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.

J317 PREEVT: MLB-A

LAST_MODIFICATION=Thu Apr 5 15:38:00 2018
J320_DEV_ARUBA_J3XX SYNC VER 0.43.0

J317_WIFI_MLB SYNC VER 0.84.0
J320_NFC_MLB SYNC VER 0.22.0

REV	ECN	DESCRIPTION OF REVISION	CK APPD / DATE
3	0011875113	ENGINEERING RELEASED	2018-04-05

SCH AND BOARD P/N

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-03639	1	SCHEM,MLB-A,(YN),J317	SCH1	CRITICAL	
820-01353		PCBF,MLB-A,(YN),J317	PCB1	CRITICAL	

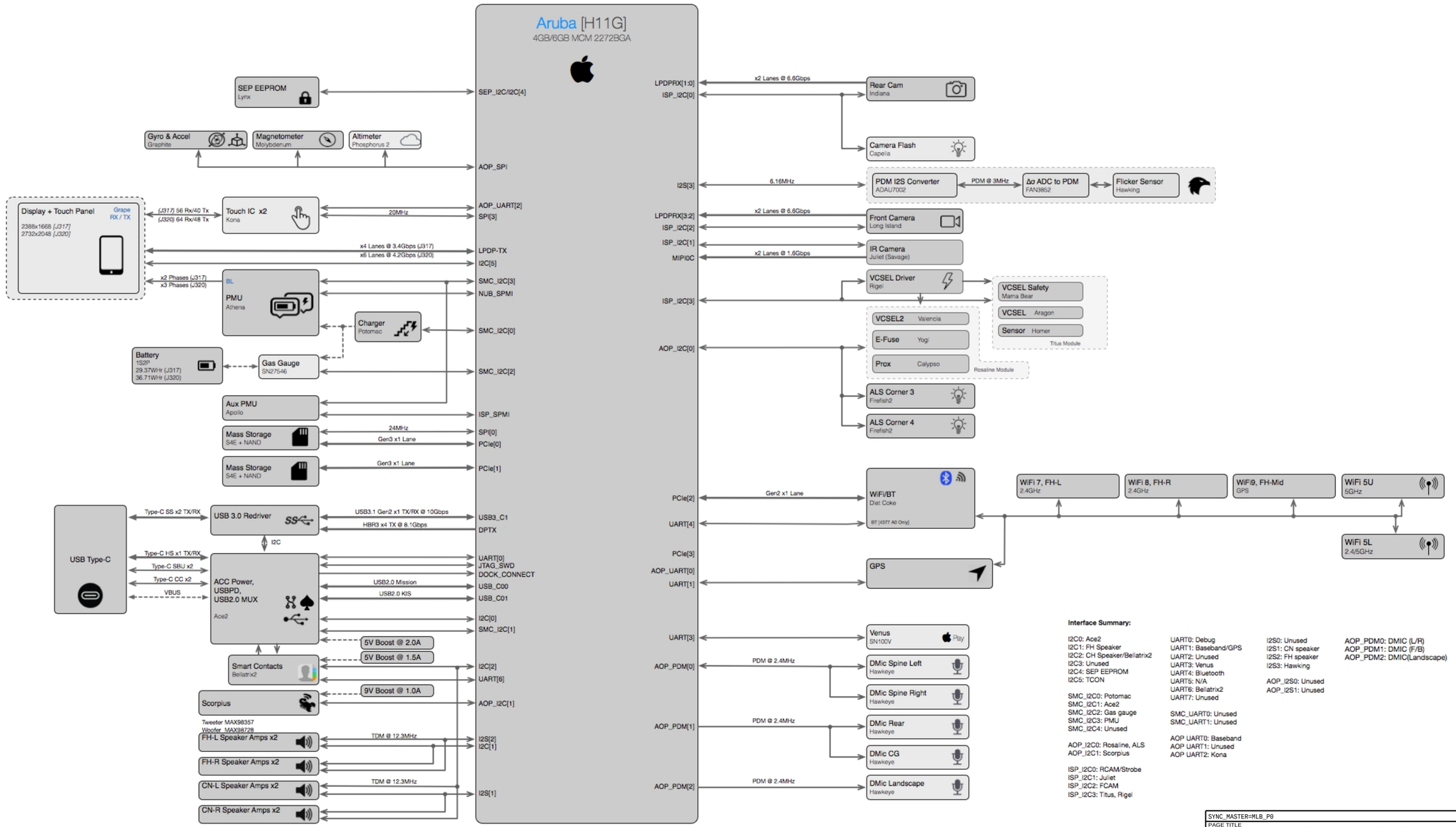
SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017

DRAWING TITLE

SCHEM,MLB-A,(YN),J317

J317/J320 | System Block Diagram - Major Interfaces

Apple Confidential Updated: Mar 28, 2018



Interface Summary:

I2C0: Ace2
I2C1: FH Speaker
I2C2: CH Speaker/Bellatrix2
I2C3: Unused
I2C4: SEP EEPROM
I2C5: TCON

SMC_I2C0: Potomac
SMC_I2C1: Ace2
SMC_I2C2: Gas gauge
SMC_I2C3: PMU
SMC_I2C4: Unused

AOP_I2C0: Rosaline, ALS
AOP_I2C1: Scorpius

ISP_I2C0: RCAM/Strobe
ISP_I2C1: Juliet
ISP_I2C2: FCAM
ISP_I2C3: Titus, Rigel

UART0: Debug
UART1: Baseband/GPS
UART2: Unused
UART3: Venus
UART4: Bluetooth
UART5: N/A
UART6: Bellatrix2
UART7: Unused

SMC_UART0: Unused
SMC_UART1: Unused

AOP UART0: Baseband
AOP UART1: Unused
AOP UART2: Kona

I2S0: Unused
I2S1: CN speaker
I2S2: FH speaker
I2S3: Hawking

AOP_I2S0: Unused
AOP_I2S1: Unused

AOP_PDM0: DMIC (L/R)
AOP_PDM1: DMIC (F/B)
AOP_PDM2: DMIC(Landscape)

SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017

PAGE TITLE

BLOCK DIAGRAM

CKPLUS WAIVE TABLE

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

MECHANICAL PARTS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
806-13989	1	FENCE,KONA,MLB	TOUCH_FENCE	CRITICAL	
806-12808	1	CAN,RF,MLB_B	CELL_FENCE	CRITICAL	MLB_B
806-14648	1	FENCE,AP,MLB	AP_FENCE	CRITICAL	
806-12983	1	CAN,FH REMOTE FEM,MLB_B	RFEM_FENCE	CRITICAL	MLB_B
806-14412	1	CAN,REMOTE FEM,GNSS,MLB_A	RFEMGNSS_FENCE	CRITICAL	MLB_A
806-15354	1	CAN,VENUS,MLB_B	VENUS_FENCE	CRITICAL	MLB_B
806-16219	1	CAN,VENUS,MLB_A	VENUS_FENCE	CRITICAL	MLB_A

BARCODE LABEL/EEEE CODES

QTY	PART#		DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
1	825-7691	1	EEEE FOR 639-05502 (MLB B BEST)	EEEE_JM83	CRITICAL	EEEE_MLB_B_BEST
	825-7691	1	EEEE FOR 639-05503 (MLB B SUPREME)	EEEE_JM84	CRITICAL	EEEE_MLB_B_SUPREME
	825-7691	1	EEEE FOR 639-05504 (MLB B EXTREME)	EEEE_JM85	CRITICAL	EEEE_MLB_B_EXTREME
	825-7691	1	EEEE FOR 639-05505 (MLB B PRIME)	EEEE_JM86	CRITICAL	EEEE_MLB_B_PRIME
	825-7691	1	EEEE FOR 639-05506 (MLB B BEST JP)	EEEE_JM87	CRITICAL	EEEE_MLB_B_JP_BEST
	825-7691	1	EEEE FOR 639-05507 (MLB B SUPREME JP)	EEEE_JM88	CRITICAL	EEEE_MLB_B_JP_SUPREME
1	825-7691		EEEE FOR 639-05508 (MLB B EXTREME JP)	EEEE_JM89	CRITICAL	EEEE_MLB_B_JP_EXTREME
	825-7691	1	EEEE FOR 639-05509 (MLB B PRIME JP)	EEEE_JM8C	CRITICAL	EEEE_MLB_B_JP_PRIME
	825-7691	1	EEEE FOR 639-05510 (MLB B BEST CH)	EEEE_JM8D	CRITICAL	EEEE_MLB_B_CH_BEST
	825-7691	1	EEEE FOR 639-05511 (MLB B SUPREME CH)	EEEE_JM8F	CRITICAL	EEEE_MLB_B_CH_SUPREME
	825-7691	1	EEEE FOR 639-05512 (MLB B EXTREME CH)	EEEE_JM8G	CRITICAL	EEEE_MLB_B_CH_EXTREME
	825-7691	1	EEEE FOR 639-05513 (MLB B PRIME CH)	EEEE_JM8H	CRITICAL	EEEE_MLB_B_CH_PRIME
1	825-7691		EEEE FOR 639-05514 (MLB A BEST)	EEEE_JM8J	CRITICAL	EEEE_MLB_A_BEST
	825-7691	1	EEEE FOR 639-05515 (MLB A SUPREME)	EEEE_JM8K	CRITICAL	EEEE_MLB_A_SUPREME
	825-7691	1	EEEE FOR 639-05516 (MLB A EXTREME)	EEEE_JM8L	CRITICAL	EEEE_MLB_A_EXTREME
	825-7691	1	EEEE FOR 639-05517 (MLB A PRIME)	EEEE_JM8M	CRITICAL	EEEE_MLB_A_PRIME

CAPS

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
138S00140	138S00141	C4191,ETC	3.9UF KYOCERA	
138S00229	138S0884	C7760,ETC	20UF KYOCERA	
138S00143	138S00144	C7740,ETC	22UF KYOCERA	
138S00163	138S00144	C7740,ETC	22UF TAIYO YUDEN	
138S00140	138S00139	C1800,ETC	3.9UF KYOCERA	
138S00164	138S00139	C1800,ETC	4UF TAIYO YUDEN	

SOC

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
339S00494	1	IC,ARUBA	U0600	CRITICAL	BEST_PROD
339S00494	1	IC,ARUBA	U0600	CRITICAL	SUPREME_PROD
339S00494	1	IC,ARUBA	U0600	CRITICAL	EXTREME_PROD

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
339S00502	339S00494		U0600	MICRON

PART#

	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL		BOM OPTION
339S00501	1	IC,ARUBA	U0600	CRITICAL		PRIME_PROD

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
339S00503	339S00501		U0600	MICRON

ATHENA

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
343S00252	1	IC,PMU,ATHENA,D2483A0,OTP-BF	U8100	CRITICAL	

APOLLO

PART#

	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION	
343S00248	1	IC,PMU,APOLLO,D2537A0,OTP-BE	U7700	CRITICAL		

POTOMAC

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
343S00257	1	IC,CHRGR,POTOMAC,D2559A0,OTP-BG	U8500 CRITICAL		

NAND

BEST FLASH CONFIGURATIONS(U1900 NOSTUFF)

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00356	1	TOSHIBA,BICS3	U1800	CRITICAL	BEST_PROD

PART NUMBER

	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00349	335S00356	BEST_PROD	U1800	WESTERNDIGITAL,BICS3

SUPREME FLASH CONFIGURATIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00357	2	TOSHIBA,BICS3	U1800,U1900	CRITICAL	SUPREME_PROD

PART NUMBER

	ALTERNATE FOR PART NUMBER	BOM OPTION	COMMENTS:	
335S00246	335S00357	SUPREME_PROD	U1800,U1900	WESTERNDIITAL,BICS3

EXTREME FLASH CONFIGURATIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00358	1	TOSHIBA,BICS3	U1800,U1900	CRITICAL	EXTREME_PROD

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00247	335S00358	EXTREME_PROD	U1800,U1900	WESTERNDIGITAL,BICS3
335S00276	335S00358	EXTREME_PROD	U1800,U1900	SAMSUNG,3DV4

PRIME FLASH CONFIGURATIONS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00352	1	WESTERNDIGITAL,BICS3	U1800,U1900	CRITICAL	PRIME_PROD

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00339	335S00352	PRIME_PROD	U1800,U1900	SAMSUNG,3DV4

SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017

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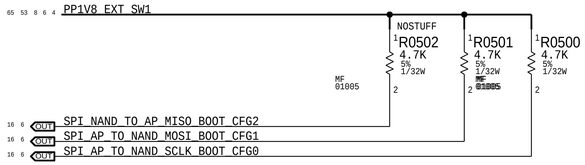
BOM TABLES

BOOT CONFIG ID

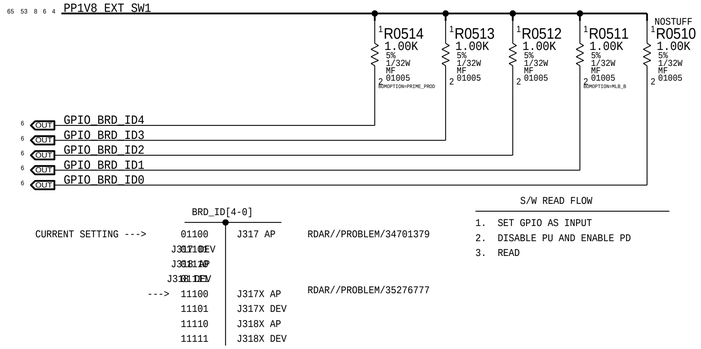


BOOT_CFG[3:0]	MODE
000	SPI0 NOR
001	SPI0 NOR TEST
(PRODUCTION) ---> 010	SPI0 NAND
CURRENT SETTING (PROTO) ---> 011	SPI0 NAND TEST
100	SPI0 NOR (40MHZ)
101	SPI0 NOR (40MHZ) TEST
110	SPI0 NOR (60MHZ)
111	SPI0 NOR (60MHZ) TEST

S/W READ FLOW

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

BOARD ID



BRD_ID[4-0]		
CURRENT SETTING --->	01100	J317 AP
	J317 DEV	
	J318 AP	
	J318 DEV	
--->	11100	J317X AP
	11101	J317X DEV
	11110	J318X AP
	11111	J318X DEV

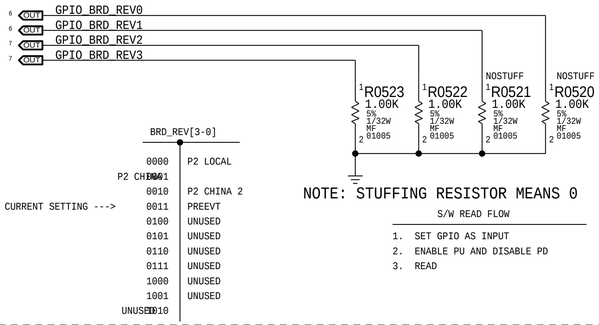
RDAR//PROBLEM/34701379

RDAR//PROBLEM/35276777

S/W READ FLOW

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

BOARD REVISION

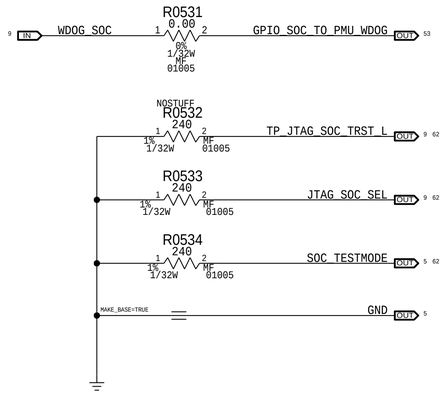


BRD_REV[3-0]	
0000	P2 LOCAL
P2 CHINA 1	0001
0010	P2 CHINA 2
CURRENT SETTING ---> 0011	PREEVT
0100	UNUSED
0101	UNUSED
0110	UNUSED
0111	UNUSED
1000	UNUSED
1001	UNUSED
UNUSED	1010

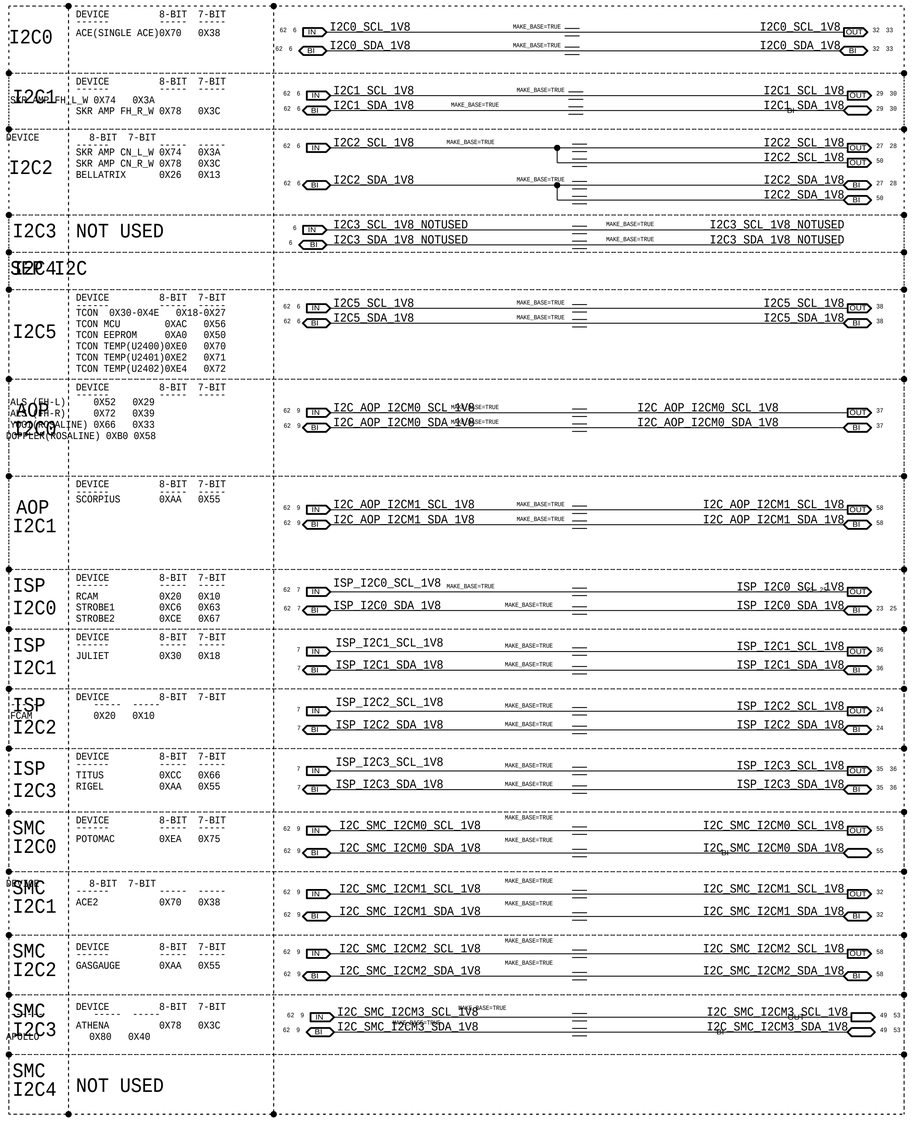
NOTE: STUFFING RESISTOR MEANS 0

S/W READ FLOW

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



I2C0	DEVICE	8-BIT	7-BIT
	ACE(SINGLE ACE)	0X70	0X38
I2C1	DEVICE	8-BIT	7-BIT
SKR AMP FH_L_W	0X74	0X3A	
SKR AMP FH_R_W	0X78	0X3C	
I2C2	DEVICE	8-BIT	7-BIT
SKR AMP CN_L_W	0X74	0X3A	
SKR AMP CN_R_W	0X78	0X3C	
BELLATRIX	0X26	0X13	
I2C3	NOT USED		
I2C4	NOT USED		
I2C5	DEVICE	8-BIT	7-BIT
TCON	0X30-0X4E		0X18-0X27
TCON MCU	0XAC	0X56	
TCON EEPROM	0XA0	0X50	
TCON TEMP(U2400)	0XE0	0X70	
TCON TEMP(U2401)	0XE2	0X71	
TCON TEMP(U2402)	0XE4	0X72	
AOP I2C0	DEVICE	8-BIT	7-BIT
ALS (FH-L)	0X52	0X29	
ALS (FH-R)	0X72	0X39	
TOF(COASALINE)	0X66	0X33	
DOPPLER(MOSALINE)	0XB0	0X58	
AOP I2C1	DEVICE	8-BIT	7-BIT
SCORPIUS	0XAA	0X55	
ISP I2C0	DEVICE	8-BIT	7-BIT
RCAM	0X20	0X10	
STROBE1	0XC6	0X63	
STROBE2	0XCE	0X67	
ISP I2C1	DEVICE	8-BIT	7-BIT
JULIET	0X30	0X18	
ISP I2C2	DEVICE	8-BIT	7-BIT
FCAM	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	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	
	0X80	0X40	
SMC I2C4	NOT USED		



SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017

PAGE TITLE

SOC: MISC & ALIASES

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	
33 IN	BB29	C0_USB31_RX_P	USB3_SOC_RX_P
33 IN	BC29	C0_USB31_RX_N	USB3_SOC_RX_N
33 OUT	BE29	C0_USB31_TX_P	USB3_SOC_TX_P
OUT 33	BF29	C0_USB31_TX_N	USB3_SOC_TX_N
5	BA26	USB31_REXT	USB3_SOC_REXT
62 32 BI	BC50	C00_USB_DP	USB_SOC_P
62 32 BI	BC49	C00_USB_DM	USB_SOC_N
NC_C00_USB_ID	AW42	C00_USB_ID	
5	BB36	C00_USB_REXT	C00_USB_SOC_REXT
62 33	AY42	C00_USB_VBUS	USB_VBUS_DETECT_R
62 32 BI	BB50	C01_USB_DP	USB_KIS_P
62 32 BI	BB49	C01_USB_DM	USB_KIS_N
NC_C01_USB_ID	AW41	C01_USB_ID	
5	BB37	C01_USB_REXT	C01_USB_SOC_REXT
65 11	AY41	C01_USB_VBUS	PP3V3_USB
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	
5	BB35	C1_USB_REXT	C1_USB_SOC_REXT
NC_C1_USB_VBUS	AY43	C1_USB_VBUS	
16 5 BI	Y47	SWD_TMS2	SWD_NAND1_SWDIO
17 5 BI	AB46	SWD_TMS3	SWD_NAND2_SWDIO

SWD

DDR0_ZQ	A5	DDR0_ZQ	DDR0_ZQ 5
DDR1_ZQ	A6	DDR1_ZQ	DDR1_ZQ 5
DDR4_ZQ	A27	DDR4_ZQ	DDR4_ZQ 5
DDR5_ZQ	A28	DDR5_ZQ	DDR5_ZQ 5
DDR0_ZQ1	A4	DDR0_ZQ1	DDR0_ZQ1 5
DDR1_ZQ1	A7	DDR1_ZQ1	DDR1_ZQ1 5
DDR4_ZQ1	A26	DDR4_ZQ1	DDR4_ZQ1 5
DDR5_ZQ1	A29	DDR5_ZQ1	DDR5_ZQ1 5
DRAM			
DDR0_RREF	M1	DDR0_RREF	DDR0_RREF 5
DDR1_RREF	L1	DDR1_RREF	DDR1_RREF 5
DDR2_RREF	A23	DDR2_RREF	DDR2_RREF 5
DDR3_RREF	A24	DDR3_RREF	DDR3_RREF 5
DDR4_RREF	A30	DDR4_RREF	DDR4_RREF 5
DDR5_RREF	A31	DDR5_RREF	DDR5_RREF 5
DDR6_RREF	L50	DDR6_RREF	DDR6_RREF 5
DDR7_RREF	M50	DDR7_RREF	DDR7_RREF 5
FORCE_DFU	AJ45 INT PD	GPIO_FORCE_DFU	IN 59 62
RESET			
REQUEST_DFU1	AH47	GPIO_PMU_TO_SOC_BTN_ONOFF_L	IN 53
REQUEST_DFU2	AD49	GPIO_PMU_TO_SOC_BTN_VOL_DOWN_L	IN 53
DFU_STATUS	AH45	SOC_TO_ACE_DFU_STATUS	OUT 32 62
TESTMODE	BF47	SOC_TESTMODE	IN 4 62
CFSB	AL48	GPIO_PMU_TO_SYSTEM_ACTIVE_READY_R	
HOLD_RESET	BE45	GND	IN 4
LP4_IN_RESET*	AF10	RESET_PMU_TO_SYSTEM_L	IN 9 53
CLOCKS	BF16	XTAL_SOC_24M_IN	
XI0	BF17	XTAL_SOC_24M_OUT	
XO0	AM44	TST_CLKOUT	OUT 62
TST_CLKOUT/CTM_TRIGGER	AC43	ADC_SOC_TO_PMU_ANALOGMUX_OUT	OUT 53 63
ANALOGMUX_OUT	AE47	NC_GPIO_SOC_TO_WLAN_DEVICE_WAKE	OUT 61
TMR32_PWM0	AF47	SWD_SCORPIUS_SWCLK	OUT 58 62
TMR32_PWM1	AH46	GPIO_WLAN_TO_SOC_TIME_SYNC	IN 60 62
TMR32_PWM2			

DFU1 IS RELEASED FIRST FOR DFU ENTER OPERATION

R0630 30.1K 1% 1/32W MF 01005 BI
USB_VBUS_DETECT (63 55 IN) — USB_VBUS_DETECT_R

R06A2 0 5% 1/28W MF 0201
GPIO_PMU_TO_SYSTEM_ACTIVE_READY (IN 32 53 62)

R0650 510K 5% 1/32W MF 01005 NOSTUFF
R0651 1.00K 1% 1/32W MF 01005 CRITICAL
Y0600 1.60X1.20MM 24.000MHZ-20PPM-9.5PF-60OHM CRITICAL
SOC_24M_O
C0650 12PF 5% 16V NP0-C0G 01005-1 CRITICAL
C0651 12PF 5% 16V NP0-C0G 01005-1 CRITICAL

PPVDD_S1_QL (65 10 5)

R0661	240 1% 1/32W MF 01005	DDR0_ZQ PLACE_NEAR=U0600.A5:5MM
R0662	240 1% 1/32W MF 01005	DDR1_ZQ PLACE_NEAR=U0600.A6:5MM
R0663	240 1% 1/32W MF 01005	DDR4_ZQ PLACE_NEAR=U0600.A27:5MM
R0664	240 1% 1/32W MF 01005	DDR5_ZQ PLACE_NEAR=U0600.A28:5MM
R0665	240 1% 1/32W MF 01005	DDR0_ZQ1 PLACE_NEAR=U0600.A4:5MM
R0666	240 1% 1/32W MF 01005	DDR1_ZQ1 PLACE_NEAR=U0600.A7:5MM
R0667	240 1% 1/32W MF 01005	DDR4_ZQ1 PLACE_NEAR=U0600.A26:5MM
R0668	240 1% 1/32W MF 01005	DDR5_ZQ1 PLACE_NEAR=U0600.A29:5MM

PPVDD_S1_QL (65 10 5)

R0669	240 1% 1/32W MF 01005	DDR0_RREF PLACE_NEAR=U0600.M1:5MM
R0670	240 1% 1/32W MF 01005	DDR1_RREF PLACE_NEAR=U0600.L1:5MM
R0671	240 1% 1/32W MF 01005	DDR2_RREF PLACE_NEAR=U0600.A23:5MM
R0672	240 1% 1/32W MF 01005	DDR3_RREF PLACE_NEAR=U0600.A24:5MM
R0673	240 1% 1/32W MF 01005	DDR4_RREF PLACE_NEAR=U0600.A30:5MM
R0674	240 1% 1/32W MF 01005	DDR5_RREF PLACE_NEAR=U0600.A31:5MM
R0675	240 1% 1/32W MF 01005	DDR6_RREF PLACE_NEAR=U0600.L50:5MM
R0676	240 1% 1/32W MF 01005	DDR7_RREF PLACE_NEAR=U0600.M50:5MM

PP1V8_EXT_SW1 (65 17 16 9 5)
PP1V8_EXT_SW1 (65 17 16 9 5)

R1037 1.00K 5% 1/32W MF 01005
R1038 1.00K 5% 1/32W MF 01005

16 5 SWD_NAND1_SWDIO
17 5 SWD_NAND2_SWDIO

USB3_SOC_REXT	R0621 200 1% 1/32W MF 01005	PLACE_NEAR=U0600.BA26:6MM
C00_USB_SOC_REXT	R0641 200 1% 1/32W MF 01005	PLACE_NEAR=U0600.BB36:6MM
C01_USB_SOC_REXT	R0640 200 1% 1/32W MF 01005	PLACE_NEAR=U0600.BB37:6MM
C1_USB_SOC_REXT	R0642 200 1% 1/32W MF 01005	PLACE_NEAR=U0600.BB35:6MM

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

SYNC_MASTER=DEV_ARUBA_J3XX
SYNC_DATE=12/14/2017
PAGE TITLE
SOC: MAIN

SOC: GPIO

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

	NC_SOC_I2S0_BCLK	Y1	I2S0_BCLK
	NC_SOC_I2S0_DIN	W4	I2S0_DIN/SIO_LEAP_MADI_IN /AOP_LEAP_MADI_IN
	NC_SOC_I2S0_DOUT	Y4	I2S0_DOUT/SIO_LEAP_MADI_OUT /AOP_LEAP_MADI_OUT
	NC_SOC_I2S0_LRCK	V3	
	NC_I2S0_SOC_TO_BELFIELD_MCLK	W3	
	I2S1_SOC_TO_SPKRAMP_CN_BCLK	BF31	I2S1_BCLK
IN	I2S1_SPKRAMP_CN_TO_SOC_DOUT	BC32	I2S1_DIN
OUT	I2S1_SOC_TO_SPKRAMP_CN_DOUT	BD33	I2S1_DOUT
OUT	I2S1_SOC_TO_SPKRAMP_CN_LRCK	BD31	I2S1_LRCK
OUT	I2S1_SOC_TO_SPKRAMP_CN_MCLK_R	BC31	I2S1_MCK
OUT	I2S2_SOC_TO_SPKRAMP_FH_BCLK	R1	I2S2_BCLK/AP_PDM_IN2_CLK
IN	I2S2_SPKRAMP_FH_TO_SOC_DOUT	U3	I2S2_DIN/AP_PDM_IN1_CLK
	I2S2_SOC_TO_SPKRAMP_FH_DOUT	T2	I2S2_DOUT/AP_PDM_IN1_DAT
OUT	I2S2_SOC_TO_SPKRAMP_FH_LRCK	T3	I2S2_LRCK/AP_PDM_IN2_DAT
OUT	I2S2_SOC_TO_SPKRAMP_FH_MCLK_R	R3	I2S2_MCK/AP_PDM_OUT0_CLK
OUT	I2S3_SOC_TO_HAWKING_BCLK	BF44	I2S3_BCLK
IN	I2S3_HAWKING_TO_SOC_DOUT	BD39	I2S3_DIN
OUT	NC_GPIO_XBAR_EN_PULSE_L	BC42	I2S3_DOUT
OUT	I2S3_SOC_TO_HAWKING_LRCK	BC37	I2S3_LRCK
IN	NC_GPIO_CODEC_TO_SOC_IRQ_L	BD38	I2S3_MCK
OUT	NC_GPIO_XBAR_DIS_PULSE_L	W2	AP_PDM_OUT0_DAT
	SPI_NAND_TO_AP_MISO_BOOT_CFG2	AA4	SPI0_MISO
OUT	SPI_AP_TO_NAND_MOSI_BOOT_CFG1	AA3	SPI0_MOSI
OUT	SPI_AP_TO_NAND_SCLK_BOOT_CFG0_R	AA5	SPI0_SCLK
IN	NC_SPI_BELFIELD_MISO	BE38	SPI1_MISO
OUT	NC_SPI_BELFIELD_MOSI	BC40	SPI1_MOSI
	NC_SPI_BELFIELD_SCLK	BF37	SPI1_SCLK
OUT	NC_SPI_BELFIELD_CS_L	BC36	SPI1_SSIN
IN	NC_SPI_MESA_MISO	BC33	SPI2_MISO
OUT	NC_SPI_MESA_MOSI	BE32	SPI2_MOSI
	NC_SPI_MESA_SCLK	BD32	SPI2_SCLK
	NC_GPIO_MESA_TO_SOC_IRQ	BE33	SPI2_SSIN
IN	SPI_SOC_TO_GRAPE_MISO	BF34	SPI3_MISO
OUT	SPI_SOC_TO_GRAPE_MOSI	BD43	SPI3_MOSI
OUT	SPI_SOC_TO_GRAPE_SCLK_R	BF33	SPI3_SCLK
OUT	SPI_SOC_TO_GRAPE_CS_L	BD44	SPI3_SSIN
	NC_SPI4_MISO	Y3	SPI4_MISO
IN	DBL_CLICK_DET	V2	SPI4_MOSI
	NC_SPI4_SCLK	R2	SPI4_SCLK
IN	NC_GPIO_BELFIELD_TO_SOC_IRQ_L	BE35	SPI5_MISO
OUT	NC_GPIO_SOC_TO_BELFIELD_RESET_L	BC39	SPI5_MOSI
OUT	NC_GPIO_SOC_TO_CODEC_RESET_L	BE36	SPI5_SCLK
IN	NC_GPIO_SOC_TO_SCORPIUSMCU_NRST_L	BC38	SPI5_SSIN

I2S

SPI

TRIGGER

I2C0_SCL	AG45	I2C0_SCL_1V8	4 6 62
I2C0_SDA	AG46	I2C0_SDA_1V8	4 6 62
I2C1_SCL	V4	I2C1_SCL_1V8	4 6 62
I2C1_SDA	V5	I2C1_SDA_1V8	4 6 62
I2C2_SCL	AK45	I2C2_SCL_1V8	4 6 62
I2C2_SDA	AL45	I2C2_SDA_1V8	4 6 62
I2C3_SCL	V6	I2C3_SCL_1V8_NOTUSED	4 6
I2C3_SDA	Y6	I2C3_SDA_1V8_NOTUSED	4 6
I2C4_SCL	W1	I2C4_SCL_1V8	6
I2C4_SDA	AA2	I2C4_SDA_1V8	6
I2C5_SCL	BE47	I2C5_SCL_1V8	4 6 62
I2C5_SDA	BF47	I2C5_SDA_1V8	4 6 62

I2C

SOCHOT1	AA48	SOCHOT1_SOC_TO_PMU_L	6 53 62
DROOP	AE49	VCCMAIN_DROOP_PMU_TO_SOC_L	6 53 62
CPU_TRIGGER0	AE48	GPIO_PMU_TO_CPU_TRIGGER_0	53 62
CPU_TRIGGER1	AA49	GPIO_PMU_TO_CPU_TRIGGER_1	53 62
GPU_TRIGGER0	AF48	GPIO_PMU_TO_GPU_TRIGGER_0	53 62
GPU_TRIGGER1	AD48	GPIO_PMU_TO_GPU_TRIGGER_1	53 62

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OUT	SOC_TO_SCORPIUSMCU_BOOT0	AJ47	GPIO[0]
IN	GPIO_PMU_TO_SOC_BTN_VOL_UP_L	AH49	GPIO[1]
	NC_SOC_GPIO2	AJ48	GPIO[2]
OUT	GPIO_SOC_TO_GRAPE_RESET_L	AH48	GPIO[3]
	GPIO_BRD_REV0	AF50	GPIO[4]
	NC_GPIO_SOC_TO_ROTTERDAM_EN	BC44	GPIO[5]
	NC_DISPLAY_ID	BF46	GPIO[6]
OUT	GPIO_SOC_BT_DEVICE_WAKE	BB38	GPIO[7]
OUT	GPIO_SOC_TO_ROTTERDAM_DEV_WAKE	BD40	GPIO[8]
	NC_SOC_GPIO9	AJ49	GPIO[9]
IN	GPIO_ACE_TO_SOC_IRQ_L	AC45	GPIO[10]
OUT	GPIO_SOC_TO_LED_DRIVER_EN	AJ46	GPIO[11]
BI	SWD_SCORPIUS_SWDIO	AD43	GPIO[12]
OUT	NC_GPIO_SOC_TO_BB_MESA_ON	AG48	GPIO[13]
NC_SOC_GPIO14		AC44	GPIO[14]
IN	GPIO_BRD_REV1	AH50	GPIO[15]
OUT	GPIO_SOC_TO_ROTTERDAM_DWLD_REQ	BB42	GPIO[16]
IN	BT_AUDIO_SYNC	BB39	GPIO[17]
	NC_SOC_GPIO18	Y49	GPIO[18]
OUT	GPIO_SOC_TO_SPKRAMP_RESET_L	AF46	GPIO[19]
	NC_SOC_GPIO20	Y46	GPIO[20]
OUT	SOC_TO_TCON_FORCE_PWM	AE46	GPIO[21]
IN	GPIO_SPKRAMP_TO_SOC_IRQ_L	AA46	GPIO[22]
OUT	NC_GPIO_SOC_TO_PP2V9_RCAM_ADJ	AL44	GPIO[23]
OUT	GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC	AM45	GPIO[24]
NC_SOC_GPIO25		W50	GPIO[25]
NC_SOC_GPIO26		W49	GPIO[26]
IN	GPIO_BRD_ID0	V50	BOARD_ID0 /SOC_DEBUG1
IN	GPIO_BRD_ID1	AE50	BOARD_ID1
IN	GPIO_BRD_ID2	AJ50	BOARD_ID2
IN	GPIO_BRD_ID3	AA1	BOARD_ID3 /SPIO_SSIN
IN	GPIO_BRD_ID4	Y48	BOARD_ID4

GPIO

BOARD ID

IN	UART_DEBUG_TO_SOC_TX	AL50	UART0_RXD
OUT	UART_SOC_TO_DEBUG_TX	AM50	UART0_TXD
IN	UART_BB_GPS_TO_SOC_RTS_L	BD37	UART1_CTSN
OUT	UART_SOC_TO_BB_GPS_RTS_L	BD36	UART1_RTSN
IN	UART_BB_GPS_TO_SOC_TX	BD34	UART1_RXD
OUT	UART_SOC_TO_BB_GPS_TX	BD35	UART1_TXD
IN	NC_UART_WLAN_TO_SOC_RTS_L	AK48	UART2_CTSN
OUT	NC_UART_SOC_TO_WLAN_RTS_L	AK49	UART2_RTSN
IN	NC_UART_WLAN_TO_SOC_TX	AL49	UART2_RXD
OUT	NC_UART_SOC_TO_WLAN_TX	AM49	UART2_TXD
IN	UART_ROTTERDAM_TO_SOC_RTS_L	AL47	UART3_CTSN
OUT	UART_SOC_TO_ROTTERDAM_RTS_L	AM46	UART3_RTSN
IN	UART_ROTTERDAM_TO_SOC_TX	AM47	UART3_RXD
OUT	UART_SOC_TO_ROTTERDAM_TX	AM48	UART3_TXD
IN	UART_BT_TO_SOC_RTS_L	BB41	UART4_CTSN
OUT	UART_SOC_TO_BT_RTS_L	BD41	UART4_RTSN
IN	UART_BT_TO_SOC_TX	BE42	UART4_RXD
OUT	UART_SOC_TO_BT_TX	BE41	UART4_TXD
IN	UART_BELLATRIX2_TO_SOC_TX	AJ44	UART6_RXD
OUT	UART_SOC_TO_BELLATRIX2_TX	AH44	UART6_TXD
IN	NC_UART_ACC_TO_SOC_TX	AL46	UART7_RXD
OUT	NC_UART_SOC_TO_ACC_TX	AK46	UART7_TXD

UART

	CLK_NAND_24MHZ	BF42	NAND_SYS_CLK
	CLK_NAND2_24MHZ	BF43	NAND_SYS_CLK_DUAL
OUT	GPIO_SOC_TO_NAND_FW_STRAP	U6	SSD_BFH
OUT	GPIO_SOC_TO_NAND_RESET_L	U7	SSD_RESET*

NAND

R0703 33 5% 1/32W MF 01005 — I2S1_SOC_TO_SPKRAMP_CN_MCLK — PLACE_NEAR=U0600.AK31:5MM

R0701 33 5% 1/32W MF 01005 — I2S2_SOC_TO_SPKRAMP_FH_MCLK — PLACE_NEAR=U0600.R3:5MM

R0702 33 5% 1/32W MF 01005 — SPI_AP_TO_NAND_SCLK_BOOT_CFG0 — PLACE_NEAR=U0600.AA5:5MM

R0707 33 5% 1/32W MF 01005 — SPI_SOC_TO_GRAPE_SCLK — PLACE_NEAR=U0600.BD44:5MM

R0732 33 5% 1/32W MF 01005 — CLK_NAND_24MHZ → CLK_SOC_TO_NAND_24MHZ — PLACE_NEAR=U0600.BF42:5MM

R0730 33 5% 1/32W MF 01005 — CLK_NAND2_24MHZ → CLK_NAND2_TO_SOC_24MHZ — PLACE_NEAR=U0600.BF42:5MM

LYNX APN:337S00507

PP1V8_EXT_SW1

C07C0 0.47UF 20% 6.3V X5R 01005

U0702 STLNXA1L9YZ2 WLCSP

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

I2C4_SDA_1V8

I2C4_SCL_1V8

NOSTUFF C07B0 56PF 5% 25V NP0-C0G-CERM 01005

NOSTUFF C07A0 56PF 5% 25V NP0-C0G-CERM 01005

PP1V8_ALWAYS

PP1V8_EXT_SW1

R0790 47.0K 5% 1/32W MF 01005

R0791 47.0K 5% 1/32W MF 01005

VCCMAIN_DROOP_PMU_TO_SOC_L

SOCHOT1_SOC_TO_PMU_L

PP1V8_EXT_SW1

R0750 2.2K 5% 1/32W MF 01005	R0751 2.2K 5% 1/32W MF 01005	R0752 2.2K 5% 1/32W MF 01005	R0753 2.2K 5% 1/32W MF 01005	R0754 2.2K 5% 1/32W MF 01005	R0755 2.2K 5% 1/32W MF 01005	R0758 2.2K 5% 1/32W MF 01005 NOSTUFF	R0759 2.2K 5% 1/32W MF 01005 NOSTUFF	R0756 2.2K 5% 1/32W MF 01005	R0757 2.2K 5% 1/32W MF 01005	R0760 1.00K 5% 1/32W MF 01005	R0761 1.00K 5% 1/32W MF 01005
I2C0_SCL_1V8	I2C0_SDA_1V8	I2C1_SCL_1V8	I2C1_SDA_1V8	I2C2_SCL_1V8	I2C2_SDA_1V8	I2C3_SCL_1V8_NOTUSED	I2C3_SDA_1V8_NOTUSED	I2C4_SCL_1V8	I2C4_SDA_1V8	I2C5_SCL_1V8	I2C5_SDA_1V8

SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=12/14/2017

PAGE TITLE

SOC: I/OS

SOC: LPDP & MIPI

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FCBGA
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LPDP_SOC_TO_RCAM1_AUX	AT8	LPDPRX_AUX_D0_P	
NC_LPDPRX_AUX1	AT7	LPDPRX_AUX_D1_P	
LPDP_SOC_TO_FCAM2_AUX	AU8	LPDPRX_AUX_D2_P	
NC_LPDPRX_AUX3	AU7	LPDPRX_AUX_D3_P	
NC_LPDPRX_AUX4	AV8	LPDPRX_AUX_D4_P	
NC_LPDPRX_AUX5	AV7	LPDPRX_AUX_D5_P	
NC_LPDPRX_AUX6	AW8	LPDPRX_AUX_D6_P	
NC_LPDPRX_AUX7	AW7	LPDPRX_AUX_D7_P	
LPDP_RCAM1_TO_SOC_DATA_P<0>	AT4	LPDPRX_RX_D0_P	
LPDP_RCAM1_TO_SOC_DATA_N<0>	AT5	LPDPRX_RX_D0_N	
LPDP_RCAM1_TO_SOC_DATA_P<1>	AT1	LPDPRX_RX_D1_P	
LPDP_RCAM1_TO_SOC_DATA_N<1>	AT2	LPDPRX_RX_D1_N	
LPDP_FCAM2_TO_SOC_DATA_P<0>	AU4	LPDPRX_RX_D2_P	
LPDP_FCAM2_TO_SOC_DATA_N<0>	AU5	LPDPRX_RX_D2_N	
LPDP_FCAM2_TO_SOC_DATA_P<1>	AU1	LPDPRX_RX_D3_P	
LPDP_FCAM2_TO_SOC_DATA_N<1>	AU2	LPDPRX_RX_D3_N	
	AV4	LPDPRX_RX_D4_P	
	AV5	LPDPRX_RX_D4_N	
	AV1	LPDPRX_RX_D5_P	
	AV2	LPDPRX_RX_D5_N	
	AW4	LPDPRX_RX_D6_P	
	AW5	LPDPRX_RX_D6_N	
	AW1	LPDPRX_RX_D7_P	
	AW2	LPDPRX_RX_D7_N	
LPDPRX_RCAL_POS	AY7	LPDPRX_RCAL_P	
LPDPRX_RCAL_NEG	AY8	LPDPRX_RCAL_N	

LPDP_TX0P	AY50	LPDP_SOC_TO_TCON_DATA_P<0>	OUT
LPDP_TX0N	AY49	LPDP_SOC_TO_TCON_DATA_N<0>	OUT
LPDP_TX1P	AY47	LPDP_SOC_TO_TCON_DATA_P<1>	OUT
LPDP_TX1N	AY46	LPDP_SOC_TO_TCON_DATA_N<1>	OUT
LPDP_TX2P	AW50	LPDP_SOC_TO_TCON_DATA_P<2>	OUT
LPDP_TX2N	AW49	LPDP_SOC_TO_TCON_DATA_N<2>	OUT
LPDP_TX3P	AW47	LPDP_SOC_TO_TCON_DATA_P<3>	OUT
LPDP_TX3N	AW46	LPDP_SOC_TO_TCON_DATA_N<3>	OUT
LPDP_TX4P	AV50	NC_LPDP_SOC_TO_TCON_DATA_P<4>	OUT
LPDP_TX4N	AV49	NC_LPDP_SOC_TO_TCON_DATA_N<4>	OUT
LPDP_TX5P	AV47	NC_LPDP_SOC_TO_TCON_DATA_P<5>	OUT
LPDP_TX5N	AV46	NC_LPDP_SOC_TO_TCON_DATA_N<5>	OUT
LPDP_AUX_P	AU47	LPDP_SOC_TO_TCON_AUX_P	BI
LPDP_AUX_N	AU46	LPDP_SOC_TO_TCON_AUX_N	BI
LPDP_RCAL_P	AU50	LPDP_RCAL_POS	
LPDP_RCAL_N	AU49	LPDP_RCAL_NEG	
EDP_HPD	BB44	LPDP_TCON_TO_SOC_HPD	IN
DISP_TOUCH_BSYNC0	BE44	GPIO_SOC_TO_KONA_DISPLAY_BSYNC0	
DISP_TOUCH_BSYNC1	BD45	GPIO_SOC_TO_KONA_DISPLAY_BSYNC1	OUT
DISP_TOUCH_EB	BC35	GPIO_SOC_TO_DISPLAY_EB	OUT
DISP_POL	BC46	NC_DISPLAY_POL	
DISP_I2C_SCL/DISP_SPMI_SCLK	BC45	NC_DISP_I2C_SCL	
DISP_I2C_SDA/DISP_SPMI_SDATA	BC43	NC_DISP_I2C_SDA	
DWI_CLK	AF49	GPIO_BRD_REV3	IN
DWI_DO	AG49	GPIO_BRD_REV2	IN
DP_EXT_TX0P	BF26	SOC_DP0_P_C	
DP_EXT_TX0N	BE26	SOC_DP0_N_C	
DP_EXT_TX1P	BF25	SOC_DP1_P_C	
DP_EXT_TX1N	BE25	SOC_DP1_N_C	
DP_EXT_TX2P	BF24	SOC_DP2_P_C	
DP_EXT_TX2N	BE24	SOC_DP2_N_C	
DP_EXT_TX3P	BF23	SOC_DP3_P_C	
DP_EXT_TX3N	BE23	SOC_DP3_N_C	
DP_EXT_AUX_P	BC24	SOC_TO_ACE_AUX_P_C	
DP_EXT_AUX_N	BB24	SOC_TO_ACE_AUX_N_C	
DP_EXT_RCAL_P	BC25	DP_EXT_RCAL_POS	
DP_EXT_RCAL_N	BB25	DP_EXT_RCAL_NEG	
DPTX_HPD	BB45	ACE_TO_SOC_HPD	IN

ISP_I2C0_SCL_1V8	V5	ISP_I2C0_SCL	
ISP_I2C0_SDA_1V8	T5	ISP_I2C0_SDA	
ISP_I2C1_SCL_1V8	W6	ISP_I2C1_SCL	
ISP_I2C1_SDA_1V8	V7	ISP_I2C1_SDA	
ISP_I2C2_SCL_1V8	W6	ISP_I2C2_SCL	
ISP_I2C2_SDA_1V8	U4	ISP_I2C2_SDA	
ISP_I2C3_SCL_1V8	T8	ISP_I2C3_SCL	
ISP_I2C3_SDA_1V8	R8	ISP_I2C3_SDA	
MIPI_PEARL_TO_SOC_CLK_P	BB1	MIPI0C_DPCLK	
MIPI_PEARL_TO_SOC_CLK_N	BB2	MIPI0C_DNCLK	
MIPI_PEARL_SOC_DATA_P<0>	BC1	MIPI0C_DPDATA0	
MIPI_PEARL_SOC_DATA_N<0>	BC2	MIPI0C_DNDATA0	
MIPI_PEARL_SOC_DATA_P<1>	BA1	MIPI0C_DPDATA1	
MIPI_PEARL_SOC_DATA_N<1>	BA2	MIPI0C_DNDATA1	
	BB4	MIPI1C_DPCLK	
	BB5	MIPI1C_DNCLK	
	BA4	MIPI1C_DPDATA0	
	BA5	MIPI1C_DNDATA0	
	BC4	MIPI1C_DPDATA1	
	BC5	MIPI1C_DNDATA1	

ISP_GPIO_0	V8	GPIO_SOC_TO_FCAM2_SHTDWN_L	OUT
ISP_GPIO_1	Y7	GPIO_SOC_TO_PEARL_SHTDWN_L	OUT
ISP_GPIO_2/SOC_DEBUG2 /MTR_ADC_DOUT	R7	GPIO_SOC_TO_BB_GPS_DEVICE_WAKE	OUT
ISP_GPIO_3 /MTR_ADC_CTLOUT_	T4	GPIO_SOC_TO_RCAM1_SHTDWN_L	OUT
ISP_GPIO_4/SOC_DEBUG3	R6	NC_GPIO_SOC_TO_BB_SDWN_L	OUT
ISP_GPIO_5/SENSOR3_CLK	R5	GPIO_RIGEL_TO_SOC_IRQ	IN
ISP_GPIO_6/ISP_FCAM_SPMI SDATA/DLL_DIGOBS_0	T6	ISP_SPMI_APOLLO_SDATA	BI
ISP_GPIO_7/ISP_FCAM_SPMI SCLK/DLL_DIGOBS_1	T7	ISP_SPMI_APOLLO_SCLK	OUT
ISP_GPIO_8/ISP_SPMI_SDATA	W7	NC_GPIO_BB_TO_SOC_RESET_DET_L	IN
ISP_GPIO_9/ISP_SPMI_SCLK	R4	NC_GPIO_BB_GPS_TO_SOC_LOW_PWR_IND	IN
SENSOR0_CLK	T1	CLK_SOC_TO_REAR_CAM_12MHZ_R	
SENSOR1_CLK	U1	CLK_SOC_TO_FRONT_CAM_12MHZ_R	
SENSOR2_CLK	V1	CLK_SOC_TO_PEARL_12MHZ_R	
MIPI			
MIPI2C_DPCLK	BE3		
MIPI2C_DNCLK	BE4		
MIPI2C_DPDATA0	BF3		
MIPI2C_DNDATA0	BF4		
MIPI2C_DPDATA1	BD3		
MIPI2C_DNDATA1	BD4		
MIPI0C_REXT	BF5	MIPI0C_REXT	
MIPI1C_REXT	BF6	MIPI1C_REXT	
MIPI2C_REXT	BF7	MIPI2C_REXT	

C0820 0.22UF 10% CER-X5R 6.3V 01005 — GND_VOID=TRUE — SOC_DP0_P — OUT
C0821 0.22UF 10% CER-X5R 6.3V 01005 — GND_VOID=TRUE — SOC_DP0_N — OUT
C0822 0.22UF 10% CER-X5R 6.3V 01005 — GND_VOID=TRUE — SOC_DP1_P — OUT
C0823 0.22UF 10% CER-X5R 6.3V 01005 — GND_VOID=TRUE — SOC_DP1_N — OUT
C0824 0.22UF 10% CER-X5R 6.3V 01005 — GND_VOID=TRUE — SOC_DP2_P — OUT
C0825 0.22UF 10% CER-X5R 6.3V 01005 — GND_VOID=TRUE — SOC_DP2_N — OUT
C0826 0.22UF 10% CER-X5R 6.3V 01005 — GND_VOID=TRUE — SOC_DP3_P — OUT
C0827 0.22UF 10% CER-X5R 6.3V 01005 — GND_VOID=TRUE — SOC_DP3_N — OUT
C0828 0.1UF 20% X5R-CERM 6.3V 01005 — SOC_TO_ACE_AUX_P — OUT
C0829 0.1UF 20% X5R-CERM 6.3V 01005 — SOC_TO_ACE_AUX_N — OUT

R0800 0.00 0% 1/32W MF 01005
R0820 0.00 0% 1/32W MF 01005
R0830 200 1% 1/32W MF 01005 — PLACE_NEAR=U0600.BF5:6MM
R0822 33 1/32W 5% MF 01005 — CLK_SOC_TO_PEARL_12MHZ — OUT
R0812 33 1/32W MF5% 01005 — CLK_SOC_TO_REAR_CAM_12MHZ — OUT
C0812 15PF 5% 16V NP0-C0G 01005-1
R0811 33 1/32W 5% MF 01005 — CLK_SOC_TO_FRONT_CAM_12MHZ — OUT
C0811 15PF 5% 16V NP0-C0G 01005-1

R3882 33K 1% 1/32W MF 01005
R3881 33K 1% 1/32W MF 01005
R08A1 100K 5% 1/32W MF 01005 NOSTUFF
R08B1 100K 5% 1/32W MF 01005

DP_EXT_RCAL_POS — R0893 200 1% 1/32W MF 01005 — C0893 10PF 5% 16V CERM 01005 — DP_EXT_RCAL_NEG
LPDP_RCAL_POS — R0895 200 1% 1/32W MF 01005 — C0895 10PF 5% 16V CERM 01005 — LPDP_RCAL_NEG
LPDPRX_RCAL_POS — R0891 200 1% 1/32W MF 01005 — C0891 10PF 5% 16V CERM 01005 — LPDPRX_RCAL_NEG

PP1V8_SW1_CAM — R0805 681 1% 1/32W MF 01005 — ISP_I2C2_SCL_1V8
PP1V8_SW1_CAM — R0803 681 1% 1/32W MF 01005 — ISP_I2C2_SDA_1V8
PP1V8_SW1_CAM — R0850 681 1% 1/32W MF 01005 — ISP_I2C1_SCL_1V8
PP1V8_SW1_CAM — R0851 681 1% 1/32W MF 01005 — ISP_I2C1_SDA_1V8
PP1V8_SW1_CAM — R0804 681 1% 1/32W MF 01005 — ISP_I2C0_SCL_1V8
PP1V8_SW1_CAM — R0802 681 1% 1/32W MF 01005 — ISP_I2C0_SDA_1V8
PP1V8_SW1_CAM — R0852 681 1% 1/32W MF 01005 — ISP_I2C3_SCL_1V8
PP1V8_SW1_CAM — R0853 681 1% 1/32W MF 01005 — ISP_I2C3_SDA_1V8

SYNC_MASTER=DEV_ARUBA_J3XX
SYNC_DATE=12/14/2017
PAGE TITLE
SOC: LPDP & MIPI

SOC: PCIE

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

NAND

OUT

PLACE_NEAR=U0600.BC9:15MM
GND_VOID=TRUE
C0930 0.22UF 10% 01005 6.3V CER-X5R
C0931 0.22UF 10% 01005 CER-X5R 6.3V
GND_VOID=TRUE
PLACE_NEAR=U0600.BB9:15MM

16 OUT PCIE_SOC_TO_NAND1_TX_P
16 OUT PCIE_SOC_TO_NAND1_TX_N

DUAL_NAND
PLACE_NEAR=U0600.BC10:15MM
GND_VOID=TRUE
C0932 0.22UF 10% 01005 6.3V CER-X5R
C0933 0.22UF 10% 01005 CER-X5R 6.3V
GND_VOID=TRUE
PLACE_NEAR=U0600.BB10:15MM
DUAL_NAND

17 OUT PCIE_SOC_TO_NAND2_TX_P
17 OUT PCIE_SOC_TO_NAND2_TX_N

WLAN/BT

OUT

PLACE_NEAR=U0600.BC11:15MM
GND_VOID=TRUE
C0940 0.1UF 20% 01005 X5R-CERM 6.3V
C0941 0.1UF 20% 01005 X5R-CERM 6.3V
GND_VOID=TRUE
PLACE_NEAR=U0600.BB11:15MM

60 OUT PCIE_SOC_TO_WLAN_TX_P
60 OUT PCIE_SOC_TO_WLAN_TX_N

U0600
ARUBA-4G-21NM-H
FCBGA
SYM 2 OF 20

16 IN PCIE_NAND1_TO_SOC_TX_P → PCIE_RX0_P BF9
16 IN PCIE_NAND1_TO_SOC_TX_N → PCIE_RX0_N BE9
PCIE_SOC_TO_NAND1_TX_C_P → PCIE_TX0_P BC9
PCIE_SOC_TO_NAND1_TX_C_N → PCIE_TX0_N BB9
16 OUT PCIE_SOC_TO_NAND1_REFCLK_P → PCIE_REF_CLK0_P BE21
16 OUT PCIE_SOC_TO_NAND1_REFCLK_N → PCIE_REF_CLK0_N BF21
16 8 IN PCIE_NAND1_TO_SOC_CLKREQ_L → PCIE_CLKREQ0* BF38
63 17 16 8 OUT PCIE_SOC_TO_NAND1_RESET_L → PCIE_PERST0* BF32

17 IN PCIE_NAND2_TO_SOC_TX_P → PCIE_RX1_P BF10
17 IN PCIE_NAND2_TO_SOC_TX_N → PCIE_RX1_N BE10
PCIE_SOC_TO_NAND2_TX_C_P → PCIE_TX1_P BC10
PCIE_SOC_TO_NAND2_TX_C_N → PCIE_TX1_N BB10
17 OUT PCIE_SOC_TO_NAND2_REFCLK_P → PCIE_REF_CLK1_P BE20
17 OUT PCIE_SOC_TO_NAND2_REFCLK_N → PCIE_REF_CLK1_N BF20
17 8 IN PCIE_NAND2_TO_SOC_CLKREQ_L → PCIE_CLKREQ1* BF36
63 17 8 OUT PCIE_SOC_TO_NAND2_RESET_L → PCIE_PERST1* BC41

63 60 IN PCIE_WLAN_TO_SOC_TX_P → PCIE_RX2_P BF11
63 60 IN PCIE_WLAN_TO_SOC_TX_N → PCIE_RX2_N BE11
PCIE_SOC_TO_WLAN_TX_C_P → PCIE_TX2_P BC11
PCIE_SOC_TO_WLAN_TX_C_N → PCIE_TX2_N BB11
60 OUT PCIE_SOC_TO_WLAN_REFCLK_P → PCIE_REF_CLK2_P BE19
60 OUT PCIE_SOC_TO_WLAN_REFCLK_N → PCIE_REF_CLK2_N BF19
60 8 IN PCIE_WLAN_TO_SOC_CLKREQ_L → PCIE_CLKREQ2* BF39
60 8 OUT PCIE_SOC_TO_WLAN_RESET_L → PCIE_PERST2* BF45

8 PCIE_RCAL_POS → PCIE_RCAL_P BC18
8 PCIE_RCAL_NEG → PCIE_RCAL_N BC17

PCIE_RX3_P BF12 ← NC_PCIE_BB_TO_SOC_TX_P IN 60 63
PCIE_RX3_N BE12 ← NC_PCIE_BB_TO_SOC_TX_N IN 60 63
PCIE_TX3_P BC12 → NC_PCIE_SOC_TO_BB_TX_C_P OUT 60
PCIE_TX3_N BB12 → NC_PCIE_SOC_TO_BB_TX_C_N OUT 60
PCIE_REF_CLK3_P BB22 → NC_PCIE_SOC_TO_BB_REFCLK_P OUT 60
PCIE_REF_CLK3_N BC22 → NC_PCIE_SOC_TO_BB_REFCLK_N OUT 60
PCIE_CLKREQ3* BF35 ← NC_PCIE_BB_TO_SOC_CLKREQ_L IN 60
PCIE_PERST3* BF41 → NC_PCIE_SOC_TO_BB_RESET_L OUT 60

BASEBAND

AC COUPLING CAPS ARE IN CONNECTOR PAGE

PCIE_RX4_P BF13 NC_PCIE_RX4_P
PCIE_RX4_N BE13 NC_PCIE_RX4_N
PCIE_TX4_P BC13 NC_PCIE_TX4_P
PCIE_TX4_N BB13 NC_PCIE_TX4_N
PCIE_REF_CLK4_P BB21 NC_PCIE_REF_CLK4_P
PCIE_REF_CLK4_N BC21 NC_PCIE_REF_CLK4_N
PCIE_CLKREQ4* BF40 GPIO_SOC_TO_BELLATRIX2_BOOST_EN OUT 57 62
PCIE_PERST4* BD42 NC_GPIO_SOC_TO_BB_COREDUMP OUT 60

PCIE_RX5_P BF14 NC_PCIE_RX5_P
PCIE_RX5_N BE14 NC_PCIE_RX5_N
PCIE_TX5_P BC14 NC_PCIE_TX5_P
PCIE_TX5_N BB14 NC_PCIE_TX5_N
PCIE_REF_CLK5_P BB20 NC_PCIE_REF_CLK5_P
PCIE_REF_CLK5_N BC20 NC_PCIE_REF_CLK5_N
PCIE_CLKREQ5* BC34 GPIO_SOC_TO_BB_GPS_SYNC OUT 60
PCIE_PERST5* BE39 NC_GPIO_SOC_TO_BB_RESET_L OUT 60

PAD_MTR_ANALOG_TEST_P AA44 NC_PAD_MTR_ANALOG_TEST_POS
PAD_MTR_ANALOG_TEST_N AA45 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

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

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

65 53 6 4 PP1V8_EXT_SW1
R0950 47.0K 5% 1/32W MF 01005
R0930 47.0K 5% 1/32W MF 01005
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

63 17 16 8 PCIE_SOC_TO_NAND1_RESET_L
63 17 8 PCIE_SOC_TO_NAND2_RESET_L
60 8 PCIE_SOC_TO_WLAN_RESET_L
R0941 100K 5% 1/32W MF 01005
R0931 100K 5% 1/32W MF 01005
R0952 100K 5% 1/32W MF 01005

SYNC_MASTER=DEV_ARUBA_J3XX	SYNC_DATE=12/14/2017
PAGE TITLE	
SOC: PCIE	

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

R1009 10K 5% 1/32W MF 01005 NOSTUFF
R1010 10K 5% 1/32W MF 01005 NOSTUFF

GPIO_PMU_TO_SOC_IRQ_L
GPIO_APOLLO_TO_PMU_SOC_IRQ_L

U0600
ARUBA-4G-21NM-H
FCBGA
SYM 7 OF 20

GPIO_MOLY_TO_AOP_IRQ	AD1	AOP_FUNC[0]	AOP GPIO
GPIO_PHOSPHORUS_TO_AOP_IRQ	AD6	AOP_FUNC[1]	
SPI_MOLY_CS_L	AD2	AOP_FUNC[2]	
GPIO_GRAPHITE_TO_AOP_INT	AF6	AOP_FUNC[3]	
SPI_GRAPHITE_CS_L	AD4	AOP_FUNC[4]	
GPIO_GRAPHITE_TO_AOP_MOTION_INT	AE1	AOP_FUNC[5]	
SPI_PHOSPHORUS_CS_L	AE3	AOP_FUNC[6]	
GPIO_ALS_FH1_TO_AOP_IRQ_L	AF1	AOP_FUNC[7]	
GPIO_ALS_FH2_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_KONA_TO_AOP_TIME_SYNC	AC6	AOP_FUNC14/AOP_PDM_CLK3	
I2C_AOP_I2CM0_SCL_1V8	AE7	AOP_I2CM0_SCL	AOP I2C
I2C_AOP_I2CM0_SDA_1V8	AE6	AOP_I2CM0_SDA	
I2C_AOP_I2CM1_SCL_1V8	AD7	AOP_I2CM1_SCL	NUB JTAG
I2C_AOP_I2CM1_SDA_1V8	AD8	AOP_I2CM1_SDA	
GPIO_KONA_S_TO_SCORPIUS_TIME_SYNC	AH1	AOP_I2S0_BCLK	AOP I2S
GPIO_TITUS_TO_AOP_B2B_DETECT	AK5	AOP_I2S0_DIN	
NC_I2S_AOP_TO_CODEC_DOUT_R	AG8	AOP_I2S0_DOUT	
NC_I2S_AOP_TO_CODEC_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	
NC_AOP_I2S1_DIN	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	AOP PDM
DMIC1_MIC_SD	AK8	AOP_PDM_DATA0	
DMIC2_MIC_SD	AE4	AOP_PDM_DATA1	
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	AOP SPI
SPI_SENSORS_MOSI_R	AC2	AOP_SPI_MOSI	SMC GPIO
SPI_SENSORS_SCLK_R	AC1	AOP_SPI_SCLK	
NC_UART_BB_TO_AOP_TX	AC5	AOP_UART0_RXD	AOP UART
NC_UART_AOP_TO_BB_TX	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	

NUB_DOCK_ATTENTION/NUB_PDM_CLK1	AM2	NC_NUB_DOCK_ATTENTION	
NUB_DOCK_CONNECT	AN5	USB_TO_SOC_DOCK_CONNECT	
NUB_FUNC[15]	AM8	NC_NUB_FUNC15	NUB GPIO
NUB_FUNC[16]	AK2	GPIO_SCORPIUS_TO_AOP_IRQ	
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_NUB_FUNC21	
NUB_FUNC[22]	AL1	NC_NUB_FUNC22	
NUB_SPMI_SCLK	AM7	NUB_SPMI_ATHENA_SCLK	NUB SPMI
NUB_SPMI_SDATA	AL7	NUB_SPMI_ATHENA_SDATA	
NUB_SWD_TCK_OUT	AK3	SWD_PERIPHERAL_SWCLK	NUB SWD
NUB_SWD_TMS0	AL3	SWD_ACE_SWDIO	
NUB_SWD_TMS1	AN6	SWD_GRAPE_SWDIO	
JTAG_SEL	AM1	JTAG_SOC_SEL	
JTAG_TCK	AP1	JTAG_SOC_TCK	
JTAG_TDI	AP4	TP_JTAG_SOC_TDI	
JTAG_TDO	AP3	TP_JTAG_SOC_TDO	
JTAG_TMS	AP7	JTAG_SOC_TMS	
JTAG_TRST*	AN8	TP_JTAG_SOC_TRST_L	
SMC_I2CM0_SCL	AK7	I2C_SMC_I2CM0_SCL_1V8	SMC I2C
SMC_I2CM0_SDA	AH7	I2C_SMC_I2CM0_SDA_1V8	
SMC_I2CM1_SCL/SMC_UART1_TXD	AG3	I2C_SMC_I2CM1_SCL_1V8	
SMC_I2CM1_SDA/SMC_UART1_RXD	AH4	I2C_SMC_I2CM1_SDA_1V8	
SMC_I2CM2_SCL	AJ6	I2C_SMC_I2CM2_SCL_1V8	
SMC_I2CM2_SDA	AL6	I2C_SMC_I2CM2_SDA_1V8	
SMC_I2CM3_SCL	AK6	I2C_SMC_I2CM3_SCL_1V8	
SMC_I2CM3_SDA	AJ1	I2C_SMC_I2CM3_SDA_1V8	
SMC_I2CM4_SCL	AK4	I2C_SMC_I2CM4_SCL_1V8	
SMC_I2CM4_SDA	AL4	I2C_SMC_I2CM4_SDA_1V8	
SMC_UART0_RXD	AJ8	NC_SMC_UART0_RXD	SMC UART
SMC_UART0_TXD	AG4	NC_GPIO_SMC_TO_USBPD_RST_L	
SMC_GPIO0	AJ3	GPIO_POTOMAC_TO_SOC_TO_PMU_IRQ_L	SMC GPIO
SMC_GPIO1	AJ2	GPIO_ACE_TO_SMC_IRQ_L	
RT_CLK32768	AM3	CLK_PMU_TO_AOP_32K	CLOCKS AND RESET
CLK24M_OUT	AK1	CLK_GRAPE_24MHZ	
CFSB_AON	AN3	RESET_PMU_TO_SYSTEM_L	
COLD_RESET*	AN2	RESET_PMU_TO_SYSTEM_L_R_CRESET	
AON_SLEEP1_RESET*	AN1	NC_AON_SLEEP1_RESET_L	
WDOG	AP6	WDOG_SOC	

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

R1020 1 33 2 5% 1/32W MF 01005
R1025 1 33 2 5% 1/32W MF 01005

R0681 47.0K 5% 1/32W MF 01005
R0680 47.0K 5% 1/32W MF 01005
R0682 47.0K 5% 1/32W MF 01005
FROM SOC DATASHEET SEC:5.24.1

CLK_GRAPE_24MHZ — R0731 33 5% 1/32W MF 01005 — CLK_SOC_TO_GRAPE_24MHZ
PLACE_NEAR=U0600.AK1:5MM

R0610 0.00 1/32W 1% 01005

C0683 0.1UF 20% 6.3V X5R-CERM 01005

SMC I2C PULL-UPS

PP1V8_S3

R0990 4.7K 5% 1/32W MF 01005
R0991 4.7K 5% 1/32W MF 01005
R0992 4.7K 5% 1/32W MF 01005
R0993 4.7K 5% 1/32W MF 01005
R0994 4.7K 5% 1/32W MF 01005
R0995 2.2K 5% 1/32W MF 01005
R0996 2.2K 5% 1/32W MF 01005
R0997 4.7K 5% 1/32W MF 01005 NOSTUFF
R0998 4.7K 5% 1/32W MF 01005 NOSTUFF

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
I2C_SMC_I2CM4_SCL_1V8
I2C_SMC_I2CM4_SDA_1V8

THESE GATES HAVE BACKPOWER PROTECTION

PP1V8_EXT_SW1

C1031 0.1UF 20% 6.3V X5R-CERM 01005
R1032 33 5% 1/32W MF 01005
U1031 74AUP1G34GX SOT1226

SWD_PERIPHERAL_SWCLK — R1032 — SWD_PER_NAND1_SWCLK_R — U1031 — SWD_NAND1_SWCLK
PLACE_NEAR=U0600.AK3:13MM

PP1V8_EXT_SW1

C1035 0.1UF 20% 6.3V X5R-CERM 01005
R1035 33 5% 1/32W MF 01005
U1035 74AUP1G34GX SOT1226

SWD_PERIPHERAL_SWCLK — R1035 — SWD_PER_NAND2_SWCLK_R — U1035 — SWD_NAND2_SWCLK
PLACE_NEAR=U0600.AK3:13MM

PP1V8_S2_GRAPE

C1032 0.1UF 20% 6.3V X5R-CERM 01005
R1033 33 5% 1/32W MF 01005
U1032 74AUP1G34GX SOT1226

SWD_PERIPHERAL_SWCLK — R1033 — SWD_PER_KONA_SWCLK_R — U1032 — SWD_GRAPE_SWCLK
PLACE_NEAR=U0600.AK3:13MM

PP1V8_S3

C1033 0.1UF 20% 6.3V X5R-CERM 01005
R1034 33 5% 1/32W MF 01005
U1034 74AUP1G34GX SOT1226

SWD_PERIPHERAL_SWCLK — R1034 — SWD_PER_ACE_SWCLK_R — U1034 — SWD_ACE_SWCLK
PLACE_NEAR=U0600.AK3:13MM

PP1V8_S2_GRAPE

PP1V8_S3

R0611 1.00K 5% 1/32W MF 01005
R0612 1.00K 5% 1/32W MF 01005

SWD_ACE_SWDIO
SWD_GRAPE_SWDIO

PP1V8_S3

R0683 10K 5% 1/32W MF 01005

RESET_PMU_TO_SYSTEM_L

SYNC_MASTER=DEV_ARUBA_J3XX
SYNC_DATE=12/14/2017
PAGE TITLE
SOC: AOP

SOC: POWER (DDR,SRAM)

U0600
ARUBA-4G-21NM-H
FCBGA
SYM 11 OF 20

U0600
ARUBA-4G-21NM-H
FCBGA
SYM 8 OF 20

65 PP1V8_S3
C1215 1UF 20% 10V X5R 0201
C1216 1UF 20% 10V X5R 0201
C1217 1UF 20% 10V X5R 0201
C1218 12PF 5% 25V NP0-C0G 0201
C1219 100PF 5% 25V C0G 0201
C1220 14UF 20% 4V X5R 0402-DZX-1
C1221 14UF 20% 4V X5R 0402-DZX-1
C1222 14UF 20% 4V X5R 0402-DZX-1

65 10 PP1V1_S3

65 11 PP1V2_SOC
C1260 0.1UF 20% 6.3V X5R-CERM 01005
C1265 2.2UF 20% 6.3V X5R-CERM 0201
C1264 0.1UF 20% 6.3V X5R-CERM 01005
C12D4 1.0UF 20% 6.3V X5R 0201-1
C12D5 0.22UF 20% 6.3V X5R 01005-1
C12D2 0.01UF 10% 6.3V X5R 01005
C12D3 18PF 5% 16V C0G 01005

VDD1 N12, N22, N29, N39, P11, P12, P22, P23, P28, P29, P39, P40
VDD2 B3, B21, B22, B29, B30, B48, C2, C49, D3, D10, D22, D24, D27, D29, D41, D48, E2, E11, E21, E23, E28, E30, E40, E49, F10, F22, F24, F27, F29, F41
VDDIO11_RET_DDR0 P7
VDDIO11_RET_DDR1 P8
VDDIO11_RET_DDR2 R16
VDDIO11_RET_DDR3 R20
VDDIO11_RET_DDR4 R26
VDDIO11_RET_DDR5 R30
VDDIO11_RET_DDR6 R39
VDDIO11_RET_DDR7 R41
VDDIO12_PLL_DDR0 AE10
VDDIO12_PLL_DDR1 AC10
VDDIO12_PLL_DDR2 T17
VDDIO12_PLL_DDR3 T19
VDDIO12_PLL_DDR4 T27
VDDIO12_PLL_DDR5 T29
VDDIO12_PLL_DDR6 T40
VDDIO12_PLL_DDR7 W41
VDDQL AA11, AA39, AB12, AB40, AC11, AD12, AE11, AF12, AG11, AH12, AJ11, B6, B8, B16, B18, B33, B35, B43, B45
VDDQL C7, C9, C15, C17, C34, C36, C42, C44, D6, D8, D16, D18, D33, D35, D43, D45, K11, K13, K21, K23, K28, K30, K38, K40, L12, L14, L20, L22, L29, L31, L37, L39, M11, M13, M21, M23, M28, M30, M38, M40, U11, U13, U15, U17, U19, U21, U23, U25, U27, U29, U31, U33, U35, U37, U39, V12, V14, V16, V18, V20, V22, V24, V26, V28, V30, V32, V34, V36, V38, V40, W11, W39, Y12, Y40, A16, A18, A33, A35, A43, A45
VDDQL_SENSE AK12 NC_VDDQL_SENSE

VDDIO11_DDRQ/1/2 1.1V @ 1700MA
C1200 15UF 20% 4V CERM 0402
C1202 4.3UF 20% 4V CERM 0402
C1209 12PF 5% 25V NP0-C0G 0201
PPVDD_S1_QL 5 65
C1203 1UF 20% 4V CERM 0402
C1204 20% 4V CERM 0402
C1205 1UF 20% 4V CERM 0402
C1206 20% 4V CERM 0402
C1208 100PF 5% 25V C0G 0201
C1214 0.47UF 20% 6.3V CERM 0402
C1210 20% 6.3V CERM 0402
C1211 0.47UF 20% 6.3V CERM 0402
C1212 20% 6.3V CERM 0402
C1213 0.47UF 20% 6.3V CERM 0402

65 51 PPVDD_CPU_SRAM
VDD_CPU_SRAM: 1.6V @ 3000MA
C1463 14UF 20% 4V X5R 0402-DZX-1
C1450 14UF 20% 4V X5R 0402-DZX-1
C1410 14UF 20% 4V X5R 0402-DZX-1
C1452 14UF 20% 4V X5R 0402-DZX-1
C1407 14UF 20% 4V X5R 0402-DZX-1
C1459 12PF 5% 25V NP0-C0G 0201
C1458 100PF 5% 25V C0G 0201
VDD_CPU_SRAM AH35, AJ36, AJ38, AL32, AL36, AM29, AN27, AN32, AN36, AP29, AP31, AR28, AR32, AR34, AR36, AU33, AU35, AV38

65 54 PPVDD_GPU_SRAM
VDD_GPU_SRAM: 1.06V @1400MA
C1470 14UF 20% 4V X5R 0402-DZX-1
C1471 14UF 20% 4V X5R 0402-DZX-1
C1451 14UF 20% 4V X5R 0402-DZX-1
C1453 14UF 20% 4V X5R 0402-DZX-1
C1478 100PF 5% 25V C0G 0201
C1479 12PF 5% 25V NP0-C0G 0201
VDD_GPU_SRAM AA17, AA21, AA25, AA29, AA33, AC17, AC21, AC25, AC29, AC33, AE17, AE21, AE25, AE29, AE33

PPVDD_S1_DCS
C1445 14UF 20% 4V X5R 0402-DZX-1
C1446 14UF 20% 4V X5R 0402-DZX-1
C1447 14UF 20% 4V X5R 0402-DZX-1
C1448 14UF 20% 4V X5R 0402-DZX-1
C1449 14UF 20% 4V X5R 0402-DZX-1
C144A 14UF 20% 4V X5R 0402-DZX-1
VDD_DCS AA13, AA14, AB38, AC13, AG13, AJ13, AJ14, W13, W15, W21, W23, W25, W29, W31, W33, W35, Y23, Y31, Y33

NC_VDD_DCS_SENSE
VDD_DCS_SENSE AK13

VDD_LOW: 0.8V @ 68MA (AOP)
PP0V775_S2_AOP 10 65
C12A0 4.3UF 20% 4V CERM 0402
C12A1 2.2UF 20% 6.3V X5R-CERM 0201
C12A2 0.22UF 20% 6.3V X5R 01005-1
C12A3 12PF 5% 25V NP0-C0G 0201
C12A4 100PF 5% 25V C0G 0201
VDD_LOW AR14, AU14, AV15, AW13, AV14
VDD_LOW_FLPPLL AT15
VDD_LOW_ULPPLL

65 10 PP0V775_S2_AOP
R12D0 10 5% 1/32W MF 01005
PP0V775_S2_SOC_AOP_FLPPLL
C12D0 0.47UF 20% 6.3V X5R 01005-1

65 10 PP0V775_S2_AOP
R12D1 100 0.1% 1/32W MF 01005
PP0V775_S2_SOC_AOP_ULPPLL
C12D1 4.7UF 20% 4V CER-X5R 0201

65 10 PP1V1_S3
C1223 4.3UF 20% 4V CERM 0402
C1224 4.3UF 20% 4V CERM 0402
C1225 4.3UF 20% 4V CERM 0402
C1226 4.3UF 20% 4V CERM
C1227 4.3UF 20% 4V CERM 0402
C1228 4.3UF 20% 4V CERM
C1229 4.3UF 20% 4V CERM 0402
C1235 4.3UF 20% 4V CERM
C1236 4.3UF 20% 4V CERM 0402
C1234 4.3UF 20% 4V CERM

VDD_SOC AA37, AF37, AG33, AH14, AH19, AH21, AH23, AH25, AH27, AH29, AH31, AJ33, AK19, AK21, AK23, AK25, AK27, AK29, AK31, AK39, AM19, AM21, AM23, AM25, AM27, AN39, AP15, AP17, AP25, AP27, AT17, AT19, AT21, AT23, AT25, AT27, AV17, AV19, AV21, AV23, AV25, AV27, AV29, AV31, AW38, Y16, Y20, Y24, Y32

PPVDD_S1_SOC
VDD_FIXED: 0.8V @ 4840MA
C148E 100PF 5% 25V C0G 0201
C1400 14UF 20% 4V X5R 0402-DZX-1
C1402 14UF 20% 4V X5R 0402-DZX-1
C1405 14UF 20% 4V X5R 0402-DZX-1
C1411 14UF 20% 4V X5R 0402-DZX-1
C1401 14UF 20% 4V X5R 0402-DZX-1
C1474 14UF 20% 4V X5R 0402-DZX-1
C1404 14UF 20% 4V X5R 0402-DZX-1
C1403 14UF 20% 4V X5R 0402-DZX-1
C1461 14UF 20% 4V X5R 0402-DZX-1

AH28 ADC_SOC_TO_PMU_VDD_SOC_R
PLACE_NEAR=U0600.AH28:5MM
XW1100 SHORT-10L-0.1MM-SM
ADC_SOC_TO_PMU_VDD_SOC 53 62

SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=12/14/2017
PAGE TITLE
SOC: POWER (DDR,SRAM)

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

VDD18_AOP: 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
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AY24	VDD12_DP_EXT	
AY25	VDD12_DP_EXT	
AY14	VDD12_LPDP_RX	
AY15	VDD12_LPDP_RX	
AY16	VDD12_LPDP_RX	
BA37	VDD12_LPDP_TX	
BA38	VDD12_LPDP_TX	
BA39	VDD12_LPDP_TX	
AY20	VDD12_PCIE	
AY21	VDD12_PCIE	
AY22	VDD12_PCIE	
AY23	VDD12_PCIE_REFBUF	
AT24	VDD12_PLL_ANE	
AF34	VDD12_PLL_ECPU	
AP24	VDD12_PLL_GPU	
AY36	VDD12_PLL_LPDP	
AJ35	VDD12_PLL_PCPU	
AP23	VDD12_PLL_SOC	
AW33	VDD33_USB_C00	
AW34	VDD33_USB_C01	
AW32	VDD33_USB_C1	
AE37	VDD18_ADC	
AF39	VDD18_AMUX	
AG38	VDD18_EFUSE1	
AP16	VDD18_EFUSE2	
AF38	VDD18_EFUSE3	
AR17	VDD18_FMON	
AY18	VDD18_MIPIC	
AL29	VDD18_TSADC_ANE	
AH33	VDD18_TSADC_CPU058	
AU31	VDD18_TSADC_CPU126	
AT37	VDD18_TSADC_CPU34	
AM35	VDD18_TSADC_CPU79	
AB24	VDD18_TSADC_GPU0	
AT16	VDD18_TSADC_SOC0	
AK14	VDD18_TSADC_SOC1	
AA23	VDD18_TSADC_SOC2	
AV13	VDD18_ULPPLL	
BB34	VDD18_USB_C00	
BA35	VDD18_USB_C01	
BA33	VDD18_USB_C1	
AY26	VDD18_USB3	
BA23	VDD18_XTAL	
AP12	VDDIO18_AOP	
AR13	VDDIO18_AOP	
AT12	VDDIO18_AOP	
AU13	VDDIO18_AOP	
AV12	VDDIO18_AOP	
AL13	VDDIO18_GRP1	
AM12	VDDIO18_GRP1	
AN13	VDDIO18_GRP1	
AY27	VDDIO18_GRP2	
AY29	VDDIO18_GRP2	
AY31	VDDIO18_GRP2	
BA28	VDDIO18_GRP2	
BA30	VDDIO18_GRP2	
BA32	VDDIO18_GRP2	
AG40	VDDIO18_GRP3	
AH40	VDDIO18_GRP3	
AJ39	VDDIO18_GRP3	
AK40	VDDIO18_GRP3	
AL39	VDDIO18_GRP3	
AM40	VDDIO18_GRP3	
AV40	VDDIO18_GRP3	
AW39	VDDIO18_GRP3	
AE39	VDDIO18_MTR	MTR CONNECTION TO BE CONFIRMED WITH SEG

DOES THIS NEED FILTER?

SYNC_MASTER=DEV_ARUBA_J3XX
SYNC_DATE=12/14/2017
PAGE TITLE
SOC: POWER (IO)

SOC: POWER (CPU, GPU)

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

PPVDD_GPU

C1369 12PF 5% 25V NP0-C0G 0201

C1368 100PF 5% 25V C0G 0201

C1380 14UF 20% 4V X5R 0402-D2X-1

C1381 14UF 20% 4V X5R 0402-D2X-1

14UF 20% 4V X5R 0402-D2X-1

C1383 14UF 20% 4V X5R 0402-D2X-1

14UF 20% 4V X5R 0402-D2X-1

C1385 14UF 20% 4V X5R 0402-D2X-1

C1386 14UF 20% 4V X5R 0402-D2X-1

C1387 14UF 20% 4V X5R 0402-D2X-1

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AA16	VDD_GPU	
AA18	VDD_GPU	
AA20	VDD_GPU	
AA22	VDD_GPU	
AA24	VDD_GPU	
AA26	VDD_GPU	
AA28	VDD_GPU	
AA30	VDD_GPU	
AA32	VDD_GPU	
AA34	VDD_GPU	VDD_PCPU
AA36	VDD_GPU	VDD_PCPU
AA50	VDD_GPU	VDD_PCPU
AB15	VDD_GPU	
AB17	VDD_GPU	
AB19	VDD_GPU	
AB21	VDD_GPU	
AB23	VDD_GPU	
AB25	VDD_GPU	
AB27	VDD_GPU	
AB29	VDD_GPU	VDD_PCPU
AB31	VDD_GPU	VDD_PCPU
AB33	VDD_GPU	VDD_PCPU
AB35	VDD_GPU	
AB47	VDD_GPU	
AB48	VDD_GPU	
AB49	VDD_GPU	
AB50	VDD_GPU	
AC16	VDD_GPU	
AC18	VDD_GPU	
AC20	VDD_GPU	VDD_PCPU
AC22	VDD_GPU	VDD_PCPU
AC24	VDD_GPU	VDD_PCPU
AC26	VDD_GPU	
AC28	VDD_GPU	
AC30	VDD_GPU	
AC32	VDD_GPU	
AC34	VDD_GPU	
AC36	VDD_GPU	
AC46	VDD_GPU	
AC47	VDD_GPU	VDD_PCPU
AC48	VDD_GPU	VDD_PCPU
AC49	VDD_GPU	VDD_PCPU
AC50	VDD_GPU	
AD15	VDD_GPU	
AD17	VDD_GPU	
AD19	VDD_GPU	
AD21	VDD_GPU	
AD23	VDD_GPU	
AD25	VDD_GPU	
AD27	VDD_GPU	VDD_PCPU
AD29	VDD_GPU	VDD_PCPU
AD31	VDD_GPU	VDD_PCPU
AD33	VDD_GPU	
AD35	VDD_GPU	
AD37	VDD_GPU	
AD38	VDD_GPU	
AD39	VDD_GPU	
AD40	VDD_GPU	
AD41	VDD_GPU	
AD42	VDD_GPU	
AD45	VDD_GPU	
AD46	VDD_GPU	VDD_PCPU
AE16	VDD_GPU	
AE18	VDD_GPU	
AE20	VDD_GPU	
AE22	VDD_GPU	
AE24	VDD_GPU	
AE26	VDD_GPU	
AE28	VDD_GPU	
AE30	VDD_GPU	
AE32	VDD_GPU	
AE34	VDD_GPU	VDD_ECPU
AE36	VDD_GPU	
AE38	VDD_GPU	
AE41	VDD_GPU	
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	
AF28	VDD_GPU_SENSE	

AK34	VDD_PCPU	
AL31	VDD_PCPU	
AL33	VDD_PCPU	
AL35	VDD_PCPU	
AL37	VDD_PCPU	
AM28	VDD_PCPU	
AM30	VDD_PCPU	
AM32	VDD_PCPU	
AM34	VDD_PCPU	
AM36		
AM38		
AN29		
AN31	VDD_PCPU	
AN33	VDD_PCPU	
AN35	VDD_PCPU	
AN37	VDD_PCPU	
AN41	VDD_PCPU	
AN43	VDD_PCPU	
AN45	VDD_PCPU	
AN47		
AN49		
AP28		
AP30	VDD_PCPU	
AP32	VDD_PCPU	
AP34	VDD_PCPU	
AP36	VDD_PCPU	
AP38	VDD_PCPU	
AP39	VDD_PCPU	
AP40	VDD_PCPU	
AP41		
AP42		
AP43		
AP44	VDD_PCPU	
AP45	VDD_PCPU	
AP46	VDD_PCPU	
AP47	VDD_PCPU	
AP48	VDD_PCPU	
AP49	VDD_PCPU	
AP50	VDD_PCPU	
AR29		
AR33		
AR35		
AR37	VDD_PCPU	
AR39	VDD_PCPU	
AR40	VDD_PCPU	
AR41	VDD_PCPU	
AR42	VDD_PCPU	
AR43	VDD_PCPU	
AR44	VDD_PCPU	
AR45	VDD_PCPU	
AR46	VDD_PCPU	
AR47	VDD_PCPU	
AR48	VDD_PCPU	
AR49	VDD_PCPU	
AR50	VDD_PCPU	
AT32	VDD_PCPU	
AT34	VDD_PCPU	
AT36	VDD_PCPU	
AT38	VDD_PCPU	
AU37	VDD_PCPU	
AV32	VDD_PCPU	
AV34		
AV36	VDD_PCPU	
AV37	VDD_PCPU	
AW35	VDD_PCPU	
AK33	VDD_PCPU_SENSE	
AG35	VDD_ECPU	
AG37	VDD_ECPU	
AH34	VDD_ECPU	
AH36	VDD_ECPU	
AH38		
AJ37	VDD_ECPU	
AK36	VDD_ECPU	
AK38	VDD_ECPU	

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

PPVDD_CPU

C1308 100PF 5% 25V C0G 0201

C1309 12PF 5% 25V NP0-C0G 0201

C1310 14UF 20% 4V X5R 0402-D2X-1

C1311 14UF 20% 4V X5R 0402-D2X-1

C1312 14UF 20% 4V X5R 0402-D2X-1

C1313 14UF 20% 4V X5R 0402-D2X-1

C1314 14UF 20% 4V X5R 0402-D2X-1

C1315 14UF 20% 4V X5R 0402-D2X-1

C1316 14UF 20% 4V X5R 0402-D2X-1

C1317 14UF 20% 4V X5R 0402-D2X-1

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)

PPVDD_ECPU

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

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

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

20% 4V X5R

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

SYNC_MASTER=DEV_ARUBA_J3XX	SYNC_DATE=12/14/2017
PAGE TITLE	
SOC: POWER (CPU, GPU)	

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_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_DP_EXT: 0.8V @ 32.2MA

VDD_FIXED: 0.8V @ 4840MA

C1430 100PF 5% 25V C0G 0201

C1431 C1432 C1433 C1434 C1435 C1436 C1437 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
Y15	VDD_FIXED
Y21	VDD_FIXED
Y25	VDD_FIXED
Y29	VDD_FIXED
Y35	VDD_FIXED

VDD_FIXED_PCPU	AK35	
VDD_FIXED_ECPU	AF35	
VDD_FIXED_PLL_ANE	AT26	PPVDD_S1_FIXED 13 65
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 65
VDD_FIXED_LPDP_TX	AY38	
VDD_FIXED_LPDP_TX	AY39	
VDD_FIXED_MIPIC	AW18	PPVDD_S1_FIXED 65
VDD_FIXED_PCIE	AW20	PPVDD_S1_FIXED
VDD_FIXED_PCIE	AW21	
VDD_FIXED_PCIE	AW22	
VDD_FIXED_PCIE_REFBUF	AW23	
VDD_FIXED_MTR	AF40	VDD_FIXED_MTR UNDER WHICH VOLTAGE NAME? 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 65
VDD_FIXED_PLL_LPDP	AW36	PPVDD_S1_FIXED 13 65
VDD_FIXED_PLL_SOC	AR23	PPVDD_S1_FIXED 13 65
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 65

PPVDD_S1_FIXED

C1496 4.3UF 20% 4V CERM 0402

C1230 2.2UF 20% 6.3V X5R-CERM 0201

C1231 0.22UF 10% 6.3V CER-X5R 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

PPVDD_S1_FIXED_PCIE_R

R145D 0.00 0% 1/32W MF 01005

PPVDD_S1_FIXED

C14GD 0.1UF 20% 6.3V X5R-CERM 01005

C14GC 4.3UF 20% 4V CERM 0402

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

PPVDD_S1_FIXED

C14A1 2.2UF 20% 6.3V X5R-CERM 0201

C1493 2.2UF 20% 6.3V X5R-CERM 0201-2

SYNC_MASTER=DEV_ARUBA_J3XX	SYNC_DATE=12/14/2017
PAGE TITLE	
SOC: POWER (SRAM, SOC)	

SOC: GND (1)

U0600 ARUBA-4G-21NM-H FCBGA SYM 18 OF 20

BB8	VSS	VSS	BE50
BB15	VSS	VSS	BF2
BB16	VSS	VSS	BF8
BB17	VSS	VSS	BF15
BB18	VSS	VSS	BF18
BB19	VSS	VSS	BF22
BB23	VSS	VSS	BF27
BB26	VSS	VSS	BF30
BB30	VSS	VSS	BF48
BB31	VSS	VSS	BF49
BB32	VSS	VSS	C1
BB33	VSS	VSS	C3
BB40	VSS	VSS	C4
BB43	VSS	VSS	C5
BB46	VSS	VSS	C6
BB47	VSS	VSS	C8
BB48	VSS	VSS	C10
BC3	VSS	VSS	C11
BC6	VSS	VSS	C12
BC7	VSS	VSS	C13
BC8	VSS	VSS	C14
BC15	VSS	VSS	C16
BC16	VSS	VSS	C18
BC19	VSS	VSS	C19
BC23	VSS	VSS	C20
BC26	VSS	VSS	C21
BC30	VSS	VSS	C22
BC48	VSS	VSS	C23
BD1	VSS	VSS	C24
BD2	VSS	VSS	C25
BD5	VSS	VSS	C26
BD6	VSS	VSS	C27
BD7	VSS	VSS	C28
BD8	VSS	VSS	C29
BD9	VSS	VSS	C30
BD10	VSS	VSS	C31
BD11	VSS	VSS	C32
BD12	VSS	VSS	C33
BD13	VSS	VSS	C35
BD14	VSS	VSS	C37
BD15	VSS	VSS	C38
BD16	VSS	VSS	C39
BD17	VSS	VSS	C40
BD18	VSS	VSS	C41
BD19	VSS	VSS	C43
BD20	VSS	VSS	C45
BD21	VSS	VSS	C46
BD22	VSS	VSS	C47
BD23	VSS	VSS	C48
BD24	VSS	VSS	C50
BD25	VSS	VSS	D1
BD26	VSS	VSS	D2
BD27	VSS	VSS	D4
BD28	VSS	VSS	D5
BD29	VSS	VSS	D7
BD30	VSS	VSS	D9
BD46	VSS	VSS	D11
BD47	VSS	VSS	D12
BD50	VSS	VSS	D13
BE1	VSS	VSS	D14
BE2	VSS	VSS	D15
BE5	VSS	VSS	D17
BE6	VSS	VSS	D19
BE7	VSS	VSS	D20
BE8	VSS	VSS	D21
BE15	VSS	VSS	D23
BE16	VSS	VSS	D25
BE17	VSS	VSS	D26
BE18	VSS	VSS	D28
BE22	VSS	VSS	D30
BE27	VSS	VSS	D31
BE30	VSS	VSS	D32
BE31	VSS	VSS	D34
BE34	VSS	VSS	D36
BE37	VSS	VSS	D37
BE40	VSS	VSS	D38
BE43	VSS	VSS	D39
BE46	VSS	VSS	D40
BE48	VSS	VSS	D42
BE49	VSS	VSS	D44

U0600 ARUBA-4G-21NM-H FCBGA SYM 19 OF 20

D46	VSS	VSS	F40
D47	VSS	VSS	F42
D49	VSS	VSS	F43
D50	VSS	VSS	F44
E1	VSS	VSS	F45
E3	VSS	VSS	F46
E4	VSS	VSS	F47
E5	VSS	VSS	F48
E6	VSS	VSS	F49
E7	VSS	VSS	F50
E8	VSS	VSS	G1
E9	VSS	VSS	G2
E10	VSS	VSS	G3
E12	VSS	VSS	G4
E13	VSS	VSS	G5
E14	VSS	VSS	G6
E15	VSS	VSS	G7
E16	VSS	VSS	G8
E17	VSS	VSS	G9
E18	VSS	VSS	G10
E19	VSS	VSS	G11
E20	VSS	VSS	G12
E22	VSS	VSS	G13
E24	VSS	VSS	G14
E25	VSS	VSS	G15
E26	VSS	VSS	G16
E27	VSS	VSS	G17
E29	VSS	VSS	G18
E31	VSS	VSS	G19
E32	VSS	VSS	G20
E33	VSS	VSS	G21
E34	VSS	VSS	G22
E35	VSS	VSS	G23
E36	VSS	VSS	G24
E37	VSS	VSS	G25
E38	VSS	VSS	G26
E39	VSS	VSS	G27
E41	VSS	VSS	G28
E42	VSS	VSS	G29
E43	VSS	VSS	G30
E44	VSS	VSS	G31
E45	VSS	VSS	G32
E46	VSS	VSS	G33
E47	VSS	VSS	G34
E48	VSS	VSS	G35
E50	VSS	VSS	G36
F1	VSS	VSS	G37
F2	VSS	VSS	G38
F3	VSS	VSS	G39
F4	VSS	VSS	G40
F5	VSS	VSS	G41
F6	VSS	VSS	G42
F7	VSS	VSS	G43
F8	VSS	VSS	G44
F9	VSS	VSS	G45
F11	VSS	VSS	G46
F12	VSS	VSS	G47
F13	VSS	VSS	G48
F14	VSS	VSS	G49
F15	VSS	VSS	G50
F16	VSS	VSS	H1
F17	VSS	VSS	H2
F18	VSS	VSS	H3
F19	VSS	VSS	H4
F20	VSS	VSS	H5
F21	VSS	VSS	H6
F23	VSS	VSS	H7
F25	VSS	VSS	H8
F26	VSS	VSS	H9
F28	VSS	VSS	H10
F30	VSS	VSS	H11
F31	VSS	VSS	H12
F32	VSS	VSS	H13
F33	VSS	VSS	H14
F34	VSS	VSS	H15
F35	VSS	VSS	H16
F36	VSS	VSS	H17
F37	VSS	VSS	H18
F38	VSS	VSS	H19
F39	VSS	VSS	H20

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

T10	VSS	VSS	V35
T11	VSS	VSS	V37
T12	VSS	VSS	V39
T13	VSS	VSS	V41
T14	VSS	VSS	V42
T15	VSS	VSS	V43
T16	VSS	VSS	V44
T18	VSS	VSS	V45
T20	VSS	VSS	V46
T21	VSS	VSS	V47
T22	VSS	VSS	V48
T23	VSS	VSS	V49
T24	VSS	VSS	W9
T25	VSS	VSS	W10
T26	VSS	VSS	W12
T28	VSS	VSS	W14
T30	VSS	VSS	W16
T31	VSS	VSS	W20
T32	VSS	VSS	W22
T33	VSS	VSS	W24
T34	VSS	VSS	W30
T35	VSS	VSS	W32
T36	VSS	VSS	W34
T37	VSS	VSS	W40
T38	VSS	VSS	W43
T39	VSS	VSS	W44
T41	VSS	VSS	W45
T42	VSS	VSS	W46
T43	VSS	VSS	W47
T44	VSS	VSS	W48
T45	VSS	VSS	Y2
T46	VSS	VSS	Y5
T47	VSS	VSS	Y8
T48	VSS	VSS	Y9
T49	VSS	VSS	Y10
T50	VSS	VSS	Y11
U2	VSS	VSS	Y13
U5	VSS	VSS	Y22
U8	VSS	VSS	Y30
U9	VSS	VSS	Y34
U10	VSS	VSS	Y39
U12	VSS	VSS	Y41
U14	VSS	VSS	Y42
U16	VSS	VSS	Y43
U18	VSS	VSS	Y50
U20	VSS	VSS	AC41
U22	VSS	VSS	AD24
U24	VSS	VSS	AD28
U26	VSS	VSS	AD9
U28	VSS	VSS	AE2
U30	VSS	VSS	AE8
U32	VSS		
U34	VSS		
U36	VSS		
U38	VSS		
U40	VSS		
U41	VSS		
U42	VSS		
U43	VSS		
U44	VSS		
U45	VSS		
U46	VSS		
U47	VSS		
U48	VSS		
U49	VSS		
U50	VSS		
V9	VSS		
V10	VSS		
V11	VSS		
V13	VSS		
V15	VSS		
V17	VSS		
V19	VSS		
V21	VSS		
V23	VSS		
V25	VSS		
V27	VSS		
V29	VSS		
V31	VSS		
V33	VSS		

VSS_DDR_SENSE	AL12	TP_VSS_DDR_SENSE 62
VSS_PCPU_SENSE	AK32	TP_VSS_PCPU_SENSE 62
VSS_SENSE	AG29	TP_VSS_SENSE 62

U0600 ARUBA-4G-21NM-H FCBGA SYM 15 OF 20

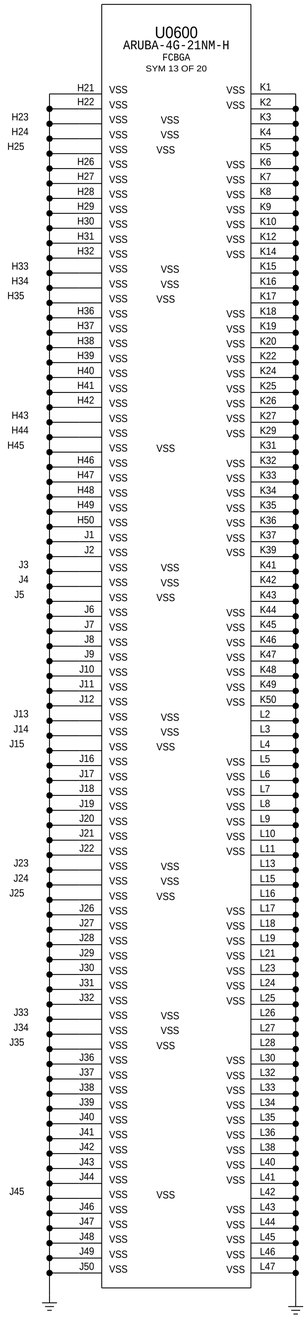
A2	VSS	VSS	AC12
A3	VSS	VSS	AC15
A8	VSS	VSS	AC19
A9	VSS	VSS	AC23
A10	VSS	AC27	VSS
A11	VSS	VSS	AC31
VSS	A12	VSS	AC35
A13	VSS	VSS	AC37
A14	VSS	VSS	AC38
A15	VSS	VSS	AC40
A17	VSS	VSS	AC42
A19	VSS	VSS	AD10
A20	VSS	VSS	AD11
A21	VSS	VSS	AD16
A22	VSS	AD18	VSS
A25	VSS	VSS	AD20
A32	VSS	VSS	AD22
A34	VSS	VSS	AD26
A36	VSS	VSS	AD30
A37	VSS	VSS	AD32
A38	VSS	VSS	AD34
A39	VSS	VSS	AD36
A40	VSS	VSS	AD44
A41	VSS	VSS	AD47
A42	VSS	AD50	VSS
A44	VSS	VSS	AE5
A46	VSS	VSS	AE12
A47	VSS	VSS	AE15
A48	VSS	VSS	AE19
A49	VSS	VSS	AE23
AA6	VSS	VSS	AE27
AA7	VSS	VSS	AE31
AA8	VSS	VSS	AE35
AA9	VSS	VSS	AE40
AA10	VSS	AF9	VSS
AA12	VSS	VSS	AF11
AA15	VSS	AF16	
AA19	VSS	VSS	AF18
AA27	VSS	VSS	AF20
AA31	VSS	VSS	AF22
AA35	VSS	VSS	AF24
AA38	VSS	VSS	AF26
AA40	VSS	VSS	AF30
AA41	VSS	VSS	AF32
AA42	VSS	AF33	VSS
AA45	VSS	VSS	AF36
AA47	VSS	AG9	
AB1	VSS	VSS	AG10
AB2	VSS	VSS	AG12
AB3	VSS	VSS	AG15
AB4	VSS	VSS	AG17
AB5	VSS	VSS	AG19
AB6	VSS	VSS	AG21
AB7	VSS	VSS	AG23
AB8	VSS	AG25	VSS
AB9	VSS	AG27	VSS
AB10	VSS	AG31	
AB11	VSS	VSS	AG34
AB13	VSS	VSS	AG36
AB14	VSS	VSS	AG41
AB16	VSS	VSS	AG42
AB18	VSS	VSS	AG43
AB20	VSS	VSS	AG44
AB22	VSS	VSS	AG47
AB26	VSS	VSS	AG50
AB28	VSS	VSS	AH2
AB30	VSS	AH5	
AB32	VSS	VSS	AH8
AB34	VSS	VSS	AH9
AB36	VSS	VSS	AH10
AB39	VSS	VSS	AH11
AB41	VSS	VSS	AH13
AB42	VSS	VSS	AH16
AB43	VSS	VSS	AH18

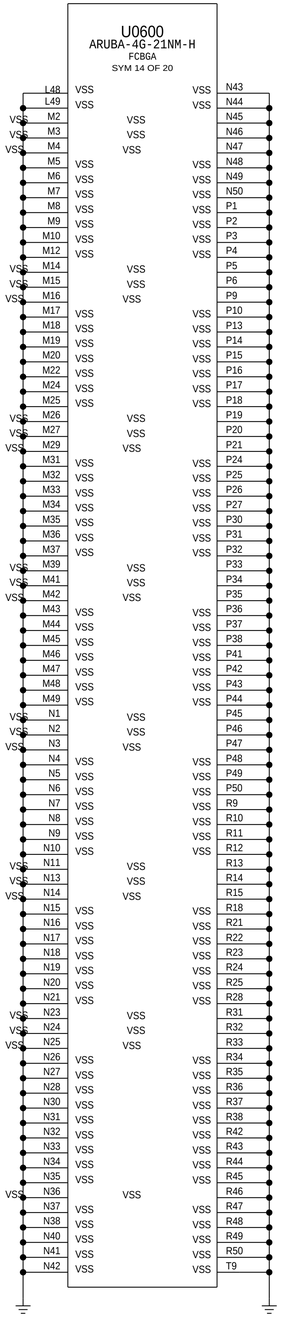
SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=12/14/2017

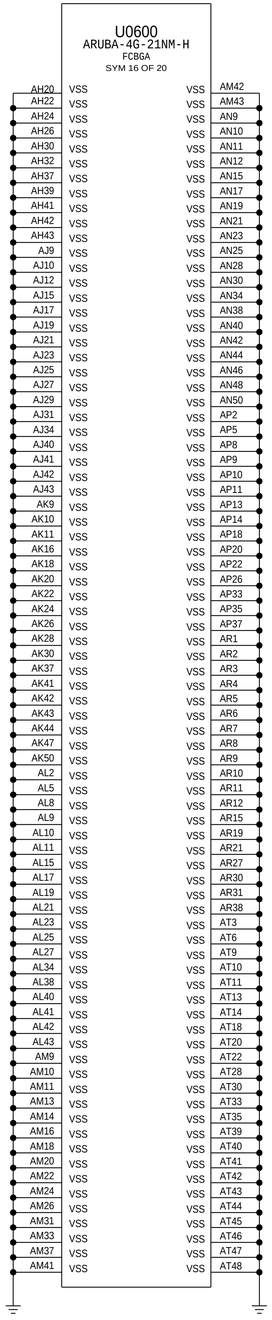
PAGE TITLE

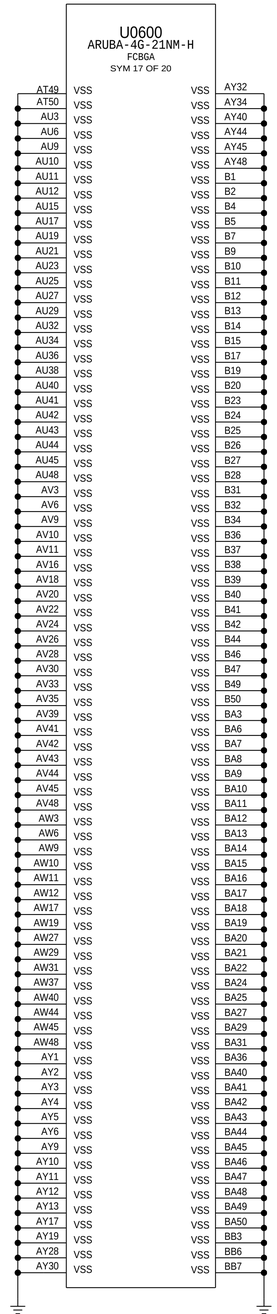
SOC: GND

SOC: GND (2)









SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=12/14/2017

PAGE TITLE

SOC: GND-2

S4E NAND CAPS

?MA MAX
PP1V8_EXT_SW1
C1826 4UF 20% 4V X5R 0201 ROOM=NAND1
C1810 0.1UF 20% 6.3V X5R-CERM 01005 ROOM=NAND1
C1829 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1830 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1824 4UF 20% 4V X5R 0201 ROOM=NAND1
C1841 4UF 20% 4V X5R 0201 ROOM=NAND1
C1843 4UF 20% 4V X5R 0201 ROOM=NAND1
C1845 4UF 20% 4V X5R 0201 ROOM=NAND1
C1847 4UF 20% 4V X5R 0201 ROOM=NAND1
C1811 220PF 5% 16V C0G NP0-C0G 01005 ROOM=NAND1
C1817 4.7PF +/-0.1PF 16V NP0-C0G 01005 ROOM=NAND1
C1823 68PF 5% 6.3V 01005 ROOM=NAND1
C1812 47PF 5% 16V NP0-C0G 01005 ROOM=NAND1

?MA MAX
PP0V9_NAND
C1802 26UF 20% 4V X5R 0402-0.1MM ROOM=NAND1
C1805 26UF 20% 4V X5R 0402-0.1MM ROOM=NAND1
C1800 4UF 20% 4V X5R 0201 ROOM=NAND1
C1801 4UF 20% 4V X5R 0201 ROOM=NAND1
C1822 4UF 20% 4V X5R 0201 ROOM=NAND1
C1827 4UF 20% 4V X5R 0201 ROOM=NAND1
C1840 4UF 20% 4V X5R 0201 ROOM=NAND1
C1842 4UF 20% 4V X5R 0201 ROOM=NAND1
C1844 4UF 20% 4V X5R 0201 ROOM=NAND1
C1846 4UF 20% 4V X5R 0201 ROOM=NAND1
C1803 220PF 5% 16V C0G 01005 ROOM=NAND1
C1806 220PF 5% 16V C0G 01005 ROOM=NAND1
C1809 4.7PF +/-0.1PF 16V NP0-C0G 01005 ROOM=NAND1
C1814 68PF 5% 6.3V NP0-C0G 01005 ROOM=NAND1
C1820 47PF 5% 16V NP0-C0G 01005 ROOM=NAND1
C1828 22PF 5% 16V CERM 01005 ROOM=NAND1

PP2V63_OTP
C1883 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1882 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1899 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1898 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1887 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND1
C1886 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND1
C1885 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND1
C1884 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND1
PP0V9_NAND
C1894 26UF 20% 4V X5R 0402-0.1MM ROOM=NAND1
C1895 26UF 20% 4V X5R 0402-0.1MM ROOM=NAND1
C1896 4UF 20% 4V X5R 0201 ROOM=NAND1
C1897 4UF 20% 4V X5R 0201 ROOM=NAND1

PP1V8_EXT_SW1
C1888 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1889 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1890 4UF 20% 4V X5R 0201 ROOM=NAND1
C1891 4UF 20% 4V X5R 0201 ROOM=NAND1
C1892 4UF 20% 4V X5R 0201 ROOM=NAND1
C1893 4UF 20% 4V X5R 0201 ROOM=NAND1

?MA MAX (1US PEAK POWER)
PP2V63_OTP
C1813 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1816 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1819 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1821 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND1
C1850 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND1
C1852 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND1
C1815 22PF 5% 16V CERM 01005 ROOM=NAND1
C1818 4.7PF +/-0.1PF 16V NP0-C0G 01005 ROOM=NAND1
C1831 68PF 5% NP0-C0G 01005
C1832 100PF 5% 25V C0G-CERM 01005 ROOM=NAND1
C1834 220PF 5% C0G 01005 ROOM=NAND1
C1835 220PF 5% 16V C0G 01005
C1836 220PF 5% 16V 25V C0G 01005 ROOM=NAND1
C1837 100PF 5% C0G-CERM ROOM=NAND1

OMIT
XW1800 SHORT-10L-0.1MM-SM ROOM=NAND1

PP1V8_NAND1_AVDD_H

NAND1_ANI1_VREF
NAND1_ANI0_VREF

U1800
SDMPEGFIH-512G
LGA
CRITICAL
OMIT_TABLE

CLK_SOC_TO_NAND_24MHZ → CLK_IN (M3)
PCIE_SOC_TO_NAND1_REFCLK_P → PCIE_REFCLK_P (K11) GND_VOID=TRUE
PCIE_SOC_TO_NAND1_REFCLK_N → PCIE_REFCLK_M (J12) GND_VOID=TRUE
PCIE_NAND1_TO_SOC_CLKREQ_L ↔ PCIE_CLKREQ_N (P5)
PCIE_NAND1_RESREF → PCI_RESREF (H7)
PCIE_SOC_TO_NAND1_TX_P → PCIE_RX0_P (M11) GND_VOID=TRUE
PCIE_SOC_TO_NAND1_TX_N → PCIE_RX0_M (N12) GND_VOID=TRUE
R1804 3.01K 1% 1/32W MF 01005 ROOM=NAND1
PLACE_NEAR=U1800.R12:8MM
PCIE_NAND1_TO_SOC_TX_P → C1880 0.22UF 10% CER-X5R 6.3V 01005 → PCIE_TX0_P (R12) GND_VOID=TRUE
PCIE_NAND1_TO_SOC_TX_N → C1881 0.22UF 10% CER-X5R 6.3V 01005 → PCIE_TX0_M (T11) GND_VOID=TRUE
PLACE_NEAR=U1800.T11:8MM
GPIO_SOC_TO_NAND_RESET_L → RESET* (L4)
Board trace <= 0.2Ohm
NAND1_ZQ_C → ZQ_C (K3)
NAND1_ZQ_N → ZQ_N (C10) EXPLUS_WAIVE=MISS_P_DIFFPAIR
R1800 100 0.1% 1/32W MF 01005 ROOM=NAND1
R1801 300 0.1% 1/32 MF 01005
TRST* (G10)
VSS

EXT_D0/BOOT0 (B3) ← GPIO_PMU_TO_NAND_LOW_BATT_L
EXT_D1/BOOT1 (C4) ← GPIO_SOC_TO_NAND_FW_STRAP
EXT_D2/BOOT2/SPINAND_SCLK (B5) ← SPI_AP_TO_NAND_SCLK_BOOT_CFG0
EXT_D3/SWD_UID0/SPINAND_MISO (C6) → SPI_AP_TO_NAND_MISO_BOOT_CFG2
EXT_D4/UART_RX (B7) NC
EXT_D5/SWD_UID1/SPINAND_MOSI (C8) ← SPI_AP_TO_NAND_MOSI_BOOT_CFG1
EXT_D6/UART_TX (B9) NC
EXT_D7/SPF (B11) → SYS_ALIVE
EXT_NCE/PERST* (E8) ← PCIE_SOC_TO_NAND1_RESET_L
EXT_NRE/JTAG_TMS (D7) ↔ SWD_NAND1_SWDIO_R — R1810 0.00 1% 1/32W MF 01005 ROOM=NAND1 — SWD_NAND1_SWDIO
EXT_NWE/JTAG_TCK (E6) ↔ SWD_NAND1_SWCLK_R — R1811 0.00 1% 1/32W MF 01005 ROOM=NAND1 — SWD_NAND1_SWCLK
EXT_RNB/JTAG_TDO (E4)
EXT_CLE/JTAG_TDI (D5) NC
EXT_ALE/JTAG_SEL (D9)
DROOP_N (T3)
WP_N (G2) → PP1V8_EXT_SW1

PAGE TITLE
NAND: NAND1

S4E NAND CAPS

?MA MAX
PP1V8_EXT_SW1
C1926 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1910 0.1UF 20% 6.3V X5R-CERM 01005 ROOM=NAND2 DUAL_NAND
C1929 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1930 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1924 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1941 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1943 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1945 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1947 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1911 220PF 5% 16V C0G 01005 01005 ROOM=NAND2 DUAL_NAND
C1917 4.7PF +/-0.1PF 16V NP0-C0G 01005 ROOM=NAND2 DUAL_NAND
C1923 68PF 5% 6.3V NP0-C0G 01005 ROOM=NAND2 DUAL_NAND
C1912 47PF 5% 16V NP0-C0G 01005 ROOM=NAND2 DUAL_NAND

?MA MAX
PP0V9_NAND
C1902 26UF 20% 4V X5R 0402-0.1MM ROOM=NAND2 DUAL_NAND
C1905 26UF 20% 4V X5R 0402-0.1MM ROOM=NAND2 DUAL_NAND
C1900 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1901 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1922 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1927 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1940 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1942 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1944 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1946 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1903 220PF 5% 16V C0G 01005 ROOM=NAND2 DUAL_NAND
C1906 220PF 5% 16V C0G 01005 ROOM=NAND2 DUAL_NAND
C1909 4.7PF +/-0.1PF 16V NP0-C0G 01005 ROOM=NAND2 DUAL_NAND
C1914 68PF 5% 6.3V NP0-C0G 01005 ROOM=NAND2 DUAL_NAND
C1920 47PF 5% 16V NP0-C0G 01005 ROOM=NAND2 DUAL_NAND
C1928 22PF 5% 16V CERM 01005 ROOM=NAND2 DUAL_NAND

PP2V63_OTP
C1983 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1982 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1999 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1998 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1987 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND2 DUAL_NAND
C1986 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND2 DUAL_NAND
C1985 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND2 DUAL_NAND
C1984 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND2 DUAL_NAND
PP0V9_NAND
C1994 26UF 20% 4V X5R 0402-0.1MM ROOM=NAND2 DUAL_NAND
C1995 26UF 20% 4V X5R 0402-0.1MM ROOM=NAND2 DUAL_NAND
C1996 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1997 4UF 20% 4V X5R ROOM=NAND2 DUAL_NAND

PP1V8_EXT_SW1
C1988 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1989 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1990 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1991 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1992 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND
C1993 4UF 20% 4V X5R 0201 ROOM=NAND2 DUAL_NAND

?MA MAX (1US PEAK POWER)
PP2V63_OTP
C1913 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1916 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1919 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1921 10UF 20% 6.3V CERM-X5R 0402-2 ROOM=NAND2 DUAL_NAND
C1950 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND2 DUAL_NAND
C1951 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND2 DUAL_NAND
C1952 4UF 20% 6.3V CERM-X5R 0201 ROOM=NAND2 DUAL_NAND
C1915 22PF 5% 16V CERM 01005 ROOM=NAND2 DUAL_NAND
C1918 4.7PF +/-0.1PF 16V NP0-C0G 01005 ROOM=NAND2 DUAL_NAND
C1931 68PF 5% 6.3V NP0-C0G 01005 DUAL_NAND
C1932 100PF 5% 25V C0G-CERM 01005 ROOM=NAND2 DUAL_NAND
C1934 220PF 5% 16V C0G 01005 ROOM=NAND2 DUAL_NAND
C1935 220PF 5% 16V C0G 01005 DUAL_NAND
C1936 220PF 5% 16V C0G 01005 ROOM=NAND2 DUAL_NAND
C1937 100PF 5% 25V C0G-CERM 01005 DUAL_NAND

XW1900 OMIT SHORT-10L-0.1MM-SM ROOM=NAND2
PP1V8_NAND2_AVDD_H

OUT NAND2_ANI1_VREF
OUT NAND2_ANI0_VREF

U1900
SDMPEGFIH-512G
LGA
CRITICAL
OMIT_TABLE

PCI_AVDD_CLK_1 N6
PCI_AVDD_CLK_2 M9
PCI_AVDD_H J6
PCI_VDD_1 N8
PCI_VDD_2 J8
AVDD18_PLL L2
AVDD18_VREF G12
AVDD18_VREF J4
VDD G6 G8 L6 L8 R6 R8
VDDIO E2 E10 J2 K9 N2 T5 P9
VCC D3 E12 G4 L12 R2
VDD_PLL R4
VPP F3 NC

CLK_SOC_TO_NAND2_24MHZ IN M3 CLK_IN
PCIE_SOC_TO_NAND2_REFCLK_P IN K11 PCIE_REFCLK_P
PCIE_SOC_TO_NAND2_REFCLK_N IN J12 PCIE_REFCLK_M
PCIE_NAND2_TO_SOC_CLKREQ_L BI P5 PCIE_CLKREQ_N
PCIE_NAND2_RESREF H7 PCI_RESREF
PCIE_SOC_TO_NAND2_TX_P IN M11 PCIE_RX0_P
PCIE_SOC_TO_NAND2_TX_N IN M12 PCIE_RX0_M
R1904 3.01K 1% 1/32W MF 01005 ROOM=NAND2 DUAL_NAND
C1980 0.22UF 10% CER-X5R 6.3V 01005 DUAL_NAND
C1981 0.22UF 10% CER-X5R 6.3V 01005 DUAL_NAND
PCIE_NAND2_TO_SOC_TX_P OUT PCIE_NAND2_TO_SOC_TX_C_P R12 PCIE_TX0_P
PCIE_NAND2_TO_SOC_TX_N OUT PCIE_NAND2_TO_SOC_TX_C_N T11 PCIE_TX0_M
GPIO_SOC_TO_NAND_RESET_L L4 RESET*
TRST* G10
ZQ_C K3
ZQ_N C10
NAND2_ZQ_C
NAND2_ZQ_N
Board trace <= 0.20hm
R1900 100 0.1% 1/32W MF 01005 ROOM=NAND2 DUAL_NAND
R1901 300 0.1% 1/32 MF ROOM=NAND2
VSS

EXT_D0/BOOT0 B3 GPIO_PMU_TO_NAND_LOW_BATT_L IN
EXT_D1/BOOT1 C4 GPIO_SOC_TO_NAND_FW_STRAP IN
EXT_D2/BOOT2/SPINAND_SCLK B5
EXT_D3/SWD_UID0/SPINAND_MISO C6
EXT_D4/UART_RX B7 NC
EXT_D5/SWD_UID1/SPINAND_MOSI C8
EXT_D6/UART_TX B9 NC
EXT_D7/SPF B11
EXT_NCE/PERST* E8 SYS_ALIVE IN
EXT_NRE/JTAG_TMS D7 SWD_NAND2_SWDIO_R
EXT_NWE/JTAG_TCK E6 SWD_NAND2_SWCLK_R
EXT_RNB/JTAG_TDO E4
EXT_CLE/JTAG_TDI D5 NC
EXT_ALE/JTAG_SEL D9
DROOP_N T3
WP_N G2 PP1V8_EXT_SW1

R1920 0.00 5% 1/32W MF 01005 ROOM=NAND2 DUAL_NAND PCIE_SOC_TO_NAND1_RESET_L IN
R1921 0.00 5% 1/32W MF 01005 ROOM=NAND2 DUAL_NAND PCIE_SOC_TO_NAND2_RESET_L IN
R1910 0.00 5% 1/32W MF 01005 ROOM=NAND2 DUAL_NAND SWD_NAND2_SWDIO BI
R1911 0.00 5% 1/32W MF 01005 ROOM=NAND2 DUAL_NAND SWD_NAND2_SWCLK IN
NOSTUFF

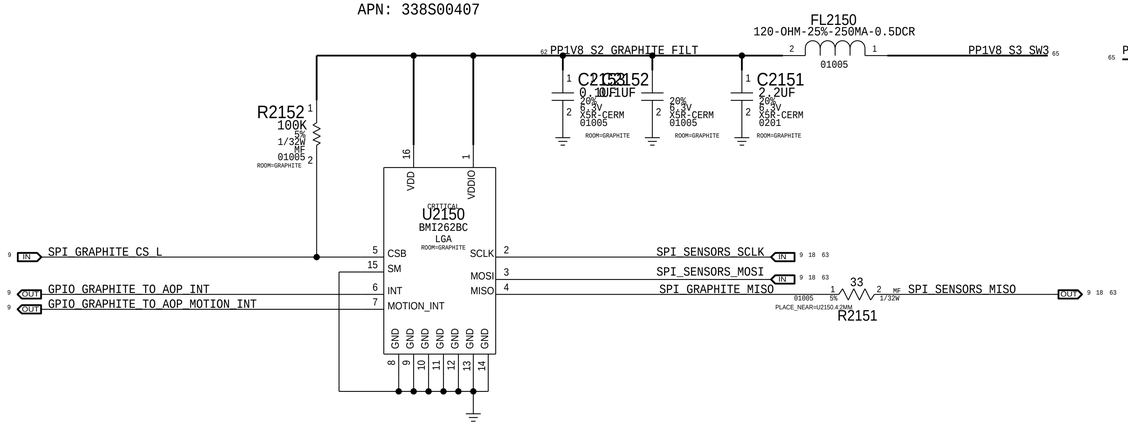
SYNC_MASTER=J320_MLB
SYNC_DATE=09/23/2017
PAGE TITLE
NAND: NAND2

SENSORS

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
155S00016	155S0686		FL2120,ECT	RDAR://PROBLEM/15809407

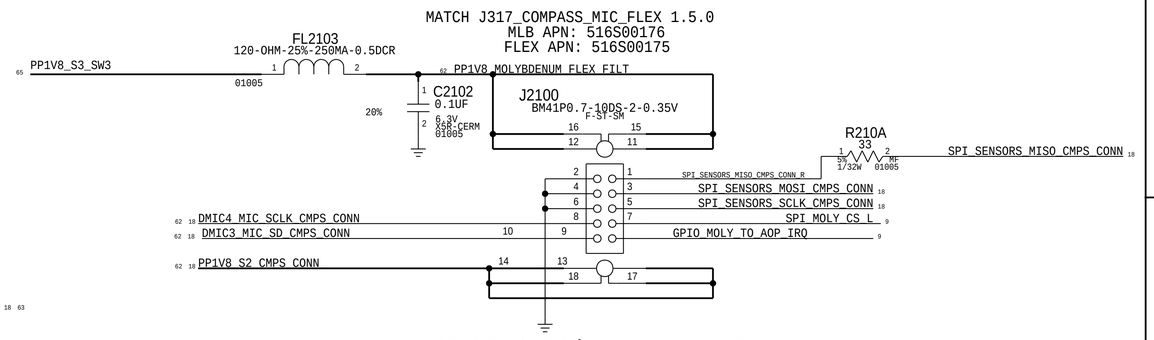
GRAPHITE - ACCEL & GYRO

APN: 338S00407

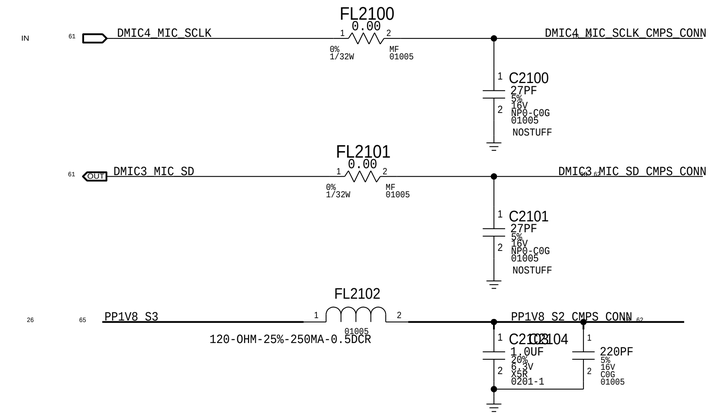


COMPASS/DMIC FLEX B2B

MATCH J317_COMPASS_MIC_FLEX 1.5.0
MLB APN: 516S00176
FLEX APN: 516S00175

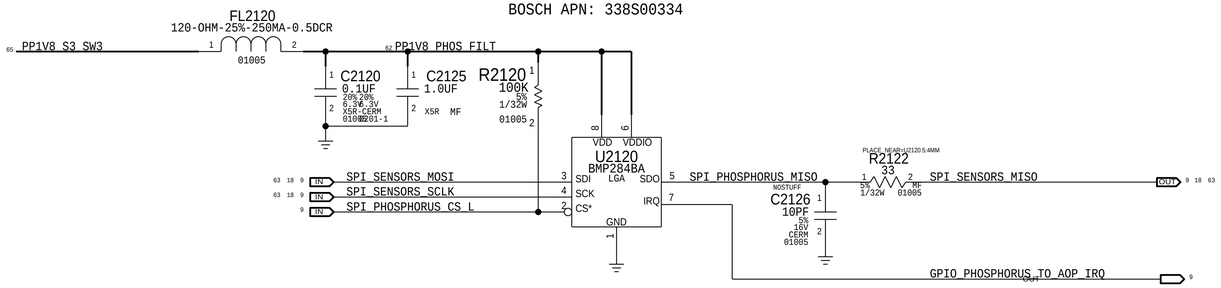


MIC#5 FILTERS COMPASS/DMIC FLEX CONN

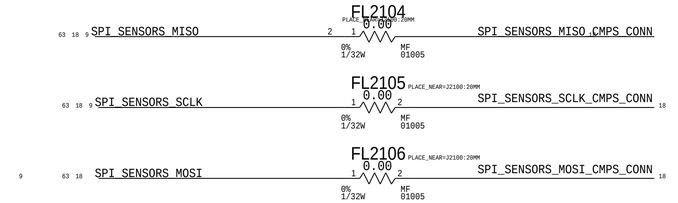


PHOSPHORUS2

BOSCH APN: 338S00334



SPI FILTERS



SYNC_MASTER=MLB_P9 SYNC_DATE=07/17/2017

PAGE TITLE

SENSOR: GRAPHITE, PHOS2, MOLY

KONA MASTER

U2200 BCM15900B0K BGA SYM 1 OF 2 — CRITICAL

E11	AUXADC_REF		
G12	AUXBUF_AIO_INPUT_3V		
F13	AUXBUF_AIO_OUTPUT		
D10	GPIO_ADC_00	PAD_I_TOUCH0	J5 GRAPE_RX<27>
D12	GPIO_ADC_01	PAD_I_TOUCH1	H3 GRAPE_RX<26>
D11	GPIO_ADC_02	PAD_I_TOUCH2	J2 GRAPE_RX<25>
F12	GPIO_ADC_03	PAD_I_TOUCH3	J3 GRAPE_RX<24>
E10	GPIO_ADC_04	PAD_I_TOUCH4	J4 GRAPE_RX<23>
F10	GPIO_ADC_05	PAD_I_TOUCH5	K5 GRAPE_RX<22>
G10	GPIO_ADC_06	PAD_I_TOUCH6	K4 GRAPE_RX<21>
G9	GPIO_ADC_07	PAD_I_TOUCH7	K3 GRAPE_RX<20>
F8	GPIO_08	PAD_I_TOUCH8	M5 GRAPE_RX<19>
H11	GPIO_09	PAD_I_TOUCH9	L5 GRAPE_RX<18>
J9	GPIO_10	PAD_I_TOUCH10	M1 GRAPE_RX<17>
H9	GPIO_11	PAD_I_TOUCH11	K1 GRAPE_RX<16>
F7	GPIO_12	PAD_I_TOUCH12	L6 GRAPE_RX<15>
J10	GPIO_13	PAD_I_TOUCH13	N1 GRAPE_RX<14>
A6	GPIO_14	PAD_I_TOUCH14	P6 GRAPE_RX<13>
C6	GPIO_15	PAD_I_TOUCH15	N6 GRAPE_RX<12>
D9	GPIO_16	PAD_I_TOUCH16	R7 GRAPE_RX<11>
E8	GPIO_17	PAD_I_TOUCH17	N7 GRAPE_RX<10>
C9	GPIO_18	PAD_I_TOUCH18	R8 GRAPE_RX<9>
C5	GPIO_19	PAD_I_TOUCH19	M6 GRAPE_RX<8>
A7	H_INT*	PAD_I_TOUCH20	P7 GRAPE_RX<7>
A8	H_SCLK	PAD_I_TOUCH21	M7 GRAPE_RX<6>
A9	H_SDI	PAD_I_TOUCH22	N9 GRAPE_RX<5>
B8	H_SDO	PAD_I_TOUCH23	P9 GRAPE_RX<4>
B6	H_CS*	PAD_I_TOUCH24	M9 GRAPE_RX<3>
B5	H_ALT_CS*	PAD_I_TOUCH25	R9 GRAPE_RX<2>
A5	I2C_SCL	PAD_I_TOUCH26	N10 GRAPE_RX<1>
A4	I2C_SDA	PAD_I_TOUCH27	M10 GRAPE_RX<0>
A12	KMSI_MISO	PAD_I_TOUCH28	R10 NC_KONA_M_TOUCH28
B13	KMSI_MOSI	PAD_I_TOUCH29	P10 NC_KONA_M_TOUCH29
B12	KMSI_STRB_IN	PAD_I_TOUCH30	D2 NC_KONA_M_TOUCH30
A13	KMSI_STRB_OUT	PAD_I_TOUCH31	D1 NC_KONA_M_TOUCH31
C14	PSE_SYNC	PAD_I_TOUCH32	C2 NC_KONA_M_TOUCH32
B14	BOOST_ATEST	PAD_I_TOUCH33	C1 NC_KONA_M_TOUCH33
A15	BOOST_FBIN	PAD_I_TOUCH34	B1 KONA_M_TOUCH34_VCOM
B15	BOOST_ISENSE	PAD_I_TOUCH35	P3 NC_KONA_M_TOUCH35
D13	BOOST_NGATE	PAD_I_TOUCH36	N2 NC_KONA_M_TOUCH36
C15	BOOST_VBAT	PAD_I_TOUCH37	P1 NC_KONA_M_TOUCH37
D14	BOOST_VBAT_EN	PAD_I_TOUCH38	P2 NC_KONA_M_TOUCH38
E9	JTAG_RTCK	PAD_I_TOUCH39	P4 NC_KONA_M_TOUCH39
J7	JTAG_TCK	PAD_I_TOUCH40	G3 NC_KONA_M_TOUCH40
E7	JTAG_TMS	PAD_I_TOUCH41	D4 NC_KONA_M_TOUCH41
G7	JTAG_TDI	PAD_I_TOUCH42	D3 GRAPE_TX<20>
H8	JTAG_TDO	PAD_I_TOUCH43	G4 GRAPE_TX<21>
G6	JTAG_TRST*	PAD_I_TOUCH44	E4 GRAPE_TX<22>
C7	JTAG_SRST*	PAD_I_TOUCH45	E3 GRAPE_TX<23>
H7	RESET*	PAD_I_TOUCH46	F1 GRAPE_TX<24>
K9	TEST_MODE	PAD_I_TOUCH47	F4 GRAPE_TX<25>
K7	BOOT_CFG_0	PAD_I_TOUCH48	F3 GRAPE_TX<26>
J8	BOOT_CFG_1	PAD_I_TOUCH49	H5 GRAPE_TX<27>
R5	AFE_IO_BGBIAS	PAD_I_TOUCH50	F2 GRAPE_TX<28>
J15	XTALN	PAD_I_TOUCH51	G2 GRAPE_TX<29>
K15	XTALP	PAD_I_TOUCH52	G1 GRAPE_TX<30>
J13	XTAL_O_CLK_EXT	PAD_I_TOUCH53	H1 GRAPE_TX<31>
B4	IFO_CLK_EXT	PAD_I_TOUCH54	P11 GRAPE_TX<32>
		PAD_I_TOUCH55	N15 GRAPE_TX<33>
		PAD_I_TOUCH56	N12 GRAPE_TX<34>
		PAD_I_TOUCH57	P13 GRAPE_TX<35>
		PAD_I_TOUCH58	P12 GRAPE_TX<36>
		PAD_I_TOUCH59	R12 GRAPE_TX<37>
		PAD_I_TOUCH60	N13 GRAPE_TX<38>
		PAD_I_TOUCH61	M12 GRAPE_TX<39>
		PAD_I_TOUCH62	R13 NC_KONA_M_TOUCH62
		PAD_I_TOUCH63	L13 NC_KONA_M_TOUCH63
		PAD_I_TOUCH64	P14 NC_KONA_M_TOUCH64
		PAD_I_TOUCH65	M14 NC_KONA_M_TOUCH65
		PAD_I_TOUCH66	M13 NC_KONA_M_TOUCH66
		PAD_I_TOUCH67	N14 NC_KONA_M_TOUCH67
		PAD_I_TOUCH68	M15 NC_KONA_M_TOUCH68
		PAD_I_TOUCH69	R14 NC_KONA_M_TOUCH69
		PAD_I_SELFCAPEXT	N5 NC
		PAD_O_GUARDBUFFER	N4 NC
		CORE_PMU_O_AON_TEST_PMU	C11 NC

KONA_S_TO_KONA_M_RESET_DET_L
KONA_M_TO_KONA_S_IPC1
KONA_M_TO_KONA_S_IPC2
GPIO_KONA_TO_AOP_TIME_SYNC
UART_DEBUG_TO_GRAPE_TX
UART_GRAPE_TO_DEBUG_TX
GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC
GPIO_TOUCH_TO_BT_SYNC
SPI_SOC_TO_GRAPE_CS_L_GPIO
GPIO_SOC_TO_GRAPE_BSYNC0
GPIO_SOC_TO_GRAPE_BSYNC1
GPIO_SOC_TO_GRAPE_EB
UART_AOP_TO_GRAPE_TX
UART_GRAPE_TO_AOP_TX
SPI_KONA_M_TO_KONA_S_MISO
SPI_KONA_M_TO_KONA_S_SCLK
SPI_KONA_M_TO_KONA_S_CS_L
KONA_S_TO_KONA_M_INT_L
SPI_KONA_M_TO_KONA_S_MOSI
KONA_M_TO_KONA_S_TTW
GPIO_GRAPE_TO_AOP_IRQ_L
SPI_SOC_TO_GRAPE_SCLK
SPI_SOC_TO_GRAPE_MOSI
SPI_SOC_TO_GRAPE_MISO_R
SPI_SOC_TO_GRAPE_CS_L
KMSI_MISO
KMSI_MOSI
KMSI_STRB_IN
KMSI_STRB_OUT
PSE_SYNC
KONA_BOOST_ATEST
KONA_BOOST_FBIN
KONA_BOOST_ISENSE
KONA_BOOST_NGATE
KONA_BOOST_VBAT
KONA_BOOST_EN
SWD_GRAPE_SWCLK
SWD_GRAPE_SWDIO
GPIO_SOC_TO_GRAPE_RESET_L
KONA_M_TEST_MODE
KONA_BOOT0_M
KONA_BOOT1_M
KONA_BGBIAS
CLK_SOC_TO_GRAPE_24MHZ
CLK_KONA_S_24MHZ
CLK_TOUCH_24MHZ
CLK_KONA_M_24MHZ
CLK_TOUCH_24MHZ_C

R2205 0.00 5% 1/32W MF 01005 — TODO: CHECK BSYNC CONNECTIVITY
R2215 33 5% 1/32W MF 01005 — PLACE_NEAR=U2200.B8:5MM
R2214 1.00M 5% 1/32W MF 01005
R2224 10K 5% 1/32W MF 01005
R2211 10K 5% 1/32W MF 01005
R2271 0.00 0% 1/32W 01005
R2206 1.00K 5% 1/32W MF 01005
C2216 20PF 5% 16V C0G 01005
C2217 10PF 5% 16V CERM 01005
XW2201 SHORT-8L-0.091MM-SM
XW2202 SHORT-8L-0.091MM-SM

MARKED AS CRITICAL DUE TO PART ISSUES IN THE PAST W/0201

U2200 BCM15900B0K BGA SYM 2 OF 2 — CRITICAL

B3	AFE_I_VDDHV15_EXT	AUXBUF_AVSS	F14
C4	AFE_I_VDDHV15_EXT	AUXADC_AVSS	C10
L7	AFE_I_VDDHV15_EXT	VSS	D6
E5	AFE_I_VDDHV15_EXT	VSS	D8
M11	AFE_I_VDDHV15_EXT	VSS	F6
H2	AFE_I_VDDHV15_EXT	VSS	F9
K6	AFE_I_VDDHV15_EXT	VSS	G8
L1	AFE_I_VDDHV15_EXT	VSS	H10
L9	AFE_I_VDDHV15_EXT	VSS	K8
M3	AFE_I_VDDHV15_EXT	VSS	A14
E2	AFE_I_VDDHV15_EXT	VSS	E14
N3	AFE_I_VDDHV15_EXT	VSS	A1
L12	AFE_I_VDDHV15_EXT	VSS	A3
G5	AFE_I_VDDHV15_EXT	VSS	B7
R15	AFE_I_VDDHV15_EXT	VSS	H12
E13	BOOST_VDDA	VSS	H13
C12	OTP_TMON_I_VDDA_3P3_EXT	VSS	K11
R1	AFE_PMU_I_VDDA_3P3_EXT	VSS	K12
G13	AUXBUF_PMU_I_VDDA_3P3_EXT	VSS	K13
G14	AUXBUF_PMU_I_VDDHV_AUX_EXT	VSS	D15
G15	AUXBUF_PMU_O_VDD_AUX_CAP	VSS	E15
C3	AFE_I_VDDANA_3P3_AFE_PMU	VSS	F15
D5	AFE_I_VDDANA_3P3_AFE_PMU	VSS	G11
H6	AFE_I_VDDANA_3P3_AFE_PMU	J11	VSS
L4	AFE_I_VDDANA_3P3_AFE_PMU	J12	VSS
L3	AFE_I_VDDANA_3P3_AFE_PMU	VSS	K10
L8	AFE_I_VDDANA_3P3_AFE_PMU	XTAL_AVSS	H15
M2	AFE_I_VDDANA_3P3_AFE_PMU	XTAL_AVSS	K14
R11	AFE_I_VDDANA_3P3_AFE_PMU	CORE_PMU_I_AVSS	B10
M8	AFE_I_VDDANA_3P3_AFE_PMU	AUXBUF_PMU_I_AVSS	H14
N8	AFE_I_VDDANA_3P3_AFE_PMU	PAD_I_AVSS	B2
J6	AFE_I_VDDANA_3P3_AFE_PMU	PAD_I_AVSS	E1
L11	AFE_I_VDDANA_3P3_AFE_PMU	PAD_I_AVSS	J1
L14	AFE_I_VDDANA_3P3_AFE_PMU	PAD_I_AVSS	N11
R6	AFE_I_VDDANA_3P3_AFE_PMU	PAD_I_AVSS	L2
R2	AFE_PMU_O_VDDANA_3P3_PMU	PAD_I_AVSS	P15
R4	AFE_PMU_O_AVDD1P2_CAP	PAD_I_AVSS	K2
J14	XTAL_PLL_AVDD1P8_I_VDDLDO_1P8_EXT	PAD_I_AVSS	L10
F11	AUXADC_AVDDC_I_VDDIO_1P8_3P3_EXT	PAD_I_AVSS	L15
E12	AUXADC_AVDD_I_VDDIO_1P8_3P3_EXT	PAD_I_AVSS	M4
R3	AFE_PMU_I_VDDLDO_1P8_EXT	PAD_I_AVSS	P6
B9	AON_PAD_I_VDDIO_1P8_3P3_EXT	PAD_I_AVSS	P5
D7	AON_PAD_I_VDDIO_1P8_3P3_EXT	PAD_I_AVSS	P8
E6	AON_PAD_I_VDDIO_1P8_3P3_EXT	PAD_I_AVSS	H4
A2	I2C_PAD_I_VDDIO_1P8_3P3_EXT		
C13	CORE_PAD_I_VDDIO_1P8_3P3_EXT		
C8	CORE_PAD_I_VDDIO_1P8_3P3_EXT		
B11	CORE_PMU_I_AON_VDDIO_1P8_3P3_EXT		
A10	CORE_PMU_I_VDDLDO_1P8_EXT		
A11	CORE_PMU_O_VDDCORE_1P2_CAP		

PP15V0_TOUCH
PP15V0_TOUCH_FILT
PP3V3_S2_GRAPE
PP3V3_GRAPE_FILT
PP2V8_KONA_M_VDDANA
KONA_M_VDDADC_CAP
PP1V8_GRAPE_XTAL_FILT
PP1V8_S2_GRAPE
PP1V8_GRAPE_AON_RC
PP1V2_GRAPE_BUCK_EXT

R2222 3.3 5% 1/10W MF-LF 402 — CRITICAL
L2204 FERR-220-OHM 0402
L2203 FERR-220-OHM 0402
R2281 100 1% 1/20W MF 201

C2290 100PF 5% 25V C0G 0201
R2290 300 5% MF 201 — NOSTUFF
C2291 27PF 5% 25V C0G 0201
VCOM_FILT
VCOM_LCD_TO_GRAPE
TODO: CONFIRM WHICH BALL TO CONNECT VCOM

BOOT OPTION

PP1V8_S2_GRAPE
R2201 10K 5% 1/32W MF 01005 — NOSTUFF
R2203 10K 5% 1/32W MF 01005
R2202 10K 5% 1/32W MF 01005
R2204 10K 5% 1/32W MF 01005 — NOSTUFF
KONA_BOOT0_M
KONA_BOOT1_M

15V BOOST

Q2201 SIA445EDJ SC70-6L — CRITICAL
PPVCC_MAIN
R2207 10K 5% 1/32W MF 01005
C2211 1UF 20% 25V CER-X5R 0201
R2206 1.00K 5% 1/32W MF 01005
KONA_BOOST_EN
KONA_BOOST_EN_R
C2226 0.1UF 10% 25V X5R 0201
C2220 10UF 20% 10V X5R-CERM 0402-7
NO_XNET_CONNECTION=1
KONA_BOOST_MAIN_GATED
R2208 0.15 1% 1/8W MF 0402
KONA_BOOST_MAIN_R
XW2204 SHORT-8L-0.091MM-SM NO_XNET_CONNECTION=1
XW2203 SHORT-8L-0.091MM-SM NO_XNET_CONNECTION=1
L2201 22UH-20%-0.61A-0.60HM SMS5523 VLF504010-SM — CRITICAL
SWITCH_NODE=TRUE
KONA_BOOST_LX
Q2202 CSD17381F4 0402 — CRITICAL
KONA_BOOST_VBAT
KONA_BOOST_ISENSE
KONA_BOOST_NGATE
D2201 PMEG4002EB — CRITICAL
C2213 10UF 20% 25V X5R-CERM 0603
C2215 10UF 20% 25V X5R-CERM 0603
C2217 10UF 20% 25V X5R-CERM 0603
C2219 220PF 2% 50V C0G 0201
C2221 68PF 5% 50V C0G 0201
XW2205 SHORT-8L-0.091MM-SM NO_XNET_CONNECTION=1
KONA_BOOST_FBIN

PART NUMBER FOR ALTERNATE BOM CONFIGURATIONS	PART NUMBER	BOM OPTIONS		COMMENTS:
138S0641	138S0700		C2206,ETC	RDAR://PROBLEM/20618071
376S00191	376S00061		Q2202	
371S00118	371S00117		D2201	ONSEMI

SYNC_MASTER=J207_MLB_B
SYNC_DATE=03/13/2017
PAGE TITLE
TOUCH: KONA MASTER

KONA: SLAVE

U2301
BCM15900B0K
BGA
SYM 1 OF 2
CRITICAL

E11 AUXADC_REF
G12 AUXBUF_AIO_INPUT_3V
NC E13 AUXBUF_AIO_OUTPUT
NC D10 GPIO_ADC_00
19 IN KONA_M_TO_KONA_S_IPC1 D12 GPIO_ADC_01
19 IN KONA_M_TO_KONA_S_IPC2 D11 GPIO_ADC_02
63 TESTPOINT_KONA_S_UART_RX F12 GPIO_ADC_03
63 TESTPOINT_KONA_S_UART_TX E10 GPIO_ADC_04
NC F10 GPIO_ADC_05
63 60 40 19 6 IN GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC NOSTUFF R2308 0.00 1/32W MF 01005 GPIO_SOC_TO_SYS_TS_SYNC_R G10 GPIO_ADC_06
38 OUT GPIO_KONA_TO_TCON_FORCE_PWM G9 GPIO_ADC_07
20 SPI_KONA_M_TO_KONA_S_CS_L GPIO_08 F8
TESTPOINT_KONA_IPC_EVENT_1 GPIO_09 H11
63 TESTPOINT_KONA_IPC_EVENT_2 J9 GPIO_10
63 TESTPOINT_KONA_IPC_EVENT_3 H9 GPIO_11
63 TESTPOINT_KONA_IPC_EVENT_4 F7 GPIO_12
63 TESTPOINT_KONA_IPC_EVENT_5 J10 GPIO_13
63 19 OUT KONA_S_TO_KONA_M_RESET_DET_L A6 GPIO_14
19 OUT KONA_M_TO_KONA_S_TTW C6 GPIO_15
63 38 19 IN GPIO_SOC_TO_GRAPE_BSYNC0 NOSTUFF 0.00 1/32W MF 2 MF 01005 R2306 KONA_M_BSYNC0 D9 GPIO_16
IN 63 38 19 GPIO_SOC_TO_GRAPE_BSYNC1 NOSTUFF 0.00 1/32W MF 2 MF 01005 R2307 KONA_M_BSYNC1 E8 GPIO_17
IN 38 19 GPIO_SOC_TO_GRAPE_EB NOSTUFF 0.00 1/32W MF 2 MF 01005 R2309 GPIO_SOC_TO_GRAPE_EB_R C9 GPIO_18
OUT 62 61 58 GPIO_KONA_S_TO_SCORPIUS_TIME_SYNC GPIO_19 C5

19 OUT KONA_S_TO_KONA_M_INT_L A7 H_INT*
19 IN SPI_KONA_M_TO_KONA_S_SCLK A8 H_SCLK
19 IN SPI_KONA_M_TO_KONA_S_MOSI A9 H_SDI
19 OUT SPI_KONA_M_TO_KONA_S_MISO B8 H_SDO
20 19 IN SPI_KONA_M_TO_KONA_S_CS_L B6 H_CS*
NC B5 H_ALT_CS*
NC A5 I2C_SCL
NC A4 I2C_SDA

63 19 IN KMSI_MOSI A12 KMSI_MISO
63 19 OUT KMSI_MISO B13 KMSI_MOSI
63 19 IN KMSI_STRB_OUT B12 KMSI_STRB_IN
63 19 OUT KMSI_STRB_IN A13 KMSI_STRB_OUT
63 19 BI PSE_SYNC C14 PSE_SYNC

NC B14 BOOST_XTEST
NC A15 BOOST_FBIN
NC B15 BOOST_ISENSE
NC D13 BOOST_NGATE
NC C15 BOOST_VBAT
NC D14 BOOST_VBAT_EN

NC E9 JTAG_RTCK
NC J7 JTAG_TCK
NC E7 JTAG_TMS
NC G7 JTAG_TDI
NC H8 JTAG_TDO
NC G6 JTAG_TRST*
NC C7 JTAG_SRST*

63 19 10 6 IN GPIO_SOC_TO_GRAPE_RESET_L H7 RESET*
KONA_S_TEST_MODE K9 TEST_MODE
R2305 10K 5% 1/32W MF 01005
20 KONA_BOOT0_S K7 BOOT_CFG_0
20 KONA_BOOT1_S BOOT_CFG_1
19 KONA_BGBIAS B5 AFE_IO_BGBIAS

19 IN CLK_KONA_S_24MHZ
NC J15 XTALN
NC K15 XTALP
NC J13 XTAL_O_CLK_EXT
C2301 10PF 5% 16V CERM 01005
NC B4 IFO_CLK_EXT

PAD_I_TOUCH0 J5 GRAPE_RX<55> 61
PAD_I_TOUCH1 H3 GRAPE_RX<54> 61
PAD_I_TOUCH2 J2 GRAPE_RX<53> 61
PAD_I_TOUCH3 J3 GRAPE_RX<52> 61
PAD_I_TOUCH4 J4 GRAPE_RX<51> 61
PAD_I_TOUCH5 K5 GRAPE_RX<50> 61
PAD_I_TOUCH6 K4 GRAPE_RX<49> 61
PAD_I_TOUCH7 K3 GRAPE_RX<48> 61
PAD_I_TOUCH8 M5 GRAPE_RX<47> 61
PAD_I_TOUCH9 L5 GRAPE_RX<46> 61
PAD_I_TOUCH10 M1 GRAPE_RX<45> 61
PAD_I_TOUCH11 K1 GRAPE_RX<44> 61
PAD_I_TOUCH12 L6 GRAPE_RX<43> 61
PAD_I_TOUCH13 N1 GRAPE_RX<42> 61
PAD_I_TOUCH14 P6 GRAPE_RX<41> 61
PAD_I_TOUCH15 N6 GRAPE_RX<40> 61
PAD_I_TOUCH16 R7 GRAPE_RX<39> 61
PAD_I_TOUCH17 N7 GRAPE_RX<38> 61
PAD_I_TOUCH18 R8 GRAPE_RX<37> 61
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PAD_I_TOUCH22 N9 GRAPE_RX<33> 61
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PAD_I_TOUCH24 M9 GRAPE_RX<31> 61
PAD_I_TOUCH25 R9 GRAPE_RX<30> 61
PAD_I_TOUCH26 N10 GRAPE_RX<29> 61
PAD_I_TOUCH27 M10 GRAPE_RX<28> 61
PAD_I_TOUCH28 R10 NC_KONA_S_TOUCH28 61
PAD_I_TOUCH29 P10 NC_KONA_S_TOUCH29 61
PAD_I_TOUCH30 D2 NC_KONA_S_TOUCH30 61
PAD_I_TOUCH31 D1 NC_KONA_S_TOUCH31 61
PAD_I_TOUCH32 C2 NC_KONA_S_TOUCH32 61
PAD_I_TOUCH33 C1 NC_KONA_S_TOUCH33 61
PAD_I_TOUCH34 B1 NC_KONA_S_TOUCH34 61
PAD_I_TOUCH35 P3 NC_KONA_S_TOUCH35 61
PAD_I_TOUCH36 N2 NC_KONA_S_TOUCH36 61
PAD_I_TOUCH37 P1 NC_KONA_S_TOUCH37 61
PAD_I_TOUCH38 P2 NC_KONA_S_TOUCH38 61
PAD_I_TOUCH39 P4 NC_KONA_S_TOUCH39 61
PAD_I_TOUCH40 G3 NC_KONA_S_TOUCH40 61
PAD_I_TOUCH41 D4 NC_KONA_S_TOUCH41 61
PAD_I_TOUCH42 D3 GRAPE_TX<0> 61
PAD_I_TOUCH43 G4 GRAPE_TX<1> 61
PAD_I_TOUCH44 E4 GRAPE_TX<2> 61
PAD_I_TOUCH45 E3 GRAPE_TX<3> 61
PAD_I_TOUCH46 F1 GRAPE_TX<4> 61
PAD_I_TOUCH47 F4 GRAPE_TX<5> 61
PAD_I_TOUCH48 F3 GRAPE_TX<6> 61
PAD_I_TOUCH49 H5 GRAPE_TX<7> 61
PAD_I_TOUCH50 F2 GRAPE_TX<8> 61
PAD_I_TOUCH51 G2 GRAPE_TX<9> 61
PAD_I_TOUCH52 G1 GRAPE_TX<10> 61
PAD_I_TOUCH53 H1 GRAPE_TX<11> 61
PAD_I_TOUCH54 P11 GRAPE_TX<12> 61
PAD_I_TOUCH55 N15 GRAPE_TX<13> 61
PAD_I_TOUCH56 N12 GRAPE_TX<14> 61
PAD_I_TOUCH57 P13 GRAPE_TX<15> 61
PAD_I_TOUCH58 P12 GRAPE_TX<16> 61
PAD_I_TOUCH59 R12 GRAPE_TX<17> 61
PAD_I_TOUCH60 N13 GRAPE_TX<18> 61
PAD_I_TOUCH61 M12 GRAPE_TX<19> 61
PAD_I_TOUCH62 R13 NC_KONA_S_TOUCH62 61
PAD_I_TOUCH63 L13 NC_KONA_S_TOUCH63 61
PAD_I_TOUCH64 P14 NC_KONA_S_TOUCH64 61
PAD_I_TOUCH65 M14 NC_KONA_S_TOUCH65 61
PAD_I_TOUCH66 M13 NC_KONA_S_TOUCH66 61
PAD_I_TOUCH67 N14 NC_KONA_S_TOUCH67 61
PAD_I_TOUCH68 M15 NC_KONA_S_TOUCH68 61
PAD_I_TOUCH69 R14 NC_KONA_S_TOUCH69 61
PAD_I_SELFCAPEXT N5 NC
PAD_O_GUARDBUFFER N4 NC
CORE_PMU_O_AON_TEST_PMU C11 NC

1.2V EXT BUCK

65 19 PPVCC_MAIN
C2350 4.7UF 16V 20% X5R 0402
U2350 TPS626751 BGA
A2 VIN
B2 EN
GRAPE_1V2BUCK_EN
C1 MODE
A1 GRAPE_1V2BUCK_MODE
SW B1 GRAPE_1V2BUCK_SW
FB C1 GRAPE_1V2BUCK_FB
GND
L2350 0683 0.47UH-20%-3.1A-0.064OHM
XW2350 SM
C2353 220PF 5% 16V C0G 01005
C2352 2.2UF 20% 10V X5R 0201
C2351 2.2UF 20% 10V X5R 0201
19 20 62 PP1V2_GRAPE_BUCK_EXT
R2350 10K 1% 1/32W MF 01005
R2351 0.00 1/32W MF 01005
R2352 0.00 1/32W MF NOSTUFF 01005
65 20 19 9 PP1V8_S2_GRAPE
9 19 20 65 PP1V8_S2_GRAPE

U2301
BCM15900B0K
BGA
SYM 2 OF 2
CRITICAL

62 19 PP15V0_TOUCH_FILT
C2311 0.47UF 20% 25V CER-X5R 0201
C2312 0.47UF 20% 25V CER-X5R 0201
C2313 0.47UF 20% 25V CER-X5R 0201
C2317 0.47UF 20% 25V CER-X5R 0201
C2333 0.47UF 20% 25V CER-X5R 0201
C2334 0.47UF 20% 25V CER-X5R 0201
C2335 0.47UF 20% 25V CER-X5R 0201
B3 AFE_I_VDDHV15_EXT
C4 AFE_I_VDDHV15_EXT
L7 AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
K6 AFE_I_VDDHV15_EXT
L1 AFE_I_VDDHV15_EXT
L9 AFE_I_VDDHV15_EXT
M3 AFE_I_VDDHV15_EXT
E2 AFE_I_VDDHV15_EXT
N3 AFE_I_VDDHV15_EXT
L12 AFE_I_VDDHV15_EXT
G5 AFE_I_VDDHV15_EXT
AFE_I_VDDHV15_EXT
R15

63 19 PP3V3_GRAPE_FILT
C2315 0.1UF 10% 10V X5R-CERM 0201
C2316 0.1UF 10% 10V X5R-CERM 0201
C2320 0.22UF 20% 10V CERM-X5R 0201
E13 BOOST_VDDA
C12 OTP_TMON_I_VDDA_3P3_EXT
R1 AFE_PMU_I_VDDA_3P3_EXT
G13 AUXBUF_PMU_I_VDDA_3P3_EXT
G14 AUXBUF_PMU_I_VDDHV_AUX_EXT
NC G15 AUXBUF_PMU_O_VDD_AUX_CAP

62 PP2V8_KONA_S_VDDANA
C2378 100PF 5% 25V C0G 0201
C2302 12PF 5% 25V NP0-C0G 0201
C2301 0.1UF 10% 10V X5R-CERM 0201
C2303 0.1UF 10% 10V X5R-CERM 0201
C3
D5
C2304 0.1UF 10% 10V X5R-CERM 0201
C2305 0.1UF 10% 10V X5R-CERM 0201
C2306 0.1UF 10% 10V X5R-CERM 0201
C2307 2.2UF 10% 10V X5R-CERM 0402
L6
L14
C3 AFE_I_VDDANA_3P3_AFE_PMU
AFE_I_VDDANA_3P3_AFE_PMU
AFE_I_VDDANA_3P3_AFE_PMU
AFE_I_VDDANA_3P3_AFE_PMU
L4 AFE_I_VDDANA_3P3_AFE_PMU
L3 AFE_I_VDDANA_3P3_AFE_PMU
L8 AFE_I_VDDANA_3P3_AFE_PMU
M2 AFE_I_VDDANA_3P3_AFE_PMU
R11 AFE_I_VDDANA_3P3_AFE_PMU
M8 AFE_I_VDDANA_3P3_AFE_PMU
N8 AFE_I_VDDANA_3P3_AFE_PMU
AFE_I_VDDANA_3P3_AFE_PMU
L11 AFE_I_VDDANA_3P3_AFE_PMU
AFE_I_VDDANA_3P3_AFE_PMU
R6 AFE_I_VDDANA_3P3_AFE_PMU
R2 AFE_PMU_O_VDDANA_3P3_PMU
R4 AFE_PMU_O_AVDD1P2_CAP

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

63 19 PP1V8_GRAPE_XTAL_FILT
C2321 0.1UF 10% 25V X5R 0201
C2322 0.047UF 10% 25V X5R 0201
J14 XTAL_PLL_AVDD1P8_I_VDDLDO_1P8_EXT

65 20 19 9 PP1V8_S2_GRAPE
C2308 0.1UF 10% 6.3V CERM-X5R 0201
C2309 0.1UF 10% 6.3V CERM-X5R 0201
C2310 0.1UF 10% 6.3V CERM-X5R 0201
F11
E12 AUXADC_AVDDC_I_VDDIO_1P8_3P3_EXT
R3 AUXADC_AVDD_I_VDDIO_1P8_3P3_EXT
B9 AFE_PMU_I_VDDLDO_1P8_EXT
D7 AON_PAD_I_VDDIO_1P8_3P3_EXT
E6 AON_PAD_I_VDDIO_1P8_3P3_EXT
A2 AON_PAD_I_VDDIO_1P8_3P3_EXT
C13 I2C_PAD_I_VDDIO_1P8_3P3_EXT
C8 CORE_PAD_I_VDDIO_1P8_3P3_EXT
CORE_PAD_I_VDDIO_1P8_3P3_EXT

19 PP1V8_GRAPE_AON_RC B11 CORE_PMU_I_AON_VDDIO_1P8_3P3_EXT
A10 CORE_PMU_I_VDDLDO_1P8_EXT
62 20 19 PP1V2_GRAPE_BUCK_EXT A11 CORE_PMU_O_VDDCORE_1P2_CAP
C2325 1UF 10% 10V X5R-CERM 0402
C2314 0.1UF 10% 6.3V CERM-X5R 0201

AUXBUF_PMU_I_AVSSS
AUXBUF_AVSSS F14
AUXADC_AVSS C10
VSS D6
VSS D8
VSS F6
VSS F9
VSS G8
VSS H10
VSS K8
VSS A14
VSS E14
VSS A1
VSS A3
VSS B7
VSS H12
VSS H13
VSS K11
VSS K12
VSS K13
VSS D15
VSS E15
VSS F15
VSS G11
VSS J11
VSS J12
VSS K10
XTAL_AVSS H15
XTAL_AVSS K14
CORE_PMU_I_AVSS B10
H14
PAD_I_AVSS B2
PAD_I_AVSS E1
PAD_I_AVSS J1
PAD_I_AVSS N11
PAD_I_AVSS L2
PAD_I_AVSS P15
PAD_I_AVSS K2
PAD_I_AVSS L10
PAD_I_AVSS L15
PAD_I_AVSS M4
PAD_I_AVSS F5
PAD_I_AVSS P5
PAD_I_AVSS P8
PAD_I_AVSS H4

BOOT OPTION

65 20 19 9 PP1V8_S2_GRAPE
R2301 10K 5% 1/32W MF 01005
R2303 10K 5% 1/32W MF 01005
20 KONA_BOOT0_S
KONA_BOOT1_S 20
NOSTUFF R2302 10K 5% 1/32W MF 01005
NOSTUFF R2304 10K 5% 1/32W MF 01005

SYNC_MASTER=J207_MLB_B
SYNC_DATE=03/13/2017
PAGE TITLE
TOUCH: KONA SLAVE

TOUCH FLEX CONNECTOR (SENSE)

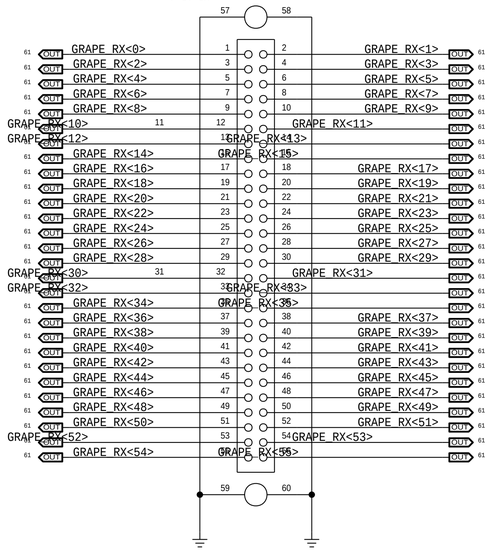
MATCHES J317_GRAPE_FLEX_LS_MAIN_V2 2.0.0

MLB: 516S00419
FLEX: 516S00420

MOUNTING PINS CAN BE USED FOR ELECTRICAL CONNECTIONS

CRITICAL

J2400
BM28P0.6-56DS-2-0.35V
F-ST-SM



TOUCH FLEX CONNECTOR (DRIVE)

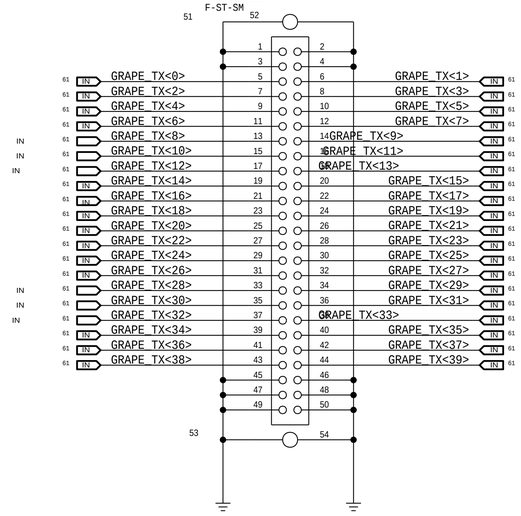
MATCHES J317_GRAPE_FLEX_LS_MAIN_V2 2.0.0

MLB: 516S00099
FLEX: 516S00098

MOUNTING PINS CAN BE USED FOR ELECTRICAL CONNECTIONS

CRITICAL

J2401
505066-5022
F-ST-SM

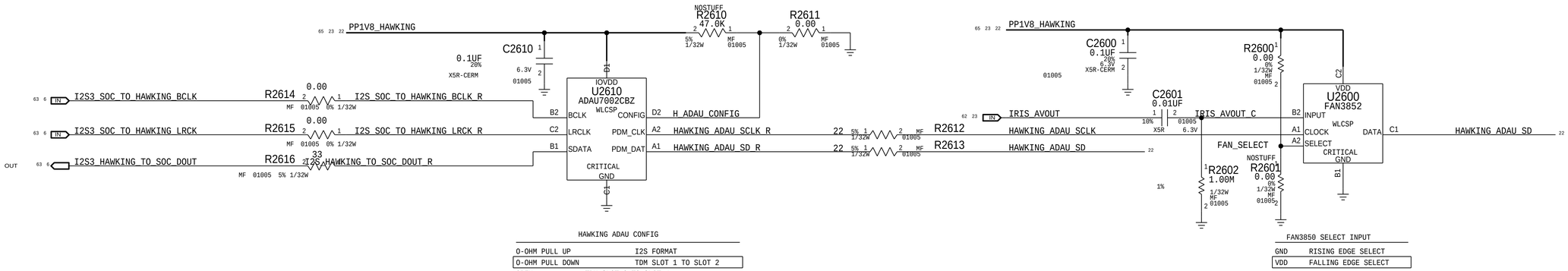


SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017

PAGE TITLE

TOUCH: GRAPE CONN

HAWKING



HAWKING ADAU CONFIG

0-OHM PULL UP	I2S FORMAT
0-OHM PULL DOWN	TDM SLOT 1 TO SLOT 2
OPEN	TDM SLOT 3 TO SLOT 4
47K-OHM PULL UP	TDM SLOT 5 TO SLOT 6
47K-OHM PULL DOWN	TDM SLOT 7 TO SLOT 8

FAN3850 SELECT INPUT

GND	RISING EDGE SELECT
VDD	FALLING EDGE SELECT

SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017

PAGE TITLE

CAMERA: HAWKING

CORNER3 XFER FLEX B2B

MATCHES J317_C3_TRANSFER_FLEX 4.0.0
MLB: 516S00063
FLEX: 516S00064

J2700
505066-5422
F-ST-SM

XW2702 SM
XW2700 SM
XW2703 SM
XW2701 SM

FL2710 120-OHM-25%-250MA-0.5DCR
R2810 100K 5% 1/32W MF 01005
FL2720 70-OHM-300MA 01005-1
FL2721 70-OHM-300MA 01005-1
FL2722 150OHM-25%-200MA-0.7DCR 01005-2
C2720 56PF 5% 25V NP0-C0G-CERM 01005

FL2791 FERR-22-OHM-1A-0.055OHM 0201
C2795 220PF 5% 16V C0G 01005
C2796 1.0UF 20% 6.3V X5R 0201-1

FL2761 FERR-22-OHM-1A-0.055OHM 0201
C2760 220PF 5% 16V C0G 01005
C2761 1.0UF 20% 6.3V X5R 0201-1
C2762 6.8UF 20% 6.3V X5R 0402

FL2781 FERR-22-OHM-1A-0.055OHM 0201
C2786 220PF 5% 16V C0G 01005
C2787 1.0UF 20% 6.3V X5R 0201-1

C27A4 0.1UF 20% 6.3V X5R-CERM 01005
C2787 220PF 5% 16V C0G-CERM 01005

LPDP AC COUPLING CAPS

C27A0 0.1UF 20% 6.3V X5R-CERM 01005 GND_VOID=TRUE
C27A1 0.1UF 20% 6.3V X5R-CERM 01005 GND_VOID=TRUE
C27A2 0.1UF 20% 6.3V X5R-CERM 01005 GND_VOID=TRUE
C27A3 0.1UF 20% 6.3V X5R-CERM 01005 GND_VOID=TRUE

BUTTON FILTERS/ESD

FL2771 240-OHM-25%-0.20A-1.0DCR 01005
R2771 100 5% 1/32W MF 01005
DZ2771 0201 12.8V-100PF

FL2772 240-OHM-25%-0.20A-1.0DCR 01005
R2772 100 5% 1/32W MF 01005
DZ2772 0201 12.8V-100PF

L2773 240-OHM-25%-0.20A-1.0DCR 01005
R2773 100 5% 1/32W MF 01005
DZ2773 0201 12.8V-100PF

MIC#4 FILTERS

FL2703 0.00 0% 1/32W MF 01005
C2703 27PF 5% 16V NP0-C0G 01005 NOSTUFF

FL2704 0.00 0% 1/32W MF 01005
C2704 27PF 5% 16V NP0-C0G 01005 NOSTUFF

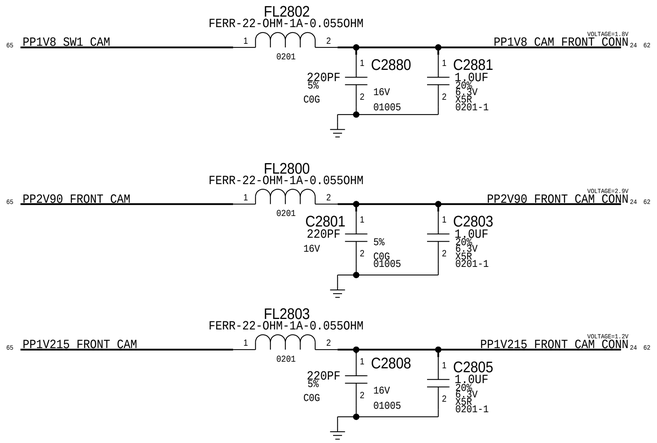
HALL PWR FILTER

FL2748 80-OHM-25%-0.5A-0.13DCR 0201
C274A 1.0UF 20% 6.3V X5R 0201-1
C274B 220PF 5% 16V C0G 01005

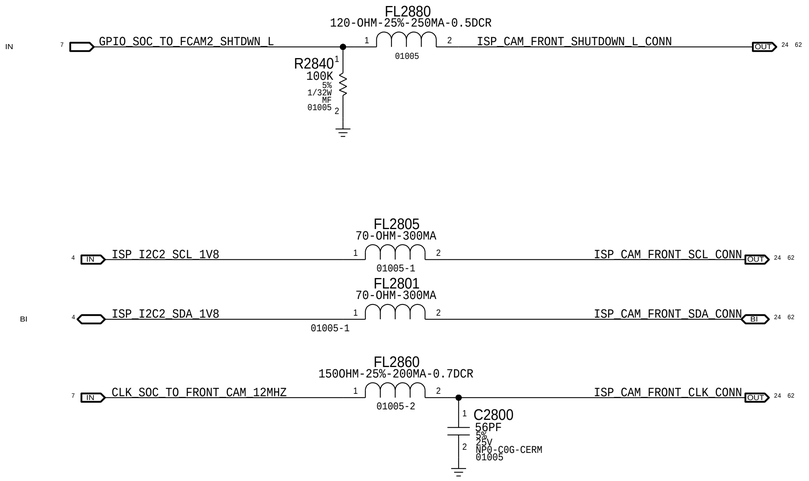
SYNC_MASTER=J317_MLB_B_MYST	SYNC_DATE=08/02/2017
PAGE TITLE	
CAMERA: B2B REAR(C3 CONN)	

FRONT CAMERA (LI)

POWER FILTERS

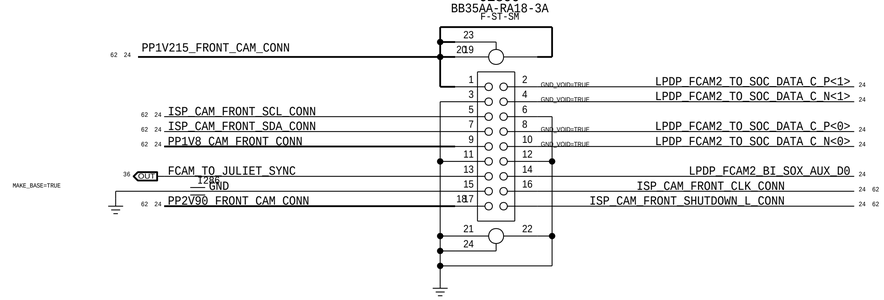


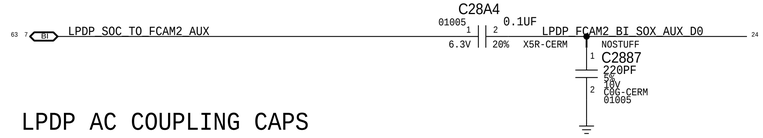
IO FILTERS



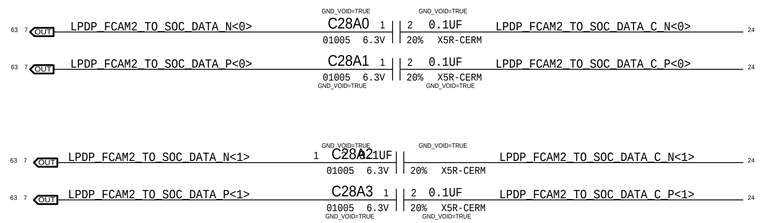
FRONT CAMERA CONNECTOR

FLEX SIDE: 516S00396
MLB SIDE: 516S00395
MATCH J317_FRONT_CAM_ISLAND_FLEX 3.0.0





LPDP AC COUPLING CAPS



PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
155S00200		FL2860,ECT		J317 P1

SYNC_MASTER=J317_MLB_B_POC_MOD SYNC_DATE=05/24/2017

PAGE TITLE

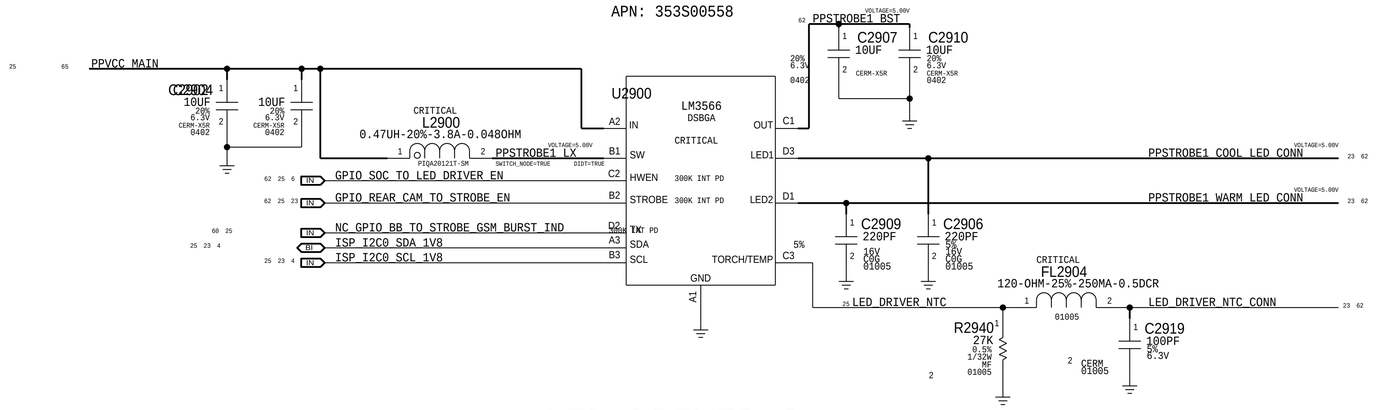
CAMERA: B2B FRONT

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

STROBE CIRCUITRY

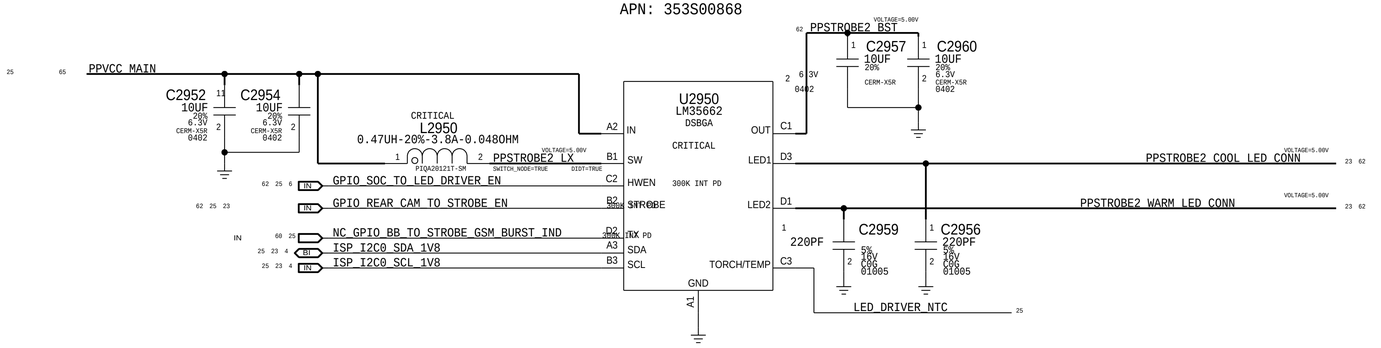
LED DRIVER 1

APN: 353S00558



LED DRIVER 2

APN: 353S00868



SYNC_MASTER=J207_MLB_B SYNC_DATE=03/13/2017

PAGE TITLE

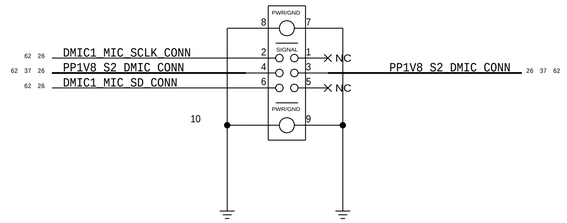
CAMERA: STROBE

DMIC CONN AND MIC#1/MIC#2 FILTERS

MIC FLEX B2B

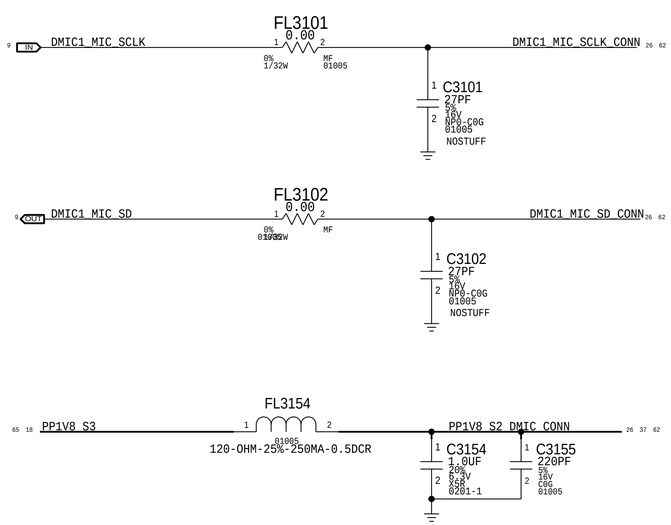
MATCH J317_MIC_FLEX(MATCH EVT MIC FLEX PER MO REQUEST)
MLB APN: 516S00186
FLEX APN: 516S00185

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	LOW		RIGHT	CLK FALLING EDGE	CLK RISING EDGE
MIC#3	PDM1	HIGH	FRONT(ON TM)	CLK RISING EDGE	CLK FALLING EDGE
MIC#4	PDM1	LOW	REAR(C3)	CLK FALLING EDGE	CLK RISING EDGE
MIC#5	PDM2	HIGH	LANDSCAPE	CLK RISING EDGE	CLK FALLING EDGE

MIC#1/MIC#2 FILTERS

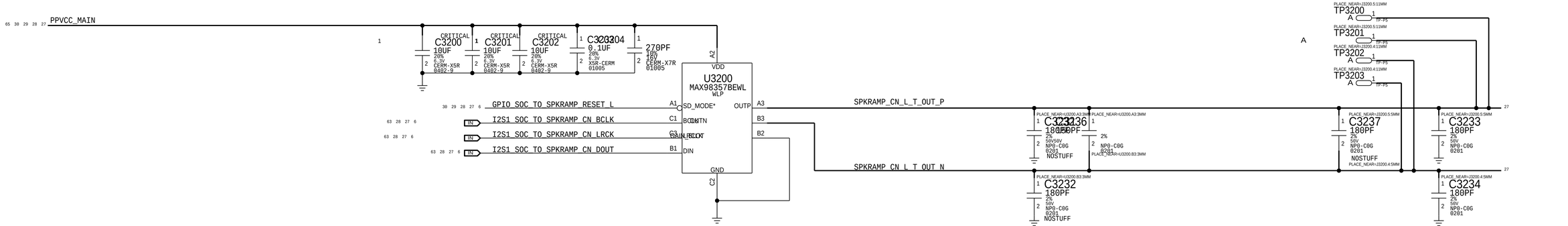


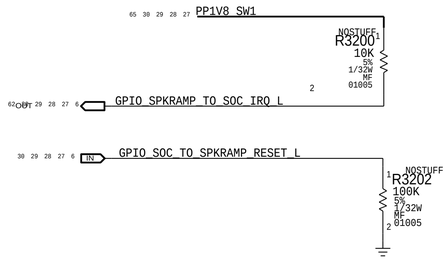
SYNC_MASTER=J320_MLB SYNC_DATE=05/11/2017

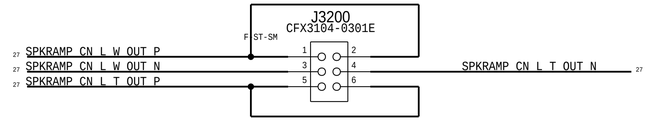
PAGE TITLE

AUDIO: DMIC B2B & FILTERS

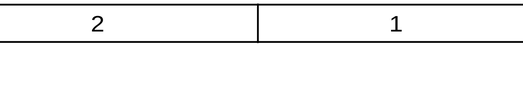
CN L TWEETER SPEAKER AMP(TDM CHANNEL 1 OF 8)







CN L WOOFER SPEAKER AMP



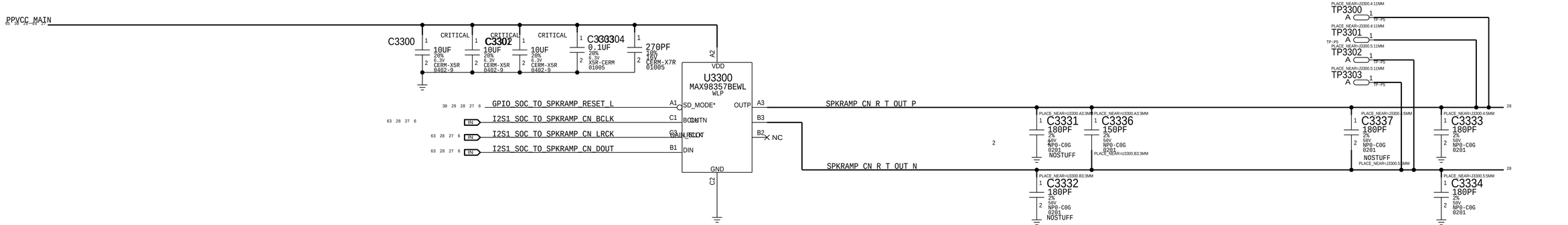
PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
128S00071			C3280, ETC	VISHAY 56UF ALTERNATE CAP
132S00064	132S0409		C3273, ETC	MURATA 0.1UF 16V 0201 ALT.

SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017

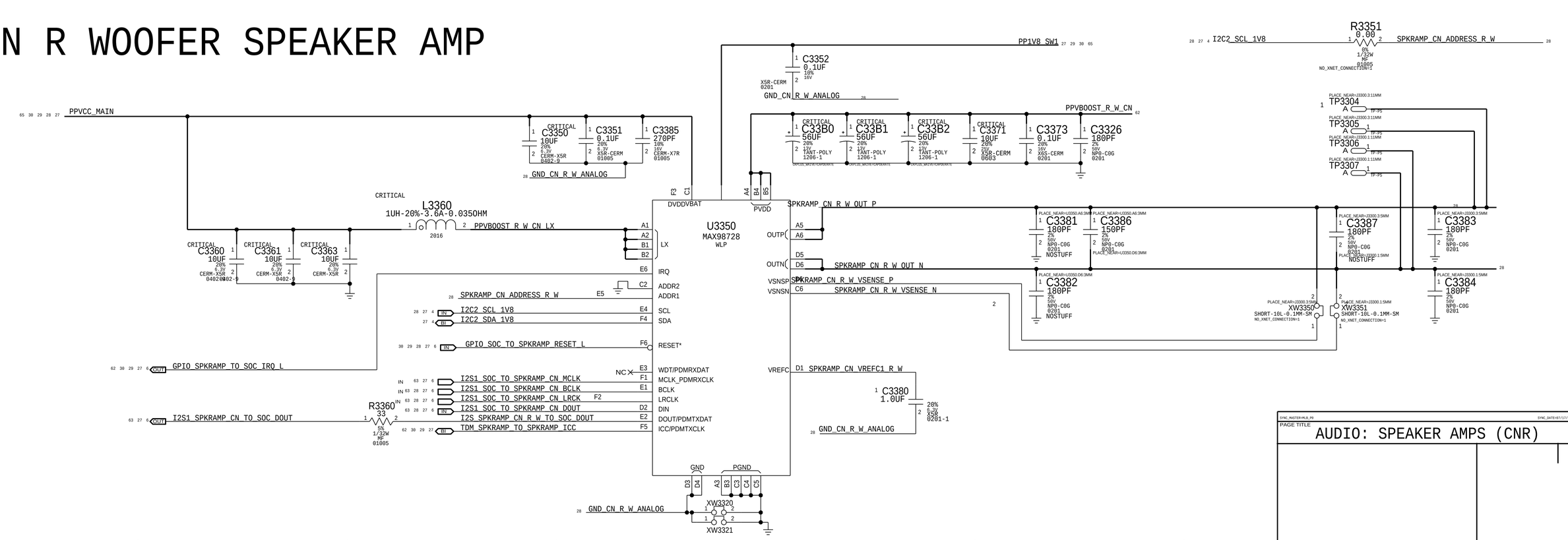
PAGE TITLE

AUDIO: SPEAKER AMPS (CNL)

CN R TWEETER SPEAKER AMP(TDM CHANNEL 3 OF 8)



CN R WOOFER SPEAKER AMP

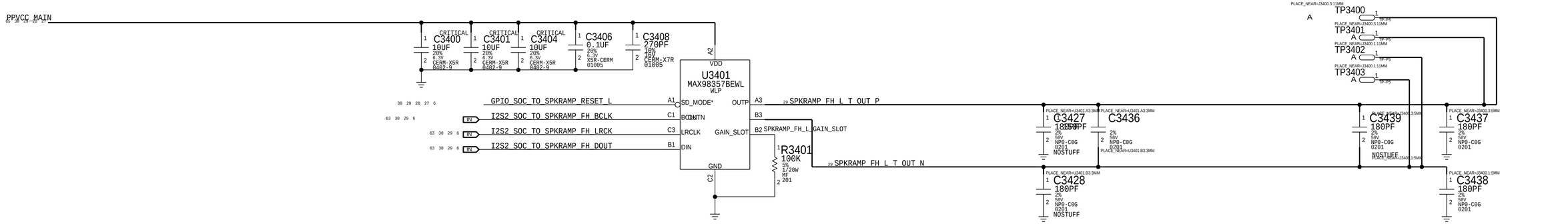


SYNC_MASTER=MLB_P9 SYNC_DATE=07/17/2017

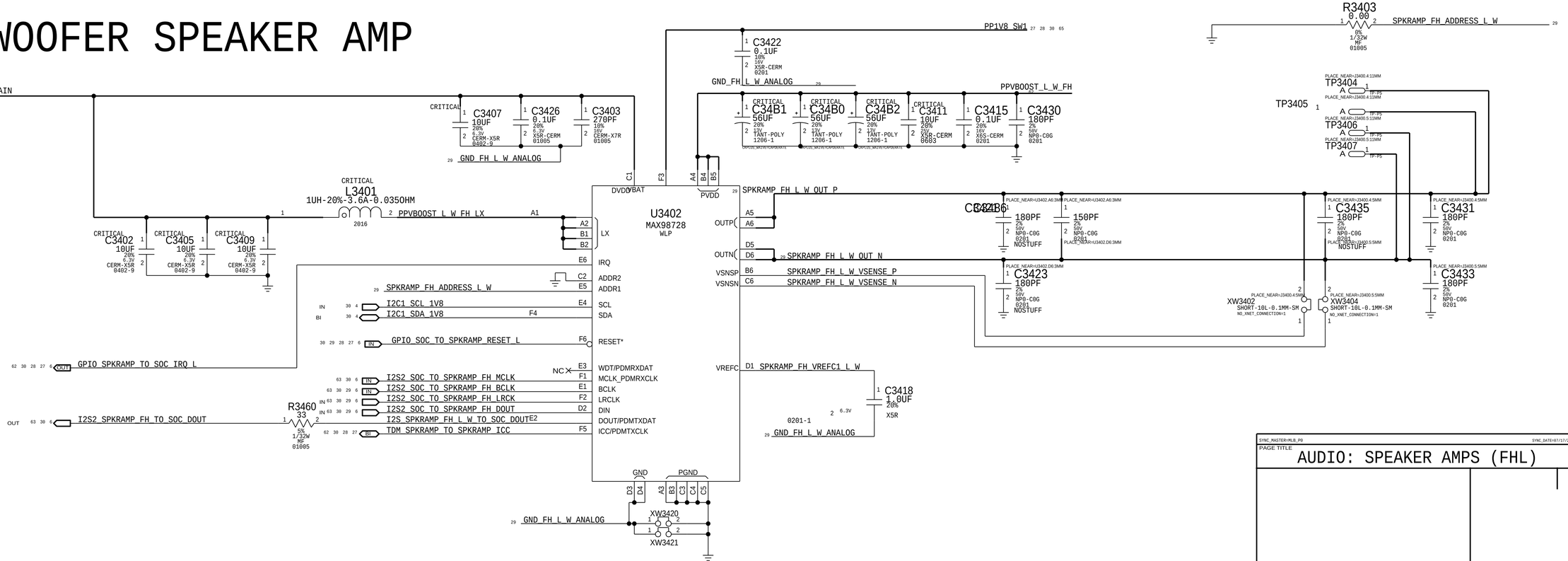
PAGE TITLE

AUDIO: SPEAKER AMPS (CNR)

FH L TWEETER SPEAKER AMP(TDM CHANNEL 5 OF 8)



FH L WOOFER SPEAKER AMP

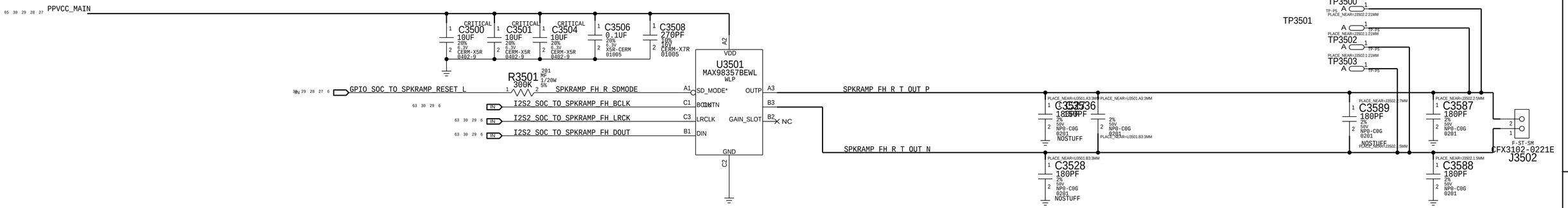


SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017

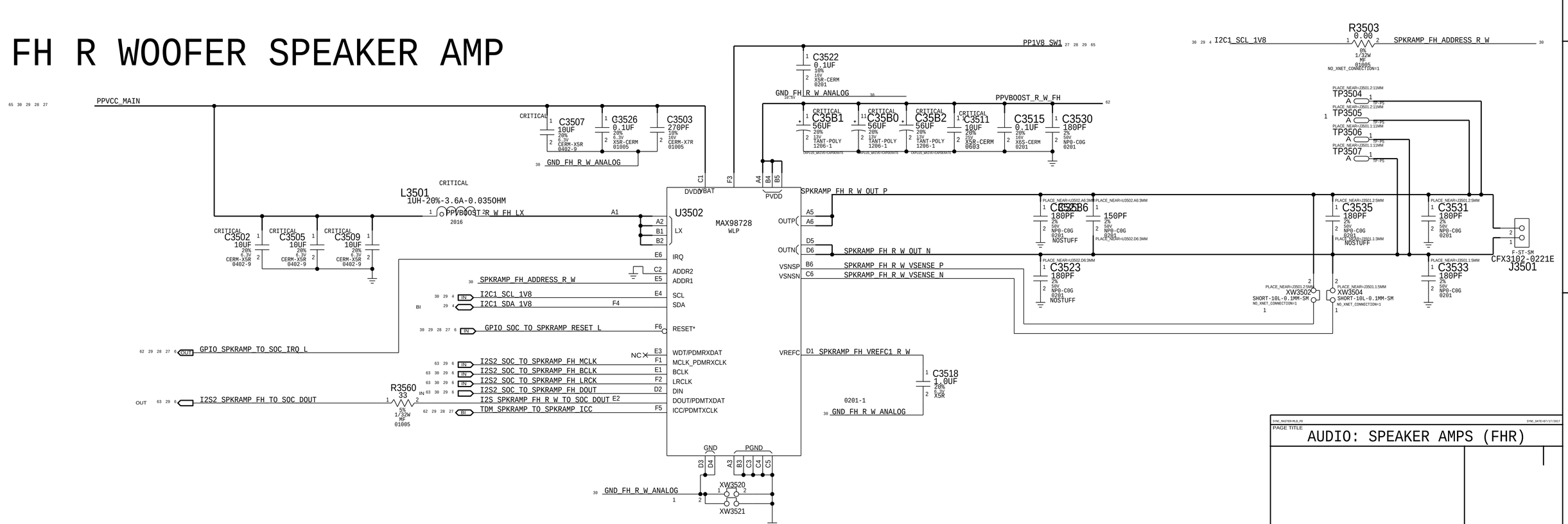
PAGE TITLE

AUDIO: SPEAKER AMPS (FHL)

FH R TWEETER SPEAKER AMP(TDM CHANNEL 7 OF 8)



FH R WOOFER SPEAKER AMP



SYNC_MASTER=MLB_P9 SYNC_DATE=07/17/2017

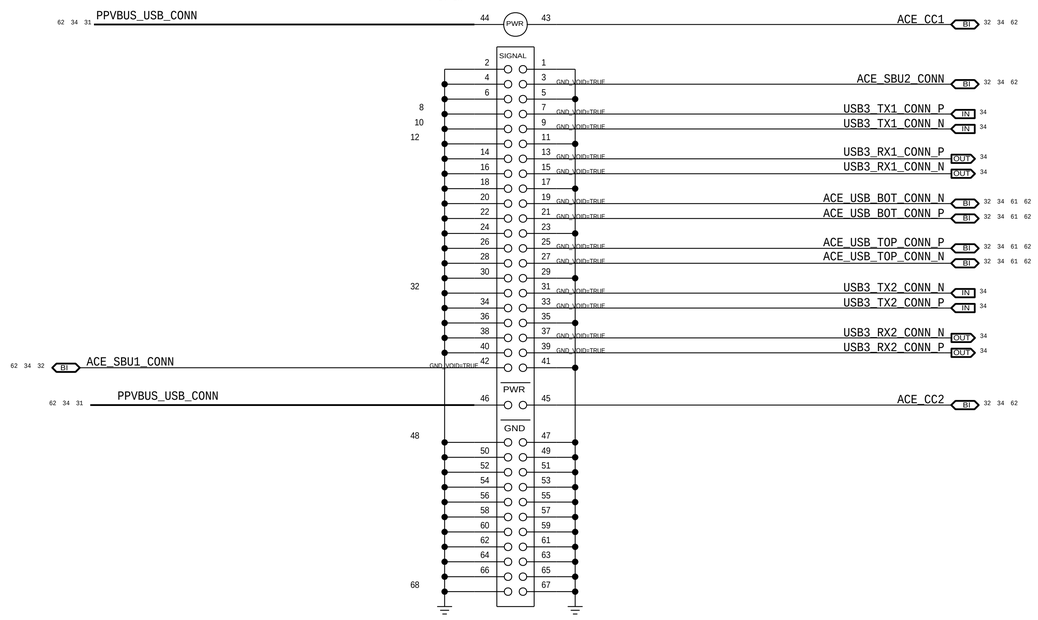
PAGE TITLE

AUDIO: SPEAKER AMPS (FHR)

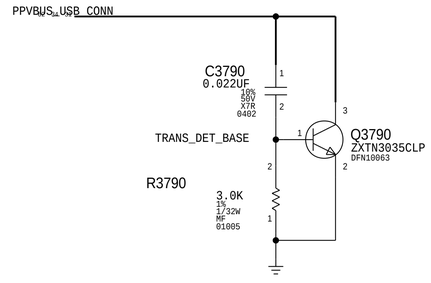
42PIN IO B2B

MLB 516S00266
FLEX 516S00265
MATCH J317_IO_FLEX 5.0.0

J3700
20759-042E-02
F-ST-SM



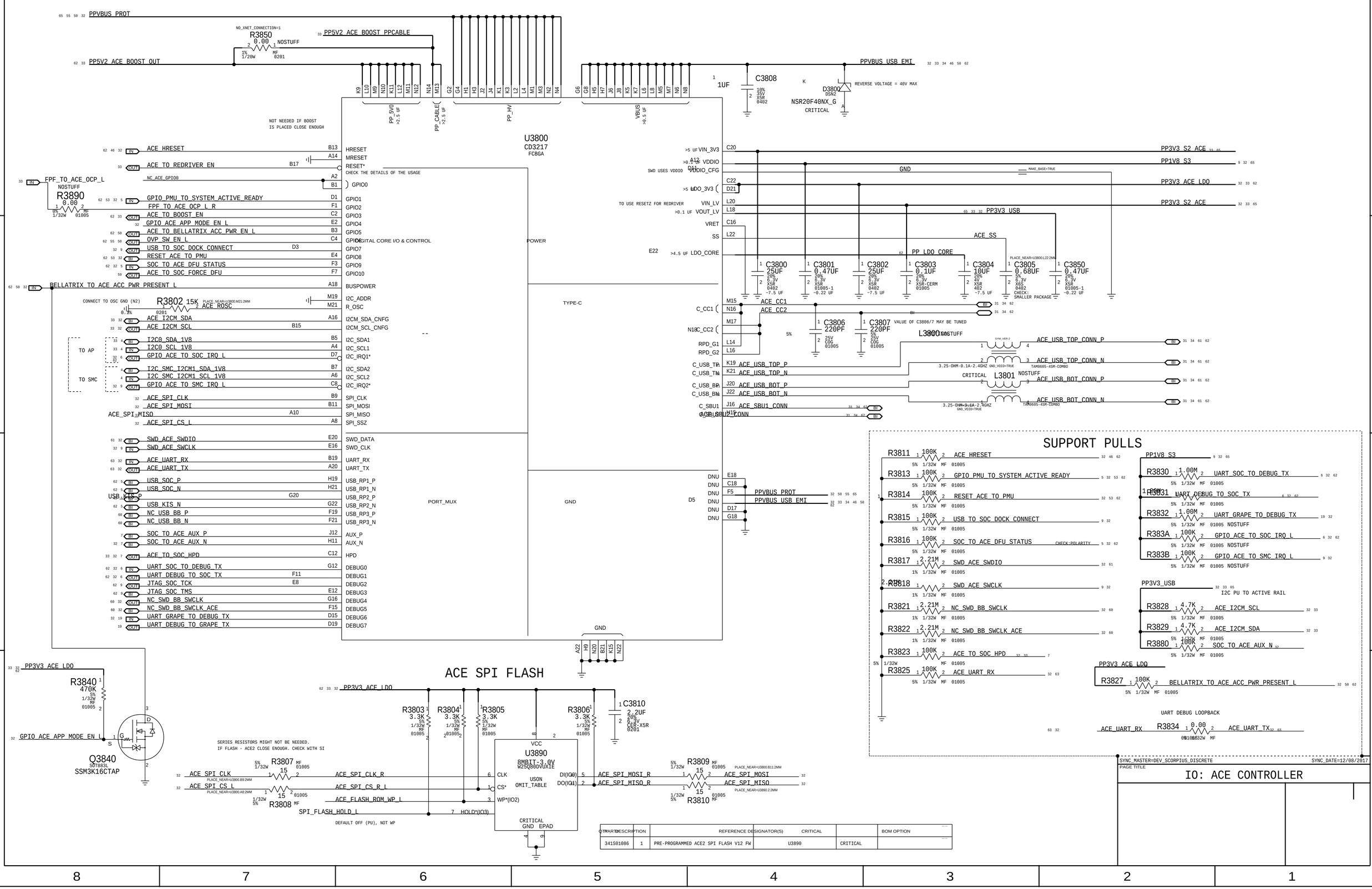
TRANSIENT SUPPRESSION



SYNC_MASTER=J317_MLB_B_POC_MOD
SYNC_DATE=05/24/2017

PAGE TITLE

IO: IOFLEX B2B

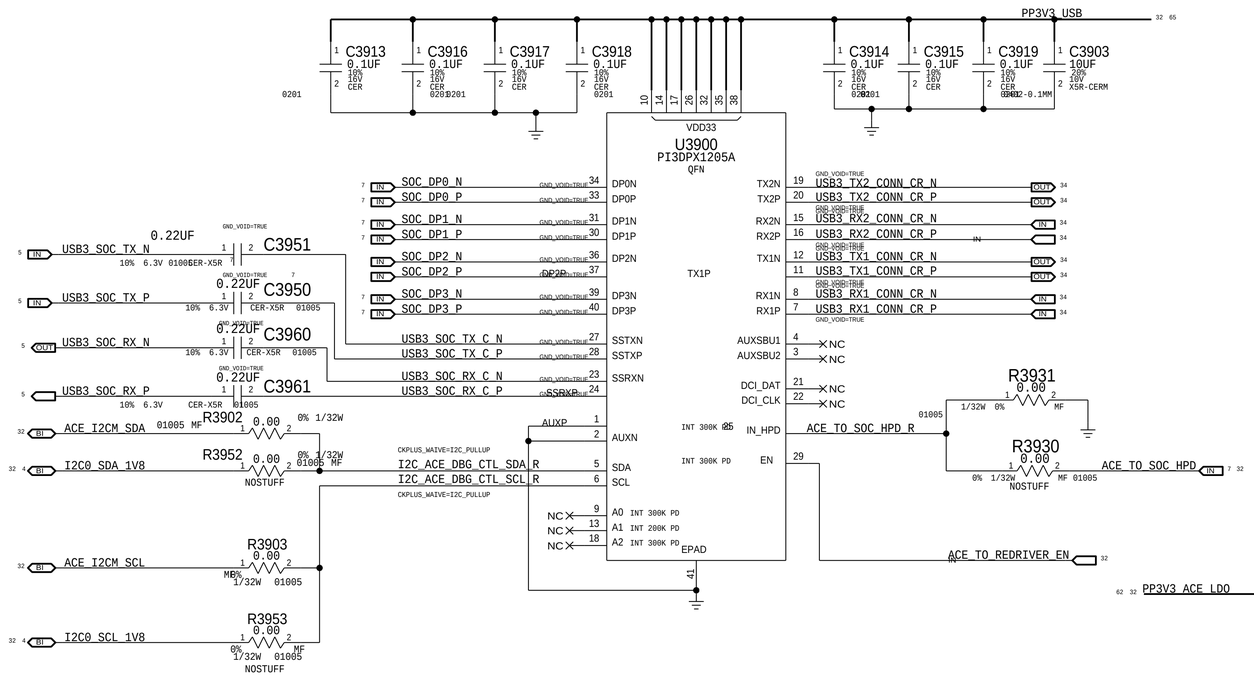


QTY	PART DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
341S01086	1	PRE-PROGRAMMED ACE2 SPI FLASH V12 FW	U3890	CRITICAL	

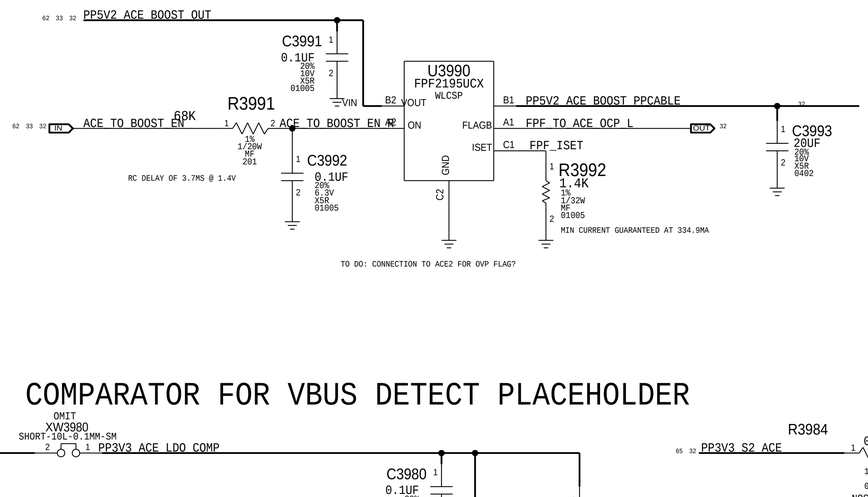
PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
132S00154	132S0683			0.1UF 01005 TAIYO ALT.

USB RE-DRIVER

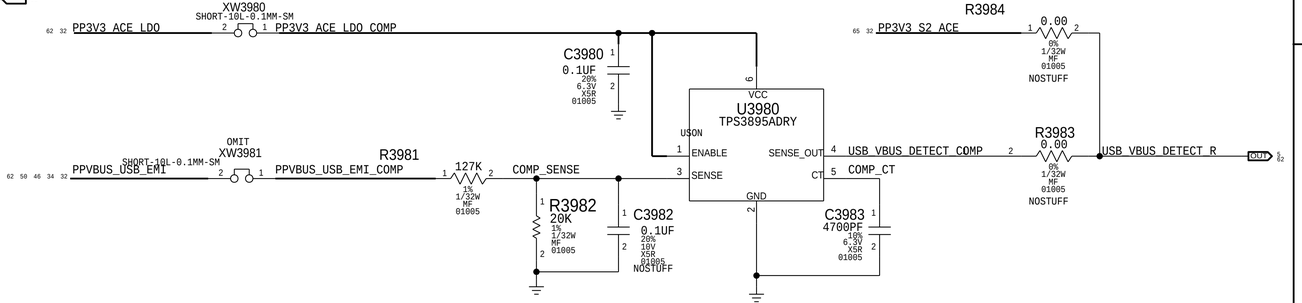
APN: 353S01236
7-BIT I2C ADD: 0X50



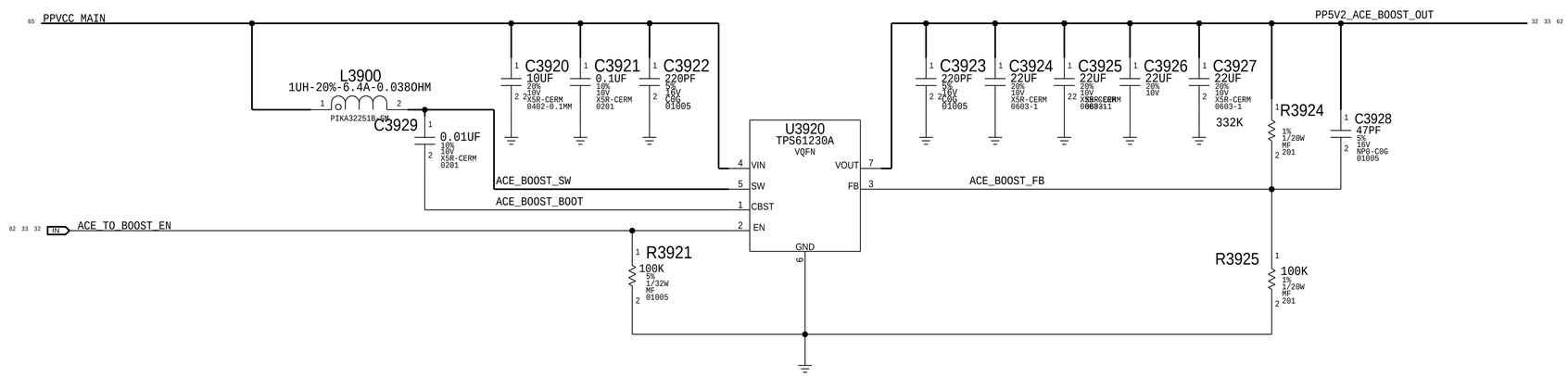
ACE2 PPCABLE CURRENT LIMITER



COMPARATOR FOR VBUS DETECT PLACEHOLDER



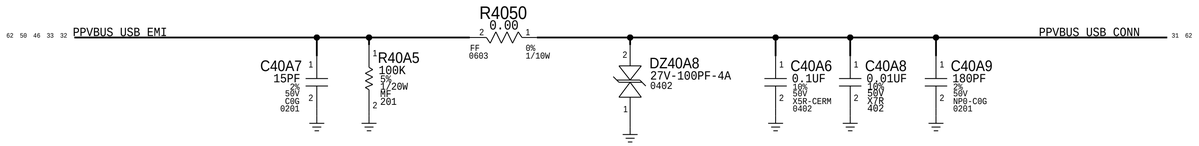
5.2V BOOST

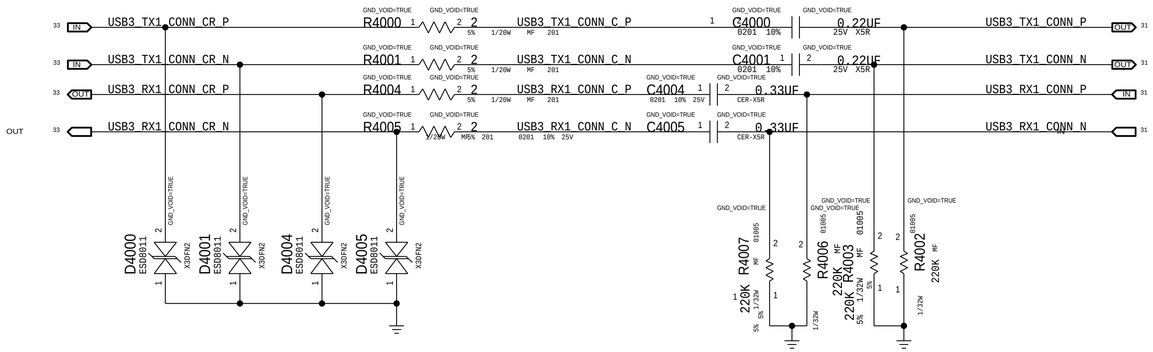


PAGE TITLE

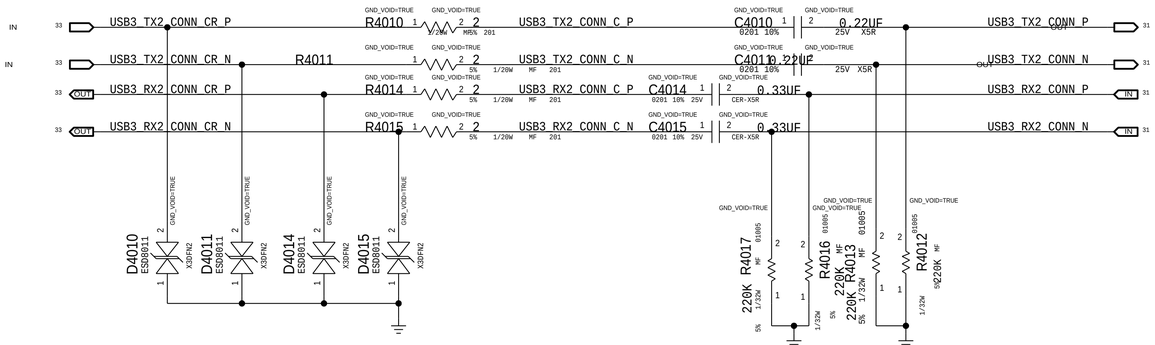
IO: ACE PERIPHERALS

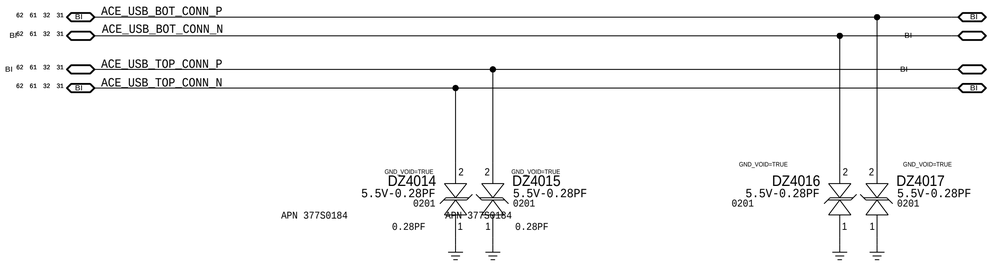
USB CONN FILTERS

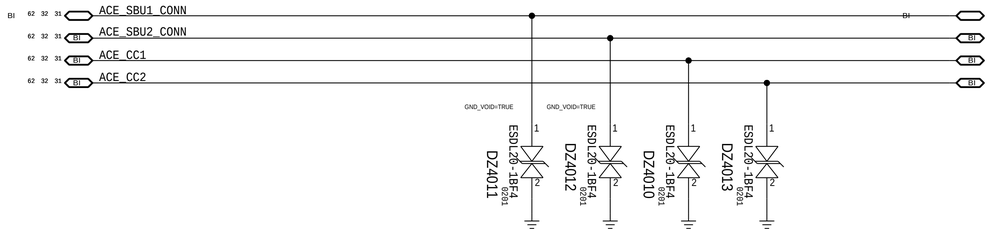




NOTE: USB3 ESD DIODES CHANGED TO 377S00031 WITH NON-THICKSTNCL VERSION
PREVIOUS APN:377S00106 IS PENDING INVESTIGATION







SYNC_MASTER=J320_ACE	SYNC_DATE=05/05/2017
PAGE TITLE	IO: ACE FILTERS

Rigel Driver

65 PPVCC_MAIN

C4197 1 2 18UF 20% CER-X5R 0402-0.1MM ROOM=RIGEL

C4194 1 2 4UF 20% CERM-X5R 0201 ROOM=RIGEL

C4193 1 2 4UF 20% CERM-X5R 0201 ROOM=RIGEL

C4192 1 2 4UF 20% CERM-X5R 0201 ROOM=RIGEL

ROOM=RIGEL

C4191 1 2 4UF 20% CERM-X5R 0201 ROOM=RIGEL

Terminate @ Cap via on VDD_MAIN plane.

OMIT XW4100 SHORT-10L-0.1MM-SM 1 2 ROOM=RIGEL

PP_RIGEL_VINCORE

C4190 1 2 1UF 20% X5R 0201 ROOM=RIGEL

65 37 36 PP1V8_SW1_CAM

PP_VANA

65 PPVCC_HIGH

C4195 1 2 1UF 20% X5R 0201 ROOM=RIGEL

C4196 1 2 1UF 20% X5R 0201 ROOM=RIGEL

C4198 1 2 4UF 20% CERM-X5R 0201 ROOM=RIGEL

62 36 PP_TITUS_CATHODE

62 36 IN TITUS_TO_RIGEL_VCSEL_NTC

49 IN GPIO_APOLLO_TO_RIGEL_EN

37 BI YOGI_TO_RIGEL_STATUS

36 BI MAMA_BEAR_BI_RIGEL_STATUS

62 36 IN JULIET_PMU_TO_RIGEL_STROBE

1 10K 5% 1/32W MF 01005 2 62 RIGEL_TESTMODE_EN

R4101

36 7 IN CLK_SOC_TO_PEARL_12MHZ

62 7 OUT GPIO_RIGEL_TO_SOC_IRQ

36 4 IN ISP_I2C3_SCL_1V8

ISP_TITUS_RIGEL_SDA_R

36 4 IN ISP_I2C3_SDA_1V8

R4100 33.2 1% 1/32W MF 01005

RIGEL_LSCP

C4122 1 2 0.01UF 10% X5R 01005 ROOM=RIGEL

U4100 STB601A0 WLCSP ROOM=RIGEL CRITICAL

VK	K4	
VK	K5	
VK	K6	
VK	K7	
VK	K8	
NTC	G4	
OTPHV	C4	
TEMP	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	
VCC4	G9	
VCC3	G2	
VIN_LVT	H8	
VINCORE1	C5	
VANA	H4	
VINVCORE2	H5	
VINSDB	F5	
VINSDB	F2	
VINSDB	F1	
VINSDB	E2	
VINSUB	A3	
VINSUB	A2	
VINSUB	A1	
VINSUA	A9	
VINSUA	A8	
VINSUA	A10	
VINSDA	F9	
VINSDA	F10	
VINSDA	E9	
PGNDK	J8	
PGNDK	J7	
PGNDK	J6	
PGNDK	J5	
PGNDK	J4	
GNDCORE4	G8	
GNDCORE3	G3	
GNDCORE2	H6	
GNDCORE	F6	
GNDD	C6	
GNDS	G7	
GNDS	E6	
GNDS	F8	
GNDS	E5	
GNDS	F3	
GNDS	D7	
GNDS	D6	
GNDS	D5	
GNDS	C3	
PGNDB	C2	
PGNDB	C1	
PGNDA	C9	
PGNDA	C10	

PP_RIGEL_BUCK_BOOST_A

VBBOUTA	H10	
VBBOUTA	J10	
VBBOUTA	K10	
VLXA	D10	RIGEL_VLXA
VLXA	D9	
VLXA	E10	
VCXA	B10	RIGEL_VCXA
BOOSTSDA	E10	RIGEL_BOOSTSDA
BULKSDA	D8	RIGEL_BULKSDA
BULKSDB	D3	RIGEL_BULKSDB
BOOSTSDB	E3	RIGEL_BOOSTSDB
VCXB	B1	RIGEL_VCXB
VCXB	B2	
VLXB	D1	
VLXB	D2	
VLXB	E1	RIGEL_VLXB
VBBOUTB	J1	
VBBOUTB	J2	
VBBOUTB	J3	PP_RIGEL_BUCK_BOOST_B
IOUT0	H9	
IOUT0	K9	
IOUT0	J9	PP_TITUS_DENSE_ANODE 36 62
IOUT1	H1	
IOUT1	H2	
IOUT1	H3	PP_TITUS_SPARSE_ANODE 36 62
IOUT2	K1	
IOUT2	K2	
IOUT2	K3	PP_ROSALINE_ANODE 37 62
IOUT3	G1	PP_TITUS_A_ANODE 36 62
IOUT4	G10	PP_TITUS_B_ANODE 36 62

C4105 1 2 4.7UF 20% X5R 0402 ROOM=RIGEL

C4120 1 2 0.01UF 10% X5R 01005 ROOM=RIGEL

C4110 1 2 4.7UF 20% X5R 0402 ROOM=RIGEL

C4121 1 2 0.01UF 10% X5R 01005 ROOM=RIGEL

L4100 0.47UH-20%-4A-0.048OHM 1 2 PIWA20120H-SM ROOM=RIGEL

L4101 0.47UH-20%-4A-0.048OHM 1 2 PIWA20120H-SM ROOM=RIGEL

C4100 1 2 4.7UF 20% X5R 0402 ROOM=RIGEL

C4101 1 2 220PF 5% C0G 01005 ROOM=RIGEL

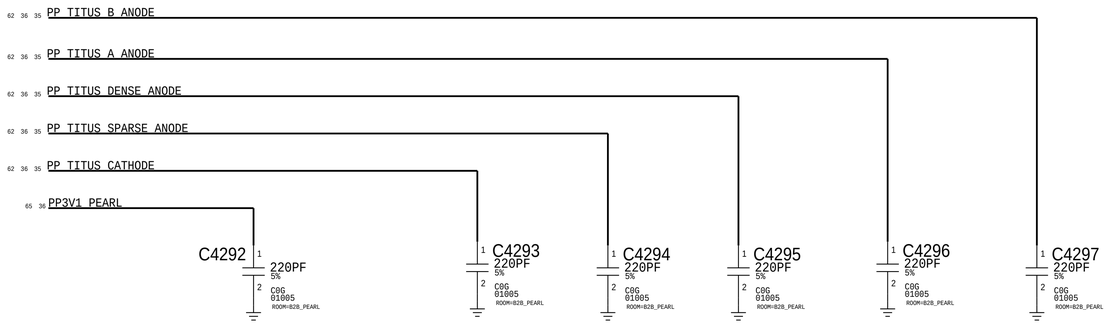
C4111 1 2 4.7UF 20% X5R 0402 ROOM=RIGEL

C4112 1 2 220PF 5% C0G 01005 ROOM=RIGEL

PAGE TITLE

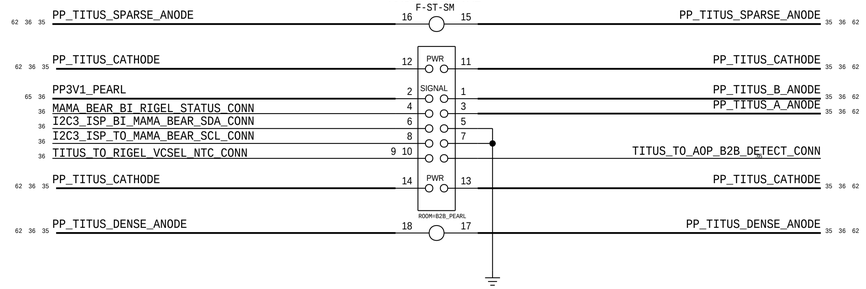
PEARL: RIGEL DRIVER

TITUS POWER FILTERING

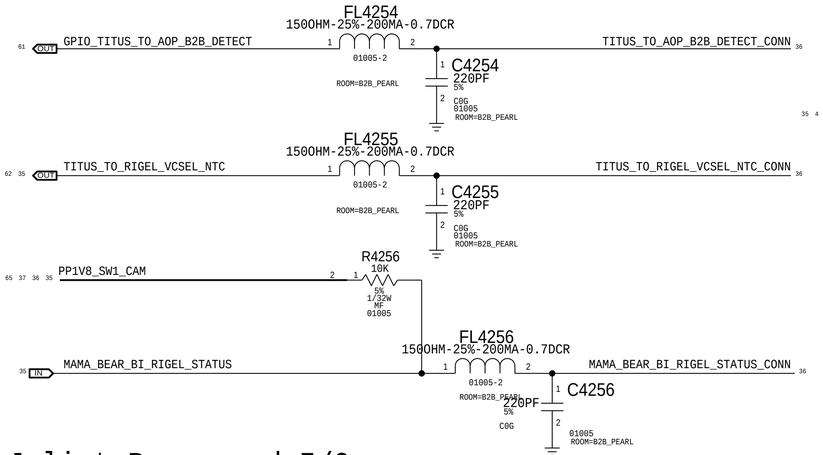


TITUS(JEWEL) CONNECTOR

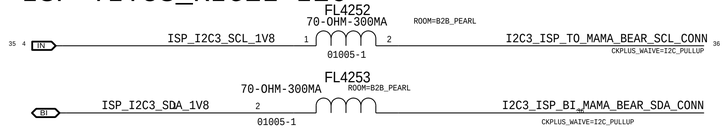
MLB: 516S00267
FLEX: 516S00268
MATCH J317_JEWEL_FLEX 3.0.0



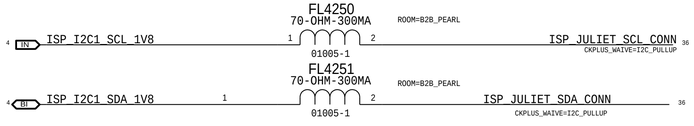
TITUS I/O



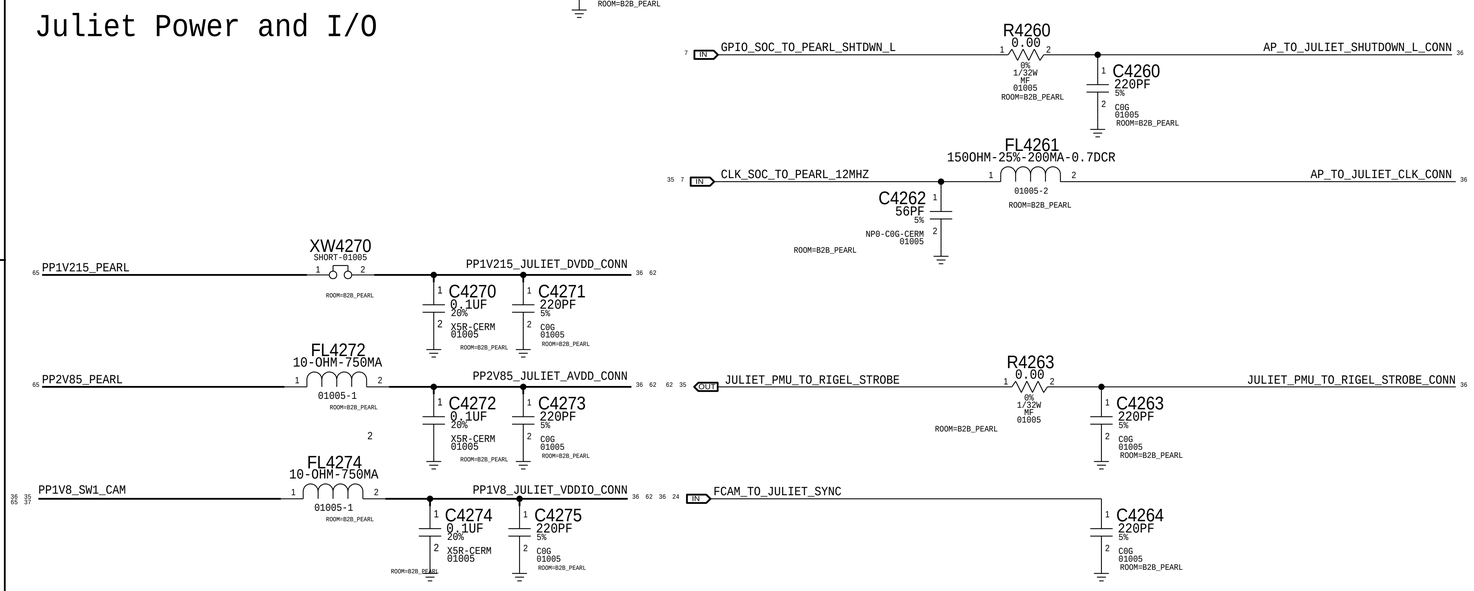
ISP TITUS_RIGEL I2C



ISP JULIET I2C

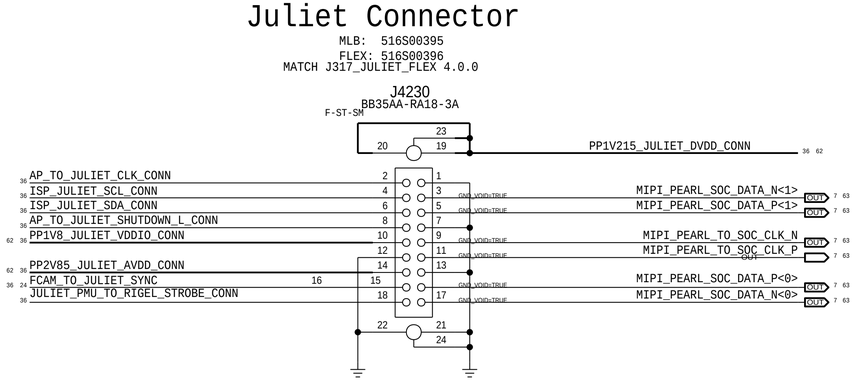


Juliet Power and I/O



Juliet Connector

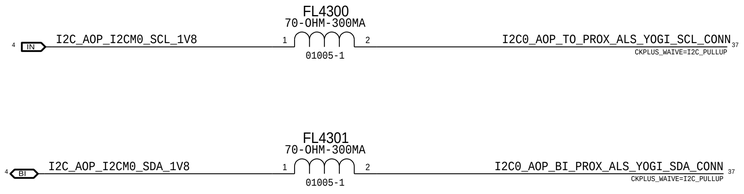
MLB: 516S00395
FLEX: 516S00396
MATCH J317_JULIET_FLEX 4.0.0



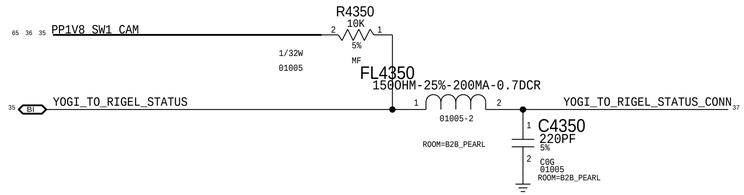
PAGE TITLE

PEARL: B2B TITUS + JULIET

ISP FCAM1 JULIET ROSALINE I2C

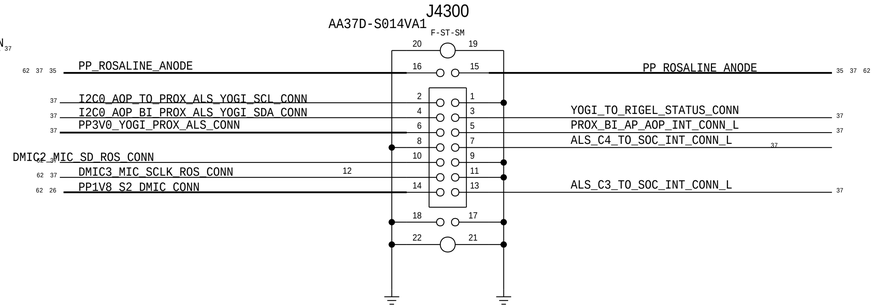


Yogi Signals

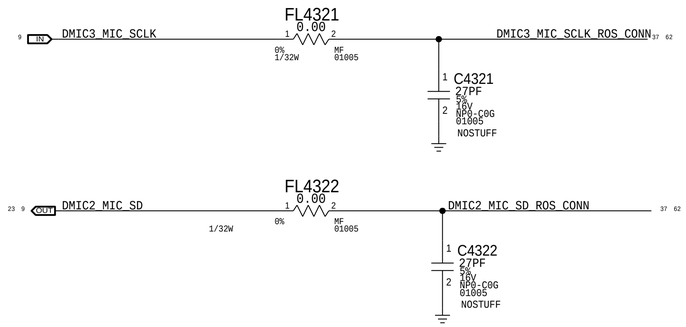


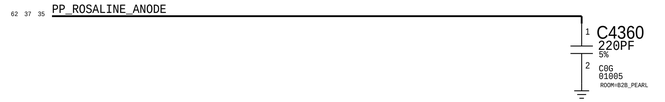
ROSALINE(AARM) CONNECTOR

MLB: 516S00150
FLEX: 516S00149
MATCH J317_AARM_FLEX 4.0.0

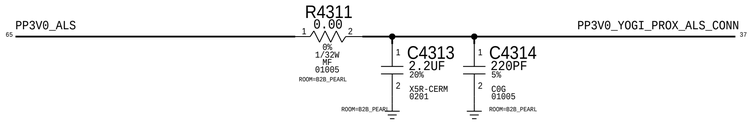


MIC#3 FILTERS ROSALINE CONN

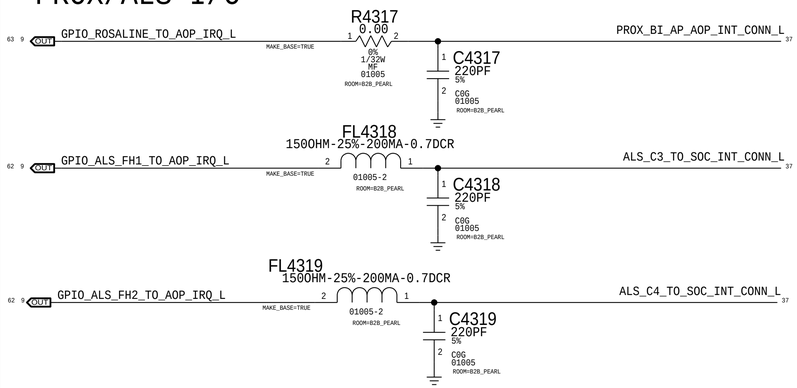




PROX & ALS POWER

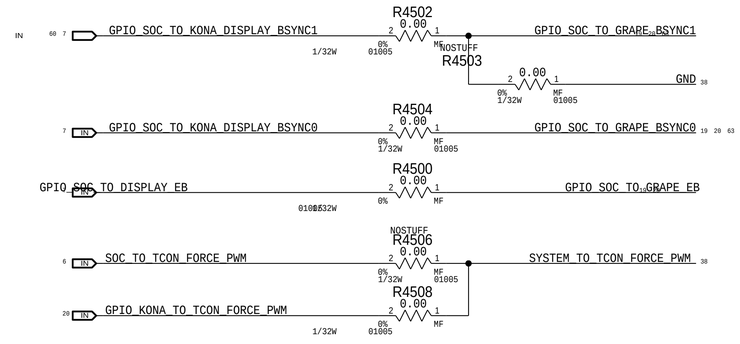


PROX/ALS I/O

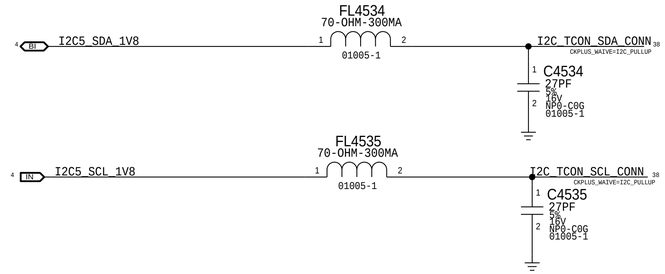


PAGE TITLE
PEARL: B2B ROSALINE + MISC

EDP FLEX FILTERS AND CONNECTORS



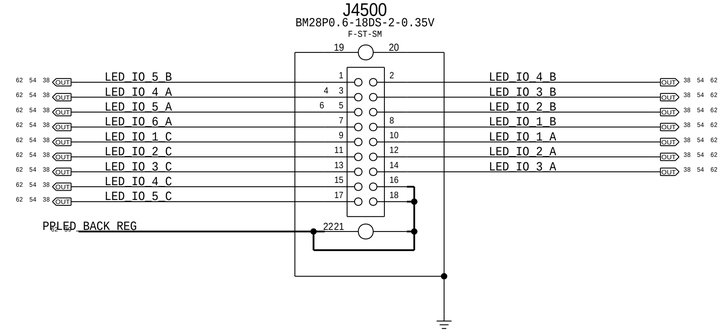
TCON I2C FILTERS



HALL PWR FILTER

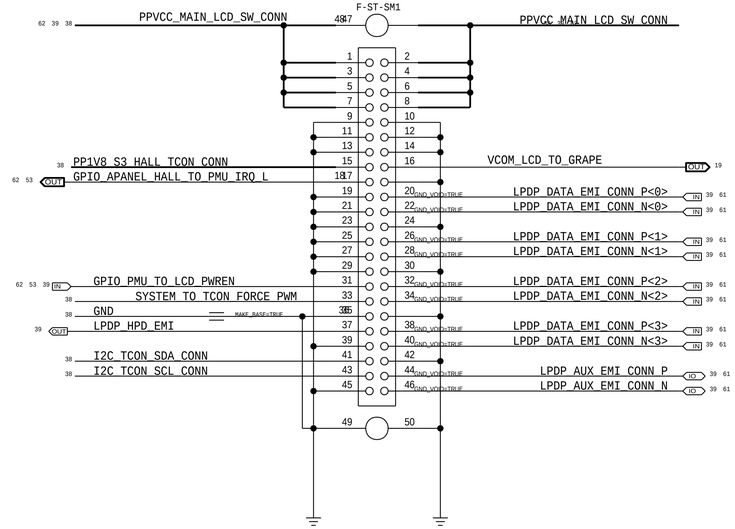
BL CONN MLB SIDE 18+2 PIN B2B

FLEX APN: 516S00363
MLB APN: 516S00362
MATCHES J317_BACKLIGHT_FLEX 3.2.0

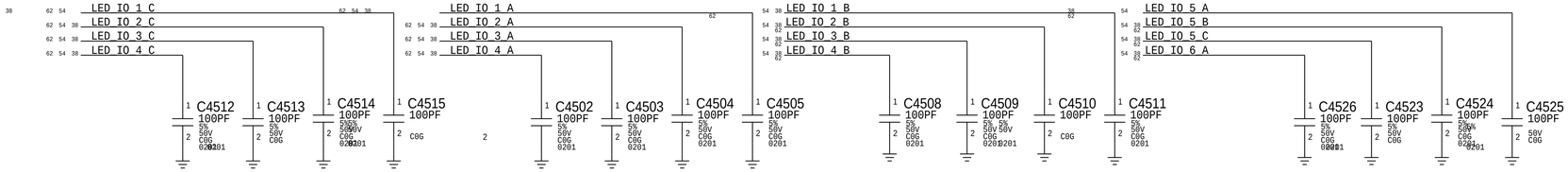


EDP CONN MLB SIDE 46+2 PIN B2B

FLEX APN: 516S00365
MLB APN: 516S00364
MATCHES J317_EDP_FLEX 2.2.0



LED DRIVER FILTERS



SYNC_MASTER=J207_MLB_B
SYNC_DATE=03/27/2017
PAGE TITLE
DISPLAY: B2B CONN

EDP CONNECTOR SUPPORT

SILEGO DELAY ELEMENT
QUIESCENT CURRENT : 0.5 UA

PP1V8_S3 — C4653 0.1UF 10% 16V X5R-CERM 0201

U4601 SLG46110V STQFN (CRITICAL)

OMIT_TABLE

1	VDD	GPIO(12)	12
2	GPI(2)	NC(11)	11
3	GPIO(3)	GPIO(10)	10
4	GPIO(4)	GPIO(9)	9
5	NC(5)	GPIO(8)	8
6	GPIO(6)	GND	7

GPIO_PMU_TO_LCD_PWREN (IN)
SL_DEL0
SL_DEL3
SL_DEL2
SL_DEL1
GPIO_PMU_TO_LCD_PWREN_DELAY

R4652 10K 5% 1/32W MF 01005
R4654 10K 5% 1/32W MF 01005
R4651 10K 5% 1/32W MF 01005
R4657 10K 5% 1/32W MF 01005
R4605 100K 5% 1/32W MF 01005

PPVCC_MAIN — C4640 0.1UF 10% 16V X5R-CERM 0201 — C4641 0.1UF 10% 16V X5R-CERM 0201

U4600 SLG5AP1423V TFN (CRITICAL): VDD, CAP, ON, GND, D, S
SL_CAP — C4670 4700PF 10% 25V CER-X5R 0201

LAYOUT NOTE:
PUT THERMAL VIAS AROUND U4600 IN CASE OF SHORTED CONDITION

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

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
998-06553	1	DISP. DELAY SAK, SLG4AP41158	U4601	CRITICAL	

PPVCC_MAIN_LCD_SW — R4601 51.1K 1% 1/32W MF 01005 — C4603 0.1UF 10% 16V X5R-CERM 0201 — C4602 10UF CERM-X5R (CRITICAL) — C4630 100PF 5% 25V C0G-CERM 01005

L4601 FERR-220HM-28%-8A (CRITICAL) 0603

PPVCC_MAIN_LCD_SW_CONN — C4631 220PF 5% 50V C0G 0201 — C4632 220PF 5% 50V C0G 0201 — C4633 6.8UF 20% 6.3V X5R 0402 — C4634 6.8UF 20% 6.3V X5R 0402

NOTE: COMMON MODE CHOKES ARE NOSTUFFED AND 2X ZERO OHMS FOR A DIFFERENT PAGE ARE STUFFED TO TEST WITHOUT A COMMON MODE CHOKE.

LPDP_SOC_TO_TCON_AUX_P	C4650 0.1UF	LPDP_AUX_EMI_P
LPDP_SOC_TO_TCON_AUX_N	C4651 0.1UF	LPDP_AUX_EMI_N

L4642 3.25-OHM-0.1A-2.4GHZ TAM0605-4SM-COMBO CRITICAL (NOSTUFF) → LPDP_AUX_EMI_CONN_P / LPDP_AUX_EMI_CONN_N

R4641 100K 5% 1/32W MF 01005
R4643 100K 5% 1/32W MF 01005

LPDP_SOC_TO_TCON_DATA_N<0>	C4643 0.1UF	LPDP_DATA_EMI_N<0>	L4612
LPDP_SOC_TO_TCON_DATA_P<0>	C4642 0.1UF	LPDP_DATA_EMI_P<0>	L4612
LPDP_SOC_TO_TCON_DATA_N<1>	C4644 0.1UF	LPDP_DATA_EMI_N<1>	L4622
LPDP_SOC_TO_TCON_DATA_P<1>	C4645 0.1UF	LPDP_DATA_EMI_P<1>	L4622
LPDP_SOC_TO_TCON_DATA_N<2>	C4646 0.1UF	LPDP_DATA_EMI_N<2>	L4632
LPDP_SOC_TO_TCON_DATA_P<2>	C4647 0.1UF	LPDP_DATA_EMI_P<2>	L4632
LPDP_SOC_TO_TCON_DATA_N<3>	C4648 0.1UF	LPDP_DATA_EMI_N<3>	L4602
LPDP_SOC_TO_TCON_DATA_P<3>	C4649 0.1UF	LPDP_DATA_EMI_P<3>	L4602

All: 01005 6.3V 20% X5R-CERM, GND_VOID=TRUE; L46xx 3.25-OHM-0.1A-2.4GHZ TAM0605-4SM-COMBO CRITICAL (NOSTUFF) → LPDP_DATA_EMI_CONN_N/P<0..3>

R4680 1.00M 01005 → LPDP_DATA_EMI_CONN_N<0>
R4681 1.00M 01005 → LPDP_DATA_EMI_CONN_P<0>
R4682 1.00M 01005 → LPDP_DATA_EMI_N<1>
R4683 1.00M 01005 → LPDP_DATA_EMI_P<1>
R4684 1.00M 01005 → LPDP_DATA_EMI_CONN_N<2>
R4685 1.00M 01005 → LPDP_DATA_EMI_CONN_P<2>
R4686 1.00M 01005 → LPDP_DATA_EMI_N<3>
R4687 1.00M 01005 → LPDP_DATA_EMI_P<3>

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

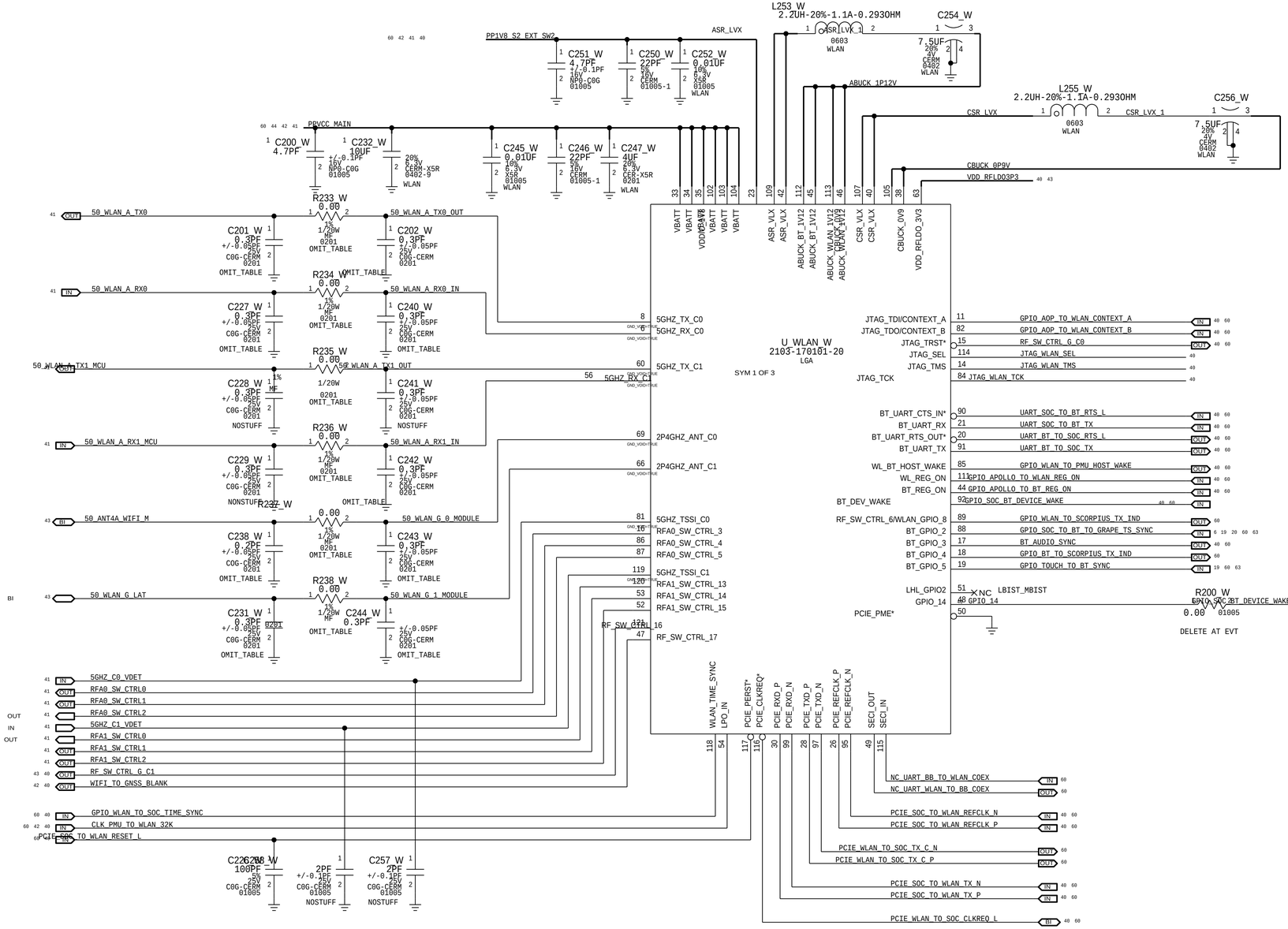
LPDP_HPD_EMI — L4690 0.00 0% 1/32W MF 01005 — LPDP_TCON_TO_SOC_HPD
R4691 100K 5% 1/32W MF 01005

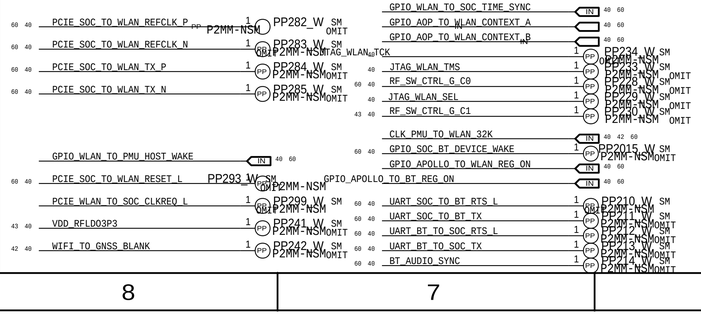
L4680 FERR-600OHM-25%-0.5A-0.340HM 0402 (CRITICAL)
PPLED_OUT — C4680 12PF 5% 100V C0GRM 0201 — C4681 220PF 5% 50V C0G 0201 — PPLED_BACK_REG (VOLTAGE=20.4V)

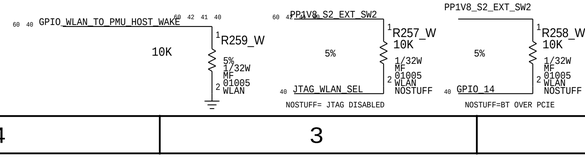
L4675 FERR-600OHM-25%-0.5A-0.340HM 0402 (CRITICAL, NOSTUFF)
PPLED_OUT — C4675 12PF 5% 100V C0GRM 0201 (NOSTUFF) — C4676 220PF 5% 50V C0G 0201 (NOSTUFF) — PPLED_BACK_REG (VOLTAGE=20.4V)

SYNC_MASTER=J207_MLB_B
SYNC_DATE=05/07/2017
PAGE TITLE
DISPLAY: EDP SUPPORT

J317+J318: DIET COKE PRIMARY MODULE







PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
998-13647	998-13645		U_WLAN_W	MURATA

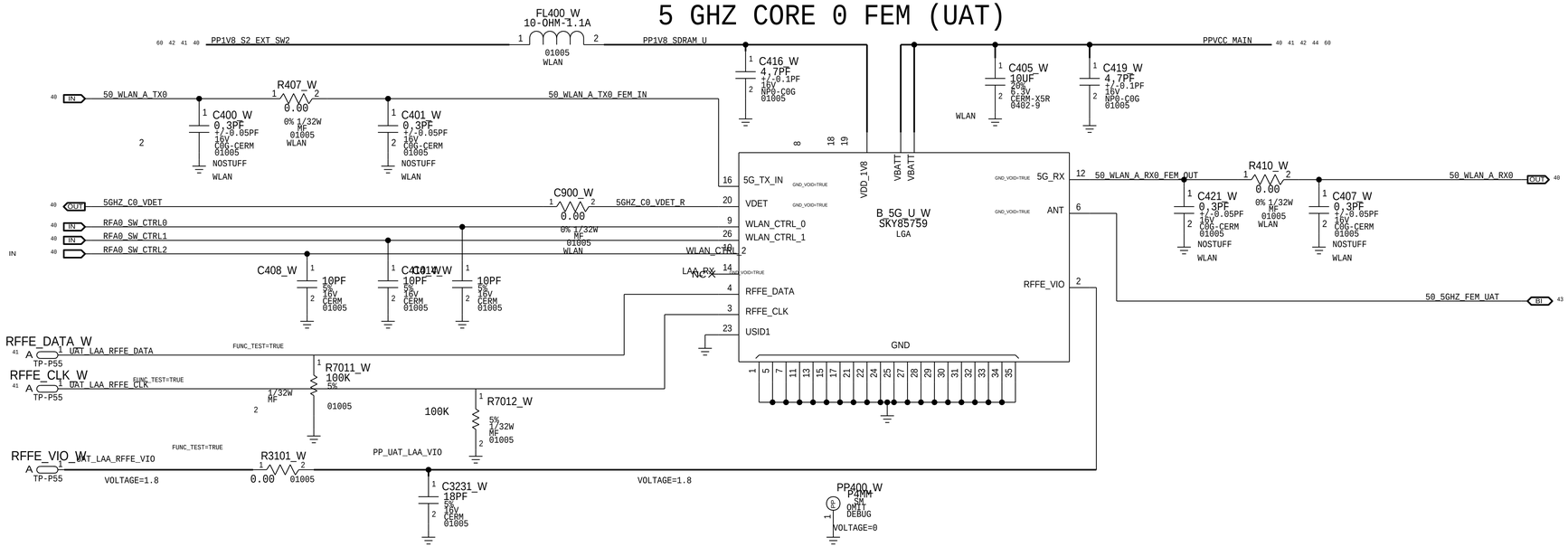
SYNC_MASTER=WIFI_MLB
SYNC_DATE=03/29/2018

PAGE TITLE

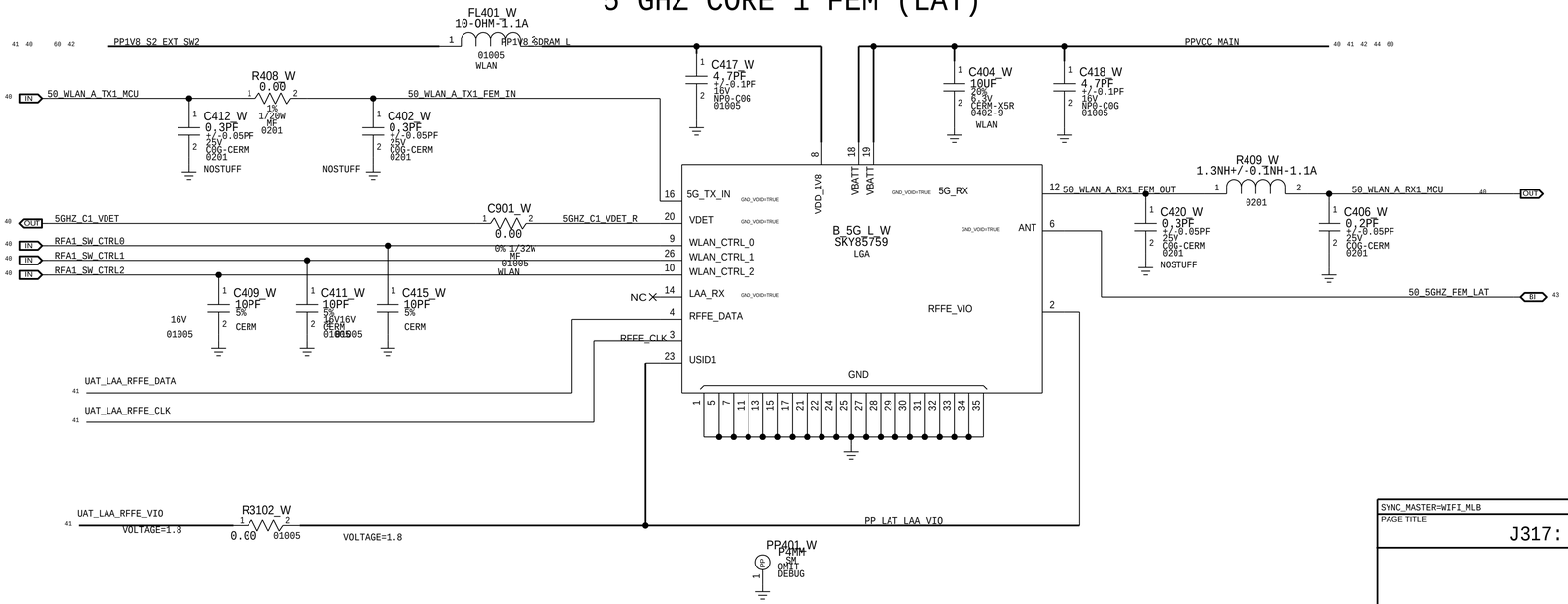
J317+J318: Diet Coke Primary Module

J317: DIET COKE REMOTE FEMS

5 GHZ CORE 0 FEM (UAT)



5 GHZ CORE 1 FEM (LAT)



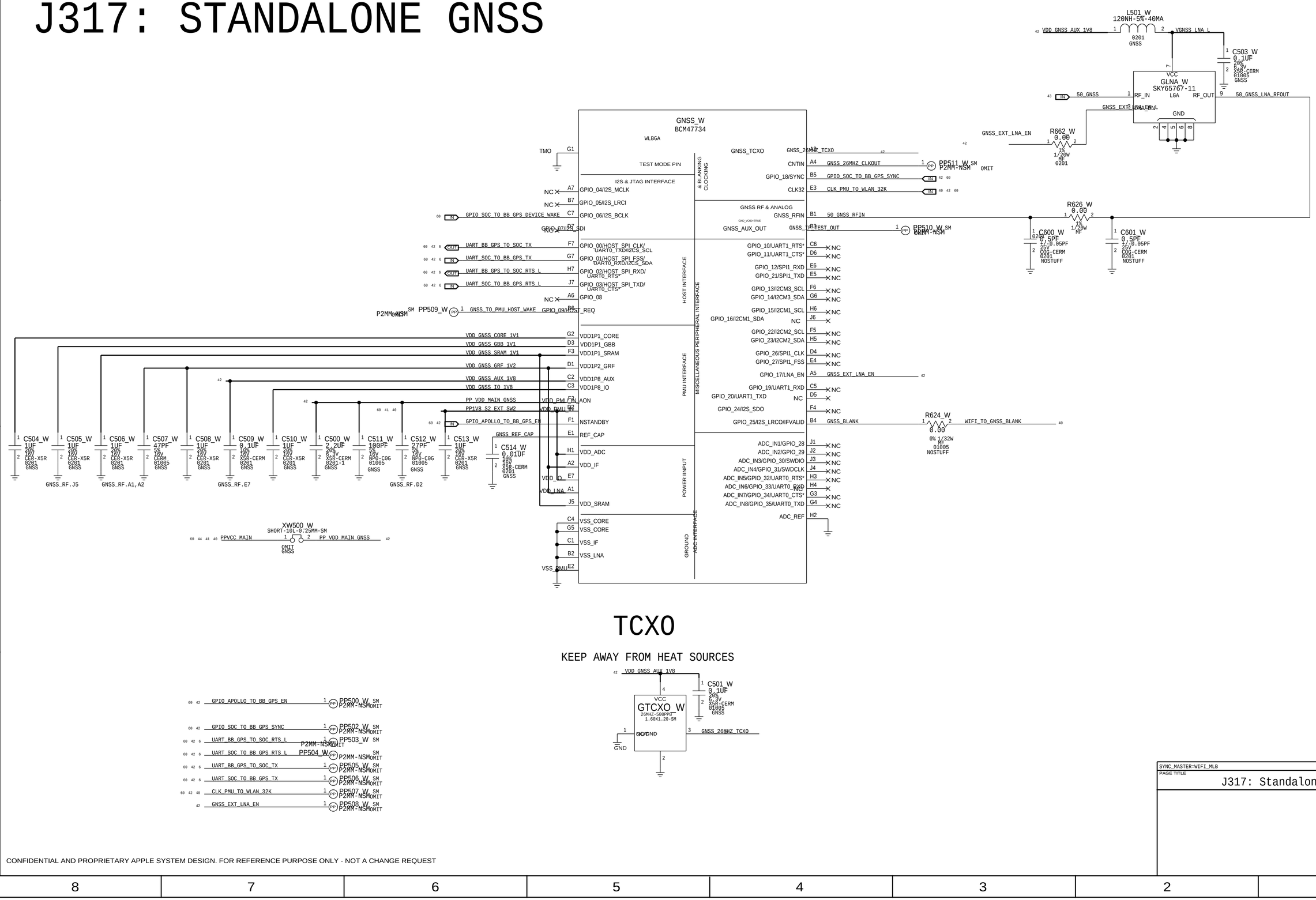
PART	DESCRIPTION	QTY	REFERENCE DESIGNATOR	NOTES
131S0329	CAP,CER,C0G,0.4PF,0201,H-Q	1	C243_W	
	NOSTUFF	1	C238_W	NOSTUFF
152S2042	IND,FILM,1.8NH,800MA,UH-Q,0201	1	R237_W	
131S0431	CAP,CER,COG,0.2PF,,25V,0201,H-Q	1	C202_W	
152S2024	IND,FILM,1.4NH,1.1A,UH-Q,0201	1	R233_W	
1 NOSTUFF			C201_W	NOSTUFF
1 NOSTUFF			C240_W	NOSTUFF
152S00156	IND,FILM,1.1NH,1.1A,UH-Q,0201	1	R234_W	
	NOSTUFF	1	C227_W	NOSTUFF
131S0431	CAP,CER,COG,0.2PF,25V,0201,H-Q	1	C244_W	
152S2024	IND,FILM,1.4NH,,1.1A,UH-Q,0201	1	R238_W	
152S00153	IND,FILM,1.0NH,1.1A,UH-Q,0201	1	R235_W	
131S0431	CAP,CER,COG,0.2PF,25V,0201,H-Q	1	C242_W	
152S00156	IND,FILM,1.1NH,.1A,UH-Q,0201	1	R236_W	
	NOSTUFF	1	C231_W	NOSTUFF

SYNC_MASTER=WIFI_MLB SYNC_DATE=03/29/2018

PAGE TITLE

J317: Remote FEMs

J317: STANDALONE GNSS



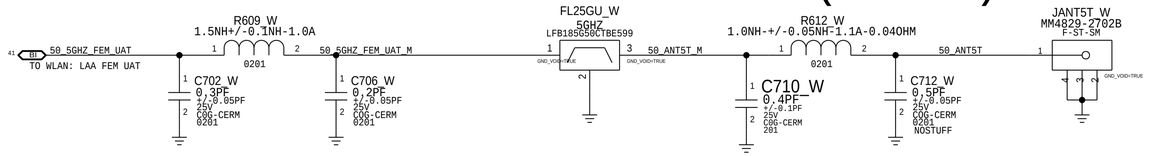
TCXO

KEEP AWAY FROM HEAT SOURCES

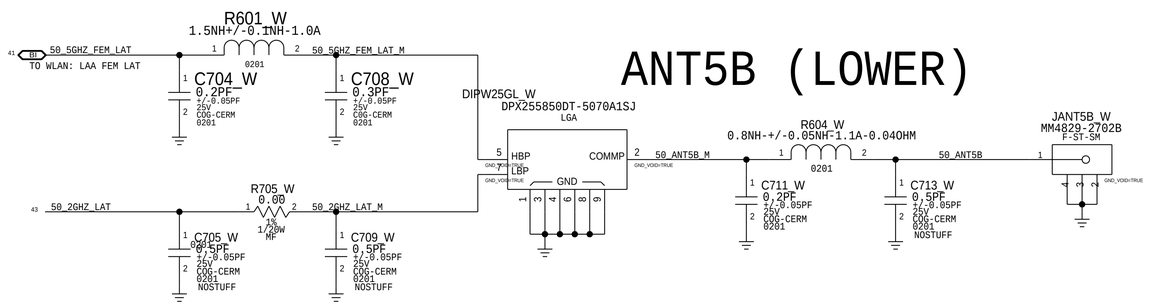
SYNC_MASTER=WIFI_MLB	SYNC_DATE=03/29/2018
PAGE TITLE	
J317: Standalone GNSS	

J317: FRONT END

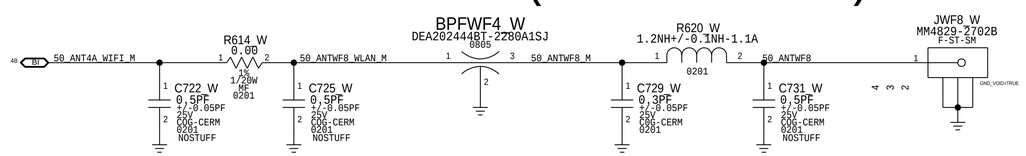
ANT5T (UPPER)



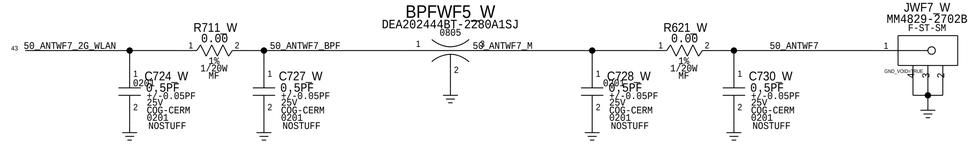
ANT5B (LOWER)



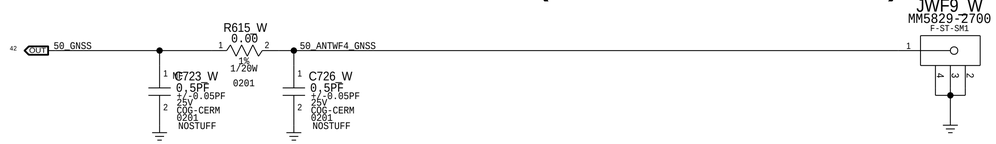
WF8 (UPPER RIGHT)



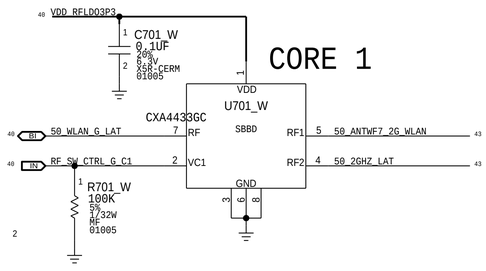
WF7 (UPPER LEFT)



WF9 (UPPER MIDDLE)



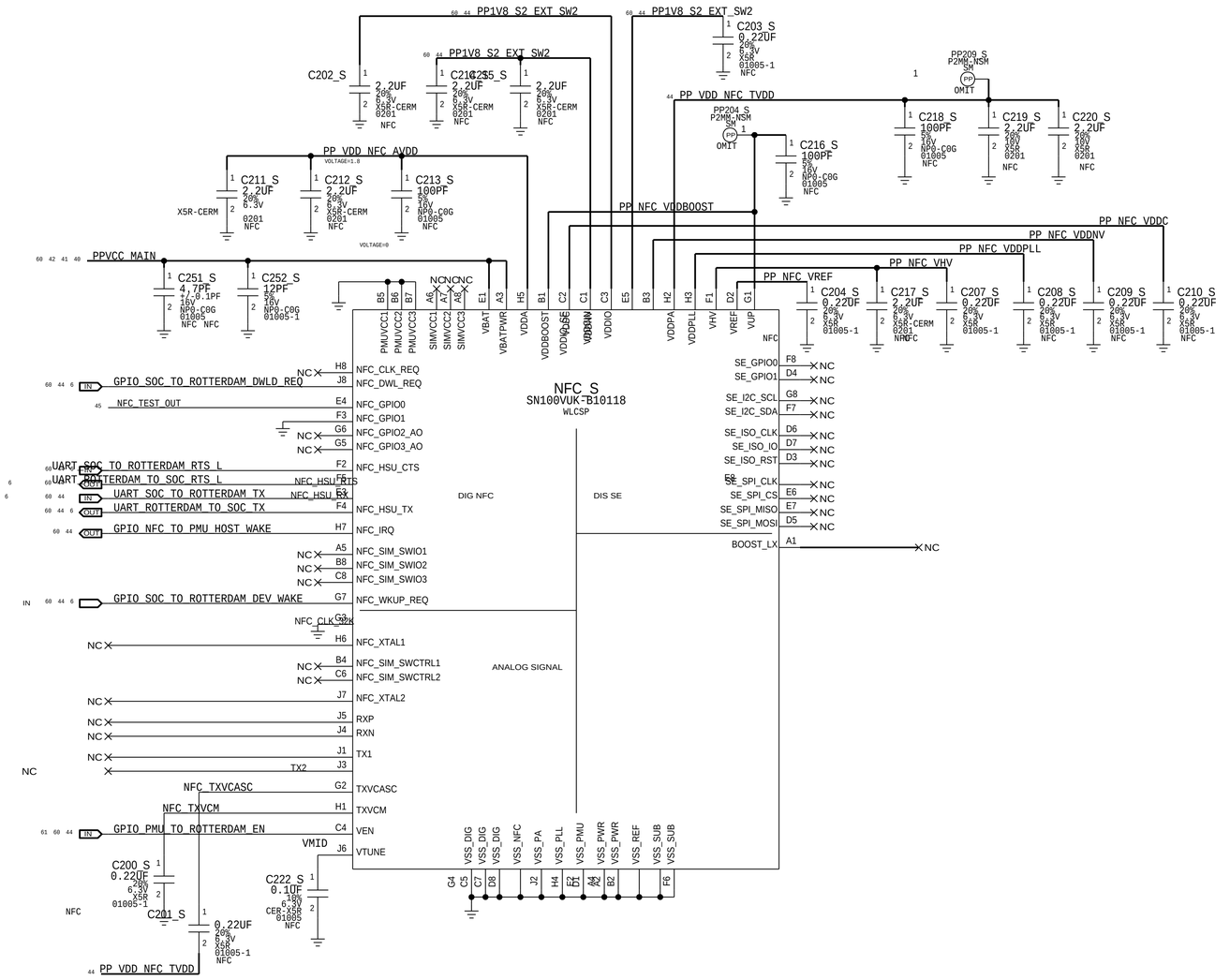
2.4 GHZ DIVERSITY SWITCHING



SYNC_MASTER=WIFI_MLB	SYNC_DATE=03/29/2018
PAGE TITLE	
J317: Front End	

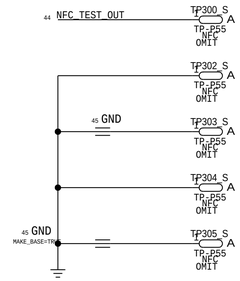
STOCKHOLM

NFC CONTROLLER



STOCKHOLM

NFC FRONT END(DELETED PREEVT)

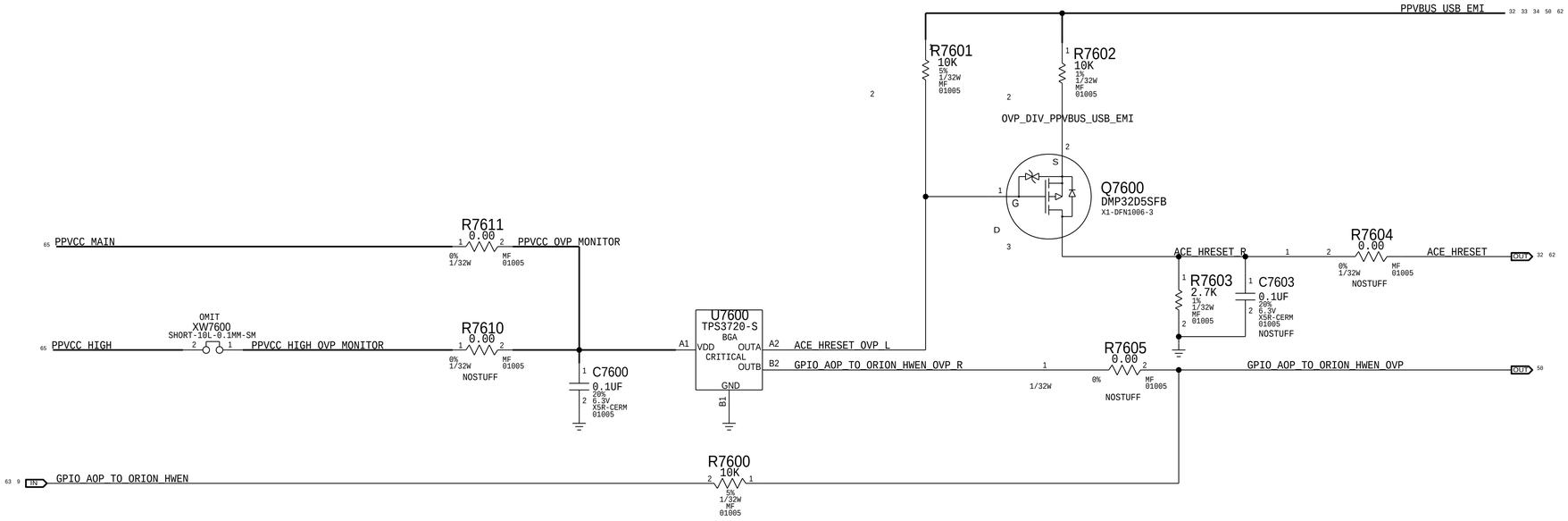


SYNC_MASTER=NFC_MLB SYNC_DATE=01/23/2018

PAGE TITLE

NFC FRONT END

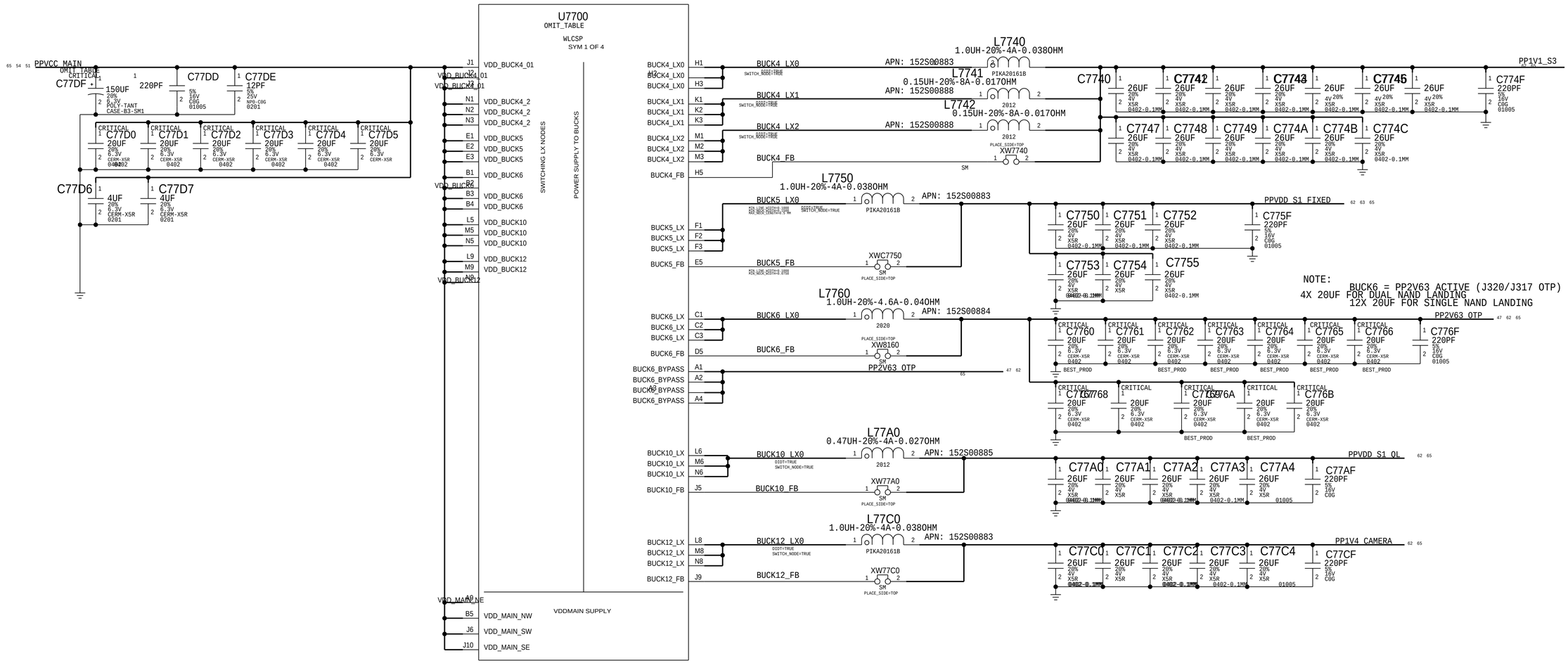
VCC_MAIN OVER VOLTAGE VBUS CUT-OFF



SYNC_MASTER=OV_CUTOFF	SYNC_DATE=01/17/2018
PAGE TITLE	POWER: OV CUT-OFF

APOLLO PMU (1/3)

TO CHECK: CAPACITORS AND INDUCTOR VALUE



SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=12/14/2017

PAGE TITLE

POWER: APOLLO (1/3)

APOLLO PMU (2/3)

LDO INPUTS

PPVCC_HIGH

C7890 20UF 20% 6.3V CERM-X5R 0402
C7891 20UF 20% 6.3V CERM-X5R 0402

PP1V1_S3

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

PPVCC_MAIN

PP1V4_CAMERA

CRITICAL C78B0 4.3UF 20% 4V CERM 0402
CRITICAL C78B1 4.3UF 20% 4V CERM 0402
C78E0 26UF 20% 4V X5R 0402-0.1MM
C7892 1UF 10% 6.3V CERM 402

APOLLO_VDD_RTC

C7906 0.22UF 20% 6.3V X5R 0201

SWITCH INPUTS

TO CHECK: 1.8V

PP1V8_S3

C7993 4UF 20% 6.3V CER-X5R 0201-1 CRITICAL
OMIT_TABLE

PP1V1_S3

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

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

U7700 APOLLO-STUDY

SYM 2 OF 4

WLCSP

C12	VDD_LDO4	
J12	VDD_LDO9	VDD LDO INPUT
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	VRTC SUPPLY PINS
B10	VRTC	
B6	VBUCK4	LOADSWITCH RELATED BALLS
B7	VBUCK3	
B8	VPUMP	
C13	VLDO4	LDO OUTPUT
J13	VLDO9	
L13	VLDO10	
N10	VLDO15	
H13	VLDO17	
K13	VLDO18	
B13	VLDO19	
D13	VLDO20	
E13	VLDO21	
N11	VLDO22	
F13	VLDO23	
G13	VLDO24	
M13	VLDO26	
A12	VLDO27	
A6	BUCK3_SW1	
A7	BUCK3_SW3	
A8	BUCK4_SW1	

LDO OUTPUTS

PP3V0_ALS (300MA; 1.2-3.68V)
PP1V215_FRONT_CAM (300MA; 1-3.5V)
C7804 10UF 20% 6.3V CERM-X5R 0402-9
C7809 10UF 20% 6.3V CERM-X5R 0402-9
C12BA 4.3UF 20% 4V CERM 0402

PP0V9_NAND (1300MA; 0.7-1.25V)
PP0V775_S2_AOP (400MA; 0.675-1.5V)
C78A5 1UF 20% 4V CERM 0402
C78A4 1UF 20% 4V CERM 0402
C7815 10UF 20% 6.3V CERM-X5R 0402-9
C7810 10UF 20% 6.3V CERM-X5R 0402-9
C7811 10UF 20% 6.3V CERM-X5R 0402-9

PP2V92_REAR_CAM (300MA; 1.2-3.68V)
PP1V215_RCAM (400MA; 0.675-1.5V)
C7813 4.3UF 20% 4V CERM 0402
C7816 10UF 20% 6.3V CERM-X5R 0402-9
C7817 10UF 20% 6.3V CERM-X5R 0402-9

PP1V8_SPARE_LDO19 (300MA; 1.2-3.68V)
PP1V8_HAWKING (300MA; 1.2-3.68V)
C7820 10UF 20% 6.3V CERM-X5R 0402-9
C7814 1.0UF 20% 6.3V X5R 0201-1

PP2V90_FRONT_CAM (300MA; 1.2-3.68V)
PP1V215_PEARL (300MA; 1-3.50V)
C78B6 4.3UF 20% 4V CERM 0402
C7818 10UF 20% 6.3V CERM-X5R 0402-9
C7821 10UF 6.3V CERM-X5R 0402-9

PP2V85_PEARL (300MA; 1.2-3.68V)
PP3V1_PEARL (300MA; 1.2-3.68V)
C7822 10UF 20% 6.3V CERM-X5R 0402-9
C7819 10UF 20% 6.3V CERM-X5R 0402-9

PP1V215_FCAM_SPARE (300MA; 1.2-3.68V)
PP2V85_FCAM_SPARE (300MA; 1.2-3.68V)
C7893 1.0UF 20% 6.3V X5R 0201-1
C7894 1.0UF 20% 6.3V X5R 0201-1

SWITCH OUTPUTS

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

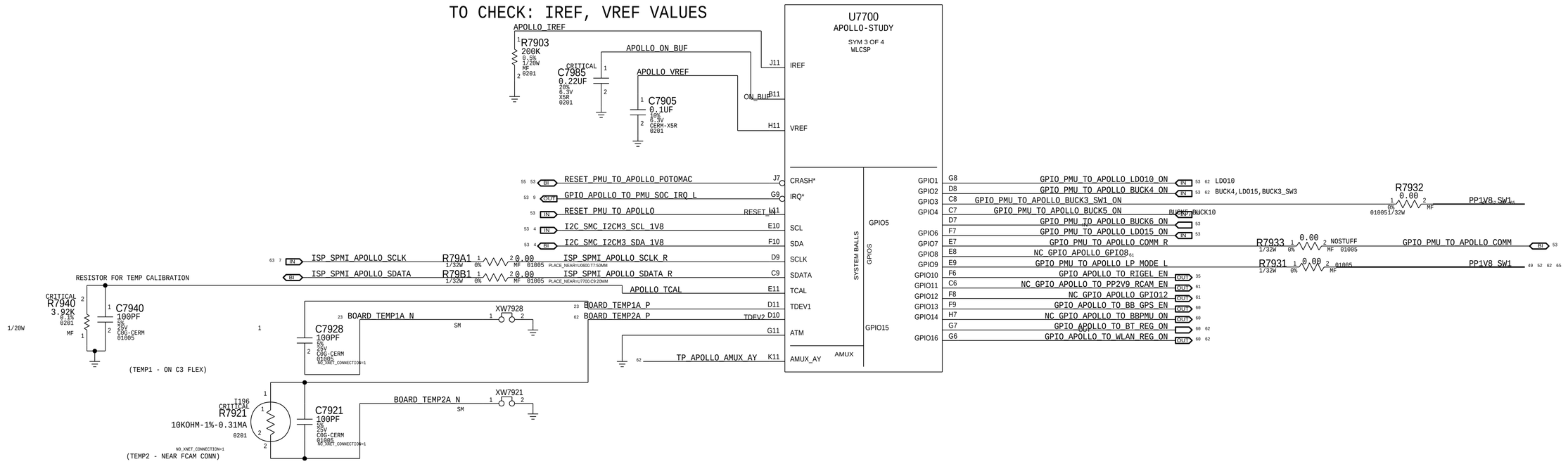
SYNC_MASTER=DEV_ARUBA_J3XX	SYNC_DATE=12/14/2017
PAGE TITLE	
POWER: APOLLO (2/3)	

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

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S00117	138S00071		C7993	

APOLLO PMU (3/3)

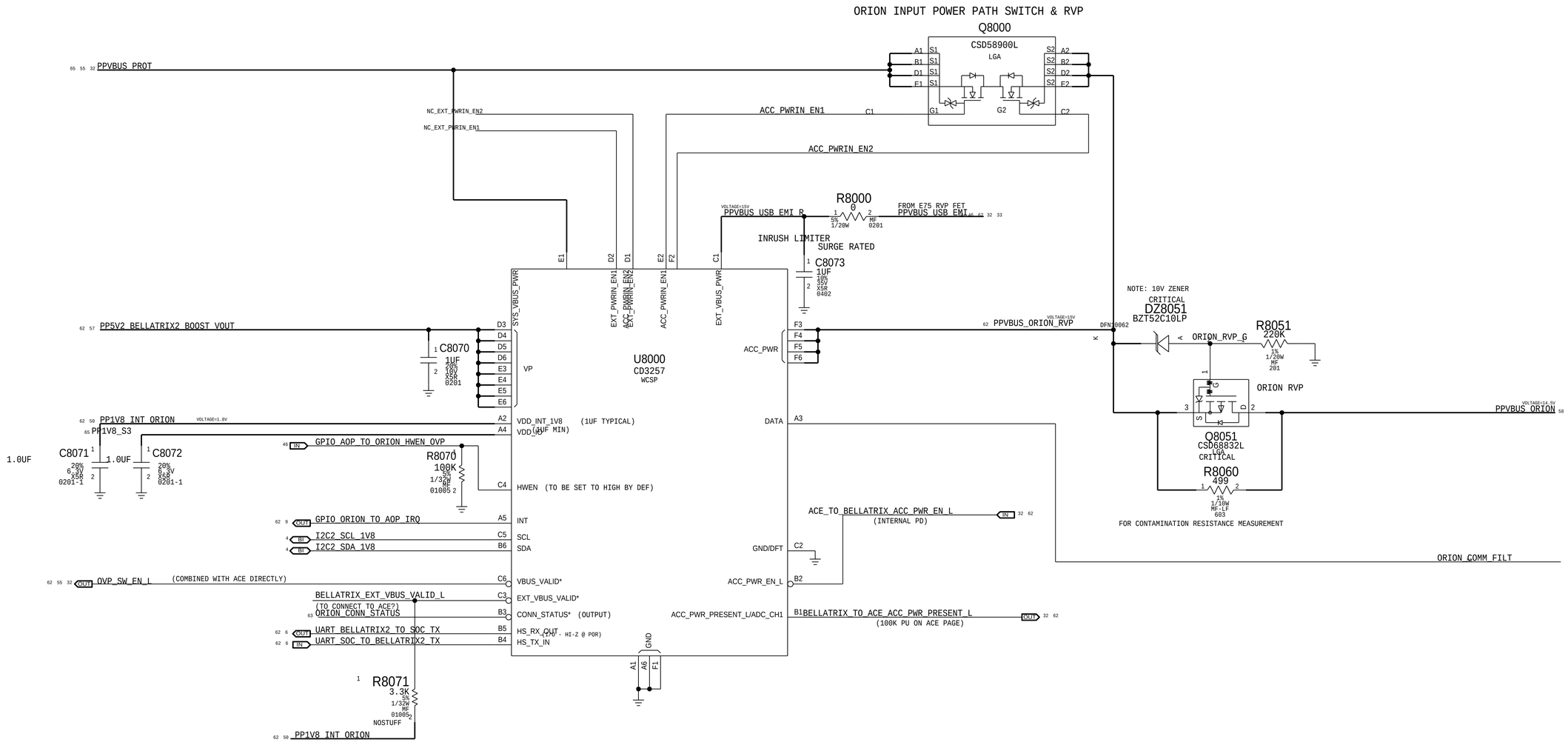
TO CHECK: IREF, VREF VALUES



SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=12/14/2017

PAGE TITLE

POWER: APOLLO (3/3)


ORION INPUT POWER PATH SWITCH & RVP
Q8000
CSD58900L
LGA
PPVBUS_PROT
NC_EXT_PWRIN_EN2
NC_EXT_PWRIN_EN1
ACC_PWRIN_EN1
ACC_PWRIN_EN2
R8000
0
PPVBUS_USB_EMI_R
FROM_E75_RVP_FET
PPVBUS_USB_EMI
INRUSH LIMITER
SURGE RATED
C8073
1UF
SYS_VBUS_PWR
EXT_PWRIN_EN1
ACC_PWRIN_EN2
ACC_PWRIN_EN1
EXT_VBUS_PWR
PP5V2_BELLATRIX2_BOOST_VOUT
C8070
1UF
VP
U8000
CD3257
WCSP
ACC_PWR
PPVBUS_ORION_RVP
NOTE: 10V ZENER
CRITICAL
DZ8051
BZT52C10LP
ORION_RVP_G
R8051
220K
ORION RVP
PP1V8_INT_ORION
PP1V8_S3
VDD_INT_1V8 (1UF TYPICAL)
VDD_IO (1UF MIN)
C8071
1.0UF
C8072
1.0UF
GPIO_AOP_TO_ORION_HWEN_OVP
R8070
100K
HWEN (TO BE SET TO HIGH BY DEF)
DATA
Q8051
CSD68832L
LGA
CRITICAL
R8060
499
PPVBUS_ORION
GPIO_ORION_TO_AOP_IRQ
INT
I2C2_SCL_1V8
SCL
I2C2_SDA_1V8
SDA
GND/DFT
ACE_TO_BELLATRIX_ACC_PWR_EN_L
(INTERNAL PD)
FOR CONTAMINATION RESISTANCE MEASUREMENT
ORION_COMM_FILT
OVP_SW_EN_L
(COMBINED WITH ACE DIRECTLY)
VBUS_VALID*
BELLATRIX_EXT_VBUS_VALID_L
(TO CONNECT TO ACE?)
EXT_VBUS_VALID*
ORION_CONN_STATUS
CONN_STATUS* (OUTPUT)
ACC_PWR_PRESENT_L/ADC_CH1
BELLATRIX_TO_ACE_ACC_PWR_PRESENT_L
(100K PU ON ACE PAGE)
UART_BELLATRIX2_TO_SOC_TX
UART_SOC_TO_BELLATRIX2_TX
HS_RX_OUT
(1.1V - HI-Z @ POR)
HS_TX_IN
R8071
3.3K
NOSTUFF
PP1V8_INT_ORION
SYNC_MASTER=J320_MLB
SYNC_DATE=05/11/2017
PAGE TITLE
POWER: ORION & B2B FETS

ATHENA BUCKS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
128S00062	4	CAP,TANT, 150UF	C81C0,C81C1,C81C2,C77DF	CRITICAL	

U8100
D2483A0N0VNAVBC2
WLCSP
SYM 1 OF 5
BUCK

PPVCC_MAIN
C81A0 C81A1 C81A2 C81A3 C81A4 C81A5 C81A6 C81A7 C81A8 C81A9
C81AA C81AB C81AC C81AD
C81C0 C81C1 C81C2 C81CE C81CF
C81D0 C81D1 C81D2 C81D3 C81D4 C81D5 C81D6 C81D7 C81D8 C81D9 C81DA C81DB C81DC C81DD C81DE C81DF C81DG C81DH C81DI C81DJ C81DK C81DL C81DM C81DN

VDD_MAIN_N VDD_MAIN_W VDD_MAIN_NW VDD_MAIN_E VDD_MAIN_S VDD_MAIN_SW VDD_MAIN_S_ADC
VDD_BUCK0_01 VDD_BUCK0_01 VDD_BUCK0_01 VDD_BUCK0_23 VDD_BUCK0_23 VDD_BUCK0_23
VDD_BUCK1_01 VDD_BUCK1_01 VDD_BUCK1_01 VDD_BUCK1_23 VDD_BUCK1_23 VDD_BUCK1_23
VDD_BUCK2_01 VDD_BUCK2_01
VDD_BUCK3 VDD_BUCK3
VDD_BUCK7 VDD_BUCK7 VDD_BUCK7 VDD_BUCK7

BUCK0_LX0 BUCK0_LX0 BUCK0_LX0 BUCK0_LX1 BUCK0_LX1 BUCK0_LX2 BUCK0_LX2 BUCK0_LX2 BUCK0_LX3 BUCK0_LX3 BUCK0_LX3 BUCK0_FB BUCK0_SNS
BUCK1_LX0 BUCK1_LX0 BUCK1_LX0 BUCK1_LX0 BUCK1_LX1 BUCK1_LX1 BUCK1_LX1 BUCK1_LX2 BUCK1_LX2 BUCK1_LX2 BUCK1_LX3 BUCK1_LX3 BUCK1_LX3 BUCK1_FB BUCK1_SNS
BUCK2_LX0 BUCK2_LX0 BUCK2_LX1 BUCK2_LX1 BUCK2_FB BUCK3_LX BUCK3_LX BUCK3_FB
BUCK7_LX BUCK7_LX BUCK7_LX BUCK7_FB

1.0UH-20%-4A-0.038OHM
0.15UH-20%-8.8A-0.015OHM
0.15UH-20%-8.8A-0.017OHM

L8100 L8101 L8102 L8110 L8111 L8112 L8113 L8120 L8121 L8130 L8170

PPVDD_CPU PPVDD_GPU PPVDD_S1_SOC PP1V8_S3 PPVDD_CPU_SRAM

C8100 C8101 C8102 C8103 C8104 C8105 C8106 C8107 C8108 C8109 C810A C810B C810C C810D C810E C810F C810G C810H C810I C810M
C8110 C8111 C8112 C8113 C8114 C8115 C8116 C8117 C8118 C8119 C811A C811B C811C C811D C811E C811F C811G C811H C811I C811M
C8120 C8121 C8122 C8123 C8124 C8125 C8126 C8127 C812F
C8130 C8131 C8132 C8133 C8134 C8135 C8136 C8137 C8138 C813F
C8170 C8171 C8172 C8173 C8174 C817F
C1280 C1281 C1282

XW8100 XW8110 XW8120 XW8130 XW8170
R8120 0.00

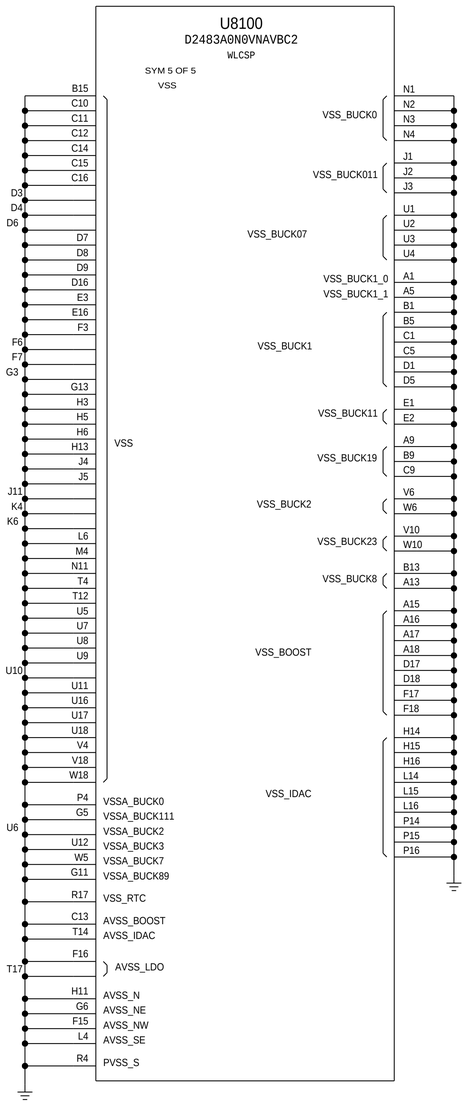
ADC_SOC_TO_PMU_VDD_CPU
ADC_SOC_TO_PMU_VDD_GPU

SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=12/14/2017

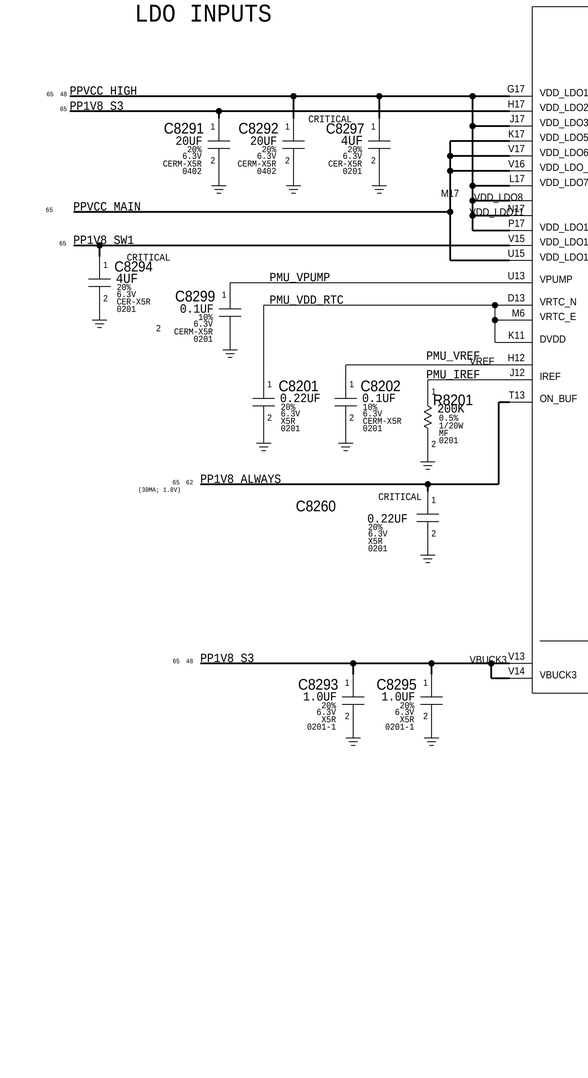
PAGE TITLE
POWER: ATHENA (1/4)

ATHENA PMU (2/4)

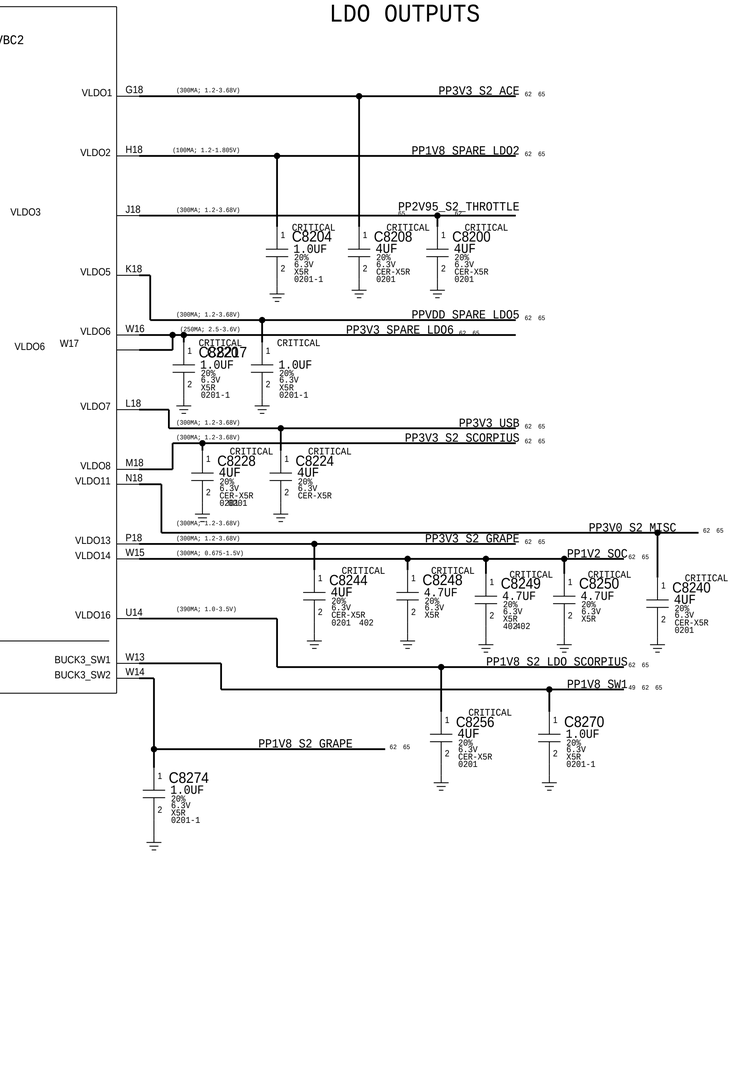
PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
197S0399	197S0392		Y8300	RDAR://PROBLEM/9936684
138S0703	138S0648		C8250,ECT	ALT FOR 4.7UF,6.3V,0402



LDO INPUTS



LDO OUTPUTS



SYNC_MASTER=DEV_ARUBA_J3XX	SYNC_DATE=12/14/2017
PAGE TITLE	POWER: ATHENA (2/4)

ATHENA PMU (3/4)

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S0706	138S0739		C8308,ECT	
118S0764	118S0717		R8340	RDAR://PROBLEM/8388367
107S0150	107S0208		R8321-R8328	RDAR://PROBLEM/8388367

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
D2483A0N0VNAVBC2
WLCSP
SYM 4 OF 5

NOTE: MAY NEED TO CHANGE XTAL CKT BASED ON CHARACTERIZATION

BUTTON PULLUPS

PLACE U8350 AND U8351 CLOSE TO T JUNCTION

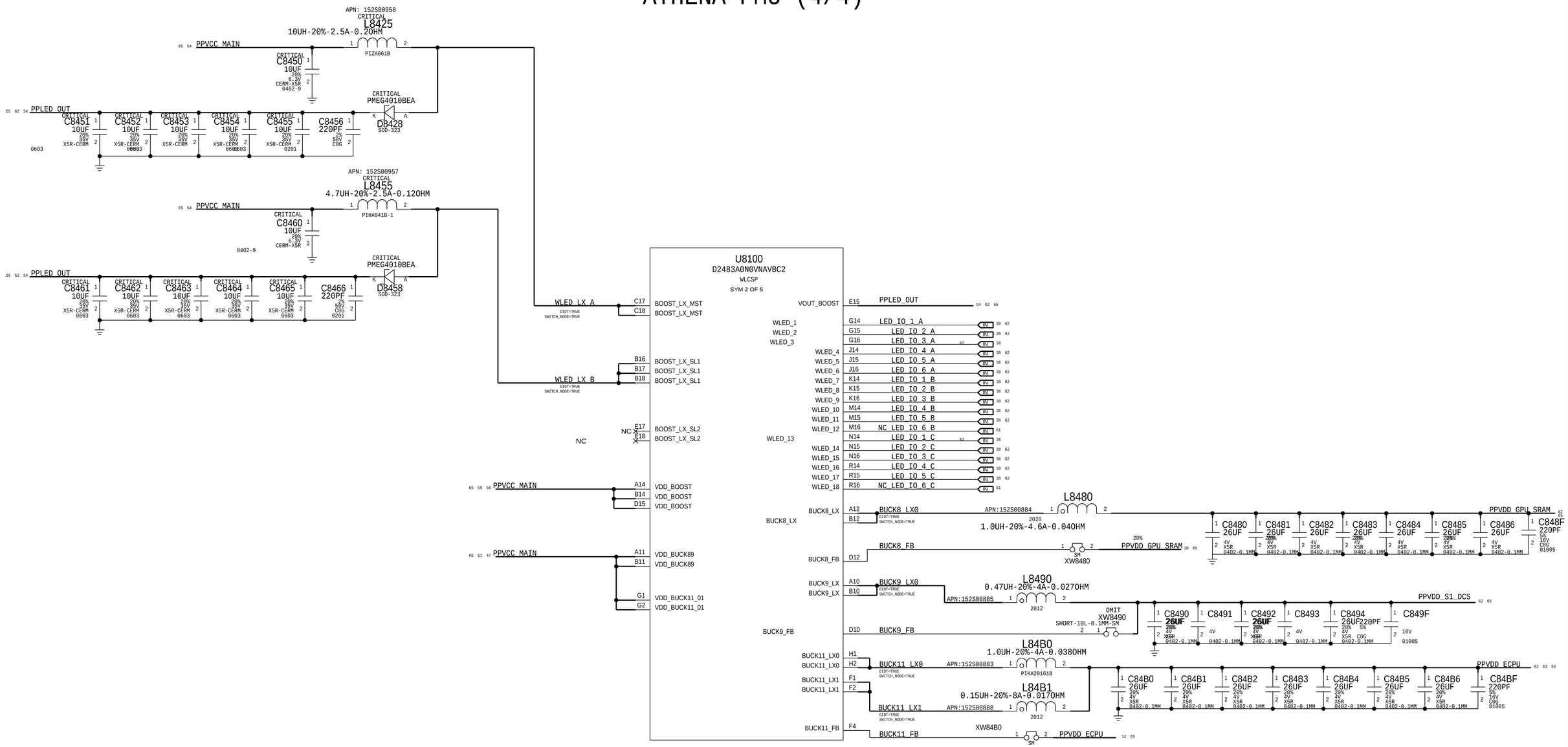
THESE BUFFERS MIGHT NOT BE NEEDED FOR MLB. TBD.

SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=12/14/2017

PAGE TITLE

POWER: ATHENA (3/4)

ATHENA PMU (4/4)



SYNC_MASTER=DEV_ARUBA_J3XX	SYNC_DATE=12/14/2017
PAGE TITLE	
POWER: ATHENA (4/4)	

POTOMAC

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
376S00071	376S00070		Q8581,ECT	RDAR://PROBLEM/20277540

U8500
D2559A0P0V2AVAC2
WLCSP
OMIT_TABLE

PPVBUS_PROT
C8500 10UF 20% 35V X5R-CERM 0603 (CRITICAL)
C8501 10UF 20% 35V X5R-CERM 0603 (CRITICAL)
C8502 10UF 20% 35V X5R-CERM 0603 (CRITICAL)
VBUS M13, VBUS N13, VBUS P13

OVP_SW_EN_L (MF) — R8520 0.00 0% 1/32W 01005 MF — OVP_SW_EN_L_R
RESET_PMU_TO_APOLLO_POTOMAC (BI)
R8521 0.00 0% 1/32W 01005 MF
GPIO_PMU_TO_POTOMAC_LINCH_EN (IN) — GPIO_PMU_TO_POTOMAC_LINCH_EN_R
R8523 0.00 0% 1/32W 01005 MF — PP1V8_SW1
GPIO_POTOMAC_TO_PMU_WAKE (OUT)
USB_VBUS_DETECT (OUT)
NC_POTOMAC_HV_CHG_OVERRIDE
GPIO_PMU_TO_POTOMAC_BOOST_EN
GPIO_POTOMAC_TO_SOC_TO_PMU_IRQ_L (OUT)
I2C_SMC_I2CM0_SCL_1V8 (IN) — SCL
I2C_SMC_I2CM0_SDA_1V8 (BI) — SDA
BATT_NTC (IN)
PPVDD_REF_CHG

VBUS_OVP_OFF(GPIO1)	K12
CRASH*(GPIO2)	K10
VSYS_HI_UVLO(GPIO3)	B13
LINCH_EN(GPIO4)	K11
WAKEUP(GPIO5)	E11
USB_VBUS_DET(GPIO6)	C12
HV_CHG_OVERRIDE(GPIO7)	J9
BOOST_EN(GPIO8)	J11
IRQ*	G11
SCL	H12
SDA	H13
TBAT	D12
VDD_REF_CHARGE	F13
VDD_REF_CHARGE_PH0	L5
VDD_REF_CHARGE_PH1	G1
VDD_GPIO	C13
VDDCORE_DIG	E13, E12
IREF	B6
VREF	A6
ADC_REF	D13
ADC_IN_P	D11
ADC_IN_N	D10
H_TEST_MODE	J12

C8512 0.1UF 10% 16V X5R-CERM 0201 (CRITICAL)
C8513 10UF X5R (CRITICAL)
C8516 0.1UF 10% 16V X5R-CERM 0201 (CRITICAL)
PPVDD_POTOMAC_GPIO
PPVDD_POTOMAC_CORE
C8510 0.1UF 10% 16V X5R-CERM 0201 (CRITICAL)
C8511 0.1UF 10% 16V X5R-CERM 0201 (CRITICAL)
R8515 200K 0.5% 1/20W MF 0201 (CRITICAL)
C8515 0.1UF 10% 16V X5R-CERM 0201 (CRITICAL)
C8514 0.1UF 10% 16V X5R-CERM 0201 (CRITICAL)
POTOMAC_IREF
POTOMAC_VREF
POTOMAC_ADC_REF

PP1V8_ALWAYS
R8525 10K 5% 1/32W MF 01005 (CRITICAL)
R8526 10K 5% 1/32W MF 01005 (CRITICAL)
GPIO_POTOMAC_TO_PMU_WAKE
GPIO_POTOMAC_TO_SOC_TO_PMU_IRQ_L

VSSA_1	F12
VSSA_2	J13
VSSA_3	E7
VSS_PH0	L8
VSS_PH0	M8
VSS_PH0	N8
VSS_PH0	P8
VSS_PH1	N1
VSS_PH1	N2
VSS_PH1	N3
VSS_PH1	N4
VSS_BUBO	L9
VSS_BUBO	M9
VSS_BUBO	N9
VSS_BUBO	P9
VSS_BOOST	D6
VSS_BG_SENS	A5
VSSD_FRAME	C7
VSS_ESD	A12
VSS_ESD	J3
VSS_ESD	B12
VSS_ESD	C6
VSS_ESD	D9
VSS_ESD	E10
VSS_ESD	E6
VSS_ESD	E8
VSS_ESD	E9
VSS_ESD	F10
VSS_ESD	F11
VSS_ESD	F6
VSS_ESD	F7
VSS_ESD	F8
VSS_ESD	F9
VSS_ESD	G10
VSS_ESD	G12
VSS_ESD	G13
VSS_ESD	G2
VSS_ESD	G3
VSS_ESD	G4
VSS_ESD	G5
VSS_ESD	G6
VSS_ESD	G7
VSS_ESD	G8
VSS_ESD	G9
VSS_ESD	H10
VSS_ESD	H11
VSS_ESD	H5
VSS_ESD	H6
VSS_ESD	H7
VSS_ESD	H8
VSS_ESD	H9
VSS_ESD	J10
VSS_ESD	J4
VSS_ESD	J5
VSS_ESD	J6
VSS_ESD	J7
VSS_ESD	J8
VSS_ESD	K10
VSS_ESD	K4
VSS_ESD	K5
VSS_ESD	K6
VSS_ESD	K8
VSS_ESD	K9

PPVCENTER
C8555 0.1UF 10% 35V CER-X5R 0201 (CRITICAL)
C8550 10UF 20% 35V X5R-CERM 0603 (CRITICAL)
C8557 0.1UF 10% 35V CER-X5R 0201 (CRITICAL)
C8551 10UF 20% 35V X5R-CERM 0603 (CRITICAL)
C8556 0.1UF 10% 35V CER-X5R 0201 (CRITICAL)
C8552 10UF 20% 35V X5R-CERM 0603 (CRITICAL)
VCENTER_3 L12, M12, N12, P12
VCENTER_0 L6, M6, N6, P6
VCENTER_1 H1, H2, H3, H4

PPVCENTER_1_HS
C8558 0.1UF 10% 25V X5R (CRITICAL)
VCENTER_1_HS J2, J3, K2, K3

VBOOT_N0 N5, VBOOT_DRV0 P5 — POTOMAC_VBOOT0 — 0.1UF 10% 16V X5R-CERM 0201 — C8560 (CRITICAL)
LX_BOOT_PH0 K7 — POTOMAC_VBOOT_PH0
VBOOT_N1 J1, VBOOT_DRV1 K1 — POTOMAC_VBOOT1 — 0.1UF 10% 16V X5R-CERM 0201 — C8561 (CRITICAL)
LX_BOOT_PH1 M5 — POTOMAC_VBOOT_PH1
BOOST_HS_SUPPLY D5 — POTOMAC_HS_SUPPLY
BOOST_HS_SOURCE D1, D2, D3, D4 — POTOMAC_HS_SRC — 0.1UF 10% 16V X5R-CERM 0201 — C8562 (CRITICAL)
VSYS_HI_S A7 — POTOMAC_VSYS_HI_S — XW8501 SHORT-10L-0.1MM-SM OMIT
VSYS_HI B1, B2, B3, B4, C1, C2, C3, C4, C5
VSYS_HI_EXT_DIO B7 — POTOMAC_HIGH_DIO
VSYS_LO_BYPASS A1, A2, A3, A4

L8570 1UH-20%-6.4A-0.038OHM PIKA32251B-SM
LX_PH0 L7, M7, N7, P7 — POTOMAC_LX_PH0
LX_BUBO L10, M10, N10, P10 — POTOMAC_LX_BUBO
VSYS_LO_BUBO M11, N11, P11
C85A3 4.7UF 20% 16V X5R 0402-1 (CRITICAL)
C8590 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)
C8599 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)
LX_BOOST E1, E2, E3, E4, E5, F1, F2, F3, F4, F5

L8571 0.47UH-20%-8.4A-0.024OHM 3225
LX_PH1 L1, L2, L3, L4, M1, M2, M3, M4, P1, P2, P3, P4
VSYS_LO_S D8 — POTOMAC_VSYS_LO_S — OMIT XW8500 SHORT-10L-0.1MM-SM
VSYS_LO_1 A10, B10, C10
VSYS_LO_2 A9, B9, C9
VSYS_LO_EXT_DIO D7 — POTOMAC_LOW_DIO
IBAT_1 A11, B11, C11
IBAT_2 A8, B8, C8
VBAT B5

R8593 499 1% 1/20W MF 201
R8592 0.00 0% 1/32W 01005 MF — BATT_SNS_R — BATT_SNS (IN)

PPVCC_HIGH
C8567 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)
C8568 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)
C8569 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)
C8563 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)
C8564 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)
C8565 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)
C8566 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)

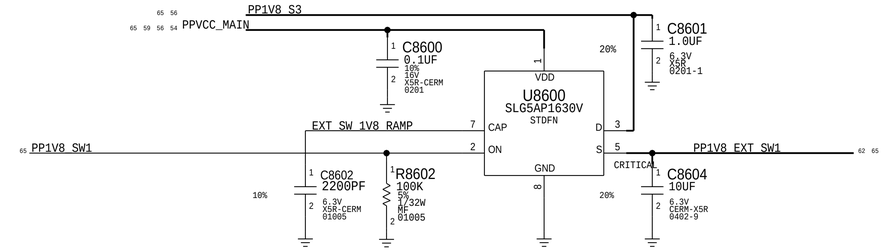
C8580 20UF 20% 6.3V CERM-X5R 0402 (CRITICAL)
C8588 20UF 20% 6.3V CERM-X5R 0402 (CRITICAL)
C8589 20UF 20% 6.3V CERM-X5R 0402 (CRITICAL)
C8581 20UF 20% 6.3V CERM-X5R 0402 (CRITICAL)
C8582 20UF 20% 6.3V CERM-X5R 0402 (CRITICAL)
C8583 20UF 20% 6.3V CERM-X5R 0402 (CRITICAL)
C8584 1.0UF 20% 6.3V X5R 0201 (CRITICAL)
NOSTUFF R8581 470K 5% 1/32W MF 01005
Q8581 FDMC6688P MLP3.3X3.3 (CRITICAL)

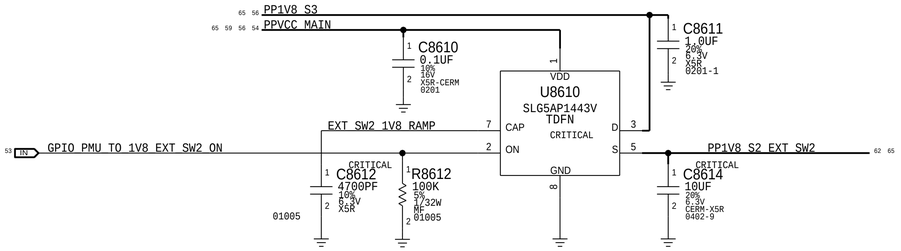
PPVCC_MAIN
C85A0 10UF 20% 10V X5R-CERM 0402 (CRITICAL)
C8570 10UF 20% 10V X5R-CERM 0402 (CRITICAL)
C8571 10UF 20% 10V X5R-CERM 0402 (CRITICAL)
C8572 10UF 20% 10V X5R-CERM 0402 (CRITICAL)
C8573 10UF 20% 10V X5R-CERM 0402 (CRITICAL)
C8574 10UF 20% 10V X5R-CERM 0402 (CRITICAL)
C85A1 10UF 20% 10V X5R-CERM 0402 (CRITICAL)
C85A2 10UF 20% 10V X5R-CERM 0402 (CRITICAL)
NOSTUFF R8580 470K 5% 1/32W MF 01005
Q8580 FDMC6686P POWER33 (CRITICAL)

PPBATT_VCC
C8593 47UF 20% 6.3V CER-X5R 0603 (CRITICAL)
C8591 10UF 20% 6.3V CERM-X5R 0402-9 (CRITICAL)
C8592 10UF 20% 6.3V CERM-X5R 0402-9 (CRITICAL)
PPBATT_POS_RC
R8591 0.5 1% 1/16W MF 402
NOTE: FOR NO BATTERY SITUATION

SYNC_MASTER=DEV_ARUBA_J3XX
SYNC_DATE=12/14/2017
PAGE TITLE
POWER: CHARGER

EXTERNAL POWER SWITCHES





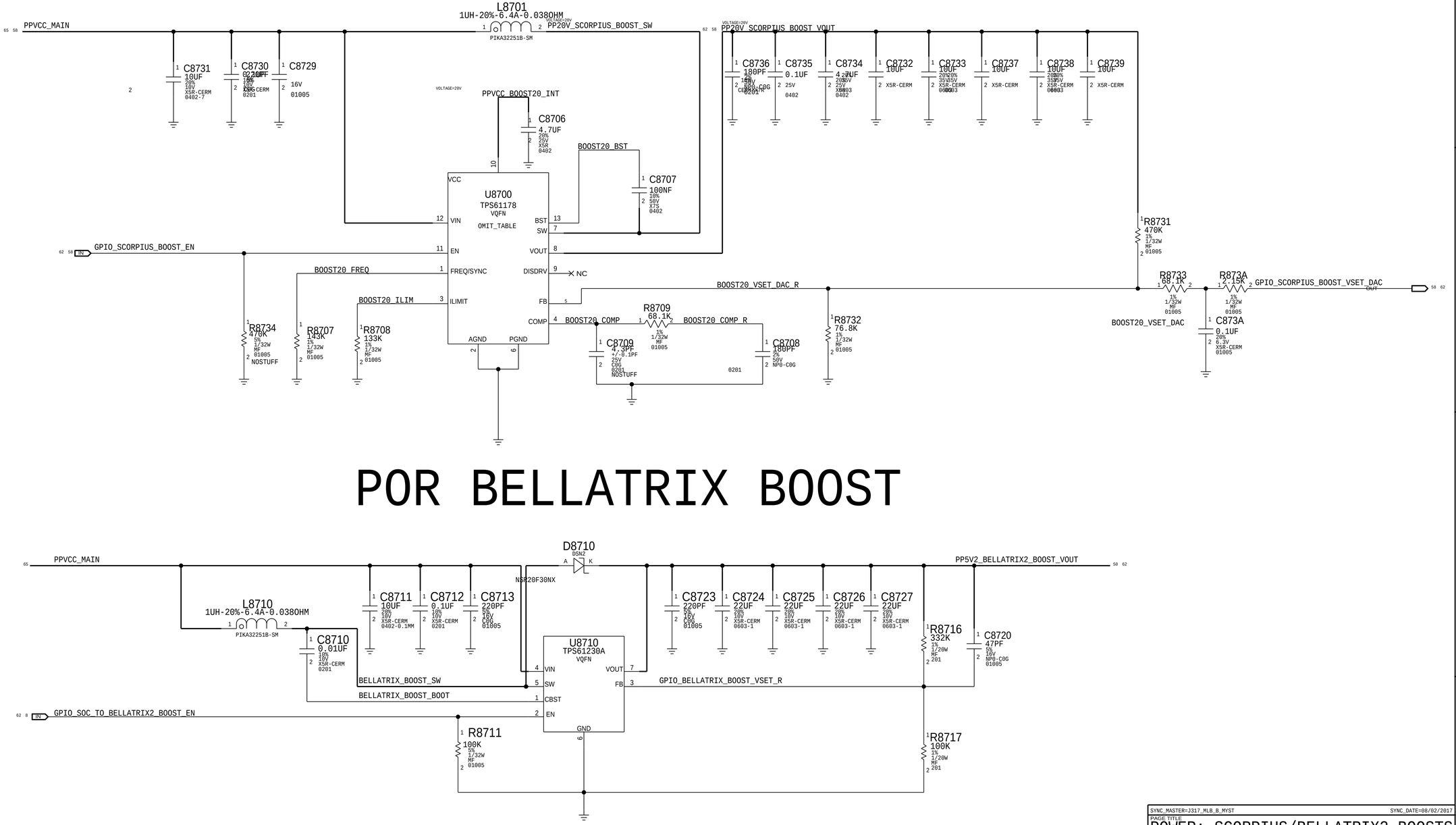
SYNC_MASTER=DEV_ARUBA_J3XX SYNC_DATE=12/14/2017

PAGE TITLE

POWER: EXTERNAL SWITCHES

SCORPIUS BOOST 20V

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
998-13794	1	IC,SCORPIUS BOOST	U8700	CRITICAL	



POR BELLATRIX BOOST

SYNC_MASTER=J317_MLB_B_MYST SYNC_DATE=08/02/2017

PAGE TITLE

POWER: SCORPIUS/BELLATRIX2 BOOSTS

SCORPIUS THROTTLE

65 PP2V95_S2_THROTTLE

C8995 0.1UF 10% 16V CER 0201

U8992 MAX40002ANS+ WLP

VCC/REF B1

PPVCC_MAIN — R8991 0.00 0% 1/32W MF 01005 — IN — SCORP_THROT_IN

NOSTUFF R8992 1.00M 1% 1/32W MF 01005

A2 OUT SCORPIUS_THROTTLE_L

GND B2

R8994 100 5% 1/32W MF 01005 — GPIO_SCORPIUS_BOOST_EN

4 I2C_AOP_I2CM1_SCL_1V8 — FL8995 0.00 0% 1/32W MF 01005 — I2C_SCORPIUS_SCL_1V8_CONN 58 (CKPLUS_WAIVE=I2C_PULLUP)

4 I2C_AOP_I2CM1_SDA_1V8 — FL8996 0.00 0% 1/32W MF 01005 — I2C_SCORPIUS_SDA_1V8_CONN (CKPLUS_WAIVE=I2C_PULLUP)

65 PP1V8_S2_LDO_SCORPIUS — FL8992 0.00 0% 1/32W MF 01005 — PP1V8_S2_LDO_SCORPIUS_CONN 58

C8992 220PF 5% 16V C0G 01005

FL8994 0 5% 1/20W MF 0201

65 PP1V8_S3 — PP1V8_S2_BUCK_SCORPIUS_CONN 58

C8994 220PF 5% 16V C0G 01005

FL8991 0.00 0% 1/32W MF 01005

65 PP3V3_S2_SCORPIUS — PP3V3_S2_SCORPIUS_CONN 58

C8991 220PF 5% 16V C0G 01005

65 58 53 39 9 PP1V8_S3

Q8900 DMN2990UFZ DFN0606

4 I2C_SMC_I2CM2_SDA_1V8 — 62 I2C_SMC_GASGAUGE_SDA_1V8_CONN (CKPLUS_WAIVE=I2C_PULLUP)

65 58 53 39 9 PP1V8_S3

Q8901 DMN2990UFZ DFN0606

4 I2C_SMC_I2CM2_SCL_1V8 — 62 I2C_SMC_GASGAUGE_SCL_1V8_CONN (CKPLUS_WAIVE=I2C_PULLUP)

65 PPBATT_VCC

C8925 22PF 5% 16V C0G 01005-1

C8929 4.7PF +/-0.1PF 16V NP0-C0G 01005

C8927 180PF 5% 50V NP0-C0G 0201

62 55 BATT_SNS

BATTERY CONNECTOR

MATCHES J317_BMU_I2C_NONTCO_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

SCORPIUS FLEX CONNECTOR

MATCH J317_SCORPIUS_FLEX 4.1.0
MLB: 516S00150
FLEX: 516S00149

J8901 AA37D-S014VA1 F-ST-SM

58 PP1V8_S2_BUCK_SCORPIUS_CONN	16	15	GPIO_WLAN_TO_SCORPIUS_TX_IND (IN) 60 62
62 60 GPIO_BB_TO_SCORPIUS_TX_IND (IN)	2	1	SOC_TO_SCORPIUSMCU_BOOT0 (OUT) 6 62
58 PP3V3_S2_SCORPIUS_CONN	4	3	GPIO_AOP_TO_SCORPIUSMCU_NRST_L (OUT) 61 62
62 57 GPIO_SCORPIUS_BOOST_VSET_DAC (IN)	6	5	I2C_SCORPIUS_SCL_1V8_CONN 58
58 PP1V8_S2_LDO_SCORPIUS_CONN	8	7	I2C_SCORPIUS_SDA_1V8_CONN 58
62 61 20 GPIO_KONA_S_TO_SCORPIUS_TIME_SYNC (OUT)	10	9	GPIO_SCORPIUS_BOOST_EN (OUT) 57 58 62
62 60 GPIO_BT_TO_SCORPIUS_TX_IND (IN)	12	11	SWD_SCORPIUS_SWCLK (IN) 5 62
62 9 GPIO_SCORPIUS_TO_AOP_IRQ (OUT)	14	13	SWD_SCORPIUS_SWDIO (BI) 6 62
	18	17	
	22	21	

57 62 PP20V_SCORPIUS_BOOST_VOUT

C8996 0.1UF 10% 16V X5R-CERM 0201

C8997 0.01UF 10% 25V X5R-CERM 0201

C8998 220PF 5% 25V C0G 01005

ORION FLEX CONNECTOR

MATCH J317_ORION_FLEX_3.0.0
MLB: 516S00186
FLEX:516S00185

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

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

ORION_COMM_FILT (BI) — R8951 49.9 1% 1/2W TF 1206 — ORION_COMM_FILT_R — FL8951 120-OHM-25%-250MA-0.5DCR 01005 — ORION_COMM_CONN

C8951 0.01UF 10% 10V X5R-CERM 0201

C8955 180PF 5% 50V NP0-C0G 0201

DZ8901 12V-22PF 0201

50 PPVBUS_ORION — FL8950 FERR-22OHM-28%-8A 0603 — 62 PPVBUS_ORION_CONN

C8993 0.1UF 10% 50V X5R-CERM 0402

C8990 0.022UF 10% 50V X7R 0402

O_T_DET_BASE

Q8990 ZXTN3035CLP DFN10063 (CRITICAL)

R8990 3.0K 1% 1/32W MF 01005

C8950 180PF 5% 50V NP0-C0G 0201

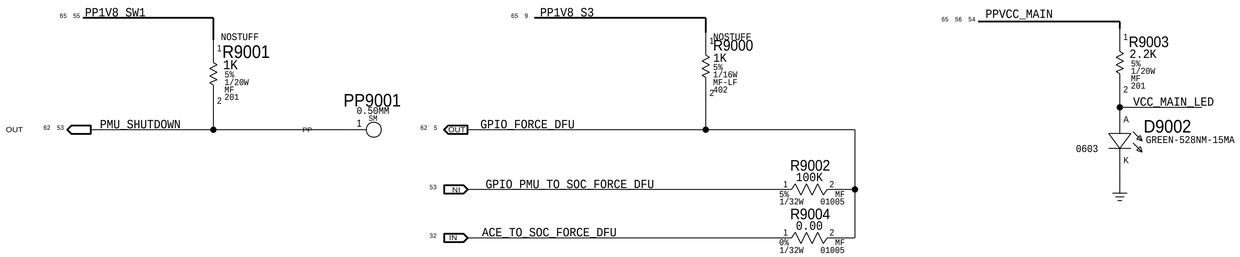
DZ8900 UCLAMP2411ZA 0201

SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017

PAGE TITLE

POWER: BATTERY & ORION & SCORPIUS CONN

DEBUG RESET ACCESS



SYNC_MASTER=J207_MLB_B	SYNC_DATE=03/13/2017
PAGE TITLE	SOC: DEBUG

CELLULAR AND WLAN/BT ALIASES

BASEBAND(DELETED)

SOC/AOP/PMU GPIOS

7	IN	NC_GPIO_SOC_TO_BB_SDWN_L	MAKE_BASE=TRUE	NC_GPIO_SOC_TO_BB_SDWN_L		
8	IN	NC_GPIO_SOC_TO_BB_RESET_L	MAKE_BASE=TRUE	NC_GPIO_SOC_TO_BB_RESET_L		
7	OUT	NC_GPIO_BB_TO_SOC_RESET_DET_L	MAKE_BASE=TRUE	NC_GPIO_BB_TO_SOC_RESET_DET_L		
8	IN	NC_GPIO_SOC_TO_BB_COREDUMP	MAKE_BASE=TRUE	NC_GPIO_SOC_TO_BB_COREDUMP		
32	IN	NC_SWD_BB_SWCLK	MAKE_BASE=TRUE	NC_SWD_BB_SWCLK		
32	BI	NC_SWD_BB_SWCLK_ACE	MAKE_BASE=TRUE	NC_SWD_BB_SWCLK_ACE		
49	IN	NC_GPIO_APOLLO_TO_BBPMU_ON	MAKE_BASE=TRUE	NC_GPIO_APOLLO_TO_BBPMU_ON		
53	IN	NC_GPIO_PMU_TO_BB_VBUS_DET	MAKE_BASE=TRUE	NC_GPIO_PMU_TO_BB_VBUS_DET		
53	OUT	NC_GPIO_BB_TO_PMU_HOST_WAKE_L	MAKE_BASE=TRUE	NC_GPIO_BB_TO_PMU_HOST_WAKE_L		
9	IN	NC_UART_AOP_TO_BB_TX	MAKE_BASE=TRUE	NC_UART_AOP_TO_BB_TX		
9	OUT	NC_UART_BB_TO_AOP_TX	MAKE_BASE=TRUE	NC_UART_BB_TO_AOP_TX		
62 58	OUT	GPIO_BB_TO_SCORPIUS_TX_IND	MAKE_BASE=TRUE			
38 7	IN	GPIO_SOC_TO_KONA_DISPLAY_BSYNC1				
40	IN	NC_UART_BB_TO_WLAN_COEX	MAKE_BASE=TRUE	NC_UART_BB_TO_WLAN_COEX		
40	OUT	NC_UART_WLAN_TO_BB_COEX	MAKE_BASE=TRUE	NC_UART_WLAN_TO_BB_COEX		

POWER

PCIE

8	IN	NC_PCIE_SOC_TO_BB_REFCLK_P	MAKE_BASE=TRUE	NC_PCIE_SOC_TO_BB_REFCLK_P		
8	IN	NC_PCIE_SOC_TO_BB_REFCLK_N	MAKE_BASE=TRUE	NC_PCIE_SOC_TO_BB_REFCLK_N		
8	OUT	NC_PCIE_BB_TO_SOC_CLKREQ_L	MAKE_BASE=TRUE	NC_PCIE_BB_TO_SOC_CLKREQ_L		
8	IN	NC_PCIE_SOC_TO_BB_RESET_L	MAKE_BASE=TRUE	NC_PCIE_SOC_TO_BB_RESET_L		
8	IN	NC_PCIE_SOC_TO_BB_TX_C_P	MAKE_BASE=TRUE	NC_PCIE_SOC_TO_BB_TX_C_P		
8	IN	NC_PCIE_SOC_TO_BB_TX_C_N	MAKE_BASE=TRUE	NC_PCIE_SOC_TO_BB_TX_C_N		
63 8	OUT	NC_PCIE_BB_TO_SOC_TX_P	MAKE_BASE=TRUE	NC_PCIE_BB_TO_SOC_TX_P		
NC_PCIE_BB_TO_SOC_TX_N	OUT		MAKE_BASE=TRUE	NC_PCIE_BB_TO_SOC_TX_N		

USB

32	BI	NC_USB_BB_P	MAKE_BASE=TRUE	NC_USB_BB_P		
32	BI	NC_USB_BB_N	MAKE_BASE=TRUE	NC_USB_BB_N		

PMU ADC

53	OUT	NC_ADC_BB_TO_PMU_PP_1V85	MAKE_BASE=TRUE	NC_ADC_BB_TO_PMU_PP_1V85		
53	OUT	NC_ADC_BB_TO_PMU_SW1_VOUT	MAKE_BASE=TRUE	NC_ADC_BB_TO_PMU_SW1_VOUT		
53	OUT	NC_ADC_BB_TO_PMU_SW3_VOUT	MAKE_BASE=TRUE	NC_ADC_BB_TO_PMU_SW3_VOUT		
25	OUT	NC_GPIO_BB_TO_STROBE_GSM_BURST_IND	MAKE_BASE=TRUE	NC_GPIO_BB_TO_STROBE_GSM_BURST_IND		

SIM CARD

BASEBAND SWD

GPS

60 42 6	IN	UART_SOC_TO_BB_GPS_TX	MAKE_BASE=TRUE	UART_SOC_TO_BB_GPS_TX	OUT	6 42 60
60 42 6	OUT	UART_BB_GPS_TO_SOC_TX	MAKE_BASE=TRUE	UART_BB_GPS_TO_SOC_TX	IN	6 42 60
60 42 6	IN	UART_SOC_TO_BB_GPS_RTS_L	MAKE_BASE=TRUE	UART_SOC_TO_BB_GPS_RTS_L	OUT	6 42 60
60 42 6	OUT	UART_BB_GPS_TO_SOC_RTS_L	MAKE_BASE=TRUE	UART_BB_GPS_TO_SOC_RTS_L	IN	6 42 60
42	IN	GPIO_APOLLO_TO_BB_GPS_EN	MAKE_BASE=TRUE	GPIO_APOLLO_TO_BB_GPS_EN	OUT	42
GPIO_SOC_TO_BB_GPS_SYNC	IN		MAKE_BASE=TRUE	GPIO_SOC_TO_BB_GPS_SYNC	OUT	42
7	IN	GPIO_SOC_TO_BB_GPS_DEVICE_WAKE	MAKE_BASE=TRUE	GPIO_SOC_TO_BB_GPS_DEVICE_WAKE	OUT	42
7	OUT	NC_GPIO_BB_GPS_TO_SOC_LOW_PWR_IND	MAKE_BASE=TRUE	NC_GPIO_BB_GPS_TO_SOC_LOW_PWR_IND		

WLAN

POWER

65	PPVCC_MAIN		PPVCC_MAIN		40 41 42 44 60
65	PP1V8_S2_EXT_SW2		PP1V8_S2_EXT_SW2		40 41 42

GPIOS

62 49	IN	GPIO_APOLLO_TO_WLAN_REG_ON	MAKE_BASE=TRUE	GPIO_APOLLO_TO_WLAN_REG_ON	OUT	40
62 53	OUT	GPIO_WLAN_TO_PMU_HOST_WAKE	MAKE_BASE=TRUE	GPIO_WLAN_TO_PMU_HOST_WAKE	IN	40
62 53	IN	CLK_PMU_TO_WLAN_32K	MAKE_BASE=TRUE	CLK_PMU_TO_WLAN_32K	OUT	40 42
62 9	IN	GPIO_AOP_TO_WLAN_CONTEXT_A	MAKE_BASE=TRUE	GPIO_AOP_TO_WLAN_CONTEXT_A	OUT	40
62 9	IN	GPIO_AOP_TO_WLAN_CONTEXT_B	MAKE_BASE=TRUE	GPIO_AOP_TO_WLAN_CONTEXT_B		40
62 5	OUT	GPIO_WLAN_TO_SOC_TIME_SYNC	MAKE_BASE=TRUE	GPIO_WLAN_TO_SOC_TIME_SYNC		40
62 58	OUT	GPIO_WLAN_TO_SCORPIUS_TX_IND	MAKE_BASE=TRUE	GPIO_WLAN_TO_SCORPIUS_TX_IND		40

UART(SHARE WITH BT)

PCIE

8	IN	PCIE_SOC_TO_WLAN_REFCLK_P	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_REFCLK_P	OUT	40
8	IN	PCIE_SOC_TO_WLAN_REFCLK_N	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_REFCLK_N	OUT	40
8	IN	PCIE_SOC_TO_WLAN_TX_P	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_TX_P	OUT	40
8	IN	PCIE_SOC_TO_WLAN_TX_N	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_TX_N	OUT	40
60	PCIE_WLAN_TO_SOC_TX_C_P		MAKE_BASE=TRUE	PCIE_WLAN_TO_SOC_TX_C_P	IN	40
60	PCIE_WLAN_TO_SOC_TX_C_N		MAKE_BASE=TRUE	PCIE_WLAN_TO_SOC_TX_C_N	IN	40
8	OUT	PCIE_WLAN_TO_SOC_CLKREQ_L	MAKE_BASE=TRUE	PCIE_WLAN_TO_SOC_CLKREQ_L	IN	40
8	IN	PCIE_SOC_TO_WLAN_RESET_L	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_RESET_L	OUT	40

63 8 PCIE_WLAN_TO_SOC_TX_P — C9160 1 | | 2 0.1UF 20% X5R-CERM 6.3V 01005 — PCIE_WLAN_TO_SOC_TX_C_P 60

63 8 PCIE_WLAN_TO_SOC_TX_N — C9161 1 | | 2 0.1UF 20% X5R-CERM 6.3V 01005 — PCIE_WLAN_TO_SOC_TX_C_N 60

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

RF_SW_CTRL_G_C0 — OUT — 40

BLUETOOTH

SOC GPIOS

62 49	IN	GPIO_APOLLO_TO_BT_REG_ON	MAKE_BASE=TRUE	GPIO_APOLLO_TO_BT_REG_ON	OUT	40
6	IN	GPIO_SOC_BT_DEVICE_WAKE	MAKE_BASE=TRUE	GPIO_SOC_BT_DEVICE_WAKE	OUT	40

UART

6	IN	UART_SOC_TO_BT_TX	MAKE_BASE=TRUE	UART_SOC_TO_BT_TX	OUT	40
6	IN	UART_SOC_TO_BT_RTS_L	MAKE_BASE=TRUE	UART_SOC_TO_BT_RTS_L	OUT	40
6	OUT	UART_BT_TO_SOC_TX	MAKE_BASE=TRUE	UART_BT_TO_SOC_TX	IN	40
6	OUT	UART_BT_TO_SOC_RTS_L	MAKE_BASE=TRUE	UART_BT_TO_SOC_RTS_L	IN	40

	IN	GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC	MAKE_BASE=TRUE	GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC	OUT	60 19 20 40
63 60 40 19	IN	GPIO_TOUCH_TO_BT_SYNC	MAKE_BASE=TRUE	GPIO_TOUCH_TO_BT_SYNC	OUT	19 40 60 63
62 58	OUT	GPIO_BT_TO_SCORPIUS_TX_IND	MAKE_BASE=TRUE	GPIO_BT_TO_SCORPIUS_TX_IND	IN	40
6	OUT	BT_AUDIO_SYNC	MAKE_BASE=TRUE	BT_AUDIO_SYNC	IN	40

ROTTERDAM(VENUS)

POWER

65	PPVCC_MAIN		PPVCC_MAIN		40 41 42 44 60
65	PP1V8_S2_EXT_SW2		PP1V8_S2_EXT_SW2		44

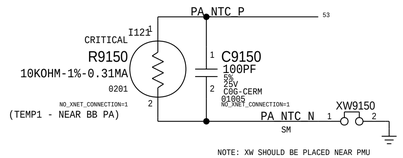
GPIOS

60 44 6	IN	GPIO_SOC_TO_ROTTERDAM_DEV_WAKE	MAKE_BASE=TRUE	GPIO_SOC_TO_ROTTERDAM_DEV_WAKE	OUT	6 44 60
60 44 6	IN	GPIO_SOC_TO_ROTTERDAM_DWLD_REQ	MAKE_BASE=TRUE	GPIO_SOC_TO_ROTTERDAM_DWLD_REQ	OUT	6 44 60
61 60 44	IN	GPIO_PMU_TO_ROTTERDAM_EN	MAKE_BASE=TRUE	GPIO_PMU_TO_ROTTERDAM_EN	OUT	44 60 61
53	OUT	GPIO_NFC_TO_PMU_HOST_WAKE	MAKE_BASE=TRUE	GPIO_NFC_TO_PMU_HOST_WAKE	IN	44

UART

60 44 6	IN	UART_SOC_TO_ROTTERDAM_TX	MAKE_BASE=TRUE	UART_SOC_TO_ROTTERDAM_TX	OUT	6 44 60
60 44 6	OUT	UART_ROTTERDAM_TO_SOC_TX	MAKE_BASE=TRUE	UART_ROTTERDAM_TO_SOC_TX	IN	6 44 60
60 44 6	IN	UART_SOC_TO_ROTTERDAM_RTS_L	MAKE_BASE=TRUE	UART_SOC_TO_ROTTERDAM_RTS_L	OUT	6 44 60
60 44 6	OUT	UART_ROTTERDAM_TO_SOC_RTS_L	MAKE_BASE=TRUE	UART_ROTTERDAM_TO_SOC_RTS_L	IN	6 44 60

BASEBAND NTC



NOTE: XW SHOULD BE PLACED NEAR PMU

SYNC_MASTER=P2_MLB_A
SYNC_DATE=03/28/2018
PAGE TITLE
ALIASES: BB/WLAN/BT

J317/J320 DIFF NET ALIASES

KONA MASTER SENSE/DRIVE

GRAPE_RX<27>	MAKE_BASE=TRUE	GRAPE_RX<27>	
GRAPE_RX<26>	MAKE_BASE=TRUE	GRAPE_RX<26>	
GRAPE_RX<25>	MAKE_BASE=TRUE	GRAPE_RX<25>	
GRAPE_RX<24>	MAKE_BASE=TRUE	GRAPE_RX<24>	
GRAPE_RX<23>	MAKE_BASE=TRUE	GRAPE_RX<23>	
GRAPE_RX<22>	MAKE_BASE=TRUE	GRAPE_RX<22>	
GRAPE_RX<21>	MAKE_BASE=TRUE	GRAPE_RX<21>	
GRAPE_RX<20>	MAKE_BASE=TRUE	GRAPE_RX<20>	
GRAPE_RX<19>	MAKE_BASE=TRUE	GRAPE_RX<19>	
GRAPE_RX<18>	MAKE_BASE=TRUE	GRAPE_RX<18>	
GRAPE_RX<17>	MAKE_BASE=TRUE	GRAPE_RX<17>	
GRAPE_RX<16>	MAKE_BASE=TRUE	GRAPE_RX<16>	
GRAPE_RX<15>	MAKE_BASE=TRUE	GRAPE_RX<15>	
GRAPE_RX<14>	MAKE_BASE=TRUE	GRAPE_RX<14>	
GRAPE_RX<13>	MAKE_BASE=TRUE	GRAPE_RX<13>	
GRAPE_RX<12>	MAKE_BASE=TRUE	GRAPE_RX<12>	
GRAPE_RX<11>	MAKE_BASE=TRUE	GRAPE_RX<11>	
GRAPE_RX<10>	MAKE_BASE=TRUE	GRAPE_RX<10>	
GRAPE_RX<9>	MAKE_BASE=TRUE	GRAPE_RX<9>	
GRAPE_RX<8>	MAKE_BASE=TRUE	GRAPE_RX<8>	
GRAPE_RX<7>	MAKE_BASE=TRUE	GRAPE_RX<7>	
GRAPE_RX<6>	MAKE_BASE=TRUE	GRAPE_RX<6>	
GRAPE_RX<5>	MAKE_BASE=TRUE	GRAPE_RX<5>	
GRAPE_RX<4>	MAKE_BASE=TRUE	GRAPE_RX<4>	
GRAPE_RX<3>	MAKE_BASE=TRUE	GRAPE_RX<3>	
GRAPE_RX<2>	MAKE_BASE=TRUE	GRAPE_RX<2>	
GRAPE_RX<1>	MAKE_BASE=TRUE	GRAPE_RX<1>	
GRAPE_RX<0>	MAKE_BASE=TRUE	GRAPE_RX<0>	
NC_KONA_M_TOUCH28	MAKE_BASE=TRUE	NC_KONA_M_TOUCH28	
NC_KONA_M_TOUCH29	MAKE_BASE=TRUE	NC_KONA_M_TOUCH29	
NC_KONA_M_TOUCH30	MAKE_BASE=TRUE	NC_KONA_M_TOUCH30	
NC_KONA_M_TOUCH31	MAKE_BASE=TRUE	NC_KONA_M_TOUCH31	
NC_KONA_M_TOUCH32	MAKE_BASE=TRUE	NC_KONA_M_TOUCH32	
NC_KONA_M_TOUCH33	MAKE_BASE=TRUE	NC_KONA_M_TOUCH33	
KONA_M_TOUCH34_VCOM	MAKE_BASE=TRUE	KONA_M_TOUCH34_VCOM	
NC_KONA_M_TOUCH35	MAKE_BASE=TRUE	NC_KONA_M_TOUCH35	
NC_KONA_M_TOUCH36	MAKE_BASE=TRUE	NC_KONA_M_TOUCH36	
NC_KONA_M_TOUCH37	MAKE_BASE=TRUE	NC_KONA_M_TOUCH37	
NC_KONA_M_TOUCH38	MAKE_BASE=TRUE	NC_KONA_M_TOUCH38	
NC_KONA_M_TOUCH39	MAKE_BASE=TRUE	NC_KONA_M_TOUCH39	
NC_KONA_M_TOUCH40	MAKE_BASE=TRUE	NC_KONA_M_TOUCH40	
NC_KONA_M_TOUCH41	MAKE_BASE=TRUE	NC_KONA_M_TOUCH41	
GRAPE_TX<20>	MAKE_BASE=TRUE	GRAPE_TX<20>	
GRAPE_TX<21>	MAKE_BASE=TRUE	GRAPE_TX<21>	
GRAPE_TX<22>	MAKE_BASE=TRUE	GRAPE_TX<22>	
GRAPE_TX<23>	MAKE_BASE=TRUE	GRAPE_TX<23>	
GRAPE_TX<24>	MAKE_BASE=TRUE	GRAPE_TX<24>	
GRAPE_TX<25>	MAKE_BASE=TRUE	GRAPE_TX<25>	
GRAPE_TX<26>	MAKE_BASE=TRUE	GRAPE_TX<26>	
GRAPE_TX<27>	MAKE_BASE=TRUE	GRAPE_TX<27>	
GRAPE_TX<28>	MAKE_BASE=TRUE	GRAPE_TX<28>	
GRAPE_TX<29>	MAKE_BASE=TRUE	GRAPE_TX<29>	
GRAPE_TX<30>	MAKE_BASE=TRUE	GRAPE_TX<30>	
GRAPE_TX<31>	MAKE_BASE=TRUE	GRAPE_TX<31>	
GRAPE_TX<32>	MAKE_BASE=TRUE	GRAPE_TX<32>	
GRAPE_TX<33>	MAKE_BASE=TRUE	GRAPE_TX<33>	
GRAPE_TX<34>	MAKE_BASE=TRUE	GRAPE_TX<34>	
GRAPE_TX<35>	MAKE_BASE=TRUE	GRAPE_TX<35>	
GRAPE_TX<36>	MAKE_BASE=TRUE	GRAPE_TX<36>	
GRAPE_TX<37>	MAKE_BASE=TRUE	GRAPE_TX<37>	
GRAPE_TX<38>	MAKE_BASE=TRUE	GRAPE_TX<38>	
GRAPE_TX<39>	MAKE_BASE=TRUE	GRAPE_TX<39>	
NC_KONA_M_TOUCH62	MAKE_BASE=TRUE	NC_KONA_M_TOUCH62	
NC_KONA_M_TOUCH63	MAKE_BASE=TRUE	NC_KONA_M_TOUCH63	
NC_KONA_M_TOUCH64	MAKE_BASE=TRUE	NC_KONA_M_TOUCH64	
NC_KONA_M_TOUCH65	MAKE_BASE=TRUE	NC_KONA_M_TOUCH65	
NC_KONA_M_TOUCH66	MAKE_BASE=TRUE	NC_KONA_M_TOUCH66	
NC_KONA_M_TOUCH67	MAKE_BASE=TRUE	NC_KONA_M_TOUCH67	
NC_KONA_M_TOUCH68	MAKE_BASE=TRUE	NC_KONA_M_TOUCH68	
NC_KONA_M_TOUCH69	MAKE_BASE=TRUE	NC_KONA_M_TOUCH69	

KONA SLAVE SENSE/DRIVE

GRAPE_RX<55>	MAKE_BASE=TRUE	GRAPE_RX<55>	
GRAPE_RX<54>	MAKE_BASE=TRUE	GRAPE_RX<54>	
GRAPE_RX<53>	MAKE_BASE=TRUE	GRAPE_RX<53>	
GRAPE_RX<52>	MAKE_BASE=TRUE	GRAPE_RX<52>	
GRAPE_RX<51>	MAKE_BASE=TRUE	GRAPE_RX<51>	
GRAPE_RX<50>	MAKE_BASE=TRUE	GRAPE_RX<50>	
GRAPE_RX<49>	MAKE_BASE=TRUE	GRAPE_RX<49>	
GRAPE_RX<48>	MAKE_BASE=TRUE	GRAPE_RX<48>	
GRAPE_RX<47>	MAKE_BASE=TRUE	GRAPE_RX<47>	
GRAPE_RX<46>	MAKE_BASE=TRUE	GRAPE_RX<46>	
GRAPE_RX<45>	MAKE_BASE=TRUE	GRAPE_RX<45>	
GRAPE_RX<44>	MAKE_BASE=TRUE	GRAPE_RX<44>	
GRAPE_RX<43>	MAKE_BASE=TRUE	GRAPE_RX<43>	
GRAPE_RX<42>	MAKE_BASE=TRUE	GRAPE_RX<42>	
GRAPE_RX<41>	MAKE_BASE=TRUE	GRAPE_RX<41>	
GRAPE_RX<40>	MAKE_BASE=TRUE	GRAPE_RX<40>	
GRAPE_RX<39>	MAKE_BASE=TRUE	GRAPE_RX<39>	
GRAPE_RX<38>	MAKE_BASE=TRUE	GRAPE_RX<38>	
GRAPE_RX<37>	MAKE_BASE=TRUE	GRAPE_RX<37>	
GRAPE_RX<36>	MAKE_BASE=TRUE	GRAPE_RX<36>	
GRAPE_RX<35>	MAKE_BASE=TRUE	GRAPE_RX<35>	
GRAPE_RX<34>	MAKE_BASE=TRUE	GRAPE_RX<34>	
GRAPE_RX<33>	MAKE_BASE=TRUE	GRAPE_RX<33>	
GRAPE_RX<32>	MAKE_BASE=TRUE	GRAPE_RX<32>	
GRAPE_RX<31>	MAKE_BASE=TRUE	GRAPE_RX<31>	
GRAPE_RX<30>	MAKE_BASE=TRUE	GRAPE_RX<30>	
GRAPE_RX<29>	MAKE_BASE=TRUE	GRAPE_RX<29>	
GRAPE_RX<28>	MAKE_BASE=TRUE	GRAPE_RX<28>	
NC_KONA_S_TOUCH28	MAKE_BASE=TRUE	NC_KONA_S_TOUCH28	
NC_KONA_S_TOUCH29	MAKE_BASE=TRUE	NC_KONA_S_TOUCH29	
NC_KONA_S_TOUCH30	MAKE_BASE=TRUE	NC_KONA_S_TOUCH30	
NC_KONA_S_TOUCH31	MAKE_BASE=TRUE	NC_KONA_S_TOUCH31	
NC_KONA_S_TOUCH32	MAKE_BASE=TRUE	NC_KONA_S_TOUCH32	
NC_KONA_S_TOUCH33	MAKE_BASE=TRUE	NC_KONA_S_TOUCH33	
NC_KONA_S_TOUCH34	MAKE_BASE=TRUE	NC_KONA_S_TOUCH34	
NC_KONA_S_TOUCH35	MAKE_BASE=TRUE	NC_KONA_S_TOUCH35	
NC_KONA_S_TOUCH36	MAKE_BASE=TRUE	NC_KONA_S_TOUCH36	
NC_KONA_S_TOUCH37	MAKE_BASE=TRUE	NC_KONA_S_TOUCH37	
NC_KONA_S_TOUCH38	MAKE_BASE=TRUE	NC_KONA_S_TOUCH38	
NC_KONA_S_TOUCH39	MAKE_BASE=TRUE	NC_KONA_S_TOUCH39	
NC_KONA_S_TOUCH40	MAKE_BASE=TRUE	NC_KONA_S_TOUCH40	
NC_KONA_S_TOUCH41	MAKE_BASE=TRUE	NC_KONA_S_TOUCH41	
GRAPE_TX<0>	MAKE_BASE=TRUE	GRAPE_TX<0>	
GRAPE_TX<1>	MAKE_BASE=TRUE	GRAPE_TX<1>	
GRAPE_TX<2>	MAKE_BASE=TRUE	GRAPE_TX<2>	
GRAPE_TX<3>	MAKE_BASE=TRUE	GRAPE_TX<3>	
GRAPE_TX<4>	MAKE_BASE=TRUE	GRAPE_TX<4>	
GRAPE_TX<5>	MAKE_BASE=TRUE	GRAPE_TX<5>	
GRAPE_TX<6>	MAKE_BASE=TRUE	GRAPE_TX<6>	
GRAPE_TX<7>	MAKE_BASE=TRUE	GRAPE_TX<7>	
GRAPE_TX<8>	MAKE_BASE=TRUE	GRAPE_TX<8>	
GRAPE_TX<9>	MAKE_BASE=TRUE	GRAPE_TX<9>	
GRAPE_TX<10>	MAKE_BASE=TRUE	GRAPE_TX<10>	
GRAPE_TX<11>	MAKE_BASE=TRUE	GRAPE_TX<11>	
GRAPE_TX<12>	MAKE_BASE=TRUE	GRAPE_TX<12>	
GRAPE_TX<13>	MAKE_BASE=TRUE	GRAPE_TX<13>	
GRAPE_TX<14>	MAKE_BASE=TRUE	GRAPE_TX<14>	
GRAPE_TX<15>	MAKE_BASE=TRUE	GRAPE_TX<15>	
GRAPE_TX<16>	MAKE_BASE=TRUE	GRAPE_TX<16>	
GRAPE_TX<17>	MAKE_BASE=TRUE	GRAPE_TX<17>	
GRAPE_TX<18>	MAKE_BASE=TRUE	GRAPE_TX<18>	
GRAPE_TX<19>	MAKE_BASE=TRUE	GRAPE_TX<19>	
NC_KONA_S_TOUCH62	MAKE_BASE=TRUE	NC_KONA_S_TOUCH62	
NC_KONA_S_TOUCH63	MAKE_BASE=TRUE	NC_KONA_S_TOUCH63	
NC_KONA_S_TOUCH64	MAKE_BASE=TRUE	NC_KONA_S_TOUCH64	
NC_KONA_S_TOUCH65	MAKE_BASE=TRUE	NC_KONA_S_TOUCH65	
NC_KONA_S_TOUCH66	MAKE_BASE=TRUE	NC_KONA_S_TOUCH66	
NC_KONA_S_TOUCH67	MAKE_BASE=TRUE	NC_KONA_S_TOUCH67	
NC_KONA_S_TOUCH68	MAKE_BASE=TRUE	NC_KONA_S_TOUCH68	
NC_KONA_S_TOUCH69	MAKE_BASE=TRUE	NC_KONA_S_TOUCH69	

LPDP_TX/BACKLIGHT

NC_LED_IO_6_B	MAKE_BASE=TRUE	NC_LED_IO_6_B	
NC_LED_IO_6_C	MAKE_BASE=TRUE	NC_LED_IO_6_C	
NC_LPDP_SOC_TO_TCON_DATA_P<4>	MAKE_BASE=TRUE	NC_LPDP_SOC_TO_TCON_DATA_P<4>	
NC_LPDP_SOC_TO_TCON_DATA_N<4>	MAKE_BASE=TRUE	NC_LPDP_SOC_TO_TCON_DATA_N<4>	
NC_LPDP_SOC_TO_TCON_DATA_P<5>	MAKE_BASE=TRUE	NC_LPDP_SOC_TO_TCON_DATA_P<5>	
NC_LPDP_SOC_TO_TCON_DATA_N<5>	MAKE_BASE=TRUE	NC_LPDP_SOC_TO_TCON_DATA_N<5>	

LPDP/USB2 CMC REPLACEMENT

LPDP_AUX_EMI_P	R4640 0.00	LPDP_AUX_EMI_CONN_P	
LPDP_AUX_EMI_N	R4642 0.00	LPDP_AUX_EMI_CONN_N	
LPDP_DATA_EMI_N<0>	R4638 0.00	LPDP_DATA_EMI_CONN_N<0>	
LPDP_DATA_EMI_P<0>	R4639 0.00	LPDP_DATA_EMI_CONN_P<0>	
LPDP_DATA_EMI_N<1>	R4644 0.00	LPDP_DATA_EMI_CONN_N<1>	
LPDP_DATA_EMI_P<1>	R4645 0.00	LPDP_DATA_EMI_CONN_P<1>	
LPDP_DATA_EMI_N<2>	R4646 0.00	LPDP_DATA_EMI_CONN_N<2>	
LPDP_DATA_EMI_P<2>	R4647 0.00	LPDP_DATA_EMI_CONN_P<2>	
LPDP_DATA_EMI_N<3>	R4648 0.00	LPDP_DATA_EMI_CONN_N<3>	
LPDP_DATA_EMI_P<3>	R4649 0.00	LPDP_DATA_EMI_CONN_P<3>	

ACE_USB_TOP_P	R38A0 0.00	ACE_USB_TOP_CONN_P	
ACE_USB_TOP_N	R38A1 0.00	ACE_USB_TOP_CONN_N	
ACE_USB_BOT_P	R38A2 0.00	ACE_USB_BOT_CONN_P	
ACE_USB_BOT_N	R38A3 0.00	ACE_USB_BOT_CONN_N	

MLB/DEV DIFF NET ALIASES(TO BE CLEANED UP)

SOC GPIO:

NC_UART_ACC_TO_SOC_TX	MAKE_BASE=TRUE	NC_UART_ACC_TO_SOC_TX	
NC_UART_SOC_TO_ACC_TX	MAKE_BASE=TRUE	NC_UART_SOC_TO_ACC_TX	
NC_SOC_I2S0_BCLK	MAKE_BASE=TRUE	NC_SOC_I2S0_BCLK	
NC_SOC_I2S0_LRCK	MAKE_BASE=TRUE	NC_SOC_I2S0_LRCK	
NC_SOC_I2S0_DOUT	MAKE_BASE=TRUE	NC_SOC_I2S0_DOUT	
NC_SOC_I2S0_DIN	MAKE_BASE=TRUE	NC_SOC_I2S0_DIN	
NC_NUB_DOCK_ATTENTION	MAKE_BASE=TRUE	NC_NUB_DOCK_ATTENTION	
NC_GPIO_XBAR_EN_PULSE_L	MAKE_BASE=TRUE	NC_GPIO_XBAR_EN_PULSE_L	
NC_GPIO_XBAR_DIS_PULSE_L	MAKE_BASE=TRUE	NC_GPIO_XBAR_DIS_PULSE_L	
NC_I2S0_SOC_TO_BELFIELD_MCLK	MAKE_BASE=TRUE	NC_I2S0_SOC_TO_BELFIELD_MCLK	
NC_GPIO_CODEC_TO_SOC_IRQ_L	MAKE_BASE=TRUE	NC_GPIO_CODEC_TO_SOC_IRQ_L	
NC_SPI_BELFIELD_MISO	MAKE_BASE=TRUE	NC_SPI_BELFIELD_MISO	
NC_SPI_BELFIELD_MOSI	MAKE_BASE=TRUE	NC_SPI_BELFIELD_MOSI	
NC_SPI_BELFIELD_CS_L	MAKE_BASE=TRUE	NC_SPI_BELFIELD_CS_L	
NC_SPI_BELFIELD_SCLK	MAKE_BASE=TRUE	NC_SPI_BELFIELD_SCLK	
NC_SPI_MESA_MISO	MAKE_BASE=TRUE	NC_SPI_MESA_MISO	
NC_SPI_MESA_MOSI	MAKE_BASE=TRUE	NC_SPI_MESA_MOSI	
NC_SPI_MESA_SCLK	MAKE_BASE=TRUE	NC_SPI_MESA_SCLK	
NC_GPIO_MESA_TO_SOC_IRQ	MAKE_BASE=TRUE	NC_GPIO_MESA_TO_SOC_IRQ	
NC_GPIO_BELFIELD_TO_SOC_IRQ_L	MAKE_BASE=TRUE	NC_GPIO_BELFIELD_TO_SOC_IRQ_L	
NC_GPIO_SOC_TO_BELFIELD_RESET_L	MAKE_BASE=TRUE	NC_GPIO_SOC_TO_BELFIELD_RESET_L	
NC_GPIO_SOC_TO_CODEC_RESET_L	MAKE_BASE=TRUE	NC_GPIO_SOC_TO_CODEC_RESET_L	
NC_DISPLAY_ID	MAKE_BASE=TRUE	NC_DISPLAY_ID	
NC_UART_WLAN_TO_SOC_RTS_L	MAKE_BASE=TRUE	NC_UART_WLAN_TO_SOC_RTS_L	
NC_UART_SOC_TO_WLAN_RTS_L	MAKE_BASE=TRUE	NC_UART_SOC_TO_WLAN_RTS_L	
NC_UART_WLAN_TO_SOC_TX	MAKE_BASE=TRUE	NC_UART_WLAN_TO_SOC_TX	
NC_UART_SOC_TO_WLAN_TX	MAKE_BASE=TRUE	NC_UART_SOC_TO_WLAN_TX	
NC_GPIO_SOC_TO_BB_MESA_ON	MAKE_BASE=TRUE	NC_GPIO_SOC_TO_BB_MESA_ON	
NC_GPIO_SOC_TO_PP2V9_RCAM_ADJ	MAKE_BASE=TRUE	NC_GPIO_SOC_TO_PP2V9_RCAM_ADJ	
NC_GPIO_SOC_TO_WLAN_DEVICE_WAKE	MAKE_BASE=TRUE	NC_GPIO_SOC_TO_WLAN_DEVICE_WAKE	
NC_GPIO_SOC_TO_SCORPIUSMCU_NRST_L	MAKE_BASE=TRUE	NC_GPIO_SOC_TO_SCORPIUSMCU_NRST_L	

AOP GPIO:

GPIO_KONA_S_TO_SCORPIUS_TIME_SYNC	MAKE_BASE=TRUE	GPIO_KONA_S_TO_SCORPIUS_TIME_SYNC	
GPIO_TITUS_TO_AOP_B2B_DETECT	MAKE_BASE=TRUE	GPIO_TITUS_TO_AOP_B2B_DETECT	
NC_I2S_AOP_TO_CODEC_DOUT_R	MAKE_BASE=TRUE	NC_I2S_AOP_TO_CODEC_DOUT_R	
NC_I2S_AOP_TO_CODEC_LRCK	MAKE_BASE=TRUE	NC_I2S_AOP_TO_CODEC_LRCK	
NC_AOP_I2S1_DIN	MAKE_BASE=TRUE	NC_AOP_I2S1_DIN	
DMIC3_MIC_SD	MAKE_BASE=TRUE	DMIC3_MIC_SD	
DMIC4_MIC_SCLK	MAKE_BASE=TRUE	DMIC4_MIC_SCLK	
GPIO_AOP_TO_SCORPIUSMCU_NRST_L	MAKE_BASE=TRUE	GPIO_AOP_TO_SCORPIUSMCU_NRST_L	
SWD_ACE_SWDIO	MAKE_BASE=TRUE	SWD_ACE_SWDIO	
SWD_GRAPE_SWDIO	MAKE_BASE=TRUE	SWD_GRAPE_SWDIO	
NC_GPIO_SMC_TO_USBPD_RST_L	MAKE_BASE=TRUE	NC_GPIO_SMC_TO_USBPD_RST_L	

ATHENA GPIO:

GPIO_BTN_VOL_DOWN_L	MAKE_BASE=TRUE	GPIO_BTN_VOL_DOWN_L	
NC_GPIO_SCORPIUS_TO_PMU_IRQ	MAKE_BASE=TRUE	NC_GPIO_SCORPIUS_TO_PMU_IRQ	
NC_GPIO_BELFIELD_TO_PMU_WAKE_L	MAKE_BASE=TRUE	NC_GPIO_BELFIELD_TO_PMU_WAKE_L	
NC_GPIO_CODEC_TO_PMU_WAKE_L	MAKE_BASE=TRUE	NC_GPIO_CODEC_TO_PMU_WAKE_L	
GPIO_PMU_TO_ROTTERDAM_EN	MAKE_BASE=TRUE	GPIO_PMU_TO_ROTTERDAM_EN	
NC_GPIO_BT_TO_PMU_HOST_WAKE	MAKE_BASE=TRUE	NC_GPIO_BT_TO_PMU_HOST_WAKE	
NC_GPIO_PMU_GPIO3	MAKE_BASE=TRUE	NC_GPIO_PMU_GPIO3	

APOLLO GPIO:

NC_PMU_TO_3V3_EXT_SW_ON	MAKE_BASE=TRUE	NC_PMU_TO_3V3_EXT_SW_ON	
NC_GPIO_APOLLO_TO_PP2V9_RCAM_EN	MAKE_BASE=TRUE	NC_GPIO_APOLLO_TO_PP2V9_RCAM_EN	
NC_GPIO_APOLLO_GPIO8	MAKE_BASE=TRUE	NC_GPIO_APOLLO_GPIO8	
NC_GPIO_APOLLO_GPIO12	MAKE_BASE=TRUE	NC_GPIO_APOLLO_GPIO12	

TODO LIST:

GPIO_AOP_TO_NFC → PP9207 (P3MM)

TBD,SHOULD BE BETWEEN SCORPIUS AND NFC ONLY

BATT_NTC

TBD,NTC MAY STILL COME FROM J8900

R9250 10KOHM-1% 0201-1 (CRITICAL, I587)

SYNC_DATE=04/07/2017

PAGE TITLE: ALIASES: J317/J320 DIFF

SMT TEST FIXTURE TP

POWER - BUCKS/SWITCHES

TP9301 PPVDD_CPU — 51 65
TP9302 PPVDD_GPU — 51 65
TP9303 PPVDD_S1_SOC — 51 63 65
TP9304 PP1V8_S3 — 51 65
PP1V8_SW1 — 51 65
PP1V8_S2_GRAPE — 49 52 65
PP1V8_SW1_CAM — 52 65
PP1V8_S2_CAM_REAR_CONN — 7 48 65
PP1V8_S3_SW3 — 48 65
TP9305 TP9306 TP9307 TP9308
PP1V8_EXT_SW1 — 56 65
TP930A PP1V8_S2_EXT_SW2 — 56 65
TP930C PP1V1_S3 — 47 65
TP930D PP1V1_SW1_SPARE — 48 65
TP930E PPVDD_S1_FIXED — 47 63 65
TP930F PP2V63_OTP — 47 65
TP930G PPVDD_CPU_SRAM — 51 65
TP930H PPVDD_GPU_SRAM — 54 65
TP930I PPVDD_S1_DCS — 54 65
TP930J PPVDD_S1_QL — 47 65
TP930K PPVDD_ECPU — 54 63 65
TP930L PP1V4_CAMERA — 47 65

POWER - LDOS

TP9311 PP3V3_S2_ACE — 52 65
TP9312 PP1V8_SPARE_LDO2 — 52 65
TP9313 PP2V05_S2_THROTTLE — 52 65
TP9314 PP3V0_ALS — 48 65
TP9315 PPVDD_SPARE_LDO5 — 52 65
TP9316 PP3V3_SPARE_LDO6 — 52 65
TP9317 PP3V3_USB — 52 65
TP9318 PP3V3_S2_SCORPIUS — 52 65
PP1V215_FRONT_CAM — 48 65
TP9319 TP931A PP0V9_NAND — 48 65
TP931B PP3V0_S2_MISC — 52 65
TP931C PP3V3_S2_GRAPE — 52 65
PP1V2_SOC — 52 65
TP931D PP0V775_S2_AOP — 48 65
TP931E PP1V8_S2_LDO_SCORPIUS — 52 65
TP931G PP2V92_REAR_CAM — 48 62 65
TP931H PP1V215_RCAM — 48 65
TP931I PP2V92_REAR_CAM — 48 62 65
TP931J PP1V8_SPARE_LDO19 — 48 65
TP931K PP1V8_HAWKING — 48 65
TP931L PP2V90_FRONT_CAM — 48 65
TP931M PP1V215_PEARL — 48 65
TP931N PP2V85_PEARL — 48 65
TP931O PP3V3_PEARL — 48 65

POWER - OTHER

TP9340 PPVCENTER — 55
TP9341 PPVBUS_PROT — 65
PPVCC_HIGH — 55 65
TP9342 PP1V8_ALWAYS — 52 65
TP9343 PPBATT_VCC — 55 62 65
TP9344 PPLED_OUT — 54 65
TP9345 PPVCC_MAIN — 55 62 65
TP9347 PPBATT_POS_RC — 55
TP9348 PPVBUS_USB_EMI — 32 33 34 46 50 62
TP9349 PP1V2_GRAPE_BUCK_EXT — 19 20
TP934A

POWER - CAMERA (LI)

PP1V215_FRONT_CAM_CONN — 24
TP9350 PP1V8_CAM_FRONT_CONN — 24
TP9351 PP2V90_FRONT_CAM_CONN — 24
TP9352

POWER - CAMERA (IN)

TP9353 PP1V215_CAM_REAR_CONN — 23
TP9354 PP1V8_CAM_REAR_CONN — 23
TP9355 PP2V92_AVDD_CAM_REAR_CONN — 23

POWER - JULIET

TP9356 PP1V215_JULIET_DVDD_CONN — 36
TP9357 PP1V8_JULIET_VDDIO_CONN — 36
TP9358 PP2V85_JULIET_AVDD_CONN — 36

POWER - DISPLAY

TP9360 PPVCC_MAIN_LCD_SW_CONN — 38 39
TP9361 PPVCC_MAIN_LCD_SW — 39

POWER - BACKLIGHT

TP9370 PPLED_BACK_REG — 38 39 62
TP9371 PPLED_BACK_REG — 38 39 62
TP9372 LED_IO_1_A — 38 54
TP9373 LED_IO_2_A — 38 54
TP9374 LED_IO_3_A — 38 54
TP9375 LED_IO_4_A — 38 54
TP9376 LED_IO_5_A — 38 54
TP9377 LED_IO_6_A — 38 54

TP937A LED_IO_1_B — 38 54
TP937B LED_IO_2_B — 38 54
TP937C LED_IO_3_B — 38 54
TP937D LED_IO_4_B — 38 54
TP937E LED_IO_5_B — 38 54

TP937H LED_IO_1_C — 38 54
TP937I LED_IO_2_C — 38 54
TP937J LED_IO_3_C — 38 54
TP937K LED_IO_4_C — 38 54
TP937L LED_IO_5_C — 38 54

BATTERY

TP9381 I2C_SMC_GASGAUGE_SCL_1V8_CONN — 58
TP9382 BATT_SNS — 55 58
TP9383 I2C_SMC_GASGAUGE_SDA_1V8_CONN — 58

TP93GZ USB_VBUS_DETECT_R — 5 33

PMU - MISC

TP93AQ GPIO_WLAN_TO_PMU_HOST_WAKE — 53 60
TP93A5 BOARD_TEMP2_P — 53
TP93A6 BOARD_TEMP3_P — 53
TP93A7 BOARD_TEMP4_P — 53
TP93A8 BOARD_TEMP5_P — 53
TP93A9 BOARD_TEMP6_P — 53
TP93B0 BOARD_TEMP7_P — 53
BOARD_TEMP8_P — 53
TP93B3 TP_APOLLO_AMUX_AY — 49
TP93B4 TP_AMUX_AY — 53
TP93B5 TP_AMUX_BY — 53
TP93B9 GPIO_PMU_TO_CPU_TRIGGER_0 — 6 53
TP93BA GPIO_PMU_TO_CPU_TRIGGER_1 — 6 53
TP93BB VCCMAIN_DROOP_PMU_TO_SOC_L — 6 53
TP93BC SOCHOT1_SOC_TO_PMU_L — 6 53
TP93BD PMU_SHUTDOWN — 53 59
TP93BE GPIO_PMU_TO_GPU_TRIGGER_0 — 6 53
TP93BF GPIO_PMU_TO_GPU_TRIGGER_1 — 6 53
TP93BH BOARD_TEMP2A_P — 49
TP93BK GPIO_PMU_TO_APOLLO_LDO10_ON — 49 53
TP93BL GPIO_PMU_TO_APOLLO_BUCK4_ON — 49 53

SOC - JTAG/RESET

TP93C1 JTAG_SOC_SEL — 4 9
TP93C2 JTAG_SOC_TCK — 9 32
TP93C3 JTAG_SOC_TMS — 9 32
TP93C4 TP_JTAG_SOC_TDI — 9
TP93C5 TP_JTAG_SOC_TRST_L — 4 9
TP93C6 TP_JTAG_SOC_TDO — 9
TP93C7 SOC_TESTMODE — 4 5
TP93C8 RESET_PMU_TO_SYSTEM_L — 5 9 53
TP93C9 GPIO_FORCE_DFU — 5 59
TP93CA SOC_TO_ACE_DFU_STATUS — 5 32
TP93CB TST_CLKOUT — 5 57
TP93CC GPIO_PMU_TO_SYSTEM_ACTIVE_READY — 5 32 53

SOC - UART

TP93D0 UART_SOC_TO_DEBUG_TX — 6 32
TP93D1 UART_DEBUG_TO_SOC_TX — 6 32

SOC - USB

TP93DA USB_SOC_P — 5 32
TP93DB USB_SOC_N — 5 32

USBC - CONN

TP93D5 PPVBUS_USB_CONN — 31 34 62
TP93D6 ACE_CC1 — 31 32 34
TP93D7 ACE_CC2 — 31 32 34
TP93D8 ACE_USB_TOP_CONN_N — 31 32 34 61
TP93D9 ACE_USB_TOP_CONN_P — 31 32 34 61
TP93E0 ACE_USB_BOT_CONN_N — 31 32 34 61
TP93E1 ACE_USB_BOT_CONN_P — 31 32 34 61
TP93EB PPVBUS_USB_EMI — 32 33 34 46 50 62

ACE

PP5V2_ACE_BOOST_OUT — 32 33
TP93R1 PP3V3_ACE_LDO — 32 33
TP93R2 PP_LDO_CORE — 32
TP93R3 ACE_SPI_CLK_R — 32
TP93R4 ACE_SPI_CS_R_L — 32
TP93R5 ACE_SPI_MOSI_R — 32
TP93R6 ACE_SPI_MISO_R — 32
TP93R7 ACE_SBU1_CONN — 31 32 34
TP93R8 ACE_SBU2_CONN — 31 32 34
TP93R9 GPIO_ACE_TO_SOC_IRQ_L — 6 32
TP93RU RESET_ACE_TO_PMU — 32 53
TP93RV ACE_TO_BOOST_EN — 32 33
TP93RW ACE_TO_BELLATRIX_ACC_PWR_EN_L — 32 50
TP93RX BELLATRIX_TO_ACE_ACC_PWR_PRESENT_L — 32 50
TP93RY ACE_RESET — 32 46
TP93RZ OVP_SW_EN_L — 32 50
TP93R0 TP93RN

ORION

TP93E2 PPVBUS_ORION_RVP — 50
TP93E3 PPVBUS_ORION_CONN — 58 62
TP93E4 ORION_COMM_CONN — 58
TP93E5 GPIO_ORION_TO_AOP_IRQ — 9 50
TP93E6 PP5V2_BELLATRIX2_BOOST_VOUT — 50 57
TP93E7 GPIO_SOC_TO_BELLATRIX2_BOOST_EN — 8 57
TP93E8 PP1V8_INT_ORION — 50

SCORPIUS

TP93EA PP20V_SCORPIUS_BOOST_VOUT — 57 58
TP93EB GPIO_SCORPIUS_BOOST_EN — 57 58
TP93EC GPIO_SCORPIUS_BOOST_VSET_DAC — 57 58
TP93ED GPIO_AOP_TO_SCORPIUSMCU_NRST_L — 58 61
TP93EF GPIO_KONA_S_TO_SCORPIUS_TIME_SYNC — 20 58 61
TP93EG GPIO_BB_TO_SCORPIUS_TX_IND — 58 60
TP93EH SWD_SCORPIUS_SWCLK — 5 58
TP93EJ SWD_SCORPIUS_SWDIO — 6 58
TP93EK GPIO_BT_TO_SCORPIUS_TX_IND — 58 60
TP93EL GPIO_SCORPIUS_TO_AOP_IRQ — 9 58
TP93EM SOC_TO_SCORPIUSMCU_BOOT0 — 6 58
TP93EN GPIO_WLAN_TO_SCORPIUS_TX_IND — 58 60
TP93KC

AUDIO - SEE SPKR AMP PAGES FOR MORE

PPVBOOST_L_W_CN — 27
TP93E3 PPVBOOST_R_W_CN — 28
TP93E5 PPVBOOST_L_W_FH — 29
TP93E7 PPVBOOST_R_W_FH — 30
TP93E9 GPIO_SPKRAMP_TO_SOC_IRQ_L — 6 27 28 29 30
TP93FA TDM_SPKRAMP_TO_SPKRAMP_ICC — 27 28 29 30
TP93FB TP93N1

POWER - SENSORS

TP93G0 PP1V8_S2_GRAPHITE_FILT — 18
TP93G2 PP1V8_PHOS_FILT — 18
TP93G4 PP1V8_MOLYBDENUM_FLEX_FILT — 18

BUTTONS

TP93G5 GPIO_BTN_ONOFF_L_CONN — 23
TP93G6 GPIO_BTN_VOL_UP_L_CONN — 23
TP93G7 GPIO_BTN_VOL_DOWN_L_CONN — 23
TP93NC

SOC I2C

TP93G8 I2C0_SCL_1V8 — 4 6
TP93G9 I2C0_SDA_1V8 — 4 6
TP93GA I2C1_SCL_1V8 — 4 6
TP93GB I2C1_SDA_1V8 — 4 6
TP93GC I2C2_SCL_1V8 — 4 6
TP93GD I2C2_SDA_1V8 — 4 6
TP93GE I2C5_SCL_1V8 — 4 6
TP93GF I2C5_SDA_1V8 — 4 6

AOP I2C

TP93GG I2C_AOP_I2CM0_SCL_1V8 — 4 9
TP93GH I2C_AOP_I2CM0_SDA_1V8 — 4 9
TP93GM TP93GN TP93GO
TP93GL I2C_AOP_I2CM1_SCL_1V8 — 4 9
TP93GJ I2C_AOP_I2CM1_SDA_1V8 — 4 9

BASEBAND

TP93A3 PMU_TCAL — 53
TP93H1
TP93H2
TP93H3
TP93H4

BASEBAND - SIM CARD

TP93H6
TP93H7
TP93H8
TP93H9

BB USB

TP93HA PLACE_NEAR=U1900.E19:1MM
TP93HB PLACE_NEAR=U1900.F21:1MM

WIFI/BT

TP93I0 GPIO_APOLLO_TO_BT_REG_ON — 49 60
TP93I1 GPIO_APOLLO_TO_WLAN_REG_ON — 49 60
TP93I7 CLK_PMU_TO_WLAN_32K — 53 60
TP93IB GPIO_WLAN_TO_SOC_TIME_SYNC — 5 60
GPIO_AOP_TO_WLAN_CONTEXT_A — 9 60
TP93IF GPIO_AOP_TO_WLAN_CONTEXT_B — 9 60
TP93IE

CAMERA - LI

TP93I3 ISP_CAM_FRONT_CLK_CONN — 24
TP93I4 ISP_CAM_FRONT_SCL_CONN — 24
TP93I5 ISP_CAM_FRONT_SDA_CONN — 24
TP93I6 ISP_CAM_FRONT_SHUTDOWN_L_CONN — 24

CAMERA - IN

TP93I7 ISP_CAM_IN_CLK_CONN — 23
TP93I8 ISP_CAM_IN_SCL_CONN — 23
TP93I9 ISP_CAM_IN_SDA_CONN — 23
ISP_CAM_IN_SHUTDOWN_L_CONN — 23

HALL EFFECT

TP93IJ5 GPIO_APANEL_HALL_TO_PMU_IRQ_L — 38 53
TP93IJ6 GPIO_CPANEL_HALL_TO_PMU_IRQ_L — 23 53

ALS

TP93IJ7 GPIO_ALS_FH1_TO_AOP_IRQ_L — 9 37
TP93IJ9 GPIO_ALS_FH2_TO_AOP_IRQ_L — 9 37

DISPLAY

TP93J8 LPDP_TCON_TO_SOC_HPD — 7 39
TP93K0 GPIO_PMU_TO_LCD_PWREN — 38 39 53

AOP

TP93K1 CLK_PMU_TO_AOP_32K — 9 53

AUDIO - DIGITAL MICS

TP93K2 DMIC1_MIC_SCLK_CONN — 26
TP93K3 DMIC1_MIC_SD_CONN — 26
TP93K4 DMIC2_MIC_SCLK_C3_CONN — 23
TP93K5 DMIC2_MIC_SD_C3_CONN — 23
TP93KE DMIC3_MIC_SCLK_ROS_CONN — 37
TP93KF DMIC2_MIC_SD_ROS_CONN — 37
TP93KG PP1V8_S2_DMIC_CONN — 26 37
TP93KH DMIC4_MIC_SCLK_CMPS_CONN — 18
TP93KI DMIC3_MIC_SD_CMPS_CONN — 18
TP93KJ PP1V8_S2_CMPS_CONN — 18

TITUS/ROSALINE

TP93RA PP_TITUS_DENSE_ANODE — 35 36 62
TP93RB PP_TITUS_DENSE_ANODE — 35 36 62
TP93RD PP_TITUS_SPARSE_ANODE — 35 36 62
TP93RE PP_TITUS_SPARSE_ANODE — 35 36 62
TP93RG PP_TITUS_A_ANODE — 35 36 62
TP93RH PP_TITUS_A_ANODE — 35 36 62
TP93RI PP_TITUS_B_ANODE — 35 36 62
TP93RJ PP_TITUS_B_ANODE — 35 36 62
TP93RK PP_TITUS_CATHODE — 35 36 62
TP93RL PP_TITUS_CATHODE — 35 36 62
PP_ROSALINE_ANODE — 35 37 62
TP93RO GPIO_RIGEL_TO_SOC_IRQ — 7 35
TP93RR RIGEL_TESTMODE_EN — 35
TP93RS JULIET_PMU_TO_RIGEL_STROBE — 35 36
TP93RT TITUS_TO_RIGEL_VCSEL_NTC — 35 36

CAMERA-STROBE/HAWKING

TP93K6 PPSTROBE1_COOL_LED_CONN — 23 25 62
TP93K7 PPSTROBE1_WARM_LED_CONN — 23 25 62
TP93K8 PPSTROBE2_COOL_LED_CONN — 23 25 62
TP93K9 PPSTROBE2_WARM_LED_CONN — 23 25 62
TP93KA PPSTROBE1_COOL_LED_CONN — 23 25 62
TP93KB PPSTROBE1_WARM_LED_CONN — 23 25 62
PPSTROBE2_COOL_LED_CONN — 23 25 62
PPSTROBE2_WARM_LED_CONN — 23 25 62
TP93KD LED_DRIVER_NTC_CONN — 23 25 62
TP93M1 GPIO_REAR_CAM_TO_STROBE_EN — 23 25
TP93M2 PPSTROBE1_BST — 25
TP93M3 PPSTROBE2_BST — 25
TP93M4 IRIS_AVOUT — 25
TP93M5 ISP_I2C0_SCL_1V8 — 22 23
TP93M6 ISP_I2C0_SDA_1V8 — 4 7
TP93M7 GPIO_SOC_TO_LED_DRIVER_EN — 4 7
TP93M8 — 6 25

TOUCH

PP15V0_TOUCH_FILT — 19 20
TP93N2 PP2V8_KONA_M_VDDANA — 19
TP93N3 PP2V8_KONA_S_VDDANA — 20
TP93N4 KONA_BOOST_VBAT — 19
TP93N5 KONA_BOOST_EN — 19

SOC - BELLATRIX2 UART

TP93N8 UART_SOC_TO_BELLATRIX2_TX — 6 50
TP93N9 UART_BELLATRIX2_TO_SOC_TX — 6 50

SOC - GND

TP93NA TP_VSS_SENSE — 14
TP93NB TP_VSS_PCPU_SENSE — 14
TP93NF TP_VSS_DDR_SENSE — 14

SOC - POWER

TP93ND ADC_SOC_TO_PMU_VDD_CPU — 12 51 53
TP93NE ADC_SOC_TO_PMU_VDD_GPU — 12 51 53
ADC_SOC_TO_PMU_VDD_SOC — 10 53

SOC - USB KIS

TP93GS USB_KIS_P — 5 32
TP93GT USB_KIS_N — 5 32

SMC I2C

TP93GK I2C_SMC_I2CM0_SCL_1V8 — 4 9
TP93GL I2C_SMC_I2CM0_SDA_1V8 — 4 9
I2C_SMC_I2CM1_SCL_1V8 — 4 9
I2C_SMC_I2CM1_SDA_1V8 — 4 9
I2C_SMC_I2CM2_SCL_1V8 — 4 9
TP93GP I2C_SMC_I2CM2_SDA_1V8 — 4 9
TP93GO I2C_SMC_I2CM3_SCL_1V8 — 4 9
TP93GR I2C_SMC_I2CM3_SDA_1V8 — 4 9

FIDUCIALS

FID9300 FID 0P5SM1P0SQ-NSP
FID9301 FID 0P5SM1P0SQ-NSP
FID9302 FID 0P5SM1P0SQ-NSP
FID9303 FID 0P5SM1P0SQ-NSP
FID9304 FID 0P5SM1P0SQ-NSP
FID9305 FID 0P5SM1P0SQ-NSP

CAN MOUNTING HOLES

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

SL9300 TH-NSP SL-1.1X0.4-1.4X0.7
SL9301 TH-NSP SL-1.1X0.4-1.4X0.7
SL9302 TH-NSP SL-1.1X0.4-1.4X0.7
SL9304 TH-NSP SL-1.1X0.4-1.4X0.7
SL9305 TH-NSP SL-1.1X0.4-1.4X0.7
SL9310 TH-NSP SL-1.1X0.4-1.4X0.7
SL9311 TH-NSP SL-1.1X0.4-1.4X0.7

STANDOFFS

SMT:860-01014/860-00199 TH:860-00860

STD9312 STDOFF-3.3X1.8R0.95H-SM
STD9323 STDOFF-3.3X1.8R0.95H-SM
STD9314 STDOFF-3.3X1.8R0.95H-SM
STD9315 STDOFF-3.3X1.8R0.95H-SM
STD9318 STDOFF-3.3X1.8R0.95H-SM
STD9319 STDOFF-3.3X1.8R0.95H-SM
STD9320 STDOFF-3.3X1.8R0.95H-SM

STD9313 STDOFF-3.8X2.5R-0.95H-1P65-TH
STD9322 STDOFF-3.8X2.5R-0.95H-1P65-TH
STD9316 STDOFF-3.8X2.5R-0.95H-1P65-TH
STD9317 STDOFF-3.8X2.5R-0.95H-1P65-TH
STD9324 STDOFF-3.8X2.5R-0.95H-1P65-TH
STD9325 STDOFF-3.8X2.5R-0.95H-1P65-TH

VCC_MAIN

TP939G TP939H TP939I TP939J — TP-1P0-TOP — PPVCC_MAIN — 55 62 65

VBUS ORION

TP939C TP939D — PPVBUS_ORION_CONN — 58 62
TP939E TP939F

VBUS USB

TP9390 TP9391 TP9392 TP9393 TP9394 TP9395 — PLACE_NEAR=C40A8.1:20MM / PLACE_NEAR=C40A8.2:30MM — TP-1P0-TOP — PPVBUS_USB_CONN

VBAT

TP9399 TP939A TP939B — PLACE_NEAR=J8900.3:15MM — PPBATT_VCC — 55 62 65
TP9396 TP9397 TP9398 — PLACE_NEAR=J8900.4:15MM — TP-1P0-TOP

SYNC_MASTER=MLB_P0 SYNC_DATE=07/17/2017
PAGE TITLE
TEST: TPS/HOLES/FIDUCUALS

EE CHARACTERIZATION PROBE POINT

SOC

PP9504 P3MM SM (PP) 1 ADC SOC TO PMU ANALOGMUX OUT — 5 53
PP9505 P4MM SM (PP) 1 ADC SOC TO PMU VDD CPU R — 12
PP9506 P4MM SM (PP) 1 ADC SOC TO PMU VDD GPU R — 12
PP9507 P4MM SM (PP) 1 ADC SOC TO PMU VDD SOC R — 10

FOR SEG, TO DELETE IN EVT AND MOVE TP HERE

PP9503 P4MM SM (PP) 1 PPVDD S1 SOC — 51 62 65
PP950E P4MM SM (PP) 1 PPVDD S1 FIXED — 47 62 65
PP950K P4MM SM (PP) 1 PPVDD ECPU — 54 62 65

ACE/REDRIVER

PP9510 P4MM SM (PP) 1 ACE_UART_RX — 32
PP9511 P4MM SM (PP) 1 ACE_UART_TX — 32

FH SPEAKER I2S

PP9520 P4MM SM (PP) 1 I2S2_SOC_TO_SPKRAMP_FH_MCLK — PLACE_NEAR=U3402.F1:50MM — 6 29 30
PP9521 P4MM SM (PP) 1 I2S2_SOC_TO_SPKRAMP_FH_BCLK — PLACE_NEAR=U3402.E1:50MM — 6 29 30
PP9522 P4MM SM (PP) 1 I2S2_SOC_TO_SPKRAMP_FH_LRCK — PLACE_NEAR=U3402.F2:50MM — 6 29 30
PP9523 P4MM SM (PP) 1 I2S2_SOC_TO_SPKRAMP_FH_DOUT — PLACE_NEAR=U3402.D2:50MM — 6 29 30
PP9524 P4MM SM (PP) 1 I2S2_SPKRAMP_FH_TO_SOC_DOUT — PLACE_NEAR=U0600.U3:50MM — 6 29 30

CN SPEAKER I2S

PP9525 P4MM SM (PP) 1 I2S1_SOC_TO_SPKRAMP_CN_MCLK — PLACE_NEAR=U3250.F1:100MM — 6 27 28
PP9526 P4MM SM (PP) 1 I2S1_SOC_TO_SPKRAMP_CN_BCLK — PLACE_NEAR=U3250.E1:50MM — 6 27 28
PP9527 P4MM SM (PP) 1 I2S1_SOC_TO_SPKRAMP_CN_LRCK — PLACE_NEAR=U3250.F2:100MM — 6 27 28
PP9528 P4MM SM (PP) 1 I2S1_SOC_TO_SPKRAMP_CN_DOUT — PLACE_NEAR=U3250.D2:100MM
PP9529 P4MM SM (PP) 1 I2S1_SPKRAMP_CN_TO_SOC_DOUT — PLACE_NEAR=U0600.BC32:100MM

HAWKING

PP952A P4MM SM (PP) 1 I2S3_SOC_TO_HAWKING_BCLK — PLACE_NEAR=R2614.2:50MM — 6 22
PP952B P4MM SM (PP) 1 I2S3_SOC_TO_HAWKING_LRCK — PLACE_NEAR=R2615.2:50MM — 6 22
PP952C P4MM SM (PP) 1 I2S3_HAWKING_TO_SOC_DOUT — PLACE_NEAR=U0600.BD39:50MM — 6 22

EUPHRATES

PP9539 P4MM SM (PP) 1 SYS_ALIVE — 16 17 53

ORION

PP953B P4MM SM (PP) 1 GPIO_AOP_TO_ORION_HWEN — 9 46
PP953C P4MM SM (PP) 1 ORION_CONN_STATUS — 50

SENSOR SPI LINES

PP9544 P3MM SM (PP) 1 SPI_SENSORS_SCLK — PLACE_NEAR=U2150.2:10MM — 9 18 63
PP9545 P3MM SM (PP) 1 SPI_SENSORS_MISO — PLACE_NEAR=U0600.AC3:10MM — 9 18
PP9546 P3MM SM (PP) 1 SPI_SENSORS_MOSI — PLACE_NEAR=U2150.3:10MM — 9 18 63
PP9547 P3MM SM (PP) 1 SPI_SENSORS_SCLK — PLACE_NEAR=U2120.4:10MM — 9 18 63
PP9549 P3MM SM (PP) 1 SPI_SENSORS_MOSI — PLACE_NEAR=U2120.3:10MM — 63 — 9 18

PMU/EUPHRATES

PP95G1 P4MM SM (PP) 1 GPIO_PMU_TO_SOC_IRQ_L — 9 53
PP95G7 P4MM SM (PP) 1 USB_VBUS_DETECT — 5 55
PP95G2 P4MM SM (PP) 1 NUB_SPMI_ATHENA_SCLK — 9 53
PP95G3 P4MM SM (PP) 1 NUB_SPMI_ATHENA_SDATA — 9 53
PP95G4 P4MM SM (PP) 1 ISP_SPMI_APOLLO_SCLK — 7 49
PP95G5 P4MM SM (PP) 1 ISP_SPMI_APOLLO_SDATA — 7 49

PP95G0 P4MM SM (PP) 1 GPIO_ROSALINE_TO_AOP_IRQ_L — 9 37

GRAPE

PP9580 P3MM SM (PP) 1 SPI_SOC_TO_GRAPE_SCLK — 6 19
PP9581 P3MM SM (PP) 1 SPI_SOC_TO_GRAPE_MISO — 6 19
PP9582 P3MM SM (PP) 1 SPI_SOC_TO_GRAPE_MOSI — 6 19
PP9583 P3MM SM (PP) 1 SPI_SOC_TO_GRAPE_CS_L — 6 19
PP9584 P3MM SM (PP) 1 GPIO_SOC_TO_GRAPE_RESET_L — 6 19 20
PP9585 P3MM SM (PP) 1 GPIO_GRAPE_TO_AOP_IRQ_L — 9 19
PP9586 P3MM SM (PP) 1 KONA_S_TO_KONA_M_RESET_DET_L — 19 20
PP9587 P3MM SM (PP) 1 PSE_SYNC — 19 20
PP9588 P3MM SM (PP) 1 KMSI_MISO — 19 20
PP9589 P3MM SM (PP) 1 KMSI_MOSI — 19 20
PP958A P3MM SM (PP) 1 KMSI_STRB_IN — 19 20
PP958B P3MM SM (PP) 1 KMSI_STRB_OUT — 19 20
PP958C P3MM SM (PP) 1 KONA_BOOST_ATEST — 19
PP958D P3MM SM (PP) 1 TESTPOINT_KONA_S_UART_TX — 20
PP958E P3MM SM (PP) 1 TESTPOINT_KONA_S_UART_RX — 20

PP958G P3MM SM (PP) 1 TESTPOINT_KONA_IPC_EVENT_1 — 20
PP958H P3MM SM (PP) 1 TESTPOINT_KONA_IPC_EVENT_2 — 20
PP958I P3MM SM (PP) 1 TESTPOINT_KONA_IPC_EVENT_3 — 20
PP958J P3MM SM (PP) 1 TESTPOINT_KONA_IPC_EVENT_4 — 20
PP958K P3MM SM (PP) 1 TESTPOINT_KONA_IPC_EVENT_5 — 20
PP958L P3MM SM (PP) 1 GPIO_KONA_TO_AOP_TIME_SYNC — 9 19
PP958M P3MM SM (PP) 1 CLK_KONA_M_24MHZ — 19
PP958N P3MM SM (PP) 1 GPIO_SOC_TO_GRAPE_BSYNC0 — 19 20 38
PP958P P3MM SM (PP) 1 GPIO_SOC_TO_GRAPE_BSYNC1 — 19 20 38
PP958X P3MM SM (PP) 1 UART_AOP_TO_GRAPE_TX — 9 19
PP958Y P3MM SM (PP) 1 UART_GRAPE_TO_AOP_TX — 9 19

GRAPE POWER

PP958R P3MM SM (PP) 1 PP3V3_GRAPE_FILT — 19 20
PP958S P3MM SM (PP) 1 PP1V8_GRAPE_XTAL_FILT — 19 20
PP958V P3MM SM (PP) 1 PP1V8_GRAPE_AON_RC — 19 20

WIFI(SEE MORE ON PAGE 49)

PP95BL P4MM SM (PP) 1 GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC — 6 19 20 40 60
PP95BM P4MM SM (PP) 1 GPIO_TOUCH_TO_BT_SYNC — 19 40 60

WLAN PCIE TPS(SEE MORE ON PAGE 49)

PP95E0 P2MM SM (PP) 1 PLACE_NEAR=U0600.BF11:100MM — PCIE_WLAN_TO_SOC_TX_P — 8 60
PP95E1 P2MM SM (PP) 1 PLACE_NEAR=U0600.BE11:100MM — PCIE_WLAN_TO_SOC_TX_N — 8 60

NAND

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

IR CAMERA - JULIET

PP9550 P2MM SM (PP) 1 MIPI_PEARL_TO_SOC_CLK_P — NO_XNET_CONNECTION=1 — 7 36
PP9551 P2MM SM (PP) 1 MIPI_PEARL_TO_SOC_CLK_N — NO_XNET_CONNECTION=1 — 7 36
PP9552 P2MM SM (PP) 1 MIPI_PEARL_SOC_DATA_P<0> — NO_XNET_CONNECTION=1 — 7 36
PP9553 P2MM SM (PP) 1 MIPI_PEARL_SOC_DATA_N<0> — NO_XNET_CONNECTION=1 — 7 36
PP9554 P2MM SM (PP) 1 MIPI_PEARL_SOC_DATA_P<1> — NO_XNET_CONNECTION=1 — 7 36
PP9555 P2MM SM (PP) 1 MIPI_PEARL_SOC_DATA_N<1> — NO_XNET_CONNECTION=1 — 7 36

CAMERA - FRONT

PP9560 P2MM SM (PP) 1 LPDP_SOC_TO_FCAM2_AUX — PLACE_NEAR=U0600.AU8:100MM — NO_XNET_CONNECTION=1 — 7 24
PP9562 P2MM SM (PP) 1 LPDP_FCAM2_TO_SOC_DATA_P<0> — PLACE_NEAR=U0600.AU4:100MM — NO_XNET_CONNECTION=1 — 7 24
PP9563 P2MM SM (PP) 1 LPDP_FCAM2_TO_SOC_DATA_N<0> — PLACE_NEAR=U0600.AU5:100MM — NO_XNET_CONNECTION=1 — 7 24
PP9564 P2MM SM (PP) 1 LPDP_FCAM2_TO_SOC_DATA_P<1> — PLACE_NEAR=U0600.AU1:100MM — NO_XNET_CONNECTION=1 — 7 24
PP9565 P2MM SM (PP) 1 LPDP_FCAM2_TO_SOC_DATA_N<1> — PLACE_NEAR=U0600.AU2:100MM — NO_XNET_CONNECTION=1 — 7 24

LPDPRX TPS

PP95F0 P2MM SM (PP) 1 LPDP_RCAM1_TO_SOC_DATA_P<0> — PLACE_NEAR=U0600.AT4:100MM — 7 23
PP95F1 P2MM SM (PP) 1 LPDP_RCAM1_TO_SOC_DATA_N<0> — PLACE_NEAR=U0600.AT5:100MM — 7 23
PP95F2 P2MM SM (PP) 1 LPDP_RCAM1_TO_SOC_DATA_P<1> — PLACE_NEAR=U0600.AT1:100MM — 7 23
PP95F3 P2MM SM (PP) 1 LPDP_RCAM1_TO_SOC_DATA_N<1> — PLACE_NEAR=U0600.AT2:100MM — 7 23
PP95F4 P2MM SM (PP) 1 LPDP_SOC_TO_RCAM1_AUX — PLACE_NEAR=U0600.AT8:100MM — 7 23

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TEST: EE TP/PP

EE DC RESISTANCE TABLE

DC RESISTANCE FAI REQUIRED MEASUREMENTS			
FROM PIN (REFDES.PN)	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	U3800.A12	?	?
L8130.2	FL2748.1	?	?
L8130.2	U7700.B6	?	?
L8130.2	U8100.H17	?	?
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	?	?
Q8580.1	U7700.D12	?	?
Q8580.1	U8100.W1	?	?
Q8580.1	U4600.3	?	?
U4600.5	L4601.1	?	?
L4601.2	J4520.1	?	?
Q8580.1	U3200.A2	?	?
Q8580.1	L3260.1	?	?
L3260.2	U3250.A2	?	?
Q8580.1	U3300.A2	?	?
Q8580.1	L3360.1	?	?
L3360.2	U3350.A2	?	?
Q8580.1	U3401.A2	?	?
Q8580.1	L3401.1	?	?
L3401.2	U3402.A2	?	?
Q8580.1	U3501.A2	?	?
Q8580.1	L3501.1	?	?
L3501.2	U3502.A2	?	?
Q8580.1	L3900.1	?	?
L3900.2	U3920.5	?	?
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	R4050.1	?	?
R4050.2	U3800.G8	?	?
R4050.2	R8000.2	?	?
R8000.1	U8000.C1	?	?
U3800.F5	U8500.L13	?	?
U3920.7	U3800.K9	?	?
U3800.L14	J3700.43	?	?
U3800.L16	J3700.45	?	?
U3800.D5	R4050.2	?	?
U8710.7	U8000.E3	?	?
U8000.F6	Q8051.3	?	?
Q8051.2	FL8950.1	?	?
FL8950.2	J8902.10	?	?
U8100.J18	U8992.B1	?	?
U7700.C13	R4311.1	?	?
R4311.2	J4300.6	?	?
U8100.L18	U0600.AW32	?	?
U8100.L18	U3900.10	?	?

DC RESISTANCE FAI REQUIRED MEASUREMENTS			
FROM PIN (REFDES.PN)	TO PIN (RFFDES.PN)	VALUE (MILLIOHM) (OPTIONAL)	TOLERANCE (+/-) (OPTIONAL)
U8100.M18	FL8991.1	?	?
U7700.J13	FL2803.1	?	?
FL2803.2	J2800.1	?	?
U7700.L13	U1900.R8	?	?
U7700.L13	U1800.G6	?	?
U8100.P18	L2204.1	?	?
L2204.2	U2200.C12	?	?
L2204.2	U2301.R1	?	?
U8100.W15	U0600.AC10	?	?
U7700.N10	U0600.AV15	?	?
U8100.U14	FL8992.1	?	?
U7700.H13	FL2761.1	?	?
FL2761.2	J2700.48	?	?
U7700.K13	FL2791.1	?	?
FL2791.2	J2700.14	?	?
U7700.D13	U2610.D1	?	?
U7700.D13	U2600.C2	?	?
U7700.D13	J2700.1	?	?
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.A3	J3200.5	?	?
U3200.B3	J3200.4	?	?
U3250.A5	J3200.1	?	?
U3250.D5	J3200.3	?	?
U3300.A3	J3300.4	?	?
U3300.B3	J3300.5	?	?
U3350.A5	J3300.3	?	?
U3350.D5	J3300.1	?	?
U3401.A3	J3400.3	?	?
U3401.B3	J3400.1	?	?
U3402.A5	J3400.4	?	?
U3402.D5	J3400.5	?	?
U3501.A3	J3502.2	?	?
U3501.B3	J3502.1	?	?
U3502.A5	J3501.2	?	?
U3502.D5	J3501.1	?	?

SYNC_MASTER=DCR SYNC_DATE=02/07/2018

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TEST: DCR TABLE

POWER CONNECTIONS

ATHENA_BUCK0 (ACTIVE)

PPVDD_CPU → PPVDD_CPU (MAKE_BASE=TRUE)

ATHENA_BUCK1 (SW_CONTROL)

PPVDD_GPU → PPVDD_GPU (MAKE_BASE=TRUE)

ATHENA_BUCK2 (SLEEP1)

PPVDD_S1_SOC → PPVDD_S1_SOC (MAKE_BASE=TRUE)

ATHENA_BUCK3 (SLEEP3)

PP1V8_S3 → PP1V8_S3 (MAKE_BASE=TRUE)

BUCK3_SWITCHES

ATHENA_BUCK3_SW1 (ACTIVE)

PP1V8_SW1 → PP1V8_SW1 (MAKE_BASE=TRUE)

ATHENA_BUCK3_SW2 (SLEEP2)

PP1V8_S2_GRAPE → PP1V8_S2_GRAPE (MAKE_BASE=TRUE)

APOLLO_BUCK3_SW1 (ACTIVE)

PP1V8_SW1_CAM → PP1V8_SW1_CAM (MAKE_BASE=TRUE)

APOLLO_BUCK3_SW3 (SLEEP2)

PP1V8_S3_SW3 → PP1V8_S3_SW3 (MAKE_BASE=TRUE)

BUCK3_EXT_SW1 (ACTIVE)

PP1V8_EXT_SW1 → PP1V8_EXT_SW1 (MAKE_BASE=TRUE)

BUCK3_S2_EXT_SW2 (SLEEP2)

PP1V8_S2_EXT_SW2 → PP1V8_S2_EXT_SW2 (MAKE_BASE=TRUE)

APOLLO_BUCK4 (SLEEP3)

PP1V1_S3 → PP1V1_S3 (MAKE_BASE=TRUE)

APOLLO_BUCK4_SW1 (SPARE)

PP1V1_SW1_SPARE (MAKE_BASE=TRUE)

APOLLO_BUCK5 (SLEEP1)

PPVDD_S1_FIXED → PPVDD_S1_FIXED (MAKE_BASE=TRUE)

APOLLO_BUCK6 (ACTIVE)

PP2V63_OTP → PP2V63_OTP (MAKE_BASE=TRUE)

ATHENA_BUCK7 (ACTIVE)

PPVDD_CPU_SRAM → PPVDD_CPU_SRAM (MAKE_BASE=TRUE)

ATHENA_BUCK8 (SW_CONTROL)

PPVDD_GPU_SRAM → PPVDD_GPU_SRAM (MAKE_BASE=TRUE)

ATHENA_BUCK9 (SLEEP1)

PPVDD_S1_DCS → PPVDD_S1_DCS (MAKE_BASE=TRUE)

APOLLO_BUCK10 (SLEEP1)

PPVDD_S1_QL → PPVDD_S1_QL (MAKE_BASE=TRUE)

ATHENA_BUCK11 (ACTIVE)

PPVDD_ECPU → PPVDD_ECPU (MAKE_BASE=TRUE)

APOLLO_BUCK12 (SW_CONTROL)

PP1V4_CAMERA → PP1V4_CAMERA (MAKE_BASE=TRUE)

ATHENA_LDO1 (SLEEP 2)

PP3V3_S2_ACE → PP3V3_S2_ACE (MAKE_BASE=TRUE)

ATHENA_LDO2 (SPARE)

PP1V8_SPARE_LDO2 → PP1V8_SPARE_LDO2 (MAKE_BASE=TRUE)

ATHENA_LDO3 (SLEEP2)

PP2V95_S2_THROTTLE → PP2V95_S2_THROTTLE (MAKE_BASE=TRUE)

APOLLO_LDO4 (SW_CONTROL)

PP3V0_ALS → PP3V0_ALS (MAKE_BASE=TRUE)

ATHENA_LDO5 (SPARE)

PPVDD_SPARE_LDO5 (MAKE_BASE=TRUE)

ATHENA_LDO6 (SPARE)

PP3V3_SPARE_LDO6 → PP3V3_SPARE_LDO6 (MAKE_BASE=TRUE)

ATHENA_LDO7 (ACTIVE)

PP3V3_USB → PP3V3_USB (MAKE_BASE=TRUE)

ATHENA_LDO8 (SLEEP2)

PP3V3_S2_SCORPIUS → PP3V3_S2_SCORPIUS (MAKE_BASE=TRUE)

APOLLO_LDO9 (SW_CONTROL)

PP1V215_FRONT_CAM → PP1V215_FRONT_CAM (MAKE_BASE=TRUE)

APOLLO_LDO10 (ACTIVE)

PP0V9_NAND → PP0V9_NAND (MAKE_BASE=TRUE)

ATHENA_LDO11 (SLEEP2)

PP3V0_S2_MISC → PP3V0_S2_MISC (MAKE_BASE=TRUE)

ATHENA_LDO13 (SLEEP2)

PP3V3_S2_GRAPE → PP3V3_S2_GRAPE (MAKE_BASE=TRUE)

ATHENA_LDO14 (ACTIVE)

PP1V2_SOC → PP1V2_SOC (MAKE_BASE=TRUE)

APOLLO_LDO15 (SLEEP2)

PP0V775_S2_AOP → PP0V775_S2_AOP (MAKE_BASE=TRUE)

ATHENA_LDO16 (SLEEP2)

PP1V8_S2_LDO_SCORPIUS → PP1V8_S2_LDO_SCORPIUS (MAKE_BASE=TRUE)

APOLLO_LDO17 (SW_CONTROL)

PP2V92_REAR_CAM → PP2V92_REAR_CAM (MAKE_BASE=TRUE, 200 MA(MAX))

APOLLO_LDO18 (SW_CONTROL)

PP1V215_RCAM → PP1V215_RCAM (MAKE_BASE=TRUE, 460 MA(MAX))

APOLLO_LDO19 (SPARE)

PP1V8_SPARE_LDO19 → PP1V8_SPARE_LDO19 (MAKE_BASE=TRUE)

APOLLO_LDO20 (SW_CONTROL)

PP1V8_HAWKING → PP1V8_HAWKING (MAKE_BASE=TRUE)

APOLLO_LDO21 (SW_CONTROL)

PP2V90_FRONT_CAM → PP2V90_FRONT_CAM (MAKE_BASE=TRUE, 43 MA(MAX))

APOLLO_LDO22 (SW_CONTROL)

PP1V215_PEARL → PP1V215_PEARL (MAKE_BASE=TRUE, 110 MA(MAX))

APOLLO_LDO23 (SW_CONTROL)

PP2V85_PEARL → PP2V85_PEARL (MAKE_BASE=TRUE, 18 MA(MAX))

APOLLO_LDO24 (SW_CONTROL)

PP3V1_PEARL → PP3V1_PEARL (MAKE_BASE=TRUE, 25 MA(MAX))

CHARGER MAIN

PPVCC_MAIN → PPVCC_MAIN (MAKE_BASE=TRUE)

CHARGER HIGH

PPVCC_HIGH → PPVCC_HIGH (MAKE_BASE=TRUE)

BATTERY

PPBATT_VCC → PPBATT_VCC (MAKE_BASE=TRUE)

USB POWER INPUT

PPVBUS_PROT → PPVBUS_PROT (MAKE_BASE=TRUE)

ATHENA_ON_BUF

PP1V8_ALWAYS → PP1V8_ALWAYS (MAKE_BASE=TRUE)

BACKLIGHT BOOST

PPLED_OUT → PPLED_OUT (MAKE_BASE=TRUE)

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ALIASES: POWER