

# Compal confidential

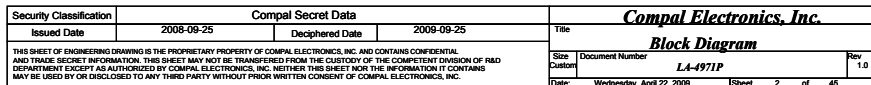
## *Liverpool 10AR/10ARG*

### KSWAE LA-4971P Schematics Document

Mobile AMD S1G2 S1G3/  
RS780MN & RS780MC & RX781 & RS880 /  
SB700 & SB710

2009-04-22 Rev. 1.0

Security Classification	Compal Secret Data		Title	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	Compal Electronics, Inc. Cover Sheet
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom
				Document Number LA-4971P
				Rev. 1.0
				Date: Wednesday, April 22, 2009
				Sheet 1 of 45



Power plane

State

+B

+3VL

+5VL

+RTCVCC

+5VALW

+3VALW

+1.2VALW

+3V\_LAN

+1.8V

+0.9V

+0.9V

+5VS

+3VS

+2.5VS

+1.8VS

+1.5VS

+1.1VS

+VGA\_CORE

+1.2V\_HT

+CPU\_CORE\_NB

+CPU\_CORE\_0

+CPU\_CORE\_1

S0	O	O	O	O
S1	O	O	O	O
S3	O	O	O	X
S5 S4/AC	O	O	X	X
S5 S4/ Battery only	O	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X

Symbol Note :

Digital Ground

Analog Ground

@ : just reserve , no build

DEBUG@ : reserve for debug.

Layout Notes

UMA@: means for RS780M.

BTO (Build-To-Order)

Option Table

Function	Express card / PCMCIA	BLUE TOOTH	RJ11	SSD	SATA ODD	WIFI	G- sensor	3 in 1 card reader
Description	( E / A )	( B )	( R )	( S )		( H )		
Explain					16"	17"	Half - size	First Second RTS5159
BTO	EXPCARD@ / PCMCIA@	BT@	MDC@	SSD@	16inch@	17inch@	WLAN@ WIMAX@ G@ + G_1st@ G@ + G_2nd@	CARD@

Function	FingerPrinter	CAMERA & MIC	HDMI	LVDS wireset	DC-IN	CHIPSET	
Description	( F )	( X )	( Y )				
Explain		CAMERA MIC	AMD(UMA) ATI VGA/B COMMON	Cost down			
BTO	FP@	CAM@ MIC@ IHDMI@	HDMI@ H@	LVDSSET@	16inch_45@ 17inch_45@	PUMA@ TIGRIS@	

I2C / SMBUS ADDRESSING

DEVICE	HEX	ADDRESS
DDR SO-DIMM 0	A0	1 0 1 0 0 0 0 0
DDR SO-DIMM 1	A4	1 0 1 0 0 1 0 0
CLOCK GENERATOR (EXT.)	D2	1 1 0 1 0 0 1 0

EC SM Bus1 address

Device	HEX	Address
Smart Battery	16H	0001 011X b
HDMI-CEC	34H	0011 010X b
EC KB926D2		

EC SM Bus2 address

Device	HEX	Address
ADH1032-1 CPU	98H	1001 100X b
ADH1032-2 VGA	9AH	1001 101X b
EC KB926D2		
Ext. VGA/B		
CS/B		

Platform

Item

CPU

NB

VGA

SB

Comment

PUMA@	GM@	S1G2	RS780MC	NA	SB700	
	GM@	S1G2	RS780MN	NA	SB700	
	PM@+GPM@	S1G2	RS780MN	MXM	SB700	
	PM@+PM1@	S1G2	RX781	MXM	SB700	

TIGRIS@	GM@	S1G3	RS880MC	NA	SB710	
	GM@	S1G3	RS880M	NA	SB710	
	PM@+GPM@	S1G3	RS880M	MXM	SB710	
	PM@+PM1@	S1G3	RX881	MXM	SB710	

SMBUS Control Table

	SOURCE	INVERTER	BATT	HDMI CEC	CPU THERMAL SENSOR	SODIMM I / II	CLK GEN	WLAN	LCD DDC ROM	HDMI DDC ROM	NEW CARD	MXM Thermal Sensor
EC_SMB_CK1	KB926		V	V								
EC_SMB_DA1												
EC_SMB_CK2	KB926				V							V
EC_SMB_DA2												
I2C_CLK	RS780M								V			
I2C_DATA												
DDC_CLK0	RS780M									V		
DDC_DATA0												
DDC_CLK1	RS780M											
DDC_DATA1												
SCL0	SB700					V	V				V	
SDA0												
SCL1	SB700							V				
SDA1												
SCL2	SB700											
SDA2												
SCL3	SB700											
SDA3												

Security Classification

Compal Secret Data

Issued Date

2008-09-25

Deciphered Date

2009-09-25

Title

Compal Electronics, Inc.

Size

Document Number

Customer

LA-4971P

Rev

1.0

Date

Wednesday, April 22, 2009

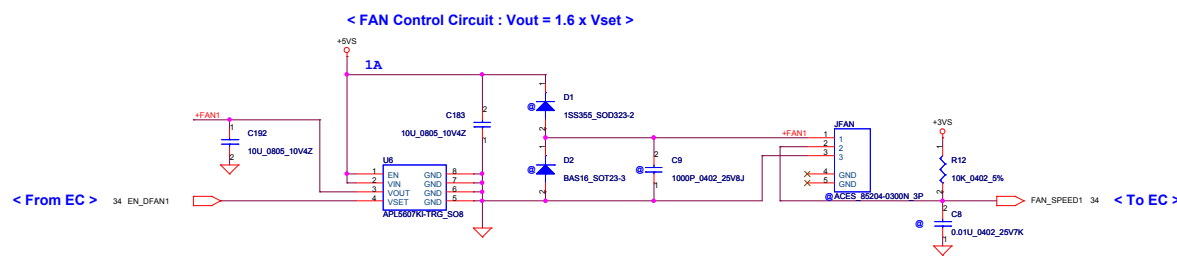
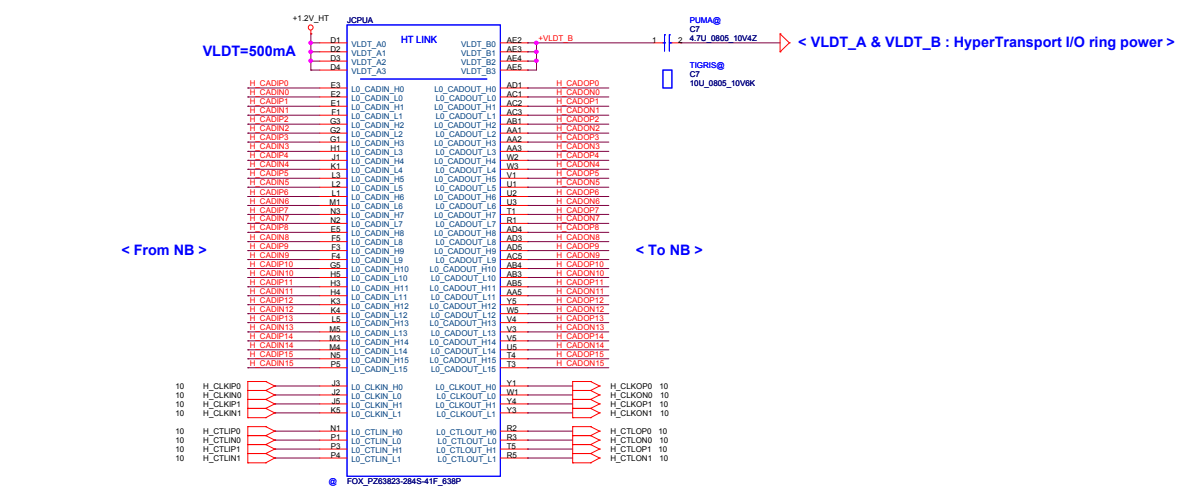
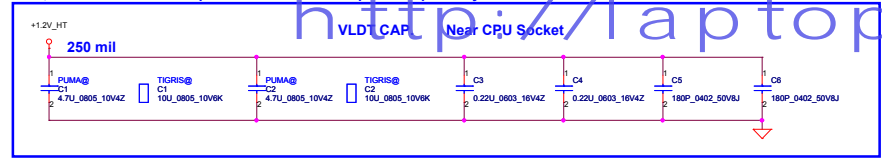
Sheet

3

of

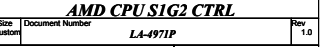
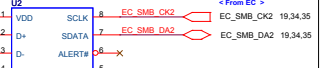
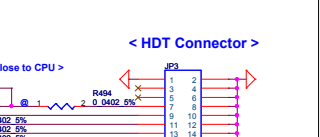
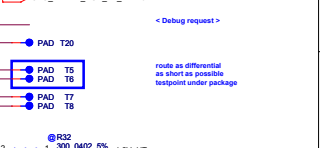
45

< C1, C2 and C7 must be replaced to 10-uF for Caspian compatibility >

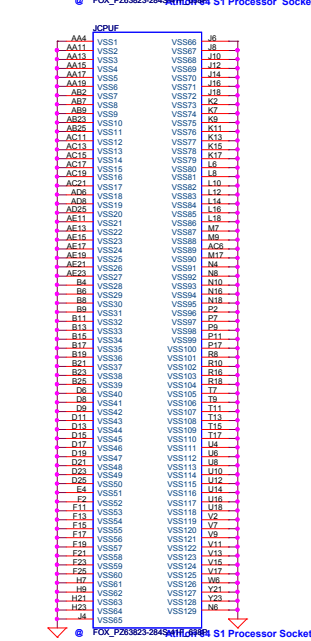
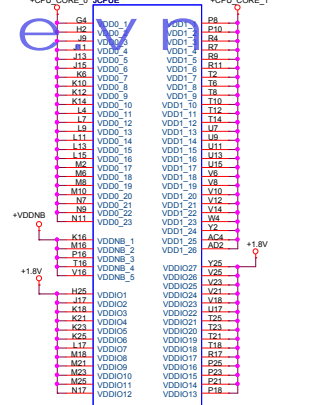
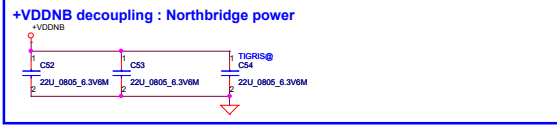
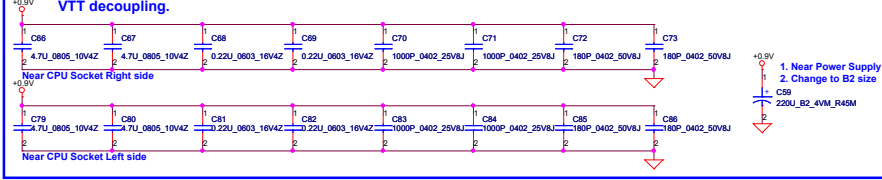
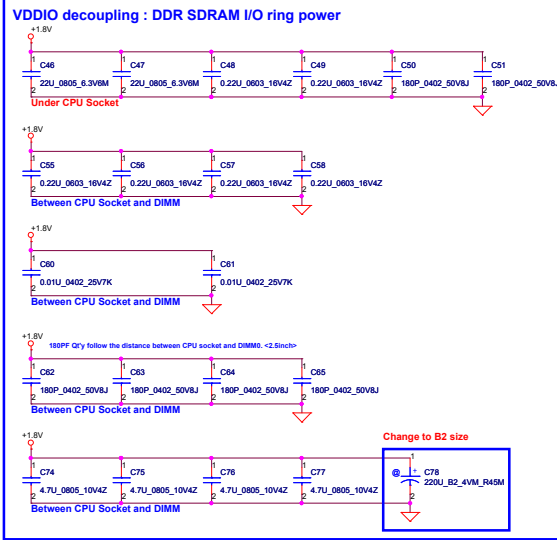
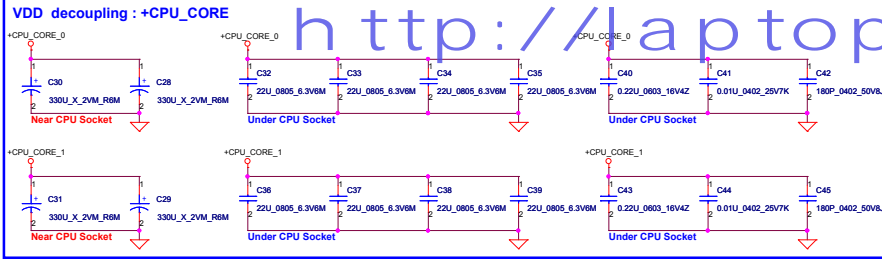


Security Classification		Compal Secret Data		Title	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	Size	Customer
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				LA-4971P	Rev 1.0
Date: Wednesday, April 22, 2009		Sheet 4 of 45			

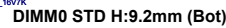




C	D	E
---	---	---

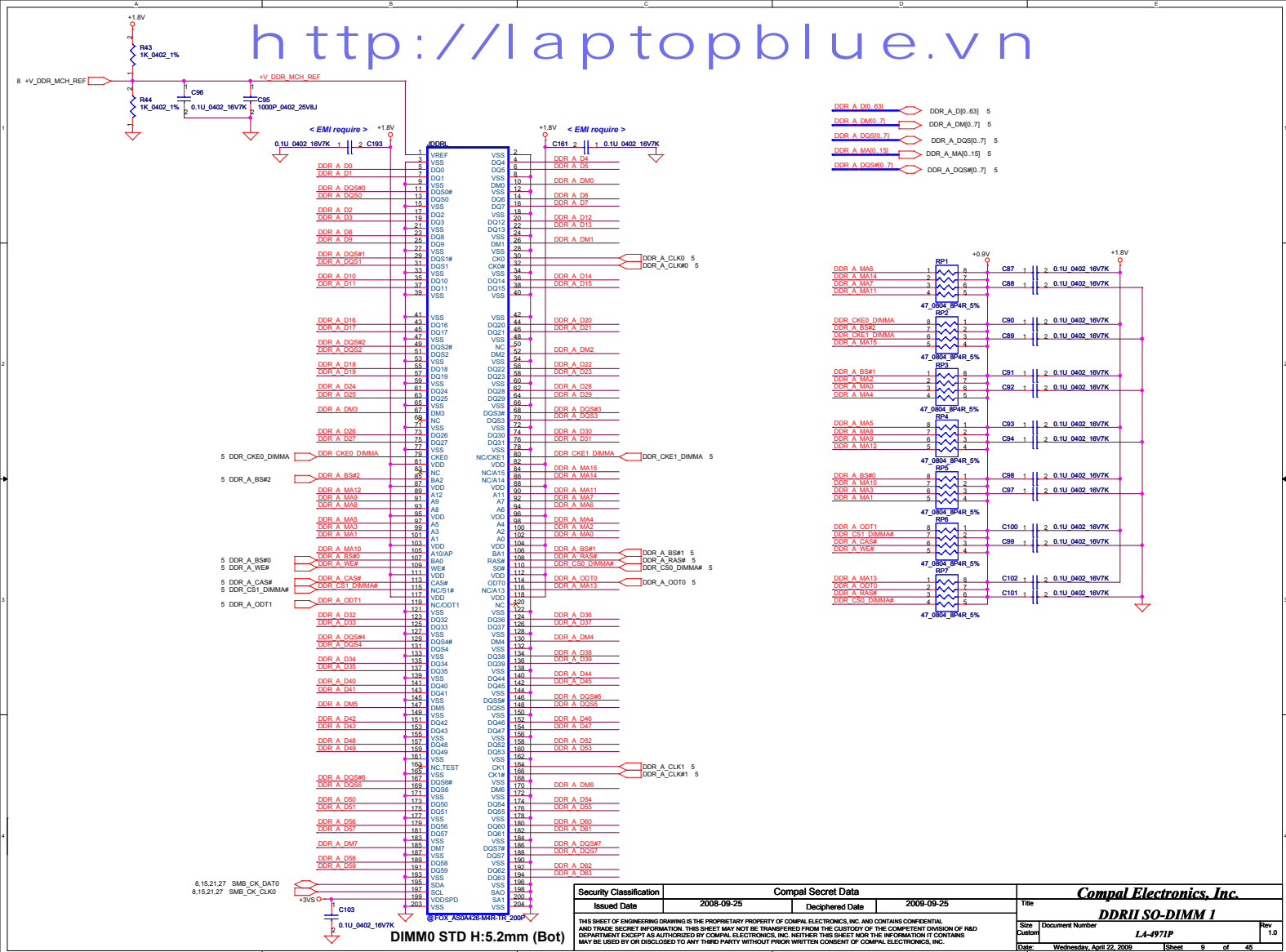


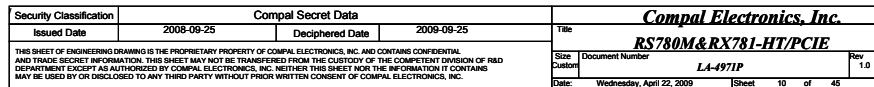
Security Classification		Compal Secret Data		Title	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	Size	Document Number
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Customer	LA-4971P
				Date	Wednesday, April 22, 2009
				Sheet	7 of 45



Security Classification	Compal Secret Data		Title		<b>Compal Electronics, Inc.</b>	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	DDRII SO-DIMM 0		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DIVISION OR AUTHORIZED BY COMPAL ELECTRONICS, INC. IN WRITER. THIS SHEET OF DRAWING CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
Date	LA-4971P			1.0		
Date: Wednesday, April 22, 2009				Sheet	8	of 45

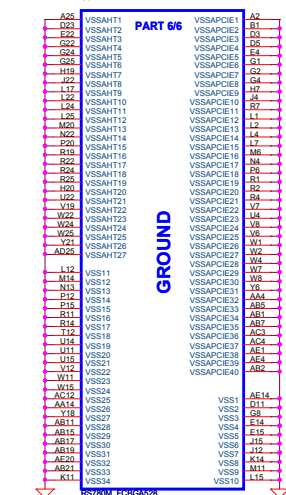




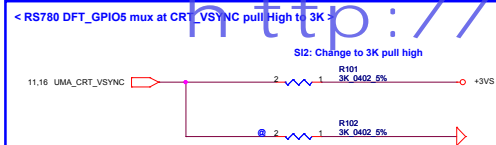




Security Classification	Compal Secret Data		Title	<b>Compal Electronics, Inc.</b>	
Issued Date	2008-09-25	Deciphered Date	2008-09-25	<b>RS780M/RX781 SIDE PORT</b>	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND PROPRIETARY INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED OR DISCLOSED OUTSIDE OF THE CUSTOMER DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Size	Document Number	Rev
			A4	LA-4971P	1.0
			Date:	Wednesday, April 22, 2009	Sheet 12 of 45



Security Classification	Compal Secret Data		
Issued Date	2008-09-25	Deciphered Date	2009-09-25
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&amp;D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>			



< DFT\_GPIO6:STRAP\_DEBUG\_BUS\_GPIO\_ENABLEb >  
Enables the Test Debug Bus using GPIO

1 : Enable (RX780, RS780)  
0 : Disable (RX780, RS780)

PIN: RS740-->RS780\_AUX\_CAL; RX780-->NB\_TV\_C; RS780--> VSYNC#

< RS780 use register to control PCI-E configure >

< DFT\_GPIO[4:2] : STRAP\_PCIE\_GPP\_CFG[2:0] >

These pin straps are used to configure PCI-E GPP mode.

000 : 00001  
001 : 00010  
010 : 01011  
011 : 00100  
100 : 01010  
101 : 01100  
111 : 01011

< RS780 DFT\_GPIO1 >



< DFT\_GPIO1 : LOAD\_EEPROM\_STRAPS >

Selects Loading of STRAPS from EPROM

1 : Bypass the loading of EEPROM straps and use Hardware Default Values  
0 : I2C Master can load strap values from EEPROM if connected, or use default values if not connected

RS740/RX780: DFT\_GPIO1 RS780:SUS\_STAT

< RS780 use HSYNC to enable SIDE PORT (internal pull high) >



< DFT\_GPIO0: STRAP\_DEBUG\_BUS\_PCIE\_ENABLEb >

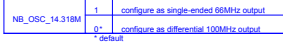
RX780: Enables the Test Debug Bus using PCIE bus

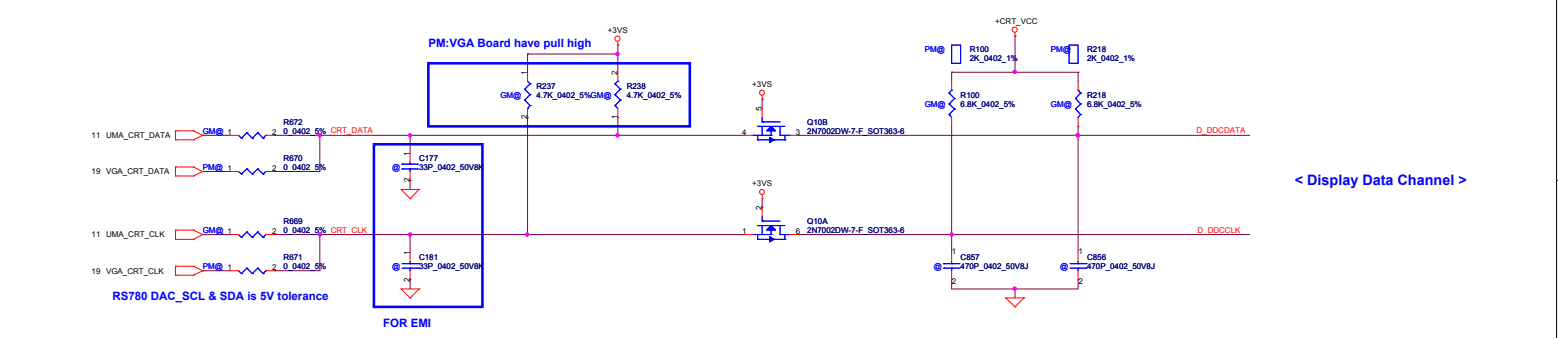
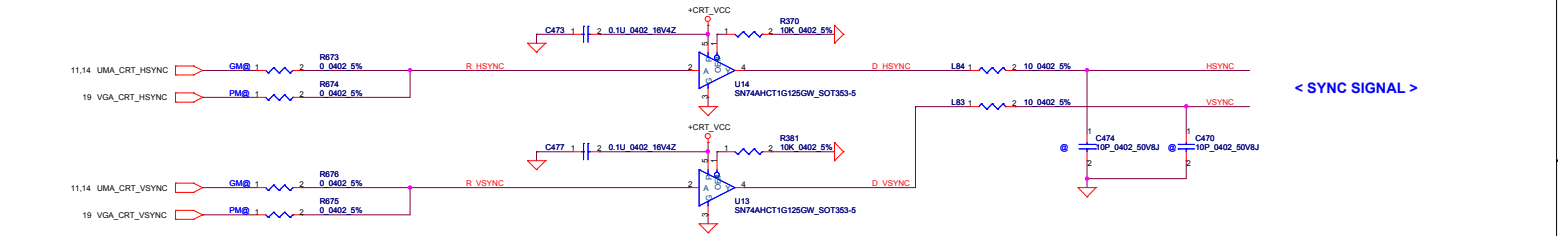
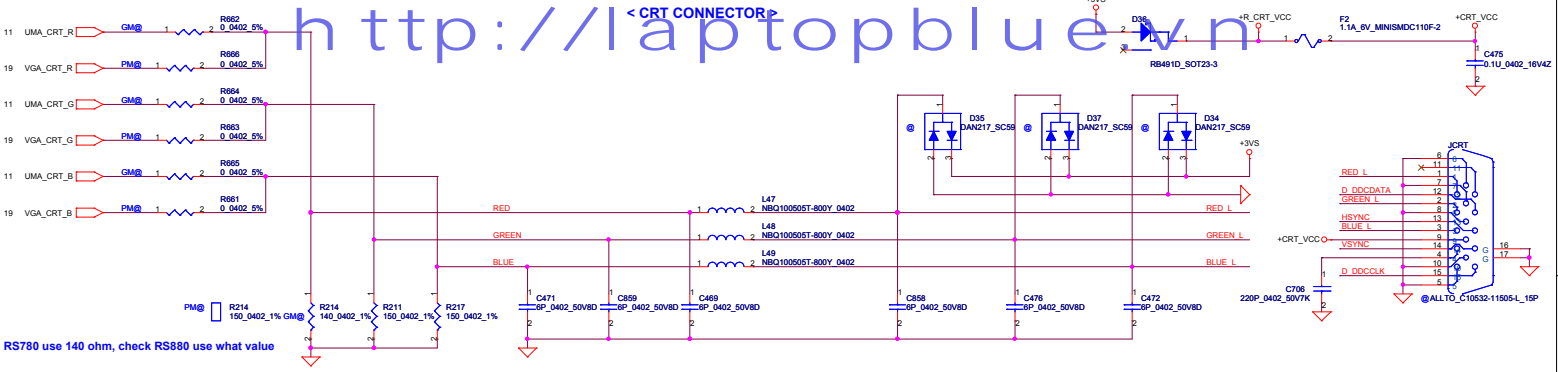
1 : Disable ( Can still be enabled using nbcfg register access )  
0 : Enable

RS780: Enables Side port memory ( RS780 use HSYNC#)

1. Disable (RS780)  
0 : Enable (RS780)

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	Title	RS780M&RX781 STRAPS
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4971P
				Date	Wednesday, April 22, 2009
				Sheet	14 of 45
				Rev	1.0





Security Classification		Compal Secret Data		Title	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	Size	Document Number
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Customer	LA-4971P
				Date	Wednesday, April 22, 2009
				Sheet	16 of 45

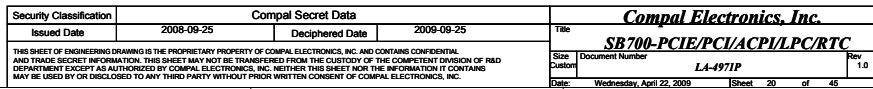


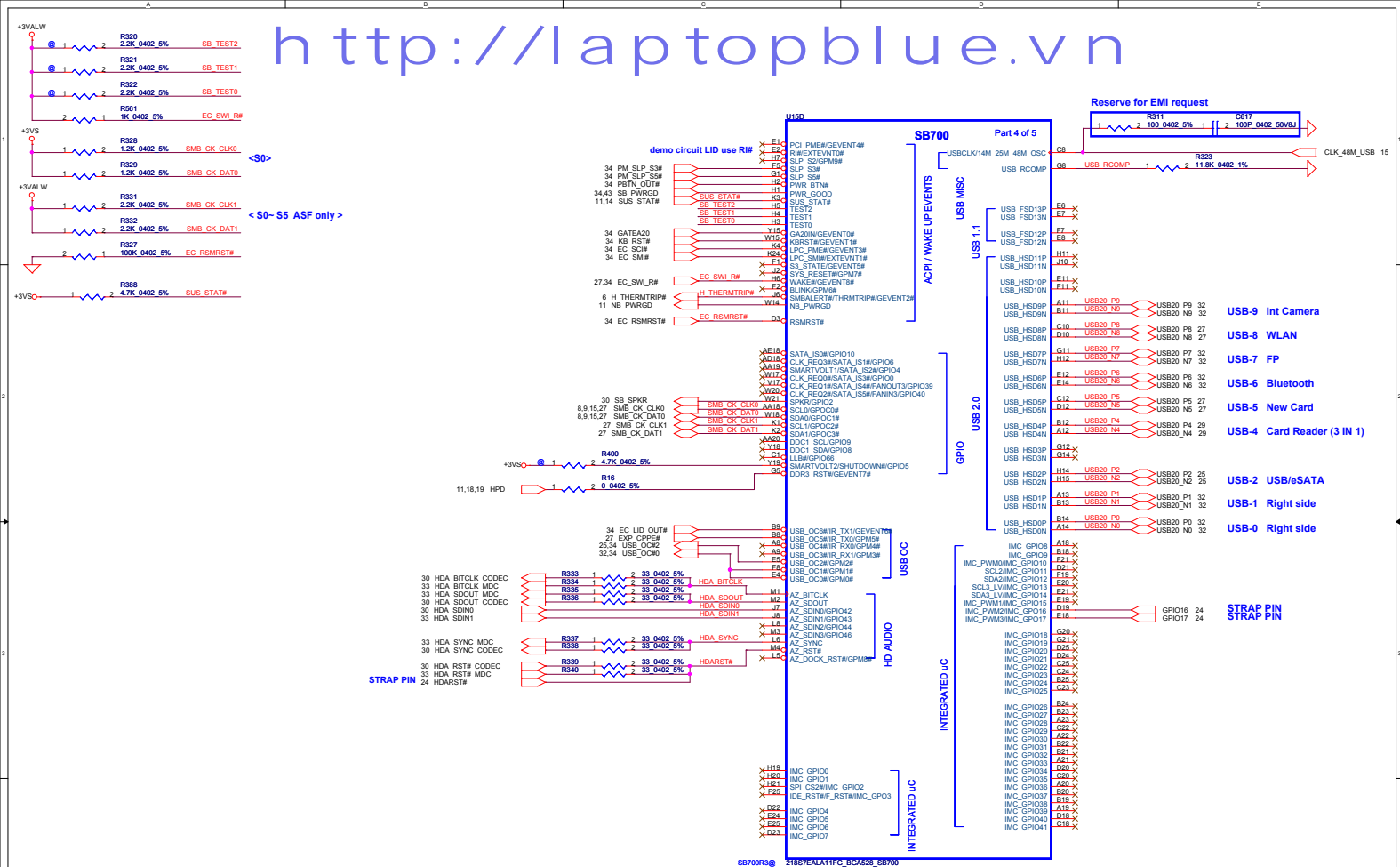






Released Date	Declassified Date
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.	



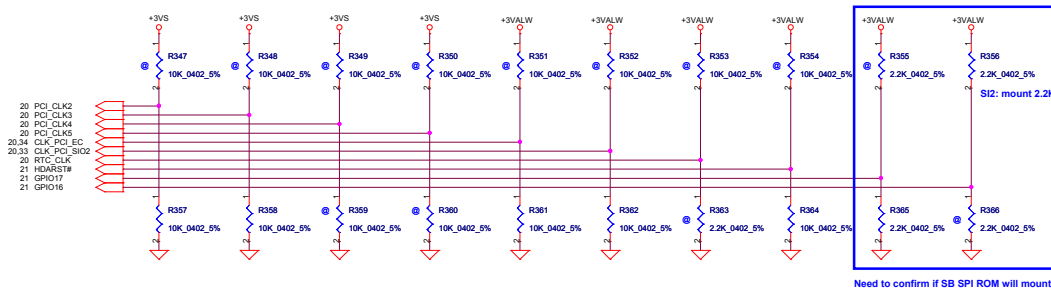


Security Classification		Compal Secret Data		Title	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	SB700 USB/AC97	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4971P
				Date	Wednesday, April 22, 2009
				Sheet	21 of 45





	PCI_CLK2	PCI_CLK3	PCI_CLK4	PCI_CLK5	LPC_CLK0	LPC_CLK1	RTC_CLK	AZ_RST_CD#	GP17	GP16
PULL HIGH	BOOTFAIL TIMER ENABLED	USE DEBUG STRAPS	RESERVED	RESERVED	ENABLE PCI MEM BOOT	CLKGEN ENABLED	INTERNAL RTC  DEFAULT	EC ENABLED	Internal pull up H,H = Reserved H,L = SPI ROM	
PULL LOW	BOOTFAIL TIMER DISABLED DEFAULT	IGNORE DEBUG STRAPS DEFAULT			DISABLE PCI MEM BOOT  DEFAULT	CLKGEN DISABLED  DEFAULT	EXT. RTC (PD on X1, apply 32KHz to RTC_CLK)	EC DISABLED DEFAULT		L,H = LPC ROM (Default) L,L = FWH ROM

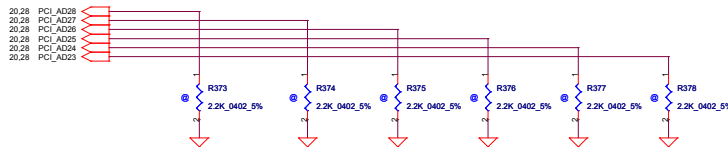


Need to confirm if SB SPI ROM will mount

## DEBUG STRAPS

SB700 HAS 15K INTERNAL PU FOR PCI\_AD[28:23]

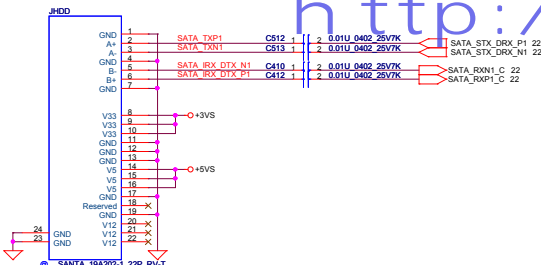
	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE LONG RESET DEFAULT	USE PCI PLL DEFAULT	USE ACPI BCLK DEFAULT	USE IDE PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	RESERVED
PULL LOW	USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	



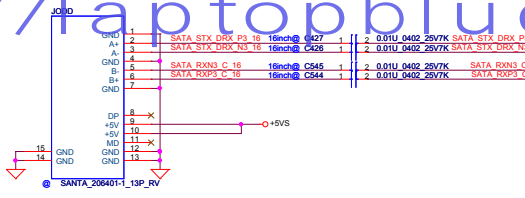
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				SB700 STRAPS
Size	Document Number	LA-4971P		Rev
Custom				1.0
Date	Wednesday, April 22, 2009	Sheet	24	of 45



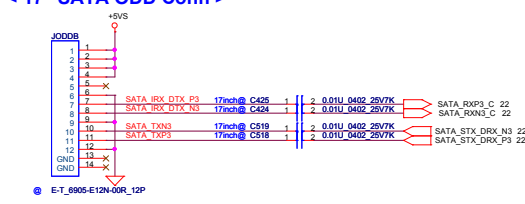
< SATA HDD1 Conn >



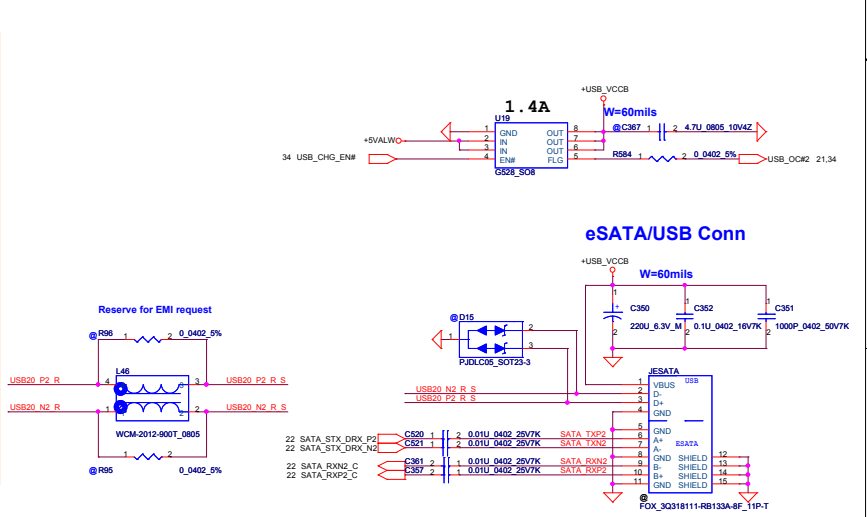
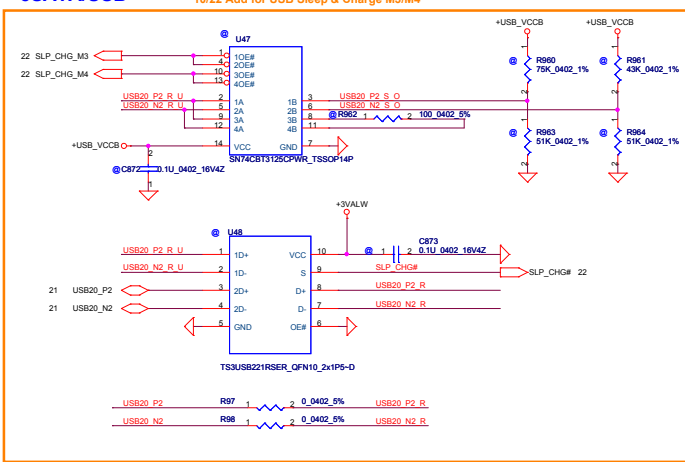
< 16" SATA ODD Conn >



< 17" SATA ODD Conn >



< eSATA/USB >



	SLP_CHG_M3	SLP_CHG_M4
Mode 3	HIGH	LOW
Mode 4	LOW	HIGH

SLP_CHG#	FUNCTION
LOW	D=1D
HIGH	D=2D

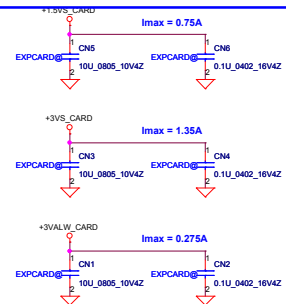
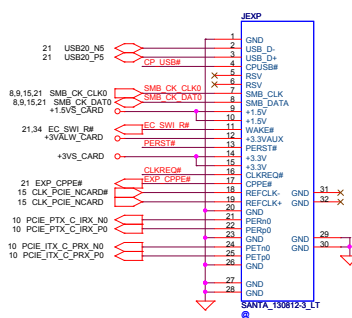
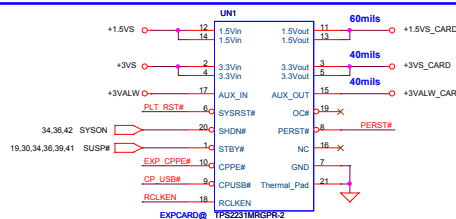
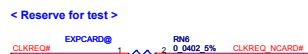
Security Classification	Compal Secret Data	Title
Issued Date	2008-09-25	Deciphered Date
2009-09-25		

THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPONENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Size	Document Number	Rev
Custom	LA-1971P	1.0		

Date	Wednesday, April 22, 2009	Sheet	26	of	45
------	---------------------------	-------	----	----	----

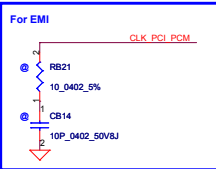
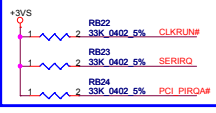


http://laptopblue.vn



Security Classification		Compul Secret Data		<b>Compul Electronics, Inc.</b> <b>NEW CARD/WLAN/KS</b>		Title Date Document Number Rev 1.0
Issued Date	2008-09-25	Deciphered Date	2008-09-25			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPUL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D ENGINEERING AS FAR AS IS AUTHORIZED BY COMPUL ELECTRONICS, INC. IN WRITER THIS SHEET NOW BE THE INFORMATION THAT CONTAINS MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPUL ELECTRONICS, INC.						
Date		Wednesday, April 22, 2009		Sheet		77 of 85

22K TO 47K PULL-UPS MUST BE PLACED ON INTA#, PME#, SERIRQ# & CLKRUN#.



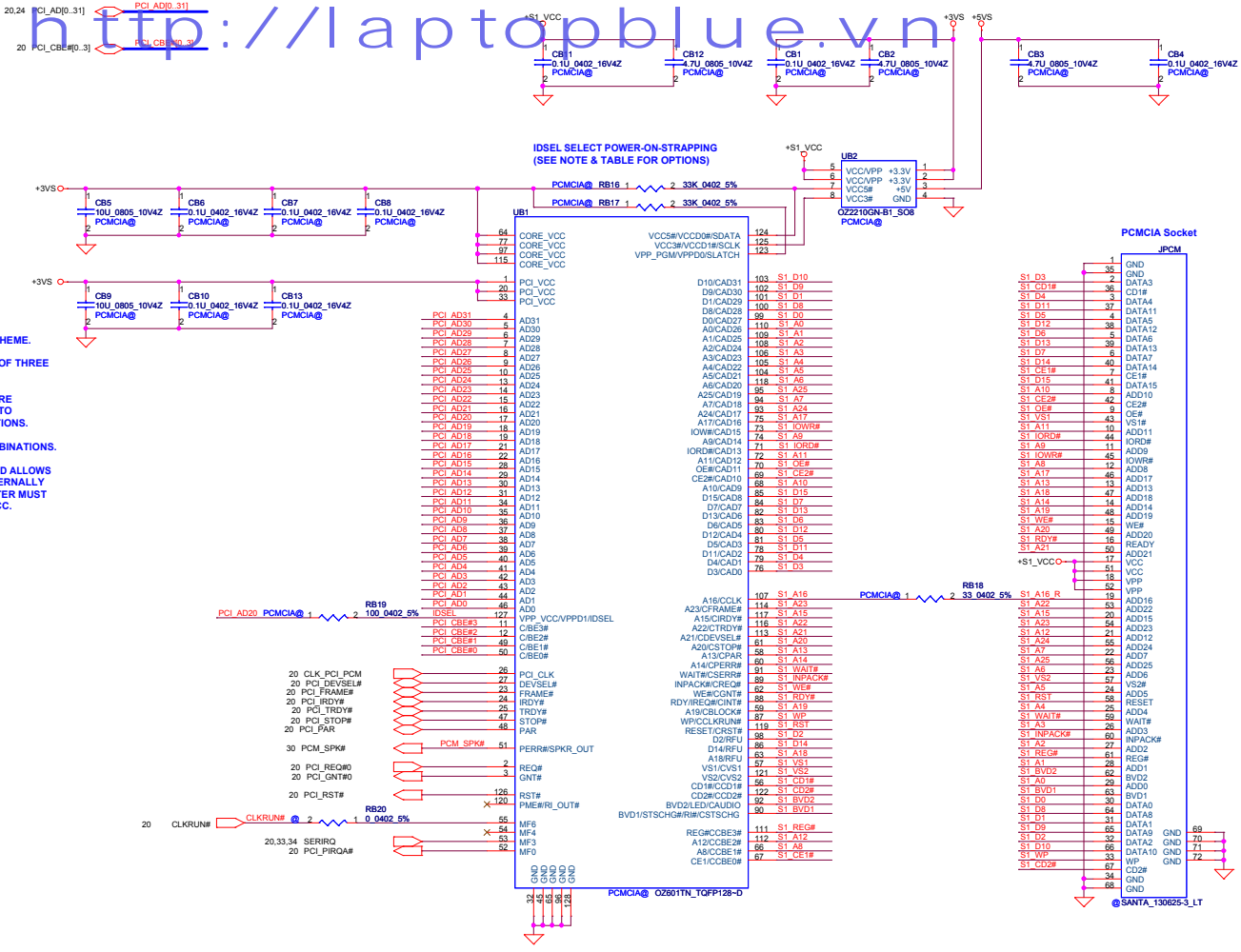
NOTE: IDSEL SELECTION!  
THIS DEVICE UTILIZES A "SELECTABLE IDSEL" SCHEME.

IDSEL CAN BE CONNECTED INTERNALLY TO ONE OF THREE PCI AD LINES OR EXTERNAL IDSEL SIGNAL.  
22K TO 47K PULL-UP & PULL-DOWN RESISTORS ARE REQUIRED TO BE CONNECTED TO PINS 123 & 124 TO SELECT ONE OF THE 4 POSSIBLE IDSEL CONNECTIONS.

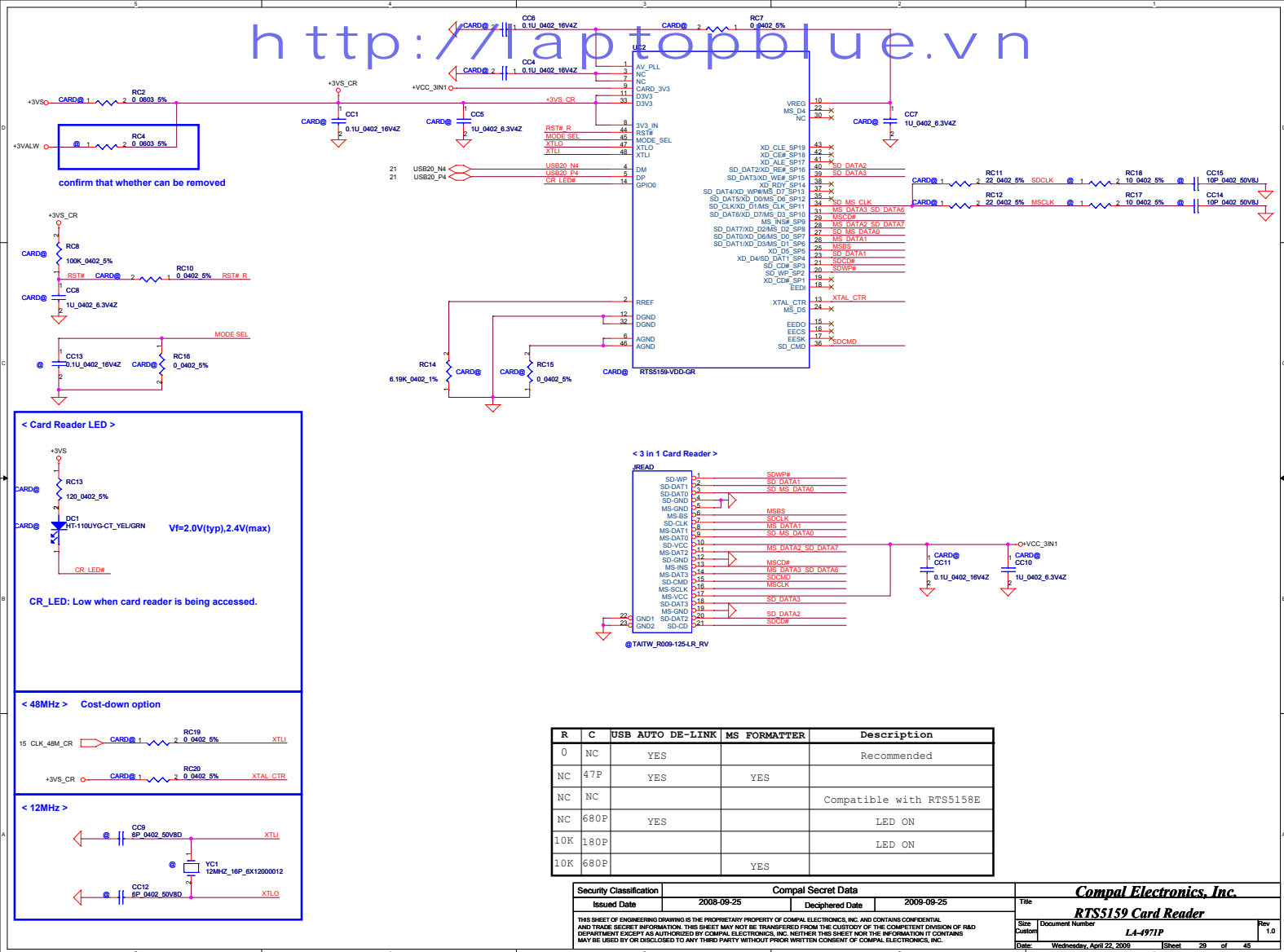
THE TABLE BELOW SHOWS THE 4 POSSIBLE COMBINATIONS.  
CONFIGURING IDSEL TO BE INTERNALLY CONNECTED ALLOWS FOR A FULL PARALLEL POWER MODE. IF AN EXTERNALLY CONNECTED IDSEL IS REQUIRED THEN AN INVERTER MUST BE CONNECTED TO VPP\_PGM TO CREATE VPP\_VCC.

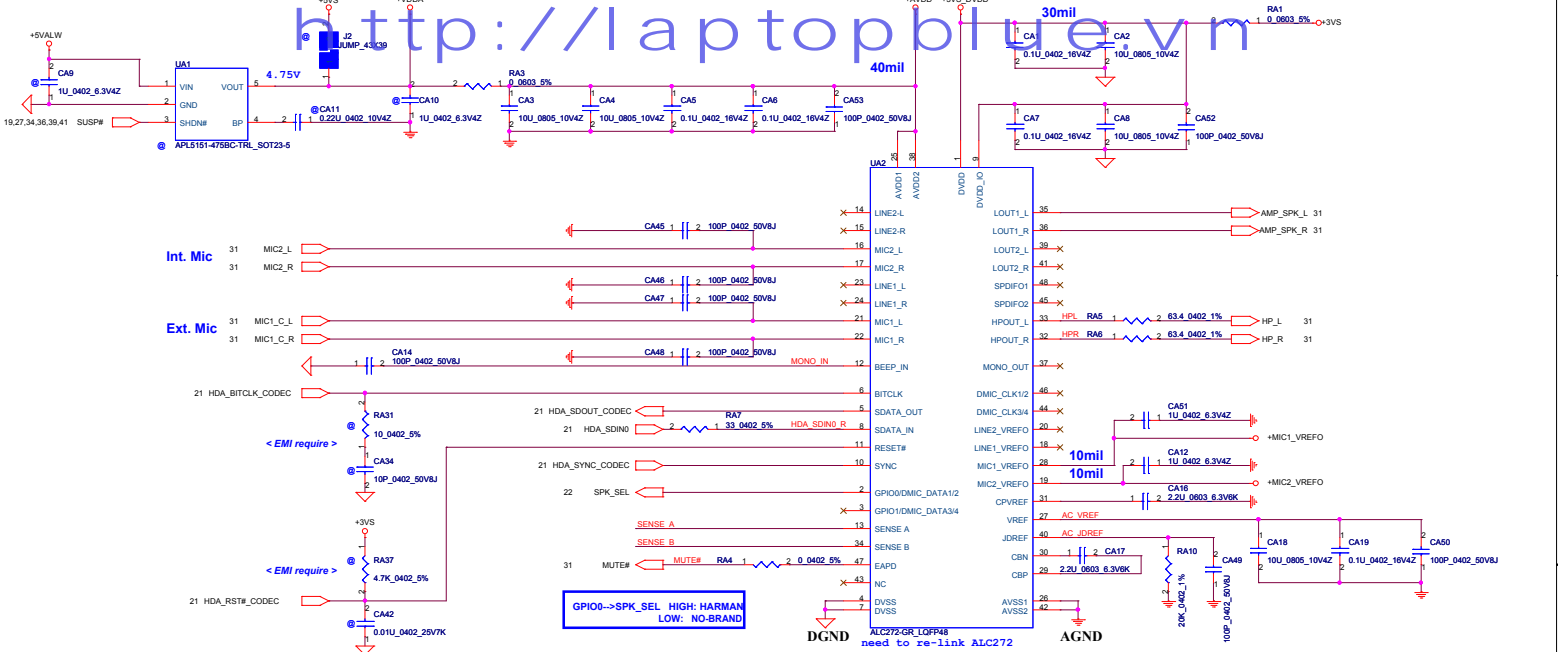
VCC5# (124)	VPP_PGM (123)	IDSEL SELECT
DOWN	DOWN	AD18
DOWN	UP	AD20
UP	DOWN	AD25
UP	UP	PIN 127 ball F4

must check IDSEL, PCI\_PIRQ#,

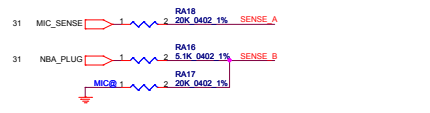


Security Classification		Compal Secret Data				Compal Electronics, Inc.									
Issued Date		2006-09-25		Deciphered Date		2009-09-25		Title							
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.								CardBus O2 OZ601							
								Size		Document Number		Rev			
								Custom		LA-4971P		1.0			
								Date:						Wednesday, April 22, 2009	
								Sheet						28 of 46	

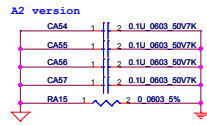




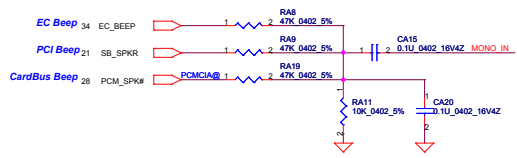
< SENSE\_A & SENSE\_B, place close to chip >



Sense Pin	Impedance	Codec Signals	Function
SENSE A	39.2K	PORT-A (PIN 39, 41)	Ext. MIC
	20K	PORT-B (PIN 21, 22)	
	10K	PORT-C (PIN 23, 24)	
	5.1K	PORT-D (PIN 35, 36)	
SENSE B	39.2K	PORT-E (PIN 14, 15)	Int. MIC
	20K	PORT-F (PIN 16, 17)	
	10K	PORT-G (PIN 37)	
	5.1K	PORT-H (PIN 32, 33)	

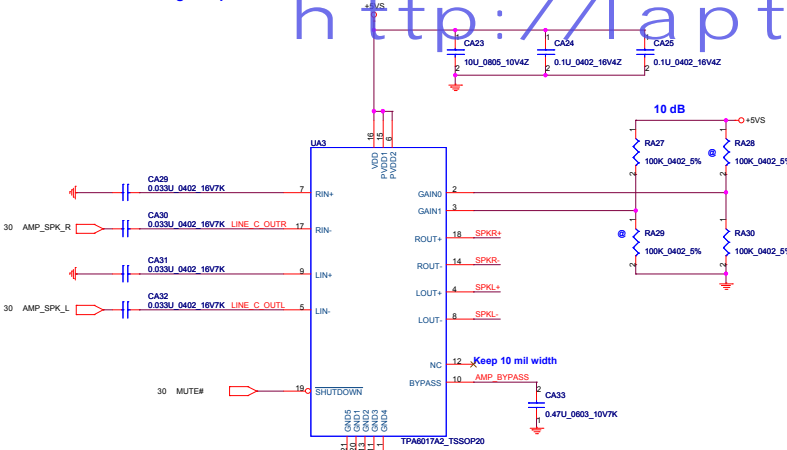


< MONO\_IN SOURCE >



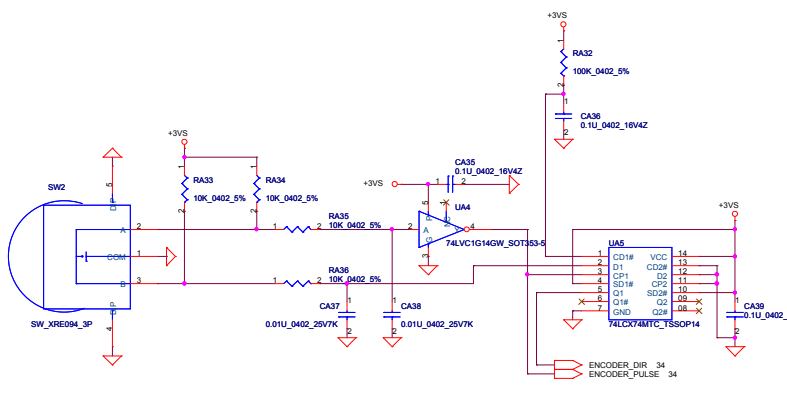
Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		2008-09-25	
2008-09-25		2009-09-25		2009-09-25	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-4971P	
Date:				Wednesday, April 22, 2009	Sheet 30 of 45

< TPA6017 Medium Range Amplifier >

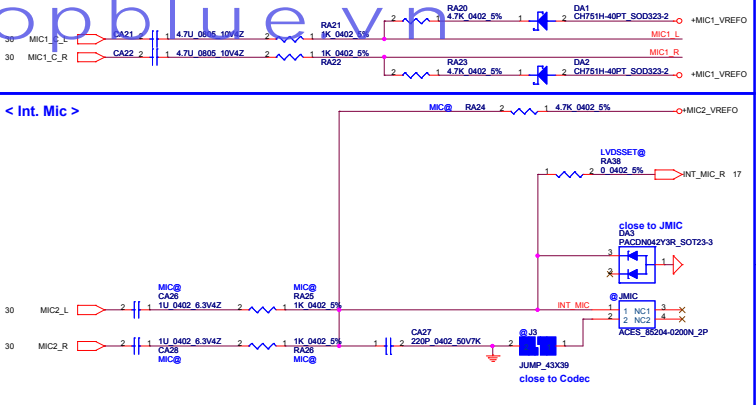


GAIN0	GAIN1	Av (db)	Rin (ohm)
0	0	6	90K
0	1	10	70K
1	0	15.6	45K
1	1	21.6	25K

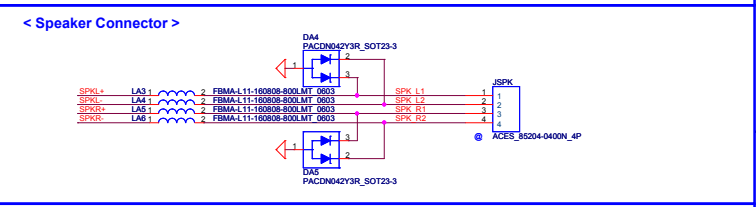
< Volume Control >



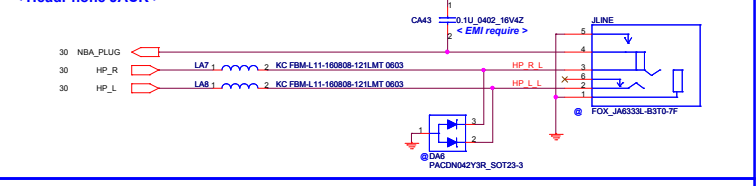
< Ext. Mic >



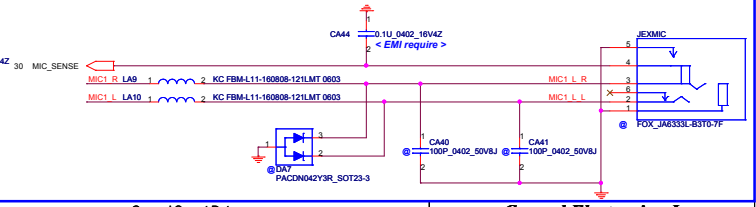
< Int. Mic >



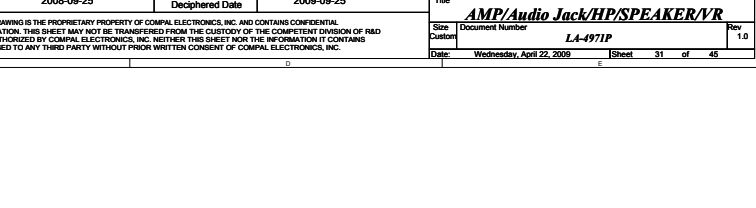
< Speaker Connector >



< HeadPhone JACK >

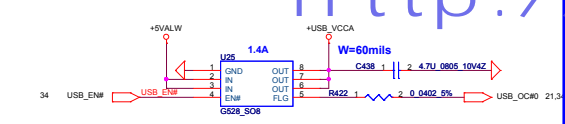


< Ext.MIC/LINE IN JACK >

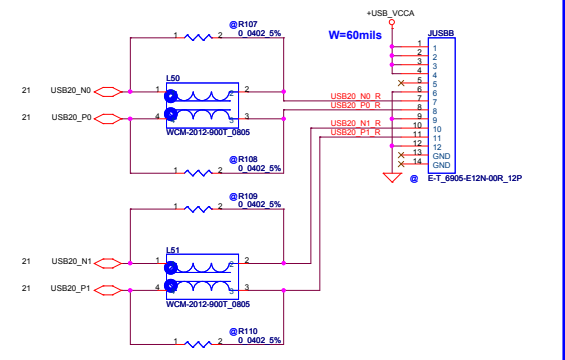


Security Classification	Compul Secret Data	Deciphered Date	2008-09-25	2009-09-25	Title	Rev
Issued Date	2008-09-25	Deciphered Date	2008-09-25	2009-09-25	AMP/Audio Jack/HP/SPEAKER/VR	1.0
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.						
Date: Wednesday, April 22, 2009						Sheet 31 of 45

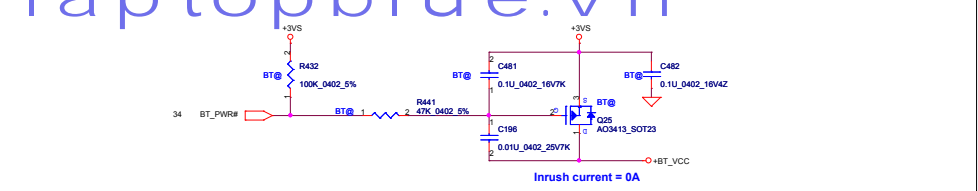
< USB Right-side Board, USB port 0.1 >



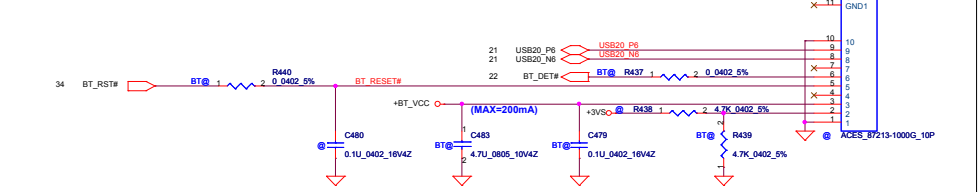
< Reserve for EMI request >



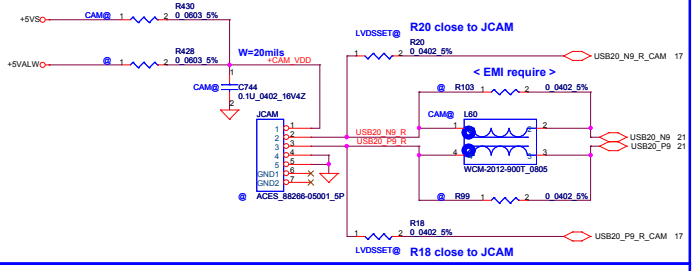
< Bluetooth Interface, USB port6 >



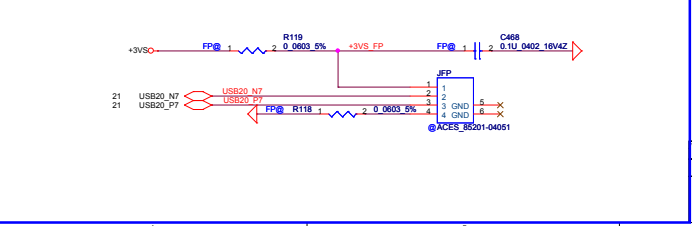
< Bluetooth Connector >



< Int. Camera, USB port 9 >

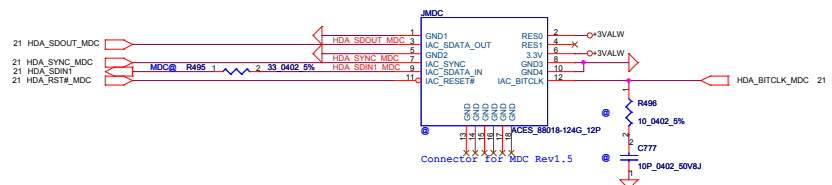


< Finger Printer, USB port 7 >



Security Classification		Compal Secret Data		Title	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	USB/BT/FingerPrint	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Rev 1.0
				Date: Wednesday, April 22, 2009	Sheet 32 of 45

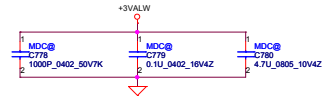




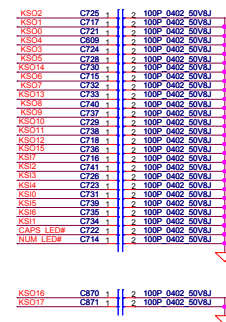
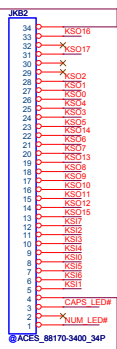
The diagram illustrates the H1 module's internal structure and its connections to various components. The H1 module is a central block with 10 pins. The connections are as follows:

- Pin 1: SERIRQ (20.28.34) - Red arrow pointing to the module.
- Pin 2: LPC\_AD3 (20.34) - Red arrow pointing to the module.
- Pin 3: LPC\_AD2 (20.34) - Red arrow pointing to the module.
- Pin 4: LPC\_AD1 (20.34) - Red arrow pointing to the module.
- Pin 5: LPC\_FRAME# (20.34) - Red arrow pointing to the module.
- Pin 6: PLT\_RST# (11.14.20.26.27.34) - Red arrow pointing to the module.
- Pin 7: LPC\_AD0 (20.34) - Red arrow pointing to the module.
- Pin 8: LPC\_AD0 (20.34) - Red arrow pointing to the module.
- Pin 9: LPC\_AD0 (20.34) - Red arrow pointing to the module.
- Pin 10: CLK\_PCI\_SIO2 (20.24) - Red arrow pointing to the module.

The H1 module is powered by a 3V3 supply through a resistor R622 (0.0402 5%) and a capacitor C639 (22P\_0402\_50VBJ). A DEBUG\_PAD is also shown.



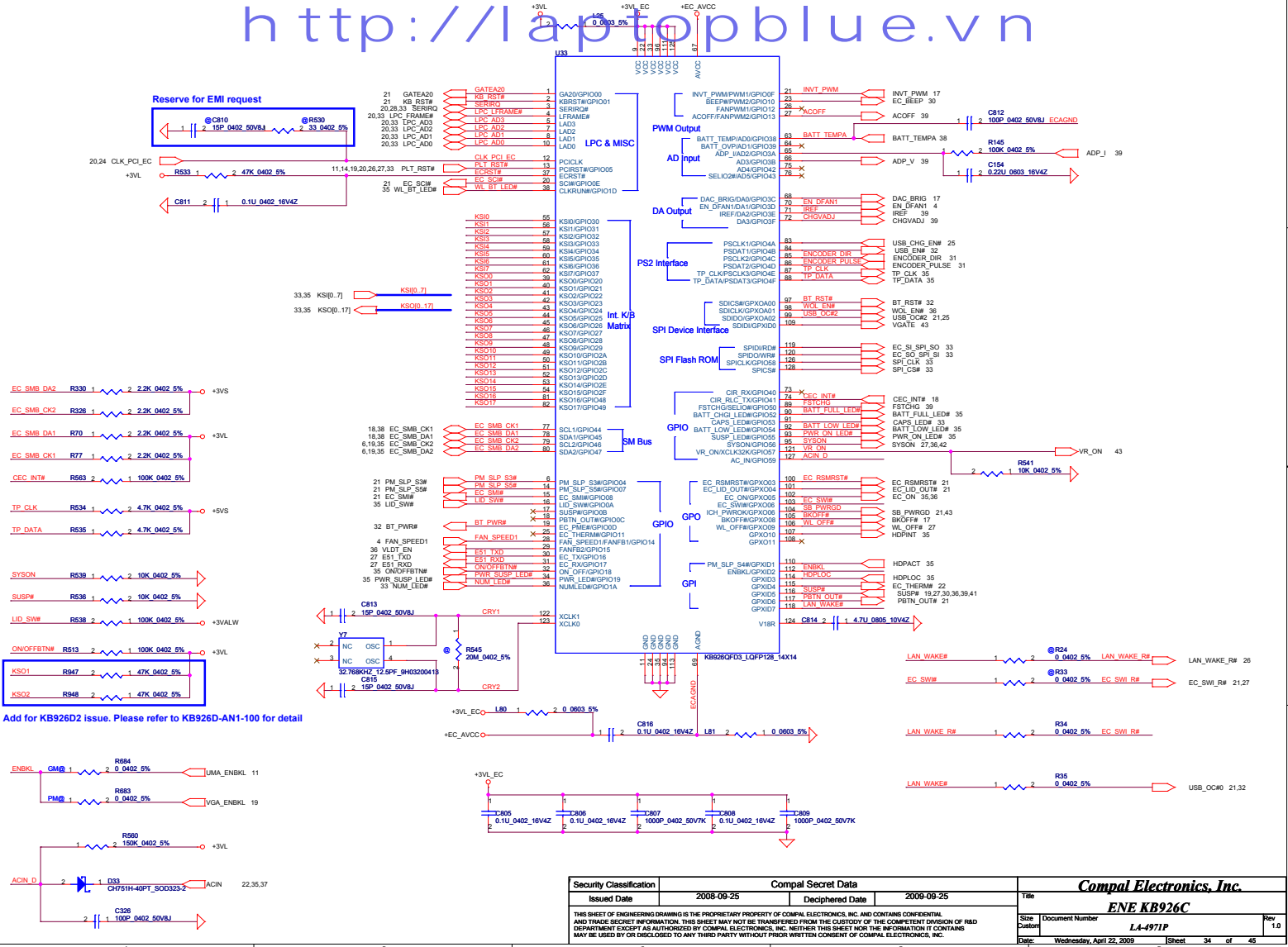
< For EMI >



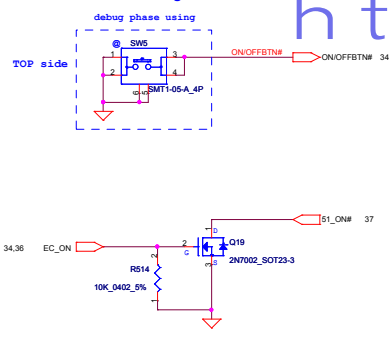
Security Classification	Compal Secret Data		
Issued Date	2008-09-25	Deciphered Date	2009-09-25
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>			

Security Classification	Compal Secret Data		
Issued Date	2008-09-25	Deciphered Date	2009-09-25
<p>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</p>			

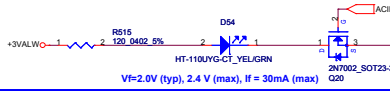
<b>Compal Electronics, Inc.</b>			
Title			
<b>SPI/LPC/PS2/MDC/FM/CIR</b>			
Size	Document Number	Rev	
Custom	<b>LA-4971P</b>	<b>1.0</b>	
Date:	Wednesday, April 22, 2009	Sheet	33 of 45



< Power Button for Debug >

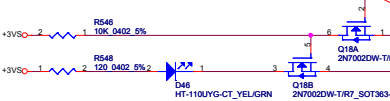


< DC-IN LED >

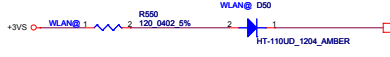


Remove WIMAX LED control circuit

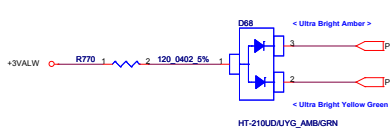
< HDD LED >



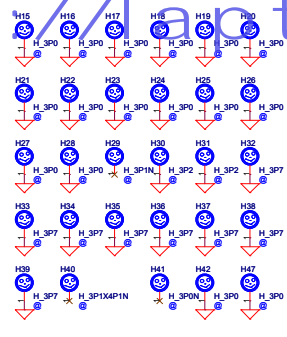
< WL&BT LED >



< POWER-ON & SUSPEND LED >

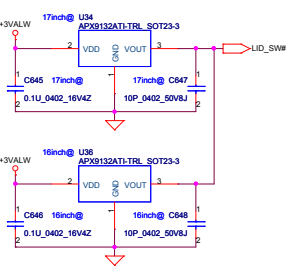


< Screw Hole >

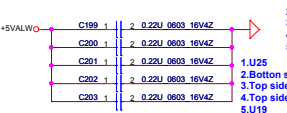


MDC: H30, H31  
VGA: H32, H33, H34, H35  
Mini Card: H36, H37  
Others: H15, H16, H17, H18, H19, H20, H21, H22, H23, H24, H25, H26, H27, H28, H29, H40, H47

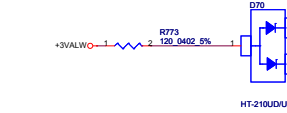
< LID Switch >



< EMI reserve >

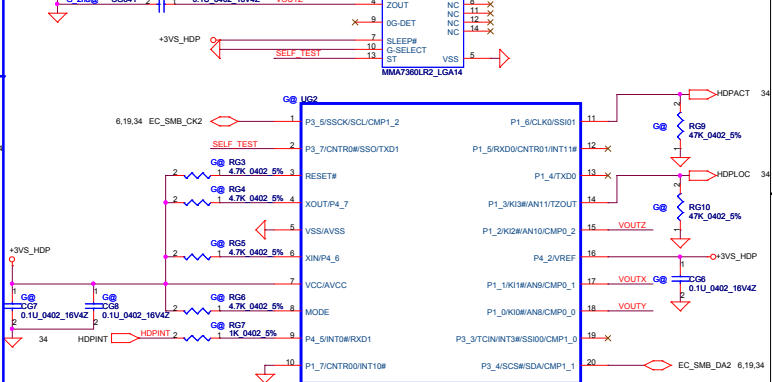
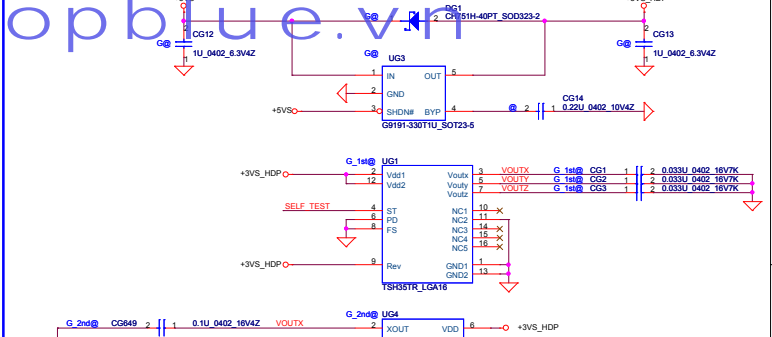


< BATT CHARGE/FULL LED >

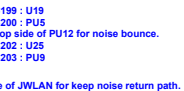


Vf=1.9V(typ),2.4V(max) for amber  
Vf=2.0V(typ),2.4V(max) for green  
If=30mA(max)

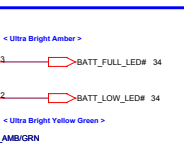
< G - Sensor >



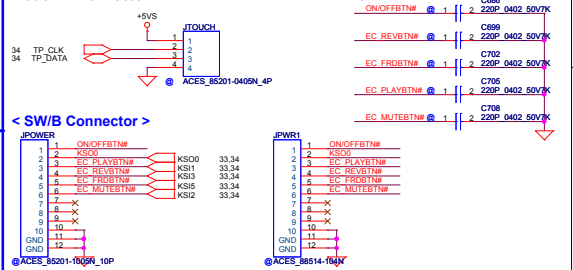
< Touch/B Connector >



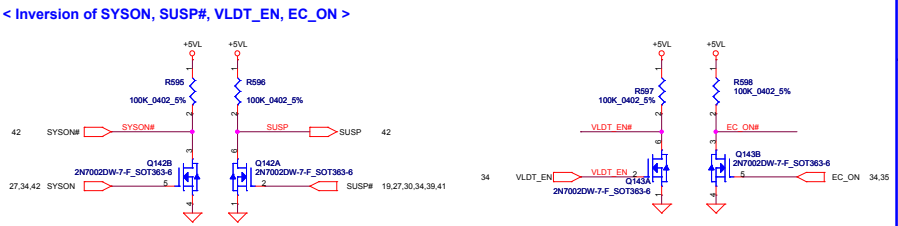
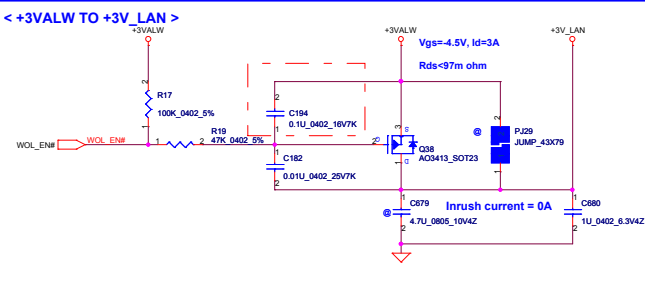
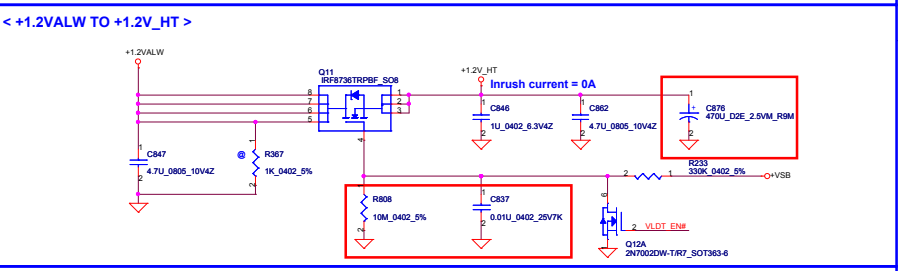
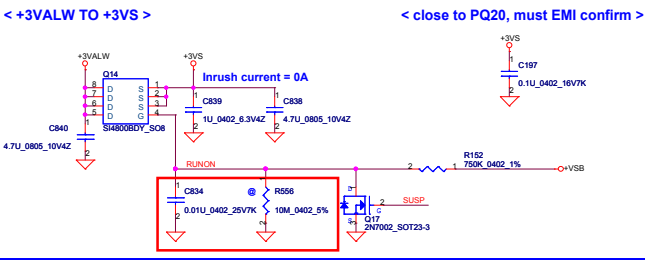
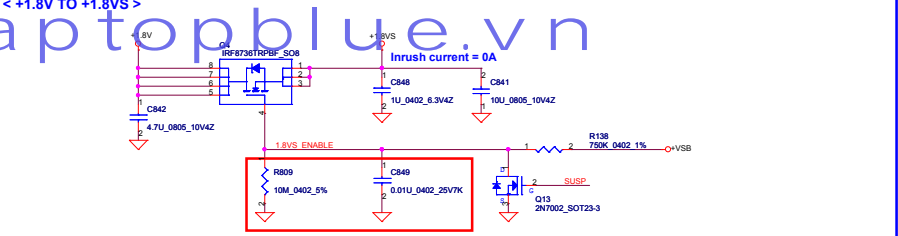
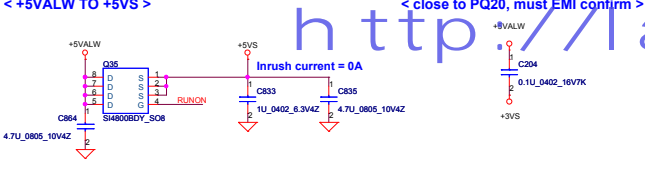
< SW/B Connector >



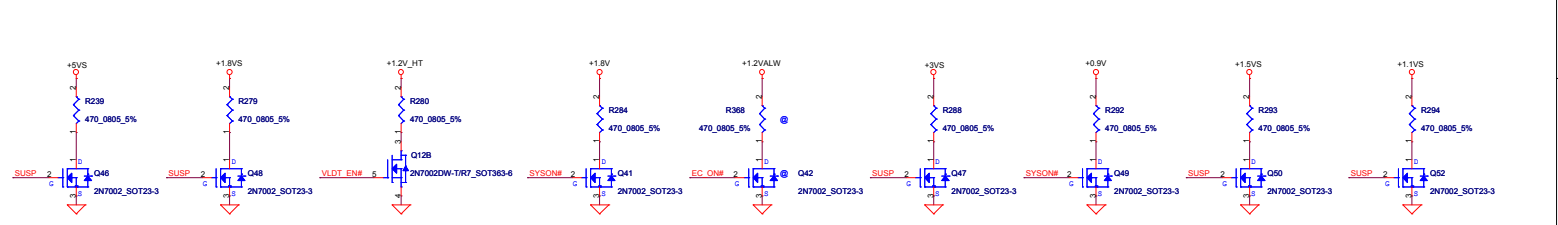
< For EMI >



Security Classification		Compal Secret Data		Title	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	LED/LID/PB/FB/SCREW HOLE	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Custom	LA-4971P
				Date	Wednesday, April 22, 2009
				Sheet	35 of 45

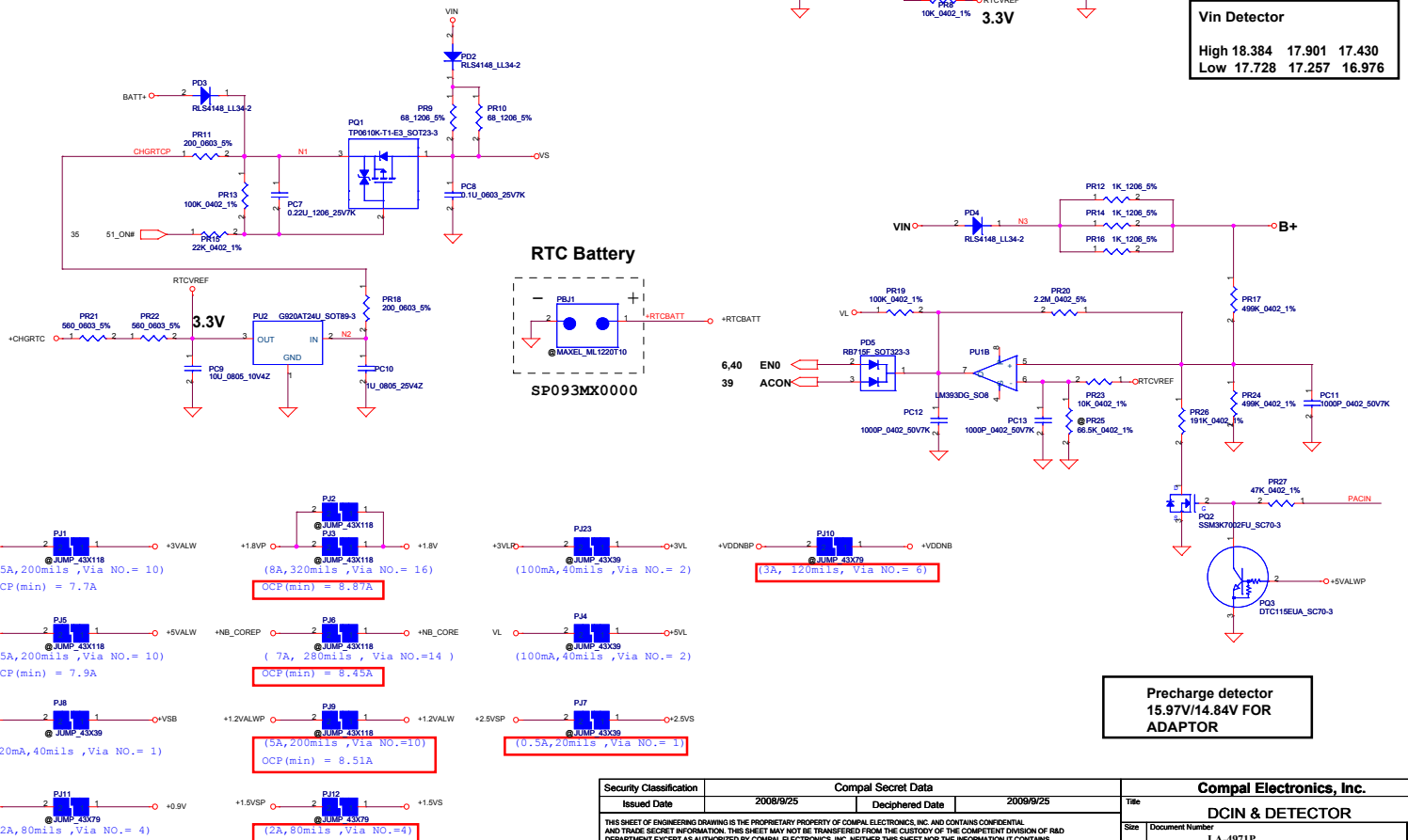


< Discharge circuit >

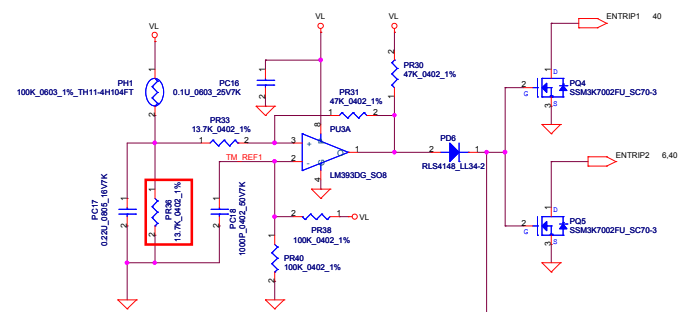
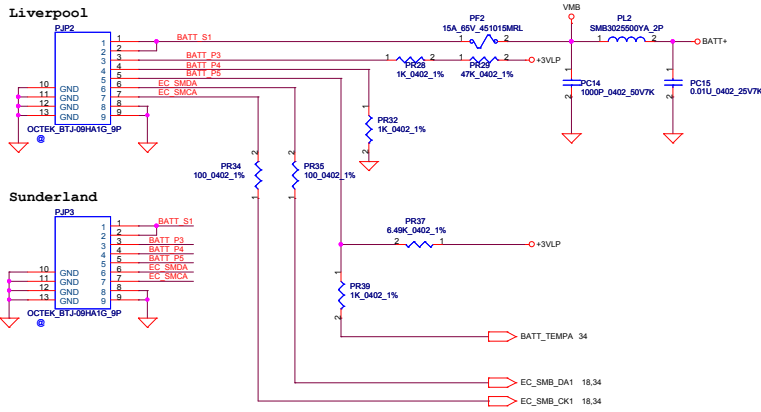


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Custom	LA-4971P
				Date	Wednesday, April 22, 2009
				Sheet	38 of 45
				Rev	1.0

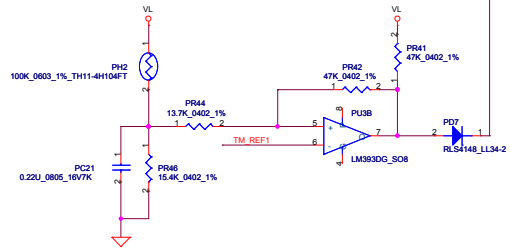
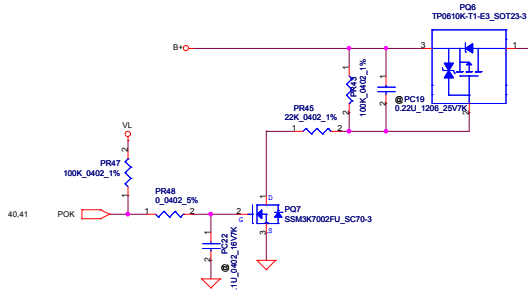
DC301001M80



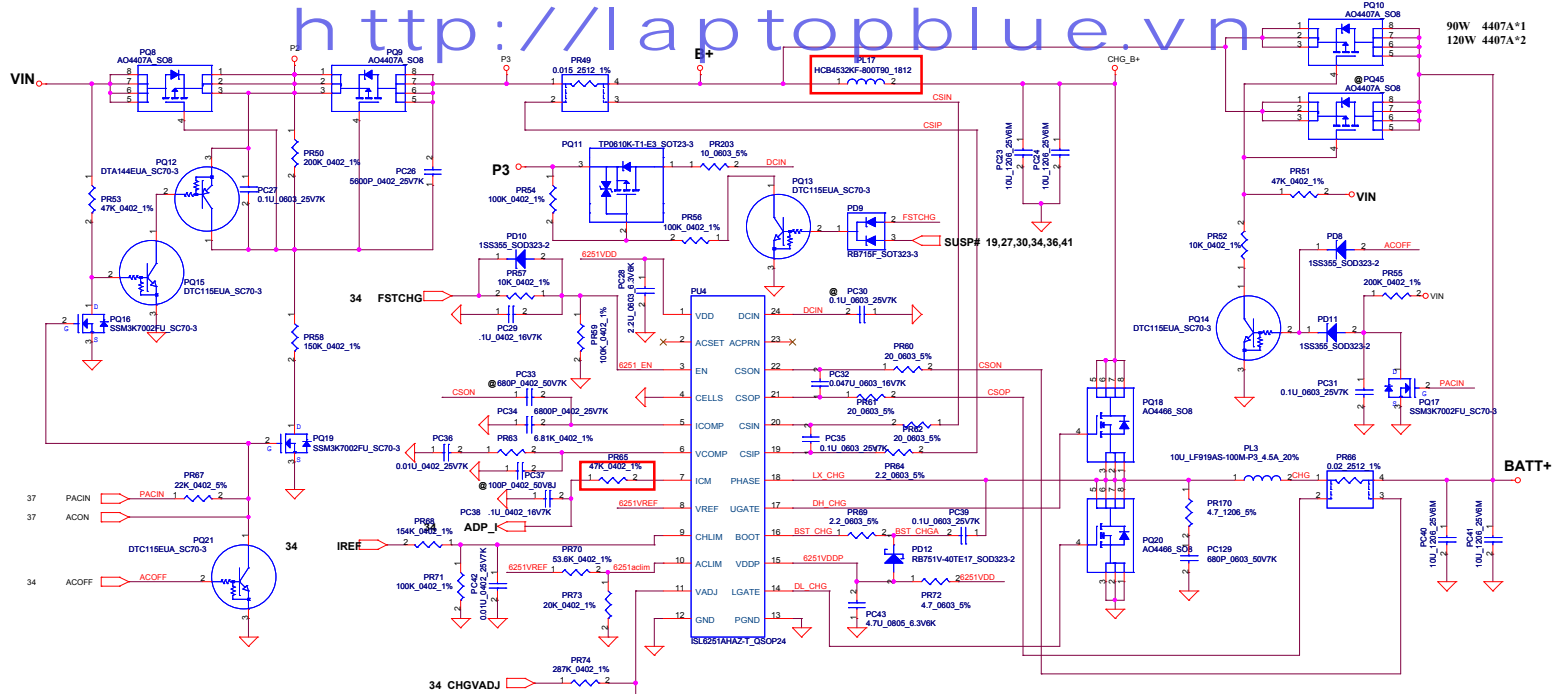
PH1 under CPU bottom side :  
CPU thermal protection at 92 degree C  
Recovery at 56 degree C



PH2 near main Battery CONN :  
BAT. thermal protection at 92 degree C  
Recovery at 56 degree C



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/9/25	Deciphered Date	2009/9/25	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Rev	0.1
				Date	Wednesday, April 22, 2009
				Sheet	38 of 46

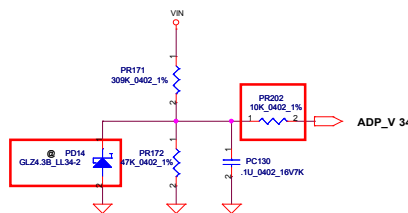


Iada=0~3.421A (65W) CP=3.15A PR49=0.02, PR70=75k, PR73=20k  
 Iada=0~3.947A (75W) CP=3.63A PR49=0.02, PR70=24k, PR73=20k  
 Iada=0~4.737A (90W) CP=4.36A PR49=0.015, PR70=53.6k, PR73=20k  
 Iada=0~6.316A (120W) CP=5.81A PR49=0.015, PR70=8.25k, PR73=26.7k  
 CP= 92%\*Iada

C mode  
 $V_{ac11} = 2.39 * (R_b // 152K) / (R_t // 152K + R_b // 152K)$   
 $I_{input} = (I / PR49) * ((0.05 * V_{ac11}) / (2.39 + 0.05))$   
 where  $V_{ac11} = 1.09986V$ ,  $I_{input} = 3.65A$   
 $V_{ac11} = 0.7717V$ ,  $I_{input} = 4.42A$   
 $V_{ac11} = 0.4204V$ ,  $I_{input} = 5.88A$

CC=0.25A~3A		CHGVADJ=(Vcell-4)/0.10627	
IREF=1.016*Icharge		Vcell	CHGVADJ
IREF=0.254V~3.048V		4V	0V
VCHLIM need over 95mV		4.2V	1.882V
		4.35V	3.2935V

CELLS	VDD	GND	Float
CELL number	4	3	2



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/9/25	Deciphered Date	2009/9/25	Title	CHARGER
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Custom	LA-4971P
				Date	Wednesday, April 22, 2009
				Sheet	38 of 48
				Rev	0.1

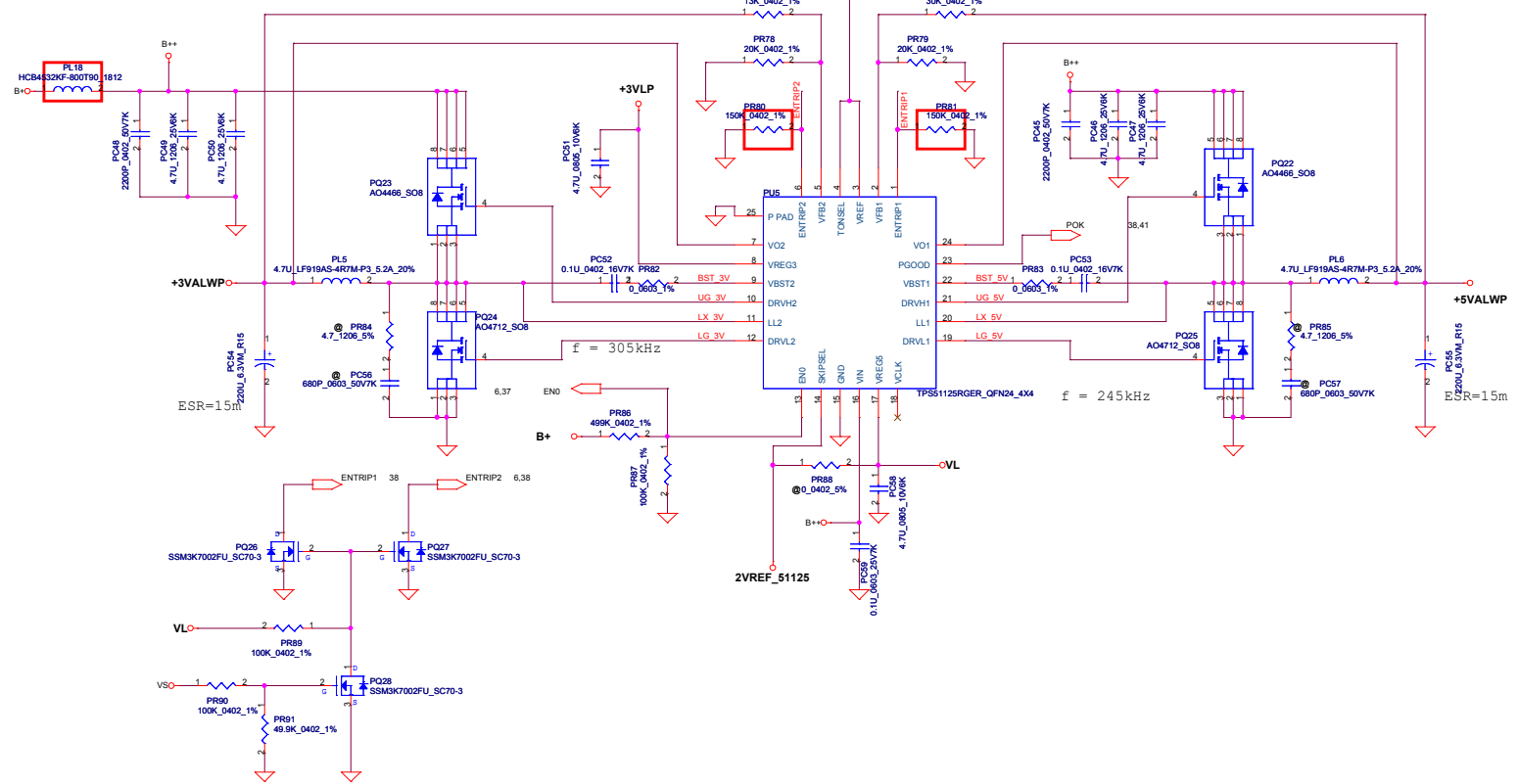
AO4712  $R_{ds(on)} = 15/18$

http://laptopblue.vn

3.3VALWP  
 $I_{max} = 5A$   
 $I_{peak} = 7A$   
 $I_{ocp} = 8.59A$

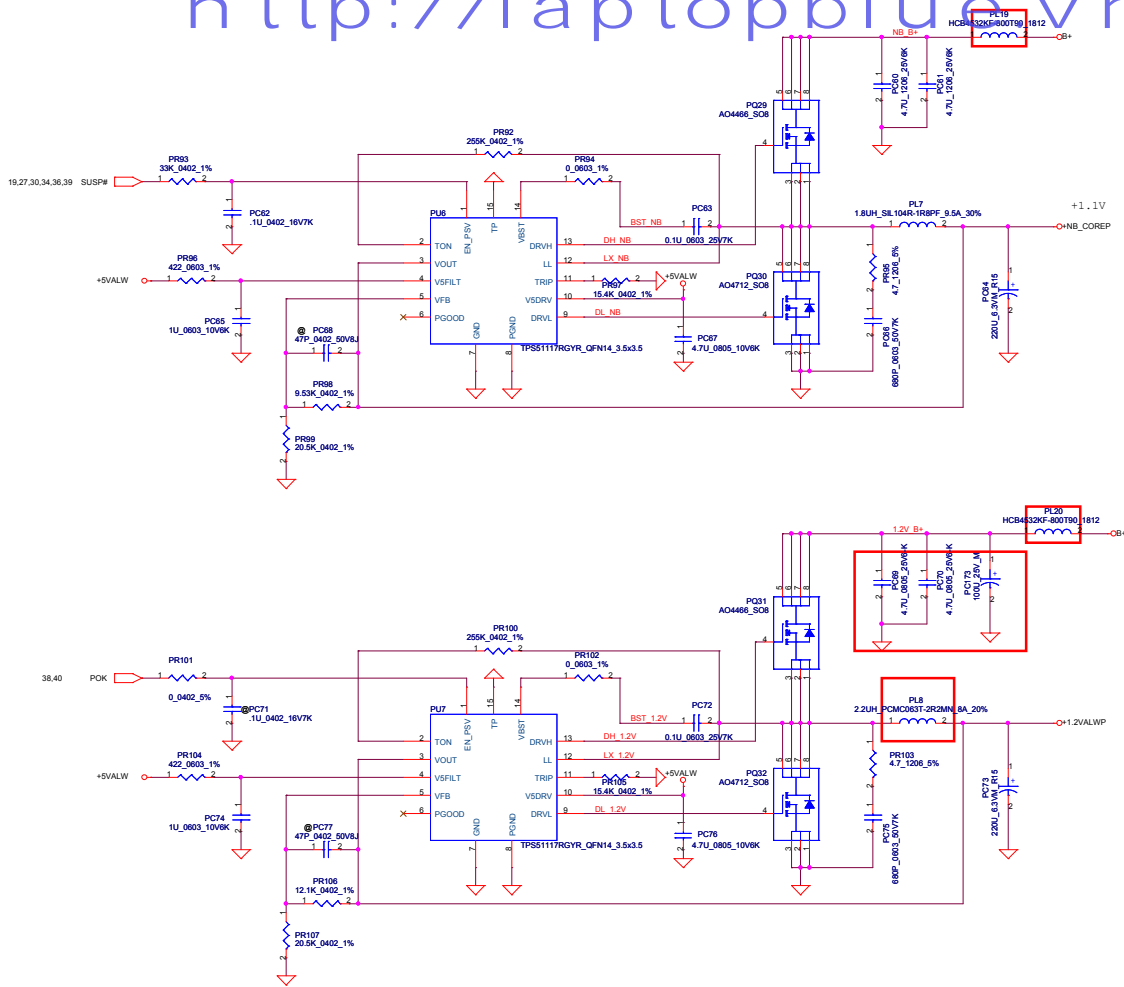
5VALWP  
 $I_{max} = 5A$   
 $I_{peak} = 7A$   
 $I_{ocp} = 8.59A$

OCP = 7.94A

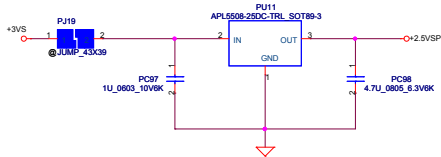
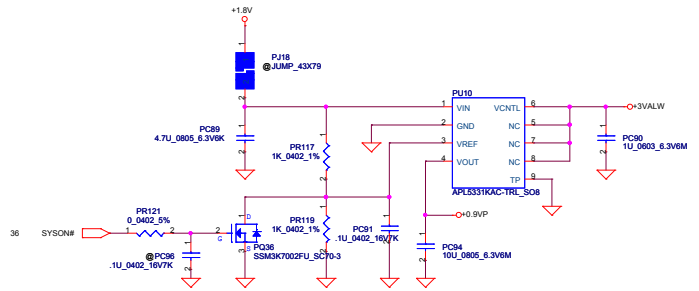
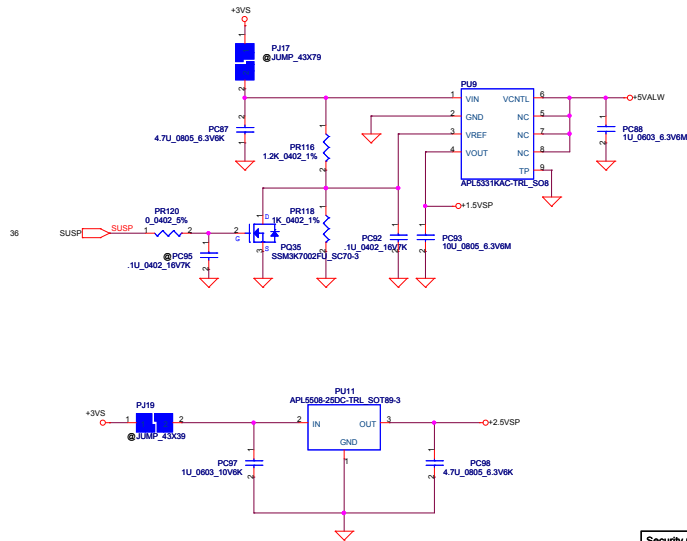
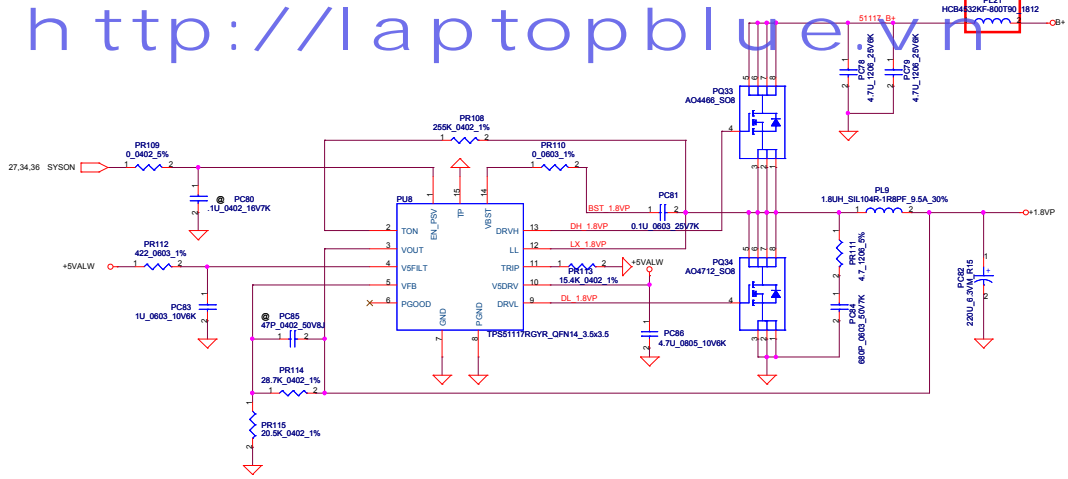


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/9/25	Deciphered Date	2009/9/25	Title	3VALWP/5VALWP
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	0.1
				Customer	LA-4971P
				Date	Wednesday, April 22, 2009
				Sheet	40 of 46

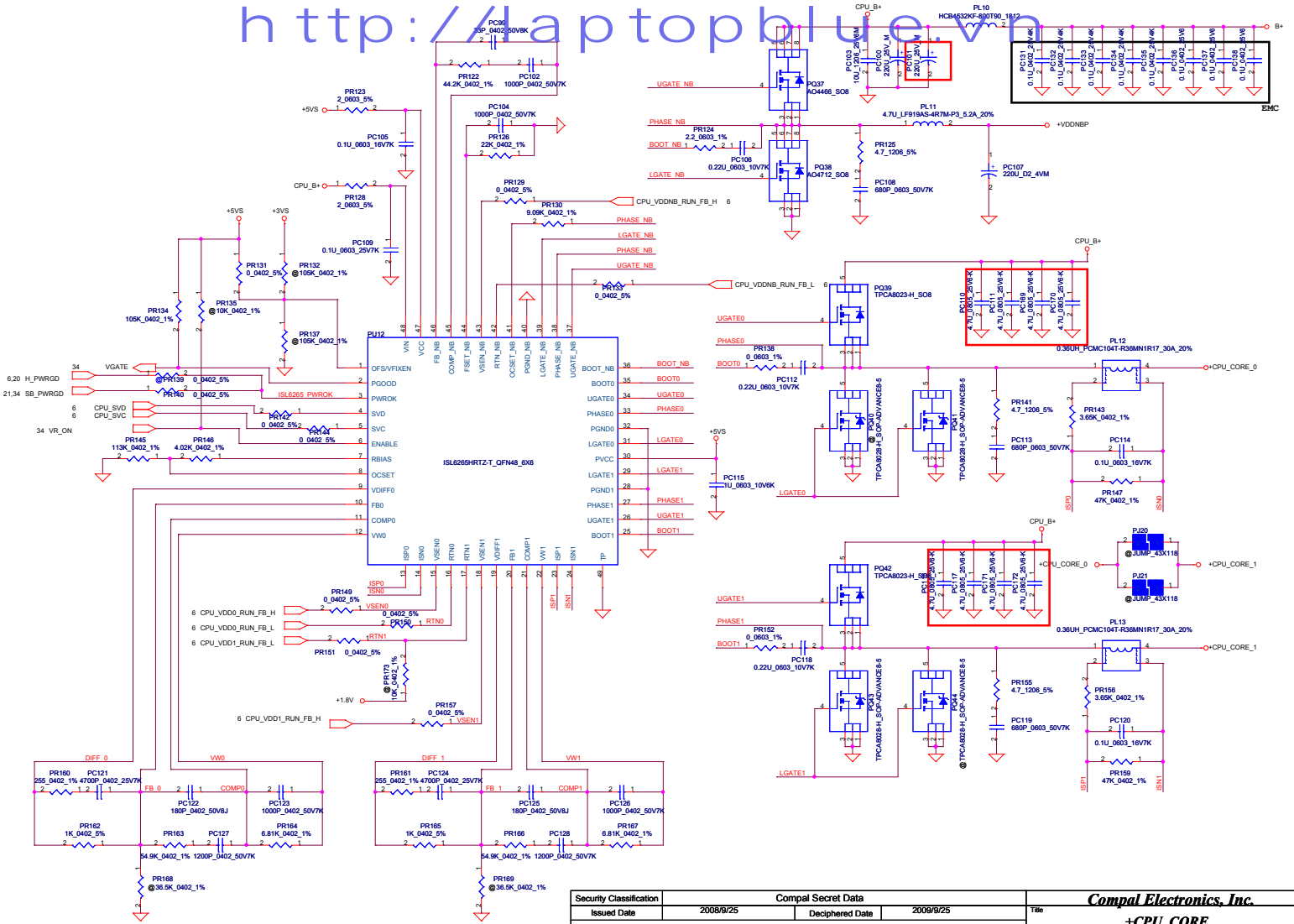




Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/8/25	Deciphered Date	2008/8/25	Title	NB COREP/1.2VALWP
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Date	Wednesday, April 22, 2009
				Sheet	41 of 48
				Rev	0.1



Security Classification		Compul Secret Data		Title		Compul Electronics, Inc.	
Issued Date		Deciphered Date		2008/9/25		1.8VP/1.5VSP2.5VSP	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPUL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT AS AUTHORIZED BY COMPUL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINED THEREIN MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPUL ELECTRONICS, INC.				Size Document Number LA-4971P		Rev 0.1	
Date:				Wednesday, April 2, 2009		Sheet 42 of 46	



Version Change List (P. 1. R, List ) for Circuit

http://laptopblue.vn

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1.	2009/02/23	-> change R70, R77 from 4.7K to 2.2K					
2.	2009/02/23	-> change R178 from 4.7K to 47K					
3.	2009/02/26	-> change SPI ROM from SST to MXIC					
4.	2009/02/26	-> change D36 from ROHM to PANJI					
5.	2009/02/27	-> change the footprint of T9, T10, T11, T12, T19, T20 from TPC12 to TPC24					
6.	2009/02/27	-> change 5V power of LCD connector					
7.	2009/03/02	-> unmount R556					
8.	2009/03/04	-> change RA16 from 5% to 1%					
9.	2009/03/10	-> change R146 from 100k ohm to 10k ohm					
10.	2009/03/10	-> change Y2 from SJ114P3M730 to SJ114P3MG00					
11.	2009/03/11	-> change C686, C699, C702, C705, C706, C708, CA27 from SE074221K00SE to SE074221K80 for Green part					
12.	2009/03/11	-> change LAN_WAKE# & EC_SW#					
13.	2009/03/11	-> unmount USB sleep & charge, add R97 & R98					
14.	2009/03/11	-> unmount HDMI CEC controller and related components.					
15.	2009/03/11	-> connect USB_OC#0 to LAN_WAKE# through 0 ohm					
16.	2009/03/12	-> change H42 from NPH to PH					
17.	2009/03/12	-> add PR203 10Ohm					
18.	2009/03/24	-> change F2 footprint to F_MINISMDC110F-2					
19.	2009/03/24	-> Add R370 & R381					
20.	2009/03/24	-> change R557's BOM structure from H@ to @					
21.	2009/03/24	-> change R440 from 0 ohm to 100k ohm					
22.	2009/03/31	-> Replace PJ13, PJ30, PJ14, PJ15, PJ16 by PL17, PL18, PL19, PL20, PL21					
23.	2009/04/02	-> Add R969 on E51_TXD					
24.	2009/04/02	-> Modify +HDMI_5V_OUT Circuit Remove Q159, R160, Q26, R557, C876 and add D19					
25.	2009/04/02	-> Change R440 from 100k to 0 for Askey BT Reset					
26.	2009/04/02	-> Change C480's BOM Structure from BT@ to @					
27.	2009/04/06	-> Change SW5's BOM Stuuucture to @ for MP					
28.	2009/04/06	-> Add C876 for Power noise issue					
29.	2009/04/06	-> Add D20 for Power issue					
30.	2009/04/17	-> Change D12's BOM Stuuucture to @					
31.	2009/04/22	-> Change C876 & C234 from 330u to 470u (SGA00001U00) for Power noise issue					
							</

< Liverpool & Sunderland >

< R1 for customer BOM STRUCTURE >

RS780MN

U3

RS780MNR1@ RS780MN R1

< R3 for mass production BOM STRUCTURE >

RS780MN

U3

RS780MNR3@ RS780MN R3

RS780MC

U3

RS780MCR1@ RS780MC R1

RX781

U3

RX781R1@ RX781 R1

RX781

U3

RX781R3@ RX781 R3

SB700

U15

SB700R1@ SB700R1

< Tigris >

< R1 for customer BOM STRUCTURE >

RS880MN

U3

RS880MNR1@ RS880MN R1

< R3 for mass production BOM STRUCTURE >

RS880MN

U3

RS880MNR3@ RS880MN R3

RS880MC

U3

RS880MCR1@ RS880MC R1

RX881

U3

RX881R1@ RX881 R1

RX881

U3

RX881R3@ RX881 R3

SB710

U15

SB710R1@ SB710R1

< DC Jack >

DC-IN

PJP1

16inch\_45@ PJP1

DC-IN

PJP1

17inch\_45@ PJP1

Use MEMO : change UG1 R5F211B4D31SP (SA000037Y60) to R5F211B4D34SP (SA00003A600)

< PCB >

PCB

ZZZ

PCB 075 LC-4971P LS-4971P4972P4973P REV1.0 MB

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008-09-25	Deciphered Date	2009-09-25	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				PIR
Size		Document Number		Rev
Date: Wednesday, April 22, 2009		Sheet 46 of 46		1.0