

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
9	0008409760	ENGINEERING RELEASED		2017-04-05

X891/X893 MLB Top: EVT

LAST_MODIFICATION=Mon Apr 3 13:03:06 2017

PAGE	CSA	CONTENTS	SYNC	DATE	PAGE	CSA	CONTENTS	SYNC	DATE
1	1	TABLE OF CONTENTS			46	61	I/O: Accessory Buck	test_mlb	10/17/2016
2	2	SYSTEM:BOM Tables	test_mlb	10/13/2016	47	62	I/O: USB PD	test_mlb	10/13/2016
3	4	SYSTEM: Mechanical Components			48	63	I/O: Hydra	test_mlb	10/13/2016
4	5	SYSTEM: Testpoints (Top)	test_mlb	10/13/2016	49	64	I/O: B2B Dock	test_mlb	10/13/2016
5	6	BOOTSTRAPPING	test_mlb	10/13/2016	50	65	I/O: Interposer (Bottom)	test_mlb	10/13/2016
6	10	SOC: JTAG,USB,XTAL	test_mlb	10/17/2016	51	80	RADIOS		06/04/2015
7	11	SOC: PCIE	test_mlb	10/17/2016					
8	12	SOC: MIPI & ISP	test_mlb	10/13/2016					
9	13	SOC: LPDP	test_mlb	10/13/2016					
10	14	SOC: Serial	test_mlb	10/17/2016					
11	15	SOC: GPIO & UART	test_mlb	10/13/2016					
12	16	SOC: AOP	test_mlb	10/17/2016					
13	17	SOC: Power (1/3)	test_mlb	10/17/2016					
14	18	SOC: Power (2/3)	test_mlb	10/17/2016					
15	19	SOC: Power (3/3)	test_mlb	10/17/2016					
16	26	NAND	test_mlb	10/13/2016					
17	27	SYSTEM POWER: PMU Bucks (1/4)	test_mlb	10/13/2016					
18	28	SYSTEM POWER: PMU Bucks (2/4)	test_mlb	10/13/2016					
19	29	SYSTEM POWER: PMU LDOs (3/4)	test_mlb	10/13/2016					
20	30	SYSTEM POWER: PMU (4/4)	test_mlb	11/01/2016					
21	31	SYSTEM POWER: Boost	test_mlb	10/13/2016					
22	32	SYSTEM POWER: B2B Battery	test_mlb	10/13/2016					
23	33	SYSTEM POWER: Charger	test_mlb	10/13/2016					
24	34	SYSTEM POWER: Iktara							
25	35	SYSTEM POWER: B2B Cyclone + Button	test_mlb	10/13/2016					
26	36	SENSORS	test_mlb	10/13/2016					
27	37	CAMERA: PMU (1/2)	test_mlb	10/13/2016					
28	38	CAMERA: PMU (2/2)	test_mlb	10/13/2016					
29	39	CAMERA: B2B Wide (WY)	test_mlb	10/13/2016					
30	40	CAMERA: B2B Tele (MT)	test_mlb	10/13/2016					
31	41	CAMERA: Strobe Drivers	test_mlb	10/13/2016					
32	42	CAMERA: B2B FCAM	test_mlb	10/13/2016					
33	43	CAMERA: B2B Strobe + Hold Button	test_mlb	10/13/2016					
34	44	PEARL: Power	test_mlb	10/13/2016					
35	45	PEARL: B2B Romeo + Juliet	test_mlb	10/13/2016					
36	46	PEARL: B2B Rosaline + Misc	test_mlb	10/13/2016					
37	47	AUDIO: CODEC (1/2)	test_mlb	10/13/2016					
38	48	AUDIO: CODEC (2/2)	test_mlb	10/13/2016					
39	49	AUDIO: Speaker Amp Bottom		08/25/2015					
40	50	AUDIO: Speaker Amp Top		08/25/2015					
41	51	ARC: Driver	test_mlb	10/13/2016					
42	56	CG: Power Supplies - Touch & Display	test_mlb	10/13/2016					
43	57	CG: B2B Display	test_mlb	10/13/2016					
44	58	CG: B2B Orb & Touch		08/25/2015					
45	59	I/O: Overvoltage Cut-Off Circuit	sync	01/10/2017					

BOM:639-04583 (Ultimate)
 BOM:639-03409 (Extreme)
 MCO:056-04077

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-02221	1	SCH_MLB_TOP_X891	SCH	NO	COMMON
820-00863	1	PCB_MLB_TOP_X891	PCB	NO	COMMON

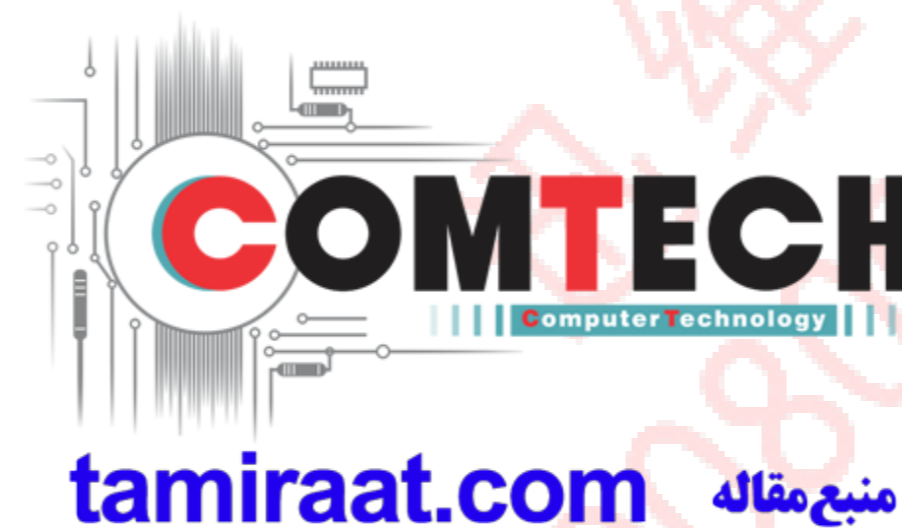


TABLE OF CONTENTS

DRAWING TITLE		SCH,MLB, TOP, X891	
Apple Inc.	DRAWING NUMBER	051-02221	SIZE
	REVISION	9.0.0	D
BRANCH		evt-1	
PAGE		1 OF 80	
SHEET		1 OF 51	
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			

8

7

6

5

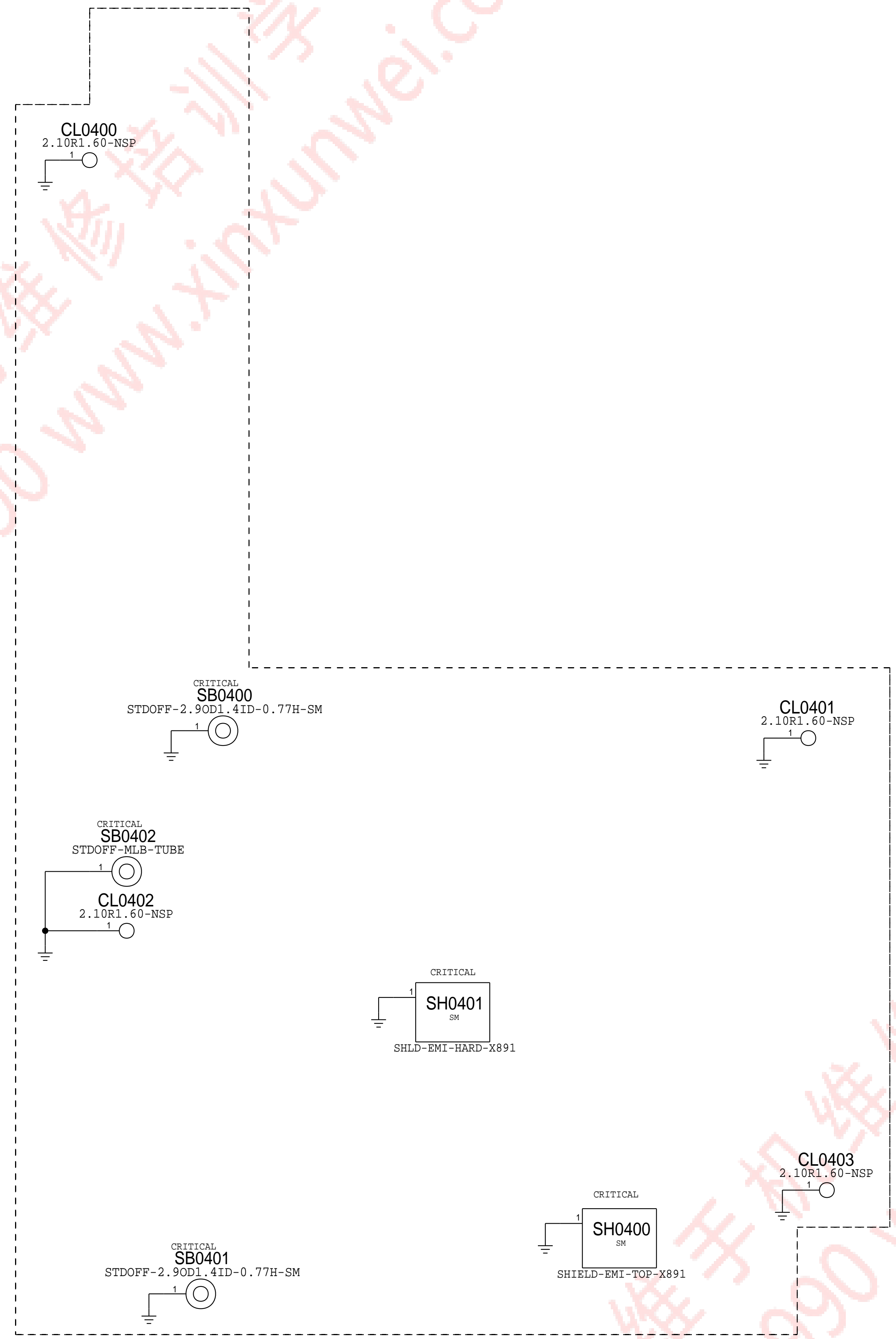
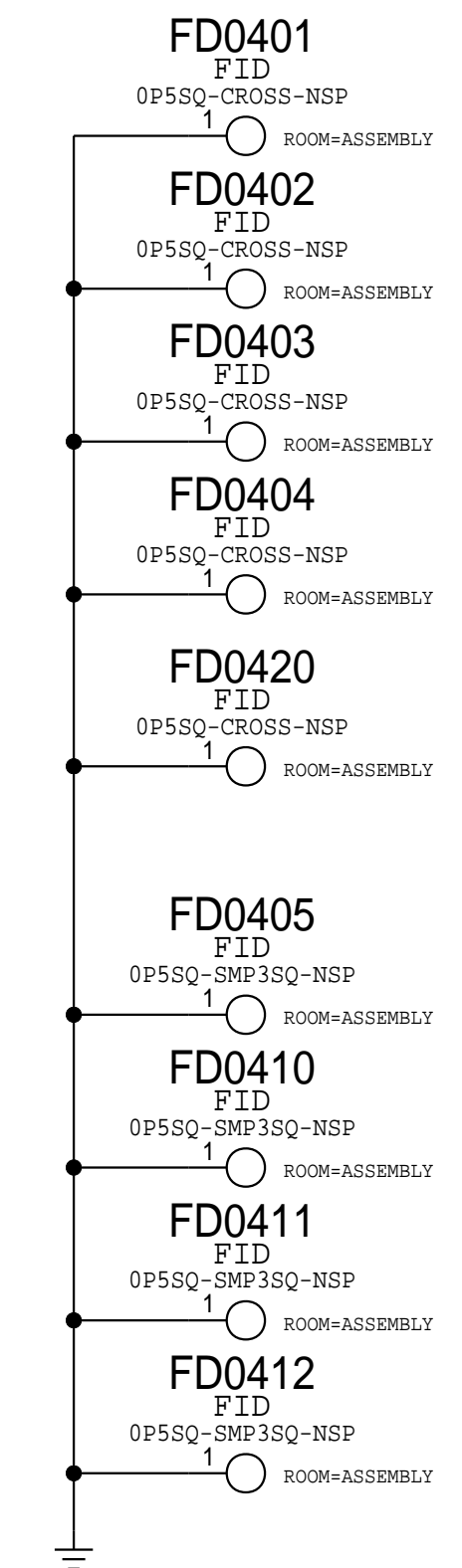
4

3

2

1

FIDUCIALS



D

D

C

C

B

B

A

A



PAGE TITLE		
SYSTEM: Mechanical Components		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	4 OF 80
	SHEET	3 OF 51

8

7

6

5

4

3

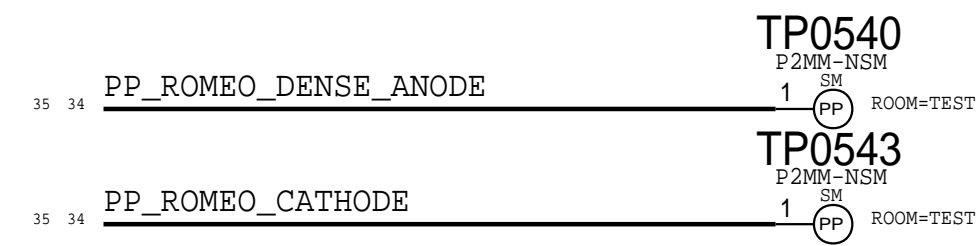
2

1

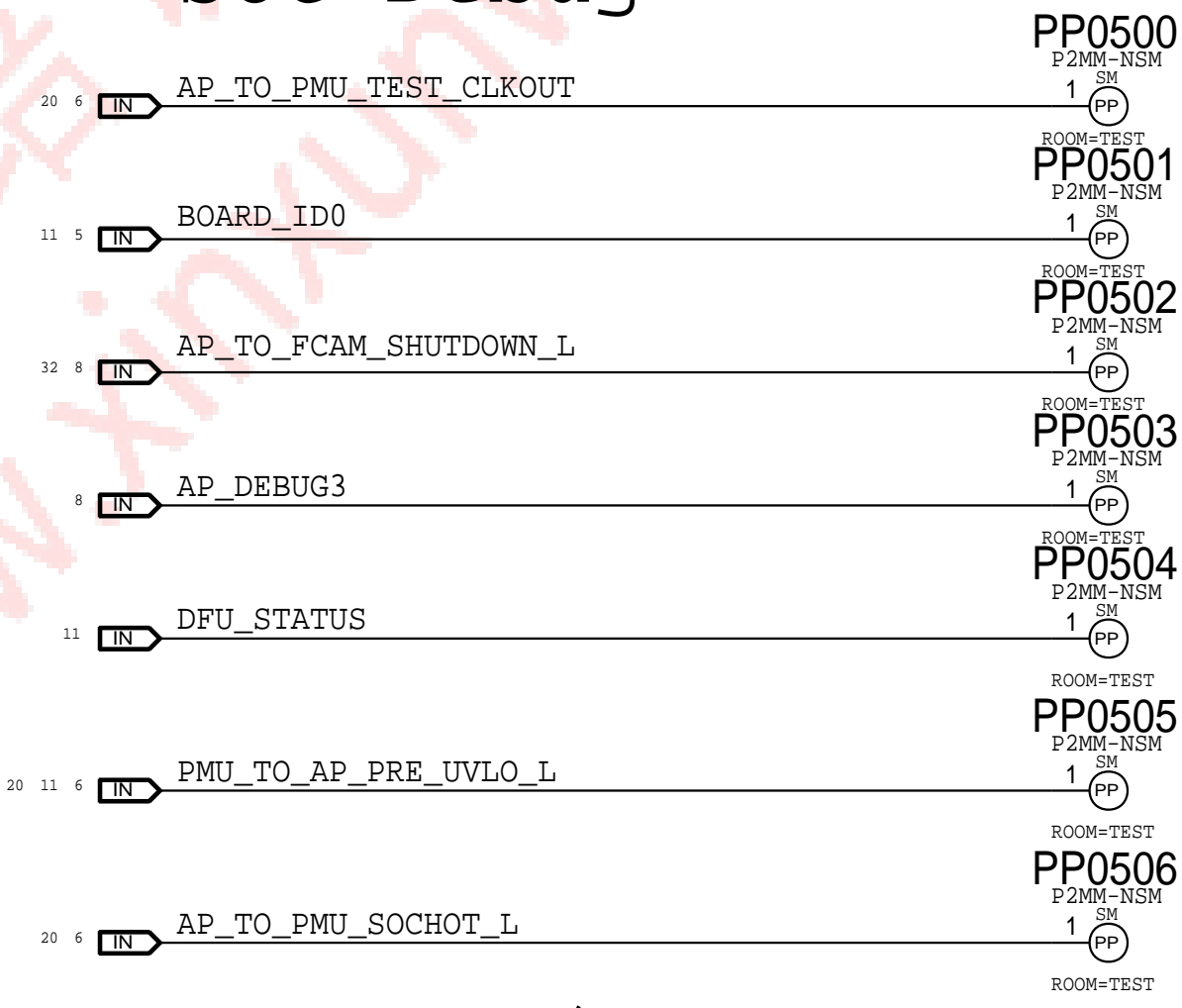
Test Points

Probe Points

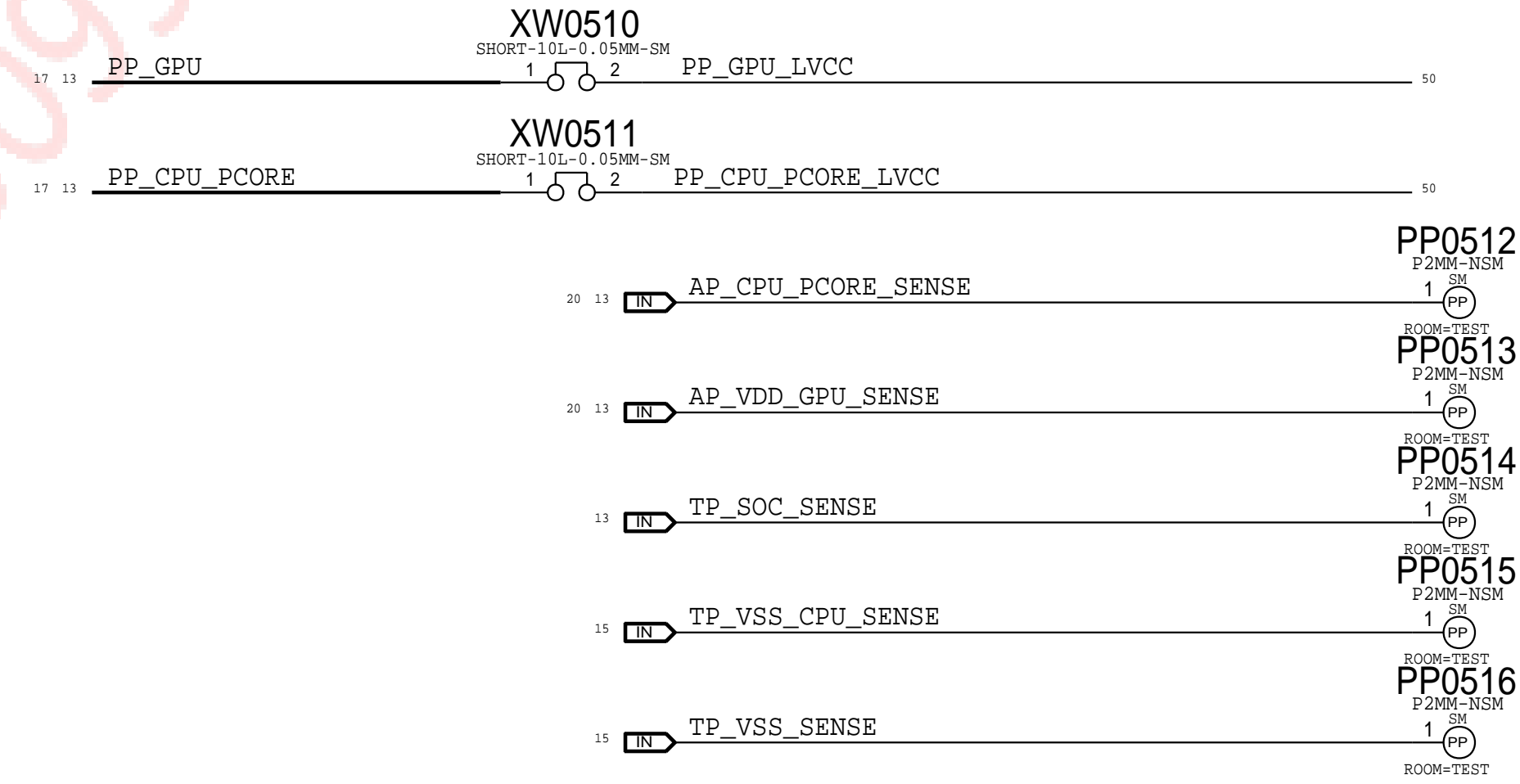
POWER



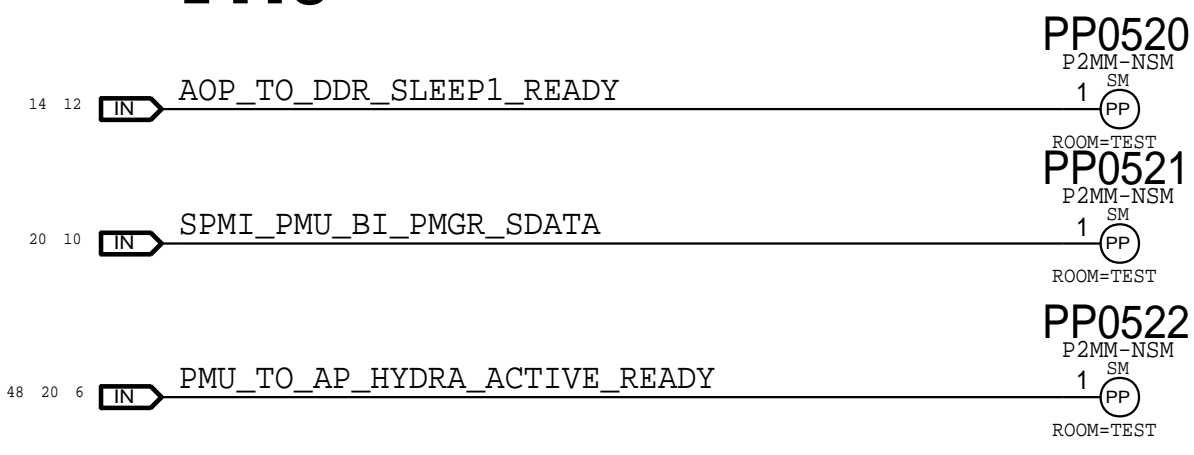
SOC Debug



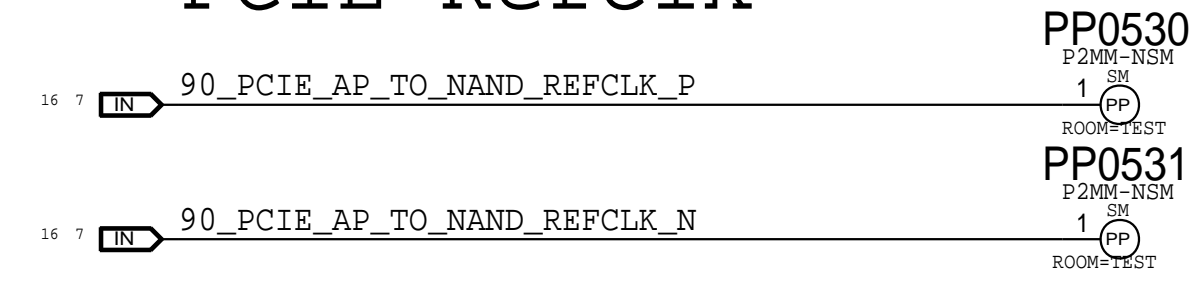
SOC CPU/GPU



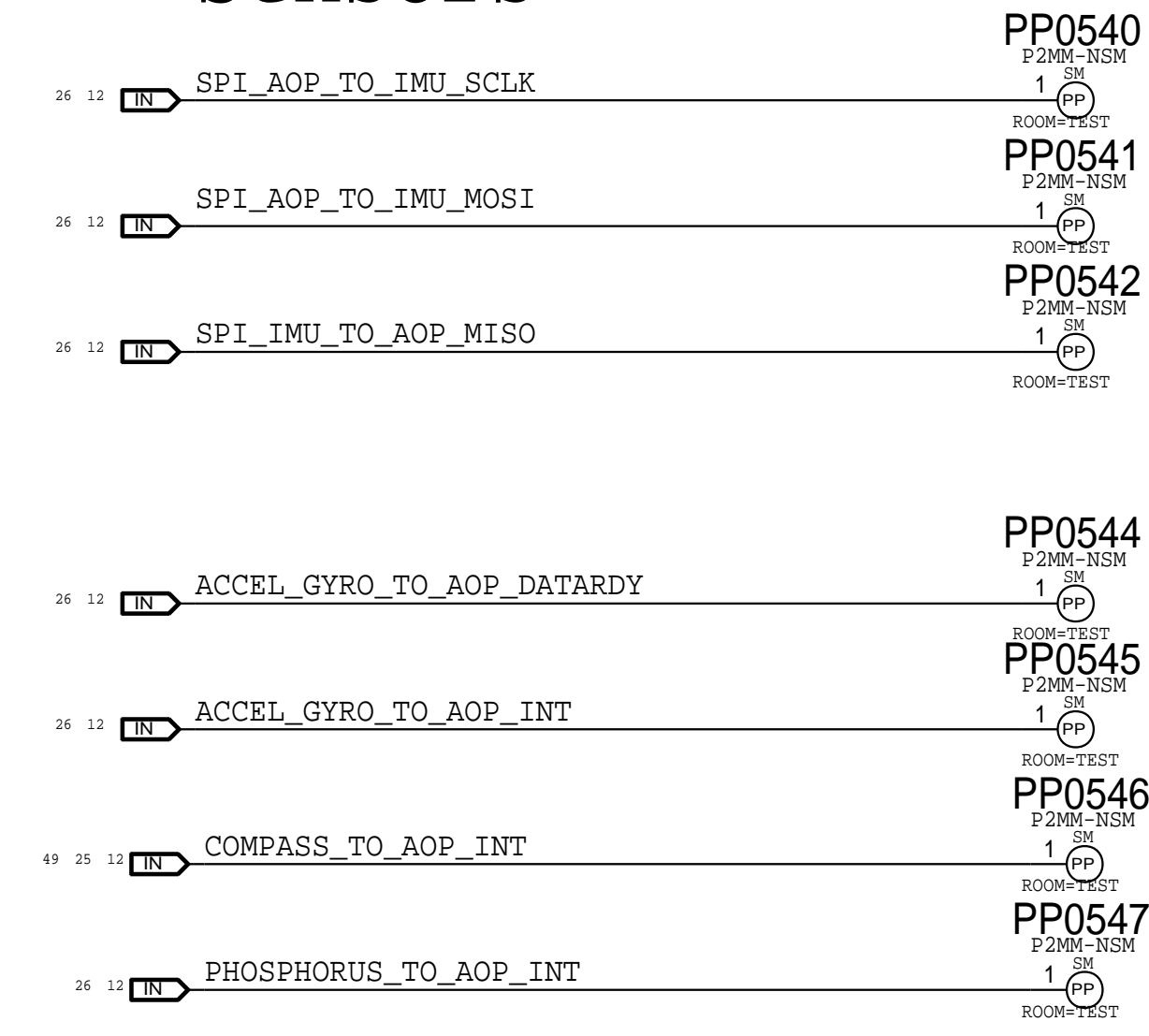
PMU



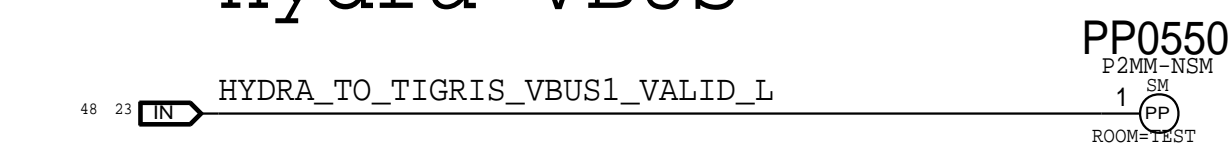
PCIe Refclk



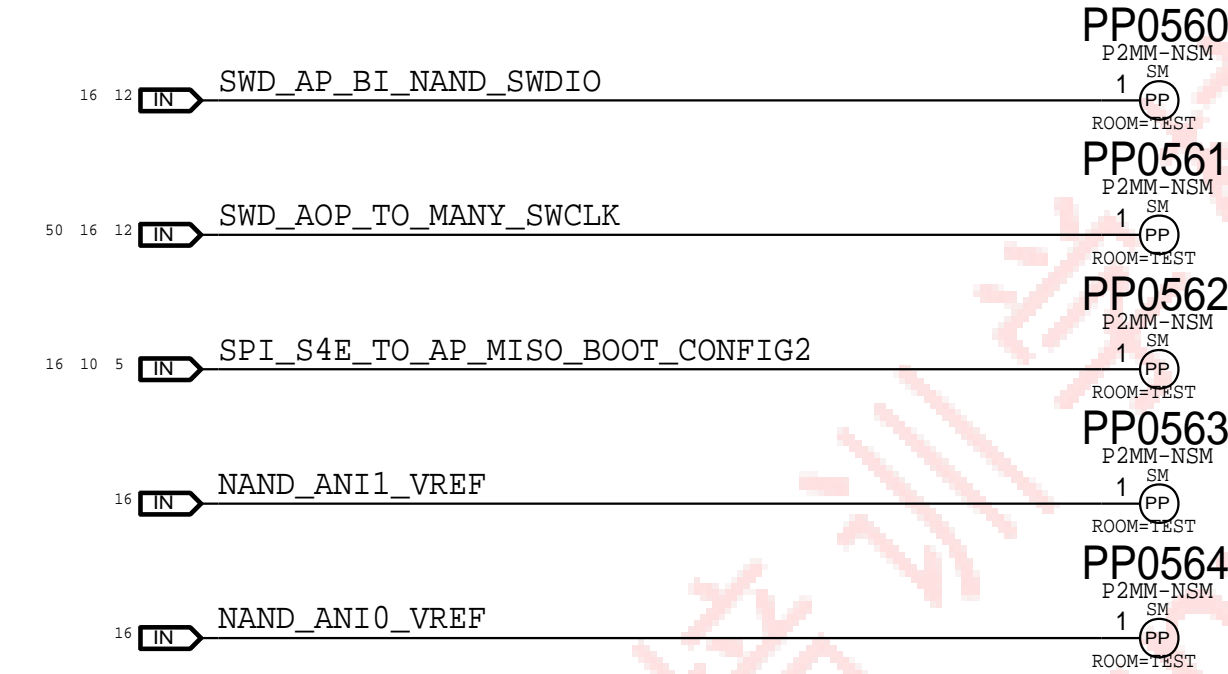
Sensors



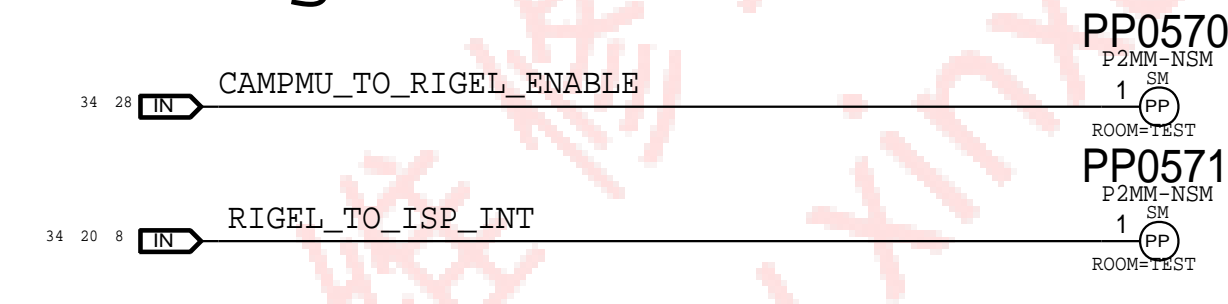
Hydra VBUS



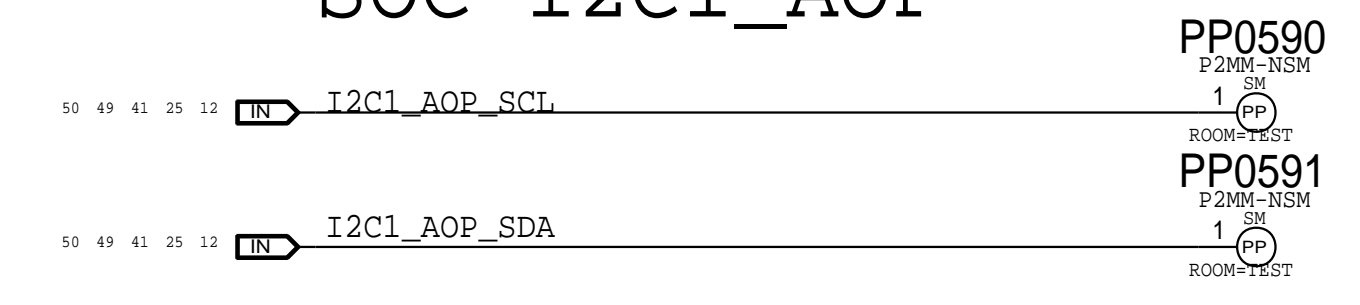
NAND



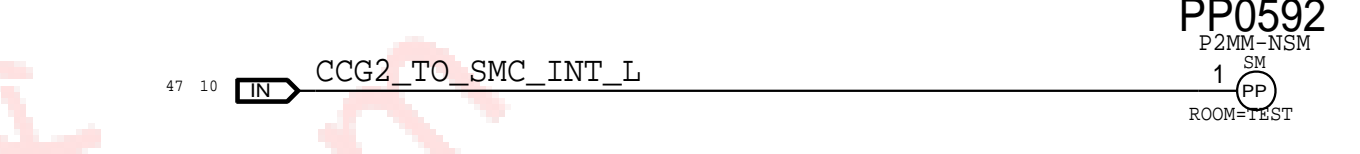
Rigel



SOC I2C1_AOP



CCG2



PAGE TITLE		
SYSTEM: Testpoints (Top)		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	5 OF 80
	SHEET	4 OF 51

BOOTSTRAPPING: BOARD REV BOARD ID BOOT CONFIG



Board Rev[3:0]				
Float=Low I PU=High				
	3	2	1	0
	Build Major		Build Minor	
Proto 1	1	1	1	1
Proto 1 (DOE6)	1	1	1	0
Proto 2	1	1	0	1
Proto 3	1	1	0	0
EVT	1	0	1	1
(Spare)	1	0	1	0
Carrier	0	1	1	1
(Spare)	0	1	1	0
DVT	0	0	1	1
(Spare)	0	0	1	0
(Spare)	0	0	0	1
PVT	0	0	0	0

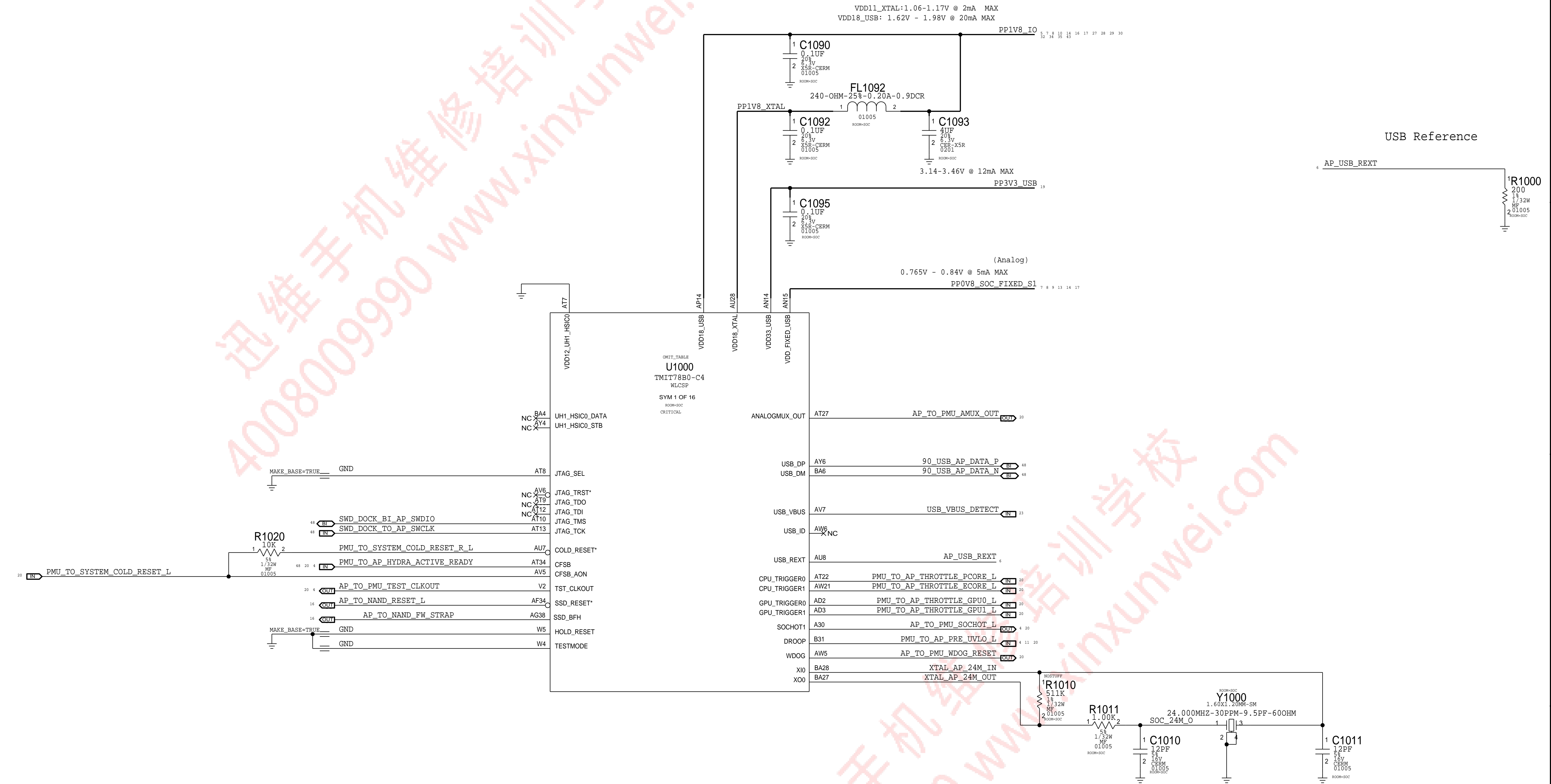
Board ID[4:0]					
Float=Low I PU=High					
	4	3	2	1	0
	X	Baseband	Form Factor	MLB/Dev	
D20 MLB	0	0	0	1	0
D20 Dev	0	0	0	1	1
D21 MLB	0	0	1	0	0
D21 Dev	0	0	1	0	1
D22 MLB	0	0	1	1	0
D22 Dev	0	0	1	1	1
D201 MLB	0	1	0	1	0
D201 Dev	0	1	0	1	1
D211 MLB	0	1	1	0	0
D211 Dev	0	1	1	0	1
D221 MLB	0	1	1	1	0
D221 Dev	0	1	1	1	1

Boot Config[2:0]			
Float=Low I PU=High			
	2	1	0
SPI0	0	0	0
SPI0 Test Mode	0	0	1
SPI0 NAND	0	1	0
SPI0 NAND Test	0	1	1
Slow SPI0 Test	1	1	0

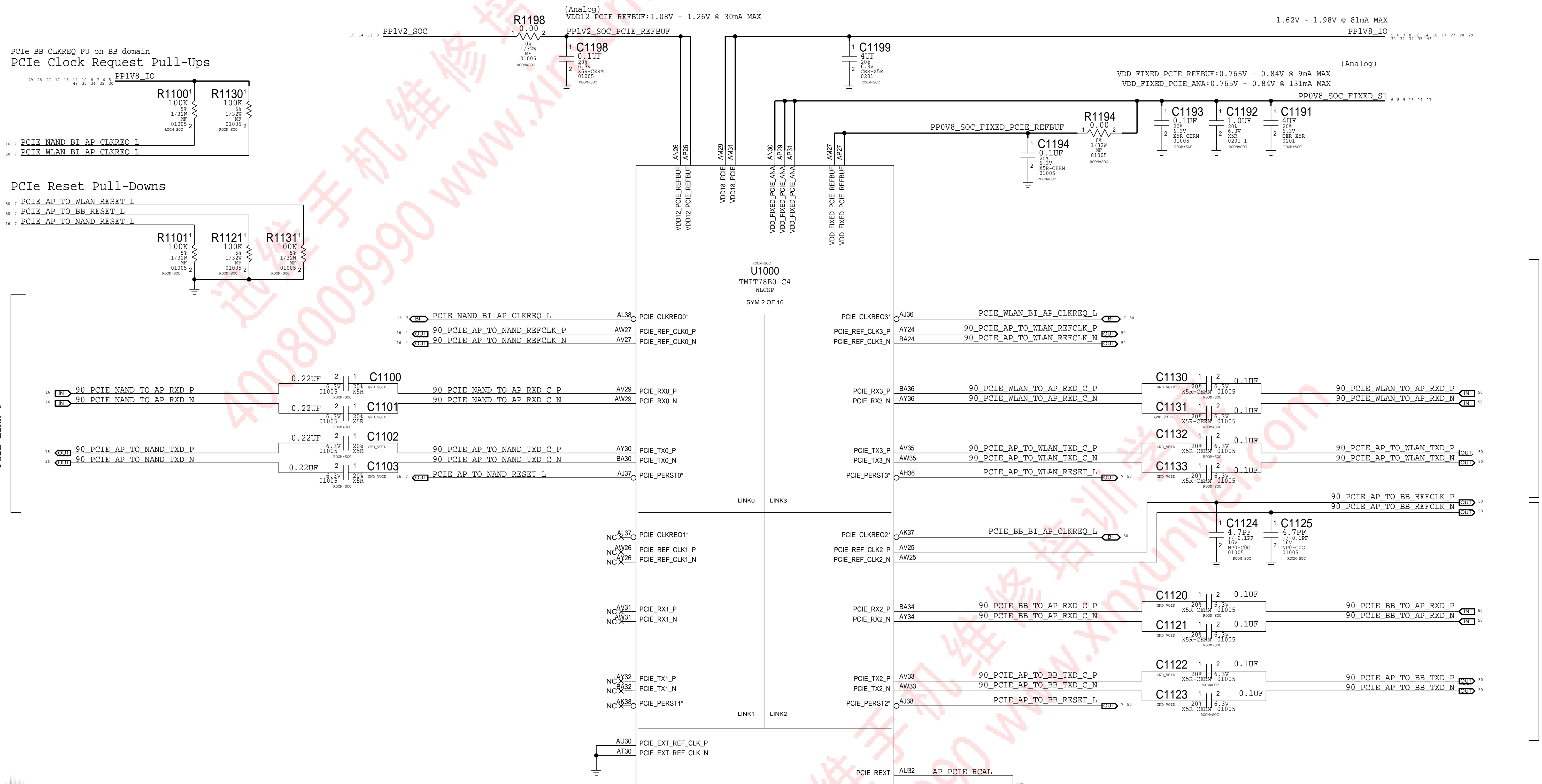
PAGE TITLE			BOOTSTRAPPING		
		DRAWING NUMBER	051-02221	SIZE	D
		REVISION	9.0.0		
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED			BRANCH	evt-1	
			PAGE	6 OF 80	
			SHEET	5 OF 51	



SOC - USB, JTAG, XTAL



SOC - PCIE INTERFACES



PAGE TITLE			SOC: PCIE		
Apple Inc.		DRAWING NUMBER	051-02221	SIZE	D
NOTICE OF PROPRIETARY PROPERTY:		REVISION	9.0.0	BRANCH	
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		PAGE	
		11 OF 80		SHEET	
		7 OF 51			

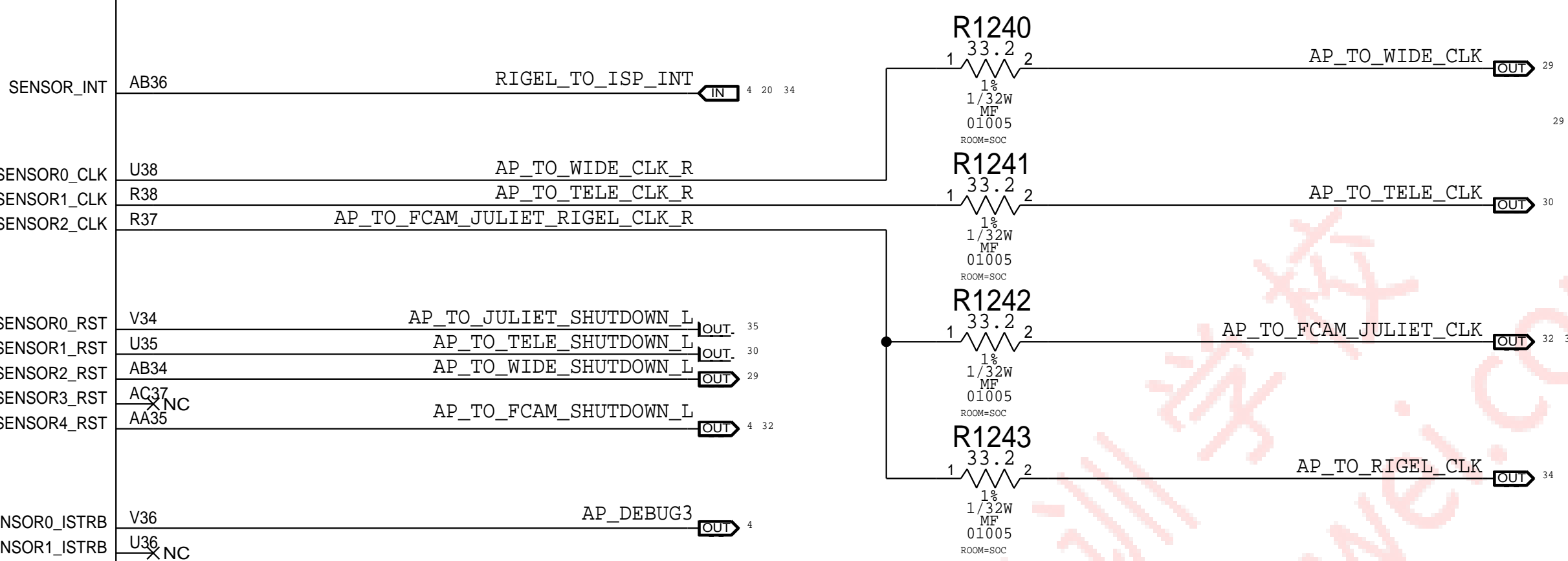
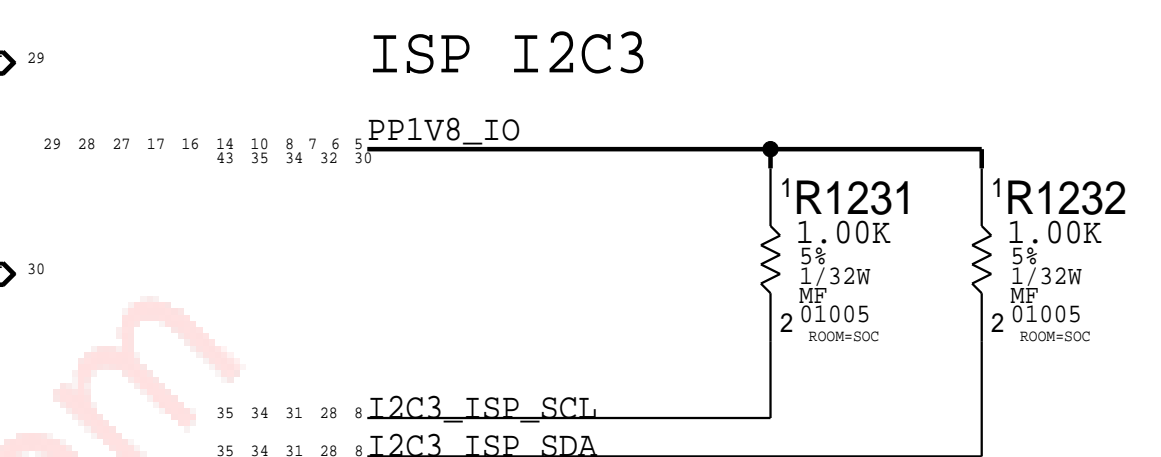
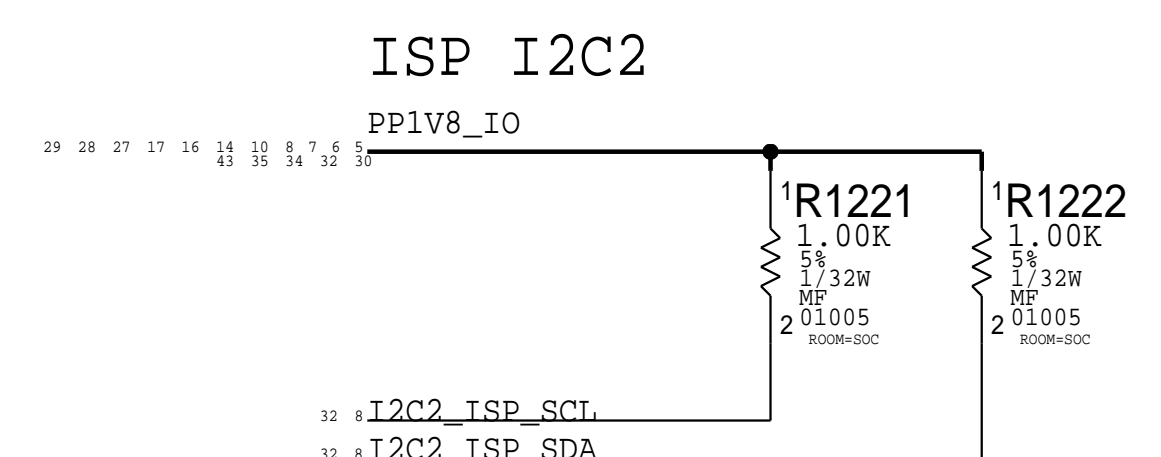
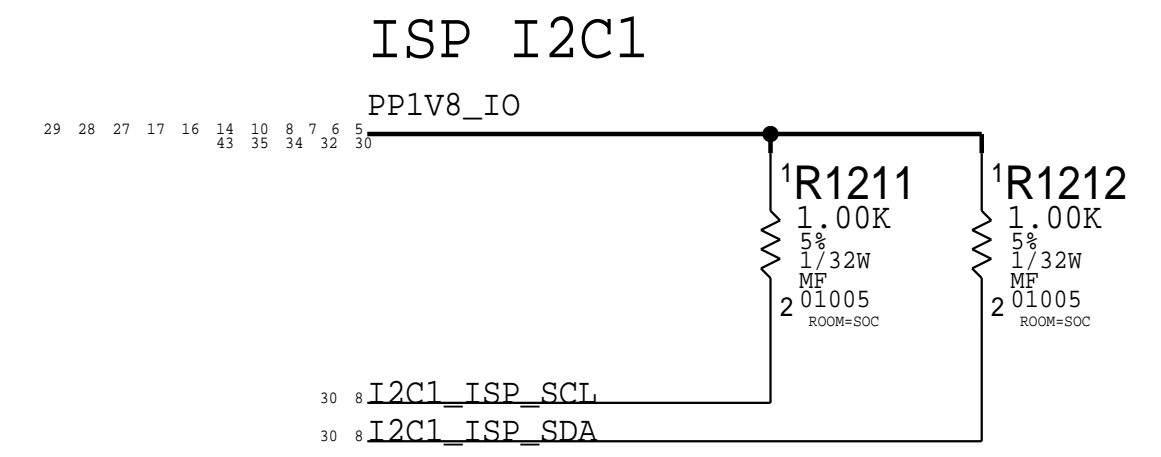
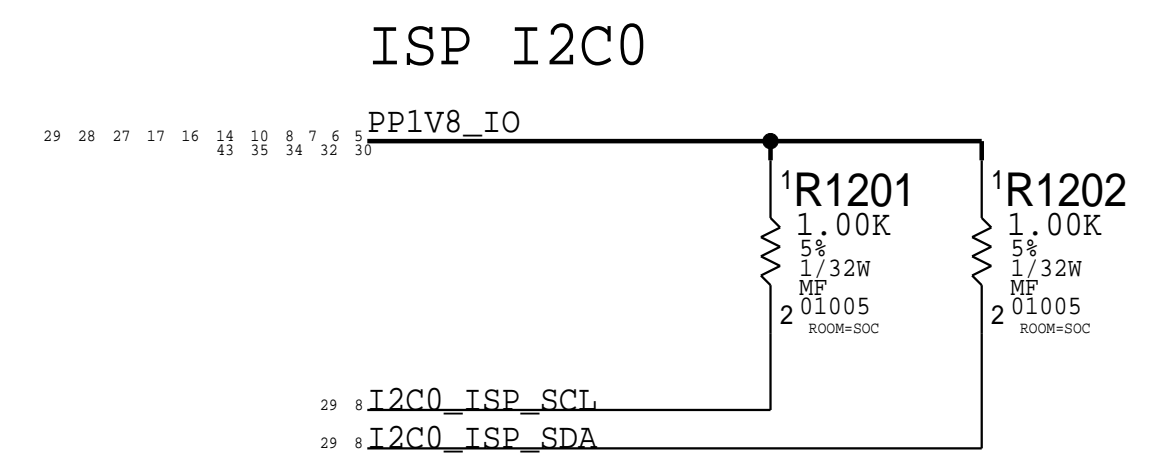
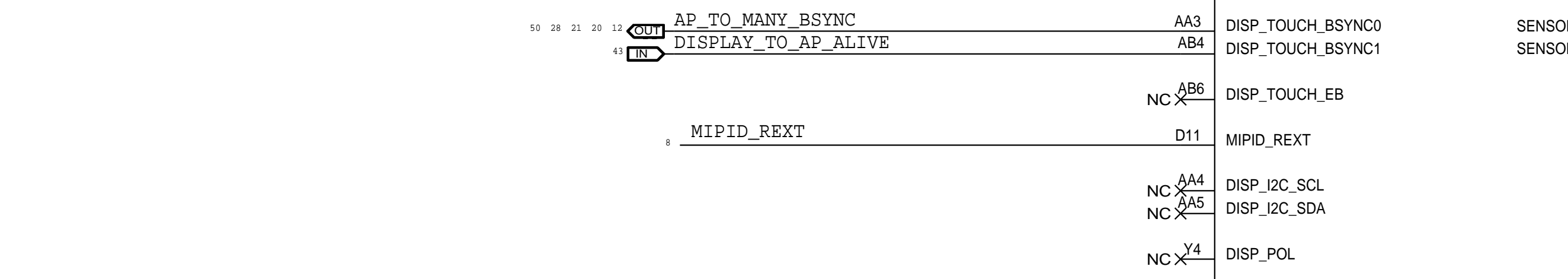
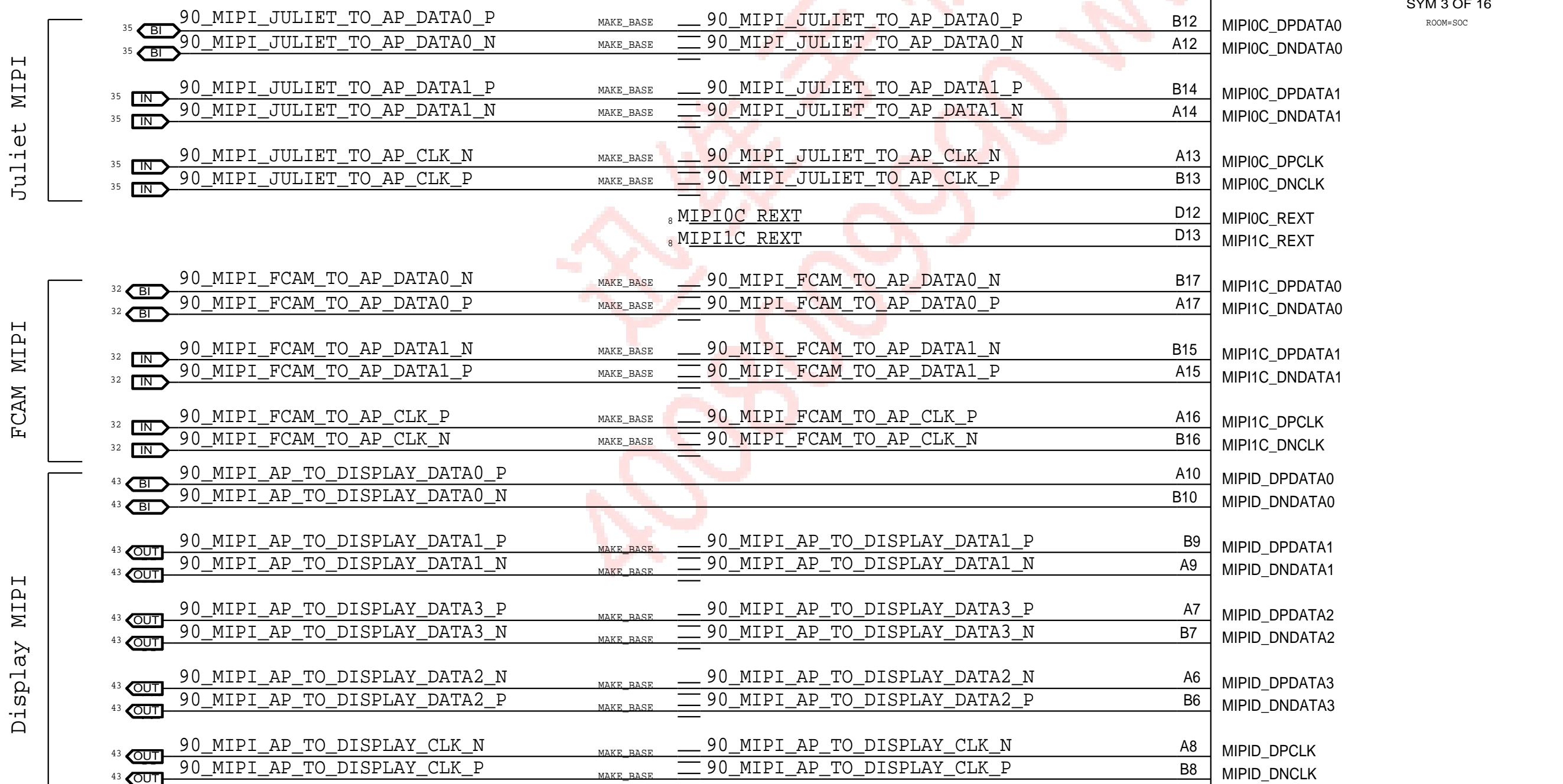
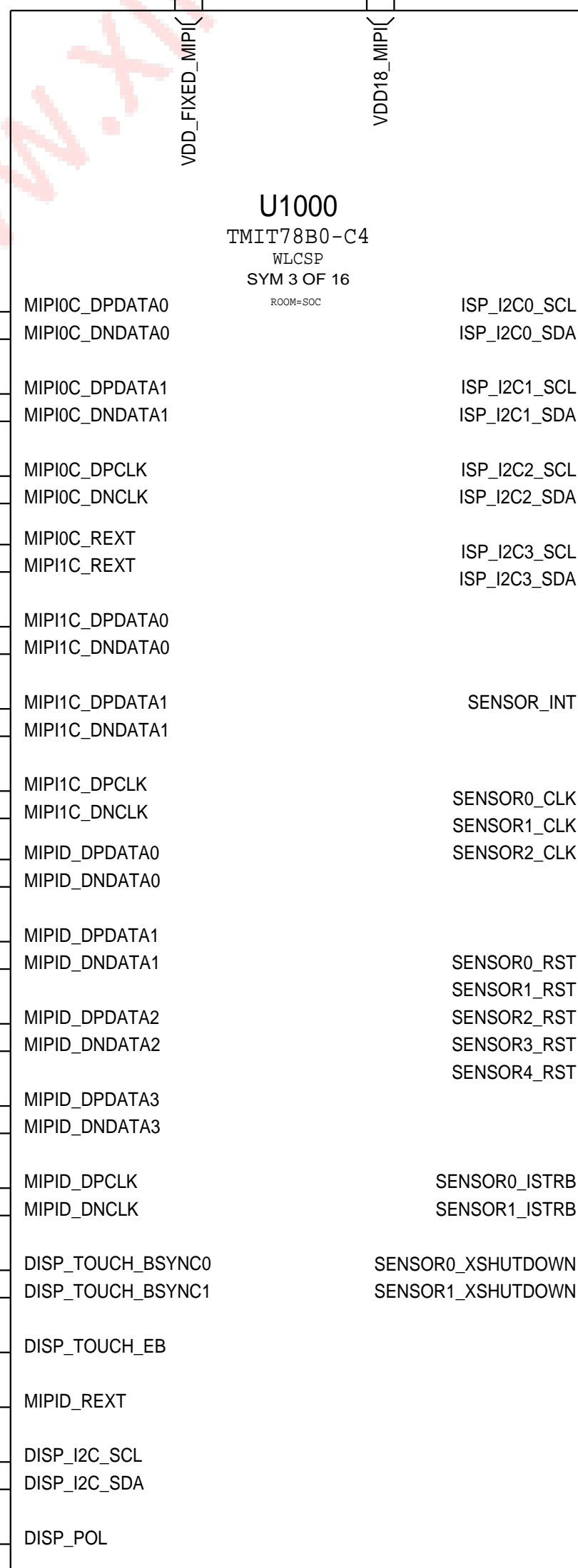
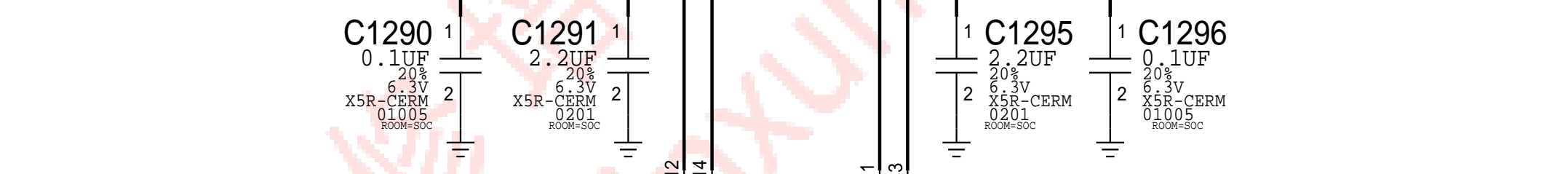
SOC - MIPI & ISP INTERFACES

MIPI Lane & Polarity Swapping

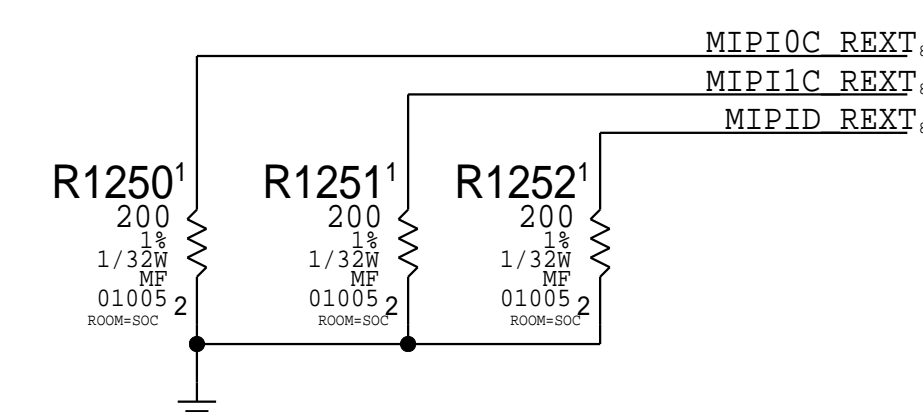
Program	Function	SOC LANE	DISTAL LANE	Lane Swap	Polarity Swap
X901	Display	Clock_P	Clock_N		✓
		Clock_N	Clock_P		
		Lane_0_P	Lane_0_N		
		Lane_0_N	Lane_0_P		
		Lane_1_P	Lane_1_N		
		Lane_1_N	Lane_1_P		
	FCAM	Lane_2_P	Lane_2_N	✓	
		Lane_2_N	Lane_2_P		
		Lane_3_P	Lane_3_N	✓	
		Lane_3_N	Lane_3_P		
		Lane_0_P	Lane_0_N		
		Lane_0_N	Lane_0_P		
JULIET	Clock_P	Clock_N		✓	
	Clock_N	Clock_P			
	Lane_0_P	Lane_0_N			
	Lane_0_N	Lane_0_P			
	Lane_1_P	Lane_1_N			
	Lane_1_N	Lane_1_P			

(Analog)
0.765V - 0.84V @ 40mA MAX
PP0V8_SOC_FIXED_S1

1.62V - 1.98V @ 10mA MAX
PPIV8_IO

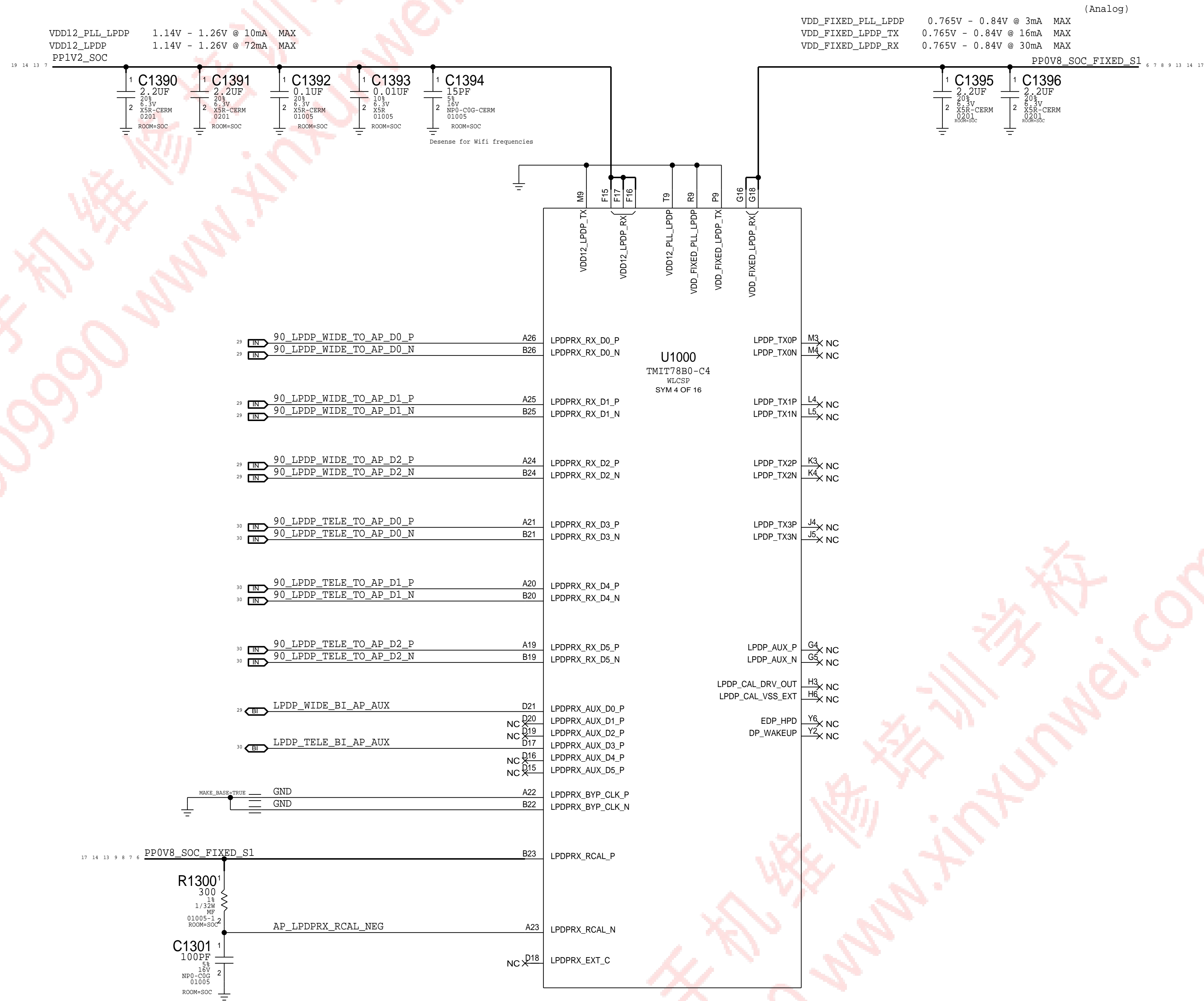


MIPI Reference

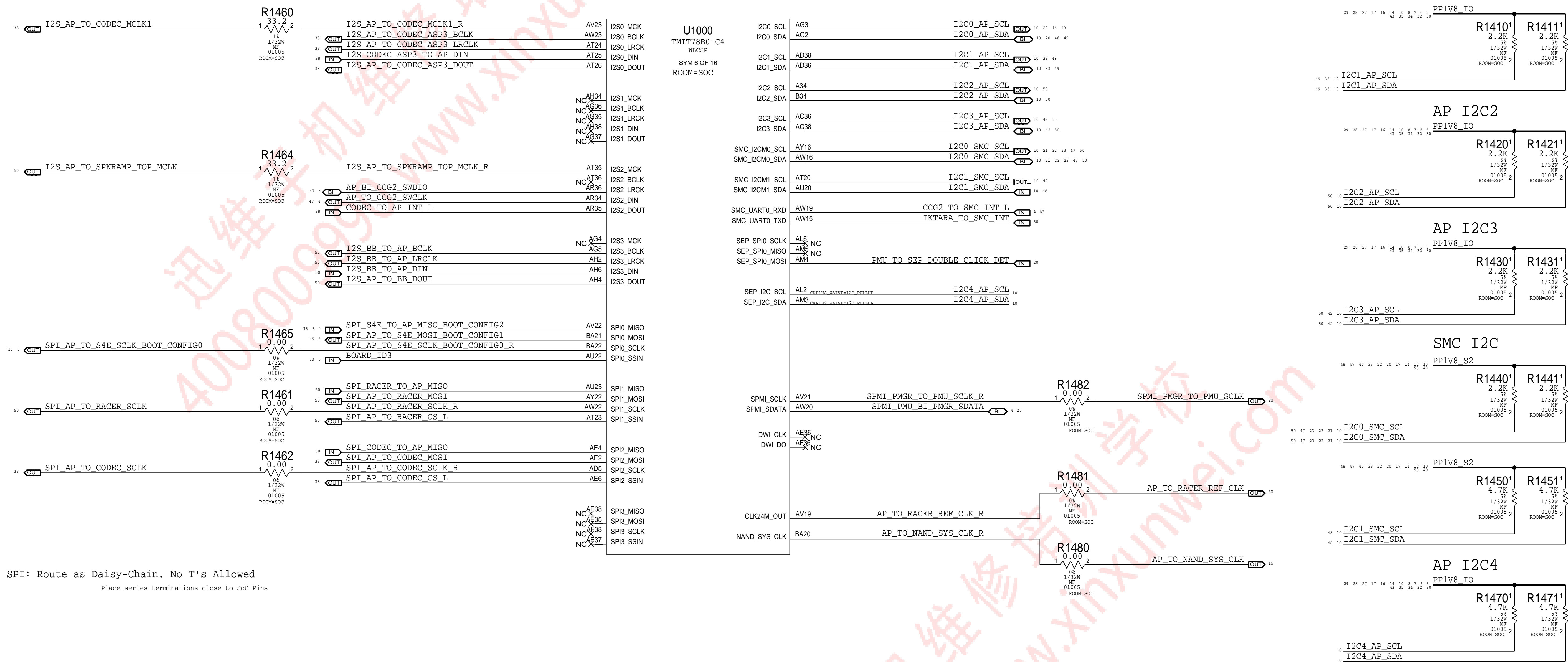


PAGE TITLE		
SOC: MIPI & ISP		
	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	12 OF 80
	SHEET	8 OF 51

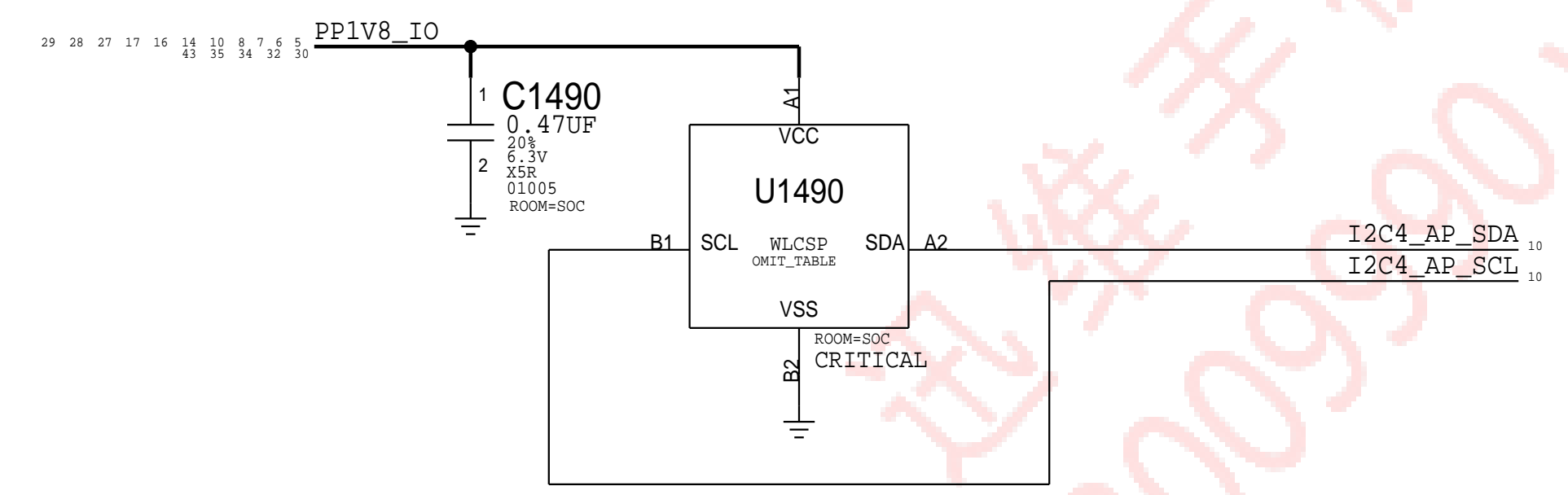
SOC - LPDP



SOC - SERIAL INTERFACES



SPI: Route as Daisy-Chain. No T's Allowed
Place series terminations close to SoC Pins

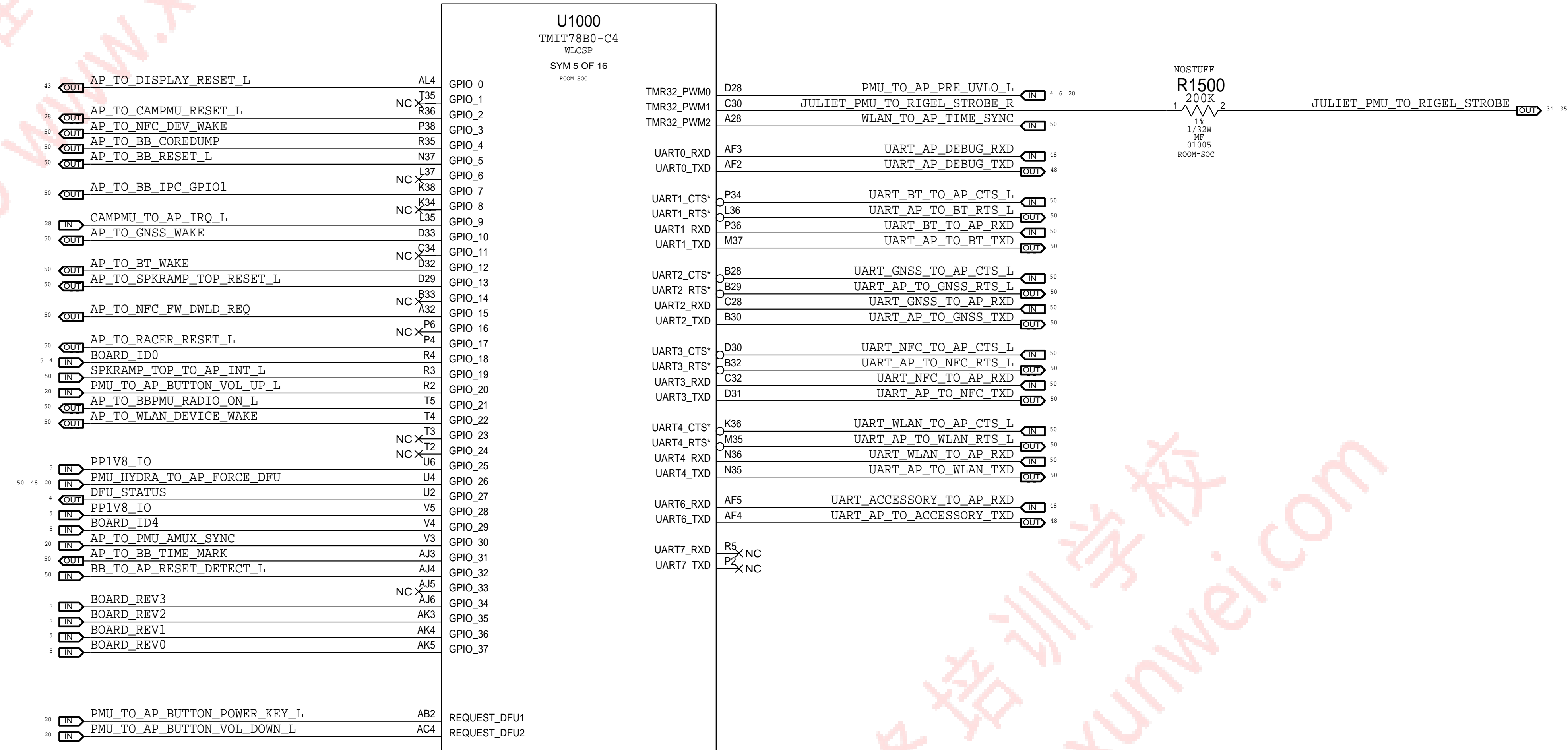


PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335800234	1	WLCSP	U1490	CRITICAL	COMMON

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335800233	335800234	BOM_TABLE_ALTS	U1490	U1490

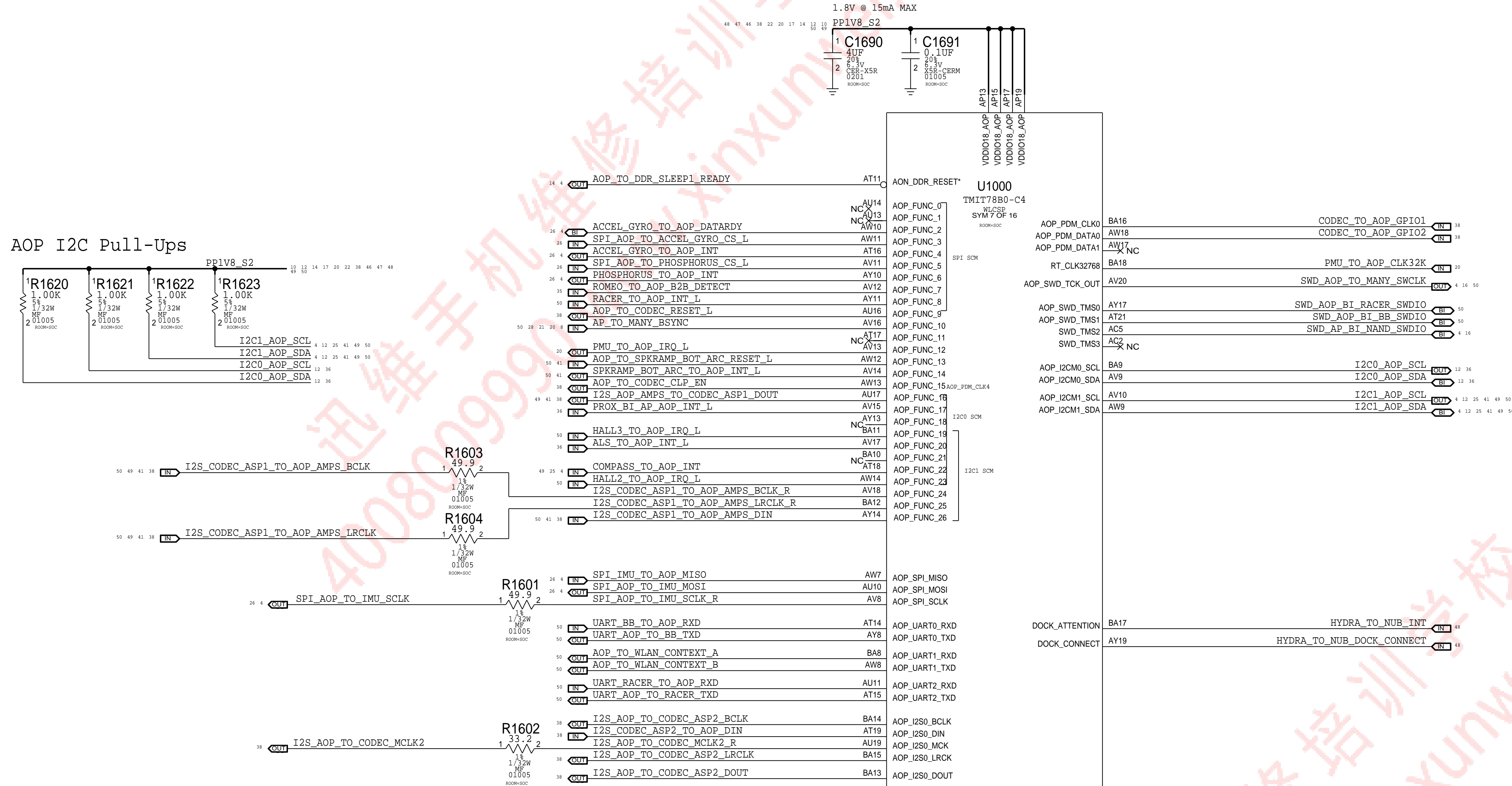
PAGE TITLE		SOC: Serial	
	DRAWING NUMBER	051-02221	SIZE
	REVISION	9.0.0	D
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART I ALL RIGHTS RESERVED		BRANCH	evt-1
		PAGE	14 OF 80
		SHEET	10 OF 51

SOC - GPIO INTERFACES



PAGE TITLE		
SOC: GPIO & UART		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	15 OF 80
	SHEET	11 OF 51

SOC - AOP



PAGE TITLE			SOC: AOP		
Apple Inc.	DRAWING NUMBER	051-02221	SIZE	D	
	REVISION	9.0.0			
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-1	
			PAGE	16 OF 80	
			SHEET	12 OF 51	

SOC - CPU, GPU & SOC RAILS

1.06V @ 11.0A MAX
0.8V @ 6A MAX
0.575V @ 2.7A MAX

PP_CPU_PCORE

1.06V @ 18.3A MAX
0.8V @ 10.6A MAX
0.575V @ 3.4A MAX

PP_GPU

0.765V @ 4.9A MAX
0.635V @ 2.6A MAX

PP_SOC_S1

D

D

C

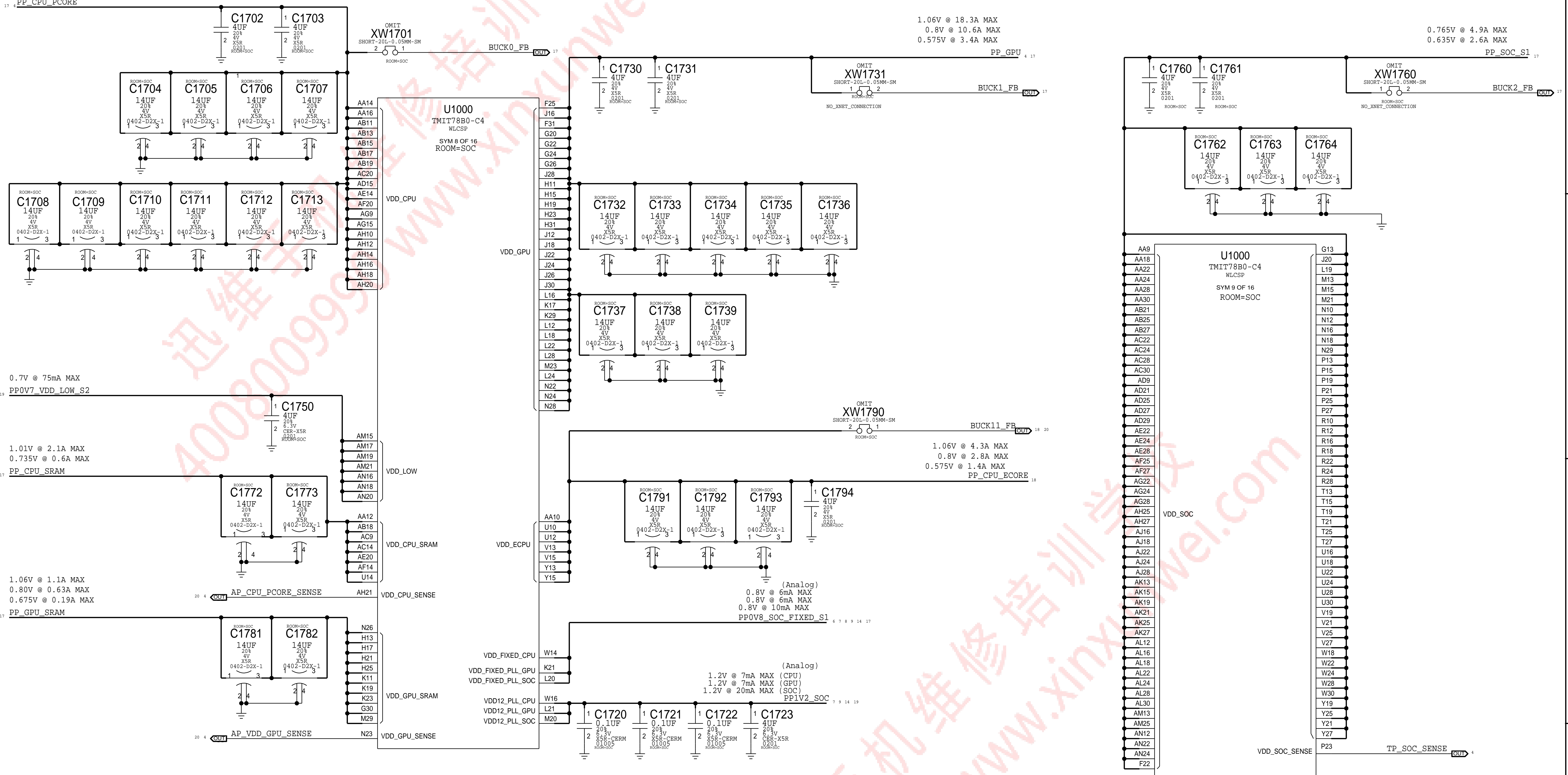
C

B

B

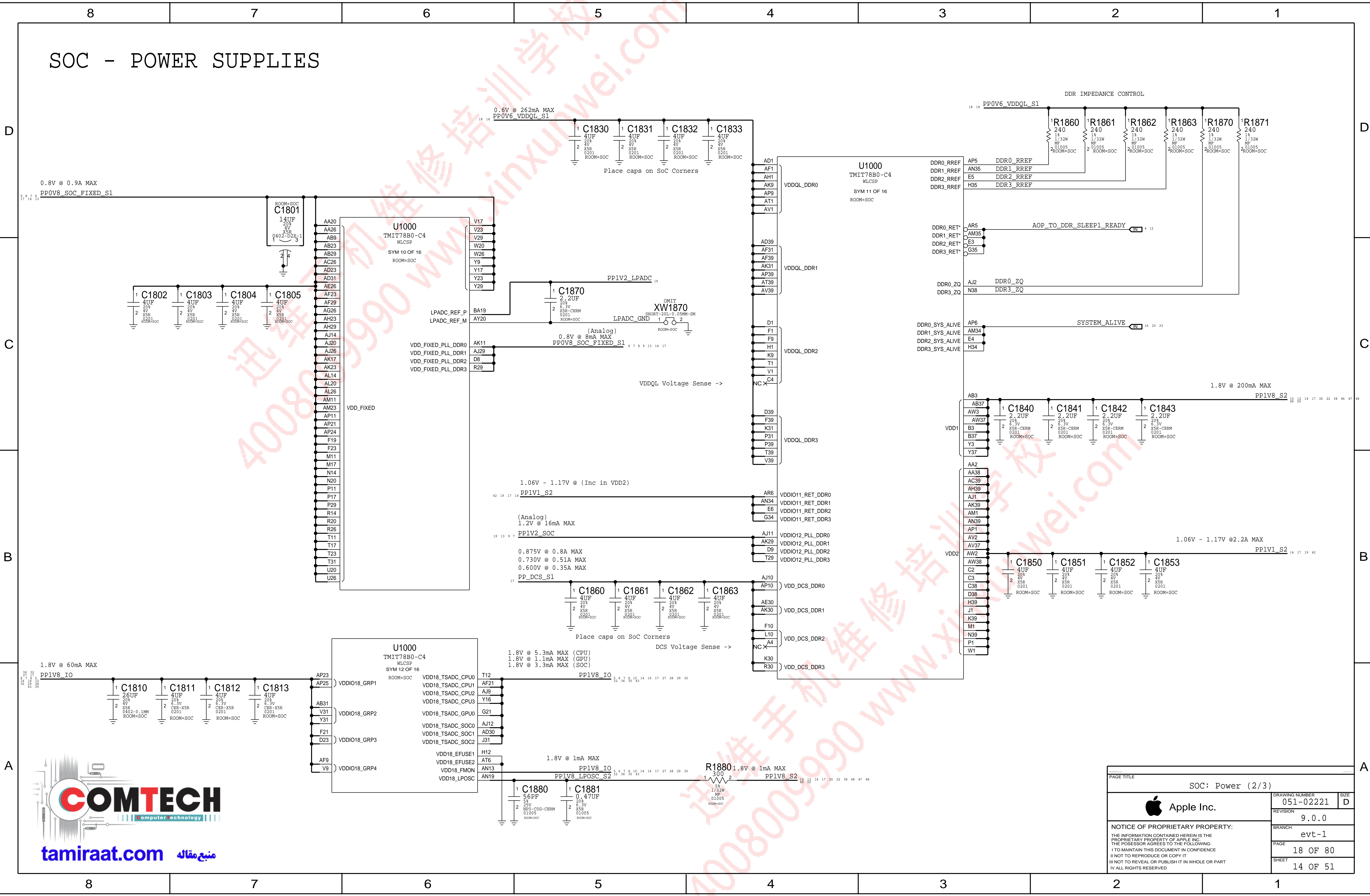
A

A



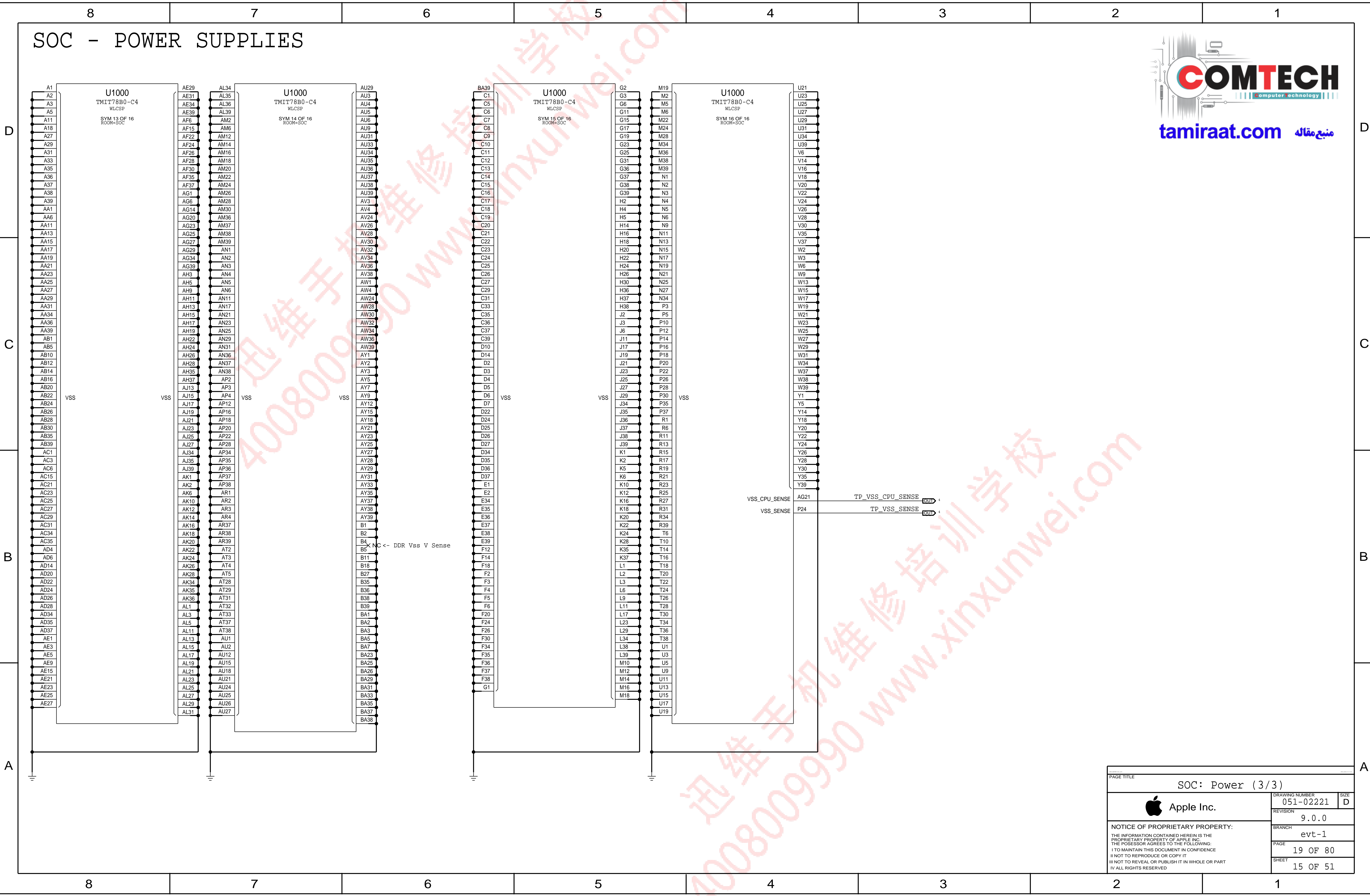
PAGE TITLE			SOC: Power (1/3)		
DRAWING NUMBER		051-02221	SIZE	D	
REVISION		9.0.0	BRANCH	evt-1	
PAGE		17 OF 80	SHEET	13 OF 51	
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED					

SOC - POWER SUPPLIES



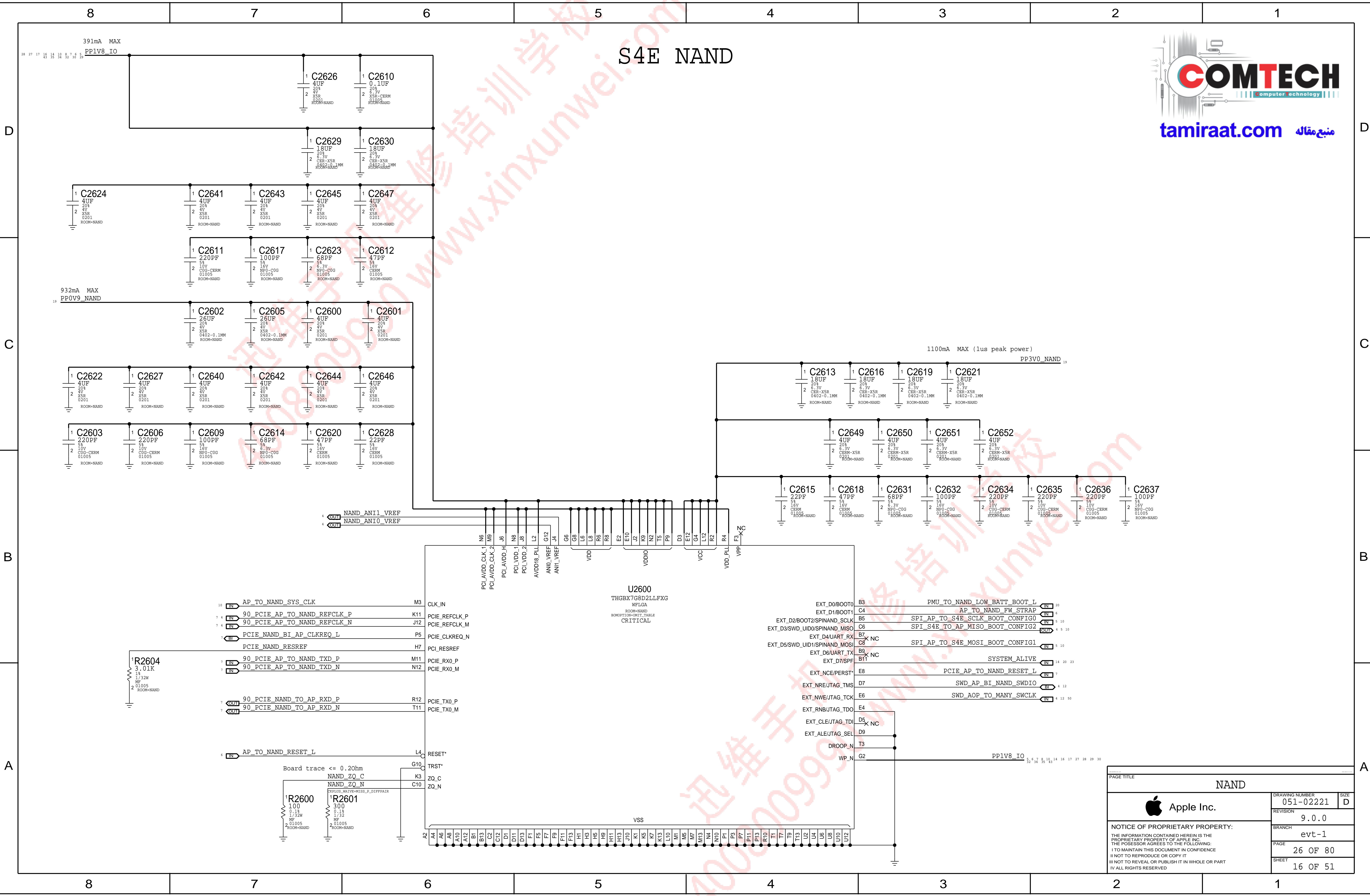
PAGE TITLE SOC: Power (2/3)		
	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART I ALL RIGHTS RESERVED		PAGE 18 OF 80 SHEET 14 OF 51

SOC - POWER SUPPLIES



PAGE TITLE		
SOC: Power (3/3)		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	19 OF 80
	SHEET	15 OF 51

S4E NAND

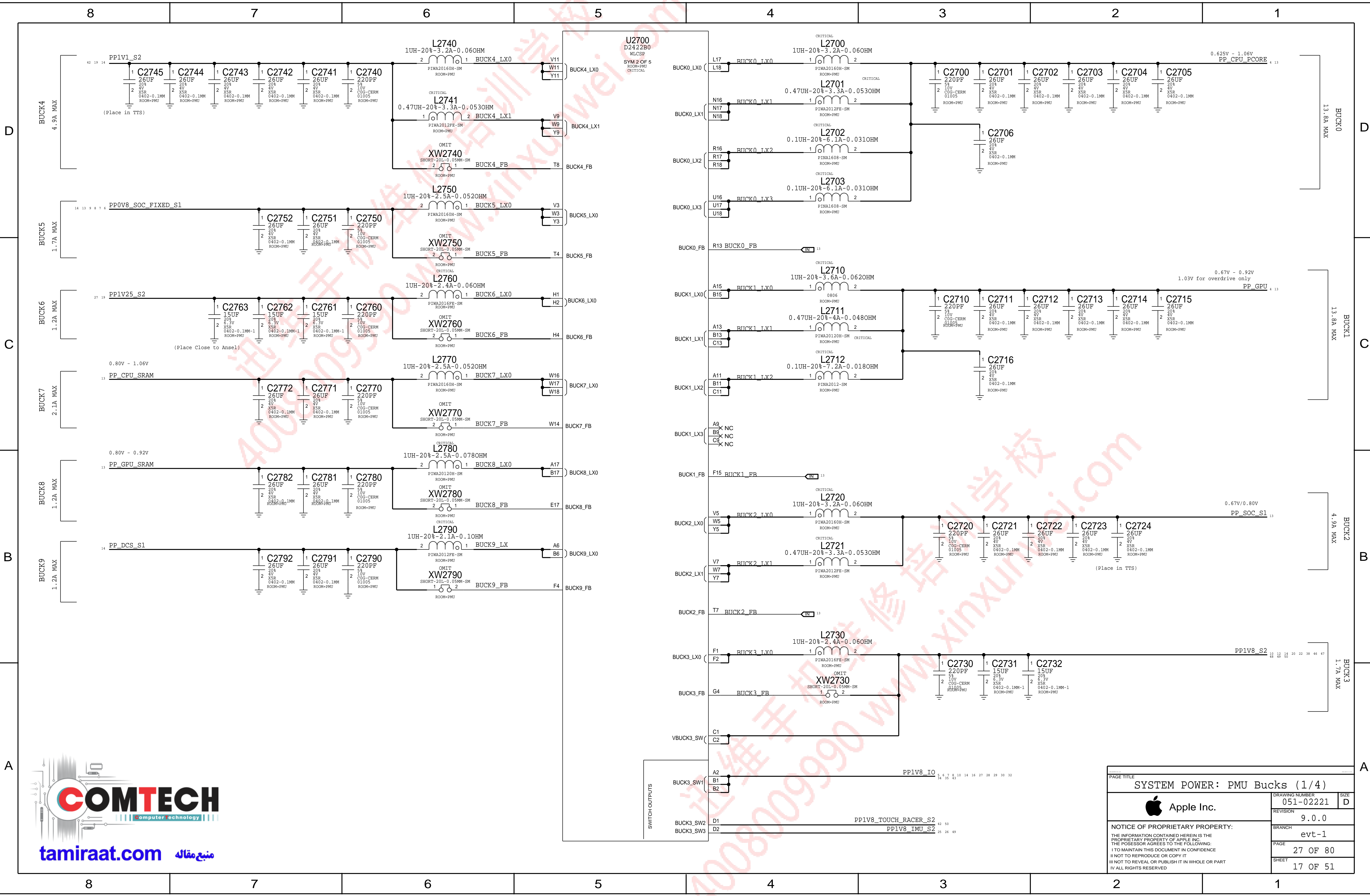


16	IN	AP_TO_NAND_SYS_CLK	M3	CLK_IN
7	IN	90_PCIE_AP_TO_NAND_REFCLK_P	K11	PCIE_REFCLK_P
7	IN	90_PCIE_AP_TO_NAND_REFCLK_N	J12	PCIE_REFCLK_M
7	IN	PCIE_NAND_BI_AP_CLKREQ_L	P5	PCIE_CLKREQ_N
7	IN	PCIE_NAND_RESREF	H7	PCI_RESREF
7	IN	90_PCIE_AP_TO_NAND_TXD_P	M11	PCIE_RX0_P
7	IN	90_PCIE_AP_TO_NAND_TXD_N	N12	PCIE_RX0_M
7	IN	90_PCIE_NAND_TO_AP_RXD_P	R12	PCIE_TX0_P
7	IN	90_PCIE_NAND_TO_AP_RXD_N	T11	PCIE_TX0_M
6	IN	AP_TO_NAND_RESET_L	L4	RESET*

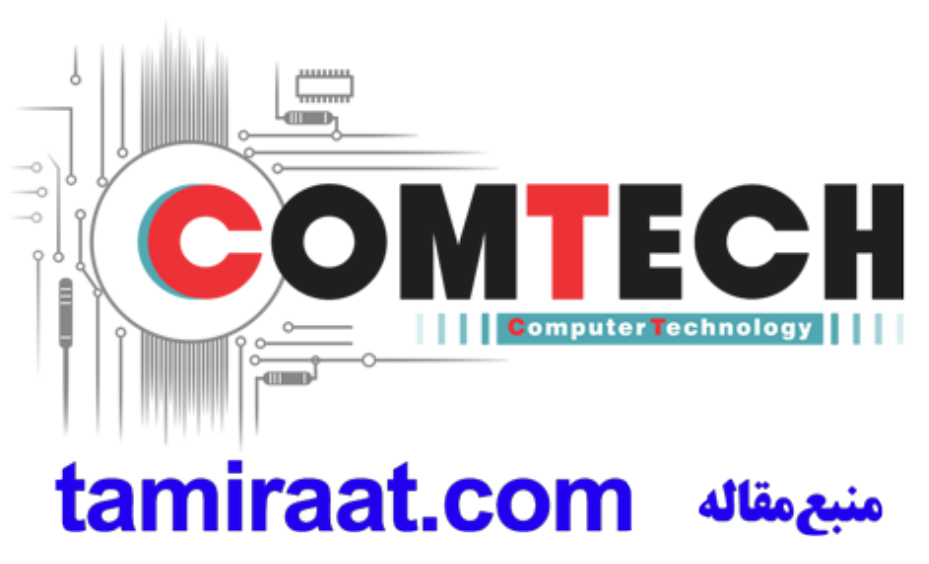
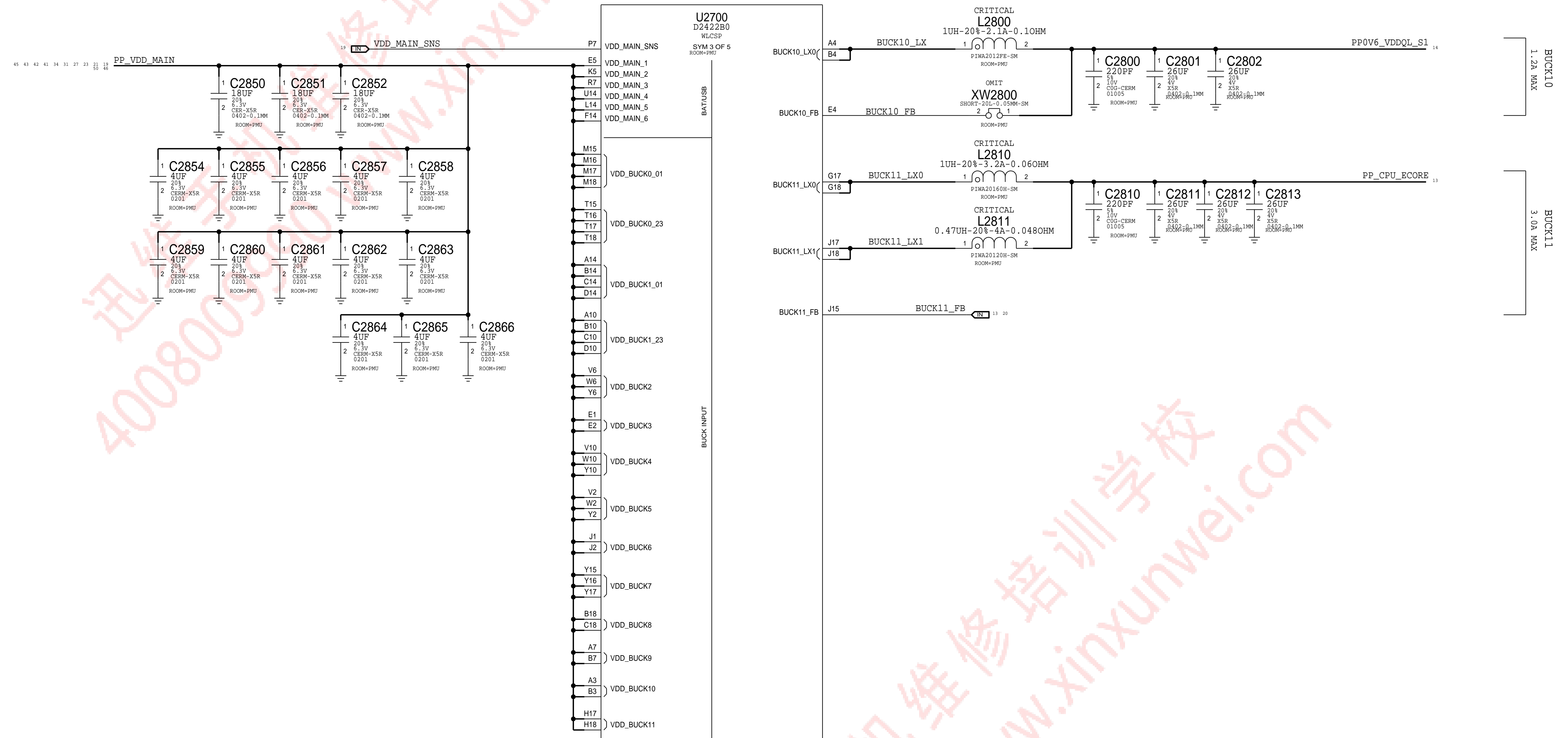
B3	EXT_D0/BOOT0	PMU_TO_NAND_LOW_BATT_BOOT_L	20
C4	EXT_D1/BOOT1	AP_TO_NAND_FW_STRAP	6
B5	EXT_D2/BOOT2/SPINAND_SCLK	SPI_AP_TO_S4E_SCLK_BOOT_CONFIG0	5 10
C6	EXT_D3/SWD_UID0/SPINAND_MISO	SPI_S4E_TO_AP_MISO_BOOT_CONFIG2	4 5 10
B7	EXT_D4/UART_RX	NC	
C8	EXT_D5/SWD_UID1/SPINAND_MOSI	SPI_AP_TO_S4E_MOSI_BOOT_CONFIG1	5 10
B8	EXT_D6/UART_TX	NC	
B11	EXT_D7/SPF	SYSTEM_ALIVE	14 20 23
E8	EXT_NCE/PERST*	PCIE_AP_TO_NAND_RESET_L	7
D7	EXT_NRE/JTAG_TMS	SWD_AP_BI_NAND_SWDIO	4 12
E6	EXT_NWE/JTAG_TCK	SWD_AOP_TO_MANY_SWCLK	4 12 50
E4	EXT_RNB/JTAG_TDO		
D5	EXT_CLE/JTAG_TDI	NC	
D9	EXT_ALE/JTAG_SEL		
T3	DROOP_N		
G2	WP_N	PP1V8_IO	5 6 7 8 10 14 16 17 27 28 29 30

PAGE TITLE		
NAND		
Apple Inc.		DRAWING NUMBER 051-02221
REVISION 9.0.0		SIZE D
BRANCH evt-1		PAGE 26 OF 80
SHEET 16 OF 51		

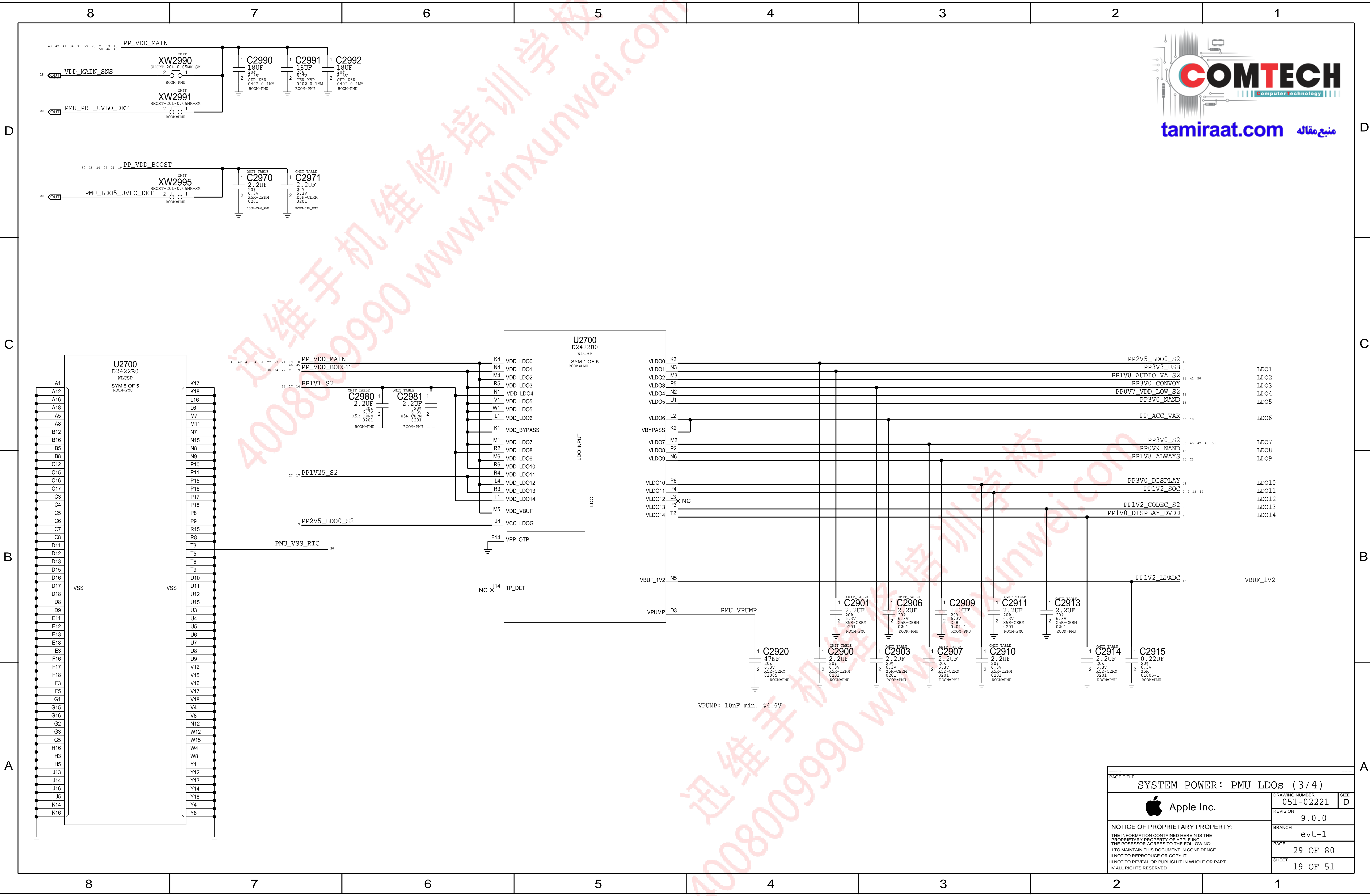
NOTICE OF PROPRIETARY PROPERTY:
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING:
I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE
II NOT TO REPRODUCE OR COPY IT
III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART
IV ALL RIGHTS RESERVED




PAGE TITLE SYSTEM POWER: PMU Bucks (1/4)		
DRAWING NUMBER 051-02221		SIZE D
REVISION 9.0.0		BRANCH evt-1
PAGE 27 OF 80		SHEET 17 OF 51
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 I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		

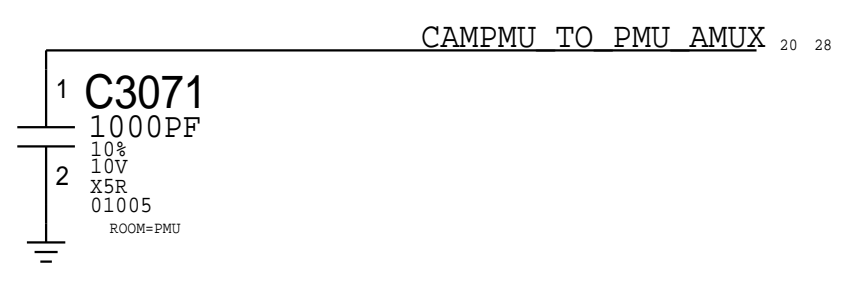


PAGE TITLE		
SYSTEM POWER: PMU Bucks (2/4)		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	28 OF 80
	SHEET	18 OF 51

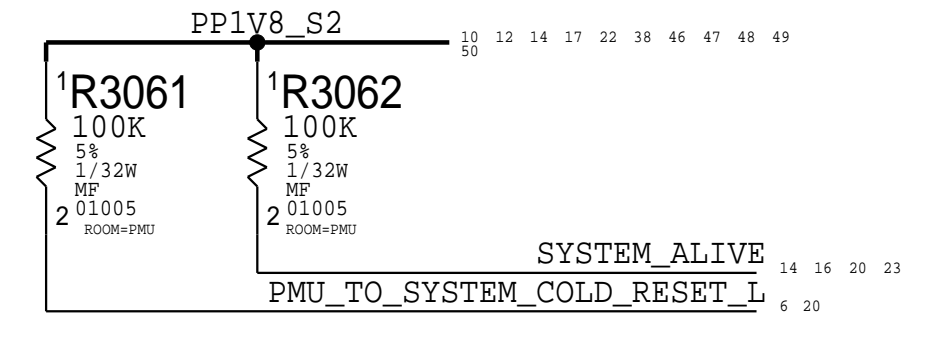


PAGE TITLE		
SYSTEM POWER: PMU LDOs (3/4)		
 Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	29 OF 80
	SHEET	19 OF 51

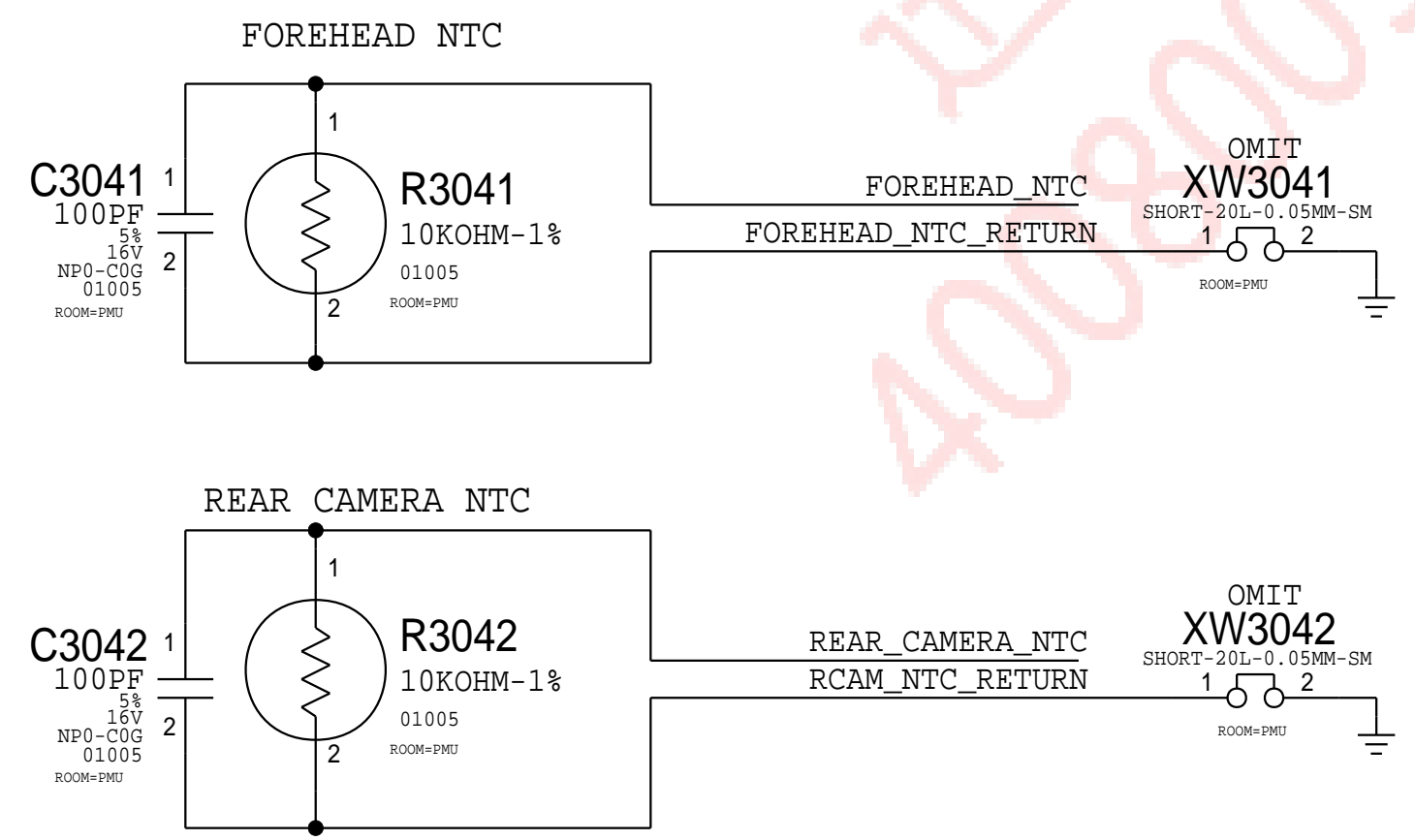
D Ansel AMUX



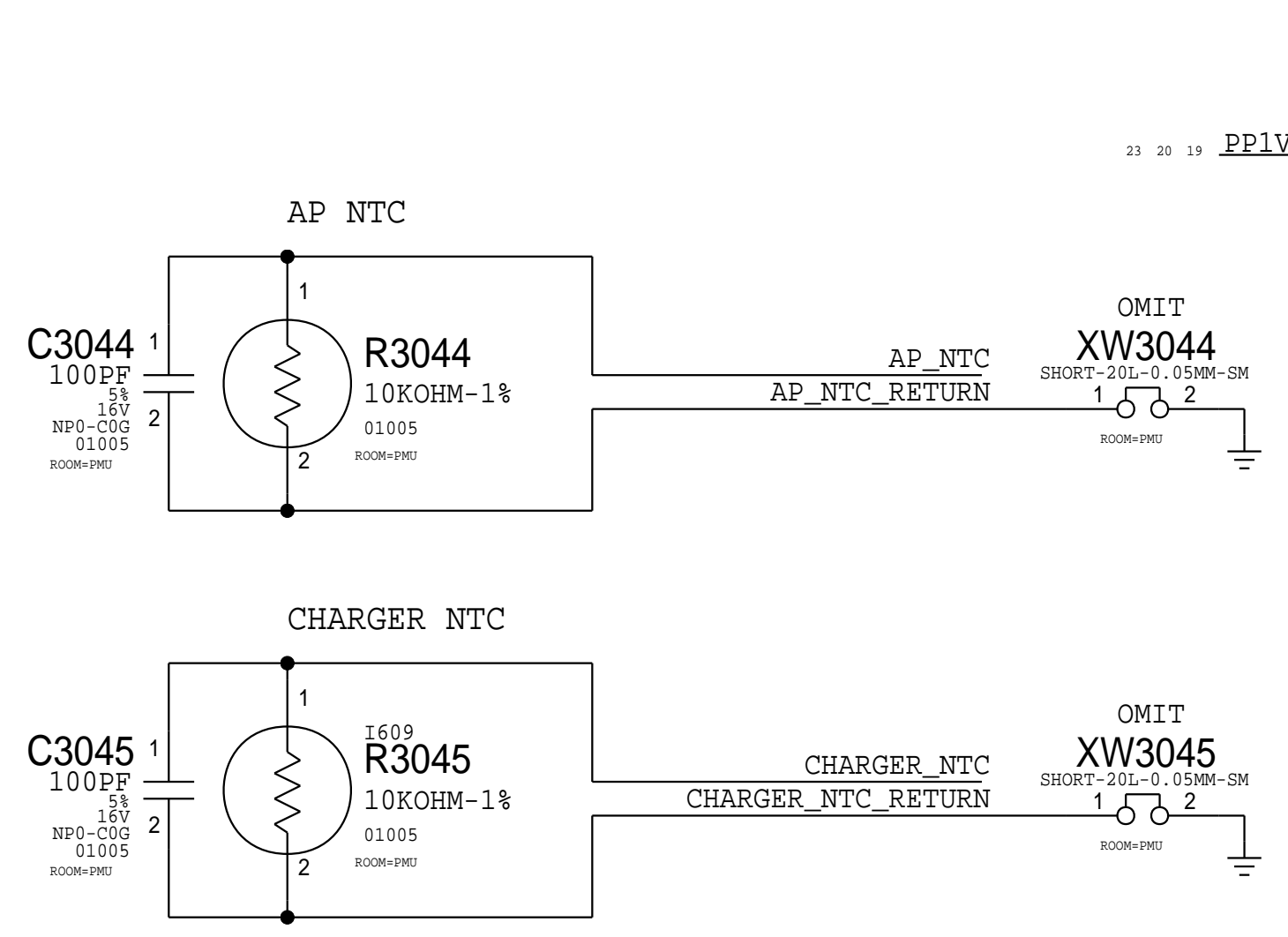
C COLD_RESET & SYSTEM_ALIVE



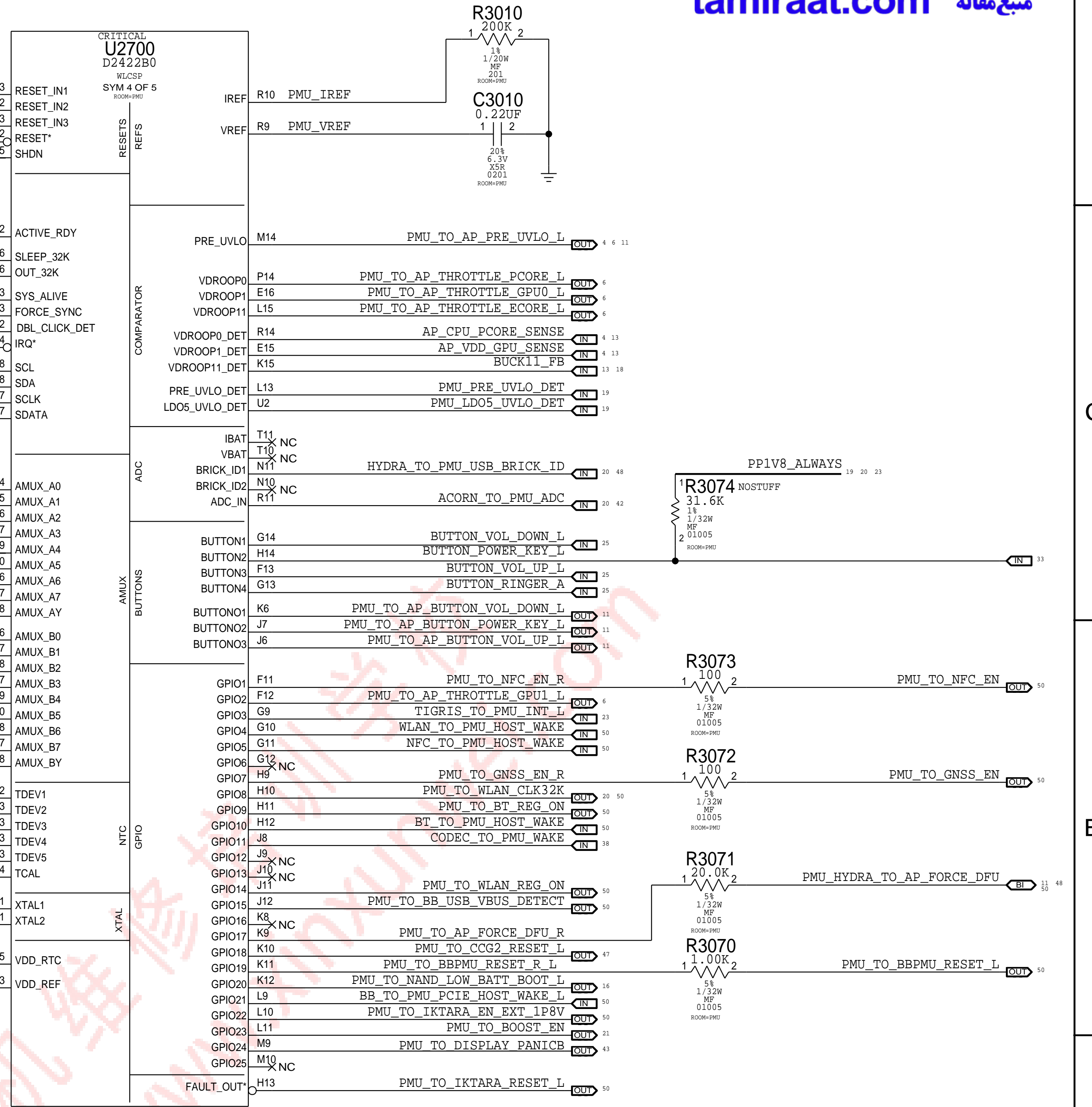
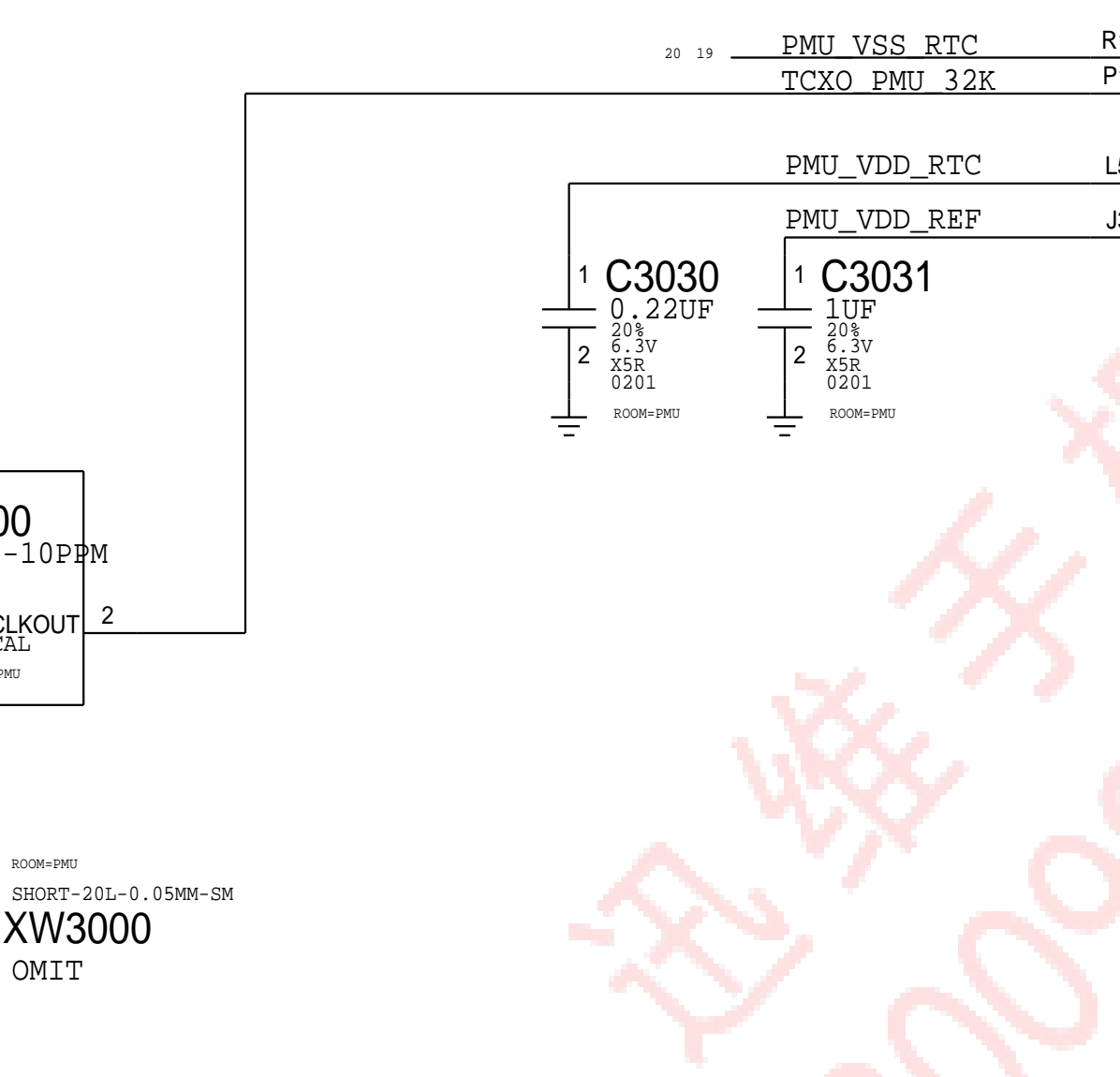
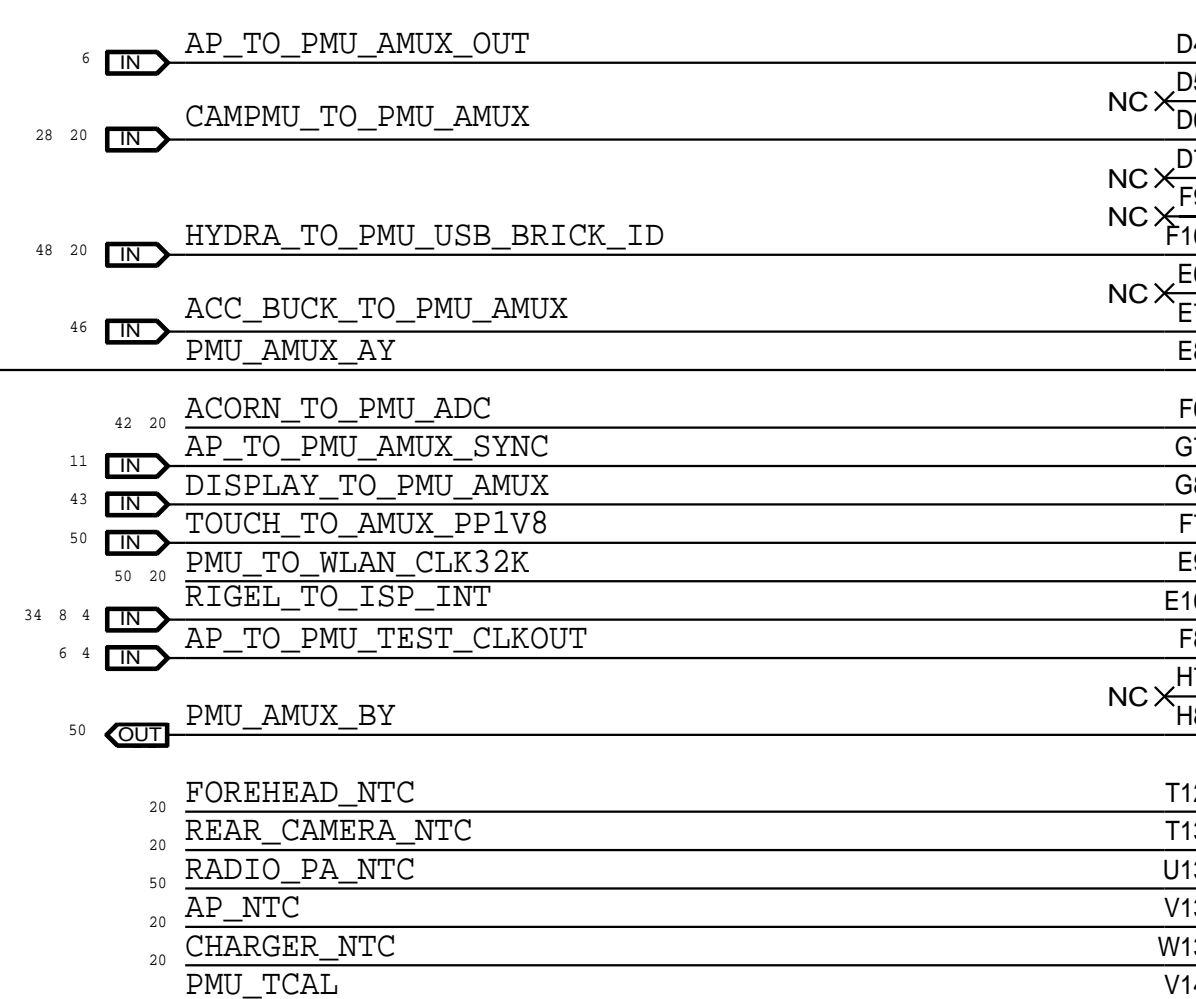
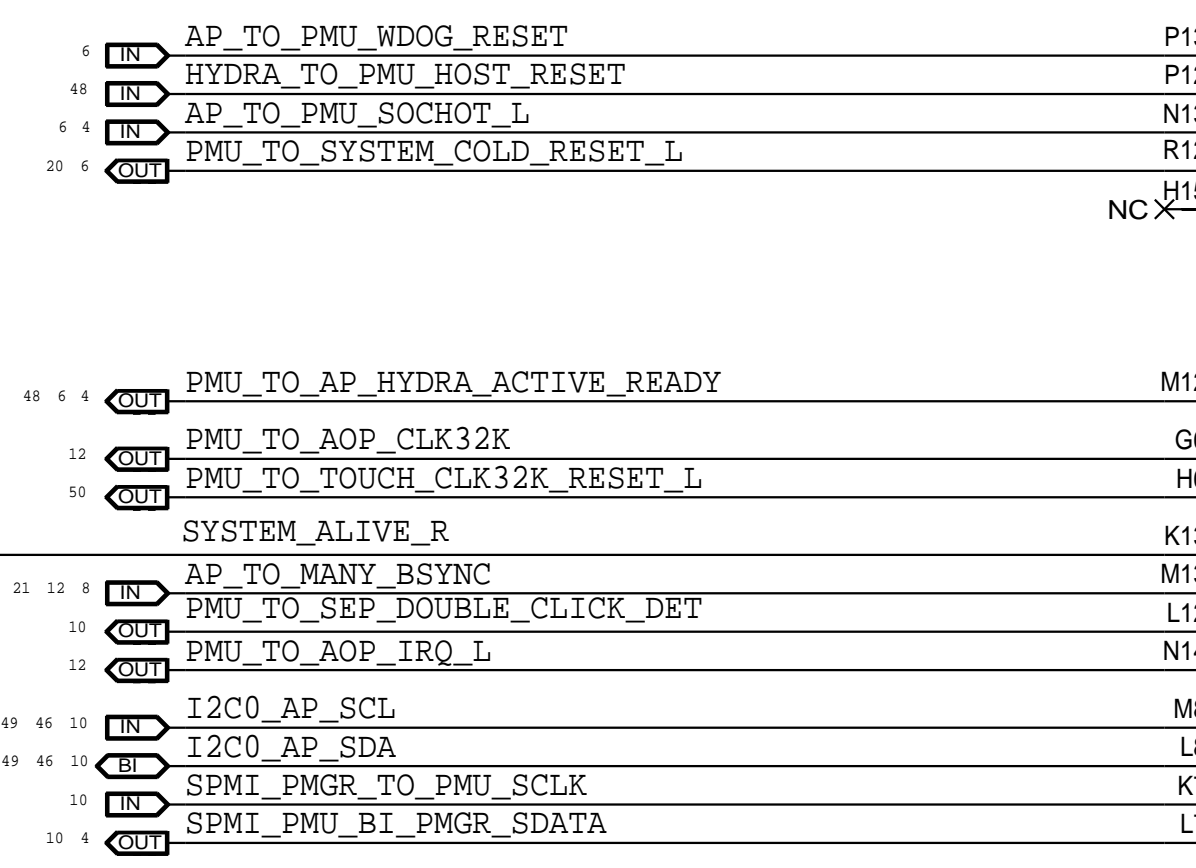
B NTCs



A RADIO PA NTC on MLB Bottom

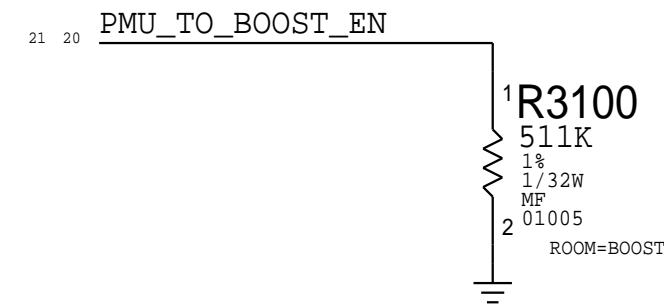


NOTE:100PF CAPS ARE THE SAMPLING CAPS FOR PMU ADC



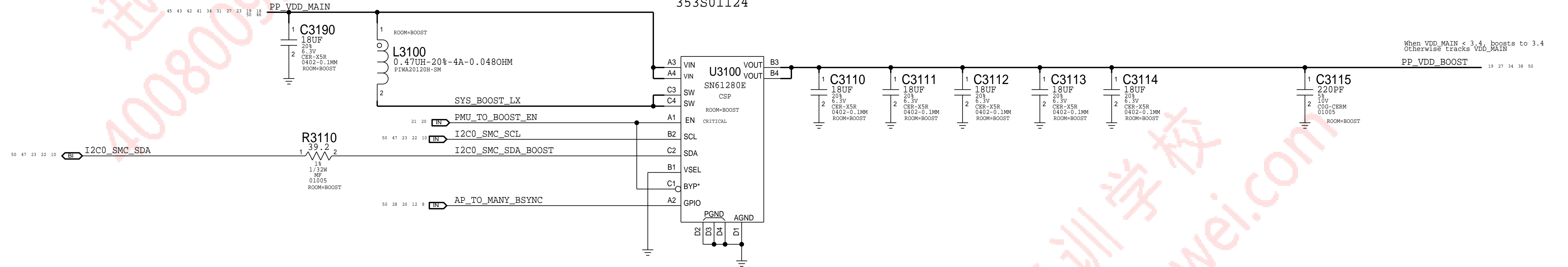
PAGE TITLE		
SYSTEM POWER: PMU (4/4)		
	DRAWING NUMBER	SIZE
	051-02221	D
REVISION		
9.0.0		
BRANCH		
evt-1		
PAGE		
30 OF 80		
SHEET		
20 OF 51		
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART I ALL RIGHTS RESERVED		

Boost Enable Pull



BOOST

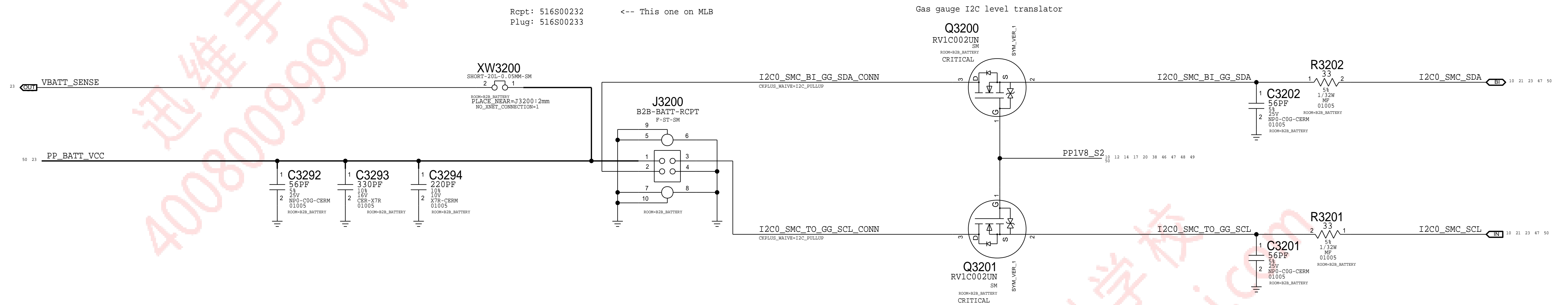
353S01124



PAGE TITLE		
SYSTEM POWER: Boost		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	31 OF 80
	SHEET	21 OF 51

BATTERY CONNECTOR

Rcpt: 516S00232 <-- This one on MLB
Plug: 516S00233



منبع مقاله

PAGE TITLE SYSTEM POWER: B2B Battery		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
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		PAGE 32 OF 80
		SHEET 22 OF 51

TIGRIS2 CHARGER



D

D

C

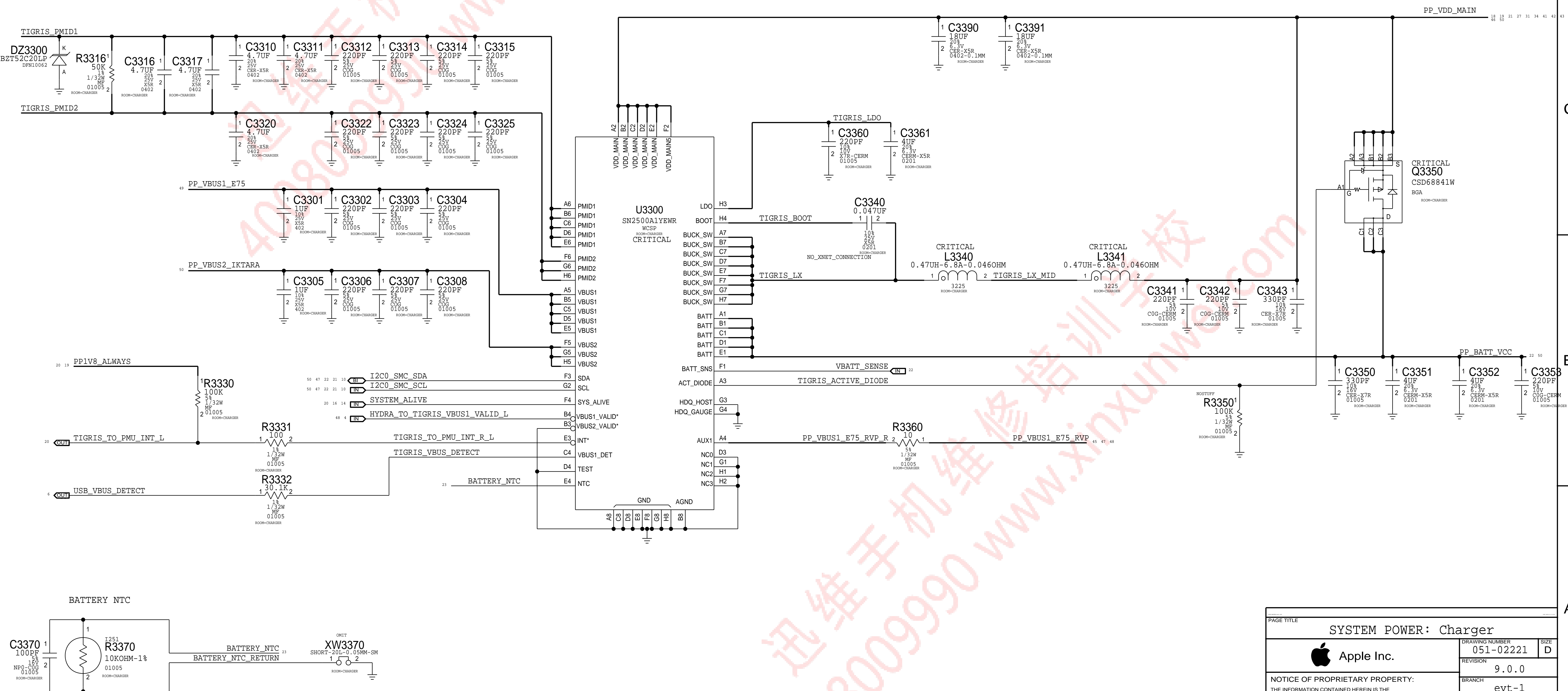
C

B

B

A

A



PAGE TITLE		
SYSTEM POWER: Charger		
	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	33 OF 80
	SHEET	23 OF 51

迅维手机维修培训学校
4008009990 www.xinxunwei.com

Iktara Components on MLB Bottom

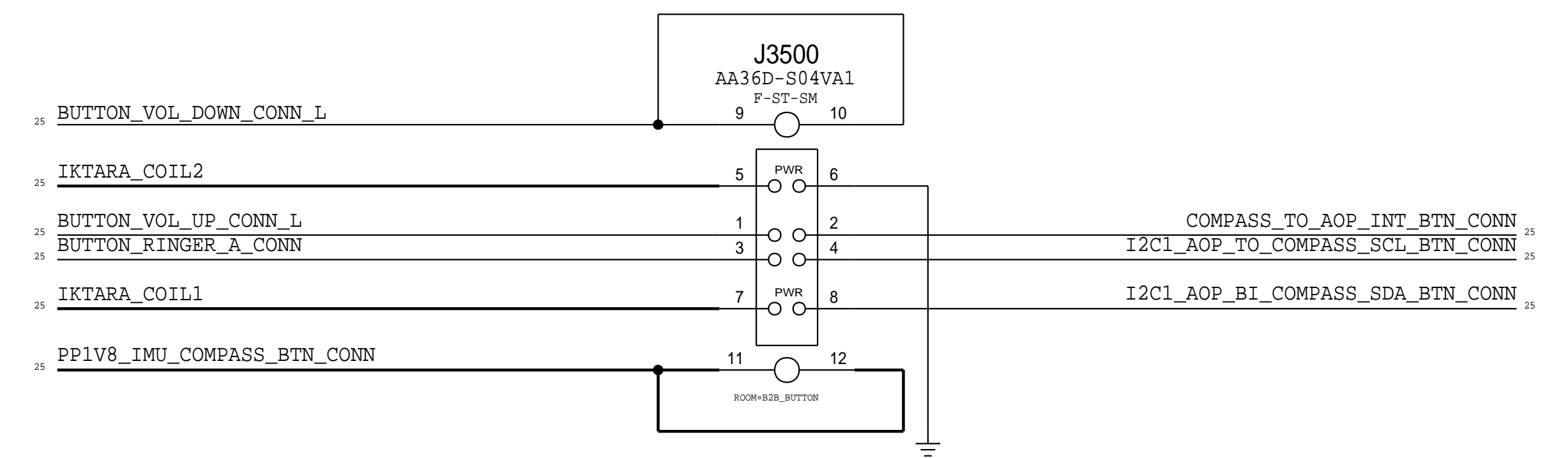
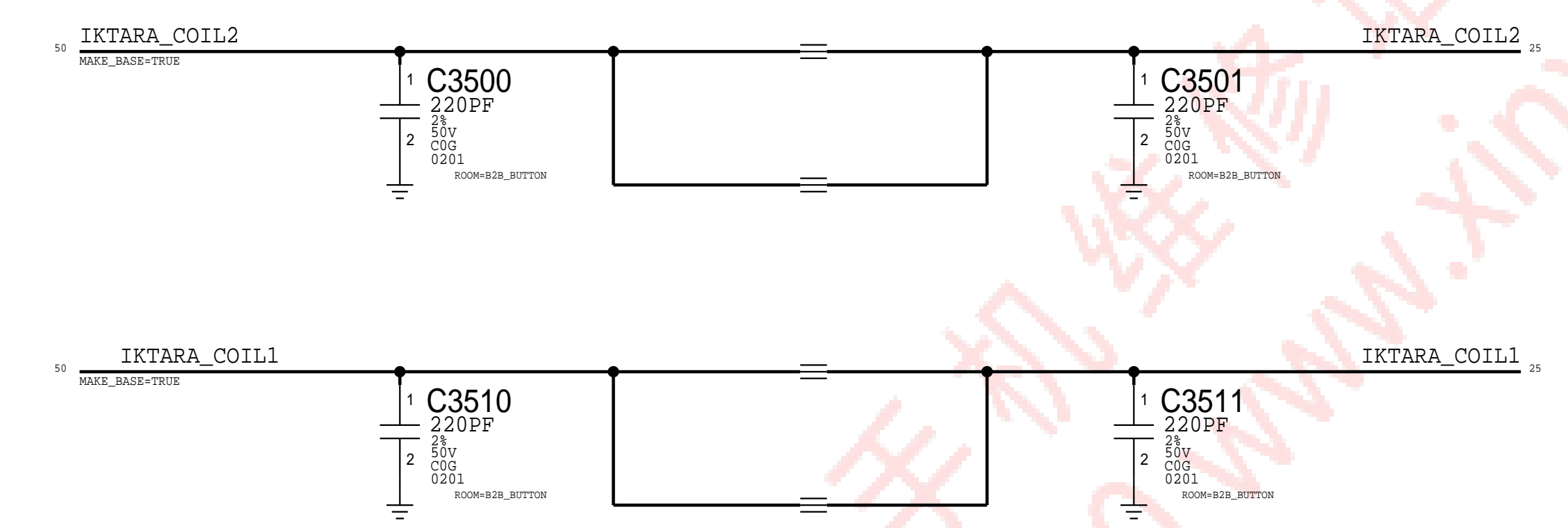


PAGE TITLE		
SYSTEM POWER: Iktara		
DRAWING NUMBER	051-02221	SIZE
		D
REVISION	9.0.0	
BRANCH	evt-1	
PAGE	34 OF 80	
SHEET	24 OF 51	
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		

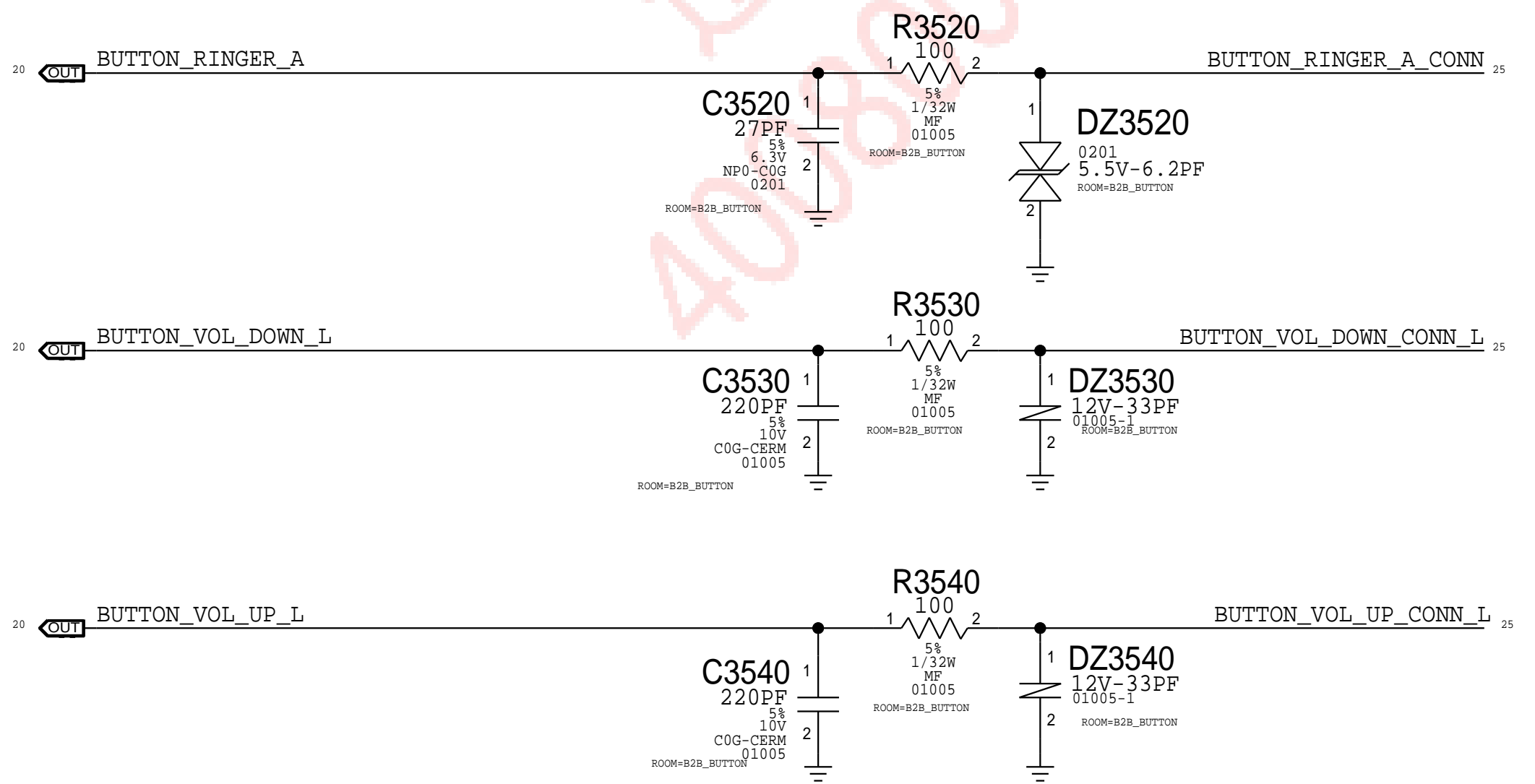
Cyclone + Button Connector

Rcpt: 516S00289 <-- This one on MLB
 Plug: 516S00290

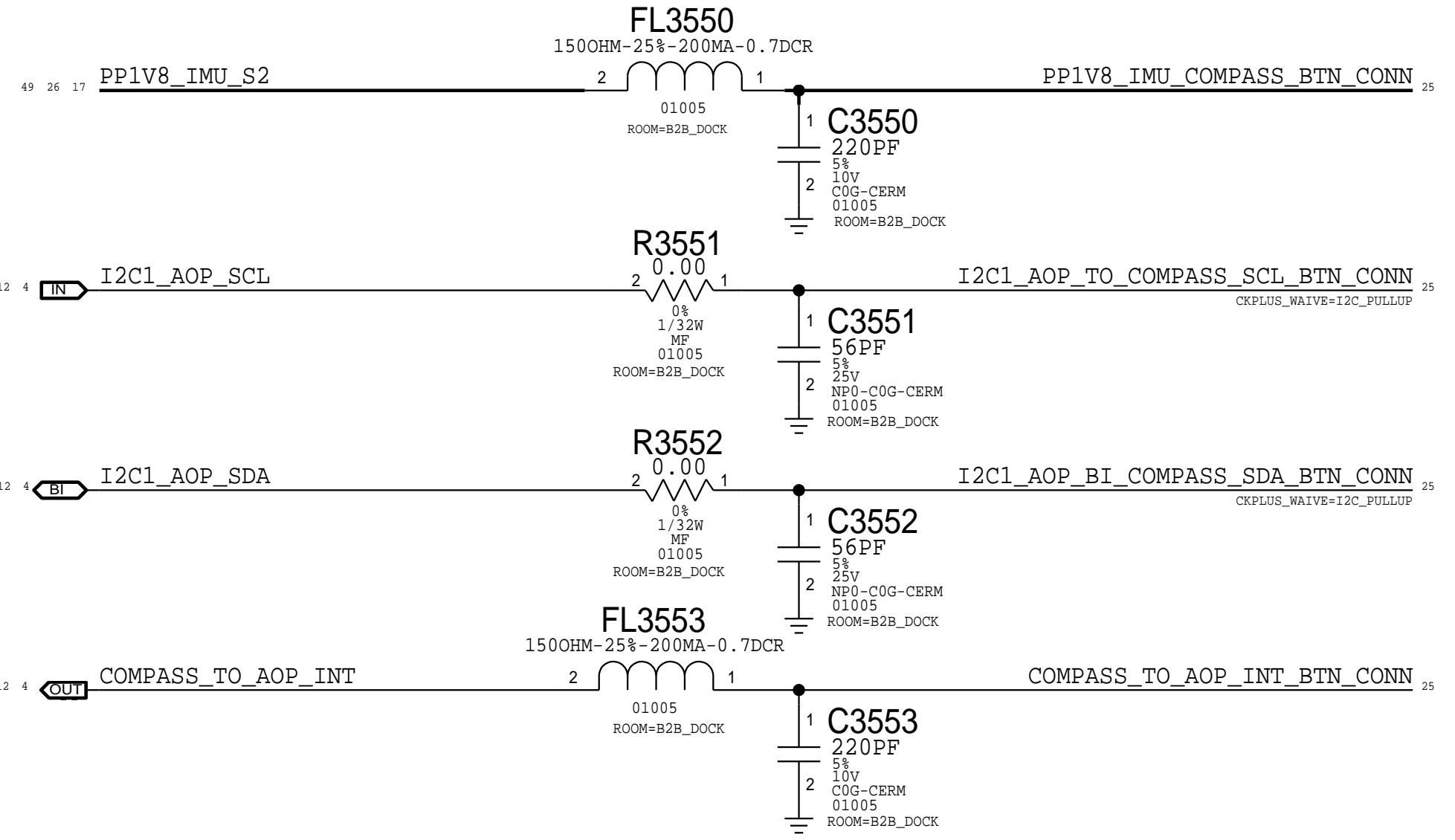
Cyclone Filtering



BUTTONS



Compass (Button Flex Location)



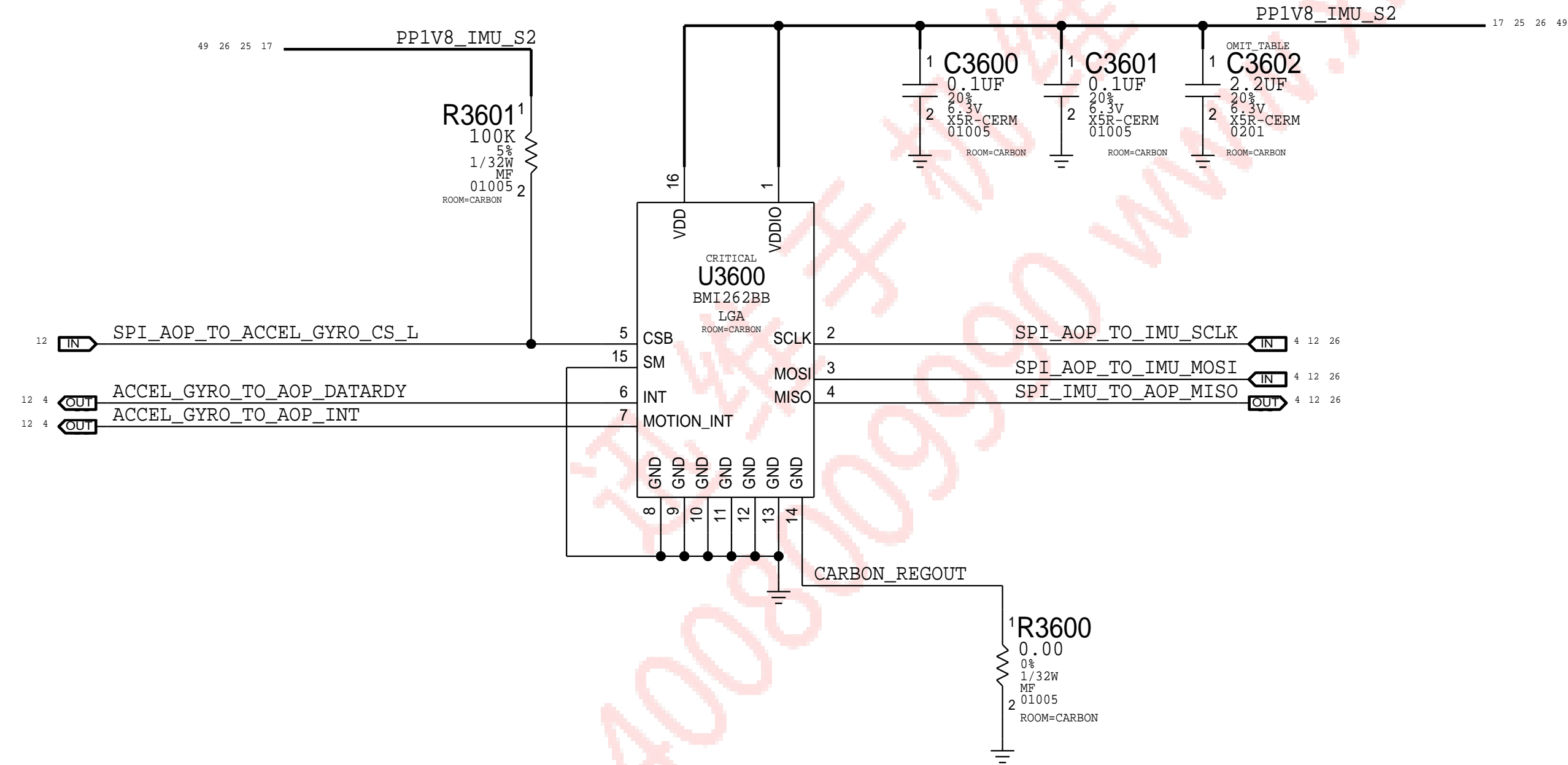
PAGE TITLE		
SYSTEM POWER: B2B Cyclone + Button		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	35 OF 80
	SHEET	25 OF 51

Graphite - Accel & Gyro

APN: 338S00304

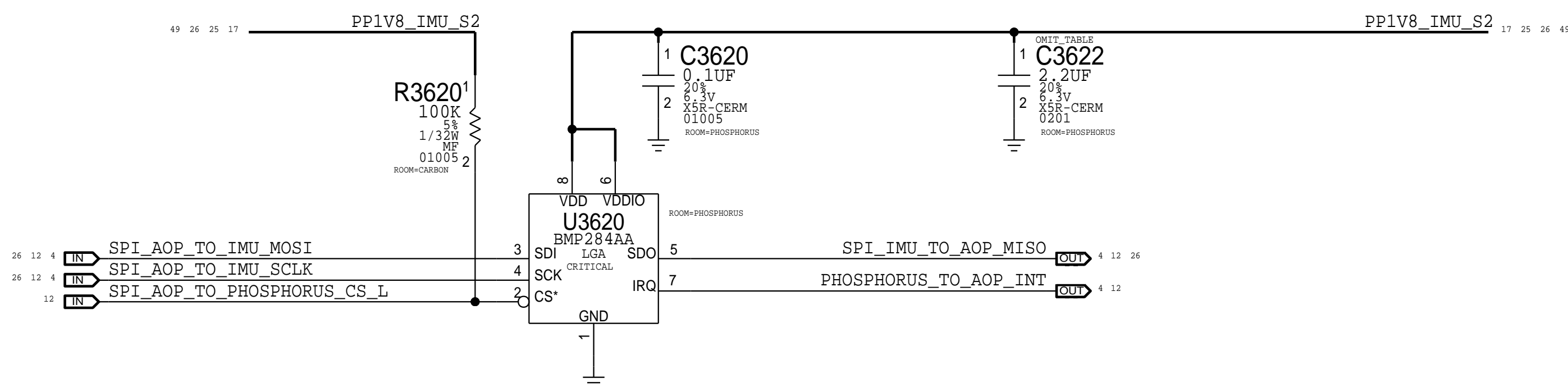
Magnesium - Compass


(On Dock or Button Flex)



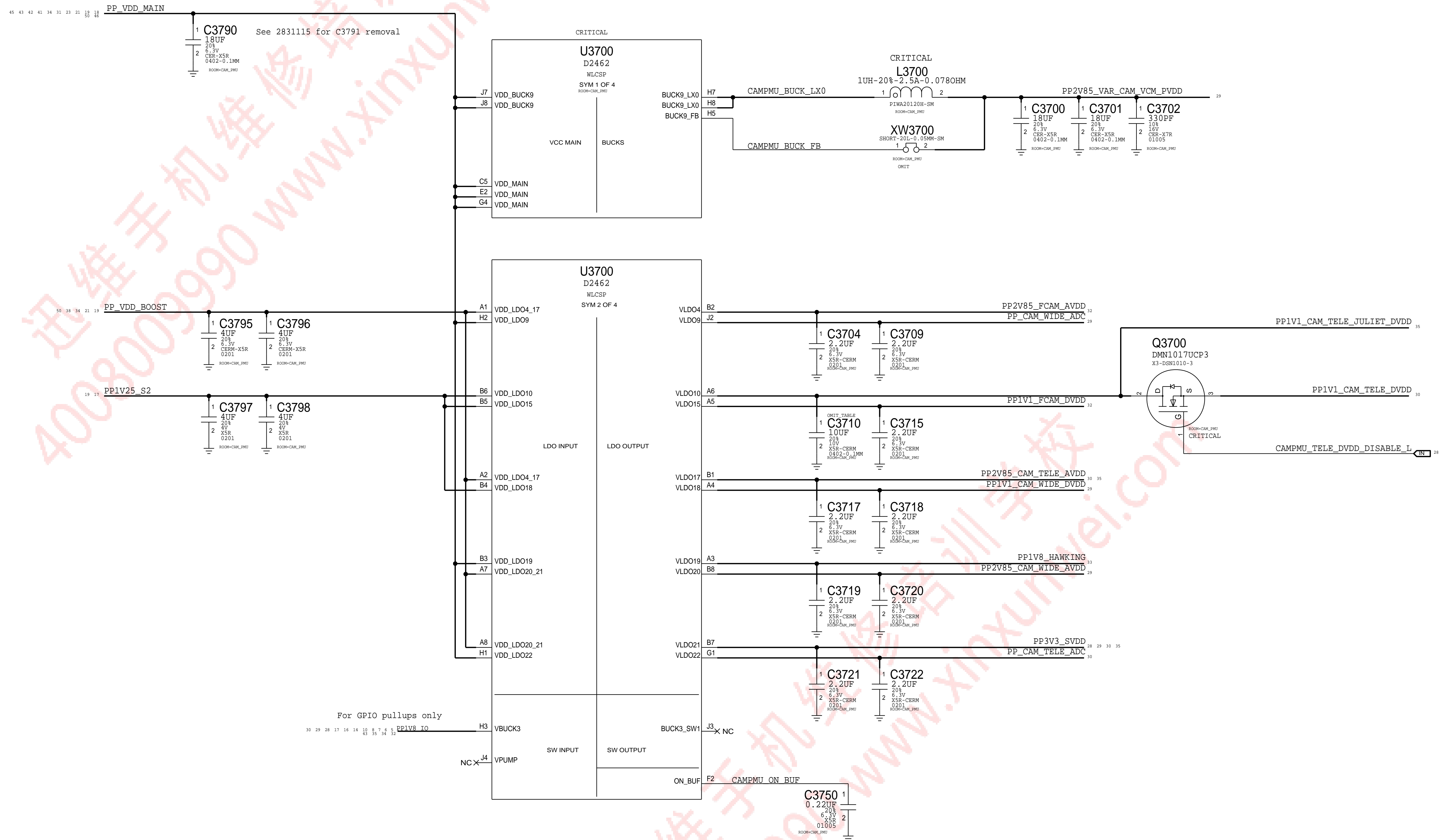
Phosphorus

BOSCH (APN: 338S00188)
ST (APN: 338S00230)



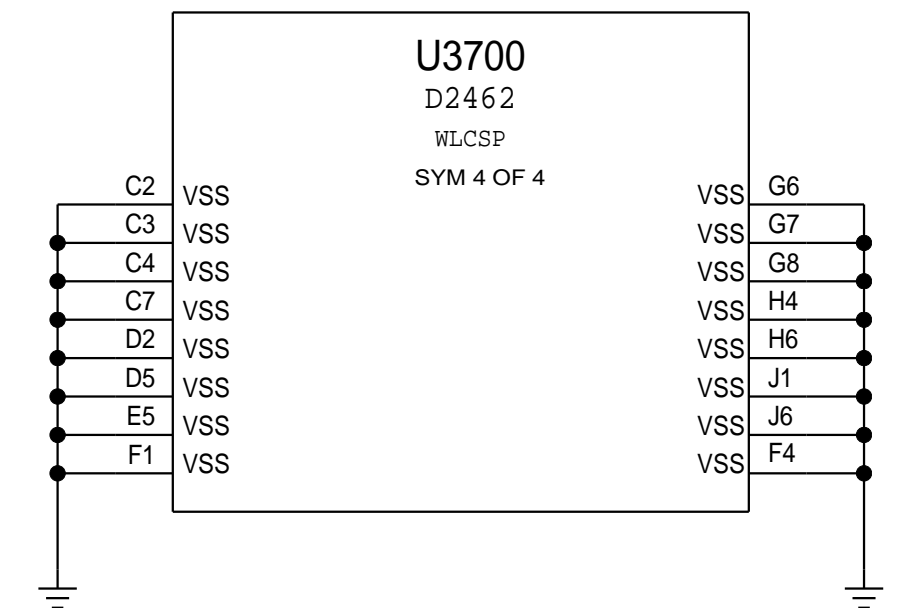
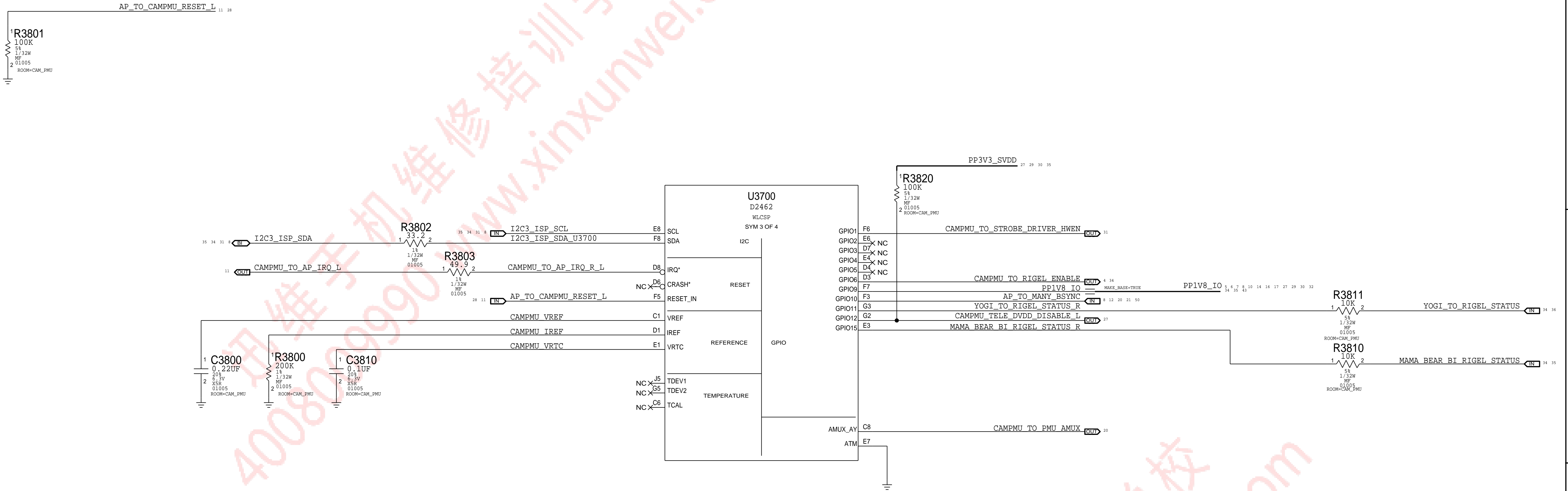
PAGE TITLE		
SENSORS		
 Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	36 OF 80
	SHEET	26 OF 51

Camera PMU



PAGE TITLE CAMERA: PMU (1/2)		
	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
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		
PAGE 37 OF 80	SHEET 27 OF 51	

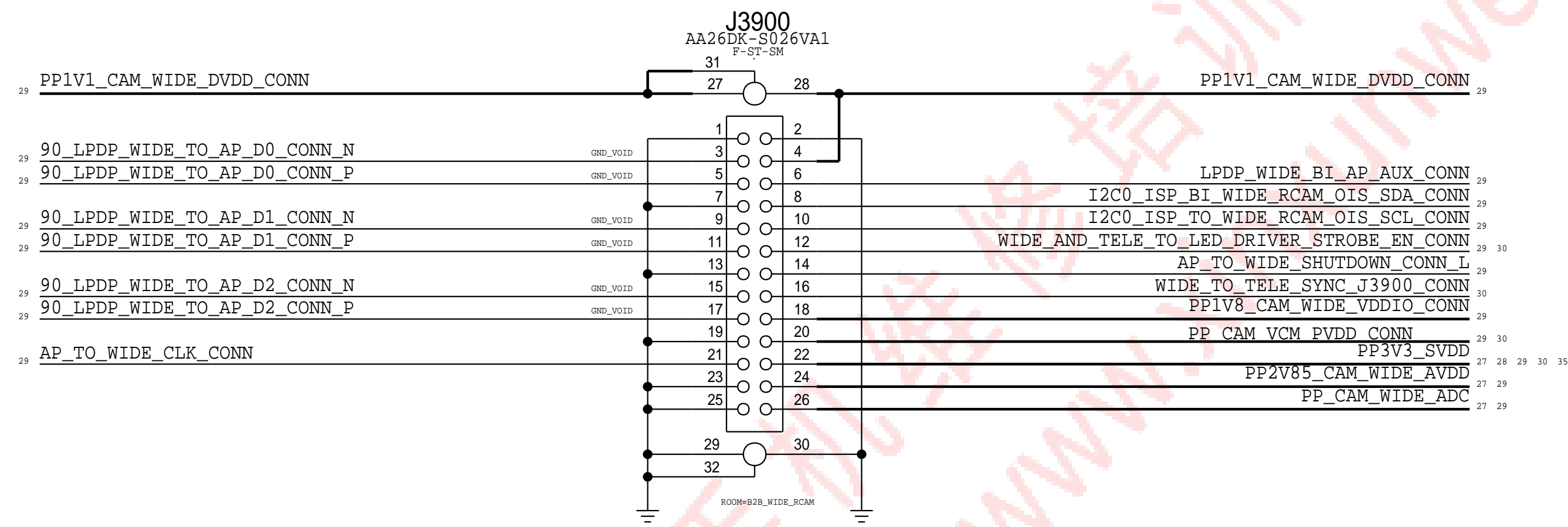
Pull Downs



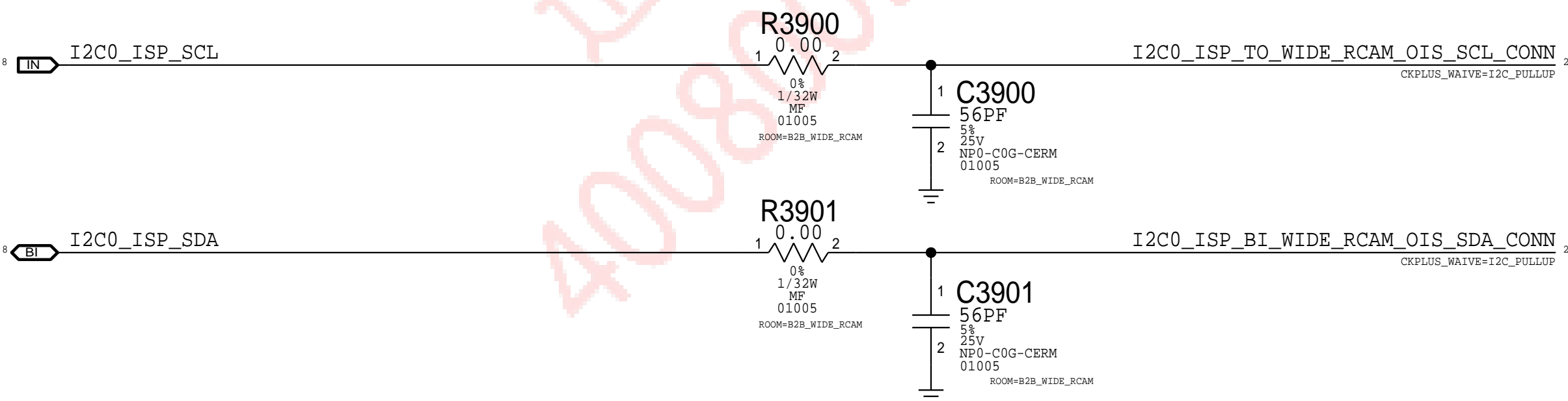
PAGE TITLE CAMERA: PMU (2/2)		
	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		PAGE 38 OF 80 SHEET 28 OF 51

Wide Camera Connector

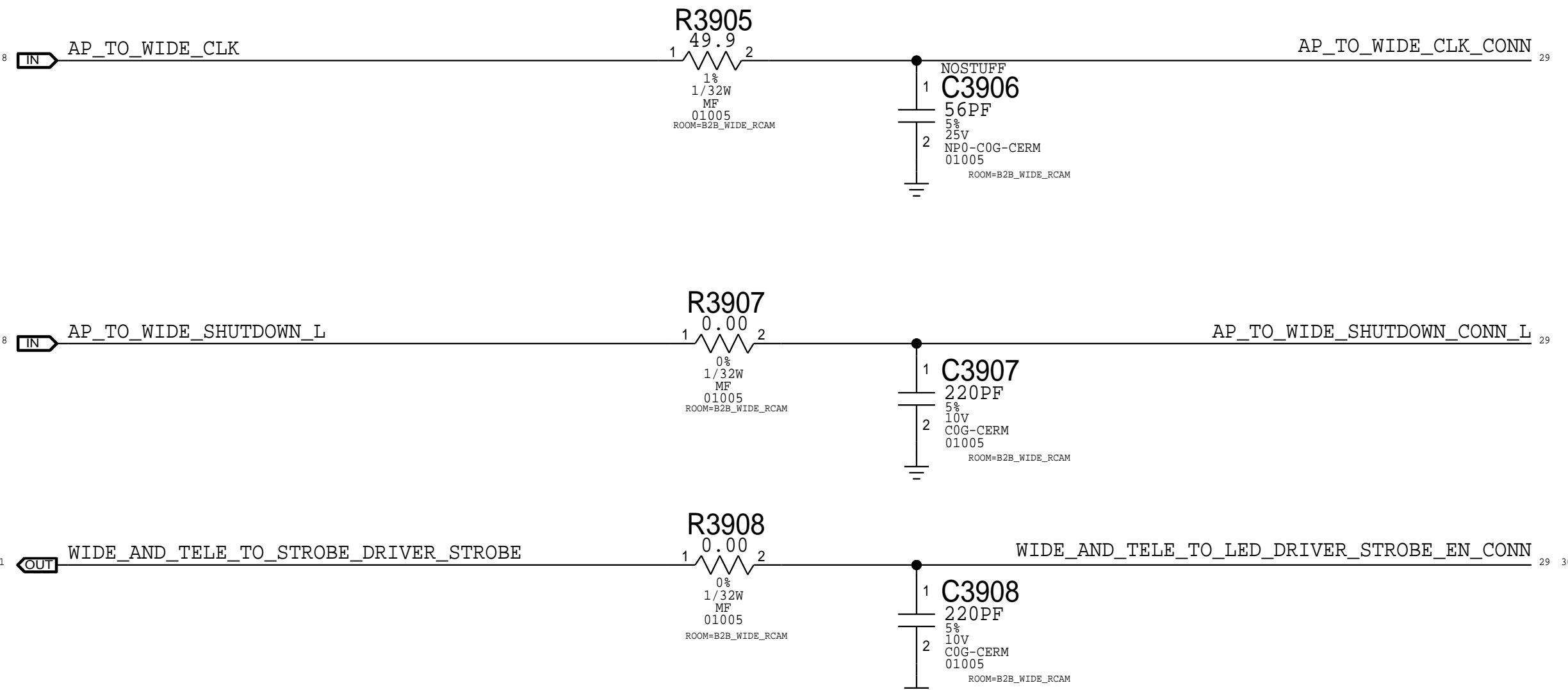
Rcpt: 516S00313
 Plug: 516S00314
 <-- This one on MLB



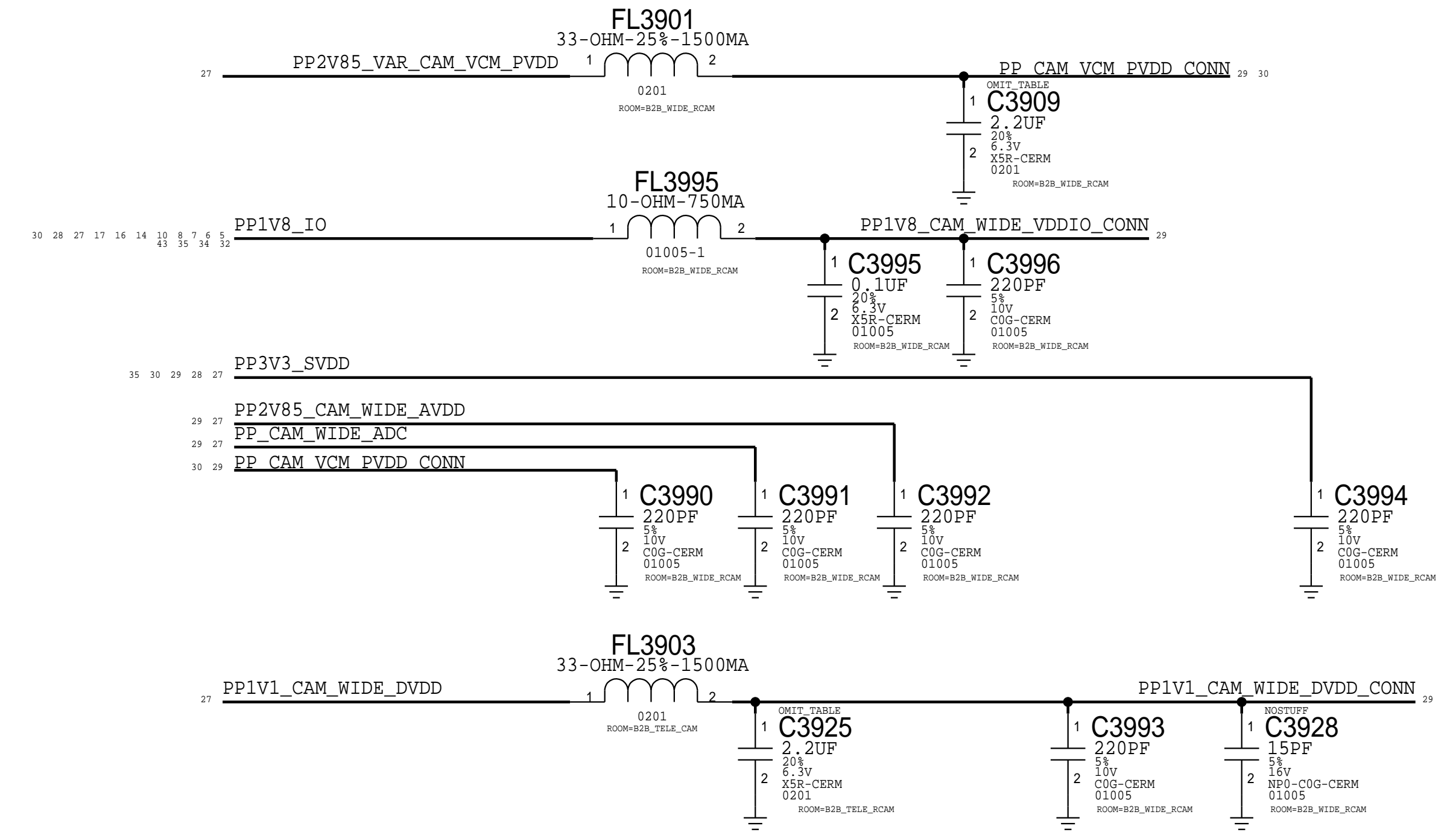
ISP I2C



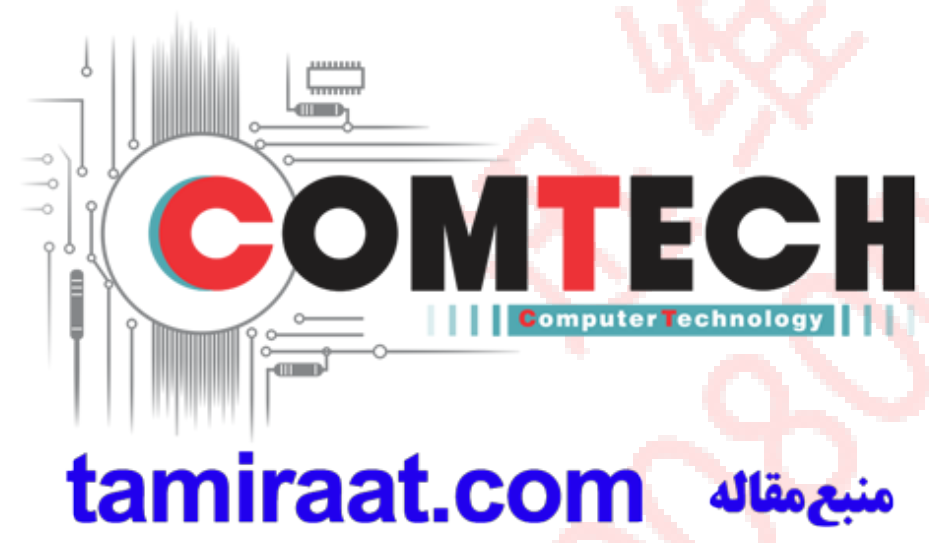
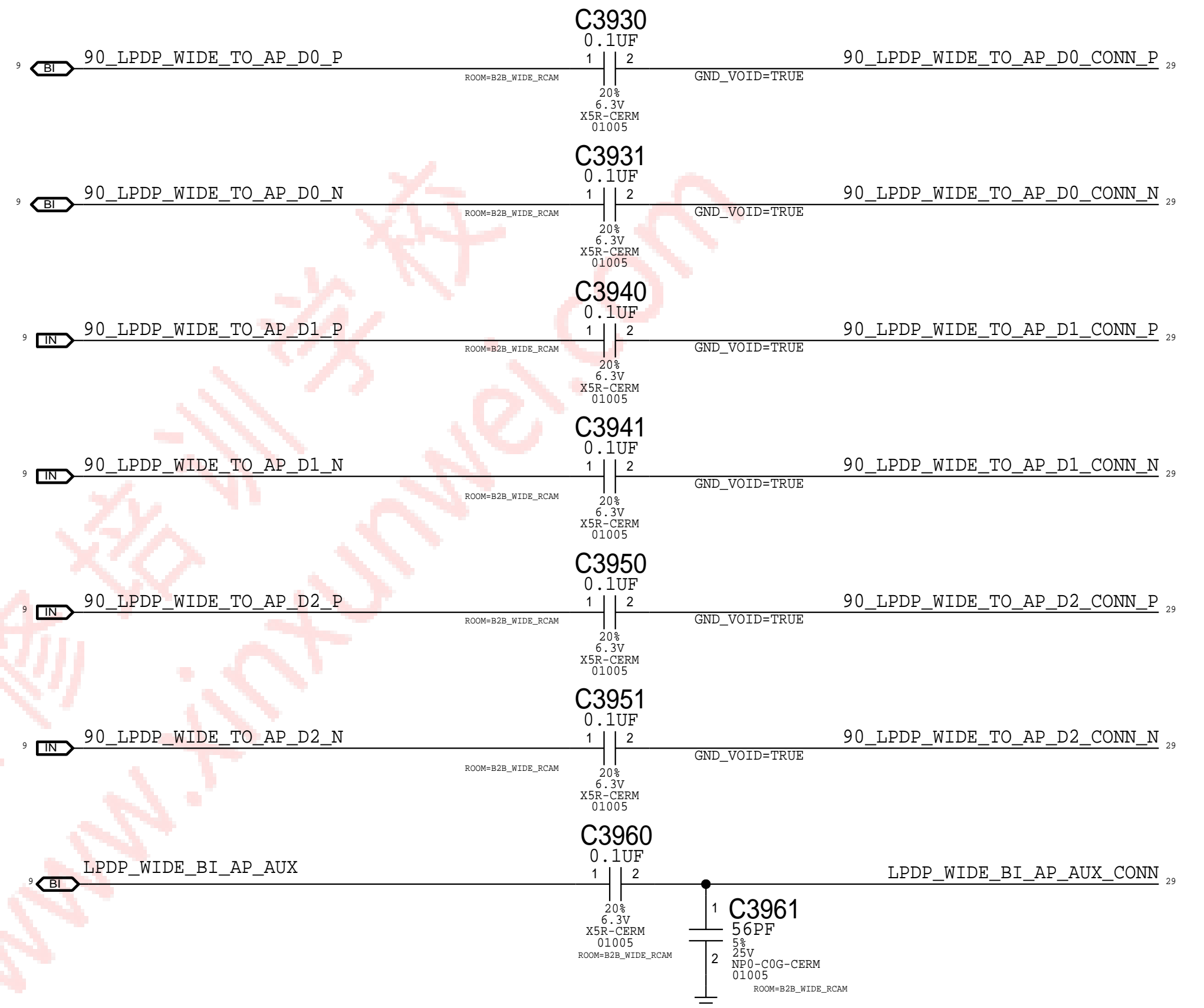
IO Filters



Power Filtering



LPDP Filters



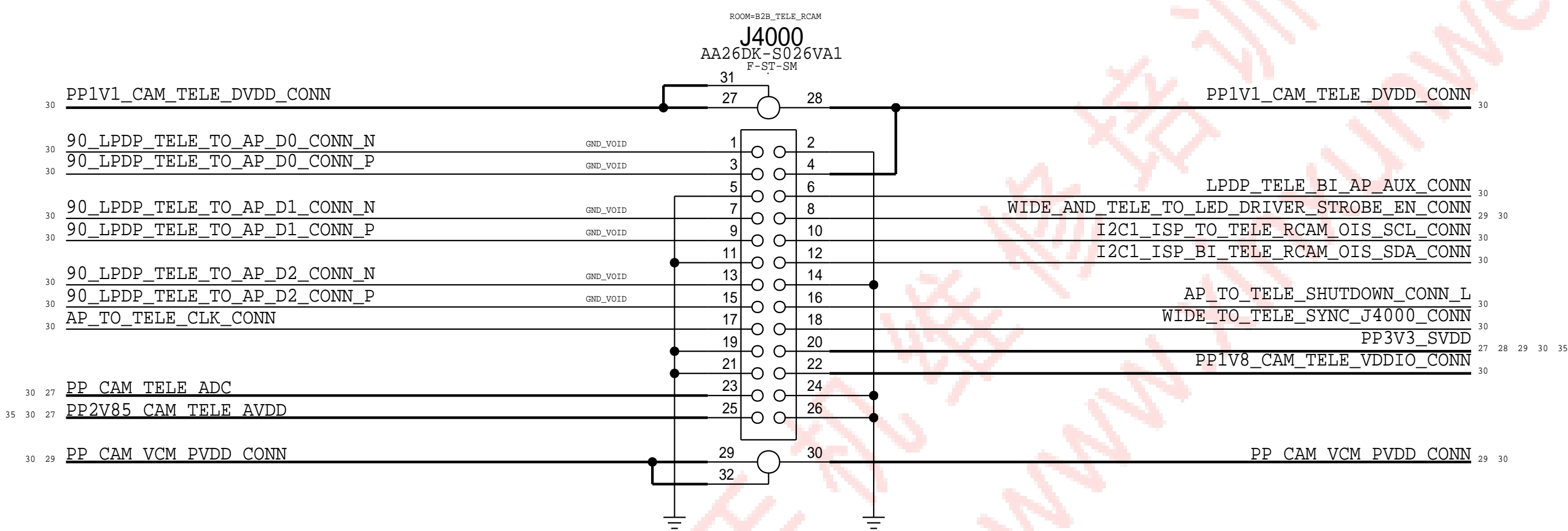
PAGE TITLE		
CAMERA: B2B Wide (WY)		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY:		BRANCH
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING:		evt-1
I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE		PAGE
II NOT TO REPRODUCE OR COPY IT		39 OF 80
III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART		SHEET
IV ALL RIGHTS RESERVED		29 OF 51

Tele Camera Connector

Rcpt: 516S00313 <-- This one on MLB
 Plug: 516S00314

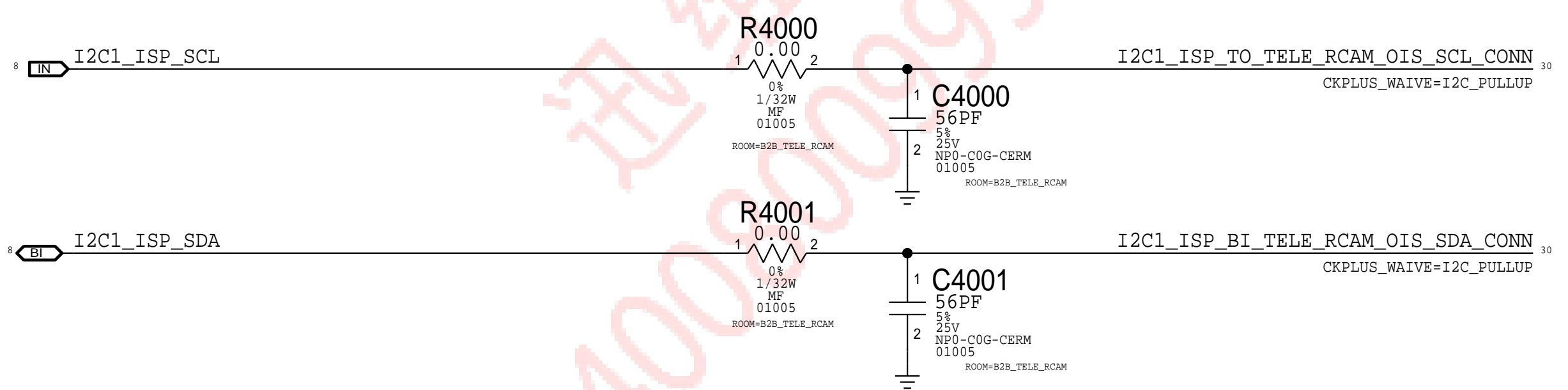
8 7 6 5 4 3 2 1

D



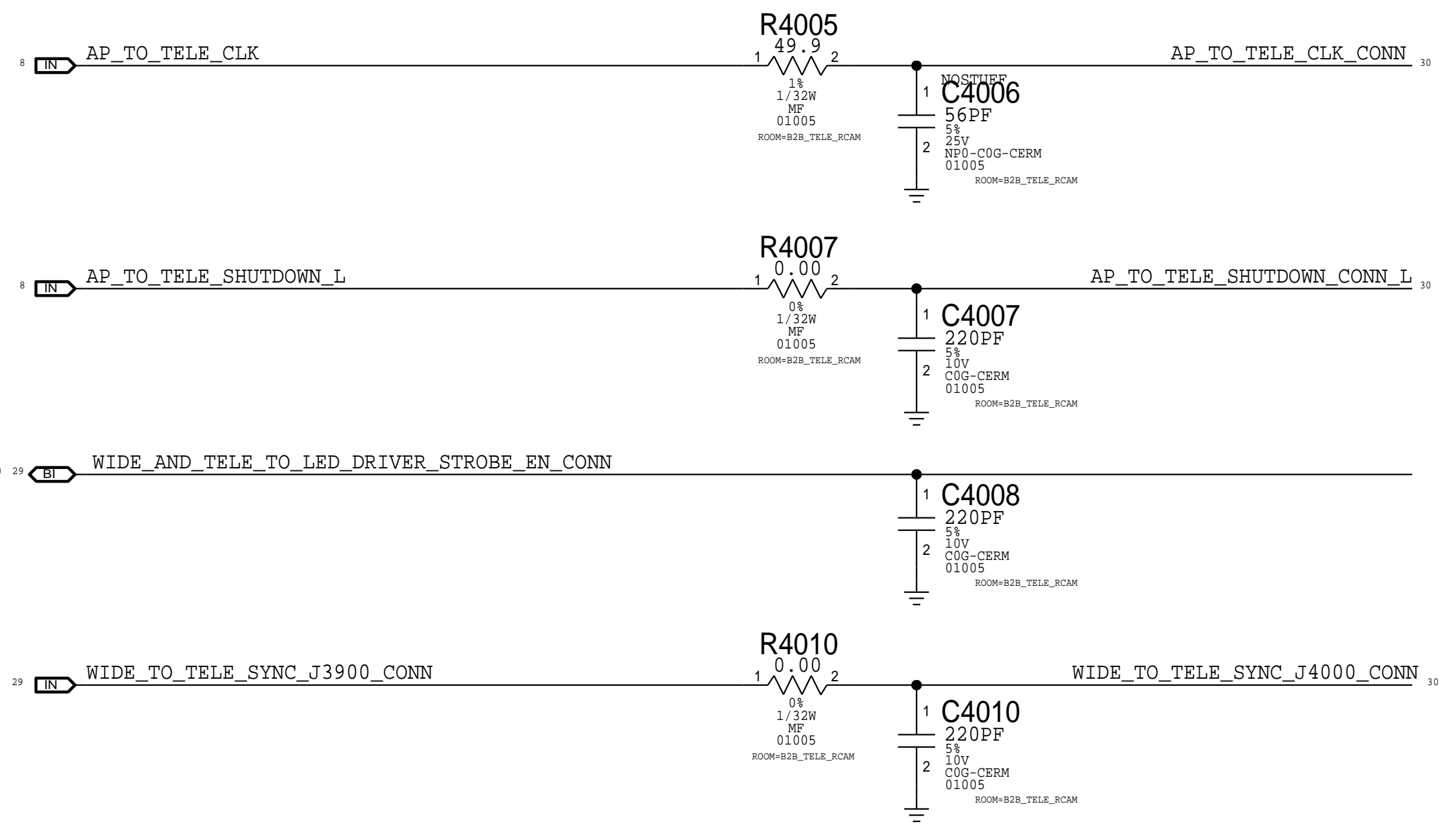
ISP I2C

C



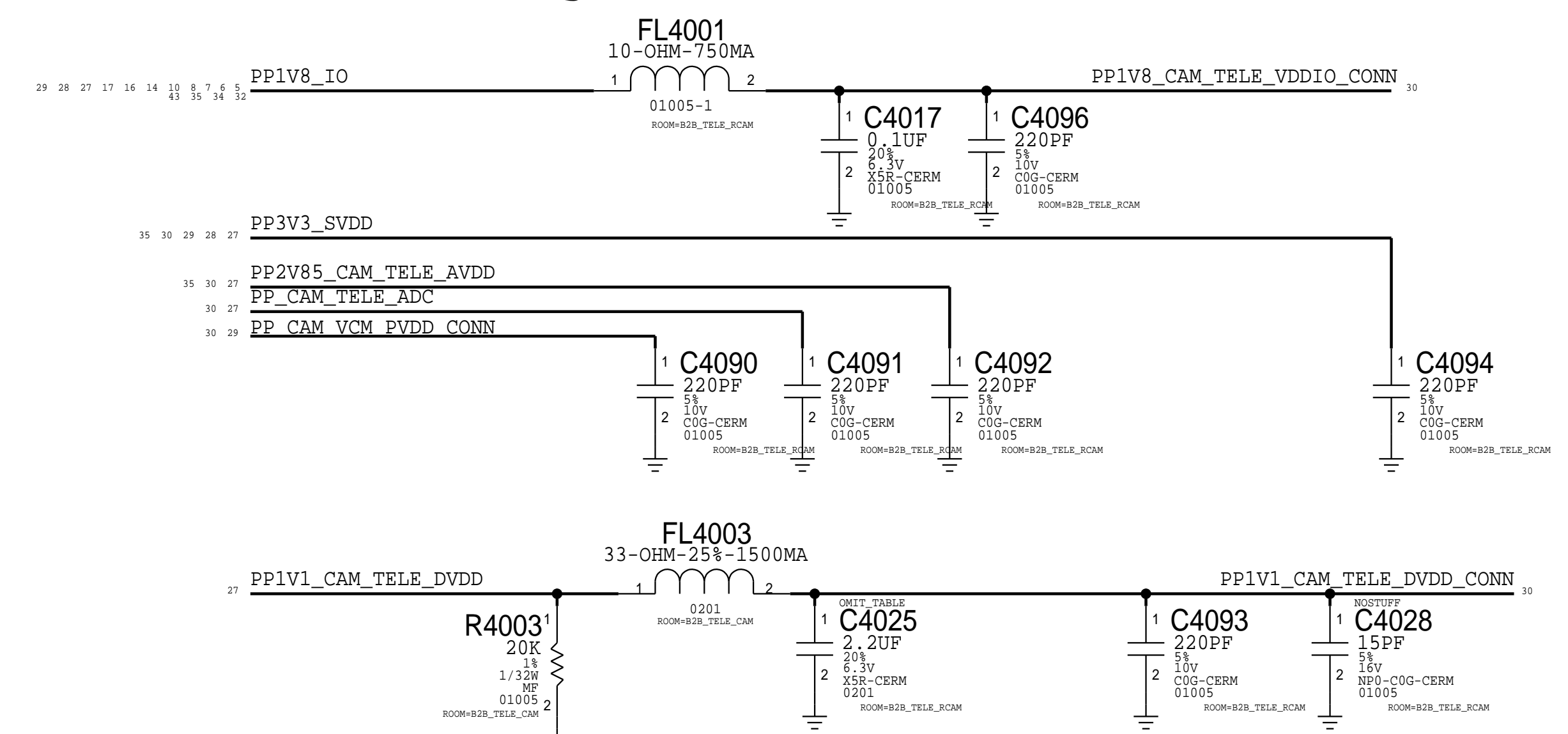
IO Filters

B

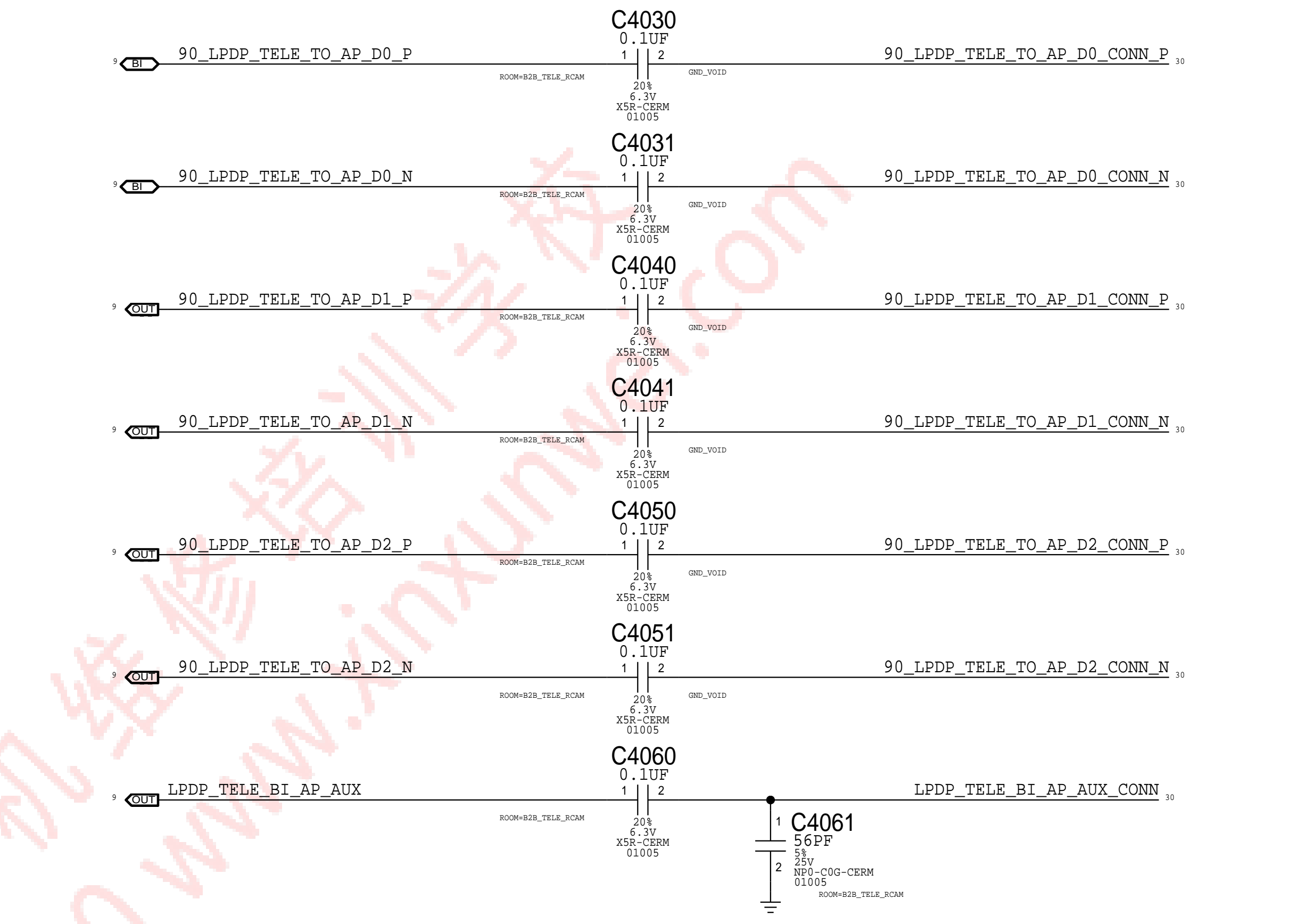


A

Power Filtering



LPDP

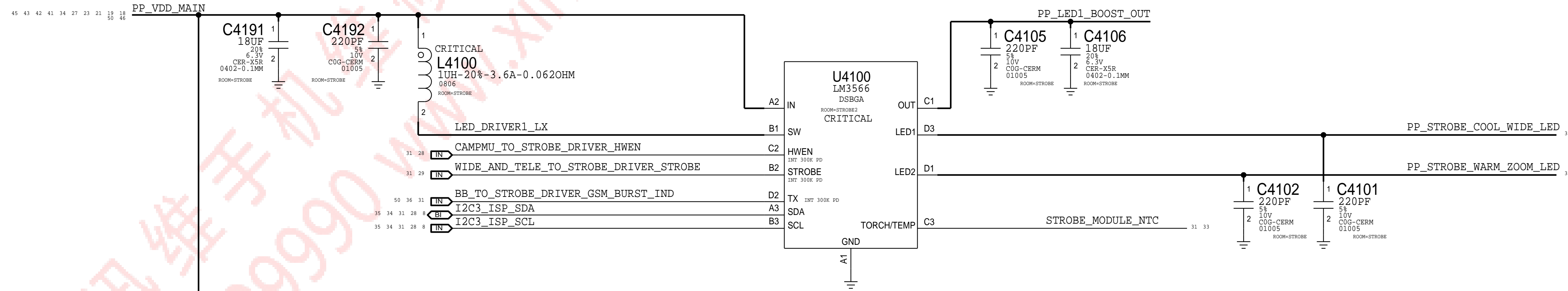


PAGE TITLE CAMERA: B2B Tele (MT)		
	DRAWING NUMBER 051-02221	SIZE D
REVISION 9.0.0		
BRANCH evt-1		
PAGE 40 OF 80		
SHEET 30 OF 51		
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		

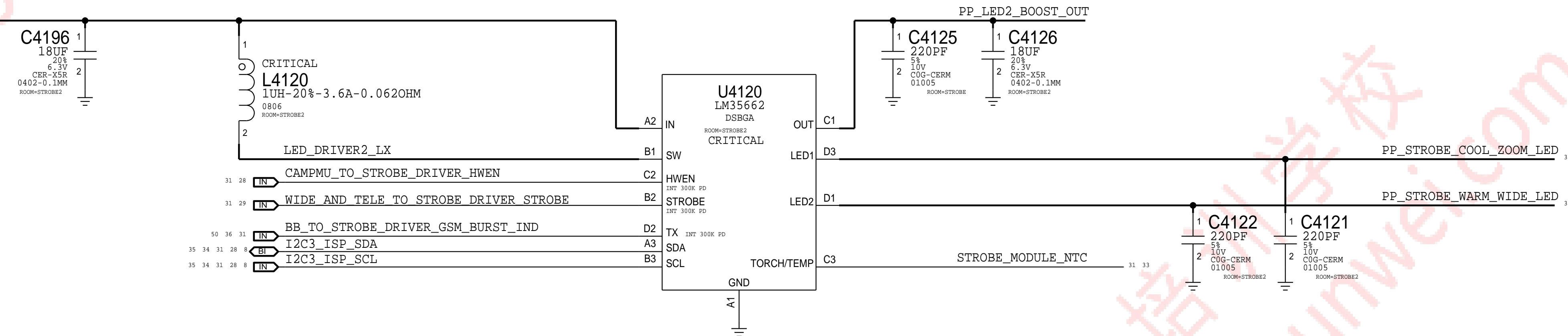
8 7 6 5 4 3 2 1

LED STROBE DRIVERS (NEON)

APN:353S00558
I2C Address (7-bit): 0x63



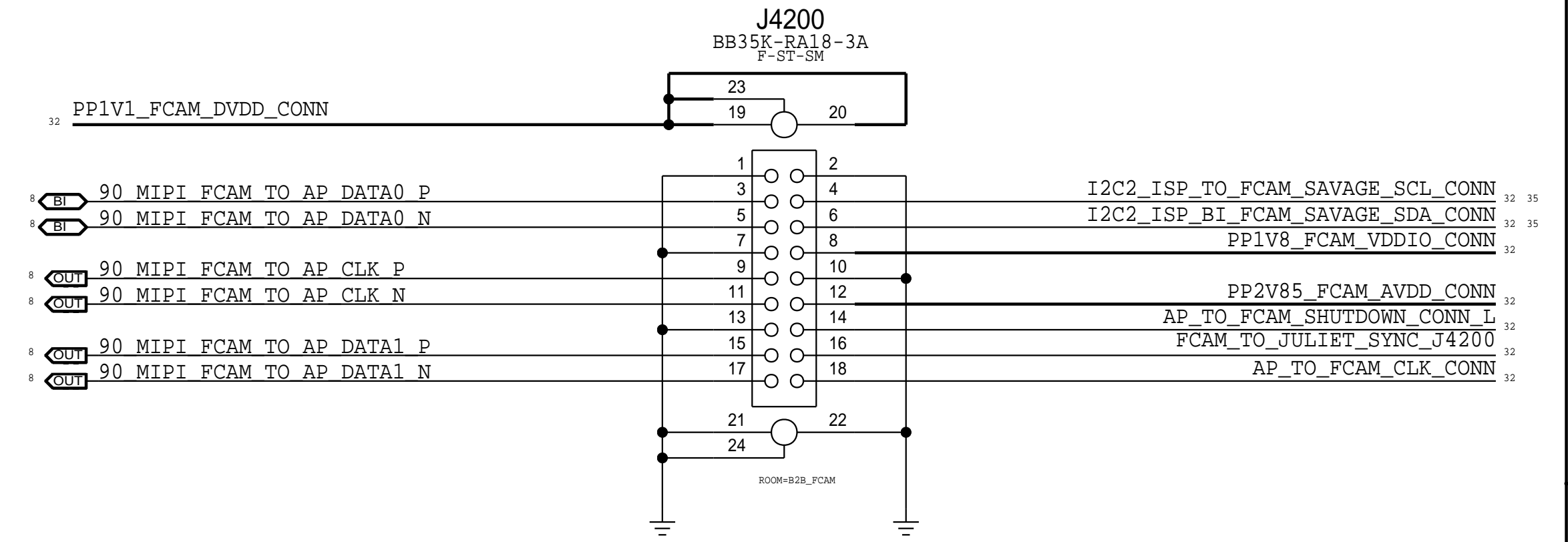
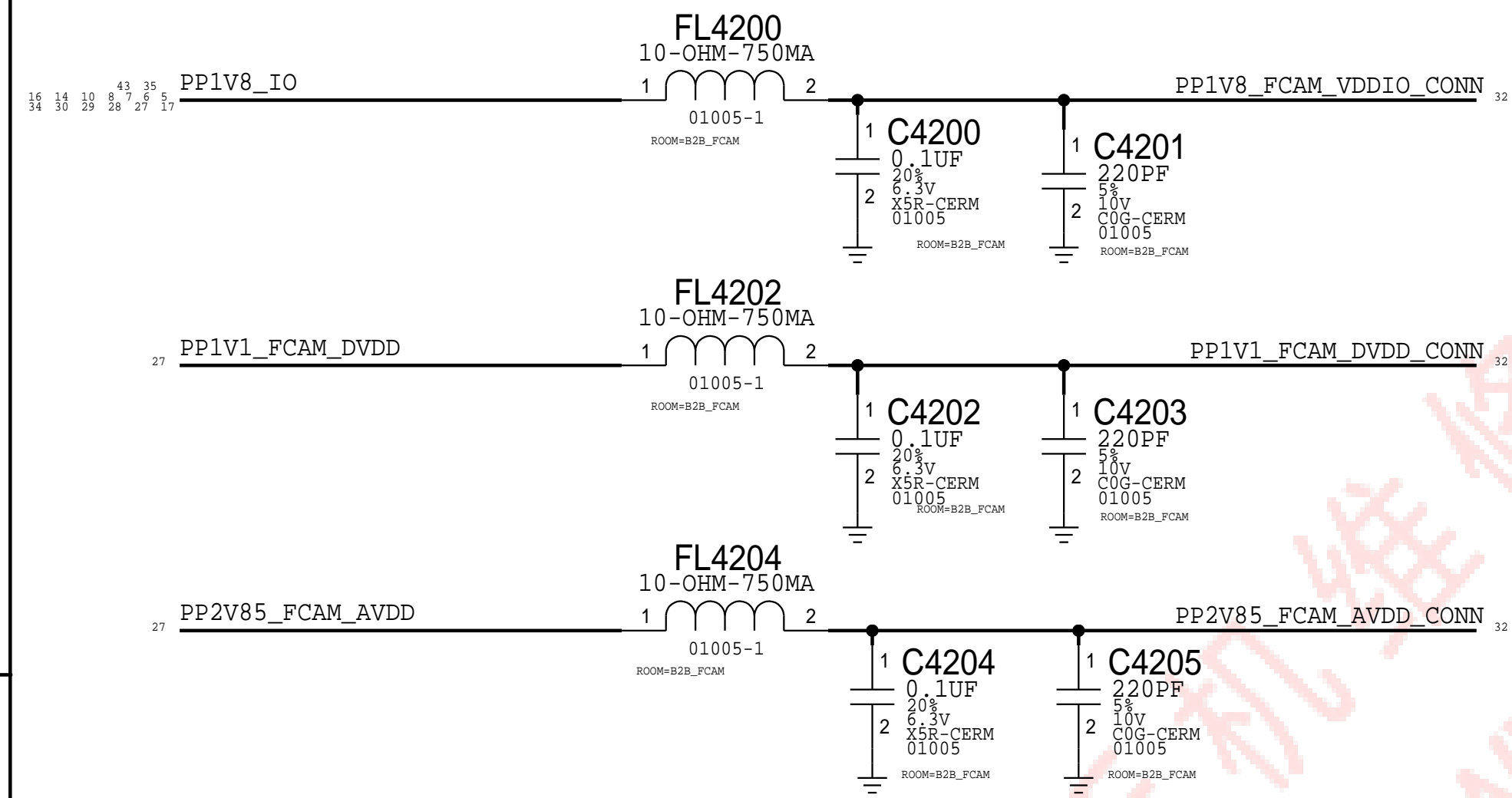
APN:353S00868
I2C Address (7-bit): 0x67



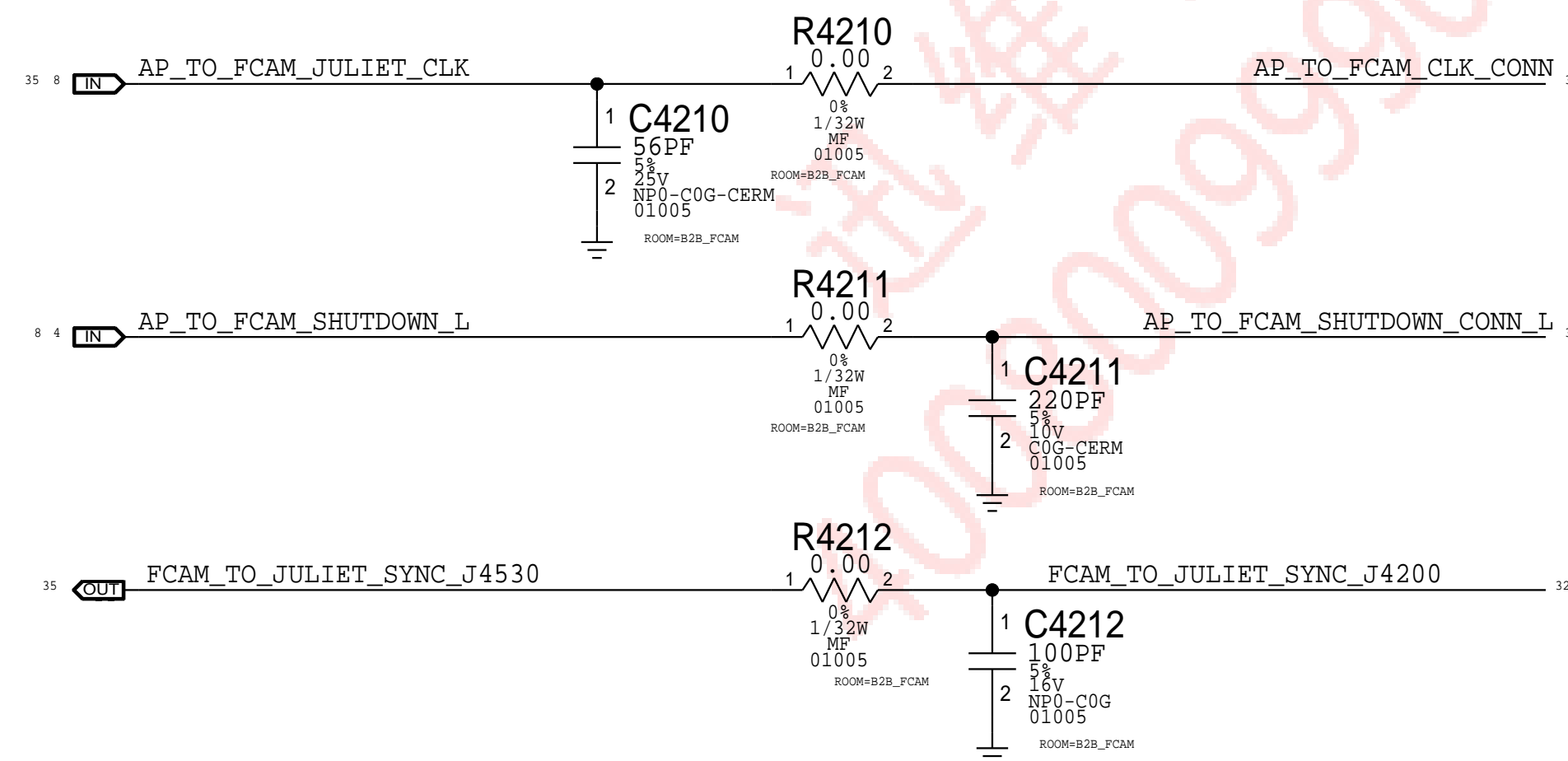
NEW HAMPSHIRE POWER

FCAM Connector

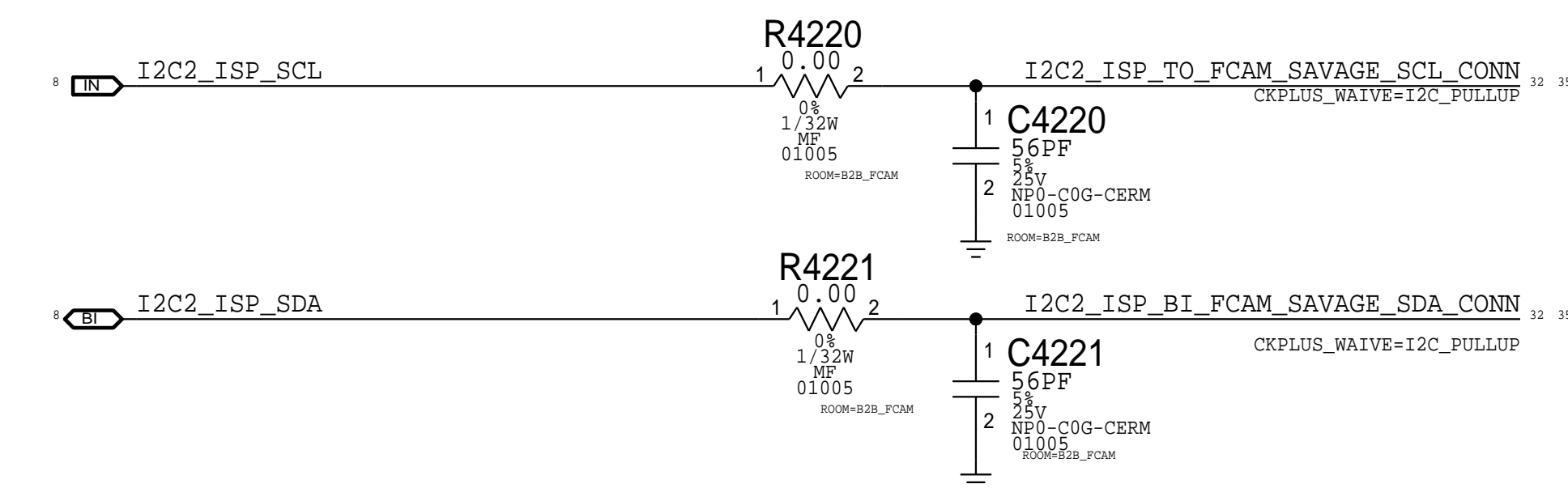
Rcpt: 516S00244 <-- This one on MLB
 Plug: 516S00245



FCAM I/O

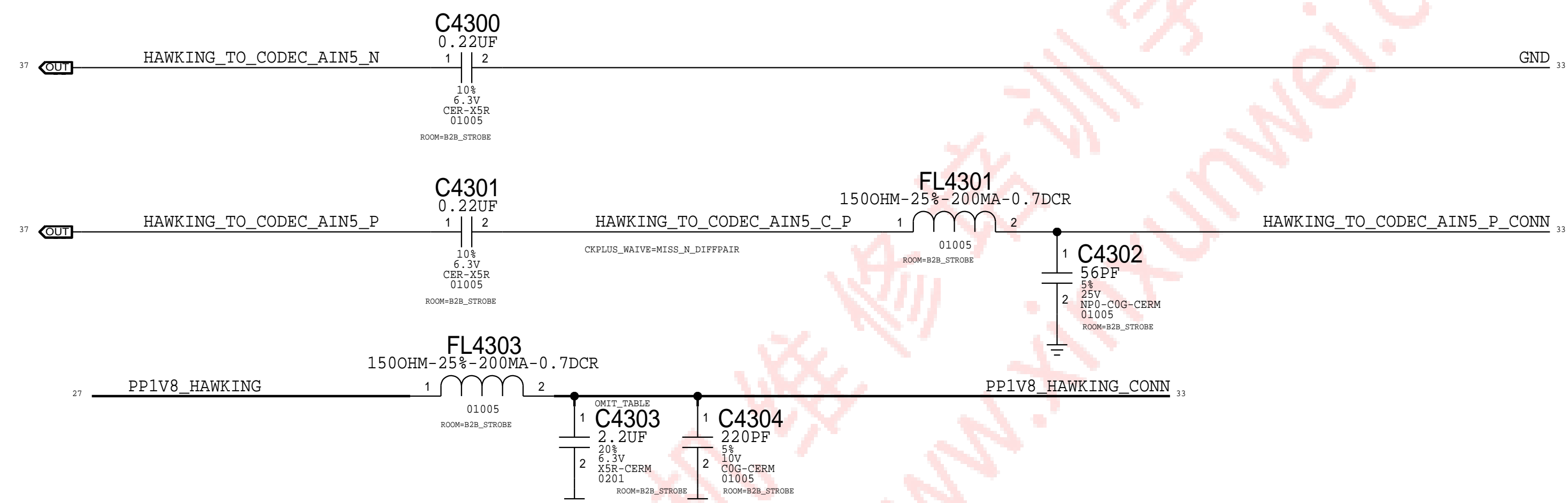


ISP I2C2

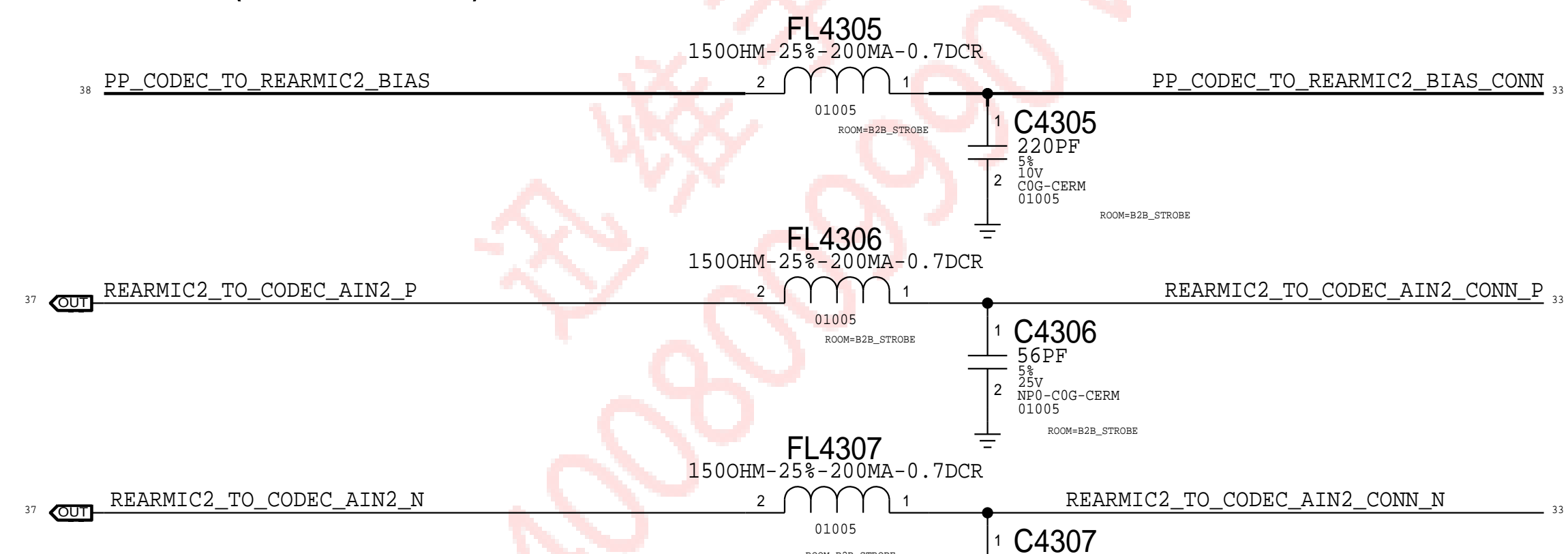


PAGE TITLE		
CAMERA: B2B FCAM		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	42 OF 80
	SHEET	32 OF 51

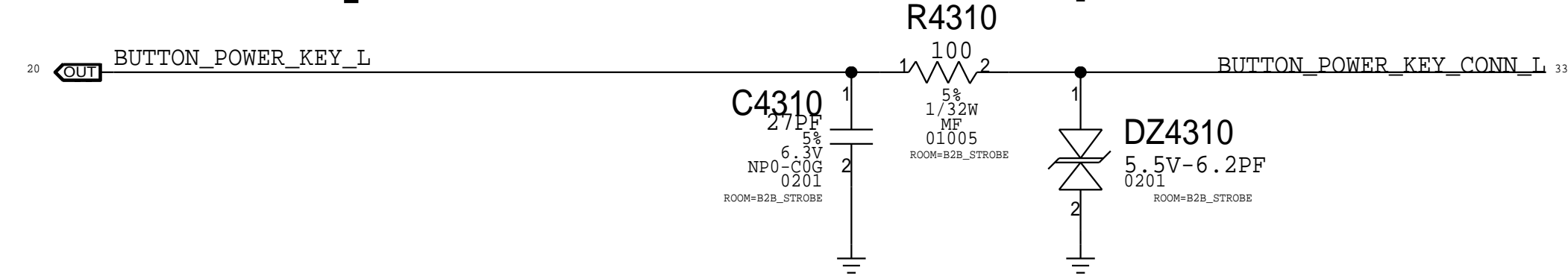
HAWKING



MIC2 (ANC REF)

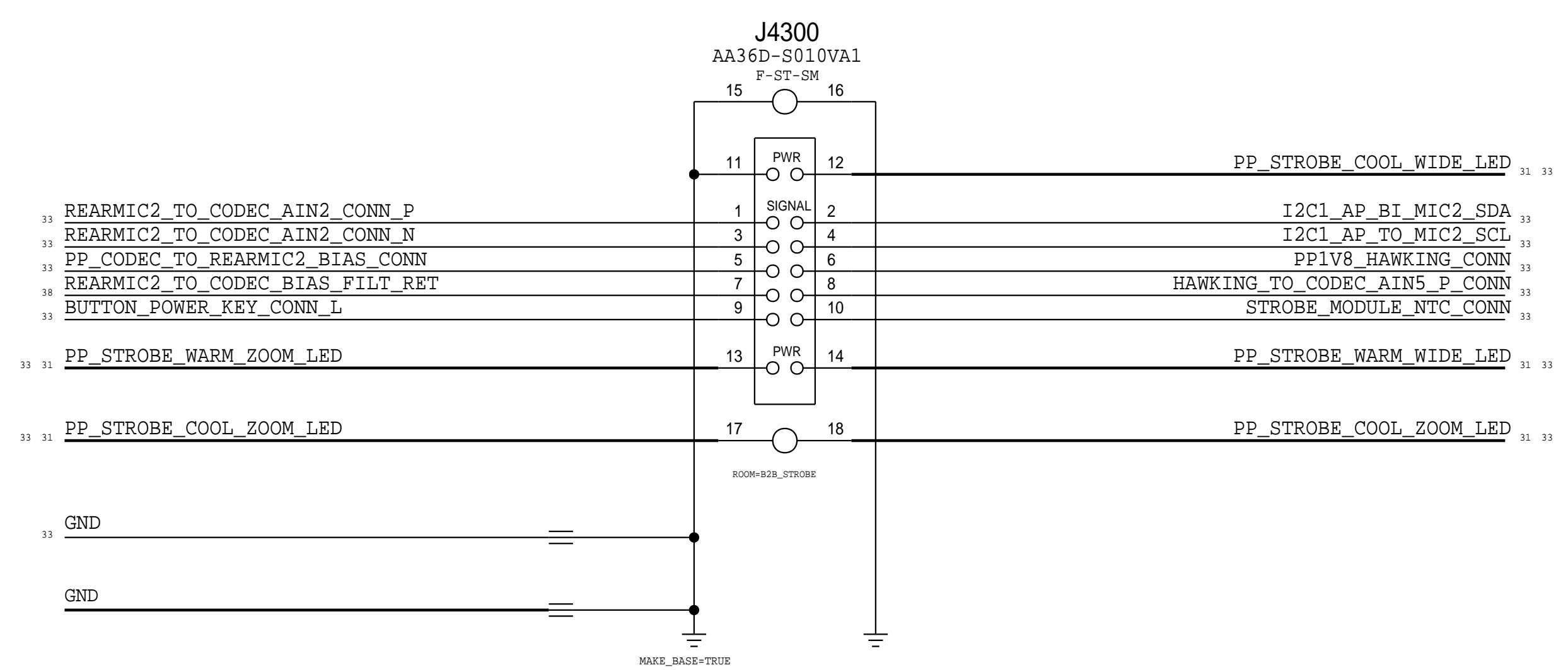


Power Key Button

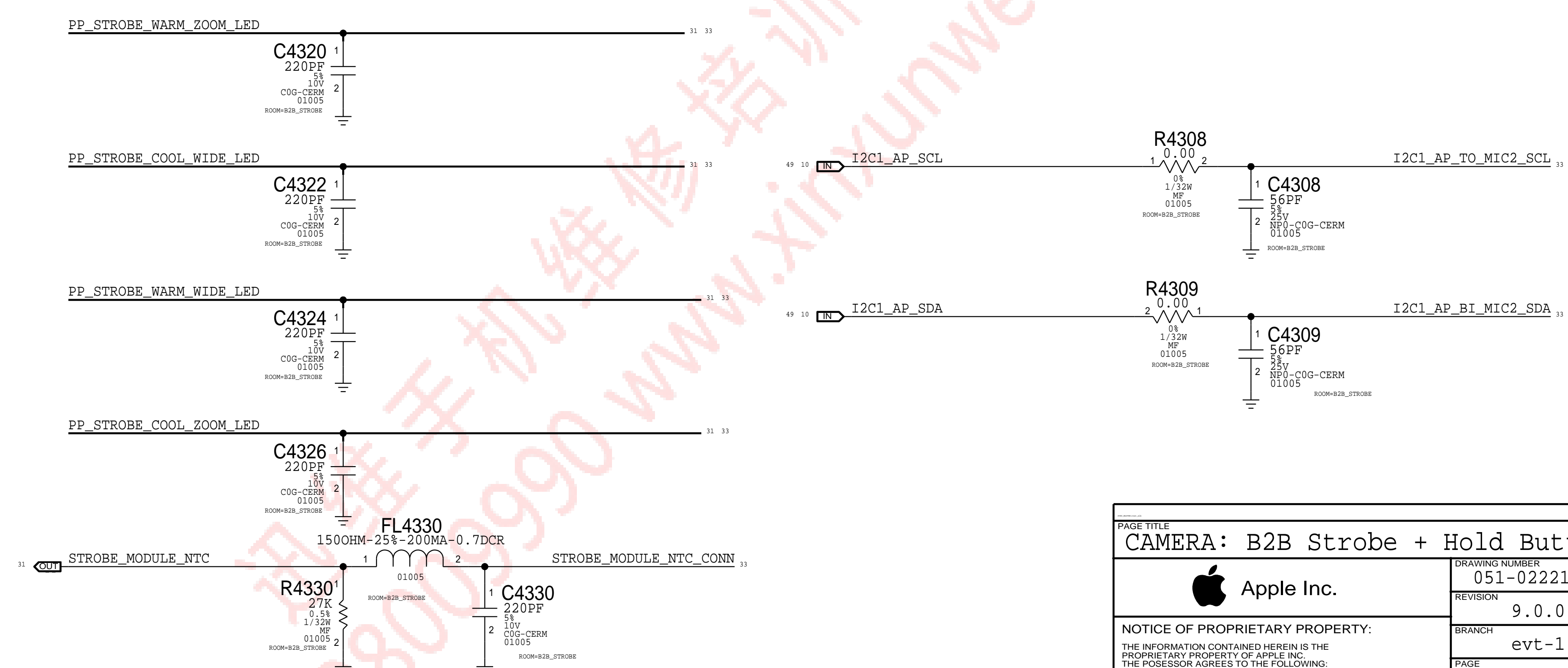


Strobe Connector

Rcpt: 516S00267 <-- This one on MLB
Plug: 516S00268



Strobe Filtering



PAGE TITLE CAMERA: B2B Strobe + Hold Button		
DRAWING NUMBER 051-02221		SIZE D
REVISION 9.0.0		BRANCH evt-1
PAGE 43 OF 80		SHEET 33 OF 51
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		

Rigel Driver

8 7 6 5 4 3 2 1

D

C

B

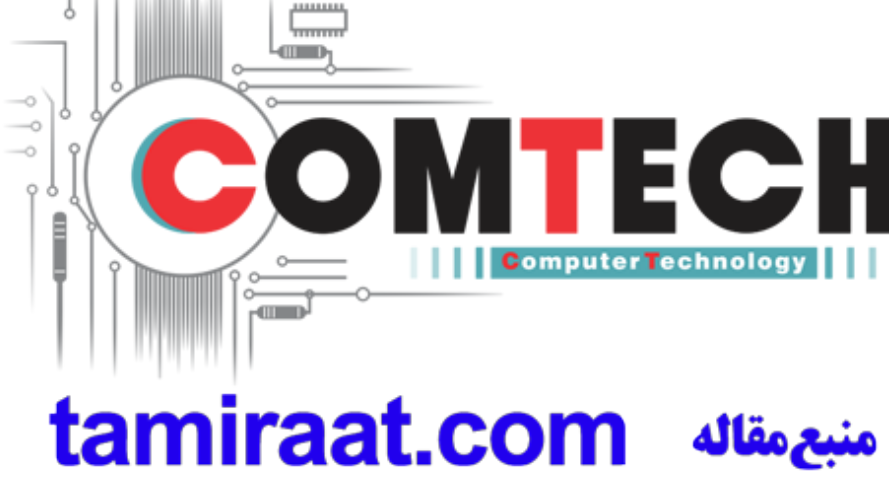
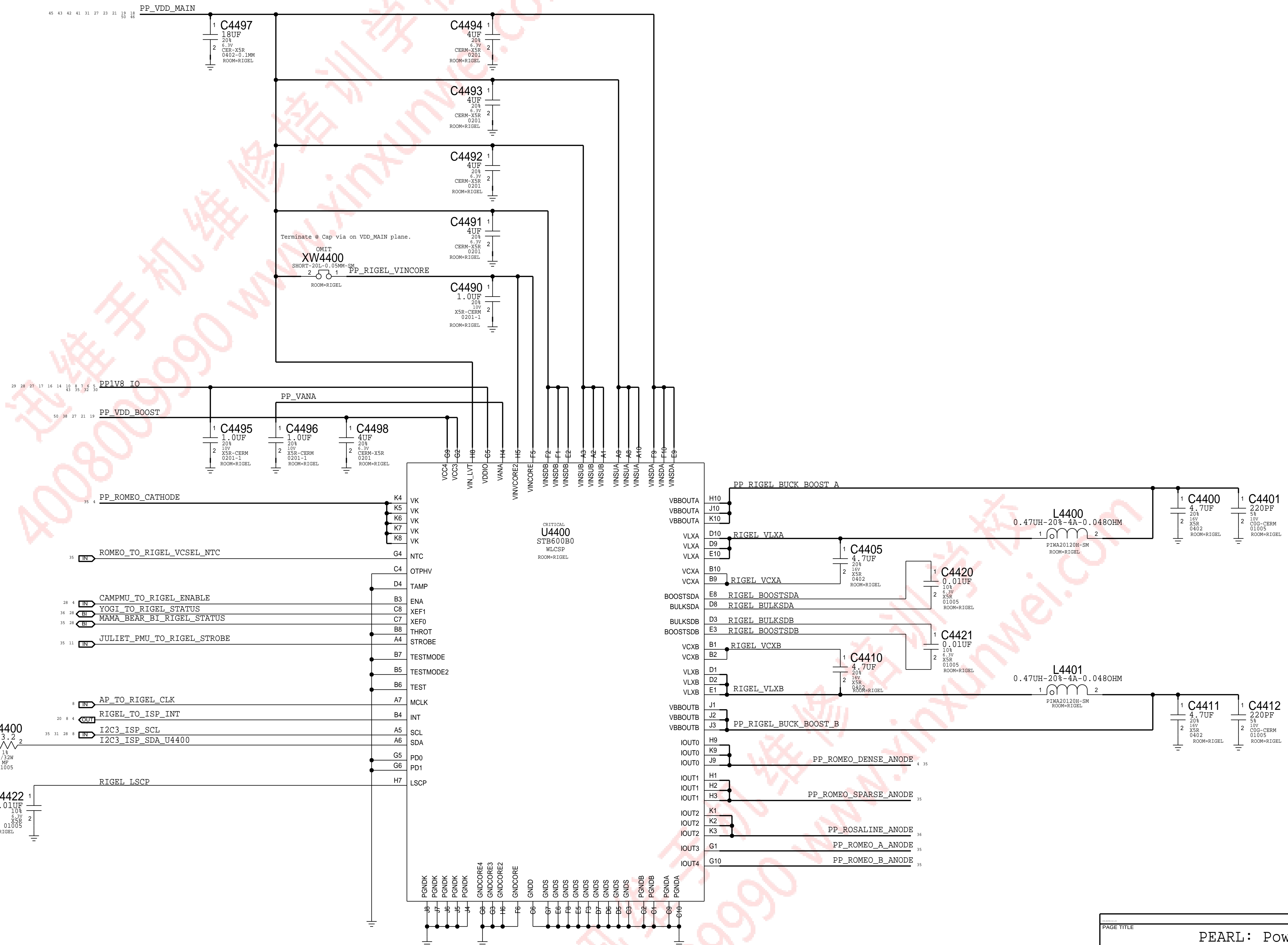
A

D

C

B

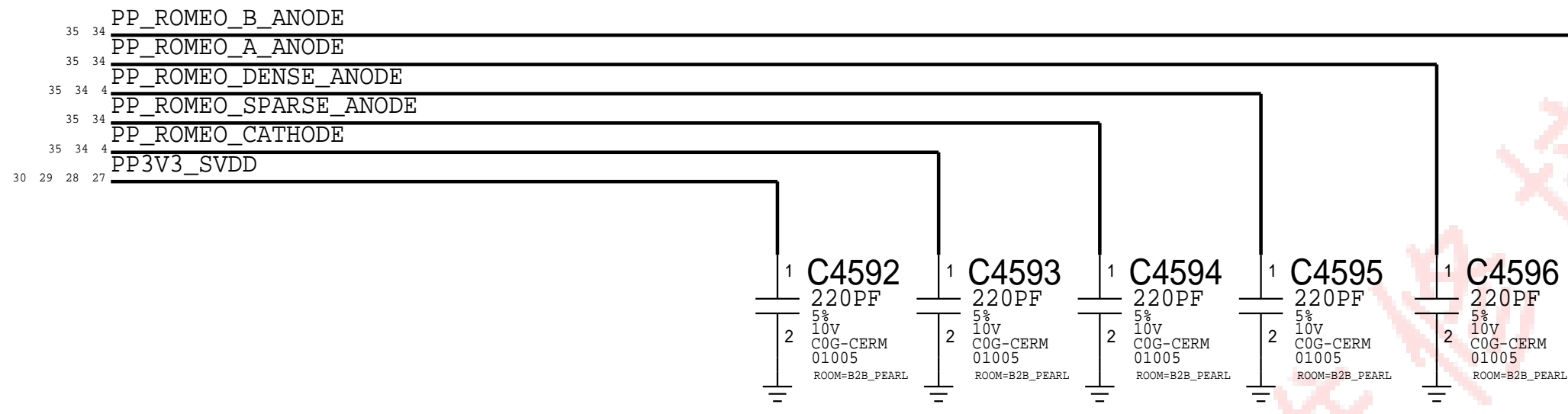
A



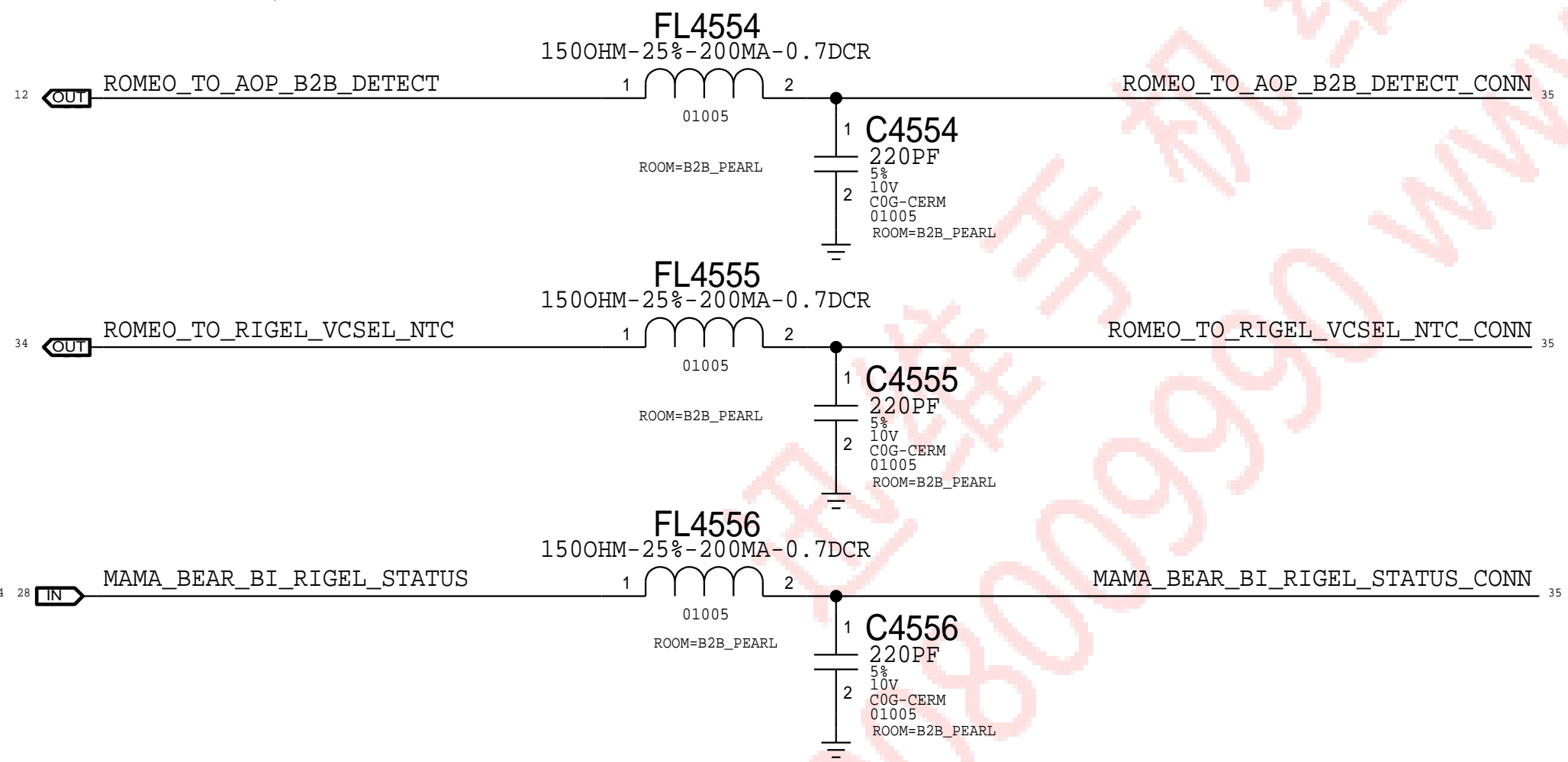
PAGE TITLE		
PEARL: Power		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	44 OF 80
	SHEET	34 OF 51

8 7 6 5 4 3 2 1

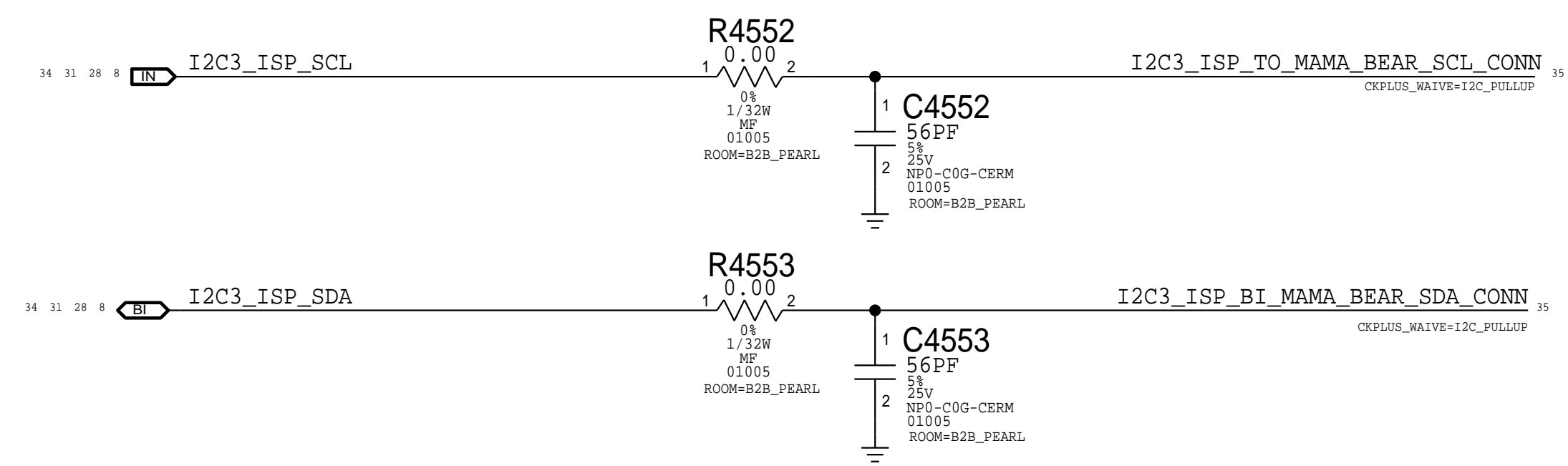
Romeo Power Filtering



Romeo I/O

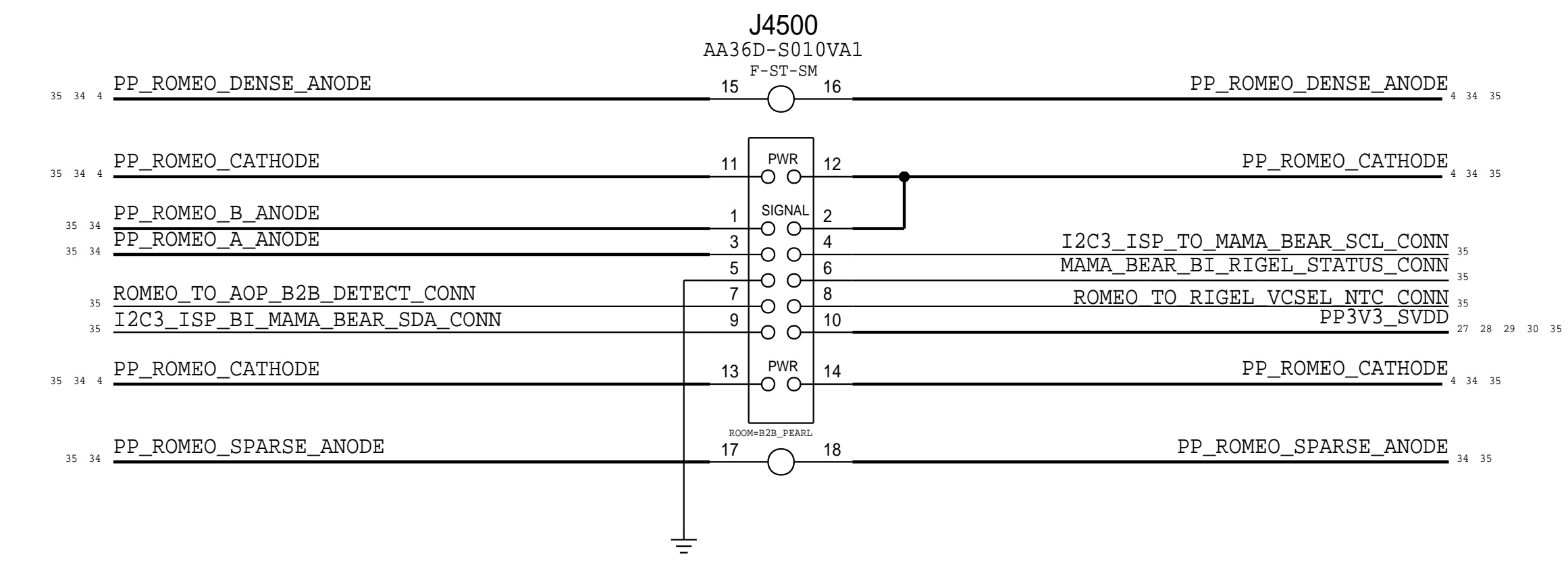


ISP I2C3

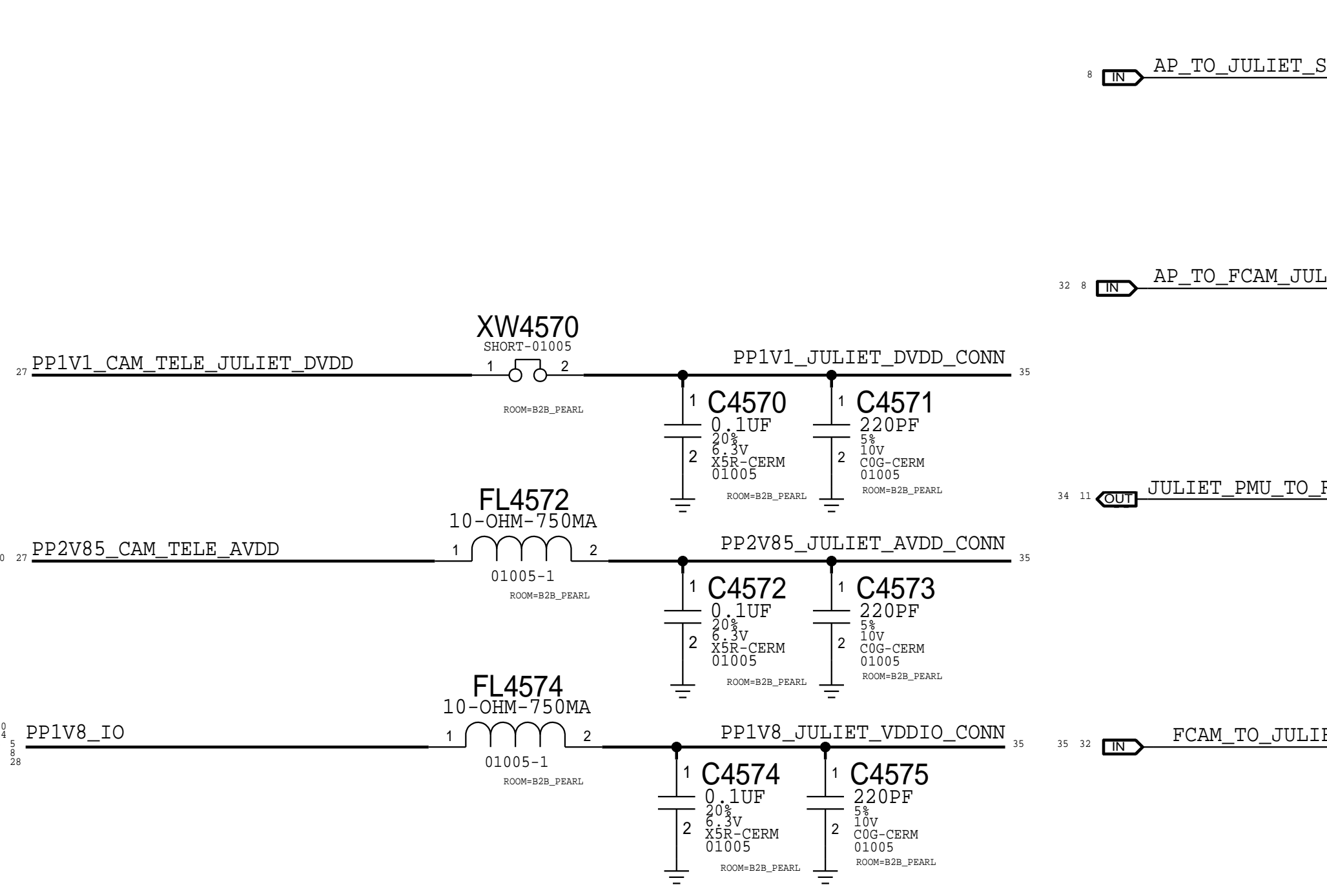


Romeo Connector

Rcpt: 516S00267 <-- This one on MLB
Plug: 516S00268

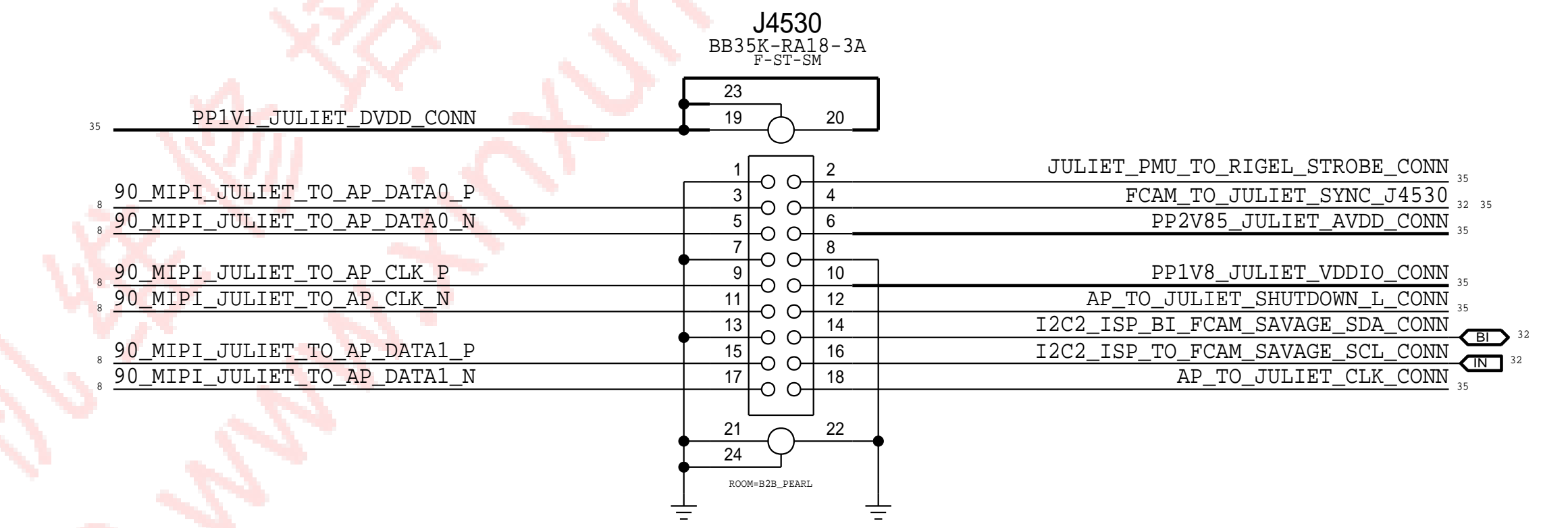


Juliet Power and I/O



Juliet Connector

Rcpt: 516S00244 <-- This one on MLB
Plug: 516S00245

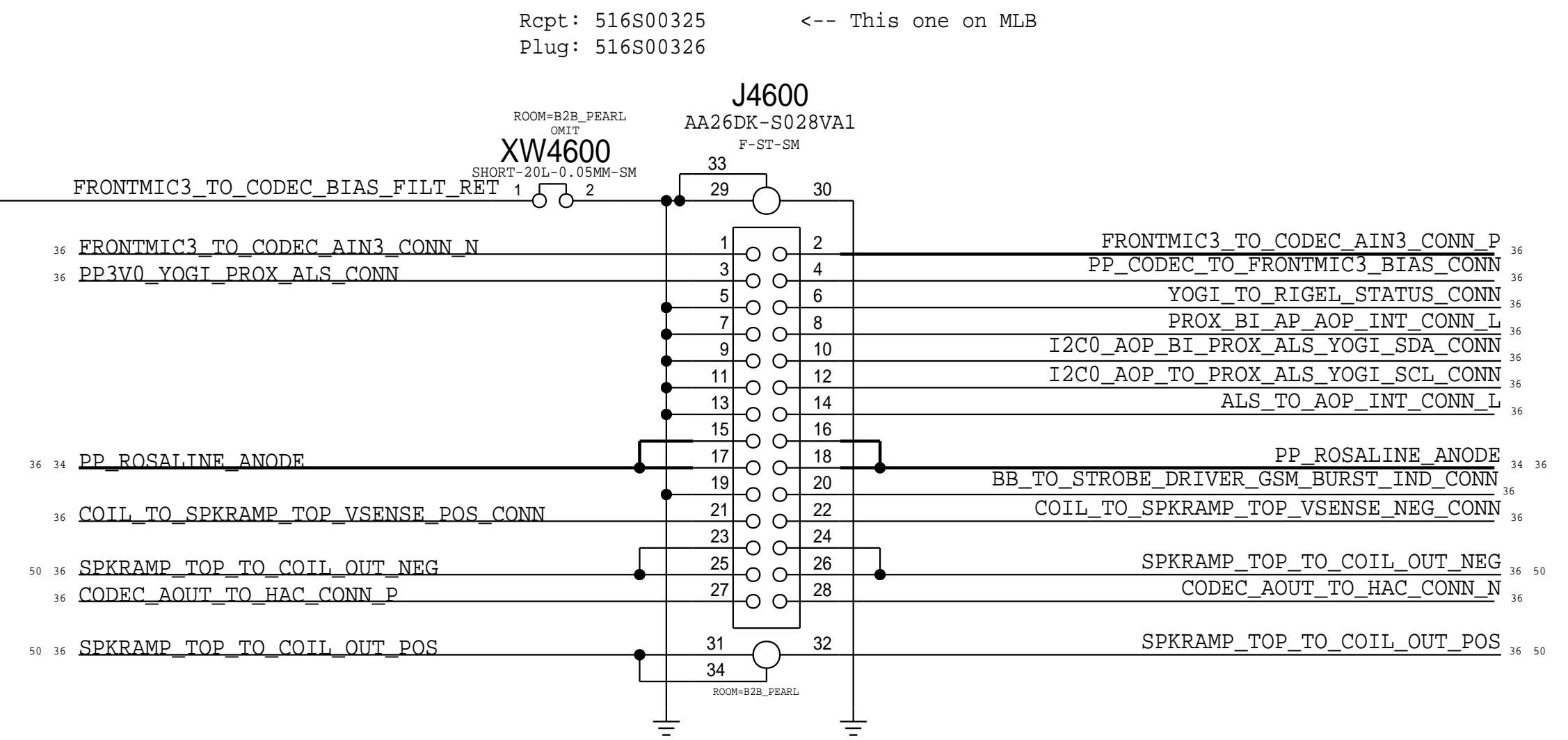
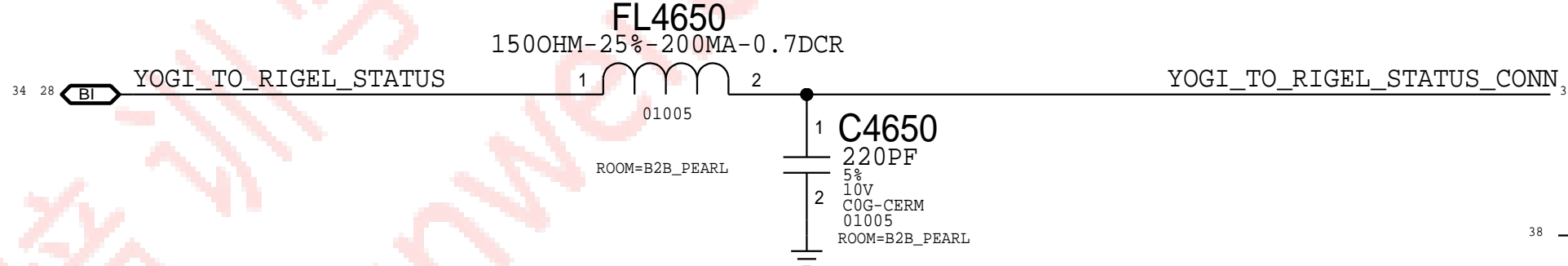
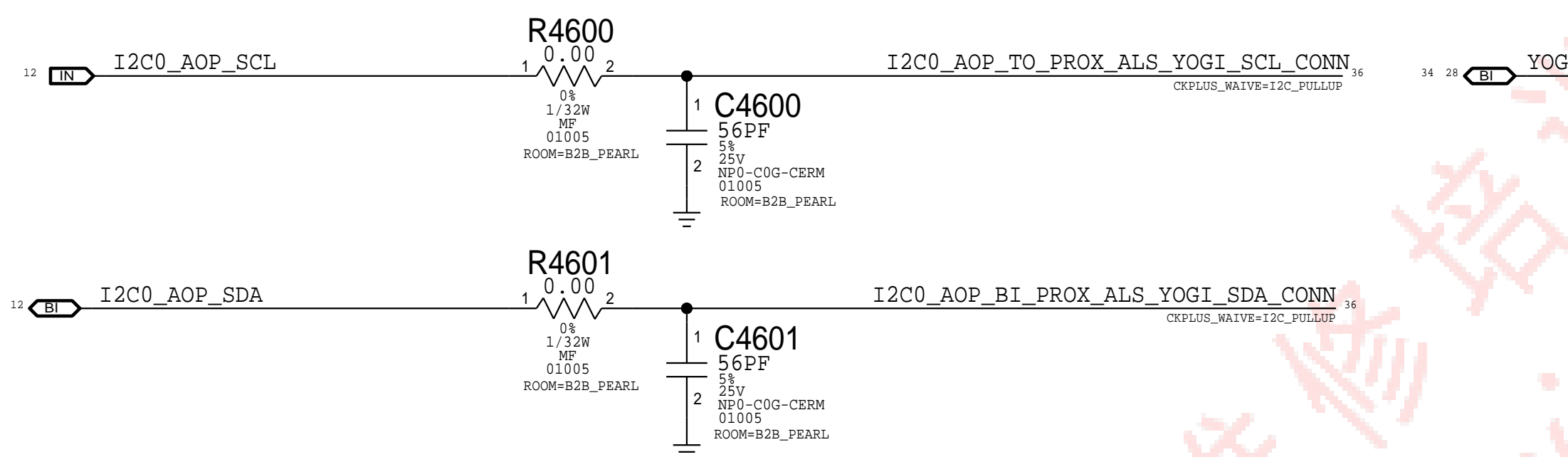


PAGE TITLE PEARL: B2B Romeo + Juliet		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		PAGE 45 OF 80
		SHEET 35 OF 51

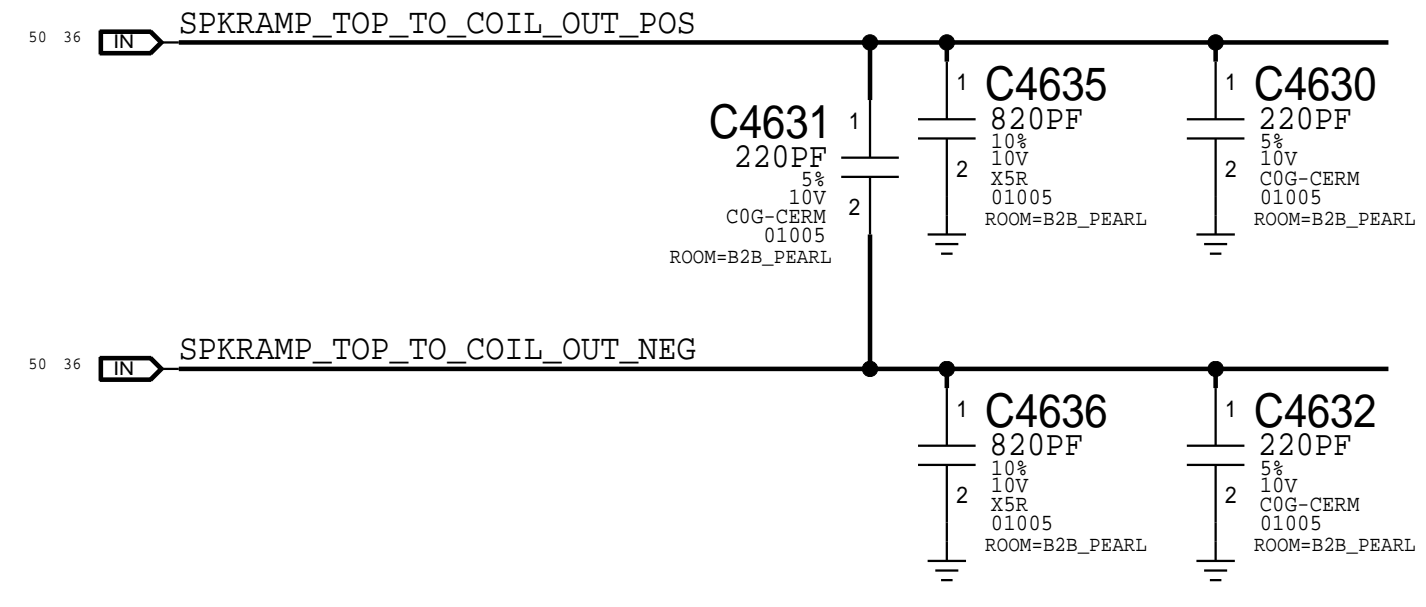
AOP I2C

Yogi Signals

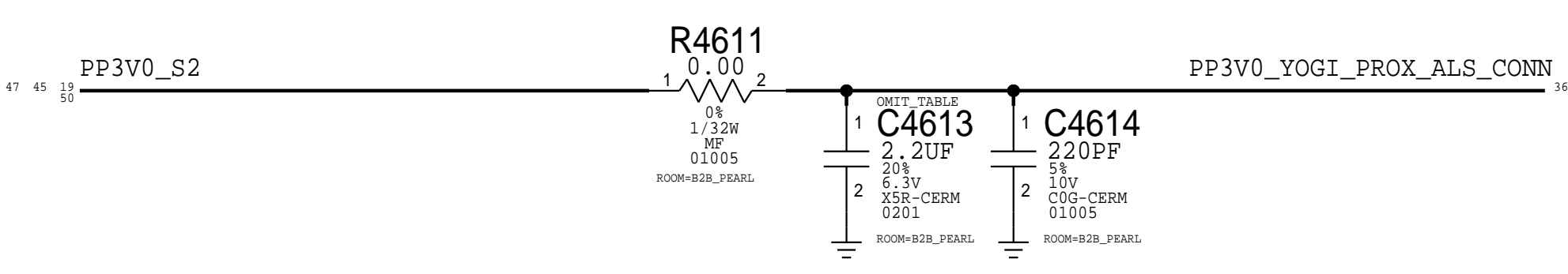
Rosaline + Misc Connector



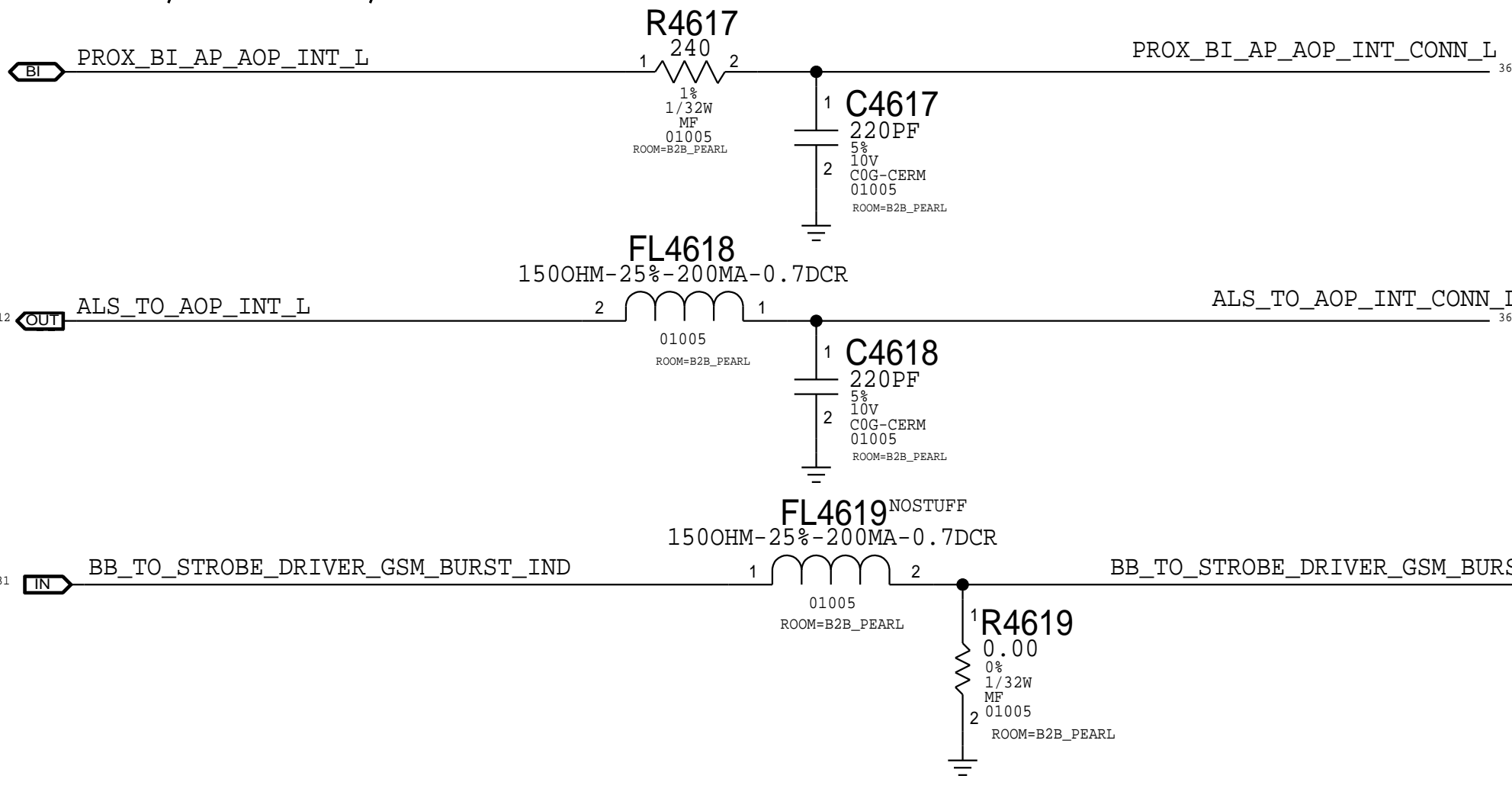
SPEAKER2



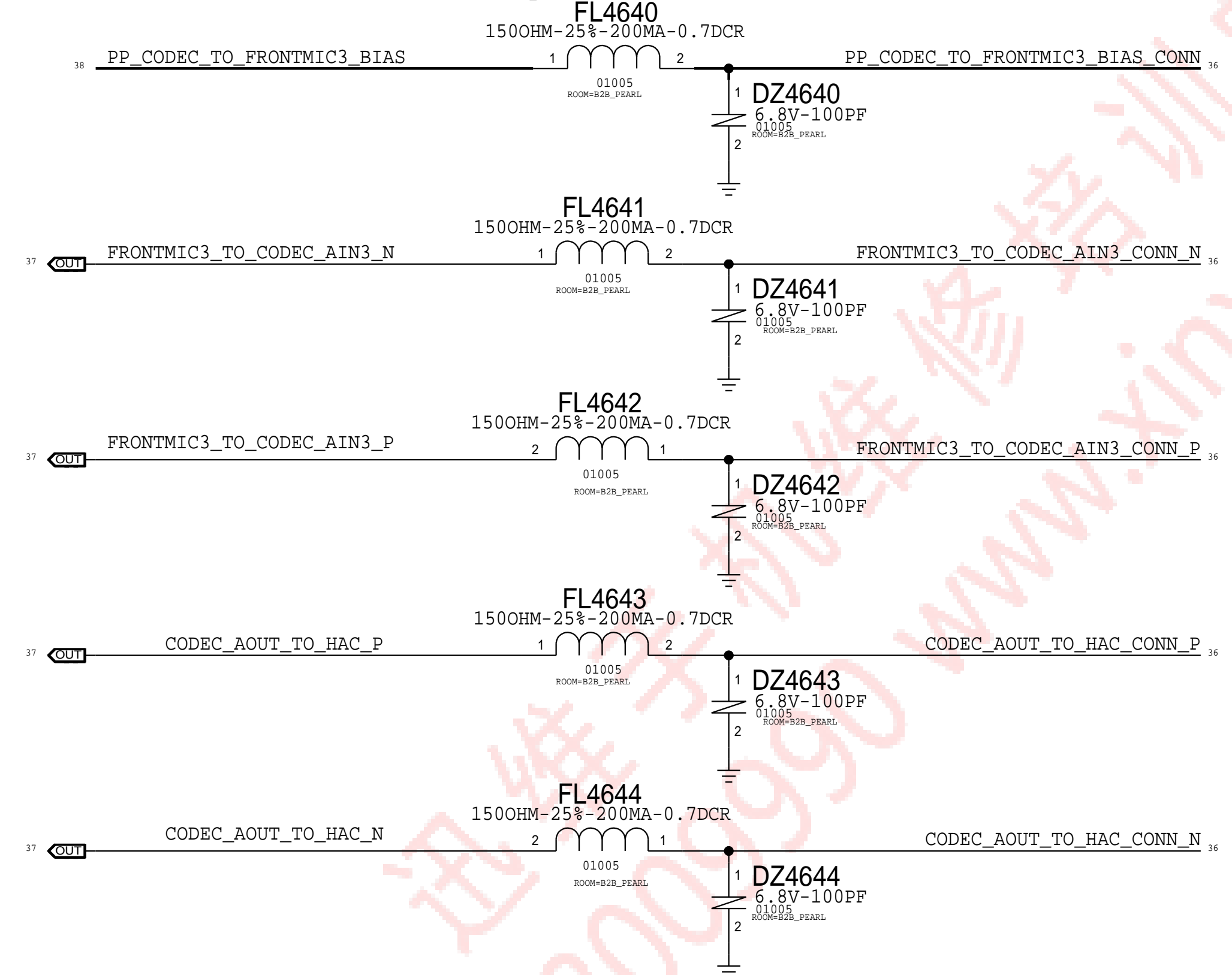
PROX & ALS POWER



PROX/ALS I/O

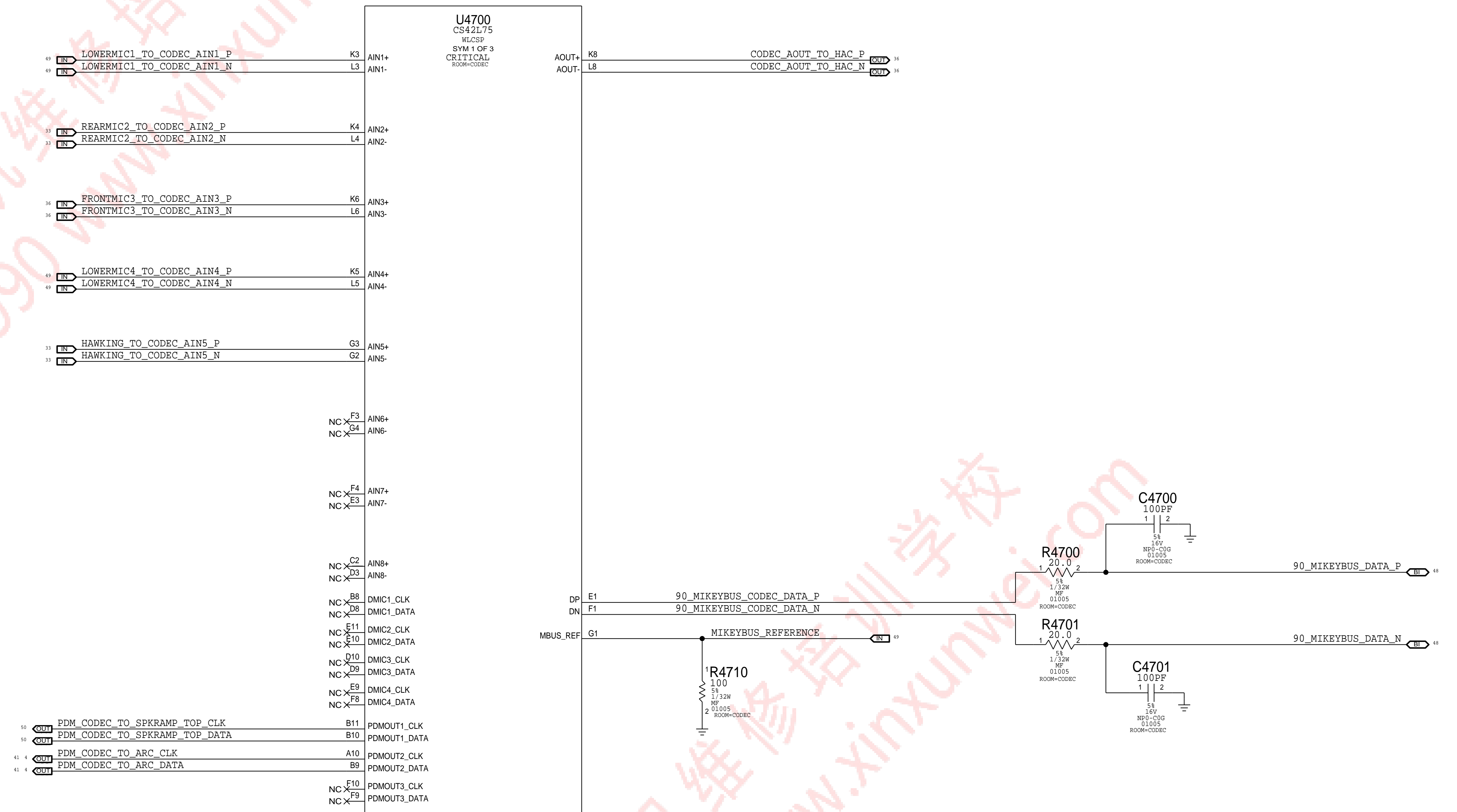


MIC3



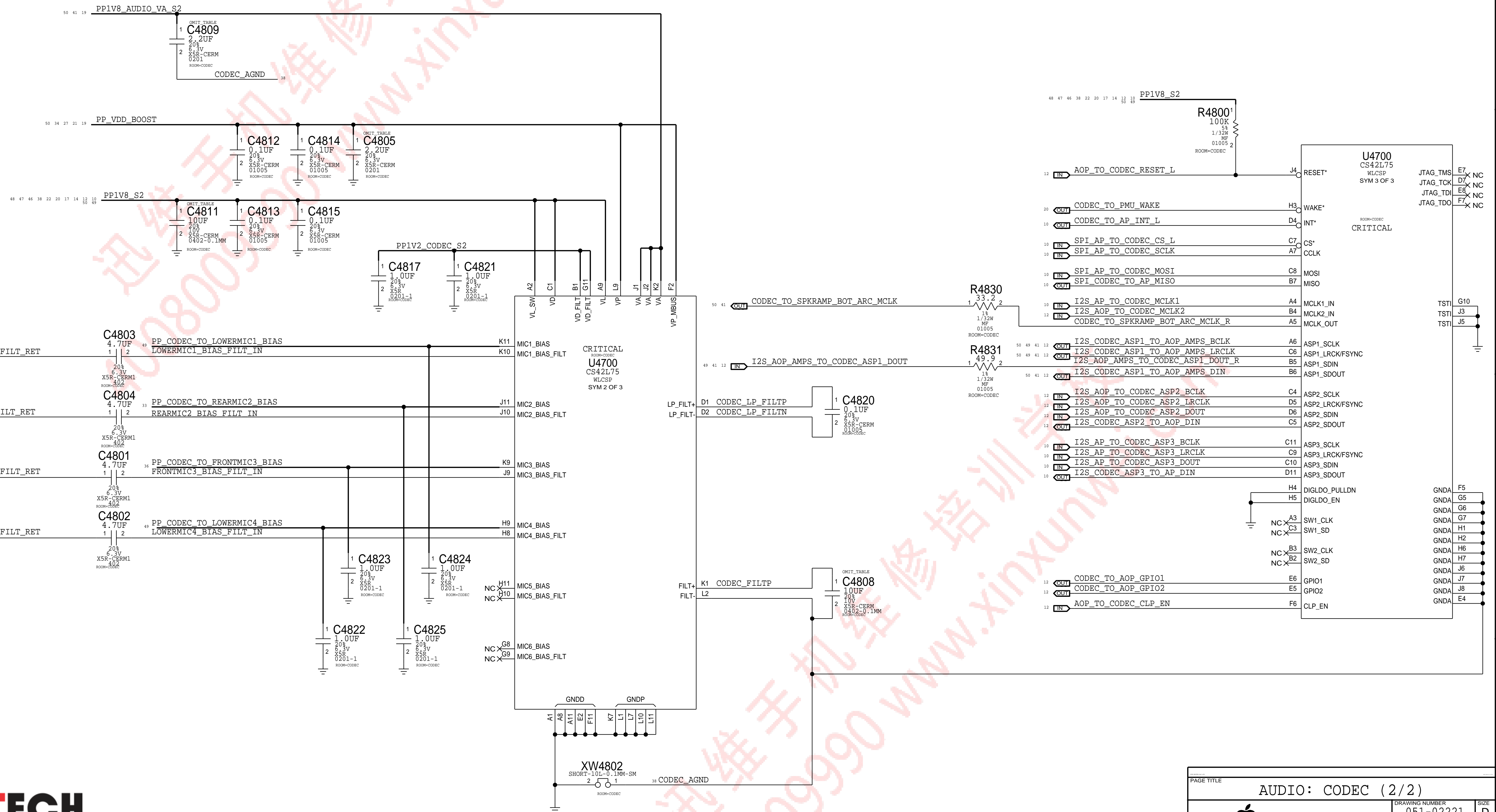
PAGE TITLE PEARL: B2B Rosaline + Misc		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	46 OF 80
	SHEET	36 OF 51

CALLAN AUDIO CODEC (ANALOG INPUTS & OUTPUTS)



PAGE TITLE		
AUDIO: CODEC (1/2)		
	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	47 OF 80
	SHEET	37 OF 51

CALLAN AUDIO CODEC (POWER & I/O)



PAGE TITLE AUDIO: CODEC (2/2)		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
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 I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		PAGE 48 OF 80
		SHEET 38 OF 51

迅维手机维修培训学校
4008009990 www.xinxunwei.com

South Speaker Amplifier on MLB Bottom



PAGE TITLE		AUDIO: Speaker Amp Bottom		SYNC_DATE=08/25/2015	
DRAWING NUMBER	051-02221	SIZE	D		
	REVISION		9.0.0	BRANCH	
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			evt-1		
PAGE			49 OF 80		
SHEET			39 OF 51		

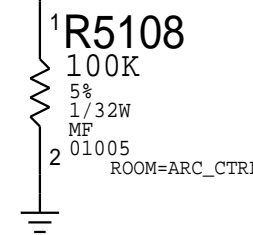
迅维手机维修培训学校
4008009990 www.xinxunwei.com

North Speaker Amplifier on MLB Bottom



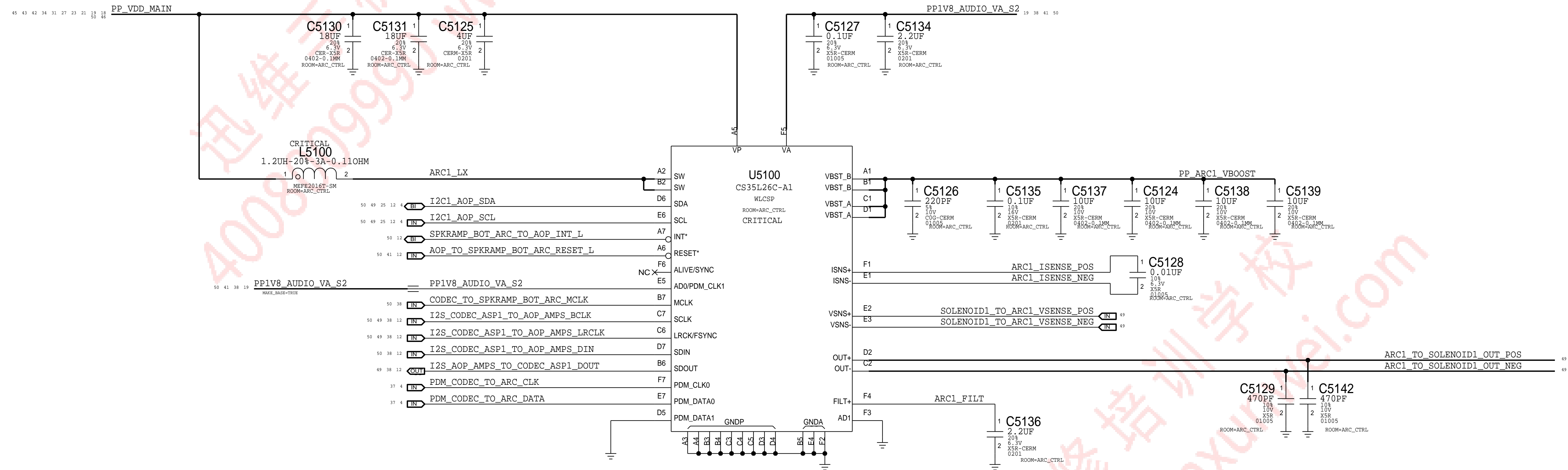
PAGE TITLE			AUDIO: Speaker Amp Top	
DRAWING NUMBER		051-02221	SIZE	
REVISION		9.0.0	D	
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		BRANCH	evt-1	
		PAGE	50 OF 80	
		SHEET	40 OF 51	

Pull Downs
AOP_TO_SPKRAMP_BOT_ARC_RESET_L 12 41 50



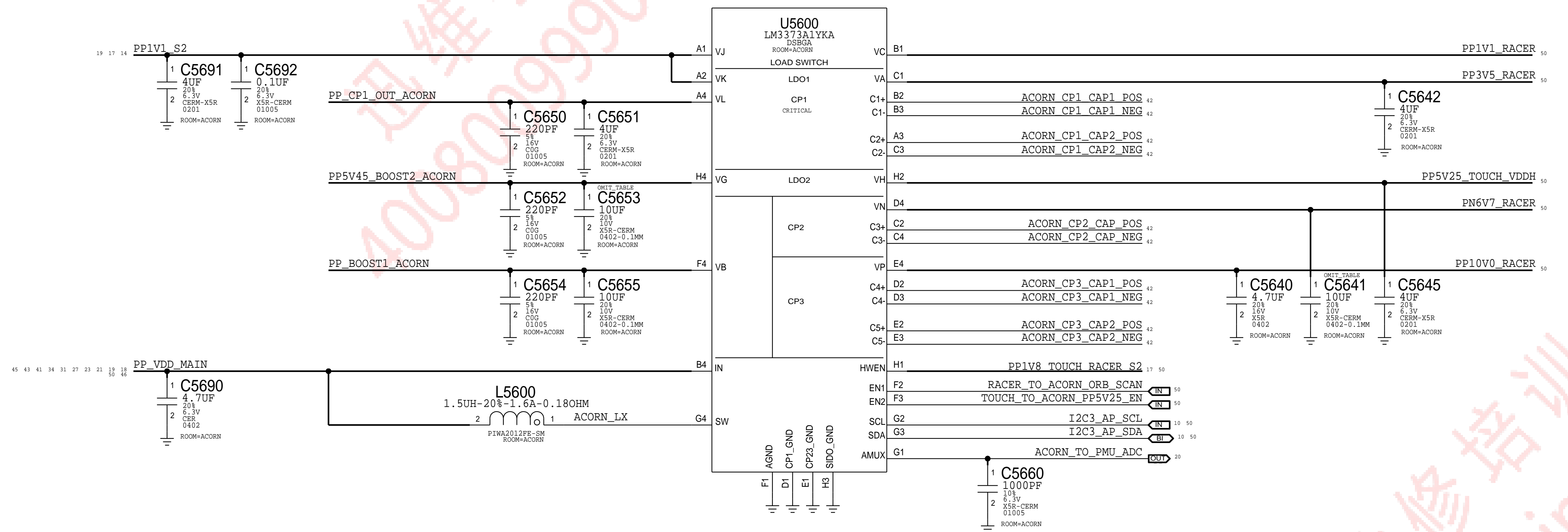
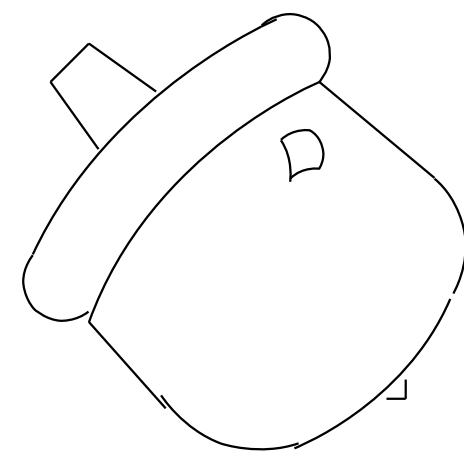
ARC DRIVER

APN: 338S00296
I2C ADDRESS: 1000 001x
0x82

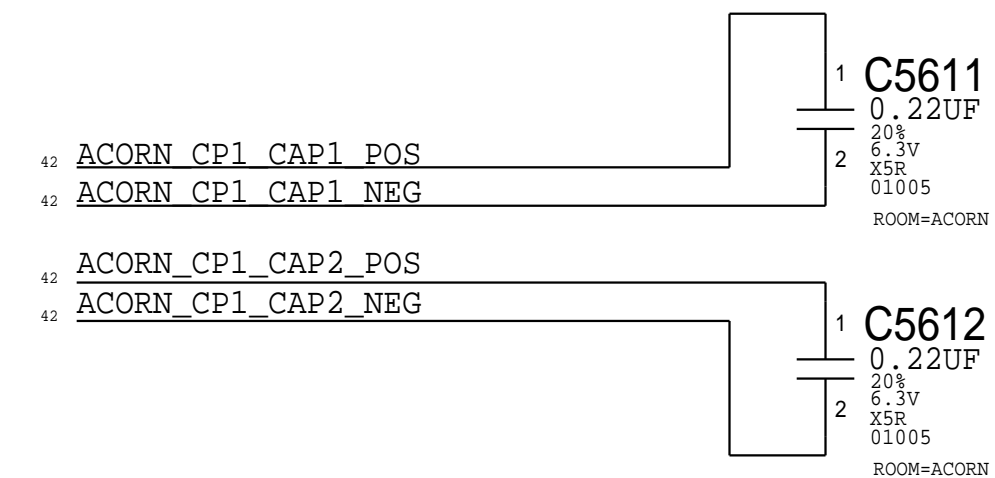


PAGE TITLE ARC: Driver		
	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		
	PAGE 51 OF 80	SHEET 41 OF 51

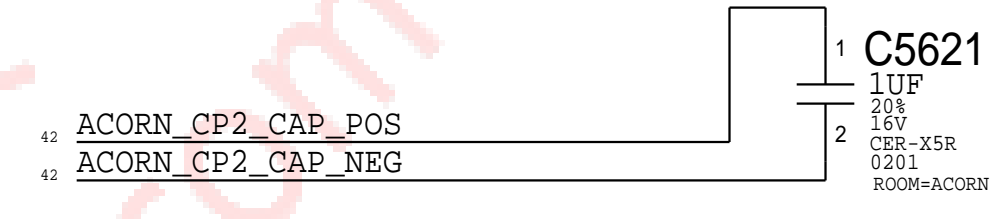
Acorn PMU



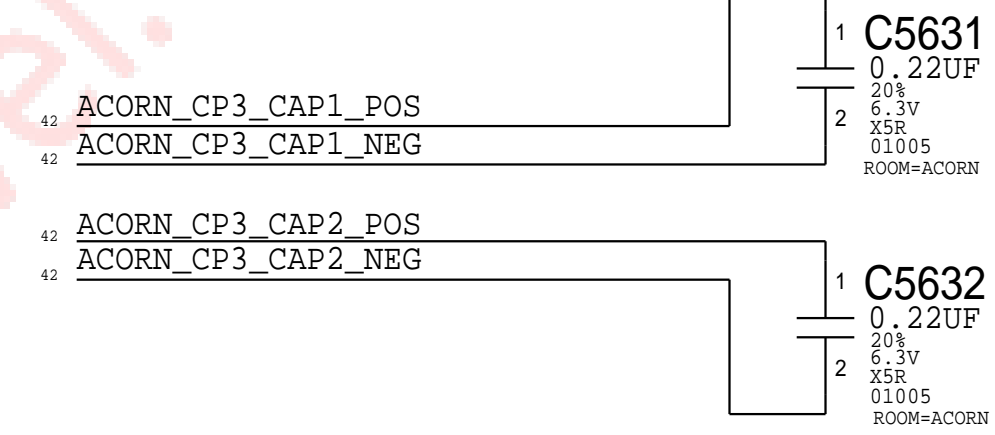
Charge Pump 1 Caps



Charge Pump 2 Caps

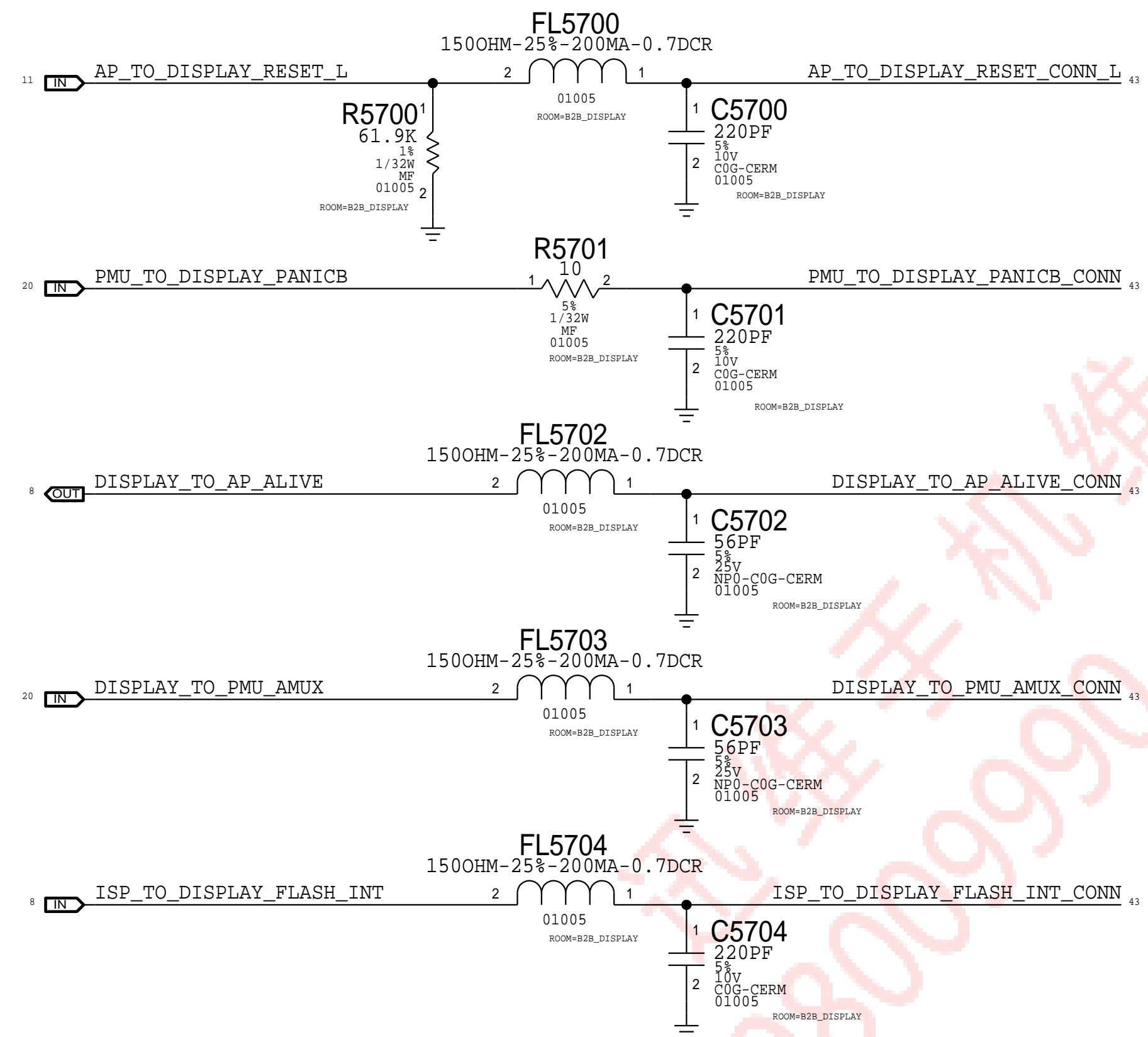


Charge Pump 3 Caps

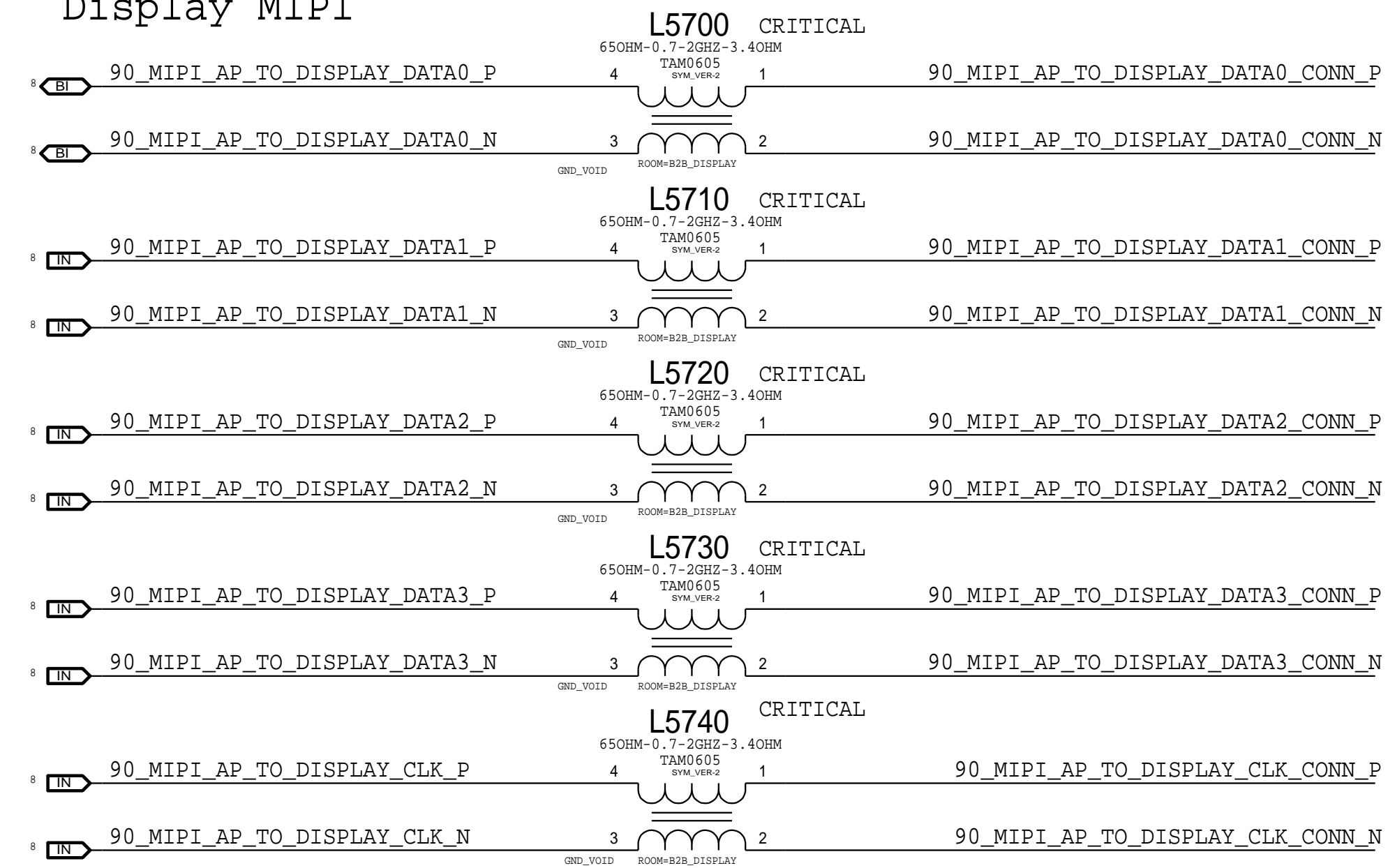


PAGE TITLE CG: Power Supplies - Touch & Display		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		
PAGE 56 OF 80		SHEET 42 OF 51

Display Control Signals

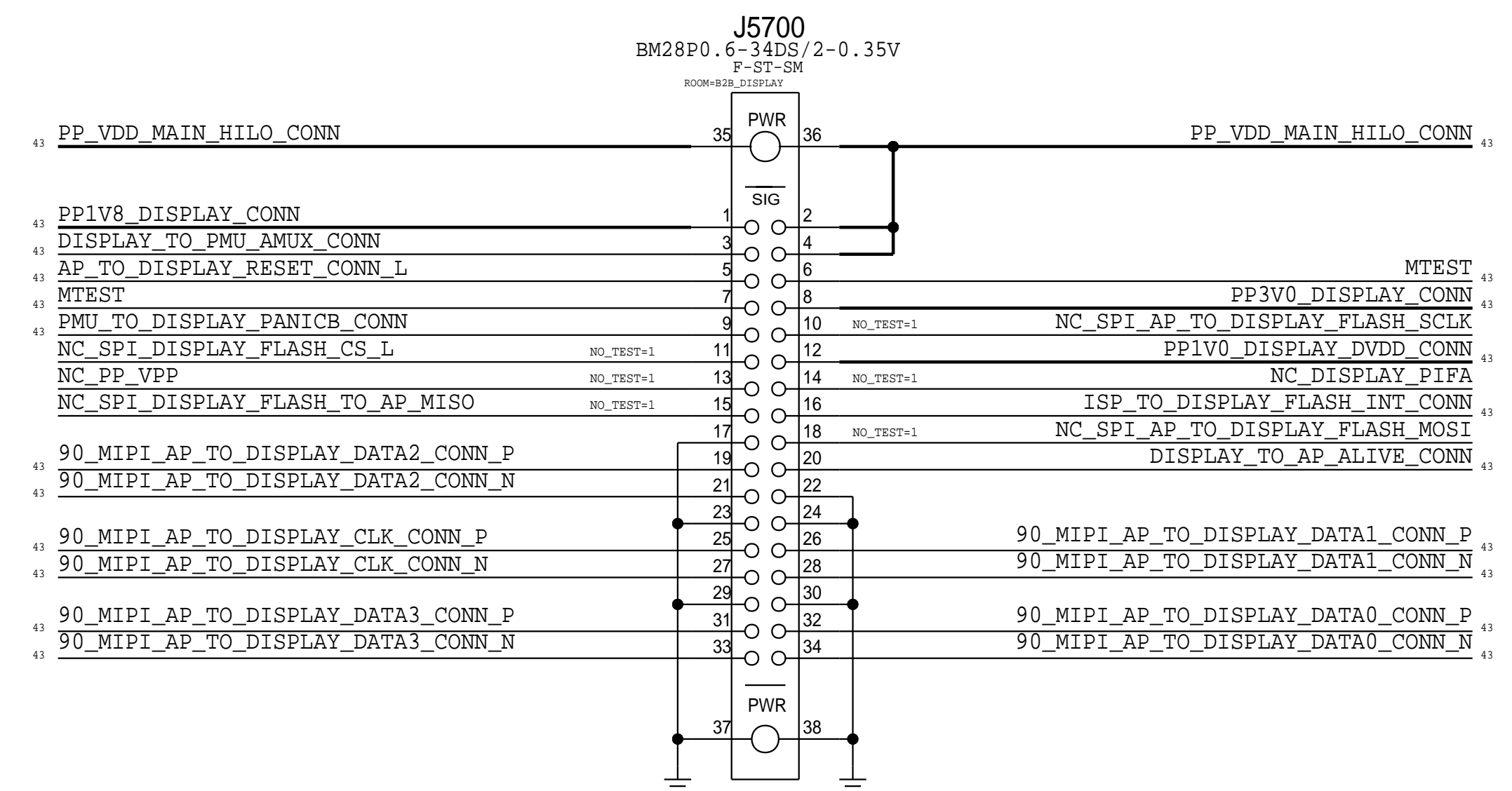


Display MIPI

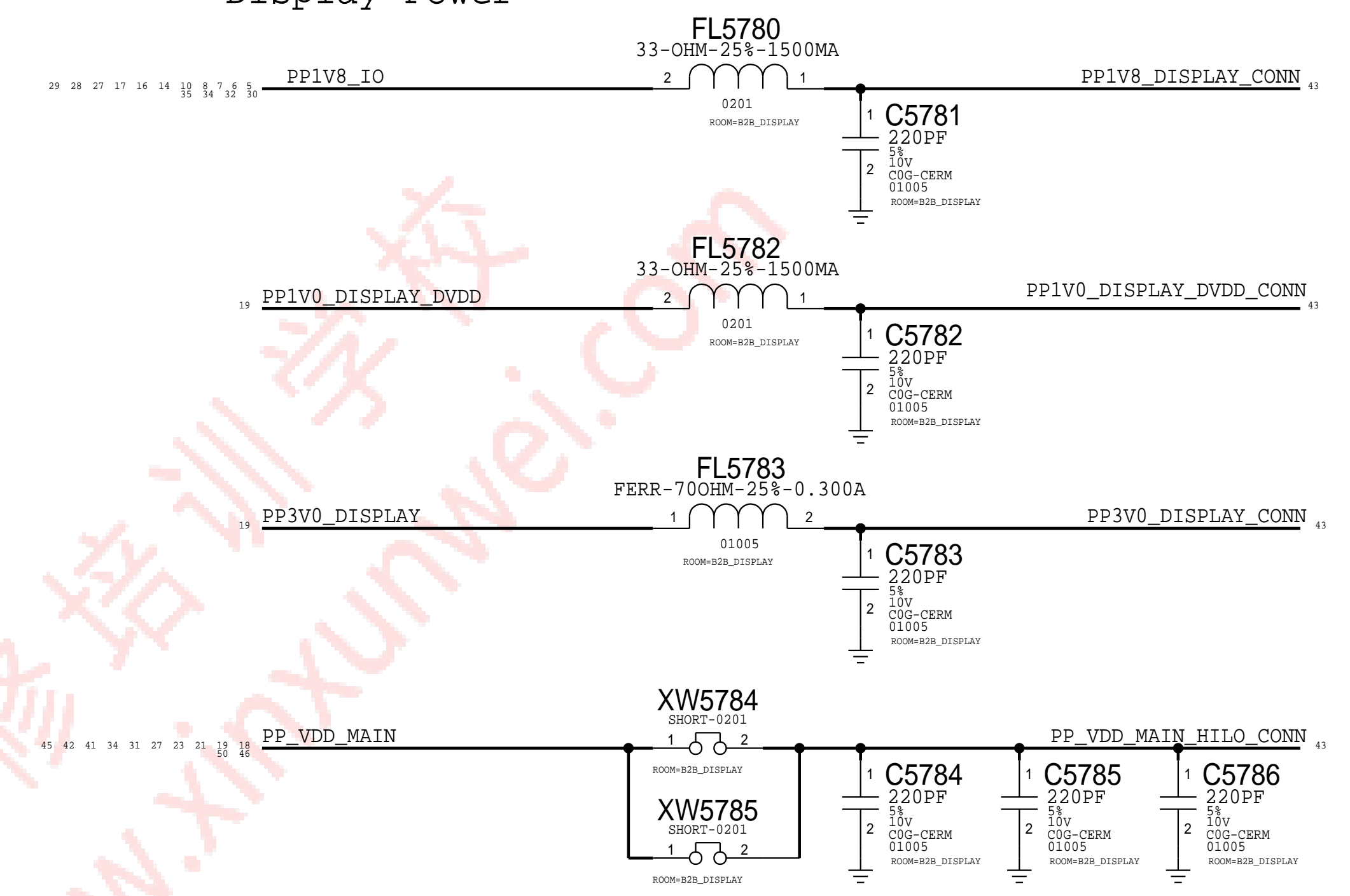


Display Flex Connector

Rept: 516S00210 <-- This one on MLB
 Plug: 516S00211



Display Power



PAGE TITLE		
CG: B2B Display		
	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	57 OF 80
	SHEET	43 OF 51

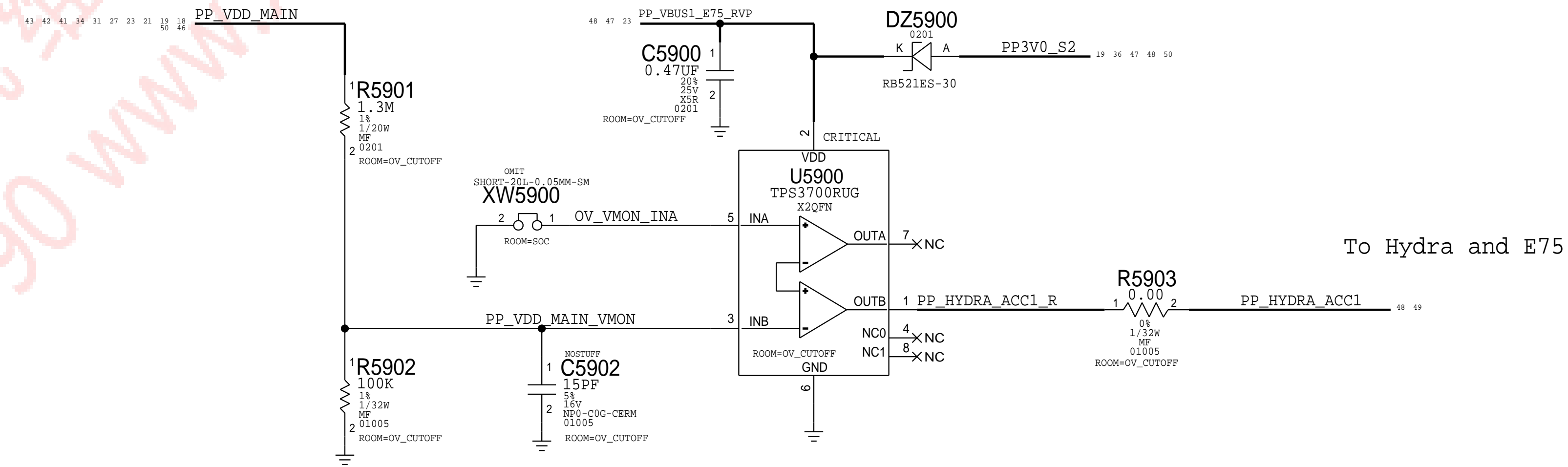
迅维手机维修培训学校
4008009990 www.xinxunwei.com

Orb + Touch Connector on MLB Bottom



PAGE TITLE			CG: B2B Orb & Touch	
DRAWING NUMBER	051-02221	SIZE	D	
	REVISION	9.0.0	BRANCH	
NOTICE OF PROPRIETARY PROPERTY:		evt-1		
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING:		PAGE	58 OF 80	
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		SHEET	44 OF 51	

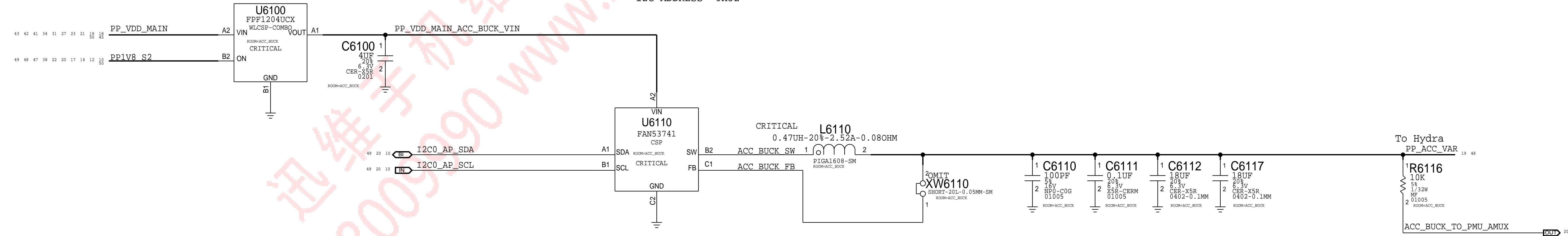
VDD_MAIN OV CUT-OFF CIRCUIT



PAGE TITLE I/O: Overvoltage Cut-Off Circuit		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	59 OF 80
	SHEET	45 OF 51

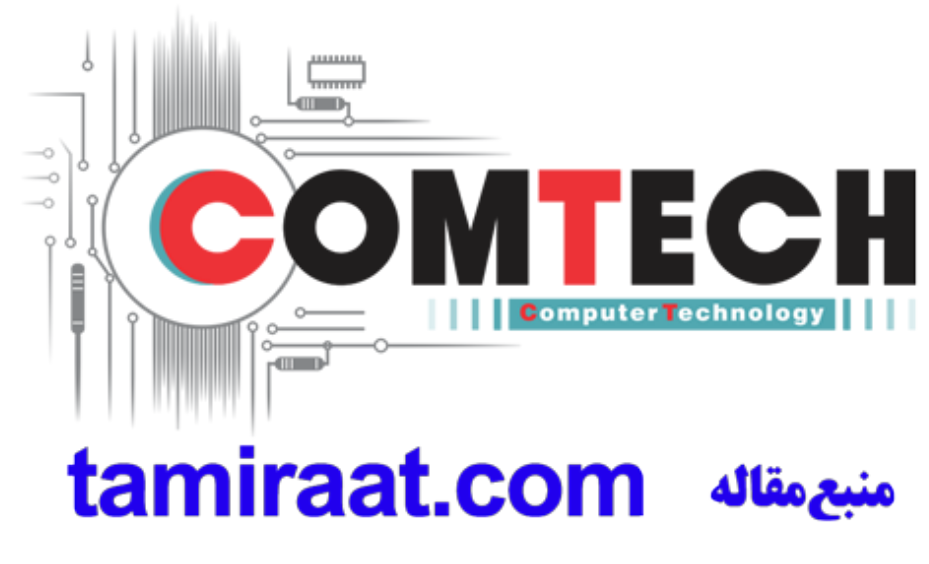
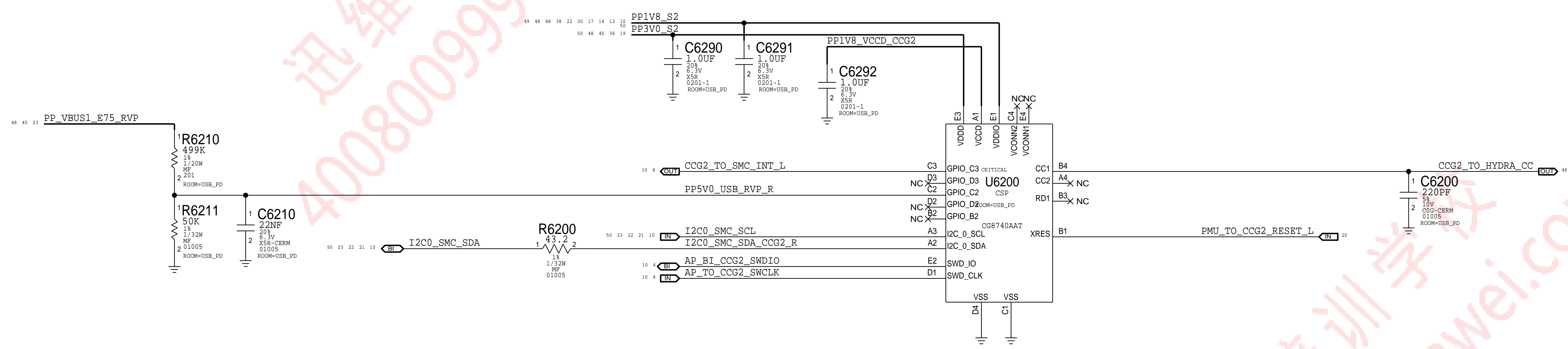
ACCESSORY BUCK

I2C ADDRESS: 0x52



PAGE TITLE		
I/O: Accessory Buck		
	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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-1
	PAGE	61 OF 80
	SHEET	46 OF 51

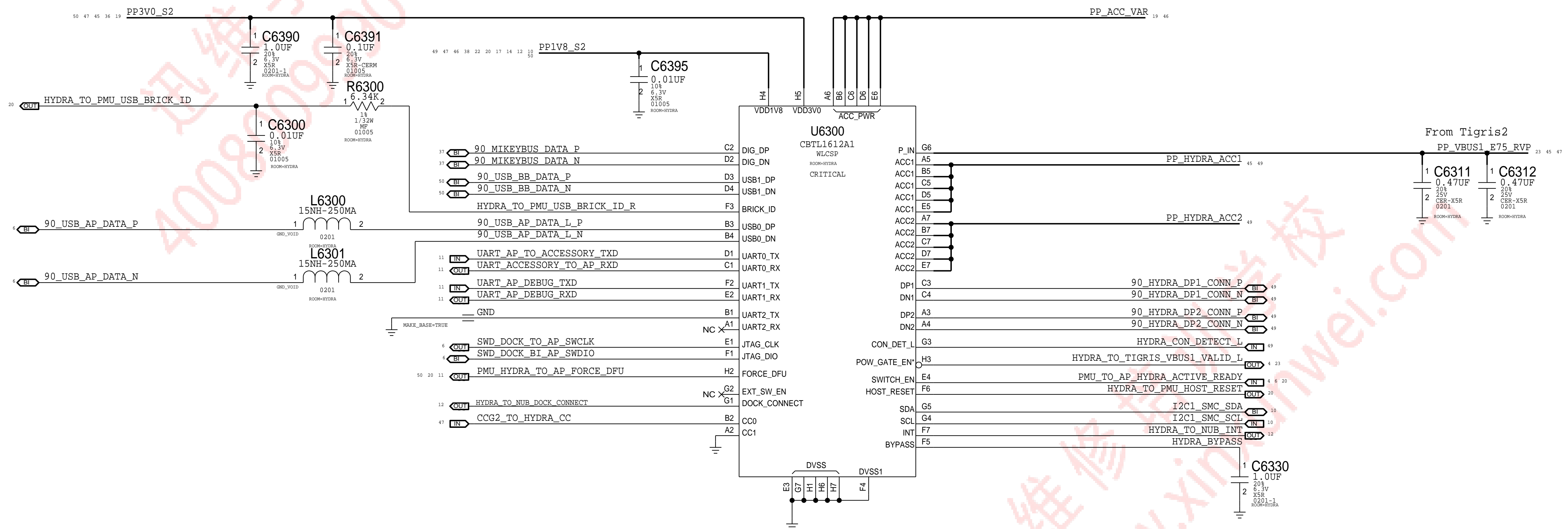
USB-PD



PAGE TITLE			I/O: USB PD		
	DRAWING NUMBER	051-02221	SIZE	D	
	REVISION	9.0.0			
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-1	
			PAGE	62 OF 80	
			SHEET	47 OF 51	
			DRAWING NUMBER		051-02221

Hydra

I2C Address: 0011010X



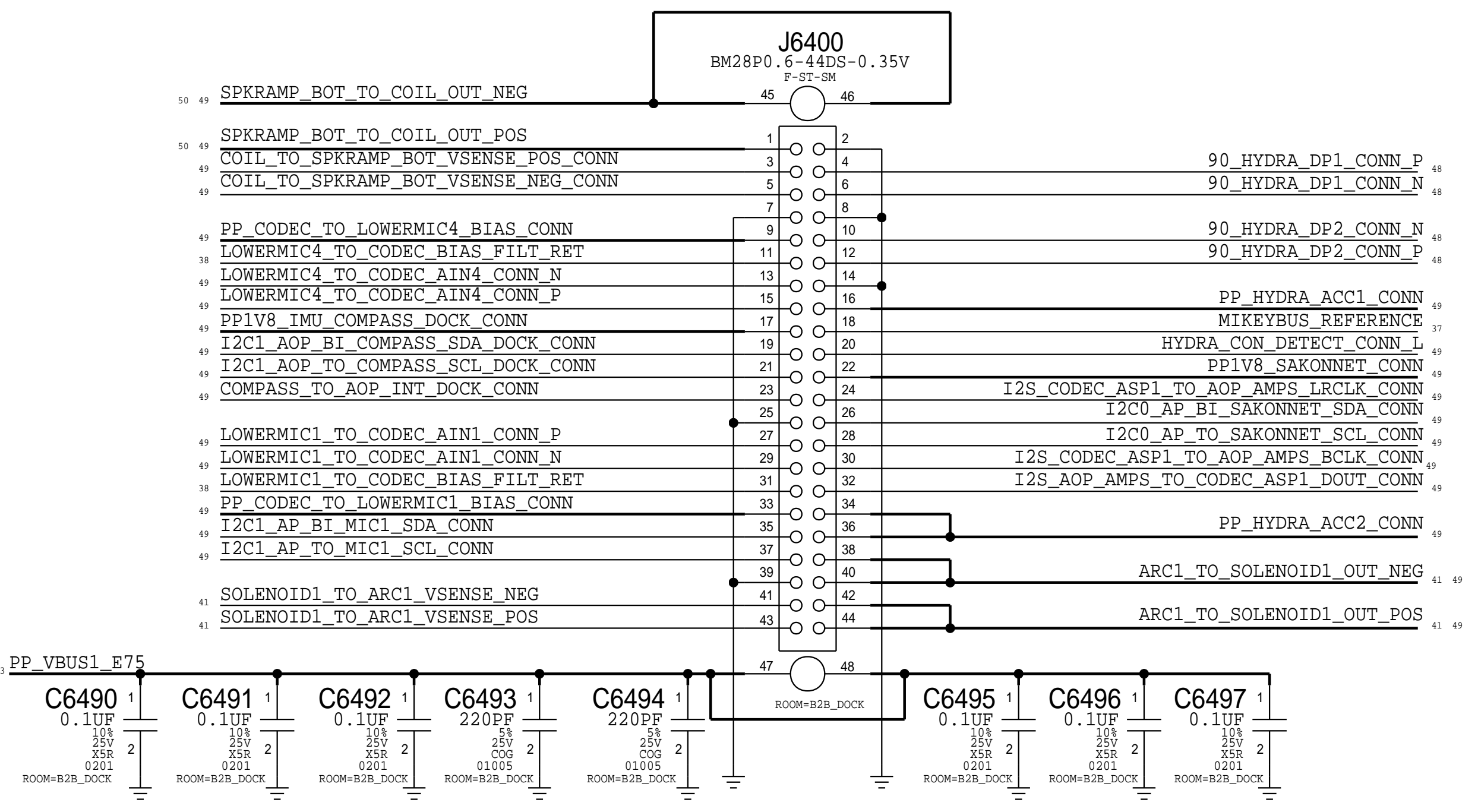
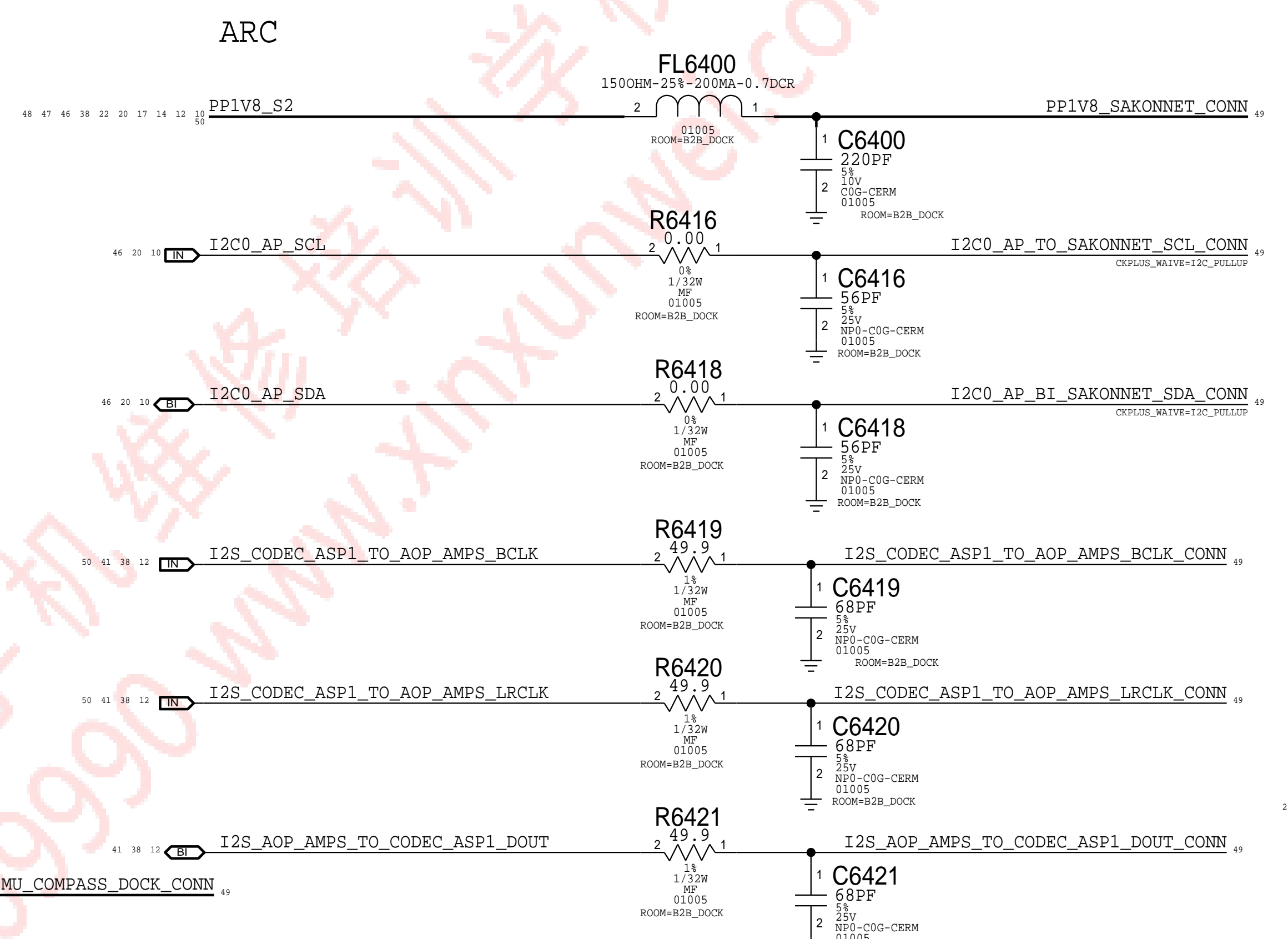
PAGE TITLE I/O: Hydra		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	63 OF 80
	SHEET	48 OF 51



DOCK FLEX CONNECTOR
 Rept: 516S00038 <-- This one on MLB
 Plug: 516S00037

D

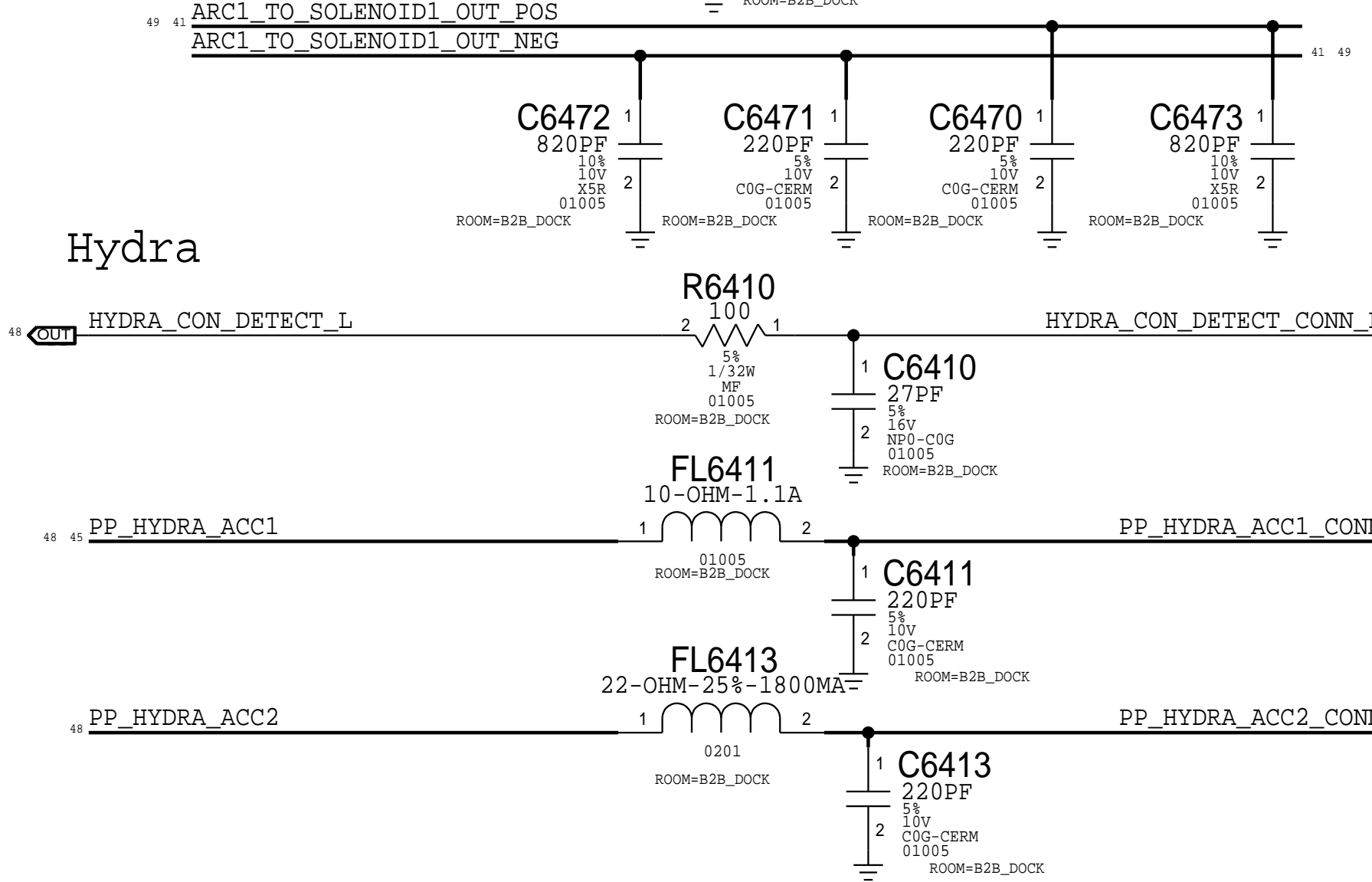
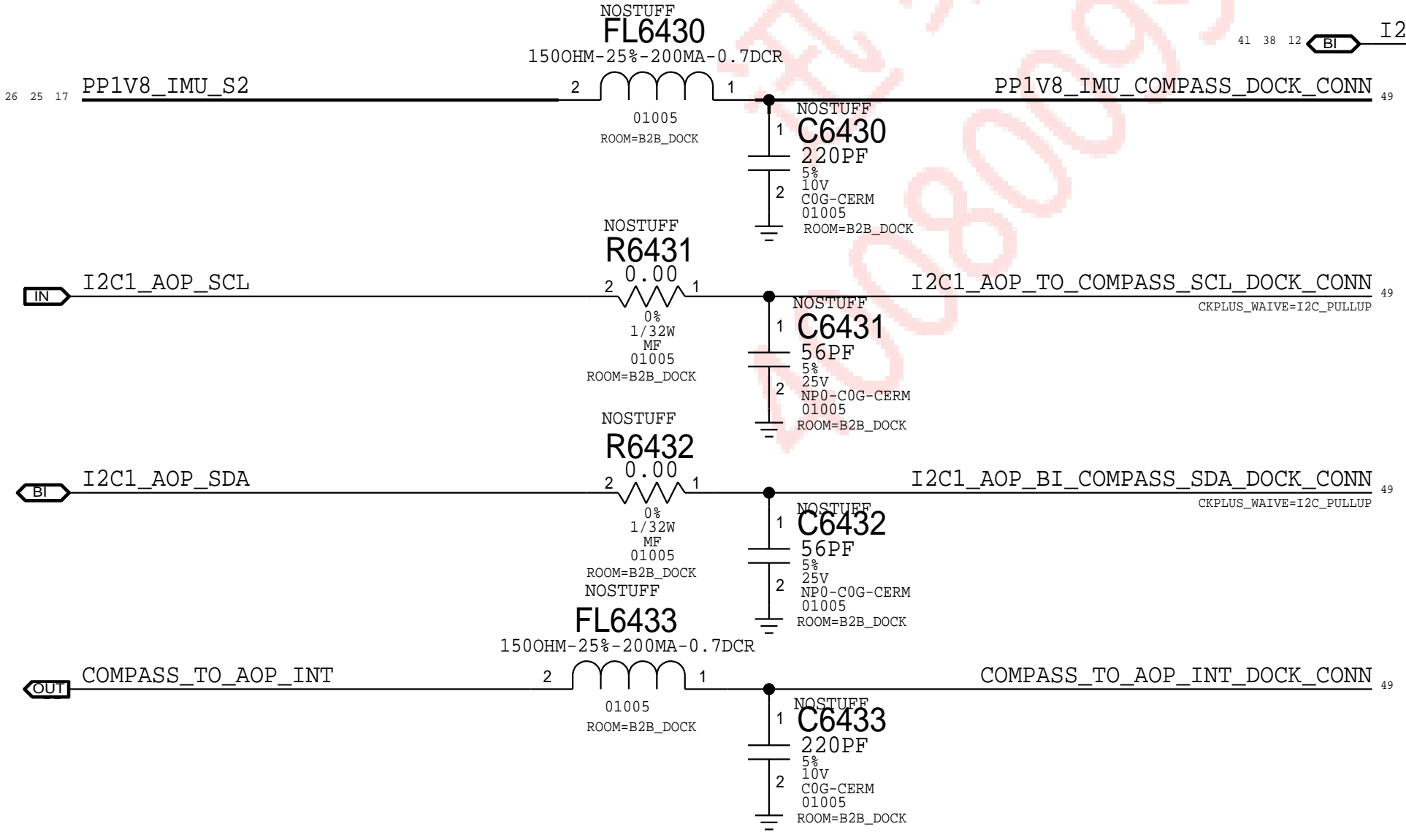
D



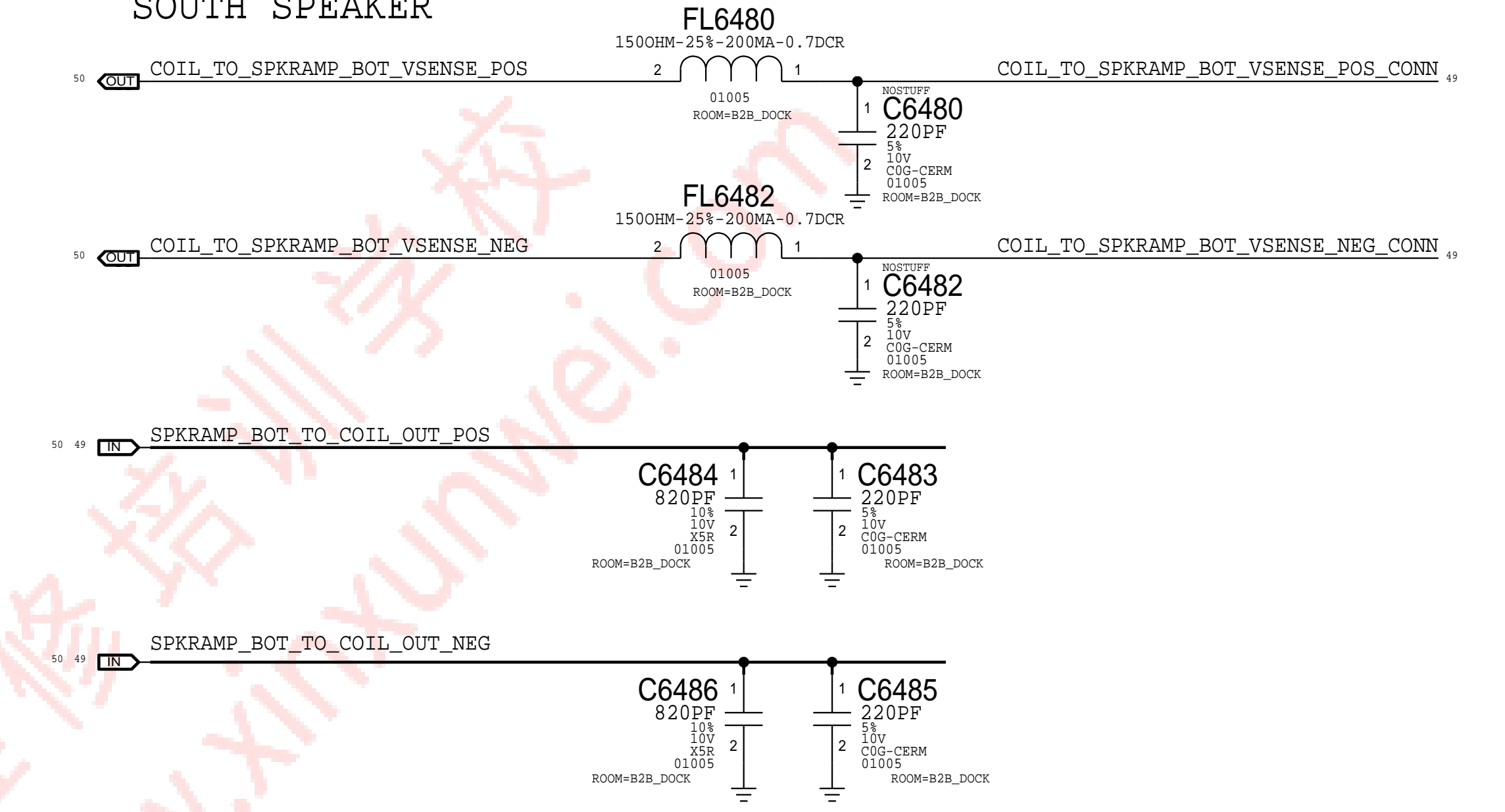
C

C

Compass (Dock Flex Location)



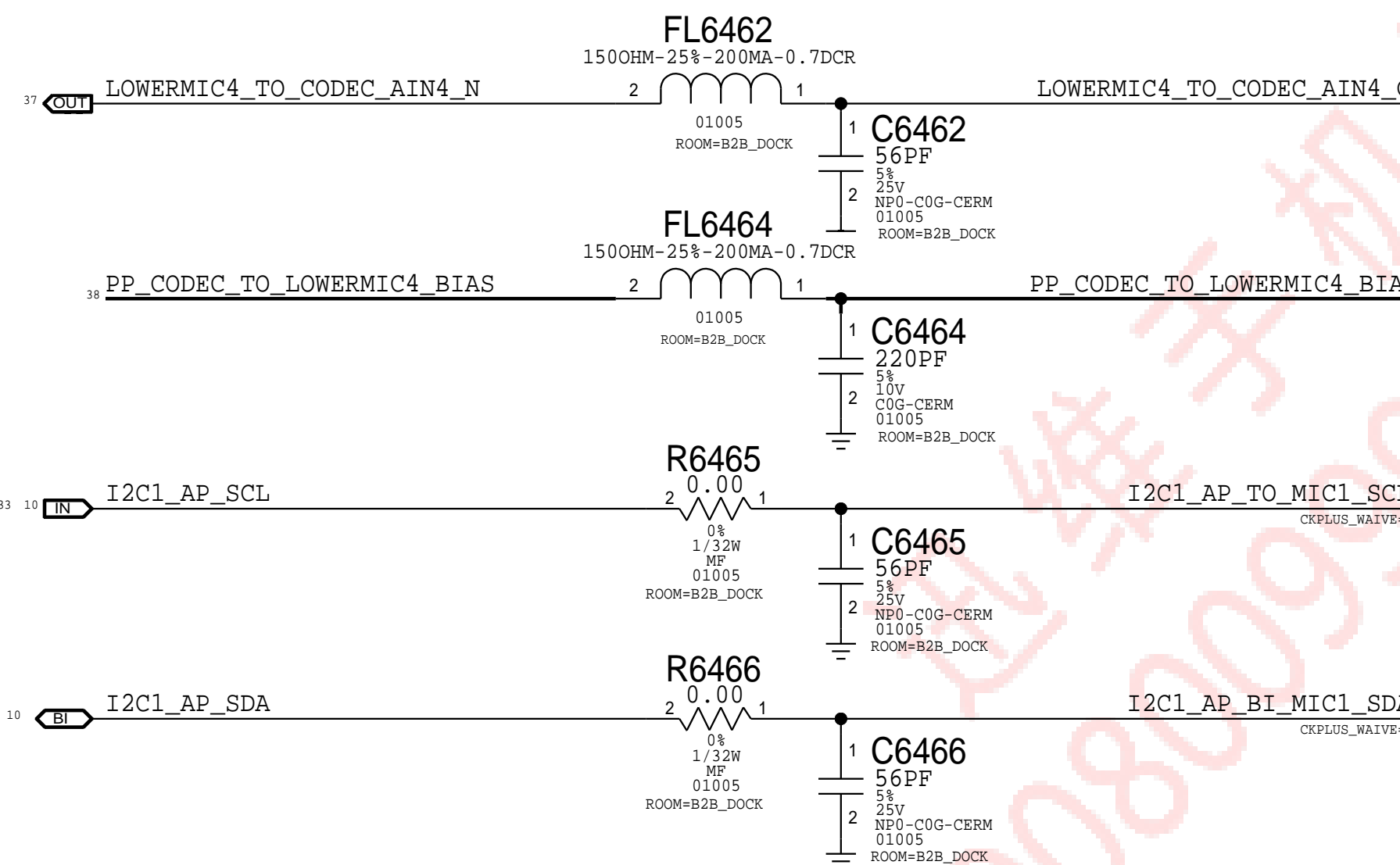
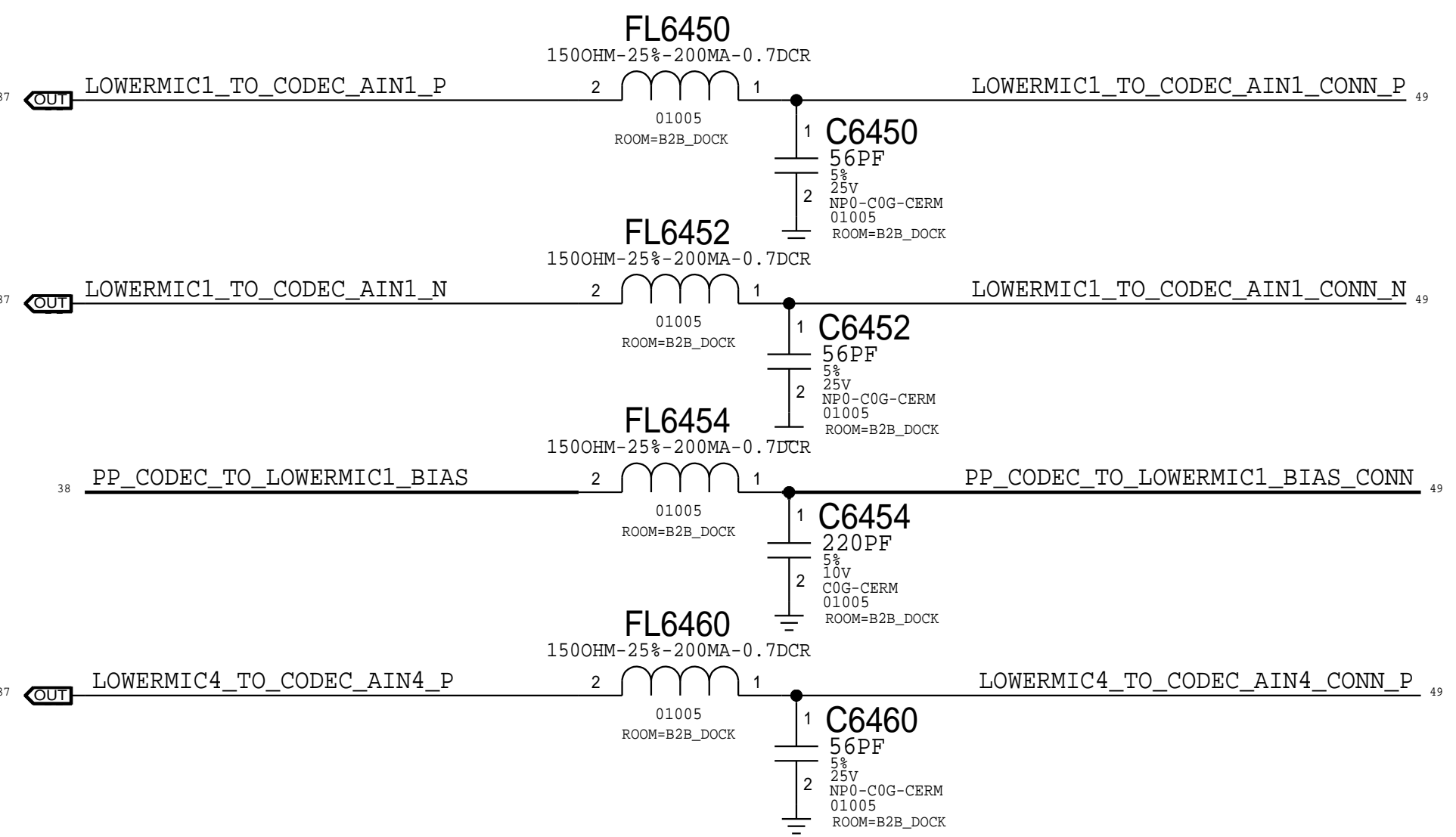
SOUTH SPEAKER



B

B

LOWER MIC1 + LOWER MIC4



A

A

PAGE TITLE		
I/O: B2B Dock		
	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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 I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART I ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	64 OF 80
	SHEET	49 OF 51

8

7

6

5

4

3

2

1

8

7

6

5

4

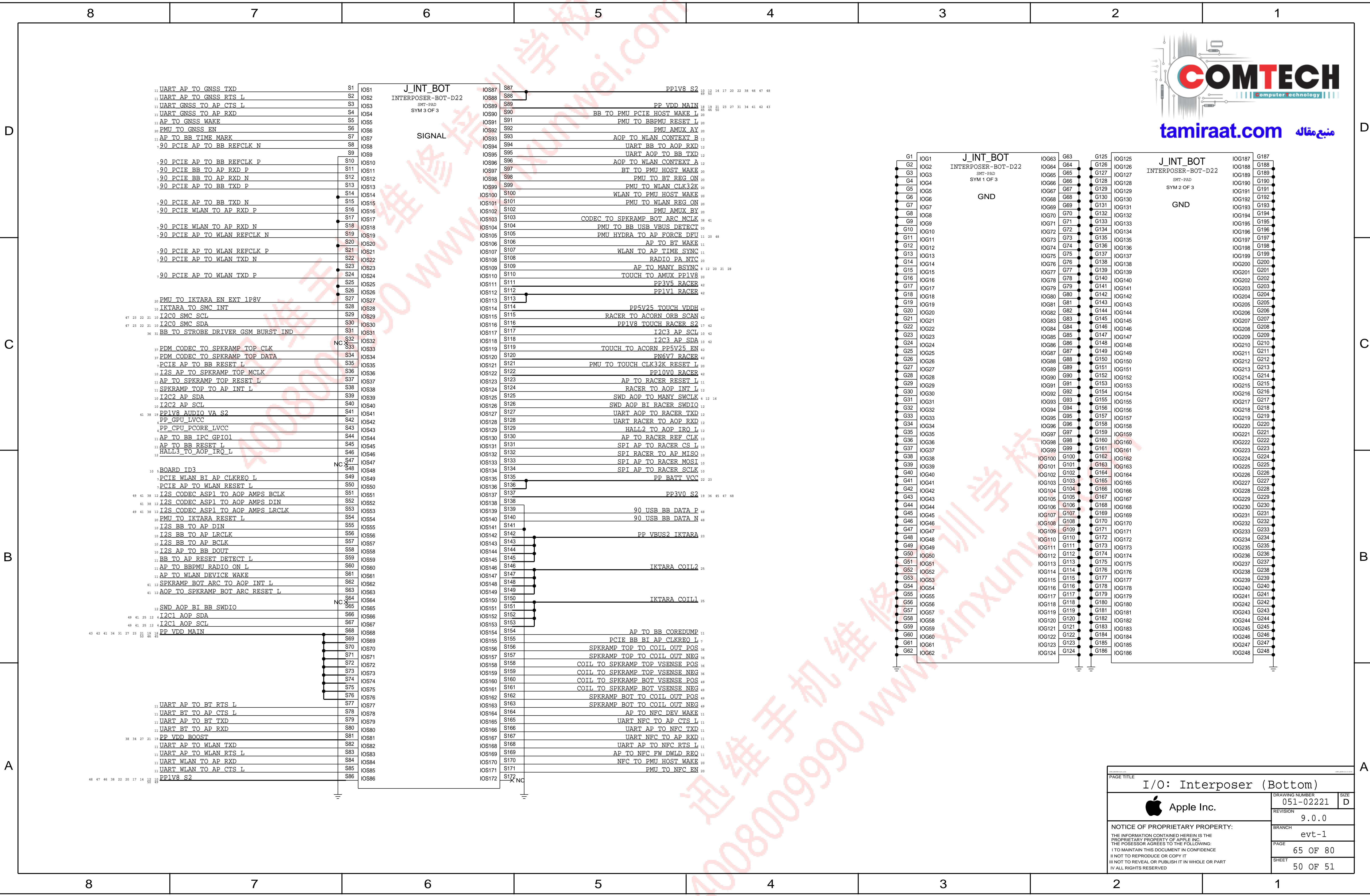
3

2

1



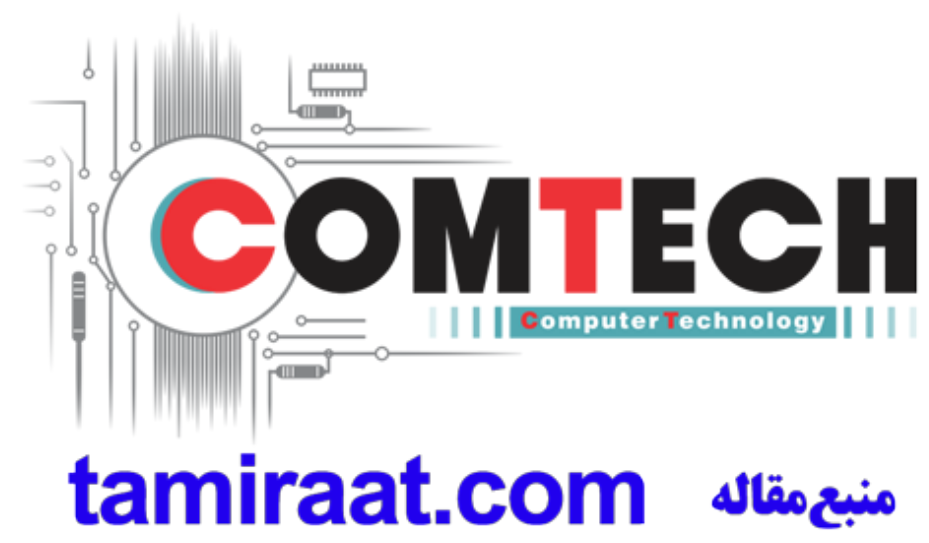
tamiraat.com منبع مقاله



PAGE TITLE I/O: Interposer (Bottom)		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	
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-1	
	PAGE 65 OF 80	
	SHEET 50 OF 51	

迅维手机维修培训学校
4008009990 www.xinxunwei.com

Radios on MLB Bottom



PAGE TITLE			RADIOS	
DRAWING NUMBER	051-02221	SIZE	D	
	REVISION	9.0.0		
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-1	
		PAGE	80 OF 80	
		SHEET	51 OF 51	

8

7

6

5

4

3

2

1

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

REV	ECN	DESCRIPTION OF REVISION	CK APPD	DATE
7	0008448938	ENGINEERING RELEASED		2017-04-11

X893 MLB Bottom: EVT

LAST MODIFICATION= Tue Apr 11 16:10:11 2017

PAGE	CSA	CONTENTS	SYNC	DATE
1	1	TABLE OF CONTENTS		07/29/2016
2	2	SYSTEM:BOM Tables		03/08/2017
3	4	SYSTEM: Mechanical Components		12/01/2016
4	6	BOOTSTRAPPING		11/03/2016
5	7	SYSTEM: Testpoints (Bottom)	test_mlb	01/17/2017
6	34	SYSTEM POWER: Iktara	mlb_bot	04/04/2017
7	49	AUDIO: Speaker Amp Bottom	mlb_bot	04/04/2017
8	50	AUDIO: Speaker Amp Top	mlb_bot	04/04/2017
9	55	HALL EFFECT	mlb_bot	04/04/2017
10	58	CG: B2B Luna & Touch	mlb_bot	04/04/2017
11	66	I/O: Interposer (Top)	mlb_bot	04/04/2017
12	80	RADIOS		07/29/2016
13	1	RADIO_MLB		
14	2	BASEBAND		
15	3	BASEBAND MEMORY/DEBUG		
16	4	BASEBAND POWER		
17	5	BASEBAND PMIC		
18	6	TRANSCEIVERS		
19	7	ET MODULATOR		
20	8	TDD TRANSMIT		
21	9	FDD TRANSMIT		
22	10	PRIMARY RECEIVE		
23	11	LOWER ANTENNA & COUPLERS		
24	12	DIVERSITY RECEIVE ASM'S		
25	13	DIVERSITY RECEIVE LNA'S		
26	14	UPPER ANTENNA FEEDS		
27	15	GNSS		
28	16	TEST POINTS & SIM		
29	17	RF CONNECTORS AND MC		
30	1	SymbolPorts		
31	4	Guinness	WIFI	01/30/2014
32	5	WiFiANTFeeds		
33	1	page1		
34	75	NFC		

PAGE	CSA	CONTENTS	SYNC	DATE

Sub Designs

BOM: 639-03229
MCO: 056-04080

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-02247	1	SCH_MLB_BOT,X893	SCH	NO	COMMON
820-00869	1	PCB_MLB_BOT,X893	PCB	NO	COMMON

SOURCE PROJECT	SUB-DESIGN NAME	VERSION	HARD/ SOFT	SYNC_DATE/TIME
D221	RADIO_MLB	0.115.0	S	2017_04_05_18:48:43
D22	NFC_MLB	0.22.0	S	2017_03_22_22:11:23
D22	WIFI_MLB	0.20.0	S	2017_04_04_09:54:33

TABLE OF CONTENTS			
DRAWING TITLE		SYNC_DATE=07/29/2016	
SCH,MLB,BOT,X893			
Apple Inc.		DRAWING NUMBER	SIZE
		051-02247	D
		REVISION	
		7.0.0	
		BRANCH	
		evt-1	
		PAGE	
		1 OF 80	
		SHEET	
		1 OF 34	
<small> 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 </small>			

8

7

6

5

4

3

2

1

EEEE Codes

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
825-7691	1	EEEE FOR (MLB_BOT, 639-03229)	EEEE_HM07	NO	COMMON

Global Capacitors

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:	CRITICAL PART#	COMMENT
138S00148	138S00149	BOM_TABLE_ALTS	ALL	0402-3T,10.5uF@1V, Kyocera	138S00149	0402-3T,10.5uF@1V
138S00150	138S00149	BOM_TABLE_ALTS	ALL	0402-3T,10.5uF@1V, SEMCO		
138S00151	138S00149	BOM_TABLE_ALTS	ALL	0402-3T,10.5uF@1V, TV		
138S00143	138S00144	BOM_TABLE_ALTS	ALL	0402,16uF@1V, Kyocera	138S00144	0402,16uF@1V
138S00163	138S00144	BOM_TABLE_ALTS	ALL	0402,16uF@1V, Taiyo		
138S00138	138S00139	BOM_TABLE_ALTS	ALL	0201,3uF@1V, Kyocera	138S00139	0201,3uF@1V
138S00164	138S00139	BOM_TABLE_ALTS	ALL	0201,3uF@1V, Taiyo		
138S00145	138S00146	BOM_TABLE_ALTS	ALL	0402,5.1uF@3V, Kyocera	138S00146	0402,5.1uF@3V
138S00165	138S00146	BOM_TABLE_ALTS	ALL	0402,5.1uF@3V, Taiyo		
138S00140	138S00141	BOM_TABLE_ALTS	ALL	0201,1.1uF@3V, Kyocera	138S00141	0201,1.1uF@3V
138S00142	138S00141	BOM_TABLE_ALTS	ALL	0201,1.1uF@3V, SEMCO		
138S00166	138S00141	BOM_TABLE_ALTS	ALL	0201,1.1uF@3V, Taiyo		

Global Ferrites

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:	CRITICAL PART#	COMMENT
152S00558	152S00557	BOM_TABLE_ALTS	ALL	IND_MLD,0.47UH,204,2.5A,80M,1608	152S00557	IND_MLD,0.47UH,204,2.5A,80M,1608
155S00194	155S0610	BOM_TABLE_ALTS	ALL	FERR_BD,150 OHM,254,200MA,0.7 DCR,01005	155S0610	FERR_BD,150 OHM,254,200MA,0.7 DCR,01005
155S00200	155S0610	BOM_TABLE_ALTS	ALL	FERR_BD,150 OHM,254,200MA,0.7 DCR,01005		

Global R/C Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:	CRITICAL PART#	COMMENT
138S0648	138S0652	BOM_TABLE_ALTS	ALL	CAP_XSR,4.7UF,6.3V,0.45MM,0402,TAIYO	138S0652	CAP_XSR,4.7UF,6.3V,0.45MM,0402,TAIYO
138S00024	138S0986	BOM_TABLE_ALTS	ALL	CAP_CER,3.3UF,5V,204,4V,0402,TAIYO/TSE	138S0986	CAP_CER,3.3UF,5V,204,4V,0402,TAIYO/TSE
138S0706	138S0739	BOM_TABLE_ALTS	ALL	CAP_CER,1UF,204,10V,XSR,0201,MURATA	138S0739	CAP_CER,1UF,204,10V,XSR,0201,MURATA
138S0945	138S0739	BOM_TABLE_ALTS	ALL	CAP_CER,1UF,204,10V,204,0201,2000MA		
138S0739	138S0706	BOM_TABLE_ALTS	ALL	CAP_CER,450,0.22UF,204,6.3V,204	138S0706	CAP_CER,XSR,0.22UF,204,6.3V,204
132S0436	132S0400	BOM_TABLE_ALTS	ALL	CAP_CER,XSR,0.22UF,204,6.3V,01005	132S0400	CAP_CER,XSR,0.22UF,204,6.3V,01005
138S00049	138S0831	BOM_TABLE_ALTS	ALL	CAP_CER,2.2UF,204,6.3V,0201	138S0831	CAP_CER,XSR,2.2UF,204,6.3V,0201

Global Inductors

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:	CRITICAL PART#	COMMENT
152S00653	152S00651	BOM_TABLE_ALTS	ALL	IND,1.2UH,3A,2016,0.65Z	152S00651	IND,1.2UH,3A,2016,0.65Z
152S00654	152S00652	BOM_TABLE_ALTS	ALL	IND,1.2UH,3A,2016,0.8Z	152S00652	IND,1.2UH,3A,2016,0.8Z

Multi-Vendor Criticals

CRITICAL PART#	COMMENT	CRITICAL PART#	COMMENT
138S0979	CAP_CER,XSR,10UF,204,10V,0402,H=0.65MM	132S00008	CAP_CER,0.1UF,104,50V,XTR,0402
138S0683	CAP_CER,XSR,1UF,104,25V,0402	131S0804	CAP_CER,27PF,54,COG,25V,0201
132S0663	CAP_CER,XSR,1UF,104,25V,0402	131S0307	CAP_CER,NPO/CGO,100PF,54,16V,01005
132S0288	CAP_CER,XSR,0.1UF,104,16V,0201	131S00053	CAP_CER,COG,220PF,54,10V,01005
132S0275	CAP_CER,XSR,470PF,104,10V,01005	117S0055	RES,NP,1/20W,2M OHM,5,0201,8MD
132S0245	CAP_CER,XSR,0.01UF,104,6.3V,01005	107S0257	THERMISTOR,NTC,10K OHM,1A,B=3435,01005

Iktara

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
132S00021	8	CAP_CER,0.082UF,104,50V,XTR,0402	C3453,C3454,C3455,C3456,C3457,C3458	NO	COMMON
132S0423	2	CAP_CER,0.022UF,50V,XTR,104,0402	C3451,C3455	CRITICAL	COMMON
132S0423	2	CAP_CER,0.022UF,50V,XTR,104,0402	C3455,C3456	CRITICAL	NOSTUFF

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
685-00185	685-00184	BOM_TABLE_ALTS	SUBBOM_DS	SUBBOM_MLB_BOT_020081,080081,0901

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
685-00184	1	SUBBOM_MLB_BOT_DIODES,DIODES,X893	SUBBOM_DS	CRITICAL	COMMON
371S00133	4	DIODES,SHOTKEY DIODE,30V,2A,0603	D3400,D3401,D3402,D3403	CRITICAL	DIODES_DS
371S00132	4	ONSEMI,SHOTKEY DIODE,30V,2A,0603	D3400,D3401,D3402,D3403	CRITICAL	ONSEMI_DS

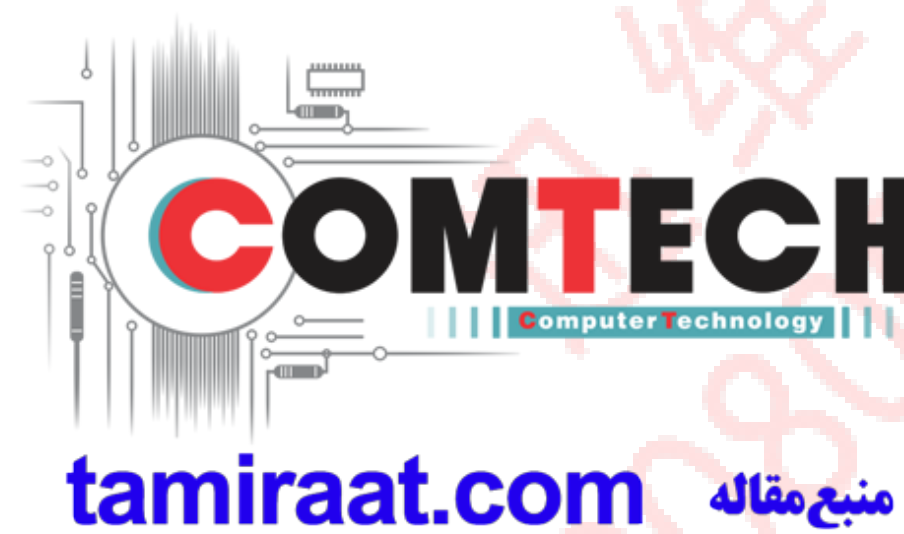
Soft-Term Cap Sub BOMs

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
685-00159	1	SUBBOM_MLB_BOT_CAP_TYPICAL,X893	SUBBOM_CAP	CRITICAL	COMMON

Touch/Luna B2B

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
138S00159	1	CAP_SOFT-TERM,2.2UF,6.3V,0201,KYOCERA	C5890	CRITICAL	SOFT_CAP
138S0831	1	CAP_TYPICAL,2.2UF,6.3V,0201,MURATA	C5890	CRITICAL	TYPICAL_CAP

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
685-00160	685-00159	BOM_TABLE_ALTS	SUBBOM_CAP	SUBBOM_MLB_BOT_CAP_SOFT,X893



SYNC_MASTER=	SYNC_DATE=03/04/2017
PAGE TITLE: SYSTEM:BOM Tables	
Apple Inc.	
DRAWING NUMBER: 051-02247	SIZE: D
REVISION: 7.0.0	BRANCH: evt-1
PAGE: 2 OF 80	SHEET: 2 OF 34
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	

8 7 6 5 4 3 2 1

D

C

B

A

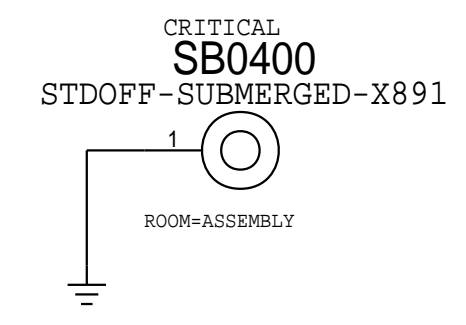
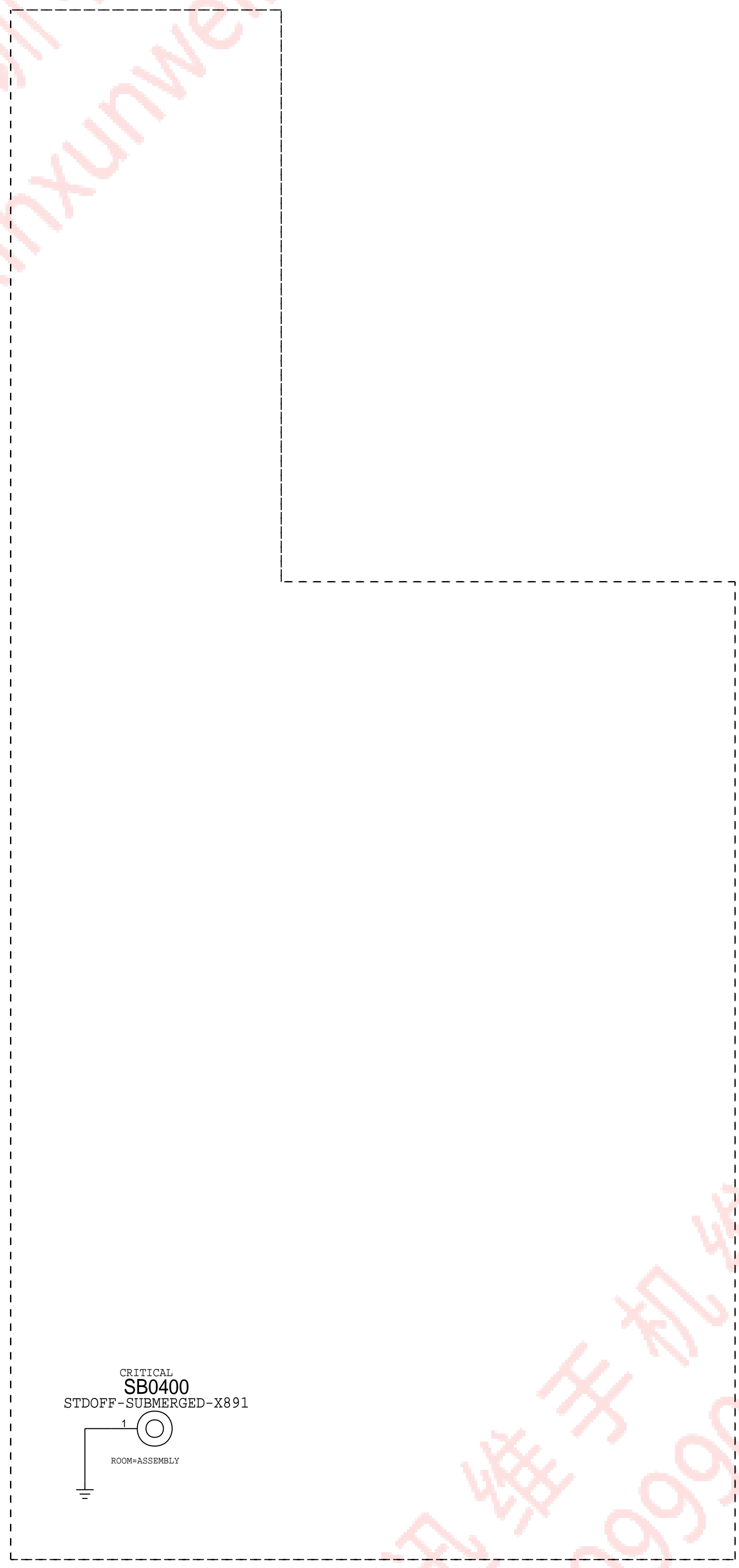
D

C

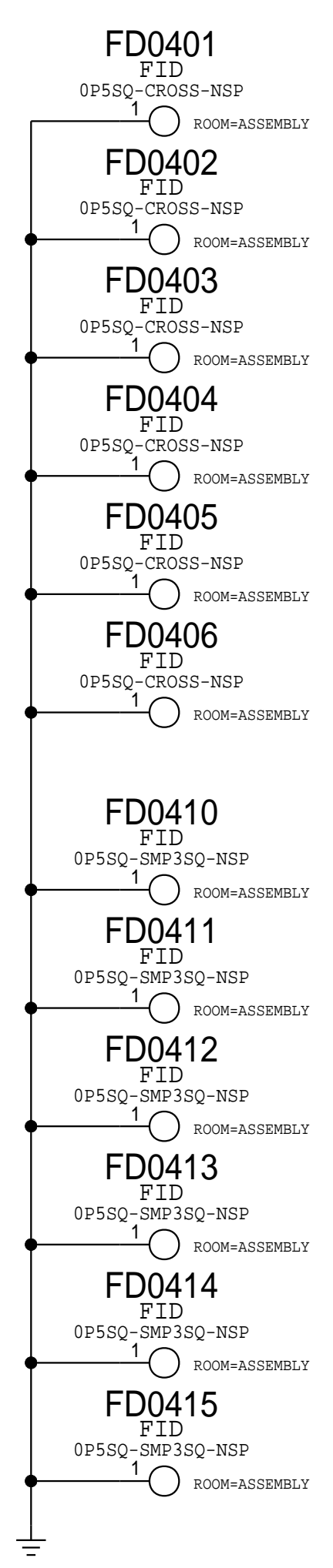
B

A

迅维手机维修培训学校
4008009990 www.xinxunwei.com



FIDUCIALS

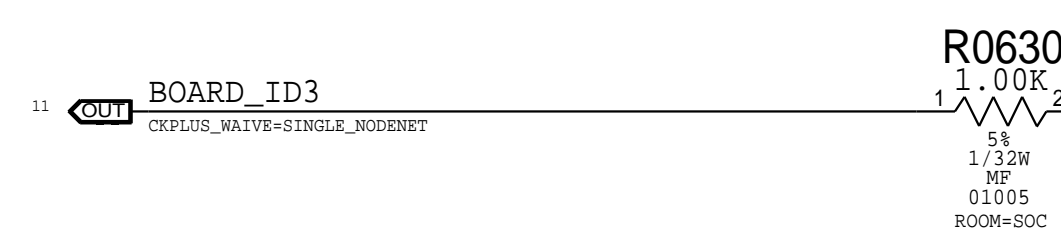


PAGE TITLE			SYSTEM: Mechanical Components
DRAWING NUMBER	051-02247	SIZE	D
	REVISION 7.0.0		
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED			BRANCH evt-1
			PAGE 4 OF 80
			SHEET 3 OF 34

8 7 6 5 4 3 2 1

BOOTSTRAPPING: BOARD ID[3]

PP1V8_S2 6 9 11 12



D221 Selected (BOARD_ID3) ->

Board Rev[3:0]				
Float=Low PU=High				
	3	2	1	0
	Build Major		Build Minor	
Proto 1	1	1	1	1
Proto 2	1	1	1	0
Proto 3	1	1	0	1
(Spare)	1	1	0	0
EVT	1	0	1	1
(Spare)	1	0	1	0
Carrier	0	1	1	1
(Spare)	0	1	1	0
DVT	0	0	1	1
(Spare)	0	0	1	0
(Spare)	0	0	0	1
PVT	0	0	0	0

Board ID[4:0]					
Float=Low PU=High					
	4	3	2	1	0
	X	Baseband	Form Factor	MLB/Dev	
D20 MLB	0	0	0	1	0
D20 Dev	0	0	0	1	1
D21 MLB	0	0	1	0	0
D21 Dev	0	0	1	0	1
D22 MLB	0	0	1	1	0
D22 Dev	0	0	1	1	1
D201 MLB	0	1	0	1	0
D201 Dev	0	1	0	1	1
D211 MLB	0	1	1	0	0
D211 Dev	0	1	1	0	1
D221 MLB	0	1	1	1	0
D221 Dev	0	1	1	1	1

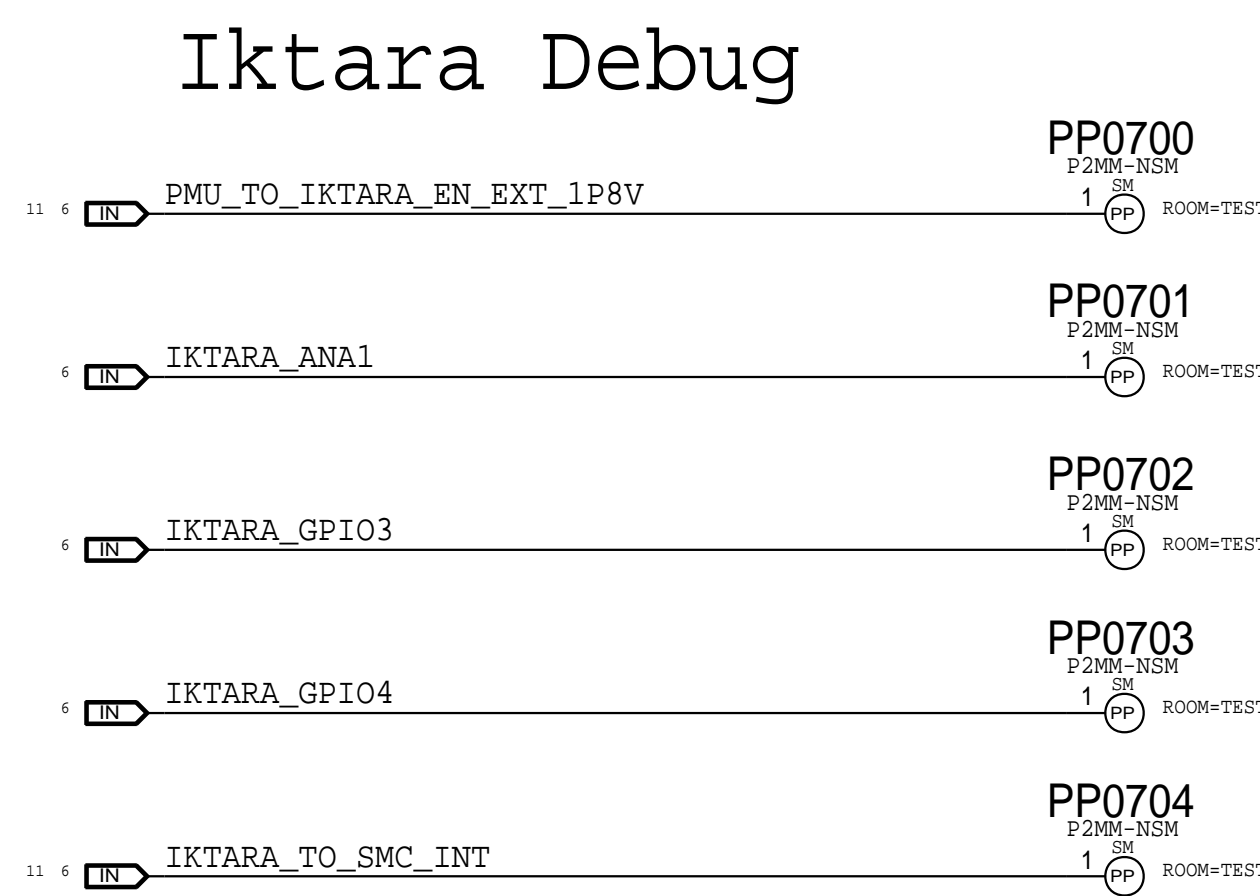
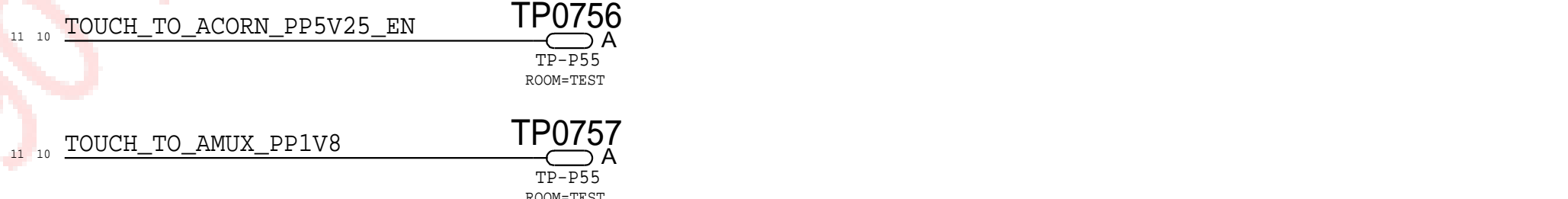
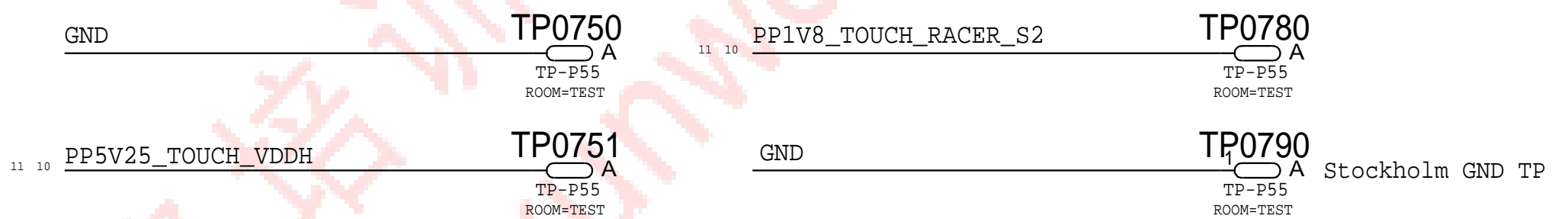
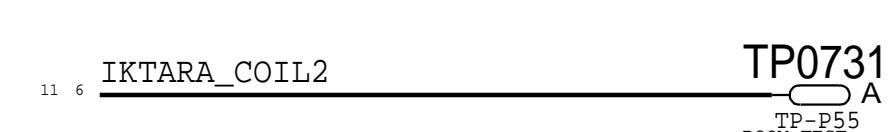
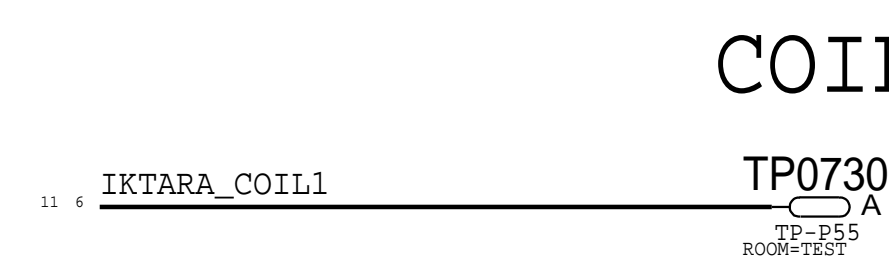
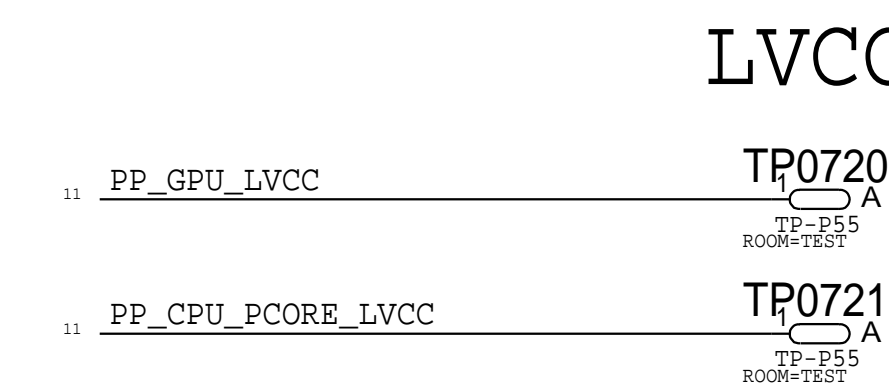
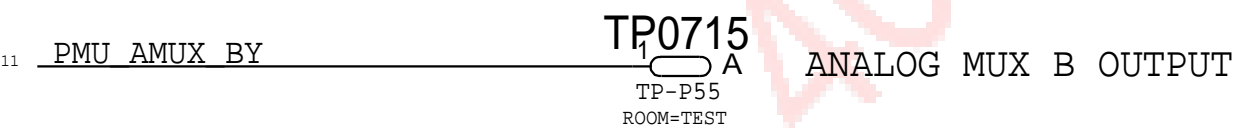
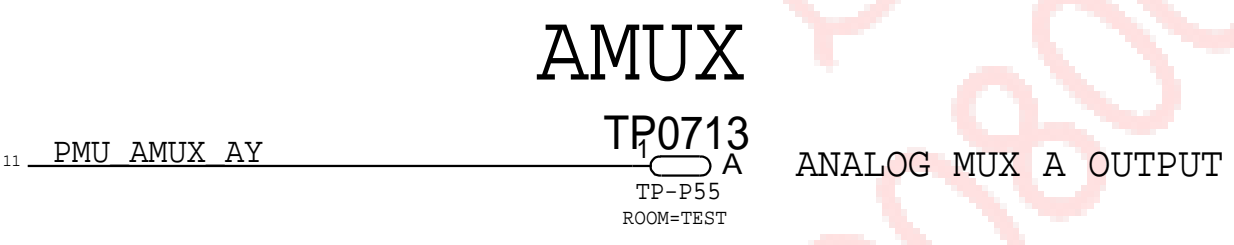
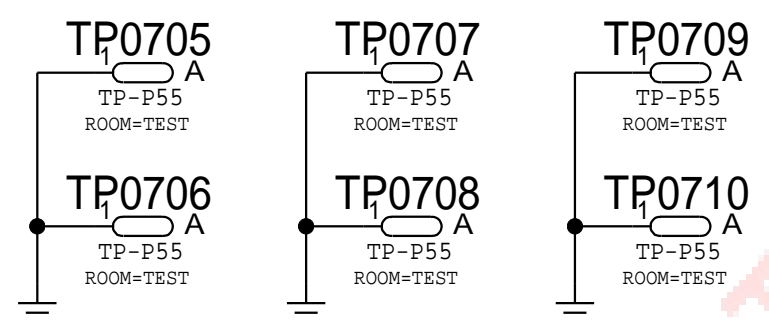
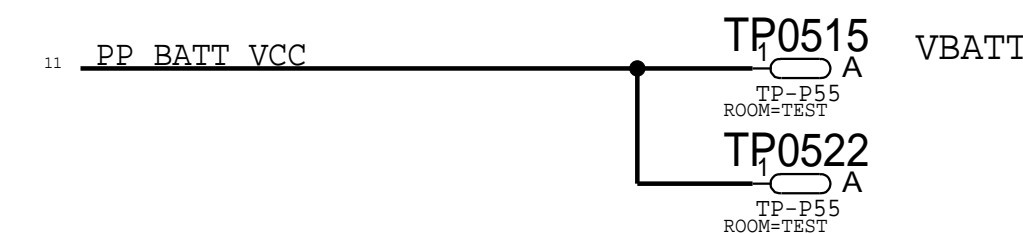
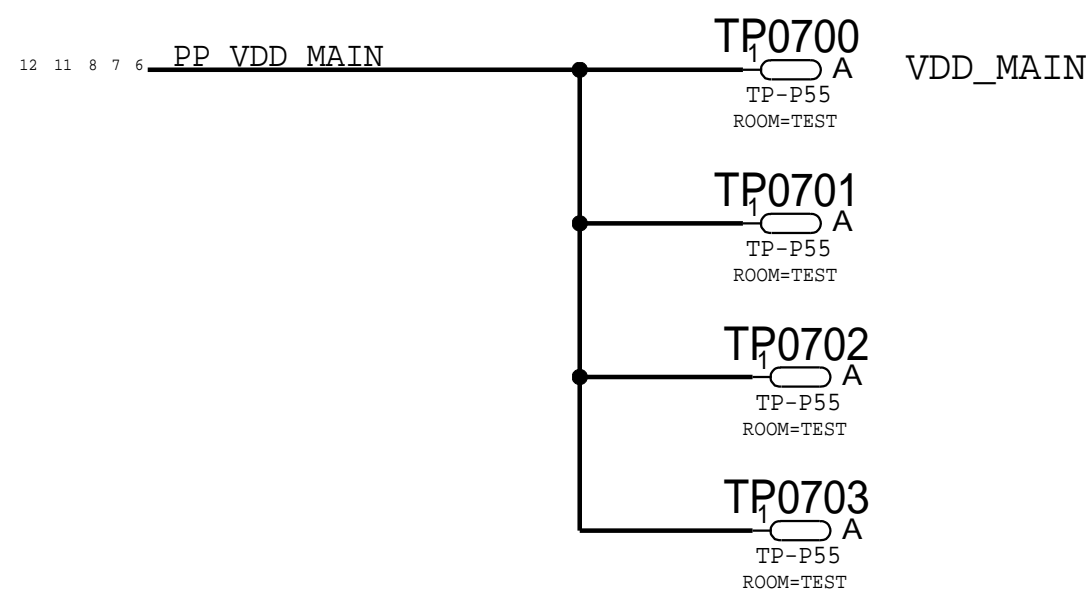
Boot Config[2:0]			
Float=Low PU=High			
	2	1	0
SPI0	0	0	0
SPI0 Test Mode	0	0	1
SPI0 NAND	0	1	0
SPI0 NAND Test	0	1	1
Slow SPI0 Test	1	1	0



PAGE TITLE			BOOTSTRAPPING		
DRAWING NUMBER		051-02247	SIZE		D
REVISION		7.0.0	BRANCH		evt-1
PAGE		6 OF 80	SHEET		4 OF 34
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					

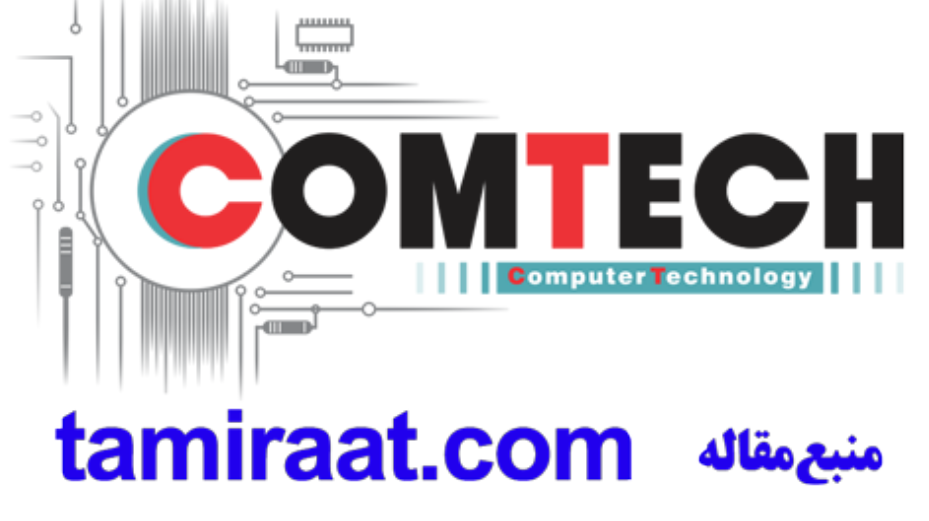
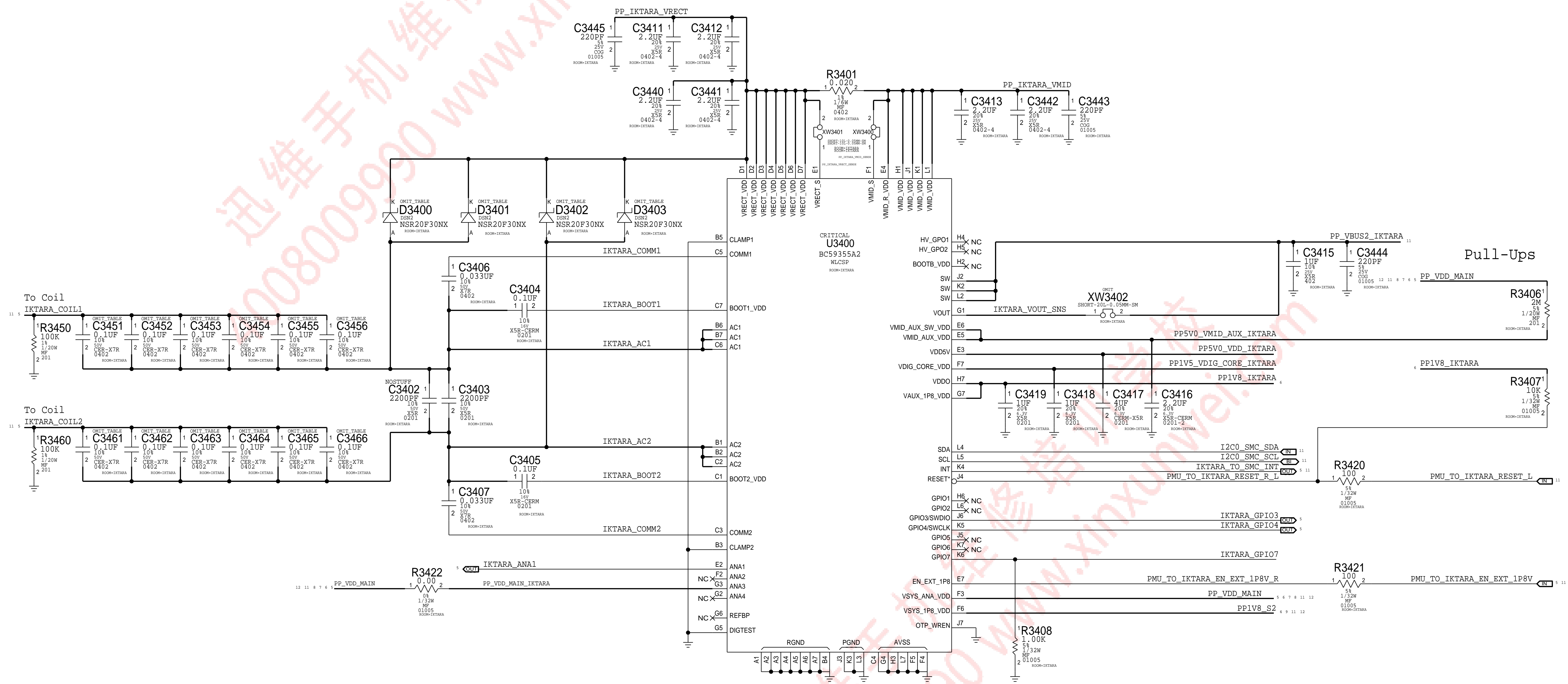
Test Points

Probe Points



PAGE TITLE		SYSTEM: Testpoints (Bottom)	
DRAWING NUMBER	051-02247	SIZE	D
	REVISION		7.0.0
NOTICE OF PROPRIETARY PROPERTY:		BRANCH	evt-1
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING:		PAGE	7 OF 80
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		SHEET	5 OF 34

Iktara

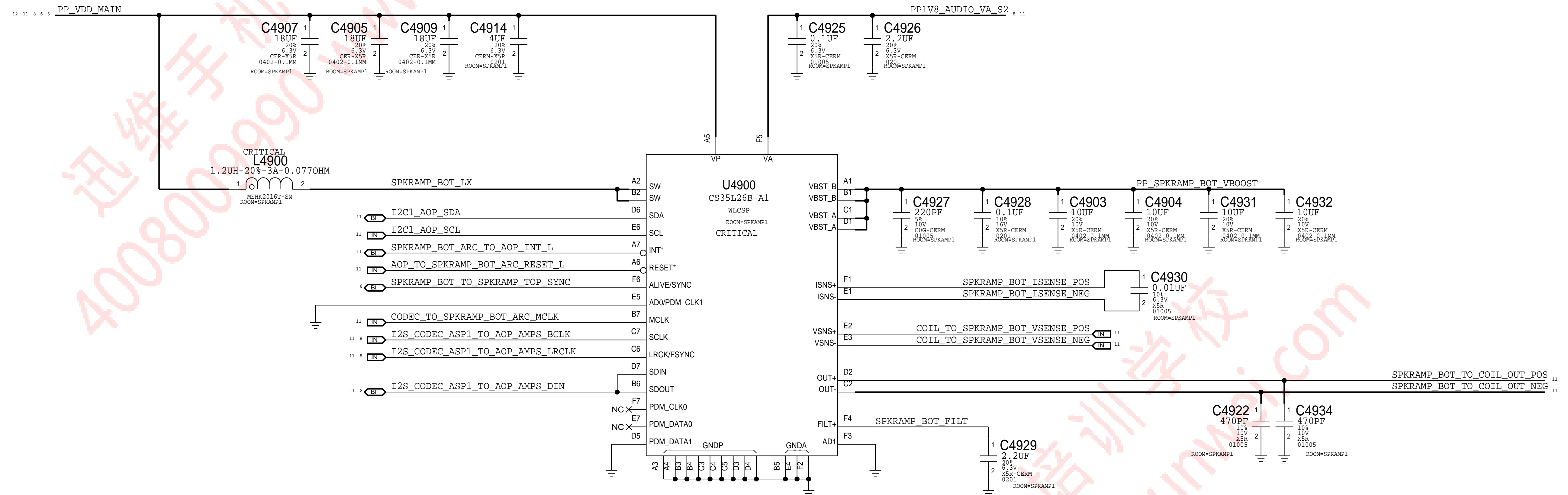


PAGE TITLE		
SYSTEM POWER: Iktara		
	DRAWING NUMBER	051-02247
	REVISION	7.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	34 OF 80
	SHEET	6 OF 34

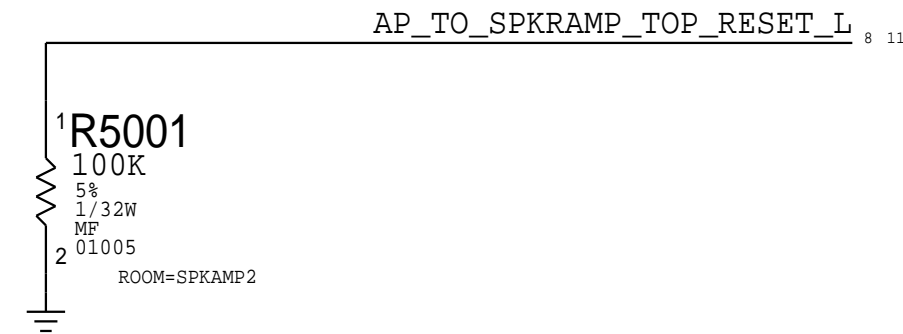
South Speaker Amplifier

APN: 338S00295

I2C ADDRESS: 1000 000x
0x80



Pull Downs

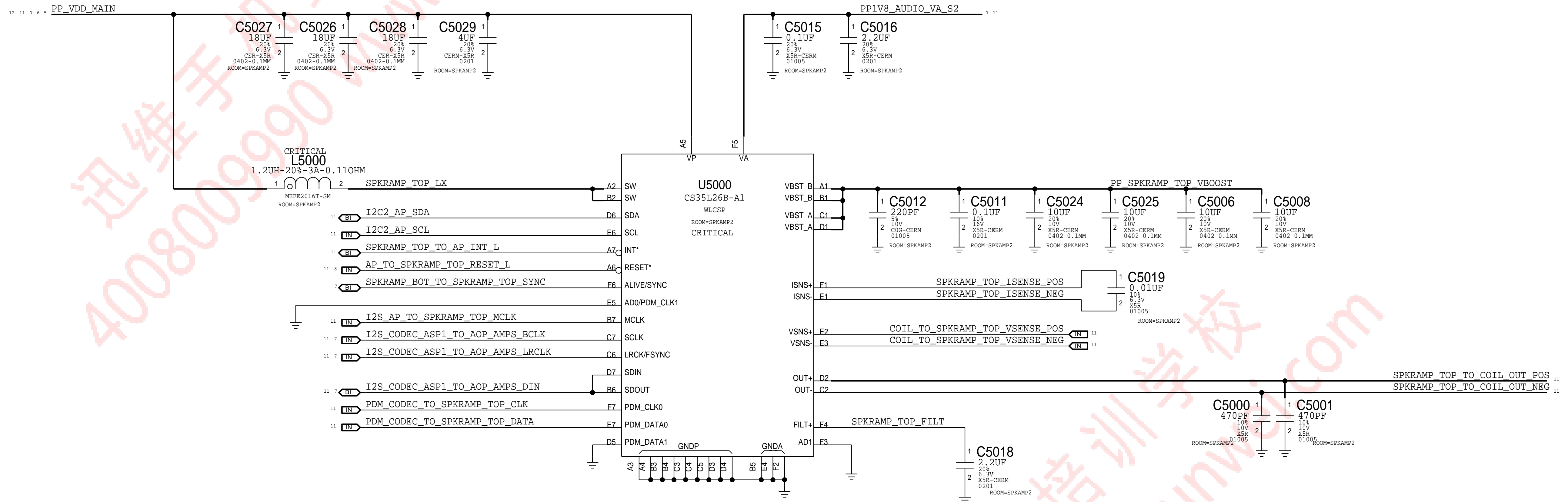


North Speaker Amplifier

APN: 338S00295

I2C ADDRESS: 1000 000x

0x80

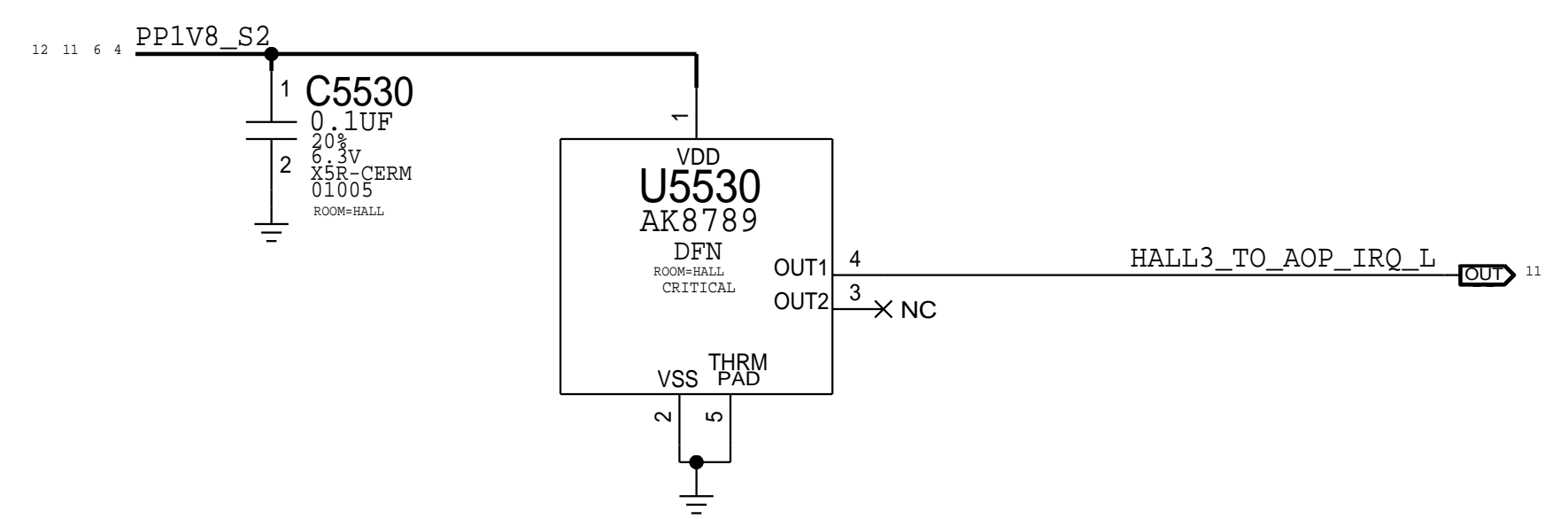


PAGE TITLE		
AUDIO: Speaker Amp Top		
Apple Inc.	DRAWING NUMBER	051-02247
	REVISION	7.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	50 OF 80
	SHEET	8 OF 34

迅维手机维修培训学校
4008009990 www.xinxunwei.com

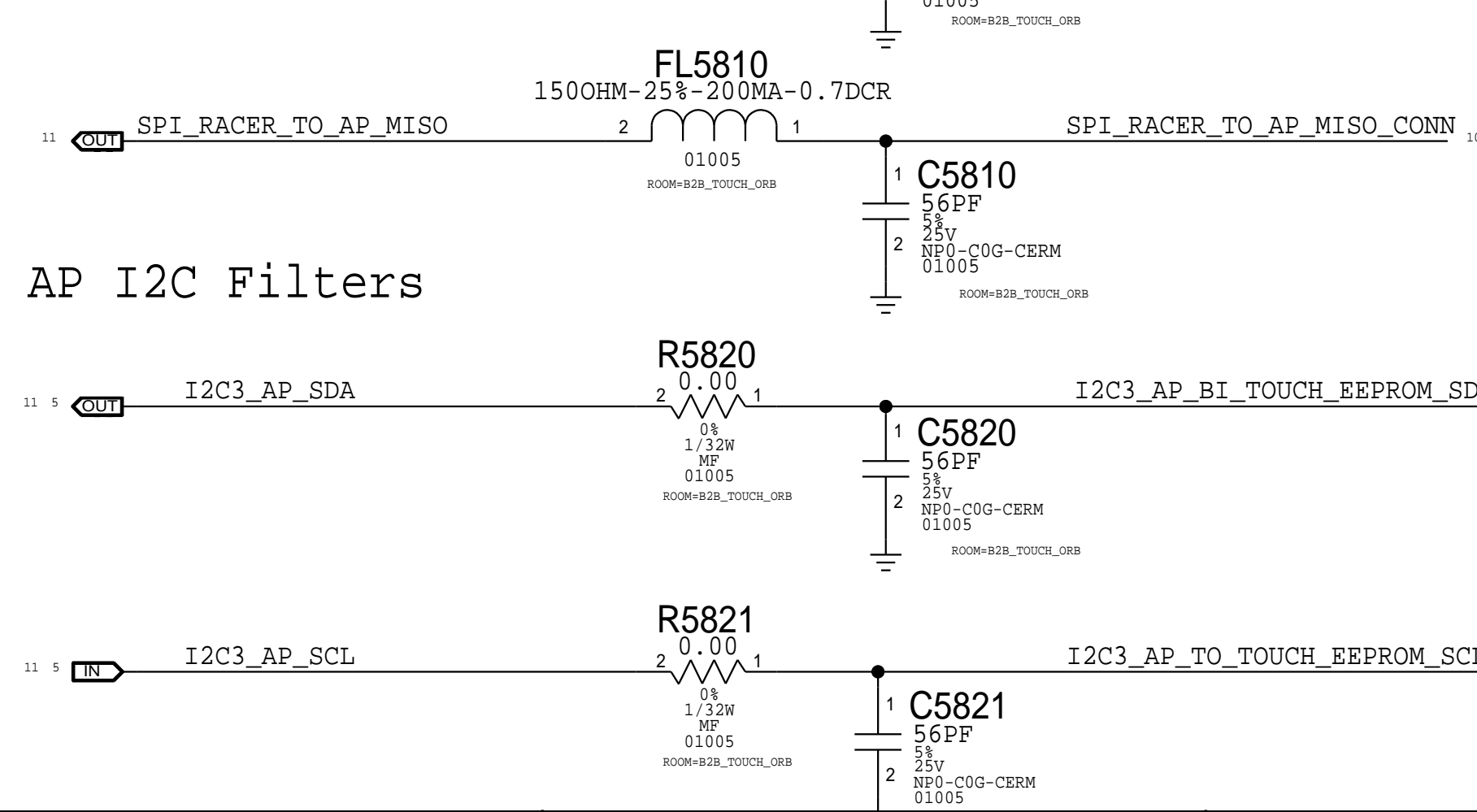
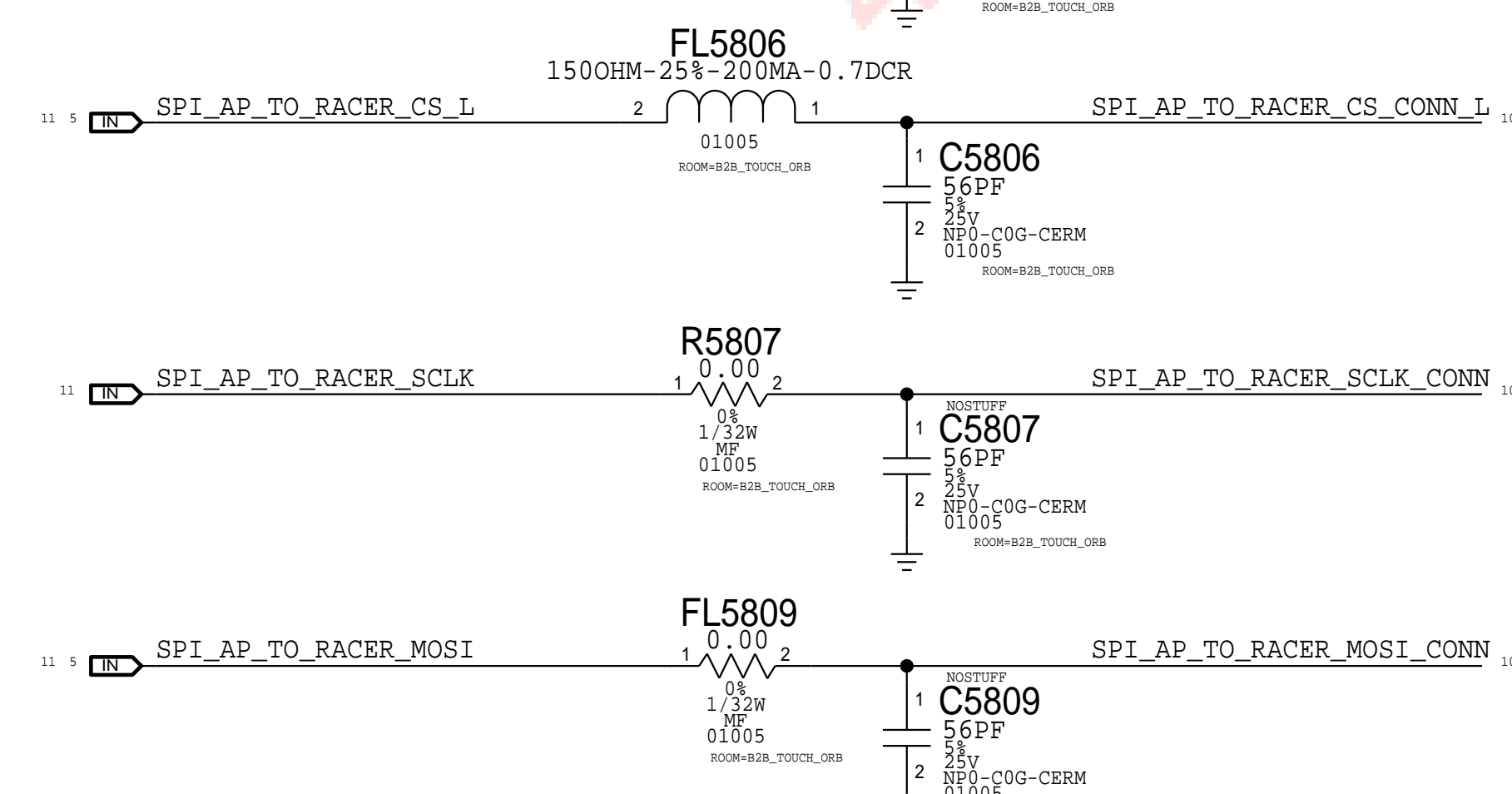
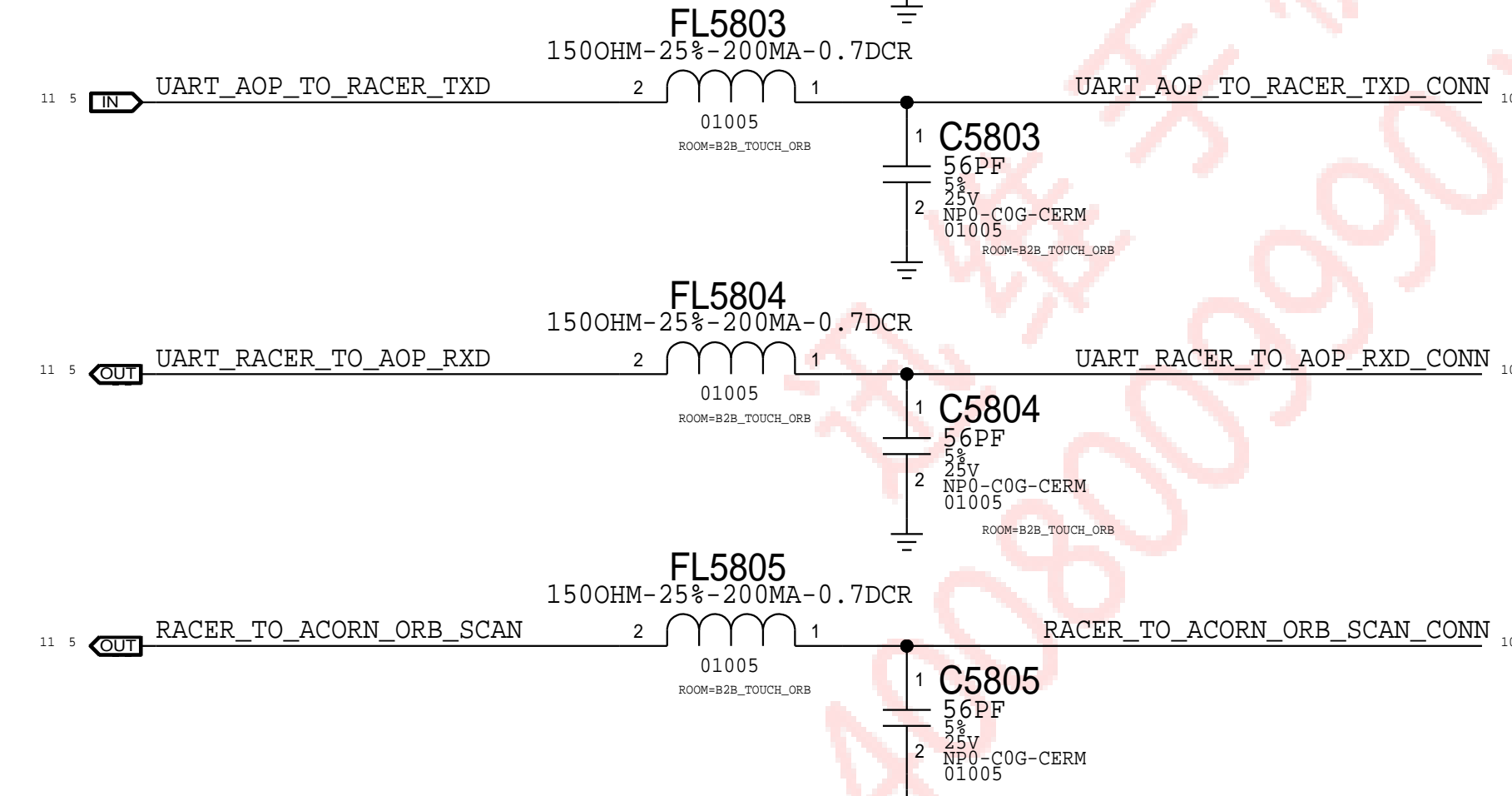
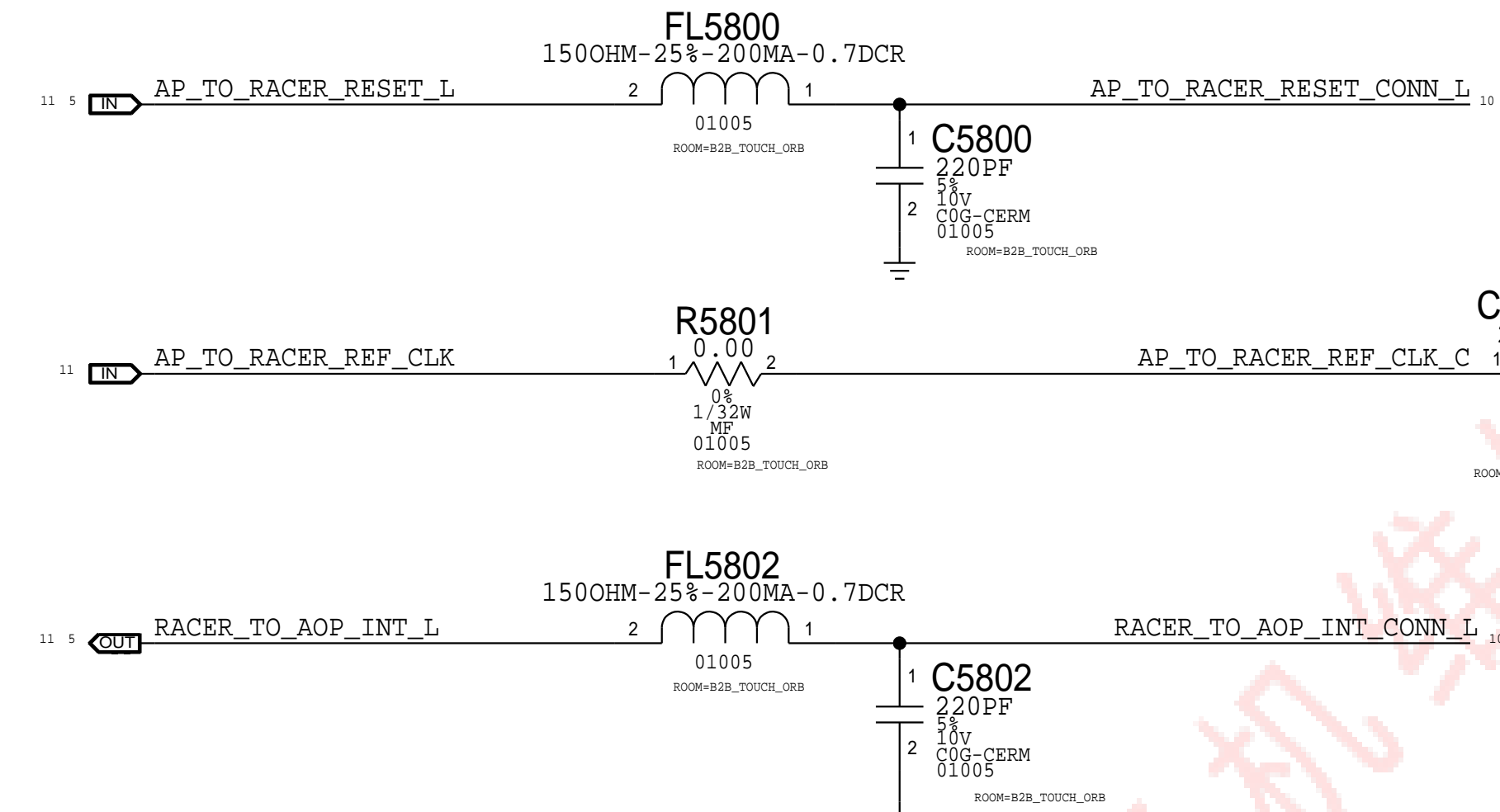
Hall Effect

APN: 353S3697

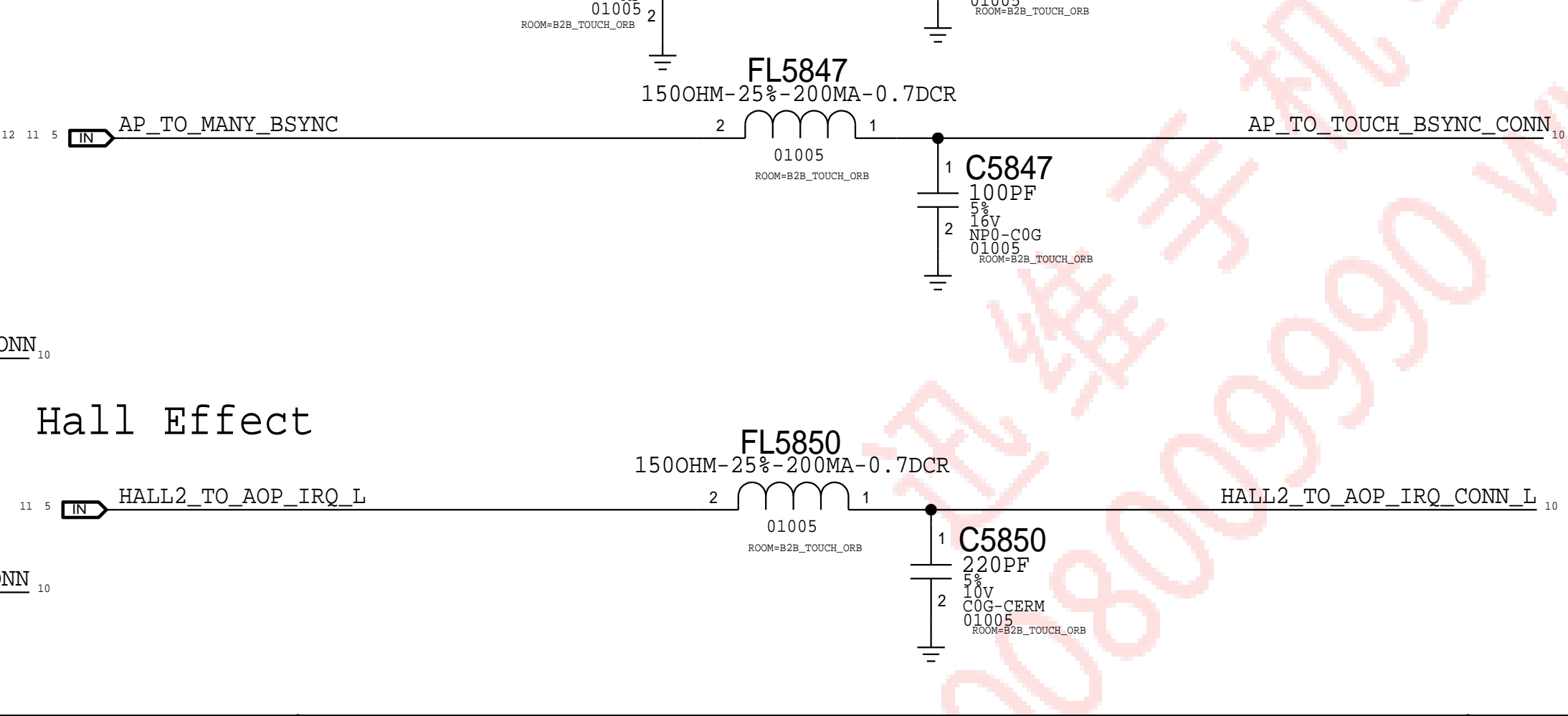
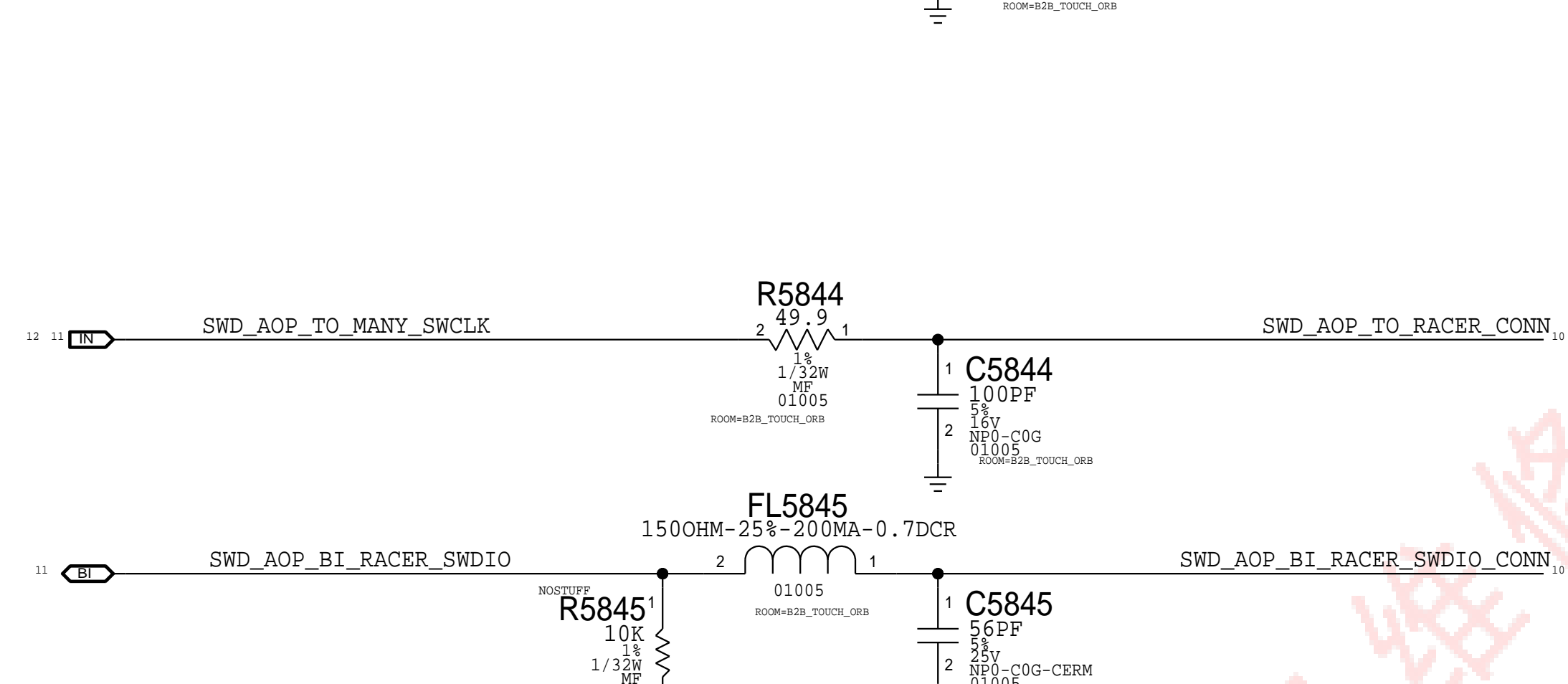
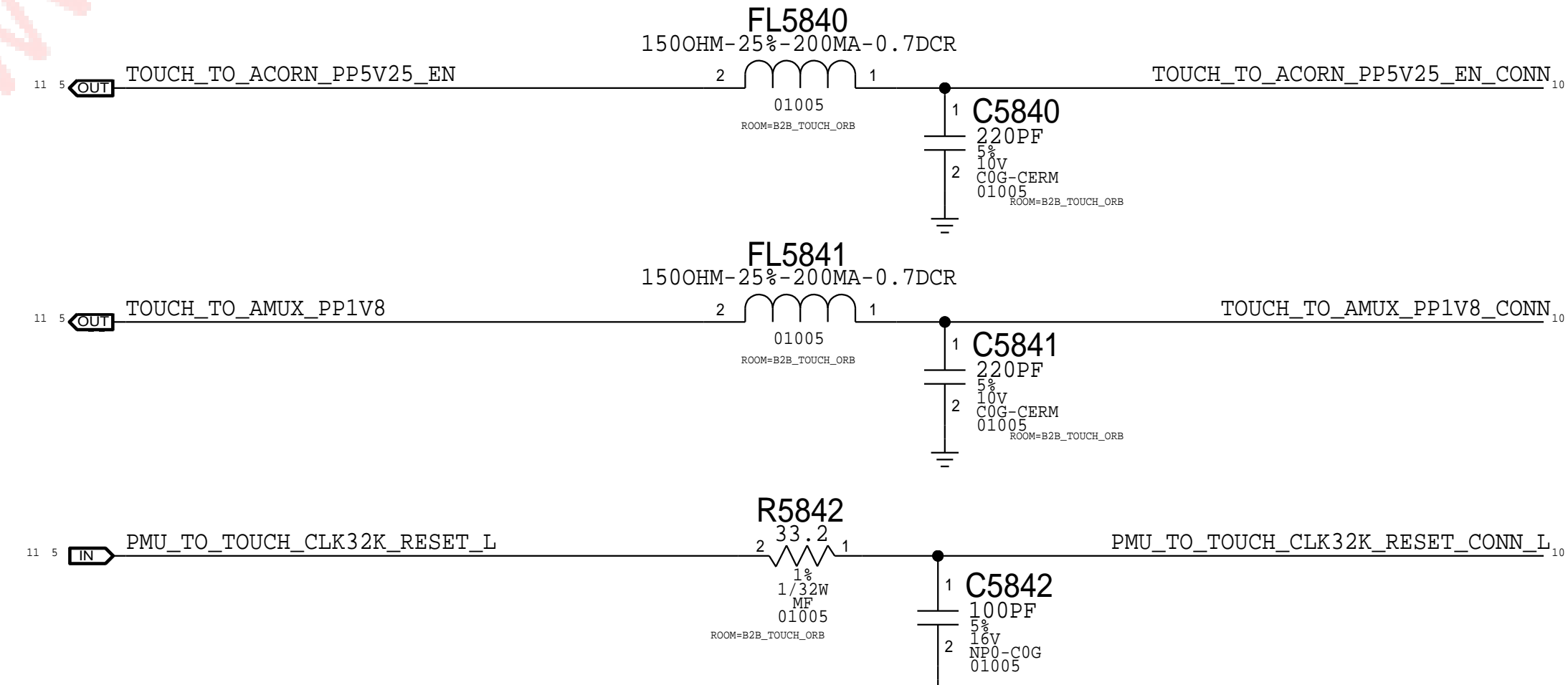


PAGE TITLE			HALL EFFECT	
Apple Inc.	DRAWING NUMBER	051-02247	SIZE	D
	REVISION	7.0.0	BRANCH	evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		PAGE	55 OF 80	
		SHEET	9 OF 34	

Racer I/O

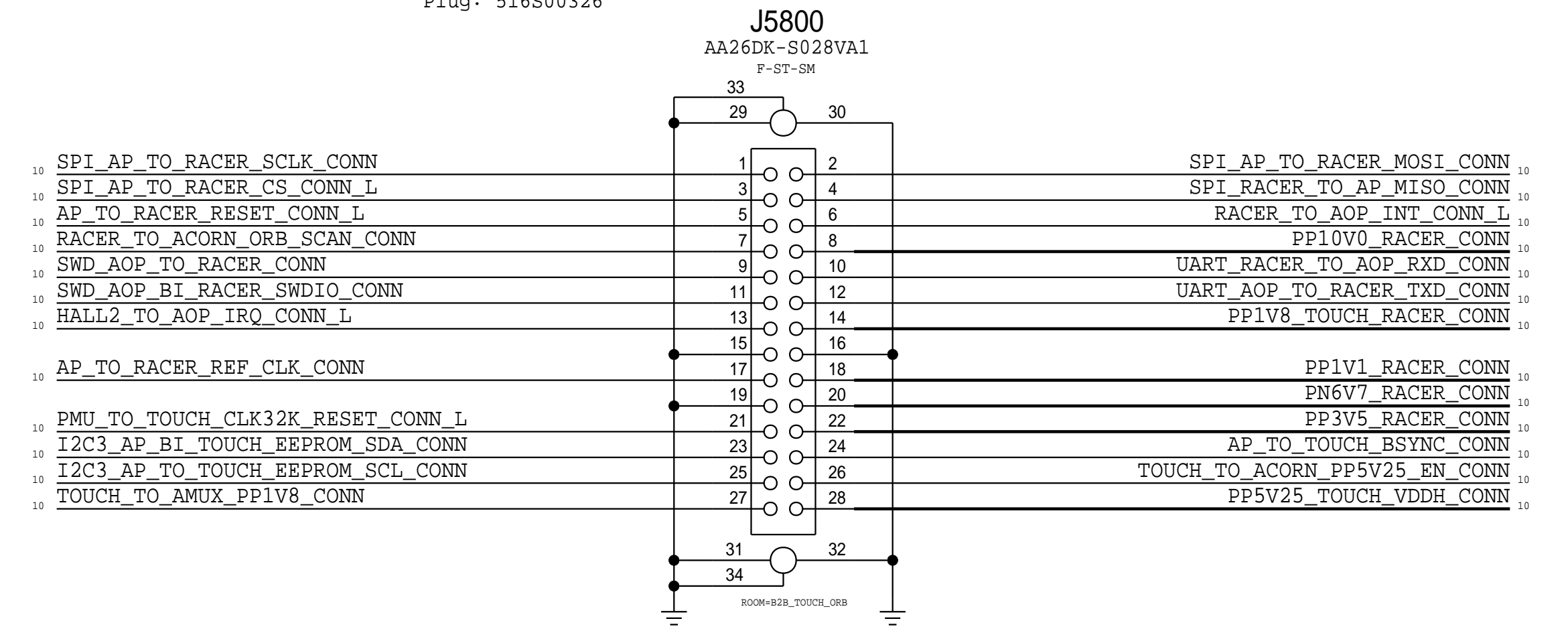


Touch and Misc I/O

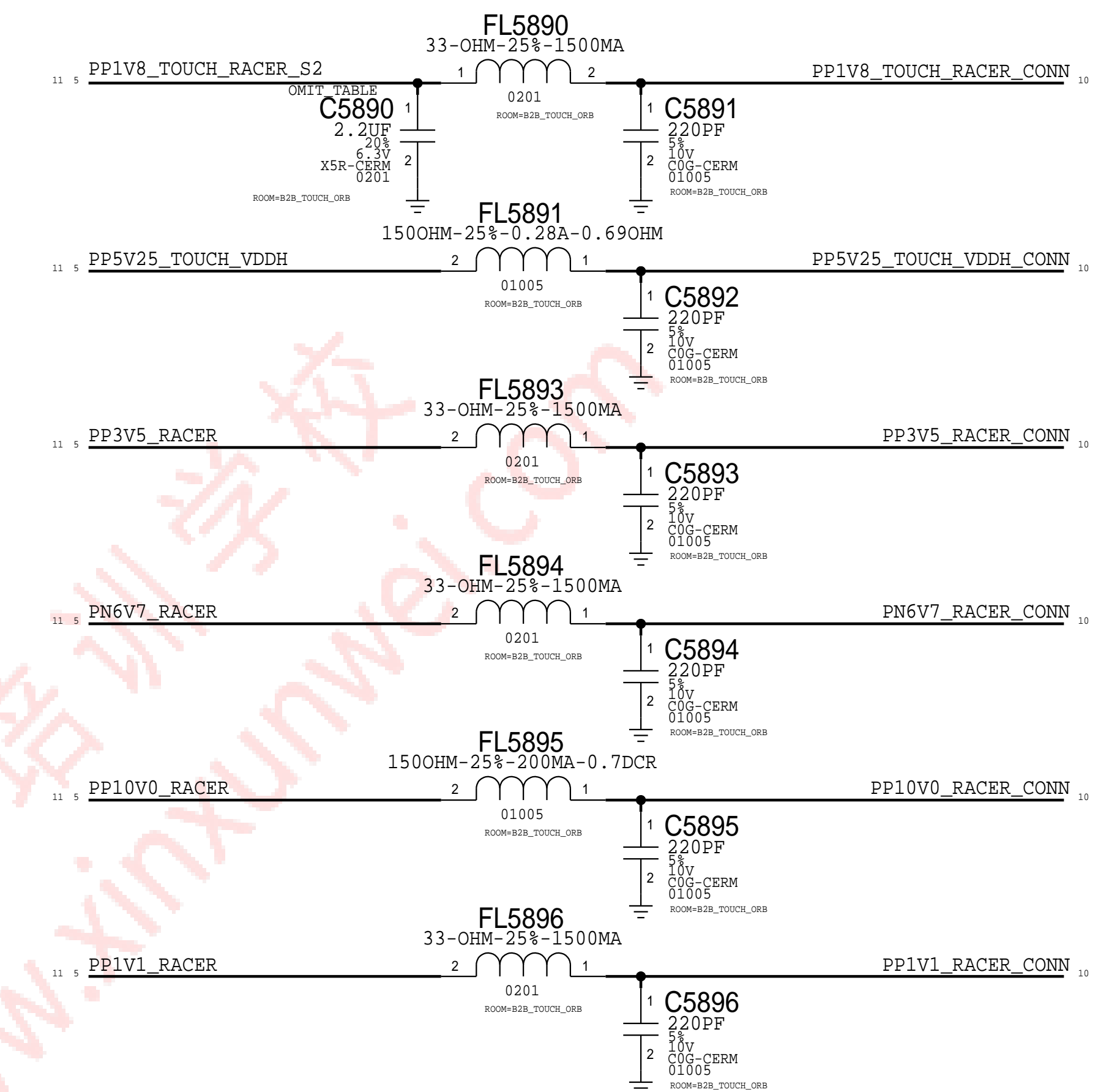


Luna + Touch Connector

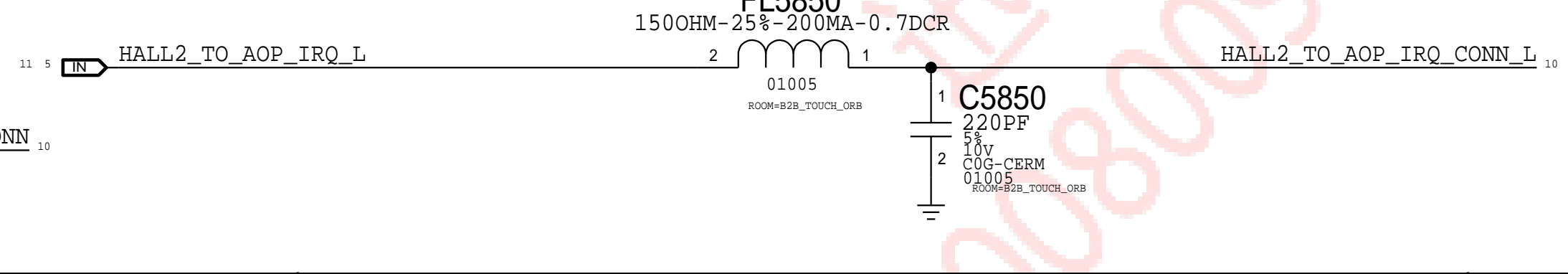
Rcpt: 516S00325 <-- This one on MLB
 Plug: 516S00326



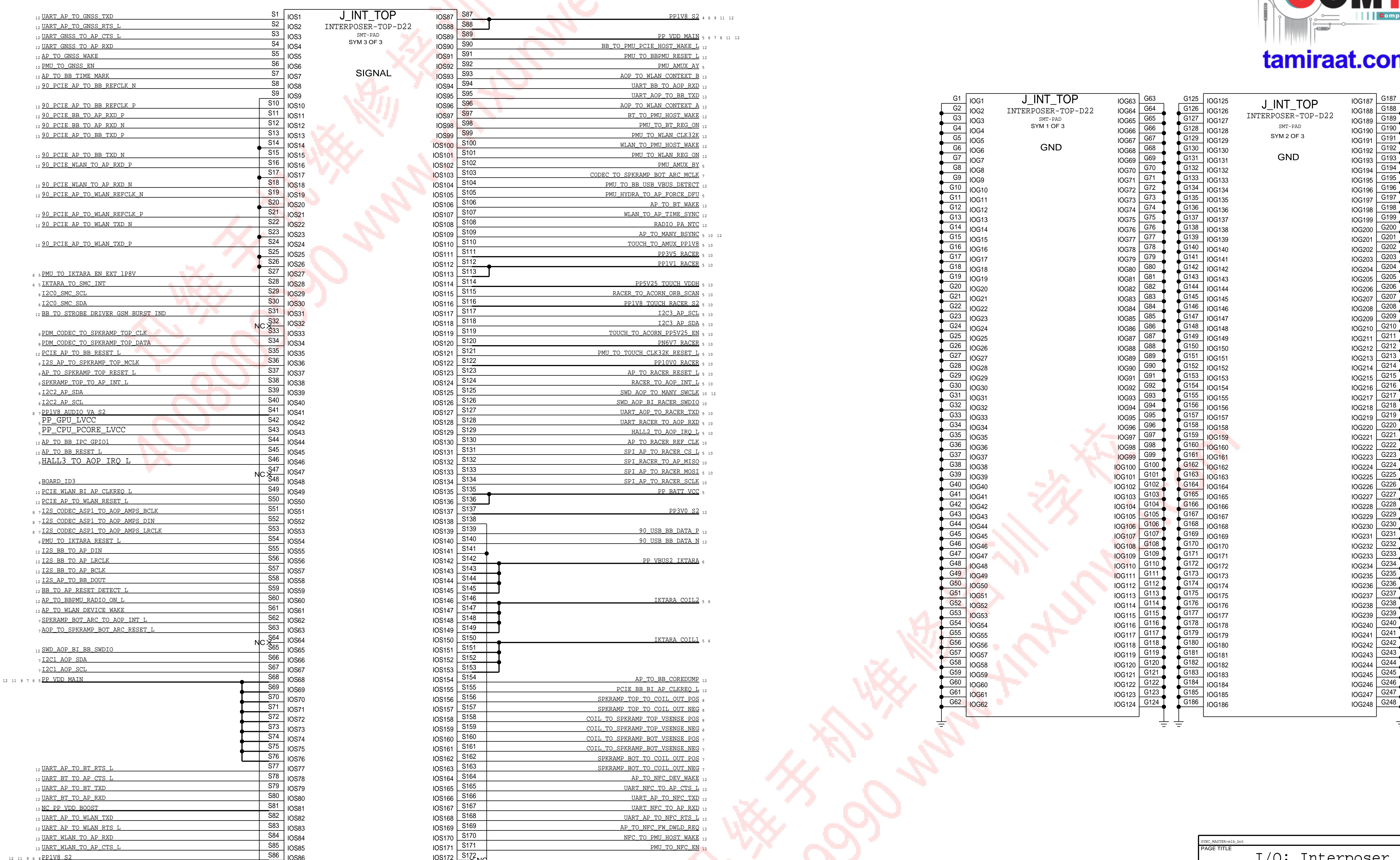
Touch And Racer Power



Hall Effect



PAGE TITLE		CG: B2B Luna & Touch	
		DRAWING NUMBER	051-02247
		REVISION	7.0.0
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-1
		PAGE	58 OF 80
		SHEET	10 OF 34



D

D

C

C

B

B

A

A

I/O: Interposer (Top)		DRAWING NUMBER 051-02247		SIZE D	
		REVISION 7.0.0		BRANCH evt-1	
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		PAGE 66 OF 80		SHEET 11 OF 34	

8

7

6

5

4

3

2

1

8

7

6

5

4

3

2

1

D

C

B

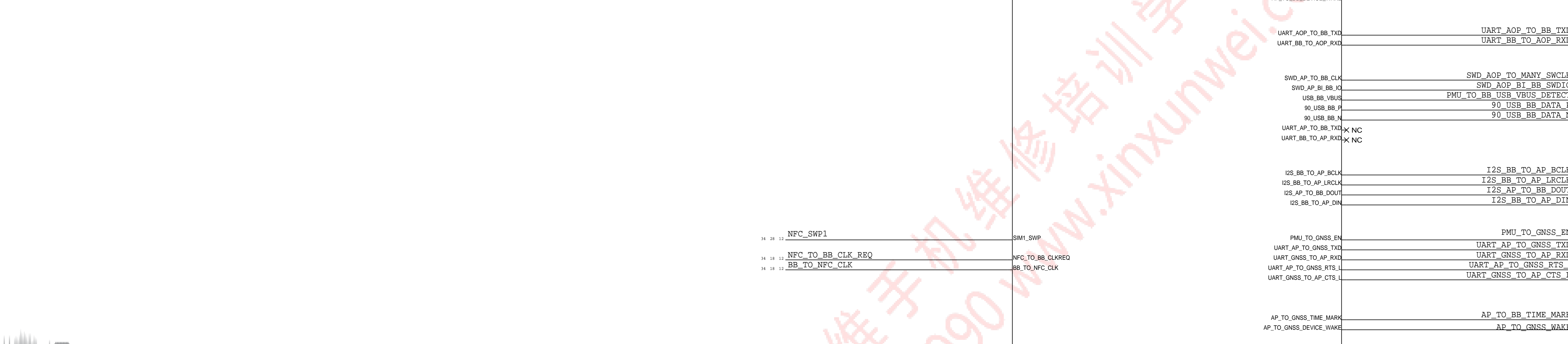
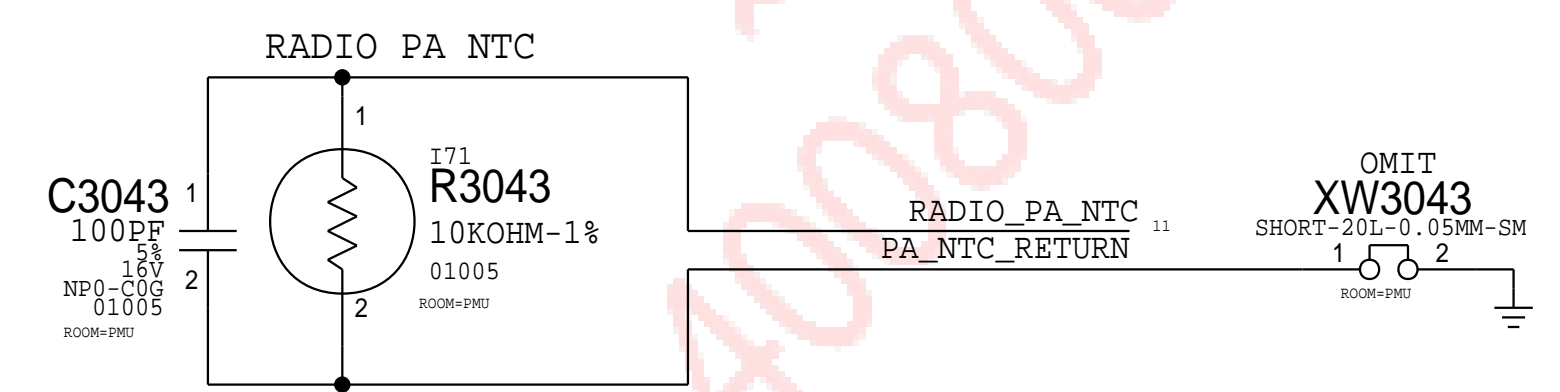
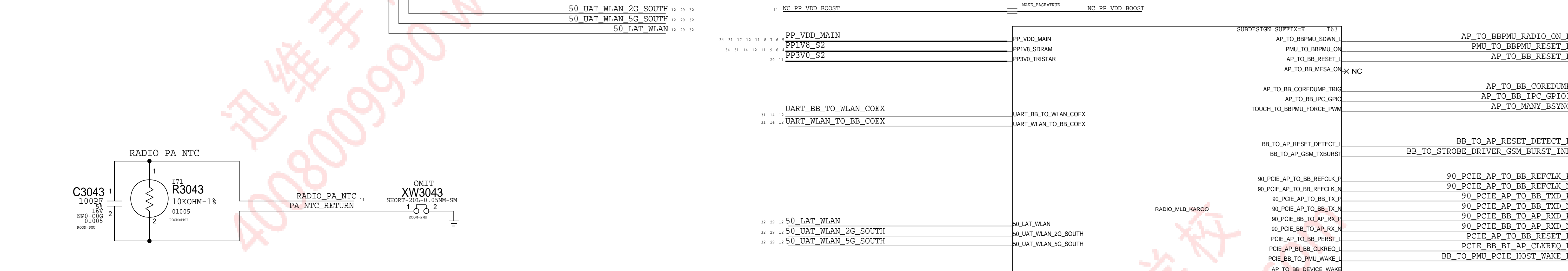
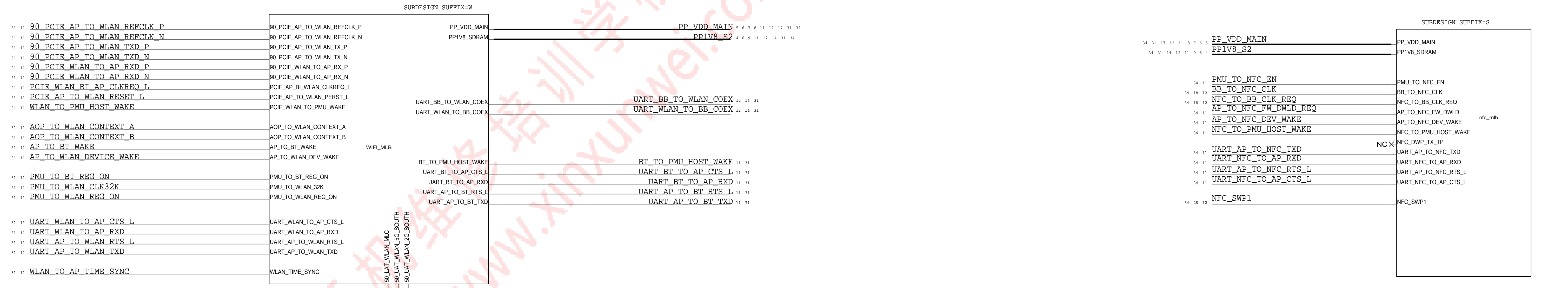
A

D

C

B

A



PAGE TITLE			RADIOS		
Apple Inc.		DRAWING NUMBER	051-02247	SIZE	D
NOTICE OF PROPRIETARY PROPERTY:		REVISION	7.0.0	BRANCH	
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING:		PAGE		80 OF 80	
I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE		SHEET		12 OF 34	
II NOT TO REPRODUCE OR COPY IT					
III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART					
IV ALL RIGHTS RESERVED					

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.

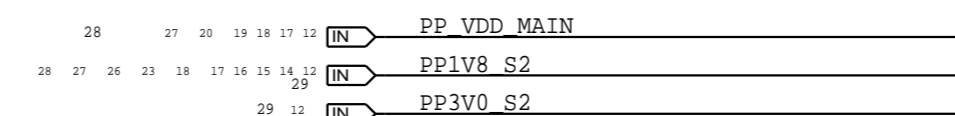
REV	ECN	DESCRIPTION OF REVISION	CK APPD	DATE
7	0008448938	ENGINEERING RELEASED		2017-04-11

ICE17.2 RADIO_MLB

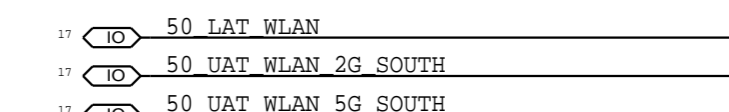
Tue Apr 11 16:10:08 2017

RADIO_MLB PORTS

POWER



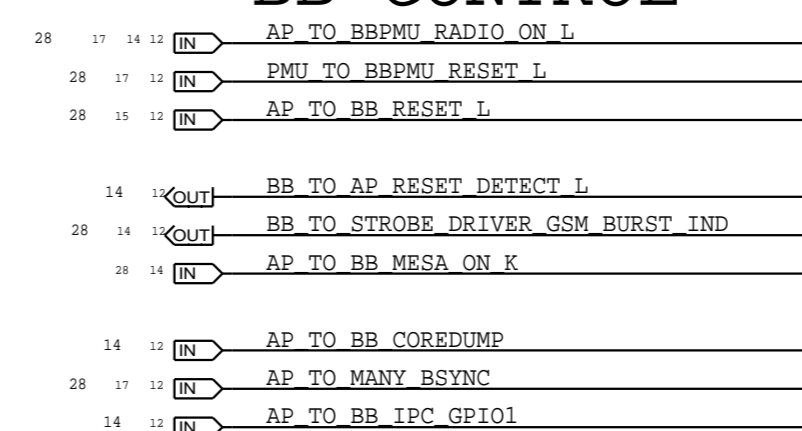
ANTENNA FEEDS



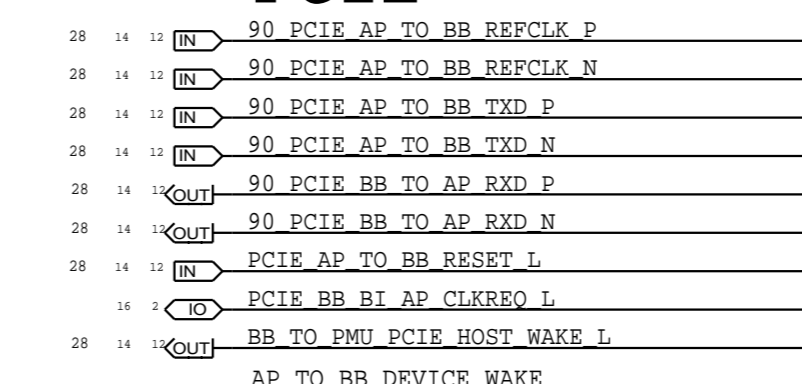
CLOCKS

PMU_TO_BB_GNSS_32K

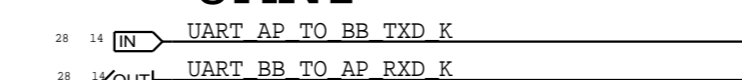
BB CONTROL



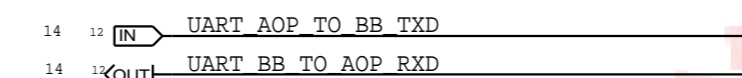
PCIE



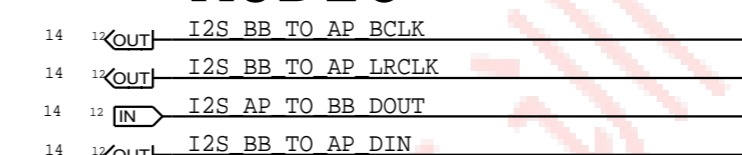
UART



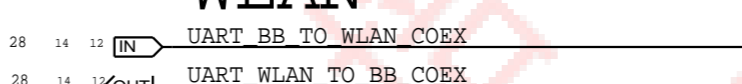
AOP



AUDIO



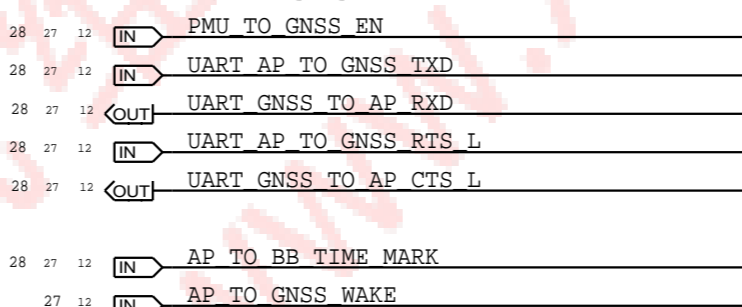
WLAN



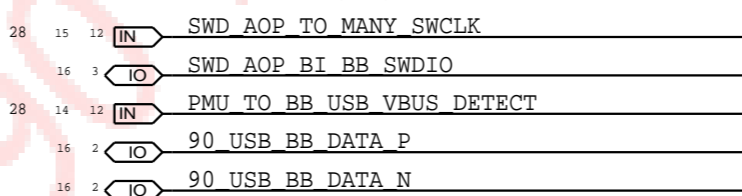
NFC



GNSS



DEBUG



PDF PAGE	CSA PAGE	CONTENTS
2	2	BASEBAND
3	3	BASEBAND MEMORY/DEBUG
4	4	BASEBAND POWER
5	5	BASEBAND PMIC
6	6	TRANSCEIVERS
7	7	ET MODULATOR
8	8	TDD TRANSMIT
9	9	FDD TRANSMIT
10	10	PRIMARY RECEIVE
11	11	LOWER ANTENNA & COUPLERS
12	12	DIVERSITY RECEIVE ASM'S
13	13	DIVERSITY RECEIVE LNA'S
14	14	UPPER ANTENNA FEEDS
15	15	GNSS
16	16	TEST POINTS & SIM

ALTERNATES

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
197S00040	197S00044	VTCXO_K	AVX VC-TCXO	?
197S00042	197S00044	VTCXO_K	NDK VC-TCXO	?
335S00013	335S0894	EPROM_K	ON SEMI EEPROM	?
138S0719	138S1103	C522_K	MURATA	?
138S00133	138S00128	C509_K, C523_K, C605_K, C624_K, C626_K, C1114_K, C1116_K	MURATA	?
138S00049	138S00032	C402_K, C433_K, C437_K, C510_K, C720_K	MURATA	?
138S0831	138S00032	C402_K, C433_K, C437_K, C510_K, C720_K	MURATA	?
138S00086	138S0884	C500_K, C501_K, C502_K, C514_K, C515_K	MURATA	?
339S00363	339S00353	GNSS_K	PILSNER STATS	?

BOM OPTIONS

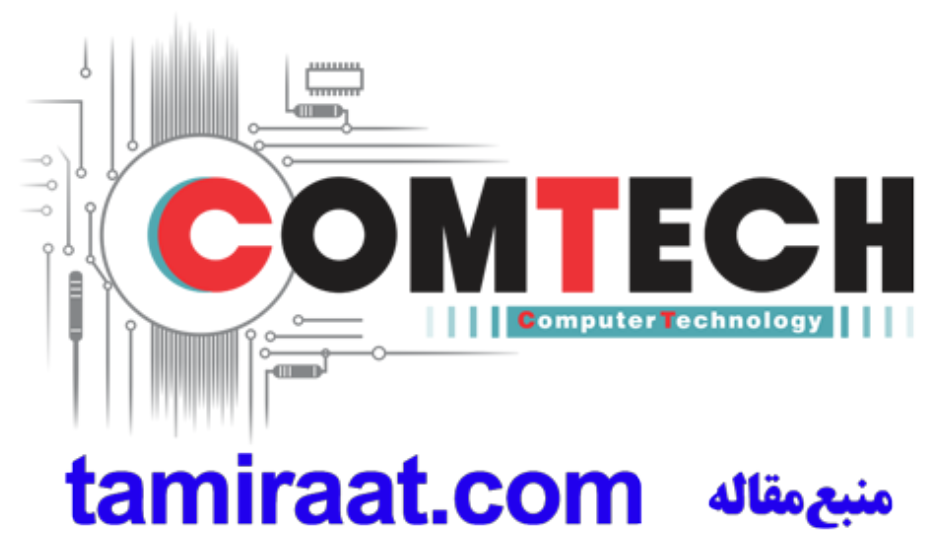
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
998-05780	1	BASEBAND, UNFUSED	U_BB_K	CRITICAL	BB_UNFUSED
998-05781	1	BASEBAND, LOCAL FUSED	U_BB_K	CRITICAL	BB_LOCAL_FUSED
998-05782	1	BASEBAND, DEV FUSED	U_BB_K	CRITICAL	BB_DEV_FUSED
337800244	1	BASEBAND, PRODUCTION FUSED	U_BB_K	CRITICAL	BB_PROD_FUSED
138S00159	7	CAP, SOFT-TERM, 2.2uF, 6.3V, 0201, KYOCERA	PHL_K,PHL_K,PHL_K,PHL_K,PHL_K,PHL_K,PHL_K		SOFT_CAP
138S0831	7	CAP, TYPICAL, 2.2uF, 6.3V, 0201, MURATA	PHL_K,PHL_K,PHL_K,PHL_K,PHL_K,PHL_K,PHL_K		TYPICAL_CAP



RADIO_MLB

DRAWING TITLE		SCH, MLB, BOT, X893	
Apple Inc.	DRAWING NUMBER	051-02247	SIZE D
	REVISION	7.0.0	
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-1
		PAGE	1 OF 17
		SHEET	13 OF 34

BASEBAND



D

D

C

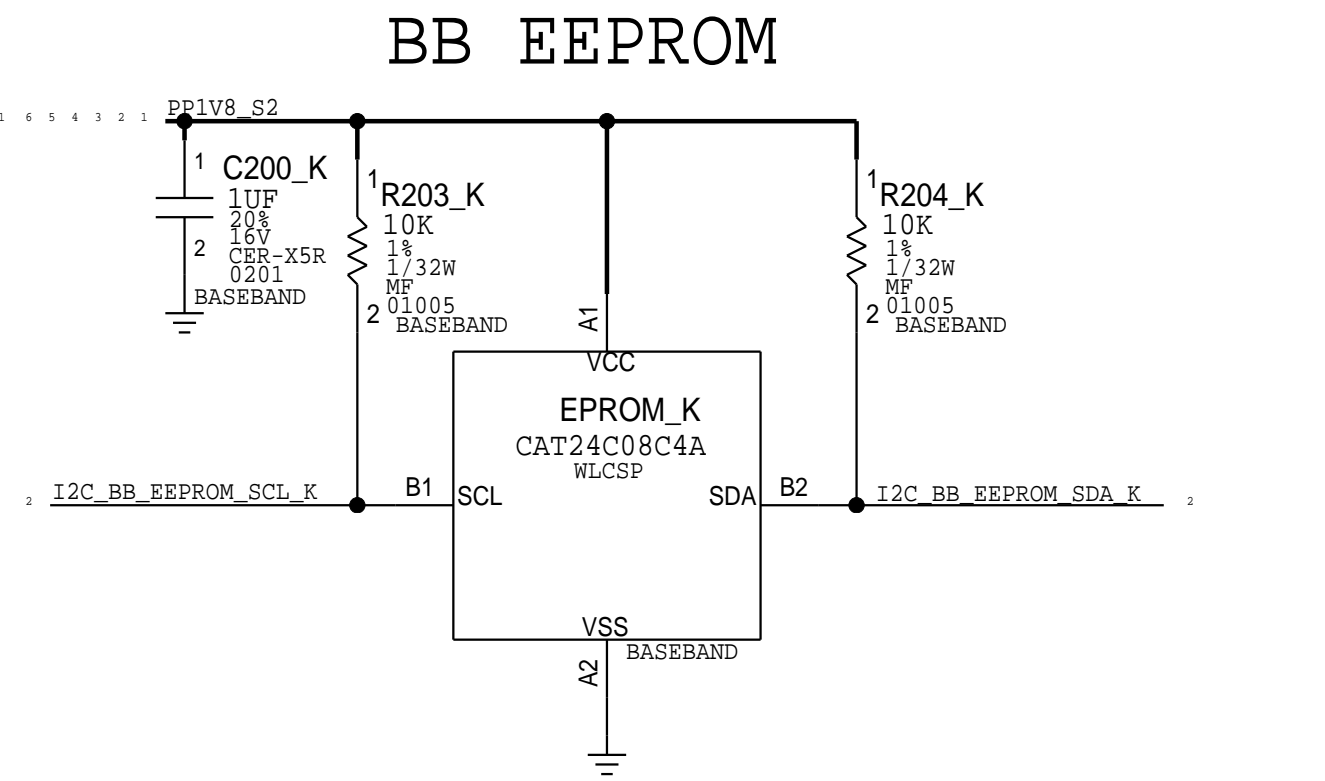
C

B

B

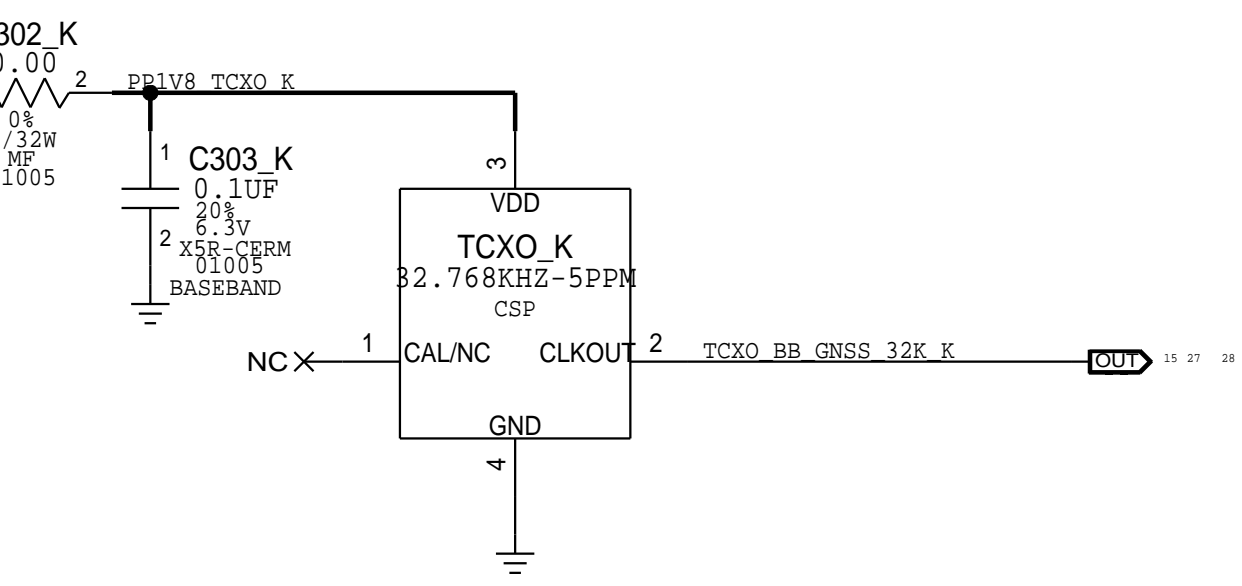
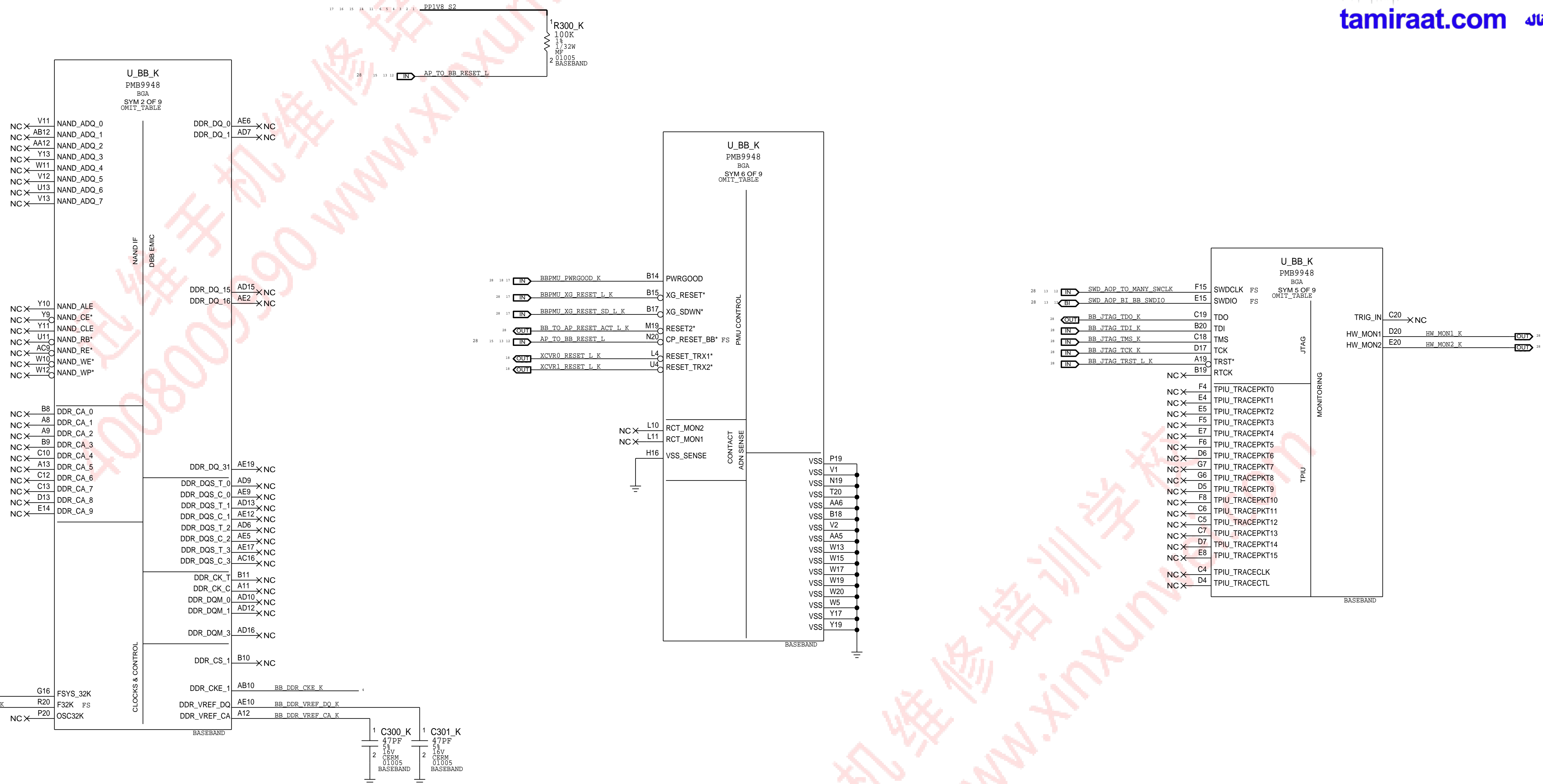
A

A



PAGE TITLE		
BASEBAND		
	DRAWING NUMBER	051-02247
	REVISION	7.0.0
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-1
	PAGE	2 OF 17
	SHEET	14 OF 34

BASEBAND MEMORY/DEBUG



PAGE TITLE		
BASEBAND MEMORY/DEBUG		
	DRAWING NUMBER	051-02247
	REVISION	7.0.0
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-1
	PAGE	3 OF 17
	SHEET	15 OF 34

BASEBAND POWER



D

C

B

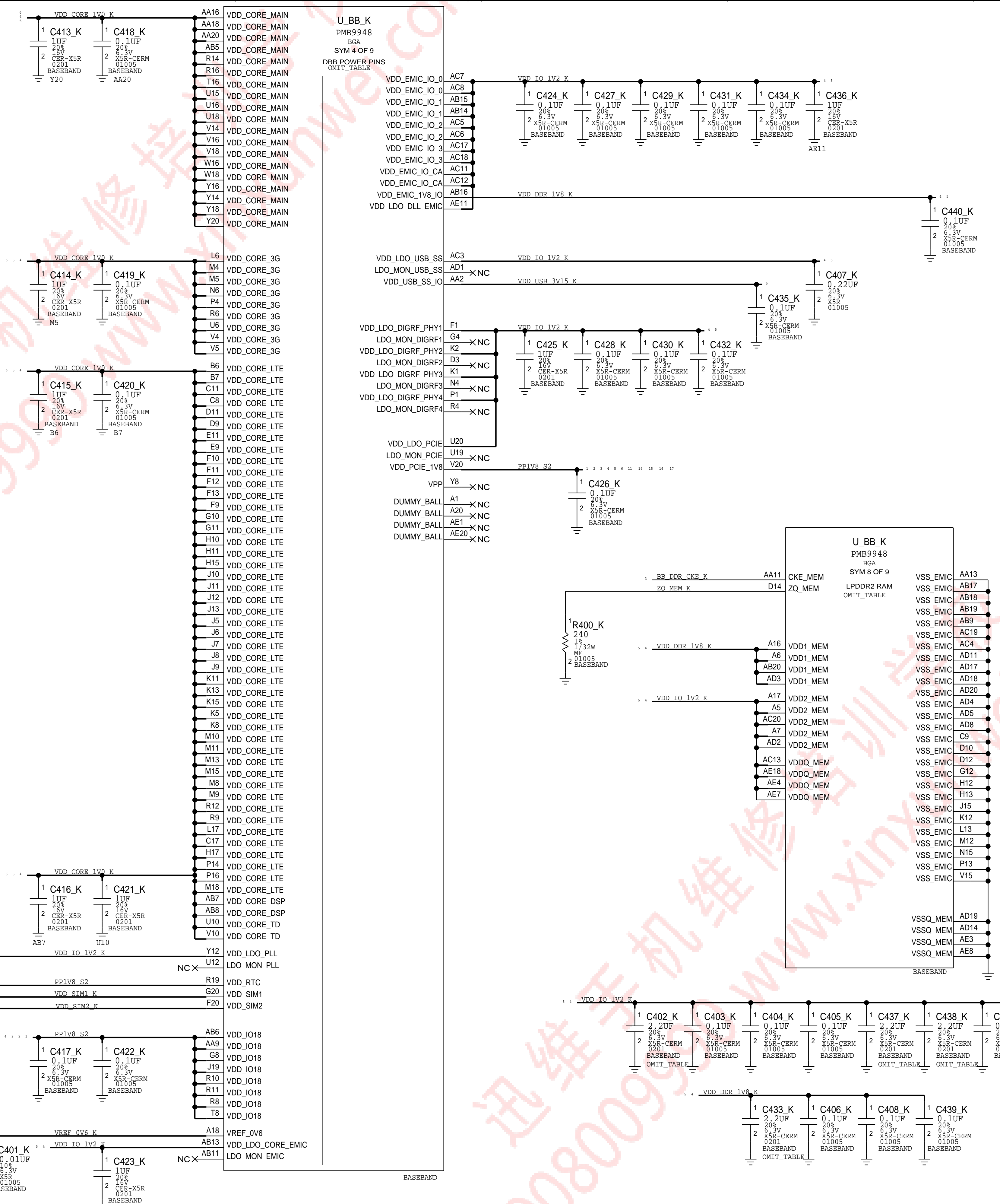
A

D

C

B

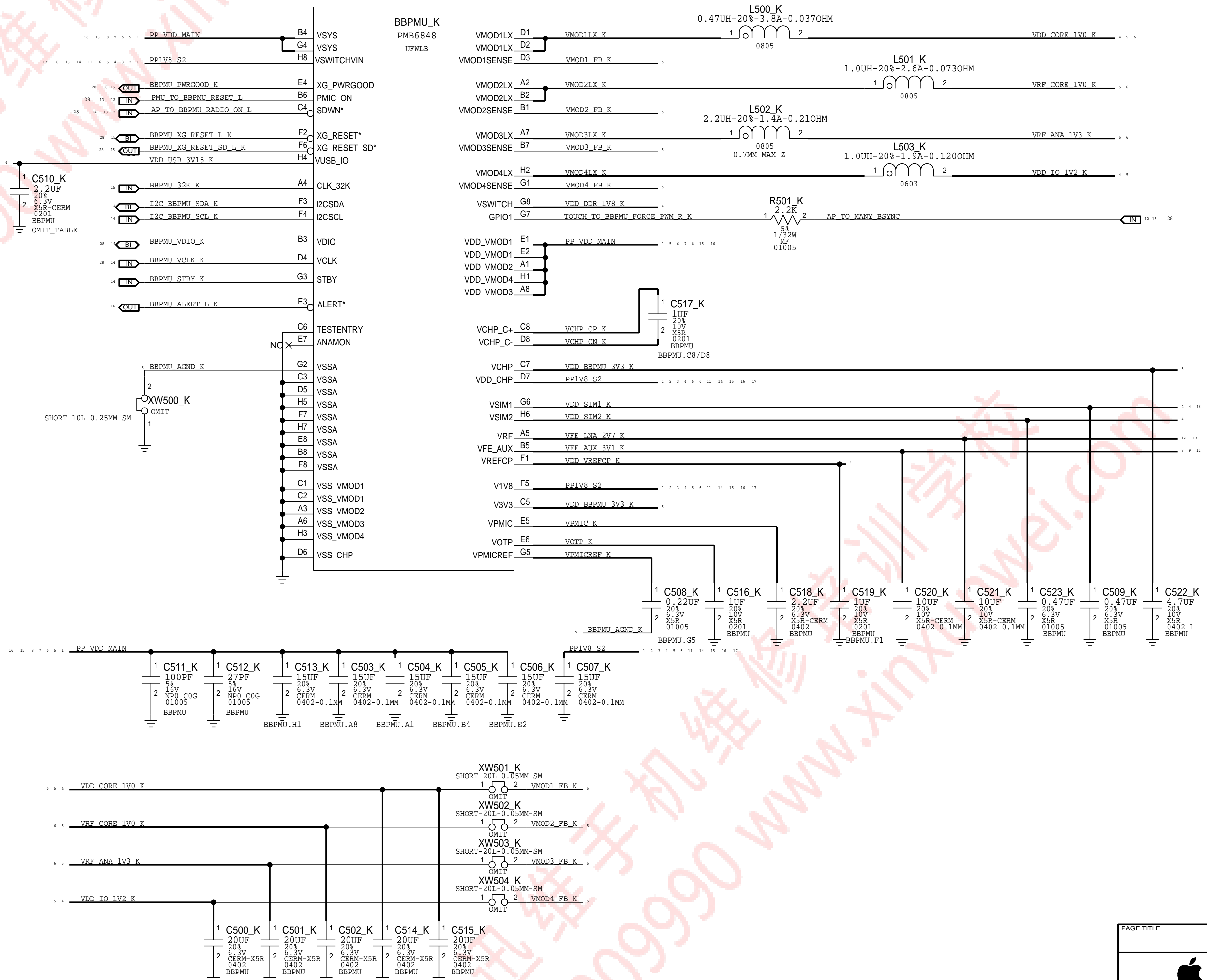
A



U_BB_K PMB9948 BGA SYM 8 OF 9 GROUND OMIT_TABLE		U_BB_K PMB9948 BGA SYM 3 OF 9 GROUND OMIT_TABLE	
A10	VSS	AB3	VSS_USB
A14	VSS	W9	VSS_PLL
A2	VSS	W14	VSS_PLL
A4	VSS	E3	VSS_MPHY_1
AA14	VSS	F3	VSS_MPHY_1
AA17	VSS	H3	VSS_MPHY_2
AA19	VSS	J3	VSS_MPHY_2
AA8	VSS	M3	VSS_MPHY_3
M17	VSS	N3	VSS_MPHY_3
AC10	VSS	R3	VSS_MPHY_4
B1	VSS	T3	VSS_MPHY_4
B2	VSS		
B3	VSS	V19	VSS_PCIE_TX
B4	VSS		
B5	VSS	N10	VSS
C1	VSS	N11	VSS
D8	VSS	N12	VSS
E10	VSS	N13	VSS
E12	VSS	N14	VSS
E13	VSS	N16	VSS
E6	VSS	N17	VSS
F14	VSS	N7	VSS
F2	VSS	N8	VSS
F7	VSS	N9	VSS
G13	VSS	P10	VSS
G14	VSS	P11	VSS
G3	VSS	P12	VSS
G9	VSS	P15	VSS
H5	VSS	P17	VSS
H6	VSS	P2	VSS
H7	VSS	P3	VSS
H8	VSS	P6	VSS
H9	VSS	P7	VSS
J16	VSS	P8	VSS
K10	VSS	P9	VSS
K16	VSS	R13	VSS
K3	VSS	R15	VSS
K6	VSS	R17	VSS
K7	VSS	R7	VSS
K9	VSS	T11	VSS
L3	VSS	T12	VSS
L5	VSS	T13	VSS
L7	VSS	T14	VSS
L8	VSS	T15	VSS
L9	VSS	T17	VSS
M16	VSS	T7	VSS
D16	VSS	U14	VSS
M7	VSS	U17	VSS
M8	VSS	R18	VSS
AB4	VSS	U3	VSS
M6	VSS	V17	VSS
M7	VSS	G17	VSS

PAGE TITLE BASEBAND POWER		
	DRAWING NUMBER 051-02247	SIZE D
REVISION 7.0.0		
BRANCH evt-1		
PAGE 4 OF 17		
SHEET 16 OF 34		
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 I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART I ALL RIGHTS RESERVED		

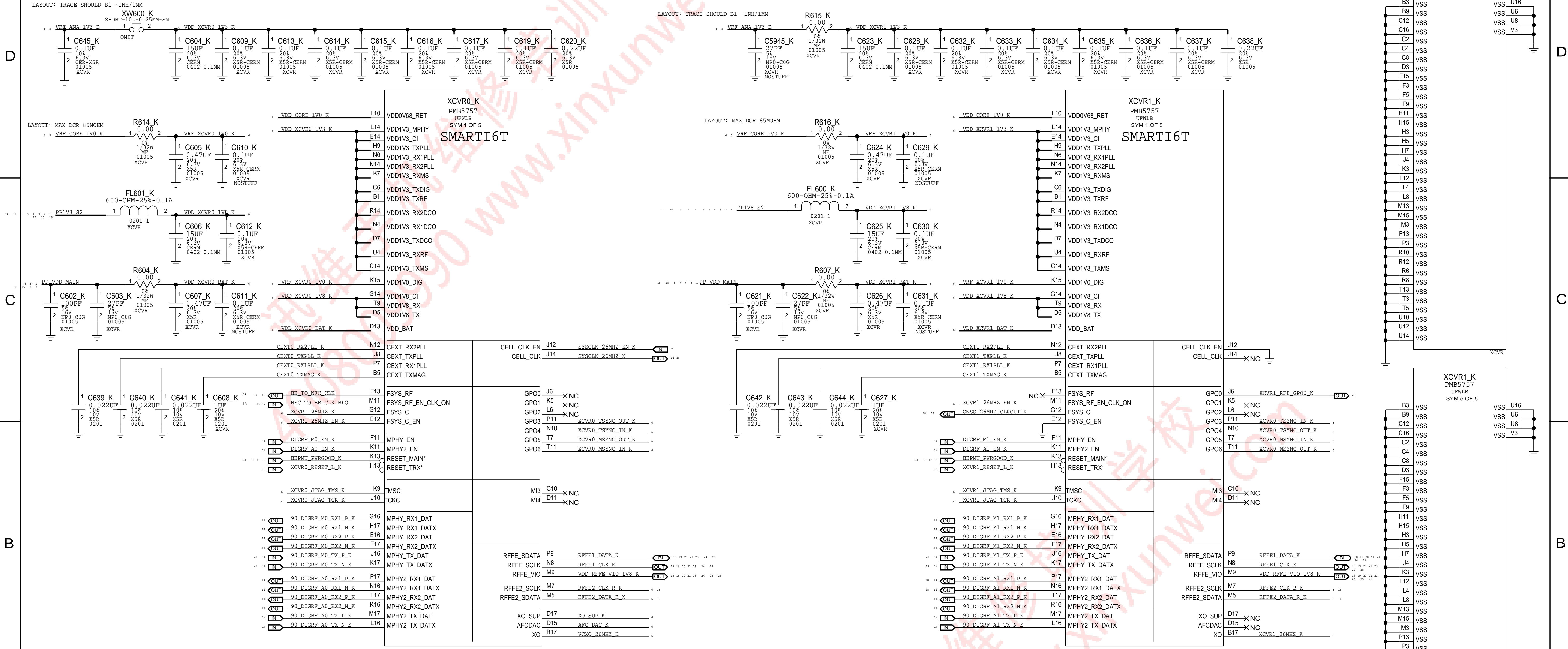
BASEBAND PMIC



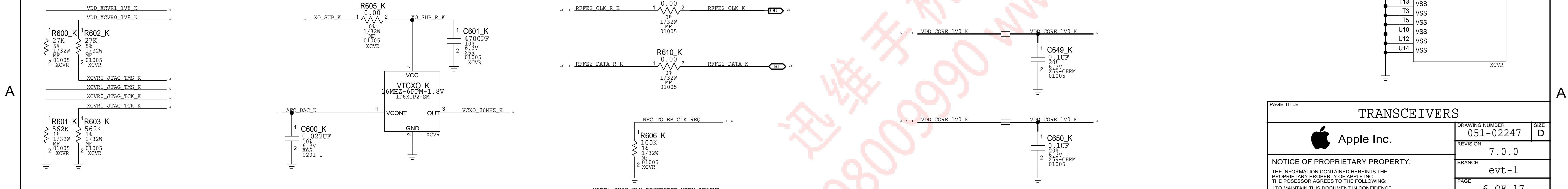
منبع مقاله

PAGE TITLE		
BASEBAND PMIC		
	DRAWING NUMBER	051-02247
	REVISION	7.0.0
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 I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART I ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	5 OF 17
	SHEET	17 OF 34

TRANSCEIVERS



VCTCXO

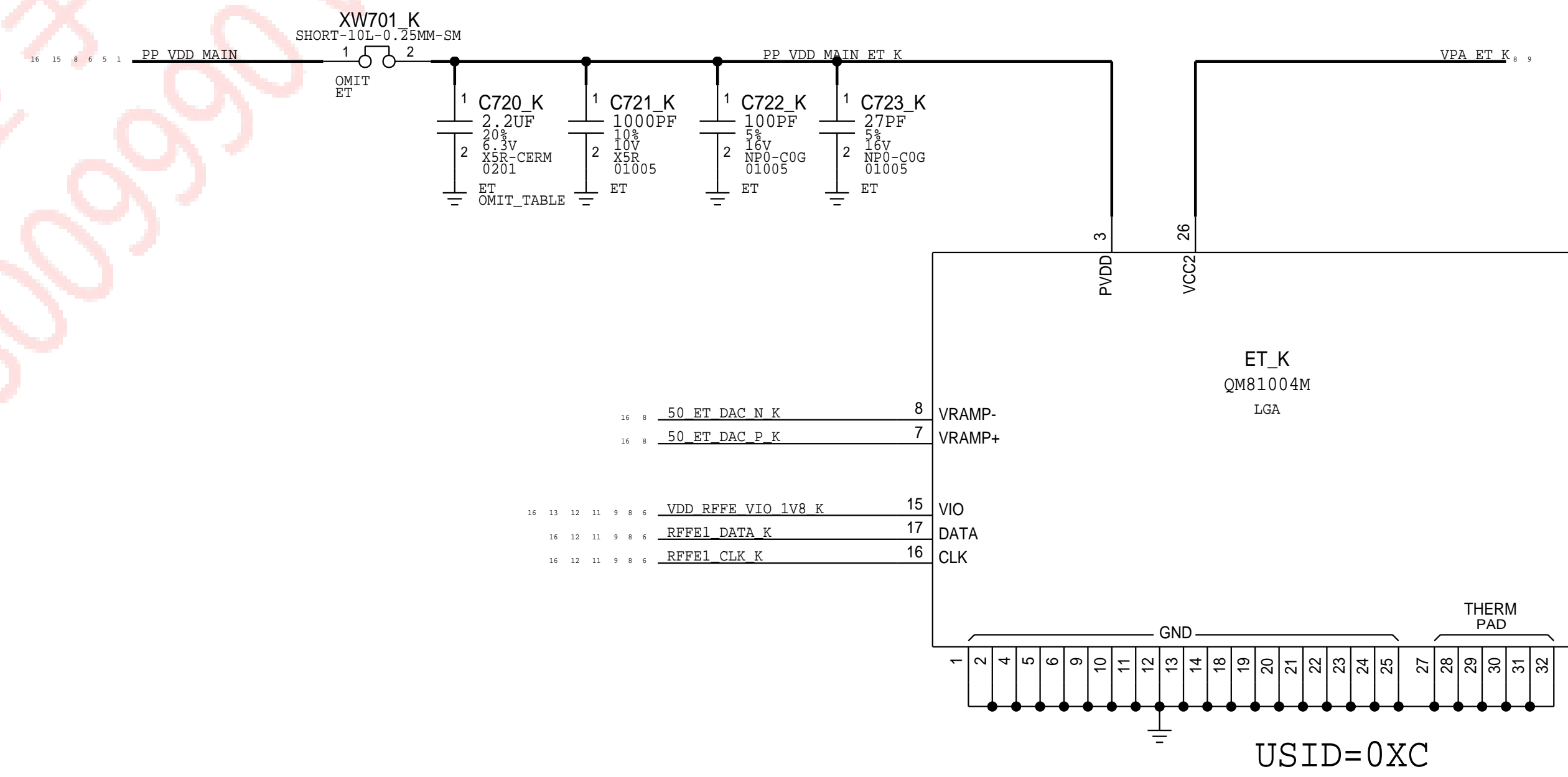


PAGE TITLE		TRANSCEIVERS	
DRAWING NUMBER	051-02247	SIZE	D
REVISION	7.0.0	BRANCH	evt-1
PAGE	6 OF 17	SHEET	18 OF 34

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

ET MODULATOR

ALPES II MODULE

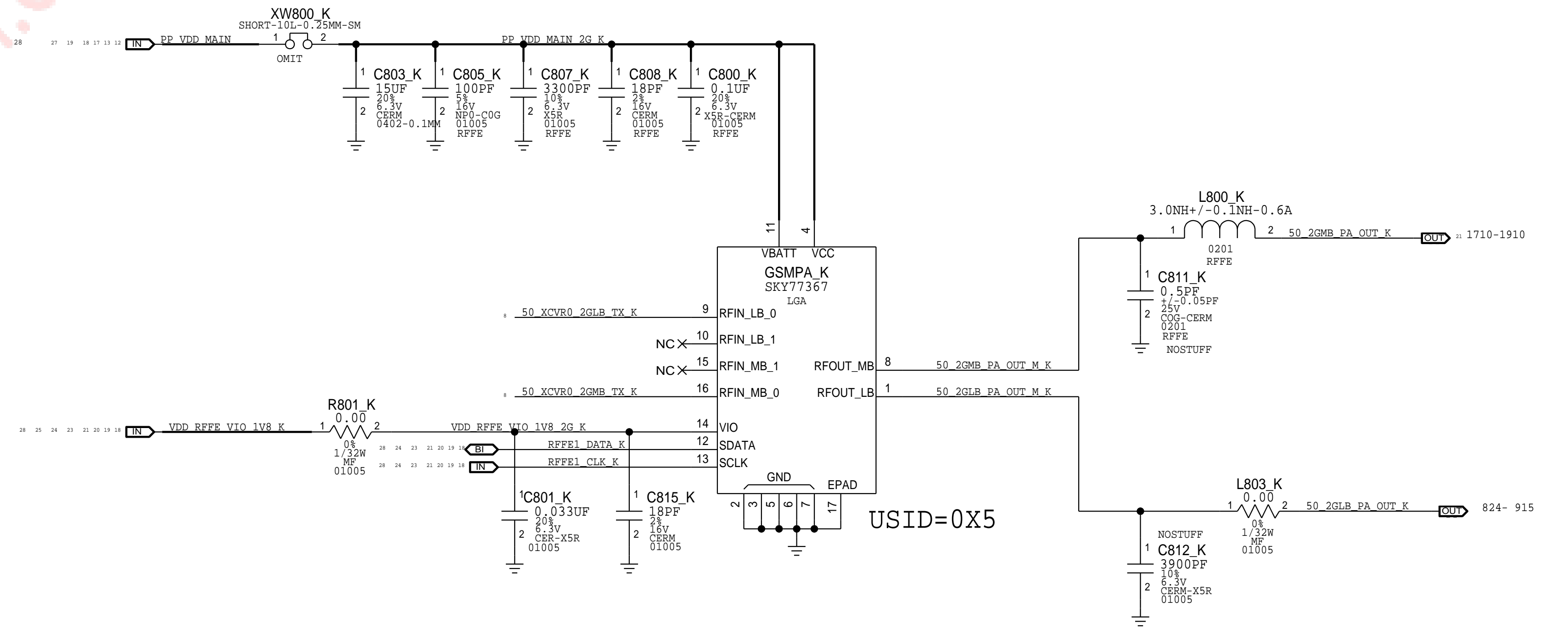
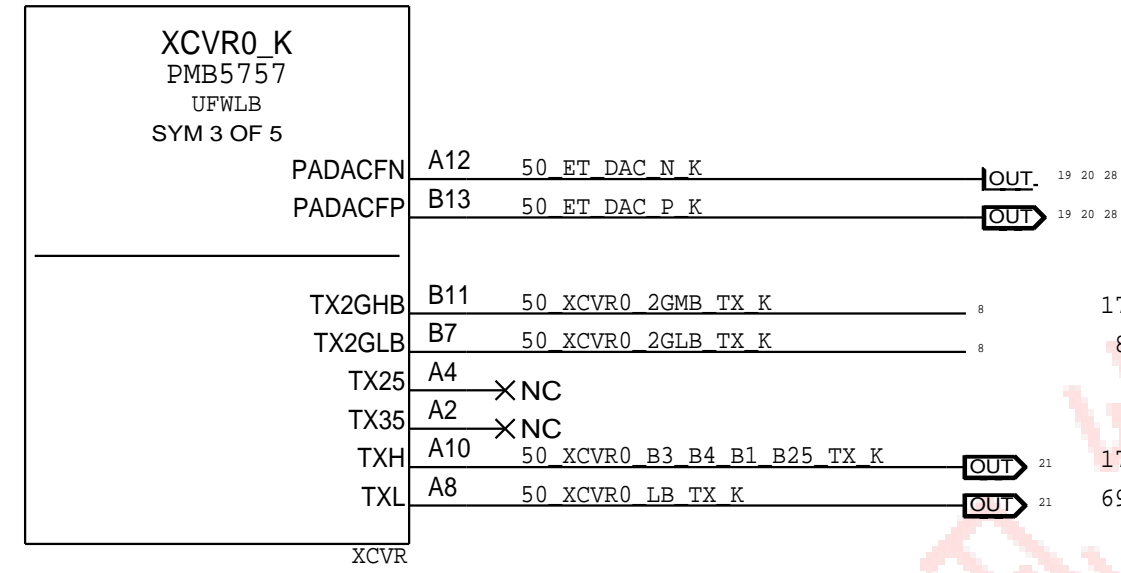


PAGE TITLE ET MODULATOR		
	DRAWING NUMBER 051-02247	SIZE D
	REVISION 7.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		PAGE 7 OF 17 SHEET 19 OF 34

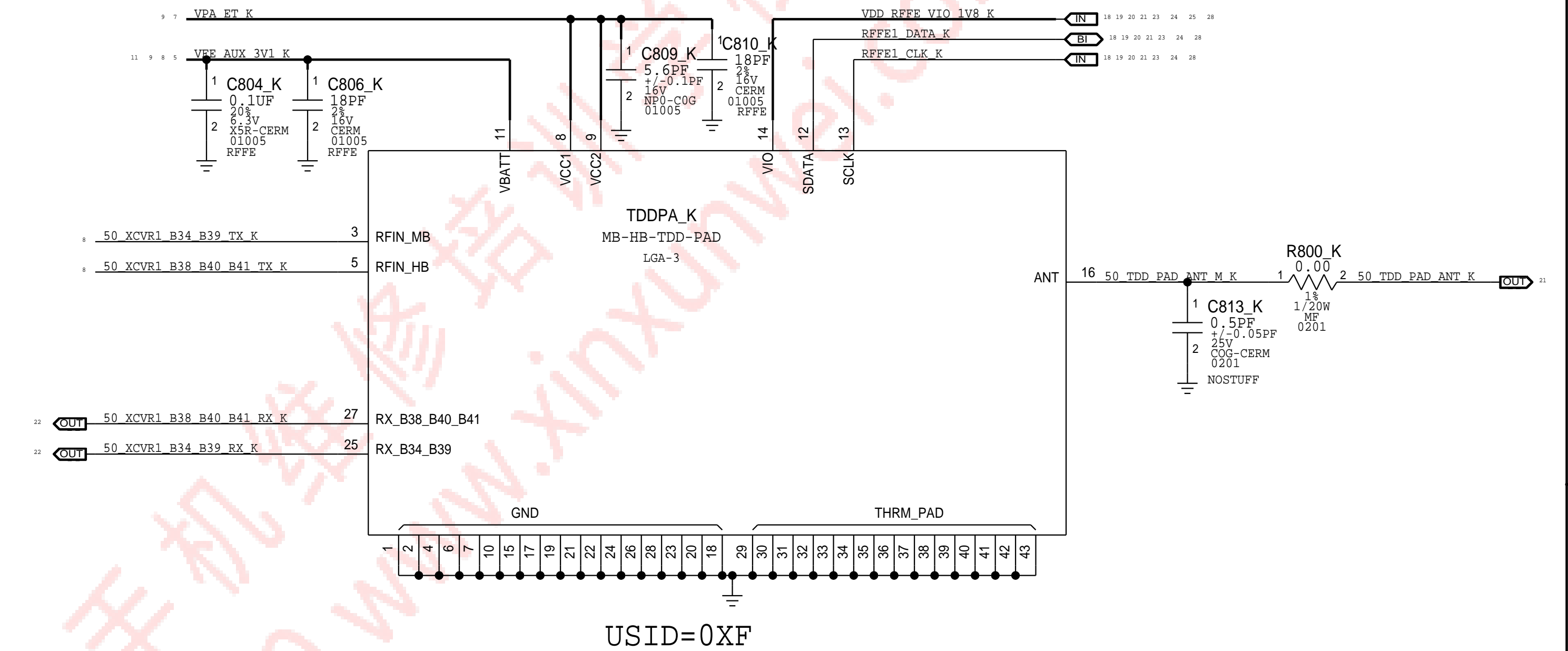
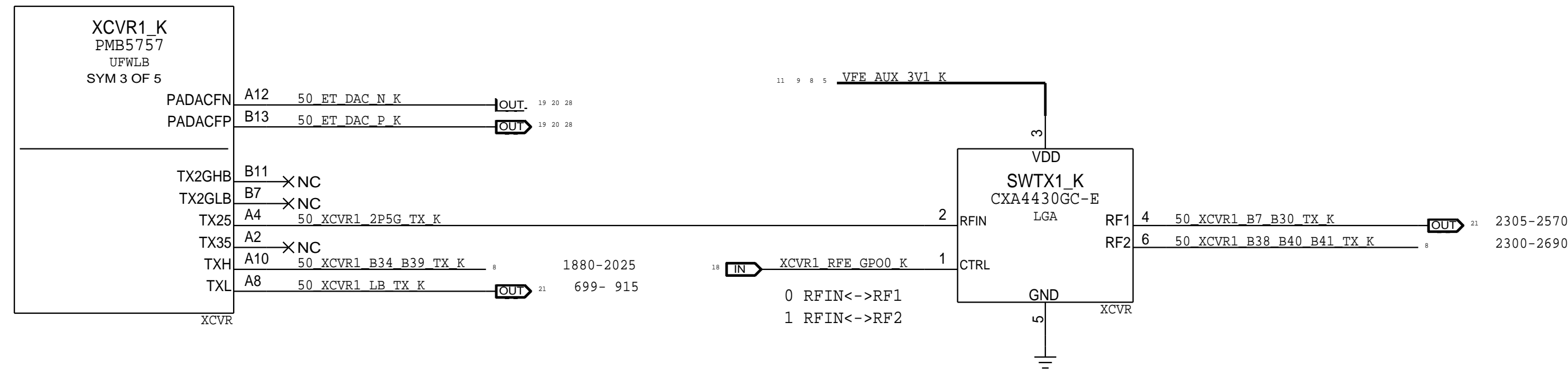
TDD TRANSMIT

2G PA

XCVR0 TX

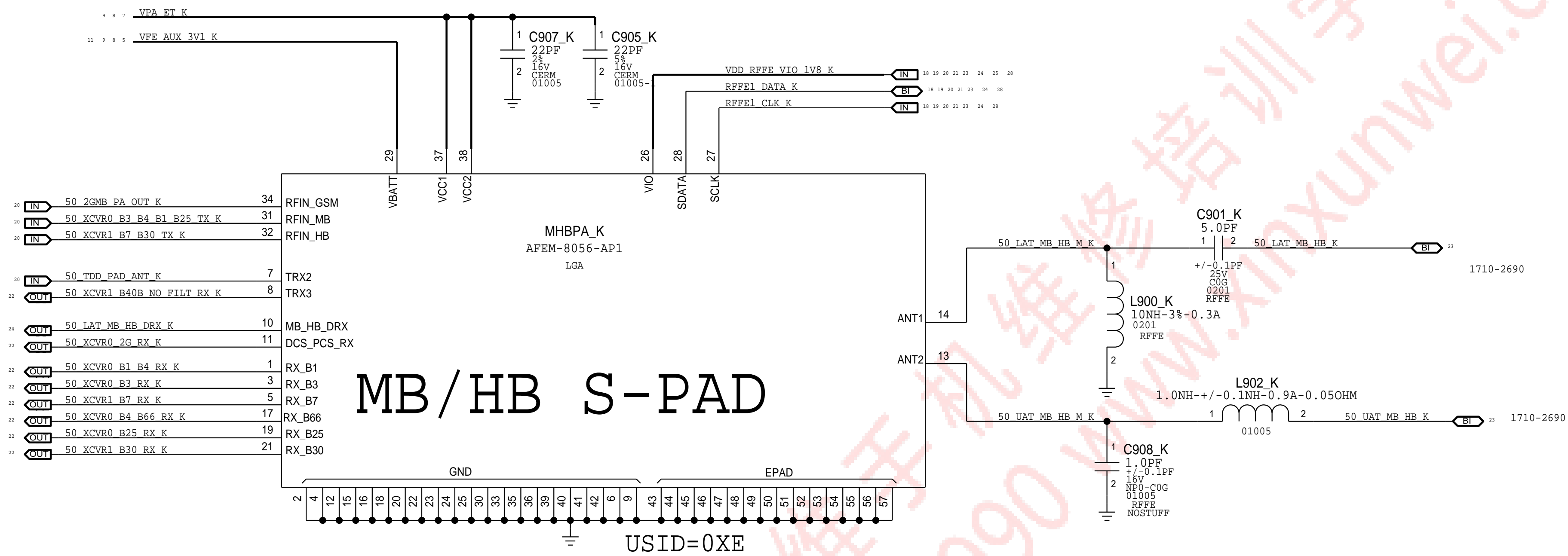
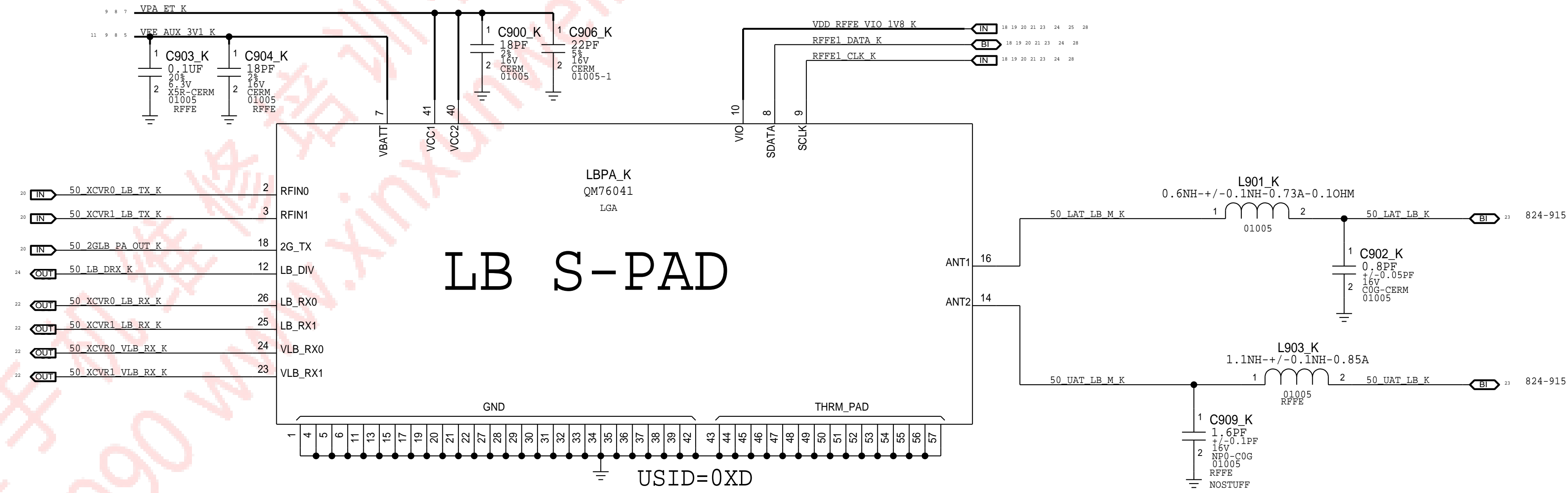


XCVR1 TX



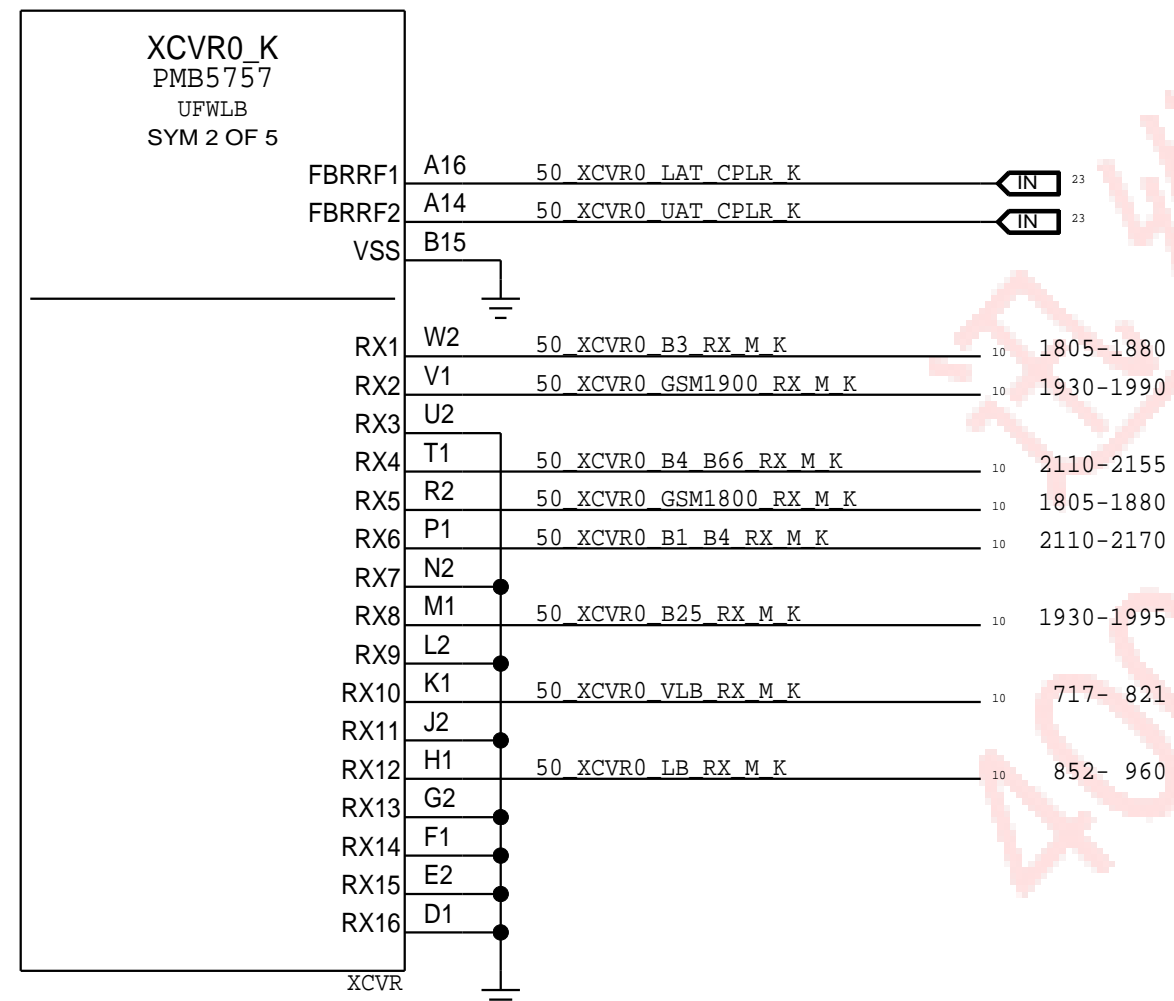
PAGE TITLE		
TDD TRANSMIT		
	DRAWING NUMBER	051-02247
	REVISION	7.0.0
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH	evt-1
	PAGE	8 OF 17
	SHEET	20 OF 34

FDD TRANSMIT

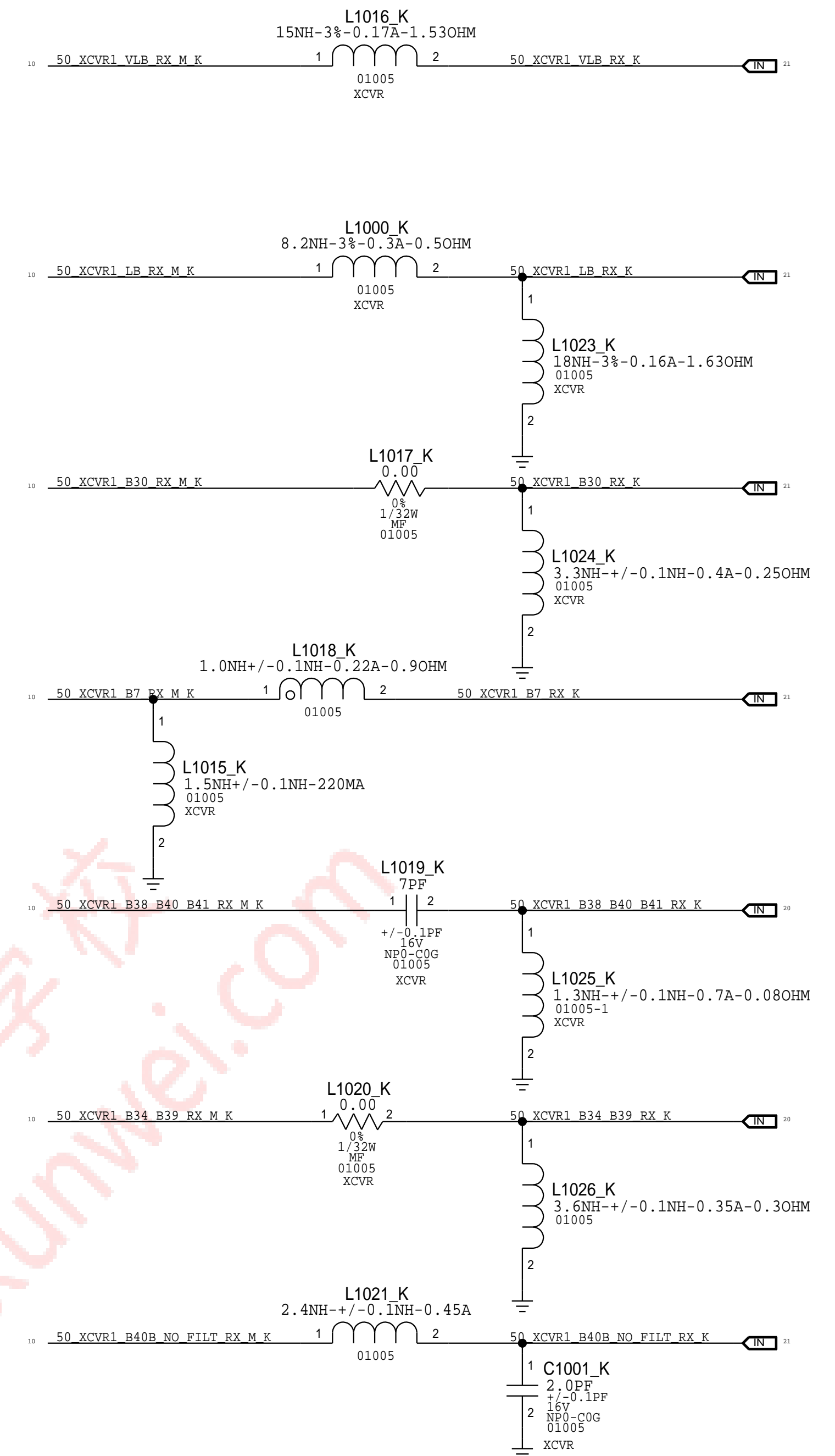
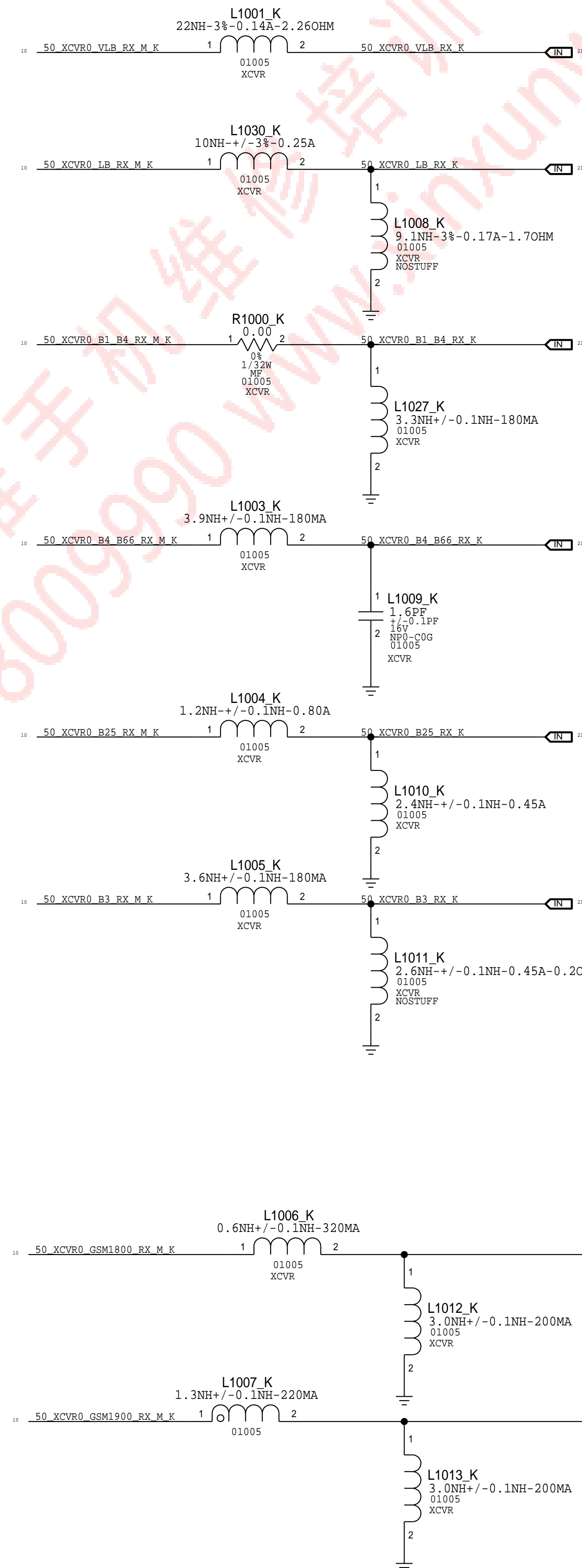
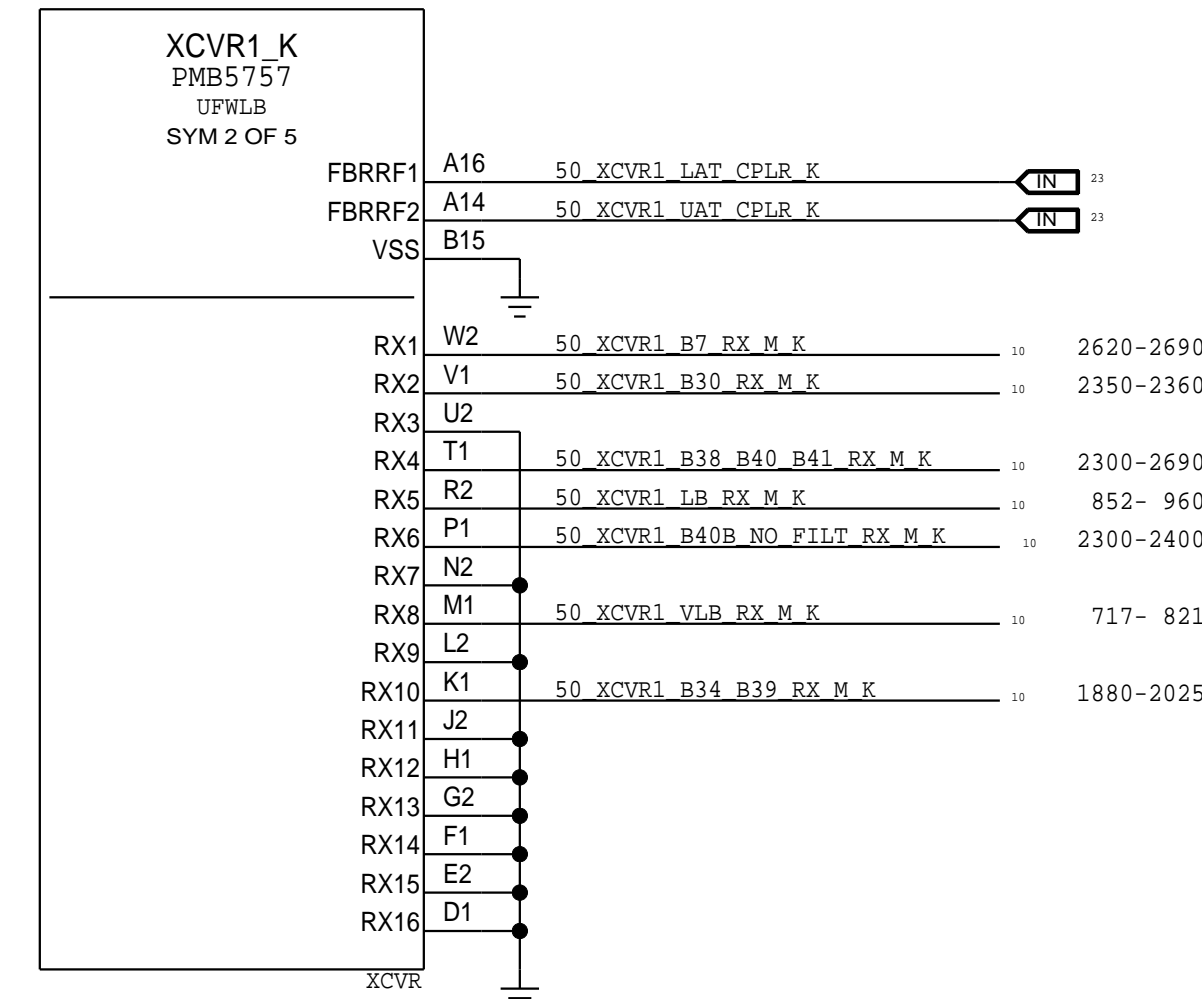


PRIMARY RECEIVE

XCVR0 PRX



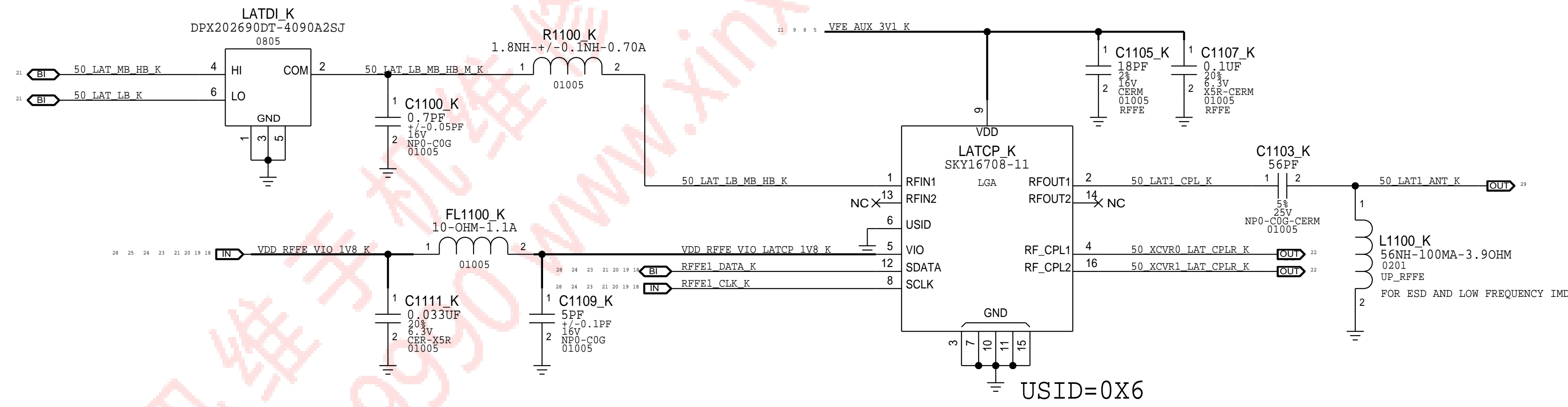
XCVR1 PRX



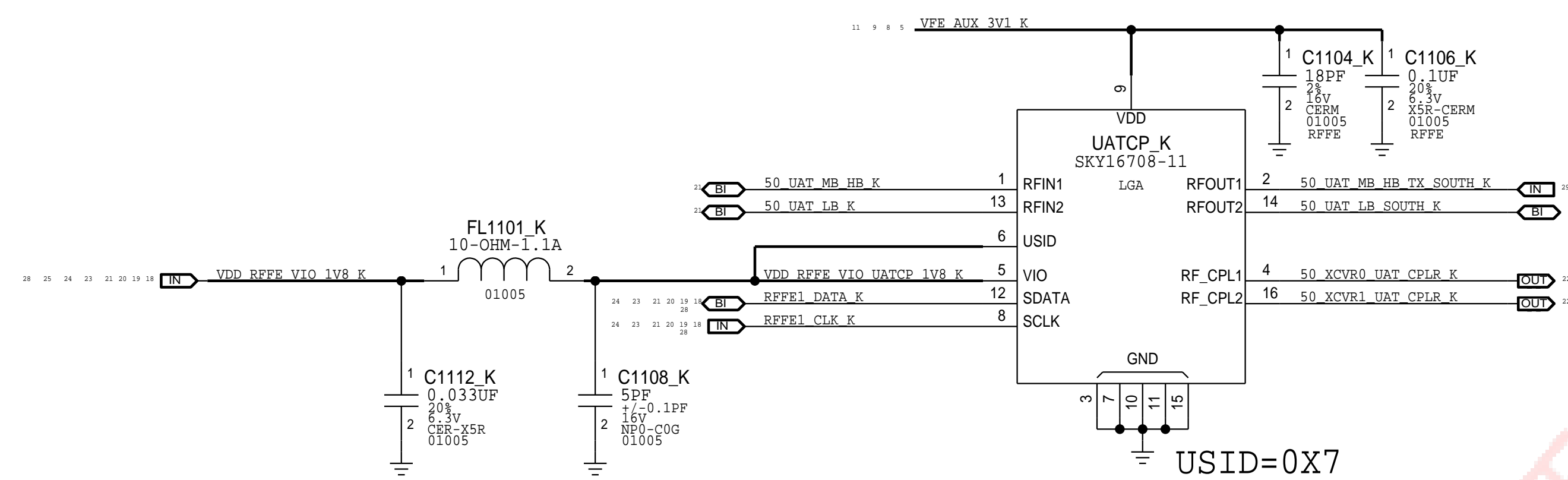
PAGE TITLE PRIMARY RECEIVE		
Apple Inc.	DRAWING NUMBER 051-02247	SIZE D
	REVISION 7.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		PAGE 10 OF 17
		SHEET 22 OF 34

LOWER ANTENNA AND COUPLER

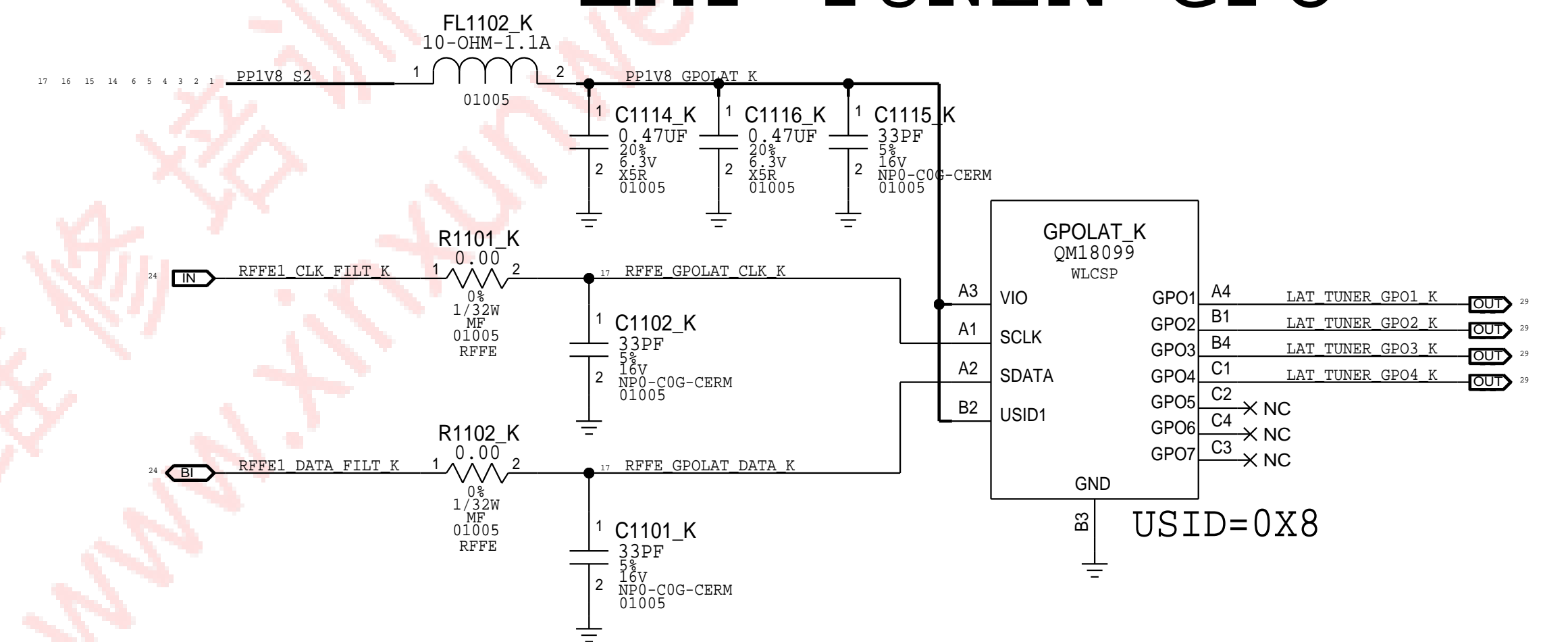
LOWER ANTENNA COUPLER



UPPER ANTENNA COUPLER



LAT TUNER GPO

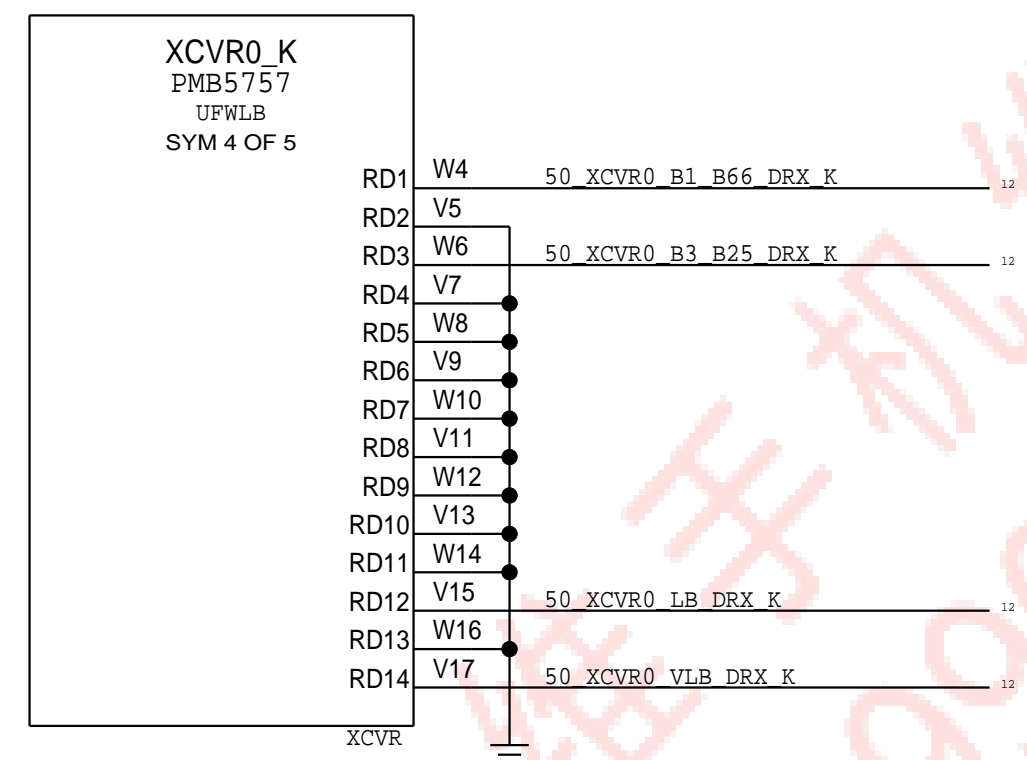


PAGE TITLE LOWER ANTENNA & COUPLERS		
Apple Inc.	DRAWING NUMBER 051-02247	SIZE D
	REVISION 7.0.0	
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED	BRANCH evt-1	
	PAGE 11 OF 17	
	SHEET 23 OF 34	

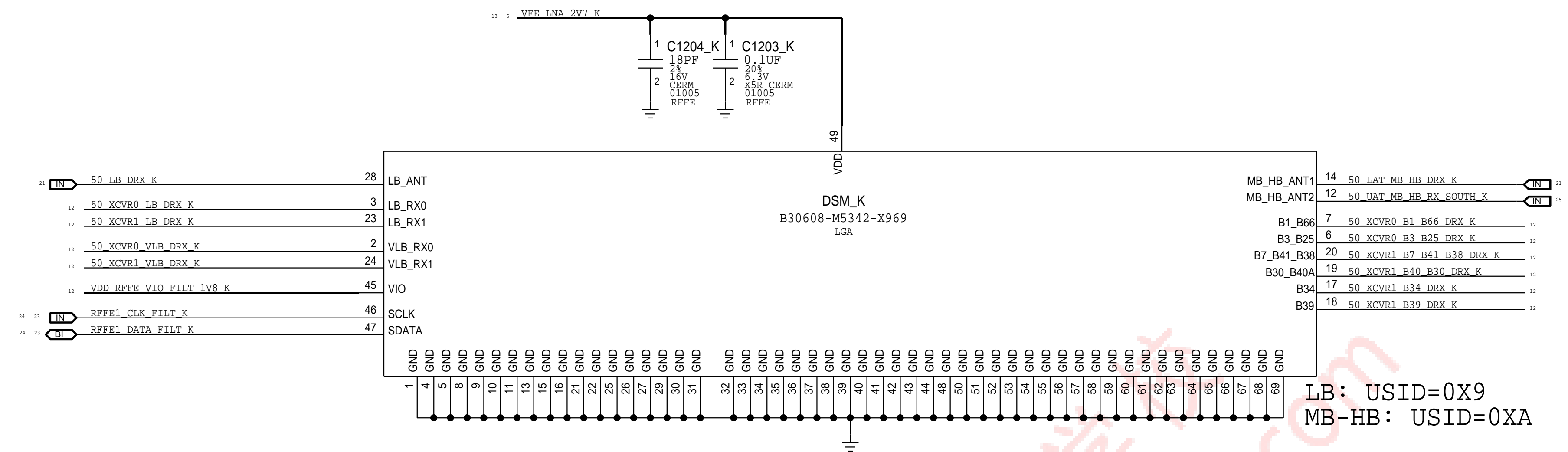
DIVERSITY RECEIVE ASM'S



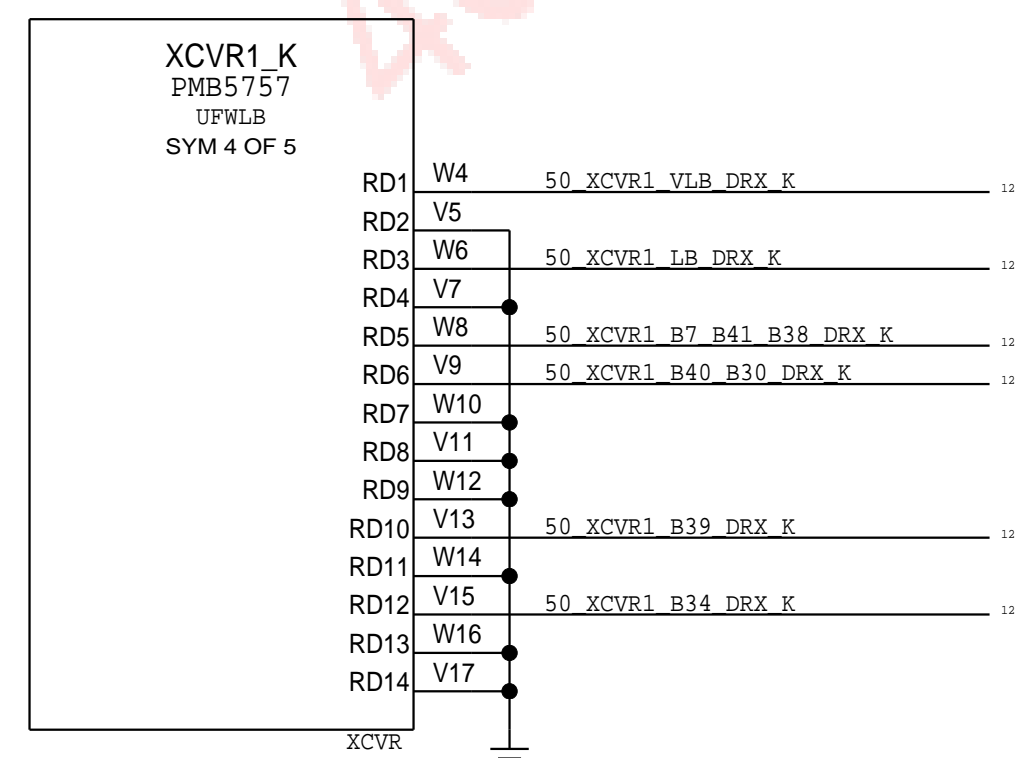
XCVR0 DRX



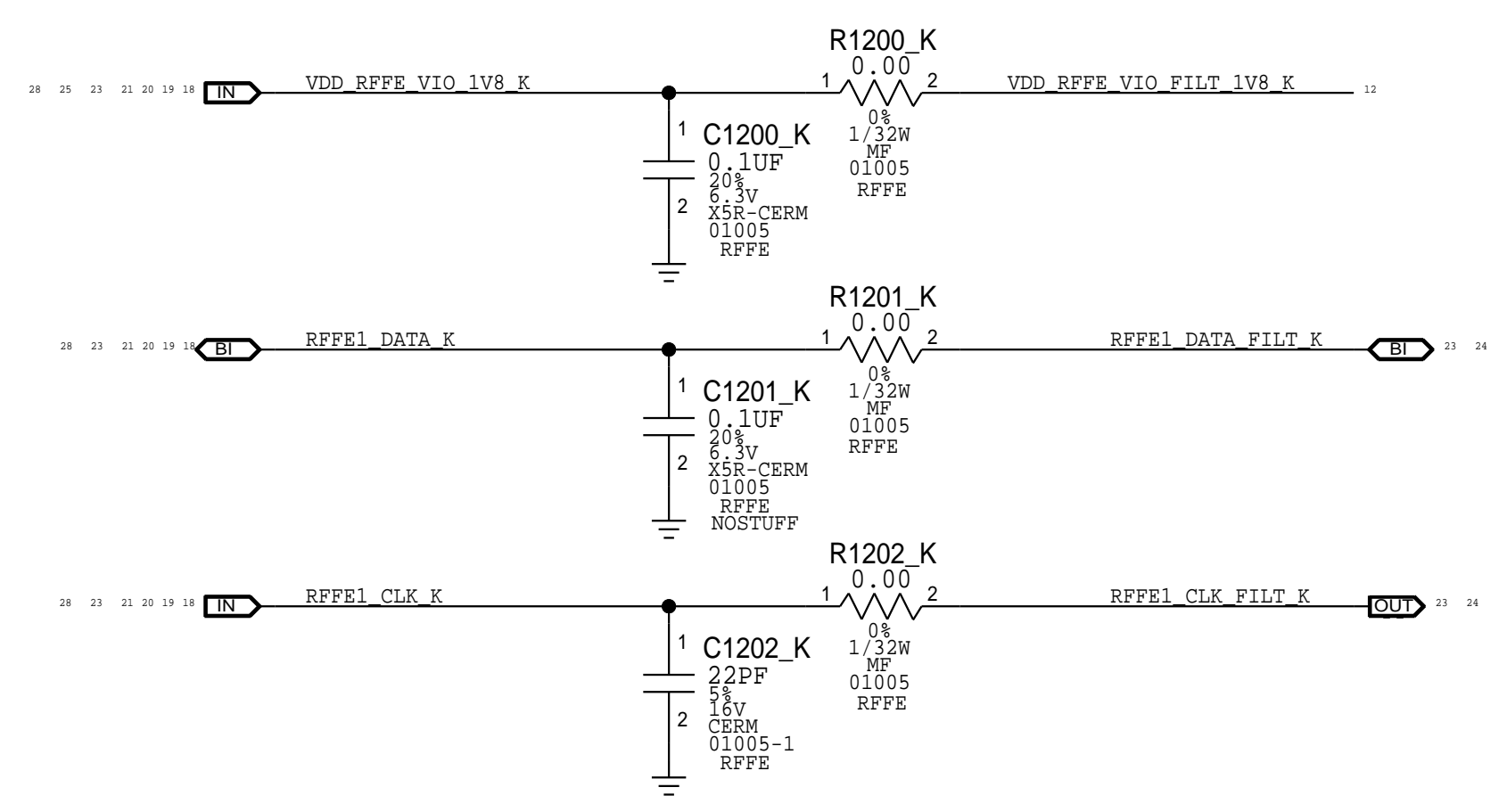
DRX DSM



XCVR1 DRX

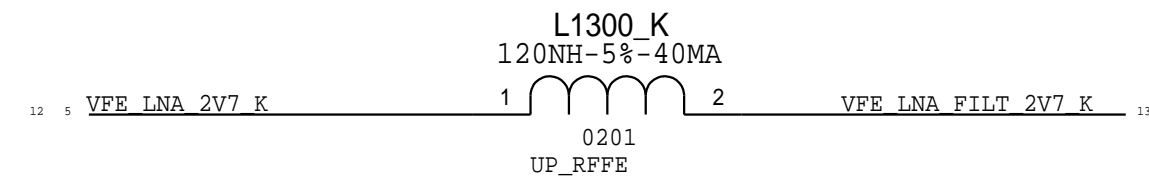


RFFE FILTERING

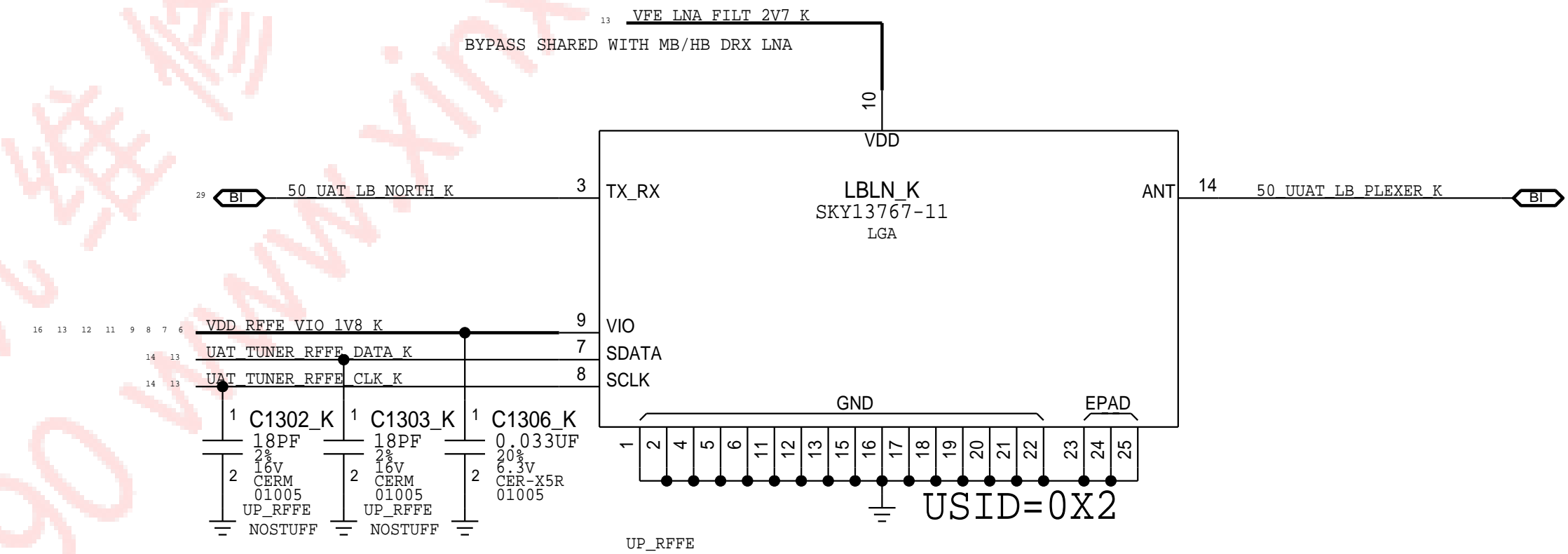


PAGE TITLE DIVERSITY RECEIVE ASM'S		
Apple Inc.	DRAWING NUMBER 051-02247	SIZE D
	REVISION 7.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		
	PAGE 12 OF 17	SHEET 24 OF 34

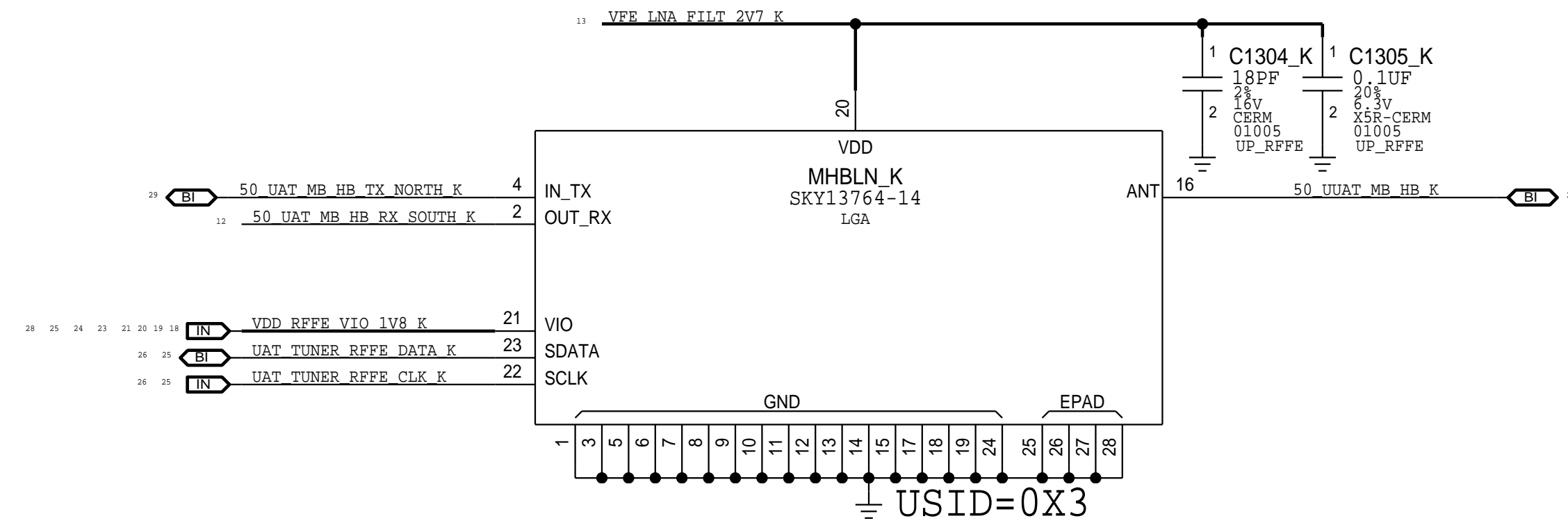
DIVERSITY RECEIVE LNAs



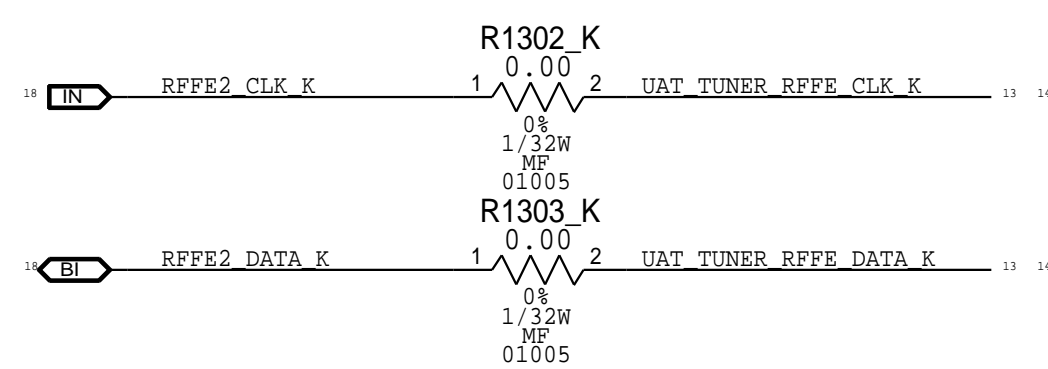
LB DRX LNA



MB/HB DRX LNA

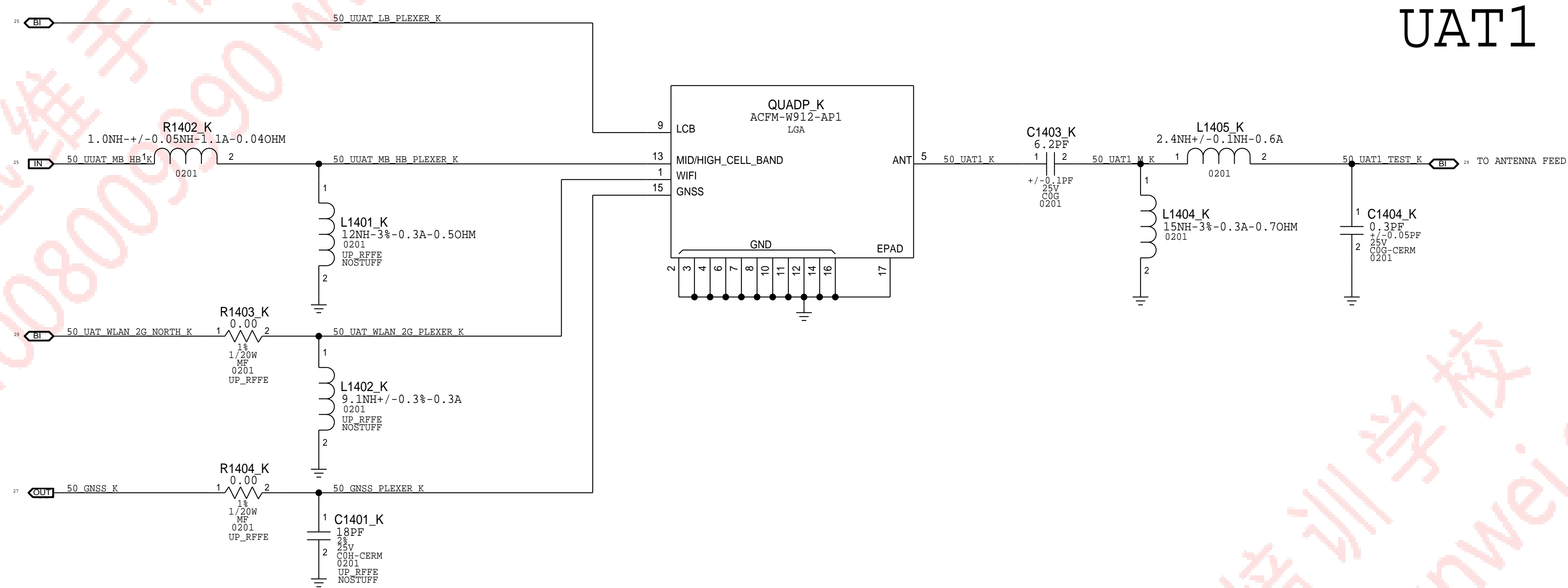


RFFE2 IMPEDANCE MATCHING

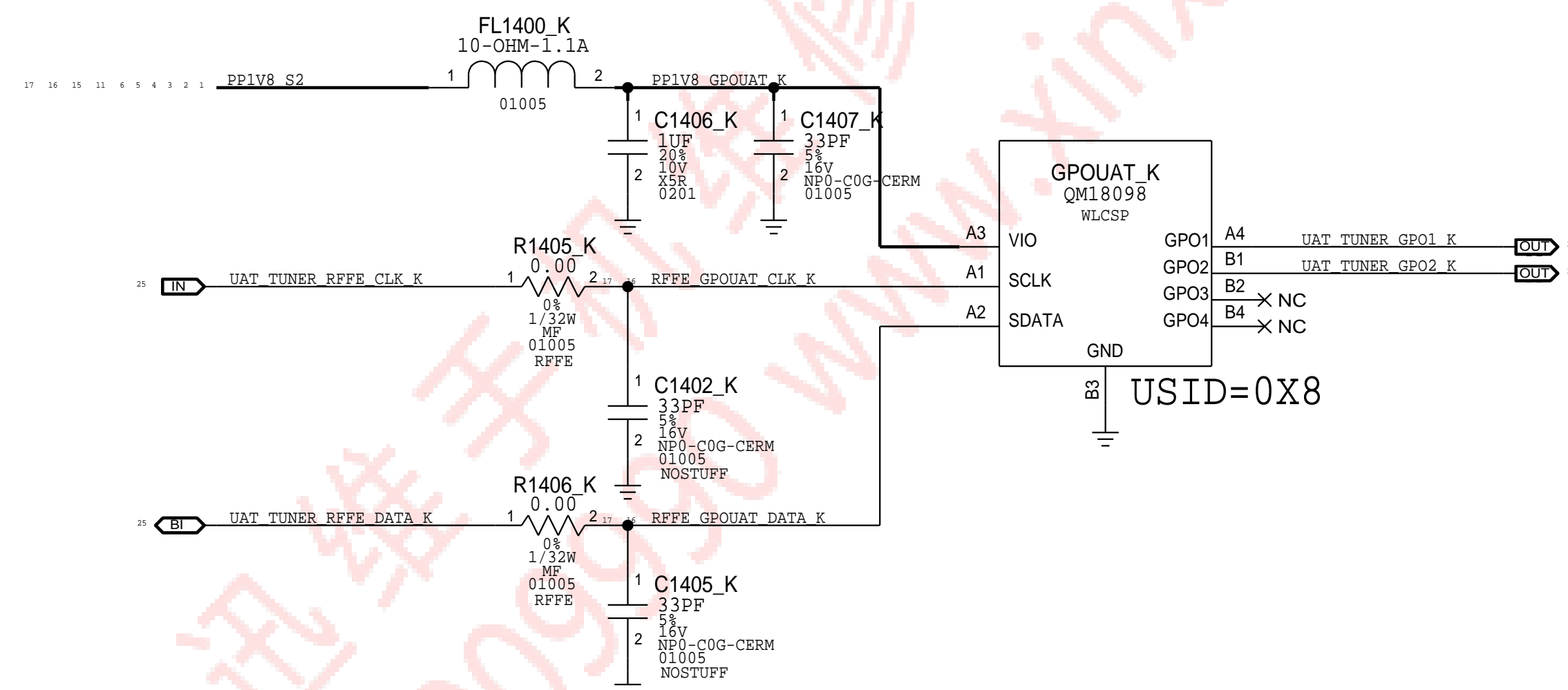


PAGE TITLE DIVERSITY RECEIVE LNAs		
	DRAWING NUMBER 051-02247	SIZE D
	REVISION 7.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		PAGE 13 OF 17 SHEET 25 OF 34

UPPER ANTENNA FEEDS

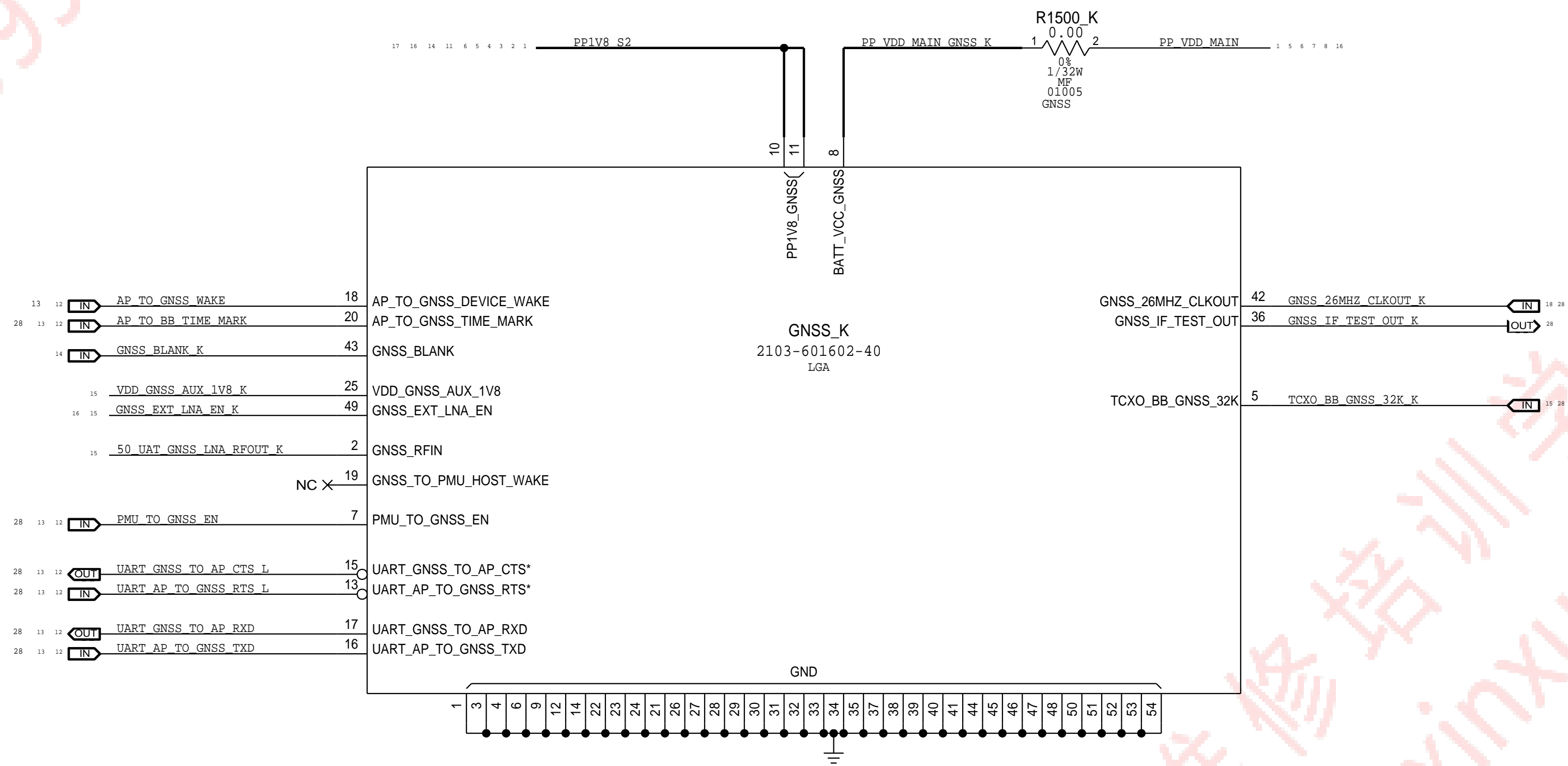
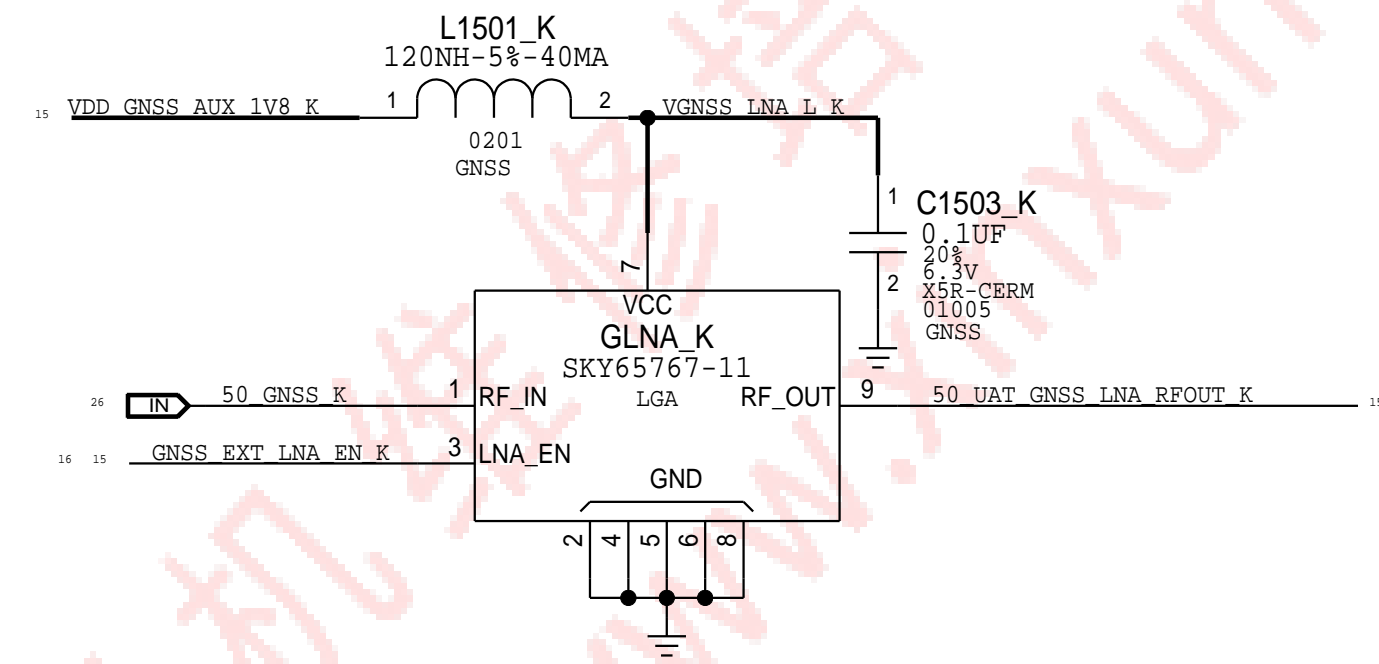


UAT TUNER GPO



PAGE TITLE UPPER ANTENNA FEEDS		
	DRAWING NUMBER 051-02247	SIZE D
	REVISION 7.0.0	BRANCH evt-1
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		PAGE 14 OF 17 SHEET 26 OF 34

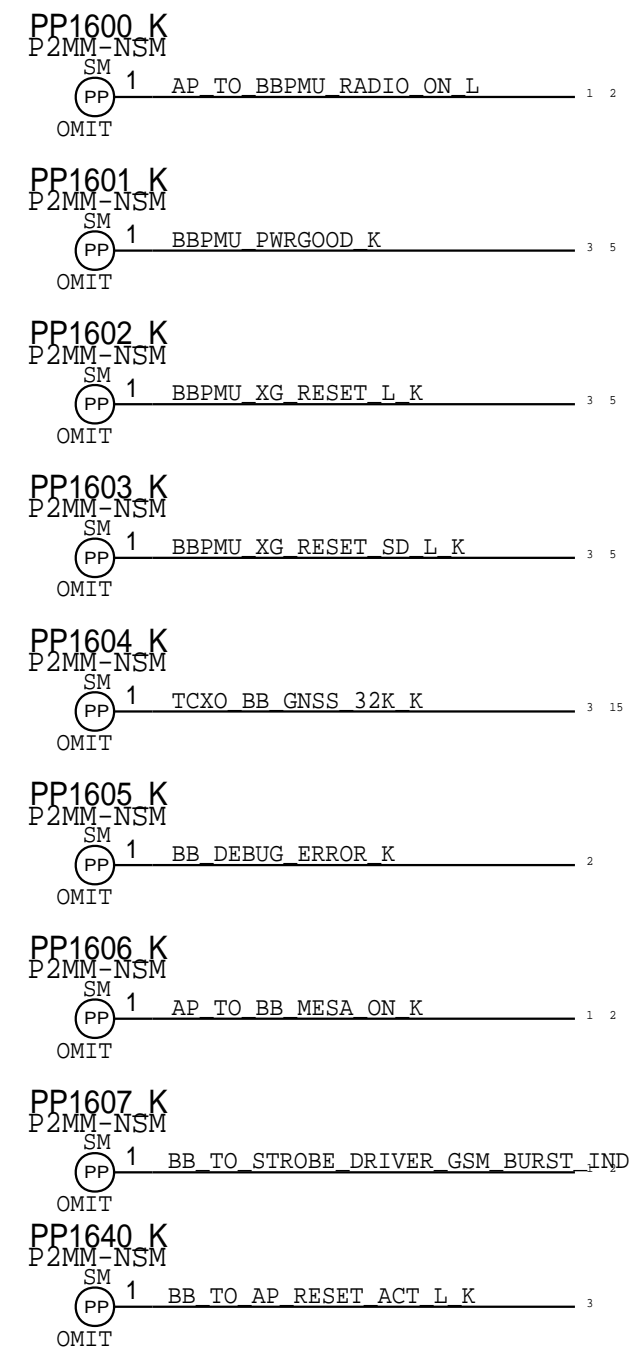
GNSS LNA + RECEIVER



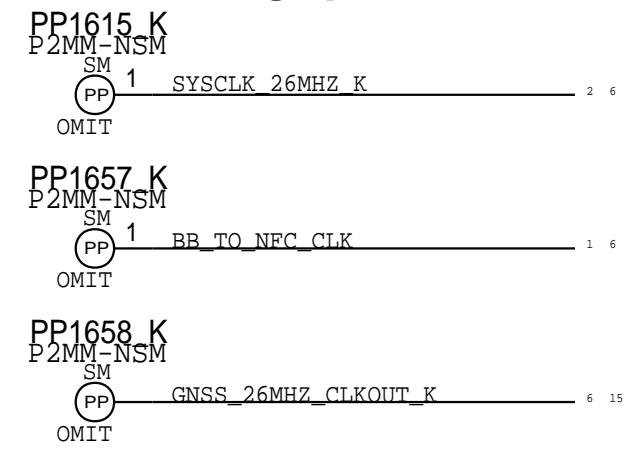
PAGE TITLE GNSS		
	DRAWING NUMBER 051-02247	SIZE D
	REVISION 7.0.0	BRANCH evt-1
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		PAGE 15 OF 17 SHEET 27 OF 34

MLB TEST POINTS

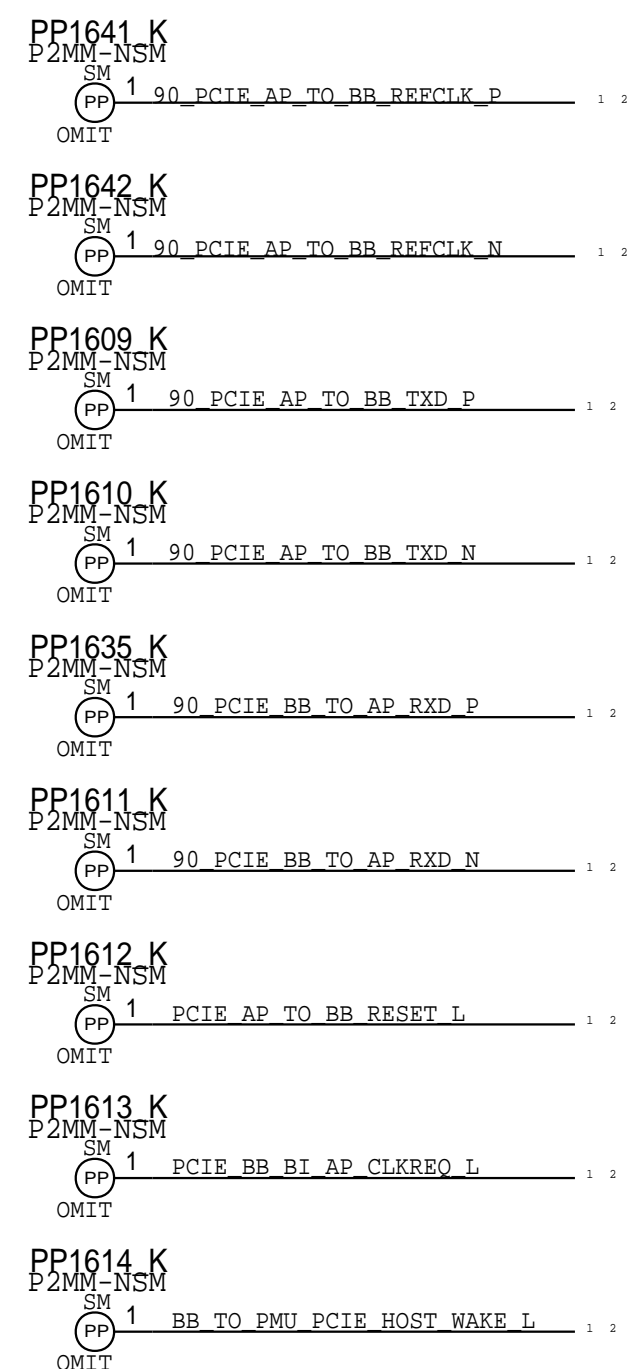
BASEBAND



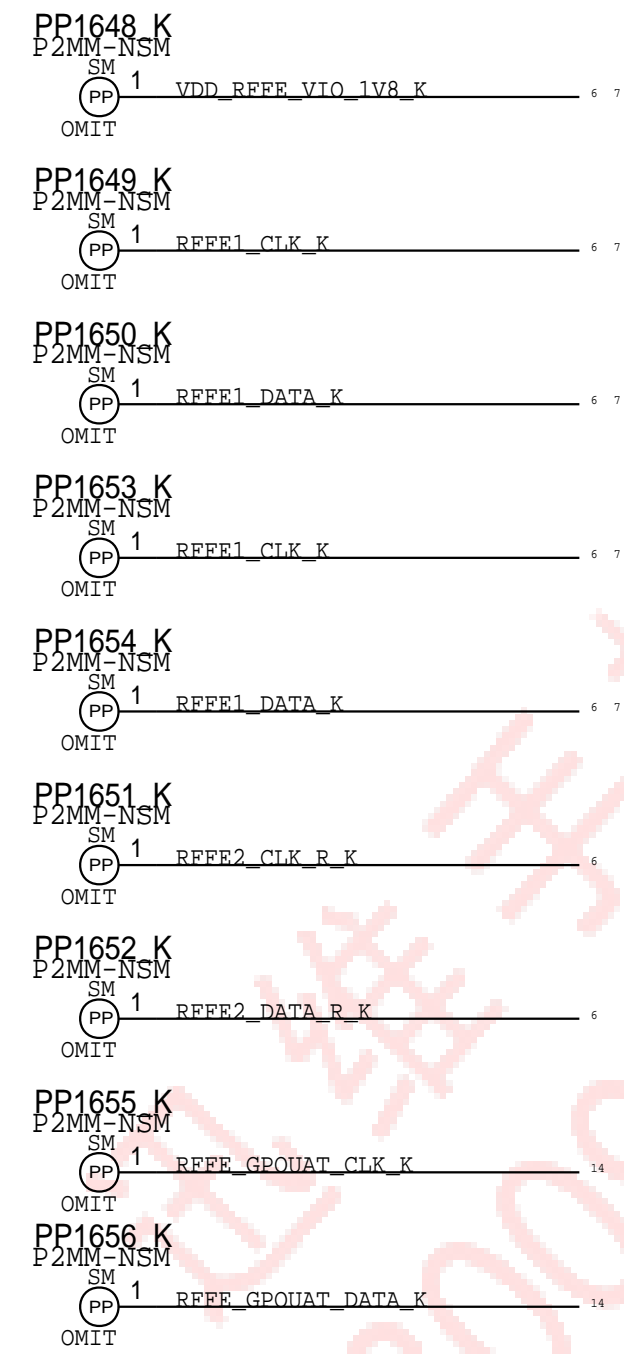
XCVR



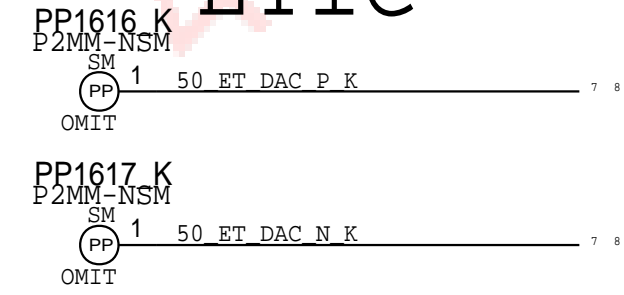
PCIE



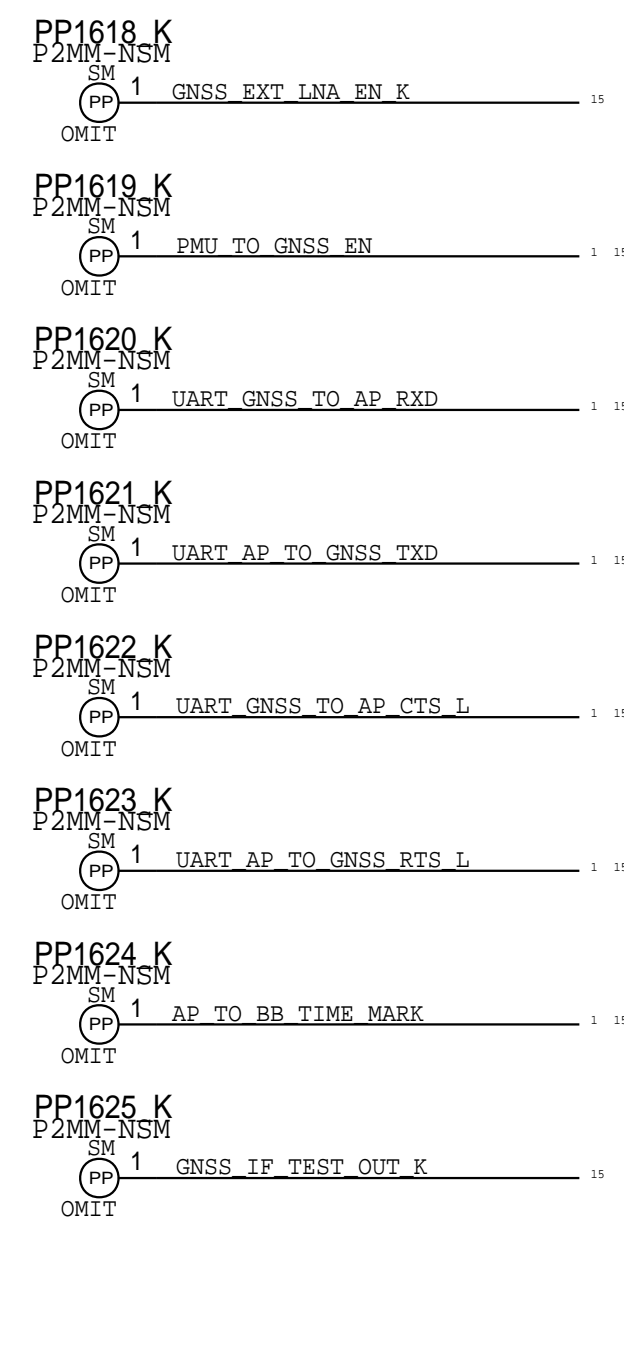
RFFE



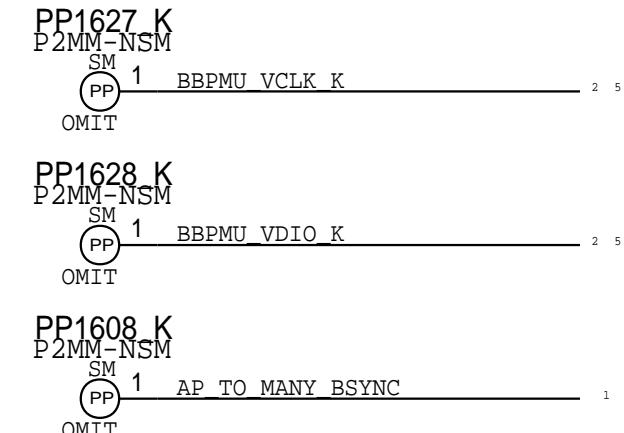
ETIC



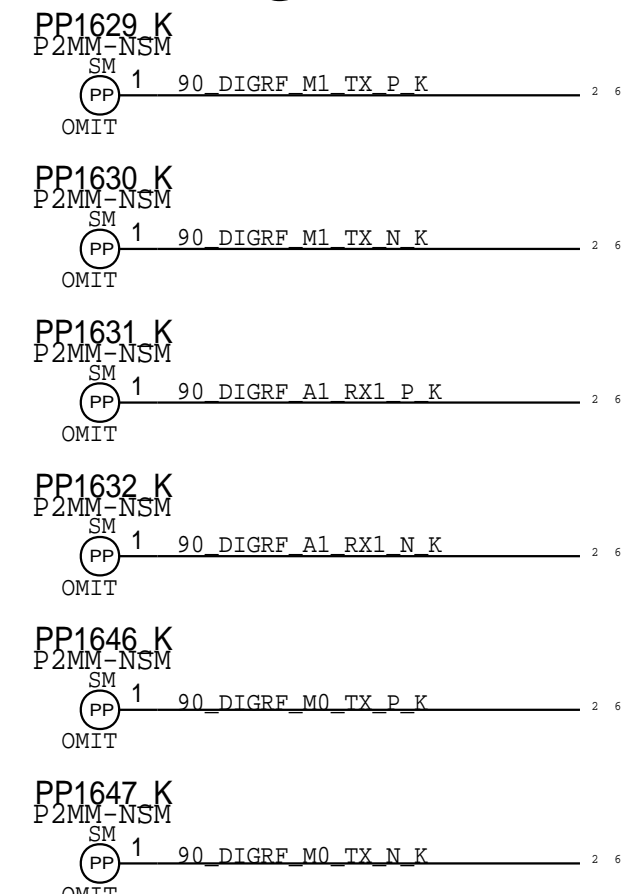
GNSS



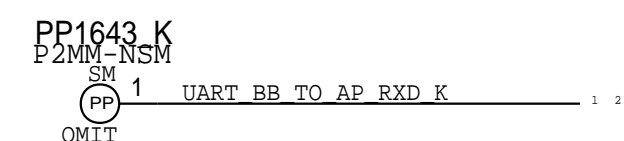
BBPMU



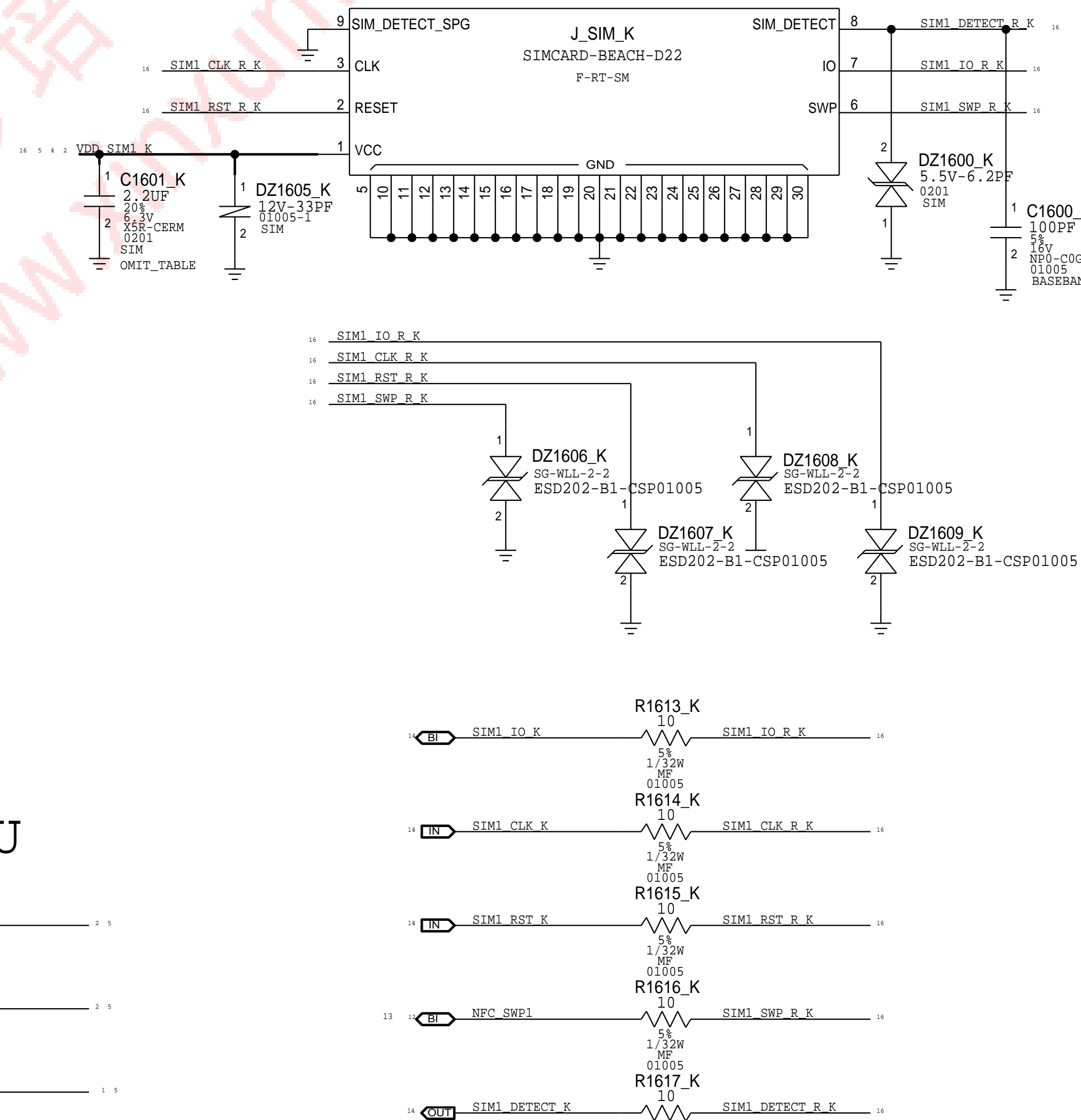
DIGRF



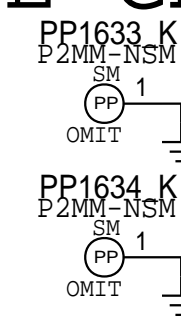
BB UART



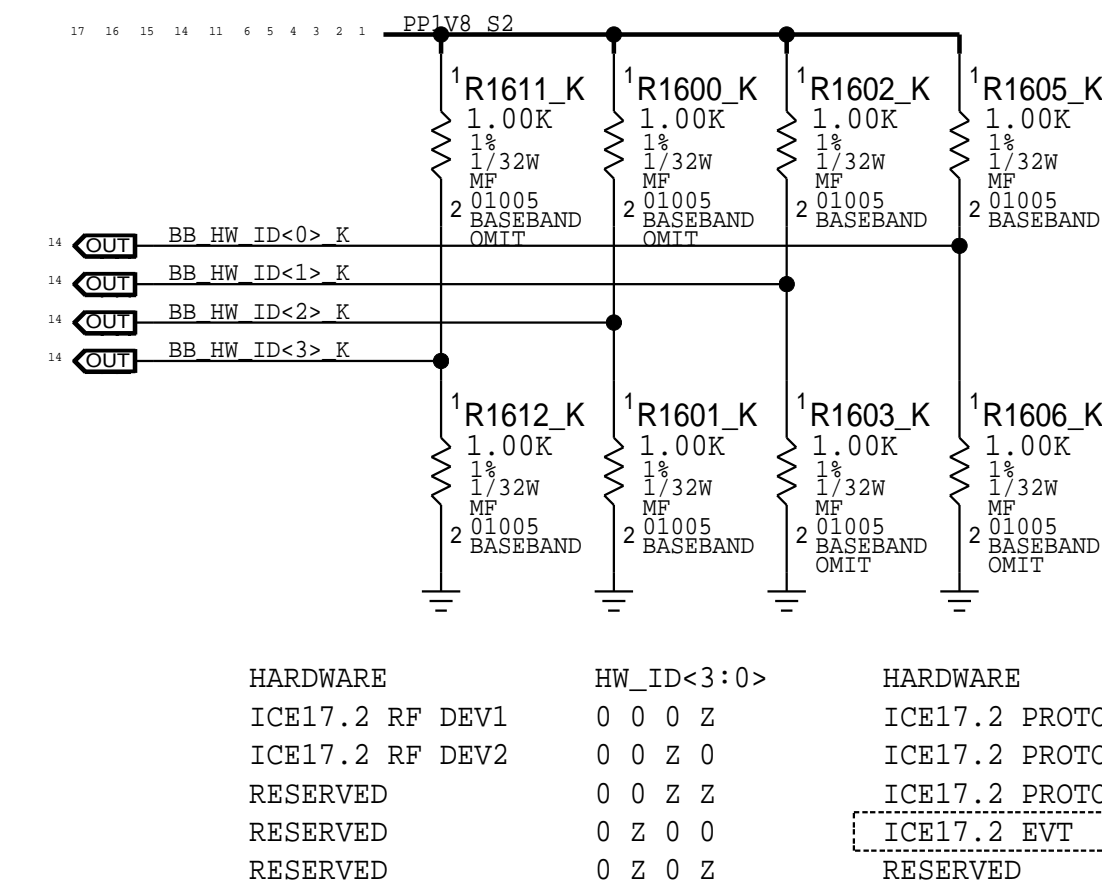
SIM CARD CONNECTOR



PCIE GND

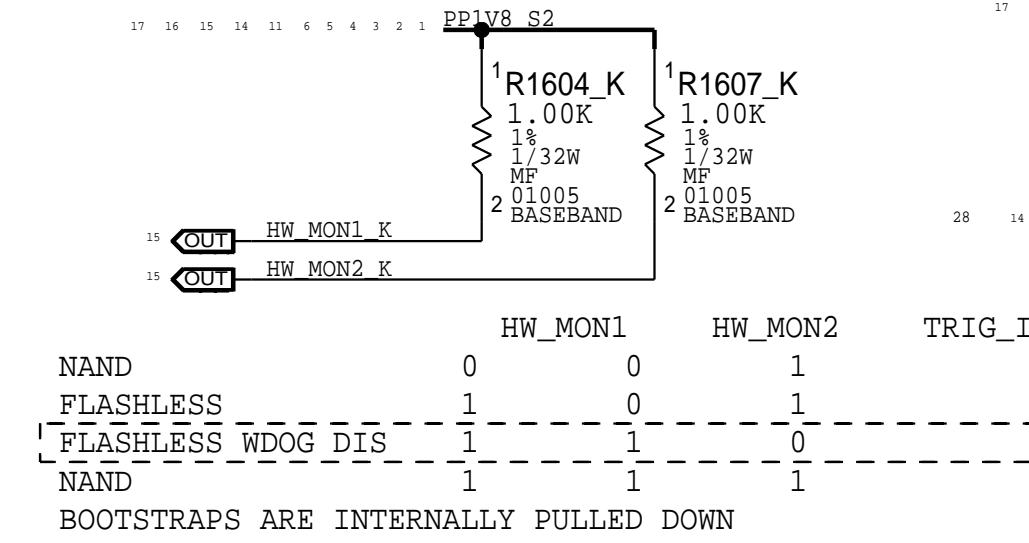


HARDWARE ID



HARDWARE	HW_ID<3:0>	HARDWARE	HW_ID<3:0>
ICE17.2 RF DEV1	0 0 0 Z	ICE17.2 PROTO1	0 0 0 0
ICE17.2 RF DEV2	0 0 Z 0	ICE17.2 PROTO2	0 0 0 1
RESERVED	0 0 Z Z	ICE17.2 PROTO3	0 0 1 0
RESERVED	0 Z 0 0	ICE17.2 EVT	0 0 1 1
RESERVED	0 Z 0 Z	RESERVED	0 1 0 0

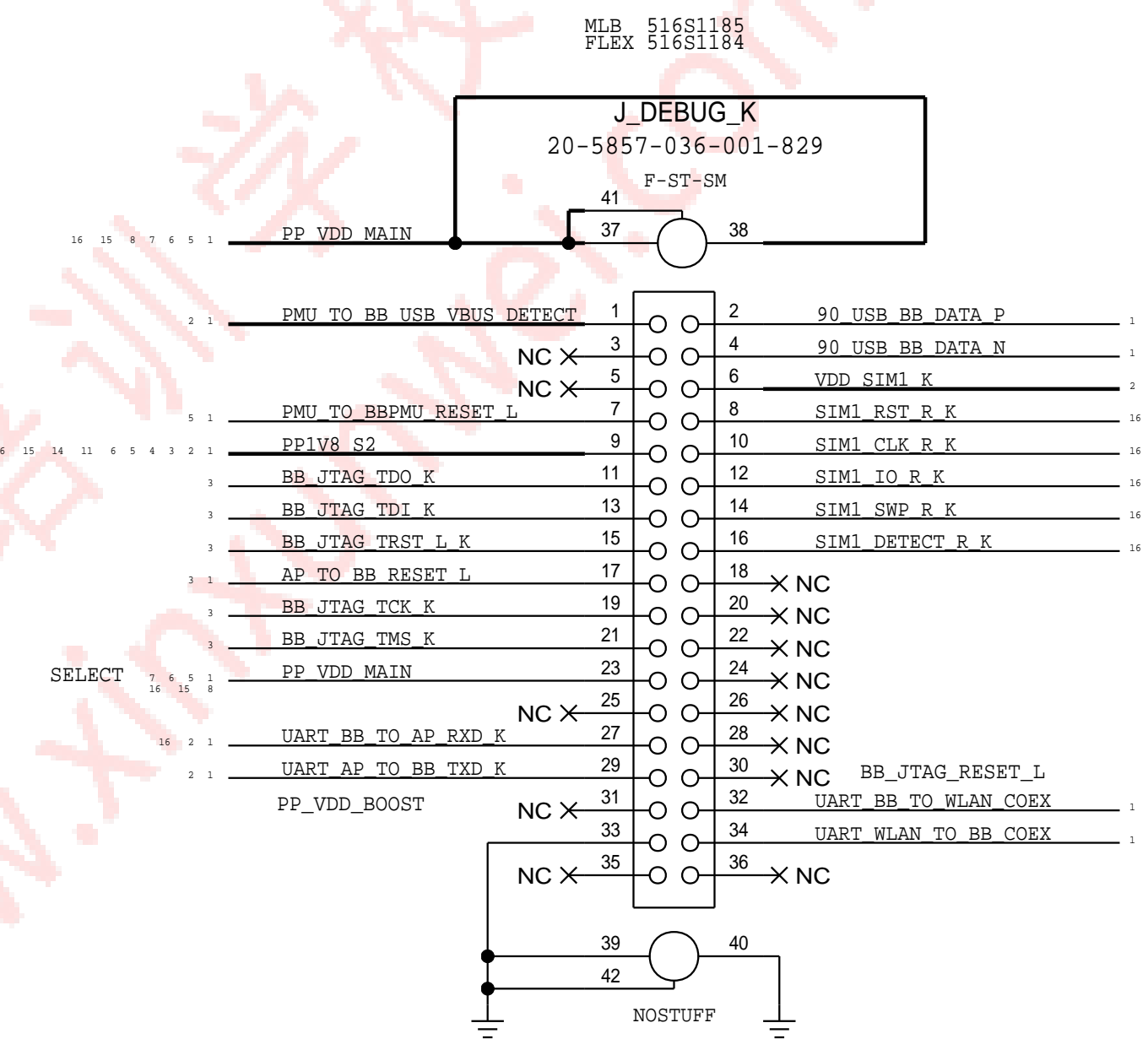
BOOTCFG



	HW_MON1	HW_MON2	TRIG_IN
NAND	0	0	1
FLASHLESS	0	0	1
FLASHLESS WDOG DIS	1	0	1
NAND	1	1	1

BOOTSTRAPS ARE INTERNALLY PULLED DOWN

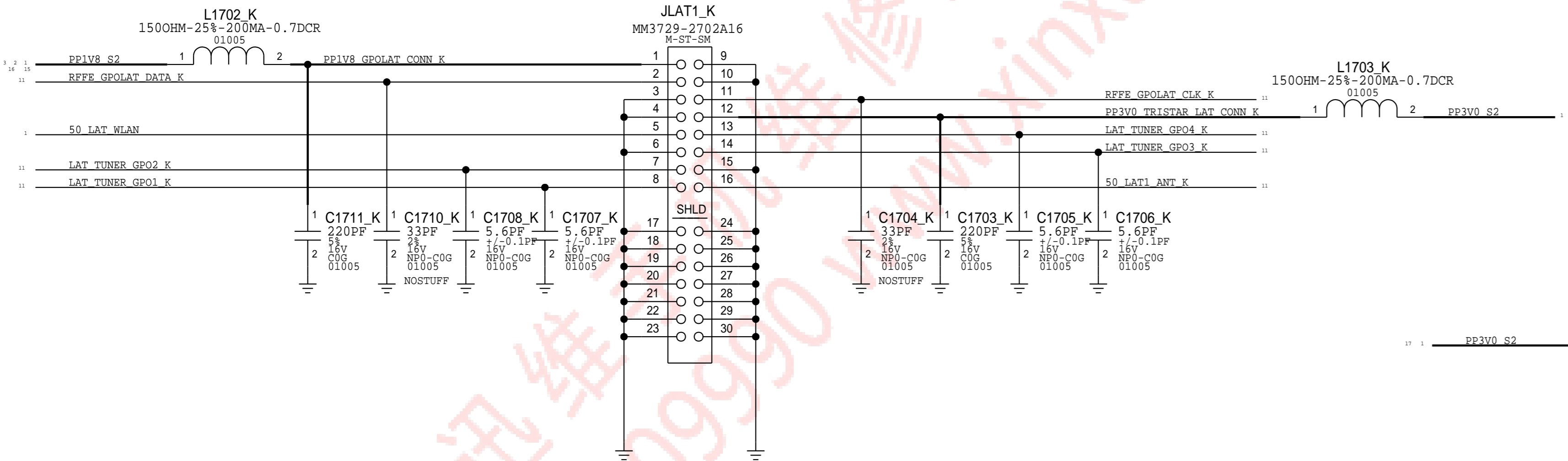
DEBUG CONNECTOR



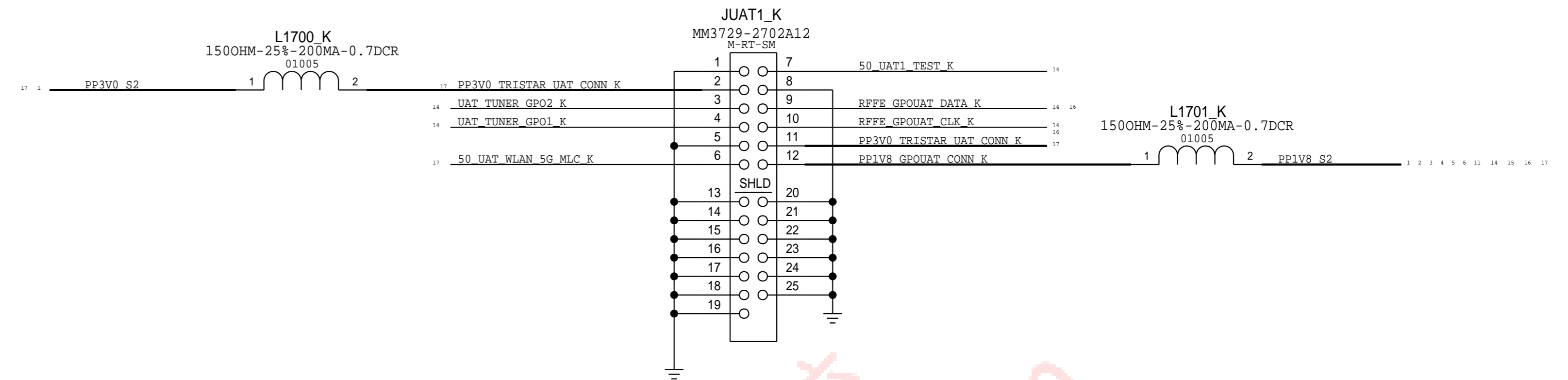
TEST POINTS & SIM		DRAWING NUMBER	SIZE
		051-02247	D
		REVISION 7.0.0	
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART I ALL RIGHTS RESERVED		BRANCH	evt-1
		PAGE	16 OF 17
		SHEET	28 OF 34

RF CONNECTORS AND METROCIRC

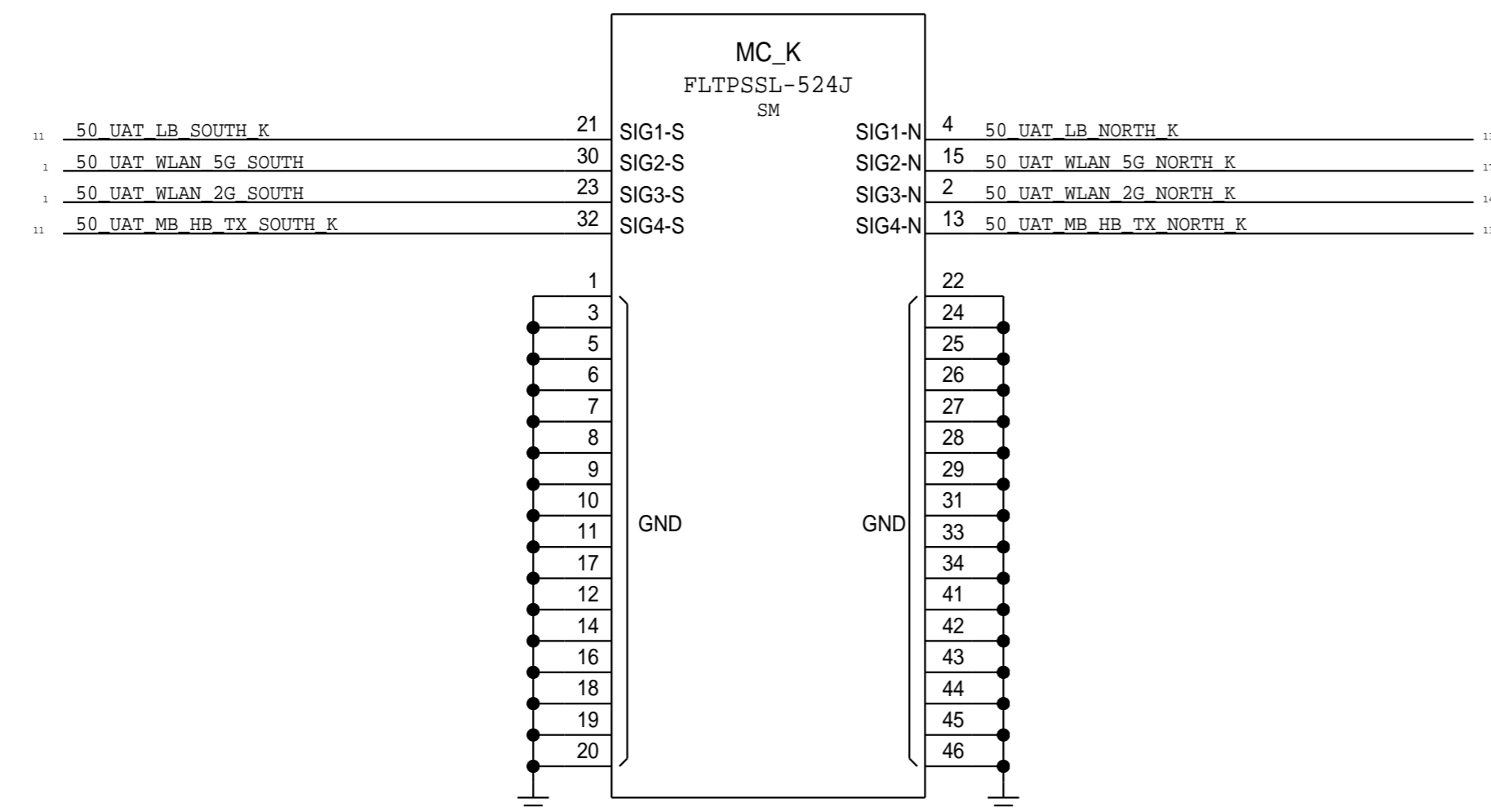
LAT MLC



UAT1 MLC



4-IN-1 METROCIRC CABLE



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
7	0008448938	ENGINEERING RELEASED		2017-04-11

D22/D221 WIFI_MLB (GUINNESS)

APR 03, 2017

PDF PAGE	CSA PAGE	CONTENTS
2	76	GUINNESS
3	77	WIFI FRONT-END

POWER

- 12 IN PP_VDD_MAIN
- 12 IN PPIV8_S2

CLOCKS

- 12 IN PMU_TO_WLAN_CLK32K
- 12 IN WLAN_TO_AP_TIME_SYNC

CONTROL

- 12 IN PMU_TO_WLAN_REG_ON
- 12 IN PMU_TO_BT_REG_ON
- 12 OUT BT_TO_PMU_HOST_WAKE
- 12 IN AP_TO_BT_WAKE

WLAN PCIE

- 12 IN 90_PCIE_AP_TO_WLAN_REFCLK_P
- 12 IN 90_PCIE_AP_TO_WLAN_REFCLK_N
- 12 IN 90_PCIE_AP_TO_WLAN_TXD_P
- 12 IN 90_PCIE_AP_TO_WLAN_TXD_N
- 12 OUT 90_PCIE_WLAN_TO_AP_RXD_P
- 12 OUT 90_PCIE_WLAN_TO_AP_RXD_N
- 12 IN PCIE_AP_TO_WLAN_RESET_L
- 12 TO PCIE_WLAN_BI_AP_CLKREQ_L
- 12 OUT WLAN_TO_PMU_HOST_WAKE
- 12 IN AP_TO_WLAN_DEVICE_WAKE

WLAN UART

- 12 OUT UART_WLAN_TO_AP_RXD
- 12 IN UART_AP_TO_WLAN_TXD
- 12 OUT UART_WLAN_TO_AP_CTS_L
- 12 IN UART_AP_TO_WLAN_RTS_L

BLUETOOTH UART

- 12 IN UART_AP_TO_BT_TXD
- 12 OUT UART_BT_TO_AP_RXD
- 12 IN UART_AP_TO_BT_RTS_L
- 12 OUT UART_BT_TO_AP_CTS_L

AOP

- 12 IN AOP_TO_WLAN_CONTEXT_A
- 12 IN AOP_TO_WLAN_CONTEXT_B

COEX

- 12 IN UART_BB_TO_WLAN_COEX
- 12 OUT UART_WLAN_TO_BB_COEX

ANTENNA

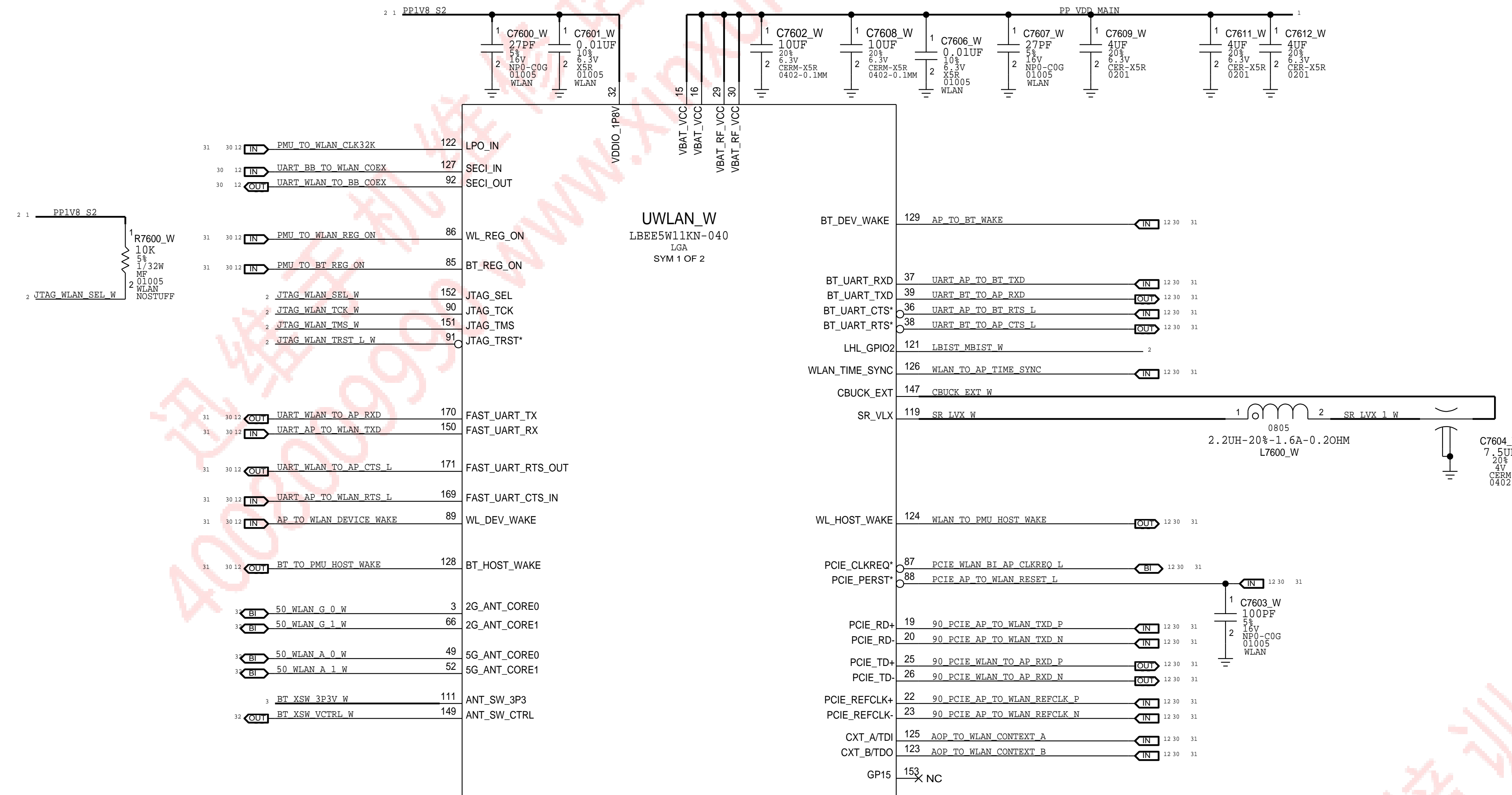
- 3 TO 50_UAT_WLAN_2G_SOUTH
- 3 TO 50_UAT_WLAN_5G_SOUTH
- 3 TO 50_LAT_WLAN

SymbolPorts



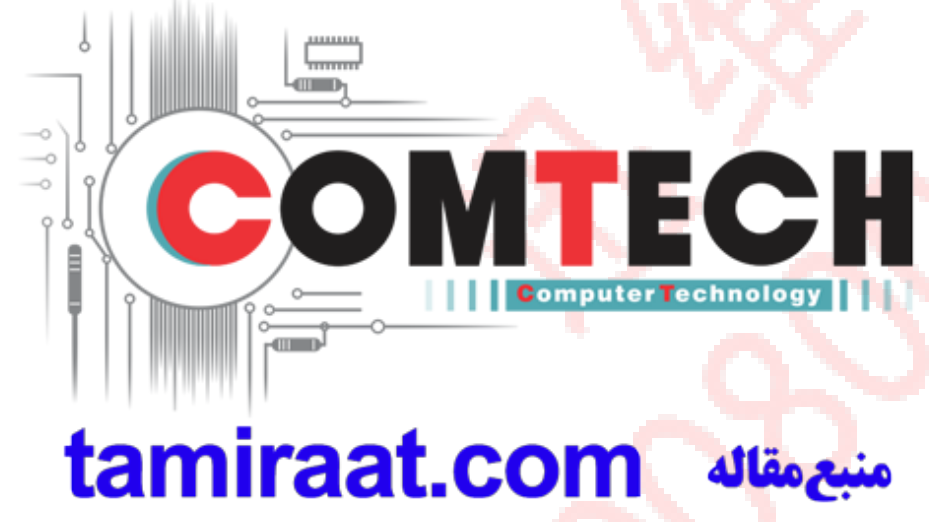
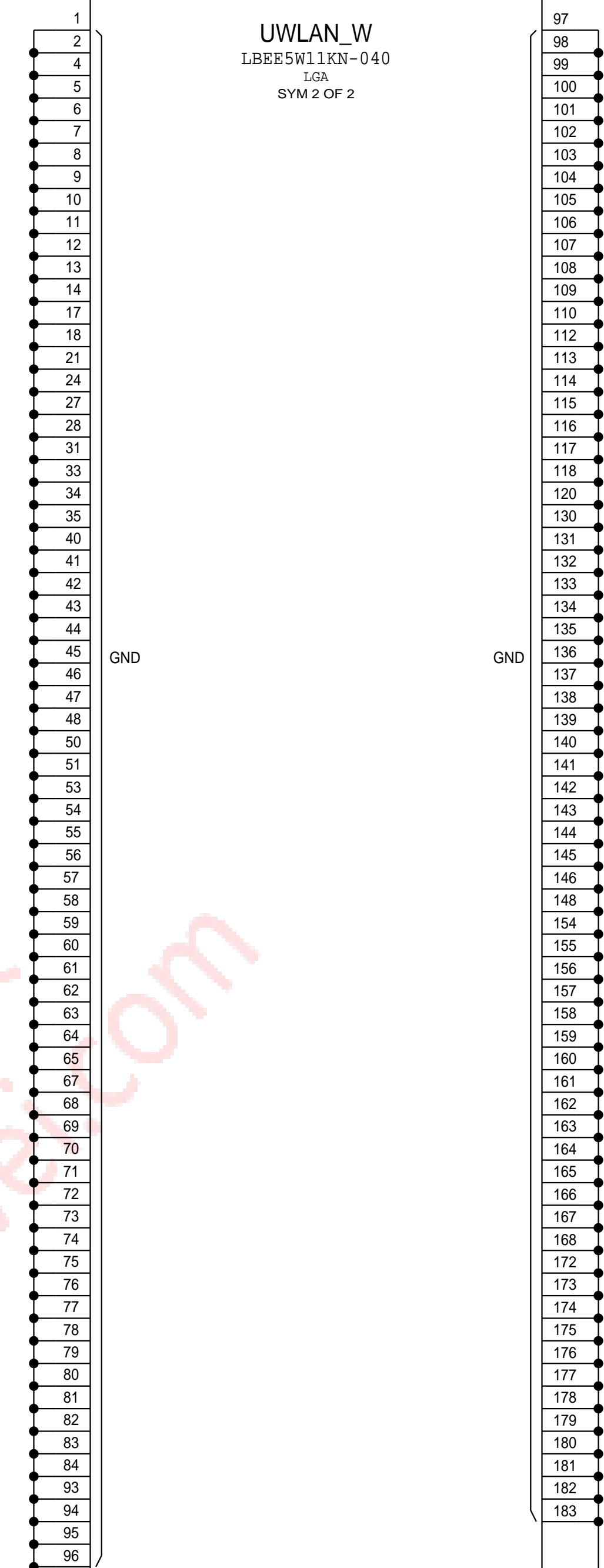
DRAWING TITLE		SCH, MLB, BOT, X893	
Apple Inc.	DRAWING NUMBER	051-02247	SIZE D
	REVISION	7.0.0	
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		BRANCH	evt-1
		PAGE	1 OF 5
		SHEET	30 OF 34

WIFI/BT



REF	DESCRIPTION	VALUE	REF	DESCRIPTION	VALUE
1	AOP TO WLAN CONTEXT A	PP7600 W	1	PMU TO WLAN CLK32K	PP7610 W
1	AOP TO WLAN CONTEXT B	PP7601 W	1	WLAN TO PMU HOST WAKE	PP7611 W
1	UART WLAN TO AP RXD	PP7603 W	1	90 PCIE AP TO WLAN REFCLK P	PP7612 W
1	UART AP TO WLAN TXD	PP7604 W	1	90 PCIE AP TO WLAN REFCLK N	PP7613 W
1	JTAG WLAN TCK W	PP7605 W	1	90 PCIE WLAN TO AP RXD P	PP7628 W
1	JTAG WLAN TMS W	PP7606 W	1	90 PCIE WLAN TO AP RXD N	PP7629 W
1	JTAG WLAN TRST L W	PP7607 W	1	PCIE AP TO WLAN RESET L	PP7616 W
1	AP TO WLAN DEVICE WAKE	PP7608 W	1	PCIE AP TO WLAN REFCLK P	PP7617 W
1	BT TO PMU HOST WAKE	PP7609 W	1	PCIE AP TO WLAN REFCLK N	PP7618 W
1			1	AP TO BT WAKE	PP7624 W

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS
998-10376	998-10147	BOM_TABLE_ALTS	UWLAN_W	USI ES6.1 WIFI MODULE



SYNC_MASTER=WIFI SYNC_DATE=01/30/2014

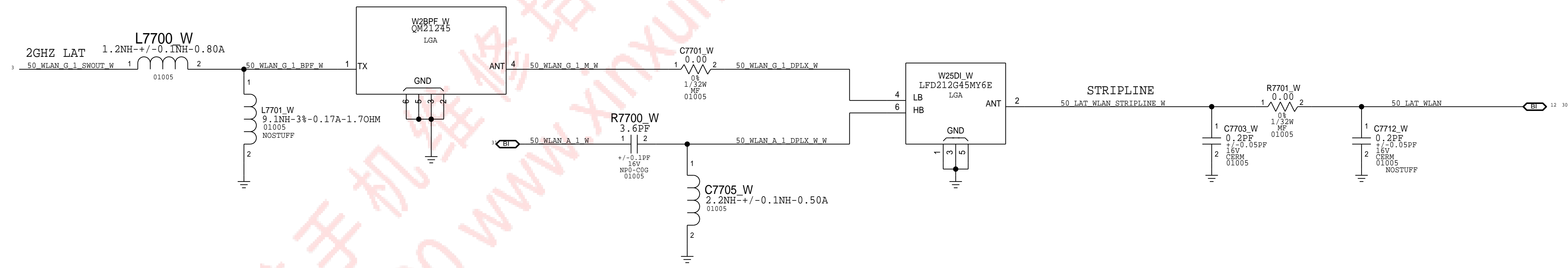
Guinness

Apple Inc.

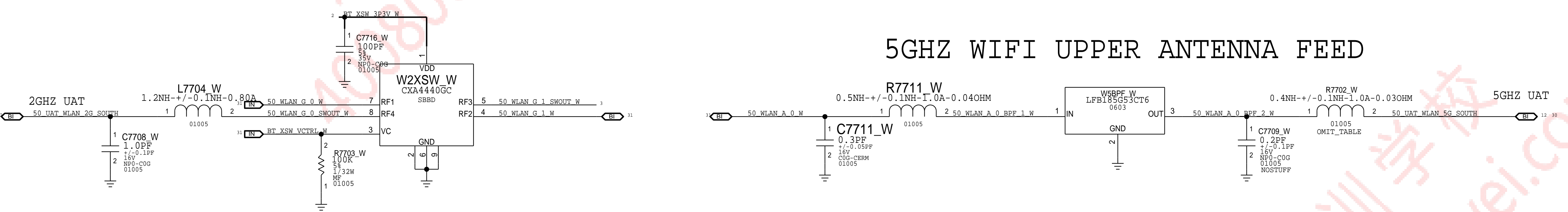
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED

DRAWING NUMBER	051-02247	SIZE	D
REVISION	7.0.0	BRANCH	evt-1
PAGE	4 OF 5	SHEET	31 OF 34

WIFI LOWER ANTENNA FEED



5GHZ WIFI UPPER ANTENNA FEED



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
117S0161	1	5GHZ CO BPF OUTPUT MATCH	R7702_W	CRITICAL	D221
152S00498	1	5GHZ CO BPF OUTPUT MATCH	R7702_W	CRITICAL	ROW
152S00498	1	5GHZ CO BPF OUTPUT MATCH	R7702_W	CRITICAL	JFN



PAGE TITLE WiFiANTFeeds		
	DRAWING NUMBER 051-02247	SIZE D
	REVISION 7.0.0	BRANCH evt-1
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		PAGE 5 OF 5 SHEET 32 OF 34

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
7	0008448938	ENGINEERING RELEASED		2017-04-11

D22 NFC_MLB

MARCH 22, 2017

14	IN	PP_VDD_MAIN
14	IN	PP1V8_S2
14	IN	PMU_TO_NFC_EN
14	OUT	NFC_TO_PMU_HOST_WAKE
14	IN	AP_TO_NFC_DEV_WAKE
14	IN	AP_TO_NFC_FW_DWLD_REQ
14	OUT	NFC_TO_BB_CLK_REQ
14	IN	BB_TO_NFC_CLK
14	IN	NFC_DWP_TX_TP_S
14	IN	UART_AP_TO_NFC_TXD
14	OUT	UART_NFC_TO_AP_RXD
14	IN	UART_AP_TO_NFC_RTS_L
14	OUT	UART_NFC_TO_AP_CTS_L
14	IC	NFC_SWP1

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
138S00159	3	CAP,SOFT-TERM,2.2UF,6.3V,0201	C7500_S,C7502_S,C7505_S	CRITICAL	SOFT_CAP
138S0831	3	CAP,TYPICAL,2.2UF,6.3V,0201	C7500_S,C7502_S,C7505_S	CRITICAL	TYPICAL_CAP

page1



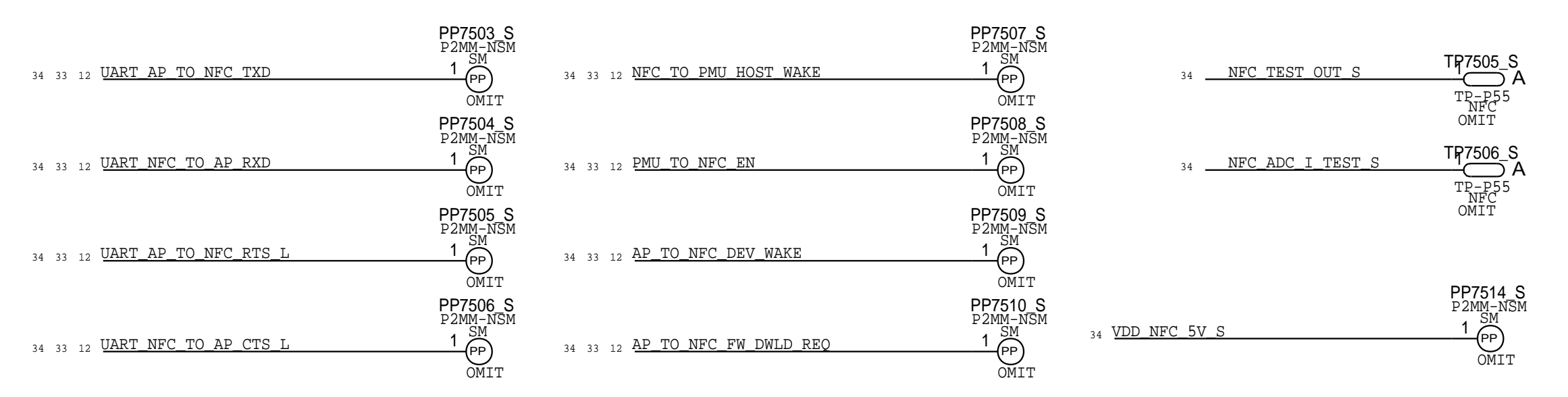
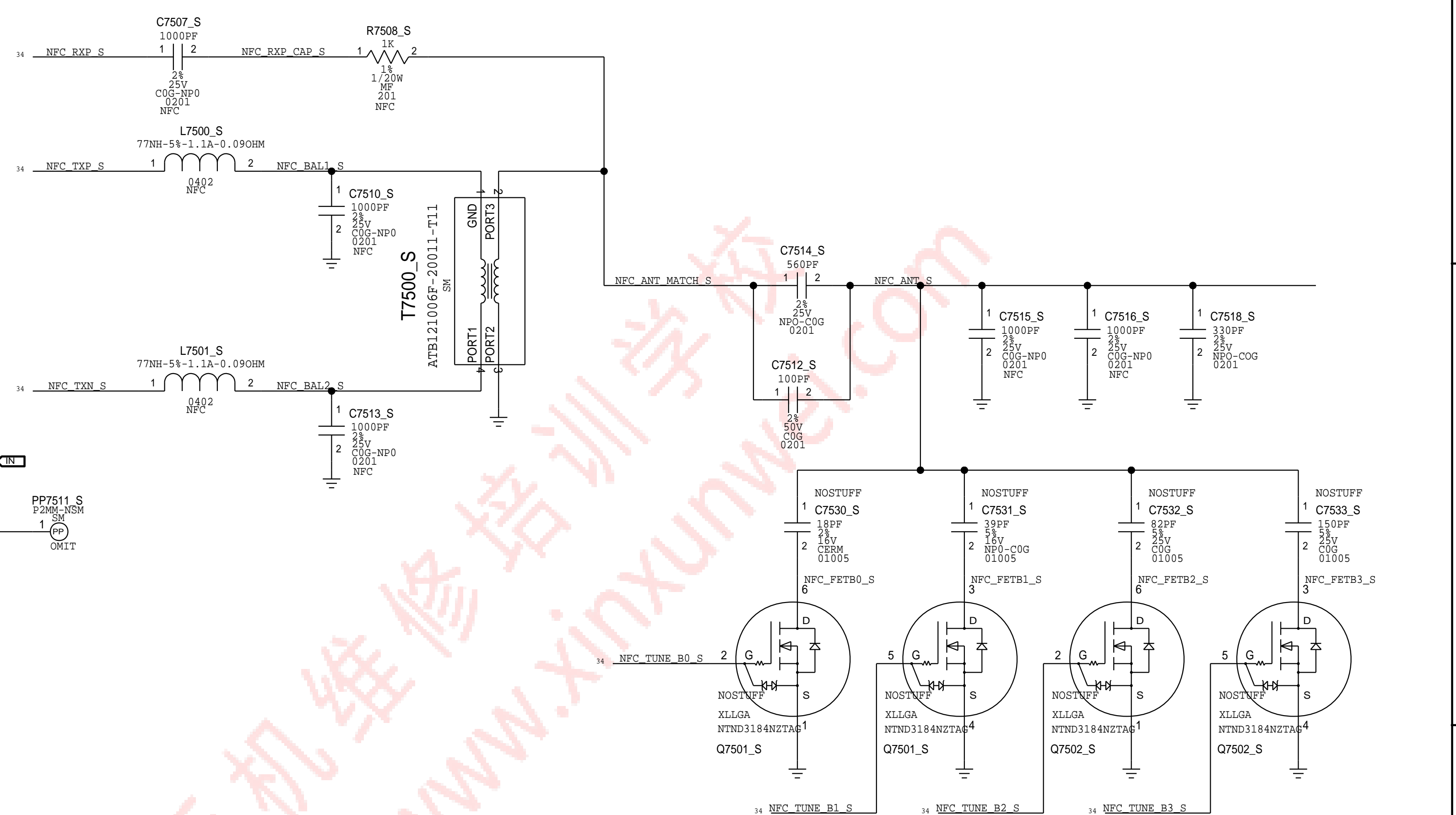
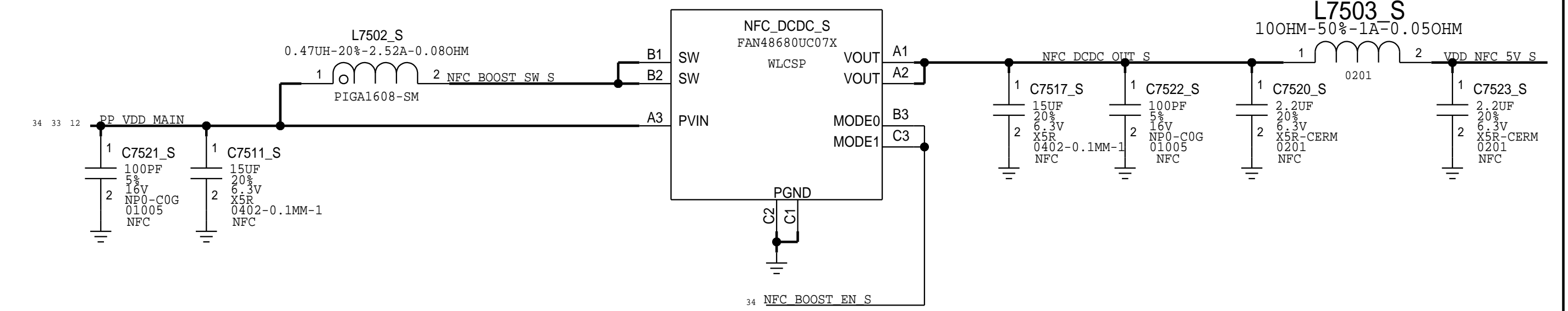
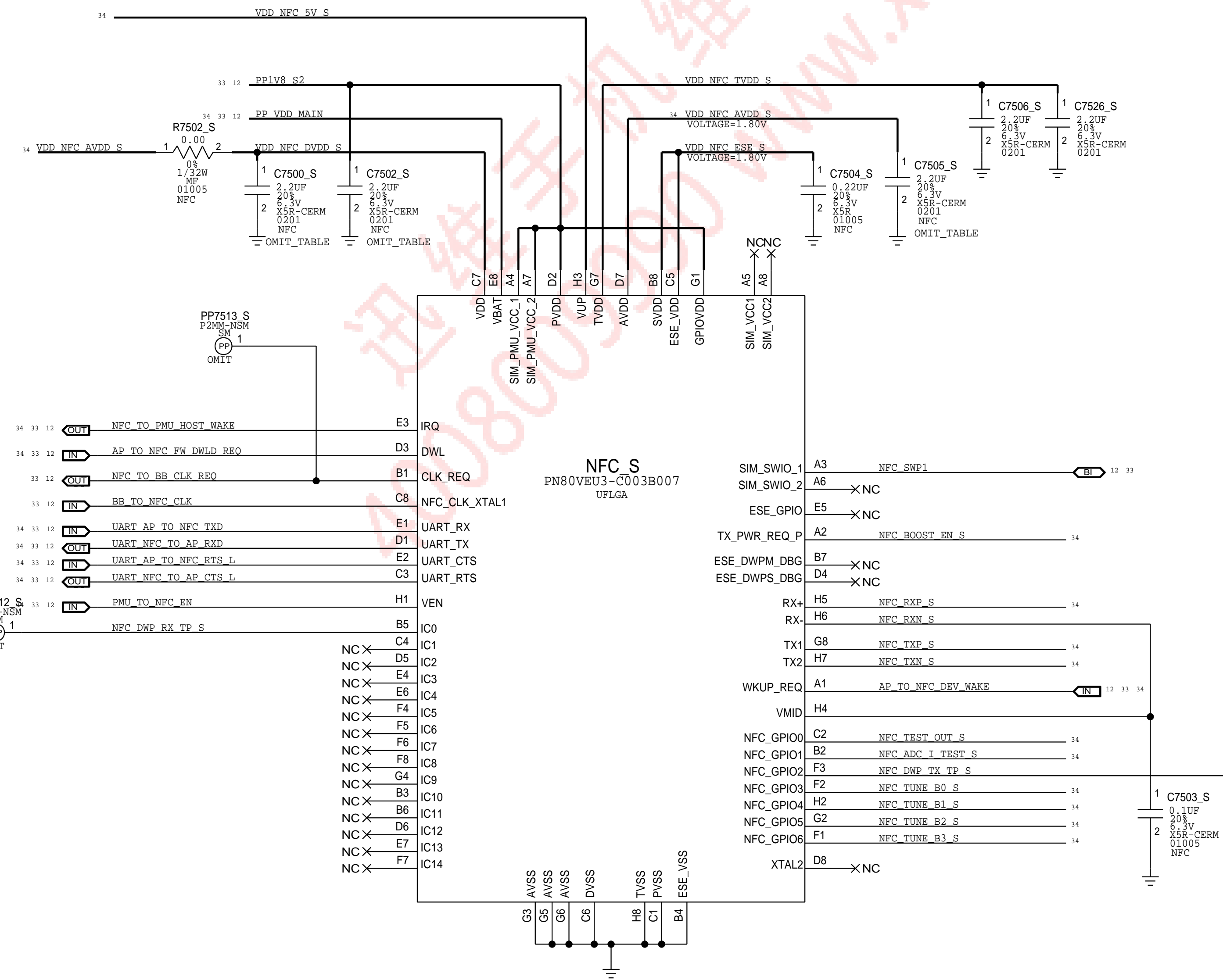
DRAWING TITLE		DRAWING NUMBER	SIZE
SCH,MLB,BOT,X893		051-02247	D
Apple Inc.		REVISION 7.0.0	
NOTICE OF PROPRIETARY PROPERTY: THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING: I TO MAINTAIN THIS DOCUMENT IN CONFIDENCE II NOT TO REPRODUCE OR COPY IT III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		BRANCH evt-1	
		PAGE 1 OF 75	
		SHEET 33 OF 34	

STOCKHOLM

5V BOOSTER

NFC CONTROLLER

NFC FRONT END



PAGE TITLE		
NFC		
	DRAWING NUMBER	051-02247
	REVISION	7.0.0
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 I NOT TO REPRODUCE OR COPY IT I NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART IV ALL RIGHTS RESERVED		
	BRANCH	evt-1
	PAGE	75 OF 75
	SHEET	34 OF 34