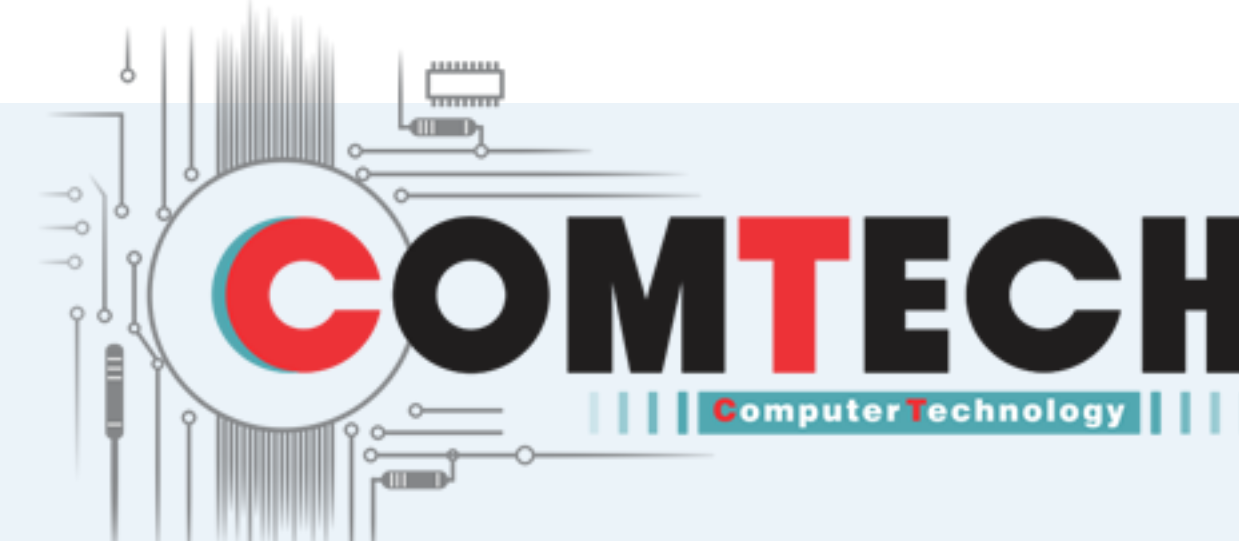
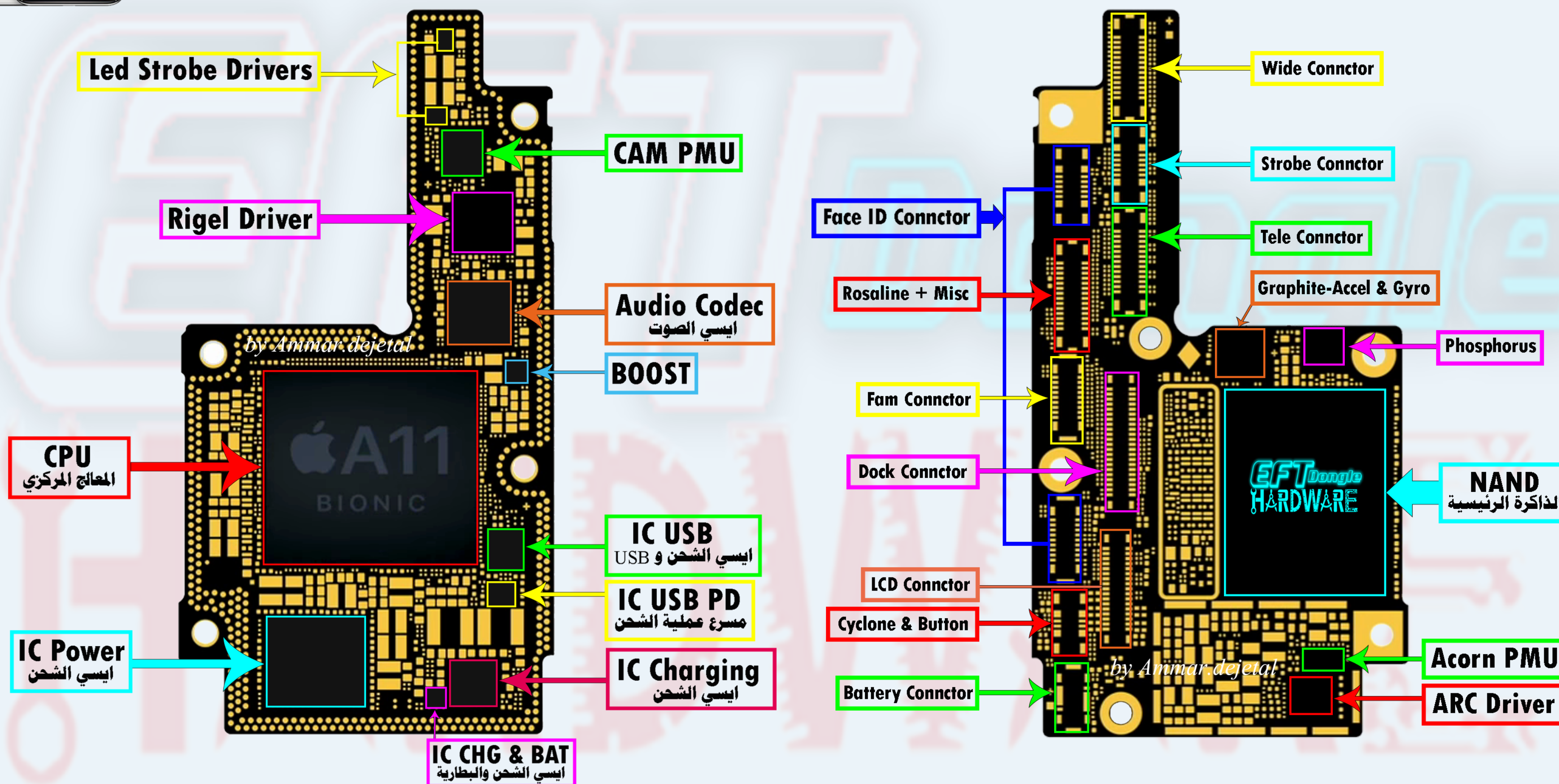


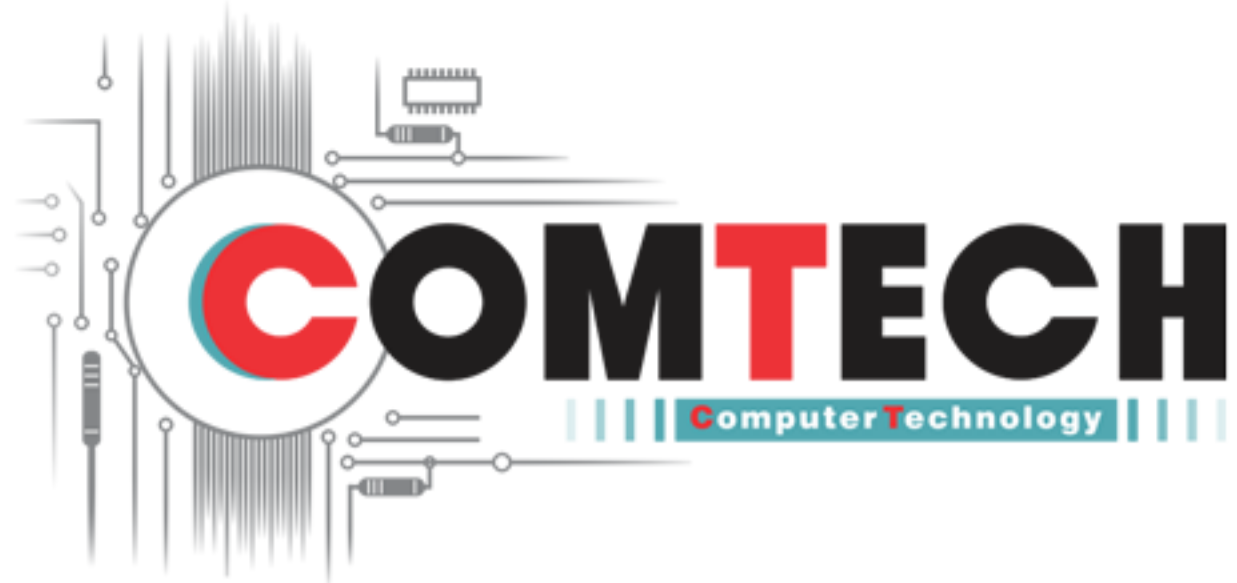


IPHONE X Schematic Diagram



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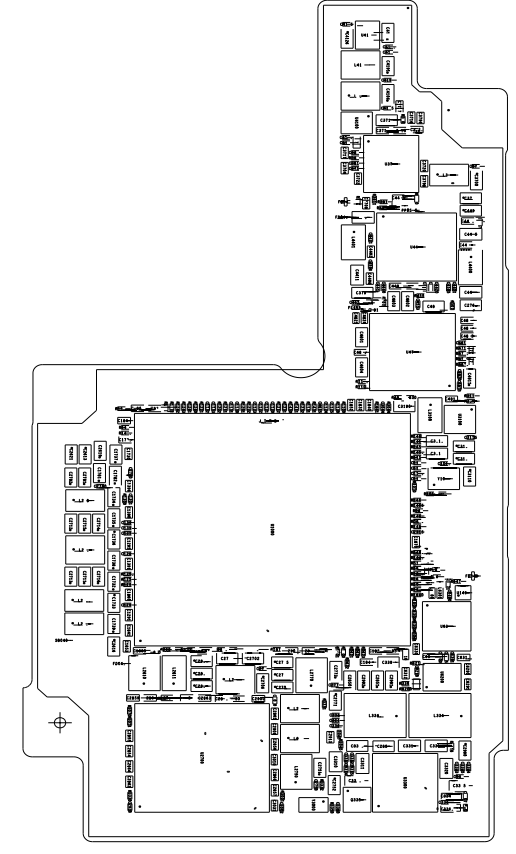
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TOP SIDE ASS-MB-7

APPLE				PCB- , _891 TOP M-B	
THIS IS THE PROPERTY OF APPLE AND IT MUST BE RETURNED					
ORIG DIV	D-SIGN-R	DATE	SCALE	DRAWING NUMBER	
	FIN FINISHING-R	03_3_-_7	1:1	820-00863-09	
NO-S- APIWOP VI-W-D FROM COMPONENT SIDE. PCB SHALL CONFORM TO STANDARDS AS DEFINED IN APPLE SPECIFICATION 080-2265 (FRIB PRINTED CIRCUIT BOARDS) OR 062-0073 (MULTI-LAYER BOARDS) AS APPLICABLE.				NOTICE- OF PROPRIETARY PROPERTY THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE THE ASSOP 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	

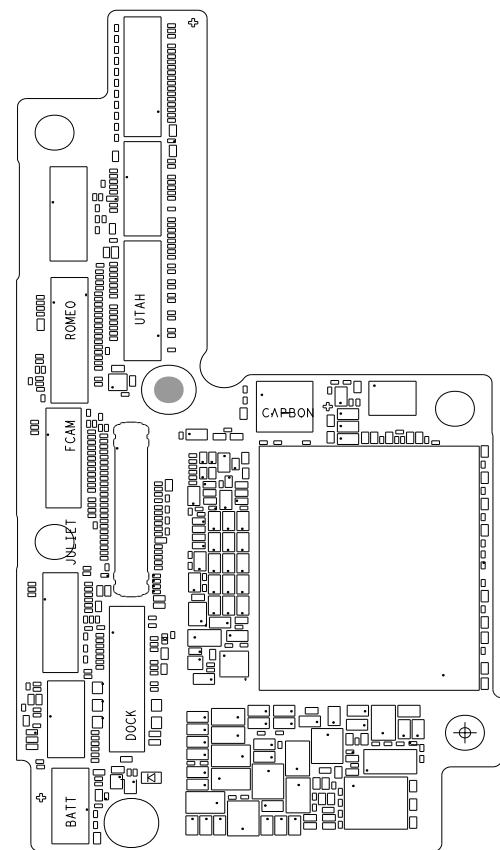


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BOTTOM SIDE ASSEMBLY

TITLE PCBFB, X801 TOP MLB		APPLE <small>THIS IS THE PROPERTY OF APPLE AND IT MUST BE RETURNED</small>		
		ORIG DIV KEN KIPLINGER	DESIGNER 03\31\17	DATE 1:1
DRAWING NUMBER 850-00803-00		NOTES: ARTWORK VIEWED FROM COMPONENT SIDE. PCB SHALL CONFORM TO STANDARDS AS DEFINED IN APPLE SPECIFICATION 080-2202 (FLEXIBLE PRINTED CIRCUIT BOARDS) OR 085-0073 (MULTI-LAYER BOARDS) AS APPLICABLE.		
NOTICE OF PROPRIETARY PROPERTY THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE 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				

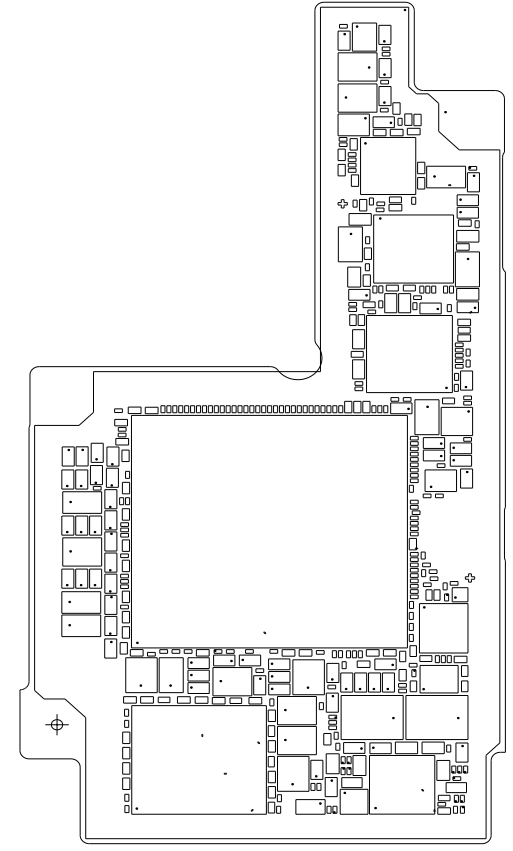


TOP SID- ASS-MB-7

APPLE				---	PCB- , _891
THIS IS THE PROPERTY OF APPLE AND IT MUST BE RETURNED					TOP M-B
ORIG DIV	D-SIGN-R	DATE	SCALE	DRAWING NUMBER	
	FN FTPRINTING-R	03_3--_7	1:1		820-00863-09
NOTES: APIWOPF VI-W-D POM COMPONENT SIDE. PCB SHALL CONFORM TO STANDARDS AS DEFINED IN APPLE SPECIFICATION 080-2265 (---IB--- PRINTED CIRCUIT BOARDS) OR 062-0073 (MULTI-LAYER BOARDS) AS APPLICABLE.				NOTICE OF PROPRIETARY PROPERTY THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE 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	

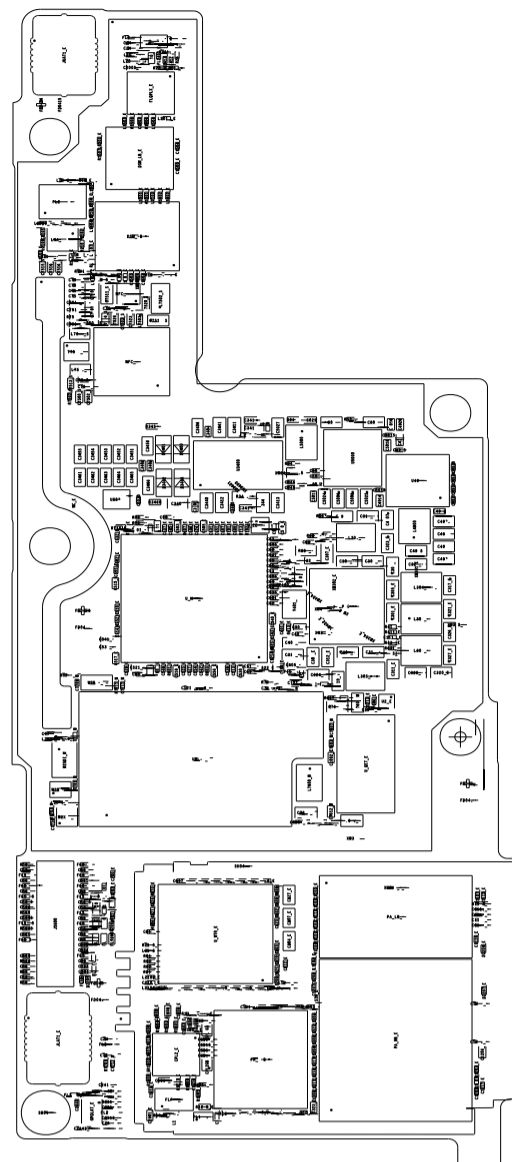


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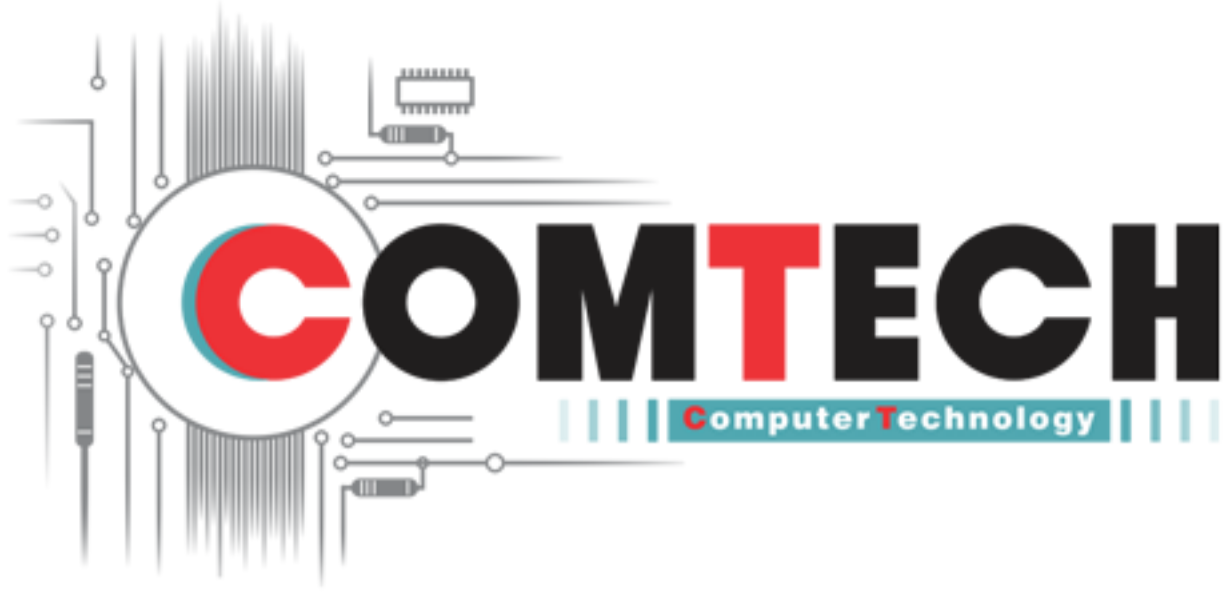
BOTTOM SIDE ASSEMBLY

TITLE PCBFB, X801 TOP MLB		APPLE		
		THIS IS THE PROPERTY OF APPLE AND IT MUST BE RETURNED		
DRAWING NUMBER 850-00863-09	SCALE 1:1	DATE 03\31\17	DESIGNER KEN KIPLINGER	ORIG DIV
	NOTES: 080-5262 (FLEXIBLE PRINTED CIRCUIT BOARDS) OR 080-5263 (MULTI-LAYER BOARDS) AS APPLICABLE. ARTWORK VIEWED FROM COMPONENT SIDE. PCB SHALL CONFORM TO STANDARDS AS DEFINED IN APPLE SPECIFICATION			
(I) TO MAINTAIN THIS DOCUMENT IN CONFIDENCE (II) NOT TO REPRODUCE OR COPY IT (III) NOT TO REVEAL OR PUBLISH IT NOTICE OF PROPRIETARY PROPERTY THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE THE POSSESSOR AGREES TO THE FOLLOWING				

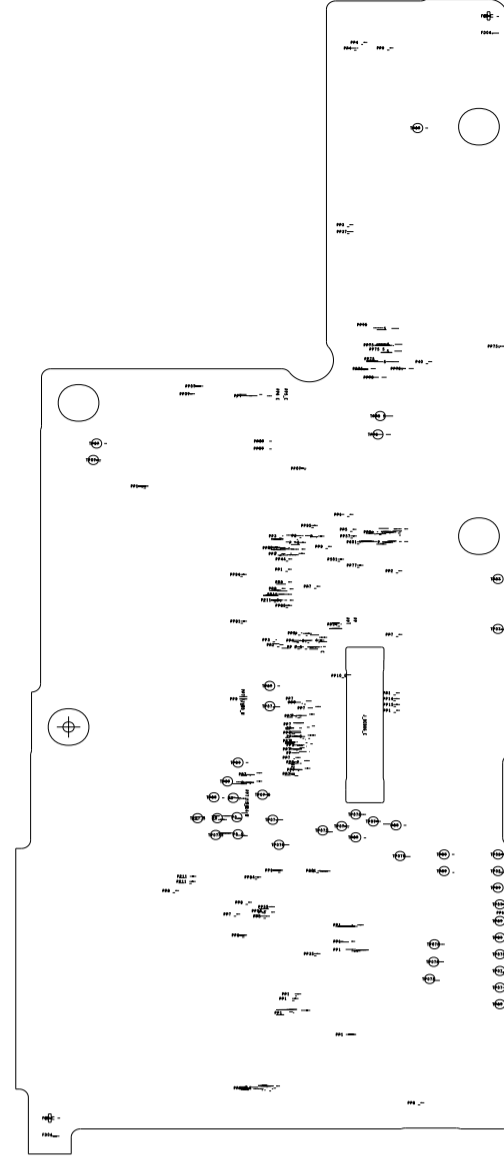


TOP SIDE ASS-MB-7

APPLE				PCB - , -891 BOTTOM M-B
THIS IS THE PROPERTY OF APPLE AND IT MUST BE RETURNED				
ORIG DIV	D-SIGN-R GRADANT-OV	DATE 04_05_-7	SCALE 1:1	DRAWING NUMBER 820-00864-06
NO-S- APIWOP VI-W-D ROM COMPONENT SIDE. PCB SHALL CONFORM TO STANDARDS AS DEFINED IN APPLE SPECIFICATION 080-2265 (—IB— PRINTED CIRCUIT BOARDS) OR 062-0073 (MU-II- -AYER BOARDS) AS APPLICABLE.			NOTICE OF PROPRIETARY PROPERTY THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE THE SUBSCRIBER 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	

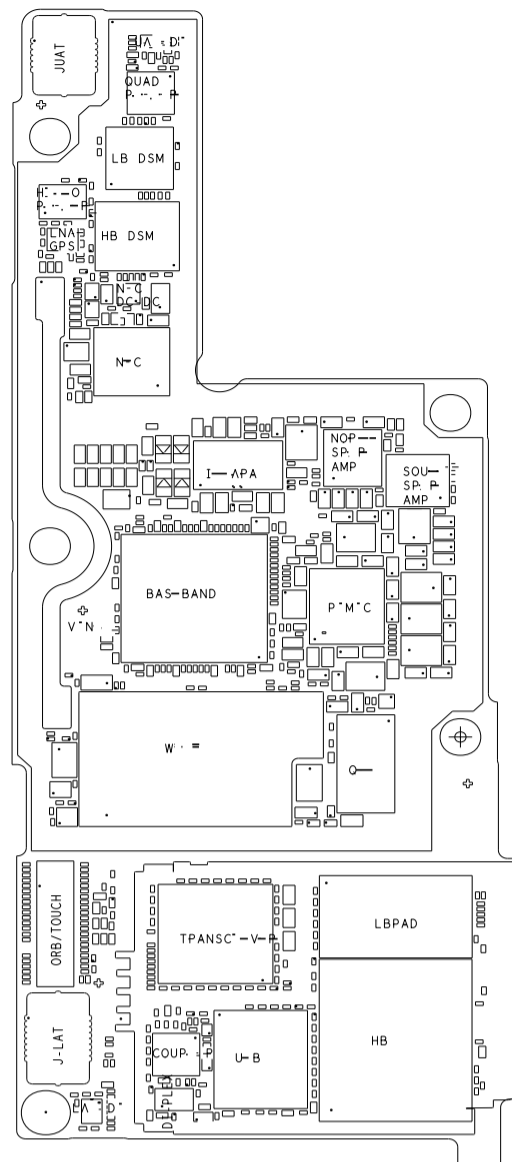


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BOTTOM SIDE ASSEMBLY

TITLE BOTTOM MLB PCBF X801		APPLE		
		THIS IS THE PROPERTY OF APPLE AND IT MUST BE RETURNED		
DRAWING NUMBER 850-00864-06	SCALE 1:1	DATE 04\02\17	DESIGNER GERA DANILOV	ORIG DIV
	NOTES: 085-0073 (MULTI-LAYER BOARDS) AS APPLICABLE. 080-2262 (FLEXIBLE PRINTED CIRCUIT BOARDS) OR TO STANDARDS AS DEFINED IN APPLE SPECIFICATION ARTWORK VIEWED FROM COMPONENT SIDE. PCB SHALL CONFORM			
(I) TO MAINTAIN THIS DOCUMENT IN CONFIDENCE THE POSSESSOR AGREES TO THE FOLLOWING PROPRIETARY PROPERTY OF APPLE THE INFORMATION CONTAINED HEREIN IS THE NOTICE OF PROPRIETARY PROPERTY				



TOP SID- ASS-MB-7

APPLE				PCB- , _891 BOTTOM M-B
THIS IS THE PROPERTY OF APPLE AND IT MUST BE RETURNED				
ORIG DIV	D-SIGN-R G-RANDANT-OV	DATE- 04_05_-7	SCALE- 1:1	DRAWING NUMB-R 820-00864-06
NO-S- APIWOP VI-W-D ROM COMPONENT SIDE. PCB SHALL CONFORM TO STANDARDS AS DEFINED IN APPLE SPECIFICATION 080-2265 (IB PRINTED CIRCUIT BOARDS) OR 062-0073 (MUTI-AYER BOARDS) AS APPLICABLE.			NOTICE- PROPRIETARY PROPERTY THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE 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	

X891/X893 MLB Top: EVT

LAST_MODIFICATION=Mon Apr 3 13:03:06 2017

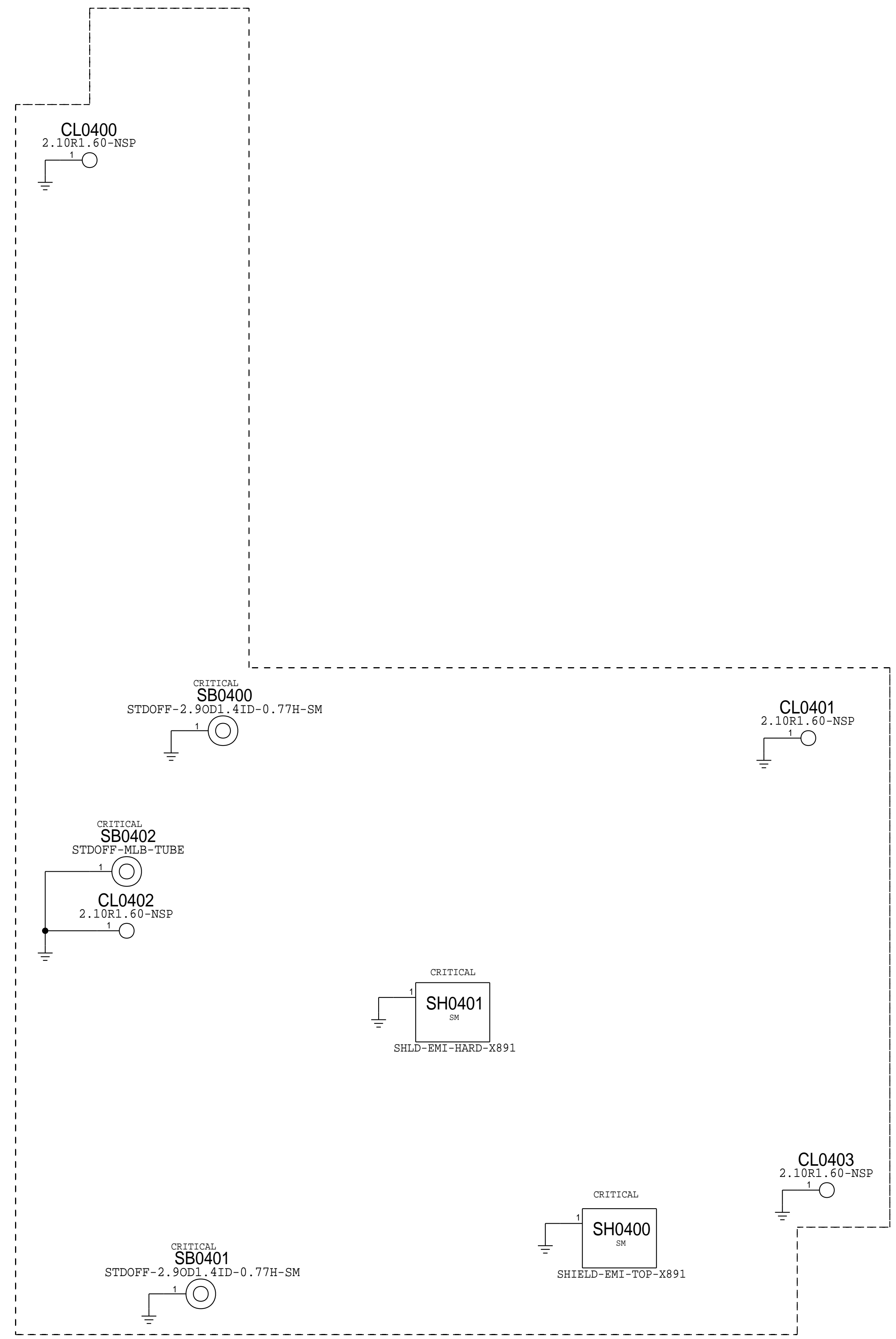
PAGE	CSA	CONTENTS	SYNC	DATE	PAGE	CSA	CONTENTS	SYNC	DATE
1	1	TABLE OF CONTENTS			46	61	I/O: Accessory Buck	test_mlb	10/17/2016
2	2	SYSTEM:BOM Tables	test_mlb	10/13/2016	47	62	I/O: USB PD	test_mlb	10/13/2016
3	4	SYSTEM: Mechanical Components			48	63	I/O: Hydra	test_mlb	10/13/2016
4	5	SYSTEM: Testpoints (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

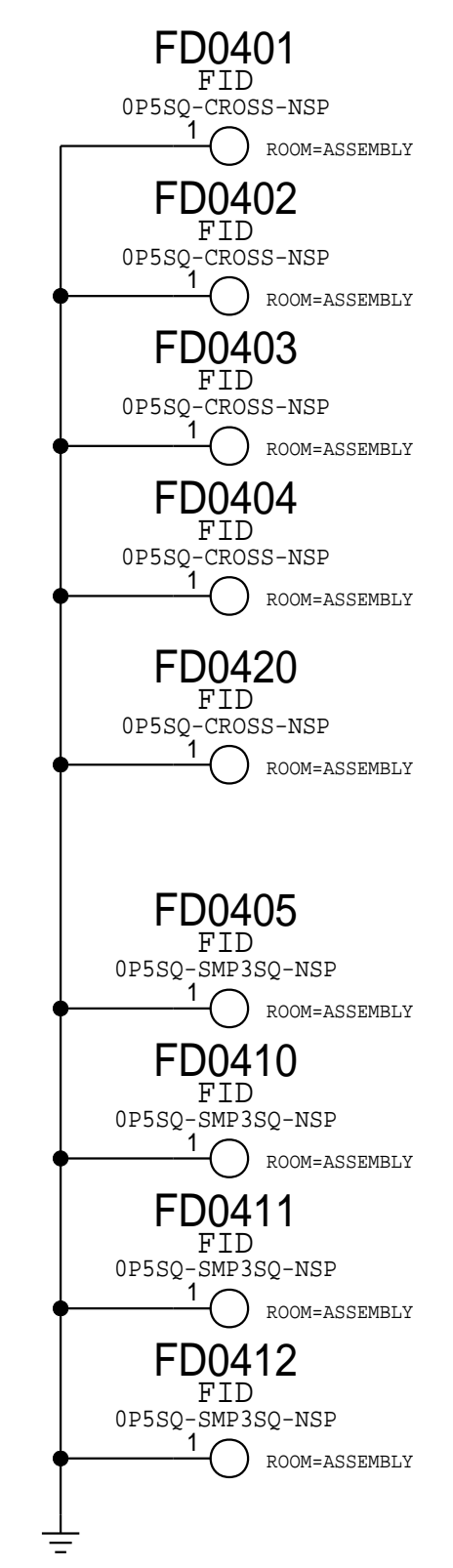
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051-02221	1	SCH_MLB_TOP_X891	SCH	NO	COMMON
820-00863	1	PCB_MLB_TOP_X891	PCB	NO	COMMON



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



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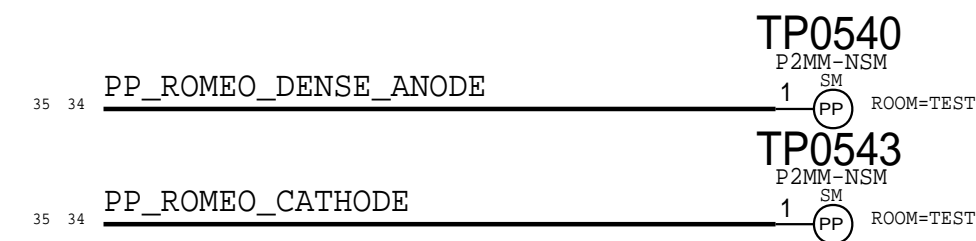


PAGE TITLE SYSTEM: Mechanical Components		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
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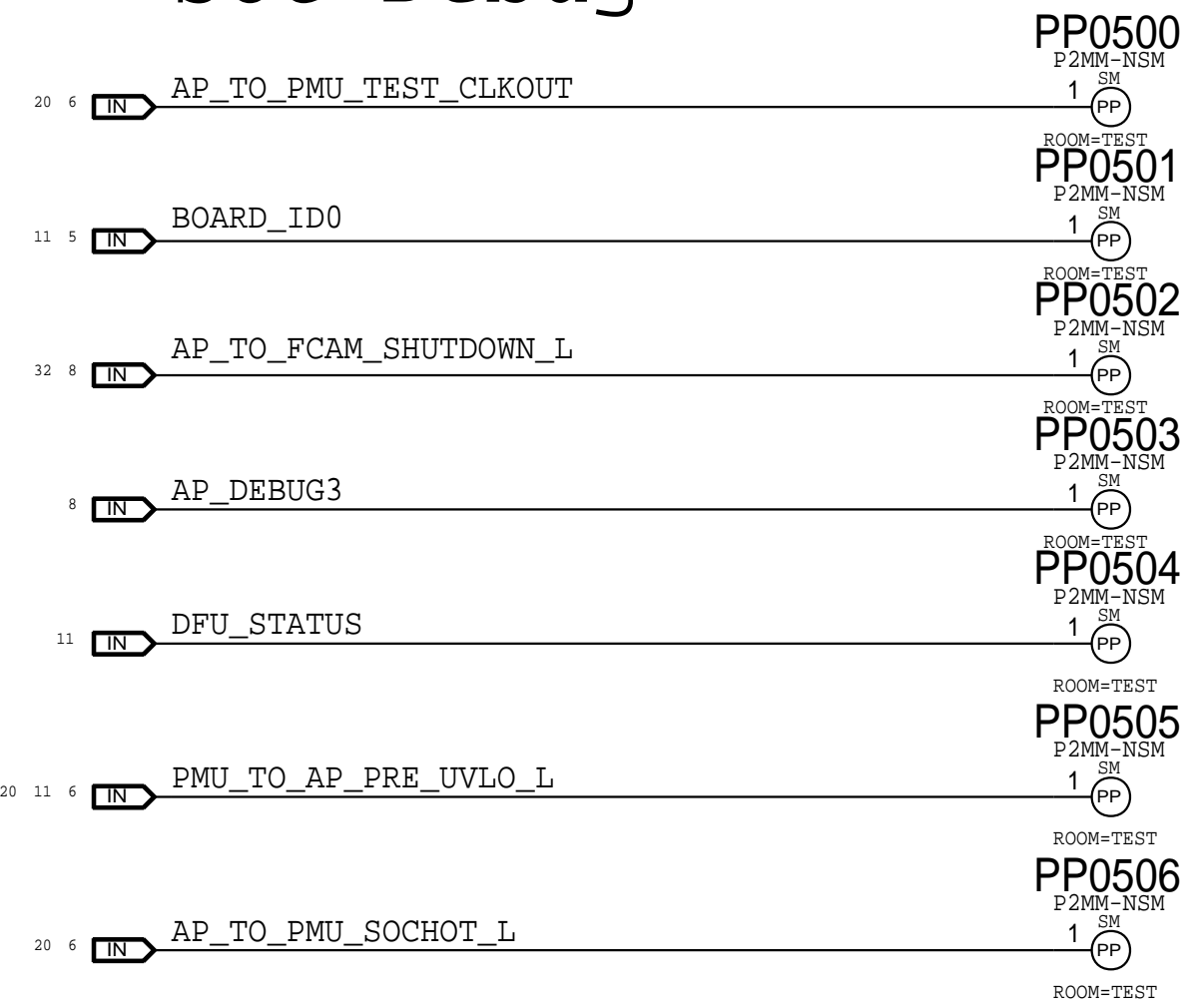
Test Points

Probe Points

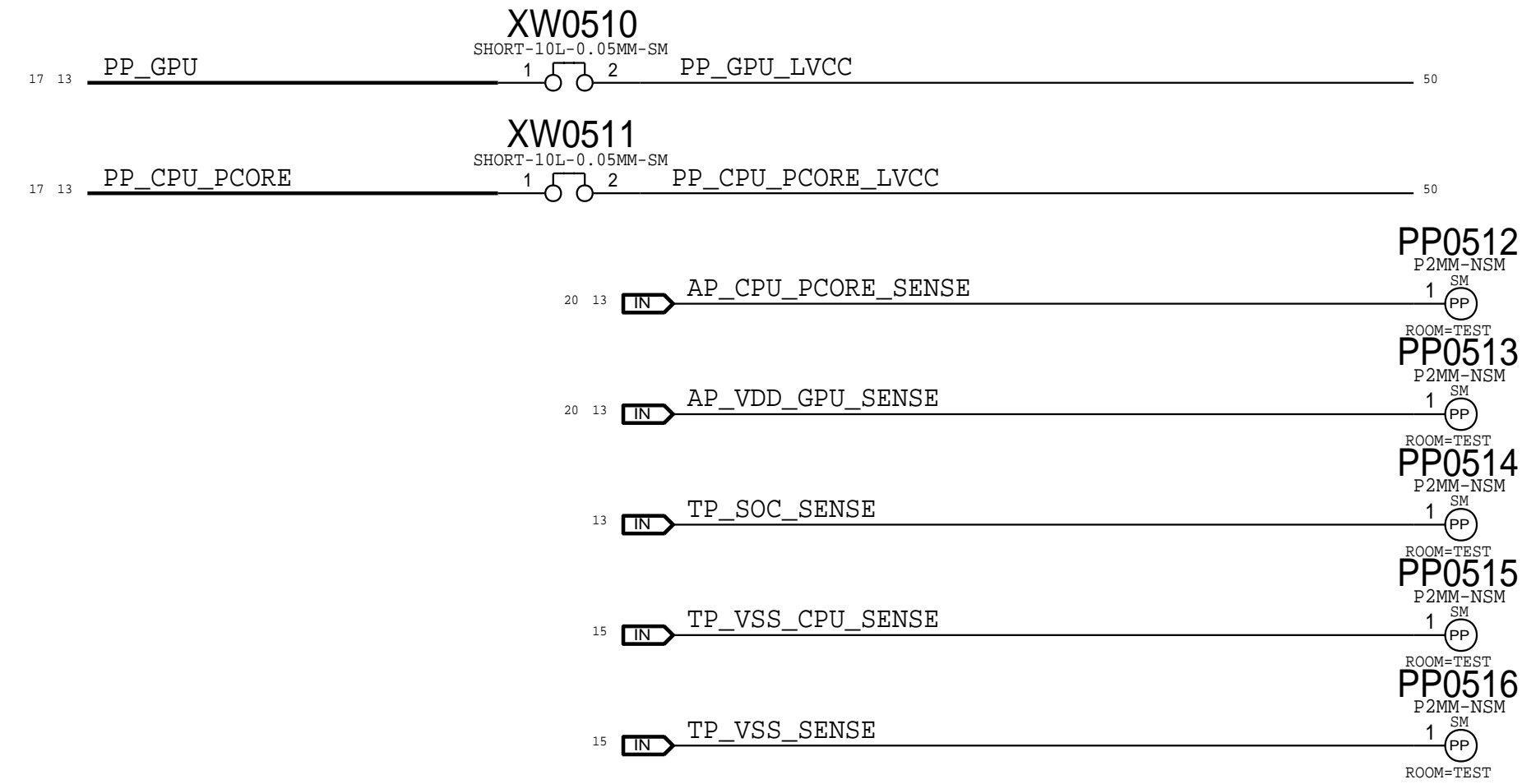
POWER



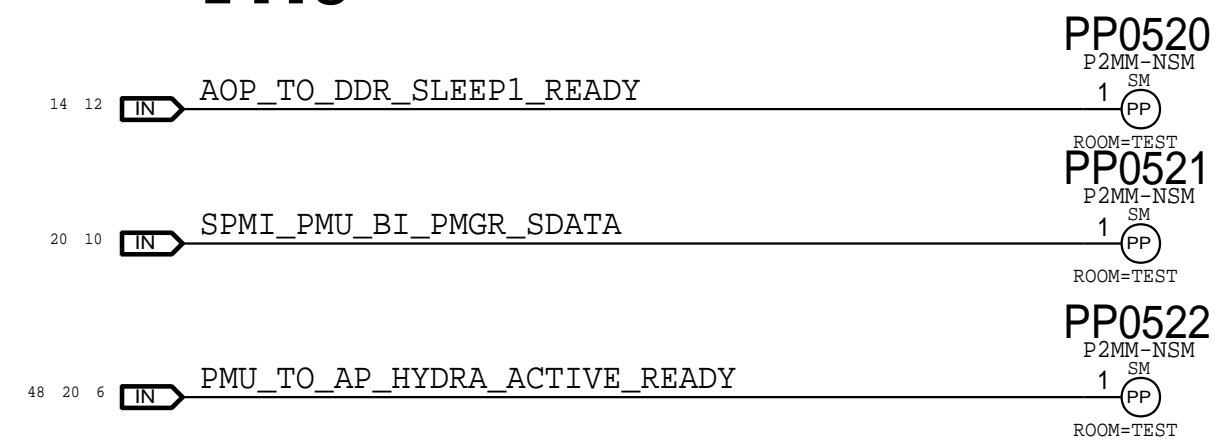
SOC Debug



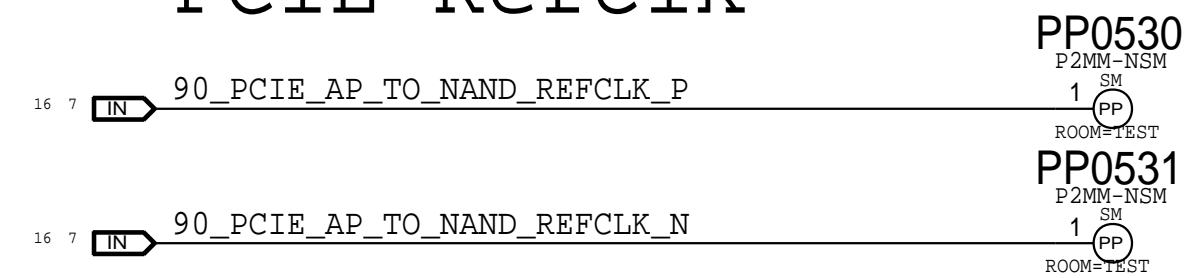
SOC CPU/GPU



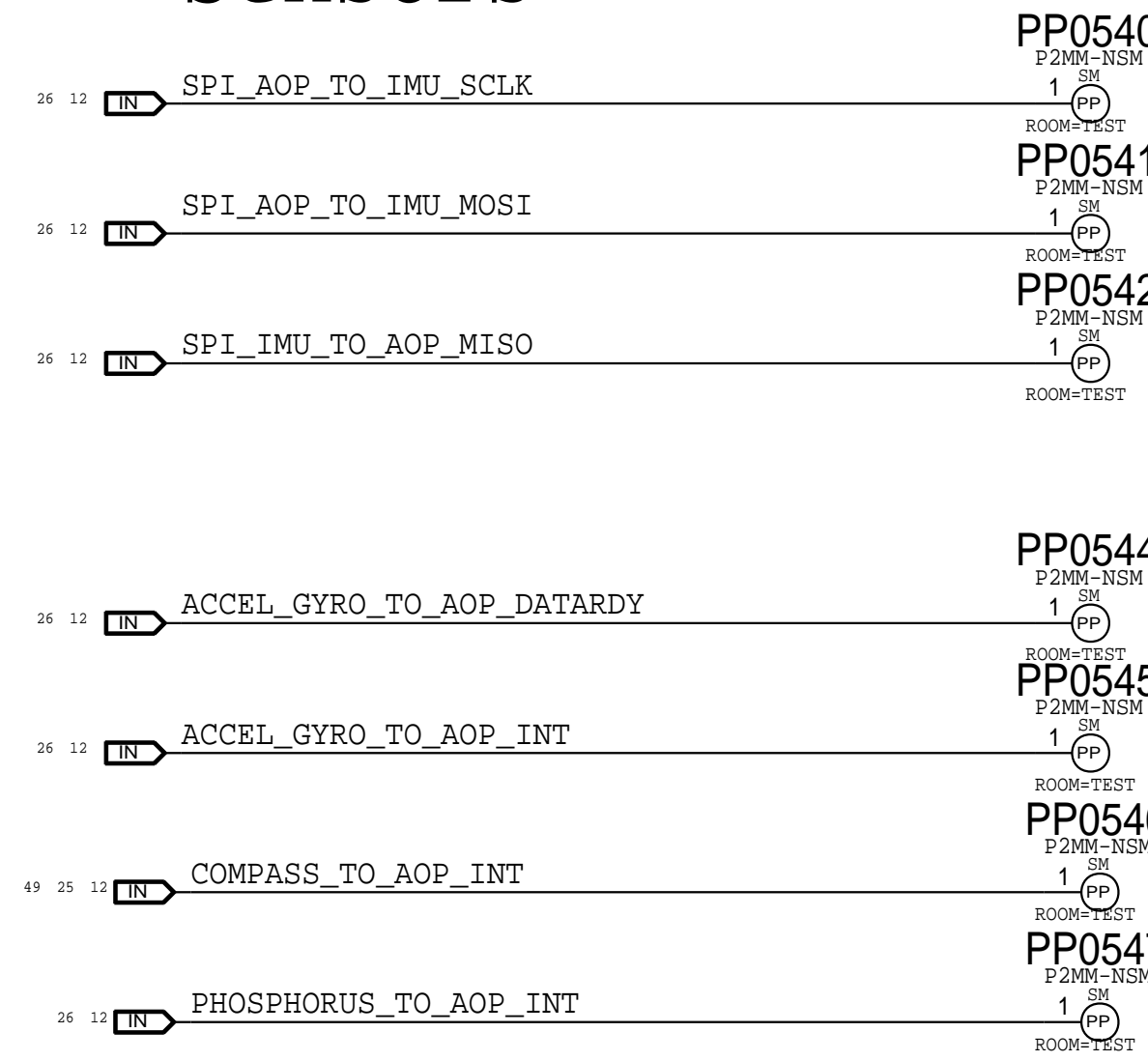
PMU



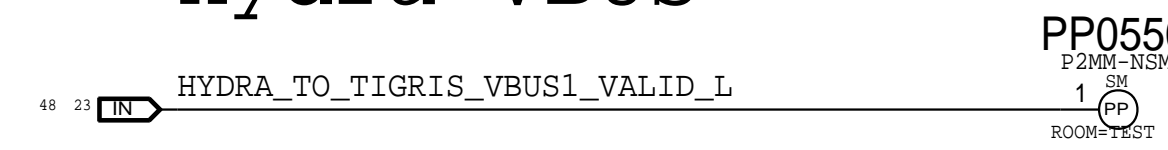
PCIE Refclk



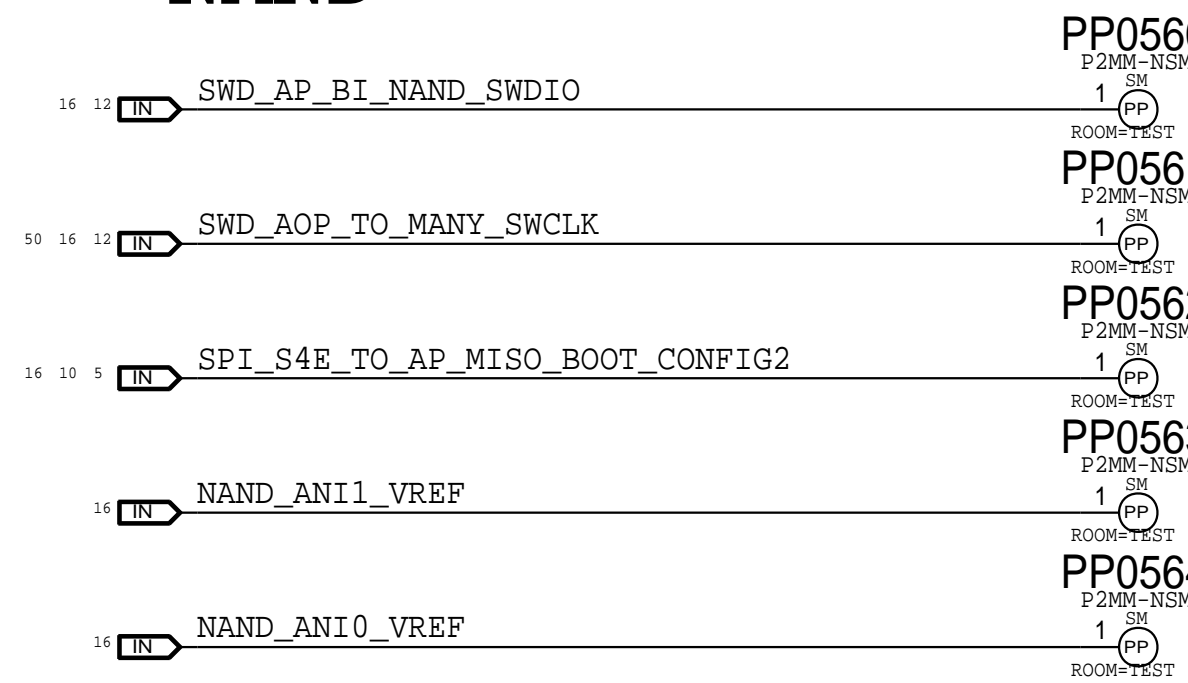
Sensors



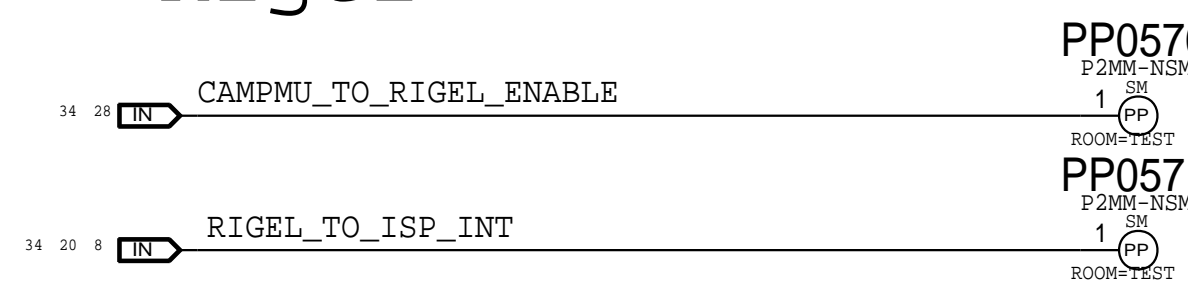
Hydra VBUS



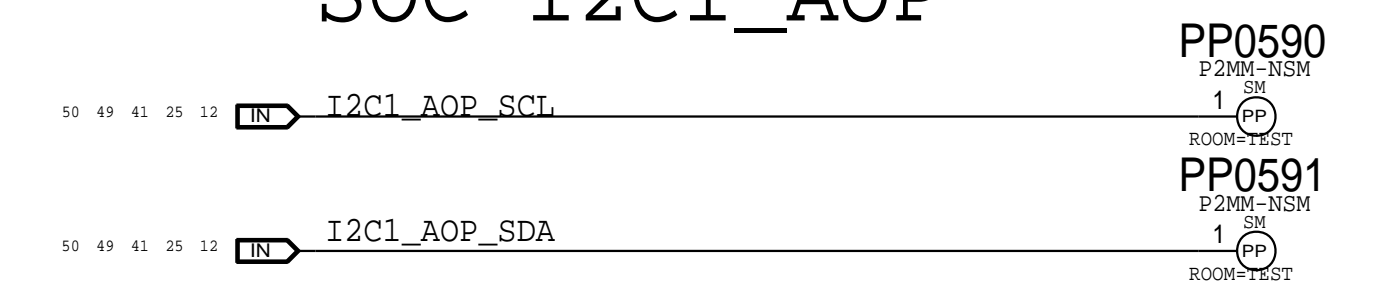
NAND



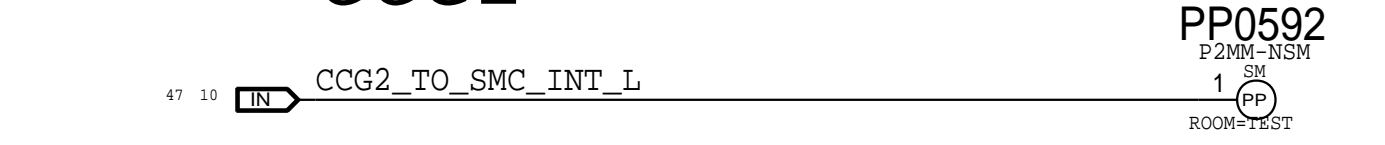
Rigel



SOC I2C1_AOP

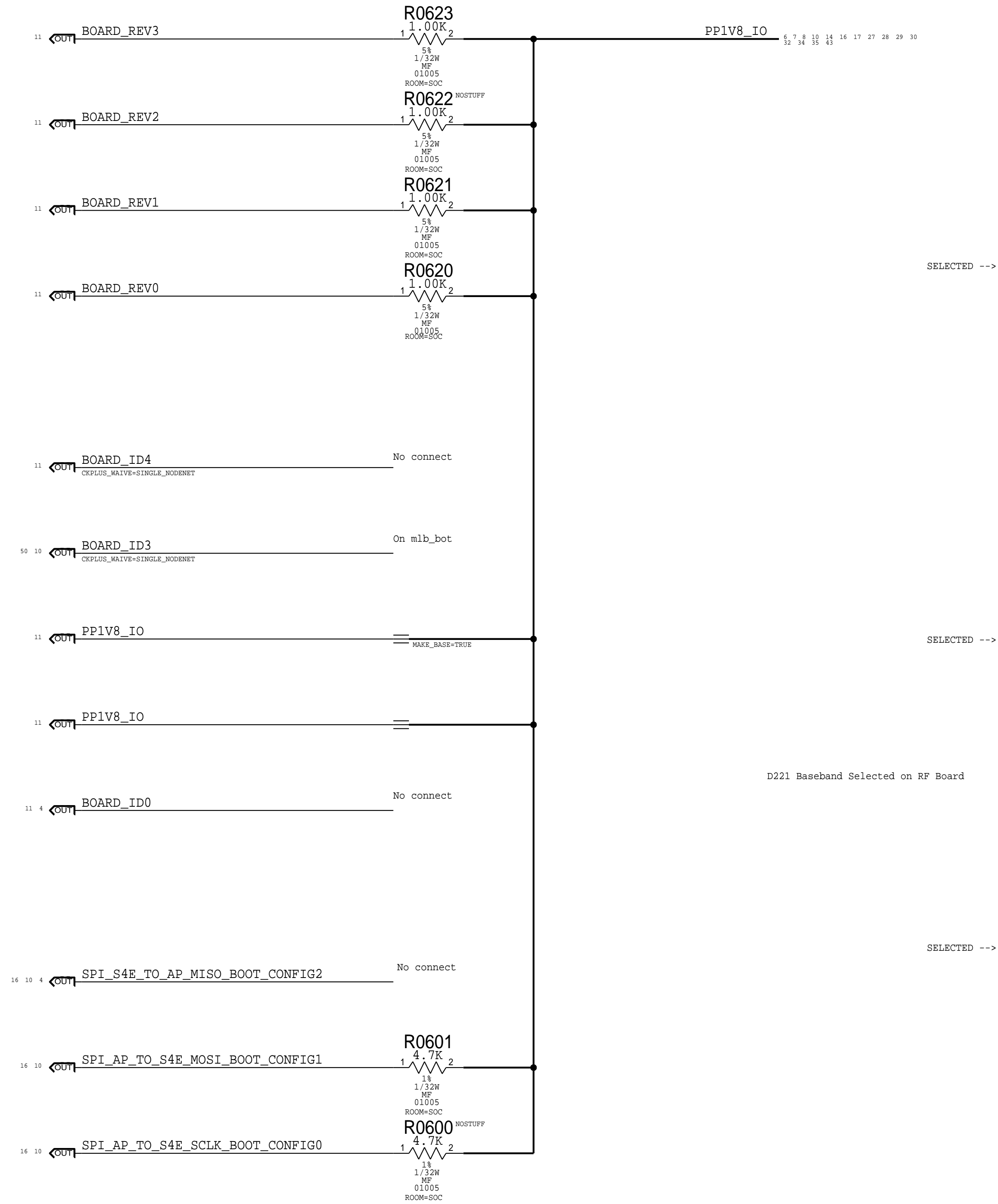



CCG2



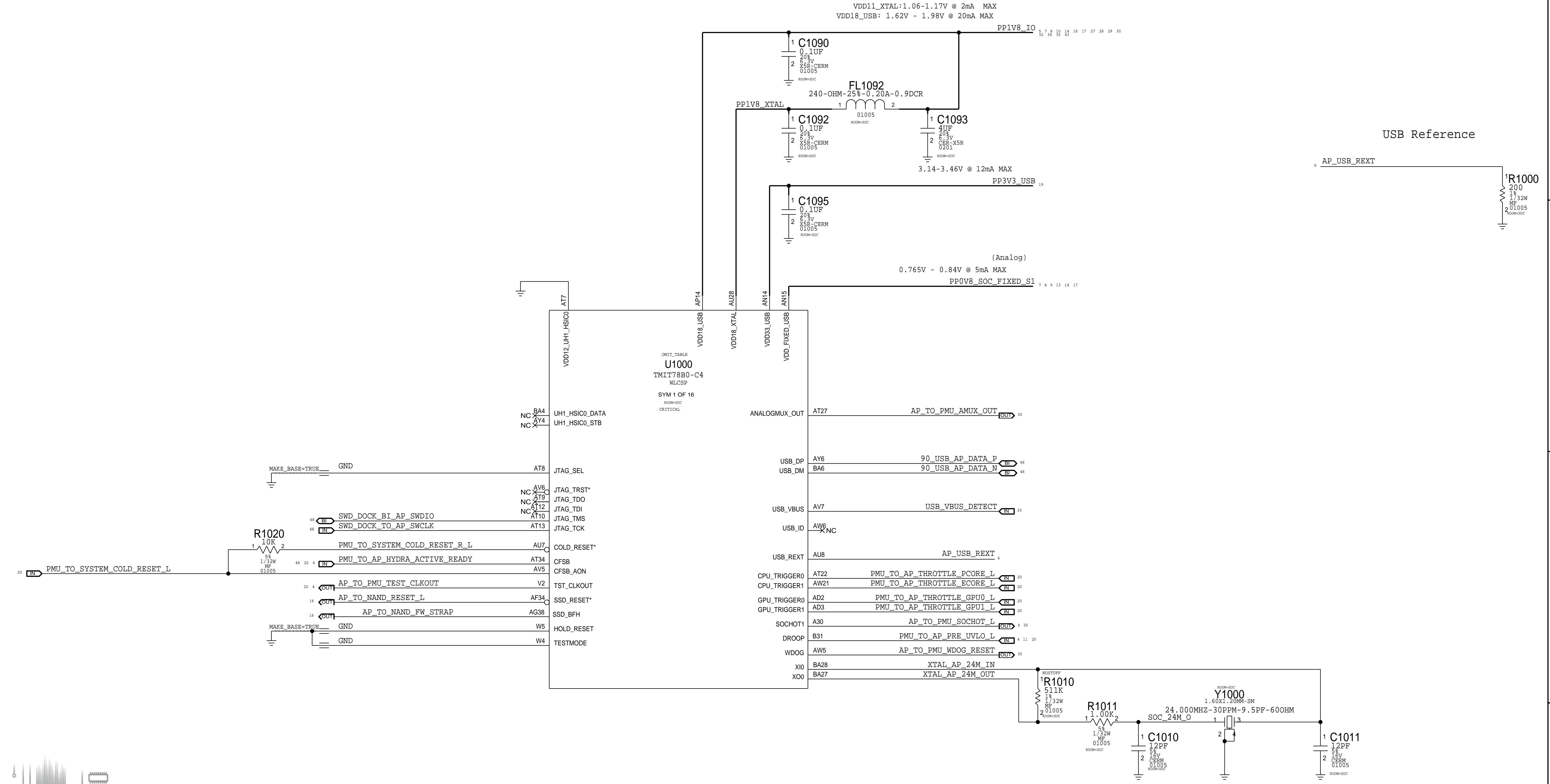
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Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	
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BOOTSTRAPPING: BOARD REV
BOARD ID
BOOT CONFIG



PAGE TITLE BOOTSTRAPPING		
 Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
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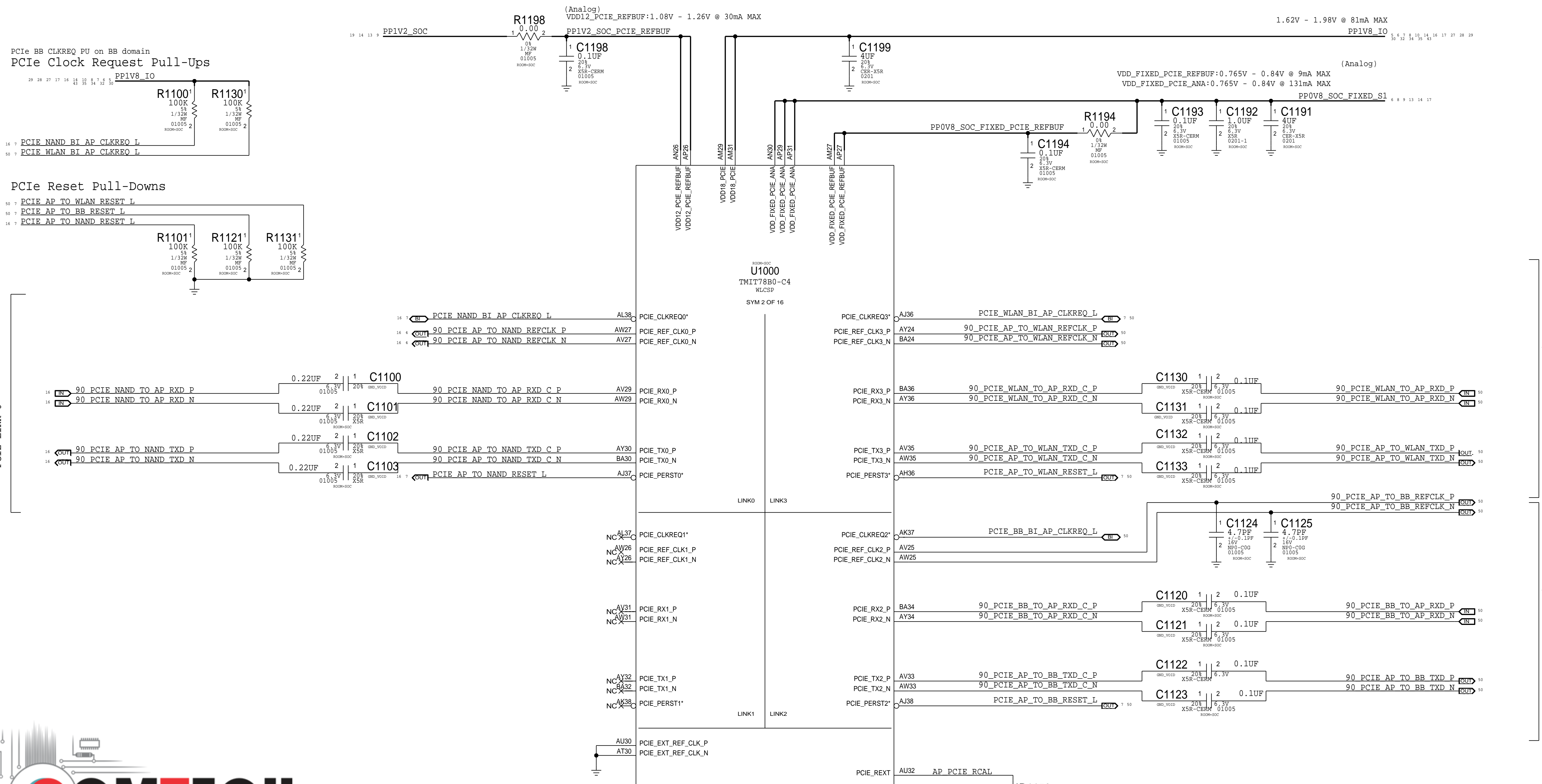
SOC - USB, JTAG, XTAL



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PAGE TITLE SOC: JTAG, USB, XTAL		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
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SOC - PCIE INTERFACES



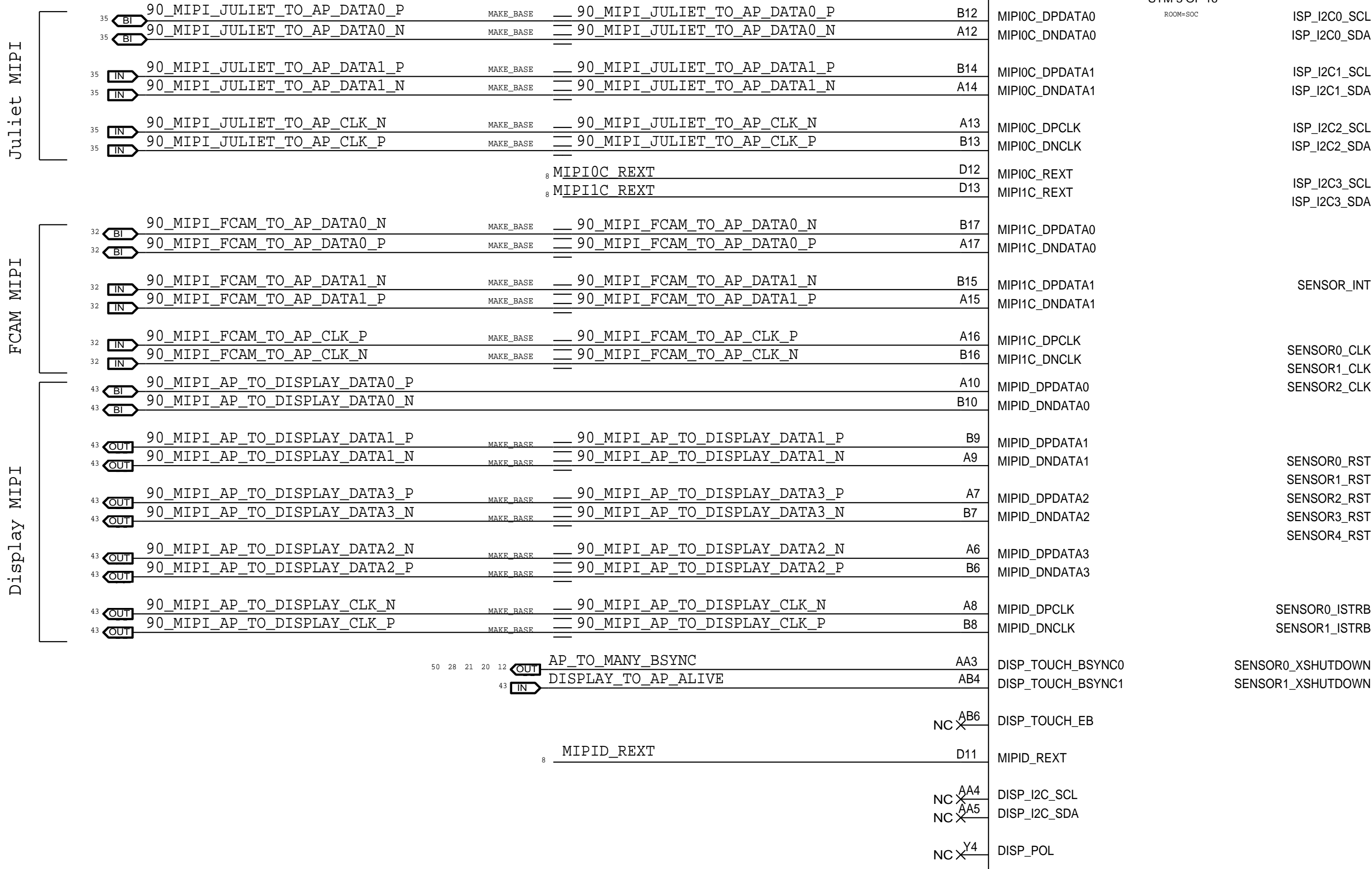
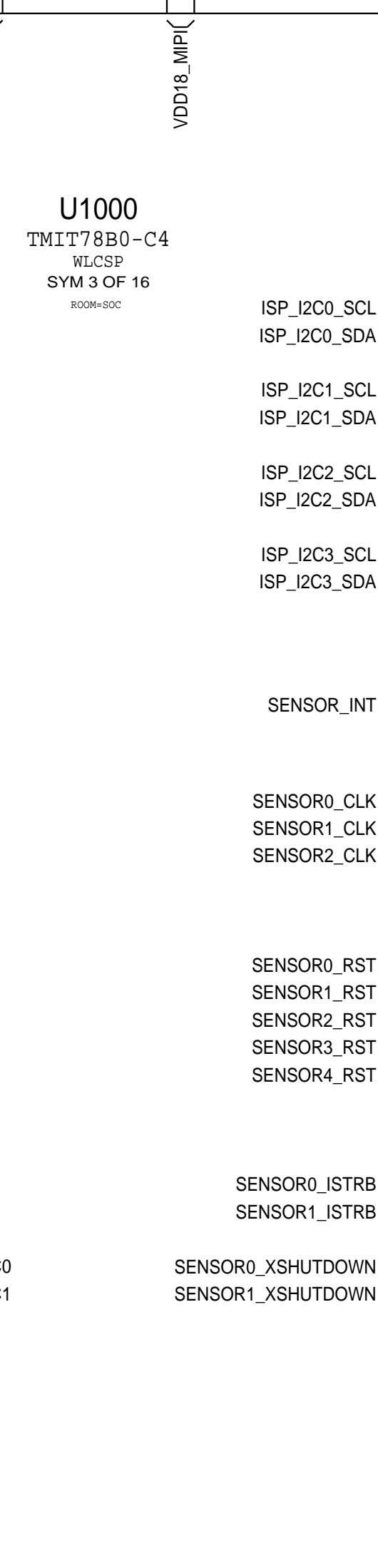
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Apple Inc.		DRAWING NUMBER	051-02221	SIZE	D
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III NOT TO REVEAL OR PUBLISH IT IN WHOLE OR PART					
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SOC - MIPI & ISP INTERFACES

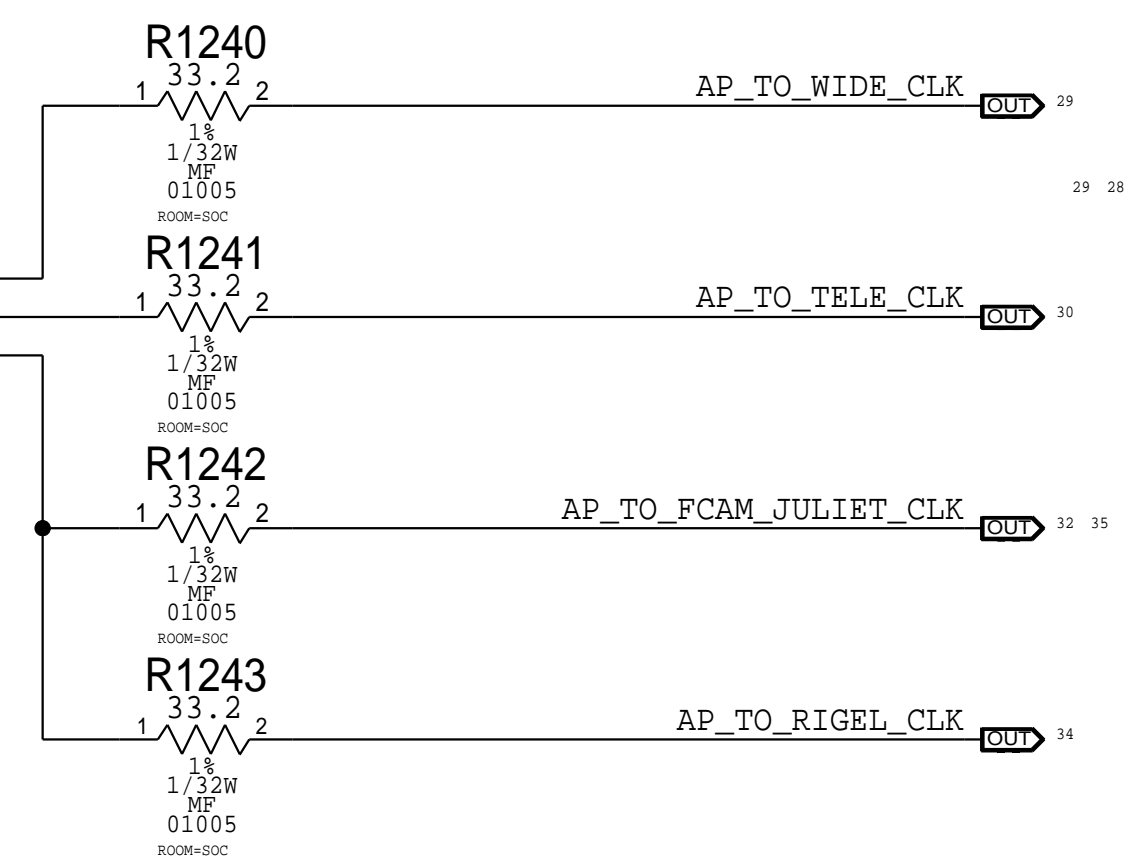
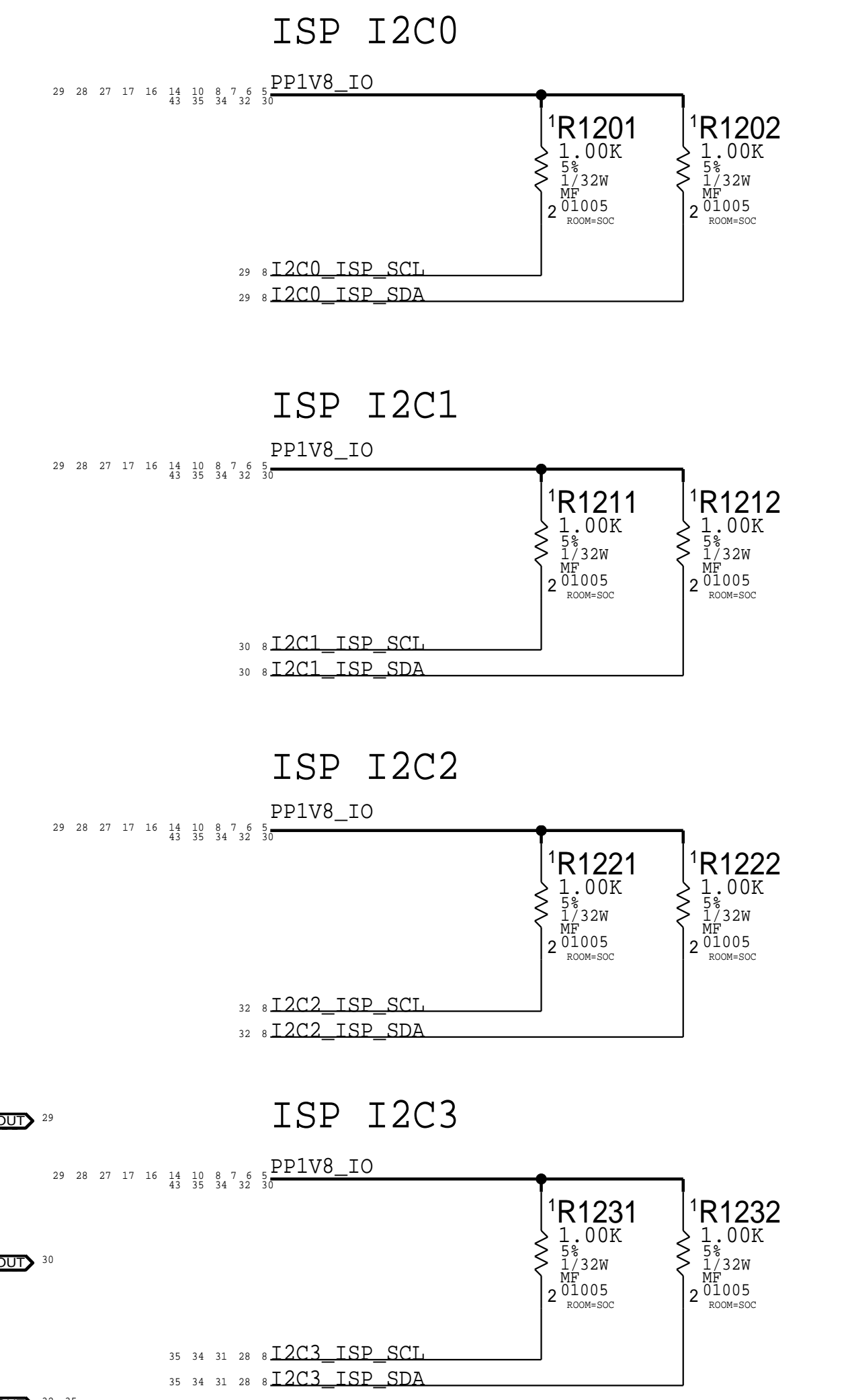
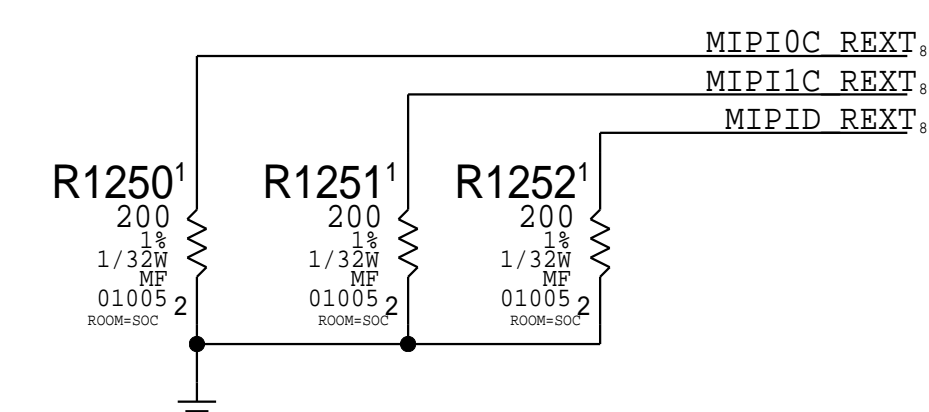
MIPI Lane & Polarity Swapping

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

1.62V - 1.98V @ 10mA MAX
PPIV8_IO

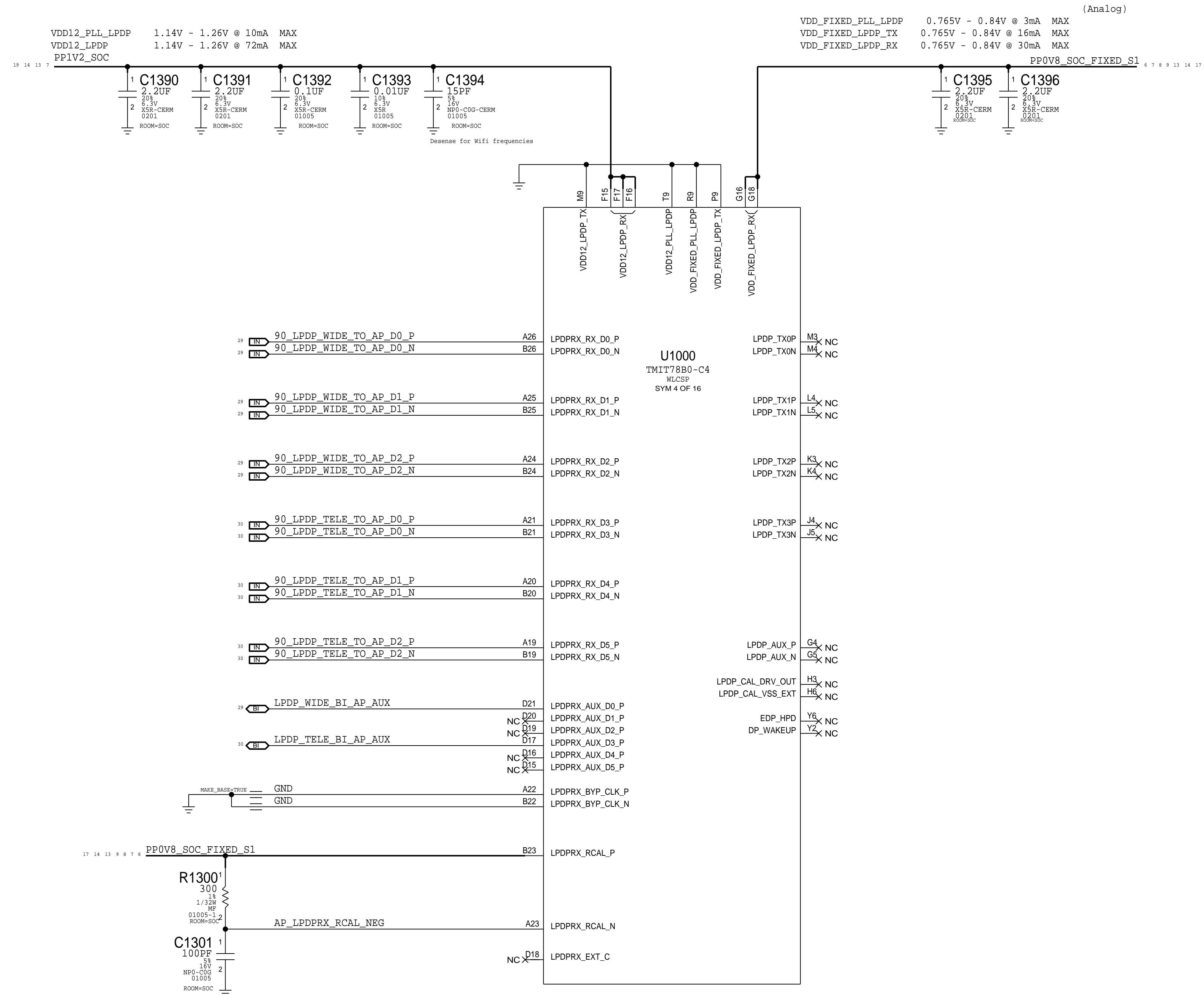


MIPI Reference



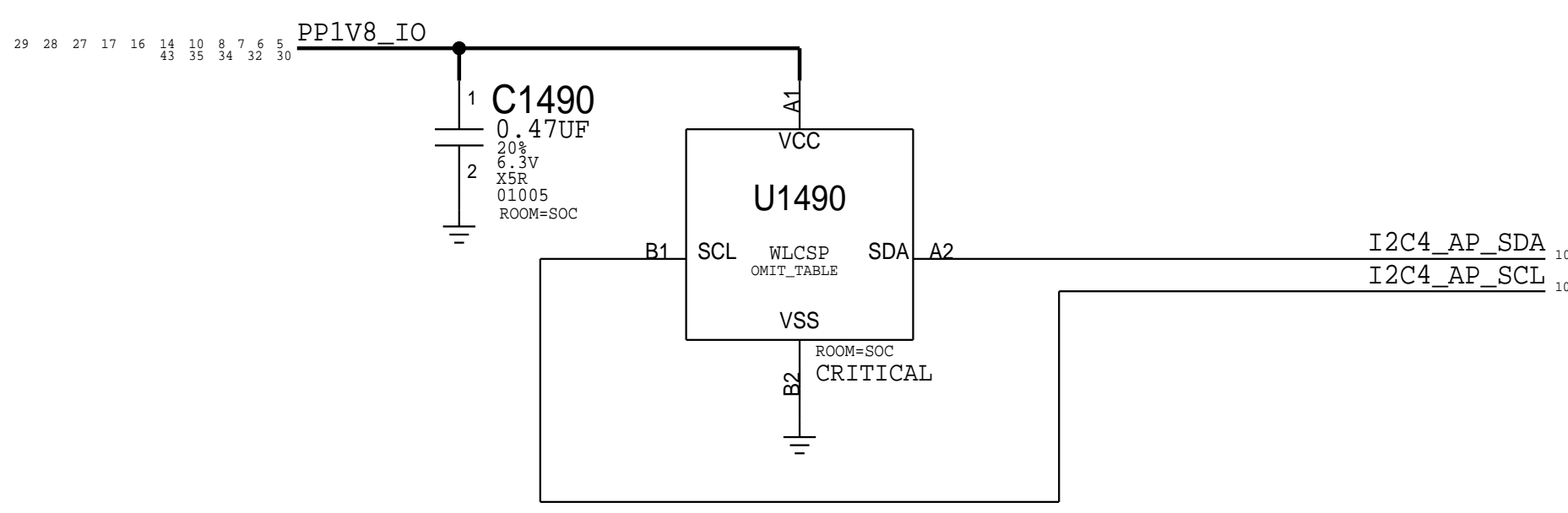
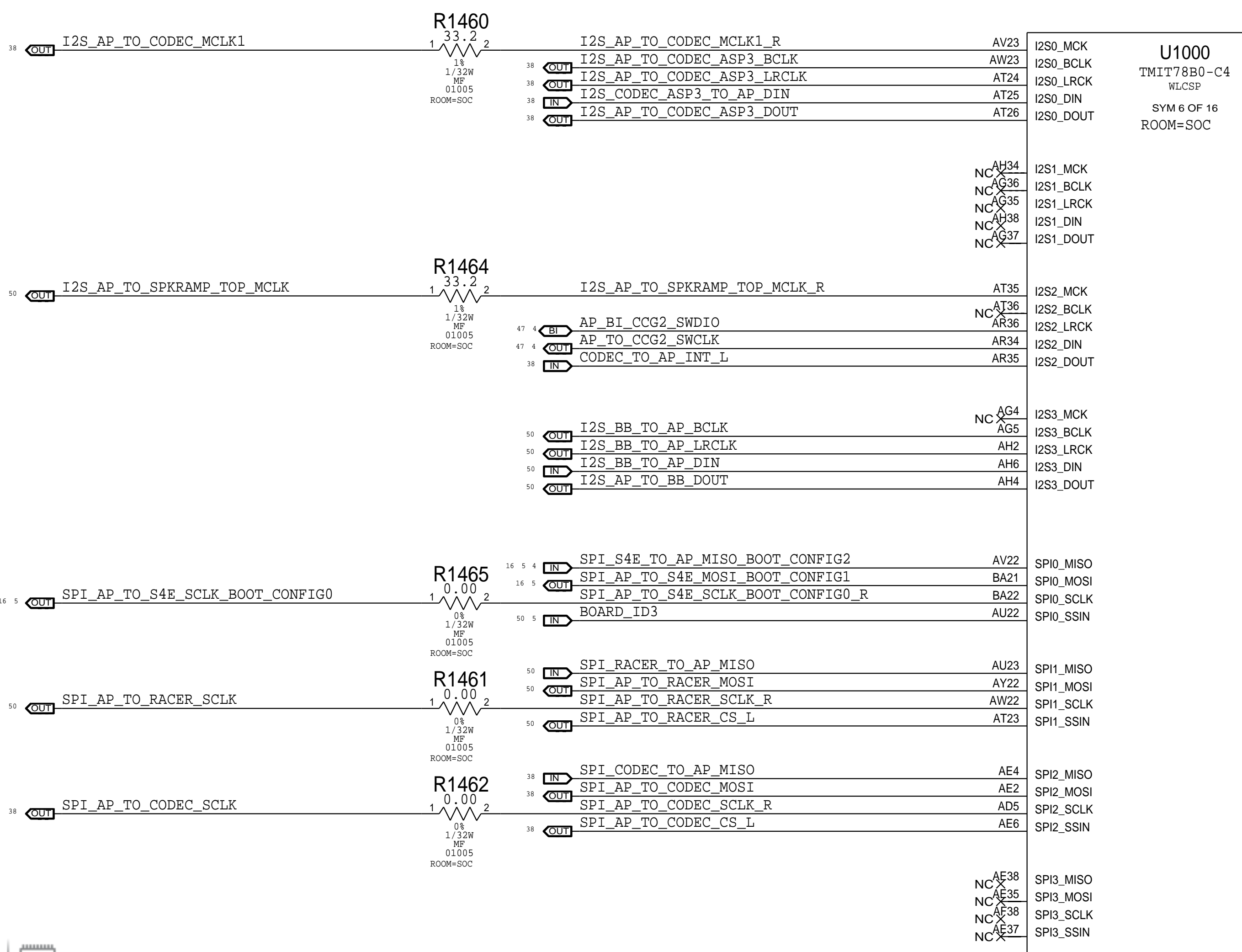
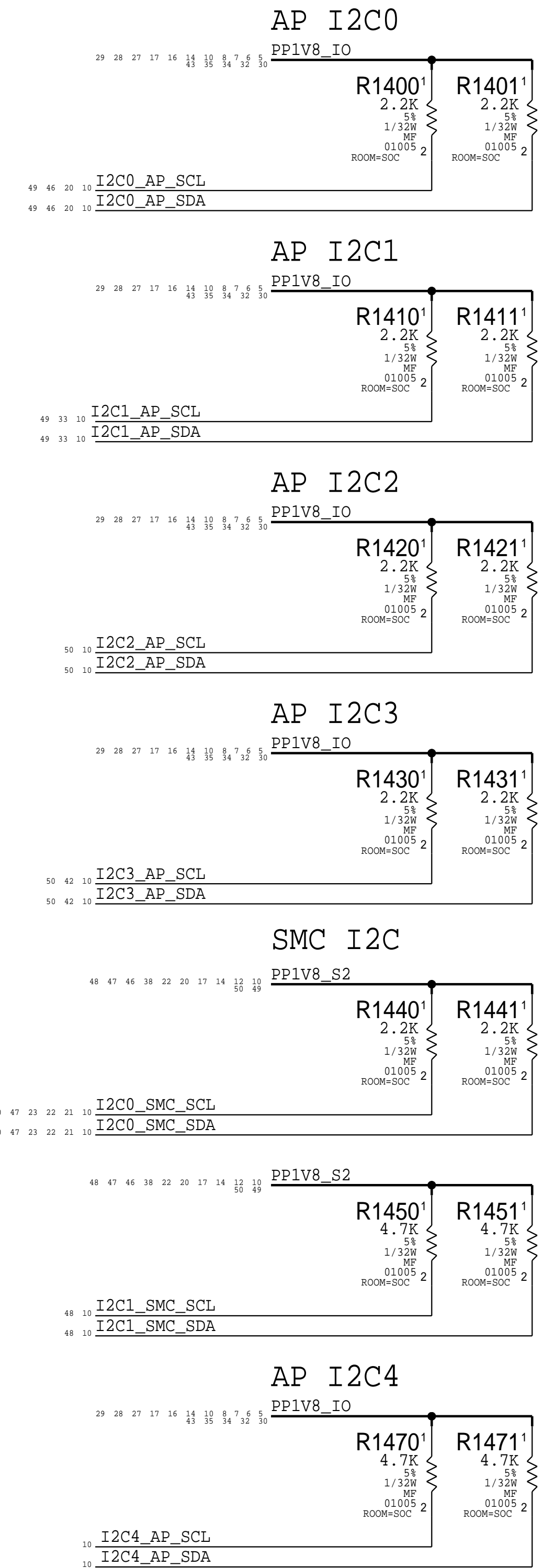
PAGE TITLE		
SOC: MIPI & ISP		
Apple Inc.	DRAWING NUMBER	051-02221
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	PAGE	12 OF 80
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SOC - LPDP



PAGE TITLE SOC: LPDP		
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	REVISION 9.0.0	BRANCH evt-1
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		SHEET 9 OF 51

SOC - SERIAL INTERFACES

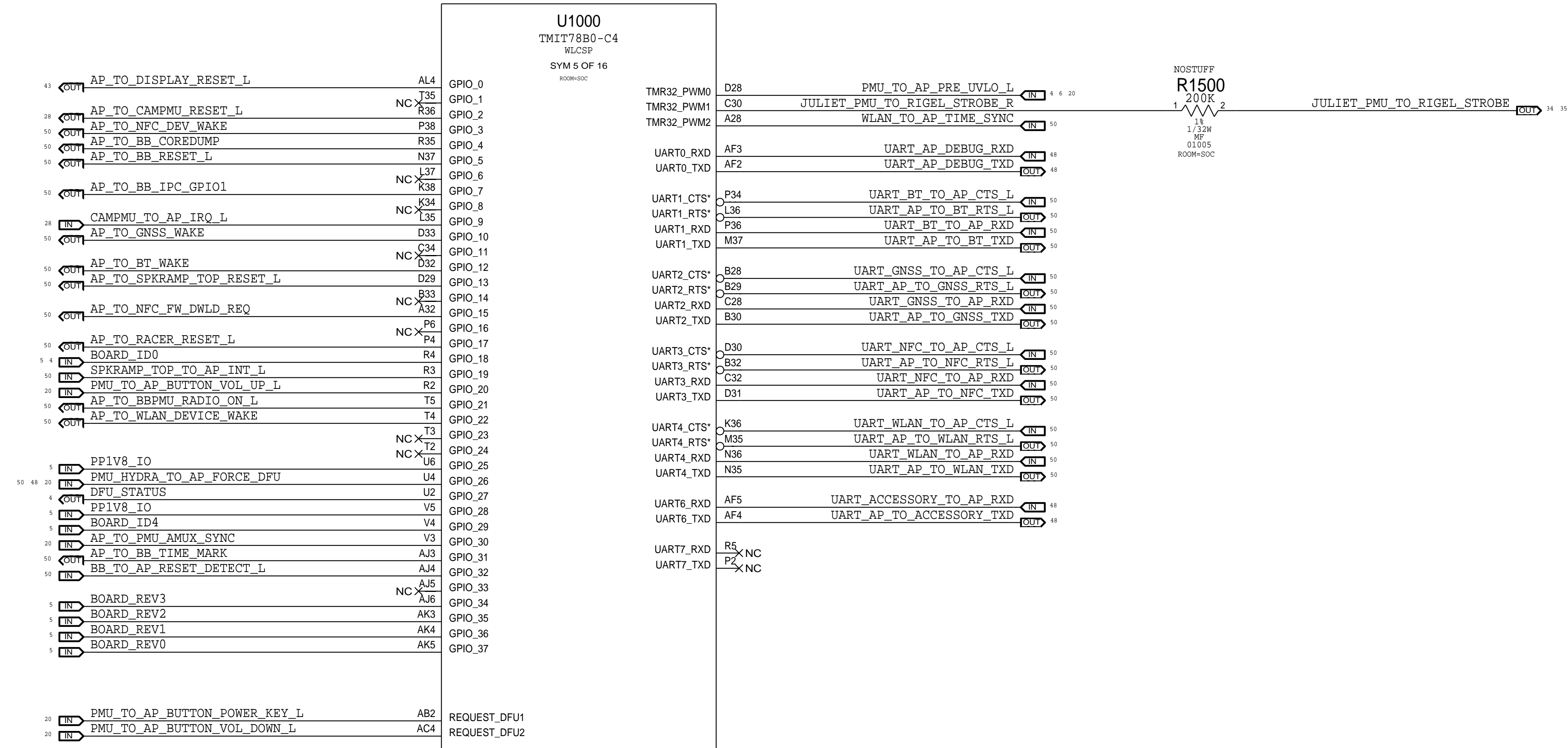


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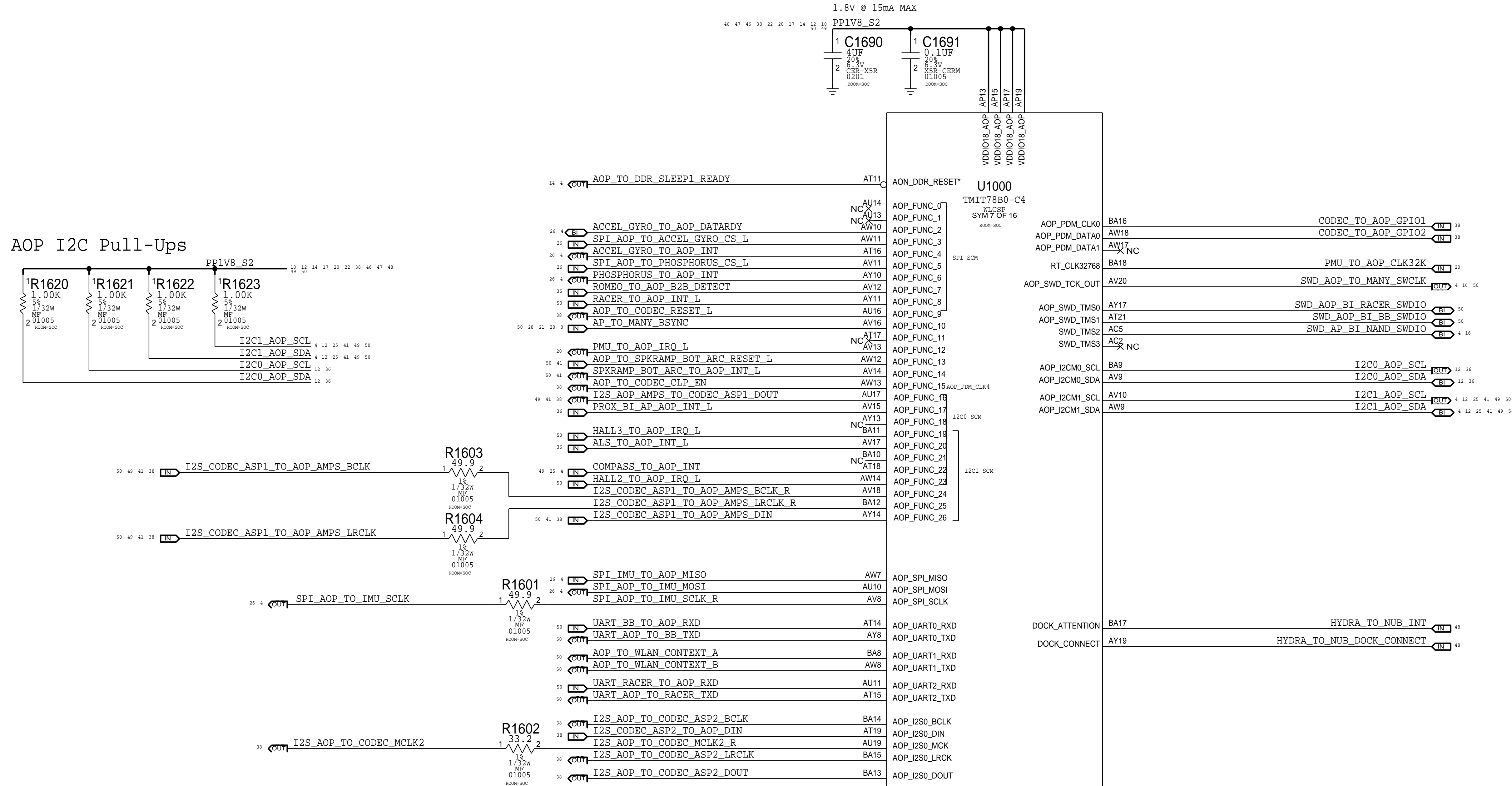
PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS
335800233	335800234	BOM_TABLE_ALTS	U1490	U1490

PAGE TITLE			
SOC: Serial			
		DRAWING NUMBER	SIZE
		051-02221	D
		REVISION	9.0.0
		BRANCH	evt-1
		PAGE	14 OF 80
		SHEET	10 OF 51
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SOC - GPIO INTERFACES



SOC - AOP



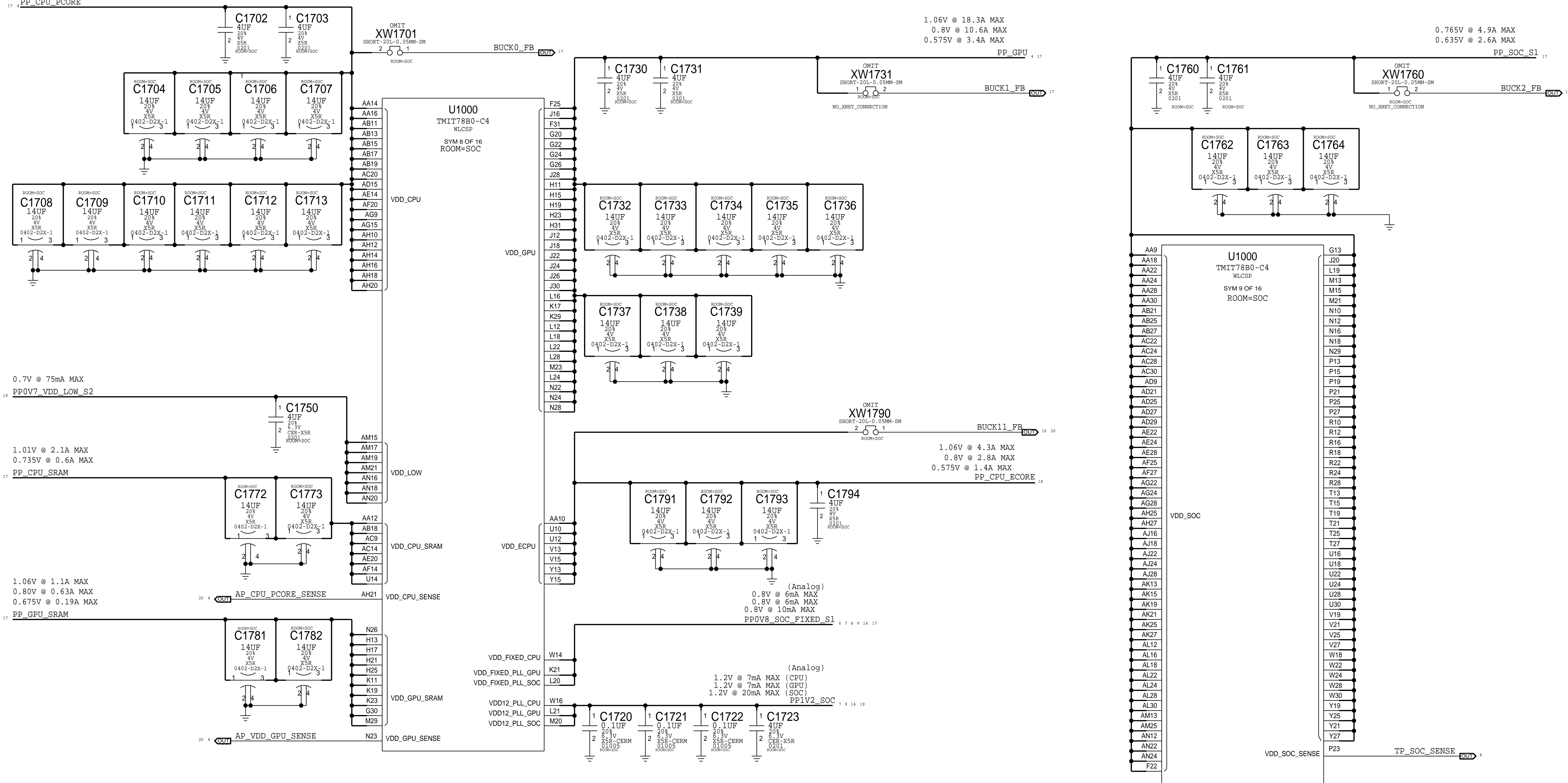
PAGE TITLE			SOC: AOP		
Apple Inc.	DRAWING NUMBER	051-02221	SIZE	D	
	REVISION	9.0.0			
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			PAGE	16 OF 80	
			SHEET	12 OF 51	

SOC - CPU, GPU & SOC RAILS

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

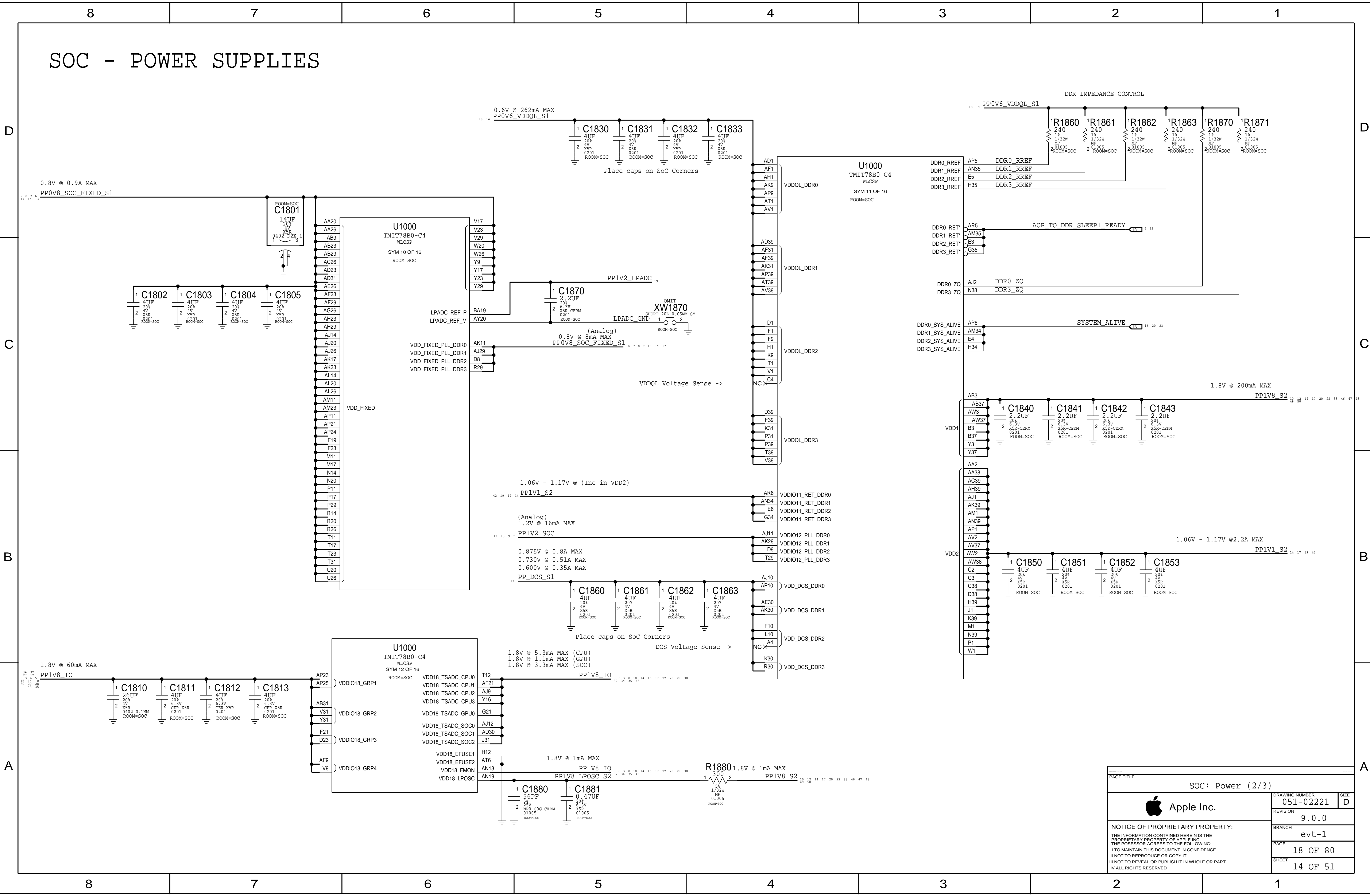
1.06V @ 18.3A MAX
 0.8V @ 10.6A MAX
 0.575V @ 3.4A MAX

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



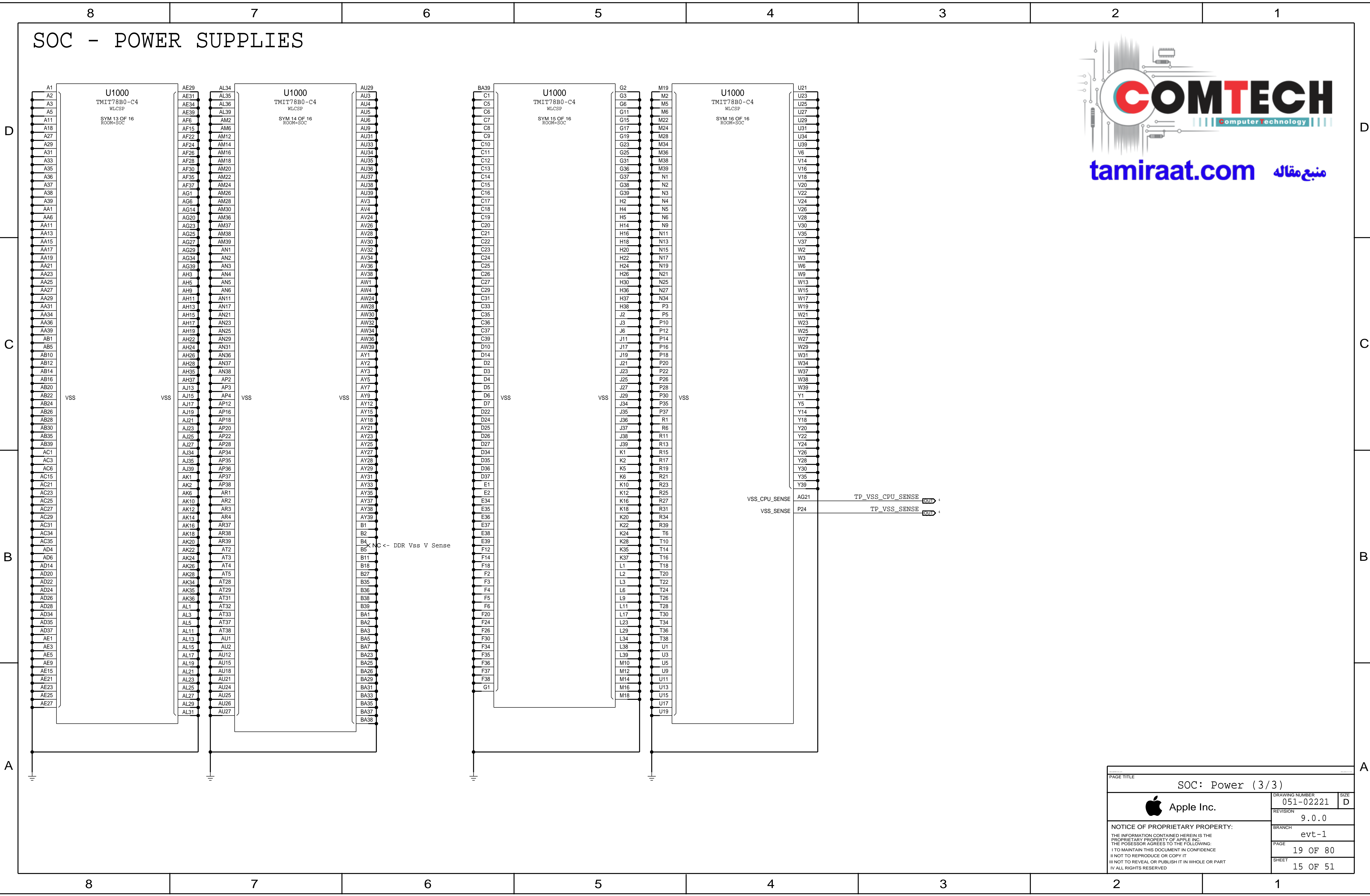
PAGE TITLE			SOC: Power (1/3)		
DRAWING NUMBER		051-02221	SIZE	D	
REVISION		9.0.0	BRANCH	evt-1	
PAGE		17 OF 80	SHEET	13 OF 51	
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SOC - POWER SUPPLIES



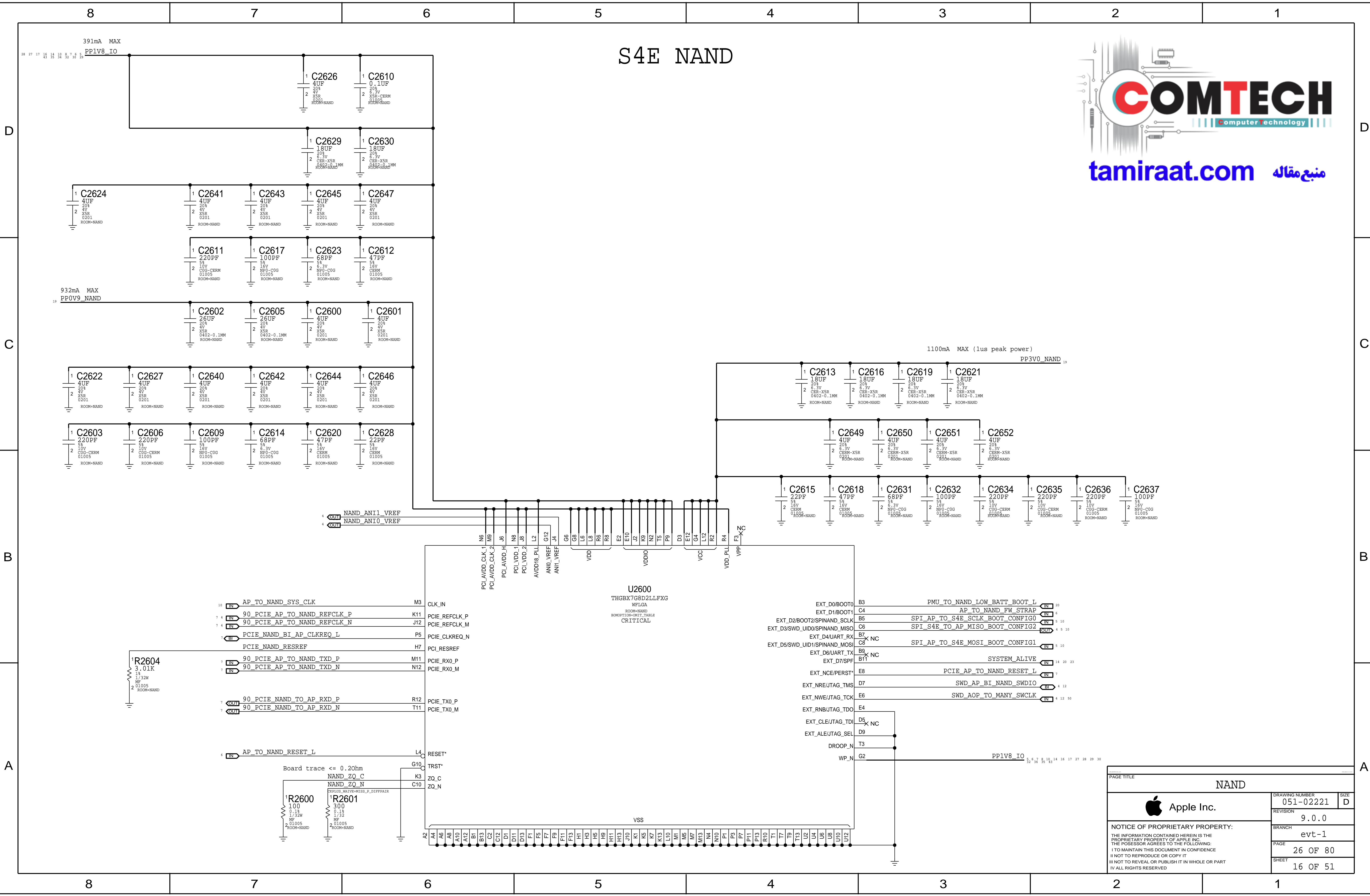
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SOC: Power (2/3)		
	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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	PAGE	18 OF 80
	SHEET	14 OF 51

SOC - POWER SUPPLIES

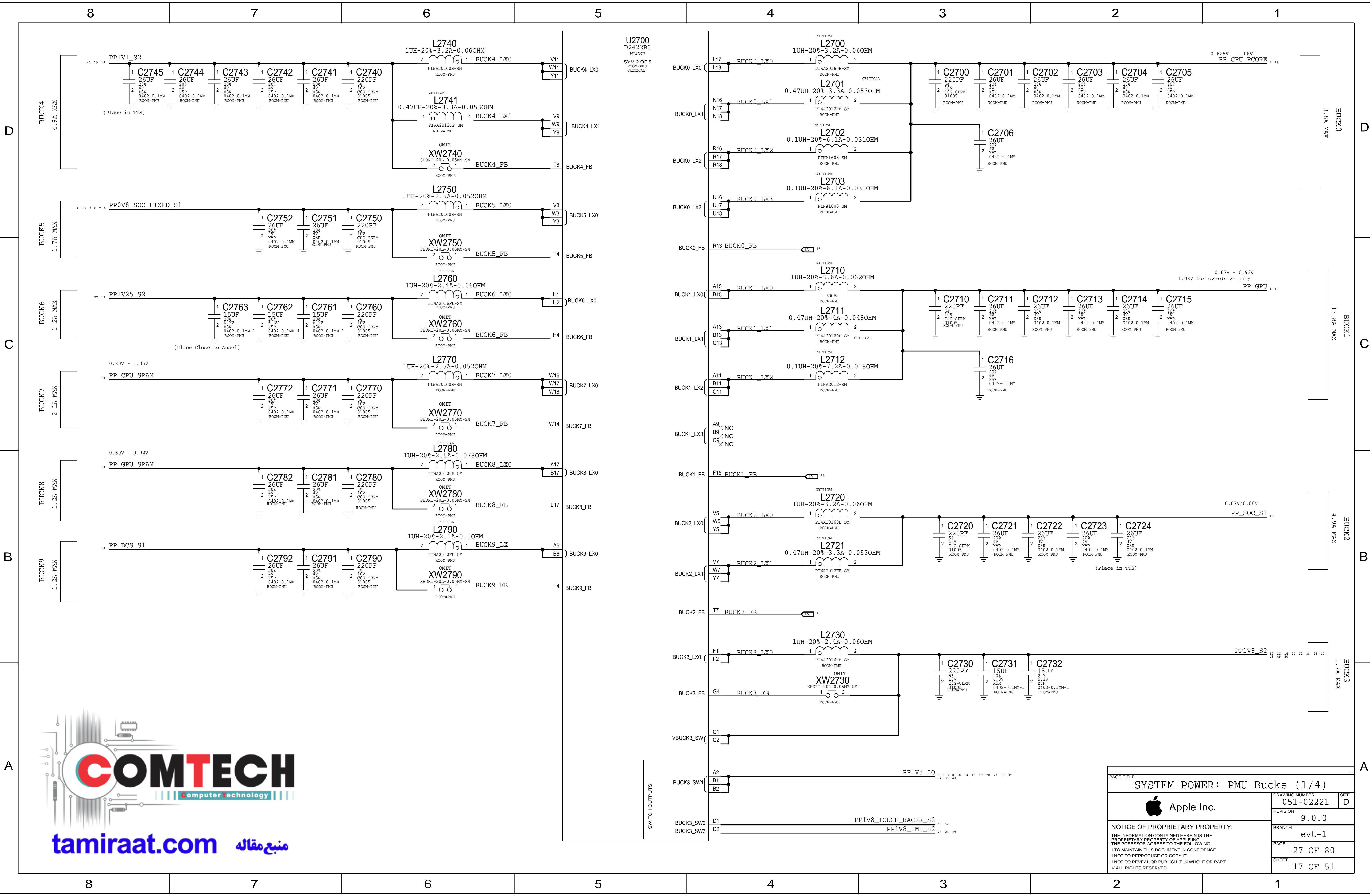


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Apple Inc.	DRAWING NUMBER	051-02221	SIZE	D	
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			PAGE	19 OF 80	
			SHEET	15 OF 51	

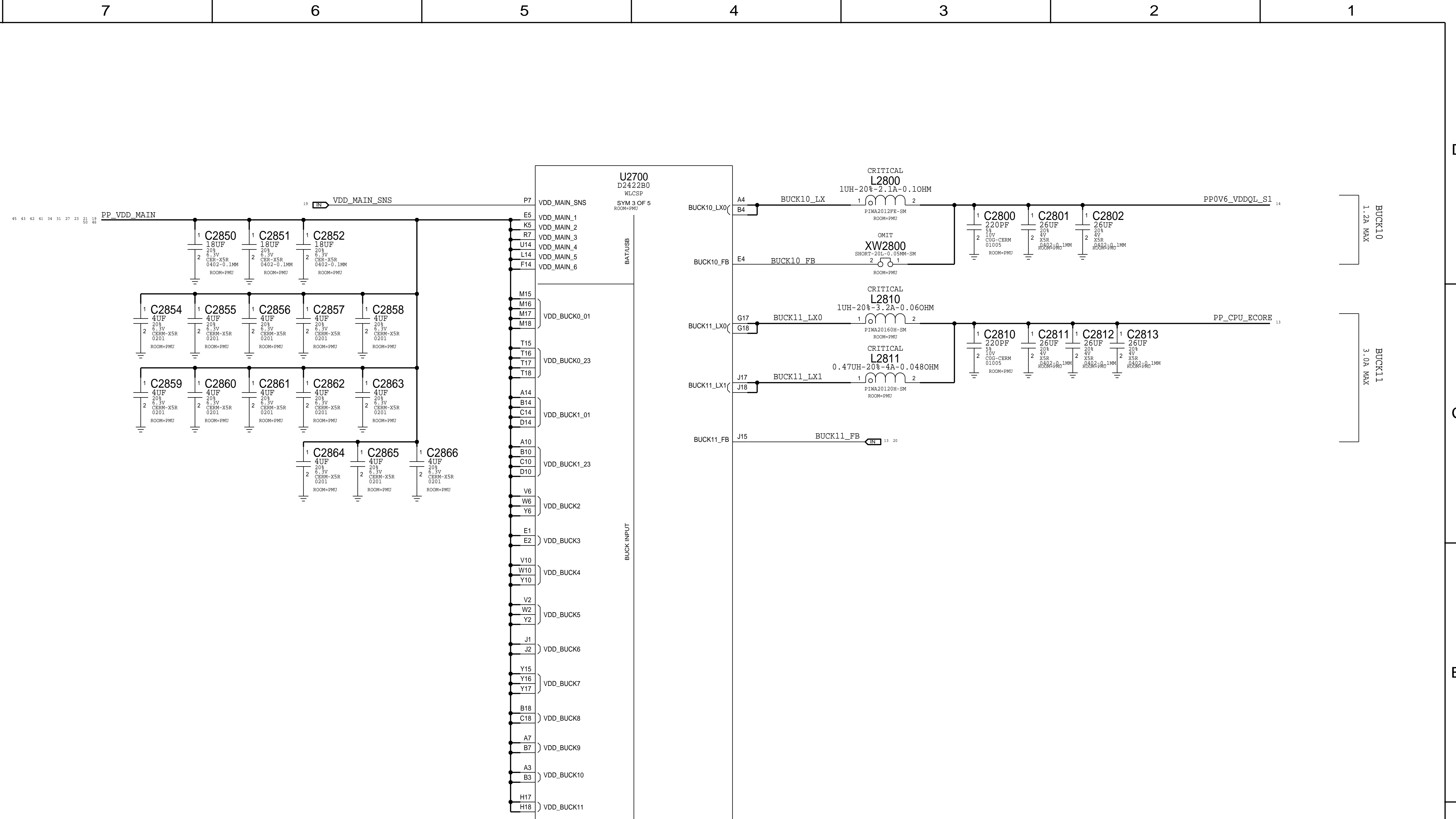
S4E NAND



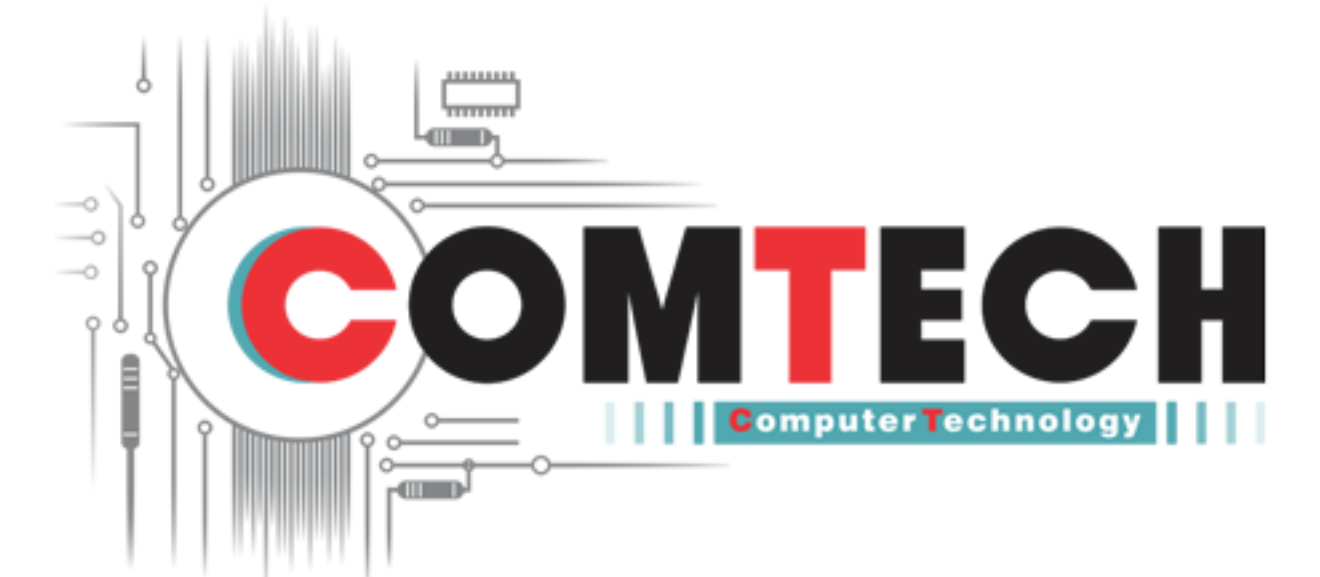
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Apple Inc.		DRAWING NUMBER	051-02221	SIZE	D
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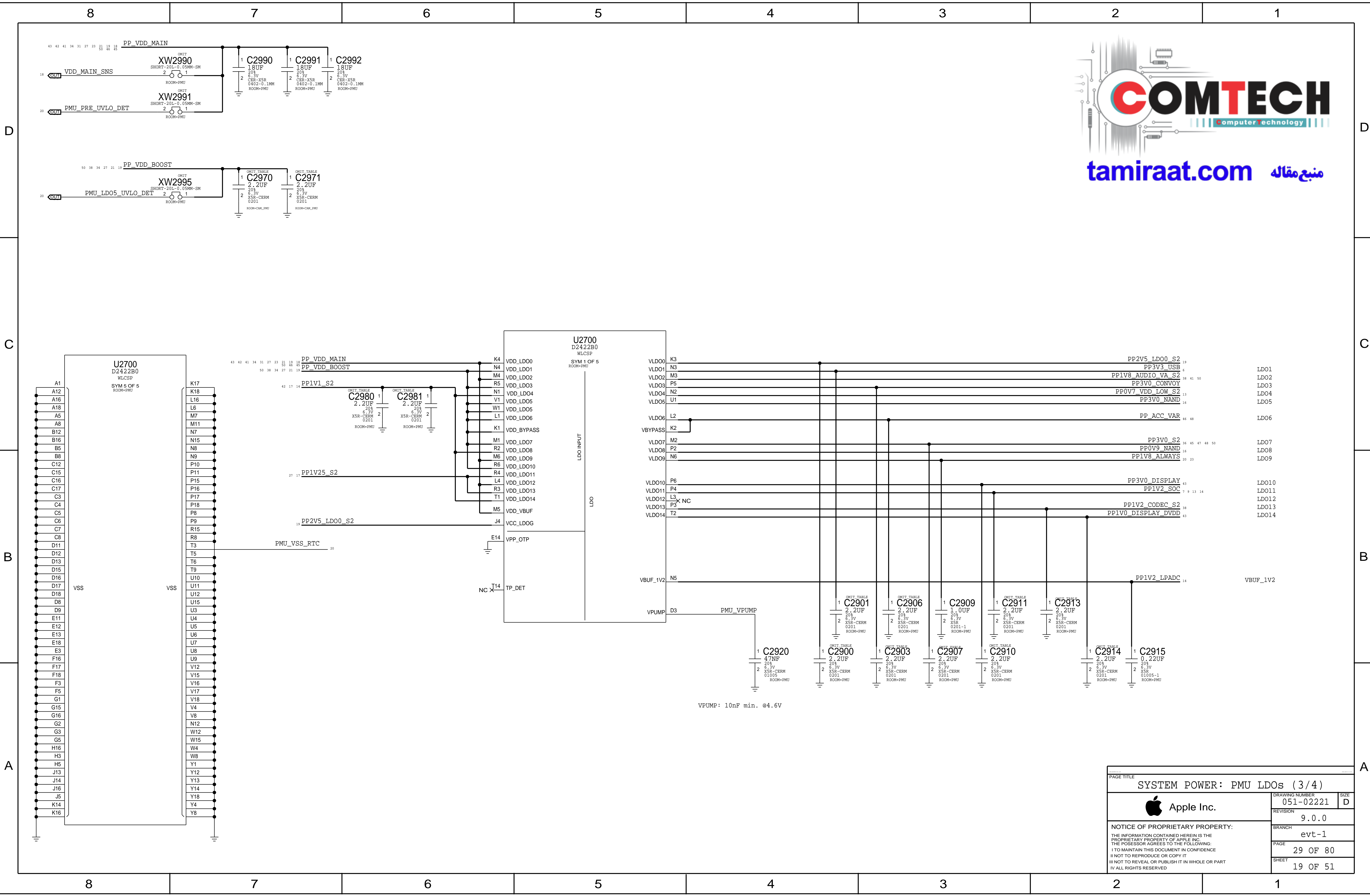
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SYSTEM POWER: PMU Bucks (1/4)		
DRAWING NUMBER	051-02221	SIZE
REVISION	9.0.0	D
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BRANCH	evt-1	
PAGE	27 OF 80	
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PAGE TITLE SYSTEM POWER: PMU Bucks (2/4)		
Apple Inc.	DRAWING NUMBER	051-02221
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	PAGE	28 OF 80
	SHEET	18 OF 51

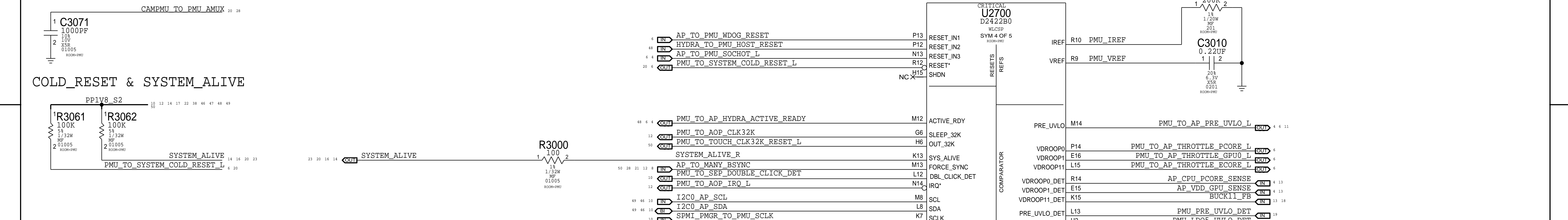


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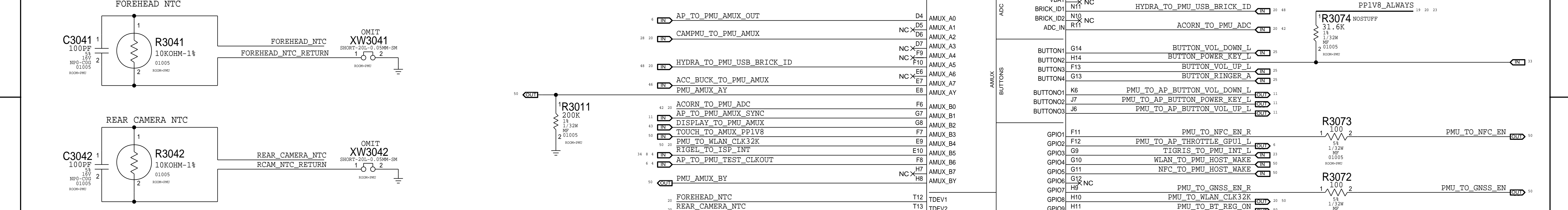


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SYSTEM POWER: PMU LDOs (3/4)		
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	PAGE	29 OF 80
	SHEET	19 OF 51

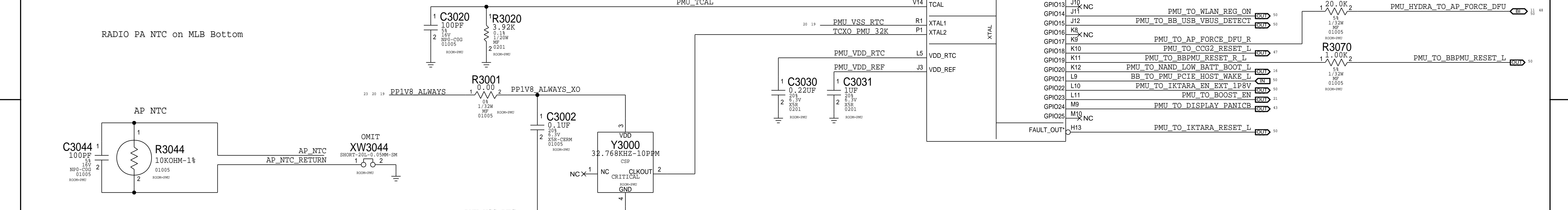
D Ansel AMUX



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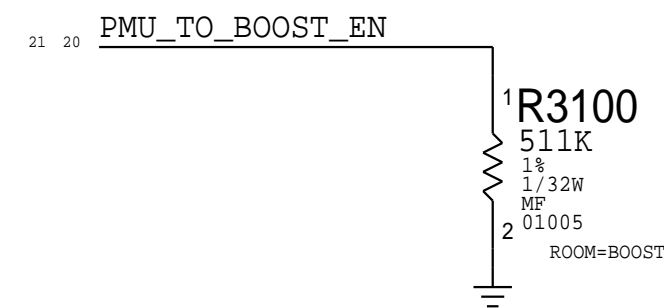
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NOTE:100PF CAPS ARE THE SAMPLING CAPS FOR PMU ADC

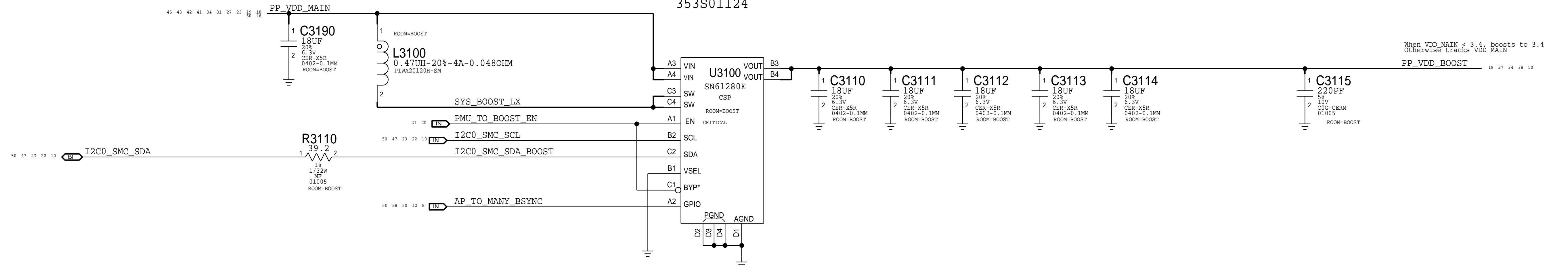
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SYSTEM POWER: PMU (4/4)		
Apple Inc.	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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	SHEET	20 OF 51

Boost Enable Pull



BOOST

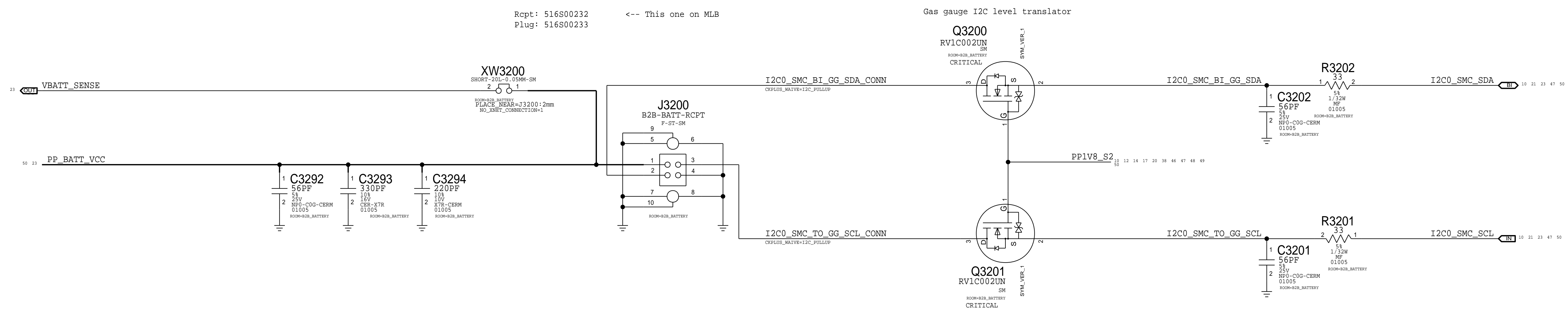
353S01124



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

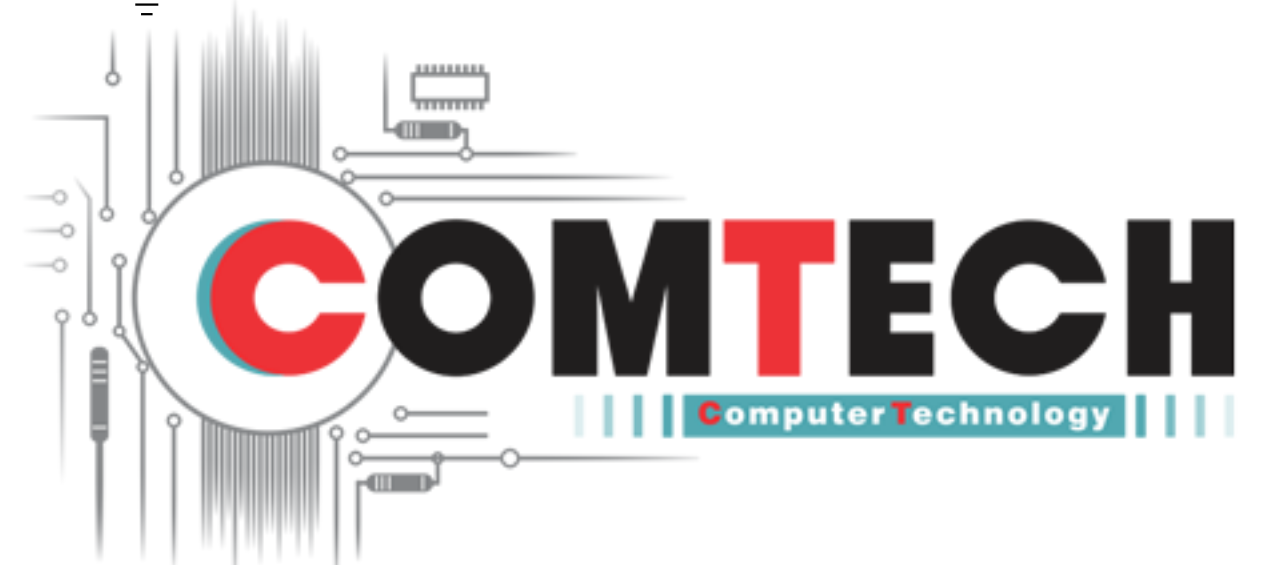
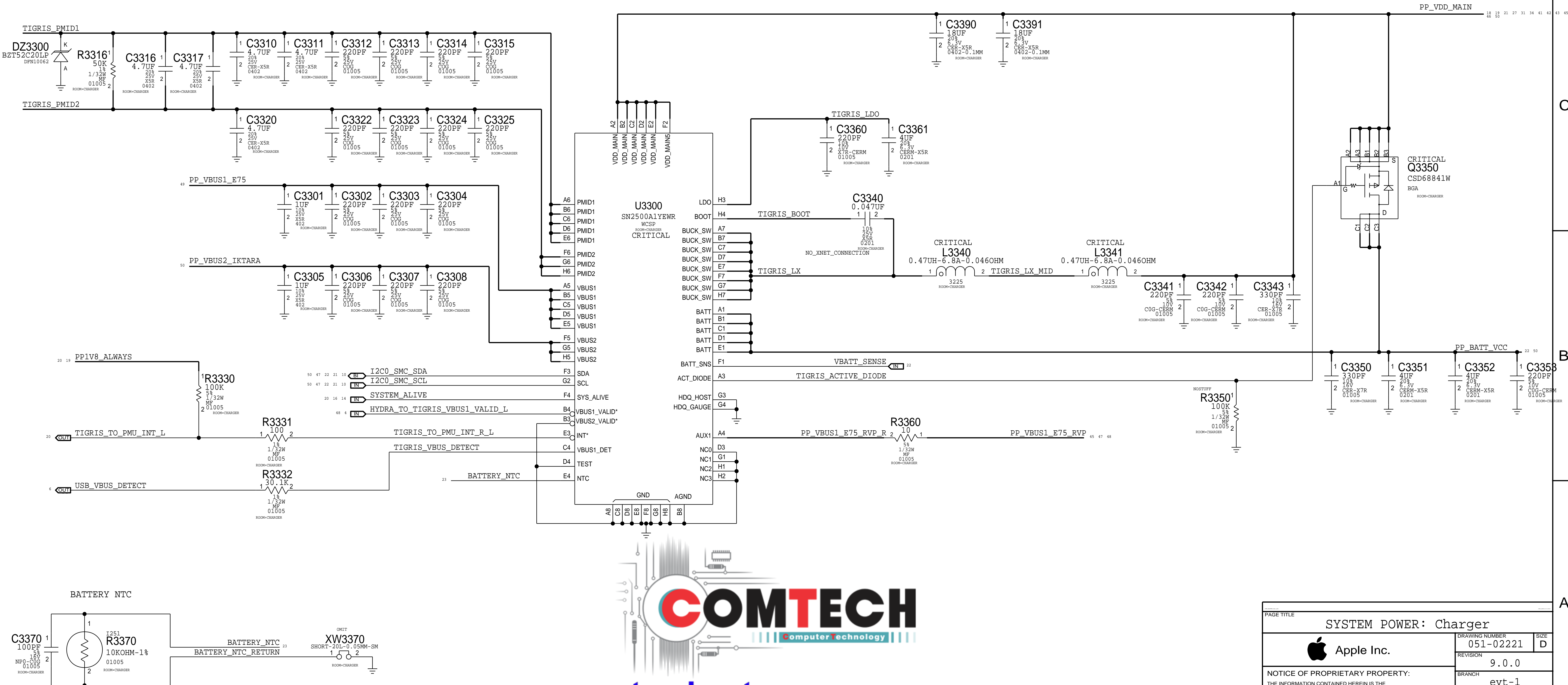
BATTERY CONNECTOR

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



PAGE TITLE SYSTEM POWER: B2B Battery		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
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TIGRIS2 CHARGER



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

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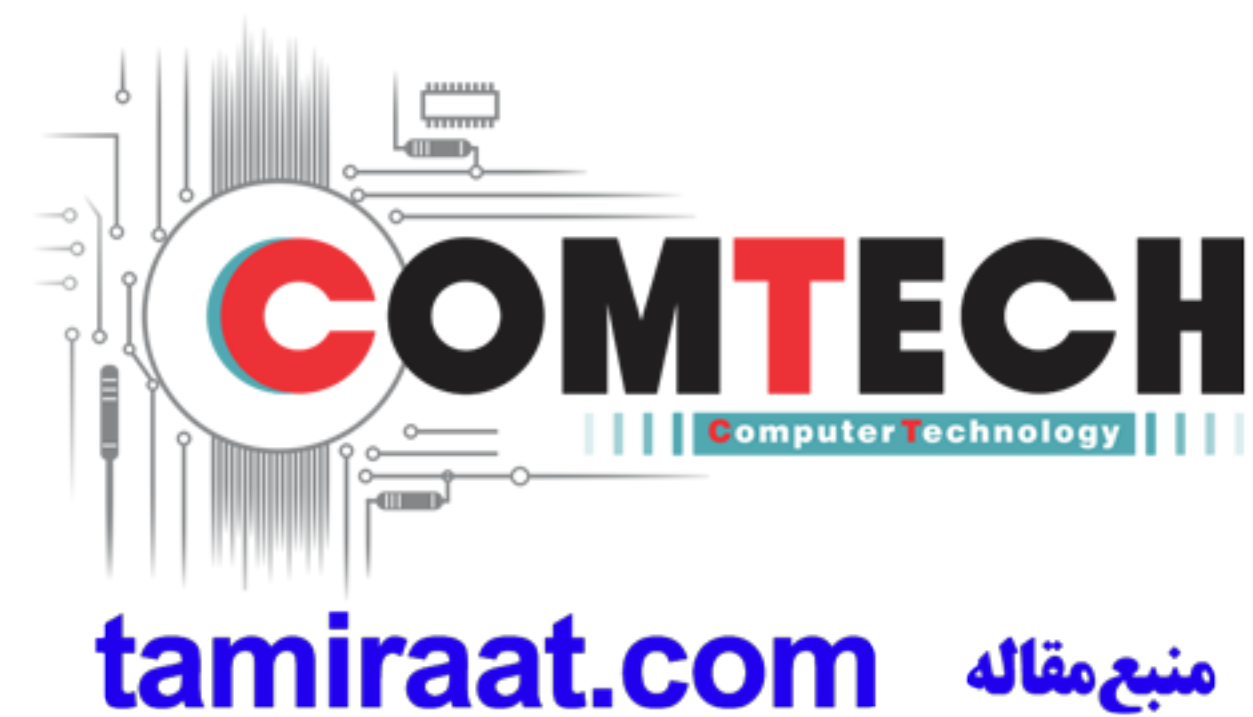
B

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Iktara Components on MLB Bottom



PAGE TITLE SYSTEM POWER: Iktara		
	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
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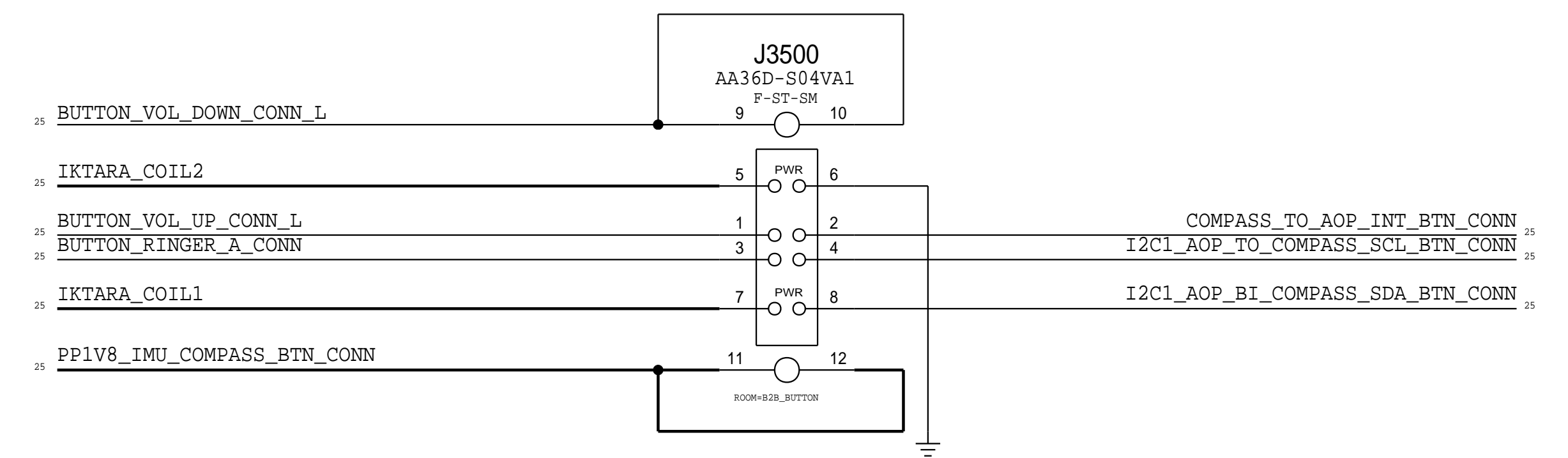
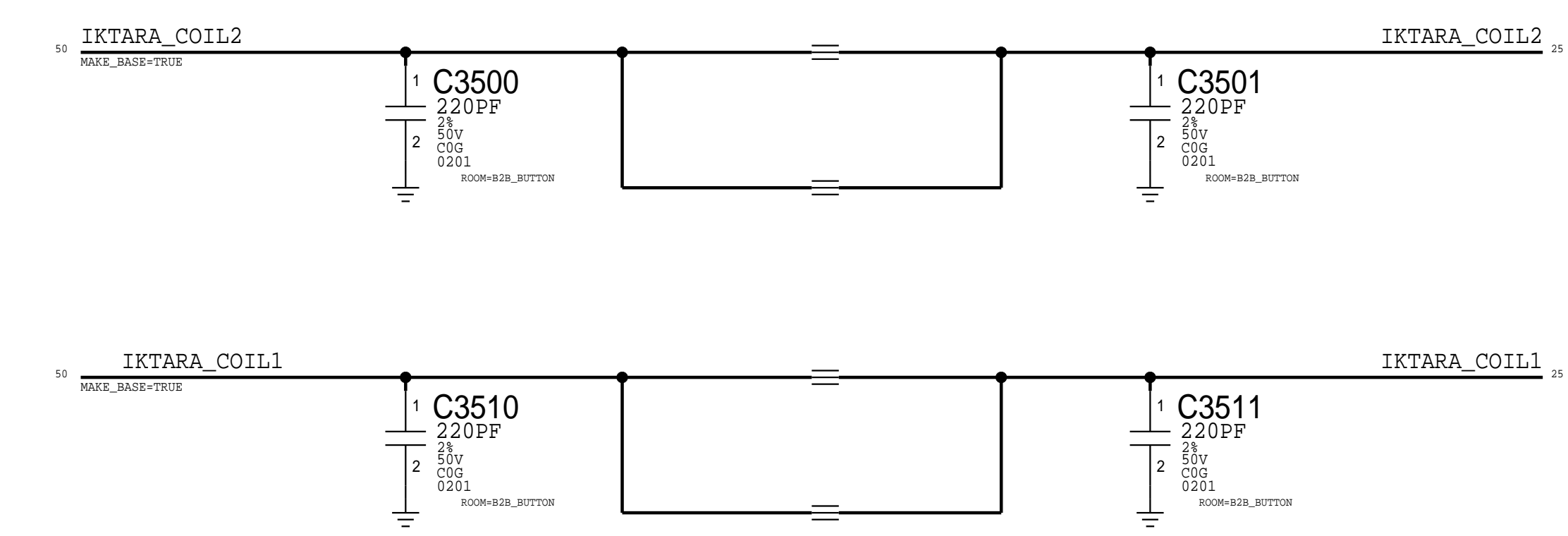
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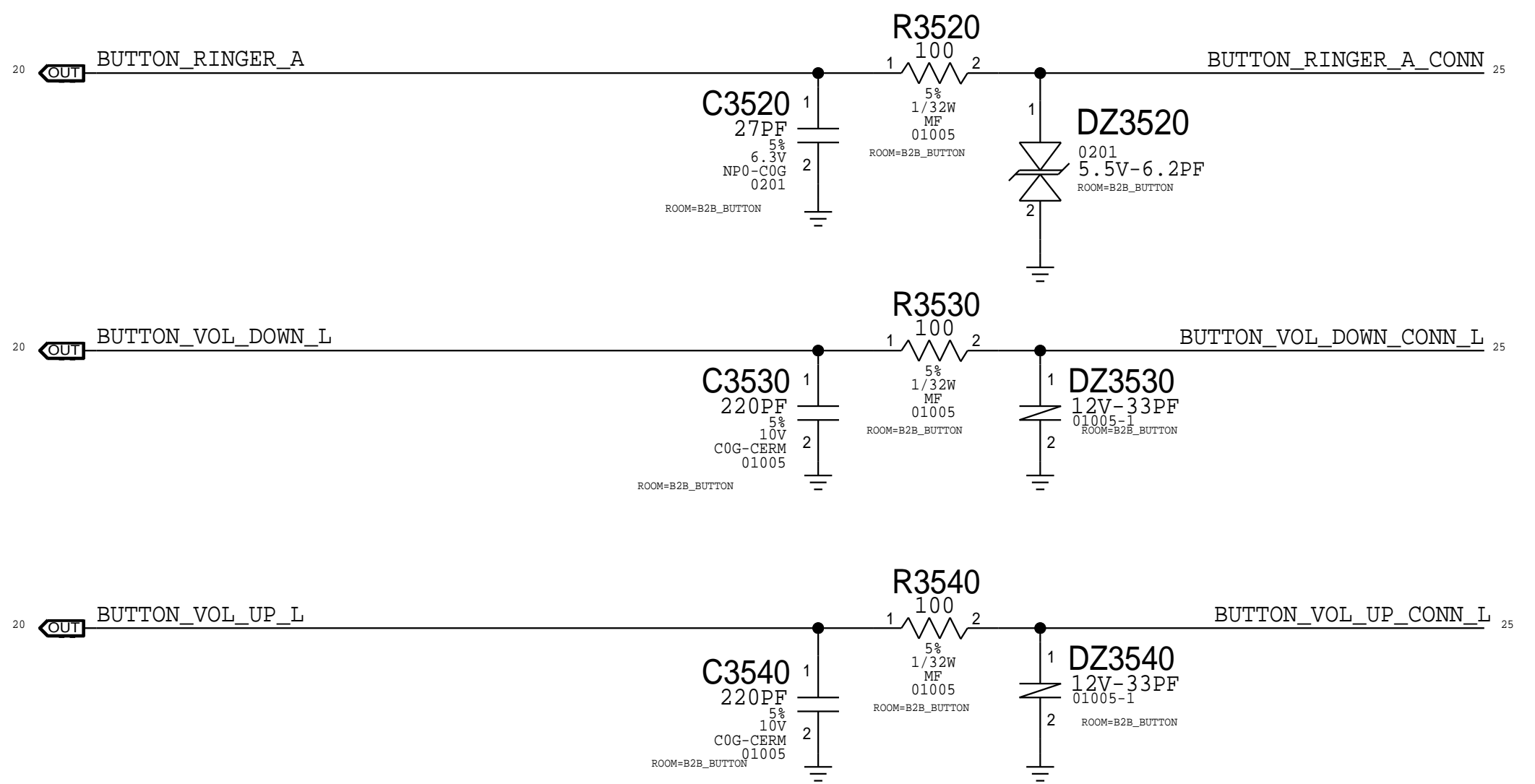
Cyclone + Button Connector

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

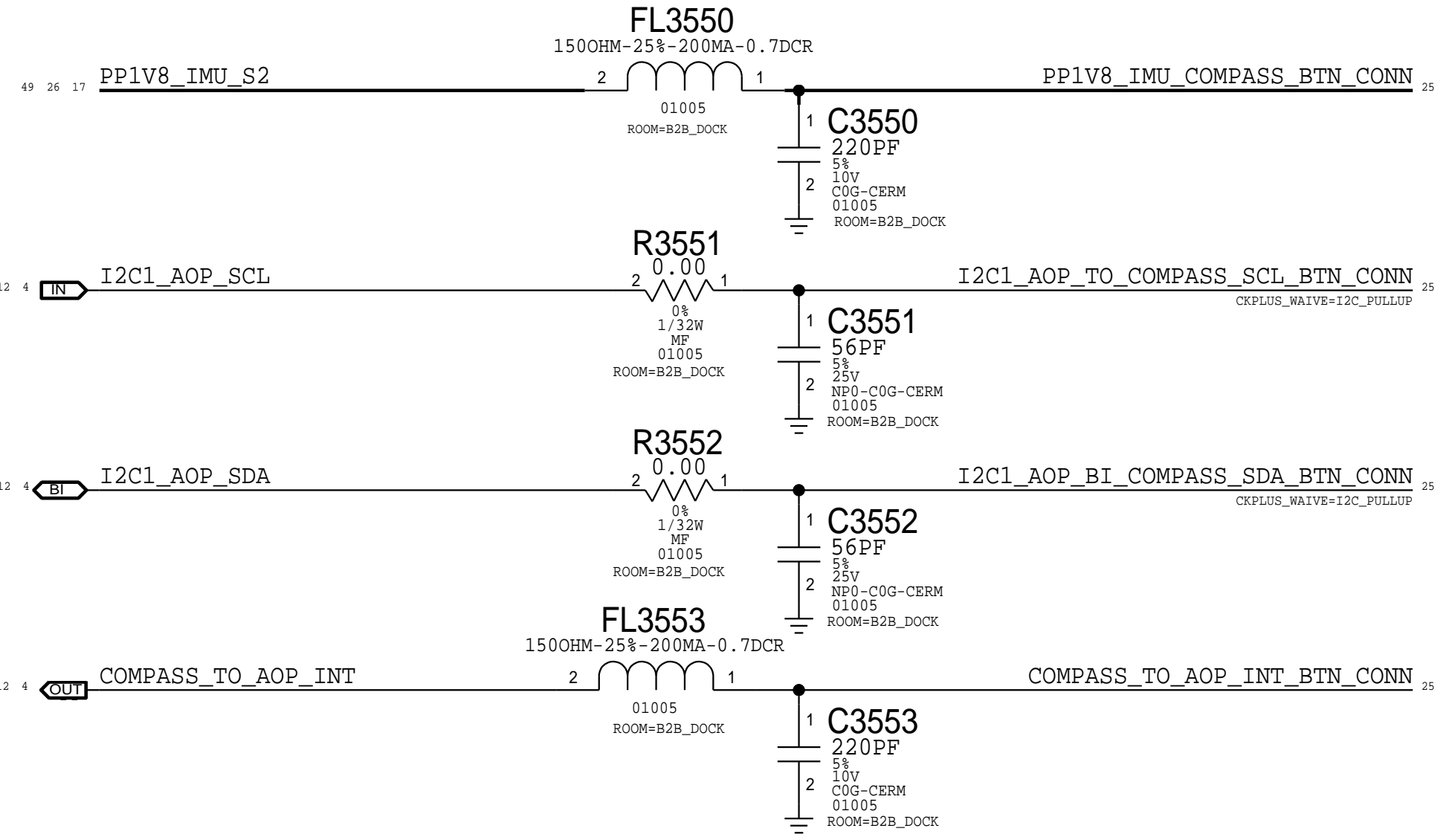
Cyclone Filtering



BUTTONS



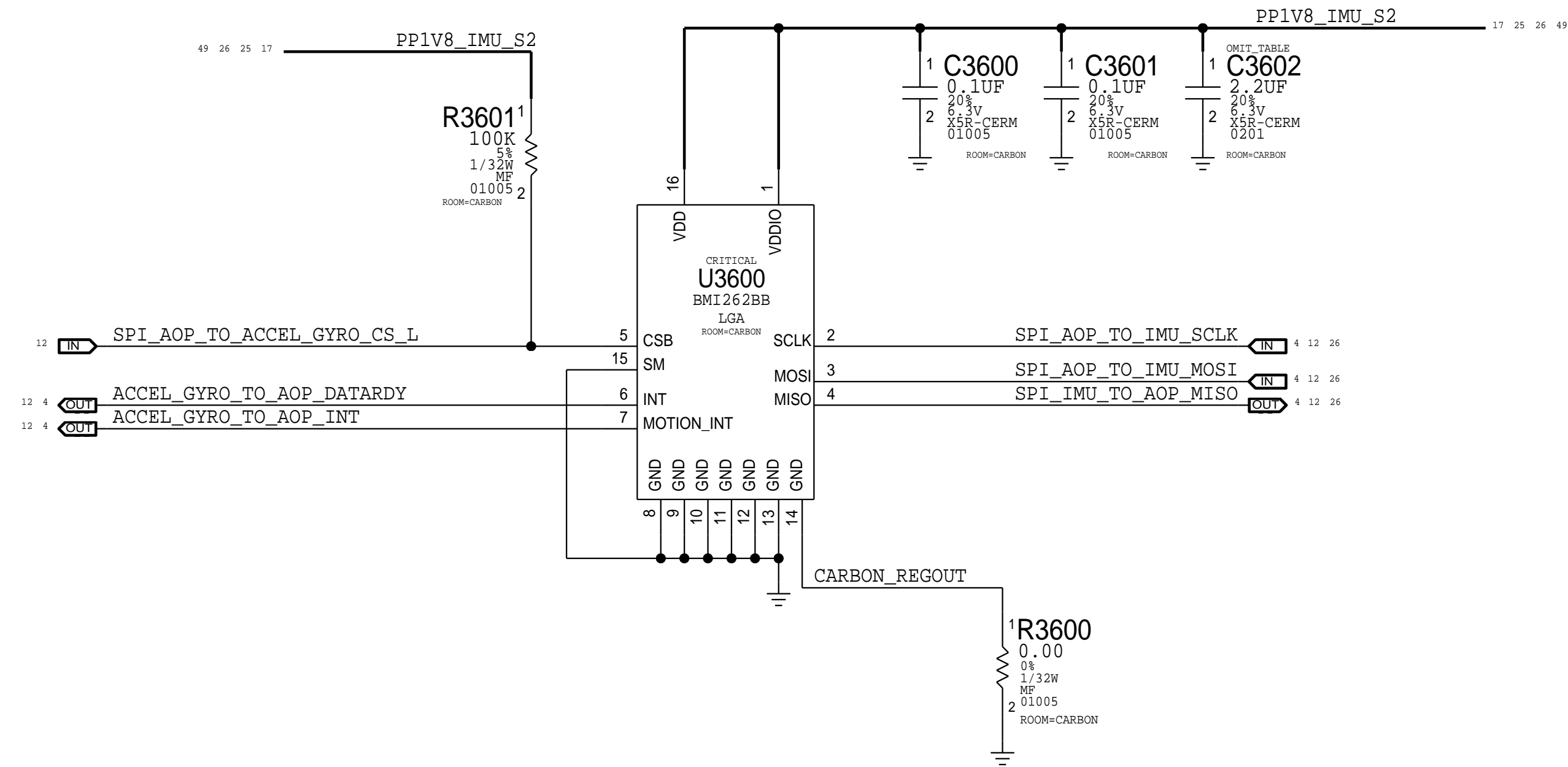
Compass (Button Flex Location)



PAGE TITLE SYSTEM POWER: B2B Cyclone + Button		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
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	PAGE 35 OF 80	SHEET 25 OF 51

Graphite - Accel & Gyro

APN: 338S00304

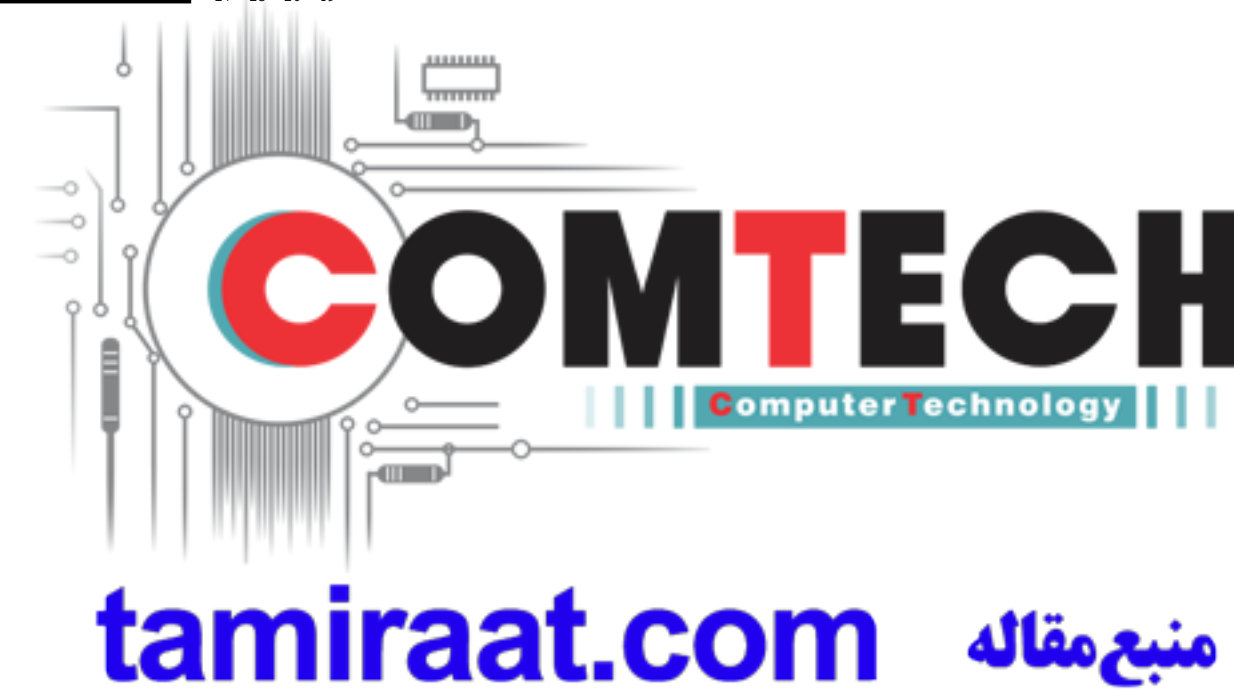
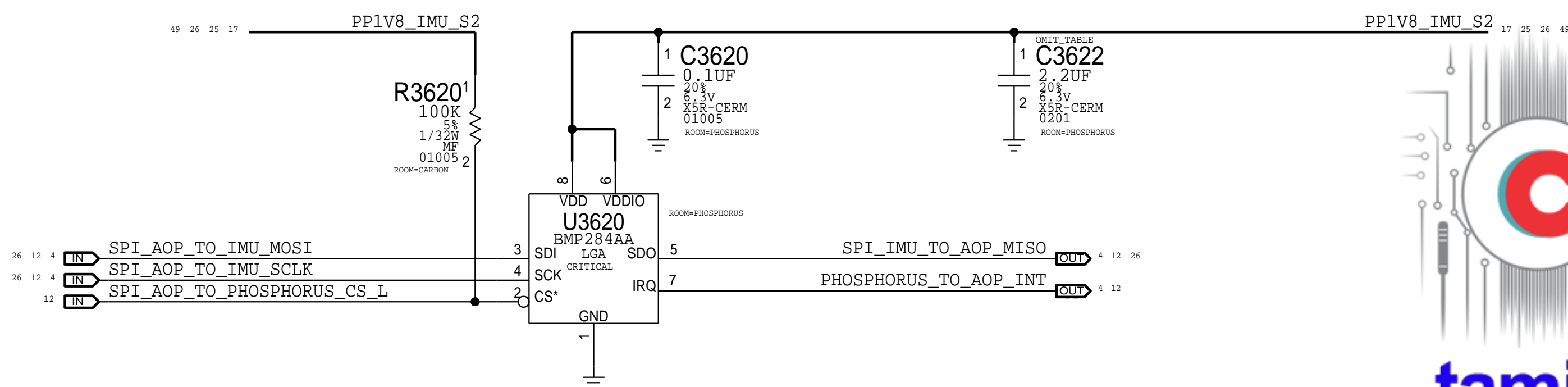


Magnesium - Compass

(On Dock or Button Flex)

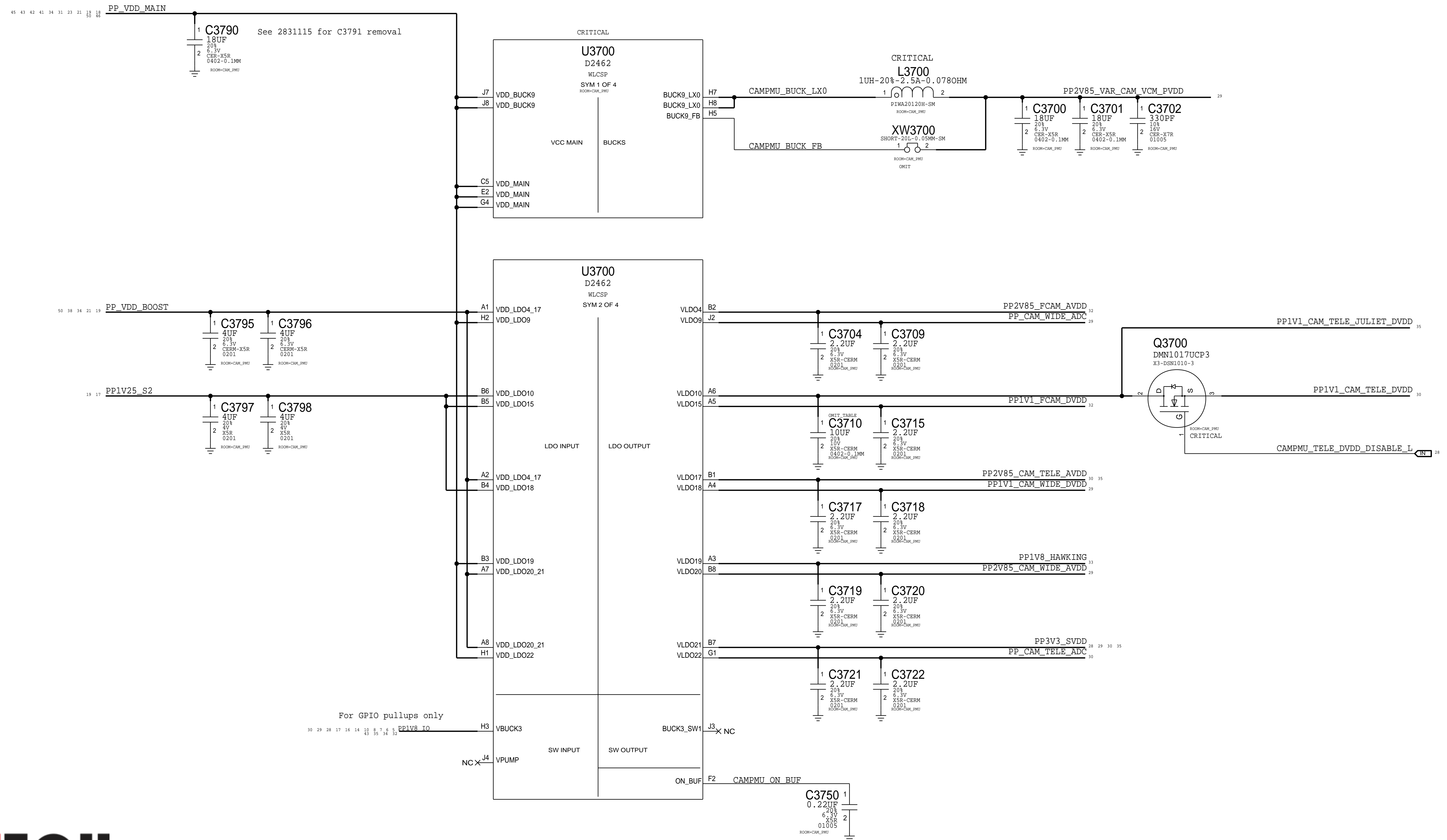
Phosphorus

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



PAGE TITLE			SENSORS		
		DRAWING NUMBER	051-02221	SIZE	D
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		PAGE	36 OF 80		
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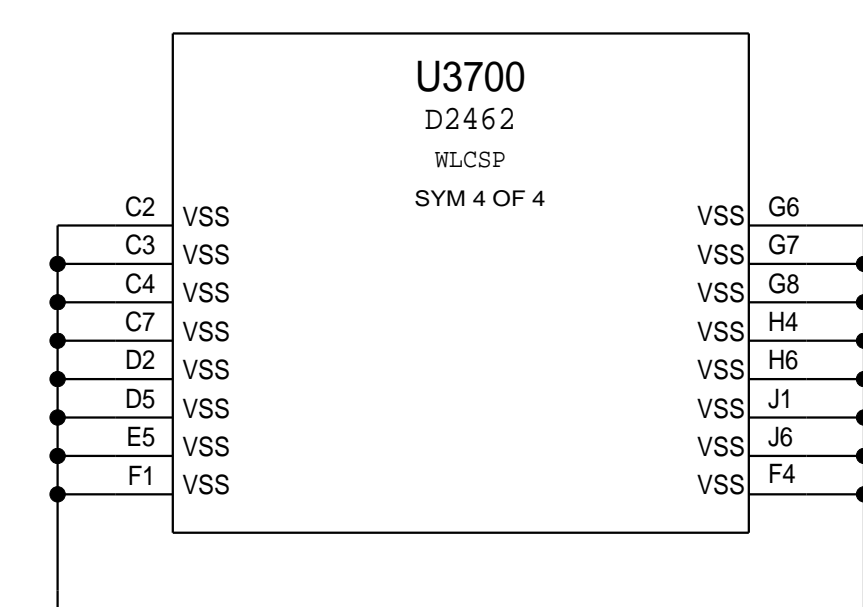
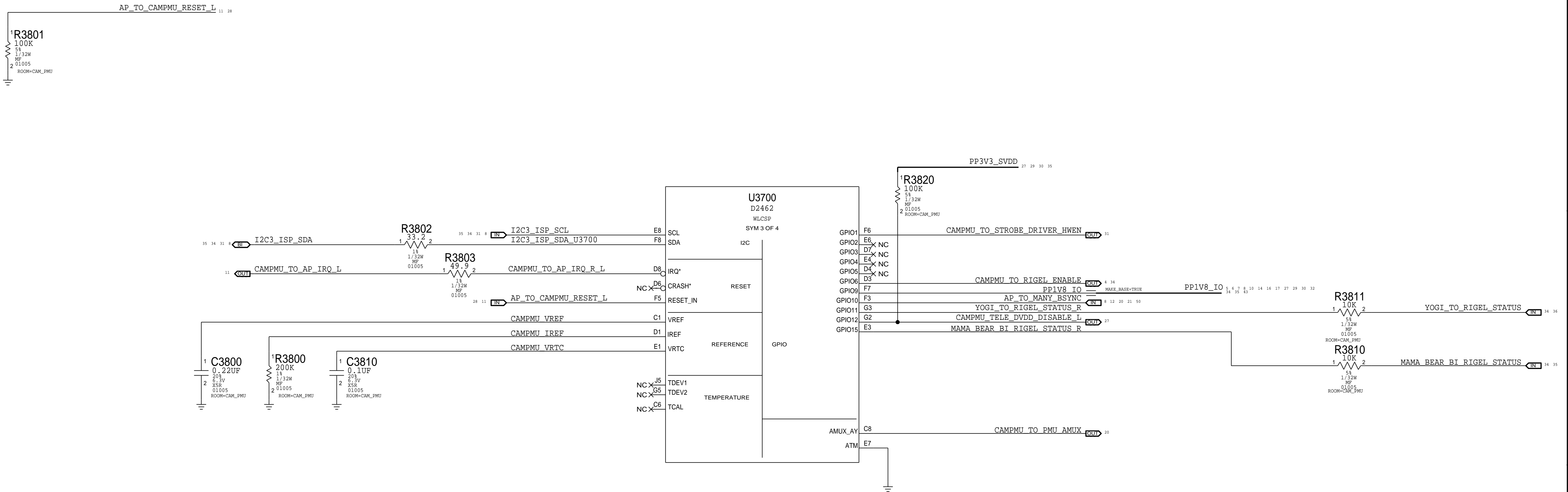
Camera PMU



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PAGE TITLE CAMERA: PMU (1/2)		
	DRAWING NUMBER 051-02221	SIZE D
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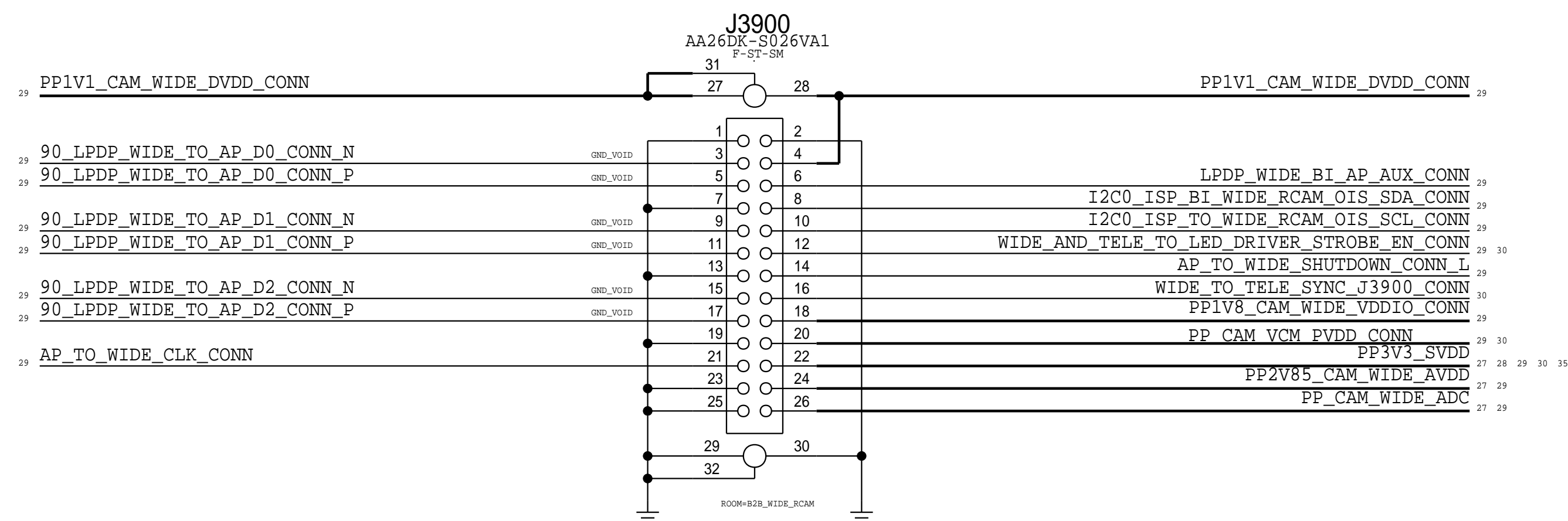
Pull Downs



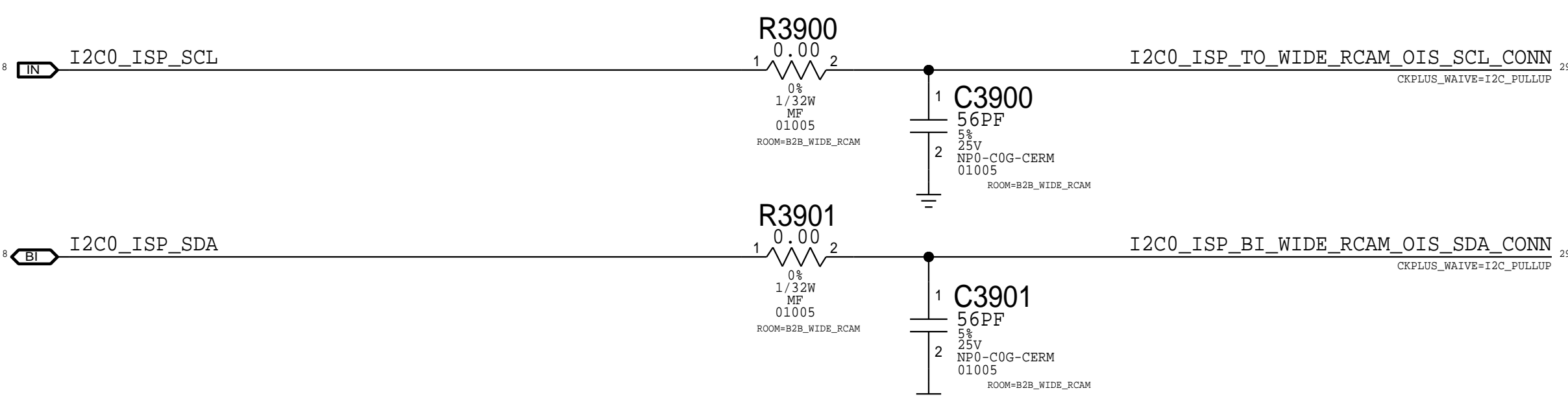
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Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
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	SHEET 28 OF 51	

Wide Camera Connector

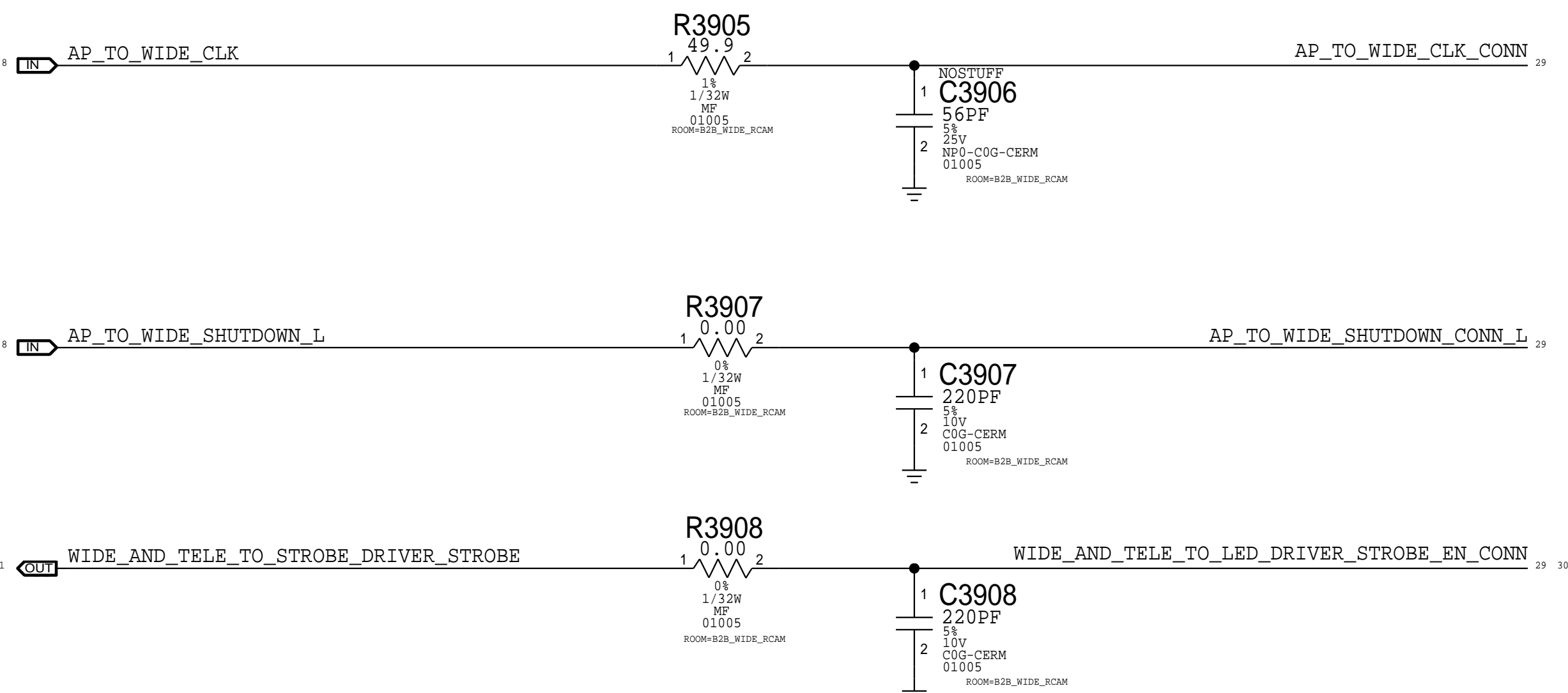
Rcpt: 516S00313 <-- This one on MLB
 Plug: 516S00314



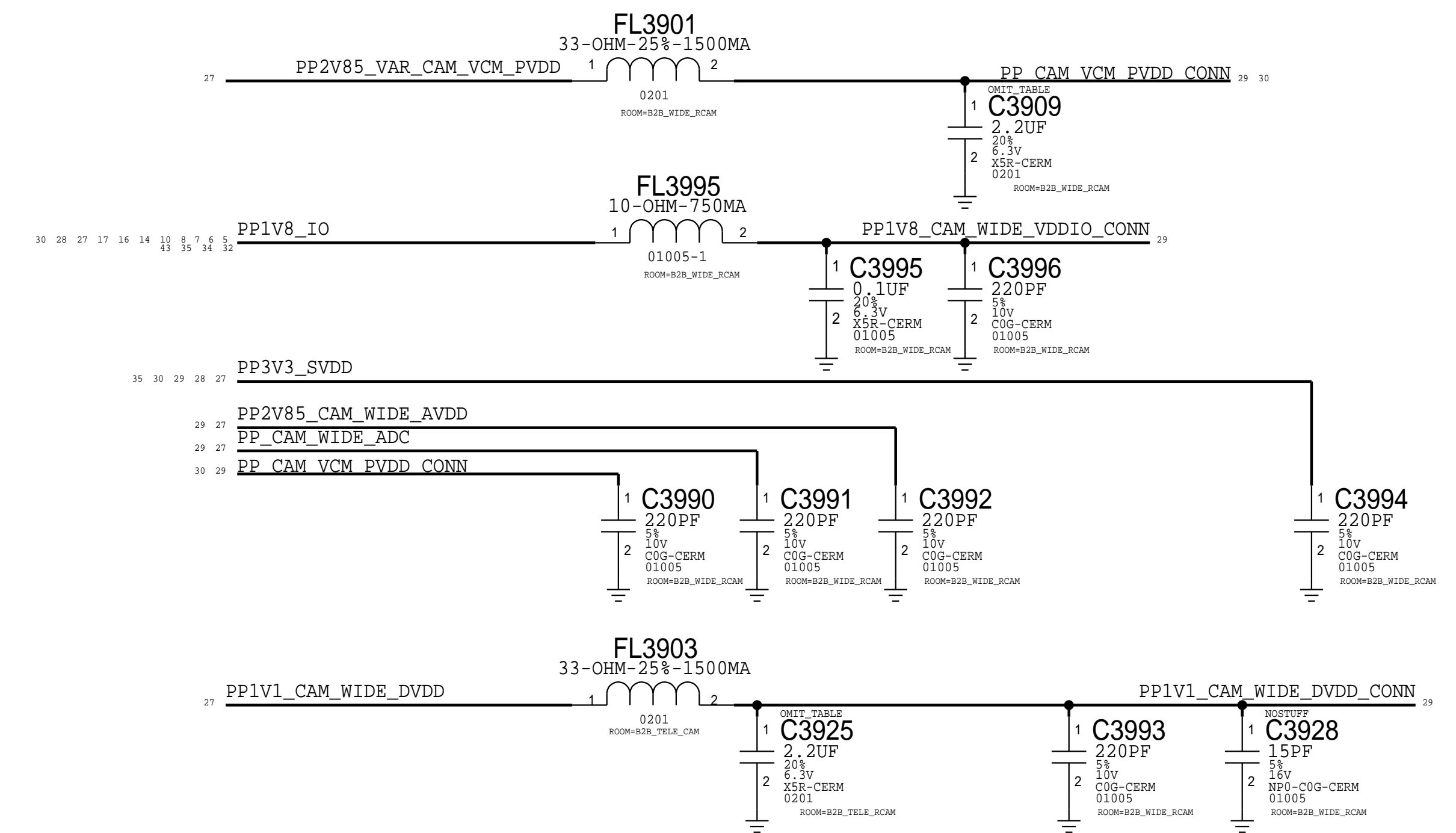
ISP I2C



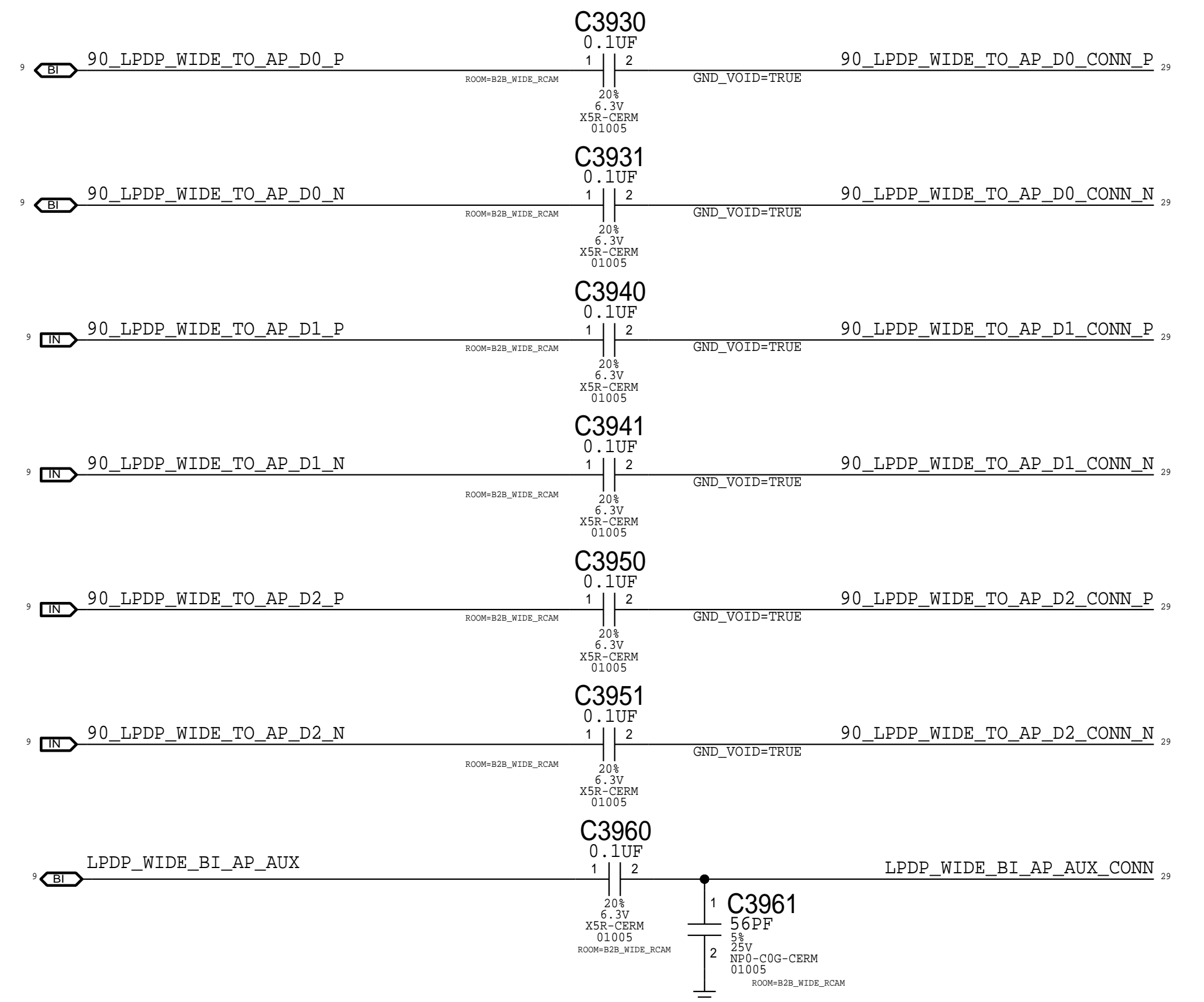
IO Filters



Power Filtering



LPDP Filters

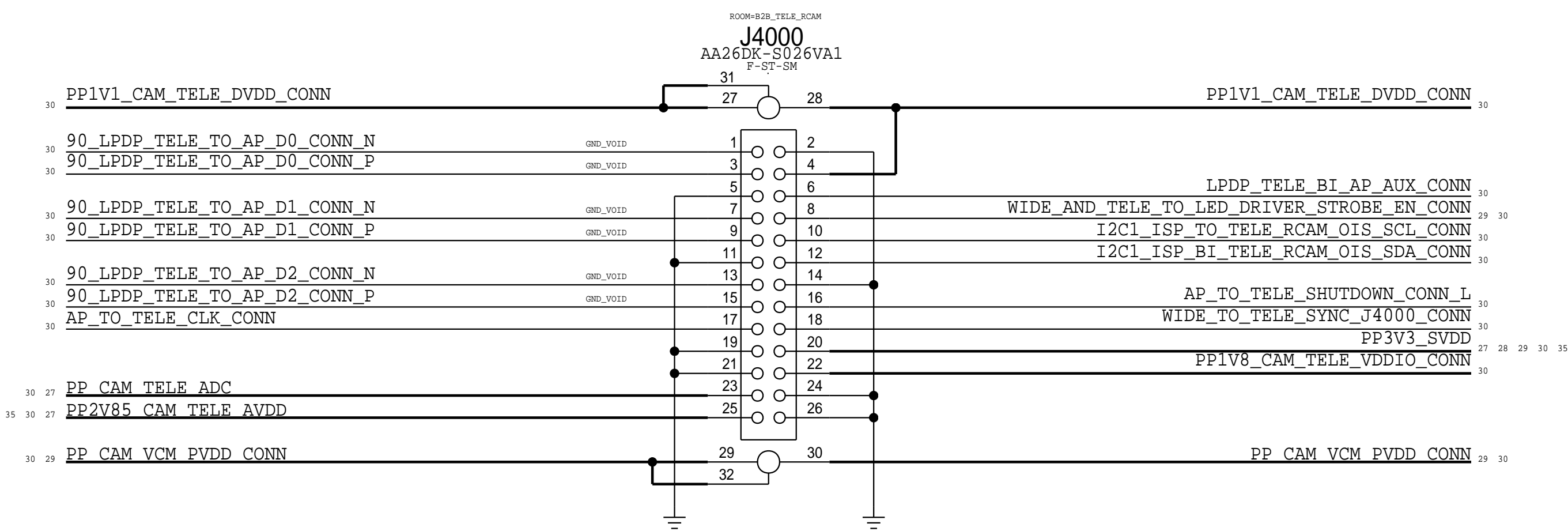


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	PAGE	39 OF 80
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	SIZE	D

Tele Camera Connector

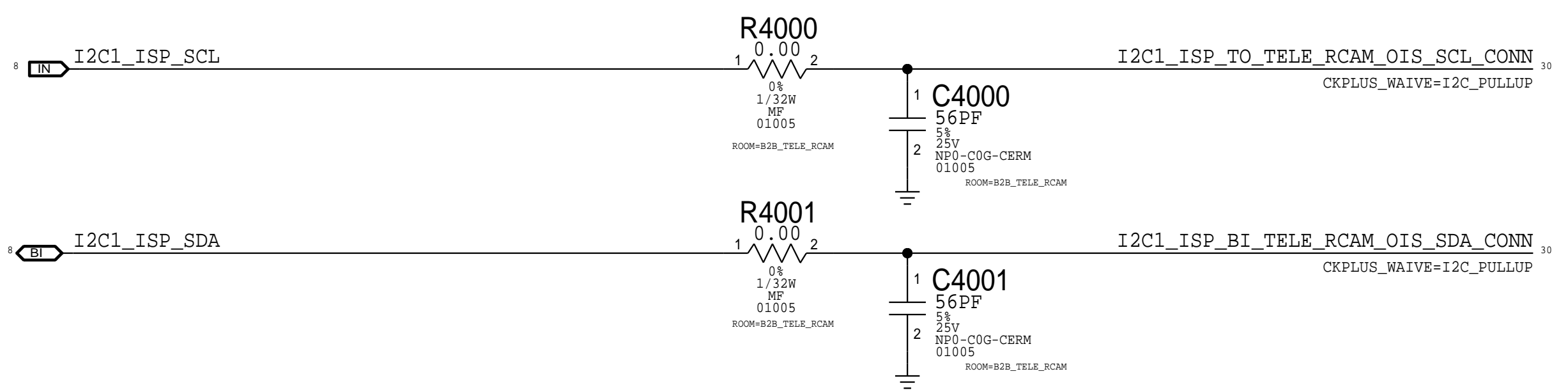
Rcpt: 516S00313 <-- This one on MLB
 Plug: 516S00314

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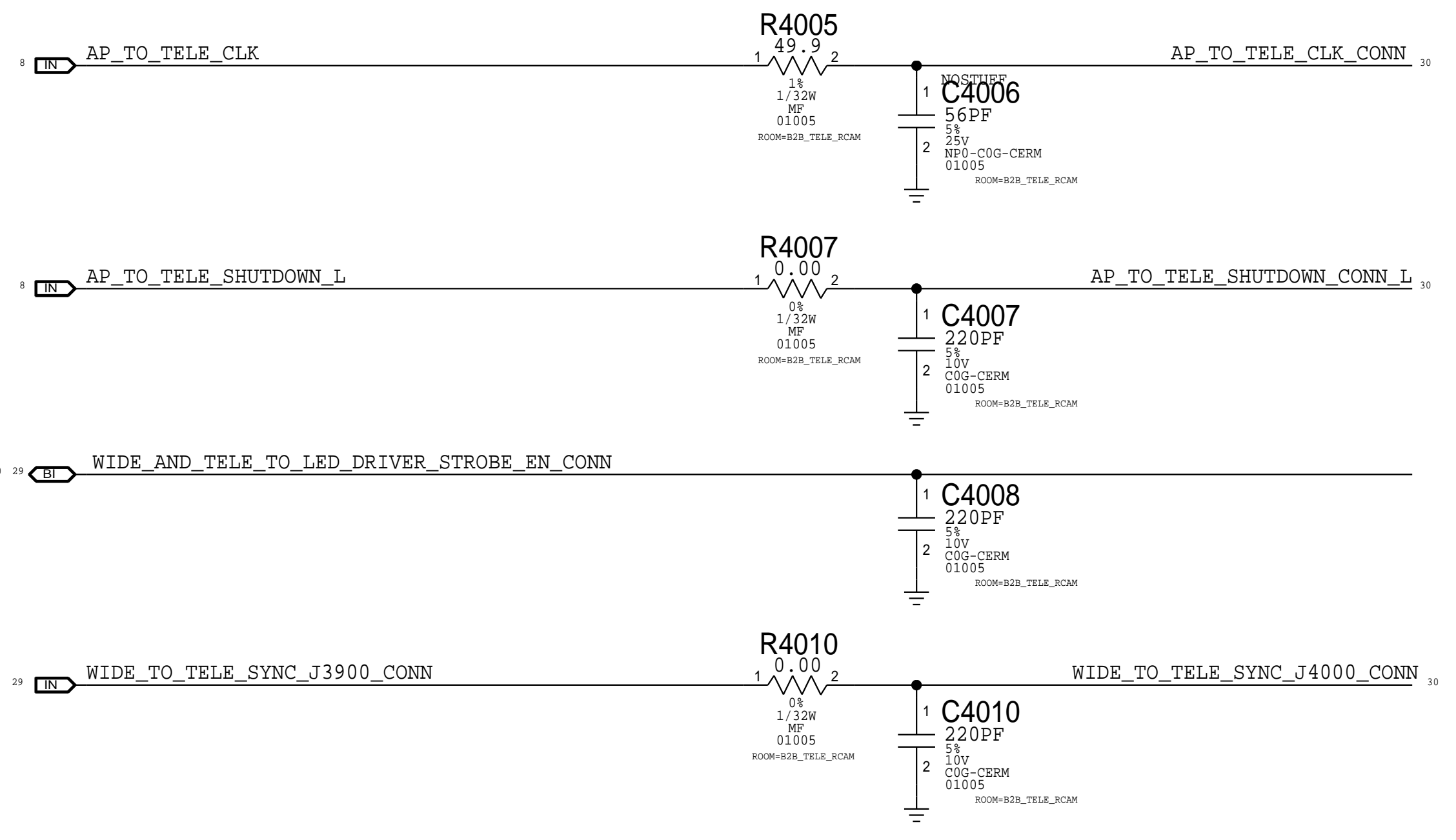
ISP I2C

C



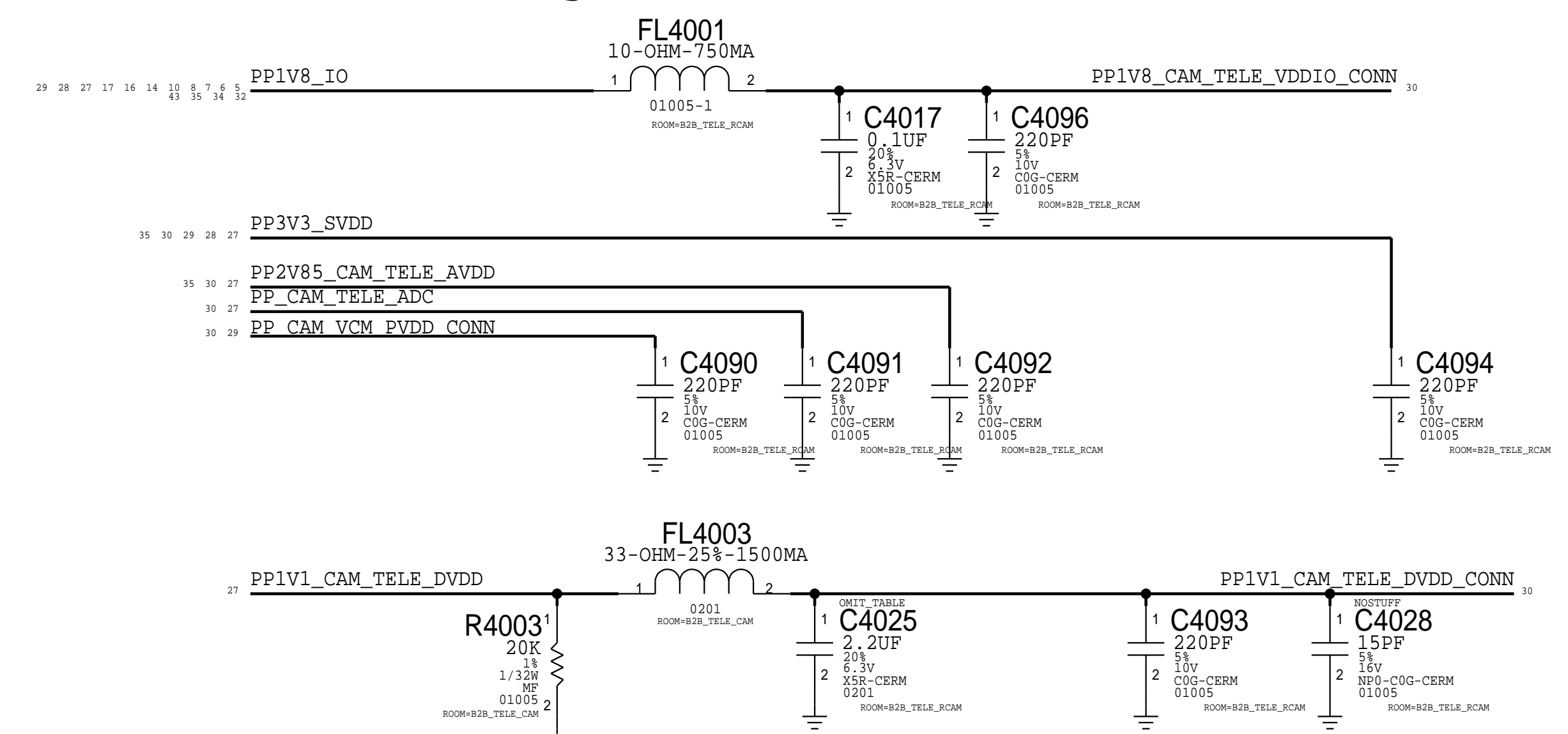
IO Filters

B

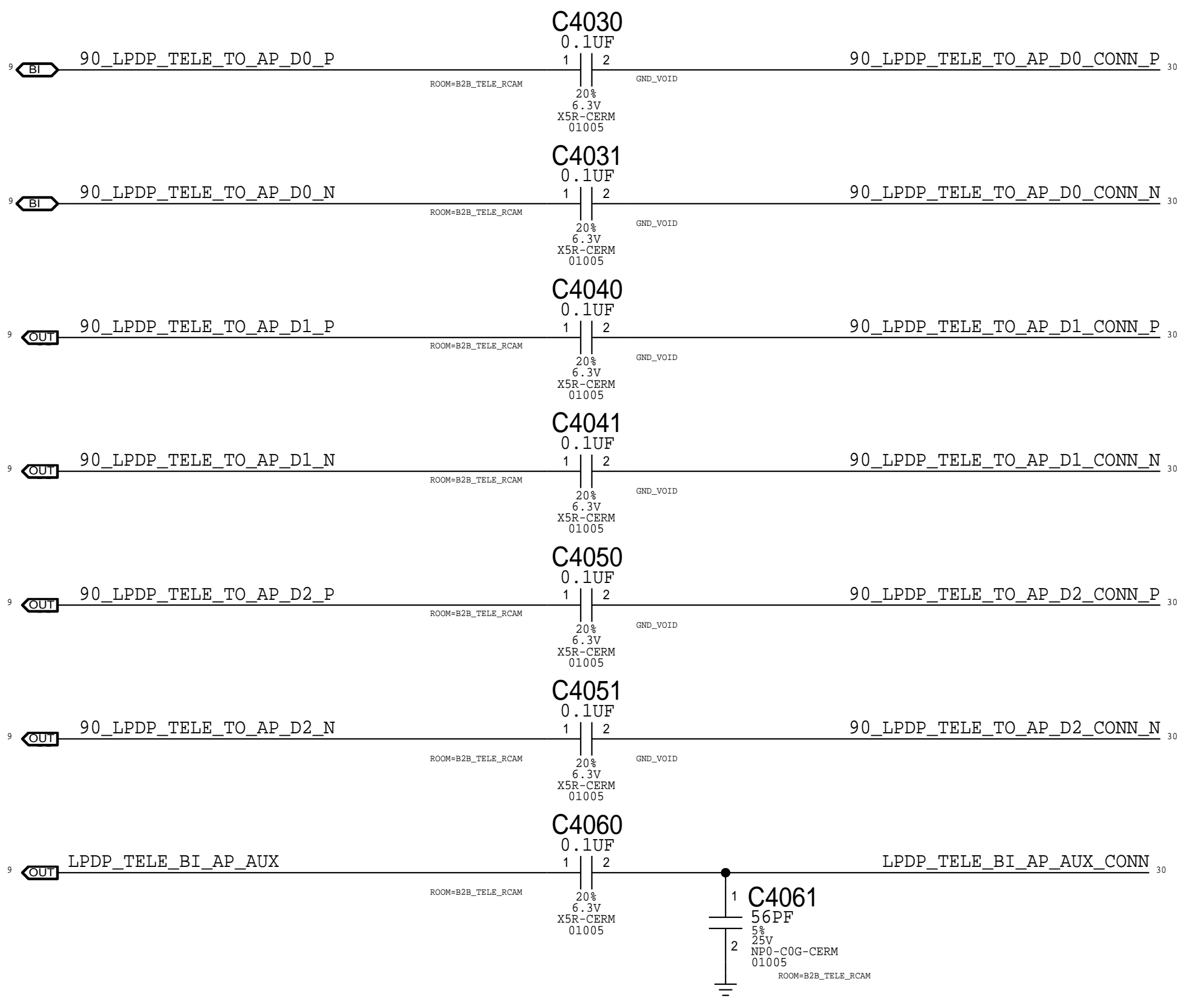


A

Power Filtering



LPDP



D

C

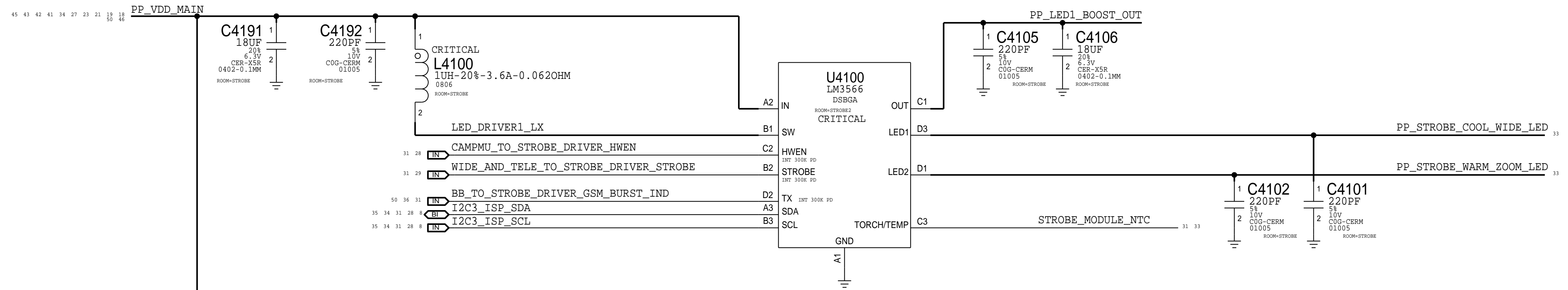
B

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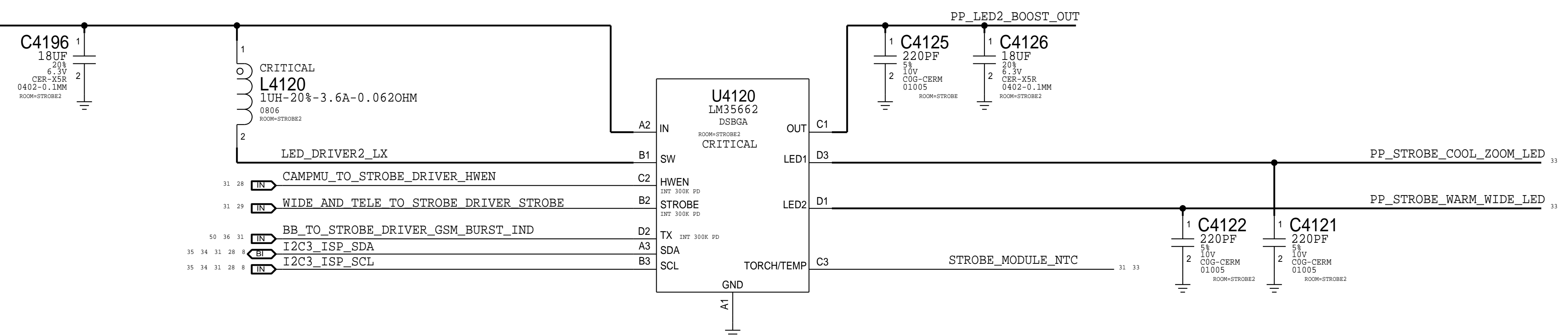
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LED STROBE DRIVERS (NEON)

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



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

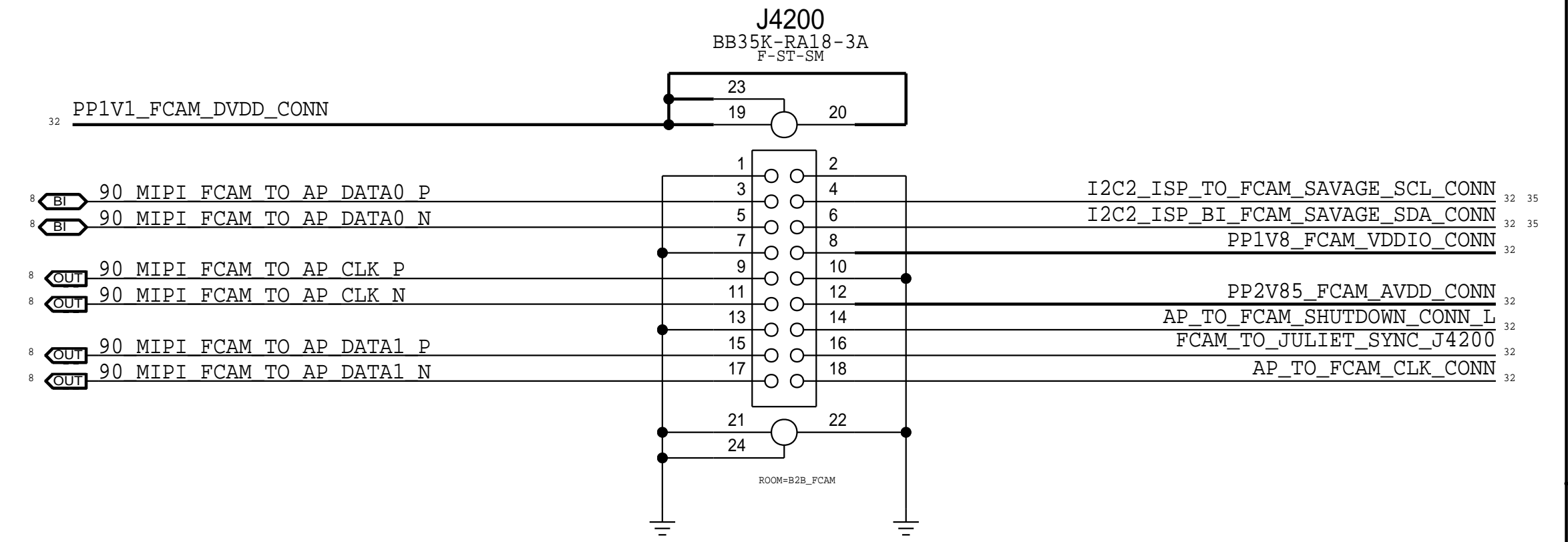
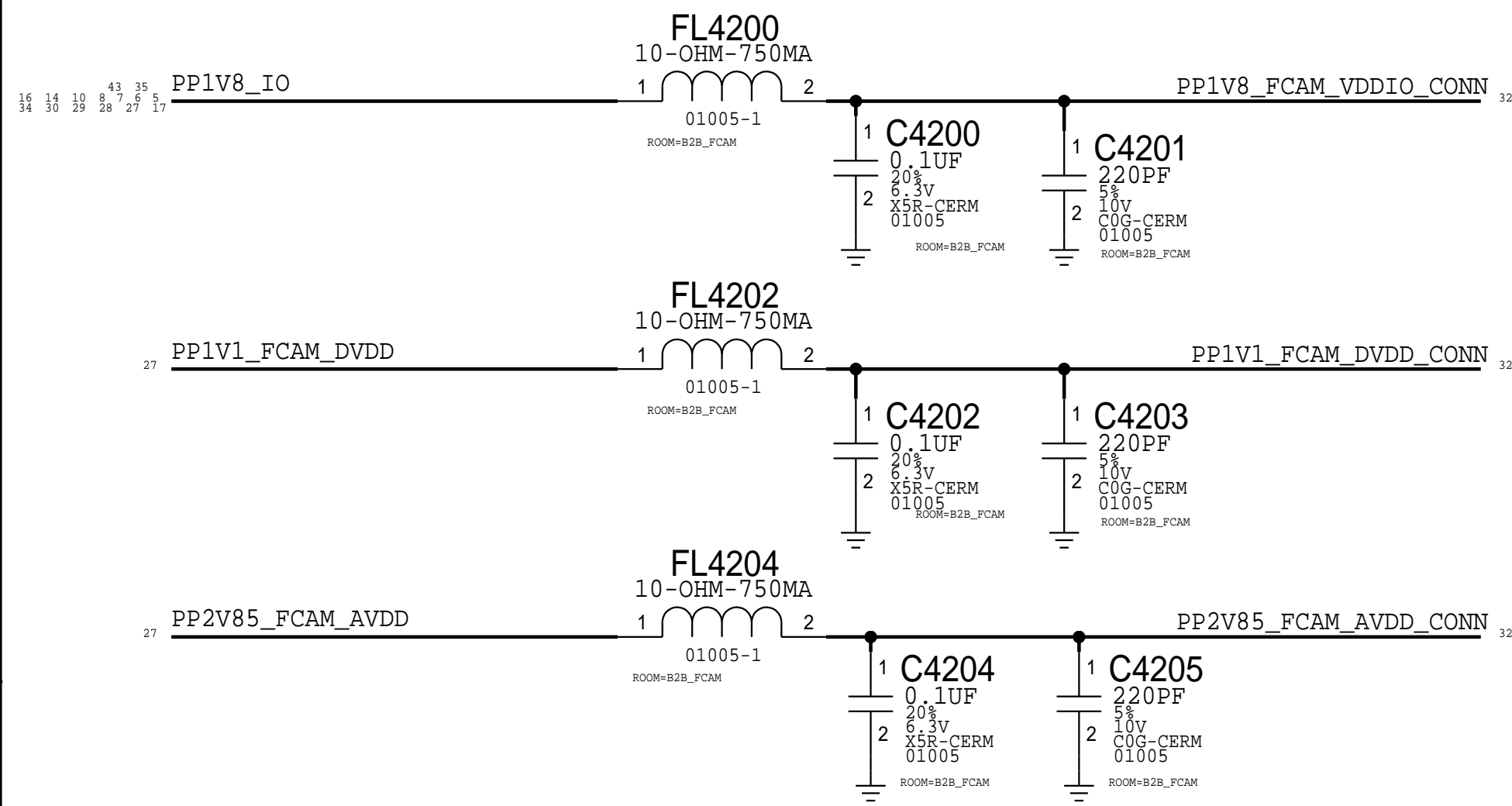


PAGE TITLE CAMERA: Strobe Drivers		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
	REVISION 9.0.0	BRANCH evt-1
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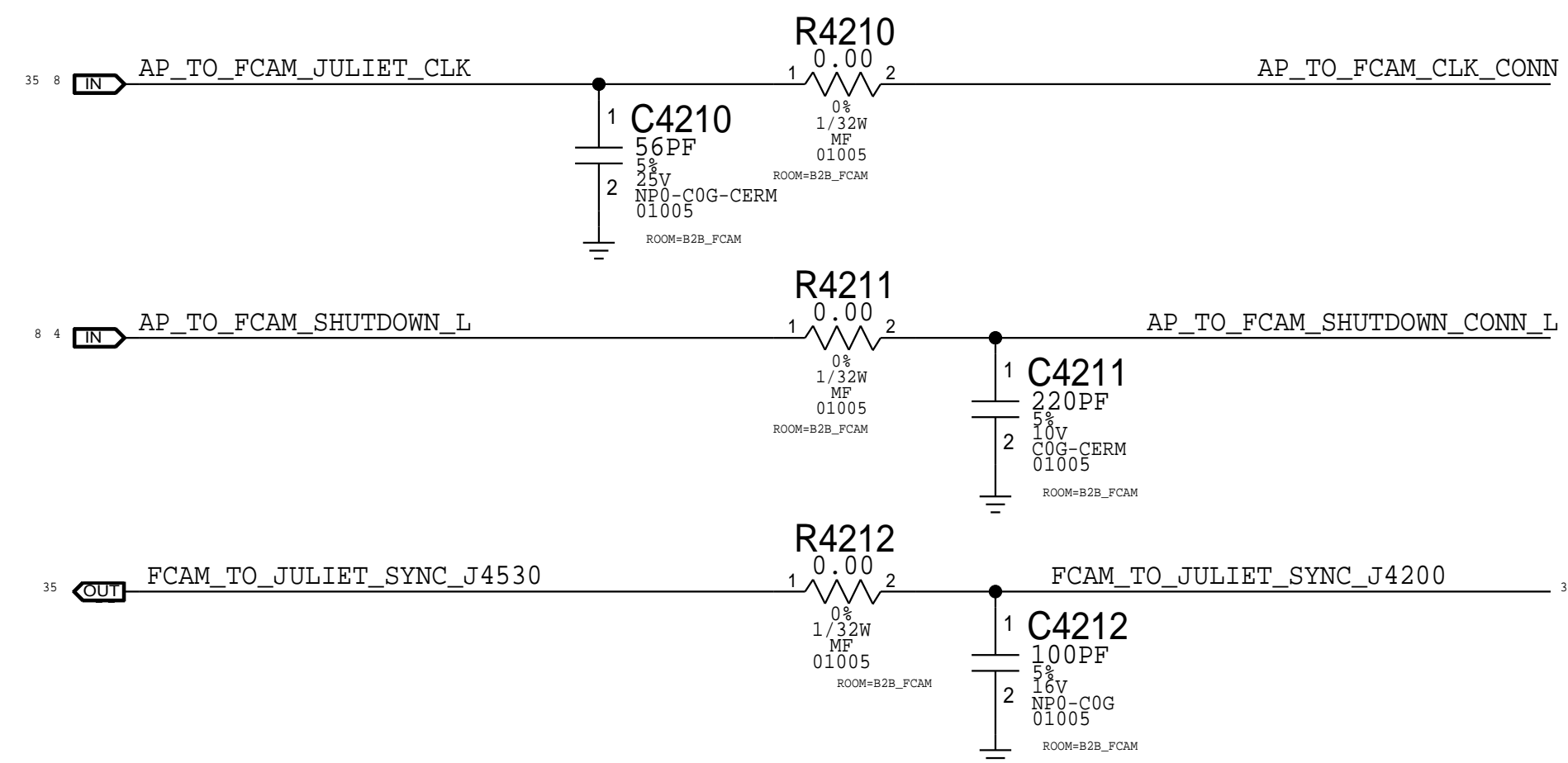
NEW HAMPSHIRE POWER

FCAM Connector

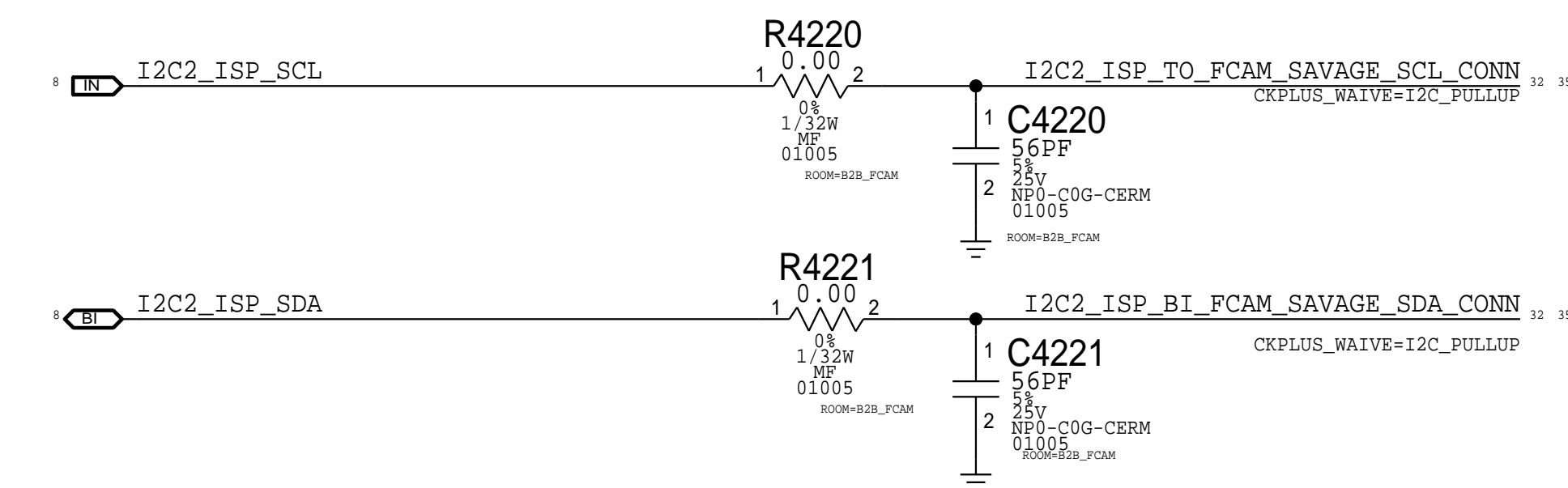
Rcpt: 516S00244 <-- This one on MLB
 Plug: 516S00245



FCAM I/O

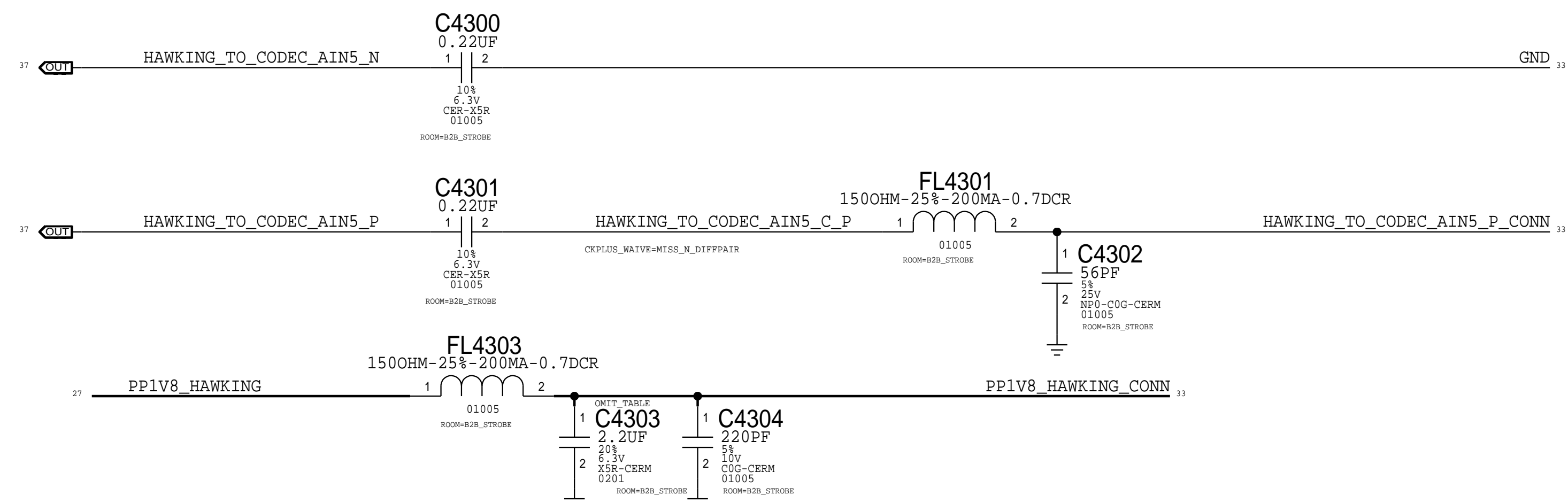


ISP I2C2

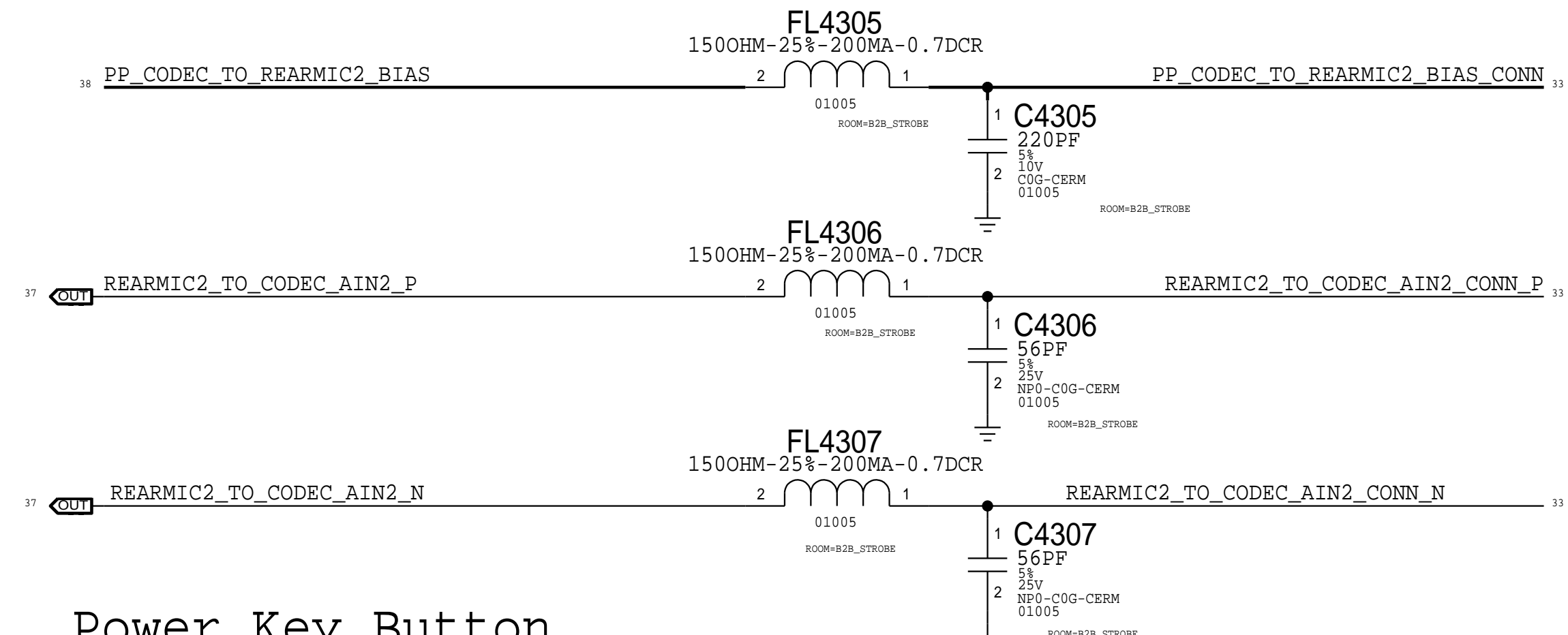


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Apple Inc.	DRAWING NUMBER	051-02221
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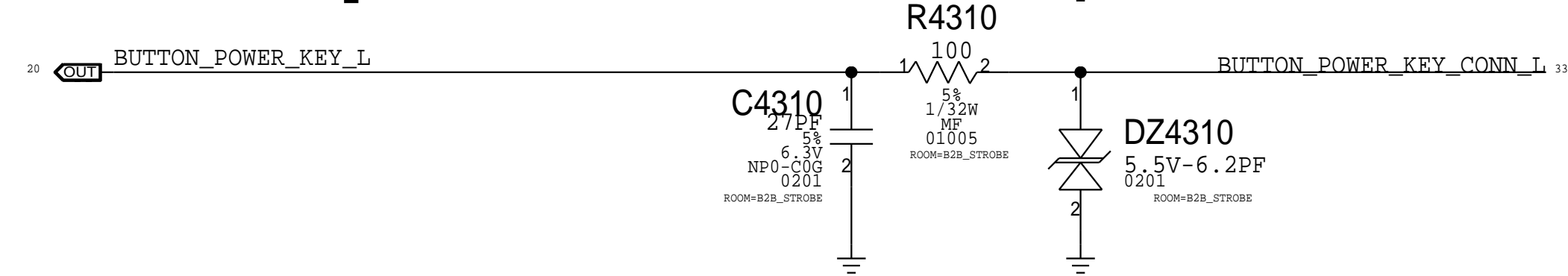
HAWKING



MIC2 (ANC REF)

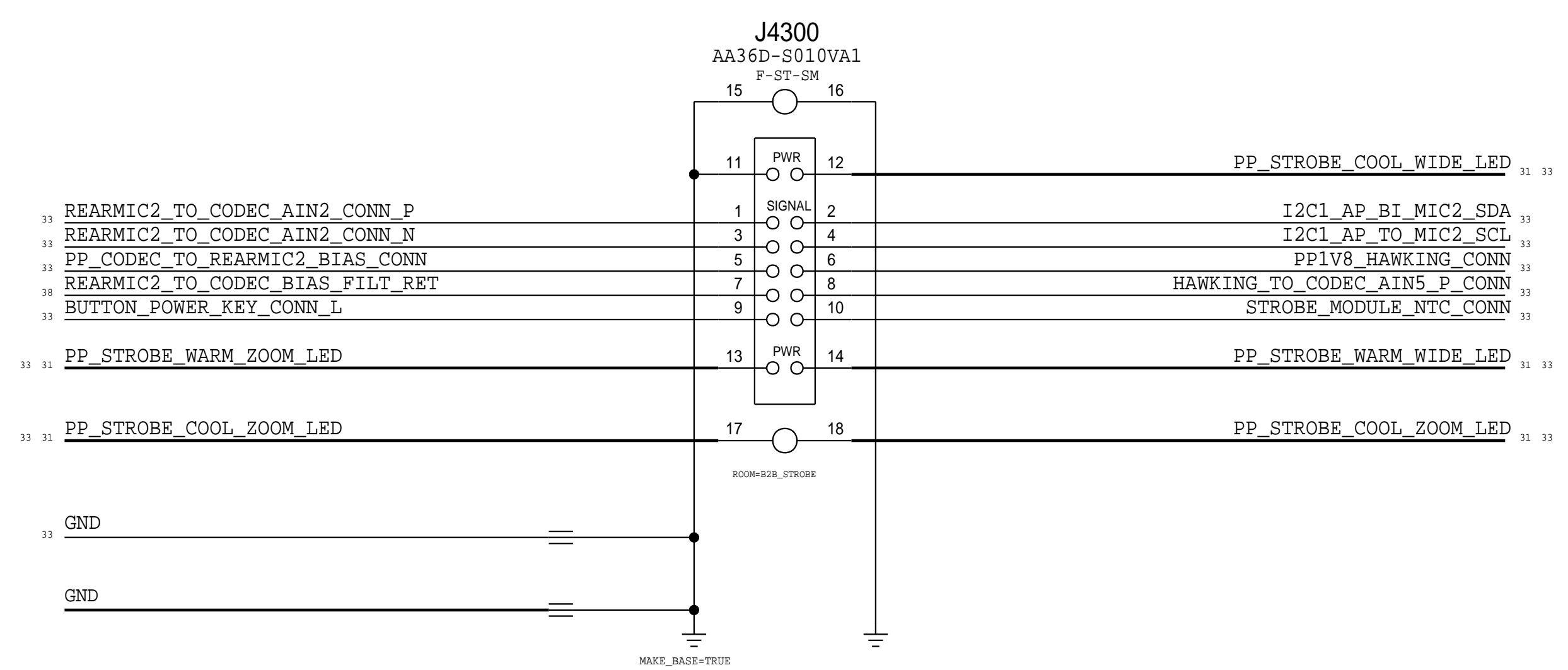


Power Key Button

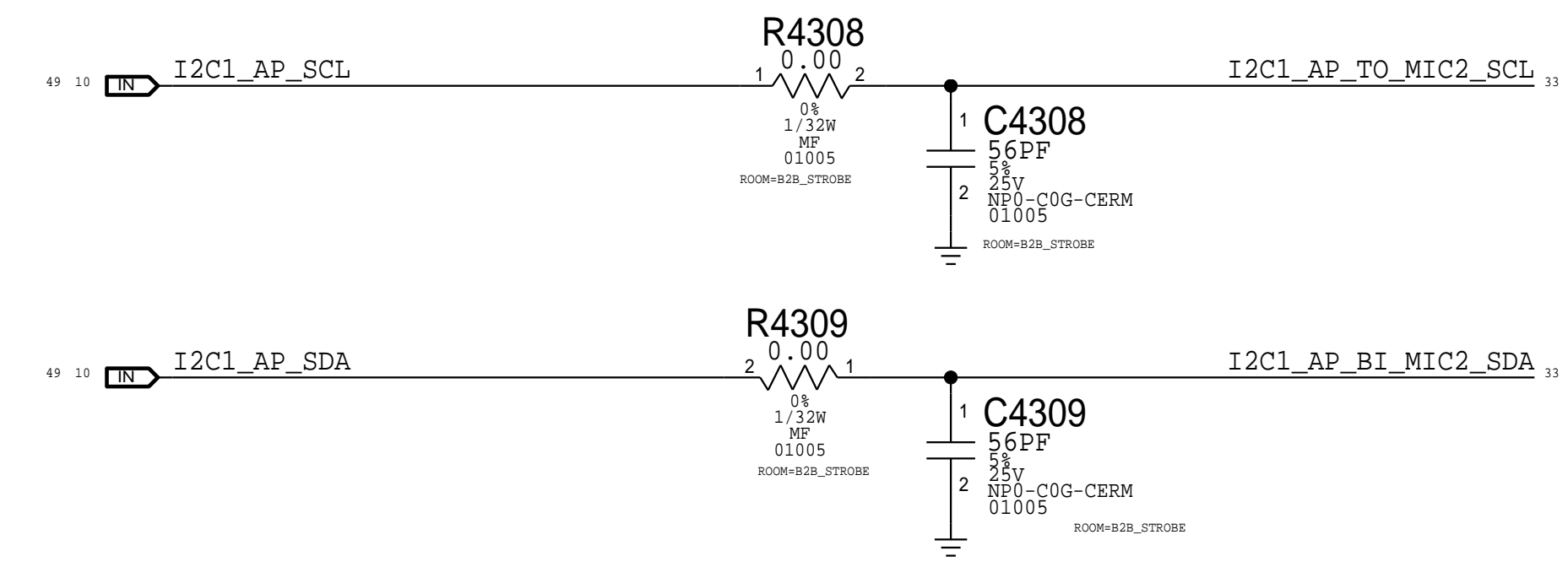
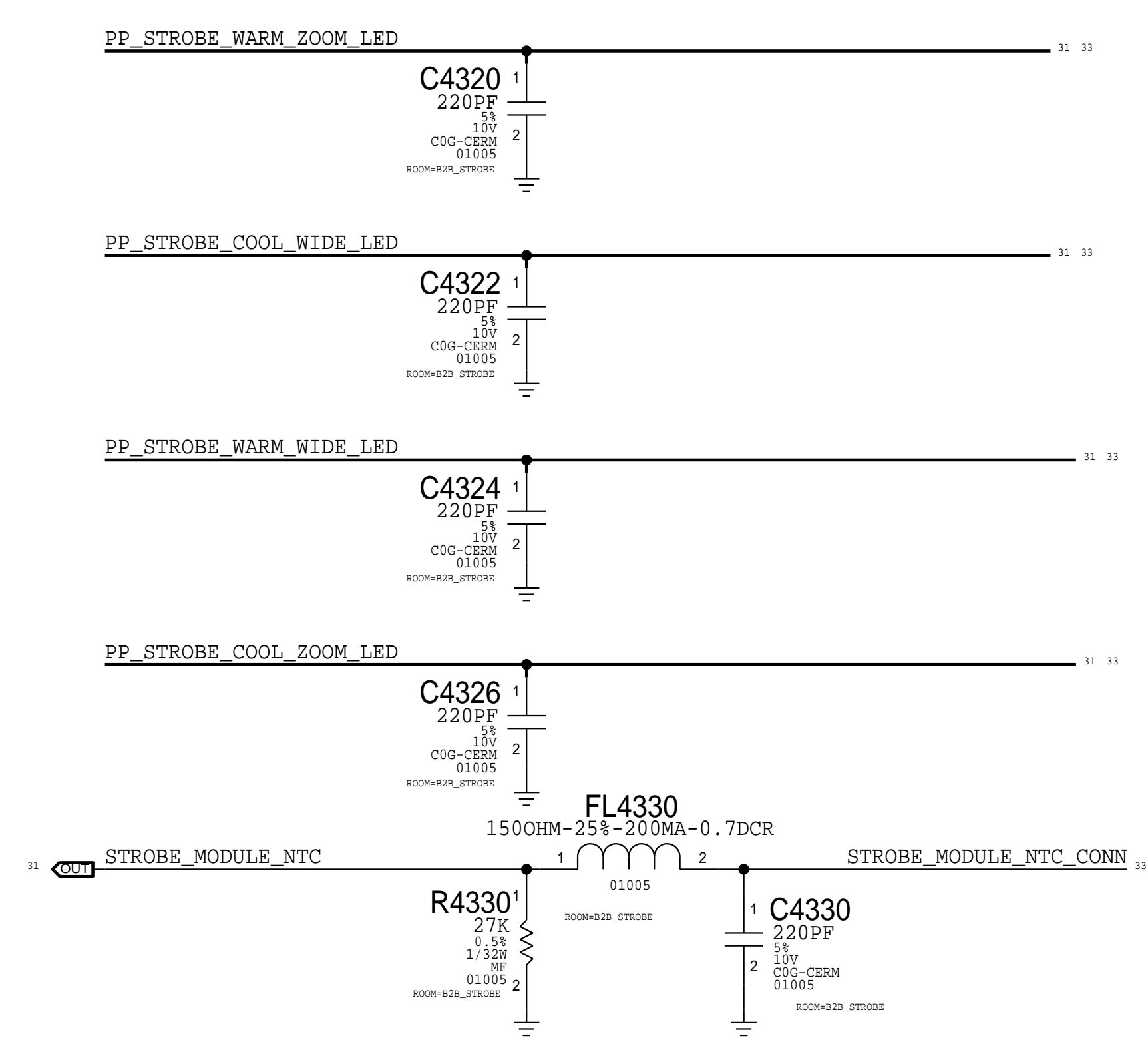


Strobe Connector

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	
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Rigel Driver

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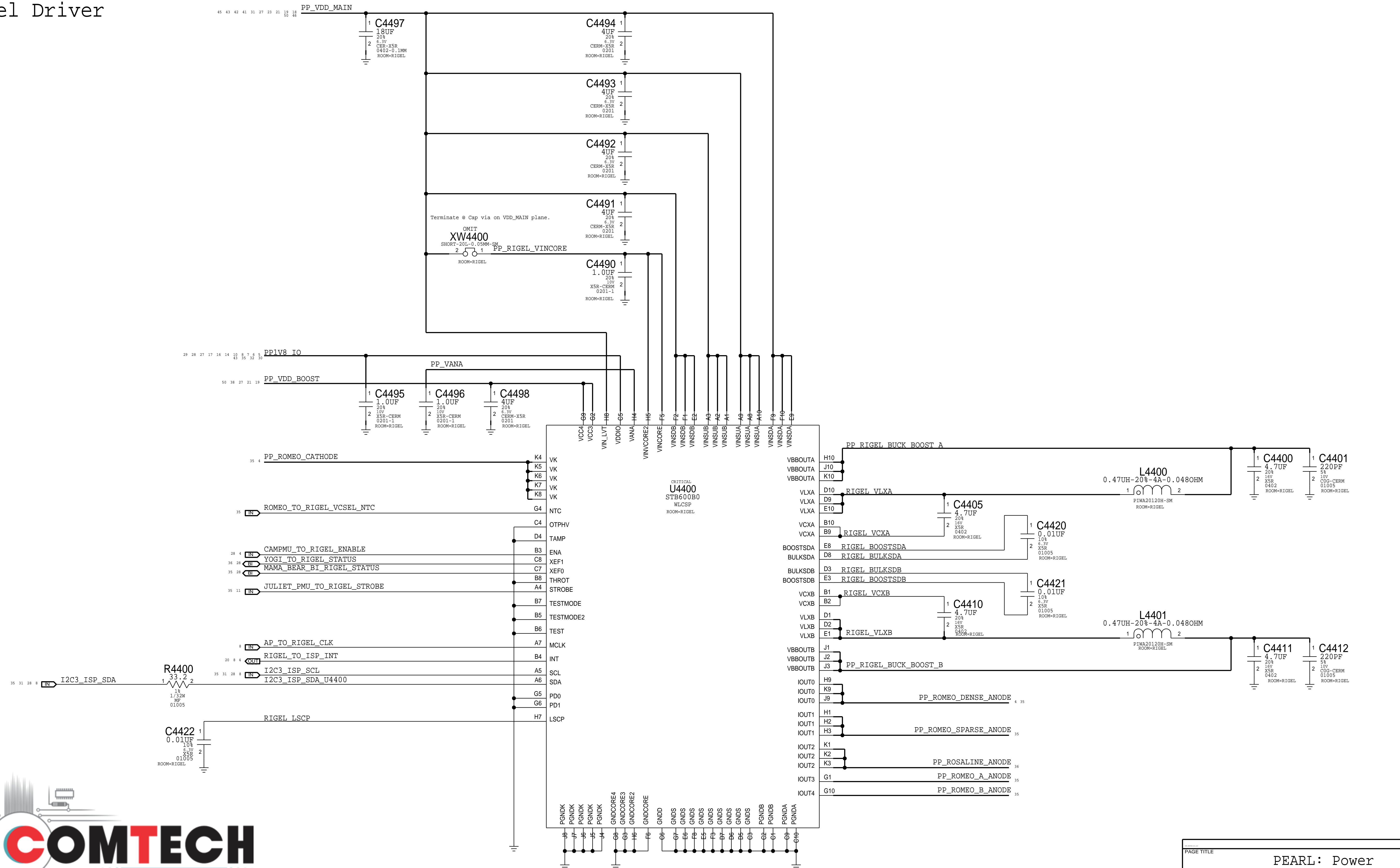
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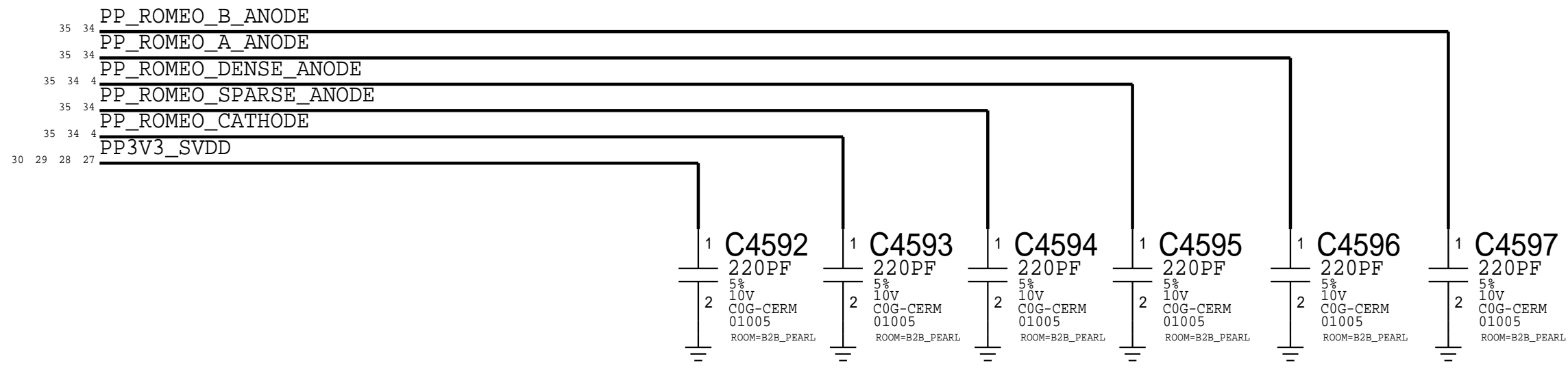


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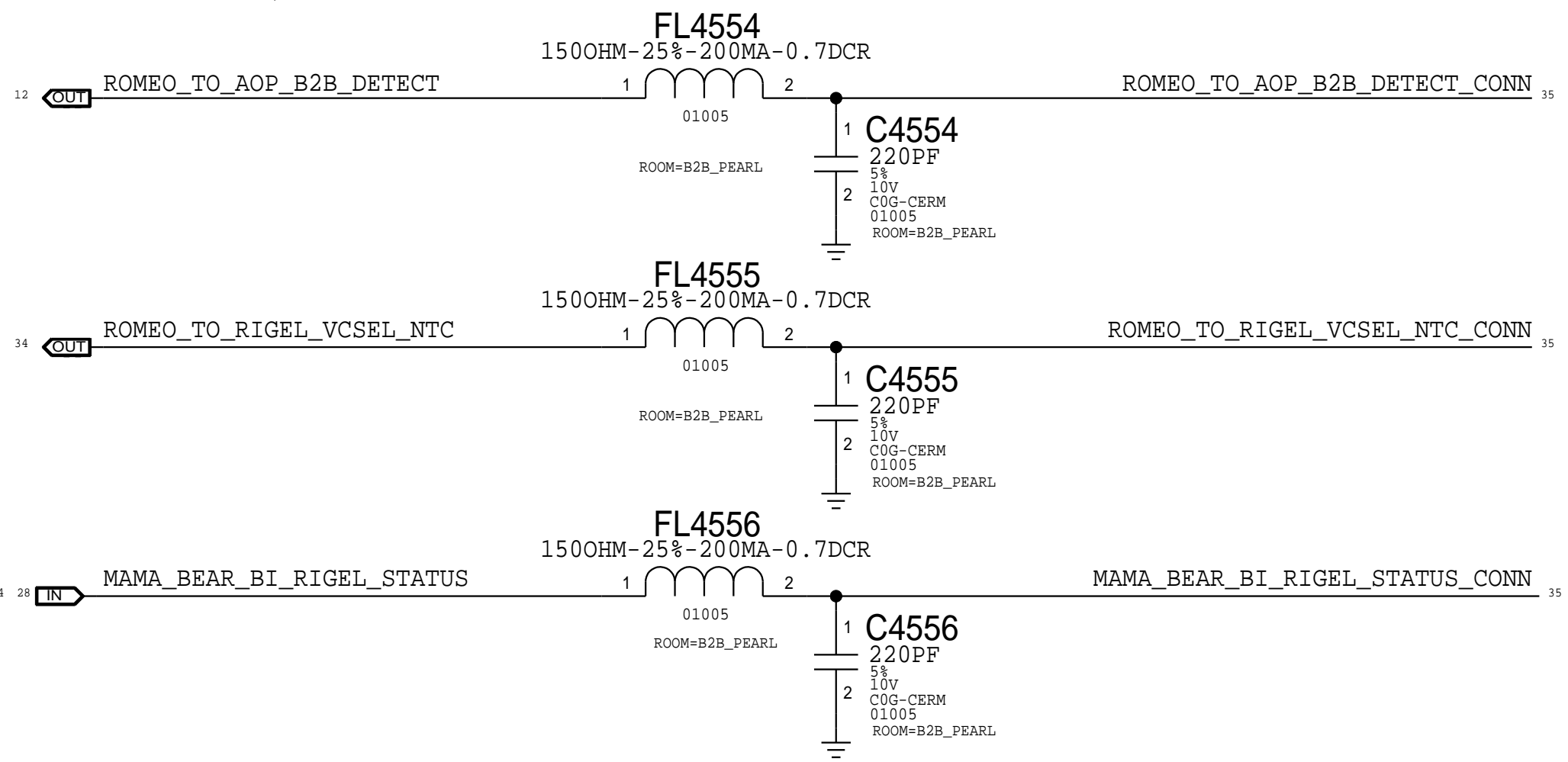
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PEARL: Power		
DRAWING NUMBER	051-02221	SIZE
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8 7 6 5 4 3 2 1

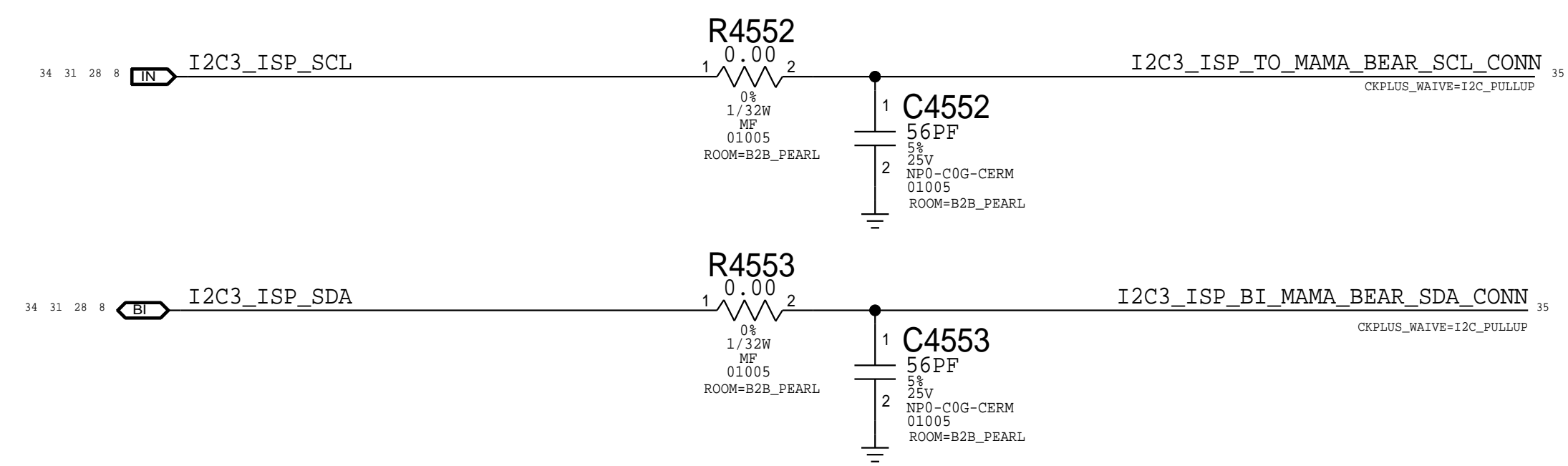
Romeo Power Filtering



Romeo I/O

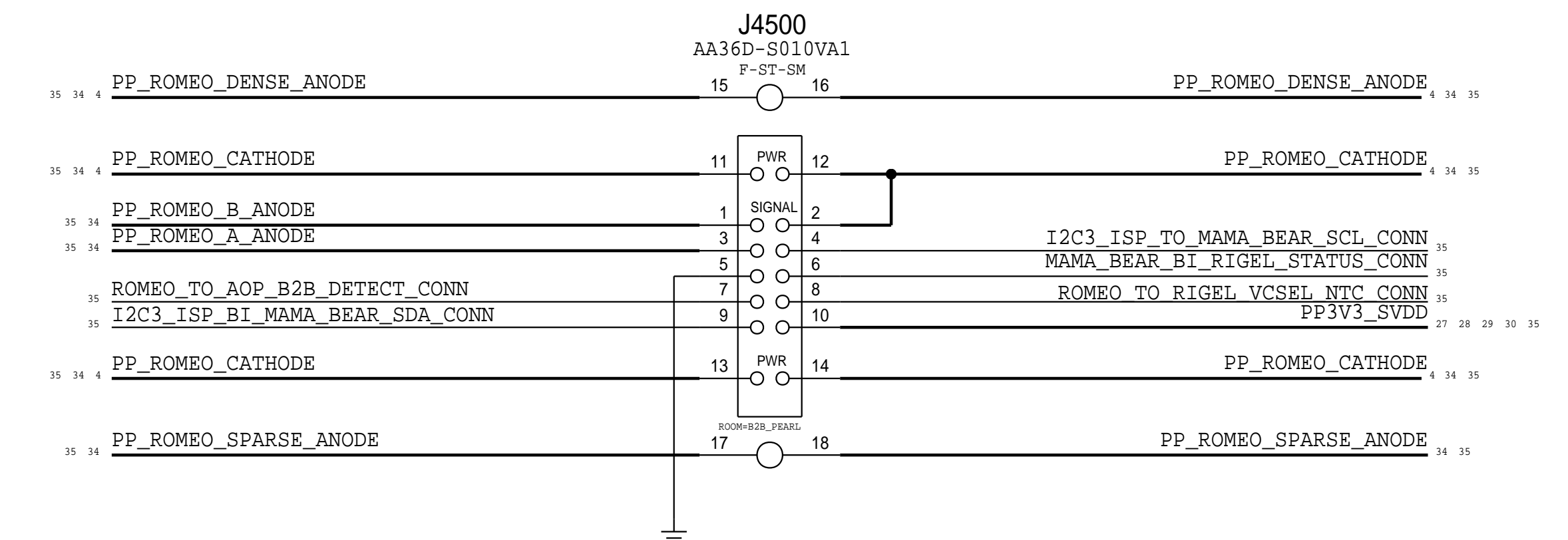


ISP I2C3

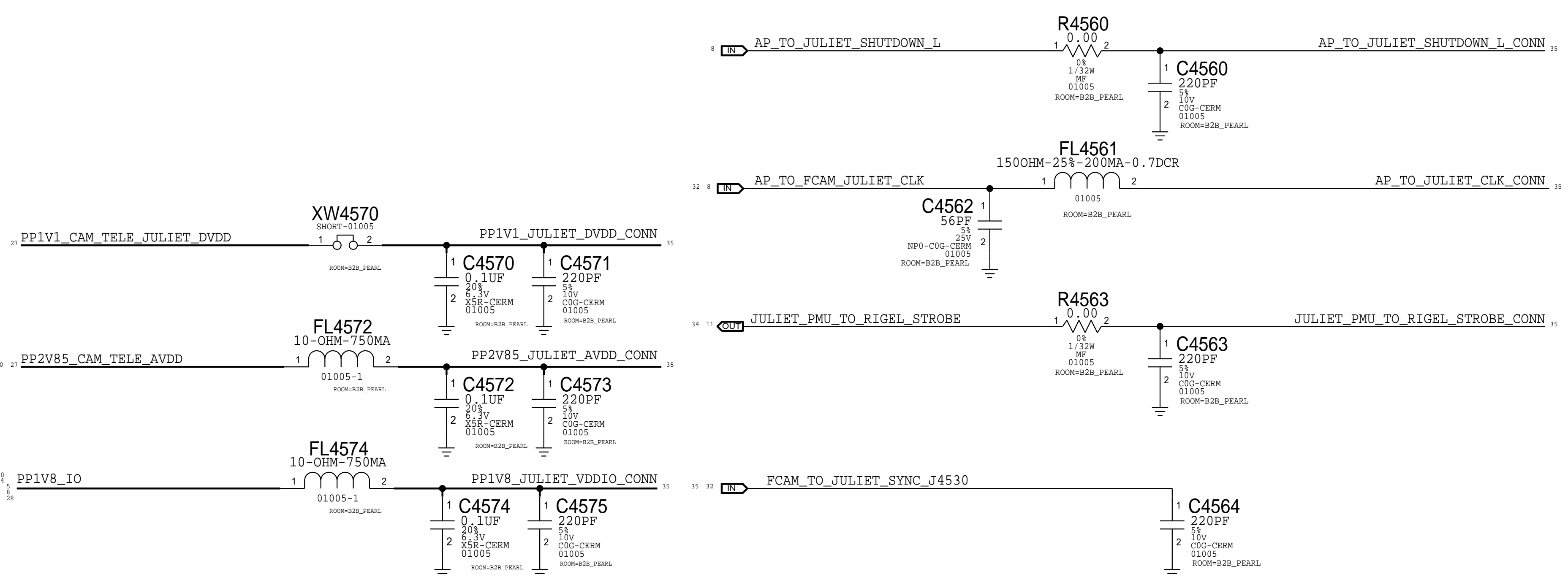


Romeo Connector

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 Plug: 516S00268

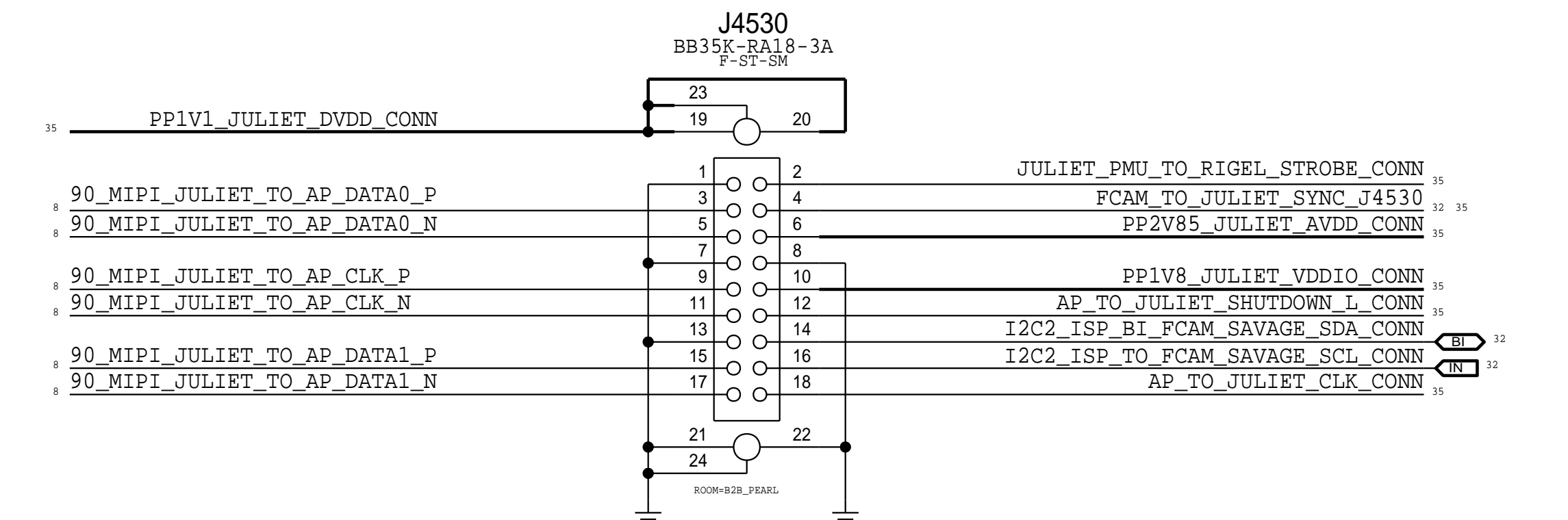


Juliet Power and I/O



Juliet Connector

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 Plug: 516S00245

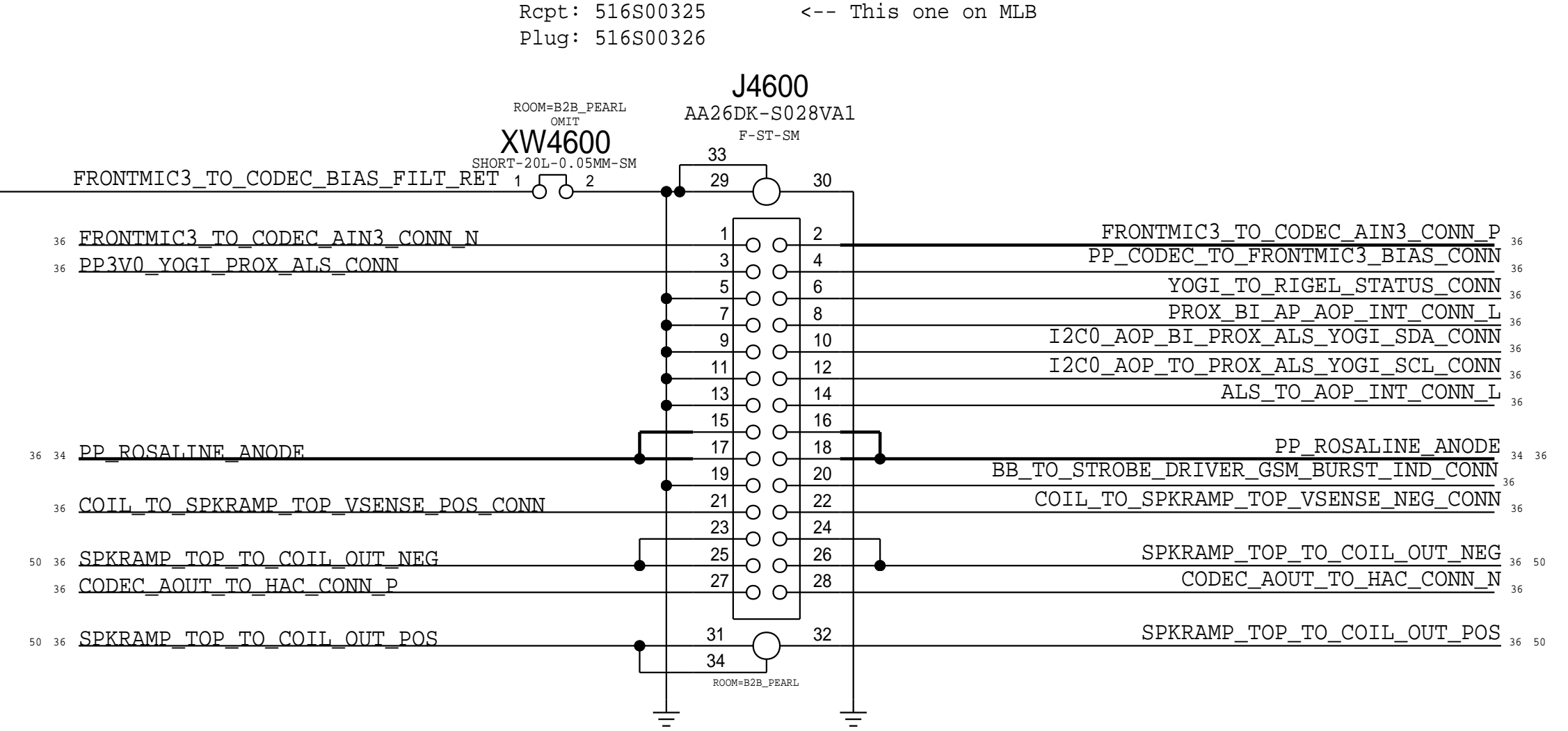
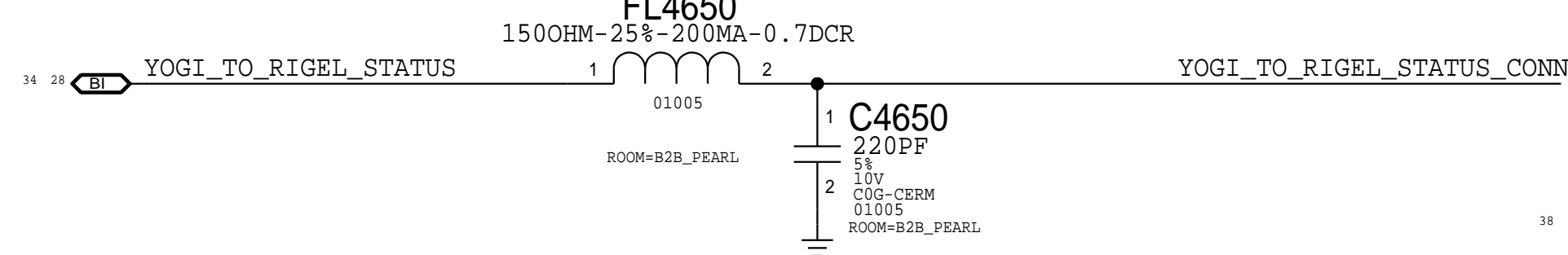
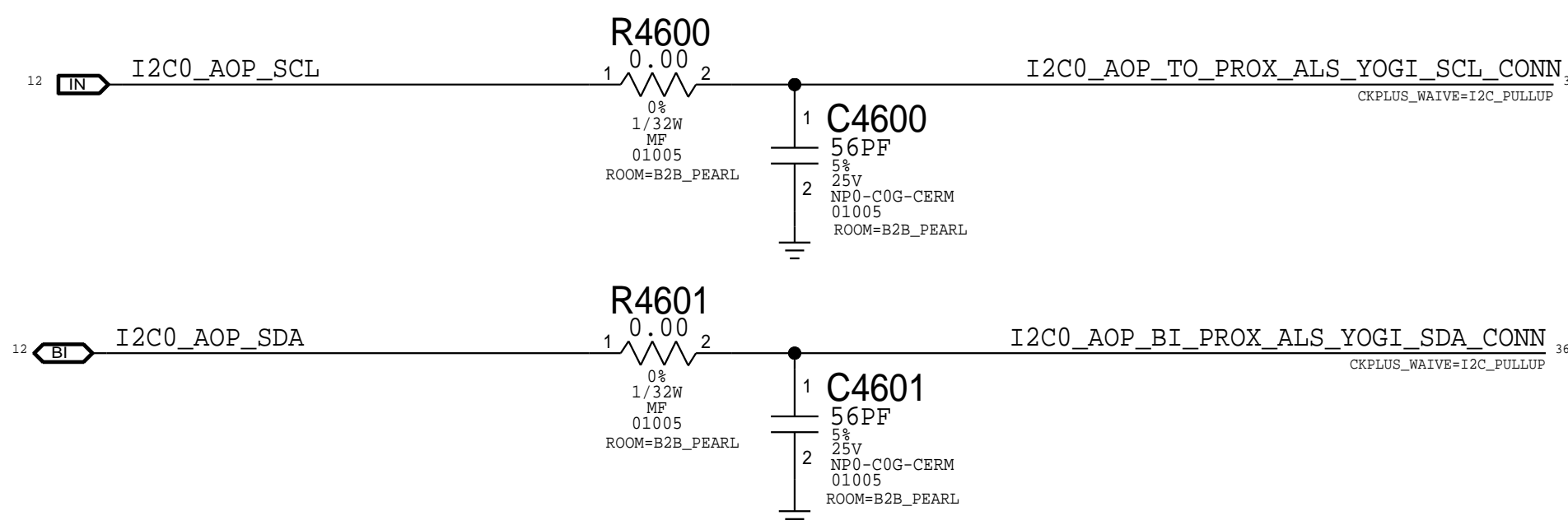


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	DRAWING NUMBER	051-02221
	REVISION	9.0.0
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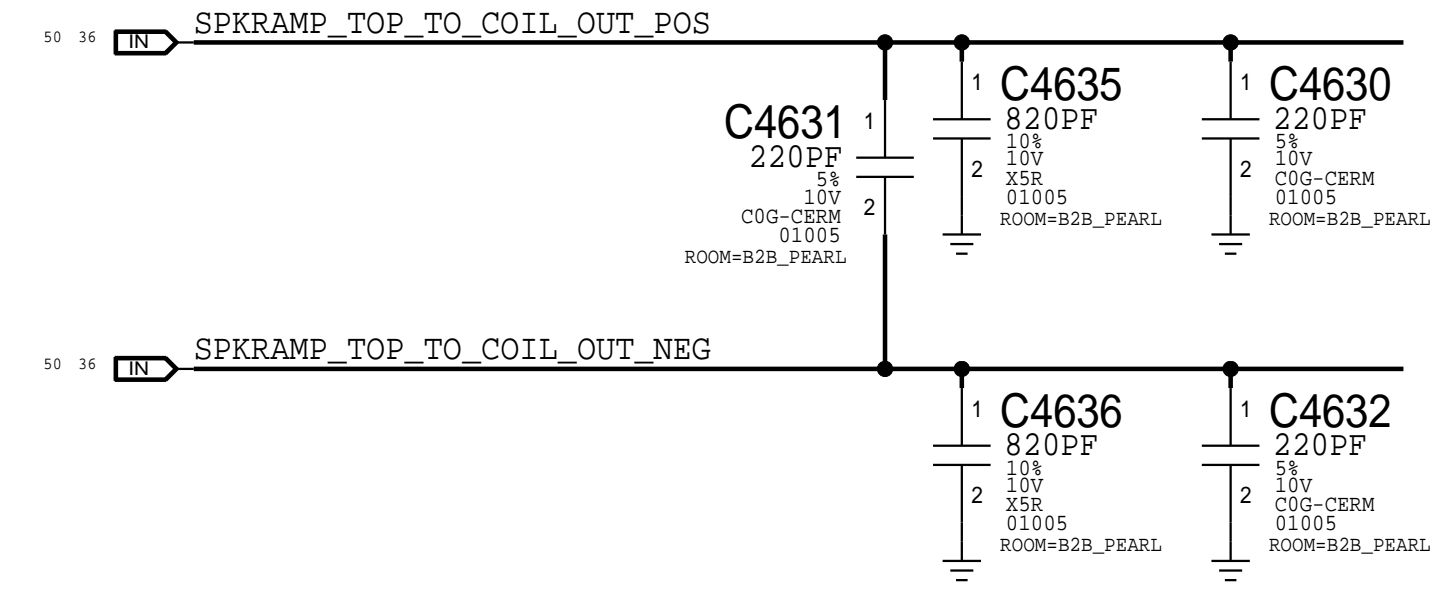
AOP I2C

Yogi Signals

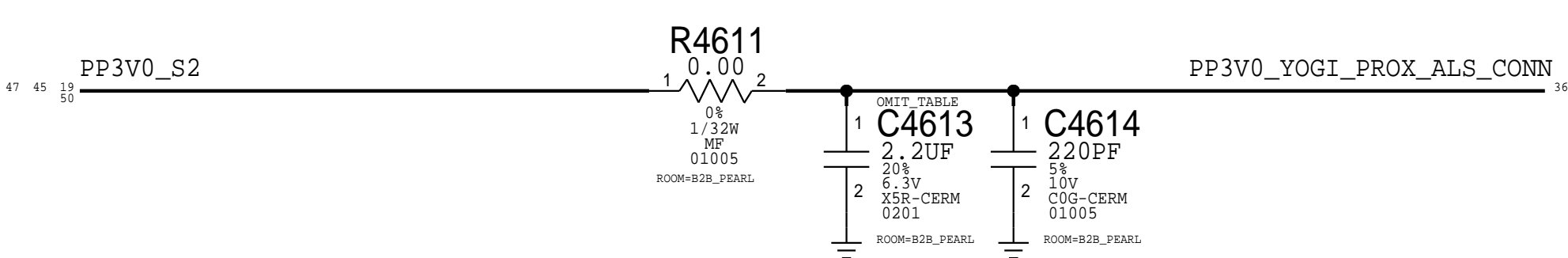
Rosaline + Misc Connector



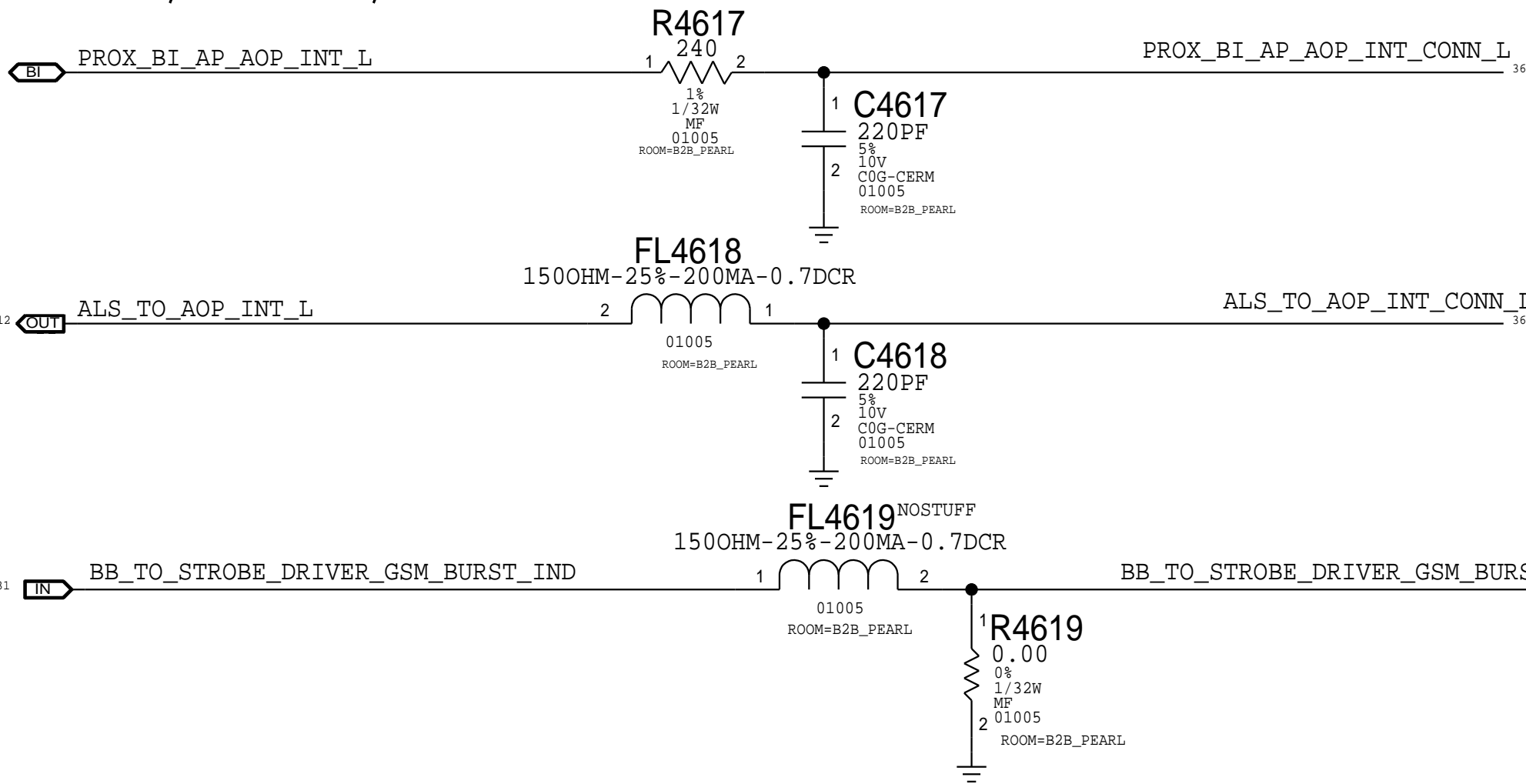
SPEAKER2



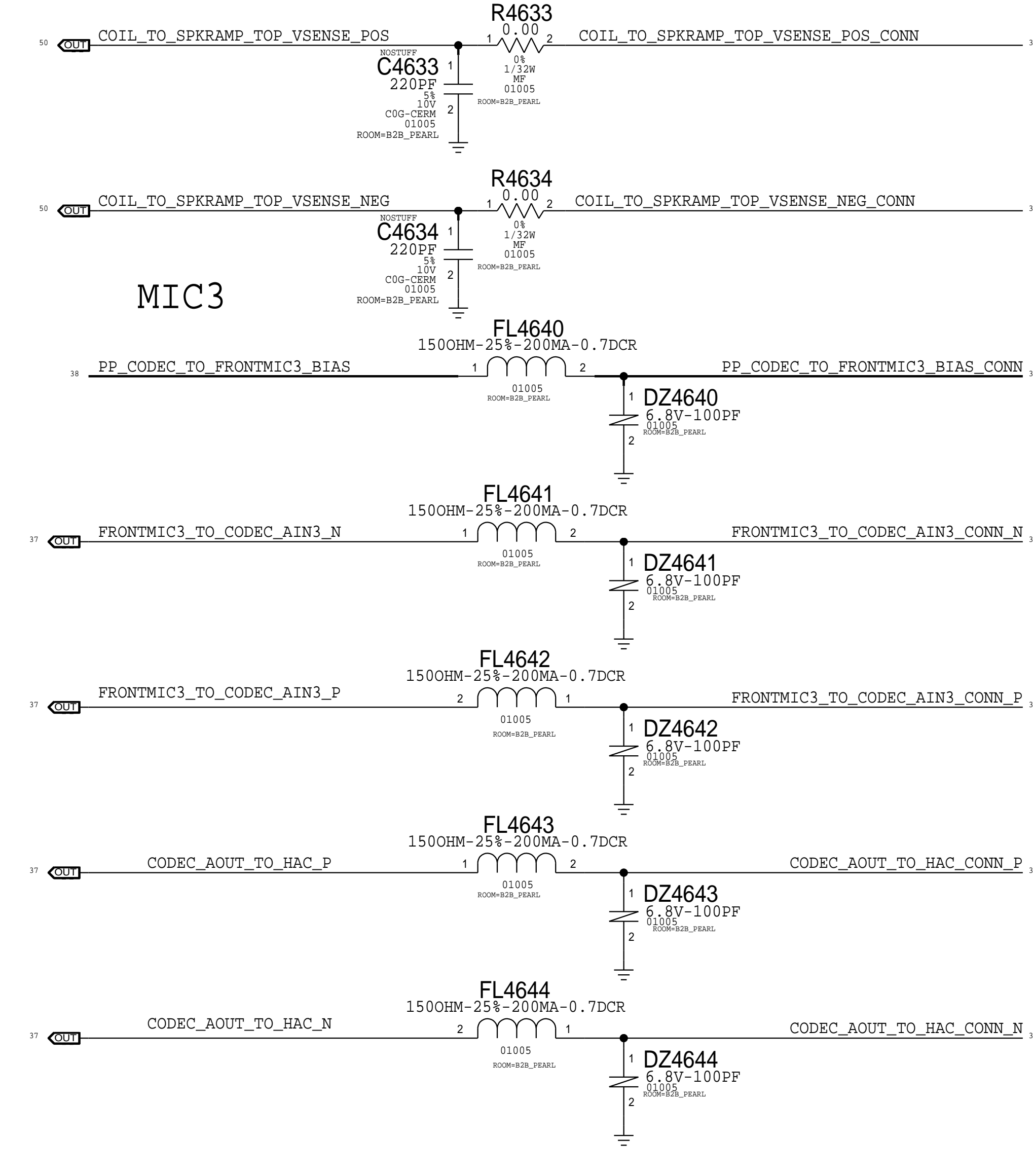
PROX & ALS POWER



PROX/ALS I/O

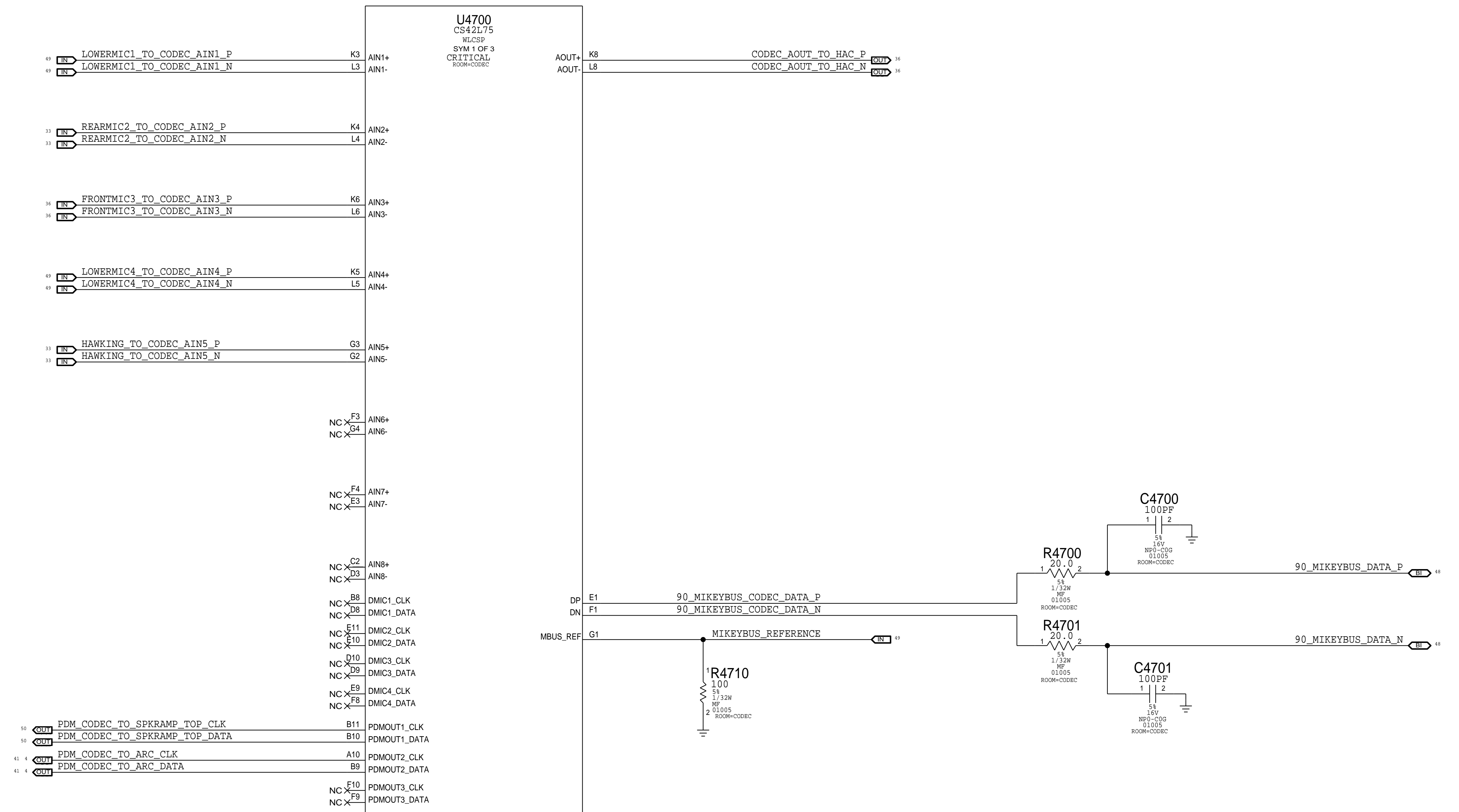


MIC3



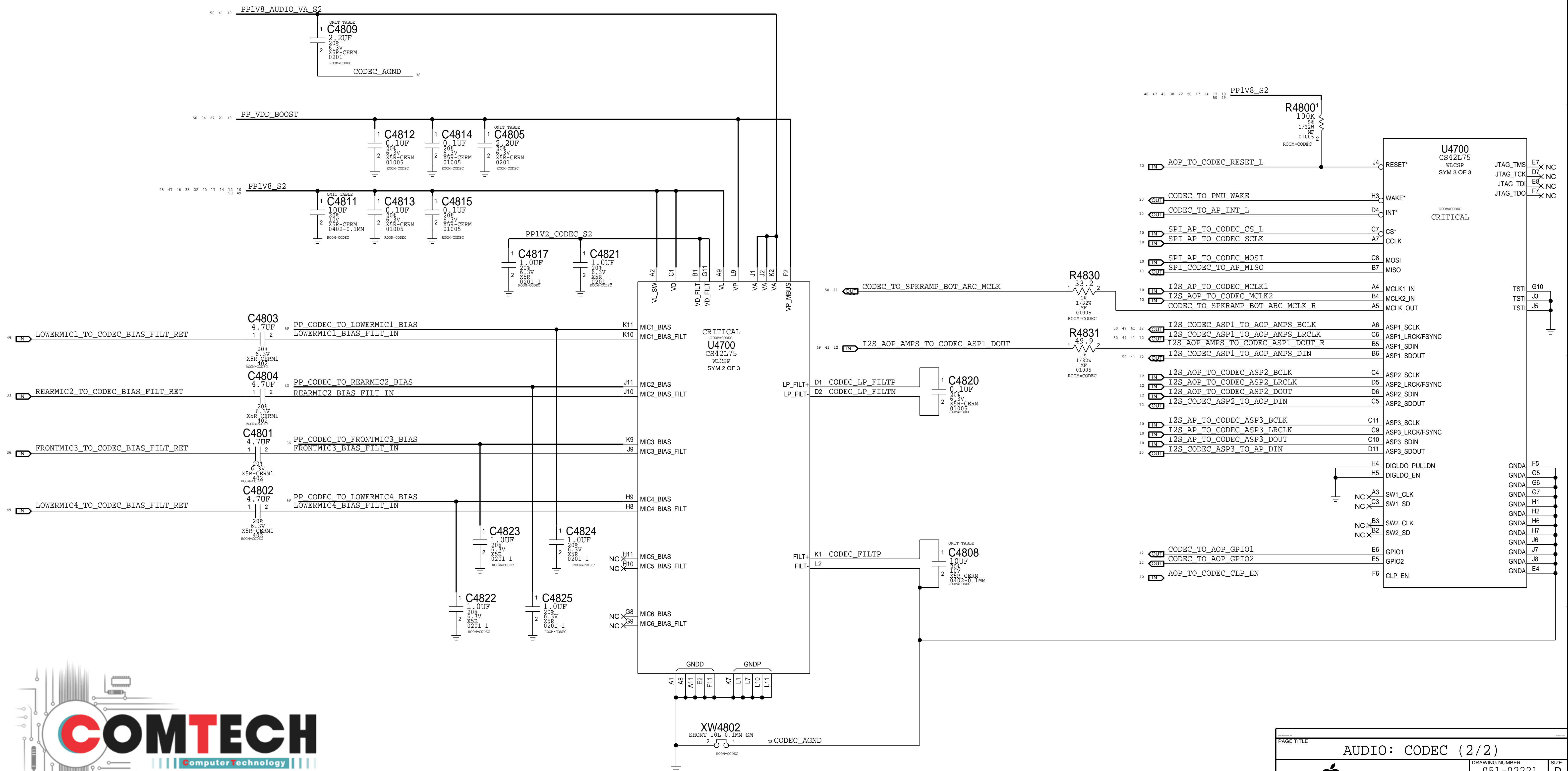
PAGE TITLE PEARL: B2B Rosaline + Misc		
Apple Inc.	DRAWING NUMBER	051-02221
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CALLAN AUDIO CODEC (ANALOG INPUTS & OUTPUTS)



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AUDIO: CODEC (1/2)		
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CALLAN AUDIO CODEC (POWER & I/O)



PAGE TITLE		
AUDIO: CODEC (2/2)		
Apple Inc.	DRAWING NUMBER	051-02221
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South Speaker Amplifier on MLB Bottom



PAGE TITLE		AUDIO: Speaker Amp Bottom		SYNC_DATE=08/25/2015	
Apple Inc.		DRAWING NUMBER	051-02221	SIZE	D
		REVISION	9.0.0		
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North Speaker Amplifier on MLB Bottom



PAGE TITLE			AUDIO: Speaker Amp Top		
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REVISION		9.0.0	BRANCH		
NOTICE OF PROPRIETARY PROPERTY:		Apple Inc.	evt-1		
THE INFORMATION CONTAINED HEREIN IS THE PROPRIETARY PROPERTY OF APPLE INC. THE POSSESSOR AGREES TO THE FOLLOWING:		PAGE	50 OF 80		
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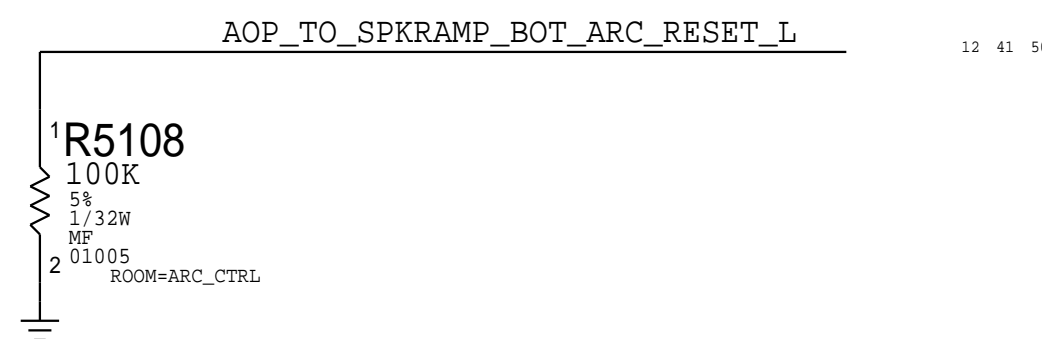
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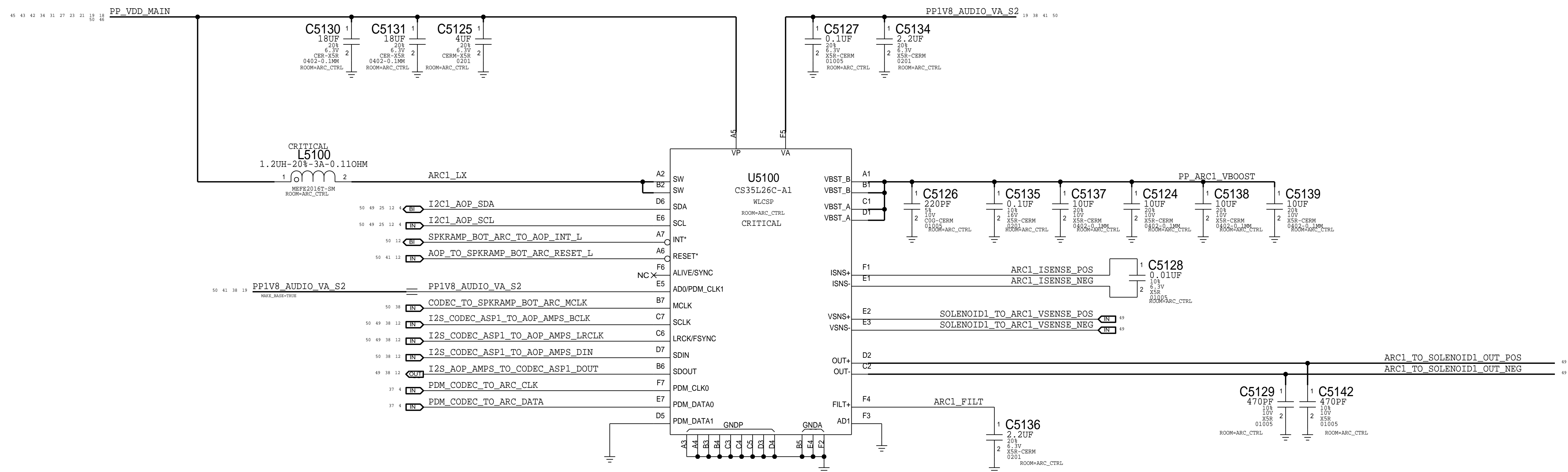
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Pull Downs



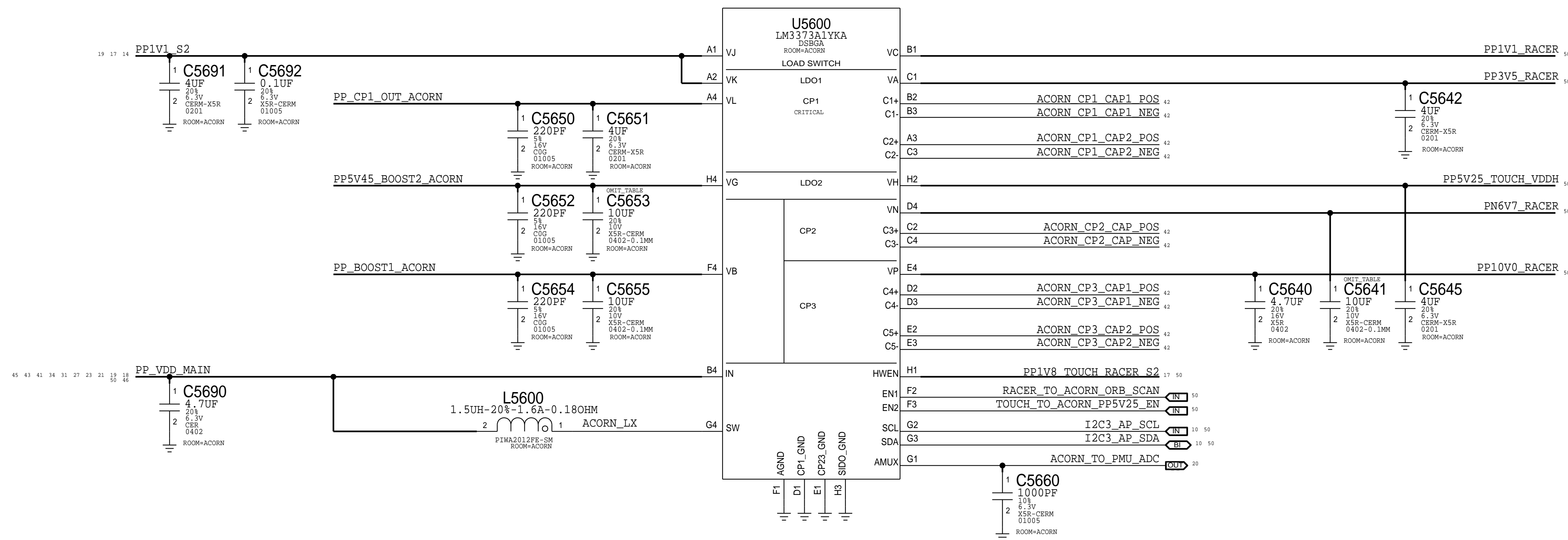
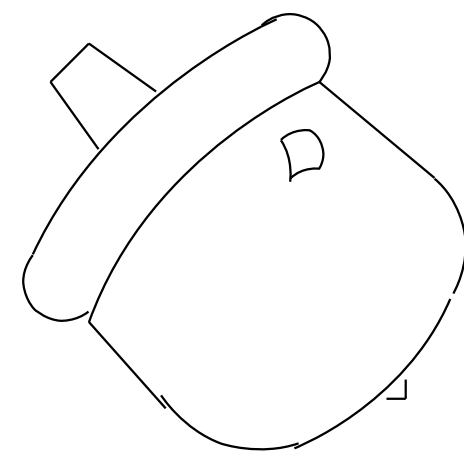
ARC DRIVER

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

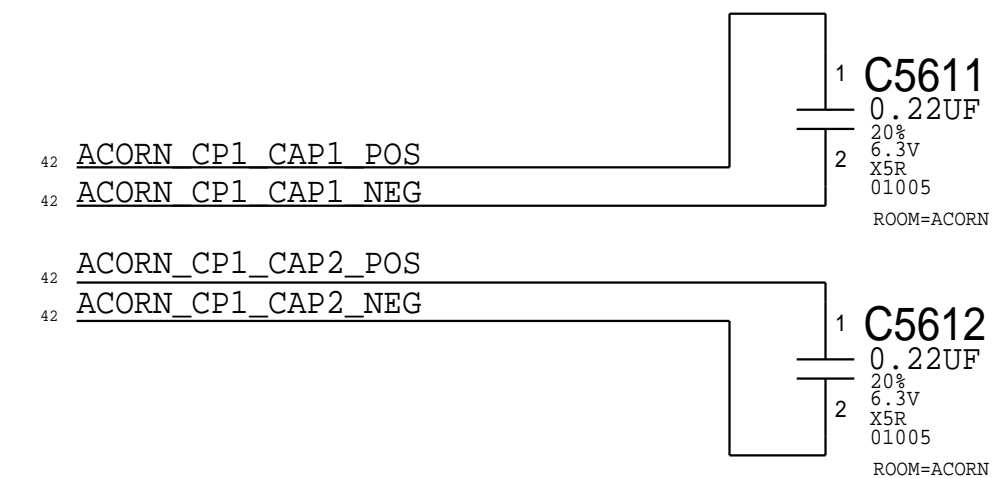


PAGE TITLE ARC: Driver		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
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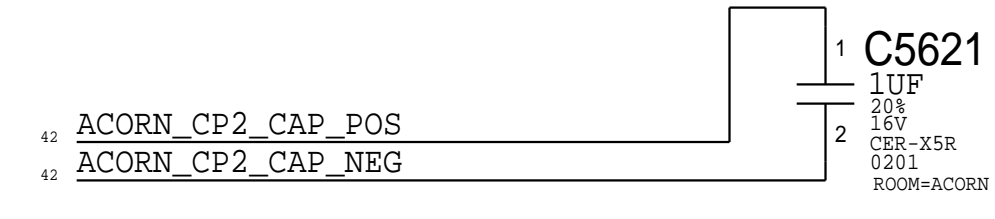
Acorn PMU



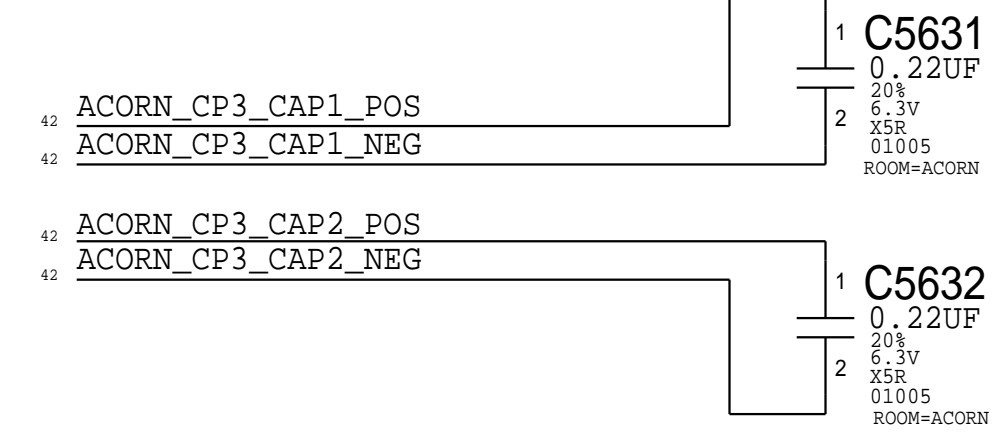
Charge Pump 1 Caps



Charge Pump 2 Caps



Charge Pump 3 Caps



COMTECH
Computer technology
tamiraat.com

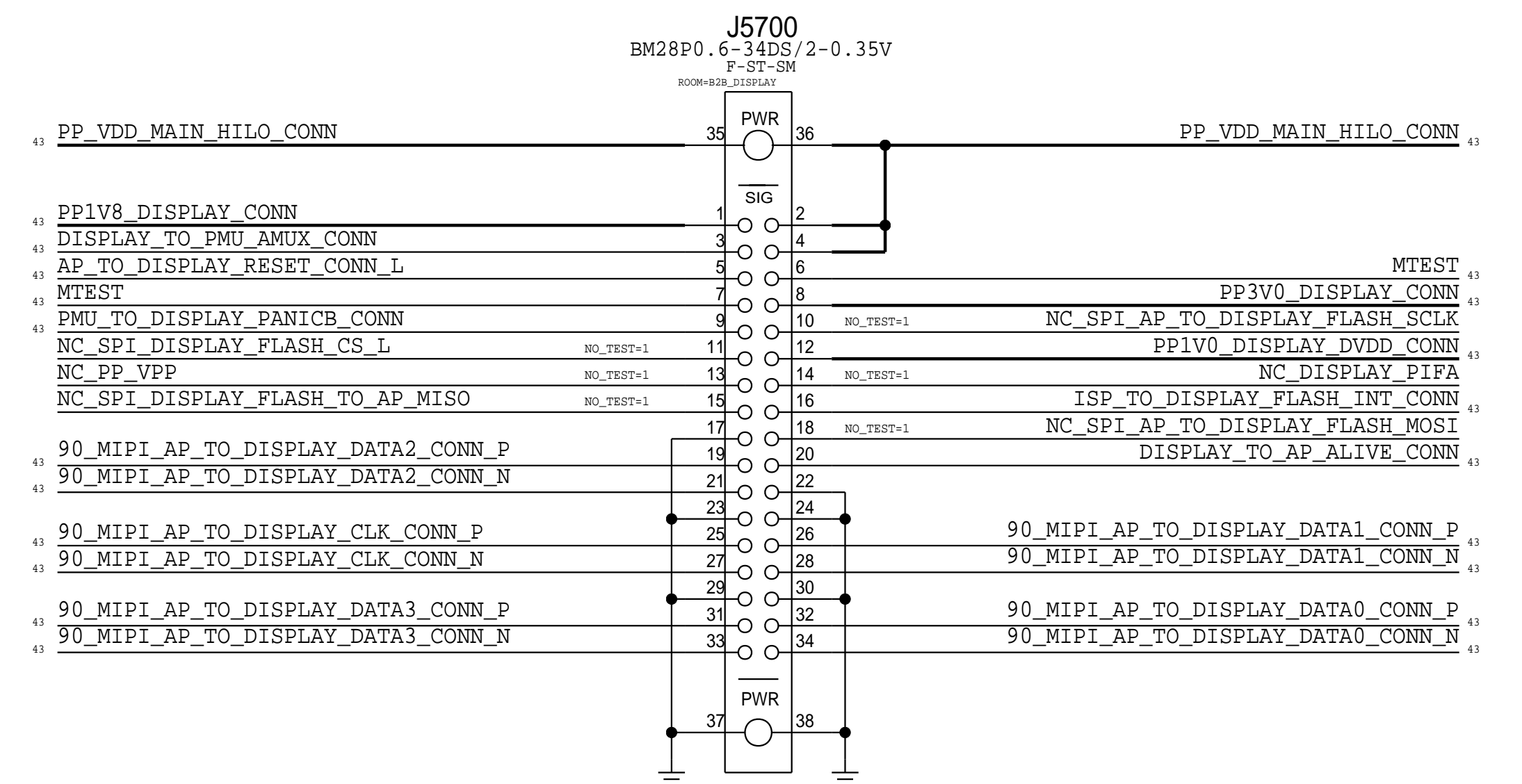
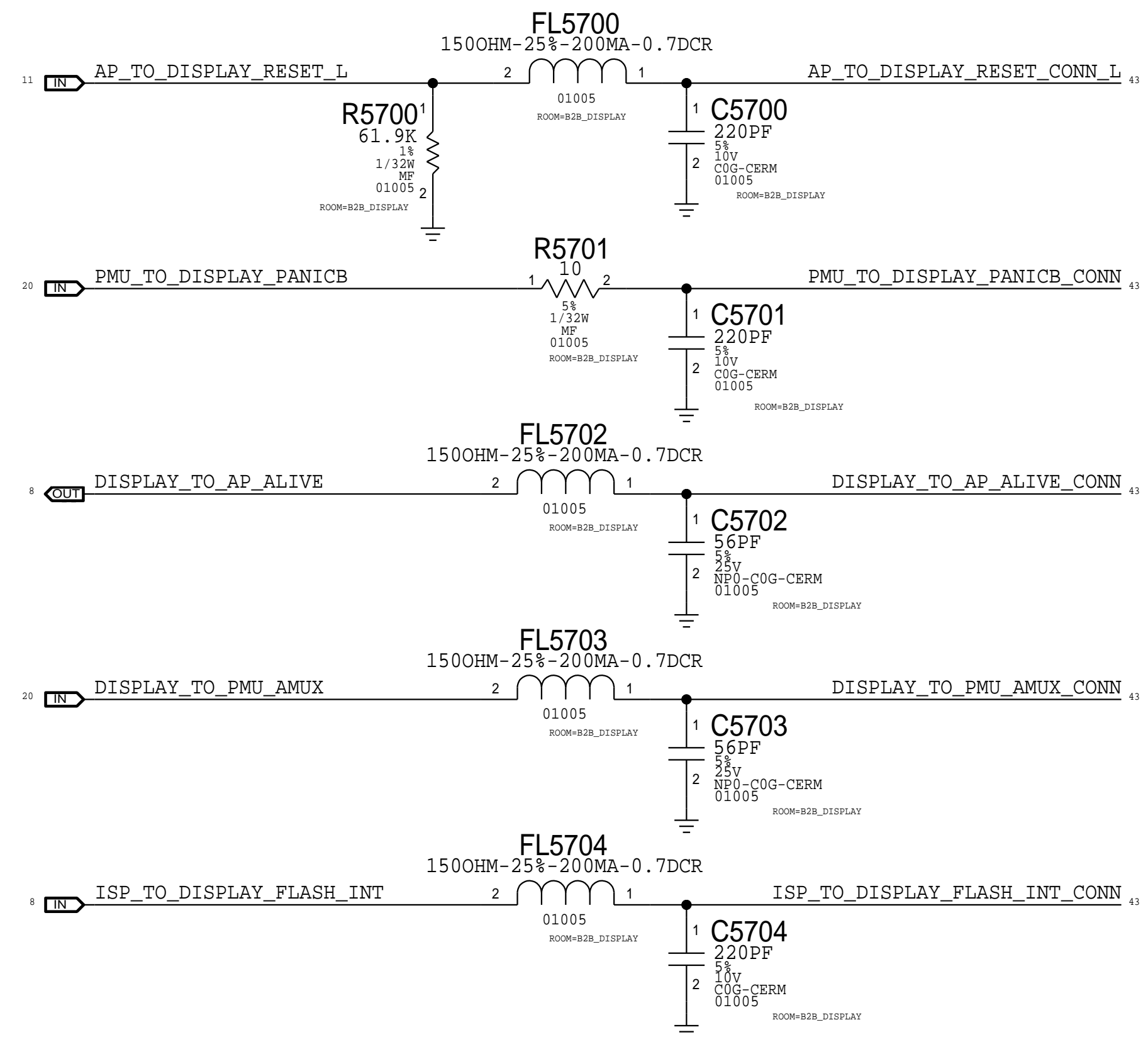
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PAGE TITLE CG: Power Supplies - Touch & Display		
Apple Inc.	DRAWING NUMBER 051-02221	SIZE D
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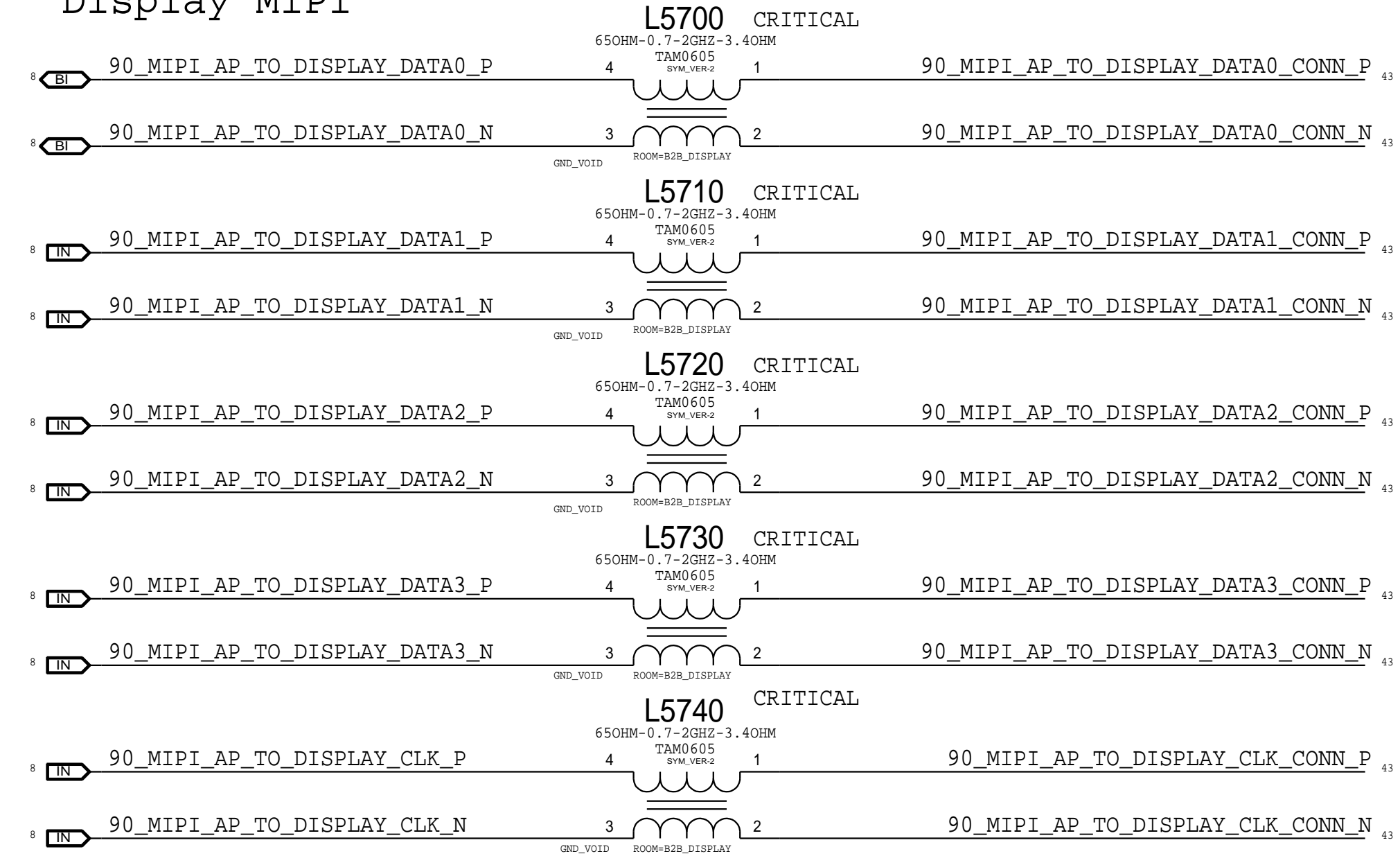
Display Flex Connector

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

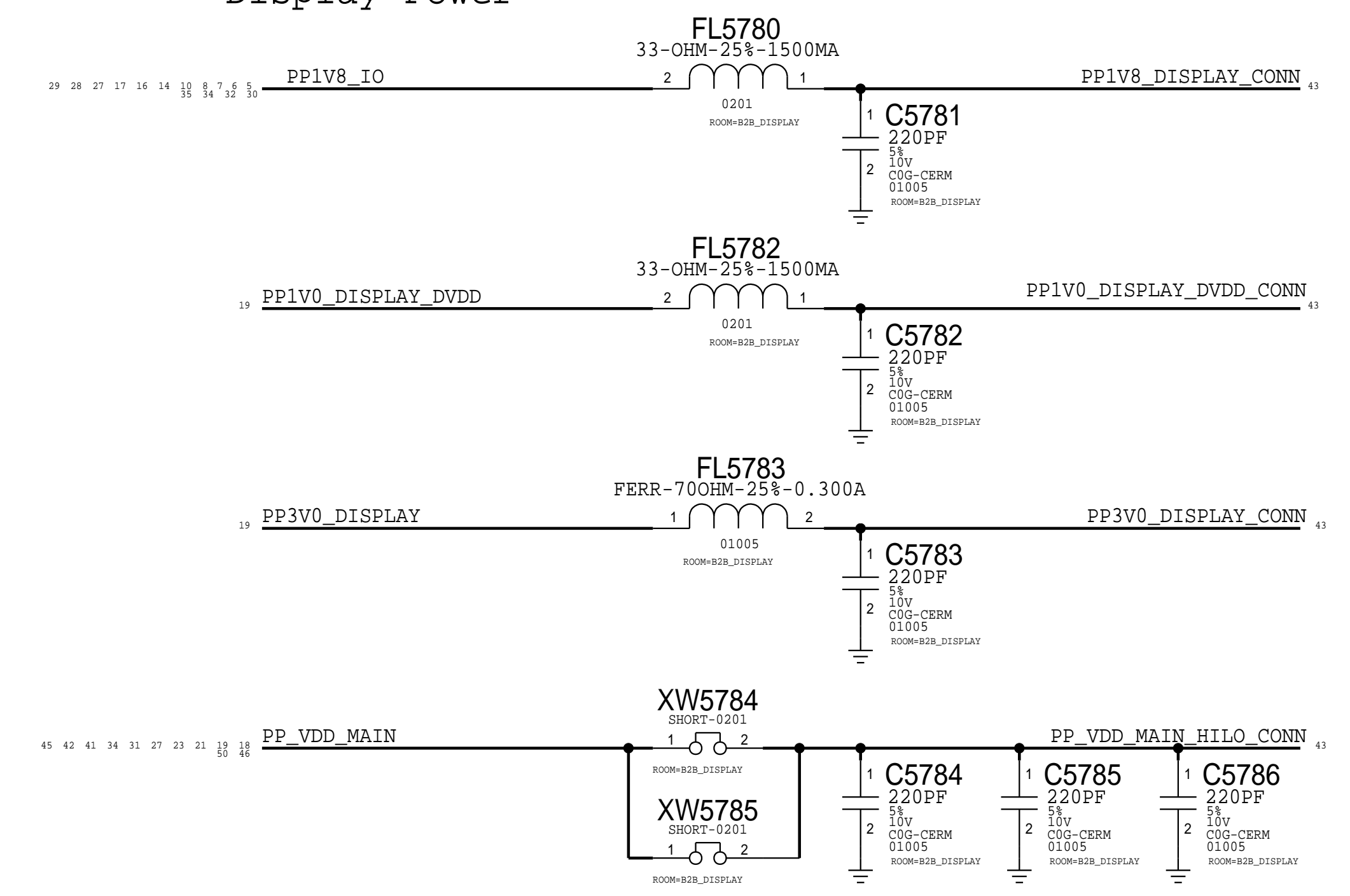
Display Control Signals



Display MIPI



Display Power



PAGE TITLE		
CG: B2B Display		
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Orb + Touch Connector on MLB Bottom



PAGE TITLE			CG: B2B Orb & Touch		
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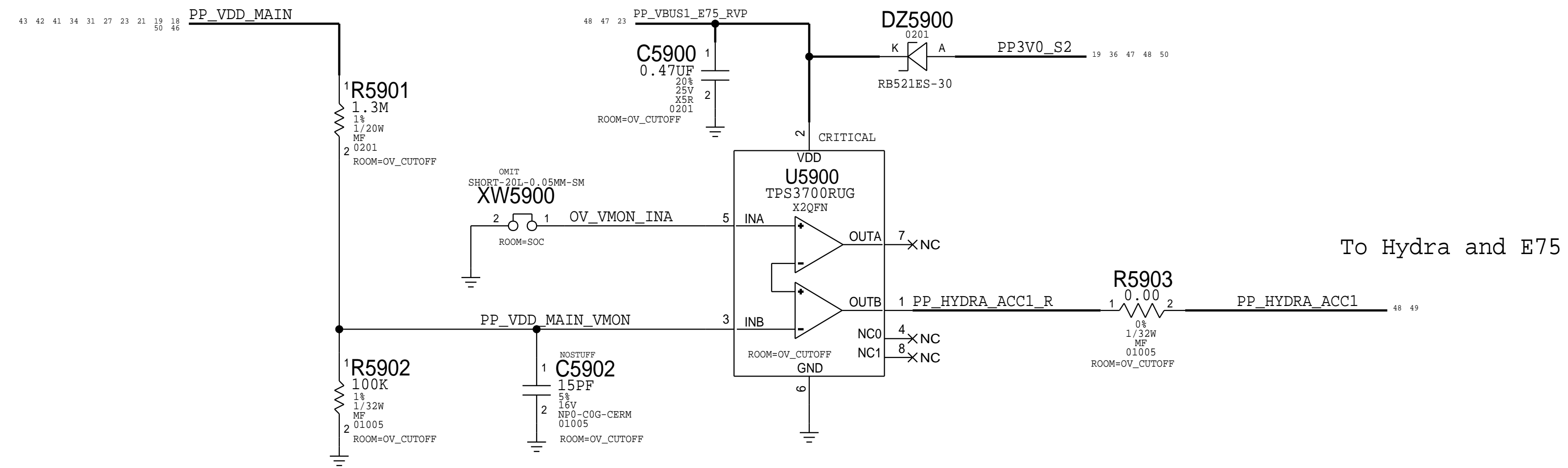
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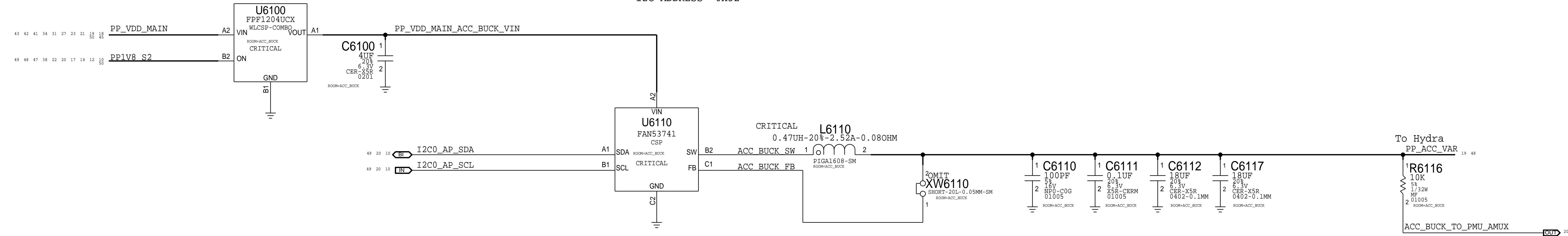
VDD_MAIN OV CUT-OFF CIRCUIT



PAGE TITLE		
I/O: Overvoltage Cut-Off Circuit		
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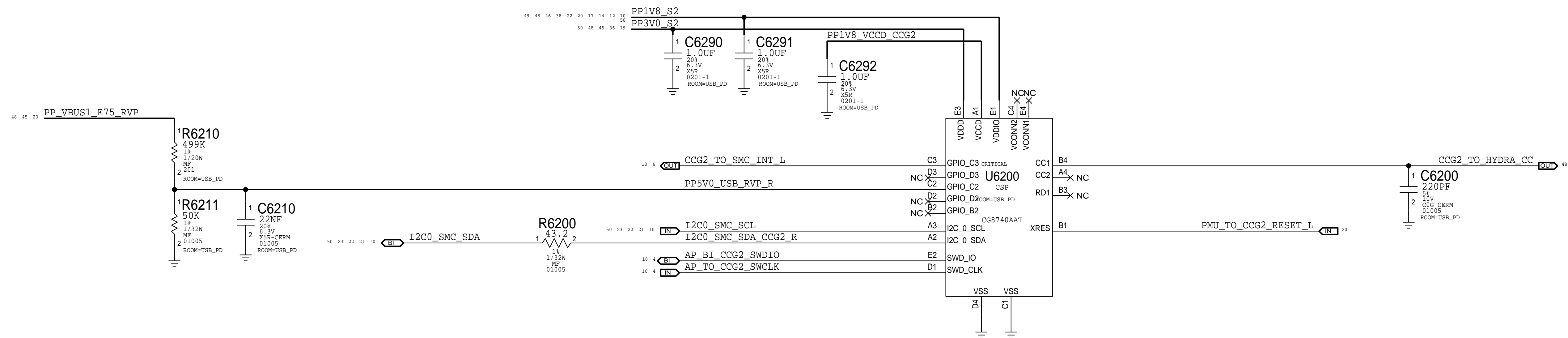
ACCESSORY BUCK

I2C ADDRESS: 0x52



PAGE TITLE		
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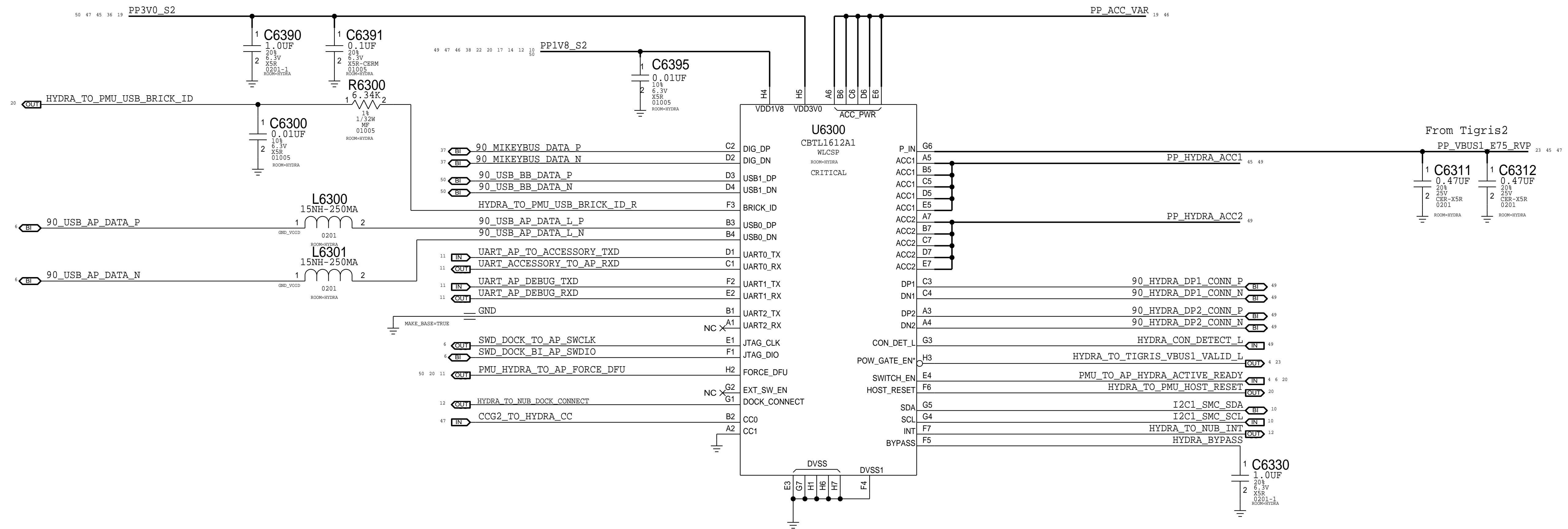
USB-PD



PAGE TITLE			I/O: USB PD		
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Hydra

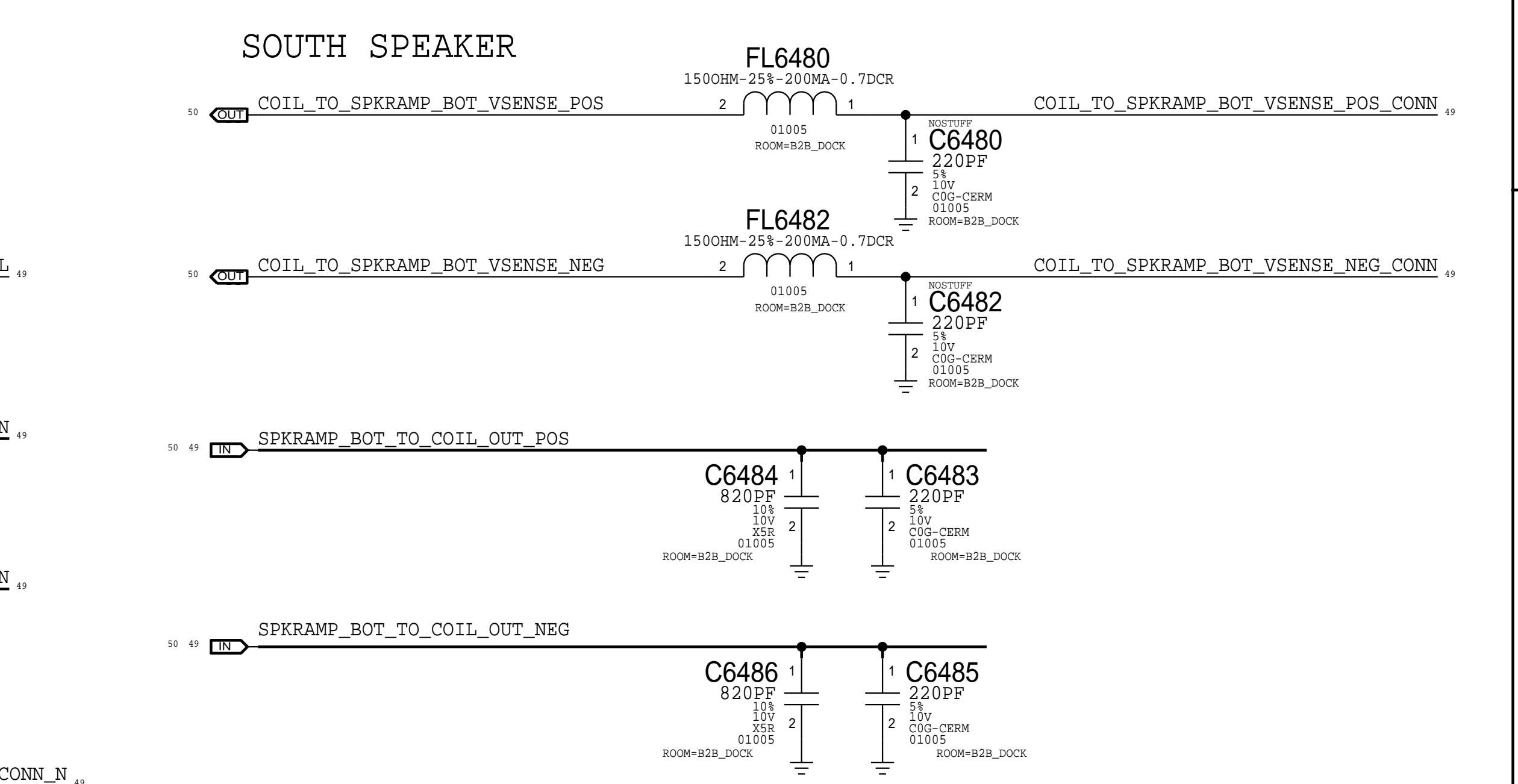
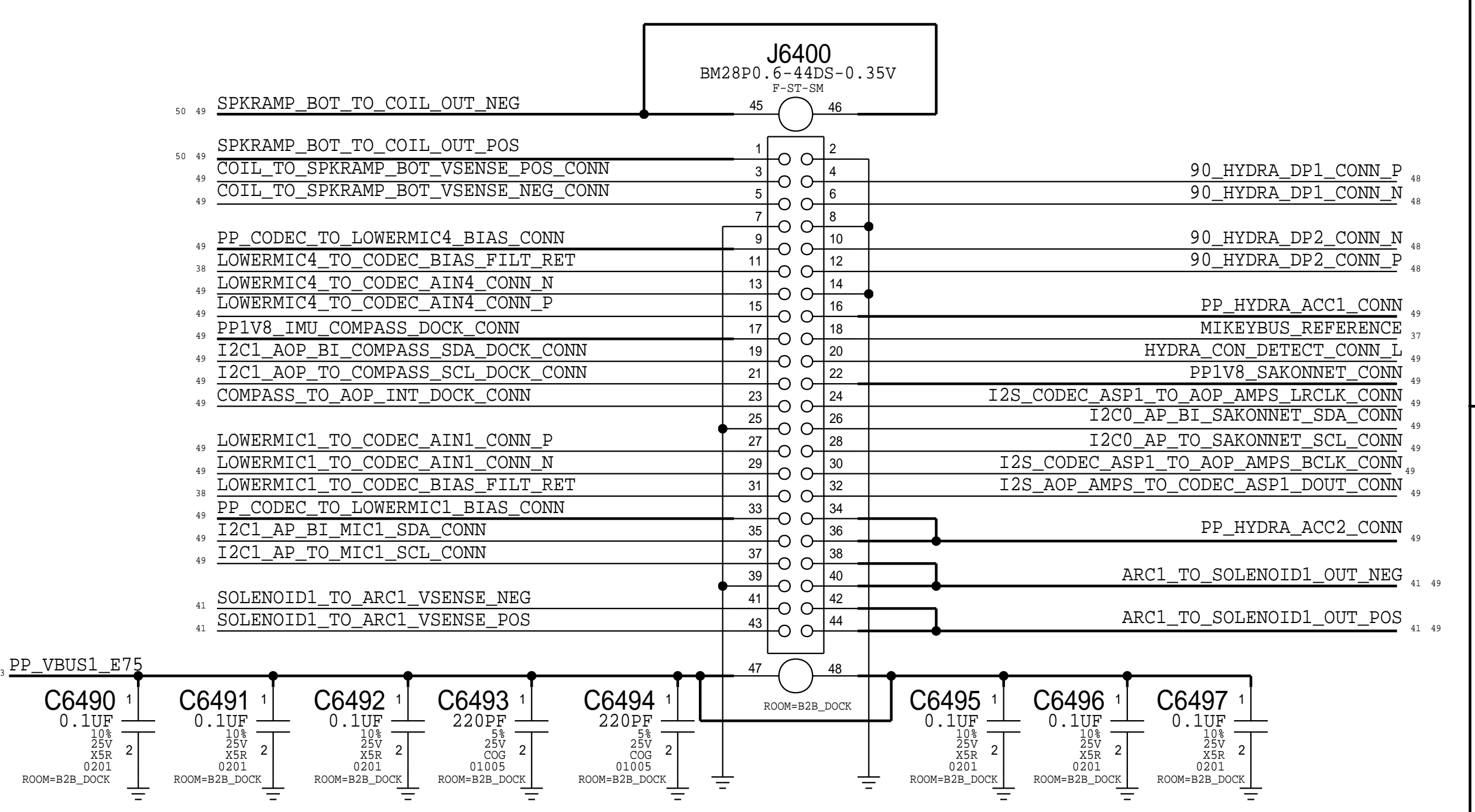
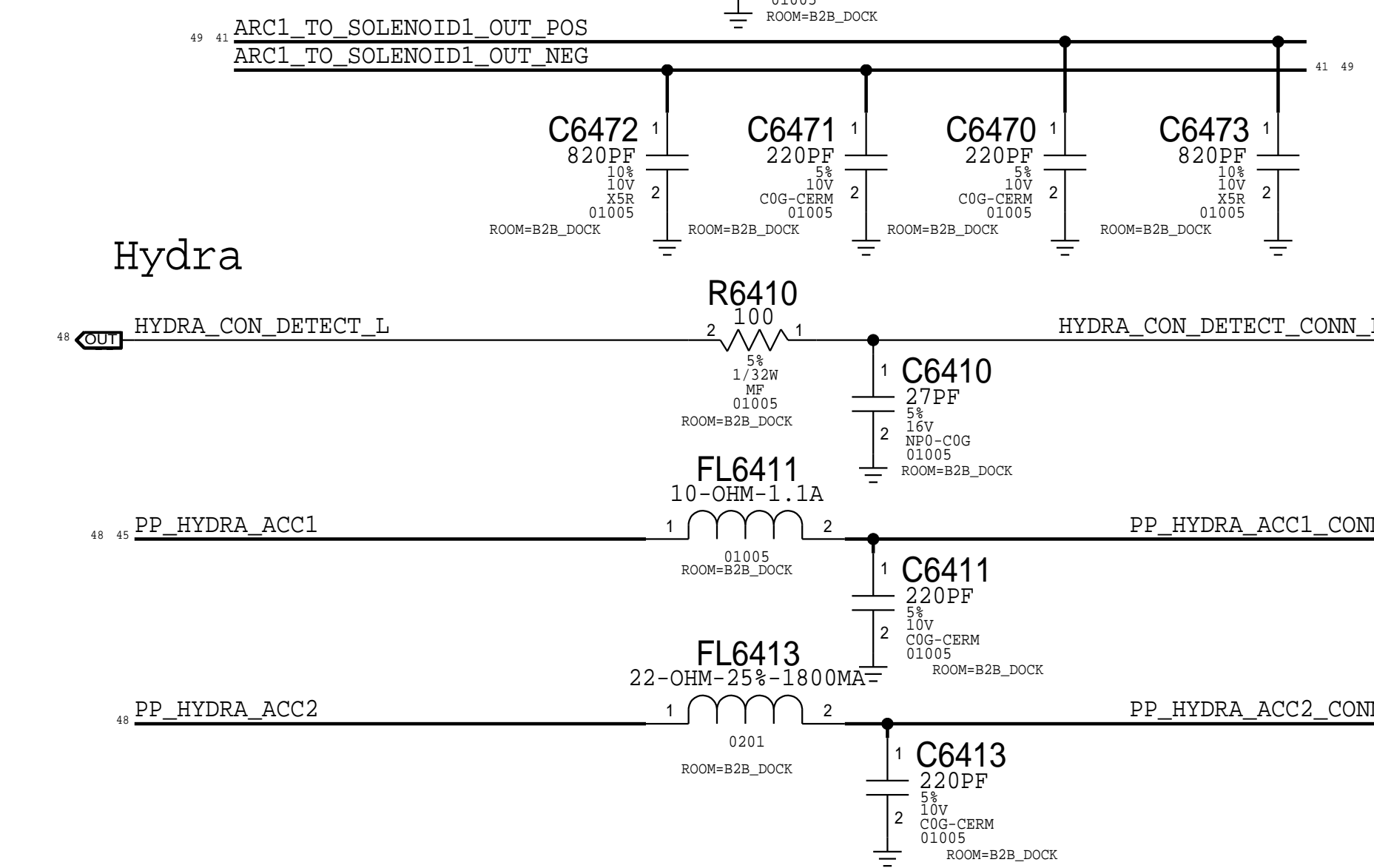
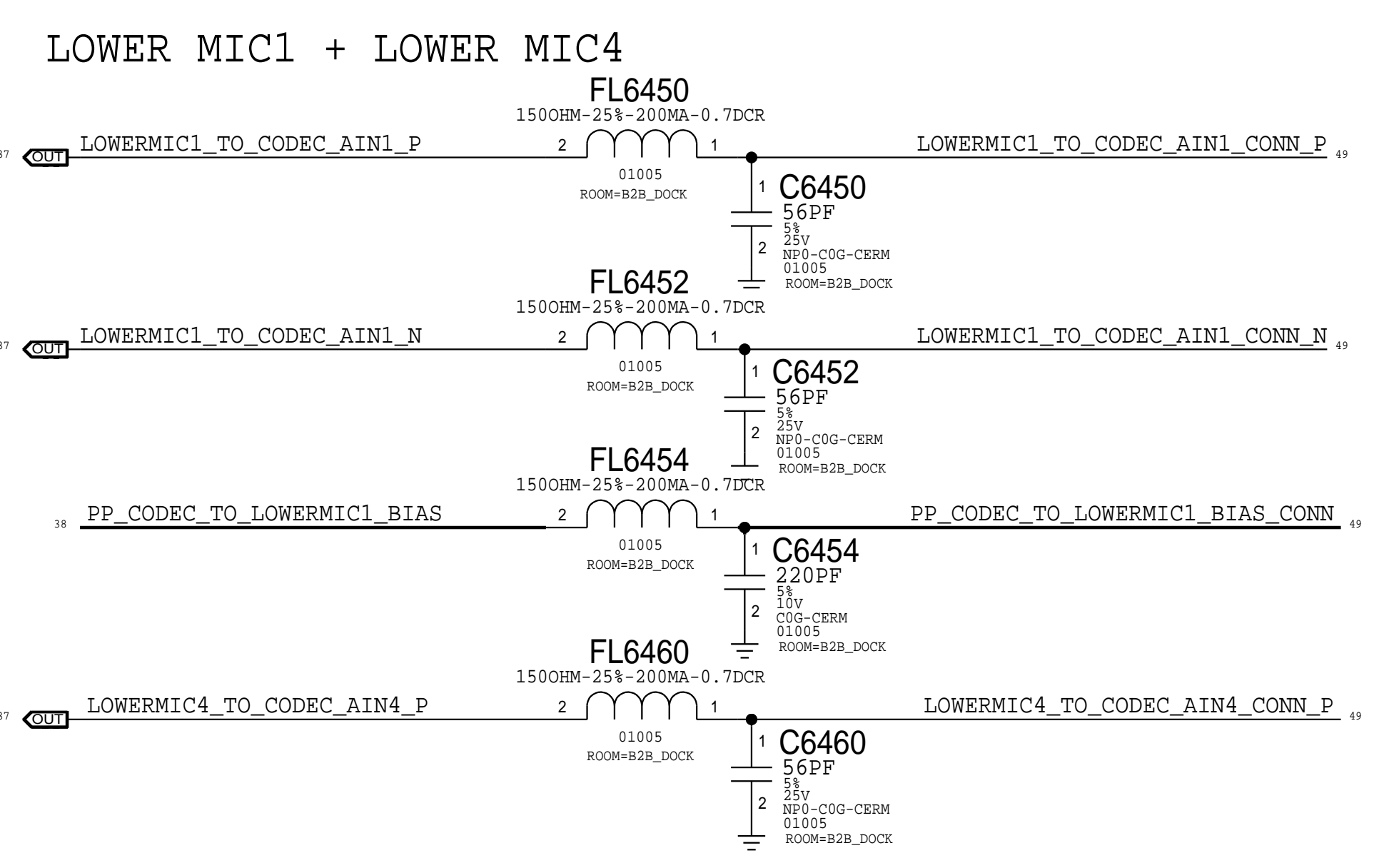
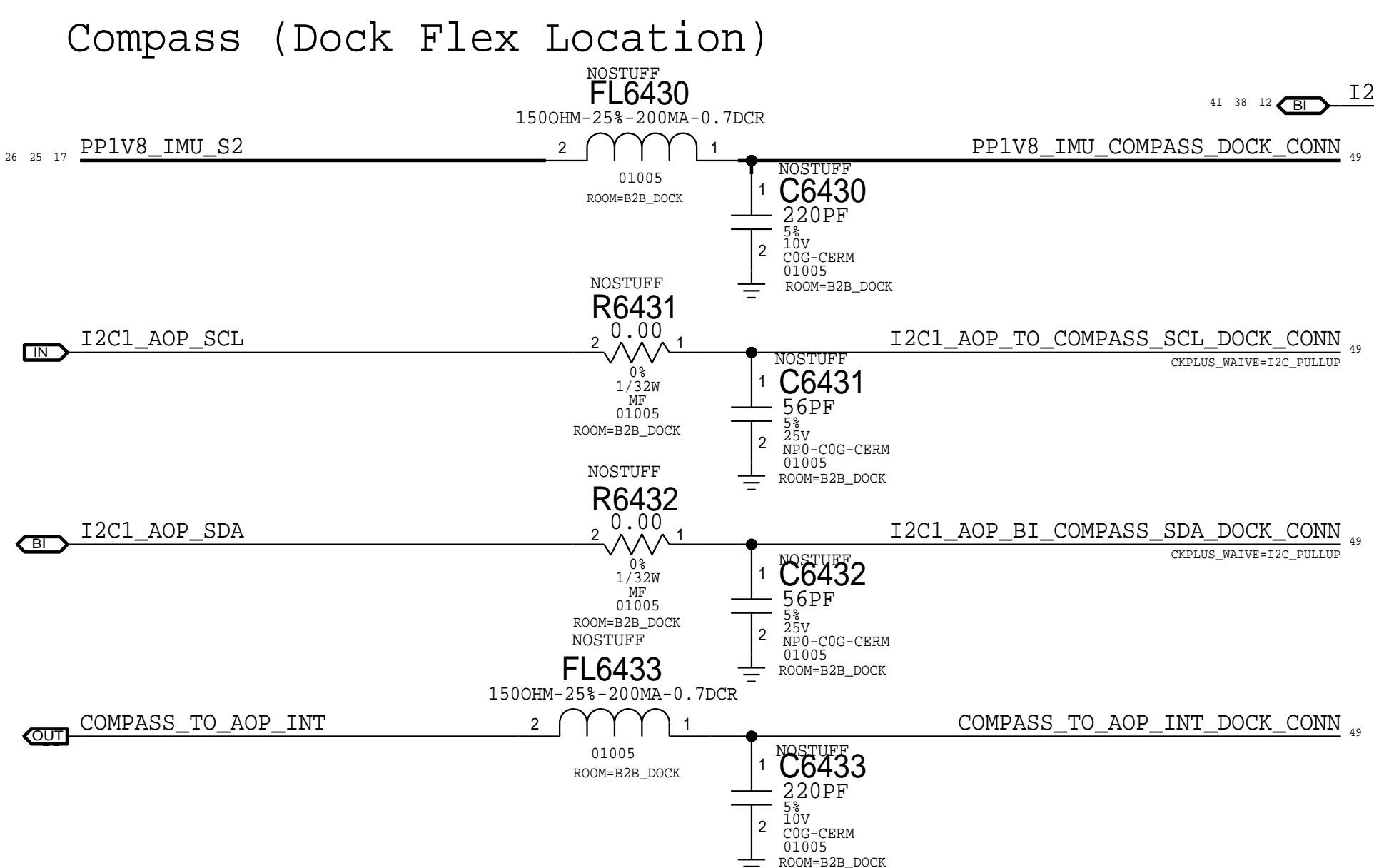
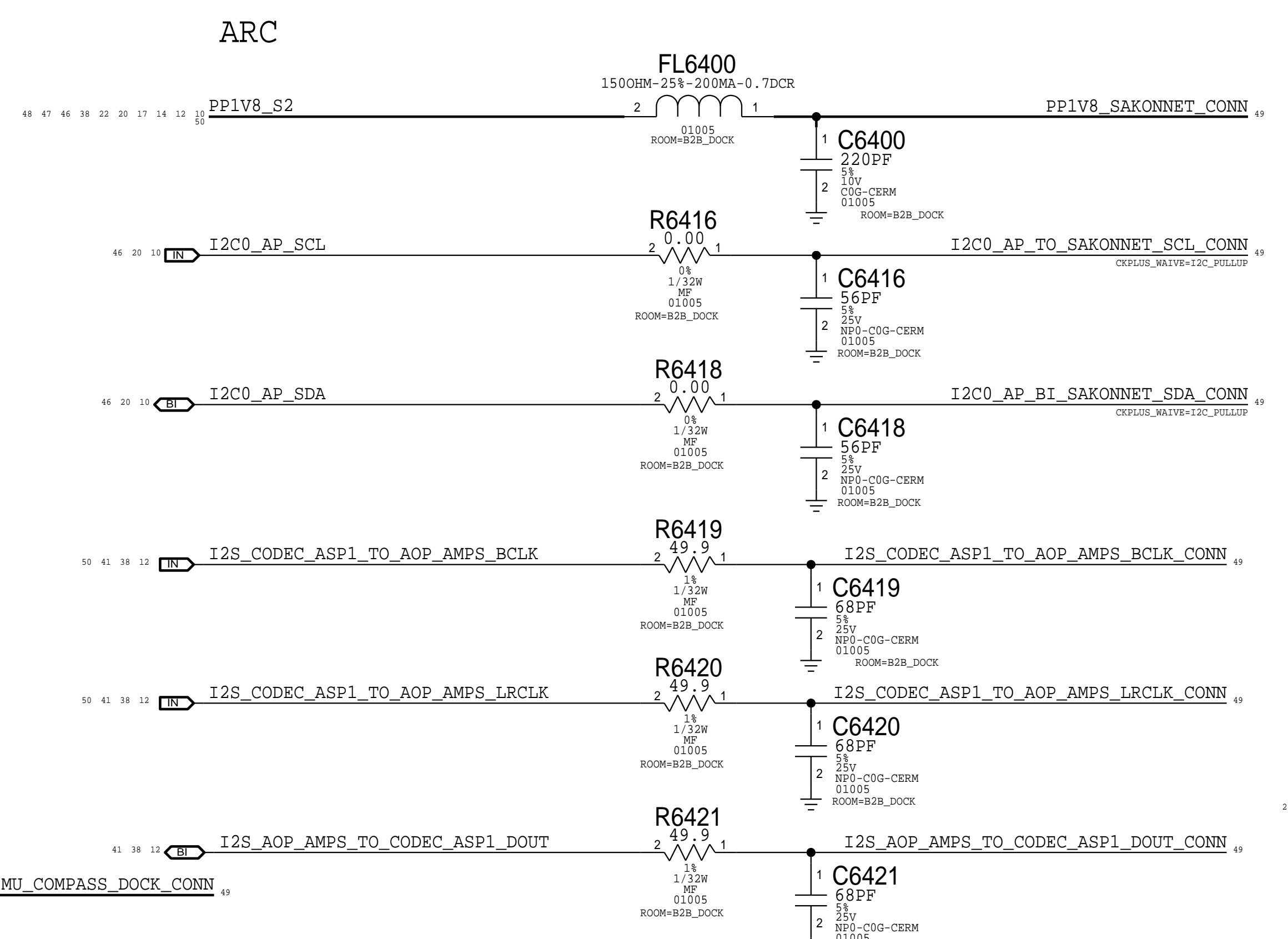
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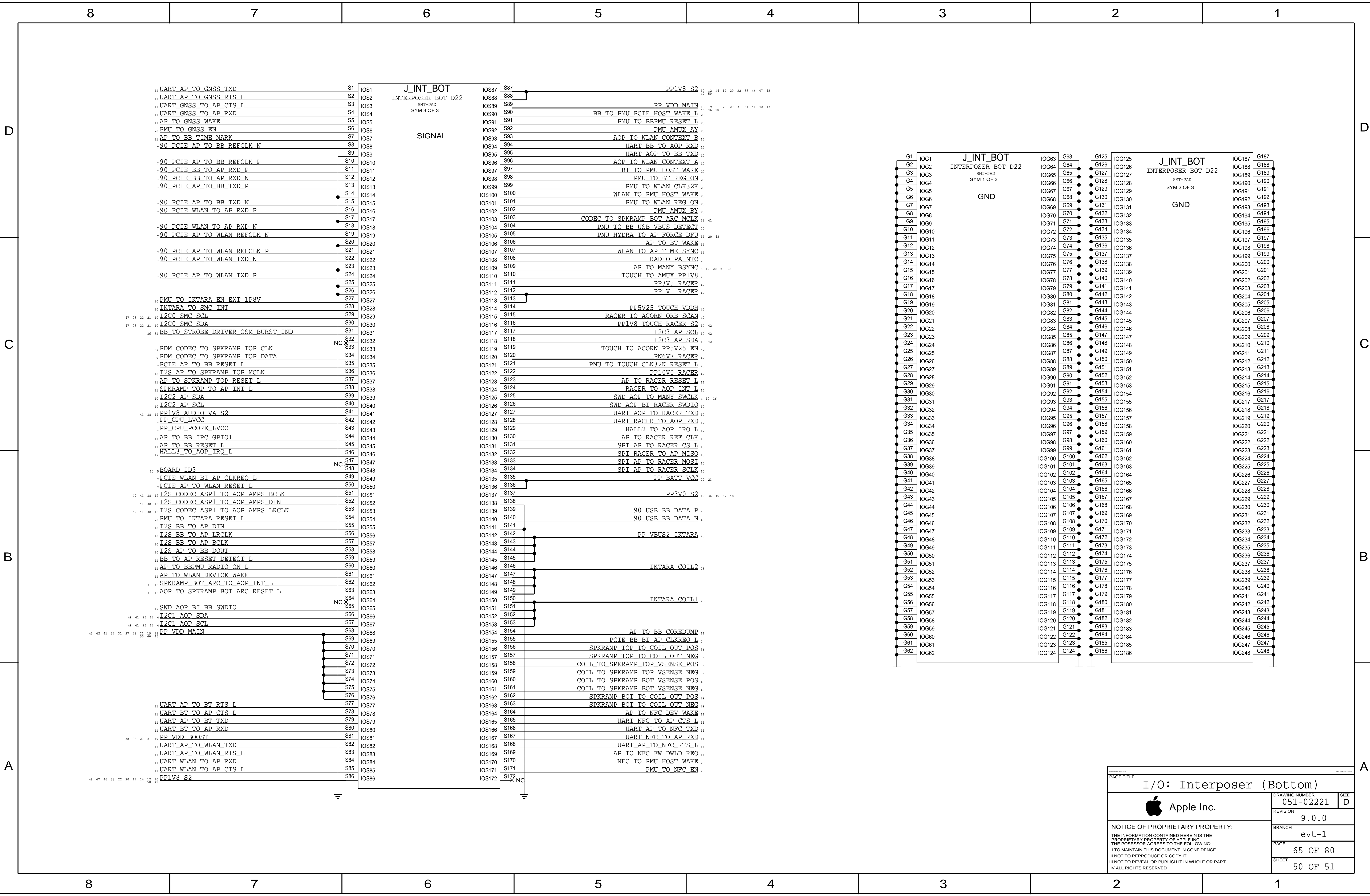
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DOCK FLEX CONNECTOR
 Rept: 516S00038 <-- This one on MLB
 Plug: 516S00037



PAGE TITLE I/O: B2B Dock		
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PAGE TITLE I/O: Interposer (Bottom)		
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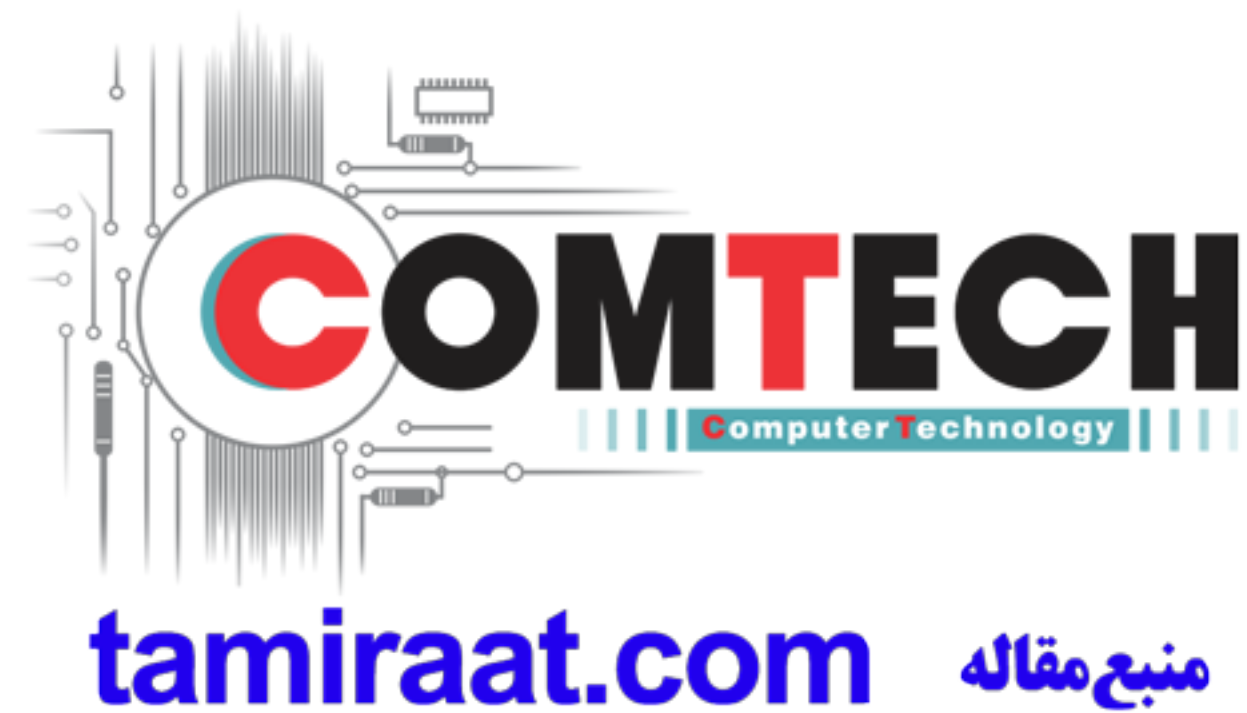
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Radios on MLB Bottom



PAGE TITLE			RADIOS			SYNC_DATE=06/04/2015			
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REV	ECN	DESCRIPTION OF REVISION	CK APPD	DATE
6	0008416016	ENGINEERING RELEASED		2017-04-06

X891 MLB Bottom: EVT

LAST_MODIFICATION=Wed Apr 5 18:45:28 2017

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4	6	BOOTSTRAPPING		11/03/2016					
5	7	SYSTEM: Testpoints (Bottom)	test_mlb	11/09/2016					
6	34	SYSTEM POWER: Iktara	test_mlb	11/09/2016					
7	49	AUDIO: Speaker Amp Bottom	test_mlb	11/09/2016					
8	50	AUDIO: Speaker Amp Top	test_mlb	11/09/2016					
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35	23	TEST POINTS	PROBE POINTS	07/06/2016					
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BOM: 639-03222 (ROW)
 BOM: 639-03410 (JPN)
 MCO: 056-04079

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-02222	1	SCH,MLB,BOT,X891	SCH	NO	COMMON
820-00864	1	PCB,MLB,BOT,X891	PCB	NO	COMMON

Sub Designs

SOURCE PROJECT	SUB-DESIGN NAME	VERSION	HARD/ SOFT	SYNC_DATE/TIME
D22	RADIO_MLB	0.149.0	S	2017_04_05_18:45:19
D22	NFC_MLB	0.22.0	S	2017_03_22_22:10:24
D22	WIFI_MLB	0.20.0	S	2017_04_04_08:01:02

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EEEE Codes

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
825-7691	1	EEEE FOR (MLB_BOT, 639-03410, JPN)	EEEE_HP27	NO	JPN
825-7691	1	EEEE FOR (MLB_BOT, 639-03222, ROW)	EEEE_HLJ79	NO	ROW

Global Capacitors

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S00148	138S00149	BOM_TABLE_ALTS	ALL	0402-3T,10.5uF@1V, Kyocera
138S00150	138S00149	BOM_TABLE_ALTS	ALL	0402-3T,10.5uF@1V, SEMCO
138S00151	138S00149	BOM_TABLE_ALTS	ALL	0402-3T,10.5uF@1V, TT

CRITICAL PART#	COMMENT
138S00149	0402-3T,10.5uF@1V

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S00143	138S00144	BOM_TABLE_ALTS	ALL	0402,16uF@1V, Kyocera
138S00163	138S00144	BOM_TABLE_ALTS	ALL	0402,16uF@1V, Taiyo

CRITICAL PART#	COMMENT
138S00144	0402,16uF@1V

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S00138	138S00139	BOM_TABLE_ALTS	ALL	0201,3uF@1V, Kyocera
138S00164	138S00139	BOM_TABLE_ALTS	ALL	0201,3uF@1V, Taiyo

CRITICAL PART#	COMMENT
138S00139	0201,3uF@1V

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S00145	138S00146	BOM_TABLE_ALTS	ALL	0402,5.1uF@3V, Kyocera
138S00165	138S00146	BOM_TABLE_ALTS	ALL	0402,5.1uF@3V, Taiyo

CRITICAL PART#	COMMENT
138S00146	0402,5.1uF@3V

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S00140	138S00141	BOM_TABLE_ALTS	ALL	0201,1.1uF@3V, Kyocera
138S00142	138S00141	BOM_TABLE_ALTS	ALL	0201,1.1uF@3V, SEMCO
138S00166	138S00141	BOM_TABLE_ALTS	ALL	0201,1.1uF@3V, Taiyo

CRITICAL PART#	COMMENT
138S00141	0201,1.1uF@3V

Global Ferrites

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S00558	152S00557	BOM_TABLE_ALTS	ALL	IND_MLD,0.47UH,20H,2.5A,80MD,1608
155S00194	155S0610	BOM_TABLE_ALTS	ALL	FERR_BD,150 OHM,25A,200MA,0.7 DCR,01005
155S00200	155S0610	BOM_TABLE_ALTS	ALL	FERR_BD,150 OHM,25A,200MA,0.7 DCR,01005

CRITICAL PART#	COMMENT
152S00557	IND_MLD,0.47UH,20H,2.5A,80MD,1608
155S0610	FERR_BD,150 OHM,25A,200MA,0.7 DCR,01005

Global R/C Alternates

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S0648	138S0652	BOM_TABLE_ALTS	ALL	CAP_XSR,4.7UF,6.3V,0.65MM,0402,TAIYO
138S00024	138S0986	BOM_TABLE_ALTS	ALL	CAP_XSR,3-TERR,7.5UF,20V,4V,0402,TAIYO/TTE
138S0706	138S0739	BOM_TABLE_ALTS	ALL	CAP_CER,11UF,20V,10V,XSR,0201,MIKATA
138S0945	138S0739	BOM_TABLE_ALTS	ALL	CAP_CER,11UF,20V,10V,XSR,0201,MIKATA
138S0739	138S0706	BOM_TABLE_ALTS	ALL	CAP_CER,XSR,0.22UF,20V,6.3V,20H
132S0436	132S0400	BOM_TABLE_ALTS	ALL	CAP_CER,XSR,0.22UF,20V,6.3V,01005
138S00049	138S0831	BOM_TABLE_ALTS	ALL	CAP_CER,XSR,2.2UF,20V,6.3V,0201

CRITICAL PART#	COMMENT
138S0652	CAP_XSR,4.7UF,6.3V,0.65MM,0402,TAIYO
138S0986	CAP_XSR,3-TERR,7.5UF,20V,4V,0402,TAIYO/TTE
138S0739	CAP_CER,11UF,20V,10V,XSR,0201,MIKATA
138S0706	CAP_CER,XSR,0.22UF,20V,6.3V,20H
132S0400	CAP_CER,XSR,0.22UF,20V,6.3V,01005
138S0831	CAP_CER,XSR,2.2UF,20V,6.3V,0201

Global Inductors

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S00653	152S00651	BOM_TABLE_ALTS	ALL	IND,1.20H,3A,2016,0.65Z
152S00654	152S00652	BOM_TABLE_ALTS	ALL	IND,1.20H,3A,2016,0.8Z

CRITICAL PART#	COMMENT
152S00651	IND,1.20H,3A,2016,0.65Z
152S00652	IND,1.20H,3A,2016,0.8Z

Multi-Vendor Criticals

CRITICAL PART#	COMMENT	CRITICAL PART#	COMMENT
138S0979	CAP_CER,XSR,10UF,20V,10V,0402,B=0.65MM	132S00008	CAP_CER,0.1UF,10H,50V,X7R,0402
138S0683	CAP_CER,XSR,1UF,10V,25V,0402	131S0804	CAP_CER,27PF,5V,COG,25V,0201
132S0663	CAP_CER,XSR,1UF,10V,25V,0402	131S0307	CAP_CER,NPO/COG,100PF,5V,16V,01005
132S0288	CAP_CER,XSR,0.1UF,10V,16V,0201	131S00053	CAP_CER,COG,220PF,5V,10V,01005
132S0275	CAP_CER,XSR,470PF,10V,01005	117S0055	RES,NF,1/20W,2K OHM,5,0201,SMD
132S0245	CAP_CER,XSR,0.01UF,10V,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,10H,50V,X7R,0402	C3451,C3452,C3453,C3454,C3455,C3456	NO	COMMON
132S0423	2	CAP_CER,0.022UF,50V,X7R,10H,0402	C3455,C3465	CRITICAL	COMMON
132S0423	2	CAP_CER,0.022UF,50V,X7R,10H,0402	C3456,C3466	CRITICAL	NOSTUFF

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
685-00183	685-00182	BOM_TABLE_ALTS	SUBBOM_DS	SUBBOM_MLB_BOT,DIODES,DIODES,X891

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
685-00182	1	SUBBOM_MLB_BOT,DIODES,DIODES,X891	SUBBOM_DS	CRITICAL	COMMON
371S00133	4	DIODES,SHOTTKY DIODE,30V,2A,D663	D3400,D3401,D3402,D3403	CRITICAL	DIODES_DS
371S00132	4	ONSEMI,SHOTTKY DIODE,30V,2A,D663	D3400,D3401,D3402,D3403	CRITICAL	ONSEMI_DS

Soft-Term Cap Sub BOMs

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
685-00157	1	SUBBOM_MLB_BOT,CAP_TYPICAL,X891	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,MIKATA	C5890	CRITICAL	TYPICAL_CAP

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
685-00158	685-00157	BOM_TABLE_ALTS	SUBBOM_CAP	SUBBOM_MLB_BOT,CAP_SOFT,X891

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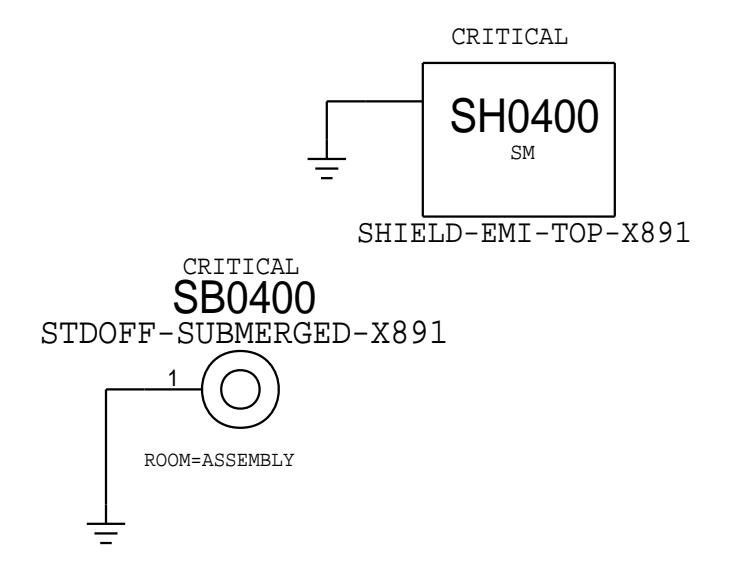
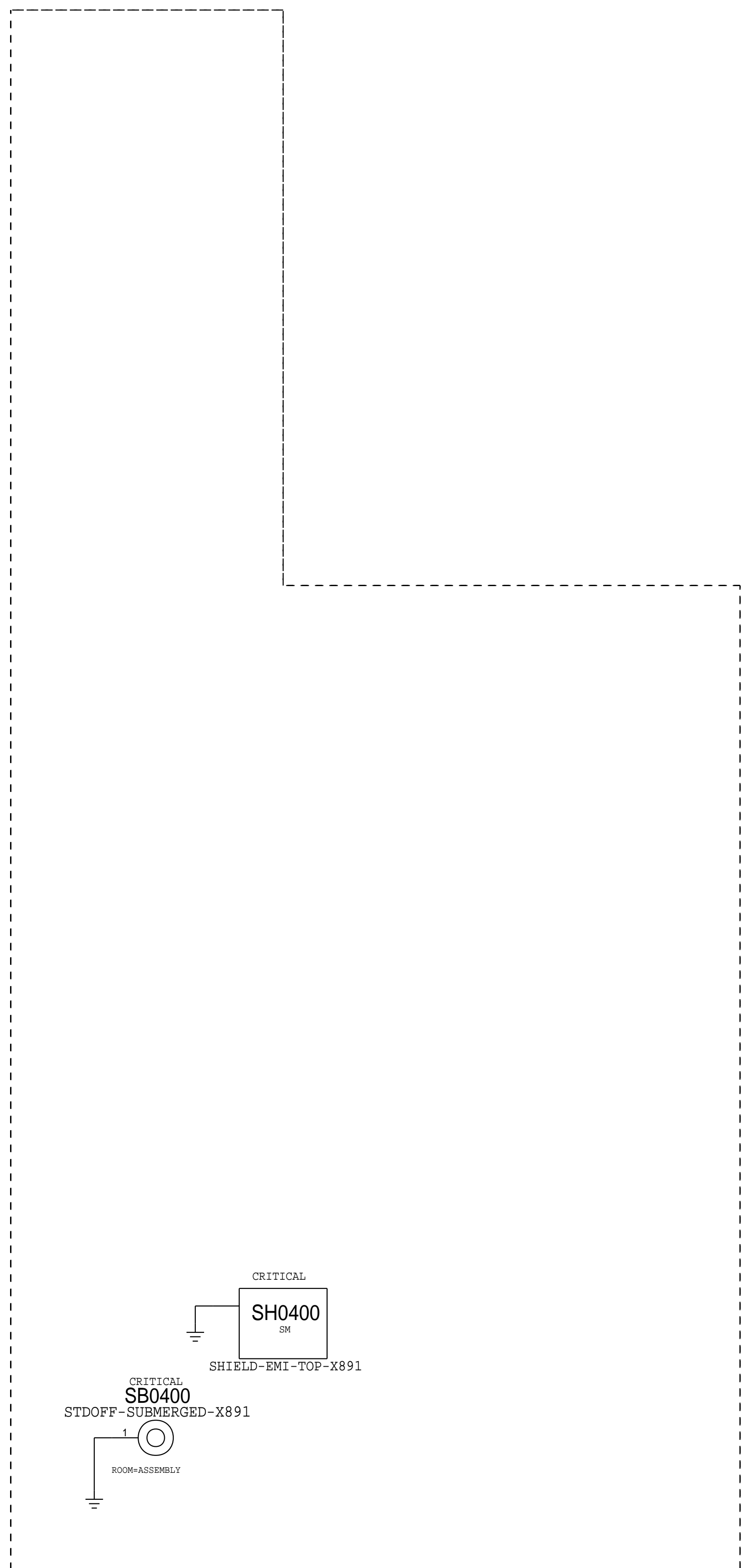
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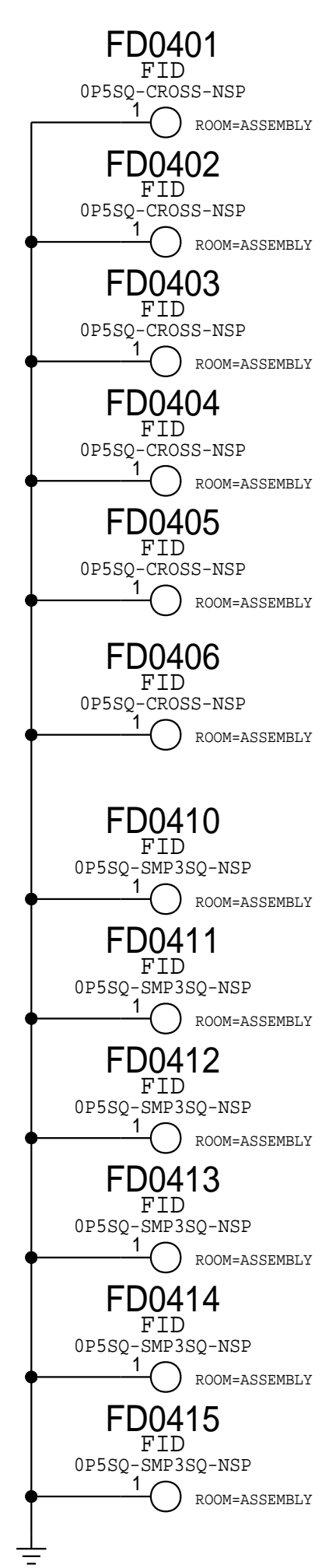
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FIDUCIALS



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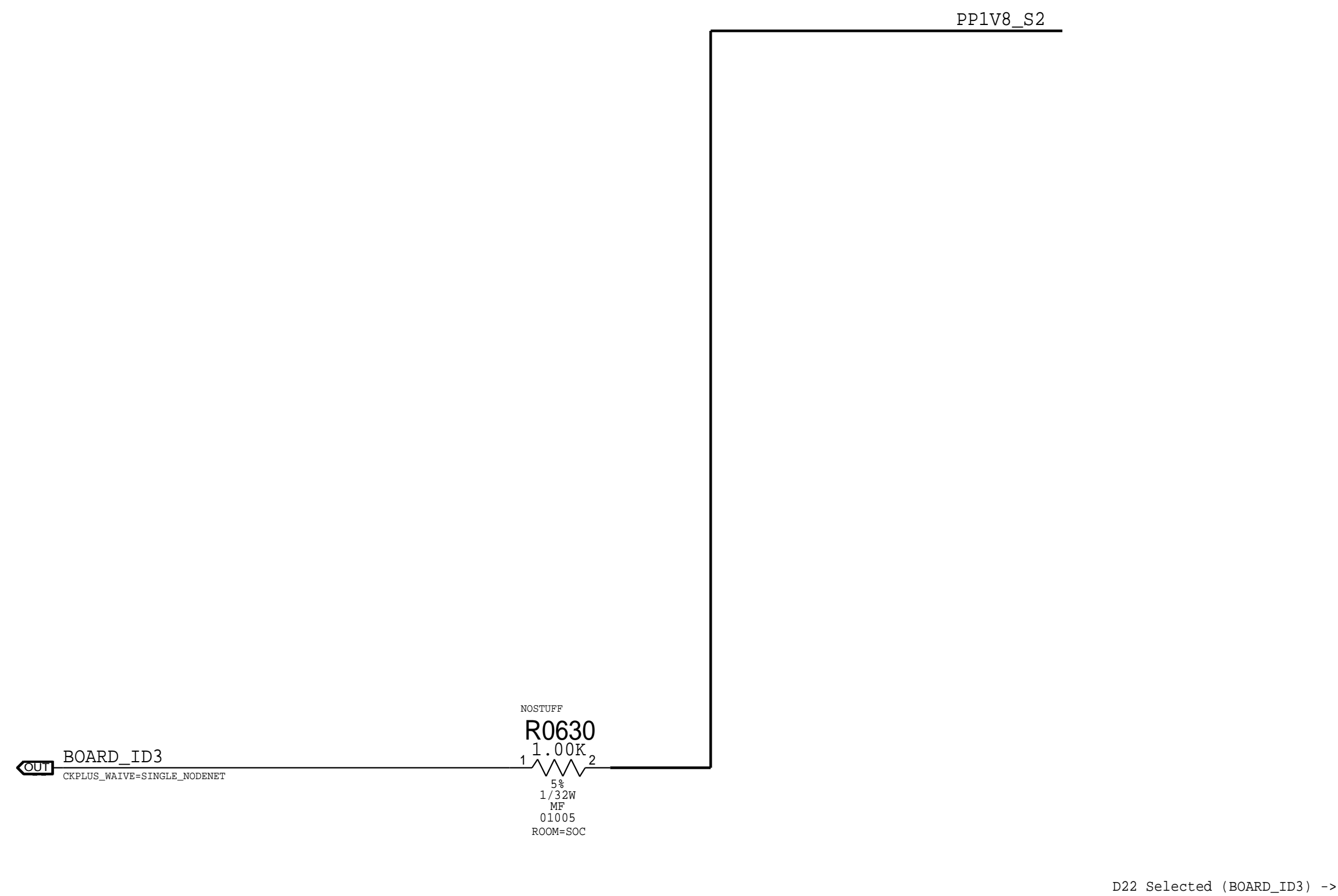
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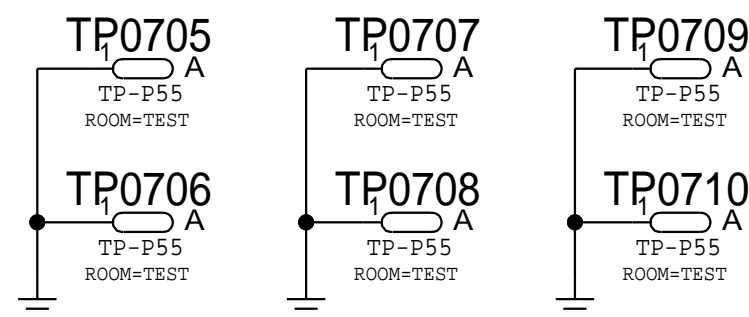
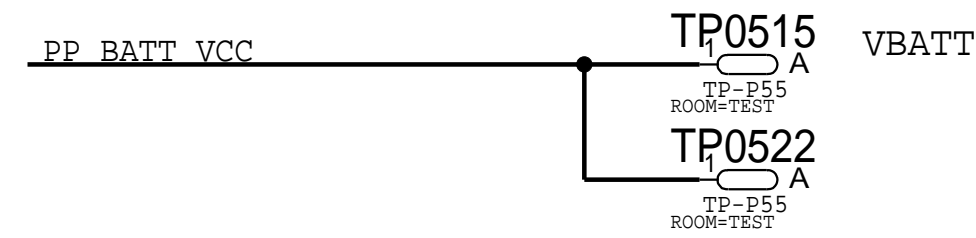
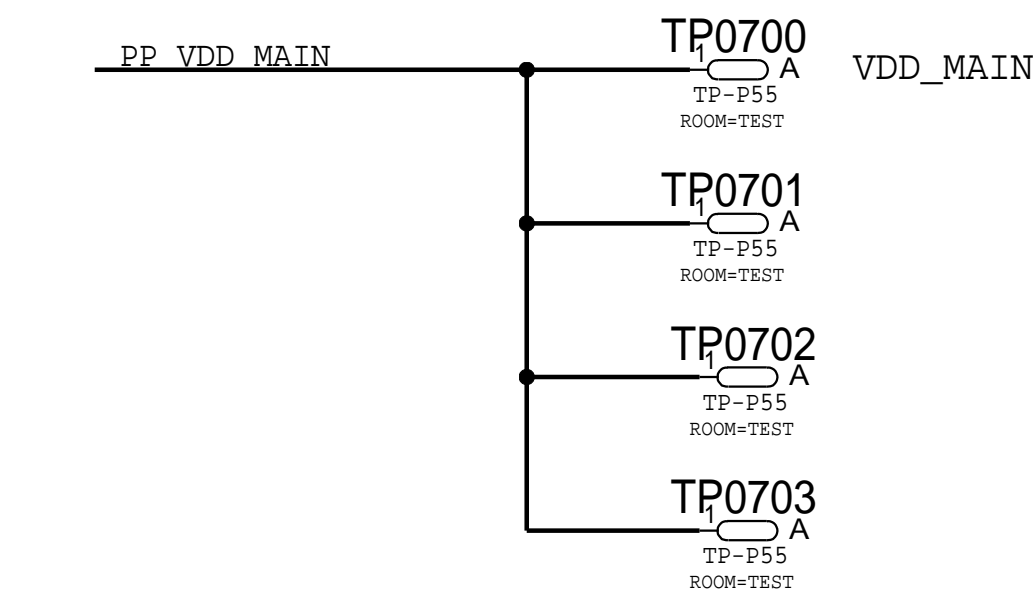
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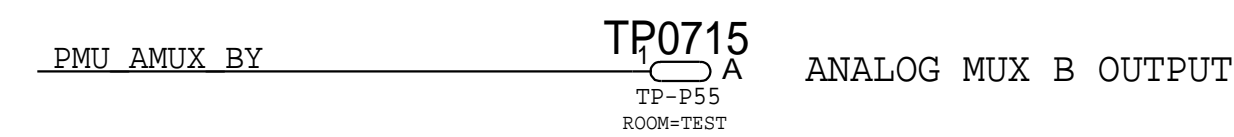
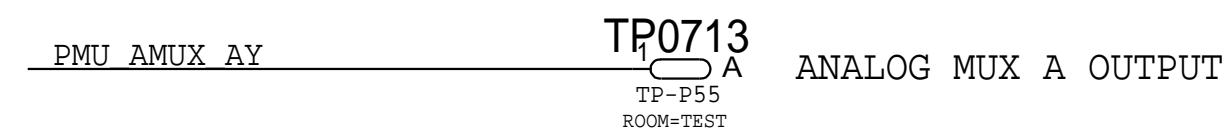
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Test Points

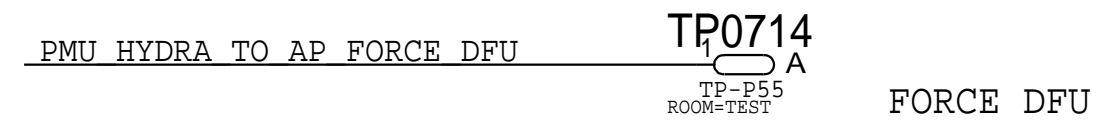
Probe Points



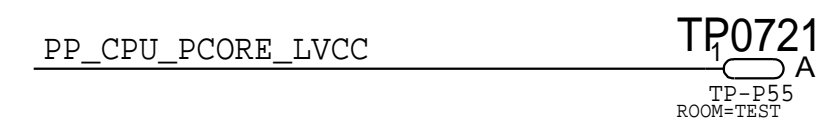
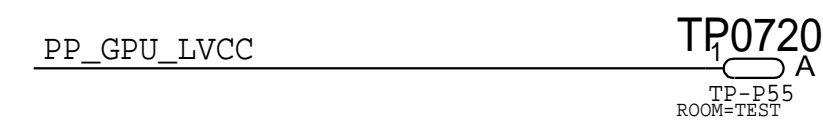
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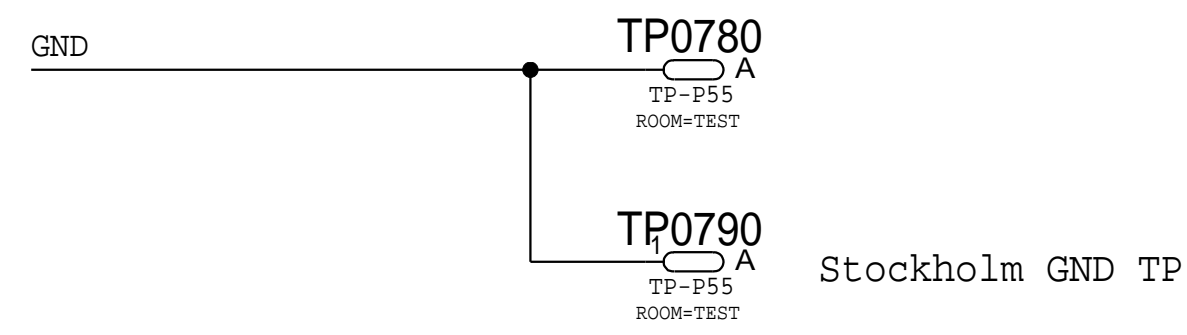
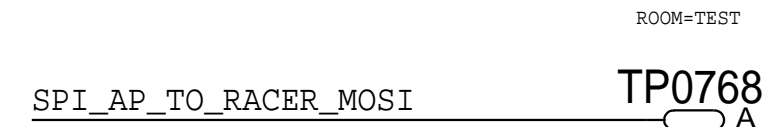
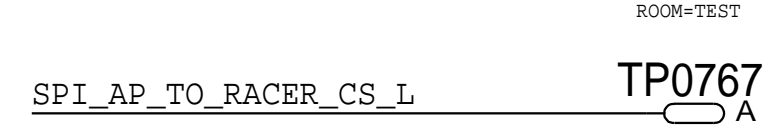
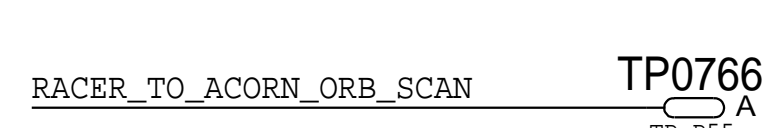
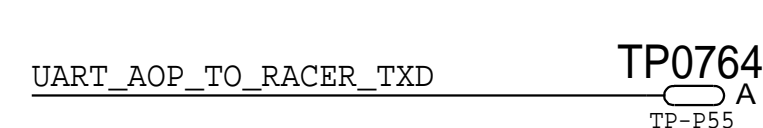
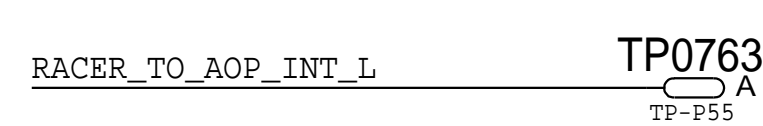
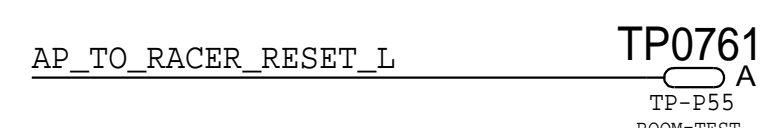
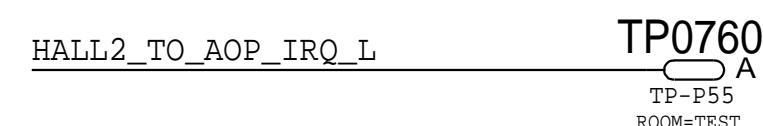
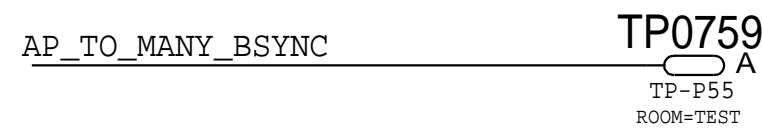
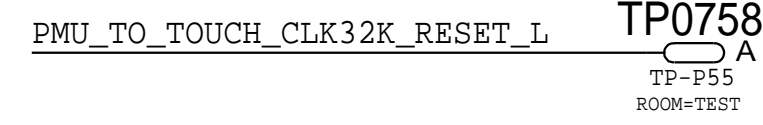
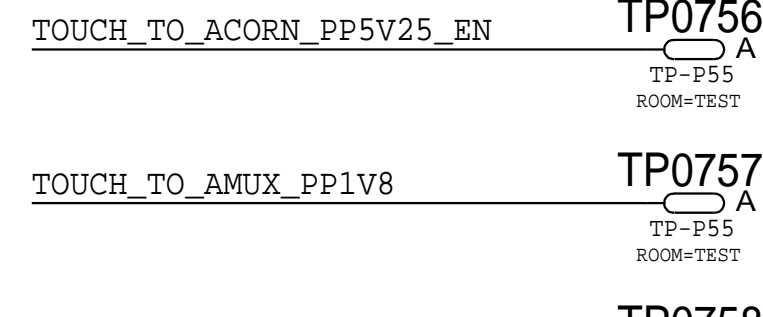
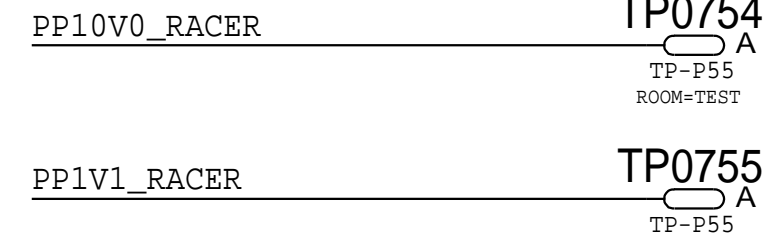
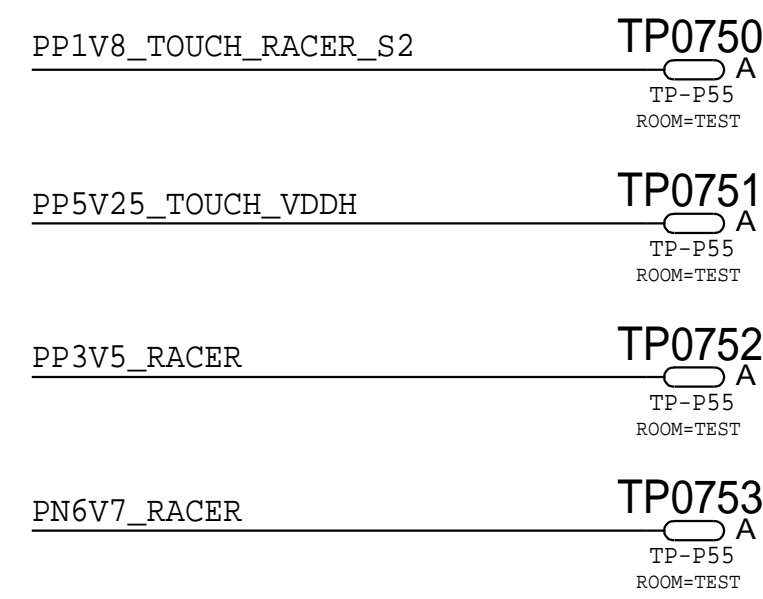
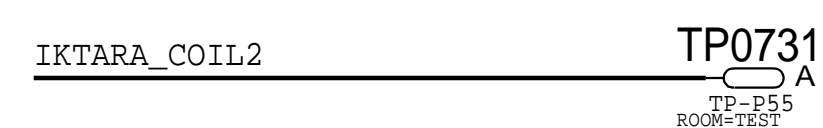
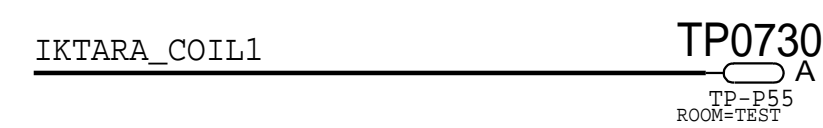
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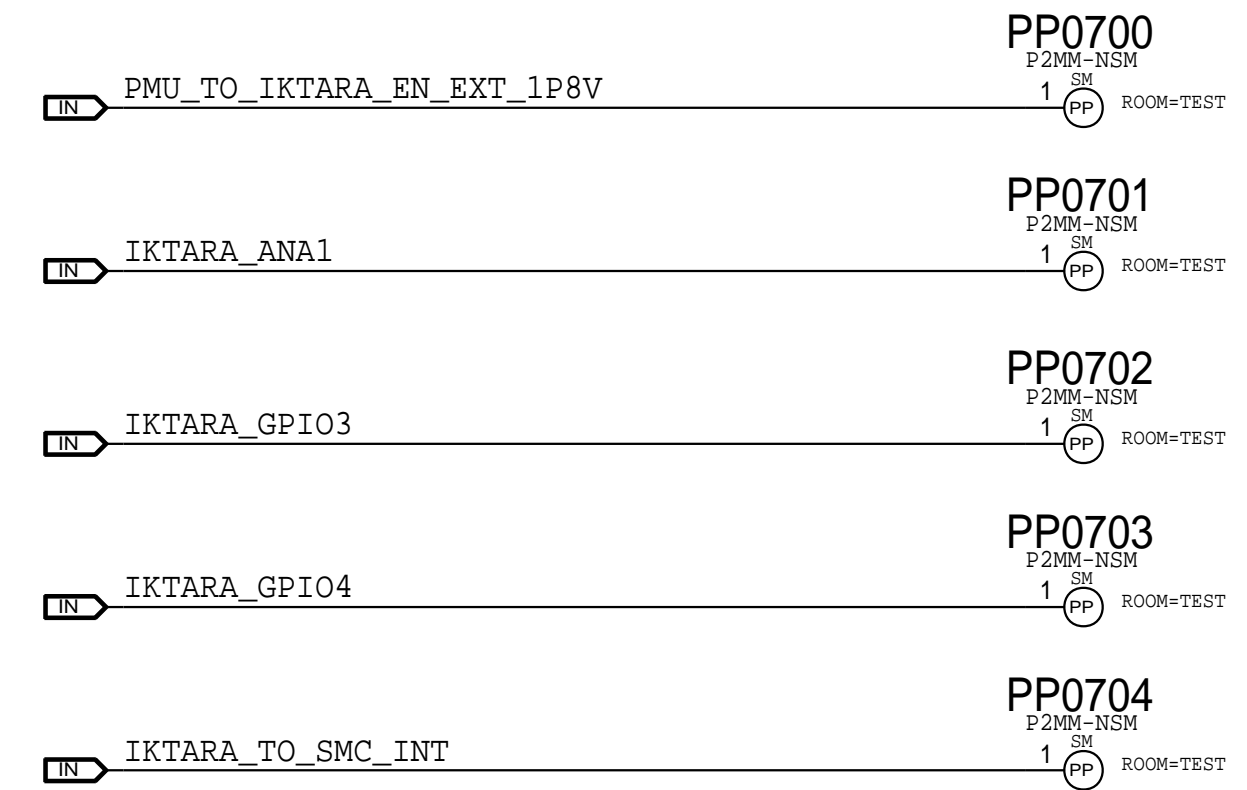
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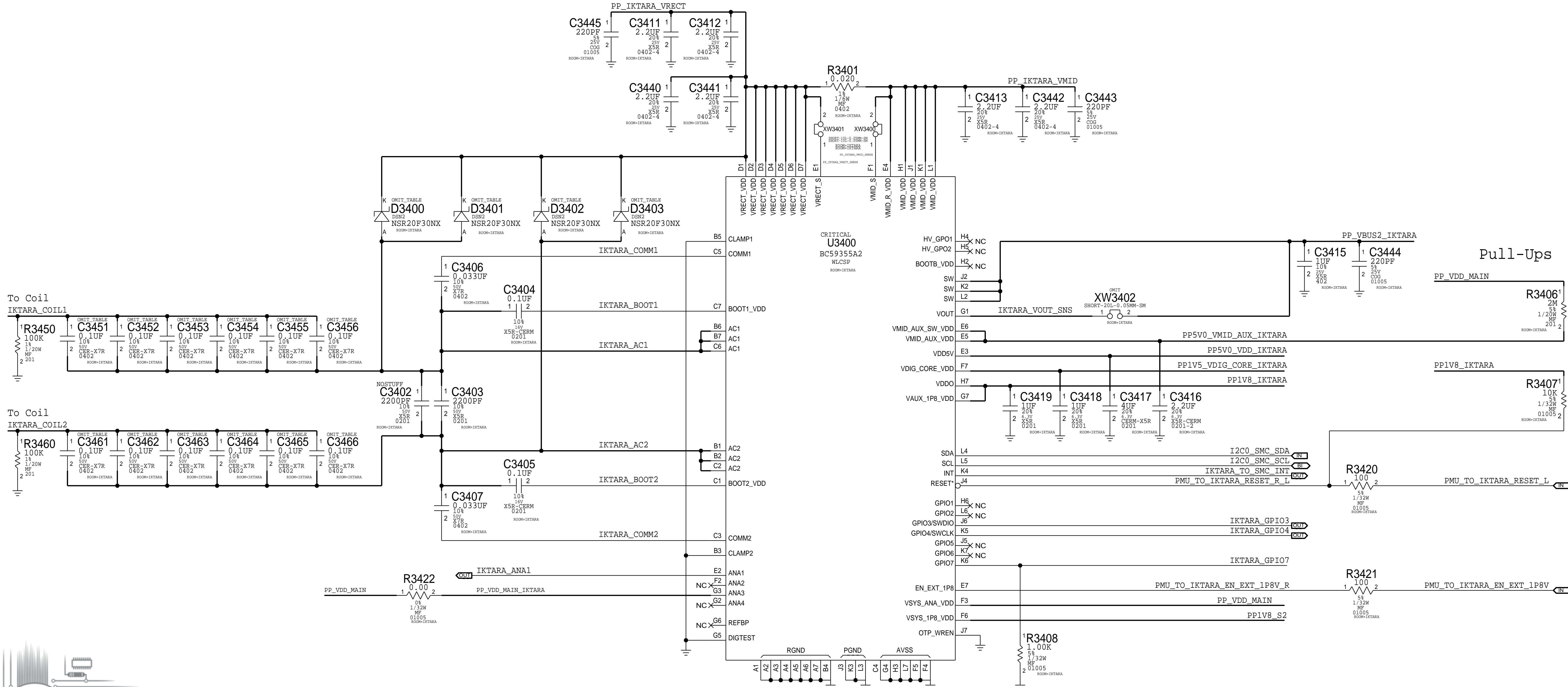


Iktara Debug



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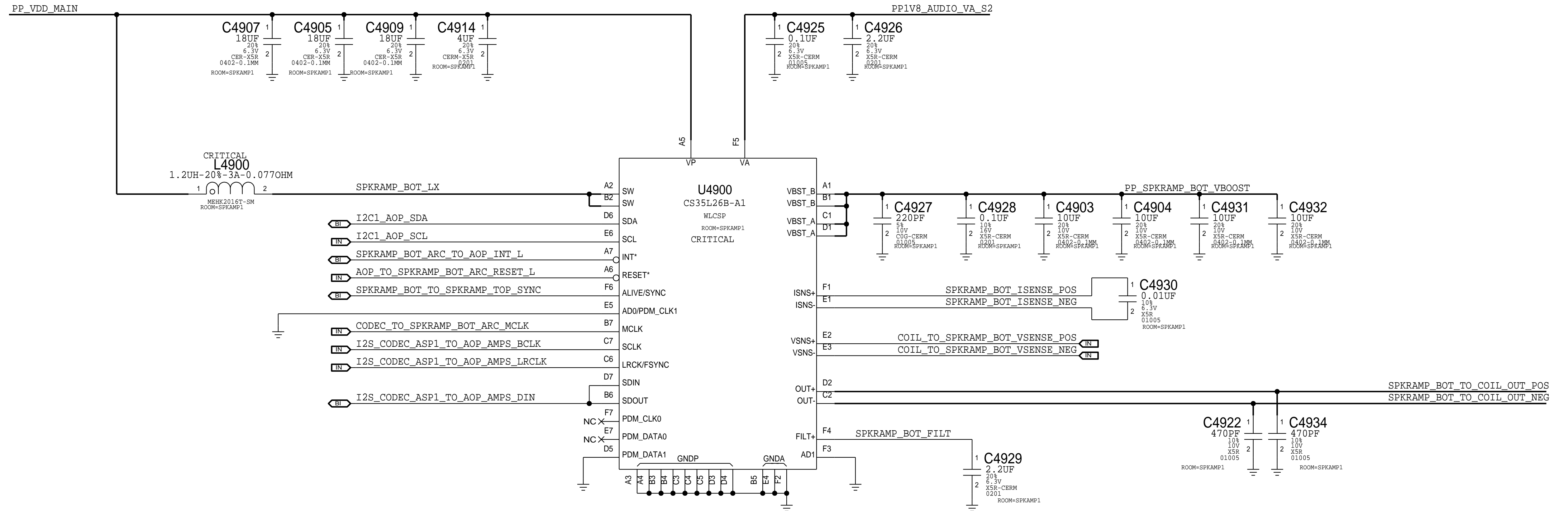
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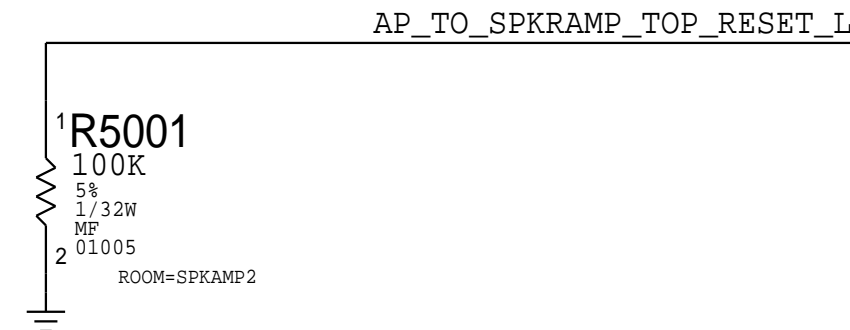
South Speaker Amplifier

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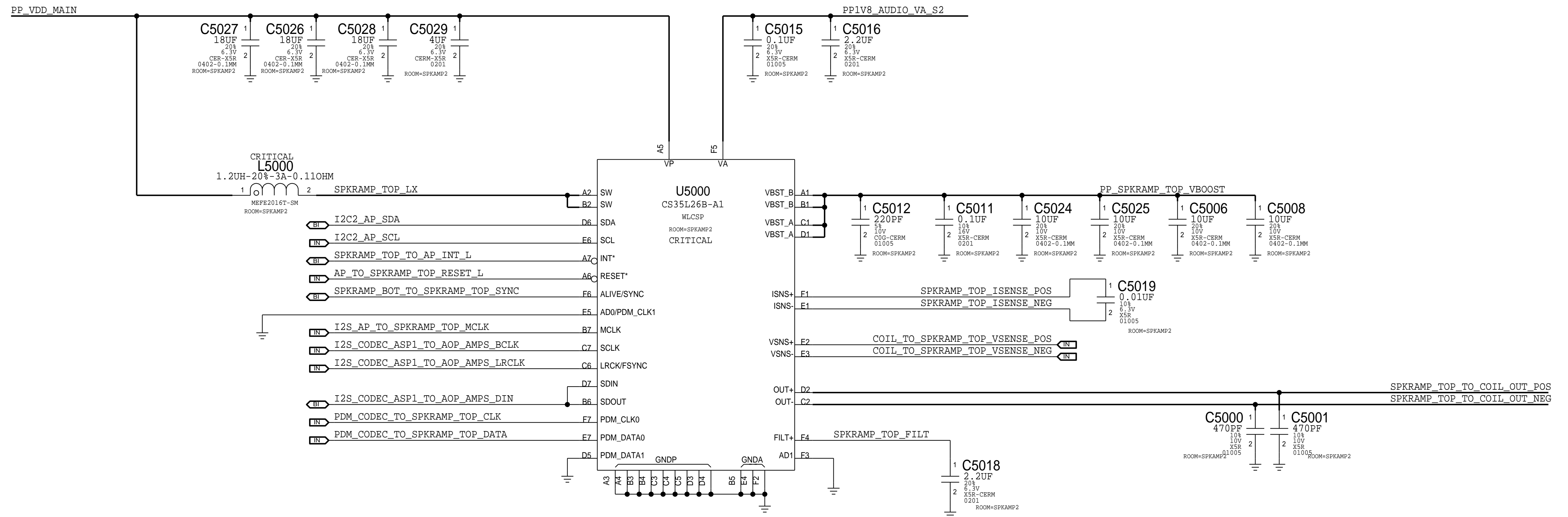


Pull Downs



North Speaker Amplifier

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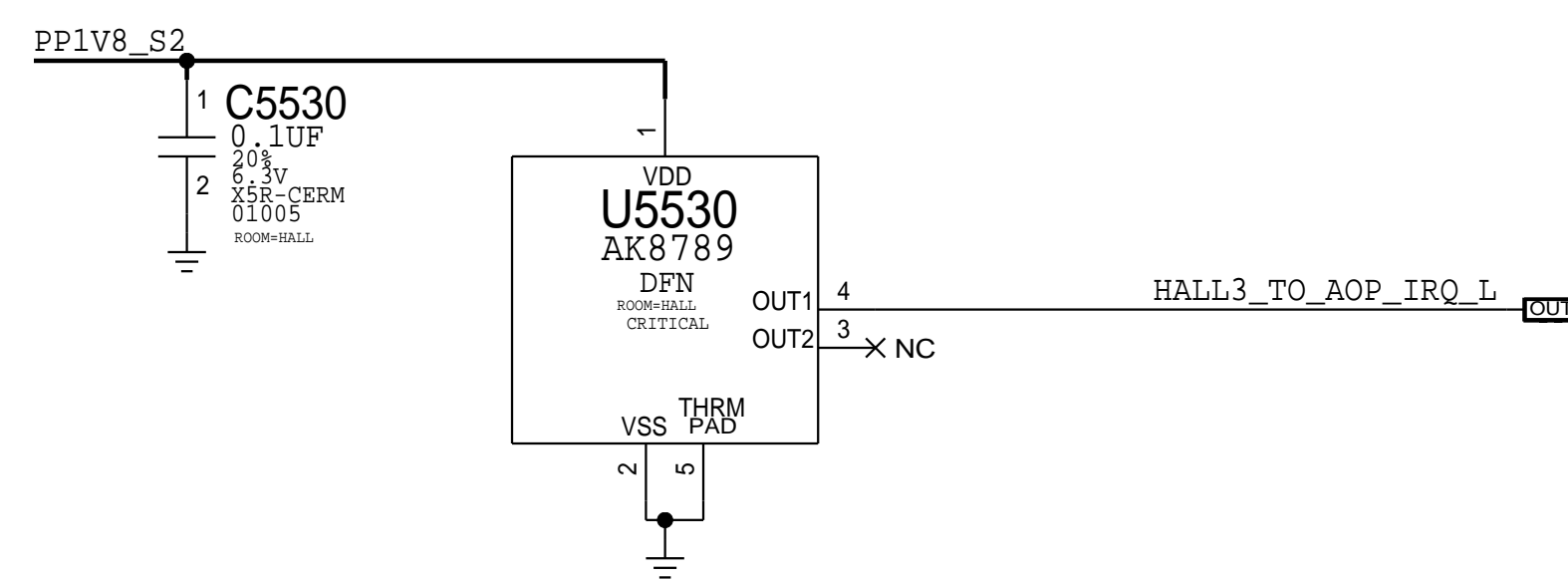


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Hall Effect

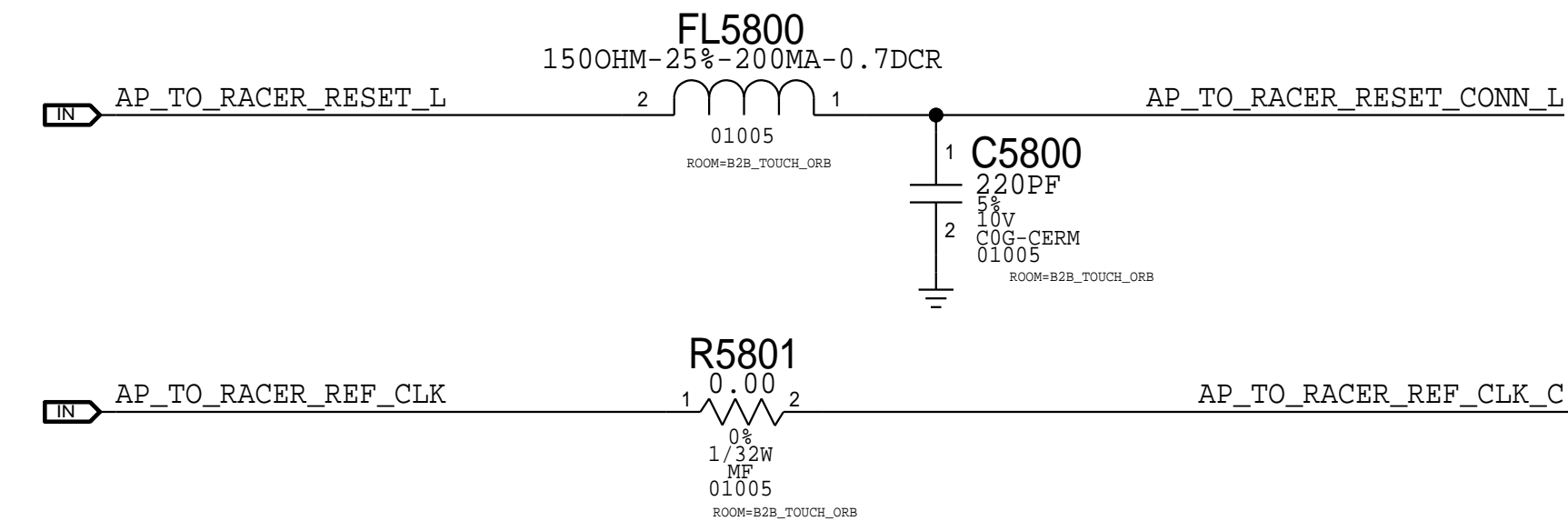
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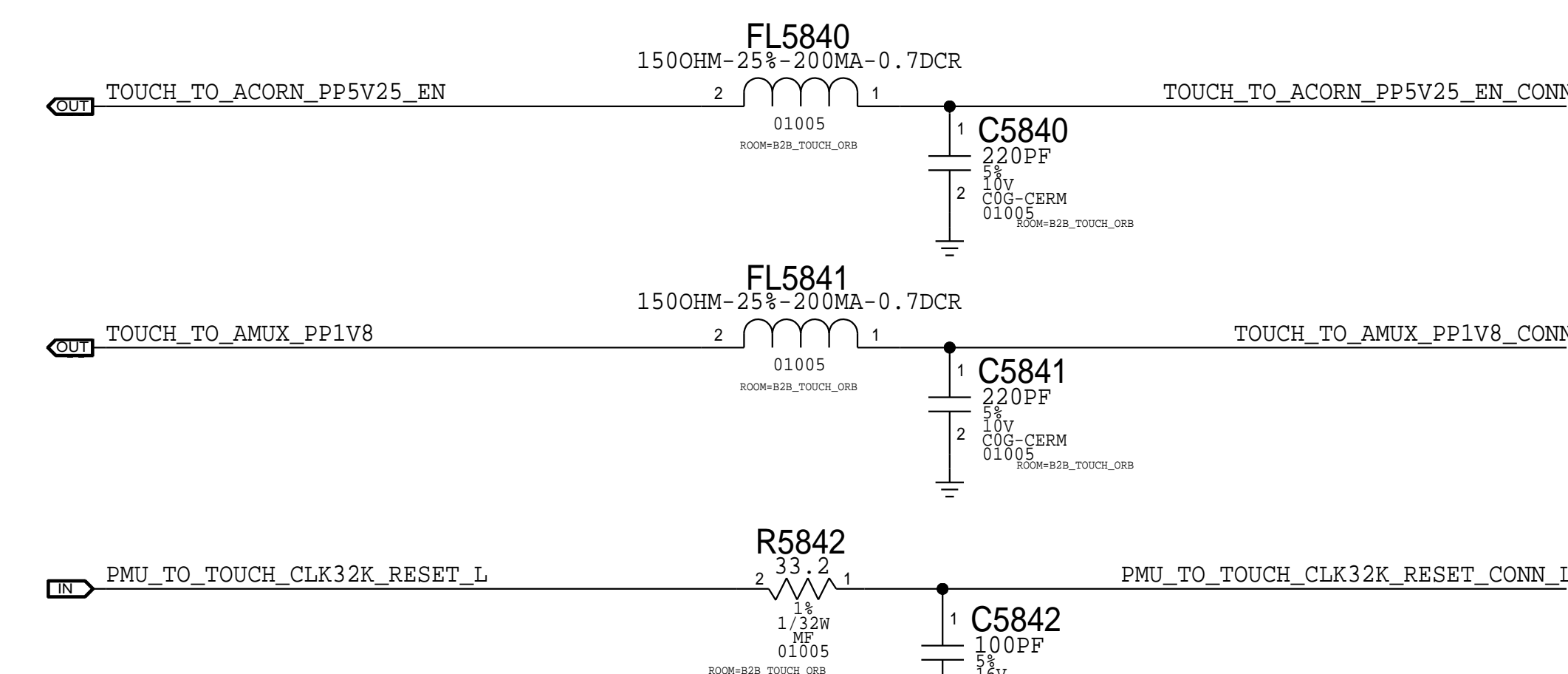
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Racer I/O



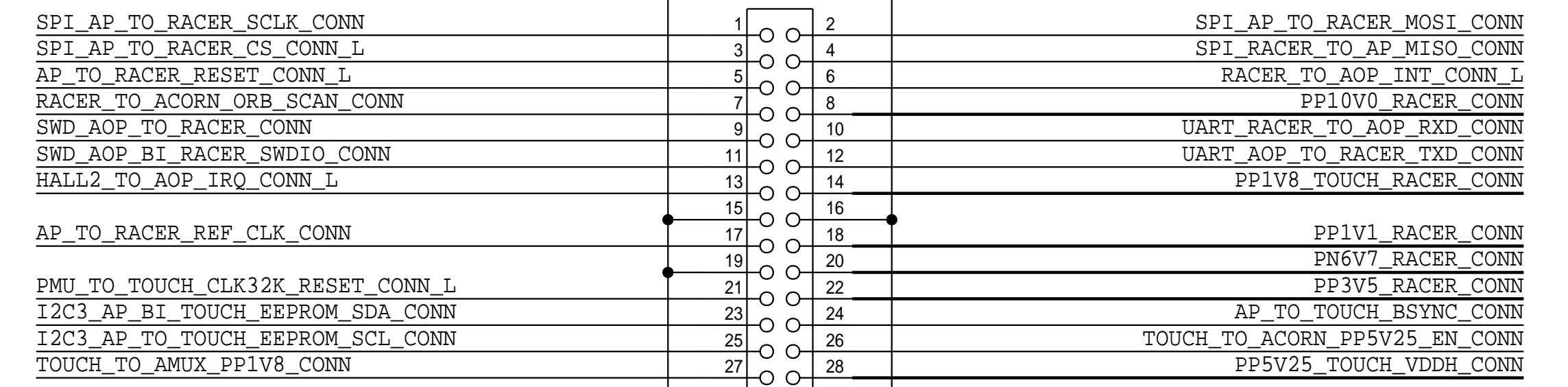
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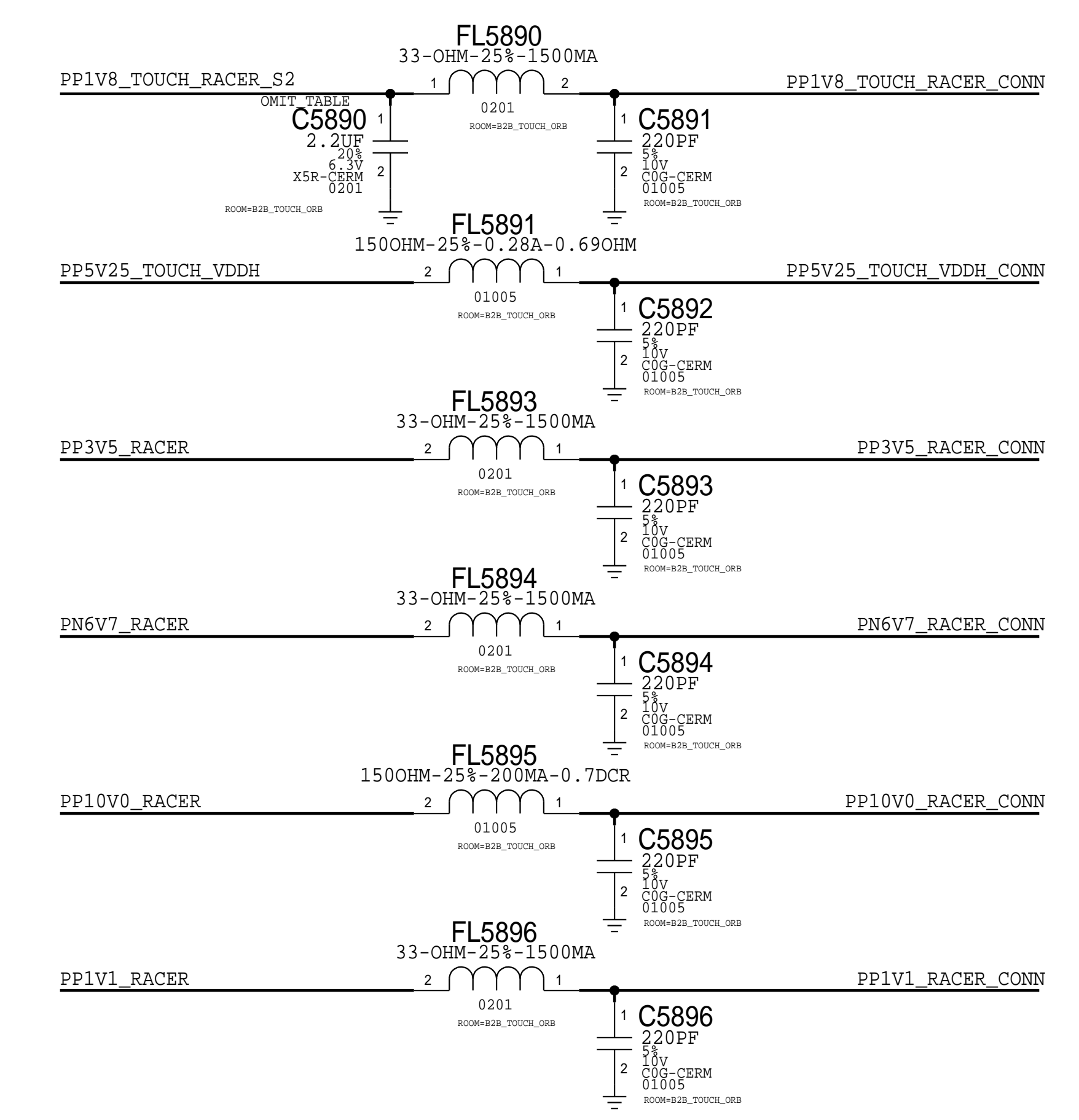
Luna + Touch Connector

Rcpt: 516S00325
Plug: 516S00326

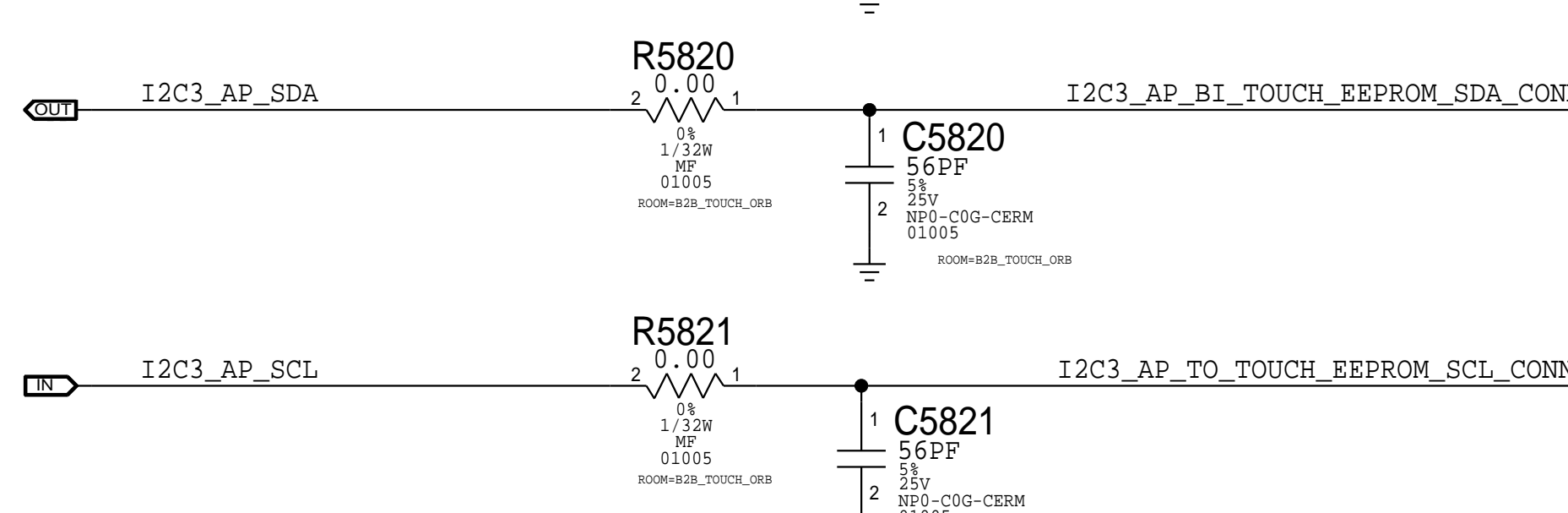
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F-ST-SM



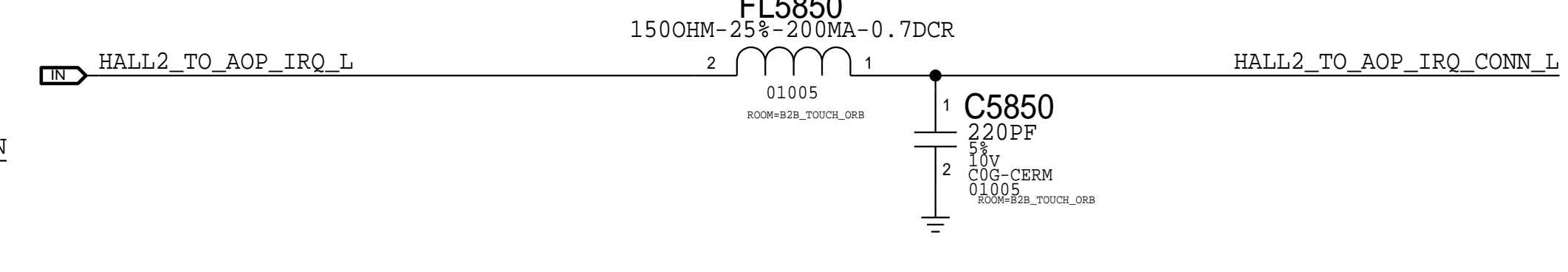
Touch And Racer Power



AP I2C Filters



Hall Effect



PAGE TITLE		
CG: B2B Luna & Touch		
DRAWING NUMBER		SIZE
051-02222		D
REVISION		
6.0.0		
BRANCH		
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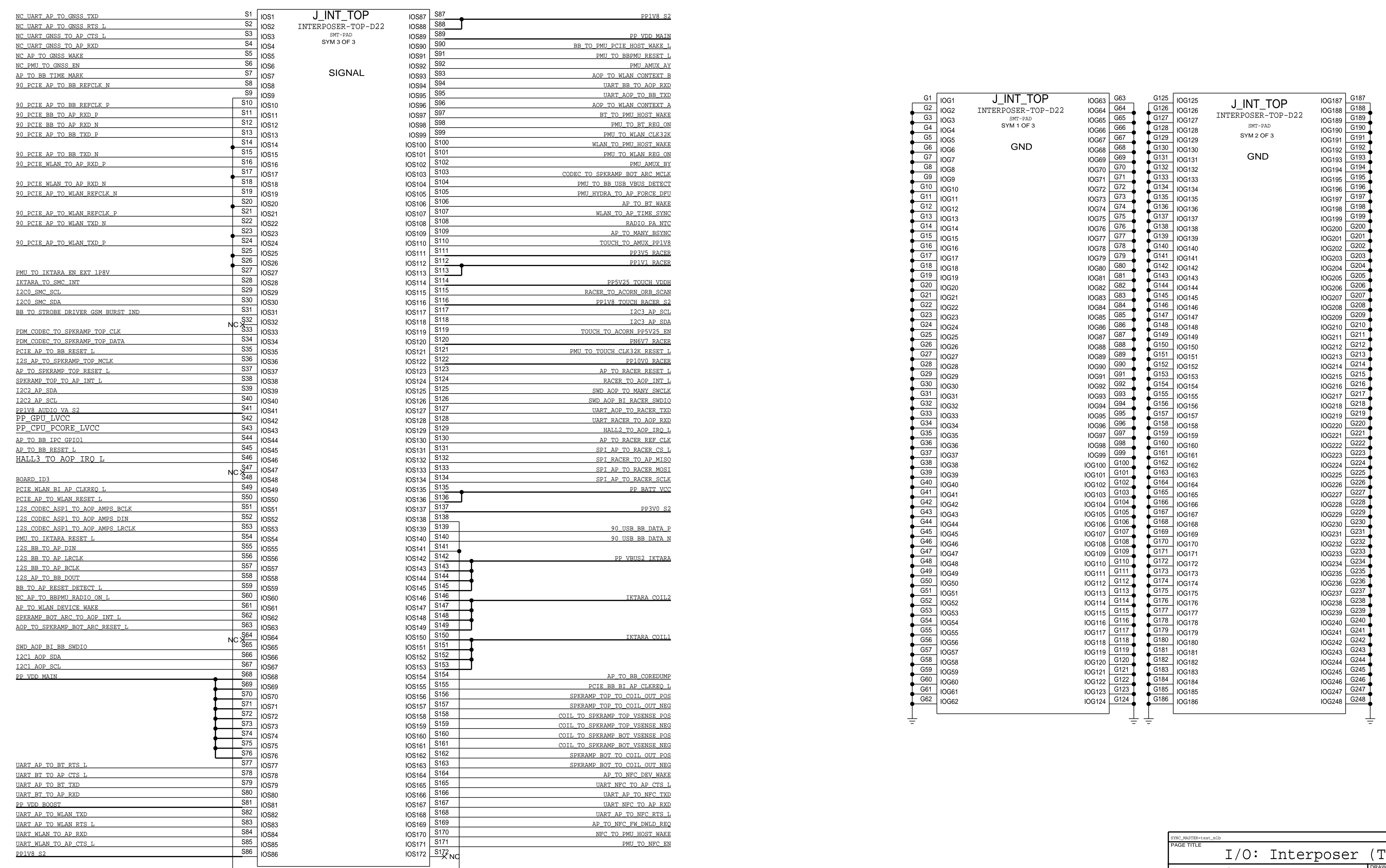
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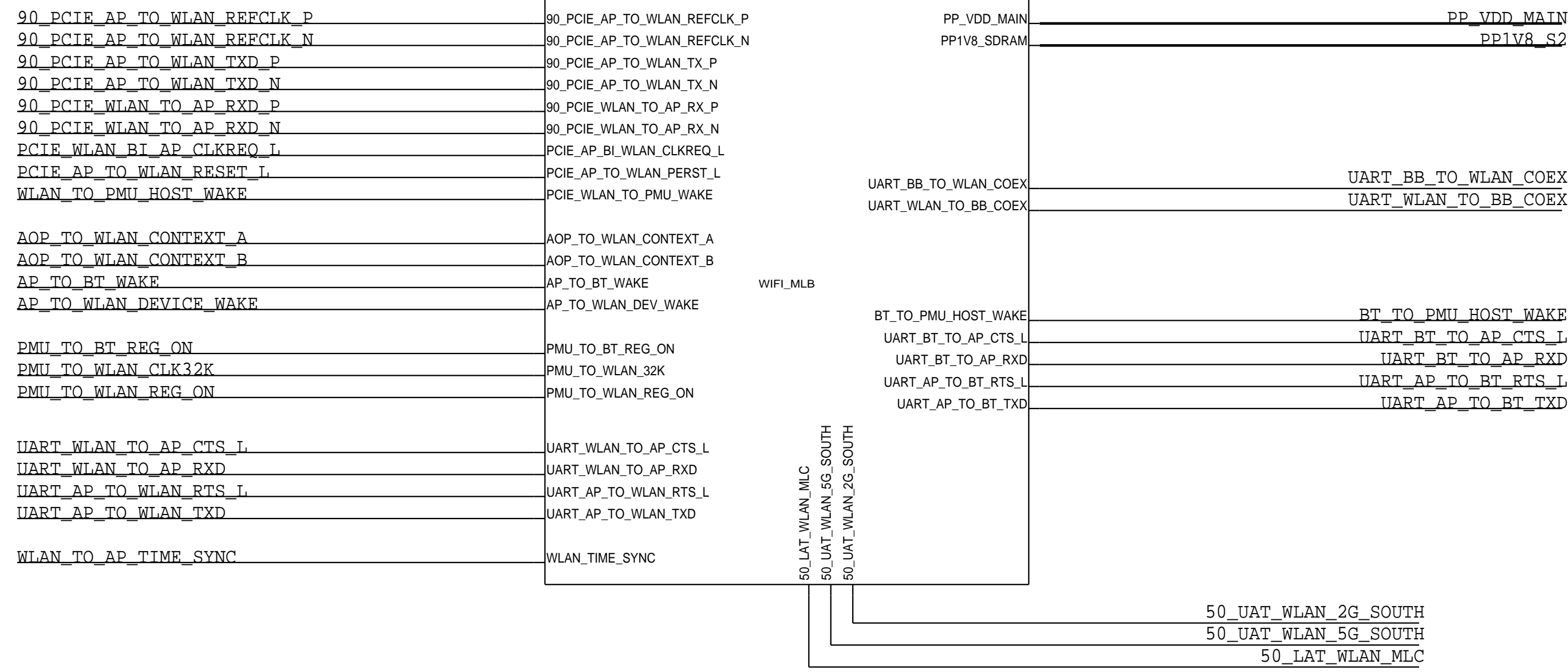
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Wifi/BT

Cellular

SUBDESIGN_SUFFIX=W 185



NC_AP_TO_BBPMU_RADIO_ON_L

I118

PP_VDD_MAIN
PP1V8_S2
PP1V8_S2
PP_VDD_BOOST

NC_AP_TO_BBPMU_RADIO_ON_L
PMU_TO_BBPMU_RESET_L
AP_TO_BB_RESET_L

BB_TO_AP_RESET_DETECT_L
BB_TO_STROBE_DRIVER_GSM_BURST_IND

AP_TO_BB_TIME_MARK
AP_TO_BB_COREDUMP
AP_TO_MANY_BSYN
AP_TO_BB_IPC_GPIO1

90_PCIE_AP_TO_BB_REFCLK_P
90_PCIE_AP_TO_BB_REFCLK_N
90_PCIE_AP_TO_BB_TXD_P
90_PCIE_AP_TO_BB_TXD_N
90_PCIE_BB_TO_AP_RXD_P
90_PCIE_BB_TO_AP_RXD_N
PCIE_AP_TO_BB_RESET_L
PCIE_BB_BI_AP_CLKREQ_L
BB_TO_PMU_PCIE_HOST_WAKE_L

UART_AOP_TO_BB_TXD
UART_BB_TO_AOP_RXD

I2S_BB_TO_AP_BCLK
I2S_BB_TO_AP_LRCLK
I2S_AP_TO_BB_DOUT
I2S_BB_TO_AP_DIN

UART_BB_TO_WLAN_COEX
UART_WLAN_TO_BB_COEX

NFC_TO_BB_CLK_REQ
BB_TO_NFC_CLK
NFC_SWP1

SWD_AOP_TO_MANY_SWCLK
SWD_AOP_BI_BB_SWDIO
PMU_TO_BB_USB_VBUS_DETECT
90_USB_BB_DATA_P
90_USB_BB_DATA_N

50_LAT_WLAN_MLC
50_UAT_WLAN_2G_SOUTH
50_UAT_WLAN_5G_SOUTH

PMU_TO_BBPMU_RESET_L
AP_TO_BB_RESET_L
BB_TO_AP_RESET_ACT_L
BB_TO_AP_RESET_DETECT_L
BB_TO_AP_GSM_TXBURST

radio_mib

AP_TO_BB_TIME_MARK
AP_TO_BB_COREDUMP_TRIG
TOUCH_TO_BBPMU_FORCE_PWM
AP_TO_BB_IPC_GPIO
AP_TO_BB_IPC_GPIO2

100_PCIE_AP_TO_BB_REFCLK_P
100_PCIE_AP_TO_BB_REFCLK_N
100_PCIE_AP_TO_BB_TX_P
100_PCIE_AP_TO_BB_TX_N
100_PCIE_BB_TO_AP_RX_P
100_PCIE_BB_TO_AP_RX_N
PCIE_AP_TO_BB_PERST_L
PCIE_AP_BI_BB_CLKREQ_L
PCIE_BB_TO_PMU_WAKE_L

UART_AP_TO_BB_TXD
UART_BB_TO_AP_RXD
UART_AOP_TO_BB_TXD
UART_BB_TO_AOP_RXD
UART_AOP_TO_GNSS_TXD
UART_GNSS_TO_AOP_RXD

I2S_BB_TO_AP_BCLK
I2S_BB_TO_AP_LRCLK
I2S_AP_TO_BB_DOUT
I2S_BB_TO_AP_DIN

UART_BB_TO_WLAN_COEX
UART_WLAN_TO_BB_COEX

NFC_TO_BB_CLKREQ
BB_TO_NFC_CLK
BB_SIM1_SWP

SWD_AP_TO_BB_CLK
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90_USB_BB_P
90_USB_BB_N

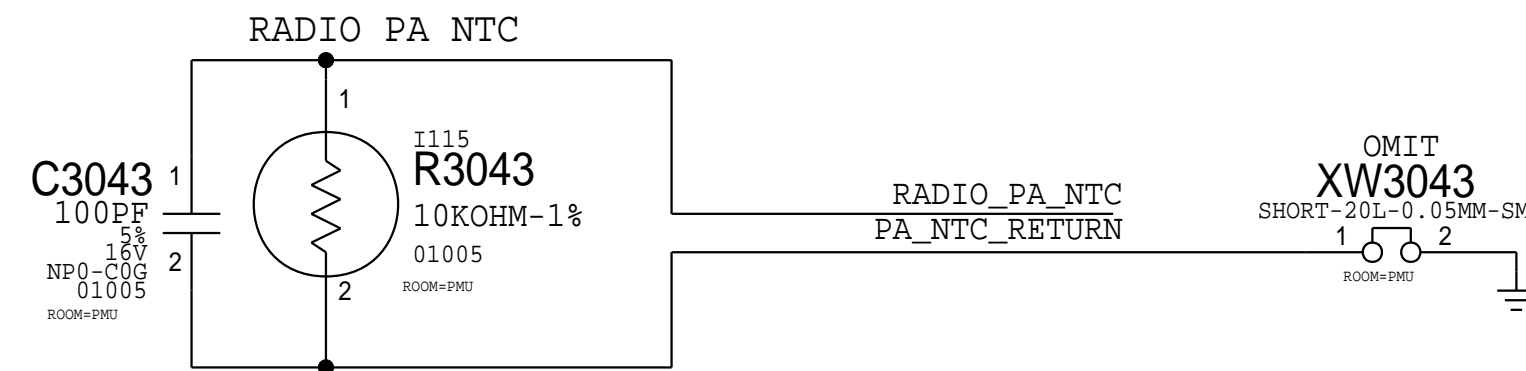
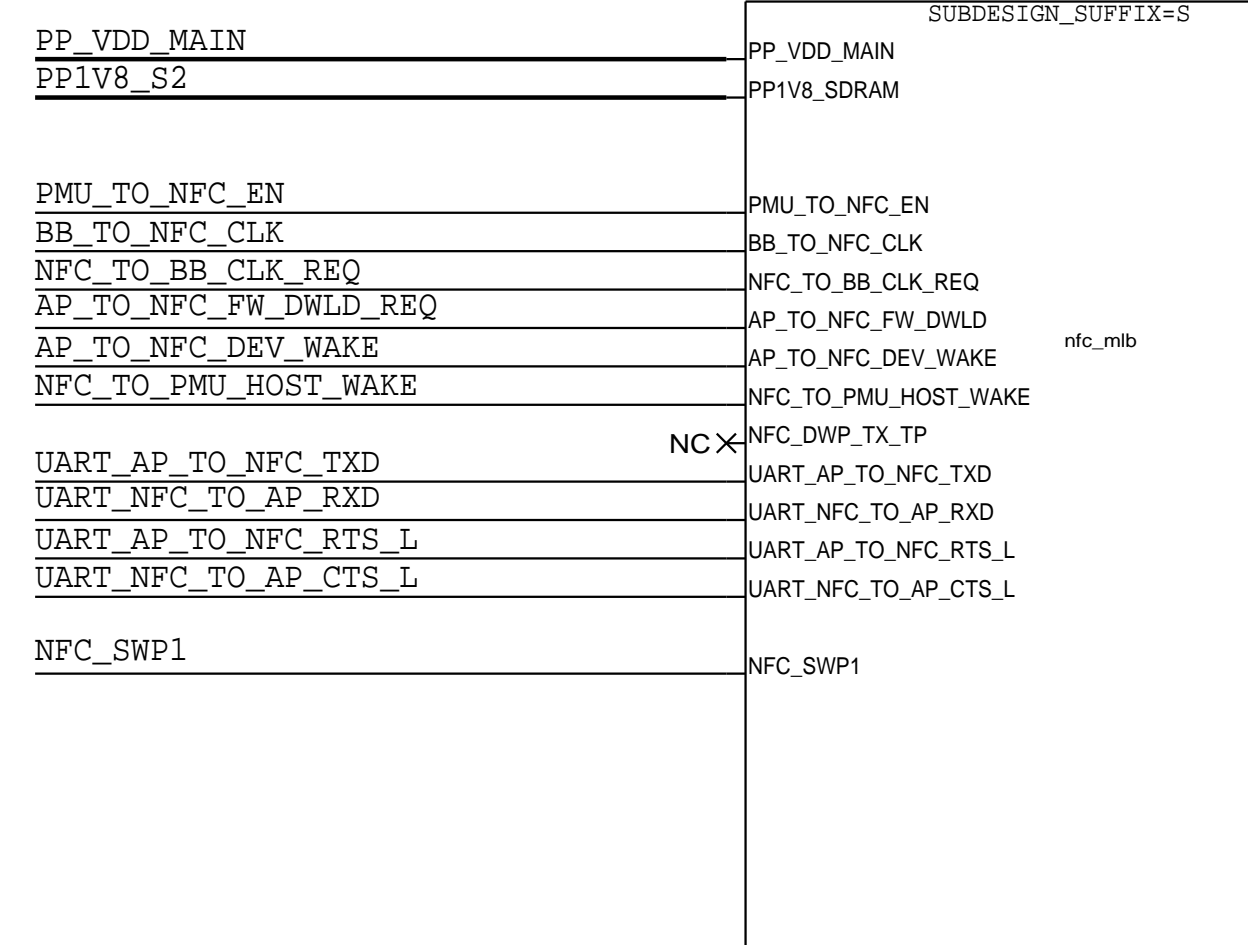
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NC_PMU_TO_GNSS_EN
NC_UART_AP_TO_GNSS_TXD
NC_UART_GNSS_TO_AP_RXD
NC_UART_AP_TO_GNSS_RTS_L
NC_UART_GNSS_TO_AP_CTS_L

NC_AP_TO_GNSS_WAKE
NC_PMU_TO_GNSS_EN
NC_UART_AP_TO_GNSS_TXD
NC_UART_GNSS_TO_AP_RXD
NC_UART_AP_TO_GNSS_RTS_L
NC_UART_GNSS_TO_AP_CTS_L

PMU_TO_GNSS_EN
UART_AP_TO_GNSS_TXD
UART_GNSS_TO_AP_RXD
UART_AP_TO_GNSS_RTS_L
UART_GNSS_TO_AP_CTS_L
GNSS_TO_PMU_HOST_WAKE
AP_TO_GNSS_TIME_MARK

NFC



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		REVISION	6.0.0
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D22 RADIO_MLB

0.134.3
EVT

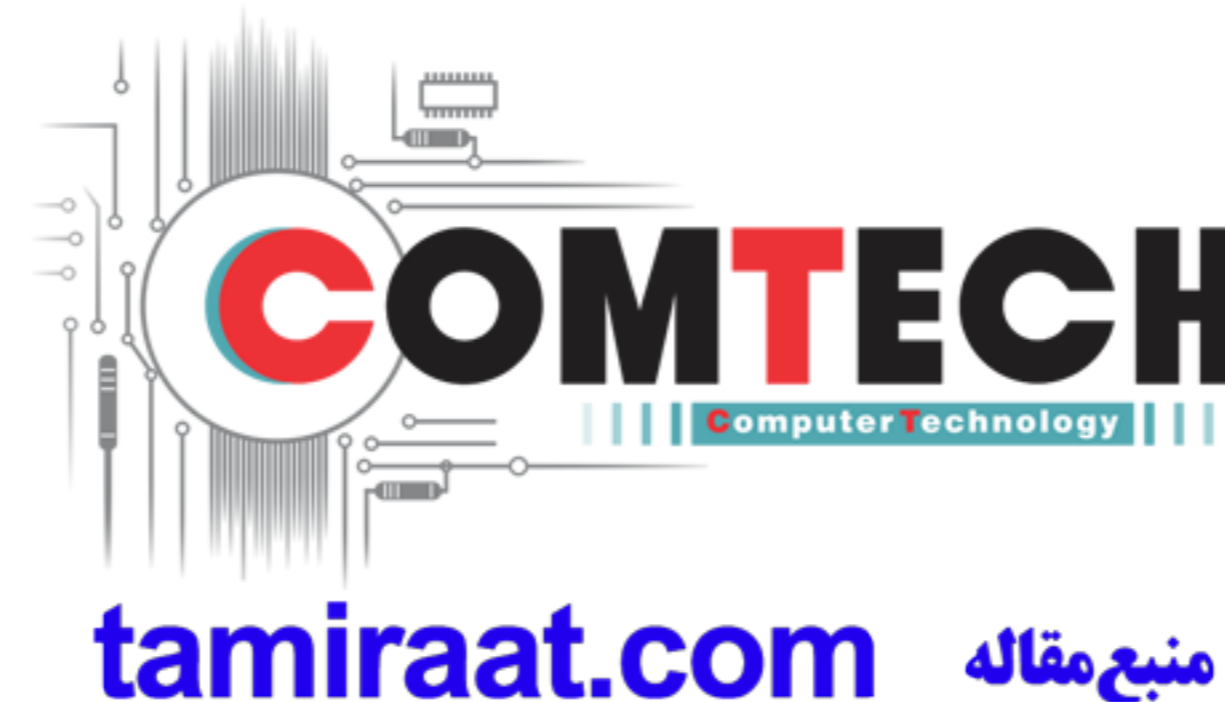
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14	2	BOM_OMIT_TABLE	<SYNC_MASTER2>	<SYNC_DATE2>
15	4	PMIC: BUCKS & LDOS	<SYNC_MASTER3>	<SYNC_DATE3>
16	6	PMIC: CLOCKS & CONTROL	<SYNC_MASTER4>	<SYNC_DATE4>
17	7	BB: POWER	<SYNC_MASTER5>	<SYNC_DATE5>
18	34	BB: CONTROL & HS PERIPHERALS	ap_core_flat	09/09/15
19	49	BB: GPIOs & QLINK	ap_core_flat	09/09/15
20	50	XCVR	ap_core_flat	09/09/15
21	58	XCVR	ap_core_flat	09/09/15
22	66	QPOET MODULE	ap_core_flat	08/13/15
23	80	LB PAD	ap_core_flat	09/09/15
24	<CSA_PAGE12>	HB PAD	ap_core_flat	09/09/15
25	<CSA_PAGE13>	UHB PAD	ap_core_flat	09/09/15
26	<CSA_PAGE14>	2G PA	ap_core_flat	09/09/15
27	<CSA_PAGE15>	LB DSM	ap_core_flat	09/09/15
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30	<CSA_PAGE18>	GNSS	ap_core_flat	09/09/15
31	<CSA_PAGE19>	METROCIIRC	ap_core_flat	09/09/15
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33	<CSA_PAGE21>	UPPER ANTENNA	ap_core_flat	09/09/15
34	<CSA_PAGE22>	SIM, EUICC, DEBUG CONN	ap_core_flat	09/09/15
35	<CSA_PAGE23>	TEST POINTS	ap_core_flat	09/09/15
36	<CSA_PAGE24>	RFFE TO GPO TRANSLATOR	ap_core_flat	09/09/15
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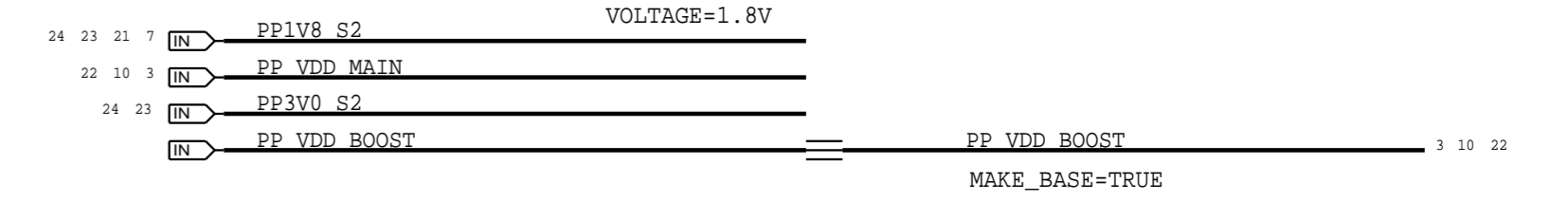
ALTERNATES

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197S00065	197S00093	Y401_E	XTAL, 38P4MHZ	BOM_TABLE_ALTS
197S00065	197S00067	Y401_E	XTAL, 38P4MHZ	BOM_TABLE_ALTS

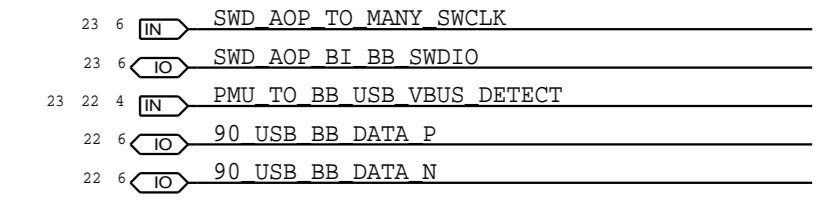


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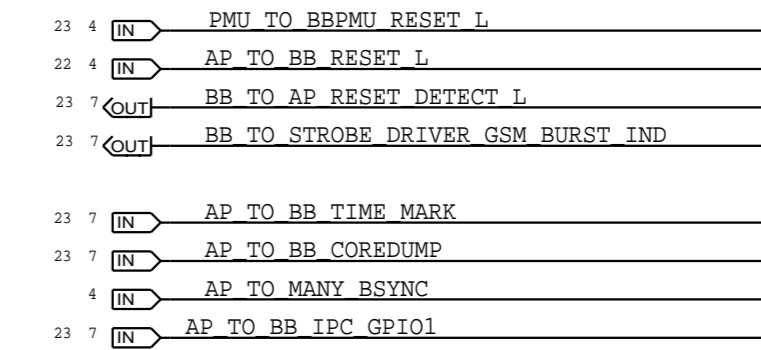
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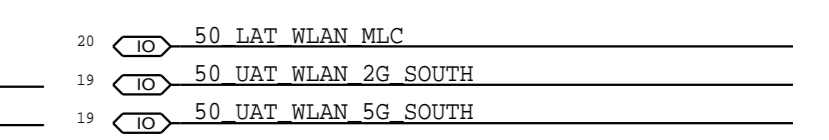
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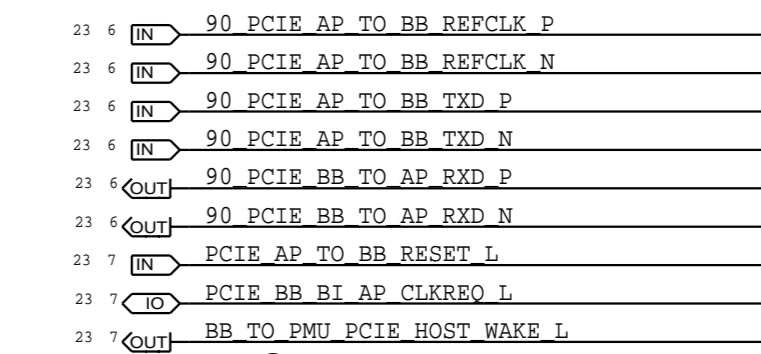
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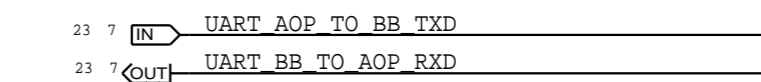
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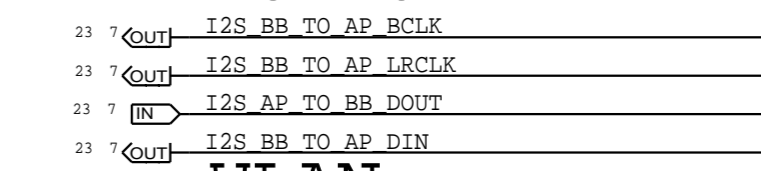
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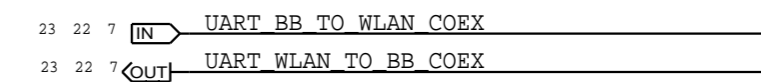
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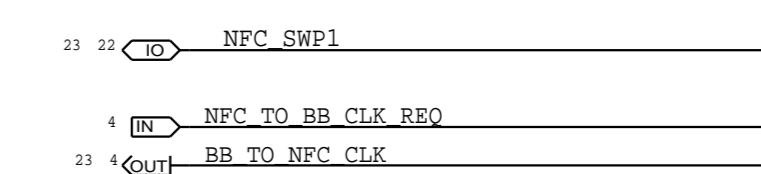
AUDIO



WLAN



STOCKHOLM



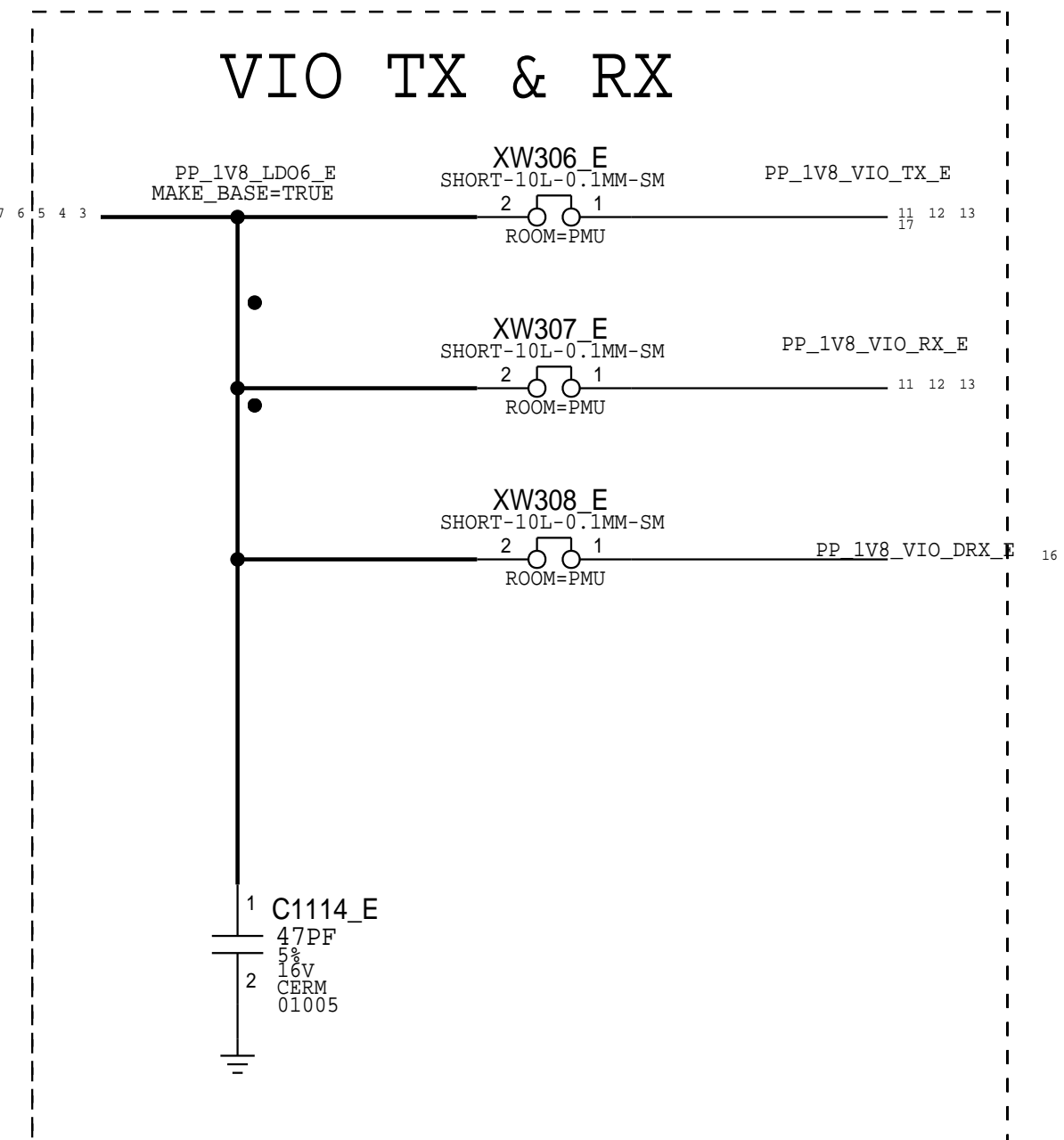
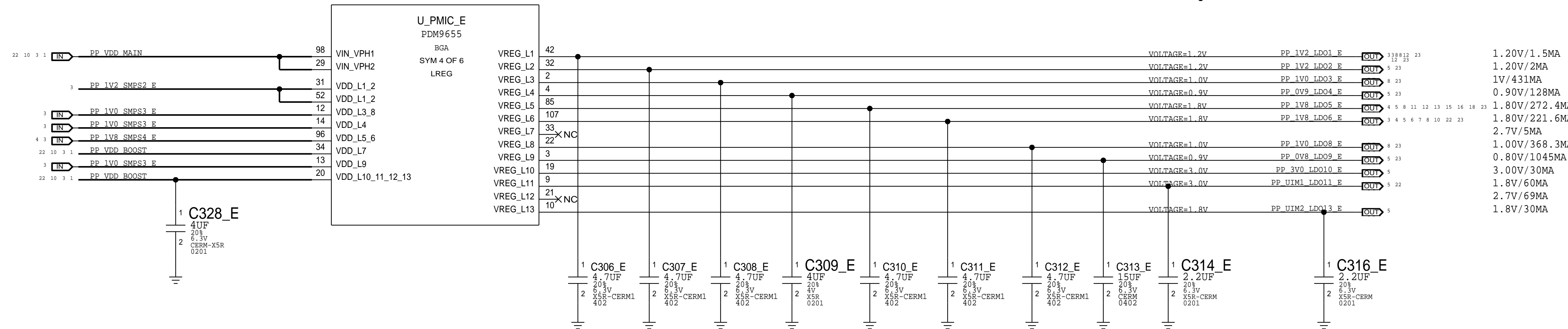
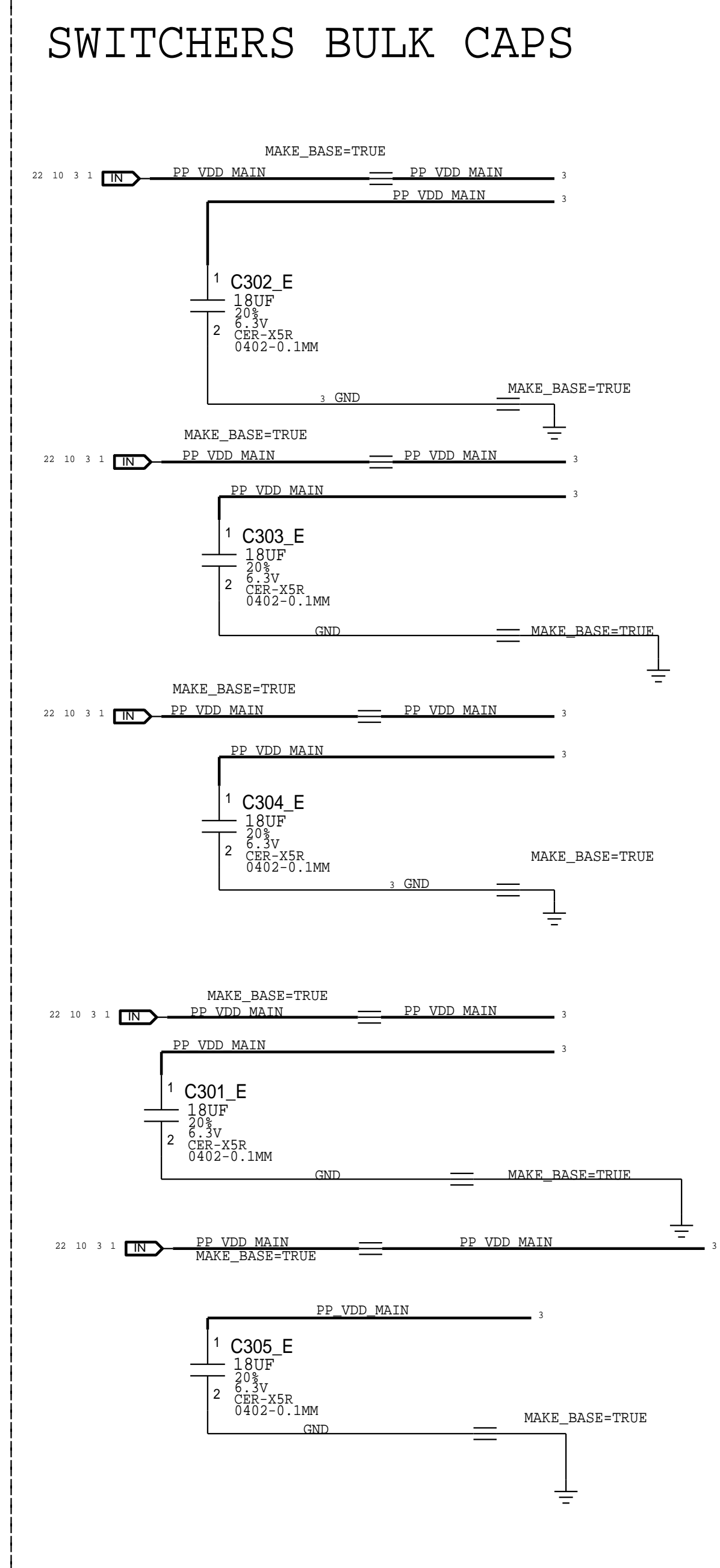
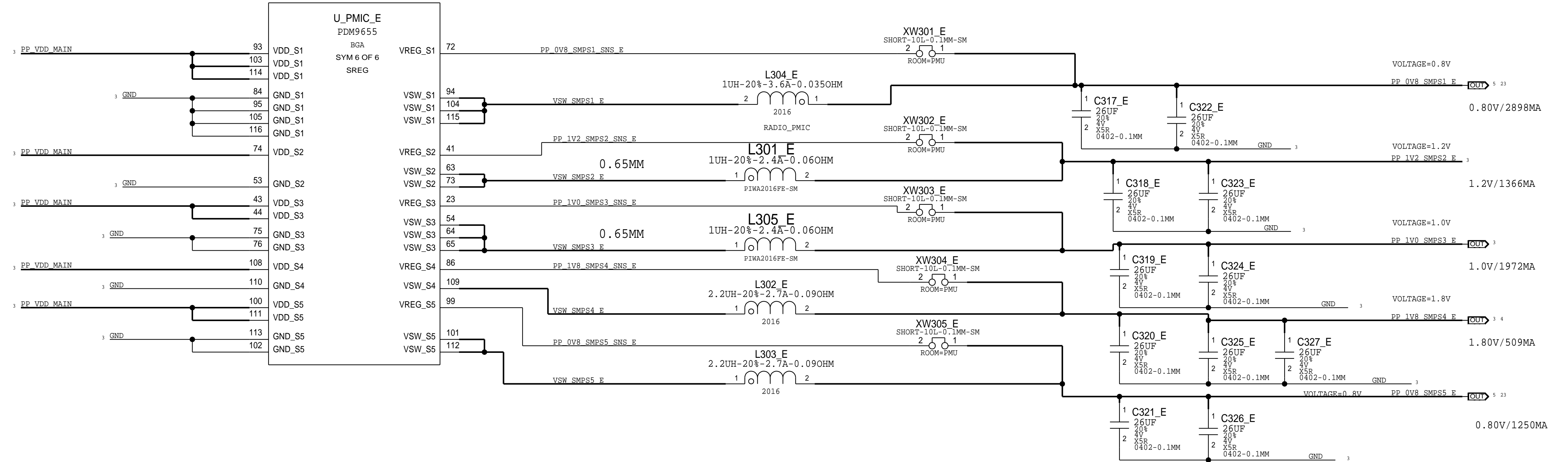
DOCK

page1

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RF PMIC: SWITCHERS & LDOS

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PAGE TITLE		
PMIC: BUCKS & LDOS		
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RF PMIC: XTAL, CLOCKS AND MISCELLANEOUS

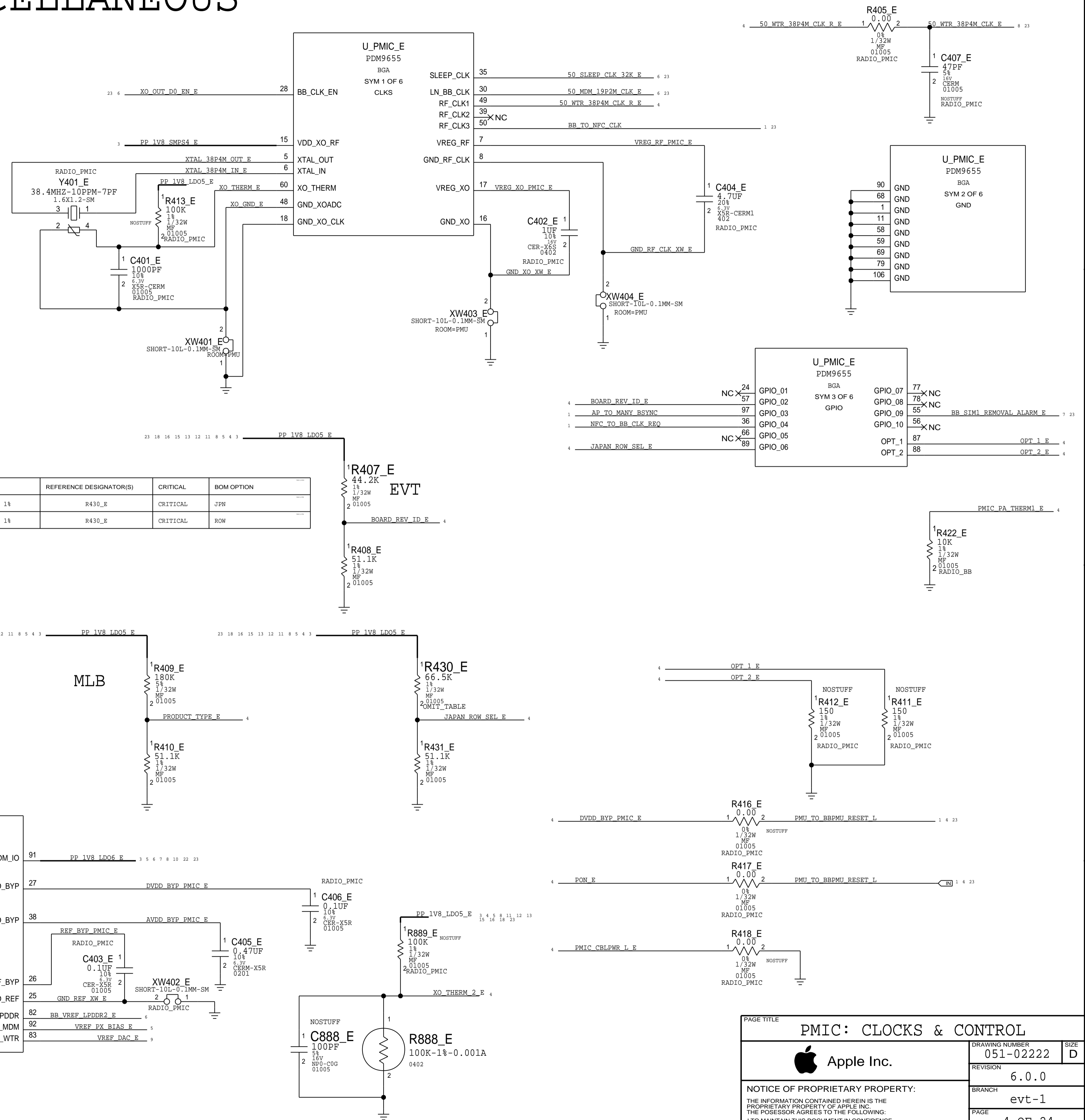
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0.15V-0.25V	422K	51.1K	PROTO1.5
0.35V-0.45V	180K	51.1K	PROTO2.5/DEV2
0.55V-0.65V	105K	51.1K	PROTO1/DEV3
0.75V-0.85V	66.5K	51.1K	PROTO2/DEV4
0.95V-1.05V	44.2K	51.1K	EVT
1.15V-1.25V	28K	51.1K	CARRIER/DEV5
1.35V-1.45V	16.5K	51.1K	DVT/DEV6
1.55V-1.65V	7.87K	51.1K	PVT/DEV7
1.75V-1.85V	10K	NOSTUFF	PROTO3

PA_THERM2	R409	R410	PRODUCT TYPE	Y
0.00V-0.10V	NOSTUFF	51.1K	RADIO DEV	1
0.15V-0.25V	422K	51.1K	3RD TYPE	2
0.35V-0.45V	180K	51.1K	POR MLB (FF)	3
0.55V-0.65V	105K	51.1K	SPARE	4
0.75V-0.85V	66.5K	51.1K	SPARE	5
0.95V-1.05V	44.2K	51.1K	SPARE	6
1.15V-1.25V	28K	51.1K	SPARE	7
1.35V-1.45V	16.5K	51.1K	SPARE	8
1.55V-1.65V	7.87K	51.1K	SPARE	9
1.75V-1.85V	10K	NOSTUFF	SPARE	A

JPN_ROW_SEL	R430	R431	MAV PLATFORM	Y	SKU
<0.10V	NOSTUFF	51.1K	MAV17.0	0	ROW
0.15V-0.25V	422K	51.1K	MAV17.1	1	JPN
0.35V-0.45V	180K	51.1K	MAV17.2	2	ROW
0.55V-0.65V	105K	51.1K	MAV17.3	3	JPN
0.75V-0.85V	66.5K	51.1K	MAV17.4	4	ROW
0.95V-1.05V	44.2K	51.1K	MAV17.5	5	JPN
1.15V-1.25V	28K	51.1K	MAV17.6	6	ROW
1.35V-1.45V	16.5K	51.1K	MAV17.7	7	JPN
1.55V-1.65V	7.87K	51.1K	MAV17.8	8	ROW
1.75V-1.85V	10K	NOSTUFF	MAV17.9	9	JPN

NOTE XTAL SYMBOL MIRRORED COMPARED TO PREVIOUS SCH

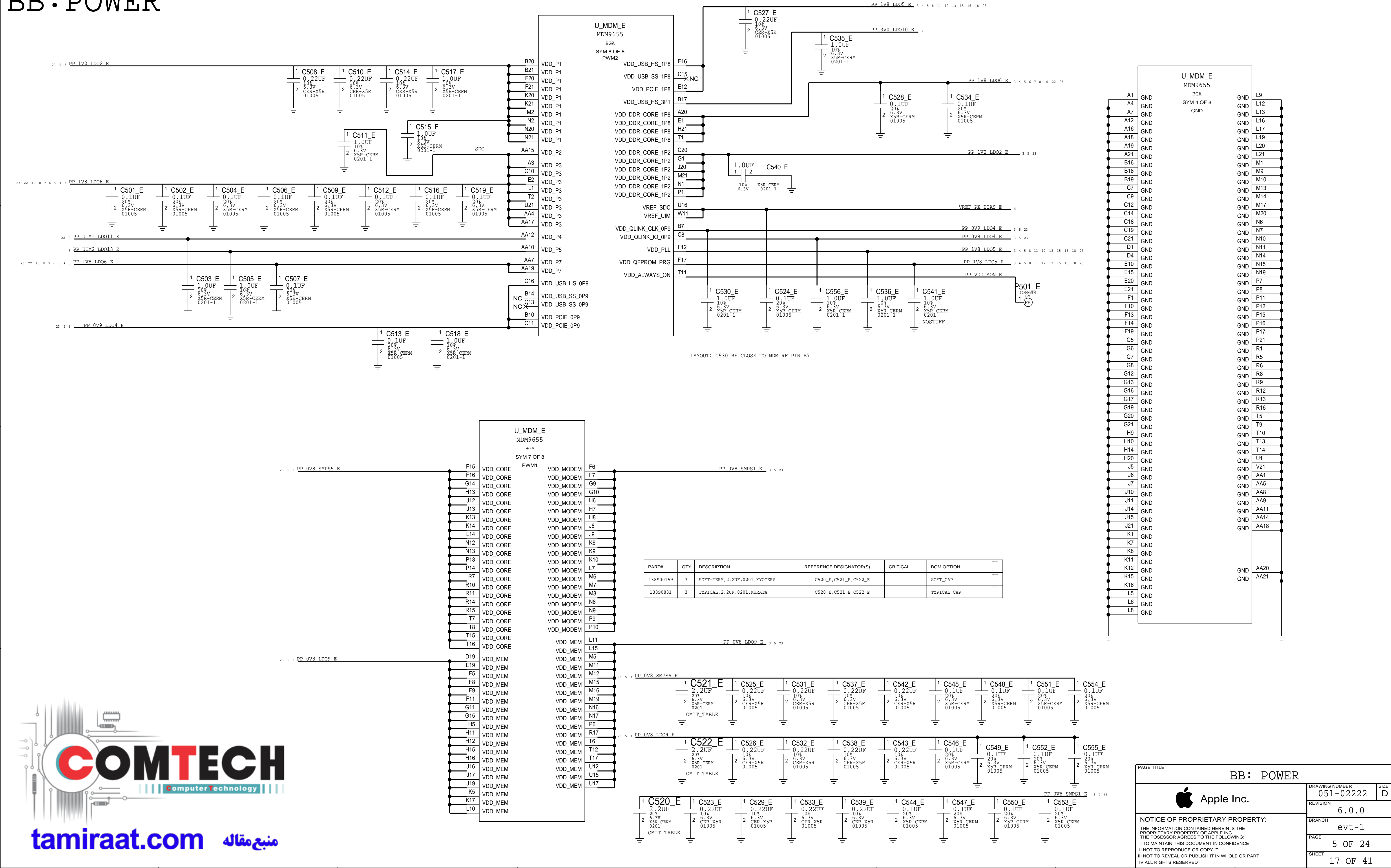
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11880612	1	RESISTOR 01005, 66.5K OHMS 1%	R430_E	CRITICAL	ROW



PAGE TITLE		PMIC: CLOCKS & CONTROL	
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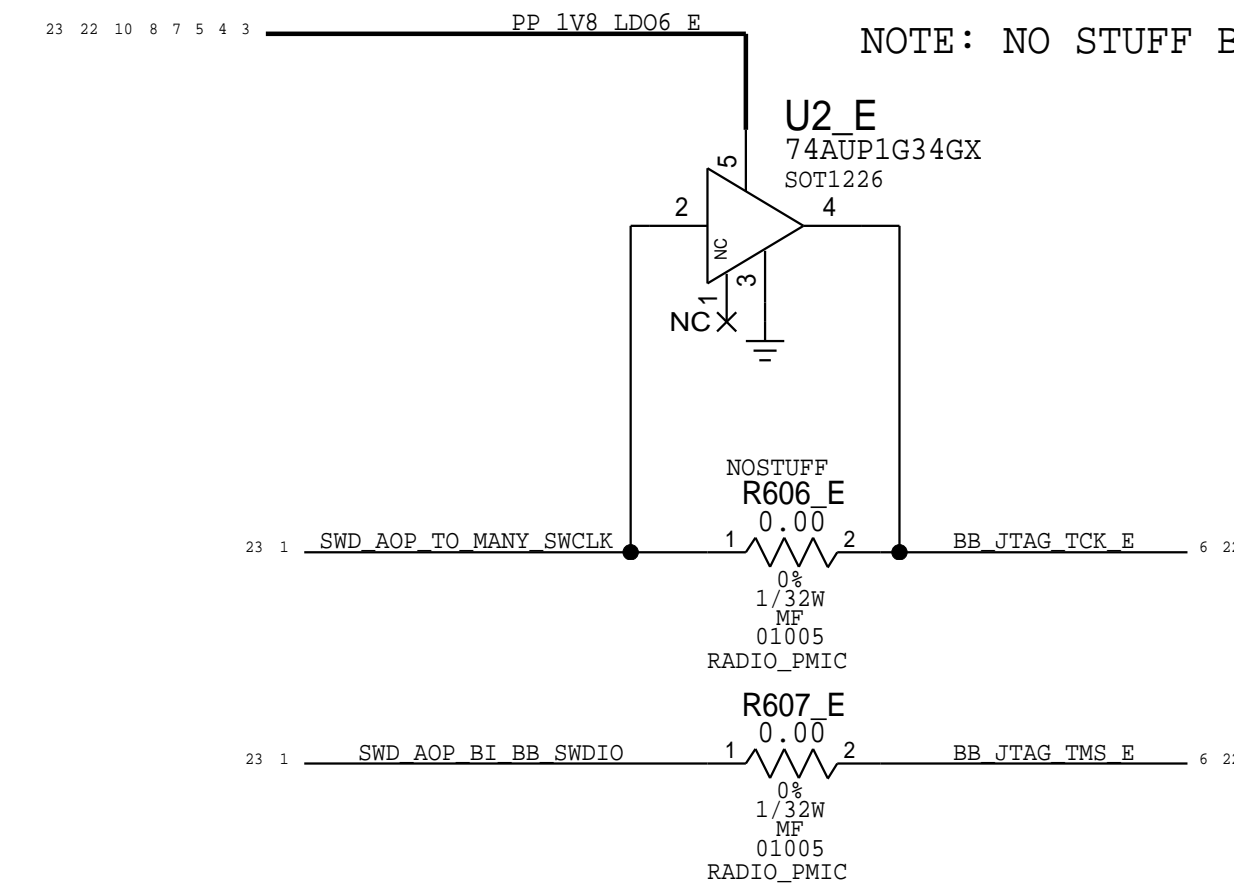
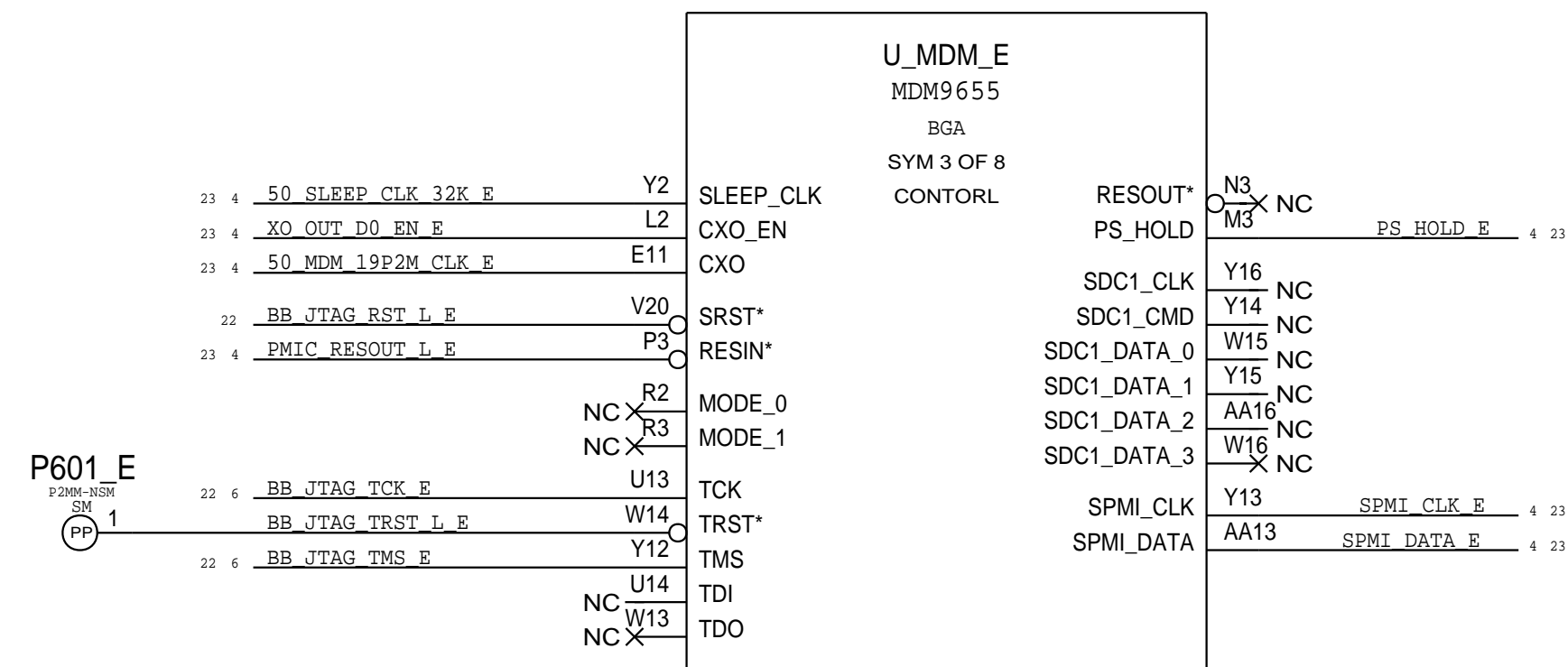
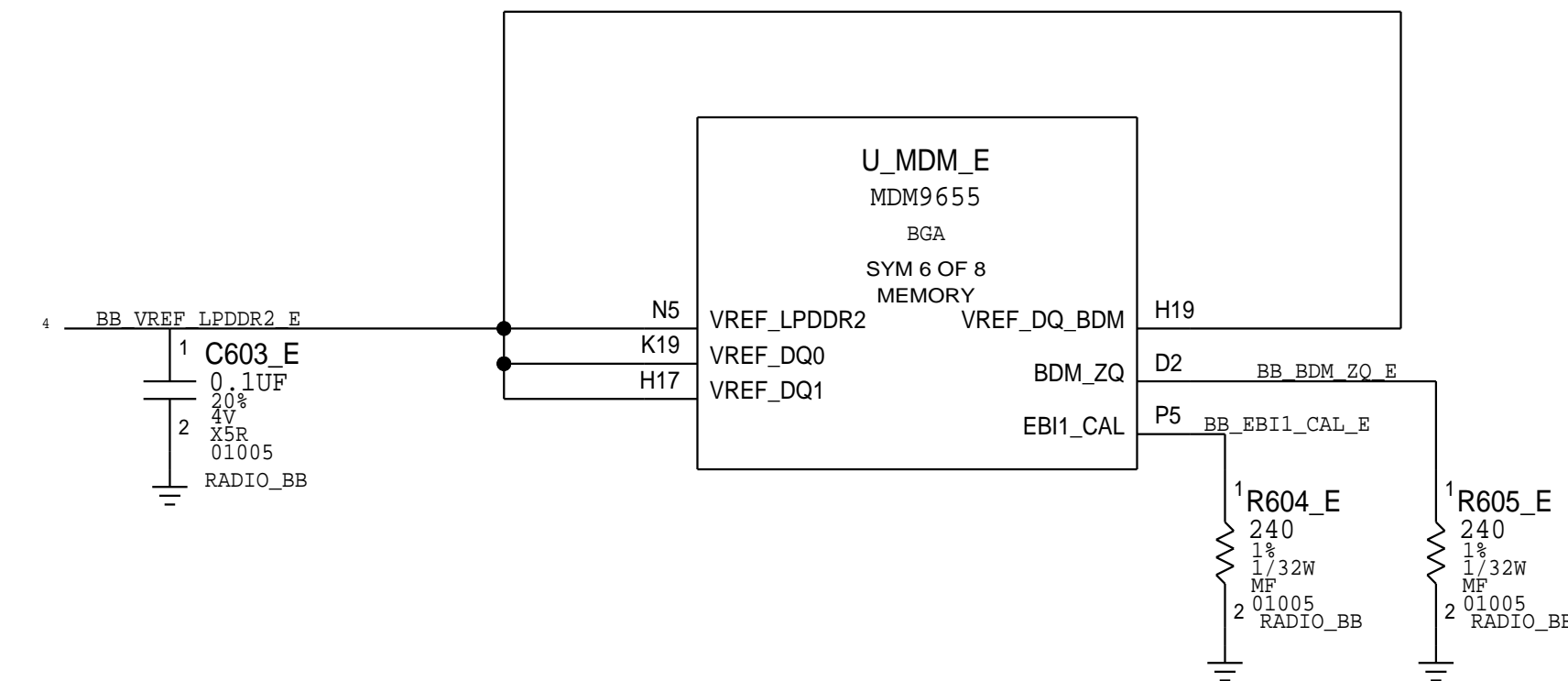
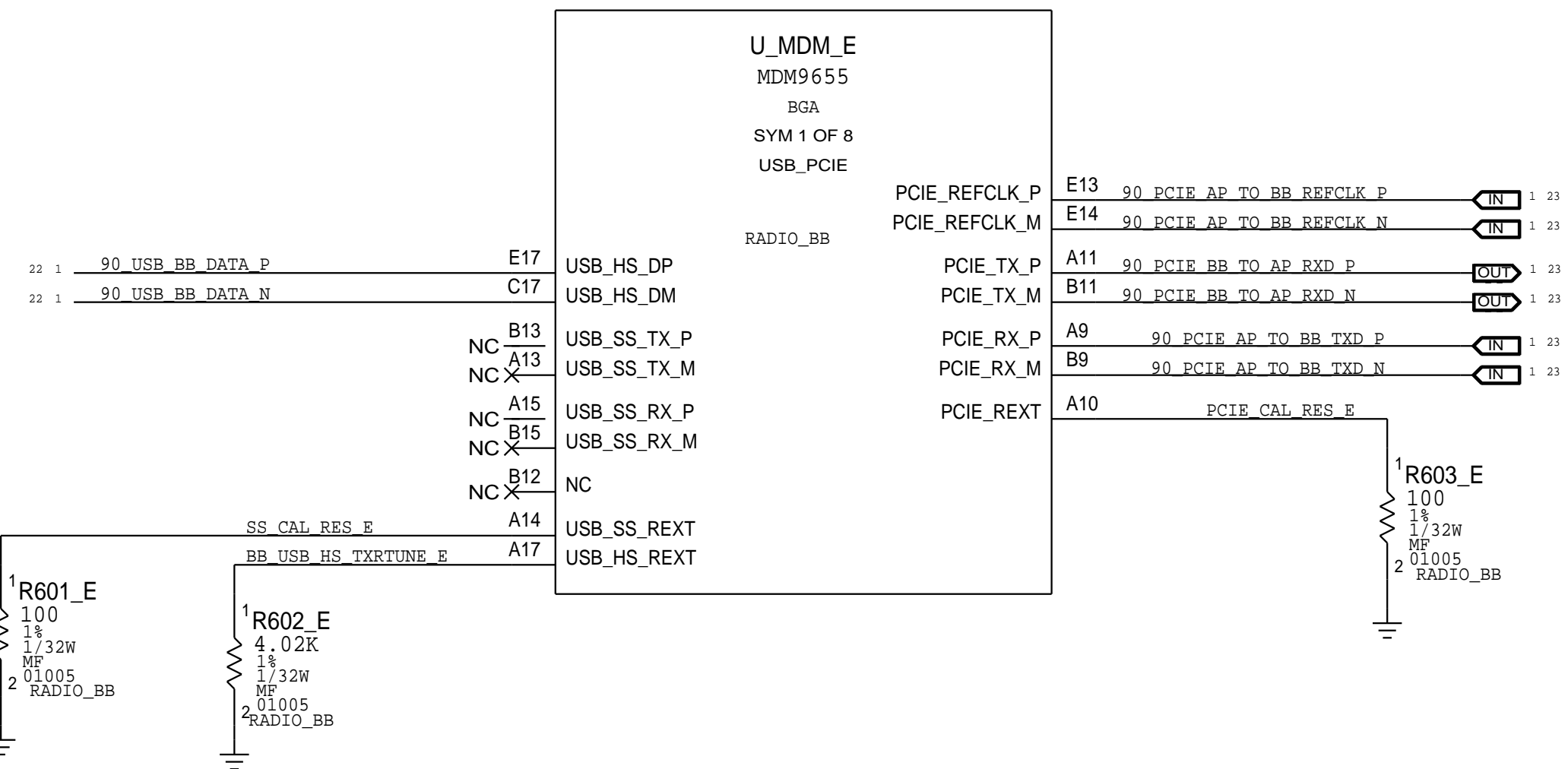
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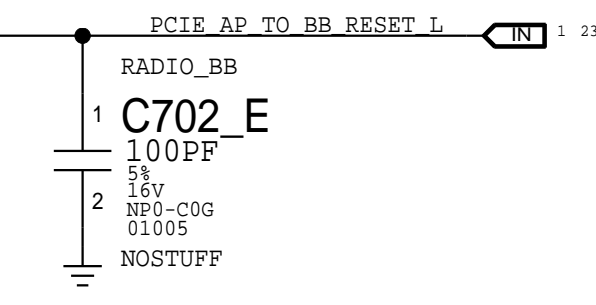
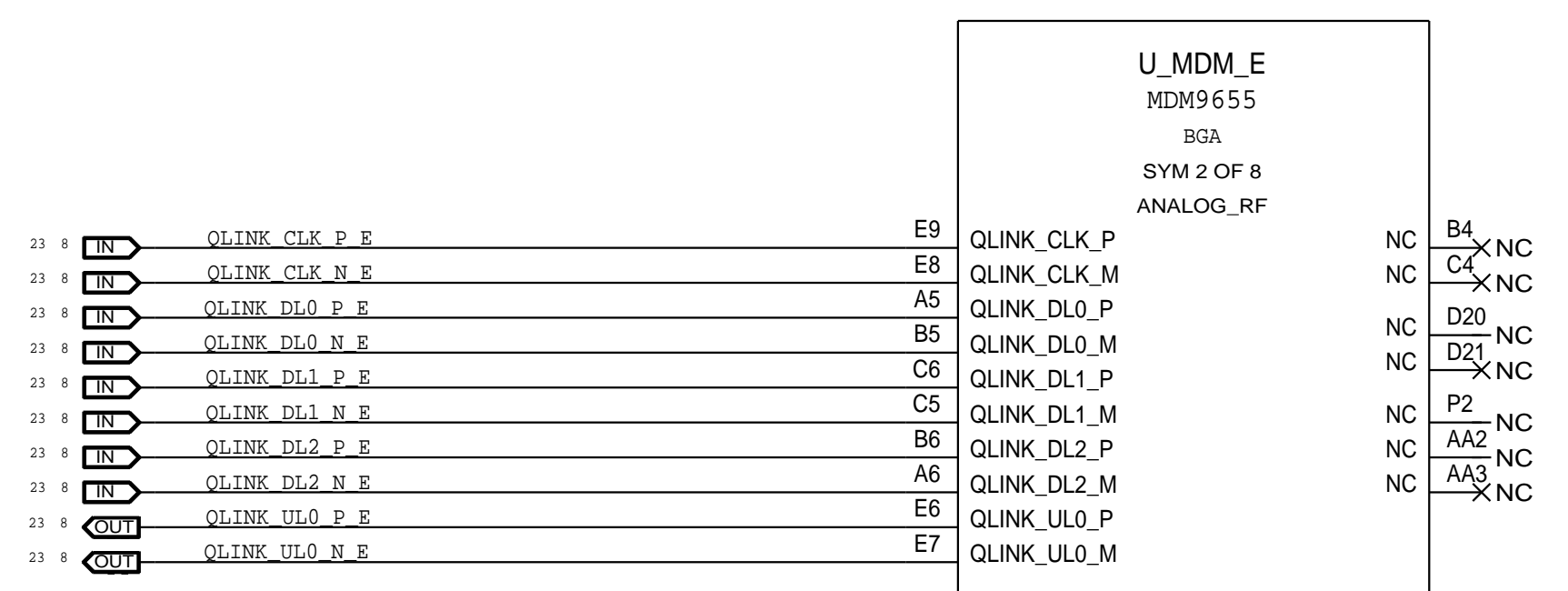
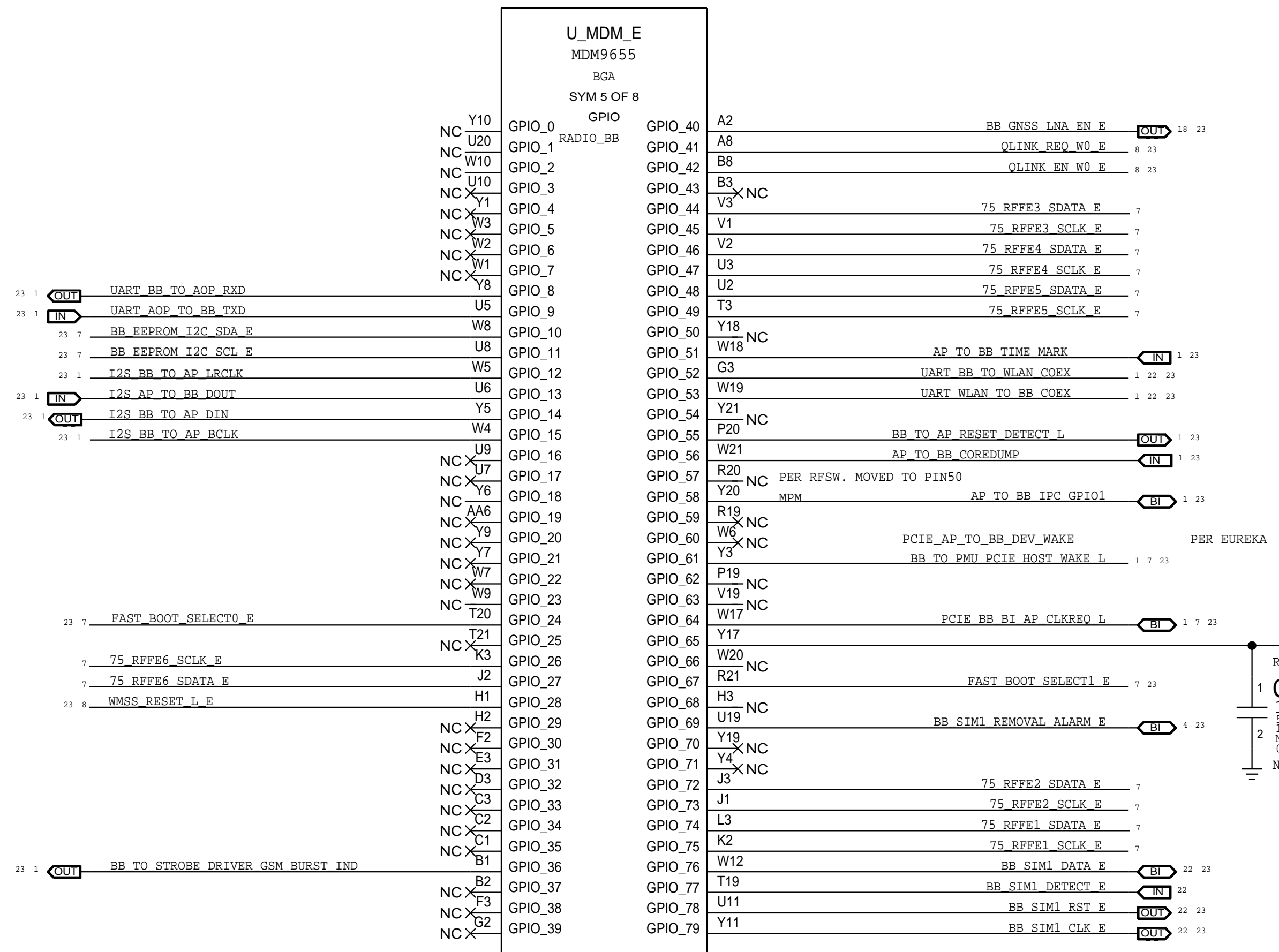
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BB: CONTROL & HS PERIPHERALS

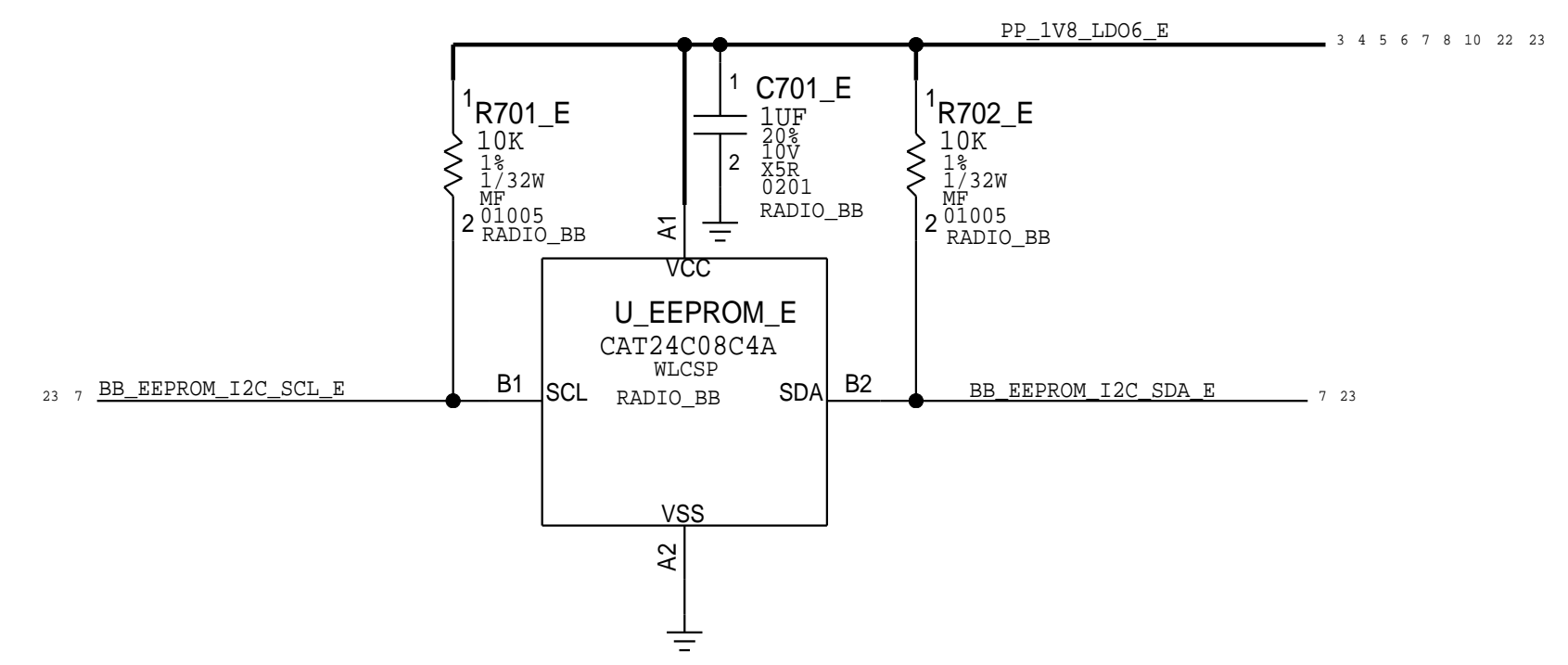


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BB:GPIOS & QLINK

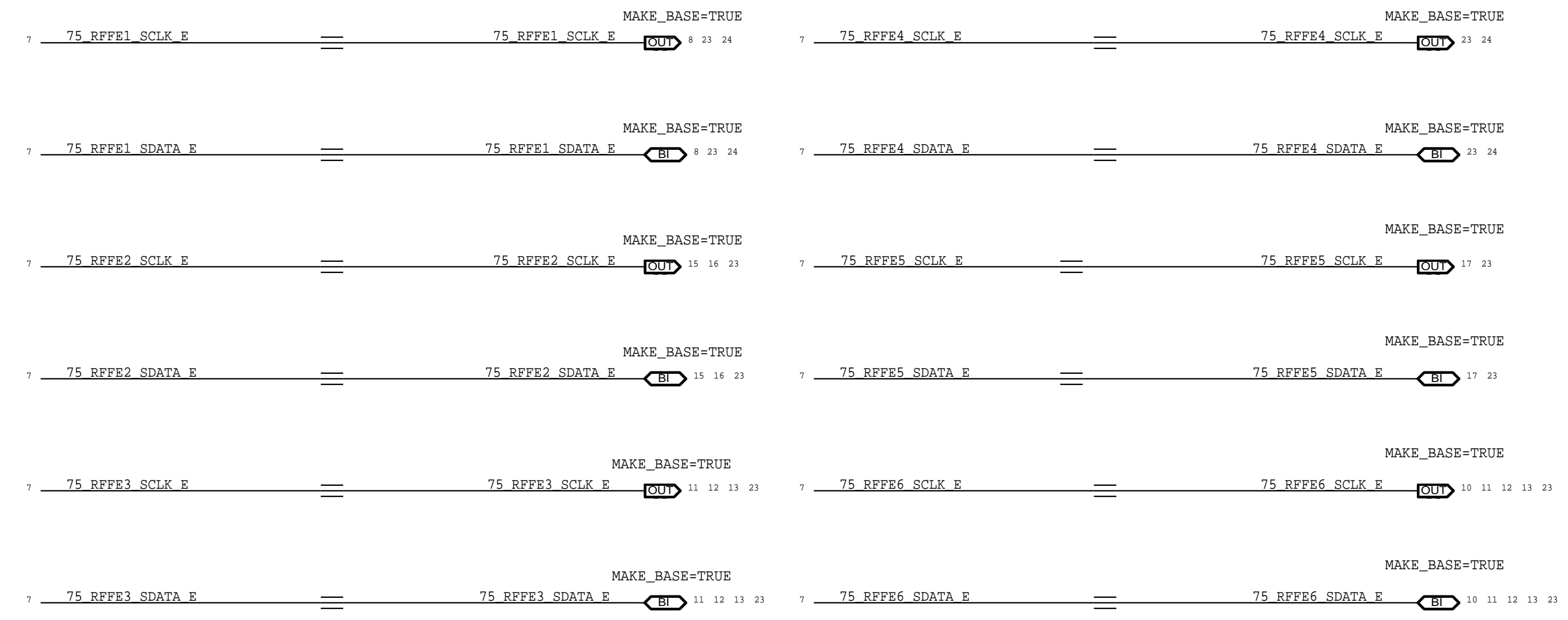
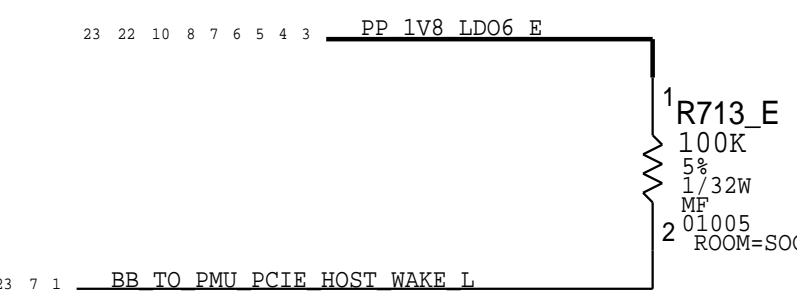
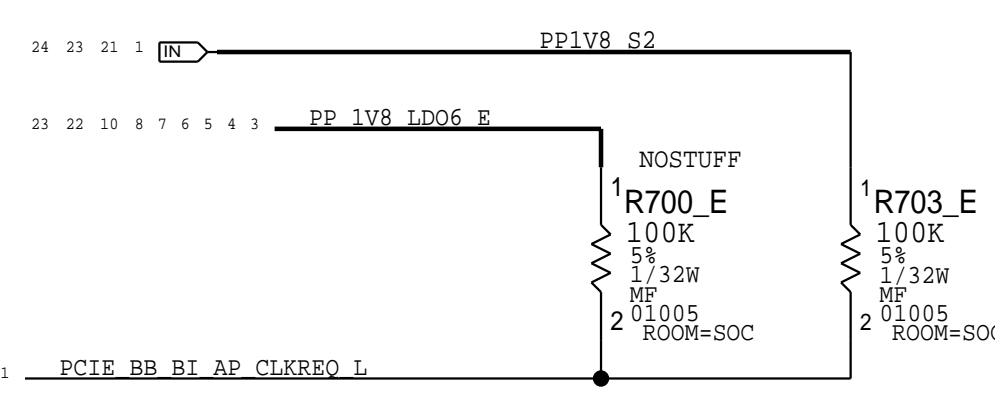
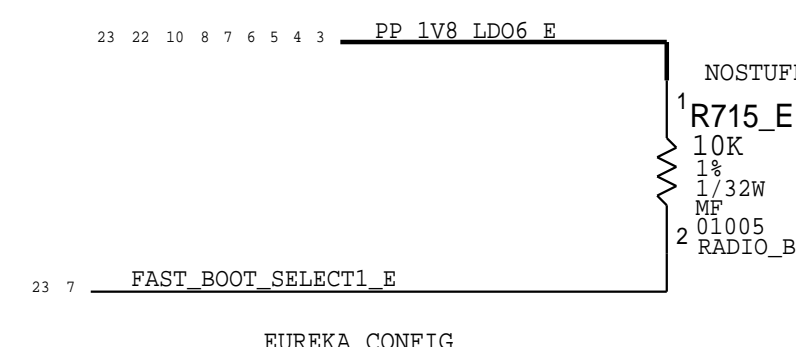
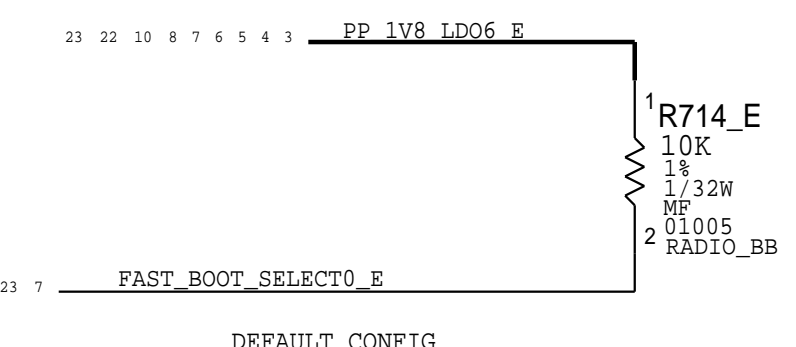


BB EEPROM



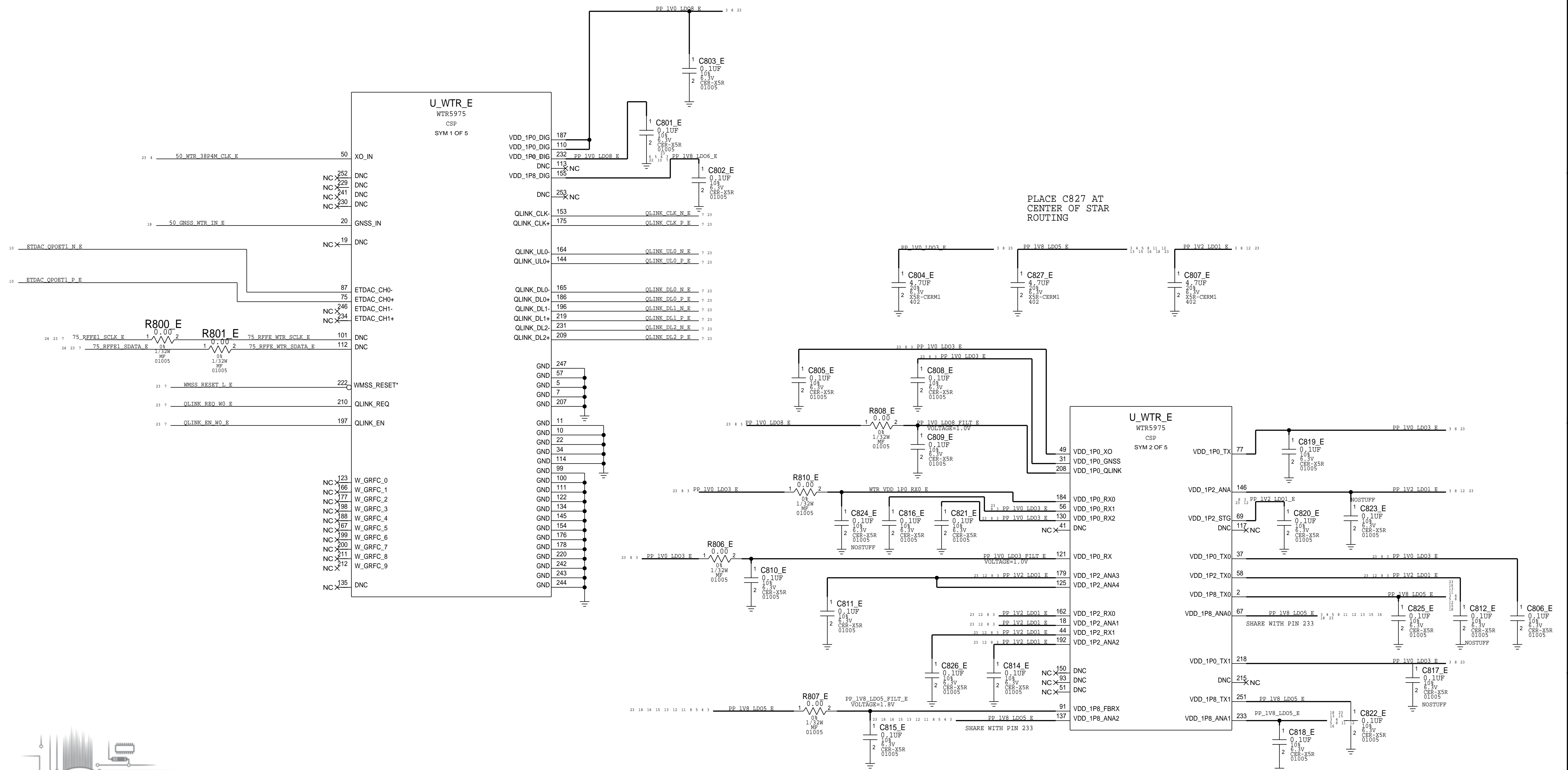
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- RFFE1 - WTR, LATGPO, LATUNE
- RFFE2 - HB DSM, LB DSM
- RFFE3 - UHB, HB, LB PAD LNA
- RFFE4 - UATGPO, UATUNE
- RFFE5 - CPL
- RFFE6 - QET, 2G PA/UHB, HB, LA PAD



PAGE TITLE		
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TRANSCEIVER: QLINK & POWER

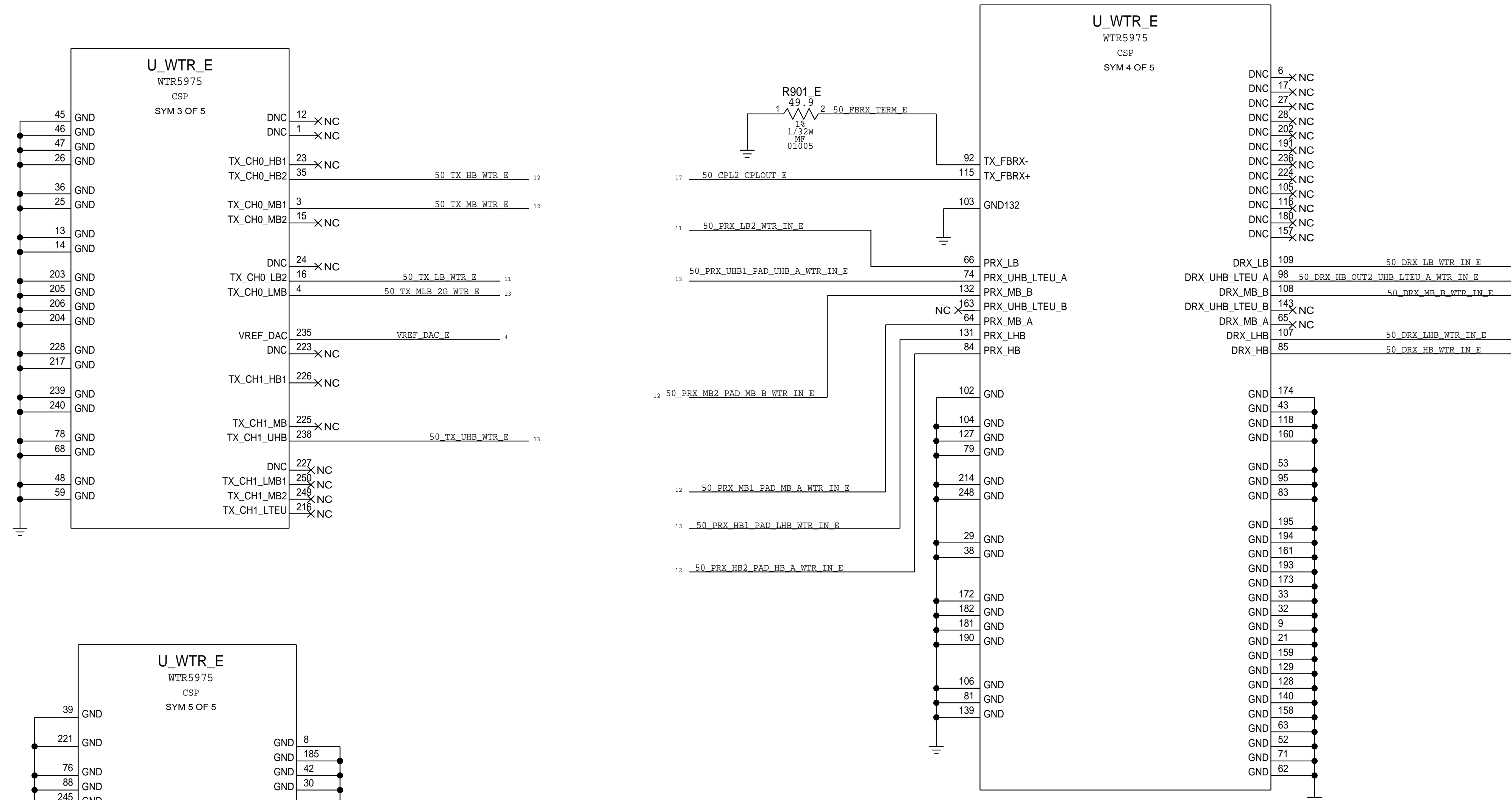


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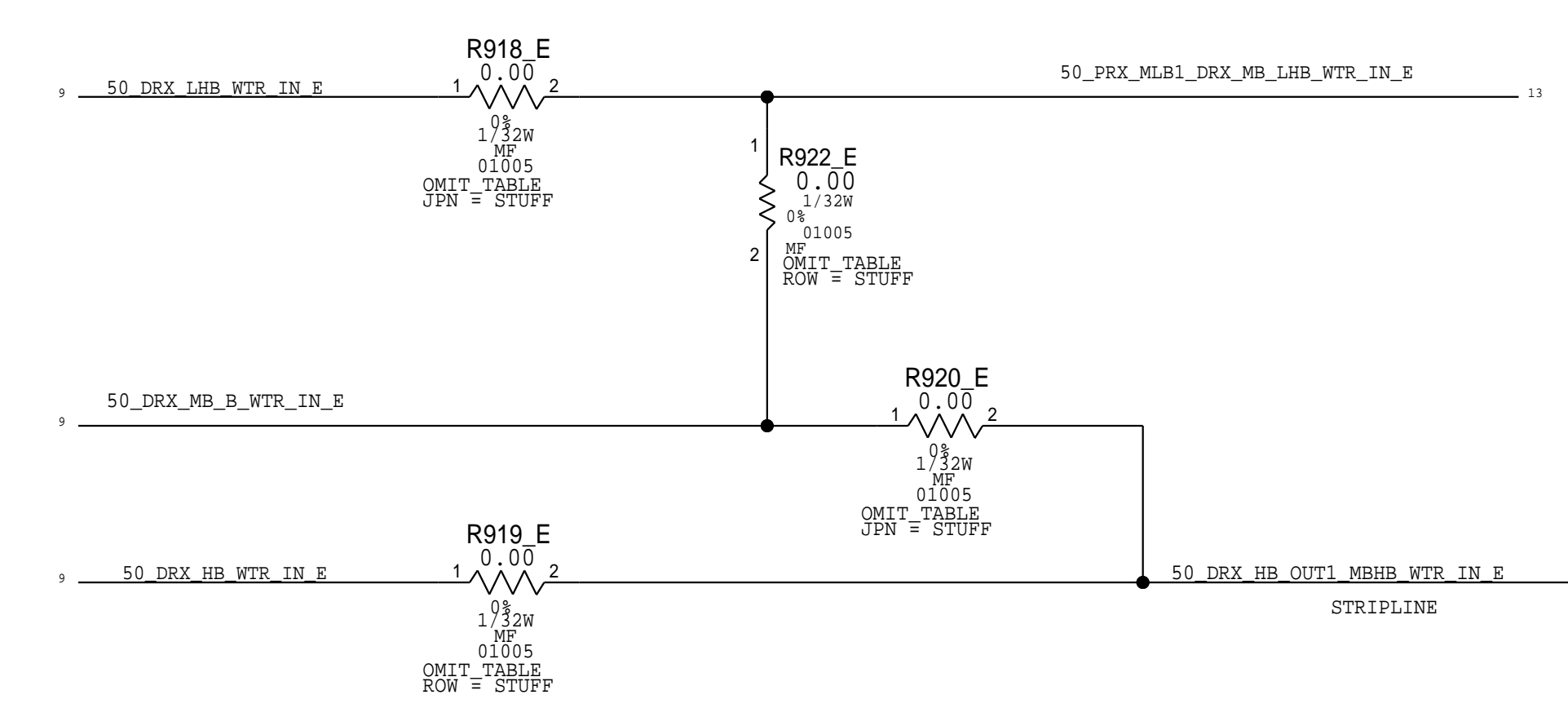
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TRANSCEIVER: TX & RX

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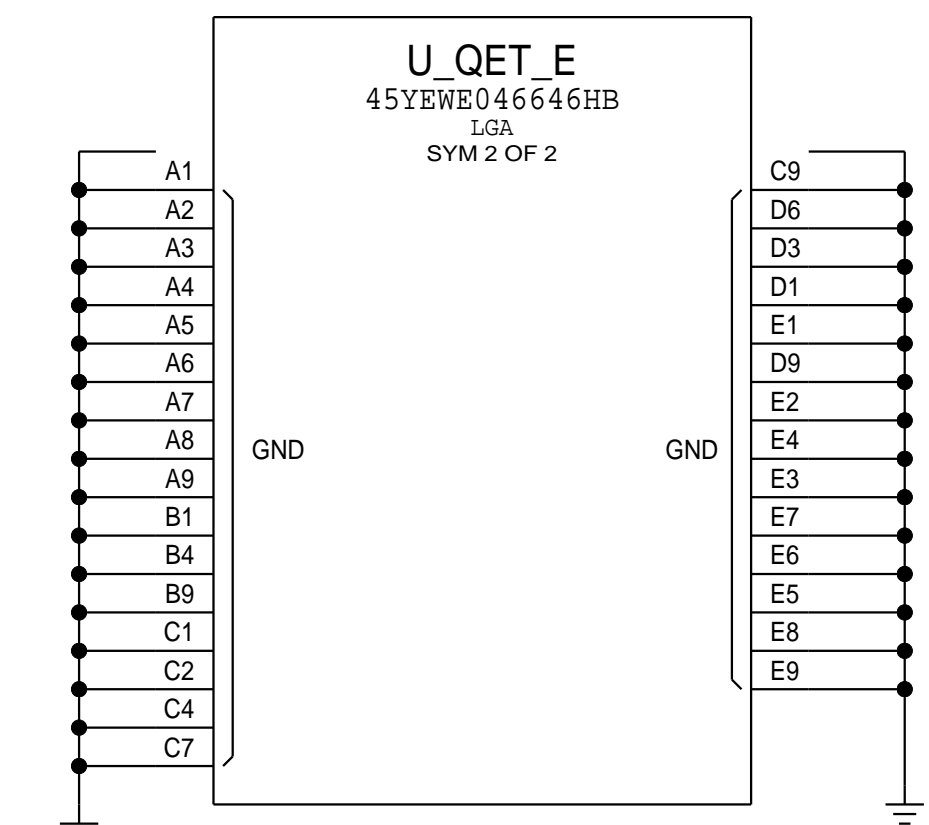
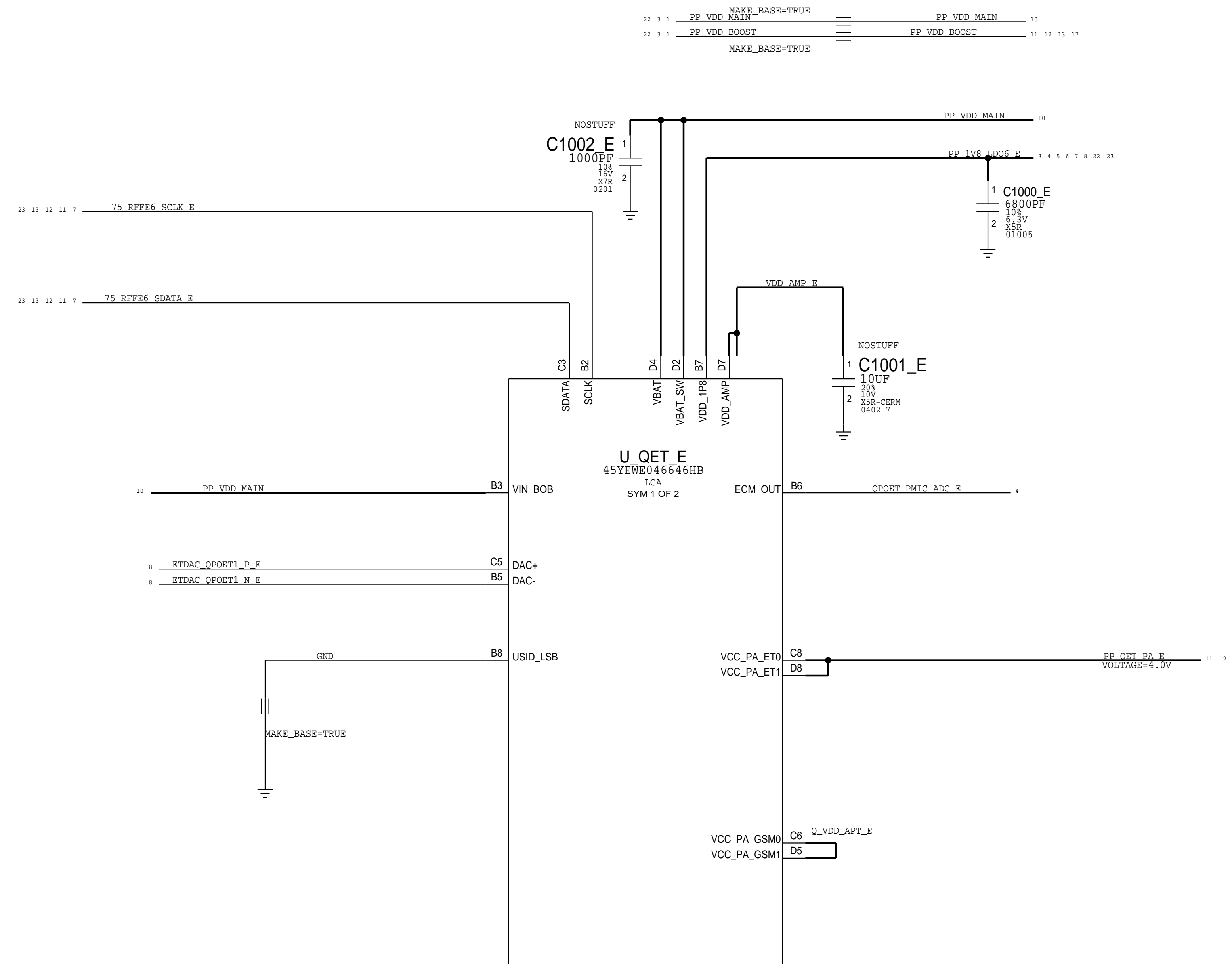


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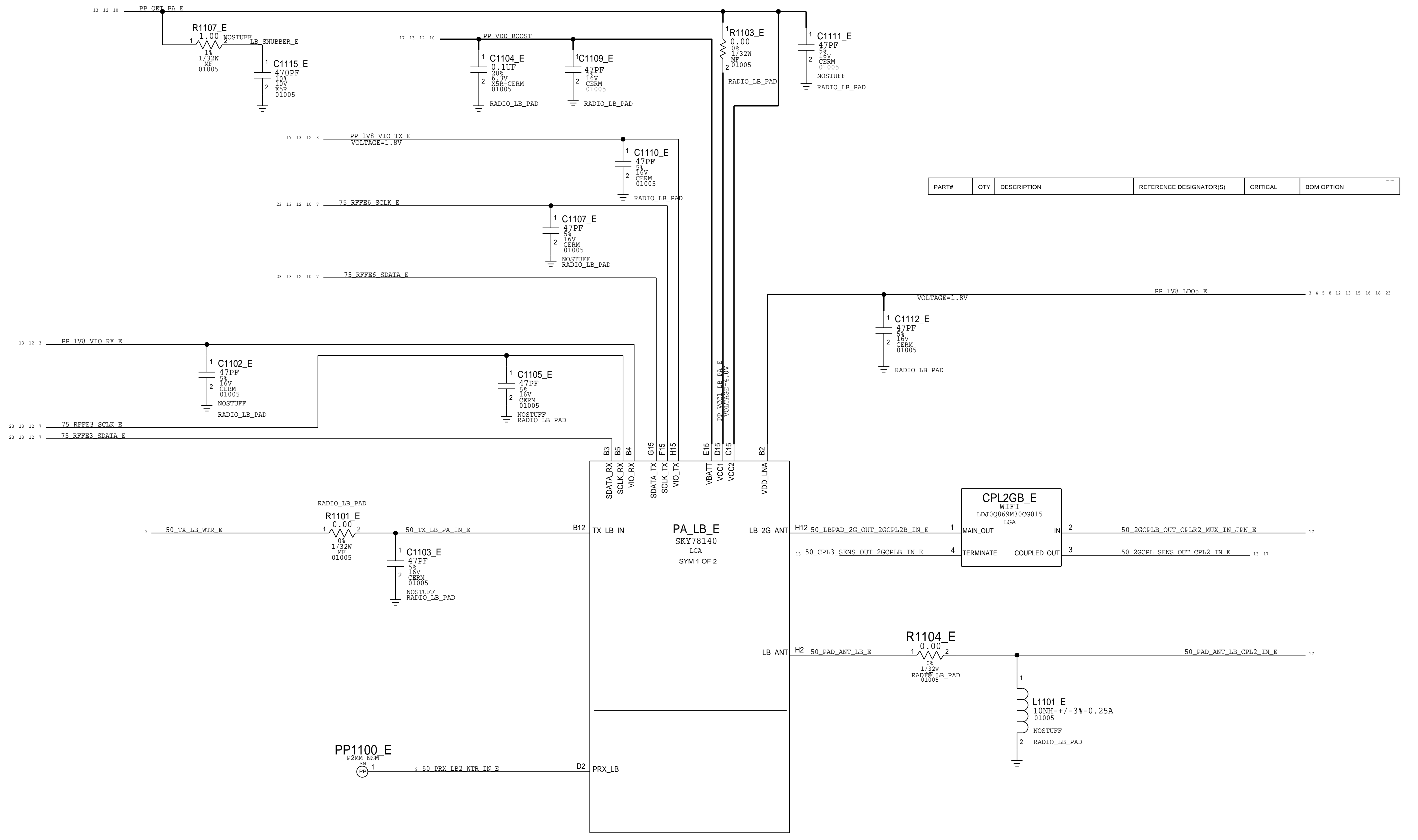
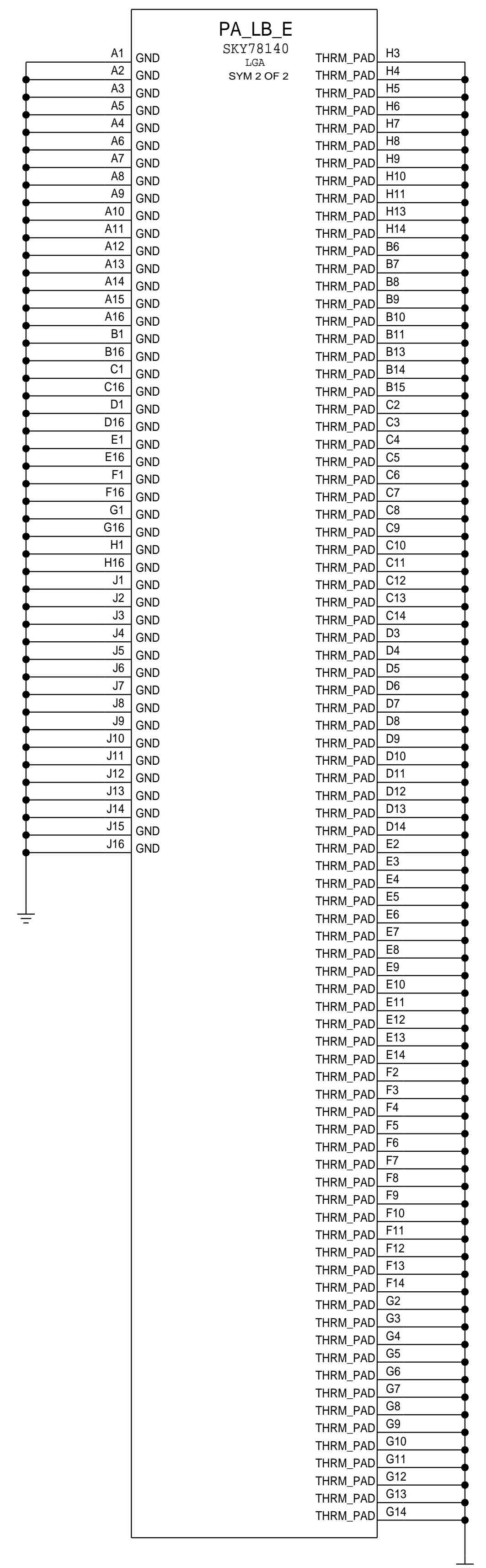
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LB PAD

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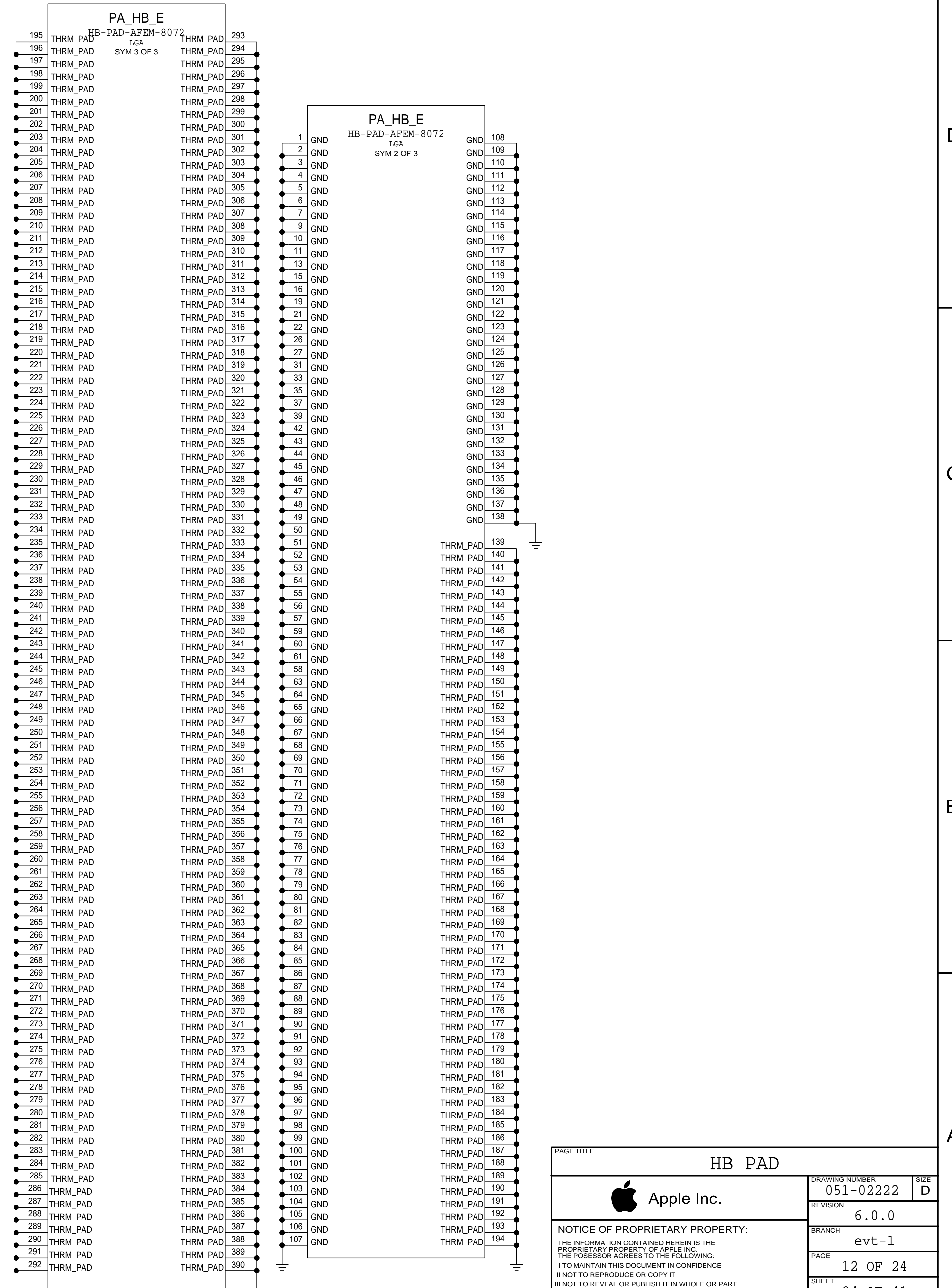
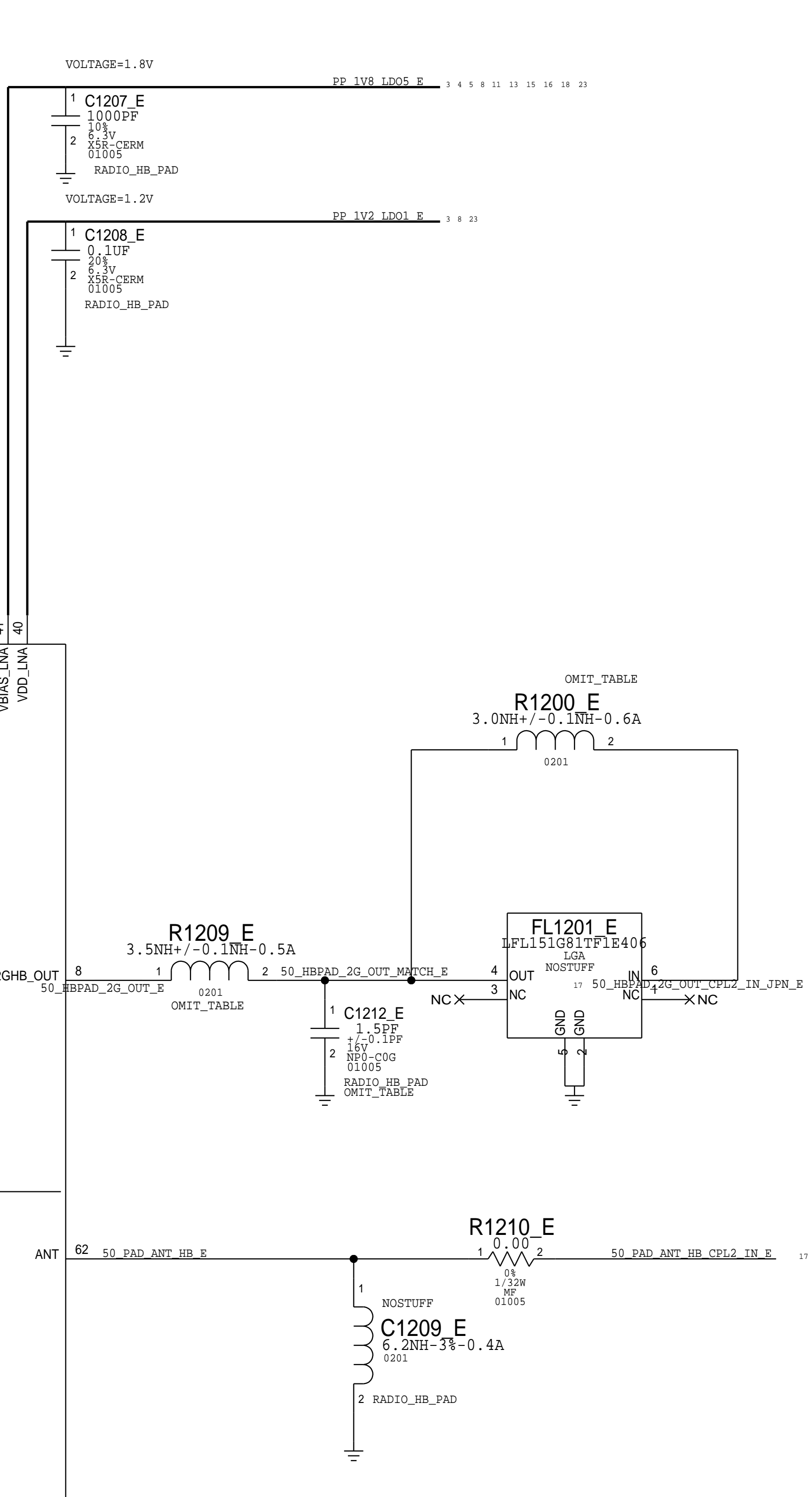
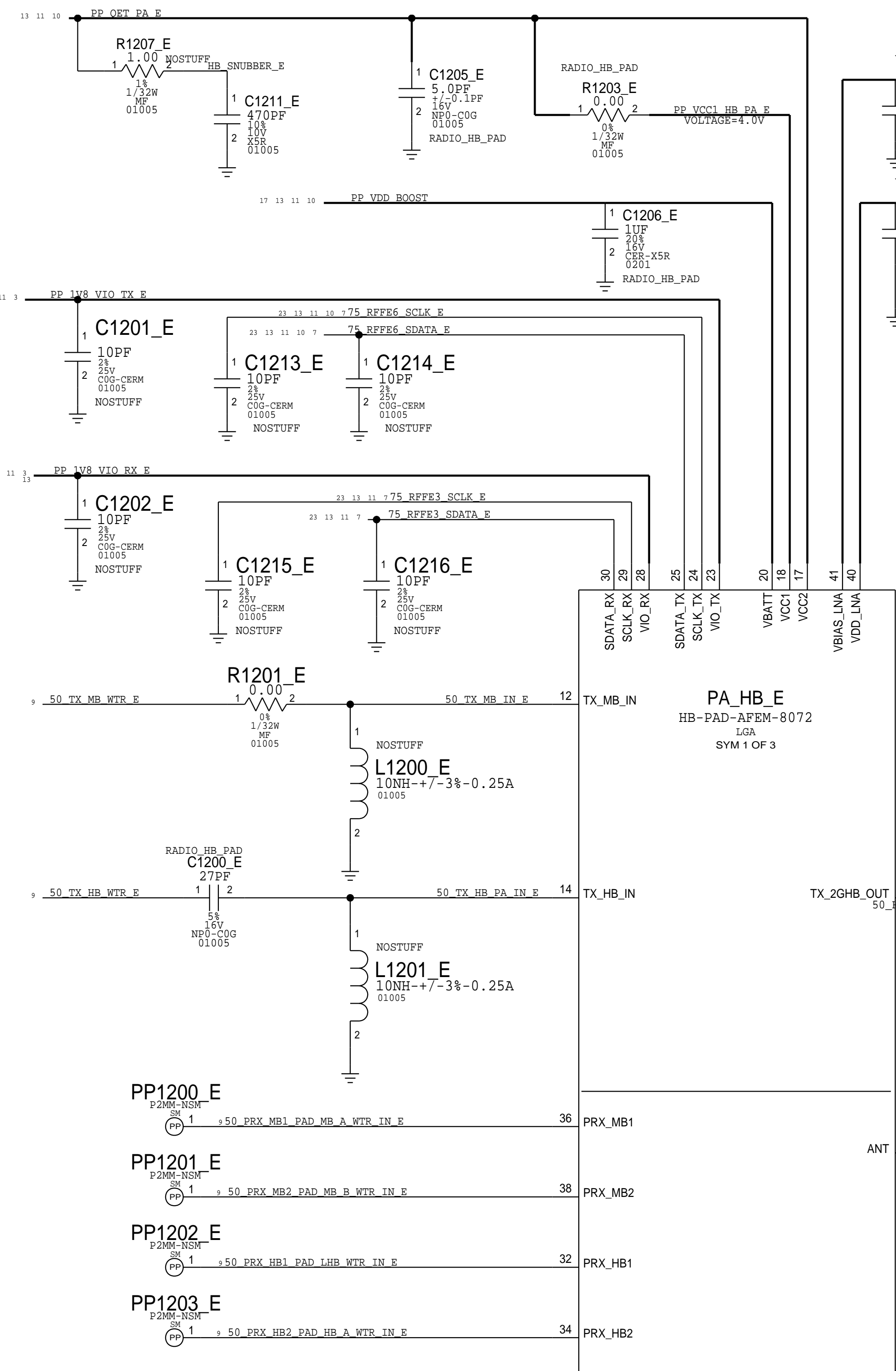


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HB PAD



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S00026	1	0201 2G HB MATCH, 3.5NH 0.5A	R1209_E	CRITICAL	JFN
152S2045	1	0201 2G HB MATCH, 3.0NH 0.6A	R1200_E	CRITICAL	JFN
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PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
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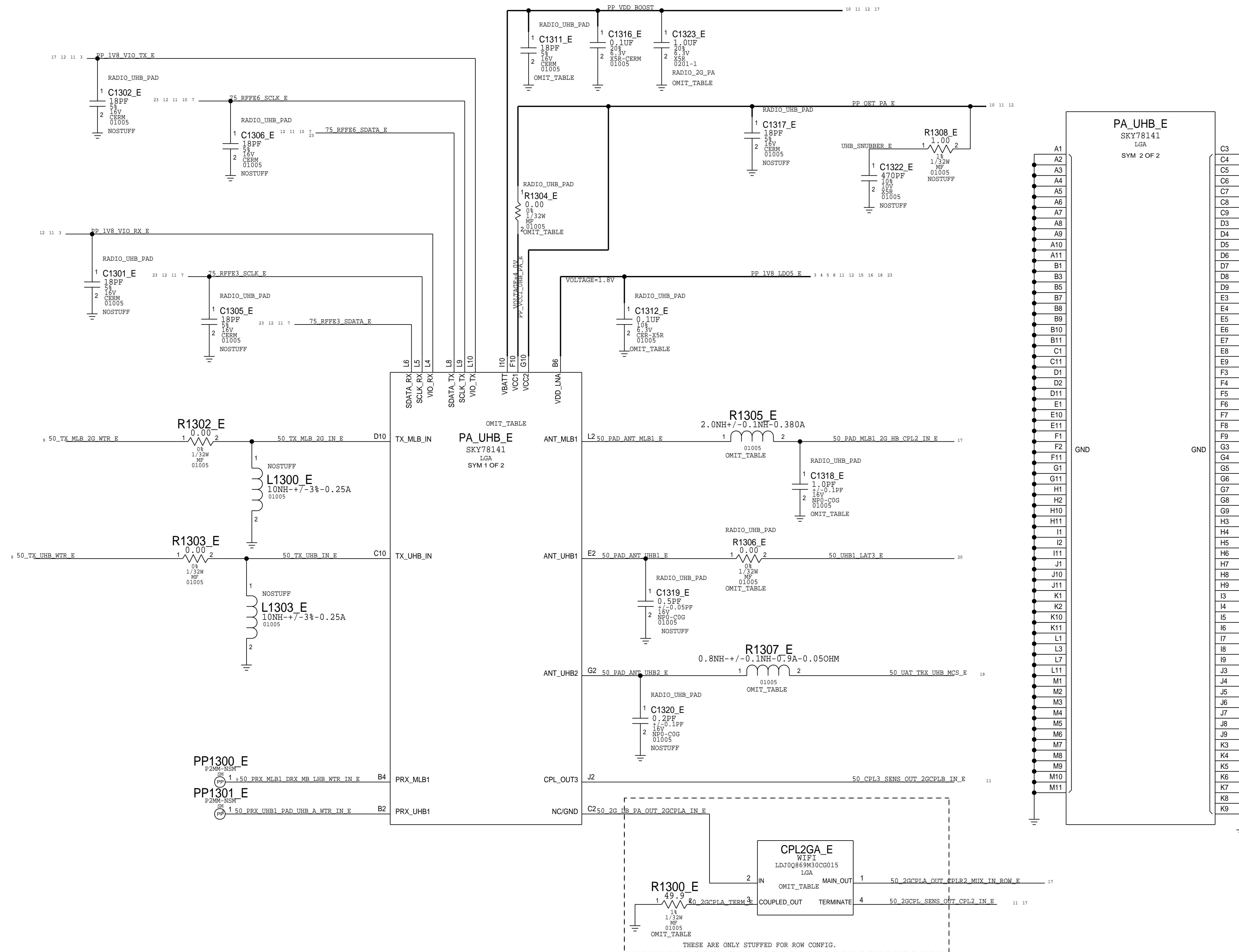
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UHB / 2G PAD -JPN

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353801243	1	UHB PAD MP	PA_UHB_E	CRITICAL	JPN
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11780161	1	UHB INP/UT MCH1, 0 OHMS	R1303_E	CRITICAL	JPN
11780161	1	MLB/2G MB OUT MCH1 01005 OR	R1305_E	CRITICAL	JPN
11780161	1	UHB1 OUTPUT MCH1, 0 OHMS	R1306_E	CRITICAL	JPN
152800494	1	UHB2 OUT/DRX BP MCH1, 0.8NH 0.9A	R1307_E	CRITICAL	JPN
13280683	1	UHB LNA DECOUPLING, 0.1UF 6.3V 10%	C1312_E	CRITICAL	JPN
13180214	1	VBAT DECOUPLING, 18PF	C1311_E	CRITICAL	JPN
13880692	1	VBAT DECOUPLING, 1UF	C1323_E	CRITICAL	JPN
11780161	1	VCC2/VCC1 RESISTOR OPTION, 0 OHM	R1304_E	CRITICAL	JPN
13180375	1	MLB OUTPUT MCH UAT, 01005 1.0PF	C1318_E	CRITICAL	JPN



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UHB PAD		
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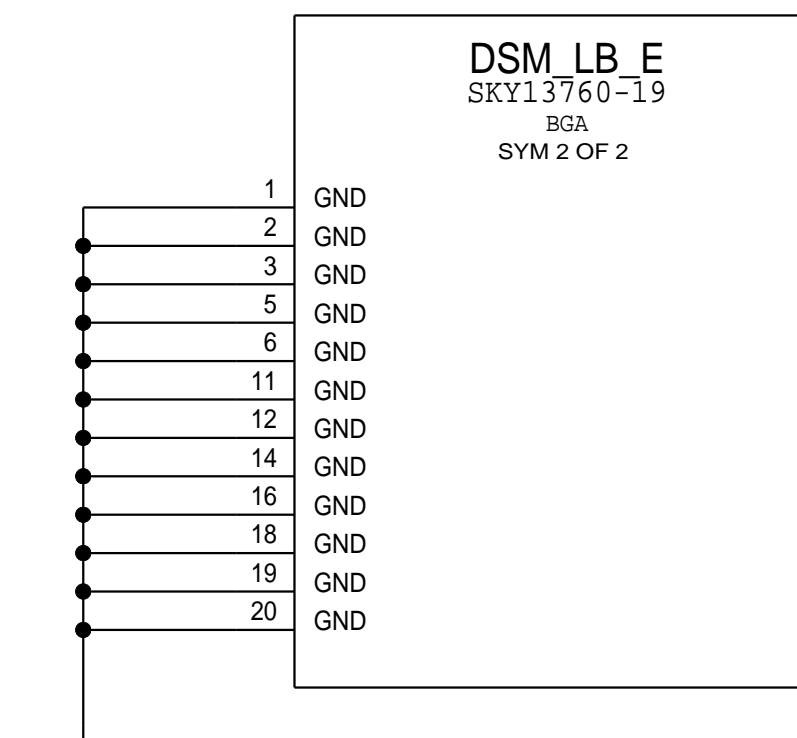
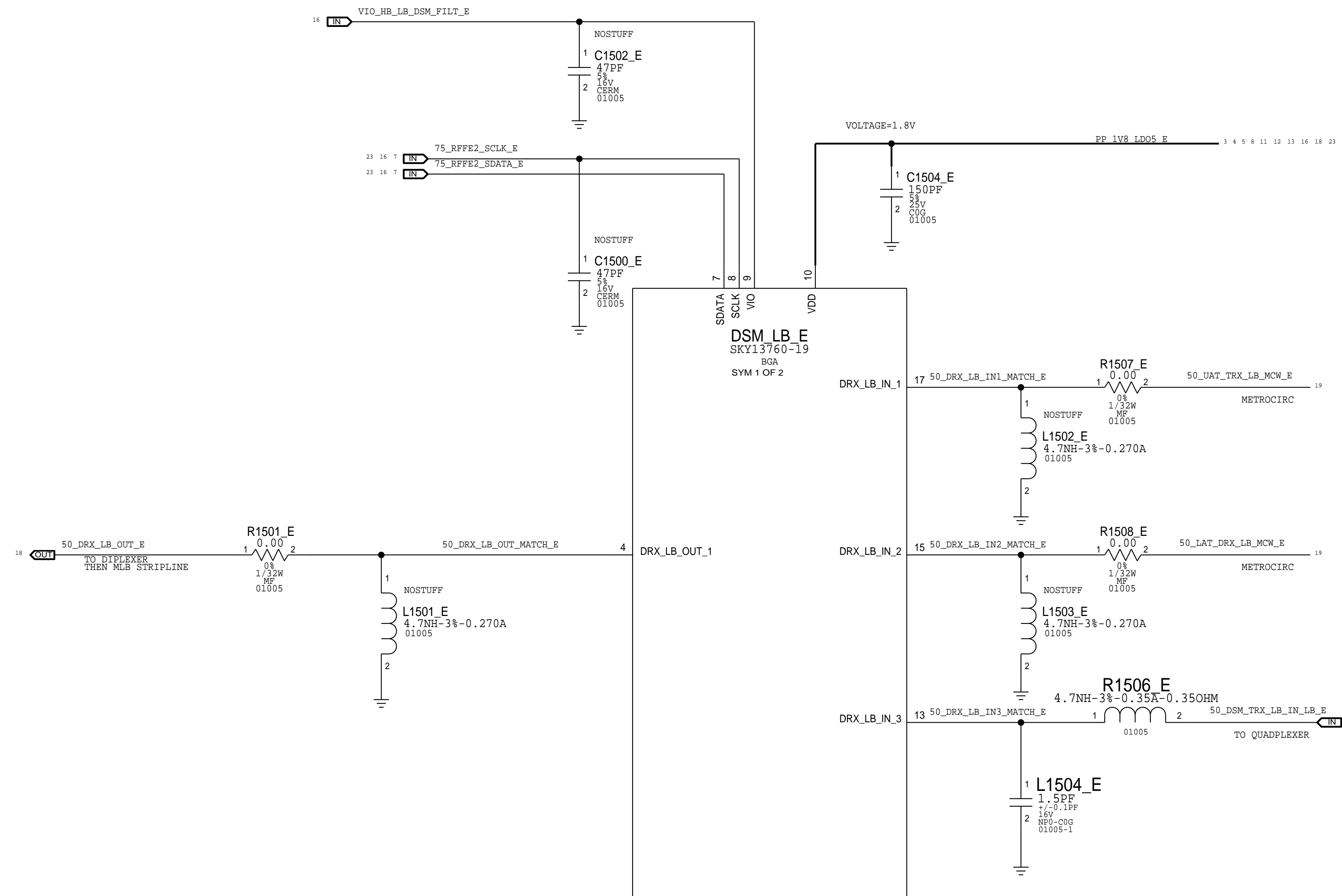
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15281917	1	01005 2.0NH 0.6A	R1305_E	CRITICAL	ROW
11780161	1	UHB2 OUT/DRX BP MCH1, 0 OHMS	R1307_E	CRITICAL	ROW
13180214	1	VBAT DECOUPLING, 18PF	C1311_E	CRITICAL	ROW
13880692	1	VBAT DECOUPLING, 1UF	C1323_E	CRITICAL	ROW
11780161	1	VCC2/VCC1 RESISTOR OPTION, 0 OHM	R1304_E	CRITICAL	ROW
155800316	1	ROW CLPA	CPL2GA_E	CRITICAL	ROW
11880652	1	01005 49.9R	R1300_E	CRITICAL	ROW



PAGE TITLE 2G PA		
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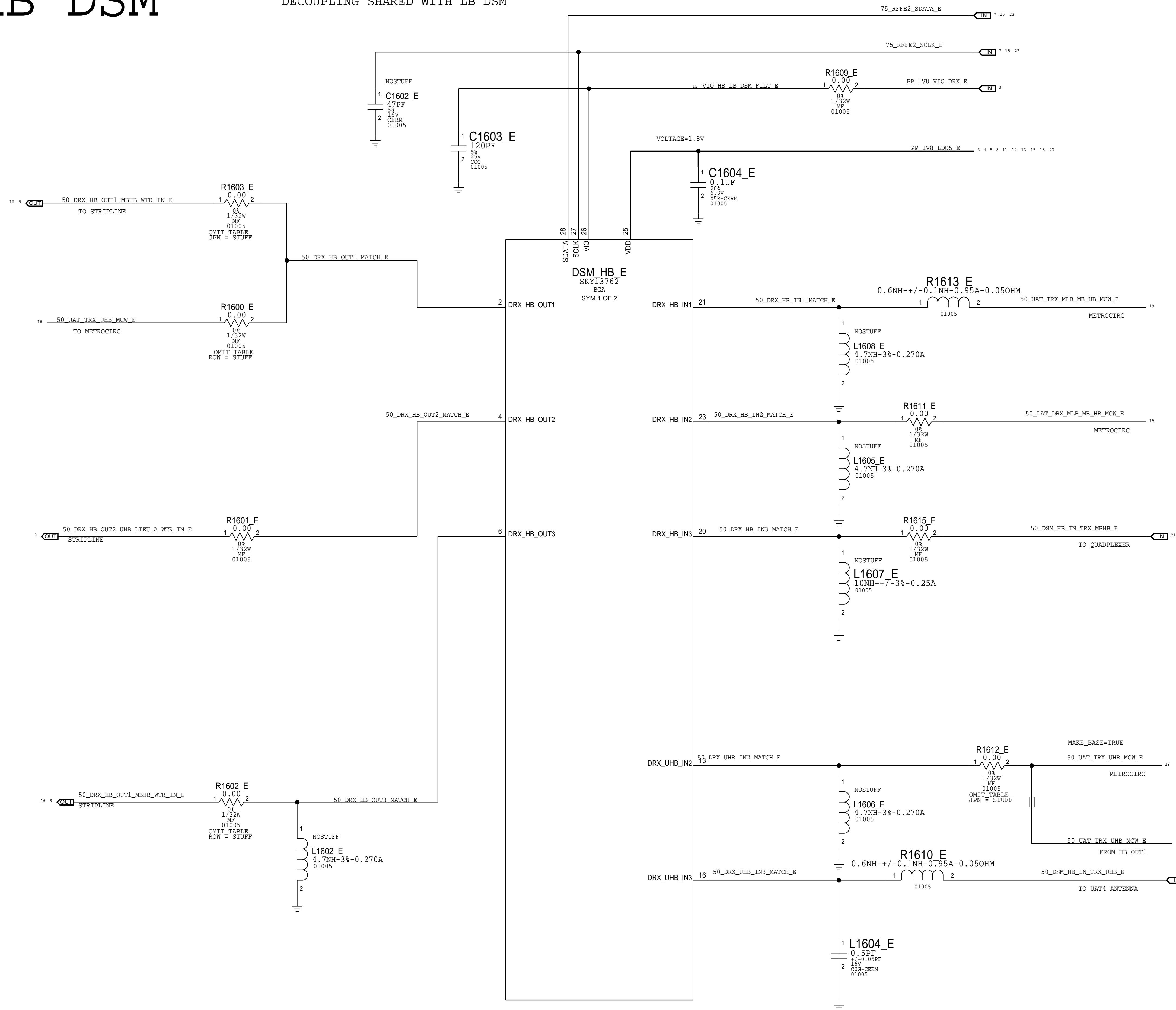
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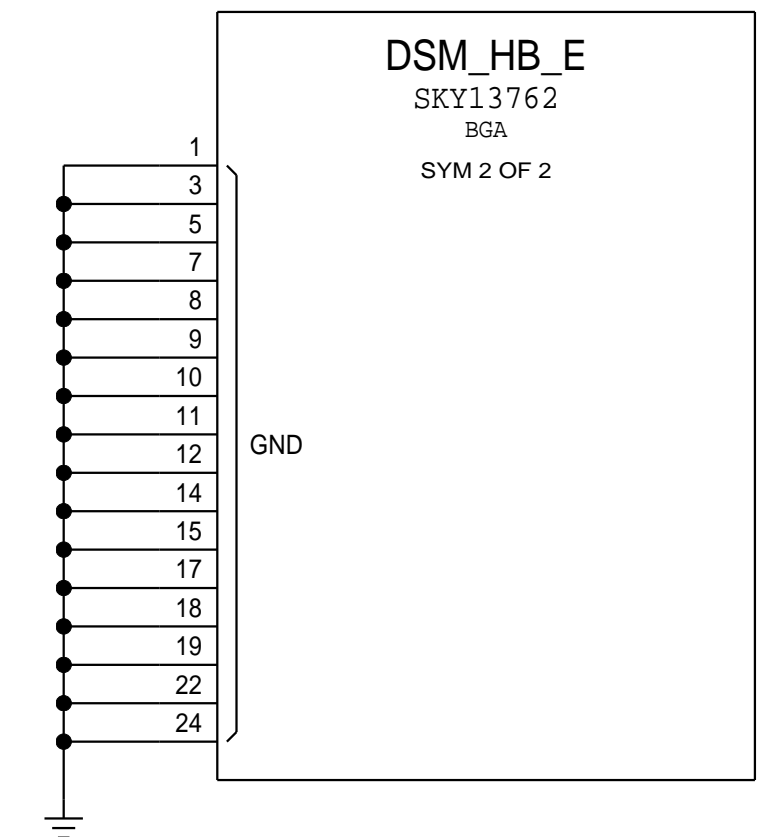
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DECOUPLING SHARED WITH LB DSM



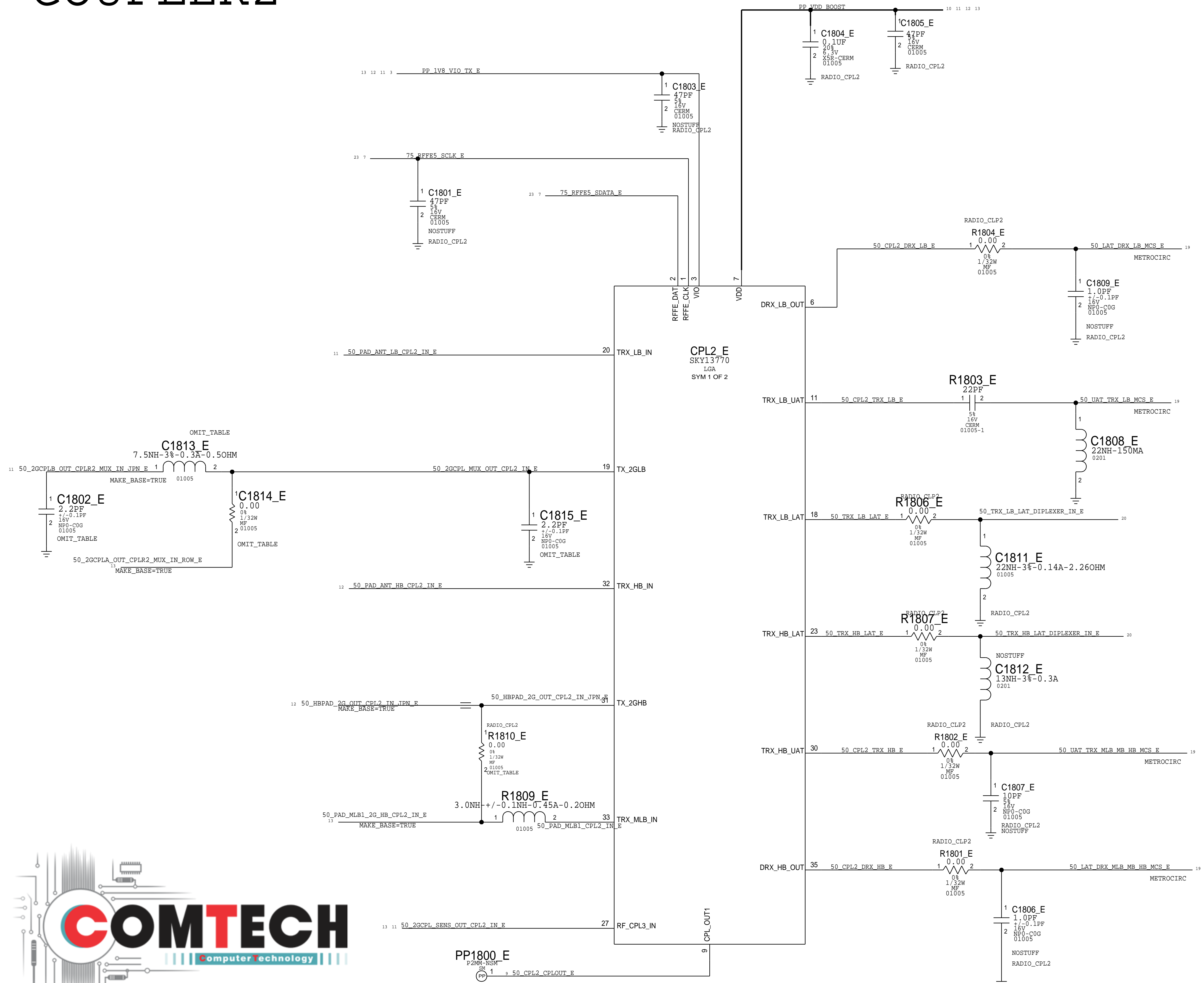
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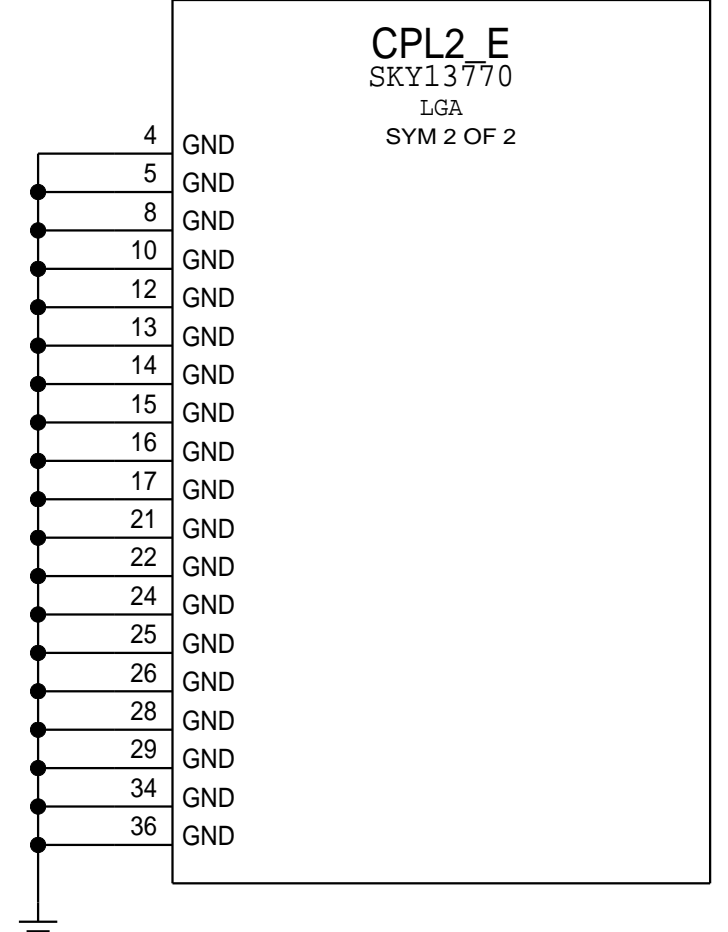
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COUPLER2



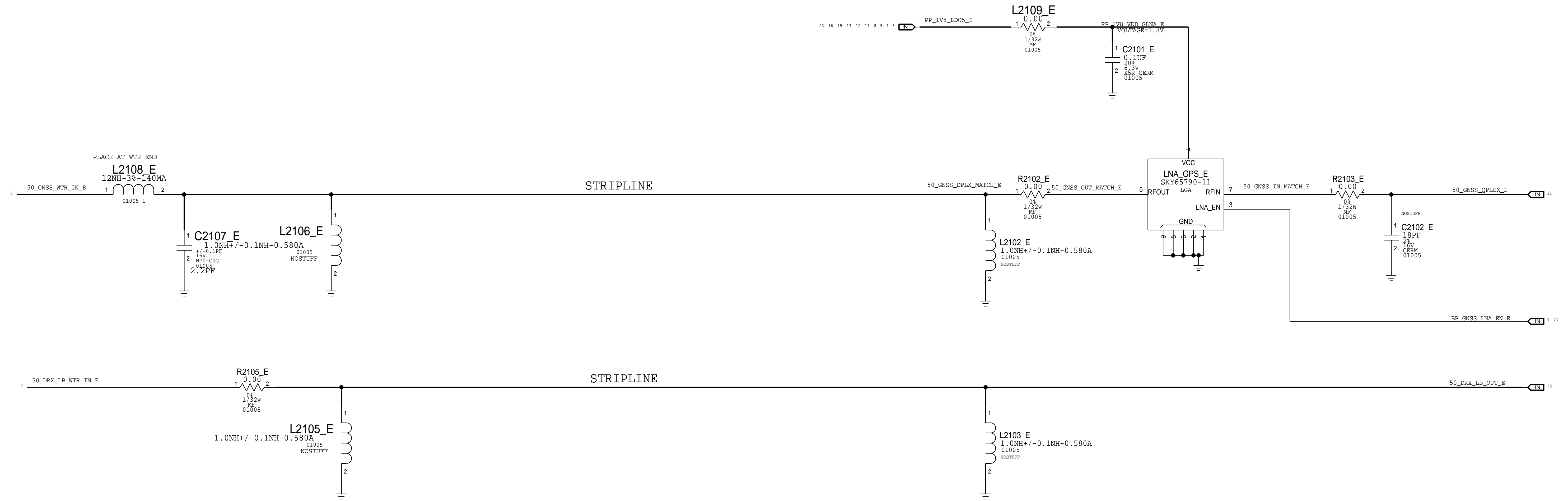
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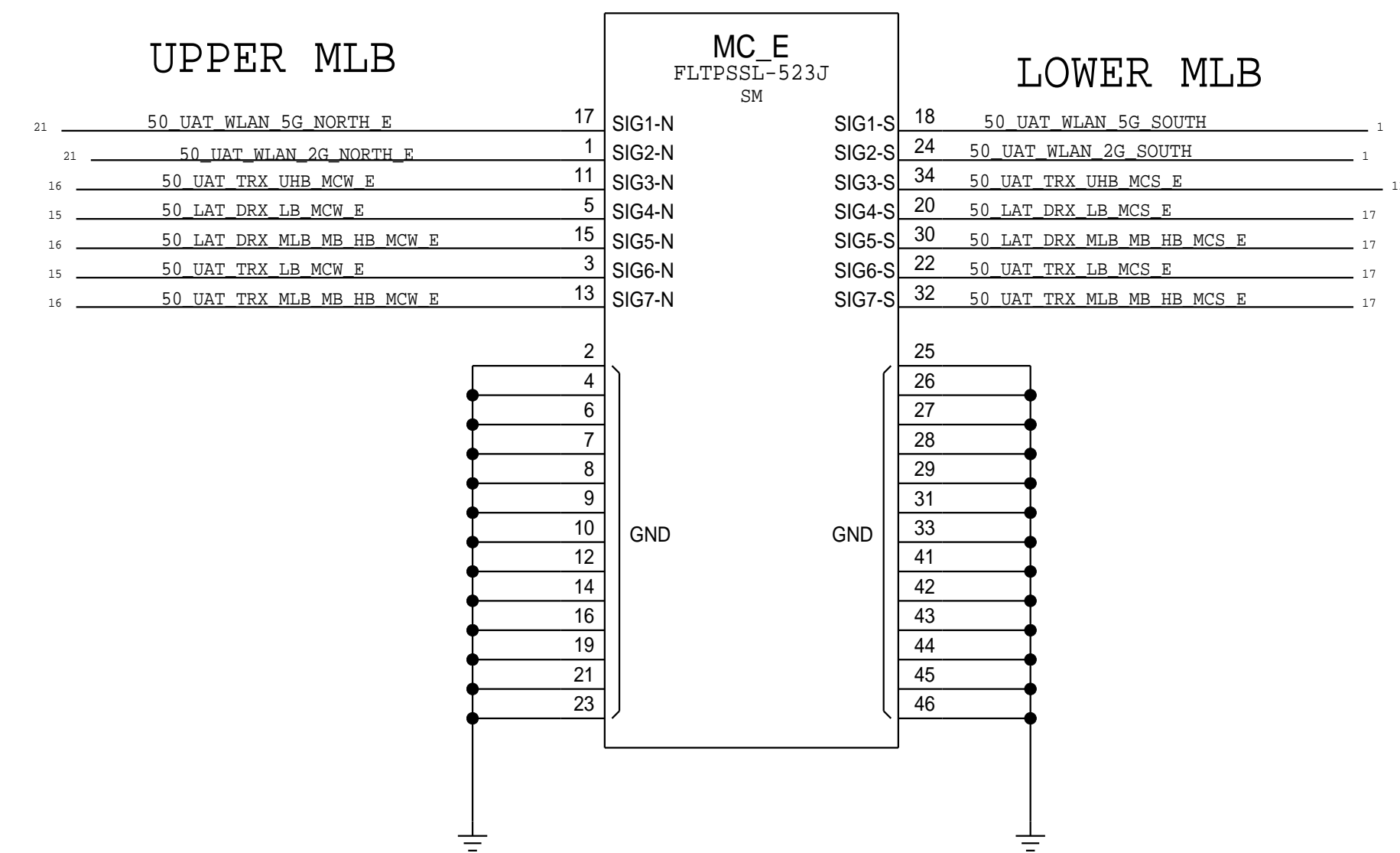
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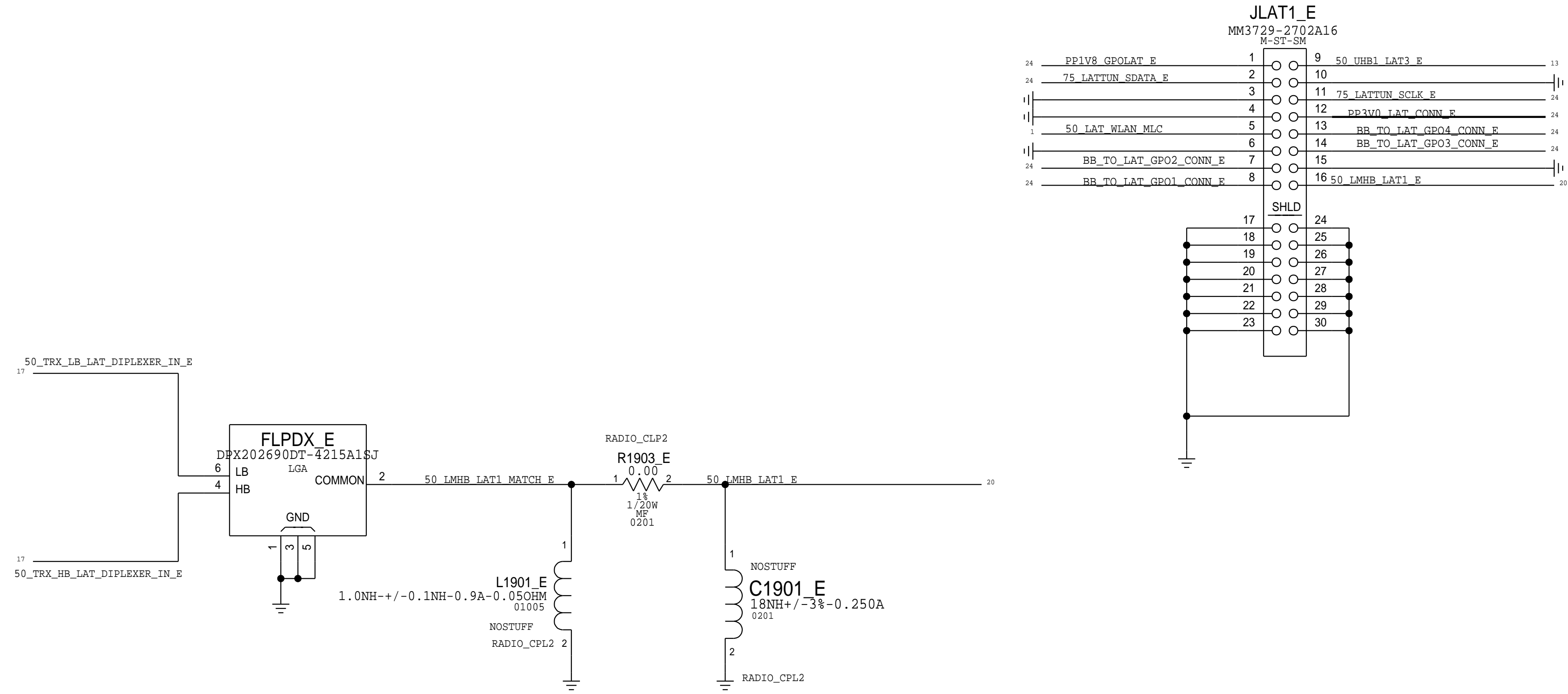
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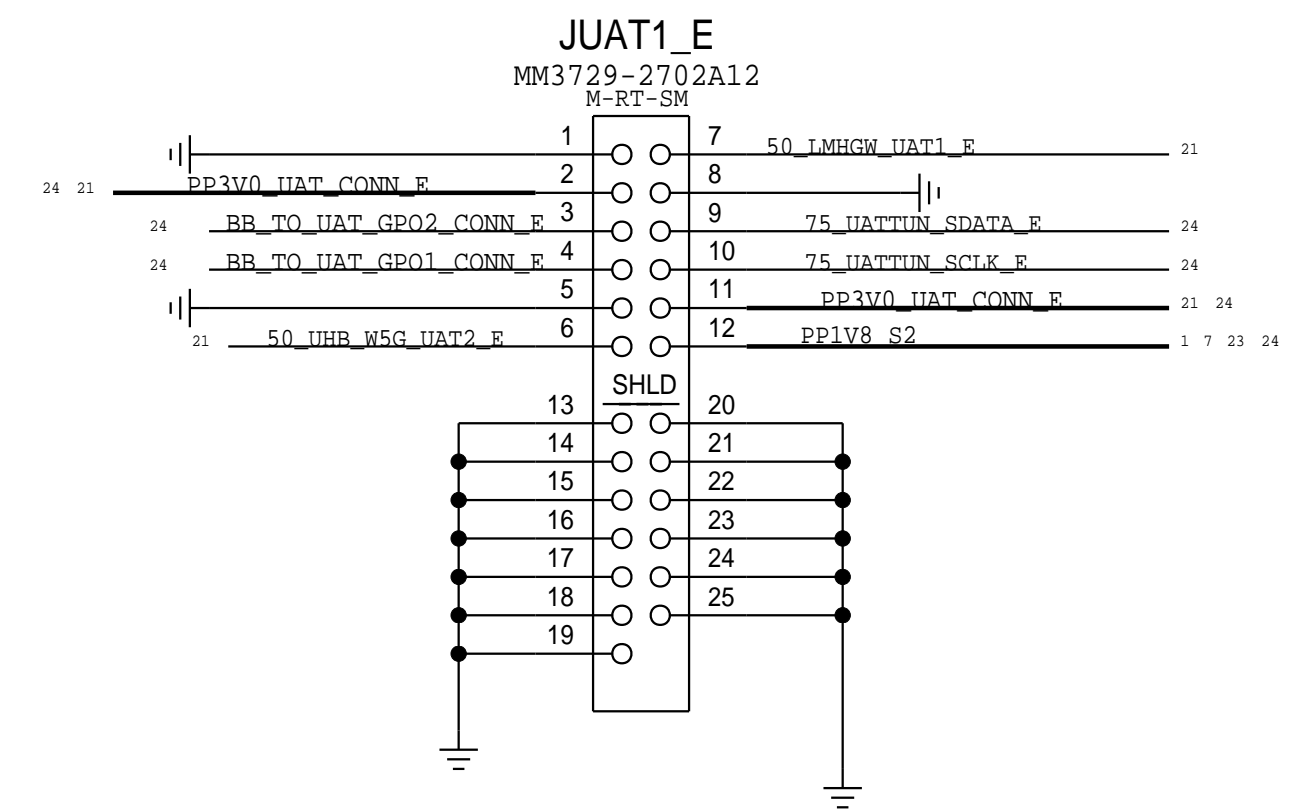
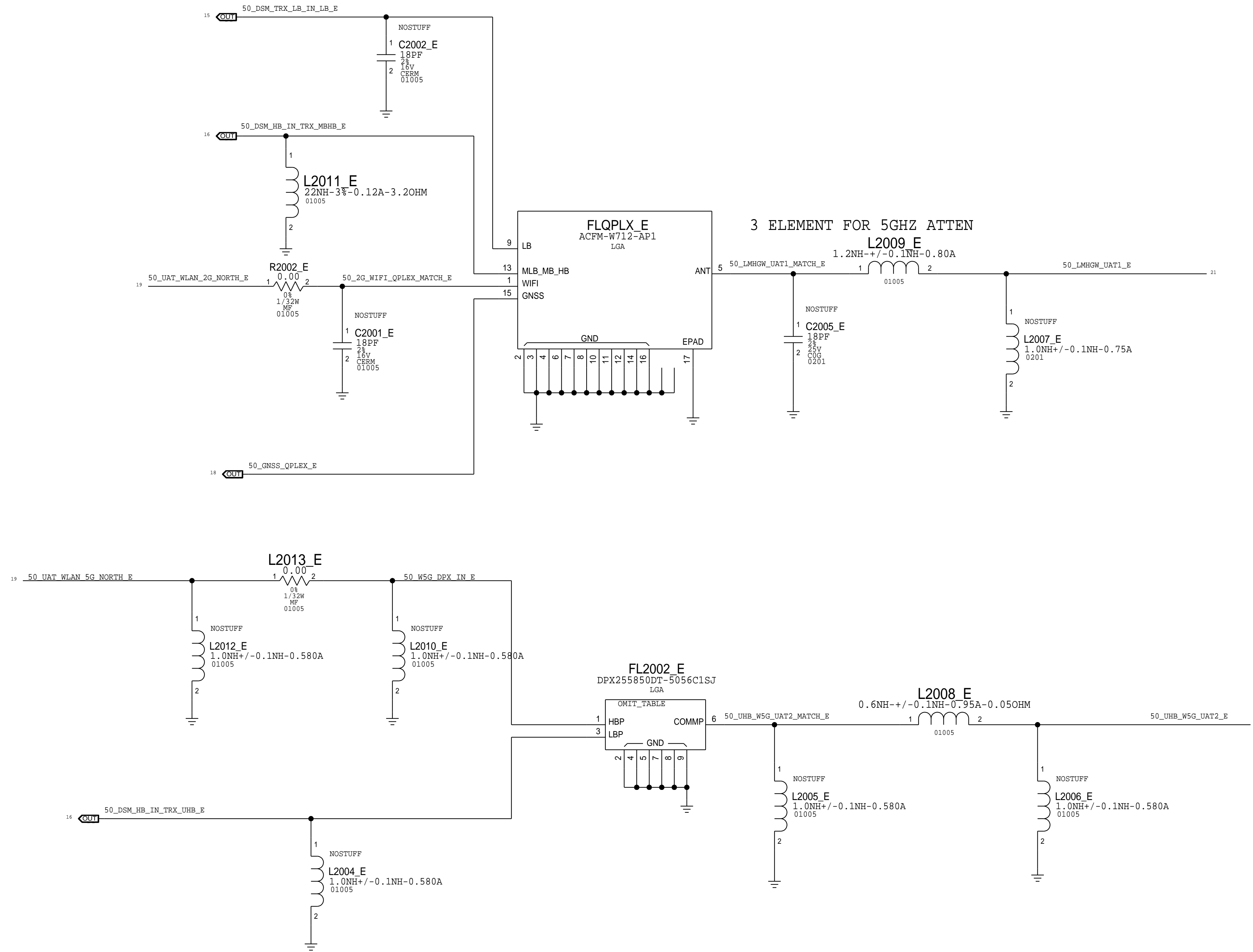
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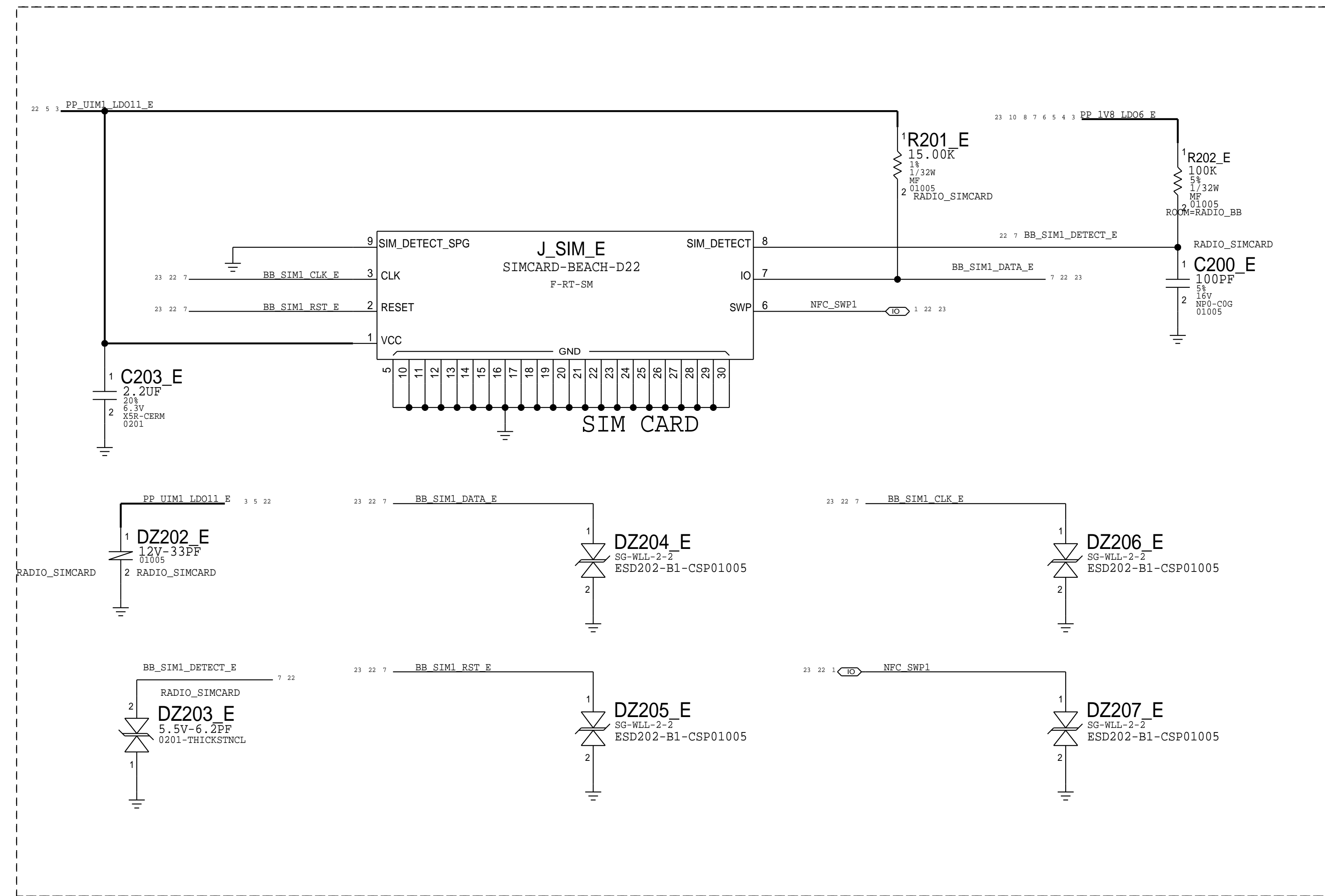
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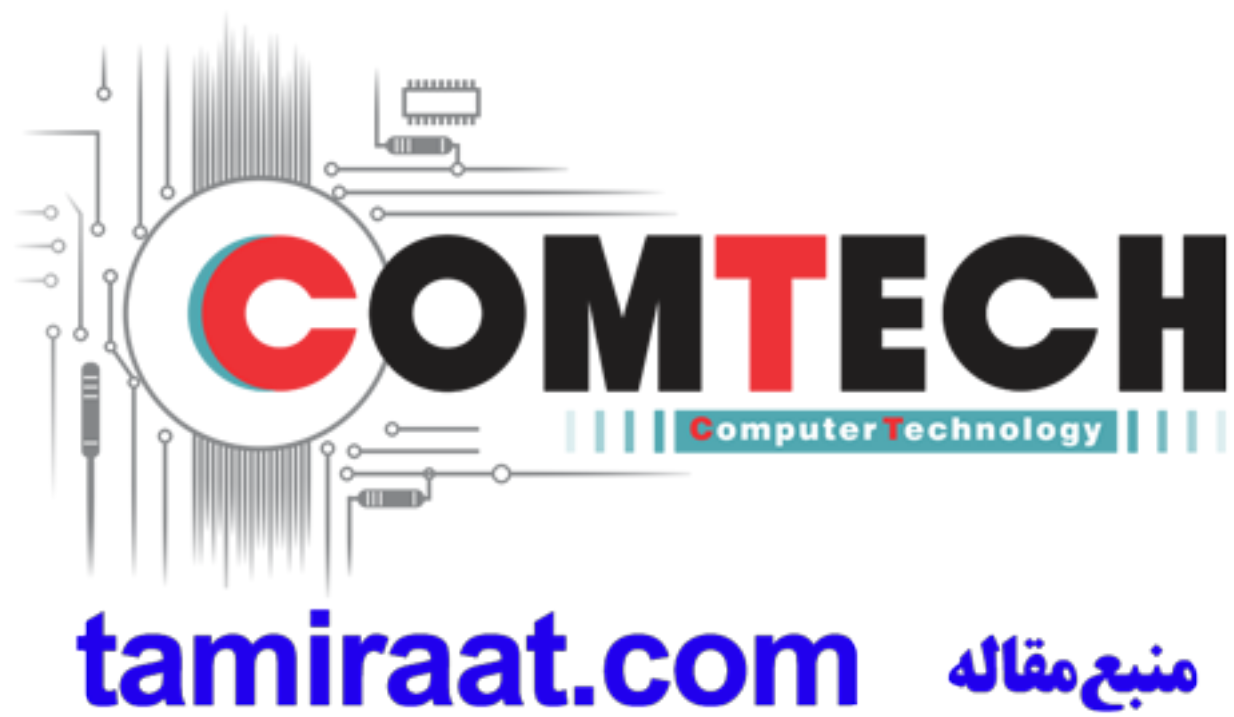
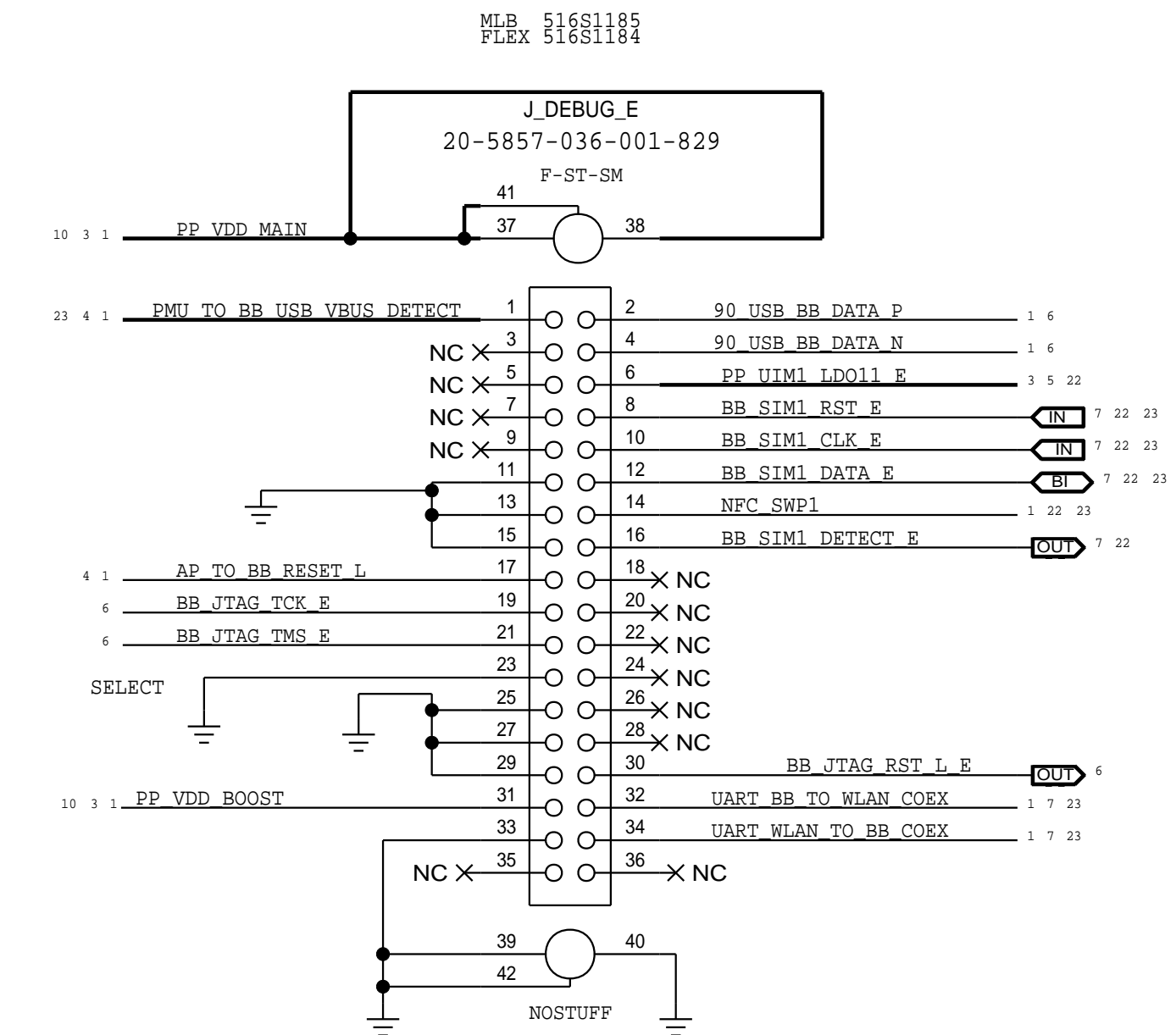


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SIM CONN EUICC & DEBUG CONN



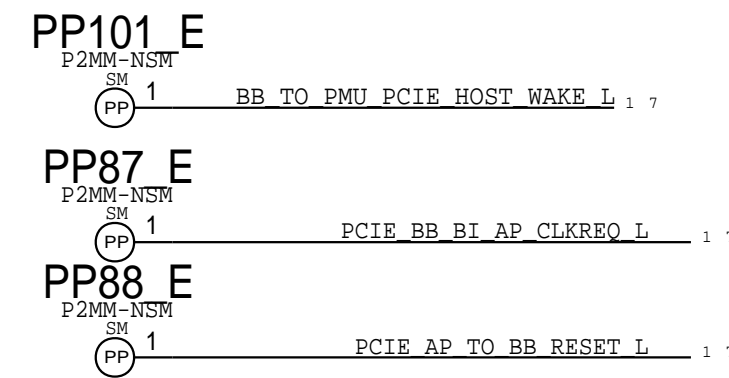
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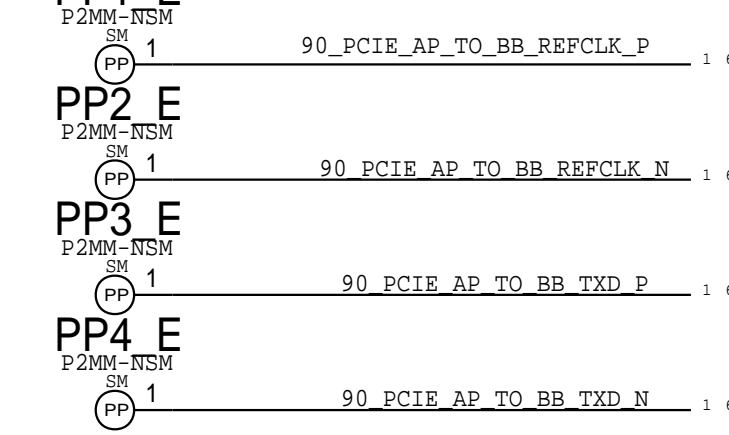
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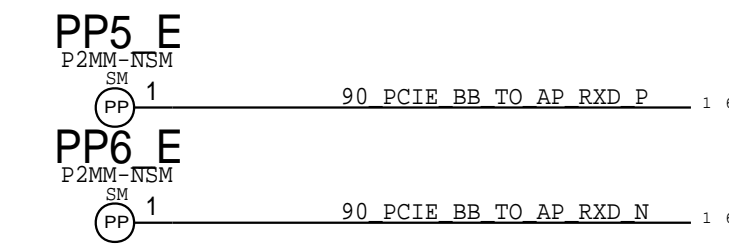


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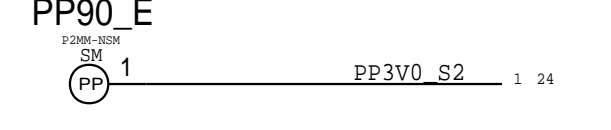
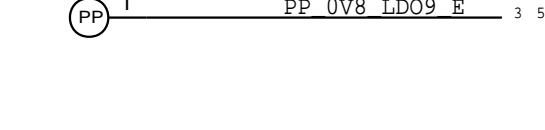
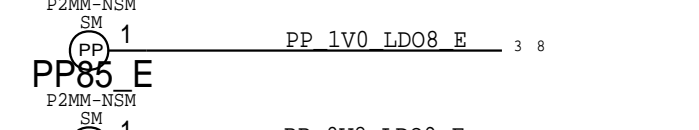
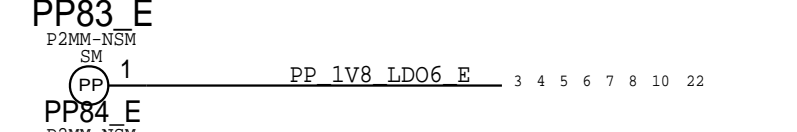
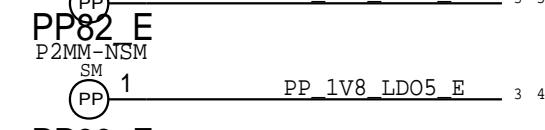
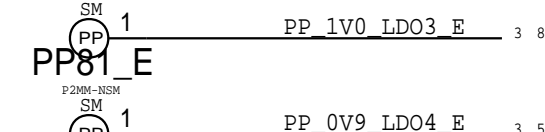
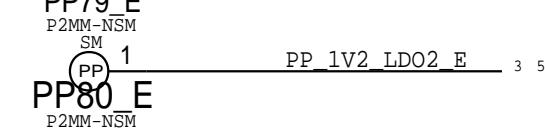
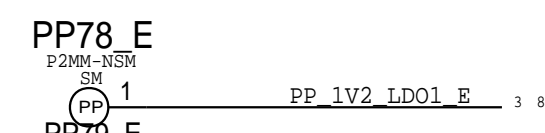
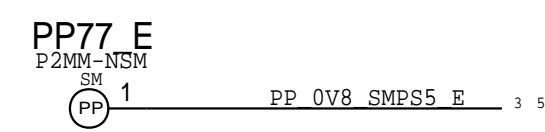
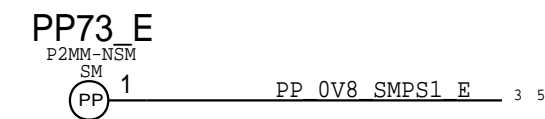
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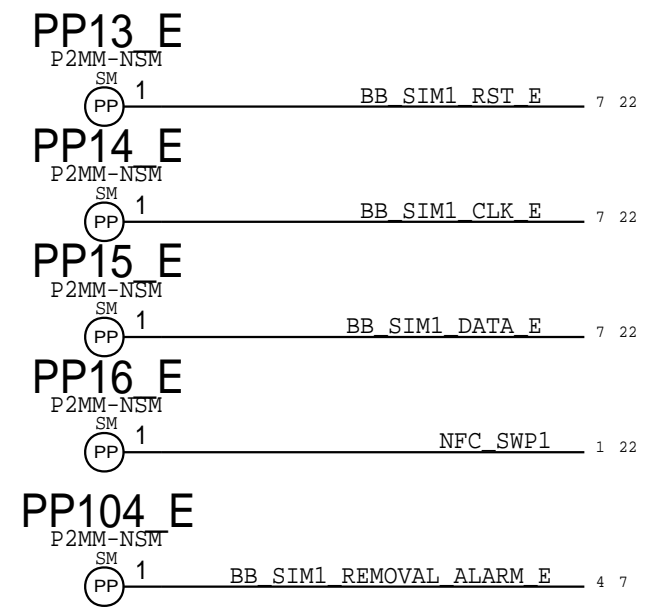
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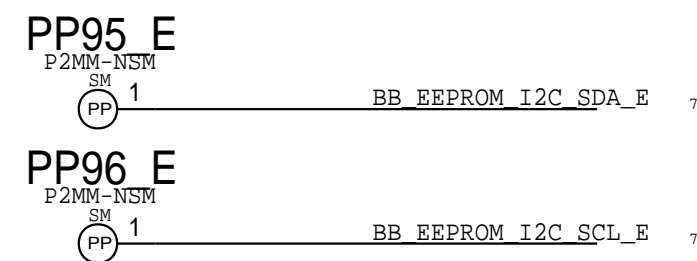
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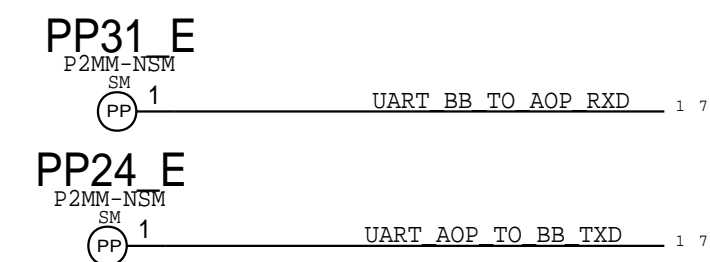
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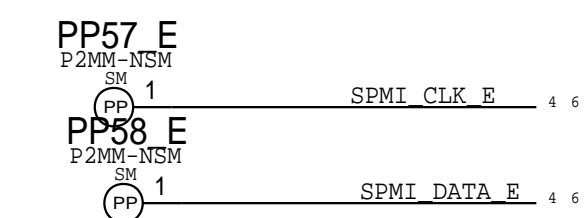
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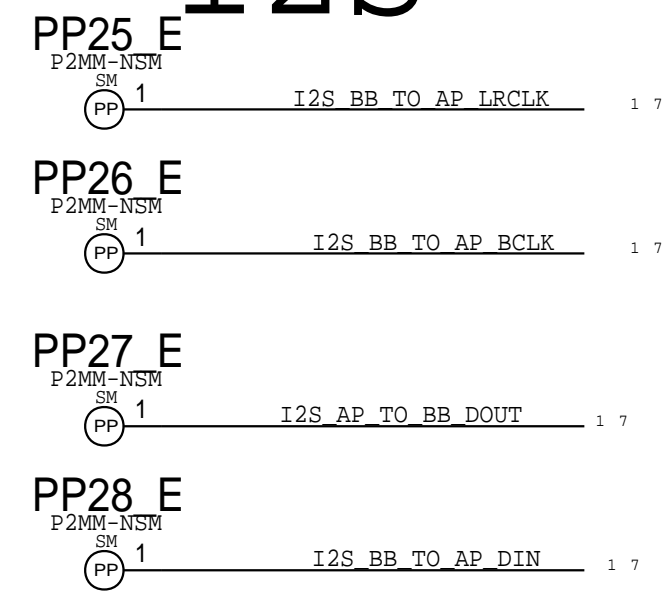
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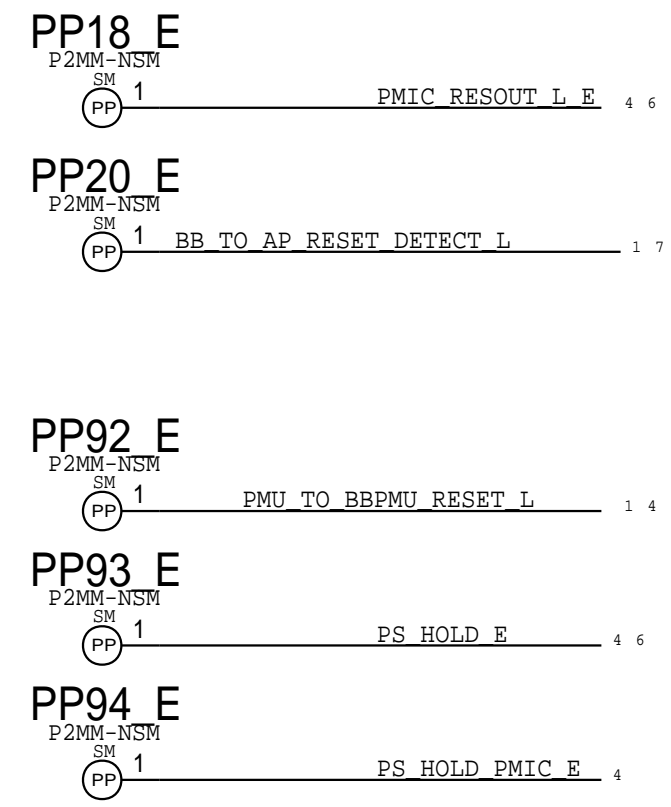
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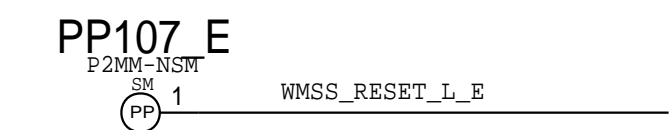
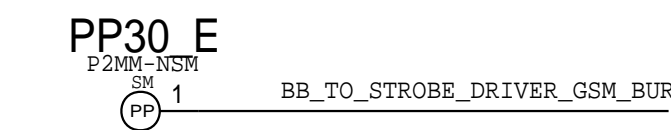
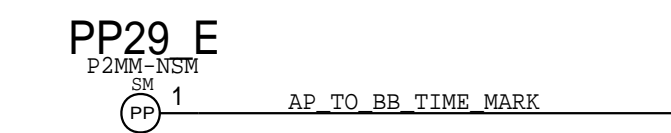
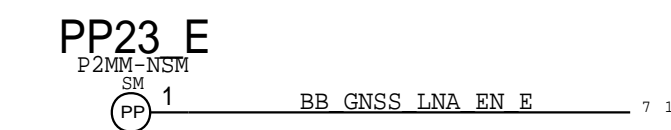
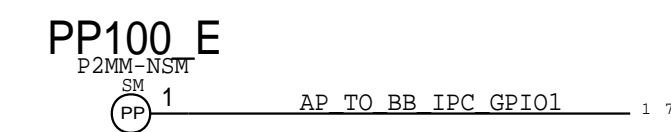
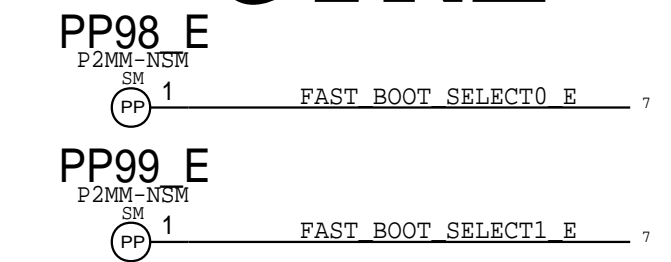
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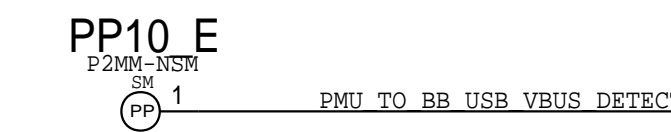
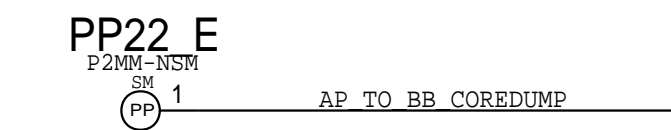
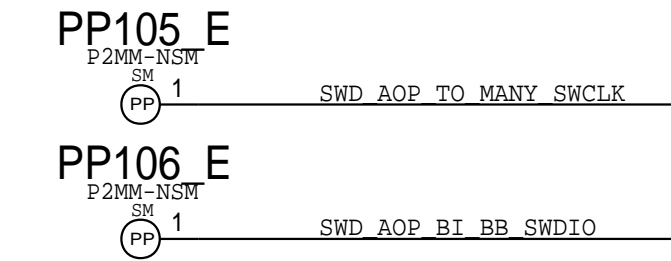
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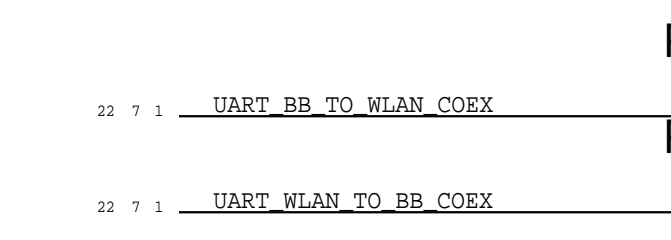
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DEBUG

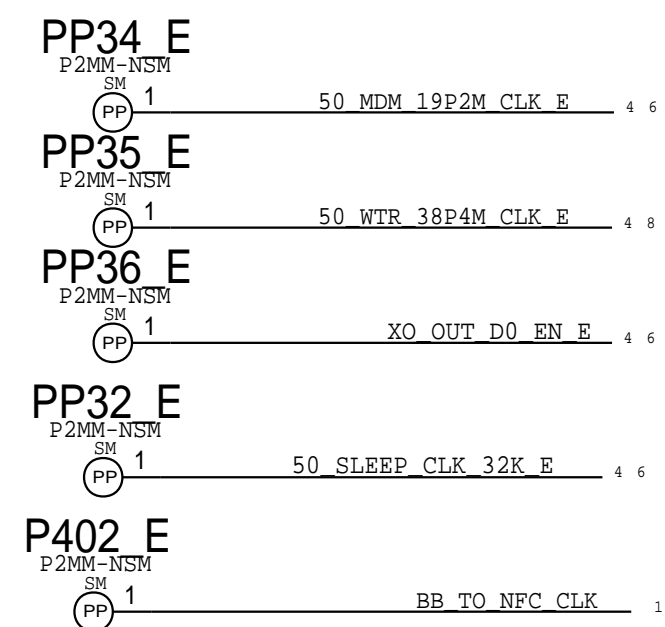


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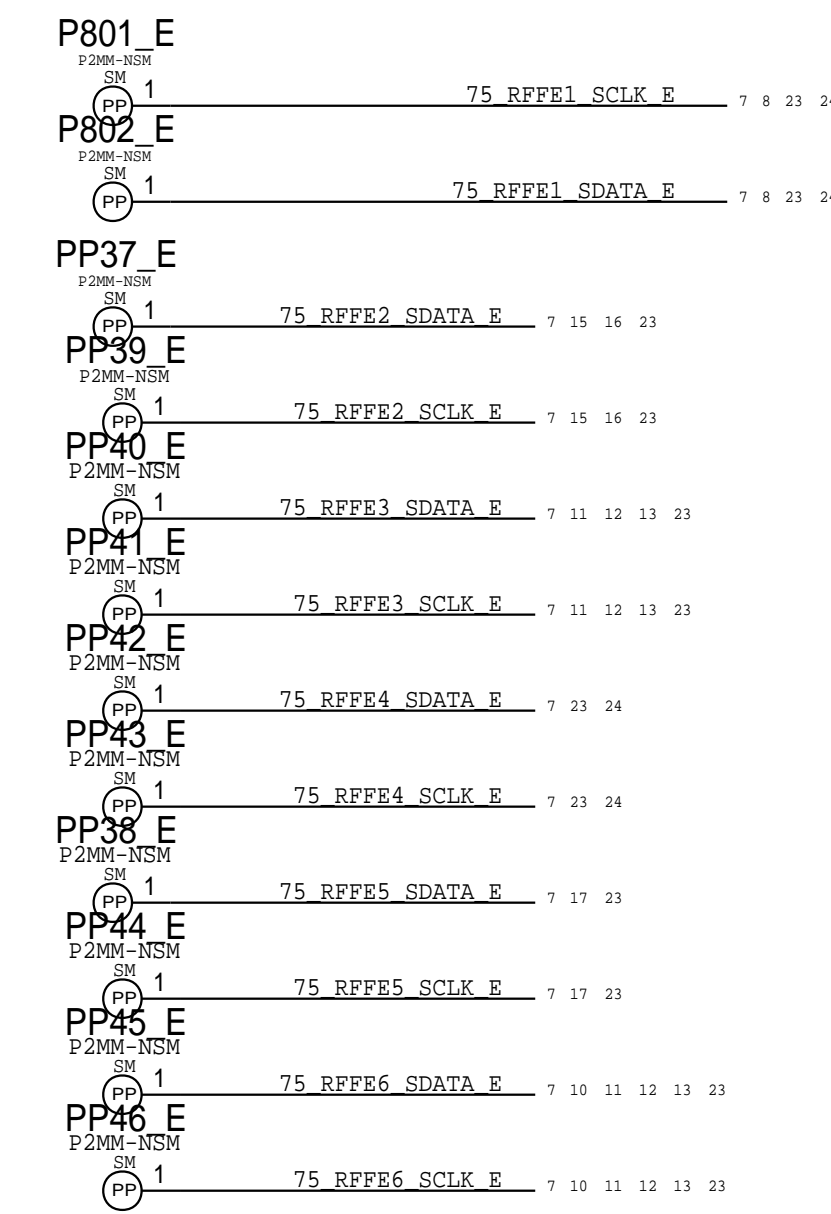


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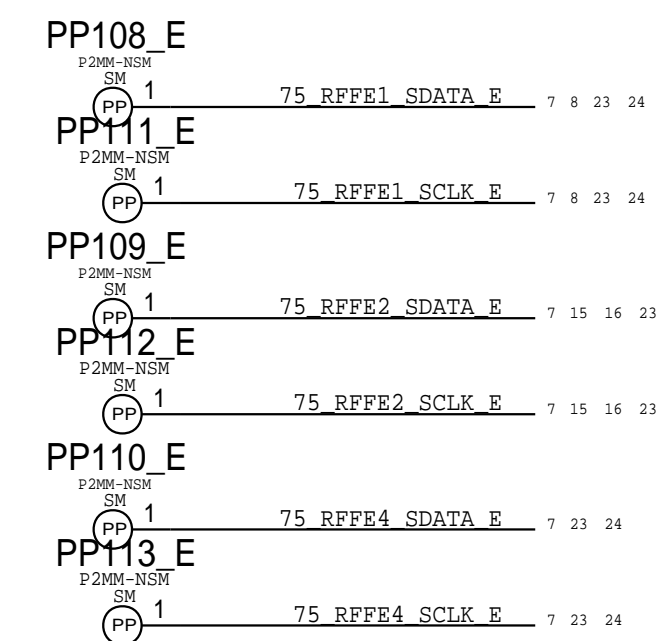
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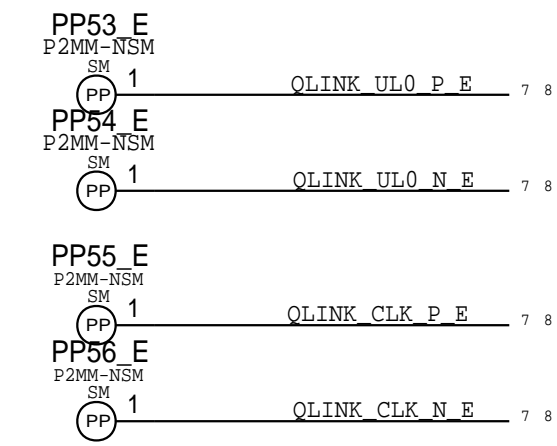


RFFE BB

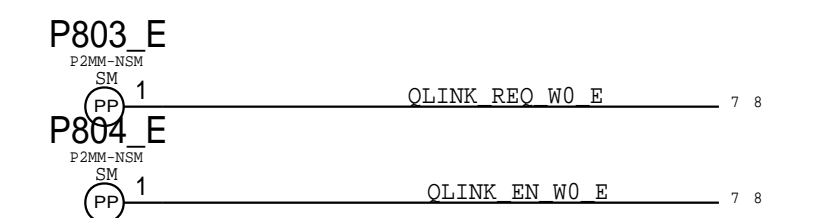
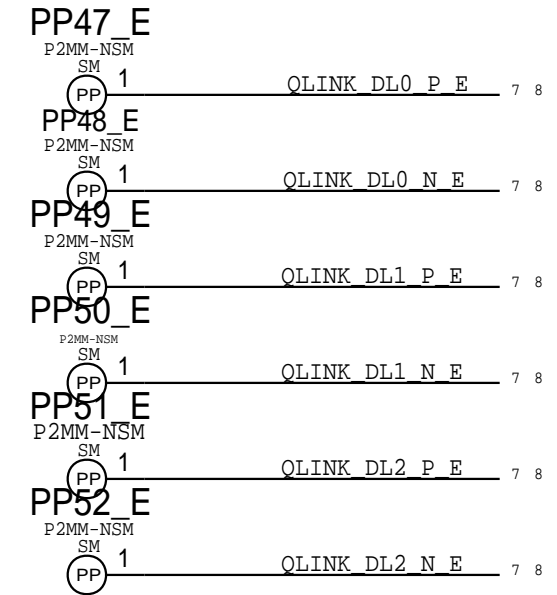


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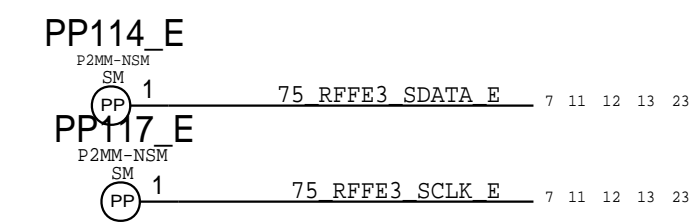
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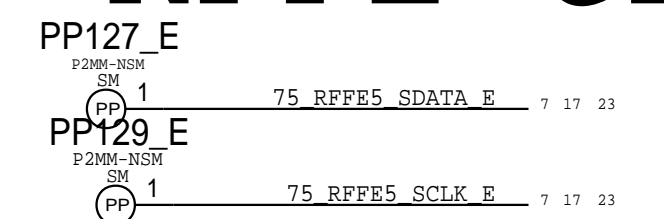
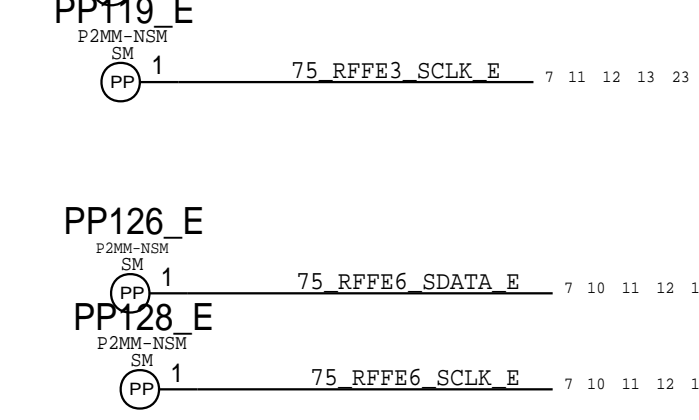
LAYOUT: VIA STUB AT BB PINS



RFFE PA/LNA



RFFE CPL



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	REVISION	6.0.0	D
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D

C

B

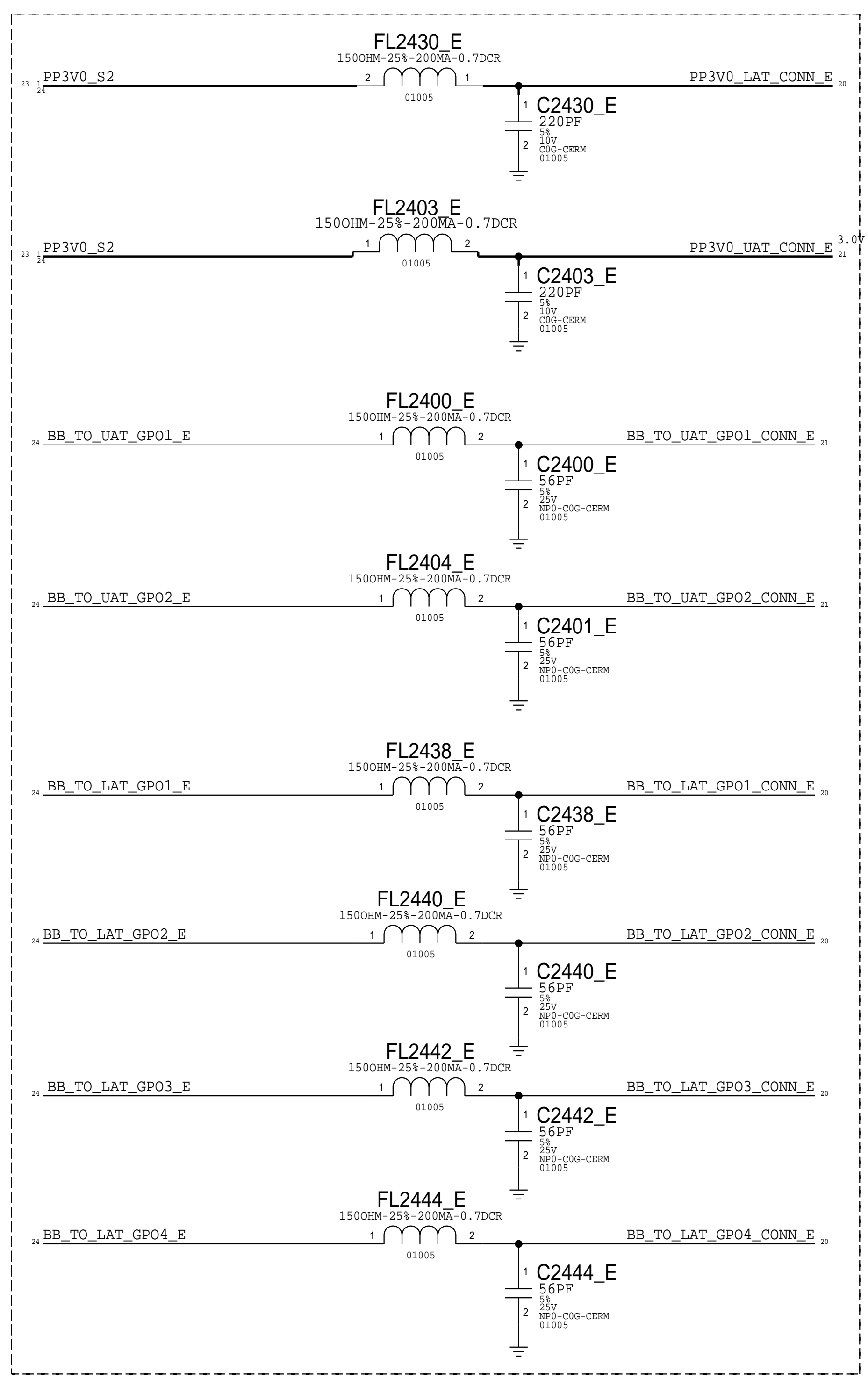
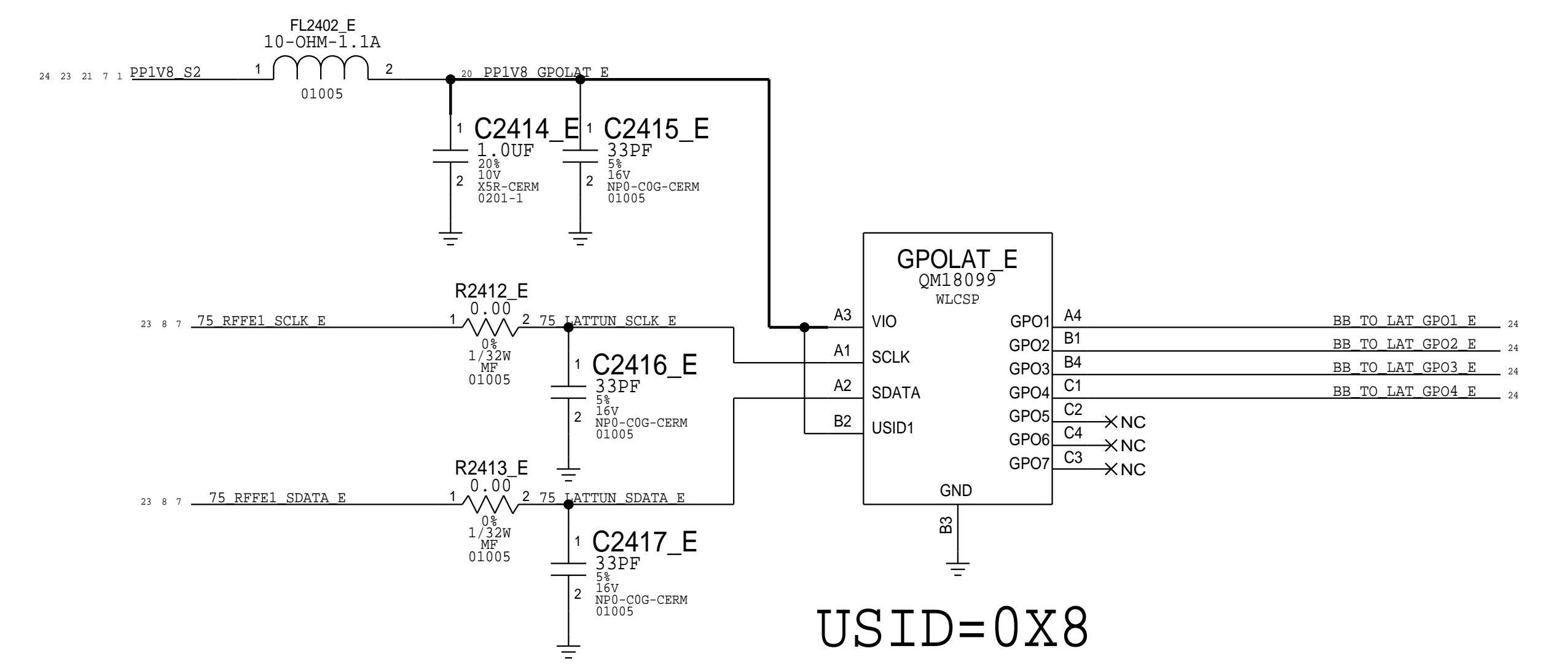
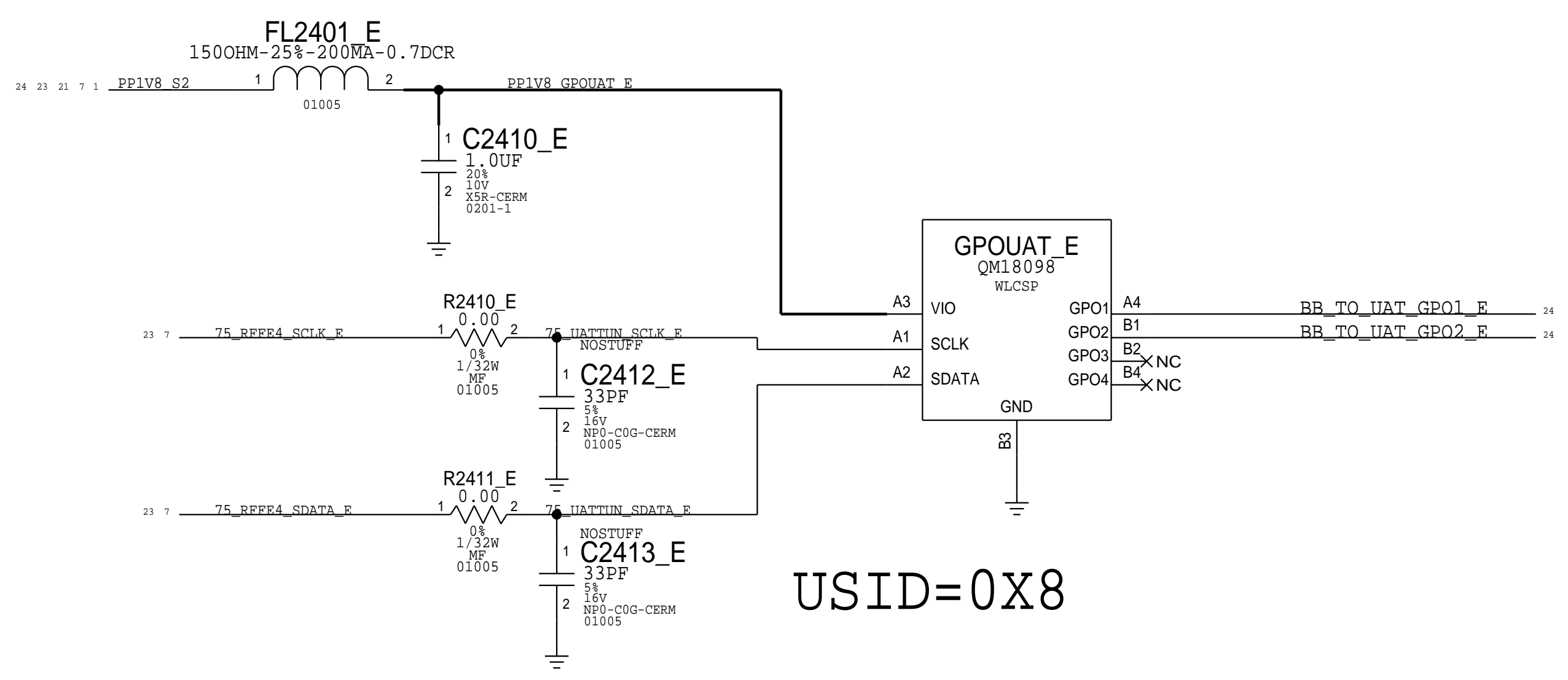
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REV	ECN	DESCRIPTION OF REVISION	CK APPD	DATE
6	0008416016	ENGINEERING RELEASED		2017-04-06

D22 NFC_MLB

MARCH 22, 2017

- IN PP_VDD_MAIN
- IN PPIV8_S2
- IN PMU_TO_NFC_EN
- OUT NFC_TO_PMU_HOST_WAKE
- IN AP_TO_NFC_DEV_WAKE
- IN AP_TO_NFC_FW_DWLD_REQ
- OUT NFC_TO_BB_CLK_REQ
- IN BB_TO_NFC_CLK
- IN NFC_DWP_TX_TP_S
- IN UART_AP_TO_NFC_TXD
- OUT UART_NFC_TO_AP_RXD
- IN UART_AP_TO_NFC_RTS_L
- OUT UART_NFC_TO_AP_CTS_L
- IN 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
138S00831	3	CAP,TYPICAL,2.2UF,6.3V,0201	C7500_S,C7502_S,C7505_S	CRITICAL	TYPICAL_CAP



page1

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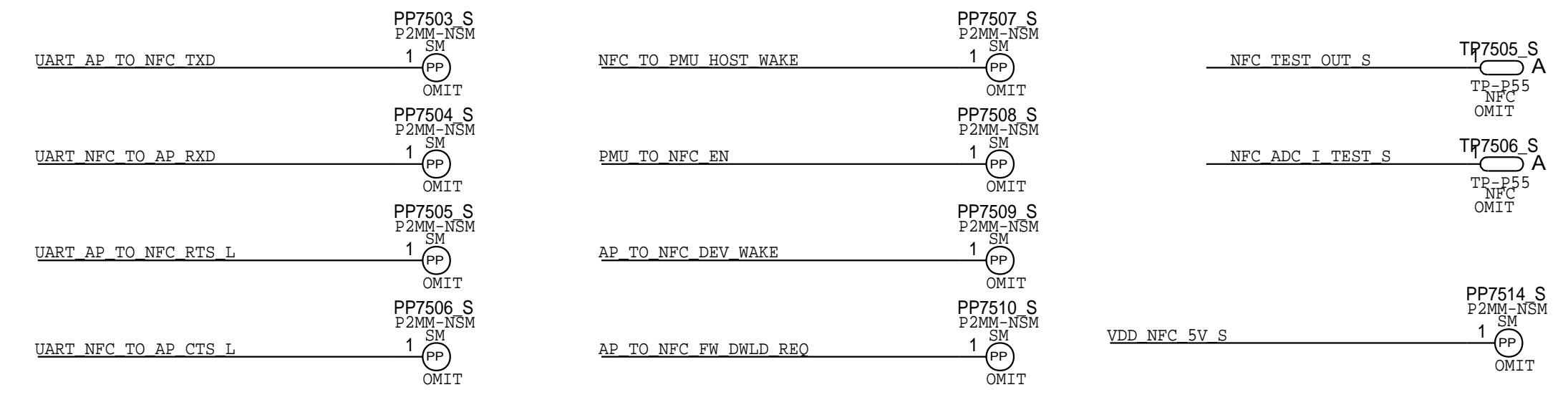
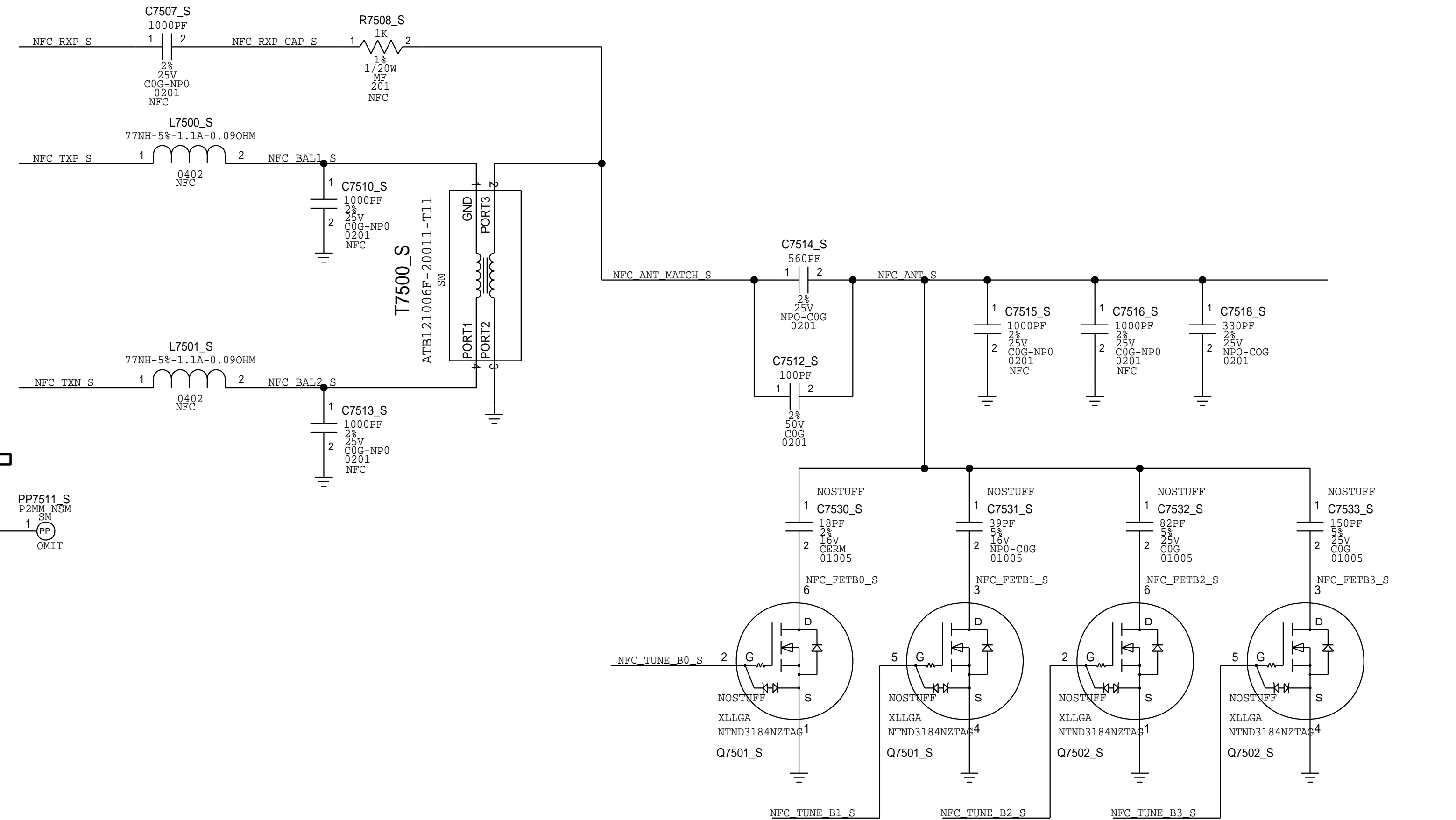
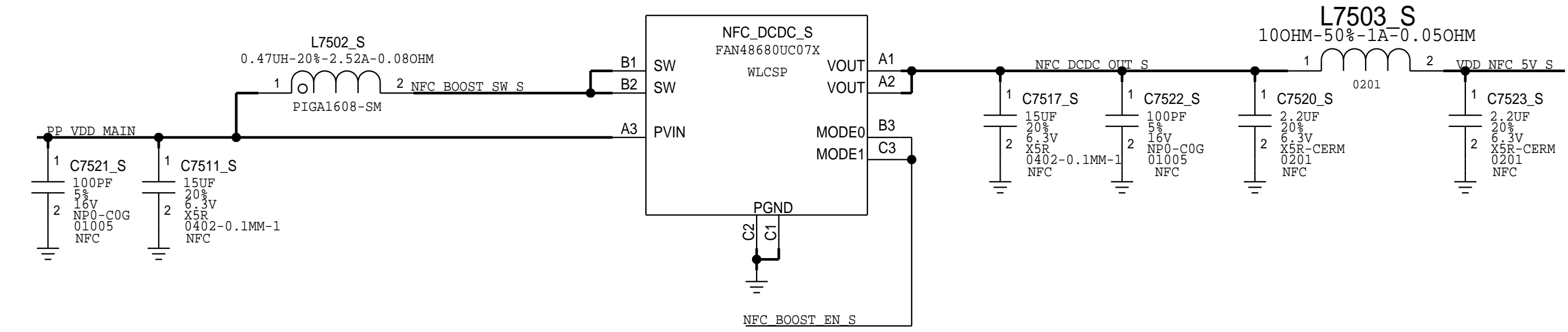
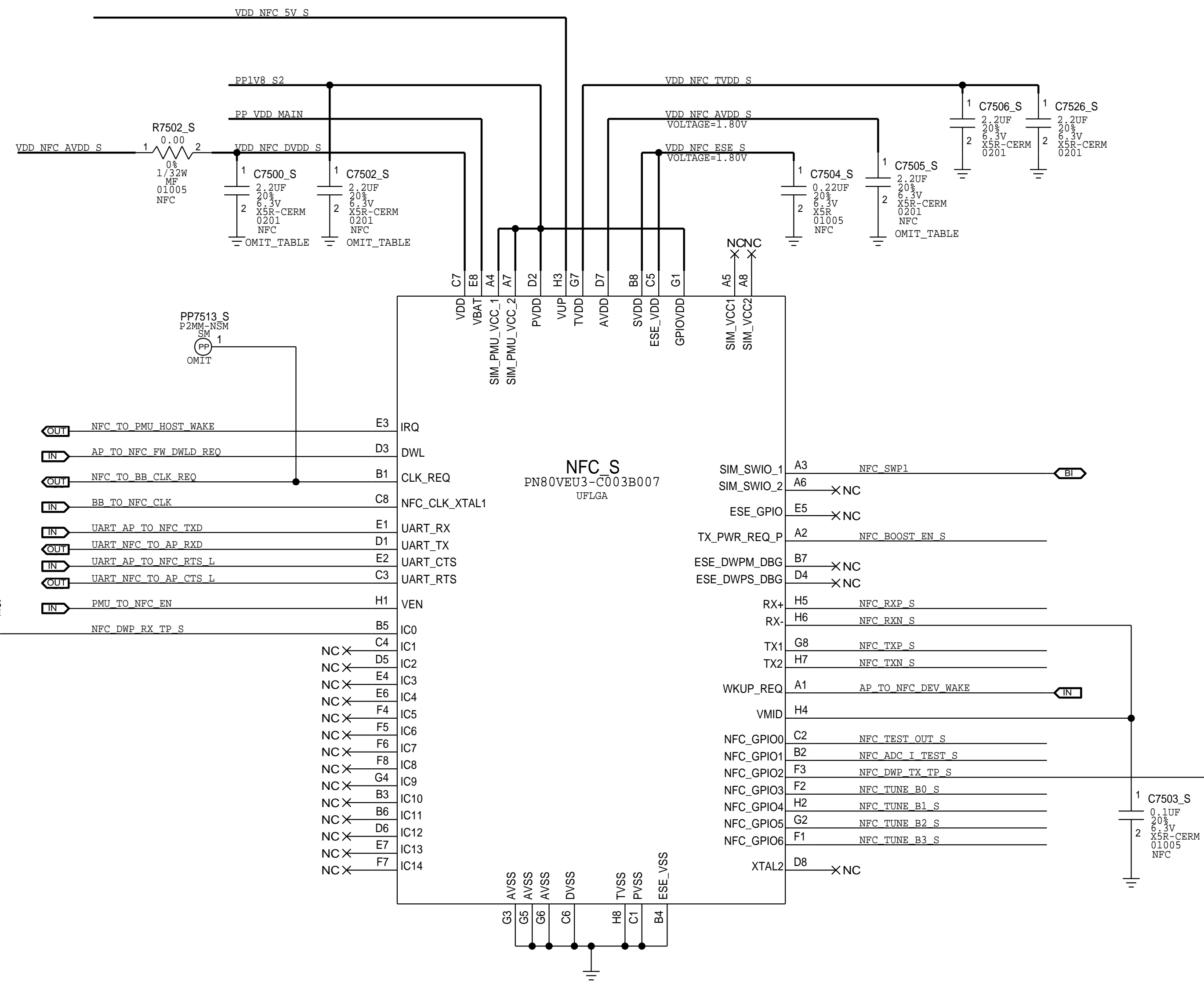
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STOCKHOLM

5V BOOSTER

NFC CONTROLLER

NFC FRONT END



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

REV	ECN	DESCRIPTION OF REVISION	CK APPD	DATE
6	0008416016	ENGINEERING RELEASED		2017-04-06

D22/D221 WIFI_MLB (GUINNESS)

APR 03, 2017

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2	76	GUINNESS
3	77	WIFI FRONT-END

POWER

- 2 IN PP_VDD_MAIN
- 2 IN PPIV8_S2

CLOCKS

- 2 IN PMU_TO_WLAN_CLK32K
- 2 IN WLAN_TO_AP_TIME_SYNC

CONTROL

- 2 IN PMU_TO_WLAN_REG_ON
- 2 IN PMU_TO_BT_REG_ON
- 2 OUT BT_TO_PMU_HOST_WAKE
- 2 IN AP_TO_BT_WAKE

WLAN PCIE

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

WLAN UART

- 2 OUT UART_WLAN_TO_AP_RXD
- 2 IN UART_AP_TO_WLAN_TXD
- 2 OUT UART_WLAN_TO_AP_CTS_L
- 2 IN UART_AP_TO_WLAN_RTS_L

BLUETOOTH UART

- 2 IN UART_AP_TO_BT_TXD
- 2 OUT UART_BT_TO_AP_RXD
- 2 IN UART_AP_TO_BT_RTS_L
- 2 OUT UART_BT_TO_AP_CTS_L

AOP

- 2 IN AOP_TO_WLAN_CONTEXT_A
- 2 IN AOP_TO_WLAN_CONTEXT_B

COEX

- 2 IN UART_BB_TO_WLAN_COEX
- 2 OUT UART_WLAN_TO_BB_COEX

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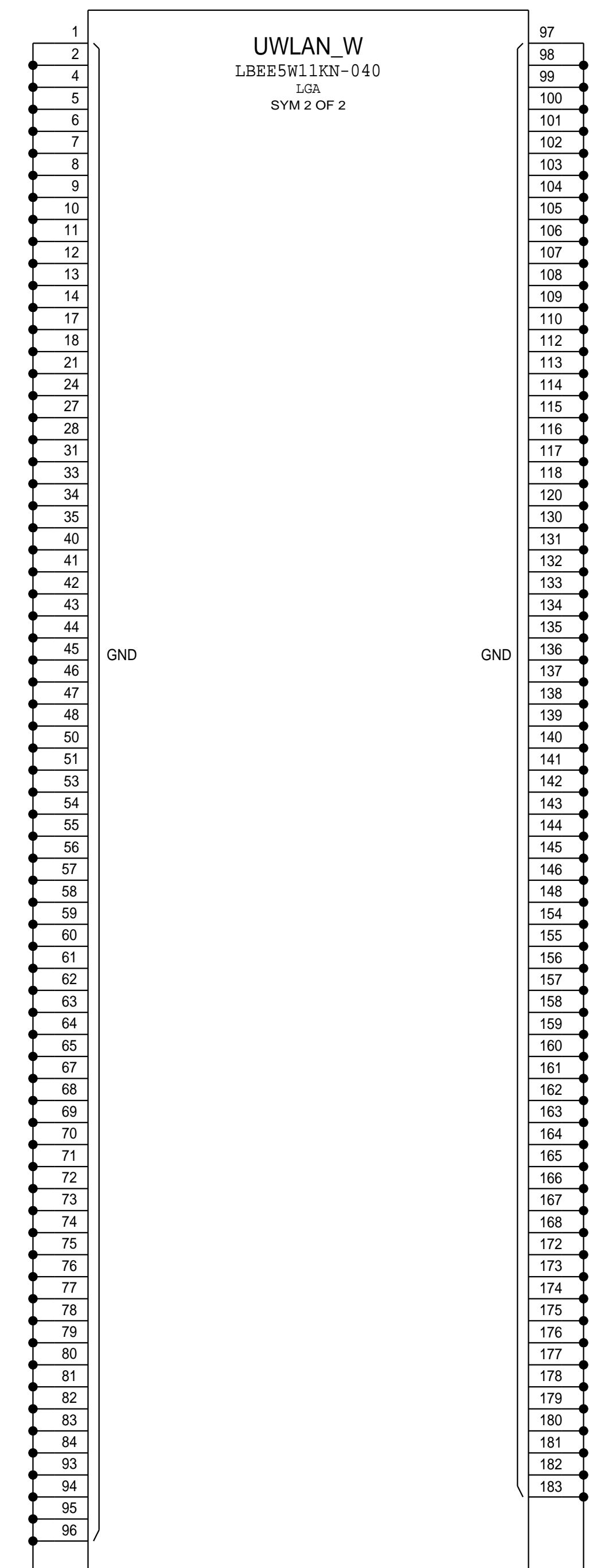
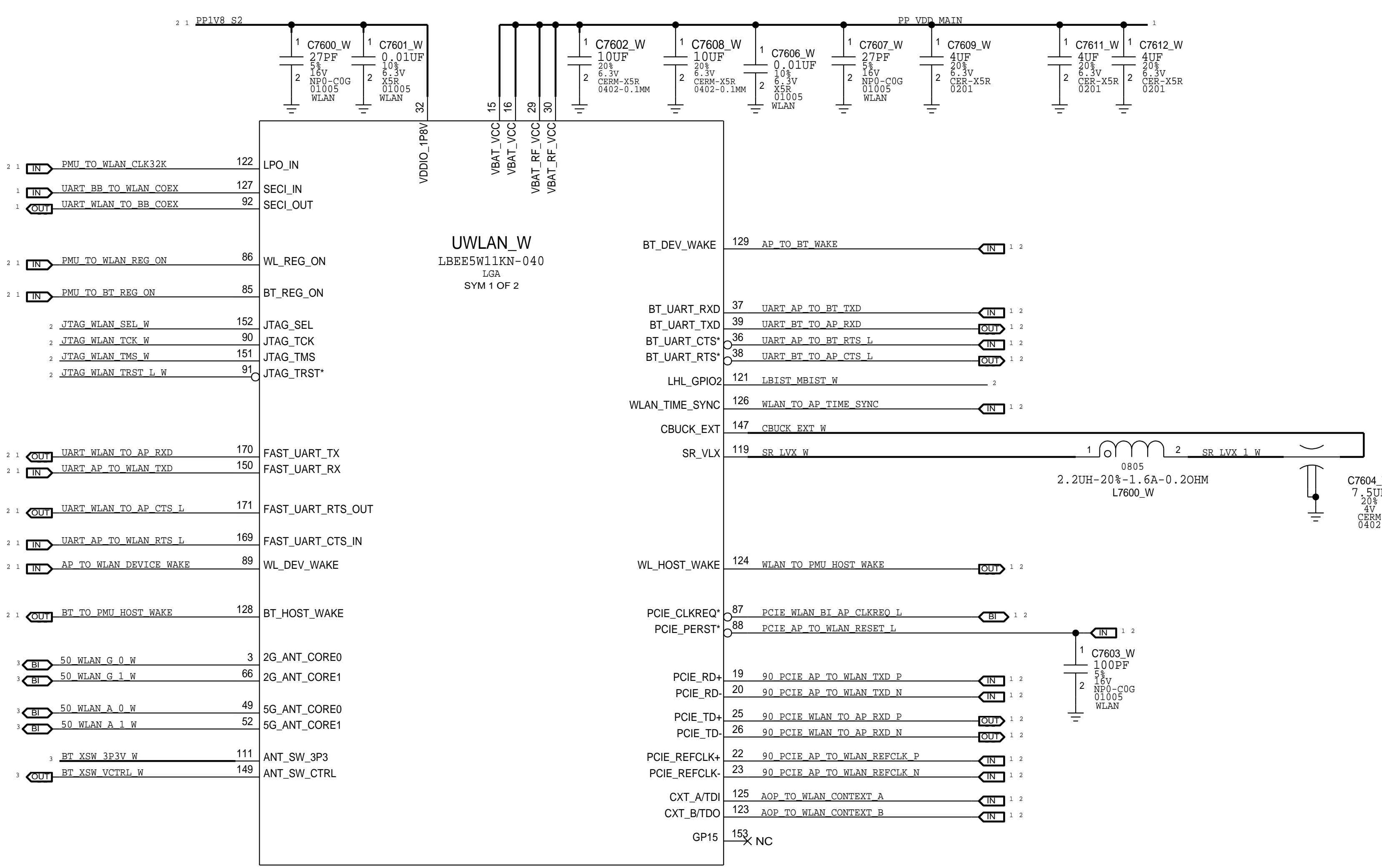
- 3 TO 50_UAT_WLAN_2G_SOUTH
- 3 TO 50_UAT_WLAN_5G_SOUTH
- 3 TO 50_LAT_WLAN_MLC



SymbolPorts

DRAWING TITLE		SCH, MLB, BOT, X891	
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WIFI/BT



1	AOP TO WLAN CONTEXT A	PP7600 W P2MM-NSM	OMIT	1	PP7610 W P2MM-NSM	OMIT	1	WLAN TO AP TIME SYNC	PP7626 W P2MM-NSM	OMIT	1	UART WLAN TO AP CTS L	PP7630 W P2MM-NSM	OMIT	1
2	AOP TO WLAN CONTEXT B	PP7601 W P2MM-NSM	OMIT	1	PP7611 W P2MM-NSM	OMIT	1	PCIE WLAN BI AP CLKREQ L	PP7627 W P2MM-NSM	OMIT	1	UART AP TO WLAN RTS L	PP7631 W P2MM-NSM	OMIT	1
3	UART WLAN TO AP RXD	PP7603 W P2MM-NSM	OMIT	1	PP7612 W P2MM-NSM	OMIT	1	90 PCIE AP TO WLAN REFCLK P	PP7628 W P2MM-NSM	OMIT	1	90 PCIE WLAN TO AP RXD N	PP7629 W P2MM-NSM	OMIT	1
4	UART AP TO WLAN TXD	PP7604 W P2MM-NSM	OMIT	1	PP7614 W P2MM-NSM	OMIT	1	90 PCIE AP TO WLAN TXD P	PP7625 W P2MM-NSM	OMIT	1	LBIST MBIST W	PP7625 W P2MM-NSM	OMIT	1
5	JTAG WLAN TCK W	PP7605 W P2MM-NSM	OMIT	1	PP7615 W P2MM-NSM	OMIT	1	90 PCIE WLAN TO AP RXD P	PP7629 W P2MM-NSM	OMIT	1	UART AP TO BT TXD	PP7620 W P2MM-NSM	OMIT	1
6	JTAG WLAN TMS W	PP7606 W P2MM-NSM	OMIT	1	PP7616 W P2MM-NSM	OMIT	1	PCIE AP TO WLAN RESET L	PP7621 W P2MM-NSM	OMIT	1	UART BT TO AP RXD	PP7621 W P2MM-NSM	OMIT	1
7	JTAG WLAN TRST L W	PP7607 W P2MM-NSM	OMIT	1	PP7617 W P2MM-NSM	OMIT	1	90 PCIE AP TO WLAN TXD N	PP7622 W P2MM-NSM	OMIT	1	UART AP TO BT RTS L	PP7622 W P2MM-NSM	OMIT	1
8	AP TO WLAN DEVICE WAKE	PP7608 W P2MM-NSM	OMIT	1	PP7618 W P2MM-NSM	OMIT	1	BT XSM 3P3V W	PP7623 W P2MM-NSM	OMIT	1	UART BT TO AP CTS L	PP7623 W P2MM-NSM	OMIT	1
9	BT TO PMU HOST WAKE	PP7609 W P2MM-NSM	OMIT	1	PP7619 W P2MM-NSM	OMIT	1	BT XSM VCTRL W	PP7624 W P2MM-NSM	OMIT	1	AP TO BT WAKE	PP7624 W P2MM-NSM	OMIT	1

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
998-10376	998-10147	BOM_TABLE_ALTS	UWLAN_W	USI E56.1 WIFI MODULE

SYNC_MASTER=WIFI SYNC_DATE=01/30/2014

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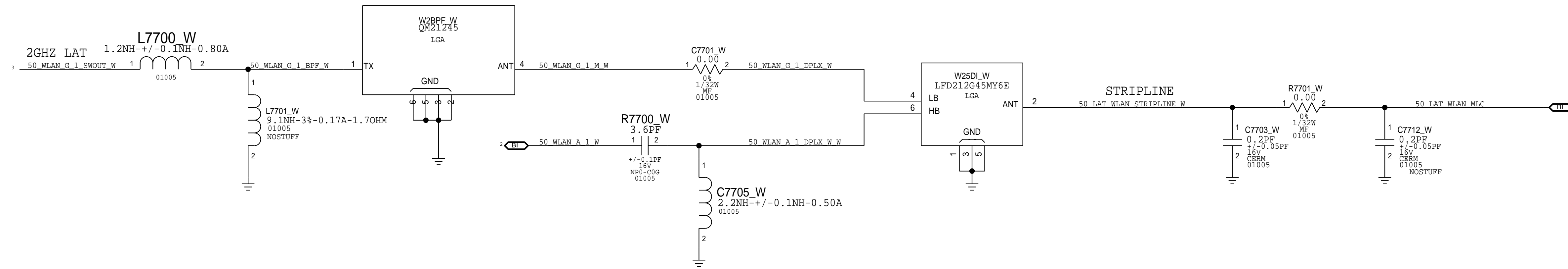
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Apple Inc.

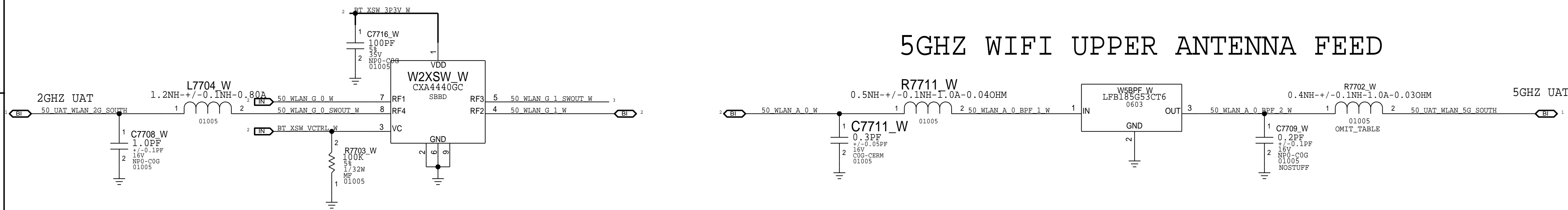
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WIFI LOWER ANTENNA FEED



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		
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