPLAY MISC

NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
, NC\_S0C\_DISP\_P0L == NC\_S0C\_DISP\_P0L  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
, NC\_S0C\_DISP\_TOUCH\_BSYNC\_0 == NC\_S0C\_DISP\_TOUCH\_BSYNC\_0  
, NC\_S0C\_DISP\_TOUCH\_BSYNC\_1 == NC\_S0C\_DISP\_TOUCH\_BSYNC\_1  
, NC\_S0C\_DISP\_TOUCH\_ER == NC\_S0C\_DISP\_TOUCH\_ER

LPDP TX

NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO  
NO ALIAS NEEDED FOR THIS GPIO

, NC\_LPDP\_DP2HDMI\_DATA\_C\_P0 == NC\_LPDP\_DP2HDMI\_DATA\_C\_P0  
, NC\_LPDP\_DP2HDMI\_DATA\_C\_N0 == NC\_LPDP\_DP2HDMI\_DATA\_C\_N0  
, NC\_LPDP\_DP2HDMI\_DATA\_C\_P1 == NC\_LPDP\_DP2HDMI\_DATA\_C\_P1  
, NC\_LPDP\_DP2HDMI\_DATA\_C\_N1 == NC\_LPDP\_DP2HDMI\_DATA\_C\_N1  
, NC\_LPDP\_DP2HDMI\_DATA\_C\_P2 == NC\_LPDP\_DP2HDMI\_DATA\_C\_P2  
, NC\_LPDP\_DP2HDMI\_DATA\_C\_N2 == NC\_LPDP\_DP2HDMI\_DATA\_C\_N2  
, NC\_LPDP\_DP2HDMI\_DATA\_C\_P3 == NC\_LPDP\_DP2HDMI\_DATA\_C\_P3  
, NC\_LPDP\_DP2HDMI\_DATA\_C\_N3 == NC\_LPDP\_DP2HDMI\_DATA\_C\_N3  
, NC\_LPDP\_DP2HDMI\_AUX\_C\_P0R == NC\_LPDP\_DP2HDMI\_AUX\_C\_P0R  
, NC\_LPDP\_DP2HDMI\_AUX\_C\_N0G == NC\_LPDP\_DP2HDMI\_AUX\_C\_N0G  
, NC\_S0C\_LPDP\_DP2HDMI\_RCAL\_R0G == NC\_S0C\_LPDP\_DP2HDMI\_RCAL\_R0G  
, NC\_S0C\_LPDP\_DP2HDMI\_RCAL\_N0G == NC\_S0C\_LPDP\_DP2HDMI\_RCAL\_N0G


BOM\_COST\_GROUP=NO CATEGORY

TITLE		ALIASES SOC PCIE, LPDP TX	
PROJECT NUMBER		051-07793	
REVISION		5.0.0	
DRAWN		evt-1	
CHECKED		424 OF 999	
TOTAL		118 OF 128	

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[illegible]

	8	7	6	5	4	3	2	1	
D	<p>NUB SPMI</p> <p>ALLOW DEV TO ADD A MUX IN THIS PATH</p> <p>11 SPMT_NUB_SPMI_CLK == SPMT_NUB_SPMI_CLK R0P1_W01C=1111 11 SPMT_NUB_SPMI_DATA == SPMT_NUB_SPMI_DATA R0P1_W01C=1111 11 SPMT_NUB_MPMI_CLK == SPMT_NUB_MPMI_CLK R0P1_W01C=1111 11 SPMT_NUB_MPMI_DATA == SPMT_NUB_MPMI_DATA R0P1_W01C=1111</p>		<p>SECURE ELEMENT</p> <p>NC THESE &lt;90AR1//80987447&gt;</p> <p>11 NC_I2C_SE_SCL == NC_I2C_SE_SCL R0P1_W01C=1111 NC_V011=1 11 NC_I2C_SE_SDA == NC_I2C_SE_SDA R0P1_W01C=1111 NC_V011=1</p>		<p>USB PORT POWER</p> <p>DEV DOESN'T HAVE UPC ON THE BASEBOARD</p> <p>11 UPC01_5V_EN == UPC01_5V_EN R0P1_W01C=1111 11 UPC01_5V_EN == UPC01_5V_EN R0P1_W01C=1111</p>				D
	<p>AP SPI 3</p> <p>ALLOW DEV TO ROUTE SPI 3 AND GPID 17 FOR DEV DISPLAY CARD</p> <p>11 SPI_DEV_MISO == SPI_DEV_MISO R0P1_W01C=1111 11 SPI_DEV_MOSI_R == SPI_DEV_MOSI_R R0P1_W01C=1111 11 SPI_DEV_CLK_R == SPI_DEV_CLK_R R0P1_W01C=1111 11 SPI_DEV_CS_L == SPI_DEV_CS_L R0P1_W01C=1111</p>		<p>SPEAKER AMPS</p> <p>CONNECT AMPS TO SERIES R</p> <p>11 TDM_SPEKAMP_L_BCLK == TDM_SPEKAMP_L_BCLK R0P1_W01C=1111 11 TDM_SPEKAMP_L_FSYNC == TDM_SPEKAMP_L_FSYNC R0P1_W01C=1111 11 TDM_SPEKAMP_L_R2D == TDM_SPEKAMP_L_R2D R0P1_W01C=1111 11 TDM_SPEKAMP_R_BCLK == TDM_SPEKAMP_R_BCLK R0P1_W01C=1111 11 TDM_SPEKAMP_R_FSYNC == TDM_SPEKAMP_R_FSYNC R0P1_W01C=1111 11 TDM_SPEKAMP_R_R2D == TDM_SPEKAMP_R_R2D R0P1_W01C=1111</p>		<p>AP I2S</p> <p>THESE PINS GO TO RESISTORS ON DEV</p> <p>11 NC_S0C_I2S0_MCK == NC_S0C_I2S0_MCK R0P1_W01C=1111 11 NC_S0C_I2S1_MCK == NC_S0C_I2S1_MCK R0P1_W01C=1111 11 NC_S0C_I2S2_MCK == NC_S0C_I2S2_MCK R0P1_W01C=1111</p>		<p>DUT DETECT</p> <p>DEV SYSTEMS CAN BREAK THIS OUT FOR A DUT DETECT CIRCUIT, FORM FACTOR ALIAS TO GND</p> <p>11 GND == GND R0P1_W01C=1111</p>		C
C	<p>TRACKPAD</p> <p>DEV ADDS SERIES R FOR RMC</p> <p>11 TPAD_KBD_WAKE_L == TPAD_KBD_WAKE_L R0P1_W01C=1111</p>								C
B									B
A									A
	8	7	6	5	4	3	2	1	

FORM TITLE			
ALIASES PROJECT SPECIFIC			
 Apple Inc.	REVISION NUMBER	051-07793	
	REVISION	5.0.0	
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BOM\_COST\_GROUP=NO CATEGORY

ALIASES PROJECT SPECIFIC			
 Apple Inc.	PROJECT NUMBER	051-07793	TYPE
	REVISION	5.0.0	D
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		PAGE	426 OF 999
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D									D
C									C
B									B
A									A
	8	7	6	5	4	3	2	1	


DIELECTRIC BASED SPACING RULES	
RULE DEFINITION	LIST OF VALUES
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ	
PLEASE USE HYBRID TABLE	

17.2 RULES			
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	<table><tr><th>BOM NUMBER</th><th>BOM NAME</th><th>BOM OPTIONS</th></tr><tr><td>639-15874</td><td>PCBA,MLB1,8GB,KK-256GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:256GB_KK</td></tr><tr><td>639-15875</td><td>PCBA,MLB1,16GB,KK-256GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:256GB_KK</td></tr><tr><td>639-16171</td><td>PCBA,MLB1,24GB,KK-256GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:256GB_KK</td></tr><tr><td>639-15876</td><td>PCBA,MLB1,8GB,HY-256GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:256GB_KK</td></tr><tr><td>639-15877</td><td>PCBA,MLB1,16GB,HY-256GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:256GB_KK</td></tr><tr><td>639-16172</td><td>PCBA,MLB1,24GB,HY-256GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:256GB_KK</td></tr><tr><td>639-15878</td><td>PCBA,MLB1,8GB,KK-512GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK</td></tr><tr><td>639-15879</td><td>PCBA,MLB1,16GB,KK-512GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK</td></tr><tr><td>639-16173</td><td>PCBA,MLB1,24GB,KK-512GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:512GB_KK</td></tr><tr><td>639-15880</td><td>PCBA,MLB1,8GB,WD-512GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK</td></tr><tr><td>639-15881</td><td>PCBA,MLB1,16GB,WD-512GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK</td></tr><tr><td>639-16174</td><td>PCBA,MLB1,24GB,WD-512GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:512GB_KK</td></tr><tr><td>639-15882</td><td>PCBA,MLB1,8GB,HY-512GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK</td></tr><tr><td>639-15883</td><td>PCBA,MLB1,16GB,HY-512GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK</td></tr><tr><td>639-16175</td><td>PCBA,MLB1,24GB,HY-512GB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:512GB_KK</td></tr><tr><td>639-15884</td><td>PCBA,MLB1,8GB,KK-1TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:1TB_KK</td></tr><tr><td>639-15885</td><td>PCBA,MLB1,16GB,KK-1TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:1TB_KK</td></tr><tr><td>639-16176</td><td>PCBA,MLB1,24GB,KK-1TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:1TB_KK</td></tr><tr><td>639-15886</td><td>PCBA,MLB1,8GB,WD-1TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:1TB_KK</td></tr><tr><td>639-15887</td><td>PCBA,MLB1,16GB,WD-1TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:1TB_KK</td></tr><tr><td>639-16177</td><td>PCBA,MLB1,24GB,WD-1TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:1TB_KK</td></tr><tr><td>639-15888</td><td>PCBA,MLB1,8GB,KK-2TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK</td></tr><tr><td>639-15889</td><td>PCBA,MLB1,16GB,KK-2TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK</td></tr><tr><td>639-16178</td><td>PCBA,MLB1,24GB,KK-2TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:2TB_KK</td></tr><tr><td>639-15890</td><td>PCBA,MLB1,8GB,WD-2TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK</td></tr><tr><td>639-15891</td><td>PCBA,MLB1,16GB,WD-2TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK</td></tr><tr><td>639-16179</td><td>PCBA,MLB1,24GB,WD-2TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:2TB_KK</td></tr><tr><td>639-16796</td><td>PCBA,MLB1,8GB,HY-2TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK</td></tr><tr><td>639-16797</td><td>PCBA,MLB1,16GB,HY-2TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK</td></tr><tr><td>639-16798</td><td>PCBA,MLB1,24GB,HY-2TB,X2487</td><td>ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:2TB_KK</td></tr></table>								BOM NUMBER	BOM NAME	BOM OPTIONS	639-15874	PCBA,MLB1,8GB,KK-256GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:256GB_KK	639-15875	PCBA,MLB1,16GB,KK-256GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:256GB_KK	639-16171	PCBA,MLB1,24GB,KK-256GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:256GB_KK	639-15876	PCBA,MLB1,8GB,HY-256GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:256GB_KK	639-15877	PCBA,MLB1,16GB,HY-256GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:256GB_KK	639-16172	PCBA,MLB1,24GB,HY-256GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:256GB_KK	639-15878	PCBA,MLB1,8GB,KK-512GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK	639-15879	PCBA,MLB1,16GB,KK-512GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK	639-16173	PCBA,MLB1,24GB,KK-512GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:512GB_KK	639-15880	PCBA,MLB1,8GB,WD-512GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK	639-15881	PCBA,MLB1,16GB,WD-512GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK	639-16174	PCBA,MLB1,24GB,WD-512GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:512GB_KK	639-15882	PCBA,MLB1,8GB,HY-512GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK	639-15883	PCBA,MLB1,16GB,HY-512GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:512GB_KK	639-16175	PCBA,MLB1,24GB,HY-512GB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:512GB_KK	639-15884	PCBA,MLB1,8GB,KK-1TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:1TB_KK	639-15885	PCBA,MLB1,16GB,KK-1TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:1TB_KK	639-16176	PCBA,MLB1,24GB,KK-1TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:1TB_KK	639-15886	PCBA,MLB1,8GB,WD-1TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:1TB_KK	639-15887	PCBA,MLB1,16GB,WD-1TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:1TB_KK	639-16177	PCBA,MLB1,24GB,WD-1TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:1TB_KK	639-15888	PCBA,MLB1,8GB,KK-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK	639-15889	PCBA,MLB1,16GB,KK-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK	639-16178	PCBA,MLB1,24GB,KK-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:2TB_KK	639-15890	PCBA,MLB1,8GB,WD-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK	639-15891	PCBA,MLB1,16GB,WD-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK	639-16179	PCBA,MLB1,24GB,WD-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:2TB_KK	639-16796	PCBA,MLB1,8GB,HY-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK	639-16797	PCBA,MLB1,16GB,HY-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK	639-16798	PCBA,MLB1,24GB,HY-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:2TB_KK	
	BOM NUMBER	BOM NAME	BOM OPTIONS																																																																																																			
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639-16179	PCBA,MLB1,24GB,WD-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:24G,K2487_BM00:2TB_KK																																																																																																				
639-16796	PCBA,MLB1,8GB,HY-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK																																																																																																				
639-16797	PCBA,MLB1,16GB,HY-2TB,X2487	ALT_CRM,ALTERNATE:PART,K2487_CRM_BOM,CPU:16G,K2487_BM00:2TB_KK																																																																																																				
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
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DES	COMMENTS:	37500082	37500082	ALT_200	NAL	+R000+/77470082	37500084	37500084	ALT_200	NAL	+R000+/77470084	37500086	37500086	ALT_200	NAL	+R000+/77470086	37500088	37500088	ALT_200	NAL	+R000+/77470088	37500090	37500090	ALT_200	NAL	+R000+/77470090	37500092	37500092	ALT_200	NAL	+R000+/77470092	37500094	37500094	ALT_200	NAL	+R000+/77470094	37500096	37500096	ALT_200	NAL	+R000+/77470096	37500098	37500098	ALT_200	NAL	+R000+/77470098	37500100	37500100	ALT_200	NAL	+R000+/77470100	37500102	37500102	ALT_200	NAL	+R000+/77470102	37500104	37500104	ALT_200	NAL	+R000+/77470104	37500106	37500106	ALT_200	NAL	+R000+/77470106	37500108	37500108	ALT_200	NAL	+R000+/77470108	37500110	37500110	ALT_200	NAL	+R000+/77470110	37500112	37500112	ALT_200	NAL	+R000+/77470112	37500114	37500114	ALT_200	NAL	+R000+/77470114	37500116	37500116	ALT_200	NAL	+R000+/77470116	37500118	37500118	ALT_200	NAL	+R000+/77470118	37500120	37500120	ALT_200	NAL	+R000+/77470120	37500122	37500122	ALT_200	NAL	+R000+/77470122	37500124	37500124	ALT_200	NAL	+R000+/77470124	37500126	37500126	ALT_200	NAL	+R000+/77470126	37500128	37500128	ALT_200	NAL	+R000+/77470128	37500130	37500130	ALT_200	NAL	+R000+/77470130	37500132	37500132	ALT_200	NAL	+R000+/77470132	37500134	37500134	ALT_200	NAL	+R000+/77470134	37500136	37500136	ALT_200	NAL	+R000+/77470136	37500138	37500138	ALT_200	NAL	+R000+/77470138	37500140	37500140	ALT_200	NAL	+R000+/77470140	37500142	37500142	ALT_200	NAL	+R000+/77470142	37500144	37500144	ALT_200	NAL	+R000+/77470144	37500146	37500146	ALT_200	NAL	+R000+/77470146	37500148	37500148	ALT_200	NAL	+R000+/77470148	37500150	37500150	ALT_200	NAL	+R000+/77470150	37500152	37500152	ALT_200	NAL	+R000+/77470152	37500154	37500154	ALT_200	NAL	+R000+/77470154	37500156	37500156	ALT_200	NAL	+R000+/77470156	37500158	37500158	ALT_200	NAL	+R000+/77470158	37500160	37500160	ALT_200	NAL	+R000+/77470160	37500162	37500162	ALT_200	NAL	+R000+/77470162	37500164	37500164	ALT_200	NAL	+R000+/77470164	37500166	37500166	ALT_200	NAL	+R000+/77470166	37500168	37500168	ALT_200	NAL	+R000+/77470168	37500170	37500170	ALT_200	NAL	+R000+/77470170	37500172	37500172	ALT_200	NAL	+R000+/77470172	37500174	37500174	ALT_200	NAL	+R000+/77470174	37500176	37500176	ALT_200	NAL	+R000+/77470176	37500178	37500178	ALT_200	NAL	+R000+/77470178	37500180	37500180	ALT_200	NAL	+R000+/77470180	37500182	37500182	ALT_200	NAL	+R000+/77470182	37500184	37500184	ALT_200	NAL	+R000+/77470184	37500186	37500186	ALT_200	NAL	+R000+/77470186	37500188	37500188	ALT_200	NAL	+R000+/77470188	37500190	37500190	ALT_200	NAL	+R000+/77470190	37500192	37500192	ALT_200	NAL	+R000+/77470192	37500194	37500194	ALT_200	NAL	+R000+/77470194	37500196	37500196	ALT_200	NAL	+R000+/77470196	37500198	37500198	ALT_200	NAL	+R000+/77470198	37500200	37500200	ALT_200	NAL	+R000+/77470200	PNMT 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D	<div>REF_SOC_H140</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>L2DP INT PCAL</div> <div>SOC MDPI ENHANCE</div> <div>DCIS_QPS</div> <div>GEMCCT_WDRASE110W</div> <div>L2DP INT IS USED FOR INTERNAL DISPLAY</div> <div>TURN ON MDPI CAPS &lt;RDAR:///71485720&gt;</div>				<div>REF_RELEASED_KASPTOTN (NOT SYNCED TO REF REGION)</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>TURNKEY</div> <div>WLET LOG CORR</div> <div>TWO ANTENNA SYSTEM, TURNKEY CONNECTOR &lt;RDAR:///69744679&gt;</div> <div>SHARLA TURNKEY CONNECTOR</div>				
	<div>REF_CHARGER_2UC0A</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>CHGR_GSW</div> <div>CHGR_TP_TOP</div> <div>CHGR_TP_NOT</div> <div>X2487'S CHARGER IS K379 WHICH IS G1W</div>				<div>REF_STORAGE_G0R</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>SHD 4_ZSP_0462TR10R</div>				
	<div>REF_VR_1CE00AH</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>VR8_AOM_F0010-B12</div> <div>VR8_AOM_120-PCB</div> <div>VR8_INSPECTOR12P40M</div> <div>VR8_AOM_H0000-LR</div> <div>VR8_AOM_G0_0-YES</div> <div>D2 CAP SIZE</div> <div>SHORT L2C TO GND PCB, TP FOR DEV &lt;RDAR:///64607819&gt;</div> <div>USE TALLER INSPECTORS</div> <div>USE LOW NOISE CAPS</div>				<div>REF_BLC_R0H</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>BLC_F0001TE100</div> <div>BLC_R0L01200R</div> <div>BLC_IND1150H</div> <div>BLC_PREF100</div> <div>BLC_C00101100</div> <div>BLC_F0001TE100</div> <div>BLC_W00010400</div> <div>BLC_FUSE1YES</div> <div>RETAIN PARITY WITH X1799 WHICH HAS NO FERRITE</div> <div>RETAIN PARITY WITH X1799 WHICH HAS 1206</div> <div>RETAIN PARITY WITH X1799 WHICH HAS 150H</div> <div>RETAIN PARITY WITH X1799 WHICH HAS BLC FET</div> <div>RETAIN PARITY WITH X1799 WHICH HAS 1206 PACKAGES</div> <div>RETAIN PARITY WITH X1799 WHICH HAS NO FERRITE</div>				
C	<div>REF_STORAGE_VALVE_PORTABLED</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>PND_11R_0000</div> <div>PND_V000010_0000 CAPS</div> <div>ROCKS_LOCAL_CAPS</div> <div>ROCKS_LOCAL_CAPS</div> <div>ROCKS4_LOCAL_CAPS</div> <div>PND_11R_W000</div> <div>&lt;RDAR:///83497092&gt;</div>				<div>REF_000100_AND_010R</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>AND INTERPOSSER LEFT</div> <div>ONLY LEFT AND IS ON THE H0R</div>				
	<div>REF_VR_0V_70002110</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>EV02T00_P000-00</div>								
	<div>REF_VR_0V_70002110</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>V01_02_P000-00</div> <div>V01_02_100P-C0000</div>				<div>REF_00000P_7A0070</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>00000P_A</div> <div>00000P_B</div> <div>00000P_C</div> <div>00000P_D</div> <div>00000P_E</div> <div>00000P_100_00</div> <div>K2487 4 AMPS, 2 LEFT AND 2 RIGHT</div> <div>SAME 100 PACK OPTION AS K2211</div>				
B	<div>REF_THU_00000000H</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>REFTHU_V00000000</div> <div>REFTHU_T0000000</div> <div>REFTHU_T0000000</div>				<div>TOUCHID</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div>				
	<div>REF_US00C_000A_0000</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>US00C_0001_0000</div> <div>US00C_000000_0000</div> <div>US00C_LAPTOP</div> <div>PRO01000000_PITCH</div> <div>US00C_0001_00_0000_0000</div> <div>US00C_0001_0000_0000_00_0000_0000</div> <div>PRO01_00000000_0000</div> <div>0000_00_00</div> <div>ACTIVE_READ110000_PITCH</div> <div>0000_V0_0000_0000</div> <div>0000_0000</div>								
A	<div>REF_US00C_VR_1T0000_1</div> <div>PACK OPTIONS TO INCLUDE IN BUILDT</div> <div>00000000_0000-00</div> <div>00000000_00000000</div> <div>00000000_00000000</div>								
	8	7	6	5	4	3	2	1	

PACK TITLE

PACK OPTIONS

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	REVISION 5.0.0		
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PIN DELAY MAPPING FILE	
REFERENCE DESIGNATOR	PIN DELAY CSV FILE NAME
U0600	2020_12_05_soc_ballmap_spec_0v19_pin_delay_v3.csv
UF000	2020_12_28_usbc_ballmap_spec_v0p5_pin_delay_v1_uf000_fe.csv
UF100	2020_12_28_usbc_ballmap_spec_v0p5_pin_delay_v1_uf100_fe.csv

<RDAR://71422226>  
<RDAR://72706458>  
<RDAR://72706458>

	8	7	6	5	4	3	2	1
D	SAME PAGE NETS WITH OFF-PAGE, SOC				I2C PULL UP WAIVERS			
	<div><div></div>SOC_REQUEST_DEFU1_I</div>				<div><div></div>CPPLUS WAIVER-I2C_PULLUP</div>			
	<div><div></div>SOC_REQUEST_DEFU2_I</div>				<div><div></div>I2C_RBP_SCT</div>			
	<div><div></div>SOC_KIS_DEFU_SELECT</div>				<div><div></div>CPPLUS WAIVER-I2C_PULLUP</div>			
	<div><div></div>SOC_RUSB_VBUS_DETECT</div>				<div><div></div>I2C_RBP_SDA</div>			
C								
B								
A								
	SAME PAGE NETS WITH OFF-PAGE, REF AMR H14X							
	<div><div></div>AMB2_OR_NO_1V8</div>							
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