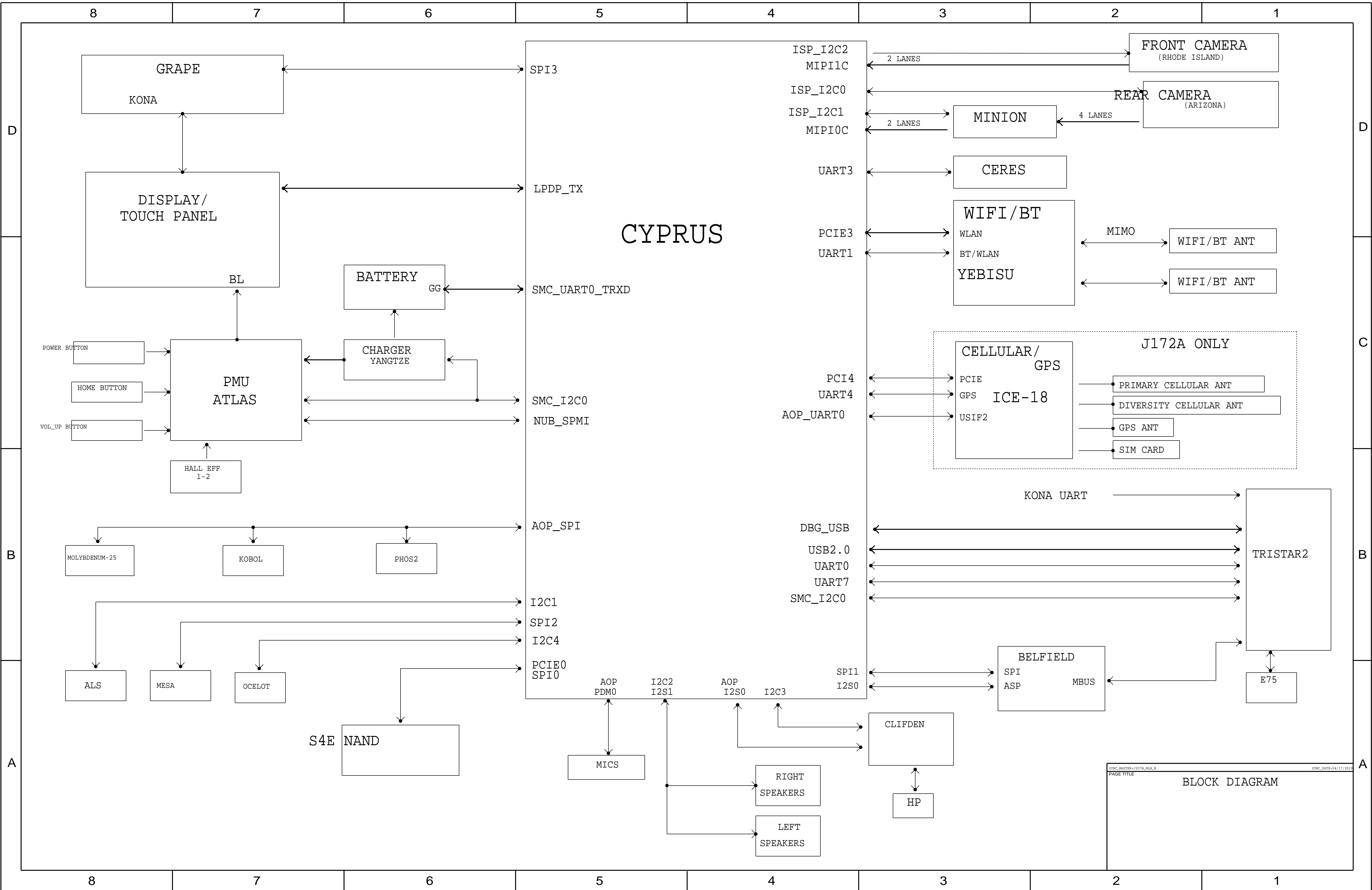


8		7		6		5		4		3		2		1	
1. ALL RESISTANCE VALUES ARE IN OHMS, 0.1 WATT +/- 5%. 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS. 3. ALL CRYSTALS & OSCILLATOR VALUES ARE IN HERTZ.												REV	ECN	DESCRIPTION OF REVISION	CK APPD DATE
												3	0022839742	ENGINEERING RELEASED	2020-04-06
J171A MLB_A															
LAST_MODIFICATION=Mon Apr 6 08:40:43 2020															
PAGE CSA CONTENTS				SYNC		DATE		PAGE CSA CONTENTS				SYNC		DATE	
1	TABLE OF CONTENTS			J71S_MLB_B		11/06/2016		46	SO00 DEBUG			J211_MLB_B		03/27/2019	
2	BLOCK DIAGRAM			J207B_MLB_B		03/17/2019		47	TEST: TP/HOLES/FIDUCIALS			J71B_MLB_B		03/27/2019	
3	4	BOM TABLES		J71B_MLB_B1		03/27/2019		48	94	TEST: EE TP/PP		J71B_MLB_B1		03/27/2019	
4	5	SOC: MISC & ALIASES		J71B_MLB_B1		03/27/2019		49	121	POWER: ALIASES		J71B_MLB_B1		03/27/2019	
5	6	SOC: JTAG,USB,XTAL		J211_MLB_B		03/27/2019									
6	7	SOC: PCIE		J211_MLB_B		03/27/2019									
7	SO0: MIPI			J211_MLB_B_6.14		003/27/2019									
8	SO0: LPDP			J211_MLB_B		03/27/2019									
9	SO00 SERIAL			J211_MLB_B		03/27/2019									
10	11	SOC: GPIO & UART		J211_MLB_B		03/27/2019									
11	12	SOC: AOP		J211_MLB_B		03/27/2019									
12	13	SOC: POWER (1/3)		J211_MLB_B		03/27/2019									
13	14	SOC: POWER (2/3)		J211_MLB_B		03/27/2019									
14	SO05 POWER (3/3)			J211_MLB_B		03/27/2019									
15	SO06 BOTTOM SIDE DECAPS			MLB_B_DOE_1.1.0		08/22/2018									
16	17	ORION		J171_DEV		05/31/2019									
17	18	AUDIO: HP/DMIC FLEX CONNS		J71B_MLB_B1		07/23/2018									
18	19	AUDIO: CLIFDEN & BELFIELD		J71B_MLB_B1		03/27/2019									
19	20	AUDIO: SPEAKER AMPS LEFT		J71B_MLB_B1		03/27/2019									
20	21	AUDIO: SPEAKER AMPS RIGHT		J71B_MLB_B1		03/27/2019									
21	SENSOR: MESA SUPPORT			J71B_MLB_B		07/23/2018									
22	SENSOR: MESA BOOST			J71B_MLB_B		07/23/2018									
23	24	NAND: S4E NAND		J211_MLB_B		03/27/2019									
24	25	SENSOR: KOBOL, PHOS2		J71B_MLB_B1		03/27/2019									
25	26	IO: BUTTON FLEX CONN / HES		J71B_MLB_B1		07/23/2018									
26	27	CAMERA: FF AND ALS CONN		J71B_MLB_B1		03/27/2019									
27	CAMERA: MIPI BRIDGE			J211_MLB_B_9.2.0		03/27/2019									
28	CAMERA: REAR CONN & FILTERS			J71B_MLB_B1		03/27/2019									
29	TOUCH: KONA			J71B_MLB_B1		03/27/2019									
30	31	TOUCH: PBR SUPPORT		J71B_MLB_B1		03/27/2019									
31	32	TOUCH: CONNS		J71B_MLB_B1		07/23/2018									
32	35	TRISTAR		J171_DEV		05/31/2019									
33	37	IO: FLEX HOTBAR & FILTERS		J71B_MLB_B1		07/23/2018									
34	BT08 HOME & MESA			J71B_MLB_B1		07/23/2018									
35	DISPLAY: EDP CONN			J71B_MLB_B1		07/23/2018									
36	49	RADIOS: ALIASES		J71B_MLB_B		07/23/2018									
37	70	NFC: CERES				10/11/2018									
38	75	WIFI/BT: MODULE		N/A		03/27/2019									
39	77	WIFI/BT: J171 FRONT END		J171_MLB_A		10/24/2018									
40	81	POWER: ATLAS (1/3)		MLB_B_5.1.0		03/27/2019									
41	POWER: ATLAS (2/3)			J211_MLB_B		03/27/2019									
42	POWER: ATLAS (3/3)			J211_MLB_B		03/27/2019									
43	84	POWER: CHARGER		D3X_YANGTZE		08/06/2019									
44	86	POWER: EXTERNAL SWITCHES		J211_MLB_B		03/27/2019									
45	89	POWER: BATTERY CONNECTOR		J71B_MLB_B1		07/23/2018									
TABLE OF CONTENTS															
SYNC_MASTER=J71S_MLB_B SYNC_DATE=11/06/2016															
DRAWING TITLE															
SCHEM,MLB-A,YN,J171A															



## Page Notes

Power aliases required by this page:  
(NONE)

Signal aliases required by this page:  
(NONE)

BOM options provided by this page:

BOM NUMBER	BOM NAME	BOM OPTIONS
639-10544	PCBA, MLB-A, BETTER, YN, J171A	COMMON, ALTERNATE, MLB_A, BETTER, BSCAPS
639-10545	PCBA, MLB-A, BEST, YN, J171A	COMMON, ALTERNATE, MLB_A, BEST, BSCAPS
639-10546	PCBA, MLB-A, ULTIMATE, YN, J171A	COMMON, ALTERNATE, MLB_A, ULTIMATE, BSCAPS
639-10984	PCBA, MLB-A, SUPREME, YN, J171A	COMMON, ALTERNATE, MLB_A, SUPREME, BSCAPS

BOM GROUP	BOM OPTIONS
BSCAPS	BS_CPUSRAM,BS_FIXED,BS_PCPU,BS_QL,BS_SOC,BS_ECPU,BS_PGPU,BS_GPUSRAM

NAND

## BETTER FLASH CONFIGURATIONS (32GB)

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	COMMODITY	STATUS
	33500431	1	RAM, 32M, 320MT, 335, 64K, 256K, 8, 81G2110	U2400	CRITICAL
					BETTER
	PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
	33500501	33500431		U2400	MD BIC54 256GBIT

## BEST FLASH CONFIGURATIONS (64GB)

PART#			DESCRIPTION	REFERENCE DESIGNATOR(S)	COMPLETION	
	QTY					
33500393	1		RAM0 3DV4 64GBIT 21.1.1.046.256G.2, H50A110	U2400	CRITICAL	BEST
PART NUMBER		ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:	
33500377		33500393		U2400	HYNIX 3DV4 256GBIT	

## ULTIMATE FLASH CONFIGURATIONS (128GB)

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATION	REVISION	DATE
335S00357	1	RAM, 3072, 128MBT, 548, 3560, T, HGB110	U2400	CREATED	10/1/2010
	PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS
	335S00378	335S00357		U2400	HYNIX 3DV5 512GBIT

## SUPREME FLASH CONFIGURATIONS (256GB)

	PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00396	1		80VDC 3DV4 254GBIT 254G 254GB 8 8GB110	U2400	CS9F8RE	
PART NUMBER		ALTERNATE FOR PART NUMBER	BOM OPTION	COMMENTS		
335S00379	335S00396			U2400	HYNIX 3DV4 256GBIT	

## MECHANICAL PARTS

Q1 PART#		DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	
1806-20170		FENCE_AP_BUT,NY,J171	FD_FENCE_AP	CRITICAL	
806-20169	1	CAN,TINY,J71B	FD_TINY_CAN	CRITICAL	

BARCODE LABEL/EEEE CODES

BOMOPTION TABLE TBD

## SOC

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
339S00564	1	339S00564	U0600	CRITICAL	

PART NUMBER PART NUMBER	ALTERNATE FOR	BOM REFERENCE	COMMENTS:
339S00565	339S00564		SAMSUNG

## ATLAS

PART	DESCRIPTION	UNIT	REFERENCE DESIGNATOR	CRITICAL	BOM OPTION
343S00200	ATLAS, D2452A0, OTP-CE, CSP400		U8100	CRITICAL	

## YANGTZE

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S02318	1	10,YANGTSE,A0_CPG B,OT930,1CELL,CSF71	U3300	CRITICAL	

## SPEAKER AMPS

PART#	DESCRIPTION	UNIT	REFERENCE DESIGNATOR(S)	QTY	BOM OPTION
353S01608	1	IC, MAX98137B, PWR AMP, AUDIO, CLASS D, VILFP	U2020, U2040, U2120, U2140		

138S00116	138S00143	138S00144	ALL	220P	2200000
	138S00163	138S00144	ALL	220P	2200000
	138S00279	138S00144	ALL	201P 0.435MW 2-HEIGHT	2200000
	138S00884	138S00144	ALL	201P 0.79W 2-HEIGHT	2200000
138S00150	138S00139		ALL		2200000
	138S00280	138S00139	ALL		2200000
	138S00071	138S00139	ALL		2200000
	138S00138	138S00139	ALL		2200000
138S00151	138S00164	138S00139	ALL		2200000
	138S00148	138S00149	ALL		2200000
	138S00149		ALL		2200000
	138S00149		ALL		2200000
152S001070	138S00084	138S00060	ALL		2200000
	132S00232	132S00014	ALL		2200000
	132S00233	132S00014	ALL		2200000
	152S01037	152S00087	ALL		2200000
152S000964	152S00087		ALL		2200000
	155S00512	155S00897	ALL		2200000
	155S0664	155S00018	ALL		2200000
	377S00031	377S0184	ALL		2200000
152S000964	132S00229	132S00010	ALL		2200000
	138S00291	138S00835	ALL		2200000
	152S00963	152S00085	ALL		2200000
	152S00964	152S00088	ALL		2200000
152S000964	376S0001102		ALL		2200000
	376S000314	376S000125	ALL		2200000

138800116	138800071		ALL		152800900
138800117	138800071		ALL		152800900
138800071	138800141		ALL		152800900
138800117	138800141	ALL			152800900
138800117	138800141		ALL		152800900

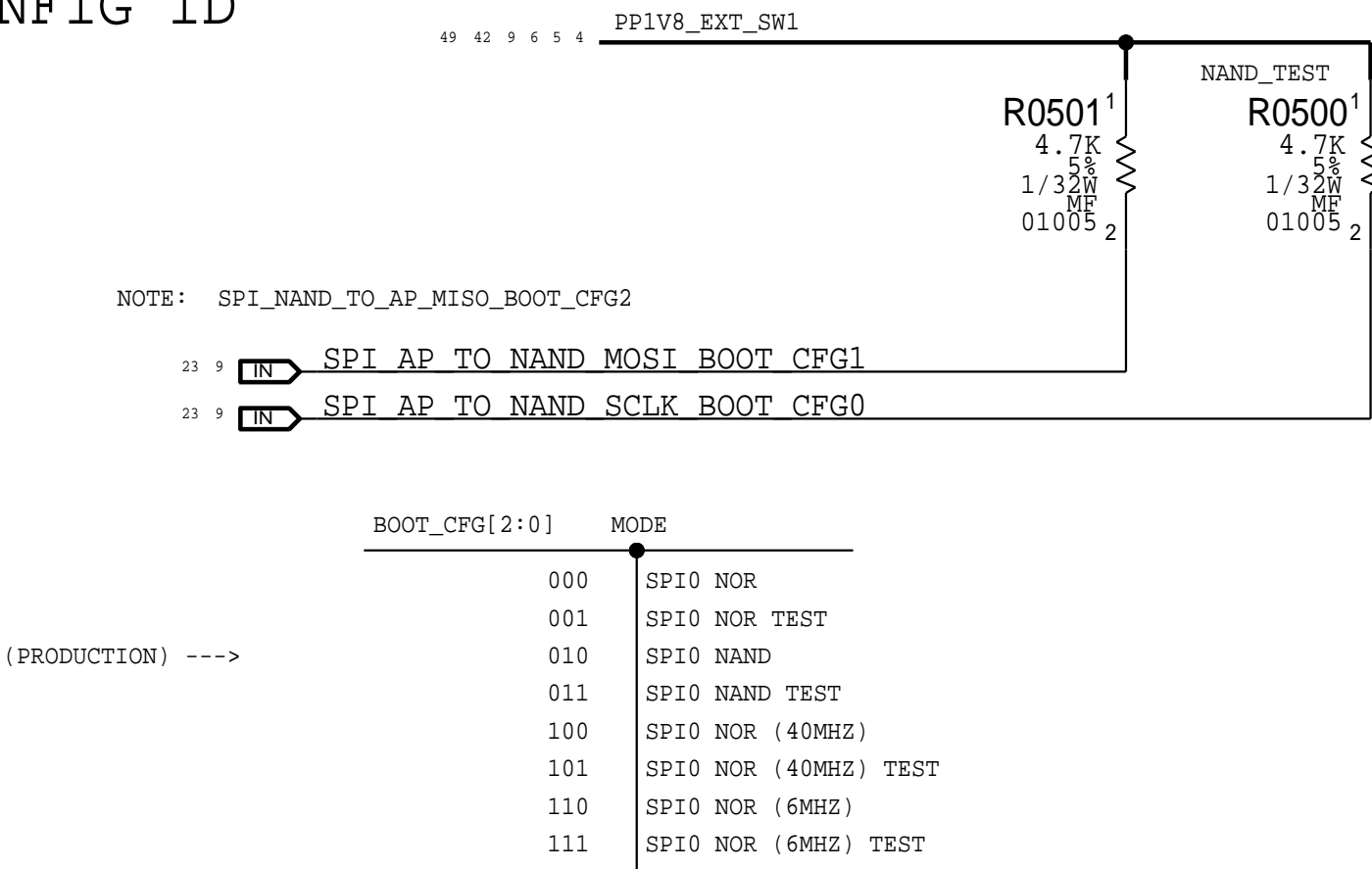
PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
155S00007	155S0667			
L2710,L2711,L2910,L2911,L2912,L2913,L2920				
138S00049	138S0831		20615,C0000....	2.20P 9201
138S00048	138S00003		20615,C0141....	
138S0945	138S0739		20615....	
138S0706	138S0739		21760....	10P
376S00071	376S00070		Q8594	
376S00159	376S1211		Q8550	
376S0948	376S00076		Q8300	
197S0369	197S0392		Y8300	32.768K XTAL
155S00097	155S0664		21774748....	
155S00593	155S0755		750017614800	

155800194	155800400		FL2869,...	FILTER_2D
13880786	13880847		CS305	100V
13880864	13880709		70P CB487,...	
13880875	13880678		100P CB1A0,...	
335800013	33580894		U543	EEPROM
335800066	33580946		U103	EEPROM
131800150	13180890		C2385,C2382	
132800088	13280639		C1033,C1032	
138800086	13880884		CR204	
138800024	13880986			
371800118	371800117		D3001	
376800030	37681131		Q1770	
37780116	377800132		DE3700	
128800067	128800094		CR100,CB1C1,CB1C2	
132800154	13280683			
155800402	15580511			
155800232	15580665			
197800120	19780612		Y0700	
197800118	19780612		Y0700	
131800172	131800164		CB820,CB821	200PF
131800173	131800164		CB820,CB821	200PF
371800173	37180644		DE850	
371800172	37180490		DE801,DE802	
138800117	138800071		C1450	
376800181	37681211		Q8550	
376800311	37681211		Q8550	
131800172	131800164		ALL	
131800173	131800164		ALL	
131800366	131800229		ALL	
37280194	37280187		Q1706	
377800049	377800048		DE1713	
15580660	15580513		FL3701,F3702	
155800095	155800068		FL1501	
371800167	37180686		U1702,U1703	
131800299	131800118		ALL	
37780155	37780184		D3700,D3701,D3702,D3703	
152801296	152800883		LB101,LB110,LB118, LB140,LB150,LB160,LB170,LB180	
152801003	152800888		LB121,LB141	
152800964	152800888		LB101,LB141	
311800196	311800195		ALL	
376800319	376800104		ALL	
376800182	376800126		ALL	
376800181	376800159		ALL	
155800374	15580676		ALL	

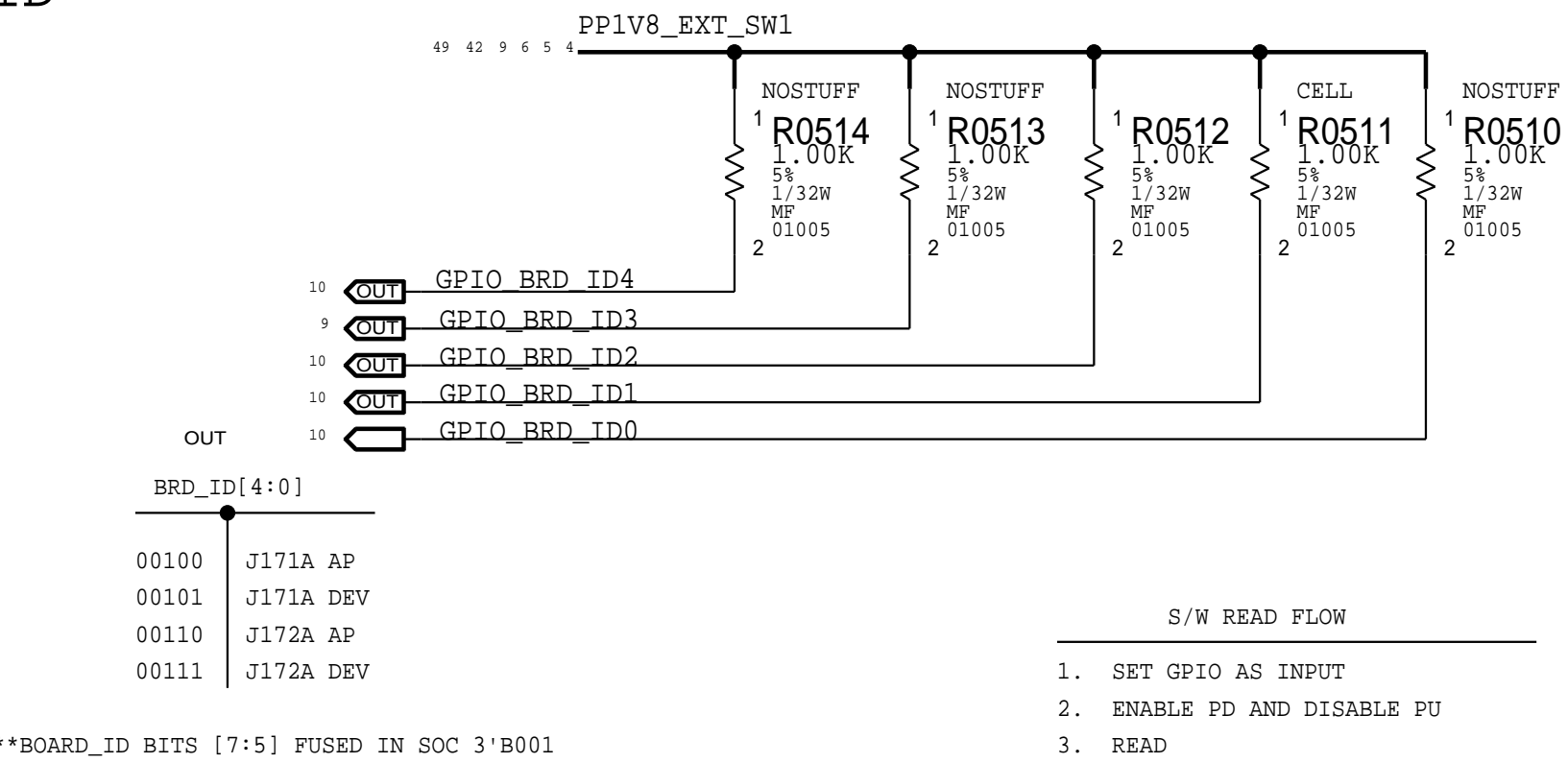
SYNC\_MASTER=J71B MLB B1 SYNC\_DATE=03/27/2019

## BOM TABLES

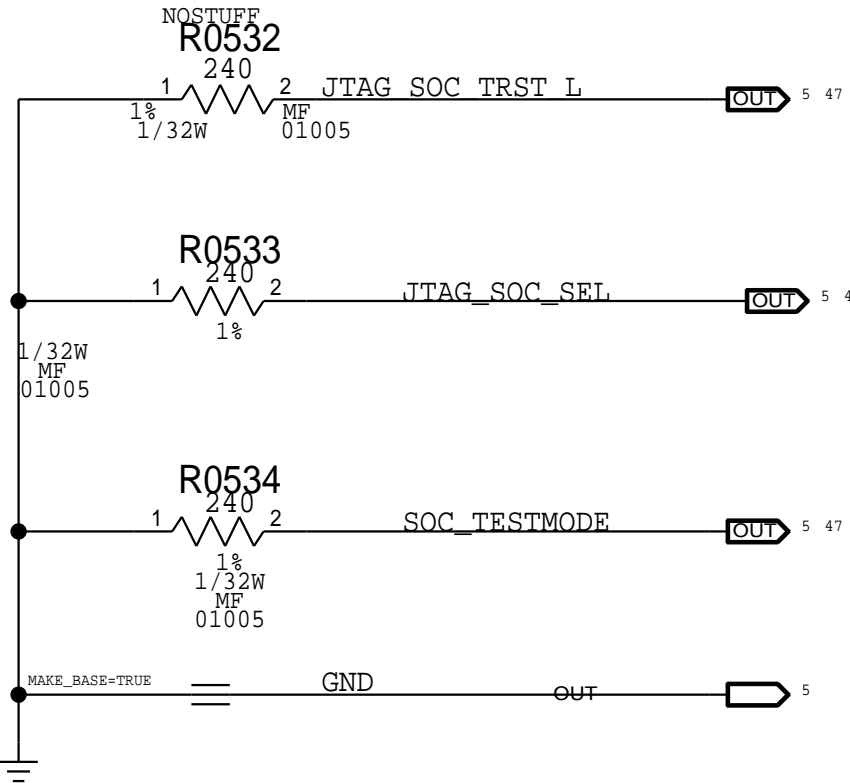
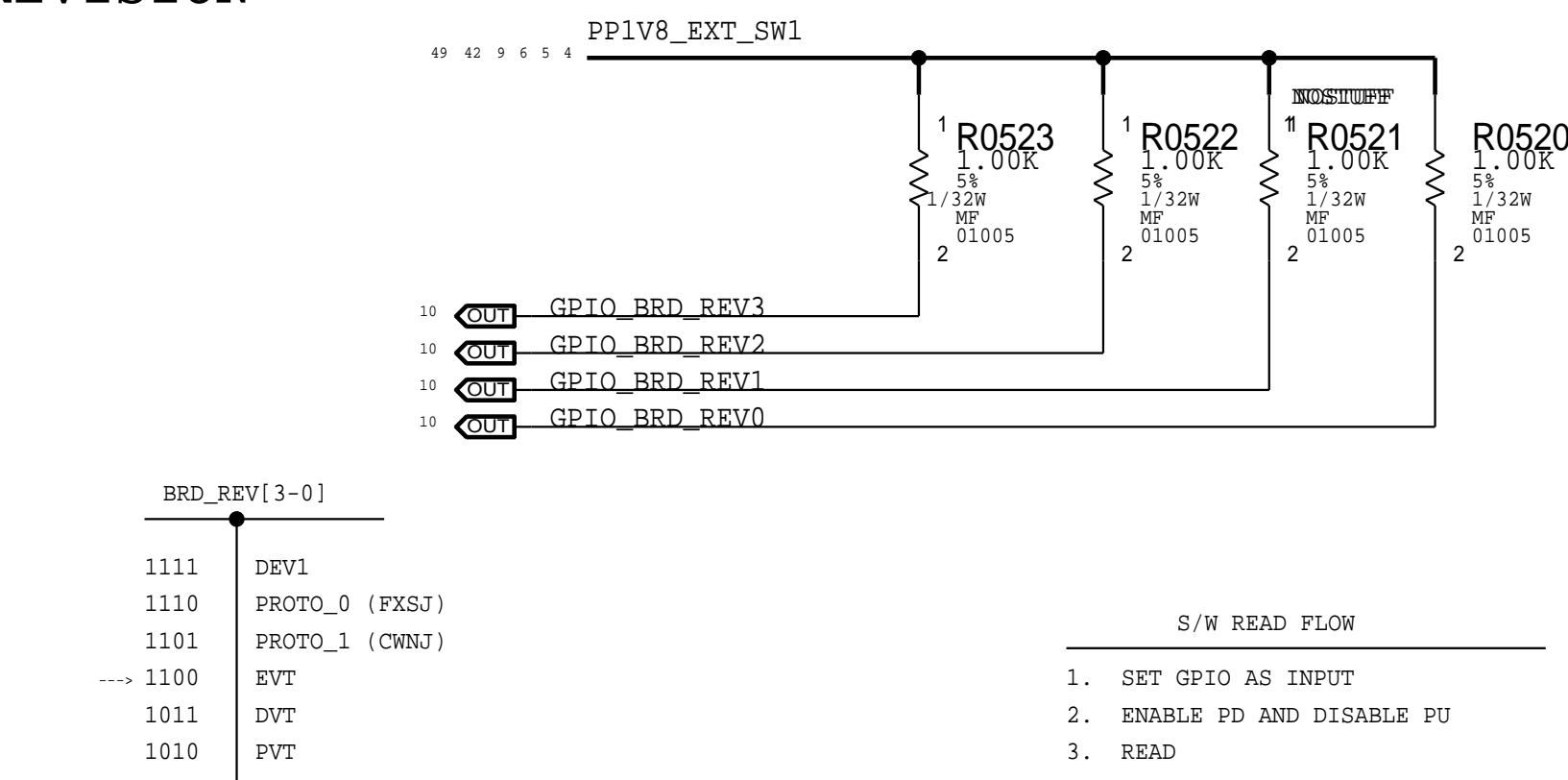
BOOT CONFIG ID



BOARD ID



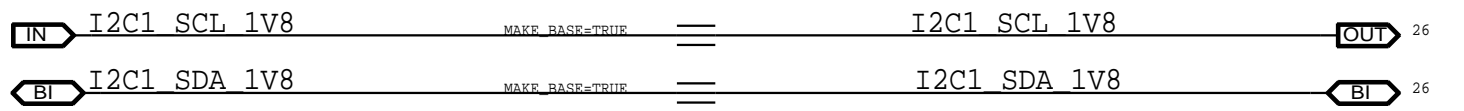
BOARD REVISION



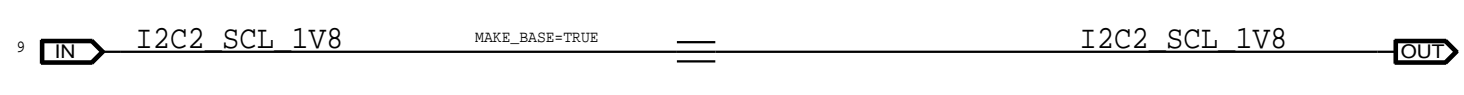
DC RESISTANCE FAI REQUIRED MEASUREMENTS			
FROM PIN (REFDES.PN)	TO PIN (REFDES.PN)	VALUE (MILIOHM) (OPTIONAL)	TOLERANCE (+/-) (OPTIONAL)
U8100.W19	J8900.4	3.75	10%
U8100.H16	L2700.1	187.0	10%

I2C0 NOT USED

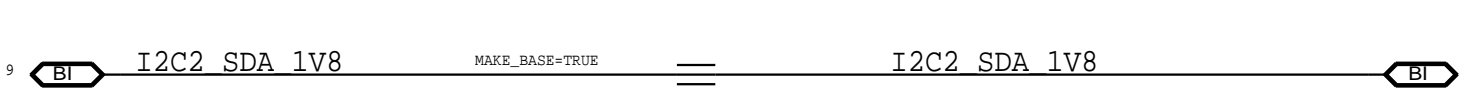
I2C1	DEVICE	8-BIT	7-BIT
	ALS	0X72	0X39



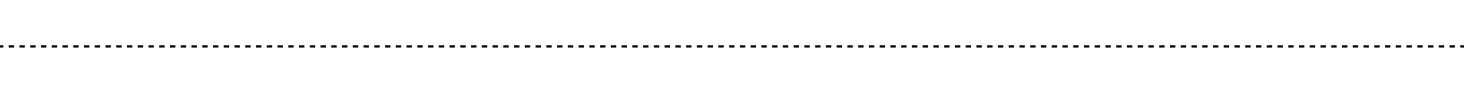
I2C2	DEVICE	8-BIT	7-BIT
	BELLATRIX	0X26	0X13



I2C3	DEVICE	8-BIT	7-BIT
	CODEC TRISTAR	0X90 0X34	0X48 0X1A



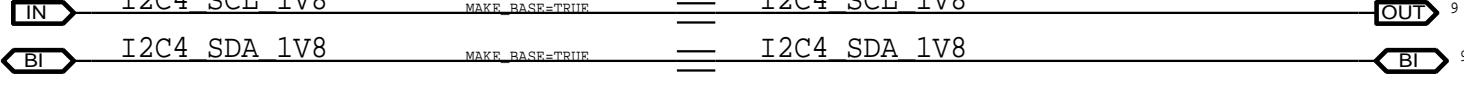
I2C4	DEVICE	8-BIT	7-BIT
	OCELOT	0XXX	0XXX



AOP I2C M0	NOT USED
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AOP I2C M1	NOT USED
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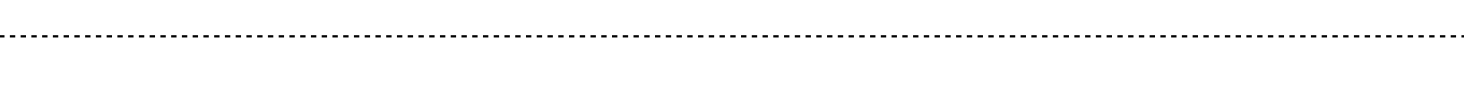
ISP I2C0	DEVICE	8-BIT	7-BIT
	RCAM	0X20	0X10



ISP I2C1	DEVICE	8-BIT	7-BIT
	MINION	0X??	0X??

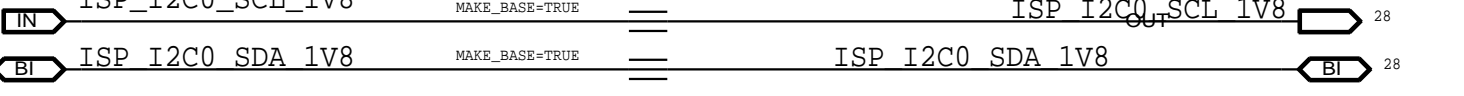


ISP I2C2	DEVICE	8-BIT	7-BIT
	FCAM	0X20	0X10



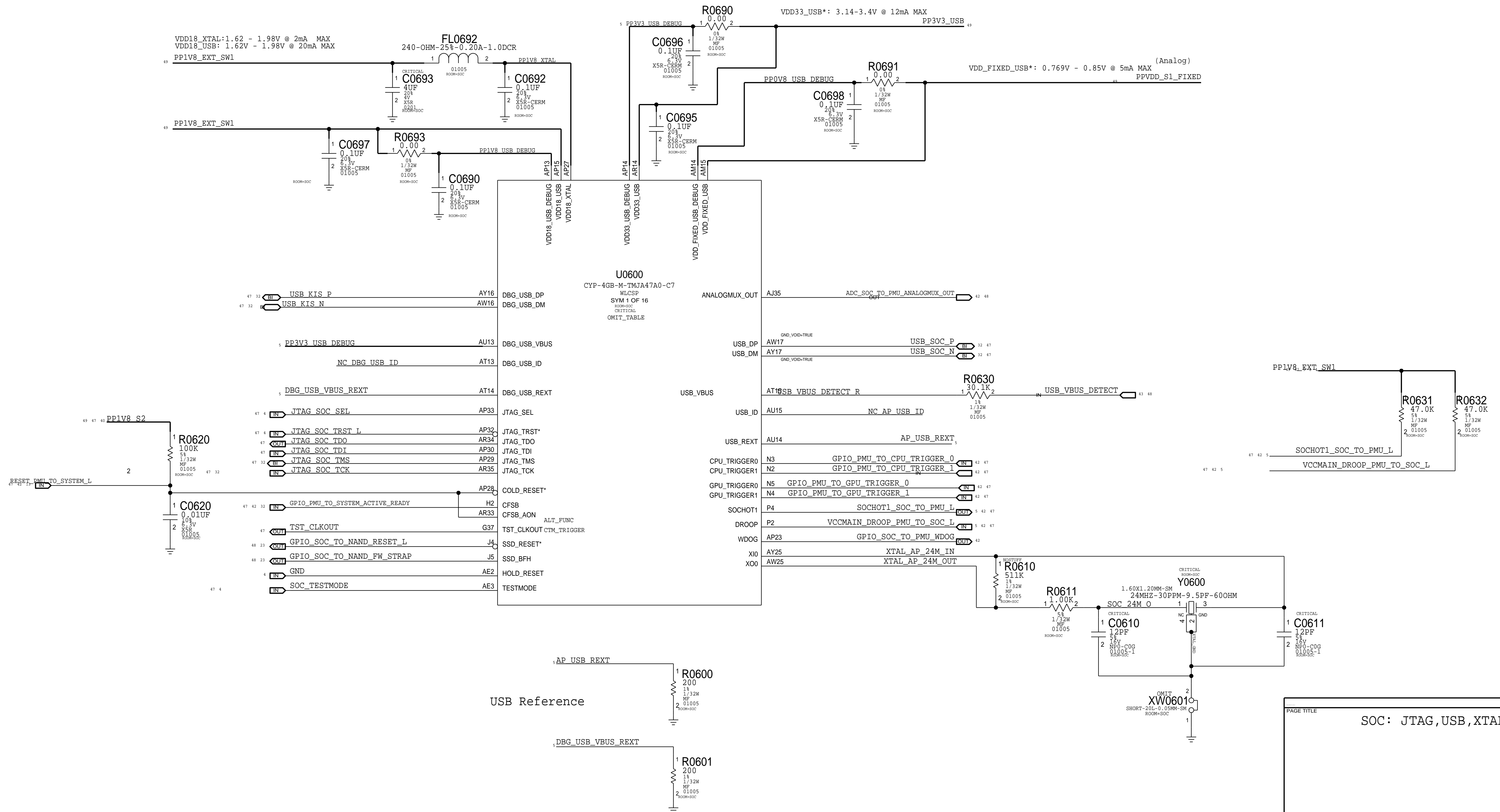
ISP I2C3	NOT USED
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SMC I2C0	DEVICE	8-BIT	7-BIT
	ATLAS YANGTZE	0X78 0XE2	0X3C 0X71



SMC I2C1	NOT USED
----------	----------

SOC - USB, JTAG, XTAL



# SOC - PCIE

VDDI2\_PCIE:1.14V - 1.26V @ 60mA MAX  
VDDI2\_PCIE\_REFBUF:1.08V - 1.26V @ 20mA MAX

VDD\_FIXED\_PCIE:0.769V - 0.85V @ 60mA MAX  
VDD\_FIXED\_PCIE\_REFBUF:0.769V - 0.85V @ 50mA MAX

D

D

B

B

A

A

PCIE LINK 0

PCIE LINK 3

PCIE LINK 4

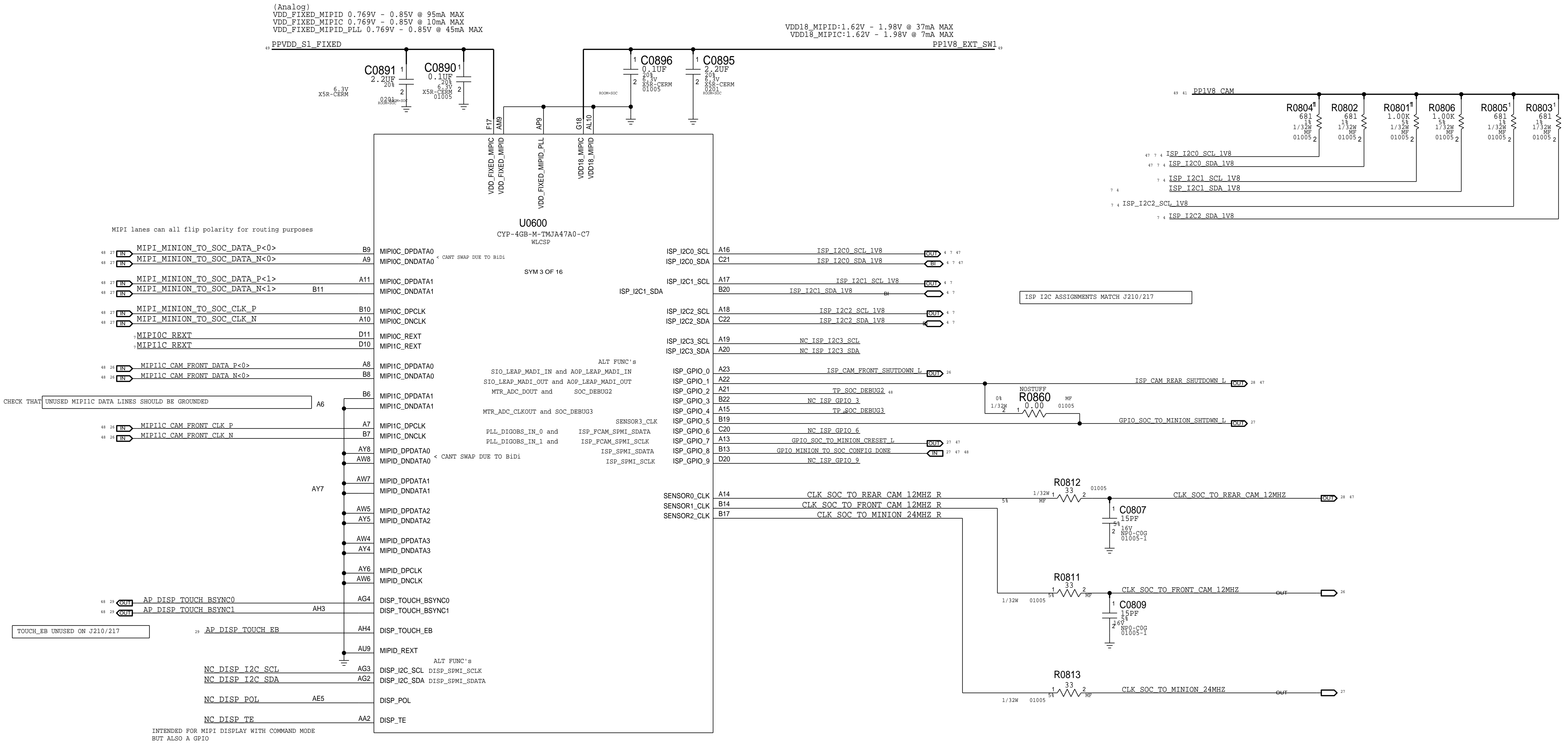
SOC: PCIE

SYNCH: PLATTER+7211\_30CA\_3

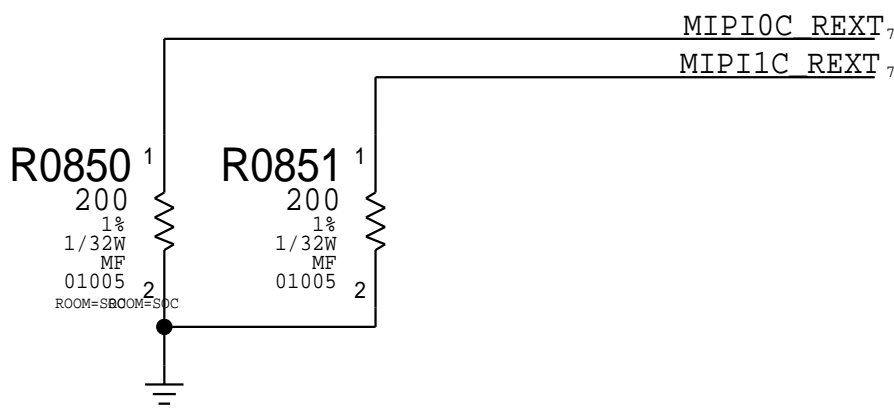
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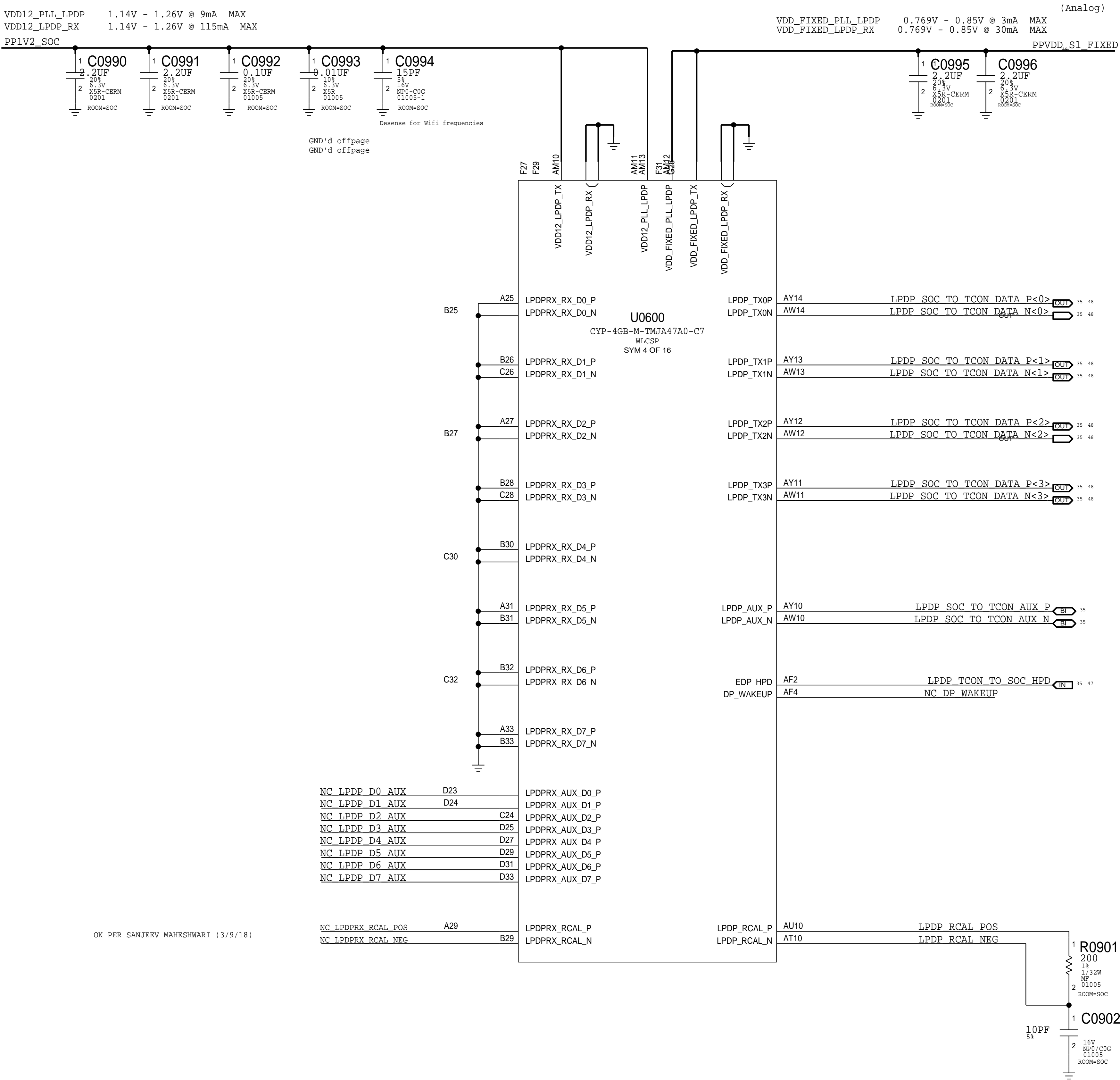
SOC - MIPI



MIPI Reference



SOC - LPDP





SOC - SERIAL INTERFACES

D

B

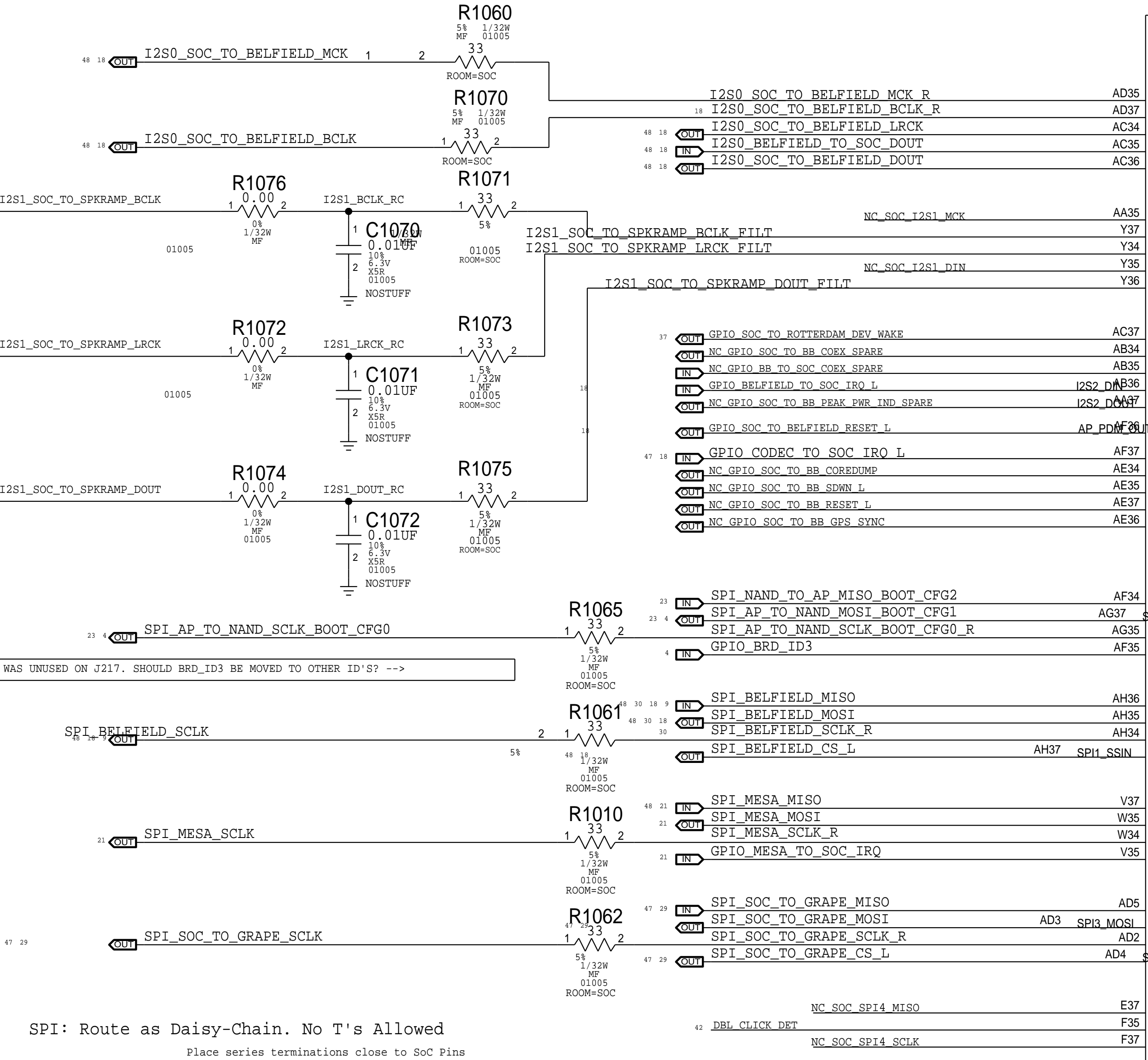
A

D

C

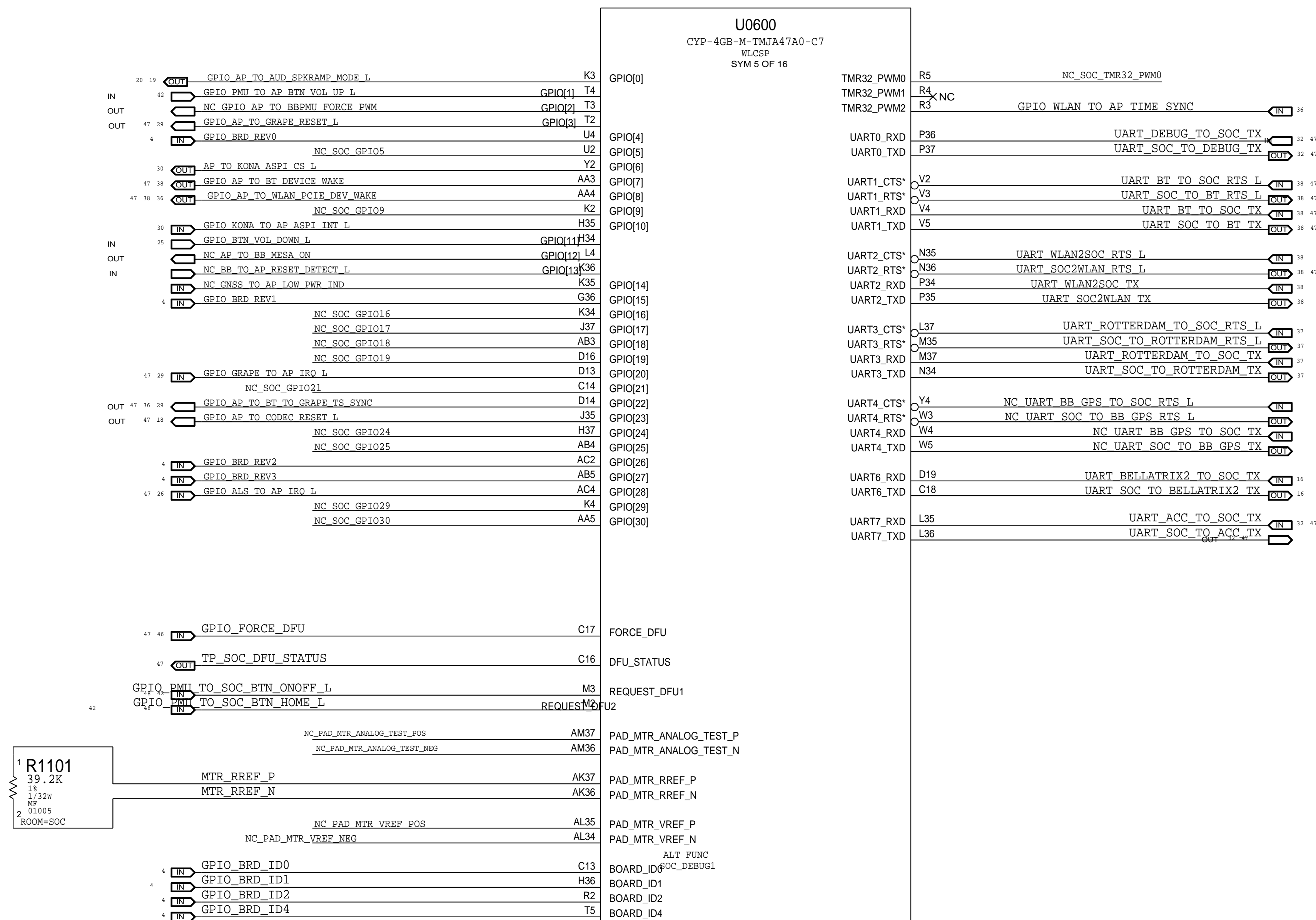
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A

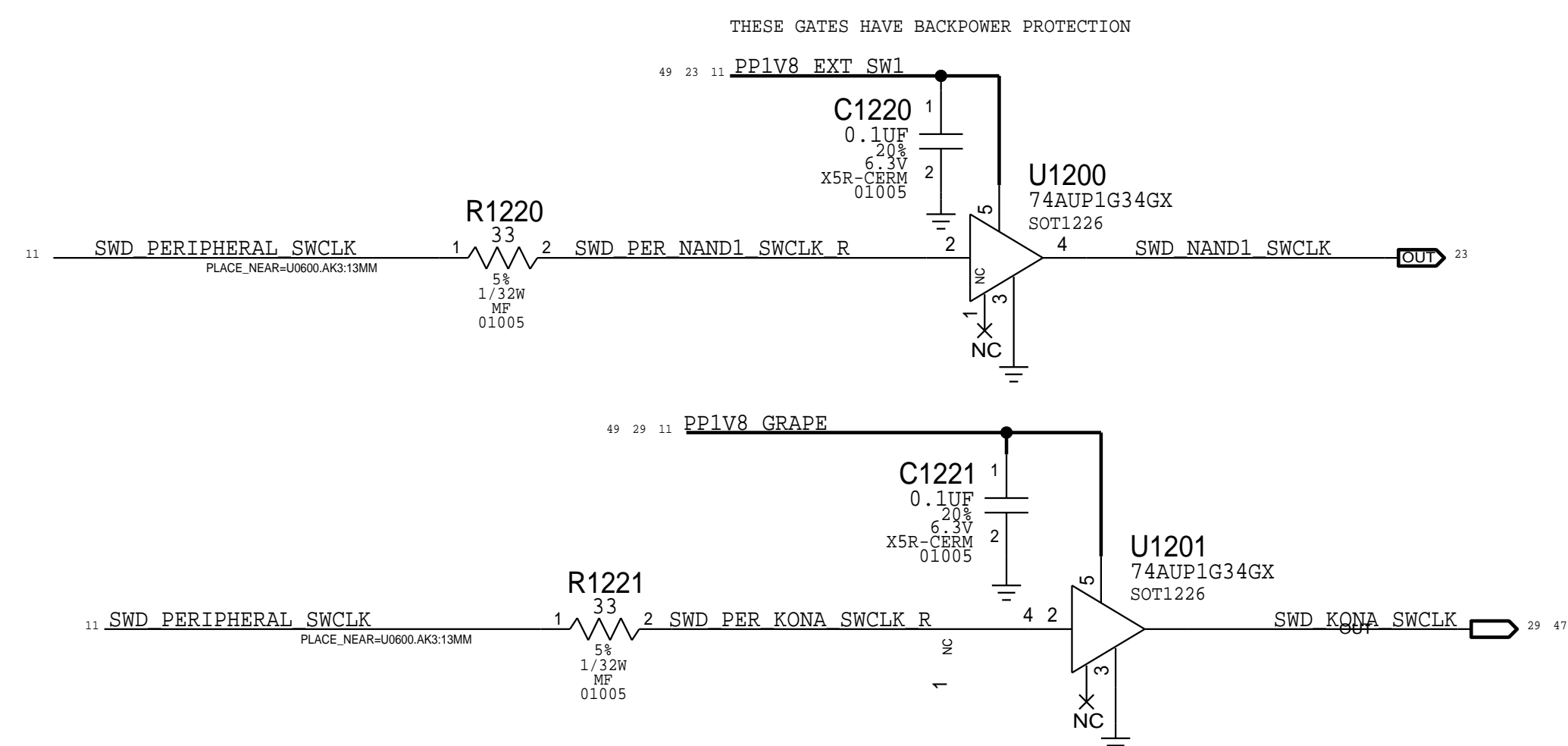
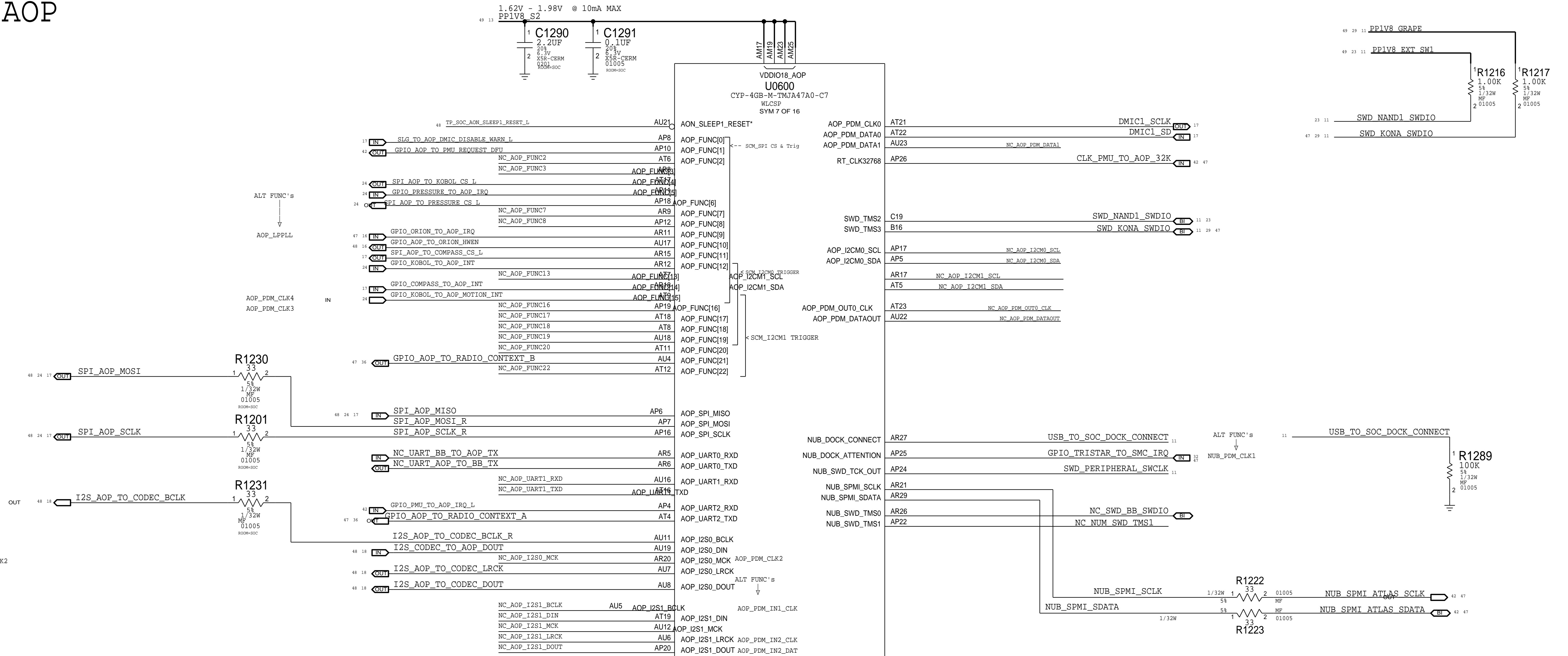


U0600		
CYP-4GB-M-TMJA47A0-C7		
WLCSP		
SYM 6 OF 16		
I2S0_MCK		I2C0_SCL
I2S0_BCLK		I2C0_SDA
I2S0_LRCK		
I2S0_DIN		I2C1_SCL
I2S0_DOUT		I2C1_SDA
		I2C2_SCL
I2S1_MCK		I2C2_SDA
I2S1_BCLK		
I2S1_LRCK		I2C3_SCL
I2S1_DIN		I2C3_SDA
I2S1_DOUT		
		SMC_I2CM0_SCL
		SMC_I2CM0_SDA
I2S2_MCK		
I2S2_BCLK		SMC_I2CM1_SCL
I2S2_LRCK		SMC_I2CM1_SDA
	ALT_FUNC'S	
	GPIO_SMC_INT_8	SMC_UART0_RXD
	GPIO_SMC_INT_9	SMC_UART0_TXD
T0_DAT		
I2S3_MCK	AP_PDM_OUT0_CLK	
I2S3_BCLK	AP_PDM_IN2_CLK	
I2S3_LRCK	AP_PDM_IN2_DAT	
I2S3_DIN	AP_PDM_IN1_DAT	
I2S3_DOUT	AP_PDM_IN1_CLK	
		SPMI_SCLK
		I2C4_SCL
	SPMI_SDATA	I2C4_SDA
SPI0_MISO		
SPI0_MOSI		
SPI0_SCLK		
SPI0_SSIN		
SPI1_MISO		
SPI1_MOSI		
SPI1_SCLK		
		DWI_CLK
		DWI_DO
SPI2_MISO		
SPI2_MOSI		
SPI2_SCLK		
SPI2_SSIN		
SPI3_MISO		CLK24M_OUT
SPI3_SCLK		NAND_SYS_CLK
SPI3_SSIN		
SPI4_MISO		
SPI4_MOSI		
SPI4_SCLK		

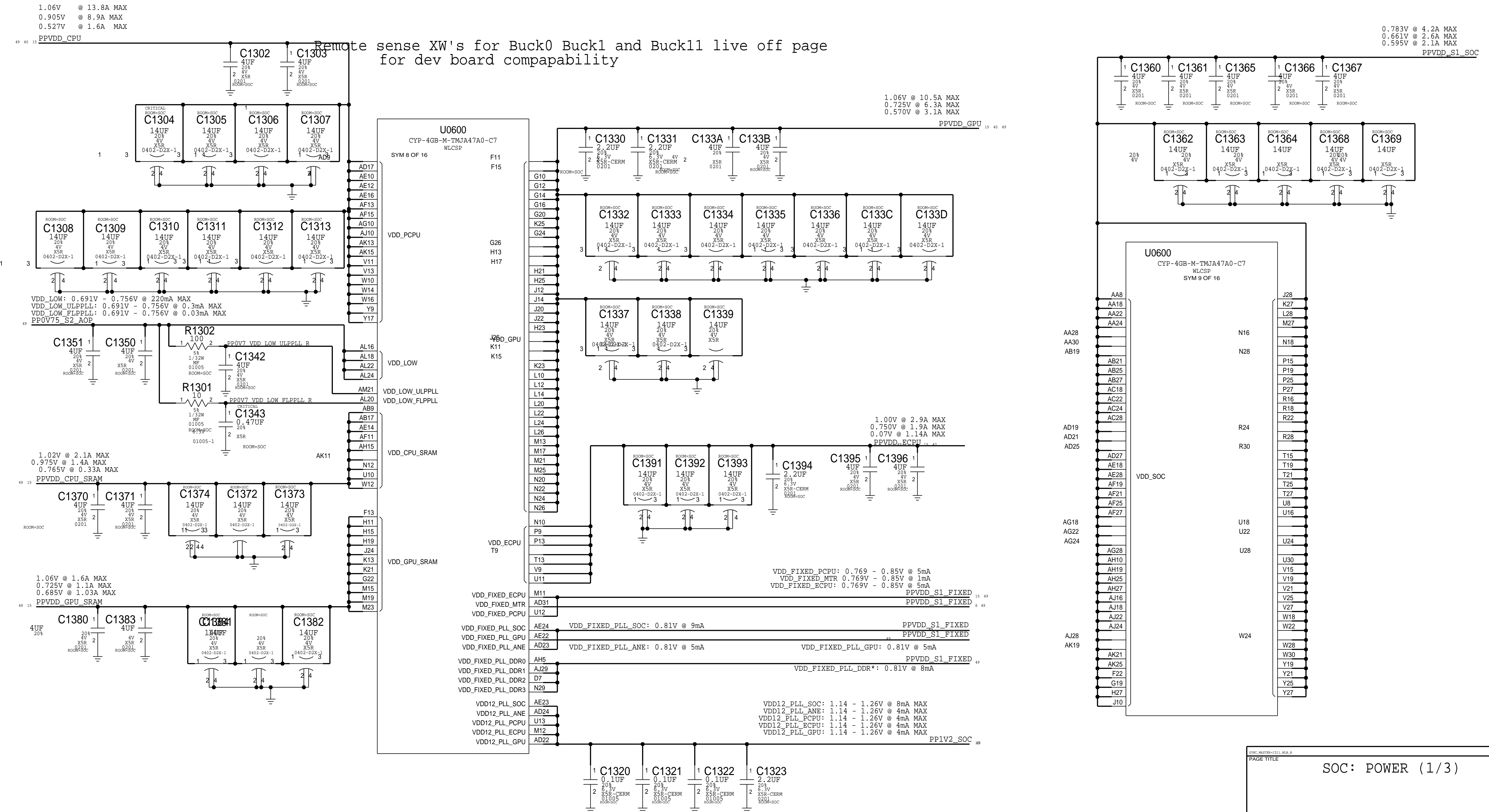
## SOC - GPIO INTERFACES



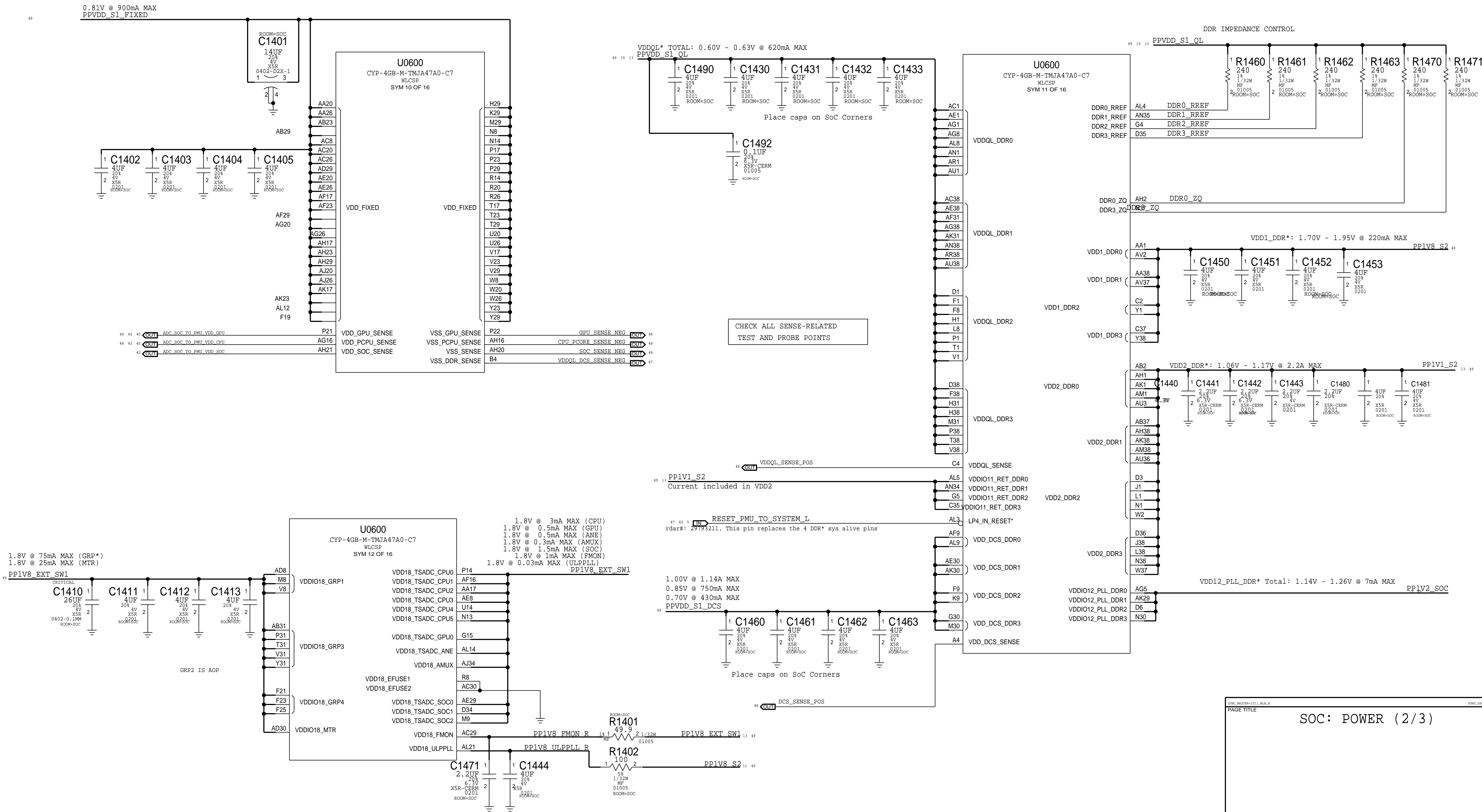
## SOC – AOP



## SOC - CPU, GPU & SOC RAILS



SOC - CPU, GPU & SOC RAILS



SOC - POWER SUPPLIES

D

B

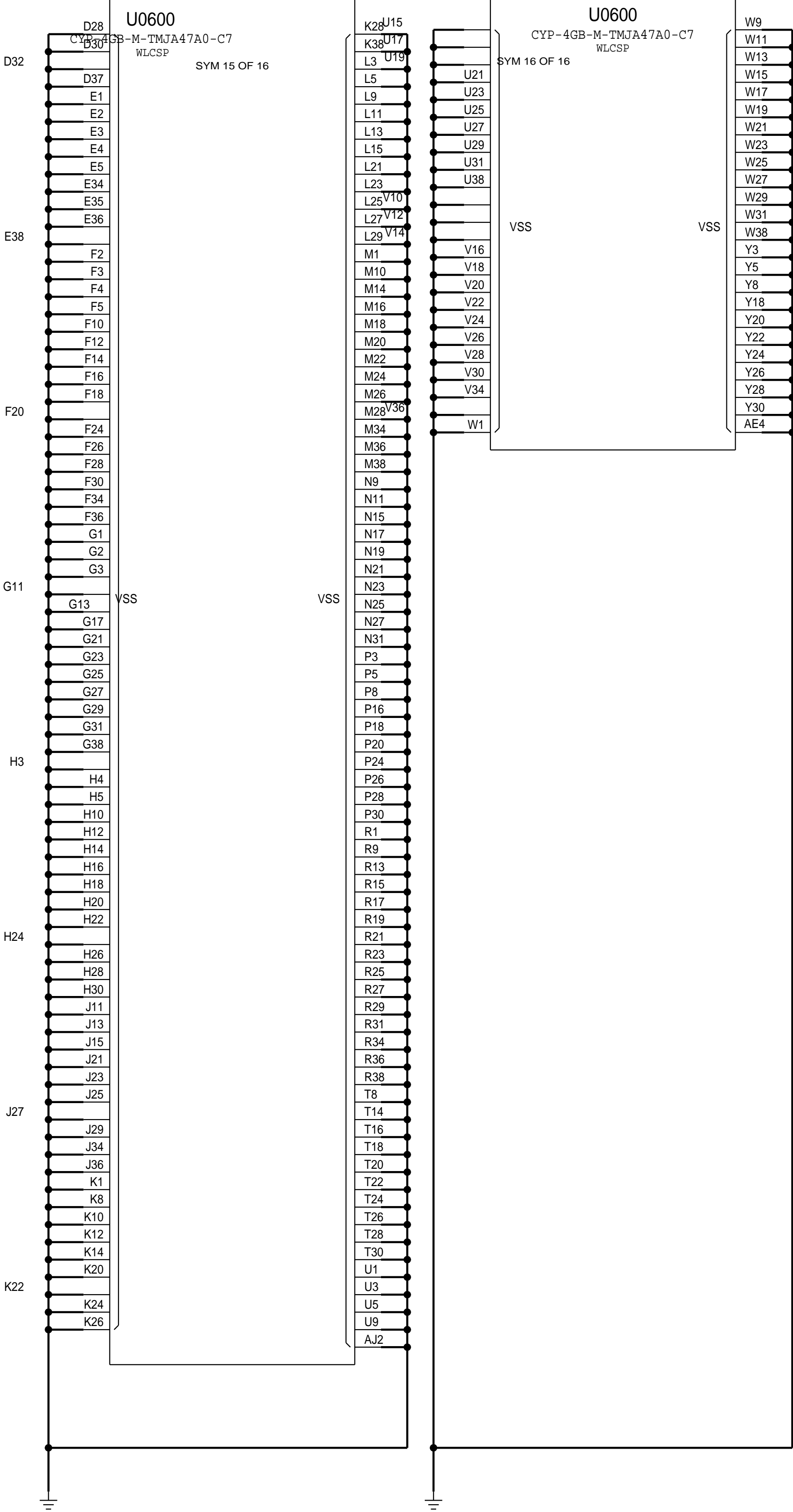
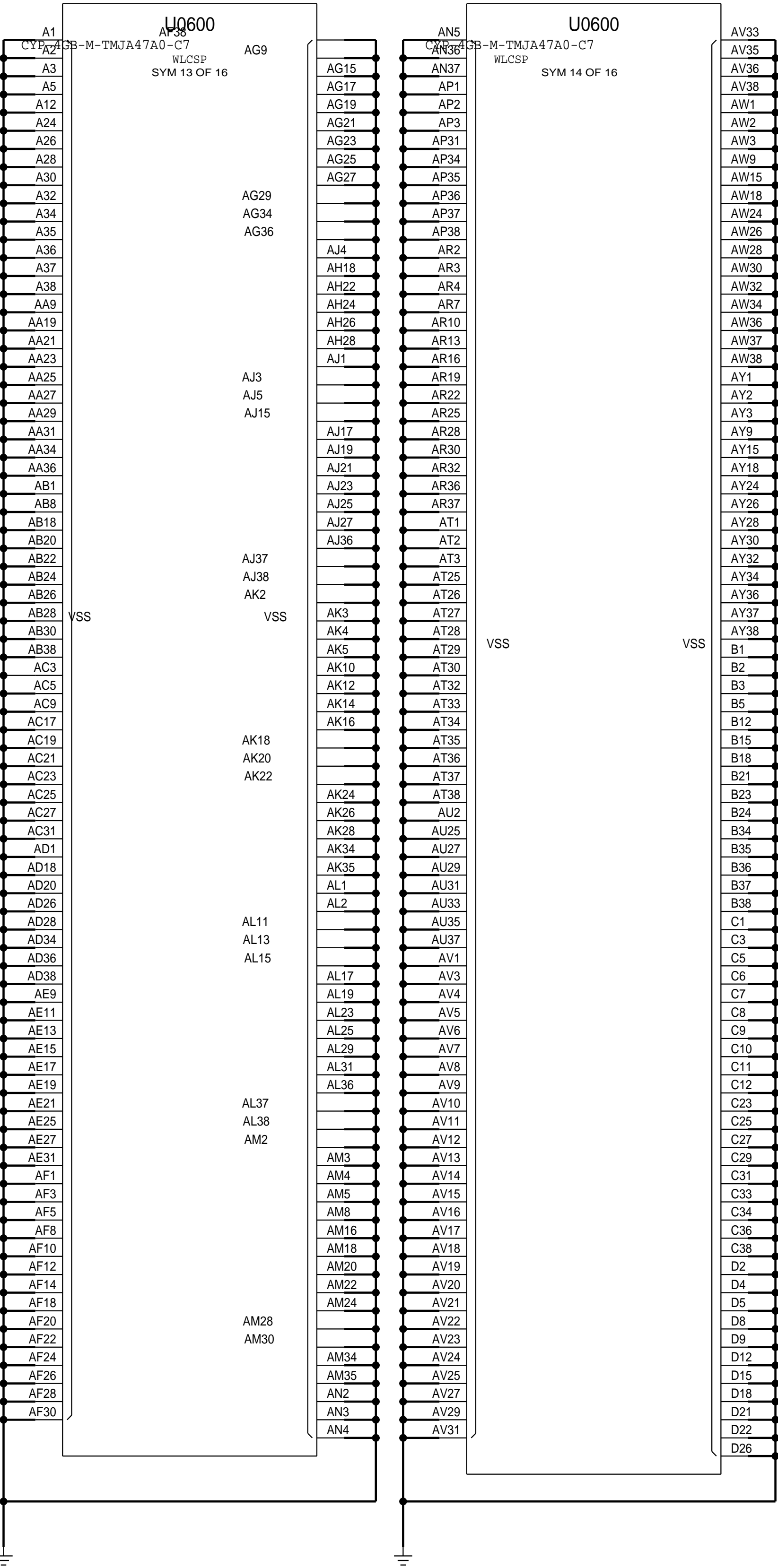
A

D

C

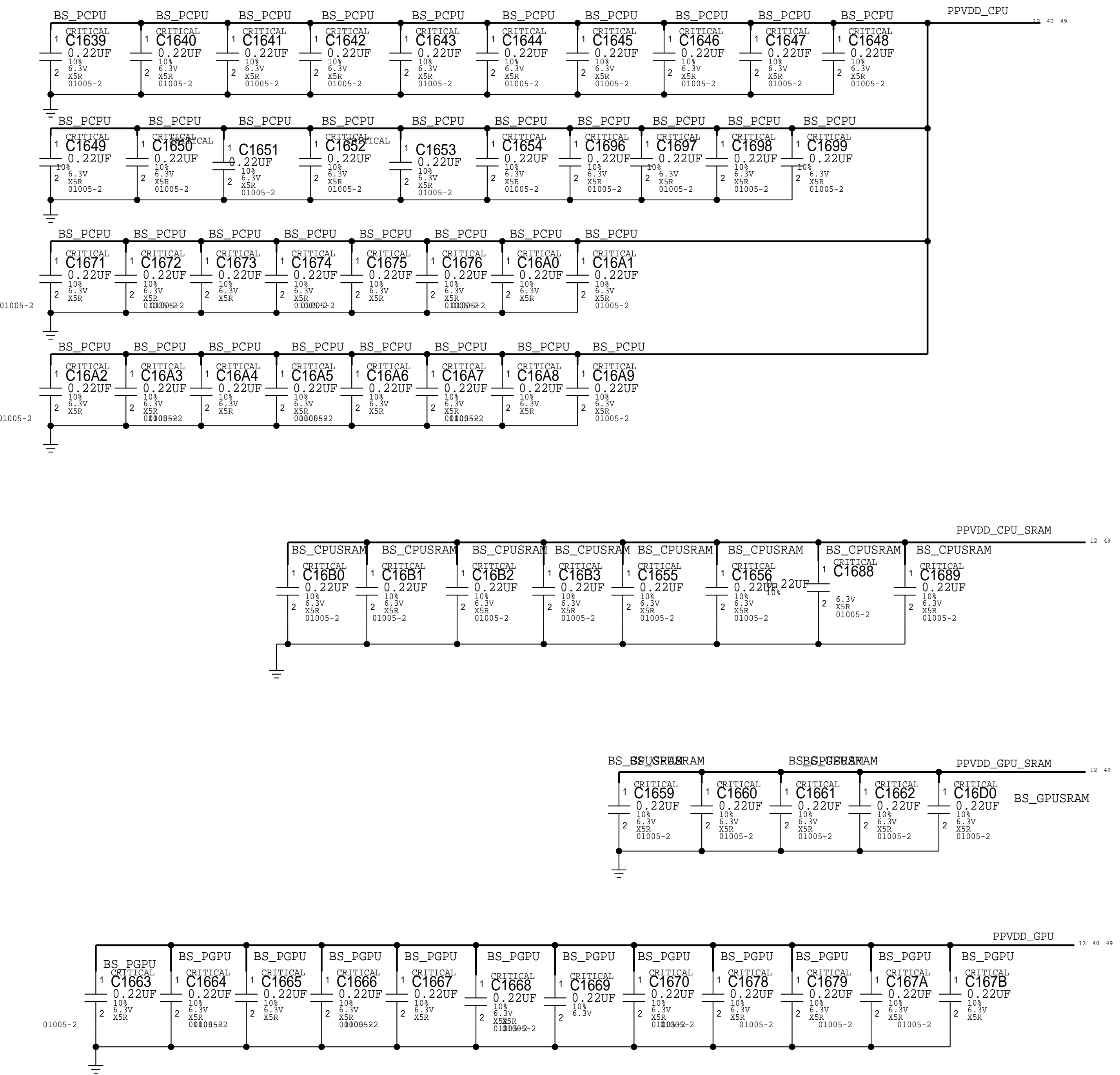
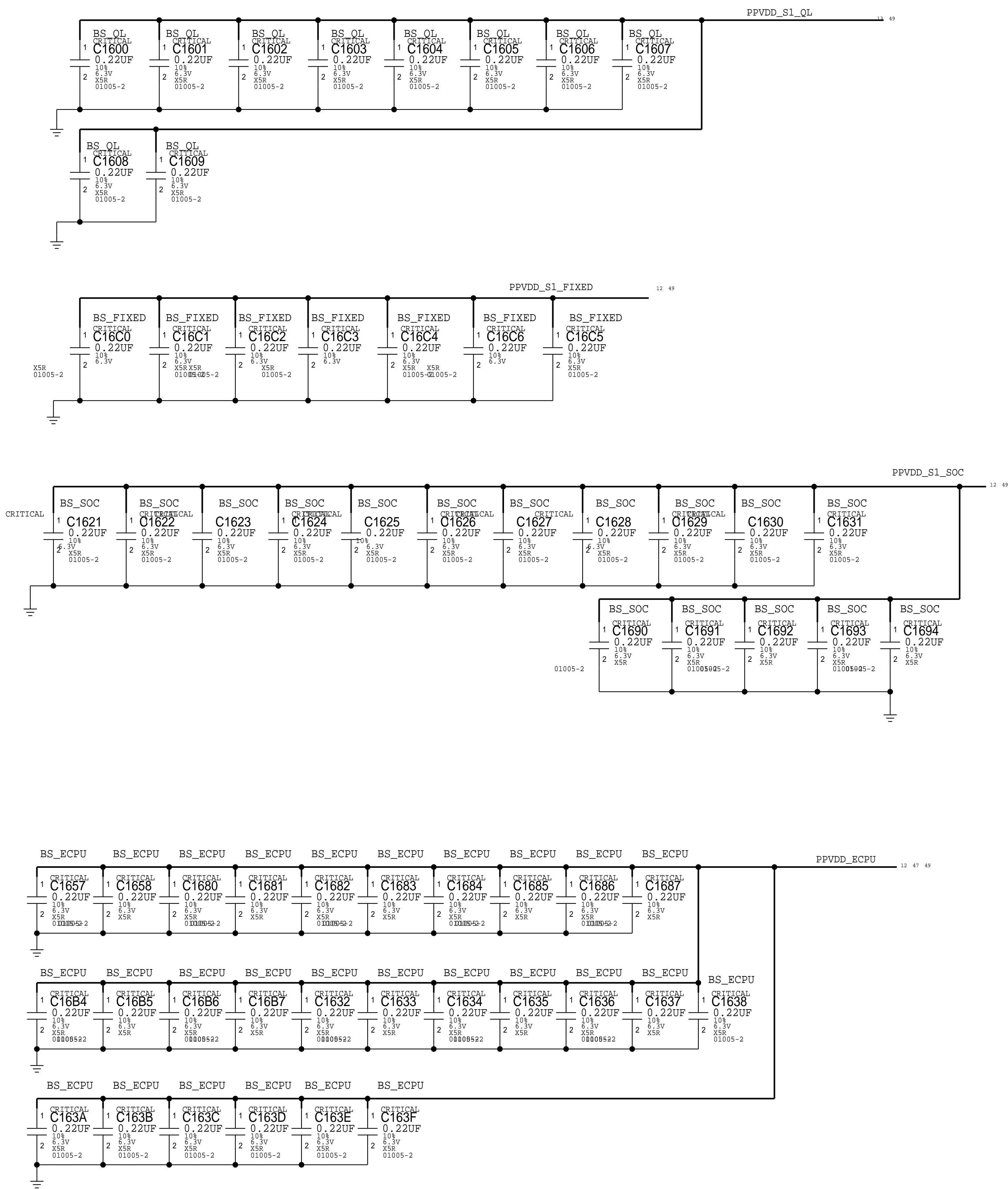
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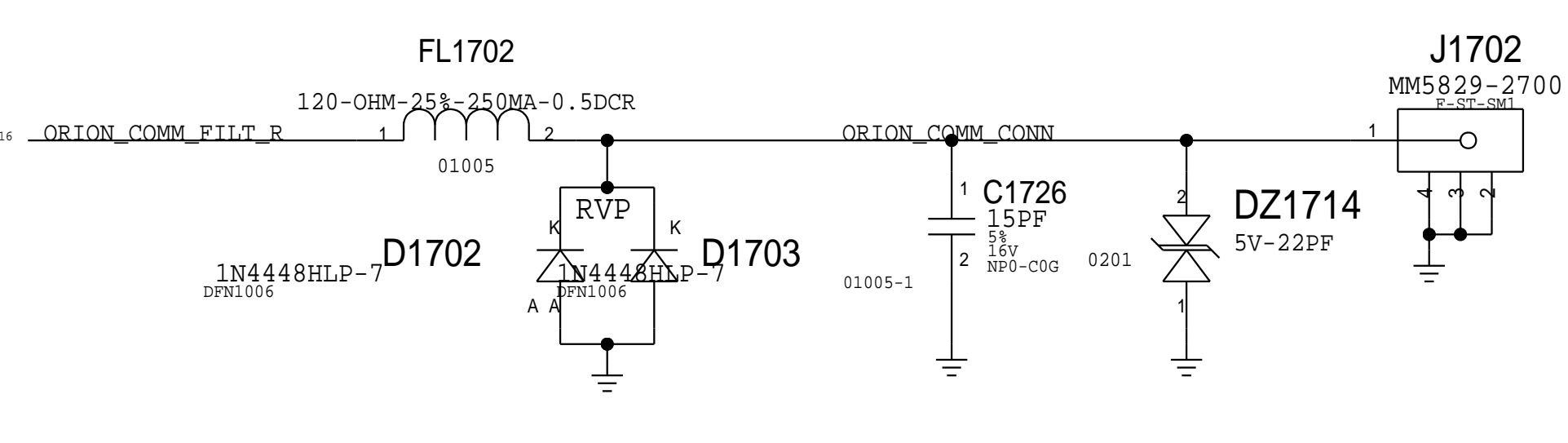
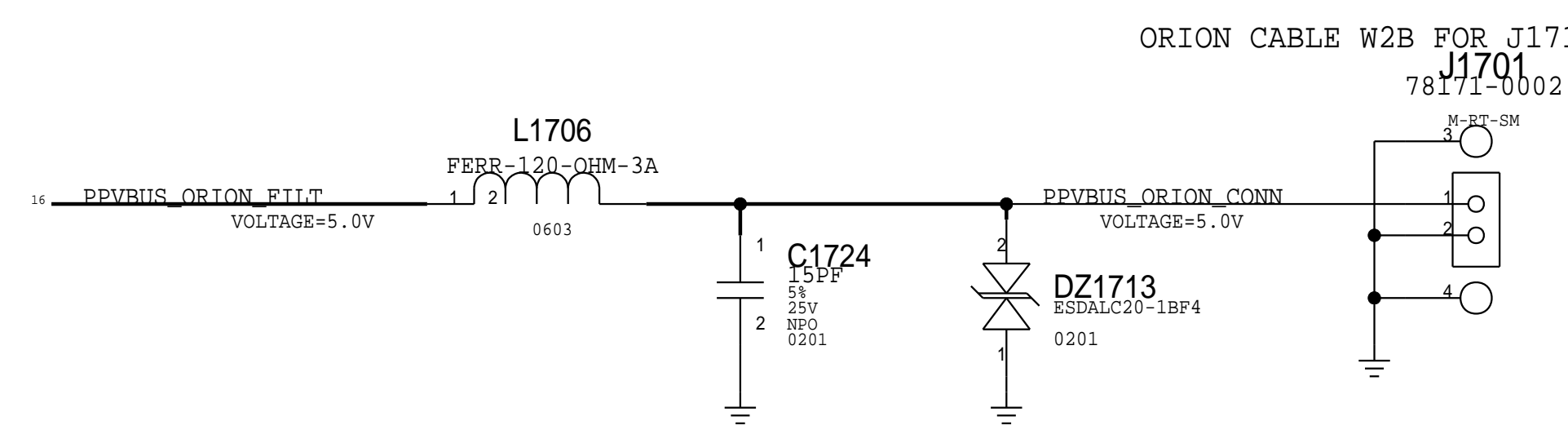
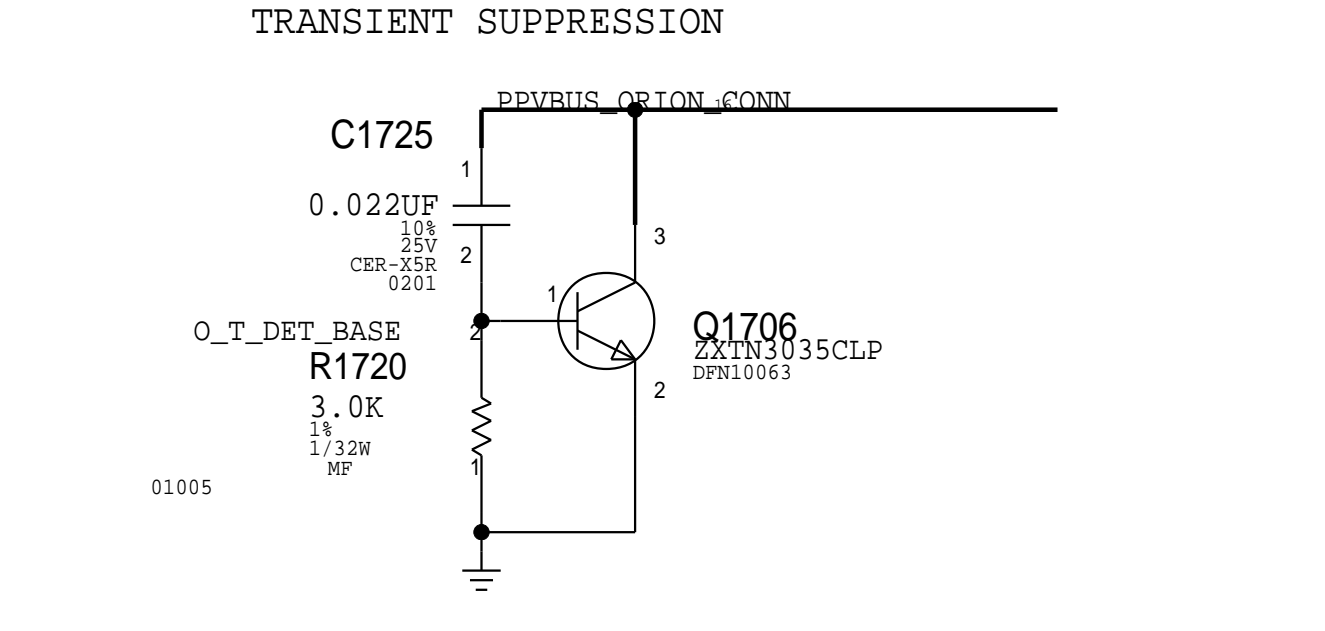
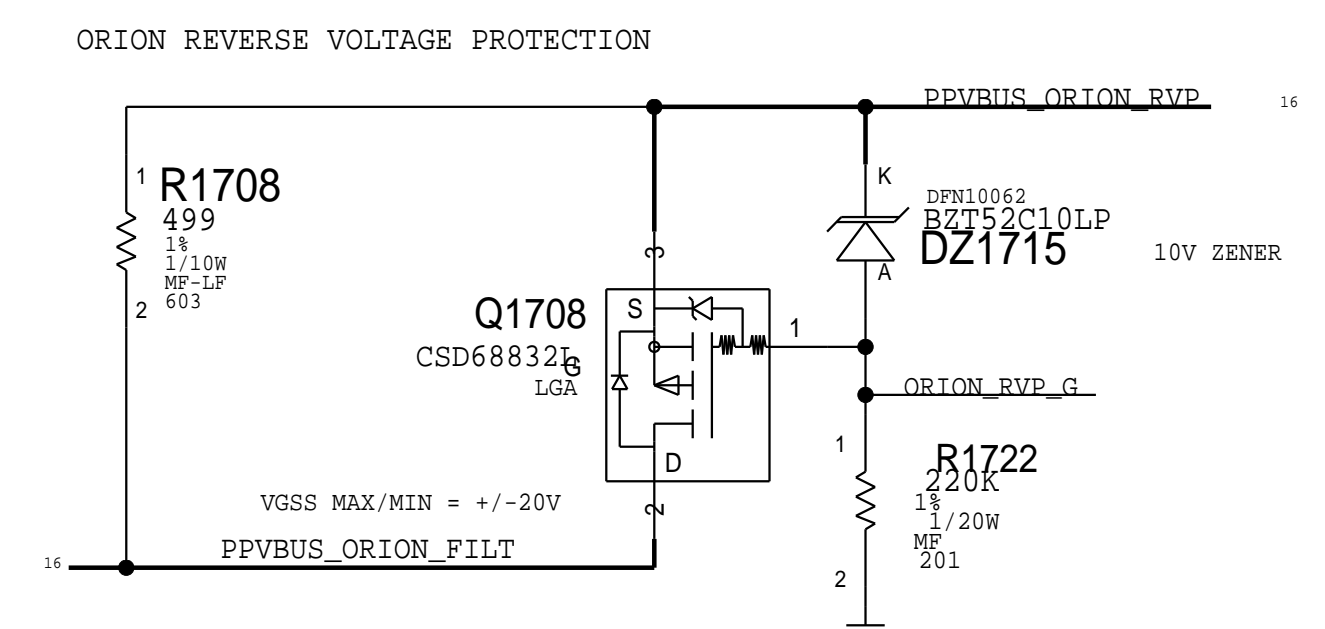
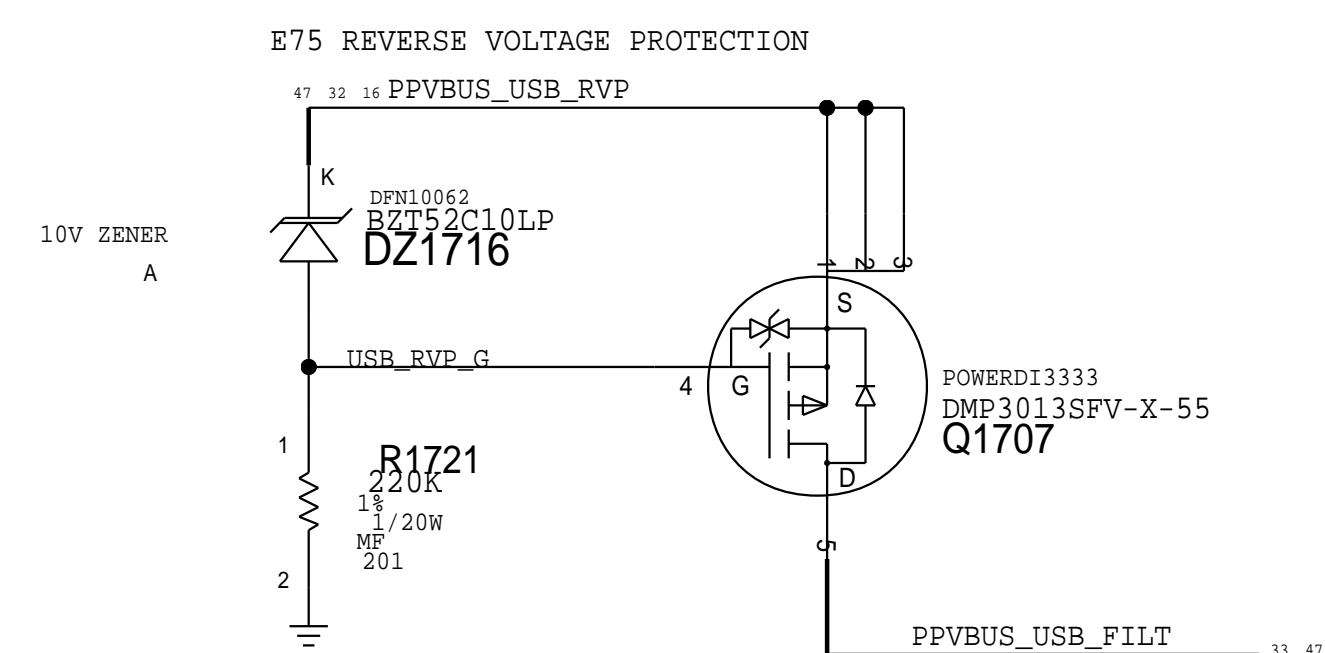
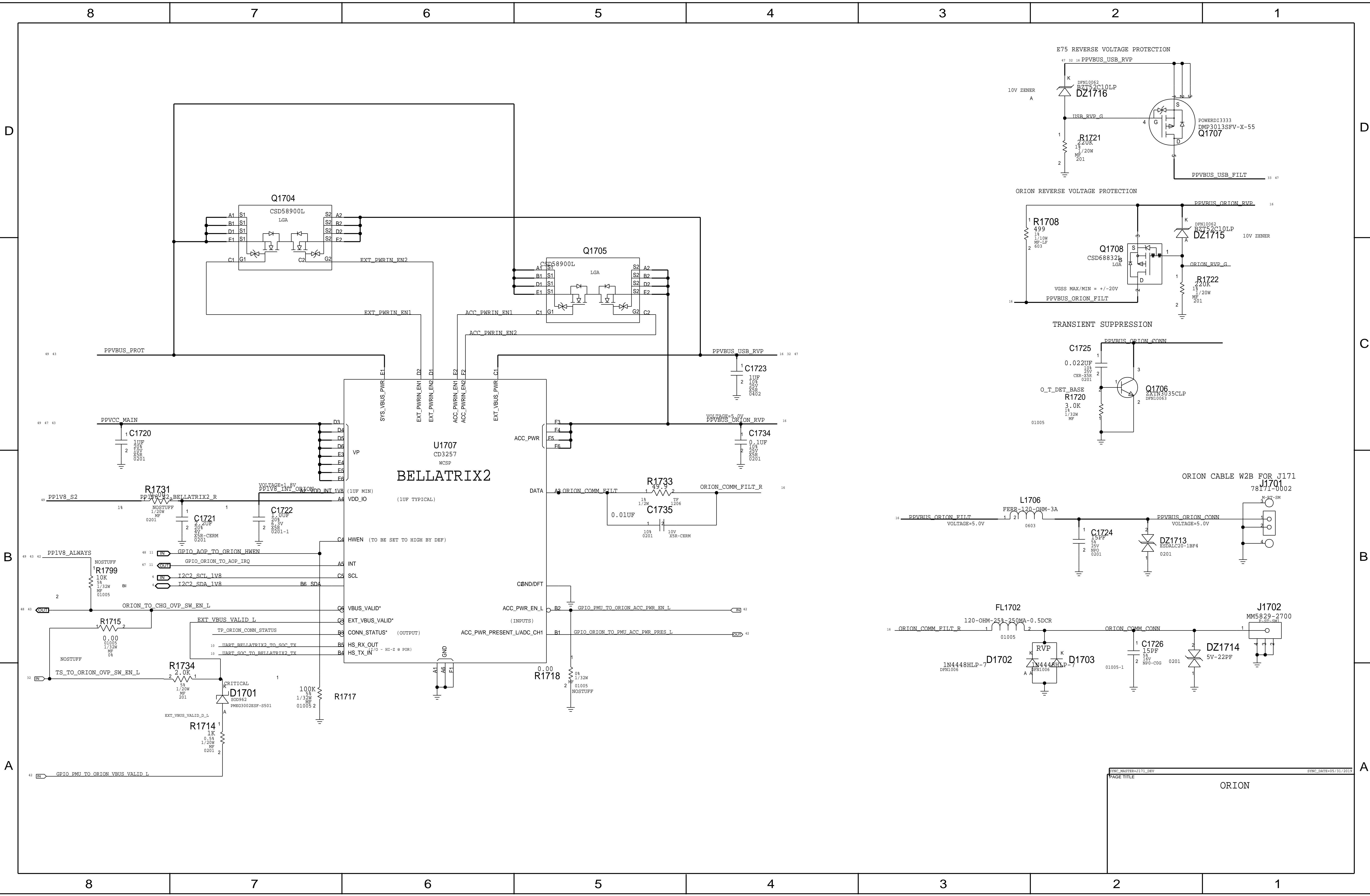
A





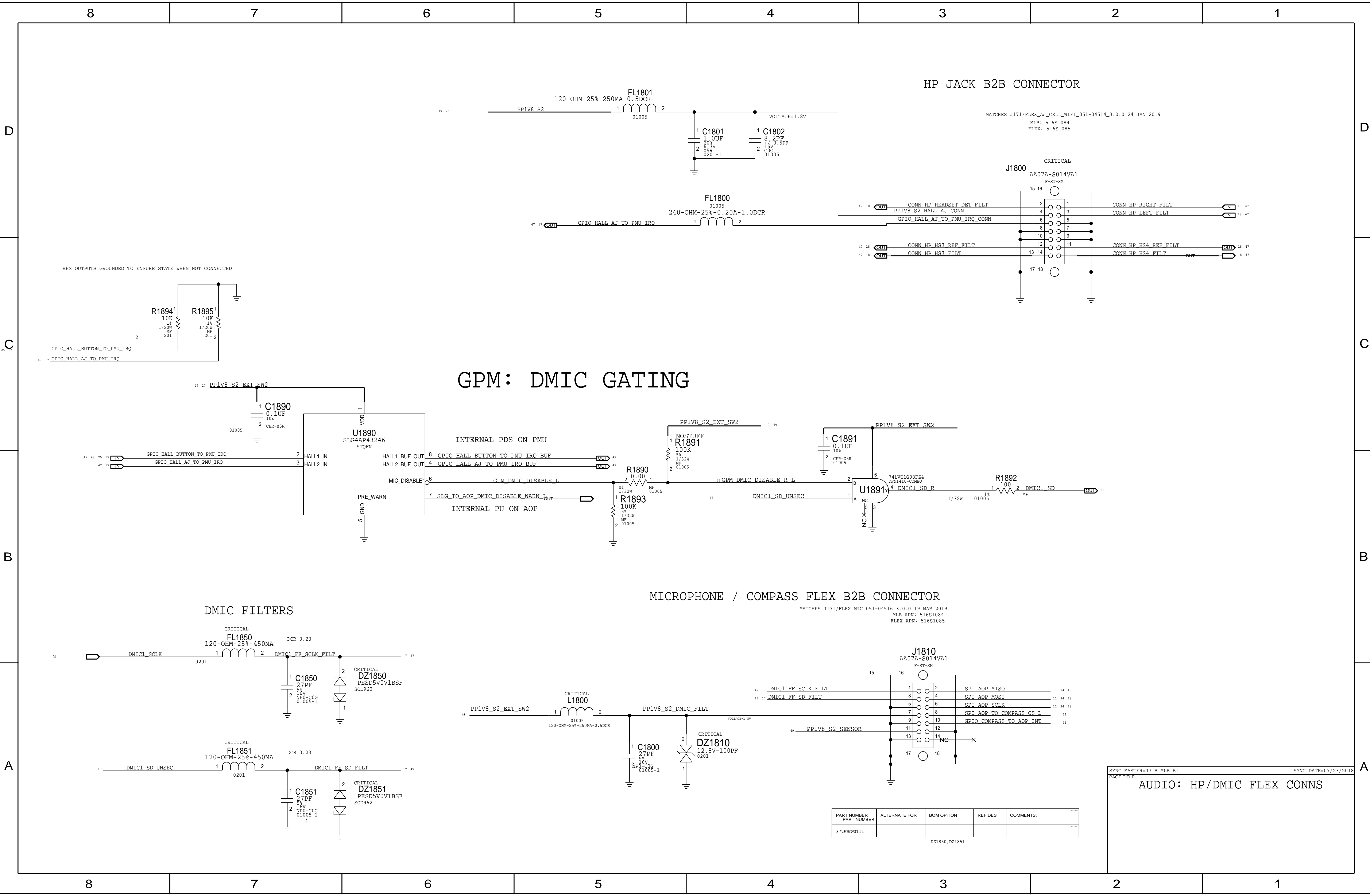
BOTTOM SIDE SOC CAPS





ORION

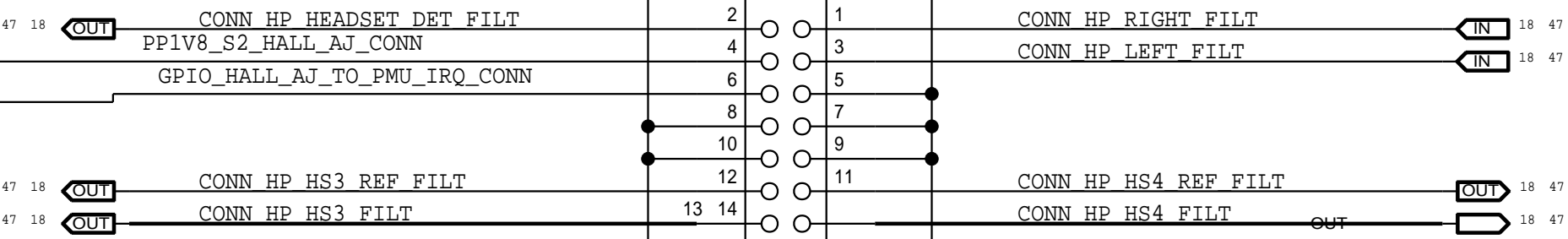




HP JACK B2B CONNECTOR

MATCHES J171/FLEX\_AJ\_CELL\_WIFI\_051-04514\_3.0.0 24 JAN 2019  
MLB: 516S1084  
FLEX: 516S1085

CRITICAL  
J1800  
AA07A-S014VA1  
F-ST-SM



GPM: DMIC GATING

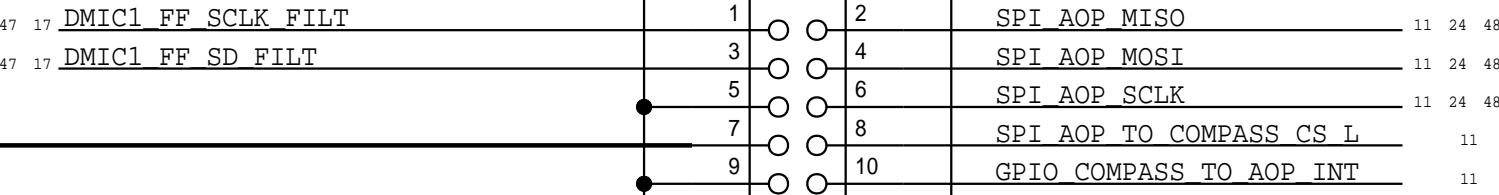
INTERNAL PDS ON PMU

INTERNAL PU ON AOP

MICROPHONE / COMPASS FLEX B2B CONNECTOR

MATCHES J171/FLEX\_MIC\_051-04516\_3.0.0 19 MAR 2019  
MLB APN: 516S1084  
FLEX APN: 516S1085

CRITICAL  
J1810  
AA07A-S014VA1  
F-ST-SM

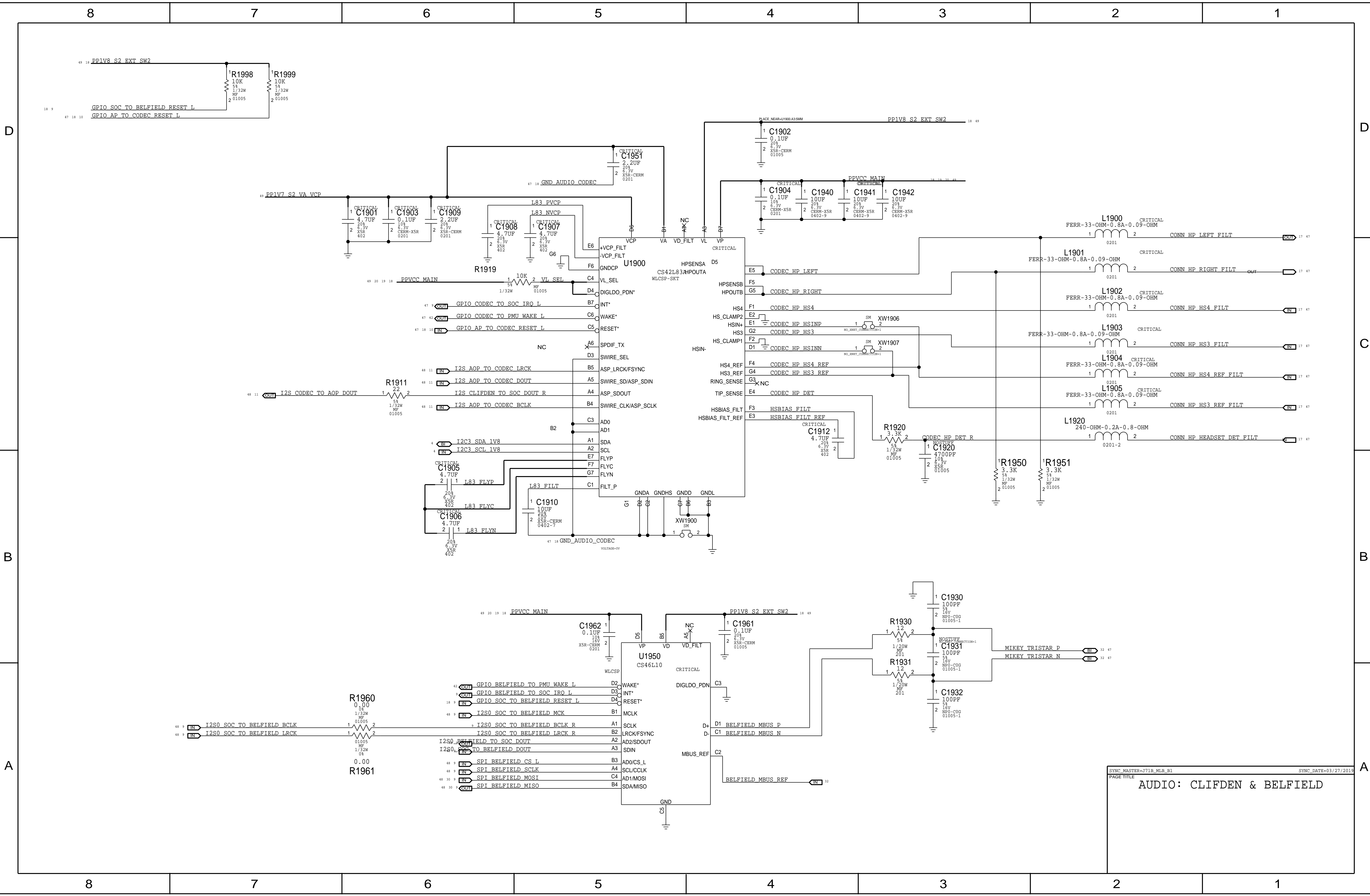


SYNC\_MASTER=J71B\_MLB\_B1  
PAGE TITLE  
SYNC\_DATE=07/23/2018

AUDIO: HP/DMIC FLEX CONNS

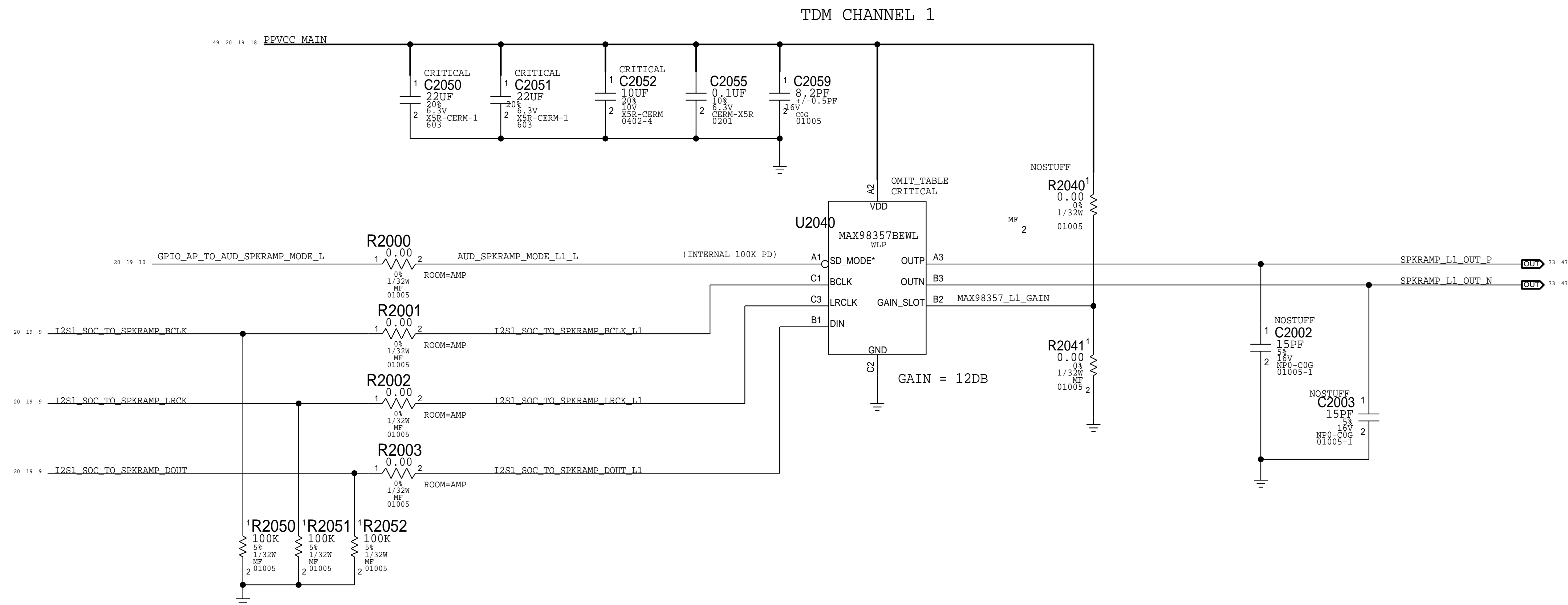
PART NUMBER PART NUMBER	ALTERNATE FOR	BOM OPTION	REF DES	COMMENTS:
3778000111				

DZ1850, DZ1851

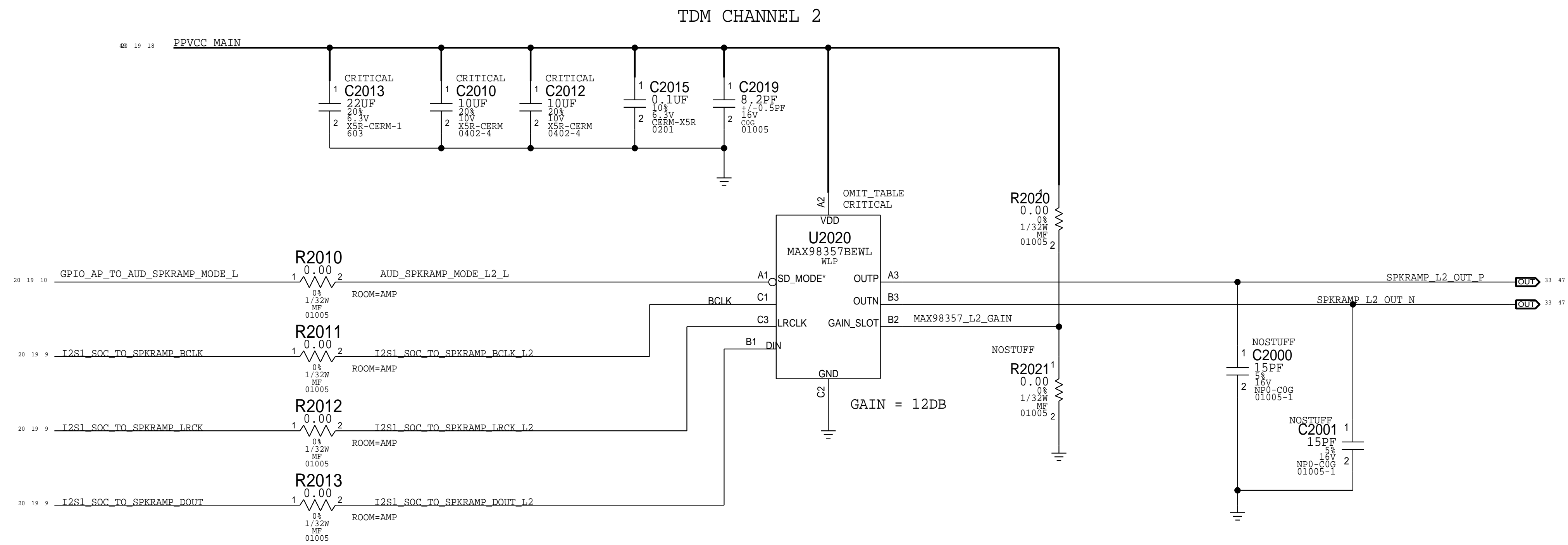


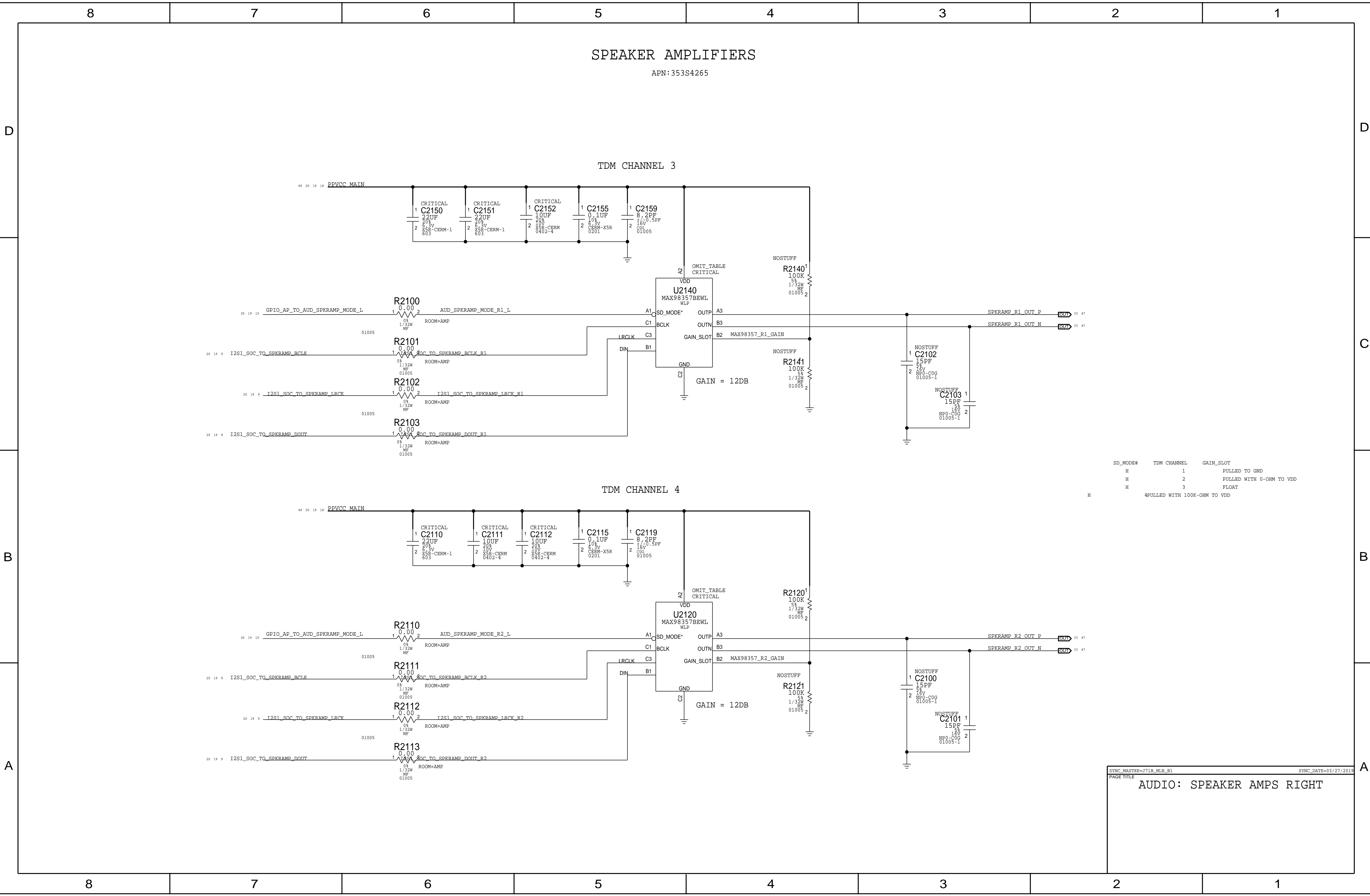
## SPEAKER AMPLIFIERS

APN: 353S4265



SD_MODE#	TDM CHANNEL	GAIN_SLOT
H	1	PULLED TO GND
H	2	PULLED WITH 0-OHM TO VDD
H	3	FLOAT
H	4	PULLED WITH 100K-OHM TO VDD





8

7

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1

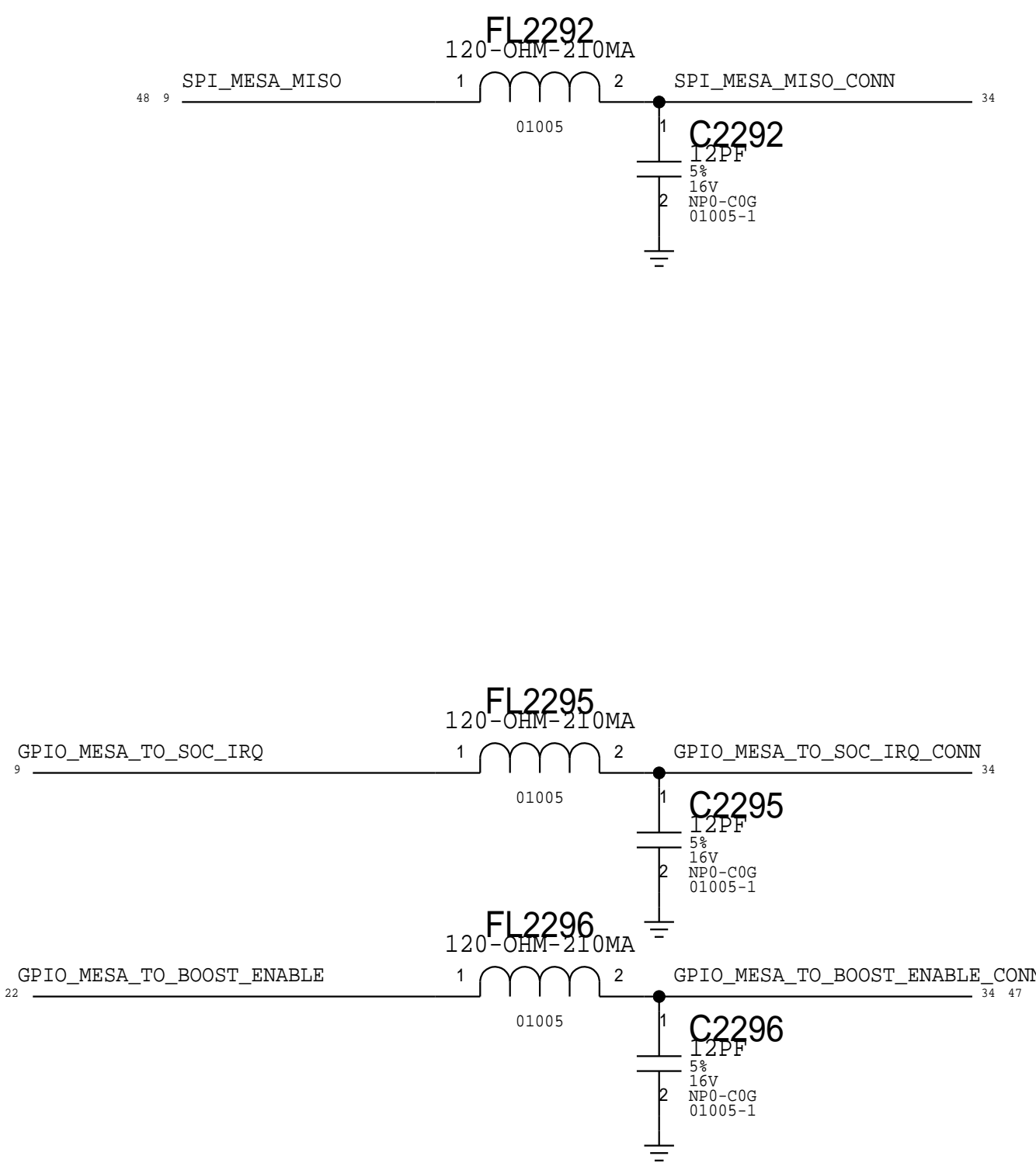
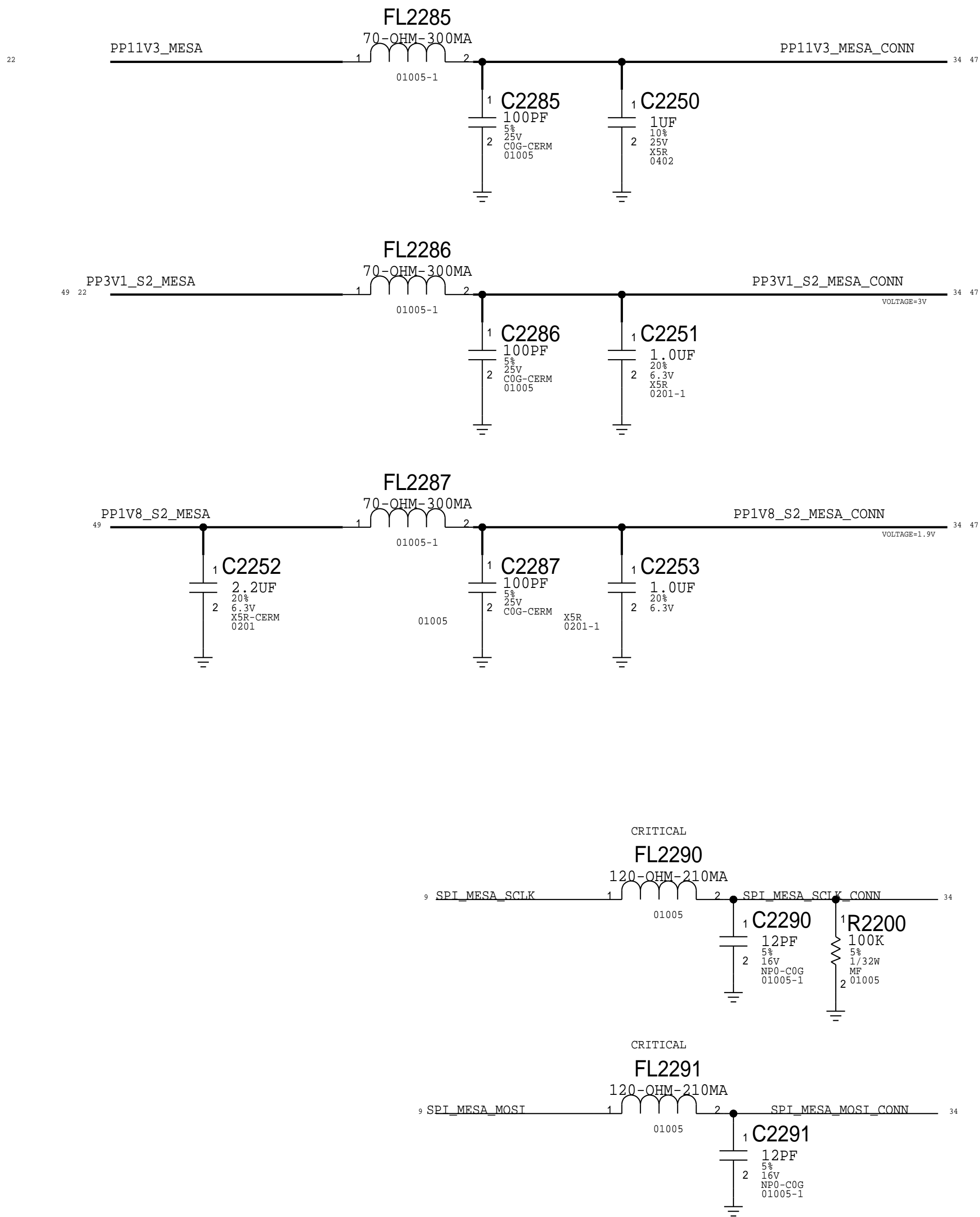
D

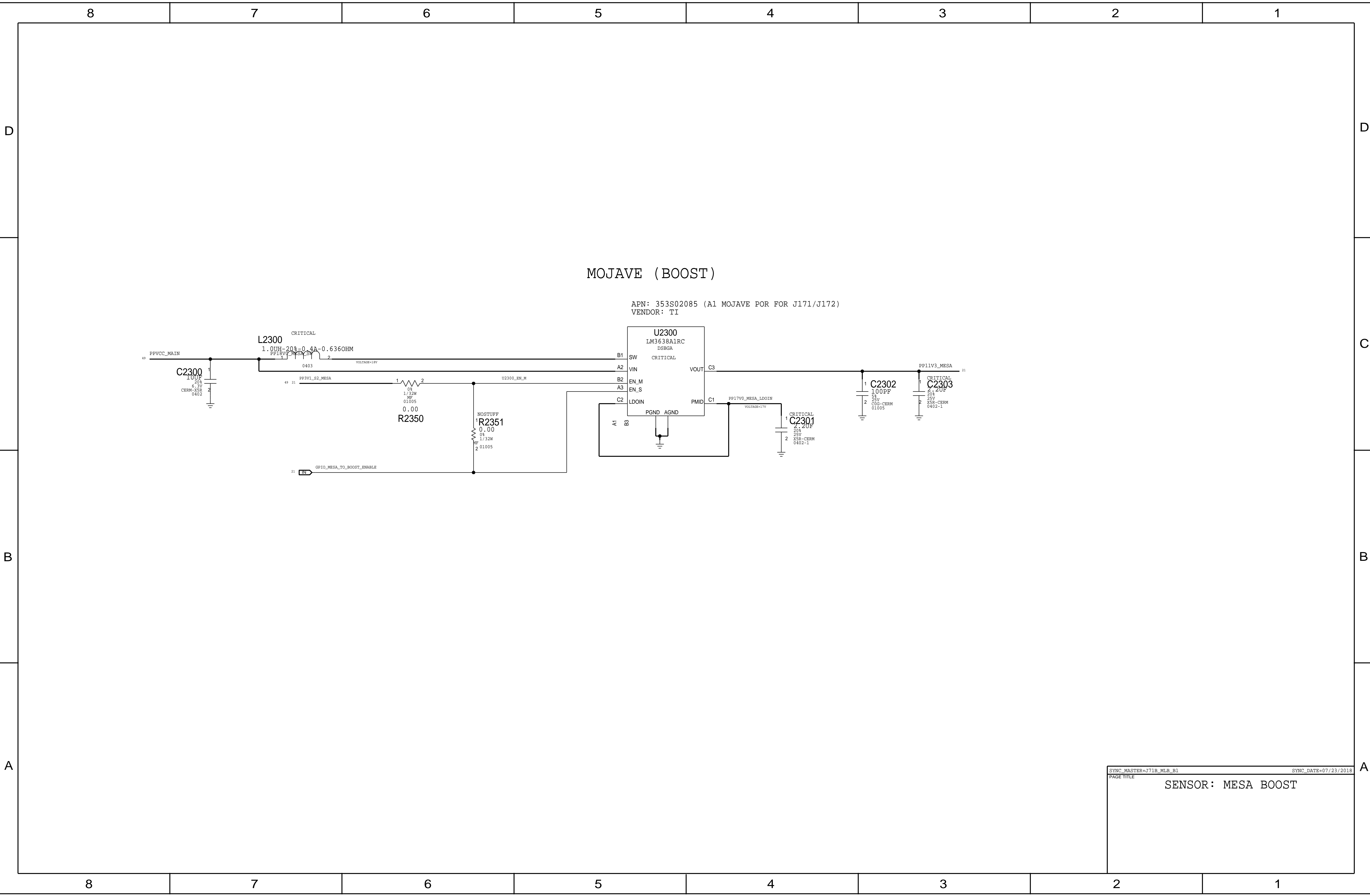
C

B

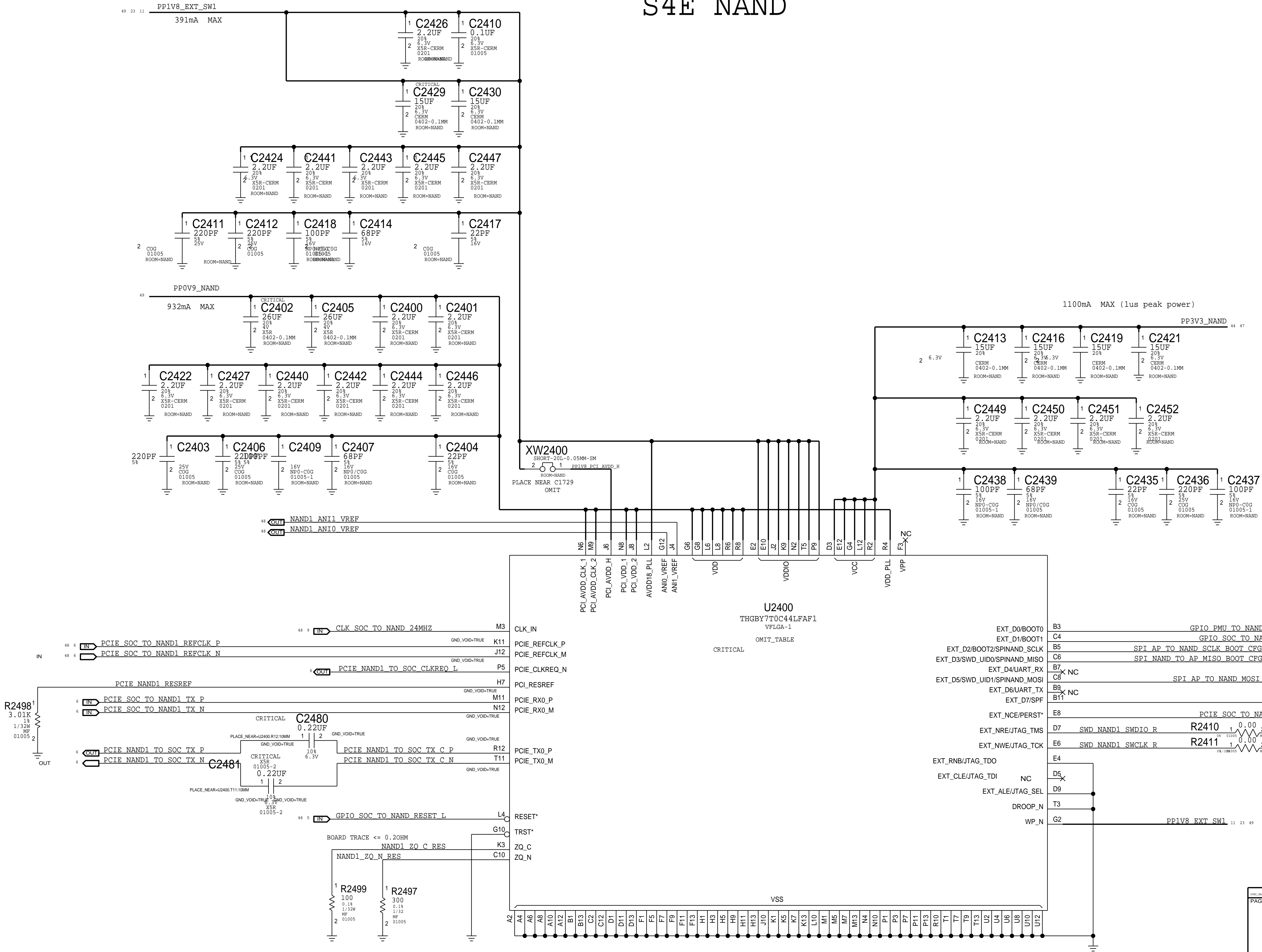
A

MESA SUPPORT



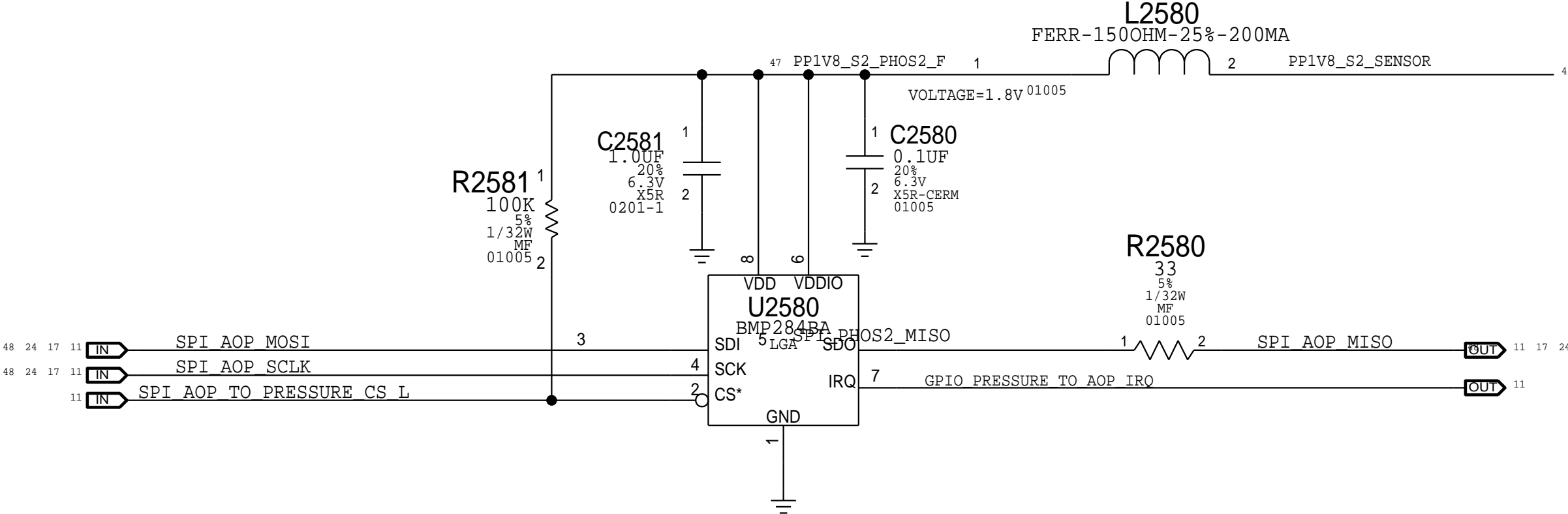


# S4E NAND



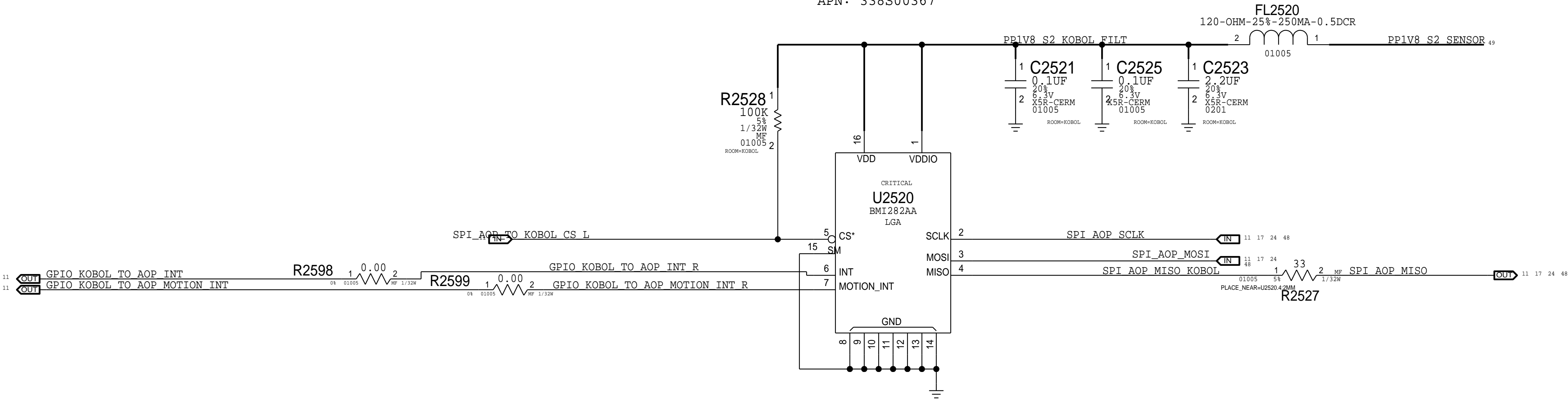
## PHOSPHORUS2 (BAROMETER

APN: 338S0031



## KOBOL - ACCEL &amp; GYRC

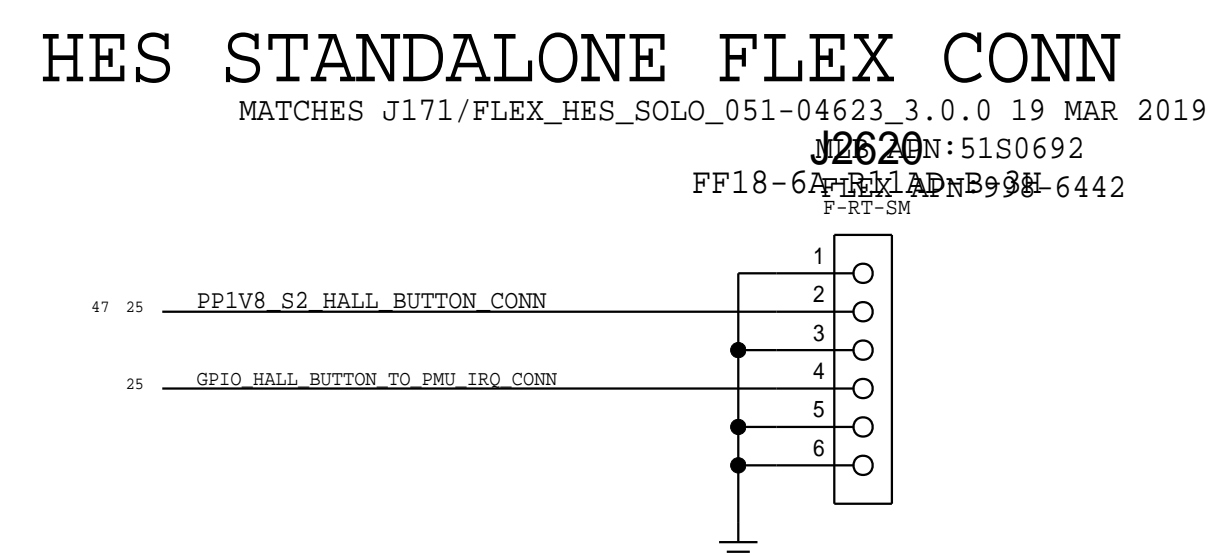
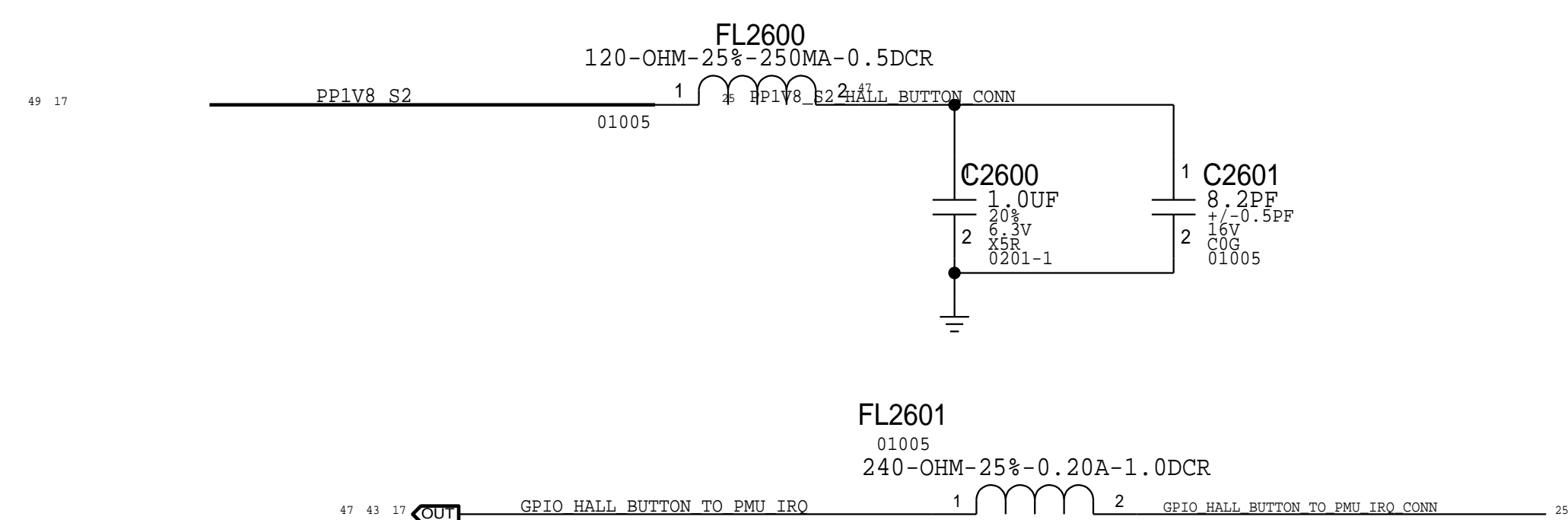
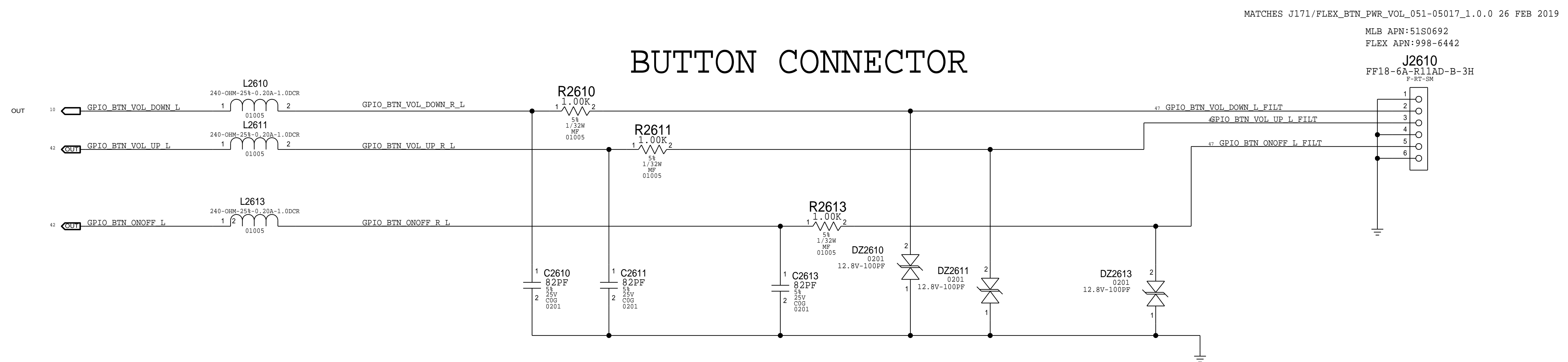
APN: 338S0036



SYNC\_MASTER=J71B\_MLB\_B1 SYNC\_DATE=03/27/2019

SENSOR: KOBOL, PHOS2



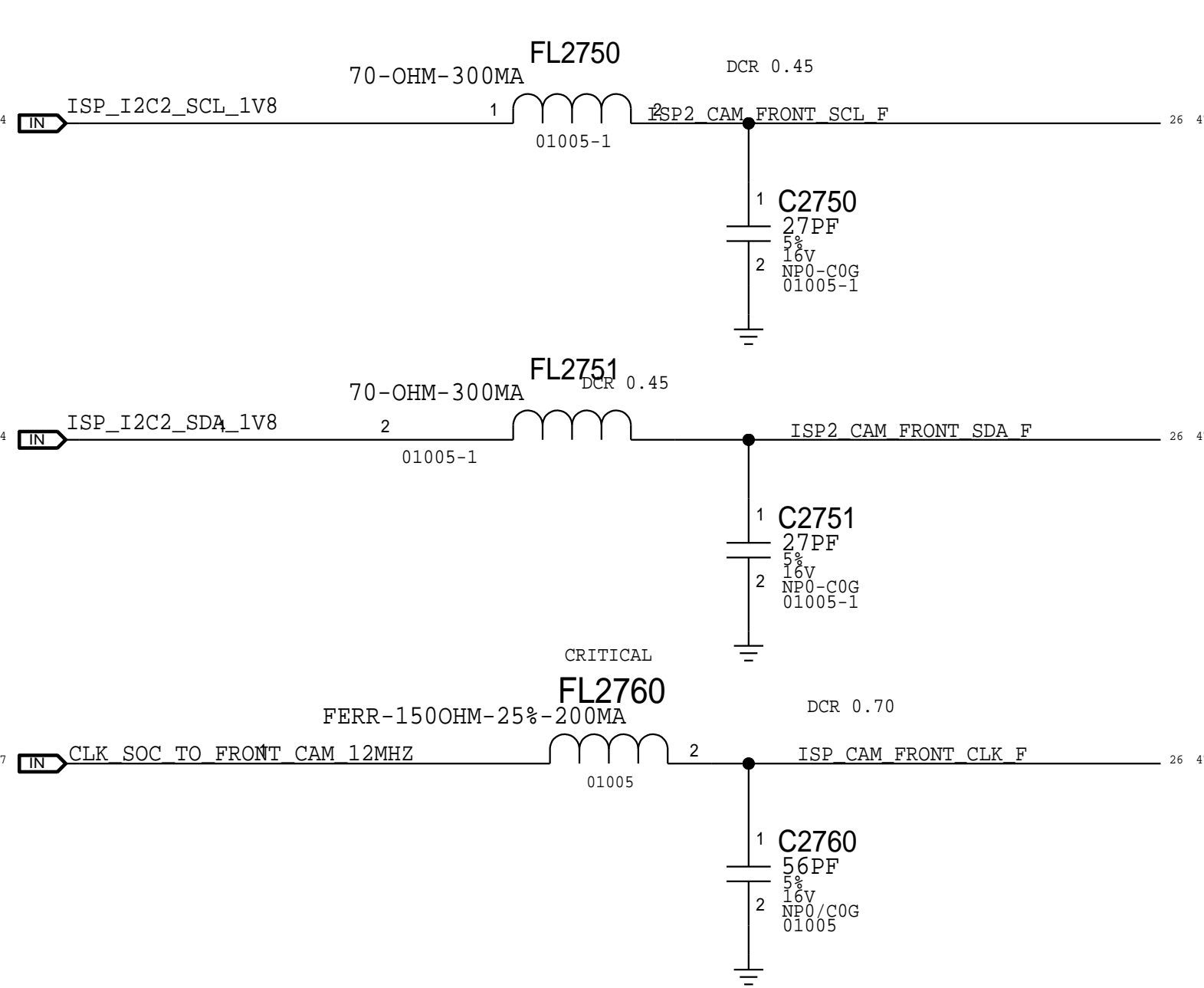
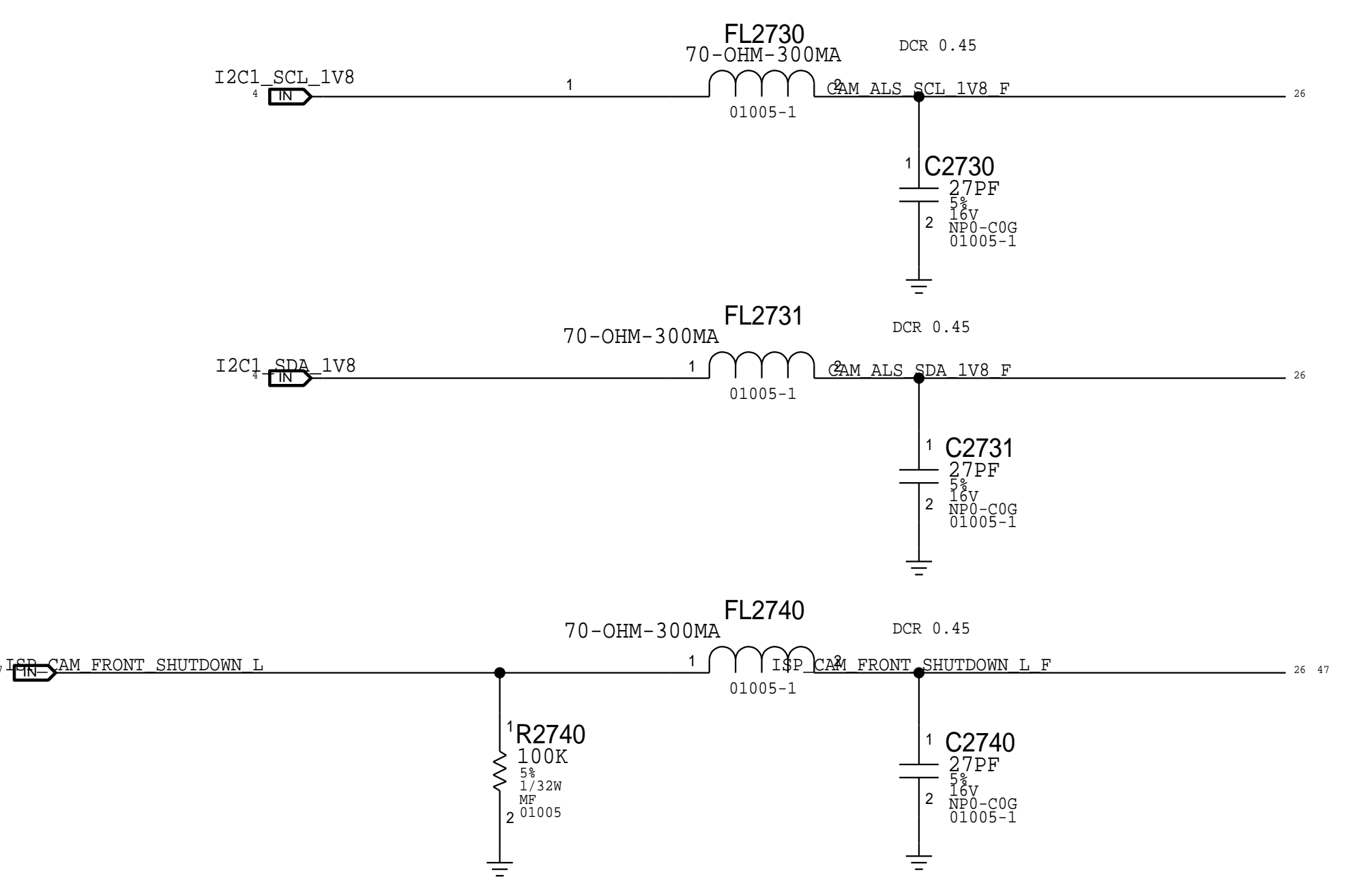
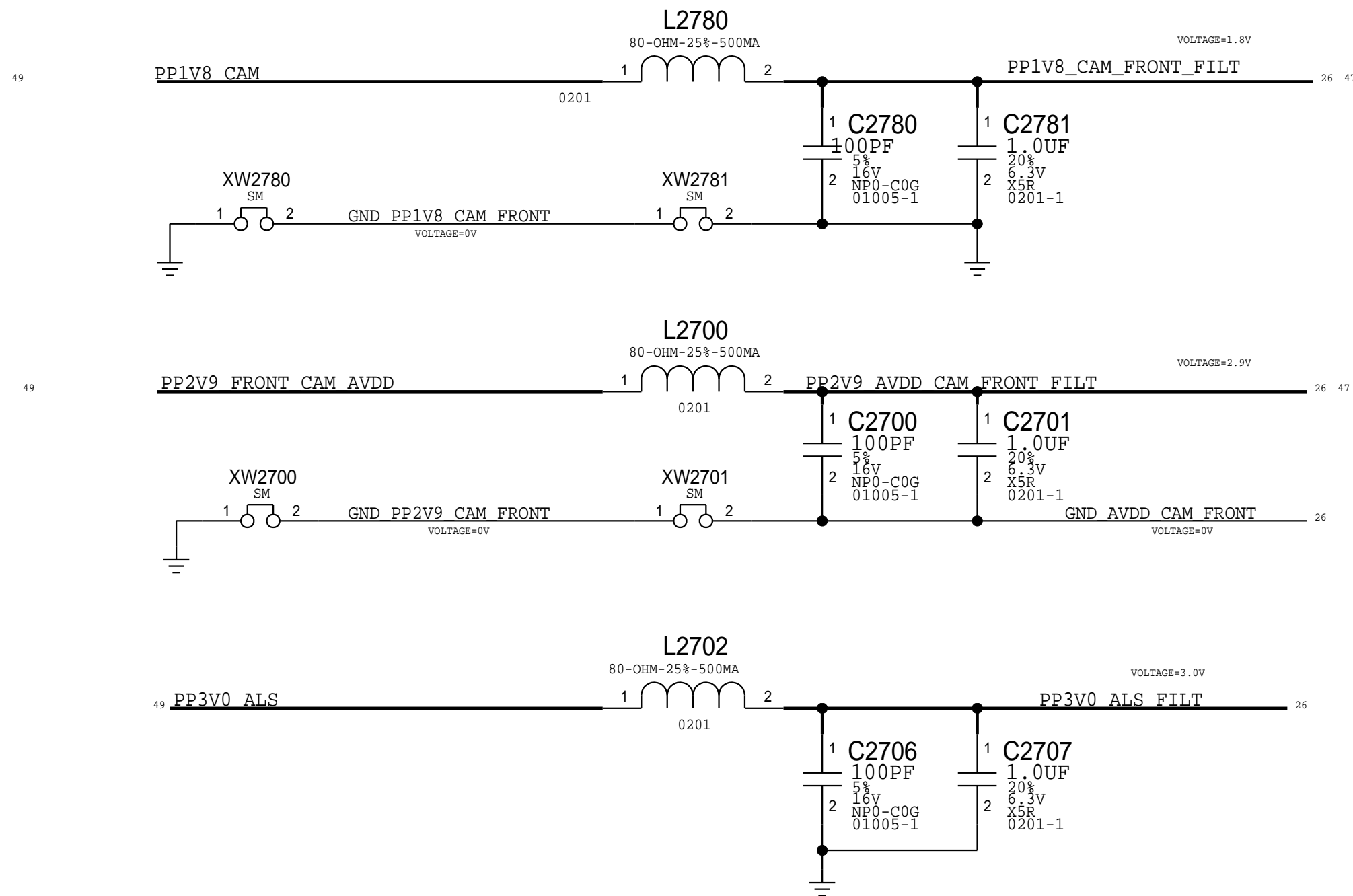
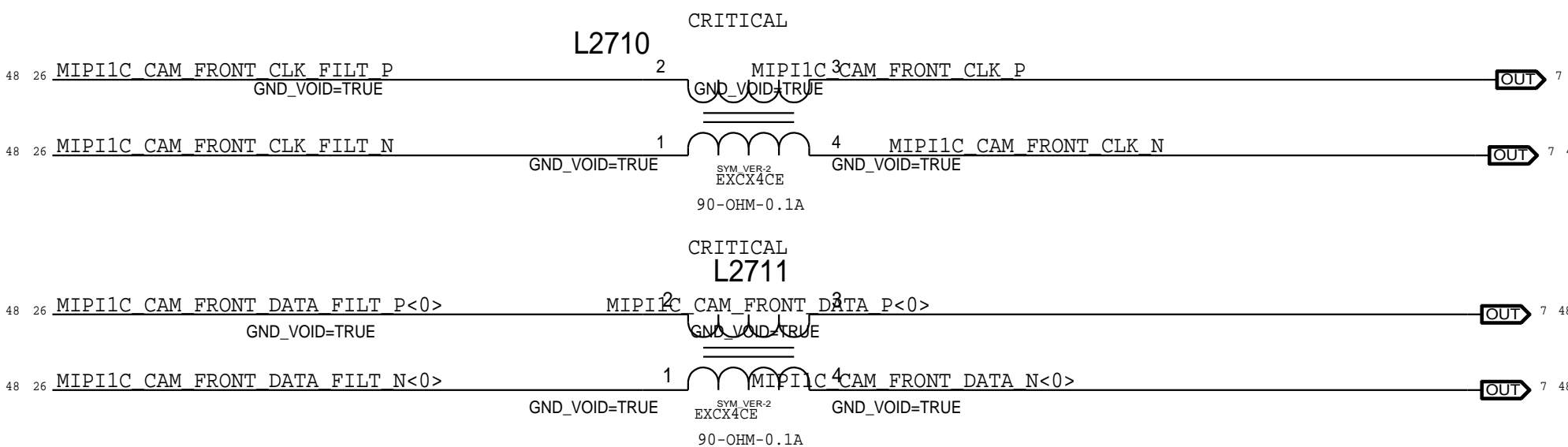
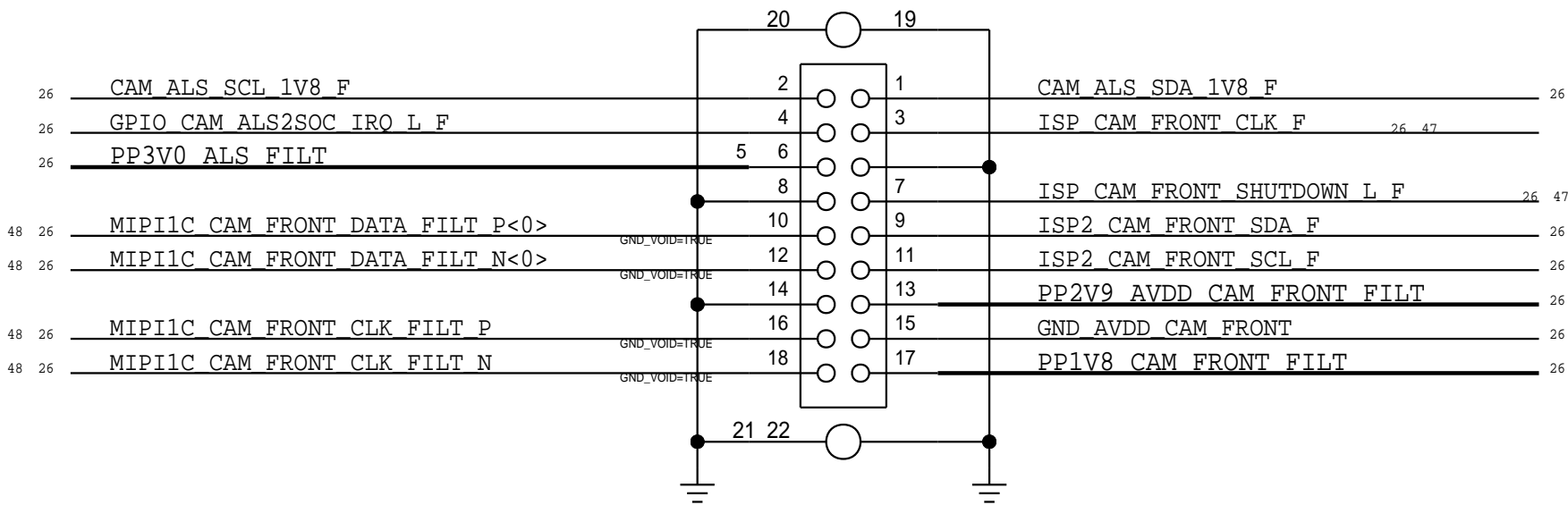


FRONT CAMERA CONNECTOR

J65 CAMERA CONNECTOR

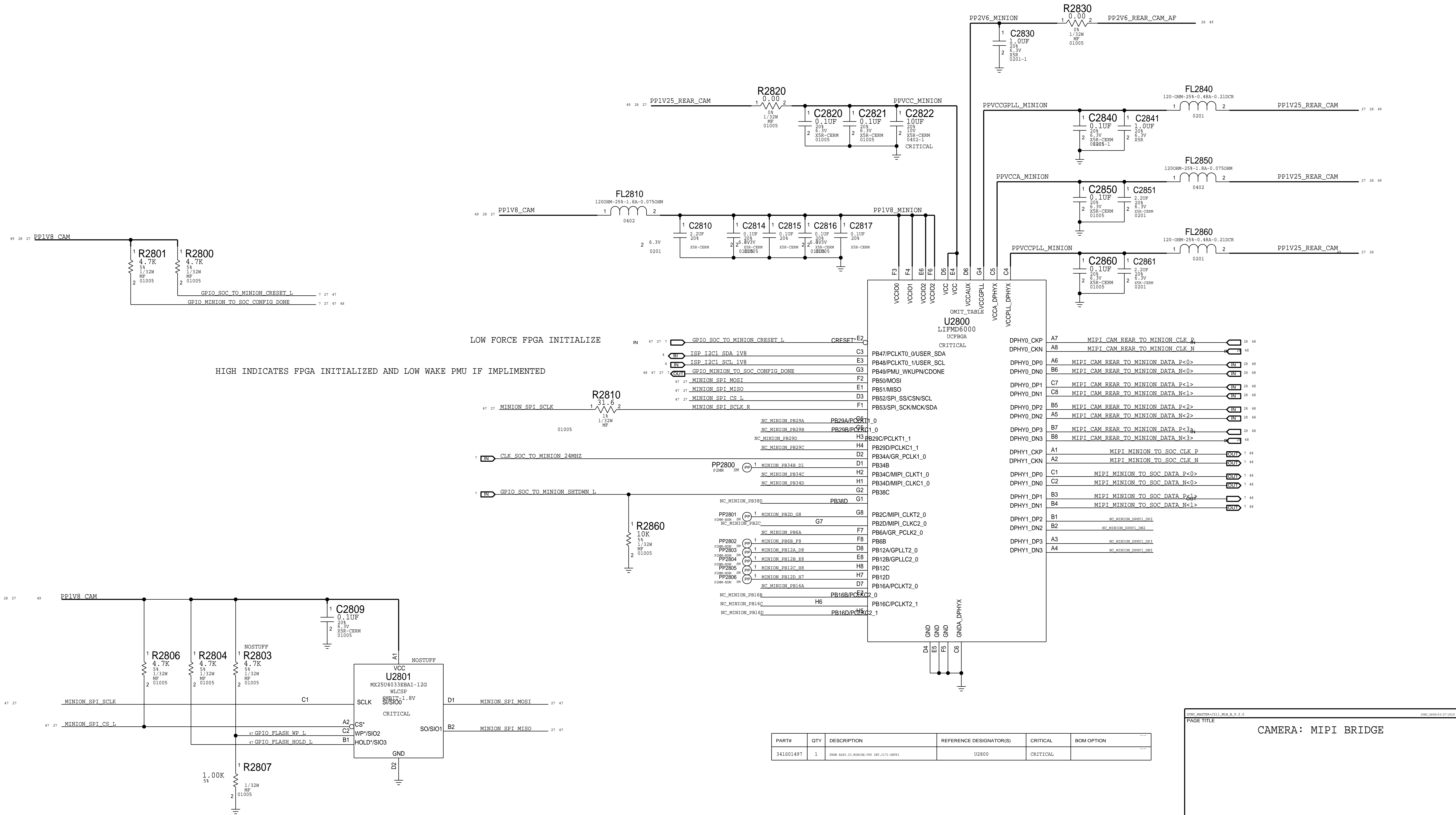
APN:MLB 516S0876  
APN:FLEX 516S0869

CRITICAL  
J2700  
503548-1820  
P-S1-SM

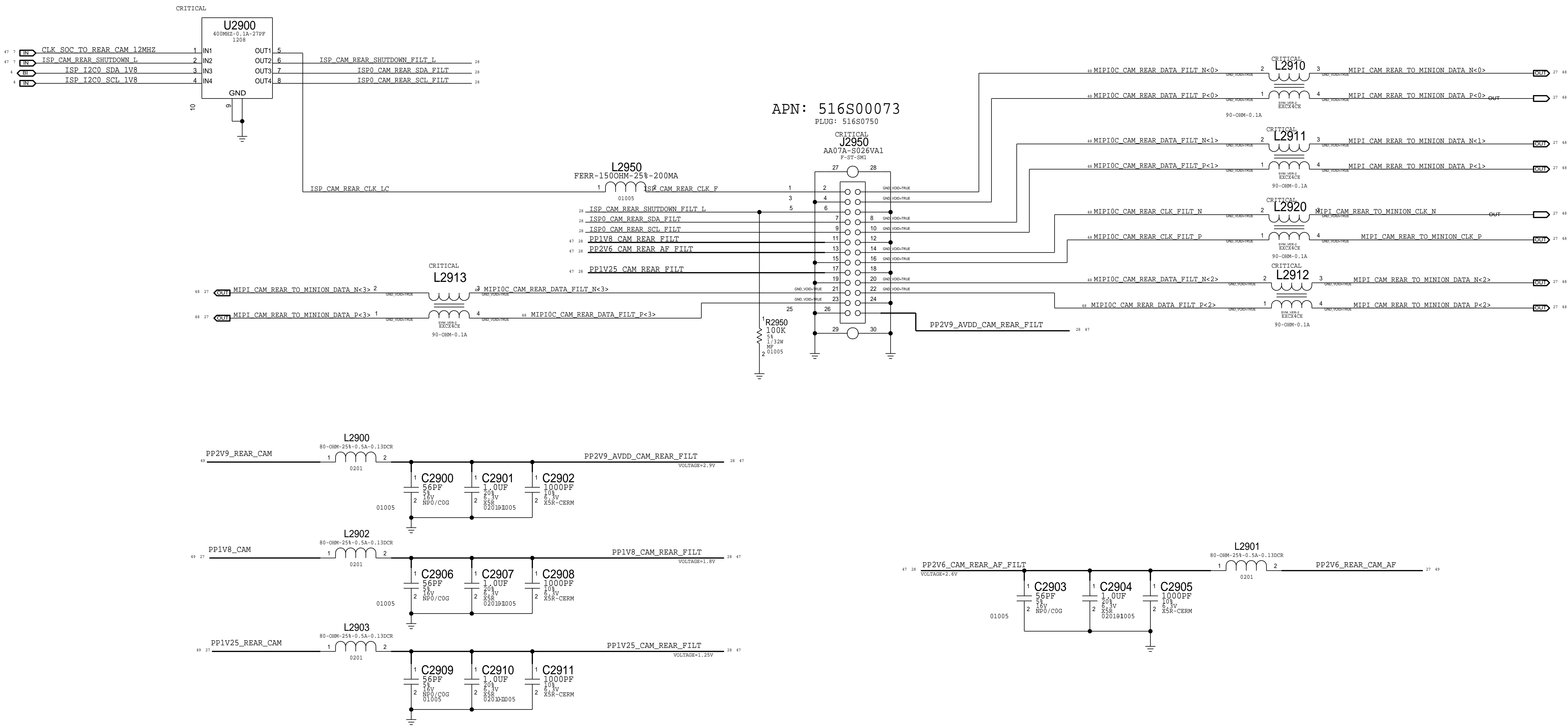


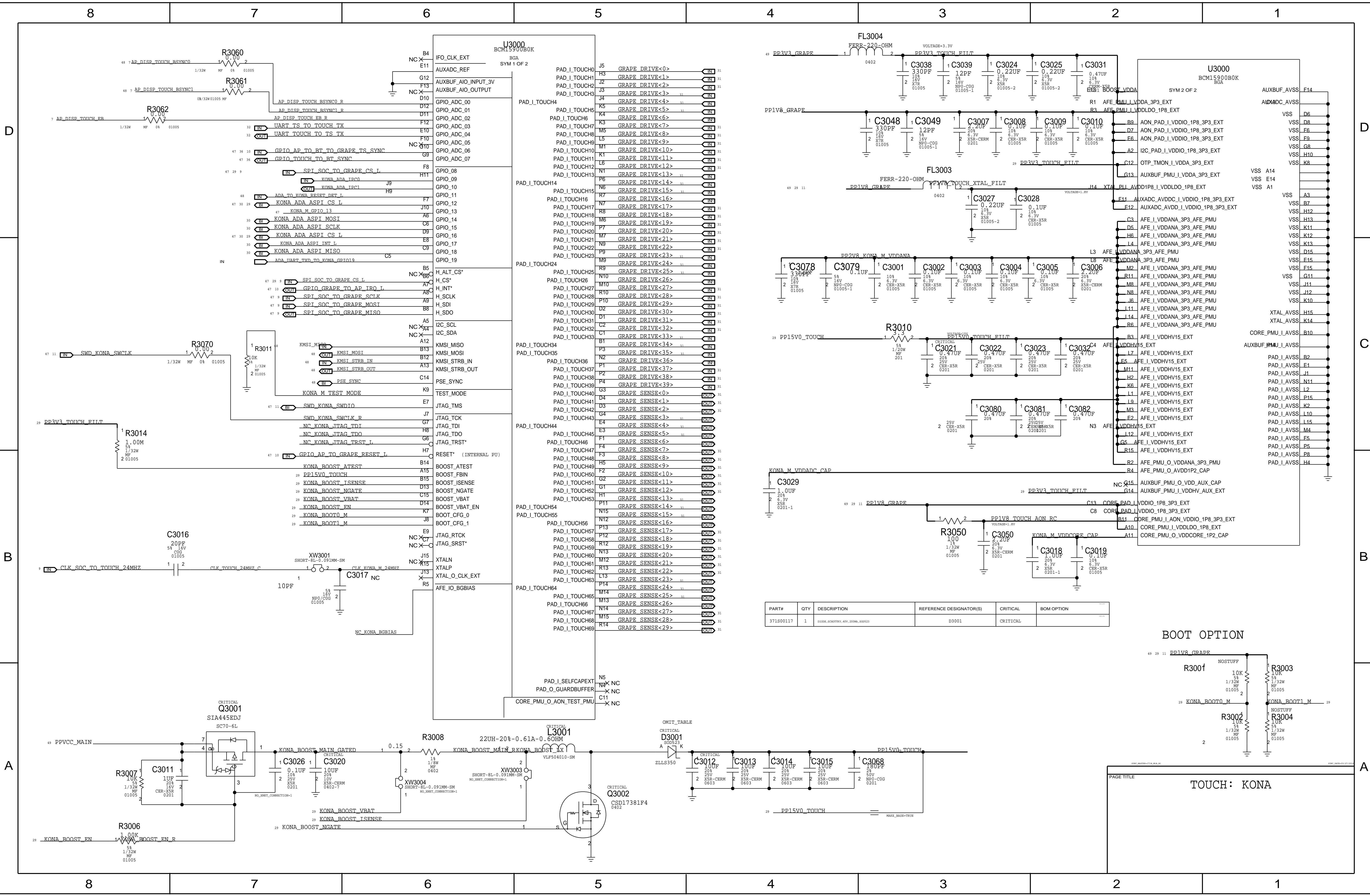
MINION

VCCIO: NOM 1.8V  
VCC: NOM 1.2V (1.25V CAMERA RAIL IS ACCEPTABLE)  
VCCAUX: NOM 2.5V (2.6V CAMERA RAIL IS ACCEPTABLE)



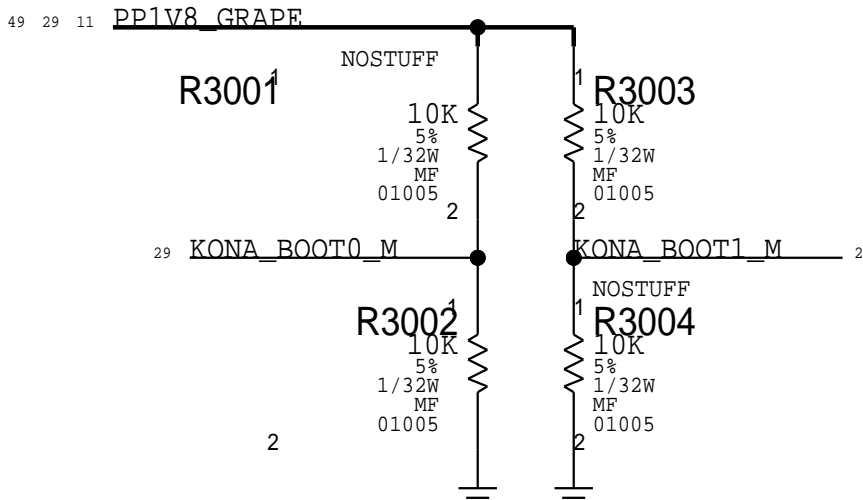
# REAR CAMERA CONNECTOR



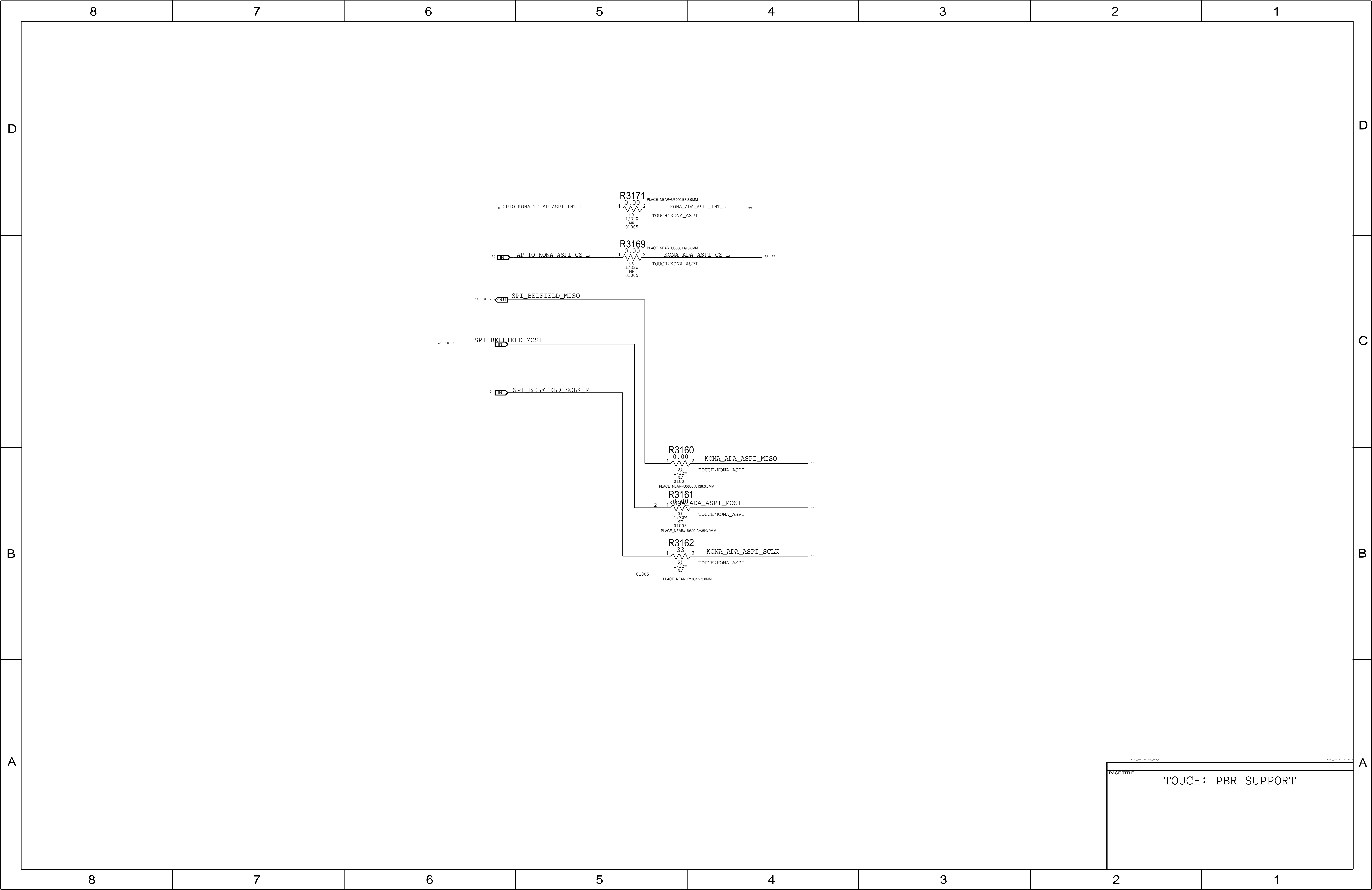


PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
371S00117	1	DIODE,SCHOTTKY,45V,200MA,SOD523	D3001	CRITICAL	

BOOT OPTION



TOUCH: KONA



D

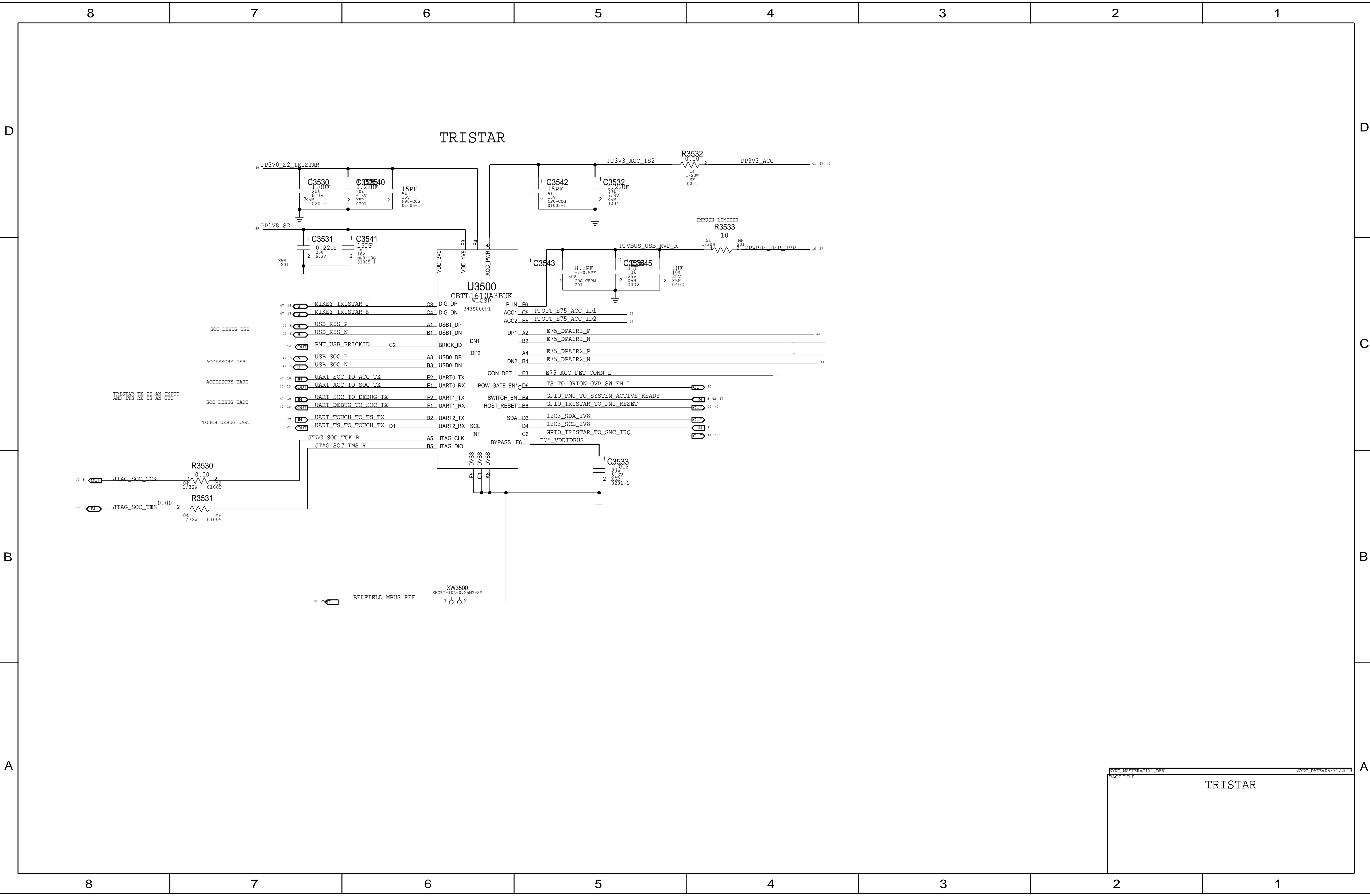
D

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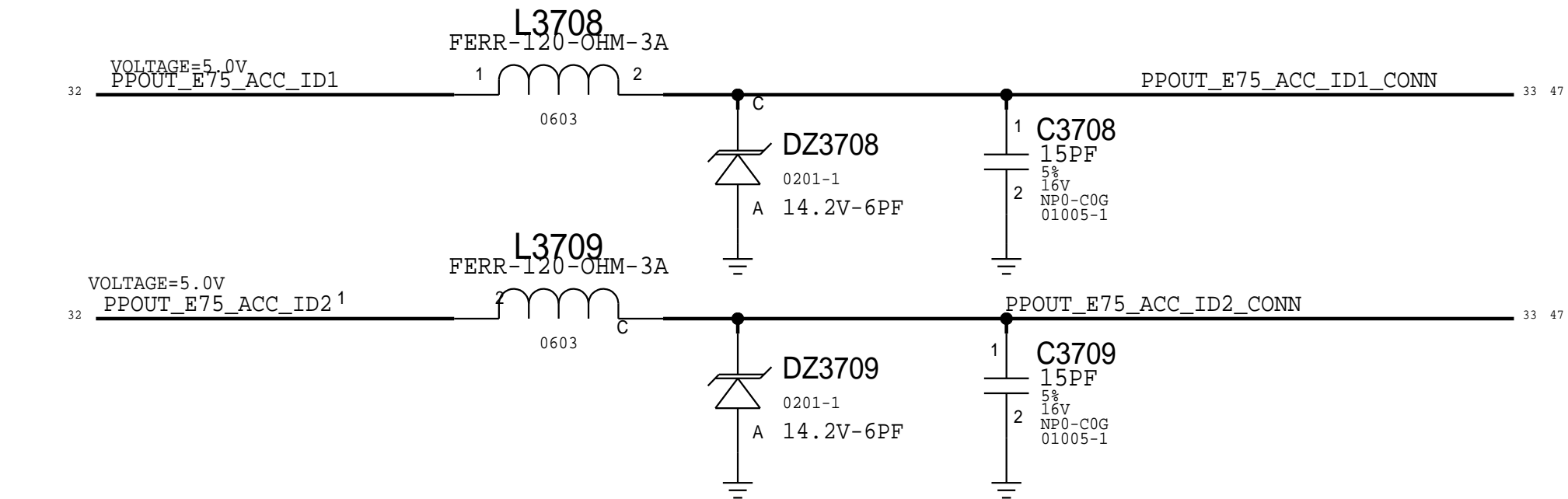
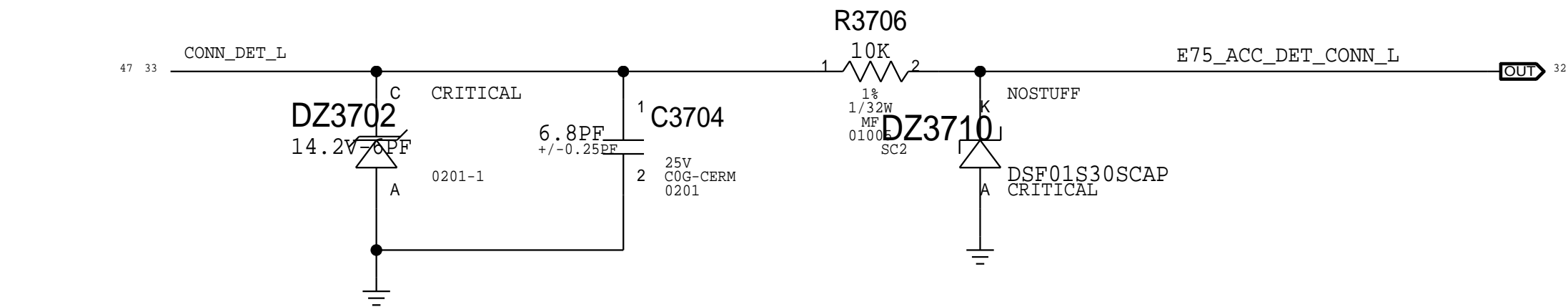
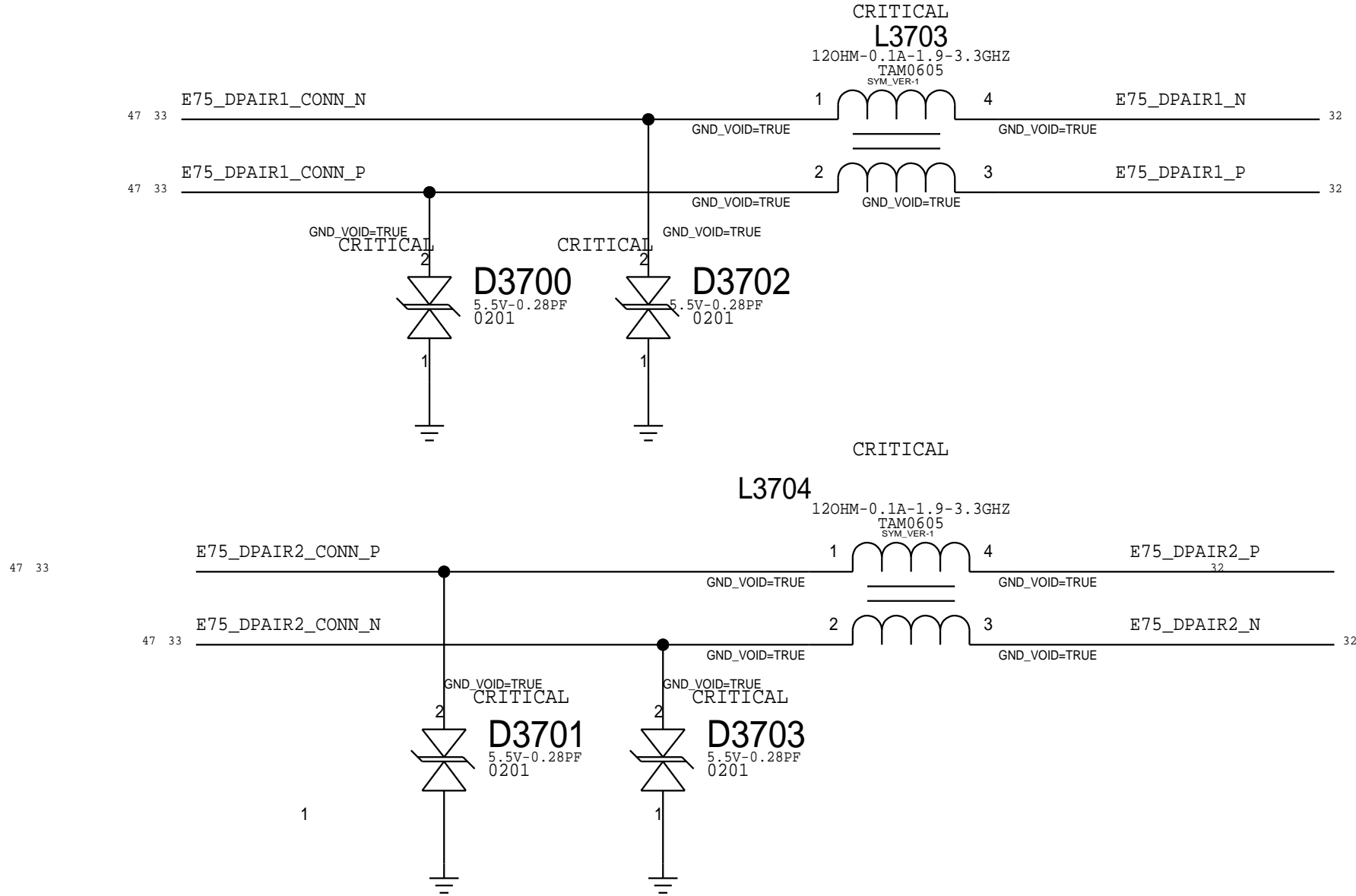
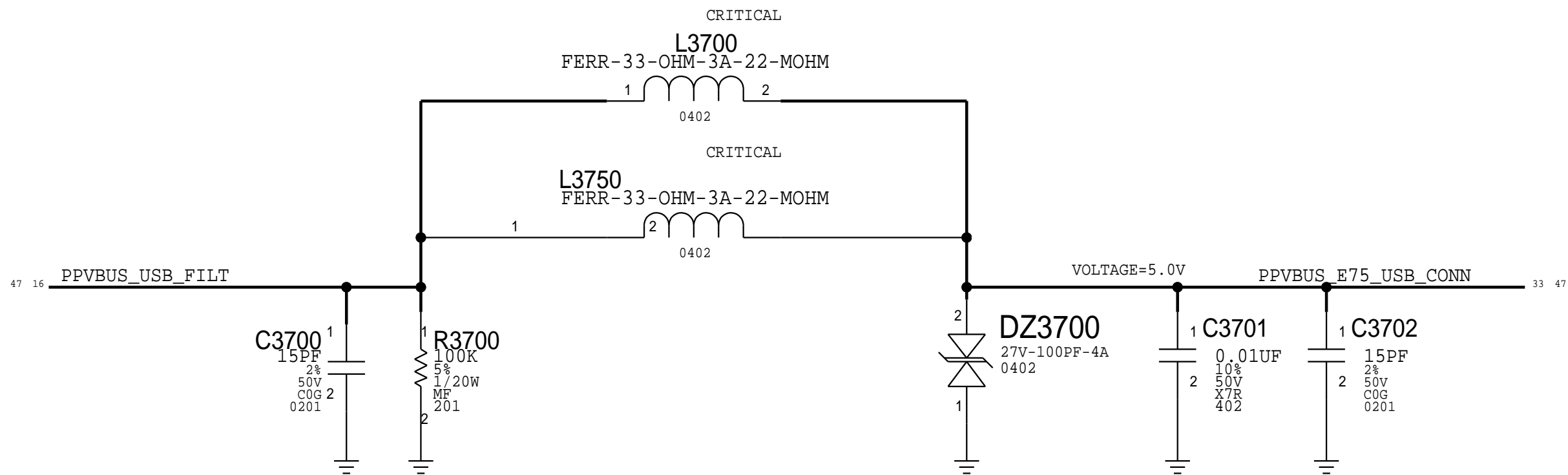
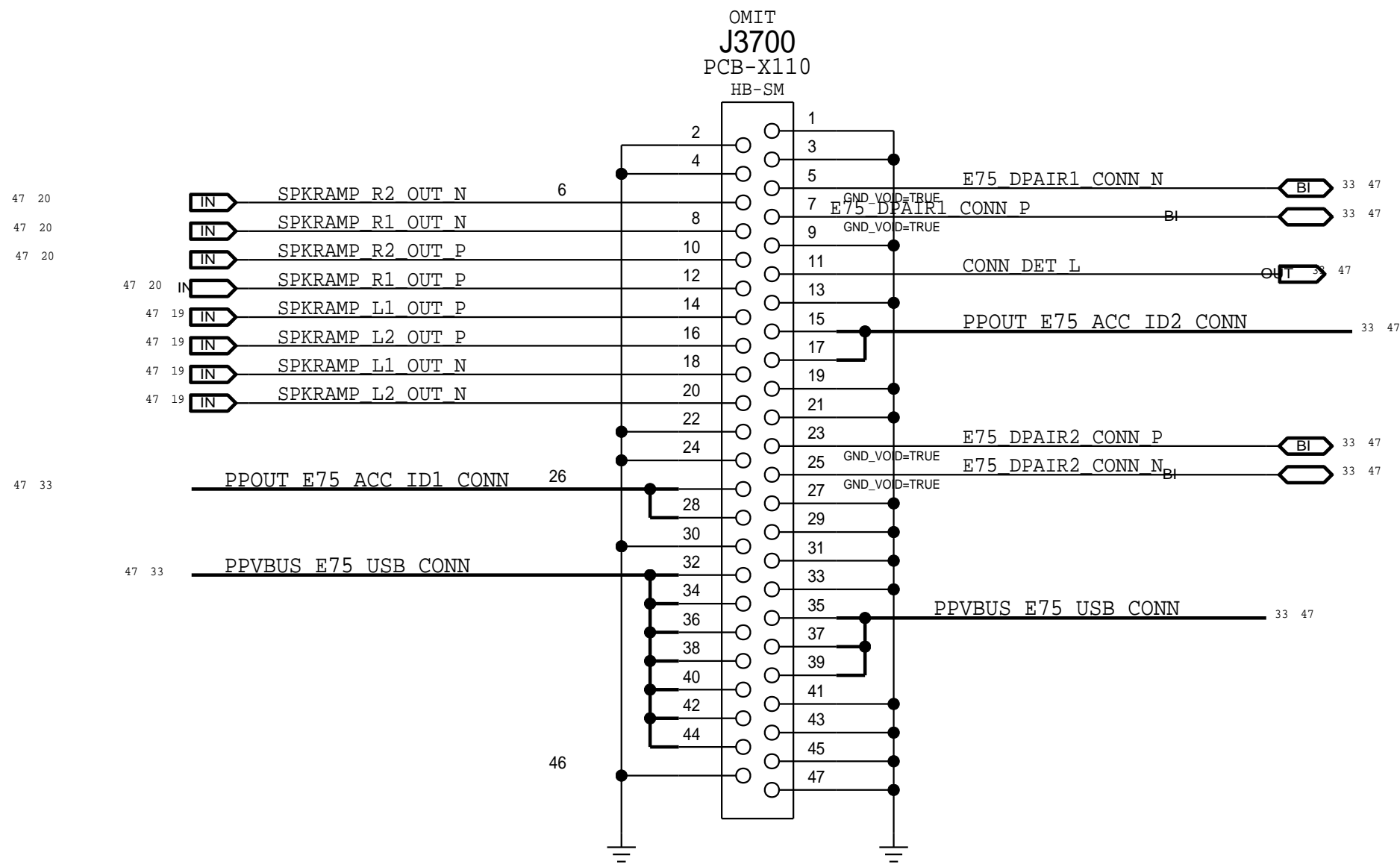


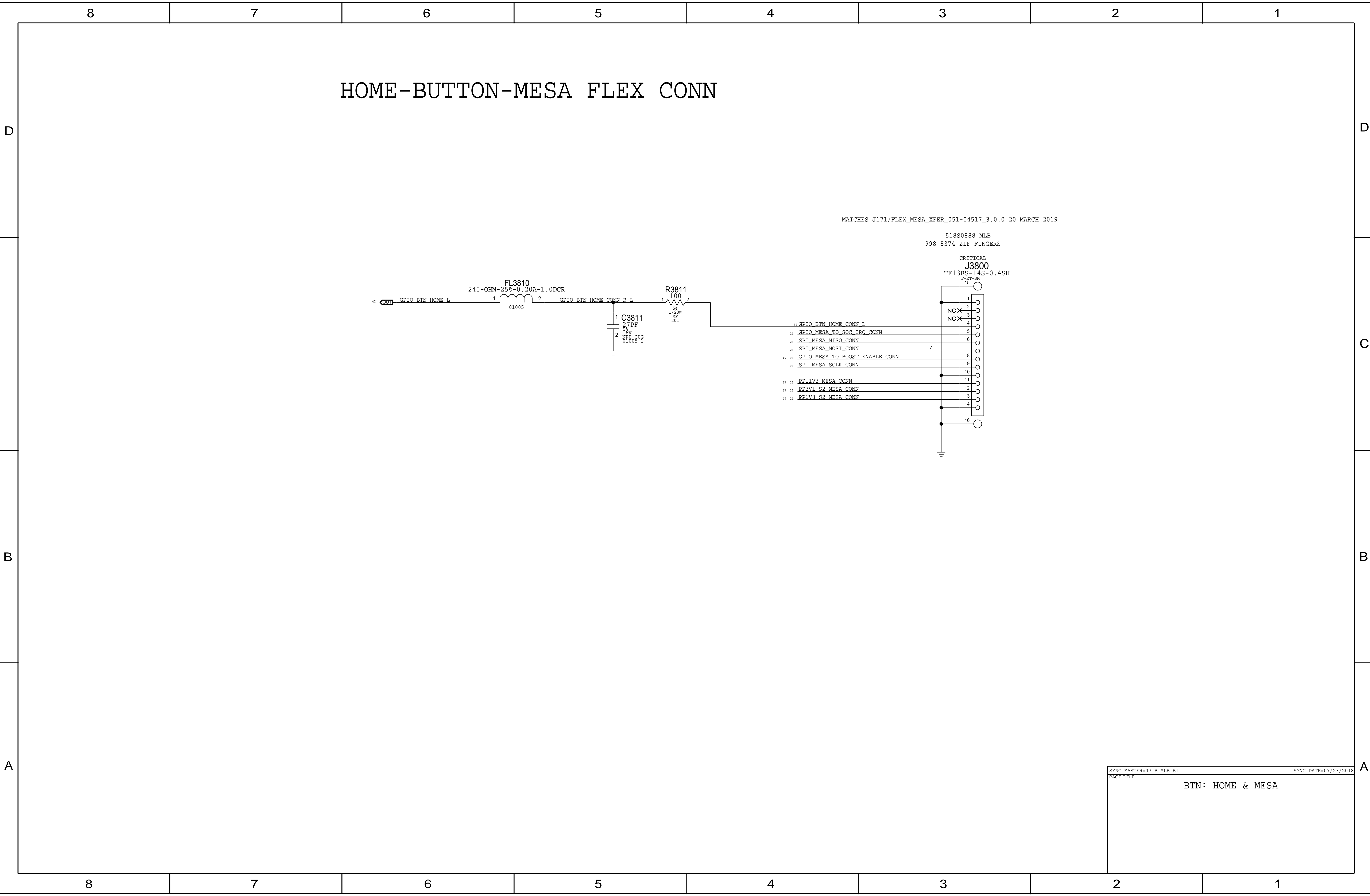


IO FLEX HOTBAR PADS

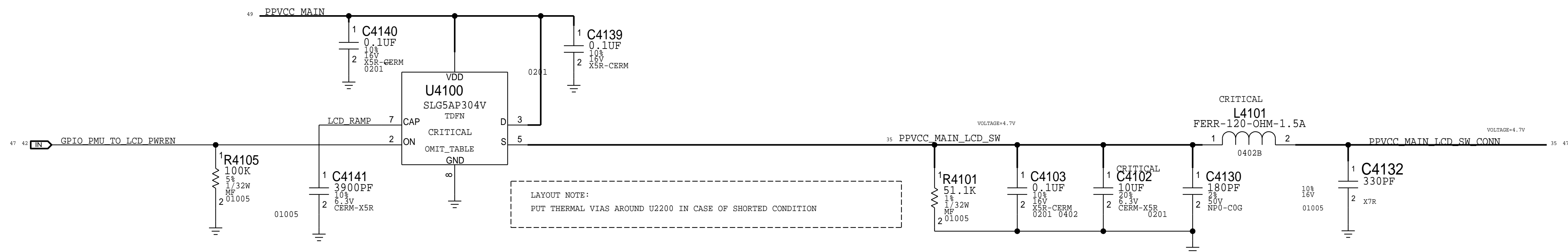
MLB 998-5877  
FLEX 998-5876

MATCHES J171/FLEX\_IO\_051-04515\_3.0.0 26 FEB 2019

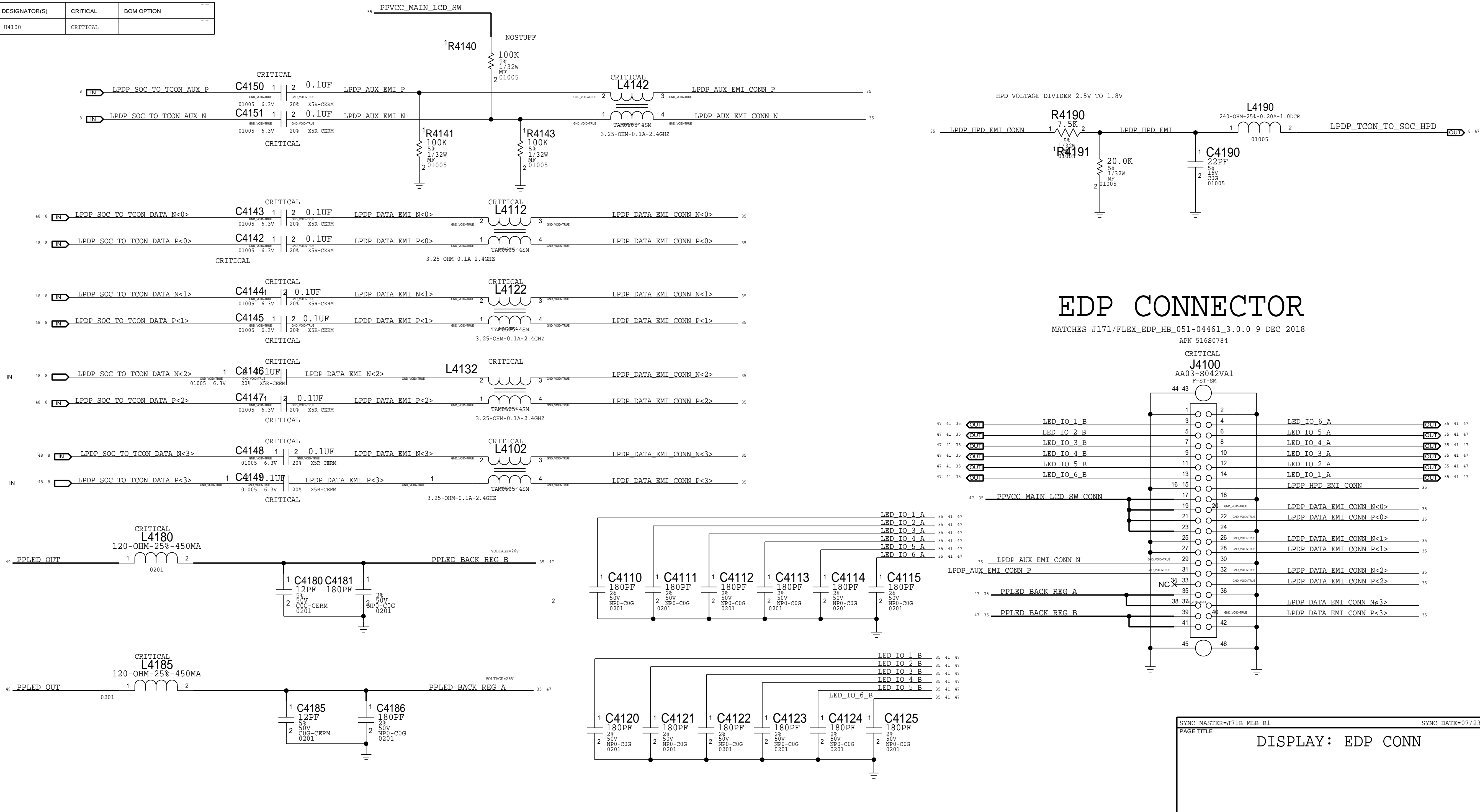




## EDP CONNECTOR SUPPORT

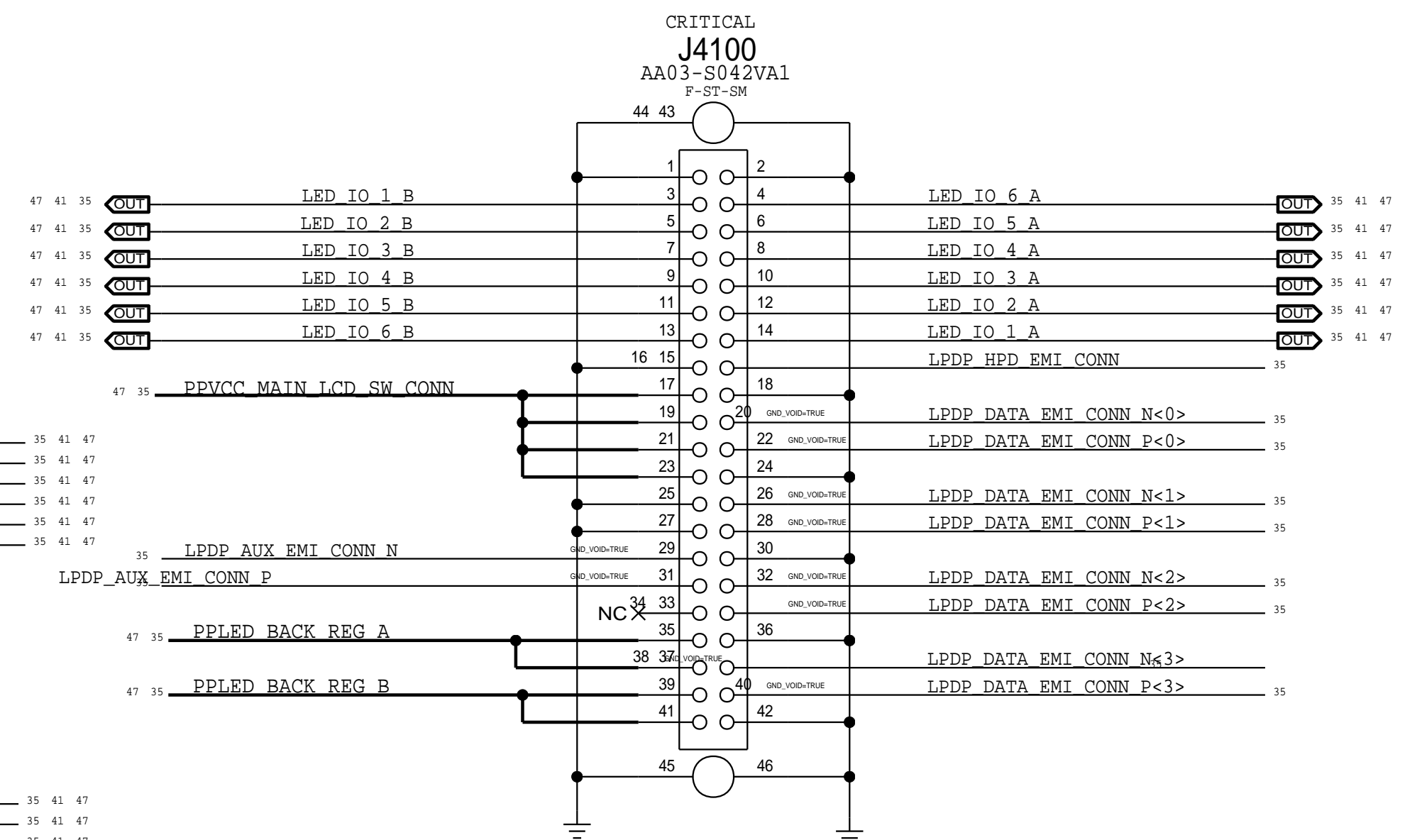


PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
353S4272	1	IC,SLG5AP1423V	U4100	CRITICAL	



# EDP CONNECTOR

MATCHES J171/FLEX\_EDP\_HB\_051-04461\_3.0.0 9 DEC 2018  
APN 516S0784



SYNC_MASTER=J71B_MLB_B1	SYNC_DATE=07/23/2018
PAGE TITLE	
DISPLAY: EDP CONN	

WLAN

```

49 38 36 PPVCC_MAIN == PPVCC_MAIN 36 38 49
49 PP3V3_S2 == PP3V3_S2 38
49 PPIV8_S2 == PPIV8_S2 38
CONNECTED PPIV8_S2_WIFI TO BUCK3 (CONFIRM OK)

47 42 GPIO_PMU_TO_WLAN_REG_ON == GPIO_PMU_TO_WLAN_REG_ON 38
42 GPIO_WLAN_TO_PMU_HOST_WAKE MAKE_BASE=TRUE == GPIO_WLAN_TO_PMU_HOST_WAKE 38 47
47 38 36 10 GPIO_AP_TO_WLAN_PCIE_DEV_WAKE MAKE_BASE=TRUE == GPIO_AP_TO_WLAN_PCIE_DEV_WAKE 10 36 38 47
42 CLK_PMU_TO_WLAN_32K MAKE_BASE=TRUE == CLK_PMU_TO_WLAN_32K 38 47
MAKE_BASE=TRUE

11 GPIO_AOP_TO_RADIO_CONTEXT_A GPIO_AOP_TO_RADIO_CONTEXT_A 38
11 IN GPIO_AOP_TO_RADIO_CONTEXT_B MAKE_BASE=TRUE == GPIO_AOP_TO_RADIO_CONTEXT_B 38
IN

CPUFUSE_MLIVE+SINGLE_NOBURN
FUNC_TEST=TRUE
TESTPOINT JTAG WLAN TCK MAKE_BASE=TRUE == TESTPOINT JTAG WLAN TCK 38
47 TP JTAG WLAN TMS MAKE_BASE=TRUE == TP JTAG WLAN TMS 38

10 GPIO_WLAN_TO_AP_TIME_SYNC 1 47 JTAG WLAN TRST == JTAG WLAN TRST 38
R4901 0.0 1/32W 01005 MF 0.00 MAKE_BASE=TRUE

48 6 PCIE_SOC_TO_WLAN_REFCLK_P == PCIE_SOC_TO_WLAN_REFCLK_P 38
48 6 PCIE_SOC_TO_WLAN_REFCLK_N MAKE_BASE=TRUE == PCIE_SOC_TO_WLAN_REFCLK_N 38
MAKE_BASE=TRUE

47 6 PCIE_WLAN_TO_SOC_CLKREQ_L == PCIE_WLAN_TO_SOC_CLKREQ_L 38
47 6 PCIE_SOC_TO_WLAN_RESET_L MAKE_BASE=TRUE == PCIE_SOC_TO_WLAN_RESET_L 38
MAKE_BASE=TRUE

**CONNECTED TO PMU GPIO22
42 GPIO_BT_TO_PMU_HOST_WAKE == GPIO_BT_TO_PMU_HOST_WAKE 38 47
42 GPIO_PMU_TO_BT_REG_ON MAKE_BASE=TRUE == GPIO_PMU_TO_BT_REG_ON 38
MAKE_BASE=TRUE

47 29 GPIO_TOUCH_TO_BT_SYNC == GPIO_TOUCH_TO_BT_SYNC 38
MAKE_BASE=TRUE
47 29 10 GPIO_AP_TO_BT_TO_GRAPE_TS_SYNC == GPIO_AP_TO_BT_TO_GRAPE_TS_SYNC 38
MAKE_BASE=TRUE

47 6 PCIE_WLAN_TO_SOC_TX_P GND_VDD=TRUE GND_VDD=TRUE
C9160 1 2 0.1UF PCIE_WLAN2SOC_TX_P 38
20% 01005
XSR-CERM 6.3V

47 6 PCIE_WLAN_TO_SOC_TX_N C9161 1 2 0.1UF PCIE_WLAN2SOC_TX_N 38
20% 01005
XSR-CERM 6.3V
GND_VDD=TRUE GND_VDD=TRUE

6 PCIE_SOC_TO_WLAN_TX_P == PCIE_SOC_TO_WLAN_TX_P 38 47
MAKE_BASE=TRUE

6 PCIE_SOC_TO_WLAN_TX_N == PCIE_SOC_TO_WLAN_TX_N 38 47
MAKE_BASE=TRUE

```

## D

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## D



## B

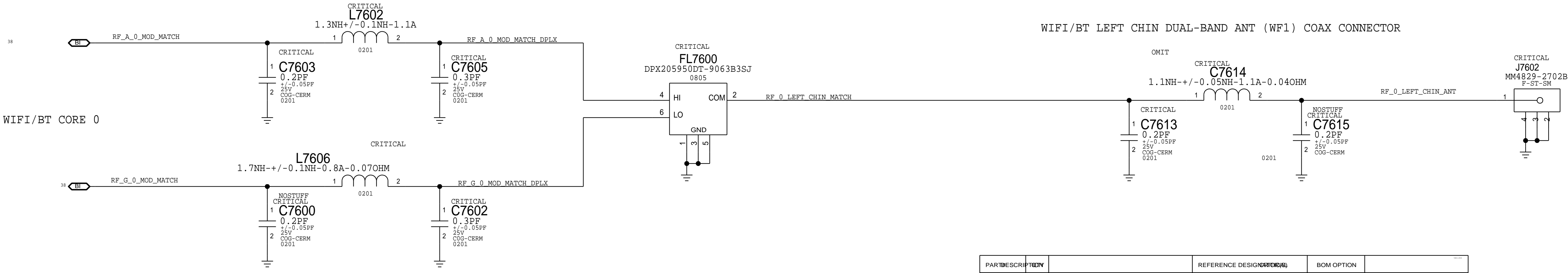
A

LAST UPDATED: 06/15/2017

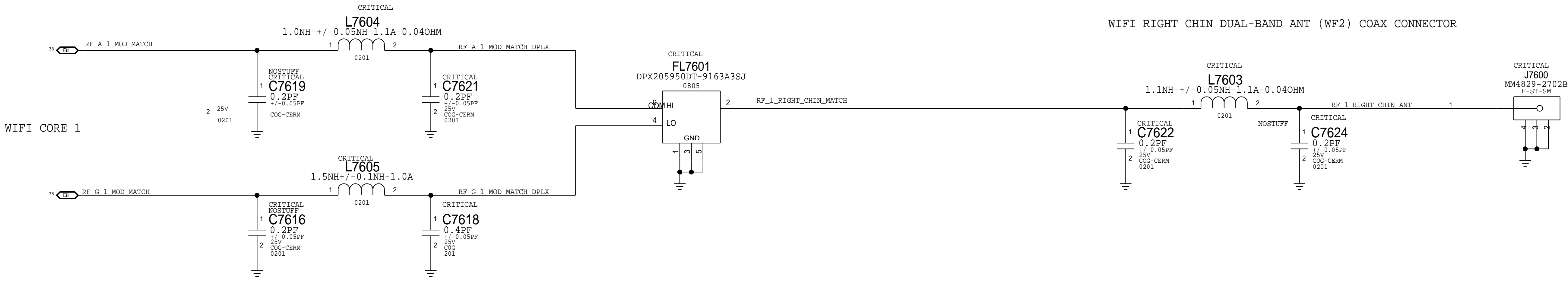
SYNC_MASTER=N/A	SYNC_DATE=03/27/2019
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PAGE TITLE
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WIFI/BT: J171 (WIFI/BT ONLY) RF FRONT END



PART	DESCRIPTION	REFERENCE DESIGNATOR	BOM OPTION
1522001501	0.2PF +/-0.05PF 25V COG-CERM 0201	C7614 CRITICAL	

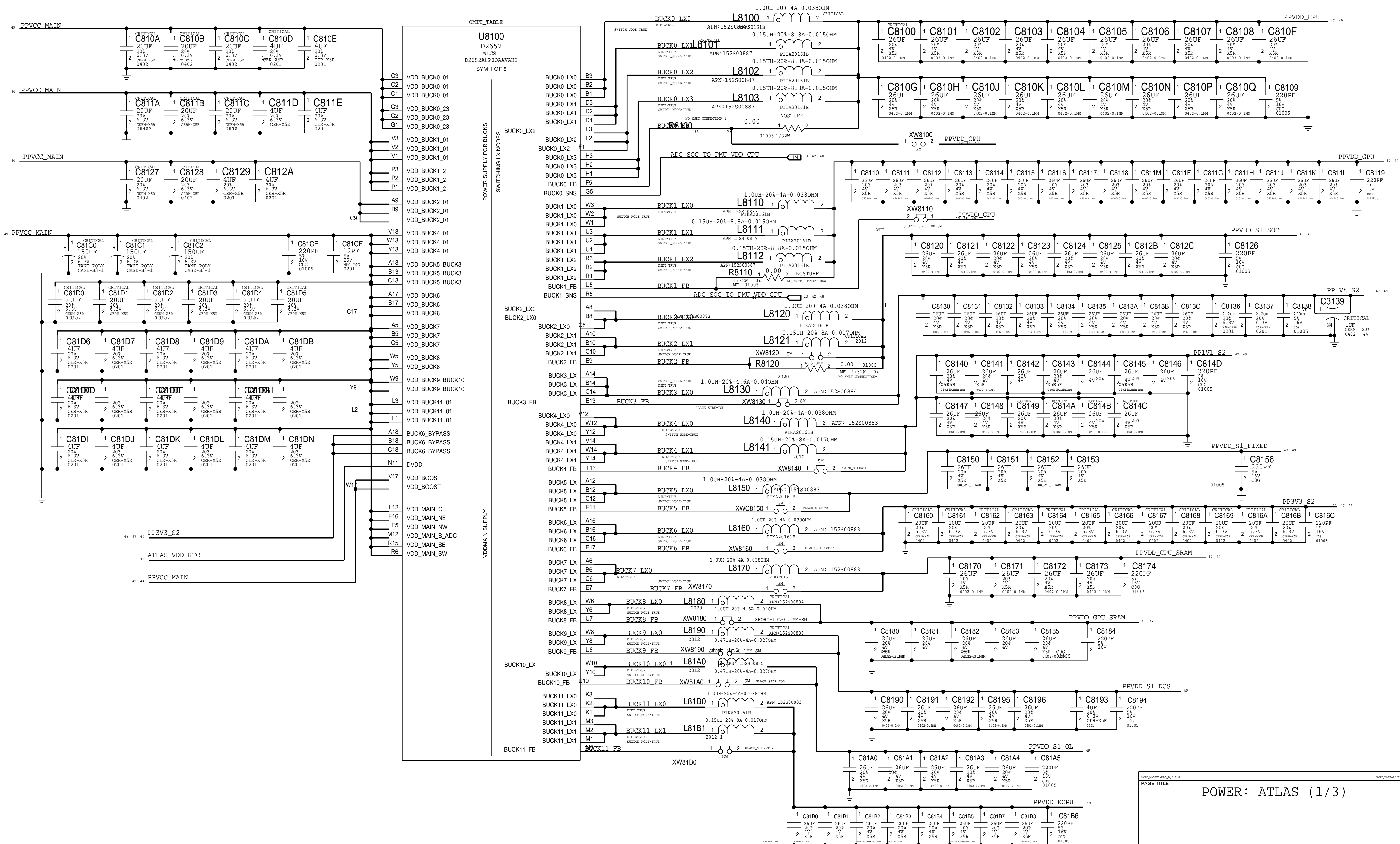


LAST UPDATED: 11/08/2018

WIFI/BT: J171 FRONT END



# ATLAS BUCKS





ATLAS LDOS (2/3)

D

B

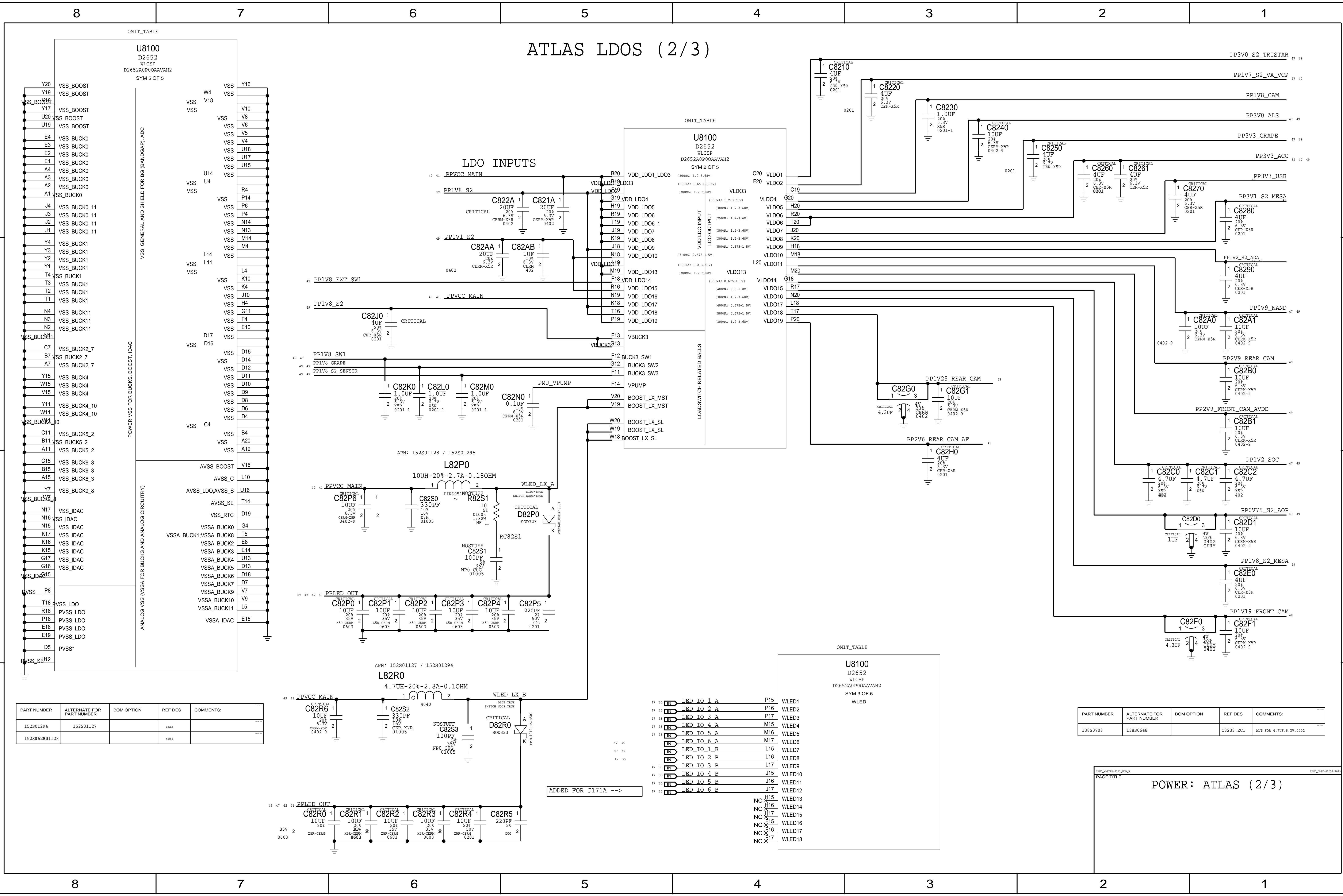
A

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A



PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S01294	152S01127		LEAD	
152S01294	152S01128		LEAD	

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S0703	138S0648		C8233, ECT	ALT FOR 4.7UF, 6.3V, 0402

SYNCH MASTER=0211\_MGR\_B SYNCH DATE=01/27/2016

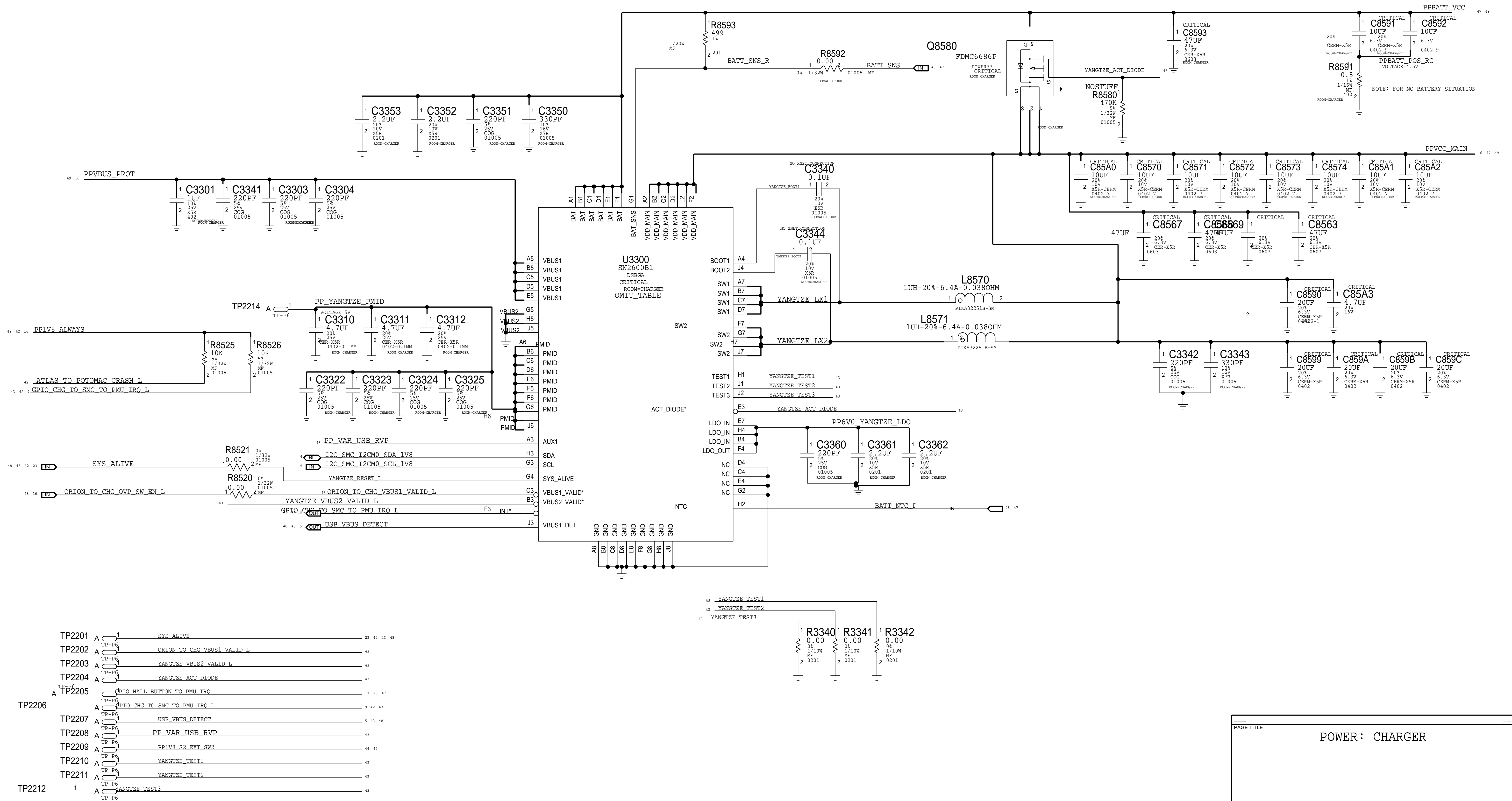
PAGE TITLE

POWER: ATLAS (2/3)

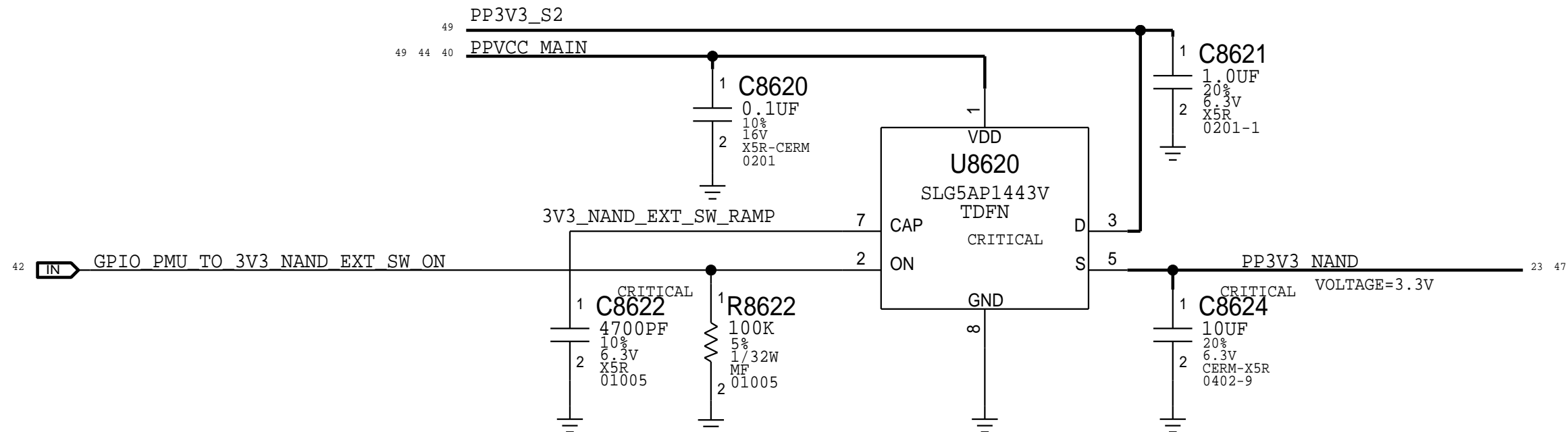
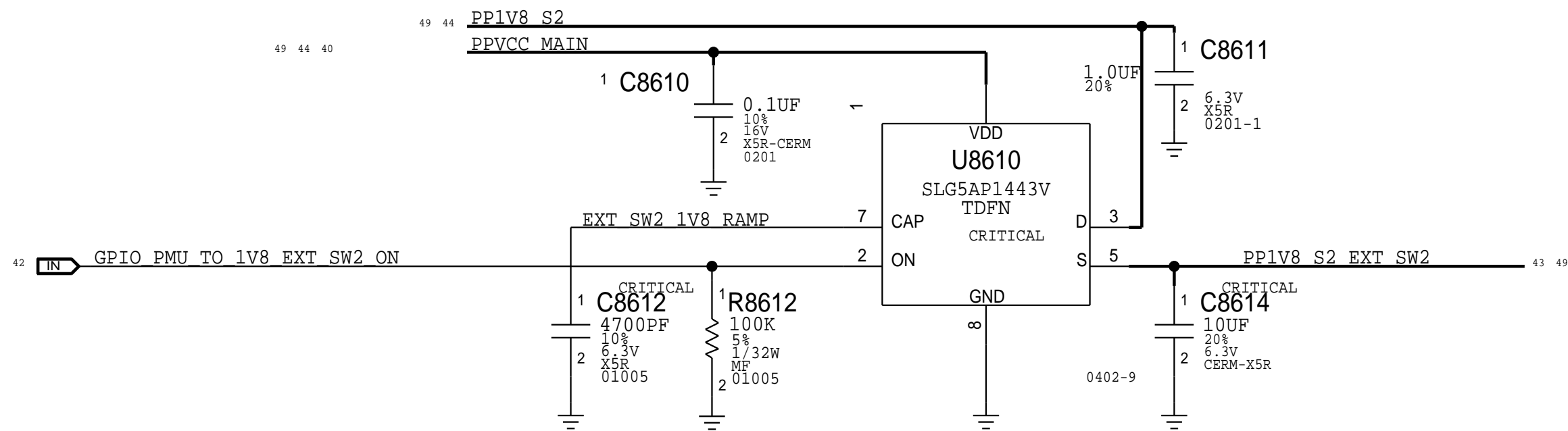
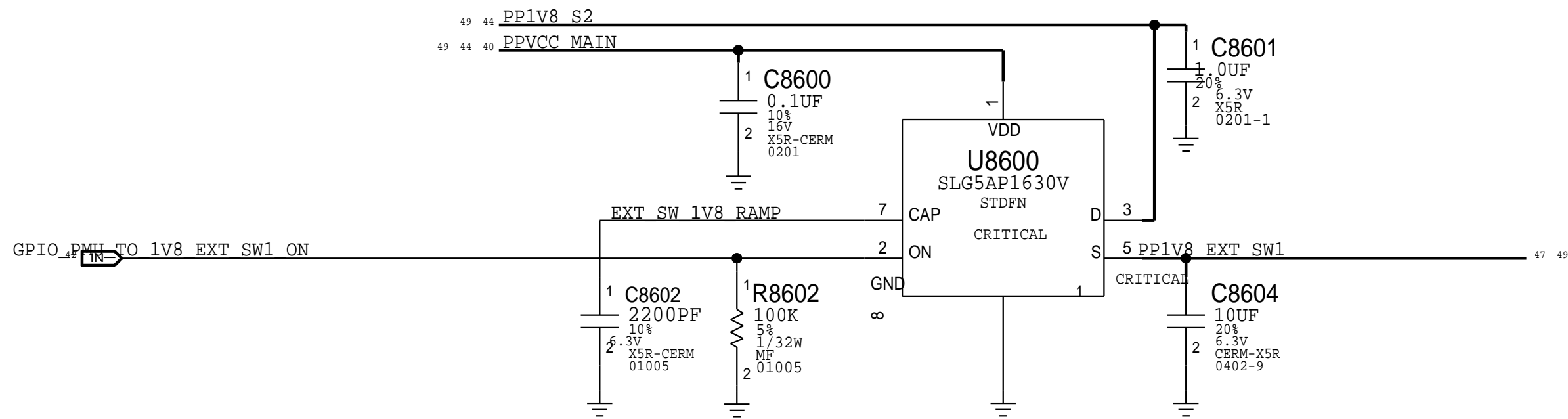
ADDED FOR J171A -->

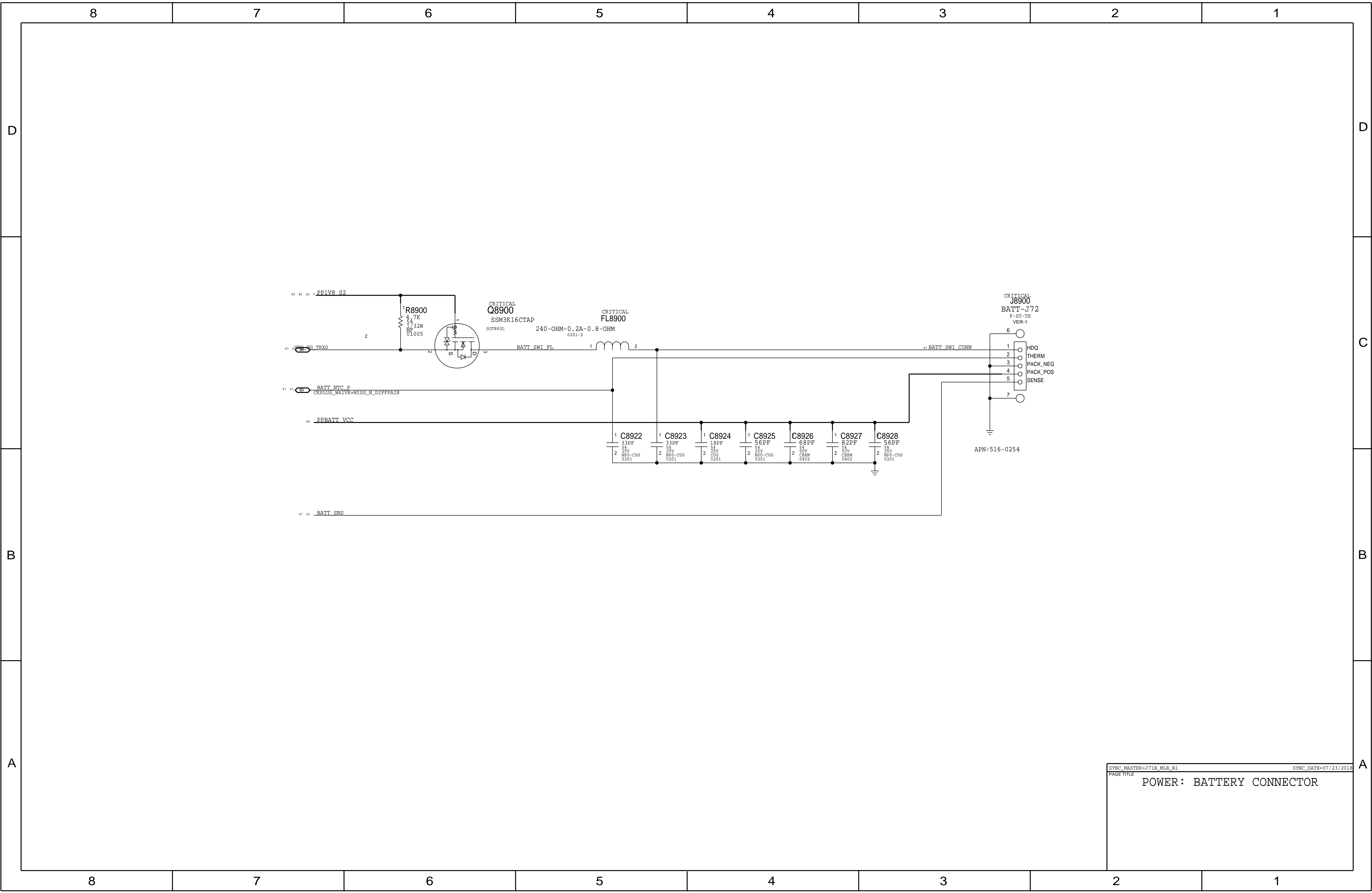


YANGTZE CHARGER



EXTERNAL POWER SWITCHES





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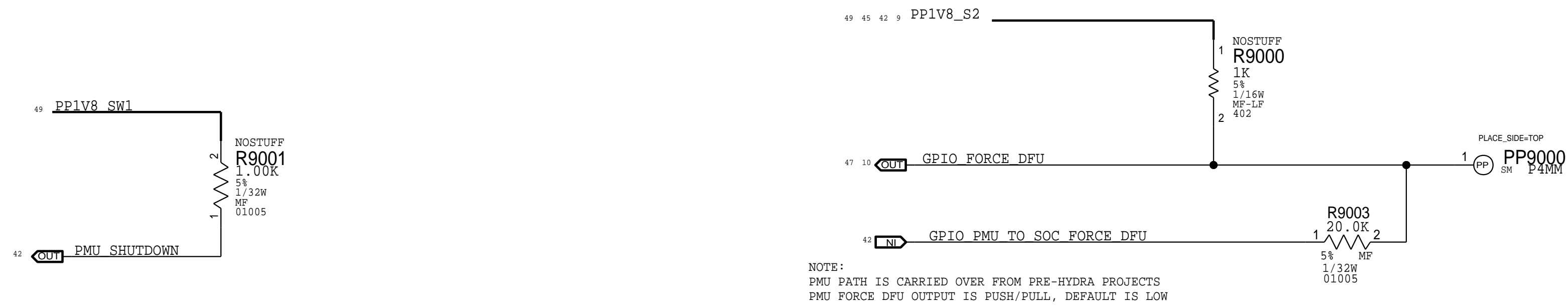
SYNC\_MASTER=J71B\_MLB\_B1

SYNC\_DATE=07/23/2018

PAGE TITLE

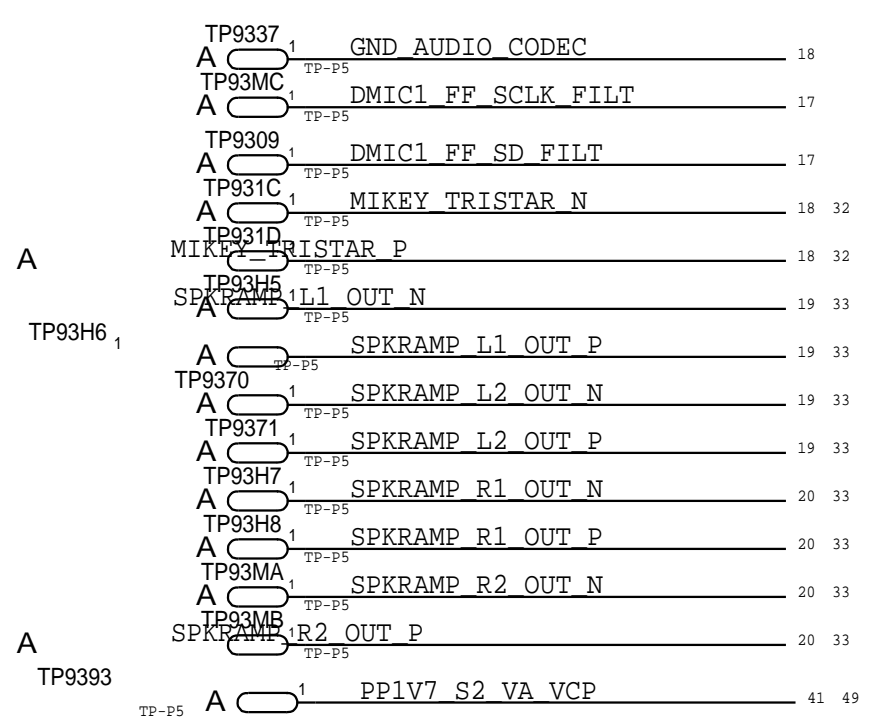
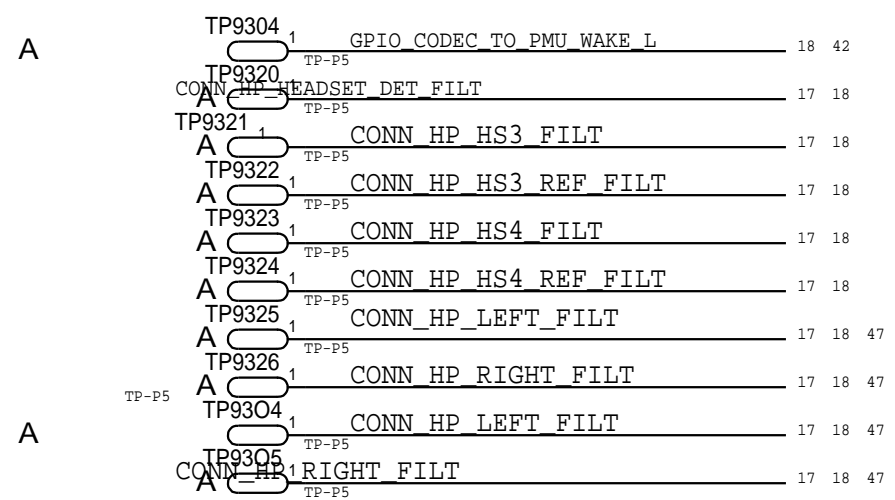
POWER: BATTERY CONNECTOR

# DEBUG RESET ACCESS





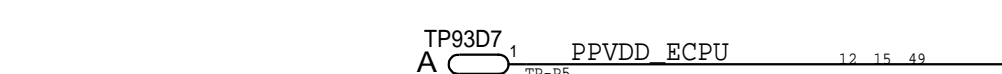
GPIO CODEC TO SOC IRQ L	9	18
GPIO AP TO CODEC RESET L	10	18



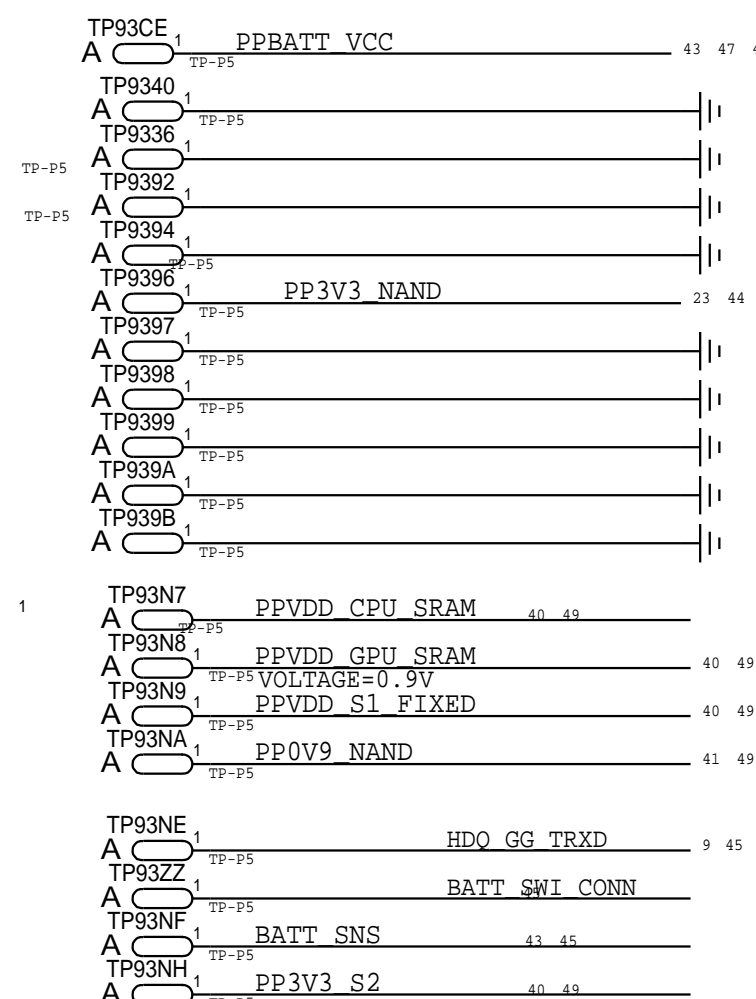
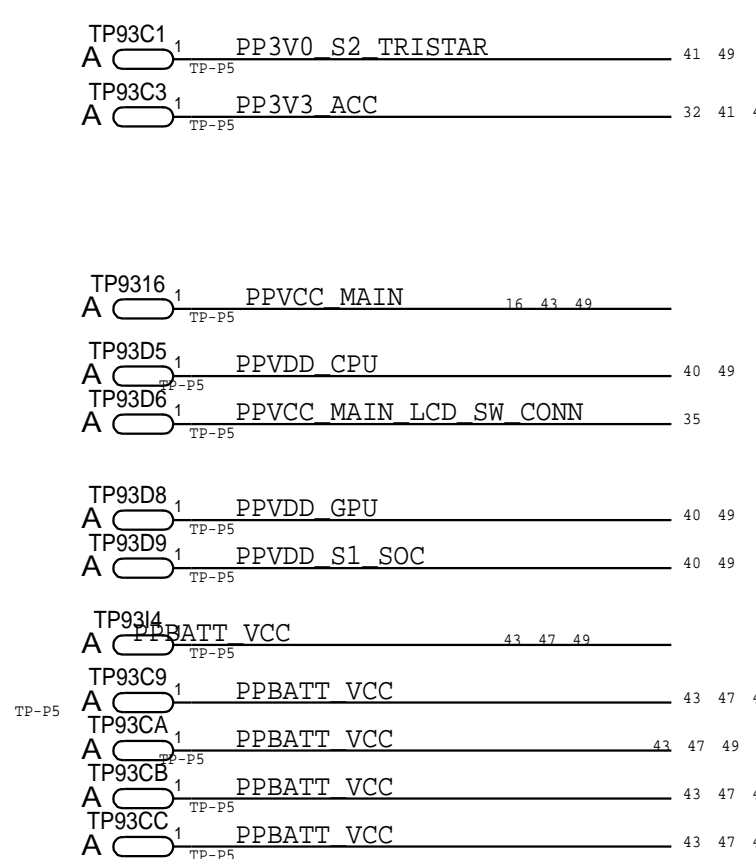
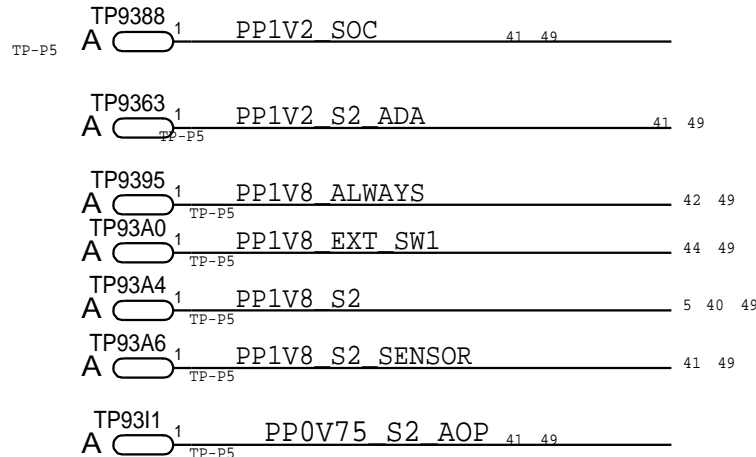
```
GPIO BTN HOME CONN L 1
GPIO BTN ONOFF L FILT 2
GPIO BTN VOL DOWN L FILT 2
GPIO BTN VOL UP L FILT 2
```

<u>PP2V9 AVDD CAM FRONT FILT</u>	26
PP2V9 AVDD CAM REAR FILT	28
<u>PP2V8 CAM REAR AF FILT</u>	28
PP1V8 SW1	41 49
<u>PP1V8 CAM FRONT FILT</u>	26
PP1V8 CAM REAR FILT	28
PP1V25 CAM REAR FILT	28
CLK SOC TO REAR CAM 12MHZ	7 28
<u>ISP I2C0 SCL I1V8</u>	4 7
ISP I2C0 SDA I1V8	4 7
<u>SHUTDOWN L</u>	7 28
<u>ISP CAM FRONT CLK F</u>	26
SP2 CAM FRONT SCL F	26
<u>ISP2 CAM FRONT SDA F</u>	26
ISP CAM FRONT SHUTDOWN L F	26

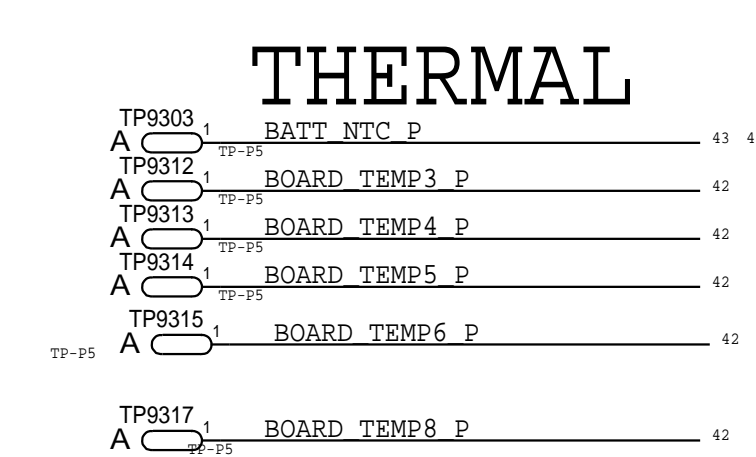
CHECK ALL TEST POINTS FOR COVERAGE AND CONSISTENCY



PP1V1\_S2 40 49

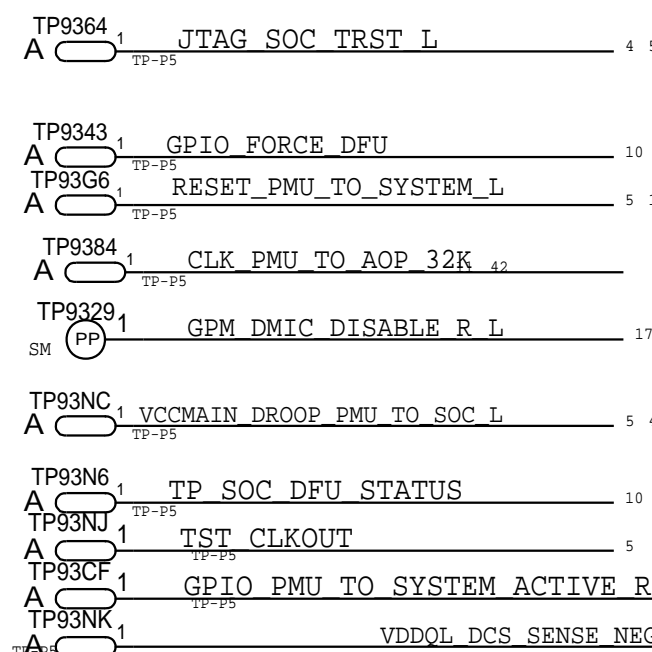
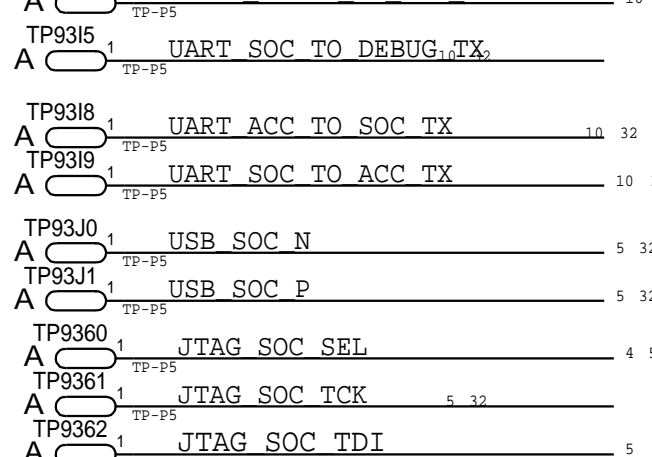


PP3V0 ALS	41
PP1VB S2 PHOS2 F	34
MESA CONN	21
PP3V1 S2 MESA CONN	21
PP11V3 MESA CONN	21, 34
GPIO MESA TO BOOST ENABLE CONN	
GPIO ALS TO AP IRQ L	10
VOLTAGE=1.8V	
PP1VB S2 HALL BUTTON CONN	25
GPIO HALL BUTTON CONN TO PMU IRQ	
GPIO HALL AJ TO PMU IRQ	17



BATT NTC P	43	4
BOARD TEMP3 P	42	
BOARD TEMP4 P	42	
BOARD TEMP5 P	42	
BOARD TEMP6 P	42	
BOARD TEMP8 P	42	

SOC TESTMODE 4 5



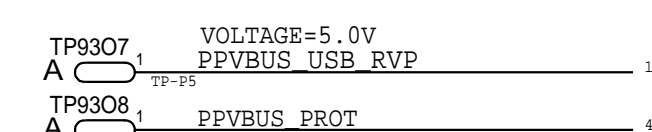
```

TIP-PS CONN DET L_V
TIP-PS VOLTAGE=5.0V
TIP-PS PPOUT_E75_ACC ID1 CONN
TIP-PS PPOUT_E75_ACC ID2 CONN
TIP-PS PPOUT_E75_ACC ID1 CONN
TIP-PS PPOUT_E75_ACC ID2 CONN
TIP-PS VOLTAGE=5.0V
TIP-PS PVBUS_USB_FILT 16_33
TIP-PS PVVBUS_E75_USB_CONN
TIP-PS PVBUS_E75_USB_CONN
TIP-PS PPVBUS_E75_USB_CONN
TIP-PS PPVBUS_E75_USB_CONN
TIP-PS PPVBUS_E75_USB_CONN
TIP-PS E75 DPRAIR1 CONN N_I
TIP-PS E75 DPRAIR1 CONN P
TIP-PS E75 DPAIR2 CONN N
TIP-PS E75 DPAIR2 CONN P

```

WHY THE DUPLICATION?

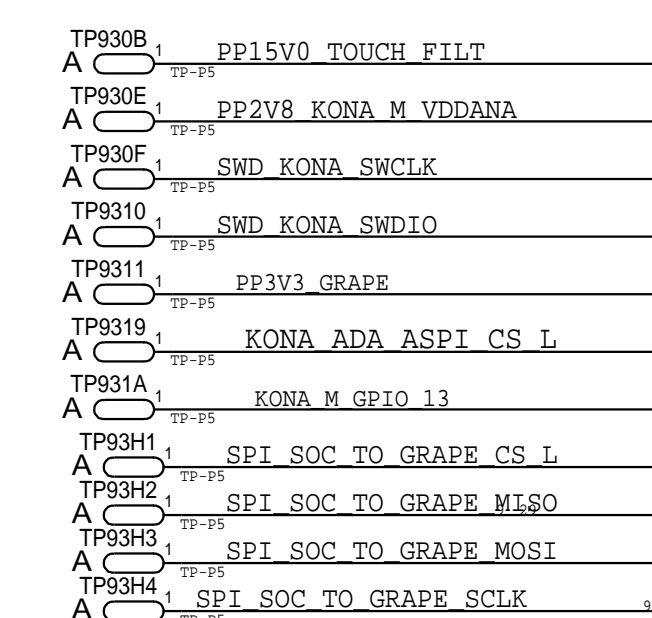
DELETE ONE IF CAN'T PLACE



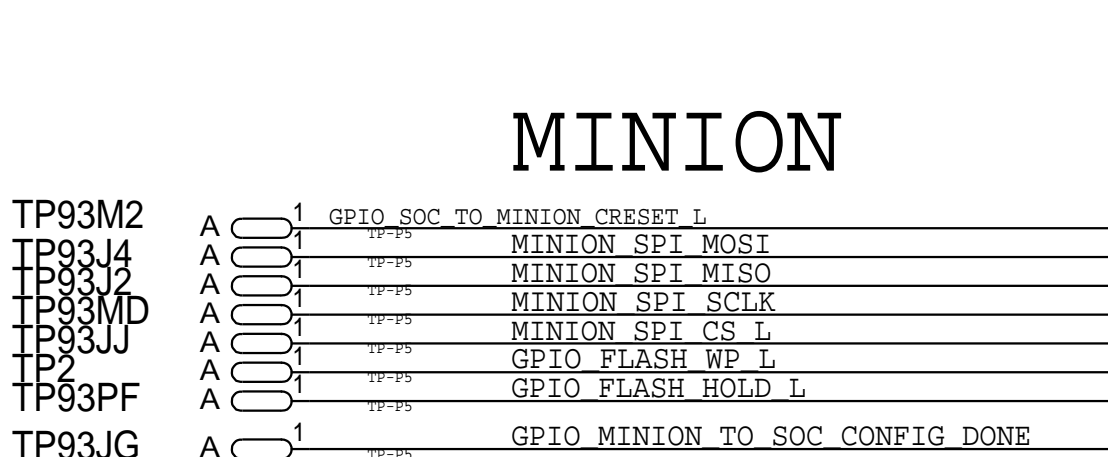
```

P5      PPIV8 GRAPE
        _____
P5      GPIO GRAPE TO AP IRQ L
        _____
-P5     GPIO TOUCH TO BT SYNC
        _____
-P5     GPIO AP TO GRAPE RESET L
        _____
P5      GPIO AP TO BT TO GRAPE TS SY
        _____
-P5     CLK KONA M 24MHZ
        _____

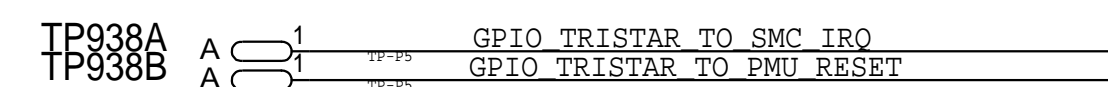
```



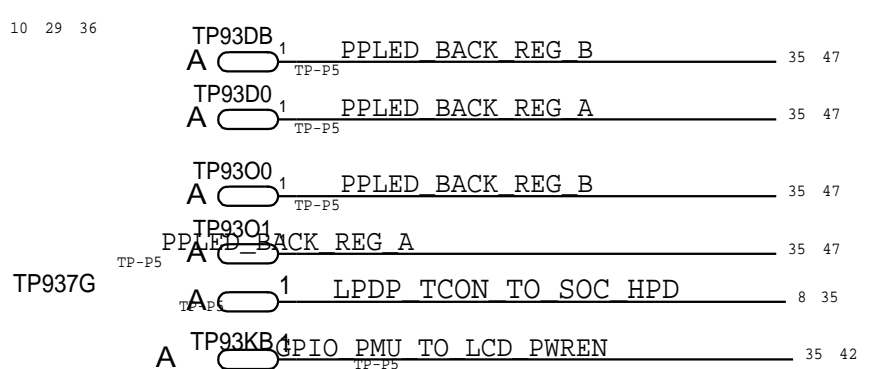
TO CPU TRIGGER 0	5	42
TO CPU TRIGGER 1	5	42
TO GPU TRIGGER 0	5	42
TO GPU TRIGGER 1	5	42
SOC TO PMU L	5	42
SPMI ATLAS SCLK	11	42
SPMI ATLAS SDATA	11	42
TO AOP IRQ	11	42



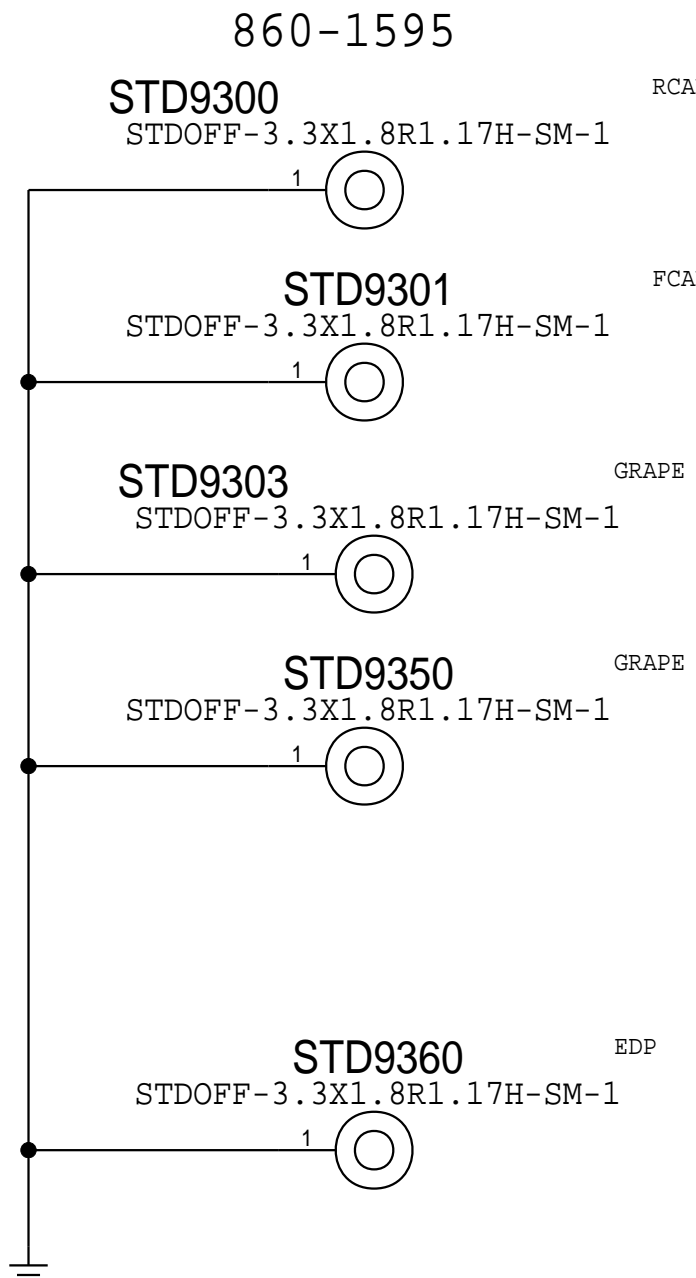
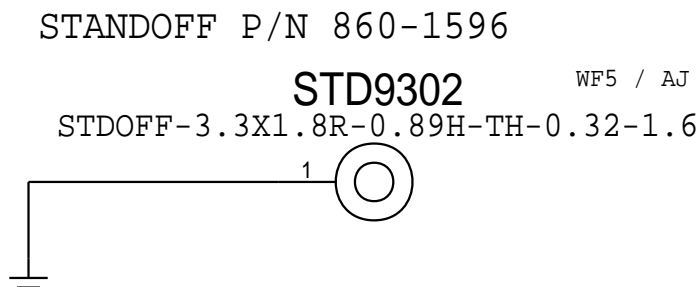
GPIO TRISTAR TO SMC IRQ  
GPIO TRISTAR TO PMU RESET



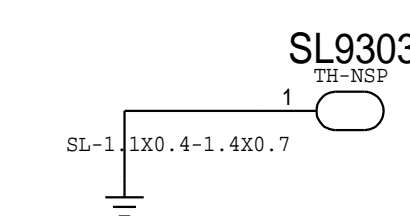
LED IO 1 A	35	41
$\overline{P5}$		
LED IO 2 A	35	41
$\overline{P5}$		
LED IO 3 A	35	41
$\overline{P5}$		
LED IO 4 A	35	41
$\overline{P5}$		
LED IO 5 A	35	41
$\overline{P5}$		
LED IO 6 A	35	41
$\overline{P5}$		
LED IO 1 B	35	41
$\overline{P5}$		
LED IO 2 B	35	41
$\overline{P5}$		
LED IO 3 B	35	41
$\overline{P5}$		
LED IO 4 B	35	41
$\overline{P5}$		
LED IO 5 B	35	41
$\overline{P5}$		
LED IO 6 B	35	41
$\overline{P5}$		
PPLED OUT	41	42



TP93HC	A	1	PLACE_NEAR=U3500.A1:1MM	USB KIS P	5	32
			TP-P5			
TP93HD	A	1	PLACE_NEAR=U3500.B1:1MM	USB KIS N	5	32



PLATED THROUGH HOLES  
DRILL SIZE: 1.1MM X 0.4MM  
PLATING SIZE: 1.4MM X 0.7MM



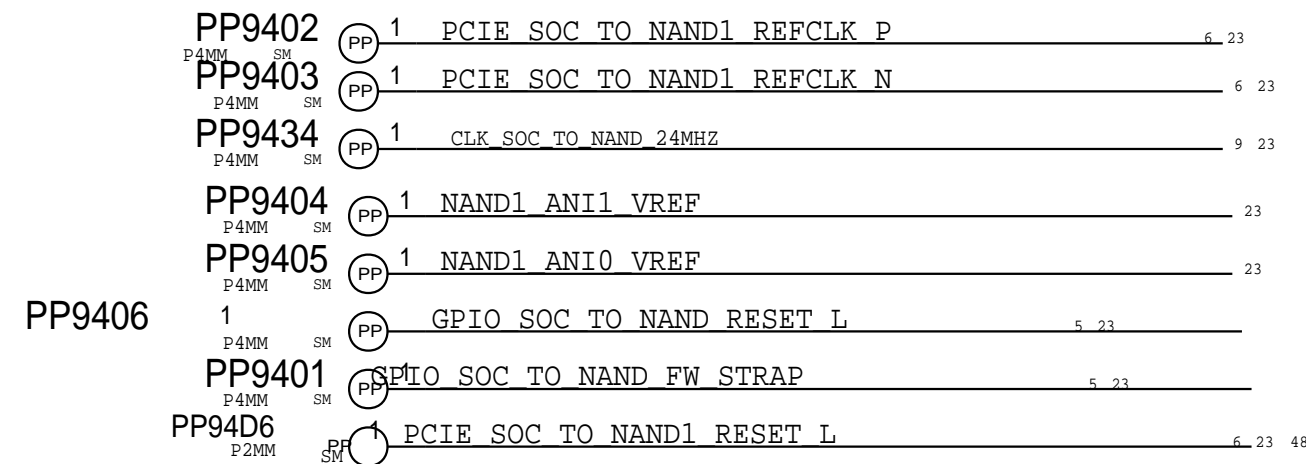
SYNC MASTER=J71B MLR B1 SYNC DATE=03/27/201

PAGE TITLE TEST: TP/HOLES/FIDUCIALS

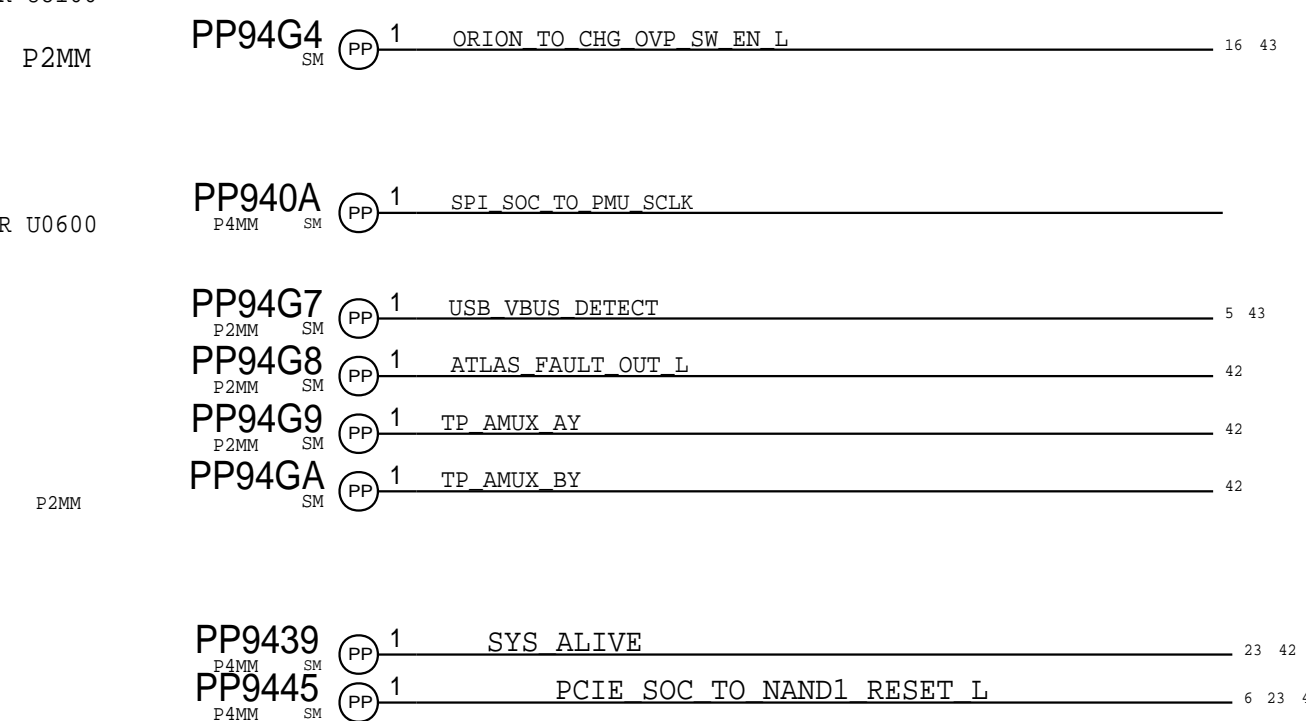
ADD PLACE\_NEAR ATTRIBUTES

## EE CHARACTERIZATION PP

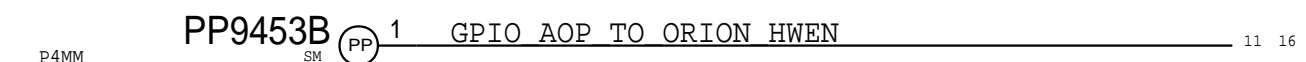
NAND



## PMU / POTOMAC

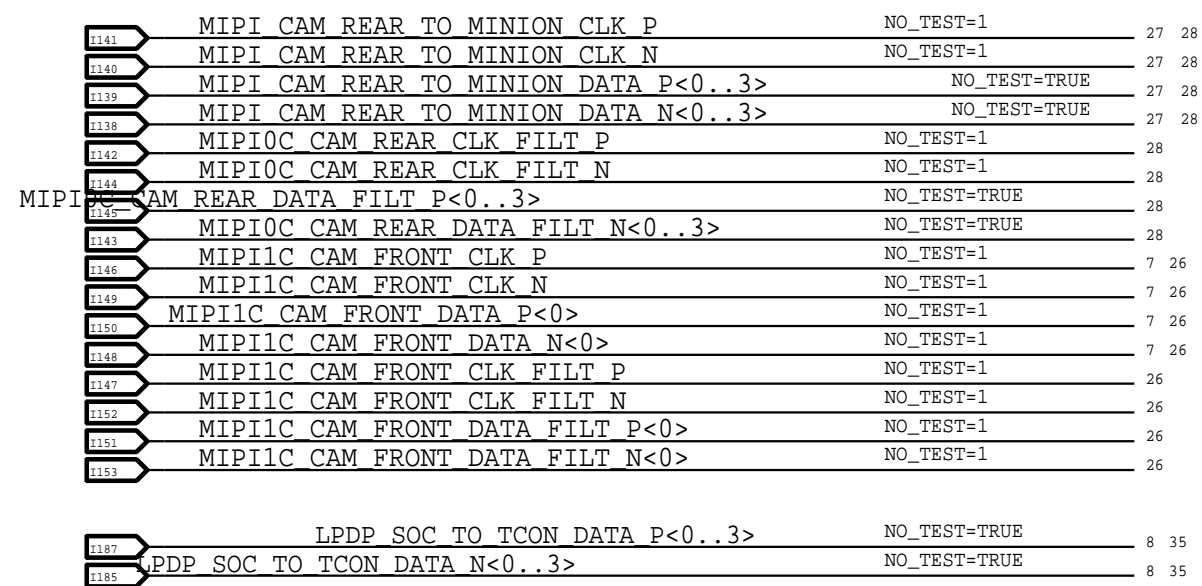


## BELLATRIX

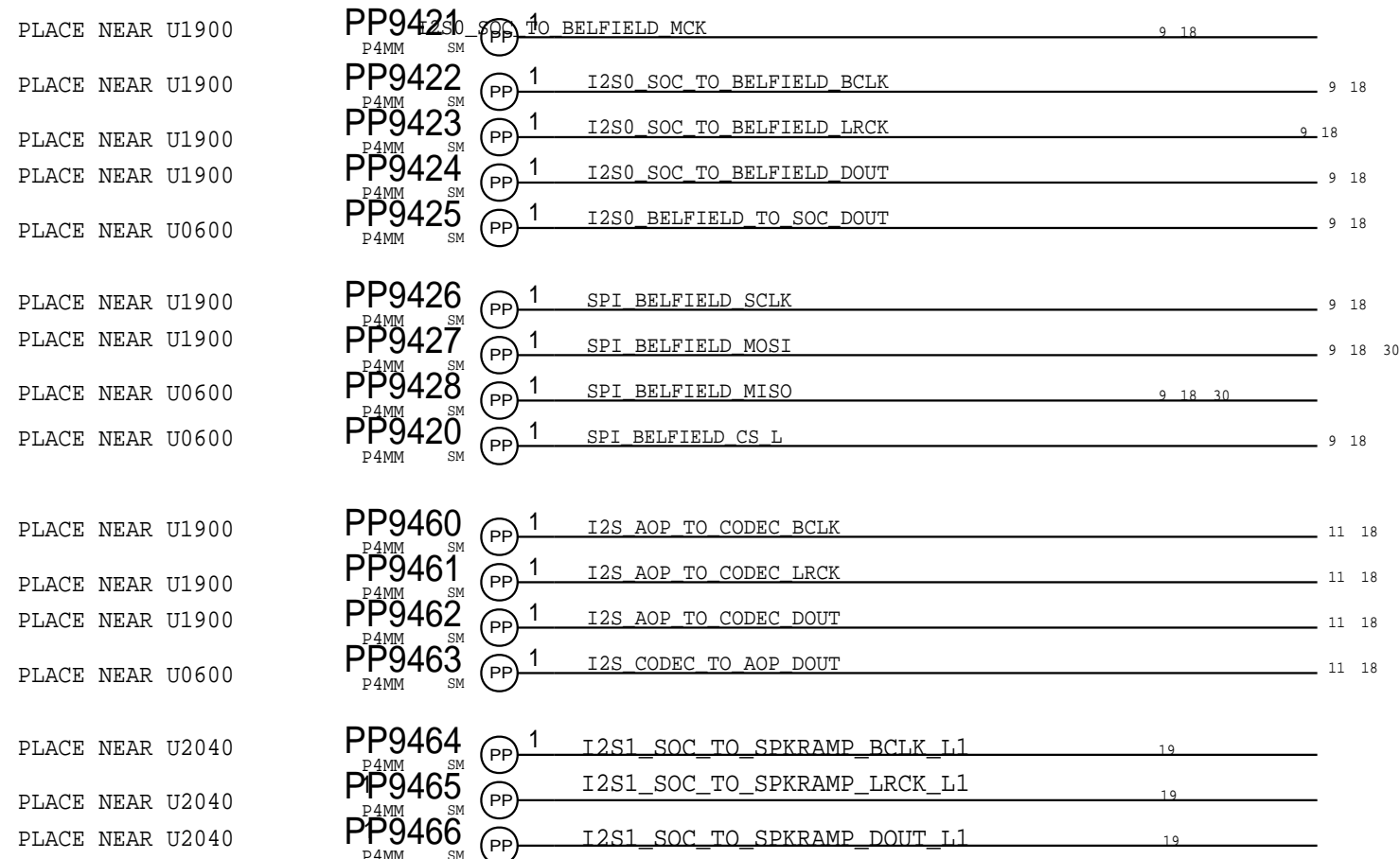


PP9450G 1 TP SOC AON SLEEP1 RESET L

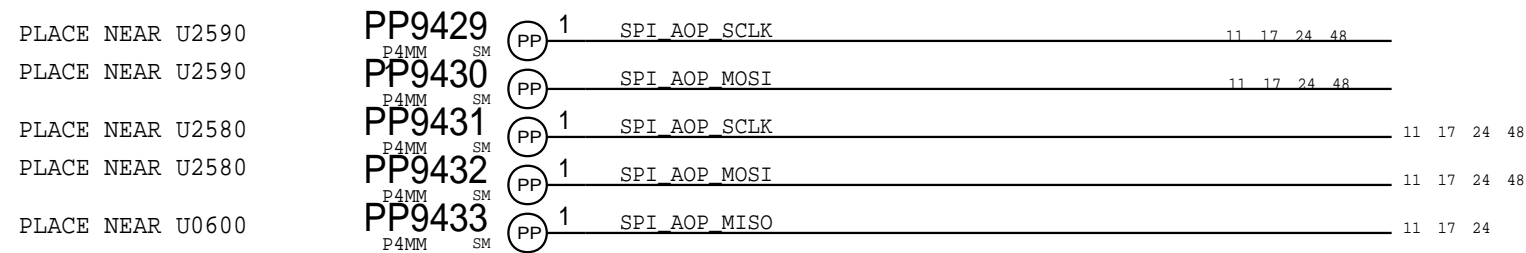
## HIGH SPEED, NO TEST



## AUDIO



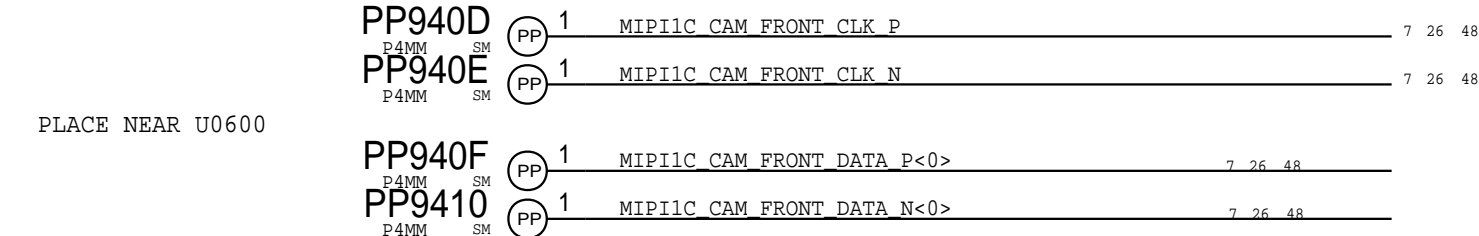
## SENSORS



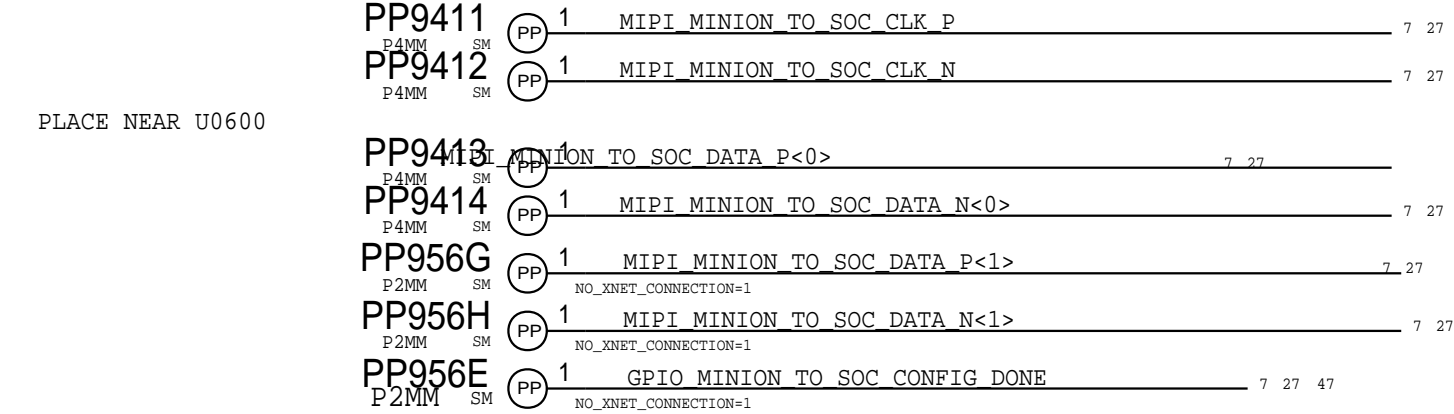
## MESA SPI



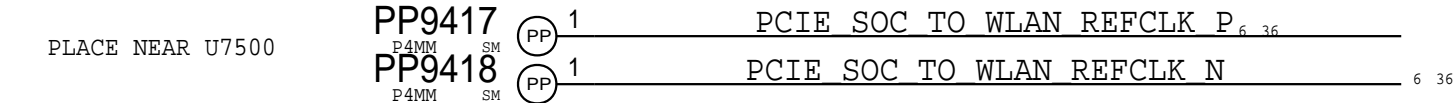
CAMERA - FRONT



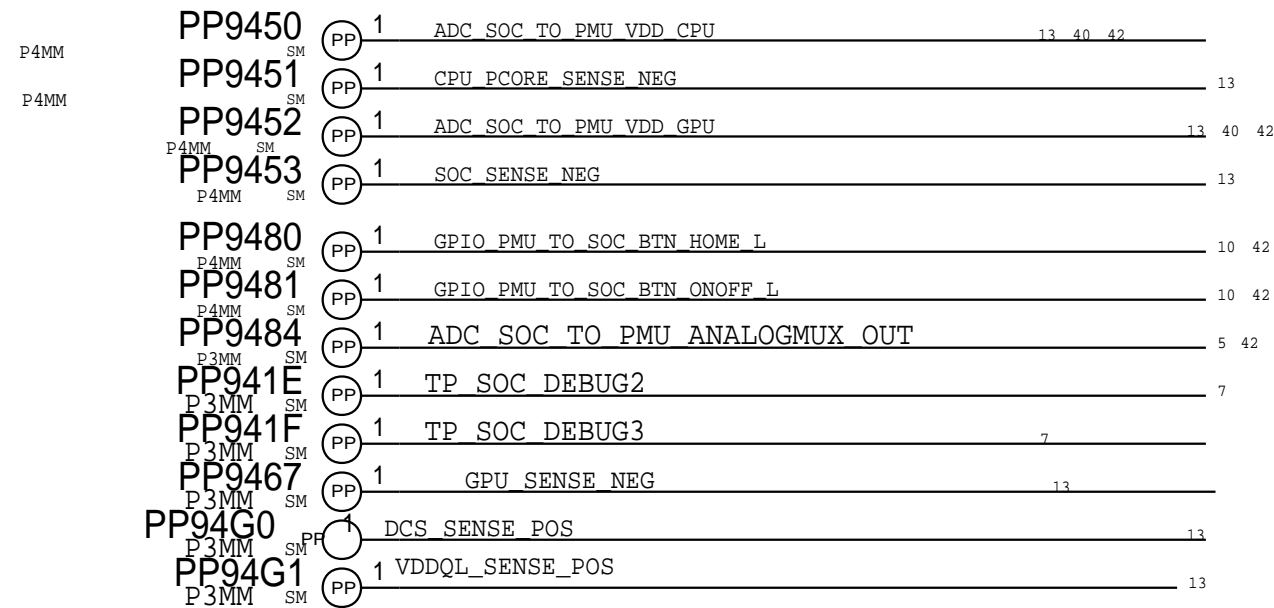
## CAMERA - REAR



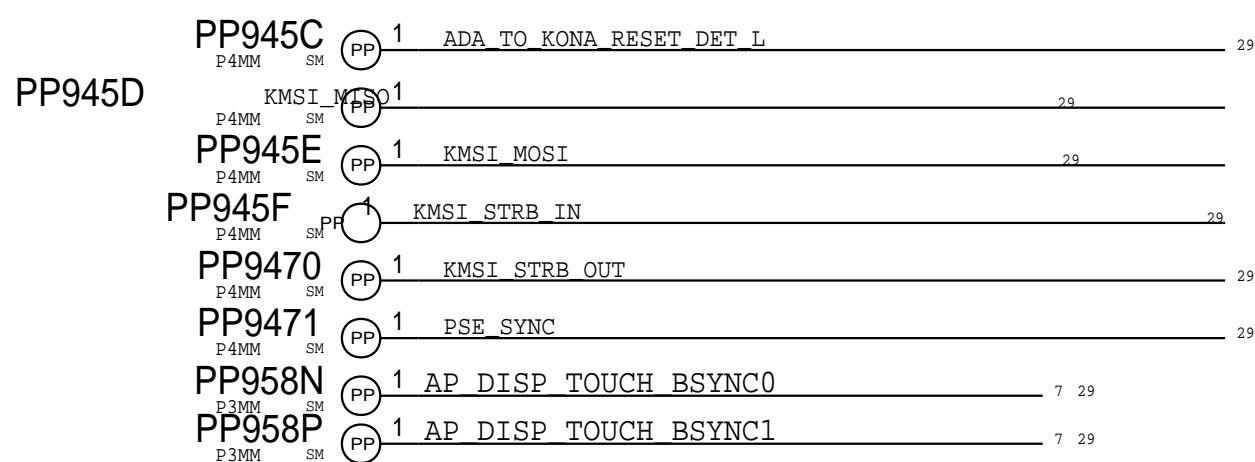
WIFI



## SOC



## TOUCH

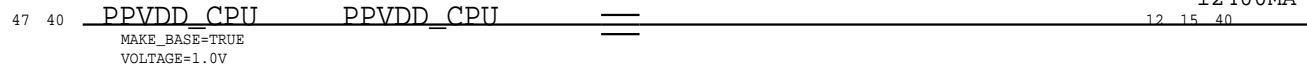




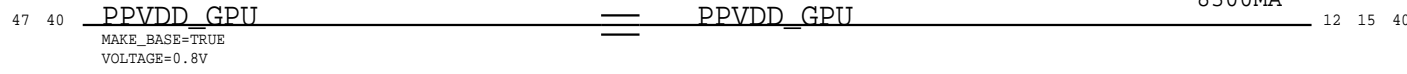
POWER CONNECTIONS

D

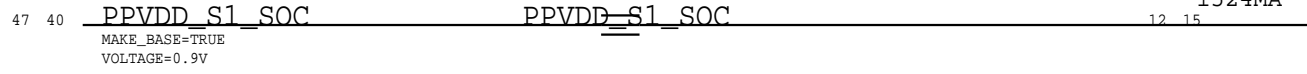
BUCK0 (ACTIVE)



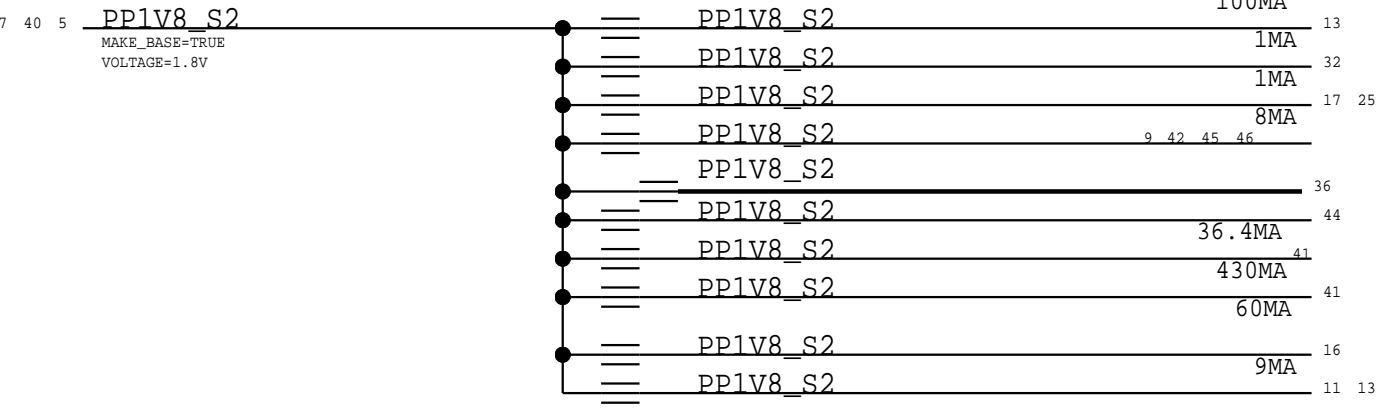
BUCK1 (SW CONTROL)



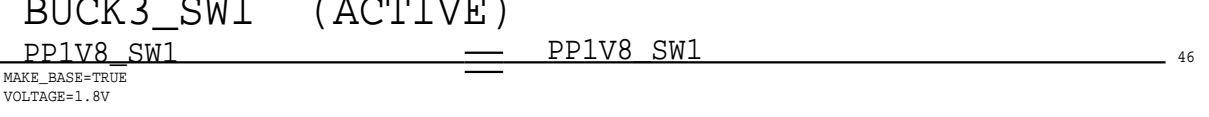
BUCK2 (SLEEP1)



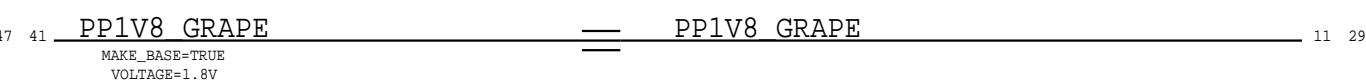
BUCK3 (SLEEP2)



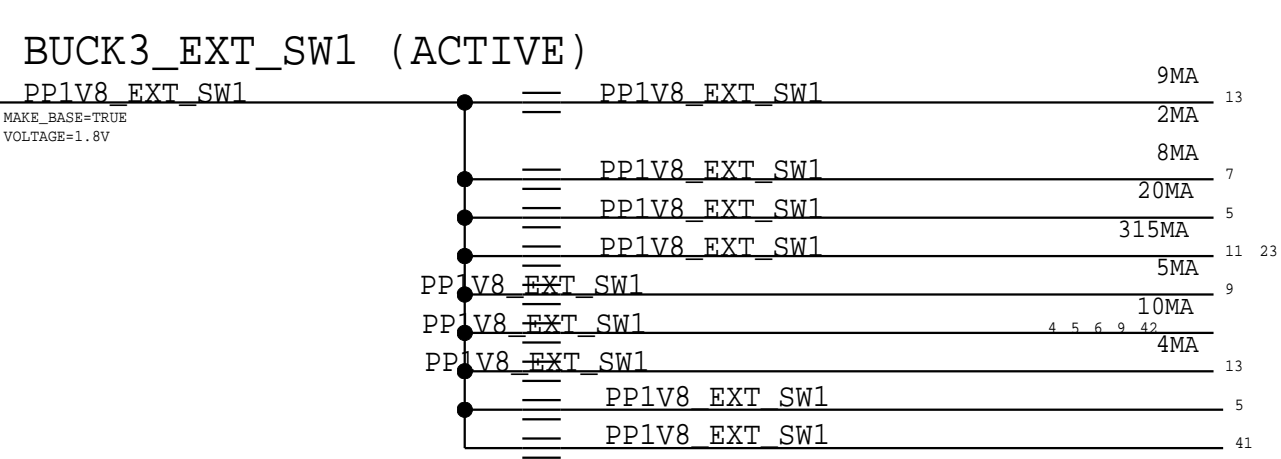
BUCK3 INTERNAL SWITCHES



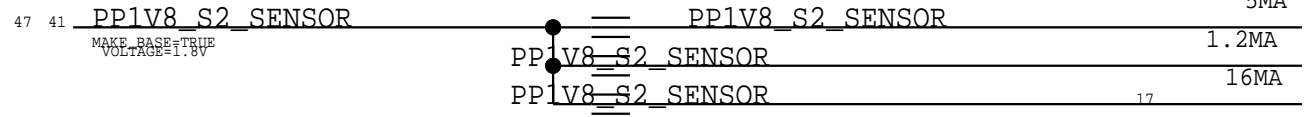
BUCK3\_SW2 (SW CONTROL)



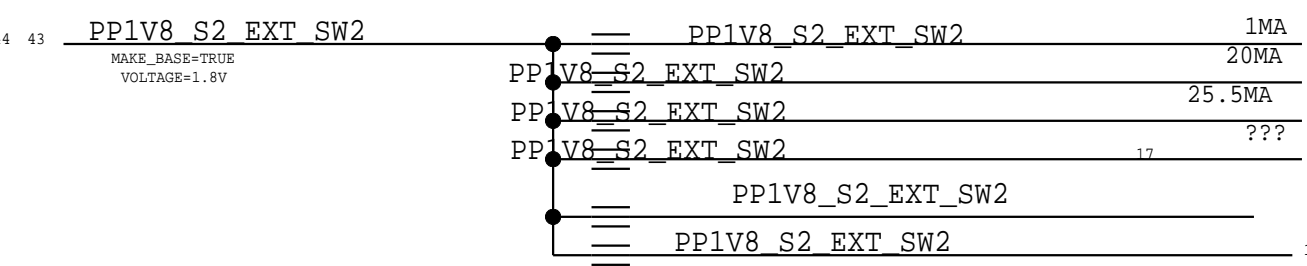
BUCK3 EXTERNAL SWITCHES



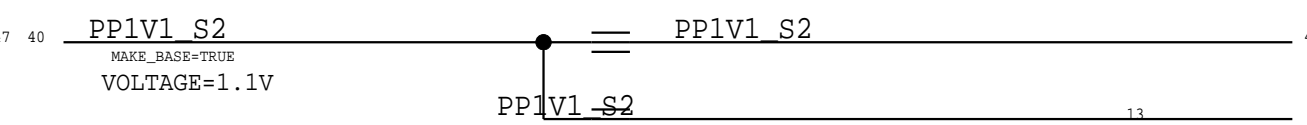
BUCK3\_SW3 (SLEEP2)



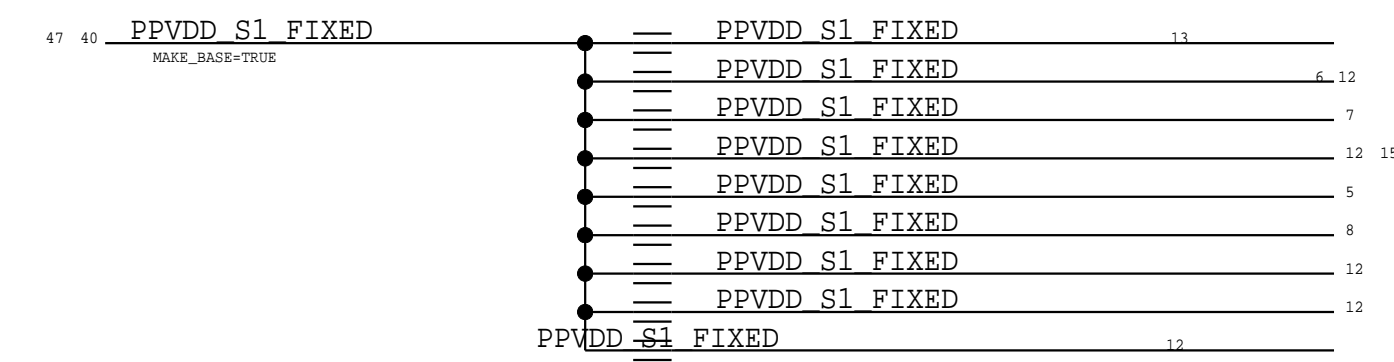
BUCK3\_S2\_EXT\_SW2 (SLEEP2)



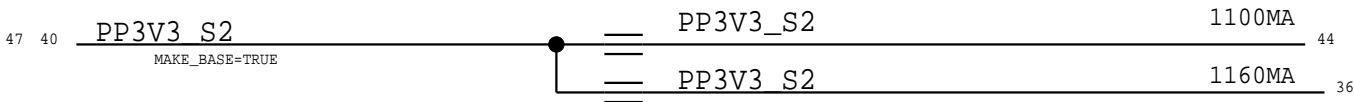
BUCK4 (SLEEP2)



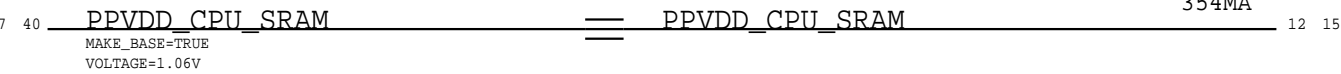
BUCK5 (SLEEP1)



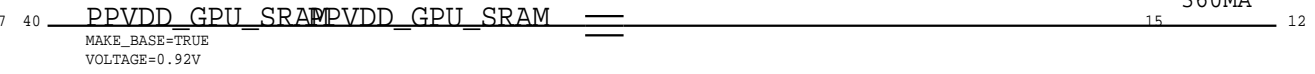
BUCK6 (SLEEP2)



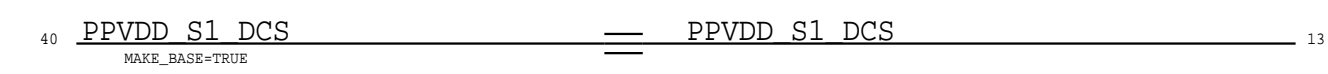
BUCK7 (ACTIVE)



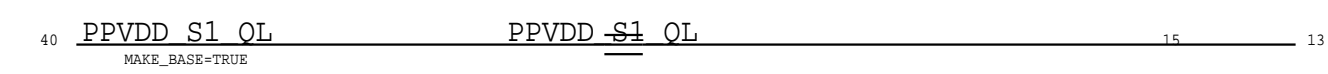
BUCK8 (SW CONTROL)



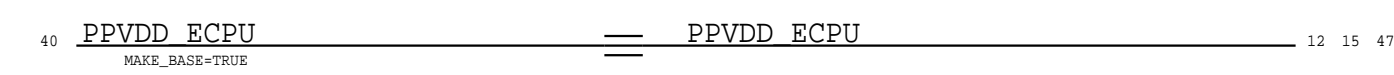
BUCK9 (SLEEP1)



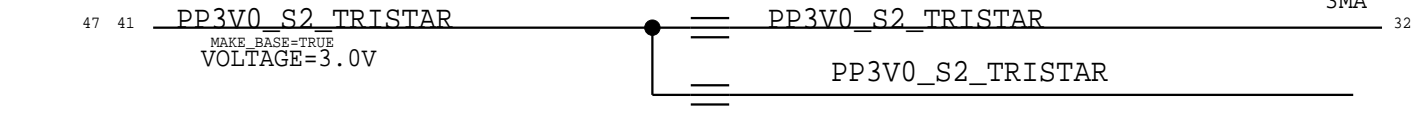
BUCK10 (SLEEP1)



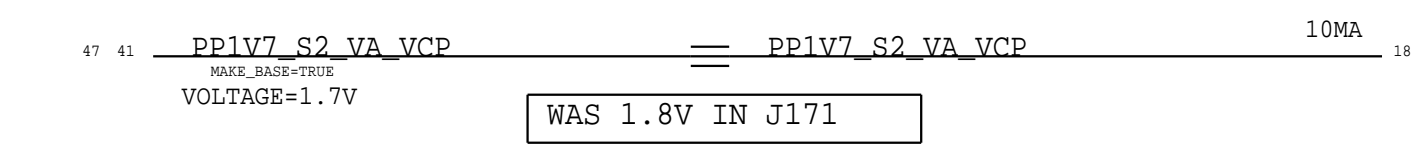
BUCK11 (ACTIVE)



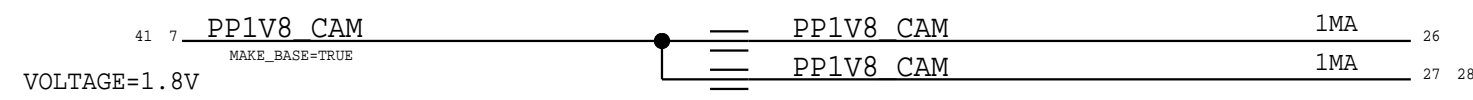
LDO1 (SLEEP2)



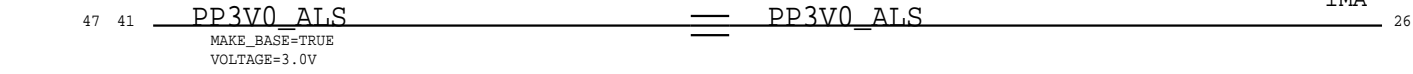
LDO2 (S2 - LDO MODE)



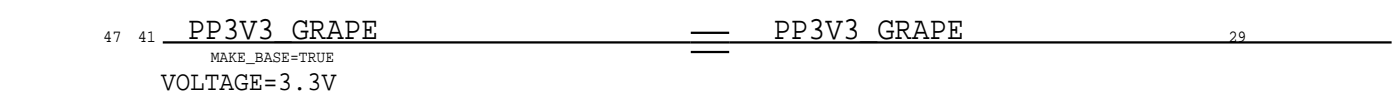
LDO3 (SW CONTROL)



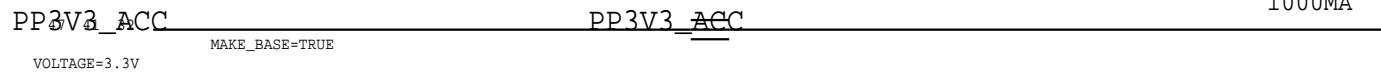
LDO4 (SW CONTROL)



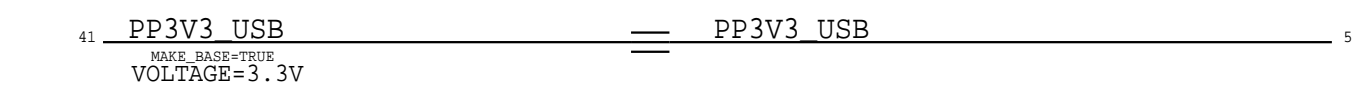
LDO5 (ACTIVE)



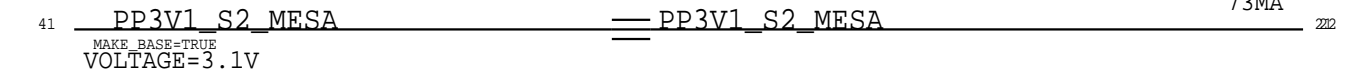
LDO6 (SW CONTROL)



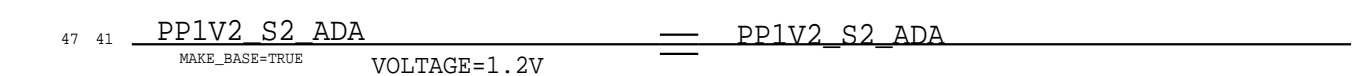
LDO7 (ACTIVE)



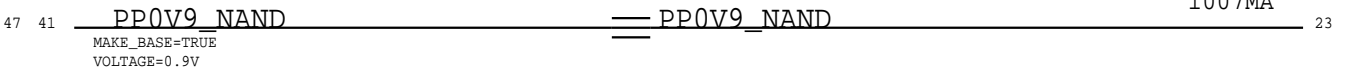
LDO8 (SLEEP2)



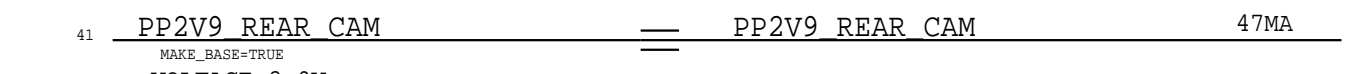
LDO9 (SPARE)



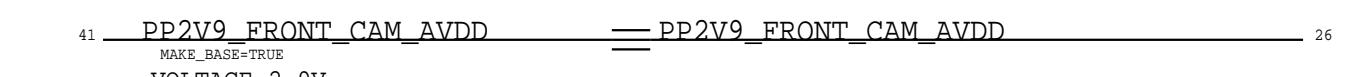
LDO10 (ACTIVE)



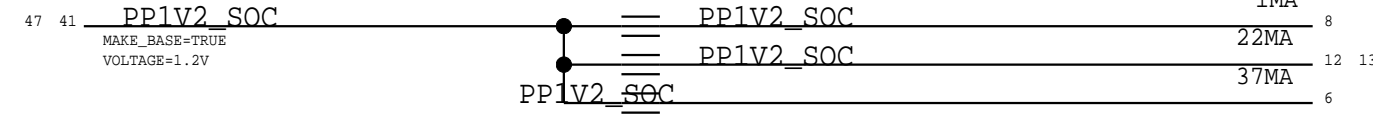
LDO11 (SW CONTROL)



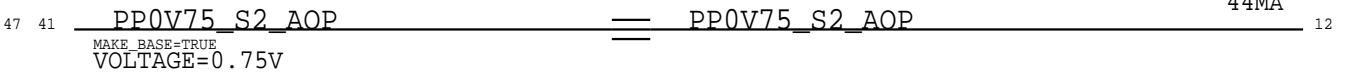
LDO13 (SW CONTROL)



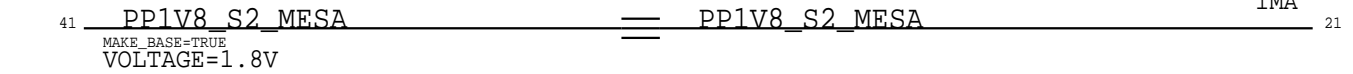
LDO14 (ACTIVE)



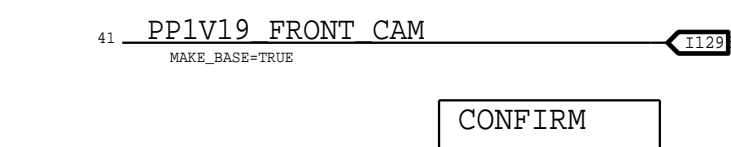
LDO15 (SLEEP2)



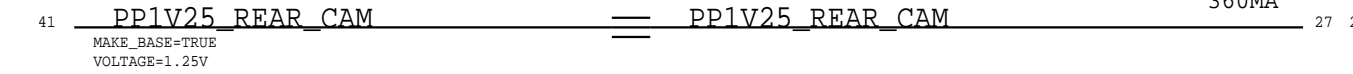
LDO16 (SLEEP2)



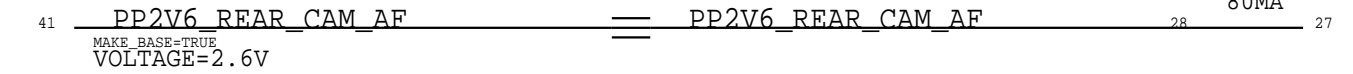
LDO17 (UNUSED)



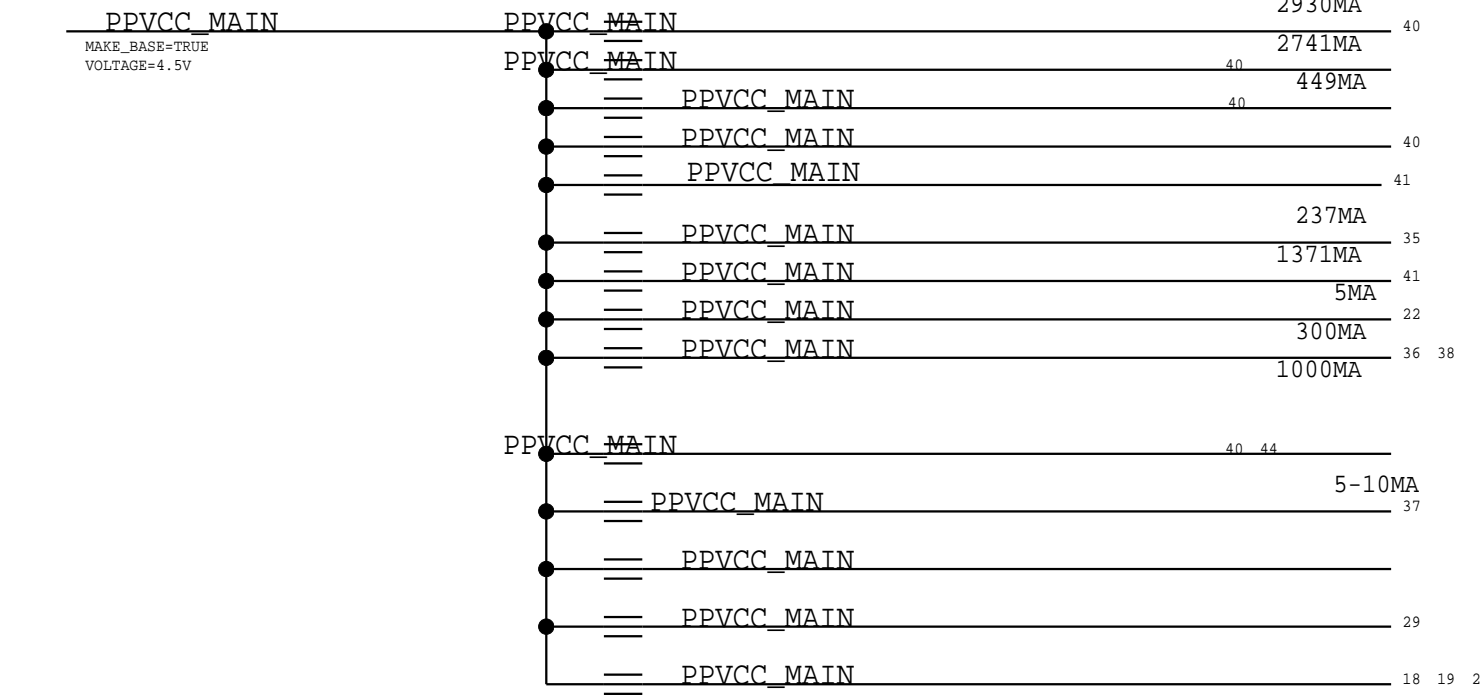
LDO18 (SW CONTROL)



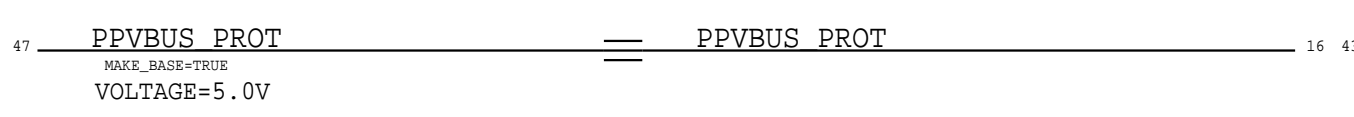
LDO19 (SW CONTROL)



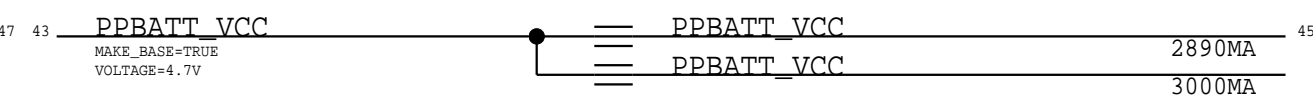
CHARGER MAIN



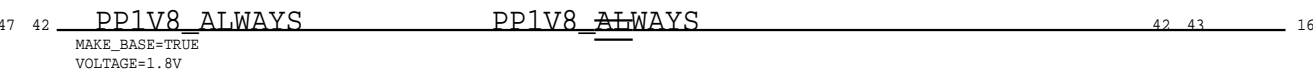
USB POWER INPUT



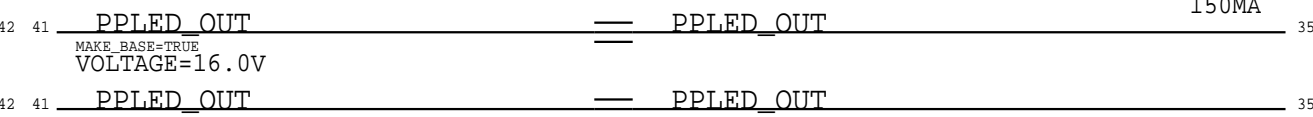
BATTERY



ON BUF



BACKLIGHT BOOST



LED SUPPLY NOW SHARED FROM A DUAL-PHASE BOOST CONVERTER CONTROLLED BY ATLAS

POWER: ALIASES

B

A

D

C

B

A