

1	2	3	4	5	6	7	8																																																			
THIS DRAWING AND SPECIFICATIONS, HEREIN, ARE THE PROPERTY OF INVENTEC CORPORATION AND SHALL NOT BE REPRODUCED, COPIED, OR USED IN WHOLE OR IN PART AS THE BASIS FOR THE MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION, INVENTEC CORPORATION 2009 ALL RIGHT RESERVED		KEPLER 1.0: E1-1200 (6L):1310A2498703---10/100 E2-1800 (6L):1310A2498704---10/100 E1-1200 (6L):1310A2498705---GIGA E2-1800 (6L):1310A2498706---GIGA Battery Cell:6027B0039401 Nut:																																																								
HSF Property : Comply iSupplier SYSTEM HSF PROPERTY ATTRIBUTE UP-TO DATE VALUE PCB:6050A2498701		WWW.AliSaler.Com																																																								
RTL8165EH (10/100) LDO MODE R680:MOUNT R672:NA R14143:NA C741:NA C713:NA C12734:NA C12735:NA C12736:NA C12737:NA C12754:NA C12756:NA L332:NA U470:NA U9848:MOUNT 6016B0008001 U320:MOUNT 6019B0928301 R14131:NA		<h1>KF14BR</h1> <h2>AMD BRAZOS 2.0</h2> <h1>DB</h1>																																																								
RTL8161FH (GIGA-LAN) SWITCH MODE R680:NA R672:MOUNT 60130B0000ZT R14143:MOUNT 60130B00000Z C741:MOUNT C713:MOUNT C12734:MOUNT C12735:MOUNT C12736:MOUNT C12737:MOUNT C12754:MOUNT C12756:MOUNT L332:MOUNT U470:MOUNT 6016B0010601 U9848:NA U320:MOUNT 6019B0928101 R14131:MOUNT		<h1>2011/11/02</h1>																																																								
BOM CHANGE L332:6014B0200401		DB(MOUNT) X805:6018A0009301-004 C1329,C1303:6010A0036105 R1208,R1269:60130B10600Y R562:60130B10500Y X301:6018B0044501 C577,C578:6010071502AT C723,C724:6010B0010103 X304:6018B0044501		DB(OPEN) R16556 R16557 D321:6011A0026803 R14130		POWER BOARD :6050A2493201 USB BOARD :6050A2493701 PICK BUTTOM BOARD :6050A2493601																																																				
<table border="1"> <tr><td>2011/06/20</td><td>2011-ECO-012815</td><td>B</td></tr> <tr><td>2011/03/21</td><td>2011-ECO-005030</td><td>A</td></tr> <tr><td>DATE</td><td>CHANGE NO.</td><td>REV</td></tr> </table>		2011/06/20	2011-ECO-012815	B	2011/03/21	2011-ECO-005030	A	DATE	CHANGE NO.	REV	<table border="1"> <tr><td>EE</td><td>DATE</td><td>POWER</td><td>DATE</td></tr> <tr><td>ALAN WANG</td><td>2010-08-06</td><td>ALBERT</td><td>2010-08-06</td></tr> <tr><td>DESIGN</td><td>ALAN WANG</td><td>ALBERT</td><td>2010-08-06</td></tr> <tr><td>CHECK</td><td></td><td></td><td></td></tr> <tr><td>RESPONSIBLE</td><td></td><td></td><td></td></tr> </table>		EE	DATE	POWER	DATE	ALAN WANG	2010-08-06	ALBERT	2010-08-06	DESIGN	ALAN WANG	ALBERT	2010-08-06	CHECK				RESPONSIBLE				<table border="1"> <tr><td colspan="4">INVENTEC</td></tr> <tr><td colspan="4">TITLE SARAH</td></tr> <tr><td colspan="4">BRAZOS</td></tr> <tr><td>SIZE</td><td>CODE</td><td>DOC. NUMBER</td><td>REV</td></tr> <tr><td>A3</td><td>CS</td><td>1310A24127-0-MTR</td><td>B</td></tr> <tr><td colspan="2">SHEET</td><td>1 OF</td><td>54</td></tr> </table>		INVENTEC				TITLE SARAH				BRAZOS				SIZE	CODE	DOC. NUMBER	REV	A3	CS	1310A24127-0-MTR	B	SHEET		1 OF	54
2011/06/20	2011-ECO-012815	B																																																								
2011/03/21	2011-ECO-005030	A																																																								
DATE	CHANGE NO.	REV																																																								
EE	DATE	POWER	DATE																																																							
ALAN WANG	2010-08-06	ALBERT	2010-08-06																																																							
DESIGN	ALAN WANG	ALBERT	2010-08-06																																																							
CHECK																																																										
RESPONSIBLE																																																										
INVENTEC																																																										
TITLE SARAH																																																										
BRAZOS																																																										
SIZE	CODE	DOC. NUMBER	REV																																																							
A3	CS	1310A24127-0-MTR	B																																																							
SHEET		1 OF	54																																																							
1	2	3	4	5	6	7	8																																																			

Index Of Content

PAGE

01- Project Name
 02- Index
 03- Block Diagram
 04- POWER PROCEDURE
 05- POWER SEQUENCE BLOCK
 06- POWER SEQUENCE FIGURE
 07- DC & BATTERY CHARGER
 08- BATTERY CONN
 09- +V3A & +V5A
 10- +V1.1A & +V1S & +V1.1S
 11- +V1.5
 12- APU_VDD & APU_VDDNB
 13- +V1.8S
 14- +V1.5S & +V3S & +V5S
 15- BLANK
 16- RF
 17- APU
 18- APU
 19- APU
 20- DDR3 DIMM0
 21- DDR3 DIMM1
 22- FAN & THERMAL IC
 23- FCH
 24- FCH
 25- FCH

PAGE

26- FCH
 27- FCH
 28- Required & Debug Straps
 29- KBC
 30- Keyboard CONN & Indicate LED&
 TouchPad CONN
 31- HDMI CONNECT
 32- CRT CONNECT
 33- LCM CONNECT
 34- SATA HDD & SATA ODD CONN
 PBN CABLE CN ON MB & USB BOARD ON MB
 35- USB Port0
 36- LAN
 37- RJ45 CONN
 38- CARD READER
 39- AUDIO & SPEAKER CONN
 40- HP and MIC CONN
 41- Screws&EMI CAP
 42- WLAN CONN
 43- POWER BUTTON BOARD & PICK BUTTON BOARD
 44- USB BOARD

INVENTEC

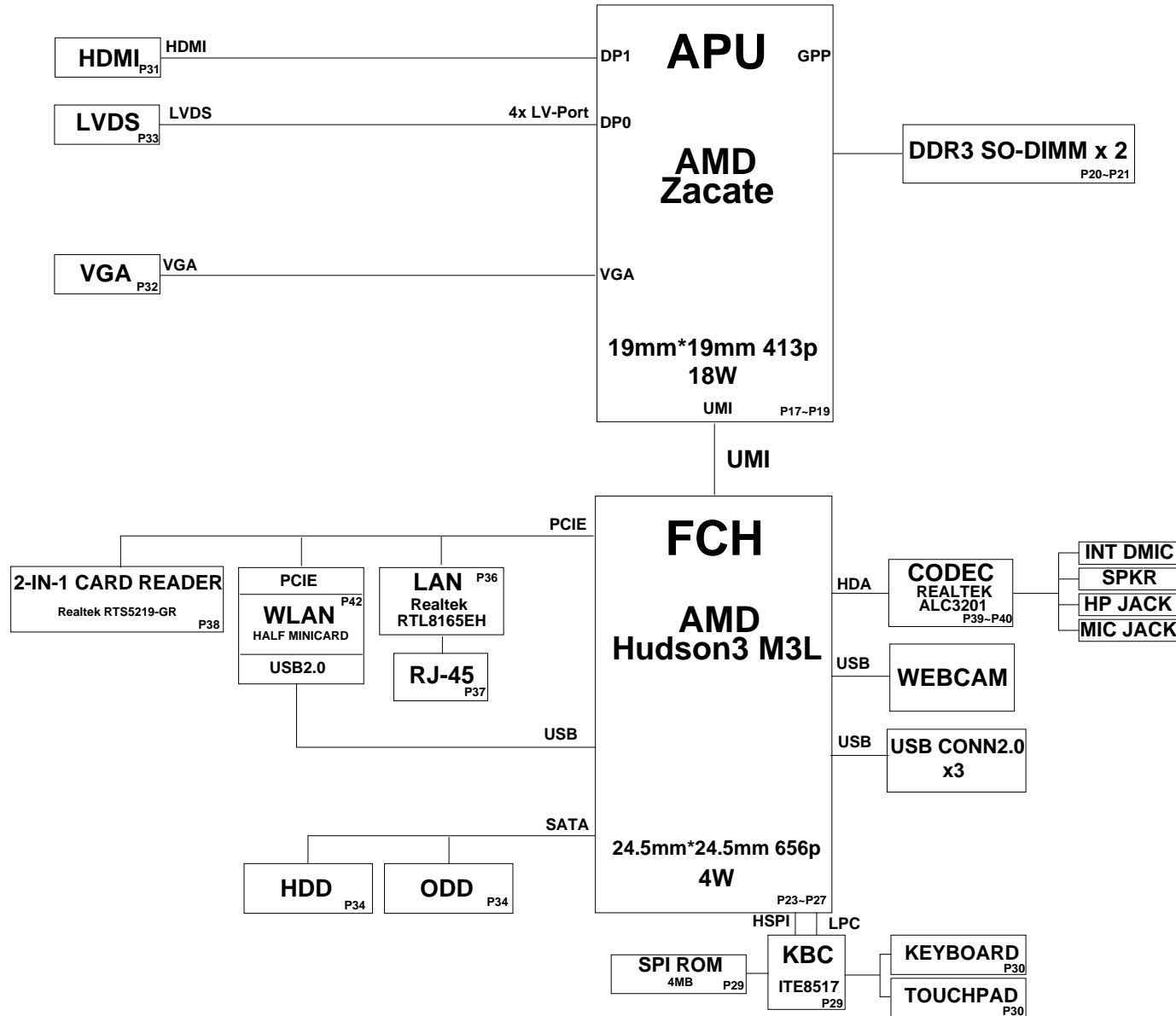
TITLE			
Sarah 15.6 Brazos Index			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24127-0-MTR	B
SHEET		2	OF 45

CHANGE by Chang, Irene 4-Oct-2011

Inventec Confidential

Brazos

WWW.AliSaler.Com



INVENTEC

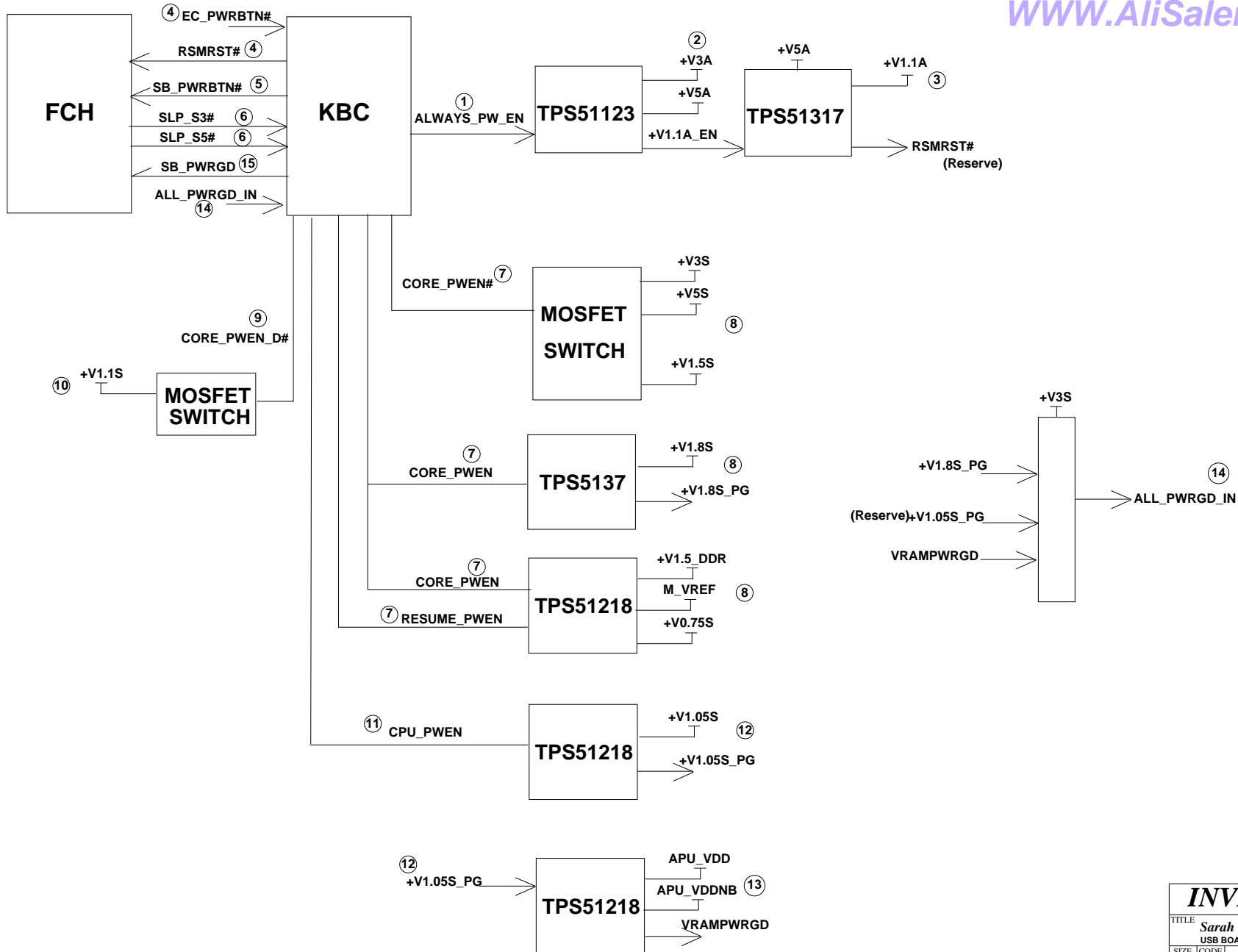
TITLE Sarah 15.6 Brazos
Block Diagram

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24127-0-MTR	B

SHEET	3	OF	45

CHANGE by Chang, Irene 4-Oct-2011

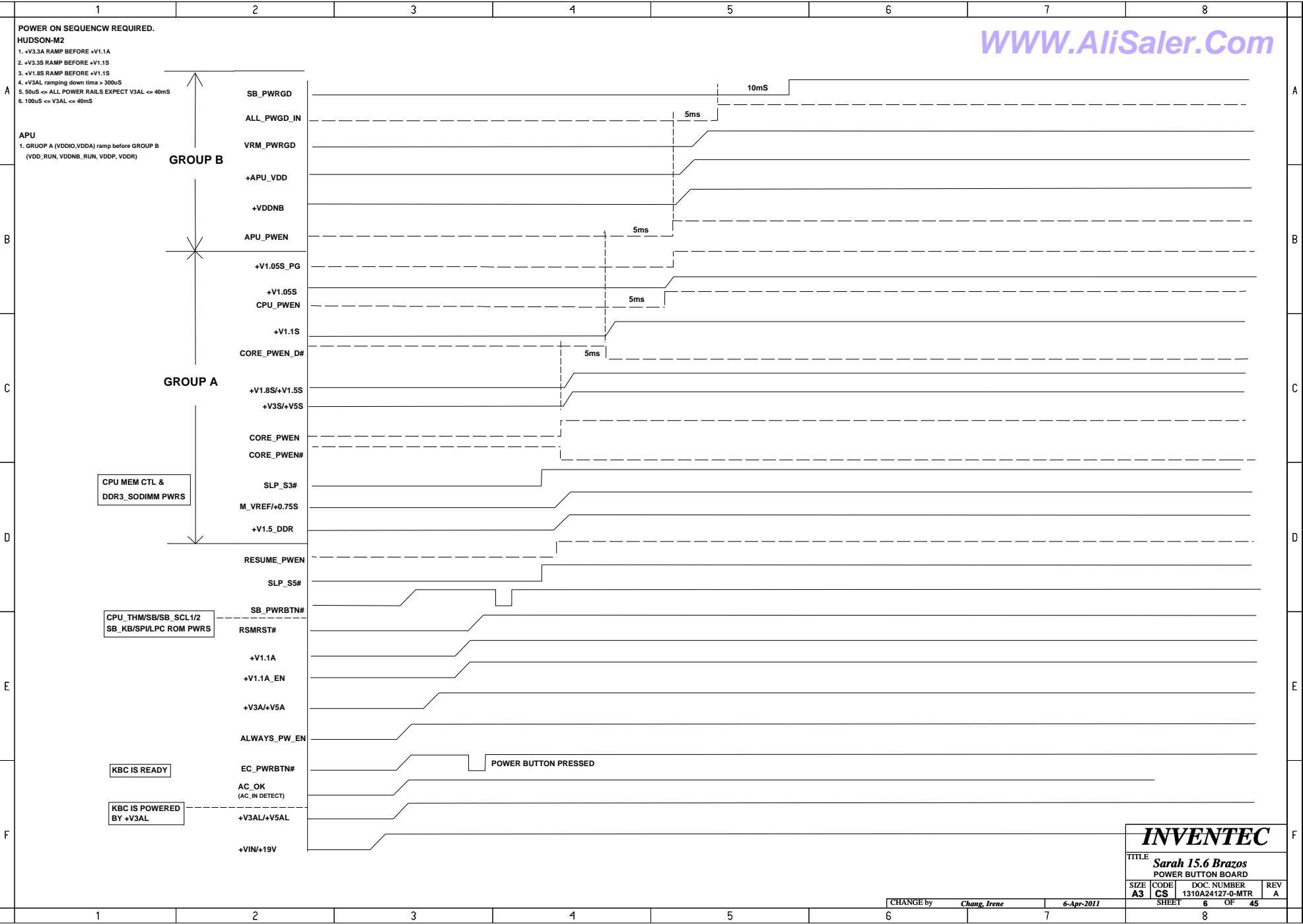
WWW.AliSaler.Com

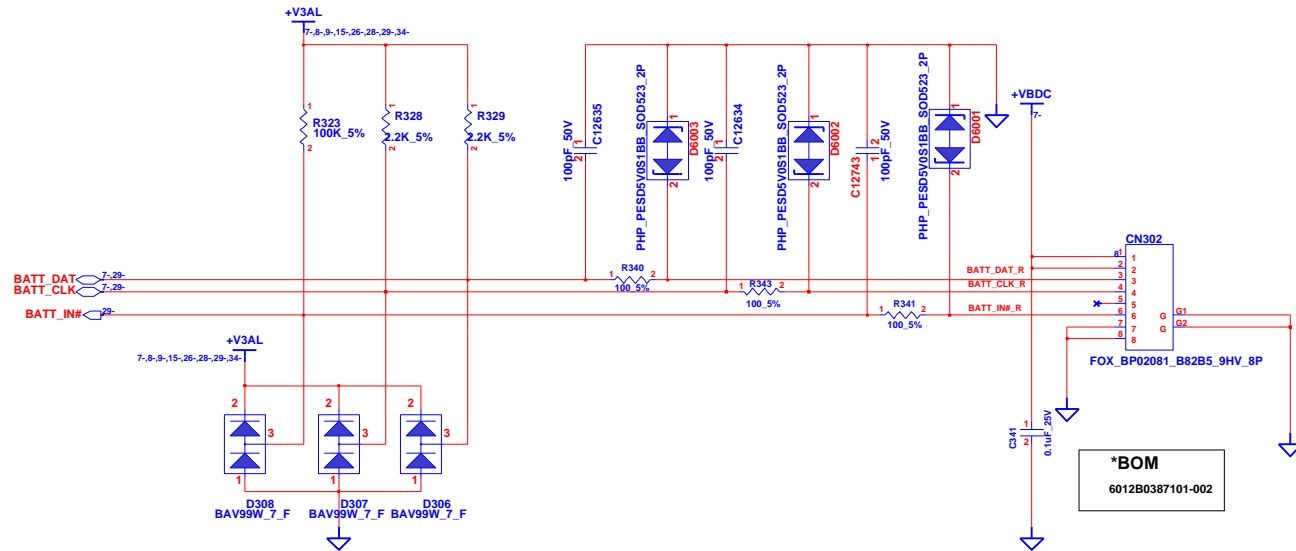


INVENTEC

TITLE			
Sarah 15.6 Brazos			
USB BOARD			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24127-0-MTR	A
SHEET		5	OF 45

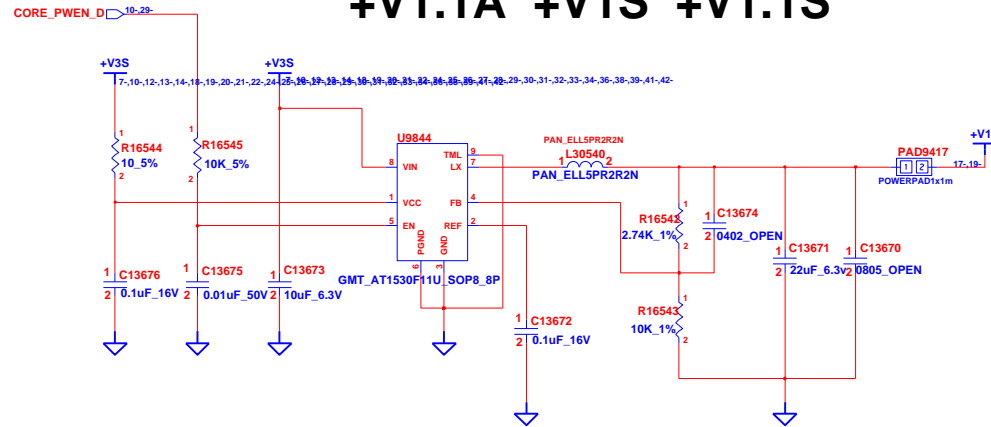
CHANGE by Chang, Irene 6-Apr-2011



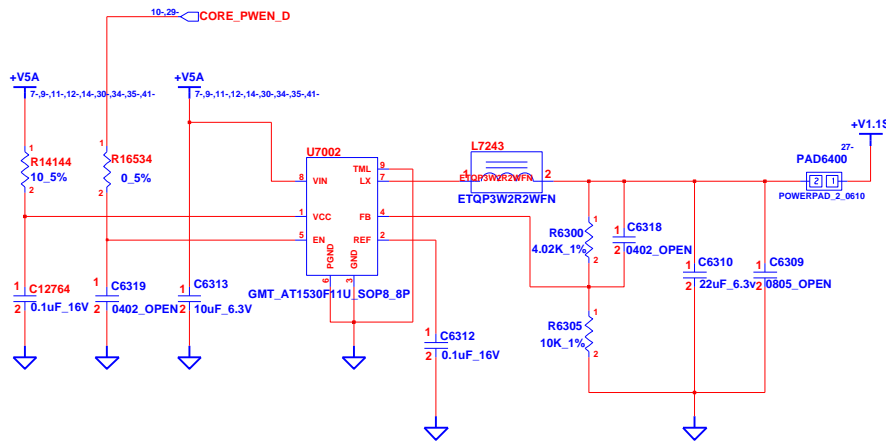


INVENTEC			
TITLE Sarah 15.6 Brazos BATTERY CONN			
SIZE A3	CODE CS	DOC. NUMBER 1310A24127-0-MTR	REV B
CHANGE by Chang, Irene		24-Dec-2010	
SHEET 8		OF 45	

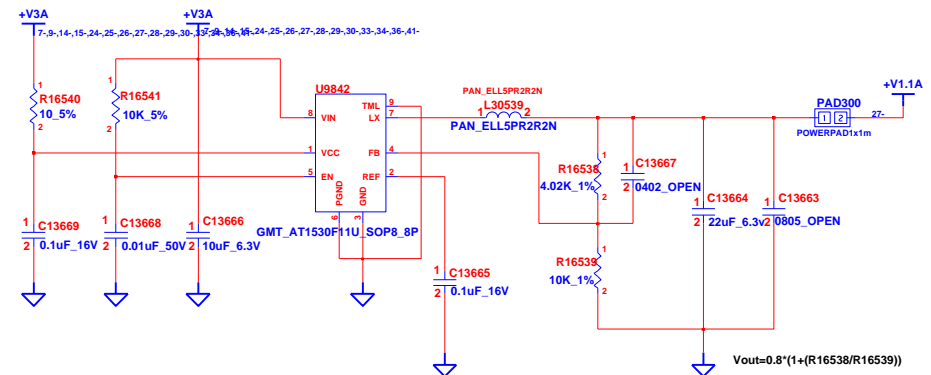
+V1.1A +V1S +V1.1S



$$V_{out}=0.8 \cdot (1 + (R16542/R16543))$$



$$V_{out}=0.8 \cdot (1 + (R6300/R6305))$$



$$V_{out}=0.8 \cdot (1 + (R16538/R16539))$$

INVENTEC			
TITLE KF14BR-SCHE-DB-20110928-M3L			
SIZE A3	CODE CS	DOC. NUMBER	REV
SHEET 10		OF 45	

CHANGE by KF14BR 29-Sep-2011

[illegible][illegible][illegible]

WWW.AliSaler.Com

NOTE: DDR3 REGULATOR

INVENTEC			
TITLE Sarah 15.6 Brazos +V1.5_DDR			
SIZE A3	CODE CS	DOC NUMBER 1310A24127-0-MTR	REV B
CHANGE by Chang, Irene		7-Aug-2010	
SHEET 11		OF 45	

[illegible]

1 2 3 4 5 6 7 8

A

B

C

D

E

F

WWW.AliSaler.Com

7-9,10,12,14,30,34,35,41-

+V5A

C388
2.2uF_6.3v

01/26

CORE_PWEN
RESUME_PWEN

0.01uF_50V

C397
0.01uF_50V

R393
10K_1%

C393
0.1uF_16V

C389
0.01uF_50V

TPSS1216_GND

U305

VSIN
S3
S5

VBST
DRVH
SW

+V1.5_VBST
+V1.5_DRVH
+V1.5_DRVIL

REFIN

+V1.5_VREF
+V1.5_REFIN

R392
100K_5%

R391
56.2K_1%

MODE
TRIP

TI TPS51216RUKR QFN 20P

PAD309
POWERPAD1x1m

+V0.75S

R394
2.2_5%

C394
0.1uF_16V

+VBATR

7-9,12,33-

30/16 Vias >= 3
3A / 120MIL

C381
10uF_25V

C373
10uF_25V

C391
0.1uF_25V

C390
50uF_50V

I MAX = 14A

+V1.5

14,17,18,19,20,21-

PAD308
POWERPAD_2_0610

L306
PAN_ETQP3W1R0WFN_4P

Q314
FDMC88B4

Q311
FDMC0310AS

LXMEN

C372
330uF_2V_15mR_Pana_-35%

Vout=1.8*(R390/(R393/R390))

2A

M_VREF

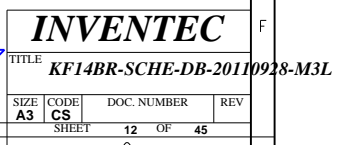
C392
0.22uF_10V

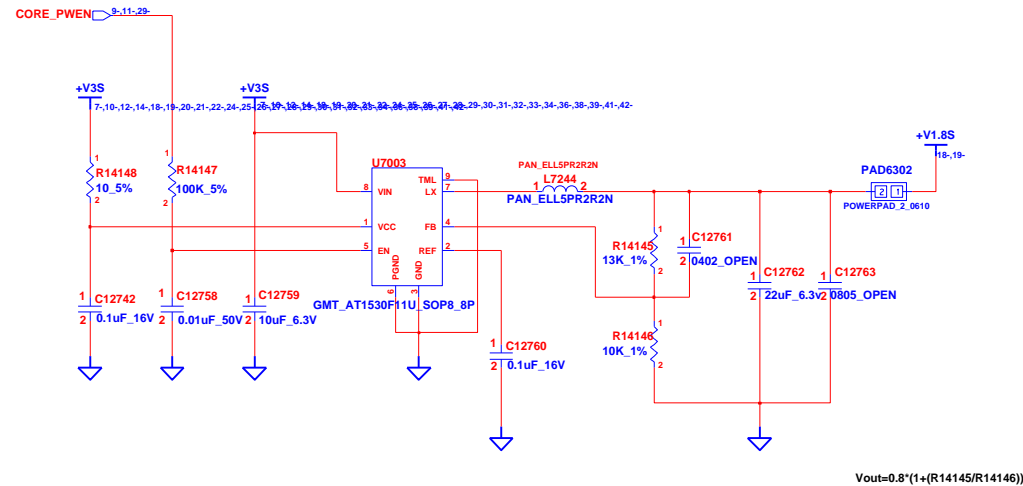
C380
10uF_6.3v

TPSS1216_GND

NOTE: DDR3 REGULATOR

INVENTEC			
TITLE			
Sarah 15.6 Brazos			
+V1.5_DDR			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A24127-0-MTR	B
CHANGE by		SHEET	
Chang, Irene		11 OF 45	
7-Aug-2010		8	





INVENTEC

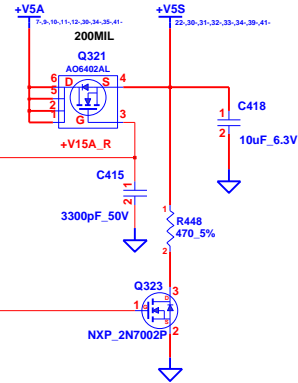
TITLE			
Sarah 15.6 Brazos			
+V1.0S & +V1.8S			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24127-0-MTR	B
SHEET		13	OF 45

CHANGE by Chang, Irene 10-Aug-2011

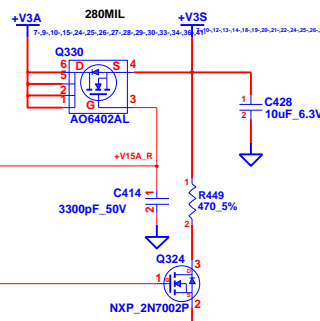
CORE_PWEN#	+V15A_R	+V3S / +V5S
LOW	HIGH	V3S & V5S
HIGH	LOW	0V

CORE_PWEN#	+V15A_R	+V1.5S
LOW	HIGH	+V1.5S
HIGH	LOW	0V

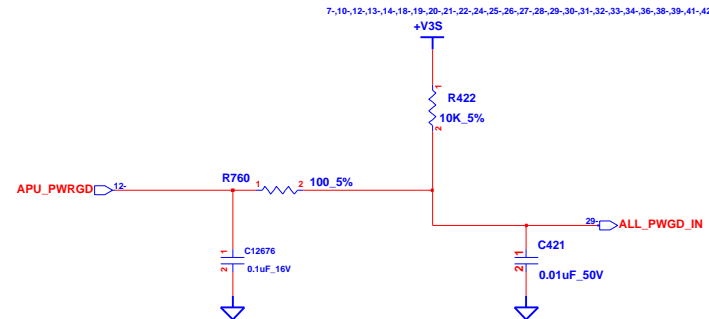
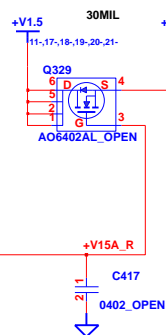
I MAX = 2.7A



I MAX = 3.3A



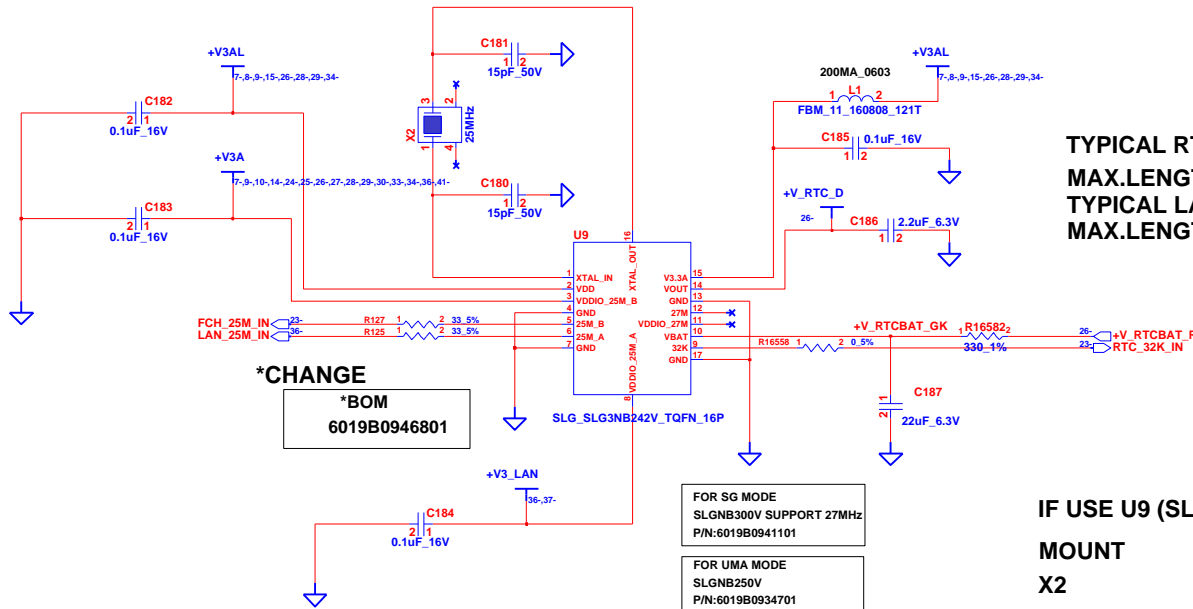
I MAX = 0.8A



INVENTEC

TITLE			
Sarah 15.6 Brazos			
+V3S & +V5S & +V1.5S & +V1.1S			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24127-0-MTR	B
SHEET		14	OF 45

CHANGE by Chang, Irene 28-Mar-2011



TYPICAL RTC_32K IN TRACE <=6
MAX.LENGTH<=24
TYPICAL LAN_25M IN TRACE <=8
MAX.LENGTH<=12

IF USE U9 (SLG3NB250V)

MOUNT

X2

R1

C180

C181

C182

C183

C184

C185

C186

C187

R16557(PAGE23)

R16556(PAGE23)

R14130(PAGE36)

OPEN(PAGE26)

D321

OPEN(PAGE23)

R1208

R1269

X805

C1303

C1329

OPEN(PAGE36)

C723

C724

X304

R14130

OPEN(PAGE23)

X304

C724

C723

OPEN(PAGE23)

R562

X301

C577

C578

INVENTEC

TITLE Sarah 15.6 Brazos +VDDC_GPU & +V1.0_DGPU			
SIZE A3	CODE CS	DOC NUMBER 1310A24127-0-MTR	REV B
SHEET 15		OF 45	

CHANGE by Chang, Irene 23-Sep-2011

	1	2	3	4	5	6	7	8	
A	<div><div>RF</div><div><div><div><div>LX3</div><div><div><div>1</div><div>2</div></div><div><div>R439</div><div>0402_OPEN</div></div><div><div>C435</div><div>0402_OPEN</div></div></div></div><div><div>LX5</div><div><div><div>1</div><div>2</div></div><div><div>R438</div><div>0402_OPEN</div></div><div><div>C434</div><div>0402_OPEN</div></div></div></div><div><div>LXMEM</div><div><div><div>1</div><div>2</div></div><div><div>R452</div><div>4.7_5%</div></div><div><div>C454</div><div>2200pF_50V</div></div></div></div><div><div>LXCHG</div><div><div><div>1</div><div>2</div></div><div><div>R14164</div><div>4.7_5%</div></div><div><div>C12656</div><div>2200pF_50V</div></div></div></div></div></div></div>								
B									
C									
D									
E									
F									
	1	2	3	4	5	6	7	8	

WWW.AliSaler.Com

INVENTEC			
TITLE Sarah 15.6 Brazos			
CHECK			
SIZE A3	CODE CS	DOC NUMBER 1310A24127-0-MTR	REV B
SHEET 16		OF 45	

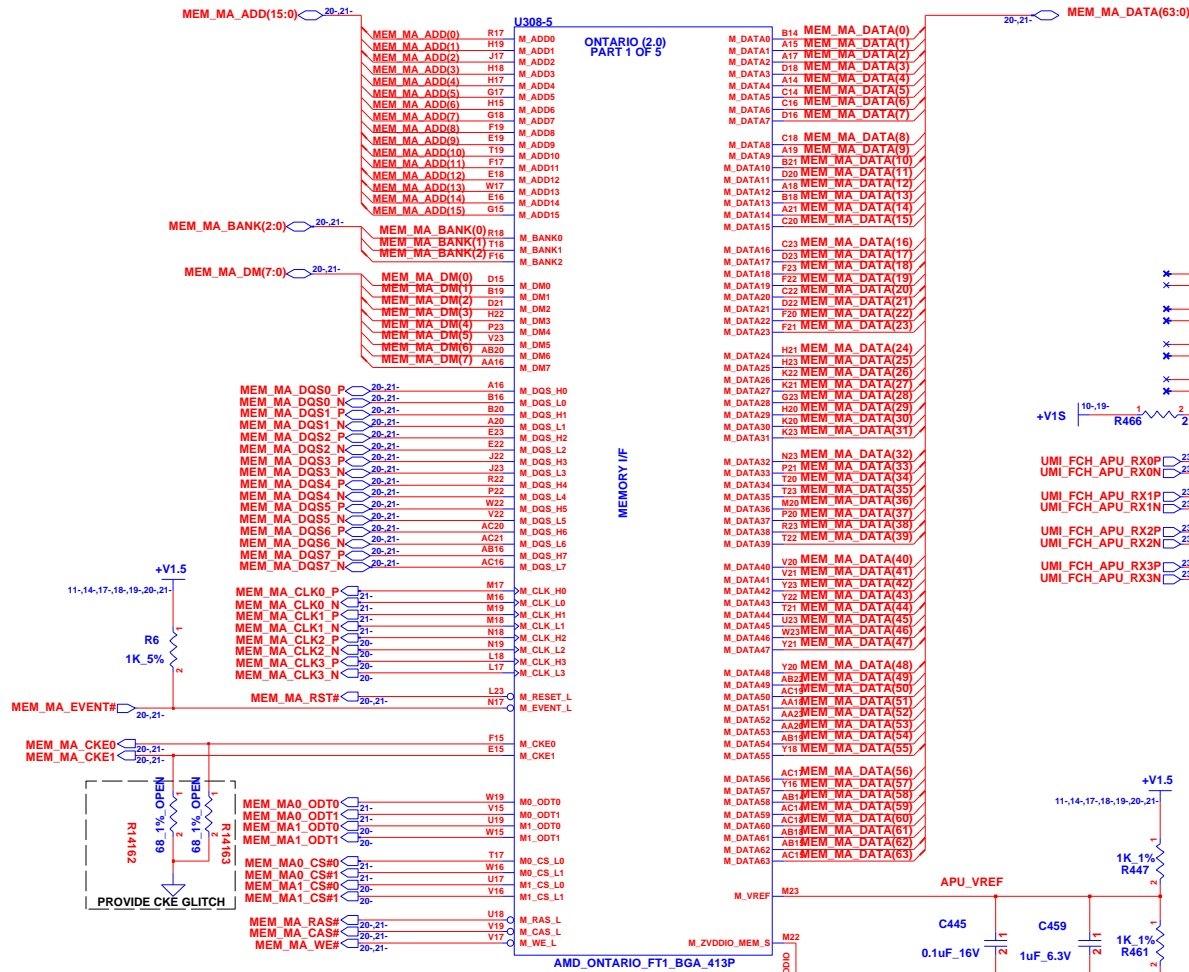
CHANGE by Chang, Irene 31-Aug-2010

WWW.AliSaler.Com

APU

MEMORY

PEG & UMI BUS



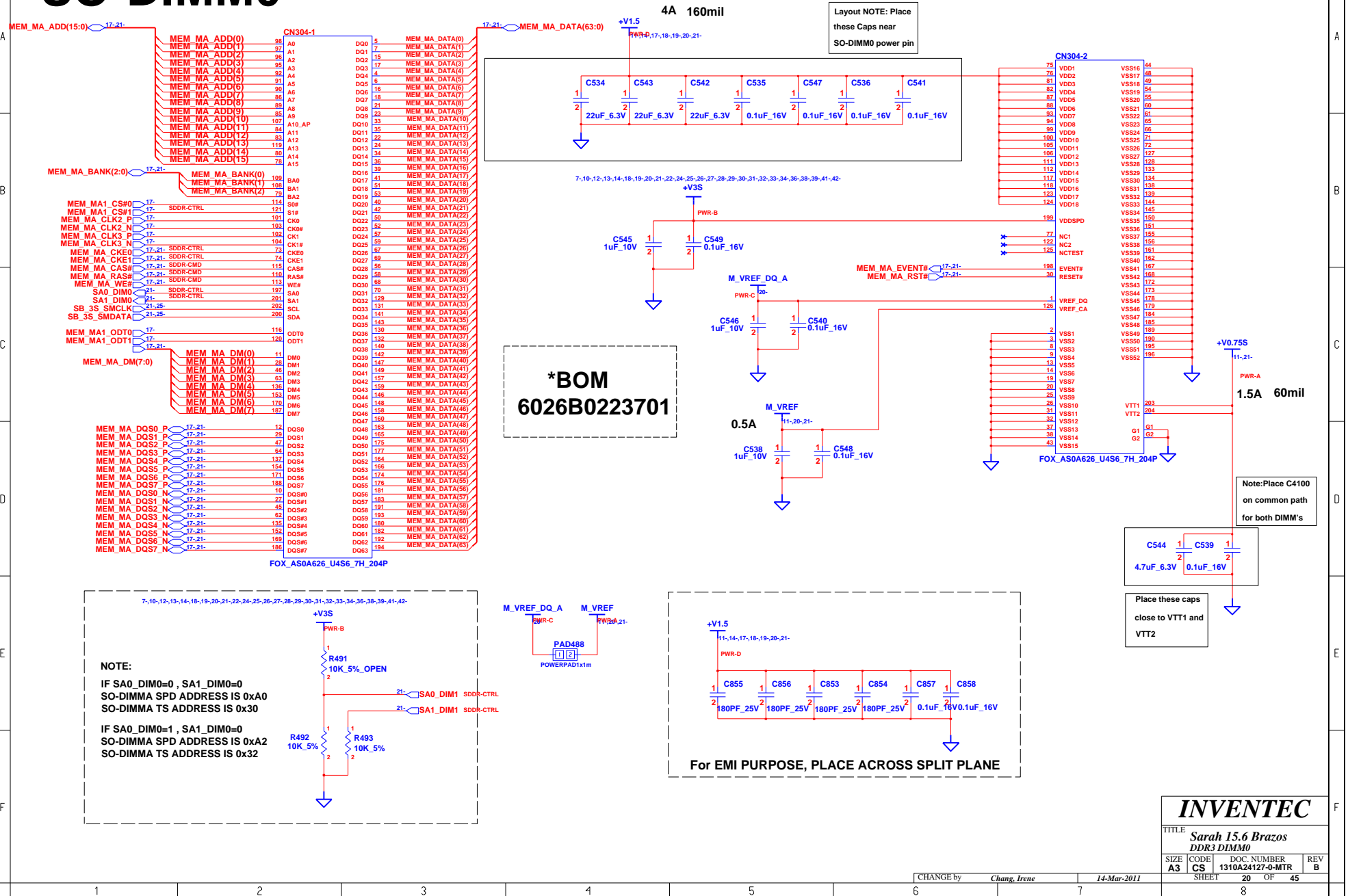
WWW.AliSaler.Com





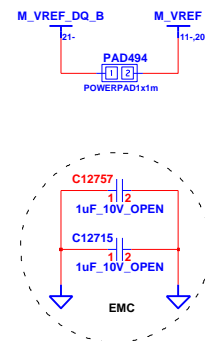
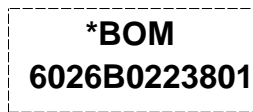
SO-DIMM0

WWW.AliSaler.Com



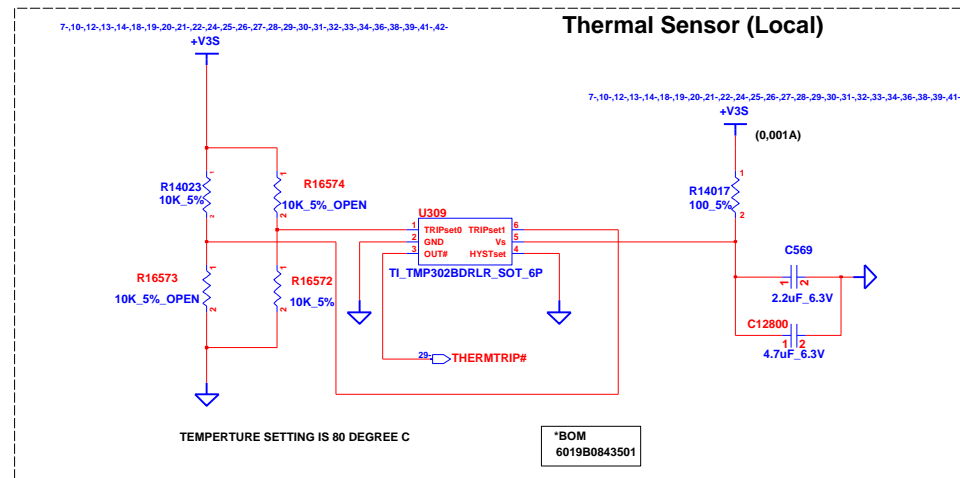
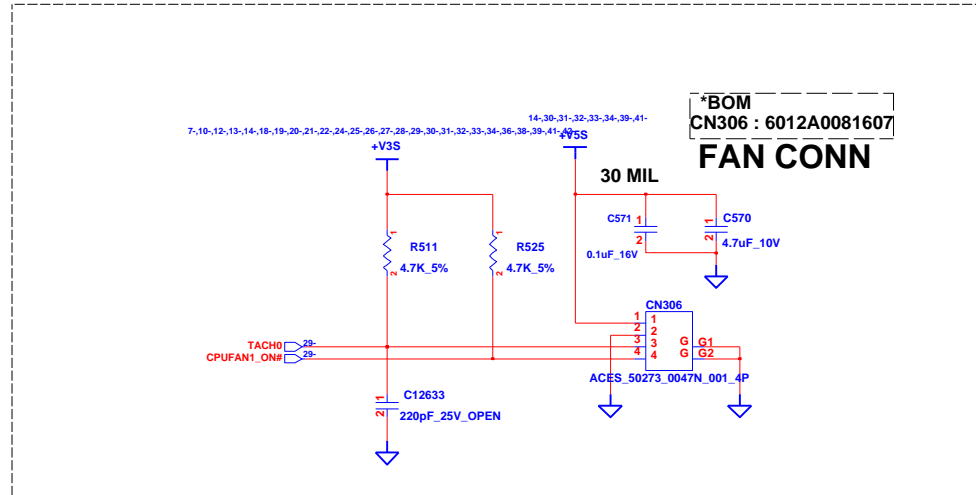
WWW.AliSaler.Com

WWW.AliSaler.Com



INVENTEC			
TITLE <i>Sarah 15.6 Brazos DDR3 DIMMI</i>			
SIZE A3	CODE CS	DOC. NUMBER 1310A24127-0-MTR	REV B
SHEET		21 OF	45

OK



INVENTEC

TITLE
Sarah 15.6 Brazos
FAN & THERMAL

SIZE CODE DOC. NUMBER REV
A3 CS 1310A24127-0-MTR B

CHANGE by **Chang, Irene** 13-Oct-2010

SHEET 22 OF 45

FCH

M2 : 6019B0775601
M3 : 6019B0775602

WLAN CardReader

NB_REF - 100MHZ

CPU - 100 MHZ

LAN - 100MHZ

WLAN - 100MHZ

CARDREADER - 100MHZ

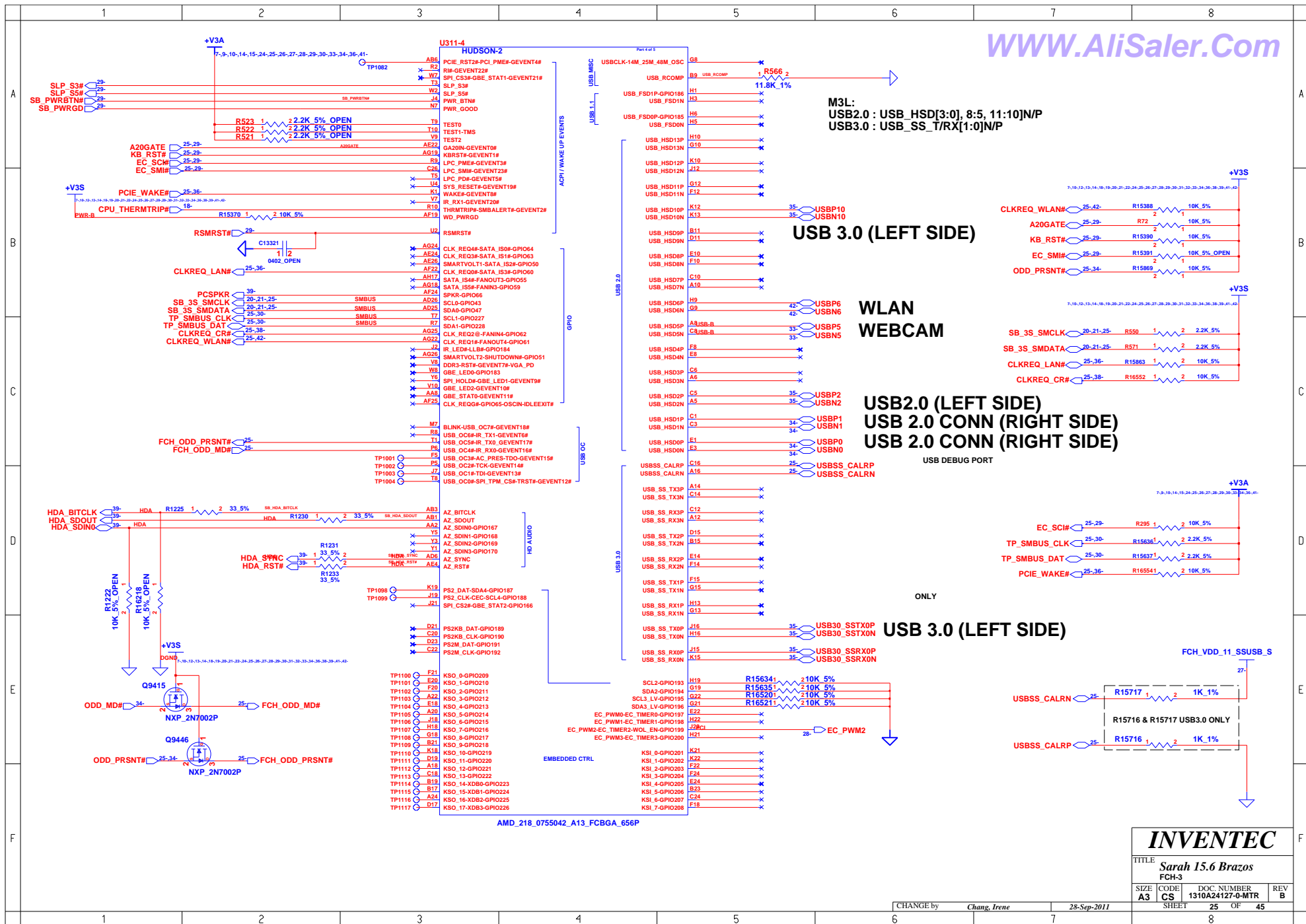
***BOM**
X301: 6018B0044501
C577,C578:6010071502AT

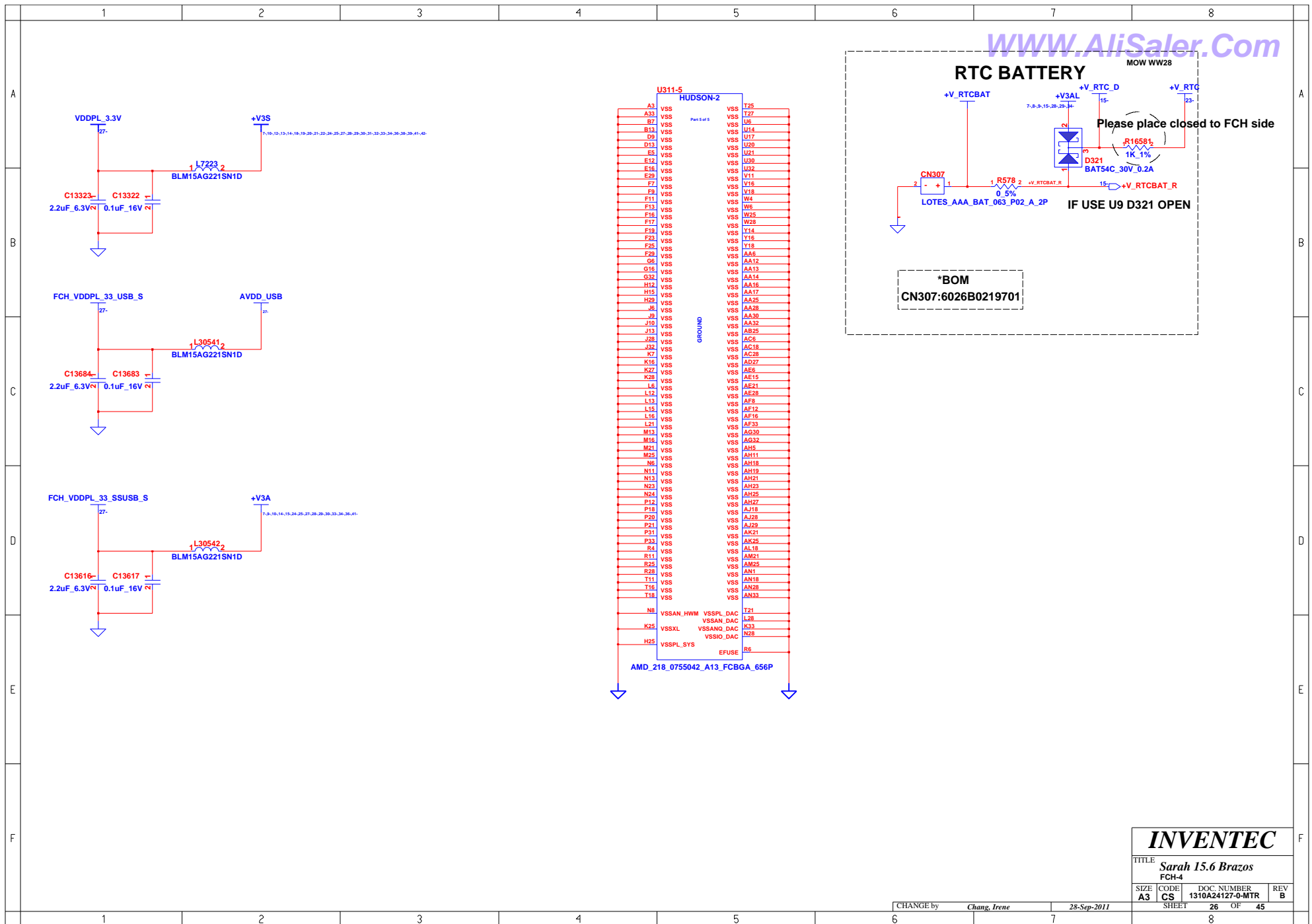
***BOM**
X805: 6018A0009301-004

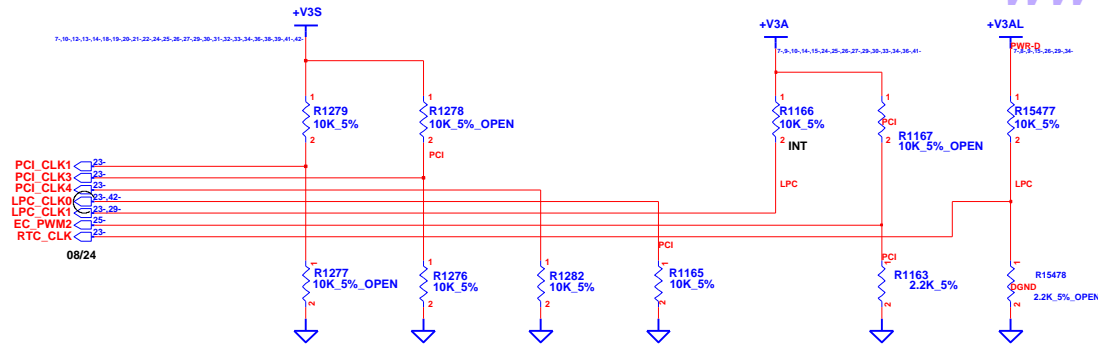
INVENTEC

TITLE Sarah 15.6 Brazos			
FCH-1			
SIZE A3	CODE CS	DOC. NUMBER 1310A24127-0-MTR	REV B
SHEET 23		OF 45	

CHANGE by Chang, Irene 29-Sep-2011

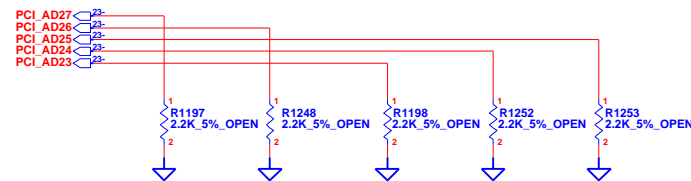






Required Straps:

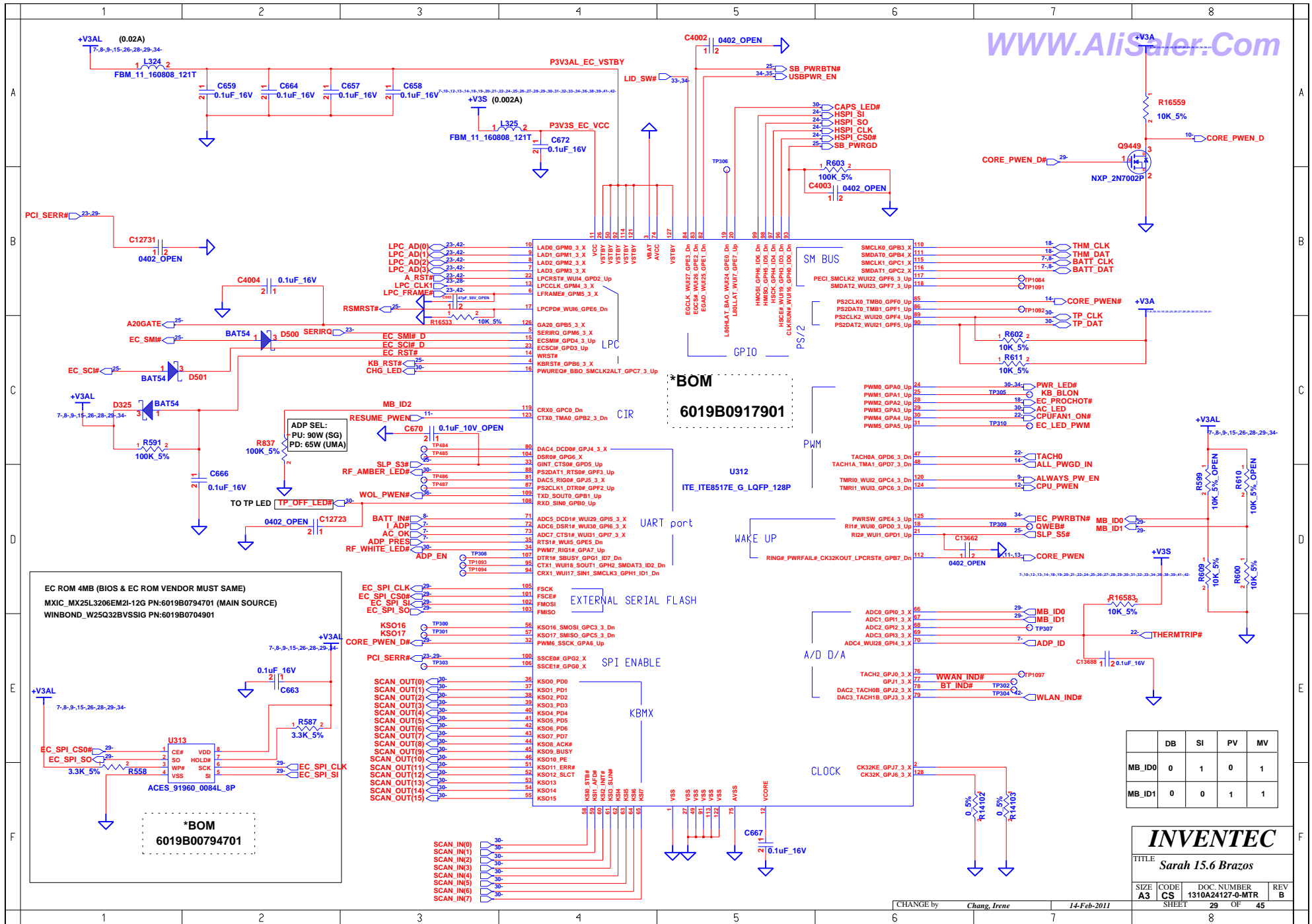
RTCCCLK		PCI_CLK1	PCI_CLK3	PCI_CLK4	LPC_CLK0	LPC_CLK1	EC_PWM2
S5 PLUS MODE DISABLE (DEFAULT)	PULL HIGH	ALLOW PCIE Gen2 DEFAULT	USE DEBUG STRAP	non Fusion CLOCK MODE APU_CLK AND DISP_CLK NO CLOCK OUTPUT	EC ENABLED	INTEGRATED CLKGEN ENABLED DEFAULT	LPC ROM
S5 PLUS MODE ENABLE	PULL LOW	FORCE PCIE Gen1	IGNORE DEBUG STRAP DEFAULT	Fusion CLOCK MODE DEFAULT APU_CLK AND DISP_CLK CLOCK OUTPUT FROM INT CLOCK GEN	EC DISABLED DEFAULT	INTEGRATED CLKGEN DISABLED	SPI ROM DEFAULT



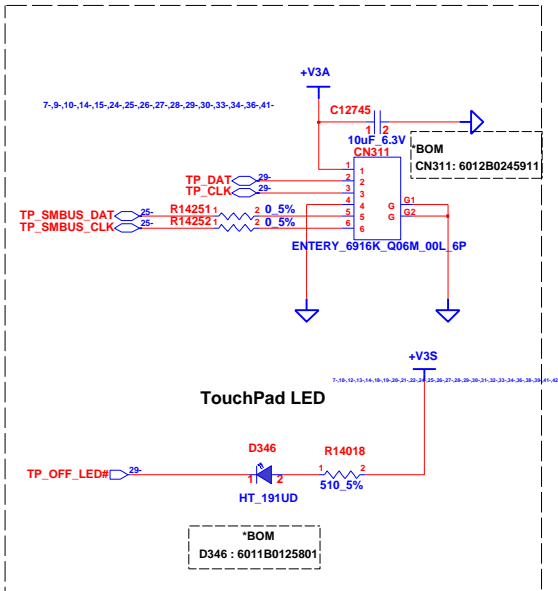
Debug Straps

FCH HAS 15K INTERNAL PU FOR PCI_AD[27:23]

	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE PCI PLL (default)	DISABLE ILA AUTORUN (default)	USE FC PLL (default)	USE DEFAULT PCIE STRAPS (default)	DISABLE PCI MEM BOOT (default)
PULL LOW	BYPASS PCI PLL	ENABLE ILA AUTORUN	BYPASS FC PCI PLL	USE EEPROM PCIE STRAPS	ENABLE PCI MEM BOOT

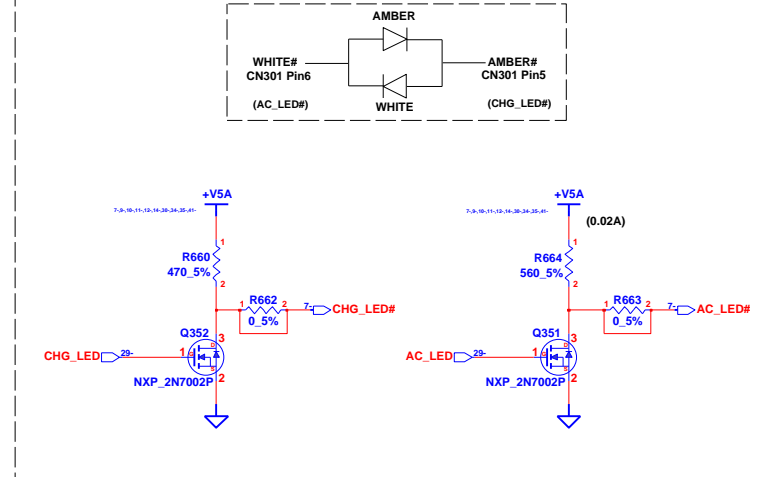


TouchPad Module CONN

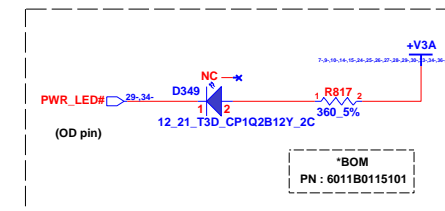
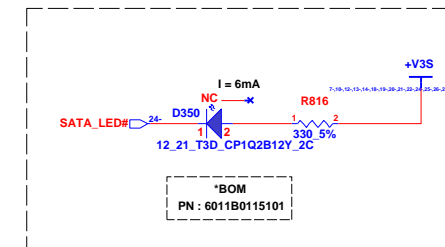
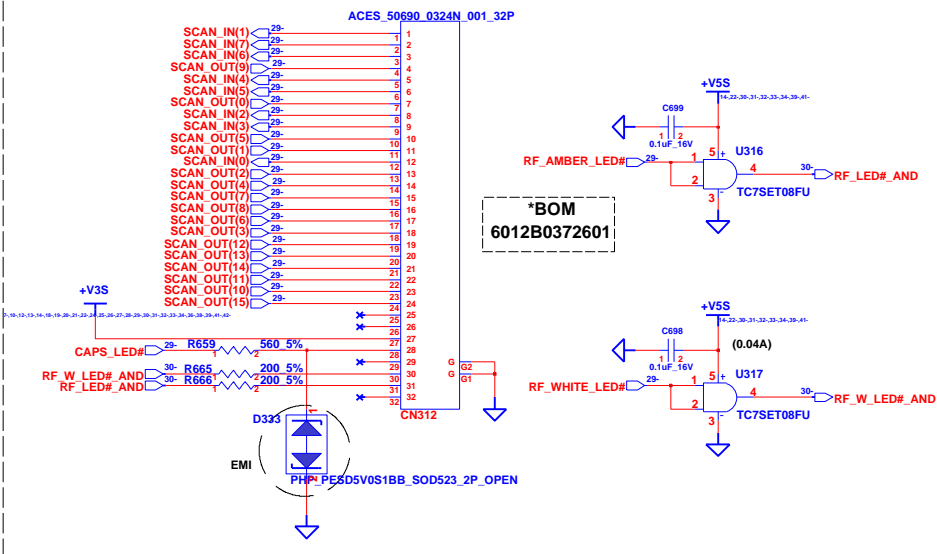


OK

DC-JACK LED



KeyBoard CONN (30 pin)



INVENTEC

TITLE
Sarah 15.6 Brazos
KBC

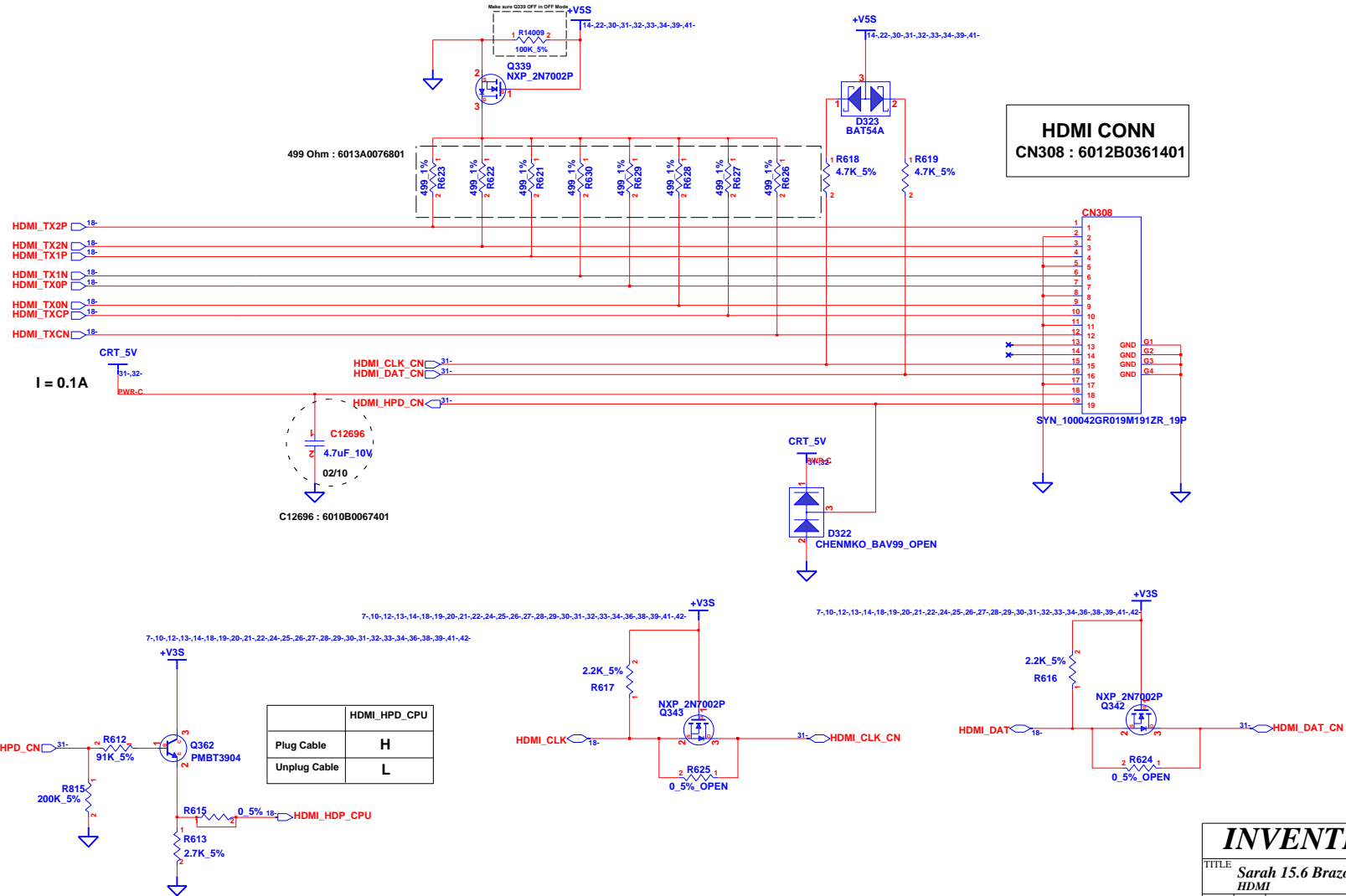
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24127-0-MTR	B

CHANGE by Chang, Irene 7-Aug-2010

SHEET 30 OF 45

HDMI

OK



HDMI CONN
CN308 : 6012B0361401

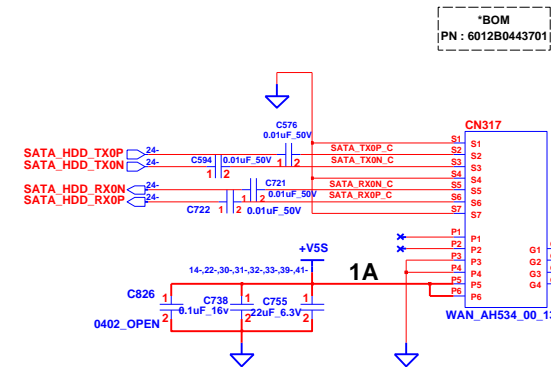
	HDMI_HPDCPU
Plug Cable	H
Unplug Cable	L

	HDMI_HPDCN
Plug Cable	H
Unplug Cable	L

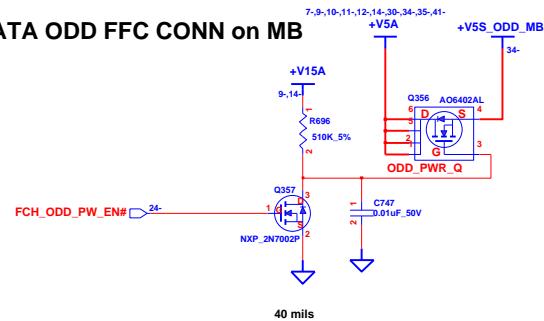
INVENTEC			
TITLE Sarah 15.6 Brazos HDMI			
SIZE A3	CODE CS	DOC. NUMBER 1310A24127-0-MTR	REV B
SHEET	31	OF	45

CHANGE by Chang, Irene 31-Aug-2010

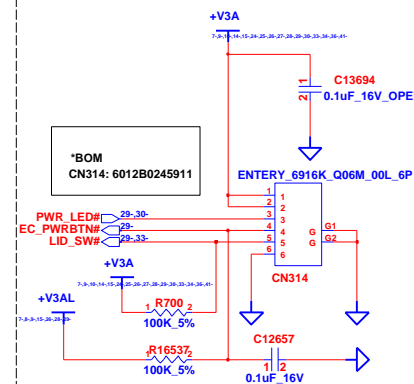
SATA HDD FFC CONN on MB



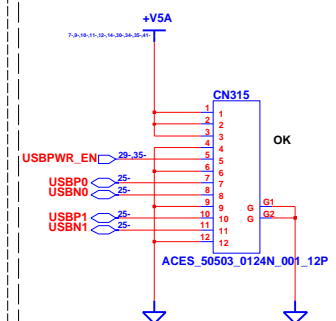
SATA ODD FFC CONN on MB



PBN Cable CN on MB



USB BOARD Cable on MB



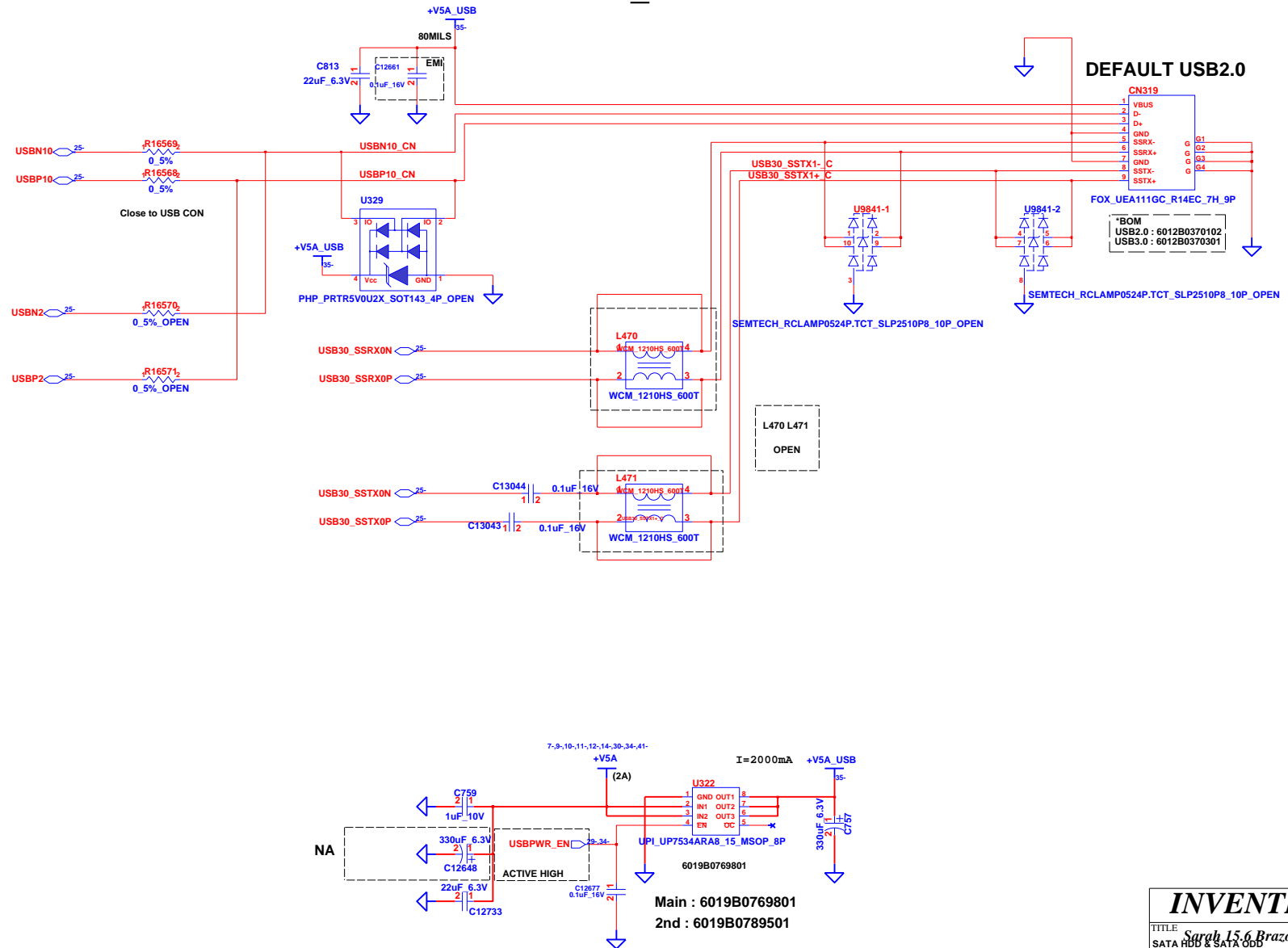
INVENTEC

TITLE: Sarah 15.6 Brazos
KB CONN & TP CONN & Indicate LED
SIZE: A3 CODE: CS DOC. NUMBER: 1310A24127-0-MTR REV: B

CHANGE by: Chang, Irene 24-Dec-2010

SHEET 34 OF 45

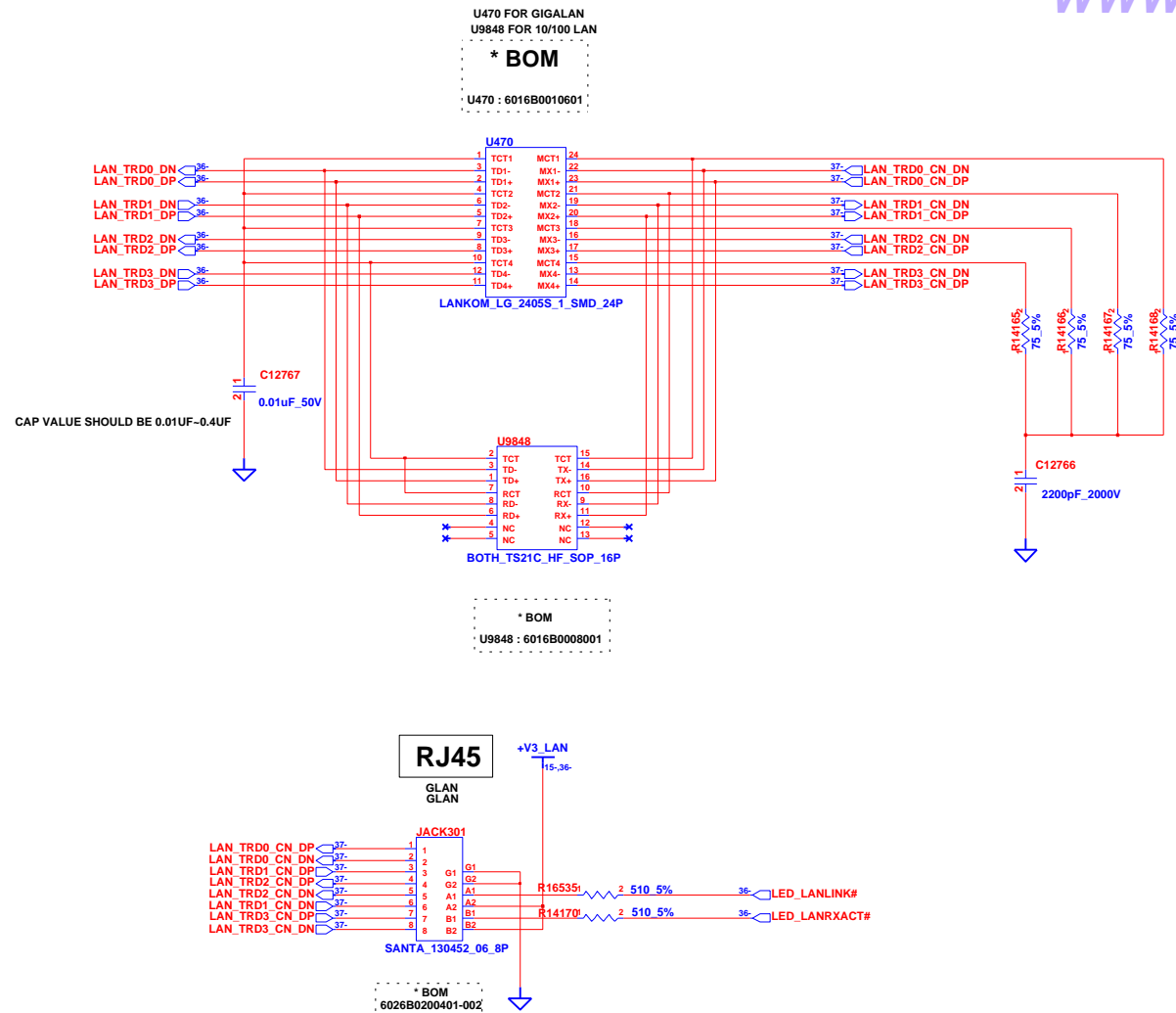
USB3.0_PORT



INVENTEC			
Sugli 15.6 Brazos			
SATA HDD & SATA DVD			
USB_B CONN & PBN CONN			
SIZE	CODE	DOC NUMBER	REV
A3	CS	1310A24127-0-MTR	B

CHANGE by Chang, Irene 6-Apr-2011

SHEET 35 OF 45

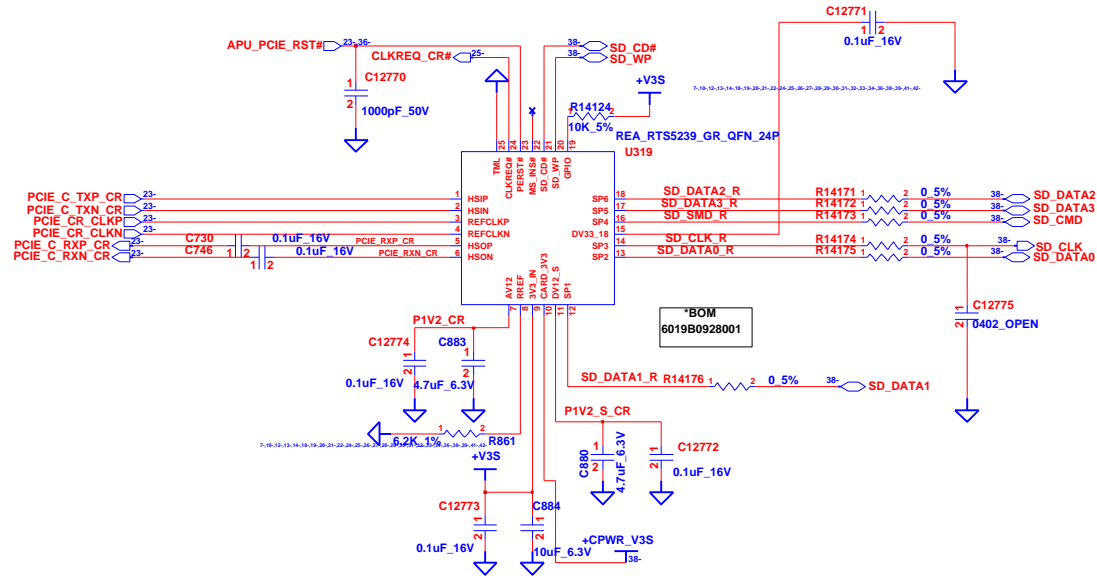


LAYOUT NOTE : Place termination resistors and caps as close to LAN controller as possible

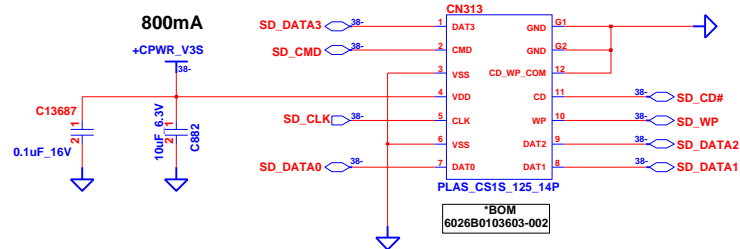
INVENTEC

TITLE Sarah 15.6 Brazos RTL8168EH			
SIZE A3	CODE CS	DOC. NUMBER 1310A24127-0-MTR	REV B
SHEET 37		OF 45	

CHANGE by Chang, Irene 3-Oct-2011



Card Reader CONN

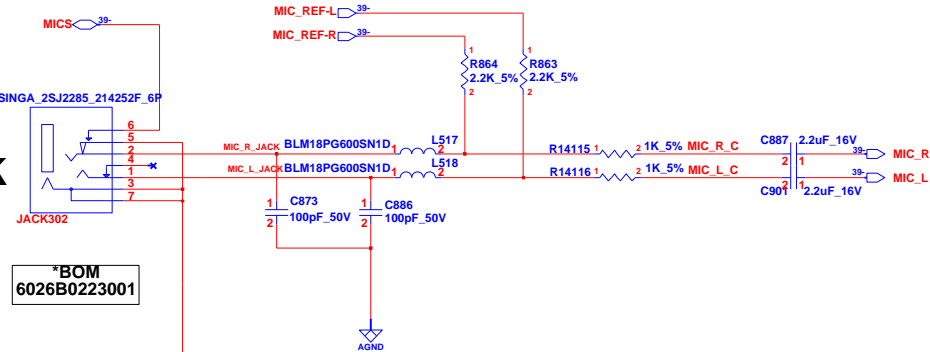


INVENTEC

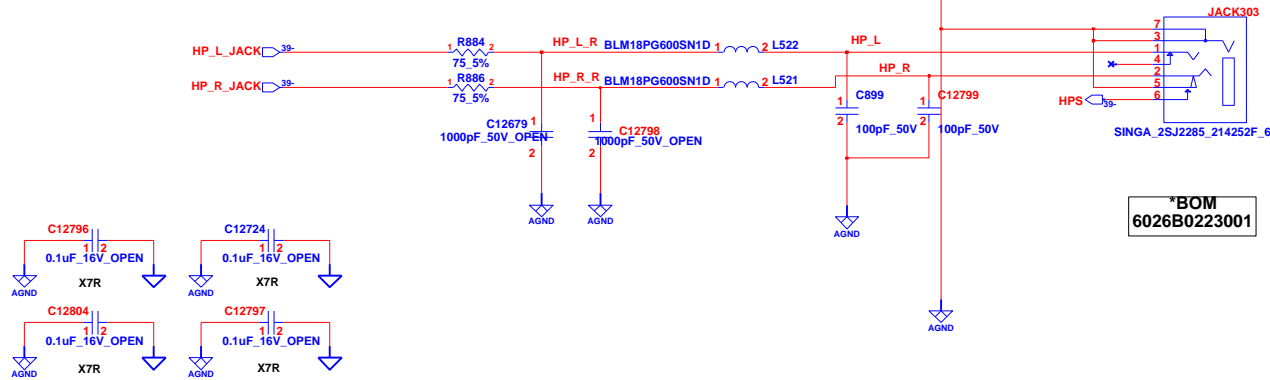
TITLE			
Sarah 15.6 Brazos LAN & RJ45 CONN			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24127-0-MTR	B
SHEET		38	OF 45

CHANGE by Chang, Irene 7-Aug-2010

Normal OPEN
MIC JACK



HP JACK
Normal OPEN

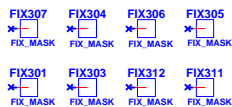
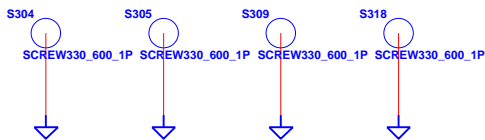


INVENTEC

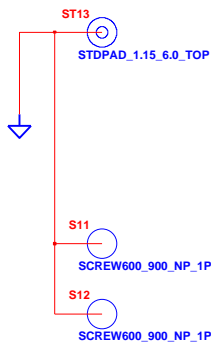
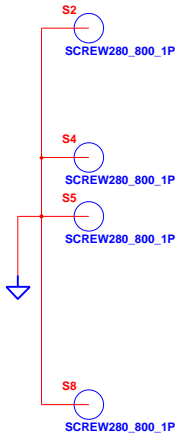
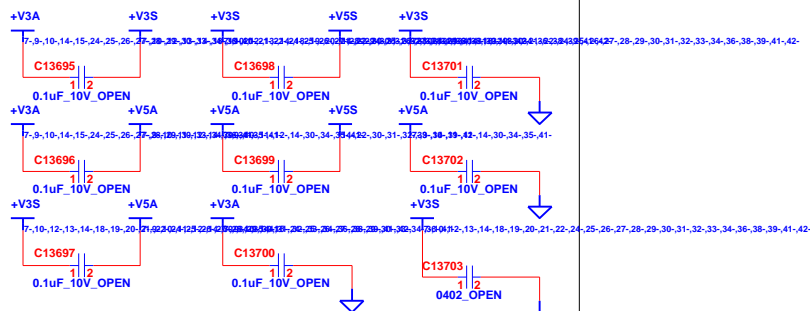
TITLE Sarah 15.6 Brazos AUDIO JACK			
SIZE A3	CODE CS	DOC. NUMBER 1310A24127-0-MTR	REV B
SHEET 40		OF 45	

CHANGE by Chang, Irene 7-Aug-2010

For APU



For EMI CAP



INVENTEC

TITLE Sarah 15.6 Brazos

SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24127-0-MTR	B

SHEET	41	OF	45
	8		

CHANGE by Chang, Irene 12-Mar-2011

[illegible]

WLAN CONN (MINICARD)

	Peak (mA)	Normal (mA)
+V3.3A	2,750mA	1,100mA
+V1.5	500mA	375mA

6026B0221502 SI BUILD

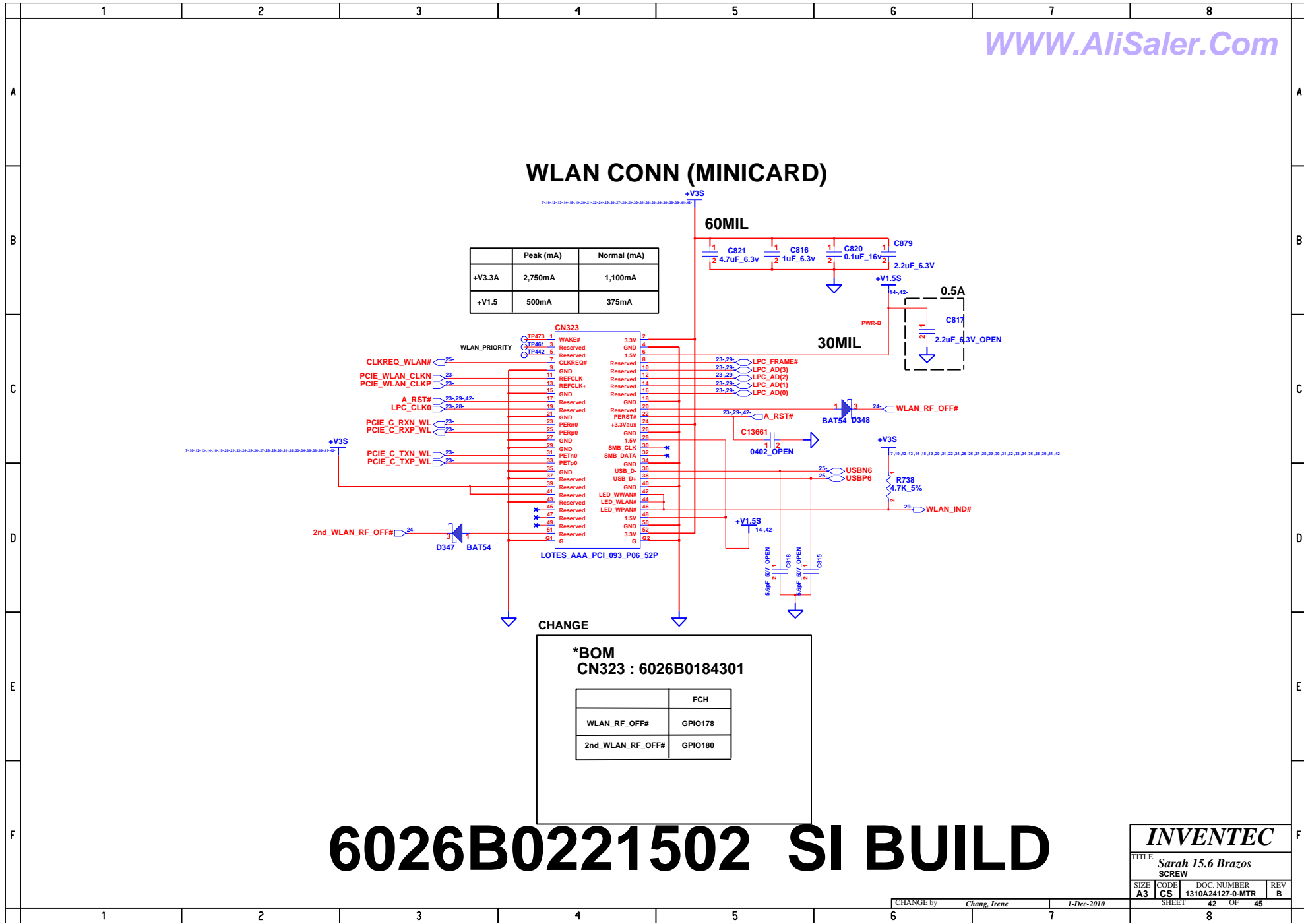
WWW.AliSaler.Com

		FCH
WLAN_RF_OFF#		GPIO178
2nd_WLAN_RF_Off#		GPIO180

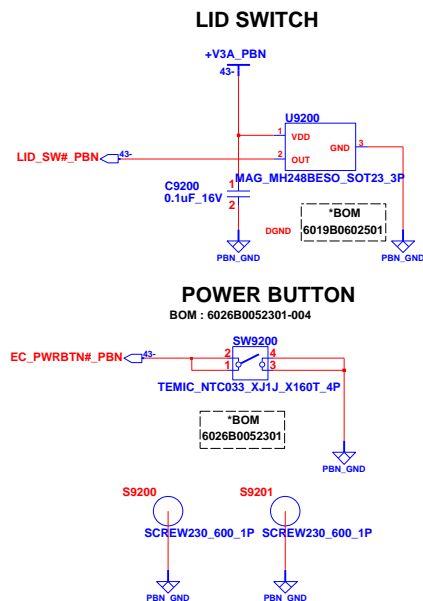
6026B0221502 SI BUILD

INVENTEC			
TITLE	Sarah 15.6 Brazos SCREW		
SIZE A3	CODE CS	DOC NUMBER 1310A24127-0-MTR	REV B
SHEET 42	OF 45		

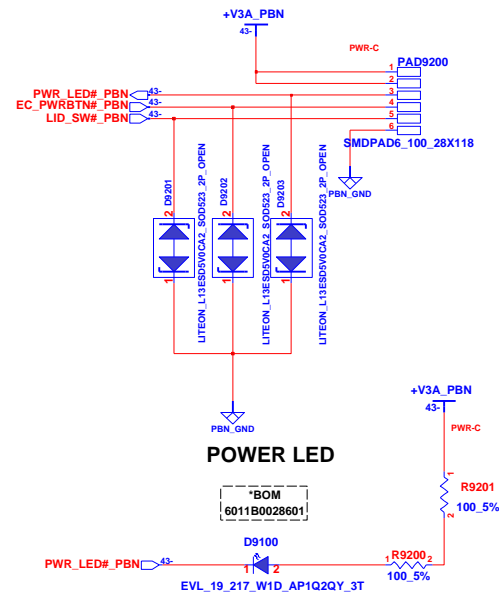
CHANGE by Chang, Irene 1-Dec-2010

[illegible][illegible][illegible][illegible][illegible][illegible][illegible]

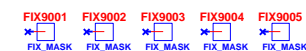
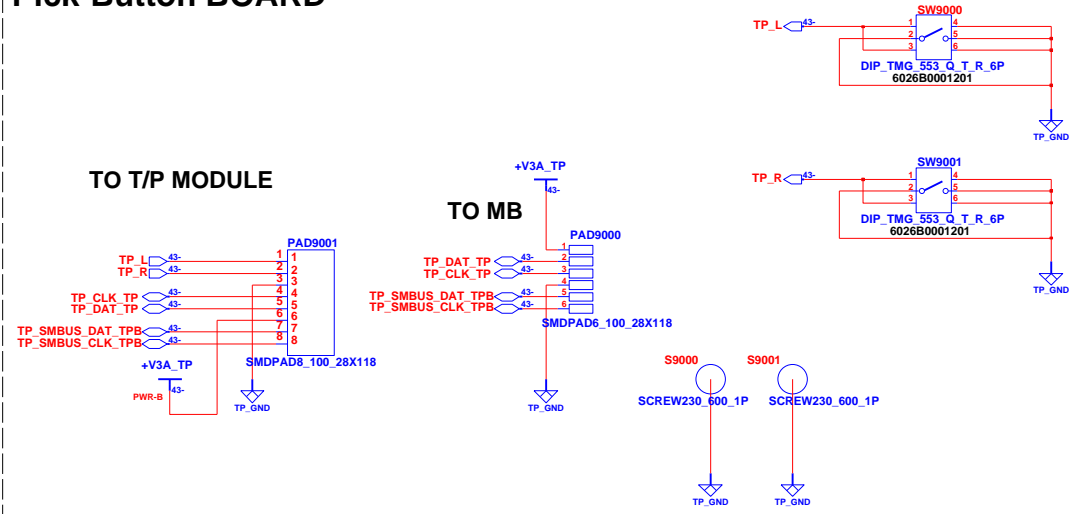
Power Button Board



PBN Cable CN on PBN



Pick-Button BOARD



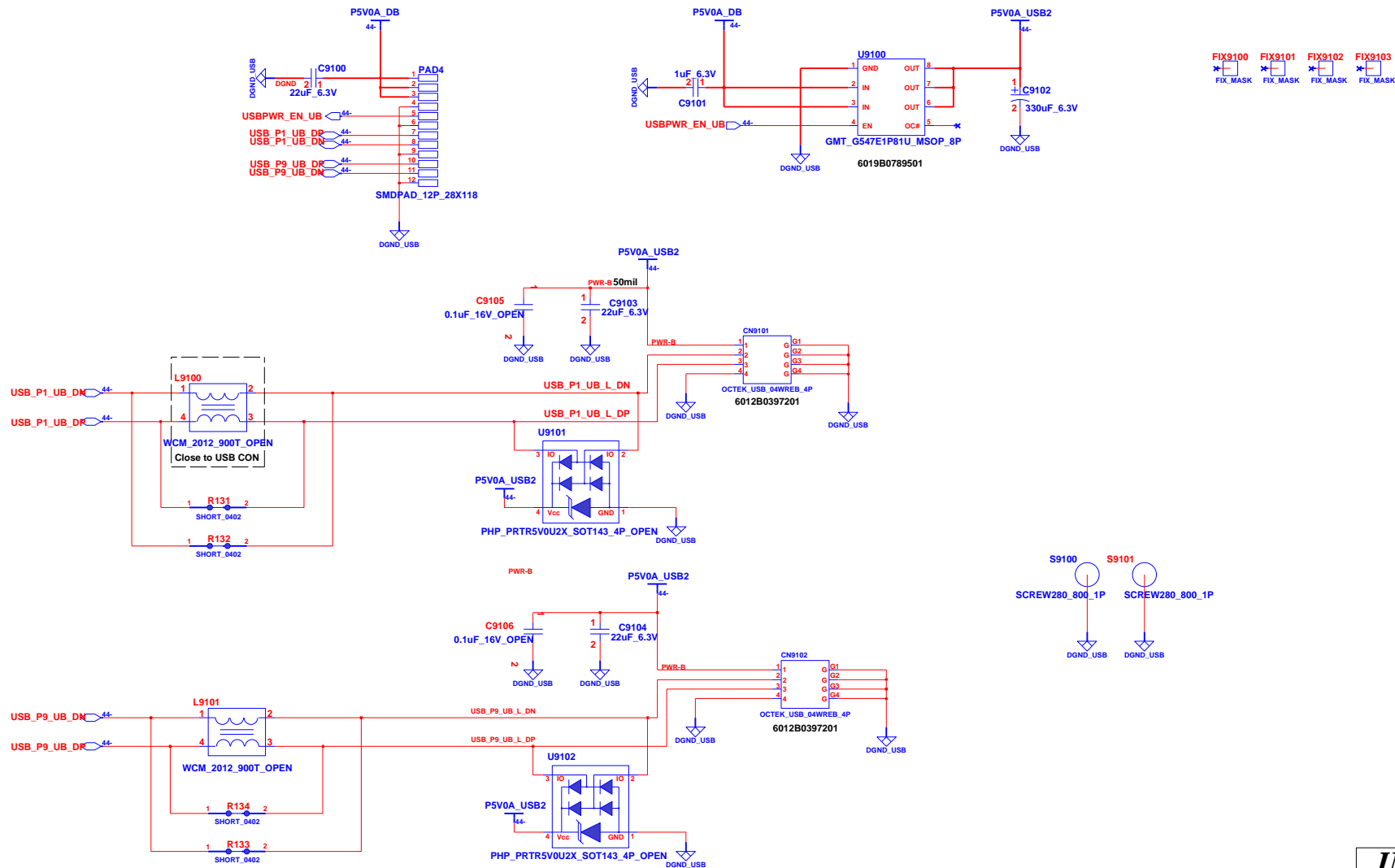
INVENTEC

TITLE Sarah 15.6 Brazos WLAN			
SIZE A3	CODE CS	DOC. NUMBER 1310A24127-0-MTR	REV B
SHEET 43		OF 45	

CHANGE by Chang, Irene 23-Sep-2011

USB BOARD

WWW.AliSaler.Com

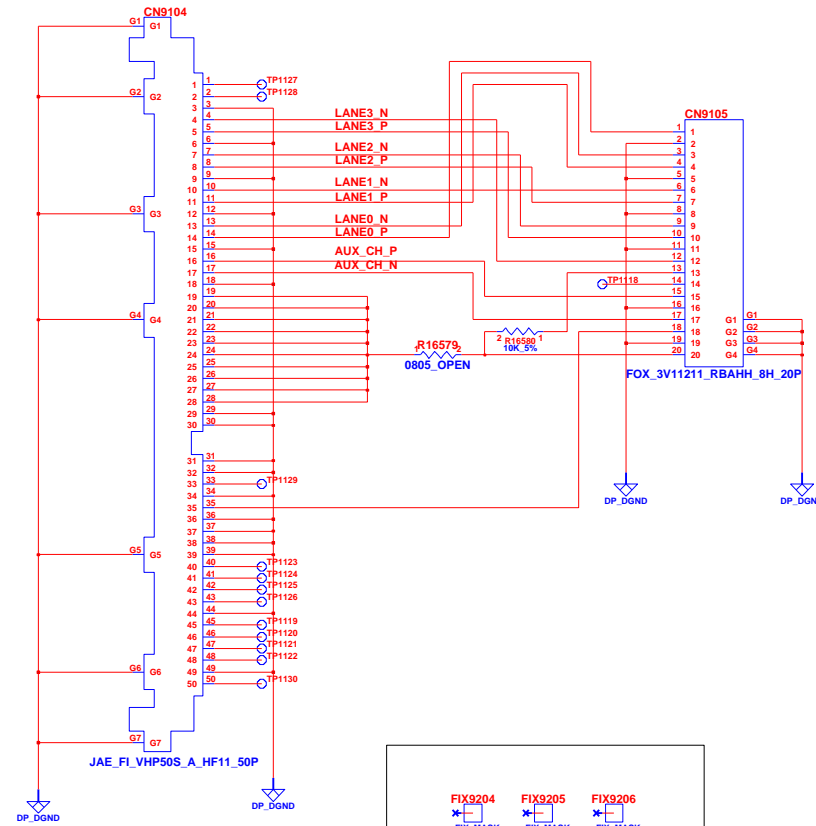


INVENTEC

TITLE			
Sarah 15.6 Brazos			
STRAP			
SIZE	CODE	DOC. NUMBER	REV
A3	CS	1310A24127-0-MTR	B
SHEET		44	OF 45

CHANGE by Chang, Irene 6-Apr-2011

WWW.AliSaler.Com



FIX9204
FIX_MASK

FIX9205
FIX_MASK

FIX9206
FIX_MASK

INVENTEC			
TITLE KF14BR-SCHE-DB-20110928-M3L			
SIZE A3	CODE CS	DOC. NUMBER	REV
SHEET 45		OF 45	

CHANGE by KF14BR 21-Oct-2011