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.

J517 MLB-B: EVT CHINA

REV	ECN	DESCRIPTION OF REVISION	CK APPD / DATE
5			2020-10-15

LAST_MODIFICATION=Thu Oct 15 00:01:06 2020

SCH AND BOARD P/N

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
051-05915	1	SCHEM,MLB-B,NY,J518	SCH1	CRITICAL	
820-02172	1	PCBF,MLB-B,NY,J518	PCB1	CRITICAL	

PACKAGING OPTIONS

PACK_OPTIONS TO INCLUDE IN NETLIST
J518

TABLE OF CONTENTS

SYNC_MASTER=J522_MLB_B_1.16.0 SYNC_DATE=11/18/2019

DRAWING TITLE

SCHEM,MLB-B,NY,J518

BOM_COST_GROUP=NO_COST_ITEMS

J517/J522 | System Block Diagram

Apple Confidential Updated: February 27, 2020

Tonga [H13G]
8GB/16GB MCM 2502BGA

SEP SI2C0
AOP_SPI0
DISP_SPMI (J52X Only)
AOP_UART
AP_SPI2
AP_SPI4
DISP_SPI (J52X Only)
LPDP-TX
AP_I2C4
NUB_SPMI0
SMC_I2C0
SMC_I2C2
NUB_SPMI1
AP_SPI0
ST0_PCIe
ST1_PCIe
CIO
JTAG_SWD
eUSB
AOP Debug USB2
AP_I2C0
SMC_I2C1
AP_UART
AP_I2C2
AOP_PDM
AOP_PDM
AOP_I2C1
AP_I2C1
AP_I2C3
AP_I2S0
AP_I2S3

LPDPRX
ISP_SPMI
ISP_SPMI
LPDPRX
LPDPRX
AOP_PDM
LPDPRX
MIPIC
AOP_I2C0
GP_PCIe
AOP_SPMI
GP_PCIe
SWD
AOP_UART
I2S
AOP_SPI
AOP_SPMI
AOP_PDM
AOP_PDM
AOP_PDM

SEP EEPROM
Ocelot

2DBL Boost
Lume
(J522 Only)

Gyro & Accel
Kobol

Magnetometer
Molybdenum 25

Altimeter
Phosphorus 2

1.8V
LS
NVT0202JK
1.2V
1.2V

Display + Touch Panel
Grape
RX / TX
2388x1668 [J517]
2732x2048 [J52x]

2DBL Silicon
(J522 Only)
Atrani
Avellino
Sorento x2
Solerno x9

(J517) 56 Rx/40 Tx
(J52x) 64 Rx/48 Tx

Touch IC
Lanai/Kona

Kona@TBDMHz
Lanai@24MHz

LDO
Dombra
Boost
Dombra

x4 Lanes @ 4.2Gbps (J51x)
X4 Lanes @ 5.6Gbps (J52x)

1.8V

x16 Strings (J517)

BL

Main PMU
Sera

Charger
Potomac

Battery
1S2P/1S4P
29.5WHr (J517)
40.7WHr (J520)
40.7WHr (J522)

Gas Gauge
TI SN27546

2.5V
LS
LSF0101

Aux PMU
Simetra

Mass Storage 1
S5E + NAND

24MHz
Gen4 x1 Lane

Mass Storage 2
S5E + NAND

Gen4 x1 Lane

CIO x4 @ 20Gbps
CIO Retimer
Burnside Bridge
CIO x4 @ 20Gbps

I2C

USB Type-C

Type-C HS x2
Type-C SBU x2
Type-C CC x2
VBUS

ACC Power,
USBPD,
USB2.0 MUX
Ace2

eUSB to USB
Parrot

5V Boost @ 3A

5V Boost @ 2A

∑-ΔADC to PDM
FAN38522

Smart Contacts
Bellatrix2

LDCM
Signal Conditioning

Scorpius
Dotara

15V Boost @ 0.55A

Borris (Master)
Speaker Amp Boost

BOOST SYNC
ARDEE SYNC

Borris (Slave)
Speaker Amp Boost

FH-L Speaker Amps x2
Ardee
FH-R Speaker Amps x2
Ardee
CN-L Speaker Amps x2
Ardee
CN-R Speaker Amps x2
Ardee

TDM @ 12.3MHz
TDM @ 12.3MHz

x2 Lanes @ 6.6Gbps
x1 Lane @ 2.7Gbps
x2 Lanes @ 6.6Gbps
x2 Lanes @ 5.4Gbps
x2 Lanes @ 720Mbps
Gen3 x1 Lane
Gen4 x1 Lane
PDM @ 2.4MHz
PDM @ 2.4MHz
PDM @ 2.4MHz

Rear Cam Wide
Indiana
Camera Flash
Libra
Rear Depth
Jasper
Jasper Driver
Will
Rear Cam SuperWide
Ohio
∑-ΔADC to PDM
FAN38522
Flicker Sensor
Penrose
Super Wide Front Camera
Pennsylvania
IR Camera
Juliet (Savage)
VCSEL Driver
Rigel
VCSEL2 Valencia
E-Fuse Yogi
Prox Doppler
Rosaline Module
VCSEL Safety
Mama Bear
VCSEL Aragon
Sensor Homer
Titus Module
ALS Corner 3
Redbird
ALS Corner 4
Redbird
WiFi/BT
Peroni
BT
Baseband, GPS
MAV20
BB/GPS
UWB
Expedition
Secure Element
Ceres
Pay
DMic1 (Left Spline)
Sentry
DMic2 (Right Spline)
Sentry
DMic3 (CG)
Sentry
DMic4 (Rear)
Sentry
DMic5 (Landscape)
Crystal

RCam PMU
Adams
I2C1
I2C2
I2C3
I2C4

FCam PMU
Adams
I2C2 I2C3 I2C4

Cell 4, FH-L
LB/MB/HB/UHB/2.4GHz/UWB(ToF)
Cell 3, FH-R
MLB/MB/HB/UHB/GPS/5GHz
Cell 1, CH-L
MLB/MB/HB/UHB/5GHz
Cell 2, CH-R
LB/MB/HB/UHB/2.4GHz/UWB(ToF)
mmWave, FH Edge
26GHz, 28GHz, 39GHz
mmWave, RS Rear
26GHz, 28GHz, 39GHz
mmWave, RS Front
26GHz, 28GHz, 39GHz
mmWave, CH Edge
26GHz, 28GHz, 39GHz
PDoA Array
6.5GHz/8GHz

HES
A Panel
HES
C Panel
Sheik
DMIC Gating Logic

SYNC_MASTER=J522_MLB_B_4.3.0 SYNC_DATE=12/21/2019
PAGE TITLE
BLOCK DIAGRAM

BOM_COST_GROUP=NO_COST_ITEMS

BOM TABLES: SOC, PMU, NAND

SOC

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
998-23740	1	SOC,TGA,B1+8G,1Y,8C,LP,DEV,AX,M,S,M2502	U0600	CRITICAL	NAND:ULTIMATE
998-23740	1	SOC,TGA,B1+8G,1Y,8C,LP,DEV,AX,M,S,M2502	U0600	CRITICAL	NAND:SUPREME_TB
998-23740	1	SOC,TGA,B1+8G,1Y,8C,LP,DEV,AX,M,S,M2502	U0600	CRITICAL	NAND:SUPREME_HY
998-23740	1	SOC,TGA,B1+8G,1Y,8C,LP,DEV,AX,M,S,M2502	U0600	CRITICAL	NAND:EXTREME_TB
998-23740	1	SOC,TGA,B1+8G,1Y,8C,LP,DEV,AX,M,S,M2502	U0600	CRITICAL	NAND:EXTREME_HY

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
998-23748	1	SOC,TGA,B0+16G,1Y,8C,LP,DEV,BX,M,S,M2502	U0600	CRITICAL	X_VERSION

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
998-23741	998-23740		U0600	4G MICRON ATK LP
998-23742	998-23740		U0600	4G HYNIX SCK LP
998-23743	998-23740		U0600	4G HYNIX ATK LP
998-23744	998-23740		U0600	4G MICRON SCK HP
998-23745	998-23740		U0600	4G MICRON ATK HP
998-23746	998-23740		U0600	4G HYNIX SCK HP
998-23747	998-23740		U0600	4G HYNIX ATK HP

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
998-23749	998-23748		U0600	8G MICRON ATK LP
998-23750	998-23748		U0600	8G HYNIX SCK LP
998-23751	998-23748		U0600	8G HYNIX ATK LP
998-23752	998-23748		U0600	8G MICRON SCK HP
998-23753	998-23748		U0600	8G MICRON ATK HP
998-23754	998-23748		U0600	8G HYNIX SCK HP
998-23755	998-23748		U0600	8G HYNIX ATK HP

PMU-SERA

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
998-22364	1	IC,PMU,SERA,A0,OTP-BPC,CSP440	U8100	CRITICAL	J517&J518
998-22363	1	IC,PMU,SERA,B0,OTP-APG,CSP440	U8100	CRITICAL	J522&J523

PMU-SIMETRA

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
998-22366	1	IC,PMU,SIMETRA,A0,OTP-BPC,CSP196	U7700	CRITICAL	J517&J518
998-22365	1	IC,PMU,SIMETRA,A1,OTP-APE,CSP196	U7700	CRITICAL	J522&J523

CHARGER-POTOMAC

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
343S00388	1	IC,CHRGR,POTOMAC,D2559A0,OTP-HC,CSP182	U8500	CRITICAL	J517&J518
343S00389	1	IC,CHRGR,POTOMAC,D2559A0,OTP-IC,CSP182	U8500	CRITICAL	J522&J523

ADAMS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
338S00589	1	IC,PMU,ADAMS REAR,D2657B0,OTP-GD	U6100	CRITICAL	J517&J518
338S00588	1	IC,PMU,ADAMS FRONT,D2657B0,OTP-GC	U6900	CRITICAL	J517&J518
338S00591	1	IC,PMU,ADAMS REAR,D2657B0,OTP-HD	U6100	CRITICAL	J522&J523
338S00590	1	IC,PMU,ADAMS FRONT,D2657B0,OTP-HC	U6900	CRITICAL	J522&J523

NAND

ULTIMATE NAND CONFIGURATIONS (U1900 NOSTUFF) 128GB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00462	1	TOSHIBA,BICS4P5,4DP	U1800	CRITICAL	NAND:ULTIMATE

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00437	335S00462	NAND:ULTIMATE	U1800	HYNIX,3DV5,2DP

SUPREME-TB NAND CONFIGURATIONS 256GB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00480	1	TOSHIBA,BICS4P5,5DP	U1800	CRITICAL	NAND:SUPREME_TB
335S00462	1	TOSHIBA,BICS4P5,4DP	U1900	CRITICAL	NAND:SUPREME_TB

SUPREME-HY NAND CONFIGURATIONS 256GB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00437	2	HYNIX,3DV5,2DP	U1800,U1900	CRITICAL	NAND:SUPREME_HY

EXTREME-TB NAND CONFIGURATIONS 512GB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00481	1	TOSHIBA,BICS4P5,9DP	U1800	CRITICAL	NAND:EXTREME_TB
335S00464	1	TOSHIBA,BICS4P5,8DP	U1900	CRITICAL	NAND:EXTREME_TB

EXTREME-HY NAND CONFIGURATIONS 512GB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00482	1	HYNIX,3DV5,5DP	U1800	CRITICAL	NAND:EXTREME_HY
335S00438	1	HYNIX,3DV5,4DP	U1900	CRITICAL	NAND:EXTREME_HY

PRIME-TB NAND CONFIGURATIONS 1TB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00466	2	TOSHIBA,BICS4P5,16DP	U1800,U1900	CRITICAL	NAND:PRIME_TB

PRIME-HY NAND CONFIGURATIONS 1TB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00483	1	HYNIX,3DV5,9DP	U1800	CRITICAL	NAND:PRIME_HY
335S00439	1	HYNIX,3DV5,8DP	U1900	CRITICAL	NAND:PRIME_HY

DOUBLE PRIME CONFIGURATIONS 2TB

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
335S00468	2	TOSHIBA,BICS4P5,16DP	U1800,U1900	CRITICAL	NAND:DBL_PRIME

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00458	335S00468	NAND:DBL_PRIME	U1800,U1900	HYNIX,3DV5,16DP

SYNC_MASTER=J522_MLB_B_9.0 SYNC_DATE=09/17/2020

PAGE TITLE

BOM TABLES: SOC/PMU/NAND

BOM_COST_GROUP=NO_COST_ITEMS

BOM TABLES: MECHANICAL, BARCODES, DISCRETES, ETC.

CKPLUS WAIVE TABLE

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

BARCODE LABEL/EEEE CODES

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
825-7691	1	EEEE FOR 639-11468 (J518 US MLB-B ULTIMATE)	EEEE_PYQL	CRITICAL	EEEE:J518_US_EEEE_MLB_B_ULTIMATE
825-7691	1	EEEE FOR 639-10695 (J518 US MLB-B SUPREME-TB)	EEEE_PMHV	CRITICAL	EEEE:J518_US_EEEE_MLB_B_SUPREME-TB
825-7691	1	EEEE FOR 639-11469 (J518 US MLB-B SUPREME-HY)	EEEE_PYQM	CRITICAL	EEEE:J518_US_EEEE_MLB_B_SUPREME-HY
825-7691	1	EEEE FOR 639-11470 (J518 US MLB-B EXTREME-TB)	EEEE_PYQN	CRITICAL	EEEE:J518_US_EEEE_MLB_B_EXTREME-TB
825-7691	1	EEEE FOR 639-11471 (J518 US MLB-B EXTREME-HY)	EEEE_PYQP	CRITICAL	EEEE:J518_US_EEEE_MLB_B_EXTREME-HY
825-7691	1	EEEE FOR 639-11472 (J518 US MLB-B PRIME-TB)	EEEE_PYQQ	CRITICAL	EEEE:J518_US_EEEE_MLB_B_PRIME-TB
825-7691	1	EEEE FOR 639-11473 (J518 US MLB-B PRIME-HY)	EEEE_PYQR	CRITICAL	EEEE:J518_US_EEEE_MLB_B_PRIME-HY
825-7691	1	EEEE FOR 639-11474 (J518 US MLB-B DOUBLE-PRIME-HY)	EEEE_PYQT	CRITICAL	EEEE:J518_US_EEEE_MLB_B_DOUBLE-PRIME-HY

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
825-7691	1	EEEE FOR 639-13068 (J519 US MLB-B ULTIMATE)	EEEE_QD4W	CRITICAL	EEEE:J519_US_EEEE_MLB_B_ULTIMATE
825-7691	1	EEEE FOR 639-13067 (J519 US MLB-B SUPREME-TB)	EEEE_QD4T	CRITICAL	EEEE:J519_US_EEEE_MLB_B_SUPREME-TB
825-7691	1	EEEE FOR 639-13069 (J519 US MLB-B SUPREME-HY)	EEEE_QD4Y	CRITICAL	EEEE:J519_US_EEEE_MLB_B_SUPREME-HY
825-7691	1	EEEE FOR 639-13070 (J519 US MLB-B EXTREME-TB)	EEEE_QD50	CRITICAL	EEEE:J519_US_EEEE_MLB_B_EXTREME-TB
825-7691	1	EEEE FOR 639-13071 (J519 US MLB-B EXTREME-HY)	EEEE_QD51	CRITICAL	EEEE:J519_US_EEEE_MLB_B_EXTREME-HY
825-7691	1	EEEE FOR 639-13072 (J519 US MLB-B PRIME-TB)	EEEE_QD52	CRITICAL	EEEE:J519_US_EEEE_MLB_B_PRIME-TB
825-7691	1	EEEE FOR 639-13073 (J519 US MLB-B PRIME-HY)	EEEE_QD53	CRITICAL	EEEE:J519_US_EEEE_MLB_B_PRIME-HY
825-7691	1	EEEE FOR 639-13074 (J519 US MLB-B DOUBLE-PRIME-HY)	EEEE_QD54	CRITICAL	EEEE:J519_US_EEEE_MLB_B_DOUBLE-PRIME-HY

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
825-7691	1	EEEE FOR 639-13076 (J519 CH MLB-B ULTIMATE)	EEEE_QD56	CRITICAL	EEEE:J519_CH_EEEE_MLB_B_ULTIMATE
825-7691	1	EEEE FOR 639-13075 (J519 CH MLB-B SUPREME-TB)	EEEE_QD55	CRITICAL	EEEE:J519_CH_EEEE_MLB_B_SUPREME-TB
825-7691	1	EEEE FOR 639-13077 (J519 CH MLB-B SUPREME-HY)	EEEE_QD57	CRITICAL	EEEE:J519_CH_EEEE_MLB_B_SUPREME-HY
825-7691	1	EEEE FOR 639-13078 (J519 CH MLB-B EXTREME-TB)	EEEE_QD58	CRITICAL	EEEE:J519_CH_EEEE_MLB_B_EXTREME-TB
825-7691	1	EEEE FOR 639-13079 (J519 CH MLB-B EXTREME-HY)	EEEE_QD59	CRITICAL	EEEE:J519_CH_EEEE_MLB_B_EXTREME-HY
825-7691	1	EEEE FOR 639-13080 (J519 CH MLB-B PRIME-TB)	EEEE_QD5C	CRITICAL	EEEE:J519_CH_EEEE_MLB_B_PRIME-TB
825-7691	1	EEEE FOR 639-13081 (J519 CH MLB-B PRIME-HY)	EEEE_QD5D	CRITICAL	EEEE:J519_CH_EEEE_MLB_B_PRIME-HY
825-7691	1	EEEE FOR 639-13082 (J519 CH MLB-B DOUBLE-PRIME-HY)	EEEE_QD5F	CRITICAL	EEEE:J519_CH_EEEE_MLB_B_DOUBLE-PRIME-HY

MECHANICAL PARTS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
806-28075	1	AP FENCE	AP_FENCE	CRITICAL	
806-25977	1	CHIN CAN	CHIN_CAN	CRITICAL	
806-25965	1	RF CAN	RF_CAN	CRITICAL	
806-25967	1	PENINSULA CAN	PENINSULA_CAN	CRITICAL	
806-25006	1	RC CAN	RC_CAN	CRITICAL	

CAPS

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
138S00143	138S00144	C7740,ETC	22UF 4V KYOCERA	
138S00163	138S00144	C7740,ETC	22UF 4V TAIYO YUDEN	
132S00211	132S00092	C3204,ETC	270PF 16V KYOCERA	
132S00212	132S00092	C3204,ETC	270PF 16V TAIYO YUDEN	
132S00233	132S00014	C1144,ETC	0.22UF 6.3V	
132S00304	132S00014	C1144,ETC	0.22UF 6.3V	
138S00148	138S00149	C1220,ETC	15UF 4V KYOCERA	
138S00150	138S00149	C1220,ETC	15UF 4V SAMSUNG	
138S00151	138S00149	C1220,ETC	15UF 4V TAIYO YUDEN	
138S0614	138S0732	C2218,ETC	1UF 10V 0402	
132S00088	132S0639	C2221,ETC	0.47UF 25V TAIYO YUNDEN	
138S0706	138S0739	C1215,ETC	1UF 10V 0201 MURATA	
138S0945	138S0739	C1215,ETC	1UF 10V 0201 KYOCERA	
131S00299	131S00118	C3334,ETC	180PF 50V TAIYO YUDEN	
128S00094	128S00067	C77DF,ETC	150UF 6.3V TOKIN	
128S00069	128S00067	C77DF,ETC	150UF 6.3V ROHM	
138S00215	138S1068	C2350,ETC	4.7UF 16V TAIYO YUDEN	
131S00172	131S00164	C1232,ETC	220PF 16V KYOCERA	
131S00173	131S00164	C1232,ETC	220PF 16V TAIYO YUDEN	
131S00142	131S00019	C3236,ETC	150PF 50V 0201	
131S0730	131S0831	C40A7	15PF 50V 0201	
138S00139	138S00138	C12D1,C12F0	4UF 4V MURATA	
138S00164	138S00138	C12D1,C12F0	4UF 4V TAIYO YUDEN	
138S00084	138S00060	C8563,ETC	47UF 6.3V TAIYO YUNDEN	
131S00313	131S0824	C4632	330PF 25V TAIYO YUNDEN	
132S00175	132S00202	C4000,ETC	0.22UF KYOCERA ONLY	
132S00154	132S0683	C6352,ETC	0.1UF 01005 TAIYO	
138S0641	138S0700	C2206,ETC	2.2UF 10V 0402 TAIYO	
132S0316	132S00107	C3828,C3829	.1UF 6.3V 01005 TAIYO	
131S00164	131S00172	C2711,C2713	220PF 16V 01005 MURATA	
131S00173	131S00172	C2711,C2713	220PF 16V 01005 TAIYO	
138S00048	138S00003	C6000,ETC.	15UF 6.3V 0402 KYOCERA	
138S0888	138S00003	C6000,ETC.	15UF 6.3V 0402 TAIYO	
138S0711	138S00020	C8513	10UF 6.3V 0402 TAIYO	
128S00093	128S00009	C3034,ETC.	33UF 16V TOKIN	
128S00103	128S00009	C3034,ETC.	33UF16V SAMSUNG	
132S00200	132S00199	C77E2,ETC.	0.1UF 10V 01005 TAIYO	
132S00204	132S00199	C77E2,ETC.	0.1UF 10V 01005 KYO.	
132S00064	132S0409	C3207,ETC.	0.1UF 16V 0201 MUR.	
132S00262	132S0664	C2228,ETC.	0.047UF 25V 0201 KYO.	
132S00263	132S0664	C2228,ETC.	0.047UF 25V 0201 YAG.	
138S00117	138S00071	C7993,ETC	4UF 6.3V KYOCERA	
138S00116	138S00071	C7993,ETC	4UF 6.3V TAIYO	
138S00128	138S00133	C3801,ETC	.47UF 6.3V 01005 KYO.	
138S00269	138S00133	C3801,ETC	.47UF 6.3V 01005 TY	
138S00164	138S00139	C1200,ETC	4UF 4V 0201 TY	
138S00140	138S00141	C2858,ETC	3.9UF 6.3V 0201 KYO.	
138S00211	138S00242	C4633,ETC	6.8UF 6.3V 0402 MUR.	
138S00049	138S0831	C1141,ETC	2.2UF 6.3V 0201 KYO.	
138S00056	138S1100	C1310,ETC	10UF 4V 3-TERM TY.	
138S00101	138S00095	C3800,ETC	25UF 6.3V 0402 TY.	
138S00229	138S00107	C7820,ETC	20UF 10V 0402 KYO.	
138S00221	138S00146	C4197,ETC	18UF 6.3V 0402 KYO.	

INDUCTORS

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
152S00963	152S00885	L77A0,L8490	0.47UH TAIYO YUDEN	
152S00964	152S00888	L7741,ETC	0.15UH TAIYO YUDEN	
152S01003	152S00888	L7741,ETC	0.15UH SUNLORD	
152S01090	152S01085	L3900	0.68UH 2016 CHIS.	

FERRITE BEADS

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
155S00593	155S0755	FL2771,ETC	0.9 DCR TAIYO YUDEN	
155S0664	155S00018	FL2748,ETC	0.18 DCR MURATA	
155S00097	155S00018	FL2748,ETC	0.17 DCR TDK	
155S0660	155S0513	FL2761,ETC	0.04 DCR MURATA	
155S00194	155S00400	FL2602,ETC	0.69 DCR 01005 TDK	
155S00616	155S0686	FL2102,ETC	0.7 DCR 01005 TDK	
155S00414	155S0876	FL1800,ETC	0.05 DCR 01005 TDK	

MOSFETS

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
376S00319	376S00104	Q2201	DIODES	
376S00182	376S00126	Q8580	DIODES	
376S00071	376S00126	Q8580	DIODES	
376S00314	376S00125	Q8051	DIODES	
376S00182	376S00070	Q8581	DIODES	
376S00190	376S00119	Q8000	DIODES	
376S1245	376S1102	Q6260,ETC	DIODES	

DIODES

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
371S00133	371S00046	D8710	DIODES	
371S0685	371S00318	DZ8051	NXP	
377S0155	377S0184	DZ4014,ETC	ONSEMI	
371S00190	371S00085	D3800	DIODES	

NTCS

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
107S00298	107S0208	R8422 ETC.	TDK 10K NTC	

LEVEL TRANSLATOR

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
311S00212	311S00230	U2370,U4030	TI SINGLE UNI. LT	

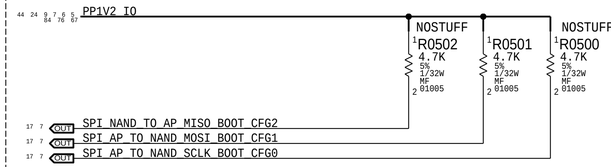
BOM_COST_GROUP=NO_COST_ITEMS

SYNC_MASTER=J517_MLB_A_REV_2.0 SYNC_DATE=08/05/2020

PAGE TITLE

BOM TABLES: MECH/DISC/ETC

BOOT CONFIG ID

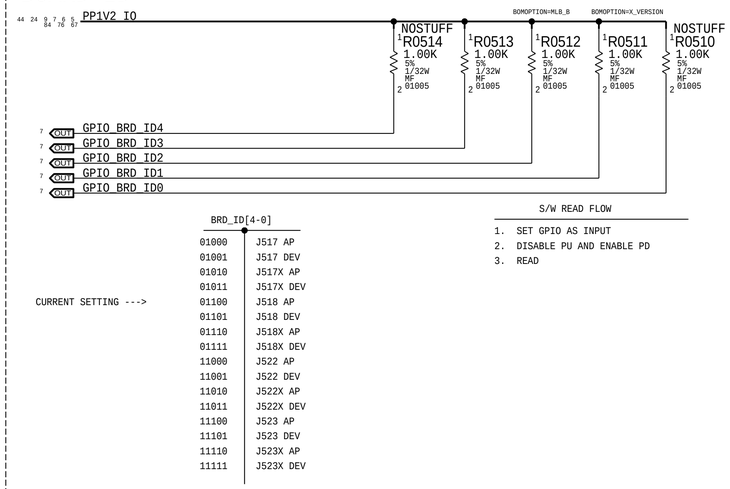


BOOT_CFG[3:0]	MODE
000	SPI0 NOR
001	SPI0 NOR TEST
(PRODUCTION CONFIG) ---> 010	SPI0 NAND
011	SPI0 NAND TEST
100	SPI1 NOR (40MHZ)
101	SPI1 NOR (40MHZ) TEST
110	SPI1 NOR (6MHZ)
111	SPI1 NOR (6MHZ) TEST

S/W READ FLOW

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

BOARD ID

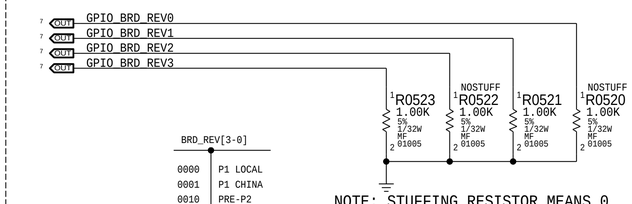


BRD_ID[4-0]	
01000	J517 AP
01001	J517 DEV
01010	J517X AP
01011	J517X DEV
CURRENT SETTING ---> 01100	J518 AP
01101	J518 DEV
01110	J518X AP
01111	J518X DEV
11000	J522 AP
11001	J522 DEV
11010	J522X AP
11011	J522X DEV
11100	J523 AP
11101	J523 DEV
11110	J523X AP
11111	J523X DEV

S/W READ FLOW

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

BOARD REVISION



BRD_REV[3-0]	
0000	P1 LOCAL
0001	P1 CHINA
0010	PRE-P2
0011	P2 CHINA
0100	POST-P2
CURRENT SETTING ---> 0101	EVT
0110	UNUSED
0111	UNUSED
1000	UNUSED
1001	UNUSED
1010	UNUSED

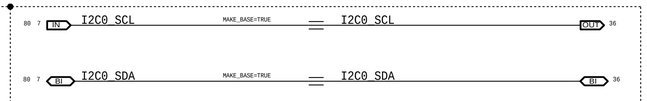
NOTE: STUFFING RESISTOR MEANS 0

S/W READ FLOW

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

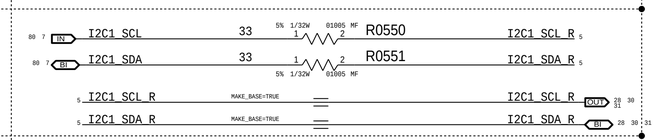
I2C0

DEVICE	8-BIT	7-BIT
ACE(ONE-ACE)	0X70	0X38
ACE(ALL)	0XD6	0X6B



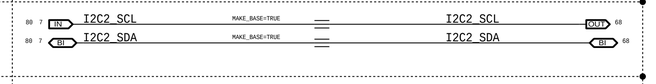
I2C1

DEVICE	8-BIT	7-BIT
SKR AMP CNRT	0X78	0X3C
SKR AMP CNRW	0X7A	0X3D
SKR AMP CNLT	0X7C	0X3E
SKR AMP CNLW	0X7E	0X3F
SKR BOOST MST	0X60	0X30
SKR BOOST SLV	0X62	0X31



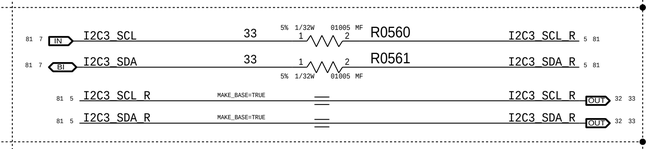
I2C2

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



I2C3

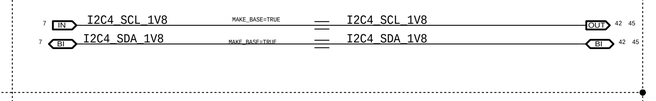
DEVICE	8-BIT	7-BIT
SKR AMP FHRT	0X70	0X38
SKR AMP FHRW	0X72	0X39
SKR AMP FHLT	0X74	0X3A
SKR AMP FHLW	0X76	0X3B



I2C4

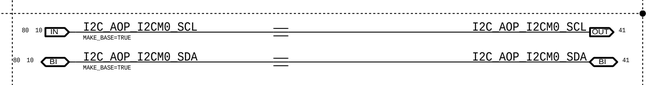
DEVICE	8-BIT	7-BIT
TCON	0X30-0X4E	0X18-0X27
MCU (U10001,NS)	0XAC	0X56
TEMP(U2400,NS)	0XE2	0X71
TEMP(U2401,S)	0XE0	0X70
TEMP(U2402,NS)	0XE4	0X72

NS-NOSTUFF
S-STUFF



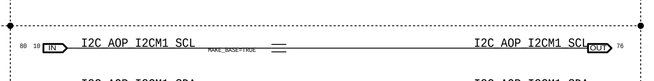
AOP I2C0

DEVICE	8-BIT	7-BIT
ALS - C4	0X52	0X29
ALS - C3	0X72	0X39
YOGI(ROSALINE)	0X66	0X33
DOPPLER (ROSA)	0XB0	0X58



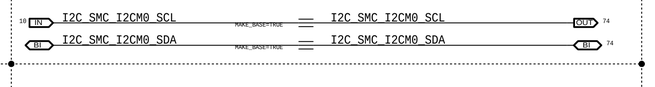
AOP I2C1

DEVICE	8-BIT	7-BIT
SCOR. DOTARA	0X72	0X39



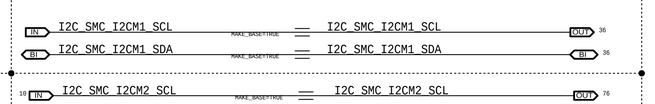
SMC I2C0

DEVICE	8-BIT	7-BIT
POTOMAC	0XEA	0X75



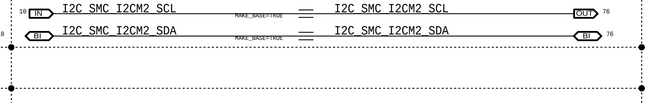
SMC I2C1

DEVICE	8-BIT	7-BIT
ACE2	0X70	0X38



SMC I2C2

DEVICE	8-BIT	7-BIT
GASGAUGE	0XAA	0X55



SMC I2C3

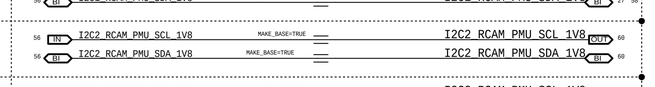
NOT USED

SMC I2C4

NOT USED

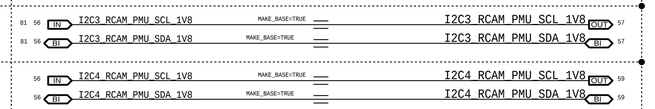
RPMU I2C1

DEVICE	8-BIT	7-BIT
RCAM1(FOCUS)	0X18	0X0C
RCAM1(IN)	0X20	0X10
STROBE1	0XC6	0X63
STROBE2	0XCE	0X67



RPMU I2C2

DEVICE	8-BIT	7-BIT
JA PERISCOPE	0X20	0X10
JA RIKER	0X66	0X33
JA EEPROM	0XA2	0X51



RPMU I2C3

DEVICE	8-BIT	7-BIT
WILL	0X80	0X40

RPMU I2C4

DEVICE	8-BIT	7-BIT
RCAM2(OH)	0X40	0X20

FPMU I2C1

DEVICE	8-BIT	7-BIT
WIDE FCAM	0X20	0X10

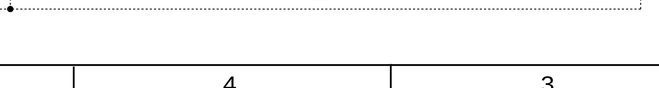
WIDE FCAM NON-POR

FPMU I2C2

DEVICE	8-BIT	7-BIT
SWIDE FCAM	0XE0	0X70

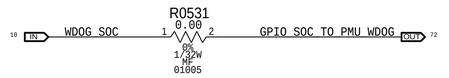
FPMU I2C3

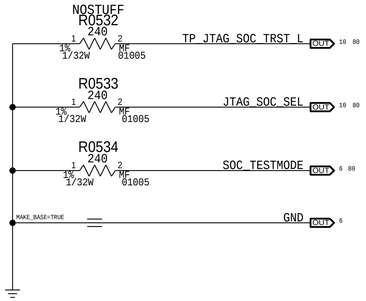
DEVICE	8-BIT	7-BIT
JULIET	0X30	0X18



FPMU I2C4

DEVICE	8-BIT	7-BIT
TITUS	0XCC	0X66
RIGEL2	0XAA	0X55





BOM_COST_GROUP=SOC

SYNC_MASTER=2517_MLB_A_REV_2_9 SYNC_DATE=08/31/2020

PAGE TITLE

SOC: MISC & ALIASES

SOC: MAIN

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
197S0590	197S0591		Y0600	EPSON,24MHZ,XTAL
197S0588	197S0591		Y0600	TXC,24MHZ,XTAL

U0600
TMLR68B1-B01
BGA
SYM 1 OF 23
OMIT_TABLE

RESET
- R2 LP4_IN_RESET_N
- AA49 FORCE_DFU
- AK55 REQUEST_DFU1
- AJ54 REQUEST_DFU2
- AD2 TESTMODE
- AL54 CFSB
- AC1 HOLD_RESET
- AB49 KIS_DFU_SELECT

ATC
- BB54 ATC0_USB_EDP
- BB55 ATC0_USB_EDM
- BE18 USB_C0_LSRX
- BE13 USB_C0_LSTX
- BB53 ATC0_USB_RESREF
- V48 USB_C0_HPD/TMU_CLK_OUT0
- BC54 ATC1_USB_EDP
- BC55 ATC1_USB_EDM
- BD3 USB_C1_LSRX
- BE10 USB_C1_LSTX
- BC53 ATC1_USB_RESREF
- R48 USB_C1_HPD/TMU_CLK_OUT1
- AG1 EUSB_VBUS_DETECT
- BE50 ATCPHY0_RX0_P
- BF50 ATCPHY0_RX0_N
- BC49 ATCPHY0_TX0_P
- BD49 ATCPHY0_TX0_N
- BE48 ATCPHY0_RX1_P
- BF48 ATCPHY0_RX1_N
- BC47 ATCPHY0_TX1_P
- BD47 ATCPHY0_TX1_N
- AY51 ATCPHY0_AUX_P
- AY52 ATCPHY0_AUX_N
- BE52 ATCPHY0_RCAL_P
- BF52 ATCPHY0_RCAL_N
- BF44 ATCPHY1_RX0_P
- BE44 ATCPHY1_RX0_N
- BD43 ATCPHY1_TX0_P
- BC43 ATCPHY1_TX0_N
- BF46 ATCPHY1_RX1_P
- BE46 ATCPHY1_RX1_N
- BD45 ATCPHY1_TX1_P
- BC45 ATCPHY1_TX1_N
- BA52 ATCPHY1_AUX_P
- BA51 ATCPHY1_AUX_N
- BF42 ATCPHY1_RCAL_P
- BE42 ATCPHY1_RCAL_N

CLOCKS
- BE36 XI0 XTAL_SOC_24M_IN
- BF36 XO0 XTAL_SOC_24M_OUT
- P54 TST_CLKOUT TST_CLKOUT
- AL48 ANALOGMUX_OUT NC_ADC_SOC_ANALOGMUX_OUT

SWD
- AJ1 SWD_TCK_OUT1 SWD_AP_TCK
- U54 SWD_TMS2 SWD_NAND_SWDIO
- V54 SWD_TMS3 SWD_BB_SWDIO
- AH3 SWD_TMS4 NC_SWD_TMS4

FPW
- V50 FPWM0/MASTER_SYNC_GEN_0 GPIO_WLAN_TO_SOC_TIME_SYNC
- Y49 FPWM1 NC_FPWM1
- U50 FPWM2 NC_FPWM2

- V51 DFU_STATUS GPIO_1V2_SOC2ACE_DFU_STATUS

RESET_PMU_TO_SYSTEM_L
GPIO_FORCE_DFU
GPIO_PMU_TO_SOC_BTN_ONOFF_L
GPIO_PMU_TO_SOC_BTN_VOL_DOWN_L
SOC_TESTMODE
GPIO_PMU_TO_SYSTEM_ACTIVE_READY
GND
85_USB_E_SOC_P
85_USB_E_SOC_N
USB_C0_LSRX
USB_C0_LSTX
ATC0_USB_RESREF
TP_TMU_CLK_OUT
NC_ATC1_USB_EDP
NC_ATC1_USB_EDM
NC_USB_C1_LSRX
NC_USB_C1_LSTX
ATC1_USB_RESREF
NC_USB_C1_HPD
EUSB_VBUS_DETECT
85_CIO_HS_SOC_RX0_P
85_CIO_HS_SOC_RX0_N
85_CIO_HS_SOC_TX0_C_P
85_CIO_HS_SOC_TX0_C_N
85_CIO_HS_SOC_RX1_P
85_CIO_HS_SOC_RX1_N
85_CIO_HS_SOC_TX1_C_P
85_CIO_HS_SOC_TX1_C_N
CIO_SOC_AUXCH_P
CIO_SOC_AUXCH_N
ATCPHY0_RCAL_POS
ATCPHY0_RCAL_NEG
ATCPHY1_RCAL_POS
ATCPHY1_RCAL_NEG
XTAL_SOC_24M_IN
XTAL_SOC_24M_OUT
TST_CLKOUT
NC_ADC_SOC_ANALOGMUX_OUT
SWD_AP_TCK
SWD_NAND_SWDIO
SWD_BB_SWDIO
NC_SWD_TMS4
GPIO_WLAN_TO_SOC_TIME_SYNC
NC_FPWM1
NC_FPWM2
GPIO_1V2_SOC2ACE_DFU_STATUS

DC-BLOCKING CAPS LOCATION OFF-PAGE

PP1V2_IO
R0697 1.00K 5% 1/32W MF 01005

CRITICAL
R0651 499 1% 1/32W MF 01005
SOC_24M_O
C0650 12PF 5% 16V NP0/C0G 01005-1
CRITICAL
Y0600 1.60X1.20MM 24.000MHZ-20PPM-9.5PF-60OHM
C0651 12PF 5% 16V NP0/C0G 01005-1

XTAL DAMPING RESISTOR R0651 CHANGED FROM 1K
TO 500 OHMS PER EMAIL FROM MOON JUNG KIM ON 07/16/19

ATC0_USB_RESREF
R0696 200 1% 1/32W MF 01005

ATC1_USB_RESREF
R0695 200 1% 1/32W MF 01005

ATCPHY0_RCAL_POS
R0699 200 1% 1/32W MF 01005
ATCPHY0_RCAL_NEG
C0699 10PF 5% 16V NP0/C0G 01005

FROM SANJEEVM EMAIL DATED 06/23/19

ATCPHY1_RCAL_POS
R0698 200 1% 1/32W MF 01005
ATCPHY1_RCAL_NEG
C0698 10PF 5% 16V NP0/C0G 01005

R1032 33 5% 1/32W MF 01005
SWD_AP_TCK → SWD_NAND1_SWCLK

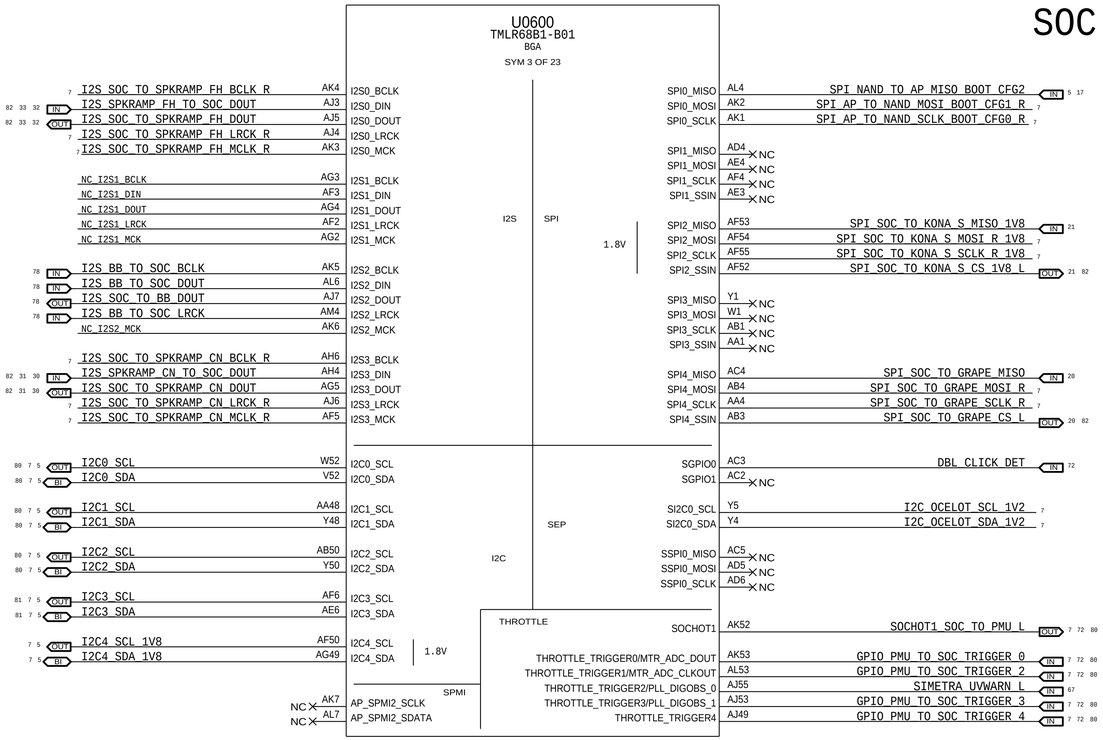
R1035 33 5% 1/32W MF 01005 DUAL_NAND
SWD_AP_TCK → SWD_NAND2_SWCLK

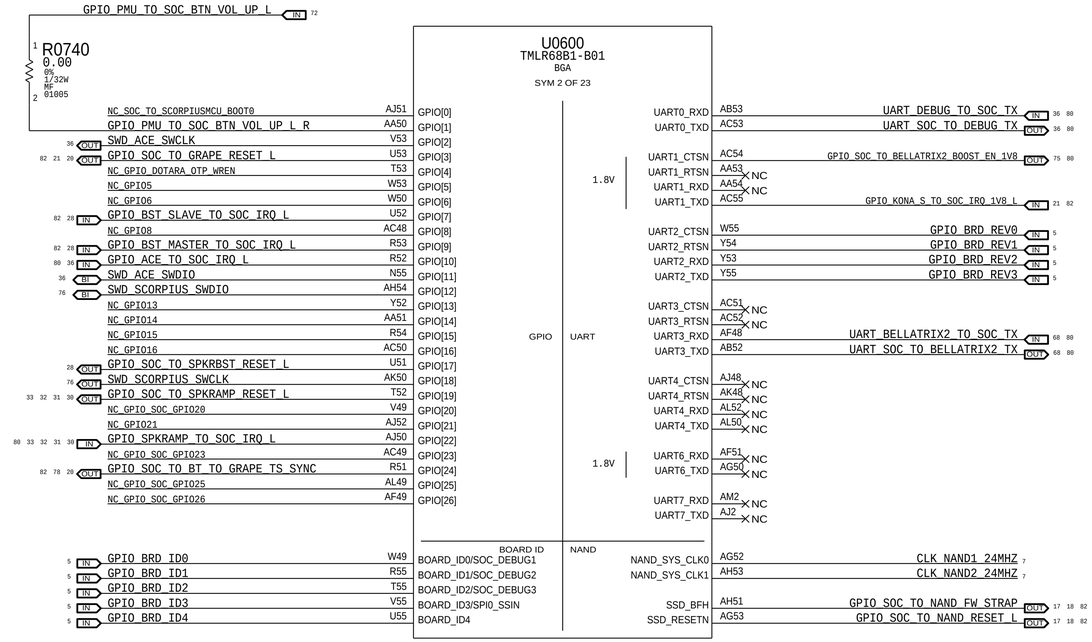
PP1V25_S2
C1033 0.1UF 20% 6.3V X5R-CERM 01005
R1034 33 5% 1/32W MF 01005
PACK_OPTION=J518,J523
SWD_AP_TCK → SWD_PER_BB_SWCLK_R
U1034 74AUP1G34GX SOT1226
SWD_BB_SWCLK

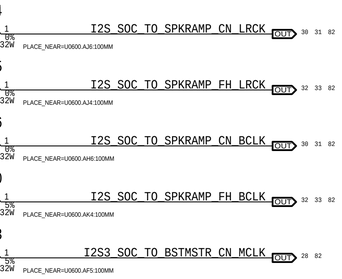
BOM_COST_GROUP=SOC

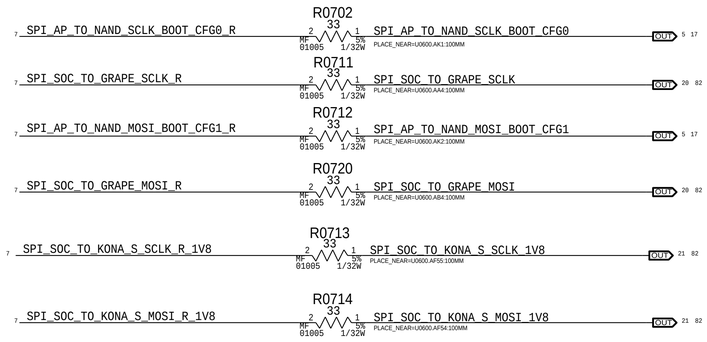
PAGE TITLE
SOC: MAIN

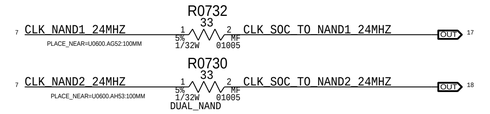
SOC: GPIO

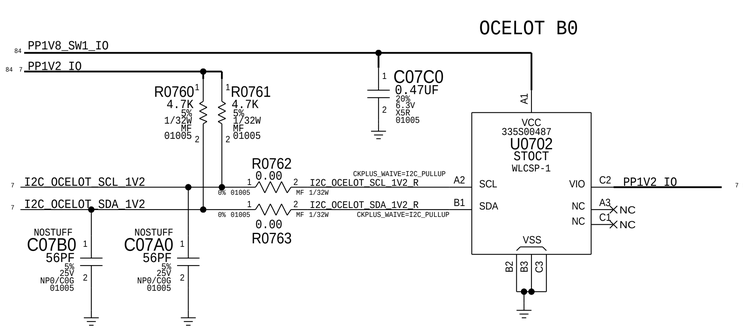


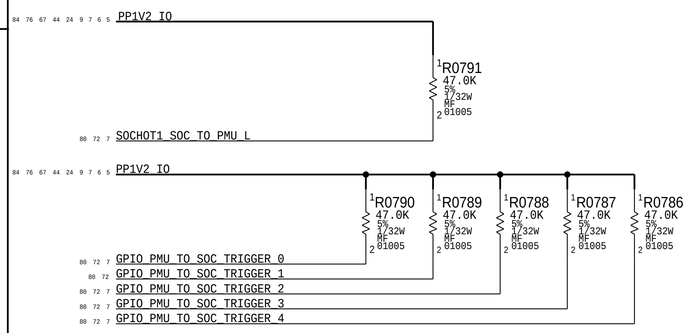


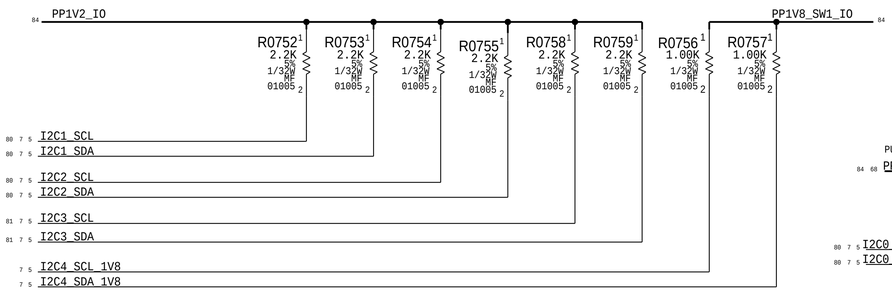


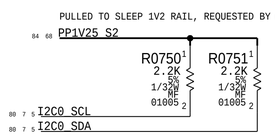












BOM_COST_GROUP=SOC

PAGE TITLE

SOC: I/OS

SOC: LPDP & MIPI

U0600 TMLR68B1-B01 BGA — SYM 5 OF 23

NC	Y2	ISP_I2C0_SCL/ISP_GPIO_8	
NC	Y3	ISP_I2C0_SDA/ISP_GPIO_9	
NC	AA5	ISP_I2C1_SCL/ISP_GPIO_10	
NC	AA6	ISP_I2C1_SDA/ISP_GPIO_11	
78 IN	GPIO_BB_TO_SOC_RESET_DET_L	AA3	ISP_I2C2_SCL
78 OUT	GPIO_AP_TO_BB_GPS_TIME_MARK	AA2	ISP_I2C2_SDA
NC_GPIO_UNUSED_SOC_BT_DEVICE_WAKE		AA7	ISP_I2C3_SCL
78 IN	BT_TO_SOC_TIME_SYNC	AB7	ISP_I2C3_SDA
78 OUT	GPIO_AP_TO_BBPMU_PEAK_POWER_IND	Y6	ISP_GPIO_0
62 OUT	GPIO_ISP_TO_ADAMS_FRONT_RESET_L	W6	ISP_GPIO_1
56 OUT	GPIO_ISP_TO_ADAMS_REAR_RESET_L	Y7	ISP_GPIO_2
60 OUT	NC_GPIO_ISP_TO_JASPER_SHTDWN_L	W7	ISP_GPIO_3
62 OUT	SPMI_ISP_ADAMS_FRONT_SCLK	AG7	ISP_SPMI0_SCLK/ISP_GPIO_5
62 BI	SPMI_ISP_ADAMS_FRONT_SDATA	AF7	ISP_SPMI0_SDATA/ISP_GPIO_4
56 OUT	SPMI_ISP_ADAMS_REAR_SCLK	AG6	ISP_SPMI1_SCLK/ISP_GPIO_7
56 BI	SPMI_ISP_ADAMS_REAR_SDATA	AH7	ISP_SPMI1_SDATA/ISP_GPIO_6
8	CLK_SOC_TO_ADAMS_FRONT_12MHZ_R	AD1	SENSOR0_CLK
8	CLK_SOC_TO_ADAMS_REAR_12MHZ_R	AE1	SENSOR1_CLK
	NC_CLK_SPARE_SENSOR2_12MHZ_R	AD3	SENSOR2_CLK
	NC_CLK_SPARE_SENSOR3_12MHZ_R	AF1	SENSOR3_CLK

ISP I2C | ISP GPIO | ISP SPMI | ISP CLK

MIPI0C_DPCLK	L15	MIPI_PEARL_TO_SOC_CLK_P	IN 40 82
MIPI0C_DNCLK	L14	MIPI_PEARL_TO_SOC_CLK_N	IN 40 82
MIPI0C_DPDATA0	K15	MIPI_PEARL_SOC_DATA_P<0>	IN 40 82
MIPI0C_DNDATA0	K14	MIPI_PEARL_SOC_DATA_N<0>	IN 40 82
MIPI0C_DPDATA1	M14	MIPI_PEARL_SOC_DATA_P<1>	IN 40 82
MIPI0C_DNDATA1	M15	MIPI_PEARL_SOC_DATA_N<1>	IN 40 82
MIPI1C_DPCLK	L11	NC_MIPI_FCAM1_CAM_TO_SOC_CLK_P	
MIPI1C_DNCLK	L12	NC_MIPI_FCAM1_CAM_TO_SOC_CLK_N	
MIPI1C_DPDATA0	M12	NC_MIPI_FCAM1_CAM_TO_SOC_DATA_P<0>	
MIPI1C_DNDATA0	M11	NC_MIPI_FCAM1_CAM_TO_SOC_DATA_N<0>	
MIPI1C_DPDATA1	K11	NC_MIPI_FCAM1_CAM_TO_SOC_DATA_P<1>	
MIPI1C_DNDATA1	K12	NC_MIPI_FCAM1_CAM_TO_SOC_DATA_N<1>	
MIPID_DPCLK	K9	NC	
MIPID_DNCLK	K8	NC	
MIPID_DPDATA0	L9	NC	
MIPID_DNDATA0	L8	NC	
MIPI0C_REXT	K17	MIPI0C_REXT	
MIPI1C_REXT	L17	MIPI1C_REXT	
MIPID_REXT	M9	MIPID_REXT	

MIPI_C | MIPI_D

R0800 200 1% 1/32W MF 01005 NOSTUFF
R0820 200 1% 1/32W MF 01005
R0830 200 1% 1/32W MF 01005

PLACE_NEAR=U0600.M9:6MM
PLACE_NEAR=U0600.L17:6MM
PLACE_NEAR=U0600.K17:6MM

8 LPDPTX_RCAL_POS — R0890 200 1% 1/32W MF 01005 — 8 LPDPTX_RCAL_NEG — C0890 10PF 5% 16V NP0/C0G 01005

8 LPDPRX0_RCAL_POS — R0891 200 1% 1/32W MF 01005 — 8 LPDPRX0_RCAL_NEG — C0891 10PF 5% 16V NP0/C0G 01005

8 LPDPRX1_RCAL_POS — R0893 200 1% 1/32W MF 01005 — 8 LPDPRX1_RCAL_NEG — C0893 10PF 5% 16V NP0/C0G 01005

U0600 TMLR68B1-B01 BGA — SYM 4 OF 23

82 58 BI	LPDP_SOC_TO_RCAM1_WIDE_AUX	AP7	LPDPRX_AUX_D0_P
NC_LPDPRX_AUX1		AR7	LPDPRX_AUX_D1_P
82 60 BI	LPDP_SOC_TO_JASPER_AUX	AT7	LPDPRX_AUX_D2_P
NC		AV7	LPDPRX_AUX_D3_P
NC_LPDPRX_AUX4		AW7	LPDPRX_AUX_D4_P
NC_LPDPRX_AUX5		AY7	LPDPRX_AUX_D5_P
82 59 BI	LPDP_SOC_TO_RCAM2_SWIDE_AUX	AP8	LPDPRX_AUX_D6_P
NC_LPDPRX_AUX7		AR8	LPDPRX_AUX_D7_P
NC_LPDPRX_AUX8		AT8	LPDPRX_AUX_D8_P
82 26 BI	LPDP_SOC_TO_FCAM2_SWIDE_AUX	AV8	LPDPRX_AUX_D9_P
NC_LPDPRX_AUX10		AW8	LPDPRX_AUX_D10_P
NC_LPDPRX_AUX11		AY8	LPDPRX_AUX_D11_P
82 58 IN	LPDP_RCAM1_WIDE_TO_SOC_DATA_P<0>	AP1	LPDPRX_RX_D0_P
82 58 IN	LPDP_RCAM1_WIDE_TO_SOC_DATA_N<0>	AP2	LPDPRX_RX_D0_N
82 58 IN	LPDP_RCAM1_WIDE_TO_SOC_DATA_P<1>	AR1	LPDPRX_RX_D1_P
82 58 IN	LPDP_RCAM1_WIDE_TO_SOC_DATA_N<1>	AR2	LPDPRX_RX_D1_N
82 60 IN	LPDP_JASPER_TO_SOC_DATA_P	AT1	LPDPRX_RX_D2_P
82 60 IN	LPDP_JASPER_TO_SOC_DATA_N	AT2	LPDPRX_RX_D2_N
		AV1	LPDPRX_RX_D3_P
		AV2	LPDPRX_RX_D3_N
		AW1	LPDPRX_RX_D4_P
		AW2	LPDPRX_RX_D4_N
		AY1	LPDPRX_RX_D5_P
		AY2	LPDPRX_RX_D5_N
82 59 IN	LPDP_RCAM2_SWIDE_TO_SOC_DATA_P<0>	AP4	LPDPRX_RX_D6_P
82 59 IN	LPDP_RCAM2_SWIDE_TO_SOC_DATA_N<0>	AP5	LPDPRX_RX_D6_N
82 59 IN	LPDP_RCAM2_SWIDE_TO_SOC_DATA_P<1>	AR4	LPDPRX_RX_D7_P
82 59 IN	LPDP_RCAM2_SWIDE_TO_SOC_DATA_N<1>	AR5	LPDPRX_RX_D7_N
		AT4	LPDPRX_RX_D8_P
		AT5	LPDPRX_RX_D8_N
82 26 IN	LPDP_FCAM2_SWIDE_TO_SOC_DATA_P<0>	AV4	LPDPRX_RX_D9_P
82 26 IN	LPDP_FCAM2_SWIDE_TO_SOC_DATA_N<0>	AV5	LPDPRX_RX_D9_N
82 26 IN	LPDP_FCAM2_SWIDE_TO_SOC_DATA_P<1>	AW4	LPDPRX_RX_D10_P
82 26 IN	LPDP_FCAM2_SWIDE_TO_SOC_DATA_N<1>	AW5	LPDPRX_RX_D10_N
		AY4	LPDPRX_RX_D11_P
		AY5	LPDPRX_RX_D11_N
8	LPDPRX0_RCAL_POS	AU1	LPDPRX0_RCAL_P
8	LPDPRX0_RCAL_NEG	AU2	LPDPRX0_RCAL_N
8	LPDPRX1_RCAL_POS	AU4	LPDPRX1_RCAL_P
8	LPDPRX1_RCAL_NEG	AU5	LPDPRX1_RCAL_N

LPDP RX

LPDP_TX0P	AR55	LPDP_SOC_TO_TCON_DATA_P<0>	OUT 43
LPDP_TX0N	AR54	LPDP_SOC_TO_TCON_DATA_N<0>	OUT 43
LPDP_TX1P	AT55	LPDP_SOC_TO_TCON_DATA_P<1>	OUT 43
LPDP_TX1N	AT54	LPDP_SOC_TO_TCON_DATA_N<1>	OUT 43
LPDP_TX2P	AU54	LPDP_SOC_TO_TCON_DATA_P<2>	OUT 43
LPDP_TX2N	AU55	LPDP_SOC_TO_TCON_DATA_N<2>	OUT 43
LPDP_TX3P	AV55	LPDP_SOC_TO_TCON_DATA_P<3>	OUT 43
LPDP_TX3N	AV54	LPDP_SOC_TO_TCON_DATA_N<3>	OUT 43
LPDP_TX4P	AW55	NC_LPDP_SOC_TO_TCON_DATA_P<4>	OUT 79
LPDP_TX4N	AW54	NC_LPDP_SOC_TO_TCON_DATA_N<4>	OUT 79
LPDP_TX5P	AY55	NC_LPDP_SOC_TO_TCON_DATA_P<5>	OUT 79
LPDP_TX5N	AY54	NC_LPDP_SOC_TO_TCON_DATA_N<5>	OUT 79
LPDP_AUX_P	AU52	LPDP_SOC_TO_TCON_AUX_P	BI 43
LPDP_AUX_N	AU51	LPDP_SOC_TO_TCON_AUX_N	BI 43
LPDP_RCAL_P	AV52	LPDPTX_RCAL_POS	8
LPDP_RCAL_N	AV51	LPDPTX_RCAL_NEG	8

DISPLAY

DISP_HPD	AG55	LPDP_TCON_TO_SOC_HPD	IN 43
DISP_POL	AH55	NC_UNUSED_DISPLAY_POL	
DISP_SPI_MISO/DWI_CLK	AC6	ATRANI_SPI_MISO	IN 45 81
DISP_SPI_MOSI/DWI_DO	AC7	ATRANI_SPI_MOSI	OUT 45 81
DISP_SPI_SCLK/DISP_I2C_SCL	AD7	ATRANI_SPI_SCLK	OUT 45 81
DISP_SPI_SSIN/DISP_I2C_SDA	AB6	ATRANI_SPI_CS	OUT 45 81
DISP_SPMI_SCLK	W4	NC_LUME_SPMI_SCLK_R	8 79
DISP_SPMI_SDATA	W3	LUME_SPMI_SDATA	BI 44
DISP_FSYNC	T49	DISP_FSYNC	OUT 45 81
DISP_LSYNC	R50	DISP_LSYNC	OUT 45 81
DISP_TOUCH_BSYNC0	T50	GPIO_SOC_TO_LANAI_DISPLAY_BSYNC0	OUT 20 82
DISP_TOUCH_BSYNC1	R49	GPIO_SOC_TO_LANAI_DISPLAY_BSYNC1	OUT 42 56 62 78
DISP_TOUCH_EB	U49	GPIO_SOC_TO_DISPLAY_TOUCH_EB	OUT 20 82
DFR_BSYNC/DISP_INT	AM5	GPIO_ATRANI_TO_SOC_DISP_INT	IN 44
DFR_DISP_TE	AL51	NC	

PACK_IGNORE=TRUE
PACK_OPTION=J522,J523

79 8 NC_LUME_SPMI_SCLK_R — R0813 33 1/32W 5% MF 01005 — LUME_SPMI_SCLK OUT 44
PLACE_NEAR=U0600.W4:100MM

8 CLK_SOC_TO_ADAMS_FRONT_12MHZ_R — R0812 33 1/32W 5% MF 01005 — CLK_TSP_TO_FCAM_PMU_12MHZ OUT 62
PLACE_NEAR=U0600.AD1:100MM
C0812 15PF 5% 16V NP0/C0G 01005-1

8 CLK_SOC_TO_ADAMS_REAR_12MHZ_R — R0811 33 1/32W 5% MF 01005 — CLK_TSP_TO_RCAM_PMU_12MHZ OUT 66
PLACE_NEAR=U0600.AE1:100MM
C0811 15PF 5% 16V NP0/C0G 01005-1

BOM_COST_GROUP=SOC

SYNC_MASTER=2022_M_8_8_3_0 SYNC_DATE=06/17/2020

PAGE TITLE

SOC: LPDP & MIPI

SOC: PCIE

PCIE GEN4 - ST LINK 0

U0600
TMLR68B1-B01
BGA
SYM 6 OF 23

PCIE ST0 / PCIE GP0

17 IN 85_PCIE_NAND1_TO_SOC_TX_P	BE26	ST_PCIE_RX0_P	GP_PCIE_RX0_P BE30 PCIE_WLAN_TO_SOC_TX_P IN 78 82
17 IN 85_PCIE_NAND1_TO_SOC_TX_N	BF26	ST_PCIE_RX0_N	GP_PCIE_RX0_N BF30 PCIE_WLAN_TO_SOC_TX_N IN 78 82
85_PCIE_NAND1_C_TX_P	BC27	ST_PCIE_TX0_P	GP_PCIE_TX0_P BC31 PCIE_SOC_TO_WLAN_TX_C_P
85_PCIE_NAND1_C_TX_N	BD27	ST_PCIE_TX0_N	GP_PCIE_TX0_N BD31 PCIE_SOC_TO_WLAN_TX_C_N
17 OUT 85_PCIE_NAND1_REFCLK_P	BB37	ST_PCIE_REF_CLK0_P	GP_PCIE_REF_CLK0_P BE40 PCIE_SOC_TO_WLAN_REFCLK_P OUT 78 82
17 OUT 85_PCIE_NAND1_REFCLK_N	BC37	ST_PCIE_REF_CLK0_N	GP_PCIE_REF_CLK0_N BF40 PCIE_SOC_TO_WLAN_REFCLK_N OUT 78 82
17 9 IN PCIE_NAND1_TO_SOC_CLKREQ_L	AH50	ST_PCIE_CLKREQ0_N	GP_PCIE_CLKREQ0_N AB55 PCIE_WLAN_TO_SOC_CLKREQ_L OUT 9 78
82 18 17 9 OUT PCIE_SOC_TO_NAND_PERST_L	AH52	ST_PCIE_PERST0_N	GP_PCIE_PERST0_N AA52 PCIE_SOC_TO_WLAN_RESET_L OUT 9 78

PCIE ST1 / PCIE GP1

18 IN 85_PCIE_NAND2_TO_SOC_TX_P	BE28	ST_PCIE_RX1_P	GP_PCIE_RX1_P BE32 PCIE_BB_TO_SOC_TX_P IN 78
18 IN 85_PCIE_NAND2_TO_SOC_TX_N	BF28	ST_PCIE_RX1_N	GP_PCIE_RX1_N BF32 PCIE_BB_TO_SOC_TX_N IN 78
85_PCIE_NAND2_C_TX_P	BC29	ST_PCIE_TX1_P	GP_PCIE_TX1_P BC33 PCIE_SOC_TO_BB_TX_C_P OUT 78
85_PCIE_NAND2_C_TX_N	BD29	ST_PCIE_TX1_N	GP_PCIE_TX1_N BD33 PCIE_SOC_TO_BB_TX_C_N OUT 78
18 OUT 85_PCIE_NAND2_REFCLK_P	BB38	ST_PCIE_REF_CLK1_P	GP_PCIE_REF_CLK1_P BE38 PCIE_SOC_TO_BB_REFCLK_P OUT 78
18 OUT 85_PCIE_NAND2_REFCLK_N	BC38	ST_PCIE_REF_CLK1_N	GP_PCIE_REF_CLK1_N BF38 PCIE_SOC_TO_BB_REFCLK_N OUT 78
18 9 IN PCIE_NAND2_TO_SOC_CLKREQ_L	AH49	ST_PCIE_CLKREQ1_N	GP_PCIE_CLKREQ1_N AA55 PCIE_BB_TO_SOC_CLKREQ_L IN 78
NC_PCIE_SOC_TO_NAND2_PERST_L	AH48	ST_PCIE_PERST1_N	GP_PCIE_PERST1_N P55 PCIE_SOC_TO_BB_PERST_L OUT 78

PCIE GP2

GP_PCIE_RX2_P	BE34	NC
GP_PCIE_RX2_N	BF34	NC
GP_PCIE_TX2_P	BC35	NC
GP_PCIE_TX2_N	BD35	NC
GP_PCIE_REF_CLK2_P	BE39	NC
GP_PCIE_REF_CLK2_N	BF39	NC
GP_PCIE_CLKREQ2_N	AH1	NC
GP_PCIE_PERST2_N	AE7	GPIO_SOC_TO_BB_COREDUMP OUT 78

MTR

9 PCIE_RCAL_ST_POS	BC24	ST_PCIE_RCAL_P
9 PCIE_RCAL_ST_NEG	BB24	ST_PCIE_RCAL_N
NC	AM3	PAD_MTR_ANALOG_TEST_P
NC	AL3	PAD_MTR_ANALOG_TEST_N
NC	AL1	PAD_MTR_VREF_P
NC	AM1	PAD_MTR_VREF_N

GP_PCIE_RCAL_P BC25 PCIE_RCAL_GP_POS 9
GP_PCIE_RCAL_N BB25 PCIE_RCAL_GP_NEG 9

C0930 / C0931 (GND_VOID=TRUE)

17 OUT 85_PCIE_SOC_TO_NAND1_TX_P → 0.22UF 6.3V 01005 CER-X5R ROOM=SOC → 85_PCIE_SOC_TO_NAND1_C_TX_P
17 OUT 85_PCIE_SOC_TO_NAND1_TX_N → 0.22UF 6.3V 01005 CER-X5R ROOM=SOC → 85_PCIE_SOC_TO_NAND1_C_TX_N

C0932 / C0933 (DUAL_NAND GND_VOID=TRUE)

18 OUT 85_PCIE_SOC_TO_NAND2_TX_P → 0.22UF 6.3V 01005 CER-X5R ROOM=SOC → 85_PCIE_SOC_TO_NAND2_C_TX_P
18 OUT 85_PCIE_SOC_TO_NAND2_TX_N → 0.22UF 6.3V 01005 CER-X5R ROOM=SOC → 85_PCIE_SOC_TO_NAND2_C_TX_N

C0940 / C0941 (GND_VOID=TRUE)

PCIE_SOC_TO_WLAN_TX_P → 0.1UF 6.3V 01005 X5R-CERM 20% → OUT 78 82
PCIE_SOC_TO_WLAN_TX_N → 0.1UF 6.3V 01005 X5R-CERM 20% → OUT 78 82

WLAN/BT

BASEBAND

AC COUPLING CAPS ARE IN CONNECTOR PAGE

DC BLOCKING CAPS ON NAND PAGE

R0940 (PP1V2_IO)

84 76 67 44 24 7 6 5 PP1V2_IO → R0940 20K 5% 1/20W MF 201 → 78 9 PCIE_WLAN_TO_SOC_CLKREQ_L

R0990 / C0990

9 PCIE_RCAL_ST_POS → R0990 200 1% 1/32W MF 01005 → 9 PCIE_RCAL_ST_NEG
C0990 10PF 5% 16V NP0/C0G 01005

R0989 / C0989

9 PCIE_RCAL_GP_POS → R0989 200 1% 1/32W MF 01005 → 9 PCIE_RCAL_GP_NEG
C0989 10PF 5% 16V NP0/C0G 01005

R0941

78 9 PCIE_SOC_TO_WLAN_RESET_L → R0941 100K 5% 1/32W MF 01005

R0950 / R0930 (PP1V2_NAND)

84 18 17 PP1V2_NAND → R0950 20K 5% 1/20W MF 201 → 17 9 PCIE_NAND1_TO_SOC_CLKREQ_L
PP1V2_NAND → R0930 20K 5% 1/20W MF 201 → 18 9 PCIE_NAND2_TO_SOC_CLKREQ_L

R0952

82 18 17 9 PCIE_SOC_TO_NAND_PERST_L → R0952 47.0K 5% 1/32W MF 01005

BOM_COST_GROUP=SOC

PAGE TITLE

SOC: PCIE

SOC: AOP

ALS IRQ PULL-UPS

PP1V25_S2

R0690 47.0K 5% 1/32W MF 01005 — NOSTUFF
R0691 47.0K 5% 1/32W MF 01005 — NOSTUFF

GPIO_ALS_FH1_TO_AOP_IRQ_L
GPIO_ALS_FH2_TO_AOP_IRQ_L

AOP I2C PULL-UPS

PP1V25_S2

R1050 2.2K 5% 1/32W MF 01005
R1051 2.2K 5% 1/32W MF 01005
R1052 2.2K 5% 1/32W MF 01005
R1053 2.2K 5% 1/32W MF 01005

I2C_AOP_I2CM0_SCL
I2C_AOP_I2CM0_SDA
I2C_AOP_I2CM1_SCL
I2C_AOP_I2CM1_SDA

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

PP1V25_S2

R0683 10K 5% 1/32W MF 01005
RESET_PMU_TO_SYSTEM_L
C0683 0.1UF 20% 6.3V X5R-CERM 01005 — NOSTUFF FOR CFSB ISSUE
PP1V25_S2
R0684 47.0K 5% 1/32W MF 01005

SMC I2C PULL-UPS

PP1V25_S2

R85A1 2.2K 5% 1/32W MF 01005
R85A0 2.2K 5% 1/32W MF 01005
RB164 2.2K 5% 1/32W MF 01005
RB163 2.2K 5% 1/32W MF 01005
RB902 2.2K 5% 1/32W MF 01005
RB906 2.2K 5% 1/32W MF 01005

I2C_SMC_I2CM0_SCL
I2C_SMC_I2CM0_SDA
I2C_SMC_I2CM1_SCL
I2C_SMC_I2CM1_SDA
I2C_SMC_I2CM2_SCL
I2C_SMC_I2CM2_SDA

U0600 TMLR68B1-B01 BGA

SYM 7 OF 23

GPIO PHOSPHORUS TO AOP IRQ	BB18	AOP_FUNC[0]	AOP GPIO
GPIO MOLY TO AOP IRQ	BC16	AOP_FUNC[1]	
GPIO KOBOL TO AOP INT	BC12	AOP_FUNC[2]	
GPIO KOBOL TO AOP MOTION INT	BC13	AOP_FUNC[3]	
SPI PHOSPHORUS CS L	BA16	AOP_FUNC[4]	
SPI MOLY CS L	BA13	AOP_FUNC[5]	
SPI KOBOL CS L	BA15	AOP_FUNC[6]	
GPIO GRAPE TO AOP IRQ L	BD13	AOP_FUNC[7]	
GPIO AOP TO WLAN CONTEXT A	BD16	AOP_FUNC[8]	
GPIO AOP TO WLAN CONTEXT B	BA14	AOP_FUNC[9]	
AOP TO BBPMU FORCE PWM	BB12	AOP_FUNC[10]	
NC AOP FUNC11	BD20	AOP_FUNC[11]	
GPIO ALS FH1 TO AOP IRQ L	BA11	AOP_FUNC[12]	
GPIO ALS FH2 TO AOP IRQ L	BD18	AOP_FUNC[13]	
NC GPIO GRAPE TO AOP TIME SYNC	BA10	AOP_FUNC[14]	
I2C AOP I2CM0 SCL	BC20	AOP_I2CM0_SCL	AOP I2C
I2C AOP I2CM0 SDA	BB19	AOP_I2CM0_SDA	
I2C AOP I2CM1 SCL	BB16	AOP_I2CM1_SCL	
I2C AOP I2CM1 SDA	BE15	AOP_I2CM1_SDA	
CLK AOP TO LDCM PDM	BB9	AOP_PDM_IN_CLK1/AOP_I2S1_BCLK	AOP PDM
PDM DMIC TOP L SCLK	BC9	AOP_PDM_IN_CLK2/AOP_I2S0_MCK	
PDM DMIC TOP R SCLK	BC6	AOP_PDM_IN_CLK3/AOP_I2S0_LRCK	
PDM DMIC FRONT SCLK	BD9	AOP_PDM_IN_CLK4/AOP_I2S0_DOUT	
PDM DMIC BACK SCLK	BC8	AOP_PDM_IN_CLK5/AOP_I2S0_DIN	
PDM DMIC SIDE SCLK	BD8	AOP_PDM_IN_CLK6/AOP_I2S0_BCLK	
LDCM TO AOP DATA1 PDM	BE21	AOP_PDM_IN_DATA1/AOP_I2S1_MCK	
PDM DMIC TOP L R SD	BE16	AOP_PDM_IN_DATA2/AOP_I2S1_LRCK	
PDM DMIC FRONT BACK SD	BE19	AOP_PDM_IN_DATA3/AOP_I2S1_DOUT/AOP_PDM_IN_CLK7	
PDM DMIC SIDE SD	BD5	AOP_PDM_IN_DATA4/AOP_I2S1_DIN/AOP_PDM_IN_CLK8	
SPI SENSORS MISO	BF15	AOP_SPI0_MISO	AOP SPI
SPI SENSORS MOSI R	BF14	AOP_SPI0_MOSI	
SPI SENSORS SCLK R	BF17	AOP_SPI0_SCLK	
SPMI0 AOP SCLK WIFI BT NFC	BF18	AOP_SPMI0_SCLK/AOP_UART0_TXD	AOP SPMI
SPMI0 AOP SDATA WIFI BT NFC	BF19	AOP_SPMI0_SDATA/AOP_UART0_RXD	
UART AOP TO BB TX	BF20	AOP_SPMI1_SCLK/AOP_UART1_TXD	
UART BB TO AOP TX	BF21	AOP_SPMI1_SDATA/AOP_UART1_RXD	
UART GRAPE TO AOP TX	BB3	AOP_UART2_RXD	AOP UART
UART AOP TO GRAPE TX	BB4	AOP_UART2_TXD	
CLK PMU TO AOP 32K	BE6	RT_CLK32768	AOP RESET
RESET PMU TO SYSTEM L	BF10	CFSB_AON	
	BB5	COLD_RESETN	
NC AON SLEEP1 RESET L	BB21	AON_SLEEP1_RESETN	
WDOG SOC	BF12	WDOG	
DBG PROBE VALID	BF6	DBG_PROBE_VALID	AOP DEBUG
85 USB E KIS P	BF24	DBG_USB_EDP	
85 USB E KIS N	BE24	DBG_USB_EDM	
DBG_USB_RESREF	BE23	DBG_USB_RESREF	

PLACE_NEAR=U0600.BE23:6MM
R09A5 200 1% 1/32W MF 01005

	BA17	NUB_CLK_OUT0	NUB GPIO
	BC15	NUB_DOCK_ATTENTION/CTM_TRIGGER	
	BC17	NUB_DOCK_CONNECT	
	BD14	NUB_GPIO_0/AOP_FUNC15/NUB_CLK_OUT1	
	BD15	NUB_GPIO_1/AOP_PDM_IN_CLK0	
	BD21	NUB_GPIO_2/AOP_PDM_IN_DATA0	
	BD17	NUB_GPIO_3/AOP_LEAP_MADI_IN	
	BB13	NUB_GPIO_4/AOP_LEAP_MADI_OUT	
	BD19	NUB_GPIO_5/AOP_PDM_OUT_CLK0	
	BD22	NUB_GPIO_6/AOP_PDM_OUT_DATA0/AOP_FUNC16	
	BB10	NUB_GPIO_7/AOP_FUNC17	
	BD12	NUB_GPIO_8/AOP_FUNC18	
	BD11	NUB_GPIO_9/AOP_FUNC19	
	BC10	NUB_GPIO_10/AOP_FUNC20	
	BB7	NUB_GPIO_11/KIS_GPIO0/AOP_FUNC21	
	BD10	NUB_GPIO_12/KIS_GPIO1/AOP_FUNC22	
	BB15	NUB_SPMI0_SCLK	NUB SPMI
	BC14	NUB_SPMI0_SDATA	
	BA12	NUB_SPMI1_SCLK	
	BC11	NUB_SPMI1_SDATA	
	BC18	NUB_SWD_TCK_OUT0	NUB SWD
	BC19	NUB_SWD_TMS0	
	BC21	NUB_SWD_TMS1	
JTAG_SEL	BE4	JTAG_SOC_SEL	JTAG
JTAG_TCK	BF5		
JTAG_TDI	BF16		
JTAG_TDO	BC1	TP_JTAG_SOC_TDO	
JTAG_TMS	BB1		
JTAG_TRSTN	BF7	TP_JTAG_SOC_TRST_L	
SMC_I2CM0_SCL	BC3	I2C_SMC_I2CM0_SCL	SMC I2C
SMC_I2CM0_SDA	BC2	I2C_SMC_I2CM0_SDA	
SMC_I2CM1_SCL/SMC_UART1_TXD	BD4	I2C_SMC_I2CM1_SCL	
SMC_I2CM1_SDA/SMC_UART1_RXD	BB2	I2C_SMC_I2CM1_SDA	
SMC_I2CM2_SCL	BD6	I2C_SMC_I2CM2_SCL	
SMC_I2CM2_SDA	BC5	I2C_SMC_I2CM2_SDA	
SMC_I2CM3_SCL	BC7	NC	
SMC_I2CM3_SDA	BD7	NC	
SMC_I2CM4_SCL	BE7	NC	
SMC_I2CM4_SDA	BF9	NC	
SMC_UART0_RXD	BF4	NC	SMC UART
SMC_UART0_TXD	BF8	NC	
SMC_GPIO0	BF11	GPIO POTOMAC TO SOC TO PMU IRQ L	SMC GPIO
SMC_GPIO1	BF13	GPIO ACE TO SMC IRQ L	
SMC_FPWM0	BE12	NC SMC FPWM0	
SMC_FPWM1	BE9	NC	

R0731 33 5% 1/32W MF 01005 — PLACE_NEAR=U0600.BA17:1000MM
CLK SOC TO GRAPE 24MHZ

GPIO AOP TO PARROT RECOVERY STATUS
PDM PENROSE SCLK
PDM PENROSE SD
GPIO KONA S TO SCORPIUS TIME SYNC AOP
GPIO TITUS TO AOP B2B DETECT
GPIO LDCM TO AOP INVALID
AOP TO LDCM DATA0 PDM
PROX BI AP AOP INT L PWM LVT
NC AOP TO LDCM AFE EN 1V2
GPIO ORION TO AOP IRQ
DOTARA WAKE HEART BEAT
SLG TO AOP DMIC DISABLE WARN L
GPIO SCORPIUS TO AOP INT

DEV PURPOSES, NOSTUFF CONNECTION TO USBC DC

R0681 47.0K 5% 1/32W MF 01005
R0680 47.0K 5% 1/32W MF 01005
R0682 47.0K 5% 1/32W MF 01005
PP1V25_S2
JTAG_SOC_TCK
TP_JTAG_SOC_TDI
JTAG_SOC_TMS

R1040 33 5% 1/32W MF 01005
SWD_PERIPHERAL_SWCLK — PLACE_NEAR=U0600.AK3:100MM
SWD_PER_KONA_SWCLK_R
SWD_GRAPE_SWCLK

PP1V2_S2_DELAY_TOUCH
C1034 0.1UF 20% 6.3V X5R-CERM 01005
U1033 74AUP1G34GX SOT1226

NO SWCLK BUFFER FOR PMU DUE TO PROXIMITY AND LOAD

NUB_SPMI_SERA_SCLK — R79C1 33 1/32W 5% MF 01005 — NUB_SPMI0_SCLK
NUB_SPMI_SERA_SDATA — R79D1 33 1/32W 5% MF 01005 — NUB_SPMI0_SDATA
PLACE_NEAR=U0600.BB15:100MM
PLACE_NEAR=U0600.BC14:100MM

NUB_SPMI1_SIMETRA_SCLK — R79C2 33 1/32W 5% MF 01005 — NUB_SPMI1_SCLK
NUB_SPMI1_SIMETRA_SDATA — R79D2 33 1/32W 5% MF 01005 — NUB_SPMI1_SDATA
PLACE_NEAR=U0600.BA12:100MM
PLACE_NEAR=U0600.BC11:100MM

AOP_SPMI0_SCLK_NFC — R78E1 33 1/32W 5% MF 01005 — SPMI0_AOP_SCLK_WIFI_BT_NFC
AOP_SPMI0_SDATA_NFC — R78F1 33 1/32W 5% MF 01005 — SPMI0_AOP_SDATA_WIFI_BT_NFC
PLACE_NEAR=U0600.BF18:100MM
PLACE_NEAR=U0600.BF19:100MM

AOP_SPMI0_SCLK_WIFI_BT — R78C1 33 1/32W 5% MF 01005
AOP_SPMI0_SDATA_WIFI_BT — R78D1 33 1/32W 5% MF 01005
PLACE_NEAR=U0600.BF18:100MM
PLACE_NEAR=U0600.BF19:100MM

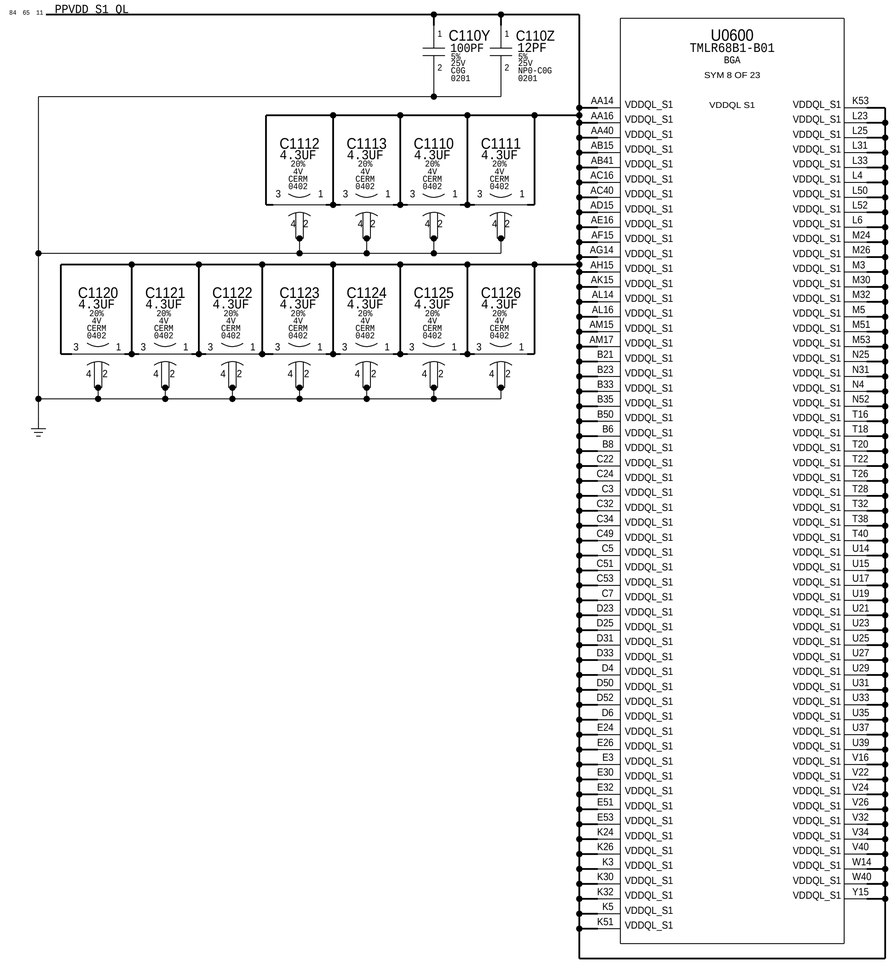
R1098 1.00M 5% 1/32W MF 01005
R1099 1.00M 5% 1/32W MF 01005

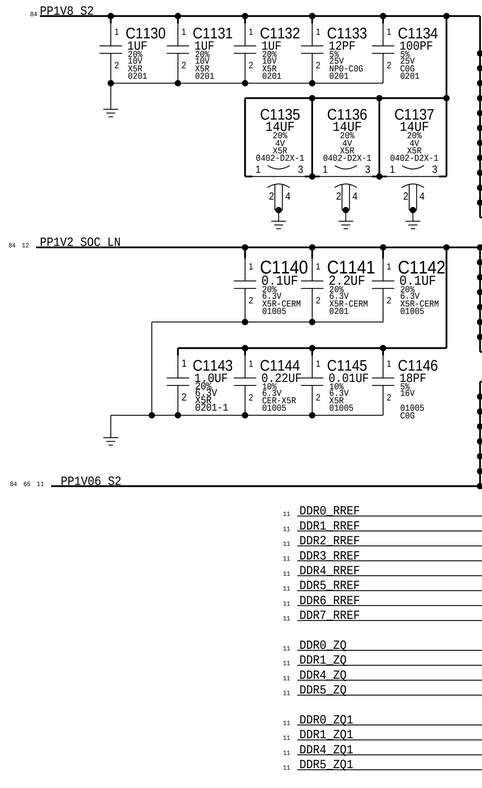
PP1V2_S2_DELAY_TOUCH
R0612 1.00K 5% 1/32W MF 01005
SWD_GRAPE_SWDIO

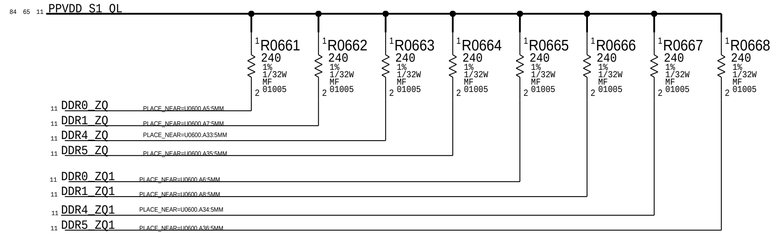
BOM_COST_GROUP=SOC

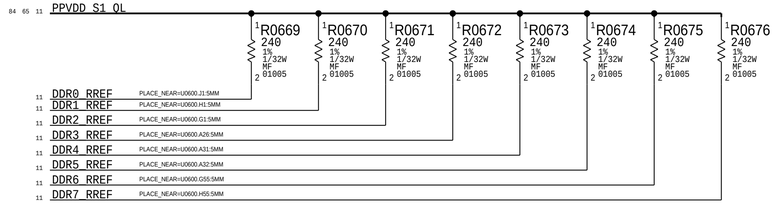
PAGE TITLE
SOC: AOP

SOC: POWER (DDR)









ROM_COST_GROUP=SOC

PAGE TITLE

SOC: POWER (DDR,SRAM)

SOC: POWER (IO,FIXED)

U0600
TMLR68B1-B01
BGA
SYM 13 OF 23

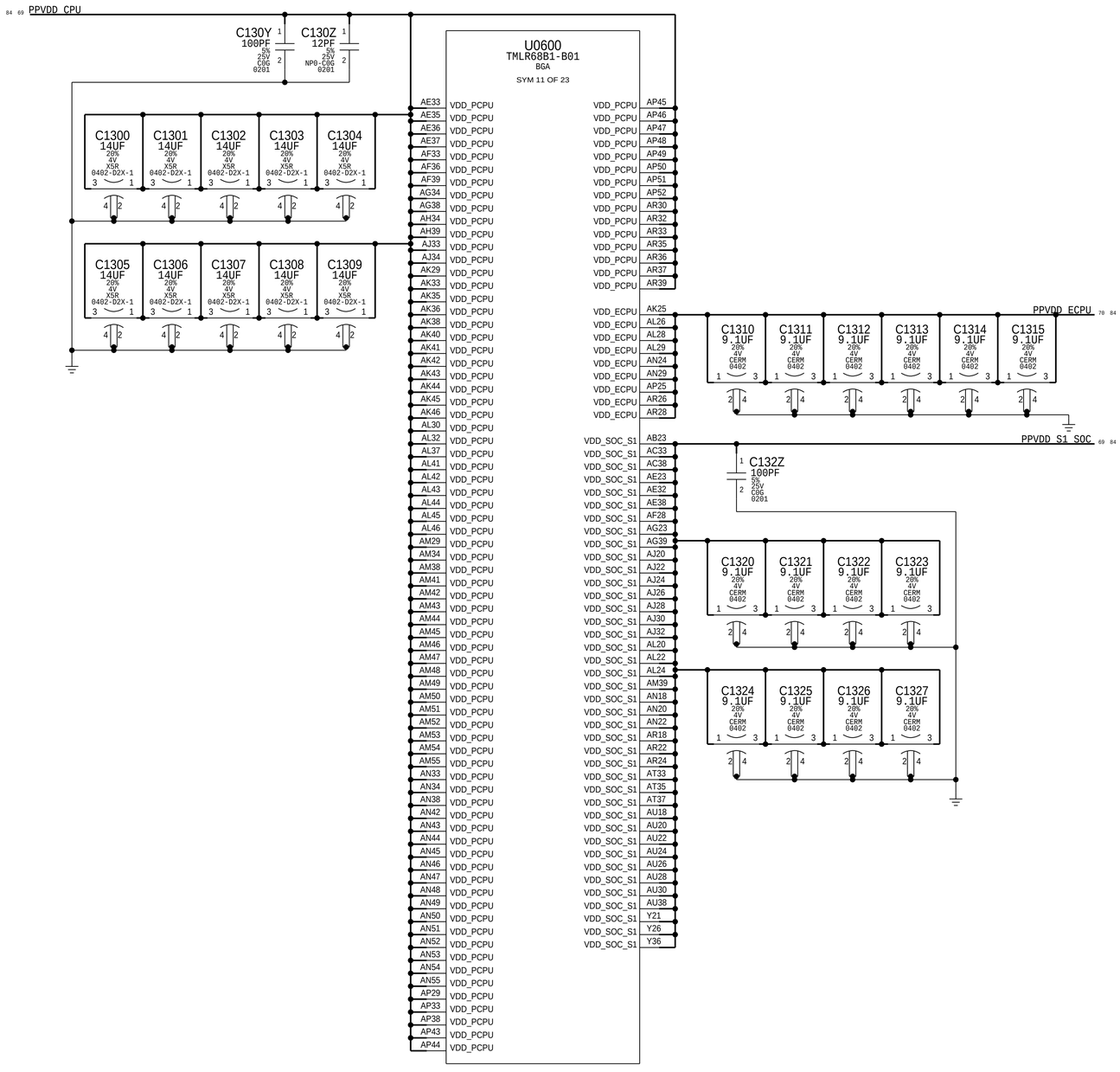
U0600
TMLR68B1-B01
BGA
SYM 14 OF 23

VDDIO06_GRPx RADAR #: 48907718
Cmin = 4.7uF
Loop R < 0.2 ohm
Loop L < 1nH

BOM_COST_GROUP=SOC

PAGE TITLE
SOC: POWER (IO)

SOC: POWER (CPU, GPU)

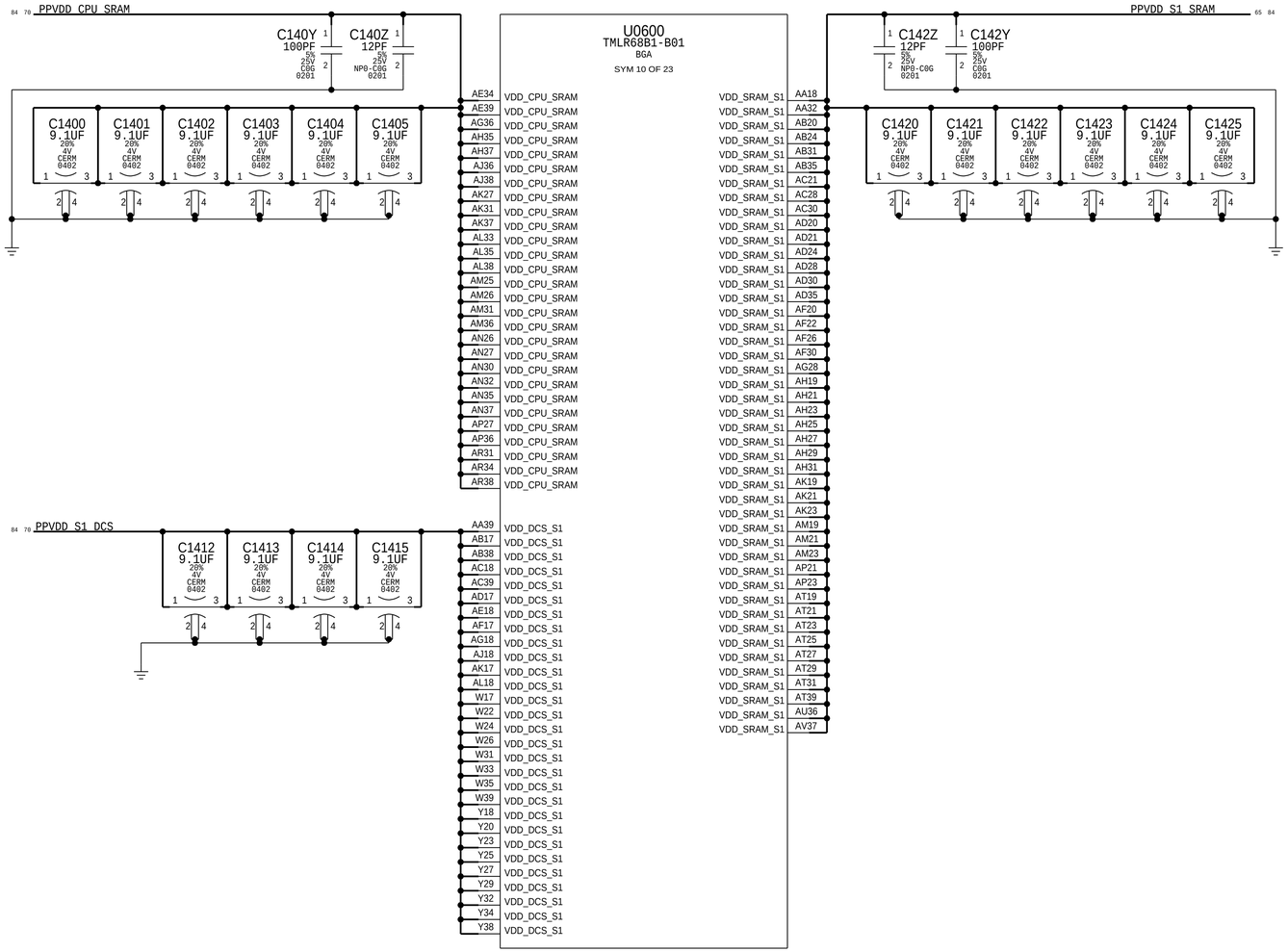


ROM_COST_GROUP=SOC

PAGE TITLE

SOC: POWER (CPU, GPU)

SOC: POWER (SRAM,SOC)



ROM_COST_GROUP=SOC

PAGE TITLE

SOC: POWER (SRAM, SOC)

SOC: GND (1)

U0600 — TMLR68B1-B01 — BGA — SYM 15 OF 23

A10	VSS	AB42
A11	VSS	AB44
A12	VSS	AB45
A13	VSS	AB46
A14	VSS	AB47
A15	VSS	AB48
A16	VSS	AB5
A17	VSS	AB51
A18	VSS	AB54
A19	VSS	AB8
A2	VSS	AB9
A20	VSS	AC10
A21	VSS	AC11
A22	VSS	AC12
A23	VSS	AC15
A24	VSS	AC17
A25	VSS	AC20
A27	VSS	AC22
A28	VSS	AC25
A29	VSS	AC27
A3	VSS	AC29
A30	VSS	AC32
A37	VSS	AC34
A38	VSS	AC36
A39	VSS	AC41
A4	VSS	AC44
A40	VSS	AC45
A41	VSS	AC46
A42	VSS	AC47
A43	VSS	AC8
A44	VSS	AC9
A45	VSS	AD10
A46	VSS	AD11
A47	VSS	AD12
A48	VSS	AD13
A49	VSS	AD14
A50	VSS	AD16
A51	VSS	AD18
A52	VSS	AD19
A53	VSS	AD23
A54	VSS	AD26
A9	VSS	AD29
AA10	VSS	AD31
AA11	VSS	AD33
AA12	VSS	AD38
AA13	VSS	AD39
AA15	VSS	AD8
AA17	VSS	AD9
AA20	VSS	AE10
AA22	VSS	AE11
AA25	VSS	AE12
AA27	VSS	AE14
AA30	VSS	AE15
AA34	VSS	AE17
AA36	VSS	AE2
AA38	VSS	AE20
AA41	VSS	AE22
AA43	VSS	AE25
AA44	VSS	AE28
AA45	VSS	AE41
AA46	VSS	AE5
AA47	VSS	AE8
AA8	VSS	AE9
AA9	VSS	AF10
AB10	VSS	AF11
AB11	VSS	AF12
AB12	VSS	AF13
AB13	VSS	AF14
AB14	VSS	AF16
AB16	VSS	AF18
AB18	VSS	AF19
AB19	VSS	AF21
AB2	VSS	AF23
AB21	VSS	AF25
AB26	VSS	AF27
AB29	VSS	AF31
AB33	VSS	AF34
AB37	VSS	AF35
AB39	VSS	AF37
AB40	VSS	AF38

U0600 — TMLR68B1-B01 — BGA — SYM 16 OF 23

AF40	VSS	AK12
AF42	VSS	AK13
AF43	VSS	AK14
AF44	VSS	AK16
AF45	VSS	AK18
AF46	VSS	AK20
AF47	VSS	AK22
AF8	VSS	AK24
AF9	VSS	AK26
AG10	VSS	AK28
AG11	VSS	AK30
AG12	VSS	AK39
AG15	VSS	AK47
AG20	VSS	AK49
AG22	VSS	AK51
AG24	VSS	AK54
AG26	VSS	AK8
AG30	VSS	AK9
AG32	VSS	AL10
AG35	VSS	AL11
AG37	VSS	AL12
AG41	VSS	AL13
AG43	VSS	AL15
AG44	VSS	AL17
AG45	VSS	AL19
AG46	VSS	AL2
AG47	VSS	AL21
AG48	VSS	AL23
AG51	VSS	AL25
AG54	VSS	AL27
AG8	VSS	AL31
AG9	VSS	AL36
AH10	VSS	AL39
AH11	VSS	AL47
AH12	VSS	AL5
AH18	VSS	AL55
AH2	VSS	AL8
AH20	VSS	AL9
AH24	VSS	AM10
AH26	VSS	AM11
AH28	VSS	AM12
AH30	VSS	AM13
AH33	VSS	AM14
AH36	VSS	AM16
AH38	VSS	AM18
AH41	VSS	AM20
AH42	VSS	AM22
AH43	VSS	AM24
AH44	VSS	AM27
AH45	VSS	AM30
AH46	VSS	AM32
AH47	VSS	AM33
AH5	VSS	AM35
AH8	VSS	AM37
AH9	VSS	AM40
AJ10	VSS	AM6
AJ11	VSS	AM7
AJ12	VSS	AM8
AJ13	VSS	AM9
AJ15	VSS	AN1
AJ21	VSS	AN10
AJ23	VSS	AN11
AJ25	VSS	AN12
AJ27	VSS	AN13
AJ29	VSS	AN14
AJ31	VSS	AN19
AJ35	VSS	AN2
AJ37	VSS	AN21
AJ40	VSS	AN25
AJ41	VSS	AN28
AJ42	VSS	AN3
AJ43	VSS	AN31
AJ44	VSS	AN36
AJ45	VSS	AN39
AJ46	VSS	AN4
AJ47	VSS	AN41
AJ8	VSS	AN5
AJ9	VSS	AN6
AK10	VSS	AN7
AK11	VSS	AN8

U0600 — TMLR68B1-B01 — BGA — SYM 17 OF 23

AN9	VSS	AT52
AP10	VSS	AT53
AP11	VSS	AT6
AP12	VSS	AT9
AP13	VSS	AU10
AP14	VSS	AU11
AP15	VSS	AU12
AP18	VSS	AU13
AP20	VSS	AU14
AP22	VSS	AU15
AP24	VSS	AU16
AP26	VSS	AU21
AP28	VSS	AU23
AP3	VSS	AU25
AP30	VSS	AU27
AP32	VSS	AU29
AP34	VSS	AU3
AP35	VSS	AU31
AP37	VSS	AU33
AP42	VSS	AU37
AP53	VSS	AU39
AP54	VSS	AU41
AP55	VSS	AU44
AP6	VSS	AU45
AP9	VSS	AU46
AR10	VSS	AU47
AR11	VSS	AU48
AR12	VSS	AU49
AR13	VSS	AU50
AR14	VSS	AU53
AR15	VSS	AU6
AR16	VSS	AU7
AR19	VSS	AU8
AR21	VSS	AU9
AR23	VSS	AV10
AR25	VSS	AV12
AR27	VSS	AV13
AR29	VSS	AV14
AR3	VSS	AV15
AR42	VSS	AV17
AR43	VSS	AV18
AR44	VSS	AV19
AR45	VSS	AV21
AR46	VSS	AV22
AR47	VSS	AV24
AR48	VSS	AV26
AR49	VSS	AV28
AR50	VSS	AV3
AR51	VSS	AV35
AR52	VSS	AV38
AR53	VSS	AV41
AR6	VSS	AV44
AR9	VSS	AV45
AT10	VSS	AV46
AT11	VSS	AV47
AT12	VSS	AV48
AT13	VSS	AV49
AT14	VSS	AV50
AT15	VSS	AV53
AT17	VSS	AV6
AT18	VSS	AV9
AT22	VSS	AW10
AT24	VSS	AW12
AT26	VSS	AW14
AT28	VSS	AW15
AT3	VSS	AW16
AT30	VSS	AW25
AT34	VSS	AW27
AT36	VSS	AW29
AT38	VSS	AW3
AT41	VSS	AW30
AT43	VSS	AW31
AT44	VSS	AW32
AT45	VSS	AW34
AT46	VSS	AW36
AT47	VSS	AW40
AT48	VSS	AW41
AT49	VSS	AW42
AT50	VSS	AW43
AT51	VSS	AW44

U0600 — TMLR68B1-B01 — BGA — SYM 18 OF 23

AW45	VSS	BA28
AW46	VSS	BA29
AW47	VSS	BA3
AW48	VSS	BA30
AW49	VSS	BA31
AW50	VSS	BA34
AW51	VSS	BA36
AW52	VSS	BA4
AW53	VSS	BA40
AW6	VSS	BA41
AW9	VSS	BA44
AY10	VSS	BA45
AY11	VSS	BA46
AY12	VSS	BA47
AY14	VSS	BA48
AY17	VSS	BA49
AY22	VSS	BA5
AY24	VSS	BA50
AY3	VSS	BA53
AY33	VSS	BA54
AY35	VSS	BA55
AY37	VSS	BA6
AY38	VSS	BA7
AY39	VSS	BA8
AY40	VSS	BA9
AY41	VSS	BB11
AY42	VSS	BB14
AY44	VSS	BB17
AY45	VSS	BB20
AY46	VSS	BB23
AY47	VSS	BB26
AY48	VSS	BB27
AY49	VSS	BB28
AY50	VSS	BB29
AY53	VSS	BB30
AY6	VSS	BB31
AY9	VSS	BB32
B1	VSS	BB33
B11	VSS	BB34
B12	VSS	BB35
B13	VSS	BB36
B14	VSS	BB39
B15	VSS	BB40
B16	VSS	BB41
B17	VSS	BB42
B18	VSS	BB43
B19	VSS	BB44
B2	VSS	BB45
B20	VSS	BB46
B22	VSS	BB47
B24	VSS	BB48
B27	VSS	BB49
B28	VSS	BB50
B29	VSS	BB51
B32	VSS	BB52
B34	VSS	BB6
B38	VSS	BB8
B39	VSS	BC22
B40	VSS	BC23
B41	VSS	BC26
B42	VSS	BC28
B43	VSS	BC30
B44	VSS	BC32
B45	VSS	BC34
B46	VSS	BC36
B47	VSS	BC39
B49	VSS	BC4
B5	VSS	BC40
B51	VSS	BC41
B54	VSS	BC42
B55	VSS	BC44
B7	VSS	BC46
BA1	VSS	BC48
BA18	VSS	BC50
BA19	VSS	BC51
BA2	VSS	BC52
BA20	VSS	BD1
BA21	VSS	BD2
BA25	VSS	BD23
BA27	VSS	BD24

U0600 — TMLR68B1-B01 — BGA — SYM 19 OF 23

BD25	VSS	C21
BD26	VSS	C23
BD28	VSS	C25
BD30	VSS	C26
BD32	VSS	C27
BD34	VSS	C28
BD36	VSS	C29
BD37	VSS	C30
BD38	VSS	C31
BD39	VSS	C33
BD40	VSS	C35
BD41	VSS	C36
BD42	VSS	C37
BD44	VSS	C38
BD46	VSS	C39
BD48	VSS	C4
BD50	VSS	C40
BD51	VSS	C41
BD52	VSS	C42
BD53	VSS	C43
BD54	VSS	C44
BD55	VSS	C45
BE1	VSS	C46
BE11	VSS	C47
BE14	VSS	C48
BE17	VSS	C50
BE2	VSS	C52
BE20	VSS	C54
BE22	VSS	C55
BE25	VSS	C6
BE27	VSS	C8
BE29	VSS	C9
BE3	VSS	D1
BE31	VSS	D10
BE33	VSS	D11
BE35	VSS	D12
BE37	VSS	D13
BE41	VSS	D14
BE43	VSS	D15
BE45	VSS	D16
BE47	VSS	D17
BE49	VSS	D18
BE5	VSS	D19
BE51	VSS	D2
BE53	VSS	D20
BE54	VSS	D24
BE55	VSS	D26
BE8	VSS	D27
BF2	VSS	D28
BF22	VSS	D29
BF23	VSS	D3
BF25	VSS	D30
BF27	VSS	D32
BF29	VSS	D36
BF3	VSS	D37
BF31	VSS	D38
BF33	VSS	D39
BF35	VSS	D40
BF37	VSS	D41
BF41	VSS	D42
BF43	VSS	D43
BF45	VSS	D44
BF47	VSS	D45
BF49	VSS	D46
BF51	VSS	D47
BF53	VSS	D5
BF54	VSS	D51
C1	VSS	D53
C10	VSS	D54
C11	VSS	D55
C12	VSS	D9
C13	VSS	E1
C14	VSS	E10
C15	VSS	E11
C16	VSS	E12
C17	VSS	E13
C18	VSS	E14
C19	VSS	E15
C2	VSS	E16
C20	VSS	E17

BOM_COST_GROUP=SOC

SYNC_MASTER=2022_R1.8_0.3.0 SYNC_DATE=09/17/2020

PAGE TITLE

SOC: GND

SOC: GND (2)

U0600
TMLR68B1-B01
BGA
SYM 20 OF 23

E18	VSS	VSS	F8
E19	VSS	VSS	F9
E2	VSS	VSS	G10
E20	VSS	VSS	G11
E22	VSS	VSS	G12
E23	VSS	VSS	G13
E25	VSS	VSS	G14
E27	VSS	VSS	G15
E28	VSS	VSS	G16
E29	VSS	VSS	G17
E31	VSS	VSS	G18
E33	VSS	VSS	G19
E34	VSS	VSS	G2
E36	VSS	VSS	G20
E37	VSS	VSS	G21
E38	VSS	VSS	G22
E39	VSS	VSS	G23
E4	VSS	VSS	G25
E40	VSS	VSS	G27
E41	VSS	VSS	G28
E42	VSS	VSS	G29
E43	VSS	VSS	G31
E44	VSS	VSS	G33
E45	VSS	VSS	G34
E46	VSS	VSS	G35
E47	VSS	VSS	G36
E49	VSS	VSS	G37
E5	VSS	VSS	G38
E50	VSS	VSS	G39
E52	VSS	VSS	G4
E54	VSS	VSS	G40
E55	VSS	VSS	G41
E6	VSS	VSS	G42
E7	VSS	VSS	G43
E9	VSS	VSS	G44
F1	VSS	VSS	G45
F10	VSS	VSS	G46
F11	VSS	VSS	G47
F12	VSS	VSS	G48
F13	VSS	VSS	G49
F14	VSS	VSS	G50
F15	VSS	VSS	G52
F16	VSS	VSS	G54
F17	VSS	VSS	G6
F18	VSS	VSS	G7
F19	VSS	VSS	G8
F2	VSS	VSS	G9
F20	VSS	VSS	H10
F21	VSS	VSS	H11
F22	VSS	VSS	H12
F24	VSS	VSS	H13
F26	VSS	VSS	H14
F27	VSS	VSS	H15
F28	VSS	VSS	H16
F29	VSS	VSS	H17
F3	VSS	VSS	H18
F30	VSS	VSS	H19
F32	VSS	VSS	H2
F34	VSS	VSS	H20
F35	VSS	VSS	H21
F36	VSS	VSS	H22
F37	VSS	VSS	H24
F38	VSS	VSS	H26
F39	VSS	VSS	H27
F40	VSS	VSS	H28
F41	VSS	VSS	H29
F42	VSS	VSS	H3
F43	VSS	VSS	H30
F44	VSS	VSS	H32
F45	VSS	VSS	H34
F46	VSS	VSS	H35
F47	VSS	VSS	H36
F48	VSS	VSS	H37
F49	VSS	VSS	H38
F5	VSS	VSS	H39
F51	VSS	VSS	H40
F53	VSS	VSS	H41
F54	VSS	VSS	H42
F55	VSS	VSS	H43
F7	VSS	VSS	H44

U0600
TMLR68B1-B01
BGA
SYM 21 OF 23

H45	VSS	VSS	K39
H46	VSS	VSS	K4
H47	VSS	VSS	K40
H48	VSS	VSS	K41
H49	VSS	VSS	K42
H5	VSS	VSS	K43
H51	VSS	VSS	K44
H53	VSS	VSS	K45
H54	VSS	VSS	K46
H7	VSS	VSS	K47
H8	VSS	VSS	K48
H9	VSS	VSS	K49
J10	VSS	VSS	K50
J11	VSS	VSS	K52
J12	VSS	VSS	K54
J13	VSS	VSS	K55
J14	VSS	VSS	K6
J15	VSS	VSS	K7
J16	VSS	VSS	L1
J17	VSS	VSS	L10
J18	VSS	VSS	L13
J19	VSS	VSS	L16
J2	VSS	VSS	L18
J20	VSS	VSS	L19
J21	VSS	VSS	L2
J22	VSS	VSS	L20
J23	VSS	VSS	L21
J25	VSS	VSS	L22
J27	VSS	VSS	L24
J28	VSS	VSS	L26
J29	VSS	VSS	L27
J31	VSS	VSS	L28
J33	VSS	VSS	L29
J34	VSS	VSS	L3
J35	VSS	VSS	L30
J36	VSS	VSS	L32
J37	VSS	VSS	L34
J38	VSS	VSS	L35
J39	VSS	VSS	L36
J4	VSS	VSS	L37
J40	VSS	VSS	L38
J41	VSS	VSS	L39
J42	VSS	VSS	L40
J43	VSS	VSS	L41
J44	VSS	VSS	L42
J45	VSS	VSS	L43
J46	VSS	VSS	L44
J47	VSS	VSS	L45
J48	VSS	VSS	L46
J49	VSS	VSS	L47
J50	VSS	VSS	L48
J52	VSS	VSS	L49
J54	VSS	VSS	L5
J55	VSS	VSS	L51
J6	VSS	VSS	L53
J7	VSS	VSS	L54
J8	VSS	VSS	L55
J9	VSS	VSS	L7
K1	VSS	VSS	M1
K10	VSS	VSS	M10
K13	VSS	VSS	M13
K16	VSS	VSS	M16
K18	VSS	VSS	M17
K19	VSS	VSS	M18
K2	VSS	VSS	M19
K20	VSS	VSS	M2
K21	VSS	VSS	M20
K22	VSS	VSS	M21
K23	VSS	VSS	M22
K25	VSS	VSS	M23
K27	VSS	VSS	M25
K28	VSS	VSS	M27
K29	VSS	VSS	M28
K31	VSS	VSS	M29
K33	VSS	VSS	M31
K34	VSS	VSS	M33
K35	VSS	VSS	M34
K36	VSS	VSS	M35
K37	VSS	VSS	M36
K38	VSS	VSS	M37

U0600
TMLR68B1-B01
BGA
SYM 22 OF 23

M38	VSS	VSS	P21
M39	VSS	VSS	P22
M4	VSS	VSS	P25
M40	VSS	VSS	P26
M41	VSS	VSS	P27
M42	VSS	VSS	P28
M43	VSS	VSS	P29
M44	VSS	VSS	P3
M45	VSS	VSS	P30
M46	VSS	VSS	P31
M47	VSS	VSS	P34
M48	VSS	VSS	P35
M49	VSS	VSS	P36
M50	VSS	VSS	P37
M52	VSS	VSS	P38
M54	VSS	VSS	P39
M55	VSS	VSS	P4
M6	VSS	VSS	P40
M7	VSS	VSS	P41
M8	VSS	VSS	P42
N1	VSS	VSS	P43
N10	VSS	VSS	P44
N11	VSS	VSS	P45
N12	VSS	VSS	P46
N13	VSS	VSS	P47
N14	VSS	VSS	P48
N15	VSS	VSS	P49
N16	VSS	VSS	P52
N17	VSS	VSS	P53
N18	VSS	VSS	P7
N19	VSS	VSS	R1
N2	VSS	VSS	R14
N20	VSS	VSS	R15
N21	VSS	VSS	R16
N22	VSS	VSS	R17
N23	VSS	VSS	R18
N24	VSS	VSS	R19
N26	VSS	VSS	R20
N27	VSS	VSS	R21
N28	VSS	VSS	R22
N29	VSS	VSS	R23
N3	VSS	VSS	R24
N30	VSS	VSS	R26
N32	VSS	VSS	R27
N33	VSS	VSS	R3
N34	VSS	VSS	R30
N35	VSS	VSS	R31
N36	VSS	VSS	R32
N37	VSS	VSS	R33
N38	VSS	VSS	R34
N39	VSS	VSS	R35
N40	VSS	VSS	R36
N41	VSS	VSS	R37
N42	VSS	VSS	R38
N43	VSS	VSS	R39
N44	VSS	VSS	R4
N45	VSS	VSS	R40
N46	VSS	VSS	R41
N47	VSS	VSS	R42
N48	VSS	VSS	R43
N49	VSS	VSS	R44
N5	VSS	VSS	R45
N50	VSS	VSS	R46
N51	VSS	VSS	R47
N54	VSS	VSS	R5
N6	VSS	VSS	R6
N7	VSS	VSS	R7
N8	VSS	VSS	T1
N9	VSS	VSS	T10
P1	VSS	VSS	T11
P10	VSS	VSS	T12
P14	VSS	VSS	T13
P15	VSS	VSS	T14
P16	VSS	VSS	T15
P17	VSS	VSS	T17
P18	VSS	VSS	T19
P19	VSS	VSS	T2
P2	VSS	VSS	T21
P20	VSS	VSS	T23
		VSS	T27

U0600
TMLR68B1-B01
BGA
SYM 23 OF 23

T3	VSS	VSS	V6
T31	VSS	VSS	V7
T35	VSS	VSS	V8
T37	VSS	VSS	V9
T39	VSS	VSS	W10
T4	VSS	VSS	W11
T41	VSS	VSS	W12
T42	VSS	VSS	W13
T43	VSS	VSS	W15
T44	VSS	VSS	W16
T45	VSS	VSS	W2
T46	VSS	VSS	W21
T47	VSS	VSS	W23
T48	VSS	VSS	W25
T5	VSS	VSS	W27
T51	VSS	VSS	W32
T54	VSS	VSS	W34
T6	VSS	VSS	W41
T7	VSS	VSS	W42
T8	VSS	VSS	W43
T9	VSS	VSS	W44
U1	VSS	VSS	W45
U10	VSS	VSS	W46
U11	VSS	VSS	W47
U12	VSS	VSS	W48
U13	VSS	VSS	W5
U16	VSS	VSS	W51
U18	VSS	VSS	W54
U2	VSS	VSS	W8
U22	VSS	VSS	W9
U24	VSS	VSS	Y10
U26	VSS	VSS	Y11
U28	VSS	VSS	Y12
U3	VSS	VSS	Y13
U30	VSS	VSS	Y14
U32	VSS	VSS	Y16
U34	VSS	VSS	Y19
U36	VSS	VSS	Y22
U38	VSS	VSS	Y24
U4	VSS	VSS	Y28
U40	VSS	VSS	Y30
U41	VSS	VSS	Y35
U42	VSS	VSS	Y37
U43	VSS	VSS	Y39
U44	VSS	VSS	Y40
U45	VSS	VSS	Y41
U46	VSS	VSS	Y42
U47	VSS	VSS	Y43
U48	VSS	VSS	Y44
U5	VSS	VSS	Y45
U6	VSS	VSS	Y46
U7	VSS	VSS	Y47
U8	VSS	VSS	Y51
U9	VSS	VSS	Y8
V1	VSS	VSS	Y9
V10	VSS	VSS	B48
V11	VSS		
V12	VSS		
V13	VSS		
V14	VSS		
V15	VSS		
V2	VSS		
V21	VSS		
V23	VSS		
V25	VSS		
V27	VSS		
V3	VSS		
V31	VSS		
V33	VSS		
V35	VSS		
V39	VSS		
V4	VSS		
V41	VSS		
V42	VSS		
V43	VSS		
V44	VSS		
V45	VSS		
V46	VSS		
V47	VSS		
V5	VSS		

BOM_COST_GROUP=SOC

SYNC_MASTER=2222_RLB_B_3_0 SYNC_DATE=08/17/2020

PAGE TITLE

SOC: GND-2

S5E NAND 1

I_VCC = 1150mA MAX (1us PEAK POWER)

84 65 18 PP2V63_NAND

C1813 10UF 20% 6.3V CERM-X5R 0402
C1816 10UF 20% 6.3V CERM-X5R 0402
C1819 10UF 20% 6.3V CERM-X5R 0402
17 C1821 10UF 20% 6.3V CERM-X5R 0402
22 C1849 1.0UF 20% 6.3V X5R 0201-1 138S0692
C1850 1.0UF 20% 6.3V X5R 0201-1
C1851 1.0UF 20% 6.3V X5R 0201-1
C1853 330PF 10% 16V CER-X7R 01005

C1865 10UF 20% 6.3V CERM-X5R 0402
17 C1866 10UF 20% 6.3V CERM-X5R 0402
6 C1836 220PF 5% 25V C0G 01005
C1834 47PF 5% 16V NP0-C0G 01005
40 C1835 22PF 5% 16V C0G 01005

335S00468 4 U1800 OMIT_TABLE
THGBY8T3EBMLFAI
LGA
SYM 2 OF 2

D3 E12 G4 L12 R2 — VCC
J2 K9 T5 — VDDIO_1
PCIE_AVDD_H — (VCCQ_IO)
AVDD1X_PLL — (VCCQ_IO)
E10 E2 N2 P9 — VDDIO_2 — (VCCQ_ANI)
G6 G8 L6 L8 R6 R8 — VDD — (VDD)
J8 M9 N6 N8 — PCIE_VDD
VSS
VSS_R
VPP — NC_PP_NAND1_VPP
VQPS

I_VDDIO1 (@ 1.2V) = 72mA MAX

84 18 17 9 PP1V2_NAND

C1841 2.2UF 20% 6.3V X5R-CERM 0201
C1824 2.2UF 20% 6.3V X5R-CERM 0201
C1826 2.2UF 20% 6.3V X5R-CERM 0201
C1810 0.1UF 20% 6.3V X5R-CERM 01005
C1811 220PF 5% 25V C0G 01005

FL1801 10-OHM-1.1A 01005
PP_NAND1_VDDIO1_F VOLTAGE=1.8
PP_NAND1_VDDIO1_R VOLTAGE=1.8

C1856 330PF 10% 16V CER-X7R 01005
C1857 47PF 5% 16V NP0-C0G 01005
C1858 22PF 5% 16V C0G 01005
C1825 2.2UF 20% 6.3V X5R-CERM 0201
R1863 2.0 5% 1/32W MF 01005
C1863 2.2UF 20% 6.3V X5R-CERM 0201

I_VDDIO2 (@ 1.2V) = 384mA MAX

84 18 17 9 PP1V2_NAND

C1831 15UF 20% 6.3V X5R 0402-0.1MM-1
C1830 15UF 20% 6.3V X5R 0402-0.1MM-1
7 C1829 15UF 20% 6.3V X5R 0402-0.1MM-1
45 C1843 2.2UF 20% 6.3V X5R-CERM 0201
C1845 2.2UF 20% 6.3V X5R-CERM 0201
38 C1847 2.2UF 20% 6.3V X5R-CERM 0201

C1859 330PF 10% 16V CER-X7R 01005
C1861 220PF 5% 25V C0G 01005
C1818 47PF 5% 16V NP0-C0G 01005
C1814 22PF 5% 16V C0G 01005

I_VDD = 820mA MAX

84 18 PP0V88_NAND

C1848 15UF 20% 6.3V X5R 0402-0.1MM-1
C1802 15UF 20% 6.3V X5R 0402-0.1MM-1
C1805 15UF 20% 6.3V X5R 0402-0.1MM-1

FL1800 10-OHM-1.1A 01005
PP0V88_NAND1_PLL VOLTAGE=0.83
NO CAP ON NAND SIDE IS ON PURPOSE
EXPLANATION FROM NAND PI TEAM

C1823 2.2UF 20% 6.3V X5R-CERM 0201

49 C1800 2.2UF 20% 6.3V X5R-CERM 0201
C1801 2.2UF 20% 6.3V X5R-CERM 0201
C1822 2.2UF 20% 6.3V X5R-CERM 0201
C1827 2.2UF 20% 6.3V X5R-CERM 0201
C1840 2.2UF 20% 6.3V X5R-CERM 0201
C1842 2.2UF 20% 6.3V X5R-CERM 0201
C1844 2.2UF 20% 6.3V X5R-CERM 0201
C1846 2.2UF 20% 6.3V X5R-CERM 0201

C1807 330PF 10% 16V CER-X7R 01005
C1803 220PF 5% 25V C0G 01005
C1808 47PF 5% 16V NP0-C0G 01005
C1804 22PF 5% 16V C0G 01005

82 18 17 7 GPIO_SOC_TO_NAND_RESET_L

NOSTUFF R1820 47.0K 5% 1/32W MF 01005

NOTES:
INT PU = internal pull up to VDDIO_1
INT PD = internal pull down to VSS
Internal pulls are 40kOhm (min), 80kOhm (typ), 165kOhm (max)

4 U1800 OMIT_TABLE 335S00468
THGBY8T3EBMLFAI
LGA
SYM 1 OF 2

7 IN CLK_SOC_TO_NAND1_24MHZ → M3 CLK_IN
82 18 17 7 IN GPIO_SOC_TO_NAND_RESET_L → L4 RESET*
G10 TRST* (INT PD) — GND_VOID=TRUE
9 IN 85_PCIE_SOC_TO_NAND1_REFCLK_P → K11 PCIE_REFCLK_P
9 IN 85_PCIE_SOC_TO_NAND1_REFCLK_N → J12 PCIE_REFCLK_N
GND_VOID=TRUE
9 IN PCIE_NAND1_TO_SOC_CLKREQ_L → P5 PCIE_CLKREQ*
GND_VOID=TRUE
9 IN 85_PCIE_SOC_TO_NAND1_TX_P → M11 PCIE_RX0_P
9 IN 85_PCIE_SOC_TO_NAND1_TX_N → N12 PCIE_RX0_N
GND_VOID=TRUE
17 PCIE_NAND1_TO_SOC_TX_C_P → R12 PCIE_TX0_P
17 PCIE_NAND1_TO_SOC_TX_C_N → T11 PCIE_TX0_N
GND_VOID=TRUE
82 18 9 IN PCIE_SOC_TO_NAND_PERST_L → E8 EXT_NCE/PERST*
ANALOG_NAND1_PCIE_RESREF (for dev) → H7 PCIE_RESREF
C1820 10PF 5% 16V NP0/C0G 01005
R1804 200 0.5% 1/32W TK 01005
(for dev)
Keep ZQ trace DCR < 200mOhm
C10 ZQ_0
K3 ZQ_1
ANALOG_NAND1_ZQ_0
ANALOG_NAND1_ZQ_1
R1800 300 1% 1/32W MF 01005-1
R1801 300 1% 1/32W MF 01005-1

(INT PU) EXT_D0/BOOT0 — B3 GPIO_PMU_TO_NAND_LOW_BATT_L — IN 18 72 82
(INT PD) EXT_D1/BOOT1 — C4 GPIO_SOC_TO_NAND_FW_STRAP — IN 7 18 82
EXT_D2/BOOT2/SPINAND_SCLK/SPI_SCLK — B5 SPI_AP_TO_NAND_SCLK_BOOT_CFG0 — IN 5 7
EXT_D3/SPINAND_MISO/SPI_MISO/SWD_UID — C6 SPI_NAND_TO_AP_MISO_BOOT_CFG2_R — 17
EXT_D4/SPI_CS — B7
EXT_D5/SPINAND_MOSI/SPI_MOSI/SWD_UID1 — C8 SPI_AP_TO_NAND_MOSI_BOOT_CFG1 — IN 5 7
EXT_D6/BOOT3 — B9
EXT_D7/SPF_N — B11 SYS_ALIVE — IN 18 72 82
(INT PU) EXT_DQS/BCM_N — D11 NC_NAND1_BCM_L
(INT PU) EXT_NRE/JTAG_TMS — D7 SWD_NAND_SWDIO — BI 6 18
(INT PU) EXT_NWE/JTAG_TCK — E6 SWD_NAND1_SWCLK — IN 6
EXT_RNB/JTAG_TDO — E4
(INT PU) EXT_CLE/JTAG_TDI — D5 NC_NAND1_JTAG_TDI
(INT PD) EXT_ALE/JTAG_SEL — D9
DROOP* — T3 TPT_NAND1_DROOP_L — 82
WP* — G2 PP1V2_NAND — 9 17 18 84
ANI0_VREF — G12 NAND1_ANI0_VREF — 82
ANI1_VREF — J4 NAND1_ANI1_VREF — 82

17 SPI_NAND_TO_AP_MISO_BOOT_CFG2_R → R1805 PLACE_NEAR=U1800.C6:100MM 33 1/32W 5% MF 01005 → SPI_NAND_TO_AP_MISO_BOOT_CFG2 — OUT 5 7

GND_VOID=TRUE GND_VOID=TRUE
17 PCIE_NAND1_TO_SOC_TX_C_P — 0.22UF 01005 6.3V C1880 10% CER-X5R — 85_PCIE_NAND1_TO_SOC_TX_P OUT 9
17 PCIE_NAND1_TO_SOC_TX_C_N — 0.22UF 01005 6.3V C1881 10% CER-X5R — 85_PCIE_NAND1_TO_SOC_TX_N OUT 9
GND_VOID=TRUE GND_VOID=TRUE

VQPS used for fuse programming, GND in system

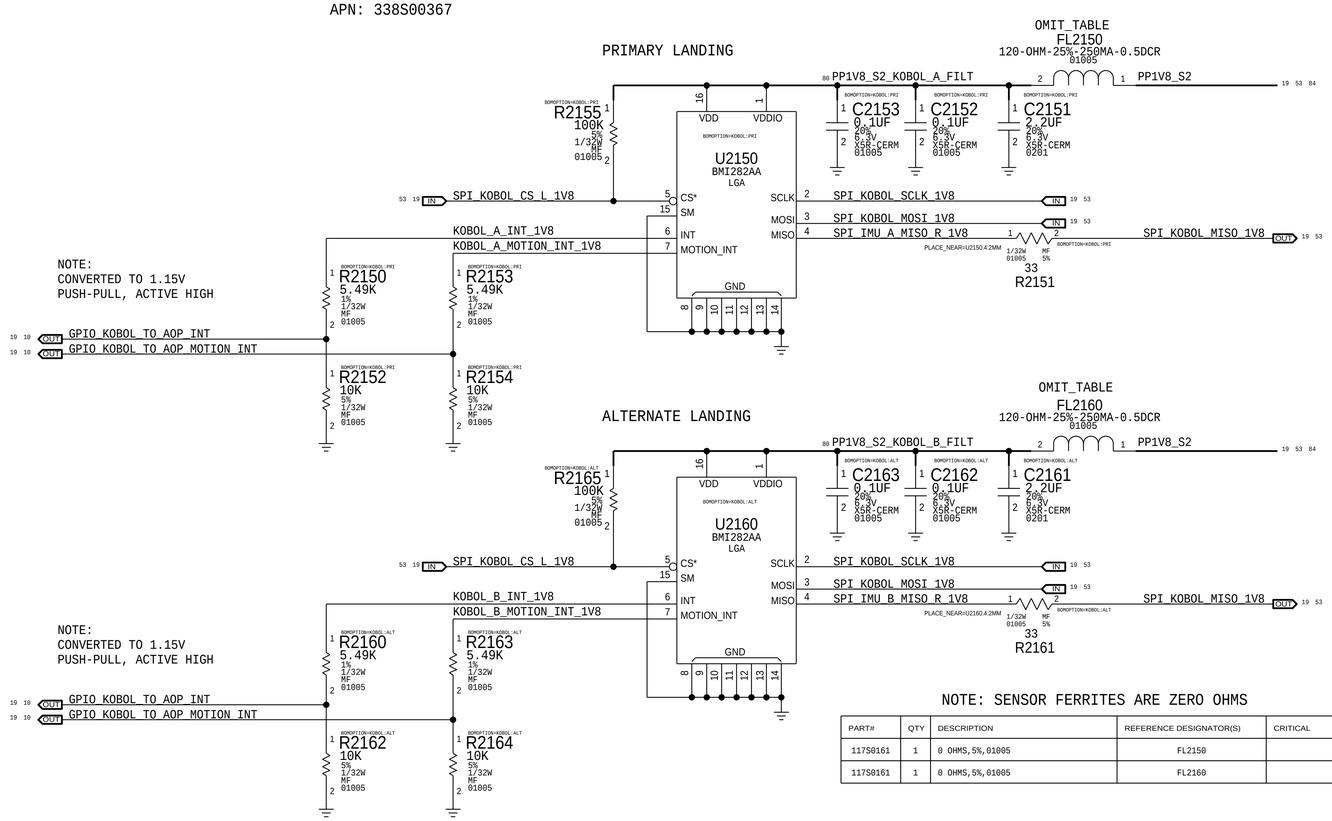
BOM_COST_GROUP=NAND

PAGE TITLE
NAND

SENSORS

KOBOL - ACCEL & GYRO

APN: 338S00367



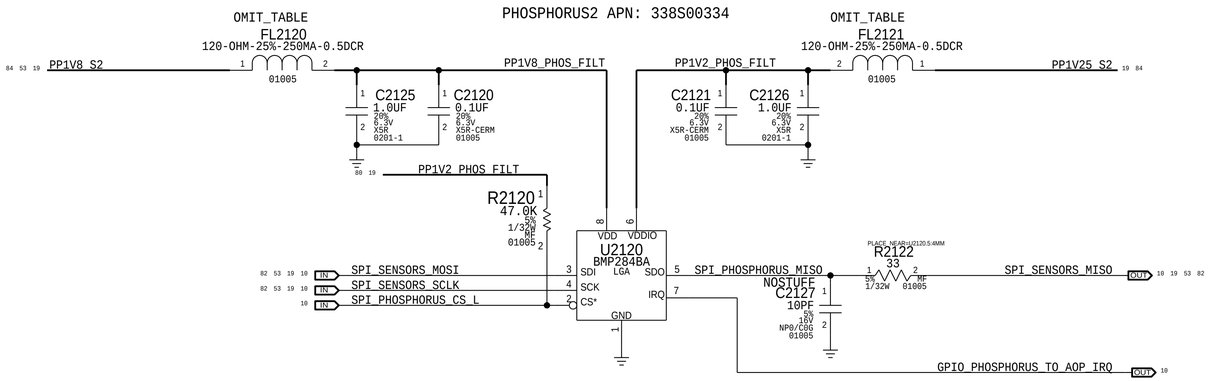
NOTE: SENSOR FERRITES ARE ZERO OHMS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
117S0161	1	0 OHMS,5%,01005	FL2150		KOBOL:PRI
117S0161	1	0 OHMS,5%,01005	FL2160		KOBOL:ALT

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
117S0161	2	0 OHMS,5%,01005	FL2120,FL2121		

PHOSPHORUS2

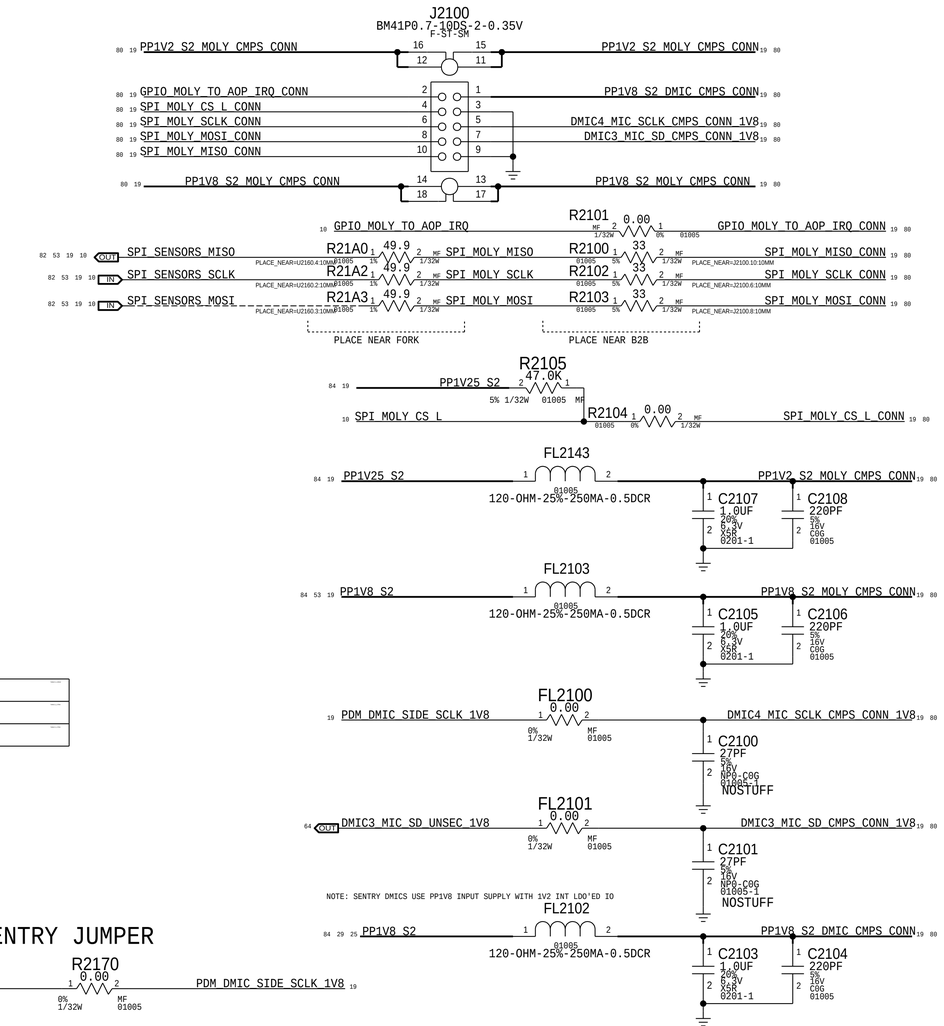
PHOSPHORUS2 APN: 338S00334



NOTE: PINOUT UPDATED PER J522 COMPASS_FLEX REV 0.3

COMPASS/DMIC FLEX B2B

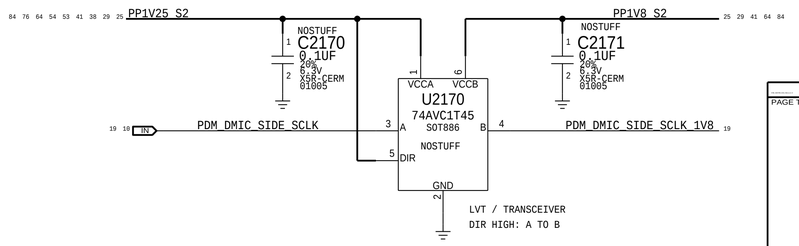
MLB SIDE: 516S00176
FLEX SIDE: 516S00175



SENTRY JUMPER

DMIC CLK VT

LVT FOR DMIC DATA IS ON GPM PAGE (CSA 76)



BOM_COST_GROUP=SENSORS

PAGE TITLE

SENSOR: KOBOL, PHOS2, MOLY

LANAI MASTER

U2200 BCM15957A0 BGA SYM 1 OF 2

PP1V25_S2 → R2250 10K 5% 1/32W MF 01005 → GPIO_05

GPIO_SOC_TO_LANAI_DISPLAY_BSYNC0 — E9 — GPIO_00
GPIO_SOC_TO_GRAPE_BSYNC1 — F9 — GPIO_01
GPIO_SOC_TO_DISPLAY_TOUCH_EB — G9 — GPIO_02
UART_DEBUG_TO_GRAPE_TX — A10 — GPIO_03
UART_GRAPE_TO_DEBUG_TX — C10 — GPIO_04
LANAI_GPIO5_FAILSAFE_PU — D10 — GPIO_05 (1V2 IO)
GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC — E10 — GPIO_06
GPIO_TOUCH_TO_BT_SYNC — F10 — GPIO_07
SPI_SOC_TO_GRAPE_CS_L — A11 — GPIO_08
UART_GRAPE_TO_AOP_TX — B11 — GPIO_09
UART_AOP_TO_GRAPE_TX — B12 — GPIO_10
KONA_S_TO_LANAI_M_RESET_DET_1V8_L — C12 — GPIO_11
LANAI_M_TO_KONA_S_TTW_1V8 — H9 — GPIO_12
LANAI_M_TO_KONA_S_IPC1_1V8 — J9 — GPIO_13
SPI_LANAI_M_TO_KONA_S_MISO_1V8 — E11 — GPIO_14
SPI_LANAI_M_TO_KONA_S_SCLK_1V8 — F11 — GPIO_15
SPI_LANAI_M_TO_KONA_S_CS_1V8_L — G10 — GPIO_16 (1V8 IO)
KONA_S_TO_LANAI_M_INT_1V8_L — H10 — GPIO_17
SPI_LANAI_M_TO_KONA_S_MOSI_1V8 — H11 — GPIO_18
LANAI_M_TO_KONA_S_IPC2_1V8 — J10 — GPIO_19

SWD_GRAPE_SWDIO — L10 — JTAG_TRST*
JTAG_TMS — J11
JTAG_TDO — K10
JTAG_TDI — K11
JTAG_TCK — L9 (1V2 IO)
JTAG_SRST* — L11
JTAG_RTCK — L15

CLK_SOC_TO_GRAPE_24MHZ → R2271 0.00 01005 1/32W MF 5% 16V NP0-C0G → CLK_TOUCH_24MHZ → C2216 33PF → XW2201 SHORT-8L-0.091MM-SM → CLK_LANAI_M_24MHZ
CLK_KONA_S_24MHZ → XW2202 SHORT-8L-0.091MM-SM → CLK_TOUCH_24MHZ_C
C2217 10PF 10% 10V NP0/C0G 01005
R2211 10K 5% 1/32W MF 01005
SWD_GRAPE_SWCLK — K15 — XTALP
LANAI_M_TEST_MODE — L13 — XTALN
K15 — XTAL_O_CLK_EXT
D9 — TEST_MODE
C9 — RESET*
GPIO_SOC_TO_GRAPE_RESET_L → G13 — PSE_SYNC (PSE_SYNC_1V8)

J12 — I2C_SDA
J13 — I2C_SCL

PP1V2_S2_DELAY_TOUCH → R2224 10K 5% 1/32W MF 01005
SPI_SOC_TO_GRAPE_MISO → R2215 33 5% 1/32W MF 01005 → SPI_SOC_TO_GRAPE_MISO_R — E15 — H_SDO
SPI_SOC_TO_GRAPE_MOSI — D15 — H_SDI
SPI_SOC_TO_GRAPE_SCLK — C15 — H_SCLK (1V2 IO)
GPIO_GRAPE_TO_AOP_IRQ_L — D14 — H_INT_L
SPI_SOC_TO_GRAPE_CS_L — E14 — H_CS_L
E13 — H_ALT_CS_L

KMSI_STRB_IN_1V8 — F14 — KMSI_STRB_IN
KMSI_STRB_OUT_1V8 — G15 — KMSI_STRB_OUT
KMSI_MOSI_1V8 — G14 — KMSI_MOSI (1V8 IO)
KMSI_MISO_1V8 — F15 — KMSI_MISO

LANAI_BOOT1_M — A9 — BOOT_CFG_1 (1V2 IO)
LANAI_BOOT0_M — B9 — BOOT_CFG_0
NC_LANAI_BOOST_EN — C14 — BOOST_VBAT_EN
NC_LANAI_BOOST_VBAT — A12 — BOOST_VBAT
NC_LANAI_BOOST_NGATE — C13 — BOOST_NGATE
NC_LANAI_BOOST_ISENSE — A13 — BOOST_ISENSE
NC_LANAI_BOOST_FBIN — A14 — BOOST_FBIN
LANAI_BOOST_ATEST — B14 — BOOST_ATEST
LANAI_KONA_BGBIAS_1V8 — P10 — AFE_IO_BGBIAS (1V8 IO)
F12 — IFO_CLK_EXT
H12 — CORE_PMU_O_AON_TEST_PMU

PAD_I_TOUCH55 — P6 GRAPE_RX<0>
PAD_I_TOUCH54 — P5 GRAPE_RX<1>
PAD_I_TOUCH53 — P4 GRAPE_RX<2>
PAD_I_TOUCH52 — P3 GRAPE_RX<3>
PAD_I_TOUCH51 — N6 GRAPE_RX<4>
PAD_I_TOUCH50 — N5 GRAPE_RX<5>
PAD_I_TOUCH49 — N4 GRAPE_RX<6>
PAD_I_TOUCH48 — N3 GRAPE_RX<7>
PAD_I_TOUCH47 — N2 GRAPE_RX<8>
PAD_I_TOUCH46 — N1 GRAPE_RX<9>
PAD_I_TOUCH45 — M6 GRAPE_RX<10>
PAD_I_TOUCH44 — M5 GRAPE_RX<11>
PAD_I_TOUCH43 — M4 GRAPE_RX<12>
PAD_I_TOUCH42 — M1 GRAPE_RX<13>
PAD_I_TOUCH41 — L5 GRAPE_RX<14>
PAD_I_TOUCH40 — L4 GRAPE_RX<15>
PAD_I_TOUCH39 — L1 GRAPE_RX<16>
PAD_I_TOUCH38 — K4 GRAPE_RX<17>
PAD_I_TOUCH37 — K3 GRAPE_RX<18>
PAD_I_TOUCH36 — K2 GRAPE_RX<19>
PAD_I_TOUCH35 — K1 GRAPE_RX<20>
PAD_I_TOUCH34 — J5 GRAPE_RX<21>
PAD_I_TOUCH33 — J4 GRAPE_RX<22>
PAD_I_TOUCH32 — J3 GRAPE_RX<23>
PAD_I_TOUCH31 — J2 GRAPE_RX<24>
PAD_I_TOUCH30 — H4 GRAPE_RX<25>
PAD_I_TOUCH29 — H3 GRAPE_RX<26>
PAD_I_TOUCH28 — H1 GRAPE_RX<27>
PAD_I_TOUCH27 — G4 NC_LANAI_TOUCH27
PAD_I_TOUCH26 — G3 NC_LANAI_TOUCH26
PAD_I_TOUCH25 — G1 NC_LANAI_TOUCH25
PAD_I_TOUCH24 — F3 NC_LANAI_TOUCH24
PAD_I_TOUCH23 — F2 NC_LANAI_TOUCH23
PAD_I_TOUCH22 — E6 NC_LANAI_TOUCH22
PAD_I_TOUCH21 — E3 NC_LANAI_TOUCH21
PAD_I_TOUCH20 — E2 NC_LANAI_TOUCH20
PAD_I_TOUCH19 — E1 GRAPE_TX<20>
PAD_I_TOUCH18 — D6 GRAPE_TX<21>
PAD_I_TOUCH17 — D5 GRAPE_TX<22>
PAD_I_TOUCH16 — D4 GRAPE_TX<23>
PAD_I_TOUCH15 — D3 GRAPE_TX<24>
PAD_I_TOUCH14 — D1 GRAPE_TX<25>
PAD_I_TOUCH13 — C6 GRAPE_TX<26>
PAD_I_TOUCH12 — C5 GRAPE_TX<27>
PAD_I_TOUCH11 — C4 GRAPE_TX<28>
PAD_I_TOUCH10 — C1 GRAPE_TX<29>
PAD_I_TOUCH09 — B6 GRAPE_TX<30>
PAD_I_TOUCH08 — B5 GRAPE_TX<31>
PAD_I_TOUCH07 — B4 GRAPE_TX<32>
PAD_I_TOUCH06 — B3 GRAPE_TX<33>
PAD_I_TOUCH05 — B2 GRAPE_TX<34>
PAD_I_TOUCH04 — B1 GRAPE_TX<35>
PAD_I_TOUCH03 — A6 GRAPE_TX<36>
PAD_I_TOUCH02 — A5 GRAPE_TX<37>
PAD_I_TOUCH01 — A4 GRAPE_TX<38>
PAD_I_TOUCH00 — A3 GRAPE_TX<39>
PAD_I_SELFCAPEXT — N8 NC
PAD_O_GUARDBUFFER — P8 NC

U2200 BCM15957A0 BGA SYM 2 OF 2

PP15V0_TOUCH_LDO → R2222 3.3 5% 1/16W MF-LF 402 → PP15V0_TOUCH_FILT
C2221 C2222 C2223 C2232 0.47UF 20% 25V CER-X5R 0201
C2233 C2234 C2235 0.47UF 20% 25V CER-X5R 0201
C2236 100PF 5% 25V C0G 0201
C2237 12PF 5% 25V NP0-C0G 0201
L2204 FERR-220-OHM 0402 ← PP3V3_S2_TOUCH
PP3V3_GRAPE_FILT
C2238 100PF 5% 25V C0G 0201
C2239 12PF 5% 25V NP0-C0G 0201
C2224 C2225 0.1UF 10% 10V X5R-CERM 0201
C2231 0.22UF 20% 10V CERM-X5R 0201
PP2V8_LANAI_M_VDDANA
C2278 100PF 5% 25V C0G 0201
C2279 220PF 5% 50V C0G 0201
C2201 C2202 0.1UF 10% 10V X5R-CERM 0201
C2203 C2204 C2205 0.1UF 10% 10V X5R-CERM 0201
C2206 2.2UF 20% 6.3V X5R-CERM 0201
LANAI_M_VDDADC_CAP
C2229 1UF 10% 10V X5R-CERM 0402
L2203 FERR-220-OHM 0402 ← PP1V8_GRAPE_XTAL_FILT
C2227 0.1UF 10% 25V X5R 0201
C2228 0.047UF 10% 25V X5R 0201
PP1V8_S2_TOUCH
C2248 100PF 5% 25V C0G 0201
C2249 220PF 5% 50V C0G 0201
C2207 C2208 2.2UF 20% 6.3V X5R-CERM 0201
C2209 0.1UF 10% 6.3V CERM-X5R 0201
R2281 100 1% 1/20W MF 201
PP1V8_GRAPE_AON_RC
C2281 2.2UF 20% 6.3V X5R-CERM 0201
PP1V2_S2_DELAY_TOUCH
C2260 100PF 5% 25V C0G 0201
C2261 220PF 5% 50V C0G 0201
C2262 C2263 2.2UF 20% 6.3V X5R-CERM 0201
C2264 2.2UF 20% 6.3V X5R-CERM 0201
C2218 1UF 10% 10V X5R-CERM 0402
C2219 0.1UF 10% 6.3V CERM-X5R 0201

AFE_I_VDDHV15_EXT — B7
AFE_I_VDDHV15_EXT — C7
AFE_I_VDDHV15_EXT — D2
AFE_I_VDDHV15_EXT — F5
AFE_I_VDDHV15_EXT — F6
AFE_I_VDDHV15_EXT — G2
AFE_I_VDDHV15_EXT — G6
AFE_I_VDDHV15_EXT — H6
AFE_I_VDDHV15_EXT — J6
AFE_I_VDDHV15_EXT — L2
AFE_I_VDDHV15_EXT — L3
AFE_I_VDDHV15_EXT — M7
AFE_I_VDDHV15_EXT — P2
BOOST_VDDA — B15
OTP_TMON_I_VDDA_3P3_EXT — E12
AFE_PMU_I_VDDA_3P3_EXT — P14
AFE_I_VDDANA_3P3_AFE_PMU — A2
AFE_I_VDDANA_3P3_AFE_PMU — A7
AFE_I_VDDANA_3P3_AFE_PMU — C2
AFE_I_VDDANA_3P3_AFE_PMU — E4
AFE_I_VDDANA_3P3_AFE_PMU — F4
AFE_I_VDDANA_3P3_AFE_PMU — H2
AFE_I_VDDANA_3P3_AFE_PMU — K6
AFE_I_VDDANA_3P3_AFE_PMU — L6
AFE_I_VDDANA_3P3_AFE_PMU — M2
AFE_I_VDDANA_3P3_AFE_PMU — N7
AFE_I_VDDANA_3P3_AFE_PMU — N9
AFE_I_VDDANA_3P3_AFE_PMU — N11
AFE_I_VDDANA_3P3_AFE_PMU — P7
AFE_PMU_O_VDDANA_3P3_PMU — P13
AFE_PMU_O_AVDD1P2_CAP — P12
XTAL_PLL_AVDD1P8_I_VDDLDO_1P8_EXT — K14
XTAL_PLL_AVDD1P8_I_VDDLDO_1P8_EXT — L14
KMSI_VDDIO_1P8_EXT — F13
AFE_PMU_I_VDDLDO_1P8_EXT — N12
I2C_VDDIO_1P8_EXT — K12
ASPI_VDDIO_1P2_1P8_EXT — C11
GPIO_VDDIO_1P2_1P8_EXT — D11
HSPI_VDDIO_1P2_1P8_EXT — D13
JTAG_VDDIO_1P2_1P8_EXT — L12
MISC_VDDIO_1P2_1P8_EXT — B10
CORE_PMU_I_AON_VDDIO_1P8_3P3_EXT — G12
CORE_PMU_I_VDDLDO_1P8_EXT — H14
CORE_PMU_O_VDDCORE_1P2_CAP — H15

VSS — A8
VSS — A15
VSS — B8
VSS — B13
VSS — C8
VSS — D8
VSS — F8
VSS — D12
VSS — E8
VSS — G8
VSS — G11
VSS — H8
VSS — J8
VSS — K8
VSS — K13
VSS — L8
VSS — M8
VSS — M9
VSS — M10
VSS — M11
VSS — M12
VSS — M13
XTAL_AVSS — J15
XTAL_AVSS — M14
XTAL_AVSS — M15
CORE_PMU_I_AVSS — H13
CORE_PMU_I_AVSS — J14
PAD_I_AVSS — A1
PAD_I_AVSS — C3
PAD_I_AVSS — D7
PAD_I_AVSS — E5
PAD_I_AVSS — E7
PAD_I_AVSS — F1
PAD_I_AVSS — F7
PAD_I_AVSS — G5
PAD_I_AVSS — G7
PAD_I_AVSS — H5
PAD_I_AVSS — H7
PAD_I_AVSS — J1
PAD_I_AVSS — J7
PAD_I_AVSS — K5
PAD_I_AVSS — K7
PAD_I_AVSS — L7
PAD_I_AVSS — M3
PAD_I_AVSS — N10
PAD_I_AVSS — N13
PAD_I_AVSS — N14
PAD_I_AVSS — N15
PAD_I_AVSS — P1
PAD_I_AVSS — P9
PAD_I_AVSS — P11
PAD_I_AVSS — P15

BOOT OPTION

PP1V2_S2_DELAY_TOUCH → R2203 10K 5% 1/32W MF 01005 → LANAI_BOOT1_M
LANAI_BOOT0_M → R2202 10K 5% 1/32W MF 01005
PP3V3_GRAPE_FILT → R2214 1.00M 5% 1/32W MF 01005 → LANAI_BOOST_ATEST

DOMBRA BST/LDO

U2280 SN1705004A0 DSBGA
MODE A4 ← GPIO_DOMBRA_BST_FPWM_1V8
EN B4 ← GPIO_KONA_S_DOMBRA_BST_EN_1V8
ILIM A3 → DOMBRA_ILIM → R2286 10K 1% 1/32W MF 01005 / R2288 909K 1% 1/32W MF 01005
VIN D4 ← PPVCC_MAIN
BST C4 → DOMBRA_BST → C2282 0.1UF 10% 25V X5R 0201
SW C1, C2, C3 → DOMBRA_LX → L2280 2.2UH-20%-2.7A-0.09OHM 2016
VOUT D1, D2, D3 → PP15V0_TOUCH
FB A1 ← DOMBRA_FB
COMP A2 → DOMBRA_COMP
GND B1, B2, B3

C2284 0.1UF 10% 10V X5R-CERM 0201
C2283 4.7UF 20% 6.3V X5R 0402-1
C2283 47UF 20% 6.3V CER-X5R 0603
C2285 47UF 20% 6.3V CER-X5R 0603
C2286 47UF 20% 6.3V CER-X5R 0603
R2282 909K 1% 1/32W MF 01005
NOSTUFF C22A3 100PF 5% 25V C0G-CERM 01005
C2292 C2293 C2294 C2295 10UF 20% 25V X5R-CERM 0603
C2298 180PF 5% 50V NP0-C0G 0201
C2299 68PF 5% 50V C0G 0201
R2284 75K 1% 1/32W MF 01005 118S0768
R2280 33K 1% 1/32W MF 01005 → DOMBRA_COMP_RC 118S00051
R2283 69.8K 1% 1/32W MF 01005
C2288 1000PF 10% 6.3V X5R-CERM 01005 NOSTUFF
C2280 1000PF 10% 6.3V X5R-CERM 01005
Q2280 NTNS3190NZ XLLGA ← GPIO_DOMBRA_BST_FB_CTRL_1V8
R2285 47.0K 5% 1/32W MF 01005

U22A1 ADP7112 WLCSP 353S02157 ← ADP7112ACBZ-1.2-R7
A1 VIN ← PPVCC_MAIN
C1 EN ← GPIO13_KONA_LDO_EN_1V8
A2 VOUT → PP1V8_GRAPE_XTAL_FILT
B2 SENSE/ADJ → TOUCH_LDO_ADJ
B1 SS → DOMBRA_LDO_SS
GND
C2 NOSTUFF C22A1 1000PF 10% 6.3V X5R-CERM 01005
SS=380US WHEN FLOATING

NOSTUFF C22A2 220PF 5% 25V C0G 01005
R22A1 90.9K 1% 1/32W MF 01005
R22A2 15.8K 1% 1/32W MF 01005 → TOUCH_LDO_ADJ_FET
Q22A0 NTNS3190NZ XLLGA ← GPIO12_KONA_LDO_ADJ_1V8
Q22A0 OFF: VOUT = 1.2V X (1 + 90.9/15.8) = 8.1V
Q22A0 ON: VOUT = 1.2V X (1 + 90.9/(15.8//15.8)) = 15V
R22A3 15.8K 1% 1/32W MF 01005
R22A4 47.0K 5% 1/32W MF 01005
138S00070 C2289 C2290 C2291 C220A 4.7UF 20% 25V X5R 0402-0P1MM
PP15V0_TOUCH_LDO

BOM_COST_GROUP=TOUCH

PAGE TITLE
TOUCH: LANAI MASTER

KONA: SLAVE

BOOT OPTION

PP1V8_S2_TOUCH
R2301 10K 5% 1/32W MF 01005
R2303 10K 5% 1/32W MF 01005
KONA_BOOT0_S_1V8
KONA_BOOT1_S_1V8

GPIO_GRAPE_TO_SCORPIUS_TIME_SYNC_1V8
SCORPIUS IS 1V8 ONLY, BUT AOP IS 1V2
R2380 5.49K 1% 1/32W MF 01005
GPIO_KONA_S_TO_SCORPIUS_TIME_SYNC_AOP
R2381 10K 5% 1/32W MF 01005

SPI_SOC_TO_KONA_S_MISO_1V8
R2315 33 5% 1/32W MF 01005
PLACE_NEAR=U2301.B8:5MM

PP1V8_S2_TOUCH
R2382 10K 5% 1/32W MF 01005
GPIO_KONA_S_TO_SOC_IRQ_1V8_L

PP1V8_S2_TOUCH
C2371 0.1UF 20% 6.3V X5R-CERM 01005
PP1V2_S2_DELAY_TOUCH
C2370 0.1UF 20% 6.3V X5R-CERM 01005
PU ON LANAI SIDE
GPIO_SOC_TO_GRAPE_RESET_L
DIR=1: A->B
DIR=0: B->A
U2370 74AVC1T45 X2SON 311S00230
VCCA VCCB A B DIR GND
R2371 10K 5% 1/32W MF 01005
GPIO_SOC_TO_KONA_RESET_1V8_L
KONA_S_TEST_MODE
R2305 10K 5% 1/32W MF 01005
KONA_BOOT0_S_1V8
KONA_BOOT1_S_1V8
LANAI_KONA_BGBIAS_1V8
CLK_KONA_S_24MHZ
C2301 10PF 5% 16V NP0/C0G 01005

PP1V8_S2
R230A 10K 5% 1/32W MF 01005

LANAI_M_TO_KONA_S_IPC1_1V8
LANAI_M_TO_KONA_S_IPC2_1V8
KONA_S_TO_LANAI_M_RESET_DET_1V8_L
LANAI_M_TO_KONA_S_TTW_1V8
SPI_LANAI_M_TO_KONA_S_CS_1V8_L
GPIO_DOMBRA_BST_FB_CTRL_1V8
GPIO_DOMBRA_BST_FPWM_1V8
GPIO_KONA_S_DOMBRA_BST_EN_1V8
GPIO12_KONA_LDO_ADJ_1V8
GPIO13_KONA_LDO_EN_1V8
GPIO_GRAPE_TO_TCON_FORCE_PWM_1V8
TESTPOINT_KONA_S_UART_RX_1V8
TESTPOINT_KONA_S_UART_TX_1V8
SPI_LANAI_M_TO_KONA_S_MOSI_1V8
SPI_LANAI_M_TO_KONA_S_SCLK_1V8
SPI_LANAI_M_TO_KONA_S_CS_1V8_L
KONA_S_TO_LANAI_M_INT_1V8_L
SPI_LANAI_M_TO_KONA_S_MISO_1V8
SPI_SOC_TO_KONA_S_CS_1V8_L
GPIO_KONA_S_TO_SOC_IRQ_1V8_L
SPI_SOC_TO_KONA_S_SCLK_1V8
SPI_SOC_TO_KONA_S_MOSI_1V8
SPI_SOC_TO_KONA_S_MISO_R_1V8
SPI_SOC_TO_KONA_S_CS_1V8_L
KMSI_MOSI_1V8
KMSI_MISO_1V8
KMSI_STRB_OUT_1V8
KMSI_STRB_IN_1V8
PSE_SYNC_1V8
TPT_SWD_KONA_SWCLK_1V8
TPT_SWD_KONA_SWDIO_1V8

U2301 BCM15900B0K BGA SYM 1 OF 2

E11	AUXADC_REF	
G12	AUXBUF_AIO_INPUT_3V	
F13	AUXBUF_AIO_OUTPUT	
D10	GPIO_ADC_00	
D12	GPIO_ADC_01	
D11	GPIO_ADC_02	
F12	GPIO_ADC_03	
E10	GPIO_ADC_04	
F10	GPIO_ADC_05	
G10	GPIO_ADC_06	
G9	GPIO_ADC_07	
F8	GPIO_08	
H11	GPIO_09	
J9	GPIO_10	
H9	GPIO_11	
F7	GPIO_12	
J10	GPIO_13	
A6	GPIO_14	
C6	GPIO_15	
D9	GPIO_16	
E8	GPIO_17	
C9	GPIO_18	
C5	GPIO_19	
A7	H_INT*	
A8	H_SCLK	
A9	H_SDI	
B8	H_SDO	
B6	H_CS*	
B5	H_ALT_CS*	
A5	I2C_SCL	
A4	I2C_SDA	
A12	KMSI_MISO	
B13	KMSI_MOSI	
B12	KMSI_STRB_IN	
A13	KMSI_STRB_OUT	
C14	PSE_SYNC	
B14	BOOST_ATEST	
A15	BOOST_FBIN	
B15	BOOST_ISENSE	
D13	BOOST_NGATE	
C15	BOOST_VBAT	
D14	BOOST_VBAT_EN	
E9	JTAG_RTCK	
J7	JTAG_TCK	
E7	JTAG_TMS	
G7	JTAG_TDI	
H8	JTAG_TDO	
G6	JTAG_TRST*	
C7	JTAG_SRST*	
H7	RESET*	
K9	TEST_MODE	
K7	BOOT_CFG_0	
J8	BOOT_CFG_1	
R5	AFE_IO_BGBIAS	
J15	XTALN	
K15	XTALP	
J13	XTAL_O_CLK_EXT	
B4	IFO_CLK_EXT	
N5	PAD_I_SELFCAPEXT	
N4	PAD_O_GUARDBUFFER	
C11	CORE_PMU_O_AON_TEST_PMU	

J5	PAD_I_TOUCH0	GRAPE_RX<55>
H3	PAD_I_TOUCH1	GRAPE_RX<54>
J2	PAD_I_TOUCH2	GRAPE_RX<53>
J3	PAD_I_TOUCH3	GRAPE_RX<52>
J4	PAD_I_TOUCH4	GRAPE_RX<51>
K5	PAD_I_TOUCH5	GRAPE_RX<50>
K4	PAD_I_TOUCH6	GRAPE_RX<49>
K3	PAD_I_TOUCH7	GRAPE_RX<48>
M5	PAD_I_TOUCH8	GRAPE_RX<47>
L5	PAD_I_TOUCH9	GRAPE_RX<46>
M1	PAD_I_TOUCH10	GRAPE_RX<45>
K1	PAD_I_TOUCH11	GRAPE_RX<44>
L6	PAD_I_TOUCH12	GRAPE_RX<43>
N1	PAD_I_TOUCH13	GRAPE_RX<42>
P6	PAD_I_TOUCH14	GRAPE_RX<41>
N6	PAD_I_TOUCH15	GRAPE_RX<40>
R7	PAD_I_TOUCH16	GRAPE_RX<39>
N7	PAD_I_TOUCH17	GRAPE_RX<38>
R8	PAD_I_TOUCH18	GRAPE_RX<37>
M6	PAD_I_TOUCH19	GRAPE_RX<36>
P7	PAD_I_TOUCH20	GRAPE_RX<35>
M7	PAD_I_TOUCH21	GRAPE_RX<34>
N9	PAD_I_TOUCH22	GRAPE_RX<33>
P9	PAD_I_TOUCH23	GRAPE_RX<32>
M9	PAD_I_TOUCH24	GRAPE_RX<31>
R9	PAD_I_TOUCH25	GRAPE_RX<30>
N10	PAD_I_TOUCH26	GRAPE_RX<29>
M10	PAD_I_TOUCH27	GRAPE_RX<28>
R10	PAD_I_TOUCH28	NC_KONA_TOUCH28
P10	PAD_I_TOUCH29	NC_KONA_TOUCH29
D2	PAD_I_TOUCH30	NC_KONA_TOUCH30
D1	PAD_I_TOUCH31	NC_KONA_TOUCH31
C2	PAD_I_TOUCH32	NC_KONA_TOUCH32
C1	PAD_I_TOUCH33	NC_KONA_TOUCH33
B1	PAD_I_TOUCH34	NC_KONA_TOUCH34
P3	PAD_I_TOUCH35	NC_KONA_TOUCH35
N2	PAD_I_TOUCH36	NC_KONA_TOUCH36
P1	PAD_I_TOUCH37	VCOM_LCD_TO_GRAPE_R_C
P2	PAD_I_TOUCH38	NC_KONA_TOUCH38
P4	PAD_I_TOUCH39	NC_KONA_TOUCH39
G3	PAD_I_TOUCH40	NC_KONA_TOUCH40
D4	PAD_I_TOUCH41	NC_KONA_TOUCH41
D3	PAD_I_TOUCH42	GRAPE_TX<0>
G4	PAD_I_TOUCH43	GRAPE_TX<1>
E4	PAD_I_TOUCH44	GRAPE_TX<2>
E3	PAD_I_TOUCH45	GRAPE_TX<3>
F1	PAD_I_TOUCH46	GRAPE_TX<4>
F4	PAD_I_TOUCH47	GRAPE_TX<5>
F3	PAD_I_TOUCH48	GRAPE_TX<6>
H5	PAD_I_TOUCH49	GRAPE_TX<7>
F2	PAD_I_TOUCH50	GRAPE_TX<8>
G2	PAD_I_TOUCH51	GRAPE_TX<9>
G1	PAD_I_TOUCH52	GRAPE_TX<10>
H1	PAD_I_TOUCH53	GRAPE_TX<11>
P11	PAD_I_TOUCH54	GRAPE_TX<12>
N15	PAD_I_TOUCH55	GRAPE_TX<13>
N12	PAD_I_TOUCH56	GRAPE_TX<14>
P13	PAD_I_TOUCH57	GRAPE_TX<15>
P12	PAD_I_TOUCH58	GRAPE_TX<16>
R12	PAD_I_TOUCH59	GRAPE_TX<17>
N13	PAD_I_TOUCH60	GRAPE_TX<18>
M12	PAD_I_TOUCH61	GRAPE_TX<19>
R13	PAD_I_TOUCH62	NC_KONA_TOUCH62
L13	PAD_I_TOUCH63	NC_KONA_TOUCH63
P14	PAD_I_TOUCH64	NC_KONA_TOUCH64
M14	PAD_I_TOUCH65	NC_KONA_TOUCH65
M13	PAD_I_TOUCH66	NC_KONA_TOUCH66
N14	PAD_I_TOUCH67	NC_KONA_TOUCH67
M15	PAD_I_TOUCH68	NC_KONA_TOUCH68
R14	PAD_I_TOUCH69	NC_KONA_TOUCH69

U2301 BCM15900B0K BGA SYM 2 OF 2

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

PP3V3_GRAPE_FILT
C2315 0.1UF 10% 16V X5R-CERM 0201
C2316 0.1UF 10% 16V X5R-CERM 0201
C2320 0.22UF 20% 6.3V CERM-X5R 0201

PP2V8_KONA_S_VDDANA
C2378 100PF 5% 25V C0G 0201
C2379 12PF 5% 25V NP0-C0G 0201
C2302 0.1UF 10% 16V X5R-CERM 0201
C2303 0.1UF 10% 16V X5R-CERM 0201
C2304 0.1UF 10% 16V X5R-CERM 0201
C2305 0.1UF 10% 16V X5R-CERM 0201
C2306 0.1UF 10% 16V X5R-CERM 0201
C2307 2.2UF 20% 6.3V X5R-CERM 0201

KONA_S_VDDADC_CAP
C2318 1UF 10% 16V X5R-CERM 0402

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

PP1V8_S2_TOUCH
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

PP1V8_GRAPE_AON_RC
PP1V2_S2_DELAY_TOUCH
C2325 1UF 10% 16V X5R-CERM 0402
C2314 0.1UF 10% 6.3V CERM-X5R 0201

B3	AFE_I_VDDHV15_EXT	
C4	AFE_I_VDDHV15_EXT	
L7	AFE_I_VDDHV15_EXT	
E5	AFE_I_VDDHV15_EXT	
M11	AFE_I_VDDHV15_EXT	
H2	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	
R15	AFE_I_VDDHV15_EXT	
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	
G15	AUXBUF_PMU_O_VDD_AUX_CAP	
C3	AFE_I_VDDANA_3P3_AFE_PMU	
D5	AFE_I_VDDANA_3P3_AFE_PMU	
H6	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	
J6	AFE_I_VDDANA_3P3_AFE_PMU	
L11	AFE_I_VDDANA_3P3_AFE_PMU	
L14	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	
J14	XTAL_PLL_AVDD1P8_I_VDDLDO_1P8_EXT	
F11	AUXADC_AVDDC_I_VDDIO_1P8_3P3_EXT	
E12	AUXADC_AVDD_I_VDDIO_1P8_3P3_EXT	
R3	AFE_PMU_I_VDDLDO_1P8_EXT	
B9	AON_PAD_I_VDDIO_1P8_3P3_EXT	
D7	AON_PAD_I_VDDIO_1P8_3P3_EXT	
E6	AON_PAD_I_VDDIO_1P8_3P3_EXT	
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	

F14	AUXBUF_AVSS	
C10	AUXADC_AVSS	
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	VSS	
H15	XTAL_AVSS	
K14	XTAL_AVSS	
B10	CORE_PMU_I_AVSS	
H14	AUXBUF_PMU_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	PAD_I_AVSS	

DELAY CIRCUITRY FOR PP1V2_S2_TOUCH

R2352 0 5% 1/20W MF 0201
PP1V2_S2_TOUCH
PP1V2_S2_DELAY_TOUCH
MAKE_BASE=TRUE
PP1V2_S2_DELAY_TOUCH
NOSTUFF R2351 47.0K 5% 1/32W MF 01005
NOSTUFF
Q2351 LGA CSD68832L CRITICAL
NOTE: INITIAL VALUE OF 47K, TBD
DELAY_GATE_PP1V2
Q2350 NTNS3190NZ XLLGA CRITICAL NOSTUFF
PP1V8_S2_TOUCH
R2353 0.00 0% 1/32W MF 01005
ENABLE_1V8_GATE
PMU HAS INTERNAL PD IN OFF STATE
NOSTUFF C2350 10PF 5% 16V NP0/C0G 01005
NOTE:RC DELAY VALUES TBD, SHOULD AIM FOR 200-500US DELAY

PGGOD SIGNAL GOES TO PMU ADC INPUT

PP15V0_TOUCH_LDO
118S00136
R23A1 60.4K 1% 1/32W MF 01005
DOMBRA_LDO_8V_PGOOD_FET
R23A2 10K 1% 1/32W MF 01005
C23A0 100PF 5% 25V C0G-CERM 01005

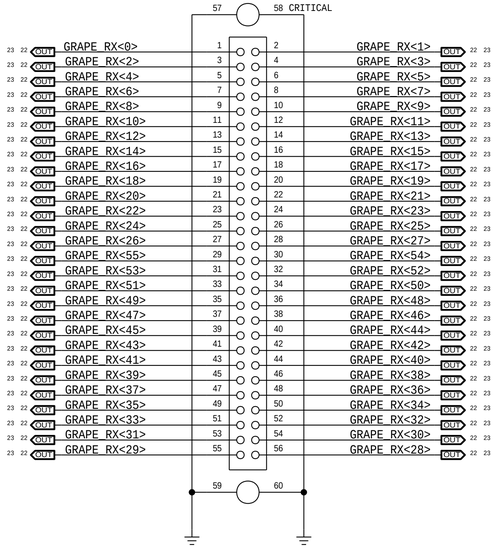
ROM_COST_GROUP=TOUCH

PAGE TITLE
TOUCH: KONA SLAVE

J517 TOUCH FLEX CONNECTOR (SENSE)

MATCHES J517_GRAPE_FLEX_LS 2.0.0
MLB: 516S00419
FLEX: 516S00420

PACK_OPTION=J517,J518
J2400
BM28P0.6-56DS-2-0.35V
F-ST-SM

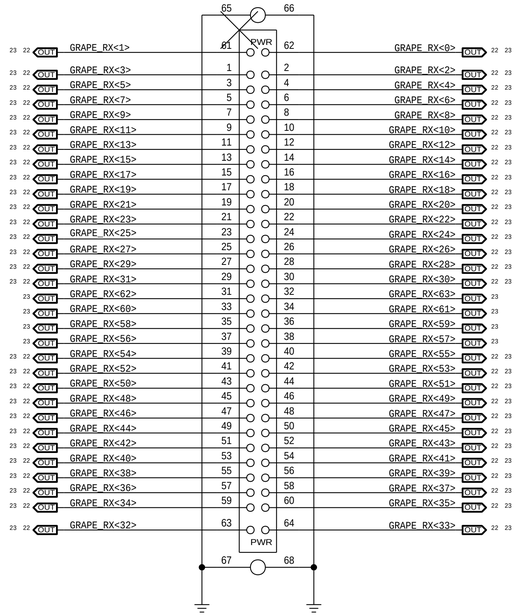


J522 TOUCH FLEX CONNECTOR (SENSE)

FLEX: 516S00375
MLB: 516S00374

PACK_IGNORE=TRUE
PACK_OPTION=J522,J523

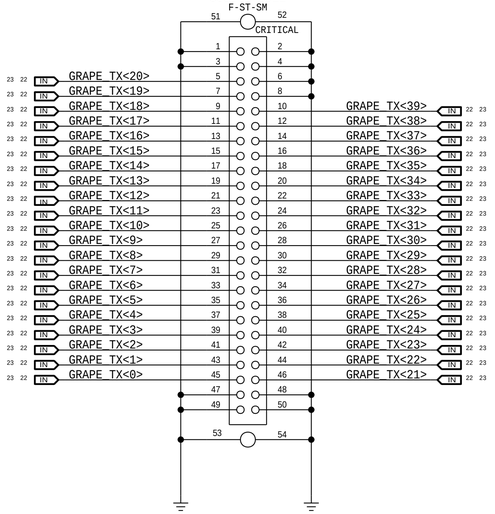
J2400
AA37D-S060VA2
F-ST-SM



J517 TOUCH FLEX CONNECTOR (DRIVE)

MATCHES J517_GRAPE_FLEX_LS 2.0.0
MLB: 516S00099
FLEX: 516S00098

PACK_OPTION=J517,J518
J2401
505066-5022
F-ST-SM

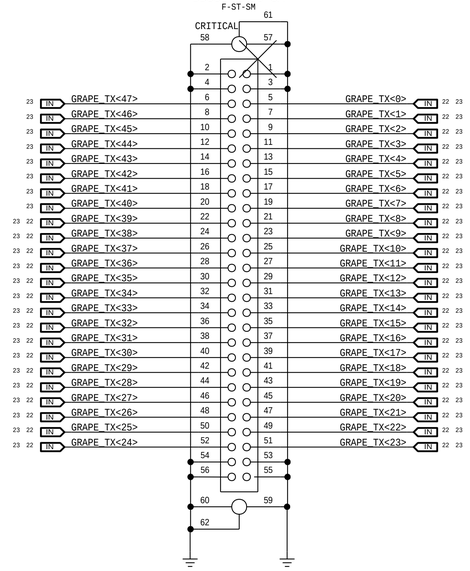


J522 TOUCH FLEX CONNECTOR (DRIVE)

FLEX: 516S00380
MLB: 516S00379

PACK_IGNORE=TRUE
PACK_OPTION=J522,J523

J2401
BB35L-RA56-3A
F-ST-SM



BOM_COST_GROUP=TOUCH

PAGE TITLE

TOUCH: GRAPE CONN

J517 LANAI RX/TX ALIAS

GRAPE_RX<0>	PACK_OPTION=J517, J518	GRAPE_RX<0>	MAKE_BASE=TRUE	IN	
GRAPE_RX<1>	PACK_OPTION=J517, J518	GRAPE_RX<1>	MAKE_BASE=TRUE	IN	
GRAPE_RX<2>	PACK_OPTION=J517, J518	GRAPE_RX<2>	MAKE_BASE=TRUE	IN	
GRAPE_RX<3>	PACK_OPTION=J517, J518	GRAPE_RX<3>	MAKE_BASE=TRUE	IN	
GRAPE_RX<4>	PACK_OPTION=J517, J518	GRAPE_RX<4>	MAKE_BASE=TRUE	IN	
GRAPE_RX<5>	PACK_OPTION=J517, J518	GRAPE_RX<5>	MAKE_BASE=TRUE	IN	
GRAPE_RX<6>	PACK_OPTION=J517, J518	GRAPE_RX<6>	MAKE_BASE=TRUE	IN	
GRAPE_RX<7>	PACK_OPTION=J517, J518	GRAPE_RX<7>	MAKE_BASE=TRUE	IN	
GRAPE_RX<8>	PACK_OPTION=J517, J518	GRAPE_RX<8>	MAKE_BASE=TRUE	IN	
GRAPE_RX<9>	PACK_OPTION=J517, J518	GRAPE_RX<9>	MAKE_BASE=TRUE	IN	
GRAPE_RX<10>	PACK_OPTION=J517, J518	GRAPE_RX<10>	MAKE_BASE=TRUE	IN	
GRAPE_RX<11>	PACK_OPTION=J517, J518	GRAPE_RX<11>	MAKE_BASE=TRUE	IN	
GRAPE_RX<12>	PACK_OPTION=J517, J518	GRAPE_RX<12>	MAKE_BASE=TRUE	IN	
GRAPE_RX<13>	PACK_OPTION=J517, J518	GRAPE_RX<13>	MAKE_BASE=TRUE	IN	
GRAPE_RX<14>	PACK_OPTION=J517, J518	GRAPE_RX<14>	MAKE_BASE=TRUE	IN	
GRAPE_RX<15>	PACK_OPTION=J517, J518	GRAPE_RX<15>	MAKE_BASE=TRUE	IN	
GRAPE_RX<16>	PACK_OPTION=J517, J518	GRAPE_RX<16>	MAKE_BASE=TRUE	IN	
GRAPE_RX<17>	PACK_OPTION=J517, J518	GRAPE_RX<17>	MAKE_BASE=TRUE	IN	
GRAPE_RX<18>	PACK_OPTION=J517, J518	GRAPE_RX<18>	MAKE_BASE=TRUE	IN	
GRAPE_RX<19>	PACK_OPTION=J517, J518	GRAPE_RX<19>	MAKE_BASE=TRUE	IN	
GRAPE_RX<20>	PACK_OPTION=J517, J518	GRAPE_RX<20>	MAKE_BASE=TRUE	IN	
GRAPE_RX<21>	PACK_OPTION=J517, J518	GRAPE_RX<21>	MAKE_BASE=TRUE	IN	
GRAPE_RX<22>	PACK_OPTION=J517, J518	GRAPE_RX<22>	MAKE_BASE=TRUE	IN	
GRAPE_RX<23>	PACK_OPTION=J517, J518	GRAPE_RX<23>	MAKE_BASE=TRUE	IN	
GRAPE_RX<24>	PACK_OPTION=J517, J518	GRAPE_RX<24>	MAKE_BASE=TRUE	IN	
GRAPE_RX<25>	PACK_OPTION=J517, J518	GRAPE_RX<25>	MAKE_BASE=TRUE	IN	
GRAPE_RX<26>	PACK_OPTION=J517, J518	GRAPE_RX<26>	MAKE_BASE=TRUE	IN	
GRAPE_RX<27>	PACK_OPTION=J517, J518	GRAPE_RX<27>	MAKE_BASE=TRUE	IN	
NC_LANAI_TOUCH27	PACK_OPTION=J517, J518	NC_LANAI_TOUCH27	MAKE_BASE=TRUE		
NC_LANAI_TOUCH26	PACK_OPTION=J517, J518	NC_LANAI_TOUCH26	MAKE_BASE=TRUE		
NC_LANAI_TOUCH25	PACK_OPTION=J517, J518	NC_LANAI_TOUCH25	MAKE_BASE=TRUE		
NC_LANAI_TOUCH24	PACK_OPTION=J517, J518	NC_LANAI_TOUCH24	MAKE_BASE=TRUE		
NC_LANAI_TOUCH23	PACK_OPTION=J517, J518	NC_LANAI_TOUCH23	MAKE_BASE=TRUE		
NC_LANAI_TOUCH22	PACK_OPTION=J517, J518	NC_LANAI_TOUCH22	MAKE_BASE=TRUE		
NC_LANAI_TOUCH21	PACK_OPTION=J517, J518	NC_LANAI_TOUCH21	MAKE_BASE=TRUE		
NC_LANAI_TOUCH20	PACK_OPTION=J517, J518	NC_LANAI_TOUCH20	MAKE_BASE=TRUE		
GRAPE_TX<20>	PACK_OPTION=J517, J518	GRAPE_TX<20>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<21>	PACK_OPTION=J517, J518	GRAPE_TX<21>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<22>	PACK_OPTION=J517, J518	GRAPE_TX<22>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<23>	PACK_OPTION=J517, J518	GRAPE_TX<23>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<24>	PACK_OPTION=J517, J518	GRAPE_TX<24>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<25>	PACK_OPTION=J517, J518	GRAPE_TX<25>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<26>	PACK_OPTION=J517, J518	GRAPE_TX<26>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<27>	PACK_OPTION=J517, J518	GRAPE_TX<27>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<28>	PACK_OPTION=J517, J518	GRAPE_TX<28>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<29>	PACK_OPTION=J517, J518	GRAPE_TX<29>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<30>	PACK_OPTION=J517, J518	GRAPE_TX<30>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<31>	PACK_OPTION=J517, J518	GRAPE_TX<31>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<32>	PACK_OPTION=J517, J518	GRAPE_TX<32>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<33>	PACK_OPTION=J517, J518	GRAPE_TX<33>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<34>	PACK_OPTION=J517, J518	GRAPE_TX<34>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<35>	PACK_OPTION=J517, J518	GRAPE_TX<35>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<36>	PACK_OPTION=J517, J518	GRAPE_TX<36>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<37>	PACK_OPTION=J517, J518	GRAPE_TX<37>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<38>	PACK_OPTION=J517, J518	GRAPE_TX<38>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<39>	PACK_OPTION=J517, J518	GRAPE_TX<39>	MAKE_BASE=TRUE	OUT	

J517 KONA RX/TX ALIAS

GRAPE_RX<55>	PACK_OPTION=J517, J518	GRAPE_RX<55>	MAKE_BASE=TRUE	IN	
GRAPE_RX<54>	PACK_OPTION=J517, J518	GRAPE_RX<54>	MAKE_BASE=TRUE	IN	
GRAPE_RX<53>	PACK_OPTION=J517, J518	GRAPE_RX<53>	MAKE_BASE=TRUE	IN	
GRAPE_RX<52>	PACK_OPTION=J517, J518	GRAPE_RX<52>	MAKE_BASE=TRUE	IN	
GRAPE_RX<51>	PACK_OPTION=J517, J518	GRAPE_RX<51>	MAKE_BASE=TRUE	IN	
GRAPE_RX<50>	PACK_OPTION=J517, J518	GRAPE_RX<50>	MAKE_BASE=TRUE	IN	
GRAPE_RX<49>	PACK_OPTION=J517, J518	GRAPE_RX<49>	MAKE_BASE=TRUE	IN	
GRAPE_RX<48>	PACK_OPTION=J517, J518	GRAPE_RX<48>	MAKE_BASE=TRUE	IN	
GRAPE_RX<47>	PACK_OPTION=J517, J518	GRAPE_RX<47>	MAKE_BASE=TRUE	IN	
GRAPE_RX<46>	PACK_OPTION=J517, J518	GRAPE_RX<46>	MAKE_BASE=TRUE	IN	
GRAPE_RX<45>	PACK_OPTION=J517, J518	GRAPE_RX<45>	MAKE_BASE=TRUE	IN	
GRAPE_RX<44>	PACK_OPTION=J517, J518	GRAPE_RX<44>	MAKE_BASE=TRUE	IN	
GRAPE_RX<43>	PACK_OPTION=J517, J518	GRAPE_RX<43>	MAKE_BASE=TRUE	IN	
GRAPE_RX<42>	PACK_OPTION=J517, J518	GRAPE_RX<42>	MAKE_BASE=TRUE	IN	
GRAPE_RX<41>	PACK_OPTION=J517, J518	GRAPE_RX<41>	MAKE_BASE=TRUE	IN	
GRAPE_RX<40>	PACK_OPTION=J517, J518	GRAPE_RX<40>	MAKE_BASE=TRUE	IN	
GRAPE_RX<39>	PACK_OPTION=J517, J518	GRAPE_RX<39>	MAKE_BASE=TRUE	IN	
GRAPE_RX<38>	PACK_OPTION=J517, J518	GRAPE_RX<38>	MAKE_BASE=TRUE	IN	
GRAPE_RX<37>	PACK_OPTION=J517, J518	GRAPE_RX<37>	MAKE_BASE=TRUE	IN	
GRAPE_RX<36>	PACK_OPTION=J517, J518	GRAPE_RX<36>	MAKE_BASE=TRUE	IN	
GRAPE_RX<35>	PACK_OPTION=J517, J518	GRAPE_RX<35>	MAKE_BASE=TRUE	IN	
GRAPE_RX<34>	PACK_OPTION=J517, J518	GRAPE_RX<34>	MAKE_BASE=TRUE	IN	
GRAPE_RX<33>	PACK_OPTION=J517, J518	GRAPE_RX<33>	MAKE_BASE=TRUE	IN	
GRAPE_RX<32>	PACK_OPTION=J517, J518	GRAPE_RX<32>	MAKE_BASE=TRUE	IN	
GRAPE_RX<31>	PACK_OPTION=J517, J518	GRAPE_RX<31>	MAKE_BASE=TRUE	IN	
GRAPE_RX<30>	PACK_OPTION=J517, J518	GRAPE_RX<30>	MAKE_BASE=TRUE	IN	
GRAPE_RX<29>	PACK_OPTION=J517, J518	GRAPE_RX<29>	MAKE_BASE=TRUE	IN	
GRAPE_RX<28>	PACK_OPTION=J517, J518	GRAPE_RX<28>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH28	PACK_OPTION=J517, J518	NC_KONA_TOUCH28	MAKE_BASE=TRUE		
NC_KONA_TOUCH29	PACK_OPTION=J517, J518	NC_KONA_TOUCH29	MAKE_BASE=TRUE		
NC_KONA_TOUCH30	PACK_OPTION=J517, J518	NC_KONA_TOUCH30	MAKE_BASE=TRUE		
NC_KONA_TOUCH31	PACK_OPTION=J517, J518	NC_KONA_TOUCH31	MAKE_BASE=TRUE		
NC_KONA_TOUCH32	PACK_OPTION=J517, J518	NC_KONA_TOUCH32	MAKE_BASE=TRUE		
NC_KONA_TOUCH33	PACK_OPTION=J517, J518	NC_KONA_TOUCH33	MAKE_BASE=TRUE		
NC_KONA_TOUCH34	PACK_OPTION=J517, J518	NC_KONA_TOUCH34	MAKE_BASE=TRUE		
NC_KONA_TOUCH35	PACK_OPTION=J517, J518	NC_KONA_TOUCH35	MAKE_BASE=TRUE		
NC_KONA_TOUCH36	PACK_OPTION=J517, J518	NC_KONA_TOUCH36	MAKE_BASE=TRUE		
VCOM_LCD_TO_GRAPE_R_C	PACK_OPTION=J517, J518	VCOM_LCD_TO_GRAPE_R_C	MAKE_BASE=TRUE		
NC_KONA_TOUCH38	PACK_OPTION=J517, J518	NC_KONA_TOUCH38	MAKE_BASE=TRUE		
NC_KONA_TOUCH39	PACK_OPTION=J517, J518	NC_KONA_TOUCH39	MAKE_BASE=TRUE		
NC_KONA_TOUCH40	PACK_OPTION=J517, J518	NC_KONA_TOUCH40	MAKE_BASE=TRUE		
NC_KONA_TOUCH41	PACK_OPTION=J517, J518	NC_KONA_TOUCH41	MAKE_BASE=TRUE		
GRAPE_TX<0>	PACK_OPTION=J517, J518	GRAPE_TX<0>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<1>	PACK_OPTION=J517, J518	GRAPE_TX<1>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<2>	PACK_OPTION=J517, J518	GRAPE_TX<2>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<3>	PACK_OPTION=J517, J518	GRAPE_TX<3>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<4>	PACK_OPTION=J517, J518	GRAPE_TX<4>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<5>	PACK_OPTION=J517, J518	GRAPE_TX<5>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<6>	PACK_OPTION=J517, J518	GRAPE_TX<6>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<7>	PACK_OPTION=J517, J518	GRAPE_TX<7>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<8>	PACK_OPTION=J517, J518	GRAPE_TX<8>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<9>	PACK_OPTION=J517, J518	GRAPE_TX<9>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<10>	PACK_OPTION=J517, J518	GRAPE_TX<10>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<11>	PACK_OPTION=J517, J518	GRAPE_TX<11>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<12>	PACK_OPTION=J517, J518	GRAPE_TX<12>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<13>	PACK_OPTION=J517, J518	GRAPE_TX<13>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<14>	PACK_OPTION=J517, J518	GRAPE_TX<14>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<15>	PACK_OPTION=J517, J518	GRAPE_TX<15>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<16>	PACK_OPTION=J517, J518	GRAPE_TX<16>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<17>	PACK_OPTION=J517, J518	GRAPE_TX<17>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<18>	PACK_OPTION=J517, J518	GRAPE_TX<18>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<19>	PACK_OPTION=J517, J518	GRAPE_TX<19>	MAKE_BASE=TRUE	OUT	
NC_KONA_TOUCH62	PACK_OPTION=J517, J518	NC_KONA_TOUCH62	MAKE_BASE=TRUE		
NC_KONA_TOUCH63	PACK_OPTION=J517, J518	NC_KONA_TOUCH63	MAKE_BASE=TRUE		
NC_KONA_TOUCH64	PACK_OPTION=J517, J518	NC_KONA_TOUCH64	MAKE_BASE=TRUE		
NC_KONA_TOUCH65	PACK_OPTION=J517, J518	NC_KONA_TOUCH65	MAKE_BASE=TRUE		
NC_KONA_TOUCH66	PACK_OPTION=J517, J518	NC_KONA_TOUCH66	MAKE_BASE=TRUE		
NC_KONA_TOUCH67	PACK_OPTION=J517, J518	NC_KONA_TOUCH67	MAKE_BASE=TRUE		
NC_KONA_TOUCH68	PACK_OPTION=J517, J518	NC_KONA_TOUCH68	MAKE_BASE=TRUE		
NC_KONA_TOUCH69	PACK_OPTION=J517, J518	NC_KONA_TOUCH69	MAKE_BASE=TRUE		

VCOM_LCD_TO_GRAPE — R2390 300 MF 01005 5% 1/32W — VCOM_LCD_TO_GRAPE_R

C2391 100PF 5% 25V C0G-CERM 01005 (PACK_OPTION=J517, J518)

C2390 100PF 5% 25V C0G-CERM 01005 (PACK_OPTION=J517, J518)

J522 LANAI RX/TX ALIAS

GRAPE_RX<0>	PACK_OPTION=J522, J523	GRAPE_RX<0>	MAKE_BASE=TRUE	IN	
GRAPE_RX<1>	PACK_OPTION=J522, J523	GRAPE_RX<1>	MAKE_BASE=TRUE	IN	
GRAPE_RX<2>	PACK_OPTION=J522, J523	GRAPE_RX<2>	MAKE_BASE=TRUE	IN	
GRAPE_RX<3>	PACK_OPTION=J522, J523	GRAPE_RX<3>	MAKE_BASE=TRUE	IN	
GRAPE_RX<4>	PACK_OPTION=J522, J523	GRAPE_RX<4>	MAKE_BASE=TRUE	IN	
GRAPE_RX<5>	PACK_OPTION=J522, J523	GRAPE_RX<5>	MAKE_BASE=TRUE	IN	
GRAPE_RX<6>	PACK_OPTION=J522, J523	GRAPE_RX<6>	MAKE_BASE=TRUE	IN	
GRAPE_RX<7>	PACK_OPTION=J522, J523	GRAPE_RX<7>	MAKE_BASE=TRUE	IN	
GRAPE_RX<8>	PACK_OPTION=J522, J523	GRAPE_RX<8>	MAKE_BASE=TRUE	IN	
GRAPE_RX<9>	PACK_OPTION=J522, J523	GRAPE_RX<9>	MAKE_BASE=TRUE	IN	
GRAPE_RX<10>	PACK_OPTION=J522, J523	GRAPE_RX<10>	MAKE_BASE=TRUE	IN	
GRAPE_RX<11>	PACK_OPTION=J522, J523	GRAPE_RX<11>	MAKE_BASE=TRUE	IN	
GRAPE_RX<12>	PACK_OPTION=J522, J523	GRAPE_RX<12>	MAKE_BASE=TRUE	IN	
GRAPE_RX<13>	PACK_OPTION=J522, J523	GRAPE_RX<13>	MAKE_BASE=TRUE	IN	
GRAPE_RX<14>	PACK_OPTION=J522, J523	GRAPE_RX<14>	MAKE_BASE=TRUE	IN	
GRAPE_RX<15>	PACK_OPTION=J522, J523	GRAPE_RX<15>	MAKE_BASE=TRUE	IN	
GRAPE_RX<16>	PACK_OPTION=J522, J523	GRAPE_RX<16>	MAKE_BASE=TRUE	IN	
GRAPE_RX<17>	PACK_OPTION=J522, J523	GRAPE_RX<17>	MAKE_BASE=TRUE	IN	
GRAPE_RX<18>	PACK_OPTION=J522, J523	GRAPE_RX<18>	MAKE_BASE=TRUE	IN	
GRAPE_RX<19>	PACK_OPTION=J522, J523	GRAPE_RX<19>	MAKE_BASE=TRUE	IN	
GRAPE_RX<20>	PACK_OPTION=J522, J523	GRAPE_RX<20>	MAKE_BASE=TRUE	IN	
GRAPE_RX<21>	PACK_OPTION=J522, J523	GRAPE_RX<21>	MAKE_BASE=TRUE	IN	
GRAPE_RX<22>	PACK_OPTION=J522, J523	GRAPE_RX<22>	MAKE_BASE=TRUE	IN	
GRAPE_RX<23>	PACK_OPTION=J522, J523	GRAPE_RX<23>	MAKE_BASE=TRUE	IN	
GRAPE_RX<24>	PACK_OPTION=J522, J523	GRAPE_RX<24>	MAKE_BASE=TRUE	IN	
GRAPE_RX<25>	PACK_OPTION=J522, J523	GRAPE_RX<25>	MAKE_BASE=TRUE	IN	
GRAPE_RX<26>	PACK_OPTION=J522, J523	GRAPE_RX<26>	MAKE_BASE=TRUE	IN	
GRAPE_RX<27>	PACK_OPTION=J522, J523	GRAPE_RX<27>	MAKE_BASE=TRUE	IN	
NC_LANAI_TOUCH27	PACK_OPTION=J522, J523	NC_LANAI_TOUCH27	MAKE_BASE=TRUE		
NC_LANAI_TOUCH26	PACK_OPTION=J522, J523	NC_LANAI_TOUCH26	MAKE_BASE=TRUE		
NC_LANAI_TOUCH25	PACK_OPTION=J522, J523	NC_LANAI_TOUCH25	MAKE_BASE=TRUE		
NC_LANAI_TOUCH24	PACK_OPTION=J522, J523	NC_LANAI_TOUCH24	MAKE_BASE=TRUE		
NC_LANAI_TOUCH23	PACK_OPTION=J522, J523	NC_LANAI_TOUCH23	MAKE_BASE=TRUE		
NC_LANAI_TOUCH22	PACK_OPTION=J522, J523	NC_LANAI_TOUCH22	MAKE_BASE=TRUE		
NC_LANAI_TOUCH21	PACK_OPTION=J522, J523	NC_LANAI_TOUCH21	MAKE_BASE=TRUE		
NC_LANAI_TOUCH20	PACK_OPTION=J522, J523	NC_LANAI_TOUCH20	MAKE_BASE=TRUE		
GRAPE_TX<20>	PACK_OPTION=J522, J523	NC_LANAI_TOUCH19	MAKE_BASE=TRUE		
GRAPE_TX<21>	PACK_OPTION=J522, J523	NC_LANAI_TOUCH18	MAKE_BASE=TRUE		
GRAPE_TX<22>	PACK_OPTION=J522, J523	NC_LANAI_TOUCH17	MAKE_BASE=TRUE		
GRAPE_TX<23>	PACK_OPTION=J522, J523	NC_LANAI_TOUCH16	MAKE_BASE=TRUE		
GRAPE_TX<24>	PACK_OPTION=J522, J523	GRAPE_TX<32>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<25>	PACK_OPTION=J522, J523	GRAPE_TX<33>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<26>	PACK_OPTION=J522, J523	GRAPE_TX<34>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<27>	PACK_OPTION=J522, J523	GRAPE_TX<35>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<28>	PACK_OPTION=J522, J523	GRAPE_TX<36>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<29>	PACK_OPTION=J522, J523	GRAPE_TX<37>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<30>	PACK_OPTION=J522, J523	GRAPE_TX<38>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<31>	PACK_OPTION=J522, J523	GRAPE_TX<39>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<32>	PACK_OPTION=J522, J523	GRAPE_TX<40>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<33>	PACK_OPTION=J522, J523	GRAPE_TX<41>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<34>	PACK_OPTION=J522, J523	GRAPE_TX<42>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<35>	PACK_OPTION=J522, J523	GRAPE_TX<43>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<36>	PACK_OPTION=J522, J523	GRAPE_TX<44>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<37>	PACK_OPTION=J522, J523	GRAPE_TX<45>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<38>	PACK_OPTION=J522, J523	GRAPE_TX<46>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<39>	PACK_OPTION=J522, J523	GRAPE_TX<47>	MAKE_BASE=TRUE	OUT	

J522 KONA RX/TX ALIAS

GRAPE_RX<55>	PACK_OPTION=J522, J523	GRAPE_RX<33>	MAKE_BASE=TRUE	IN	
GRAPE_RX<54>	PACK_OPTION=J522, J523	GRAPE_RX<62>	MAKE_BASE=TRUE	IN	
GRAPE_RX<53>	PACK_OPTION=J522, J523	GRAPE_RX<61>	MAKE_BASE=TRUE	IN	
GRAPE_RX<52>	PACK_OPTION=J522, J523	GRAPE_RX<60>	MAKE_BASE=TRUE	IN	
GRAPE_RX<51>	PACK_OPTION=J522, J523	GRAPE_RX<59>	MAKE_BASE=TRUE	IN	
GRAPE_RX<50>	PACK_OPTION=J522, J523	GRAPE_RX<58>	MAKE_BASE=TRUE	IN	
GRAPE_RX<49>	PACK_OPTION=J522, J523	GRAPE_RX<57>	MAKE_BASE=TRUE	IN	
GRAPE_RX<48>	PACK_OPTION=J522, J523	GRAPE_RX<56>	MAKE_BASE=TRUE	IN	
GRAPE_RX<47>	PACK_OPTION=J522, J523	GRAPE_RX<55>	MAKE_BASE=TRUE	IN	
GRAPE_RX<46>	PACK_OPTION=J522, J523	GRAPE_RX<54>	MAKE_BASE=TRUE	IN	
GRAPE_RX<45>	PACK_OPTION=J522, J523	GRAPE_RX<53>	MAKE_BASE=TRUE	IN	
GRAPE_RX<44>	PACK_OPTION=J522, J523	GRAPE_RX<52>	MAKE_BASE=TRUE	IN	
GRAPE_RX<43>	PACK_OPTION=J522, J523	GRAPE_RX<51>	MAKE_BASE=TRUE	IN	
GRAPE_RX<42>	PACK_OPTION=J522, J523	GRAPE_RX<50>	MAKE_BASE=TRUE	IN	
GRAPE_RX<41>	PACK_OPTION=J522, J523	GRAPE_RX<49>	MAKE_BASE=TRUE	IN	
GRAPE_RX<40>	PACK_OPTION=J522, J523	GRAPE_RX<48>	MAKE_BASE=TRUE	IN	
GRAPE_RX<39>	PACK_OPTION=J522, J523	GRAPE_RX<47>	MAKE_BASE=TRUE	IN	
GRAPE_RX<38>	PACK_OPTION=J522, J523	GRAPE_RX<46>	MAKE_BASE=TRUE	IN	
GRAPE_RX<37>	PACK_OPTION=J522, J523	GRAPE_RX<45>	MAKE_BASE=TRUE	IN	
GRAPE_RX<36>	PACK_OPTION=J522, J523	GRAPE_RX<44>	MAKE_BASE=TRUE	IN	
GRAPE_RX<35>	PACK_OPTION=J522, J523	GRAPE_RX<43>	MAKE_BASE=TRUE	IN	
GRAPE_RX<34>	PACK_OPTION=J522, J523	GRAPE_RX<42>	MAKE_BASE=TRUE	IN	
GRAPE_RX<33>	PACK_OPTION=J522, J523	GRAPE_RX<41>	MAKE_BASE=TRUE	IN	
GRAPE_RX<32>	PACK_OPTION=J522, J523	GRAPE_RX<40>	MAKE_BASE=TRUE	IN	
GRAPE_RX<31>	PACK_OPTION=J522, J523	GRAPE_RX<39>	MAKE_BASE=TRUE	IN	
GRAPE_RX<30>	PACK_OPTION=J522, J523	GRAPE_RX<38>	MAKE_BASE=TRUE	IN	
GRAPE_RX<29>	PACK_OPTION=J522, J523	GRAPE_RX<37>	MAKE_BASE=TRUE	IN	
GRAPE_RX<28>	PACK_OPTION=J522, J523	GRAPE_RX<36>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH28	PACK_OPTION=J522, J523	GRAPE_TX<31>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH29	PACK_OPTION=J522, J523	VCOM_LCD_TO_GRAPE_R_C	MAKE_BASE=TRUE		
NC_KONA_TOUCH30	PACK_OPTION=J522, J523	GRAPE_TX<30>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH31	PACK_OPTION=J522, J523	GRAPE_TX<29>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH32	PACK_OPTION=J522, J523	GRAPE_TX<28>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH33	PACK_OPTION=J522, J523	GRAPE_TX<27>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH34	PACK_OPTION=J522, J523	GRAPE_TX<26>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH35	PACK_OPTION=J522, J523	GRAPE_TX<25>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH36	PACK_OPTION=J522, J523	GRAPE_TX<24>	MAKE_BASE=TRUE	IN	
VCOM_LCD_TO_GRAPE_R_C	PACK_OPTION=J522, J523	GRAPE_TX<23>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH38	PACK_OPTION=J522, J523	GRAPE_TX<22>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH39	PACK_OPTION=J522, J523	GRAPE_TX<21>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH40	PACK_OPTION=J522, J523	GRAPE_TX<20>	MAKE_BASE=TRUE	IN	
NC_KONA_TOUCH41	PACK_OPTION=J522, J523	GRAPE_TX<19>	MAKE_BASE=TRUE	IN	
GRAPE_TX<0>	PACK_OPTION=J522, J523	GRAPE_TX<18>	MAKE_BASE=TRUE	IN	
GRAPE_TX<1>	PACK_OPTION=J522, J523	GRAPE_TX<17>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<2>	PACK_OPTION=J522, J523	GRAPE_TX<16>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<3>	PACK_OPTION=J522, J523	GRAPE_TX<15>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<4>	PACK_OPTION=J522, J523	GRAPE_TX<14>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<5>	PACK_OPTION=J522, J523	GRAPE_TX<13>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<6>	PACK_OPTION=J522, J523	GRAPE_TX<12>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<7>	PACK_OPTION=J522, J523	GRAPE_TX<11>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<8>	PACK_OPTION=J522, J523	GRAPE_TX<10>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<9>	PACK_OPTION=J522, J523	GRAPE_TX<9>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<10>	PACK_OPTION=J522, J523	GRAPE_TX<8>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<11>	PACK_OPTION=J522, J523	GRAPE_TX<7>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<12>	PACK_OPTION=J522, J523	GRAPE_TX<6>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<13>	PACK_OPTION=J522, J523	GRAPE_TX<5>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<14>	PACK_OPTION=J522, J523	GRAPE_TX<4>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<15>	PACK_OPTION=J522, J523	GRAPE_TX<3>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<16>	PACK_OPTION=J522, J523	GRAPE_TX<2>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<17>	PACK_OPTION=J522, J523	GRAPE_TX<1>	MAKE_BASE=TRUE	OUT	
GRAPE_TX<18>	PACK_OPTION=J522, J523	GRAPE_TX<0>	MAKE_BASE=TRUE	OUT	
NC_KONA_TOUCH62	PACK_OPTION=J522, J523				
NC_KONA_TOUCH63	PACK_OPTION=J522, J523				
NC_KONA_TOUCH64	PACK_OPTION=J522, J523				
NC_KONA_TOUCH65	PACK_OPTION=J522, J523				
NC_KONA_TOUCH66	PACK_OPTION=J522, J523				
NC_KONA_TOUCH67	PACK_OPTION=J522, J523				
NC_KONA_TOUCH68	PACK_OPTION=J522, J523				
NC_KONA_TOUCH69	PACK_OPTION=J522, J523				

VCOM_LCD_TO_GRAPE — R2390 300 MF 01005 5% 1/32W — VCOM_LCD_TO_GRAPE_R

C2390 100PF 5% 16V NP0-C0G 01005-1

NOSTUFF C2391 100PF 16V NP0-C0G 01005-1 5%

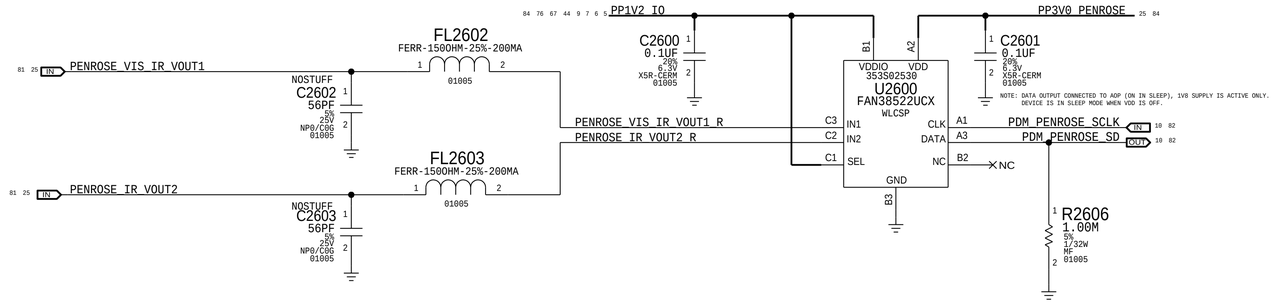
BOM_COST_GROUP=TOUCH

SYNC_MASTER=J522_MLB_8_9_0 SYNC_DATE=05/17/2020

PAGE TITLE

TOUCH: SENSE & DRIVE ALIAS

PENROSE ADC (FAN)



BOM_COST_GROUP=CAMERA

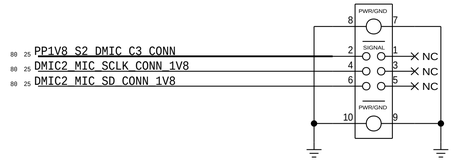
PAGE TITLE

CAMERA: PENROSE ADC

BACK DMIC FLEX

MLB APN: 516S00186
FLEX APN: 516S00185

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

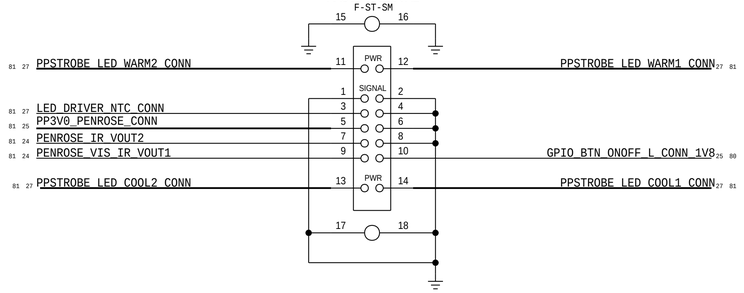


PINOUT PER HYDRA STROBE FLEX REV 0.6

HYDRA STROBE FLEX B2B

MLB APN: 516S00267
FLEX APN: 516S00268

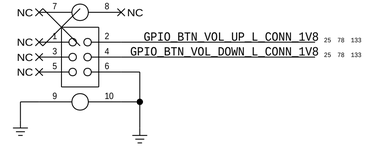
516S00267
J2710
AA36D-S010VA1
F-ST-SM



J51X VOLUME BUTTON FLEX B2B

MLB APN: 516S00321
FLEX APN: 516S00322

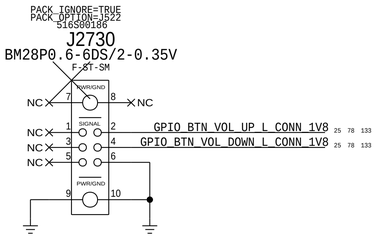
PACK_IGNORE=TRUE
PACK_OPTION=1517
516S00321
J2730
5054130610
F-ST-SM



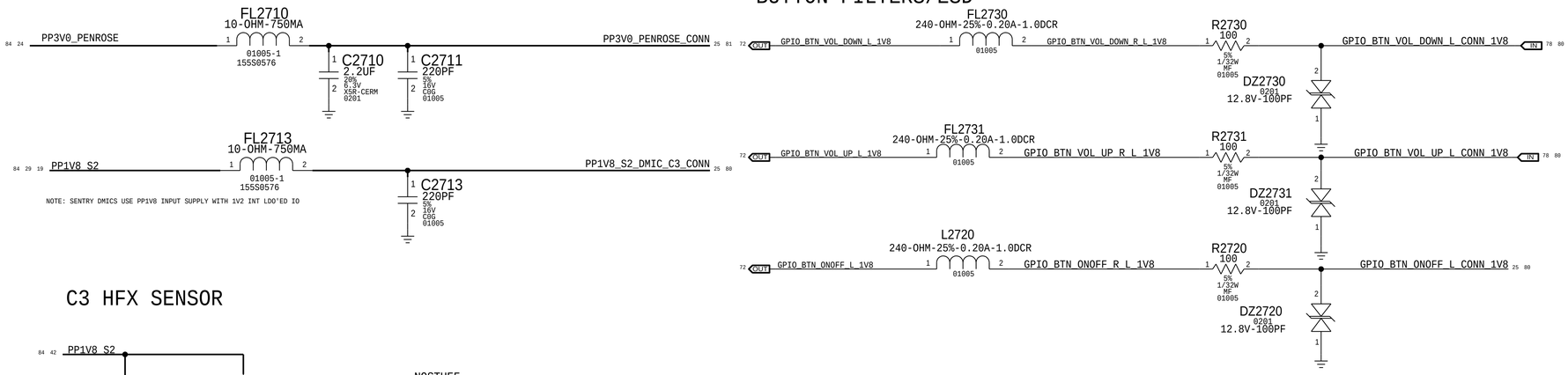
J52X VOLUME BUTTON FLEX B2B

MLB APN: 516S00186
FLEX APN: 516S00185

PACK_IGNORE=TRUE
PACK_OPTION=1522
516S00186
J2730
BM28P0.6-6DS/2-0.35V
F-ST-SM



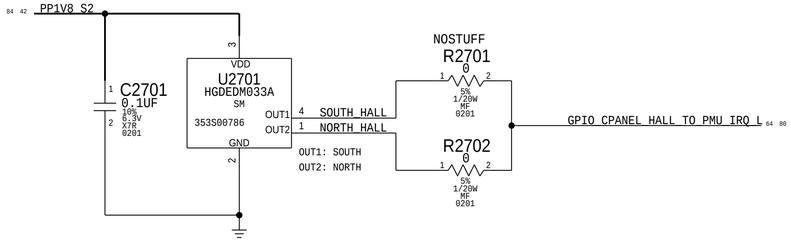
BUTTON FILTERS/ESD



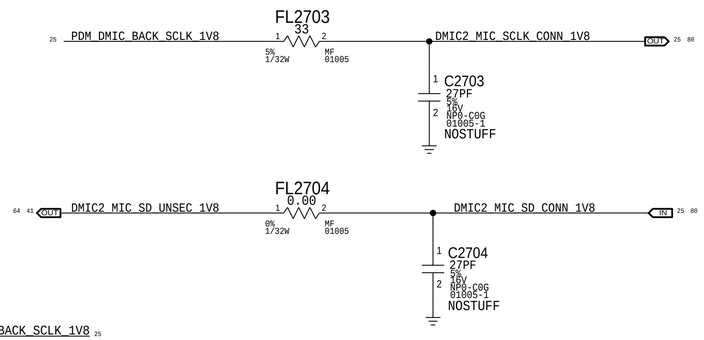
RFFE FILTERS

NOTE: RFFE FILTERS NOW ON BB PAGES

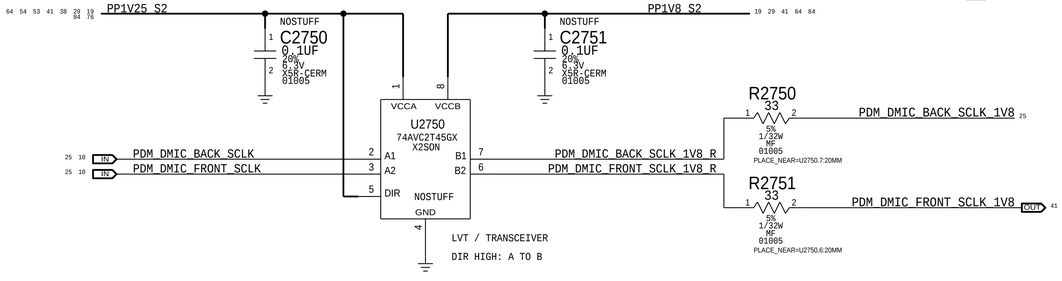
C3 HFX SENSOR



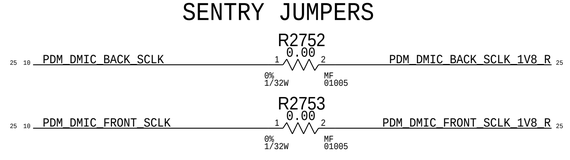
MIC#4 FILTERS



DMIC CLOCK LVT FOR FRONT AND BACK CLK



SENTRY JUMPERS



PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
155S00097	155S00018	FL2723,FL2725	FERR 800HM 500MA 0.18DCR 0201	
155S0664	155S00018	FL2723,FL2725	FERR 800HM 500MA 0.18DCR 0201	

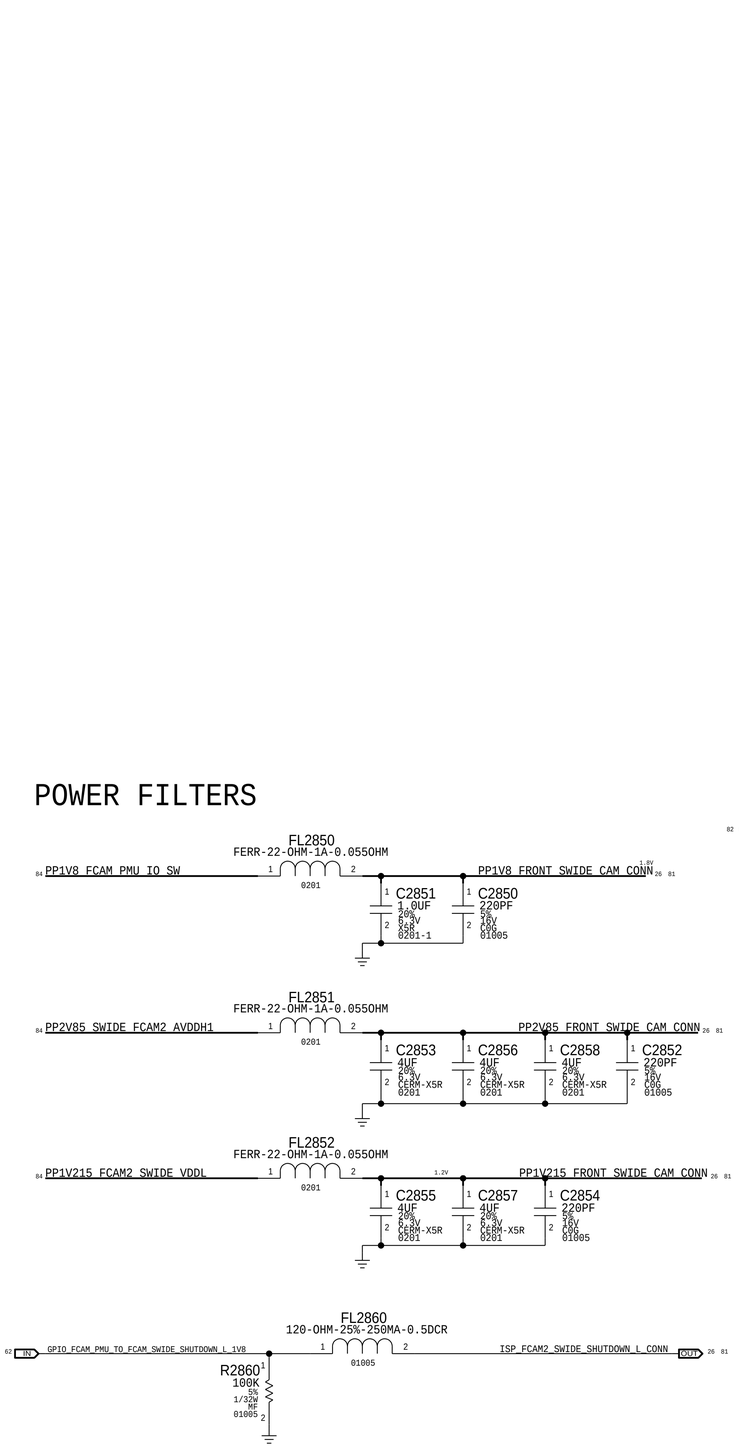
BOM_COST_GROUP=CAMERA

PAGE TITLE

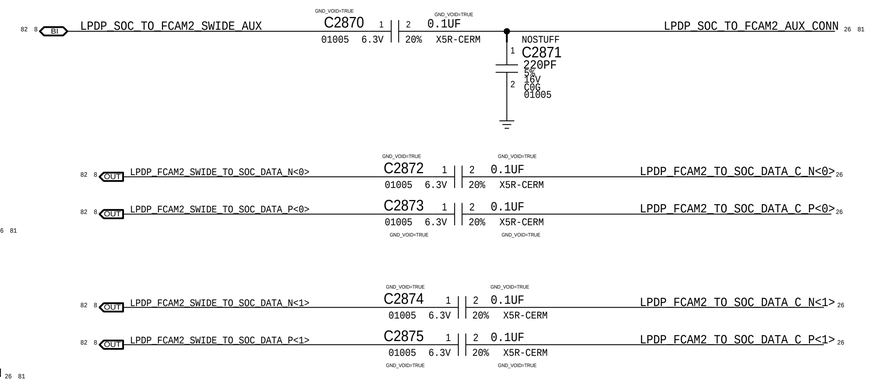
CAMERA: B2B STROBE & MISC

FRONT SWIDE CAMERA

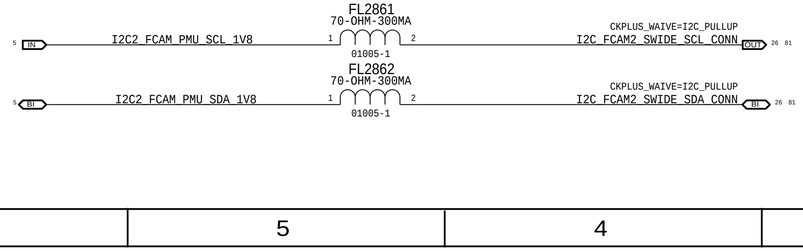
POWER FILTERS



LPDP AC COUPLING CAPS

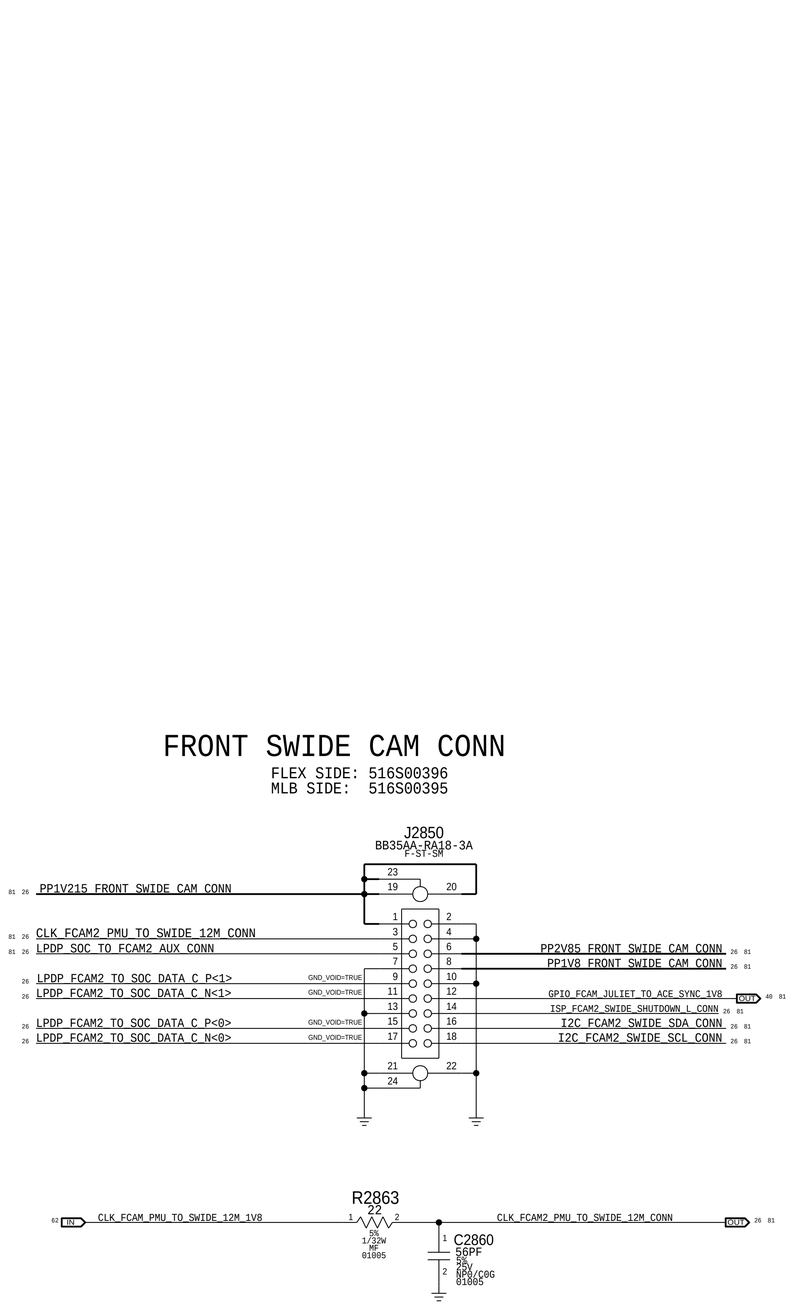


IO FILTERS



FRONT SWIDE CAM CONN

FLEX SIDE: 516S00396
MLB SIDE: 516S00395



BOM_COST_GROUP=CAMERA

PAGE TITLE

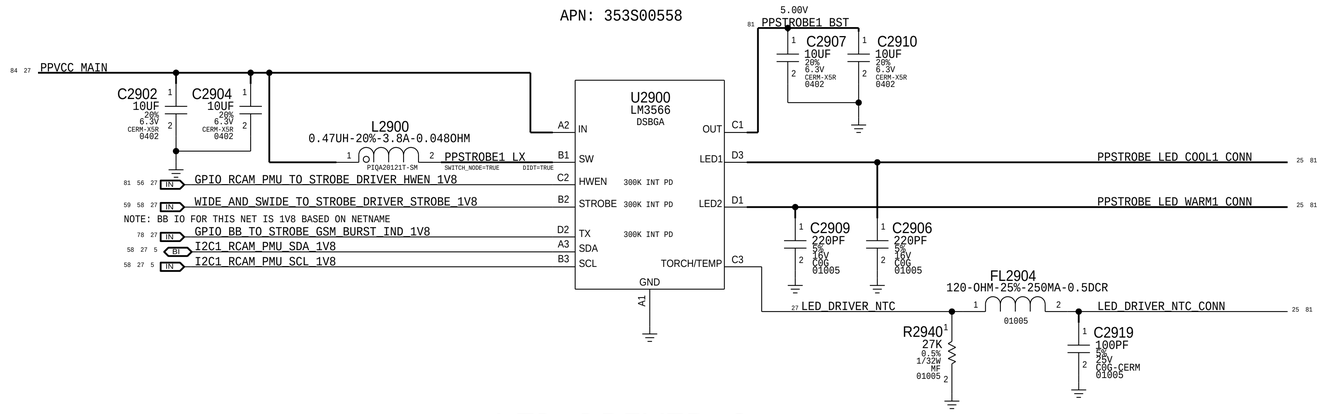
CAMERA: B2B FRONT

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S0875	138S0678		C2902, ETC	RDAR://PROBLEM/26929420
152S00121	152S00081		L2900,L2950	0.47UH 3.8A 2012 TY

STROBE CIRCUITRY

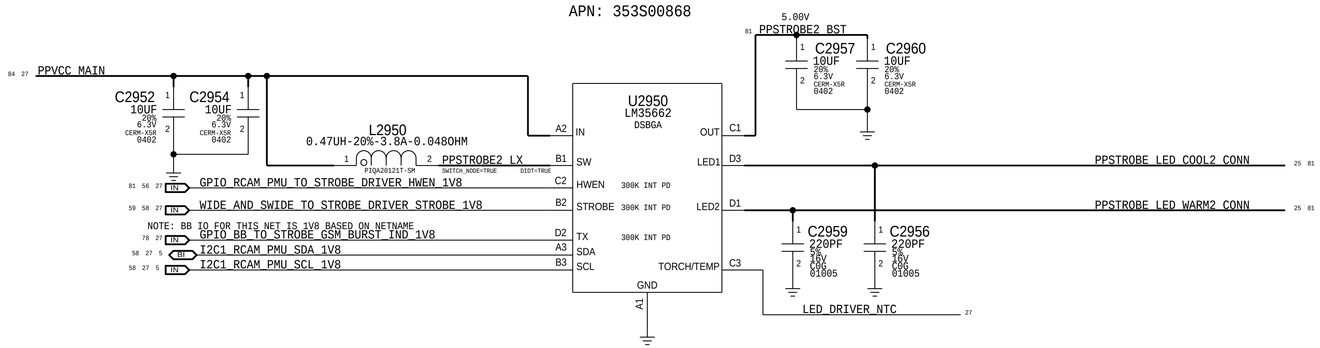
LED DRIVER 1

APN: 353S00558



LED DRIVER 2

APN: 353S00868



BOM_COST_GROUP=STROBE

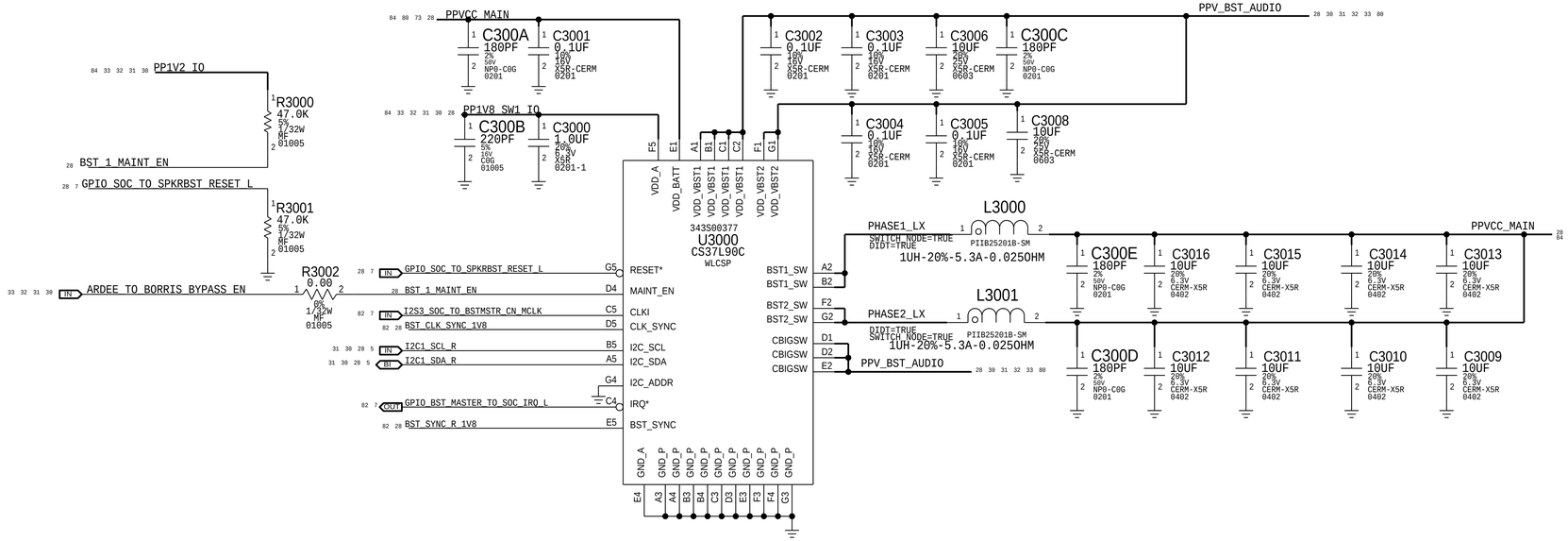
SYNC_MASTER=J522_MLB_0_3_0 SYNC_DATE=09/17/2020

PAGE TITLE

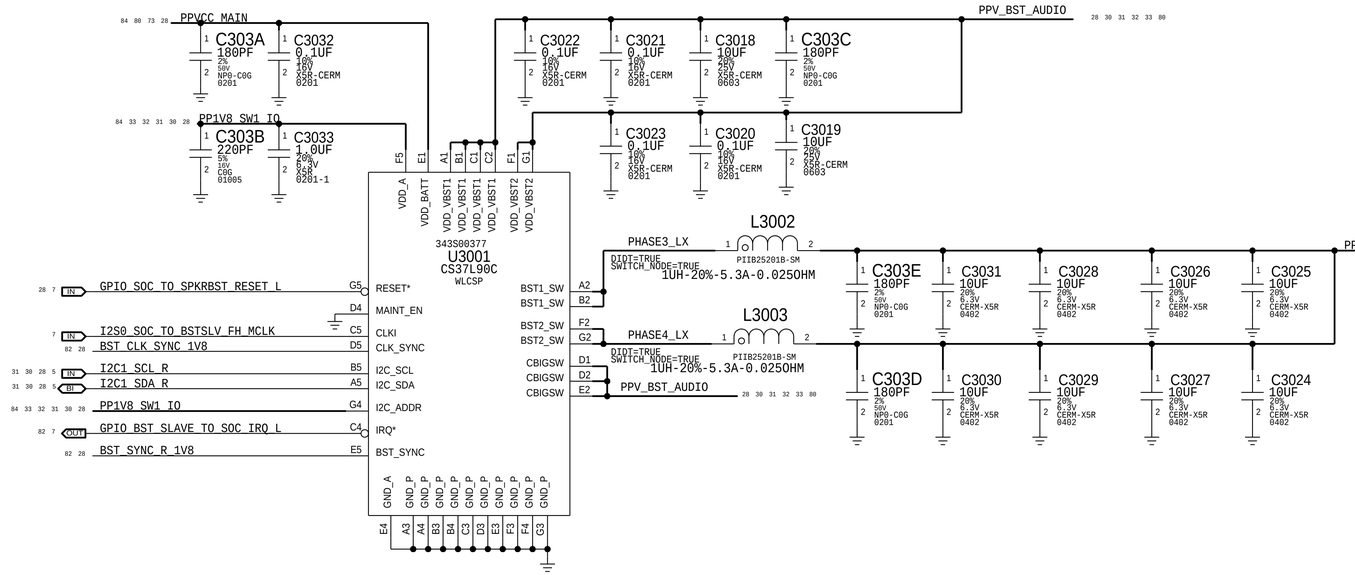
CAMERA: STROBE

BORRIS BOOST

BOOST MASTER



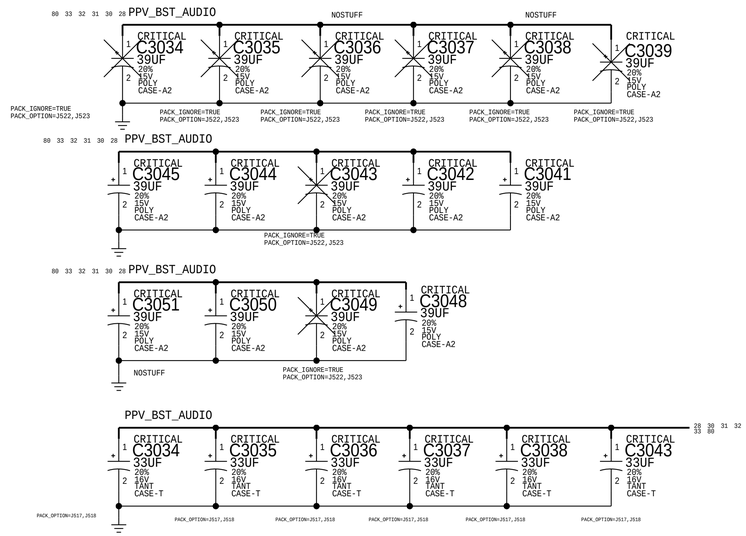
BOOST SLAVE



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

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

CAP RESERVOIR



BOM_COST_GROUP=AUDIO

PAGE TITLE

AUDIO: BORRIS BOOST

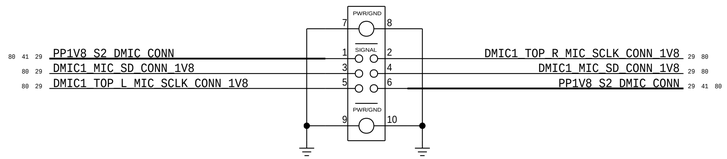
DMIC CONN AND FILTERS

PINOUT PER MIC FH FLEX REV 0.3

MIC FLEX B2B

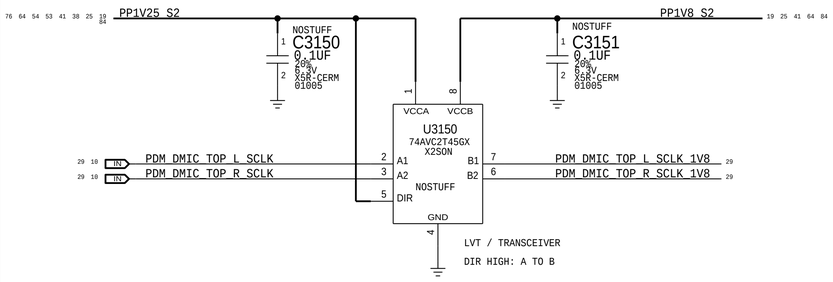
MLB APN: 516S00186
FLEX APN: 516S00185

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

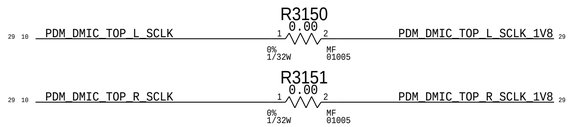


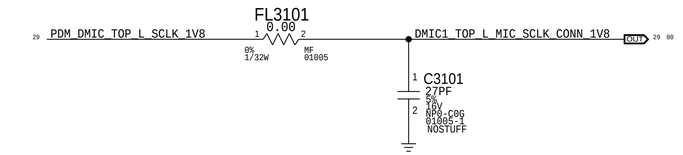
ROUTING	BUS	SELECT	LOCATION	DATA ASSERTS ON	DATA LATCHED ON
MIC#1	PDM0	HIGH	LEFT	CLK RISING EDGE	CLK FALLING EDGE
MIC#2	PDM0	LOW	RIGHT	CLK FALLING EDGE	CLK RISING EDGE
MIC#3	PDM1	HIGH	FRONT(ON TM)	CLK RISING EDGE	CLK FALLING EDGE
MIC#4	PDM1	LOW	REAR(C3)	CLK FALLING EDGE	CLK RISING EDGE
MIC#5	PDM2	HIGH	LANDSCAPE	CLK RISING EDGE	CLK FALLING EDGE

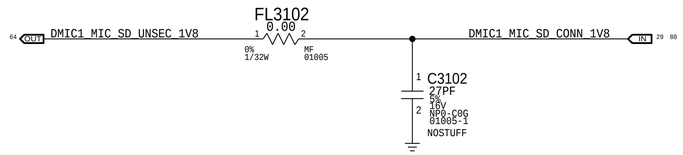
DMIC2 FILTERS

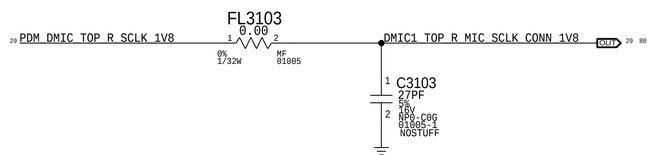


SENTRY JUMPERS









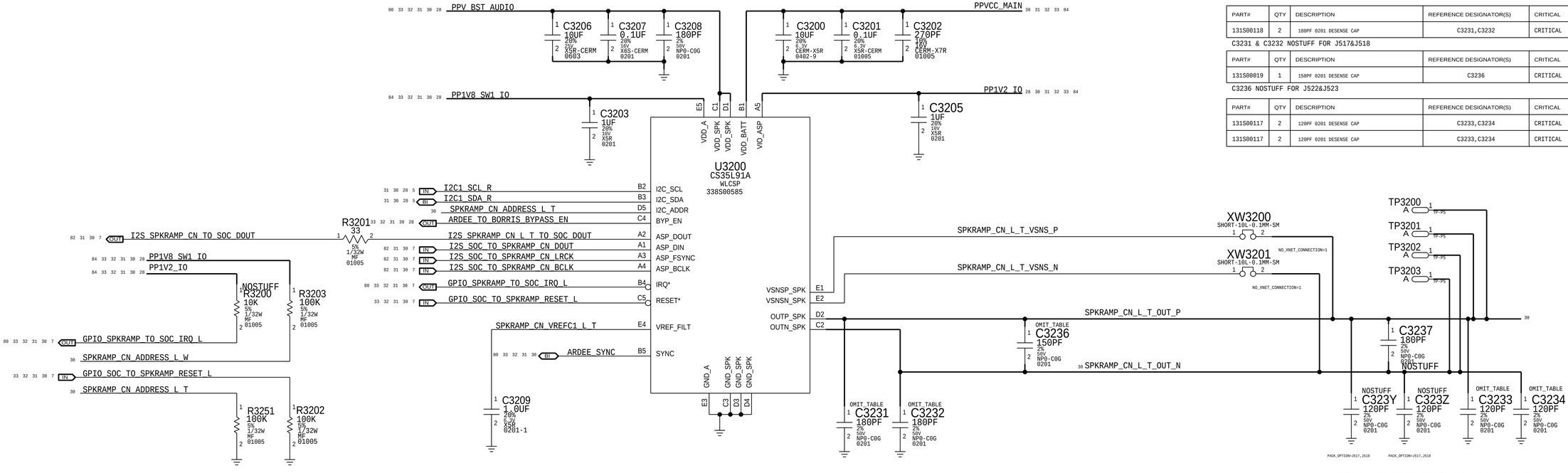
NOTE: SENTRY DMICS USE PP1V8 INPUT SUPPLY WITH 1V2 INT LDO'ED IO

BOM_COST_GROUP=AUDIO

PAGE TITLE

AUDIO: DMIC B2B & FILTERS

CN L TWEETER SPEAKER AMP



CN-L-T DESENSE CAP CONFIG

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00118	2	180PF 0201 DESENSE CAP	C3231,C3232	CRITICAL	J522&J523

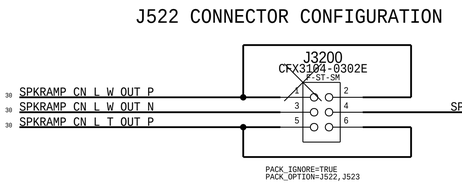
C3231 & C3232 NOSTUFF FOR J517&J518

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00019	1	150PF 0201 DESENSE CAP	C3236	CRITICAL	J517&J518

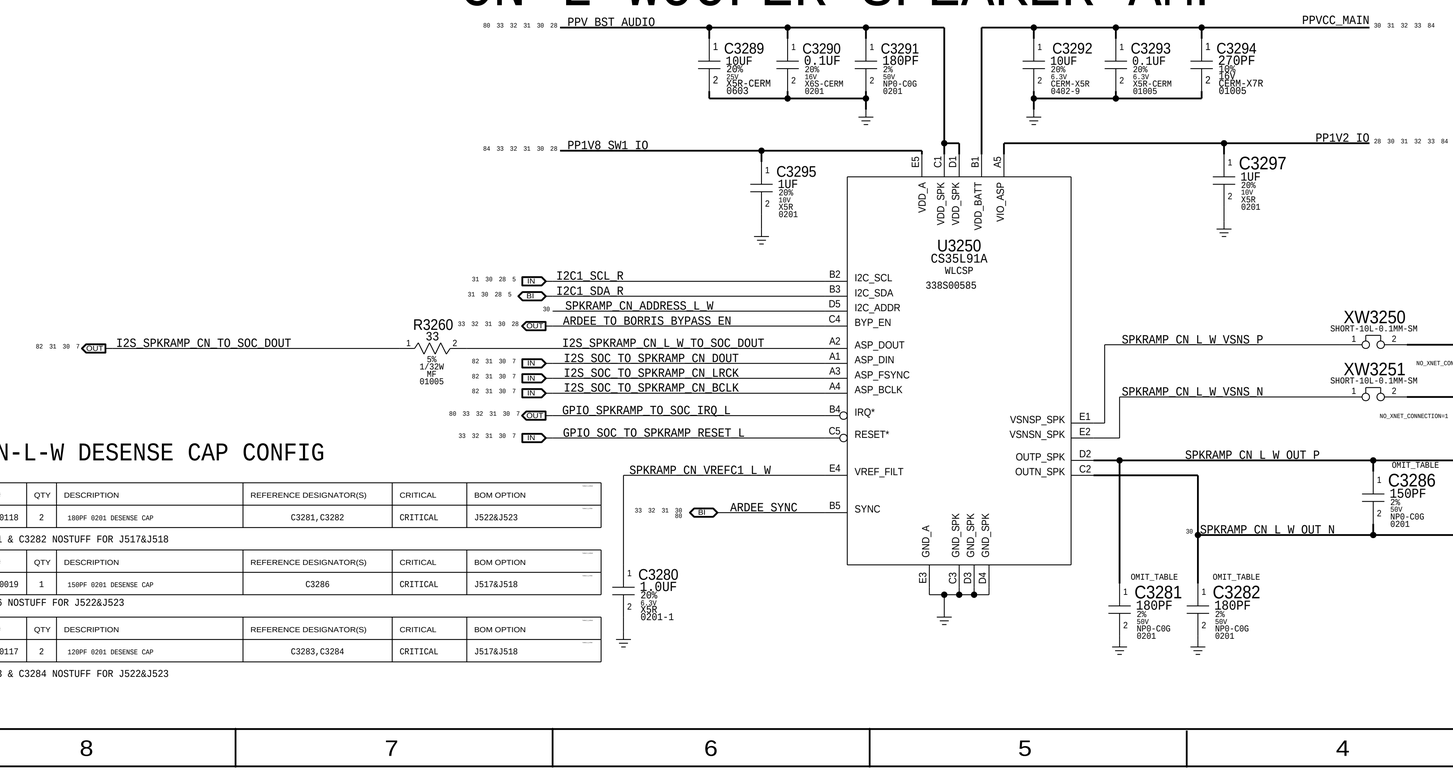
C3236 NOSTUFF FOR J522&J523

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00117	2	120PF 0201 DESENSE CAP	C3233,C3234	CRITICAL	J517&J518
131S00117	2	120PF 0201 DESENSE CAP	C3233,C3234	CRITICAL	J522&J523

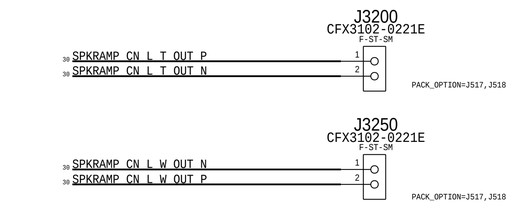
J522 CONNECTOR CONFIGURATION



CN L WOOFER SPEAKER AMP



J517 CONNECTOR CONFIGURATION



CN-L-W DESENSE CAP CONFIG

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00118	2	180PF 0201 DESENSE CAP	C3281,C3282	CRITICAL	J522&J523

C3281 & C3282 NOSTUFF FOR J517&J518

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00019	1	150PF 0201 DESENSE CAP	C3286	CRITICAL	J517&J518

C3286 NOSTUFF FOR J522&J523

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00117	2	120PF 0201 DESENSE CAP	C3283,C3284	CRITICAL	J517&J518

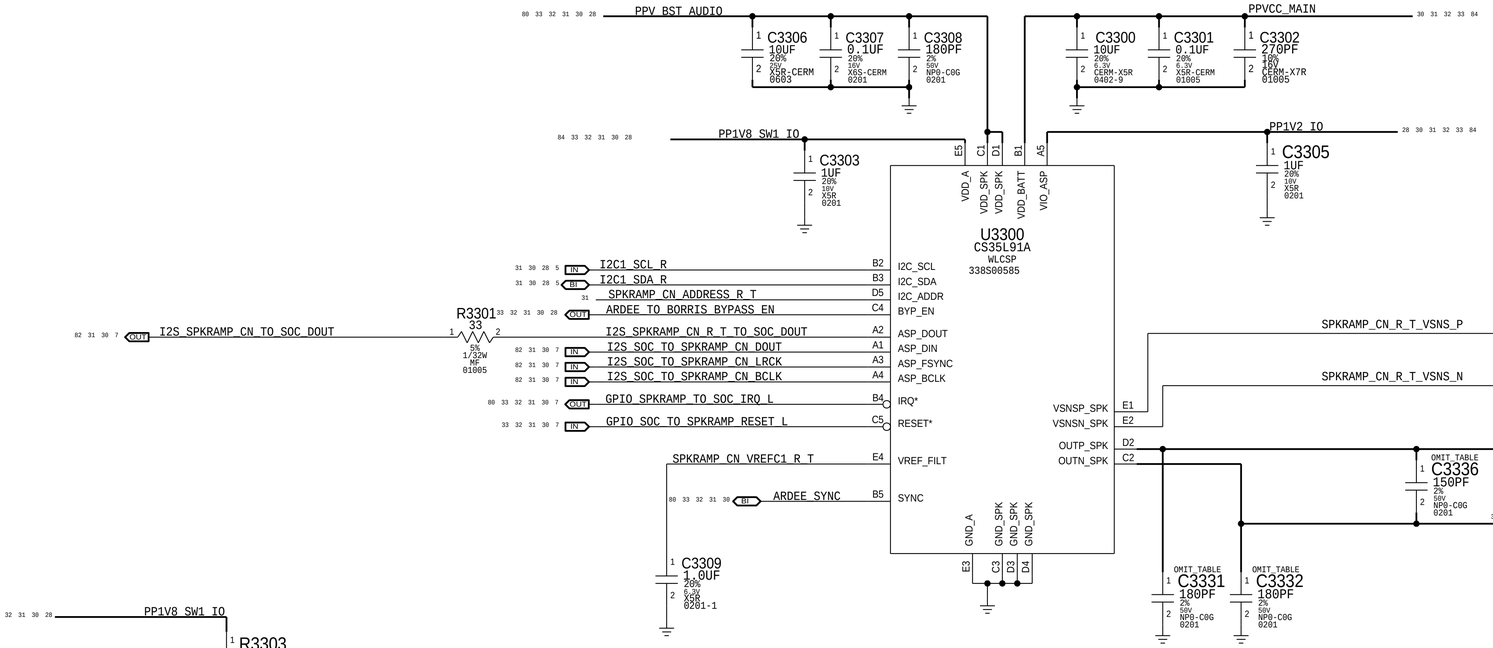
C3283 & C3284 NOSTUFF FOR J522&J523

BOM_COST_GROUP=AUDIO

PAGE TITLE

AUDIO: SPEAKER AMPS (CNL)

CN R TWEETER SPEAKER AMP



CN-R-T DESENSE CAP CONFIG

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00118	2	180PF 0201 DESENSE CAP	C3331,C3332	CRITICAL	J522&J523

C3331 & C3332 NOSTUFF FOR J517&J518

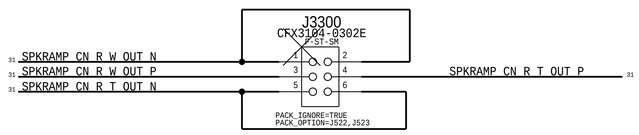
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00019	1	150PF 0201 DESENSE CAP	C3336	CRITICAL	J517&J518

C3236 NOSTUFF FOR J522&J523

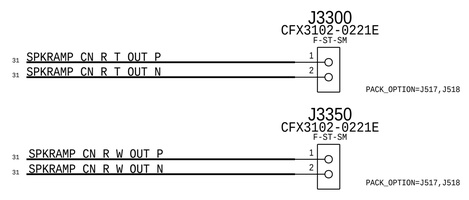
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00118	2	180PF 0201 DESENSE CAP	C3333,C3334	CRITICAL	J517&J518

C3333 & C3334 NOSTUFF FOR J522&J523

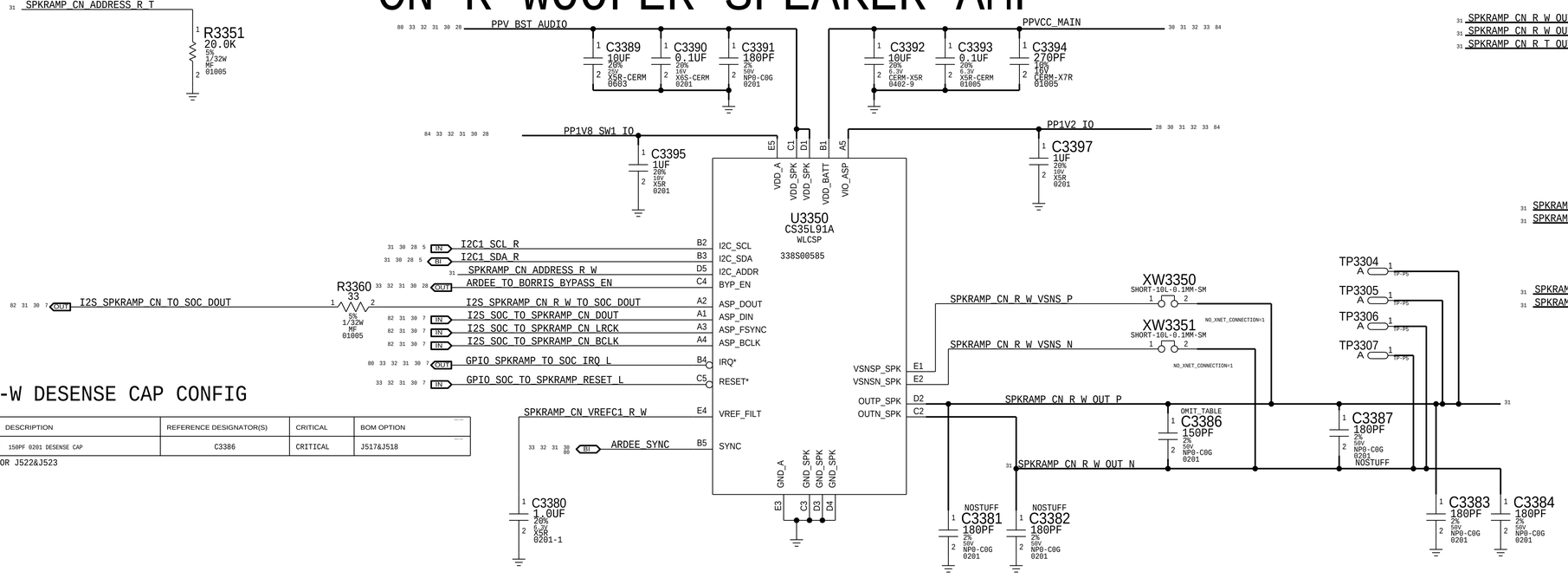
J522 CONNECTOR CONFIGURATION



J517 CONNECTOR CONFIGURATION



CN R WOOFER SPEAKER AMP



CN-R-W DESENSE CAP CONFIG

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00019	1	150PF 0201 DESENSE CAP	C3386	CRITICAL	J517&J518

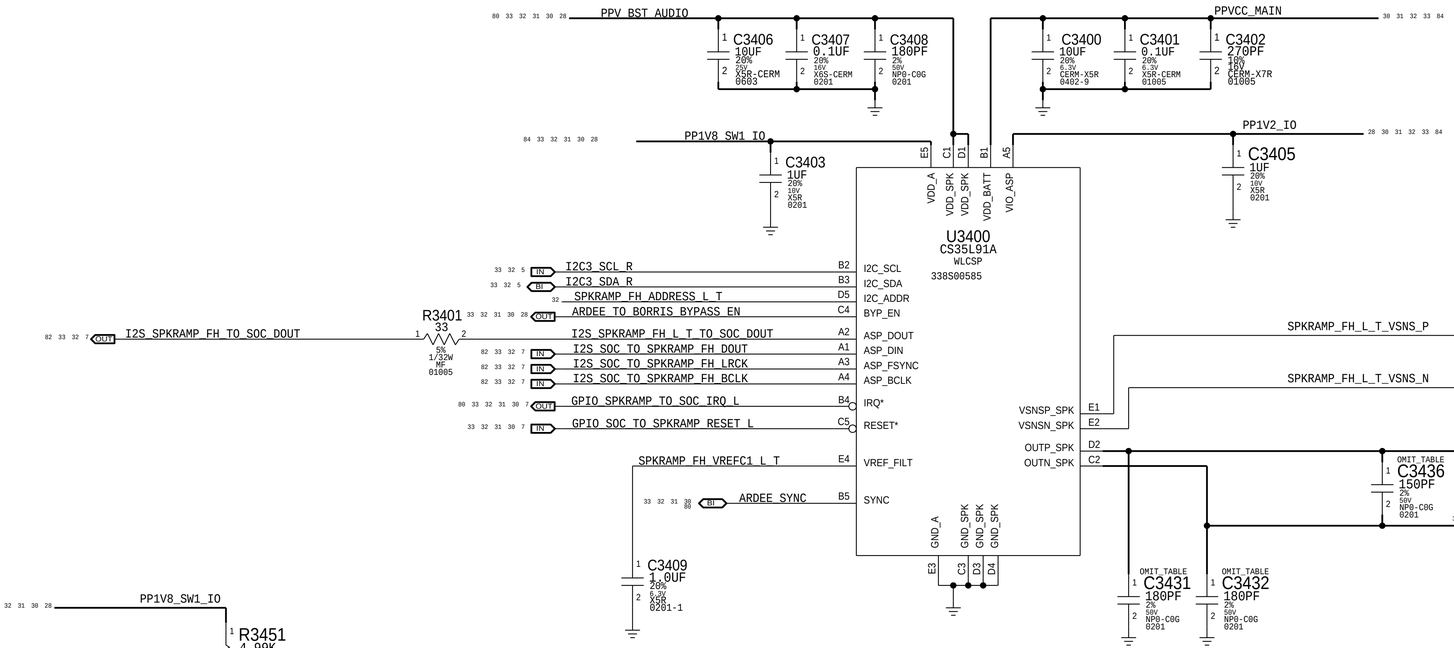
C3386 NOSTUFF FOR J522&J523

BOM_COST_GROUP=AUDIO

PAGE TITLE

AUDIO: SPEAKER AMPS (CNR)

FH L TWEETER SPEAKER AMP



FH-L-T DESENSE CAP CONFIG

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00118	2	180PF 0201 DESENSE CAP	C3431,C3432	CRITICAL	J522&J523

C3431 & C3432 NOSTUFF FOR J517&J518

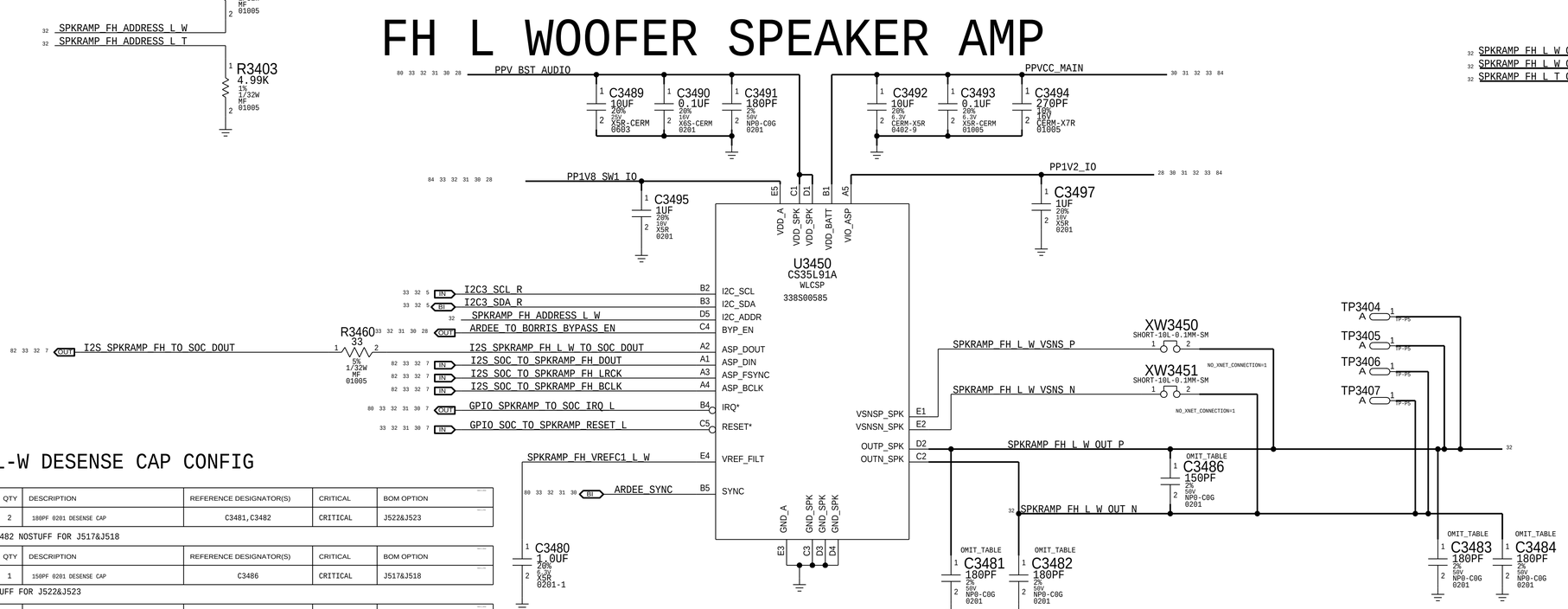
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00019	1	150PF 0201 DESENSE CAP	C3436	CRITICAL	J517&J518

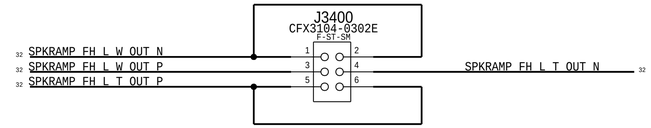
C3436 NOSTUFF FOR J522&J523

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00118	2	180PF 0201 DESENSE CAP	C3433,C3434	CRITICAL	J517&J518

C3433 & C3434 NOSTUFF FOR J522&J523

FH L WOOFER SPEAKER AMP





FH-L-W DESENSE CAP CONFIG

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00118	2	180PF 0201 DESENSE CAP	C3481,C3482	CRITICAL	J522&J523

C3481 & C3482 NOSTUFF FOR J517&J518

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00019	1	150PF 0201 DESENSE CAP	C3486	CRITICAL	J517&J518

C3486 NOSTUFF FOR J522&J523

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00118	2	180PF 0201 DESENSE CAP	C3483,C3484	CRITICAL	J517&J518

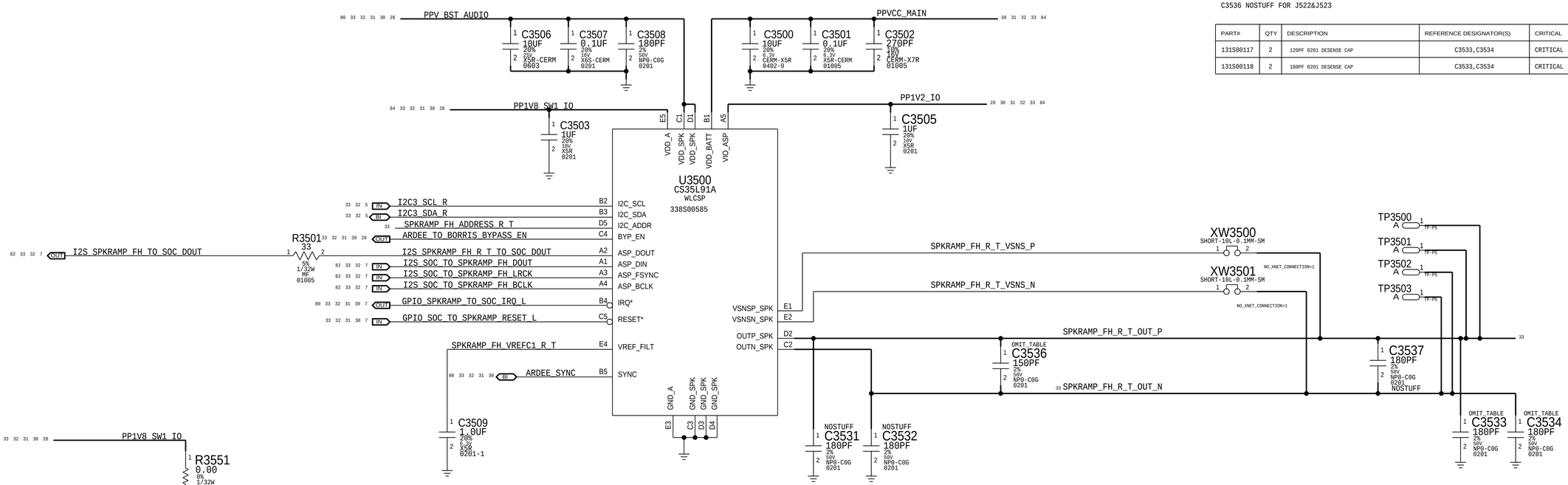
C3483 & C3484 NOSTUFF FOR J522&J523

BOM_COST_GROUP=AUDIO

PAGE TITLE

AUDIO: SPEAKER AMPS (FHL)

FH R TWEETER SPEAKER AMP



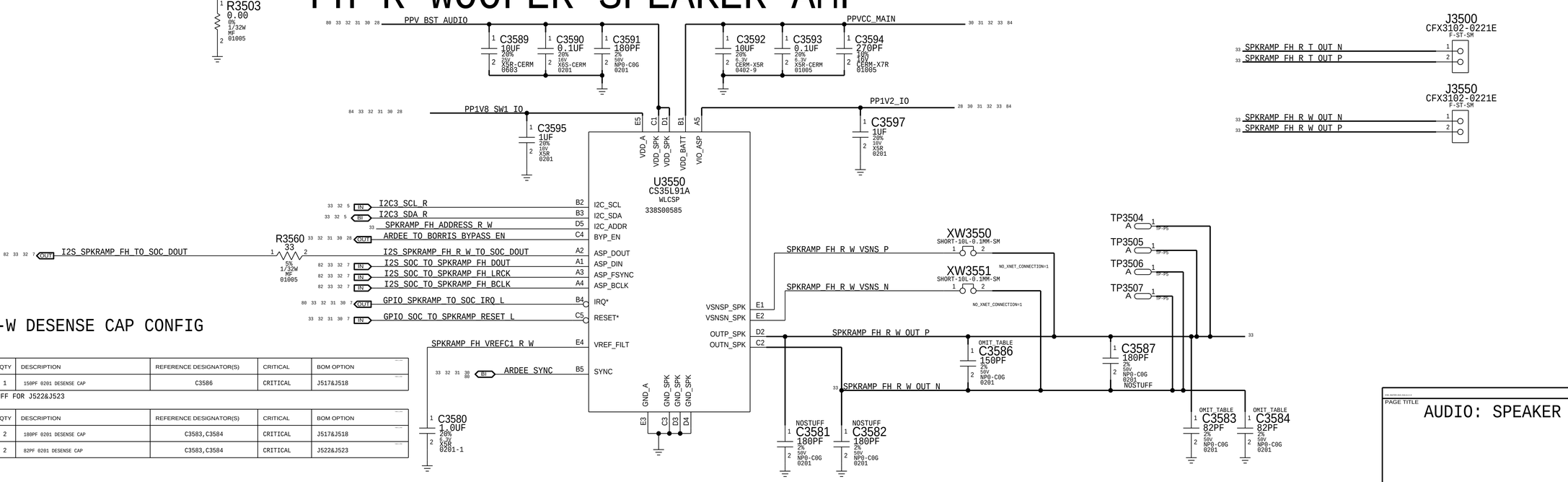
FH-R-T DESENSE CAP CONFIG

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00019	1	150PF 0201 DESENSE CAP	C3536	CRITICAL	J517&J518

C3536 NOSTUFF FOR J522&J523

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00117	2	120PF 0201 DESENSE CAP	C3533,C3534	CRITICAL	J517&J518
131S00118	2	180PF 0201 DESENSE CAP	C3533,C3534	CRITICAL	J522&J523

FH R WOOFER SPEAKER AMP



FH-R-W DESENSE CAP CONFIG

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00019	1	150PF 0201 DESENSE CAP	C3586	CRITICAL	J517&J518

C3586 NOSTUFF FOR J522&J523

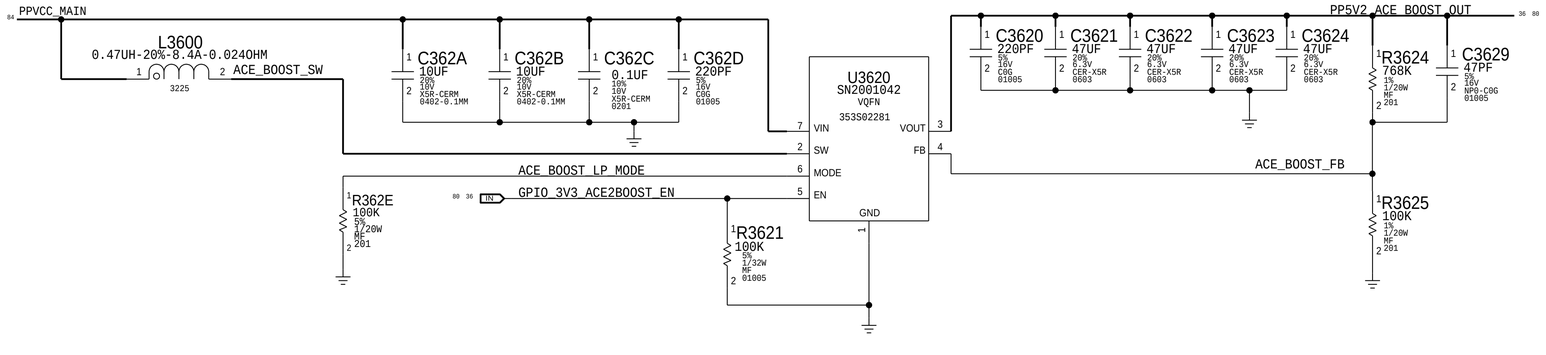
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00118	2	180PF 0201 DESENSE CAP	C3583,C3584	CRITICAL	J517&J518
131S00018	2	82PF 0201 DESENSE CAP	C3583,C3584	CRITICAL	J522&J523

BOM_COST_GROUP=AUDIO

PAGE TITLE

AUDIO: SPEAKER AMPS (FHR)

ACE BOOST

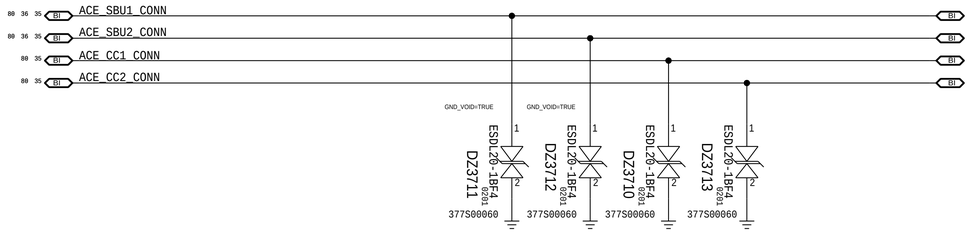


BOM_COST_GROUP=USB-C

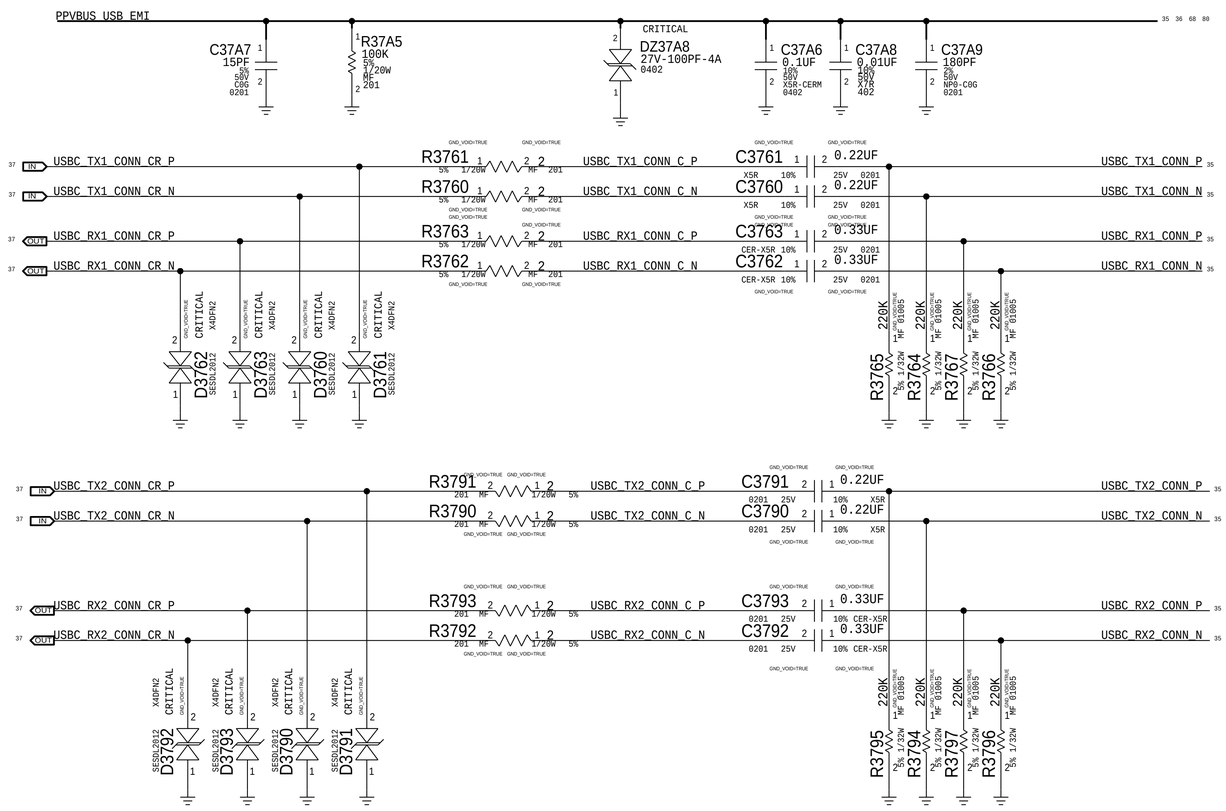
PAGE TITLE

IO: ACE PERIPHERALS

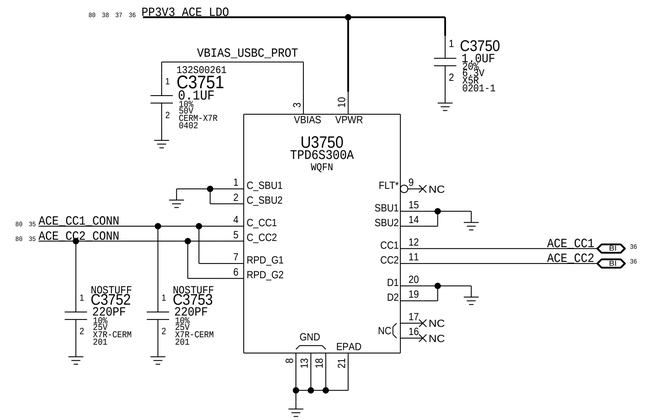
PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
372S0194	372S0187		Q3790,Q8990	XSTR,N-CHN,34V,500MA



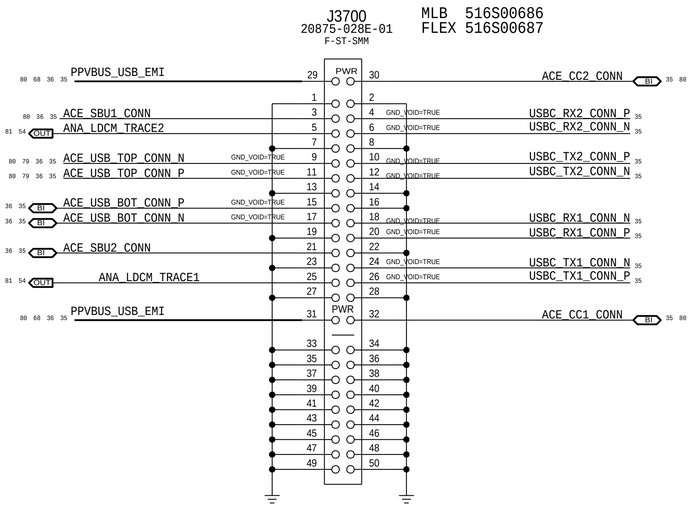
USB CONN FILTERS

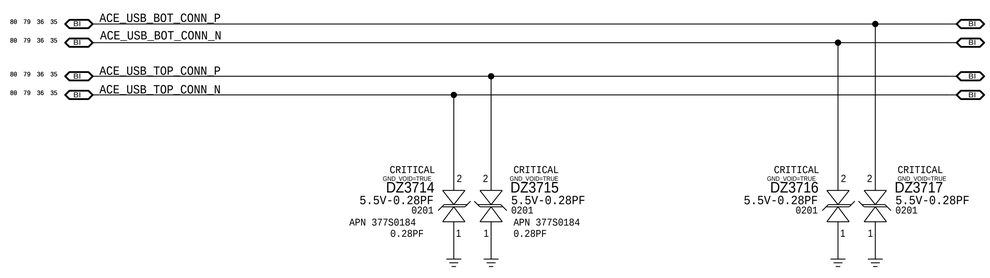


USB TYPE-C PORT PROTECTION

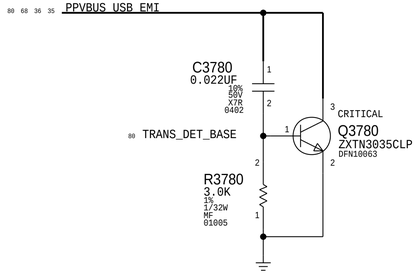


B2B CONNECTOR TO I/0 FLEX





TRANSIENT SUPPRESSION



BOM_COST_GROUP=USB-C

PAGE TITLE

IO: IOFLEX B2B & SIM B2B

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
311S0612	311S00057		U3890	AND GATE NXP

PPVBUS_PROT
PP5V2_ACE_BOOST_OUT
15V
PPVBUS_USB_EMI
C3808 1UF 10% 35V X5R 0402
D3800 DSN2 NSR20F40NX_G CRITICAL
REVERSE VOLTAGE = 40V MAX

U3800
CD3217B12BCE
FCBGA

PP_5V0 >2.5 UF
PP_CABLE >2.5 UF
PP_HV
VBUS >9.5 UF

GPIO_1V2_ACE_HRESET
GPIO_3V3_ACE2BSB_PARROT_RESET_L
ACE_GPIO0_NOT_USED
GPIO_3V3_ACE2BSB_FLASH_BUSY_L
GPIO_1V2_I2C_INT_L
GPIO_3V3_ACE2BOOST_EN
GPIO_3V3_ACE2BSB_FORCE_PWR
NOTE: OUTPUT SHOULD BE 3V3, VIH MIN ON BELLATRIX2 IS 1V267
GPIO_3V3_ACE2ORION_ACC_PWR_EN_L
ACE_ORION_TO_CHARGER_OVP_SW_EN_L
GPIO_1V2_ACE2SOC_DOCK_CONNECT
GPIO_1V2_ACE2PMU_RESET
GPIO_1V2_SOC2ACE_DFU_STATUS
GPIO_1V2_ACE2SOC_FORCE_DFU
R3841 100 MF 01005 5% 1/32W
GPIO_FORCE_DFU
BELLATRIX_TO_ACE_ACC_PWR_PRESENT_L_3V3
R3802 15K 0.1% 0201 PLACE_NEAR=U3800.M21:2MM
ACE_ROSC

HRESET
MRESET
RESET*
CHECK THE DETAILS OF THE USAGE
GPIO0
GPIO1 | 3V3 IO
GPIO2 | ?
GPIO3
GPIO4 | 3V3 IO
GPIO5
GPIO6 | ?
GPIO7
GPIO8 | 1V2 IO
GPIO9
GPIO10
BUSPOWER
I2C_ADDR
R_OSC
I2CM_SDA_CNFG
I2CM_SCL_CNFG | 3V3 IO
I2C_SDA1
I2C_SCL1
I2C_IRQ1* | 1V2 IO
I2C_SDA2
I2C_SCL2
I2C_IRQ2*
SPI_CLK
SPI_MOSI
SPI_MISO | 3V3 IO
SPI_SSZ
SWD_DATA
SWD_CLK | 1V2 IO
UART_RX
UART_TX
USB_RP1_P
USB_RP1_N
USB_RP2_P
USB_RP2_N
USB_RP3_P
USB_RP3_N
AUX_P
AUX_N
HPD | 3V3 IO
DEBUG0
DEBUG1 | 1V2 IO
DEBUG2
DEBUG3
DEBUG4 | ANALOG
DEBUG5
DEBUG6
DEBUG7 | 1V2 IO

POWER
TYPE-C
PORT_MUX
GND

TO BSB & PARROT
TO AP
TO SMC
I2C_3V3_ACE_M_SDA
I2C_3V3_ACE_M_SCL
I2C0_SDA
I2C0_SCL
GPIO_ACE_TO_SOC_IRQ_L
I2C_SMC_I2CM1_SDA
I2C_SMC_I2CM1_SCL
GPIO_ACE_TO_SMC_IRQ_L
R38D0 33 I2C_ACE_SDA_1V2_R
R38D1 33 I2C_ACE_SCL_1V2_R
R38D2 I2C_SMC_ACE2_SDA_1V2_R
R38D3 33 I2C_SMC_ACE2_SCL_1V2_R
CKPLUS_WAIVE=I2C_PULLUP
5% 1/32W 01005 MF

SPI_3V3_ACE_CLK
SPI_3V3_ACE_MOSI
SPI_3V3_ACE_MISO
SPI_3V3_ACE_CS_L
SPI_3V3_ACE_WP_L
UART_SOC_TO_DEBUG_TX
UART_DEBUG_TO_SOC_TX
JTAG_SOC_TCK
JTAG_SOC_TMS
ANA_ACE2LDCM_DEBUG4
ANA_ACE2LDCM_DEBUG5
UART_GRAPE_TO_DEBUG_TX
UART_DEBUG_TO_GRAPE_TX

R3850 0.00 0% 1/32W MF 01005
SWD_ACE_SWDIO
R3851 0.00
SWD_ACE_SWCLK
ACE_SWD_DATA_R
ACE_SWD_CLK_R
R38B0 0.00 GND_VOID=TRUE
85_USB_SOC_P
85_USB_SOC_R_P
R38B1 0.00
85_USB_SOC_N
85_USB_SOC_R_N
R3880 0.00
ACE_AUXP2BSB_SBU1
SOC_TO_ACE_AUX_P
R3881 0.00
ACE_AUXN2BSB_SBU2
SOC_TO_ACE_AUX_N
85_USB_KIS_P
85_USB_KIS_N
90_AP_TO_BB_USB_P
90_AP_TO_BB_USB_N

VIN_3V3
VDDIO
VDDIO_CFG
LDO_3V3
VIN_LV
VOUT_LV
VRET
SS
LDO_CORE
VBUS_OPT
PP_HV_OPT
C_CC1
C_CC2
RPD_G1
RPD_G2
C_USB_TP
C_USB_TN
C_USB_BP
C_USB_BN
C_SBU1
C_SBU2
GND_OPT

PP3V3_S2_ACE_PARROT
PP1V25_S2
PP3V3_ACE_LDO
PP1V8_S2
ACE_TO_PMU_LDO1_EN_R_1V8
ACE_TO_PMU_LDO1_EN_1V8
R3891 1.00K MF 01005 5% 1/32W
1.55V PP_LDO_CORE
ACE_SS
C3800 25UF 20% 6.3V X5R 0402 ~7.5 UF
C3801 0.47UF 20% 6.3V X5R 01005-1 ~0.22 UF
C3802 25UF 20% 6.3V X5R 0402 ~7.5 UF
C3803 0.1UF 20% 6.3V X5R-CERM 01005
C3804 10UF 20% 4V X5R 402 ~7.5 UF
C3805 0.68UF 5% 6.3V X6S 0402
C3850 0.47UF 20% 6.3V X5R 01005-1 NOSTUFF
PLACE_NEAR=U3800.L22:2MM
PPVBUS_USB_EMI
PPVBUS_PROT
ACE_CC1
ACE_CC2
C3806 220PF 5% 25V C0G 01005
C3807 220PF 5% 25V C0G 01005
ACE_USB_TOP_P
ACE_USB_TOP_N
ACE_USB_BOT_P
ACE_USB_BOT_N
ACE_SBU1_CONN
ACE_SBU2_CONN
GND_VOID=TRUE
CRITICAL L3800 SYM_VER=2 NOSTUFF TAM0605-4SM-COMBO 3.25-OHM-0.1A-2.4GHZ
CRITICAL L3801 SYM_VER=2 NOSTUFF TAM0605-4SM-COMBO 3.25-OHM-0.1A-2.4GHZ
ACE_USB_TOP_CONN_P
ACE_USB_TOP_CONN_N
ACE_USB_BOT_CONN_P
ACE_USB_BOT_CONN_N

PARROT/BSB TO ACE INT

PP1V25_S2
R3895 10K 5% 1/32W MF 01005
C3890 0.1UF 20% 6.3V X5R-CERM 01005
311S00057
U3890 74AUP1G08FS3 X2-DFN0808
GPIO_1V2_PARROT2ACE_INT_L
GPIO_3V3_BSB2ACE_I2C_INT_L
R3896 0.00 0% 1/32W MF 01005
GPIO_3V3_BSB2ACE_I2C_INT_L_R
GPIO_1V2_I2C_INT_L
R3897 100K 5% 1/32W MF 01005 NOSTUFF
NOTE: REMOVED VOLTAGE DIVIDER AND PASSING 3V3 AND GATE U3890 HAS VMAX 3.6V (ABS MAX OF 4.6V) REQUESTED BY ACE ARCHITECTURE TEAM (AVOID POWER LOSS)

ACE & SOC/CHARGER/ORION ALIAS

GPIO_1V2_SOC2ACE_DFU_STATUS — GPIO_1V2_SOC2ACE_DFU_STATUS
GPIO_1V2_ACE2PMU_RESET — GPIO_1V2_ACE2PMU_RESET
GPIO_1V2_ACE2SOC_DOCK_CONNECT — GPIO_1V2_ACE2SOC_DOCK_CONNECT
MAKE_BASE=TRUE

SUPPORT PULLS

R3811 100K GPIO_1V2_ACE_HRESET
R3814 100K GPIO_1V2_ACE2PMU_RESET
R3815 100K GPIO_1V2_ACE2SOC_DOCK_CONNECT
R3816 100K GPIO_1V2_SOC2ACE_DFU_STATUS
R3817 2.21M SWD_ACE_SWDIO
R3818 2.21M SWD_ACE_SWCLK
R3870 100K ACE_ORION_TO_CHARGER_OVP_SW_EN_L NOSTUFF
5% 1/32W MF 01005 (1% 1/32W MF 01005 for R3817/R3818)

R3824 100K NOSTUFF ACE_AUXP2BSB_SBU1
R3825 1.00M ACE_UART_RX
R3860 100K NOSTUFF ACE_AUXN2BSB_SBU2
PP3V3_S2_ACE_PARROT
R3833 NOSTUFF 100K ACE_AUXN2BSB_SBU2

PP3V3_ACE_LDO
R3827 100K BELLATRIX_TO_ACE_ACC_PWR_PRESENT_L_3V3
PP1V25_S2
R3830 1.00M UART_SOC_TO_DEBUG_TX
R3831 1.00M UART_DEBUG_TO_SOC_TX
R3832 1.00M UART_GRAPE_TO_DEBUG_TX CHECK:BACK POWERING
R3835 1.00M GPIO_ACE_TO_SOC_IRQ_L
UART DEBUG LOOPBACK
ACE_UART_RX — R3834 0.00 — ACE_UART_TX
0% 1/32W MF 01005

BOM_COST_GROUP=USB-C
PAGE TITLE
IO: ACE USB-C CONTROLLER

BURNSIDE BRIDGE

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
197S00047	197S00036		Y3900	25MHZ XTAL KYO.

USBC HIGH-SPEED 1 AC COUPLING

85_CIO_HS_SOC_TX0_C_P	C3920	0.22UF	20% 6.3V X5R 0201	USBC_SOC_TO_BSB_TX1_C_P	J1	ASSRXP1
85_CIO_HS_SOC_TX0_C_N	C3921	0.22UF	20% 6.3V X5R 0201	USBC_SOC_TO_BSB_TX1_C_N	J2	ASSRXN1
85_CIO_HS_SOC_TX1_C_P	C3922	0.22UF	20% 6.3V X5R 0201	USBC_SOC_TO_BSB_TX2_C_P	C1	ASSRXP2
85_CIO_HS_SOC_TX1_C_N	C3923	0.22UF	20% 6.3V X5R 0201	USBC_SOC_TO_BSB_TX2_C_N	C2	ASSRXN2
85_CIO_HS_SOC_RX0_P	C3924	0.22UF	20% 6.3V X5R 0201	USBC_BSB_TO_SOC_TX1_C_P	G1	ASSTXP1
85_CIO_HS_SOC_RX0_N	C3925	0.22UF	20% 6.3V X5R 0201	USBC_BSB_TO_SOC_TX1_C_N	G2	ASSTXN1
85_CIO_HS_SOC_RX1_P	C3926	0.22UF	20% 6.3V X5R 0201	USBC_BSB_TO_SOC_TX2_C_P	E1	ASSTXP2
85_CIO_HS_SOC_RX1_N	C3927	0.22UF	20% 6.3V X5R 0201	USBC_BSB_TO_SOC_TX2_C_N	E2	ASSTXN2

U3900 9999HH BGA SYM 1 OF 2

SOC SIDE

ASSRXP1	J1
ASSRXN1	J2
ASSRXP2	C1
ASSRXN2	C2
ASSTXP1	G1
ASSTXN1	G2
ASSTXP2	E1
ASSTXN2	E2
PA_AUX_P	L8
PA_AUX_N	M8
PA_LSTX_SBU1	M7
PA_LSRX_SBU2	L7
I2C_INT	A10
I2C_SCL	C9
I2C_SDA	E7
POC_GPIO_5	B9
POC_GPIO_6	A8
POC_GPIO_10	A4
POC_GPIO_11	A5
POC_GPIO_12	A6
THERMDA	M11
XTAL_25_IN	L9
XTAL_25_OUT	M9
MONDC_SVR	L12
MONDC	A11
TEST_EDM	M12
NC_A12	A12
NC_J6	J6
NC_L3	L3
NC_J5	J5

USB-C CONN SIDE

BSSRXP1	J12
BSSRXN1	J11
BSSRXP2	C12
BSSRXN2	C11
BSSTXP1	G12
BSSTXN1	G11
BSSTXP2	E12
BSSTXN2	E11
BSBU1	M10
BSBU2	L10
PERST*	B8
RESET*	L11
TDI	A3
TMS	C3
TCK	B5
TDO	C5
EE_DI	C6
EE_DO	B4
EE_CS*	B6
EE_CLK	C7
TEST_EN	B11
TEST_PWR_GOOD	B3
RBIAS	L4
RSENSE	L5
ATEST_P	A1
ATEST_N	A2
FORCE_PWR	B10
FLASH_BUSY*	A9
FUSE_VQPS_64	B2
SMBUS_SCL	A7
SMBUS_SDA	B7
VCC3P3_SX	E6
VCC3P3A	J7
VCC3P3_SVR	M4, M5
VCC0P9_SVR	E3, G3
SVR_IND	L1, M1
SVR_VSS	M2, M3
VSS	F3, F5, G5
VSS_ANA	B1, B12, D1, D11, D12, D2, F1, F11, F12, F2, F7, F9, G7, H1, H11, H12, H2, J9, K1, K11, K12, K2
VCC0P9_SVR_ANA	F6, G6
VCC0P9_SVR_PB_ANA	E9, G9
VCC0P9_LVR	L6
VCC0P9_LVR_SENSE	M6
VCC3P3_LC	E5
VCC3P3_ANA	L2
VCC0P9_LC	J3

U3900 9999HH BGA SYM 2 OF 2

BB XTAL

Y3900 25MHZ-25PPM-20PF-50OHM 2.00X1.60-SM

PAGE TITLE

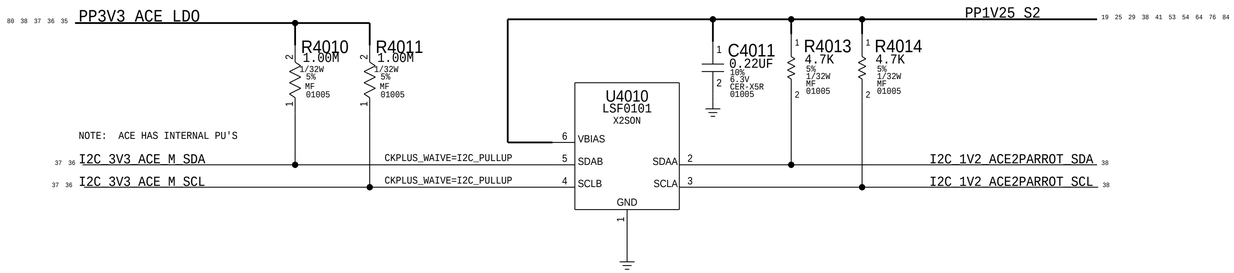
IO: USB-C HIGH SPEED

BOM_COST_GROUP=USB-C

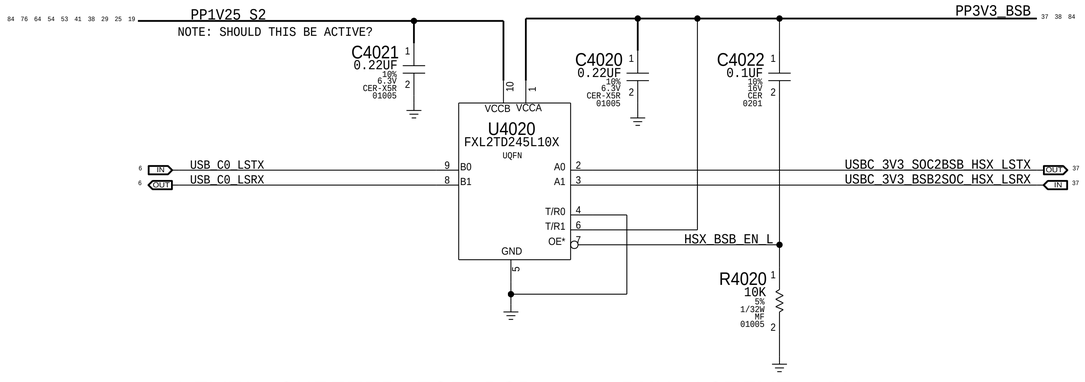
CONNECT TO GND PIN CLOSEST TO THERMDA PIN

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00537	335S00133		U4070	ACE FLASH MACRONIX

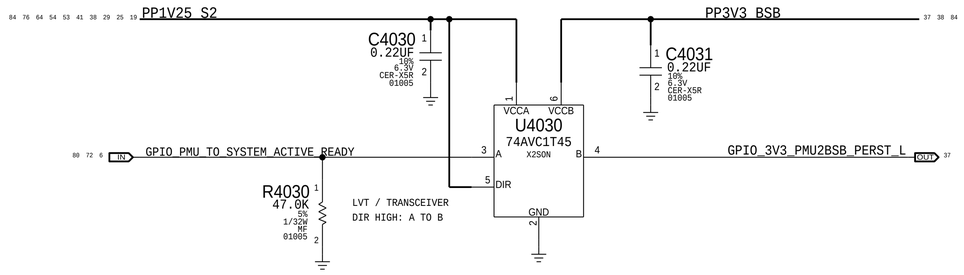
LEVEL SHIFTER FOR I2C ACE <-> PARROT



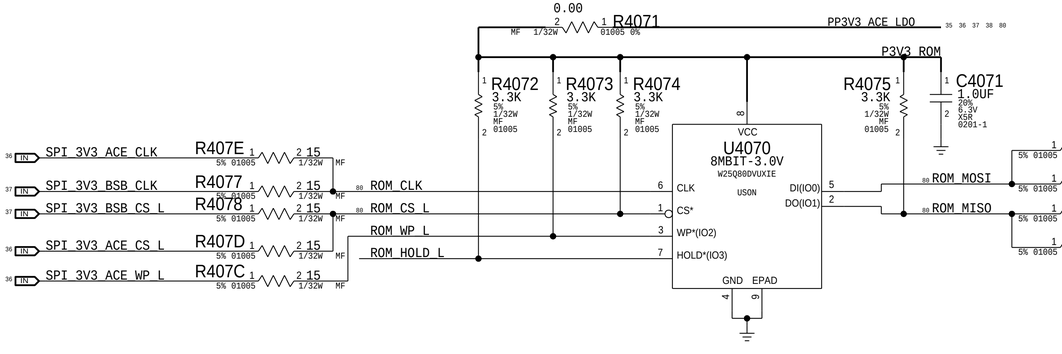
LEVEL SHIFTER FOR BSB <-> SOC LSRX/LSTX



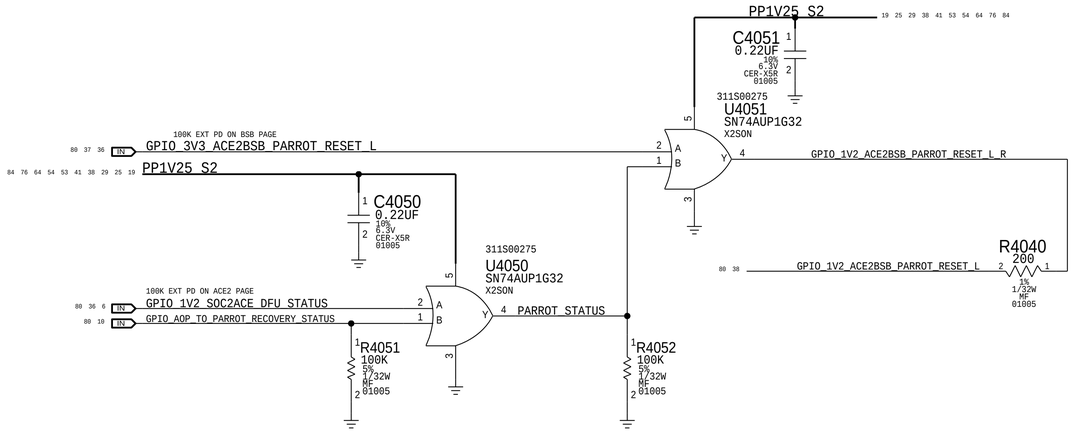
LEVEL SHIFTER FOR BSB <-> PMU ACTIVE RDY



ACE/BSB FLASH

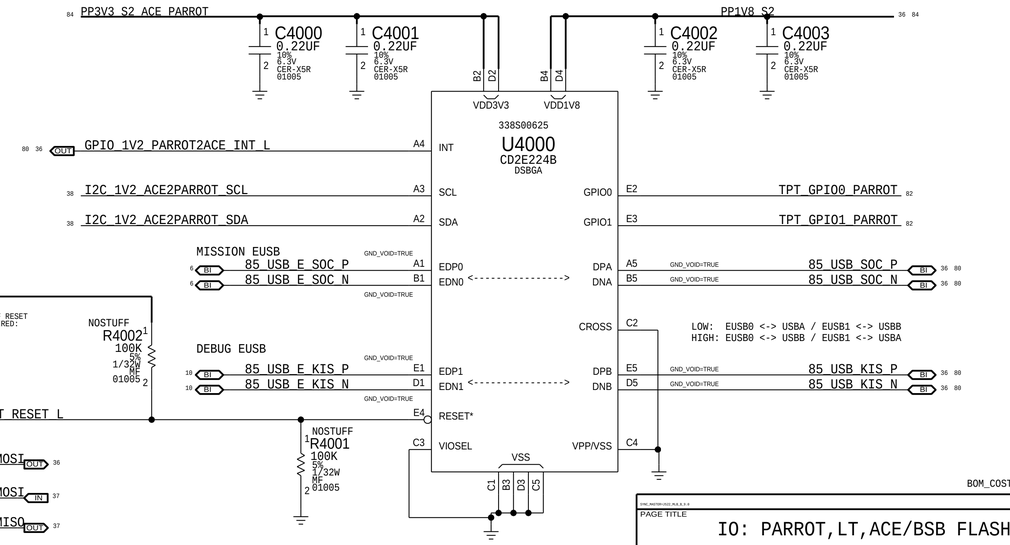


OR-GATE LEVEL SHIFTER FOR ACE <-> BSB RESET



USB REPEATER PARROT

PLACE PARROT NEAR SOC (<40MM)



PAGE TITLE

IO: PARROT,LT,ACE/BSB FLASH

Rigel Driver

84 PPVCC_MAIN

C4197 18UF 20% 6.3V CER-X5R 0402-0.1MM ROOM=RIGEL

138S00071 C4194 4UF 20% 6.3V CER-X5R 0201 ROOM=RIGEL

138S00071 C4193 4UF 20% 6.3V CER-X5R 0201 ROOM=RIGEL

138S00071 C4192 4UF 20% 6.3V CER-X5R 0201 ROOM=RIGEL

138S00071 C4191 4UF 20% 6.3V CER-X5R 0201 ROOM=RIGEL

Terminate @ Cap via on VDD_MAIN plane.

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

PP_RIGEL_VINCORE 4.3V

C4190 1UF 20% 10V X5R 0201 ROOM=RIGEL

84 41 40 PP1V8_S2

PP_VANA 4.5V

84 PPVCC_HIGH

C4195 1UF 20% 10V X5R 0201 ROOM=RIGEL

C4196 1UF 20% 10V X5R 0201 ROOM=RIGEL

138S00071 C4198 4UF 20% 6.3V CER-X5R 0201 ROOM=RIGEL

81 40 PP_TITUS_CATHODE

40 IN TITUS_TO_RIGEL_VCSEL_NTC

62 IN GPIO_FCAM_PMU_TO_RIGEL_ENABLE_1V8

41 BI YOGI_TO_RIGEL_STATUS_1V8

40 BI MAMA_BEAR_BI_RIGEL_STATUS_1V8

40 IN JULIET_PMU_TO_RIGEL_STROBE_1V8

R4101 10K 1% 1/32W MF 01005 RIGEL_TESTMODE_EN

62 IN CLK_FCAM_PMU_TO_RIGEL_12M_1V8

81 62 OUT GPIO_RIGEL_INT_TO_FPMU_1V8

40 5 IN I2C4_FCAM_PMU_SCL_1V8

ISP_TITUS_RIGEL_SDA_R

40 5 IN I2C4_FCAM_PMU_SDA_1V8

R4100 33 5% 1/32W MF 01005

RIGEL_LSCP

C4122 0.01UF 10% 10V X5R 01005 ROOM=RIGEL

U4100 STB601A0 WLCSP ROOM=RIGEL

K4	VK		
K5	VK		
K6	VK		
K7	VK		
K8	VK		
G4	NTC		
C4	OTPHV		
D4	TAMP		
B3	ENA	200K INT PD	
C8	XEF1		
C7	XEF0		
B8	THROT		
A4	STROBE		
B7	TESTMODE		
B5	TESTMODE2		
B6	TEST		
A7	MCLK		
B4	INT		
A5	SCL		
A6	SDA		
G5	PD0		
G6	PD1		
H7	LSCP		
G9	VCC4		
G2	VCC3		
H8	VIN_LVT		
C5	VDDIO		
H4	VANA		
H5	VINVCORE2		
F5	VINCORE		
F2	VINSDB		
F1	VINSDB		
E2	VINSDB		
A3	VINSUB		
A2	VINSUB		
A1	VINSUB		
A9	VINSUA		
A8	VINSUA		
A10	VINSUA		
F9	VINSDA		
F10	VINSDA		
E9	VINSDA		
J8	PGNDK		
J7	PGNDK		
J6	PGNDK		
J5	PGNDK		
J4	PGNDK		
G8	GNDCORE4		
G3	GNDCORE3		
H6	GNDCORE2		
F6	GNDCORE		
G6	GNDD		
G7	GNDS		
E6	GNDS		
F8	GNDS		
E5	GNDS		
F3	GNDS		
D7	GNDS		
D6	GNDS		
D5	GNDS		
C3	GNDS		
G2	PGNDDB		
C1	PGNDB		
C9	PGNDA		
G10	PGNDA		
H10	VBBOUTA		
J10	VBBOUTA		
K10	VBBOUTA		
D10	VLXA		
D9	VLXA		
E10	VLXA		
B10	VCXA		
B9	VCXA		
E8	BOOSTSDA		
D8	BULKSDA		
D3	BULKSDB		
E3	BOOSTSDB		
B1	VCXB		
B2	VCXB		
D1	VLXB		
D2	VLXB		
E1	VLXB		
J1	VBBOUTB		
J2	VBBOUTB		
J3	VBBOUTB		
H9	IOUT0		
K9	IOUT0		
J9	IOUT0		
H1	IOUT1		
H2	IOUT1		
H3	IOUT1		
K1	IOUT2		
K2	IOUT2		
K3	IOUT2		
G1	IOUT3		
G10	IOUT4		

4.8V PP_RIGEL_BUCK_BOOST_A

RIGEL_VLXA

C4105 4.7UF 20% 16V X5R 0402 ROOM=RIGEL

RIGEL_VCXA

C4120 0.01UF 10% 6.3V X5R 01005 ROOM=RIGEL

RIGEL_BOOSTSDA

RIGEL_BULKSDA

RIGEL_BULKSDB

RIGEL_BOOSTSDB

RIGEL_VCXB

C4110 4.7UF 20% 16V X5R 0402 ROOM=RIGEL

C4121 0.01UF 10% 6.3V X5R 01005 ROOM=RIGEL

RIGEL_VLXB

L4100 0.47UH-20%-4A-0.048OHM DIDT=TRUE PIWA20120H-SM ROOM=RIGEL

C4100 4.7UF 20% 16V X5R 0402 ROOM=RIGEL

C4101 220PF 5% 16V C0G 01005 ROOM=RIGEL

L4101 0.47UH-20%-4A-0.048OHM DIDT=TRUE PIWA20120H-SM ROOM=RIGEL

C4111 4.7UF 20% 16V X5R 0402 ROOM=RIGEL

C4112 220PF 5% 16V C0G 01005 ROOM=RIGEL

4.8V PP_RIGEL_BUCK_BOOST_B

PP_TITUS_DENSE_ANODE 40 81

PP_TITUS_SPARSE_ANODE 40 81

PP_ROSALINE_ANODE 41 81

PP_TITUS_A_ANODE 40 81

PP_TITUS_B_ANODE 40 81

XW4101 SHORT-10L-0.135MM-SM 998-17721 PLACE_NEAR=U4100.F6.5MM

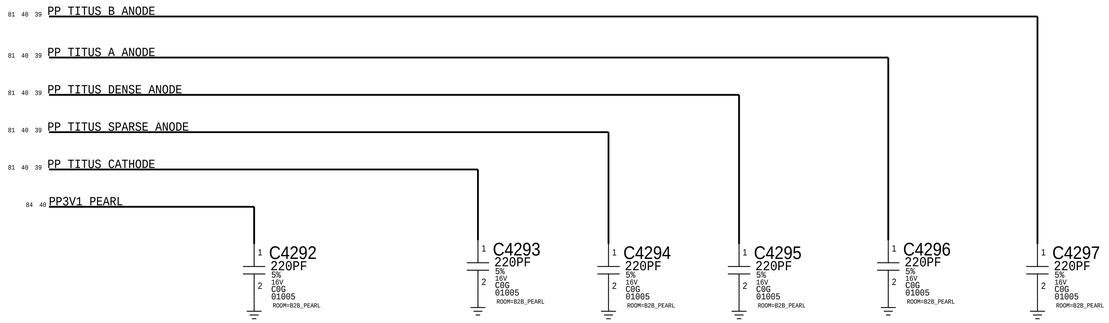
RIGEL_QUIET_GND

BOM_COST_GROUP=PEARL

PAGE TITLE

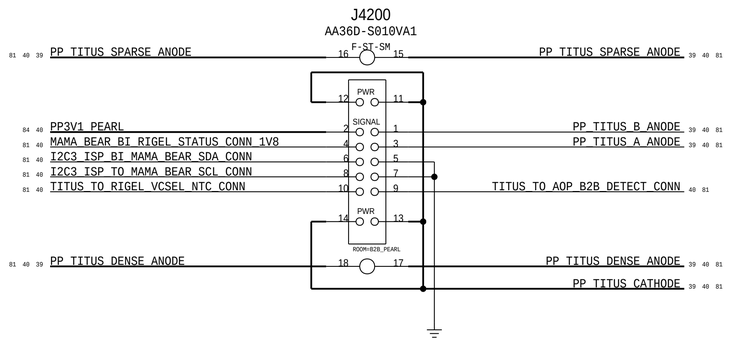
PEARL: RIGEL DRIVER

TITUS POWER FILTERING

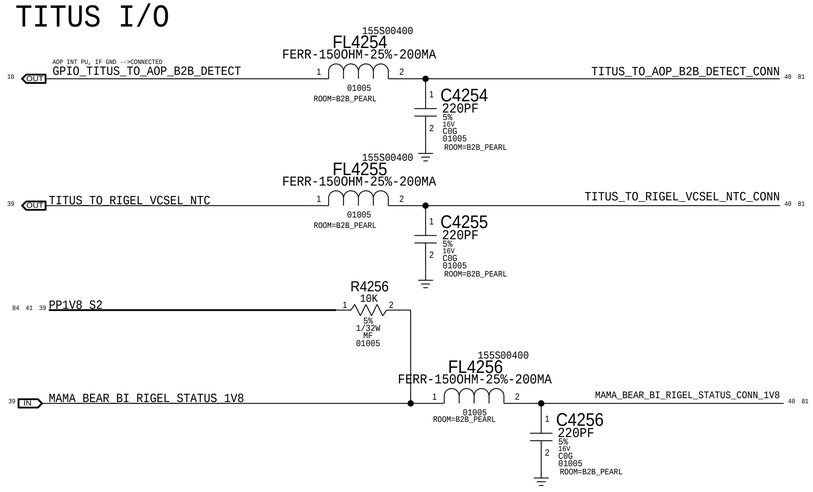


JEWEL CONNECTOR

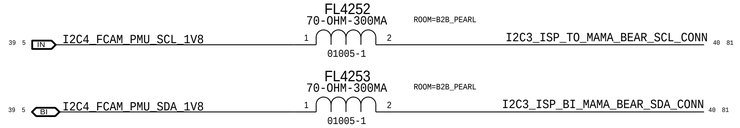
MLB: 516S00267
FLEX: 516S00268
MATCH J317_JEWEL_FLEX A.1.0



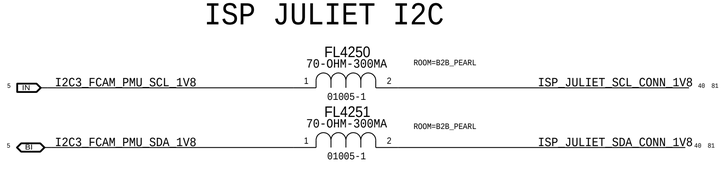
TITUS I/O



ISP TITUS_RIGEL I2C

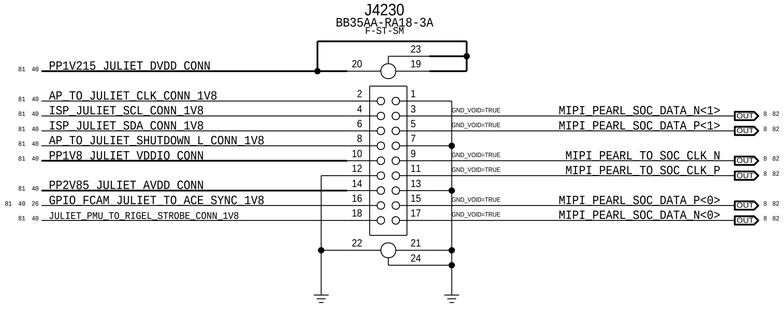


ISP JULIET I2C

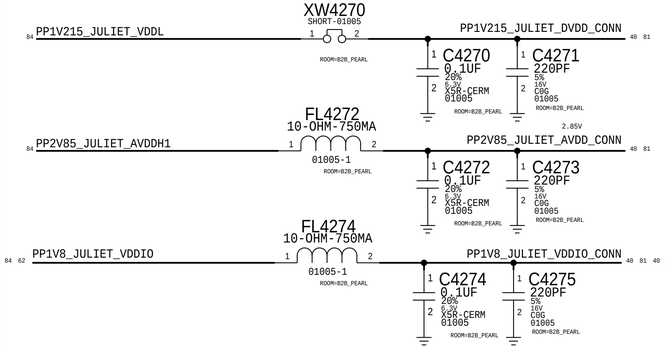


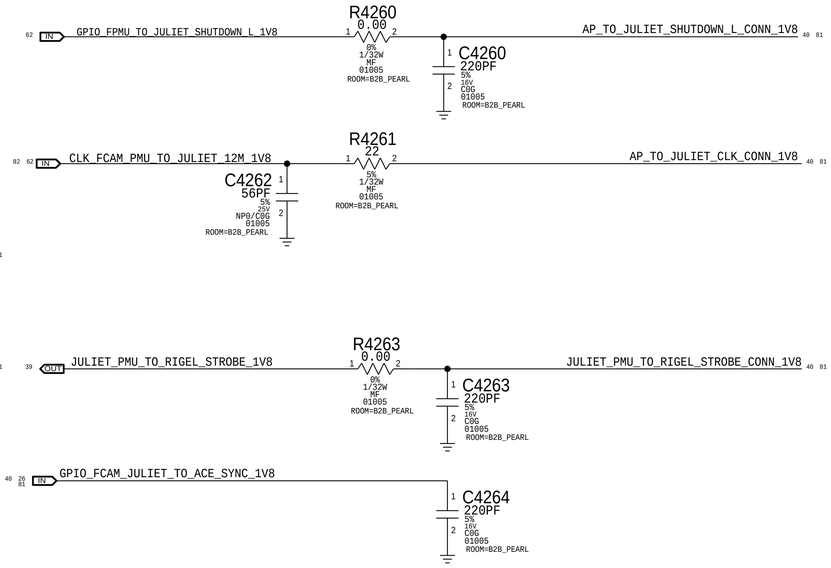
JULIET CONNECTOR

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



Juliet Power and I/O



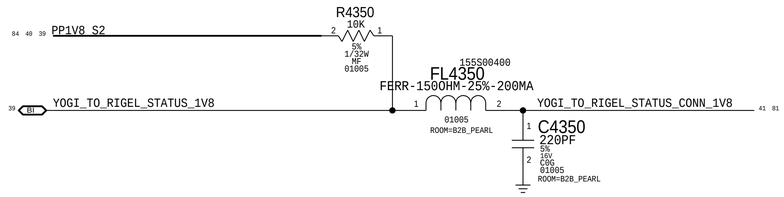


BOM_COST_GROUP=PEARL

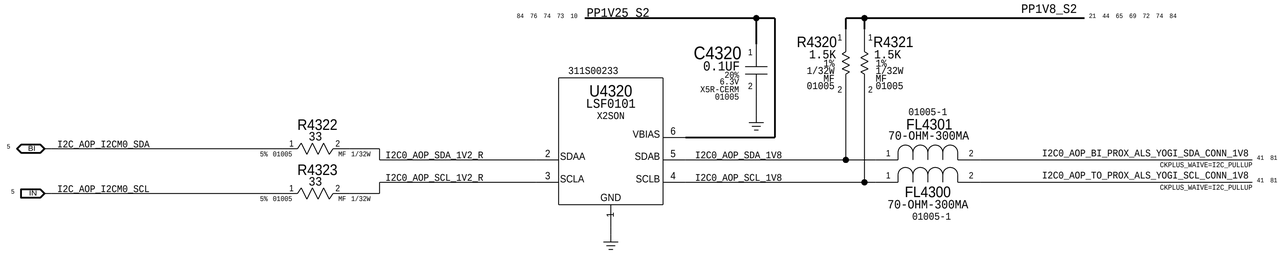
PAGE TITLE

PEARL: B2B TITUS + JULIET

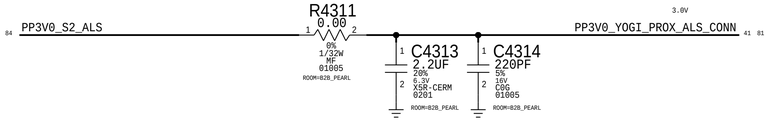
YOGI SIGNALS



I2C LEVEL TRANSLATOR

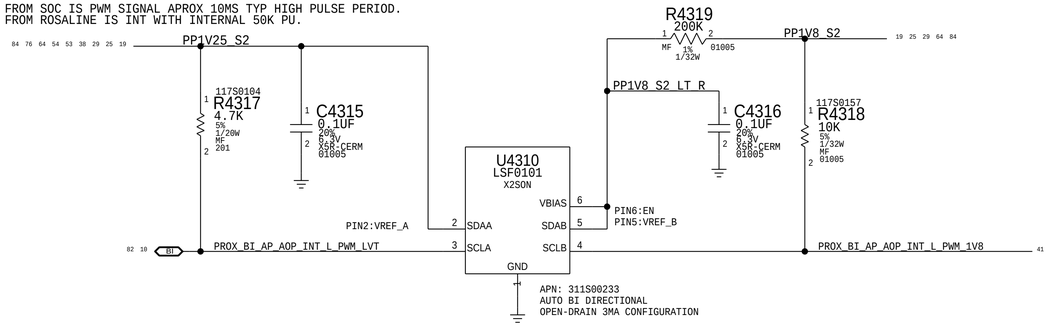


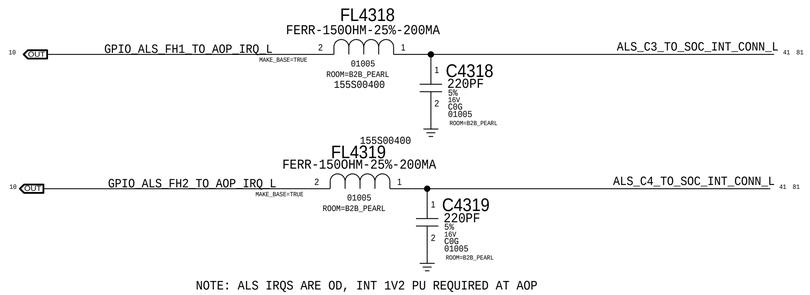
PROX & ALS POWER



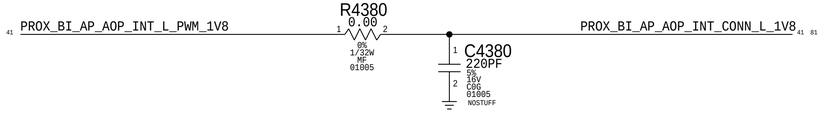
PROX/ALS I/O

PROX FROM SOC IS PWM SIGNAL APROX 10MS TYP HIGH PULSE PERIOD.
PROX FROM ROSALINE IS INT WITH INTERNAL 50K PU.



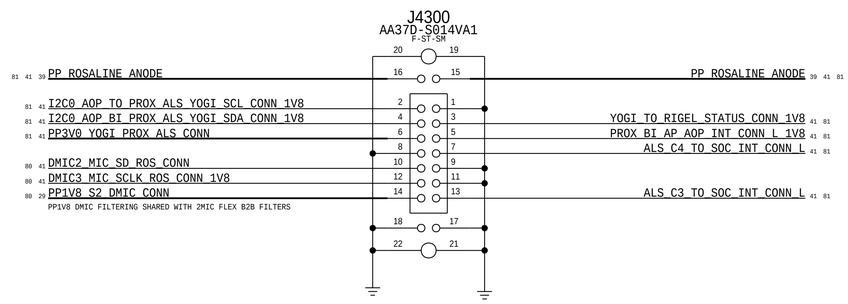


NOTE: ALS IRQS ARE OD, INT 1V2 PU REQUIRED AT AOP

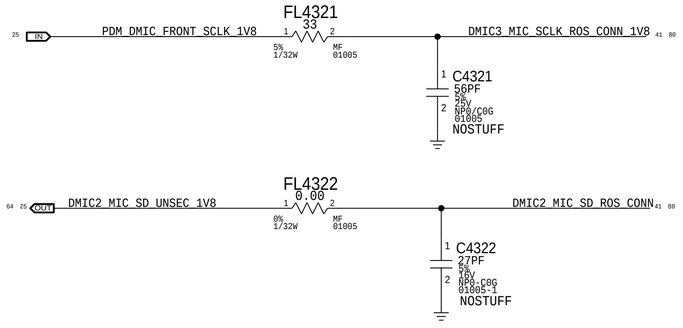


ROSALINE(AARM) CONNECTOR

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



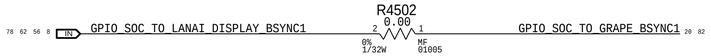
DMIC1 FILTERS ROSALINE CONN

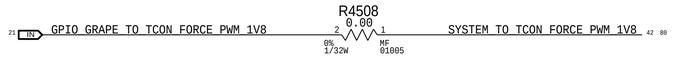


BOM_COST_GROUP=PEARL

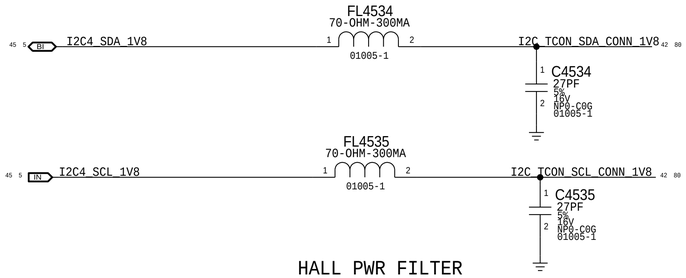
PAGE TITLE
PEARL: B2B ROSALINE + MISC

EDP FLEX FILTERS AND CONNECTORS



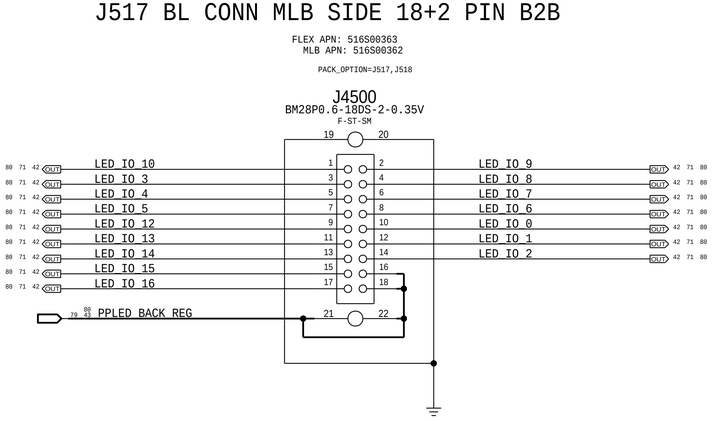


TCON I2C FILTERS

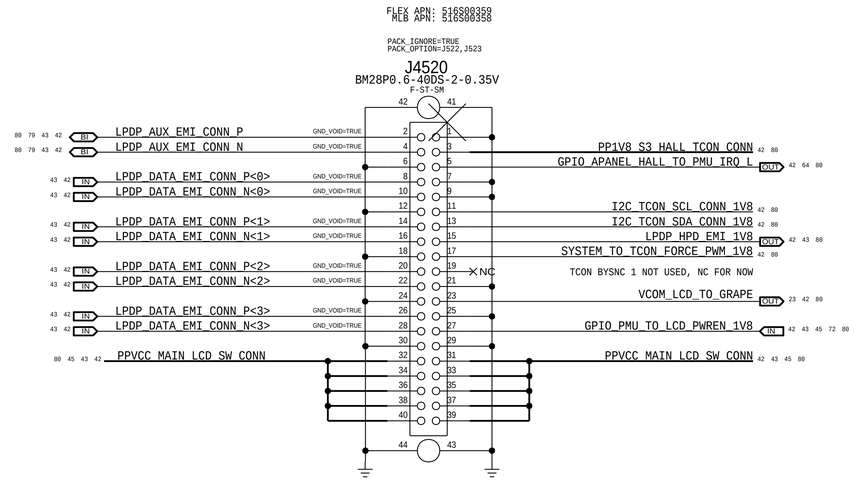


HALL PWR FILTER

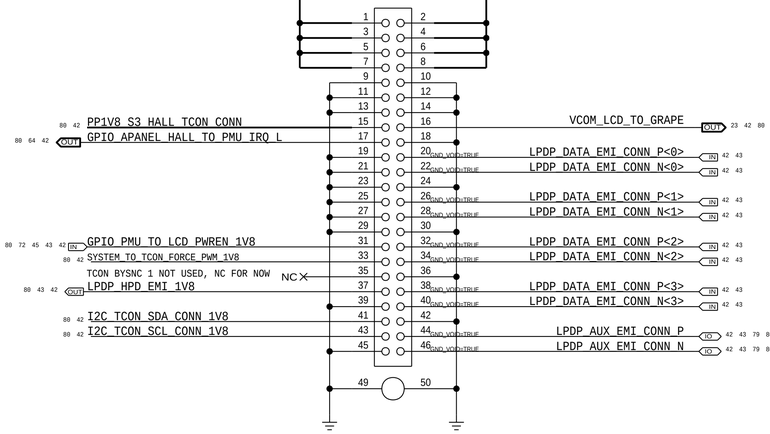
J517 BL CONN MLB SIDE 18+2 PIN B2B



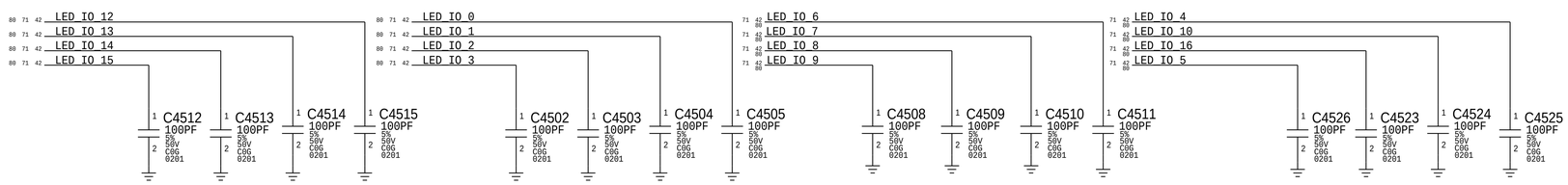
J522 EDP CONN MLB SIDE 39+2 PIN B2B



J517 EDP CONN MLB SIDE 46+2 PIN B2B



LED DRIVER FILTERS

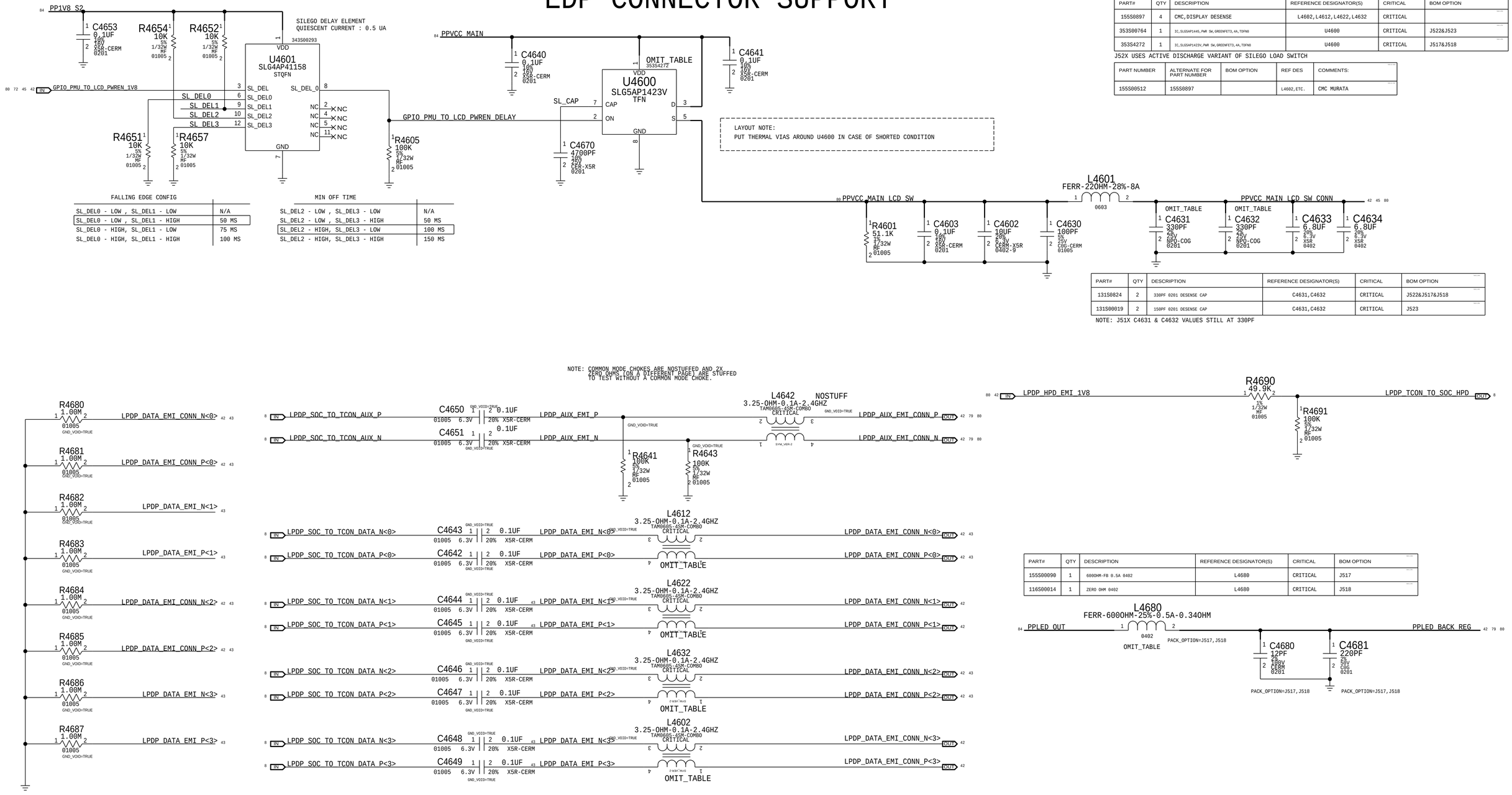


BOM_COST_GROUP=DISPLAY

PAGE TITLE

DISPLAY: B2B CONN

EDP CONNECTOR SUPPORT



FALLING EDGE CONFIG

SL_DEL0 - LOW , SL_DEL1 - LOW	N/A
SL_DEL0 - LOW , SL_DEL1 - HIGH	50 MS
SL_DEL0 - HIGH, SL_DEL1 - LOW	75 MS
SL_DEL0 - HIGH, SL_DEL1 - HIGH	100 MS

MIN OFF TIME

SL_DEL2 - LOW , SL_DEL3 - LOW	N/A
SL_DEL2 - LOW , SL_DEL3 - HIGH	50 MS
SL_DEL2 - HIGH, SL_DEL3 - LOW	100 MS
SL_DEL2 - HIGH, SL_DEL3 - HIGH	150 MS

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S0897	4	CMC,DISPLAY DESENSE	L4602,L4612,L4622,L4632	CRITICAL	
353S00764	1	IC,SLG5AP1445,PWR SW,GREENFET3,4A,TDFN8	U4600	CRITICAL	J522&J523
353S4272	1	IC,SLG5AP1423V,PWR SW,GREENFET3,4A,TDFN8	U4600	CRITICAL	J517&J518

J52X USES ACTIVE DISCHARGE VARIANT OF SILEGO LOAD SWITCH

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
155S00512	155S0897		L4602,ETC.	CMC MURATA

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0824	2	330PF 0201 DESENSE CAP	C4631,C4632	CRITICAL	J522&J517&J518
131S00019	2	150PF 0201 DESENSE CAP	C4631,C4632	CRITICAL	J523

NOTE: J51X C4631 & C4632 VALUES STILL AT 330PF

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

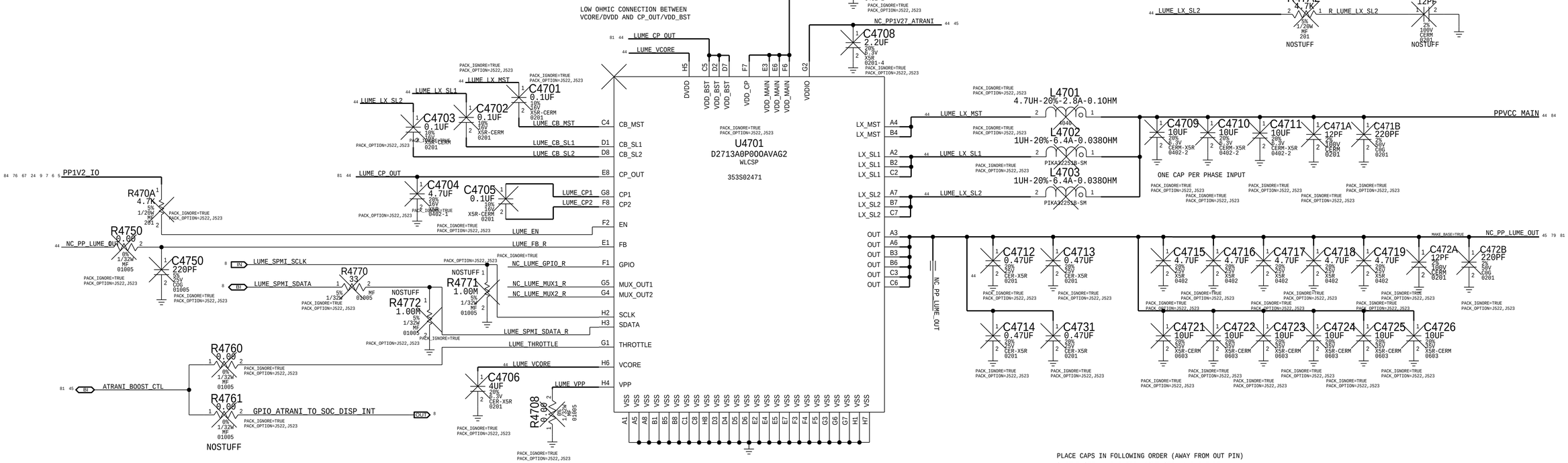
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
155S00090	1	600OHM-FB 0.5A 0402	L4680	CRITICAL	J517
116S00014	1	ZERO OHM 0402	L4680	CRITICAL	J518

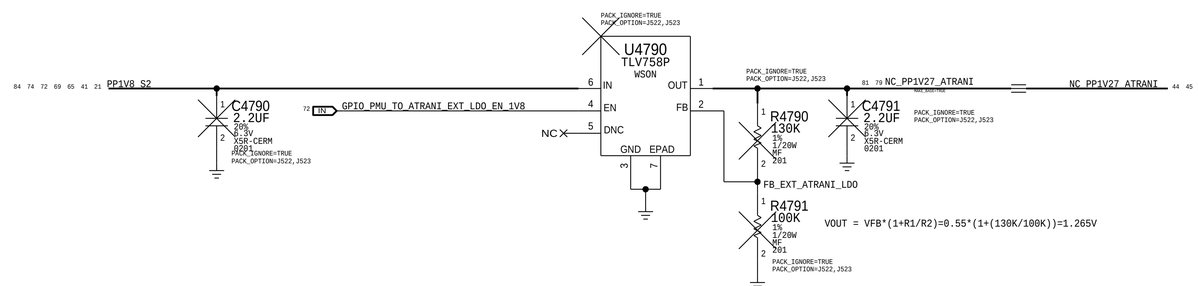
BOM_COST_GROUP=DISPLAY

PAGE TITLE

DISPLAY: EDP SUPPORT

LUME BOOST





BOM_COST_GROUP=DISPLAY

SYNC_MASTER=J522_MLB_B_9.0 SYNC_DATE=09/17/2020

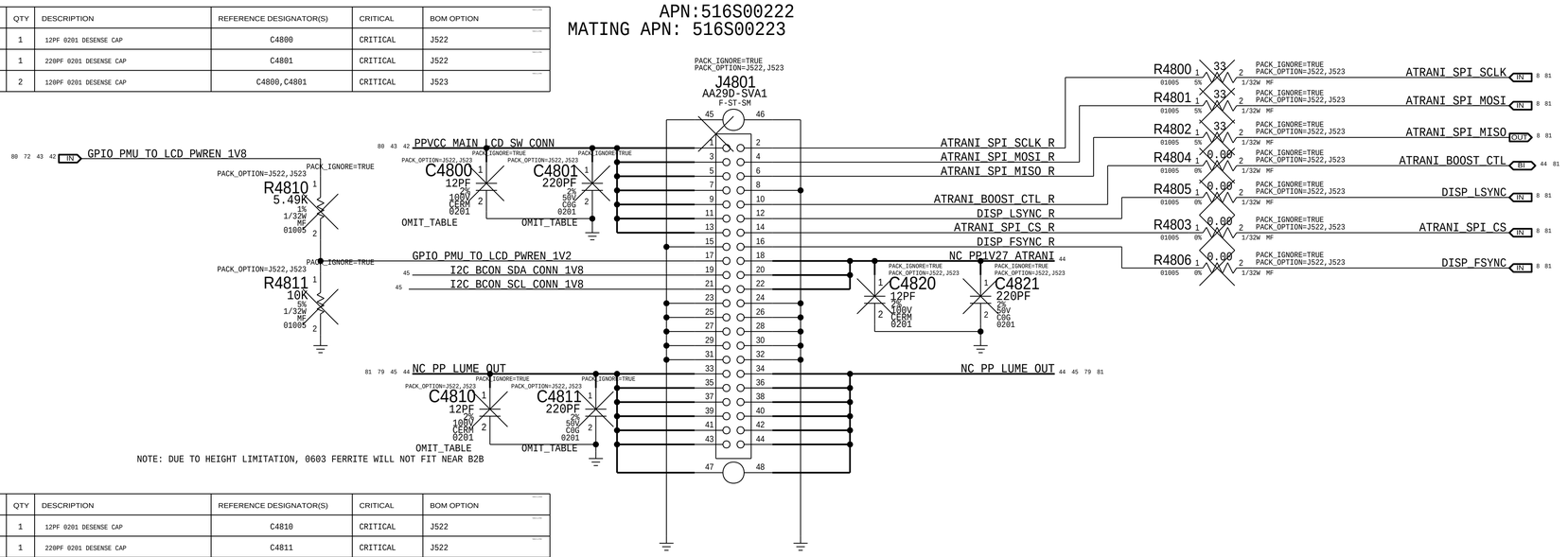
PAGE TITLE

2DBL: LUME BOOST

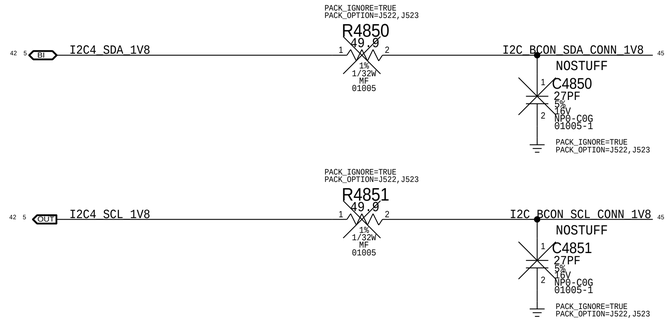
BCON B2B CONN

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00039	1	12PF 0201 DESENSE CAP	C4800	CRITICAL	J522
131S0883	1	220PF 0201 DESENSE CAP	C4801	CRITICAL	J522
131S00117	2	120PF 0201 DESENSE CAP	C4800,C4801	CRITICAL	J523

APN:516S00222
MATING APN: 516S00223



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S00039	1	12PF 0201 DESENSE CAP	C4810	CRITICAL	J522
131S0883	1	220PF 0201 DESENSE CAP	C4811	CRITICAL	J522
131S0731	2	100PF 0201 DESENSE CAP	C4810,C4811	CRITICAL	J523



BOM_COST_GROUP=DISPLAY

SYNC_MASTER=J522_MLB_B_3-0 SYNC_DATE=09/17/2020

PAGE TITLE

2DBL: B2B CONN

2G CORE1

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0616	1	CAP,0.6PF,+/-0.05PF,16V,01005	C489_W	CRITICAL	J518
152S00494	1	IND,FILM,0.8NH,+/-0.05NH,01005	R466_W	CRITICAL	J518

RFFE

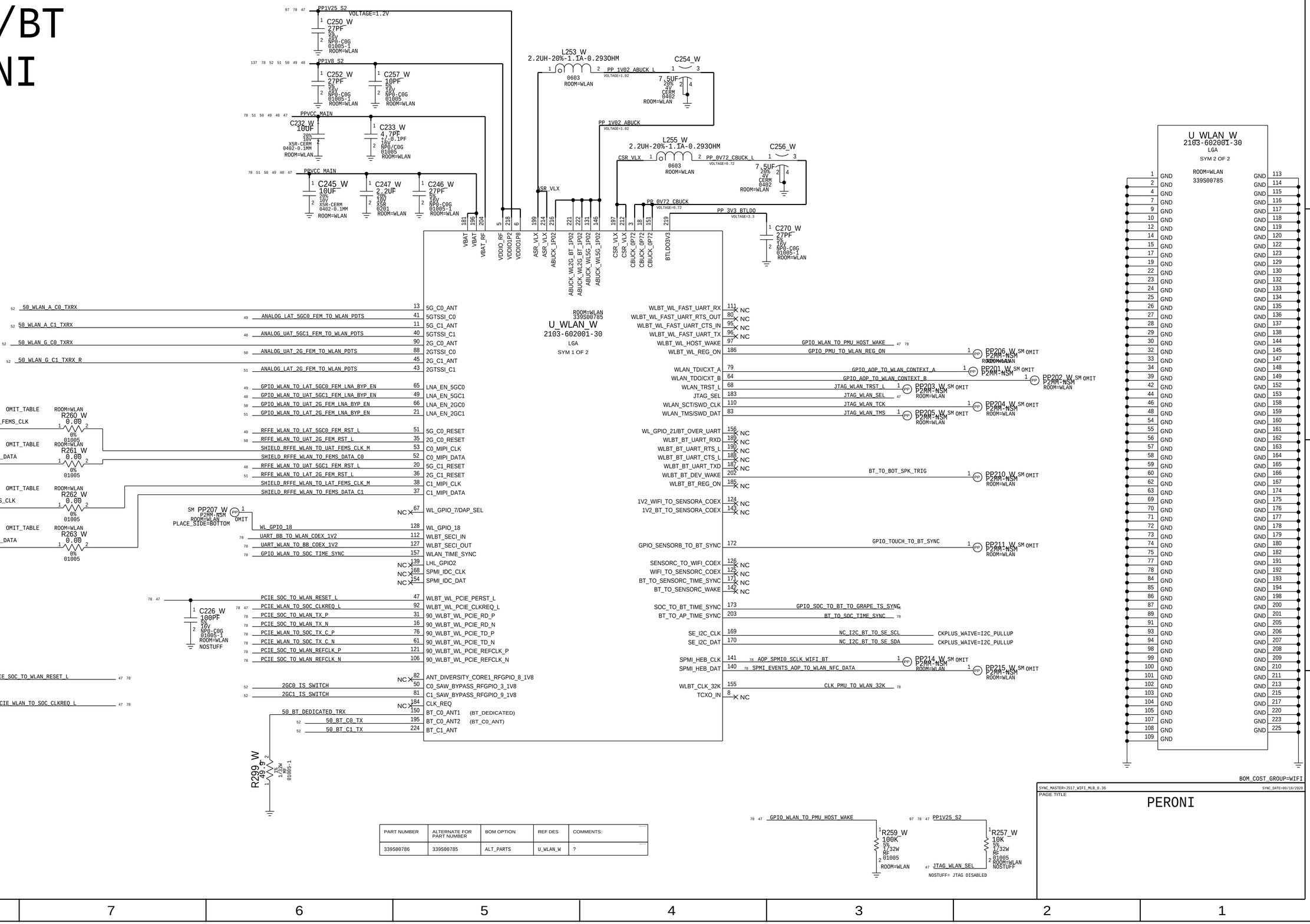
PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
117S0182	1	RES,MF,22 OHM,5%,1/32W,01005	R260_W	CRITICAL	J518
117S0182	1	RES,MF,22 OHM,5%,1/32W,01005	R261_W	CRITICAL	J518
117S0182	1	RES,MF,22 OHM,5%,1/32W,01005	R262_W	CRITICAL	J518
117S0182	1	RES,MF,22 OHM,5%,1/32W,01005	R263_W	CRITICAL	J518
117S0161	1	RES,MF,0 OHM,1/32,01005	R260_W	CRITICAL	J517
117S0161	1	RES,MF,0 OHM,1/32,01005	R261_W	CRITICAL	J517
117S0161	1	RES,MF,0 OHM,1/32,01005	R262_W	CRITICAL	J517
117S0161	1	RES,MF,0 OHM,1/32,01005	R263_W	CRITICAL	J517

SYNC_MASTER=J517_WIFI_MLB_0.36 BOM_COST_GROUP=WIFI SYNC_DATE=09/16/2020

PAGE TITLE

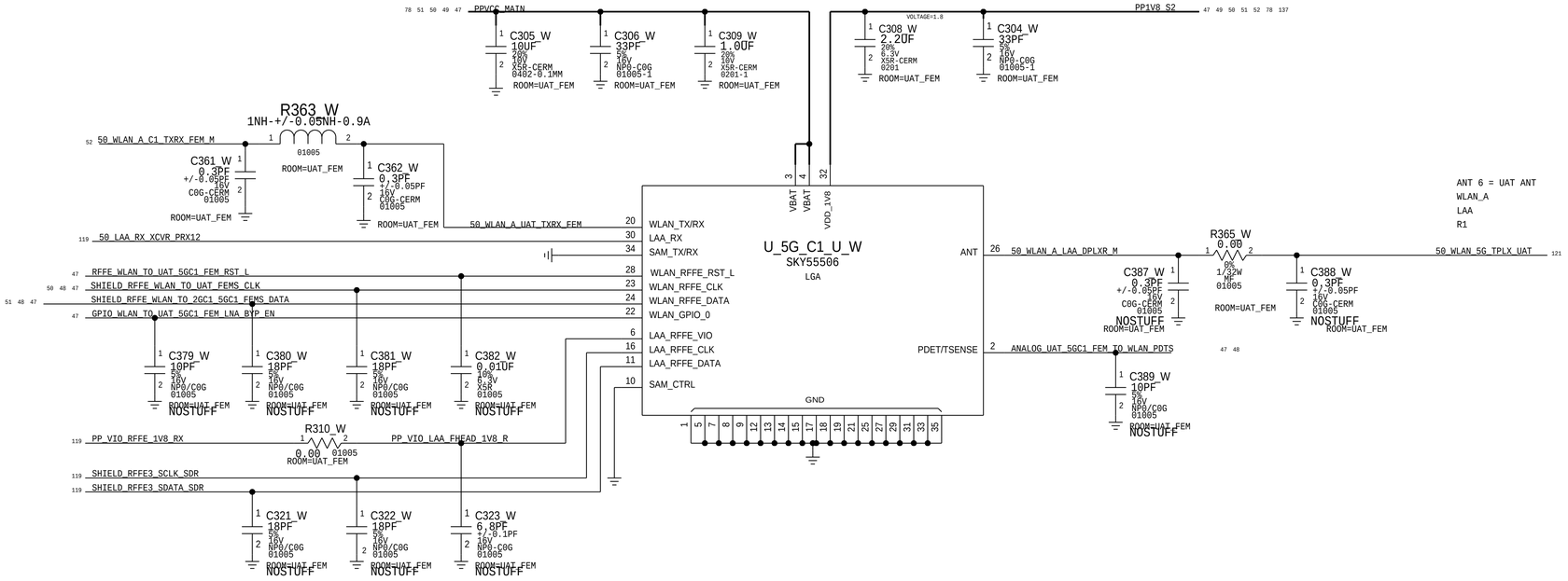
J518 BOM Option

WIFI/BT
PERONI



PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
339S00786	339S00785	ALT_PARTS	U_WLAN_W	?

J518 UAT 5GHZ CORE1 RFEM



OMIT_SM PP209_W P2MM-NSM ROOM=WLAN — 1 — ANALOG_UAT_5GC1_FEM_TO_WLAN_PDTS 47 48

OMIT_SM PP218_W P2MM-NSM ROOM=WLAN — 1 — SHIELD_RFFE_WLAN_TO_UAT_FEMS_CLK 47 48 50

OMIT_SM PP219_W P2MM-NSM ROOM=WLAN — 1 — SHIELD_RFFE_WLAN_TO_2GC1_5GC1_FEMS_DATA 47 48 51

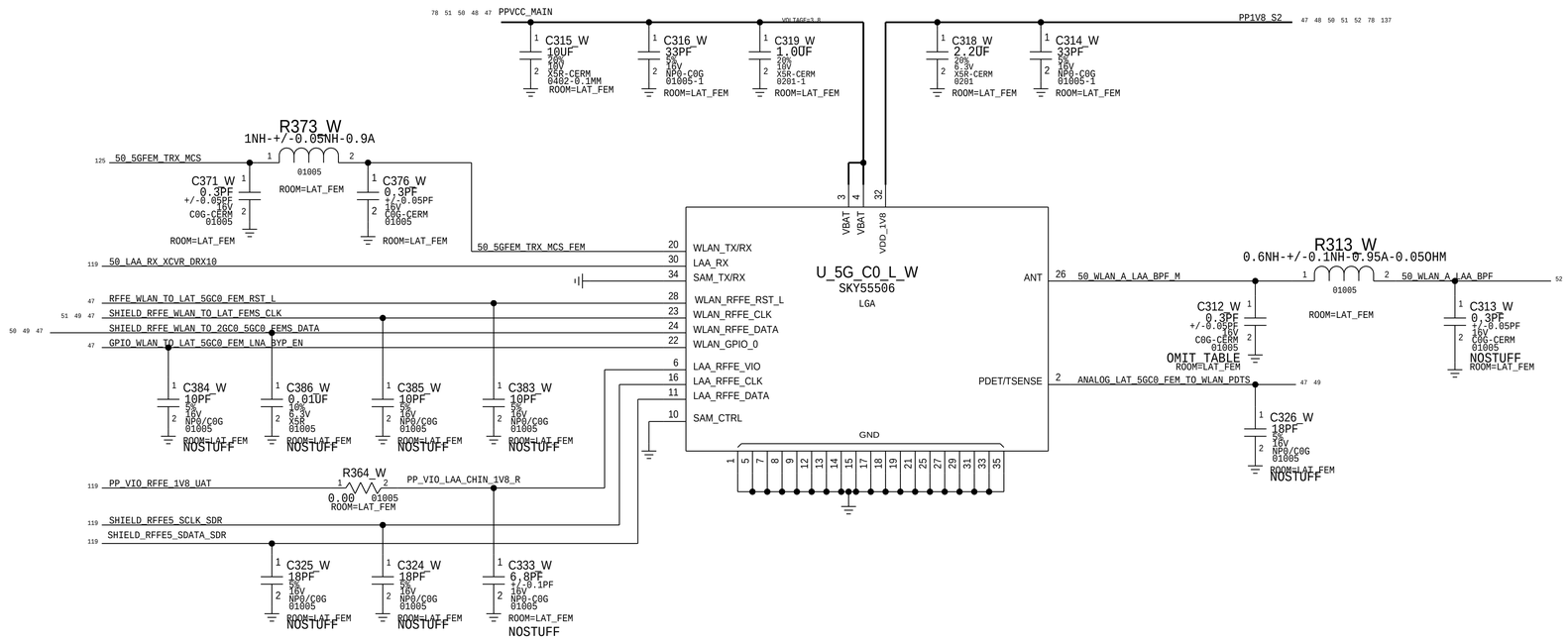
BOM_COST_GROUP=WIFI

SYNC_MASTER=J517_WIFI_ML8_0.36 SYNC_DATE=09/16/2020

PAGE TITLE

J518 5G rFEM (UAT)

J518 LAT 5GHZ CORE0 RFEM



OMIT_TABLE
SM_PP208_W P2MM-NSM ROOM=WLAN 1 ANALOG_LAT_5GC0_FEM_TO_WLAN_PDTS 47 49
SM_PP220_W P2MM-NSM ROOM=WLAN 1 SHIELD_RFFE_WLAN_TO_LAT_FEMS_CLK 47 49 51
SM_PP221_W P2MM-NSM ROOM=WLAN 1 SHIELD_RFFE_WLAN_TO_2GC0_5GC0_FEMS_DATA 47 49 50

BOM_COST_GROUP=WIFI

SYNC_MASTER=J517_WIFI_MLB_0.36 SYNC_DATE=09/16/2020

PAGE TITLE

J518 5G rFEM (LAT)

UAT 2.4 GHZ RFEM

OMIT_SM_PP216_W
P2MM-NSM
ROOM=WLAN
PP
1
ANALOG_UAT_2G_FEM_TO_WLAN_PDTS
47 50

78 51 49 48 47 PPVCC_MAIN

C405_W
10UF
20%
16V
X5R-CERM
0402-0.1MM
ROOM=UAT_FEM

C406_W
33PF
5%
16V
NP0-C0G
01005-1
ROOM=UAT_FEM

C407_W
1.0UF
20%
16V
X5R-CERM
0201-1
ROOM=UAT_FEM

VOLTAGE=1.8
PP1V8_S2
47 48 49 51 52 78 137

C408_W
2.2UF
20%
6.3V
X5R-CERM
0201
ROOM=UAT_FEM

C404_W
33PF
5%
16V
NP0-C0G
01005-1
ROOM=UAT_FEM

52 50_WLAN_G_C0_TXRX_FEM_M

R463_W
0.00
0%
1/32W
MF
01005
ROOM=UAT_FEM

50_WLAN_G_UAT_TXRX_FEM

C461_W
0.3PF
+/-0.05PF
16V
C0G-CERM
01005
NOSTUFF
ROOM=UAT_FEM

C466_W
0.3PF
+/-0.05PF
16V
C0G-CERM
01005
NOSTUFF
ROOM=UAT_FEM

44 VBAT
45 VBAT
42 VDD_1V8

22 WLAN_TX/RX
48 WLAN_RFFE_RST*
40 WLAN_RFFE_CLK
47 WLAN_RFFE_DATA
33 WLAN_GPIO_0
41 USID

ROOM=UAT_FEM
353S02415
U_2G_U_W
MDFEGYFB-132
LGA

GND
1 2 3 4 5 6 7 9 10 11 12 13 14 15 16 17 18 19 20 21 23 24 25 26 27 29 30 31 32 34 35 36 37 38 39 43 46 49

ANT 28 50_WLAN_G_BT_ANT4_NPLXR1

R496_W
0.00
0%
1/32W
MF
01005
ROOM=UAT_FEM

50_TRX_WLAN24_TO_ANT4A
120

C499_W
0.3PF
+/-0.05PF
16V
C0G-CERM
01005
NOSTUFF
ROOM=UAT_FEM

C498_W
0.3PF
+/-0.05PF
16V
C0G-CERM
01005
NOSTUFF
ROOM=UAT_FEM

PDET/TSENSE 8 ANALOG_UAT_2G_FEM_TO_WLAN_PDTS
47 50

C491_W
10PF
5%
16V
NP0/C0G
01005
NOSTUFF
ROOM=UAT_FEM

47 RFFE_WLAN_TO_UAT_2G_FEM_RST_L
48 47 SHIELD_RFFE_WLAN_TO_UAT_FEMS_CLK
49 47 SHIELD_RFFE_WLAN_TO_2GC0_5GC0_FEMS_DATA
47 GPIO_WLAN_TO_UAT_2G_FEM_LNA_BYP_EN

C479_W
10PF
5%
16V
NP0/C0G
01005
ROOM=UAT_FEM
NOSTUFF

C480_W
10PF
5%
16V
NP0/C0G
01005
ROOM=UAT_FEM
NOSTUFF

C481_W
10PF
5%
16V
NP0/C0G
01005
ROOM=UAT_FEM
NOSTUFF

C482_W
10PF
5%
16V
NP0/C0G
01005
ROOM=UAT_FEM
NOSTUFF

BOM_COST_GROUP=WIFI
SYNC_MASTER=J517_WIFI_ML8_0.36
SYNC_DATE=09/16/2020
PAGE TITLE
2G4 rFEM (UAT)

LAT 2.4 GHZ RFEM

OMIT SM PP217_W P2MM-NSM ROOM=WLAN
PP 1 ANALOG_LAT_2G_FEM_TO_WLAN_PDTS 47 51

78 50 49 48 47 PPVCC_MAIN
C415_W 10UF 20% 10V X5R-CERM 0402-0.1MM ROOM=LAT_FEM
C416_W 33PF 5% 16V NP0-C0G 01005-1 ROOM=LAT_FEM
C417_W 1.0UF 20% 10V X5R-CERM 0201-1 ROOM=LAT_FEM
C418_W 2.2UF 20% 6.3V X5R-CERM 0201 ROOM=LAT_FEM
C414_W 33PF 5% 16V NP0-C0G 01005-1 ROOM=LAT_FEM
VOLTAGE=1.8 PP1V8_S2 47 48 49 50 52 78 137

125 50_2GFEM_TRX_MCS
R473_W 0.00 0% 1/32W MF 01005 ROOM=LAT_FEM
50_WLAN_G_LAT_TXRX_FEM
C471_W 0.3PF +/-0.05PF 16V C0G-CERM 01005 NOSTUFF ROOM=LAT_FEM
C476_W 0.3PF +/-0.05PF 16V C0G-CERM 01005 ROOM=LAT_FEM

47 RFFE_WLAN_TO_LAT_2G_FEM_RST_L
49 47 SHIELD_RFFE_WLAN_TO_LAT_FEMS_CLK
48 47 SHIELD_RFFE_WLAN_TO_2GC1_5GC1_FEMS_DATA
47 GPIO_WLAN_TO_LAT_2G_FEM_LNA_BYP_EN
C483_W 10PF 5% 16V NP0/C0G 01005 ROOM=LAT_FEM NOSTUFF
C484_W 10PF 5% 16V NP0/C0G 01005 ROOM=LAT_FEM NOSTUFF
C485_W 10PF 5% 16V NP0/C0G 01005 ROOM=LAT_FEM NOSTUFF
C486_W 10PF 5% 16V NP0/C0G 01005 ROOM=LAT_FEM NOSTUFF

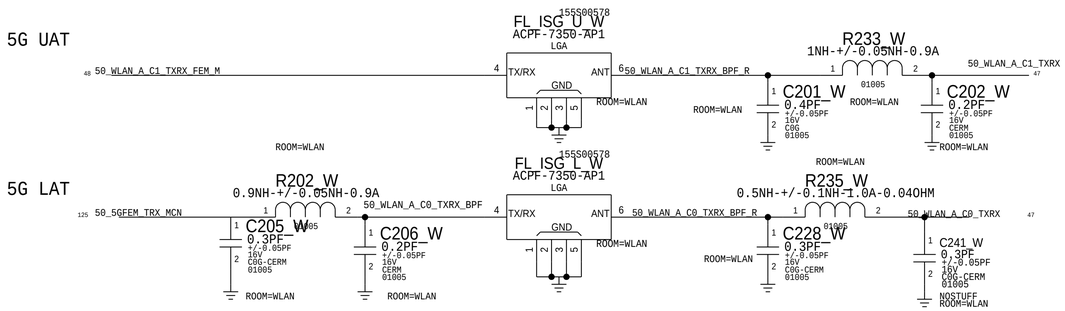
44 45 42 VBAT VBAT VDD_1V8
22 WLAN_TX/RX
48 WLAN_RFFE_RST*
40 WLAN_RFFE_CLK
47 WLAN_RFFE_DATA
33 WLAN_GPIO_0
41 USID
GND
U_2G_L_W MDFEGYFB-132 LGA ROOM=LAT_FEM 353S02415
1 2 3 4 5 6 7 9 10 11 12 13 14 15 16 17 18 19 20 21 23 24 25 26 27 29 30 31 32 34 35 36 37 38 39 43 46 49

ANT 28 50_WLAN_G_BT_LAT
PDET/TSENSE 8 ANALOG_LAT_2G_FEM_TO_WLAN_PDTS 47 51
C489_W 0.3PF +/-0.05PF 16V C0G-CERM 01005 OMIT_TABLE ROOM=LAT_FEM
OMIT_TABLE R466_W 0.00 0% 1/32W MF 01005 ROOM=LAT_FEM
50_TRX_WLAN24_TO_ANT2A 122
C490_W 0.3PF +/-0.05PF 16V C0G-CERM 01005 NOSTUFF ROOM=LAT_FEM
C492_W 10PF 5% 16V NP0/C0G 01005 NOSTUFF LAT_FEM

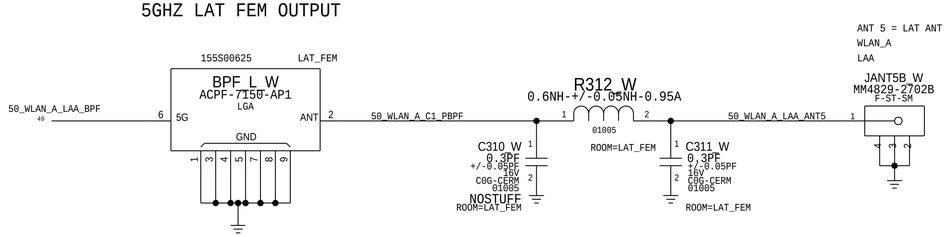
BOM_COST_GROUP=WIFI
SYNC_MASTER=J517_WIFI_MLB_0.36 SYNC_DATE=09/16/2020
PAGE TITLE
2G4 rFEM (LAT)

J518 FRONT END

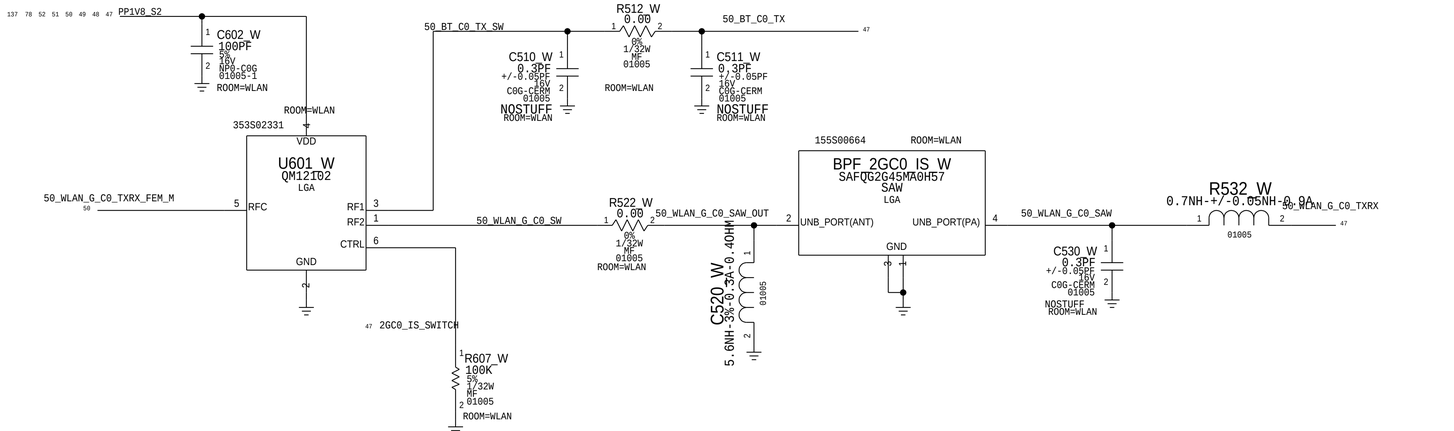
5G INTERSTATE BPFS



5GHZ LAT FEM OUTPUT



2G INTERSTAGE

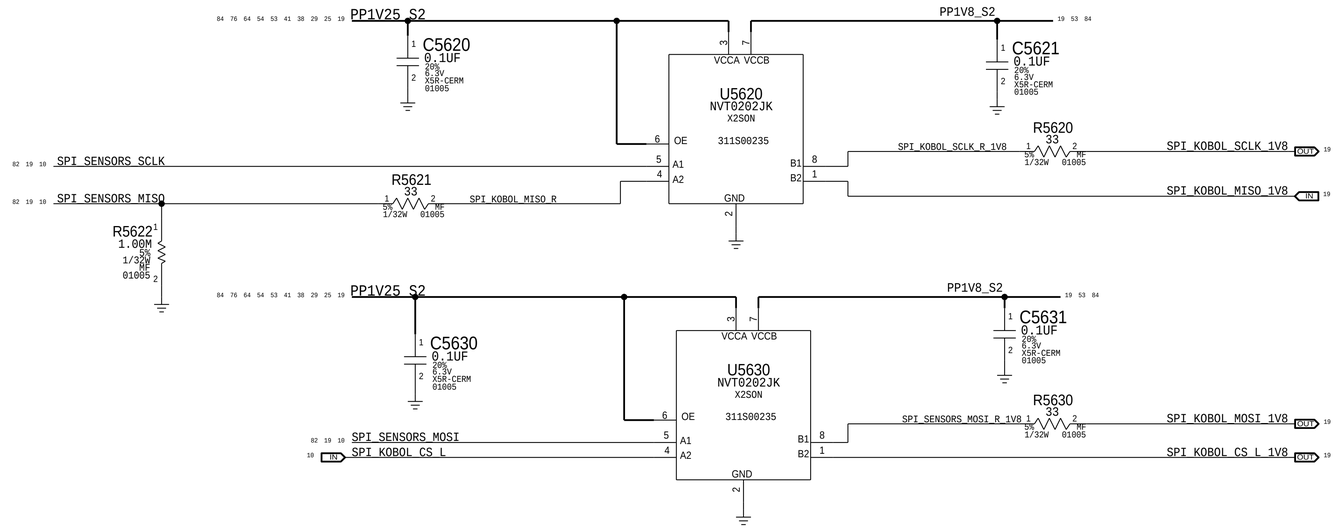


SYNC_MASTER=J517_WIFI_MLBB0M36OST_GROUP=WIFI SYNC_DATE=09/16/2020

PAGE TITLE

J518 Front End

KOBOL VOLTAGE TRANSLATION



BOM_COST_GROUP=SENSORS

SYNC_MASTER=2022_MLB_0.9.0 SYNC_DATE=05/17/2020

PAGE TITLE

SENSOR: KOBOL VT

LDCM

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
138S0914	138S00109		C5930	2.2UF 6.3V 0201 MUR.

PDM attenuation

DC Bias

IN AOP_TO_LDCM_DATA0_PDM

CRITICAL R5930 0.00 0% 1/32W MF 01005

LDCM_AMP_ATN

R5931 750 1% 1/32W MF 01005 NOSTUFF CRITICAL

C5930 2.2UF 20% 6.3V CER-X5R 0201

LDCM_VSTIM_DECOUPLED

84 54 PP1V8_LDCM

C5931 0.1UF 20% 6.3V X5R-CERM 01005

CRITICAL R5932 50K 1% 1/32W MF 01005

CRITICAL R5933 50K 1% 1/32W MF 01005

CRITICAL R5934 82K 1% 1/32W MF 01005

LDCM_VSTIM_FB

C5933 680PF 10% 16V X5R 01005

CRITICAL R5935 360K 1% 1/20W TK 01005

LDCM_VSTIM_IN

C5932 200PF 5% 16V CERM 01005

U5930 MAX44290ANT BGA SHDN*

PP1V8_LDCM 54 84

C5934 0.1UF 20% 6.3V X5R-CERM 01005

LDCM_VSTIM_POS

84 54 36 PP3V3_S2_ACE_PARROT

C5950 0.1UF 20% 6.3V X5R-CERM 01005

U5950 FSUSB242 WLCSP

VDD HSD1+ HSD1- HSD2+ HSD2- SEL GND

ANA_LDCM_ZREF ANA_LDCM_TRACE1 LDCM_DEBUG_IN

CRITICAL R5940 4.99K 1% 1/32W MF 01005

LDCM_DEBUG_IN_R

CRITICAL R5941 200K 1% 1/32W MF 01005

C5941 10UF 20% 10V X5R 0402-0.1MM 138S00123

84 54 PP1V8_LDCM

C5942 0.1UF 20% 6.3V X5R-CERM 01005

LDCM_TIA_IN

U5940 MAX44290ANT BGA SHDN*

LDCM_VSTIM_POS

PP1V8_LDCM 54 84

R5942 12.4K 1% 1/32W MF 01005 CRITICAL

C5943 5PF +/-0.1PF 16V C0G 01005

R5943 3.01M 1% 1/32W TK 01005

LDCM_TIA_IOUT_POS

53 41 38 29 25 10 84 76 64 54 PP1V25_S2

117S0164 R5980 47.0K 5% 1/32W MF 01005

IN GPIO_PMU_TO_LDCM_MUX_SEL0

GPIO_LDCM_TO_AOP_INVALID OUT 10 81

84 54 36 PP3V3_S2_ACE_PARROT

C5960 0.1UF 20% 6.3V X5R-CERM 01005

U5960 FSUSB242 WLCSP

VDD HSD1+ HSD1- HSD2+ HSD2- SEL GND

81 35 IN ANA_LDCM_TRACE2

54 ANA_LDCM_DEBUG

LDCM_SELF_TEST_R

118S00053 R5970 24.9K 1% 1/32W MF 01005

IN GPIO_PMU_TO_LDCM_MUX_SEL1

81 36 IN ANA_ACE2LDCM_DEBUG4

R5962 200 1% 1/20W MF 201

ANA_LDCM_DEBUG 54

81 36 IN ANA_ACE2LDCM_DEBUG5

R5963 200 1% 1/20W MF 201

81 54 35 ANA_LDCM_TRACE1

NOSTUFF R5950 0.00 0% 1/32W MF 01005

LDCM_DEBUG_IN 54

54 ANA_LDCM_ZREF

118S00049 R5961 5.49K 1% 1/32W MF 01005

NOSTUFF C5961 0.1UF 20% 6.3V X5R-CERM 01005

CH.1, DATA AFTER RISING EDGE

CH.2, DATA AFTER FALLING EDGE

FAN_LDCM_SEL

R5900 0.00 0% 1/32W MF 01005

PP1V25_S2 10 25 29 38 41 53 54 64 76 84

C5900 0.1UF 20% 6.3V X5R-CERM 01005

PP1V8_LDCM 54 84

C5901 0.1UF 20% 6.3V X5R-CERM 01005

U5900 FAN38522UCX WLCSP

VDDIO VDD 353S02530

IN1 IN2 SEL GND CLK DATA NC

CLK_AOP_TO_LDCM_PDM_R 54

LDCM_TO_AOP_DATA1_PDM_R 54

NC

54 CLK_AOP_TO_LDCM_PDM_R

R5902 0.00 0% 1/32W MF 01005

CLK_AOP_TO_LDCM_PDM IN 10

54 LDCM_TO_AOP_DATA1_PDM_R

R5903 0.00 0% 1/32W MF 01005

LDCM_TO_AOP_DATA1_PDM OUT 10

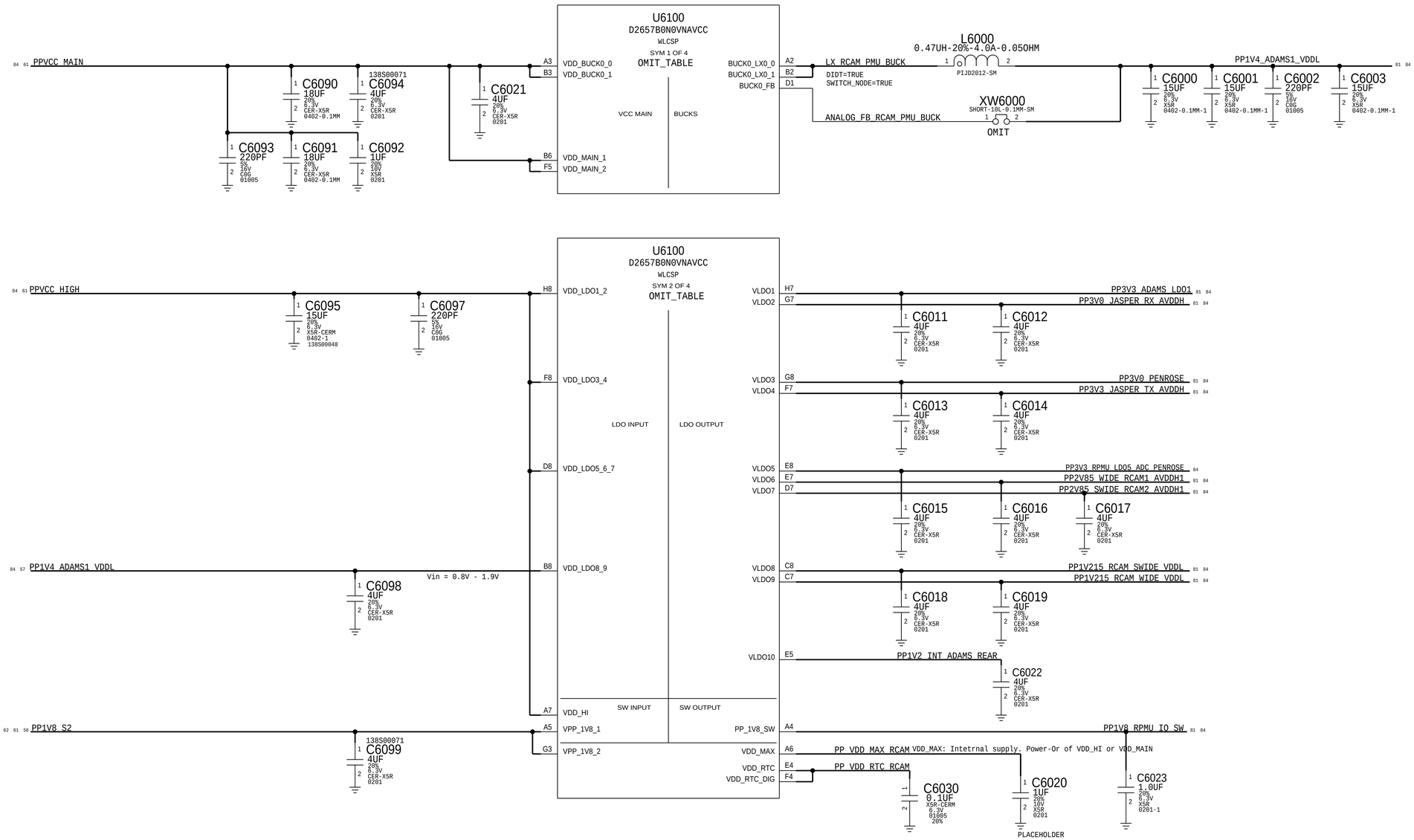
BOM_COST_GROUP=USB-C

PAGE TITLE

LDCM

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
152S00992	152S00985	L6000	0.47UH 4A 2012 TAIYO	

RCAM ADAMS PMU



BOM_COST_GROUP=CAMERA

PAGE TITLE

CAMERA: ADAMS REAR POWER (1/2)

RCAM ADAMS PMU IO

PP1V8_RPMU_IO_SW

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

I2C1:WIDE/NEON
I2C1_RCAM_PMU_SCL_1V8
I2C1_RCAM_PMU_SDA_1V8
I2C2: JASPER(TOF)
I2C2_RCAM_PMU_SCL_1V8
I2C2_RCAM_PMU_SDA_1V8
I2C3: WILL
I2C3_RCAM_PMU_SCL_1V8
I2C3_RCAM_PMU_SDA_1V8
I2C4: SWIDE(OHIO)
I2C4_RCAM_PMU_SCL_1V8
I2C4_RCAM_PMU_SDA_1V8

SPMI_ISP_ADAMS_REAR_SCLK
SPMI_ISP_ADAMS_REAR_SDATA
R6152 0.00 1/32W 0% MF 01005 PLACE_NEAR=U0600:R4:50MM
R6153 33 1/32W 5% MF 01005 PLACE_NEAR=U6100:H6:20MM
ISP_SPMI_ADAMS_SCLK_R
ISP_SPMI_ADAMS_SDATA_R

ADAMS_CRASH_L_1V8
GPIO_ISP_TO_ADAMS_REAR_RESET_L

RCAM_PMU_VREF
RCAM_PMU_IREF
R6151 100K 5% 1/32W MF 01005
132S0444 C6100 0.1UF 10% 6.3V CERM-X5R 0201
CRITICAL R6150 200K 0.1% 1/20W TF 0201

U6100
D2657B0N0VNAVCC
WLCSP
SYM 3 OF 4
OMIT_TABLE

I2C: SCL_1, SDA_1, SCL_2, SDA_2, SCL_3, SDA_3, SCL_4, SDA_4
SPMI: SCLK (1V2 IO), SDATA (1V2 IO)
RESET: CRASH*, RESET* (1V2 IN)
REFERENCE: VREF, IREF
GPIO: GPIO1 E1 GPIO_RCAM_PMU_TO_STROBE_DRIVER_HWEN_1V8
GPIO2 C2 GPIO_RCAM_PMU_TO_TOF_PMU_EN_1V8
GPIO3 D2 GPIO_RCAM_PMU_TO_TOF_INT_L_1V8
GPIO4 E2 GPIO_RCAM_PMU_TO_TOF_SHUTDOWN_L_1V8
GPIO5 F2 GPIO_RCAM_PMU_TO_JAS_LDO_EN_1V8
GPIO6 C3 GPIO_RCAM_PMU_TO_WIDE_SHUTDOWN_L_1V8
GPIO7 D3 GPIO_RCAM_PMU_TO_SWIDE_SHUTDOWN_L_1V8
GPIO8/TCAL B4 ADAMS_TCAL
GPIO9/TDEV1 D6 C3_TEMP_NTC_P
GPIO10/TDEV2 F6 NC_ADAMS_GPIO10
GPIO11/TDEV3 B5 NC_ADAMS_GPIO11
GPIO12/TDEV4 C4 NC_ADAMS_GPIO12
GPIO13/FORCE_SYNC (1V2 IN) E3 IO_TOUCH_TO_MANY_SCAN_ACTIVE
CLK EXPAND: CLKI (1V2 IN) F1 CLK_ISP_TO_RCAM_PMU_12MHZ
CLKO_1 G2 CLK_RCAM_PMU_TO_WIDE_12MHZ_1V8
CLKO_2 G1 CLK_RCAM_PMU_TO_SWIDE_12MHZ_1V8
CLKO_3 H2 CLK_RCAM_PMU_TO_JASPER_TOF_12MHZ_1V8
CLKO_4 H1 NC
AMUX B7 AMUX_PMU_FROM_RPMU — PP6101 P3MM
VPP_OTP J1 Advanced Test Mode (OTP rewrite)

R6133 0.00 1/32W 0% MF 01005
GPIO_SOC_TO_LANAI_DISPLAY_BSYNC1

PP1V8_RPMU_IO_SW
R6137 10K 5% 1/32W MF 01005

R6136 100K 5% 1/32W MF 01005

PRIVACY MODE - CRASH

PP1V8_S2
R6135 100K 5% 1/32W MF 01005
ADAMS_CRASH_L_1V8

U6100
D2657B0N0VNAVCC
WLCSP
SYM 4 OF 4
OMIT_TABLE
VSS: A8, C1, C6, D4, E6, J2, J7, J8
VSS_BUCK0: A1, B1

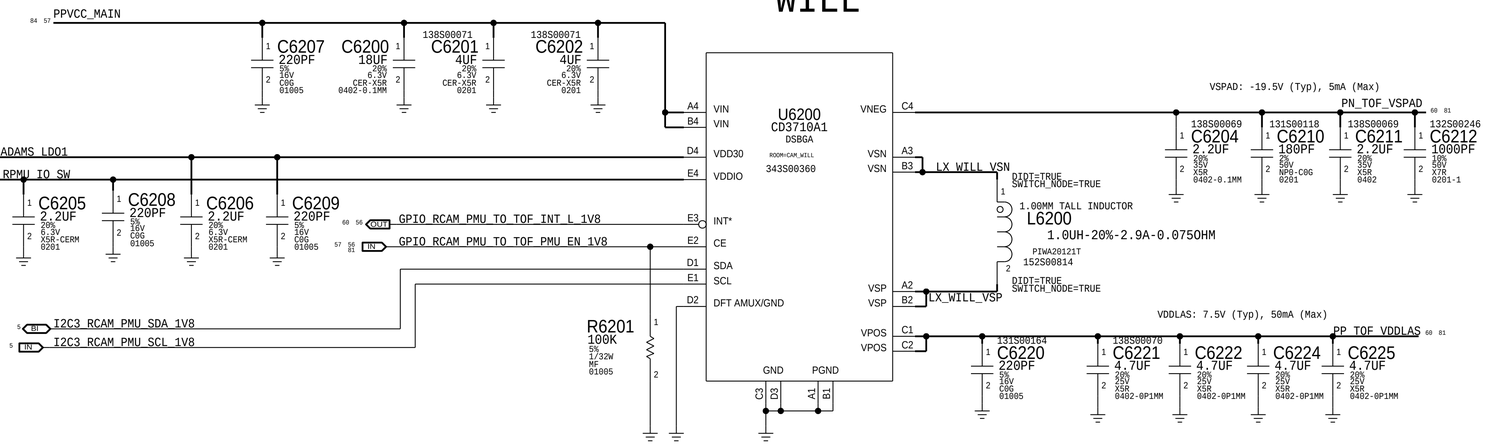
ADAMS_TCAL
CRITICAL R6144 3.92K 0.1% 1/20W MF 0201-2
C6144 100PF 5% 10V NP0-C0G 01005-1

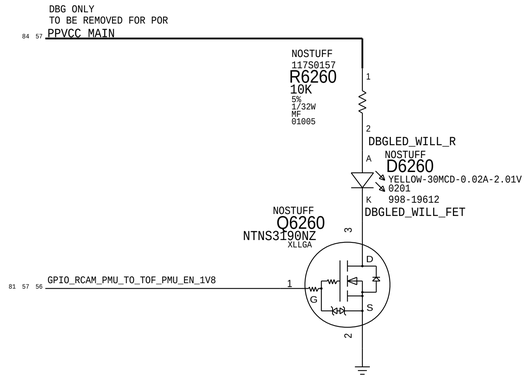
C3_TEMP_NTC_P
CRITICAL R6143 10KOHM-1%-0.31MA NO_XNET_CONNECTION=1 0201
C6143 100PF 5% 10V NP0-C0G 01005-1
C3_TEMP_NTC_N
XW6143 PLACE_NEAR=U6100:D6:15MM

BOM_COST_GROUP=CAMERA

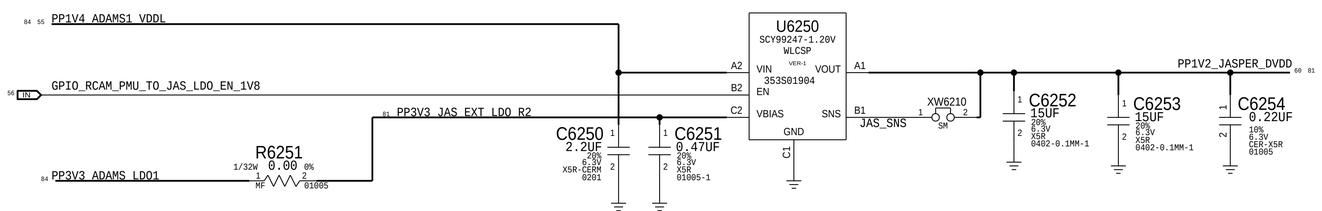
PAGE TITLE
CAMERA: ADAMS REAR IO (2/2)

WILL





JASPER VDDL LDO



BOM_COST_GROUP=JASPER

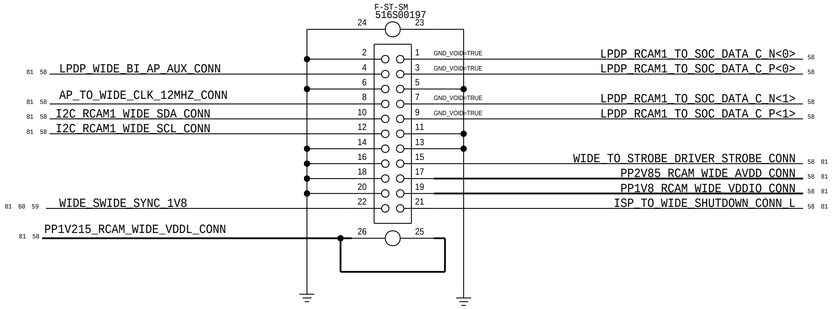
PAGE TITLE

CAMERA: JASPER POWER

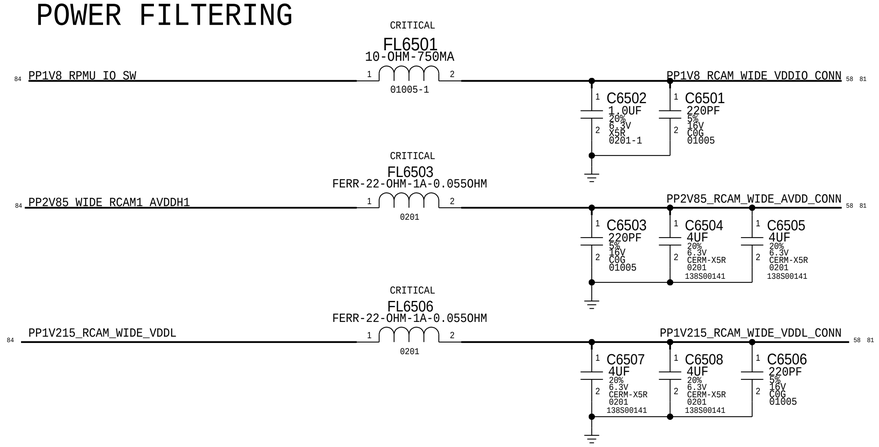
WIDE RCAM1 B2B

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

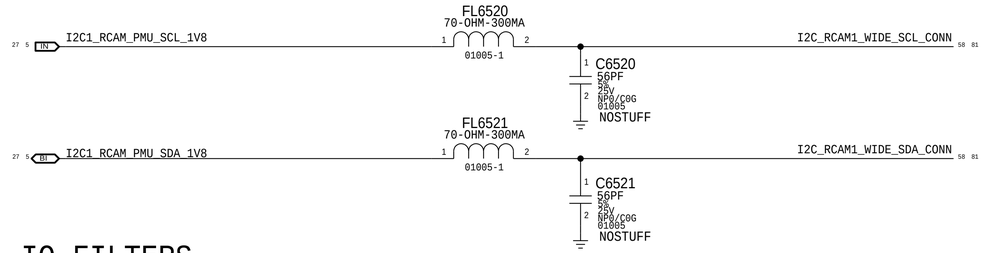
J6500
AA28D-S022VA1
F-ST-SM
516S00197



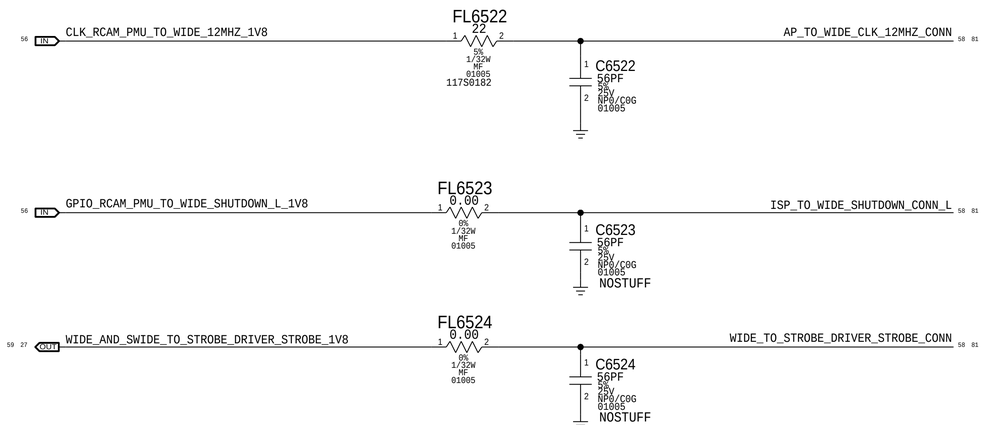
POWER FILTERING



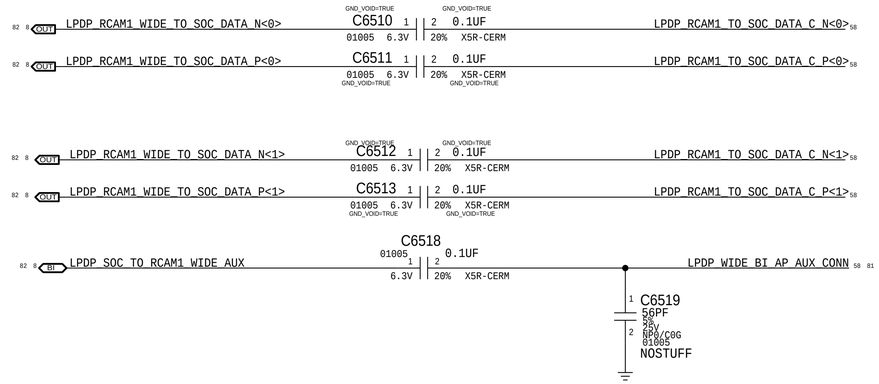
ISP I2C



IO FILTERS



LPDP FILTERS



BOM_COST_GROUP=CAMERA

PAGE TITLE

CAMERA: B2B RCAM1 WIDE

SWIDE RCAM2 B2B

OHIO
FLEX PLUG: 516S00151
MLB RCPT: 516S00152
MATCH J417_RCAM_OHIO_PLAYERS_FLEX 2.0.0
J6600
AA26D-S022VA1
F-ST-SM

81 59	PP1V8_RCAM_SWIDE_VDDIO_CONN	1	2		PP2V85_RCAM_SWIDE_AVDDH1_CONN	59 81
81 59	ISP_TO_SWIDE_SHUTDOWN_CONN_L	3	4			
81 60 58	WIDE_SWIDE_SYNC_1V8	5	6			
		7	8	GND_VOID=TRUE	LPDP_SWIDE_TO_SOC_DATA_C_P<1>	59
81 59	SWIDE_TO_STROBE_DRIVER_STROBE_CONN	9	10	GND_VOID=TRUE	LPDP_SWIDE_TO_SOC_DATA_C_N<1>	59
81 59	I2C_RCAM2_SWIDE_SCL_CONN	11	12			
81 59	I2C_RCAM2_SWIDE_SDA_CONN	13	14	GND_VOID=TRUE	LPDP_SWIDE_TO_SOC_DATA_C_P<0>	59
81 59	AP_TO_SWIDE_CLK_12MHZ_CONN	15	16	GND_VOID=TRUE	LPDP_SWIDE_TO_SOC_DATA_C_N<0>	59
		17	18			
		19	20		LPDPC_AP_BI_SWIDE_AUX_RX_D2P_CONN	59 81
		21	22			
81 59	PP1V215_RCAM_SWIDE_DVDD_CONN	25	26			

23 24 25 26
516S00152

POWER FILTERING

CRITICAL
FL6601
10-OHM-750MA
01005-1

84 PP1V8_RPMU_IO_SW → PP1V8_RCAM_SWIDE_VDDIO_CONN 59 81

C6602 1.0UF 20% 6.3V X5R 0201-1
C6601 220PF 5% 16V C0G 01005

CRITICAL
FL6603
FERR-22-OHM-1A-0.055OHM
0201

84 PP2V85_SWIDE_RCAM2_AVDDH1 → PP2V85_RCAM_SWIDE_AVDDH1_CONN 59 81

C6604 4UF 20% 6.3V CERM-X5R 0201 138S00141
C6605 4UF 20% 6.3V CERM-X5R 0201 138S00141
C6603 220PF 5% 16V C0G 01005

CRITICAL
FL6606
FERR-22-OHM-1A-0.055OHM
0201

84 PP1V215_RCAM_SWIDE_VDDL → PP1V215_RCAM_SWIDE_DVDD_CONN 59 81

C6607 4UF 20% 6.3V CERM-X5R 0201 138S00141
C6608 4UF 20% 6.3V CERM-X5R 0201 138S00141
C6606 220PF 5% 16V C0G 01005

ISP I2C

5 IN I2C4_RCAM_PMU_SCL_1V8 → I2C_RCAM2_SWIDE_SCL_CONN 59 81

FL6620
70-OHM-300MA
01005-1

C6620 56PF 5% 25V NP0/C0G 01005 NOSTUFF

5 IN I2C4_RCAM_PMU_SDA_1V8 → I2C_RCAM2_SWIDE_SDA_CONN 59 81

FL6621
70-OHM-300MA
01005-1

C6621 56PF 5% 25V NP0/C0G 01005 NOSTUFF

IO FILTERS

56 IN CLK_RCAM_PMU_TO_SWIDE_12MHZ_1V8 → AP_TO_SWIDE_CLK_12MHZ_CONN 59 81

FL6622
22
5% 1/32W MF 01005 117S0182

C6622 56PF 5% 25V NP0/C0G 01005

56 IN GPIO_RCAM_PMU_TO_SWIDE_SHUTDOWN_L_1V8 → ISP_TO_SWIDE_SHUTDOWN_CONN_L 59 81

FL6623
0.00
5% 1/32W MF 01005

C6623 56PF 5% 25V NP0/C0G 01005 NOSTUFF

58 27 OUT WIDE_AND_SWIDE_TO_STROBE_DRIVER_STROBE_1V8 → SWIDE_TO_STROBE_DRIVER_STROBE_CONN 59 81

FL6624
0.00
5% 1/32W MF 01005

C6624 56PF 5% 25V NP0/C0G 01005 NOSTUFF

LPDP FILTERS

82 8 OUT LPDP_RCAM2_SWIDE_TO_SOC_DATA_N<0> → LPDP_SWIDE_TO_SOC_DATA_C_N<0> 59

C6610 (GND_VOID=TRUE) 01005 6.3V (GND_VOID=TRUE) || 0.1UF 20% X5R-CERM (GND_VOID=TRUE)

82 8 OUT LPDP_RCAM2_SWIDE_TO_SOC_DATA_P<0> → LPDP_SWIDE_TO_SOC_DATA_C_P<0> 59

C6611 (GND_VOID=TRUE) 01005 6.3V (GND_VOID=TRUE) || 0.1UF 20% X5R-CERM (GND_VOID=TRUE)

82 8 OUT LPDP_RCAM2_SWIDE_TO_SOC_DATA_N<1> → LPDP_SWIDE_TO_SOC_DATA_C_N<1> 59

C6612 (GND_VOID=TRUE) 01005 6.3V (GND_VOID=TRUE) || 0.1UF 20% X5R-CERM (GND_VOID=TRUE)

82 8 OUT LPDP_RCAM2_SWIDE_TO_SOC_DATA_P<1> → LPDP_SWIDE_TO_SOC_DATA_C_P<1> 59

C6613 (GND_VOID=TRUE) 01005 6.3V (GND_VOID=TRUE) || 0.1UF 20% X5R-CERM (GND_VOID=TRUE)

82 8 BI LPDP_SOC_TO_RCAM2_SWIDE_AUX → LPDPC_AP_BI_SWIDE_AUX_RX_D2P_CONN 59 81

C6618 01005 6.3V || 0.1UF 20% X5R-CERM

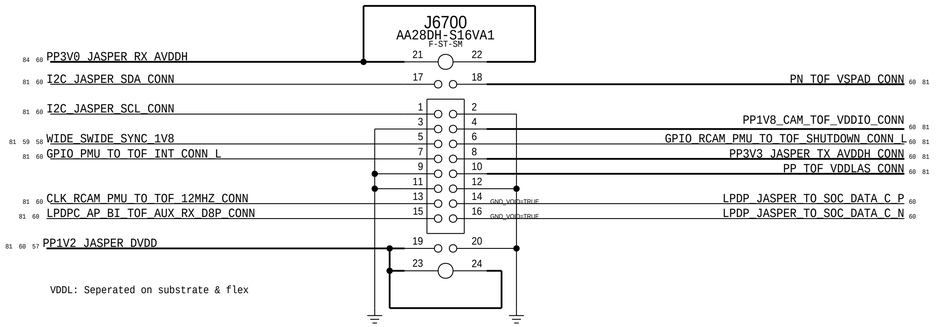
C6619 56PF 5% 25V NP0/C0G 01005 NOSTUFF

BOM_COST_GROUP=CAMERA

PAGE TITLE
CAMERA: B2B RCAM2 SWIDE

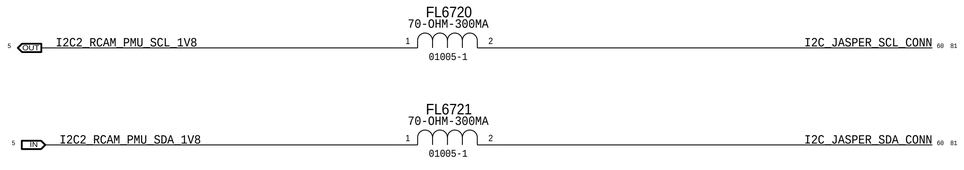
JASPER B2B

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

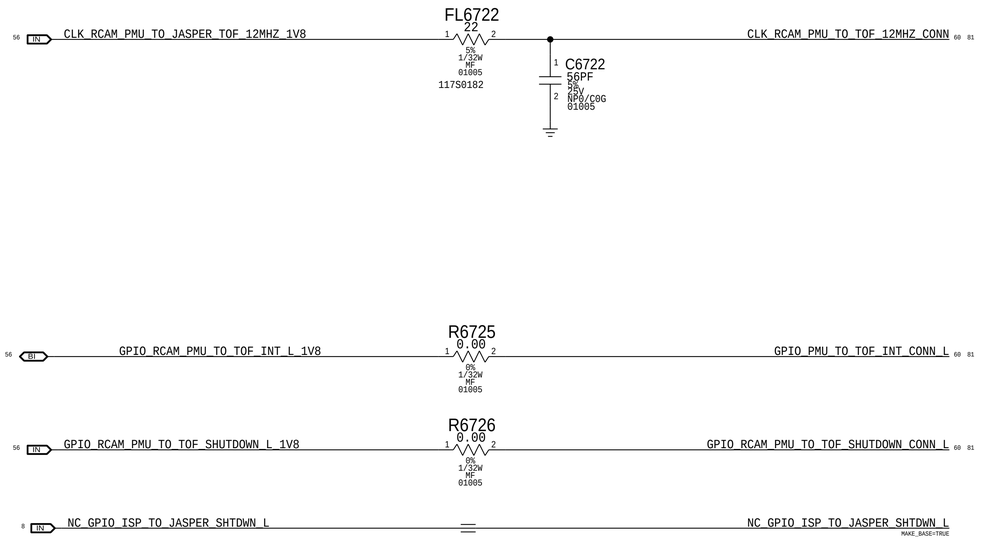


VDDL: Seperated on substrate & flex

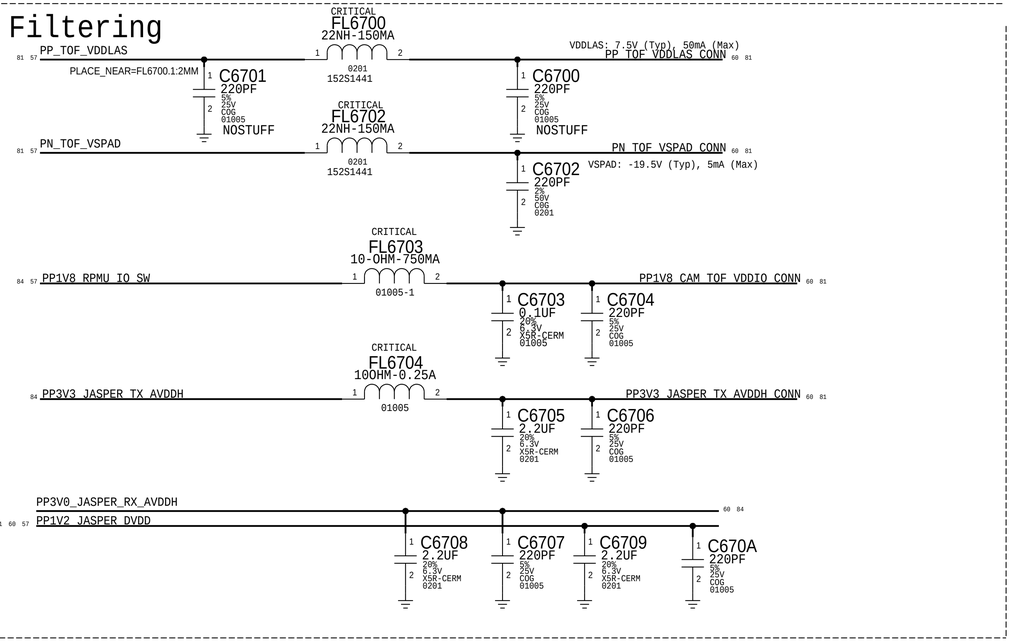
JASPER I2C



IO Filters



Power Filtering



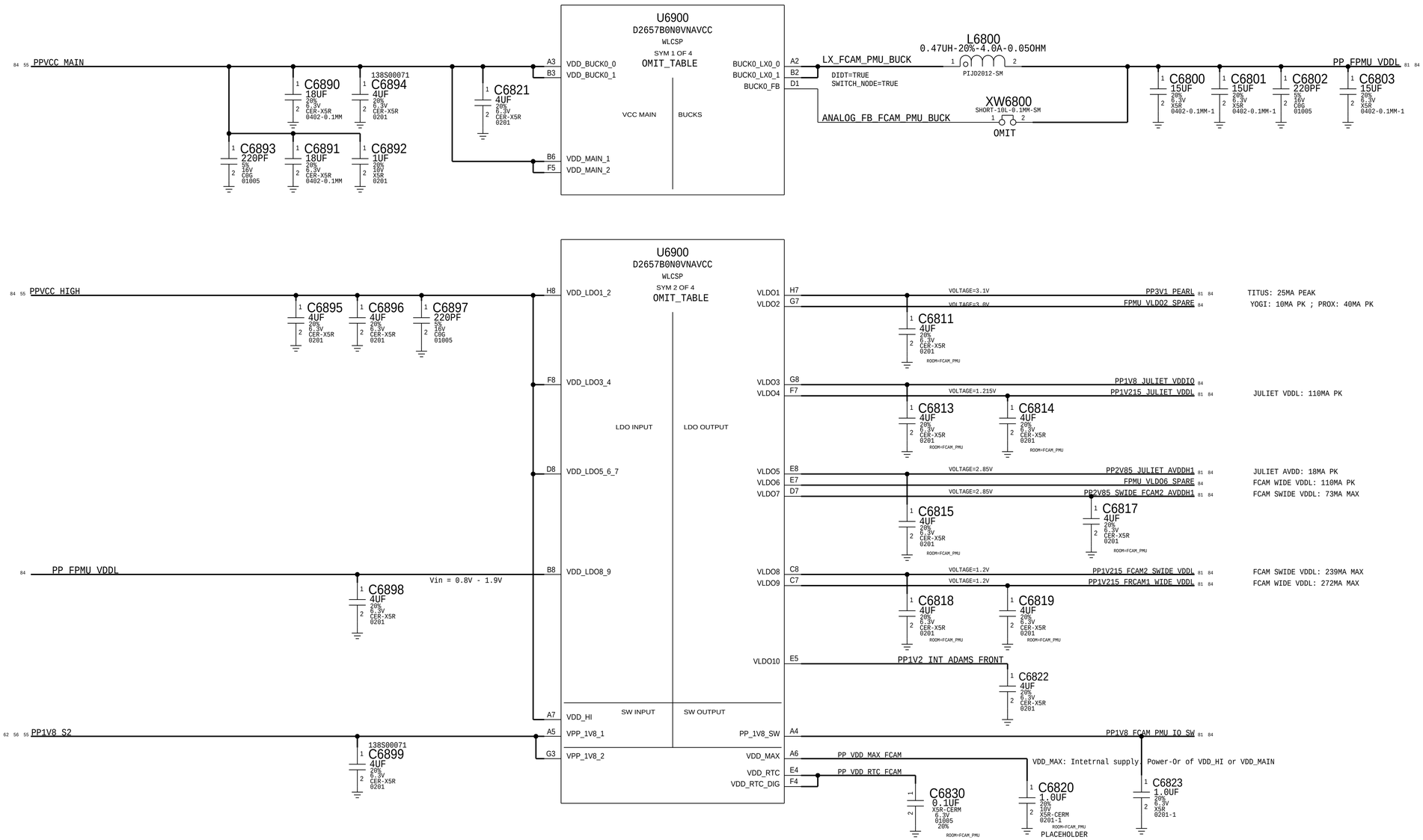
LPDP Filters

BOM_COST_GROUP=JASPER

PAGE TITLE

CAMERA: B2B JASPER

FCAM ADAMS PMU



BOM_COST_GROUP=CAMERA

PAGE TITLE

CAMERA: ADAMS FRONT POWER (1/2)

FCAM ADAMS PMU IO

PP1V8_JULIET_VDDIO
PP1V8_FCAM_PMU_IO_SW

R6932 1.00K 5% 1/32W MF 01005
R6931 1.00K 5% 1/32W MF 01005
R6922 1.00K 5% 1/32W MF 01005
R6921 1.00K 5% 1/32W MF 01005
R6912 1.00K 5% 1/32W MF 01005
R6911 1.00K 5% 1/32W MF 01005
R6902 1.00K 5% 1/32W MF 01005
R6901 1.00K 5% 1/32W MF 01005

I2C1:FCAM WIDE (NOT USED)
I2C1_FCAM_PMU_SCL_1V8
I2C1_FCAM_PMU_SDA_1V8
I2C2: FCAM SWIDE
I2C2_FCAM_PMU_SCL_1V8
I2C2_FCAM_PMU_SDA_1V8
I2C3: JULIET
I2C3_FCAM_PMU_SCL_1V8
I2C3_FCAM_PMU_SDA_1V8
I2C4: RIGEL & TITUS
I2C4_FCAM_PMU_SCL_1V8
I2C4_FCAM_PMU_SDA_1V8

SPMI_ISP_ADAMS_FRONT_SCLK
SPMI_ISP_ADAMS_FRONT_SDATA
R6952 0.00 1/32W 0% MF 01005 PLACE_NEAR=U0600.R4:50MM
R6953 33 1/32W 5% MF 01005 PLACE_NEAR=U6100.H6:20MM
ISP_SPMI_ADAMS_FRONT_SCLK_R
ISP_SPMI_ADAMS_FRONT_SDATA_R
ADAMS_FCAM_PMU_CRASH_L_1V8
GPIO_ISP_TO_ADAMS_FRONT_RESET_L

R6945 100K 5% 1/32W MF 01005
C6900 0.1UF 10% 6.3V CERM-X5R 0201 132S0444
CRITICAL R6900 200K 0.1% 1/20W TF 0201

U6900
D2657B0N0VNAVCC
WLCSP
SYM 3 OF 4
OMIT_TABLE

SCL_1	G5	I2C	GPIO
SDA_1	G6		
SCL_2	J4		
SDA_2	J5		
SCL_3	H4		
SDA_3	H5		
SCL_4	H3		
SDA_4	J3		
SCLK 1V2 IO	J6	SPMI	
SDATA 1V2 IO	H6		
CRASH*	F3	RESET	
RESET* 1V2 IN	G4		
VREF	C5	REFERENCE	
IREF	D5		
CLKI 1V2 IN	F1	CLK EXPAND	
CLKO_1	G2		
CLKO_2	G1		
CLKO_3	H2		
CLKO_4	H1		
AMUX	B7		
VPP_OTP	J1		

GPIO1 E1 GPIO_FPMU_TO_JULIET_SHUTDOWN_L_1V8 OUT 40
GPIO2 C2 XNC
GPIO3 D2 GPIO_FCAM_PMU_TO_FCAM_SWIDE_SHUTDOWN_L_1V8 BI 26
GPIO4 E2 GPIO_FCAM_PMU_TO_RIGEL_ENABLE_1V8 OUT 39
GPIO5 F2 GPIO_RIGEL_INT_TO_FPMU_1V8 IN 39 81
GPIO6 C3 NC_FPMU_GPIO6
GPIO7 D3 NC_FPMU_GPIO7
GPIO8/TCAL B4 ADAMS_FCAM_PMU_TCAL 62
GPIO9/TDEV1 D6 C4_TEMP_NTC_P 62
GPIO10/TDEV2 F6 NC_FPMU_GPIO10
GPIO11/TDEV3 B5 NC_FPMU_GPIO11
GPIO12/TDEV4 C4 NC_FPMU_GPIO12
1V2 IN GPIO13/FORCE_SYNC E3 IO_FPMU_TOUCH_TO_MANY_SCAN_ACTIVE

R6933 NOSTUFF 0.00 1/32W 0% MF 01005
GPIO_SOC_TO_LANAI_DISPLAY_BSYNC1 IN 8 42 56 78

CLK_ISP_TO_FCAM_PMU_12MHZ IN 8
R6936 100K 5% 1/32W MF 01005 ROOM=FCAM_PMU

F1 CLKI
G2 NC
G1 CLK_FCAM_PMU_TO_SWIDE_12M_1V8 OUT 26
H2 CLK_FCAM_PMU_TO_JULIET_12M_1V8 OUT 40 82
H1 CLK_FCAM_PMU_TO_RIGEL_12M_1V8 OUT 39

B7 AMUX_PMU_FROM_FPMU
PP6901 PSMM
J1 Advanced Test Mode (OTP rewrite)
TP6901 ORIGINALLY ON AMUX

PRIVACY MODE - CRASH

84 70 66 61 56 55 PP1V8_S2

R6935 100K 5% 1/32W MF 01005

08/01/19:
ONLY TYING FPMU ADAMS
CRASH PIN TO A PU.

ADAMS_FCAM_PMU_CRASH_L_1V8 62

U6900
D2657B0N0VNAVCC
WLCSP
SYM 4 OF 4
OMIT_TABLE

A8	VSS	VSS_BUCK0	A1
C1	VSS	VSS_BUCK0	B1
C6	VSS		
D4	VSS		
E6	VSS		
J2	VSS		
J7	VSS		
J8	VSS		

62 ADAMS_FCAM_PMU_TCAL
CRITICAL R6944 3.92K 0.1% 1/20W MF 0201-2
C6944 100PF 5% 16V NP0-C0G 01005-1

62 C4_TEMP_NTC_P
CRITICAL R6943 10KOHM-1%-0.31MA NO_XNET_CONNECTION=1 0201
C6943 100PF 5% 16V NP0-C0G 01005-1
C4_TEMP_NTC_N
XW6943 PLACE_NEAR=U6100.D6:15MM SM

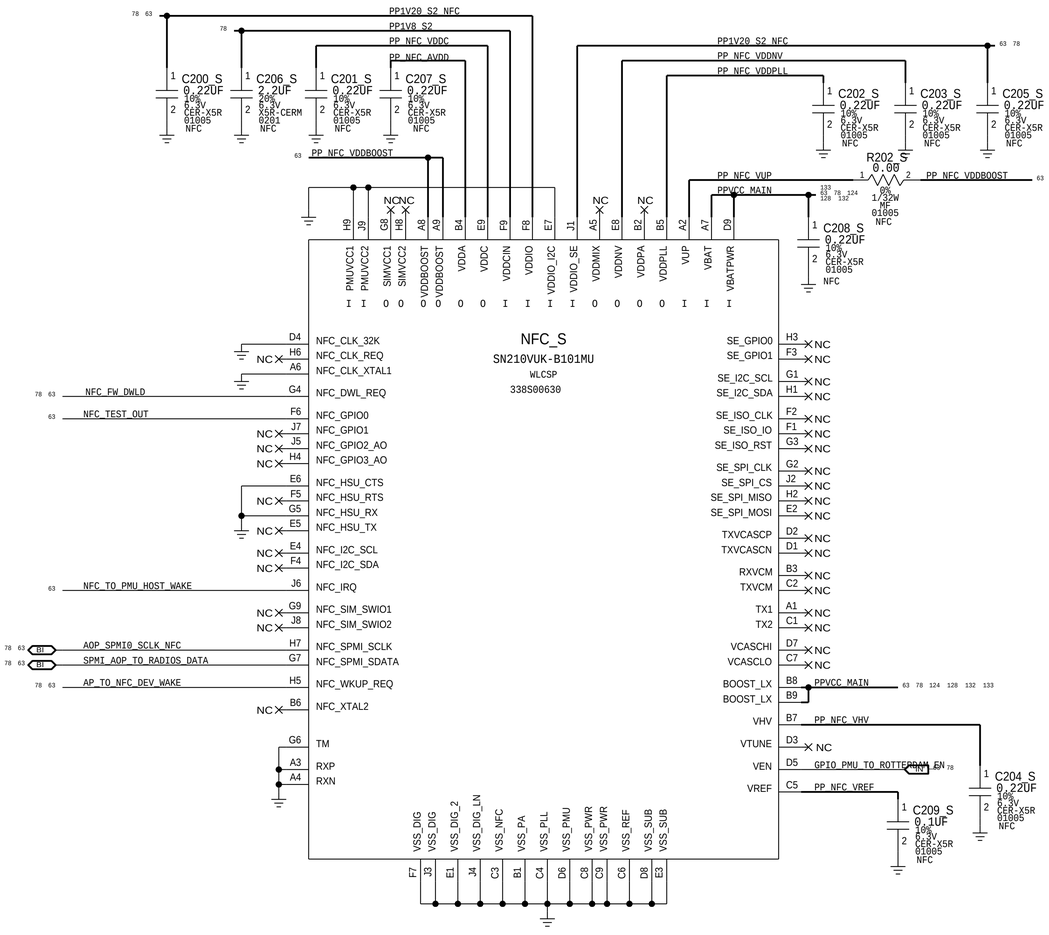
BOM_COST_GROUP=CAMERA

PAGE TITLE
CAMERA: ADAMS REAR IO (2/2)

STOCKHOLM

NFC CONTROLLER

	NET RULE ASSIGNMENT	
DIAGNAL PLAN EU	CONSTRAINT SET	COMMA SEPARATED NET NAMES (WILDCARD SUPPORT EX: DDR*)
	P PWR_300UM	PP_NFC*



BOM_COST_GROUP=SECURE_ELEMENT

PAGE TITLE

NFC

GPM: DMIC GATING

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
343S00390	1	IC,SLG4AP,HALL DMIC DISABLE,1.2V,STQFNB	U7650	CRITICAL	

84 PP1V8_S2
C7650 0.1UF 10% 6.3V CER-X5R 01005
R7699 10K 5% 1/32W MF 01005
R7698 10K 5% 1/32W MF 01005
U7650 SLG4AP43246 STQFN
OMIT_TABLE
VDD
GND
80 42 IN GPIO_APANEL_HALL_TO_PMU_IRQ_L
80 25 IN GPIO_CPANEL_HALL_TO_PMU_IRQ_L
HALL_IN
HALL2_IN
IRQS ARE OPEN DRAIN OUTPUT
IRQ PULLUPS ARE INTERNAL IN SERA
HALL1_BUF_OUT GPIO_APANEL_HALL_TO_PMU_IRQ_BUF_L OUT 72
HALL2_BUF_OUT GPIO_CPANEL_HALL_TO_PMU_IRQ_BUF_L OUT 72
MIC_DISABLE* 81 GPM_DMIC_DISABLE_L
PRE_WARN
R7652 0.00 0% 1/32W MF 01005
R7653 100K 5% 1/32W MF 01005 NOSTUFF
PP1V25_S2 64 84
R7655 10K 5% 1/32W MF 01005
SLG_TO_AOP_DMIC_DISABLE_WARN_L OUT 10 81

PP1V25_S2 64 84
R7651 100K 5% 1/32W MF 01005
GPM_DMIC_DISABLE_R_L 64
DMIC2_MIC_SD_UNSEC 64
C7601 0.1UF 10% 6.3V CER-X5R 01005
U7601 74AXP1G08GX X2SON5
DMIC2_MIC_SD_R
R7602 100 1% 1/32W MF 01005
PDM_DMIC_FRONT_BACK_SD OUT 10 82

PP1V25_S2 64 84
C7600 0.1UF 10% 6.3V CER-X5R 01005
U7600 74AXP1G08GX X2SON5
64 GPM_DMIC_DISABLE_R_L
64 DMIC1_MIC_SD_UNSEC
DMIC1_MIC_SD_R
R7601 100 1% 1/32W MF 01005
PDM_DMIC_TOP_L_R_SD OUT 10 82

PP1V25_S2 64 84
C7602 0.1UF 10% 6.3V CER-X5R 01005
U7602 74AXP1G08GX X2SON5
64 GPM_DMIC_DISABLE_R_L
64 DMIC3_MIC_SD_UNSEC
DMIC3_MIC_SD_R
R7603 100 1% 1/32W MF 01005
PDM_DMIC_SIDE_SD OUT 10 82

84 76 64 54 53 41 38 29 25 19 PP1V25_S2
NOSTUFF C7610 0.1UF 10% 6.3V X5R CERM 01005
PP1V8_S2 53 41 38 29 25 19 10 25 84 76 64 54 29 41 64 84
NOSTUFF C7611 0.1UF 10% 6.3V X5R CERM 01005
U7610 74AVC2T45GX X2SON
VCCA VCCB
DIR
GND
64 DMIC2_MIC_SD_UNSEC
64 DMIC1_MIC_SD_UNSEC
DMIC2_MIC_SD_UNSEC_1V8 IN 25 41 64
DMIC1_MIC_SD_UNSEC_1V8 IN 29 64
LVT / TRANSCEIVER
DIR LOW: B TO A

PP1V25_S2
NOSTUFF C7620 0.1UF 10% 6.3V X5R CERM 01005
PP1V8_S2 19 25 29 41 64 84
NOSTUFF C7621 0.1UF 10% 6.3V X5R CERM 01005
U7620 74AVC1T45 SOT886
VCCA VCCB
NOSTUFF
DIR
GND
64 DMIC3_MIC_SD_UNSEC
DMIC3_MIC_SD_UNSEC_1V8 IN 19 64
LVT / TRANSCEIVER
DIR LOW: B TO A

SENTRY JUMPERS

64 DMIC2_MIC_SD_UNSEC
R7610 0.00 0% 1/32W MF 01005
DMIC2_MIC_SD_UNSEC_1V8 25 41 64

64 DMIC1_MIC_SD_UNSEC
R7611 0.00 0% 1/32W MF 01005
DMIC1_MIC_SD_UNSEC_1V8 29 64

SENTRY JUMPER

64 DMIC3_MIC_SD_UNSEC
R7620 0.00 0% 1/32W MF 01005
DMIC3_MIC_SD_UNSEC_1V8 19 64

BOM_COST_GROUP=AUDIO

PAGE TITLE
GPM

SIMETRA PMU (1/3)

PART NUMBER	ALTERNATE FOR PART NUMBER	REFERENCE DESIGNATOR(S)	DESCRIPTION	BOM OPTION
376S00239	376S00205	Q7772	NAND DISCH NFET	
152S00839	152S01325	L7730	BUCK6 IND	

OMIT_TABLE
U7700
TMLT47A1-APE
WLCSP
SYM 1 OF 4

BUCK INPUTS
MAIN INPUTS
BUCK OUTPUTS

84 69 PPVCC MAIN
C77A0 150UF 20% 6.3V TANT-POLY CASE-B1S-1
C77AZ 220PF 5% 16V C0G 01005
C77AY 12PF 5% 25V NPO-C0G 0201
C77B0 20UF 20% 6.3V CERM-X5R 0402
C77B1 20UF 20% 6.3V CERM-X5R 0402
C77B2 20UF 20% 6.3V CERM-X5R 0402
C77B3 20UF 20% 6.3V CERM-X5R 0402
C77B4 20UF 20% 6.3V CERM-X5R 0402
C77C0 4UF 20% 6.3V CER-X5R 0201
C77C1 4UF 20% 6.3V CER-X5R 0201
C77C2 4UF 20% 6.3V CER-X5R 0201
C77C3 4UF 20% 6.3V CER-X5R 0201
C77C4 4UF 20% 6.3V CER-X5R 0201
C77C5 4UF 20% 6.3V CER-X5R 0201
C77C6 4UF 20% 6.3V CER-X5R 0201
C77C7 4UF 20% 6.3V CER-X5R 0201
C77C8 4UF 20% 6.3V CER-X5R 0201
C77C9 4UF 20% 6.3V CER-X5R 0201
C77CA 4UF 20% 6.3V CER-X5R 0201
C77CB 4UF 20% 6.3V CER-X5R 0201
C77CC 4UF 20% 6.3V CER-X5R 0201
C77CD 4UF 20% 6.3V CER-X5R 0201
C77CE 4UF 20% 6.3V CER-X5R 0201
C77CF 4UF 20% 6.3V CER-X5R 0201

C13 VDD_BUCK5_4_10
C14 VDD_BUCK5_4_10
G13 VDD_BUCK5_4_10
G14 VDD_BUCK5_4_10
M2 VDD_BUCK6
N2 VDD_BUCK6
P2 VDD_BUCK6
N6 VDD_BUCK12
P6 VDD_BUCK12
L13 VDD_BUCK13
L14 VDD_BUCK13
L1 VDD_MAIN_BUCK6
L9 VDD_MAIN_SOUTH
E8 VDD_MAIN
D2 VDD_MAIN_LDO
E2 VDD_MAIN_LDO

XW7701 SHORT-10L-0.1MM-SM
84 77 69 PPVCC_MAIN
SIMETRA_PPVCC_MAIN_SNS
D8 VDD_MAIN_SNS
SIMETRA_PPVCC_HIGH_SNS
E10 VDD_SNS_SPARE

C77E3 0.1UF 20% 6.3V X5R-CERM 01005
C12 VDD_ANA
D3 VDD_ANA
E7 VDD_ANA
G12 VDD_ANA
K3 VDD_ANA
L8 VDD_ANA
L12 VDD_ANA
M6 VDD_ANA
D5 VDD_DIG
D10 VDD_DIG
J3 VDD_DIG
66 PP1V5_SIMETRA_LDO_INT J10 VDD_DIG

D9 VDD_BOOST
84 71 69 65 PPVCC_HIGH B2 VDD_BOOST_LDO
C2 VDD_BOOST_LDO
XW7702 SHORT-10L-0.1MM-SM MAKE_BASE=TRUE
84 71 69 65 PPVCC_HIGH
SIMETRA_PPVCC_HIGH_SNS E9 VDD_BOOST_SNS
C83A3 4UF 20% 6.3V CER-X5R 0201

66 SIMETRA_BSTLQ_FB
C77E2 0.1UF 20% 10V X5R 01005
D4 VDD_HI_INT1
L4 VDD_HI_INT2
L7 VDD_HI_INT3
M10 VDD_HI_INT4
J11 VDD_HI_INT5
A11 VDD_HI_INT6
C9 VDD_HI_INT7

84 69 PP1V25_S2 G10 VDDIO_1V2
C77E0 0.1UF 10% 6.3V CERM-X5R 0201
69 44 41 21 84 74 72 PP1V8_S2 H10 VDDIO_BUCK3
C77E1 0.1UF 10% 6.3V CERM-X5R 0201
K6 VPP

R7770 102S00068 5.1 5% 1/2W TK 0805
84 18 17 PP2V63_NAND
CRITICAL
R7771 102S00068 5.1 5% 1/2W TK 0805
PP2V63_NAND_DISCH_QD
CRITICAL
VOLTAGE=2.63V
NAND S1 DISCHARGE CKT
DISABLE IN ACT, S2, AND OFF
1.8V DRIVE

CRITICAL
376S00205
Q7772
DMN1017UCP3
X3-DSN1010-3
R7772 1K 1% 1/20W MF 201
67 GPIO_PMU_TO_NAND_DISCH_EN_1V8
NAND_DISCH_QG
C7772 1.0UF 20% 6.3V X5R 0201-1

65 PP2V63_NAND_DISCH_QD TP7700
65 NAND_DISCH_QG TP7701

BUCK4_LX0 F14 BUCK4_LX0 APN: 152S01283
L7710 1.0UH-20%-4A-0.034OHM PIKD20161B
BUCK4_LX1 D13 BUCK4_LX1 APN: 152S00204
BUCK4_LX1 D14
L7711 0.22UH-20%-6.7A-0.023OHM PIKA20121T-SM
BUCK4_FB F11 BUCK4_FB
XW7710 SHORT-10L-0.1MM-SM PLACE_NEAR=U0600:10MM
BUCK4_VSS_FB F12
C7710 15UF 20% 4V CERM 0402
C7711 15UF 20% 4V CERM 0402
C7712 15UF 20% 4V CERM 0402
C7713 15UF 20% 4V CERM 0402
C7714 15UF 20% 4V CERM 0402
C7715 15UF 20% 4V CERM 0402
C771Z 220PF 5% 16V C0G 01005
C7716 15UF 20% 4V CERM 0402
C7717 15UF 20% 4V CERM 0402
C7718 15UF 20% 4V CERM 0402
C7719 15UF 20% 4V CERM 0402
C771A 15UF 20% 4V CERM 0402
C771B 15UF 20% 4V CERM 0402
PP1V06_S2
11 84
PP1V06_S2 80 84

BUCK5_LX_0 H13 BUCK5_LX0 APN: 152S01263
L7720 0.47UH-20%-4A-0.024OHM PIKD20121B-SM
BUCK5_LX_1 H14
XW7720 SHORT-10L-0.1MM-SM
BUCK5_FB H11 BUCK5_FB
BUCK5_VSS_FB H12
C7720 15UF 20% 4V CERM 0402
C7721 15UF 20% 4V CERM 0402
C7722 15UF 20% 4V CERM 0402
C7723 15UF 20% 4V CERM 0402
C7724 15UF 20% 4V CERM 0402
C7725 15UF 20% 4V CERM 0402
C7726 15UF 20% 4V CERM 0402
C772Z 220PF 5% 16V C0G 01005
PPVDD_S1_SRAM
14 84
PPVDD_S1_SRAM 80 82 84

BUCK6_LX_0 M3 BUCK6_LX0 152S01325
L7730 0.47UH-20%-6.9A-0.022OHM MEMK2520-SM
BUCK6_LX_1 N3
BUCK6_LX_2 P3
XW7730 SHORT-10L-0.1MM-SM
BUCK6_FB L3 BUCK6_FB
BUCK6_VSS_FB K2
C7730 20UF 20% 6.3V CERM-X5R 0402
C7731 20UF 20% 6.3V CERM-X5R 0402
C7732 20UF 20% 6.3V CERM-X5R 0402
C7733 20UF 20% 6.3V CERM-X5R 0402
C7734 20UF 20% 6.3V CERM-X5R 0402
C7735 20UF 20% 6.3V CERM-X5R 0402
C7736 20UF 20% 6.3V CERM-X5R 0402
C773Z 220PF 5% 16V C0G 01005
C7737 20UF 20% 6.3V CERM-X5R 0402
C7738 20UF 20% 6.3V CERM-X5R 0402
C7739 20UF 20% 6.3V CERM-X5R 0402
C773A 20UF 20% 6.3V CERM-X5R 0402
C773B 20UF 20% 6.3V CERM-X5R 0402
PP2V63_NAND 80 84
BUCK6_VOUT_0 M1
BUCK6_VOUT_1 N1
BUCK6_VOUT_2 P1

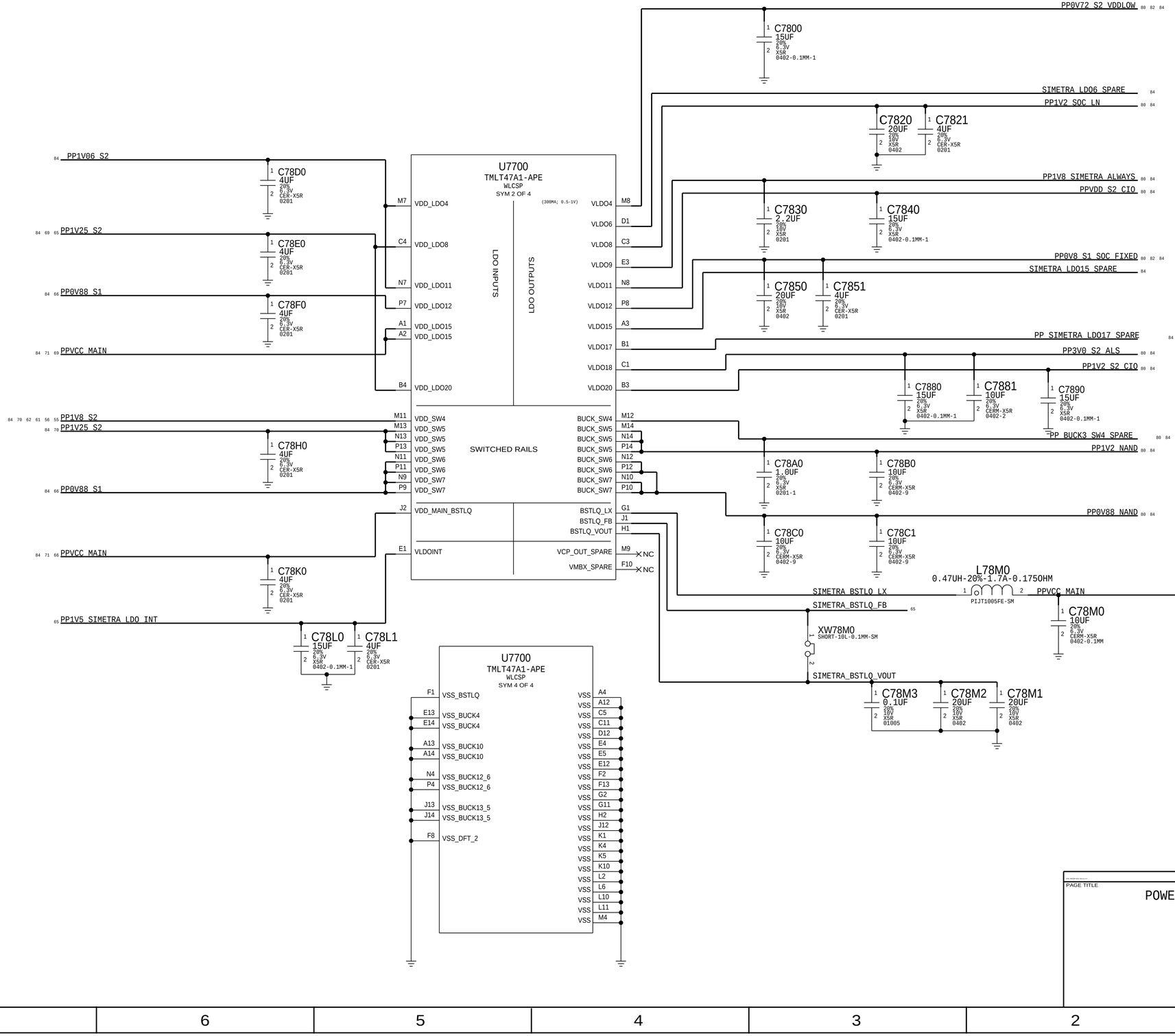
BUCK10_LX_0 B13 BUCK10_LX0 APN: 152S01263
L7740 0.47UH-20%-4A-0.024OHM PIKD20121B-SM
BUCK10_LX_1 B14
XW7740 SHORT-10L-0.1MM-SM PLACE_NEAR=U0600:10MM
BUCK10_FB B11 BUCK10_FB
BUCK10_VSS_FB B12
C7740 15UF 20% 4V CERM 0402
C7741 15UF 20% 4V CERM 0402
C7742 15UF 20% 4V CERM 0402
C7743 15UF 20% 4V CERM 0402
C7744 15UF 20% 4V CERM 0402
C7745 15UF 20% 4V CERM 0402
C774Z 220PF 5% 16V C0G 01005
PPVDD_S1_QL
11 84
PPVDD_S1_QL 80 84

BUCK12_LX_0 N5 BUCK12_LX0 APN: 152S01263
L7750 0.47UH-20%-4A-0.024OHM PIKD20121B-SM
BUCK12_LX_1 P5
XW7750 SHORT-10L-0.1MM-SM
BUCK12_FB L5 BUCK12_FB
BUCK12_VSS_FB M5
C7750 15UF 20% 4V CERM 0402
C7751 15UF 20% 4V CERM 0402
C7752 15UF 20% 4V CERM 0402
C7753 15UF 20% 4V CERM 0402
C7754 15UF 20% 4V CERM 0402
C775Z 220PF 5% 16V C0G 01005
PP0V88_S1
80 84

BUCK13_LX_0 K13 BUCK13_LX0 APN: 152S01263
L7760 0.47UH-20%-4A-0.024OHM PIKD20121B-SM
BUCK13_LX_1 K14
XW7760 SHORT-10L-0.1MM-SM PLACE_NEAR=C78E0:1MM
BUCK13_FB K11 BUCK13_FB
BUCK13_VSS_FB K12
C7760 15UF 20% 4V CERM 0402
C7761 15UF 20% 4V CERM 0402
C7762 15UF 20% 4V CERM 0402
C776Z 220PF 5% 16V C0G 01005
PP1V25_S2
66 69 84
PP1V25_S2 80 84

BOM_COST_GROUP=POWER
PAGE TITLE
POWER: SIMETRA (1/3)

SIMETRA PMU (2/3)



BOM COST GROUP=POWER

PAGE TITLE

POWER: SIMETRA (2/3)

SIMETRA PMU (3/3)

NEAR FRONT CAM B2B
CRITICAL
R7921
10KOHM-1%-0.31MA
0201
C7921
100PF
5%
25V
C0G-CERM
01005
XW7921
SHORT-10L-0.1MM-SM
BOARD_TEMP9_N

CRITICAL
R7920
3.92K
0.1%
1/20W
MF
0201-2
C7920
100PF
5%
25V
C0G-CERM
01005

C7900
2.2UF
20%
10V
X5R
0201
C7901
0.22UF
20%
10V
CERM-X5R
0201

NEAR C3 PENINSULA
CRITICAL
R7922
10KOHM-1%-0.31MA
0201
C7922
100PF
5%
25V
C0G-CERM
01005
XW7922
SHORT-10L-0.1MM-SM
BOARD_TEMP10_N

R7910
1M
5%
1/20W
MF
201

NEAR SIMETRA
CRITICAL
R7923
10KOHM-1%-0.31MA
0201
C7923
100PF
5%
25V
C0G-CERM
01005
XW7923
SHORT-10L-0.1MM-SM
BOARD_TEMP11_N

NEAR WIFI
CRITICAL
R7924
10KOHM-1%-0.31MA
0201
C7924
100PF
5%
25V
C0G-CERM
01005
XW7924
SHORT-10L-0.1MM-SM
BOARD_TEMP12_N

NEAR NAND2
CRITICAL
R7925
10KOHM-1%-0.31MA
0201
C7925
100PF
5%
25V
C0G-CERM
01005
XW7925
SHORT-10L-0.1MM-SM
BOARD_TEMP13_N

72 10 SWD_PERIPHERAL_SWCLK — SWD_PERIPHERAL_SWCLK 67
72 10 SWD_PMU_SWDIO (MAKE_BASE=TRUE) — SWD_PMU_SWDIO (MAKE_BASE=TRUE) 67

U7700
TMLT47A1-APE
WLCSP
SYM 3 OF 4

		NC	D7	IREF	
		SIMETRA_VREF	D6	VREF	
		SIMETRA_VREF_ADC	C7	VREF_ADC	
			C6	VSS_REF	
		SIMETRA_TCAL	A7	TCAL	
		BOARD_TEMP9_P	A6	TDEV1	
		BOARD_TEMP10_P	A5	TDEV2	TDEV
		BOARD_TEMP11_P	B8	TDEV3	
		BOARD_TEMP12_P	B7	TDEV4	
		BOARD_TEMP13_P	B6	TDEV5	
80	SIMETRA_ADC_IN		E6	ADC_IN	
		NC	B10	AMUX_A<0>	
		NC	A10	AMUX_A<1>	
		NC	A9	AMUX_A<2>	
		NC	A8	AMUX_A<3>	
80	TPT_SIMETRA_AMUX_AY		C8	AMUX_AY	AMUX
		NC	D11	AMUX_B<0>	
		NC	E11	AMUX_B<1>	
		NC	B9	AMUX_B<2>	
		NC	C10	AMUX_B<3>	
80	TPT_SIMETRA_AMUX_BY		B5	AMUX_BY	
		NC	J4	RESET_IN	RESET
			H8	DFT_CTRL_0	
67	SWD_PERIPHERAL_SWCLK		J8	DFT_CTRL_1	
			F9	EXT32K_EN	CLOCK
		NC_SIMETRA_EXT_32K_IN	K9	EXT32K_IN	
80	SIMETRA_FORCE_SYNC		G9	FORCE_SYNC	

			H7	GPIO1	NC
			K8	GPIO2	NC
		SWD_PMU_SWDIO 67	K7	GPIO3	
			J7	GPIO4	NC
			G7	GPIO5	NC
			F7	GPIO6	NC
			F6	GPIO7	NC
		NC_GPIO_SIMETRA_TO_BBPMU_ON	H6	GPIO8	
		GPIO_SIMETRA_TO_BB_BOOT_CFG1 OUT 78	G6	GPIO9	GPIO
		GPIO_SIMETRA_TO_BB_BOOT_CFG2 OUT 78	J6	GPIO10	
		NC_GPIO_SIMETRA_TO_WLAN_REG_ON	F5	GPIO11	
			H5	GPIO12	NC
		NC_SIMETRA_GPIO13	J5	GPIO13	
		GPIO_SIMETRA_IRQ_L 82	G5	GPIO14	
			F4	GPIO15	NC
		GPIO_PP2V63_S1_DISCH_EN_R	F3	GPIO16	
		NUB_SPMI1_SIMETRA_SCLK 10 67	J9	SPMI_SCLK	SPMI
		NUB_SPMI1_SIMETRA_SDATA 10 67	H9	SPMI_SDATA	
		SGPIO_SCLK_1V8 IN 72 82	H3	SGPIO_SCLK	
		SIMETRA_SGPIO_SDATA_1V8	G3	SGPIO_SDATA	
		SIMETRA_UVWARN_L	G8	UVWARN*	
		SCRASH_L_1V8 BI 72 80	G4	SCRASH*	
		SGPIO_READY_REQ_1V8 72 82	H4	SGPIO_READY_REQ	

R7914
0.00
0%
1/32W
MF
01005
GPIO_PMU_TO_NAND_DISCH_EN_1V8 OUT 65

NOSTUFF
R7915
0.00
0%
1/32W
MF
01005
72 IN GPIO_SERA_TO_NAND_DISCH_EN_1V8

R7901
33
5%
1/32W
MF
01005
82 72 BI SGPIO_SDATA_1V8

PP1V2_IO 5 6 7 9 24 44 76 84

R7913
47.0K
5%
1/32W
MF
01005

TP7904
A

NOTES:
UVWARN - VCC_MAIN UVWARN0 (2.95V) "PRE-UVLO"

R7912
0.00
0%
1/32W
MF
01005

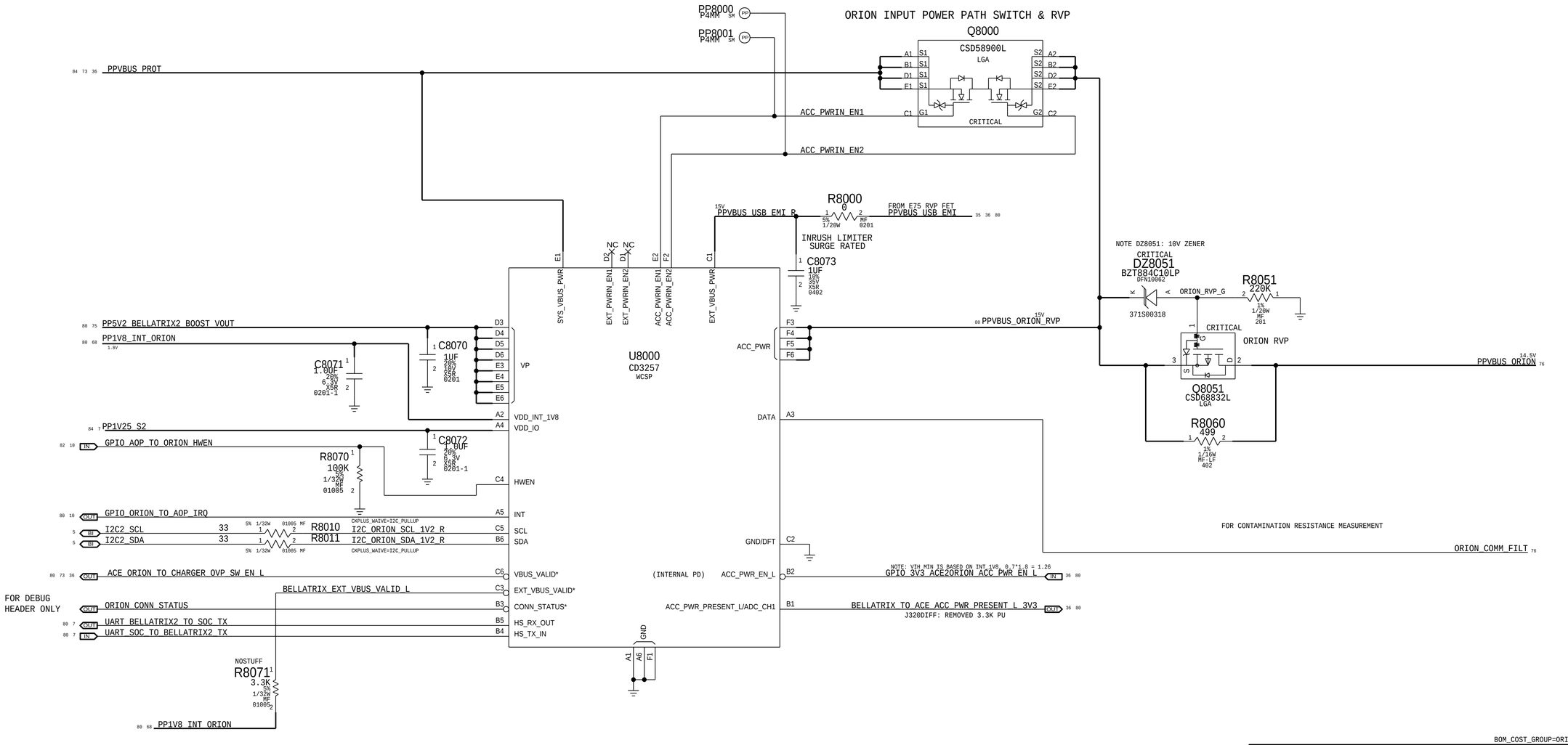
67 10 NUB_SPMI1_SIMETRA_SDATA
67 10 NUB_SPMI1_SIMETRA_SCLK

NOSTUFF
R7932
1.00M
5%
1/32W
MF
01005

NOSTUFF
R7931
1.00M
5%
1/32W
MF
01005

BOM_COST_GROUP=POWER

PAGE TITLE
POWER: SIMETRA (3/3)



BOM_COST_GROUP=ORION

PAGE TITLE

ORION CONNECTOR & POWER PATH

SERA BUCKS (1/4)

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S01317	152S01268		L8101 ETC.	ALTERNATE IND

PPVCC_MAIN

C81A0 150UF 20% 6.3V TANT-POLY CASE-B1S-1
C81A1 150UF 20% 6.3V TANT-POLY CASE-B1S-1
C81A3 20UF 20% 6.3V CERM-X5R 0402-0.1MM
C81A4 20UF 20% 6.3V CERM-X5R 0402-0.1MM
C81A5 20UF 20% 6.3V CERM-X5R 0402-0.1MM
C81AZ 220PF 5% 16V C0G 01005
C81AY 12PF 5% 25V NP0-C0G 0201

C81B0 C81B1 C81B2 C81B3 C81B4 C81B5 C81B6 C81B7 — 4UF 20% 6.3V CER-X5R 0201

C81B8 C81B9 C81BA C81BB C81BC C81BD C81BE C81BF C81BG — 4UF 20% 6.3V CER-X5R 0201

C81C0 C81C1 C81C2 C81C3 C81C4 C81C5 C81C6 C81C7 — 4UF 20% 6.3V CER-X5R 0201

C81C8 C81C9 C81CA C81CB C81CC C81CD C81CE C81CF — 4UF 20% 6.3V CER-X5R 0201

C81CG C81CH C81CI C81CJ C81D0 C81D1 C81D2 C81D3 — 4UF 20% 6.3V CER-X5R 0201

C81D4 C81D5 C81D6 C81D7 C81D8 C81D9 C81DA C81DB — 4UF 20% 6.3V CER-X5R 0201

C81DC C81DD C81DE C81DF C81DG C81DH C81DI C81DJ — 4UF 20% 6.3V CER-X5R 0201

OMIT_TABLE
U8100
TMLT46B0-APG
WLCSP
SYM 1 OF 6

VOLTAGE INPUTS

L1	VDD_BUCK0_2_7_11
L2	VDD_BUCK0_2_7_11
L3	VDD_BUCK0_2_7_11
L4	VDD_BUCK0_2_7_11
R1	VDD_BUCK0_2_7_11
R2	VDD_BUCK0_2_7_11
R3	VDD_BUCK0_2_7_11
R4	VDD_BUCK0_2_7_11
W1	VDD_BUCK0_2_7_11
W2	VDD_BUCK0_2_7_11
W3	VDD_BUCK0_2_7_11
W4	VDD_BUCK0_2_7_11
W7	VDD_BUCK0_2_7_11
W11	VDD_BUCK0_2_7_11
W15	VDD_BUCK0_2_7_11
W19	VDD_BUCK0_2_7_11
Y7	VDD_BUCK0_2_7_11
Y11	VDD_BUCK0_2_7_11
Y15	VDD_BUCK0_2_7_11
Y19	VDD_BUCK0_2_7_11
A7	VDD_BUCK1_8_9
A11	VDD_BUCK1_8_9
B1	VDD_BUCK1_8_9
B2	VDD_BUCK1_8_9
B3	VDD_BUCK1_8_9
B4	VDD_BUCK1_8_9
B7	VDD_BUCK1_8_9
B11	VDD_BUCK1_8_9
F1	VDD_BUCK1_8_9
F2	VDD_BUCK1_8_9
F3	VDD_BUCK1_8_9
F4	VDD_BUCK1_8_9
K1	VDD_BUCK1_8_9
K2	VDD_BUCK1_8_9
K3	VDD_BUCK1_8_9
K4	VDD_BUCK1_8_9
A15	VDD_BUCK3_14
B15	VDD_BUCK3_14
K19	VDD_LDO2
L20	VDD_LDO3_14
K21	VDD_LDO5
J19	VDD_LDO19
C18	VDD_MAIN_WBOOST
F20	VDD_MAIN_WBOOST
F15	VDD_MAIN_WIDAC
K11	VDD_MAIN
V17	VDD_MAIN1
E19	VDD_MAIN_DRV

SENSE

K10	VDD_MAIN_SNS
F19	VDD_MAIN_SNS_WLED
H8	VDD_BOOST_SNS
R16	VDDIO_1V2
N16	VDDIO_BUCK3
N20	VDD_RTC_ALT
K6	VPP

PPVCC_MAIN
PP1V25_S2
PPVCC_HIGH
PP1V5_SERA_LDO_INT
PPVCC_MAIN
C81F0 4UF 20% 6.3V CER-X5R 0201
XW8101 SHORT-10L-0.1MM-SM
PPVCC_MAIN — SERA_PPVCC_MAIN_SNS
PPVCC_HIGH
PP1V25_S2
C81E0 0.1UF 10% 6.3V CERM-X5R 0201
PP1V8_S2
C81E1 0.1UF 10% 6.3V CERM-X5R 0201
PPVCC_MAIN

VOLTAGE OUTPUTS

BUCK0_LX0	W6	BUCK0_LX0
BUCK0_LX0	Y6	
BUCK0_LX1	V1	
BUCK0_LX1	V2	
BUCK0_LX1	V3	
BUCK0_LX1	V4	BUCK0_LX1
BUCK0_LX2	P1	
BUCK0_LX2	P2	
BUCK0_LX2	P3	
BUCK0_LX2	P4	BUCK0_LX3
BUCK0_LX3	T1	
BUCK0_LX3	T2	
BUCK0_LX3	T3	
BUCK0_LX3	T4	BUCK0_LX2
BUCK0_LX4	M1	BUCK0_LX4
BUCK0_LX4	M2	
BUCK0_LX4	M3	
BUCK0_LX4	M4	
BUCK0_FB	U6	BUCK0_FB
BUCK0_VSS_FB	T6	
BUCK1_LX0	A6	BUCK1_LX0
BUCK1_LX0	B6	
BUCK1_LX1	C1	
BUCK1_LX1	C2	
BUCK1_LX1	C3	
BUCK1_LX1	C4	BUCK1_LX1
BUCK1_LX2	G1	
BUCK1_LX2	G2	
BUCK1_LX2	G3	
BUCK1_LX2	G4	BUCK1_LX2
BUCK1_LX3	E1	BUCK1_LX3
BUCK1_LX3	E2	
BUCK1_LX3	E3	
BUCK1_LX3	E4	
BUCK1_LX4	J1	BUCK1_LX4
BUCK1_LX4	J2	
BUCK1_LX4	J3	
BUCK1_LX4	J4	
BUCK1_FB	D6	BUCK1_FB
BUCK1_VSS_FB	E6	
BUCK2_LX0	Y20	BUCK2_LX0
BUCK2_LX1	W18	
BUCK2_LX1	Y18	BUCK2_LX1
BUCK2_LX2	W16	
BUCK2_LX2	Y16	BUCK2_LX2
BUCK2_FB	V20	BUCK2_FB
BUCK2_VSS_FB	U20	

PACK_IGNORE=TRUE
PACK_OPTION=J522,J523
L8100 1.0UH-20%-4A-0.038OHM PIKD20161T-SM
L8100 1.0UH-20%-4A-0.034OHM PIKD20161B
152S01189
152S01283
PACK_OPTION=J517,J518

0.1UH-20%-10.3A-0.01OHM
L8101 — 152S01268 — PCCE20161B-SM
L8102 — 152S01268 — PCCE20161B-SM
XW8100 SHORT-10L-0.1MM-SM

(24.8A; 0.32-1.2V,TYP 1.06V)
PPVDD_CPU
C8100 C8101 C8102 C8103 C8104 C8105 — 15UF 20% 4V CERM 0402
C8106 C8107 C8108 C8109 C810A C810B — 15UF 20% 4V CERM 0402
C810Z 220PF 5% 16V C0G 01005

152S01283
L8110 1.0UH-20%-4A-0.034OHM PIKD20161B
(24.8A; 0.32-1.2V,TYP 1.06V)
PPVDD_GPU
C8110 C8111 C8112 C8113 C8114 C8115 — 15UF 20% 4V CERM 0402

152S01268
0.1UH-20%-10.3A-0.01OHM
L8111 — BUCK1_LX3 / BUCK1_LX1 — PCCE20161B-SM
L8112 — BUCK1_LX4 / BUCK1_LX2 — PCCE20161B-SM
C8116 C8117 C8118 C8119 C811A C811B — 15UF 20% 4V CERM 0402
C811Z 220PF 5% 16V C0G 01005

XW8110 SHORT-10L-0.1MM-SM

152S01189
1.0UH-20%-4A-0.038OHM PIKD20161T-SM
L8120 1.0UH-20%-4A-0.034OHM PIKD20161B
152S01283
PACK_IGNORE=TRUE
PACK_OPTION=J522,J523
PACK_OPTION=J517,J518

(7.3A; 0.32-1.2V,TYP 0.857V)
PPVDD_S1_SOC
C8120 C8121 C8122 C8123 — 15UF 20% 4V CERM 0402

L8121 — 152S01316 — 0.1UH-20%-8.7A-0.0125OHM PCCE201611-SM
C8124 C8125 C8126 C8127 — 15UF 20% 4V CERM 0402
C812Z 220PF 5% 16V C0G 01005
C812X 4UF 20% 6.3V CER-X5R 0201
C812Y 4UF 20% 6.3V CER-X5R 0201

XW8120 SHORT-10L-0.1MM-SM

BOM_COST_GROUP=POWER

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S01305	152S01316		L8121	ALTERNATE IND

PAGE TITLE

POWER: SERA (1/4)

SERA BUCKS (2/4)

U8100
TMLT46B0-APG
WLCSP
SYM 6 OF 6

N1	VSS_BUCK0	VSS	A18
N2	VSS_BUCK0	VSS	B8
N3	VSS_BUCK0	VSS	B18
N4	VSS_BUCK0	VSS	C5
U1	VSS_BUCK0	VSS	C6
U2	VSS_BUCK0	VSS	C9
U3	VSS_BUCK0	VSS	C10
U4	VSS_BUCK0	VSS	C13
W5	VSS_BUCK0	VSS	C17
Y1	VSS_BUCK0	VSS	D5
Y2	VSS_BUCK0	VSS	D7
Y3	VSS_BUCK0	VSS	D10
Y4	VSS_BUCK0	VSS	D11
Y5	VSS_BUCK0	VSS	D15
		VSS	D18
A1	VSS_BUCK1	VSS	D19
A2	VSS_BUCK1	VSS	D20
A3	VSS_BUCK1	VSS	E5
A4	VSS_BUCK1	VSS	E7
A5	VSS_BUCK1	VSS	E15
B5	VSS_BUCK1	VSS	E17
D1	VSS_BUCK1	VSS	E20
D2	VSS_BUCK1	VSS	F6
D3	VSS_BUCK1	VSS	F16
D4	VSS_BUCK1	VSS	F17
H1	VSS_BUCK1	VSS	F21
H2	VSS_BUCK1	VSS	F22
H3	VSS_BUCK1	VSS	G5
H4	VSS_BUCK1	VSS	G6
		VSS	G15
W17	VSS_BUCK2	VSS	G18
W21	VSS_BUCK2	VSS	H5
W22	VSS_BUCK2	VSS	H6
Y17	VSS_BUCK2	VSS	H15
Y21	VSS_BUCK2	VSS	H18
Y22	VSS_BUCK2	VSS	J5
		VSS	J6
A17	VSS_BUCK3	VSS	J13
B17	VSS_BUCK3	VSS	J17
		VSS	J18
W13	VSS_BUCK7	VSS	K15
Y13	VSS_BUCK7	VSS	K18
		VSS	L6
A9	VSS_BUCK8	VSS	L7
B9	VSS_BUCK8	VSS	L8
		VSS	L9
A13	VSS_BUCK9_14	VSS	L10
B13	VSS_BUCK9_14	VSS	L11
		VSS	L12
W9	VSS_BUCK11	VSS	L15
Y9	VSS_BUCK11	VSS	M5
		VSS	N5
V22	VSS_BSTLQ	VSS	N18
		VSS	N22
A21	VSS_WLED_LP	VSS	P5
A22	VSS_WLED_LP	VSS	P7
B21	VSS_WLED_LP	VSS	R18
B22	VSS_WLED_LP	VSS	T5
		VSS	T18
A20	VSS_WLED_HP1	VSS	U5
B20	VSS_WLED_HP1	VSS	U19
C20	VSS_WLED_HP1	VSS	V5
		VSS	V6
D21	VSS_WLED_HP2	VSS	V9
D22	VSS_WLED_HP2	VSS	V10
		VSS	V13
J11	VSS_REF	VSS	V14
		VSS	V16
K7	VSS_DFT_2	VSS	V18
		VSS	V21
		VSS	W8
		VSS	W12
		VSS	W20

TP8200 A (P:1A) — SERA_ADC_IN — K9 ADC_IN

R8203 1M 5% 1/20W MF 201 — PP1V5_SERA_LDO_INT (71 69)

C8202 0.1UF 20% 6.3V X5R-CERM 01005

C8200 2.2UF 20% 10V X5R 0201

R8201 1.00K 1% 1/32W MF 01005 — PMU_VCC_MAIN_SNS_R_P (80 73)

NO_XNET_CONNECTION=1

C8201 0.22UF 10% 6.3V CER-X5R 01005

R8202 1.00K 1% 1/32W MF 01005 — PMU_VCC_MAIN_SNS_R_N (80 73)

PMU_VCC_MAIN_SNS_P — J10 VBAT

PMU_VCC_MAIN_SNS_N — J9 IBAT

NC — J8 IREF

U8100
TMLT46B0-APG
WLCSP
SYM 2 OF 6

C7	VDD_ANA	
C11	VDD_ANA	
C15	VDD_ANA	
F5	VDD_ANA	
F18	VDD_ANA	
J15	VDD_ANA	
K5	VDD_ANA	
K8	VDD_ANA	
L5	VDD_ANA	
P18	VDD_ANA	
R5	VDD_ANA	
V7	VDD_ANA	
V11	VDD_ANA	
V15	VDD_ANA	
V19	VDD_ANA	
D9	VDD_DIG	
E16	VDD_DIG	
J7	VDD_DIG	
M18	VDD_DIG	
P9	VDD_DIG	
R17	VDD_DIG	
K12	SERA_VREF	VREF

BUCK OUTPUTS

SWITCHED RAILS

R21	VDD_SW1	BUCK_SW1	P21
R22	VDD_SW1	BUCK_SW1	P22
T20	VDD_SW2	BUCK_SW2	T19
R19	VDD_SW3	BUCK_SW3	P19
R20	VDD_SW3	BUCK_SW3	P20

84 66 62 61 56 55 PP1V8_S2 — C82R0 2.2UF 20% 10V X5R 0201

84 66 PP1V25_S2 — C82R1 2.2UF 20% 10V X5R 0201

APN:152S01263
L8210 0.47UH-20%-4A-0.024OHM — PIKD20121B-SM
DIDT=TRUE SWITCH_NODE=TRUE

BUCK3_LX A16 / BUCK3_LX B16 — BUCK3_LX0 — XW8210 SHORT-10L-0.1MM-SM — BUCK3_FB D16

BUCK3_VSS_FB C16

C8210–C8217 15UF 20% 4V CERM 0402; C821Z 220PF 5% 16V C0G 01005 — PP1V8_S2 (80 84)

L8220 1.0UH-20%-4A-0.038OHM — PIKD20161T-SM
152S01189 — PACK_IGNORE=TRUE PACK_OPTION=J522,J523

BUCK7_LX0 Y12 — BUCK7_LX0 — L8220 1.0UH-20%-4A-0.034OHM — PIKD20161B
152S01283 — PACK_OPTION=J517,J518

C8220–C8227 15UF 20% 4V CERM 0402; C822Z 220PF 5% 16V C0G 01005; C822Y 4UF 20% 6.3V CER-X5R 0201; C822X 4UF 20% 6.3V CER-X5R 0201 — PPVDD_CPU_SRAM (80 82 84)

NOSTUFF

BUCK7_LX1 W14 / BUCK7_LX1 Y14 — BUCK7_LX1 — L8221 0.22UH-20%-6.7A-0.023OHM — PINA20121T-SM
APN:152S00204

BUCK7_FB U12 — BUCK7_FB — XW8220 SHORT-10L-0.1MM-SM — PPVDD_CPU_SRAM (14 84)

BUCK7_VSS_FB V12

APN:152S01283
L8230 1.0UH-20%-4A-0.034OHM — PIKD20161B

BUCK8_LX0 A8 — BUCK8_LX0

C8230–C8235 15UF 20% 4V CERM 0402; C823Z 220PF 5% 16V C0G 01005; C8299 4UF 20% 6.3V CER-X5R 0201; C8298 4UF 20% 6.3V CER-X5R 0201; C829Y 4UF 20% 6.3V CER-X5R 0201; C829X 4UF 20% 6.3V CER-X5R 0201 — PPVDD_S1_DISP (80 84)

APN:152S00204
L8231 0.22UH-20%-6.7A-0.023OHM — PINA20121T-SM

BUCK8_LX1 A10 / BUCK8_LX1 B10 — BUCK8_LX1

BUCK8_FB D8 — BUCK8_FB — XW8230 SHORT-10L-0.1MM-SM — PPVDD_S1_DISP (13 84)

BUCK8_VSS_FB C8

APN:152S01263
L8240 0.47UH-20%-4A-0.024OHM — PIKD20121B-SM

BUCK9_LX A12 / BUCK9_LX B12 — BUCK9_LX0

C8242 15UF 20% 4V CERM 0402; C8243 15UF 20% 4V CERM 0402; C8244 15UF 20% 4V CERM 0402; C824Z 220PF 5% 16V C0G 01005 — PPVDD_S1_DCS (80 84)

NOSTUFF NOSTUFF

BUCK9_FB D12 — BUCK9_FB — XW8240 SHORT-10L-0.1MM-SM PLACE_NEAR=U0600:10MM — PPVDD_S1_DCS (14 84)

BUCK9_VSS_FB C12

C8240 15UF 20% 4V CERM 0402; C8241 15UF 20% 4V CERM 0402

L8250 1.0UH-20%-4A-0.034OHM — PIKD20161B

BUCK11_LX0 Y8 — BUCK11_LX0 — 152S01283 — PACK_OPTION=J517,J518

C8250–C8257 15UF 20% 4V CERM 0402; C825Z 220PF 5% 16V C0G 01005; C825Y 4UF 20% 6.3V CER-X5R 0201; C825X 4UF 20% 6.3V CER-X5R 0201 — PPVDD_ECPU (80 82 84)

L8250 1.0UH-20%-4A-0.038OHM — PIKD20161T-SM
152S01189 — PACK_IGNORE=TRUE PACK_OPTION=J522,J523

NOSTUFF

BUCK11_LX1 W10 / BUCK11_LX1 Y10

BUCK11_FB U8

BUCK11_VSS_FB V8

L8251 0.22UH-20%-6.7A-0.023OHM — PINA20121T-SM
BUCK11_LX1 — 152S00204

XW8250 SHORT-10L-0.1MM-SM
BUCK11_FB — PPVDD_ECPU (13 84)

BUCK14_LX A14 / BUCK14_LX B14 — NC

BUCK14_FB D14 — NC

BUCK14_VSS_FB C14

PP1V8_SW1_IO (77 80 84) — C82S0 1.0UF 20% 6.3V X5R 0201-1

PP1V8_S2_TOUCH (80 84) — C82S1 1.0UF 20% 6.3V X5R 0201-1

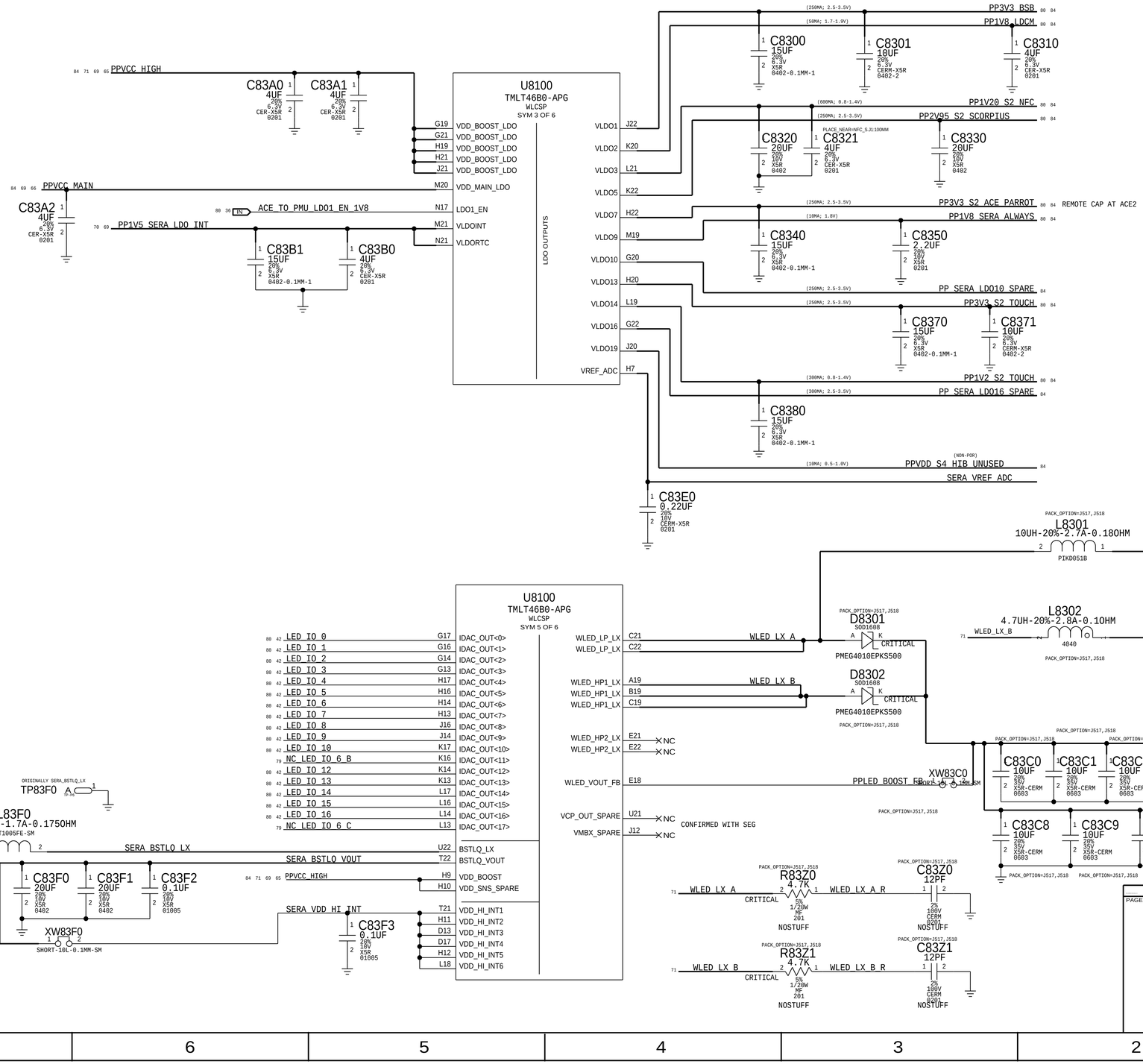
PP1V2_IO (80 84) — C82S2 1.0UF 20% 6.3V X5R 0201-1

BOM_COST_GROUP=POWER

PAGE TITLE

POWER: SERA (2/4)

SERA LDO/WLED (3/4)



SERA GPIOS (4/4)

NEAR BATT CONN
CRITICAL
R8422 0201 10KOHM-1%-0.31MA
C8422 100PF 5% 25V C0G-CERM 01005
XW8422 SHORT-10L-0.1MM-SM
BOARD_TEMP2_N

NEAR POTOMAC
CRITICAL
R8423 0201 10KOHM-1%-0.31MA
C8423 100PF 5% 25V C0G-CERM 01005
XW8423 SHORT-10L-0.1MM-SM
BOARD_TEMP3_N

NEAR SERA
CRITICAL
R8424 0201 10KOHM-1%-0.31MA
C8424 100PF 5% 25V C0G-CERM 01005
XW8424 SHORT-10L-0.1MM-SM
BOARD_TEMP4_N

NEAR ORION
CRITICAL
R8425 0201 10KOHM-1%-0.31MA
C8425 100PF 5% 25V C0G-CERM 01005
XW8425 SHORT-10L-0.1MM-SM
BOARD_TEMP5_N

NEAR IO FLEX
CRITICAL
R8426 0201 10KOHM-1%-0.31MA
C8426 100PF 5% 25V C0G-CERM 01005
XW8426 SHORT-10L-0.1MM-SM
BOARD_TEMP6_N

NEAR EDP B2B
CRITICAL
R8427 0201 10KOHM-1%-0.31MA
C8427 100PF 5% 25V C0G-CERM 01005
XW8427 SHORT-10L-0.1MM-SM
BOARD_TEMP7_N

NEAR SOC
CRITICAL
R8428 0201 10KOHM-1%-0.31MA
C8428 100PF 5% 25V C0G-CERM 01005
XW8428 SHORT-10L-0.1MM-SM
BOARD_TEMP8_N

Y8400 32.768KHZ-20PPM-12.5PF 1.6X1.0-SM
131S0853 C8400 20PF 5% 25V C0G 0201
131S0853 C8401 20PF 5% 25V C0G 0201
197S00291
PMU_XTAL 72
PMU_EXTAL 72

CAPS INCREASED FROM 18PF TO 22PF TO BETTER TARGET 32768HZ
NEW XTAL...NEED TO VALIDATE FREQUENCY

67 10 SWD_PERIPHERAL_SWCLK — SWD_PERIPHERAL_SWCLK 72
MAKE_BASE=TRUE
67 10 SWD_PMU_SWDIO — SWD_PMU_SWDIO 72
MAKE_BASE=TRUE

78 PA_NTC_P

BOARD_TEMP2_P
BOARD_TEMP3_P
BOARD_TEMP4_P
BOARD_TEMP5_P
BOARD_TEMP6_P
BOARD_TEMP7_P
BOARD_TEMP8_P

C8429 100PF 5% 25V C0G-CERM 01005
R8429 3.92K 0.1% 1/20W MF 0201-2 CRITICAL
SERA_TCAL

U8100
TMLT46B0-APG
WLCSP
SYM 4 OF 6

		TDEV1	E8	
		TDEV2	F9	
		TDEV3	F8	
		TDEV4	F7	
		TDEV5	G9	
		TDEV6	G10	
		TDEV7	G8	
		TDEV8	G7	
		TCAL	F10	
GPIO1	P16			NC_SERA_GPIO1
GPIO2	T9			GPIO_APANEL_HALL_TO_PMU_IRQ_BUF_L 64
GPIO3	T7			SWD_PMU_SWDIO 72
GPIO4	R11			GPIO_CPANEL_HALL_TO_PMU_IRQ_BUF_L 64
GPIO5	T8			SER_GPIO4_R — R8493 0.00 0% 1/32W MF 01005 — GPIO_POTOMAC_TO_SOC_TO_PMU_IRQ_L 10 73
GPIO6	U7			GPIO_POTOMAC_TO_PMU_WAKE_1V8 73
GPIO7	T11			GPIO_BB_TO_PMU_HOST_WAKE_L IN 78
GPIO8	U10			GPIO_WLAN_TO_PMU_HOST_WAKE IN 78
GPIO9	R12			SERA_FORCE_SYNC
GPIO10	U9			NC_SERA_GPIO10
GPIO11	T12			GPIO_PMU_TO_LCD_PWREN_1V8 42 43 45 80
GPIO12	U11	TDEV	GPIO	GPIO_PMU_TO_POTOMAC_LINCH_EN_1V8
GPIO13	T13			GPIO_PMU_TO_ROTTERDAM_EN OUT 78
GPIO14	U13			GPIO_PMU_TO_SCORPIUS_EXT_DOTARA_EN_1V8 OUT 76 80
GPIO15	M13			GPIO_PMU_TO_ATRANI_EXT_LDO_EN_1V8 OUT 44
GPIO16	M14			NC_SERA_GPIO16
GPIO17	N14			GPIO_PMU_TO_NAND_LOW_BATT_L 17 18 82
GPIO18	R13			GPIO_PMU_TO_SCORPIUS_MCU_NRST_L_1V8 OUT 76 80
GPIO19	U14			GPIO_PMU_TO_LDCM_MUX_SEL0 OUT 54
GPIO20	U15			GPIO_PMU_TO_LDCM_MUX_SEL1 OUT 54
GPIO21	T14			NC
GPIO22	U16			NC_SERA_GPIO22
GPIO23	U17			GPIO_PMU_TO_BBPMU_ON OUT 78
GPIO24	R14			GPIO_PMU_TO_WLAN_REG_ON OUT 47 78
GPIO25	N10			GPIO_SERA_TO_NAND_DISCH_EN_1V8 OUT 67
GPIO26	P8			GPIO_PMU_TO_BBPMU_VBUS_DET 78
GPIO27	P17			NC_SERA_GPIO27

R8400 0.00 0% 1/32W MF 01005
PP1V8_S2 — R8401 10K 5% 1/32W MF 01005 — OUT 73

72 25 IN GPIO_BTN_VOL_DOWN_L_1V8 P10
72 25 IN GPIO_BTN_ONOFF_L_1V8 M6
72 25 IN GPIO_BTN_VOL_UP_L_1V8 N8
NC_GPIO_BTN_4 NO_TEST=1 P11

BUTTON1	P10	BUTTONS	BUTTONO1	N7 GPIO_PMU_TO_SOC_BTN_VOL_DOWN_L 6
BUTTON2	M6		BUTTONO2	N9 GPIO_PMU_TO_SOC_BTN_ONOFF_L 6
BUTTON3	N8		BUTTONO3	M7 GPIO_PMU_TO_SOC_BTN_VOL_UP_L 7
BUTTON4	P11		DBLCLICK_DET	N6 DBL_CLICK_DET 7

5 IN GPIO_SOC_TO_PMU_WDOG N11
80 36 IN GPIO_1V2_ACE2PMU_RESET M10
80 7 SOCHOT1_SOC_TO_PMU_L M9

RESET_IN1	N11	RESET	RESET*	N13 RESET_PMU_TO_SYSTEM_L 6 10 80
RESET_IN2	M10			
RESET_IN3	M9	PMOS OD	FORCE_DFU	T10 GPIO_PMU_TO_SOC_FORCE_DFU — R8402 1.00K 5% 1/32W MF 01005 — GPIO_FORCE_DFU 6 36 72 77 80
VBUS_DET	R7		FAULT_OUT*	M12 NC
BRICK_ID1	E9		SCRASH*	N12 SCRASH_L_1V8_R — PLACE NEAR SIMETRA SIDE — R8403 0.00 0% 1/32W MF 01005 — SCRASH_L_1V8 BI 67 80
BRICK_ID2	E10		SGPIO_READY_REQ	M15 SGPIO_READY_REQ_1V8 67 82
SHDN	M8	SPMI	SGPIO_SCLK	N15 SGPIO_SCLK_1V8_R — R8405 33 5% 1/32W MF 01005 — SGPIO_SCLK_1V8 OUT 67 82
			SGPIO_SDATA	P15 SGPIO_SDATA_1V8_R — R8406 33 5% 1/32W MF 01005 — SGPIO_SDATA_1V8 BI 67 82
			SPMI_SCLK	R15 NUB_SPMI_SERA_SCLK 10 72 82
			SPMI_SDATA	T15 NUB_SPMI_SERA_SDATA_R — R8407 33 5% 1/32W MF 01005 PLACE_NEAR=U8100.T15:100MM — NUB_SPMI_SERA_SDATA 10 82

80 77 IN PMU_SHUTDOWN_1V8

NXTAL_MEMS	N19	CLOCKS	SLEEP_32K	U18 CLK_PMU_TO_AOP_32K 10 80
XIN	L22		OUT_32K	T16 CLK_PMU_TO_WLAN_32K 78 80
XOUT	M22			

72 PMU_XTAL
72 PMU_EXTAL

AMUX_A<0>	E13	THROTTLE	CRASH*	P12 SERA_CRASH_L — OUT 73
AMUX_A<1>	F11		DFT_CTRL0	M16
AMUX_A<2>	E12		DFT_CTRL1	M17 SWD_PERIPHERAL_SWCLK 72 — TP8403
AMUX_A<3>	E11		SYS_ALIVE	M11 SYS_ALIVE OUT 17 18 82
AMUX_AY	G12		ACTIVE_READY	P13 GPIO_PMU_TO_SYSTEM_ACTIVE_READY 6 38 80
AMUX_B<0>	E14		REQUEST_DFU	R6 PMU_REQUEST_DFU 72
AMUX_B<1>	F14		CPU_TRIGGER0*	P6 GPIO_PMU_TO_SOC_TRIGGER_2 7 80
AMUX_B<2>	F12		CPU_TRIGGER1*	R9 GPIO_PMU_TO_SOC_TRIGGER_3 7 80
AMUX_B<3>	F13		GPU_TRIGGER0*	R8 GPIO_PMU_TO_SOC_TRIGGER_0 7 80
AMUX_BY	G11		GPU_TRIGGER1*	R10 GPIO_PMU_TO_SOC_TRIGGER_1 7 80
			UVWARN*	P14 GPIO_PMU_TO_SOC_TRIGGER_4 7 80
			VDD_BOOST_UVLO*	T17 NC

80 TPT_SERA_AMUX_AY
21 IN DOMBRA_LDO_8V_PGOOD_FET
80 TPT_SERA_AMUX_BY

NOTES:
CPU_TRIGGER0 - BUCK0 THERMAL WARNING
CPU_TRIGGER1 - VCC_MAIN UVWARN1 (2.8V) "SW SHUTDOWN"
GPU_TRIGGER0 - BUCK1 THERMAL WARNING
GPU_TRIGGER1 - UNUSED
UVWARN - VCC_MAIN UVWARN0 (2.95V) "PRE-UVLO"

80 77 72 36 6 GPIO_FORCE_DFU — R8499 100K 1% 1/32W MF 01005
72 PMU_REQUEST_DFU — R8498 100K 1% 1/32W MF 01005

NOSTUFF R8404 100K 1% 1/32W MF 01005 — PP1V8_SIMETRA_ALWAYS 84
PLACE NEAR SIMETRA SIDE
INTERNAL PU ON SERA SIDE

84 74 72 69 65 44 41 21 PP1V8_S2
84 73 PP1V8_SERA_ALWAYS
R8492 100K 1% 1/32W MF 01005
R8497 100K 1% 1/32W MF 01005
R8496 100K 1% 1/32W MF 01005
72 25 GPIO_BTN_ONOFF_L_1V8
72 25 GPIO_BTN_VOL_DOWN_L_1V8
72 25 GPIO_BTN_VOL_UP_L_1V8

NUB_SPMI_SERA_SDATA_R 72
NUB_SPMI_SERA_SCLK 10 72 82
NOSTUFF R8408 1.00M 5% 1/32W MF 01005
NOSTUFF R8409 1.00M 5% 1/32W MF 01005

BOM_COST_GROUP=POWER

PAGE TITLE
POWER: SERA (4/4)

POTOMAC

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
107S00109	107S00094		R8582	ALTERNATE SENSE R.
132S00229	132S00010		C8555,ETC.	TY ALT 0.1UF 0201

U8500
D2559A0P0V2AVAC2
WLCSP
OMIT_TABLE

VBUS, VBUS, VBUS, VBUS
VBUS_OVP_OFF(GPIO1)
CRASH*(GPIO2)
VSYS_HI_UVLO(GPIO3)
LINCH_EN(GPIO4)
WAKEUP(GPIO5)
USB_VBUS_DET(GPIO6)
HV_CHG_OVERRIDE(GPIO7)
BOOST_EN(GPIO8)
IRQ*
SCL
SDA
TBAT
VDD_REF_CHARGE
VDD_REF_CHARGE_PH0
VDD_REF_CHARGE_PH1
VDD_GPIO
VDDCORE
VDDCORE_DIG
IREF
VREF
ADC_REF
ADC_IN_P
ADC_IN_N
H_TEST_MODE
VSSA_1, VSSA_2, VSSA_3
VSS_PH0 ×4
VSS_PH1 ×4
VSS_BUBO ×4
VSS_BOOST
VSS_BG_SENS
VSSD_FRAME
VSS_ESD ×70
VCENTER_3 ×4
VCENTER_0 ×4
VCENTER_1 ×4
VCENTER_1_HS ×4
VBOOT_N0
VBOOT_DRV0
VBOOT_N1
VBOOT_DRV1
BOOST_HS_SUPPLY
BOOST_HS_SOURCE ×4
VSYS_HI ×10
VSYS_HI_EXT_DIO
VSYS_LO_BYPASS ×4
LX_PH0 ×4
LX_BUBO ×4
VSYS_LO_BUBO ×4
LX_BOOST ×10
LX_PH1 ×14
VSYS_LO_S
VSYS_LO_1 ×4
VSYS_LO_2 ×3
VSYS_LO_EXT_DIO
IBAT_1 ×3
IBAT_2 ×3
VBAT

PPVBUS_PROT
C8500 10UF 20% 35V X5R 0603 138S00340
C8501 10UF 20% 35V X5R 0603 138S00340
C8502 10UF 20% 35V X5R 0603 138S00340

ACE_ORION_TO_CHARGER_OVP_SW_EN_L
R8520 0.00 0% 1/32W 01005 MF

OVP_SW_EN_L_R
SERA_CRASH_L
NC_POTOMAC_VSYS_HI_UVLO
R8521 0.00 0% 1/32W 01005 MF

GPIO_PMU_TO_POTOMAC_LINCH_EN_1V8
GPIO_POTOMAC_TO_PMU_WAKE_1V8
R8522 0.00 0% 1/32W 01005 MF

NC_POTOMAC_USB_VBUS_DETECT
POTOMAC_HV_CHG_OVERRIDE
R8523 0.00 0% 1/32W 01005 MF
PP1V8_SW1_IO

GPIO_POTOMAC_TO_SOC_TO_PMU_IRQ_L
I2C_SMC_POTOMAC_SCL_1V8
I2C_SMC_POTOMAC_SDA_1V8_R
BATT_NTC

PPVDD_REF_CHG
138S00020
C8512 0.1UF 10% 16V X5R-CERM 0201
C8513 10UF 20% 6.3V X5R 0402-8
C8516 0.1UF 10% 16V X5R-CERM 0201

PPVDD_POTOMAC_GPIO
PPVDD_POTOMAC_CORE
C8510 0.1UF 10% 16V X5R-CERM 0201
C8511 0.1UF 10% 16V X5R-CERM 0201
CRITICAL
R8515 200K 0.5% 1/20W MF 0201
C8515 0.1UF 10% 6.3V CERM-X5R 0201
C8514 0.1UF 10% 16V X5R-CERM 0201

POTOMAC_IREF
POTOMAC_VREF
POTOMAC_ADC_REF

PP1V8_SERA_ALWAYS
R8525 100K 5% 1/32W MF 01005
GPIO_POTOMAC_TO_PMU_WAKE_1V8

PP1V25_S2
R8526 10K 5% 1/32W MF 01005
GPIO_POTOMAC_TO_SOC_TO_PMU_IRQ_L

PP1V8_SERA_ALWAYS
R8528 10K 5% 1/32W MF 01005 NOSTUFF
R8527 20K 5% 1/20W MF 201 NOSTUFF

OPTION FOR 1V8 ALWAYS RAIL PULLUP

PPVCENTER
C8555 0.1UF 10% 25V CER-X5R 0201
C8550 10UF 20% 35V X5R 0603 138S00340
C8557 0.1UF 10% 25V CER-X5R 0201
C8551 10UF 20% 35V X5R 0603 138S00340
C8556 0.1UF 10% 25V CER-X5R 0201
C8552 10UF 20% 35V X5R 0603 138S00340

PPVCENTER_1_HS
C8558 0.1UF 10% 25V X5R 0201

POTOMAC_VBOOT0
C8560 0.1UF 10% 16V X5R-CERM 0201
POTOMAC_VBOOT_PH0
POTOMAC_VBOOT1
C8561 0.1UF 10% 16V X5R-CERM 0201
POTOMAC_VBOOT_PH1
POTOMAC_HS_SUPPLY
C8562 0.1UF 10% 16V X5R-CERM 0201
POTOMAC_HS_SRC
POTOMAC_VSYS_HI_S
XW8501 OMIT SHORT-10L-0.1MM-SM
POTOMAC_HIGH_DIO
NOSTUFF R8581 470K 5% 1/32W MF 01005
CRITICAL Q8581 FDMC6688P MLP3.3X3.3

POTOMAC_LX_PH0
L8570 1UH-20%-6.4A-0.038OHM PIKA32251B-SM
POTOMAC_LX_BUBO
C85A3 4.7UF 20% 10V X5R 0402
C8590 47UF 20% 6.3V CER-X5R 0603
C8599 47UF 20% 6.3V CER-X5R 0603
NOSTUFF R8580 470K 5% 1/32W MF 01005
CRITICAL Q8580 FDMC6686P POWER33

POTOMAC_LX_PH1
L8571 0.47UH-20%-8.6A-0.024OHM PIKA32251B-SM
POTOMAC_VSYS_LO_S
OMIT XW8500 SHORT-10L-0.1MM-SM
POTOMAC_LOW_DIO

R8592 0.00 0% 1/32W 01005 MF
BATT_SNS_R — BATT_SNS

PPVCC_HIGH
C8567 47UF 20% 6.3V CER-X5R 0603
C8568 47UF 20% 6.3V CER-X5R 0603
C8569 47UF 20% 6.3V CER-X5R 0603
C8563 47UF 20% 6.3V CER-X5R 0603
C8564 47UF 20% 6.3V CER-X5R 0603
C8565 47UF 20% 6.3V CER-X5R 0603
C8566 47UF 20% 6.3V CER-X5R 0603
C8580 20UF 20% 6.3V CERM-X5R 0402
C8588 20UF 20% 6.3V CERM-X5R 0402
C8589 20UF 20% 6.3V CERM-X5R 0402
C8581 20UF 20% 6.3V CERM-X5R 0402
C8582 20UF 20% 6.3V CERM-X5R 0402
C8583 20UF 20% 6.3V CERM-X5R 0402
C8584 1.0UF 20% 6.3V X5R 0201-1

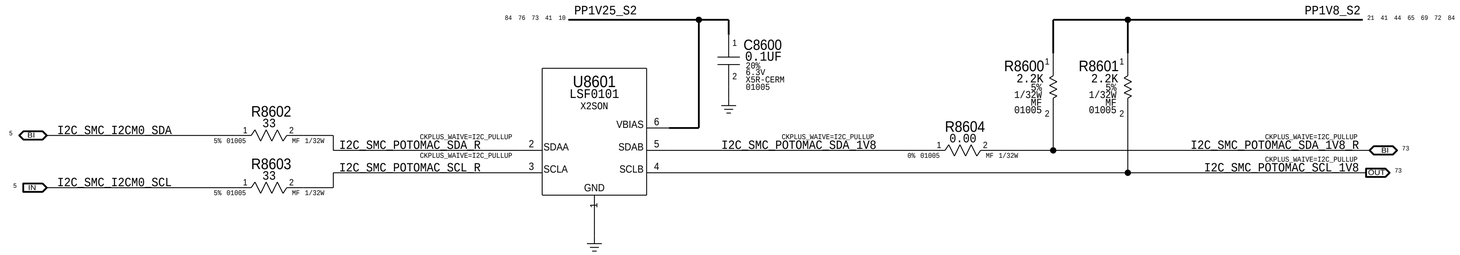
PPVCC_MAIN
C85A0 10UF 20% 10V X5R-CERM 0402-7
C8570 10UF 20% 10V X5R-CERM 0402-7
C8571 10UF 20% 10V X5R-CERM 0402-7
C8572 10UF 20% 10V X5R-CERM 0402-7
C8573 10UF 20% 10V X5R-CERM 0402-7
C8574 10UF 20% 10V X5R-CERM 0402-7
C85A1 10UF 20% 10V X5R-CERM 0402-7
C85A2 10UF 20% 10V X5R-CERM 0402-7

PPBATT_VCC_R
C8593 47UF 20% 6.3V CER-X5R 0603
NO_XNET_CONNECTION=1
CRITICAL
R8582 0.0025 1% 1.5W MF 0612
PMU_VCC_MAIN_SNS_R_N
PMU_VCC_MAIN_SNS_R_P
PPBATT_VCC
C8591 10UF 20% 6.3V CERM-X5R 0402-9
C8592 10UF 20% 6.3V CERM-X5R 0402-9
PPBATT_POS_RC
R8591 0.5 1% 1/10W MF 402
NOTE: FOR NO BATTERY SITUATION

BOM_COST_GROUP=POWER

PAGE TITLE
POWER: CHARGER

POTOMAC VOLTAGE TRANSLATOR



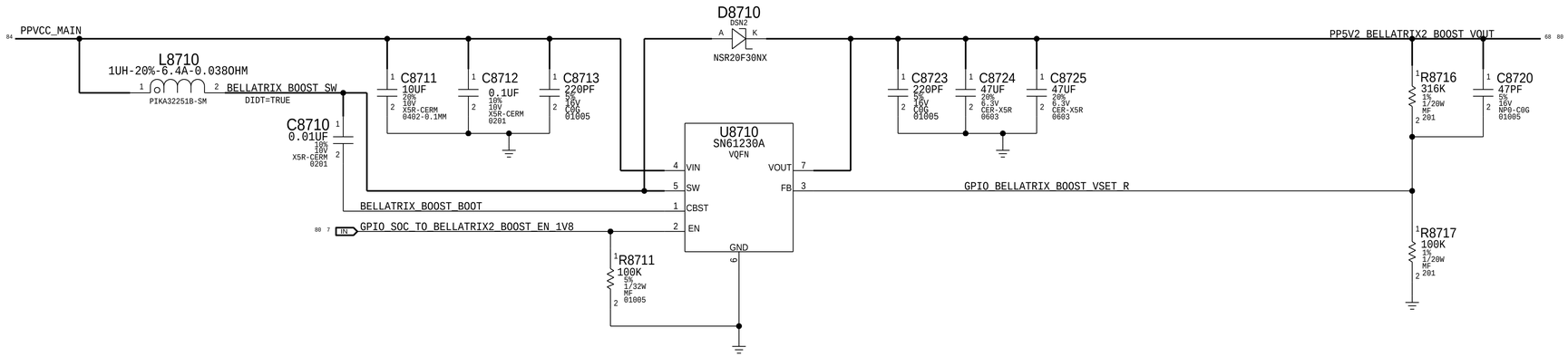
BOM_COST_GROUP=POWER

SYNC_MASTER=J522_M_8_8_3_0 SYNC_DATE=09/17/2020

PAGE TITLE

POWER: VT LDO

BELLATRIX BOOST



SCORPIUS BOOST MOVED TO SCORPIUS BOARD

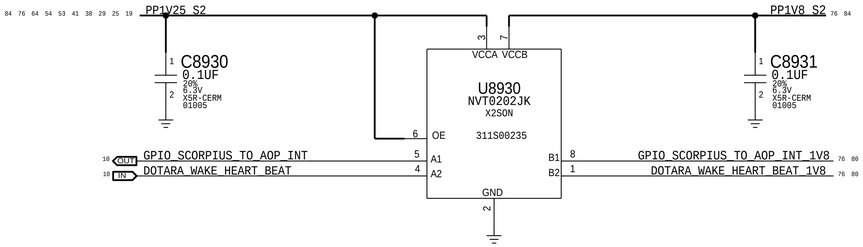
BOM_COST_GROUP=ORION

PAGE TITLE

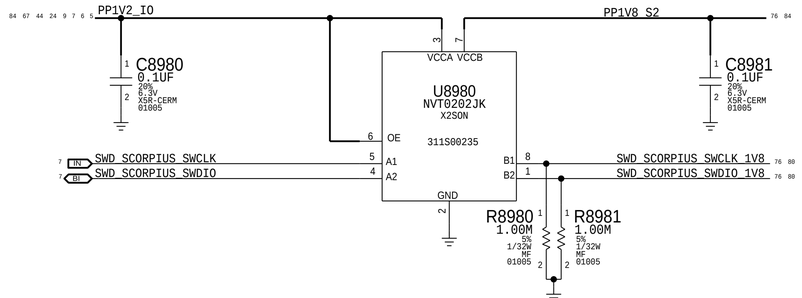
POWER: BELLATRIX2 BOOSTS

SCORPIUS THROTTLE MOVED TO SCORP. BOARD

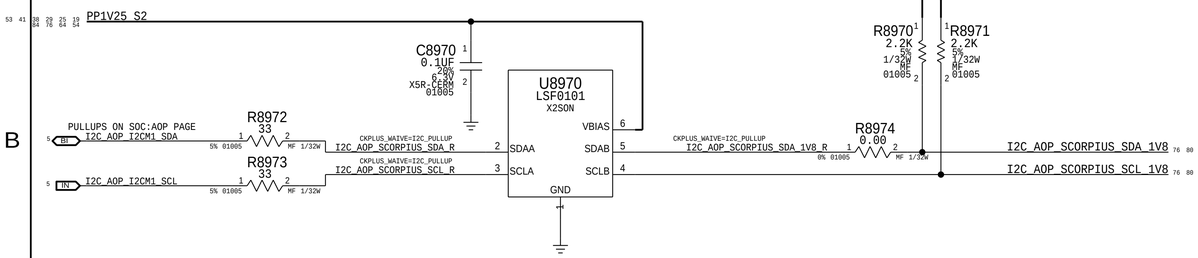
LEVEL TRANSLATOR

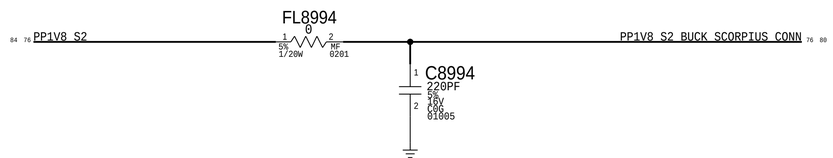


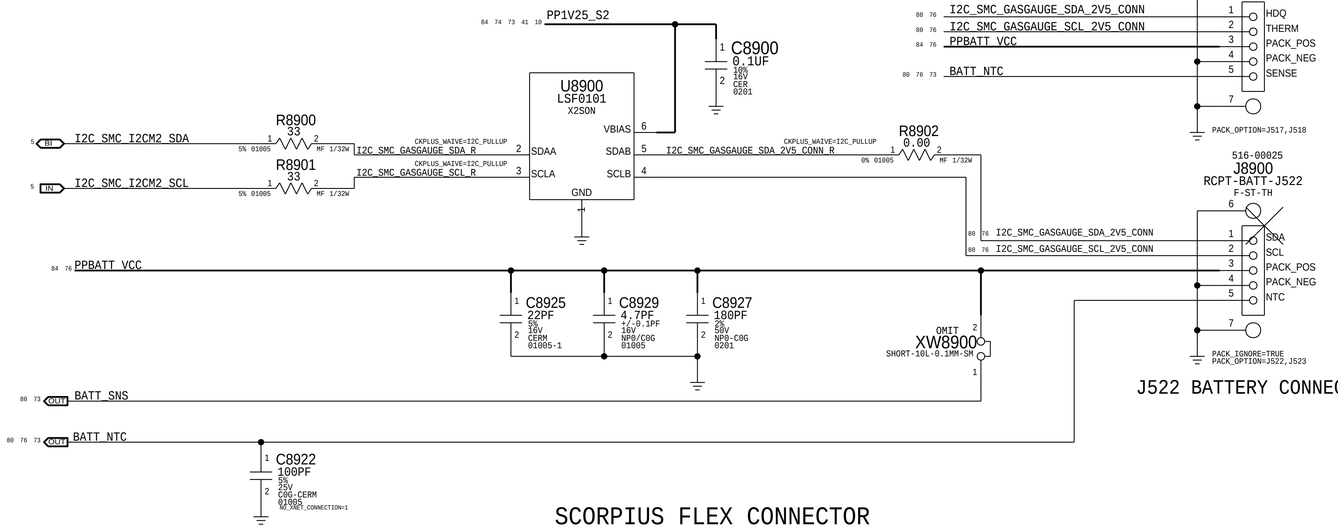
SWD LEVEL TRANSLATOR



I2C LEVEL TRANSLATOR







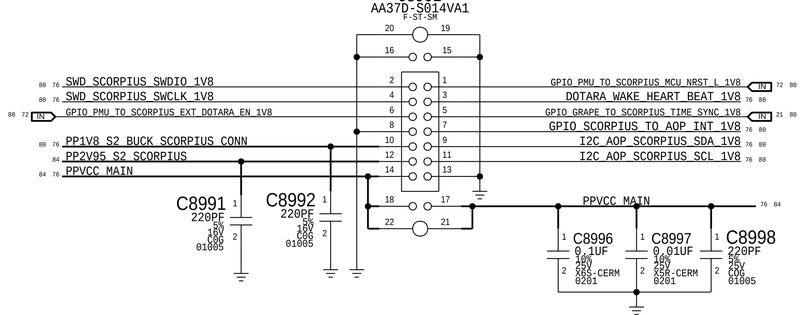
J517 BATTERY CONNECTOR

J522 BATTERY CONNECTOR

SCORPIUS FLEX CONNECTOR

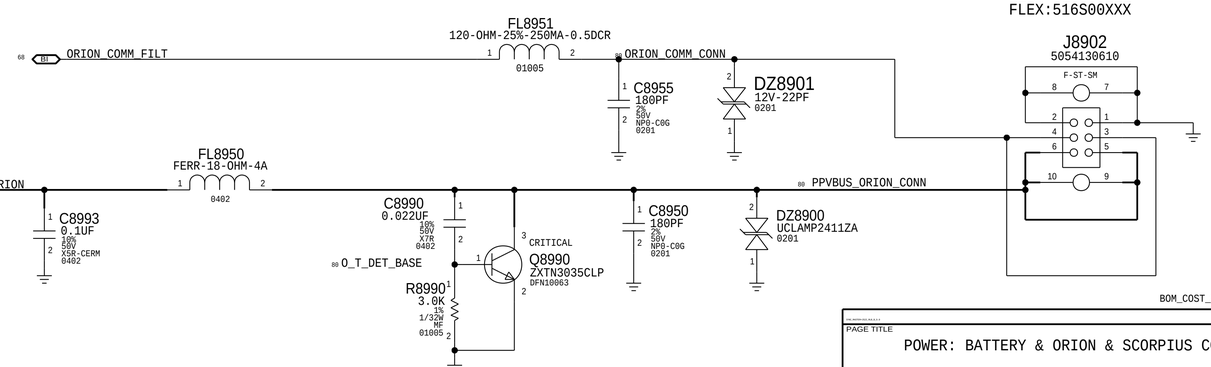
PINOUT FOLLOWS J522 SCORPIUS FLEX REV 0.8

MLB: 516S00150
FLEX: 516S00149



ORION FLEX CONNECTOR

MLB: 516S00321
FLEX:516S00XXX

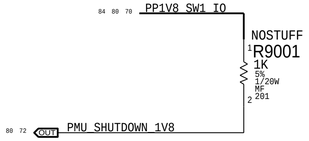


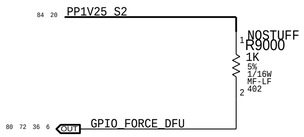
BOM_COST_GROUP=SCORPIUS

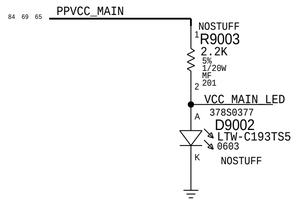
PAGE TITLE

POWER: BATTERY & ORION & SCORPIUS CONN

DEBUG RESET ACCESS







BOM_COST_GROUP=SOC

SYNC_MASTER=2022_M_8_8_X_0 SYNC_DATE=04/17/2020

PAGE TITLE

SOC: DEBUG

CELLULAR AND WLAN/BT ALIASES

BASEBAND

SOC/AOP/PMU GPIOS

8	OUT	GPIO_BB_TO_SOC_RESET_DET_L	MAKE_BASE=TRUE	GPIO_BB_TO_SOC_RESET_DET_L	IN	97 127
9	IN	GPIO_SOC_TO_BB_COREDUMP	MAKE_BASE=TRUE	GPIO_SOC_TO_BB_COREDUMP	OUT	97 127
6	IN	SWD_BB_SWCLK	MAKE_BASE=TRUE	SWD_BB_SWCLK	OUT	97 127
78 6	BI	SWD_BB_SWDIO	MAKE_BASE=TRUE	SWD_BB_SWDIO	BI	97 127
72	IN	GPIO_PMU_TO_BBPMU_ON	MAKE_BASE=TRUE	GPIO_PMU_TO_BBPMU_ON	OUT	94 127 129
8	IN	GPIO_AP_TO_BB_GPS_TIME_MARK	MAKE_BASE=TRUE	GPIO_AP_TO_BB_GPS_TIME_MARK	OUT	97 127
72	OUT	GPIO_BB_TO_PMU_HOST_WAKE_L	MAKE_BASE=TRUE	GPIO_BB_TO_PMU_HOST_WAKE_L	IN	97 127 129
10	IN	UART_AOP_TO_BB_TX	MAKE_BASE=TRUE	UART_AOP_TO_BB_TX	OUT	97 127
10	OUT	UART_BB_TO_AOP_TX	MAKE_BASE=TRUE	UART_BB_TO_AOP_TX	IN	97 127
8	IN	GPIO_AP_TO_BBPMU_PEAK_POWER_IND	MAKE_BASE=TRUE	GPIO_AP_TO_BBPMU_PEAK_POWER_IND	OUT	97 127

NOTE: GPIO_BB_TO_SCORPIUS_TX_IND_1V8 UNUSED

62 56 42 8	IN	GPIO_SOC_TO_LANAI_DISPLAY_BSYNC1	MAKE_BASE=TRUE	GPIO_SOC_TO_LANAI_DISPLAY_BSYNC1	OUT	94 127
10	IN	AOP_TO_BBPMU_FORCE_PWM	MAKE_BASE=TRUE	AOP_TO_BBPMU_FORCE_PWM	OUT	94 127
72	IN	GPIO_PMU_TO_BBPMU_VBUS_DET	MAKE_BASE=TRUE	GPIO_PMU_TO_BBPMU_VBUS_DET	OUT	137
67	IN	GPIO_SIMETRA_TO_BB_BOOT_CFG1	MAKE_BASE=TRUE	GPIO_SIMETRA_TO_BB_BOOT_CFG1	OUT	137
67	IN	GPIO_SIMETRA_TO_BB_BOOT_CFG2	MAKE_BASE=TRUE	GPIO_SIMETRA_TO_BB_BOOT_CFG2	OUT	137

POWER

84	PPVCC_MAIN	PPVCC_MAIN	63 78 124 128 132 133
84	PP3V0_S2_ALS — XW9100 (1–2) SHORT-10L-0.1MM-SM PLACE_NEAR=C7881.1:1MM	PP_3V0_S2	131 137
84	PP1V8_S2	PP1V8_S2	47 48 49 50 51 52 78 137
		PP1V8_S2	
		PP1V8_S2	
84	PPVCC_HIGH	PPVCC_HIGH	128 129
84	PP1V25_S2	PP1V25_S2	47 78 97

NOTE: PADS MAY SHORTS AP AND BB PMU TOGETHER, POR SHOULD HAVE R5635_E NOSTUFF

USB BB

137 78 36	IN	90_AP_TO_BB_USB_P	MAKE_BASE=TRUE	90_AP_TO_BB_USB_P	OUT	36 78 137
137 78 36	IN	90_AP_TO_BB_USB_N	MAKE_BASE=TRUE	90_AP_TO_BB_USB_N	OUT	36 78 137

PCIE

9	IN	PCIE_SOC_TO_BB_REFCLK_P	MAKE_BASE=TRUE	PCIE_SOC_TO_BB_REFCLK_P	OUT	97 127
9	IN	PCIE_SOC_TO_BB_REFCLK_N	MAKE_BASE=TRUE	PCIE_SOC_TO_BB_REFCLK_N	OUT	97 127
9	OUT	PCIE_BB_TO_SOC_CLKREQ_L	MAKE_BASE=TRUE	PCIE_BB_TO_SOC_CLKREQ_L	IN	97 127 129
78 9	IN	PCIE_SOC_TO_BB_PERST_L	MAKE_BASE=TRUE	PCIE_SOC_TO_BB_PERST_L	OUT	97 127
78	IN	PCIE_SOC_TO_BB_TX_P	MAKE_BASE=TRUE	PCIE_SOC_TO_BB_TX_P	OUT	97
78	IN	PCIE_SOC_TO_BB_TX_N	MAKE_BASE=TRUE	PCIE_SOC_TO_BB_TX_N	OUT	97
9	OUT	PCIE_BB_TO_SOC_TX_P	MAKE_BASE=TRUE	PCIE_BB_TO_SOC_TX_P	IN	97
9	OUT	PCIE_BB_TO_SOC_TX_N	MAKE_BASE=TRUE	PCIE_BB_TO_SOC_TX_N	IN	97

9	IN	PCIE_SOC_TO_BB_TX_C_P	C0950 1 — 2, 6.3V 10% 01005 CER-X5R 0.22UF GND_VOID=TRUE	PCIE_SOC_TO_BB_TX_P	78
			PLACE_NEAR=U0600.BC12: 8MM		
9	IN	PCIE_SOC_TO_BB_TX_C_N	C0951 1 — 2, 6.3V 10% 01005 CER-X5R 0.22UF GND_VOID=TRUE	PCIE_SOC_TO_BB_TX_N	78
			PLACE_NEAR=U0600.BB12: 8MM		

I2S

7	OUT	I2S_BB_TO_SOC_BCLK	MAKE_BASE=TRUE	I2S_BB_TO_SOC_BCLK	IN	97 127
7	OUT	I2S_BB_TO_SOC_DOUT	MAKE_BASE=TRUE	I2S_BB_TO_SOC_DOUT	IN	97 127
7	IN	I2S_SOC_TO_BB_DOUT	MAKE_BASE=TRUE	I2S_SOC_TO_BB_DOUT	OUT	97 127
7	OUT	I2S_BB_TO_SOC_LRCK	MAKE_BASE=TRUE	I2S_BB_TO_SOC_LRCK	IN	97 127

GPIO TO STROBE SHOULD BE 1V8 COMPLIANT, BB IO IS 1V8 (PER NETNAME)

27	OUT	GPIO_BB_TO_STROBE_GSM_BURST_IND_1V8	MAKE_BASE=TRUE	GPIO_BB_TO_STROBE_GSM_BURST_IND_1V8	IN	97 127

PHYSICAL SIM REMOVED

BASEBAND SWD

78 9 PCIE_SOC_TO_BB_PERST_L — R0951 100K 5% 1/32W MF 01005 — 2

84 6 PP1V25_S2 — R0611 1.00K 5% 1/32W MF 01005 — 2

78 6 SWD_BB_SWDIO

BASEBAND SPMI

NOTE: SPMI TO BASEBAND IS NOT USED

WLAN

POWER

84	PPVCC_MAIN	PPVCC_MAIN	47 48 49 50 51
84	PP1V8_S2	PP1V8_S2	47 48 49 50 51 52 78 137
84	PP1V25_S2	PP1V25_S2	47 78 97

GPIOS

78 72 47	IN	GPIO_PMU_TO_WLAN_REG_ON	MAKE_BASE=TRUE	GPIO_PMU_TO_WLAN_REG_ON	OUT	47 72 78
72	OUT	GPIO_WLAN_TO_PMU_HOST_WAKE	MAKE_BASE=TRUE	GPIO_WLAN_TO_PMU_HOST_WAKE	IN	47
80 72	IN	CLK_PMU_TO_WLAN_32K	MAKE_BASE=TRUE	CLK_PMU_TO_WLAN_32K	OUT	47
78 47 10	IN	GPIO_AOP_TO_WLAN_CONTEXT_A	MAKE_BASE=TRUE	GPIO_AOP_TO_WLAN_CONTEXT_A	OUT	10 47 78
78 47 10	IN	GPIO_AOP_TO_WLAN_CONTEXT_B	MAKE_BASE=TRUE	GPIO_AOP_TO_WLAN_CONTEXT_B	OUT	10 47 78
6	OUT	GPIO_WLAN_TO_SOC_TIME_SYNC	MAKE_BASE=TRUE	GPIO_WLAN_TO_SOC_TIME_SYNC	IN	47

GPIO_WLAN_TO_SCORPIUS_TX_IND NOT NEEDED

PCIE

82 9	IN	PCIE_SOC_TO_WLAN_REFCLK_P	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_REFCLK_P	OUT	47
82 9	IN	PCIE_SOC_TO_WLAN_REFCLK_N	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_REFCLK_N	OUT	47
82 9	IN	PCIE_SOC_TO_WLAN_TX_P	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_TX_P	OUT	47
82 9	IN	PCIE_SOC_TO_WLAN_TX_N	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_TX_N	OUT	47
78	IN	PCIE_WLAN_TO_SOC_TX_C_P	MAKE_BASE=TRUE	PCIE_WLAN_TO_SOC_TX_C_P	IN	47
78	IN	PCIE_WLAN_TO_SOC_TX_C_N	MAKE_BASE=TRUE	PCIE_WLAN_TO_SOC_TX_C_N	IN	47
9	OUT	PCIE_WLAN_TO_SOC_CLKREQ_L	MAKE_BASE=TRUE	PCIE_WLAN_TO_SOC_CLKREQ_L	IN	47
9	IN	PCIE_SOC_TO_WLAN_RESET_L	MAKE_BASE=TRUE	PCIE_SOC_TO_WLAN_RESET_L	OUT	47

GND_VOID=TRUE

82 9	PCIE_WLAN_TO_SOC_TX_P	C9160 1 — 2, 20% XSR-CERM 01005 6.3V 0.1UF GND_VOID=TRUE	PLACE_NEAR=U_WLAN_W.28:3MM	PCIE_WLAN_TO_SOC_TX_C_P	78
82 9	PCIE_WLAN_TO_SOC_TX_N	C9161 1 — 2, 20% XSR-CERM 01005 6.3V 0.1UF GND_VOID=TRUE	PLACE_NEAR=U_WLAN_W.97:3MM	PCIE_WLAN_TO_SOC_TX_C_N	78

UART

47	OUT	UART_BB_TO_WLAN_COEX_1V2	MAKE_BASE=TRUE	UART_BB_TO_WLAN_COEX_1V2	IN	97 127
47	IN	UART_WLAN_TO_BB_COEX_1V2	MAKE_BASE=TRUE	UART_WLAN_TO_BB_COEX_1V2	OUT	97 127

BLUETOOTH

SOC GPIOS

20	IN	GPIO_TOUCH_TO_BT_SYNC	MAKE_BASE=TRUE	GPIO_TOUCH_TO_BT_SYNC	OUT	47
82 20 7	IN	GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC	MAKE_BASE=TRUE	GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC	OUT	47

GPIO_BT_TO_SCORPIUS_TX_IND NOT NEEDED

9	OUT	BT_TO_SOC_TIME_SYNC	MAKE_BASE=TRUE	BT_TO_SOC_TIME_SYNC	IN	47

WLAN/BT SPMI

10	IN	AOP_SPMI0_SCLK_WIFI_BT	MAKE_BASE=TRUE	AOP_SPMI0_SCLK_WIFI_BT	OUT	47
10	BI	AOP_SPMI0_SDATA_WIFI_BT	R9152 1 — 2, 1/32W 5% MF 01005 33	SPMI_EVENTS_AOP_TO_WLAN_NFC_DATA	BI	47

I2C (TO WIFI/BT)

	NC_I2C_BT_TO_SE_SCL	MAKE_BASE=TRUE	NC_I2C_BT_TO_SE_SCL 47
	NC_I2C_BT_TO_SE_SDA	MAKE_BASE=TRUE	NC_I2C_BT_TO_SE_SDA 47

MMW/VOL BUTTON

80 25	OUT	GPIO_BTN_VOL_UP_L_CONN_1V8	MAKE_BASE=TRUE	GPIO_BTN_VOL_UP_L_CONN_1V8	IN	25 133
80 25	OUT	GPIO_BTN_VOL_DOWN_L_CONN_1V8	MAKE_BASE=TRUE	GPIO_BTN_VOL_DOWN_L_CONN_1V8	IN	25 133

ROTTERDAM(CERES)

POWER

84	PPVCC_MAIN	PPVCC_MAIN	63 78 124 128 132 133
84	PP1V8_S2	PP1V8_S2	63
84	PP1V20_S2_NFC	PP1V20_S2_NFC	63

SPMI

18	IN	AOP_SPMI0_SCLK_NFC	MAKE_BASE=TRUE	AOP_SPMI0_SCLK_NFC	OUT	63
10	BI	AOP_SPMI0_SDATA_NFC	R9153 1 — 2, 1/32W 5% MF 01005 33	SPMI_AOP_TO_RADIOS_DATA	BI	63

GPIOS

		AP_TO_NFC_DEV_WAKE		AP_TO_NFC_DEV_WAKE	MAKE_BASE=TRUE	63
		NFC_FW_DWLD		NFC_FW_DWLD	MAKE_BASE=TRUE	63
72	IN	GPIO_PMU_TO_ROTTERDAM_EN	MAKE_BASE=TRUE	GPIO_PMU_TO_ROTTERDAM_EN	OUT	63

GPIO_PMU_TO_ROTTERDAM_EN — R0960 100K 5% 1/32W MF 01005 — 2

RF NTC

CRITICAL R9150 10KOHM-1%-0.31MA 0201 NO_XNET_CONNECTION=1 (TP1D - INSIDE RF CAN)

I121 1 — PA_NTC_P 72

C9150 100PF 5% 25V C0G-CERM 01005 NO_XNET_CONNECTION=1

XW9150 (1–2) SM — PA_NTC_N

NOTE: XW SHOULD BE PLACED NEAR PMU

BOM_COST_GROUP=CELLULAR

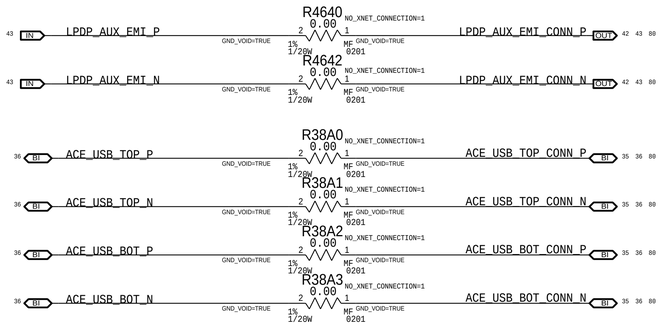
SYNC_MASTER=2522_M_B_3_0 SYNC_DATE=09/17/2020

PAGE TITLE

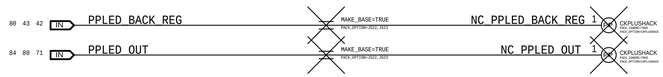
ALIASES: BB/WLAN/BT

LPDP_TX/BACKLIGHT

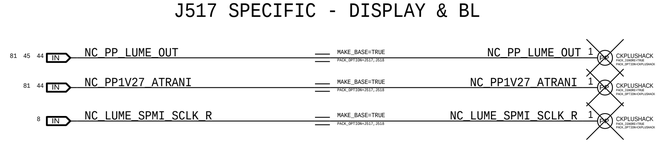
LPDP/USB2 CMC REPLACEMENT



J522 SPECIFIC - DISPLAY & BL



J517 SPECIFIC - DISPLAY & BL



BOM_COST_GROUP=SOC

PAGE TITLE

ALIASES: J517/J522 DIFF

SMT TEST FIXTURE TP

POWER - BUCKS/SWITCHES

TP	Net	Pages
TP9301	PPVDD_CPU	69 82 84
TP9302	PPVDD_GPU	69 84
TP9303	PPVDD_S1_SOC	69 82 84
TP9304	PP1V8_S2	70 84
TP9305	PP1V8_SW1_IO	70 77 84
TP9306	PP1V8_S2_TOUCH	70 84
TP9307	PP1V06_S2	65 84
TP9308	PPVDD_S1_SRAM	65 82 84
TP9309	PPVDD_S1_DISP	70 84
TP930A	PP0V88_S1	65 84
TP930C	PP0V88_NAND	66 84
TP930E	PP0V8_S1_SOC_FIXED	66 82 84
TP930F	PP2V63_NAND	65 84
TP930G	PPVDD_CPU_SRAM	70 82 84
TP930H	PP1V25_S2	65 84
TP930I	PPVDD_S1_DCS	70 84
TP930J	PPVDD_S1_QL	65 84
TP930K	PPVDD_ECPU	70 82 84
TP930L	PP1V2_IO	70 84
TP930M	PP1V2_NAND	66 84
TP930N	PP1V8_SERA_ALWAYS	71 84
TP930P	PP1V8_SIMETRA_ALWAYS	66 84
TP930Q	PP1V8_LDCM	71 84
TP930R	PP_BUCK3_SW4_SPARE	66 84
TP9311	PP3V3_S2_ACE_PARROT	71 84
TP9313	PP2V95_S2_SCORPIUS	71 84
TP9315	PP3V3_BSB	71 84
TP9318	PPVDD_S2_CIO	66 84
TP9319	PP1V20_S2_NFC	71 84
TP931A	PP0V72_S2_VDDLOW	66 82 84
TP931B	(GND) TP-P5	
TP931C	PP3V3_S2_TOUCH	71 84
TP931D	PP1V2_SOC_LN	66 84
TP931E	PP1V2_S2_TOUCH	71 84
TP931G	(GND)	
TP931H	PP3V0_S2_ALS	66 84
TP931I	PP1V2_S2_CIO	66 84

POWER - OTHER

TP	Net	Pages
TP9340	PPVCENTER	73
TP9341	PPVBUS_PROT	84
TP9342	PPVCC_HIGH	73 80 84
TP9344	PPBATT_VCC	73 80 84
TP9345	PPLED_OUT (PACK_OPTION=J517,J518)	71 79 84
TP9347	PPVCC_MAIN	28 73 80 84
TP9348	(GND) TP-P5	
TP934A	(GND) TP-P5	

POWER - DISPLAY

TP	Net	Pages
TP9360	PPVCC_MAIN_LCD_SW_CONN	42 43 45
TP9361	PPVCC_MAIN_LCD_SW	43

POWER - BACKLIGHT

TP	Net	Option	Pages
TP9369	PPLED_BACK_REG	PACK_OPTION=J517,J518	42 43 79 80
TP9370	PPLED_BACK_REG	PACK_OPTION=J517,J518	42 43 79 80
TP9371	PPLED_BACK_REG	PACK_OPTION=J517,J518	42 43 79 80
TP9372	LED_IO_0	PACK_OPTION=J517,J518	42 71
TP9373	LED_IO_1	PACK_OPTION=J517,J518	42 71
TP9374	LED_IO_2	PACK_OPTION=J517,J518	42 71
TP9375	LED_IO_3	PACK_OPTION=J517,J518	42 71
TP9376	LED_IO_4	PACK_OPTION=J517,J518	42 71
TP9377	LED_IO_5	PACK_OPTION=J517,J518	42 71
TP937A	LED_IO_6	PACK_OPTION=J517,J518	42 71
TP937B	LED_IO_7	PACK_OPTION=J517,J518	42 71
TP937C	LED_IO_8	PACK_OPTION=J517,J518	42 71
TP937D	LED_IO_9	PACK_OPTION=J517,J518	42 71
TP937E	LED_IO_10	PACK_OPTION=J517,J518	42 71
TP937H	LED_IO_12	PACK_OPTION=J517,J518	42 71
TP937I	LED_IO_13	PACK_OPTION=J517,J518	42 71
TP937J	LED_IO_14	PACK_OPTION=J517,J518	42 71
TP937K	LED_IO_15	PACK_OPTION=J517,J518	42 71
TP937L	LED_IO_16	PACK_OPTION=J517,J518	42 71

BATTERY

TP	Net	Pages
TP9381	I2C_SMC_GASGAUGE_SCL_2V5_CONN	76
TP9382	BATT_SNS	73 76
TP9383	I2C_SMC_GASGAUGE_SDA_2V5_CONN	76
TP9384	BATT_NTC	73 76

PMU - MISC

TP	Net	Pages
TP93B3	TPT_VSS_PCPU_SENSE	12
TP93B4	(GND) TP-P5	
TP93B5	TPT_VDD_PCPU_SENSE	12
TP93B9	GPIO_PMU_TO_SOC_TRIGGER_0	7 72
TP93BA	GPIO_PMU_TO_SOC_TRIGGER_1	7 72
TP93BC	SOCHOT1_SOC_TO_PMU_L	7 72
TP93BD	PMU_SHUTDOWN_1V8	72 77
TP93BE	GPIO_PMU_TO_SOC_TRIGGER_2	7 72
TP93BF	GPIO_PMU_TO_SOC_TRIGGER_3	7 72
TP93BH	SERA_FORCE_SYNC	72
TP93BI	SCRASH_L_1V8	67 72
TP93BM	GPIO_PMU_TO_SOC_TRIGGER_4	7 72
TP93BS	SIMETRA_ADC_IN	67
TP93BT	TPT_SIMETRA_AMUX_AY	67
TP93BU	SIMETRA_FORCE_SYNC	67
TP93BV	TPT_SIMETRA_AMUX_BY	67
TP93BW	TPT_SERA_AMUX_AY	72
TP93BX	TPT_SERA_AMUX_BY	72
TP93BY	PMU_VCC_MAIN_SNS_R_P	70 73
TP93BZ	PMU_VCC_MAIN_SNS_R_N	70 73

SOC - JTAG/RESET

TP	Net	Pages
TP93C1	JTAG_SOC_SEL	5 10
TP93C2	JTAG_SOC_TCK	10 36
TP93C3	JTAG_SOC_TMS	10 36
TP93C4	TP_JTAG_SOC_TDI	10
TP93C5	TP_JTAG_SOC_TRST_L	5 10
TP93C6	TP_JTAG_SOC_TDO	10
TP93C7	SOC_TESTMODE	5 6
TP93C8	RESET_PMU_TO_SYSTEM_L	6 10 72
TP93C9	GPIO_FORCE_DFU	6 36 72 77
TP93CA	GPIO_1V2_SOC2ACE_DFU_STATUS	6 36 38
TP93CB	TST_CLKOUT	6
TP93CC	GPIO_PMU_TO_SYSTEM_ACTIVE_READY	6 38 72

SOC - UART

TP	Net	Pages
TP93D0	UART_SOC_TO_DEBUG_TX	7 36
TP93D1	UART_DEBUG_TO_SOC_TX	7 36

SOC - USB

TP	Net	Pages
TP93DA	85_USB_SOC_P (PLACE_NEAR=U3800.H19:6MM)	36 38
TP93DB	85_USB_SOC_N (PLACE_NEAR=U3800.H21:6MM)	36 38

USBC - CONN

TP	Net	Pages
TP93D4	TRANS_DET_BASE	35
TP93D6	ACE_CC1_CONN	35
TP93D7	ACE_CC2_CONN	35
TP93D8	ACE_USB_TOP_CONN_N	35 36 79
TP93D9	ACE_USB_TOP_CONN_P	35 36 79
TP93E0	ACE_USB_BOT_CONN_N	35 36 79
TP93E1	ACE_USB_BOT_CONN_P	35 36 79
TP93EB	PPVBUS_USB_EMI	35 36 68 80

ACE

TP	Net	Pages
TP93R1	PP5V2_ACE_BOOST_OUT	34 36
TP93R2	PP3V3_ACE_LDO	35 36 37 38
TP93R4	ROM_CLK	38
TP93R5	ROM_CS_L	38
TP93R6	ROM_MOSI	38
TP93R7	ROM_MISO	38
TP93R8	ACE_SBU1_CONN	35 36
TP93R9	ACE_SBU2_CONN	35 36
TP93RU	GPIO_ACE_TO_SOC_IRQ_L	7 36
TP93RV	GPIO_1V2_ACE2PMU_RESET	36 72
TP93RW	GPIO_3V3_ACE2BOOST_EN	34 36
TP93RZ	GPIO_1V2_ACE_HRESET	36
TP93R0	ACE_ORION_TO_CHARGER_OVP_SW_EN_L	36 68 73
TP93R3	GPIO_ACE_TO_SMC_IRQ_L	10 36
TP93RA	TP_TMU_CLK_OUT	6
TP93RB	ACE_GPIO0_NOT_USED	36
TP93RC	ACE_TO_PMU_LDO1_EN_1V8	36 71

ORION

TP	Net	Pages
TP93E2	PPVBUS_ORION_RVP	68
TP93E3	PPVBUS_ORION_CONN	76 80
TP93E4	ORION_COMM_CONN	76
TP93E5	GPIO_ORION_TO_AOP_IRQ	10 68
TP93E6	PP5V2_BELLATRIX2_BOOST_VOUT	68 75
TP93E7	GPIO_SOC_TO_BELLATRIX2_BOOST_EN_1V8	7 75
TP93E8	PP1V8_INT_ORION	68
TP93E9	GPIO_3V3_ACE2ORION_ACC_PWR_EN_L	36 68
TP93ED	BELLATRIX_TO_ACE_ACC_PWR_PRESENT_L_3V3	36 68
TP93EN	O_T_DET_BASE	76
TP93ER	ORION_RVP_G	68

SCORPIUS

TP	Net	Pages
TP93EE	GPIO_PMU_TO_SCORPIUS_EXT_DOTARA_EN_1V8	72 76
TP93EF	GPIO_PMU_TO_SCORPIUS_MCU_NRST_L_1V8	72 76
TP93EG	GPIO_GRAPE_TO_SCORPIUS_TIME_SYNC_1V8	21 76
TP93EI	SWD_SCORPIUS_SWCLK_1V8	76
TP93EJ	SWD_SCORPIUS_SWDIO_1V8	76
TP93EL	GPIO_SCORPIUS_TO_AOP_INT_1V8	76
TP93EM	DOTARA_WAKE_HEART_BEAT_1V8	76
TP93EO	PP1V8_S2_BUCK_SCORPIUS_CONN	76
TP93EP	I2C_AOP_SCORPIUS_SDA_1V8	76
TP93EQ	I2C_AOP_SCORPIUS_SCL_1V8	76

AUDIO - SEE SPKR AMP PAGES FOR MORE

TP	Net	Pages
TP93F8	PPV_BST_AUDIO	28 30 31 32 33 80
TP93F9	PPV_BST_AUDIO	28 30 31 32 33 80
TP93FA	GPIO_SPKRAMP_TO_SOC_IRQ_L	7 30 31 32 33
TP93FB	ARDEE_SYNC	30 31 32 33

POWER - SENSORS

TP	Net	Pages
TP93G0	PP1V8_S2_KOBOL_A_FILT	19
TP93G1	PP1V8_S2_KOBOL_B_FILT	19
TP93G2	PP1V8_PHOS_FILT	19
TP93G4	PP1V8_S2_MOLY_CMPS_CONN	19
TP93L1	PP1V2_S2_MOLY_CMPS_CONN	19
TP93L2	PP1V2_PHOS_FILT	19

BUTTONS

TP	Net	Pages
TP93G5	GPIO_BTN_ONOFF_L_CONN_1V8	25
TP93G6	GPIO_BTN_VOL_UP_L_CONN_1V8	25 78
TP93G7	GPIO_BTN_VOL_DOWN_L_CONN_1V8	25 78

SOC I2C

TP	Net	Pages
TP93G8	I2C0_SCL	5 7
TP93G9	I2C0_SDA	5 7
TP93GA	I2C1_SCL	5 7
TP93GB	I2C1_SDA	5 7
TP93GC	I2C2_SCL	5 7
TP93GD	I2C2_SDA	5 7
TP93GG	I2C_AOP_I2CM0_SCL	5 10
TP93GH	I2C_AOP_I2CM0_SDA	5 10
TP93GI	I2C_AOP_I2CM1_SCL	5 10
TP93GJ	I2C_AOP_I2CM1_SDA	5 10

SOC - BELLATRIX2 UART

TP	Net	Pages
TP93N8	UART_SOC_TO_BELLATRIX2_TX	7 68
TP93N9	UART_BELLATRIX2_TO_SOC_TX	7 68

NAND

SOC - USB KIS

TP	Net	Pages
TP93GS	85_USB_KIS_P (PLACE_NEAR=U3800.G20:5MM)	36 38
TP93GT	85_USB_KIS_N (PLACE_NEAR=U3800.G22:5MM)	36 38

BASEBAND - ANT SWITCH PWR

TP	Net	Pages
TP93H2	BB_TO_UAT_RFFE_DATA_A_ANT3_SW_FILT	135
TP93H3	PP_1V8_S2_UAT_ANT3_SW_FILT	135
TP93H4	BB_TO_UAT_RFFE_CLK_A_ANT3_SW_FILT	135
TP93H5	PP_3V0_S2_UAT_ANT3_SW_FILT	135

WIFI/BT

TP	Net	Pages
TP93I2	CLK_PMU_TO_WLAN_32K	72 78

HALL EFFECT

TP	Net	Pages
TP93J5	GPIO_APANEL_HALL_TO_PMU_IRQ_L	42 64
TP93J6	GPIO_CPANEL_HALL_TO_PMU_IRQ_L	25 64

DISPLAY

TP	Net	Pages
TP93JC	LPDP_HPD_EMI_1V8	42 43
TP93K0	GPIO_PMU_TO_LCD_PWREN_1V8	42 43 45 72
TP93JA	I2C_TCON_SCL_CONN_1V8	42
TP93JB	I2C_TCON_SDA_CONN_1V8	42
TP93JD	PP1V8_S3_HALL_TCON_CONN	42
TP93JE	SYSTEM_TO_TCON_FORCE_PWM_1V8	42
TP93JF	LPDP_AUX_EMI_CONN_P	42 43 79
TP93JG	LPDP_AUX_EMI_CONN_N	42 43 79

AOP

TP	Net	Pages
TP93K1	CLK_PMU_TO_AOP_32K	10 72

AUDIO - DIGITAL MICS

TP	Net	Pages
TP93K2	DMIC1_TOP_L_MIC_SCLK_CONN_1V8	29
TP93K3	DMIC1_MIC_SD_CONN_1V8	29
TP93K4	DMIC2_MIC_SCLK_CONN_1V8	25
TP93K5	DMIC2_MIC_SD_CONN_1V8	25
TP93KE	DMIC3_MIC_SCLK_ROS_CONN_1V8	41
TP93KF	DMIC2_MIC_SD_ROS_CONN	41
TP93KG	PP1V8_S2_DMIC_CONN	29 41
TP93KH	DMIC4_MIC_SCLK_CMPS_CONN_1V8	19
TP93KI	DMIC3_MIC_SD_CMPS_CONN_1V8	19
TP93KJ	PP1V8_S2_DMIC_CMPS_CONN	19
TP93KK	PP1V8_S2_DMIC_C3_CONN	25
TP93KL	DMIC1_TOP_R_MIC_SCLK_CONN_1V8	29

TOUCH

TP	Net	Pages
TP93N1	PP15V0_TOUCH_FILT	20 21
TP93N2	PP2V8_LANAI_M_VDDANA	20
TP93N3	PP2V8_KONA_S_VDDANA	21
TP93NI	GPIO_DOMBRA_BST_FPWM_1V8	20 21
TP93NJ	GPIO_KONA_S_DOMBRA_BST_EN_1V8	20 21
TP93NK	GPIO_DOMBRA_BST_FB_CTRL_1V8	20 21
TP93NL	VCOM_LCD_TO_GRAPE	23 42
TP93NM	CLK_LANAI_M_24MHZ	20
TP93NN	PP1V2_S2_DELAY_TOUCH (PACK_OPTION=J517,J518)	21

CMPS

TP	Net	Pages
TP93P1	SPI_MOLY_MISO_CONN	19
TP93P2	SPI_MOLY_MOSI_CONN	19
TP93P3	SPI_MOLY_SCLK_CONN	19
TP93P4	SPI_MOLY_CS_L_CONN	19
TP93P5	GPIO_MOLY_TO_AOP_IRQ_CONN	19

BURNSIDE BRIDGE

TP	Net	Pages
TP93PA	BSB_JTAG_TDI	37
TP93PB	BSB_JTAG_TMS	37
TP93PC	BSB_JTAG_TCK	37
TP93PD	BSB_JTAG_TDO	37
TP93PE	GPIO_3V3_ACE2BSB_FORCE_PWR	36 37
TP93PF	GPIO_3V3_ACE2BSB_PARROT_RESET_L	36 37 38
TP93PH	PP3V3_BSB_S0_SVR	37
TP93PI	PP0V9_BSB_SVR_IND	37

PARROT

TP	Net	Pages
TP93CD	GPIO_1V2_ACE2BSB_PARROT_RESET_L	38
TP93CE	GPIO_1V2_PARROT2ACE_INT_L	36 38
TP93CF	GPIO_AOP_TO_PARROT_RECOVERY_STATUS	10 38

SOFT SHIELD DUMMY CAPS

Ref	Value	Tol	Voltage	Dielectric	Size	Note
C9380	25UF	20%	6.3V	X5R	0402	NOSTUFF
C9381	10UF	20%	25V	X5R-CERM	0603	
C9382	10UF	20%	25V	X5R-CERM	0603	
C9383	10UF	20%	25V	X5R-CERM	0603	
C9384	10UF	20%	25V	X5R-CERM	0603	
C9385	10UF	20%	25V	X5R-CERM	0603	
C9386	10UF	20%	25V	X5R-CERM	0603	
C9387	10UF	20%	25V	X5R-CERM	0603	PACK_OPTION=J517,J518

CKPLUS_WAIVE=TERMSHORTED (each capacitor)

VBAT

TP	Footprint	Placement
TP939P	TP-1P0-TOP	PLACE_NEAR=J8900.3:15MM
TP9399	TP-1P0-TOP	PLACE_NEAR=J8900.3:15MM
TP939A	TP-1P0-TOP	PLACE_NEAR=J8900.3:15MM
TP939B	TP-1P0-TOP	PLACE_NEAR=J8900.3:15MM
TP9396	TP-1P0-TOP	PLACE_NEAR=J8900.4:15MM
TP9397	TP-1P0-TOP	PLACE_NEAR=J8900.4:15MM
TP9398	TP-1P0-TOP	PLACE_NEAR=J8900.4:15MM
TP939S	TP-1P0-TOP	

PPBATT_VCC 73 80 84

VBUS ORION

TP939Q, TP939C, TP939D (TP-1P0-TOP): PPVBUS_ORION_CONN 76 80

TP939E, TP939F, TP939R (TP-1P0-TOP)

VCC_MAIN

TP939G, TP939H (TP-1P0-TOP): PPVCC_MAIN 28 73 80 84

TP939I, TP939J (TP-1P0-TOP)

VCC_HIGH

TP939K, TP939L (TP-1P0-TOP): PPVCC_HIGH 73 80 84

TP939M, TP939N (TP-1P0-TOP)

JASPER/PENINSULA

TP93P6, TP93P7, TP93P8 (TP-P5)

VBUS USB

TP	Footprint	Placement
TP9390	TP-1P0-TOP	PLACE_NEAR=C37A8.1:20MM
TP9391	TP-1P0-TOP	PLACE_NEAR=C37A8.1:20MM
TP9392	TP-1P0-TOP	PLACE_NEAR=C37A8.1:20MM
TP9393	TP-1P0-TOP	PLACE_NEAR=C37A8.2:30MM
TP9394	TP-1P0-TOP	PLACE_NEAR=C37A8.2:30MM
TP9395	TP-1P0-TOP	PLACE_NEAR=C37A8.2:30MM

PPVBUS_USB_EMI 35 36 68 80

FIDUCIALS

Ref	Type	Part
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

Ref	Type	Footprint	Note
SL9301	TH-NSP	SL-1.1X0.4-1.4X0.7	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523
SL9302	TH-NSP	SL-1.1X0.4-1.4X0.7	
SL9304	TH-NSP	SL-1.1X0.4-1.4X0.7	
SL9310	TH-NSP	SL-1.1X0.4-1.4X0.7	
SL9320	TH-NSP	SL-1.1X0.4-1.4X0.7	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523
SL9305	TH-NSP	SL-1.1X0.4-1.4X0.7	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523
SL9306	TH-NSP	SL-1.1X0.4-1.4X0.7	
SL9307	TH-NSP	SL-1.1X0.4-1.4X0.7	
SL9321	TH-NSP	SL-1.1X0.4-1.4X0.7	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523
SL9322	TH-NSP	SL-1.1X0.4-1.4X0.7	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523
SL9323	TH-NSP	SL-1.1X0.4-1.4X0.7	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523

DRILL : 0.9MM X 0.35MM
PLATING : 1.2MM X 0.65MM
APN:998-18650

Ref	Type	Footprint
SL9312	TH-NSP	SL-0.9X0.35-1.2X0.65

STANDOFFS

SMT:860-01586

Ref	Part	P/N	Note
STD9300	STDOFF-3.3X1.8R1.036H-SM	860-01586	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523
STD9319	STDOFF-3.3X1.8R1.036H-SM	860-01586	PACK_OPTION=J517,J518
STD9323	STDOFF-3.3X1.8R1.036H-SM	860-01586	
STD9327	STDOFF-3.3X1.8R1.036H-SM	860-01586	
STD9316	STDOFF-3.3X1.8R1.036H-SM	860-01586	PACK_OPTION=J517,J518

SMT:860-01630

Ref	Part	P/N	Note
STD9315	STDOFF-3.45X2.5R-1.036H-1P65-TH	860-01630	
STD9332	STDOFF-3.45X2.5R-1.036H-1P65-TH	860-01630	PACK_OPTION=J517,J518
STD9340	STDOFF-3.45X2.5R-1.036H-1P65-TH	860-01630	

SMT:860-01627

Ref	Part	P/N	Note
STD9312	STDOFF-2.82X2.05R-1.036H-SM	860-01627	
STD9318	STDOFF-2.82X2.05R-1.036H-SM	860-01627	
STD9330	STDOFF-2.82X2.05R-1.036H-SM	860-01627	
STD9331	STDOFF-2.82X2.05R-1.036H-SM	860-01627	
STD9333	STDOFF-2.82X2.05R-1.036H-SM	860-01627	
STD9334	STDOFF-2.82X2.05R-1.036H-SM	860-01627	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523
STD9335	STDOFF-2.82X2.05R-1.036H-SM	860-01627	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523
STD9336	STDOFF-2.82X2.05R-1.036H-SM	860-01627	PACK_IGNORE=TRUE, PACK_OPTION=J523

SMT:860-01708

Ref	Part	P/N	Note
STD9350	STDOFF-2.82X2.05R-0.95H-SM	860-01735	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523

SMT:860-01709

Ref	Part	P/N	Note
STD9351	STDOFF-3.45X2.5R-0.848H-1P65-TH	860-01709	PACK_IGNORE=TRUE, PACK_OPTION=J522,J523

NAND DUMMY CAPS

Ref	Value	Tol	Voltage	Dielectric	Size	Note
C9390	0.1UF	10%	6.3V	CER-X5R	01005	CKPLUS_WAIVE=TERMSHORTED; PACK_IGNORE=TRUE, PACK_OPTION=J522,J523
C9391	0.1UF	10%	6.3V	CER-X5R	01005	CKPLUS_WAIVE=TERMSHORTED; PACK_IGNORE=TRUE, PACK_OPTION=J522,J523

BOM_COST_GROUP=MECHANICALS

PAGE TITLE

TEST: TPS/MECH

SMT TEST FIXTURE TP

POWER - ADAMS REAR

TP9401	A	1	TP-P5	PP1V4_ADAMS1_VDDL	55 84
TP9402	A	1	TP-P5	PP3V3_ADAMS_LDO1	55 84
TP9403	A	1	TP-P5	PP3V0_JASPER_RX_AVDDH	55 84
TP9404	A	1	TP-P5	PP3V3_JASPER_TX_AVDDH	PACK_OPTION=J517,J518 PACK_IGNORE=TRUE 55 84
TP9405	A	1	TP-P5	PP3V3_JASPER_TX_AVDDH_CONN	PACK_OPTION=J522,J523 60
TP9406	A	1	TP-P5	PP3V3_JAS_EXT_LDO_R2	57
TP9407	A	1	TP-P5	PP2V85_WIDE_RCAM1_AVDDH1	55 84
TP9408	A	1	TP-P5	PP2V85_SWIDE_RCAM2_AVDDH1	55 84
TP9409	A	1	TP-P5	PP1V215_RCAM_SWIDE_VDDL	55 84
TP940A	A	1	TP-P5	PP1V215_RCAM_WIDE_VDDL	55 84
TP940B	A	1	TP-P5	PP1V8_RPMU_IO_SW	55 84
TP940C	A	1	TP-P5	PN_TOF_VSPAD	57 60 81
TP940D	A	1	TP-P5	PN_TOF_VSPAD	57 60 81
TP940E	A	1	TP-P5	PP_TOF_VDDLAS	57 60 81
TP940F	A	1	TP-P5	PP_TOF_VDDLAS	57 60 81
TP940G	A	1	TP-P5	PP1V2_JASPER_DVDD	57 60
TP940H	A	1	TP-P5	PP1V2_INT_ADAMS_REAR	55 84
TP940I	A	1	TP-P5		

POWER - FRONT WIDE CAMERA

POWER - FRONT SWIDE CAMERA

TP9441	A	1	TP-P5	PP1V215_FRONT_SWIDE_CAM_CONN	26
TP9442	A	1	TP-P5	PP1V8_FRONT_SWIDE_CAM_CONN	26
TP9443	A	1	TP-P5	PP2V85_FRONT_SWIDE_CAM_CONN	26

POWER - JULIET

TP9414	A	1	TP-P5	PP1V215_JULIET_DVDD_CONN	40
TP9415	A	1	TP-P5	PP1V8_JULIET_VDDIO_CONN	40
TP9416	A	1	TP-P5	PP2V85_JULIET_AVDD_CONN	40

POWER - CAMERA (IN)

TP9417	A	1	TP-P5	PP1V215_RCAM_WIDE_VDDL_CONN	58
TP9418	A	1	TP-P5	PP1V8_RCAM_WIDE_VDDIO_CONN	58
TP9419	A	1	TP-P5	PP2V85_RCAM_WIDE_AVDD_CONN	58

POWER - CAMERA (OH)

TP941A	A	1	TP-P5	PP1V215_RCAM_SWIDE_DVDD_CONN	59
TP941B	A	1	TP-P5	PP1V8_RCAM_SWIDE_VDDIO_CONN	59
TP941C	A	1	TP-P5	PP2V85_RCAM_SWIDE_AVDDH1_CONN	59

POWER - JASPER

TP941D	A	1	TP-P5	PP_TOF_VDDLAS_CONN	60
TP941E	A	1	TP-P5	PN_TOF_VSPAD_CONN	60
TP941F	A	1	TP-P5	PP1V8_CAM_TOF_VDDIO_CONN	60

CAMERA-STROBE/PENROSE

TP9421	A	1	TP-P5	PPSTROBE_LED_COOL1_CONN	5.00V 25 27 81
TP9422	A	1	TP-P5	PPSTROBE_LED_WARM1_CONN	5.00V 25 27 81
TP9423	A	1	TP-P5	PPSTROBE_LED_COOL2_CONN	5.00V 25 27 81
TP9424	A	1	TP-P5	PPSTROBE_LED_WARM2_CONN	5.00V 25 27 81
TP9425	A	1	TP-P5	PPSTROBE_LED_COOL1_CONN	25 27 81
TP9426	A	1	TP-P5	PPSTROBE_LED_WARM1_CONN	25 27 81
TP9427	A	1	TP-P5	PPSTROBE_LED_COOL2_CONN	25 27 81
TP9428	A	1	TP-P5	PPSTROBE_LED_WARM2_CONN	25 27 81
TP9429	A	1	TP-P5	LED_DRIVER_NTC_CONN	25 27
TP942A	A	1	TP-P5	PPSTROBE1_BST	27
TP942B	A	1	TP-P5	PPSTROBE2_BST	27
TP942C	A	1	TP-P5	PENROSE_VIS_IR_VOUT1	24 25
TP942D	A	1	TP-P5	PENROSE_IR_VOUT2	24 25
TP942E	A	1	TP-P5	GPIO_RCAM_PMU_TO_STROBE_DRIVER_HWEN_1V8	27 56
TP942F	A	1	TP-P5	PP3V0_PENROSE_CONN	25
TP942G	A	1	TP-P5	PP3V0_PENROSE	55 84

CAMERA FRONT SWIDE

TP9444	A	1	TP-P5	CLK_FCAM2_PMU_TO_SWIDE_12M_CONN	26
TP9445	A	1	TP-P5	I2C_FCAM2_SWIDE_SCL_CONN	26
TP9446	A	1	TP-P5	I2C_FCAM2_SWIDE_SDA_CONN	26
TP9447	A	1	TP-P5	ISP_FCAM2_SWIDE_SHUTDOWN_L_CONN	26

CAMERA - IN

TP942L	A	1	TP-P5	AP_TO_WIDE_CLK_12MHZ_CONN	58
TP942M	A	1	TP-P5	I2C_RCAM1_WIDE_SCL_CONN	58
TP942N	A	1	TP-P5	I2C_RCAM1_WIDE_SDA_CONN	58
TP942O	A	1	TP-P5	ISP_TO_WIDE_SHUTDOWN_CONN_L	58
TP942Q	A	1	TP-P5	WIDE_TO_STROBE_DRIVER_STROBE_CONN	58

CAMERA - OH

TP942R	A	1	TP-P5	AP_TO_SWIDE_CLK_12MHZ_CONN	59
TP942S	A	1	TP-P5	I2C_RCAM2_SWIDE_SCL_CONN	59
TP942T	A	1	TP-P5	I2C_RCAM2_SWIDE_SDA_CONN	59
TP942U	A	1	TP-P5	ISP_TO_SWIDE_SHUTDOWN_CONN_L	59
TP942W	A	1	TP-P5	SWIDE_TO_STROBE_DRIVER_STROBE_CONN	59

CAMERA - JASPER

TP942X	A	1	TP-P5	CLK_RCAM_PMU_TO_TOF_12MHZ_CONN	60
TP942Y	A	1	TP-P5	I2C_JASPER_SCL_CONN	60
TP942Z	A	1	TP-P5	I2C_JASPER_SDA_CONN	60
TP943X	A	1	TP-P5	GPIO_PMU_TO_TOF_INT_CONN_L	60
TP943Y	A	1	TP-P5	WIDE_SWIDE_SYNC_1V8	58 59 60
TP943Z	A	1	TP-P5	GPIO_RCAM_PMU_TO_TOF_SHUTDOWN_CONN_L	60

CAMERA - AUX

TP94C0	A	1	TP-P5	LPDP_WIDE_BI_AP_AUX_CONN	58
TP94C2	A	1	TP-P5	LPDP_SOC_TO_FCAM2_AUX_CONN	26
TP94C3	A	1	TP-P5	LPDPC_AP_BI_TOF_AUX_RX_D8P_CONN	60
TP94C4	A	1	TP-P5	LPDPC_AP_BI_SWIDE_AUX_RX_D2P_CONN	59

TITUS/ROSALINE/JULIET

TP9431	A	1	TP-P5	PP_TITUS_DENSE_ANODE	39 40 81
TP9432	A	1	TP-P5	PP_TITUS_DENSE_ANODE	39 40 81
TP9433	A	1	TP-P5	PP_TITUS_SPARSE_ANODE	39 40 81
TP9434	A	1	TP-P5	PP_TITUS_SPARSE_ANODE	39 40 81
TP9435	A	1	TP-P5	PP_TITUS_A_ANODE	39 40 81
TP9436	A	1	TP-P5	PP_TITUS_A_ANODE	39 40 81
TP9437	A	1	TP-P5	PP_TITUS_B_ANODE	39 40 81
TP9438	A	1	TP-P5	PP_TITUS_B_ANODE	39 40 81
TP9439	A	1	TP-P5	PP_TITUS_CATHODE	39 40 81
TP943A	A	1	TP-P5	PP_TITUS_CATHODE	39 40 81
TP943B	A	1	TP-P5	PP_ROSALINE_ANODE	39 41 81
TP943C	A	1	TP-P5	PP_ROSALINE_ANODE	39 41 81
TP943D	A	1	TP-P5	GPIO_RIGEL_INT_TO_FPMU_1V8	39 62
TP943E	A	1	TP-P5	RIGEL_TESTMODE_EN	39
TP943F	A	1	TP-P5	JULIET_PMU_TO_RIGEL_STROBE_CONN_1V8	40
TP943H	A	1	TP-P5	I2C3_ISP_BI_MAMA_BEAR_SDA_CONN	40
TP943I	A	1	TP-P5	I2C3_ISP_TO_MAMA_BEAR_SCL_CONN	40
TP943J	A	1	TP-P5	MAMA_BEAR_BI_RIGEL_STATUS_CONN_1V8	40
TP943K	A	1	TP-P5	TITUS_TO_AOP_B2B_DETECT_CONN	40
TP943L	A	1	TP-P5	ISP_JULIET_SCL_CONN_1V8	40
TP943M	A	1	TP-P5	ISP_JULIET_SDA_CONN_1V8	40
TP943N	A	1	TP-P5	AP_TO_JULIET_CLK_CONN_1V8	40
TP943O	A	1	TP-P5	AP_TO_JULIET_SHUTDOWN_L_CONN_1V8	40
TP943P	A	1	TP-P5	I2C0_AOP_TO_PROX_ALS_YOGI_SCL_CONN_1V8	41
TP943Q	A	1	TP-P5	I2C0_AOP_BI_PROX_ALS_YOGI_SDA_CONN_1V8	41
TP943R	A	1	TP-P5	PP3V0_YOGI_PROX_ALS_CONN	41
TP943S	A	1	TP-P5	YOGI_TO_RIGEL_STATUS_CONN_1V8	41
TP943T	A	1	TP-P5	ALS_C4_TO_SOC_INT_CONN_L	41
TP943U	A	1	TP-P5	ALS_C3_TO_SOC_INT_CONN_L	41
TP943V	A	1	TP-P5	TITUS_TO_RIGEL_VCSEL_NTC_CONN	40
TP943W	A	1	TP-P5		

DMIC GATING

TP9461	A	1	TP-P5	GPM_DMIC_DISABLE_L	64
TP9463	A	1	TP-P5	SLG_TO_AOP_DMIC_DISABLE_WARN_L	10 64

WILL I2C

TP9464	A	1	TP-P5	I2C3_RCAM_PMU_SCL_1V8	5 56
TP9465	A	1	TP-P5	I2C3_RCAM_PMU_SDA_1V8	5 56

PENROSE ADC I2C

TP9466	A	1	TP-P5	I2C3_SCL	PACK_IGNORE=TRUE PACK_OPTION=J522,J523 PACK_IGNORE=TRUE
TP9467	A	1	TP-P5	I2C3_SDA	PACK_OPTION=J522,J523 5 7
TP9466	A	1	TP-P5	I2C3_SDA_R	PACK_OPTION=J517,J518 5
TP9467	A	1	TP-P5	I2C3_SCL_R	PACK_OPTION=J517,J518 5

CAM SYNC

TP9452	A	1	TP-P5	GPIO_FCAM_JULIET_TO_ACE_SYNC_1V8	26 40
TP9453	A	1	TP-P5	GPIO_RCAM_PMU_TO_TOF_PMU_EN_1V8	56 57

2DBL

TP94A0	A	1	TP-P5	NC_PP_LUME_OUT	PACK_IGNORE=TRUE PACK_OPTION=J522,J523 44 45 79
TP94A1	A	1	TP-P5		PACK_IGNORE=TRUE PACK_OPTION=J522,J523
TP94A2	A	1	TP-P5		PACK_IGNORE=TRUE PACK_OPTION=J522,J523
TP94A3	A	1	TP-P5		PACK_IGNORE=TRUE PACK_OPTION=J522,J523
TP94A4	A	1	TP-P5	NC_PP1V27_ATRANI	PACK_OPTION=J522,J523 44 79
TP94A5	A	1	TP-P5	LUME_CP_OUT	PACK_OPTION=J522,J523 44
TP94A6	A	1	TP-P5	ATRANI_SPI_SCLK	PACK_OPTION=J522,J523 8 45
TP94A7	A	1	TP-P5	ATRANI_SPI_MOSI	PACK_OPTION=J522,J523 8 45
TP94A8	A	1	TP-P5	ATRANI_SPI_MISO	PACK_OPTION=J522,J523 8 45
TP94A9	A	1	TP-P5	ATRANI_SPI_CS	PACK_OPTION=J522,J523 8 45
TP94AA	A	1	TP-P5	DISP_FSYNC	PACK_OPTION=J522,J523 8 45
TP94AB	A	1	TP-P5	DISP_LSYNC	PACK_OPTION=J522,J523 8 45
TP94AC	A	1	TP-P5	ATRANI_BOOST_CTL	PACK_OPTION=J522,J523 44 45

LDCM

TP94B0	A	1	TP-P5	ANA_ACE2LDCM_DEBUG4	36 54
TP94B1	A	1	TP-P5	ANA_ACE2LDCM_DEBUG5	36 54
TP94B2	A	1	TP-P5	ANA_LDCM_TRACE1	35 54
TP94B3	A	1	TP-P5	GPIO_LDCM_TO_AOP_INVALID	10 54
TP94B4	A	1	TP-P5	ANA_LDCM_TRACE2	35 54

POWER - ADAMS FRONT

TP9471	A	1	TP-P5	PP_FPMU_VDDL	61 84
TP9472	A	1	TP-P5	PP3V1_PEARL	61 84
TP9473	A	1	TP-P5	PP1V215_JULIET_VDDL	61 84
TP9474	A	1	TP-P5	PP2V85_JULIET_AVDDH1	61 84
TP9475	A	1	TP-P5		
TP9476	A	1	TP-P5	PP2V85_SWIDE_FCAM2_AVDDH1	61 84
TP9477	A	1	TP-P5	PP1V215_FCAM2_SWIDE_VDDL	61 84
TP9478	A	1	TP-P5	PP1V215_FRCAM1_WIDE_VDDL	61 84
TP9479	A	1	TP-P5	PP1V2_INT_ADAMS_FRONT	61 84
TP947A	A	1	TP-P5	PP1V8_FCAM_PMU_IO_SW	61 84

SPARES

TP9404	A	1	TP-P5		PACK_IGNORE=TRUE
TP942V	A	1	TP-P5		PACK_OPTION=J522,J523 PACK_IGNORE=TRUE
TP9454	A	1	TP-P5		PACK_OPTION=J522,J523 PACK_IGNORE=TRUE PACK_OPTION=J522,J523

BOM_COST_GROUP=NO_COST_ITEMS

PAGE TITLE

TEST: TPS ADDITIONAL

EE CHARACTERIZATION PROBE POINT

SOC

- PP9570 P3MM SM — TPT_VDD_SOC_S1_SENSE
- PP9571 P3MM SM — TPT_VSS_SENSE1
- PP9572 P3MM SM — TPT_VSS_SENSE2
- PP9573 P3MM SM — TPT_VDD2_S2_SENSE2
- PP9574 P3MM SM — TPT_VDD_S2_SENSE1
- PP9575 P3MM SM — TPT_VDD_ECPU_SENSE
- PP9576 P3MM SM — TPT_VDD_GPU_SENSE
- PP9577 P3MM SM — TPT_VDD_DISP_S1_SENSE
- PP9578 P3MM SM — TPT_VDD_DCS_SENSE
- PP9579 P3MM SM — TPT_VDDQL_SENSE
- PP957A P3MM SM — TPT_VSS_DDR_SENSE

FOR SEG

- PP9503 P4MM SM — PPVDD_S1_SOC
- PP950E P4MM SM — PP0V8_S1_SOC_FIXED
- PP950K P4MM SM — PPVDD_ECPU
- PP9505 P3MM SM — PPVDD_CPU
- PP9506 P3MM SM — PPVDD_S1_SRAM
- PP9507 P3MM SM — PPVDD_CPU_SRAM
- PP9508 P3MM SM — PP0V72_S2_VDDLOW

ACE/REDRIVER

- PP9510 P4MM SM — ACE_UART_RX
- PP9511 P4MM SM — ACE_UART_TX

FH SPEAKER I2S

- PP9521 P4MM SM — I2S_SOC_TO_SPKRAMP_FH_BCLK
- PP9522 P4MM SM — I2S_SOC_TO_SPKRAMP_FH_LRCK
- PP9523 P4MM SM — I2S_SOC_TO_SPKRAMP_FH_DOUT
- PP9524 P4MM SM — I2S_SPKRAMP_FH_TO_SOC_DOUT

FH SPEAKER I2S - EXTRAS FOR U3400

- PP952A P4MM SM — I2S_SOC_TO_SPKRAMP_FH_BCLK
- PP952B P4MM SM — I2S_SOC_TO_SPKRAMP_FH_LRCK
- PP952C P4MM SM — I2S_SOC_TO_SPKRAMP_FH_DOUT

CN SPEAKER I2S

- PP9525 P4MM SM — I2S3_SOC_TO_BSTMSTR_CN_MCLK
- PP9526 P4MM SM — I2S_SOC_TO_SPKRAMP_CN_BCLK
- PP9527 P4MM SM — I2S_SOC_TO_SPKRAMP_CN_LRCK
- PP9528 P4MM SM — I2S_SOC_TO_SPKRAMP_CN_DOUT
- PP9529 P4MM SM — I2S_SPKRAMP_CN_TO_SOC_DOUT
- PP952D P4MM SM — GPIO_BST_MASTER_TO_SOC_IRQ_L
- PP952E P4MM SM — GPIO_BST_SLAVE_TO_SOC_IRQ_L
- PP952F P2MM-NSM SM — BST_CLK_SYNC_1V8
- PP952G P2MM-NSM SM — BST_SYNC_R_1V8

PENROSE

- PP952J P4MM SM — PDM_PENROSE_SCLK
- PP952K P4MM SM — PDM_PENROSE_SD

GRAPE

- PP9580 P3MM SM — SPI_SOC_TO_GRAPE_SCLK
- PP9582 P3MM SM — SPI_SOC_TO_GRAPE_MOSI
- PP9583 P3MM SM — SPI_SOC_TO_GRAPE_CS_L
- PP9584 P3MM SM — GPIO_SOC_TO_GRAPE_RESET_L
- PP9585 P3MM SM — GPIO_GRAPE_TO_AOP_IRQ_L
- PP9586 P3MM SM — KONA_S_TO_LANAI_M_RESET_DET_1V8_L
- PP9587 P3MM SM — PSE_SYNC_1V8
- PP9588 P3MM SM — KMSI_MISO_1V8
- PP9589 P3MM SM — KMSI_MOSI_1V8
- PP958A P3MM SM — KMSI_STRB_IN_1V8
- PP958B P3MM SM — KMSI_STRB_OUT_1V8
- PP958C P3MM SM — LANAI_BOOST_ATEST
- PP958D P3MM SM — TESTPOINT_KONA_S_UART_TX_1V8
- PP958E P3MM SM — TESTPOINT_KONA_S_UART_RX_1V8
- PP958H P3MM SM — TPT_SWD_KONA_SWDIO_1V8
- PP958I P3MM SM — TPT_SWD_KONA_SWCLK_1V8
- PP958J P3MM SM — GPIO12_KONA_LDO_ADJ_1V8
- PP958K P3MM SM — GPIO13_KONA_LDO_EN_1V8
- PP958L P3MM SM — GPIO_SOC_TO_DISPLAY_TOUCH_EB
- PP958N P3MM SM — GPIO_SOC_TO_LANAI_DISPLAY_BSYNC0
- PP958P P3MM SM — GPIO_SOC_TO_GRAPE_BSYNC1
- PP958X P3MM SM — UART_AOP_TO_GRAPE_TX
- PP958Y P3MM SM — UART_GRAPE_TO_AOP_TX
- PP958Z P3MM SM — UART_DEBUG_TO_GRAPE_TX
- PP958Q P3MM SM — SPI_LANAI_M_TO_KONA_S_MISO_1V8
- PP958T P3MM SM — SPI_LANAI_M_TO_KONA_S_SCLK_1V8
- PP958U P3MM SM — SPI_LANAI_M_TO_KONA_S_CS_1V8_L
- PP958W P3MM SM — SPI_LANAI_M_TO_KONA_S_MOSI_1V8
- PP95K0 P3MM SM — SPI_SOC_TO_KONA_S_SCLK_1V8
- PP95K1 P3MM SM — SPI_SOC_TO_KONA_S_MOSI_1V8
- PP95K2 P3MM SM — SPI_SOC_TO_KONA_S_CS_1V8_L
- PP95K3 P3MM SM — GPIO_KONA_S_TO_SOC_IRQ_1V8_L

GRAPE POWER

- PP958R P3MM SM — PP3V3_GRAPE_FILT
- PP958S P3MM SM — PP1V8_GRAPE_XTAL_FILT
- PP958V P3MM SM — PP1V8_GRAPE_AON_RC

DMIC SECURED

- PP9590 P3MM SM — PDM_DMIC_TOP_L_R_SD
- PP9591 P3MM SM — PDM_DMIC_FRONT_BACK_SD
- PP9592 P3MM SM — PDM_DMIC_SIDE_SD

PMU

- PP95A0 P2MM SM — SGPIO_READY_REQ_1V8
- PP95A1 P2MM SM — SGPIO_SCLK_1V8
- PP95A2 P2MM SM — SGPIO_SDATA_1V8
- PP95A3 P2MM SM — GPIO_SIMETRA_IRQ_L

WIFI(SEE MORE ON PAGE 49)

- PP95BL P4MM SM — GPIO_SOC_TO_BT_TO_GRAPE_TS_SYNC

WLAN PCIE TPS

- PP95E0 P2MM SM — PCIE_WLAN_TO_SOC_TX_P
- PP95E1 P2MM SM — PCIE_WLAN_TO_SOC_TX_N
- PP95E2 P2MM SM — PCIE_SOC_TO_WLAN_TX_P
- PP95E3 P2MM SM — PCIE_SOC_TO_WLAN_TX_N
- PP95E4 P2MM SM — PCIE_SOC_TO_WLAN_REFCLK_P
- PP95E5 P2MM SM — PCIE_SOC_TO_WLAN_REFCLK_N

BB PCIE TPS

ORION

- PP953B P4MM SM — GPIO_AOP_TO_ORION_HWEN
- PP953C P4MM SM — ORION_CONN_STATUS

SENSOR SPI LINES

- PP9544 P3MM SM — SPI_SENSORS_SCLK
- PP9545 P3MM SM — SPI_SENSORS_MISO
- PP9546 P3MM SM — SPI_SENSORS_MOSI
- PP9547 P3MM SM — SPI_MOLY_SCLK
- PP9549 P3MM SM — SPI_MOLY_MOSI

PMU/CHARGER

- PP95G7 P4MM SM — EUSB_VBUS_DETECT
- PP95G4 P4MM SM — NUB_SPMI_SERA_SCLK
- PP95G5 P4MM SM — NUB_SPMI_SERA_SDATA
- PP9539 P4MM SM — SYS_ALIVE
- PP95G0 P4MM SM — PROX_BI_AP_AOP_INT_L_PWM_LVT

PARROT

- PP95H0 P3MM SM — TPT_GPIO0_PARROT
- PP95H1 P3MM SM — TPT_GPIO1_PARROT

NAND

- PP95D0 P3MM SM — TPT_NAND1_DROOP_L
- PP95D1 P3MM SM — TPT_NAND2_DROOP_L
- PP95D2 P3MM SM — GPIO_PMU_TO_NAND_LOW_BATT_L
- PP95D6 P3MM SM — PCIE_SOC_TO_NAND_PERST_L
- PP95DE P3MM SM — NAND1_ANI1_VREF
- PP95DF P3MM SM — NAND1_ANI0_VREF
- PP95DG P3MM SM — NAND2_ANI1_VREF
- PP95DH P3MM SM — NAND2_ANI0_VREF
- PP95DI P3MM SM — GPIO_SOC_TO_NAND_FW_STRAP
- PP95DJ P3MM SM — GPIO_SOC_TO_NAND_RESET_L

IR CAMERA - JULIET

- PP9550 P2MM SM — MIPI_PEARL_TO_SOC_CLK_P
- PP9551 P2MM SM — MIPI_PEARL_TO_SOC_CLK_N
- PP9552 P2MM SM — MIPI_PEARL_SOC_DATA_P<0>
- PP9553 P2MM SM — MIPI_PEARL_SOC_DATA_N<0>
- PP9554 P2MM SM — MIPI_PEARL_SOC_DATA_P<1>
- PP9555 P2MM SM — MIPI_PEARL_SOC_DATA_N<1>
- PP9556 P2MM SM — CLK_FCAM_PMU_TO_JULIET_12M_1V8

CAMERA - FRONT WIDE

CAMERA - FRONT SWIDE

- PP9566 P2MM SM — LPDP_SOC_TO_FCAM2_SWIDE_AUX
- PP9567 P2MM SM — LPDP_FCAM2_SWIDE_TO_SOC_DATA_P<0>
- PP9568 P2MM SM — LPDP_FCAM2_SWIDE_TO_SOC_DATA_N<0>
- PP9569 P2MM SM — LPDP_FCAM2_SWIDE_TO_SOC_DATA_P<1>
- PP956A P2MM SM — LPDP_FCAM2_SWIDE_TO_SOC_DATA_N<1>

LPDPRX TPS

- PP95F0 P2MM SM — LPDP_RCAM1_WIDE_TO_SOC_DATA_P<0>
- PP95F1 P2MM SM — LPDP_RCAM1_WIDE_TO_SOC_DATA_N<0>
- PP95F2 P2MM SM — LPDP_RCAM1_WIDE_TO_SOC_DATA_P<1>
- PP95F3 P2MM SM — LPDP_RCAM1_WIDE_TO_SOC_DATA_N<1>
- PP95F4 P2MM SM — LPDP_SOC_TO_RCAM1_WIDE_AUX
- PP95F5 P2MM SM — LPDP_RCAM2_SWIDE_TO_SOC_DATA_P<0>
- PP95F6 P2MM SM — LPDP_RCAM2_SWIDE_TO_SOC_DATA_N<0>
- PP95F7 P2MM SM — LPDP_RCAM2_SWIDE_TO_SOC_DATA_P<1>
- PP95F8 P2MM SM — LPDP_RCAM2_SWIDE_TO_SOC_DATA_N<1>
- PP95F9 P2MM SM — LPDP_SOC_TO_RCAM2_SWIDE_AUX
- PP95FA P2MM SM — LPDP_JASPER_TO_SOC_DATA_P
- PP95FB P2MM SM — LPDP_JASPER_TO_SOC_DATA_N
- PP95FC P2MM SM — LPDP_SOC_TO_JASPER_AUX

BOM_COST_GROUP=NO_COST_ITEMS

PAGE TITLE

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.C4	L8111.2	?	?	SERA BUCK1 LX1 DCR
U3800.G2	U8500.L13	?	?	PPVBUS_PROT FROM ACE TO POTOMAC DCR
Q8000.A1	U8500.L13	?	?	PPVBUS_PROT FROM BELLATRIX B2B FET TO POTOMAC DCR
Q8000.A2	Q8051.3	?	?	PPVBUS_ORION_RVP FROM BELLATRIX B2B FET TO ORION RVP FET DCR
Q8051.2	FL8950.1	?	?	PPVBUS_ORION FROM ORION RVP FET TO FERRITE DCR
FL8950.2	J8902.10	?	?	PPVBUS_ORION_CONN FROM FERRITE TO ORION B2B DCR
U3800.G6	J3700.29	?	?	PPVBUS_ORION_CONN FROM FERRITE TO ORION B2B DCR
J8900.3	R8582.2	?	?	PPBATT_VCC FROM BATT CONN TO SENSE RES DCR
R8582.1	Q8580.5	?	?	PPBATT_VCC_R FROM SENSE RES TO VBATT/VCCMAIN FET DCR
Q8580.1	U8500.A1	?	?	PPVCC_MAIN FROM SENSE RES TO POTOMAC DCR
U3500.D2	J3500.2	?	?	SPKRAMP_FH_R_T_OUT_P FROM SPKRAMP TO B2B DCR
U3500.C2	J3500.1	?	?	SPKRAMP_FH_R_T_OUT_N FROM SPKRAMP TO B2B DCR
Q8581.1	U6100.D8	?	?	PPVCC_HIGH FROM Q8581 TO ADAMS REAR DCR
Q8581.1	U6900.D8	?	?	PPVCC_HIGH FROM Q8581 TO ADAMS FRONT DCR
Q8580.1	U6100.A3	?	?	PPVCC_MAIN FROM Q8581 TO ADAMS REAR DCR
Q8580.1	U6900.A3	?	?	PPVCC_MAIN FROM Q8581 TO ADAMS FRONT DCR
U6900.D7	FL2851.1	?	?	PP2V85 SWIDE FCAM FROM FRONT ADAMS TO FERRITE DCR
U6100.D7	FL6603.1	?	?	PP2V85 SWIDE RCAM FROM REAR ADAMS TO FERRITE DCR
U6100.E7	FL6503.1	?	?	PP2V85 WIDE RCAM FROM REAR ADAMS TO FERRITE DCR
U4000.B5	R38B1.1	?	?	B5_USB_SOC_N DCR
U4000.A5	R38B0.1	?	?	B5_USB_SOC_P DCR
R38B1.2	U3800.H21	?	?	B5_USB_SOC_R_N DCR
R38B0.2	U3800.H19	?	?	B5_USB_SOC_R_P DCR
R38A3.1	J3700.17	?	?	ACE_USB_BOT_CONN_N DCR
R38A2.1	J3700.15	?	?	ACE_USB_BOT_CONN_P DCR
U3800.J22	R38A3.2	?	?	ACE_USB_BOT_N DCR
U3800.J20	R38A2.2	?	?	ACE_USB_BOT_P DCR
R38A1.1	J3700.9	?	?	ACE_USB_TOP_CONN_N DCR
R38A0.1	J3700.11	?	?	ACE_USB_TOP_CONN_P DCR
U3800.K21	R38A1.2	?	?	ACE_USB_TOP_N DCR
U3800.K19	R38A0.2	?	?	ACE_USB_TOP_P DCR
U4701.A3	J4801.47	?	?	PP_LUME_OUT FROM LUME TO BCON B2B DCR

BOM_COST_GROUP=NO_COST_ITEMS

PAGE TITLE

TEST: DCR TABLE

POWER CONNECTIONS

SERA SIMETRA BUCKS:

SERA_BUCK0 (ACTIVE)
PPVDD_CPU (MAKE_BASE=TRUE) → PPVDD_CPU (13 69)

SERA_BUCK1 (SW CONTROL)
PPVDD_GPU (MAKE_BASE=TRUE) → PPVDD_GPU (13 69)

SERA_BUCK2 (SLEEP1)
PPVDD_S1_SOC (MAKE_BASE=TRUE) → PPVDD_S1_SOC (13 69)

SERA_BUCK3 (SLEEP2)
PP1V8_S2 (MAKE_BASE=TRUE) → PP1V8_S2 (11; 36 38; 25 42; 43; 55 56 61 62 66 70; 21 41 44 65 69 72 74; 64; 76; 19 53; 78; 78; 39 40 41; 19 25 29; 78; 19 25 29 41 64)

BUCK3 SWITCHES

SERA_BUCK3_SW1 (ACTIVE)
PP1V8_SW1_IO (MAKE_BASE=TRUE) → PP1V8_SW1_IO (28 30 31 32 33; 7; 7; 12; 73)

SERA_BUCK3_SW2 (SLEEP2)
PP1V8_S2_TOUCH (MAKE_BASE=TRUE) → PP1V8_S2_TOUCH (20 21)

SIMETRA_BUCK3_SW4 (SPARE)
PP_BUCK3_SW4_SPARE (MAKE_BASE=TRUE)

SIMETRA_BUCK4 (SLEEP2)
PP1V06_S2 (MAKE_BASE=TRUE) → PP1V06_S2 (66; 11 65)

SIMETRA_BUCK5 (SW CONTROL)
PPVDD_S1_SRAM (MAKE_BASE=TRUE) → PPVDD_S1_SRAM (14 65)

SIMETRA_BUCK6 (ACTIVE)
PP2V63_NAND (MAKE_BASE=TRUE) → PP2V63_NAND (17 18 65)

SERA_BUCK7 (ACTIVE)
PPVDD_CPU_SRAM (MAKE_BASE=TRUE) → PPVDD_CPU_SRAM (14 70)

SERA_BUCK8 (SLEEP1)
PPVDD_S1_DISP (MAKE_BASE=TRUE) → PPVDD_S1_DISP (13 70)

SERA_BUCK9 (SLEEP1)
PPVDD_S1_DCS (MAKE_BASE=TRUE) → PPVDD_S1_DCS (14 70)

SIMETRA_BUCK10 (SLEEP1)
PPVDD_S1_QL (MAKE_BASE=TRUE) → PPVDD_S1_QL (11 65)

SERA_BUCK11 (ACTIVE)
PPVDD_ECPD (MAKE_BASE=TRUE) → PPVDD_ECPD (13 70)

SIMETRA_BUCK12 (SLEEP1)
PP0V88_S1 (MAKE_BASE=TRUE) → PP0V88_S1 (66)

SIMETRA_BUCK12_SW6/7 (ACTIVE)
PP0V88_NAND (MAKE_BASE=TRUE) → PP0V88_NAND (17 18)

SIMETRA_BUCK13 (SLEEP2)
PP1V25_S2 (MAKE_BASE=TRUE) → PP1V25_S2 (65 66 69; 66 70; 10 41 73 74 76; 6 78; 10; 10; 78; 19; 65 69; 7 68; 64; 36; 19 25 29 38 41 53 54 64 76; 20 77; 78; 12)

SERA_BUCK13_SW3 (ACTIVE)
PP1V2_IO (MAKE_BASE=TRUE) → PP1V2_IO (7; 5 6 7 9 24 44 67 76; 7; 28 30 31 32 33; 12)

SIMETRA_BUCK13_SW5 (ACTIVE)
PP1V2_NAND (MAKE_BASE=TRUE) → PP1V2_NAND (9 17 18)

SERA SIMETRA LDOS:

SERA_LDO1 (SW CONTROL)
PP3V3_BSB (MAKE_BASE=TRUE) → PP3V3_BSB (37 38)

SERA_LDO2 (SW CONTROL)
PP1V8_LDCM (MAKE_BASE=TRUE) → PP1V8_LDCM (54)

SERA_LDO3 (SLEEP2)
PP1V20_S2_NFC (MAKE_BASE=TRUE) → PP1V20_S2_NFC (78)

SIMETRA_LDO4 (SLEEP2)
PP0V72_S2_VDDLOW (MAKE_BASE=TRUE) → PP0V72_S2_VDDLOW (225 MA(MAX); 12)

SERA_LDO5 (SLEEP2)
PP2V95_S2_SCORPIUS (MAKE_BASE=TRUE) → PP2V95_S2_SCORPIUS (76)

SIMETRA_LDO6 (ACTIVE)
SIMETRA_LDO6_SPARE

SERA_LDO7 (SLEEP 2)
PP3V3_S2_ACE_PARROT (MAKE_BASE=TRUE) → PP3V3_S2_ACE_PARROT (36 54; 38)

SIMETRA_LDO8 (ACTIVE)
PP1V2_SOC_LN (MAKE_BASE=TRUE) → PP1V2_SOC_LN (12; 11 12)

SERA_ON_BUF_LDO9 (ALWAYS)
PP1V8_SERA_ALWAYS (MAKE_BASE=TRUE) → PP1V8_SERA_ALWAYS (72 73)

SIMETRA_LDO9 (ALWAYS)
PP1V8_SIMETRA_ALWAYS (MAKE_BASE=TRUE) → PP1V8_SIMETRA_ALWAYS (72)

SERA_LDO10 (SPARE)
PP_SERA_LDO10_SPARE — NOTE: BACK UP FOR PP3V3 S2 SCORPIUS

SIMETRA_LDO11 (SLEEP2)
PPVDD_S2_CIO (MAKE_BASE=TRUE) → PPVDD_S2_CIO (12)

SIMETRA_LDO12 (SLEEP1)
PP0V8_S1_SOC_FIXED (MAKE_BASE=TRUE) → PP0V8_S1_SOC_FIXED (12)

SERA_LDO13 (SLEEP2)
PP3V3_S2_TOUCH (MAKE_BASE=TRUE) → PP3V3_S2_TOUCH (20)

SERA_LDO14 (SLEEP2)
PP1V2_S2_TOUCH (MAKE_BASE=TRUE) → PP1V2_S2_TOUCH (21)

SIMETRA_LDO15 (SPARE)
SIMETRA_LDO15_SPARE

SERA_LDO16 (SPARE)
PP_SERA_LDO16_SPARE

NOTE: PP3V3 PENROSE MOVED FROM LDO17 TO ADAMS REAR PMU

SIMETRA_LDO17 (SPARE)
PP_SIMETRA_LDO17_SPARE

SIMETRA_LDO18 (SLEEP2)
PP3V0_S2_ALS (MAKE_BASE=TRUE) → PP3V0_S2_ALS (41; 78)

SERA_LDO19 (SLEEP4)
PPVDD_S4_HIB_UNUSED (NON-POR)

SIMETRA_LDO20 (SLEEP2)
PP1V2_S2_CIO (MAKE_BASE=TRUE) → PP1V2_S2_CIO (12)

CHARGER HIGH
PPVCC_HIGH (MAKE_BASE=TRUE) → PPVCC_HIGH (65 69 71; 39; 55 61; 78)

BACKLIGHT BOOST
PPLED_OUT (MAKE_BASE=TRUE) → PPLED_OUT (43)

USB POWER INPUT
PPVBUS_PROT (MAKE_BASE=TRUE) → PPVBUS_PROT (36 68 73)

ADAMS REAR CAM:

ADAMS_REAR_BUCK0 (SW CONTROL)
PP1V4_ADAMS1_VDDL (MAKE_BASE=TRUE) → PP1V4_ADAMS1_VDDL (55 57)

ADAMS_REAR_LDO1 (SW CONTROL)
PP3V3_ADAMS_LDO1 (MAKE_BASE=TRUE) → PP3V3_ADAMS_LDO1 (57)
3.3V → PP3V3_ADAMS_LDO1 (57)

ADAMS_REAR_LDO2 (SW CONTROL)
PP3V0_JASPER_RX_AVDDH (MAKE_BASE=TRUE) → PP3V0_JASPER_RX_AVDDH (60)

ADAMS_REAR_LDO3 (SW CONTROL)
PP3V0_PENROSE (MAKE_BASE=TRUE) → PP3V0_PENROSE (24 25)

ADAMS_REAR_LDO4 (SW CONTROL)
PP3V3_JASPER_TX_AVDDH (MAKE_BASE=TRUE) → PP3V3_JASPER_TX_AVDDH (60)

ADAMS_REAR_LDO5 (SW CONTROL)
PP3V3_RPMU_LDO5_ADC_PENROSE (MAKE_BASE=TRUE) → PP3V3_RPMU_LDO5_ADC_PENROSE

ADAMS_REAR_LDO6 (SW CONTROL)
PP2V85_WIDE_RCAM1_AVDDH1 (MAKE_BASE=TRUE) → PP2V85_WIDE_RCAM1_AVDDH1 (58)

ADAMS_REAR_LDO7 (SW CONTROL)
PP2V85_SWIDE_RCAM2_AVDDH1 (MAKE_BASE=TRUE) → PP2V85_SWIDE_RCAM2_AVDDH1 (59)

ADAMS_REAR_LDO8 (SW CONTROL)
PP1V215_RCAM_SWIDE_VDDL (MAKE_BASE=TRUE) → PP1V215_RCAM_SWIDE_VDDL (59)

ADAMS_REAR_LDO9 (SW CONTROL)
PP1V215_RCAM_WIDE_VDDL (MAKE_BASE=TRUE) → PP1V215_RCAM_WIDE_VDDL (58)

ADAMS_REAR_LDO10 (INTERNAL)
PP1V2_INT_ADAMS_REAR

ADAMS_REAR_SW1 (SW CONTROL)
PP1V8_RPMU_IO_SW (MAKE_BASE=TRUE) → PP1V8_RPMU_IO_SW (56; 58; 59; 57 60)

CHARGER MAIN
PPVCC_MAIN (MAKE_BASE=TRUE) → PPVCC_MAIN (65 69; 66 69 71; 34; 43; 69 71; 39; 78; 78; 27; 65 69 77; 20; 30 31 32 33; 76; 78; 75; 55 61; 57; 66 71; 44)

BATTERY
PPBATT_VCC (MAKE_BASE=TRUE) → PPBATT_VCC (76)

ADAMS FRONT CAM:

ADAMS_FRONT_BUCK0 (SW CONTROL)
PP_FPMU_VDDL (MAKE_BASE=TRUE) → PP_FPMU_VDDL (61)

ADAMS_FRONT_LDO1 (SW CONTROL)
PP3V1_PEARL (MAKE_BASE=TRUE) → PP3V1_PEARL (40)

ADAMS_FRONT_LDO2 (SPARE)
FPMU_VLDO2_SPARE

ADAMS_FRONT_LDO3 (SW CONTROL)
PP1V8_JULIET_VDDIO (MAKE_BASE=TRUE) → PP1V8_JULIET_VDDIO (40 62)

ADAMS_FRONT_LDO4 (SW CONTROL)
PP1V215_JULIET_VDDL (MAKE_BASE=TRUE) → PP1V215_JULIET_VDDL (40)

ADAMS_FRONT_LDO5 (SW CONTROL)
PP2V85_JULIET_AVDDH1 (MAKE_BASE=TRUE) → PP2V85_JULIET_AVDDH1 (40)

ADAMS_FRONT_LDO6 (SPARE)
FPMU_VLDO6_SPARE (1177)

ADAMS_FRONT_LDO7 (SW CONTROL)
PP2V85_SWIDE_FCAM2_AVDDH1 (MAKE_BASE=TRUE) → PP2V85_SWIDE_FCAM2_AVDDH1 (26)

ADAMS_FRONT_LDO8 (SW CONTROL)
PP1V215_FCAM2_SWIDE_VDDL (MAKE_BASE=TRUE) → PP1V215_FCAM2_SWIDE_VDDL (26)

ADAMS_FRONT_LDO9 (SW CONTROL)
PP1V215_FRCAM1_WIDE_VDDL (MAKE_BASE=TRUE) → PP1V215_FRCAM1_WIDE_VDDL

ADAMS_FRONT_LDO10 (INTERNAL)
PP1V2_INT_ADAMS_FRONT

ADAMS_FRONT_SW1 (SW CONTROL)
PP1V8_FCAM_PMU_IO_SW (MAKE_BASE=TRUE) → PP1V8_FCAM_PMU_IO_SW (62; 26)

BOM_COST_GROUP=NO_COST_ITEMS

PAGE TITLE

ALIASES: POWER

BOM TABLES

ALT TABLES

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
197S00254	197S00250	?	Y601_E	EPS,38.4MHZ,8PF,1612
197S00283	197S00250	?	Y601_E	KYC,38.4MHZ,8PF,1612

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
152S01350	152S01453	?	L401_E	IND,MLD,0.47UH,20%,4.8A,26MOHM,0805,H0.8
152S01350	152S01453	?	L402_E	IND,MLD,0.47UH,20%,4.8A,26MOHM,0805,H0.8
152S01350	152S01453	?	L403_E	IND,MLD,0.47UH,20%,4.8A,26MOHM,0805,H0.8
152S01350	152S01453	?	L406_E	IND,MLD,0.47UH,20%,4.8A,26MOHM,0805,H0.8
152S01350	152S01453	?	L407_E	IND,MLD,0.47UH,20%,4.8A,26MOHM,0805,H0.8
152S01352	152S01454	?	L404_E	IND,PWR,1.0UH,20%,3.3A,60MOHM,2012
152S01352	152S01454	?	L405_E	IND,PWR,1.0UH,20%,3.3A,60MOHM,2012

PART NUMBER	ALTERNATE FOR PART NUMBER	BOM OPTION	REF DES	COMMENTS:
335S00013	335S0894	?	EEPROM_E	EEPROM,8KBIT,I2C
107S0245	107S0244	?	R607_E	THERMISTOR,NTC,100K OHM,1%,B=4250,01005
117S00012	117S00040	?	FL5921_E,FL5922_E,FL5924_E	RES,0 OHM,JUMPER,1/10W,4.5A,0201

OPTION A) IS FOR THE CASE THAT CHINA WILL NOT ACCEPT ESIM. (337S00848: PROD)
OPTION B) IS IN CASE CHINA ACCEPTS ESIM, THEN THE CHINA CONFIGS WILL USE PROD-CN PARTS.(337S00848: PROD-CN)

OMIT TABLE

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	BOM OPTION
118S00050	1	RES,MF,5.6K OHM,1%,1/32W,01005	R630_E	RF_SKU:WW+KOLKATA
118S0730	1	RES,MF,12.0K OHM,1%,1/32W,01005	R630_E	RF_SKU:WW
118S00050	1	RES,MF,5.6K OHM,1%,1/32W,01005	R631_E	BOARD_REV:PROTO0
118S0730	1	RES,MF,12.0K OHM,1%,1/32W,01005	R631_E	BOARD_REV:PROTO1
118S0626	1	RES,MF,100.0K OHM,1%,1/32W,01005	R631_E	BOARD_REV:PROTO2
118S00193	1	RES,MF,36.5K OHM,1%,1/32W,01005	R631_E	BOARD_REV:EVT
118S0868	1	RES,MF,47.5K OHM,1%,1/32W,01005	R631_E	BOARD_REV:CRB
118S00136	1	RES,TK,60.4K OHM,1%,1/32W,01005	R631_E	BOARD_REV:DVT
118S0768	1	RES,MF,75.0K OHM,1%,1/32W,01005	R631_E	BOARD_REV:PVT
118S0626	1	RES,MF,100K OHM,1%,1/32W,01005	R632_E	J518
118S0737	1	RES,MF,124K OHM,1%,1/32W,01005	R632_E	J523
118S00122	1	RES,MF,27.0K OHM,1%,1/32W,01005	R631_E	BOARD_REV:PRE-PROTO2

BOM_COST_GROUP=NO_COST_ITEMS

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

BOM TABLES

IMPEDANCE TABLES

SPACING CAPPED TABLES

INTENTIONALLY LEFT BLANK, CMA TABLES REMOVED AFTER PROTO1

Spacing CSet Definitions

Custom mmW Constraint

Physical

Spacing

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

CONSTRAINTS: Impedance Tables

BOM_COST_GROUP=NO_COST_ITEMS

50-OHM PHYSICAL CONSTRAINTS

INTENTIONALLY LEFT BLANK, CMA TABLES REMOVED AFTER PROTO1

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

CONSTRAINTS: RF Physical

BOM_COST_GROUP=NO_COST_ITEMS

50-OHM SPACING CONSTRAINTS

INTENTIONALLY LEFT BLANK, CMA TABLES REMOVED AFTER PROTO1

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

CONSTRAINTS : RF Spacing

BOM_COST_GROUP=NO_COST_ITEMS

INTENTIONALLY LEFT BLANK, CMA TABLES REMOVED AFTER PROTO1

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

CONSTRAINTS: Power

BOM_COST_GROUP=NO_COST_ITEMS

90-ohm Diff Pair Constraints

INTENTIONALLY LEFT BLANK, CMA TABLES REMOVED AFTER PROTO1

BOM_COST_GROUP=NO_COST_ITEMS

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

CONSTRAINTS : 90ohm

Diff Pair Constraints

Grouping Constraints

RF-Shield

INTENTIONALLY LEFT BLANK, CMA TABLES REMOVED AFTER PROTO1

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

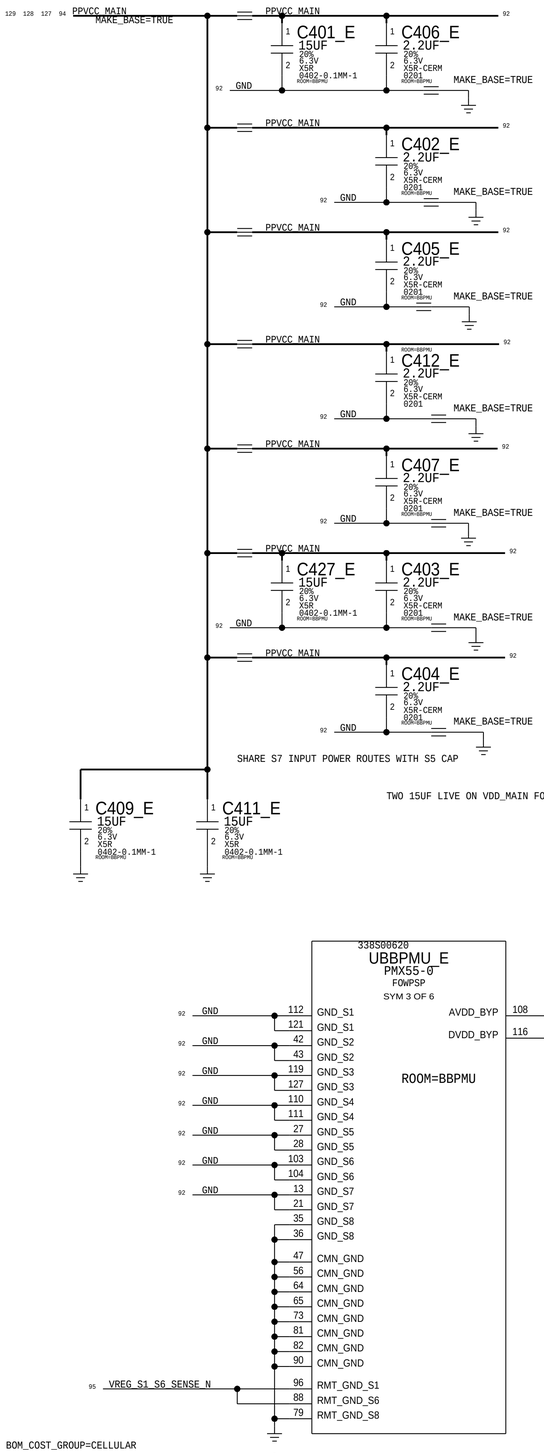
PAGE TITLE

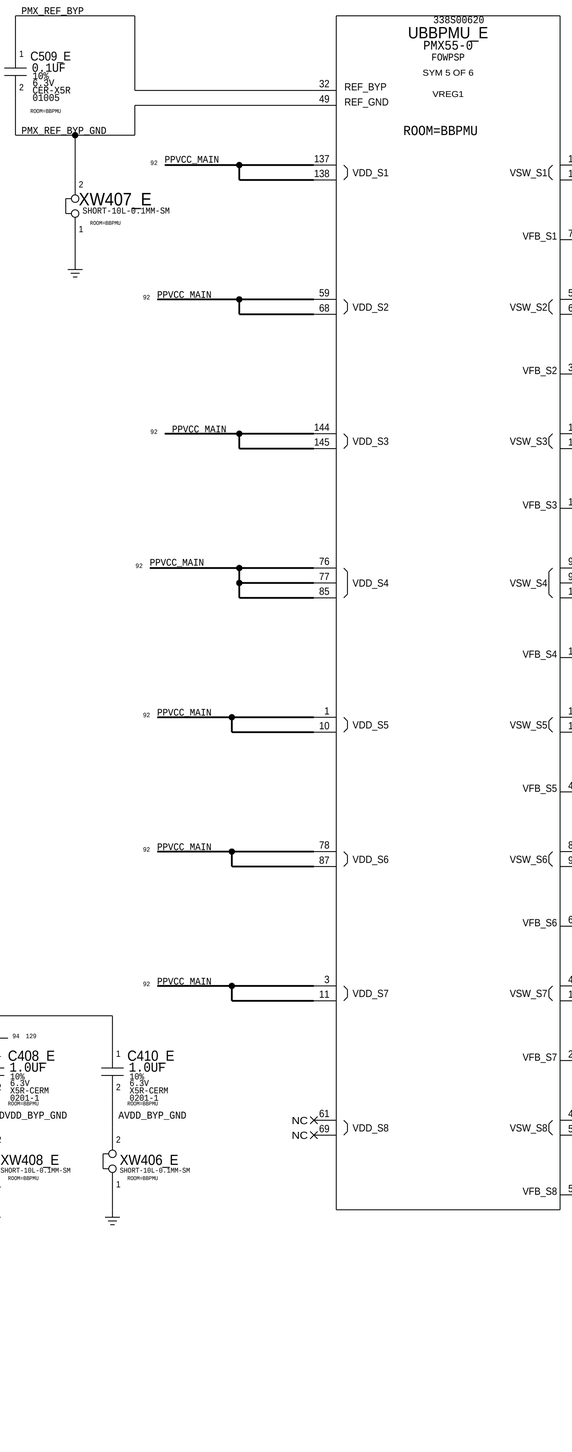
CONSTRAINTS: Misc

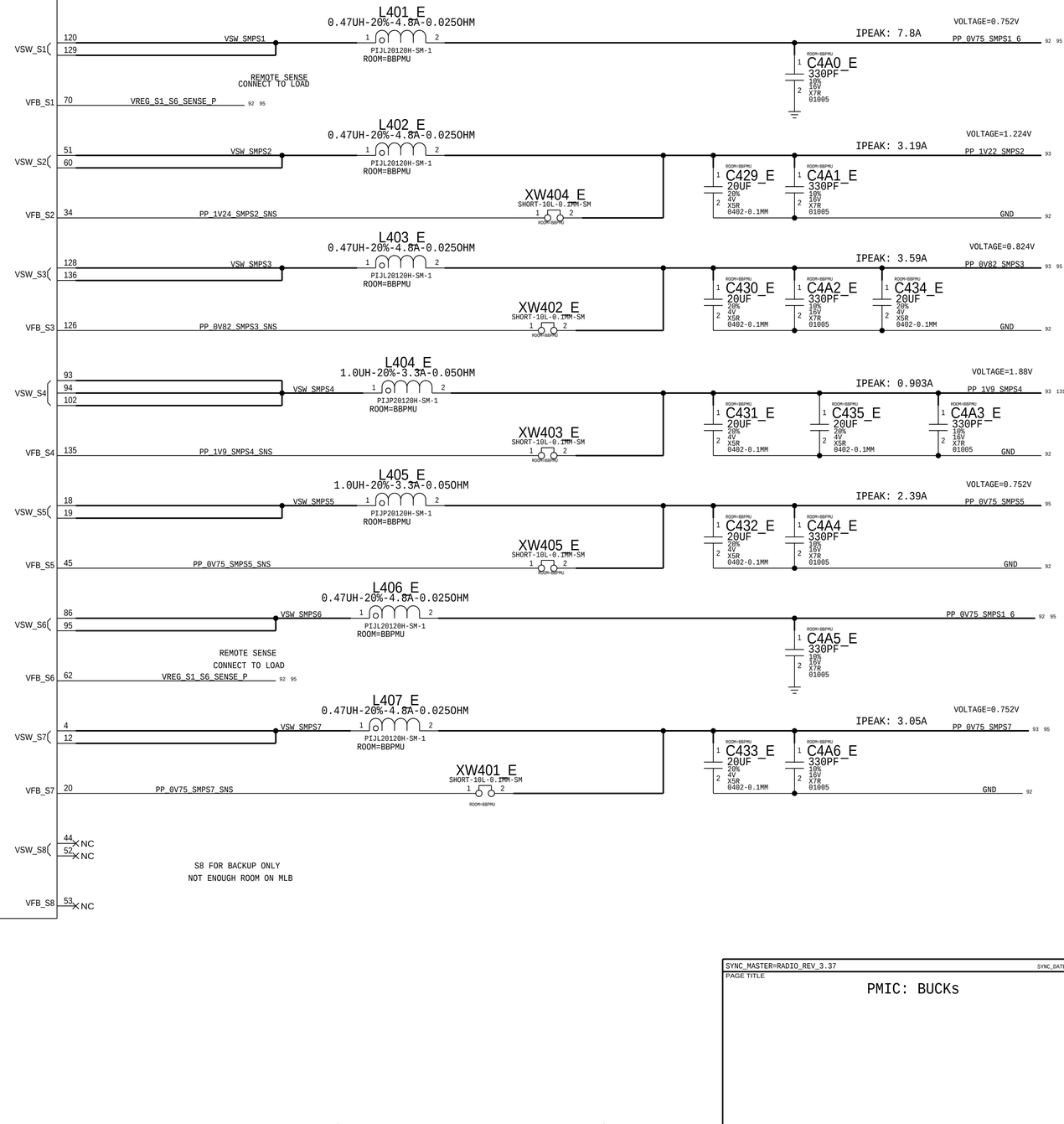
BOM_COST_GROUP=NO_COST_ITEMS

BB PMU: SMPS

SMPS INPUT CAPS







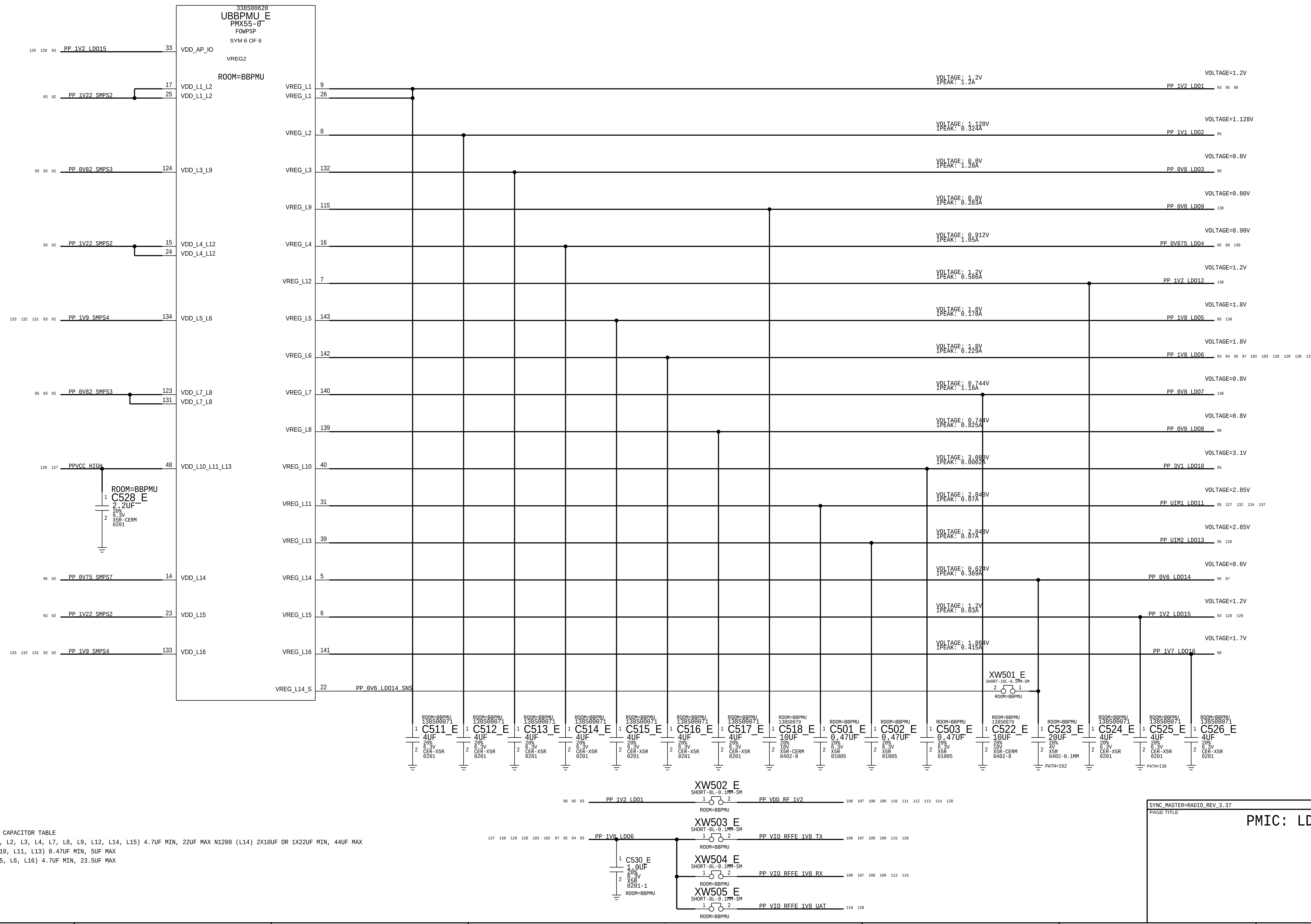
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

PMIC: BUCKs

BB PMU: LDOS



PMX55 LDO CAPACITOR TABLE
N1200 (L1, L2, L3, L4, L7, L8, L9, L12, L14, L15) 4.7UF MIN, 22UF MAX N1200 (L14) 2X10UF OR 1X22UF MIN, 44UF MAX
MVP150 (L10, L11, L13) 0.47UF MIN, 5UF MAX
LVP600 (L5, L6, L16) 4.7UF MIN, 23.5UF MAX

BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020
PAGE TITLE
PMIC: LDOs

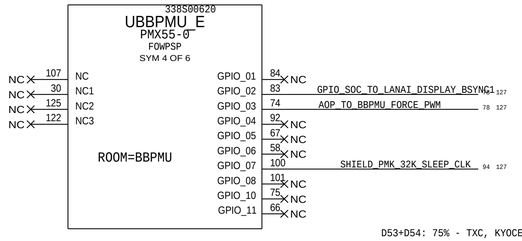
BB PMU: XTAL, CLK, ANALOG, IO

BOARD_ID	APN	R631_E	MLB/RADIO_DEV	HEX
0.05V-0.15V	118S00050	5.6K	PROTO0/DEV1	0X01
0.15V-0.25V	118S0730	12.0K	PROTO1/DEV2	0X02
0.25V-0.35V	118S00088	19.1K	PROTO1.5/DEV3	0X03
0.35V-0.45V	118S00122	27.0K	PRE-PROTO2/DEV4	0X04
0.45V-0.55V	118S00193	36.5K	EVT/DEV5	0X05
0.55V-0.65V	118S0868	47.5K	CARRIER/DEV6	0X06
0.65V-0.75V	118S00136	60.4K	DVT/DEV7	0X07
0.75V-0.85V	118S0768	75.0K	PVT	0X08
0.85V-0.95V	118S0626	100K	PROTO2	0X09
0.95V-1.05V	118S0737	124K	SPARE	0X0A
1.05V-1.15V	118S0688	143K	SPARE	0X0B
1.15V-1.25V	TBD	TBD	SPARE	SPARE

PLATFORM_ID	APN	R632_E	MLB/RADIO_DEV	HEX
0.05V-0.15V	118S00050	5.6K	RADIO_DEV	0X1
0.15V-0.25V	118S0730	12.0K	DARWIN_FX	0X2
0.25V-0.35V	118S00088	19.1K	DARWIN_PG	0X3
0.35V-0.45V	118S00122	27.0K	MAV20.0	0X4
0.45V-0.55V	118S00193	36.5K	MAV20.1	0X5
0.55V-0.65V	118S0868	47.5K	MAV20.2	0X6
0.65V-0.75V	118S00136	60.4K	RESERVED	0X7
0.75V-0.85V	118S0768	75.0K	RESERVED	0X8
0.85V-0.95V	118S0626	100K	MAV20.5	0X9
0.95V-1.05V	118S0737	124K	MAV20.6	0XA
1.05V-1.15V	118S0688	143K	DEV BEERPONG	0XB
1.15V-1.25V	TBD	TBD	SPARE	SPARE

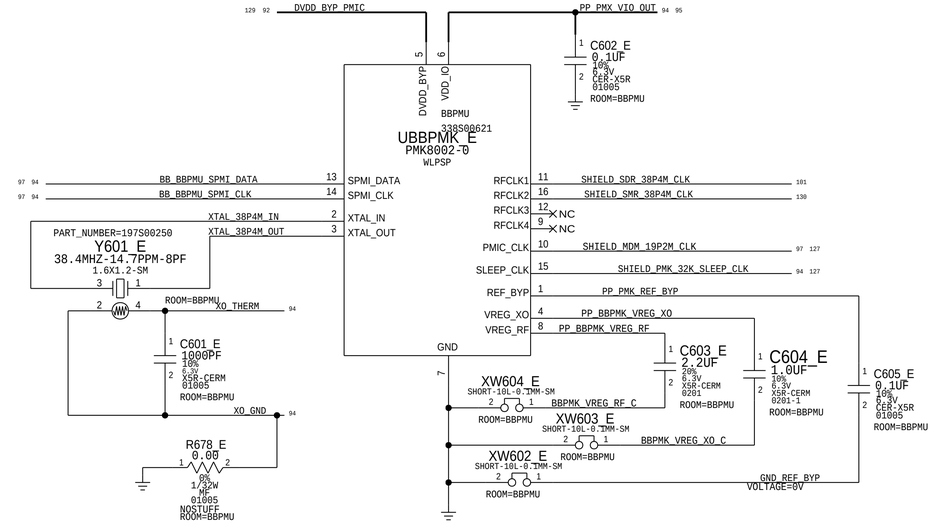
SKU_ID	APN	R630_E	MLB/RADIO_DEV	HEX
0.05V-0.15V	118S00050	5.6K	WW+KOLKATA	0X1
0.15V-0.25V	118S0730	12.0K	WW	0X2
0.25V-0.35V	118S00088	19.1K	SPARE	0X3
0.35V-0.45V	118S00122	27.0K	SPARE	0X4
0.45V-0.55V	118S00193	36.5K	SPARE	0X5
0.55V-0.65V	118S0868	47.5K	SPARE	0X6
0.65V-0.75V	118S00136	60.4K	SPARE	0X7
0.75V-0.85V	118S0768	75.0K	SPARE	0X8
0.85V-0.95V	118S0626	100K	SPARE	0X9
0.95V-1.05V	118S0737	124K	SPARE	0XA
1.05V-1.15V	118S0688	143K	SPARE	0XB
1.15V-1.25V	TBD	TBD	SPARE	SPARE

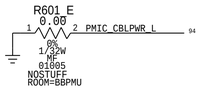
NOTE: ONLY 2 RF SKUS IN J5XX
SIM VARIANTS (PSIM , ESIM, PSIM+ESIM) ARE NOT RF_SKUS

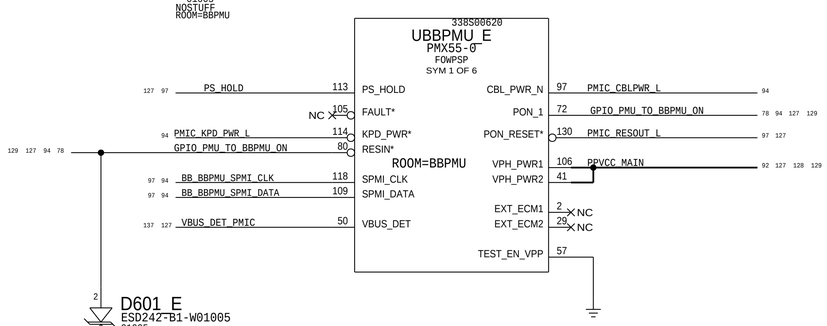


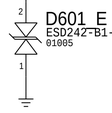
D53+D54: 75% - TXC, KYOCERA, NDK
D52+J5XX ~25% - TXC, KYOCERA, EPSON

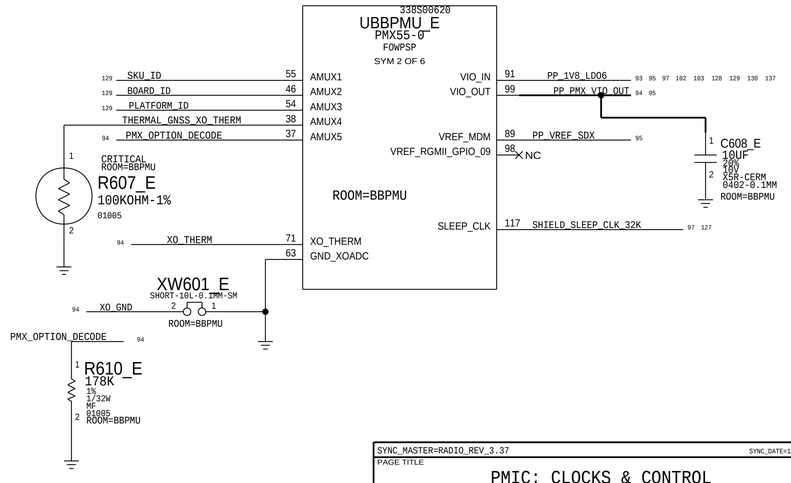
197S00249: NDK EXS00A-CS12723
197S00250: TXC OW38410007
197S00254: EPSON X1E000401000400
197S00283 : KYOCERA CT1612DB38400D0FLHA3











SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020
PAGE TITLE
PMIC: CLOCKS & CONTROL

BOM_COST_GROUP=CELLULAR

BB: PDN

337S00865 U_BB_E SDX-55M-0-PSP547-02-1 PSP SYM 5 OF 8 PWR

VDDCX: AA29 AB12 AB14 AB16 AC11 AC13 AC15 AC17 AC19 AC21 AC23 AC25 AC27 AC29 AC9 AD18 AD20 AD22 AD26 W29
VDDMX: AB10 AB22 AB24 AB8 AD24 AE25 G23 G25 G27 H10 H8 K16 K18 L25 L27 M8 P28 P8 R19 R21 T14 T16 T28 T8 U21 U23 W13 W15 W19 W21
VDD_MODEM: AA19 AA27 G21 H12 H14 H16 H18 H20 H22 H24 H26 H28 J11 J9 L11 L13 L15 L17 L19 L21 L23 L9 M10 M12 M14 M16 M18 M20 M22 M24 M26 M28 R11 R13 R15 R17 R23 R25 R27 R9 T10 T12 T18 T20 T22 T24 T26 W11 W17 W23 W25 W27 W5 W9 Y10 Y12 Y14 Y16 Y18 Y20 Y22 Y24 Y26 Y28 Y4 Y6 Y8

PP_0V75_SMPS5 (95 92) → VDDCX
PP_0V75_SMPS7 (95 93 92) → VDDMX
PP_0V75_SMPS1_6 → VDD_MODEM

C761_E 22UF 20% 4V CER-X5R 0402-0.1MM — NOSTUFF
C762_E 20UF 20% 4V X5R 0402-0.1MM
C763_E 20UF 20% 4V X5R 0402-0.1MM
C764_E 20UF 20% 4V X5R 0402-0.1MM
XW701_E SHORT-10L-0.1MM-SM → VREG_S1_S6_SENSE_P (92)
XW702_E SHORT-10L-0.1MM-SM → VREG_S1_S6_SENSE_N (92)

337S00865 U_BB_E SDX-55M-0-PSP547-02-1 PSP SYM 6 OF 8 PWR

PP_1V8_LDO6 (137 130 129 128 103 102 97 95 94 93) → VDD1
PP_1V1_LDO2 (93) → VDD2
C719_E C724_E C729_E C733_E C739_E C741_E 0.22UF 10% 6.3V CER-X5R 01005
PP_1V8_LDO6 (137 130 129 128 103 102 97 95 94 93) → VDDPX_3
C720_E C725_E C730_E C734_E C737_E C740_E 0.22UF 10% 6.3V CER-X5R 01005
PP_PMX_VIO_OUT (94) → VDDPX_0
PP_UIM1_LDO11 (137 134 132 127 93) → VDDPX_4
PP_UIM2_LDO13 (126 93) → VDDPX_5
PP_1V2_LDO1 (98 95 93) → VDDPX_11
PP_1V8_LDO6 (128) → VDDPX_12
PP_1V2_LDO15 (128) → VDDPX_71
PP_1V2_LDO15 (128) → VDDPX_72
PP_1V2_LDO15 (128) → VDDPX_73
PP_1V2_LDO15 (128) → VDDPX_74
PP_VREF_SDX (94) → VDDPX_VBIAS_UIM
C738_E 0.22UF 10% 6.3V CER-X5R 01005
C789_E 2.2UF 20% 6.3V X5R-CERM 0201
C735_E 2.2UF 20% 6.3V X5R-CERM 0201
C732_E 2.2UF 20% 6.3V X5R-CERM 0201
C726_E 2.2UF 20% 6.3V X5R-CERM 0201
C722_E 2.2UF 20% 6.3V X5R-CERM 0201
C728_E 2.2UF 20% 6.3V X5R-CERM 0201
C721_E 2.2UF 20% 6.3V X5R-CERM 0201
C765_E 1.0UF 10% 6.3V X5R-CERM 0201-1
PP_0V6_LDO14 (97 95 93) → VDDQ
PP_0V82_SMPS3 (93 92) → VDD_ILDO_NAV
PP_1V8_LDO6 (129 128 103 102 97 95 94 93 137 130) → VDD_QFPROM
PP_0V875_LDO4 (130 98 95 93) → VDD_USB_HS_DVDD
C767_E C723_E C727_E C731_E C736_E 0.22UF 10% 6.3V CER-X5R 01005

337S00865 U_BB_E SDX-55M-0-PSP547-02-1 PSP SYM 8 OF 8 PWR

VDDA_DDRSS: L29 N29 R29 U29 V30
VDDA_DDRSS_CC: P32
VDDA_DDRSS_HV: W31
VDDA_DDRSS_PLL_HV: AF10
VDDA_PCIE_0P9: AG11 AF8
VDDA_PCIE_1P2: G9 AC7
VDDA_QREF_0P9: AE7
VDDA_QREF_1P8: AE13 AG13
VDDA_USB_HS_1P8: AF14 AE15
VDDA_USB_HS_3P3: G19 F20 G17 F18
VDDA_USB_SS_0P9: G13 G11 G15 F12 F14
VDDA_USB_SS_1P2: J31 L31 N31 U31 R31
VDDA_QLINK0_HV
VDDA_QLINK0_LV
VDDA_QLINK0_LV_CK
VDDA_QLINK1_HV
VDDA_QLINK1_LV
VDDA_QLINK1_LV_CK
VDDIO_DDRSS
VDDIO_DDRSS_CK

PP_0V75_SMPS7 (92 93 95)
C749_E 0.22UF 10% 6.3V CER-X5R 01005
C768_E 2.2UF 20% 6.3V X5R-CERM 0201
C769_E 2.2UF 20% 6.3V X5R-CERM 0201
PP_1V2_LDO1 (93 95 98)
PP_0V875_LDO4 (93 95 98 130)
PP_0V875_LDO4 (93 95 98 130)
PP_1V2_LDO1 (93 95 98)
PP_1V8_LDO5 (93 95 130)
C742_E C744_E C745_E C752_E C758_E 0.22UF 10% 6.3V CER-X5R 01005
PP_1V8_LDO5 (93 95 130)
PP_3V1_LDO10 (93)
PP_0V875_LDO4 (93 95 98 130)
PP_1V2_LDO1 (93 95 98)
PP_1V2_LDO1 (93 95 98)
C759_E C755_E C766_E C746_E C750_E 0.22UF 10% 6.3V CER-X5R 01005
PP_0V875_LDO4 (93 95 98 130)
C747_E 2.2UF 20% 6.3V X5R-CERM 0201
C751_E C756_E C760_E 0.22UF 10% 6.3V CER-X5R 01005
PP_0V6_LDO14 (93 95 97)
C743_E C748_E 2.2UF 20% 6.3V X5R-CERM 0201
C770_E C771_E C772_E C773_E C774_E 0.22UF 10% 6.3V CER-X5R 01005

VDD_CX
PP_0V75_SMPS5 (95 92)
C701_E 2.2UF 20% 6.3V X5R-CERM 0201
C704_E 2.2UF 20% 6.3V X5R-CERM 0201
C706_E C709_E C712_E C715_E C754_E C757_E C775_E C776_E 0.22UF 10% 6.3V CER-X5R 01005
132S00014

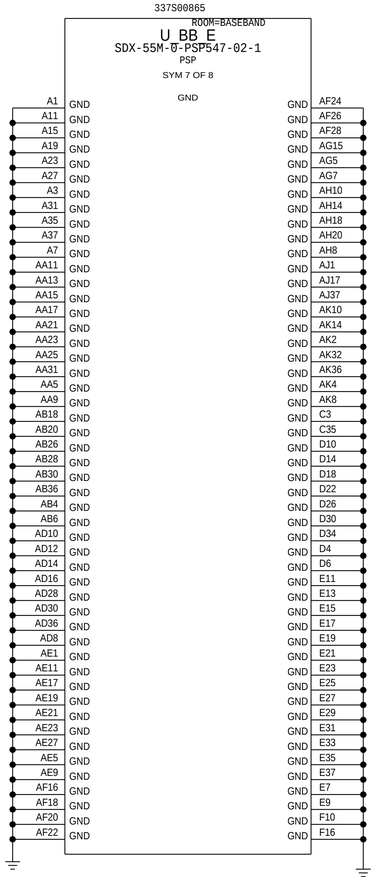
VDD_MX
PP_0V75_SMPS7 (95 93 92)
C702_E 2.2UF 20% 6.3V X5R-CERM 0201
C705_E C707_E C710_E C713_E C716_E C718_E C779_E C781_E C783_E 0.22UF 10% 6.3V CER-X5R 01005
132S00014

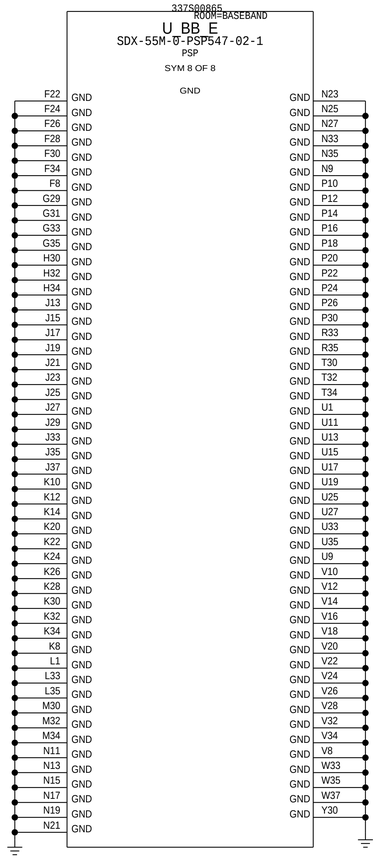
VDD_MODEM
PP_0V75_SMPS1_6 (95 92)
C777_E 2.2UF 20% 6.3V X5R-CERM 0201
C787_E 4UF 20% 6.3V CER 0201
C788_E 4UF 20% 6.3V CER-X5R 0201
C708_E C711_E C714_E C717_E C778_E C780_E C782_E C784_E C785_E C786_E 0.22UF 10% 6.3V CER-X5R 01005
138S00071

BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020
PAGE TITLE
BB: POWER

BB: GND





SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

BB: GND

BOM_COST_GROUP=CELLULAR

BB:IO,MEM,SERDES,EEPROM

337S00865

U_BB_E
SDX-55M-0-PSP547-02-1
PSP
SYM 2 OF 8
QLINK

127 100	85_SUB6_QLINK_L0_P	C29	QLINK0_L0_P	QLINK1_L0_P	C11	85_MMW_QLINK_L0_P	127 130
127 100	85_SUB6_QLINK_L0_N	B28	QLINK0_L0_M	QLINK1_L0_M	D12	85_MMW_QLINK_L0_N	127 130
100	85_SUB6_QLINK_L1_P	D32	QLINK0_L1_P	QLINK1_L1_P	B14	85_MMW_QLINK_L1_P	130
100	85_SUB6_QLINK_L1_N	C31	QLINK0_L1_M	QLINK1_L1_M	A13	85_MMW_QLINK_L1_N	130
100	85_SUB6_QLINK_L2_P	C33	QLINK0_L2_P	QLINK1_L2_P	B18	85_MMW_QLINK_L2_P	130
100	85_SUB6_QLINK_L2_N	B32	QLINK0_L2_M	QLINK1_L2_M	A17	85_MMW_QLINK_L2_N	130
100	85_SUB6_QLINK_L3_P	D24	QLINK0_L3_P	QLINK1_L3_P	B8	85_MMW_QLINK_L3_P	130
100	85_SUB6_QLINK_L3_N	C23	QLINK0_L3_M	QLINK1_L3_M	C9	85_MMW_QLINK_L3_N	130
100	85_SUB6_QLINK_L4_P	D28	QLINK0_L4_P	QLINK1_L4_P	B6	85_MMW_QLINK_L4_P	130
100	85_SUB6_QLINK_L4_N	C27	QLINK0_L4_M	QLINK1_L4_M	A5	85_MMW_QLINK_L4_N	130
100	85_SUB6_QLINK_L5_P	C25	QLINK0_L5_P	QLINK1_L5_P	C17	85_MMW_QLINK_L5_P	130
100	85_SUB6_QLINK_L5_N	B24	QLINK0_L5_M	QLINK1_L5_M	B16	85_MMW_QLINK_L5_N	130
100	85_SUB6_QLINK_L6_P	B26	QLINK0_L6_P	QLINK1_L6_P	B20	85_MMW_QLINK_L6_P	130
100	85_SUB6_QLINK_L6_N	A25	QLINK0_L6_M	QLINK1_L6_M	C21	85_MMW_QLINK_L6_N	130
100	85_SUB6_QLINK_L7_P	B34	QLINK0_L7_P	QLINK1_L7_P	B12	85_MMW_QLINK_L7_P	130
100	85_SUB6_QLINK_L7_N	A33	QLINK0_L7_M	QLINK1_L7_M	C13	85_MMW_QLINK_L7_N	130
100	85_SUB6_QLINK_CLK_P	A29	QLINK0_CLK_P	QLINK1_L8_P	B10	85_MMW_QLINK_L8_P	130
100	85_SUB6_QLINK_CLK_N	B30	QLINK0_CLK_M	QLINK1_L8_M	A9	85_MMW_QLINK_L8_N	130
				QLINK1_L9_P	D8	85_MMW_QLINK_L9_P	130
				QLINK1_L9_M	C7	85_MMW_QLINK_L9_N	130
				QLINK1_L10_P	B22	85_MMW_QLINK_L10_P	130
				QLINK1_L10_M	A21	85_MMW_QLINK_L10_N	130
				QLINK1_L11_P	C19	85_MMW_QLINK_L11_P	130
				QLINK1_L11_M	D20	85_MMW_QLINK_L11_N	130
				QLINK1_L12_P	B4	85_MMW_QLINK_L12_P	130
				QLINK1_L12_M	C5	85_MMW_QLINK_L12_N	130
				QLINK1_CLK_P	C15	85_MMW_QLINK_CLK_P	130
				QLINK1_CLK_M	D16	85_MMW_QLINK_CLK_N	130

337S00865

U_BB_E
SDX-55M-0-PSP547-02-1
PSP
SYM 3 OF 8
GPIO

127 126	BB_SIM2_DATA	AA3	GPIO_0	GPIO_40	H2	NC
97	BB_SIM2_DETECT	AA1	GPIO_1	GPIO_41	H4	NC
127 126	BB_SIM2_RESET	AB2	GPIO_2	GPIO_42	AK28	NC
127 126	BB_SIM2_CLK	Y2	GPIO_3	GPIO_43	Y32	NC
		T6	GPIO_4	GPIO_44	AJ23	UART_BB_TO_WLAN_COEX_1V2 78 127
		U3	GPIO_5	GPIO_45	AK24	UART_WLAN_TO_BB_COEX_1V2 78 127
		V4	GPIO_6	GPIO_46	AC33	NC
		U5	GPIO_7	GPIO_47	AA35	GPIO_BB_TO_SOC_RESET_DET_L 78 127
127 78	UART_BB_TO_AOP_TX	AK26	GPIO_8 BB_TX	GPIO_48	AJ35	GPIO_SOC_TO_BB_COREDUMP 78 127
127 78	UART_AOP_TO_BB_TX	AJ25	GPIO_9 BB_RX	GPIO_49	AH36	NC
97	BB_EEPROM_I2C_SDA	AH26	GPIO_10	GPIO_50	AG35	NC
97	BB_EEPROM_I2C_SCL	AG25	GPIO_11	GPIO_51	AF36	NC
127 78	I2S_BB_TO_SOC_LRCK	AF30	GPIO_12	GPIO_52	AC31	NC
127 78	I2S_SOC_TO_BB_DOUT	AF32	GPIO_13	GPIO_53	AE33	GPIO_BB_TO_PMU_HOST_WAKE_L 78 127 129
127 78	I2S_BB_TO_SOC_DOUT	AG31	GPIO_14	GPIO_54	AE35	NC
127 78	I2S_BB_TO_SOC_BCLK	AH30	GPIO_15	GPIO_55	AD34	NC
		AK30	GPIO_16	GPIO_56	AF34	PCIE_BB_TO_SOC_CLKREQ_L 78 127 129
		AG33	GPIO_17	GPIO_57	AE31	PCIE_SOC_TO_BB_PERST_L 78 127
		AH32	GPIO_18	GPIO_58	AB34	BOOT_CFG1 129 137
	BB_TO_DOTARA_COEX : NOT USED	AJ31	GPIO_19	GPIO_59	AC35	NC
		AJ27	GPIO_20	GPIO_60	AB37	NC
		AG27	GPIO_21	GPIO_61	AD32	GPIO_AP_TO_BBPMU_PEAK_POWER_IND 78 127
		AG29	GPIO_22	GPIO_62	AG29	NC
		AD28	GPIO_23	GPIO_63	K6	NC
137 129	BOOT_CFG2	AA33	GPIO_24	GPIO_64	L3	NC
		Y34	GPIO_25	GPIO_65	L5	NC
		K2	GPIO_26	GPIO_66	M4	NC
		K4	GPIO_27	GPIO_67	AD2	BB_SIM1_DATA 127 134 137
100	BB_TO_SDR_WMSS_RESET_L	E1	GPIO_28	GPIO_68	AC1	BB_SIM1_DETECT 97 127 134 137
130 101	SHIELD_RFFE4_SCLK_BB	G3	GPIO_29	GPIO_69	AD4	BB_SIM1_RESET 127 134 137
130 101	SHIELD_RFFE4_SDATA_BB	F4	GPIO_30	GPIO_70	AC3	BB_SIM1_CLK 127 134 137
		AG23	GPIO_31	GPIO_71	AH34	NC
127 78	GPIO_AP_TO_BB_GPS_TIME_MARK	AH24	GPIO_32	GPIO_72	E3	QLINK_EN_BB_TO_SMR 127 130
127 78	GPIO_BB_TO_STROBE_GSM_BURST_IND_1V8	G1	GPIO_33	GPIO_73	D2	QLINK_REQ_SMR_TO_BB 127 130
127 100	QLINK_EN_BB_TO_SDR	F2	GPIO_34	GPIO_74	B2	BB_TO_SMR_WMSS_RESET_L 130
	QLINK_REQ_SDR_TO_BB	E5	GPIO_35	GPIO_75	AH22	NC
136	SHIELD_RFFE0_SDATA_BB	J5	GPIO_36	GPIO_76	AG21	NC
136	SHIELD_RFFE0_SCLK_BB	J3	GPIO_37	GPIO_77	F6	NC
135	SHIELD_RFFE1_SDATA_BB	G5	GPIO_38	GPIO_78	AF4	NC
135	SHIELD_RFFE1_SCLK_BB	H6	GPIO_39	GPIO_79	AG3	NC

NOTE: TYPO IN SPEC

AP_TO_BB_DEV_WAKE : NOT USED
WAKE O/P WHEN BB IS END POINT

NOTE:

ENSURE THAT THERE ARE NO UNINTENTIONAL EXTERNAL PULL-UPS ON THE FOLLOWING GPIOS AND THESE GPIOS ARE NOT LOGIC HIGH UNINTENTIONALLY BEFORE SDX55M COMES OUT OF RESET

(I.E. BEFORE SDX_RESOUT_N DE-ASSERTS TO LOGIC HIGH): GPIO_24, 54, 58, 59, AND 75.
SEE BOOT CONFIGURATION GPIOS PAGE OF SDX55M DESIGN GUIDELINES (80-PK565-5BM) FOR DETAILS.

C906_E 33PF 5% 16V NP0-C0G 01005-1 ROOM=BASEBAND

BB EEPROM

137 130 129 128 103 102 97 95 94 93 PP_1V8_LDO6

R908_E 10K 1% 1/32W MF 01005 ROOM=BASEBAND
C901_E 1UF 20% 10V X5R 0201 ROOM=BASEBAND
R909_E 10K 1% 1/32W MF 01005 ROOM=BASEBAND

EEPROM_E
CAT24C08C4A
WLCSP
ROOM=BASEBAND

97 BB_EEPROM_I2C_SCL	B1	SCL	
	A1	VCC	
	B2	SDA	BB_EEPROM_I2C_SDA 97
	A2	VSS	

DUAL-VOLTAGE IO PADS

VDD_PX71: GPIO8,9,12-23
VDD_PX72: GPIO46-57,59-61,71
VDD_PX73: GPIO31-32,44-45, 75-76
VDD_PX74: GPIO78-79

BOOT SEQ	BOOT_CFG3	BOOT_CFG2	BOOT_CFG1	CONFIG
NAND>HSUSB	0	0	0	
PCIE	0	0	1	POR
USB	0	1	0	EUREKA
EMMC>USB	0	1	1	

PSIM AND ESIM: SIM2_DET STUFF PU

137 130 129 128 103 102 97 95 94 93 PP_1V8_LDO6

R905_E 100K 5% 1/32W MF 01005 ROOM=BASEBAND BOMOPTION=ESIM
R907_E 100K 5% 1/32W MF 01005 ROOM=BASEBAND BOMOPTION=PSIM
R906_E 100K 5% 1/32W MF 01005 ROOM=BASEBAND BOMOPTION=ESIM:OFF
R950_E 100K 5% 1/32W MF 01005 ROOM=BASEBAND BOMOPTION=PSIM:OFF

137 134 127 97 BB_SIM1_DETECT
97 BB_SIM2_DETECT

337S00865

U_BB_E
SDX-55M-0-PSP547-02-1
PSP
SYM 1 OF 8
CONTROL

127 94	SHIELD_SLEEP_CLK_32K	W3	SLEEP_CLK	
	SHIELD_CXO_REXT	AJ3	QREFS_CXO_REXT	
127 94	SHIELD_MDM_19P2M_CLK	AD6	CXO	
127 94	BB_JTAG_RST_L	P6	SRST*	
127 94	PMIC_RESOUT_L	AC5	RESIN*	
NC		N3	MODE_0	
NC		M4	MODE_1	
127 97	BB_JTAG_TCK_SWD_CLK_1V8_R	N1	TCK	
127	BB_JTAG_TRST_L	P2	TRST*	
127 97	BB_JTAG_TMS_SWD_IO_1V8_R	R3	TMS	
127	BB_JTAG_TDI	R5	TDI	
127	BB_JTAG_TDO	P4	TDO	
		P36	EBI_ZQ	SHIELD_BB_BDM_ZQ
		N37	EBI_CA_CAL	SHIELD_BB_EBI1_CAL
		T2	RESOUT*	
		T4	PS_HOLD	PS_HOLD 94 127
DNC		AG19		
DNC		M6		
DNC		N5		
DNC		P3		
		AK20	REFGEN_REXT	SHIELD_PCIE_CAL_RES
PMIC_SPMI_CLK		AF2		BB_BBPMU_SPMI_CLK 94
PMIC_SPMI_DATA		AE3		BB_BBPMU_SPMI_DATA 94

R904_E 3.0K 1% 1/32W MF 01005 ROOM=BASEBAND
R902_E 240 1% 1/32W MF 01005 ROOM=BASEBAND
R903_E 240 1% 1/32W MF 01005 ROOM=BASEBAND
PP_0V6_LDO14 93 95
R901_E 100 1% 1/32W MF 01005 ROOM=BASEBAND
C904_E 10PF 5% 16V NP0/C0G 01005 ROOM=BASEBAND NOSTUFF
C905_E 10PF 5% 16V NP0/C0G 01005 ROOM=BASEBAND NOSTUFF

132S00232 CAN NOT BE USED FOR ANY 0.22UF PARTS ON CELLULAR SIDE

C903_E 0.22UF 10% 6.3V CER-X5R 01005 ROOM=BASEBAND 132S00232 14
C902_E 0.22UF 10% 6.3V CER-X5R 01005 ROOM=BASEBAND 132S00232 14

337S00865

U_BB_E
SDX-55M-0-PSP547-02-1
PSP
SYM 4 OF 8
USB_PCIE

137 127	90_USB_BB_P	AJ15	USB_HS_DP	PCIE_REFCLK_P	AJ9	PCIE_SOC_TO_BB_REFCLK_P 78 127
137 127	90_USB_BB_N	AK16	USB_HS_DM	PCIE_REFCLK_M	AG9	PCIE_SOC_TO_BB_REFCLK_N 78 127
NC		AG17	USB_SS_TX_P	PCIE_TX0_P	AJ13	90_PCIE_BB_TO_AP_RX_SDX_P
NC		AJ16	USB_SS_TX_M	PCIE_TX0_M	AH12	90_PCIE_BB_TO_AP_RX_SDX_N
NC		AK18	USB_SS_RX_P	PCIE_TX1_P	AJ11	NC
NC		AJ19	USB_SS_RX_M	PCIE_TX1_M	AK13	NC
				PCIE_RX0_P	AJ5	PCIE_SOC_TO_BB_TX_P 78
				PCIE_RX0_M	AK6	PCIE_SOC_TO_BB_TX_N 78
				PCIE_RX1_P	AH6	NC
				PCIE_RX1_M	AJ7	NC

C903_E 0.22UF 10% 6.3V CER-X5R 01005 ROOM=BASEBAND 132S00232 14 — 78 PCIE_BB_TO_SOC_TX_P
C902_E 0.22UF 10% 6.3V CER-X5R 01005 ROOM=BASEBAND 132S00232 14 — 78 PCIE_BB_TO_SOC_TX_N

UNUSED/NOSTUFF FOR VENDOR CONFIG

78 47 PP1V25_S2
93 94 95 97 102 103 128 129 130 137 PP_1V8_LDO6

C907_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=BASEBAND
C908_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=BASEBAND

SWD_E
NVT0202JK
X2SON
311S00235
ROOM=BASEBAND

VCCA VCCB	3 7	
SWD_OE	6	OE
	5	A1
	4	A2
	8	B1
	1	B2
GND	2	

127 78 SWD_BB_SWCLK
BB_JTAG_TMS_SWD_IO_R
127 78 SWD_BB_SWDIO

R910_E 10K 1% 1/32W MF 01005 ROOM=BASEBAND
R911_E 10K 1% 1/32W MF 01005 ROOM=BASEBAND NOSTUFF
R912_E 0.00 0% 1/32W MF 01005 ROOM=BASEBAND
R914_E 0.00 0% 1/32W MF 01005 ROOM=BASEBAND — BB_JTAG_TCK_SWD_CLK_1V8_R 97 127
R913_E 0.00 0% 1/32W MF 01005 ROOM=BASEBAND — BB_JTAG_TMS_SWD_IO_1V8_R 97 127

BB_JTAG_TCK_SWD_CLK_1V8
BB_JTAG_TMS_SWD_IO_1V8

BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020
PAGE TITLE
BB: GPIOS & QLINK

TRANSCEIVER: PDN

NOTE: 4UF BULK COULD BE FURTHER AWAY AND MAKE SURE THE STAR ROUTING IS FROM 4UF.
NOTE: 1UF SHOULD BE AS CLOSE AS POSSIBLE TO CORRESPONDING PIN ON SDR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020
PAGE TITLE
XCVR POWER_1

BOM_COST_GROUP=CELLULAR

TRANSCEIVER: PDN

NOTE: 4UF BULK COULD BE FURTHER AWAY AND MAKE SURE THE STAR ROUTING IS FROM 4UF.
NOTE: 1UF SHOULD BE AS CLOSE AS POSSIBLE TO CORRESPONDING PIN ON SDR

U_SDR_E
SDR865-0
PSP
SYM 5 OF 8
338S00647
SHIELD=TTS

VDDAL_RP0 D1
VDDAL_RP1 F3
VDDAL_RP2 N2
VDDAL_RP3 W2
VDDAL_RP4 AC2
VDDAL_RP5 AG16
VDDAL_RX0 B13
VDDAL_RX1 C6
VDDAL_RX2 J6
VDDAL_RX3 L6
VDDAL_RX4 W6
VDDAL_RX5 AC6
VDDAL_RX6 AG12
VDDAL_RXLO0 E12
VDDAL_RXLO4 N12
VDDAL_RXLO5 R12
VDDAL_RXLO7 W12
VDDAL_TP0 A26
VDDAL_TP1 AF27
VDDAL_TX0 A28
VDDAL_TX1 AG30
VDDAL_TX2 AE22

VDDAL_DIG_RP0 A4
VDDAL_DIG_RP1 K1
VDDAL_DIG_RP2 L2
VDDAL_DIG_RP3 AA2
VDDAL_DIG_RP4 AE2
VDDAL_DIG_RP5 AG14
VDDAL_DIG_TP0 G24
VDDAL_DIG_TP1 AA24
VDDAL_DIG1 B21
VDDAL_DIG2 Y23
VDDAL_FBRX H21
VDDAL_GNSS B17
VDDAL_ICON6 A20
VDDAL_ICON32 T19
VDDAL_XO T1

PP_0V8_LDO3_SDR_VDDAL_RP
PP_0V8_LDO3
PP_LDO3_SDR_VDDAL_RP0_57
PP_LDO3_SDR_VDDAL_RP1_57
PP_LDO3_SDR_VDDAL_RP2_57
PP_LDO3_SDR_VDDAL_RP3_57
PP_LDO3_SDR_VDDAL_RP4_57
PP_LDO3_SDR_VDDAL_RP5_57
PP_0V8_LDO3_SDR_VDDAL_RX
PP_LDO3_SDR_VDDAL_RX0_67
PP_LDO3_SDR_VDDAL_RX1_22
PP_LDO3_SDR_VDDAL_RX2_22
PP_LDO3_SDR_VDDAL_RX3_22
PP_LDO3_SDR_VDDAL_RX4_22
PP_LDO3_SDR_VDDAL_RX5_22
PP_LDO3_SDR_VDDAL_RX6_90
PP_0V8_LDO3_SDR_VDDAL_RXLO
PP_LDO3_SDR_VDDAL_RXLO0_27
PP_LDO3_SDR_VDDAL_RXLO4_27
PP_LDO3_SDR_VDDAL_RXLO5_27
PP_LDO3_SDR_VDDAL_RXLO7_27
PP_0V8_LDO3_SDR_VDDAL_TP
PP_LDO3_SDR_VDDAL_TP0_30
PP_LDO3_SDR_VDDAL_TP1_30
PP_0V8_LDO3_SDR_VDDAL_TX
PP_LDO3_SDR_VDDAL_TX0_20
PP_LDO3_SDR_VDDAL_TX1_20
PP_LDO3_SDR_VDDAL_TX2_20
PP_LDO3_SDR_VDDAL_DIG_RP0_6
PP_LDO3_SDR_VDDAL_DIG_RP1_6
PP_LDO3_SDR_VDDAL_DIG_RP2_6
PP_LDO3_SDR_VDDAL_DIG_RP3_6
PP_LDO3_SDR_VDDAL_DIG_RP4_6
PP_LDO3_SDR_VDDAL_DIG_RP5_6
PP_0V8_LDO3_SDR_VDDAL_DIG_RP
PP_LDO3_SDR_VDDAL_DIG_TP0_10
PP_LDO3_SDR_VDDAL_DIG_TP1_10
PP_0V8_LDO3_SDR_VDDAL_DIG_TP
PP_LDO3_SDR_VDDAL_DIG1_171
PP_LDO3_SDR_VDDAL_DIG2_124
PP_0V8_LDO3_SDR_VDDAL_DIG
PP_LDO3_SDR_VDDAL_FBRX_20
PP_LDO3_SDR_VDDAL_GNSS_40
PP_LDO3_SDR_VDDAL_ICON6_5
PP_0V8_LDO3_SDR_VDDAL_ICON
PP_LDO3_SDR_VDDAL_ICON32_25
PP_LDO3_SDR_VDDAL_XO_18

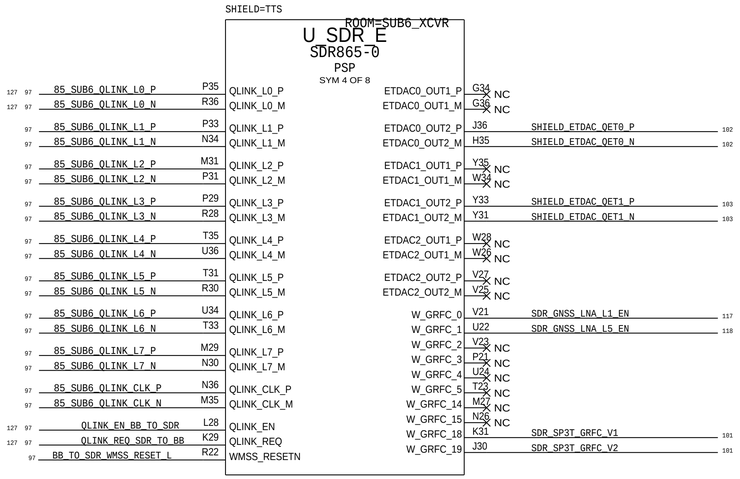
XW1288_E SHORT-8L-0.5MM-SM
XW1202_E XW1203_E XW1204_E XW1205_E XW1206_E XW1207_E SHORT-8L-0.1MM-SM
XW1289_E SHORT-8L-0.25MM-SM
XW1208_E XW1209_E XW1210_E XW1211_E XW1212_E XW1213_E XW1214_E SHORT-8L-0.1MM-SM
XW1281_E XW1215_E XW1216_E XW1217_E XW1218_E SHORT-8L-0.1MM-SM
XW1282_E SHORT-8L-0.1MM-SM
XW1201_E SHORT-10L-0.1MM-SM
XW1237_E XW1238_E XW1239_E XW1240_E SHORT-8L-0.1MM-SM
XW1283_E SHORT-8L-0.1MM-SM
XW1223_E XW1224_E XW1225_E XW1226_E XW1227_E XW1228_E SHORT-8L-0.1MM-SM
XW1286_E SHORT-8L-0.1MM-SM
XW1229_E XW1232_E SHORT-8L-0.1MM-SM
XW1285_E SHORT-8L-0.1MM-SM
XW1230_E SHORT-8L-0.25MM-SM
XW1290_E SHORT-8L-0.5MM-SM
XW1231_E SHORT-8L-0.25MM-SM
XW1287_E SHORT-8L-0.1MM-SM
XW1233_E XW1291_E XW1284_E SHORT-8L-0.1MM-SM
XW1235_E SHORT-8L-0.1MM-SM ROOM=SUB6_XCVR
XW1236_E SHORT-8L-0.1MM-SM PATH=I106

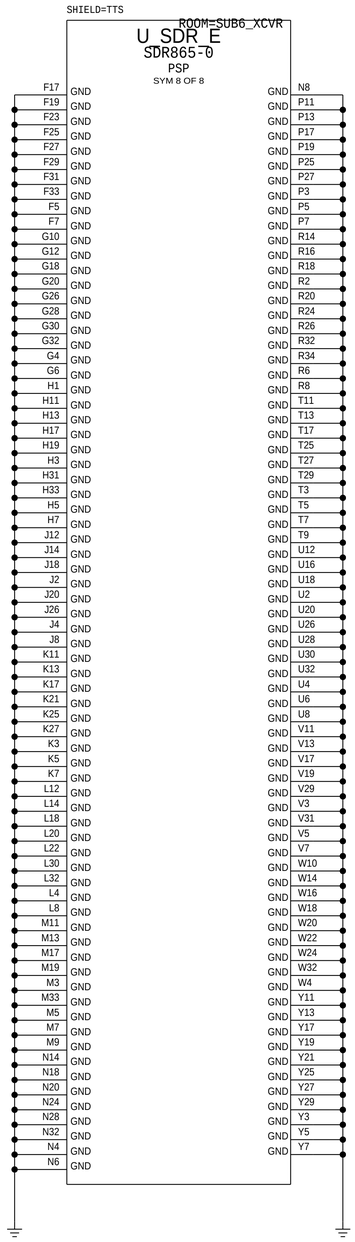
C1202_E C1203_E C1204_E C1205_E C1206_E C1207_E C1208_E C1209_E C1210_E C1211_E C1212_E C1213_E C1214_E C1215_E C1216_E C1217_E C1218_E C1219_E C1220_E C1221_E C1222_E C1223_E C1224_E C1225_E C1226_E C1227_E C1228_E C1229_E C1230_E C1231_E C1232_E C1233_E C1234_E C1235_E C1236_E C1237_E C1238_E C1239_E C1241_E
0.1UF 10% 6.3V CER-X5R 01005
4UF 20% 6.3V CER-X5R 0201
ROOM=SUB6_XCVR

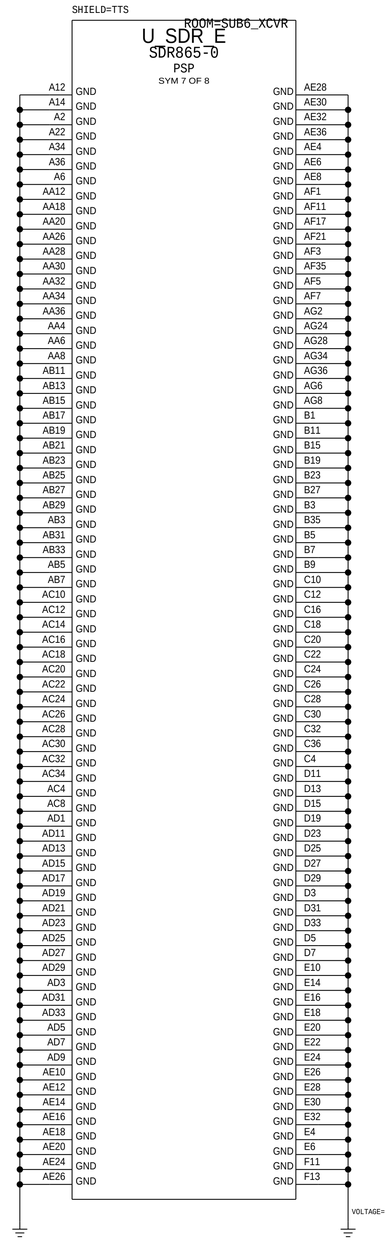
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37
SYNC_DATE=10/08/2020
PAGE TITLE
XCVR POWER_2

TRANSCEIVER: DIGITAL & GND







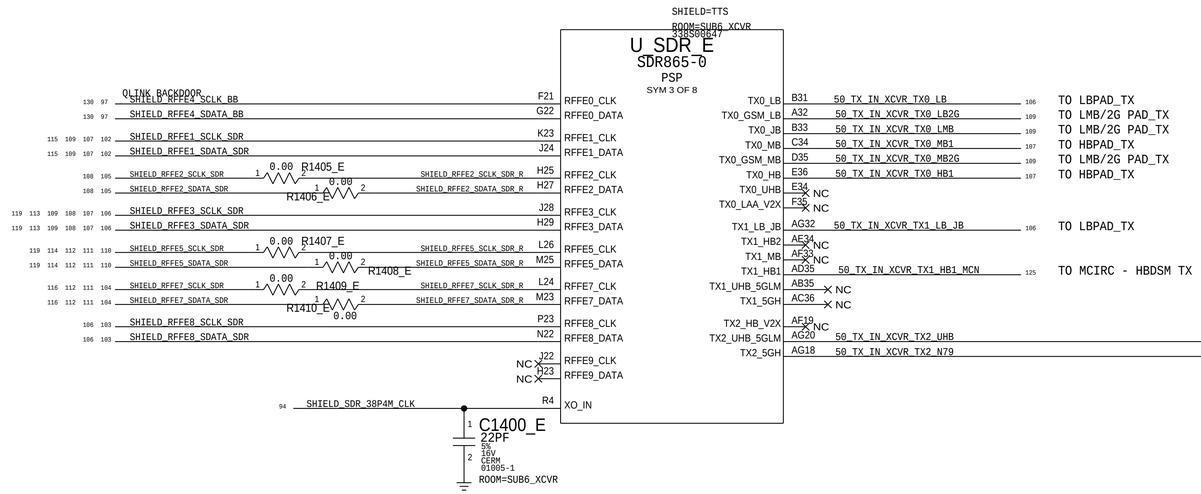
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

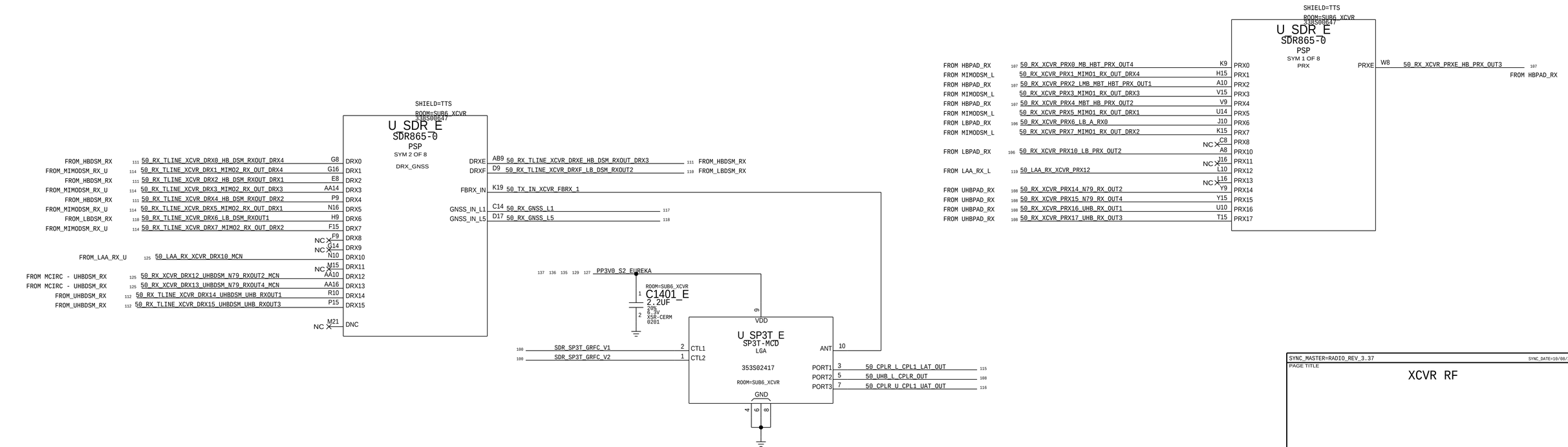
PAGE TITLE

XCVR DIGITAL & GND

BOM_COST_GROUP=CELLULAR

TRANSCEIVER: TX & RX





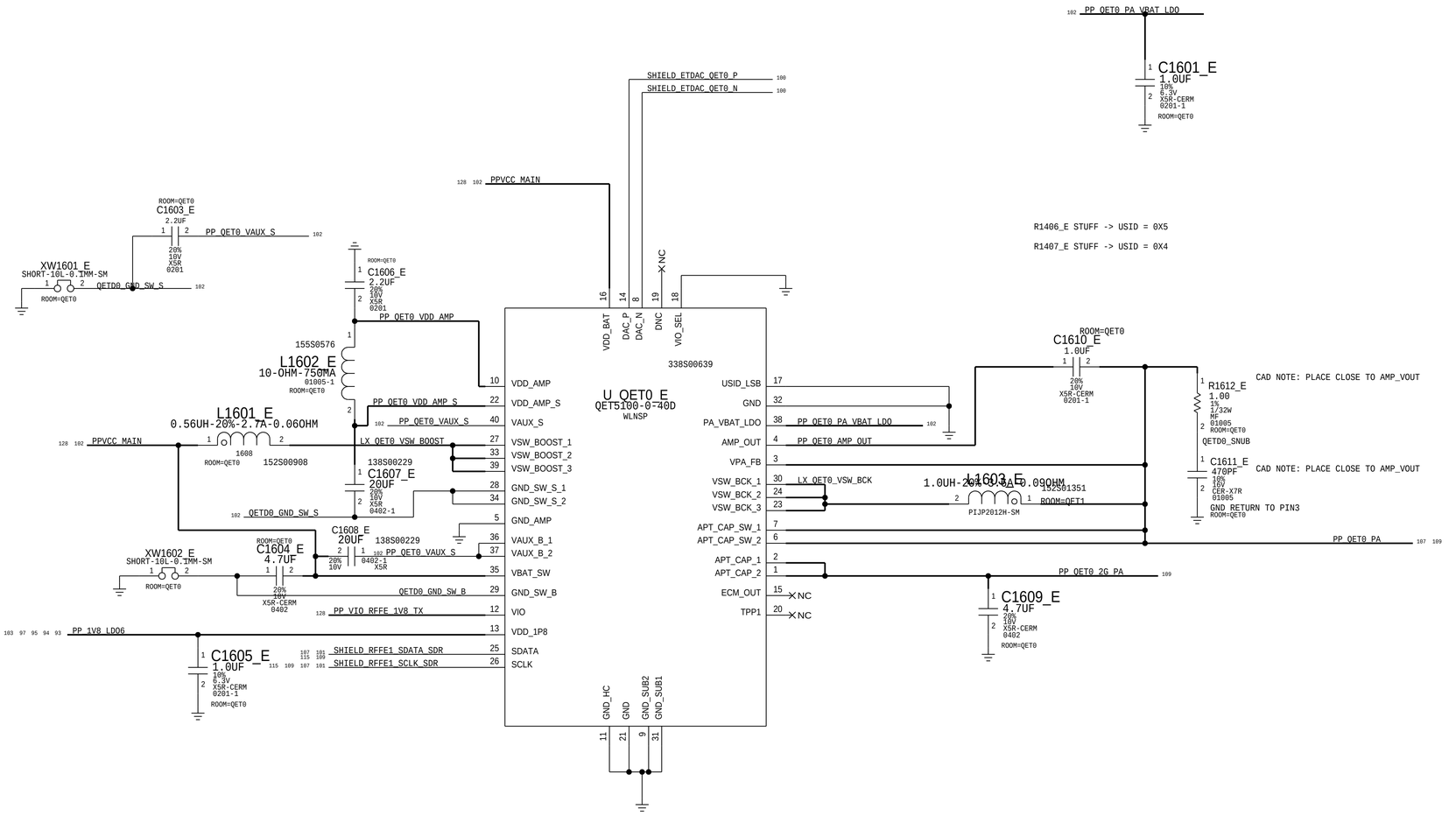
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

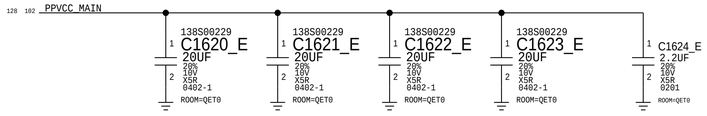
PAGE TITLE

XCVR RF

DISCRETE QET5100 0 HB/LMB-2G



QET0/1 SHARED SUPPLY BULK CAPACITANCE



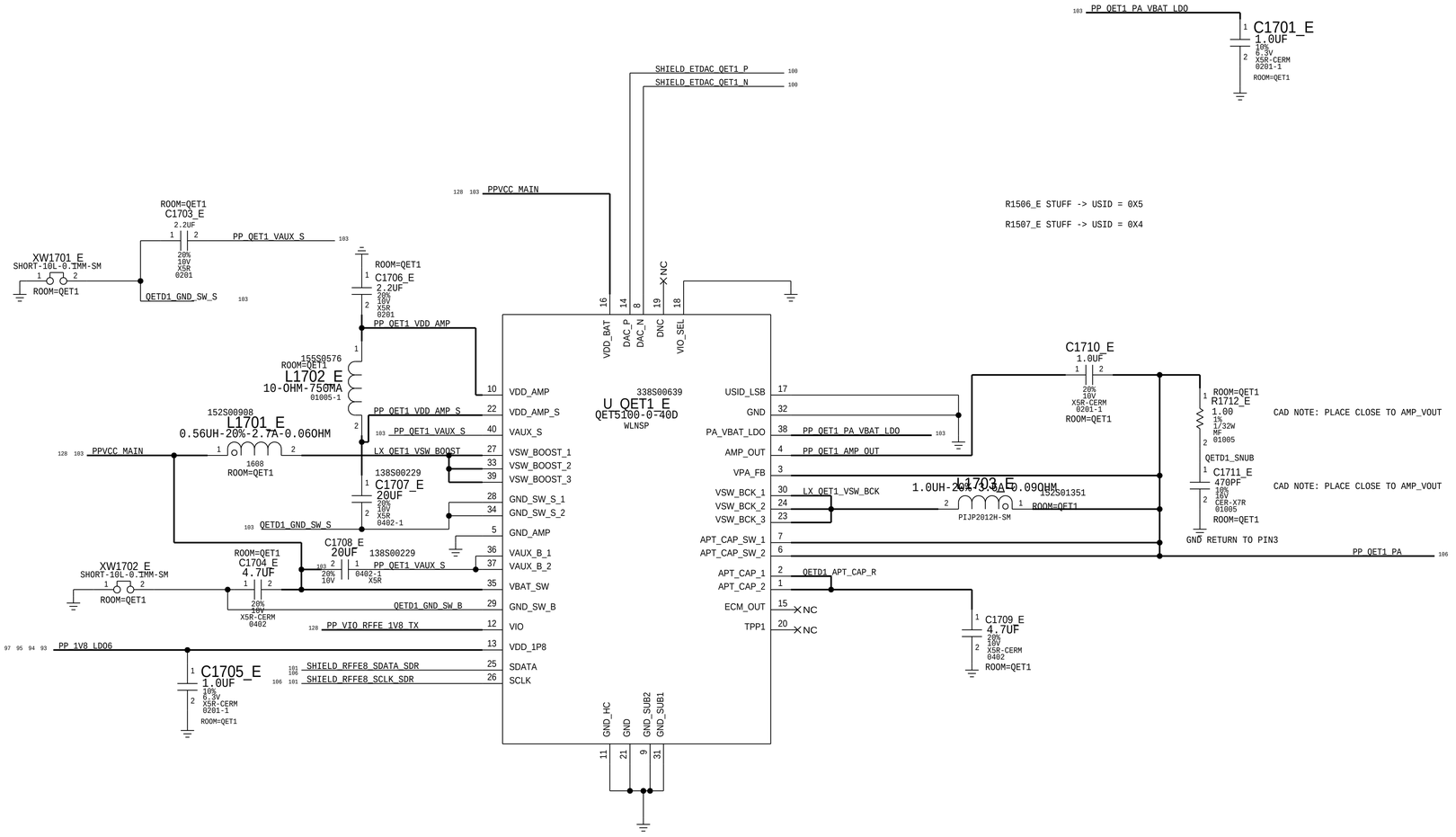
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

QET_DISCRETE_0

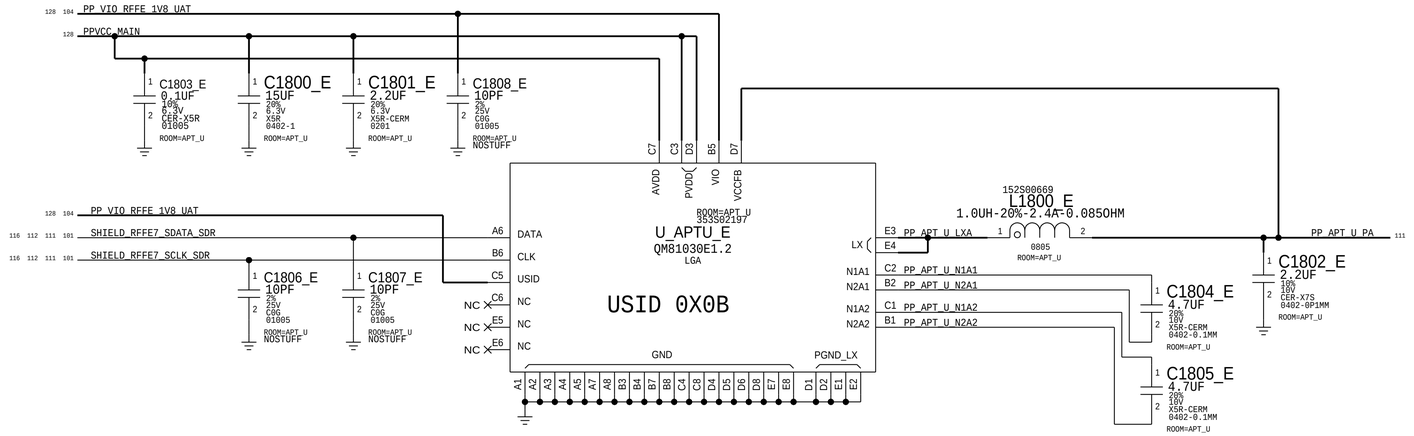
DISCRETE QET5100 1
LB ONLY



SYNC_MASTER=RADIO_REV_3.37	SYNC_DATE=10/08/2020
PAGE TITLE	
QET_DISCRETE_1	

BOM_COST_GROUP=CELLULAR

APT DCDC 2



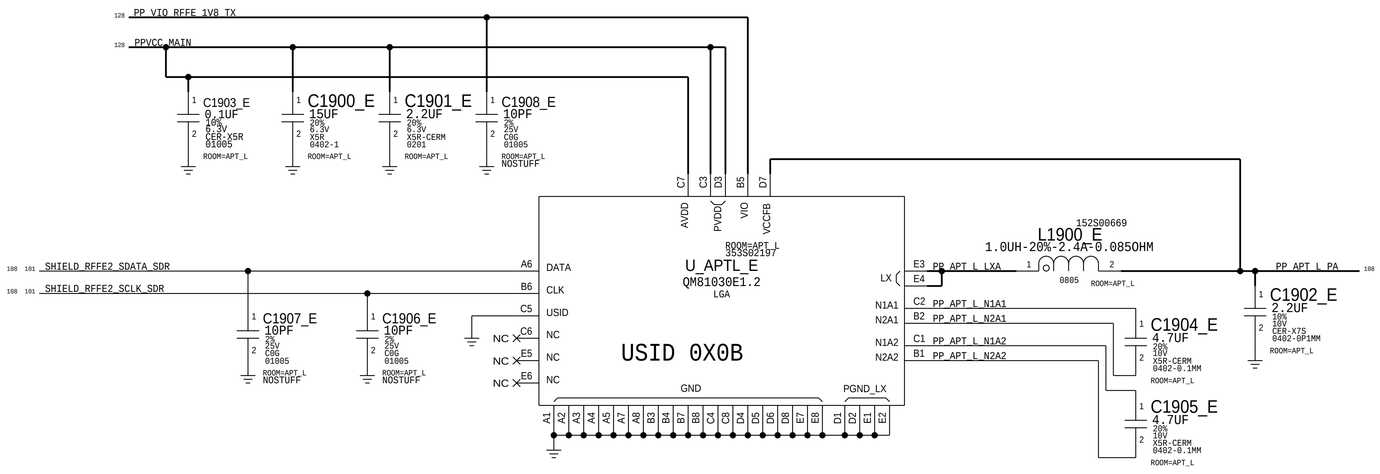
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

DCDC2

APT DCDC 1



BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

DCDC1

LB PAD

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION	
131S00437	1	CAP,CER,C0G,1.8PF,+/-0.05PF,16V,01005	L2003_E	CRITICAL	J523	
117S0161	1	RES,MF,0 OHM,1/32W,01005	R2008_E	CRITICAL	J518	
152S00514	1	IND,FILM,5.1NH,3%,350MA,SMD,01005	R2008_E	CRITICAL	J523	

J518 NOSTUFF

PA_LB_E
SKY58240
DSBGA
SYM 2 OF 2

A1	GND	GND	H6
A2	GND	GND	H7
A3	GND	GND	H14
A4	GND	GND	J1
A5	GND	GND	J2
A6	GND	GND	J3
A7	GND	GND	J4
A8	GND	GND	J5
A9	GND	GND	J6
A10	GND	GND	J7
A11	GND	GND	J13
A12	GND	GND	J14
A13	GND	GND	K1
A14	GND	GND	K3
B1	GND	GND	K5
B2	GND	GND	K12
B14	GND	GND	K14
C1	GND	GND	L1
C13	GND	GND	L3
C14	GND	GND	L4
D1	GND	GND	L5
D14	GND	GND	L6
E1	GND	GND	L7
E13	GND	GND	L8
E14	GND	GND	L9
F1	GND	GND	L10
F14	GND	GND	L11
G1	GND	GND	L12
G4	GND	GND	L13
G5	GND	GND	L14
G14	GND		
H1	GND		
H2	GND		
H3	GND		
H4	GND		
H5	GND		

353S02386
SHIELD=YES
ROOM=LBPAD

103 PP_QET1_PA
128 PPVCC_HIGH

C2004_E 0.1UF 10% 6.3V X6S-CERM 01005 LBPAD
C2009_E 47PF 5% 16V NP0-C0G 01005 LBPAD
C2001_E 18PF 5% 16V NP0/C0G 01005 NOSTUFF LBPAD

128 115 109 108 107 93 PP_VIO_RFFE_1V8_TX
103 101 SHIELD_RFFE8_SCLK_SDR
103 101 SHIELD_RFFE8_SDATA_SDR

C2007_E 47PF 5% 16V NP0-C0G 01005 NOSTUFF LBPAD
C2006_E 47PF 5% 16V NP0-C0G 01005 NOSTUFF LBPAD
C2005_E 47PF 5% 16V NP0-C0G 01005 LBPAD

119 113 109 108 107 93 PP_VIO_RFFE_1V8_RX
119 113 109 108 107 101 SHIELD_RFFE3_SCLK_SDR
119 113 109 108 107 101 SHIELD_RFFE3_SDATA_SDR

C2008_E 47PF 5% 16V NP0-C0G 01005 NOSTUFF LBPAD
C2003_E 47PF 5% 16V NP0-C0G 01005 NOSTUFF LBPAD
C2002_E 47PF 5% 16V NP0-C0G 01005 LBPAD

K10 SDATA_RX
K9 SCLK_RX
K11 VIO_RX
K7 SDATA_TX
K6 SCLK_TX
K8 VIO_TX
K4 VBIAS
G3 VCC1
G2 VCC2
K13 VDD_LNA

VDD_LNA_LB_PAD
R2006_E 0.00 0% 1/32W MF 01005
PP_VDD_RF_1V2
93 107 108 109 110 111 112 113 114 120

C2010_E 47PF 5% 16V NP0-C0G 01005 LBPAD

PA_LB_E
SKY58240
DSBGA
SYM 1 OF 2

SHIELD=YES
ROOM=LBPAD

353S02386

101 50_TX_IN_XCVR_TX0_LB
FROM XCVR
R2003_E 0.00 0% 1/32W MF 01005 LBPAD
50_TX_IN_TX0_LB_PAD_TX_LB_IN
K2 TX_LB_IN

MATCHING NOTE: 0201/01005 NETWORK

DRX_OUT F13 50_TRX_LB_PORTB_RX1
R2007_E 0.00 0% 1/20W MF 0201 LBPAD
50_TRX_LB_PORTB_RX1_MCN 125
TO MCIRC
L2005_E 10NH-+/-3%-0.25A 01005 NOSTUFF LBPAD
L2001_E 10NH-+/-3%-0.25A 01005 NOSTUFF LBPAD

109 50_TRX_IN_LMB_PAD_2G_LB_OUT_M
FROM 2G PA
R2004_E 5.6NH+/-3%-0.4A 0201 LBPAD
50_TRX_LB_PAD_TX_2G_IN
B7 TX_2G_IN

MATCHING NOTE: 0201

ANT1 B13 50_TRX_LB_PAD_ANT1 115
LB QPLX -> CPLR_L -> ANT3

USID RX=0X01

USID TX=0X01

MATCHING NOTE: 0201/01005 NETWORK

101 50_RX_XCVR_PRX6_LB_A_RX0
TO XCVR
MAKE_BASE=TRUE
50_RX_XCVR_PRX6_LB_A_RX0
H13 PRX_OUT1

ANT2 D13 50_TRX_LB_PORTB_TX_ANT2
R2008_E 0.00 0% 1/32W MF 01005 LBPAD
50_TRX_LB_PORTB_TX_MCN 125
TO MCIRC
L2003_E 10NH-+/-3%-0.25A 01005 OMIT_TABLE LBPAD
OMIT_TABLE
L2002_E 10NH-+/-3%-0.25A 01005 NOSTUFF LBPAD

101 50_RX_XCVR_PRX10_LB_PRX_OUT2
TO XCVR
MAKE_BASE=TRUE
50_RX_XCVR_PRX10_LB_PRX_OUT2
G13 PRX_OUT2

101 50_TX_IN_XCVR_TX1_LB_JB
FROM XCVR
R2009_E 0.00 0% 1/32W MF 01005 LBPAD
50_TX_IN_XCVR_TX1_LB_JB_M
L2 TX_LB_IN2

SYNC_MASTER=RADIO_REV_3.37
SYNC_DATE=10/08/2020
PAGE TITLE
LB PAD

BOM_COST_GROUP=CELLULAR

HB PAD

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S00525	1	IND,FILM,8.2NH,+/-3%,300MA,SHQ,01005	C2120_E	CRITICAL	J518
131S0369	1	CAP,CER,C0G,0.5PF,+/-0.05PF,16V,01005	C2120_E	CRITICAL	J523
131S0415	1	CAP,CER,NP0/C0G,5.1PF,+/-0.1PF,16V,01005	R2110_E	CRITICAL	J518
152S00495	1	IND,FILM,0.7NH,+/-0.1NH,900MA,SHQ,01005	R2110_E	CRITICAL	J523
131S0366	1	CAP,CER,NP0/C0G,0.2PF,+/-0.1PF,16V,01005	C2111_E	CRITICAL	J523
152S00533	1	IND,FILM,22NH,+/-3%,140MA,SHQ,01005	C2112_E	CRITICAL	J518
152S00531	1	IND,FILM,18NH,+/-3%,160MA,SHQ,01005	C2112_E	CRITICAL	J523

PP_QET0_PA
PPVCC_HIGH
PP_VIO_RFFE_1V8_TX
SHIELD_RFFE1_SCLK_SDR
SHIELD_RFFE1_SDATA_SDR
PP_VIO_RFFE_1V8_RX
SHIELD_RFFE3_SCLK_SDR
SHIELD_RFFE3_SDATA_SDR

C2121_E 10PF 25V C0G 01005 RADIO_HB_PAD NOSTUFF
C2106_E 10PF 25V C0G 01005 RADIO_HB_PAD NOSTUFF
C2104_E 10PF 25V C0G 01005 RADIO_HB_PAD NOSTUFF
C2102_E 10PF 25V C0G 01005 RADIO_HB_PAD
C2108_E 1UF 20% 10V X5R-CERM 0201 RADIO_HB_PAD
C2107_E 10PF 25V C0G 01005 RADIO_HB_PAD NOSTUFF
C2105_E 10PF 25V C0G 01005 RADIO_HB_PAD NOSTUFF
C2103_E 10PF 25V C0G 01005 RADIO_HB_PAD

VDD_LNA_HB_PAD
R2107_E 0.00 0% 1/32W MF 01005 RADIO_HB_PAD
PP_VDD_RF_1V2
C2109_E 1000PF 10% 6.3V X5R-CERM 01005 RADIO_HB_PAD

PA_HB_E
AFEM-8200-AP1
DSBGA
SYM 1 OF 2

ROOM=RADIO_HB_PAD
SHIELD=YES
353S02405

K1	SDATA_RX		
J1	SCLK_RX		
H1	VIO_RX		
L17	SDATA_TX		
K17	SCLK_TX		
J17	VIO_TX		
Q14	VBIAS		
P15	VCC1		
N15	VCC2		
F1	VDD_LNA		
N10	TX_MB_IN1	DRX_OUT	B10
N11	TX_MB_IN2	ANT1	F16
N13	TX_HB_IN1	ANT2	D16
N12	TX_HB_IN2	MIMO_RX_OUT	B16
B12	LMB_IN	VCC_CAP_GND	H15
B14	2G_IN	B11/B21	M1
P4	PRX_OUT1	UAT	B8
P3	PRX_OUT2		
P2	PRX_OUT3		
P1	PRX_OUT4		

USID RX=0X03
USID TX=0X03

50_TX_IN_XCVR_TX0_MB1 — MAKE_BASE=TRUE — FROM XCVR
50_TX_IN_XCVR_TX0_HB1 — MAKE_BASE=TRUE — FROM XCVR
50_RX_XCVR_PRX2_LMB_MBT_HBT_PRX_OUT1 — MAKE_BASE=TRUE — TO XCVR
50_RX_XCVR_PRX4_MBT_HB_PRX_OUT2 — MAKE_BASE=TRUE — TO XCVR
50_RX_XCVR_PRXE_HB_PRX_OUT3 — MAKE_BASE=TRUE — TO XCVR
50_RX_XCVR_PRX0_MB_HBT_PRX_OUT4 — MAKE_BASE=TRUE — TO XCVR

FROM LMB/2G PAD
50_TRX_IN_LMB_PAD_LMB_ANT_M
50_TRX_IN_LMB_PAD_2G_MB_OUT_M
FROM LMB/2G PAD

50_TRX_LMB_HB_PORTB_RX1_DRX_OUT
R2108_E 0.00 0% 1/32W MF 01005 RADIO_HB_PAD
50_TRX_LMB_HB_PORTB_RX1_MCN — TO MCIRC
C2115_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 RADIO_HB_PAD NOSTUFF
C2111_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 RADIO_HB_PAD OMIT_TABLE

50_TRX_HB_PAD_ANT1 — TO LMB/MB/HB QPLX -> CPLR_L -> ANT3

MATCHING NOTE: 0201/01005 NETWORK

R2109_E 1.6NH-+/-0.1NH-1A-0.05OHM 0201 RADIO_HB_PAD
50_TRX_HB_PAD_ANT2 — 50_TRX_HB_PAD_ANT2_M — TO CPLR_L -> MBHB TPLX -> ANT4B
C2114_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 RADIO_HB_PAD NOSTUFF
C2112_E 18NH-3%-0.16A-1.63OHM 01005 RADIO_HB_PAD OMIT_TABLE

R2111_E 0.9NH-+/-0.1NH-0.9A-0.05OHM 01005 RADIO_HB_PAD
50_TRX_HB_PAD_MIMO_RX_OUT — 50_TRX_HB_PAD_MIMO1_RX_OUT_M — TO MIMO1 DSM
C2113_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 RADIO_HB_PAD NOSTUFF

PP_QET0_PA
C2101_E 1.0UF 10% 6.3V X5R-CERM 0201-1
HBPAD_CAP_GND

50_RX_LMB_PAD_LMB_PRX_OUT_M — FROM LMB 2G PAD

R2110_E 0.00 0% 1/32W MF 01005 RADIO_HB_PAD OMIT_TABLE
50_TRX_LMB_HB_PORTB_TX_UAT — 50_TRX_LMB_HB_PORTB_TX_MCN — TO MCIRC
C2120_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 RADIO_HB_PAD OMIT_TABLE
C2110_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 RADIO_HB_PAD NOSTUFF

PA_HB_E
AFEM-8200-AP1
DSBGA
SYM 2 OF 2

ROOM=RADIO_HB_PAD
SHIELD=YES
353S02405

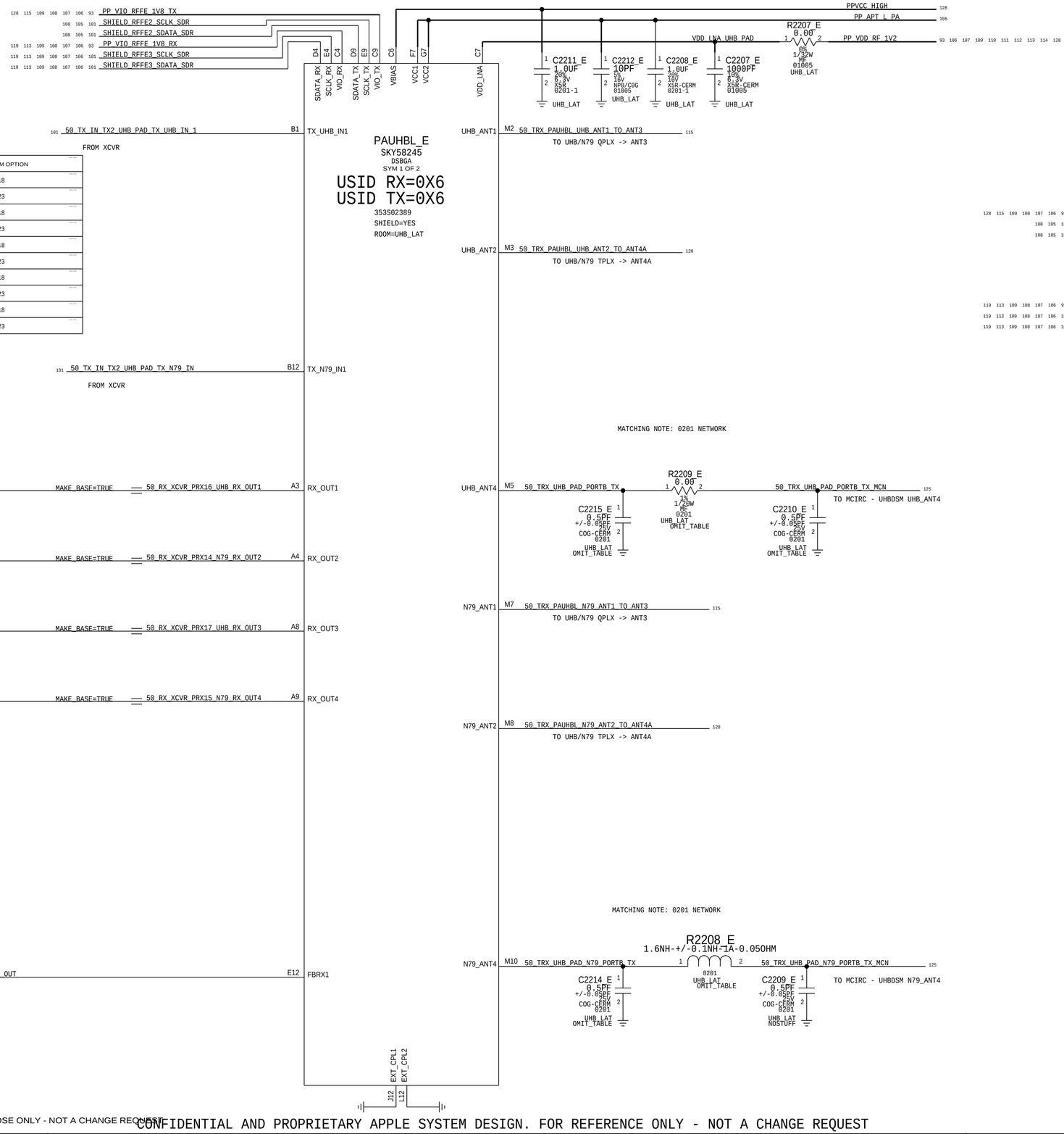
A1	GND	GND	G16
A2	GND	GND	G17
A3	GND	GND	H7
A4	GND	GND	H8
A5	GND	GND	H9
A6	GND	GND	H10
A7	GND	GND	H11
A8	GND	GND	H12
A9	GND	GND	H13
A10	GND	GND	H14
A11	GND	GND	H16
A12	GND	GND	H17
A13	GND	GND	J7
A14	GND	GND	J8
A15	GND	GND	J9
A16	GND	GND	J10
A17	GND	GND	J11
B1	GND	GND	K7
B2	GND	GND	K8
B3	GND	GND	K9
B4	GND	GND	K10
B5	GND	GND	K11
B6	GND	GND	L1
B7	GND	GND	L7
B9	GND	GND	L8
B11	GND	GND	L9
B13	GND	GND	L10
B15	GND	GND	L11
B17	GND	GND	M7
C1	GND	GND	M8
C2	GND	GND	M9
C3	GND	GND	M10
C4	GND	GND	M11
C5	GND	GND	M17
C6	GND	GND	N1
C7	GND	GND	N7
C8	GND	GND	N8
C16	GND	GND	N9
C17	GND	GND	N14
D1	GND	GND	N16
D5	GND	GND	N17
D6	GND	GND	P1
D7	GND	GND	P3
D8	GND	GND	P5
D17	GND	GND	P7
E1	GND	GND	P9
E7	GND	GND	P10
E8	GND	GND	P11
E16	GND	GND	P12
E17	GND	GND	P13
F7	GND	GND	P14
F8	GND	GND	P16
F9	GND	GND	P17
F10	GND	GND	Q1
F11	GND	GND	Q2
F12	GND	GND	Q3
F13	GND	GND	Q4
F14	GND	GND	Q5
F15	GND	GND	Q6
F17	GND	GND	Q7
G1	GND	GND	Q8
G7	GND	GND	Q9
G8	GND	GND	Q10
G9	GND	GND	Q11
G10	GND	GND	Q12
G11	GND	GND	Q13
G12	GND	GND	Q15
G13	GND	GND	Q16
G14	GND	GND	Q17
G15	GND		

SYNC_MASTER=RADIO_REV_3.37
SYNC_DATE=10/08/2020
PAGE TITLE
HB PAD

BOM_COST_GROUP=CELLULAR

UHB LAT PAD

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0431	1	CAP,CER,C0G,0.2PF,+/-0.05PF,25V,0201,H-Q	C2210_E	CRITICAL	J518
131S0431	1	CAP,CER,C0G,0.2PF,+/-0.05PF,25V,0201,H-Q	C2210_E	CRITICAL	J523
131S0431	1	CAP,CER,C0G,0.2PF,+/-0.05PF,25V,0201,H-Q	C2214_E	CRITICAL	J518
131S0431	1	CAP,CER,C0G,0.2PF,+/-0.05PF,25V,0201,H-Q	C2214_E	CRITICAL	J523
131S0431	1	CAP,CER,C0G,0.2PF,+/-0.05PF,25V,0201,H-Q	C2215_E	CRITICAL	J518
131S00356	1	CAP,CER,C0G,0.4PF,+/-0.05PF,50V,0201	C2215_E	CRITICAL	J523
152S2021	1	IND,FILM,1.5NH,+/-0.1NH,1000MA,UH-Q,0201	R2209_E	CRITICAL	J518
152S2021	1	IND,FILM,1.5NH,+/-0.1NH,1000MA,UH-Q,0201	R2209_E	CRITICAL	J523
152S00058	1	IND,FILM,1.7NH,+/-0.1NH,800MA,UH-Q,0201	R2208_E	CRITICAL	J518
152S00059	1	IND,FILM,1.6NH,+/-0.1NH,1000MA,UH-Q,0201	R2208_E	CRITICAL	J523



BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

UHB LAT PAD

CONFIDENTIAL AND PROPRIETARY APPLE SYSTEM DESIGN. FOR REFERENCE ONLY - NOT A CHANGE REQUEST

LMB_2G_PAD

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0617	1	CAP,CER,C0G,0.9PF,+/-0.05PF,16V,01005	C2308_E	CRITICAL	J518
131S0893	1	CAP,CER,C0G,0.2PF,+/-0.05PF,16V,01005,HQ	C2308_E	CRITICAL	J523
152S00056	1	IND,FILM,2.3NH,+/-0.1NH,600MA,UH-Q,0201	R2306_E	CRITICAL	J518
152S00157	1	IND,FILM,1.2NH,+/-0.05NH,1.1A,UH-Q,0201	R2306_E	CRITICAL	J523
152S00418	1	IND,FILM,9.1NH,+/-3%,300MA,SHQ,01005	C2316_E	CRITICAL	J518
152S00533	1	IND,FILM,22NH,+/-3%,140MA,SHQ,01005	C2316_E	CRITICAL	J523

102 PP_QET0_2G_PA

C2305_E 100PF 5% 25V NP0-C0G 01005 LMB_2GPAD

C2304_E 2.2UF 20% 10V X5R 0201 LMB_2GPAD

PPVCC_HIGH 128

C2306_E 1.0UF 20% 6.3V X5R 0201-1 LMB_2GPAD

128 115 108 107 106 93 PP_VIO_RFFE_1V8_TX

115 107 102 101 SHIELD_RFFE1_SCLK_SDR

115 107 102 101 SHIELD_RFFE1_SDATA_SDR

C2311_E 18PF 5% 16V NP0/C0G 01005 LMB_2GPAD

C2313_E 18PF 5% 16V NP0/C0G 01005 NOSTUFF LMB_2GPAD

C2302_E 10PF 2% 25V C0G 01005 NOSTUFF LMB_2GPAD

119 113 108 107 106 93 PP_VIO_RFFE_1V8_RX

119 113 108 107 106 101 SHIELD_RFFE3_SCLK_SDR

119 113 108 107 106 101 SHIELD_RFFE3_SDATA_SDR

C2312_E 18PF 5% 16V NP0/C0G 01005 LMB_2GPAD

PP_QET0_PA 102 107

C2314_E 18PF 5% 16V NP0/C0G 01005 NOSTUFF LMB_2GPAD

VFE_LO_1V14_LMB_PAD

R2315_E 0.00 5% 1/32W MF 01005 LMB_2GPAD

PP_VDD_RF_1V2 93 106 107 108 110 111 112 113 114 128

C2315_E 1000PF 10% 6.3V X5R-CERM 01005 LMB_2GPAD

MATCHING NOTE: 0201/01005 NETWORKS

A7 SDATA_RX
A6 CLK_RX
A5 VIO_RX
J4 SDATA_TX
J3 SCLK_TX
J2 VIO_TX
F6 2G_VAPT_1
F7 2G_VAPT_2
H1 VBIAS
J6 VCC1
J7 VCC2
A9 VDD_LNA

101 50_TX_IN_XCVR_TX0_LB2G — MAKE_BASE=TRUE — 50_TX_IN_XCVR_TX0_LB2G — C1 2G_LB_IN

FROM XCVR

2G_LB_OUT B11 50_TRX_IN_LMB_PAD_2G_LB_OUT

R2305_E 0.00 1% 1/20W MF 0201 LMB_2GPAD

50_TRX_IN_LMB_PAD_2G_LB_OUT_M 106

C2307_E 2.1PF +/-0.1PF 16V NP0-C0G 01005 LMB_2GPAD

TO LB PAD

PA_LMB_E
SKY58232
DSBGA
SYM 1 OF 2

ROOM=LMB_2GPAD
SHIELD=YES

353S02393

USID RX=0X05
USID TX=0X05

101 50_TX_IN_XCVR_TX0_MB2G — MAKE_BASE=TRUE — 50_TX_IN_XCVR_TX0_MB2G — D1 2G_MB_IN

FROM XCVR

2G_MB_OUT D11 50_TRX_IN_LMB_PAD_2G_MB_OUT

R2306_E 1.2NH-+/-0.05NH-1.1A-0.04OHM 0201 LMB_2GPAD OMIT_TABLE

50_TRX_IN_LMB_PAD_2G_MB_OUT_M 107

C2316_E 22NH-3%-0.14A-2.26OHM 01005 LMB_2GPAD OMIT_TABLE

C2308_E 0.2PF +/-0.05PF 16V C0G-CERM 01005 LMB_2GPAD OMIT_TABLE

TO HB PAD

R2309_E 0.00 5% 1/32W MF 01005 LMB_2GPAD

NC E1 NC

LMB_ANT G11 50_TRX_IN_LMB_PAD_LMB_ANT

R2307_E 3.4NH-+/-0.1NH-0.5A-0.17OHM 0201 LMB_2GPAD

50_TRX_IN_LMB_PAD_LMB_ANT_M 107

C2317_E 1.1PF +/-0.1PF 25V C0G-CERM 0201 LMB_2GPAD

C2309_E 0.2PF +/-0.05PF 25V C0G-CERM 0201 LMB_2GPAD

TO HB PAD

101 50_TX_IN_XCVR_TX0_LMB — MAKE_BASE=TRUE — 50_TX_IN_XCVR_TX0_LMB — F1 TX_LMB_IN

FROM XCVR

LMB_PRX_OUT C4 50_RX_LMB_PAD_LMB_PRX_OUT

R2308_E 0.00 5% 1/32W MF 01005 LMB_2GPAD

50_RX_LMB_PAD_LMB_PRX_OUT_M 107

C2310_E 0.5PF +/-0.05PF 25V C0G-CERM 01005 LMB_2GPAD NOSTUFF

TO HB PAD

PA_LMB_E
SKY58232
DSBGA
SYM 2 OF 2

ROOM=LMB_2GPAD
SHIELD=YES

353S02393

A1 GND
A2
B3
B4
B9
B10
B12
C2
C3
C9
C10
C11
A3
C12
D2
D3
D4
D12
E2
E3
E4
E11
E12
A4
F2
F3
F4
F5
F11
F12
G1
G2
G3
G4
A8
G5
G6
G7
G12
H2
H3
H4
H5
H6
H7
A10
H11
H12
J1
J5
J8
J9
J10
J11
J12
A11
A12
B1
B2

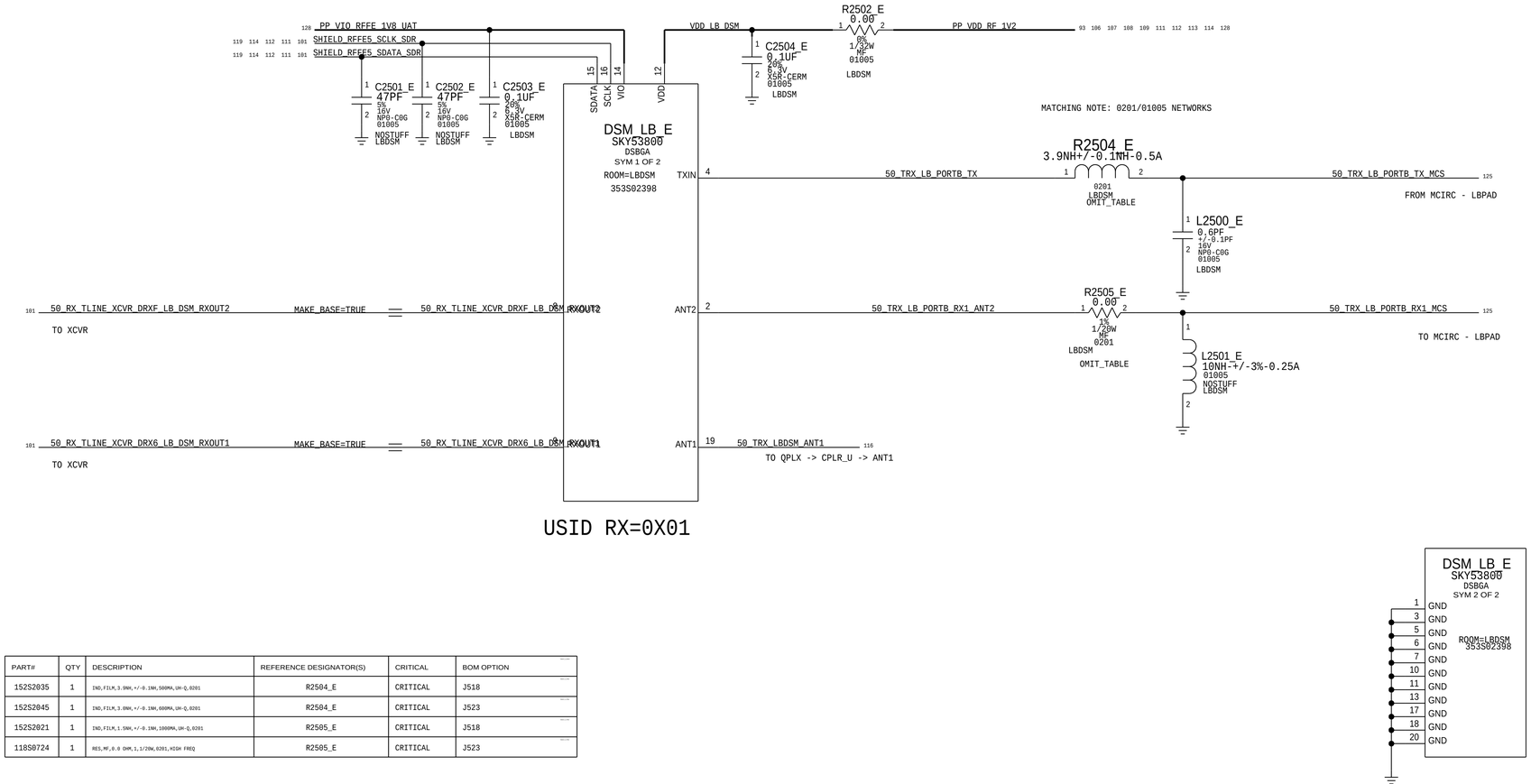
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

LMB_2G_PAD

BOM_COST_GROUP=CELLULAR

LB DIVERSITY MODULE



USID RX=0X01

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S2035	1	IND,FILM,3.9NH,+/-0.1NH,500MA,UH-Q,0201	R2504_E	CRITICAL	J518
152S2045	1	IND,FILM,3.6NH,+/-0.1NH,600MA,UH-Q,0201	R2504_E	CRITICAL	J523
152S2021	1	IND,FILM,1.5NH,+/-0.1NH,1000MA,UH-Q,0201	R2505_E	CRITICAL	J518
118S0724	1	RES,MF,0.0 OHM,1,1/20W,0201,HIGH FREQ	R2505_E	CRITICAL	J523

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

LB DSM

BOM_COST_GROUP=CELLULAR

HB RECEIVE DIVERSITY & TX MODULE

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0648	1	CAP,CER,C0G,0.3PF,+/-0.05PF,16V,01005	L2601_E	CRITICAL	J518
152S00533	1	IND,FILM,22NH,+/-3%,140MA,SHQ,01005	L2601_E	CRITICAL	J523
152S00058	1	IND,FILM,1.7NH,+/-0.1NH,800MA,UH-Q,0201	R2606_E	CRITICAL	J518
152S00419	1	IND,FILM,1.1NH,+/-0.1NH,850MA,SHQ,01005	R2606_E	CRITICAL	J523
131S0369	1	CAP,CER,C0G,0.5PF,+/-0.05PF,16V,01005	L2603_E	CRITICAL	J523 J518 NOSTUFF
152S00425	1	IND,FILM,1.8NH,+/-0.1NH,780MA,SHQ,01005	R2607_E	CRITICAL	J518
152S00426	1	IND,FILM,1.9NH,+/-0.1NH,780MA,SHQ,01005	R2607_E	CRITICAL	J523
152S00431	1	IND,FILM,2.4NH,+/-0.1NH,450MA,SHQ,01005	R2609_E	CRITICAL	J518
152S00430	1	IND,FILM,2.3NH,+/-0.1NH,450MA,SHQ,01005	R2609_E	CRITICAL	J523
152S01109	1	IND,FILM,0.6NH,+/-0.05NH,950MA,SHQ,01005	R2610_E	CRITICAL	J518
152S00493	1	IND,FILM,0.9NH,+/-0.1NH,900MA,SHQ,01005	R2610_E	CRITICAL	J523
131S0648	1	CAP,CER,C0G,0.3PF,+/-0.05PF,16V,01005	C2610_E	CRITICAL	J518 J523 NOSTUFF

PP_VIO_RFFE_1V8_UAT
SHIELD_RFFE5_SCLK_SDR
SHIELD_RFFE5_SDATA_SDR
C2601_E 0.1UF 20% 6.3V X5R-CERM 01005
C2603_E 47PF 5% 16V NP0-C0G 01005 NOSTUFF
C2605_E 47PF 5% 16V NP0-C0G 01005 NOSTUFF
PP_VIO_RFFE_1V8_UAT
SHIELD_RFFE7_SCLK_SDR
SHIELD_RFFE7_SDATA_SDR
C2602_E 0.1UF 20% 6.3V X5R-CERM 01005
C2604_E 47PF 5% 16V NP0-C0G 01005 NOSTUFF
C2606_E 47PF 5% 16V NP0-C0G 01005 NOSTUFF
SDATA_TX SCLK_TX VIO_TX SDATA_RX SCLK_RX VIO_RX VBIAS VCC1 VCC2 VDD_LNA
PPVCC_HIGH
VOLTAGE=5.5V PP_APT_U_PA
VDD_HB_DSM
R2608_E 0.00 0% 1/32W MF 01005
PP_VDD_RF_1V2
C2608_E 0.01UF 10% 16V X5R 01005
C2612_E 18PF 5% 16V NP0/C0G 01005 NOSTUFF
C2613_E 1.0UF 20% 16V X5R-CERM 0201-1
C2609_E 0.1UF 20% 6.3V X5R-CERM 01005
50_TX_IN_XCVR_TX1_HB1_MCS
FROM XCVR - MCIRC
R2601_E 0.00 0% 1/32W MF 01005
50_TX_IN_TX1_HB_DSM_TX_IN1
TX_IN1
DSM_HB_E
HFQTWLQFA-580
DSLGA
SYM 1 OF 2
353S02391
SHIELD=TTS
ROOM=HB_TXDSM
USID RX=0X3
USID TX=0X3
HB_TX_IN
50_TRX_LMB_HB_PORTB_TX
R2609_E 2.3NH-+/-0.1NH-0.45A 01005 OMIT_TABLE
C2610_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 OMIT_TABLE
50_TRX_LMB_HB_PORTB_TX_MCS
FROM MCIRC - HBPAD
HB_RX_IN
50_TRX_LMB_HB_PORTB_RX1
R2610_E 0.00 0% 1/32W MF 01005 OMIT_TABLE
C2625_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 NOSTUFF
C2611_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 NOSTUFF
50_TRX_LMB_HB_PORTB_RX1_MCS
FROM MCIRC - HBPAD
50_RX_TLINE_XCVR_DRX2_HB_DSM_RXOUT_DRX1 MAKE_BASE=TRUE 50_RX_TLINE_XCVR_DRX2_HB_DSM_RXOUT_DRX1
TO XCVR
HB_ANT1
50_TRX_HBDSM_HB_ANT1
TO QPLX --> CPLR_U -> ANT1
50_RX_TLINE_XCVR_DRX4_HB_DSM_RXOUT_DRX2 MAKE_BASE=TRUE 50_RX_TLINE_XCVR_DRX4_HB_DSM_RXOUT_DRX2
TO XCVR
HB_ANT2
50_TRX_HBDSM_HB_ANT2
R2606_E 0.00 0% 1/32W MF 01005 OMIT_TABLE
50_TRX_HBDSM_HB_ANT2_M
TO CPLR_U -> MBHB TPLX -> ANT2B
L2603_E 4.7NH-3%-0.270A 01005 OMIT_TABLE
L2601_E 4.7NH-3%-0.270A 01005 OMIT_TABLE
50_RX_TLINE_XCVR_DRXE_HB_DSM_RXOUT_DRX3 MAKE_BASE=TRUE 50_RX_TLINE_XCVR_DRXE_HB_DSM_RXOUT_DRX3
TO XCVR
MIMO_RX_OUT
50_TRX_HBDSM_MIMO2_RX_OUT
R2607_E 0.00 0% 1/32W MF 01005 OMIT_TABLE
50_TRX_HBDSM_MIMO2_RX_OUT_M
TO MIMO DSM2 ANT1
L2602_E 4.7NH-3%-0.270A 01005 NOSTUFF
50_RX_TLINE_XCVR_DRX0_HB_DSM_RXOUT_DRX4 MAKE_BASE=TRUE 50_RX_TLINE_XCVR_DRX0_HB_DSM_RXOUT_DRX4
TO XCVR
NC
NC

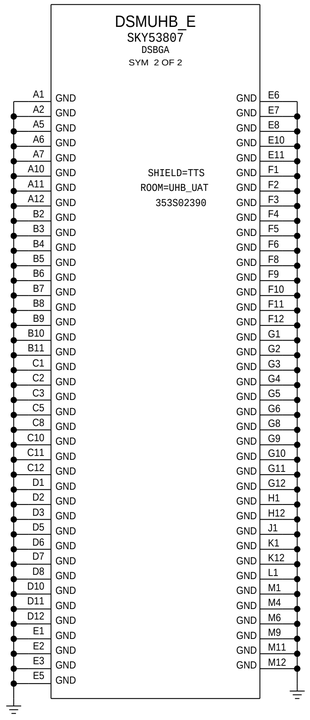
DSM_HB_E
HFQTWLQFA-580
DSLGA
SYM 2 OF 2
353S02391
SHIELD=TTS
ROOM=HB_TXDSM

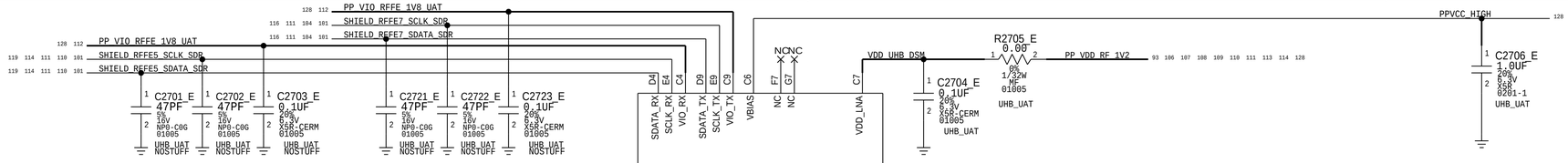
A1	GND	GND	F12
A4	GND	GND	F13
A6	GND	GND	G10
A11	GND	GND	G11
B12	GND	GND	G12
C10	GND	GND	G13
C11	GND	GND	H1
C12	GND	GND	A13
C13	GND	GND	H13
D1	GND	GND	J1
D10	GND	GND	J3
D11	GND	GND	J5
D12	GND	GND	J7
E10	GND	GND	J8
E11	GND	GND	J9
E12	GND	GND	J10
E13	GND	GND	J11
F1	GND	GND	J12
F10	GND	GND	J13
F11	GND		

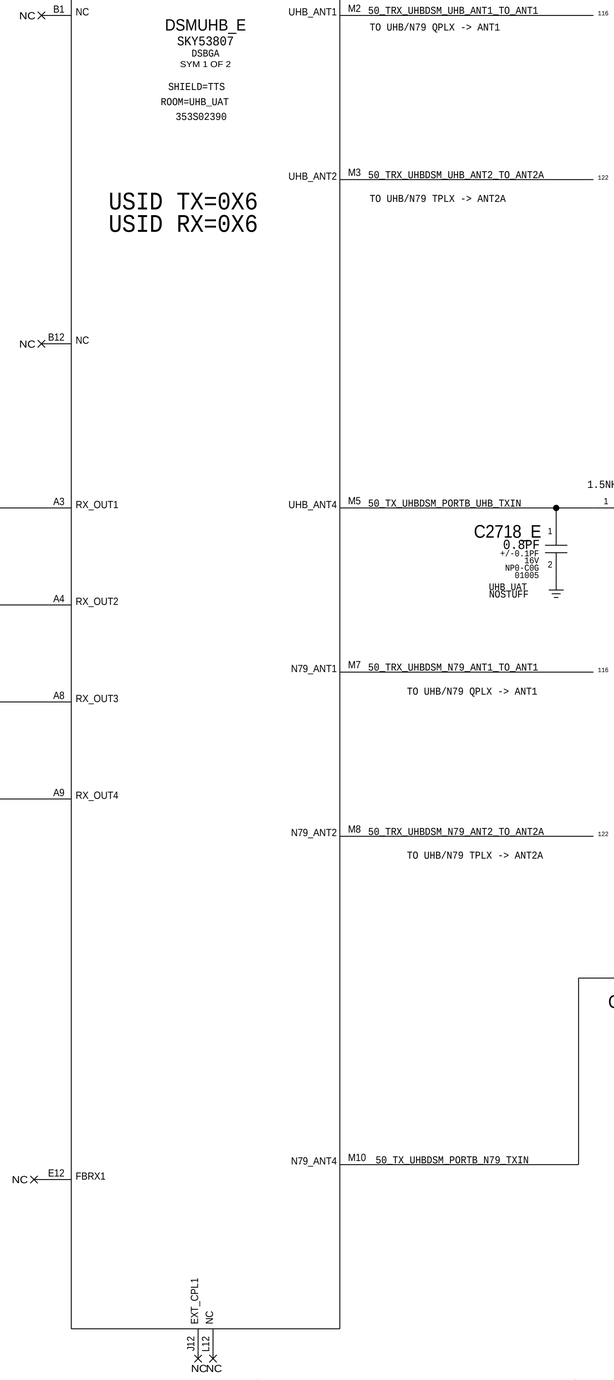
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020
PAGE TITLE
HB TXDSM

BOM_COST_GROUP=CELLULAR

UHB DSM







PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION	
152S00147	1	IND,FILM,0.6NH,+/-0.05NH,1.1A,UH-Q,0201	R2709_E	CRITICAL	J518	
152S2021	1	IND,FILM,1.5NH,+/-0.1NH,1000MA,UH-Q,0201	R2709_E	CRITICAL	J523	
131S00356	1	CAP,CER,C0G,0.4PF,+/-0.05PF,50V,0201	C2709_E	CRITICAL	J523	J518 NOSTUFF
152S00422	1	IND,FILM,1.5NH,+/-0.1NH,700MA,SHQ,01005	R2708_E	CRITICAL	J518	
152S00494	1	IND,FILM,0.8NH,+/-0.1NH,900MA,SHQ,01005	R2708_E	CRITICAL	J523	
131S0373	1	CAP,CER,NP0/C0G,0.8PF,+/-0.1PF,16V,01005	C2708_E	CRITICAL	J518	J523 NOSTUFF

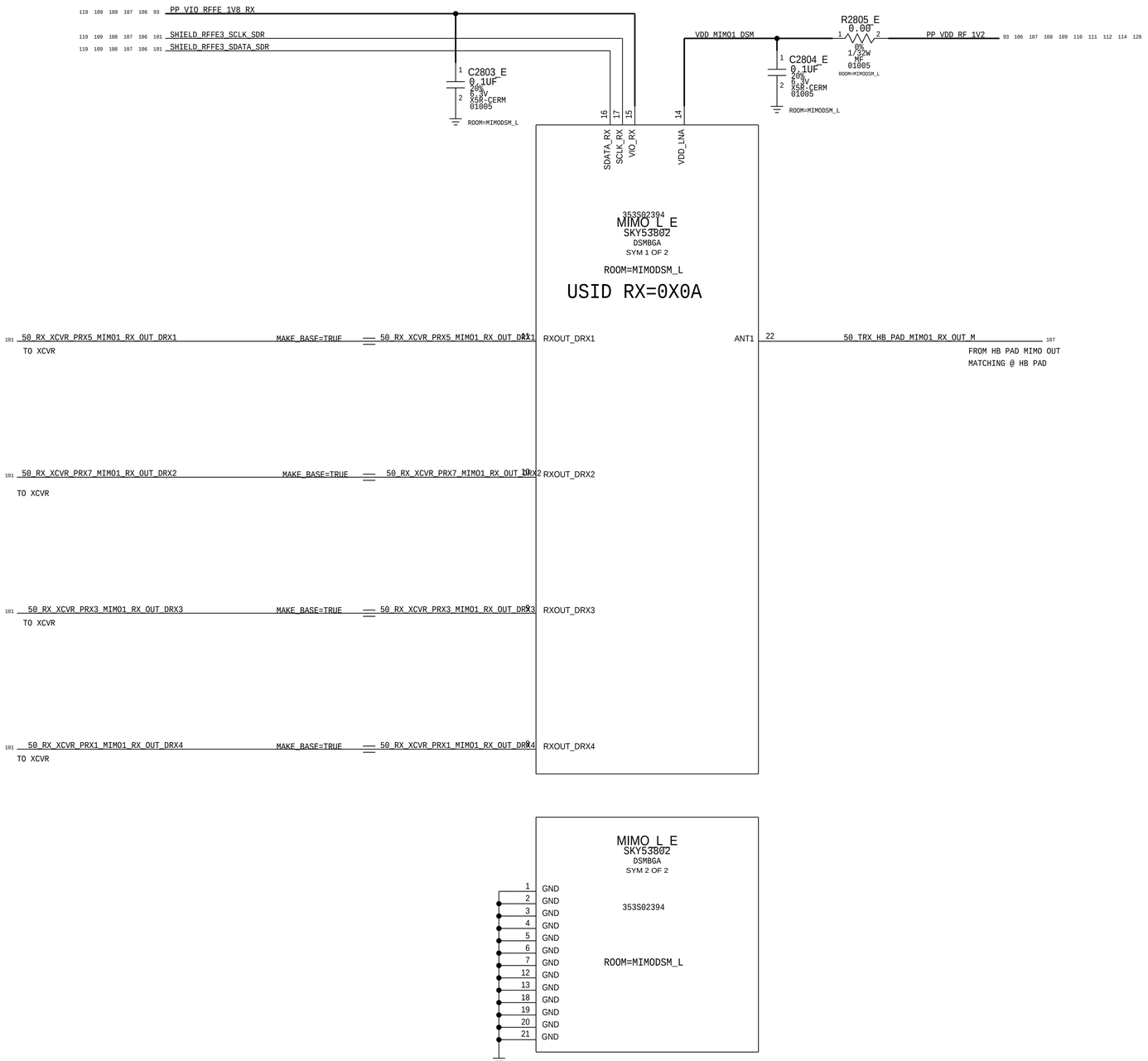
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

UHB DSM

LOWER MIMO DIVERSITY MODULE



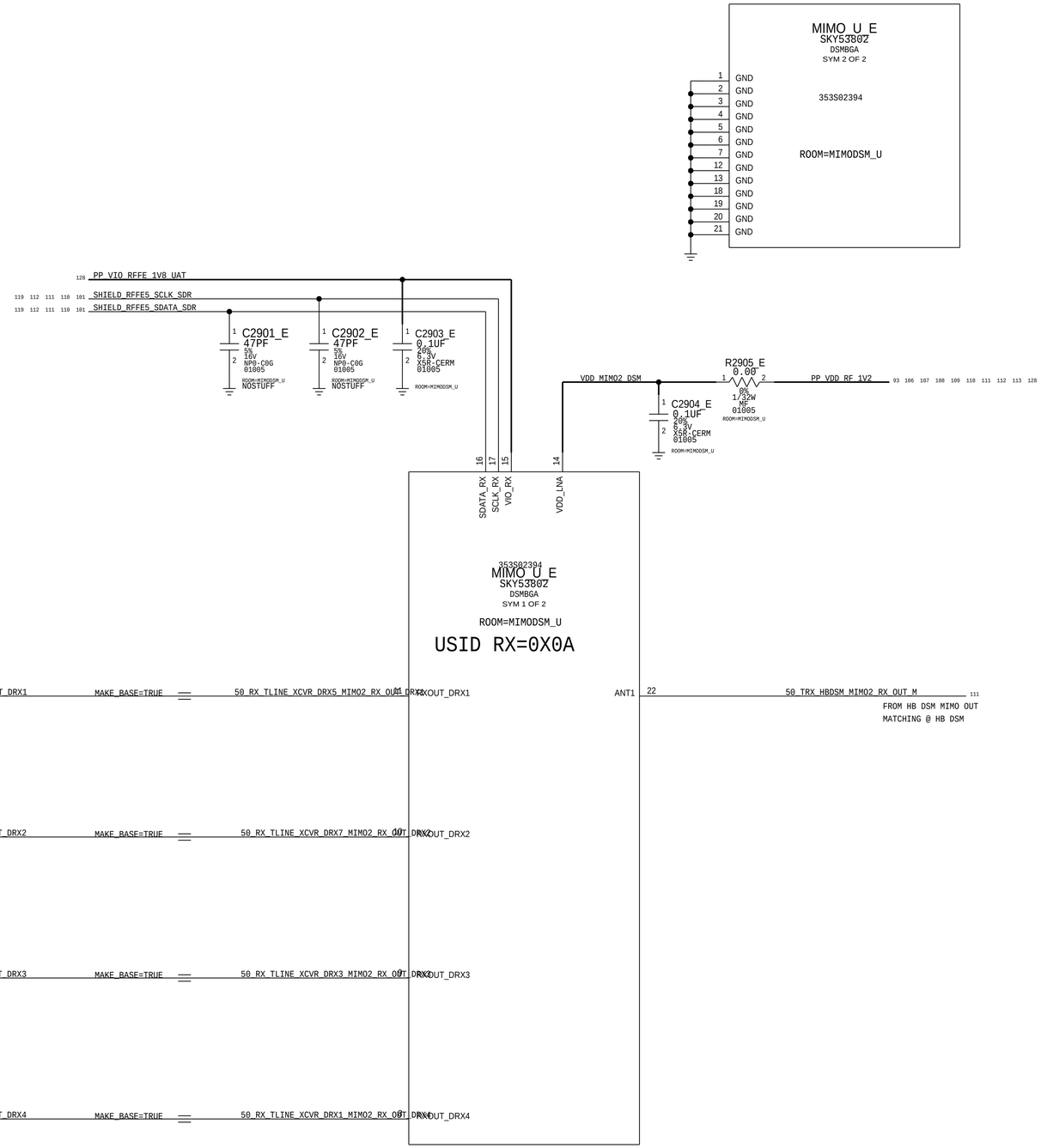
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

MIMO DSM LOWER

BOM_COST_GROUP=CELLULAR

UPPER MIMO DIVERSITY MODULE



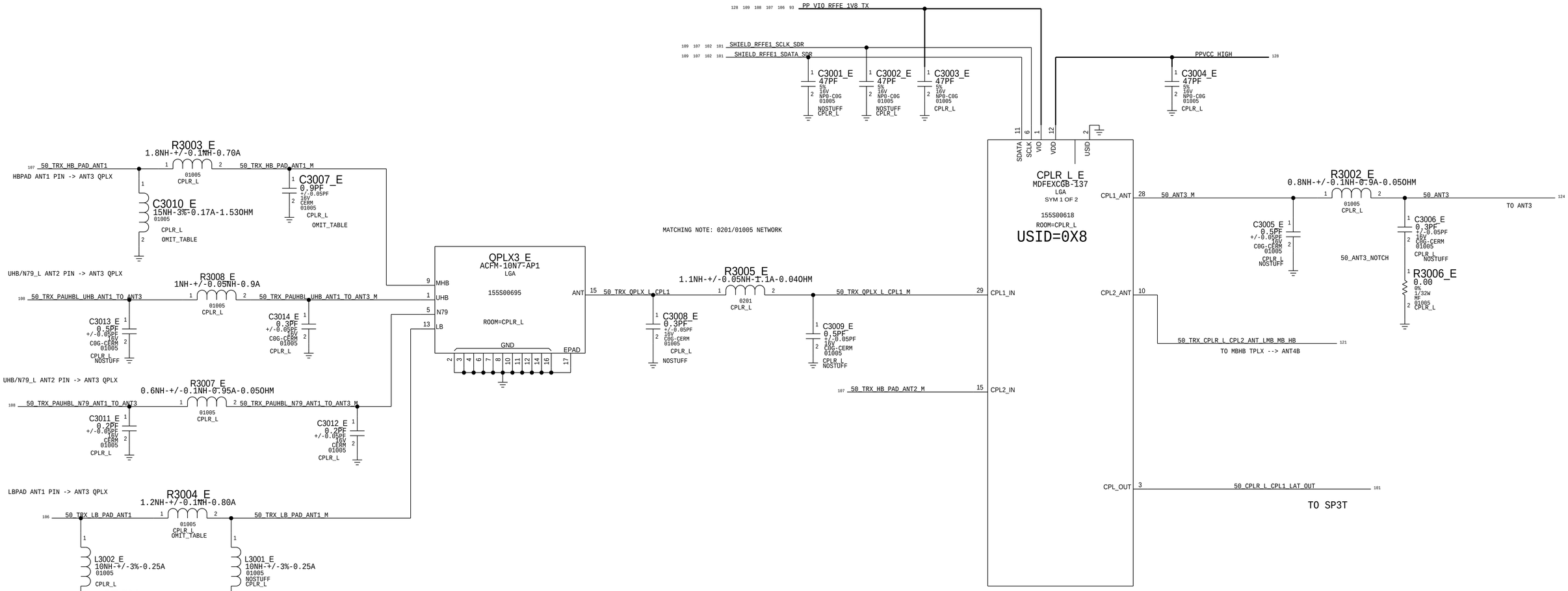
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

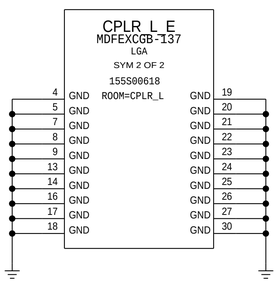
PAGE TITLE

MIMO DSM UPPER

LOWER COUPLER



PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION	
152S00529	1	IND,FILM,15NH,+/-3%,170MA,SHQ,01005	C3010_E	CRITICAL	J523	J518 NOSTUFF
131S0372	1	CAP,CER,NP0/C0G,0.7PF,+-0.05PF,10V,01005	C3007_E	CRITICAL	J518	
131S0617	1	CAP,CER,C0G,0.9PF,+/-0.05PF,16V,01005	C3007_E	CRITICAL	J523	
152S00431	1	IND,FILM,2.4NH,+/-0.1NH,450MA,SHQ,01005	R3004_E	CRITICAL	J518	
152S00416	1	IND,FILM,1.2NH,+/-0.1NH,800MA,SHQ,01005	R3004_E	CRITICAL	J523	
131S0599	1	CAP,CER,C0G,1.5PF,+/-0.05PF,16V,01005	L3002_E	CRITICAL	J518	J523 NOSTUFF



BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

COUPLER LOWER

UPPER COUPLER

MATCHING NOTE: 0201/01005 NETWORKS

R3104_E
1.0NH-+/-0.05NH-I.1A-0.04OHM
50_TRX_HBDSM_HB_ANT1 — 0201 — 50_TRX_HBDSM_HB_ANT1_M
HBDSM ANT1 PIN -> ANT1 QPLX
ROOM=CPLR_U
OMIT_TABLE

L3101_E
4.7NH-3%-0.270A
01005
OMIT_TABLE
ROOM=CPLR_U

R3110_E
0.6NH-+/-0.05NH-0.95A
50_TRX_UHBDSM_UHB_ANT1_TO_ANT1 — 01005 — 50_TRX_UHBDSM_UHB_ANT1_TO_ANT1_M
UHB/N79_U ANT2 PIN -> ANT1 QPLX
ROOM=CPLR_U
OMIT_TABLE

C3113_E
0.5PF
+/-0.05PF
16V
C0G-CERM
01005
ROOM=CPLR_U
NOSTUFF

C3114_E
0.5PF
+/-0.05PF
16V
C0G-CERM
01005
ROOM=CPLR_U
NOSTUFF

QPLX1_E
ACFM-10N7-AP1
LGA
155S00695
ROOM=CPLR_U

9	MHB	ANT	15
1	UHB		
5	N79		
13	LB		
2	GND	EPAD	17
3	GND		
4	GND		
6	GND		
7	GND		
8	GND		
10	GND		
11	GND		
12	GND		
14	GND		
16	GND		

50_TRX_QPLX_U_CPL1 — R3106_E 0.00 1/32W MF 01005 OMIT_TABLE — 50_TRX_QPLX_U_CPL1_M

C3109_E
0.5PF
+/-0.05PF
16V
C0G-CERM
01005
ROOM=CPLR_U
NOSTUFF

R3109_E
0.00
1/20W
MF
0201
OMIT_TABLE
50_TRX_UHBDSM_N79_ANT1_TO_ANT1 — 50_TRX_UHBDSM_N79_ANT1_TO_ANT1_M
UHB/N79_U ANT2 PIN -> ANT1 QPLX

C3111_E
0.5PF
+/-0.05PF
16V
C0G-CERM
01005
ROOM=CPLR_U
NOSTUFF

C3112_E
0.5PF
+/-0.05PF
16V
C0G-CERM
01005
ROOM=CPLR_U
OMIT_TABLE

R3101_E
0.00
1/32W
MF
01005
ROOM=CPLR_U
OMIT_TABLE
50_TRX_LBDSM_ANT1 — 50_TRX_LBDSM_ANT1_M
LBDSM ANT1 PIN -> ANT1 QPLX

C3116_E
0.5PF
+/-0.05PF
16V
C0G-CERM
01005
ROOM=CPLR_U
OMIT_TABLE

L3102_E
4.7NH-3%-0.270A
01005
ROOM=CPLR_U
NOSTUFF
PACK_IGNORE=TRUE
PACK_OPTION=J523

NOTE: NO ROOM FOR PI ON J518

CPLR_U_E
MDFEXCGB-I37
LGA
SYM 2 OF 2
155S00618
ROOM=CPLR_U

4	GND	GND	19
5	GND	GND	20
7	GND	GND	21
8	GND	GND	22
9	GND	GND	23
13	GND	GND	24
14	GND	GND	25
16	GND	GND	26
17	GND	GND	27
18	GND	GND	30

BOM_COST_GROUP=CELLULAR

PPVCC_HIGH — C3106_E 47PF 5% 16V NP0-C0G 01005 ROOM=CPLR_U — C3105_E 0.1UF 20% 6.3V X6S-CERM 01005 ROOM=CPLR_U

PP_VIO_RFFE_1V8_UAT
SHIELD_RFFE7_SCLK_SDR
SHIELD_RFFE7_SDATA_SDR

C3102_E 47PF 5% 16V NP0-C0G 01005 ROOM=CPLR_U NOSTUFF
C3103_E 47PF 5% 16V NP0-C0G 01005 ROOM=CPLR_U NOSTUFF
C3104_E 47PF 5% 16V NP0-C0G 01005 ROOM=CPLR_U

CPLR_U_E
MDFEXCGB-I37
LGA
SYM 1 OF 2
155S00618
ROOM=CPLR_U

USID=0X8

SDATA	11		
SCLK	6		
VIO	1		
VDD	12		
USID	2		
CPL1_IN	29		
CPL2_IN	15		
CPL1_ANT	28	50_ANT1_M	
CPL2_ANT	10	50_TRX_CPLR_U_CPL2_ANT_LMB_MB_HB	123
CPL_OUT	3	50_CPLR_U_CPL1_UAT_OUT	

50_TRX_HBDSM_HB_ANT2_M

R3103_E
1.2NH-+/-0.1NH-0.80A
01005
OMIT_TABLE
50_ANT1 — TO ANT1

C3110_E
0.5PF
+/-0.05PF
16V
C0G-CERM
01005
ROOM=CPLR_U
NOSTUFF

C3107_E
0.3PF
+/-0.05PF
16V
C0G-CERM
01005
ROOM=CPLR_U
NOSTUFF

50_ANT1_NOTCH

R3107_E
0.00
0Ω
1/32W
MF
01005
ROOM=CPLR_U

TO MBHB TPLX --> ANT2B

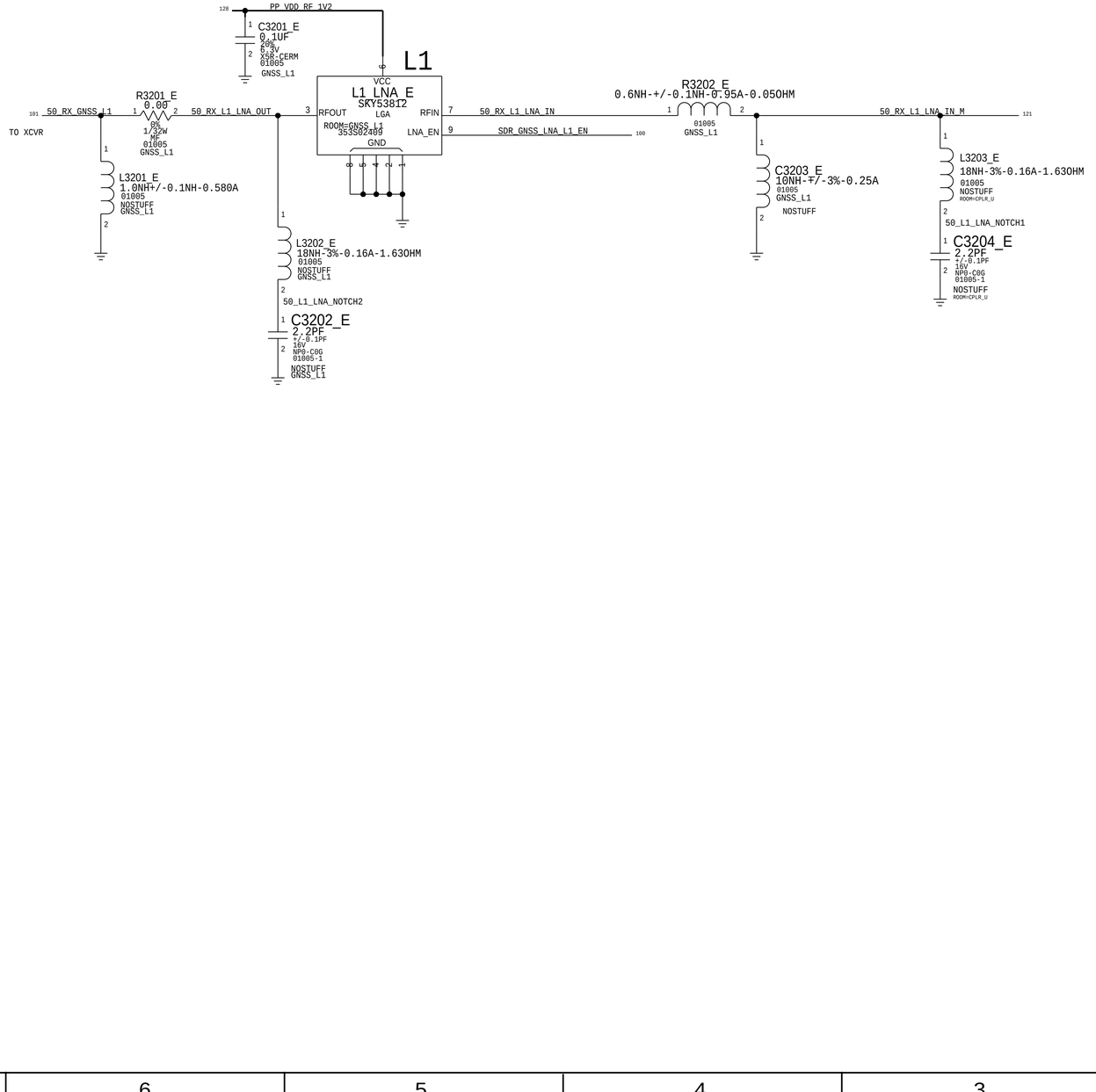
50_CPLR_U_CPL1_UAT_OUT — TO SP3T

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0893	1	CAP,CER,C0G,0.2PF,+/-0.05PF,16V,01005,HQ	C3112_E	CRITICAL	J518
131S0648	1	CAP,CER,C0G,0.3PF,+/-0.05PF,16V,01005	L3101_E	CRITICAL	J518
131S0893	1	CAP,CER,C0G,0.2PF,+/-0.05PF,16V,01005,HQ	L3101_E	CRITICAL	J523
152S00498	1	IND,F1LM,0.4NH,+/-0.1NH,1000MA,SHQ,01005	R3103_E	CRITICAL	J518
152S01108	1	IND,F1LM,0.3NH,+/-0.05NH,1A,SHQ,01005	R3103_E	CRITICAL	J523
152S2001	1	IND,F1LM,2.4NH,+/-0.15NH,600MA,UH-Q,0201	R3104_E	CRITICAL	J518
152S01047	1	IND,F1LM,2.0NH,+/-0.05NH,0.6A,UH-Q,0201	R3104_E	CRITICAL	J523
152S00496	1	IND,F1LM,0.6NH,+/-0.1NH,950MA,SHQ,01005	R3106_E	CRITICAL	J518
152S01108	1	IND,F1LM,0.3NH,+/-0.05NH,1A,SHQ,01005	R3106_E	CRITICAL	J523
152S2021	1	IND,F1LM,1.5NH,+/-0.1NH,1000MA,UH-Q,0201	R3109_E	CRITICAL	J518
152S00156	1	IND,F1LM,1.1NH,+/-0.05NH,1.1A,UH-Q,0201	R3109_E	CRITICAL	J523
152S01246	1	IND,F1LM,0.8NH,+/-0.05NH,900MA,SHQ,01005	R3110_E	CRITICAL	J518
152S01247	1	IND,F1LM,1NH,+/-0.05NH,900MA,SHQ,01005	R3110_E	CRITICAL	J523
152S00504	1	IND,F1LM,3.0NH,+/-0.1NH,450MA,SHQ,01005	R3101_E	CRITICAL	J518
152S00499	1	IND,F1LM,2.5NH,+/-0.1NH,450MA,SHQ,01005	R3101_E	CRITICAL	J523
131S0389	1	CAP,CER,NP0/C0G,2.4PF,+/-0.1PF,16V,01005	C3116_E	CRITICAL	J518
131S0599	1	CAP,CER,C0G,1.5PF,+/-0.05PF,16V,01005	C3116_E	CRITICAL	J523

J523 NOSTUFF

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020
PAGE TITLE
COUPLER UPPER

GNSS_L1



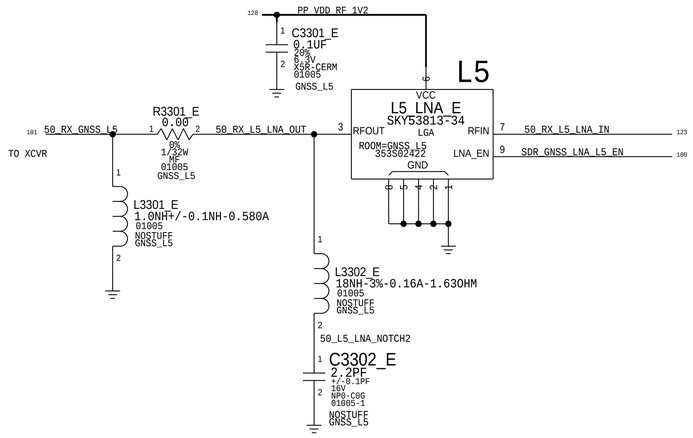
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

GNSS_L1

GNSS_L5



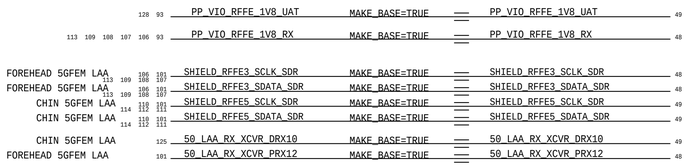
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

GNSS_L5

LAA CONNECTIONS



BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

LAA CONNECTIONS

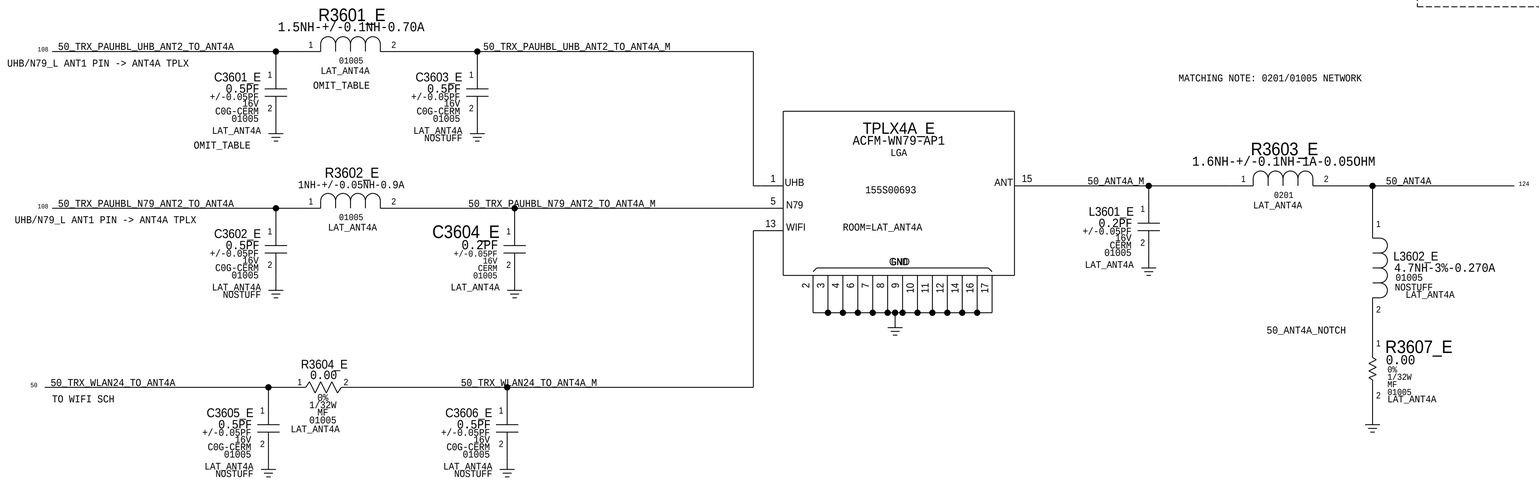
FOREHEAD ANTENNA FEEDS: ANT4A

CHIN ANTENNAS

ANT1	ANT2A	ANT2B	ANT5B	ANT2U
LB	2.4GHZ	L5 GNSS	5GHZ	SAM
LMB/MB/HB	UHB	MB/HB		
UHB	N79	5GHZ		
N79				

FOREHEAD ANTENNAS

ANT3	ANT4A	ANT4B
LB	2.4GHZ	L1 GNSS
LMB/MB/HB	UHB	MB/HB
UHB	N79	5GHZ
N79		



ANT4A

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0893	1	CAP,CER,C0G,0.2PF,+/-0.05PF,16V,01005,HQ	C3601_E	CRITICAL	J518
131S0369	1	CAP,CER,C0G,0.5PF,+/-0.05PF,16V,01005	C3601_E	CRITICAL	J523
152S00494	1	IND,FILM,0.8NH,+/-0.1NH,900MA,SHQ,01005	R3601_E	CRITICAL	J518
152S00422	1	IND,FILM,1.5NH,+/-0.1NH,700MA,SHQ,01005	R3601_E	CRITICAL	J523

BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

FOREHEAD ANTENNA FEEDS_ANT4A

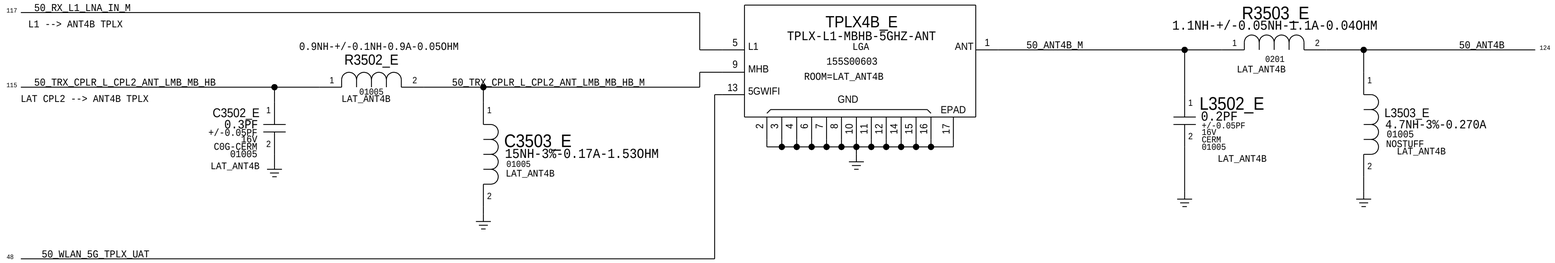
FOREHEAD ANTENNA FEEDS: ANT4B

CHIN ANTENNAS

ANT1	ANT2A	ANT2B	ANT5B	ANT2U
LB	2.4GHZ	L5 GNSS	5GHZ	SAM
LMB/MB/HB	UHB	MB/HB		
UHB	N79	5GHZ		
N79				

FOREHEAD ANTENNAS

ANT3	ANT4A	ANT4B
LB	2.4GHZ	L1 GNSS
LMB/MB/HB	UHB	MB/HB
UHB	N79	5GHZ
N79		



ANT4B

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

FOREHEAD ANTENNA FEEDS_ANT4B

BOM_COST_GROUP=CELLULAR

CHIN ANTENNA FEEDS: ANT2A

CHIN ANTENNAS

ANT1	ANT2A	ANT2B	ANT5B	ANT2U
LB	2.4GHZ	L5 GNSS	5GHZ	SAM
LMB/MB/HB	UHB	MB/HB		
UHB	N79	5GHZ		
N79				

FOREHEAD ANTENNAS

ANT3	ANT4A	ANT4B
LB	2.4GHZ	L1 GNSS
LMB/MB/HB	UHB	MB/HB
UHB	N79	5GHZ
N79		

MATCHING NOTE: 0201/01005 NETWORKS

112 50_TRX_UHBDSM_UHB_ANT2_TO_ANT2A
UHB/N79_U ANT1 PIN -> ANT2A TPLX

R3901_E 0.00 1% 1/20W MF 0201 UAT_ANT2A OMIT_TABLE

C3903_E 0.5PF +/-0.05PF 25V C0G-CERM 0201 UAT_ANT2A OMIT_TABLE

50_TRX_UHBDSM_UHB_ANT2_TO_ANT2A_M

L3902_E 4.3NH+/-3%-0.5A 0201 UAT_ANT2A OMIT_TABLE

112 50_TRX_UHBDSM_N79_ANT2_TO_ANT2A
UHB/N79_U ANT1 PIN -> ANT2A TPLX

R3902_E 0.6NH+/-0.05NH-I.1A-0.04OHM 0201 UAT_ANT2A OMIT_TABLE

C3904_E 0.5PF +/-0.05PF 25V C0G-CERM 0201 UAT_ANT2A NOSTUFF

50_TRX_UHBDSM_N79_ANT2_TO_ANT2A_M

L3903_E 0.2PF +/-0.05PF 25V C0G-CERM 0201 UAT_ANT2A OMIT_TABLE

51 50_TRX_WLAN24_TO_ANT2A
TO WIFI SCH

R3932_E 0.00 0% 1/32W MF 01005 UAT_ANT2A

C3934_E 0.5PF +/-0.05PF 16V C0G-CERM 01005 UAT_ANT2A OMIT_TABLE

50_TRX_WLAN_G_BT_ANT4_NPLXR_M

L3933_E 4.7NHT-3%-0.270A 01005 NOSTUFF UAT_ANT2A

TPLX2A_E
ACFM-WN79-AP1
LGA
155S00693
ROOM=UAT_ANT2A

1 UHB
5 N79
13 WIFI
15 ANT
GND
2 3 4 6 7 8 9 10 11 12 14 16 17

MATCHING NOTE: 0201/01005 NETWORK

15 50_ANT2A_M

R3904_E 0.8NH+/-0.05NH-I.1A-0.04OHM 0201 UAT_ANT2A OMIT_TABLE

50_ANT2A 124

L3901_E 0.2PF +/-0.05PF 25V C0G-CERM 0201 UAT_ANT2A OMIT_TABLE

50_ANT2A_NOTCH

C3901_E 0.6PF +/-0.05PF 16V CERM 01005 UAT_ANT2A OMIT_TABLE

R3907_E 0.00 0% 1/32W MF 01005 UAT_ANT2A

ANT2A

WIFI MATCHING

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0893	1	CAP,CER,C0G,0.2PF,+/-0.05PF,16V,01005,HQ	C3934_E	CRITICAL	J518

J523 NOSTUFF

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
131S0431	1	CAP,CER,C0G,0.2PF,+/-0.05PF,25V,0201,H-Q	C3903_E	CRITICAL	J518
131S0631	1	CAP,CER,C0G,0.3PF,+/-0.05PF,25V,0201,H-Q	C3903_E	CRITICAL	J523
152S2054	1	IND,F1LM,9.1NH,+/-3%,300MA,UH-Q,0201	L3902_E	CRITICAL	J523
131S0351	1	CAP,CER,C0G,HF,0.4DPF,+/-0.05PF,25V,0201	L3903_E	CRITICAL	J518
152S2054	1	IND,F1LM,9.1NH,+/-3%,300MA,UH-Q,0201	L3903_E	CRITICAL	J523
152S2021	1	IND,F1LM,1.5NH,+/-0.1NH,1000MA,UH-Q,0201	R3901_E	CRITICAL	J518
152S00156	1	IND,F1LM,1.1NH,+/-0.05NH,1.1A,UH-Q,0201	R3901_E	CRITICAL	J523
152S00157	1	IND,F1LM,1.2NH,+/-0.05NH,1.1A,UH-Q,0201	R3902_E	CRITICAL	J518
118S0724	1	RES,MF,0.0 OHM,1,1/20W,0201,HIGH FREQ	R3902_E	CRITICAL	J523
152S00157	1	IND,F1LM,1.2NH,+/-0.05NH,1.1A,UH-Q,0201	R3904_E	CRITICAL	J518
152S00153	1	IND,F1LM,1.0NH,+/-0.05NH,1.1A,UH-Q,0201	R3904_E	CRITICAL	J523
131S0431	1	CAP,CER,C0G,0.2PF,+/-0.05PF,25V,0201,H-Q	L3901_E	CRITICAL	J518
131S0431	1	CAP,CER,C0G,0.2PF,+/-0.05PF,25V,0201,H-Q	L3901_E	CRITICAL	J523
152S00533	1	IND,F1LM,22NH,+/-3%,140MA,SHQ,01005	C3901_E	CRITICAL	J523

J518 NOSTUFF

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020
PAGE TITLE
CHIN ANTENNA FEEDS_ANT2A

BOM_COST_GROUP=CELLULAR

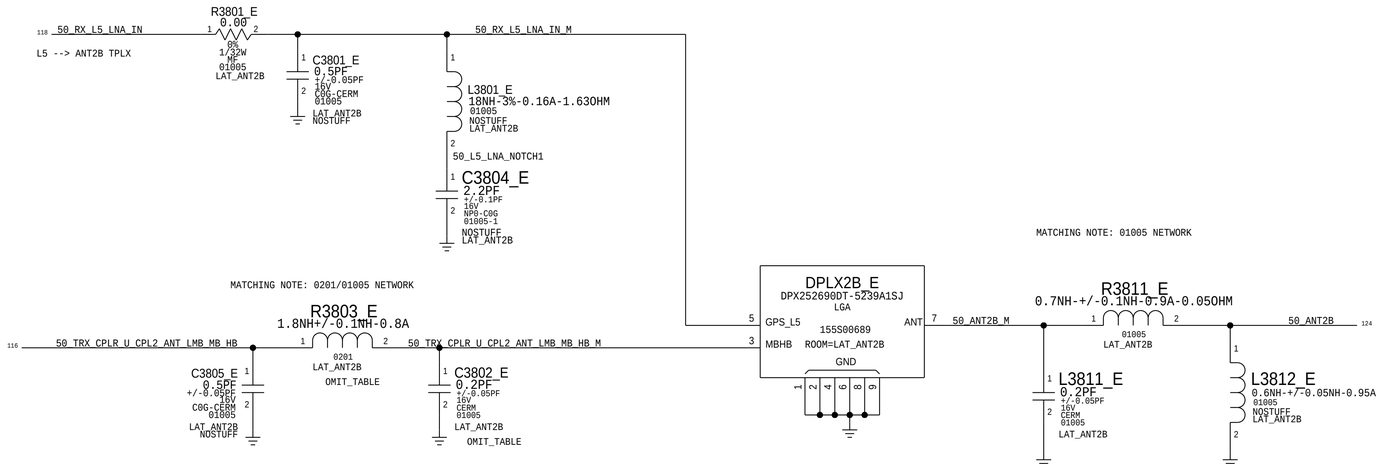
CHIN ANTENNA FEEDS: ANT2B

CHIN ANTENNAS

ANT1	ANT2A	ANT2B	ANT5B	ANT2U
LB	2.4GHZ	L5 GNSS	5GHZ	SAM
LMB/MB/HB	UHB	MB/HB		
UHB	N79	5GHZ		
N79				

FOREHEAD ANTENNAS

ANT3	ANT4A	ANT4B
LB	2.4GHZ	L1 GNSS
LMB/MB/HB	UHB	MB/HB
UHB	N79	5GHZ
N79		



ANT2B

PART#	QTY	DESCRIPTION	REFERENCE DESIGNATOR(S)	CRITICAL	BOM OPTION
152S2042	1	IND,FILM,1.8NH,+/-0.1NH,800MA,UH-Q,0201	R3803_E	CRITICAL	J518
131S0343	1	CAP,CER,C0G,HF,3.6PF,+/-0.05PF,25V,0201	R3803_E	CRITICAL	J523
131S0893	1	CAP,CER,C0G,0.2PF,+/-0.05PF,10V,01005,HQ	C3802_E	CRITICAL	J518
152S00522	1	IND,FILM,6.2NH,+/-3%,300MA,SHQ,01005	C3802_E	CRITICAL	J523

BOM_COST_GROUP=CELLULAR

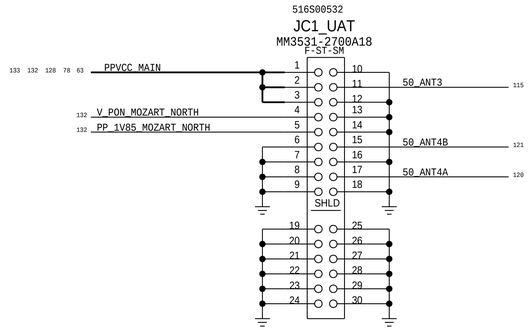
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

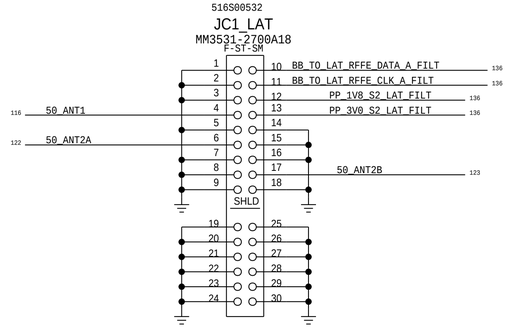
CHIN ANTENNA FEEDS_ANT2B

ANTENNA CONNECTORS

INDY - FOREHEAD



DAYTONA - CHIN



BOM_COST_GROUP=CELLULAR

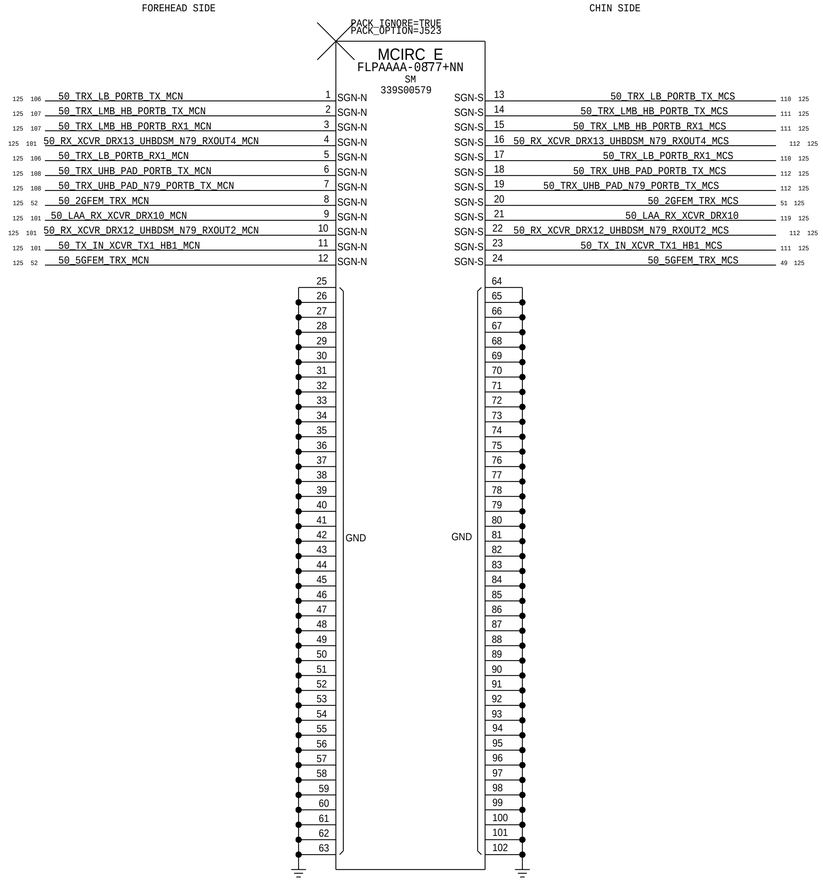
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

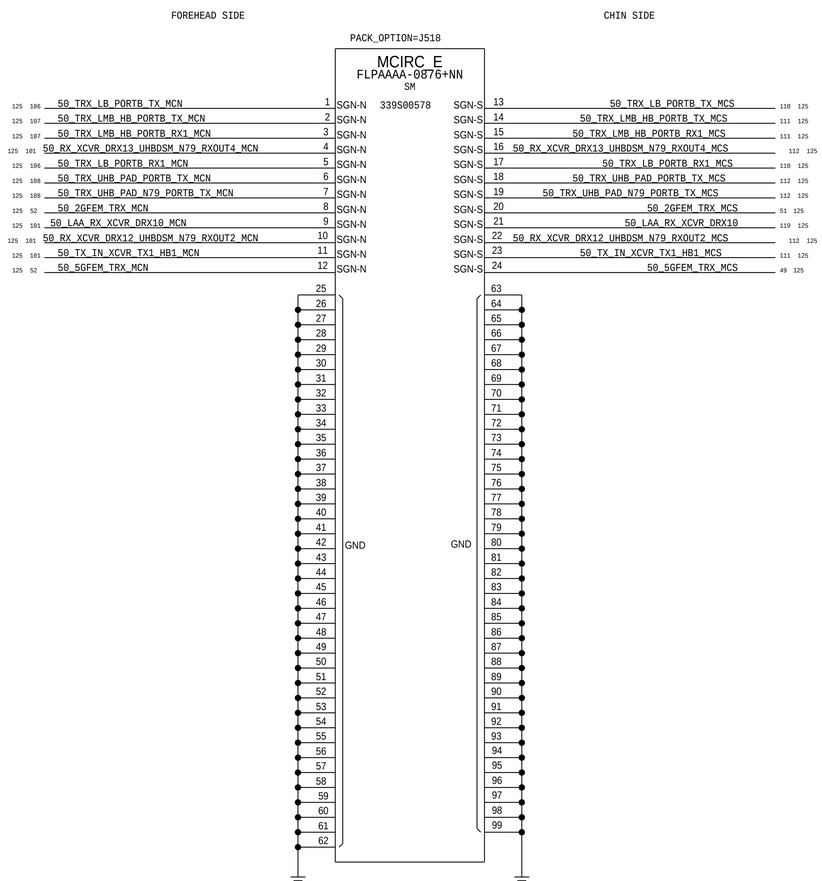
ANT CONNECTORS

ONBOARD METROCIRC

J523



J518



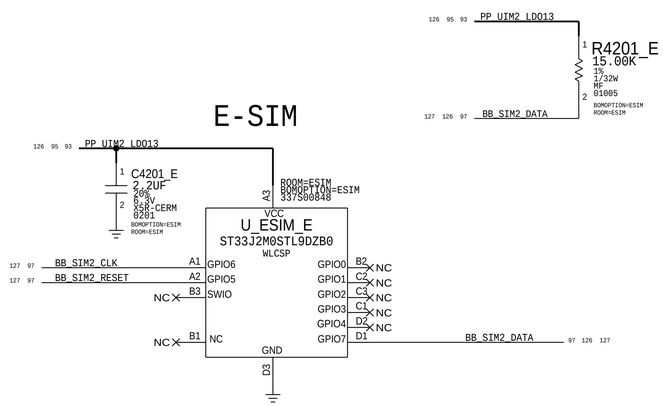
BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

METROCIRC

E SIM



Birch OS 6.0	APN	MPN
Dev1	998-19944	ST33J2M0STL9D**ZA0**
Dev2	998-21086	ST33J2M0STL9D**ZA2**
Dev2-CN	998-21087	ST33J2M0STL9D**ZA3**
Dev3	998-21893	ST33J2M0STL9D**ZA4**
Dev3-CN	998-21895	ST33J2M0STL9D**ZA5**
Prod	337S00848	ST33J2M0STL9D**ZB0**
Prod-CN	337S00849	ST33J2M0STL9D**ZB1**

BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

ESIM

DEBUG & BB PROBE POINTS

NOSTUFF
ROOM=DEBUG

JDEBUG_E
BM29P-24DP-2-0.35V
M-ST-SM

129 127	PP_VDD_MAIN_BBPMIC_DEBUG	1	2	PP_VDD_MAIN_BBPMIC_DEBUG	127 129
129	PP_3V0_DEBUG	3	4	GPIO_PMU_TO_BBPMU_ON	78 94 129
97	BB_JTAG_TDI	5	6		
97	BB_JTAG_TDO	7	8	90_USB_BB_N	97 137
97	BB_JTAG_TRST_L	9	10	90_USB_BB_P	97 137
97	BB_JTAG_RST_L	11	12		
97 78	UART_BB_TO_WLAN_COEX_1V2	13	14	VBUS_DET_PMIC	94 137
97 78	UART_WLAN_TO_BB_COEX_1V2	15	16	BB_JTAG_TCK_SWD_CLK_1V8_R	97
97 78	UART_AOP_TO_BB_TX	17	18	BB_JTAG_TMS_SWD_IO_1V8_R	97
97 78	UART_BB_TO_AOP_TX	19	20	BB_SIM1_RESET	97 134 137
137 134 97	BB_SIM1_CLK	21	22	BB_SIM1_DETECT	97 134 137
137 134 97	BB_SIM1_DATA	23	24	PP_UIM1_LDO11	93 95 132 134 137
		27	28		

BASEBAND

PP4652_E
P2MM-NSM
SM
PP 1 GPIO_SOC_TO_BB_COREDUMP 78 97

PP4658_E
P2MM-NSM
SM
PP 1 GPIO_AP_TO_BB_GPS_TIME_MARK 78 97

UART_BB_TO_AOP_RXD ON JDEBUG_E

UART_AOP_TO_BB_TXD ON JDEBUG_E

UART_BB_TO_WLAN_COEX_TX_1V2 ON WIFI SCH

UART_WLAN_TO_BB_COEX_RX_1V2 ON WIFI SCH

PP4653_E
P2MM-NSM
SM
PP 1 GPIO_SOC_TO_LANAI_DISPLAY_BSYNC1 78 94

PP4654_E
P2MM-NSM
SM
PP 1 AOP_TO_BBPMU_FORCE_PWM 78 94

PP4687_E
P2MM-NSM
SM
PP 1 GPIO_BB_TO_SOC_RESET_DET_L 78 97

APPMU_TO_BBPMU_RESET_L ON JDEBUG_E

PP4618_E
P2MM-NSM
SM
PP 1 PS_HOLD 94 97

PP4605_E
P2MM-NSM
SM
PP 1 PMIC_RESOUT_L 94 97

PP4689_E
P2MM-NSM
SM
PP 1 GPIO_BB_TO_STROBE_GSM_BURST_IND_1V8 78 97

PP4600_E
P2MM-NSM
SM
PP 1 GPIO_AP_TO_BBPMU_PEAK_POWER_IND 78 97

QLINK

PP4681_E
P2MM-NSM
SM
PP 1 QLINK_REQ_SDR_TO_BB 97 100

PP4682_E
P2MM-NSM
SM
PP 1 QLINK_EN_BB_TO_SDR 97 100

PP4683_E
P2MM-NSM
SM
PP 1 QLINK_REQ_SMR_TO_BB 97 130

PP4688_E
P2MM-NSM
SM
PP 1 QLINK_EN_BB_TO_SMR 97 130

PP4601_E
P2MM-NSM
SM
PP 1 85_SUB6_QLINK_L0_P 97 100

PP4602_E
P2MM-NSM
SM
PP 1 85_SUB6_QLINK_L0_N 97 100

PP4603_E
P2MM-NSM
SM
PP 1 85_MMW_QLINK_L0_P 97 130

PP4604_E
P2MM-NSM
SM
PP 1 85_MMW_QLINK_L0_N 97 130

AP POWER

PP4607_E
P2MM-NSM
SM
PP 1 PPVCC_MAIN 92 94 128 129

PP4679_E
P2MM-NSM
SM
PP 1 PPVCC_HIGH 93 128

PP4698_E
P2MM-NSM
SM
PP 1 PP3V0_S2_EUREKA 101 129 135 136 137

PP4684_E
P2MM-NSM
SM
PP 1 GPIO_BB_TO_PMU_HOST_WAKE_L 78 97 129

PP4685_E
P2MM-NSM
SM
PP 1 PCIE_SOC_TO_BB_PERST_L 78 97

PP4686_E
P2MM-NSM
SM
PP 1 PCIE_BB_TO_SOC_CLKREQ_L 78 97 129

SWD

PP4691_E
P2MM-NSM
SM
PP 1 SWD_BB_SWCLK 78 97

PP4692_E
P2MM-NSM
SM
PP 1 SWD_BB_SWDIO 78 97

ESIM

PP4693_E
P2MM-NSM
SM
PP 1 BB_SIM2_CLK 97 126

PP4694_E
P2MM-NSM
SM
PP 1 BB_SIM2_RESET 97 126

PP4695_E
P2MM-NSM
SM
PP 1 BB_SIM2_DATA 97 126

PCIE

PP4634_E
P2MM-NSM
SM
PP 1 PCIE_SOC_TO_BB_REFCLK_P 78 97

PP4635_E
P2MM-NSM
SM
PP 1 PCIE_SOC_TO_BB_REFCLK_N 78 97

I2S

PP46A0_E
P2MM-NSM
SM
PP 1 I2S_SOC_TO_BB_DOUT 78 97

PP46A1_E
P2MM-NSM
SM
PP 1 I2S_BB_TO_SOC_BCLK 78 97

PP46A2_E
P2MM-NSM
SM
PP 1 I2S_BB_TO_SOC_DOUT 78 97

PP46A3_E
P2MM-NSM
SM
PP 1 I2S_BB_TO_SOC_LRCK 78 97

CLOCKS

PP4651_E
P2MM-NSM
SM
PP 1 SHIELD_MDM_19P2M_CLK 94 97

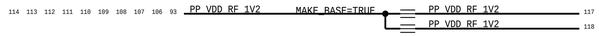
PP4623_E
P2MM-NSM
SM
PP 1 SHIELD_PMK_32K_SLEEP_CLK 94

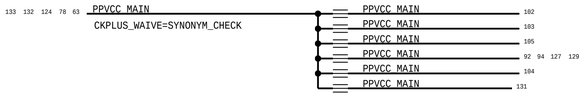
PP4624_E
P2MM-NSM
SM
PP 1 SHIELD_SLEEP_CLK_32K 94 97

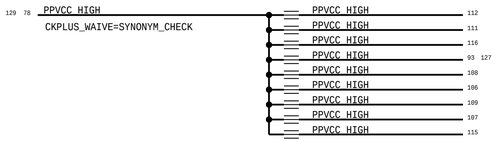
BOM_COST_GROUP=CELLULAR

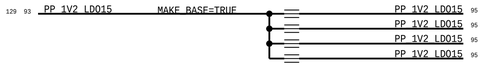
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020
PAGE TITLE
DEBUG & TEST POINTS

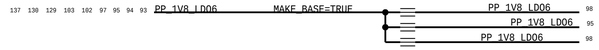
SYNONYMS
COPY PAGE TO MLB_TOP

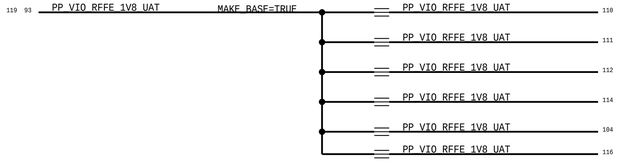


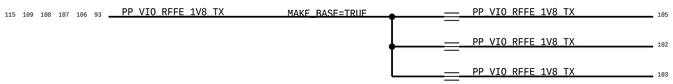












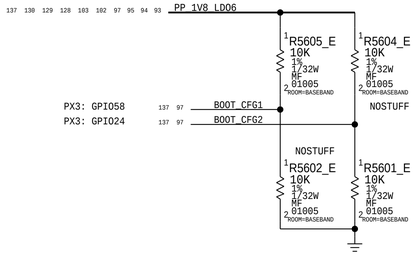
BOM_COST_GROUP=CELLULAR

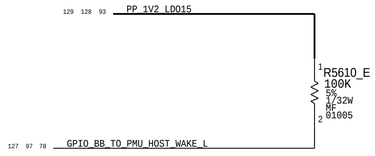
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

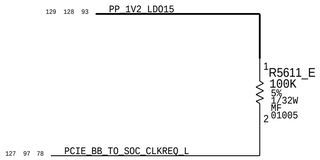
PAGE TITLE

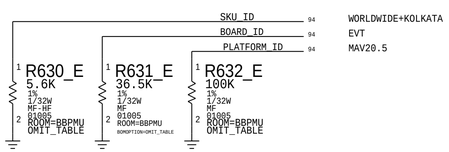
SYNONYMS

MLB ADJUSTABLES

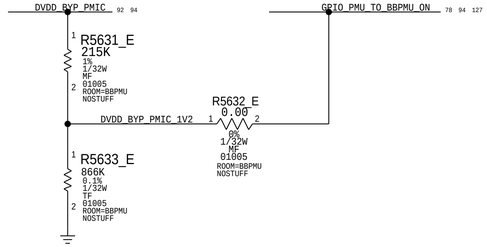




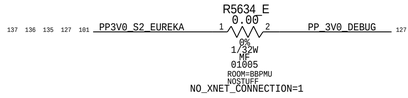


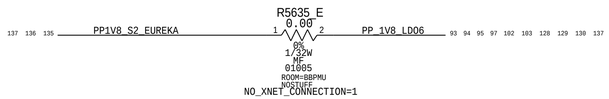


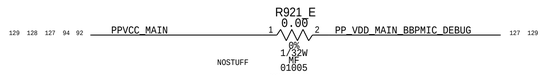
AUTO POWER ON FOR EUREKA CONFIG

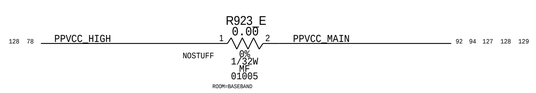


STUFF ONLY FOR VENDOR CONFIG









NOTE: AP PMU NOT STUFFED ON VENDOR CONFIG

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

MLB ADJUSTABLES

BOM_COST_GROUP=CELLULAR

MMW IF TRANSCEIVER IC

1.2A VDD_CX MAX CURRENT

93 PP_0V8_LDO7

C5831_E 4UF 20% 6.3V CER-X5R 0201 ROOM=MMW_IFIC BOMOPTION=RF_SKU:WW+KOLKATA

C5801_E 4UF 20% 6.3V CER-X5R 0201 ROOM=MMW_IFIC BOMOPTION=RF_SKU:WW+KOLKATA

C5804_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5807_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5809_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5830_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

XW5801_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

137 129 128 103 102 97 95 94 93 PP_1V8_LDO6

C5802_E 4UF 20% 6.3V CER-X5R 0201 ROOM=MMW_IFIC BOMOPTION=RF_SKU:WW+KOLKATA

PP_LDO6_SMR_VDD_PX_20

C5805_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

XW5824_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

98 95 93 PP_0V875_LDO4

C5803_E 4UF 20% 6.3V CER-X5R 0201 ROOM=MMW_IFIC BOMOPTION=RF_SKU:WW+KOLKATA

PP_LDO4_SMR_MX_115

XW5825_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO4_SMR_PHY_152

C5806_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5808_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

BOMOPTION=RF_SKU:WW+KOLKATA

338S00651

U_SMR_E

SMR526-0

PSP

SYM 2 OF 3

ROOM=MMW_IFIC

B12	VDD_CX	VDDAH_1	A7
F12	VDD_CX	VDDAH_2	H4
M14	VDD_CX	VDDAH_3	P2
R7	VDD_CX	VDDAH_4	H8
		VDDAL_1	C5
P10	VDD_PX	VDDAL_2	B4
P12	VDD_MX	VDDAL_3	F4
H18	VDDA_PHY	VDDAL_4	R5
		VDDAL_5	B10
		VDDAL_6	E11
		VDDAL_7	R9
		VDDAM_1	B6
		VDDAM_2	G5
		VDDAM_3	P4
		VDDAM_4	A9
		VDDAM_5	P8

XW5802_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO5_SMR_VDDAH_1_10

XW5803_E SHORT-8L-0.25MM-SM ROOM=MMW_IFIC

PP_LDO5_SMR_VDDAH_2_140

XW5804_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO5_SMR_VDDAH_3_10

XW5805_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO5_SMR_VDDAH_4_40

PP_1V8_LDO5 93 95

C5823_E 4UF 20% 6.3V CER-X5R 0201 ROOM=MMW_IFIC BOMOPTION=RF_SKU:WW+KOLKATA

C5812_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5814_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5818_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5820_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

XW5806_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO9_SMR_VDDAL_1_50

XW5807_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO9_SMR_VDDAL_2_10

XW5808_E SHORT-8L-0.25MM-SM ROOM=MMW_IFIC

PP_LDO9_SMR_VDDAL_3_140

XW5809_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO9_SMR_VDDAL_4_90

XW5810_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO9_SMR_VDDAL_5_10

XW5811_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO9_SMR_VDDAL_6_10

XW5812_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO9_SMR_VDDAL_7_10

PP_0V8_LDO9 93

C5828_E 4UF 20% 6.3V CER-X5R 0201 ROOM=MMW_IFIC BOMOPTION=RF_SKU:WW+KOLKATA

C5832_E 4UF 20% 6.3V CER-X5R 0201 ROOM=MMW_IFIC BOMOPTION=RF_SKU:WW+KOLKATA

C5810_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5813_E 0.47UF 20% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

PLACE C5813 CLOSE TO PIN B4

C5816_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5819_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5822_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5825_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5826_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

XW5813_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO12_SMR_VDDAM_1_70

XW5814_E SHORT-8L-0.25MM-SM ROOM=MMW_IFIC

PP_LDO12_SMR_VDDAM_2_120

XW5815_E SHORT-8L-0.1MM-SM ROOM=MMW_IFIC

PP_LDO12_SMR_VDDAM_3_70

XW5816_E SHORT-8L-0.25MM-SM ROOM=MMW_IFIC

PP_LDO12_SMR_VDDAM_4_240

XW5817_E SHORT-8L-0.25MM-SM ROOM=MMW_IFIC

PP_LDO12_SMR_VDDAM_5_240

PP_1V2_LDO12 93

VDD_AM MAX CURRENT 740 MA

C5827_E 4UF 20% 6.3V CER-X5R 0201 ROOM=MMW_IFIC BOMOPTION=RF_SKU:WW+KOLKATA

C5811_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5815_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5817_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5821_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

C5824_E 0.1UF 10% 6.3V CER-X5R 01005 ROOM=MMW_IFIC RF_SKU:WW+KOLKATA

94 SHIELD_SMR_38P4M_CLK

BOMOPTION=RF_SKU:WW+KOLKATA

338S00651

U_SMR_E

SMR526-0

PSP

SYM 1 OF 3

ROOM=MMW_IFIC

		A3	XO_IN	XO	
		G9	XO_SEL		
133	50_MMW_SMR526_IFH1	J1	IFH1	IF	
NC		K2	IFH2		
132	50_MMW_SMR526_IFH3	L1	IFH3		
132	50_MMW_SMR526_IFH4	M2	IFH4		
132	50_MMW_SMR526_IFV1	F2	IFV1		
132	50_MMW_SMR526_IFV2	E1	IFV2		
NC		D2	IFV3		
133	50_MMW_SMR526_IFV4	C1	IFV4		
132	GRFC1_PON_TO_MMW_IFH3IFV2	P6	GRFC_1_QTM3_PON	QLINK PHY	GRFC
133	GRFC2_PON_TO_MMW_IFH1IFV4	G7	GRFC_2_QTM0_PON		
NC		K10	GRFC_3		
NC		J7	GRFC_4_QTM1_PON		
132	GRFC5_PON_TO_MMW_IFH4IFV1	N5	GRFC_5_QTM2_PON		
NC		D12	GRFC_6		
NC		M12	GRFC_7		
NC		N11	GRFC_8		
NC		H12	GRFC_9		
NC		J11	GRFC_10		
101 97	SHIELD_RFFE4_SDATA_BB	K12	RFFE0_DATA	RFFE	
101 97	SHIELD_RFFE4_SCLK_BB	L11	RFFE0_CLK		
NC		C11	DNC	DNC	
127 97	QLINK_REQ_SMR_TO_BB	D14	QLINK_REQ		
127 97	QLINK_EN_BB_TO_SMR	G13	QLINK_EN		
97	BB_TO_SMR_WMSS_RESET_L	J13	WMSS_RESET*		

QLINK_L0_P	K14	85_MMW_QLINK_L0_P	97 127
QLINK_L0_M	J15	85_MMW_QLINK_L0_N	97 127
QLINK_L1_P	G15	85_MMW_QLINK_L1_P	97
QLINK_L1_M	F14	85_MMW_QLINK_L1_N	97
QLINK_L2_P	E15	85_MMW_QLINK_L2_P	97
QLINK_L2_M	D16	85_MMW_QLINK_L2_N	97
QLINK_L3_P	L15	85_MMW_QLINK_L3_P	97
QLINK_L3_M	M16	85_MMW_QLINK_L3_N	97
QLINK_L4_P	P16	85_MMW_QLINK_L4_P	97
QLINK_L4_M	R15	85_MMW_QLINK_L4_N	97
QLINK_L5_P	D18	85_MMW_QLINK_L5_P	97
QLINK_L5_M	E17	85_MMW_QLINK_L5_N	97
QLINK_L6_P	B16	85_MMW_QLINK_L6_P	97
QLINK_L6_M	A15	85_MMW_QLINK_L6_N	97
QLINK_L7_P	K18	85_MMW_QLINK_L7_P	97
QLINK_L7_M	J17	85_MMW_QLINK_L7_N	97
QLINK_L8_P	L17	85_MMW_QLINK_L8_P	97
QLINK_L8_M	M18	85_MMW_QLINK_L8_N	97
QLINK_L9_P	P18	85_MMW_QLINK_L9_P	97
QLINK_L9_M	R17	85_MMW_QLINK_L9_N	97
QLINK_L10_P	A13	85_MMW_QLINK_L10_P	97
QLINK_L10_M	B14	85_MMW_QLINK_L10_N	97
QLINK_L11_P	B18	85_MMW_QLINK_L11_P	97
QLINK_L11_M	A17	85_MMW_QLINK_L11_N	97
QLINK_L12_P	R13	85_MMW_QLINK_L12_P	97
QLINK_L12_M	P14	85_MMW_QLINK_L12_N	97
QLINK_CLK_P	G17	85_MMW_QLINK_CLK_P	97
QLINK_CLK_M	F18	85_MMW_QLINK_CLK_N	97

BOMOPTION=RF_SKU:WW+KOLKATA

338S00651

U_SMR_E

SMR526-0

PSP

SYM 3 OF 3

ROOM=MMW_IFIC

A1	GND	GND	H10
A5	GND	GND	H14
A11	GND	GND	H16
B2	GND	GND	J3
B8	GND	GND	J5
C3	GND	GND	J9
C7	GND	GND	K4
C9	GND	GND	K6
C13	GND	GND	K8
C15	GND	GND	K16
C17	GND	GND	L3
D4	GND	GND	L5
D6	GND	GND	L7
D8	GND	GND	L9
D10	GND	GND	L13
E3	GND	GND	M4
E5	GND	GND	M6
E7	GND	GND	M8
E9	GND	GND	M10
E13	GND	GND	N1
F6	GND	GND	N3
F8	GND	GND	N7
F10	GND	GND	N9
F16	GND	GND	N13
G1	GND	GND	N15
G3	GND	GND	N17
G11	GND	GND	R1
H2	GND	GND	R3
H6	GND	GND	R11

BOM_COST_GROUP=CELLULAR

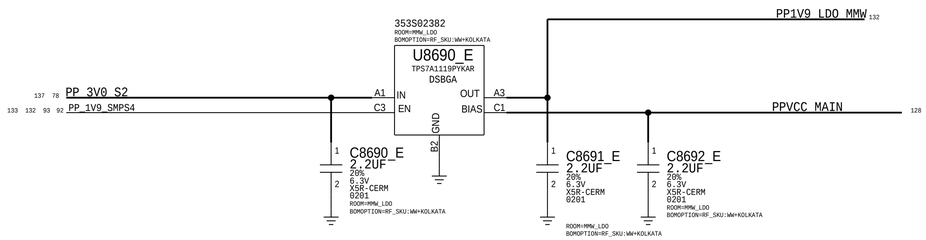
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

MMW

MMW DISCRETE 1V9 LDO

1.9V LDO TO SOURCE POWER FOR BANJO_B B2B DUE TO SMPS4 DCR



BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

MMW 1V9 LDO

MMW CONNECTORS - MOZART

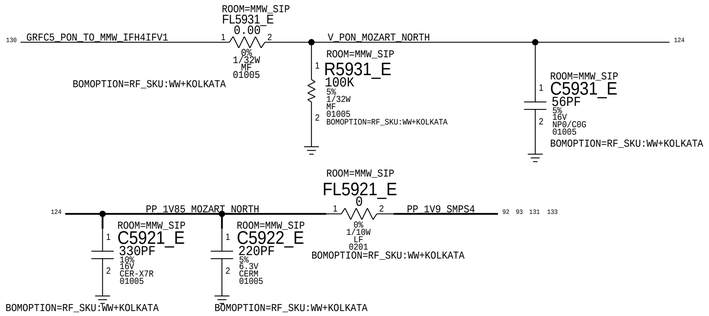
MOZART NORTH CONNECTIONS

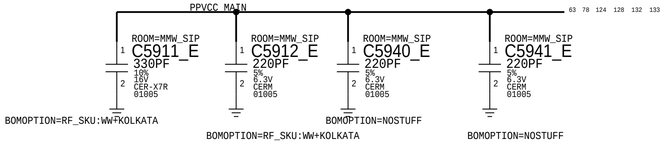
VIA INDY AND BANJO_T

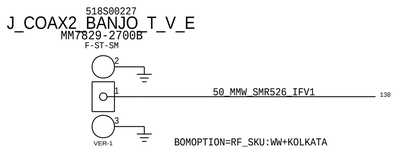
MOZART EAST/SOUTH CONNECTIONS

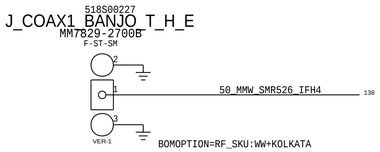
VIA BANJO_B

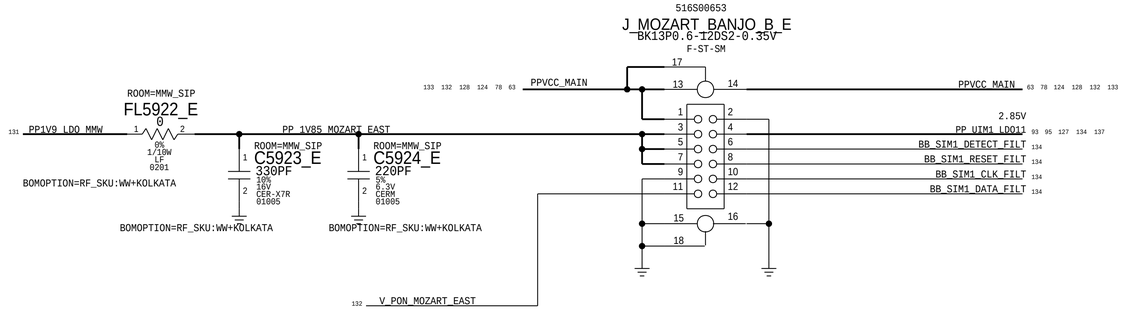
INDY B2B ON ANT
CONNECTORS PAGE

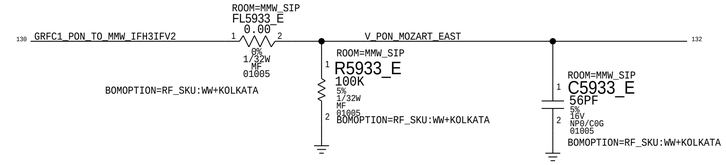


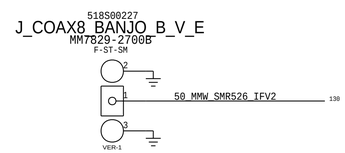


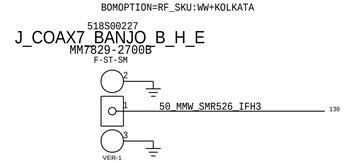












SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

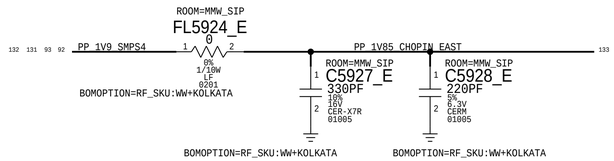
PAGE TITLE

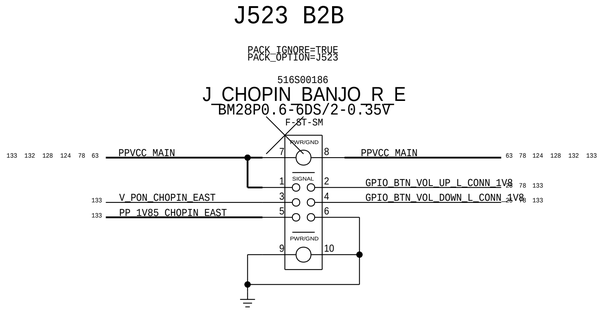
MMW_MOZART_CONN

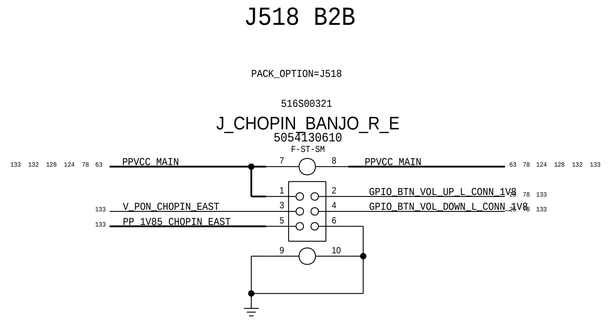
BOM_COST_GROUP=CELLULAR

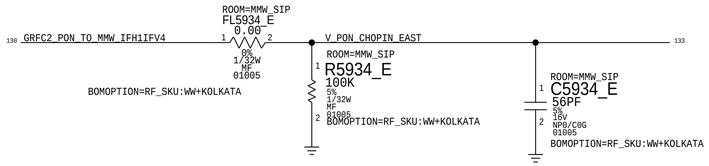
MMW CONNECTORS - CHOPIN

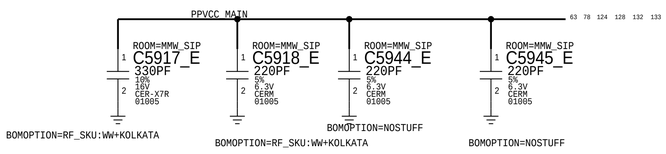
CHOPIN CONNECTIONS
VIA BANJO_R

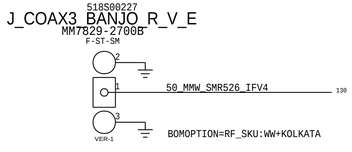


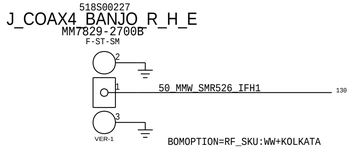












BOM_COST_GROUP=CELLULAR

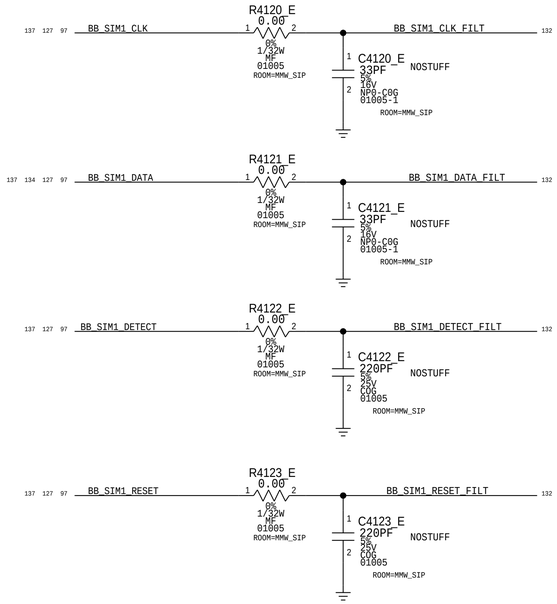
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

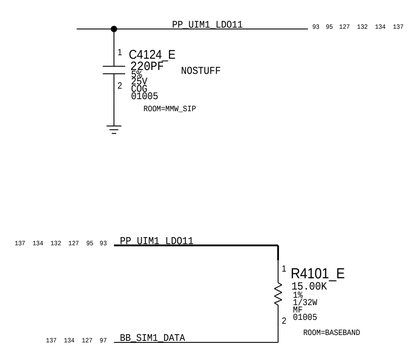
MMW_CHOPIN_CONN

PSIM FILTERS - TO BANJO

SIM1 IO FILTERS - BANJO_B_SIM



SIM1 POWER + DETECT - BANJO_B_SIM



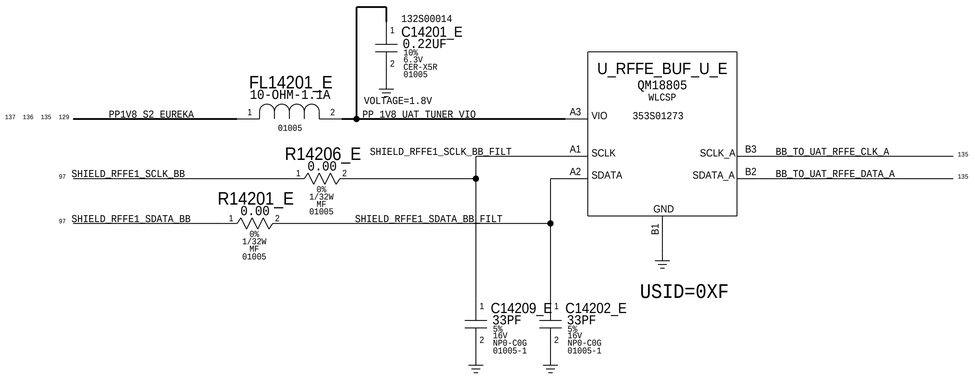
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

PSIM FILTERS

BOM_COST_GROUP=CELLULAR

ANTENNA SYSTEM UAT



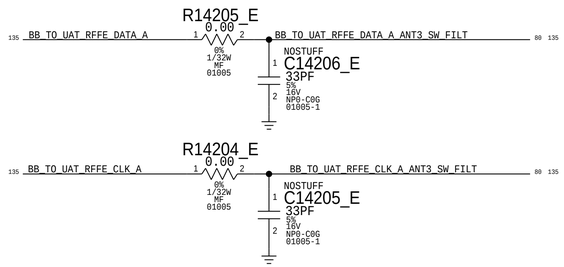
CONNECTIONS TO INDY B2B

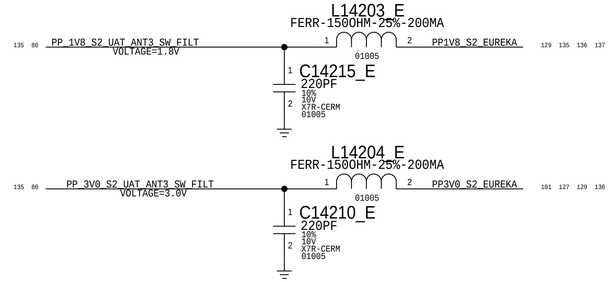
NONE

CONNECTIONS TO HYDRA B2B

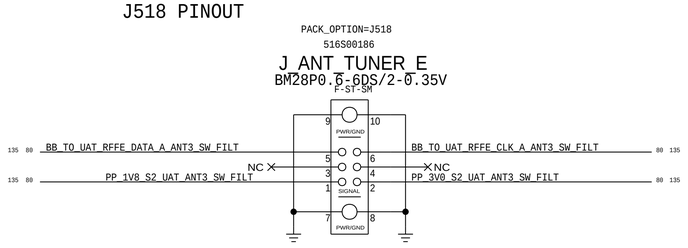
NONE

B2B TO ANT3_SW FLEX

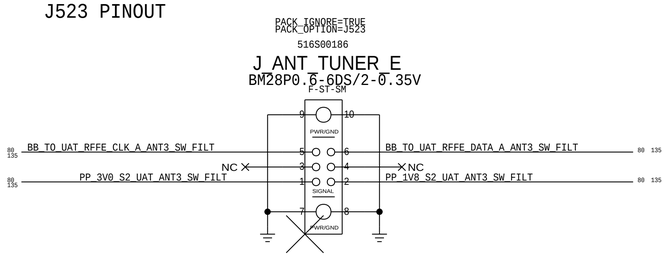




J518 PINOUT



J523 PINOUT



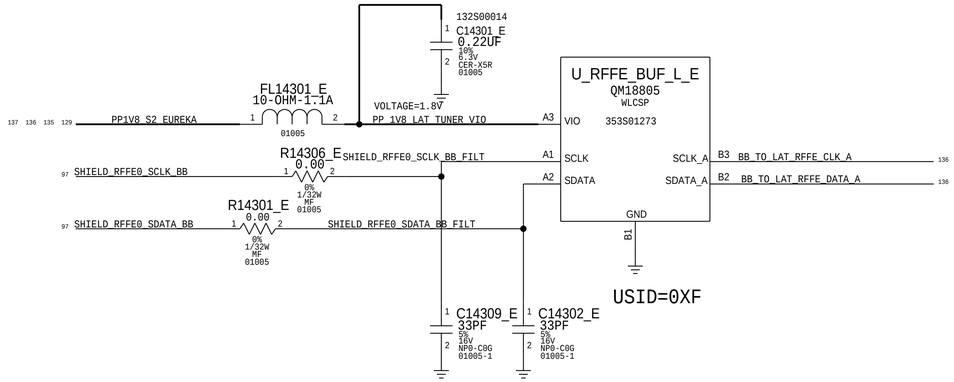
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

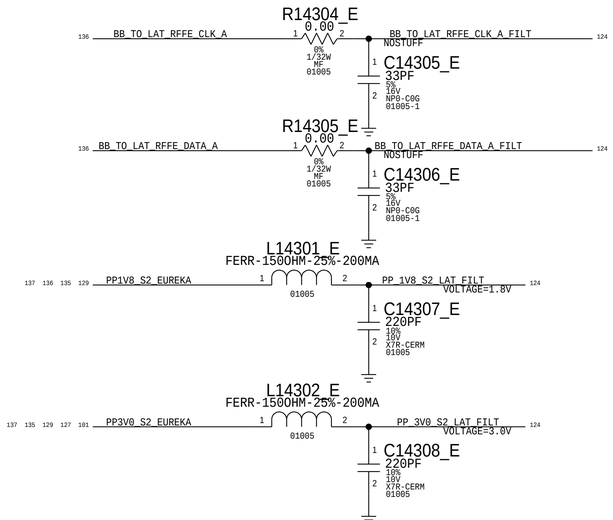
PAGE TITLE

UAT ANT SYSTEM

BOM_COST_GROUP=CELLULAR

ANTENNA SYSTEM LAT





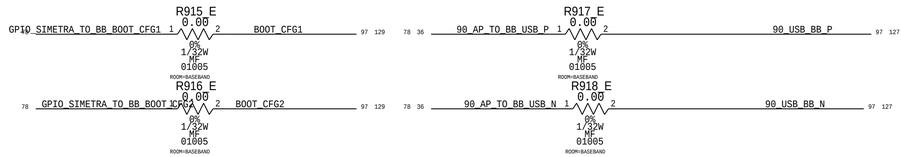
SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

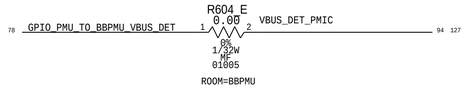
PAGE TITLE

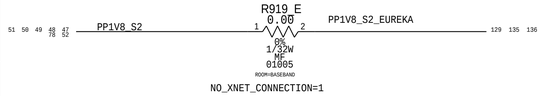
LAT ANT SYSTEM

BOM_COST_GROUP=CELLULAR

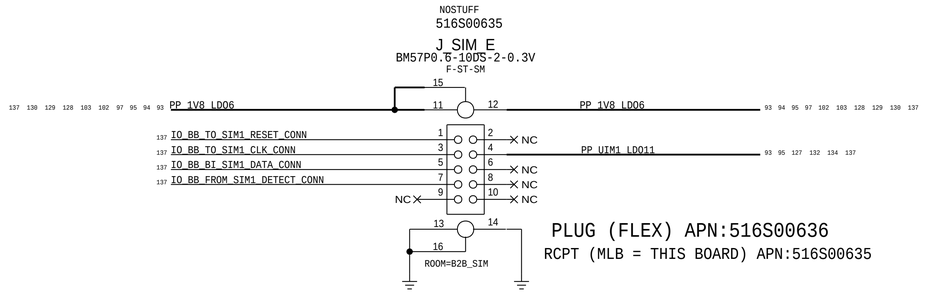
R917_E, R918_E : PLACE CLOSE TO U_BB_E







SIM1 B2B - BOT SIDE BACKUP IF

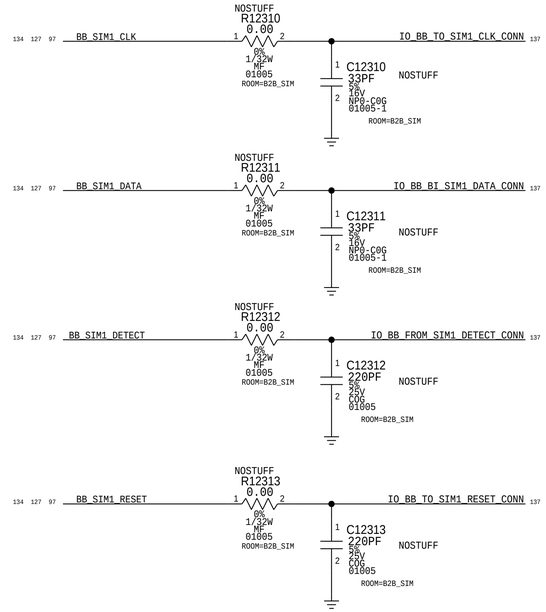


PLUG (FLEX) APN:516S00636
RCPT (MLB = THIS BOARD) APN:516S00635

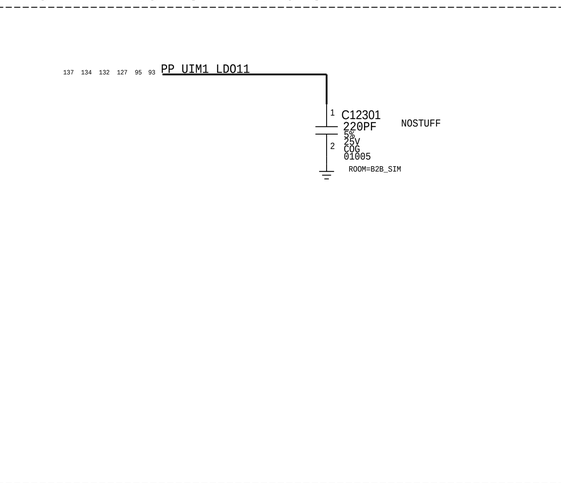
PLACE THIS ON BOTTOM SIDE
NON-POR (TESTING ONLY FOR CONFORMANCE)

NOTE: J5XX SIM CONNECTOR ONLY CARRY SIM1 SIGNALS SINCE ESIM IS ON THE MLB
USE ONE OF THESE FLEX_SIM FROM D54:
632-03520 PSIM+ESIM
632-03518 DUAL
632-03519 PSIM ONLY - NOT USED

SIM1 IO FILTERS - BOTTOM SIDE BACKUP IF



SIM1 POWER - BOT SIDE BACKUP IF



BOM_COST_GROUP=CELLULAR

SYNC_MASTER=RADIO_REV_3.37 SYNC_DATE=10/08/2020

PAGE TITLE

J5xx_Only