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
1	0018101741	ENGINEERING RELEASED	2019-06-06

J420 P2 CHINA: MLB-A

LAST_MODIFIED=Thu Jun 6 10:50:43 2019

LAST_MODIFICATION=Thu Jun 6 10:50:43 2019

SCH AND BOARD P/N

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)		CRITICAL	DESCRIPTION
051-04756	1	SCH,MLB-A,YN,J420	SCH1		CRITICAL	
820-01797	1	PCBF,MLB-A,YN,J420	PCB1		CRITICAL	

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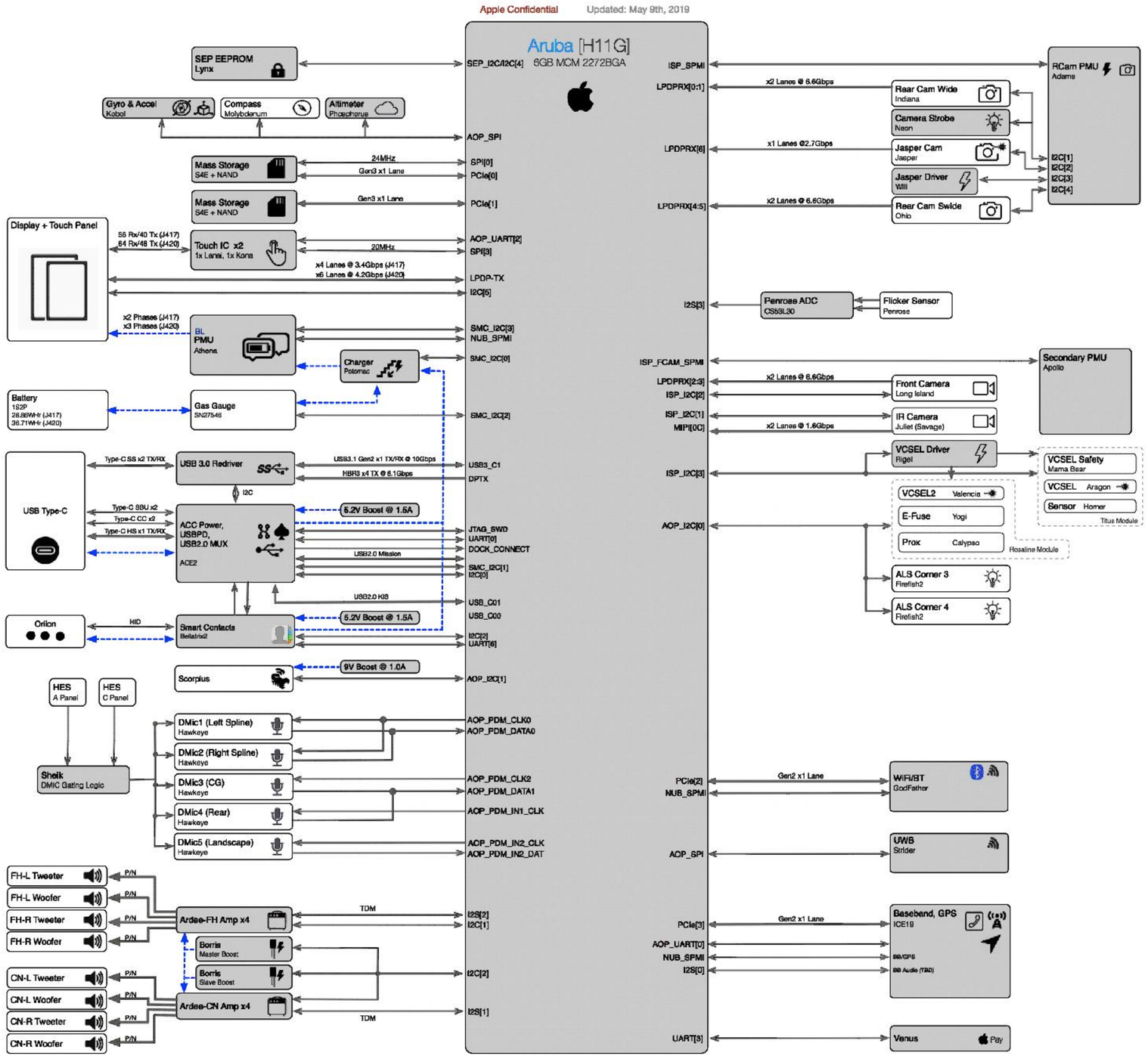
DRAWING TITLE

SCHEM,MLB-A,YN,J420

DRAWING

J4xx | System Block Diagram

Apple Confidential Updated: May 9th, 2019



SYNC_DATE=03/09/2017

PAGE TITLE

BLOCK DIAGRAM

DRAWING NUMBER

SIZE

CKPLUS WAIVE TABLE

CKPLUS RULE EXCEPTIONS	REQUIRED
SCHEMATIC DEFINED CONSTRAINTS (YES/NO)	NO

BOM GROUP	BOM OPTIONS
BASIC	COMMON,ALTERNATE

MECHANICAL PARTS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
806-13894	1	CAN,KONA,MLB	KONA_CAN	CRITICAL	
806-21276	1	CAN,RF,MLB_B	RF_CAN	CRITICAL	MLB_B
806-22567	1	FENCE,AP,MLB	AP_FENCE	CRITICAL	
806-21277		CAN,FH REMOTE FEM,MLB_B	FEM_CAN	CRITICAL	
806-22182		CAN,WIFI-RF,MLB_A	WIFI_CAN	CRITICAL	
806-21196	1	CAN,PENINSULA,MLB	PENINSULA_CAN	CRITICAL	
806-21278	1	CAN,ADAMS,MLB	RC_CAN	CRITICAL	

BARCODE LABEL/EEEE CODES

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
825-7691	1	EEEE FOR 639-08153 (MLB B BEST)	EEEE_M864	CRITICAL	EEEE_MLB_B_BEST
1825-7691		EEEE FOR 639-08152 (MLB B SUPREME)	EEEE_M85R	CRITICAL	EEEE_MLB_B_SUPREME
825-7691		EEEE FOR 639-08154 (MLB B EXTREME)	EEEE_M86H	CRITICAL	EEEE_MLB_B_EXTREME
825-7691	1	EEEE FOR 639-08583 (MLB B EXTREME-TB)	EEEE_MQ8Y	CRITICAL	EEEE_MLB_B_EXTREME_TB
825-7691	1	EEEE FOR 639-08155 (MLB B PRIME)	EEEE_M86V	CRITICAL	EEEE_MLB_B_PRIME
825-7691	1	EEEE FOR 639-08156 (MLB B BEST ROW/JP)	EEEE_M876	CRITICAL	EEEE_MLB_B_JP_BEST
825-7691	1	EEEE FOR 639-08157 (MLB B SUPREME ROW/JP)	EEEE_M87K	CRITICAL	EEEE_MLB_B_JP_SUPREME
1825-7691		EEEE FOR 639-08158 (MLB B EXTREME ROW/JP)	EEEE_M87X	CRITICAL	EEEE_MLB_B_JP_EXTREME
1825-7691		EEEE FOR 639-08584 (MLB B EXTREME-TB ROW/JP)	EEEE_MQ99	CRITICAL	EEEE_MLB_B_JP_EXTREME_TB
825-7691	1	EEEE FOR 639-08159 (MLB B PRIME ROW/JP)	EEEE_M889	CRITICAL	EEEE_MLB_B_JP_PRIME
825-7691	1	EEEE FOR 639-08160 (MLB B BEST CH)	EEEE_M88N	CRITICAL	EEEE_MLB_B_CH_BEST
825-7691	1	EEEE FOR 639-08161 (MLB B SUPREME CH)	EEEE_M892	CRITICAL	EEEE_MLB_B_CH_SUPREME
825-7691	1	EEEE FOR 639-08162 (MLB B EXTREME CH)	EEEE_M89F	CRITICAL	EEEE_MLB_B_CH_EXTREME
825-7691	1	EEEE FOR 639-08585 (MLB B EXTREME-TB CH)	EEEE_MQ9N	CRITICAL	EEEE_MLB_B_CN_EXTREME_TB
1825-7691		EEEE FOR 639-08163 (MLB B PRIME CH)	EEEE_M89R	CRITICAL	EEEE_MLB_B_CH_PRIME
825-7691		EEEE FOR 639-07411 (MLB A BEST)	EEEE_LNXM	CRITICAL	EEEE_MLB_A_BEST
825-7691	1	EEEE FOR 639-08465 (MLB A SUPREME)	EEEE_MMQP	CRITICAL	EEEE_MLB_A_SUPREME
825-7691	1	EEEE FOR 639-08466 (MLB A EXTREME)	EEEE_MMR2	CRITICAL	EEEE_MLB_A_EXTREME
825-7691	1	EEEE FOR 639-08586 (MLB A EXTREME-TB)	EEEE_MQD7	CRITICAL	EEEE_MLB_A_EXTREME_TB
825-7691	1	EEEE FOR 639-06063 (MLB A PRIME)	EEEE_JXPQ	CRITICAL	EEEE_MLB_A_PRIME

FERRITES

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
155S00400	155S00200	FL2860,FL4254,FL4256...ETC	1500HM 200MA 0.7DCR 01005	
155S0660	155S0513	FL2761,ETC	0.04 DCR MURATA	

DIODES

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
377S0155	377S0184	DZ4014,DZ4015,DZ4016...ETC	TVS BIDIR 5.5V 0.28PF 0201	

NAND

BEST FLASH CONFIGS (U1900 NOSTUFF) 64GB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00393		TOSHIBA,BICS4,64GB	U1800	CRITICAL	PROD_BEST

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00388	335S00393	PROD_BEST	U1800	WD,BICS4,64GB

SUPREME FLASH CONFIGURATIONS 256GB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00394	2	TOSHIBA,BICS4,128GB	U1800,U1900	CRITICAL	PROD_SUPREME

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00389	335S00394	PROD_SUPREME	U1800,U1900	WD,BICS4,128GB

EXTREME-WD FLASH CONFIGURATIONS 512GB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00408	1	WD,BICS4,256GB,10DP	U1800	CRITICAL	PROD_EXTREME
335S00390		WD,BICS4,256GB,8DP	U1900	CRITICAL	PROD_EXTREME

EXTREME-TB FLASH CONFIGURATIONS 512GB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00397	1	TOSHIBA,BICS4,256GB,10DP	U1800	CRITICAL	PROD_EXTREME_TB
335S00396	1	TOSHIBA,BICS4,256GB,8DP	U1900	CRITICAL	PROD_EXTREME_TB

PRIME FLASH CONFIGURATIONS 1TB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00391	2	WESTERNDIGITAL,BICS4,512GB	U1800,U1900	CRITICAL	PROD_PRIME

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00425	335S00391	PROD_PRIME	U1800,U1900	SAMSUNG 3DV4,512GB

CAPS

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
138S00141	138S00071	C4191,ETC	4UF 6.3V MURATA	
138S00117	138S00071	C7993,ETC	4UF 6.3V KYOCERA	
132S00211	132S00092	C3204,ETC	270PF 16V KYOCERA	
132S00212	132S00092	C3204,ETC	270PF 16V TAIYO YUDEN	
132S0436	132S00014	C0820,ETC	0.22UF 6.3V	
138S00148	138S00149	C1220,ETC	15UF 4V KYOCERA	
138S00150	138S00149	C1220,ETC	15UF 4V SAMSUNG	
138S00151	138S00149	C1220,ETC	15UF 4V TAIYO YUDEN	
138S0614	138S0732	C2218,ETC	1UF 10V 0402	
132S00088	132S0639	C2221,ETC	0.47UF 25V TAIYO YUNDEN	
138S0706	138S0739	C1215,ETC	1UF 10V 0201 MURATA	
138S0945	138S0739	C1215,ETC	1UF 10V 0201 KYOCERA	
131S00299	131S00118	C3334,ETC	180PF 50V TAIYO YUDEN	
128S00094	128S00067	C77DF,ETC	150UF 6.3V TOKIN	
128S00065	128S00067	C77DF,ETC	150UF 6.3V KEMET	
128S00069	128S00067	C77DF,ETC	150UF 6.3V KYOCERA	
138S00215	138S1068	C2350,ETC	4.7UF 16V TAIYO YUDEN	
131S00172	131S00164	C1232,ETC	220PF 16V KYOCERA	
131S00173	131S00164	C1232,ETC	220PF 16V TAIYO YUDEN	
131S0831	131S0730	C40A7,ETC.	15PF 50V 0201	
138S00139	138S00138	C12D1,C12F0	4UF 4V MURATA	
138S00164	138S00138	C12D1,C12F0	4UF 4V TAIYO YUDEN	
138S00084	138S00060	C8563,ETC	47UF 6.3V TAIYO YUNDEN	
131S00313	131S0824	C4632	330PF 25V TAIYO YUNDEN	
132S00175	132S00202	C4019,ETC	0.22UF KYOCERA ONLY	
132S00154	132S0683	C6352,ETC	0.1UF 01005 TAIYO	
138S0641	138S0700	C2206,ETC	2.2UF 10V 0402 TAIYO	
132S0316	132S00107	C3828,C3829	.1UF 6.3V 01005 TAIYO	
131S00164	131S00172	C2711,C2713	220PF 16V 01005 MURATA	
131S00173	131S00172	C2711,C2713	220PF 16V 01005 TAIYO	
138S00048	138S00003	C6000,ETC.	15UF 6.3V 0402 KYOCERA	
138S0888	138S00003	C6000,ETC.	15UF 6.3V 0402 TAIYO	
138S1068	138S00215	C85A3	4.7UF 16V 0402 TAIYO	
138S0711	138S00020	C8513	10UF 6.3V 0402 TAIYO	
132S00185	132S0316	C1035,ETC.	0.1UF 6.3V 1005 KYO/YAG	

SOC

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
339S00633	1	IC,ARUBA A1,DEV,6G,HYNIX ATK	U0600	CRITICAL	

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
339S00634	339S00633		U0600	MICRON 6G ATK
339S00635	339S00633		U0600	HYNIX 6G SCK
339S00636	339S00633		U0600	MICRON 6G SCK

PMU-ATHENA

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
343S00326	1	IC,PMU,ATHENA,D2483A0,OTP-HC	U8100	CRITICAL	

PMU-APOLLO

PART#	DESCRIPTION	QTY	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
343S00327	IC,PMU,APOLLO,D2537A0,OTP-HC	1	U7700	CRITICAL	

POTOMAC

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
343S00328	1	IC,POTOMAC,D2559A0,OTP-FC	U8500	CRITICAL	

ADAMS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
338S00524	1	IC,ADAMS,D2657,OTP-CD	U6100	CRITICAL	

SYNC_DATE=03/09/2017

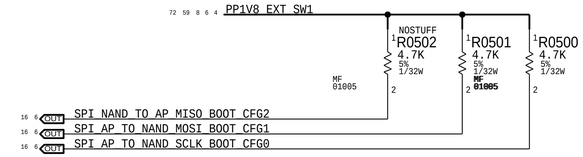
PAGE TITLE

BOM TABLES

DRAWING NUMBER

SIZE

BOOT CONFIG ID

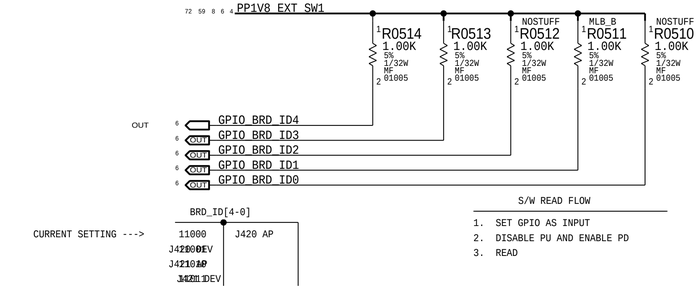


BOOT_CFG[2:0]	MODE
000	SPI0 NOR
001	SPI0 NOR TEST
010	SPI0 NAND
CURRENT (PRODUCTION) ---> 011	SPI0 NAND TEST
100	SPI0 NOR (40MHZ)
101	SPI0 NOR (40MHZ) TEST
110	SPI0 NOR (6MHZ)
111	SPI0 NOR (6MHZ) TEST

S/W READ FLOW

1. SET GPIO AS INPUT
2. DISABLE PU AND ENABLE PD
3. READ

BOARD ID



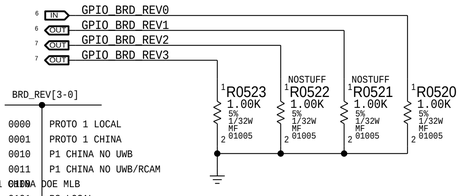
BRD_ID[4-0]	
11000	J420 AP
CURRENT SETTING ---> 11001	J420 DEV
11010	J420 AP
11011	J420 DEV

S/W READ FLOW

1. SET GPIO AS INPUT
2. DISABLE PU AND ENABLE PD
3. READ

BOARD REVISION

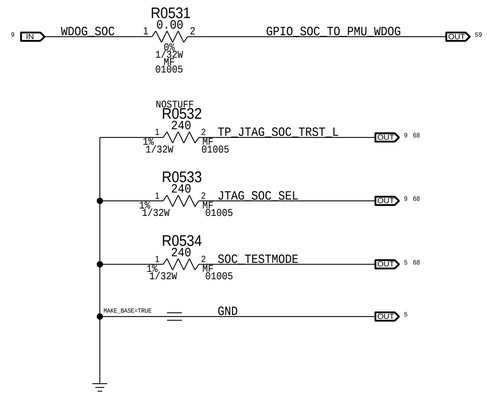
NOTE: STUFFING RESISTOR MEANS 0



BRD_REV[3-0]	
0000	PROTO 1 LOCAL
0001	PROTO 1 CHINA
0010	P1 CHINA NO UWB
0011	P1 CHINA NO UWB/RCAM
P1 CHINA DOE MLB	
0101	P2 LOCAL
CURRENT SETTING ---> 0110	P2 CHINA
0111	
1000	
1001	
1010	
1011	

S/W READ FLOW

1. SET GPIO AS INPUT
2. ENABLE PU AND DISABLE PD
3. READ



I2C0	DEVICE	8-BIT	7-BIT
	ACE2(ONE-ACE)	0X70	0X38
	ACE2(ALL)	0XD6	0X6B
I2C1	DEVICE	8-BIT	7-BIT
SKR AMP FHRT	0X70	0X38	
	SKR AMP FHRW	0X72	0X39
	SKR AMP FHLT	0X74	0X3A
	SKR AMP FHLW	0X76	0X3B
I2C2	DEVICE	8-BIT	7-BIT
	SKR AMP CNRT	0X78	0X3C
	SKR AMP CNRW	0X7A	0X3D
	SKR AMP CNLT	0X7C	0X3E
	SKR AMP CNLW	0X7E	0X3F
SKR BOOST NST	0X60	0X30	
SKR BOOST SLV	0X62	0X31	
	BELLATRIX	0X26	0X13
I2C3	DEVICE	8-BIT	7-BIT
	PENROSE ADC	0X90	0X48
I2C4	SEP I2C		
I2C5	DEVICE	8-BIT	7-BIT
	TCON	0X30-0X4E	0X18-0X27
TEMP (U2400)	0XE0	0X70	

I2C0 AOP	DEVICE	8-BIT	7-BIT
	ALS (C3)	0X72	0X39
	ALS (C4)	0X52	0X29
	YOGI(ROSALINE)	0X66	0X33
	DOPPLER(ROSA.)	0XB0	0X58
I2C1 AOP	DEVICE	8-BIT	7-BIT
	SCORPIUS	0XAA	0X55
ISP I2C0	NOT USED		
ISP I2C1	DEVICE	8-BIT	7-BIT
	0X30	0X18	
ISP I2C2	DEVICE	8-BIT	7-BIT
	0X20	0X10	
ISP I2C3	DEVICE	8-BIT	7-BIT
	TITUS	0XCC	0X66
	RIGEL	0XAA	0X55
SMC I2C0	DEVICE	8-BIT	7-BIT
	POTOMAC	0XEA	0X75
SMC I2C1	DEVICE	8-BIT	7-BIT
	ACE2	0X70	0X38
SMC I2C2	DEVICE	8-BIT	7-BIT
	GASGAUGE	0XAA	0X55
SMC I2C3	DEVICE	8-BIT	7-BIT
ATHENA	0X78	0X3C	
	APOLLO	0X80	0X40
SMC I2C4	NOT USED		

ADAMS I2C1	DEVICE	8-BIT	7-BIT
	RCAM1(FOCUS)	0X18	0X0C
	RCAM1(IN)	0X20	0X10
	STROBE1	0XC6	0X63
STROBE2	0XCE	0X67	
ADAMS I2C2	DEVICE	8-BIT	7-BIT
2X RESCOPE	0X20	0X10	
	JA RIKER	0X60	0X30
	JA EEPROM	0XA2	0X51
ADAMS I2C3	DEVICE	8-BIT	7-BIT
	WILL	0X80	0X40
ADAMS I2C4	DEVICE	8-BIT	7-BIT
	RCAM2(OH)	0X40	0X20

SYNC_DATE=03/09/2017

PAGE TITLE

SOC: MISC & ALIASES

DRAWING NUMBER

SIZE

SOC: MAIN

OMIT_TABLE

U0600
ARUBA-4G-21NM-H
FCBGA
SYM 3 OF 20

	BB27	USB31_EXT_REF_CLK_P	
	BC27	USB31_EXT_REF_CLK_N	
USB3_SOC_RX_P	BB29	C0_USB31_RX_P	
USB3_SOC_RX_N	BC29	C0_USB31_RX_N	
USB3_SOC_TX_P	BE29	C0_USB31_TX_P	
USB3_SOC_TX_N	BF29	C0_USB31_TX_N	
USB3_SOC_REXT	BA26	USB31_REXT	
USB_SOC_P	BC50	C00_USB_DP	
USB_SOC_N	BC49	C00_USB_DM	
NC_C00_USB_ID	AW42	C00_USB_ID	
C00_USB_SOC_REXT	BB36	C00_USB_REXT	
USB_VBUS_DETECT_R	AY42	C00_USB_VBUS	
USB_KIS_P	BB50	C01_USB_DP	
USB_KIS_N	BB49	C01_USB_DM	
NC_C01_USB_ID	AW41	C01_USB_ID	
C01_USB_SOC_REXT	BB37	C01_USB_REXT	
PP3V3_USB	AY41	C01_USB_VBUS	
NC_C1_USB31_RXP	BB28	C1_USB31_RX_P	
NC_C1_USB31_RXN	BC28	C1_USB31_RX_N	
NC_C1_USB31_TXP	BE28	C1_USB31_TX_P	
NC_C1_USB31_TXN	BF28	C1_USB31_TX_N	
NC_C1_USB_DP	BD49	C1_USB_DP	
NC_C1_USB_DM	BD48	C1_USB_DM	
NC_C1_USB_ID	AW43	C1_USB_ID	
C1_USB_SOC_REXT	BB35	C1_USB_REXT	
NC_C1_USB_VBUS	AY43	C1_USB_VBUS	
SWD_NAND1_SWDIO	Y47	SWD_TMS2	SWD
SWD_NAND2_SWDIO	AB46	SWD_TMS3	

DDR0_ZQ	A5	DDR0_ZQ	
DDR1_ZQ	A6	DDR1_ZQ	
DDR4_ZQ	A27	DDR4_ZQ	
DDR5_ZQ	A28	DDR5_ZQ	
DDR0_ZQ1	A4	DDR0_ZQ1	
DDR1_ZQ1	A7	DDR1_ZQ1	
DDR4_ZQ1	A26	DDR4_ZQ1	
DDR5_ZQ1	A29	DDR5_ZQ1	
DRAM			
DDR0_RREF	M1	DDR0_RREF	
DDR1_RREF	L1	DDR1_RREF	
DDR2_RREF	A23	DDR2_RREF	
DDR3_RREF	A24	DDR3_RREF	
DDR4_RREF	A30	DDR4_RREF	
DDR5_RREF	A31	DDR5_RREF	
DDR6_RREF	L50	DDR6_RREF	
DDR7_RREF	M50	DDR7_RREF	
FORCE_DFU	AJ45	GPIO_FORCE_DFU	
RESET			
REQUEST_DFU1	AH47	GPIO_PMU_TO_SOC_BTN_ONOFF_L	
REQUEST_DFU2	AD49	GPIO_PMU_TO_SOC_BTN_VOL_DOWN_L	
DFU_STATUS	AH45	SOC_TO_ACE_DFU_STATUS	
TESTMODE	BF47	SOC_TESTMODE	
CFSB	AL48	GPIO_PMU_TO_SYSTEM_ACTIVE_READY_R	
HOLD_RESET	BE45	GND	
LP4_IN_RESET*	AF10	RESET_PMU_TO_SYSTEM_L	
CLOCKS			
XI0	BF16	XTAL_SOC_24M_IN	
XO0	BF17	XTAL_SOC_24M_OUT	
TST_CLKOUT/CTM_TRIGGER	AM44	TST_CLKOUT	
ANALOGMUX_OUT	AC43	ADC_SOC_TO_PMU_ANALOGMUX_OUT	
TMR32_PWM0	AE47	NC_GPIO_SOC_TO_WLAN_DEVICE_WAKE	
TMR32_PWM1	AF47	SWD_SCORPIUS_SWCLK	
TMR32_PWM2	AH46	GPIO_WLAN_TO_SOC_TIME_SYNC	

DFU1 IS RELEASED FIRST FOR DFU ENTER OPERATION

R06A2 0 5% 1/20W MF 0201

R0630 30.1K 1% 1/32W MF 01005 NOSTUFF

R0661–R0668 240 1% 1/32W MF 01005

R0669–R0676 240 1% 1/32W MF 01005

R0650 510K 5% 1/32W MF 01005 NOSTUFF

R0651 1.00K 1% 1/32W MF 01005

Y0600 1.60X1.20MM 24.000MHZ-20PPM-9.5PF-60OHM CRITICAL

C0650 12PF 5% 16V NP0-C0G 01005-1 CRITICAL

C0651 12PF 5% 16V NP0-C0G 01005-1 CRITICAL

R0652 IS DEV BOARD SPECIFIC

R1037 1.00K 5% 1/32W MF 01005

R1038 1.00K 5% 1/32W MF 01005

R0621 200 1% MF 1/32W 01005

R0641 200 1% 1/32W MF 01005

R0640 200 1% 1/32W MF 01005

R0642 200 1% MF 1/32W 01005

PART NUMBER	ALTERNATE FOR	BOM OPTIONS		COMMENTS:
197S0591		Y0600		EPSON,24MHZ.XTAL
197S0588	197S0591		Y0600	TXC,24MHZ,XTAL

SYNC_MASTER=DEV_REV_0.40 SYNC_DATE=12/17/2017

PAGE TITLE: SOC: MAIN

DRAWING NUMBER | SIZE

SOC: GPIO

U0600 ARUBA-4G-21NM-H (FCBGA, SYM 5 OF 20)

I2S

I2S0_BCLK	Y1	I2S0_SOC_TO_BB_BCLK
I2S0_DIN/SIO_LEAP_MADI_IN /AOP_LEAP_MADI_IN	W4	I2S0_BB_TO_SOC_DIN
I2S0_DOUT/SIO_LEAP_MADI_OUT /AOP_LEAP_MADI_OUT	Y4	I2S0_SOC_TO_BB_DOUT
I2S0_LRCK	V3	I2S0_SOC_TO_BB_LRCK
I2S0_MCLK	W3	I2S3_SOC_TO_PENROSE_MCLK
I2S1_BCLK	BF31	I2S1_SOC_TO_SPKRAMP_CN_BCLK
I2S1_DIN	BC32	I2S1_SPKRAMP_CN_TO_SOC_DOUT
I2S1_DOUT	BD33	I2S1_SOC_TO_SPKRAMP_CN_DOUT
I2S1_LRCK	BD31	I2S1_SOC_TO_SPKRAMP_CN_LRCK
I2S1_MCK	BC31	I2S1_SOC_TO_SPKRBST_CN_MCLK_R
I2S2_BCLK/AP_PDM_IN2_CLK	R1	I2S2_SOC_TO_SPKRAMP_FH_BCLK
I2S2_DIN/AP_PDM_IN1_CLK	U3	I2S2_SPKRAMP_FH_TO_SOC_DOUT
I2S2_DOUT/AP_PDM_IN1_DAT	T2	I2S2_SOC_TO_SPKRAMP_FH_DOUT
I2S2_LRCK/AP_PDM_IN2_DAT	T3	I2S2_SOC_TO_SPKRAMP_FH_LRCK
I2S2_MCK/AP_PDM_OUT0_CLK	R3	NC_I2S2_SOC_TO_SPK_BST_FH_MCLK_R
I2S3_BCLK	BF44	I2S3_SOC_TO_PENROSE_BCLK
I2S3_DIN	BD39	I2S3_PENROSE_TO_SOC_DOUT
I2S3_DOUT	BC42	NC_GPIO_XBAR_EN_PULSE_L
I2S3_LRCK	BC37	I2S3_SOC_TO_PENROSE_LRCK
I2S3_MCK	BD38	GPIO_SOC_TO_SPKRBST_RESET_L
AP_PDM_OUT0_DAT	W2	GPIO_ISP_TO_PENROSE_RST_L

SPI

SPI0_MISO	AA4	SPI_NAND_TO_AP_MISO_BOOT_CFG2
SPI0_MOSI	AA3	SPI_AP_TO_NAND_MOSI_BOOT_CFG1
SPI0_SCLK	AA5	SPI_AP_TO_NAND_SCLK_BOOT_CFG0_R
SPI1_MISO	BE38	NC_SPI_BELFIELD_MISO
SPI1_MOSI	BC40	NC_SPI_BELFIELD_MOSI
SPI1_SCLK	BF37	NC_SPI_BELFIELD_SCLK
SPI1_SSIN	BC36	NC_SPI_BELFIELD_CS_L
SPI2_MISO	BC33	NC_SPI_MESA_MISO
SPI2_MOSI	BE32	NC_SPI_MESA_MOSI
SPI2_SCLK	BD32	NC_SPI_MESA_SCLK_R
SPI2_SSIN	BE33	NC_GPIO_MESA_TO_SOC_IRQ
SPI3_MISO	BF34	SPI_SOC_TO_GRAPE_MISO
SPI3_MOSI	BD43	SPI_SOC_TO_GRAPE_MOSI_R
SPI3_SCLK	BF33	SPI_SOC_TO_GRAPE_SCLK_R
SPI3_SSIN	BD44	SPI_SOC_TO_GRAPE_CS_L
SPI4_MISO	Y3	NC_SPI4_MISO
SPI4_MOSI	V2	DBL_CLICK_DET
SPI4_SCLK	R2	NC_SPI4_SCLK
SPI5_MISO	BE35	NC_GPIO_BELFIELD_TO_SOC_IRQ_L
SPI5_MOSI	BC39	NC_GPIO_SOC_TO_BELFIELD_RESET_L
SPI5_SCLK	BE36	NC_GPIO_SOC_TO_CODEC_RESET_L
SPI5_SSIN	BC38	NC_GPIO_SOC_TO_SCORPIUSMCU_NRST_L

I2C

I2C0_SCL	AG45	I2C0_SCL_1V8
I2C0_SDA	AG46	I2C0_SDA_1V8
I2C1_SCL	V4	I2C1_SCL_1V8
I2C1_SDA	W5	I2C1_SDA_1V8
I2C2_SCL	AK45	I2C2_SCL_1V8
I2C2_SDA	AL45	I2C2_SDA_1V8
I2C3_SCL	V6	I2C3_SCL_1V8
I2C3_SDA	Y6	I2C3_SDA_1V8
I2C4_SCL	W1	I2C4_SCL_1V8
I2C4_SDA	AA2	I2C4_SDA_1V8
I2C5_SCL	BE47	I2C5_SCL_1V8
I2C5_SDA	BC47	I2C5_SDA_1V8

TRIGGER

SOCHOT1	AA48	SOCHOT1_SOC_TO_PMU_L
DROOP	AE49	VCCMAIN_DROOP_PMU_TO_SOC_L
CPU_TRIGGER0	AE48	GPIO_PMU_TO_CPU_TRIGGER_0
CPU_TRIGGER1	AA49	GPIO_PMU_TO_CPU_TRIGGER_1
GPU_TRIGGER0	AF48	GPIO_PMU_TO_GPU_TRIGGER_0
GPU_TRIGGER1	AD48	GPIO_PMU_TO_GPU_TRIGGER_1

U0600 ARUBA-4G-21NM-H (FCBGA, SYM 6 OF 20)

GPIO

GPIO[0]	AJ47	SOC_TO_SCORPIUSMCU_BOOT0
GPIO[1]	AH49	GPIO_PMU_TO_SOC_BTN_VOL_UP_L
GPIO[2]	AJ48	SWD_ACE_SWCLK
GPIO[3]	AH48	GPIO_SOC_TO_GRAPE_RESET_L
GPIO[4]	AF50	GPIO_BRD_REV0
GPIO[5]	BC44	NC_GPIO_SOC_GPIO5
GPIO[6]	BF46	NC_DISPLAY_ID
GPIO[7]	BB38	NC_GPIO_SOC_BT_DEVICE_WAKE
GPIO[8]	BD40	GPIO_SOC_TO_ROTTERDAM_DEV_WAKE
GPIO[9]	AJ49	GPIO_BST_MASTER_TO_SOC_IRQ_L
GPIO[10]	AC45	GPIO_ACE_TO_SOC_IRQ_L
GPIO[11]	AJ46	SWD_ACE_SWDIO
GPIO[12]	AD43	SWD_SCORPIUS_SWDIO
GPIO[13]	AG48	NC_SOC_GPIO13
GPIO[14]	AC44	NC_SOC_GPIO14
GPIO[15]	AH50	GPIO_BRD_REV1
GPIO[16]	BB42	GPIO_SOC_TO_ROTTERDAM_DWLD_REQ
GPIO[17]	BB39	BT_TO_SOC_TIME_SYNC
GPIO[18]	Y49	NC_SOC_GPIO18
GPIO[19]	AF46	GPIO_SOC_TO_SPKRAMP_RESET_L
GPIO[20]	Y46	NC_SOC_GPIO20
GPIO[21]	AE46	SOC_TO_TCON_FORCE_PWM
GPIO[22]	AA46	GPIO_SPKRAMP_TO_SOC_IRQ_L
GPIO[23]	AL44	NC_SOC_GPIO23
GPIO[24]	AM45	GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC
GPIO[25]	W50	NC_SOC_GPIO25
GPIO[26]	W49	NC_SOC_GPIO26

BOARD ID

BOARD_ID0	V50	GPIO_BRD_ID0
BOARD_ID1	AE50	GPIO_BRD_ID1
BOARD_ID2	AJ50	GPIO_BRD_ID2
BOARD_ID3	AA1	GPIO_BRD_ID3
BOARD_ID4	Y48	GPIO_BRD_ID4

UART

UART0_RXD	AL50	UART_DEBUG_TO_SOC_TX
UART0_TXD	AM50	UART_SOC_TO_DEBUG_TX
UART1_CTSN	BD37	NC_BB_TO_AP_RESET_DETECT_1V8_L
UART1_RTSN	BD36	NC_SOC_UART1_RSTN
UART1_RXD	BD34	CAM_SYNC_LS_EN
UART1_TXD	BD35	GPIO_BST_SLAVE_TO_SOC_IRQ_L
UART2_CTSN	AK48	NC_UART2_CTSN
UART2_RTSN	AK49	NC_UART2_RTSN
UART2_RXD	AL49	NC_UART2_RXD
UART2_TXD	AM49	NC_UART_SOC_TO_WLAN_TX
UART3_CTSN	AL47	UART_ROTTERDAM_TO_SOC_RTS_L
UART3_RTSN	AM46	UART_SOC_TO_ROTTERDAM_RTS_L
UART3_RXD	AM47	UART_ROTTERDAM_TO_SOC_TX
UART3_TXD	AM48	UART_SOC_TO_ROTTERDAM_TX
UART4_CTSN	BF41	NC_UART4_CTSN
UART4_RTSN	BD41	NC_UART4_RTSN
UART4_RXD	BE42	SWD_WLAN_SWCLK
UART4_TXD	BE41	SWD_WLAN_SWDIO
UART6_RXD	AJ44	UART_BELLATRIX2_TO_SOC_TX
UART6_TXD	AH44	UART_SOC_TO_BELLATRIX2_TX
UART7_RXD	AL46	NC_UART7_RXD
UART7_TXD	AK46	NC_UART7_TXD

NAND

NAND_SYS_CLK	BF43	CLK_NAND1_24MHZ
NAND_SYS_CLK_DUAL	BE43	CLK_NAND2_24MHZ
SSD_BFH	U6	GPIO_SOC_TO_NAND_FW_STRAP
SSD_RESET*	U7	GPIO_SOC_TO_NAND_RESET_L

R0732

CLK_NAND1_24MHZ → 33 (5% 1/32W MF 01005) → CLK_SOC_TO_NAND1_24MHZ

PLACE_NEAR=U0600.BF43:5MM

R0730

CLK_NAND2_24MHZ → 33 (5% 1/32W MF 01005) → CLK_SOC_TO_NAND2_24MHZ

PLACE_NEAR=U0600.BF42:5MM

LYNX

APN:337S00584

PP1V8_EXT_SW1 → C07C0 0.47UF (20% 6.3V X5R 01005)

U0702 STLNXA1L9YZ2S (WLCSP)

A1	VCC	
B1	SDA	I2C4_SDA_1V8
A2	SCL	I2C4_SCL_1V8
A3	NC	NC
C1	NC	NC
B2	VSS	
B3	VSS	
C2	VSS	
C3	VSS	

NOSTUFF C07B0 56PF (5% 25V NP0/C0G 01005)

NOSTUFF C07A0 56PF (5% 25V NP0/C0G 01005)

R0703

NOSTUFF I2S1_SOC_TO_SPKRBST_CN_MCLK → 33 (5% 1/32W MF 01005) → I2S1_SOC_TO_SPKRBST_CN_MCLK_R

PLACE_NEAR=U0600.BC31:2MM

R0706

SPI_SOC_TO_GRAPE_MOSI → 33 (5% 1/32W MF 01005) → SPI_SOC_TO_GRAPE_MOSI_R

PLACE_NEAR=U0600.BD33:5MM

R0707

SPI_SOC_TO_GRAPE_SCLK → 33 (5% 1/32W MF 01005) → SPI_SOC_TO_GRAPE_SCLK_R

PLACE_NEAR=U0600.BF33:5MM

R0790 / R0791

PP1V8_ALWAYS, PP1V8_EXT_SW1 → R0790 47.0K (5% 1/32W MF 01005) → VCCMAIN_DROOP_PMU_TO_SOC_L

R0791 47.0K (5% 1/32W MF 01005) → SOCHOT1_SOC_TO_PMU_L

R0750–R0761

PP1V8_EXT_SW1 → R0750 2.2K, R0751 2.2K, R0752 2.2K, R0753 2.2K, R0754 2.2K, R0755 2.2K, R0756 2.2K, R0757 2.2K, R0758 1.00K, R0759 1.00K, R0760 1.00K, R0761 1.00K (5% 1/32W MF 01005)

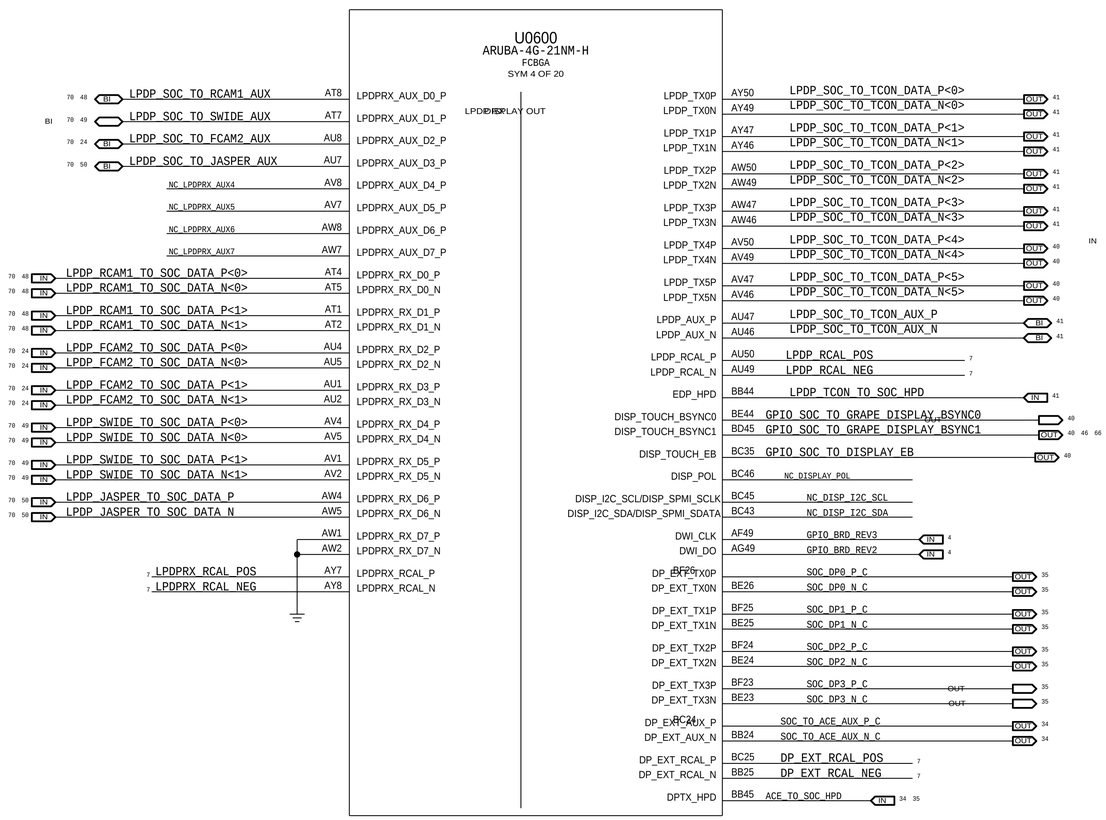
R0750	I2C0_SCL_1V8
R0751	I2C0_SDA_1V8
R0752	I2C1_SCL_1V8
R0753	I2C1_SDA_1V8
R0754	I2C2_SCL_1V8
R0755	I2C2_SDA_1V8
R0756	I2C4_SCL_1V8
R0757	I2C4_SDA_1V8
R0758	I2C3_SCL_1V8
R0759	I2C3_SDA_1V8
R0760	I2C5_SCL_1V8
R0761	I2C5_SDA_1V8

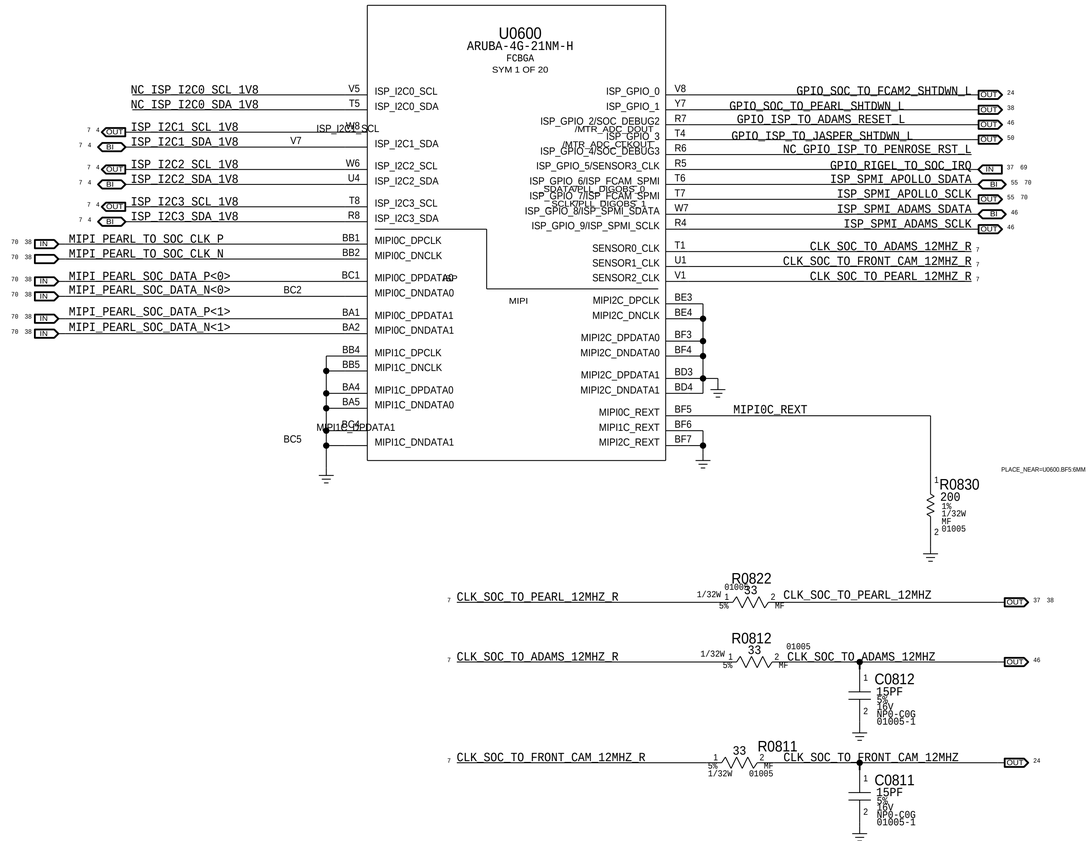
SYNC_MASTER=J317_MLB_B SYNC_DATE=01/07/2019

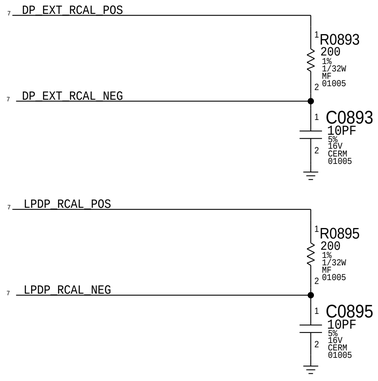
PAGE TITLE: SOC: I/OS

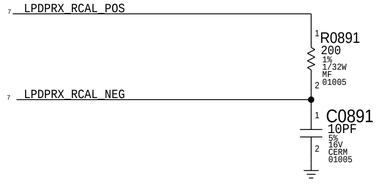
DRAWING NUMBER | SIZE

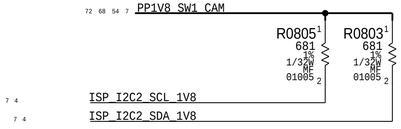
SOC: LPDP & MIPI

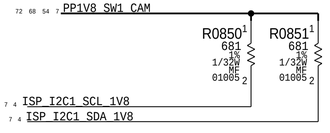


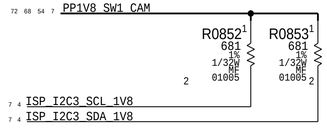












SYNC_MASTER=DEV_REV_0.40 SYNC_DATE=12/17/2017

PAGE TITLE

SOC: LPDP & MIPI

DRAWING NUMBER

SIZE

SOC: PCIE

PER PCISIG SPEC, AC COUPLING CAPS SHOULD BE BETWEEN
176 NF AND 265 NF FOR GEN1/2/3

NAND

16 OUT PCIE_SOC_TO_NAND1_TX_P — C0930 0.22UF 10% 6.3V X5R-CER 01005 — PCIE_SOC_TO_NAND1_TX_C_P
16 OUT PCIE_SOC_TO_NAND1_TX_N — C0931 0.22UF 10% 6.3V X5R-CER 01005 — PCIE_SOC_TO_NAND1_TX_C_N

16 IN PCIE_NAND1_TO_SOC_TX_P — BF9
16 IN PCIE_NAND1_TO_SOC_TX_N — BE9
16 OUT PCIE_SOC_TO_NAND1_REFCLK_P — BE21
16 OUT PCIE_SOC_TO_NAND1_REFCLK_N — BF21
16 8 IN PCIE_NAND1_TO_SOC_CLKREQ_L — BF38
70 17 16 8 OUT PCIE_SOC_TO_NAND1_RESET_L — BF32

0R OPTION NEEDED FOR SECOND NAND

DUAL_NAND

17 OUT PCIE_SOC_TO_NAND2_TX_P — C0932 0.22UF 10% 6.3V X5R-CER 01005 — PCIE_SOC_TO_NAND2_TX_C_P
17 OUT PCIE_SOC_TO_NAND2_TX_N — C0933 0.22UF 10% 6.3V X5R-CER 01005 — PCIE_SOC_TO_NAND2_TX_C_N

17 IN PCIE_NAND2_TO_SOC_TX_P — BF10
17 IN PCIE_NAND2_TO_SOC_TX_N — BE10
17 OUT PCIE_SOC_TO_NAND2_REFCLK_P — BE20
17 OUT PCIE_SOC_TO_NAND2_REFCLK_N — BF20
17 8 IN PCIE_NAND2_TO_SOC_CLKREQ_L — BF36
70 17 8 OUT PCIE_SOC_TO_NAND2_RESET_L — BC41

DUAL_NAND

WLAN/BT

OUT 70 66 OUT PCIE_SOC_TO_WLAN_TX_P — C0940 0.1UF 20% 6.3V X5R-CERM 01005 — PCIE_SOC_TO_WLAN_TX_C_P
70 66 OUT PCIE_SOC_TO_WLAN_TX_N — C0941 0.1UF 20% 6.3V X5R-CERM 01005 — PCIE_SOC_TO_WLAN_TX_C_N

70 66 IN PCIE_WLAN_TO_SOC_TX_P — BF11
70 66 IN PCIE_WLAN_TO_SOC_TX_N — BE11
70 66 OUT PCIE_SOC_TO_WLAN_REFCLK_P — BE19
70 66 OUT PCIE_SOC_TO_WLAN_REFCLK_N — BF19
66 8 IN PCIE_WLAN_TO_SOC_CLKREQ_L — BF39
66 8 OUT PCIE_SOC_TO_WLAN_RESET_L — BF45

8 PCIE_RCAL_POS — BC18
8 PCIE_RCAL_NEG — BC17

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SYM 2 OF 20

PCIE_RX0_P	BF9	PCIE_RX3_P	BF12 — NC_90_PCIE_BB_TO_AP_TX_P — IN 66
PCIE_RX0_N	BE9	PCIE_RX3_N	BE12 — NC_90_PCIE_BB_TO_AP_TX_N — IN 66
PCIE_TX0_P	BC9	PCIE_TX3_P	BC12 — NC_90_PCIE_AP_TO_BB_TX_P — 66
PCIE_TX0_N	BB9	PCIE_TX3_N	BB12 — NC_90_PCIE_AP_TO_BB_TX_N — 66
PCIE_REF_CLK0_P	BE21	PCIE_REF_CLK3_P	BB22 — NC_90_PCIE_AP_TO_BB_REFCLK_P — OUT 66
PCIE_REF_CLK0_N	BF21	PCIE_REF_CLK3_N	BC22 — NC_90_PCIE_AP_TO_BB_REFCLK_N — OUT 66
PCIE_CLKREQ0*	BF38	PCIE_CLKREQ3*	BF35 — NC_PCIE_AP_BI_BB_CLKREQ_1V8_L — IN 66
PCIE_PERST0*	BF32	PCIE_PERST3*	BF41 — NC_PCIE_AP_TO_BB_PERST_1V8_L — OUT 66
PCIE_RX1_P	BF10	PCIE_RX4_P	BF13 — NC_PCIE_RX4_P
PCIE_RX1_N	BE10	PCIE_RX4_N	BE13 — NC_PCIE_RX4_N
PCIE_TX1_P	BC10	PCIE_TX4_P	BC13 — NC_PCIE_TX4_P
PCIE_TX1_N	BB10	PCIE_TX4_N	BB13 — NC_PCIE_TX4_N
PCIE_REF_CLK1_P	BE20	PCIE_REF_CLK4_P	BB21 — NC_PCIE_REF_CLK4_P
PCIE_REF_CLK1_N	BF20	PCIE_REF_CLK4_N	BC21 — NC_PCIE_REF_CLK4_N
PCIE_CLKREQ1*	BF36	PCIE_CLKREQ4*	BF40 — GPIO_SOC_TO_BELLATRIX2_BOOST_EN — OUT 63 68
PCIE_PERST1*	BC41	PCIE_PERST4*	BD42 — NC_AP_TO_BB_COREDUMP_TRIG_1V8 — OUT 66
PCIE_RX2_P	BF11	PCIE_RX5_P	BF14 — NC_PCIE_RX5_P
PCIE_RX2_N	BE11	PCIE_RX5_N	BE14 — NC_PCIE_RX5_N
PCIE_TX2_P	BC11	PCIE_TX5_P	BC14 — NC_PCIE_TX5_P
PCIE_TX2_N	BB11	PCIE_TX5_N	BB14 — NC_PCIE_TX5_N
PCIE_REF_CLK2_P	BE19	PCIE_REF_CLK5_P	BB20 — NC_PCIE_REF_CLK5_P
PCIE_REF_CLK2_N	BF19	PCIE_REF_CLK5_N	BC20 — NC_PCIE_REF_CLK5_N
PCIE_CLKREQ2*	BF39	PCIE_CLKREQ5*	BC34 — NC_PCIE_CLKREQ5_L
PCIE_PERST2*	BF45	PCIE_PERST5*	BE39 — NC_GPIO_SOC_TO_BB_RESET_L
PCIE_RCAL_P	BC18	PAD_MTR_ANALOG_TEST_P	NC_PAD_MTR_ANALOG_TEST_POS
PCIE_RCAL_N	BC17	PAD_MTR_ANALOG_TEST_N	Y45 — NC_PAD_MTR_ANALOG_TEST_NEG
MTR		PAD_MTR_RREF_P	AB44 — MTR_RFFE_POS
		PAD_MTR_RREF_N	AB45 — MTR_RFFE_NEG
		PAD_MTR_VREF_P	AA43 — NC_PAD_MTR_VREF_POS
		PAD_MTR_VREF_N	AA44 — NC_PAD_MTR_VREF_NEG

R0949 39.2K 1% 1/32W MF 01005 (MTR_RFFE_POS — MTR_RFFE_NEG)

BASEBAND

AC COUPLING CAPS ARE IN CONNECTOR PAGE

TO BE CHECKED WITH SEG- DO NOT MATCH WITH SILVAL
IS THE PULL-UP VOLTAGE CORRECT?

8 PCIE_RCAL_POS — R0990 200 1% 1/32W MF 01005 — 16 8 / 17 8 / 66 8
8 PCIE_RCAL_NEG — C0990 10PF 5% 16V CERM 01005

72 59 6 4 PP1V8_EXT_SW1 — R0950 47.0K, R0930 47.0K, R0940 47.0K (5% 1/32W MF 01005)

PCIE_NAND1_TO_SOC_CLKREQ_L
PCIE_NAND2_TO_SOC_CLKREQ_L
PCIE_WLAN_TO_SOC_CLKREQ_L

BB HAS A 100K PU ON THEIR SIDE

70 17 16 8 PCIE_SOC_TO_NAND1_RESET_L
70 17 8 PCIE_SOC_TO_NAND2_RESET_L
66 8 PCIE_SOC_TO_WLAN_RESET_L

R0941 100K, R0931 100K, R0952 100K (5% 1/32W MF 01005)

SYNC_MASTER=DEV_REV_0.40	SYNC_DATE=12/17/2017
PAGE TITLE	SOC: PCIE
DRAWING NUMBER	SIZE

SOC: AOP

AOP I2C PULL-UPS

PP1V8_S3

R1050 1.00K 5% 1/32W MF 01005
R1051 1.00K 5% 1/32W MF 01005
R1052 1.00K 5% 1/32W MF 01005
R1053 1.00K 5% 1/32W MF 01005

I2C_AOP_I2CM0_SCL_1V8
I2C_AOP_I2CM0_SDA_1V8
I2C_AOP_I2CM1_SCL_1V8
I2C_AOP_I2CM1_SDA_1V8

PP1V8_S3

R1090 10K 5% 1/32W MF 01005 (NOSTUFF)
R1091 10K 5% 1/32W MF 01005 (NOSTUFF)

GPIO_PMU_TO_SOC_IRQ_L
GPIO_APOLLO_TO_PMU_SOC_IRQ_L

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SYM 7 OF 20

GPIO_MOLY_TO_AOP_IRQ	AD1	AOP_FUNC[0]
GPIO_PHOSPHORUS_TO_AOP_IRQ	AD6	AOP_FUNC[1]
SPI_MOLY_CS_L	AD2	AOP_FUNC[2]
GPIO_KOBOL_TO_AOP_INT	AF6	AOP_FUNC[3]
SPI_KOBOL_CS_L	AD4	AOP_FUNC[4]
GPIO_KOBOL_TO_AOP_MOTION_INT	AE1	AOP_FUNC[5]
SPI_PHOSPHORUS_CS_L	AE3	AOP_FUNC[6]
GPIO_ALS_C3_TO_AOP_IRQ_L	AF1	AOP_FUNC[7]
GPIO_ALS_C4_TO_AOP_IRQ_L	AF2	AOP_FUNC[8]
GPIO_ORION_TO_AOP_IRQ	AF8	AOP_FUNC9/AOP_LPPLL
GPIO_ROSALINE_TO_AOP_IRQ_L	AF5	AOP_FUNC[10]
(USE SOC INTERNAL PULL-UP)	AF3	AOP_FUNC[11]
(USE SOC INTERNAL PULL-UP)	AG5	AOP_FUNC[12]
GPIO_GRAPE_TO_AOP_IRQ_L	AF4	AOP_FUNC13/AOP_PDM_CLK4
GPIO_GRAPE_TO_AOP_TIME_SYNC	AC6	AOP_FUNC14/AOP_PDM_CLK3
I2C_AOP_I2CM0_SCL_1V8	AE7	AOP_I2CM0_SCL
I2C_AOP_I2CM0_SDA_1V8	AE6	AOP_I2CM0_SDA
I2C_AOP_I2CM1_SCL_1V8	AD7	AOP_I2CM1_SCL
I2C_AOP_I2CM1_SDA_1V8	AD8	AOP_I2CM1_SDA
GPIO_GRAPE_TO_SCORPIUS_TIME_SYNC	AH1	AOP_I2S0_BCLK
GPIO_TITUS_TO_AOP_B2B_DETECT	AK5	AOP_I2S0_DIN
NC_GPM_TO_AOP_DMIC_DISABLE_WARN_L	AG8	AOP_I2S0_DOUT
NC_AOP_I2S0_LRCK	AH3	AOP_I2S0_LRCK
GPIO_AOP_TO_SCORPIUSMCU_NRST_L	AJ4	AOP_I2S0_MCK
DMIC2_MIC_SCLK	AG1	AOP_I2S1_BCLK/AOP_PDM_IN1_CLK
SLG_TO_AOP_DMIC_DISABLE_WARN_L	AG2	AOP_I2S1_DIN
DMIC3_MIC_SD	AH6	AOP_I2S1_DOUT/AOP_PDM_IN2_DAT
DMIC4_MIC_SCLK	AG7	AOP_I2S1_LRCK/AOP_PDM_IN2_CLK
DMIC3_MIC_SCLK	AJ5	AOP_I2S1_MCK/AOP_PDM_CLK2
DMIC1_MIC_SCLK	AF7	AOP_PDM_CLK0
DMIC1_MIC_SD	AK8	AOP_PDM_DATA0
DMIC2_MIC_SD	AE4	AOP_PDM_DATA1
NC_GPIO_AOP_TO_NFC	AG6	AOP_PDM_DATAOUT
GPIO_AOP_TO_ORION_HWEN	AJ7	AOP_PDM_OUT0_CLK
SPI_SENSORS_MISO	AC3	AOP_SPI_MISO
SPI_SENSORS_MOSI_R	AC2	AOP_SPI_MOSI
SPI_SENSORS_SCLK_R	AC1	AOP_SPI_SCLK
NC_UART_BB_TO_AOP_TXD	AC5	AOP_UART0_RXD
NC_UART_AOP_TO_BB_TXD	AC4	AOP_UART0_TXD
GPIO_AOP_TO_WLAN_CONTEXT_B	AD3	AOP_UART1_RXD
GPIO_AOP_TO_WLAN_CONTEXT_A	AD5	AOP_UART1_TXD
UART_GRAPE_TO_AOP_TX	AC7	AOP_UART2_RXD
UART_AOP_TO_GRAPE_TX	AC8	AOP_UART2_TXD

AOP GPIO
NUB GPIO: NUB_FUNC[15] NUB_FUNC[16] NUB_FUNC[17] NUB_FUNC[18] NUB_FUNC[19] NUB_FUNC[20] NUB_FUNC[21] NUB_FUNC[22]
NUB SPMI: NUB_SPMI_SCLK NUB_SPMI_SDATA
NUB SWD: NUB_SWD_TCK_OUT NUB_SWD_TMS0 NUB_SWD_TMS1
NUB JTAG: JTAG_SEL JTAG_TCK JTAG_TDI JTAG_TDO JTAG_TMS JTAG_TRST*
AOP I2C
SMC I2C: SMC_I2CM0_SCL SMC_I2CM0_SDA SMC_I2CM1_SCL/SMC_UART1_TXD SMC_I2CM1_SDA/SMC_UART1_RXD SMC_I2CM2_SCL SMC_I2CM2_SDA SMC_I2CM3_SCL SMC_I2CM3_SDA SMC_I2CM4_SCL SMC_I2CM4_SDA
AOP I2S
AOP PDM
AOP SPI
SMC UART: SMC_UART0_RXD SMC_UART0_TXD
SMC GPIO: SMC_GPIO0 SMC_GPIO1
AOP UART
CLOCKS AND RESET: RT_CLK32768 CLK24M_OUT CFSB_AON COLD_RESET* AON_SLEEP1_RESET* WDOG

NUB_DOCK_ATTENTION/NUB_PDM_CLK1	AM2	NC_NUB_DOCK_ATTENTION
NUB_DOCK_CONNECT	AN5	USB_TO_SOC_DOCK_CONNECT (IN 34)
NUB_FUNC[15]	AM8	NC_NUB_FUNC15
NUB_FUNC[16]	AK2	GPIO_SCORPIUS_TO_AOP_IRQ (IN 64 68)
NUB_FUNC[17]	AM6	NC_NUB_FUNC17
NUB_FUNC[18]	AM5	NC_NUB_FUNC18
NUB_FUNC[19]	AM4	NC_NUB_FUNC19
NUB_FUNC[20]	AN7	NC_NUB_FUNC20
NUB_FUNC[21]	AN4	NC_AOP_TO_BBPMU_FORCE_PWM (OUT)
NUB_FUNC[22]	AL1	NC_NUB_FUNC22
NUB_SPMI_SCLK	AM7	NUB_SPMI_SCLK (OUT 59 70)
NUB_SPMI_SDATA	AL7	NUB_SPMI_SDATA (BI 59 66 70)
NUB_SWD_TCK_OUT	AK3	SWD_PERIPHERAL_SWCLK (9)
NUB_SWD_TMS0	AL3	NC_SWD_BB_SWDIO (BI 66)
NUB_SWD_TMS1	AN6	SWD_LANAI_SWDIO (BI 9 19)
JTAG_SEL	AM1	JTAG_SOC_SEL (IN 4 68)
JTAG_TCK	AP1	JTAG_SOC_TCK (IN 68)
JTAG_TDI	AP4	TP_JTAG_SOC_TDI (IN 68)
JTAG_TDO	AP3	TP_JTAG_SOC_TDO (OUT 68)
JTAG_TMS	AP7	JTAG_SOC_TMS (BI 34 68)
JTAG_TRST*	AN8	TP_JTAG_SOC_TRST_L (IN 4 68)
SMC_I2CM0_SCL	AK7	I2C_SMC_I2CM0_SCL_1V8 (OUT 4 9 68)
SMC_I2CM0_SDA	AH7	I2C_SMC_I2CM0_SDA_1V8 (BI 4 9 68)
SMC_I2CM1_SCL	AG3	I2C_SMC_I2CM1_SCL_1V8 (OUT 4 9 68)
SMC_I2CM1_SDA	AH4	I2C_SMC_I2CM1_SDA_1V8 (BI 4 9 68)
SMC_I2CM2_SCL	AJ6	I2C_SMC_I2CM2_SCL_1V8 (OUT)
SMC_I2CM2_SDA	AL6	I2C_SMC_I2CM2_SDA_1V8 (BI 4 9 68)
SMC_I2CM3_SCL	AK6	I2C_SMC_I2CM3_SCL_1V8 (OUT 4 9 68)
SMC_I2CM3_SDA	AJ1	I2C_SMC_I2CM3_SDA_1V8 (BI 4 9 68)
SMC_I2CM4_SCL	AK4	NC_I2C_SMC_I2CM4_SCL_1V8
SMC_I2CM4_SDA	AL4	NC_I2C_SMC_I2CM4_SDA_1V8
SMC_UART0_RXD	AJ8	NC_SMC_UART0_RXD
SMC_UART0_TXD	AG4	NC_GPIO_SMC_TO_USBPD_RST_L
SMC_GPIO0	AJ3	GPIO_POTOMAC_TO_SOC_TO_PMU_IRQ_L (59 61 IN)
SMC_GPIO1	AJ2	GPIO_ACE_TO_SMC_IRQ_L (IN 34 68)
RT_CLK32768	AM3	CLK_PMU_TO_AOP_32K (IN 59 68)
CLK24M_OUT	AK1	CLK_GRAPE_24MHZ — R0731 33 5% 1/32W MF 01005 (PLACE_NEAR=U0600.AK1:5MM) — CLK_SOC_TO_GRAPE_24MHZ (OUT 19)
CFSB_AON	AN3	RESET_PMU_TO_SYSTEM_L (IN 5 9 59 68)
COLD_RESET*	AN2	RESET_PMU_TO_SYSTEM_L_R_CRESET — R0610 0.00 1/32W MF 01005 — RESET_PMU_TO_SYSTEM_L (IN 5 9 59 68)
AON_SLEEP1_RESET*	AN1	NC_AON_SLEEP1_RESET_L
WDOG	AP6	WDOG_SOC (OUT)

R0681 47.0K 5% 1/32W MF 01005
R0680 47.0K 5% 1/32W MF 01005
R0682 47.0K 5% 1/32W MF 01005
PP1V8_S3 (9 20 65 72)
FROM SOC DATASHEET SEC:5.24.1

R0683 10K 5% 1/32W MF 01005
PP1V8_S3 (9 20 65 72)
C0683 0.1UF 20% 6.3V X5R-CERM 01005

SPI_SENSORS_MOSI — R1020 33 5% 1/32W MF 01005
SPI_SENSORS_SCLK — R1025 33 5% 1/32W MF 01005

SMC I2C PULL-UPS

PP1V8_S3

R1500 4.7K 5% 1/32W MF 01005
R1501 4.7K 5% 1/32W MF 01005
R1502 4.7K 5% 1/32W MF 01005
R1503 4.7K 5% 1/32W MF 01005
R1504 4.7K 5% 1/32W MF 01005
R1505 2.2K 5% 1/32W MF 01005
R1506 2.2K 5% 1/32W MF 01005

I2C_SMC_I2CM0_SCL_1V8
I2C_SMC_I2CM0_SDA_1V8
I2C_SMC_I2CM1_SCL_1V8
I2C_SMC_I2CM1_SDA_1V8
I2C_SMC_I2CM2_SCL_1V8
I2C_SMC_I2CM2_SDA_1V8
I2C_SMC_I2CM3_SCL_1V8
I2C_SMC_I2CM3_SDA_1V8

THESE GATES HAVE BACKPOWER PROTECTION

PP1V8_EXT_SW1
C1031 0.1UF 20% 6.3V X5R-CERM 01005
U1031 74AUP1G34GX SOT1226
SWD_PERIPHERAL_SWCLK — R1032 33 5% 1/32W MF 01005 — SWD_PER_NAND1_SWCLK_R
SWD_NAND1_SWCLK (OUT 16)

PP1V8_EXT_SW1
C1035 0.1UF 20% 6.3V X5R-CERM 01005
U1035 74AUP1G34GX SOT1226
SWD_PERIPHERAL_SWCLK — R1035 33 5% 1/32W MF 01005 — SWD_PER_NAND2_SWCLK_R
SWD_NAND2_SWCLK (OUT 17)

PP1V8_S2_GRAPE
C1032 0.1UF 20% 6.3V X5R-CERM 01005
U1032 74AUP1G34GX SOT1226
SWD_PERIPHERAL_SWCLK — R1033 33 5% 1/32W MF 01005 — SWD_PER_GRAPE_SWCLK_R
SWD_LANAI_SWCLK (OUT 19)

PP1V8_S3
C1033 0.1UF 20% 6.3V X5R-CERM 01005
U1034 74AUP1G34GX SOT1226
SWD_PERIPHERAL_SWCLK — R1034 33 5% 1/32W MF 01005 — SWD_PER_BB_SWCLK_R
NC_SWD_BB_SWCLK (OUT 66)

PP1V8_S2_GRAPE
R0612 1.00K 5% 1/32W MF 01005
SWD_LANAI_SWDIO (19 9)

SYNC_MASTER=J417_MLB_SOC_AOP	SYNC_DATE=01/11/2019
PAGE TITLE	SOC: AOP
DRAWING NUMBER	SIZE

SOC: POWER (DDR,SRAM)

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ARUBA-4G-21NM-H
FCBGA
SYM 11 OF 20

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ARUBA-4G-21NM-H
FCBGA
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PP1V8_S3
PP1V1_S3
PP1V2_SOC
PPVDD_CPU_SRAM
PPVDD_GPU_SRAM
PPVDD_S1_QL
PPVDD_S1_DCS
PPVDD_S1_SOC
PP0V775_S2_AOP
PP0V775_S2_SOC_AOP_FLPPLL
PP0V775_S2_SOC_AOP_ULPPLL
VDDIO11_DDRQ/1/2 1.1V @ 1700MA
VDD_CPU_SRAM: 1.6V @ 3000MA
VDD_GPU_SRAM: 1.06V @1400MA
VDD_LOW: 0.8V @ 68MA (AOP)
VDD_FIXED: 0.8V @ 4840MA
NC_VDD_DCS_SENSE
NC_VDDQL_SENSE
ADC_SOC_TO_PMU_VDD_SOC
PLACE_NEAR=U0600.AH28:5MM
SHORT-10L-0.1MM-SM

SYNC_MASTER=DEV_REV_0.40	SYNC_DATE=12/17/2017
PAGE TITLE	SOC: POWER (DDR,SRAM)
DRAWING NUMBER	SIZE

SOC: POWER (IO)

VDD12_PLL_CPU: 1.2V @ 7MA
VDD12_PLL_SOC: 1.2V @ 4MA
VDD12_PLL_GPU: 1.2V @ 7MA
VDD12_PLL_LPDP: 1.2V @ 9MA
VDD12_PCIE_REFBUF: 1.2V @ 48MA
VDD12_LPDP_TX: 1.2V @ 45MA
VDD12_LPDP_RX: 1.2V @ 55MA
VDD12_USB3: 1.2V @ 25MA
VDD12_DP_EXT: 1.2V @ 40MA

VDD18_ADP: 1.8V @ TBDMA
VDD18_USB: 1.8V @ 17MA
VDD18_TSADC: 1.8V @ 10.4MA
VDDIO18_GRP: 1.8V @ TBDMA
VDD18_MIPI: 1.8V @ 2MA
VDD18_XTAL: 1.8V @ 2MA
VDD18_LPOSC: 1.8V @ 1MA
VDD18_FMON: 1.8V @ 1MA
VDD18_PCIE: 1.8V @ 81.7MA
VDD33_USB: 3.3V @ 5MA

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S00049	138S0831		C1221 & MORE	RDAR://PROBLEM/19974864

U0600
ARUBA-4G-21NM-H
FCBGA
SYM 12 OF 20

VDD12_DP_EXT AY24, AY25
VDD12_LPDP_RX AY14, AY15, AY16
VDD12_LPDP_TX BA37, BA38, BA39
VDD12_PCIE AY20, AY21, AY22
VDD12_PCIE_REFBUF AY23
VDD12_PLL_ANE AT24
VDD12_PLL_ECPU AF34
VDD12_PLL_GPU AP24
VDD12_PLL_LPDP AY36
VDD12_PCPU AJ35
VDD12_PLL_SOC AP23
VDD33_USB_C00 AW33
VDD33_USB_C01 AW34
VDD33_USB_C1 AW32

VDD18_ADC AE37 — DOES THIS NEED FILTER? PP1V8_EXT_SW1
VDD18_AMUX AF39 — DOES THIS NEED FILTER? PP1V8_EXT_SW1
VDD18_EFUSE1 AG38
VDD18_EFUSE2 AP16
VDD18_EFUSE3 AF38
VDD18_FMON AR17 — PP1V8_MICS_FMON
VDD18_MIPIC AY18 — PP1V8_EXT_SW1
VDD18_TSADC_ANE AL29 — PP1V8_EXT_SW1
VDD18_TSADC_CPU058 AH33
VDD18_TSADC_CPU126 AU31
VDD18_TSADC_CPU34 AT37
VDD18_TSADC_CPU79 AM35
VDD18_TSADC_GPU0 AB24
VDD18_TSADC_SOC0 AT16
VDD18_TSADC_SOC1 AK14
VDD18_TSADC_SOC2 AA23 — PP1V8_MISC_VDD18_ULPPLL
VDD18_ULPPLL AV13
VDD18_USB_C00 BB34
VDD18_USB_C01 BA35
VDD18_USB_C1 BA33
VDD18_USB3 AY26 — PP1V8_EXT_SW1
VDD18_XTAL BA23 — PP1V8_XTAL_FILT
VDDIO18_AOP AP12 — PP1V8_S3
VDDIO18_AOP AR13
VDDIO18_AOP AT12
VDDIO18_AOP AU13
VDDIO18_AOP AV12
VDDIO18_GRP1 AL13 — PP1V8_EXT_SW1
VDDIO18_GRP1 AM12
VDDIO18_GRP1 AN13
VDDIO18_GRP2 AY27
VDDIO18_GRP2 AY29
VDDIO18_GRP2 AY31
VDDIO18_GRP2 BA28
VDDIO18_GRP2 BA30
VDDIO18_GRP2 BA32
VDDIO18_GRP3 AG40
VDDIO18_GRP3 AH40
VDDIO18_GRP3 AJ39
VDDIO18_GRP3 AK40
VDDIO18_GRP3 AL39
VDDIO18_GRP3 AM40
VDDIO18_GRP3 AV40
VDDIO18_GRP3 AW39
VDDIO18_GRP3
VDDIO18_MTR AE39 — MTR CONNECTION TO BE CONFIRMED WITH SEG

PP1V2_SOC
C12B6 4.3UF 20% 4V CERM 0402 (CRITICAL)
C12B5 4.3UF 20% 4V CERM 0402 (CRITICAL)
C12B4 4.3UF 20% 4V CERM 0402 (CRITICAL)
C12B0 2.2UF 20% 6.3V X5R-CERM 0201
C12B1 0.22UF 10% 6.3V CER-X5R 01005
C12B2 0.22UF 10% 6.3V CER-X5R 01005
C12B3 18PF 5% 16V C0G 01005

PP1V2_SOC
C12C0 4.3UF 20% 4V CERM 0402 (CRITICAL)
C12C3 0.01UF 10% 6.3V X5R 01005
C12C4 18PF 5% 16V C0G 01005

R065D 0.00 0% 1/32W MF 01005
PP1V2_PCIE_REFBUF
C12GC 4.3UF 20% 4V CERM 0402 (CRITICAL)
PP1V2_SOC
C12GD 0.1UF 20% 6.3V X5R-CERM 01005

PP3V3_USB
C12H0 0.1UF 20% 6.3V X5R-CERM 01005

PP1V2_SOC
C12I0 4.3UF 20% 4V CERM 0402 (CRITICAL)
C12I3 0.01UF 10% 6.3V X5R 01005
131S00290
C12I4 15PF 5% 16V NP0-C0G 01005-1

PP1V8_EXT_SW1
C12J4B 4.3UF 20% 4V CERM 0402 (CRITICAL)
C12J0 4.3UF 20% 4V CERM 0402 (CRITICAL)
C1240 4.3UF 20% 4V CERM 0402 (CRITICAL)
C1241 2.2UF 20% 6.3V X5R-CERM 0201
C1244 0.22UF 10% 6.3V CER-X5R 01005

PP1V8_EXT_SW1
C1211 4.3UF 20% 4V CERM 0402 (CRITICAL)

PP1V8_EXT_SW1
C12J0 4.3UF 20% 4V CERM 0402 (CRITICAL)
C1242 2.2UF 20% 6.3V X5R-CERM 0201
C1271 0.22UF 10% 6.3V CER-X5R 01005

PP1V8_EXT_SW1
C1270 0.22UF 10% 6.3V CER-X5R 01005

R12A0 49.9 1% 1/32W MF
C12E0 2.2UF 20% 6.3V X5R-CERM 0201 (01005)

R12E0 100 0.1% 1/32W MF 01005
PP1V8_S3
C12F0 4.7UF 20% 4V CER-X5R 0201

FL1210 240-OHM-25%-0.20A-1.0DCR 01005
C12G0 0.1UF 20% 6.3V 01005
2.2UF 20% X5R-CERM
C12G1 6.3V 0201

C1256 8.2PF +/-0.5PF 50V C0G-CERM 201
C1255 0.22UF 10% 6.3V CER-X5R 01005
2.2UF X5R-CERM
C1254 20% 6.3V X5R-CERM 0201

PP1V8_EXT_SW1
C1260 10UF 20% 6.3V CERM-X5R 0402 (CRITICAL)
C1261 2.2UF 20% 6.3V X5R-CERM
C1262 2.2UF 20% 6.3V X5R-CERM 0201
C1263 2.2UF 20% 6.3V X5R-CERM

SYNC_MASTER=DEV_REV_0.40	SYNC_DATE=12/17/2017
PAGE TITLE	SOC: POWER (IO)
DRAWING NUMBER	SIZE

SOC: POWER (CPU, GPU)

U0600
ARUBA-4G-21NM-H
FCBGA
SYM 9 OF 20

VDD_GPU: 1.06V @ 13800MA
0.8V @ 12480MA
0.7V @ 8700MA
0.575V @ 4400MA

VDD_CPU: 1.06V @ 13800MA
0.80V @ 8900MA
0.575V @ 3700MA

PPVDD_GPU

C1369 12PF 5% 25V NP0-C0G 0201
C1368 100PF 5% 25V C0G 0201

C1380 C1382 C1384 14UF 20% 4V X5R 0402-D2X-1
C1385 C1386 C1387 14UF 20% 4V X5R 0402-D2X-1

PPVDD_CPU

C1308 100PF 5% 25V C0G 0201
C1309 12PF 5% 25V NP0-C0G 0201

C1310 C1311 C1312 C1313 C1314 C1315 C1316 C1317 14UF 20% 4V X5R 0402-D2X-1

AA16	VDD_GPU	VDD_PCPU		AK34	
AA18	VDD_GPU	VDD_PCPU		AL31	
AA20	VDD_GPU		VDD_PCPU	AL33	
AA22	VDD_GPU		VDD_PCPU	AL35	
AA24	VDD_GPU		VDD_PCPU	AL37	
AA26	VDD_GPU		VDD_PCPU	AM28	
AA28	VDD_GPU		VDD_PCPU	AM30	
AA30	VDD_GPU		VDD_PCPU	AM32	
AA32	VDD_GPU		VDD_PCPU	AM34	
AA34	VDD_GPU	VDD_PCPU		AM36	
AA36	VDD_GPU	VDD_PCPU		AM38	
AA50	VDD_GPU	VDD_PCPU		AM29	
AB15	VDD_GPU		VDD_PCPU	AN31	
AB17	VDD_GPU		VDD_PCPU	AN33	
AB19	VDD_GPU		VDD_PCPU	AN35	
AB21	VDD_GPU		VDD_PCPU	AN37	
AB23	VDD_GPU		VDD_PCPU	AN41	
AB25	VDD_GPU		VDD_PCPU	AN43	
AB27	VDD_GPU		VDD_PCPU	AN45	
AB29	VDD_GPU	VDD_PCPU		AN47	
AB31	VDD_GPU	VDD_PCPU		AN49	
AB33	VDD_GPU	VDD_PCPU		AP28	
AB35	VDD_GPU		VDD_PCPU	AP30	
AB47	VDD_GPU		VDD_PCPU	AP32	
AB48	VDD_GPU		VDD_PCPU	AP34	
AB49	VDD_GPU		VDD_PCPU	AP36	
AB50	VDD_GPU		VDD_PCPU	AP38	
AC16	VDD_GPU		VDD_PCPU	AP39	
AC18	VDD_GPU		VDD_PCPU	AP40	
AC20	VDD_GPU	VDD_PCPU		AP41	
AC22	VDD_GPU	VDD_PCPU		AP42	
AC24	VDD_GPU	VDD_PCPU		AP43	
AC26	VDD_GPU		VDD_PCPU	AP44	
AC28	VDD_GPU		VDD_PCPU	AP45	
AC30	VDD_GPU		VDD_PCPU	AP46	
AC32	VDD_GPU		VDD_PCPU	AP47	
AC34	VDD_GPU		VDD_PCPU	AP48	
AC36	VDD_GPU		VDD_PCPU	AP49	
AC46	VDD_GPU		VDD_PCPU	AP50	
AC47	VDD_GPU	VDD_PCPU		AR29	
AC48	VDD_GPU	VDD_PCPU		AR33	
AC49	VDD_GPU	VDD_PCPU		AR35	
AC50	VDD_GPU		VDD_PCPU	AR37	
AD15	VDD_GPU		VDD_PCPU	AR39	
AD17	VDD_GPU		VDD_PCPU	AR40	
AD19	VDD_GPU		VDD_PCPU	AR41	
AD21	VDD_GPU		VDD_PCPU	AR42	
AD23	VDD_GPU		VDD_PCPU	AR43	
AD25	VDD_GPU		VDD_PCPU	AR44	
AD27	VDD_GPU	VDD_PCPU		AR45	
AD29	VDD_GPU	VDD_PCPU		AR46	
AD31	VDD_GPU	VDD_PCPU		AR47	
AD33	VDD_GPU		VDD_PCPU	AR48	
AD35	VDD_GPU		VDD_PCPU	AR49	
AD37	VDD_GPU		VDD_PCPU	AR50	
AD38	VDD_GPU		VDD_PCPU	AT32	
AD39	VDD_GPU		VDD_PCPU	AT34	
AD40	VDD_GPU		VDD_PCPU	AT36	
AD41	VDD_GPU		VDD_PCPU	AT38	
AD42	VDD_GPU		VDD_PCPU	AU37	
AD45	VDD_GPU		VDD_PCPU	AV32	
AD46	VDD_GPU	VDD_PCPU		AV34	
AE16	VDD_GPU		VDD_PCPU	AV36	
AE18	VDD_GPU		VDD_PCPU	AV37	
AE20	VDD_GPU		VDD_PCPU	AW35	
AE22	VDD_GPU				
AE24	VDD_GPU	VDD_PCPU_SENSE		AK33	ADC_SOC_TO_PMU_VDD_CPU_R
AE26	VDD_GPU		VDD_ECPU	AG35	
AE28	VDD_GPU		VDD_ECPU	AG37	
AE30	VDD_GPU		VDD_ECPU	AH34	
AE32	VDD_GPU		VDD_ECPU	AH36	
AE34	VDD_GPU	VDD_ECPU		AH38	
AE36	VDD_GPU		VDD_ECPU	AJ37	
AE38	VDD_GPU		VDD_ECPU	AK36	
AE41	VDD_GPU		VDD_ECPU	AK38	
AE42	VDD_GPU				
AE43	VDD_GPU				
AE44	VDD_GPU				
AE45	VDD_GPU				
AF15	VDD_GPU				
AF17	VDD_GPU				
AF19	VDD_GPU				
AF21	VDD_GPU				
AF23	VDD_GPU				
AF25	VDD_GPU				
AF27	VDD_GPU				
AF29	VDD_GPU				
AF31	VDD_GPU				
AF41	VDD_GPU				
AF42	VDD_GPU				
AF43	VDD_GPU				
AF44	VDD_GPU				
AF45	VDD_GPU				
	VDD_GPU_SENSE			AF28	

PLACE_NEAR=U0600.AK33:5MM
XW1300
SHORT-10L-0.1MM-SM
ADC_SOC_TO_PMU_VDD_CPU_R → ADC_SOC_TO_PMU_VDD_CPU (OUT) 57 59 68

PPVDD_ECPU 72

C1441 14UF 20% 4V X5R 0402-D2X-1
C1443 C1444 14UF 20% 4V X5R 0402-D2X-1

PLACE_NEAR=U0600.AF28:5MM
XW1301
SHORT-10L-0.1MM-SM
68 59 57 (OUT) ADC_SOC_TO_PMU_VDD_GPU ← ADC_SOC_TO_PMU_VDD_GPU_R

SYNC_MASTER=DEV_REV_0.40	SYNC_DATE=12/17/2017
PAGE TITLE	SOC: POWER (CPU, GPU)
DRAWING NUMBER	SIZE

SOC: POWER (SRAM, SOC)

VDD_FIXED_CPU: 0.8V @ 6MA
VDD_FIXED_PCIE:0.8V @ 290.1MA
VDD_FIXED_PCIE_REFBUF: 0.8V @ 20MA
VDD_FIXED_USB: 0.8V @ 6.6MA
VDD_FIXED_USB3: 0.8V @ 89.4MA
VDD_FIXED_USB3: 0.8V @ 89.4MA
VDD_FIXED_PLL_SOC: 0.8V @ 10MA
VDD_FIXED_PLL_GPU: 0.8V @ 6MA
VDD_FIXED_PLL_DDR: 0.8V @ 4MA
VDD_FIXED_MIPI: 0.8V @ 10MA
VDD_FIXED_PLL_LPDP: 0.8V @ 2MA
VDD_FIXED_LPDP_TX: 0.8V @ 43.2MA
VDD_FIXED_LPDP_RX: 0.8V @ 5.2MA

VDD_FIXED: 0.8V @ 4840MA

C1430 100PF 5% 25V C0G 0201

C1431 14UF 20% 4V X5R 0402-DZX-1
C1432 14UF 20% 4V X5R 0402-DZX-1
C1433 14UF 20% 4V X5R 0402-DZX-1
C1434 14UF 20% 4V X5R 0402-DZX-1
C1435 14UF 20% 4V X5R 0402-DZX-1
C1436 14UF 20% 4V X5R 0402-DZX-1
C1437 14UF 20% 4V X5R 0402-DZX-1
C1438 14UF 20% 4V X5R 0402-DZX-1

PPVDD_S1_FIXED

U0600
ARUBA-4G-21NM-H
FCBGA
SYM 10 OF 20

AB37	VDD_FIXED
AC14	VDD_FIXED
AG14	VDD_FIXED
AG16	VDD_FIXED
AG18	VDD_FIXED
AG20	VDD_FIXED
AG22	VDD_FIXED
AG24	VDD_FIXED
AG26	VDD_FIXED
AG28	VDD_FIXED
AG30	VDD_FIXED
AG32	VDD_FIXED
AG39	VDD_FIXED
AJ16	VDD_FIXED
AJ18	VDD_FIXED
AJ20	VDD_FIXED
AJ22	VDD_FIXED
AJ24	VDD_FIXED
AJ26	VDD_FIXED
AJ28	VDD_FIXED
AJ30	VDD_FIXED
AJ32	VDD_FIXED
AL14	VDD_FIXED
AL16	VDD_FIXED
AL18	VDD_FIXED
AL20	VDD_FIXED
AL22	VDD_FIXED
AL24	VDD_FIXED
AL26	VDD_FIXED
AL28	VDD_FIXED
AL30	VDD_FIXED
AM39	VDD_FIXED
AN14	VDD_FIXED
AN16	VDD_FIXED
AN18	VDD_FIXED
AN20	VDD_FIXED
AN22	VDD_FIXED
AN24	VDD_FIXED
AN26	VDD_FIXED
AR16	VDD_FIXED
AR18	VDD_FIXED
AR20	VDD_FIXED
AR22	VDD_FIXED
AR24	VDD_FIXED
AR26	VDD_FIXED
AU16	VDD_FIXED
AU18	VDD_FIXED
AU20	VDD_FIXED
AU22	VDD_FIXED
AU24	VDD_FIXED
AU26	VDD_FIXED
AU28	VDD_FIXED
AU30	VDD_FIXED
AU39	VDD_FIXED
AW28	VDD_FIXED
AW30	VDD_FIXED
AY15	VDD_FIXED
Y21	VDD_FIXED
Y25	VDD_FIXED
Y29	VDD_FIXED
Y35	VDD_FIXED

VDD_FIXED_PCPU	AK35	PPVDD_S1_FIXED
VDD_FIXED_ECPU	AF35	
VDD_FIXED_PLL_ANE	AT26	PPVDD_S1_FIXED
VDD_FIXED_DP_EXT	AW24	PPVDD_S1_FIXED
VDD_FIXED_DP_EXT	AW25	
VDD_FIXED_LPDP_RX	AW14	PPVDD_S1_FIXED
VDD_FIXED_LPDP_RX	AW15	
VDD_FIXED_LPDP_RX	AW16	
VDD_FIXED_LPDP_TX	AY37	PPVDD_S1_FIXED
VDD_FIXED_LPDP_TX	AY38	
VDD_FIXED_LPDP_TX	AY39	
VDD_FIXED_MIPIC	AW18	PPVDD_S1_FIXED
VDD_FIXED_PCIE	AW20	PPVDD_S1_FIXED
VDD_FIXED_PCIE	AW21	
VDD_FIXED_PCIE	AW22	
VDD_FIXED_PCIE_REFBUF	AW23	
VDD_FIXED_MTR	AF40	VDDIO11_PLL_DDR0-7 1.1V @ 17MA
VDD_FIXED_PLL_DDR0	AE9	PP1V1_DDR_PLL_SOC_FILT
VDD_FIXED_PLL_DDR1	AC9	
VDD_FIXED_PLL_DDR2	R17	
VDD_FIXED_PLL_DDR3	R19	
VDD_FIXED_PLL_DDR4	R27	
VDD_FIXED_PLL_DDR5	R29	
VDD_FIXED_PLL_DDR6	R40	
VDD_FIXED_PLL_DDR7	W42	
VDD_FIXED_PLL_GPU	AR25	PPVDD_S1_FIXED
VDD_FIXED_PLL_LPDP	AW36	PPVDD_S1_FIXED
VDD_FIXED_PLL_SOC	AR23	PPVDD_S1_FIXED
VDD_FIXED_USB_C00	BA34	PPVDD_S1_FIXED
VDD_FIXED_USB_C01	AY35	
VDD_FIXED_USB_C1	AY33	
VDD_FIXED_USB3	AW26	PPVDD_S1_FIXED

C1496 4.3UF 20% 4V CERM 0402

C14GD 0.1UF 20% 6.3V X5R-CERM 01005

C14GC 4.3UF 20% 4V CERM 0402

R145D 0.00 0% 1/32W MF 01005

PPVDD_S1_FIXED_PCIE_R

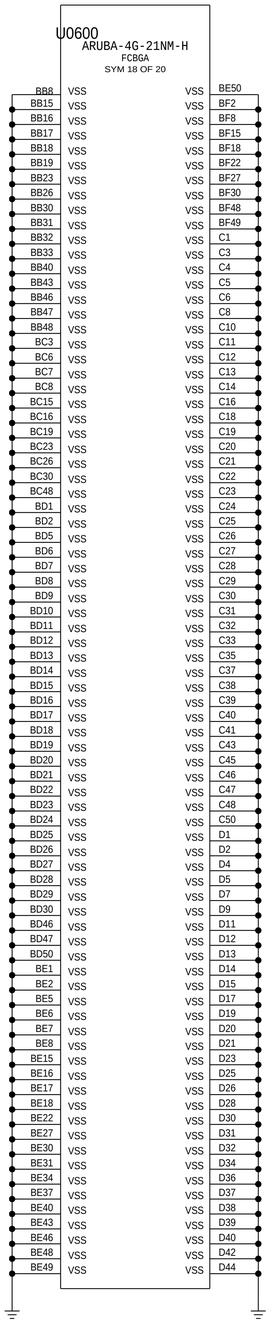
R1230 120-OHM-25%-250MA-0.5DCR 01005

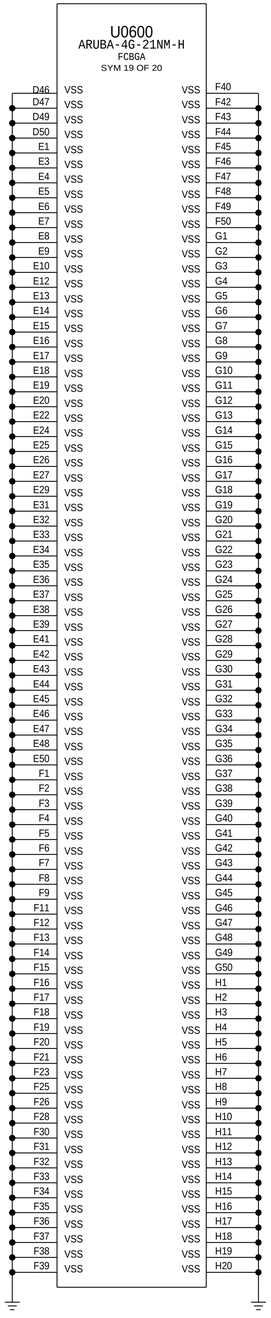
C1230 2.2UF 20% 6.3V X5R-CERM 0201
C1231 0.22UF 10% 6.3V CER-X5R 01005 01005
C1232 220PF 5% 16V C0G 01005
C14GB 0.1UF 20% 6.3V X5R-CERM 01005
C14GA 0.1UF 20% 6.3V X5R-CERM 01005
C14A1 2.2UF 20% 6.3V X5R-CERM 0201

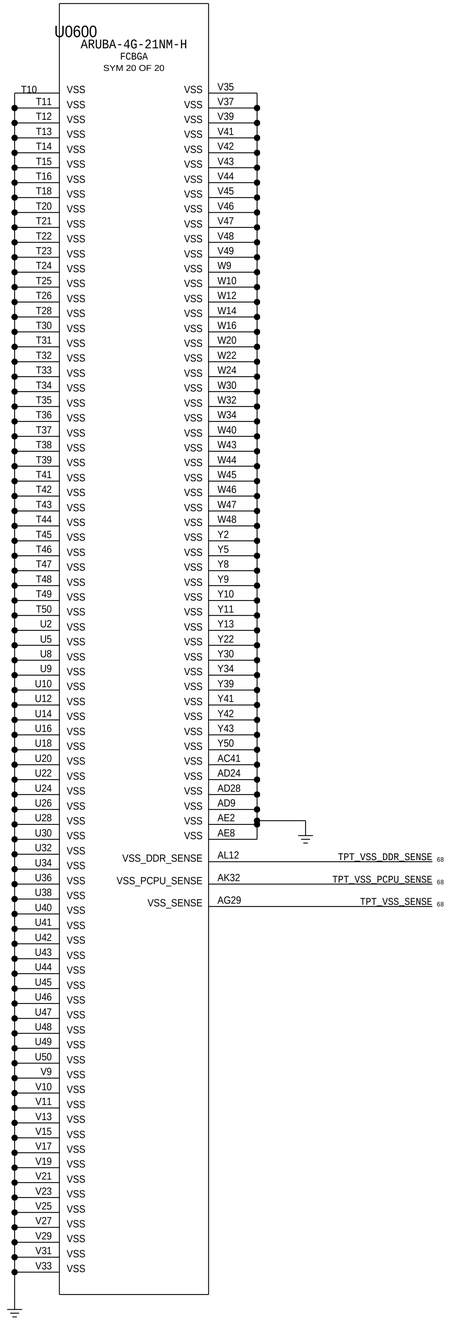
C1493 2.2UF 20% 6.3V X5R-CERM 0201

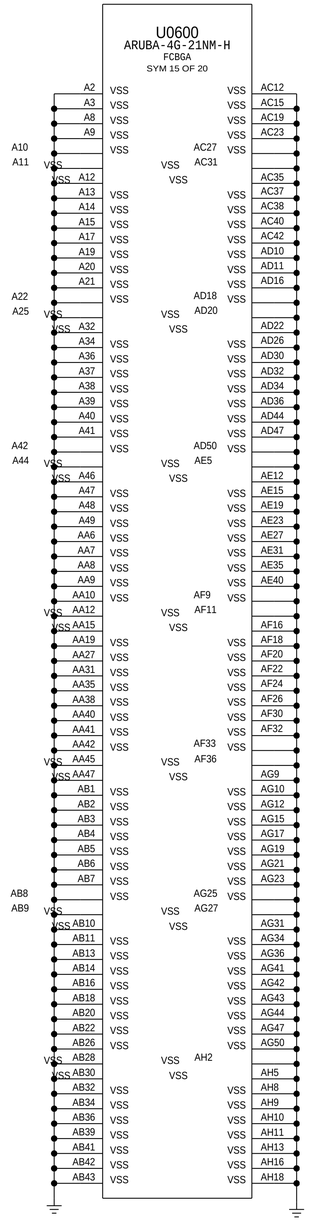
SYNC_MASTER=DEV_REV_0.40	SYNC_DATE=12/17/2017
PAGE TITLE	SOC: POWER (SRAM, SOC)
DRAWING NUMBER	SIZE

SOC: GND (1)









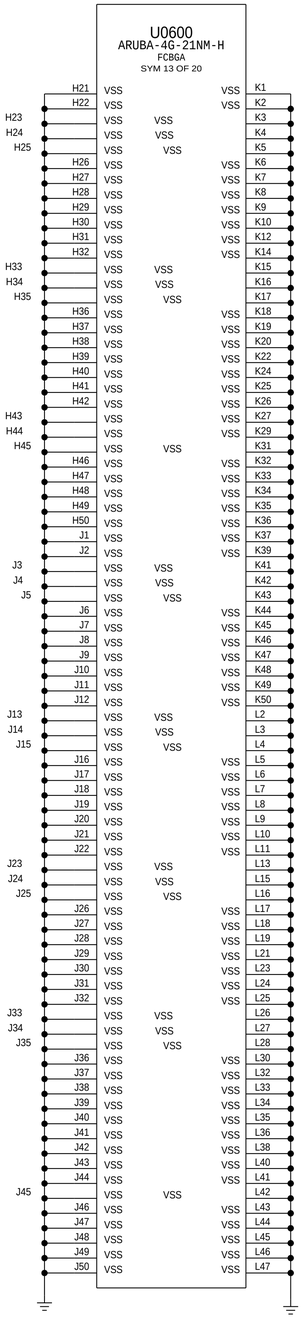
SYNC_MASTER=DEV_REV_0.40 SYNC_DATE=12/17/2017

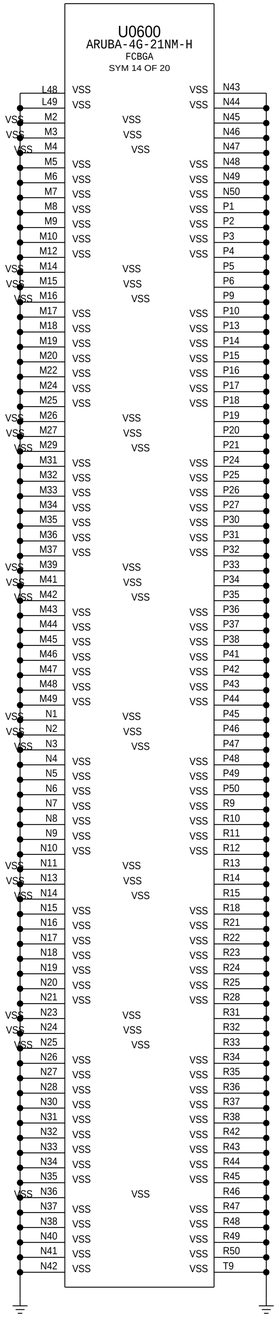
PAGE TITLE

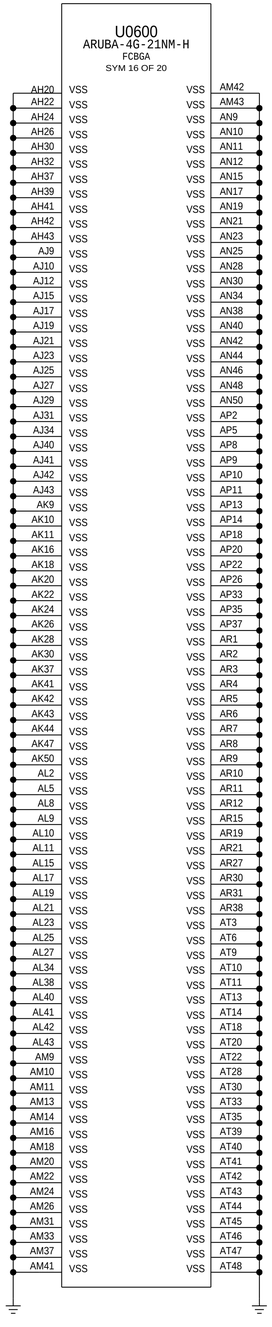
SOC: GND

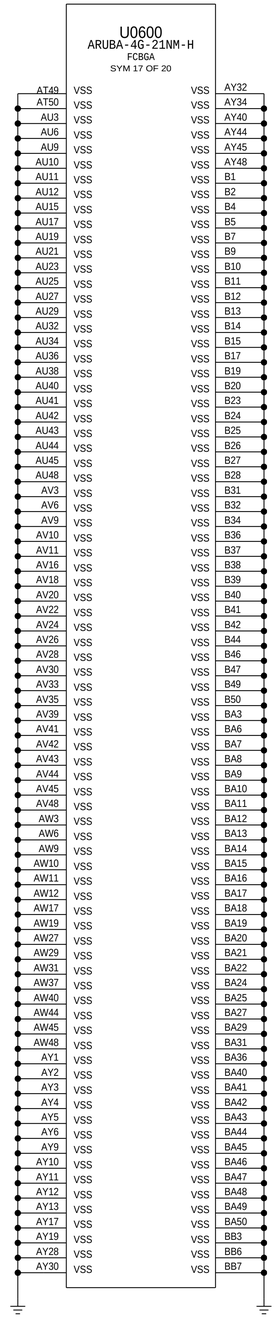
DRAWING NUMBER SIZE

SOC: GND (2)









SYNC_MASTER=DEV_REV_0.40 SYNC_DATE=12/17/2017

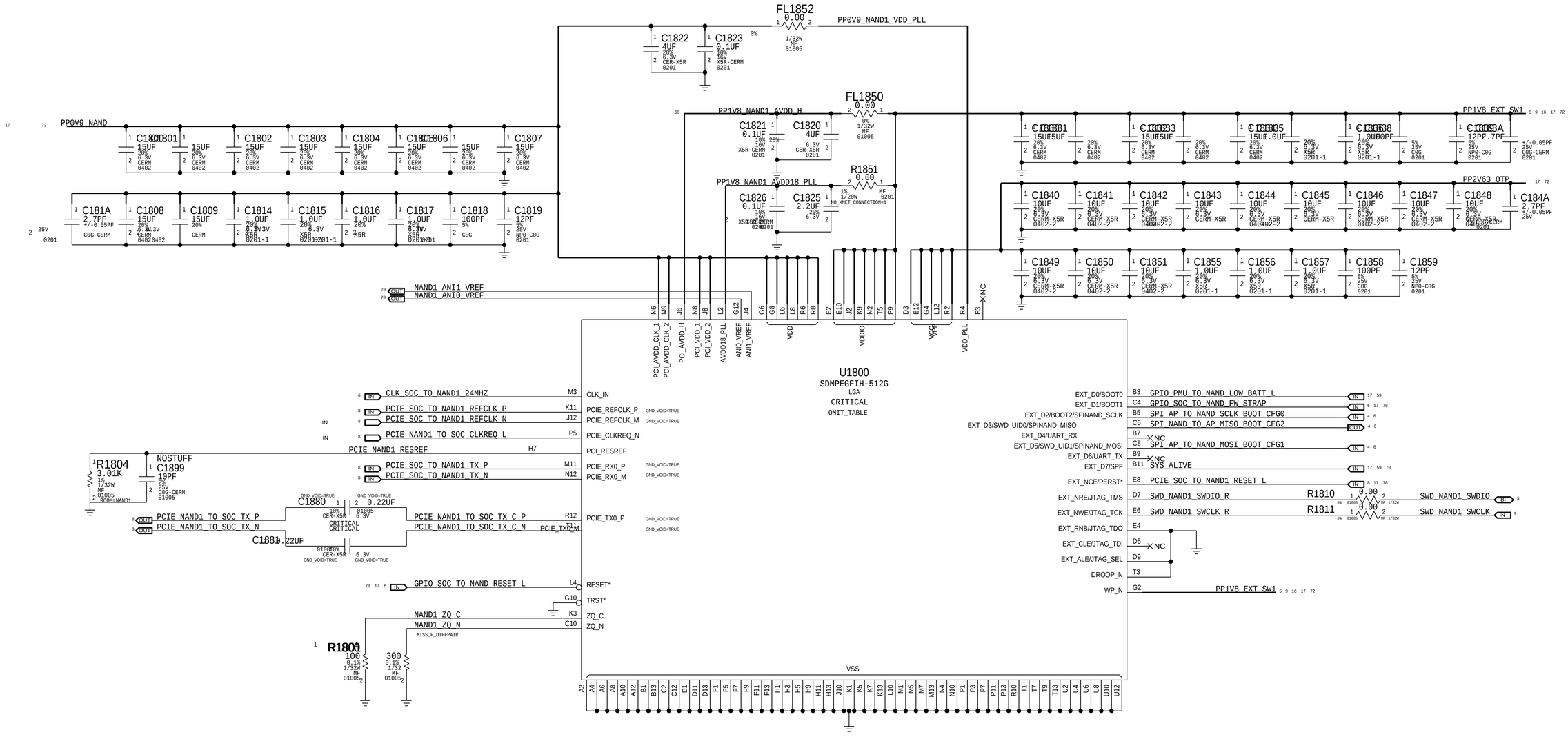
PAGE TITLE

SOC: GND-2

DRAWING NUMBER

SIZE

S4E NAND1



SYNC_DATE=03/09/2017

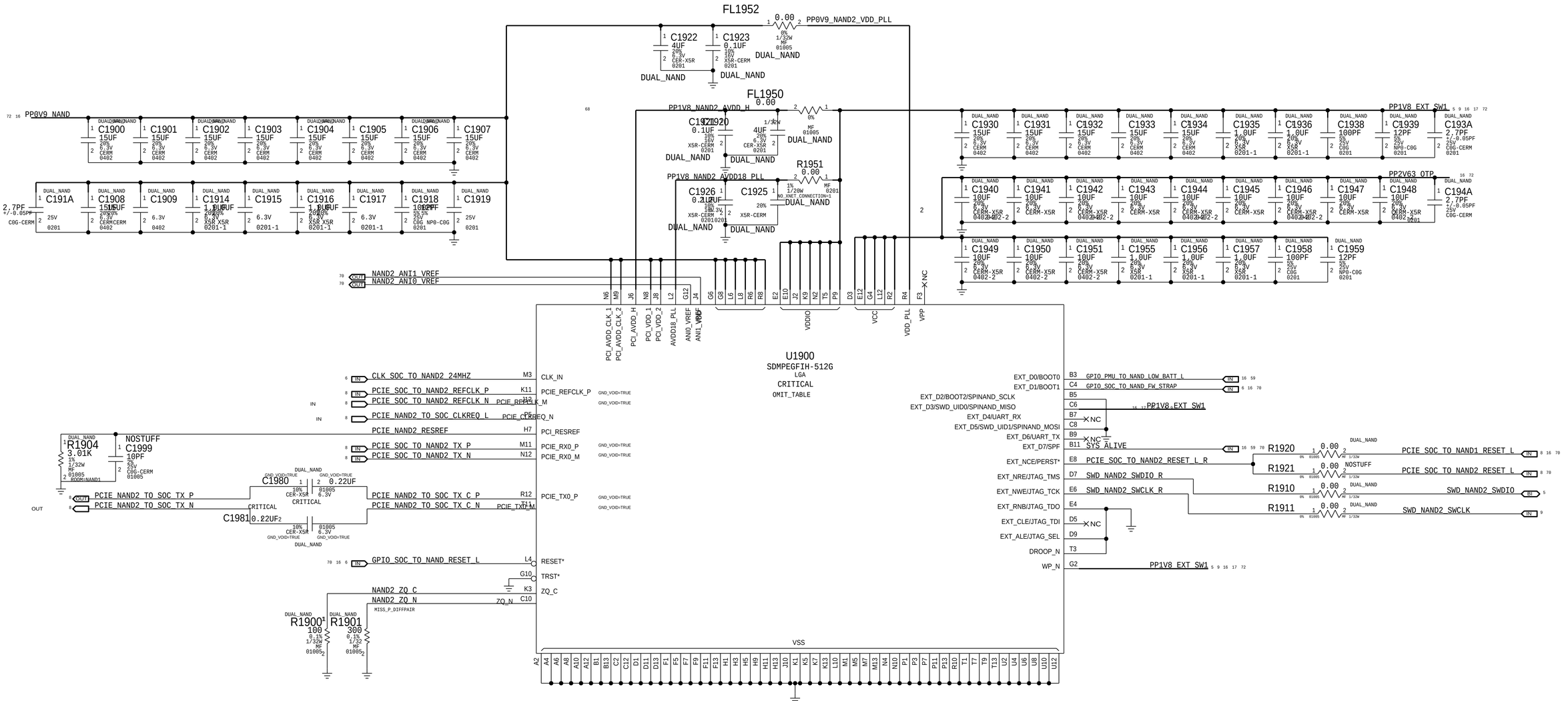
PAGE TITLE

NAND: NAND1

DRAWING NUMBER

SIZE

S4E NAND2



SYNC_DATE=03/09/2017

PAGE TITLE

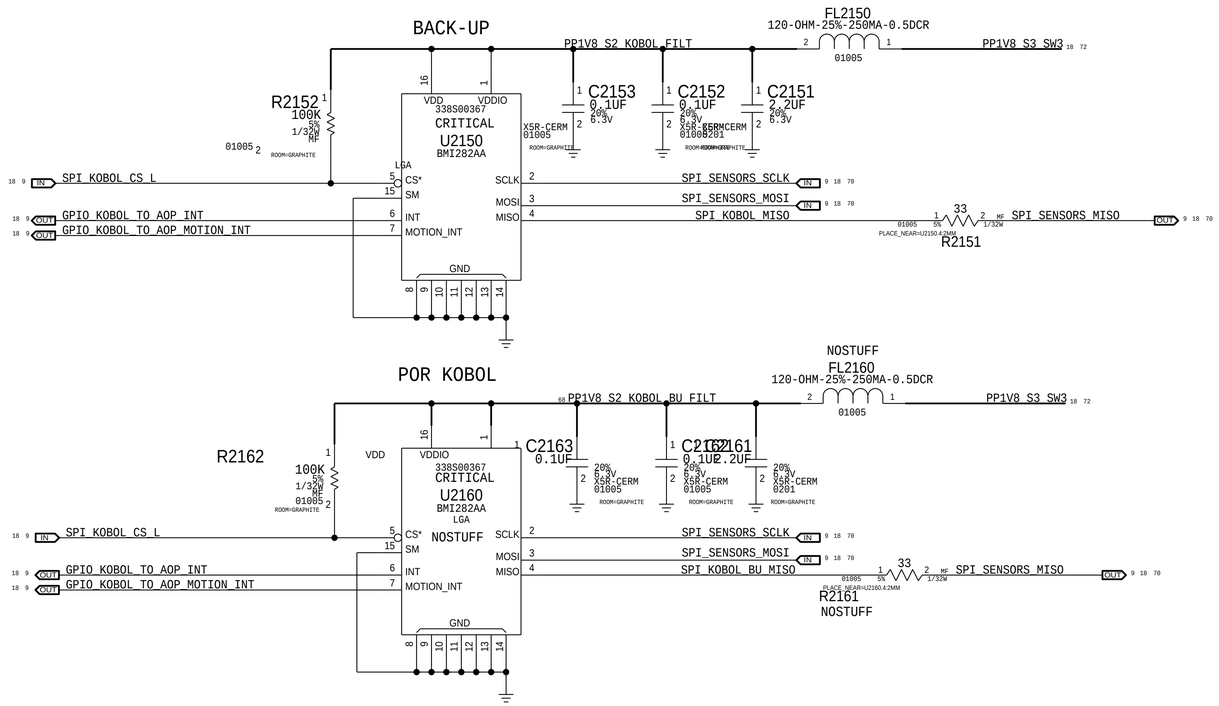
NAND: NAND2

DRAWING NUMBER

SIZE

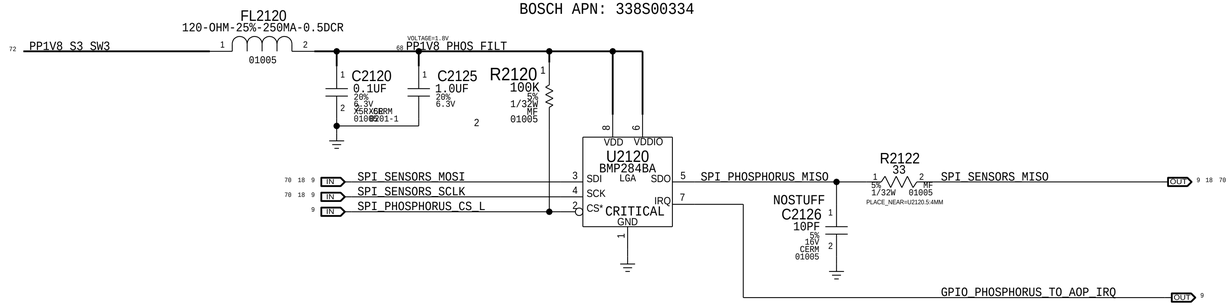
SENSORS

KOBOL - ACCEL & GYRO

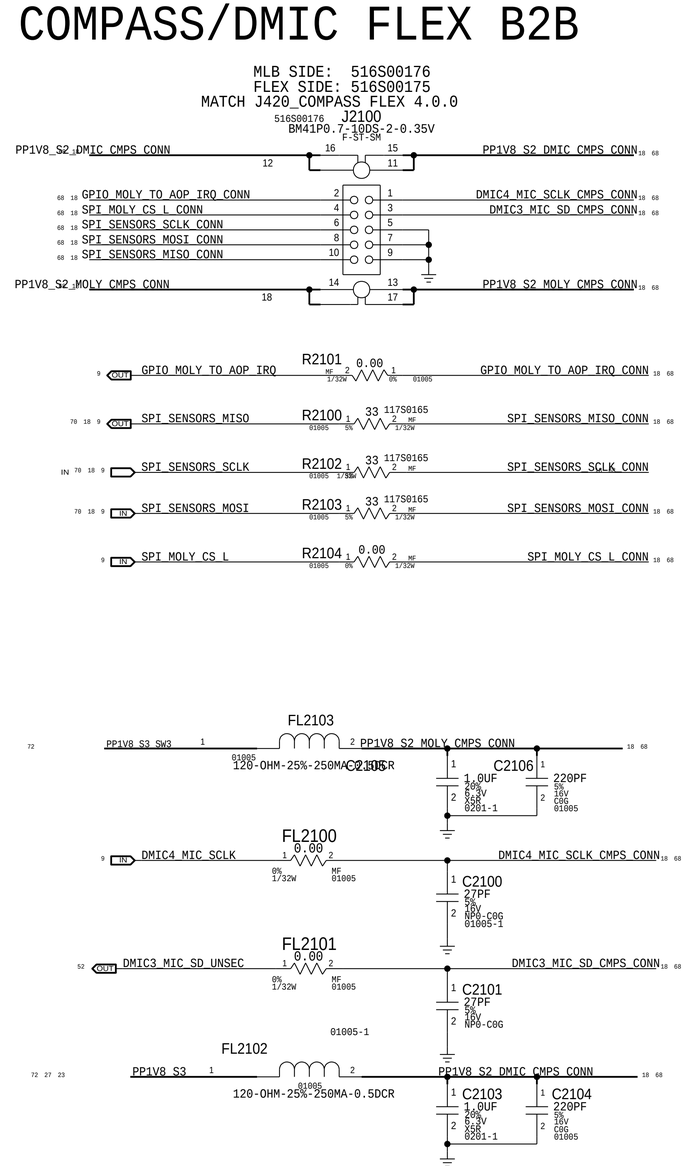


PHOSPHORUS

BOSCH APN: 338S00334



COMPASS/DMIC FLEX B2B



SYNC_MASTER=MLB_A_REV_0.6 SYNC_DATE=02/20/2018

PAGE TITLE

SENSOR: KOBOL, PHOS2, MOLY

DRAWING NUMBER

SIZE

LANAI MASTER

DOMBRA BST/LDO

BOOT OPTION

TOUCH: LANAI MASTER

U2200 BCM15957A0 BGA SYM 1 OF 2 CRITICAL
343S00341

U2200 BCM15957A0 BGA SYM 2 OF 2 CRITICAL

U2280 SN1705004A0 DSBGA

U2201 ADP7112 WLCSP
353S02157

Q2280 NTNS3190NZ XLLGA

Q22A0 NTNS3190NZ XLLGA

SYNC_MASTER=J420_MLB_B
SYNC_DATE=05/24/2019
PAGE TITLE
DRAWING NUMBER
SIZE

KONA: SLAVE

U2301 BCM15900B0K BGA SYM 1 OF 2 (CRITICAL)

PP1V8_S3 → R230A 10K 5% 1/32W MF 01005 → AUXADC_REF

AUXBUF_AIO_INPUT_3V
AUXBUF_AIO_OUTPUT
GPIO_ADC_00
GPIO_ADC_01 ← LANAI_M_TO_KONA_S_IPC1
GPIO_ADC_02 ← LANAI_M_TO_KONA_S_IPC2
GPIO_ADC_03 ← TESTPOINT_KONA_S_UART_RX
GPIO_ADC_04 ← TESTPOINT_KONA_S_UART_TX
GPIO_ADC_05
GPIO_ADC_06 ← GPIO_SOC_TO_SYS_TS_SYNC_R
GPIO_ADC_07 ← KONA_TO_TCON_FORCE_PWM

GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC → R2308 NOSTUFF 0.00 0% 1/32W MF 01005 → GPIO_SOC_TO_SYS_TS_SYNC_R

SPI_LANAI_M_TO_KONA_S_CS_L → GPIO_08
GPIO_DOMBRA_BST_FB_CTRL → GPIO_09
GPIO_DOMBRA_BST_FPWM → GPIO_10
GPIO_KONA_S_DOMBRA_BST_EN → GPIO_11
GPIO12_KONA_LDO_ADJ → GPIO_12
GPIO13_KONA_LDO_EN → GPIO_13
KONA_S_TO_LANAI_M_RESET_DET_L → GPIO_14
LANAI_M_TO_KONA_S_TTW → GPIO_15
GPIO_SOC_TO_GRAPE_BSYNC0 → R2306 NOSTUFF 0.00 1/32W 0% 1/32W MF 01005 → KONA_TO_BSYNC0
GPIO_SOC_TO_GRAPE_BSYNC1 → R2307 NOSTUFF 0.00 1/32W 0% 1/32W MF 01005 → KONA_TO_BSYNC1
GPIO_SOC_TO_GRAPE_EB → R2309 NOSTUFF 0.00 1/32W 0% 1/32W MF 01005 → GPIO_SOC_TO_GRAPE_EB_R
GPIO_GRAPE_TO_SCORPIUS_TIME_SYNC → GPIO_19

KONA_S_TO_LANAI_M_INT_L → H_INT*

SPI_LANAI_M_TO_KONA_S_SCLK → H_SCLK
SPI_LANAI_M_TO_KONA_S_MOSI → H_SDI
SPI_LANAI_M_TO_KONA_S_MISO → H_SDO
SPI_LANAI_M_TO_KONA_S_CS_L → H_CS*
H_ALT_CS*
I2C_SCL
I2C_SDA

KMSI_MOSI → KMSI_MISO
KMSI_MISO → KMSI_MOSI
KMSI_STRB_OUT → KMSI_STRB_IN
KMSI_STRB_IN → KMSI_STRB_OUT
PSE_SYNC

BOOST_FBIN
BOOST_ISENSE
BOOST_NGATE
BOOST_VBAT
BOOST_VBAT_EN

JTAG_RTCK
SWD_KONA_SWCLK → JTAG_TCK
SWD_KONA_SWDIO → JTAG_TMS
JTAG_TDI
JTAG_TDO
JTAG_TRST*
JTAG_SRST*

GPIO_SOC_TO_GRAPE_RESET_L → RESET*
KONA_S_TEST_MODE → TEST_MODE
R2305 10K 5% 1/32W MF 01005 → BOOT_CFG_0
KONA_BOOT0_S
KONA_BOOT1_S → BOOT_CFG_1
LANAI_BGBIAS → AFE_IO_BGBIAS

CLK_KONA_S_24MHZ → C2301 10PF 5% 16V C0G 01005 → XTALN / XTALP / XTAL_O_CLK_EXT
IFO_CLK_EXT

PAD_I_SELFCAPEXT → NC
PAD_O_GUARDBUFFER → NC
CORE_PMU_O_AON_TEST_PMU → NC

PAD_I_TOUCH0 … PAD_I_TOUCH69 → GRAPE_RX<33> … GRAPE_RX<0>
KONA_S_TOUCH32_VCOM

PAD_I_TOUCH53 → GRAPE_TX<27>
PAD_I_TOUCH54 → GRAPE_TX<26>
PAD_I_TOUCH55 → GRAPE_TX<25>
PAD_I_TOUCH56 → GRAPE_TX<24>
PAD_I_TOUCH57 → GRAPE_TX<23>
PAD_I_TOUCH58 → GRAPE_TX<22>
PAD_I_TOUCH59 → GRAPE_TX<21>
PAD_I_TOUCH60 → GRAPE_TX<20>
PAD_I_TOUCH61 → GRAPE_TX<19>
PAD_I_TOUCH62 → GRAPE_TX<18>
PAD_I_TOUCH63 → GRAPE_TX<17>
PAD_I_TOUCH64 → GRAPE_TX<16>
PAD_I_TOUCH65 → GRAPE_TX<15>
PAD_I_TOUCH66 → GRAPE_TX<14>
PAD_I_TOUCH67 → GRAPE_TX<13>
PAD_I_TOUCH68 → GRAPE_TX<12>
PAD_I_TOUCH69 → GRAPE_TX<11> … GRAPE_TX<0>

1.2V EXT BUCK

PPVCC_MAIN → C2350 4.7UF 20% 16V X5R 0402

U2350 TPS626751 BGA
- VIN ← PPVCC_MAIN
- EN ← GRAPE_1V2BUCK_EN
- MODE → R2350 10K 1% 1/32W MF 01005 → PP1V8_S2_GRAPE
- SW → GRAPE_1V2BUCK_SW (DIDT=TRUE)
- FB ← GRAPE_1V2BUCK_FB
- GND

L2350 0603 0.47UH-20%-3.1A-0.064OHM: GRAPE_1V2BUCK_SW → PP1V2_GRAPE_BUCK_EXT

XW2350 SM

C2353 220PF 5% 16V C0G 01005
C2352 2.2UF 20% 6.3V X5R-CERM 0201
C2351 2.2UF 20% 6.3V X5R-CERM 0201

R2351 0.00 1/32W 0% MF 01005
R2352 0.00 1/32W 0% NOSTUFF MF 01005 → PP1V8_S2_GRAPE

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
353S01570	353S00748		U2350	BUCK 1.2V 500MA

PP15V0_TOUCH_FILT → C2311 C2312 C2313 C2317 0.47UF 20% 25V CER-X5R 0201

U2301 BCM15900B0K BGA SYM 2 OF 2 (CRITICAL)

AFE_I_VDDHV15_EXT ← PP15V0_TOUCH_FILT
AUXBUF_AVSS
AUXADC_AVSS
VSS
XTAL_AVSS
CORE_PMU_I_AVSS
AUXBUF_PMU_I_AVSSS
PAD_I_AVSS

C2333 C2334 C2335 0.47UF 20% 25V CER-X5R 0201

PP3V3_GRAPE_FILT → C2315 0.1UF 10% 16V X5R-CERM 0201; C2316 0.1UF 10% 16V X5R-CERM 0201; C2320 0.22UF 20% 10V CERM-X5R 0201

BOOST_VDDA
OTP_TMON_I_VDDA_3P3_EXT
AFE_PMU_I_VDDA_3P3_EXT
AUXBUF_PMU_I_VDDA_3P3_EXT
AUXBUF_PMU_I_VDDHV_AUX_EXT
AUXBUF_PMU_O_VDD_AUX_CAP

PP2V8_KONA_S_VDDANA → C2378 100PF 5% 25V C0G 0201; C2379 12PF 5% 25V NP0-C0G 0201; C2302 0.1UF 10% 10V X5R-CERM 0201; C2303 0.1UF 10% 10V X5R-CERM 0201

AFE_I_VDDANA_3P3_AFE_PMU

C2304 C2305 C2306 0.1UF 10% 10V X5R-CERM 0201; C2307 2.2UF 10% 10V X5R-CERM 0402

PP1V2_GRAPE_BUCK_EXT → C2390 220PF 5% 25V C0G 01005 → VCOM_FILT → R2390 150 1% 1/32W MF 01005 → VCOM_LCD_TO_GRAPE

C2391 NOSTUFF 27PF 5% 16V NP0-C0G 01005-1

KONA_S_VDDADC_CAP → C2318 1UF 10% 10V X5R-CERM 0402

PP1V8_GRAPE_XTAL_FILT → C2321 0.1UF 10% 25V X5R 0201; C2322 0.047UF 10% 25V X5R 0201 → XTAL_PLL_AVDD1P8_I_VDDLDO_1P8_EXT

PP1V8_S2_GRAPE → C2308 C2309 0.1UF 10% 6.3V CERM-X5R 0201; C2310 0.1UF 10% 6.3V CERM-X5R 0201

AUXADC_AVDDC_I_VDDIO_1P8_3P3_EXT
AUXADC_AVDD_I_VDDIO_1P8_3P3_EXT
AFE_PMU_I_VDDLDO_1P8_EXT
AON_PAD_I_VDDIO_1P8_3P3_EXT
AON_PAD_I_VDDIO_1P8_3P3_EXT
AON_PAD_I_VDDIO_1P8_3P3_EXT
I2C_PAD_I_VDDIO_1P8_3P3_EXT
CORE_PAD_I_VDDIO_1P8_3P3_EXT
CORE_PAD_I_VDDIO_1P8_3P3_EXT
CORE_PMU_I_AON_VDDIO_1P8_3P3_EXT
CORE_PMU_I_VDDLDO_1P8_EXT
CORE_PMU_O_VDDCORE_1P2_CAP

PP1V8_GRAPE_AON_RC
PP1V2_GRAPE_BUCK_EXT → C2325 1UF 10% 16V X5R-CERM 0402; C2314 0.1UF 10% 6.3V CERM-X5R 0201

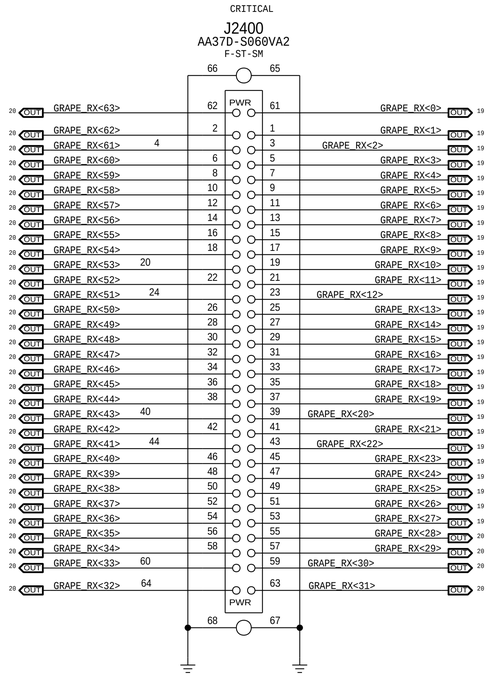
BOOT OPTION

PP1V8_S2_GRAPE → R2301 10K 5% 1/32W MF 01005 → KONA_BOOT0_S
PP1V8_S2_GRAPE → R2303 10K 1/32W MF 01005 → KONA_BOOT1_S
R2302 NOSTUFF 10K 5% 1/32W MF 01005
R2304 NOSTUFF 10K 5% 1/32W MF 01005

SYNC_MASTER=J317_MLB_B_POC
SYNC_DATE=04/05/2017
PAGE TITLE: TOUCH: KONA SLAVE
DRAWING NUMBER
SIZE

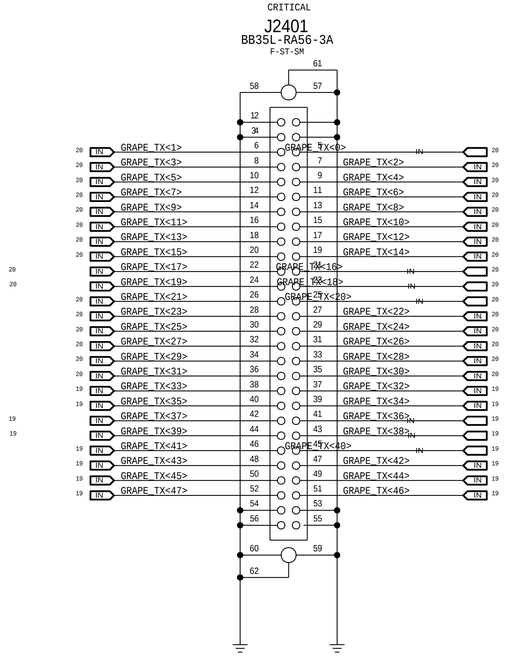
TOUCH FLEX CONNECTOR (SENSE)

FLEX: 516S00375
MLB: 516S00374



TOUCH FLEX CONNECTOR (DRIVE)

FLEX: 516S00380
MLB: 516S00379



SYNC_MASTER=J120_MIMOSA
SYNC_DATE=03/15/2017

PAGE TITLE

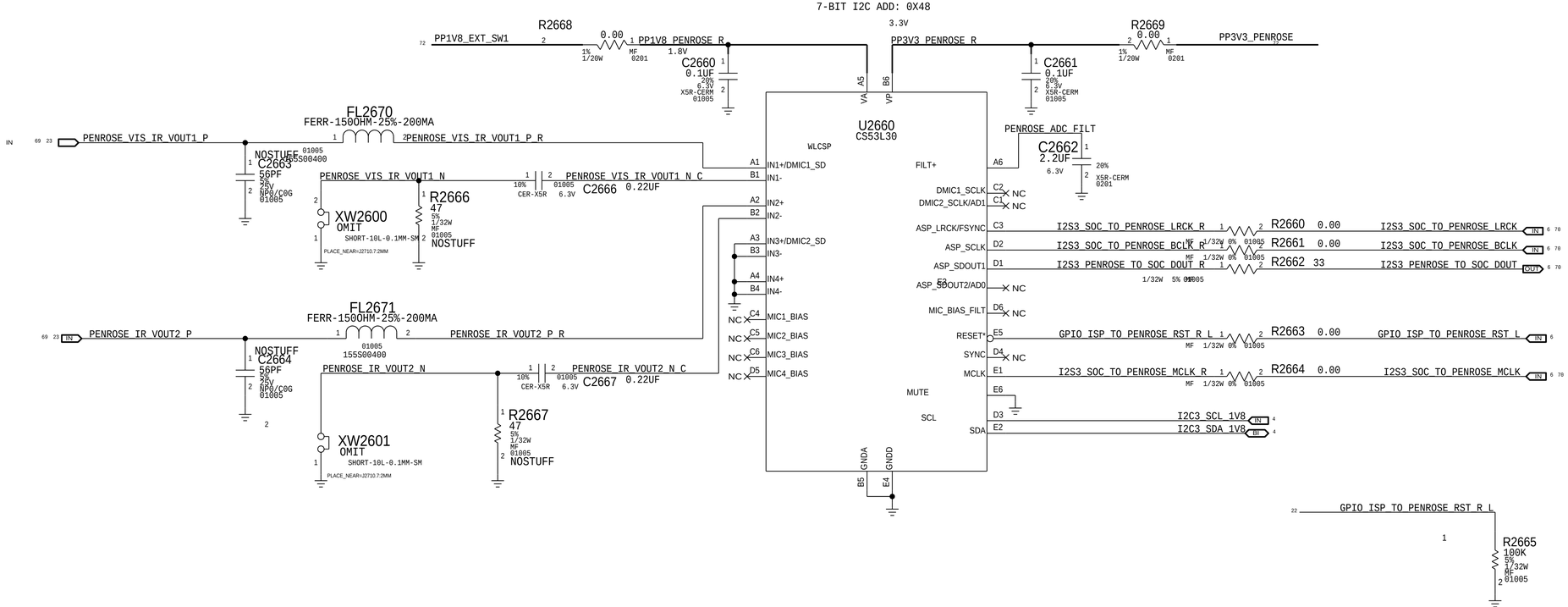
TOUCH: GRAPE CONN

DRAWING NUMBER

SIZE

PENROSE ADC

7-BIT I2C ADD: 0X48

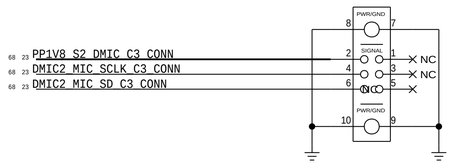


SYNC_MASTER=J410_SYNC_P2	SYNC_DATE=05/16/2018
PAGE TITLE	CAMERA: PENROSE ADC
DRAWING NUMBER	SIZE

DMIC FLEX

MATCHED WITH C3_MIC_FLEX 1.0.0
MLB APN: 516S00186
FLEX APN: 516S00185

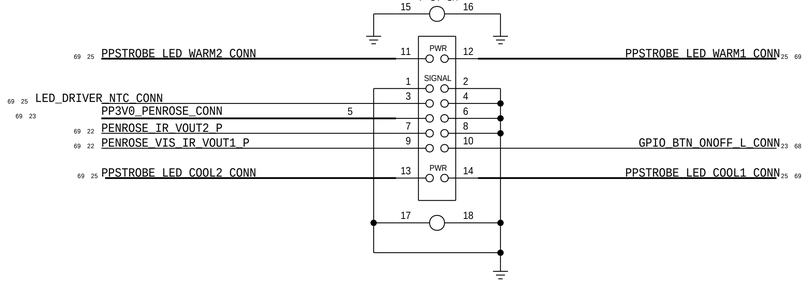
516S00186
J2720
BM28P0.6-6DS/2-0.35V
F-ST-SM



PB MANGO TREE FLEX B2B

MATCH J417_PB_MANGO TREE_FLEX 1.0.0
MLB APN: 516S00267
FLEX APN: 516S00268

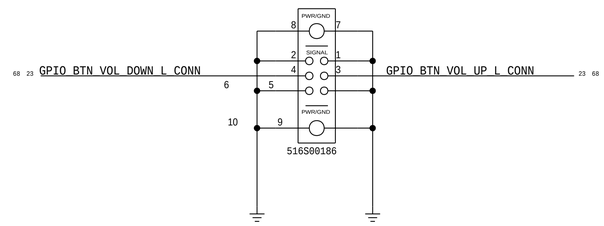
516S00267
J2710
AA36D-S010VA1
F-ST-SM



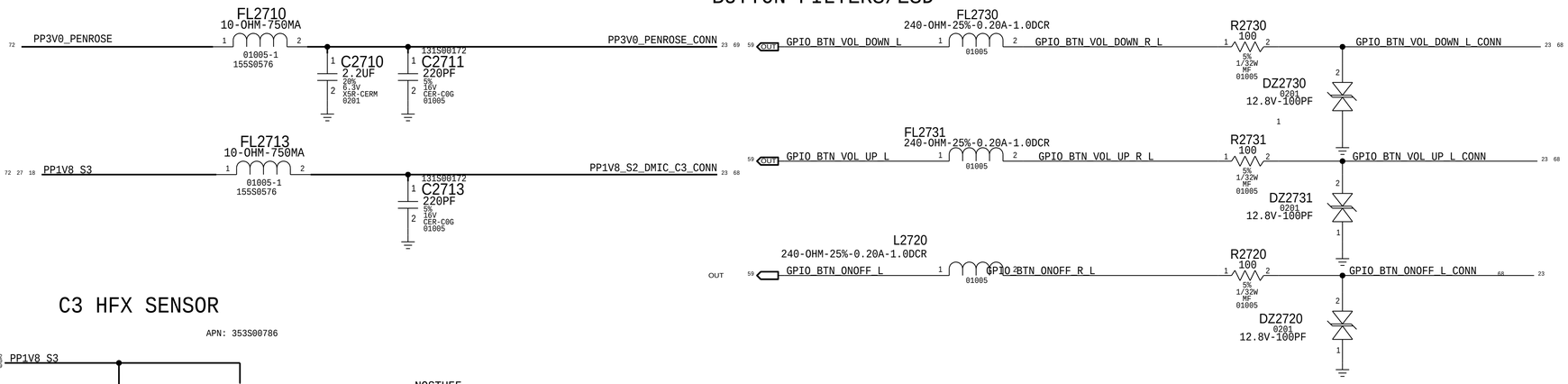
VB FLEX B2B

MATCH J420_VOLLEY FLEX 1.0.0
MLB APN: 516S00186
FLEX APN: 516S00185

J2730
BM28P0.6-6DS/2-0.35V
F-ST-SM

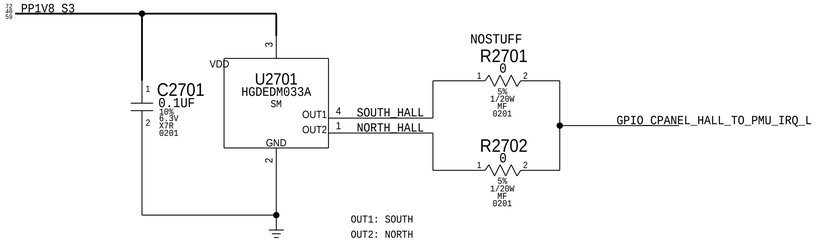


BUTTON FILTERS/ESD

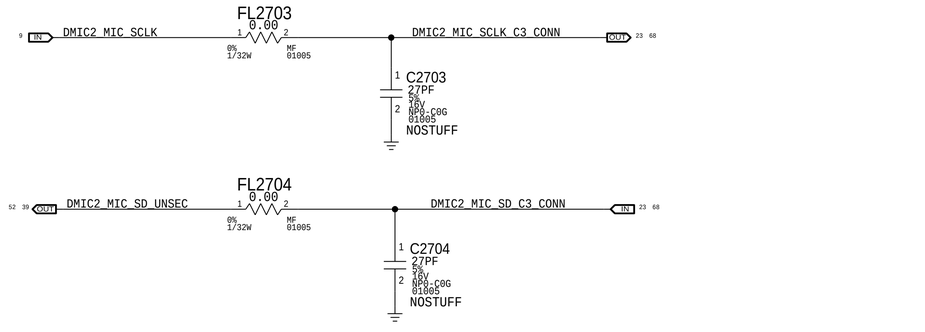


C3 HFX SENSOR

APN: 353S00786



MIC#4 FILTERS



SYNC_MASTER=J317_MLB_B SYNC_DATE=01/14/2019

PAGE TITLE

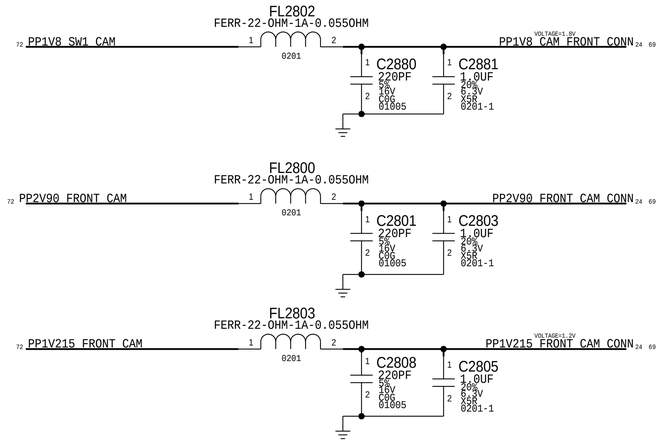
CAMERA: B2B STROBE & MISC

DRAWING NUMBER

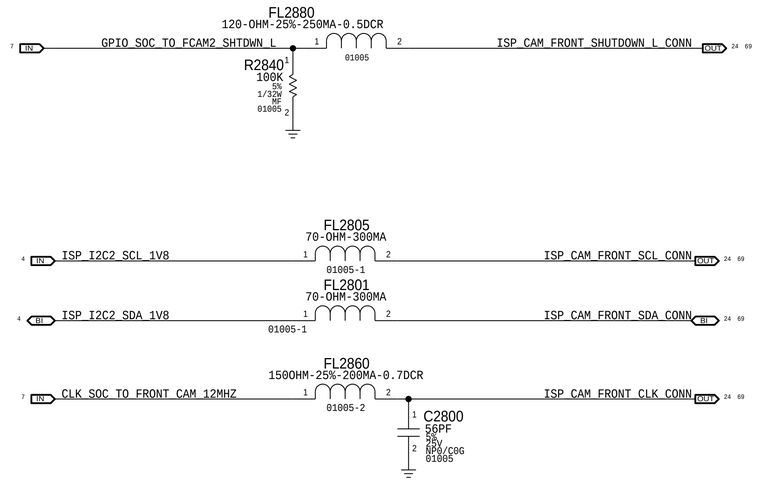
SIZE

FRONT CAMERA (LI)

POWER FILTERS

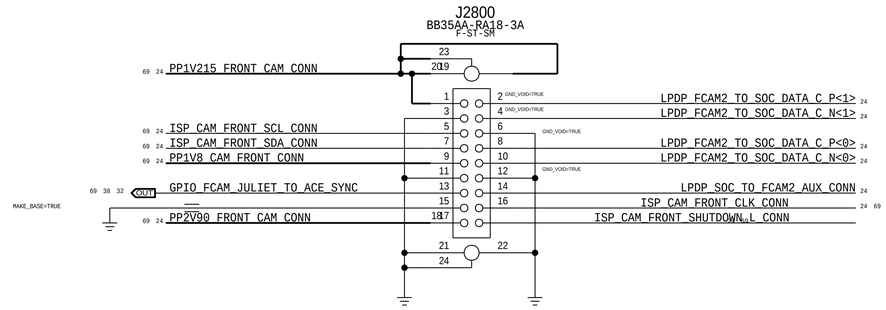


IO FILTERS

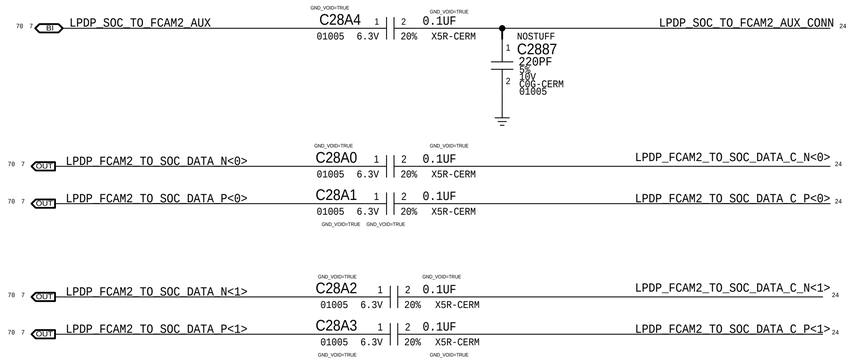


FRONT CAMERA CONNECTOR

FLEX SIDE: 516S00396
MLB SIDE: 516S00395
MATCH J317_FRONT_CAM_ISLAND_FLEX A.0.0



LPDP AC COUPLING CAPS



SYNC_MASTER=J317_MLB_SYNC SYNC_DATE=05/12/2017

PAGE TITLE

CAMERA: B2B FRONT

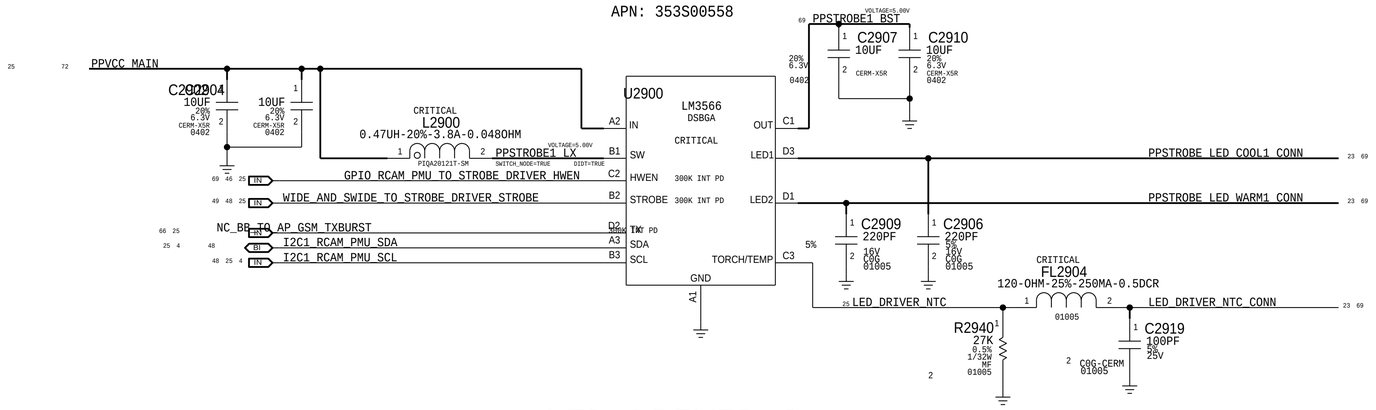
DRAWING NUMBER SIZE

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S0875	138S0678		C2902, ETC	RDAR://PROBLEM/26929420

STROBE CIRCUITRY

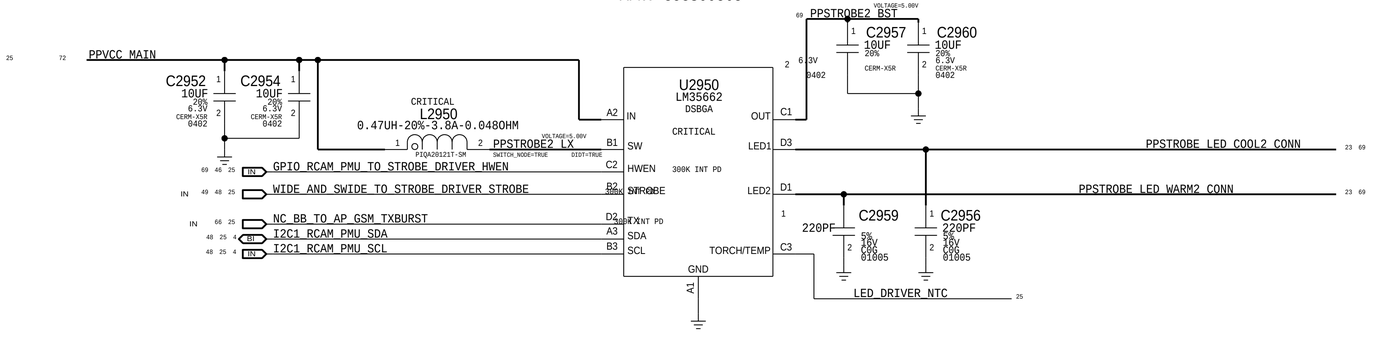
LED DRIVER 1

APN: 353S00558



LED DRIVER 2

APN: 353S00868



SYNC_MASTER=J317_MLB_SYNC SYNC_DATE=05/12/2017

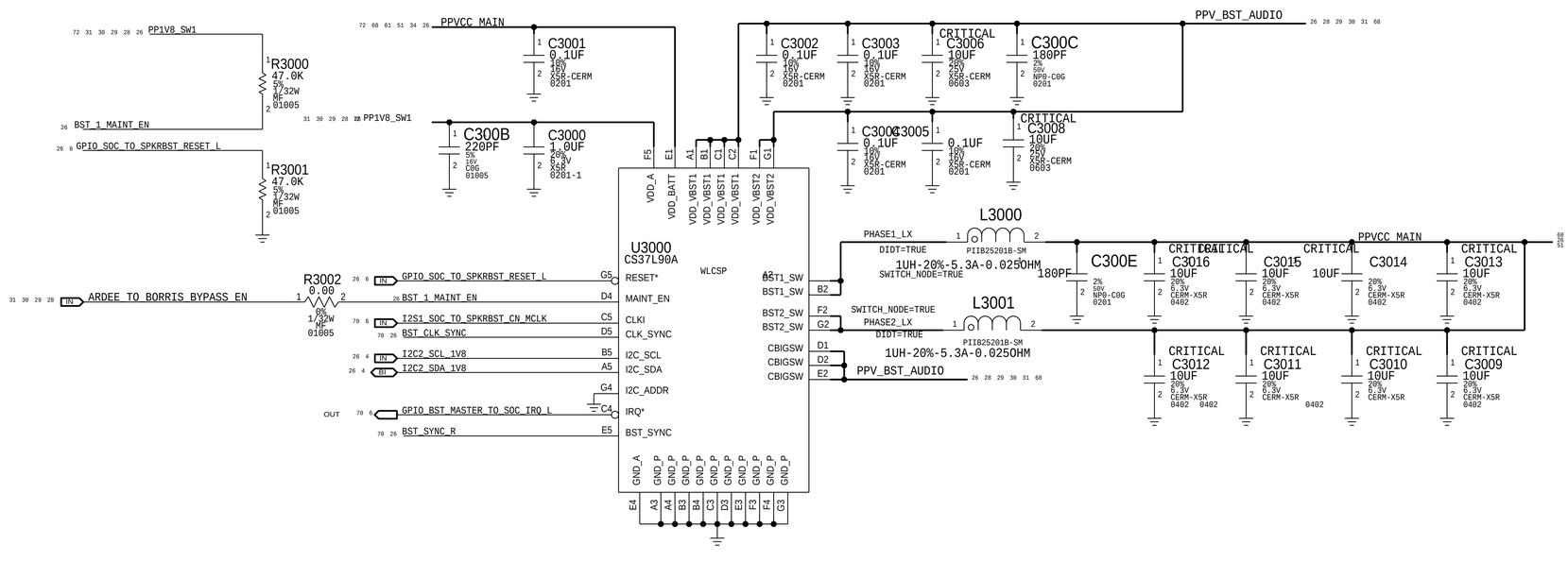
PAGE TITLE

CAMERA: STROBE

DRAWING NUMBER SIZE

BORRIS BOOST

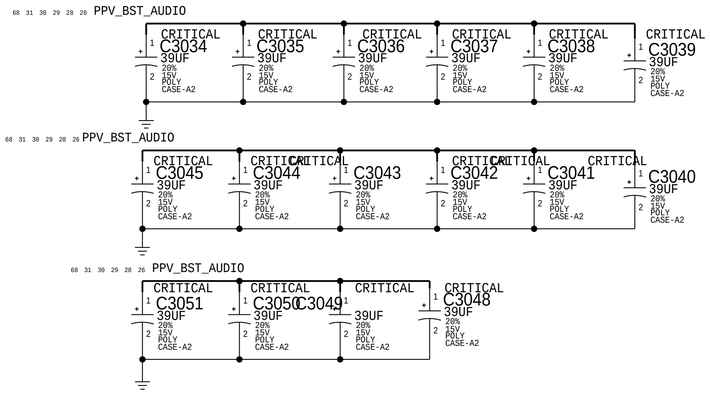
BOOST MASTER



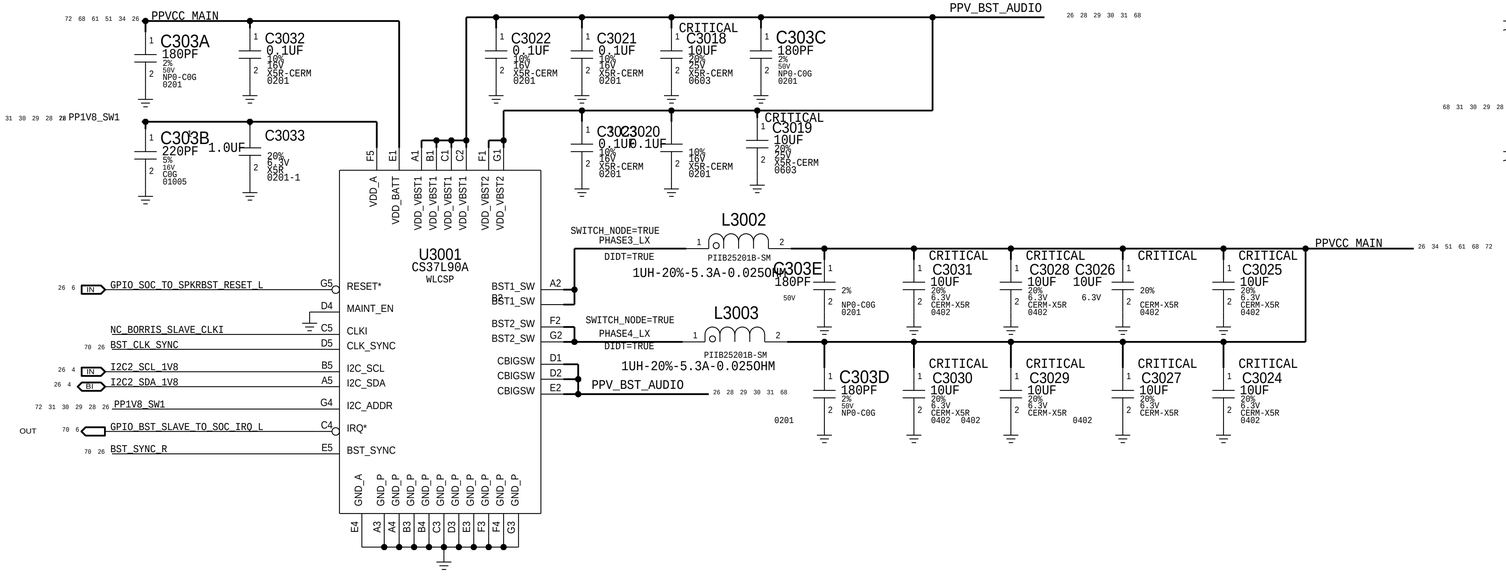
CS35L91 (ARDEE)			
ADDR PIN PULL	RESISTOR	I2C ADDRESS	
GND	0K	0X70	AMP1 FHRT
VDD	0K	0X72	AMP2 FHRW
GND	4.99K	0X74	AMP3 FHLT
VDD	4.99K	0X76	AMP4 FHLW
GND	20K	0X78	AMP5 CNRT
VDD	20K	0X7A	AMP6 CNRW
GND	100K	0X7C	AMP7 CNLT
VDD	100K	0X7E	AMP8 CNLW

CS37L90 (BORRIS)			
ADDR PIN PULL	RESISTOR	I2C ADDRESS	
GND	0K	0X60	MASTER
DVDD	0K	0X62	SLAVE

CAP RESERVOIR



BOOST SLAVE



PAGE TITLE: AUDIO: BORRIS BOOST

DRAWING NUMBER

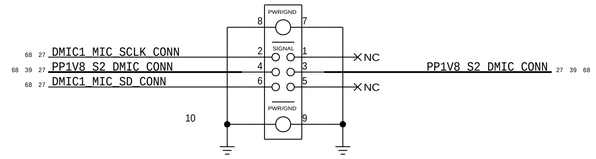
SIZE

DMIC CONN AND FILTERS

MIC FLEX B2B

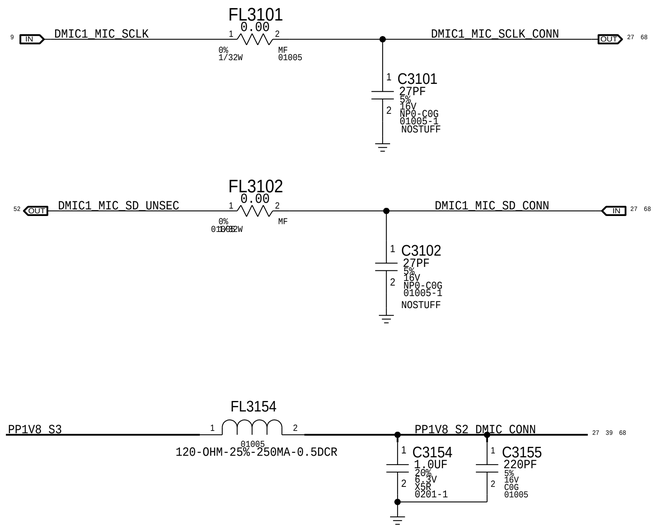
MATCH J317_MIC_FLEX 5.2.0
MLB APN: 516S00186
FLEX APN: 516S00185

J3100
BM28P0.6-6DS/2-0.35V
F-ST-SM



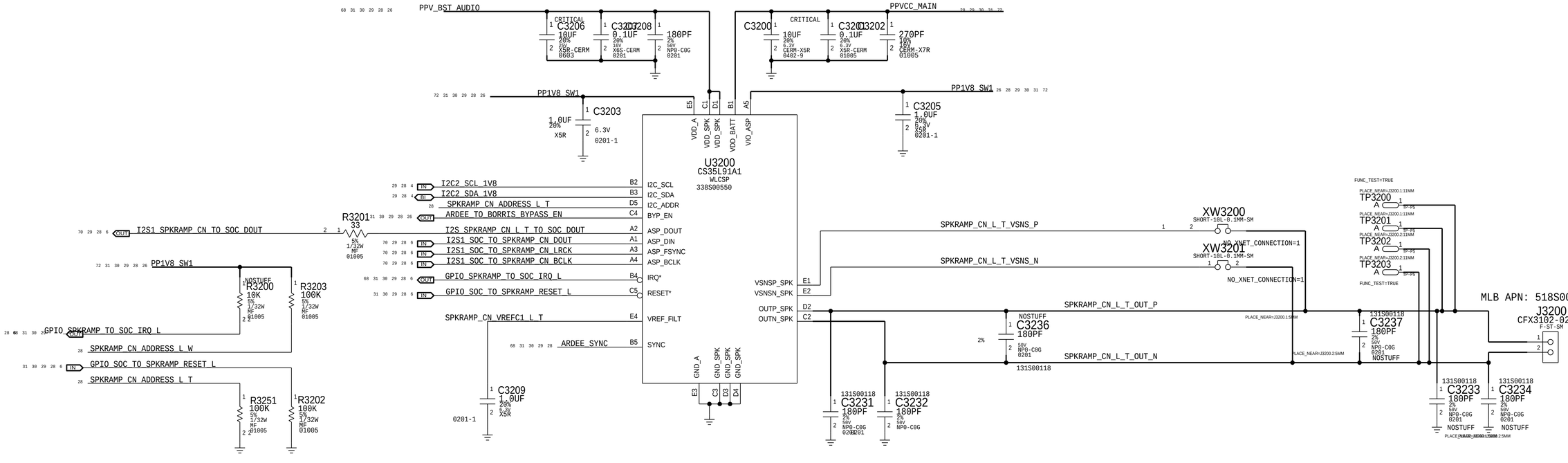
ROUTING	BUS	SELECT	LOCATION	DATA ASSERTS ON	DATA LATCHED ON
MIC#1	PDM0	HIGH	LEFT	CLK RISING EDGE	CLK FALLING EDGE
MIC#2	PDM0	LOW	RIGHT	CLK FALLING EDGE	CLK RISING EDGE
MIC#3	PDM1	HIGH	FRONT(CLK TRI)	CLK RISING EDGE	CLK FALLING EDGE
MIC#4	PDM1	LOW	REAR(CLK TRI)	CLK FALLING EDGE	CLK RISING EDGE
MIC#5	PDM2	HIGH	LANDSCAPE	CLK RISING EDGE	CLK FALLING EDGE

DMIC2 FILTERS

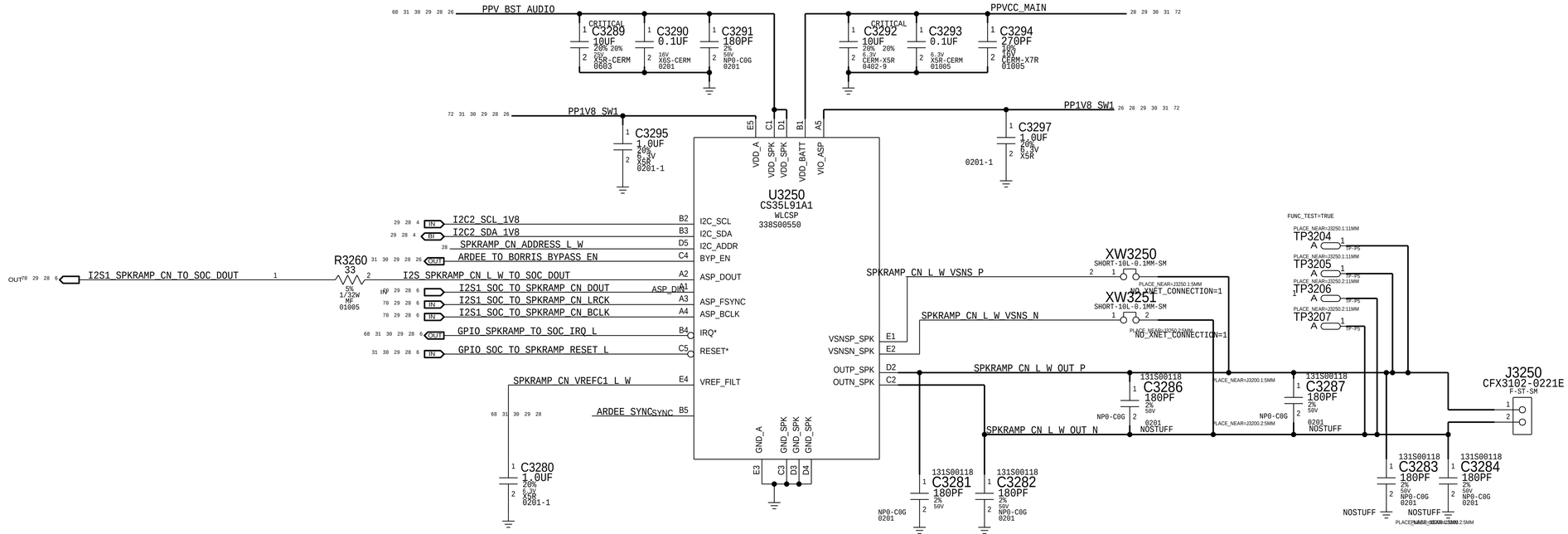


SYNC_MASTER=J317_REV_0_27 SYNC_DATE=05/21/2017
PAGE TITLE
AUDIO: DMIC B2B & FILTERS
DRAWING NUMBER SIZE

CN L TWEETER SPEAKER AMP



CN L WOOFER SPEAKER AMP



SYNC_MASTER=J317_MLB_SYNC SYNC_DATE=05/12/2017

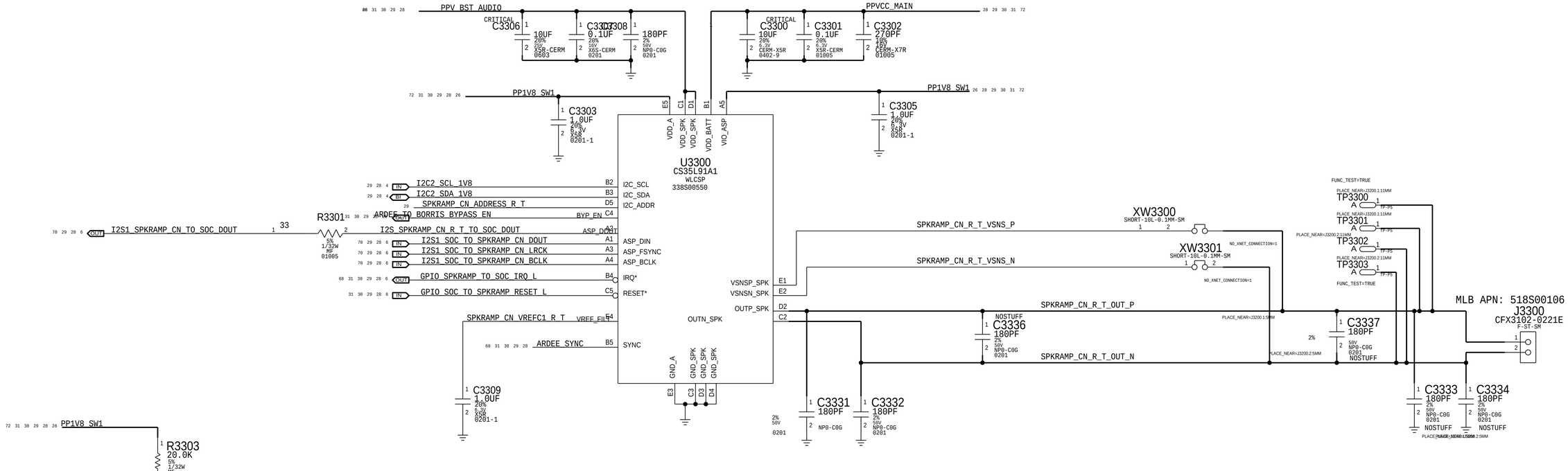
PAGE TITLE

AUDIO: SPEAKER AMPS (CNL)

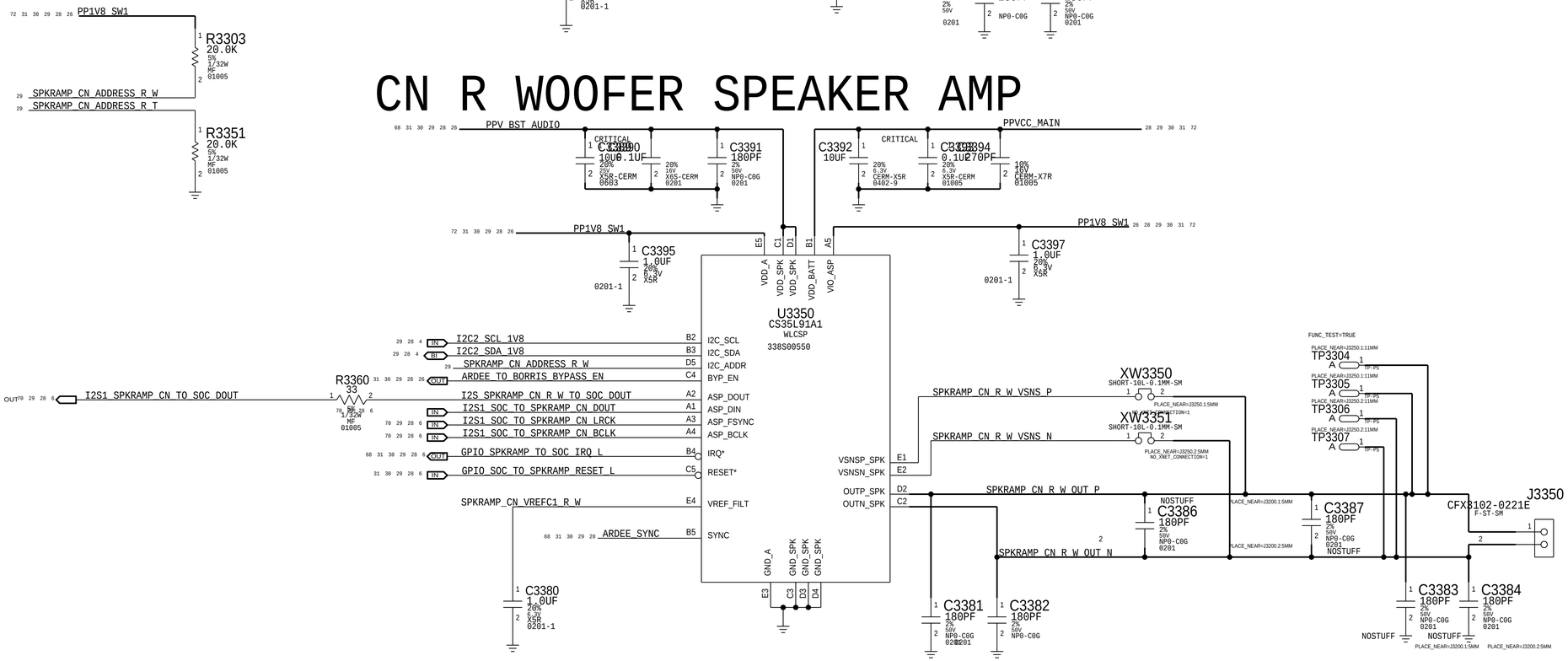
DRAWING NUMBER

SIZE

CN R TWEETER SPEAKER AMP



CN R WOOFER SPEAKER AMP



SYNC_MASTER=J317_MLB_SYNC SYNC_DATE=05/12/2017

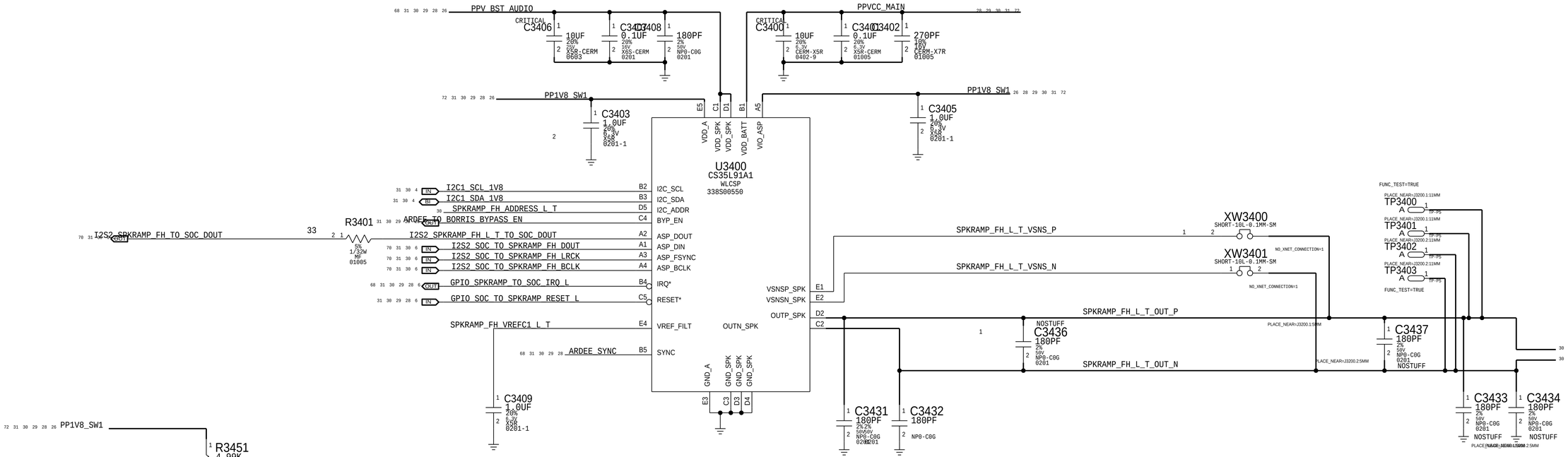
PAGE TITLE

AUDIO: SPEAKER AMPS (CNR)

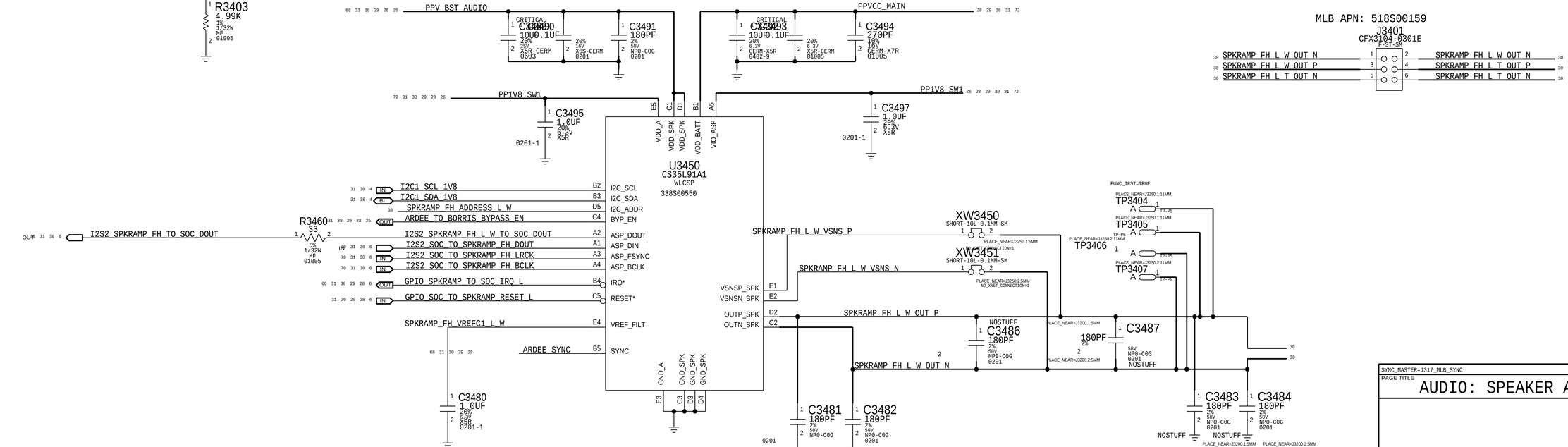
DRAWING NUMBER

SIZE

FH L TWEETER SPEAKER AMP



FH L WOOFER SPEAKER AMP



SYNC_MASTER=J317_MLB_SYNC
SYNC_DATE=05/12/2017

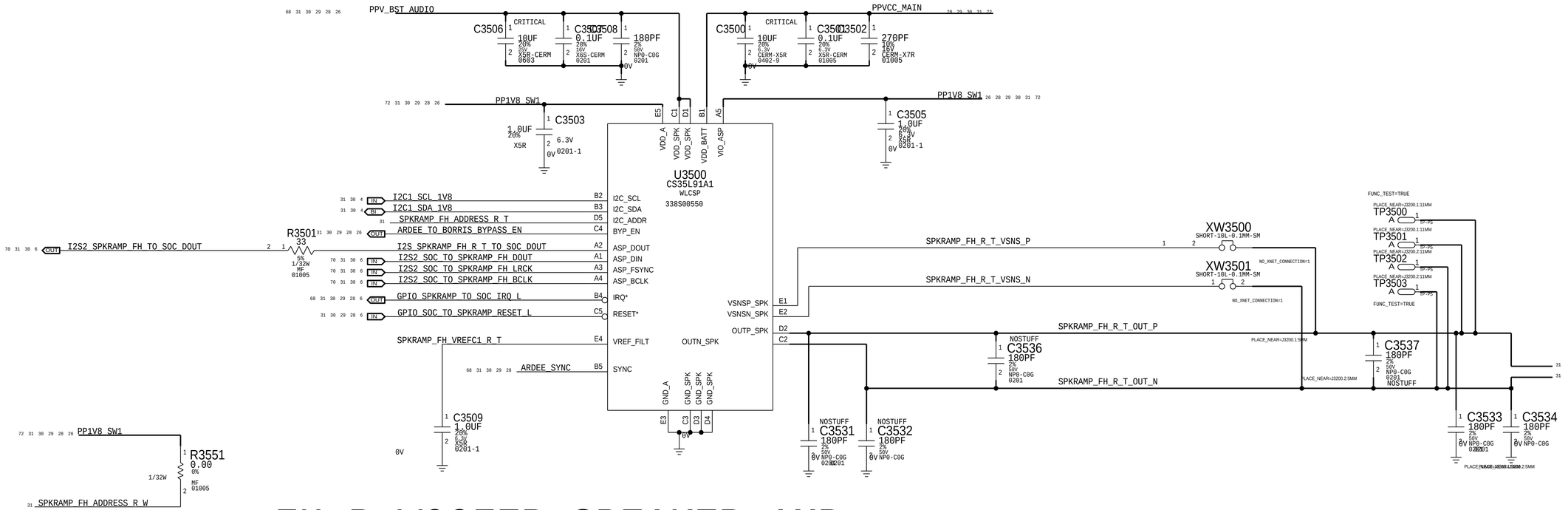
PAGE TITLE

AUDIO: SPEAKER AMPS (FHL)

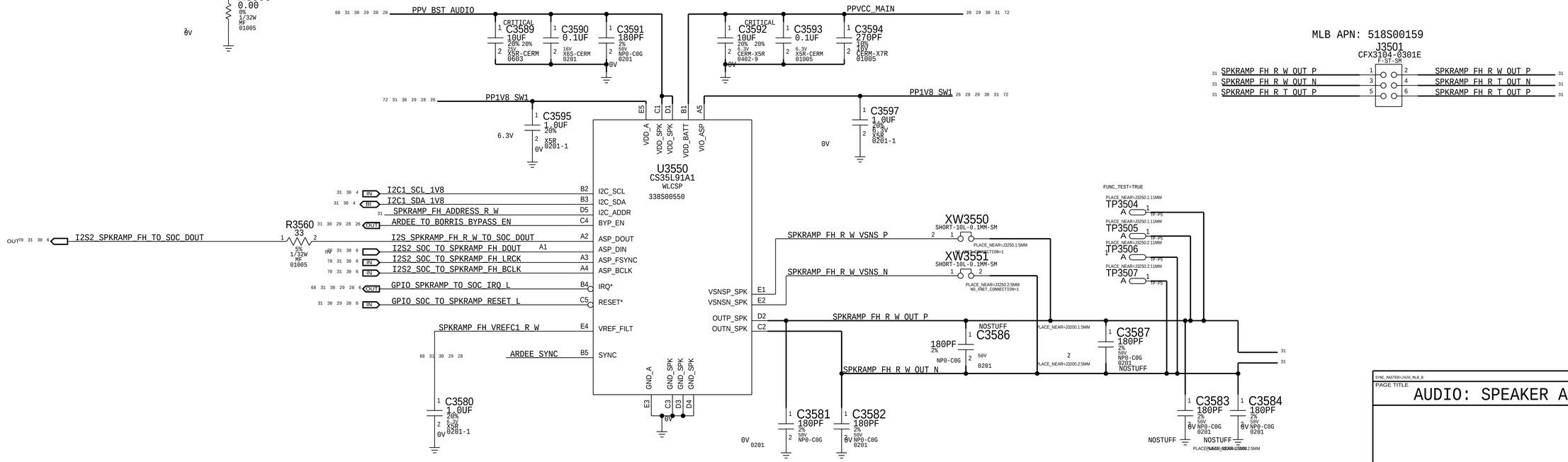
DRAWING NUMBER

SIZE

FH R TWEETER SPEAKER AMP



FH R WOOFER SPEAKER AMP



PP1V8_SW1 — R3551 0.00 0% 1/32W MF 01005

SPKRAMP_FH_ADDRESS_R_W

SPKRAMP_FH_ADDRESS_R_T — R3503 0.00 0% 1/32W MF 01005

MLB APN: 518S00159

J3501 CFX3104-0301E F-ST-SM

SPKRAMP_FH_R_W_OUT_P	1	2	SPKRAMP_FH_R_W_OUT_P
SPKRAMP_FH_R_W_OUT_N	3	4	SPKRAMP_FH_R_T_OUT_N
SPKRAMP_FH_R_T_OUT_P	5	6	SPKRAMP_FH_R_T_OUT_P

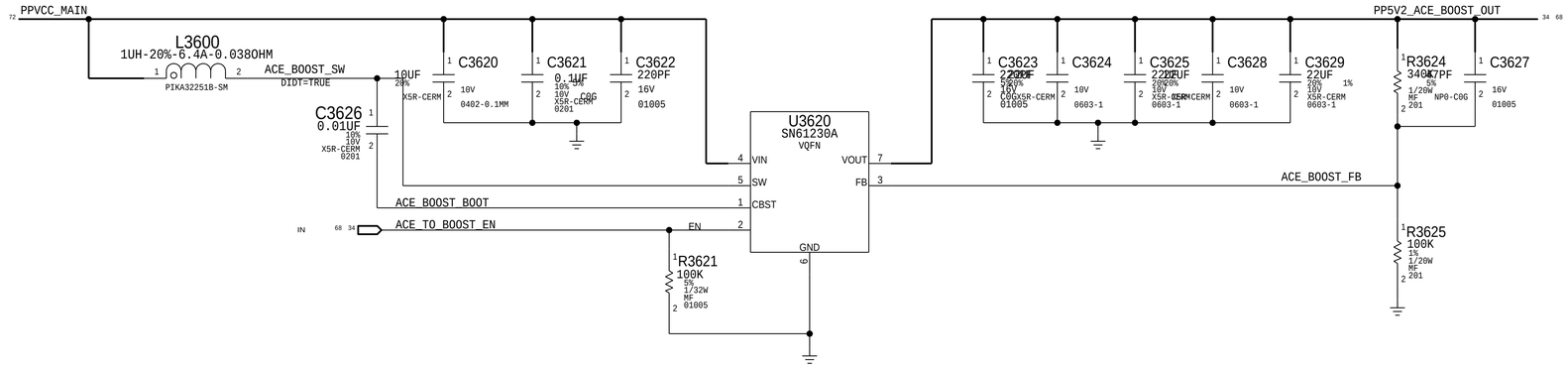
SYNC_MASTER=2420_MLB_B — SYNC_DATE=05/24/2019

PAGE TITLE

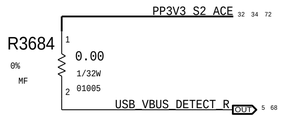
AUDIO: SPEAKER AMPS (FHR)

DRAWING NUMBER — SIZE

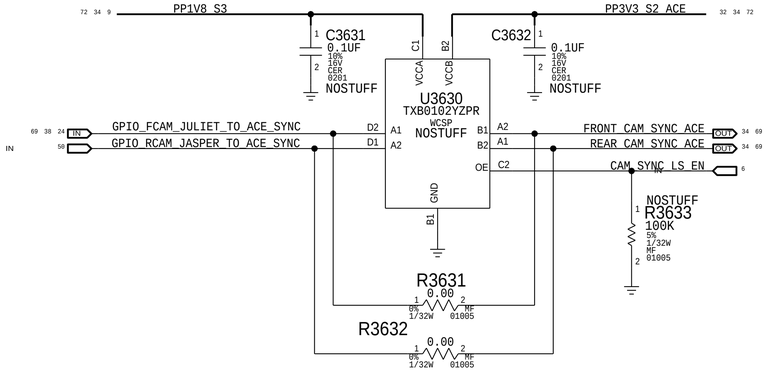
ACE BOOST



VBUS DETECT



EXT CAM SYNC



SYNC_MASTER=USBREDRIVER_LEVEL_SHIFTER SYNC_DATE=01/10/2019

PAGE TITLE

IO: ACE PERIPHERALS

DRAWING NUMBER

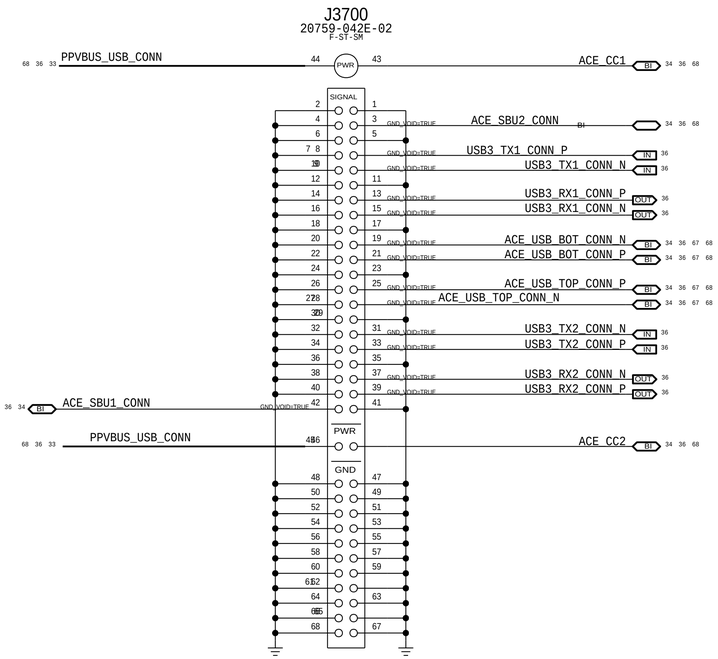
SIZE

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
372S0194	372S0187		Q3790,Q8990	XSTR,N-CHN,34V,500MA

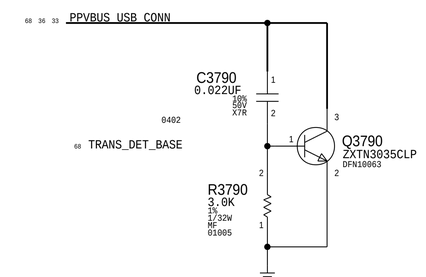
B2B CONNECTOR TO I/0 FLEX

MATCH J317_IO_FLEX A.0.0

MLB 516S00266
FLEX 516S00265



TRANSIENT SUPPRESSION



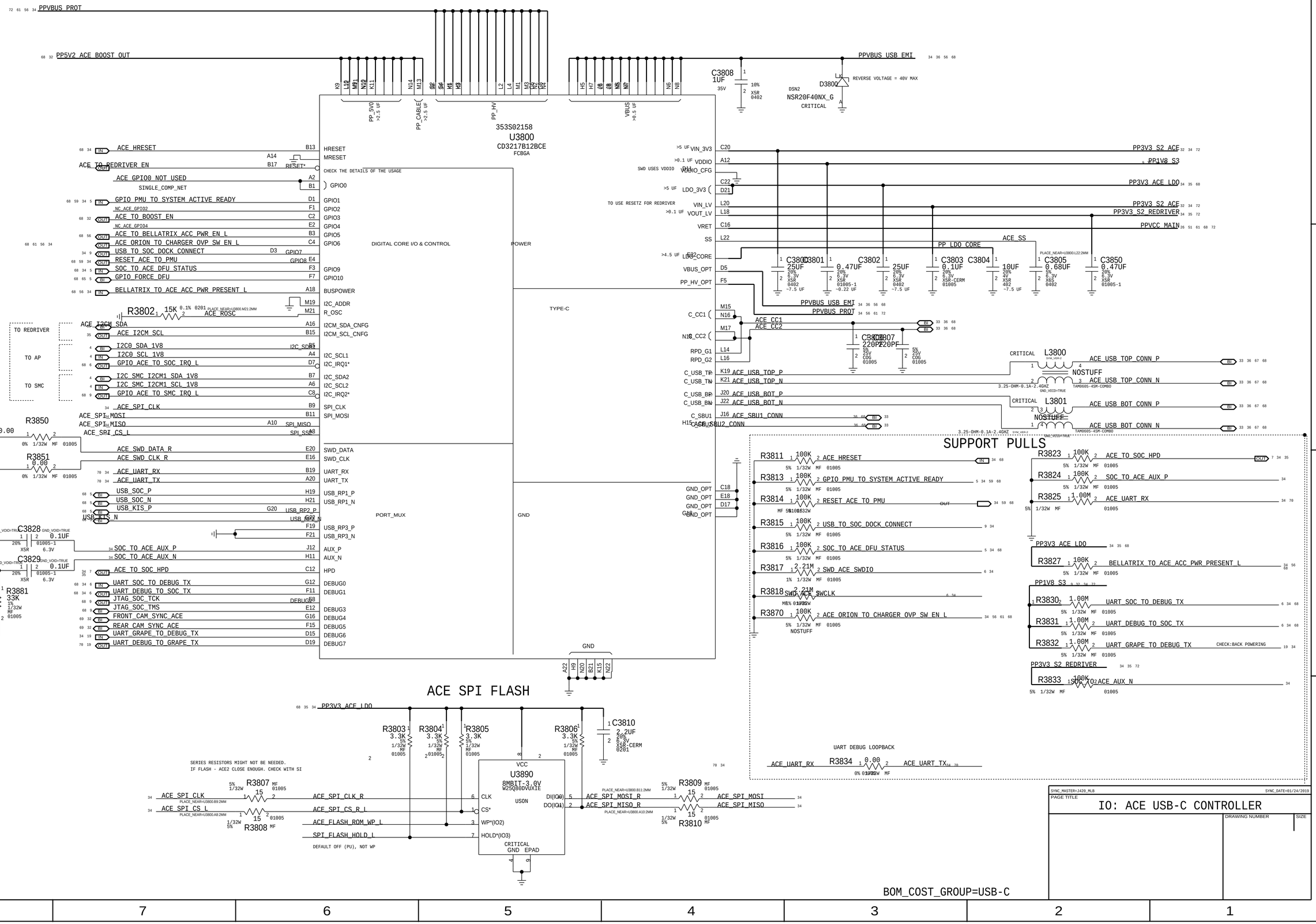
SYNC_DATE=03/09/2017

PAGE TITLE

IO: IOFLEX B2B & SIM B2B

DRAWING NUMBER

SIZE

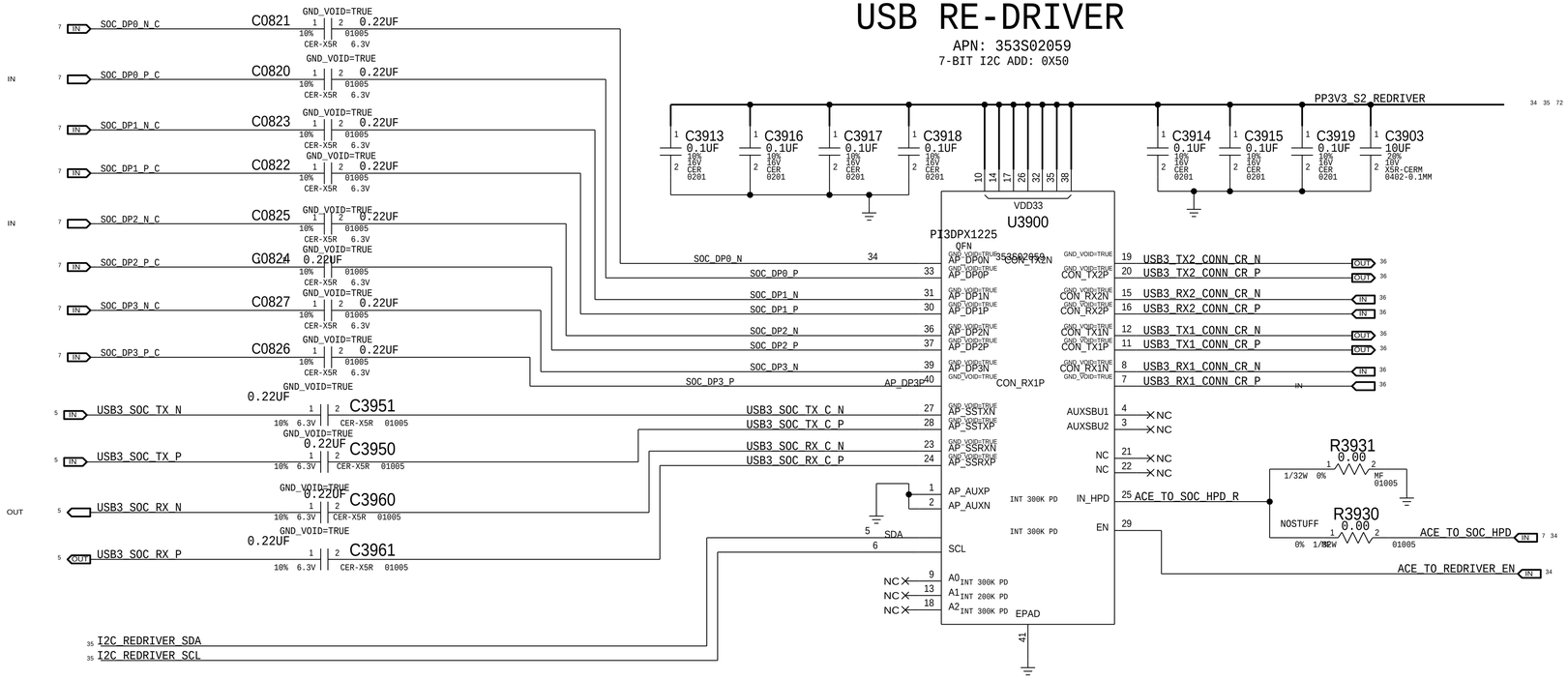

PPVBUS_PROT
PP5V2_ACE_BOOST_OUT
PPVBUS_USB_EMI
C3808 1UF 35V 10% X5R 0402
D3800 DSN2 NSR20F40NX_G CRITICAL
REVERSE VOLTAGE = 40V MAX
PP_5V0 >2.5 UF
PP_CABLE >2.5 UF
PP_HV
VBUS >9.5 UF
353S02158
U3800
CD3217B12BCE
FCBGA
HRESET
MRESET
RESET*
GPIO0
GPIO1
GPIO2
GPIO3
GPIO4
GPIO5
GPIO6
GPIO7
GPIO8
GPIO9
GPIO10
BUSPOWER
I2C_ADDR
R_OSC
I2CM_SDA_CNFG
I2CM_SCL_CNFG
I2C_SDA
I2C_SCL1
I2C_IRQ1*
I2C_SDA2
I2C_SCL2
I2C_IRQ2*
SPI_CLK
SPI_MOSI
SPI_MISO
SPI_SS*
SWD_DATA
SWD_CLK
UART_RX
UART_TX
USB_RP1_P
USB_RP1_N
USB_RP2_P
USB_RP2_N
USB_RP3_P
USB_RP3_N
AUX_P
AUX_N
HPD
DEBUG0
DEBUG1
DEBUG3
DEBUG4
DEBUG5
DEBUG6
DEBUG7
CHECK THE DETAILS OF THE USAGE
DIGITAL CORE I/O & CONTROL
PORT_MUX
POWER
GND
TYPE-C
VIN_3V3
VDDIO
VDDIO_CFG
LDO_3V3
VIN_LV
VOUT_LV
VRET
SS
LDO_CORE
VBUS_OPT
PP_HV_OPT
C_CC1
C_CC2
RPD_G1
RPD_G2
C_USB_TP
C_USB_TN
C_USB_BP
C_USB_BN
C_SBU1
C_SBU2
GND_OPT
ACE_HRESET
ACE_TO_REDRIVER_EN
ACE_GPIO0_NOT_USED
SINGLE_COMP_NET
GPIO_PMU_TO_SYSTEM_ACTIVE_READY
NC_ACE_GPIO2
ACE_TO_BOOST_EN
NC_ACE_GPIO4
ACE_TO_BELLATRIX_ACC_PWR_EN_L
ACE_ORION_TO_CHARGER_OVP_SW_EN_L
USB_TO_SOC_DOCK_CONNECT
RESET_ACE_TO_PMU
SOC_TO_ACE_DFU_STATUS
GPIO_FORCE_DFU
BELLATRIX_TO_ACE_ACC_PWR_PRESENT_L
R3802 15K 0.1% 0201 ACE_ROSC
PLACE_NEAR=U3800.M21:2MM
TO REDRIVER
TO AP
TO SMC
ACE_I2CM_SDA
ACE_I2CM_SCL
I2C0_SDA_1V8
I2C0_SCL_1V8
GPIO_ACE_TO_SOC_IRQ_L
I2C_SMC_I2CM1_SDA_1V8
I2C_SMC_I2CM1_SCL_1V8
GPIO_ACE_TO_SMC_IRQ_L
ACE_SPI_CLK
ACE_SPI_MOSI
ACE_SPI_MISO
ACE_SPI_CS_L
R3850 0.00
R3851 0.00
SWD_ACE_SWDIO
SWD_ACE_SWCLK
ACE_SWD_DATA_R
ACE_SWD_CLK_R
ACE_UART_RX
ACE_UART_TX
USB_SOC_P
USB_SOC_N
USB_KIS_P
USB_KIS_N
C3828 0.1UF
C3829 0.1UF
SOC_TO_ACE_AUX_P_C
SOC_TO_ACE_AUX_N_C
SOC_TO_ACE_AUX_P
SOC_TO_ACE_AUX_N
ACE_TO_SOC_HPD
R3880 33K
R3881 33K
UART_SOC_TO_DEBUG_TX
UART_DEBUG_TO_SOC_TX
JTAG_SOC_TCK
JTAG_SOC_TMS
FRONT_CAM_SYNC_ACE
REAR_CAM_SYNC_ACE
UART_GRAPE_TO_DEBUG_TX
UART_DEBUG_TO_GRAPE_TX
TO USE RESETZ FOR REDRIVER
SWD USES VDDIO
C3800 25UF
C3801 0.47UF
C3802 25UF
C3803 0.1UF
C3804 10UF
C3805 0.68UF
C3850 0.47UF
PP_LDO_CORE
ACE_SS
PLACE_NEAR=U3800.L22:2MM
PP3V3_S2_ACE
PP1V8_S3
PP3V3_ACE_LDO
PP3V3_S2_REDRIVER
PPVCC_MAIN
C3807 220PF
C3808 220PF
ACE_USB_TOP_P
ACE_USB_TOP_N
ACE_USB_BOT_P
ACE_USB_BOT_N
ACE_SBU1_CONN
ACE_SBU2_CONN
L3800
L3801
NOSTUFF
3.25-OHM-0.1A-2.4GHZ
TAM0605-4SM-COMBO
SUPPORT PULLS
R3811 100K ACE_HRESET
R3813 100K GPIO_PMU_TO_SYSTEM_ACTIVE_READY
R3814 100K RESET_ACE_TO_PMU
R3815 100K USB_TO_SOC_DOCK_CONNECT
R3816 100K SOC_TO_ACE_DFU_STATUS
R3817 2.21M SWD_ACE_SWDIO
R3818 2.21M SWD_ACE_SWCLK
R3870 100K ACE_ORION_TO_CHARGER_OVP_SW_EN_L
R3823 100K ACE_TO_SOC_HPD
R3824 100K SOC_TO_ACE_AUX_P
R3825 1.00M ACE_UART_RX
R3827 100K BELLATRIX_TO_ACE_ACC_PWR_PRESENT_L
R3830 1.00M UART_SOC_TO_DEBUG_TX
R3831 1.00M UART_DEBUG_TO_SOC_TX
R3832 1.00M UART_GRAPE_TO_DEBUG_TX
R3833 100K ACE_AUX_N
CHECK:BACK POWERING
UART DEBUG LOOPBACK
R3834 0.00 ACE_UART_RX ACE_UART_TX
ACE SPI FLASH
R3803 3.3K
R3804 3.3K
R3805 3.3K
R3806 3.3K
C3810 2.2UF
U3890
8MBIT-3.0V
W25Q80DVUXIE
USON
VCC
CLK
CS*
DI(IO0)
DO(IO1)
WP*(IO2)
HOLD*(IO3)
GND EPAD
CRITICAL
R3807 15
R3808 15
R3809 15
R3810 15
SERIES RESISTORS MIGHT NOT BE NEEDED.
IF FLASH - ACE2 CLOSE ENOUGH. CHECK WITH SI
DEFAULT OFF (PU), NOT WP
ACE_SPI_CLK_R
ACE_SPI_CS_R_L
ACE_FLASH_ROM_WP_L
SPI_FLASH_HOLD_L
ACE_SPI_MOSI_R
ACE_SPI_MISO_R
PLACE_NEAR=U3800.B11:2MM
PLACE_NEAR=U3800.A10:2MM
BOM_COST_GROUP=USB-C
SYNC_MASTER=J420_MLB
SYNC_DATE=01/24/2019
PAGE TITLE
IO: ACE USB-C CONTROLLER
DRAWING NUMBER
SIZE

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
353S01846	353S02059		U3900	PI3DPX1205A1 USBC XBAR WFN40

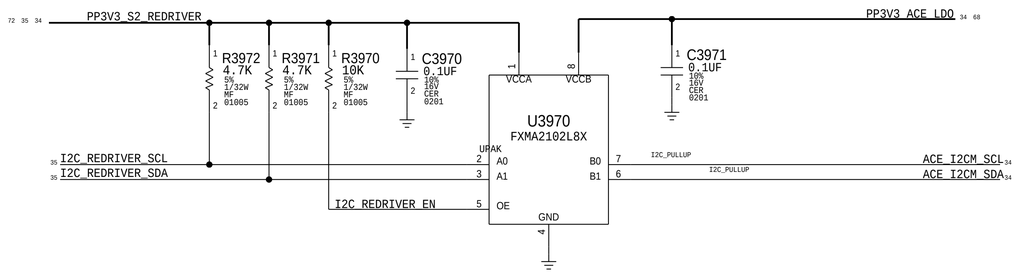
USB RE-DRIVER

APN: 353S02059

7-BIT I2C ADD: 0X50



I2C ISOLATION CIRCUIT



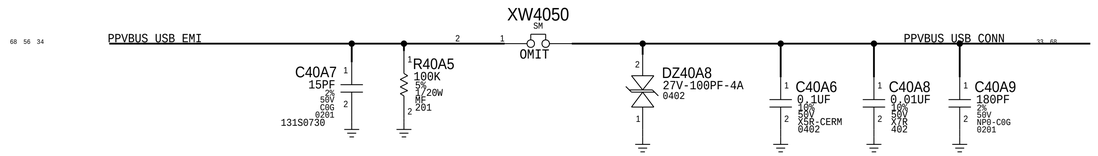
PAGE TITLE

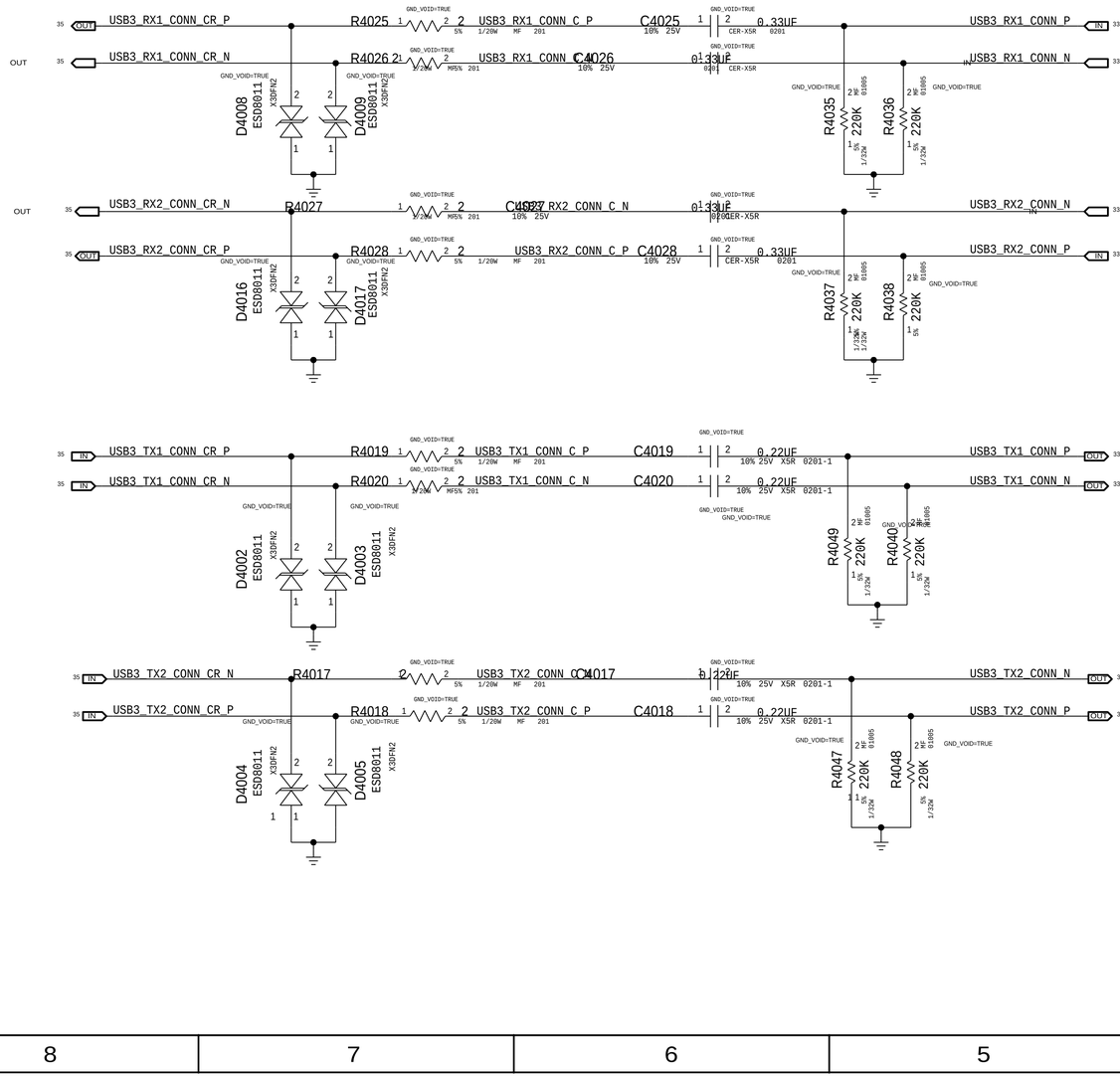
IO: ACE REDRIVER

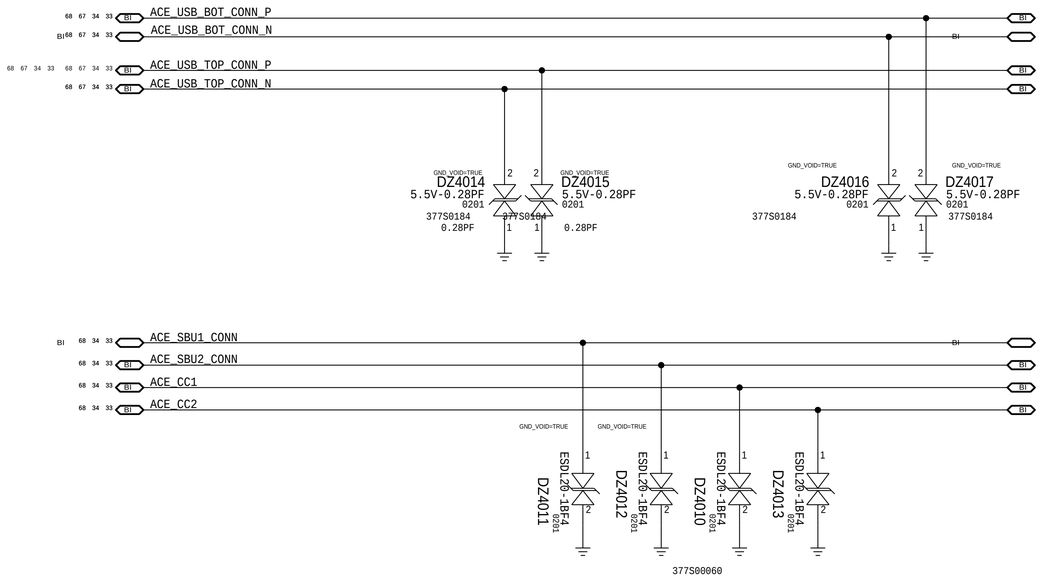
DRAWING NUMBER

SIZE

USB CONN FILTERS







SYNC_MASTER=J320_USBDC SYNC_DATE=11/06/2018

PAGE TITLE

IO: ACE FILTERS

DRAWING NUMBER

SIZE

Rigel Driver

PPVCC_MAIN
C4197 18UF 20% CER-X5R 0402-0.1MM ROOM=RIGEL
C4194 4UF 20% CER-X5R 0201 ROOM=RIGEL
C4193 4UF 20% CER-X5R 0201 ROOM=RIGEL
C4192 4UF 20% CER-X5R 0201 ROOM=RIGEL
C4191 4UF 20% CER-X5R 0201 ROOM=RIGEL
Terminate @ Cap via on VDD_MAIN plane.
OMIT XW4100 SHORT-10L-0.1MM-SM ROOM=RIGEL
PP_RIGEL_VINCORE
C4190 1UF 20% X5R 0201 ROOM=RIGEL
PP1V8_SW1_CAM
PP_VANA
PPVCC_HIGH
C4195 1UF 20% X5R 0201 ROOM=RIGEL
C4196 1UF 20% X5R 0201 ROOM=RIGEL
C4198 4UF 20% CER-X5R 0201 ROOM=RIGEL
PP_TITUS_CATHODE
TITUS_TO_RIGEL_VCSEL_NTC
GPIO_APOLLO_TO_RIGEL_EN
YOGI_TO_RIGEL_STATUS
MAMA_BEAR_BI_RIGEL_STATUS
JULIET_PMU_TO_RIGEL_STROBE
R4101 10K RIGEL_TESTMODE_EN
CLK_SOC_TO_PEARL_12MHZ
GPIO_RIGEL_TO_SOC_IRQ
ISP_I2C3_SDA_1V8
R4100 33.2 1% 1/32W ME 01005
ISP_I2C3_SCL_1V8
ISP_TITUS_RIGEL_SDA_R
RIGEL_LSCP
C4122 0.01UF 10% X5R 01005 ROOM=RIGEL
XW4101 SHORT-10L-0.135MM-SM 998-17721 PLACE_NEAR=U4100:F6.5MM
RIGEL_QUIET_GND

U4100 STB601A0 WLCSP ROOM=RIGEL CRITICAL

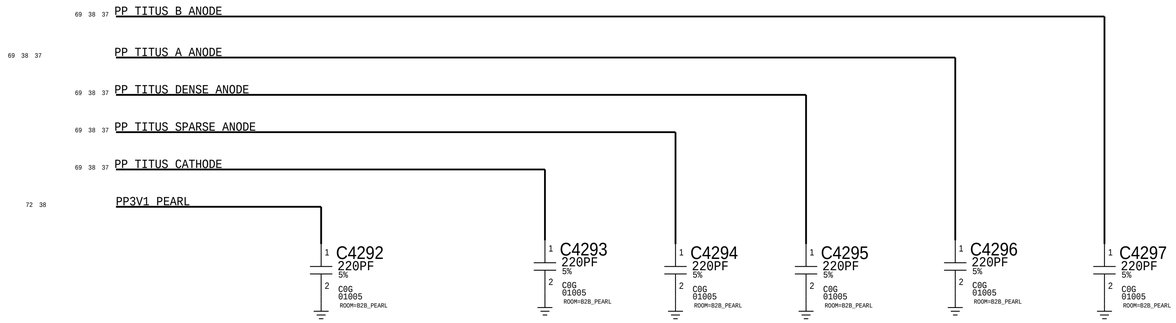
VK K4 K5 K6 K7 K8
NTC G4
OTPHV C4
TAMP D4
ENA B3
XEF1 C8
XEF0 C7
THROT B8
STROBE A4
TESTMODE B7
TESTMODE2 B5
TEST B6
MCLK A7
INT B4
SCL A5
SDA A6
PD0 G5
PD1 G6
LSCP H7

PP_RIGEL_BUCK_BOOST_A
VBBOUTA H10 J10 K10
VLXA D10 D9 E10
RIGEL_VLXA
C4105 4.7UF 20% X5R 0402 ROOM=RIGEL
L4100 0.47UH-20%-4A-0.048OHM DIDT=TRUE PIWA20120H-SM ROOM=RIGEL
C4100 4.7UF 20% X5R 0402 ROOM=RIGEL
C4101 220PF 5% C0G 01005 ROOM=RIGEL
VCXA B10
RIGEL_VCXA
C4120 0.01UF 10% X5R 01005 ROOM=RIGEL
BOOSTSDA A8
RIGEL_BOOSTSDA
BULKSDA D8
RIGEL_BULKSDA
BULKSDB D3
RIGEL_BULKSDB
BOOSTSDB E3
RIGEL_BOOSTSDB
VCXB B1 B2
RIGEL_VCXB
C4121 0.01UF 10% X5R 01005 ROOM=RIGEL
C4110 4.7UF 20% X5R 0402 ROOM=RIGEL
VLXB D1 D2 E1
RIGEL_VLXB
L4101 0.47UH-20%-4A-0.048OHM DIDT=TRUE PIWA20120H-SM ROOM=RIGEL
C4111 4.7UF 20% X5R 0402 ROOM=RIGEL
C4112 220PF 5% C0G 01005 ROOM=RIGEL
VBBOUTB J1 J2 J3
PP_RIGEL_BUCK_BOOST_B
IOUT0 H9 K9 J9
PP_TITUS_DENSE_ANODE
IOUT1 H1 H2 H3
PP_TITUS_SPARSE_ANODE
IOUT2 K1 K2 K3
PP_ROSALINE_ANODE
IOUT3 G1
PP_TITUS_A_ANODE
IOUT4 G10
PP_TITUS_B_ANODE

PGNDK J8 J7 J6 J5 J4
GNDCORE4 C8 GNDCORE3 C3 GNDCORE2 H6 GNDCORE F6 GNDD C6
GNDS C7 E6 F8 E5 F3 D7 D6 D5 C5
PGNDB C2 C1
PGNDA C9 G10

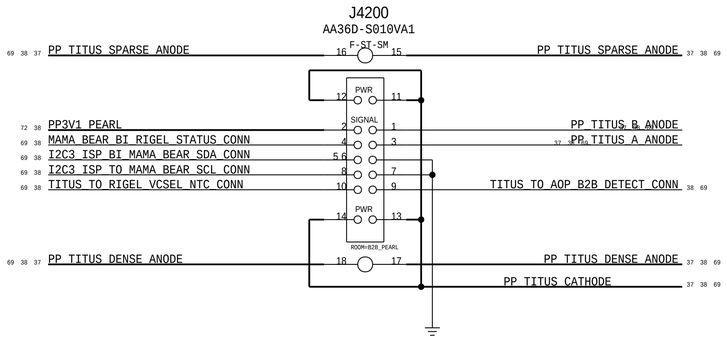
PAGE TITLE
PEARL: RIGEL DRIVER
DRAWING NUMBER
SIZE

TITUS POWER FILTERING

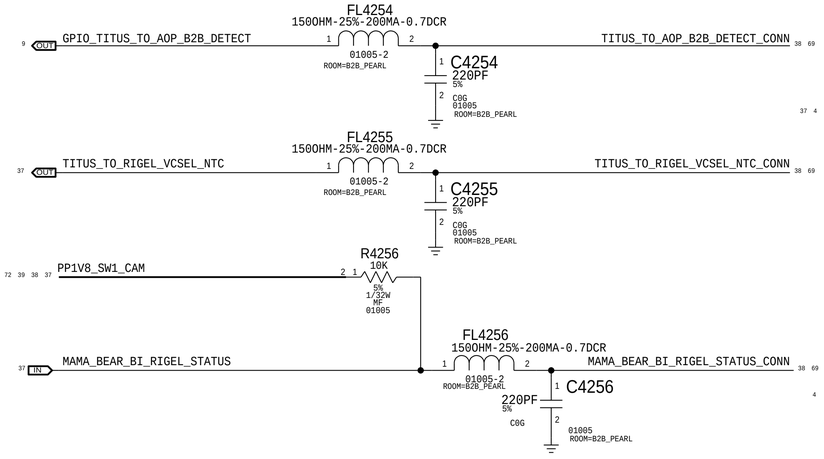


JEWEL CONNECTOR

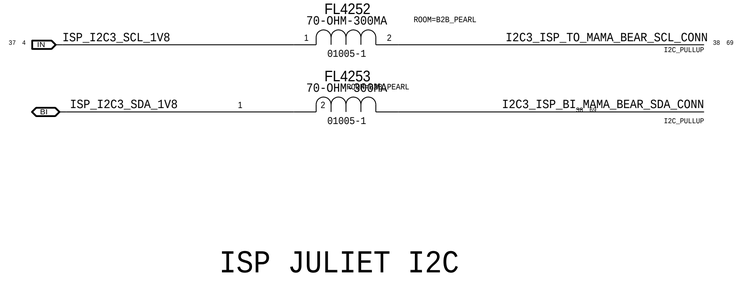
MLB: 516S00267
FLEX: 516S00268
MATCH J317_JEWEL_FLEX A.1.0



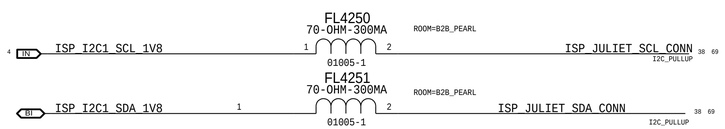
TITUS I/O



ISP TITUS_RIGEL I2C

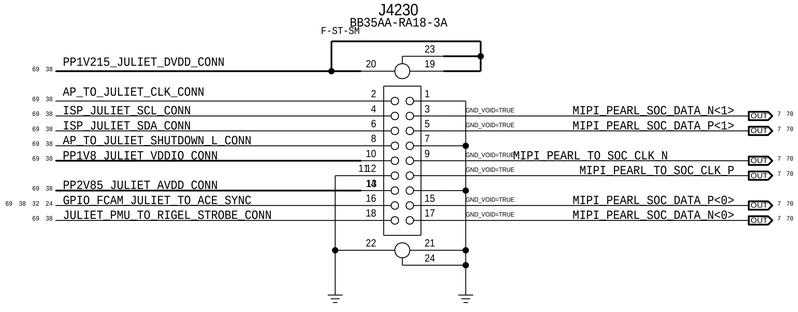


ISP JULIET I2C

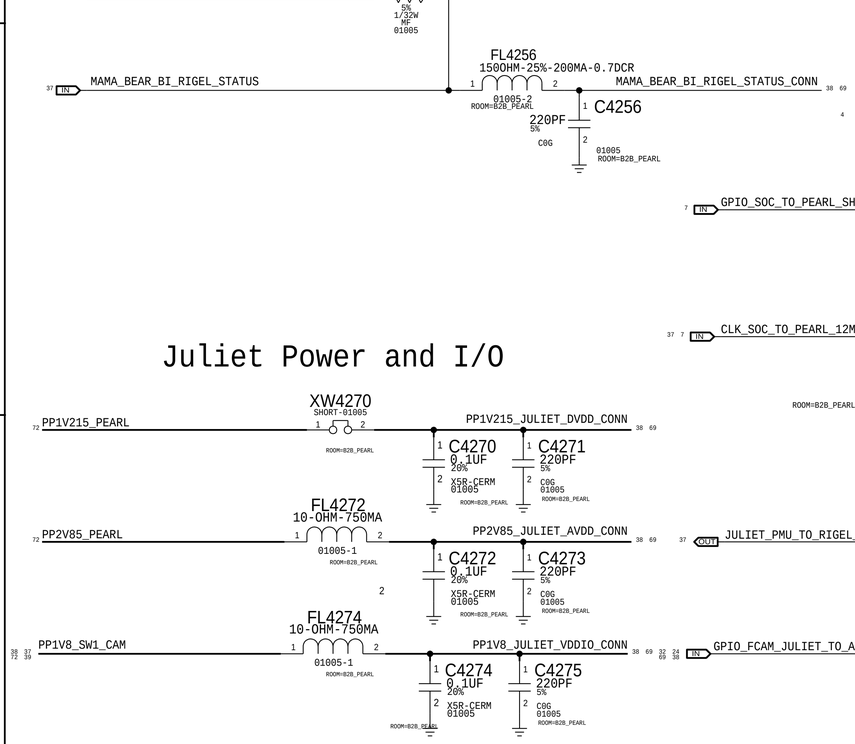


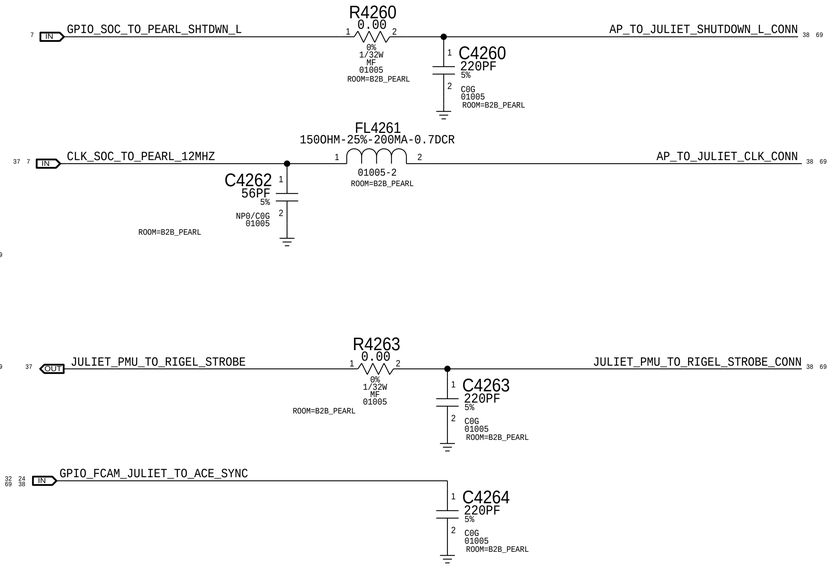
JULIET CONNECTOR

FLEX SIDE: 516S00396
MLB SIDE: 516S00395
MATCH J317_JULIET_FLEX A.0.0



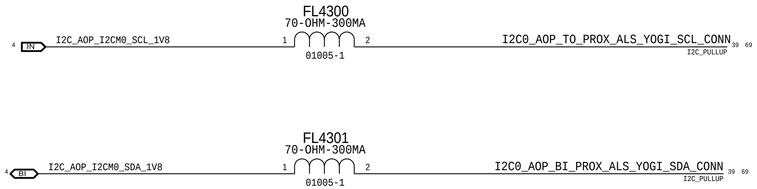
Juliet Power and I/O



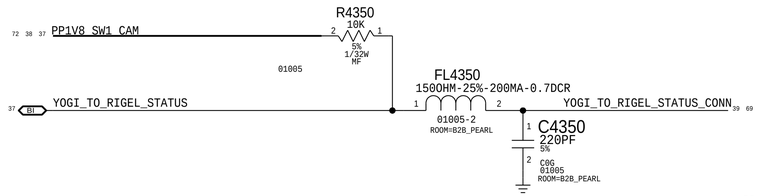


PAGE TITLE
PEARL: B2B TITUS + JULIET
DRAWING NUMBER
SIZE

ISP FCAM1 JULIET ROSALINE I2C

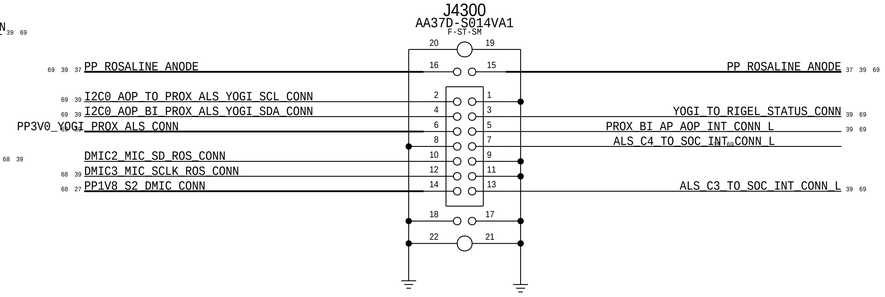


Yogi Signals

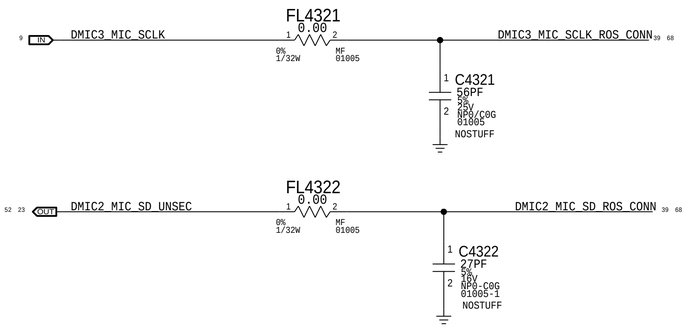


ROSALINE(AARM) CONNECTOR

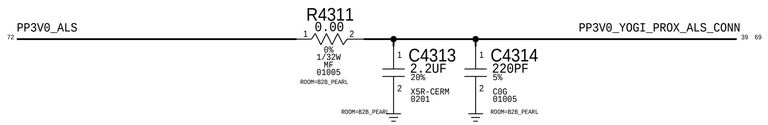
MLB: 516S00150
FLEX: 516S00149
MATCH J417_AARM_FLEX A.0.0



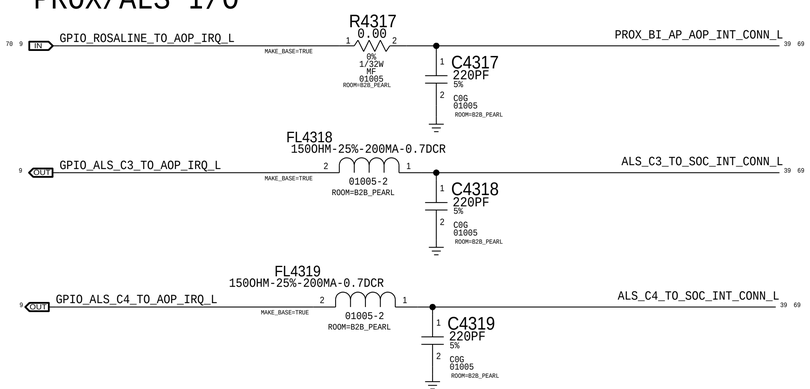
DMIC1 FILTERS ROSALINE CONN



PROX & ALS POWER

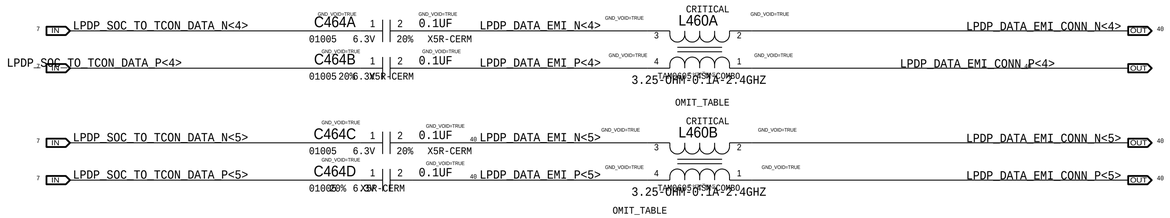


PROX/ALS I/O

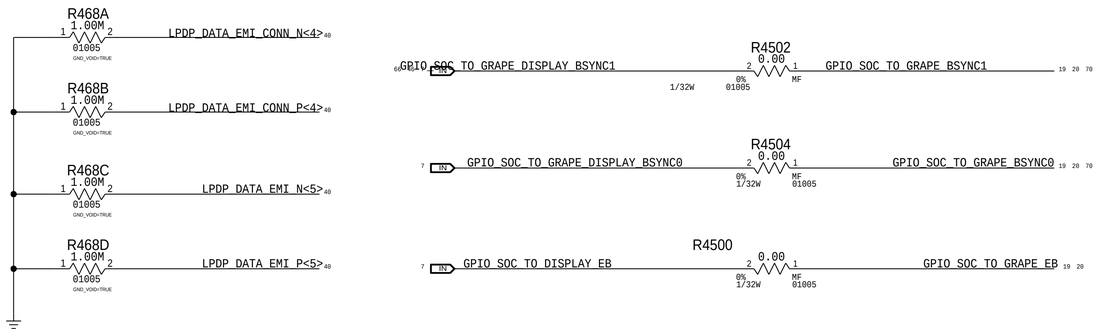


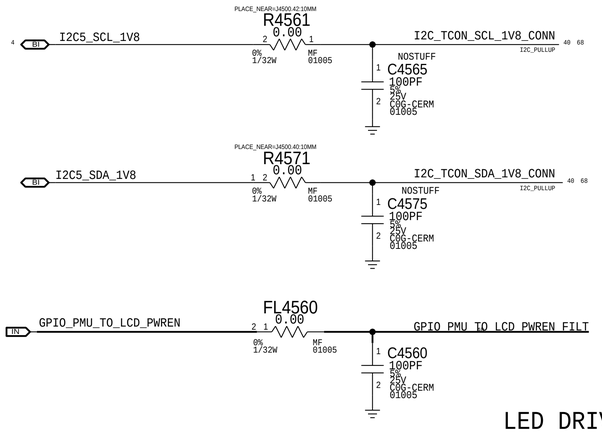
PAGE TITLE
PEARL: B2B ROSALINE + MISC
DRAWING NUMBER
SIZE

EDP AND PWR LED FLEX FILTERS AND CONNECTORS

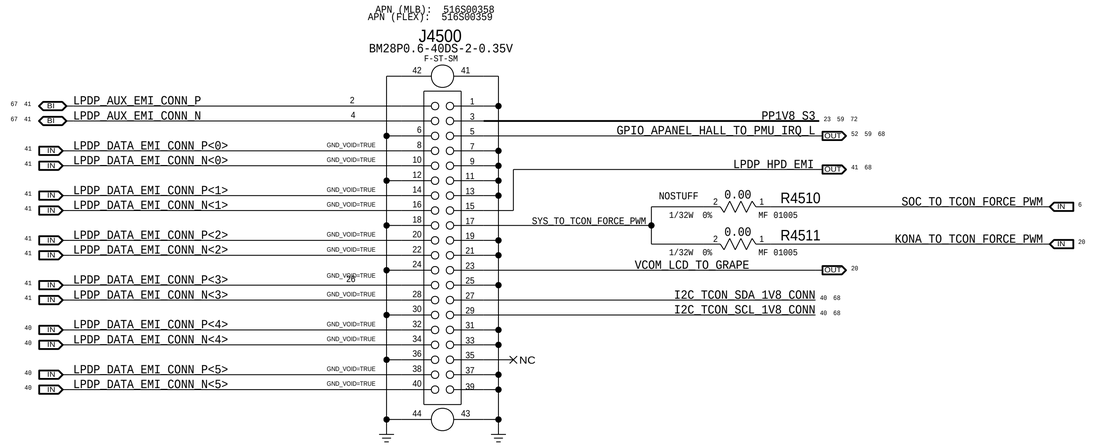


PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0897	2	TDK CMC	L460A, L460B	CRITICAL	

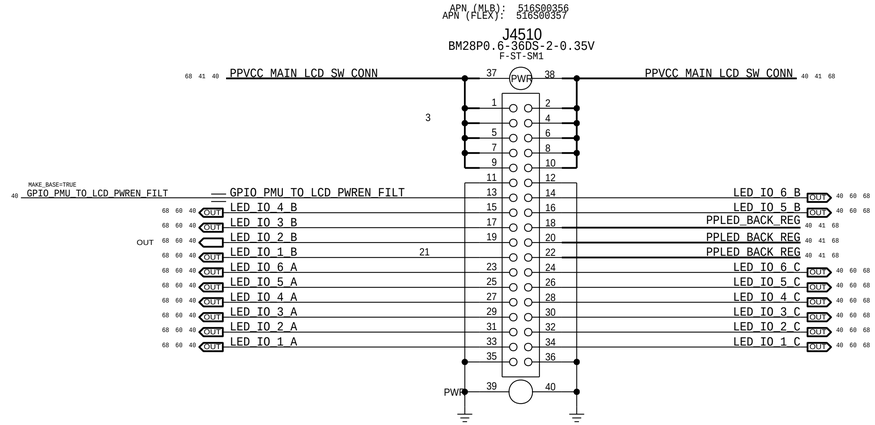




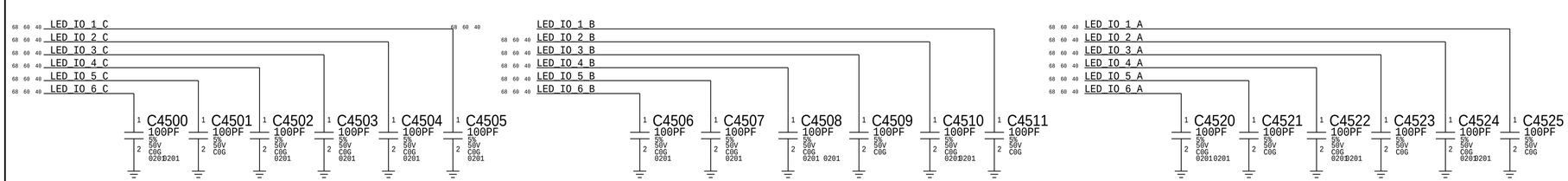
EDP FLEX CONN



POWER LED FLEX CONN



LED DRIVER FILTERS (NOSTUFF CAPS ON TCON SIDE)



SYNC_DATE=03/09/2017

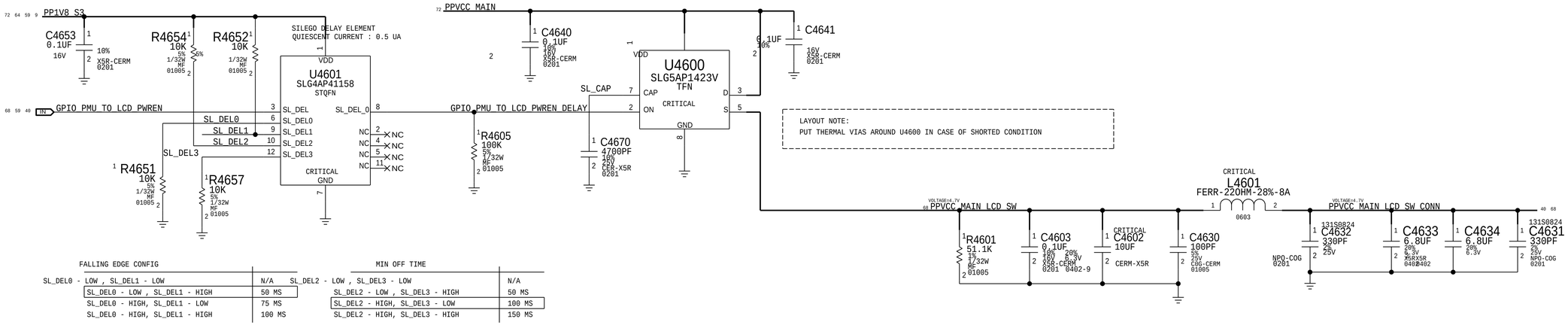
PAGE TITLE

DISPLAY: B2B CONN

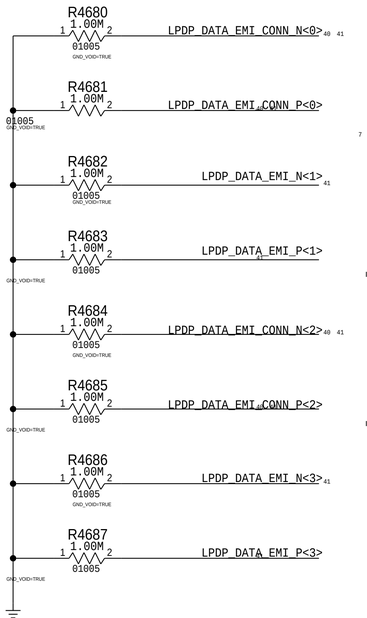
DRAWING NUMBER

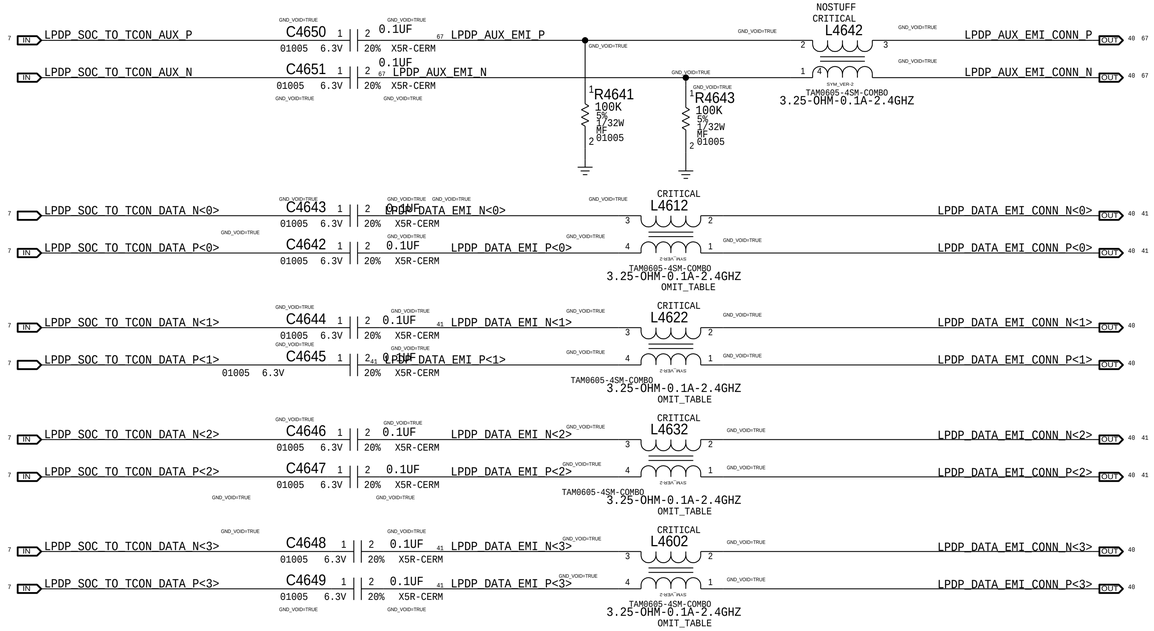
SIZE

EDP CONNECTOR SUPPORT

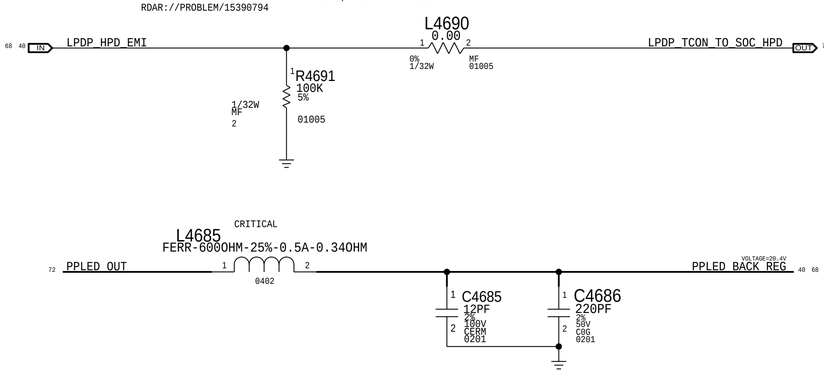


FALLING EDGE CONFIG			MIN OFF TIME	
SL_DEL0 - LOW , SL_DEL1 - LOW	N/A	SL_DEL2 - LOW , SL_DEL3 - LOW	N/A
SL_DEL0 - LOW , SL_DEL1 - HIGH	50 MS	SL_DEL2 - LOW , SL_DEL3 - HIGH	50 MS
SL_DEL0 - HIGH, SL_DEL1 - LOW	75 MS	SL_DEL2 - HIGH, SL_DEL3 - LOW	100 MS
SL_DEL0 - HIGH, SL_DEL1 - HIGH	100 MS	SL_DEL2 - HIGH, SL_DEL3 - HIGH	150 MS





TULIP HPD VOLTAGE IS 1.8V COMPATIBLE, VOLTAGE DIVIDER REMOVED
RDAR://PROBLEM/15390794



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0897	4	TDK CMC	L4602,L4622,L4632,L4612	CRITICAL	

SYNC_DATE=03/09/2017

PAGE TITLE

DISPLAY: EDP SUPPORT

DRAWING NUMBER

SIZE

WIFI/BT

CLASS TO CLASS SPACING		
CLASS NAME	CLASS NAME	CONSTRAINT SET
WLAN_SHIELD	WLAN_SHIELD	DEFAULT
WLAN_SHIELD	GND	DEFAULT

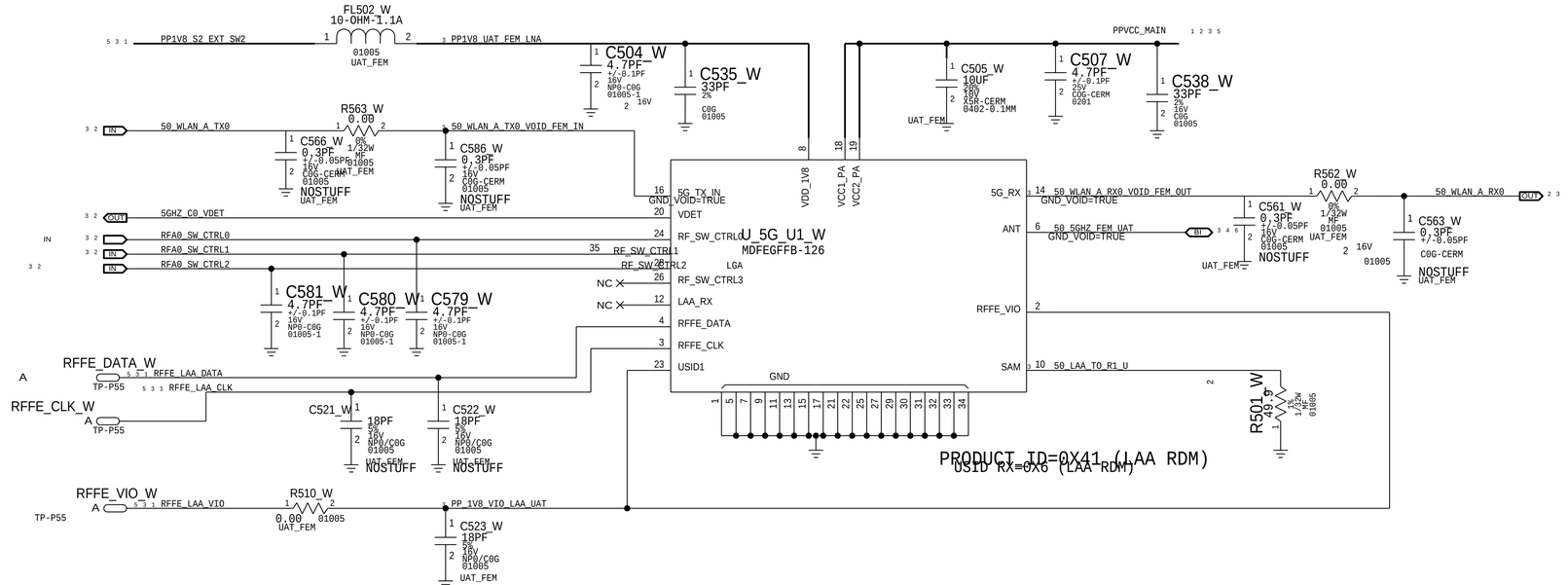
DOMAIN	NET RULE ASSIGNMENT	
(E.P.S)	CONSTRAINT SET	COMMA SEPARATED NET NAMES (WILDCARD SUPPORT EX: DDR*)
P	A_50_WIDE_2_L1_THIN_SE	
P	A_50_THIN_2_SE	
P	A_50_WIDE_SE	
P	A_50_THIN_SE	

PCIE PROBE POINTS ON TOP LEVEL

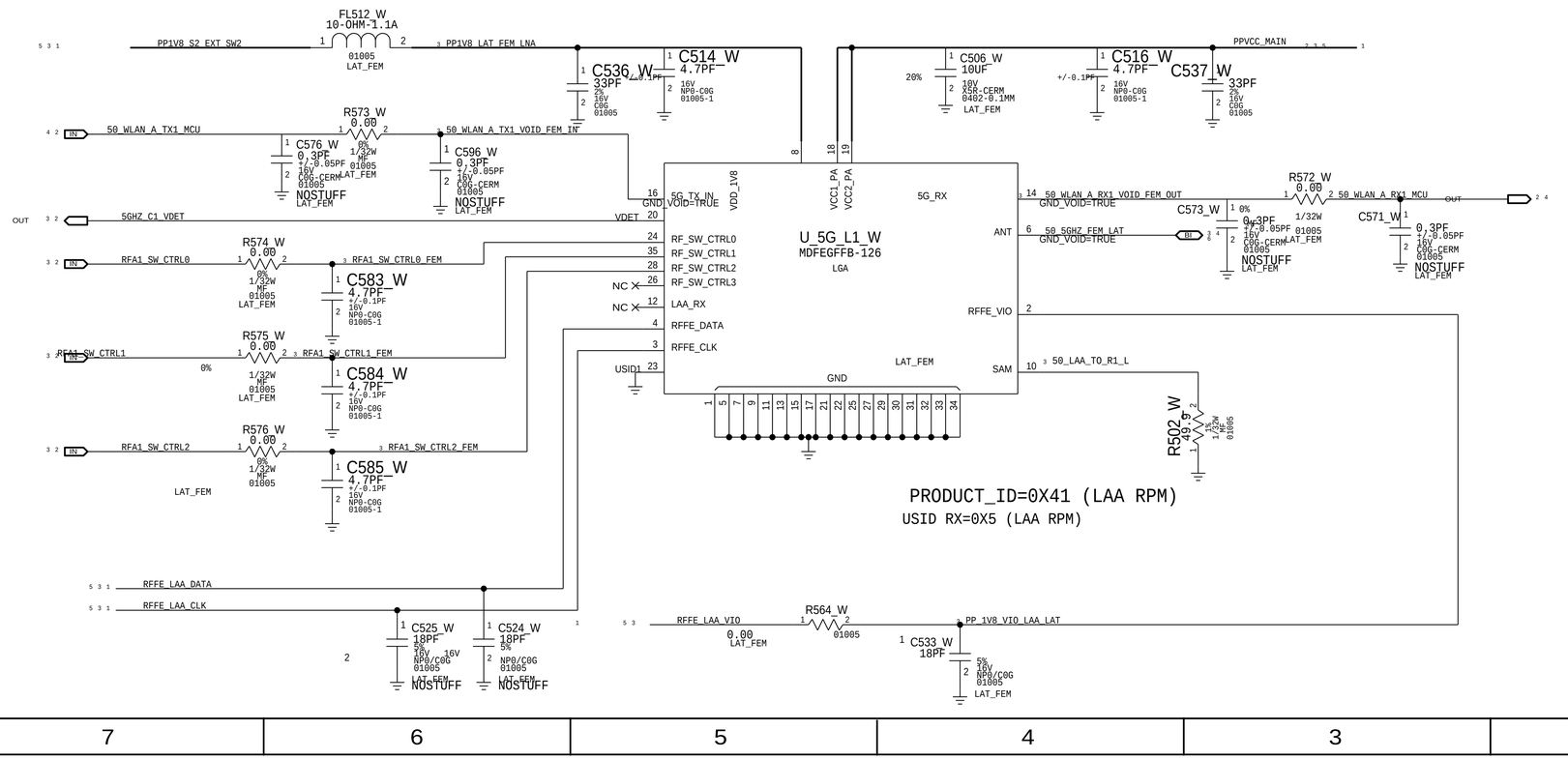
BOOTSTRAPS
WL_GPIO7 0:JTAG 1:SWD
WL_GPIO21 0:BT PCIE 1:BT UART

J420: DIET COKE REMOTE FEMS

5GHZ UAT FEED



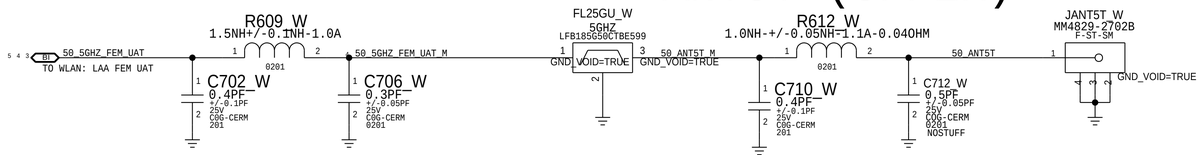
5GHZ LAT FEED



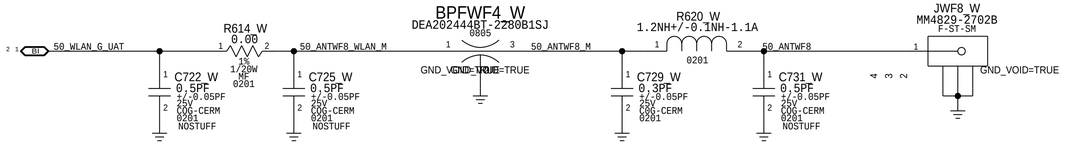
SYNC_MASTER=J420_WIFI_MLB_0.17.0	SYNC_DATE=06/04/2019
PAGE TITLE	J420: Remote FEMs
DRAWING NUMBER	SIZE

J420: FRONT END

ANT5T (UPPER)



WF8 (UPPER RIGHT)



ANT5B (LOWER)

WF7 (UPPER LEFT)

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
131S0631	1	CAP,CER,C0G,0.3PF,0201,H-Q	C243_W	NOSTUFF
118S0724	1	RES, MF, 0.0 OHM, 1,1/20W, HF	R237_W	
118S0724	1	RES, MF, 0.0 OHM, 1, 1/20W, HF	R238_W	

SYNC_MASTER=J420_WIFI_MLB_0.17.0 SYNC_DATE=06/04/2019

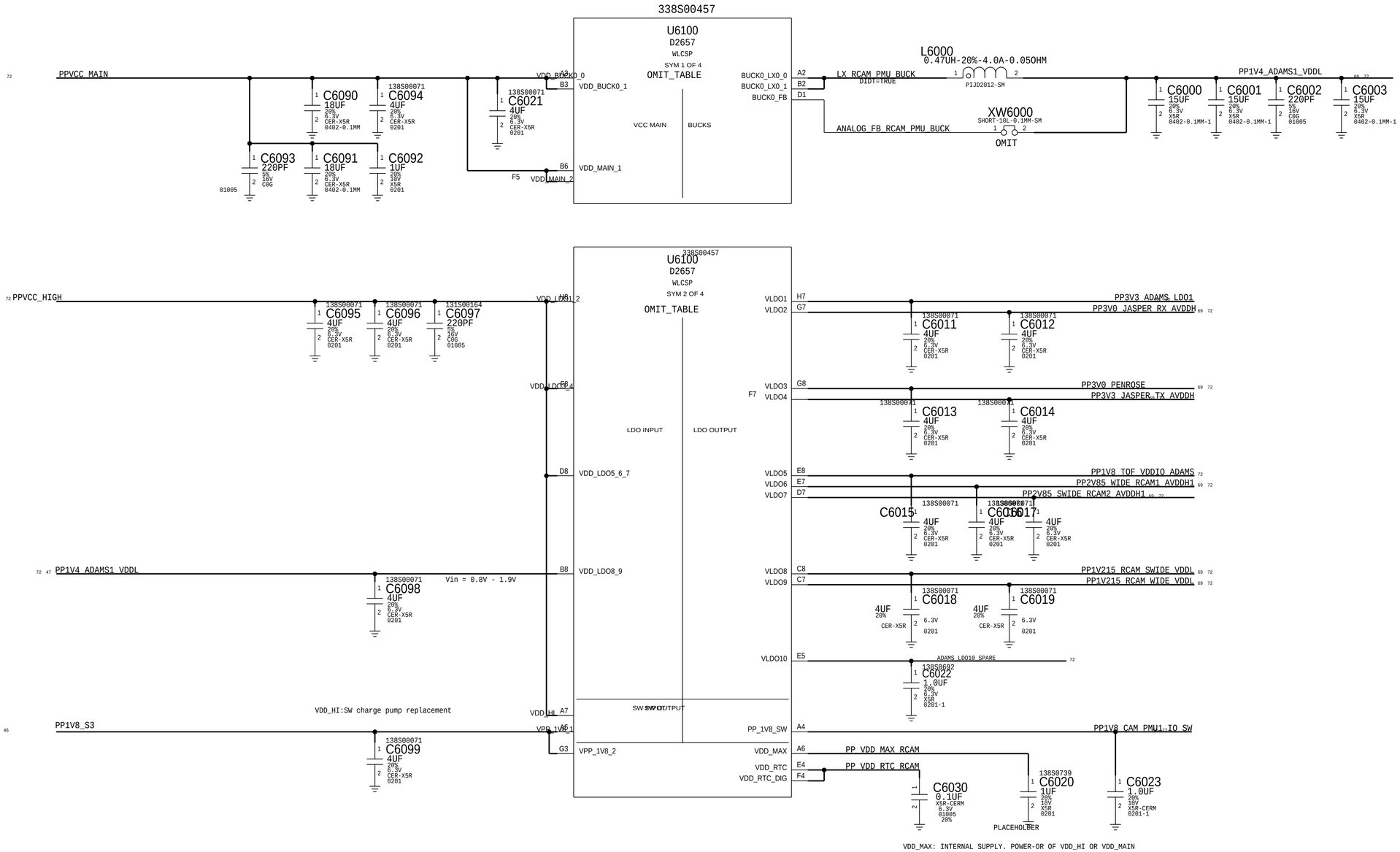
PAGE TITLE

J420: Front End

DRAWING NUMBER

SIZE

RCAM ADAMS PMU



SYNC_MASTER=JASPER_WILL_ADAM SYNC_DATE=01/09/2019

PAGE TITLE

CAMERA: ADAMS POWER (1/2)

DRAWING NUMBER

SIZE

RCAM ADAMS PMU IO

PP1V8_JASPER_WILL_VDDIO
PP1V8_CAM_PMU1_IO_SW

R6132 1.00K 5% 1/32W MF 01005
R6131 1.00K 5% 1/32W MF 01005
R6122 1.00K 5% 1/32W MF 01005
R6121 1.00K 5% 1/32W MF 01005
R6112 1.00K 5% 1/32W MF 01005
R6111 1.00K 5% 1/32W MF 01005
R6102 1.00K 5% 1/32W MF 01005
R6101 1.00K 5% 1/32W MF 01005

I2C1:WIDE/NEON
I2C1_RCAM_PMU_SCL
I2C1_RCAM_PMU_SDA
I2C2: JASPER(TOF)
I2C2_RCAM_PMU_SCL
I2C2_RCAM_PMU_SDA
I2C3: WILL
I2C3_RCAM_PMU_SCL
I2C3_RCAM_PMU_SDA
I2C4: SWIDE(OHIO)
I2C4_RCAM_PMU_SCL
I2C4_RCAM_PMU_SDA

ISP_SPMI_ADAMS_SCLK
ISP_SPMI_ADAMS_SDATA
R6152 0.00 1/32W 0% MF 01005 PLACE_NEAR=U6600:R4:50MM
R6153 33 1/32W 5% MF 01005 PLACE_NEAR=U6100:H6:20MM
ISP_SPMI_ADAMS_SCLK_R
ISP_SPMI_ADAMS_SDATA_R

ADAMS_CRASH_L
GPIO_ISP_TO_ADAMS_RESET_L

RCAM_PMU_VREF
RCAM_PMU_IREF

R6151 100K 5% 1/32W MF 01005
C6100 0.22UF 10% 6.3V CER-X5R 01005
R6150 200K 0.1% 1/20W TF 0201

U6100
D2657
WLCSP
SYM 3 OF 4
OMIT_TABLE

I2C: SCL_1, SDA_1, SCL_2, SDA_2, SCL_3, SDA_3, SCL_4, SDA_4
GPIO: GPIO1 E1, GPIO2 C2, GPIO3 D2, GPIO4 E2, GPIO5 F2, GPIO6 C3, GPIO7 D3, GPIO8/TCAL B4, GPIO9/TDEV1 D6, GPIO10/TDEV2 F6, GPIO11/TDEV3 B5, GPIO12/TDEV4 C4, GPIO13/FORCE_SYNC E3
SPMI: SCLK, SDATA
RESET: CRASH*, RESET*
REFERENCE: VREF, IREF
CLK EXPAND: CLKI F1, CLKO_1 G2, CLKO_2 G1, CLKO_3 H2, CLKO_4 H1 NC
AMUX: B7
VPP_OTP: J1 Advanced Test Mode (OTP rewrite)

PP1V8_JASPER_WILL_VDDIO
R6137 10K 5% 1/32W MF 01005

GPIO_RCAM_PMU_TO_STROBE_DRIVER_HWEN
GPIO_RCAM_PMU_TO_TOF_PMU_EN
GPIO_RCAM_PMU_TO_TOF_INT_L
GPIO_RCAM_PMU_TO_TOF_SHUTDOWN_L
GPIO_RCAM_PMU_TO_JAS_LDO_EN
GPIO_RCAM_PMU_TO_WIDE_SHUTDOWN_L
GPIO_RCAM_PMU_TO_SWIDE_SHUTDOWN_L
ADAMS_TCAL
C3_TEMP_NTC_P
NC_ADAMS_GPIO10
NC_ADAMS_GPIO11
NC_ADAMS_GPIO12
IO_TOUCH_TO_MANY_SCAN_ACTIVE
R6133 0.00 1/32W 0% MF 01005
GPIO_SOC_TO_GRAPE_DISPLAY_BSYNC1

CLK_SOC_TO_ADAMS_12MHZ
CLK_RCAM_PMU_TO_WIDE_12MHZ
CLK_RCAM_PMU_TO_SWIDE_12MHZ
CLK_RCAM_PMU_TO_JASPER_TOF_12MHZ
R6136 100K 5% 1/32W MF 01005

TP_AMUX_PMU_FROM_CAM_PMU1
TP6101 TP-PS

PRIVACY MODE - CRASH

PP1V8_S3
R6135 100K 5% 1/32W MF 01005
ADAMS_CRASH_L

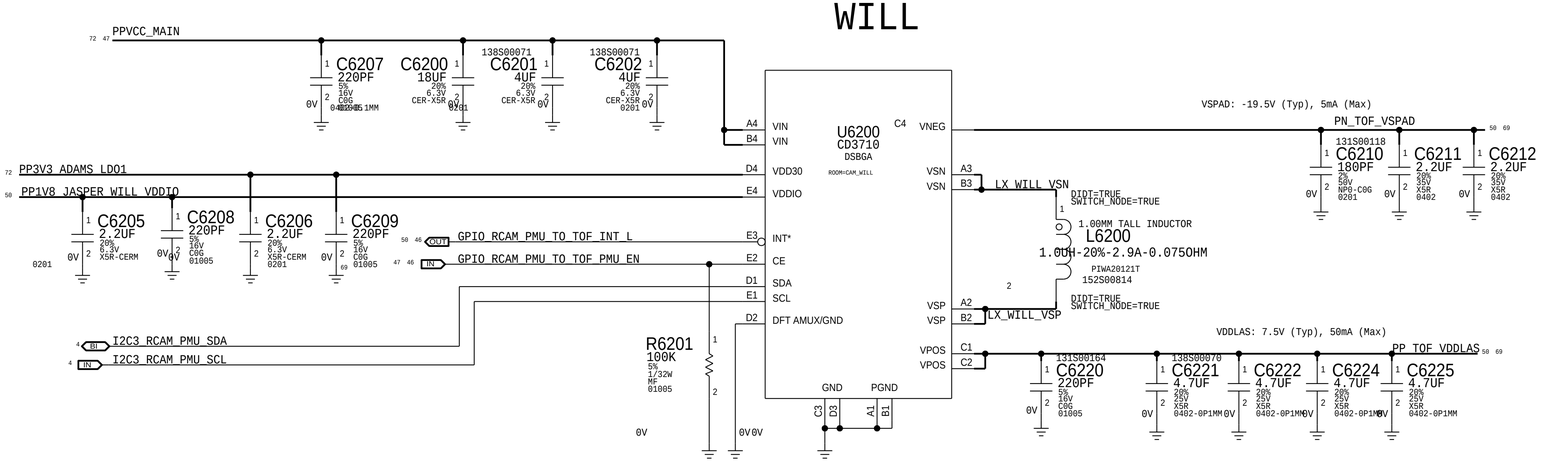
U6100
D2657
WLCSP
SYM 4 OF 4
OMIT_TABLE
VSS: A8, C1, C6, D4, E6, J2, J7, J8
VSS_BUCK0: A1, B1

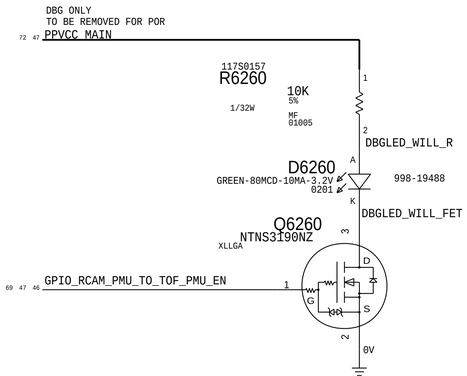
ADAMS_TCAL
R6144 3.92K 0.1% 1/20W MF 0201
C6144 100PF 5% 16V NP0-C0G 01005-1
C3_TEMP_NTC_P
R6143 10KOHM-1%-0.31MA NO_XNET_CONNECTION=1 0201
C6143 100PF 5% 16V NP0-C0G 01005-1 NO_XNET_CONNECTION=1
C3_TEMP_NTC_N
XW6143 SM PLACE_NEAR=U6100:D6:15MM

SYNC_MASTER=JASPER_WILL_ADAM
SYNC_DATE=01/09/2019
PAGE TITLE
CAMERA: ADAMS IO (2/2)
DRAWING NUMBER
SIZE

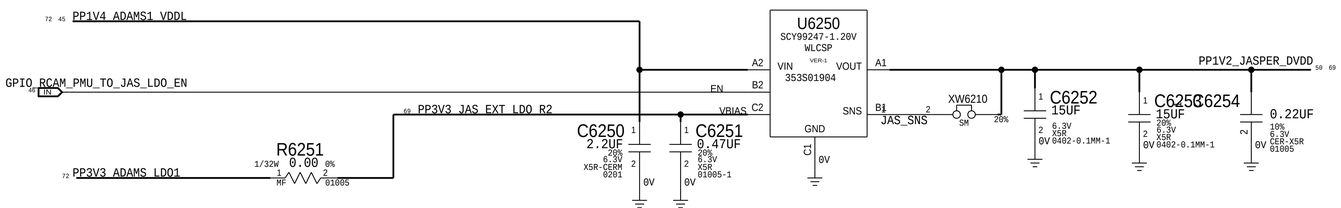
PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
152S00987	152S00814	L6200	IND ISAT 1.55A 63MOHM	

WILL





JASPER VDDL LDO



SYNC_MASTER=J420_MLB_B SYNC_DATE=05/24/2019

PAGE TITLE

CAMERA: JASPER POWER

DRAWING NUMBER

SIZE

WIDE RCAM1 B2B

INDIANA
FLEX PLUG: 516S00248
MLB RCPT: 516S00197
MATCH J417_RCAM_INDIGO_FLEX 3.0.0

J6500
AA28D-S022VA1
516S00197
F-ST-SM

LPDP_WIDE_BI_AP_AUX_CONN	48	4	3	LPDP_RCAM1_TO_SOC_DATA_C_P<0>
AP_TO_WIDE_CLK_12MHZ_CONN	69 48	8	7	LPDP_RCAM1_TO_SOC_DATA_C_N<1>
I2C_RCAM1_WIDE_SDA_CONN	69 48	10	9	LPDP_RCAM1_TO_SOC_DATA_C_P<1>
I2C_RCAM1_WIDE_SCL_CONN	69 48	12		
		15		WIDE_TO_STROBE_DRIVER_STROBE_CONN
		17		PP2V85_RCAM_WIDE_AVDD_CONN
		19		PP1V8_RCAM_WIDE_VDDIO_CONN
WIDE_SYNC_CONN	69 48	22		ISP_TO_WIDE_SHUTDOWN_CONN_L
PP1V215_RCAM_WIDE_VDDL_CONN	69 48	26		

POWER FILTERING

FL6501
10-OHM-750MA
01005-1
PP1V8_CAM_PMU_IO_SW → PP1V8_RCAM_WIDE_VDDIO_CONN
C6501 220PF 5% 16V C0G 01005
C6502 1.0UF 20% 6.3V X5R 0201-1

FL6503
FERR-22-OHM-1A-0.0550HM
0201
PP2V85_WIDE_RCAM1_AVDDH1 → PP2V85_RCAM_WIDE_AVDD_CONN
C6503 220PF 5% 16V C0G 01005
C6504 1.0UF 20% 6.3V X5R 0201-1
C6505 4.7UF 20% 6.3 X5R 0402-0.1MM 138S00009

FL6506
FERR-22-OHM-1A-0.0550HM
0201
PP1V215_RCAM_WIDE_VDDL → PP1V215_RCAM_WIDE_VDDL_CONN
C6506 220PF 5% 16V C0G 01005
C6507 1.0UF 20% 6.3V X5R 0201-1
C6508 4.7UF 20% 6.3 X5R 0402-0.1MM 138S00009

ISP I2C

FL6520
70-OHM-300MA
01005-1
I2C1_RCAM_PMU_SCL (IN) → I2C_RCAM1_WIDE_SCL_CONN (I2C_PULLUP)
C6520 56PF 5% 25V NP0/C0G 01005 NOSTUFF

FL6521
70-OHM-300MA
01005-1
I2C1_RCAM_PMU_SDA (BI) → I2C_RCAM1_WIDE_SDA_CONN (I2C_PULLUP)
C6521 56PF 5% 25V NP0/C0G 01005 NOSTUFF

IO FILTERS

FL6522
22 5% 1/32W MF 01005
117S0182
CLK_RCAM_PMU_TO_WIDE_12MHZ (IN) → AP_TO_WIDE_CLK_12MHZ_CONN
C6522 56PF 5% 25V NP0/C0G 01005

FL6523
0.00 0% 1/32W MF 01005
GPIO_RCAM_PMU_TO_WIDE_SHUTDOWN_L (IN) → ISP_TO_WIDE_SHUTDOWN_CONN_L
C6523 56PF 5% 25V NP0/C0G 01005 NOSTUFF

FL6524
0.00 0% 1/32W MF 01005
WIDE_AND_SWIDE_TO_STROBE_DRIVER_STROBE (OUT) → WIDE_TO_STROBE_DRIVER_STROBE_CONN
C6524 56PF 5% 25V NP0/C0G 01005 NOSTUFF

R6532
0.00 0% 1/32W MF 01005
WIDE_SWIDE_SYNC (BI) → WIDE_SYNC_CONN

LPDP FILTERS

LPDP_RCAM1_TO_SOC_DATA_N<0> (OUT)	C6510 GND_VOID=TRUE 01005 6.3V	0.1UF 20% X5R-CERM GND_VOID=TRUE → LPDP_RCAM1_TO_SOC_DATA_C_N<0>
LPDP_RCAM1_TO_SOC_DATA_P<0> (OUT)	C6511 GND_VOID=TRUE 01005 6.3V	0.1UF 20% X5R-CERM GND_VOID=TRUE → LPDP_RCAM1_TO_SOC_DATA_C_P<0>
LPDP_RCAM1_TO_SOC_DATA_N<1> (OUT)	C6512 GND_VOID=TRUE 01005 6.3V	0.1UF 20% X5R-CERM GND_VOID=TRUE → LPDP_RCAM1_TO_SOC_DATA_C_N<1>
LPDP_RCAM1_TO_SOC_DATA_P<1> (OUT)	C6513 GND_VOID=TRUE 01005 6.3V	0.1UF 20% X5R-CERM GND_VOID=TRUE → LPDP_RCAM1_TO_SOC_DATA_C_P<1>
LPDP_SOC_TO_RCAM1_AUX (BI)	C6518 01005 6.3V	0.1UF 20% X5R-CERM → LPDP_WIDE_BI_AP_AUX_CONN

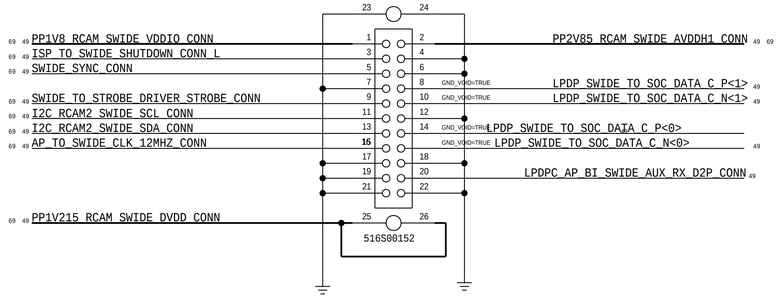
C6519 56PF 5% 25V NP0/C0G 01005 NOSTUFF

SYNC_MASTER=JASPER_WILL_ADAM
SYNC_DATE=01/09/2019
PAGE TITLE
CAMERA: B2B RCAM1 WIDE
DRAWING NUMBER
SIZE

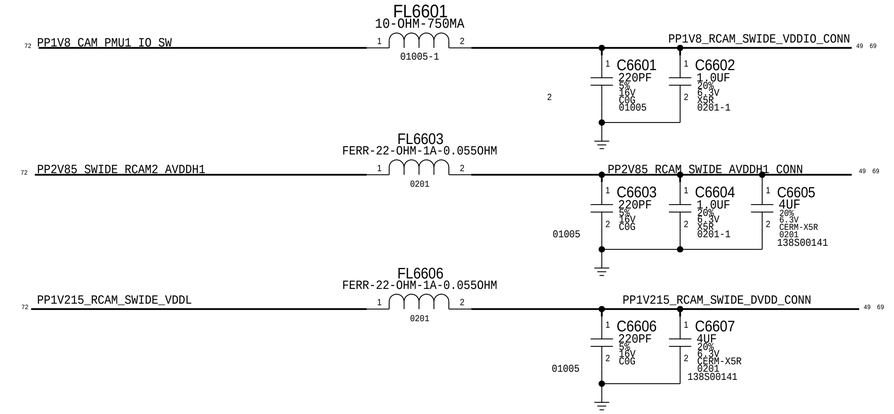
SWIDE RCAM2 B2B

OHIO
FLEX PLUG: 516S00151
MLB RCPT: 516S00152
MATCH J417_RCAM_OHIO_PLAYERS_FLEX 2.0.0

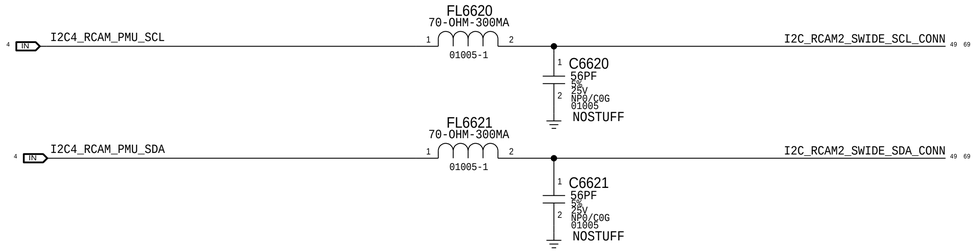
J6600
AA26D-S022VA1
F-ST-SM



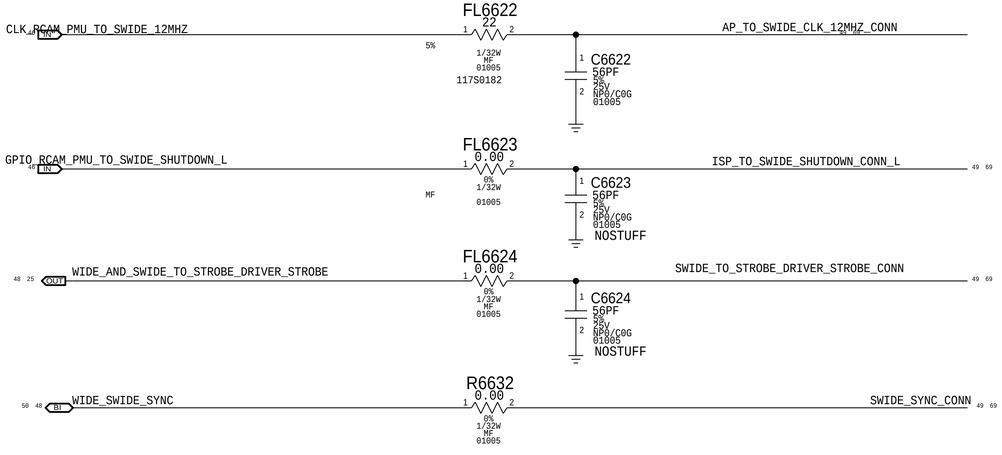
POWER FILTERING



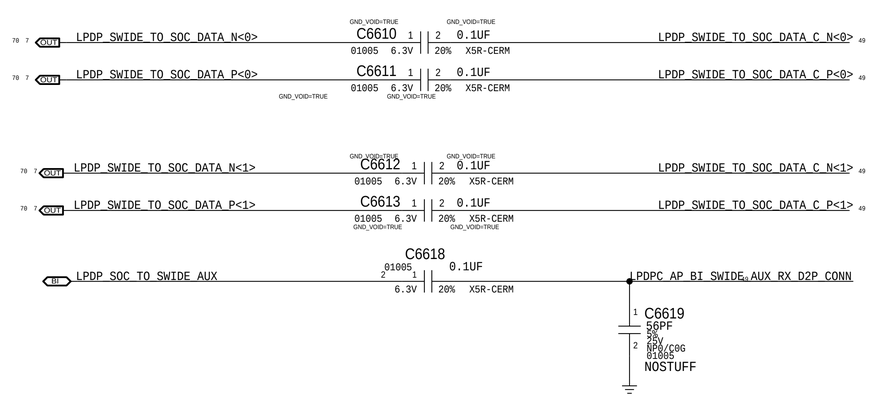
ISP I2C



IO FILTERS



LPDP FILTERS



SYNC_MASTER=J418_SYNC_P2 SYNC_DATE=05/16/2019

PAGE TITLE

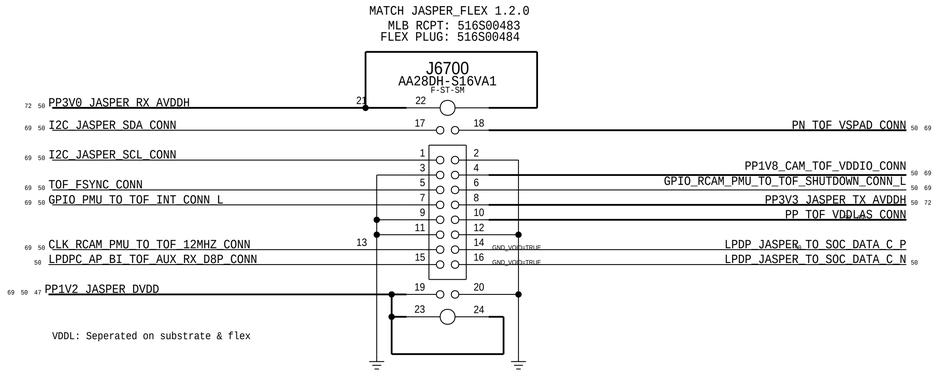
CAMERA: B2B RCAM2 SWIDE

DRAWING NUMBER

SIZE

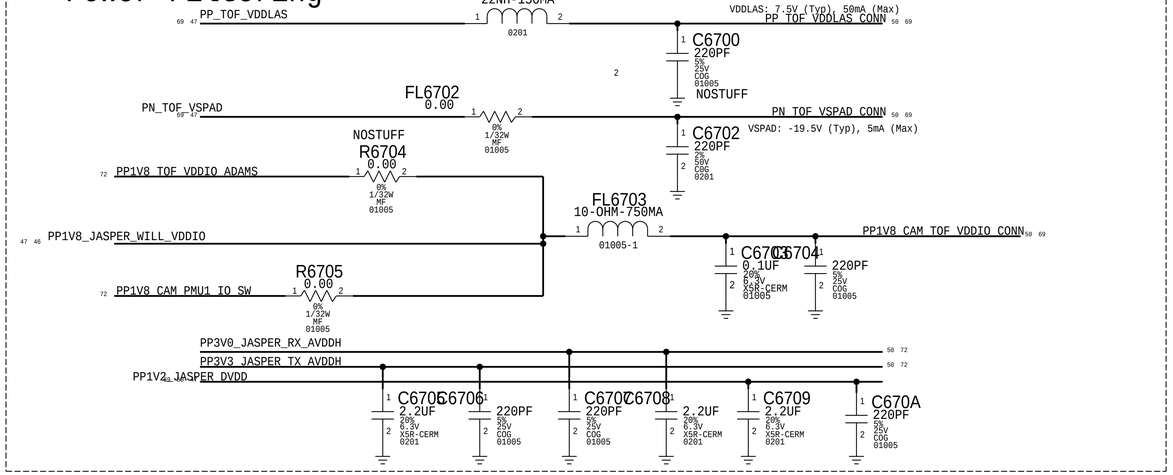
JASPER B2B

MATCH JASPER_FLEX 1.2.0
MLB RCPT: 516S00483
FLEX PLUG: 516S00484

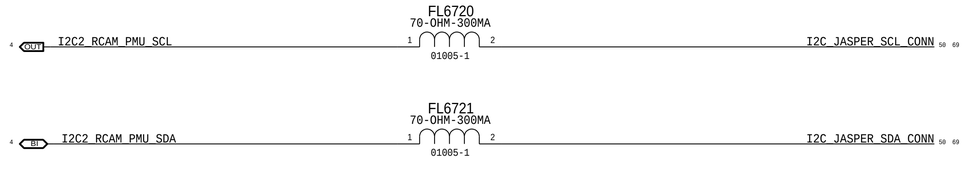


VDDL: Seperated on substrate & flex

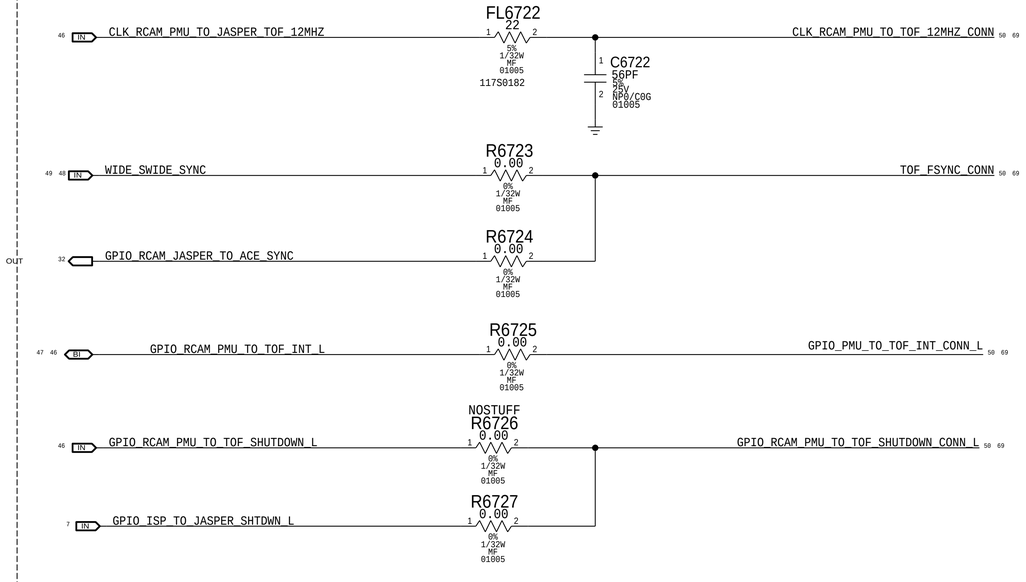
Power Filtering



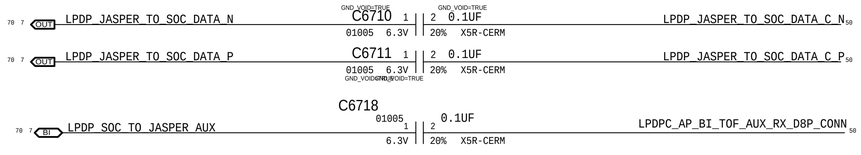
JASPER I2C



IO Filters



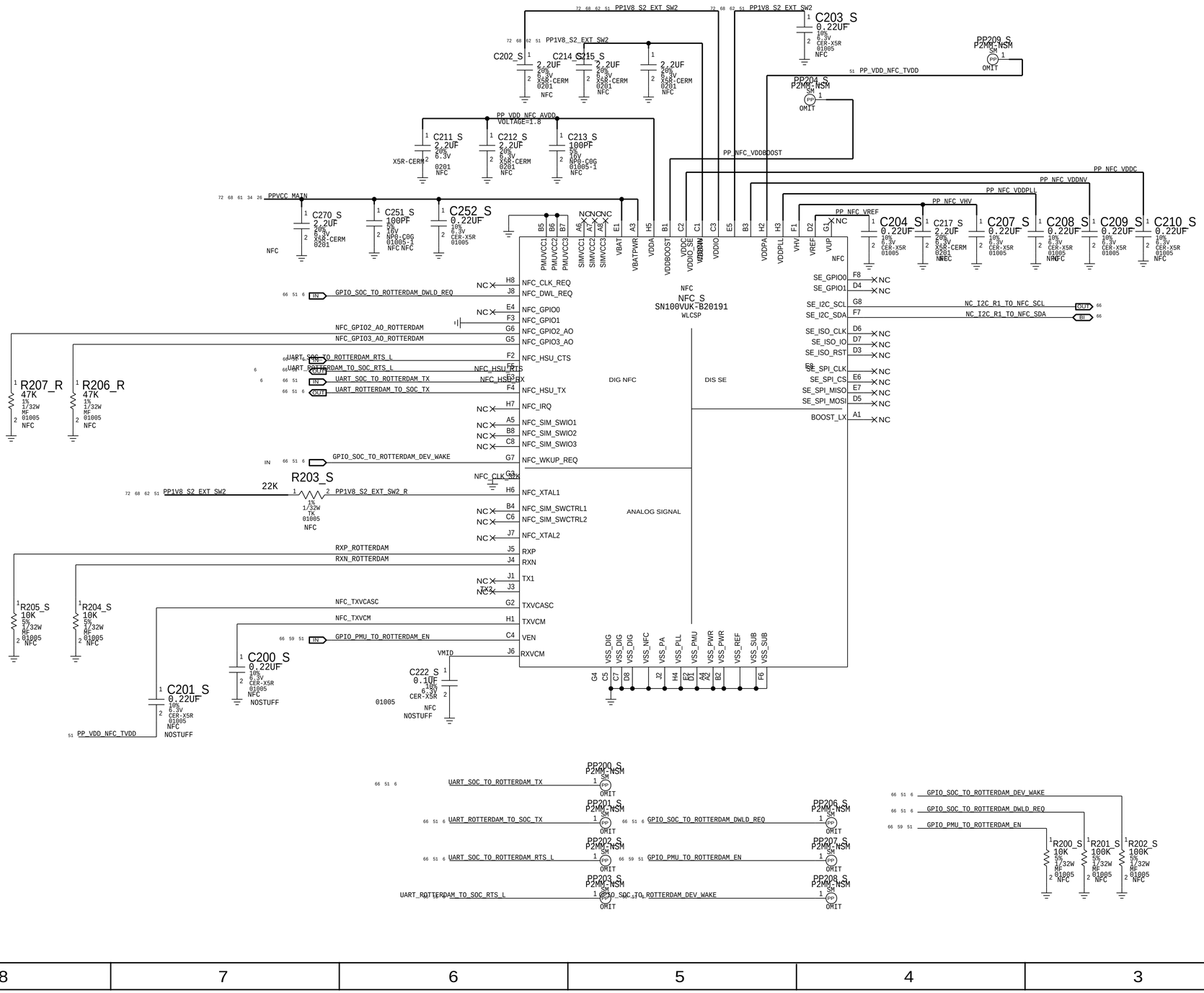
LPDP Filters



SYNC_MASTER=J418_SYNC_P2
SYNC_DATE=05/16/2019
PAGE TITLE
CAMERA: B2B JASPER
DRAWING NUMBER
SIZE

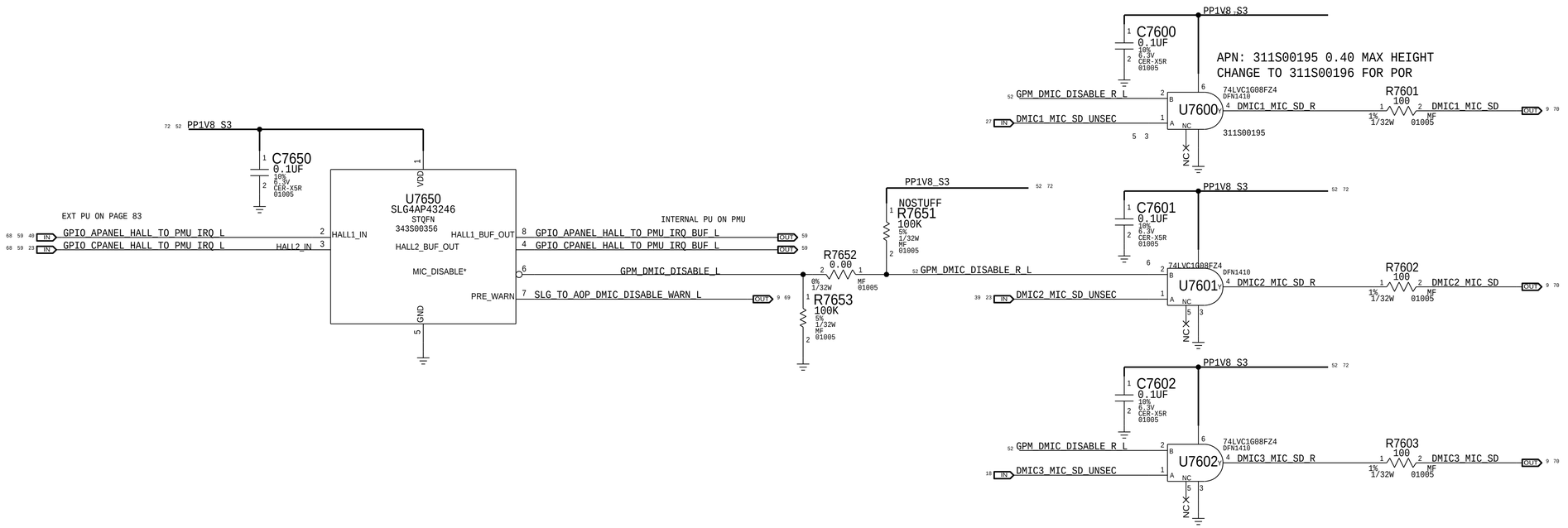
STOCKHOLM

NFC CONTROLLER



SYNC_MASTER=STOCKHOLM_MLB_0.4.0	SYNC_DATE=02/26/2019
PAGE TITLE	
NFC CONTROLLER	
DRAWING NUMBER	SIZE

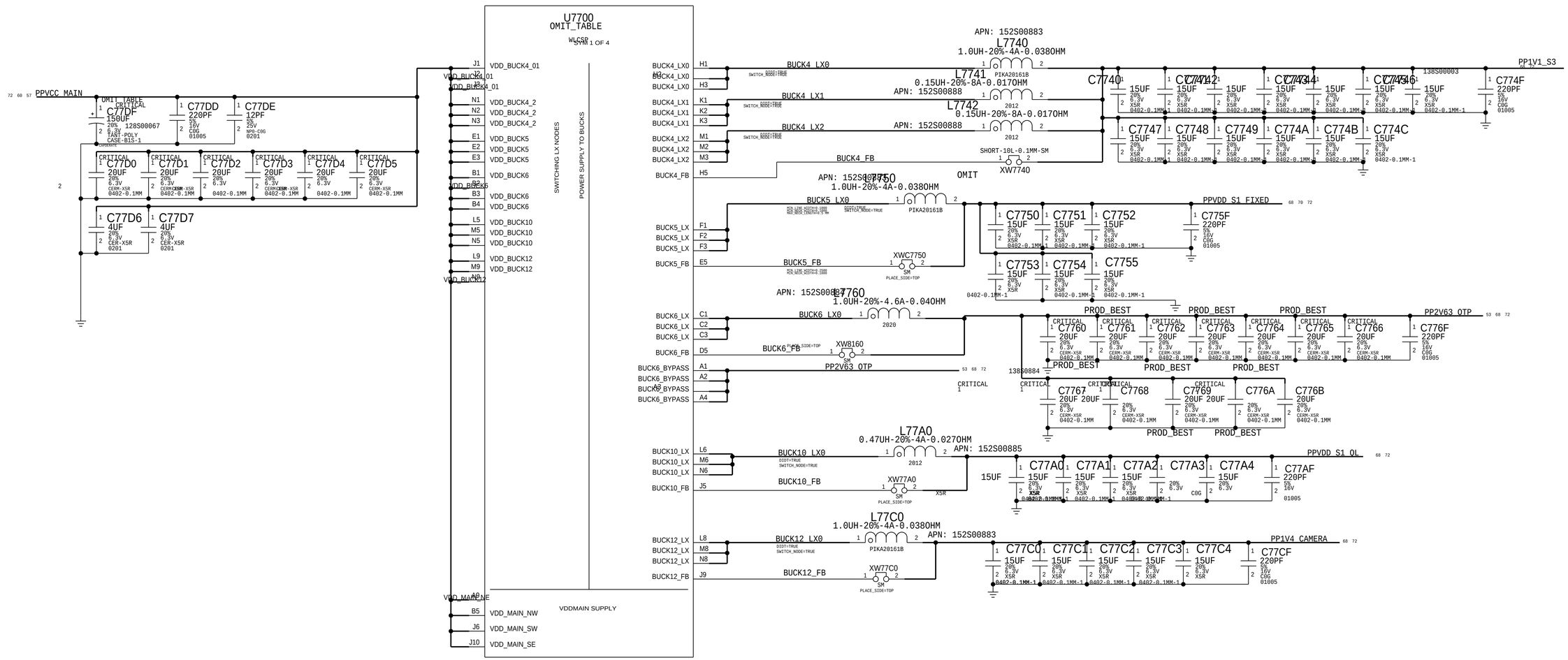
GPM: DMIC GATING



SYNC_MASTER=J421_P2_CHINA	SYNC_DATE=05/15/2019
PAGE TITLE	GPM
DRAWING NUMBER	SIZE

APOLLO PMU (1/3)

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S00963	152S00885		L77A0,L8490	0.47UH 4A 0.027 OHM 2012
152S00964	152S00888		L7741, ETC.	0.15UH 8A 0.017 OHM 2012
152S01003	152S00888		L7741, ETC.	0.15UH 8A 0.017 OHM 2012



SYNC_MASTER=DEV_REV_0.40 SYNC_DATE=12/17/2017

PAGE TITLE

POWER: APOLLO (1/3)

DRAWING NUMBER

SIZE

APOLLO PMU (2/3)

LDO INPUTS

OMIT_TABLE U7700
APOLLO-STUDY
SYM 2 OF 4
WLCSP

VDD LDO INPUT

72 58 PPVCC_HIGH
C7890 20UF 20% 6.3V CERM-X5R 0402
C7891 20UF 20% 6.3V CERM-X5R 0402

72 PP1V1_S3
C78A0 20UF 20% 6.3V CERM-X5R 0402
C78A1 20UF 20% 6.3V CERM-X5R 0402

72 PP1V4_CAMERA
CRITICAL C78B0 4.3UF 20% 4V CERM 0402
CRITICAL C78B1 4.3UF 20% 4V CERM 0402
C78E0 15UF 20% 6.3V X5R 0402-0.1MM-1
C7892 1UF 10% 6.3V CERM 402

CRITICAL C78E1 4UF 20% 6.3V CER-X5R 0201

72 58 PPVCC_MAIN

TO CHECK: 1.8V
72 58 46 45 PP1V8_S3
C7993 4UF 20% 6.3V CER-X5R 0201-1
CRITICAL
OMIT_TABLE

72 PP1V1_S3
NOSTUFF C7994 1.0UF 20% 6.3V X5R 0201-1

APOLLO_VDD_RTC
C7906 0.22UF 20% X5R 6.3V 0201

C7999 0.1UF 10% 6.3V CERM-X5R 0201
APOLLO_VPUMP

C12	VDD_LDO4
J12	VDD_LDO9
L12	VDD_LDO10
M10	VDD_LDO15
H12	VDD_LDO17
K12	VDD_LDO18
B12	VDD_LDO19
D12	VDD_LDO20
E12	VDD_LDO21
M11	VDD_LDO22
F12	VDD_LDO23
G12	VDD_LDO24
M12	VDD_LDO26
A11	VDD_LDO27
B9	DVDD
B10	VRTC
B6	VBUCK3
B7	VBUCK4
B8	VPUMP

VRTC SUPPLY PINS

LOADSWITCH RELATED BALLS

SWITCH INPUTS

LDO OUTPUTS

LDO OUTPUT

VLDO4	C13	(300MA; 1.2-3.68V)	PP3V0_ALS
VLDO9	J13	(300MA; 1-3.5V)	PP1V215_FRONT_CAM
VLDO10	L13	(1300MA; 0.7-1.25V)	PP0V9_NAND
VLDO15	N10	(400MA; 0.675-1.5V)	PP0V775_S2_AOP
VLDO17	H13	(300MA; 1.2-3.68V)	PP3V3_PENROSE
VLDO18	K13	(400MA; 0.675-1.5V)	APOLLO_LDO18_SPARE
VLDO19	B13	(300MA; 1.2-3.68V)	APOLLO_LDO19_SPARE
VLDO20	D13	(300MA; 1.2-3.68V)	APOLLO_LDO20_SPARE
VLDO21	E13	(300MA; 1.2-3.68V)	PP2V90_FRONT_CAM
VLDO22	N11	(300MA; 1-3.56V)	PP1V215_PEARL
VLDO23	F13		PP2V85_PEARL
VLDO24	G13		PP3V1_PEARL
VLDO26	M13		PP1V0_S2_R1_SPARE
VLDO27	A12		APOLLO_LDO27_SPARE

CRITICAL C7804 10UF 20% 6.3V CERM-X5R 0402-9
CRITICAL C7809 10UF 20% 6.3V CERM-X5R 0402-9
CRITICAL C12BA 4.3UF 0402 20% 4V CERM
CRITICAL C78A5 1UF 0402 20% 4V CERM
CRITICAL C78A4 1UF 0402 20% 4V CERM
CRITICAL C7815 10UF 20% 6.3V CERM-X5R 0402-9
CRITICAL C7810 10UF 20% 6.3V CERM-X5R 0402-9
CRITICAL C7811 10UF 20% 6.3V CERM-X5R 0402-9
CRITICAL C7816 1.0UF 20% 6.3V X5R 0201-1
CRITICAL C7817 10UF 20% 6.3V CERM-X5R 0402-9
CRITICAL C7814 1.0UF 20% 6.3V X5R 0201-1
CRITICAL C78B6 4.3UF 0402 20% 4V CERM
CRITICAL C7818 10UF 20% 6.3V CERM-X5R 0402-9
CRITICAL C7821 10UF 20% 6.3V CERM-X5R 0402-9
CRITICAL C7822 10UF 20% 6.3V CERM-X5R 0402-9
CRITICAL C7819 10UF 20% 6.3V CERM-X5R 0402-9
C7893 1.0UF 20% 6.3V X5R 0201-1 138S0692
C7894 10UF 20% 6.3V CERM-X5R 0402-9

SWITCH OUTPUTS

BUCK3_SW1
BUCK3_SW3
BUCK4_SW1

PP1V8_SW1_CAM
PP1V8_S3_SW3
PP1V1_SW1_SPARE

C7984 1.0UF 20% 6.3V X5R 0201-1
C7974 1.0UF 20% 6.3V X5R 0201-1
C7986 1.0UF 20% 6.3V X5R 0201-1

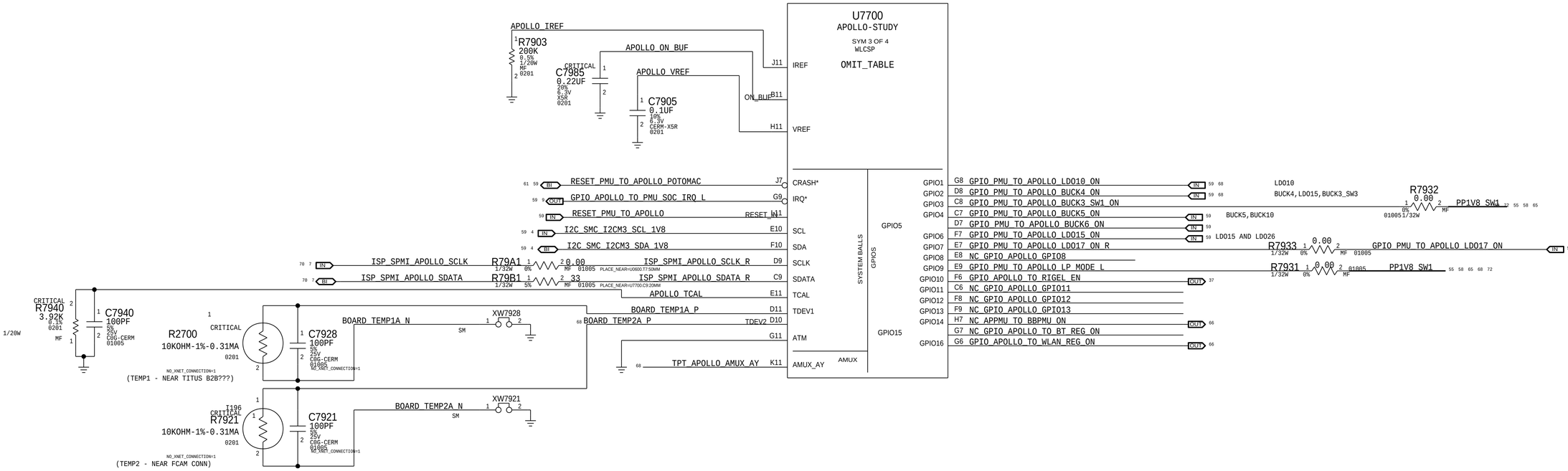
U7700
APOLLO-STUDY
WLCSP
SYM 4 OF 4

A13	VSS		L7 VSS_BUCK1012
C10			M7
C11			N7
C4			L1 VSS_BUCK4
C5			L2
D4			L3
D6			
F4			G1 VSS_BUCK45
F5			G2
G4			G3
G5			D1 VSS_BUCK6
H10			D2
H8			D3
H9	VSS		H6 VSSA_BUCK10
J4			J8 VSSA_BUCK12
K10			H4 VSSA_BUCK4
K4			E4 VSSA_BUCK5
K5			A5 VSSA_BUCK6
K6			F11 VSSA_LDO_E
K7			A10 VSSA_LDO_N
K8			N12 VSSA_LDO_S
K9			G10 VSSA_E
L10			E6 VSS_W
L4			
M4			
N13			
N4			

SYNC_MASTER=DEV_REV_0.40 SYNC_DATE=12/17/2017
PAGE TITLE
POWER: APOLLO (2/3)
DRAWING NUMBER SIZE

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
138S00071	1	CAP,X5R,4UF	C7993	CRITICAL	

APOLLO PMU (3/3)



SYNC_MASTER=DEV_REV_0.40 SYNC_DATE=12/17/2017

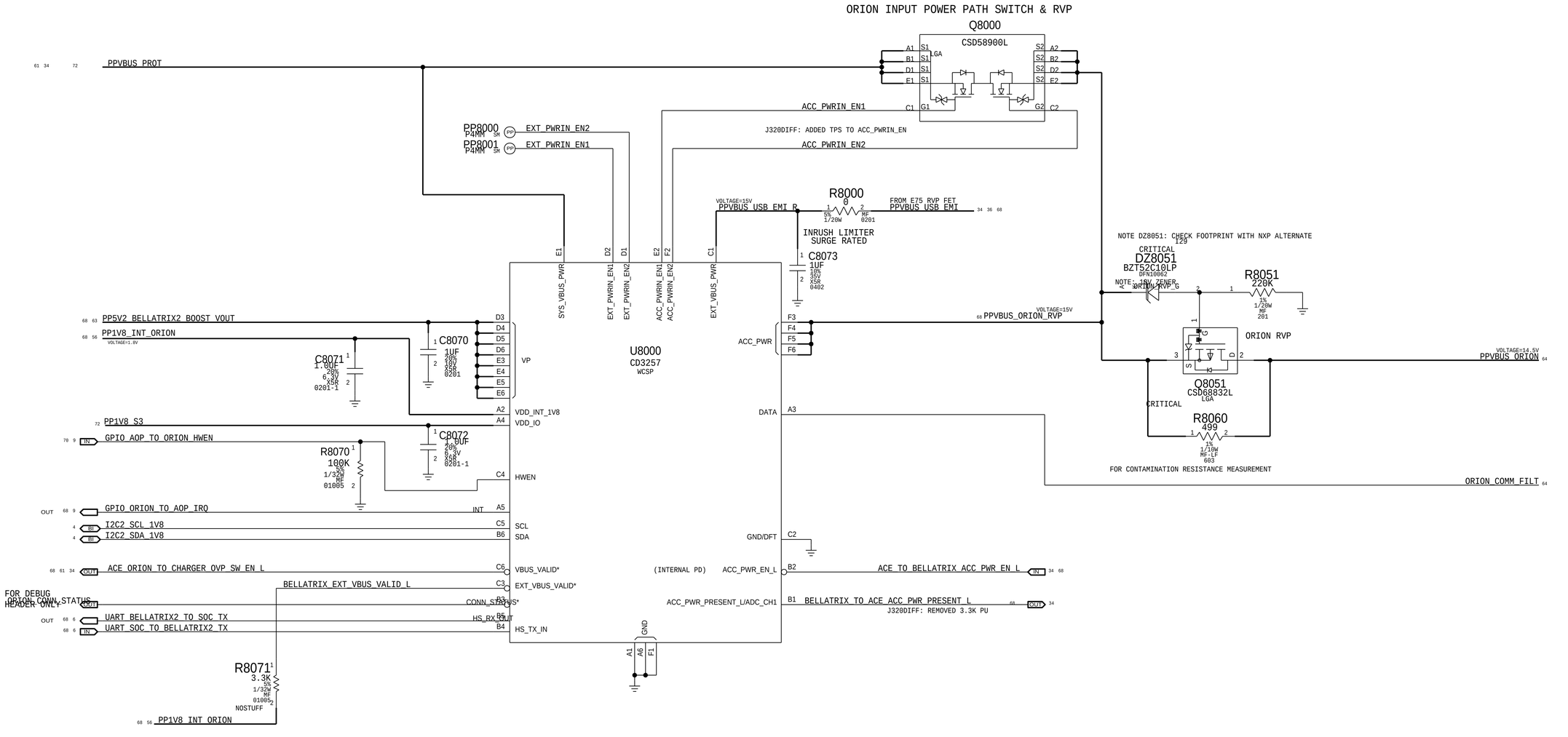
PAGE TITLE

POWER: APOLLO (3/3)

DRAWING NUMBER

SIZE

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
376S00314	376S00125		Q8051	DIODE RVP FET
371S0685	371S00176		DZ8051	ZENER NXP ALT



SYNC_DATE=03/09/2017

PAGE TITLE

ORION CONNECTOR & POWER PATH

DRAWING NUMBER

SIZE

ATHENA BUCKS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
128S00067	4	CAP,TANT, 150UF	C81C0,C81C1,C81C2,C77DF	CRITICAL	

U8100
D2483A0P0VFAVAJ2
WLCSP
SYM 1 OF 5
BUCK

VDD_MAIN_N E7
VDD_MAIN_W G12
VDD_MAIN_NW D14
VDD_MAIN_E J6
VDD_MAIN_S P8
VDD_MAIN_SW R12
VDD_MAIN_S_ADC M11
VDD_BUCK0_01 L1
VDD_BUCK0_01 L2
VDD_BUCK0_01 L3
VDD_BUCK0_23 R1
VDD_BUCK0_23 R2
VDD_BUCK0_23 R3
VDD_BUCK1_01 A3
VDD_BUCK1_01 B3
VDD_BUCK1_01 C3
VDD_BUCK1_23 A7
VDD_BUCK1_23 B7
VDD_BUCK1_23 C7
VDD_BUCK2_01 V8
VDD_BUCK2_01 W8
VDD_BUCK3 V12
VDD_BUCK3 W12
VDD_BUCK7 W1
VDD_BUCK7 W2
VDD_BUCK7 W3
VDD_BUCK7 W4

BUCK0_LX0 K1, K2, K3
BUCK0_LX1 M1, M2, M3
BUCK0_LX2 P1, P2, P3
BUCK0_LX3 T1, T2, T3
BUCK0_FB M5
BUCK0_SNS
BUCK1_LX0 A2, B2, C2, D2
BUCK1_LX1 A4, B4, C4
BUCK1_LX2 A6, B6, C6
BUCK1_LX3 A8, B8, C8
BUCK1_FB E6
BUCK1_SNS G4
BUCK2_LX0 V7, W7
BUCK2_LX1 V9, W9
BUCK2_FB T7
BUCK3_LX V11, W11
BUCK3_FB T11
BUCK7_LX V1, V2, V3
BUCK7_FB T5

PPVCC_MAIN

C81A0 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81A1 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81A2 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81A3 4UF 20% 6.3V CERM-X5R 0201
C81A4 4UF 20% 6.3V CERM-X5R 0201
C81A5 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81A6 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81A7 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81A8 4UF 20% 6.3V CERM-X5R 0201
C81A9 20% 6.3V CERM-X5R 0201
C81AA 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81AB 20UF 20% 6.3V CERM-X5R (CRITICAL)
C81AC 4UF 20% 6.3V CERM-X5R 0201
C81AD 4UF 20% 6.3V CERM-X5R 0201

PPVCC_MAIN

C81C0 150UF 20% 6.3V TANT-POLY CASE-B1S-1 (OMIT_TABLE, CRITICAL)
C81C1 150UF 20% 6.3V TANT-POLY CASE-B1S-1 (OMIT_TABLE, CRITICAL)
C81C2 150UF 20% 6.3V TANT-POLY CASE-B1S-1 (OMIT_TABLE, CRITICAL)
C81CE 220PF 5% 16V C0G 01005
C81CF 12PF 5% 25V NP0-C0G 0201

C81D0 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81D1 4UF 20% 6.3V CERM-X5R 0201 (CRITICAL)
C81D2 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81D3 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81D4 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81D5 20UF 20% 6.3V CERM-X5R 0402-0.1MM (CRITICAL)
C81D6 4UF 20% 6.3V CERM-X5R 0201
C81D7 4UF 20% 6.3V CERM-X5R 0201
C81D8 4UF 20% 6.3V CERM-X5R 0201
C81D9 4UF 20% 6.3V CERM-X5R 0201
C81DA 4UF 20% 6.3V CERM-X5R 0201
C81DB 4UF 20% 6.3V CERM-X5R 0201
C81DC 4UF 20% 6.3V CERM-X5R 0201
C81DD 4UF 20% 6.3V CERM-X5R 0201
C81DE 4UF 20% 6.3V CERM-X5R 0201
C81DF 4UF 20% 6.3V CERM-X5R 0201
C81DG 4UF 20% 6.3V CERM-X5R 0201
C81DH 4UF 20% 6.3V CERM-X5R 0201
C81DI 4UF 20% 6.3V CERM-X5R 0201
C81DJ 4UF 20% 6.3V CERM-X5R 0201
C81DK 4UF 20% 6.3V CERM-X5R 0201
C81DL 4UF 20% 6.3V CERM-X5R 0201
C81DM 4UF 20% 6.3V CERM-X5R 0201
C81DN 4UF 20% 6.3V CERM-X5R 0201

BUCK0_LX0

L8100 1.0UH-20%-4A-0.038OHM PIKA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00883
C8100 C8101 C8102 C8103 C8104 C8105 C8106 15UF 20% 6.3V X5R 0402-0.1MM-1
PPVDD_CPU 68 72

BUCK0_LX1

L8101 0.15UH-20%-8.8A-0.015OHM PIIA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00887
C8107 C8108 C8109 C810A C810B C810C C810D 15UF 20% 6.3V X5R 0402-0.1MM-1

BUCK0_LX2

L8102 0.15UH-20%-8.8A-0.015OHM PIIA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00887
C810E C810F C810G C810H C810I 15UF 20% 6.3V X5R 0402-0.1MM-1
C810M 220PF 5% 16V C0G 01005

BUCK0_LX3

L8103 0.15UH-20%-8.8A-0.015OHM PIIA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00887

BUCK0_FB

XW8100 SM PLACE_SIDE=TOP
PPVDD_CPU 12 72

BUCK0_SNS

ADC_SOC_TO_PMU_VDD_CPU IN 12 59 68

BUCK1_LX0

L8110 1.0UH-20%-4A-0.038OHM PIKA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00883
C8110 C8111 C8112 C8113 C8114 C8115 C8116 15UF 20% 6.3V X5R 0402-0.1MM-1
PPVDD_GPU 68 72

BUCK1_LX1

L8111 0.15UH-20%-8.8A-0.015OHM PIIA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00887
C8117 C8118 C8119 C811A C811B C811C C811D 15UF 20% 6.3V X5R 0402-0.1MM-1

BUCK1_LX2

L8112 0.15UH-20%-8.8A-0.015OHM PIIA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00887
C811E C811F C811G C811H C811I 15UF 20% 6.3V X5R 0402-0.1MM-1
C811M 220PF 5% 16V C0G 01005

BUCK1_LX3

L8113 0.15UH-20%-8.8A-0.015OHM PIIA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00887

BUCK1_FB

XW8110 SM PLACE_SIDE=BOTTOM
PPVDD_GPU

BUCK1_SNS

ADC_SOC_TO_PMU_VDD_GPU IN 12 59 68

BUCK2_LX0

L8120 1.0UH-20%-4A-0.038OHM PIKA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00883
C8120 C8121 C8122 C8123 15UF 20% 6.3V X5R 0402-0.1MM-1
PPVDD_S1_SOC 68 70 72

BUCK2_LX1

L8121 0.15UH-20%-8A-0.017OHM 2012 DIDT=TRUE SWITCH_NODE=TRUE APN:152S00888
C8124 C8125 C8126 C8127 15UF 20% 6.3V X5R 0402-0.1MM-1
C812F 220PF 5% 16V C0G 01005

BUCK2_FB

XW8120 SM PLACE_SIDE=TOP
R8120 0.00 5% 1/32W 01005 NOSTUFF NO_XNET_CONNECTION=1

BUCK3_LX0

L8130 1.0UH-20%-4.6A-0.040HM 2020 DIDT=TRUE SWITCH_NODE=TRUE APN:152S00884
C8130 C8131 C8132 C8133 C8134 C8135 C8136 C8137 C8138 15UF 20% 6.3V X5R 0402-0.1MM-1
C813F 220PF 5% 16V C0G
PP1V8_S3 68 72

BUCK3_FB

XW8130 SM PLACE_SIDE=TOP

C1280 1UF 20% 6.3V CERM (CRITICAL) 0402
C1281 2.2UF 20% 6.3V X5R-CERM 0201
C1282 2.2UF 20% 6.3V X5R-CERM 0201

BUCK7_LX0

L8170 1.0UH-20%-4A-0.038OHM PIKA20161B DIDT=TRUE SWITCH_NODE=TRUE APN:152S00883
C8170 C8171 C8172 C8173 C8174 15UF 20% 6.3V X5R 0402-0.1MM-1
C817F 220PF 5% 16V C0G 01005
PPVDD_CPU_SRAM 68 70 72

BUCK7_FB

XW8170 SM PLACE_SIDE=TOP

SYNC_MASTER=DEV_REV_0.40
SYNC_DATE=12/17/2017
PAGE TITLE
POWER: ATHENA (1/4)
DRAWING NUMBER
SIZE

ATHENA PMU (2/4)

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
197S0399	197S0392		Y8200	RDAR://PROBLEM/9936684
138S0703	138S0648		C8233,ECT	ALT FOR 4.7UF,6.3V,0402

U8100 D2483A0P0VFAVAJ2 WLCSP SYM 5 OF 5 VSS

B15, C10, C11, C12, C14, C15, C16, D3, D4, D6, D7, D8, D9, D16, E3, E16, F3, F6, F7, G3, G13, H3, H5, H6, H13, J4, J5, J11, K4, K6, L6, M4, N11, T4, T12, U5, U7, U8, U9, U10, U11, U16, U17, U18, V4, V18, W18	VSS	
N1, N2, N3, N4	VSS_BUCK0	
J1, J2, J3	VSS_BUCK011	
U1, U2, U3, U4	VSS_BUCK07	
A1	VSS_BUCK1_0	
A5	VSS_BUCK1_1	
B1, B5, C1, C5, D1, D5	VSS_BUCK1	
E1, E2	VSS_BUCK11	
A9, B9, C9	VSS_BUCK19	
V6, W6	VSS_BUCK2	
V10, W10	VSS_BUCK23	
B13, A13	VSS_BUCK8	
A15, A16, A17, A18, D17, D18, F17, F18	VSS_BOOST	
H14, H15, H16, L14, L15, L16, P14, P15, P16	VSS_IDAC	
P4	VSSA_BUCK0	
G5	VSSA_BUCK111	
U6	VSSA_BUCK2	
U12	VSSA_BUCK3	
W5	VSSA_BUCK7	
G11	VSSA_BUCK89	
R17	VSS_RTC	
C13	AVSS_BOOST	
T14	AVSS_IDAC	
F16, T17	AVSS_LDO	
H11	AVSS_N	
G6	AVSS_NE	
F15	AVSS_NW	
L4	AVSS_SE	
R4	PVSS_S	

LDO INPUTS

U8100 D2483A0P0VFAVAJ2 WLCSP SYM 3 OF 5

72 54 PPVCC_HIGH → G17 VDD_LDO1
- C8292 20UF 20% 6.3V CERM-X5R 0402
- H17 VDD_LDO2
- J17 VDD_LDO3
- K17 VDD_LDO5
- V17 VDD_LDO6
- V16 VDD_LDO_6_1
- L17 VDD_LDO7
- M17 VDD_LDO8
- H12 VDD_LDO11

72 54 PPVCC_MAIN → P17 VDD_LDO13
- V15 VDD_LDO14
- U15 VDD_LDO16

72 PP1V8_SW1
- C8294 4UF 20% 6.3V CERM-X5R 0201
- C8299 0.1UF 10% 6.3V CERM-X5R 0201

PMU_VPUMP → U13 VPUMP

PMU_VDD_RTC → D13 VRTC_N, M6 VRTC_E

K11 DVDD

PMU_VREF → H12 VREF
- C8201 0.22UF 20% 6.3V X5R 0201
- C8202 0.1UF 10% 6.3V CERM-X5R 0201

PMU_IREF → J12 IREF
- R8201 200K 0.5% 1/20W MF 0201
- C8203 0.1UF 20% 6.3V X5R-CERM 0100S NOSTUFF

T13 ON_BUF

72 68 (30MA; 1.8V) PP1V8_ALWAYS
- C8260 0.22UF 20% 6.3V X5R 0201 CRITICAL

72 54 46 45 PP1V8_S3 → V13 VBUCK3
- C8293 1.0UF 20% 6.3V X5R 0201-1
- C8295 1.0UF 20% 6.3V X5R 0201-1

V14 VBUCK3

BUCK3_SW1, BUCK3_SW2

LDO OUTPUTS

VLDO1 G18 (300MA; 1.2-3.68V) → PP3V3_S2_ACE 68 72

VLDO2 H18 (100MA; 1.2-1.805V) → ATHENA_LDO2_SPARE 72

VLDO3 J18 (300MA; 1.2-3.68V) → PP2V95_S2_THROTTLE
- C8206 4UF 20% 6.3V CER-X5R 0201 CRITICAL
- C8200 4UF 20% 6.3V CER-X5R 0201 CRITICAL

VLDO5 K18 (300MA; 1.2-3.68V) → PP3V3_S2_REDRIVER 68 72

VLDO6 W16 (250MA; 2.5-3.6V) → PP3V3_LDO6_SPARE 72

VLDO6 W17
- C8220 1.0UF 20% 6.3V X5R 0201-1 CRITICAL
- C8217 4UF 20% 6.3V CER-X5R 0201 CRITICAL

VLDO7 L18 (300MA; 1.2-3.68V) → PP3V3_USB 68 72

(300MA; 1.2-3.68V) → PP3V3_S2_SCORPIUS 68 72

VLDO8 M18
- C8228 4UF 20% 6.3V CER-X5R 0201 CRITICAL
- C8224 4UF 20% 6.3V CER-X5R 0201 CRITICAL

VLDO11 N18 (300MA; 1.2-3.68V) → PP3V0_S2_MISC 68 72

VLDO13 P18 (300MA; 1.2-3.68V) → PP3V3_S2_GRAPE 68 72

VLDO14 W15 (300MA; 0.675-1.5V) → PP1V2_SOC 68 72
- C8244 4UF 20% 6.3V CER-X5R 0201 402 CRITICAL
- C8248 4.7UF 20% 6.3V X5R CRITICAL
- C8249 4.7UF 20% 6.3V X5R 402 CRITICAL
- C8250 4.7UF 20% 6.3V X5R CRITICAL
- C8240 4UF 20% 6.3V CER-X5R 0201 CRITICAL

VLDO16 U14 (300MA; 1.0-3.5V) → PP1V8_S2_LDO_SCORPIUS 68 72

BUCK3_SW1 W13 → PP1V8_SW1 55 65 68 72
- C8256 4UF 20% 6.3V CER-X5R 0201 CRITICAL
- C8270 1.0UF 20% 6.3V X5R 0201-1

BUCK3_SW2 W14 → PP1V8_S2_GRAPE 68 72
- C8274 1.0UF 20% 6.3V X5R 0201-1

SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=01/03/2018

PAGE TITLE: POWER: ATHENA (2/4)

DRAWING NUMBER | SIZE

ATHENA PMU (3/4)

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
118S0764	118S0717		R8340	RDAR://PROBLEM/8380367
107S0150	107S0208		R8321-R8328	RDAR://PROBLEM/8380367

PLACE CAPS AND XWS NEAR PMU

(TEMP2 - NEAR DISPLAY CONN)
(TEMP3 - NEAR WIFI)
(TEMP3 - NEAR FH)
(TEMP5 - NEAR NAND
(TEMP6 - NEAR POTOMAC)
(TEMP7 - NEAR PMU)
(TEMP8 - NEAR SOC)

U8100
D2483A0P9VFAVAJ2
WLCSP
SYM 4 OF 5

AMUX: AMUX_A1, AMUX_A2, AMUX_A3, AMUX_AY, AMUX_B0, AMUX_B1, AMUX_B2, AMUX_B3, AMUX_BY
TDEV: TDEV1, TDEV2, TDEV3, TDEV4, TDEV5, TDEV6, TDEV7, TDEV8
BUTTON: BUTTONO1, BUTTONO2, BUTTONO3
OTHER: SHDWN, BRICK_ID, IM_MEAS, SLEEP_32K, OUT_32K, CRASH*, VDD_HI_UVLO_DET, BUCK1_THROTTLE1*, BUCK1_THROTTLE0*, BUCK0_THROTTLE1*, BUCK0_THROTTLE0*
GPIO: GPIO1, GPIO2, GPIO3, GPIO4, GPIO5, GPIO6, GPIO7, GPIO8, GPIO9, GPIO10, GPIO11, GPIO12, GPIO13, GPIO14, GPIO15, GPIO16, GPIO17, GPIO18, GPIO19, GPIO20, GPIO21, GPIO22, GPIO23, GPIO24, GPIO25, GPIO26
BUTTON: BUTTON1, BUTTON2, BUTTON3, BUTTON4
RESET: RESET_IN1, RESET_IN2, RESET_IN3, RESET_OUT, RESET*
SERIAL: SCLK, SDATA, SCL, SDA
DROOP: FORCE_SYNC, SYS_ALIVE, IRQ_IN*, IRQ*, PRE_UVLO, FAULT_OUT*, REQUEST_DFU, ACTIVE_RDY, ATM

BUTTON PULLUPS

POWER: ATHENA (3/4)

SYNC_MASTER=DEV_REV_0.40
SYNC_DATE=12/17/2017
PAGE TITLE
DRAWING NUMBER
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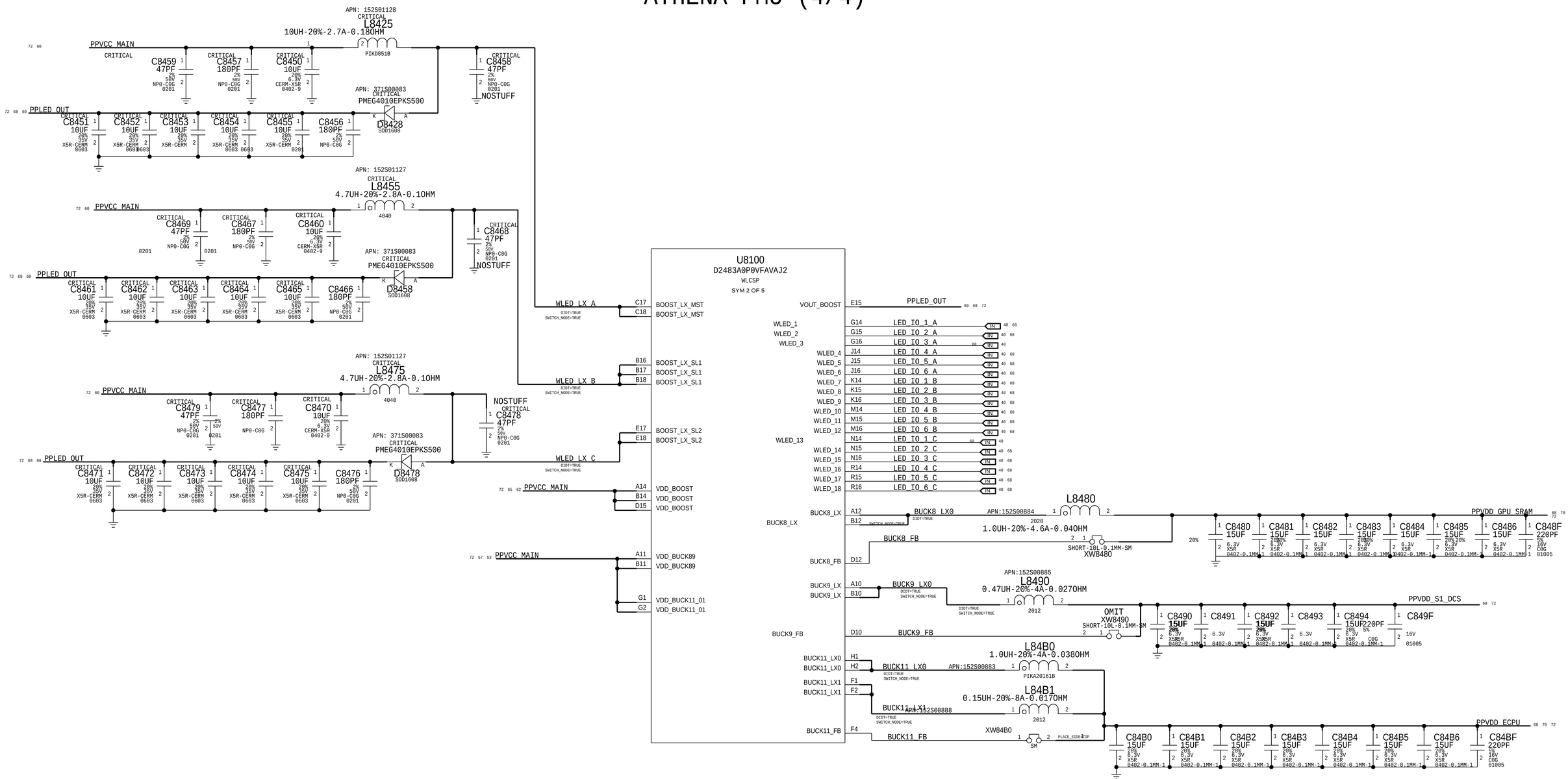
ATHENA PMU (4/4)



SYNC_MASTER=DEV_REV_0.40 SYNC_DATE=12/17/2017

PAGE TITLE

POWER: ATHENA (4/4)

DRAWING NUMBER

SIZE

POTOMAC

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
376S00182	376S00070		Q8581	NFET 20V 14A 0.0080HM
376S00182	376S00126		Q8580	NFET 20V 18A 0.0040HM
376S00071	376S00126		Q8580	NFET 20V 18A 0.0040HM

U8500
D2559A0P0V2AVAC2
WLCSP
OMIT_TABLE

PPVBUS_PROT
VBUS
ACE_ORION_TO_CHARGER_OVP_SW_EN_L
OVP_SW_EN_L_R
RESET_PMU_TO_APOLLO_POTOMAC
NC_POTOMAC_BOOST_PRE_UVLO
GPIO_PMU_TO_POTOMAC_LINCH_EN
GPIO_PMU_TO_POTOMAC_LINCH_EN_R
GPIO_POTOMAC_TO_PMU_WAKE
USB_VBUS_DETECT
POTOMAC_HV_CHG_OVERRIDE
GPIO_PMU_TO_POTOMAC_BOOST_EN
PP1V8_SW1
GPIO_POTOMAC_TO_SOC_TO_PMU_IRQ_L
I2C_SMC_I2CM0_SCL_1V8
I2C_SMC_I2CM0_SDA_1V8
BATT_NTC_P
PPVDD_REF_CHG
PPVDD_POTOMAC_GPIO
PPVDD_POTOMAC_CORE
POTOMAC_IREF
POTOMAC_VREF
POTOMAC_ADC_REF
PP1V8_ALWAYS
GPIO_POTOMAC_TO_PMU_WAKE
GPIO_POTOMAC_TO_SOC_TO_PMU_IRQ_L
VBUS_OVP_OFF(GPIO1)
CRASH_SNS(GPIO2)
VSYS_HI_UVLO(GPIO3)
LINCH_EN(GPIO4)
WAKEUP(GPIO5)
USB_VBUS_DET(GPIO6)
HV_CHG_OVERRIDE(GPIO7)
BOOST_EN(GPIO8)
IRQ*
SCL
SDA
TBAT
VDD_REF_CHARGE
VDD_REF_CHARGE_PH0
VDD_REF_CHARGE_PH1
VDD_GPIO
VDDCORE_SNS
VDDCORE_DIG
IREF
VREF
ADC_REF
ADC_IN_P
ADC_IN_N
H_TEST_MODE
VSSA_1
VSSA_2
VSSA_3
VSS_PH0
VSS_PH1
VSS_BUBO
VSS_BOOST
VSS_BG_SENS
VSSD_FRAME
VSS_ESD
VCENTER_3
VCENTER_0
VCENTER_1
VCENTER_1_HS
VBOOT_N0
VBOOT_DRV0
LX_BOOT_PH0
VBOOT_N1
VBOOT_DRV1
LX_BOOT_PH1
BOOST_HS_SUPPLY
BOOST_HS_SOURCE
VSYS_HI_S
VSYS_HI
VSYS_HI_EXT_DIO
VSYS_LO_BYPASS
LX_PH0
LX_BUBO
VSYS_LO_BUBO
LX_BOOST
LX_PH1
VSYS_LO_S
VSYS_LO_1
VSYS_LO_2
VSYS_LO_EXT_DIO
IBAT_1
IBAT_2
VBAT

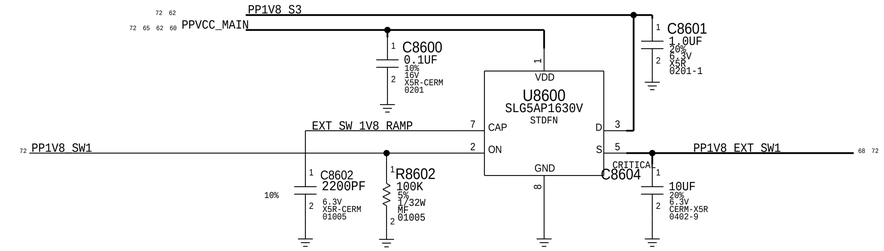
PPVCENTER
C8555 0.1UF 10% 35V CER-X5R 0201
C8550 10UF 20% 35V X5R-CERM 0603
C8557 0.1UF 10% 35V CER-X5R 0201
C8551 10UF 20% 35V X5R-CERM 0603
C8556 0.1UF 10% 35V CER-X5R 0201
C8552 10UF 20% 35V X5R-CERM 0603
PPVCENTER_1_HS
C8558 0.1UF 10% 25V X5R 0201
POTOMAC_VBOOT0
C8560 0.1UF 10% 16V X5R-CERM 0201
POTOMAC_VBOOT1
C8561 0.1UF 10% 16V X5R-CERM 0201
POTOMAC_HS_SRC
C8562 0.1UF 10% 16V X5R-CERM 0201
POTOMAC_HS_SUPPLY
POTOMAC_HIGH_DIO
POTOMAC_LOW_DIO
POTOMAC_LX_PH0
POTOMAC_LX_BUBO
POTOMAC_LX_PH1
DIDT=TRUE
L8570 1UH-20%-6.4A-0.038OHM PIKA32251B-SM
L8571 0.47UH-20%-8.6A-0.024OHM PIKA32251B-SM
PPVCC_HIGH
C8567 47UF 20% 6.3V CER-X5R 0603
C8568 47UF 20% 6.3V CER-X5R 0603
C8569 47UF 20% 6.3V CER-X5R 0603
C8563 47UF 20% 6.3V CER-X5R 0603
C8564 47UF 20% 6.3V CER-X5R 0603
C8565 47UF 20% 6.3V CER-X5R 0603
C8566 47UF 20% 6.3V X5R 0603
C8580 20UF 20% 6.3V CERM-X5R 0402-0.1MM
C8588 20UF 20% 6.3V CERM-X5R 0402-0.1MM
C8589 20UF 20% 6.3V CERM-X5R
C8581 20UF 20% 6.3V CERM-X5R 0402-0.1MM
C8582 20UF 20% 6.3V CERM-X5R 0402-0.1MM
C8583 20UF 20% 6.3V CERM-X5R
C8584 1.0UF 20% 6.3V X5R 0201-1
R8581 470K 5% 1/32W MF 01005 NOSTUFF
Q8581 FDMC6688P MLP3.3X3.3
PPVCC_MAIN
C85A0 10UF 20% 10V X5R-CERM 0402-7
C8570 10UF 20% 10V X5R-CERM 0402-7
C8571 10UF 20% 10V X5R-CERM
C8572 10UF 20% 10V X5R-CERM 0402-7
C8573 10UF 20% 10V X5R-CERM
C8574 10UF 20% 10V X5R-CERM 0402-7
C85A1 10UF 20% 10V X5R-CERM
C85A2 10UF 20% 10V X5R-CERM 0402-7
R8580 470K 5% 1/32W MF 01005 NOSTUFF
Q8580 FDMC6686P POWER33
PPBATT_VCC
C8593 47UF 20% 6.3V CER-X5R 0603
C85A3 4.7UF 20% 16V X5R 0402-1
C8590 47UF 20% 6.3V CER-X5R 0603
C8599 47UF 20% 6.3V CER-X5R 0603
C8591 10UF 20% 6.3V CERM-X5R 0402-9
C8592 10UF 20% 6.3V CERM-X5R 0402-9
PPBATT_POS_RC
R8591 0.5 1% 1/16W MF 402
NOTE: FOR NO BATTERY SITUATION
R8593 499 1% 1/20W MF 201
R8592 0.00 0% 1/32W 01005 MF
BATT_SNS_R
BATT_SNS

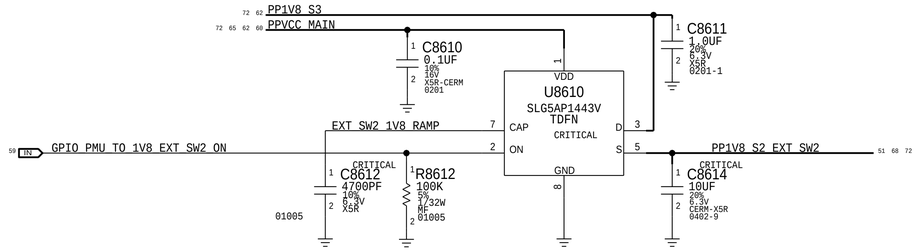
R8520 0.00 0% 1/32W 01005 MF
R8521 0.00 0% 1/32W 01005 MF
R8522 0.00 5% 1/32W 01005 MF
R8523 0.00 0% 1/32W 01005 MF
R8525 10K 5% 1/32W MF 01005
R8526 10K 5% 1/32W MF 01005
C8500 10UF 20% 25V X5R-CERM 0603
C8501 10UF 20% 25V X5R-CERM 0603
C8502 10UF 20% 25V X5R-CERM 0603
C8512 0.1UF 10% 16V X5R-CERM 0201
C8513 10UF 20% 16V X5R 0402-8
C8516 0.1UF 10% 16V X5R-CERM 0201
C8510 0.1UF 10% 16V X5R-CERM 0201
C8511 0.1UF 10% 16V X5R-CERM 0201
R8515 200K 0.5% 1/20W MF 0201
C8515 0.1UF 10% 6.3V CERM-X5R 0201
C8514 0.1UF 10% 16V X5R-CERM 0201

138S00020
132S0444

SYNC_MASTER=DEV_REV_0.40
SYNC_DATE=12/17/2017
PAGE TITLE
POWER: CHARGER
DRAWING NUMBER
SIZE

EXTERNAL POWER SWITCHES





SYNC_MASTER=ARUBADEV_REV_0.30 SYNC_DATE=11/27/2017

PAGE TITLE

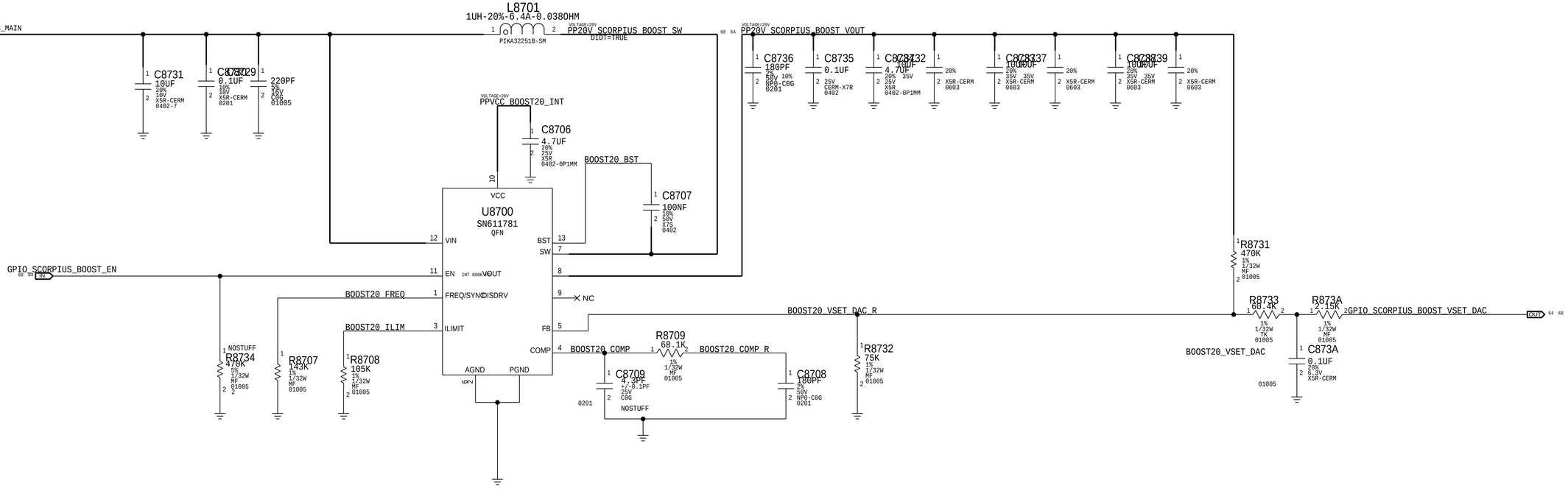
POWER: EXTERNAL SWITCHES

DRAWING NUMBER

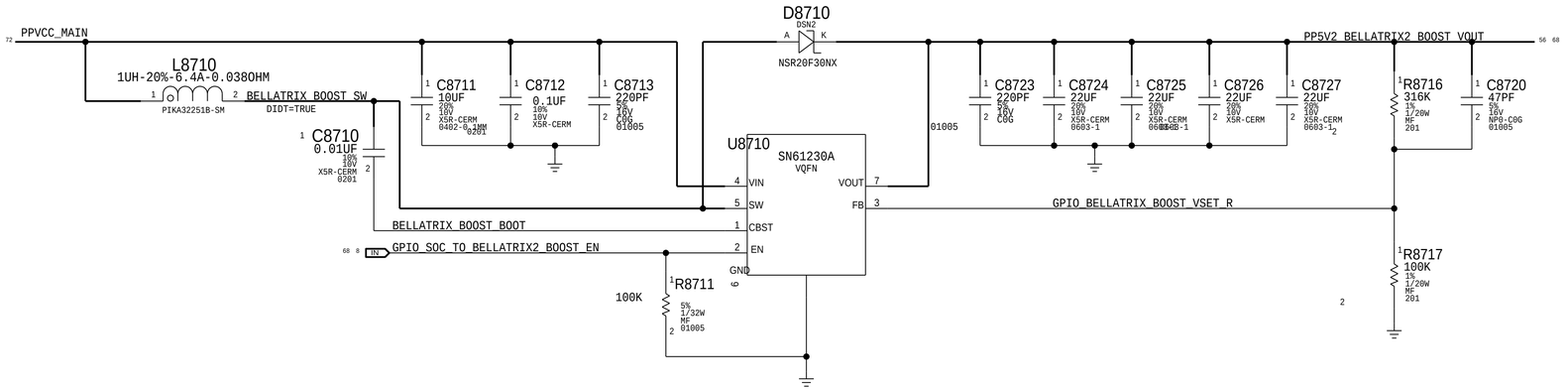
SIZE

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
371S00133	371S00046		D8710	DIODE SCHOTTKY 30V 2A 0603

SCORPIUS BOOST



BELLATRIX BOOST



SYNC_MASTER=MLB_A_REV_0.6 SYNC_DATE=02/20/2018

PAGE TITLE

POWER: SCORPIUS/BELLATRIX2 BOOSTS

DRAWING NUMBER

SIZE

SCORPIUS THROTTLE

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
353S01486	353S01676		U8992	MAX40002, TLV7081, COMP

72 PP2V95_S2_THROTTLE — R8995 2.2K 5% 1/32W MF 01005 — PP2V95_S2_SCORPIUS_FILT — C8995 0.1UF 10% 10V CER 0201

U8992 MAX40002ANS+ WLP: VCC/REF (B1), IN (A2), OUT (A1), GND (B2)

63 PPVCC_MAIN — R8991 0.00 0% 1/32W MF 01005 — SCORP_THROT_IN — NOSTUFF R8992 1.00M 1% 1/32W MF 01005

SCORPIUS_THROTTLE_L — R8994 100 5% 1/32W MF 01005 — GPIO_SCORPIUS_BOOST_EN OUT 63 64 68

72 64 59 41 9 PP1V8_S3 — Q8900 DMN2990UFZ DFN0606

I2C_SMC_I2CM2_SDA_1V8 IN — R8902 0.00 1/32W MP% 01005 — I2C_PULLUP — I2C_SMC_SDA_TRNS — NOSTUFF C8900 22PF 5% 16V CERM 01005-1 — I2C_SMC_GASGAUGE_SDA_1V8_CONN 68 — I2C_PULLUP

72 64 59 41 9 PP1V8_S3 — Q8901 DMN2990UFZ DFN0606

4 I2C_SMC_I2CM2_SCL_1V8 IN — R8903 0.00 1/32W MP% 01005 — I2C_PULLUP — I2C_SMC_SCL_TRNS — NOSTUFF C8901 22PF 5% 16V CERM 01005-1 — I2C_SMC_GASGAUGE_SCL_1V8_CONN 68 — I2C_PULLUP

72 PPBATT_VCC — C8925 22PF 5% 16V CERM 01005-1 — C8929 4.7PF 10PF ±0.25PF 16V NP0-C0G 01005 — C8927 50V 0201

68 61 BATT_SNS

BATTERY CONNECTOR

MATCHES J207_BMU_051-01628_1.0.0

APN: 516-00013

J8900 BATT-J207 F-ST-TH

1 HDQ
2 THERM
3 PACK_POS
4 PACK_NEG
5 SENSE
6
7

4 IN I2C_AOP_I2CM1_SCL_1V8 — FL8995 0.00 0% 1/32W MF 01005 — I2C_SCORPIUS_SCL_1V8_CONN 64 — I2C_PULLUP

BI 4 I2C_AOP_I2CM1_SDA_1V8 — FL8996 0.00 0% 1/32W MF 01005 — I2C_SCORPIUS_SDA_1V8_CONN 64 — I2C_PULLUP

72 PP1V8_S2_LDO_SCORPIUS — FL8992 0.00 0% 1/32W MF 01005 — PP1V8_S2_LDO_SCORPIUS_CONN 64 — C8992 220PF 5% 16V C0G 01005

72 PP1V8_S3 — FL8994 0 5% 1/20W MF 0201 — PP1V8_S2_BUCK_SCORPIUS_CONN 64 68 — C8994 220PF 5% 16V C0G 01005

72 PP3V3_S2_SCORPIUS — FL8991 0.00 0% 1/32W MF 01005 — PP3V3_S2_SCORPIUS_CONN 64 — C8991 220PF 5% 16V C0G 01005

SCORPIUS FLEX CONNECTOR

MATCH J317

MLB: 516S00150

FLEX: 516S00149

J8901 AA37D-S014VA1 F-ST-SM

68 64 63 PP20V_SCORPIUS_BOOST_VOUT	19 20		PP20V_SCORPIUS_BOOST_VOUT
68 64 PP1V8_S2_BUCK_SCORPIUS_CONN	15	GPIO_WLAN_TO_SCORPIUS_TX_IND IN 66 68	
68 66 IN NC_BB_TO_DOTARA_TX_IND	2	1	SOC_TO_SCORPIUSMCU_BOOTQ IN 6 68
64 PP3V3_S2_SCORPIUS_CONN	4	3	GPIO_AOP_TO_SCORPIUSMCU_NRST_L IN 9 68
68 63 IN GPIO_SCORPIUS_BOOST_VSET_DAC	6	5	I2C_SCORPIUS_SCL_1V8_CONN 64
64 PP1V8_S2_LDO_SCORPIUS_CONN	8	7	I2C_SCORPIUS_SDA_1V8_CONN 64
68 20 9 OUT GPIO_GRAPE_TO_SCORPIUS_TIME_SYNC	10	9	GPIO_SCORPIUS_BOOST_EN OUT 63 64 68
68 66 IN GPIO_BT_TO_SCORPIUS_TX_IND	12	11	SWD_SCORPIUS_SWCLK IN 5 68
68 9 OUT GPIO_SCORPIUS_TO_AOP_IRQ	13 14		SWD_SCORPIUS_SWDIO BI 6 68
	18		
	22	21	

C8996 0.1UF 10% 25V X6S-CERM 0201 — C8997 0.01UF 10% 25V X5R-CERM 0201 — C8998 220PF 5% 25V C0G 01005

56 PPVBUS_ORION — FL8950 FERR-220OHM-28%-8A 0603 — C8993 0.1UF 10% 25V X5R-CERM 0402 — C8990 0.022UF 10% 50V X7R 0402 — Q8990 CRITICAL ZXTN3035CLP DFN10063 — O_T_DET_BASE 66 — R8990 3.0K 1% 1/32W MF 01005 — C8950 180PF 5% 50V NP0-C0G 0201 — DZ8900 UCLAMP2411ZA 0201 — PPVBUS_ORION_CONN 68

ORION FLEX CONNECTOR

MLB: 516S00186

FLEX: 516S00185

J8902 BM28P0.6-6DS/2-0.35V F-ST-SM

9 PWR/GND 10
5 6
3 4
1 SIGNAL 2
7 PWR/GND 8
CRITICAL

56 BI ORION_COMM_FILT — 103S00176 R8951 49.9 1% 1/8W 5/8W 0805 — ORION_COMM_FILT_R — FL8951 120-OHM-25%-250MA-0.5DCR 01005 — C8951 0.01UF 10% 10V X5R-CERM 0201 — C8955 15PF 2% 50V C0G 0201 — DZ8901 12V-22PF 0201 — ORION_COMM_CONN 68

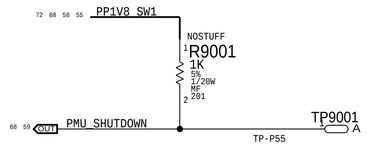
SYNC_MASTER=J317_REV_0_27 SYNC_DATE=05/21/2017

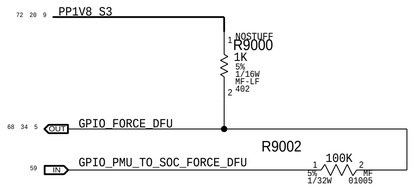
PAGE TITLE

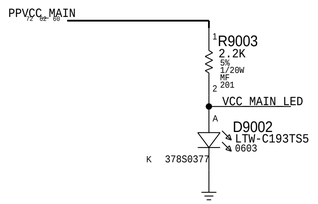
POWER: BATTERY & ORION SCORPIUS CONN

DRAWING NUMBER SIZE

DEBUG RESET ACCESS







SYNC_DATE=03/09/2017

PAGE TITLE

SOC: DEBUG

DRAWING NUMBER

SIZE

CELLULAR AND WLAN/BT ALIASES

BASEBAND

SOC/AOP/PMU GPIOS

6	OUT	NC_BB_TO_AP_RESET_DETECT_1V8_L	MAKE_BASE=TRUE	NC_BB_TO_AP_RESET_DETECT_1V8_L
8	IN	NC_AP_TO_BB_COREDUMP_TRIG_1V8	MAKE_BASE=TRUE	NC_AP_TO_BB_COREDUMP_TRIG_1V8
9	IN	NC_SWD_BB_SWCLK	MAKE_BASE=TRUE	NC_SWD_BB_SWCLK
66 9	BI	NC_SWD_BB_SWDIO	MAKE_BASE=TRUE	NC_SWD_BB_SWDIO
55	IN	NC_APPMU_TO_BBPMU_ON	MAKE_BASE=TRUE	NC_APPMU_TO_BBPMU_ON
59	OUT	NC_PCIE_BB_TO_APPMU_WAKE_1V8_L	MAKE_BASE=TRUE	NC_PCIE_BB_TO_APPMU_WAKE_1V8_L
9	IN	NC_UART_AOP_TO_BB_TXD	MAKE_BASE=TRUE	NC_UART_AOP_TO_BB_TXD
9	OUT	NC_UART_BB_TO_AOP_TXD	MAKE_BASE=TRUE	NC_UART_BB_TO_AOP_TXD
9	OUT	NC_AOP_TO_BBPMU_FORCE_PWM	MAKE_BASE=TRUE	NC_AOP_TO_BBPMU_FORCE_PWM
68 64	OUT	NC_BB_TO_DOTARA_TX_IND	MAKE_BASE=TRUE	NC_BB_TO_DOTARA_TX_IND
46 40 7	IN	GPIO_SOC_TO_GRAPE_DISPLAY_BSYNC1	MAKE_BASE=TRUE	GPIO_SOC_TO_GRAPE_DISPLAY_BSYNC1

PCIE

8	IN	NC_90_PCIE_AP_TO_BB_REFCLK_P	MAKE_BASE=TRUE	NC_90_PCIE_AP_TO_BB_REFCLK_P
8	IN	NC_90_PCIE_AP_TO_BB_REFCLK_N	MAKE_BASE=TRUE	NC_90_PCIE_AP_TO_BB_REFCLK_N
8	OUT	NC_PCIE_AP_BI_BB_CLKREQ_1V8_L	MAKE_BASE=TRUE	NC_PCIE_AP_BI_BB_CLKREQ_1V8_L
66 8	IN	NC_PCIE_AP_TO_BB_PERST_1V8_L	MAKE_BASE=TRUE	NC_PCIE_AP_TO_BB_PERST_1V8_L
8	IN	NC_90_PCIE_AP_TO_BB_TX_P	MAKE_BASE=TRUE	NC_90_PCIE_AP_TO_BB_TX_P
8	IN	NC_90_PCIE_AP_TO_BB_TX_N	MAKE_BASE=TRUE	NC_90_PCIE_AP_TO_BB_TX_N
8	OUT	NC_90_PCIE_BB_TO_AP_TX_P	MAKE_BASE=TRUE	NC_90_PCIE_BB_TO_AP_TX_P
8	OUT	NC_90_PCIE_BB_TO_AP_TX_N	MAKE_BASE=TRUE	NC_90_PCIE_BB_TO_AP_TX_N

I2S

6	IN	I2S0_SOC_TO_BB_BCLK	MAKE_BASE=TRUE	I2S0_SOC_TO_BB_BCLK
6	OUT	I2S0_BB_TO_SOC_DIN	MAKE_BASE=TRUE	I2S0_BB_TO_SOC_DIN
6	IN	I2S0_SOC_TO_BB_DOUT	MAKE_BASE=TRUE	I2S0_SOC_TO_BB_DOUT
6	IN	I2S0_SOC_TO_BB_LRCK	MAKE_BASE=TRUE	I2S0_SOC_TO_BB_LRCK
25	OUT	NC_BB_TO_AP_GSM_TXBURST	MAKE_BASE=TRUE	NC_BB_TO_AP_GSM_TXBURST
42	IN	NC_UART_BB_TO_WLAN_COEX_1V8	MAKE_BASE=TRUE	NC_UART_BB_TO_WLAN_COEX_1V8
42	OUT	NC_UART_WLAN_TO_BB_COEX_1V8	MAKE_BASE=TRUE	NC_UART_WLAN_TO_BB_COEX_1V8

BASEBAND SWD

66 8 NC_PCIE_AP_TO_BB_PERST_1V8_L — R0951 100K 5% 1/32W MF 01005

WLAN

POWER

72		PPVCC_MAIN		PPVCC_MAIN 42 43 66
72 66		PP1V8_S2_EXT_SW2		PP1V8_S2_EXT_SW2 43
72 66		PP1V8_S2_EXT_SW2		PP1V8_S2_EXT_SW2 42

GPIOS

55	IN	GPIO_APOLLO_TO_WLAN_REG_ON	MAKE_BASE=TRUE	GPIO_APOLLO_TO_WLAN_REG_ON OUT 42
59	OUT	GPIO_WLAN_TO_PMU_HOST_WAKE	MAKE_BASE=TRUE	GPIO_WLAN_TO_PMU_HOST_WAKE IN 42
68 59	IN	CLK_PMU_TO_WLAN_32K	MAKE_BASE=TRUE	CLK_PMU_TO_WLAN_32K OUT 42
9	IN	GPIO_AOP_TO_WLAN_CONTEXT_A	MAKE_BASE=TRUE	GPIO_AOP_TO_WLAN_CONTEXT_A OUT 42
9	IN	GPIO_AOP_TO_WLAN_CONTEXT_B	MAKE_BASE=TRUE	GPIO_AOP_TO_WLAN_CONTEXT_B OUT 42
5	OUT	GPIO_WLAN_TO_SOC_TIME_SYNC	MAKE_BASE=TRUE	GPIO_WLAN_TO_SOC_TIME_SYNC OUT 42
68 64	OUT	GPIO_WLAN_TO_SCORPIUS_TX_IND	MAKE_BASE=TRUE	GPIO_WLAN_TO_SCORPIUS_TX_IND IN 42

SWD

6	OUT	SWD_WLAN_SWCLK	MAKE_BASE=TRUE	SWD_WLAN_SWCLK IN 43
6	BI	SWD_WLAN_SWDIO	MAKE_BASE=TRUE	SWD_WLAN_SWDIO BI 42

PCIE

70 8	IN	PCIE_SOC_TO_WLAN_REFCLK_P	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_REFCLK_P OUT 42
70 8	IN	PCIE_SOC_TO_WLAN_REFCLK_N	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_REFCLK_N OUT 42
70 8	IN	PCIE_SOC_TO_WLAN_TX_P	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_TX_P OUT 42
70 8	IN	PCIE_SOC_TO_WLAN_TX_N	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_TX_N OUT 42
66		PCIE_WLAN_TO_SOC_TX_C_P	MAKE_BASE=TRUE	PCIE_WLAN_TO_SOC_TX_C_P IN 42
66		PCIE_WLAN_TO_SOC_TX_C_N	MAKE_BASE=TRUE	PCIE_WLAN_TO_SOC_TX_C_N IN 42
8	OUT	PCIE_WLAN_TO_SOC_CLKREQ_L	MAKE_BASE=TRUE	PCIE_WLAN_TO_SOC_CLKREQ_L IN 42
8	IN	PCIE_SOC_TO_WLAN_RESET_L	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_RESET_L OUT 42

70 8 PCIE_WLAN_TO_SOC_TX_P — C9160 0.1UF 20% X5R-CERM 6.3V 01005 — PCIE_WLAN_TO_SOC_TX_C_P 66
70 8 PCIE_WLAN_TO_SOC_TX_N — C9161 0.1UF 20% X5R-CERM 6.3V 01005 — PCIE_WLAN_TO_SOC_TX_C_N 66

PLACE_NEAR=U_WLAN_W:28:3MM
GND_VOID=TRUE
PLACE_NEAR=U_WLAN_W:97:3MM

BLUETOOTH

SOC GPIOS

66 42 19	IN	GPIO_TOUCH_TO_BT_SYNC	MAKE_BASE=TRUE	GPIO_TOUCH_TO_BT_SYNC OUT 19 42 66
		NC_I2C_BT_TO_SE_SCL	MAKE_BASE=TRUE	NC_I2C_BT_TO_SE_SCL IN 42
		NC_I2C_BT_TO_SE_SDA	MAKE_BASE=TRUE	NC_I2C_BT_TO_SE_SDA BI 42
70 66 42 20 19 6	IN	GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC	MAKE_BASE=TRUE	GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC OUT 6 19 20 42 66 70
68 64	OUT	GPIO_BT_TO_SCORPIUS_TX_IND	MAKE_BASE=TRUE	GPIO_BT_TO_SCORPIUS_TX_IND IN 42
6	OUT	BT_TO_SOC_TIME_SYNC	MAKE_BASE=TRUE	BT_TO_SOC_TIME_SYNC IN 42

TO GODFATHER PIN15?
TO GODFATHER PIN14?

WLAN/BT SPMI

59	IN	NUB_SPMI_SCLK_RADIO	MAKE_BASE=TRUE	NUB_SPMI_SCLK_RADIO IN 42
70 59 9	BI	NUB_SPMI_SDATA	R9152 33 1/32W 5% MF 01005 PLACE_NEAR=U_WLAN_W:193:20MM	SPMI_AOP_TO_RADIOS_DATA BI 42

ROTTERDAM(VENUS)

POWER

72		PPVCC_MAIN		PPVCC_MAIN 42 43 66
72		PP1V8_S2_EXT_SW2		PP1V8_S2_EXT_SW2

GPIOS

66 51 6	IN	GPIO_SOC_TO_ROTTERDAM_DEV_WAKE	MAKE_BASE=TRUE	GPIO_SOC_TO_ROTTERDAM_DEV_WAKE OUT 6 51 66
66 51 6	IN	GPIO_SOC_TO_ROTTERDAM_DWLD_REQ	MAKE_BASE=TRUE	GPIO_SOC_TO_ROTTERDAM_DWLD_REQ OUT 6 51 66
66 59 51	IN	GPIO_PMU_TO_ROTTERDAM_EN	MAKE_BASE=TRUE	GPIO_PMU_TO_ROTTERDAM_EN OUT 51 59 66

UART

66 51 6	IN	UART_SOC_TO_ROTTERDAM_TX	MAKE_BASE=TRUE	UART_SOC_TO_ROTTERDAM_TX OUT 6 51 66
66 51 6	OUT	UART_ROTTERDAM_TO_SOC_TX	MAKE_BASE=TRUE	UART_ROTTERDAM_TO_SOC_TX IN 6 51 66
66 51 6	IN	UART_SOC_TO_ROTTERDAM_RTS_L	MAKE_BASE=TRUE	UART_SOC_TO_ROTTERDAM_RTS_L OUT 6 51 66
66 51 6	OUT	UART_ROTTERDAM_TO_SOC_RTS_L	MAKE_BASE=TRUE	UART_ROTTERDAM_TO_SOC_RTS_L IN 6 51 66

UWB - NC

COEX

		NC_R1_TO_WLAN_COEX	MAKE_BASE=TRUE	NC_R1_TO_WLAN_COEX OUT 42
NC_WLAN_TO_R1_COEX			MAKE_BASE=TRUE	NC_WLAN_TO_R1_COEX IN 42
		NC_BT_TO_R1_WAKE	MAKE_BASE=TRUE	NC_BT_TO_R1_WAKE IN 42
NC_BT_TO_R1_TIME_SYNC			MAKE_BASE=TRUE	NC_BT_TO_R1_TIME_SYNC IN 42
		NC_I2C_R1_TO_NFC_SCL	MAKE_BASE=TRUE	NC_I2C_R1_TO_NFC_SCL OUT 51
		NC_I2C_R1_TO_NFC_SDA	MAKE_BASE=TRUE	NC_I2C_R1_TO_NFC_SDA BI 51

BASEBAND NTC

I121 CRITICAL — R9150 10KOHM-1%-0.31MA 0201 — (TEMP1 - NEAR BB PA)
PA_NTC_P — C9150 100PF 10% 25V X5R-CERM 01005
PA_NTC_N — XW9150 SM

NOTE: XW SHOULD BE PLACED NEAR PMU

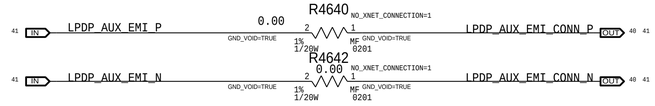
SYNC_MASTER=J317_MLB_B SYNC_DATE=01/11/2019

PAGE TITLE

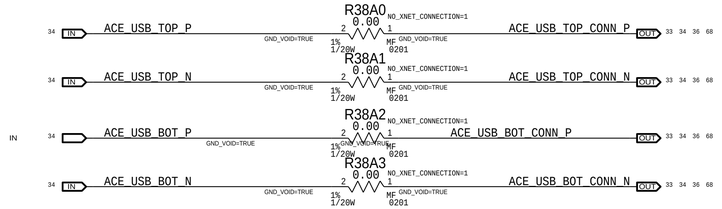
ALIASES: BB/WLAN/BT

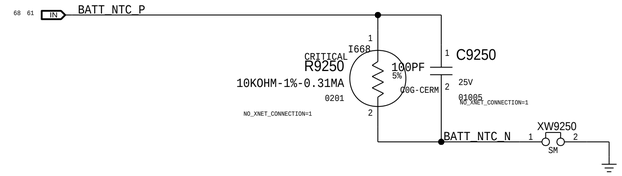
DRAWING NUMBER SIZE

DISPLAY ZERO OHMS FOR CMC



USB SOC ZERO OHMS FOR CMC





SYNC_DATE=03/09/2017

PAGE TITLE

ALIASES: J417/J420 DIFF

DRAWING NUMBER

SIZE

SMT TEST FIXTURE TP

POWER - BUCKS/SWITCHES

TP9301 PPVDD_CPU
TP9302 PPVDD_GPU
TP9303 PPVDD_S1_SOC
TP9304 PP1V8_S3
TP9305 PP1V8_SW1
TP9306 PP1V8_S2_GRAPE
PP1V8_SW1_CAM
TP9307 PP1V8_S3_SW3
TP9308 PP1V8_EXT_SW1
TP9309 PP1V8_S2_EXT_SW2
TP930A PP1V1_S3
TP930C PPVDD_S1_FIXED
TP930E PP2V63_OTP
TP930F PPVDD_CPU_SRAM
TP930G PPVDD_GPU_SRAM
TP930H PPVDD_S1_DCS
TP930I PPVDD_S1_QL
TP930J PPVDD_ECPU
TP930K PP1V4_CAMERA
TP930L

POWER - LDOS

TP9311 PP3V3_S2_ACE
TP9313 PP2V95_S2_THROTTLE
TP9314 PP3V0_ALS
TP9315 PP3V3_S2_REDRIVER
TP9316 PP3V3_USB
TP9317 PP3V3_S2_SCORPIUS
TP9318 PP1V215_FRONT_CAM
TP9319 PP0V9_NAND
TP931A PP3V3_S2_MISC
TP931C PP3V3_S2_GRAPE
TP931D PP1V2_SOC
TP931E PP0V775_S2_AOP
TP931F PP1V8_S2_LDO_SCORPIUS
TP931I PP2V90_FRONT_CAM
TP931M PP1V215_PEARL
TP931N PP2V85_PEARL
TP931O PP3V1_PEARL
TP931P PP1V0_S2_R1_SPARE

POWER - OTHER

TP9340 PPVCENTER
TP9341 PPVBUS_PROT
TP9342 PPVCC_HIGH
TP9343 PP1V8_ALWAYS
TP9344 PPBATT_VCC
TP9345 PPLED_OUT
TP9347 PPVCC_MAIN
TP9348 PPBATT_POS_RC
TP9349 PPVBUS_USB_EMI
TP934A PP1V2_GRAPE_BUCK_EXT

POWER - DISPLAY

TP9360 PPVCC_MAIN_LCD_SW_CONN
TP9361 PPVCC_MAIN_LCD_SW

POWER - BACKLIGHT

TP9369 PPLED_BACK_REG
TP9370 PPLED_BACK_REG
TP9371 PPLED_BACK_REG
TP9372 LED_IO_1_A
TP9373 LED_IO_2_A
TP9374 LED_IO_3_A
TP9375 LED_IO_4_A
TP9376 LED_IO_5_A
TP9377 LED_IO_6_A
TP9379 LED_IO_1_B
TP937A LED_IO_2_B
TP937B LED_IO_3_B
TP937C LED_IO_4_B
TP937D LED_IO_5_B
TP937E LED_IO_1_C
TP937F LED_IO_2_C
TP937H LED_IO_3_C
TP937I LED_IO_4_C
TP937J LED_IO_5_C
TP937K LED_IO_6_C
TP937L LED_IO_6_B
TP937M
TP937N

BATTERY

TP9381 I2C_SMC_GASGAUGE_SCL_1V8_CONN
TP9382 BATT_SNS
TP9383 I2C_SMC_GASGAUGE_SDA_1V8_CONN
TP9384 BATT_NTC_P

PMU - MISC

TP93A3 PMU_TCAL
TP93A5 BOARD_TEMP2_P
TP93A6 BOARD_TEMP3_P
TP93A7 BOARD_TEMP4_P
TP93A8 BOARD_TEMP5_P
TP93A9 BOARD_TEMP6_P
TP93B0 BOARD_TEMP7_P
TP93B1 BOARD_TEMP8_P
TP93B3 TPT_APOLLO_AMUX_AY
TP93B4 TP_AMUX_AY
TP93B5 TP_AMUX_BY
TP93B9 GPIO_PMU_TO_CPU_TRIGGER_0
TP93BA GPIO_PMU_TO_CPU_TRIGGER_1
TP93BB VCCMAIN_DROOP_PMU_TO_SOC_L
TP93BC SOCHOT1_SOC_TO_PMU_L
TP93BD PMU_SHUTDOWN
TP93BE GPIO_PMU_TO_GPU_TRIGGER_0
TP93BF GPIO_PMU_TO_GPU_TRIGGER_1
TP93BH BOARD_TEMP2A_P
TP93BK GPIO_PMU_TO_APOLLO_LDO10_ON
TP93BL GPIO_PMU_TO_APOLLO_BUCK4_ON

SOC - JTAG/RESET

TP93C1 JTAG_SOC_SEL
TP93C2 JTAG_SOC_TCK
TP93C3 JTAG_SOC_TMS
TP93C4 TP_JTAG_SOC_TDI
TP93C5 TP_JTAG_SOC_TRST_L
TP93C6 TP_JTAG_SOC_TDO
TP93C7 SOC_TESTMODE
TP93C8 RESET_PMU_TO_SYSTEM_L
TP93C9 GPIO_FORCE_DFU
SOC_TO_ACE_DFU_STATUS
TP93CB TST_CLKOUT
TP93CC GPIO_PMU_TO_SYSTEM_ACTIVE_READY

SOC - UART

TP93D0 UART_SOC_TO_DEBUG_TX
TP93D1 UART_DEBUG_TO_SOC_TX

SOC - USB

TP93DA USB_SOC_P
TP93DB USB_SOC_N

USBC - CONN

TRANS_DET_BASE
TP93D4 PPVBUS_USB_CONN
TP93D5 ACE_CC1
TP93D6 ACE_CC2
TP93D7
TP93D8 ACE_USB_TOP_CONN_N
TP93D9 ACE_USB_TOP_CONN_P
TP93DA ACE_USB_BOT_CONN_N
TP93DB ACE_USB_BOT_CONN_P
TP93EB PPVBUS_USB_EMI

ACE

TP93R1 PP5V2_ACE_BOOST_OUT
TP93R2 PP3V3_ACE_LDO
ACE_SPI_CLK_R
ACE_SPI_CS_R_L
TP93R5 ACE_SPI_MOSI_R
ACE_SPI_MISO_R
TP93R7 ACE_SBU1_CONN
TP93R8 ACE_SBU2_CONN
TP93R9 GPIO_ACE_TO_SOC_IRQ_L
TP93RU RESET_ACE_TO_PMU
TP93RV ACE_TO_BOOST_EN
TP93RW ACE_HRESET
TP93RZ ACE_ORION_TO_CHARGER_OVP_SW_EN_L
TP93RQ GPIO_ACE_TO_SMC_IRQ_L
TP93R3

ORION

TP93E2 PPVBUS_ORION_RVP
TP93E3 PPVBUS_ORION_CONN
ORION_COMM_CONN
GPIO_ORION_TO_AOP_IRQ
TP93E5 PP5V2_BELLATRIX2_BOOST_VOUT
TP93E6 GPIO_SOC_TO_BELLATRIX2_BOOST_EN
TP93E7 PP1V8_INT_ORION
TP93E8 ACE_TO_BELLATRIX_ACC_PWR_EN_L
TP93E9 BELLATRIX_TO_ACE_ACC_PWR_PRESENT_L
TP93ED O_T_DET_BASE
TP93EN

SCORPIUS

TP93ER PP20V_SCORPIUS_BOOST_VOUT
TP93EA PP20V_SCORPIUS_BOOST_VOUT
TP93EC GPIO_SCORPIUS_BOOST_EN
GPIO_SCORPIUS_BOOST_SET_DAC
TP93EF GPIO_AOP_TO_SCORPIUSMCU_NRST_L
TP93EG GPIO_GRAPE_TO_SCORPIUS_TIME_SYNC
TP93EI SWD_SCORPIUS_SWCLK
TP93EJ SWD_SCORPIUS_SWDIO
TP93EK GPIO_SCORPIUS_TO_AOP_IRQ
TP93EM SOC_TO_SCORPIUSMCU_BOOT0
TP93EO PP1V8_S2_BUCK_SCORPIUS_CONN
TP93EP GPIO_BT_TO_SCORPIUS_TX_IND
TP93EQ GPIO_WLAN_TO_SCORPIUS_TX_IND

AUDIO - SEE SPKR AMP PAGES FOR MORE

TP93F8 PPV_BST_AUDIO
TP93E8 PPV_BST_AUDIO
TP93FA GPIO_SPKRAMP_TO_SOC_IRQ_L
TP93FB ARDEE_SYNC

POWER - SENSORS

TP93G0 PP1V8_S2_KOBOL_BU_FILT
TP93G2 PP1V8_PHOS_FILT
TP93G4 PP1V8_S2_MOLY_CMPS_CONN

BUTTONS

TP93G5 GPIO_BTN_ONOFF_L_CONN
TP93G6 GPIO_BTN_VOL_UP_L_CONN
TP93G7 GPIO_BTN_VOL_DOWN_L_CONN

SOC I2C

TP93G8 I2C0_SCL_1V8
TP93G9 I2C0_SDA_1V8
TP93GA I2C1_SCL_1V8
TP93GB I2C1_SDA_1V8
TP93GC I2C2_SCL_1V8
TP93GD I2C2_SDA_1V8
TP93GG I2C_AOP_I2CM0_SCL_1V8
TP93GH I2C_AOP_I2CM0_SDA_1V8
TP93GI I2C_AOP_I2CM1_SCL_1V8
TP93GJ I2C_AOP_I2CM1_SDA_1V8
TP93GK I2C_SMC_I2CM0_SCL_1V8
TP93GL I2C_SMC_I2CM0_SDA_1V8
TP93GM I2C_SMC_I2CM1_SCL_1V8
TP93GN I2C_SMC_I2CM1_SDA_1V8
TP93GO I2C_SMC_I2CM2_SCL_1V8
TP93GP I2C_SMC_I2CM2_SDA_1V8
TP93GQ I2C_SMC_I2CM3_SCL_1V8
TP93GR I2C_SMC_I2CM3_SDA_1V8
TP93GZ USB_VBUS_DETECT_R

SOC - BELLATRIX2_UART

TP93N8 UART_SOC_TO_BELLATRIX2_TX
TP93N9 UART_BELLATRIX2_TO_SOC_TX

SOC - GND

TP93NA TPT_VSS_SENSE
TP93NB TPT_VSS_PCPU_SENSE
TP93NF TPT_VSS_DDR_SENSE

SOC - POWER

TP93NC ADC_SOC_TO_PMU_VDD_CPU
TP93ND ADC_SOC_TO_PMU_VDD_GPU
TP93NE ADC_SOC_TO_PMU_VDD_SOC

SOC - USB KIS

TP93GS USB_KIS_P
TP93GT USB_KIS_N

NAND - POWER

TP93NG PP1V8_NAND1_AVDD_H
TP93NH PP1V8_NAND2_AVDD_H

BASEBAND - ANT SWITCH PWR

TP93H0
TP93H1
TP93H2
TP93H5
TP93H4
TP93H5

BASEBAND - SIM CARD

TP93H6
TP93H7
TP93H8
TP93H9
TP93HA

BASEBAND - MISC

TP93HB
TP93HC
TP93HD
TP93HE
TP93HF

WIFI/BT

TP93I2 CLK_PMU_TO_WLAN_32K

HALL EFFECT

TP93J5 GPIO_APANEL_HALL_TO_PMU_IRQ_L
TP93J6 GPIO_CPANEL_HALL_TO_PMU_IRQ_L

DISPLAY

TP93JC LPDP_HPD_EMI
TP93K0 GPIO_PMU_TO_LCD_PWREN
TP93JA I2C_TCON_SCL_1V8_CONN
TP93JB I2C_TCON_SDA_1V8_CONN
TP93JE SYS_TO_TCON_FORCE_PWM

AOP

TP93K1 CLK_PMU_TO_AOP_32K

AUDIO - DIGITAL_MICS

TP93K2 DMIC1_MIC_SCLK_CONN
TP93K3 DMIC1_MIC_SD_CONN
TP93K4 DMIC2_MIC_SCLK_C3_CONN
TP93K5 DMIC2_MIC_SD_C3_CONN
TP93KE DMIC3_MIC_SCLK_ROS_CONN
TP93KF DMIC2_MIC_SD_ROS_CONN
TP93KG PP1V8_S2_DMIC_CONN
TP93KH DMIC4_MIC_SCLK_CMPS_CONN
TP93KI DMIC3_MIC_SD_CMPS_CONN
TP93KJ PP1V8_S2_DMIC_CMPS_CONN
TP93KK PP1V8_S2_DMIC_C3_CONN

TOUCH

TP93N1 PP15V0_TOUCH_FILT
TP93N2 PP2V8_LANAI_M_VDDANA
PP2V8_KONA_S_VDDANA
TP93N3 GPIO_DOMBRA_BST_FPWM
TP93N4 GPIO_KONA_S_DOMBRA_BST_EN
TP93N5
TP93N6 GPIO_DOMBRA_BST_FB_CTRL

CMPS

TP93P1 SPI_SENSORS_MISO_CONN
TP93P2 SPI_SENSORS_MOSI_CONN
TP93P3 SPI_SENSORS_SCLK_CONN
TP93P4 SPI_MOLY_CS_L_CONN
TP93P5 GPIO_MOLY_TO_AOP_IRQ_CONN

JASPER/PENINSULA

TP93P6
TP93P7
TP93P8 0V

VCC_HIGH

TP939K
TP939L PPVCC_HIGH
TP939M
TP939N

VBUS ORION

TP939C
TP939D PPVBUS_ORION_CONN
TP939E
TP939F

VCC_MAIN

TP939G
TP939H PPVCC_MAIN
TP939I
TP939J

CAN MOUNTING HOLES

DRILL SIZE: 1.1MM X 0.4MM
PLATING SIZE: 1.4MM X 0.7MM
APN: 998-2691

FIDUCIALS

FID9301 FID 0P5SM1P0SQ-NSP
FID9302 FID 0P5SM1P0SQ-NSP
FID9303 FID 0P5SM1P0SQ-NSP
FID9305 FID 0P5SM1P0SQ-NSP

SL9301 TH-NSP SL-1.1X0.4-1.4X0.7
SL9302 TH-NSP SL-1.1X0.4-1.4X0.7
SL9303 TH-NSP SL-0.9X0.35-1.2X0.65
SL9306 TH-NSP SL-1.1X0.4-1.4X0.7
SL9307 TH-NSP SL-1.1X0.4-1.4X0.7
SL9309 TH-NSP SL-1.1X0.4-1.4X0.7
SL9311 TH-NSP SL-1.1X0.4-1.4X0.7

STANDOFFS

SMT:860-00199
TH:860-00860/860-01104
APN: 860-00892

STD9312 STDOFF-3.3X1.8R0.95H-SM
STD9315 STDOFF-3.3X1.8R0.95H-SM
STD9316 STDOFF-3.3X1.8R0.95H-SM
STD9317 STDOFF-3.3X1.8R0.95H-SM
STD9318 STDOFF-3.3X1.8R0.95H-SM
STD9330 STDOFF-3.3X1.8R0.95H-SM
STD9331 STDOFF-3.3X1.8R0.95H-SM
STD9358 STDOFF-3.3X1.8R0.95H-SM
STD9359 STDOFF-3.3X1.8R0.95H-SM

STD9352 STDOFF-3.8X2.5R-0.75H-TH
STD9357 STDOFF-3.8X2.5R-0.75H-TH
APN: 860-00860
STD9350 STDOFF-3.8X2.5R-0.95H-1P65-TH
STD9351 STDOFF-3.8X2.5R-0.95H-1P65-TH
STD9353 STDOFF-3.8X2.5R-0.95H-1P65-TH
STD9355 STDOFF-3.8X2.5R-0.95H-1P65-TH
STD9356 STDOFF-3.8X2.5R-0.95H-1P65-TH
APN: 860-01097
STD9354 STDOFF-2.65X3.3R-0.65H-TH-0.35-1.8
STD9314 STDOFF-2.65X3.3R-0.65H-TH-0.35-1.8

VBUS USB

TP9390
TP9391
TP9392 PPVBUS_USB_CONN
TP9393
TP9394
TP9395

VBAT

TP9380
TP9399
TP939A
TP939B PPBATT_VCC
TP9396
TP9397
TP9398

SYNC_MASTER=TPS_EE_TP_PP
SYNC_DATE=02/27/2019
PAGE TITLE
TEST: TPS/HOLES/FIDUCUALS
DRAWING NUMBER
SIZE

SMT TEST FIXTURE TP

POWER - ADAMS

TP9401	A	1	PP1V4_ADAMS1_VDDL	45 72
TP9402	A	1	PP3V3_ADAMS_LDO1	45 72
TP9403	A	1	PP3V0_JASPER_RX_AVDDH	45 72
TP9404	A	1	PP3V0_PENROSE	45 72
TP9405	A	1	PP3V3_JASPER_TX_AVDDH	45 72
TP9406	A	1	PP3V3_JAS_EXT_LDO_R2	47
TP9407	A	1	PP2V85_WIDE_RCAM1_AVDDH1	45 72
TP9408	A	1	PP2V85_SWIDE_RCAM2_AVDDH1	45 72
TP9409	A	1	PP1V215_RCAM_SWIDE_VDDL	45 72
TP940A	A	1	PP1V215_RCAM_WIDE_VDDL	45 72
TP940B	A	1	PP1V8_CAM_PMU1_IO_SW	45 72
TP940C	A	1	PN_TOF_VSPAD	47 50 69
TP940D	A	1	PN_TOF_VSPAD	47 50 69
TP940E	A	1	PP_TOF_VDDLAS	47 50 69
TP940F	A	1	PP_TOF_VDDLAS	47 50 69
TP940G	A	1	PP1V2_JASPER_DVDD	47 50

POWER - CAMERA (LI)

TP9411	A	1	PP1V215_FRONT_CAM_CONN	24
TP9412	A	1	PP1V8_CAM_FRONT_CONN	24
TP9413	A	1	PP2V90_FRONT_CAM_CONN	24

POWER - JULIET

TP9414	A	1	PP1V215_JULIET_DVDD_CONN	38
TP9415	A	1	PP1V8_JULIET_VDDIO_CONN	38
TP9416	A	1	PP2V85_JULIET_AVDD_CONN	38

POWER - CAMERA (IN)

TP9417	A	1	PP1V215_RCAM_WIDE_VDDL_CONN	48
TP9418	A	1	PP1V8_RCAM_WIDE_VDDIO_CONN	48
TP9419	A	1	PP2V85_RCAM_WIDE_AVDD_CONN	48

POWER - CAMERA (OH)

TP941A	A	1	PP1V215_RCAM_SWIDE_DVDD_CONN	49
TP941B	A	1	PP1V8_RCAM_SWIDE_VDDIO_CONN	49
TP941C	A	1	PP2V85_RCAM_SWIDE_AVDDH1_CONN	49

POWER - JASPER

TP941D	A	1	PP_TOF_VDDLAS_CONN	50
TP941E	A	1	PN_TOF_VSPAD_CONN	50
TP941F	A	1	PP1V8_CAM_TOF_VDDIO_CONN	50

CAMERA-STROBE/PENROSE

TP9421	A	1	PPSTROBE_LED_COOL1_CONN	23 25 69
TP9422	A	1	PPSTROBE_LED_WARM1_CONN	23 25 69
	A	1	PPSTROBE_LED_COOL2_CONN	23 25 69
TP9424	A	1	PPSTROBE_LED_WARM2_CONN	23 25 69
TP9425	A	1	PPSTROBE_LED_COOL1_CONN	23 25 69
TP9426	A	1	PPSTROBE_LED_WARM1_CONN	23 25 69
TP9427	A	1	PPSTROBE_LED_COOL2_CONN	23 25 69
TP9428	A	1	PPSTROBE_LED_WARM2_CONN	23 25 69
TP9429	A	1	LED_DRIVER_NTC_CONN	23 25

TP942A	A	1	PPSTROBE1_BST	25
TP942B	A	1	PPSTROBE2_BST	25
TP942C	A	1	PENROSE_IR_VOUT2_P_R	22 23
TP942D	A	1	PENROSE_VIS_IR_VOUT1_P_R	22 23
TP942F	A	1	GPIO_RCAM_PMU_TO_STROBE_DRIVER_HWEN	25 46
TP942F	A	1	PP3V0_PENROSE_CONN	23
TP942G	A	1	PP3V3_PENROSE	64 72

CAMERA - LI

TP942H	A	1	ISP_CAM_FRONT_CLK_CONN	24
TP942I	A	1	ISP_CAM_FRONT_SCL_CONN	24
TP942J	A	1	ISP_CAM_FRONT_SDA_CONN	24
TP942K	A	1	ISP_CAM_FRONT_SHUTDOWN_L_CONN	24

CAMERA - IN

TP942L	A	1	AP_TO_WIDE_CLK_12MHZ_CONN	48
TP942M	A	1	I2C_RCAM1_WIDE_SCL_CONN	48
TP942N	A	1	I2C_RCAM1_WIDE_SDA_CONN	48
	A	1	ISP_TO_WIDE_SHUTDOWN_CONN_L	48
	A	1	WIDE_SYNC_CONN	48 69
TP942Q	A	1	WIDE_TO_STROBE_DRIVER_STROBE_CONN	48

CAMERA - OH

TP942R	A	1	AP_TO_SWIDE_CLK_12MHZ_CONN	49
TP942S	A	1	I2C_RCAM2_SWIDE_SCL_CONN	49
TP942T	A	1	I2C_RCAM2_SWIDE_SDA_CONN	49
TP942U	A	1	ISP_TO_SWIDE_SHUTDOWN_CONN_L	49
TP942V	A	1	SWIDE_SYNC_CONN	49
TP942W	A	1	SWIDE_TO_STROBE_DRIVER_STROBE_CONN	49

CAMERA - JASPER

TP942X	A	1	CLK_RCAM_PMU_TO_TOF_12MHZ_CONN	50
TP942Y	A	1	I2C_JASPER_SCL_CONN	50
TP942Z	A	1	I2C_JASPER_SDA_CONN	50
TP943X	A	1	GPIO_PMU_TO_TOF_INT_CONN_L	50
TP943Y	A	1	TOF_FSYNC_CONN	50
TP943Z	A	1	GPIO_RCAM_PMU_TO_TOF_SHUTDOWN_CONN_L	50

TITUS/ROSALINE/JULIET

TP9431	A	1	PP_TITUS_DENSE_ANODE	37 38 69
TP9432	A	1	PP_TITUS_DENSE_ANODE	37 38 69
TP9433	A	1	PP_TITUS_SPARSE_ANODE	37 38 69
TP9434	A	1	PP_TITUS_SPARSE_ANODE	37 38 69
TP9435		1	PP_TITUS_A_ANODE	37 38 69
TP9436		1	PP_TITUS_A_ANODE	37 38 69
TP9437	A	1	PP_TITUS_B_ANODE	37 38 69
TP9438		1	PP_TITUS_B_ANODE	37 38 69
TP9439	A	1	PP_TITUS_CATHODE	37 38 69
TP943A	A	1	PP_TITUS_CATHODE	37 38 69
TP943B	A	1	PP_ROSALINE_ANODE	37 39 69
TP943C	A	1	PP_ROSALINE_ANODE	37 39 69
TP943I	A	1	GPIO_RIGEL_TO_SOC_IRQ	7 37
TP943E	A	1	RIGEL_TESTMODE_EN	37
TP943F	A	1	JULIET_PMU_TO_RIGEL_STROBE_CONN	38
TP943H	A	1	I2C3_ISP_BI_MAMA_BEAR_SDA_CONN	38
TP943I	A	1	I2C3_ISP_TO_MAMA_BEAR_SCL_CONN	38
TP943J	A	1	MAMA_BEAR_BI_RIGEL_STATUS_CONN	38
TP943K	A	1	TITUS_TO_AOP_B2B_DETECT_CONN	38
TP943L	A	1	ISP_JULIET_SCL_CONN	38
TP943M	A	1	ISP_JULIET_SDA_CONN	38
TP943N	A	1	AP_TO_JULIET_CLK_CONN	38
TP943O	A	1	AP_TO_JULIET_SHUTDOWN_L_CONN	38
TP943P	A	1	I2C0_AOP_TO_PROX_ALS_YOGI_SCL_CONN	39
TP943Q	A	1	I2C0_AOP_BI_PROX_ALS_YOGI_SDA_CONN	39
TP943R	A	1	PP3V0_YOGI_PROX_ALS_CONN	39
TP943S	A	1	YOGI_TO_RIGEL_STATUS_CONN	39
TP943T	A	1	PROX_BI_AP_AOP_INT_CONN_L	39
TP943U	A	1	ALS_C4_TO_SOC_INT_CONN_L	39
TP943V	A	1	ALS_C3_TO_SOC_INT_CONN_L	39
TP943W	A	1	TITUS_TO_RIGEL_VCSEL_NTC_CONN	38

DMIC GATING

TP9461	A		GPM_DMIC_DISABLE_L	52
TP9463	A	1	SLG_TO_AOP_DMIC_DISABLE_WARN_L	9 52

WILL I2C

TP9464	A	1	I2C3_RCAM_PMU_SCL	4 46
TP9465	A	1	I2C3_RCAM_PMU_SDA	4 46

PENROSE ADC I2C

TP9466	A	1	I2C3_SCL_1V8	4 6
TP9467	A	1	I2C3_SDA_1V8	4 6

CAM SYNC

TP9451	A	1	FRONT_CAM_SYNC_ACE	32 34
TP9452		1	GPIO_FCAM_JULIET_TO_ACE_SYNC	24 32 38
TP9453		1	GPIO_RCAM_PMU_TO_TOF_PMU_EN	46 47
TP9454	A	1	WIDE_SYNC_CONN	48 69
TP9455	A	1	REAR_CAM_SYNC_ACE	32 34

SYNC_MASTER=TPS_EE_TP_PP SYNC_DATE=02/27/2019

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TEST: TPS ADDITIONAL

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EE CHARACTERIZATION PROBE POINT

SOC

PP9504 P3MM SM — 1 ADC SOC TO PMU ANALOGMUX OUT — 5 59
PP9505 P4MM SM — 1 ADC SOC TO PMU VDD CPU R — 12
PP9506 P4MM SM — 1 ADC SOC TO PMU VDD GPU R — 12 — P3MM
PP9507 P4MM SM — 1 ADC SOC TO PMU VDD SOC R — 10 — P3MM

FOR SEG, TO DELETE IN EVT AND MOVE TP HERE

PP9503 P4MM SM — 1 PPVDD S1 SOC — 57 68 72
PP95QE P4MM SM — 1 PPVDD S1 FIXED — 53 68 72
PP950K P4MM SM — 1 PPVDD ECPU — 60 68 72
PP93T4 P4MM SM — 1 PPVDD CPU SRAM — 57 68 72
PP93T6 P4MM SM — 1 PPVDD GPU SRAM — 60 68 72

ACE/REDRIVER

PP9510 P4MM SM — 1 ACE UART RX — 34 — P3MM
PP9511 P4MM SM — 1 ACE UART TX — 34

FH SPEAKER I2S

PP9521 P4MM SM — 1 I2S2 SOC TO SPKRAMP FH BCLK — PLACE_NEAR=U3450.A4:50MM — 6 30 31
PP9522 P4MM SM — 1 I2S2 SOC TO SPKRAMP FH LRCK — PLACE_NEAR=U3450.A3:50MM — 6 30 31
PP9523 P4MM SM — 1 I2S2 SOC TO SPKRAMP FH DOUT — PLACE_NEAR=U3450.A1:50MM — 6 30 31
PP9524 P4MM SM — 1 I2S2 SPKRAMP FH TO SOC DOUT — PLACE_NEAR=U0600.U3:50MM — 6 30 31 — P3MM

CN SPEAKER I2S

PP9525 P4MM SM — 1 I2S1 SOC TO SPKRBST CN MCLK — PLACE_NEAR=U3000.C5:50MM — 6 26
PP9526 P4MM SM — 1 I2S1 SOC TO SPKRAMP CN BCLK — PLACE_NEAR=U3250.A4:50MM — 6 28 29
PP9527 P4MM SM — 1 I2S1 SOC TO SPKRAMP CN LRCK — PLACE_NEAR=U3250.A3:50MM — 6 28 29
PP9528 P4MM SM — 1 I2S1 SOC TO SPKRAMP CN DOUT — PLACE_NEAR=U3250.A1:50MM — P3MM
PP9529 P4MM SM — 1 I2S1 SPKRAMP CN TO SOC DOUT — PLACE_NEAR=U0600.BC32:50MM
PP952D P4MM SM — 1 GPIO BST MASTER TO SOC IRQ L — 6 26 — P3MM
PP952E P4MM SM — 1 GPIO BST SLAVE TO SOC IRQ L — 6 26
PP952F P4MM SM — BST CLK SYNC — 26
PP952G P4MM SM — BST SYNC R — 26

PENROSE

PP952A P4MM SM — 1 I2S3 SOC TO PENROSE BCLK — PLACE_NEAR=R2661.2:50MM — 6 22
PP952B P4MM SM — 1 I2S3 SOC TO PENROSE LRCK — PLACE_NEAR=R2660.2:50MM — 6 22 — P3MM
PP952C P4MM SM — 1 I2S3 PENROSE TO SOC DOUT — PLACE_NEAR=U0600.BD39:50MM — 6 22
PP952H P4MM SM — 1 I2S3 SOC TO PENROSE MCLK — PLACE_NEAR=R2664.2:50MM — 6 22

ORION

PP953B P4MM SM — 1 GPIO AOP TO ORION HWEN — 9 56
PP953C P4MM SM — 1 ORION CONN STATUS — 56

SENSOR SPI LINES

PP9544 P3MM SM — 1 SPI SENSORS SCLK — PLACE_NEAR=U2150.2:10MM — 9 18 70
PP9545 P3MM SM — 1 SPI SENSORS MISO — PLACE_NEAR=U0600.AC3:10MM — 9 18
PP9546 P3MM SM — 1 SPI SENSORS MOSI — PLACE_NEAR=U2150.3:10MM — 9 18 70
PP9547 P3MM SM — 1 SPI SENSORS SCLK — PLACE_NEAR=U2120.4:10MM — 9 18 70
PP9549 P3MM SM — 1 SPI SENSORS MOSI — PLACE_NEAR=U2120.3:10MM — 9 18

PMU/CHARGER

PP95G1 P4MM SM — 1 GPIO PMU TO SOC IRQ L — 9 59
PP95G7 P4MM SM — 1 USB VBUS DETECT — 5 61
PP95G2 P4MM SM — 1 NUB SPMI SCLK — 9 59
PP95G3 P4MM SM — 1 NUB SPMI SDATA — 9 59 66
PP95G4 P4MM SM — 1 ISP SPMI APOLLO SCLK — 7 55
PP95G5 P4MM SM — 1 ISP SPMI APOLLO SDATA — 7 55
PP9539 P4MM SM — 1 SYS ALIVE — 16 17 59

PP95G0 P4MM SM — 1 GPIO ROSALINE TO AOP IRQ L — 9 39

GRAPE

PP9580 P3MM SM — 1 SPI SOC TO GRAPE SCLK — 6 19
PP9581 P3MM SM — 1 SPI SOC TO GRAPE MISO — 6 19
PP9582 P3MM SM — 1 SPI SOC TO GRAPE MOSI — 6 19
PP9583 P3MM SM — 1 SPI SOC TO GRAPE CS L — 6 19
PP9584 P3MM SM — 1 GPIO SOC TO GRAPE RESET L — 6 19 20
PP9585 P3MM SM — 1 GPIO GRAPE TO AOP IRQ L — 9 19
PP9586 P3MM SM — 1 KONA S TO LANAI M RESET DET L — 19 20
PP9587 P3MM SM — 1 PSE SYNC — 19 20
PP9588 P3MM SM — 1 KMSI MISO — 19 20
PP9589 P3MM SM — 1 KMSI MOSI — 19 20
PP958A P3MM SM — 1 KMSI STRB IN — 19 20
PP958B P3MM SM — 1 KMSI STRB OUT — 19 20
PP958C P3MM SM — 1 LANAI BOOST ATEST — 19
PP958D P3MM SM — 1 TESTPOINT KONA S UART TX — 20
PP958E P3MM SM — 1 TESTPOINT KONA S UART RX — 20

PP958H SM — 1 SWD KONA SWDIO — 20
PP958I P3MM SM — 1 SWD KONA SWCLK — 20
PP958J P3MM SM — 1 GPIO12 KONA LDO ADJ — 19 20
PP958K P3MM SM — 1 GPIO13 KONA LDO EN — 19 20
PP958L P3MM SM — 1 GPIO GRAPE TO AOP TIME SYNC — 9 19
PP958M P3MM SM — 1 CLK LANAI M 24MHZ — 19
PP958N SM — 1 GPIO SOC TO GRAPE BSYNC0 — 19 20 40
PP958P P3MM SM — 1 GPIO SOC TO GRAPE BSYNC1 — 19 20 40
PP958X P3MM SM — 1 UART AOP TO GRAPE TX — 9 19
PP958Y P3MM SM — 1 UART GRAPE TO AOP TX — 9 19
PP958Z P3MM SM — 1 UART DEBUG TO GRAPE TX — 19 34
PP958O P3MM SM — 1 SPI LANAI M TO KONA S MISO — 19 20
PP958T P3MM SM — 1 SPI LANAI M TO KONA S SCLK — 19 20
PP958U P3MM SM — 1 SPI LANAI M TO KONA S CS L — 19 20
PP958W P3MM SM — 1 SPI LANAI M TO KONA S MOSI — 19 20

GRAPE POWER

PP958R P3MM SM — 1 PP3V3 GRAPE FILT — 19 20
PP958S P3MM SM — 1 PP1V8 GRAPE XTAL FILT — 19 20
PP958V P3MM SM — 1 PP1V8 GRAPE AON RC — 19 20

DMIC SECURED

PP9590 P3MM SM — 1 DMIC1 MIC SD — PLACE_NEAR=U0600.AH3:50MM — 9 52
PP9591 P3MM SM — 1 DMIC2 MIC SD — PLACE_NEAR=U0600.AH5:50MM — 9 52
PP9592 P3MM SM — 1 DMIC3 MIC SD — PLACE_NEAR=U0600.AH6:50MM — 9 52

AUDIO PPS FOR I2C

PP95GA P3MM SM — 1 I2C1 SCL 1V8 — 4 6 68
PP95GB P3MM SM — 1 I2C1 SDA 1V8 — 4 6 68
PP95GC P3MM SM — 1 I2C2 SCL 1V8 — 4 6 68
PP95GD P3MM SM — 1 I2C2 SDA 1V8 — 4 6 68

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PP95BL P4MM SM — 1 GPIO SOC TO BT TO GRAPE TS SYNC — 6 19 20 42 66

WLAN PCIE TPS

PP95E0 P2MM SM — 1 PLACE_NEAR=U0600.BF11:100MM — PCIE_WLAN_TO_SOC_TX_P — 8 66
PP95E1 P2MM SM — 1 PLACE_NEAR=U0600.BE11:100MM — PCIE_WLAN_TO_SOC_TX_N — 8 66
PP95E2 P2MM SM — 1 PLACE_NEAR=U_WLAN_W.99:20MM — PCIE_SOC_TO_WLAN_TX_P — 8 66
PP95E3 P2MM SM — 1 PLACE_NEAR=U_WLAN_W.30:20MM — PCIE_SOC_TO_WLAN_TX_N — 8 66
PP95E4 P2MM SM — 1 PLACE_NEAR=U_WLAN_W.95:20MM — PCIE_SOC_TO_WLAN_REFCLK_P — 8 66
PP95E5 P2MM SM — 1 PLACE_NEAR=U_WLAN_W.26:20MM — PCIE_SOC_TO_WLAN_REFCLK_N — 8 66

NAND

PP95D6 P3MM SM — 1 PLACE_NEAR=U1800.E8:50MM — PCIE_SOC_TO_NAND1_RESET_L — 8 16 17
PP95DD P3MM SM — 1 PLACE_NEAR=U1900.E8:50MM — PCIE_SOC_TO_NAND2_RESET_L — 8 17
PP95DE P2MM — 1 PLACE_NEAR=U1800.J4:50MM — NAND1_ANI1_VREF — 16
PP95DF P3MM SM — 1 PLACE_NEAR=U1800.G12:50MM — NAND1_ANI0_VREF — 16
PP95DG P3MM SM — 1 PLACE_NEAR=U1900.J4:50MM — NAND2_ANI1_VREF — 17
PP95DH P3MM SM — 1 PLACE_NEAR=U1900.G12:50MM — NAND2_ANI0_VREF — 17
PP95DI P3MM SM — 1 PLACE_NEAR=U1900.C4:50MM — GPIO_SOC_TO_NAND_FW_STRAP — 6 16 17
PP95DJ P3MM SM — 1 PLACE_NEAR=U1900.L4:50MM — GPIO_SOC_TO_NAND_RESET_L — 6 16 17

IR CAMERA - JULIET

PP9550 P2MM SM — 1 MIPI PEARL TO SOC CLK P — NO_XNET_CONNECTION=1 — 7 38
PP9551 P2MM SM — 1 MIPI PEARL TO SOC CLK N — NO_XNET_CONNECTION=1 — 7 38
PP9552 P2MM SM — 1 MIPI PEARL SOC DATA P<0> — NO_XNET_CONNECTION=1 — 7 38
PP9553 P2MM SM — 1 MIPI PEARL SOC DATA N<0> — NO_XNET_CONNECTION=1 — 7 38
PP9554 P2MM SM — 1 MIPI PEARL SOC DATA P<1> — NO_XNET_CONNECTION=1 — 7 38
PP9555 P2MM SM — 1 MIPI PEARL SOC DATA N<1> — NO_XNET_CONNECTION=1 — 7 38

CAMERA - FRONT

PP9560 P2MM SM — 1 LPDP SOC TO FCAM2 AUX — PLACE_NEAR=U0600.AU8:100MM — NO_XNET_CONNECTION=1 — 7 24
PP9562 P2MM SM — 1 LPDP FCAM2 TO SOC DATA P<0> — PLACE_NEAR=U0600.AU4:100MM — NO_XNET_CONNECTION=1 — 7 24
PP9563 P2MM SM — 1 LPDP FCAM2 TO SOC DATA N<0> — PLACE_NEAR=U0600.AU5:100MM — NO_XNET_CONNECTION=1 — 7 24
PP9564 P2MM SM — 1 LPDP FCAM2 TO SOC DATA P<1> — PLACE_NEAR=U0600.AU1:100MM — NO_XNET_CONNECTION=1 — 7 24
PP9565 P2MM SM — 1 LPDP FCAM2 TO SOC DATA N<1> — PLACE_NEAR=U0600.AU2:100MM — NO_XNET_CONNECTION=1 — 7 24

LPDPRX TPS

PP95F4 P2MM SM — 1 LPDP SOC TO RCAM1 AUX — PLACE_NEAR=U0600.AT8:150MM — 7 48

PP95F9 P2MM SM — 1 LPDP SOC TO SWIDE AUX — PLACE_NEAR=U0600.AT7:150MM — 7 49

PP95FC P2MM SM — 1 LPDP_SOC_TO_JASPER_AUX — PLACE_NEAR=U0600.AU7:150MM — 7 50

SYNC_MASTER=TPS_EE_TP_PP — SYNC_DATE=02/27/2019

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TEST: EE TP/PP

DRAWING NUMBER

SIZE

EE DC RESISTANCE TABLE

DC RESISTANCE FAI REQUIRED MEASUREMENTS			
FROM PIN (REFDES.PIN)	TO PIN (RFFDES.PN)	VALUE (MILLIOHM) (OPTIONAL)	TOLERANCE (+/-) (OPTIONAL)
U8100.K3	L8100.1	?	?
U8100.M3	L8101.1	?	?
U8100.P3	L8102.1	?	?
U8100.T3	L8103.1	?	?
L8103.2	U0600.AM28	?	?
U8100.A2	L8110.1	?	?
U8100.C4	L8111.1	?	?
U8100.C6	L8112.1	?	?
U8100.A8	L8113.1	?	?
L8112.2	U0600.AF15	?	?
L8120.1	U8100.V7	?	?
L8121.1	U8100.V9	?	?
L8121.2	U0600.Y14	?	?
L8130.1	U8100.V11	?	?
L8130.2	U7600.6	?	?
L8130.2	U2701.3	?	?
L8130.2	U7700.B6	?	?
L8130.2	U7602.6	?	?
L8130.2	U8000.A4	?	?
L8130.2	U0600.N12	?	?
L8130.2	U8600.3	?	?
U8600.5	U0600.AE39	?	?
U8600.5	U0702.A1	?	?
U8600.5	U1800.E2	?	?
U8600.5	U1900.E2	?	?
U7700.H3	L7740.1	?	?
U7700.K3	L7741.1	?	?
U7700.M3	L7742.1	?	?
L7742.2	U7700.L12	?	?
L7742.2	U0600.C49	?	?
U7700.F3	L7750.1	?	?
L7750.2	U0600.AY39	?	?
U7700.C3	L7760.1	?	?
L7760.2	U1800.L12	?	?
L7760.2	U1900.G4	?	?
U8100.V3	L8170.1	?	?
U8100.B12	L8480.1	?	?
L8480.2	U0600.AE17	?	?
J8900.3	Q8580.5	?	?
Q8580.1	U2900.A2	?	?
Q8580.1	U2950.A2	?	?
Q8580.1	U4100.F1	?	?
Q8581.1	U7700.D12	?	?
Q8580.1	U8100.W1	?	?
Q8580.1	U4600.3	?	?
U4600.5	L4601.1	?	?
L4601.2	J4520.1	?	?
Q8580.1	U3200.B1	?	?
Q8580.1	L3000.2	?	?
L3000.1	U3000.A2	?	?
Q8580.1	U3300.B1	?	?
Q8580.1	L3001.2	?	?
L3001.1	U3000.F2	?	?
Q8580.1	U3400.B1	?	?
Q8580.1	L3002.2	?	?
L3002.1	U3001.A2	?	?
Q8580.1	U3500.B1	?	?
Q8580.1	L3003.2	?	?
L3003.1	U3001.F2	?	?
Q8580.1	L3600.1	?	?
L3600.2	U3620.5	?	?
Q8580.1	L8425.1	?	?
L8425.2	U8100.C17	?	?
Q8580.1	L8455.1	?	?
L8455.2	U8100.B17	?	?
Q8580.1	L8701.1	?	?
L8701.2	U8700.7	?	?
Q8580.1	U2350.A2	?	?
Q8580.1	L8710.1	?	?
L8710.2	U8710.5	?	?
Q8580.1	Q2201.7	?	?
Q2201.1	R2208.1	?	?
R2208.2	L2201.1	?	?
L2201.2	Q2202.3	?	?
U8500.L7	L8570.1	?	?
U8500.E5	L8571.1	?	?
L8570.2	U8500.L10	?	?
L8571.2	U8500.A10	?	?
J3700.46	XW4050.1	?	?
XW4050.2	U3800.G6	?	?
XW4050.2	R8000.2	?	?
R8000.1	U8000.C1	?	?
U3800.M3	U8500.L13	?	?
U3620.7	U3800.N14	?	?
U3800.M15	J3700.43	?	?
U3800.M17	J3700.45	?	?
U3800.M7	XW4050.2	?	?
U8710.7	U8000.E3	?	?
U8000.F6	Q8051.3	?	?
Q8051.2	FL8950.1	?	?
FL8950.2	J8902.10	?	?
U8100.J18	R8995.2	?	?
U7700.C13	R4311.1	?	?
R4311.2	J4300.6	?	?
U8100.L18	U0600.AW32	?	?
U8100.K18	U3900.10	?	?

DC RESISTANCE FAI REQUIRED MEASUREMENTS			
FROM PIN (REFDES.PN)	TO PIN (RFFDES.PN)	VALUE (MILLIOHM) (OPTIONAL)	TOLERANCE (+/-) (OPTIONAL)
U8100.M18	J8901.4	?	?
U7700.J13	FL2803.1	?	?
FL2803.2	J2800.1	?	?
U7700.L13	U1900.R8	?	?
U7700.L13	U1800.G6	?	?
U8100.P18	L2204.1	?	?
L2204.2	U2200.E12	?	?
L2204.2	U2301.R1	?	?
U8100.W15	U0600.AC10	?	?
U7700.N10	U0600.AV15	?	?
U8100.U14	J8901.8	?	?
U6100.E7	FL6503.1	?	?
FL6503.2	J6500.17	?	?
U6100.C7	FL6506.1	?	?
FL6506.2	J6500.26	?	?
U6100.A4	U2610.D1	?	?
U6100.A4	U2600.C2	?	?
U6100.A4	U2650.C2	?	?
U7700.E13	FL2800.1	?	?
FL2800.2	J2800.17	?	?
U7700.N11	XW4270.1	?	?
XW4270.2	J4230.19	?	?
U7700.F13	FL4272.1	?	?
FL4272.2	J4230.14	?	?
U7700.G13	J4200.2	?	?
U3200.D2	J3200.5	?	?
U3200.C2	J3200.4	?	?
U3250.D2	J3200.1	?	?
U3250.C2	J3200.3	?	?
U3300.D2	J3300.4	?	?
U3300.C2	J3300.5	?	?
U3350.D2	J3300.3	?	?
U3350.C2	J3300.1	?	?
U3400.D2	J3400.3	?	?
U3400.C2	J3400.1	?	?
U3450.D2	J3400.4	?	?
U3450.C2	J3400.5	?	?
U3500.D2	J3500.1	?	?
U3500.C2	J3500.3	?	?
U3550.D2	J3500.5	?	?
U3550.C2	J3500.4	?	?

SYNC_MASTER=MLB_A_REV_0.6 SYNC_DATE=02/20/2018

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TEST: DCR TABLE

DRAWING NUMBER SIZE

POWER CONNECTIONS

ATHENA BUCK0 (ACTIVE)

68 57 PPVDD_CPU — PPVDD_CPU 12 57
MAKE_BASE=TRUE
VOLTAGE=1.08V

ATHENA BUCK1 (SW CTRL)

68 57 PPVDD_GPU — PPVDD_GPU 12 57
MAKE_BASE=TRUE
VOLTAGE=1.06V

ATHENA BUCK2 (SLEEP1)

70 68 57 PPVDD_S1_SOC — PPVDD_S1_SOC 10
MAKE_BASE=TRUE
VOLTAGE=0.81V

ATHENA BUCK3 (SLEEP3)

68 57 PP1V8_S3 — PP1V8_S3 10
MAKE_BASE=TRUE
PP1V8_S3 9 32 34
PP1V8_S3 23 40 59
PP1V8_S3 9 41 59 64
PP1V8_S3 62
PP1V8_S3 45 46 54 58
PP1V8_S3 58
PP1V8_S3 9 20 65
PP1V8_S3 9 11
PP1V8_S3 64
PP1V8_S3 18 23 27
PP1V8_S3 52

ATHENA BUCK3 SW1 (ACTIVE)

55 68 65 58 PP1V8_SW1 — PP1V8_SW1 26 28 29 30 31
MAKE_BASE=TRUE
PP1V8_SW1 62
PP1V8_SW1 61
PP1V8_SW1 58

ATHENA BUCK3 => EXT_SW1(ACTIVE)

68 62 PP1V8_EXT_SW1 — PP1V8_EXT_SW1 11
MAKE_BASE=TRUE
PP1V8_EXT_SW1 11
PP1V8_EXT_SW1 11
PP1V8_EXT_SW1 11
PP1V8_EXT_SW1 5 9 16 17
PP1V8_EXT_SW1 6
PP1V8_EXT_SW1 4 6 8 59
PP1V8_EXT_SW1 11
PP1V8_EXT_SW1 22

ATHENA BUCK3 => EXT SW2 (SLEEP2)

68 62 51 PP1V8_S2_EXT_SW2 — PP1V8_S2_EXT_SW2 66
MAKE_BASE=TRUE
PP1V8_S2_EXT_SW2 66
PP1V8_S2_EXT_SW2 66

ATHENA BUCK3 SW2 (SLEEP2)

68 58 PP1V8_S2_GRAPE — PP1V8_S2_GRAPE 9 19 20
MAKE_BASE=TRUE

APOLLO BUCK3 SW1 (ACTIVE)

68 54 PP1V8_SW1_CAM — PP1V8_SW1_CAM 24
MAKE_BASE=TRUE
PP1V8_SW1_CAM 37 38 39

APOLLO BUCK3 SW3 (SLEEP2)

68 54 PP1V8_S3_SW3 — PP1V8_S3_SW3 18
MAKE_BASE=TRUE
PP1V8_S3_SW3 18
PP1V8_S3_SW3 18

APOLLO BUCK4 (SLEEP3)

68 53 PP1V1_S3 — PP1V1_S3 54
MAKE_BASE=TRUE
PP1V1_S3 54
PP1V1_S3 10

APOLLO BUCK4 SW1 (SPARE)

54 PP1V1_SW1_SPARE
MAKE_BASE=TRUE
VOLTAGE=1.1V

APOLLO BUCK5 (SLEEP1)

70 68 53 PPVDD_S1_FIXED — PPVDD_S1_FIXED 13
MAKE_BASE=TRUE
VOLTAGE=0.81V
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13
PPVDD_S1_FIXED 13

APOLLO BUCK6 (ACTIVE)

68 53 PP2V63_OTP — PP2V63_OTP 16 17
MAKE_BASE=TRUE

ATHENA BUCK7 (ACTIVE)

70 68 57 PPVDD_CPU_SRAM — PPVDD_CPU_SRAM 10
MAKE_BASE=TRUE

ATHENA BUCK8 (SW CTRL)

70 68 60 PPVDD_GPU_SRAM — PPVDD_GPU_SRAM 10
MAKE_BASE=TRUE

ATHENA BUCK9 (SLEEP1)

68 60 PPVDD_S1_DCS — PPVDD_S1_DCS 10
MAKE_BASE=TRUE
VOLTAGE=0.912V

APOLLO BUCK10 (SLEEP1)

68 53 PPVDD_S1_QL — PPVDD_S1_QL 5 10
MAKE_BASE=TRUE
VOLTAGE=0.6V

ATHENA BUCK11 (ACTIVE)

70 68 60 PPVDD_ECPU — PPVDD_ECPU 12
MAKE_BASE=TRUE
VOLTAGE=1.06V

APOLLO BUCK12 (ACTIVE)

68 53 PP1V4_CAMERA — PP1V4_CAMERA 54
MAKE_BASE=TRUE

ATHENA LD01 (SLEEP2)

68 58 PP3V3_S2_ACE — PP3V3_S2_ACE 32 34
MAKE_BASE=TRUE

ATHENA LD02 (SPARE)

58 ATHENA_LDO2_SPARE — ATHENA_LDO2_SPARE
MAKE_BASE=TRUE

ATHENA LD03 (SLEEP2)

68 58 PP2V95_S2_THROTTLE — PP2V95_S2_THROTTLE 64
MAKE_BASE=TRUE

ATHENA_LD05 (SLEEP2)

68 58 PP3V3_S2_REDRIVER — PP3V3_S2_REDRIVER 34 35
MAKE_BASE=TRUE

ATHENA LD06 (SPARE)

58 PP3V3_LDO6_SPARE — PP3V3_LDO6_SPARE
MAKE_BASE=TRUE

ATHENA LD07 (ACTIVE)

68 58 PP3V3_USB — PP3V3_USB 5 11
MAKE_BASE=TRUE

ATHENA LD08 (SLEEP2)

68 58 PP3V3_S2_SCORPIUS — PP3V3_S2_SCORPIUS 64
MAKE_BASE=TRUE

APOLLO LD010 (ACTIVE)

68 54 PP0V9_NAND — PP0V9_NAND 16 17
MAKE_BASE=TRUE

ATHENA LD011 (SLEEP2)

68 58 PP3V0_S2_MISC — PP3V0_S2_MISC
MAKE_BASE=TRUE

ATHENA LD013 (SW CTRL)

68 58 PP3V3_S2_GRAPE — PP3V3_S2_GRAPE 10
MAKE_BASE=TRUE

ATHENA LD014 (ACTIVE)

68 58 PP1V2_SOC — PP1V2_SOC 11
MAKE_BASE=TRUE
PP1V2_SOC 10 11
PP1V2_SOC 11
PP1V2_SOC 11

APOLLO LD015 (SLEEP2)

68 54 PP0V775_S2_AOP — PP0V775_S2_AOP 10
MAKE_BASE=TRUE

ATHENA LD016 (SLEEP2)

68 58 PP1V8_S2_LDO_SCORPIUS — PP1V8_S2_LDO_SCORPIUS 64
MAKE_BASE=TRUE

APOLLO LD017(ACTIVE)

69 54 PP3V3_PENROSE — PP3V3_PENROSE 200 MA(MAX) 22
MAKE_BASE=TRUE

APOLLO LD023(SW CTRL)

68 54 PP2V85_PEARL — PP2V85_PEARL 10 MA(MAX) 38
MAKE_BASE=TRUE

APOLLO LD021(SW CTRL)

68 54 PP2V90_FRONT_CAM — PP2V90_FRONT_CAM 43 MA(MAX) 24
MAKE_BASE=TRUE

APOLLO LD09 (ACTIVE)

68 54 PP1V215_FRONT_CAM — PP1V215_FRONT_CAM 24
MAKE_BASE=TRUE

APOLLO LD022(SW CTRL)

68 54 PP1V215_PEARL — PP1V215_PEARL 110 MA(MAX) 38
MAKE_BASE=TRUE

APOLLO LD04 (SW CTRL)

68 54 PP3V0_ALS — PP3V0_ALS 39
MAKE_BASE=TRUE

APOLLO LD018 (SPARE)

54 APOLLO_LDO18_SPARE — APOLLO_LDO18_SPARE 460 MA 11537
MAKE_BASE=TRUE

APOLLO LD019 (SPARE)

54 APOLLO_LDO19_SPARE — APOLLO_LDO19_SPARE
MAKE_BASE=TRUE

APOLLO LD020 (SPARE)

54 APOLLO_LDO20_SPARE — APOLLO_LDO20_SPARE 11540
MAKE_BASE=TRUE

APOLLO LD024(SW CTRL)

68 54 PP3V1_PEARL — PP3V1_PEARL 25 MA(MAX) 38
MAKE_BASE=TRUE

APOLLO LD026 (SPARE)

68 54 PP1V0_S2_R1_SPARE — PP1V0_S2_R1_SPARE 11539
MAKE_BASE=TRUE

APOLLO LD027 (SPARE)

54 APOLLO_LDO27_SPARE — APOLLO_LDO27_SPARE 11541
MAKE_BASE=TRUE

ADAMS:

ADAMS_BUCK0 (SW CONTROL)

69 45 PP1V4_ADAMS1_VDDL — PP1V4_ADAMS1_VDDL 45 47
MAKE_BASE=TRUE

ADAMS_LDO1 (SW CONTROL)

69 45 PP3V3_ADAMS_LDO1 — PP3V3_ADAMS_LDO1 47
MAKE_BASE=TRUE
PP3V3_ADAMS_LDO1 47

ADAMS_LDO2 (SW CONTROL)

69 45 PP3V0_JASPER_RX_AVDDH — PP3V0_JASPER_RX_AVDDH 50
MAKE_BASE=TRUE

ADAMS_LDO3 (SW CONTROL)

69 45 PP3V0_PENROSE — PP3V0_PENROSE 23
MAKE_BASE=TRUE

ADAMS_LDO4 (SW CONTROL)

69 45 PP3V3_JASPER_TX_AVDDH — PP3V3_JASPER_TX_AVDDH 50
MAKE_BASE=TRUE

ADAMS_LDO5 (SW CONTROL)

45 PP1V8_TOF_VDDIO_ADAMS — PP1V8_TOF_VDDIO_ADAMS 50
MAKE_BASE=TRUE

ADAMS_LDO6 (SW CONTROL)

69 45 PP2V85_WIDE_RCAM1_AVDDH1 — PP2V85_WIDE_RCAM1_AVDDH1 48
MAKE_BASE=TRUE

ADAMS_LDO7 (SW CONTROL)

69 45 PP2V85_SWIDE_RCAM2_AVDDH1 — PP2V85_SWIDE_RCAM2_AVDDH1 49
MAKE_BASE=TRUE

ADAMS_LDO8 (SW CONTROL)

PP1V215_RCAM_SWIDE_VDDL — PP1V215_RCAM_SWIDE_VDDL 49
MAKE_BASE=TRUE

ADAMS_LDO9 (SW CONTROL)

69 45 PP1V215_RCAM_WIDE_VDDL — PP1V215_RCAM_WIDE_VDDL 48
MAKE_BASE=TRUE

ADAMS_LDO10 (SPARE)

45 ADAMS_LDO10_SPARE — ADAMS_LDO10_SPARE 11542
MAKE_BASE=TRUE

ADAMS_SW1 (SW CONTROL)

69 45 PP1V8_CAM_PMU1_IO_SW — PP1V8_CAM_PMU1_IO_SW 46
MAKE_BASE=TRUE
PP1V8_CAM_PMU1_IO_SW 48
PP1V8_CAM_PMU1_IO_SW 49
PP1V8_CAM_PMU1_IO_SW 50

CHARGER MAIN

68 61 51 34 26 PPVCC_MAIN — PPVCC_MAIN 57
MAKE_BASE=TRUE
DIDT=TRUE
PPVCC_MAIN 57
PPVCC_MAIN 57
PPVCC_MAIN 53 57 60
PPVCC_MAIN 54 58
PPVCC_MAIN 41
PPVCC_MAIN 60
PPVCC_MAIN 66
PPVCC_MAIN 63
PPVCC_MAIN 25
PPVCC_MAIN 37
PPVCC_MAIN 60 62 65
PPVCC_MAIN 19 20
PPVCC_MAIN 28 29 30 31
PPVCC_MAIN 63 64
PPVCC_MAIN 32
PPVCC_MAIN 45
PPVCC_MAIN 47
PPVCC_MAIN 66

CHARGER HIGH

68 61 PPVCC_HIGH — PPVCC_HIGH 54 58
MAKE_BASE=TRUE
PPVCC_HIGH 37
PPVCC_HIGH 45

BATTERY

68 61 PPBATT_VCC — PPBATT_VCC 64
MAKE_BASE=TRUE
DIDT=TRUE

USB POWER INPUT

60 PPVBUS_PROT — PPVBUS_PROT 34 56 61
MAKE_BASE=TRUE

ON_BUF

68 58 PP1V8_ALWAYS — PP1V8_ALWAYS 6 59 61
MAKE_BASE=TRUE

BACKLIGHT BOOST

72 68 60 PPLED_OUT — PPLED_OUT 41 72
MAKE_BASE=TRUE
PPLED_OUT 41 72
PPLED_OUT 41 72

SYNC_MASTER=J207_MLB_B SYNC_DATE=03/09/2017
PAGE TITLE
ALIASES: POWER
DRAWING NUMBER SIZE