

# ***NBWAA***

***Low Cost Los Angeles 10L***

***LA-5821P REV 1.0 Schematics***

Intel Penryn/ Cantiga/ ICH9M  
2008-08-10 Rev. 1.0

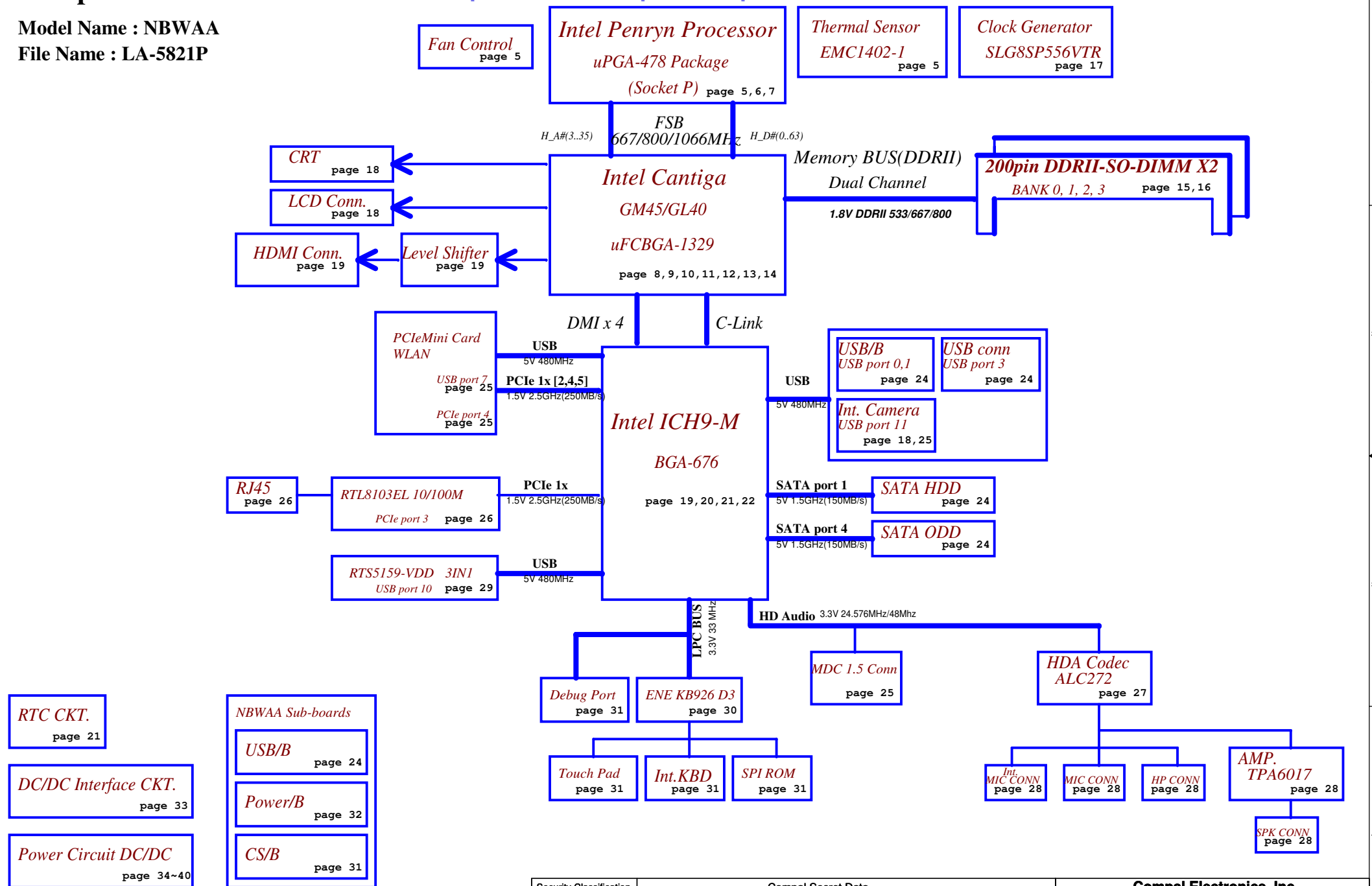
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Cover Page	
				Size	Document Number
				Date	Thursday, August 06, 2009
				Sheet	1 of 41
				Rev	1.0
				NBWAA LA5821P M/B	

# Compal Confidential

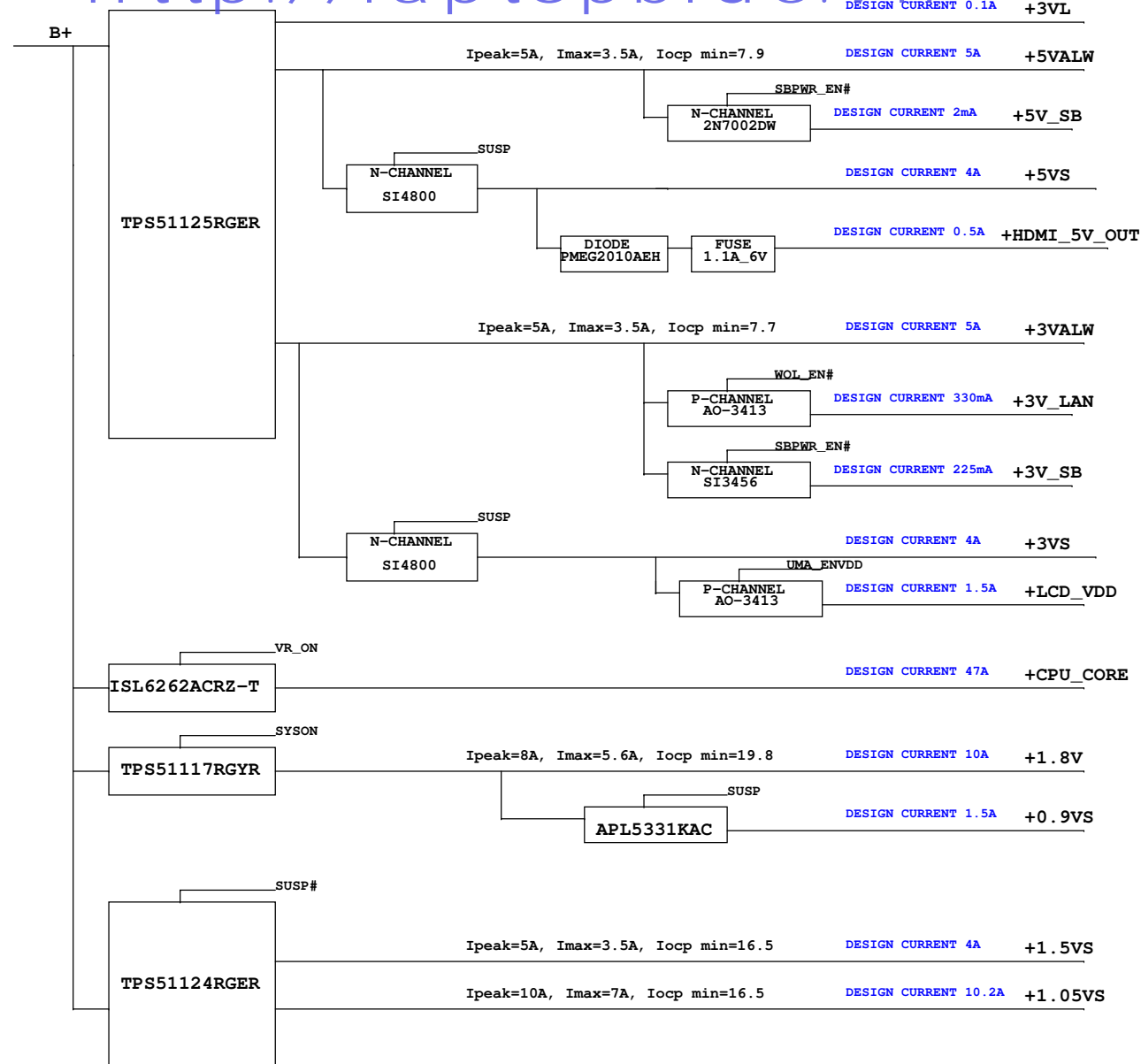
Model Name : NBWAA

File Name : LA-5821P

http://laptopblue.vn



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	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
				NBWAA LA5821P M/B	
				Date	Thursday, August 06, 2009
				Sheet	2 of 41
				Rev	1.0



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	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
					1.0
				Date:	Thursday, August 06, 2009
				Sheet	3 of 41

## Voltage Rails

Power Plane	Description	S1	S3	S5	G3
VIN	Adapter power supply (19V)	ON	ON	ON	OFF
B+	AC or battery power rail for power circuit.	ON	ON	ON	ON
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF	OFF
+0.9VS	0.9V switched power rail for DDR terminator	ON	OFF	OFF	OFF
+1.05VS	1.05V switched power rail	ON	OFF	OFF	OFF
+1.5VS	1.5V switched power rail	ON	OFF	OFF	OFF
+1.8V	1.8V power rail for DDR	ON	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON	OFF
+3VL	3.3V always on power rail	ON	ON	ON	ON
+3V_SB	3.3V power rail for LAN	ON	ON	OFF	OFF
+3V_LAN	3.3V power rail for LAN	ON	ON	OFF	OFF
+3V_WLAN	3.3V power rail for LAN	ON	ON	OFF	OFF
+3VS	3.3V switched power rail	ON	OFF	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON	OFF
+5VL	5V always on power rail	ON	ON	ON	ON
+5V_SB	5V power rail for SB	ON	ON	OFF	OFF
+5VS	5V switched power rail	ON	OFF	OFF	OFF
+VSB	VSb always on power rail	ON	ON	ON	OFF
+RTCVCC	RTC power	ON	ON	ON	ON
+CPU_CORE	Core voltage for VGA chip	ON	ON	OFF	OFF
+VGA_PCIE_1.1VS	1.1V switched power rail for VGA PCIE	ON	ON	OFF	OFF
+1.8VS	1.8V power rail for VRAM	ON	ON	OFF	OFF

STATE \ SIGNAL	SLP_S1#	SLP_S3#	SLP_S4#	SLP_S5#		
Full ON	HIGH	HIGH	HIGH	HIGH		
S1 (Power On Suspend)	LOW	HIGH	HIGH	HIGH		
S3 (Suspend to RAM)	LOW	LOW	HIGH	HIGH		
S4 (Suspend to Disk)	LOW	LOW	LOW	HIGH		
S5 (Soft OFF)	LOW	LOW	LOW	LOW		
G3	LOW	LOW	LOW	LOW		

## BTO Option Table

Function	North Bridge		RJ11	CAMERA	MIC	HDMI	
description	GM	GL				Y	
explain	GM45	GL40	MODEM	CAMERA	MIC	HDMI	Non-HDMI
BTO	GM45R3@ GM45R1@	GL40R3@ GL40R1@	MDC@	CAM@	MIC@	IHDMI@	NIHDMI@

## External PCI Devices

### EC SM Bus1 address

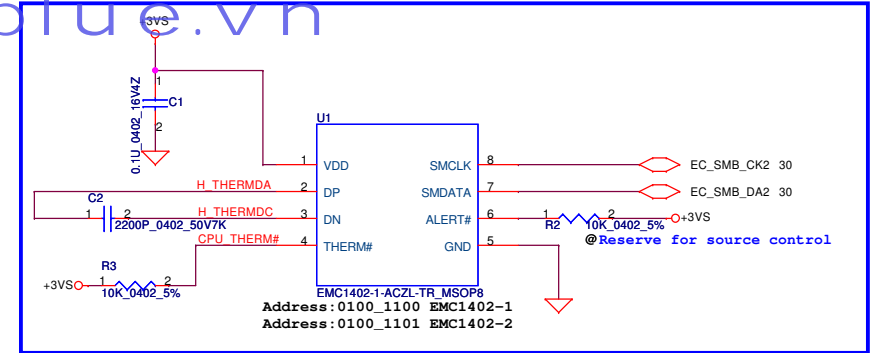
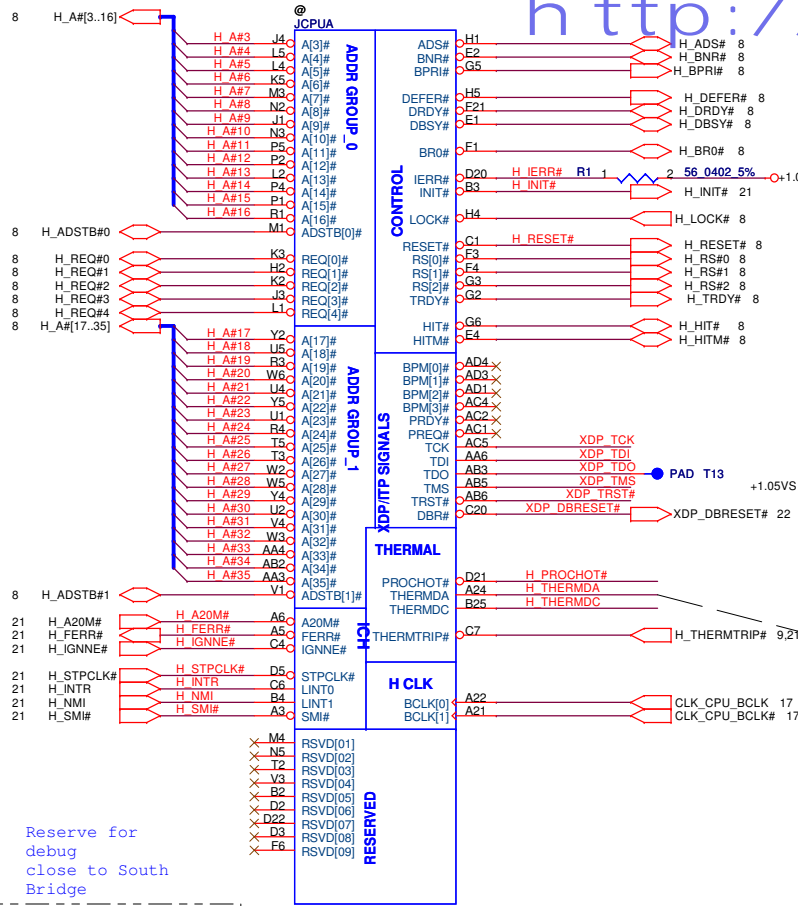
### EC SM Bus2 address

Power	Device	Address	Power	Device	Address
+3VL	EC KB926 D3		+3VS	EC KB926 D3	
+3VL	Smart Battery	0001 011X b			
+3VL	FUN/B (CAP Sensor)		+3VS	CPU THM Sen	
				SMSC SMC1402	0100 110x b

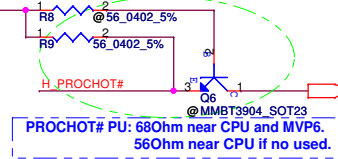
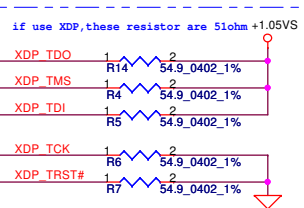
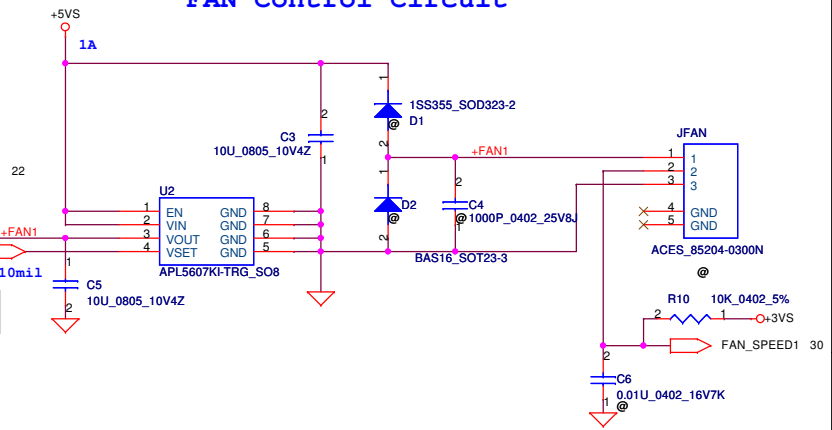
### ICH9M SM Bus address

Power	Device	Address
+3V_SB	ICH9M	
	Clock Generator (SLG8SP556V)	1101 001Xb
+3VS		
+3VS	DDR DIMM0	1001 000Xb
+3VS	DDR DIMM1	1001 010Xb
+3VS		

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	Notes List
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	Thursday, August 06, 2009
				Sheet	4 of 41
				Rev	1.0
				NBWAA LA5821P M/B	

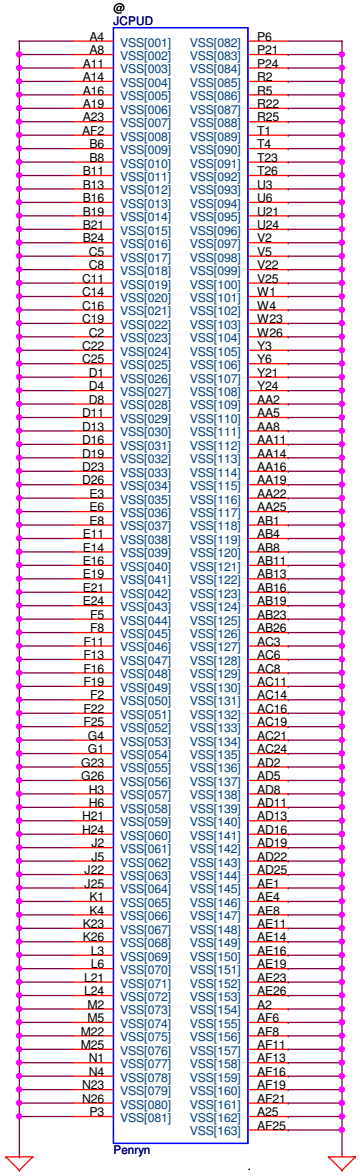


### FAN Control Circuit

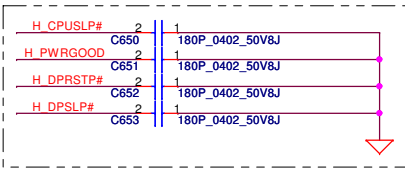


**H\_THERMDA, H\_THERMDC routing together, Trace width / Spacing = 10 / 10 mil**

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	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.				Penryn(1/3)-AGTL+/THM/FAN	
Size	Document Number	NBWAA LA5821P M/B		Rev	1.0
Date:	Monday, August 10, 2009	Sheet	5 of 41		



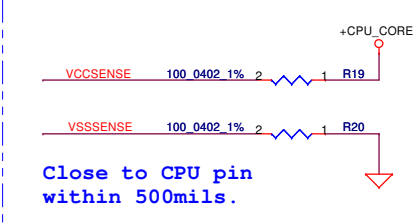
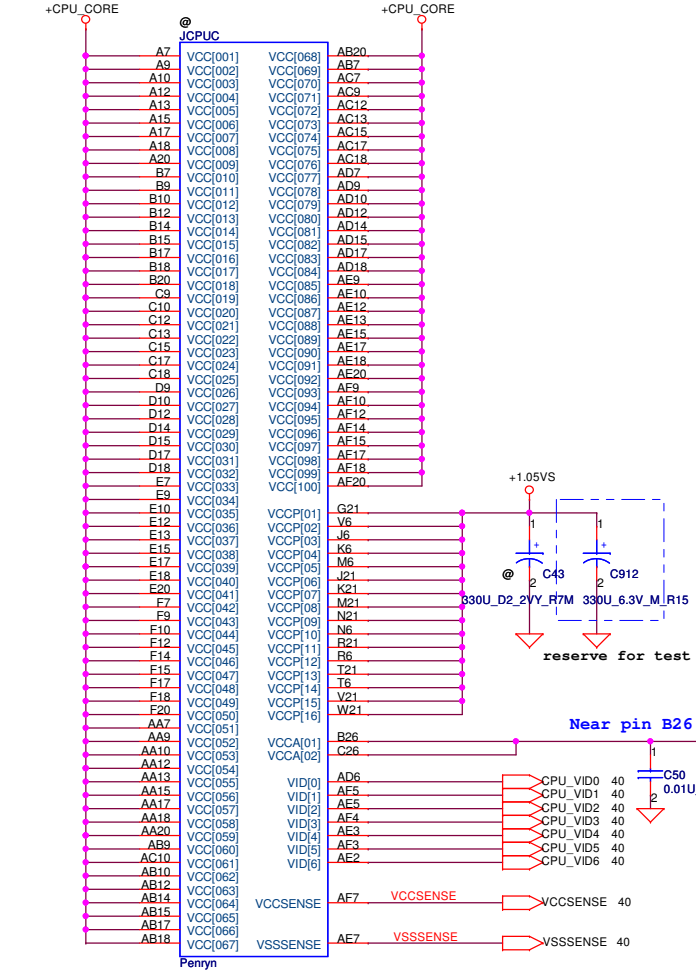
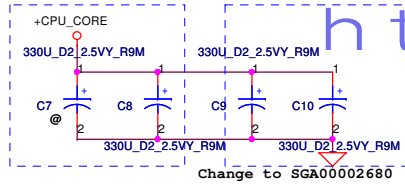
CPU_BSEL	CPU_BSEL2	CPU_BSEL1	CPU_BSEL0
166	0	1	1
200	0	1	0
266	0	0	0



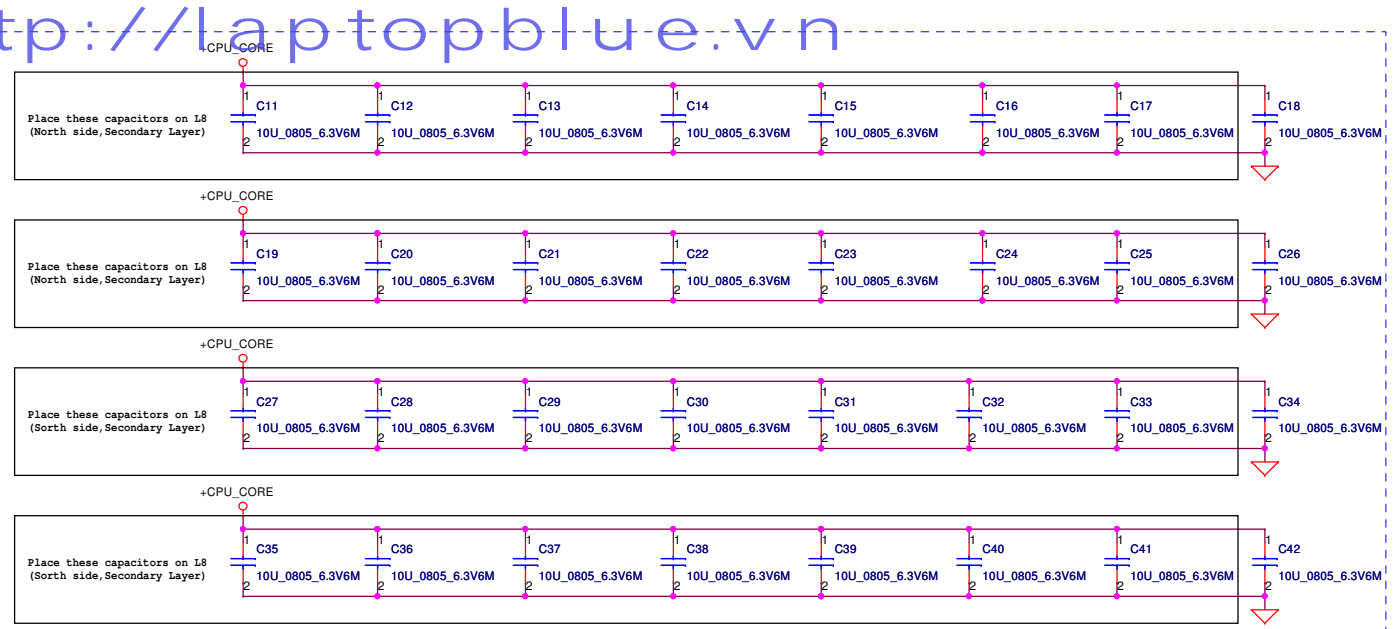
Reserve for  
debug  
close to CPU

Near CPU CORE regulator

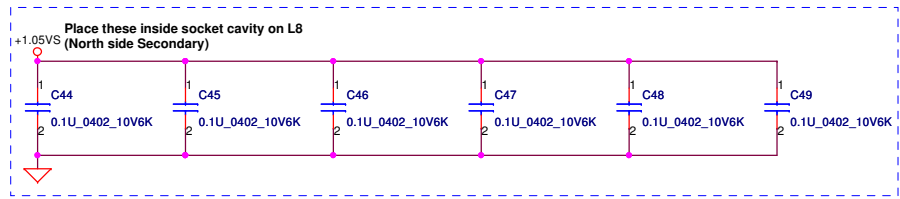
ESR <= 1.5m ohm  
Capacitor > 1980uF



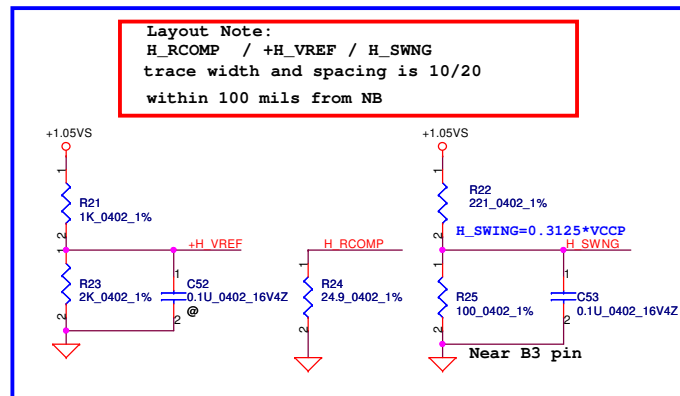
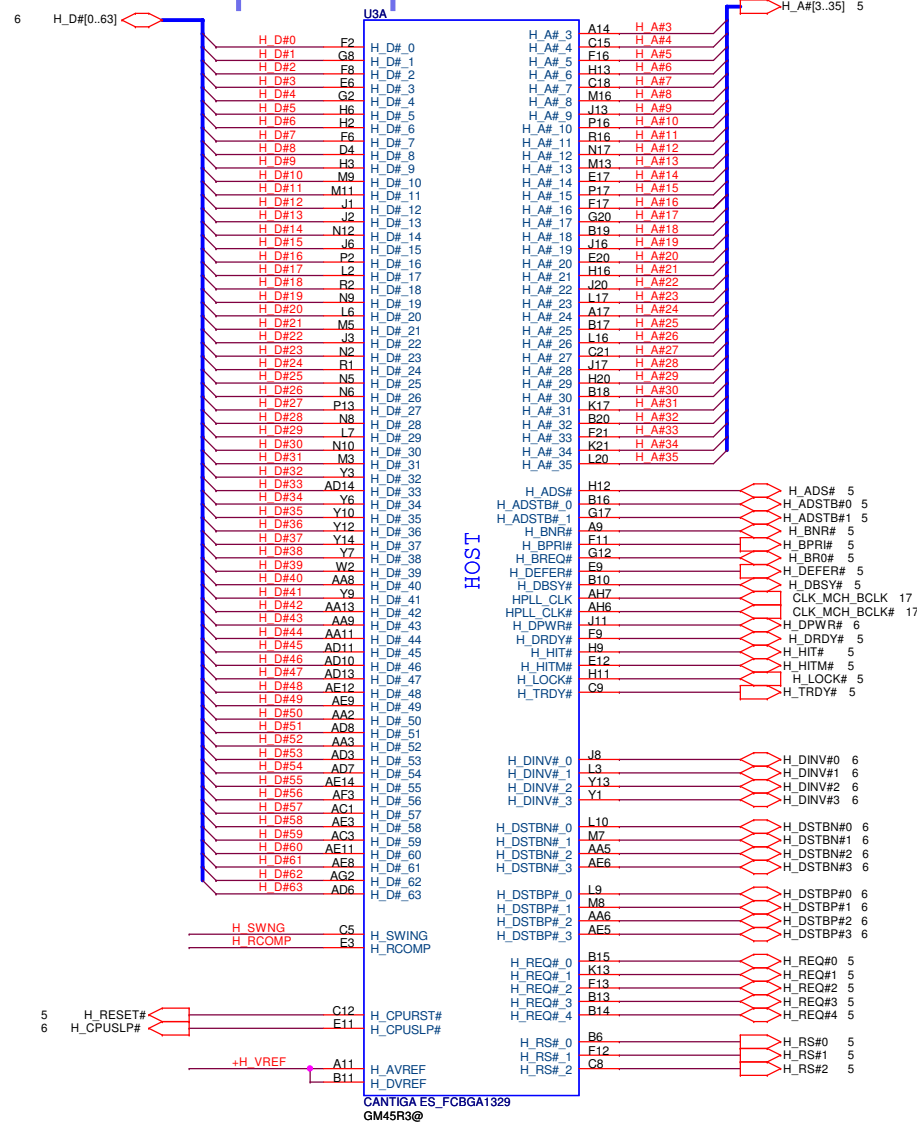
Length match within 25 mils.  
The trace width/space/other is 14/7/25.



Mid Frequency Decoupling



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	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.				Penryn(3/3)-PWR/Bypass	
Size	Document Number	NBWAA LA5821P M/B		Rev	1.0
Date:	Thursday, August 06, 2009	Sheet	7	of	41

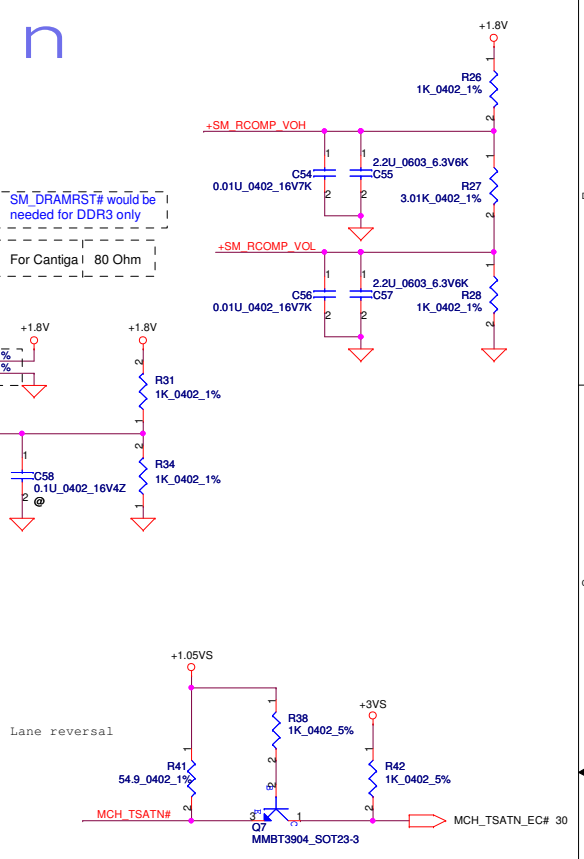
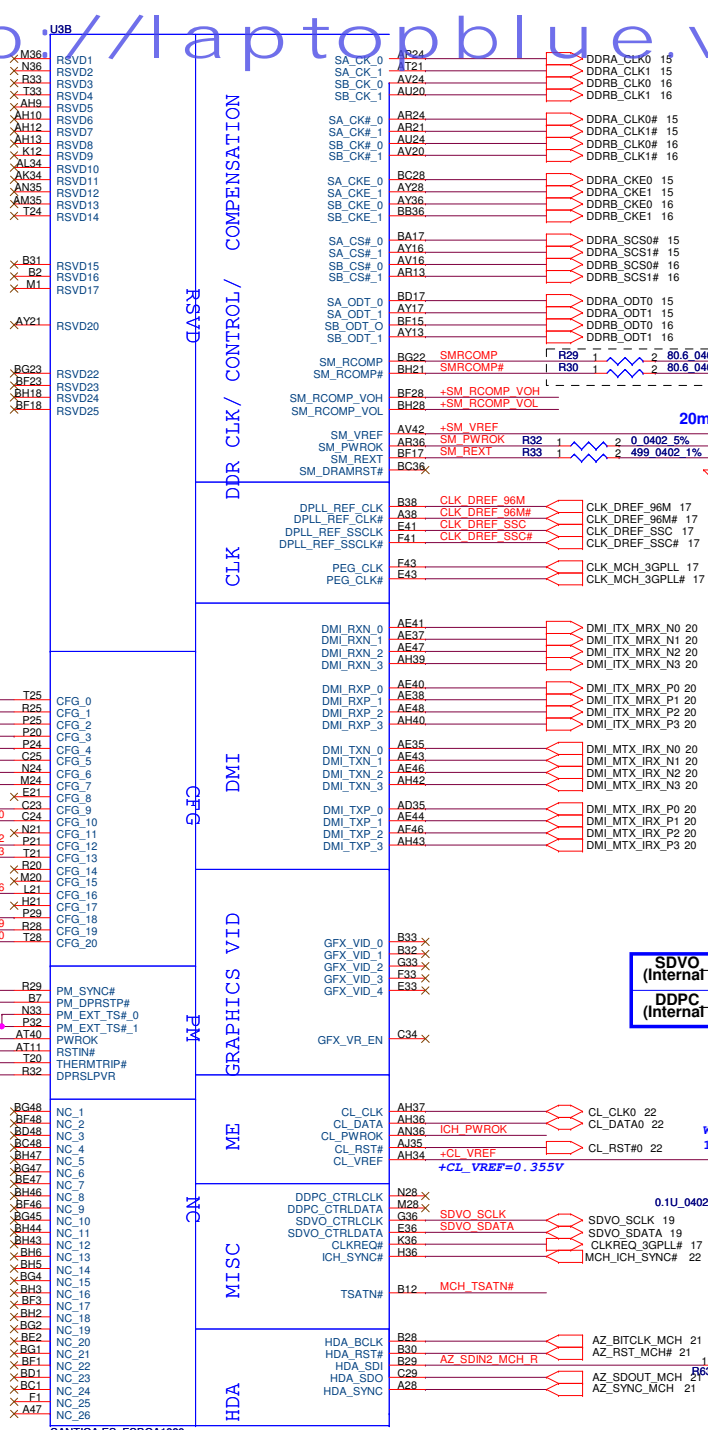
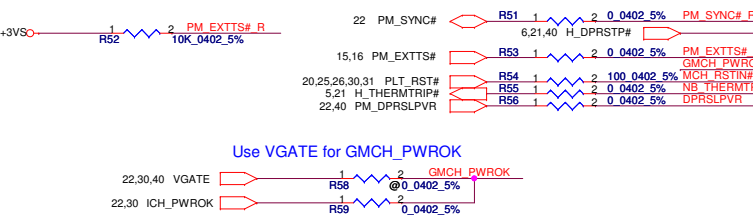
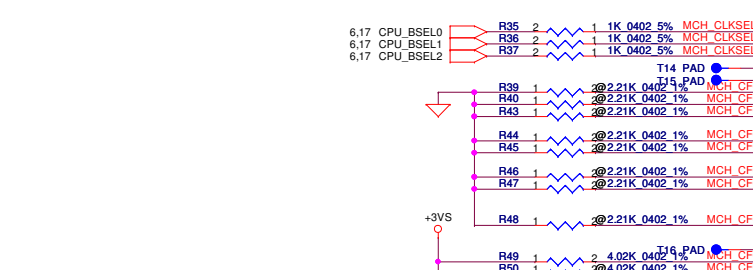


Security Classification		Compal Secret Data		Compal Electronics, Inc.				
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	Cantiga GMCH(1/7)-GTL			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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		
				NBWAA LA5821P M/B				
				Date:	Monday, August 10, 2009	Sheet	8	of



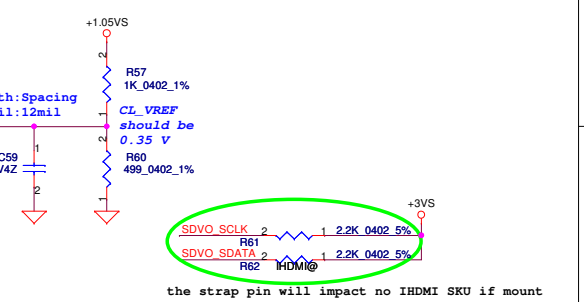
Strap Pin Table

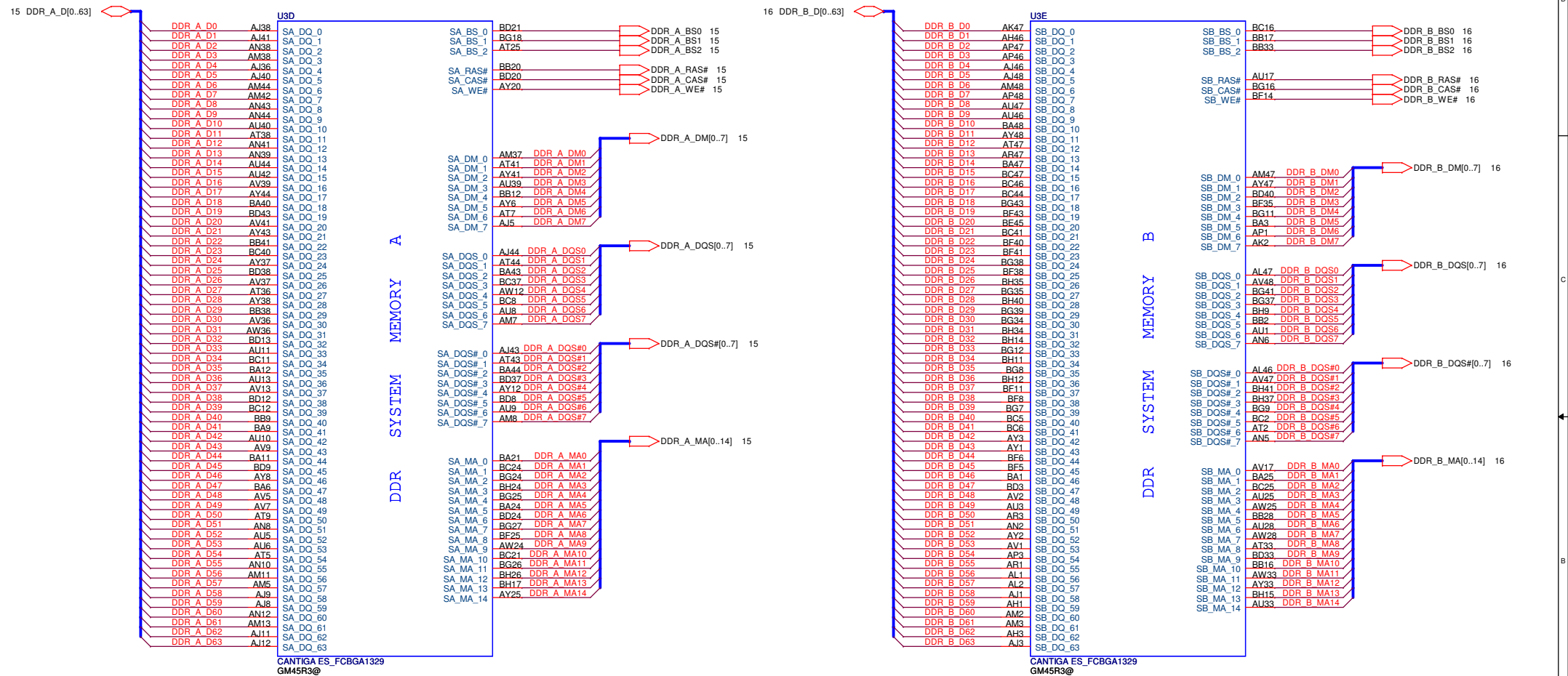
CFG[2:0]	011 = FSB667 010 = FSB800 000 = FSB1067
CFG5 Internal pull-up	0 = DMI x 2 1 = DMI x 4 *(Default)
CFG6 Internal pull-up	0 = ITPM Host Interface is enabled can support disble by SW. 1 = ITPM Host Interface is Disabled *(Default)
CFG7 Internal pull-up	0 = Intel Management Engine Crypto Transport Layer Security (TLS) cipher suite with no confidentiality 1 = Intel Management Engine Crypto TLS cipher suite with confidentiality *(Default)
CFG9 Internal pull-up	0 = Lane Reversal Enable 1 = Normal Operation *(Default)
CFG10 Internal pull-up	0 = PCIe Loopback Enable 1 = Disable*(Default)
CFG[13:12] Internal pull-up	01 = All Z Mode Enabled 00 = Reserved 10 = XOR Mode Enabled 11 = Normal Operation*(Default)
CFG16 Internal pull-up	0 = Dynamic ODT Disabled 1 = Dynamic ODT Enabled *(Default)
CFG19 Internal pull-down	0 = Normal Operation 1 = DMI Lane Reversal Enable *(Default)
CFG20 Internal pull-down (PCIe/SDVO select)	0 = Only PCIe or [SDVO/DP/HDMI] is operational. *(Default) 1 = PCIe/[SDVO/DP/HDMI] are operating simu.



Strap Pin Table

SDVO_CTRLDATA (Internal pull-down)	0 = SDVO Interface disabled *(Default) 1 = SDVO interface Port B enabled
DDPC_CTRLDATA (Internal pull-down)	0 = Digital display (IHDMI/DP) interface disabled*(Default) 1 = Digital display (IHDMI/DP) interface Port C enabled

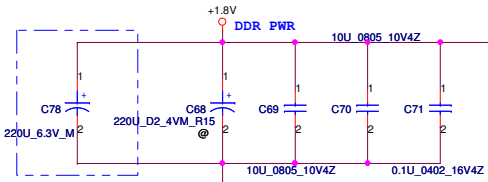




Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	Cantiga GMCH(3/7)-GTL	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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
					NBWAA LA5821P M/B	1.0
				Date:	Monday, August 10, 2009	Sheet 10 of 41



DDR2, 667MHz, 2600mA  
DDR2, 800MHz, 3000mA



- AP33 VCC\_SM\_1
- AN33 VCC\_SM\_2
- BH32 VCC\_SM\_3
- BG32 VCC\_SM\_4
- BF32 VCC\_SM\_5
- BD32 VCC\_SM\_6
- BC32 VCC\_SM\_7
- BB32 VCC\_SM\_8
- BA32 VCC\_SM\_9
- AY32 VCC\_SM\_10
- AW32 VCC\_SM\_11
- AV32 VCC\_SM\_12
- AT32 VCC\_SM\_13
- AS32 VCC\_SM\_14
- AP32 VCC\_SM\_15
- AN32 VCC\_SM\_16
- BH31 VCC\_SM\_17
- BG31 VCC\_SM\_18
- BF31 VCC\_SM\_19
- BD31 VCC\_SM\_20
- BC31 VCC\_SM\_21
- BB31 VCC\_SM\_22
- BA31 VCC\_SM\_23
- AY31 VCC\_SM\_24
- AW31 VCC\_SM\_25
- AV31 VCC\_SM\_26
- AU31 VCC\_SM\_27
- AT31 VCC\_SM\_28
- AR31 VCC\_SM\_29
- AP31 VCC\_SM\_30
- AN31 VCC\_SM\_31
- AS31 VCC\_SM\_32
- AT31 VCC\_SM\_33
- AR31 VCC\_SM\_34
- AP31 VCC\_SM\_35

Could be NC for DDR2 Board.

- BA36 VCC\_SM\_36/NC
- BB36 VCC\_SM\_37/NC
- BD36 VCC\_SM\_38/NC
- BE36 VCC\_SM\_39/NC
- BF36 VCC\_SM\_40/NC
- BG36 VCC\_SM\_41/NC
- BD36 VCC\_SM\_42/NC

8700mA

- Y26 VCC\_AXG\_1
- AE25 VCC\_AXG\_2
- AB25 VCC\_AXG\_3
- AA25 VCC\_AXG\_4
- AE24 VCC\_AXG\_5
- AC24 VCC\_AXG\_6
- AA24 VCC\_AXG\_7
- Y24 VCC\_AXG\_8
- AE23 VCC\_AXG\_9
- AC23 VCC\_AXG\_10
- AB23 VCC\_AXG\_11
- AA23 VCC\_AXG\_12
- AG21 VCC\_AXG\_13
- AE21 VCC\_AXG\_14
- AC21 VCC\_AXG\_15
- AA21 VCC\_AXG\_16
- Y21 VCC\_AXG\_17
- AH20 VCC\_AXG\_18
- AF20 VCC\_AXG\_19
- AE20 VCC\_AXG\_20
- AC20 VCC\_AXG\_21
- AB20 VCC\_AXG\_22
- AA20 VCC\_AXG\_23
- T17 VCC\_AXG\_24
- T16 VCC\_AXG\_25
- AM15 VCC\_AXG\_26
- AL15 VCC\_AXG\_27
- AE15 VCC\_AXG\_28
- AH15 VCC\_AXG\_29
- AG15 VCC\_AXG\_30
- AF15 VCC\_AXG\_31
- AB15 VCC\_AXG\_32
- AA15 VCC\_AXG\_33
- Y15 VCC\_AXG\_34
- Y15 VCC\_AXG\_35
- V15 VCC\_AXG\_36
- U15 VCC\_AXG\_37
- AN14 VCC\_AXG\_38
- AM14 VCC\_AXG\_39
- U14 VCC\_AXG\_40
- T14 VCC\_AXG\_41
- T14 VCC\_AXG\_42

PAD T3 AJ14 VCC\_AXG\_SENSE  
PAD T4 AH14 VSS\_AXG\_SENSE

CANTIGA ES\_FCBGA1329  
GM45R3@

- VCC\_AXG\_NCTF\_1 W28
- VCC\_AXG\_NCTF\_2 W28
- VCC\_AXG\_NCTF\_3 W26
- VCC\_AXG\_NCTF\_4 W26
- VCC\_AXG\_NCTF\_5 W25
- VCC\_AXG\_NCTF\_6 W25
- VCC\_AXG\_NCTF\_7 W24
- VCC\_AXG\_NCTF\_8 W24
- VCC\_AXG\_NCTF\_9 W23
- VCC\_AXG\_NCTF\_10 W23
- VCC\_AXG\_NCTF\_11 AL21
- VCC\_AXG\_NCTF\_12 AL21
- VCC\_AXG\_NCTF\_13 W21
- VCC\_AXG\_NCTF\_14 W21
- VCC\_AXG\_NCTF\_15 U21
- VCC\_AXG\_NCTF\_16 AM20
- VCC\_AXG\_NCTF\_17 AK20
- VCC\_AXG\_NCTF\_18 W20
- VCC\_AXG\_NCTF\_19 U20
- VCC\_AXG\_NCTF\_20 AM19
- VCC\_AXG\_NCTF\_21 AL19
- VCC\_AXG\_NCTF\_22 AH19
- VCC\_AXG\_NCTF\_23 AG19
- VCC\_AXG\_NCTF\_24 AE19
- VCC\_AXG\_NCTF\_25 AB19
- VCC\_AXG\_NCTF\_26 AA19
- VCC\_AXG\_NCTF\_27 Y19
- VCC\_AXG\_NCTF\_28 W19
- VCC\_AXG\_NCTF\_29 U19
- VCC\_AXG\_NCTF\_30 AM17
- VCC\_AXG\_NCTF\_31 AK17
- VCC\_AXG\_NCTF\_32 AH17
- VCC\_AXG\_NCTF\_33 AG17
- VCC\_AXG\_NCTF\_34 AE17
- VCC\_AXG\_NCTF\_35 AB17
- VCC\_AXG\_NCTF\_36 AC17
- VCC\_AXG\_NCTF\_37 Y17
- VCC\_AXG\_NCTF\_38 W17
- VCC\_AXG\_NCTF\_39 V17
- VCC\_AXG\_NCTF\_40 AM16
- VCC\_AXG\_NCTF\_41 AL16
- VCC\_AXG\_NCTF\_42 AK16
- VCC\_AXG\_NCTF\_43 AH16
- VCC\_AXG\_NCTF\_44 AG16
- VCC\_AXG\_NCTF\_45 AE16
- VCC\_AXG\_NCTF\_46 AB16
- VCC\_AXG\_NCTF\_47 AA16
- VCC\_AXG\_NCTF\_48 Y16
- VCC\_AXG\_NCTF\_49 W16
- VCC\_AXG\_NCTF\_50 V16
- VCC\_AXG\_NCTF\_51 U16

WS\_C3A

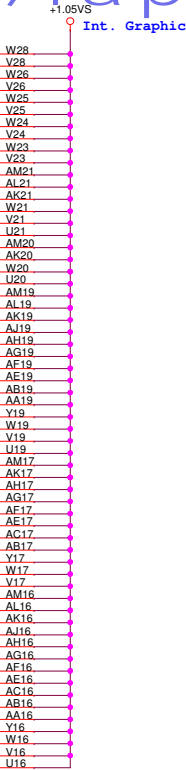
VCC GFX NCTF

POWER

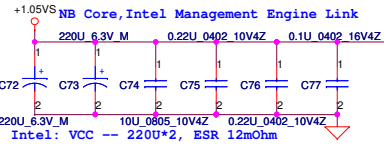
VCC GFX

VCC SM LF

- VCC\_SM\_LF1 AV44 VCCSM\_LF1
- VCC\_SM\_LF2 BA37 VCCSM\_LF2
- VCC\_SM\_LF3 AA40 VCCSM\_LF3
- VCC\_SM\_LF4 AV21 VCCSM\_LF4
- VCC\_SM\_LF5 AY5 VCCSM\_LF5
- VCC\_SM\_LF6 AM10 VCCSM\_LF6
- VCC\_SM\_LF7 BB13 VCCSM\_LF7



Extna Graphic: 1210.34mA  
Integrated Graphic: 1930.4mA  
Intel Management Engine Link: 508.12mA



- AG34 VCC\_1
- AC34 VCC\_2
- AB34 VCC\_3
- AA34 VCC\_4
- Y34 VCC\_5
- U34 VCC\_6
- U34 VCC\_7
- AM33 VCC\_8
- AK33 VCC\_9
- AI33 VCC\_10
- AF33 VCC\_11
- AE33 VCC\_12
- AC33 VCC\_13
- AB33 VCC\_14
- AA33 VCC\_15
- Y33 VCC\_16
- W33 VCC\_17
- V33 VCC\_18
- U33 VCC\_19
- AH28 VCC\_20
- AF28 VCC\_21
- AC28 VCC\_22
- AA28 VCC\_23
- AJ28 VCC\_24
- AG26 VCC\_25
- AE26 VCC\_26
- AC26 VCC\_27
- AH25 VCC\_28
- AG25 VCC\_29
- AF25 VCC\_30
- AG24 VCC\_31
- AJ23 VCC\_32
- AH23 VCC\_33
- AF23 VCC\_34
- T32 VCC\_35

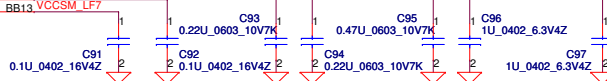
VCC CORE

POWER

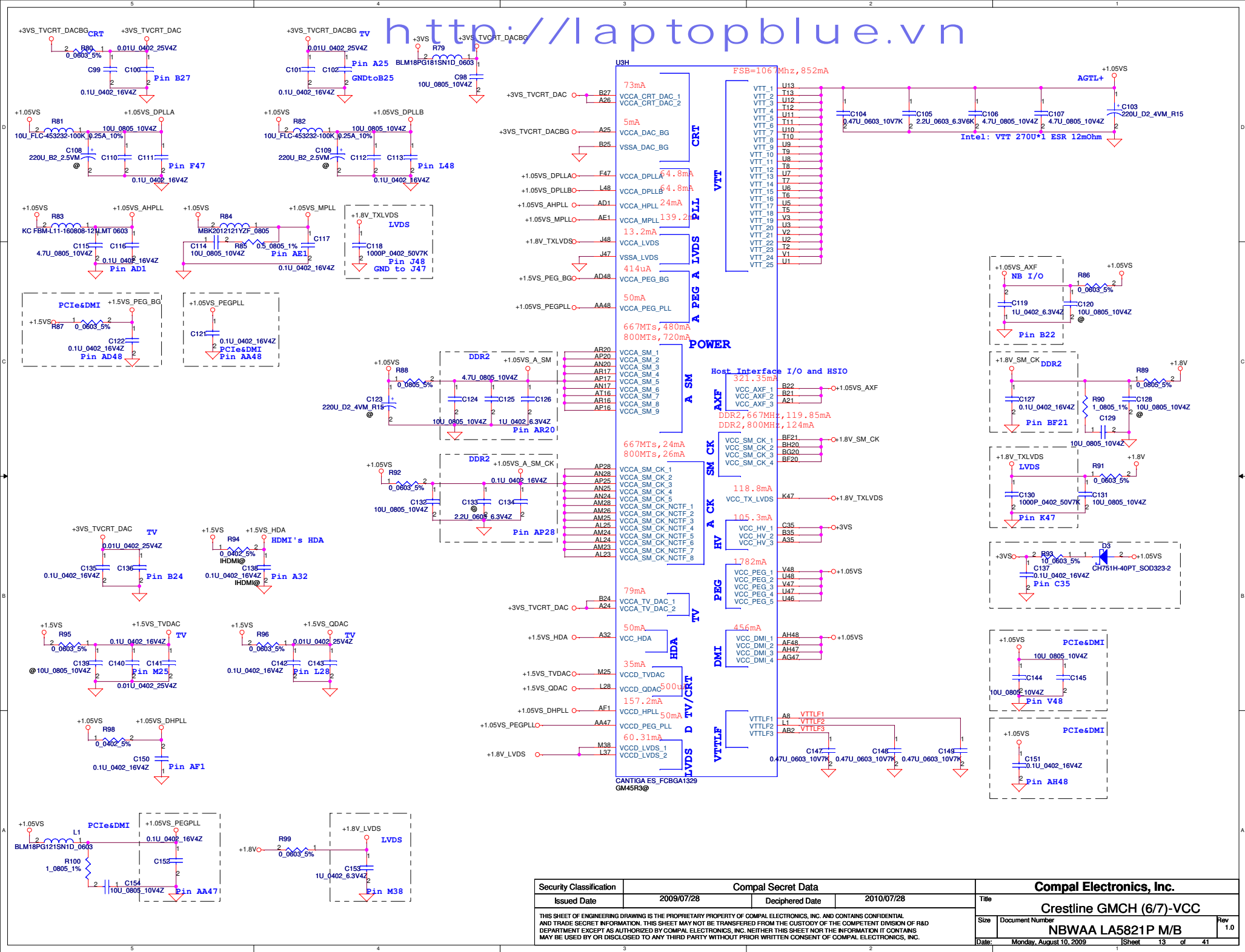
VCC NCTF

- VCC\_NCTF\_1 AM32
- VCC\_NCTF\_2 AL32
- VCC\_NCTF\_3 AK32
- VCC\_NCTF\_4 AJ32
- VCC\_NCTF\_5 AH32
- VCC\_NCTF\_6 AE32
- VCC\_NCTF\_7 AC32
- VCC\_NCTF\_8 AA32
- VCC\_NCTF\_9 Y32
- VCC\_NCTF\_10 W32
- VCC\_NCTF\_11 U32
- VCC\_NCTF\_12 AL30
- VCC\_NCTF\_13 AM30
- VCC\_NCTF\_14 AK30
- VCC\_NCTF\_15 AH30
- VCC\_NCTF\_16 AG30
- VCC\_NCTF\_17 AE30
- VCC\_NCTF\_18 AF30
- VCC\_NCTF\_19 AE30
- VCC\_NCTF\_20 AC30
- VCC\_NCTF\_21 AB30
- VCC\_NCTF\_22 AA30
- VCC\_NCTF\_23 Y30
- VCC\_NCTF\_24 W30
- VCC\_NCTF\_25 V30
- VCC\_NCTF\_26 U30
- VCC\_NCTF\_27 AL29
- VCC\_NCTF\_28 AK29
- VCC\_NCTF\_29 AJ29
- VCC\_NCTF\_30 AH29
- VCC\_NCTF\_31 AE29
- VCC\_NCTF\_32 AC29
- VCC\_NCTF\_33 AA29
- VCC\_NCTF\_34 Y29
- VCC\_NCTF\_35 W29
- VCC\_NCTF\_36 V29
- VCC\_NCTF\_37 U29
- VCC\_NCTF\_38 AL28
- VCC\_NCTF\_39 AK28
- VCC\_NCTF\_40 AJ28
- VCC\_NCTF\_41 AH28
- VCC\_NCTF\_42 AE28
- VCC\_NCTF\_43 AC28
- VCC\_NCTF\_44 AA28

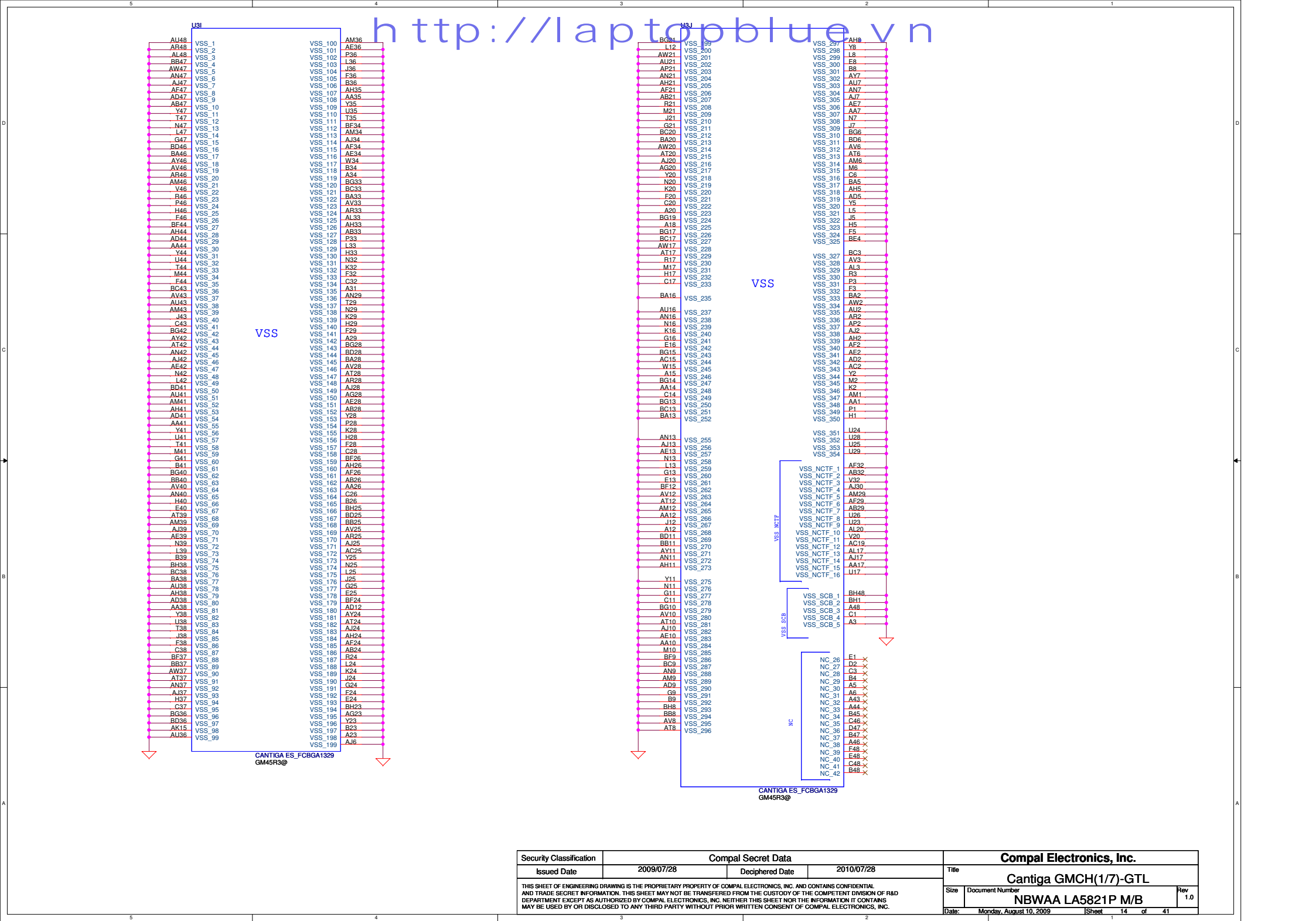
CANTIGA ES\_FCBGA1329  
GM45R3@



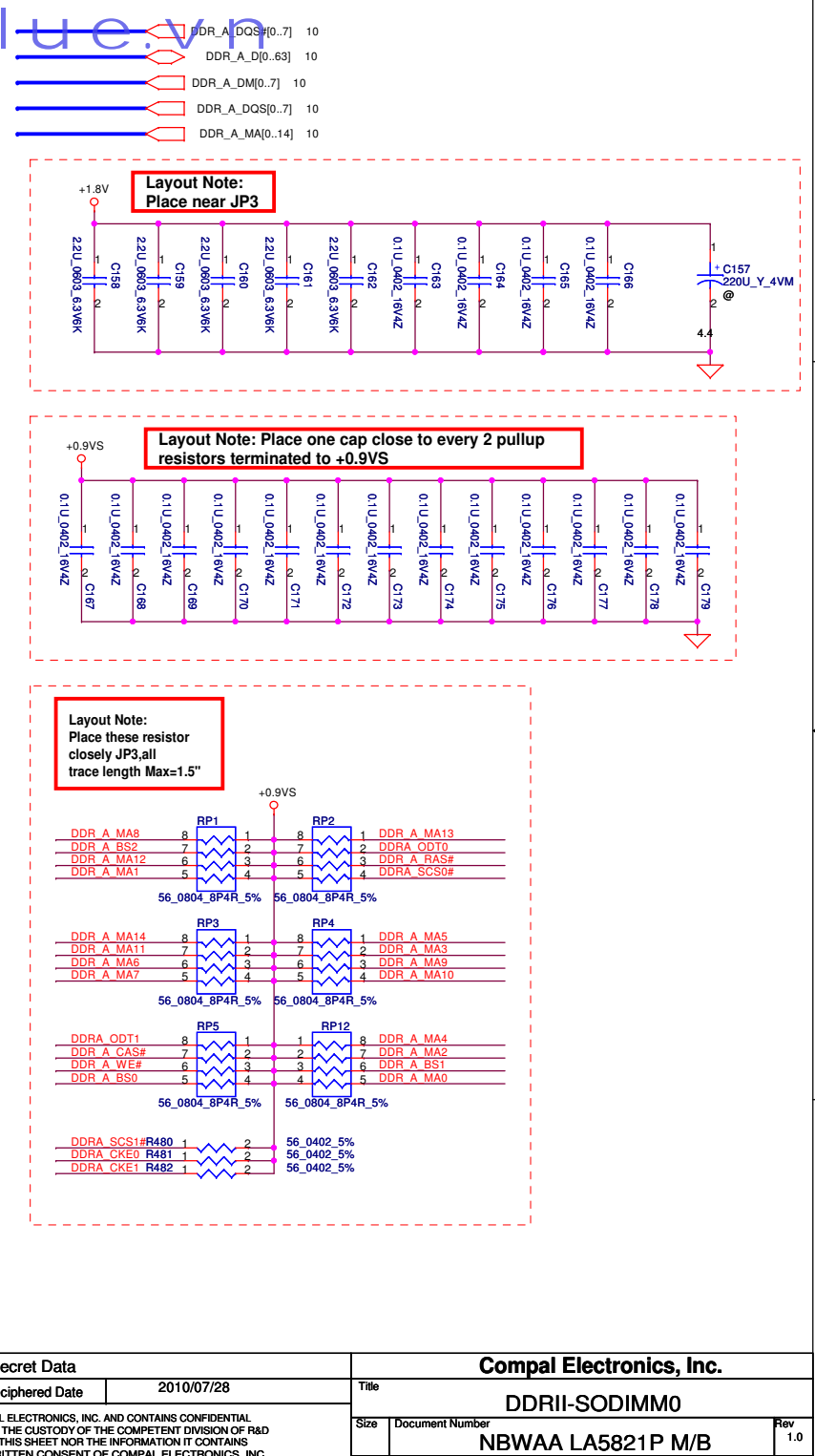
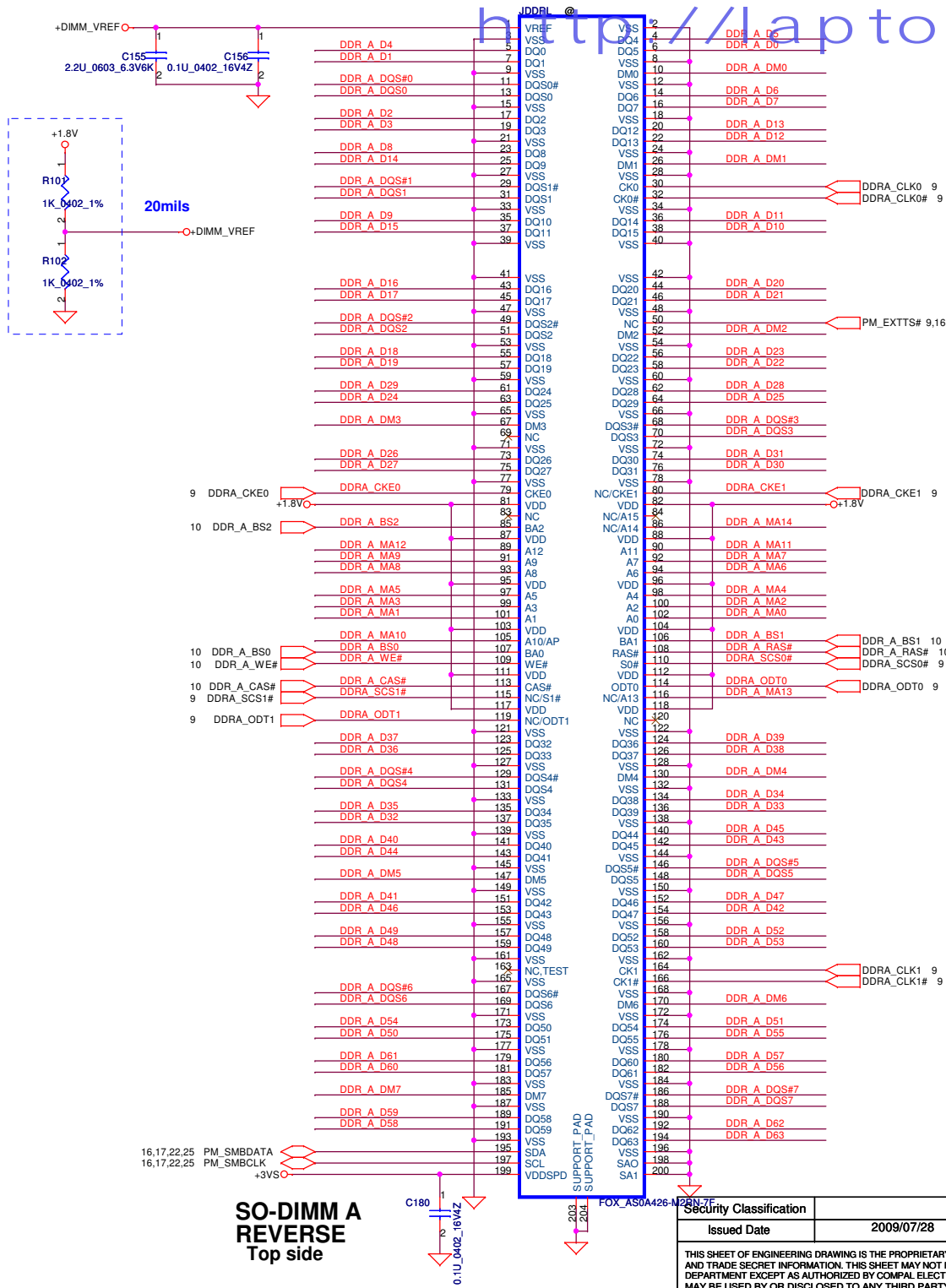
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2009/07/28		Title	
		Deciphered Date		2010/07/28	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE 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			
		NBWAA LA5821P M/B			
Date:		Monday, August 10, 2009		Sheet 12 of 41	
		Rev 1.0			





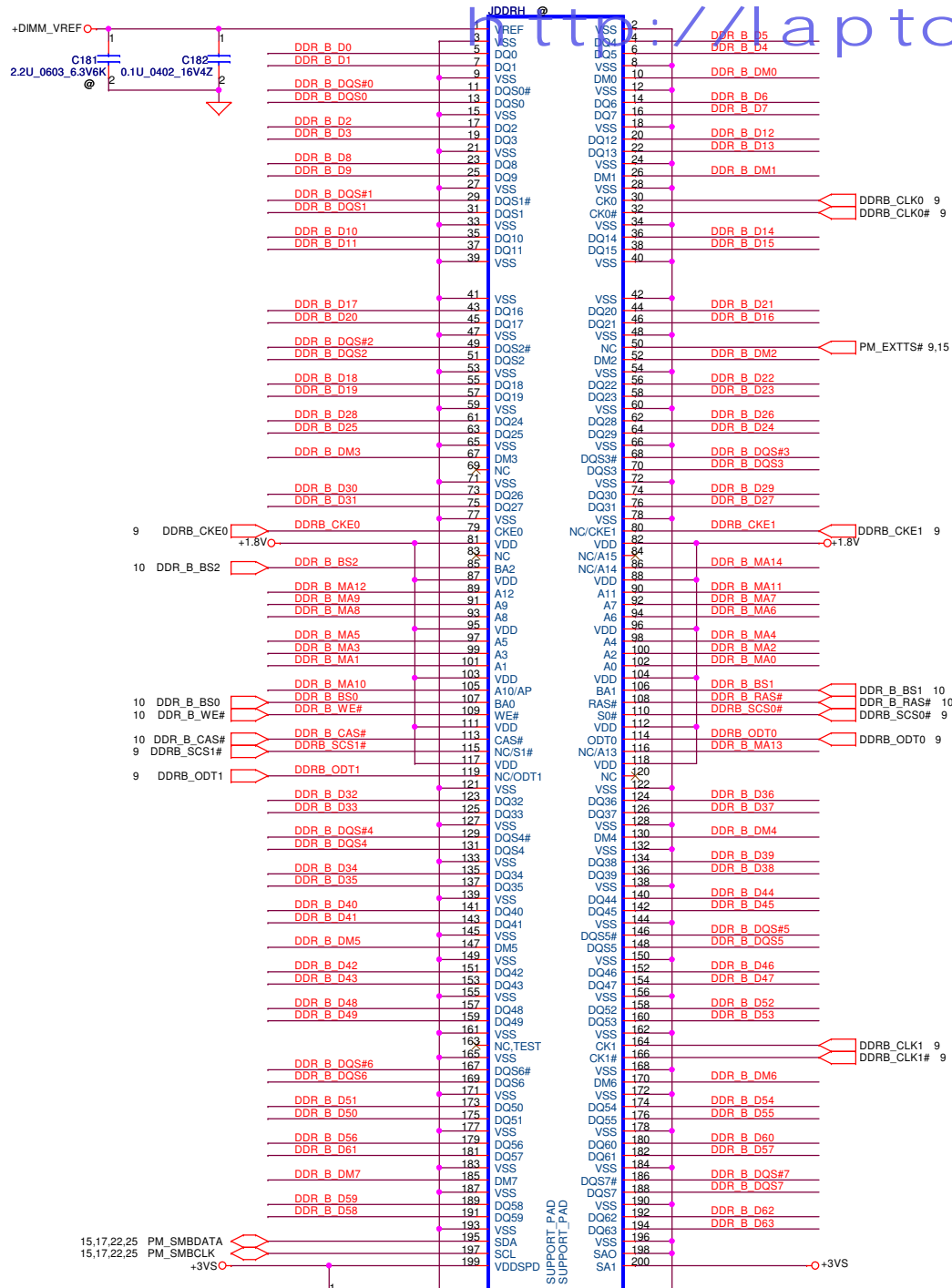


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPANY OR ANY OF ITS DIVISIONS OR DEPARTMENTS 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
				Monday, August 10, 2009	Rev 1.0
				Monday, August 10, 2009	Sheet 14 of 41



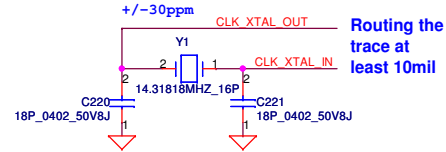
SO-DIMM A  
REVERSE  
Top side

Security Classification				Compal Secret Data		Title	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title		DDRII-SODIMM0	
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	
				NBWAA LA5821P M/B		1.0	
				Date:	Monday, August 10, 2009	Sheet	15 of 41

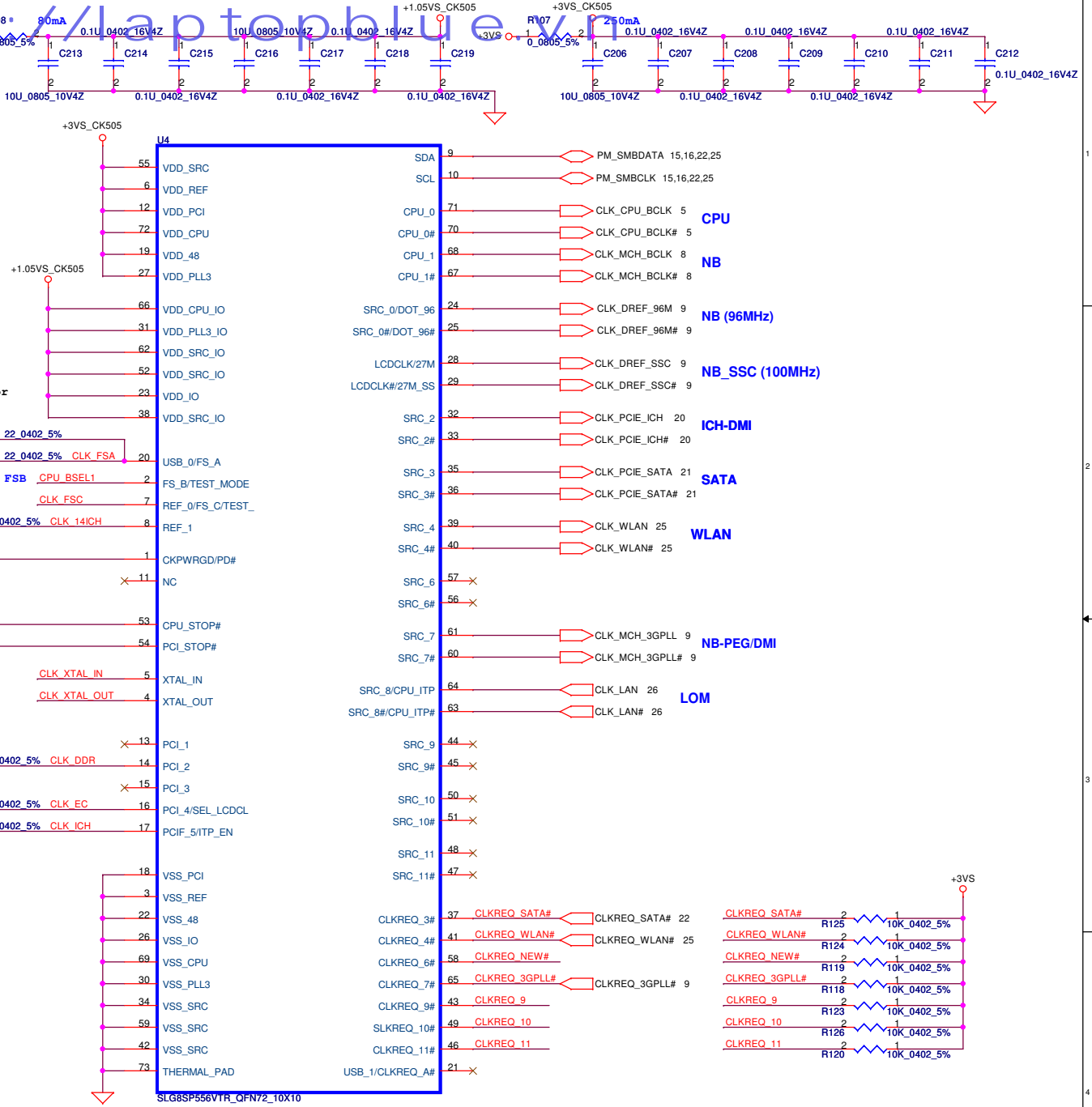
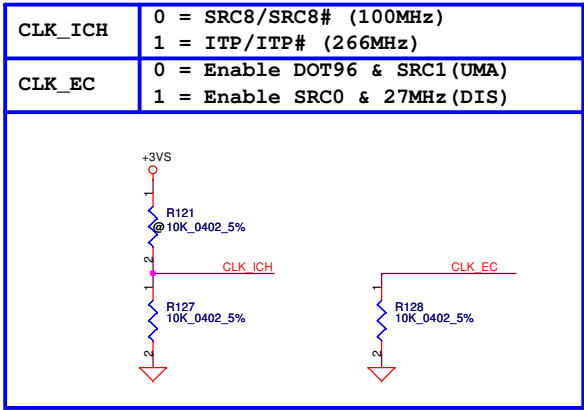
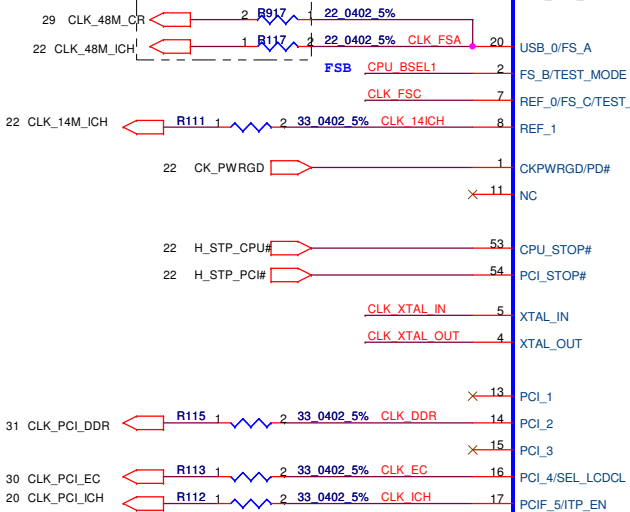




FSC CLKSEL2	FSB CLKSEL1	FSA CLKSEL0	CPU MHz	SRC MHz	PCI MHz	REF MHz	DOT_96 MHz	USB MHz
0	0	0	266	100	33.3	14.318	96.0	48.0
0	0	1	133	100	33.3	14.318	96.0	48.0
0	1	0	200	100	33.3	14.318	96.0	48.0
0	1	1	166	100	33.3	14.318	96.0	48.0
1	0	0	333	100	33.3	14.318	96.0	48.0
1	0	1	100	100	33.3	14.318	96.0	48.0
1	1	0	400	100	33.3	14.318	96.0	48.0
1	1	1	Reserved					



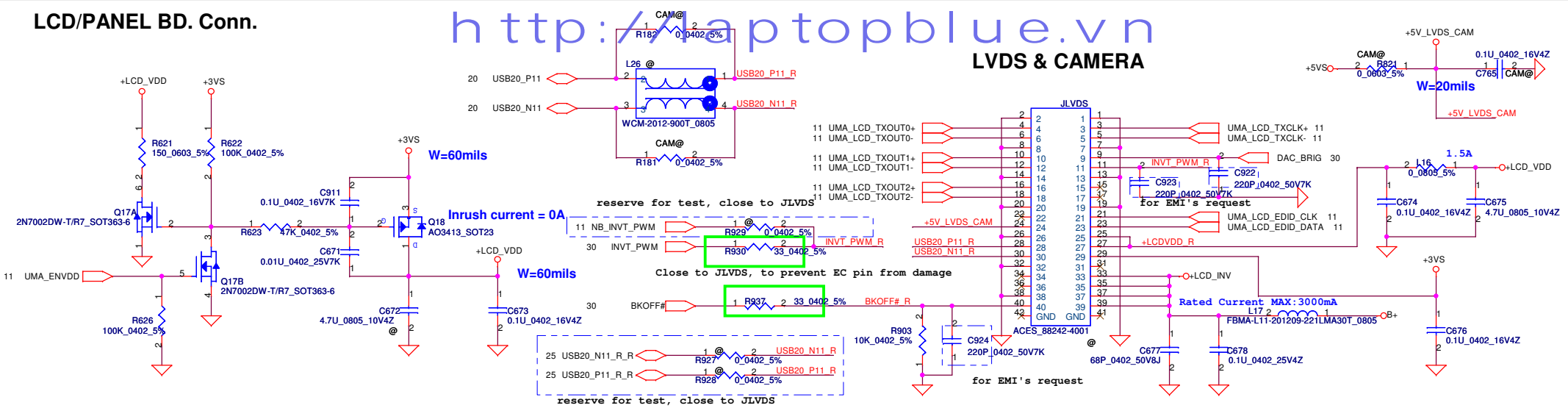
place 22ohm for damping resistor when loading is two devices



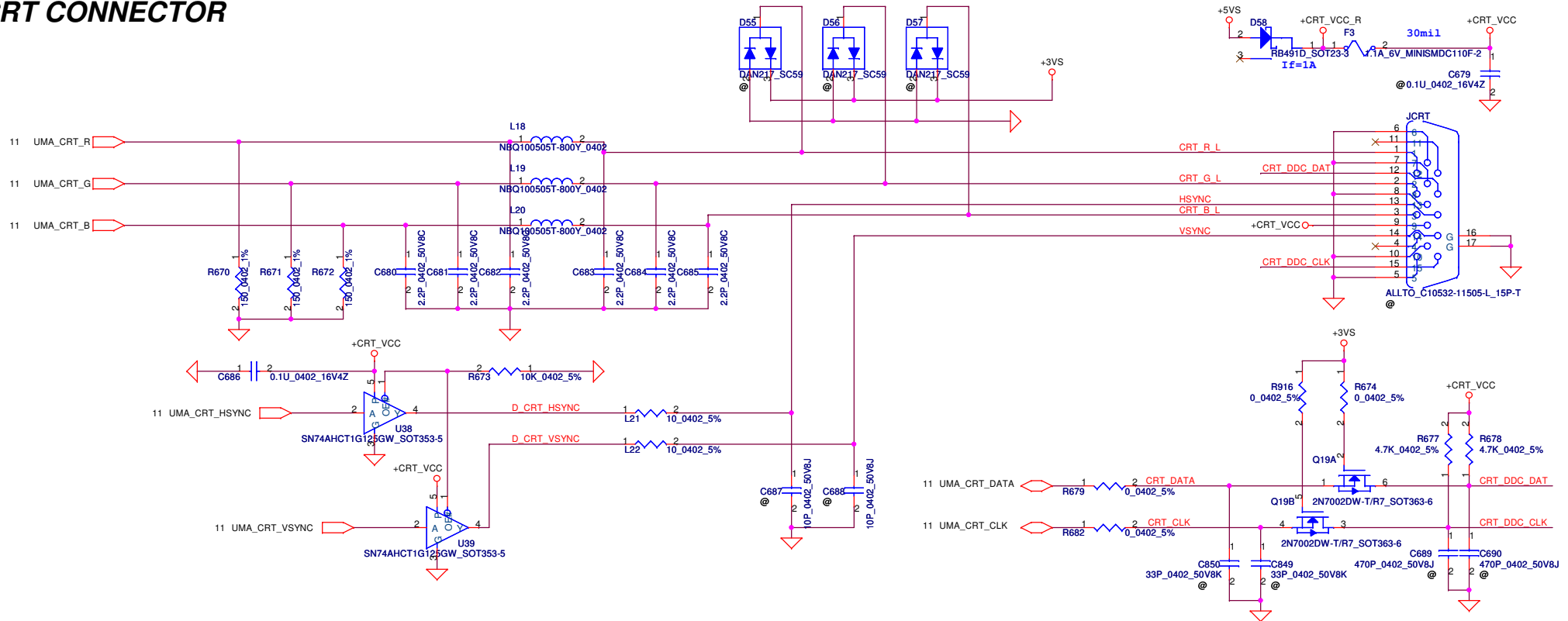
# LCD/PANEL BD. Conn.

http://laptopblue.vn

## LVDS & CAMERA



# CRT CONNECTOR



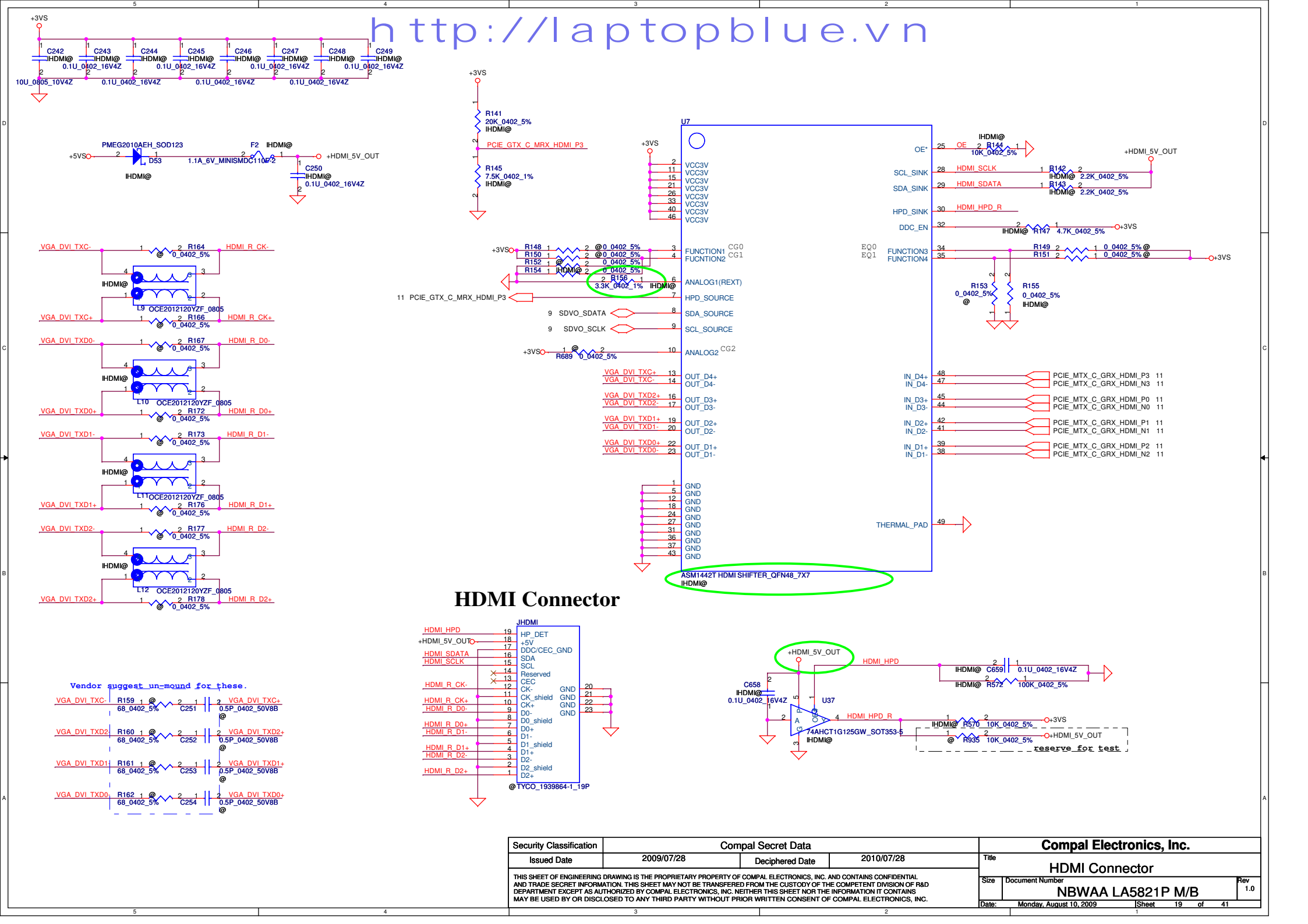
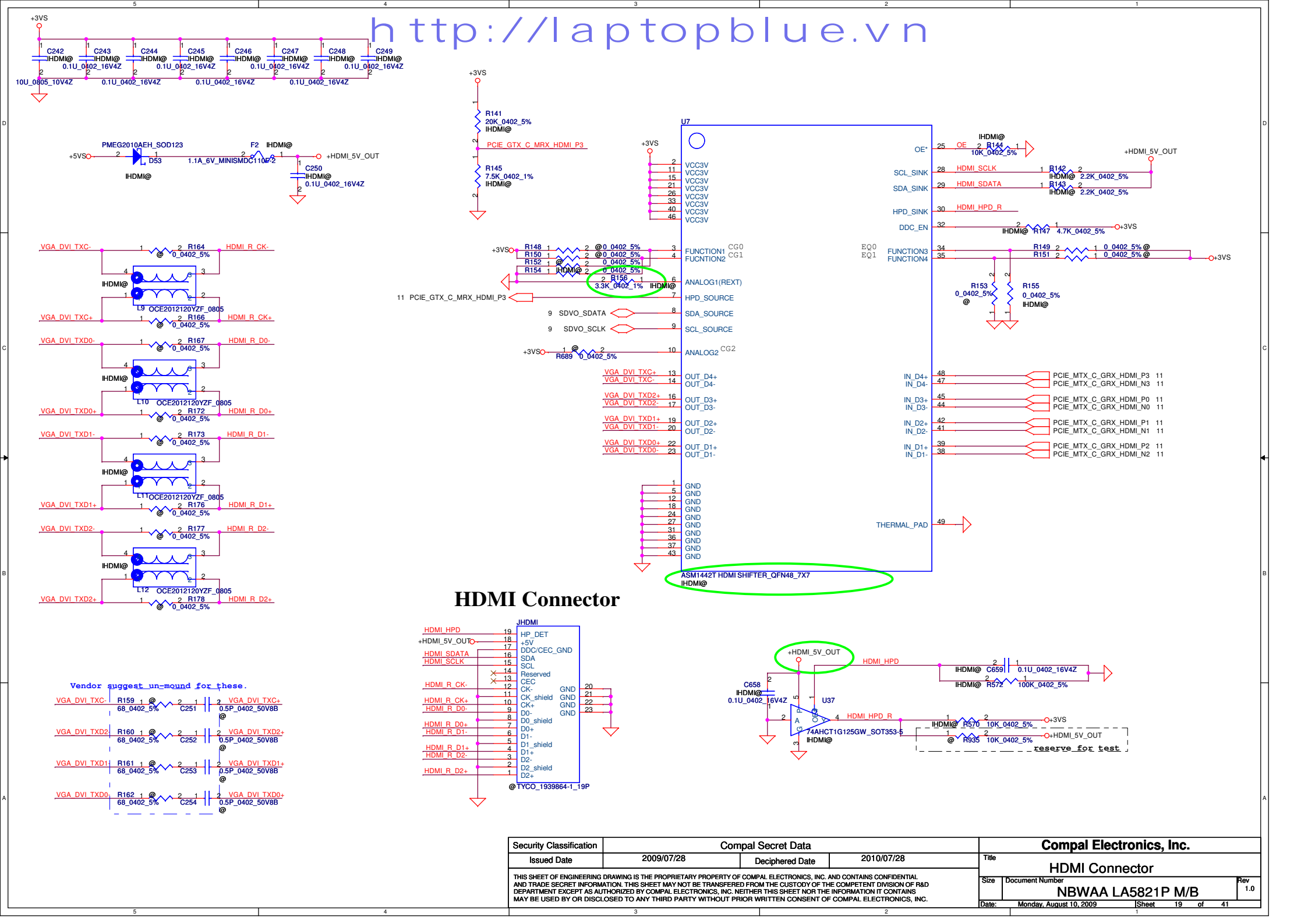
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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
				NBWAA LA5821P M/B	
				Date	Thursday, August 06, 2009
				Sheet	18 of 41

# http://laptopblue.vn

Vendor suggest un-mount for these.

reserve for test

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	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.				HDMI Connector	
				Size	Document Number
				Date	Monday, August 10, 2009



# http://laptopblue.vn

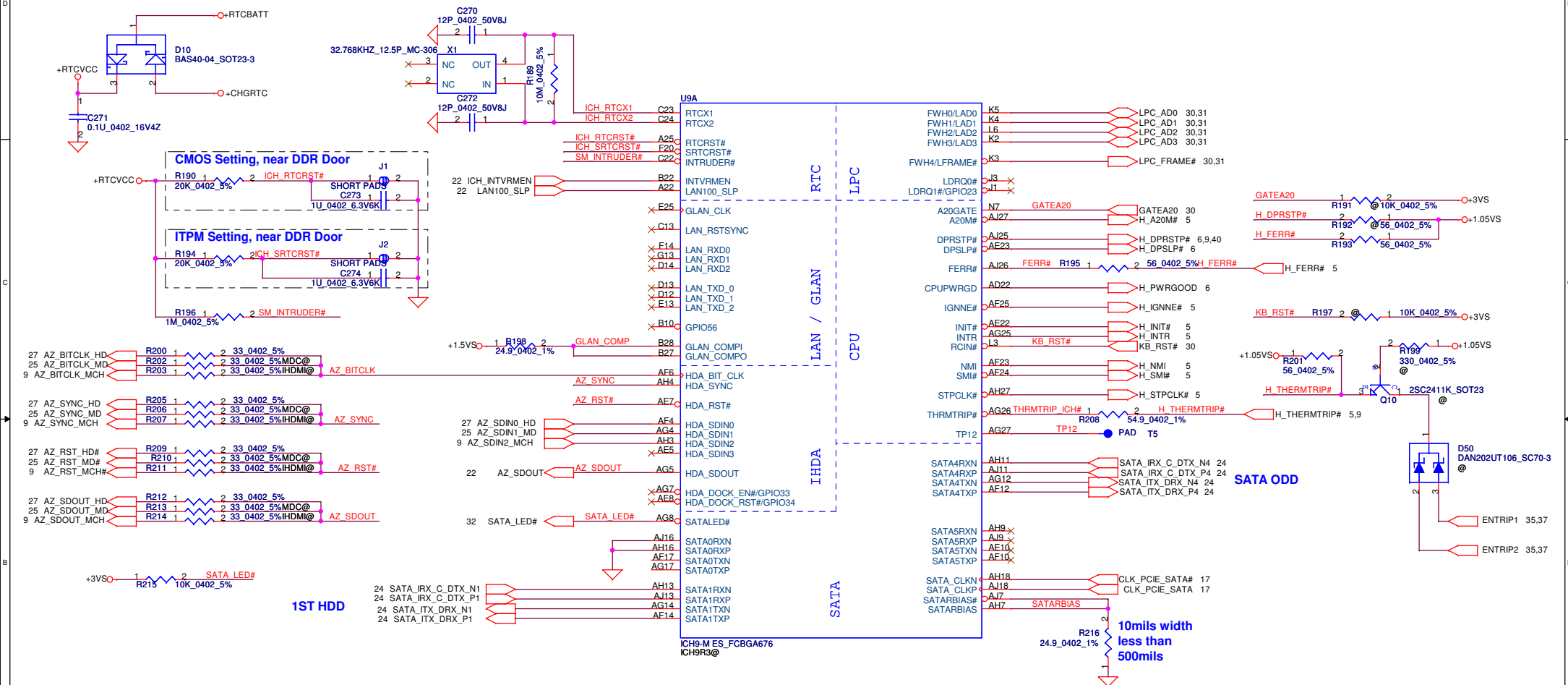
h t t p : / / l a p t o p b l u e . v n

Vendor suggest un-mount for these.

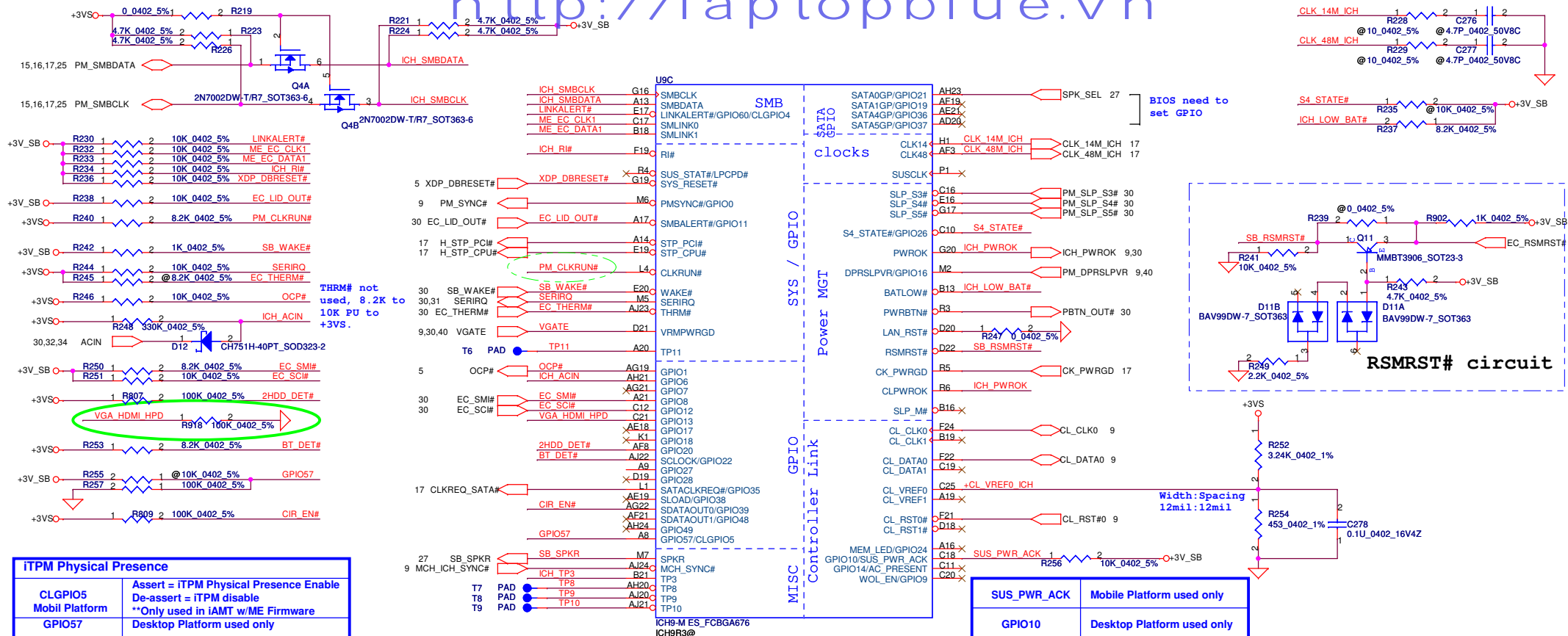
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				HDMI Connector	
				Size	Document Number
				NBWAA LA5821P M/B	
Date	Monday, August 10, 2009	Sheet	19	of	41



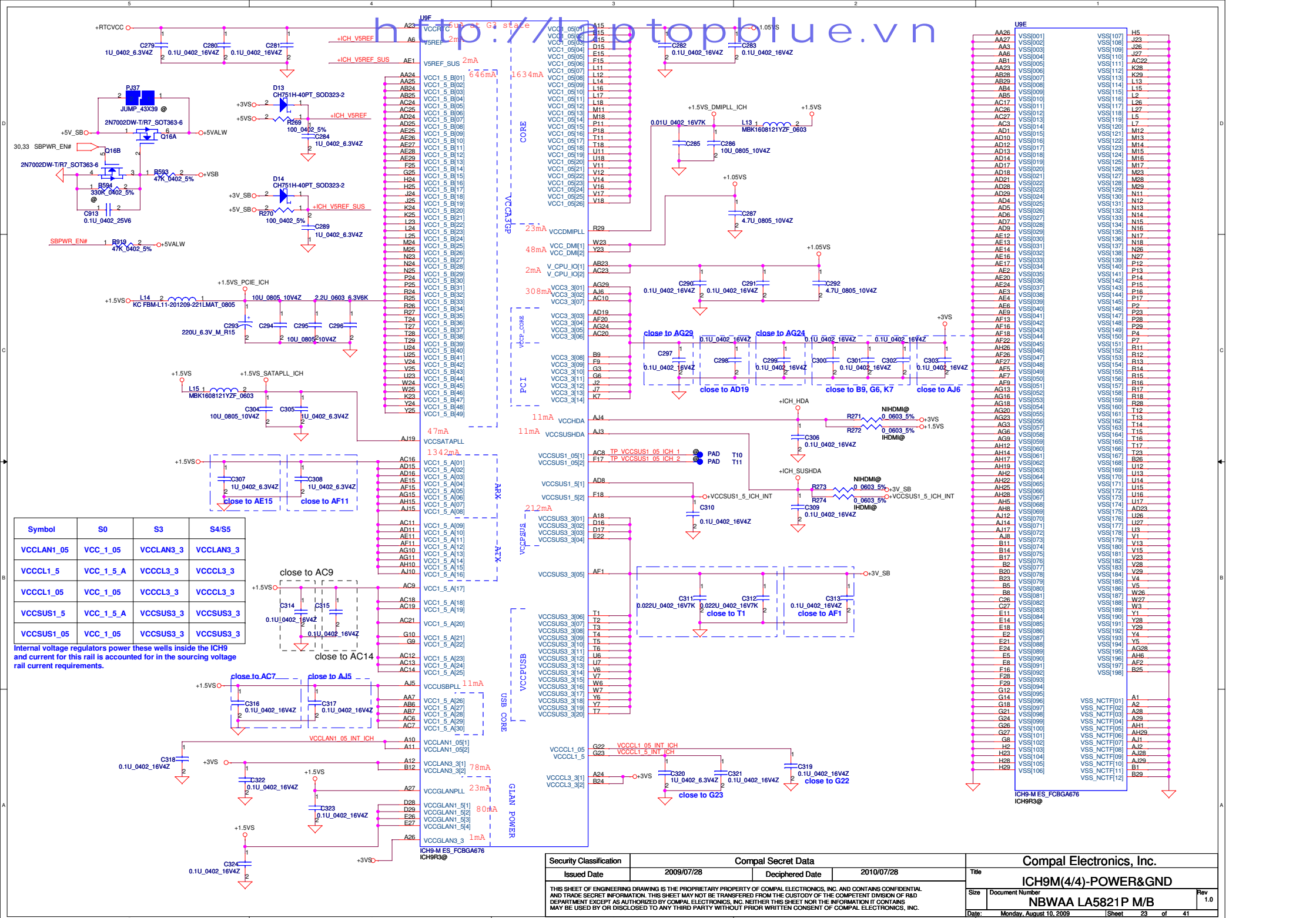
<http://laptopblue.vn>



Security Classification		Compal Secret Data				Compal Electronics, Inc.									
Issued Date		2009/07/28		Deciphered Date		2010/07/28		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.								ICH9M(2/4)-LAN, IDELPC, RTC							
								Size	Document Number						Rev
									NBWAA LA5821P M/B						1.0
								Date:	Monday, August 10, 2009			Sheet	21	of	41

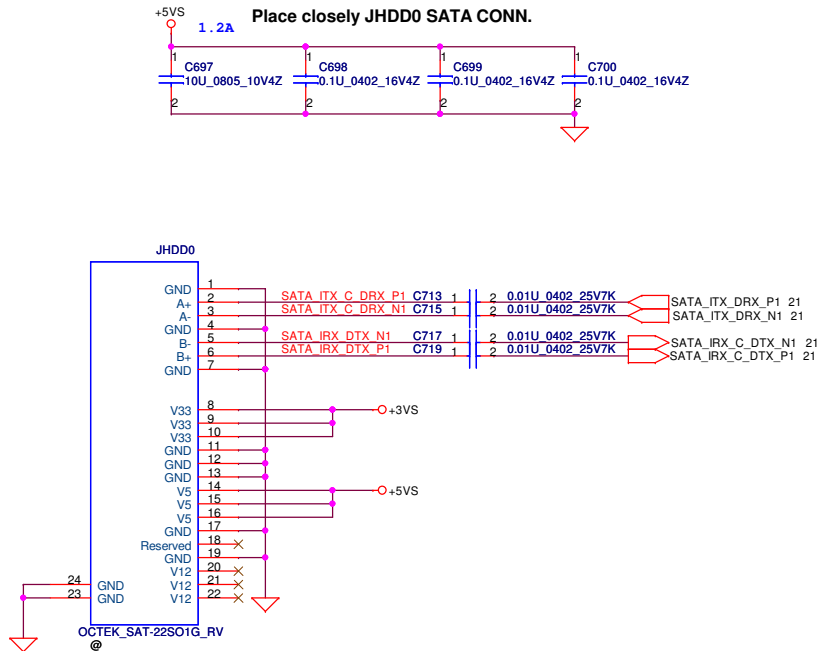




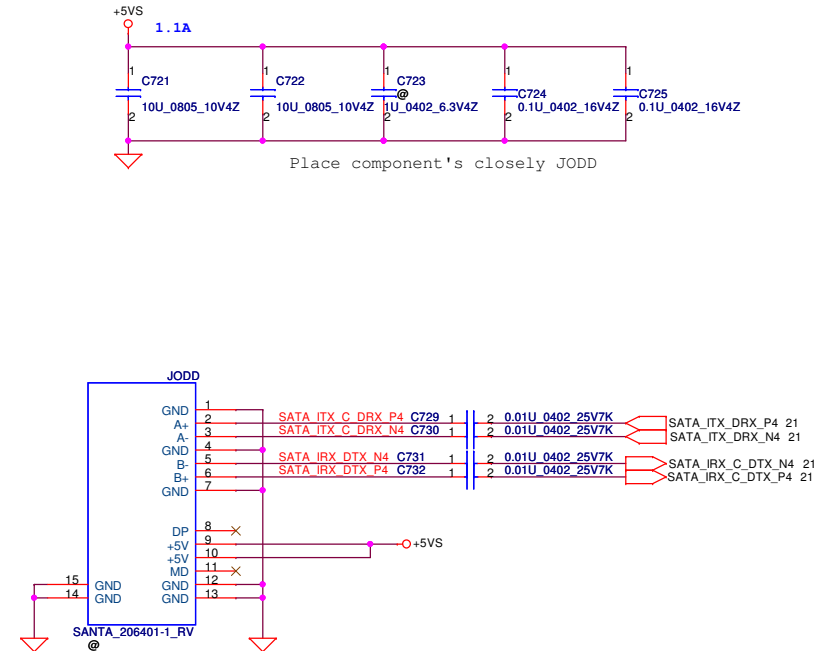


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				ICH9M(4/4)-POWER&GND		
				Size	Document Number	Rev
				NBWAA LA5821 P M/B		
Date: Monday, August 10, 2009				Sheet	23	of 41

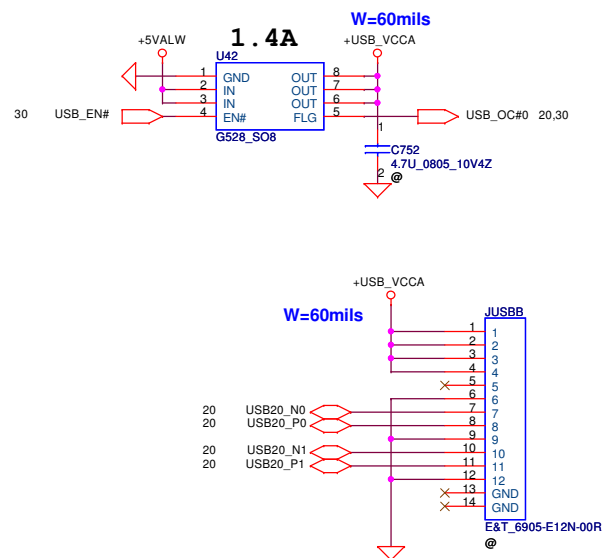
## SATA HDD Conn.



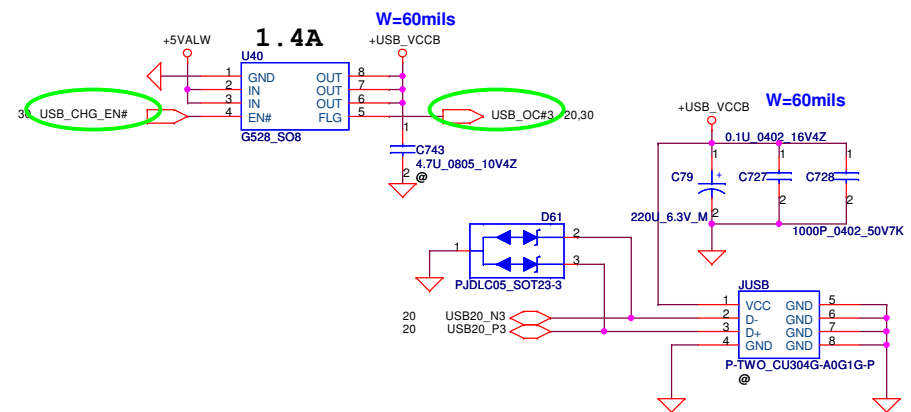
## SATA ODD Conn



## USB Board Conn

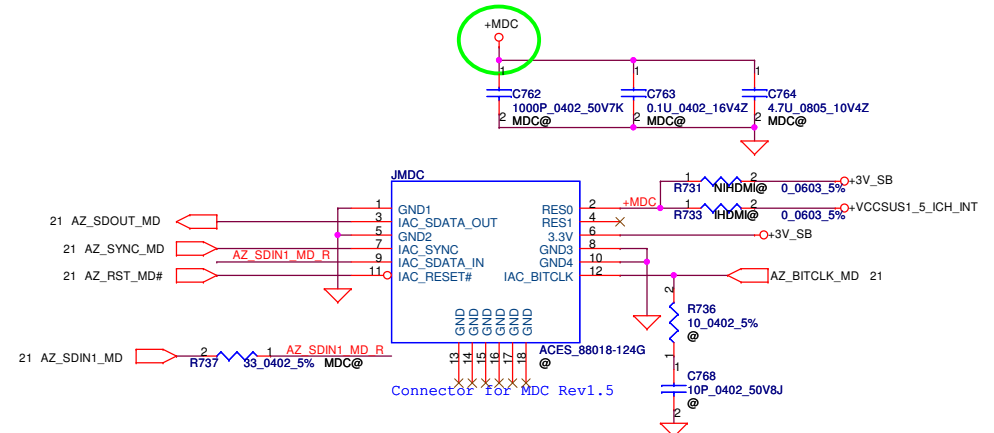
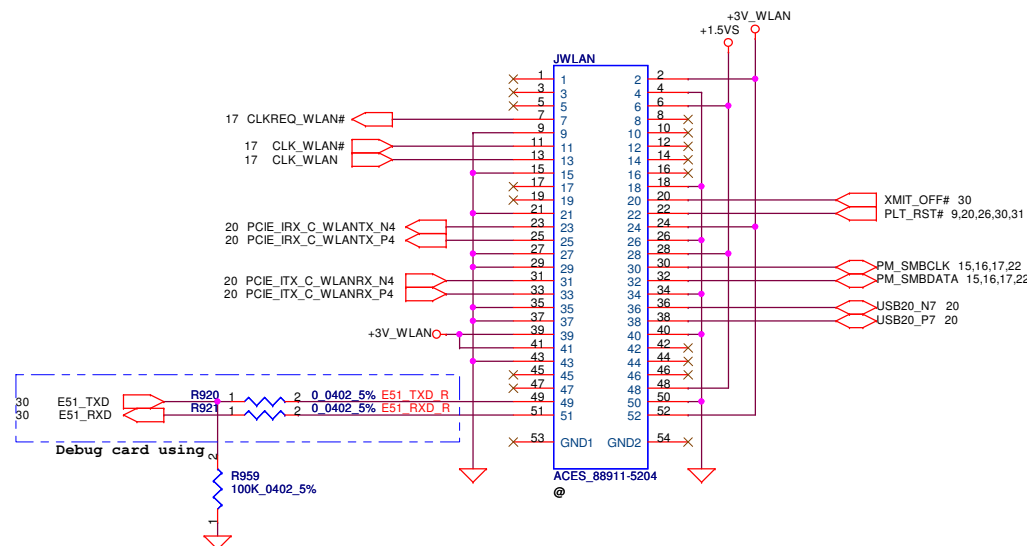


## USB Left Conn

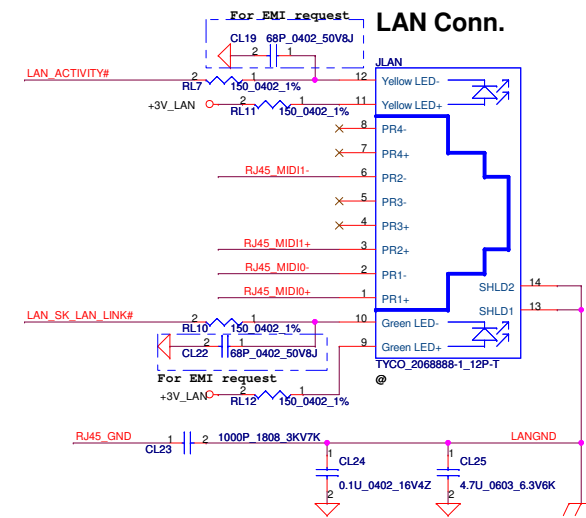
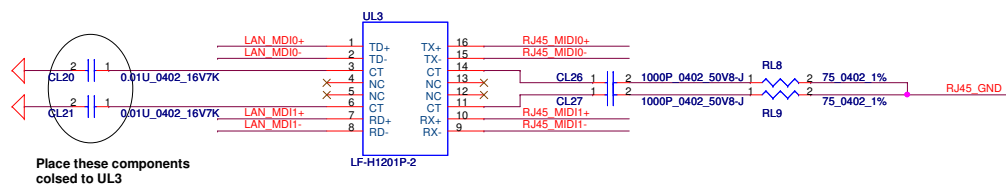
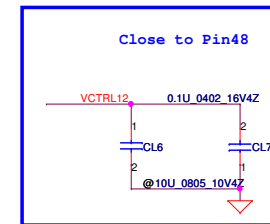
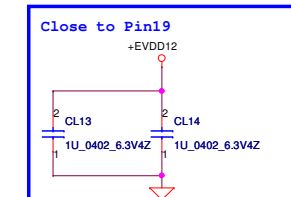
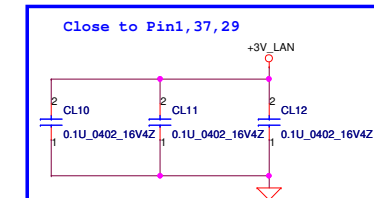
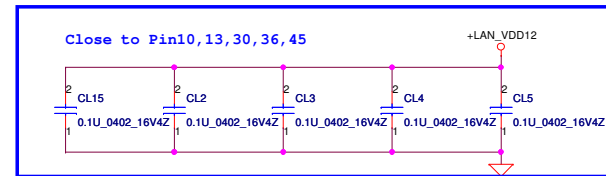
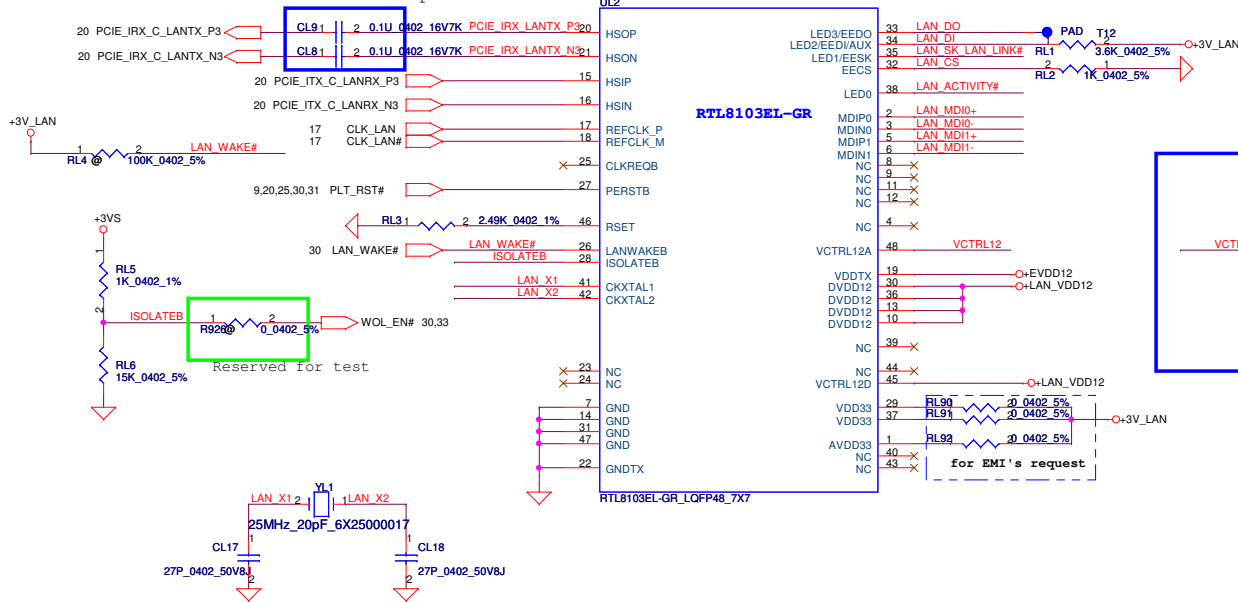
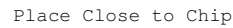


Security Classification		Compal Secret Data		Title	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Size	Document Number
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				NBWAA LA5821P M/B	
				Date:	Thursday, August 06, 2009
				Sheet	24 of 41



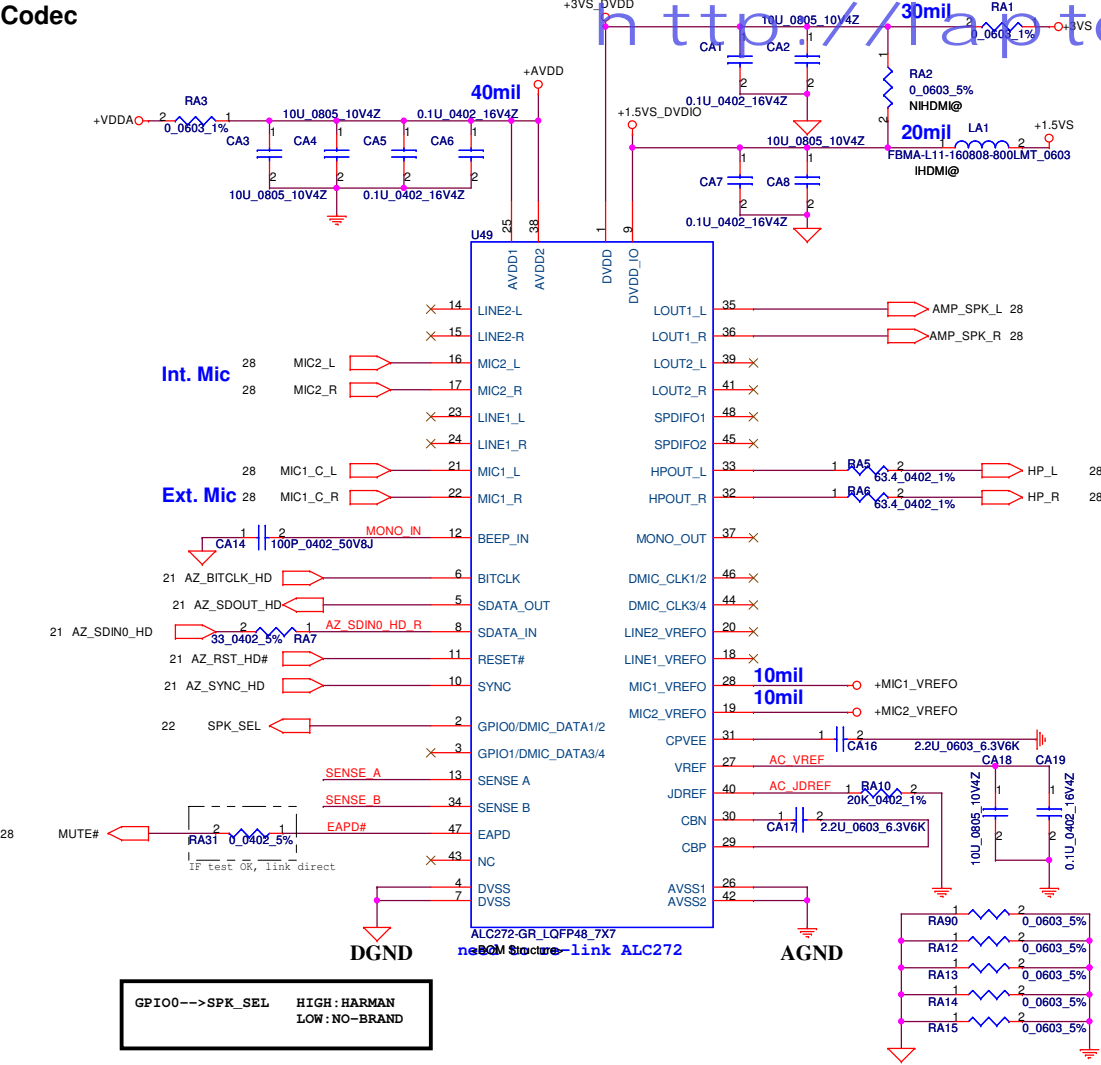


<http://laptopblue.vn>

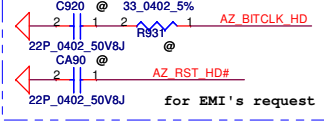


Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b> <b>RTL8103EL 10/100 LAN</b>	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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	Rev
				Custom	1.0
				Document Number <b>NBWAA LA5821P M/B</b>	
Date:		Thursday, August 06, 2009		Sheet	26 of 41

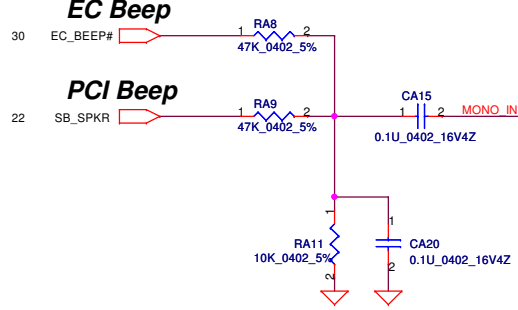
Codec



http://aptopblue.vn

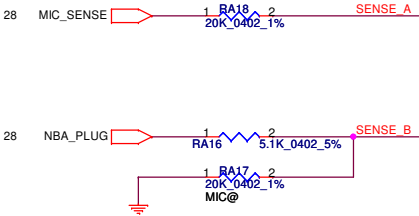


Beep sound



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

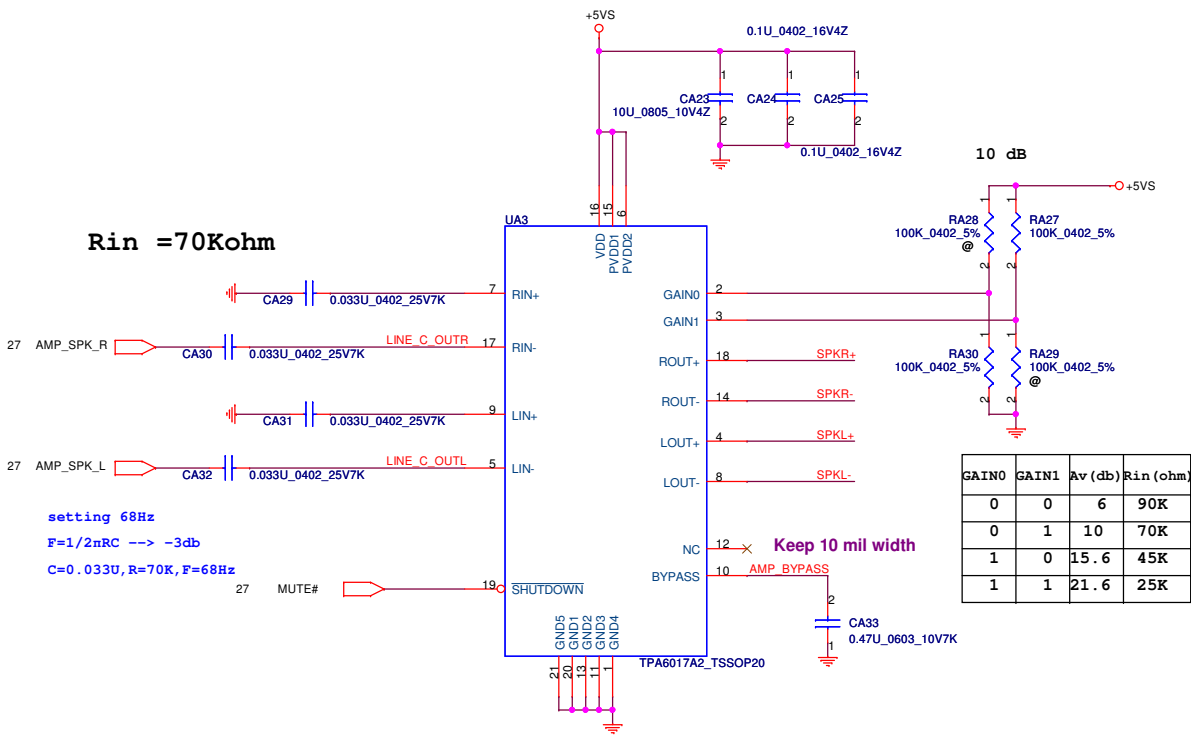
place close to chip



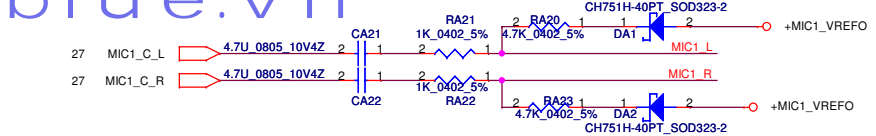
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	HD CODEC ALC272
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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	Monday, August 10, 2009
				Sheet	27 of 41
				Rev	1.0

TPA6017 Medium Range Amplifier

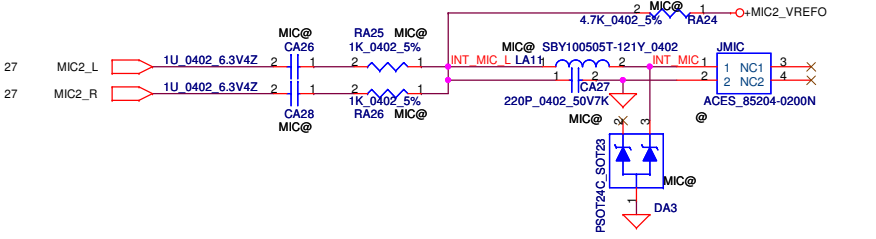
http://laptopblue.vn



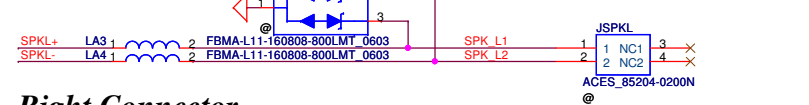
Ext. Mic



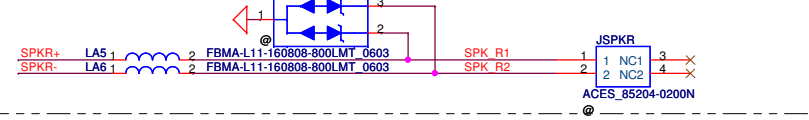
Int. Mic



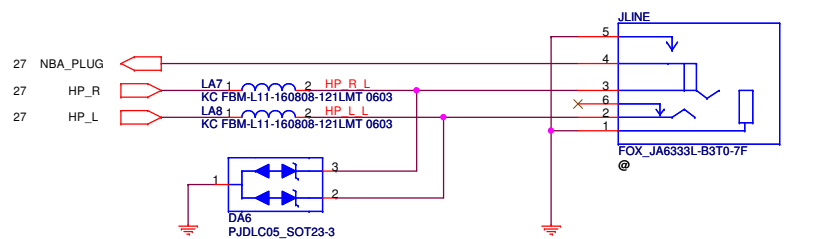
Left Connector



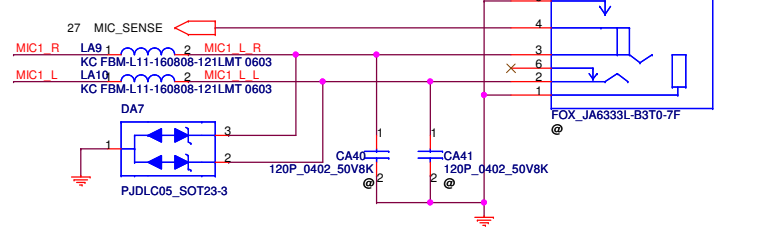
Right Connector



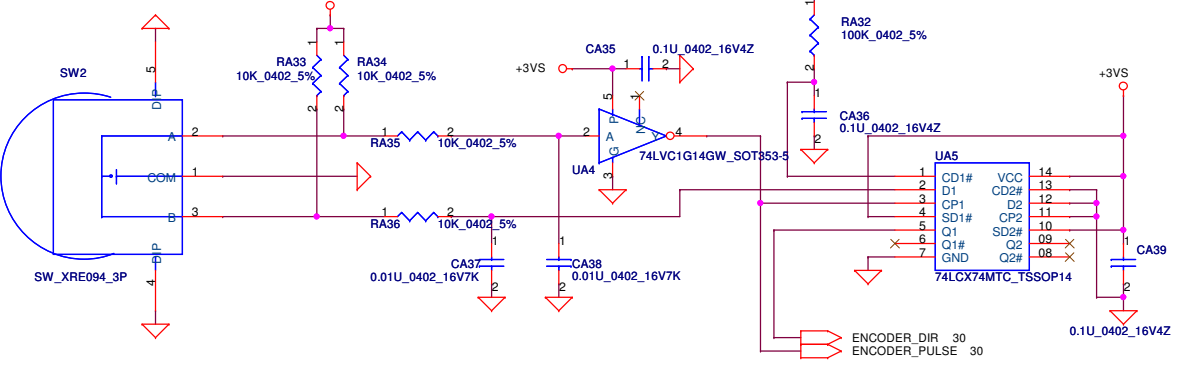
HeadPhone/LINE Out JACK



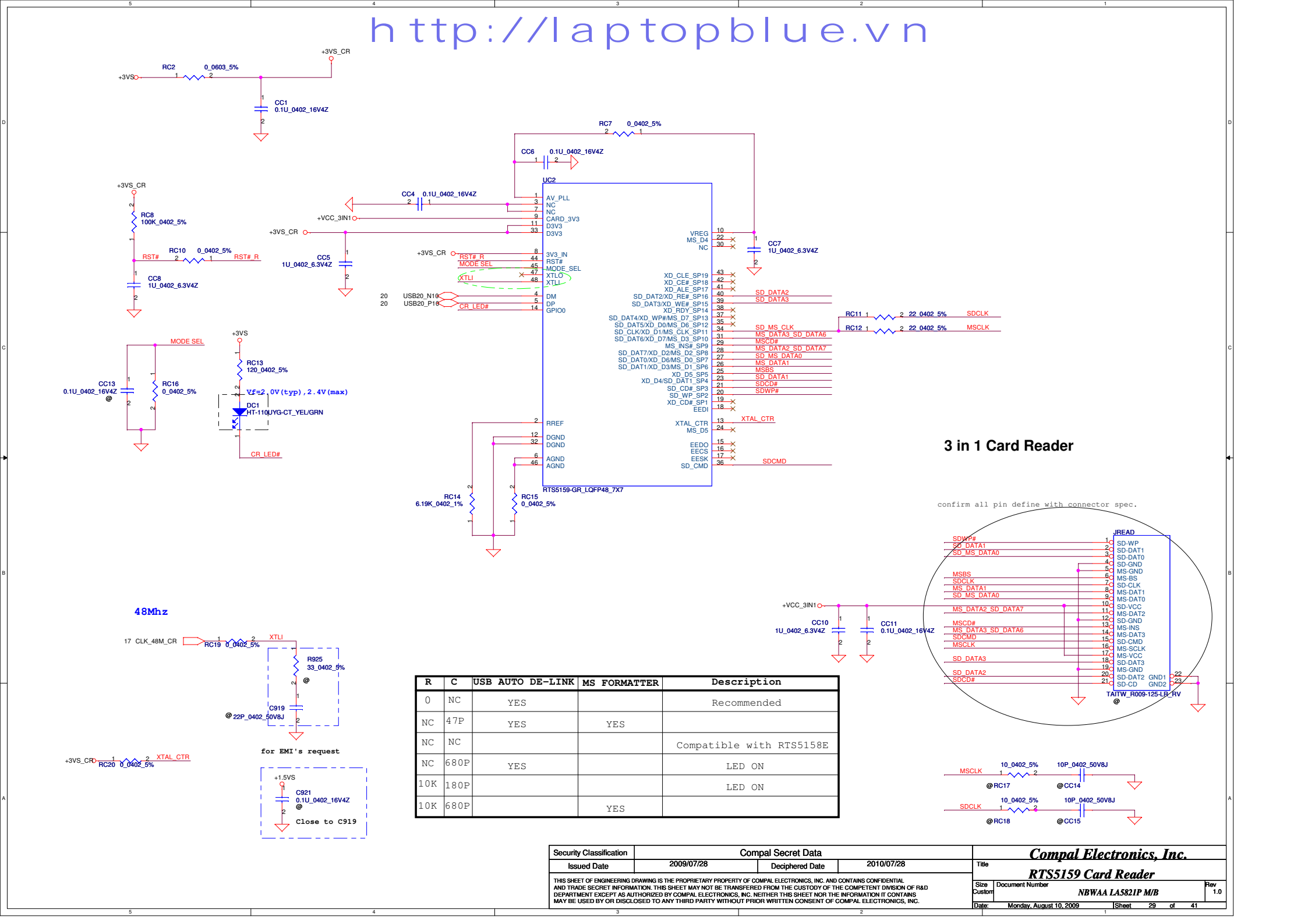
Ext.MIC/LINE IN JACK



Volume Control



Security Classification	Compal Secret Data		Title	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	AUDIO AMP/MIC/SPK/VR
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
				1.0
				Date
				Thursday, August 06, 2009
				Sheet
				28
				of
				41



http://laptopblue.vn

**Component Values:**

- Resistors: RC2=0.0603\_5%, RC8=100K\_0402\_5%, RC10=0.0402\_5%, RC13=120\_0402\_5%, RC14=6.19K\_0402\_1%, RC15=0.0402\_5%, RC16=0.0402\_5%, RC19=0.0402\_5%, RC20=0.0402\_5%.
- Capacitors: CC1=0.1U\_0402\_16V4Z, CC4=0.1U\_0402\_16V4Z, CC5=1U\_0402\_6.3V4Z, CC6=0.1U\_0402\_16V4Z, CC7=1U\_0402\_6.3V4Z, CC8=1U\_0402\_6.3V4Z, CC10=1U\_0402\_6.3V4Z, CC11=0.1U\_0402\_16V4Z, CC13=0.1U\_0402\_16V4Z.
- Crystal: C919 @ 22P\_0402\_50V8J.
- LED: DC1 HT-110JYG-CT\_YEL/GRN.

R	C	USB AUTO DE-LINK	MS FORMATTER	Description
0	NC	YES		Recommended
NC	47P	YES	YES	
NC	NC			Compatible with RTS5158E
NC	680P	YES		LED ON
10K	180P			LED ON
10K	680P		YES	

**Connector Pinout (JREAD):**

- 1: SD-WP
- 2: SD-DAT1
- 3: SD-DAT0
- 4: SD-GND
- 5: MS-GND
- 6: MS-BUS
- 7: SD-CLK
- 8: SD-DAT1
- 9: MS-DAT0
- 10: SD-VCC
- 11: MS-DAT2
- 12: SD-GND
- 13: MS-INVS
- 14: MS-DAT3
- 15: SD-CMD
- 16: SDCMD
- 17: MS-SCLK
- 18: SD-DAT3
- 19: MS-GND
- 20: SD-DAT2 GND1
- 21: SD-CD GND2
- 22: TAITW\_R009-125-LB RV
- 23: @

**Table Summary:**

R	C	USB AUTO DE-LINK	MS FORMATTER	Description
0	NC	YES		Recommended
NC	47P	YES	YES	
NC	NC			Compatible with RTS5158E
NC	680P	YES		LED ON
10K	180P			LED ON
10K	680P		YES	

**Security Classification:** Compal Secret Data

**Issued Date:** 2009/07/28

**Deciphered Date:** 2010/07/28

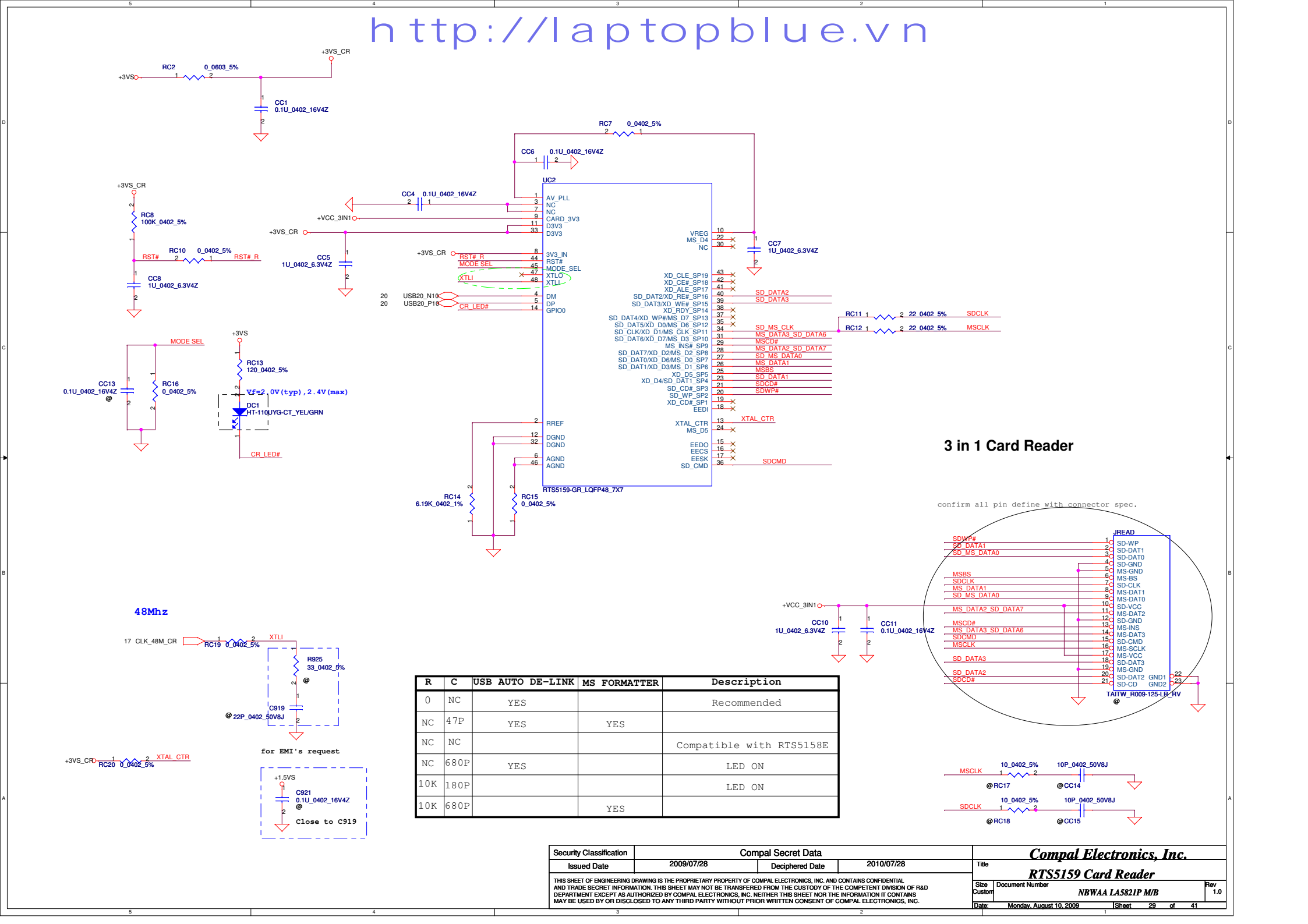
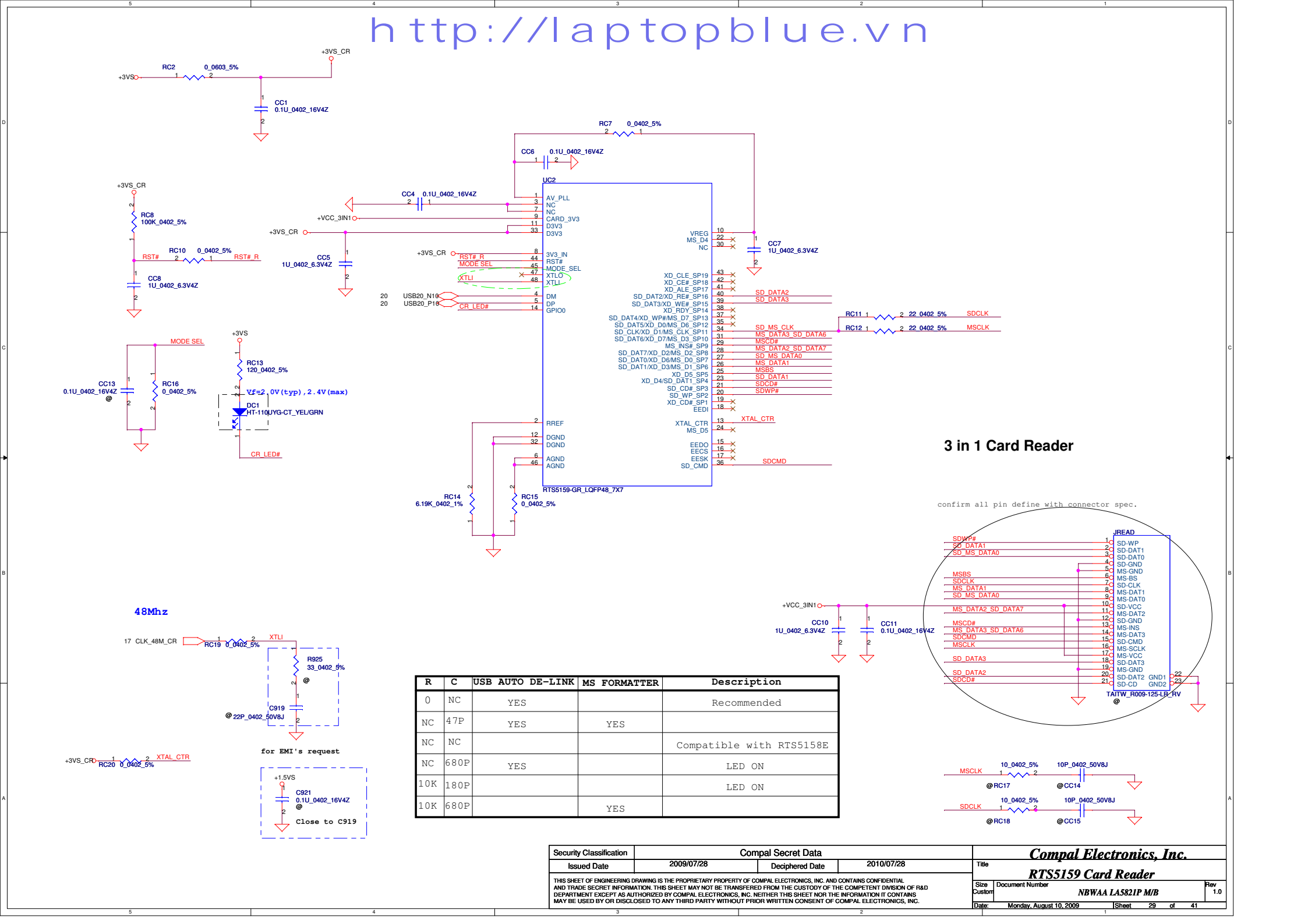
**Title:** Compal Electronics, Inc.  
RTS5159 Card Reader

**Size Custom:** Document Number  
NBWAA LA582IP M/B

**Date:** Monday, August 10, 2009

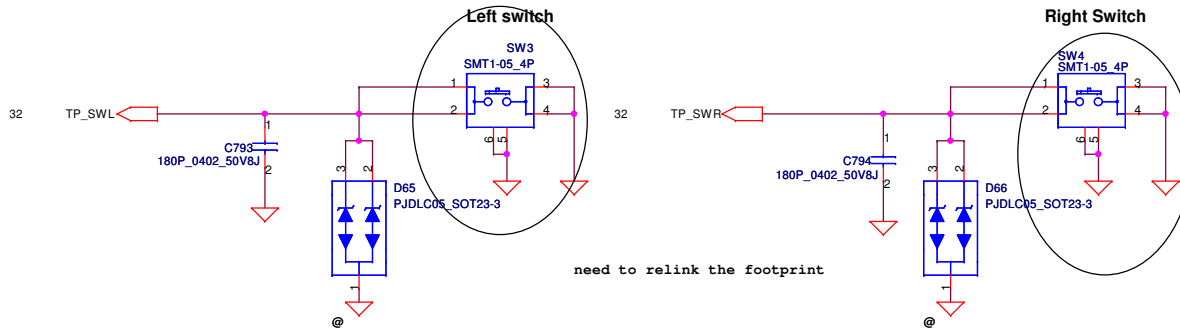
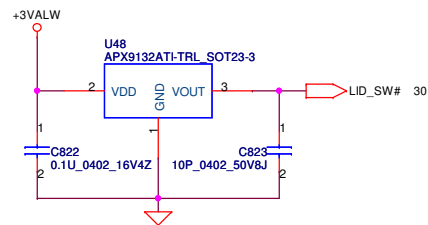
**Sheet:** 29 of 41

**Rev:** 1.0

[illegible][illegible][illegible]

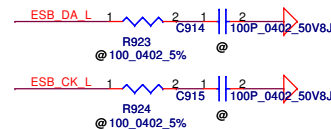


Lid SW
LPC Debug Port
Please place the PAD under DIMM.



The schematic diagram illustrates the ESSENTIALS section of the ACES\_85201-06051 board. Key components and connections include:

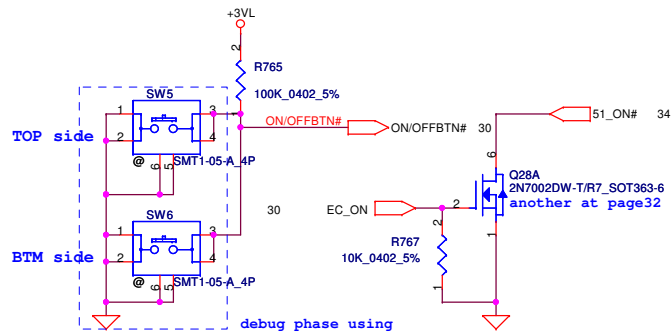
- Capacitors:** R103 (0.0603 5%), R158 (0.0402 5%), R922 (0.0402 5%), L910 (1000505-301T), and L911 (1000505-301T).
- Resistors:** D402 (ESB CK and ESB DA L).
- Diode:** D82 (PJDLCO5\_SOT23-3).
- Power Supply:** +3VL and +3VL CS connections.
- Grounding:** GND and GND connections.
- Board Dimensions:** 20 mil width and JCS.

[illegible]

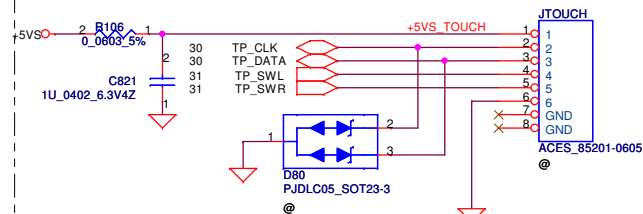
KSO2	1	2
	C789	100P_0402_50V8J
KSO1	1	2
	C790	100P_0402_50V8J
KSO0	1	2
	C791	100P_0402_50V8J
KSO4	1	2
	C792	100P_0402_50V8J
KSO3	1	2
	C795	100P_0402_50V8J
KSO5	1	2
	C796	100P_0402_50V8J
KSO14	1	2
	C797	100P_0402_50V8J
KSO6	1	2
	C798	100P_0402_50V8J
KSO7	1	2
	C799	100P_0402_50V8J
KSO13	1	2
	C800	100P_0402_50V8J
KSO8	1	2
	C801	100P_0402_50V8J
KSO9	1	2
	C802	100P_0402_50V8J
KSO10	1	2
	C803	100P_0402_50V8J
KSO11	1	2
	C804	100P_0402_50V8J
KSO12	1	2
	C805	100P_0402_50V8J
KSO15	1	2
	C807	100P_0402_50V8J
KSI7	1	2
	C808	100P_0402_50V8J
KSI2	1	2
	C810	100P_0402_50V8J
KSI3	1	2
	C811	100P_0402_50V8J
KSI4	1	2
	C812	100P_0402_50V8J
KSI0	1	2
	C813	100P_0402_50V8J
KSI5	1	2
	C814	100P_0402_50V8J
KSI6	1	2
	C815	100P_0402_50V8J
KSI1	1	2
	C816	100P_0402_50V8J
CAPS_LED#	1	2
	C817	100P_0402_50V8J
CURS_LED#	1	2
	C818	100P_0402_50V8J
NUM_LED#	1	2
	C819	100P_0402_50V8J

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	SPI ROM/TP/KB/Debug/CS Board	
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
				NBWAA LA5821P M/B		
				Date:	Monday, August 10, 2009	Sheet 31 of 41

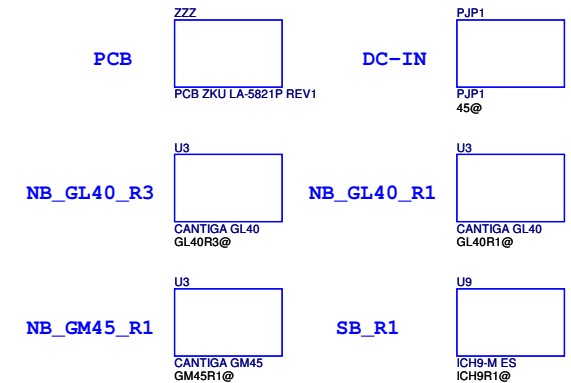
## Power Button



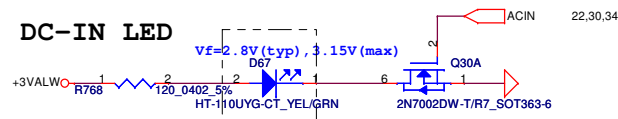
## Touch Pad Connector



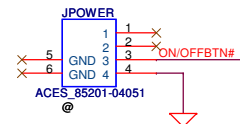
## ISPD



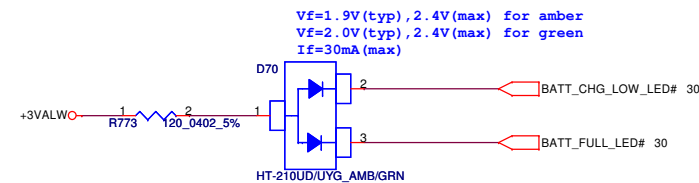
## DC-IN LED



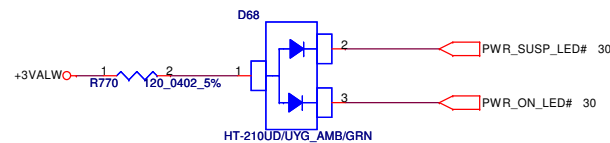
## PWR/B



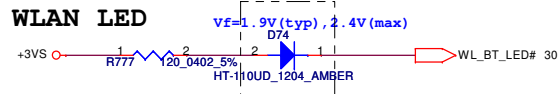
## BATT CHARGE/FULL LED



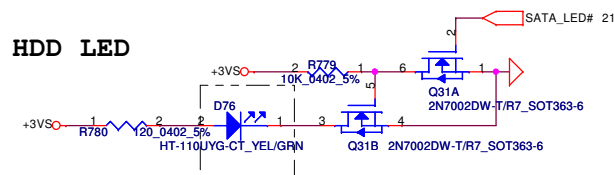
## POWER/SUSPEND LED



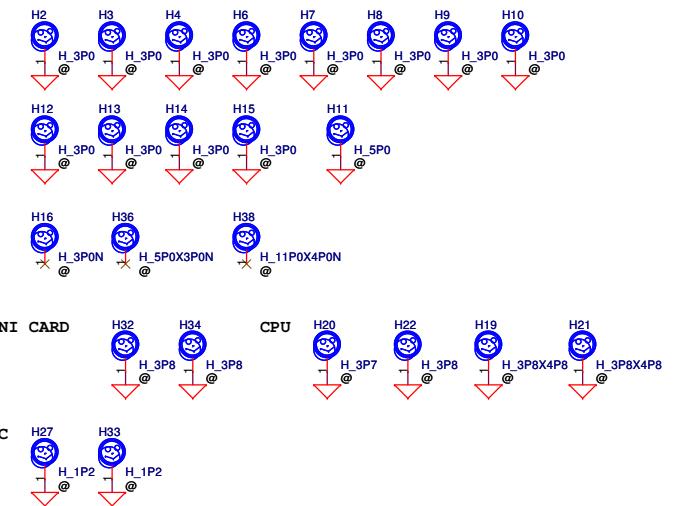
## WLAN LED



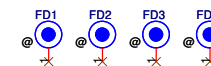
## HDD LED



## Screw Hole

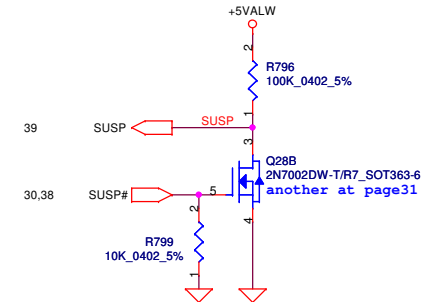
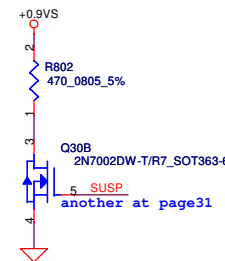
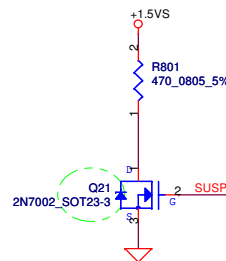
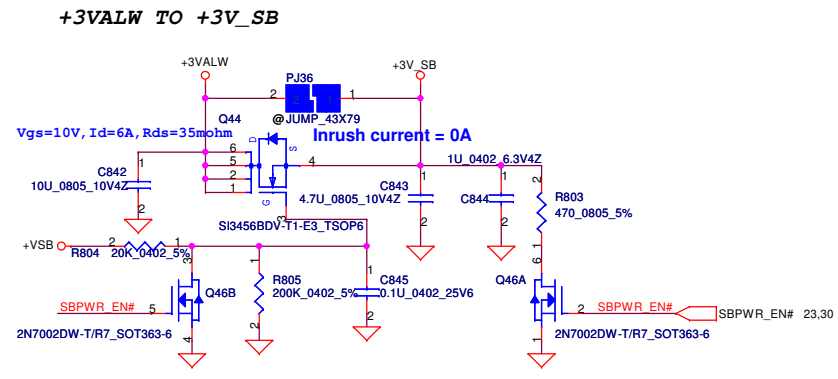
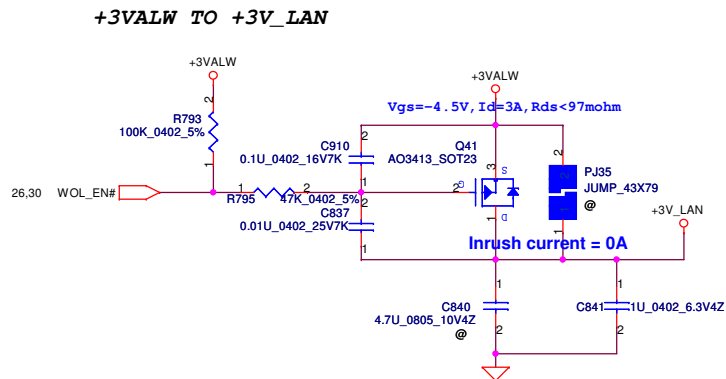
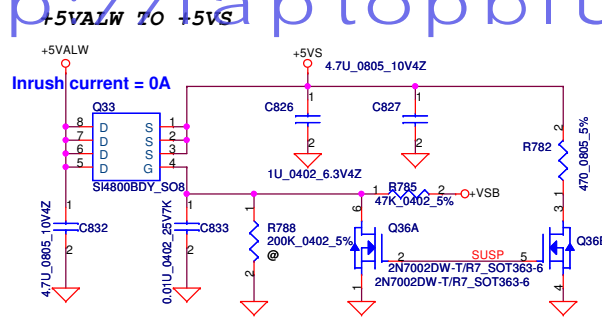
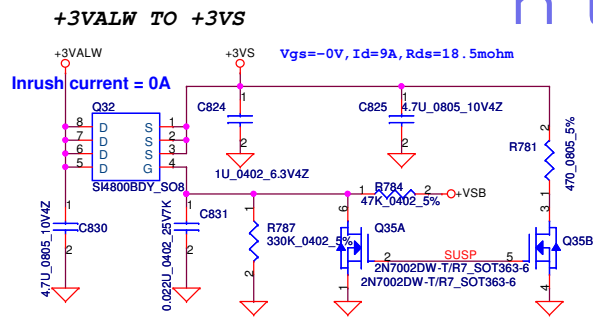


## PCB Federal Mark PAD



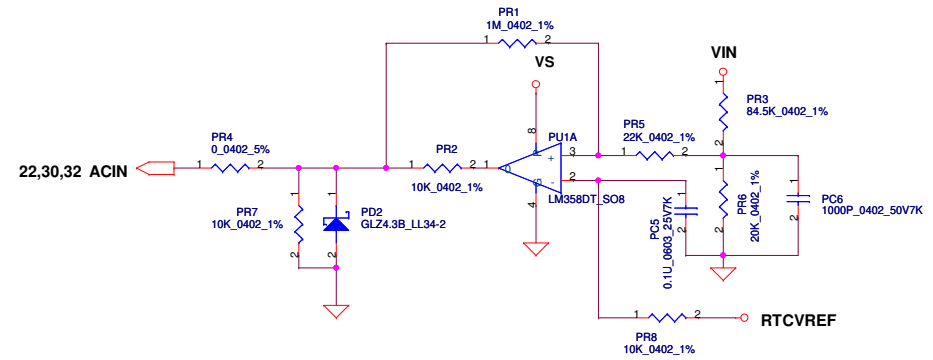
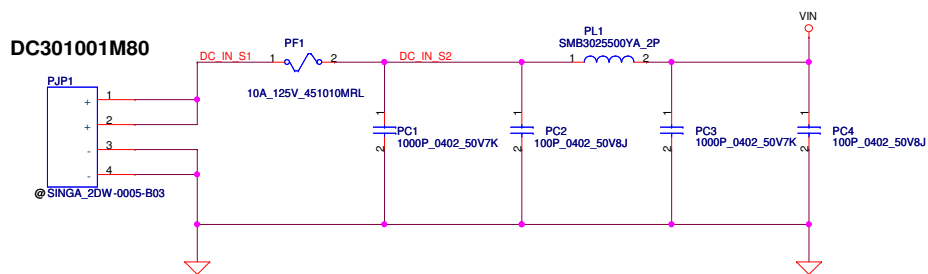
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Comm. SW/ Sub Conn./LEDS/ISPD	
Size		Document Number		Rev	
		NBWAA LA5821P M/B		1.0	
Date		Monday, August 10, 2009		Sheet	
		32		of	
		41			





Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	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.				DC-DC INTERFACE	
Size		Document Number		Rev	
NBWAA LA5821P M/B		1.0		Date	
Monday, August 10, 2009		Sheet		33 of 41	

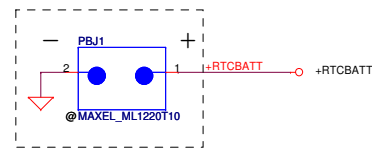
**DC301001M80**



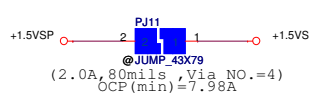
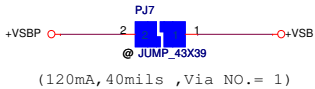
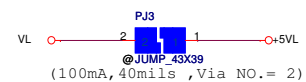
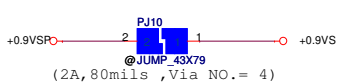
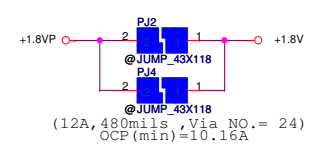
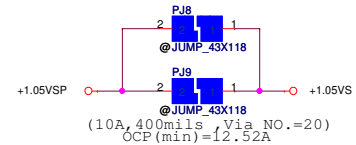
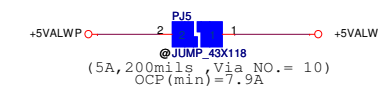
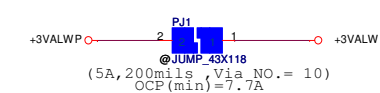
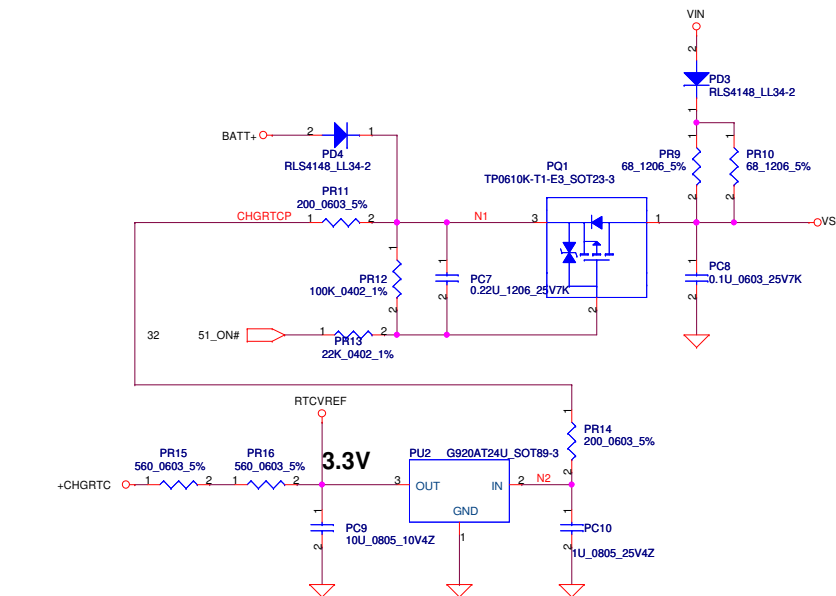
## Vin Detector

High	18.384	17.901	17.430
Low	17.728	17.257	16.976

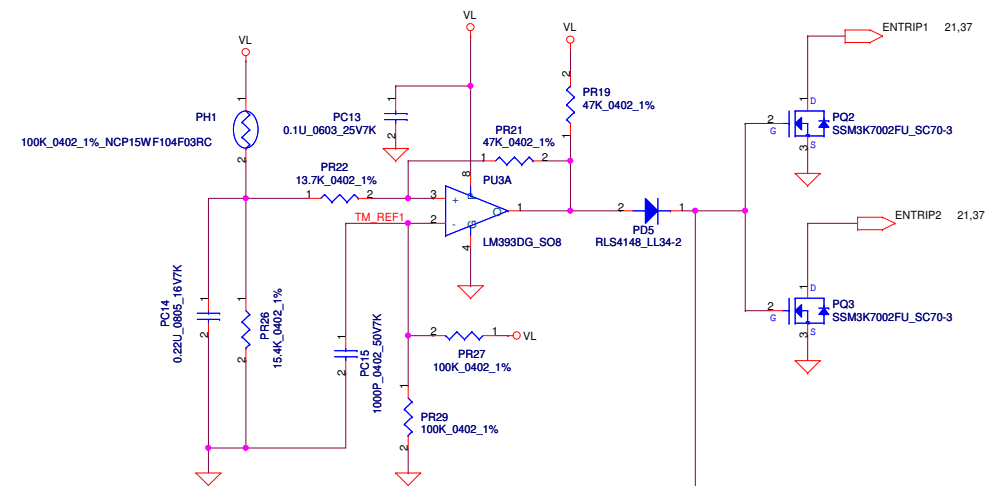
## RTC Battery



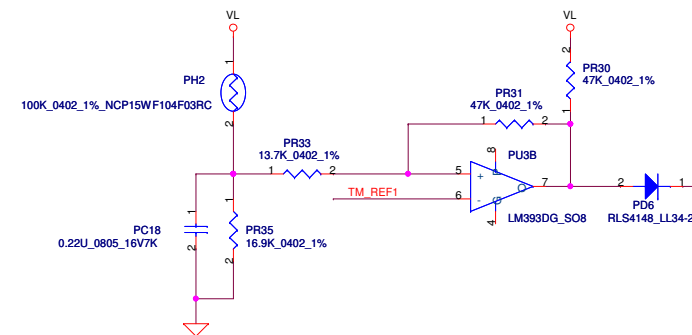
SP093MX0000



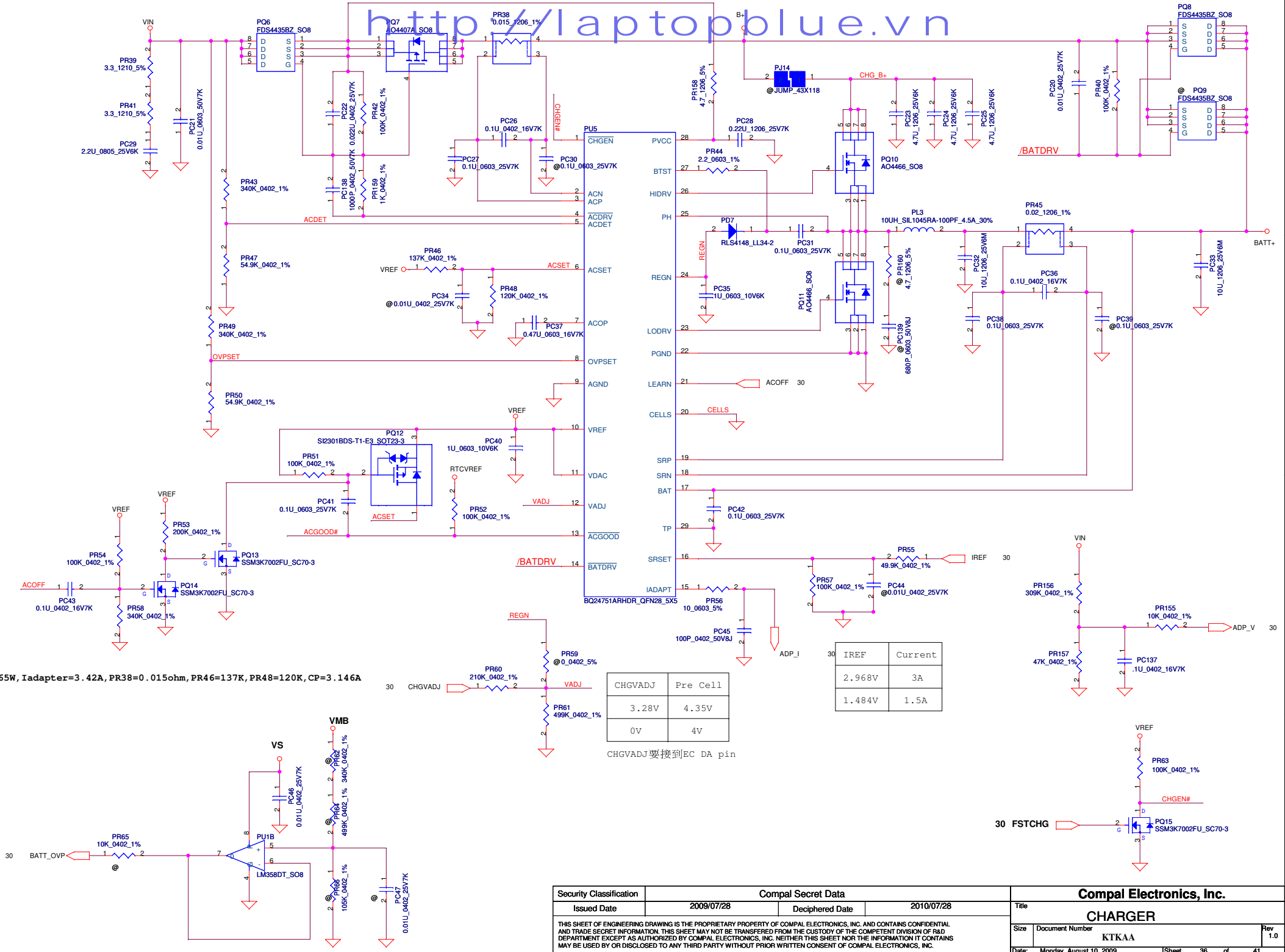
Security Classification		Compal Secret Data		Compal Electronics, Inc.				
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title				
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE 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.				DCIN & DETECTOR				
				Size	Document Number			Rev
				KTKAA			1.0	
Date: Monday, August 10, 2009				Sheet	34	of	41	



BAT. thermal protection at 90 degree C  
Recovery at 53 degree C

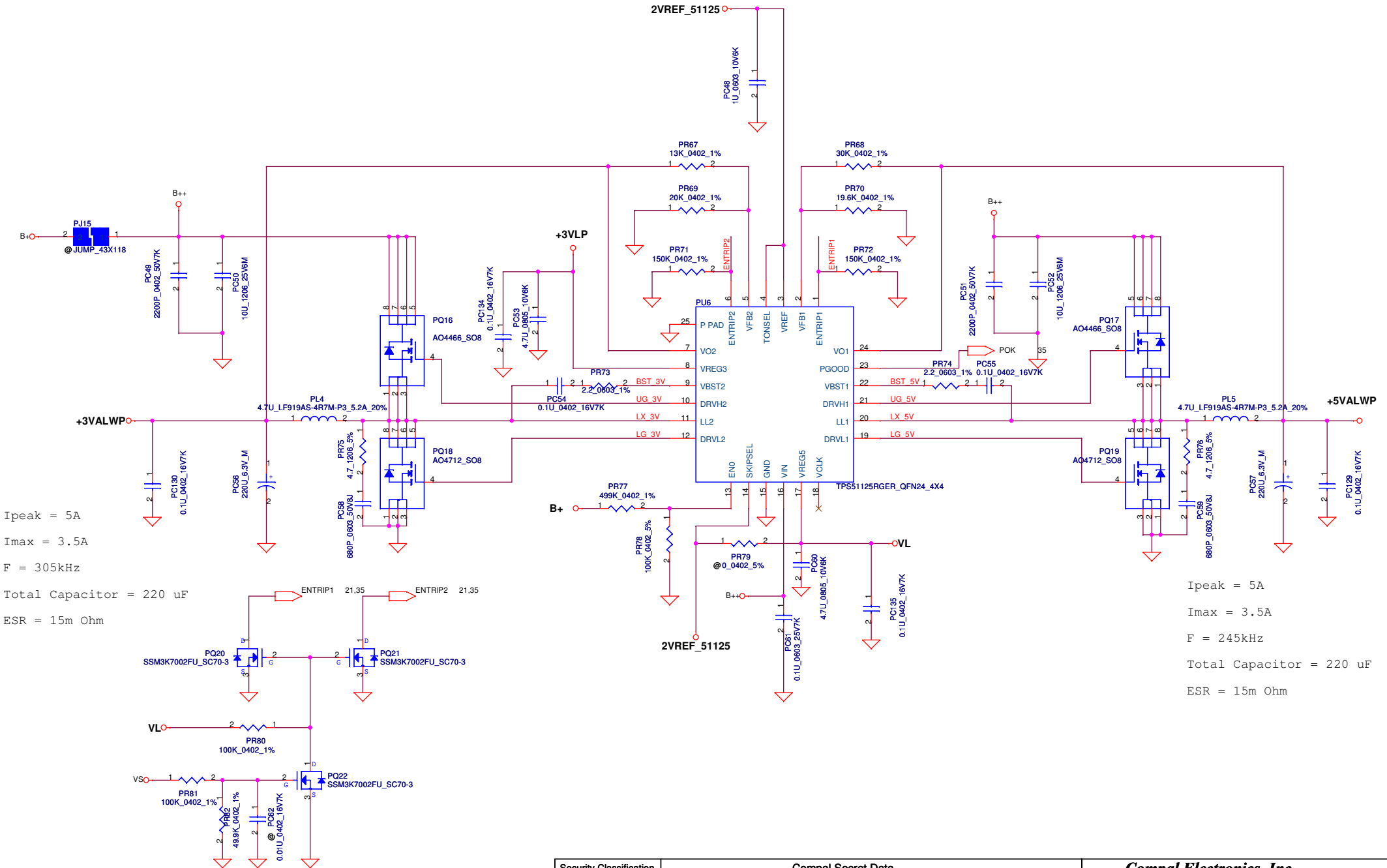


THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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



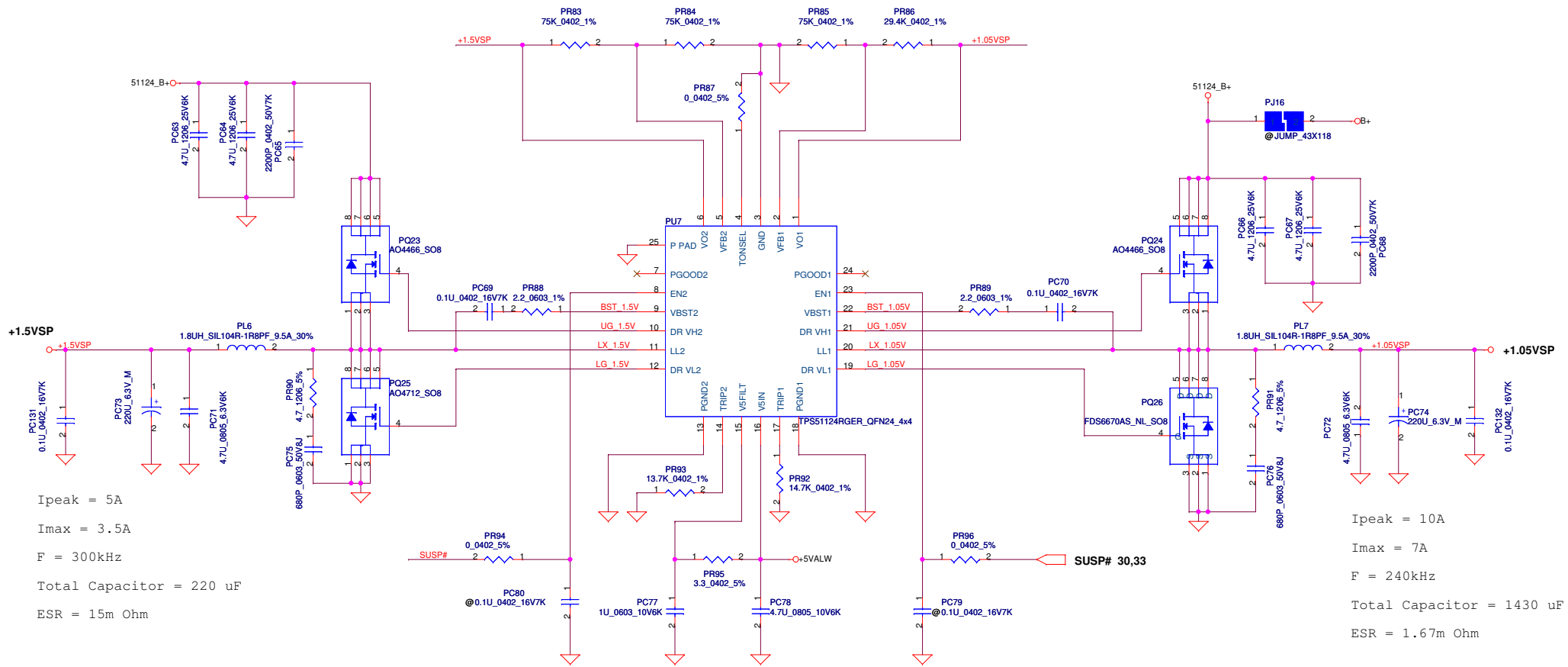
CHGVADJ	Pre Cell
3.28V	4.35V
0V	4V

IREF	Current
2.968V	3A
1.484V	1.5A



Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2009/07/28		Deciphered Date		2010/07/28		Title	
										+5V/+3V	
										Size	
										Custom	
										1.0	
										Rev	
										Date:	
										Monday, August 10, 2009	
										Sheet	
										37	
										of	
										41	

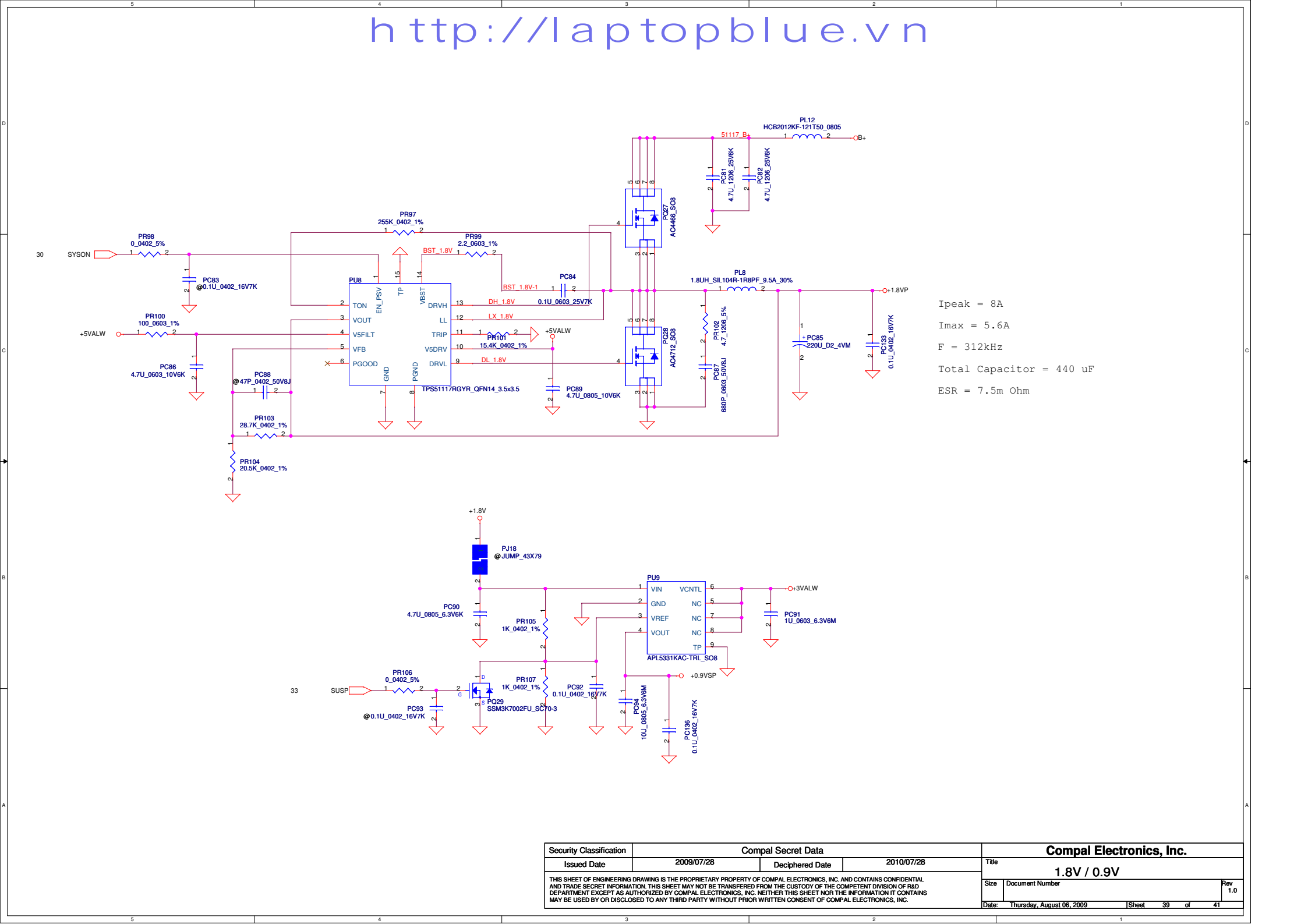
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS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



Ipeak = 5A  
 Imax = 3.5A  
 F = 300kHz  
 Total Capacitor = 220 uF  
 ESR = 15m Ohm

Ipeak = 10A  
 Imax = 7A  
 F = 240kHz  
 Total Capacitor = 1430 uF  
 ESR = 1.67m Ohm

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	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.				1.05V / 1.5V	
Size	Document Number	Rev		1.0	
Date:	Monday, August 10, 2009	Sheet	38	of	41



http://laptopblue.vn

http://laptopblue.vn

SYSON

+5VALW

PC83 @0.1U\_0402\_16V7K

PR100 100\_0603\_1%

PC86 4.7U\_0603\_10V6K

PC88 @47P\_0402\_50V8J

PR103 28.7K\_0402\_1%

PR104 20.5K\_0402\_1%

PU8

TON

EN\_PSV

VOUT

VSFILT

VFB

PGOOD

GND

PGND

TP

VBST

DRVH

LL

TRIP

V5DRV

DRVL

TPS51117RGYR\_QFN14\_3.5x3.5

PR97 255K\_0402\_1%

PR99 2.2\_0603\_1%

BST 1.8V

BST 1.8V-1

PC84 0.1U\_0603\_25V7K

DH 1.8V

LX 1.8V

PR101 15.4K\_0402\_1%

+5VALW

PC89 4.7U\_0805\_10V6K

PC27 AO4466\_S08

PC28 AO4712\_S08

PL12 HCB2012KF-121T50\_0805

51117 B+

PC81 4.7U\_1206\_25V6K

PC82 4.7U\_1206\_25V6K

PL8 1.8UH\_SIL104R-1R8PF\_9.5A\_30%

PR102 4.7\_1206\_5%

PC87 680P\_0603\_50V8J

PC85 220U\_D2\_4VM

PC133 0.1U\_0402\_16V7K

+1.8VP

Ipeak = 8A

Imax = 5.6A

F = 312kHz

Total Capacitor = 440 uF

ESR = 7.5m Ohm

+1.8V

PJ18 @JUMP\_43X79

PC90 4.7U\_0805\_6.3V6K

PR105 1K\_0402\_1%

PR107 1K\_0402\_1%

PC92 0.1U\_0402\_16V7K

PC93 @0.1U\_0402\_16V7K

PC91 1U\_0603\_6.3V6M

PU9

VIN

GND

VREF

VOUT

VCNTL

NC

NC

NC

TP

APL5331KAC-TRL\_S08

SUSP

PR106 0\_0402\_5%

PC93 @0.1U\_0402\_16V7K

PO29 SSM3K7002FU\_S070-3

PO32 10U\_0805\_6.3V6M

PC136 0.1U\_0402\_16V7K

+0.9VSP

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2009/07/28	Deciphered Date	2010/07/28	Title	
				1.8V / 0.9V	
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	Thursday, August 06, 2009
				Sheet	39 of 41
				Rev	1.0





PIR (Product Improve Record)

NBWAA LA-5821P SCHEMATIC CHANGE LIST  
REVISION CHANGE: 0.1 TO 1.0

http://laptopblue.vn

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1.	08/06	18	Add R936 on BKOFF#; R937 on INVT_PWM	To prevent EC pin damage
2.	08/06	26	Add RL90, RL91, RL91 on +3V_LAN	For EMI's request
3.	08/06	18	Add C922, C923, C924 220pF on DAC_BRIG, INVT_PWM_R, BKOFF#_R	For EMI's request
4.	08/06	31	Delete R752, C787 on SPI_CLK; Add L912, C925 on SPI_CLK_L	For EMI's request
5.	08/06	28	Add LA11 on INT_MIC_L	For EMI's request
6.	08/06	28	Mount D61, DA3, DA6, DA7	For ESD's request
7.	08/06	32	Un-mount SW5, SW6	Power button, no need after pre-MP

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2009/07/28	Deciphered Date	2010/07/28	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.		ISPD			
		Size	Document Number		Rev
			NBWAA LA5821P M/B		1.0
Date:		Monday, August 10, 2009		Sheet	41 of 41