

# Compal confidential

## JBK00 LA-4092P Schematics Document

Mobile AMD S1G2 CPU with ATI  
RX781 & SB700 core logic with M82-S

2008-02-20

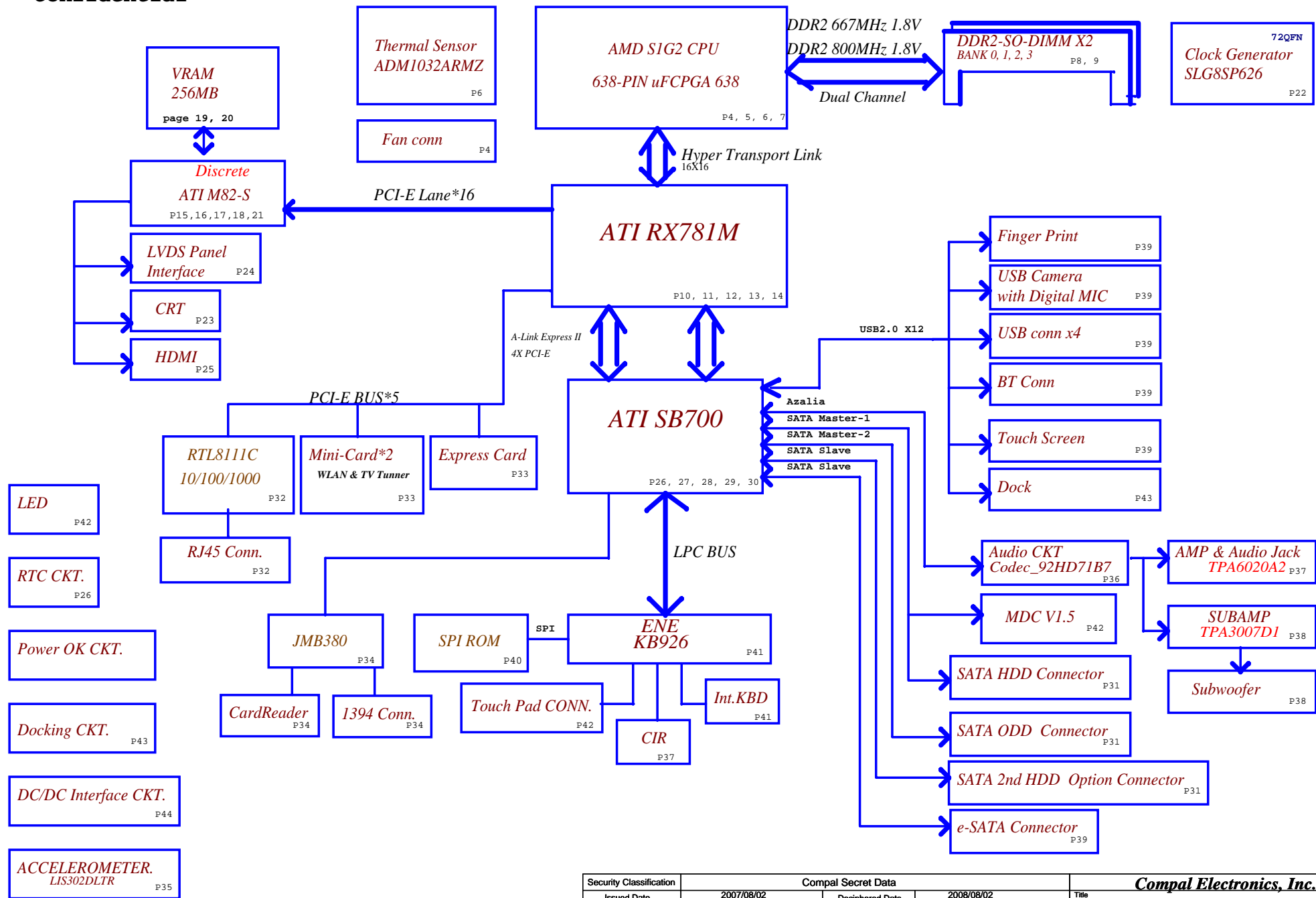
REV:0.4

機 等 密	硬體二部
	產出人員
	產出日期
	解密日期

Security Classification	Compal Secret Data			Title <b>Compal Electronics, Inc.</b>		
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Cover Sheet		
<small>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.</small>				Size Custom	Document Number <b>LA-4092P</b>	Rev 0.4
				Date: Thursday, February 21, 2008 Sheet 1 of 53		

Compal  
confidential

## Consumer AMD UMA/DISCRETE 17"



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	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 Custom	Document Number
				LA-4092P	
				Date: Thursday, February 21, 2008	Rev 0.4
				Block Diagram	
				Sheet 2 of 53	

## Voltage Rails

<div>power plane</div> <div>State</div>	<div>+B</div> <div>+3VL</div> <div>+5VL</div>	<div>+5VALW</div> <div>+3VALW</div> <div>+1.2VALW</div> <div>+3V_LAN</div>	<div>+1.8V</div> <div>+0.9V</div>	<div>+5VS</div> <div>+3VS</div> <div>+2.5VS</div> <div>+1.8VS</div> <div>+1.5VS</div> <div>+1.1VS</div> <div>+VGA_CORE</div> <div>+1.2V_HT</div> <div>+CPU_CORE_NB</div> <div>+CPU_CORE_0</div> <div>+CPU_CORE_1</div>
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

O MEANS ON      X MEANS OFF

## 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
ACCELEROMETER	3A	0 0 1 1 1 0 1 0

### EC SM Bus1 address

Device	HEX	Address
Smart Battery	16H	0001 011X b
24C16	A0H	1010 000X b
CPU SIC interface	98H	1001 100X b

### EC SM Bus2 address

Device	HEX	Address
ADI1032-2 CPU	9AH	1001 101X b
ADI1032-1 VGA	98H	1001 100X b

**Symbol Note :**



**: means Digital Ground**

**: means Analog Ground**

**@ : means just reserve , no build**

**DEBUG@** : means just reserve for debug.

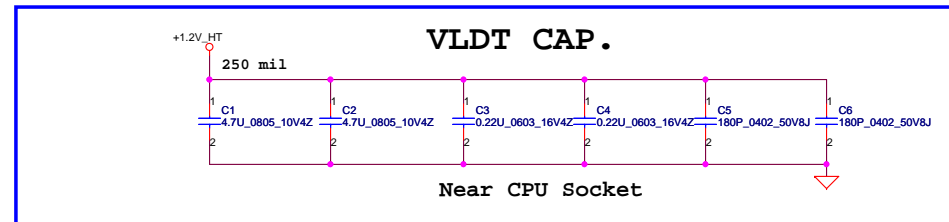
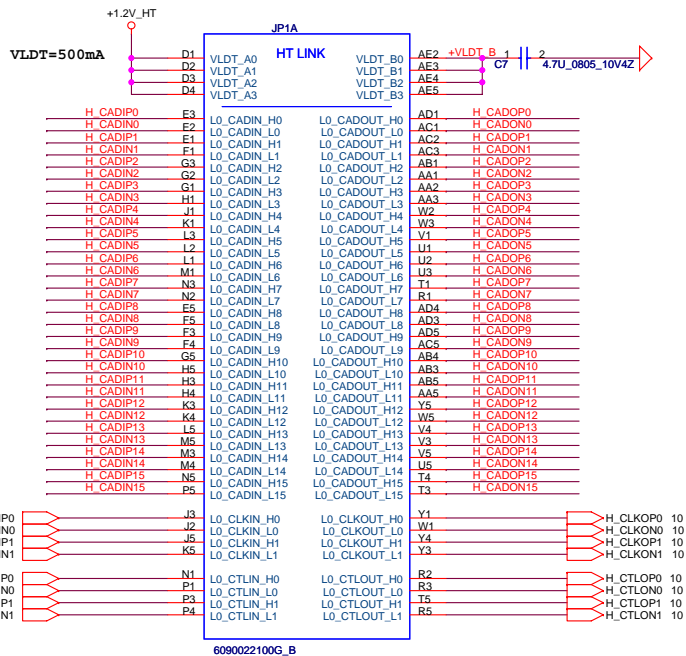


## Layout Notes

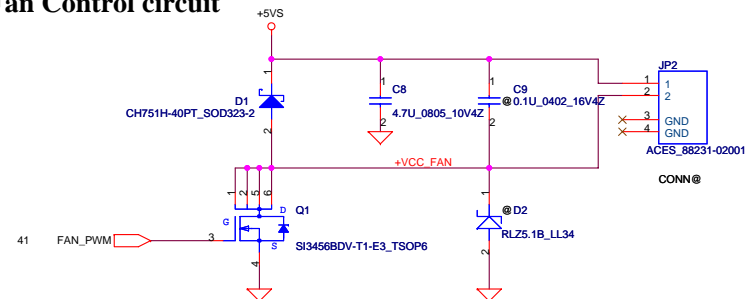
### SMBUS Control Table

[illegible]

Security Classification		Compal Secret Data		<div>Compal Electronics, Inc.</div> <div>Notes List</div>		
Issued Date	2007/08/02	Deciphered Date	2008/08/02			
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
				Custom	LA-4092P	0.4
				Date:	Thursday, February 21, 2008	Sheet 3 of 53

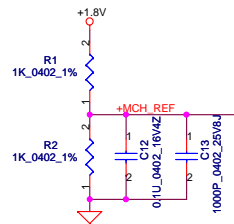


## PWM Fan Control circuit

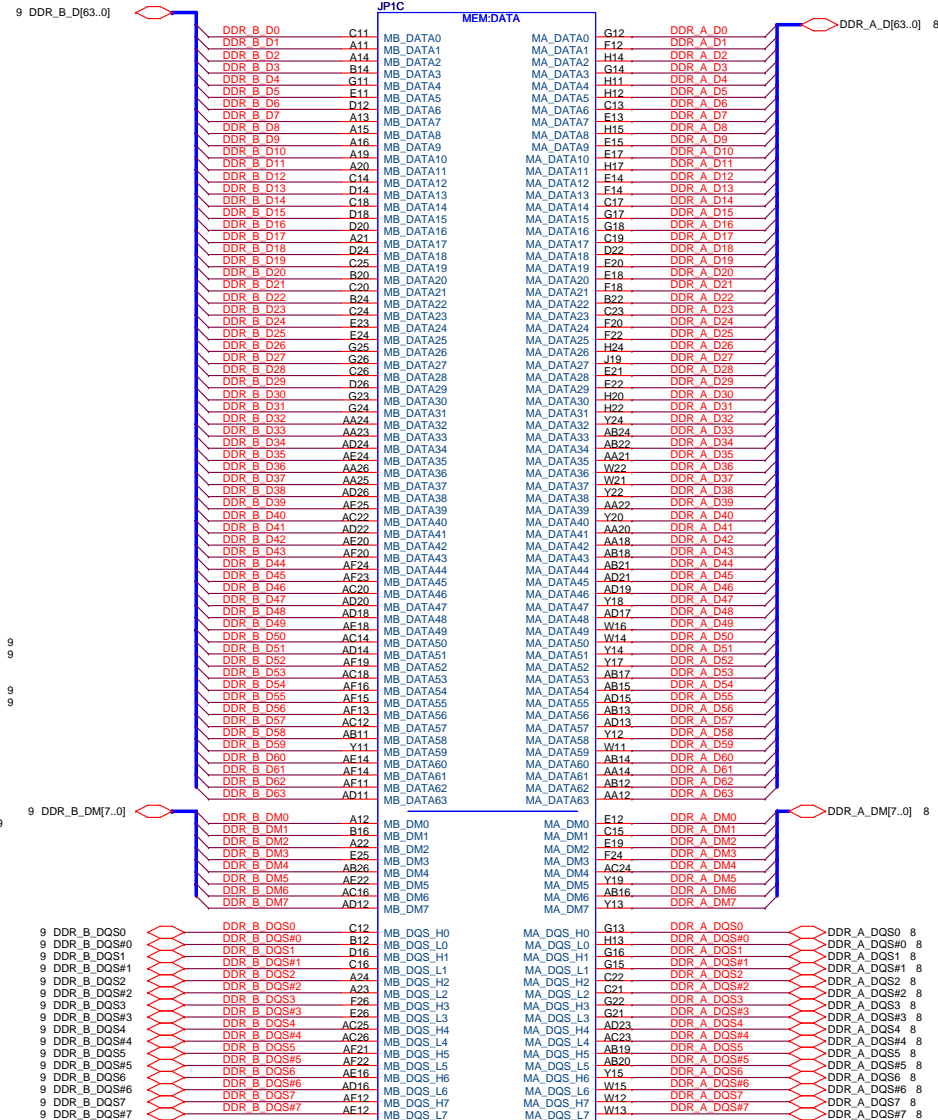
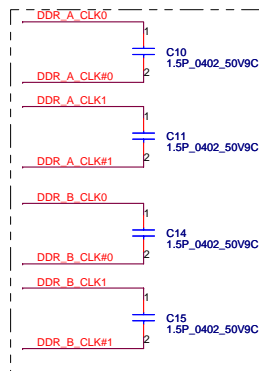


Security Classification	Compal Secret Data			Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	AMD CPU S1G2 HT I/F	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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-4092P
				Date: Thursday, February 21, 2008	Rev 0.4
				Sheet 4	of 53

## Processor DDR2 Memory Interface

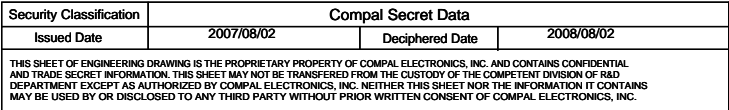


PLACE CLOSE TO PROCESSOR  
WITHIN 1.5 INCH

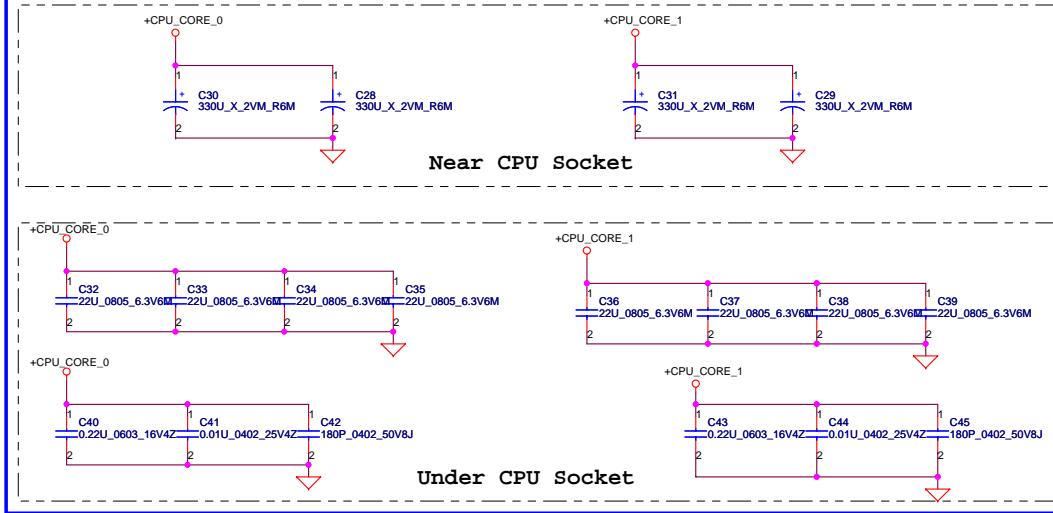


6090022100G

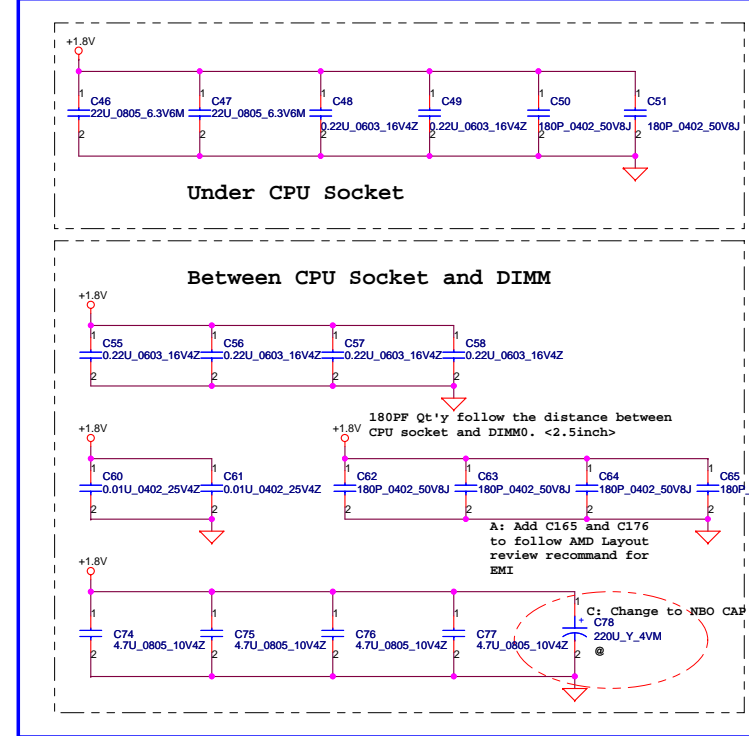
Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b> <b>AMD CPU SIG2 DDRII I/F</b>	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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 Custom Document Number <b>LA-4092P</b>	Rev 0.4
				Date: Thursday, February 21, 2008	Sheet 5 of 53



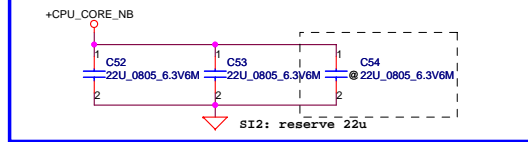
## VDD(+CPU\_CORE) decoupling.



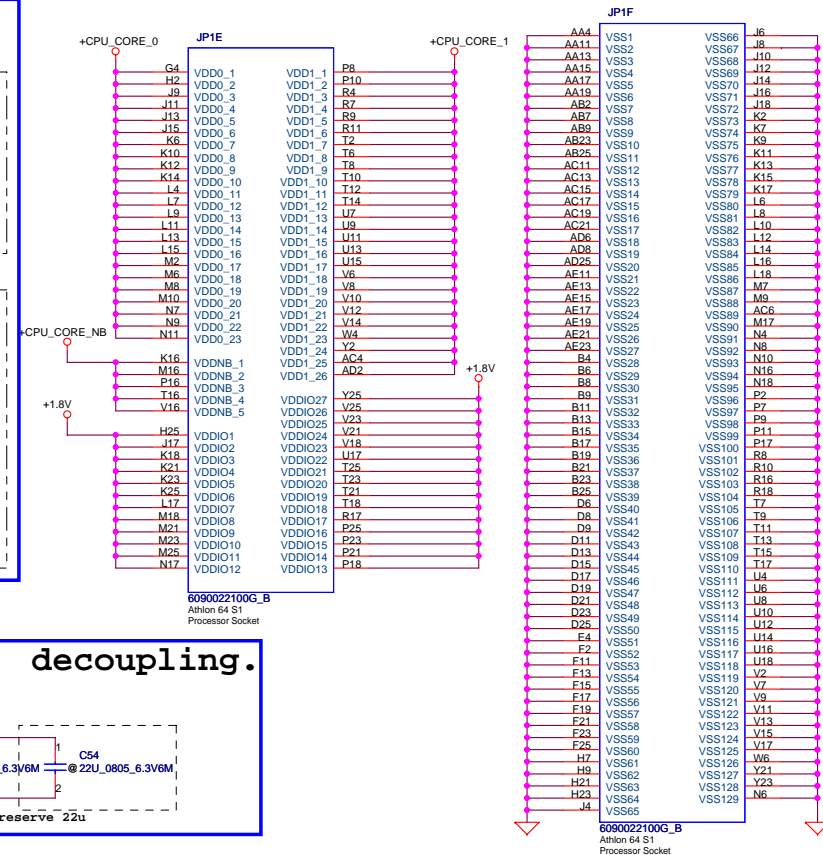
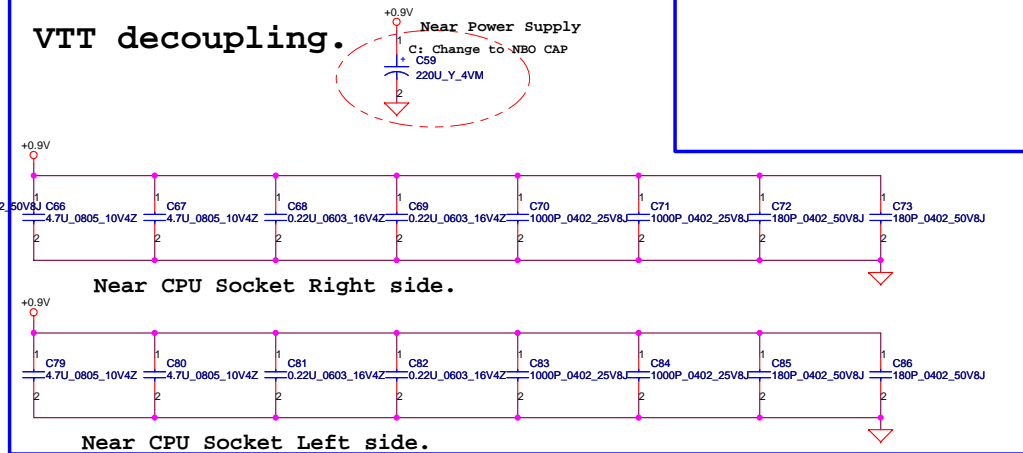
## VDDIO decoupling.



## +CPU\_CORE\_NB decoupling.



## VTT decoupling.

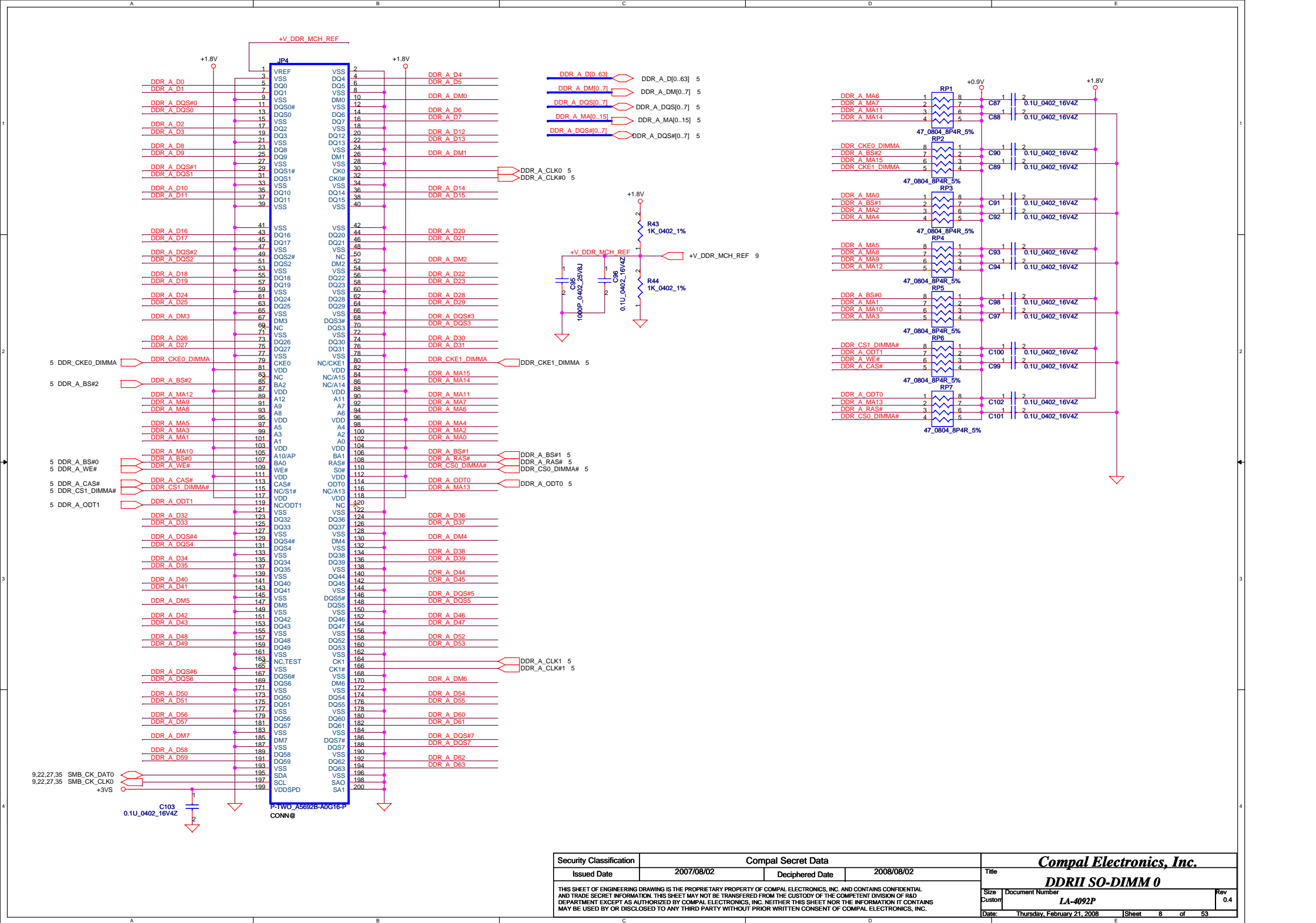


Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Size	Document Number
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Custom	LA-4092P
				Date:	Thursday, February 21, 2008
				Sheet	7 of 53

Compal Electronics, Inc.

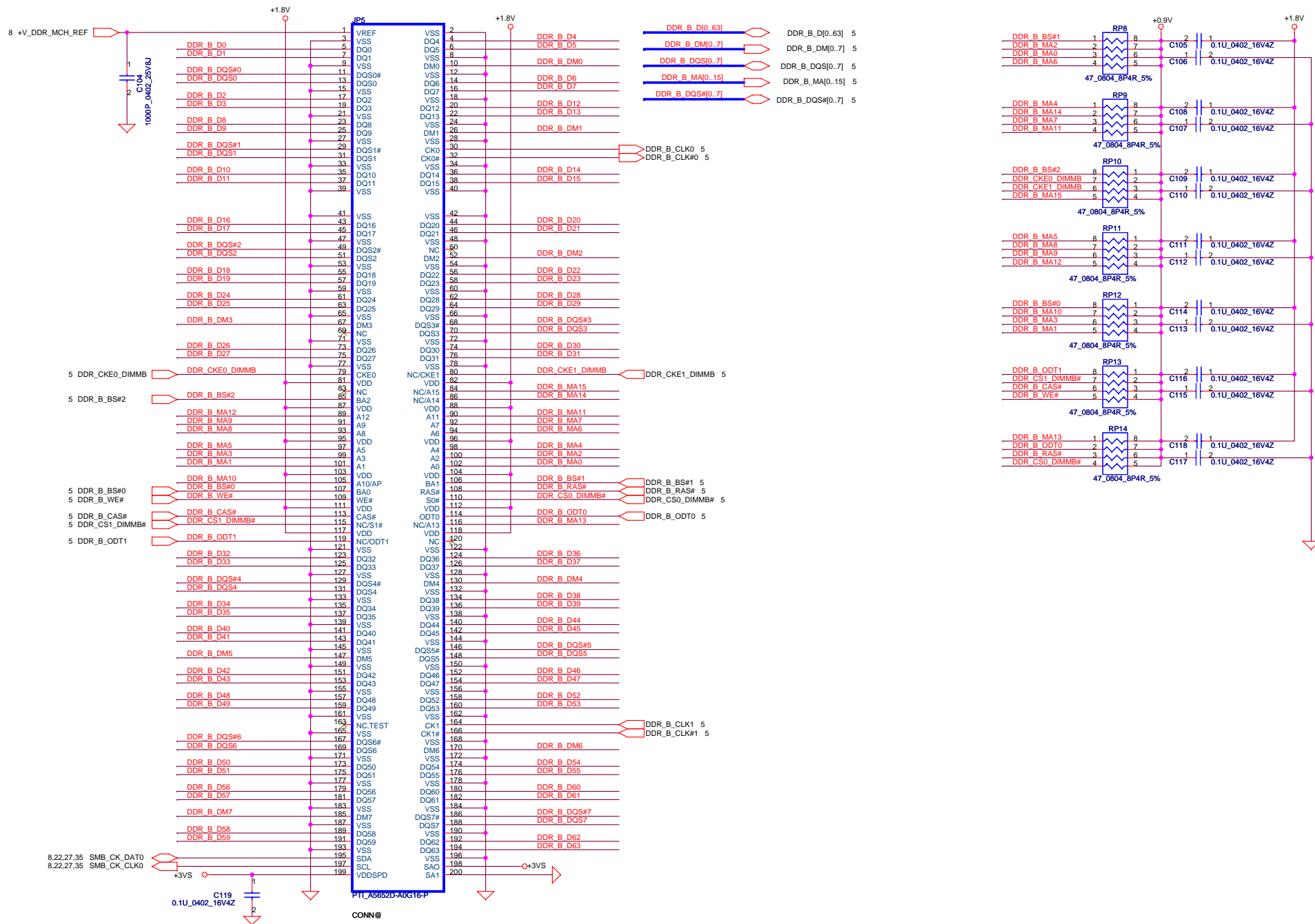
AMD CPU SIG2 PWR & GND

Rev 0.4

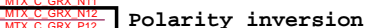


Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2007/08/02				Title			
				Deciphered Date				2008/08/02			
								DDR2 SO-DIMM 0			
								Size			
								Document Number			
								LA-4092P			
								Rev			
								0.4			
								Date:			
								Thursday, February 21, 2008			
								Sheet			
								8 of 53			

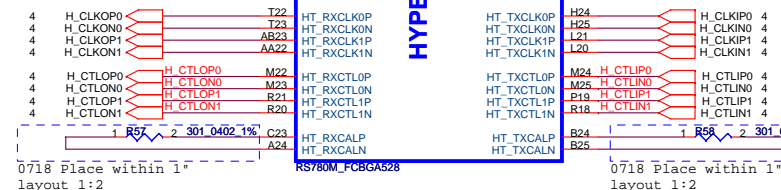
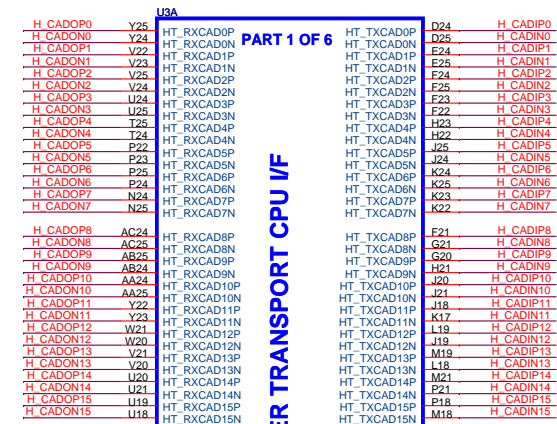




Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	DDRII SO-DIMM 1	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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-4092P
				Date:	Thursday, February 21, 2008
				Sheet	9 of 53



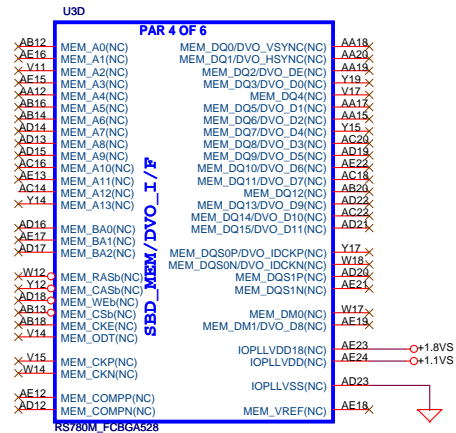
- New Card
- Cardreader
- WLAN
- GLAN
- TV Tuner

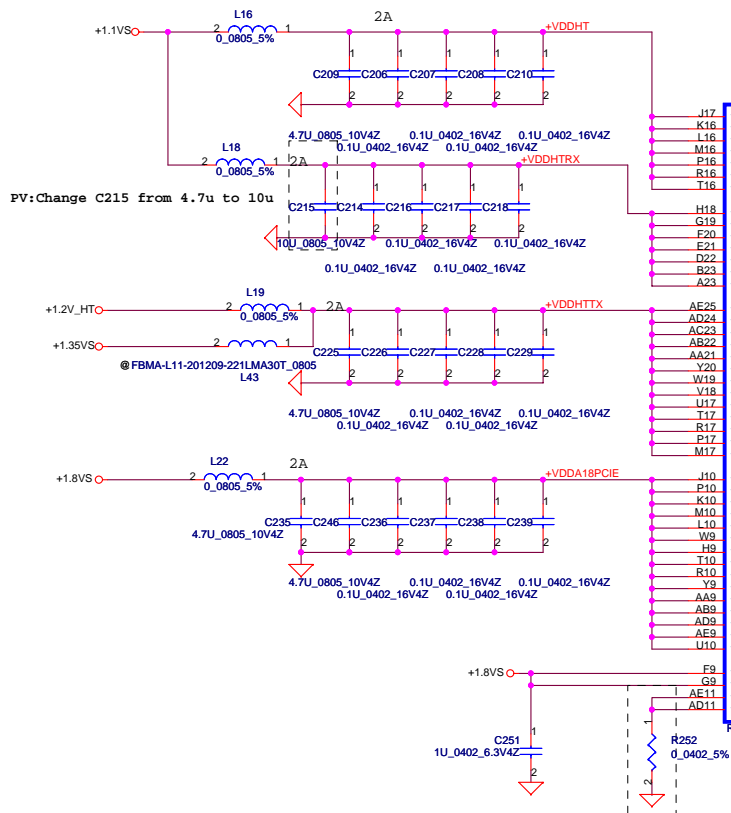


NEED CHECK R68 & R69 WITH AMD

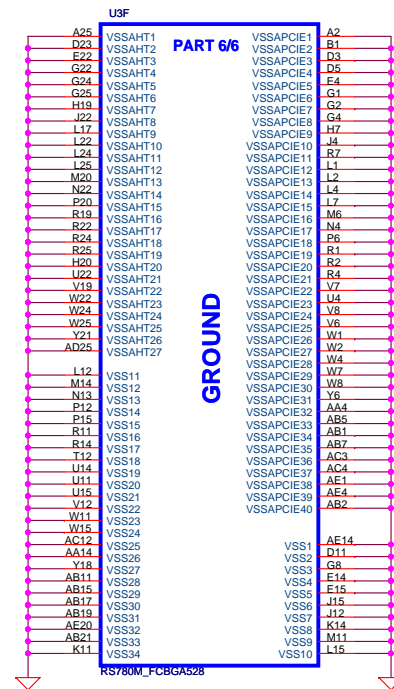
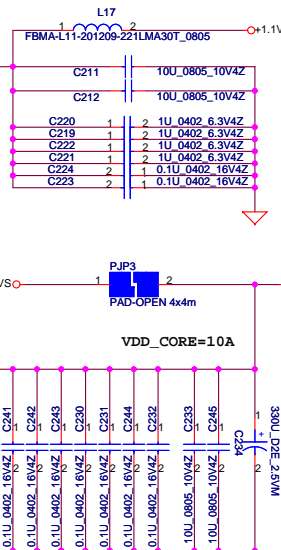
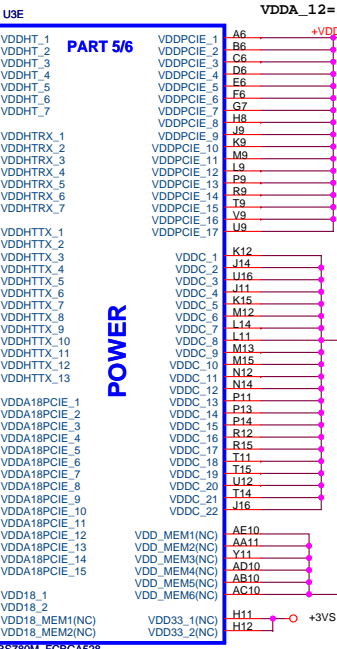
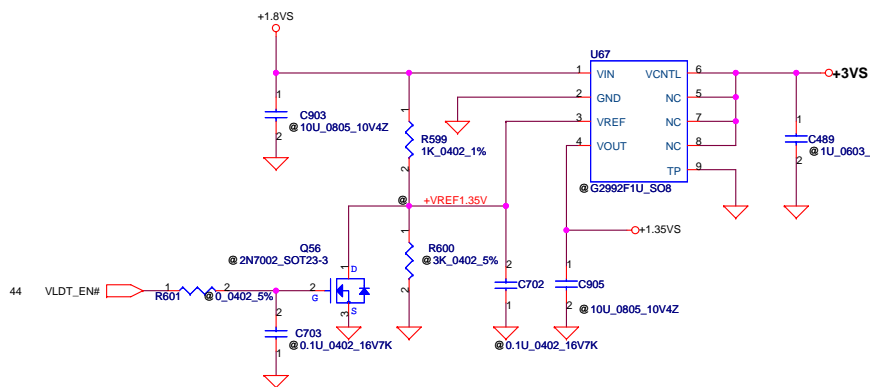
Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b> <b>RS780-HT/PCIE</b>		
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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
				Custom	LA-4092P	0.4
				Date:	Thursday, February 21, 2008	Sheet 10 of 53



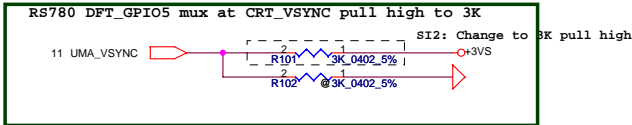




PV: follow check list connect to GND



Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	RS780 PWR/GND	
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-4092P
				Date:	Thursday, February 21, 2008
				Sheet	13 of 53
				Rev	0.4



**DFT\_GPIO5:STRAP\_DEBUG\_BUS\_GPIO\_ENABLEb**

Enables the Test Debug Bus using GPIO.

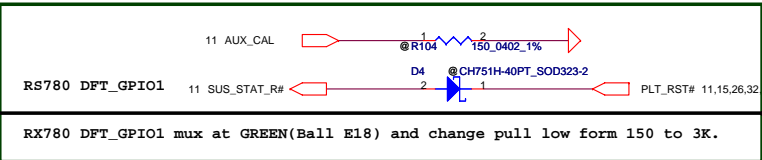
1 : Enable (RX780, RS780)  
0 : Disable (RX780, RS780)  
PIN: RS740-->RS780\_AUX\_CAL; RX780-->NB\_TV\_C; RS780--> VSYNC#

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.

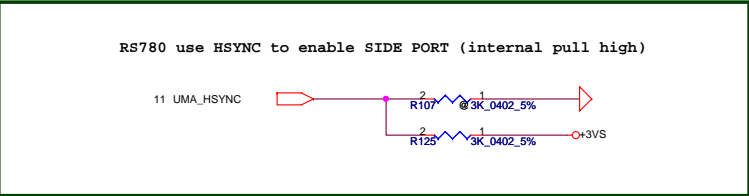
000 : 00001  
001 : 00010  
010 : 01011  
011 : 00100  
100 : 01010  
101 : 01100  
111 : 01011



**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



**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)

10 PCIE\_GTX\_C\_MRX\_P[0..15] < PCIE GTX C MRX P[0..15]  
10 PCIE\_GTX\_C\_MRX\_N[0..15] < PCIE GTX C MRX N[0..15]  
10 PCIE\_MTX\_C\_GRX\_P[0..15] < PCIE MTX C GRX P[0..15]  
10 PCIE\_MTX\_C\_GRX\_N[0..15] < PCIE MTX C GRX N[0..15]

PCIE LANE REVERSAL

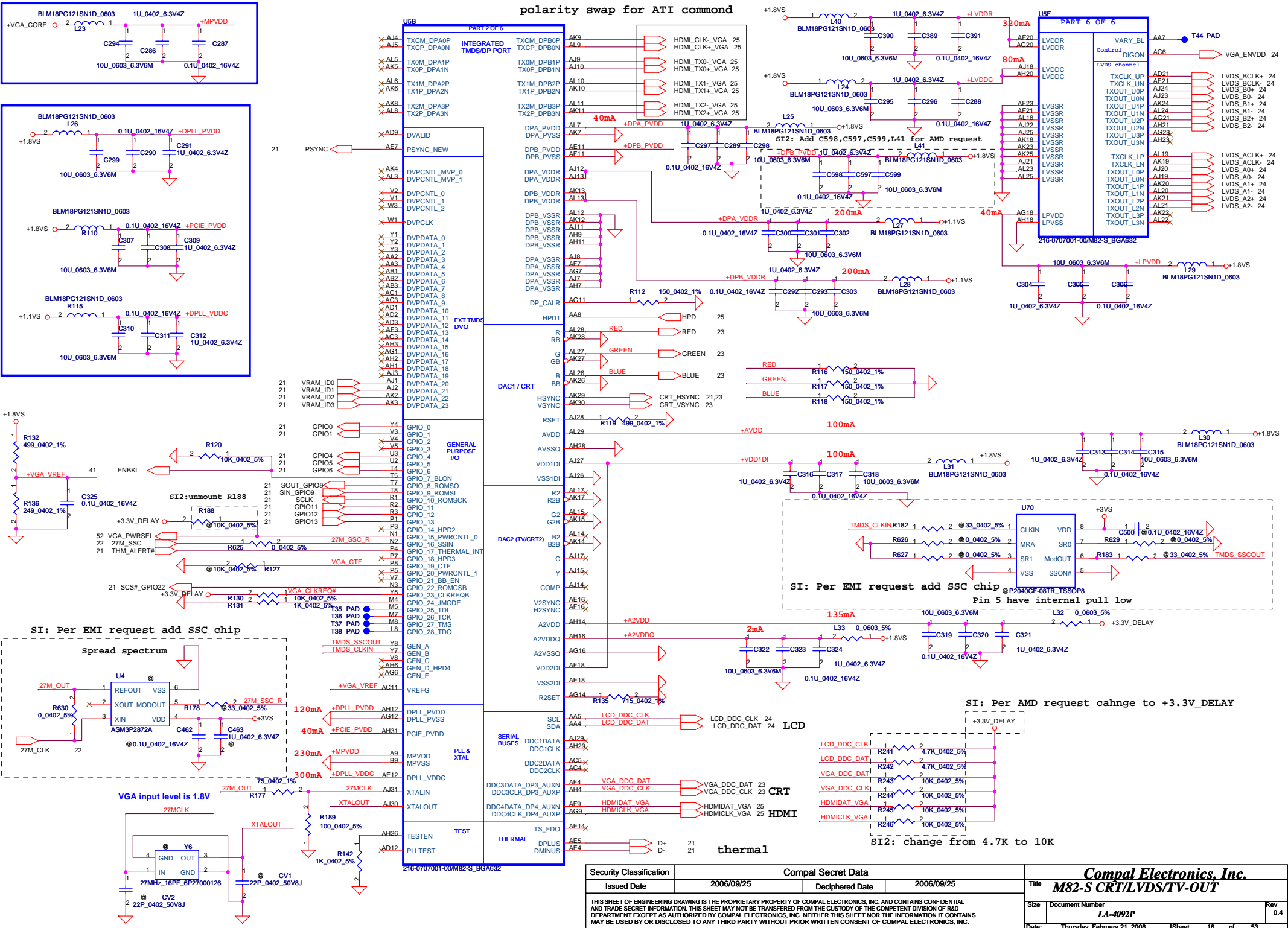


PCIE LANE REVERSAL

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/09/25	Deciphered Date	2006/09/25	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
					LA-4092P
				Date:	Thursday, February 21, 2008
				Sheet	15 of 53
				Rev	0.4



# polarity swap for ATI command



Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b>	
Issued Date		2006/09/25	Deciphered Date		2006/09/25
Title <b>M82-S CRT/LVDS/TV-OUT</b>					
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
	LA-4092P				0.4
Date	Thursday, February 21, 2008			Sheet	16 of 53

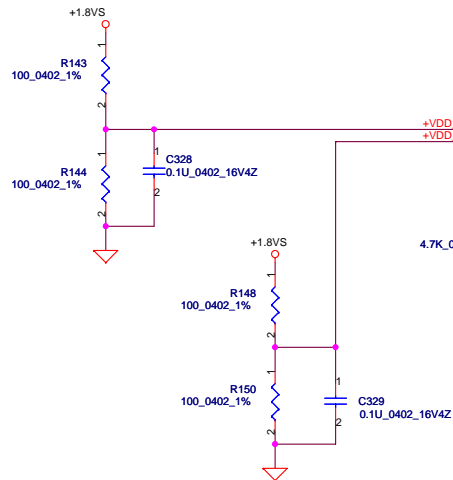
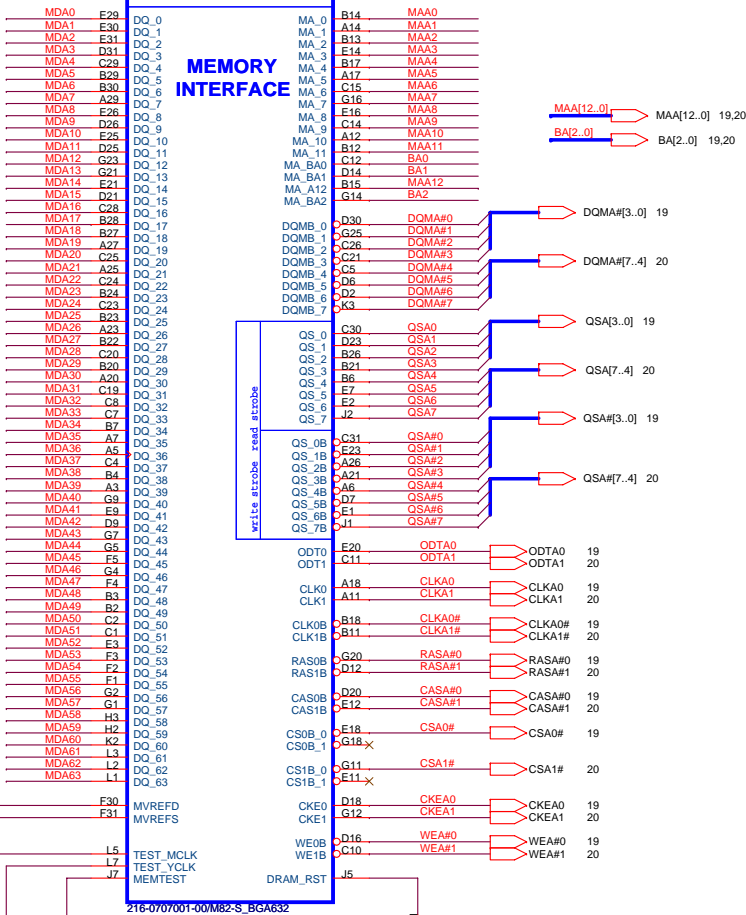


20 MDA[63..32] MDA[63..32]  
19 MDA[31..0] MDA[31..0]

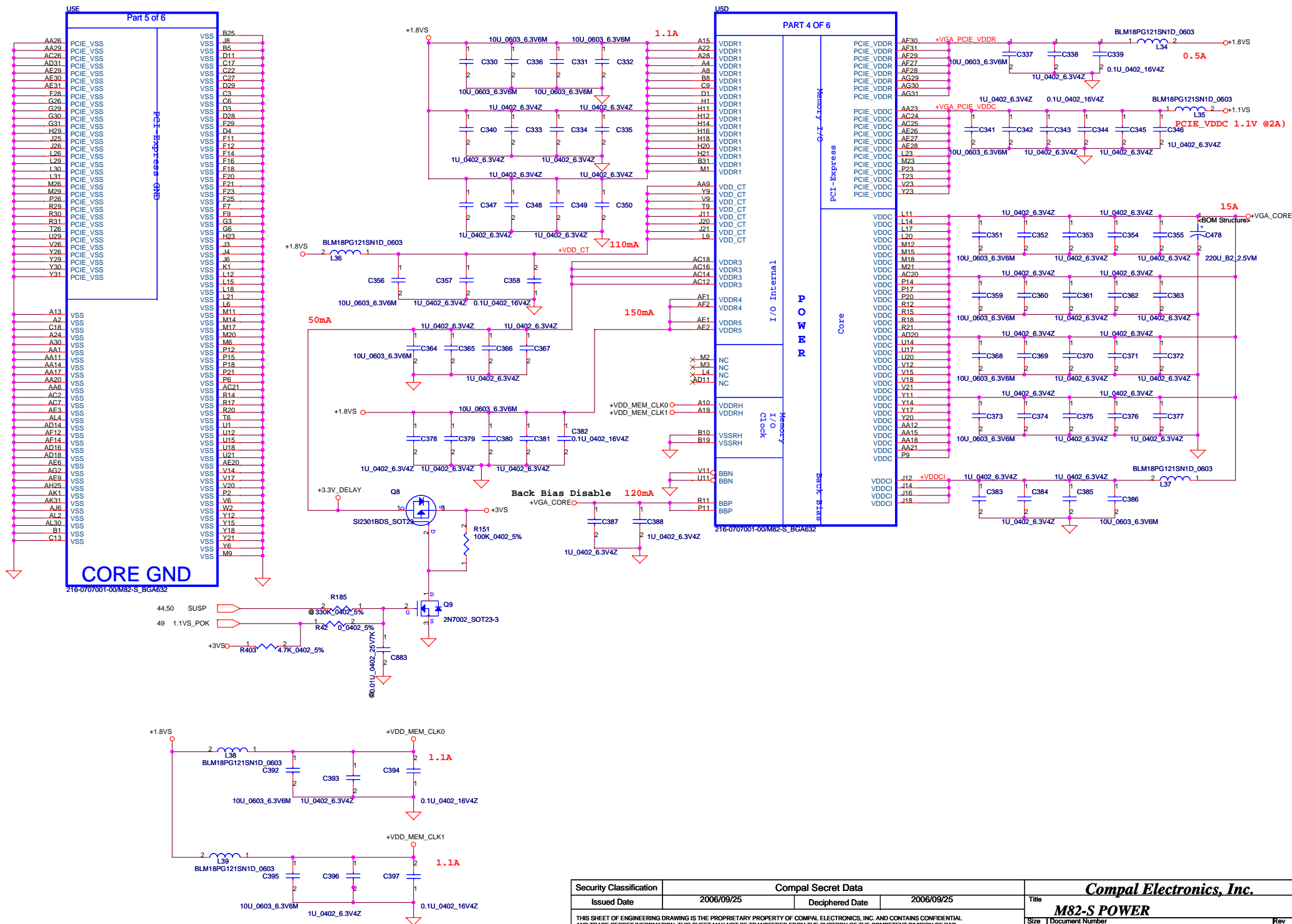
USC

Part 3 of 6

# MEMORY INTERFACE

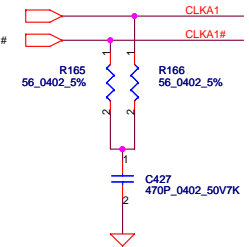
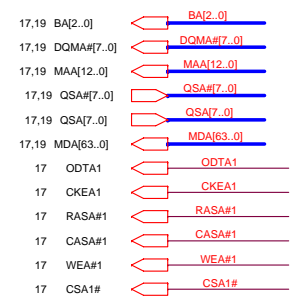
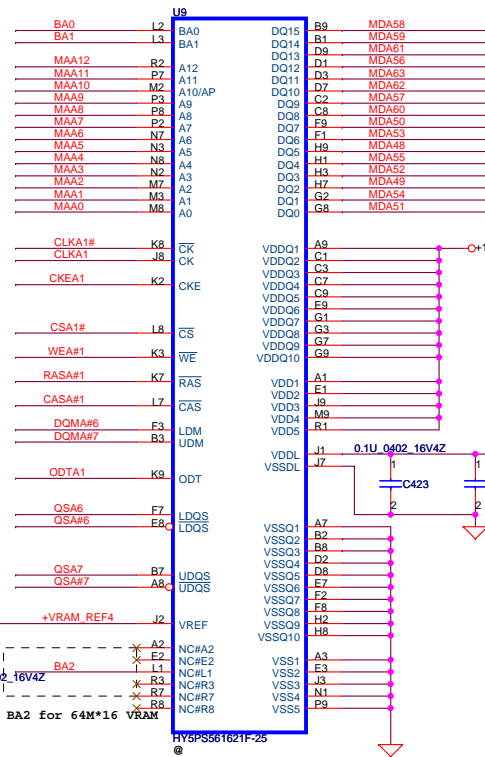
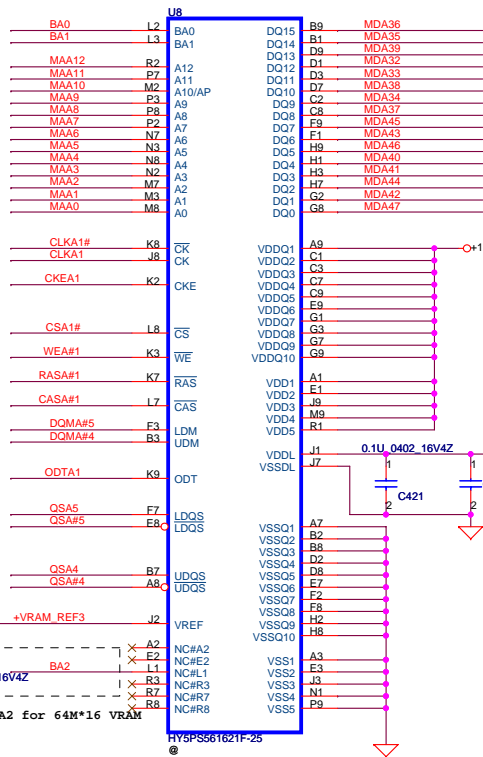


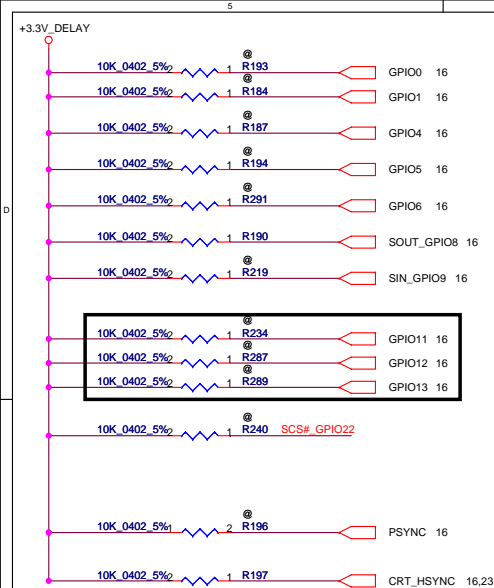
Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b>					
Issued Date		2006/09/25		Deciphered Date		2006/09/25		Title	
								<b>M82-S MEM</b>	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET 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	
						LA-4092P		0.4	
						Date: Thursday, February 21, 2008		Sheet 17 of 53	



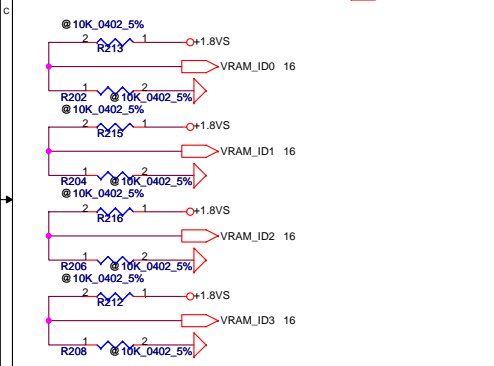
Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b>							
Issued Date		2006/09/25	Deciphered Date		2006/09/25	Title					
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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.						<b>M82-S POWER</b>					
						Size	Document Number				Rev
						LA-4092P					0.4
Date:		Thursday, February 21, 2008		Sheet	18	of 53					





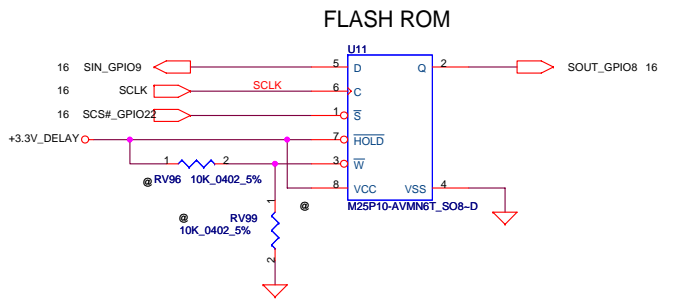
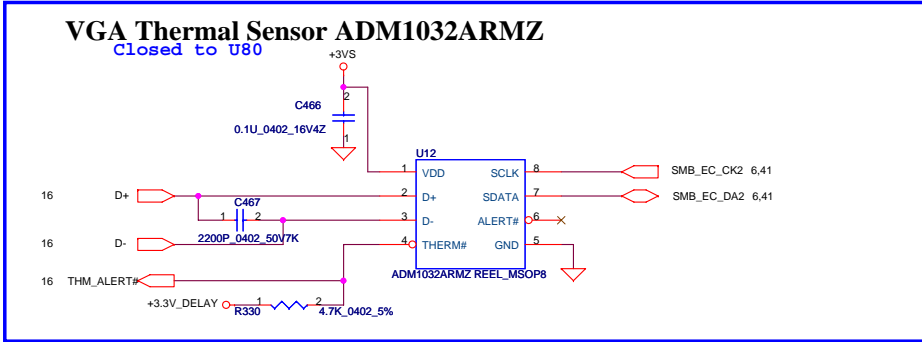


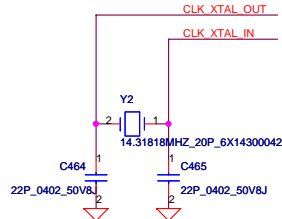
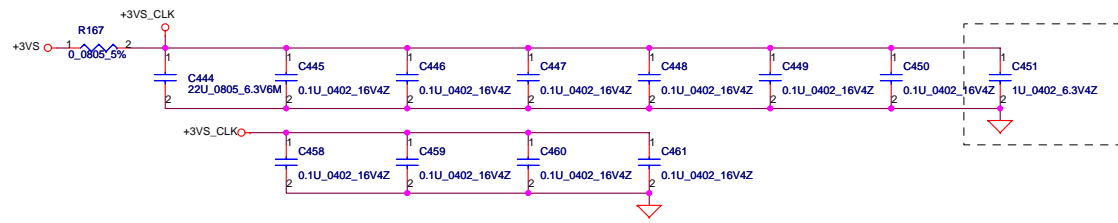
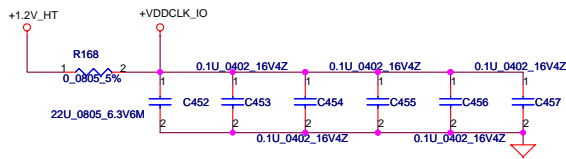
GPIO9 = 0 (BIOS_ROM_EN = 0)	
GPIO[13:11]	MEMORY SIZE
0 0 0	128MB
0 0 1	256MB
0 1 0	64MB
1 0 0	512MB



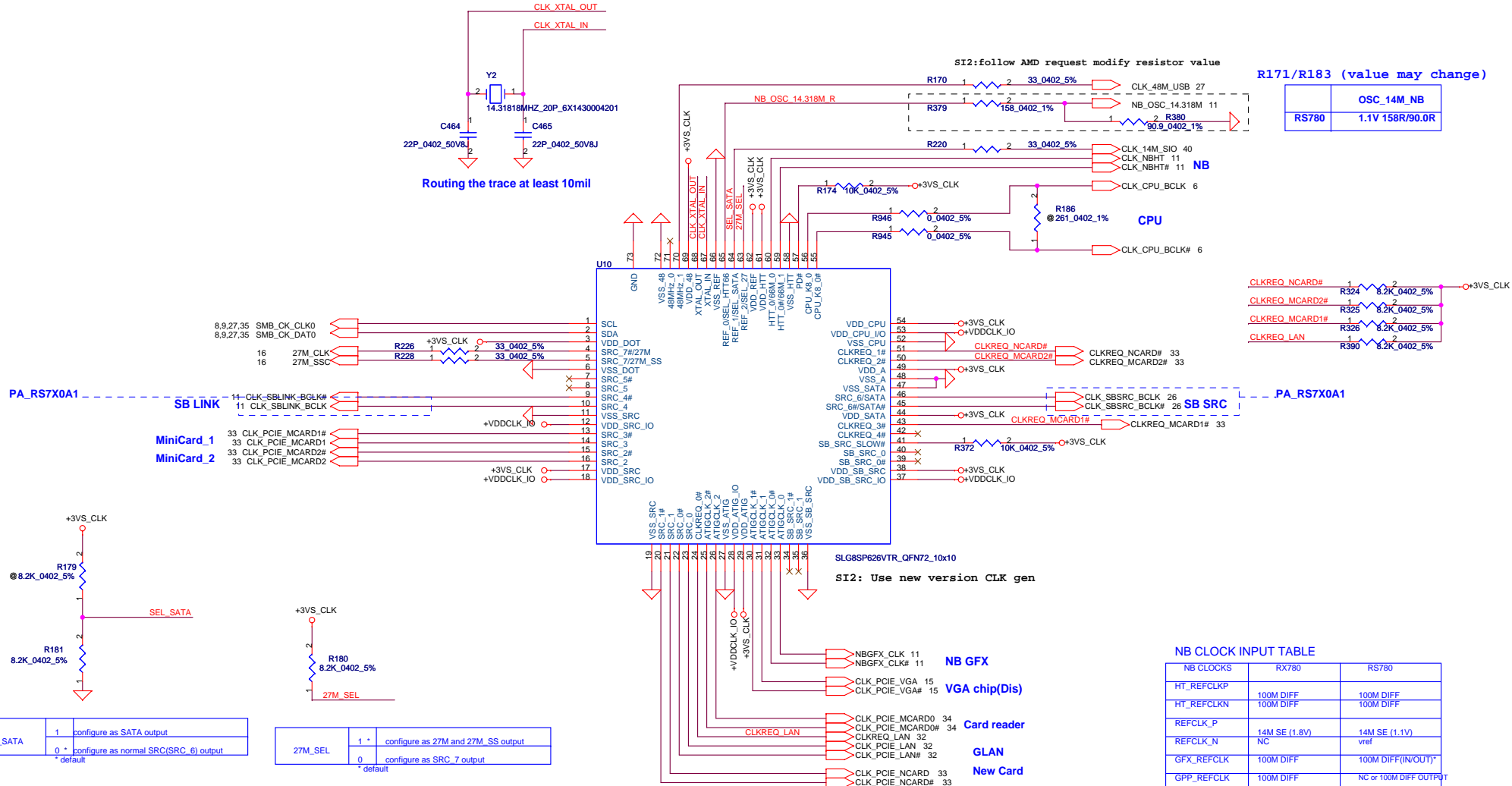
STRAPS	PIN	DESCRIPTION OF RECOMMENDED SETTING	RECOMMENDED M8X
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	0
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLES	0
BIF_DEBUG_ACCESS	GPIO4	DEBUG SIGNALS MUXED OUT	0
BIF_GEN2_EN_A	GPIO5	PCI-E 5.0GT/s or 2.5 GT/s select	0
DEBUG_I2C_ENABLE	GPIO6	Internal use only	0
BIF_AUDIO_EN	GPIO8	ENABLE HD AUDIO(M8X)	1
ROMIDCFG[3:0]	GPIO [9,13,12,11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	0 1 0 1
BIOS_ROM_EN	GPIO_22_ROMCSB	DISABLE EXTERNAL BIOS ROM	0
BIF_VGA_DIS	PSYNC	VGA ENABLED==0 is enable	0
BIF_HDMI_EN	HSYNC	HDMI ENABLE	1
VRAM_ID[3:0]	DVDPDATA (23,22,21,20)		VRAM_ID 3,2,1,0
		Samsung 64Mx16 1.8V	0 0 0 0
		Samsung 32Mx16 1.8V	0 0 0 1
		Hynix 64Mx16 1.8V	0 0 1 0
		Hynix 32Mx16 1.8V	0 0 1 1
		Qimonda 32Mx16 1.8V	0 1 0 0
		Qimonda 64Mx16 1.8V	0 1 0 1

ATI RESERVED CONFIGURATION STRAPS			
ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESE			
GPIO2	GPIO3	GPIO5	GPIO6
DVALID	H2SYNC	V2SYNC	
PULLUP PADS ARE NOT REQUIRED FOR THESE STRAPS BUT IF THESE GPIOs ARE USED, THEY MUST NOT CONFLICT DURING RESET			
GENERICC	GPIO21_BB_EN	GPIO_28_TDO	





Routing the trace at least 10mil



R171/R183 (value may change)	
OSC_14M_NB	1.1V 158R/90.0R
RS780	

CLKREQ_NCARD#	1	8.2K_0402_5%	+3VS_CLK
CLKREQ_MCARD2#	1	8.2K_0402_5%	
CLKREQ_MCARD1#	1	8.2K_0402_5%	
CLKREQ_LAN	1	8.2K_0402_5%	

NB CLOCK INPUT TABLE	
NB CLOCKS	RX780
HT_REFCLKP	100M DIFF
HT_REFCLKN	100M DIFF
REFCLK_P	14M SE (1.8V)
REFCLK_N	NC
GFX_REFCLK	100M DIFF
GPP_REFCLK	100M DIFF
GPPSB_REFCLK	100M DIFF

SEL_SATA	1	configure as SATA output
	0	configure as normal SRC(SRC_6) output

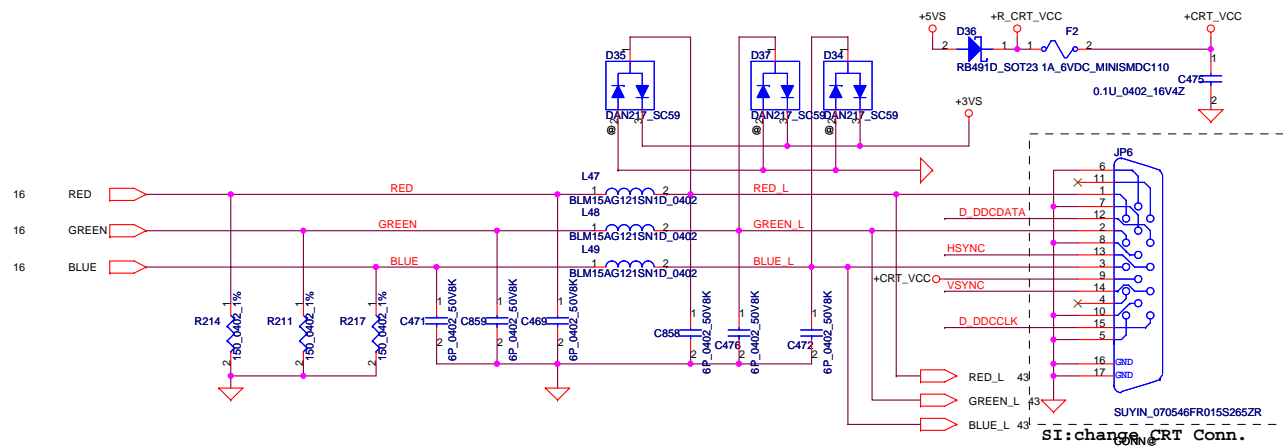
27M_SEL	1	configure as 27M and 27M_SS output
	0	configure as SRC_7 output

NB_OSC_14.318M	1	configure as single-ended 66MHz output
	0	configure as differential 100MHz output

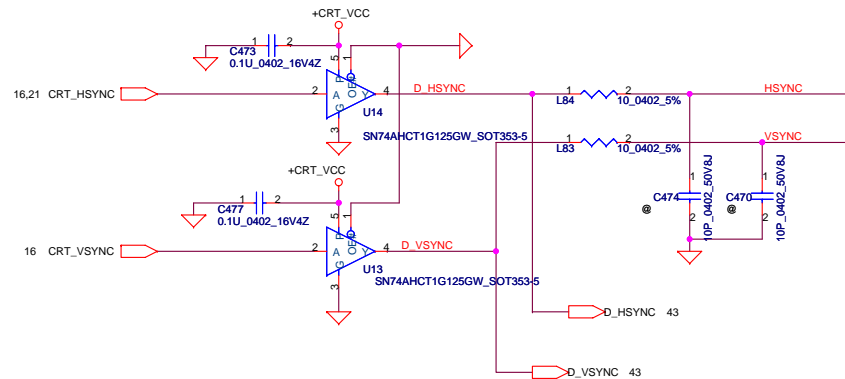
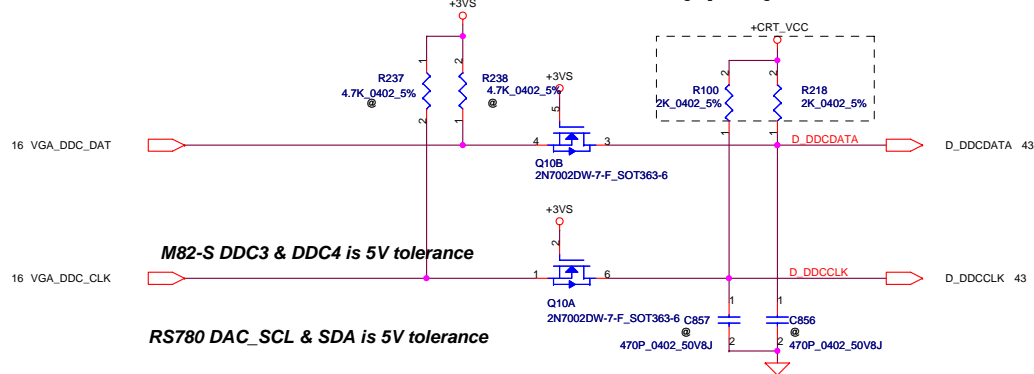
Use voltage divider resistor R379 & R380 to pull low

Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Compal Electronics, Inc.	
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.				Clock generator	
Size	Custom	Document Number	LA-4092P	Rev	0.4
Date:	Thursday, February 21, 2008	Sheet	22	of	53

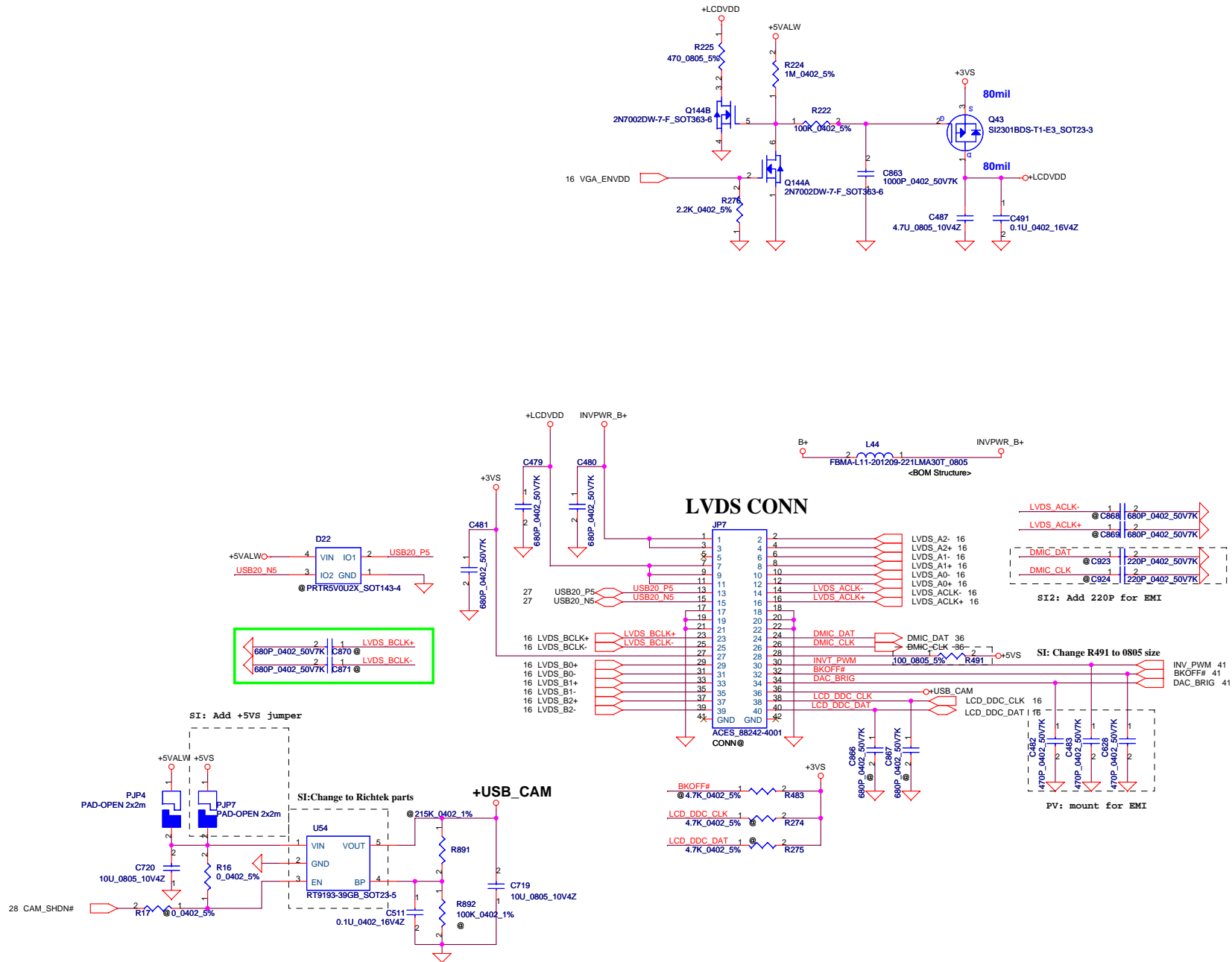
# CRT CONNECTOR



SI2:change pull high from 6.8K to 2K ohm

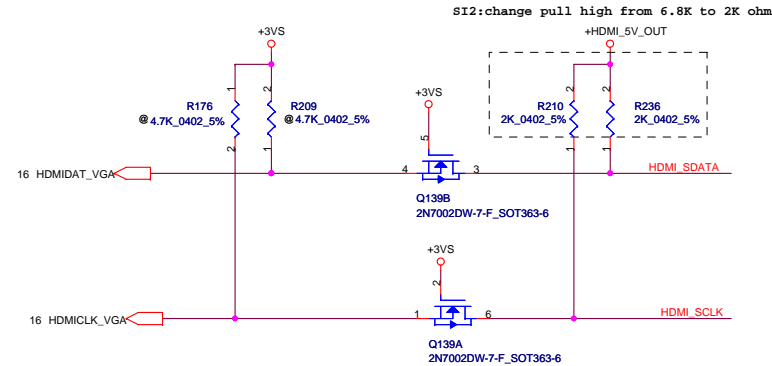
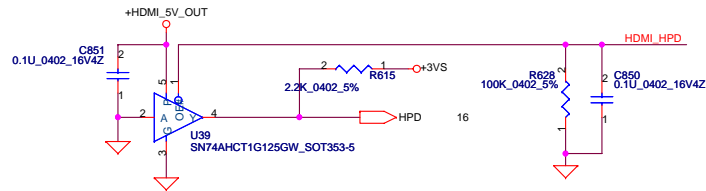


Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b>			
Issued Date		2007/08/02	Deciphered Date	2008/08/02	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT 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.				<b>CRT Connector</b>			
				Size		Document Number	Rev
				Custom		LA-4092P	0.4
				Date:	Thursday, February 21, 2008	Sheet 23 of 53	

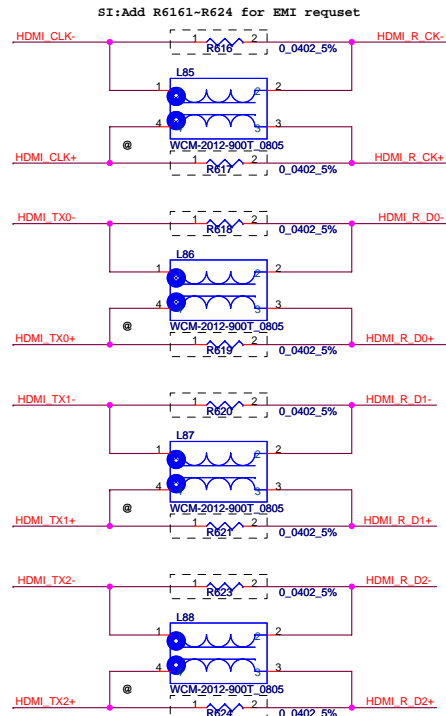


Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				LCD CONN.	
				Size	Document Number
				Custom	LA-4092P
Date: Thursday, February 21, 2008				Sheet	24 of 53

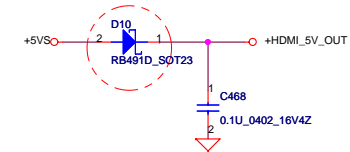




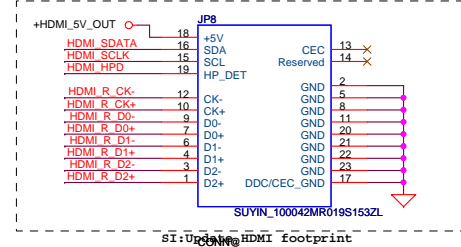
C:Chg. PN to SB770020010.



MP: Update D10 to meet HDMI.



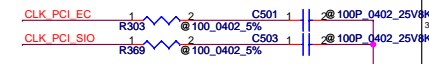
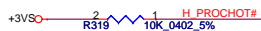
## HDMI Connector



SI: Update HDMI footprint

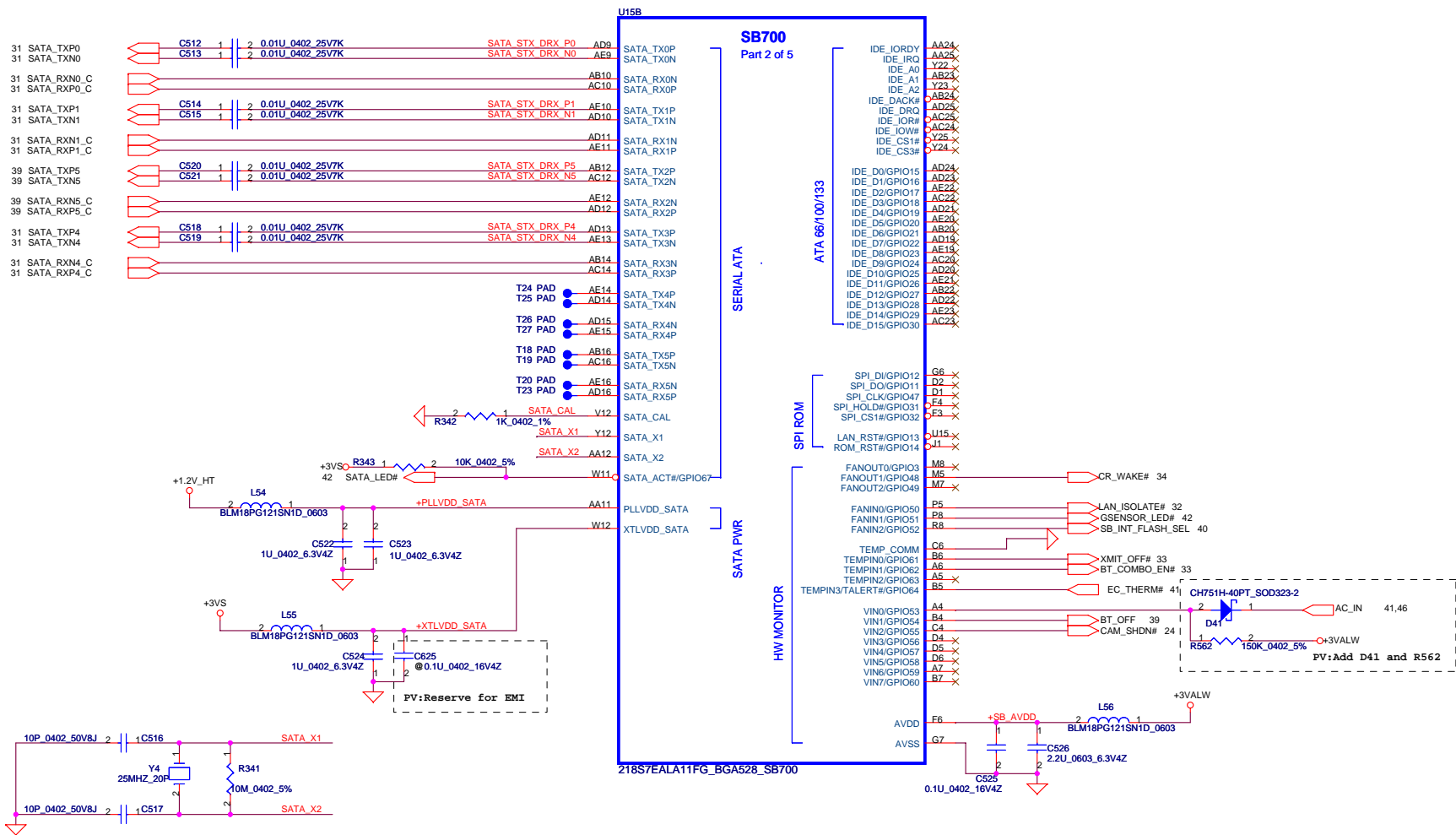
Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b>				
Issued Date		2007/08/02		Deciphered Date		2008/08/02		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT 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.				Title				
				<b>HDMI</b>				
				Size	Document Number			Rev
				Custom	LA-4092P			0.4
				Date: Thursday, February 21, 2008				
				Sheet 25 of 53				

1 R300 2 NB RST# R 8.2K\_0402\_5%

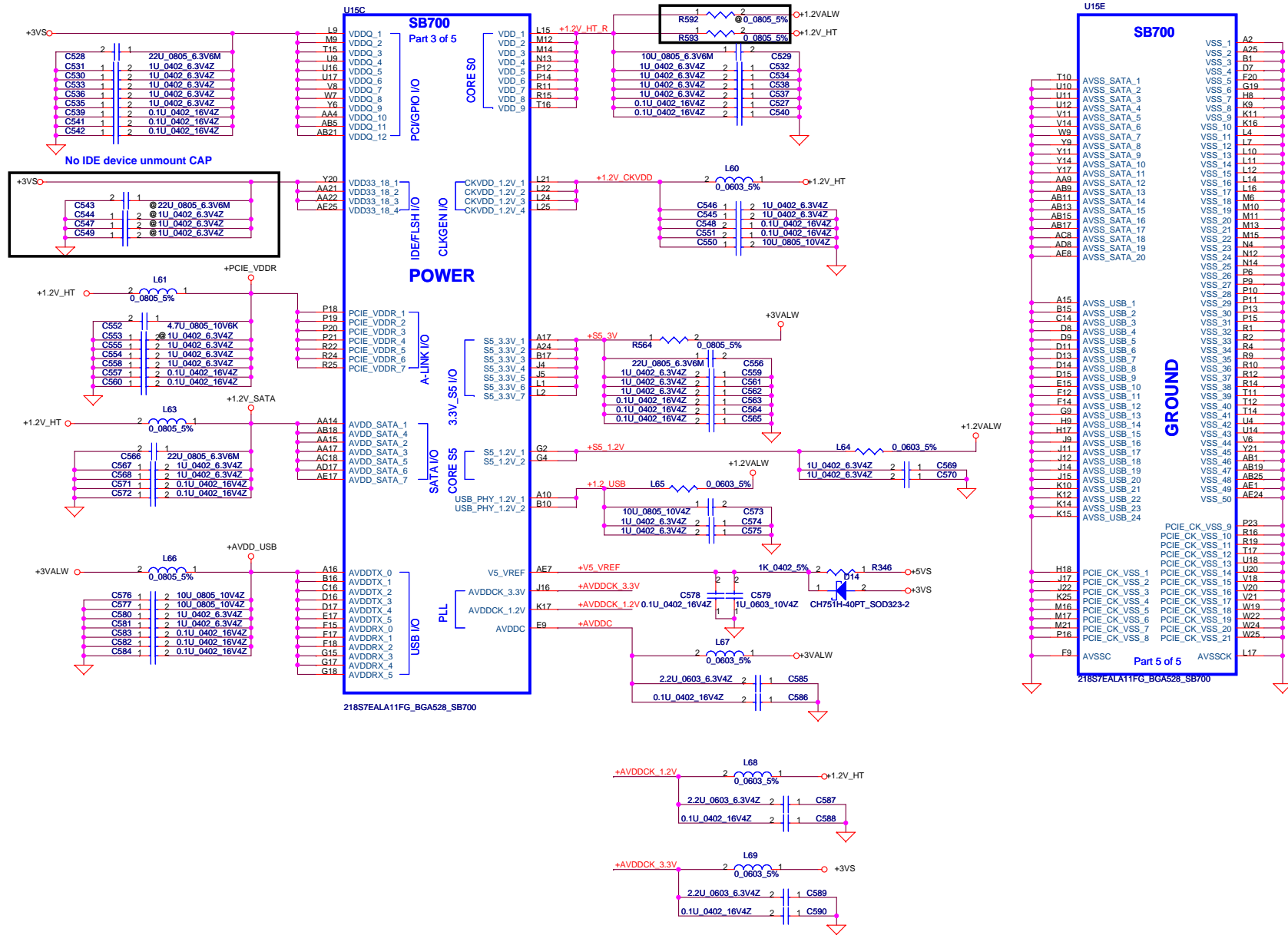


Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b> <b>SB700-PCIE/PCI/ACPI/LPC/RTC</b>	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET 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	0.
				Document Number <b>LA-4092P</b>	
Date:				Thursday, February 21, 2008	Sheet 26 of 53





Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	SB700 SATA/IDE/SPI	
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 0.4
				Document Number LA-4092P	
				Date: Thursday, February 21, 2008	Sheet 28 of 53



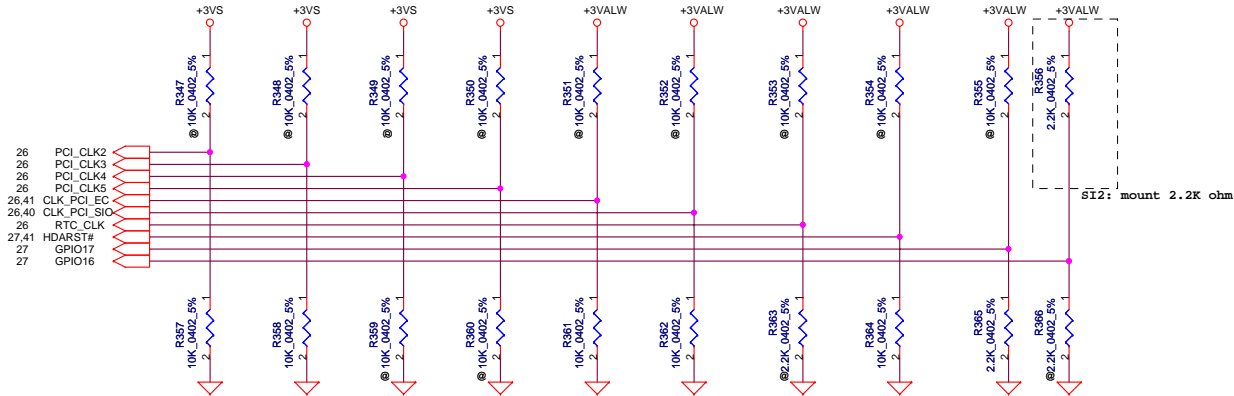
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date		2007/08/02		Deciphered Date		2008/08/02		Title			
								Cover Sheet			
Size		Document Number								Rev	
Custom		LA-4092P								0.4	
Date:		Thursday, February 21, 2008		Sheet		29		of		53	

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.

# REQUIRED STRAPS

NOTE: SB700 HAS INTERNAL 15K PULL UP RESISTOR FOR RTC\_CLK

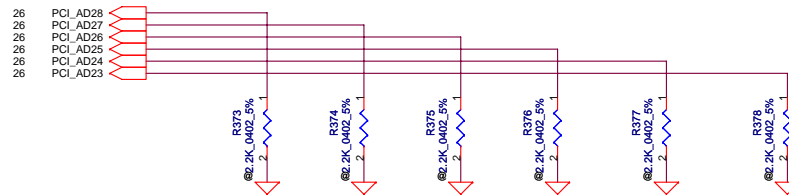
	PCI_CLK2	PCI_CLK3	PCI_CLK4	PCI_CLK5	LPC_CLK0	LPC_CLK1	RTC_CLK	AZ_RST_CD#	GP17	GP16
PULL HIGH	BOOTFAIL TIMER ENABLED	USE DEBUG STRAPS	RESERVED	RESERVED	ENABLE PCI MEM BOOT	CLKGEN ENABLED	INTERNAL RTC  DEFAULT	EC ENABLED	Internal pull up H,H = Reserved H,L = SPI ROM	
PULL LOW	BOOTFAIL TIMER DISABLED DEFAULT	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



# DEBUG STRAPS

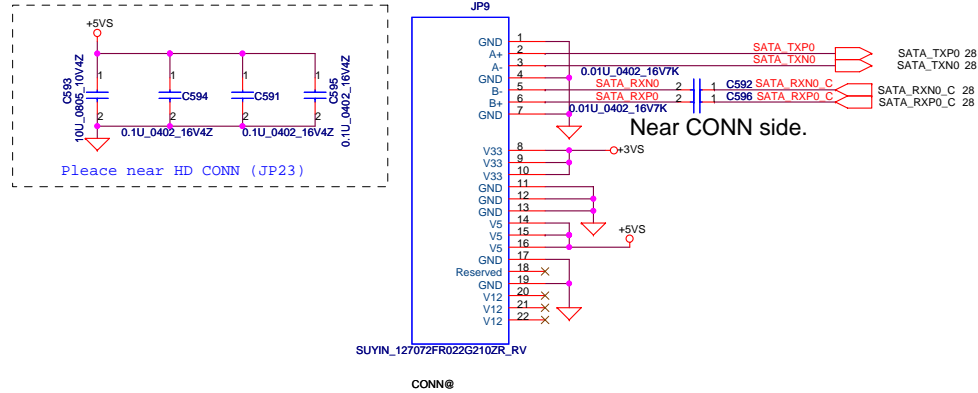
SB700 HAS 15K INTERNAL PU FOR PCI\_AD[28:23]

	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	

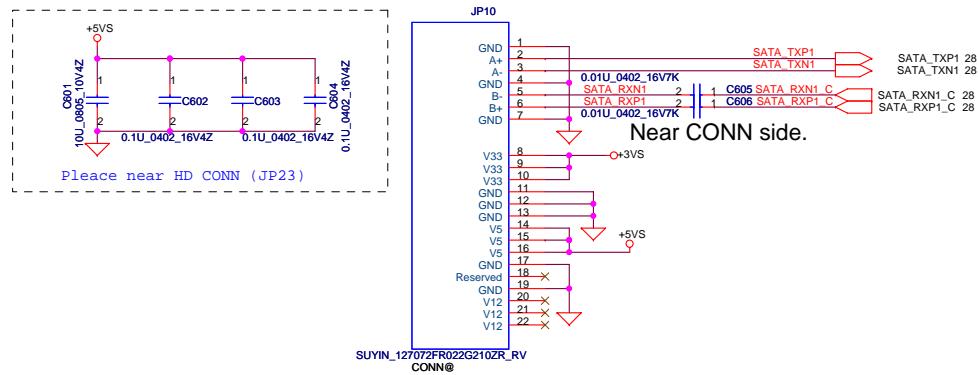


Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	SB700 STRAPS	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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-4092P
				Date:	Thursday, February 21, 2008
				Sheet	30 of 53
				Rev	0.4

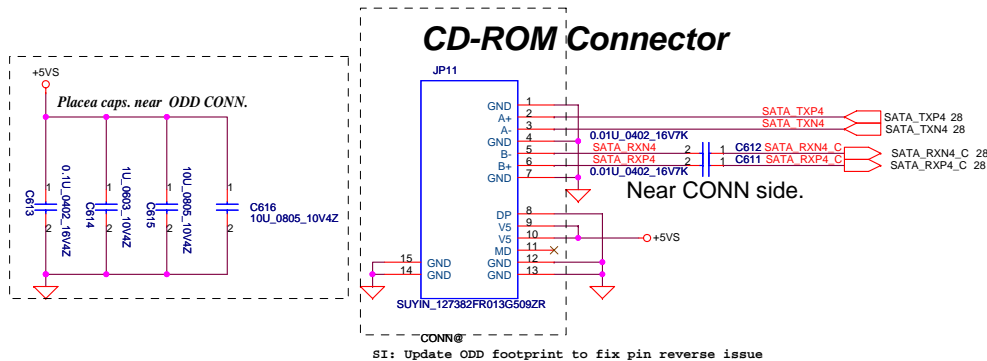
## HDD Connector



## 2nd HDD Connector-option



## CD-ROM Connector

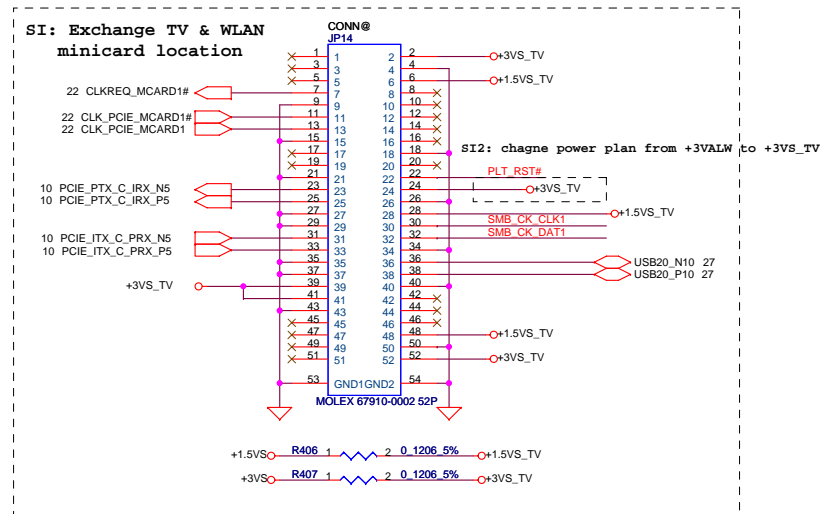


Security Classification	Compal Secret Data			Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	HDD/CDROM	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE 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-4092P
				Date: Thursday, February 21, 2008	Rev 0.4
				Sheet 31	of 53





SI2: chagne power plan from +3VALW to +3VS\_TV



**USE TI TPS2231MRGPR**

The schematic diagram illustrates the electrical connections for a USB2.0 to Mini-PCIE adapter. The USB2.0 connector (JP16) is connected to the Mini-PCIE connector (CONN@) via a series of signal and power lines. The signal lines include USB D+, D-, CPUSB#, RSV, SMB\_CLK, SMB\_DATA, WAKE#, PERST#, CLKREQ#, and various ground connections. Power connections for +1.5V\_PEC, +3V\_PEC, and +3V\_PEC are also shown, along with decoupling capacitors C677, C683, and C684.

**USB2.0 Connector (JP16) Pins:**

- 1: GND
- 2: USB\_D-
- 3: USB\_D+
- 4: CPUSB#
- 5: RSV
- 6: RSV
- 7: SMB\_CLK
- 8: SMB\_DATA
- 9: +1.5V\_PEC
- 10: +1.5V\_PEC
- 11: WAKE#
- 12: +3.3VAUX
- 13: PERST#
- 14: +3.3V
- 15: +3.3V
- 16: CLKREQ#
- 17: CPPE#
- 18: REFCLK+
- 19: GND
- 20: PERn0
- 21: PERp0
- 22: GND
- 23: PETn0
- 24: PETp0
- 25: GND
- 26: GND
- 27: GND1
- 28: GND2
- 29: SHIELD
- 30: SHIELD

**Mini-PCIE Connector (CONN@) Pins:**

- 1: GND
- 2: GND
- 3: GND
- 4: GND
- 5: GND
- 6: GND
- 7: GND
- 8: GND
- 9: GND
- 10: GND
- 11: GND
- 12: GND
- 13: GND
- 14: GND
- 15: GND
- 16: GND
- 17: GND
- 18: GND
- 19: GND
- 20: GND
- 21: GND
- 22: GND
- 23: GND
- 24: GND
- 25: GND
- 26: GND
- 27: GND
- 28: GND
- 29: GND
- 30: GND
- 31: GND
- 32: GND
- 33: GND
- 34: GND
- 35: GND
- 36: GND
- 37: GND
- 38: GND
- 39: GND
- 40: GND
- 41: GND
- 42: GND
- 43: GND
- 44: GND
- 45: GND
- 46: GND
- 47: GND
- 48: GND
- 49: GND
- 50: GND
- 51: GND
- 52: GND
- 53: GND
- 54: GND
- 55: GND
- 56: GND
- 57: GND
- 58: GND
- 59: GND
- 60: GND
- 61: GND
- 62: GND
- 63: GND
- 64: GND
- 65: GND
- 66: GND
- 67: GND
- 68: GND
- 69: GND
- 70: GND
- 71: GND
- 72: GND
- 73: GND
- 74: GND
- 75: GND
- 76: GND
- 77: GND
- 78: GND
- 79: GND
- 80: GND
- 81: GND
- 82: GND
- 83: GND
- 84: GND
- 85: GND
- 86: GND
- 87: GND
- 88: GND
- 89: GND
- 90: GND
- 91: GND
- 92: GND
- 93: GND
- 94: GND
- 95: GND
- 96: GND
- 97: GND
- 98: GND
- 99: GND
- 100: GND

**Power Connections:**

- +1.5V\_PEC: Connected to USB2.0 pin 9 and Mini-PCIE pin 10.
- +3V\_PEC: Connected to USB2.0 pin 13 and Mini-PCIE pin 14.
- +3V\_PEC: Connected to USB2.0 pin 15 and Mini-PCIE pin 15.

**Signal Connections:**

- USB\_D-: Connected to USB2.0 pin 2 and Mini-PCIE pin 1.
- USB\_D+: Connected to USB2.0 pin 3 and Mini-PCIE pin 2.
- CPUSB#: Connected to USB2.0 pin 4 and Mini-PCIE pin 3.
- RSV: Connected to USB2.0 pin 5 and Mini-PCIE pin 4.
- SMB\_CLK: Connected to USB2.0 pin 7 and Mini-PCIE pin 5.
- SMB\_DATA: Connected to USB2.0 pin 8 and Mini-PCIE pin 6.
- WAKE#: Connected to USB2.0 pin 11 and Mini-PCIE pin 7.
- PERST#: Connected to USB2.0 pin 13 and Mini-PCIE pin 8.
- CLKREQ#: Connected to USB2.0 pin 16 and Mini-PCIE pin 9.
- CPPE#: Connected to USB2.0 pin 17 and Mini-PCIE pin 10.
- REFCLK+: Connected to USB2.0 pin 18 and Mini-PCIE pin 11.
- PERn0: Connected to USB2.0 pin 20 and Mini-PCIE pin 12.
- PERp0: Connected to USB2.0 pin 21 and Mini-PCIE pin 13.
- PETn0: Connected to USB2.0 pin 23 and Mini-PCIE pin 14.
- PETp0: Connected to USB2.0 pin 24 and Mini-PCIE pin 15.

**Ground Connections:**

- GND: Connected to USB2.0 pin 1 and Mini-PCIE pin 1.
- GND: Connected to USB2.0 pin 6 and Mini-PCIE pin 2.
- GND: Connected to USB2.0 pin 19 and Mini-PCIE pin 3.
- GND: Connected to USB2.0 pin 22 and Mini-PCIE pin 4.
- GND: Connected to USB2.0 pin 25 and Mini-PCIE pin 5.
- GND: Connected to USB2.0 pin 26 and Mini-PCIE pin 6.
- GND: Connected to USB2.0 pin 27 and Mini-PCIE pin 7.
- GND: Connected to USB2.0 pin 28 and Mini-PCIE pin 8.
- GND: Connected to USB2.0 pin 29 and Mini-PCIE pin 9.
- GND: Connected to USB2.0 pin 30 and Mini-PCIE pin 10.

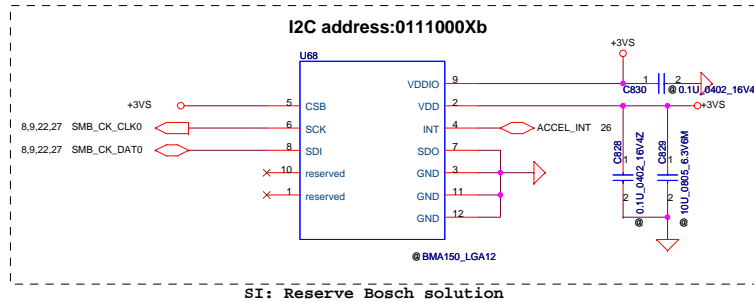
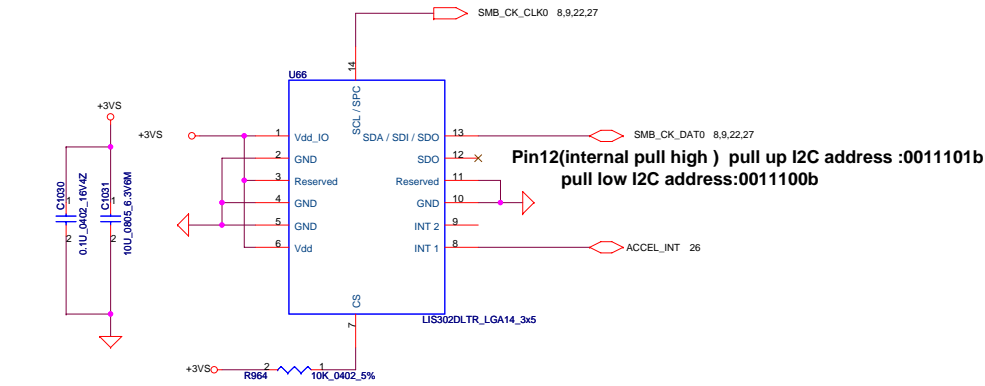
**Capacitors:**

- C677: 0.1uF, 0402, 16V42, connected to +1.5V\_PEC and GND.
- C683: 0.1uF, 0402, 16V42, connected to +3V\_PEC and GND.
- C684: 0.1uF, 0402, 16V42, connected to +3V\_PEC and GND.

Security Classification	Compal Secret Data			<b>Compal Electronics, Inc.</b> <b>Mini-Card/Mini-PCI/Express Card</b>		
Issued Date	2007/08/02	Deciphered Date	2008/08/02	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
				Custom	LA-4092P	0.4
				Date:	Thursday, February 21, 2008	Sheet 33 of 53

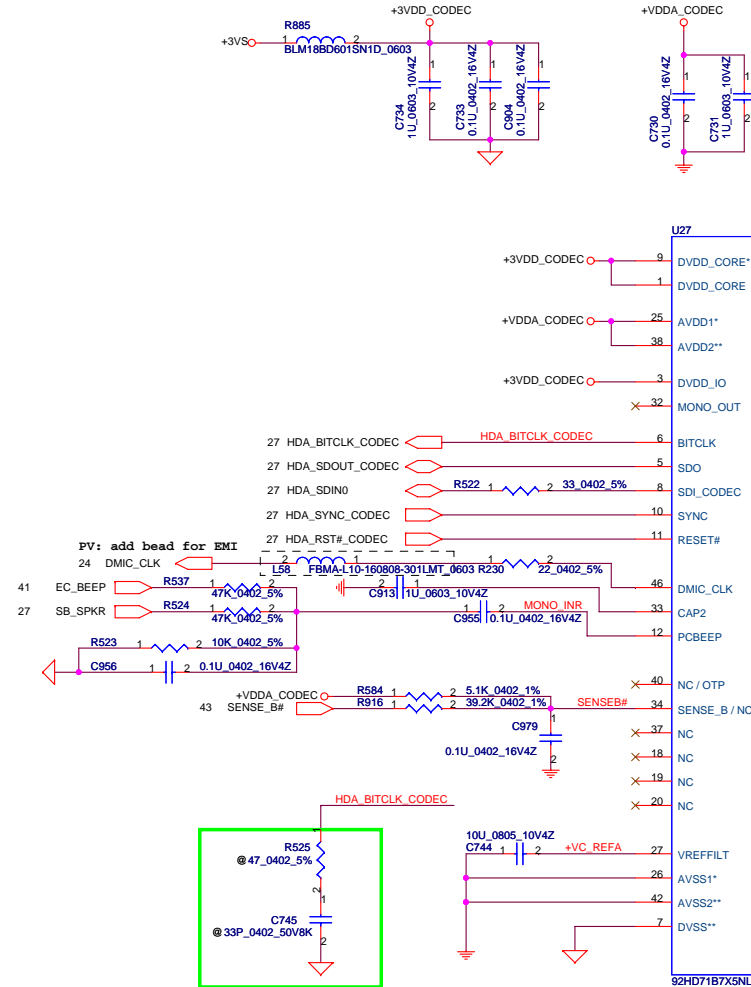
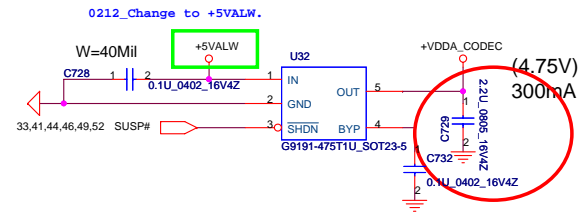


# ACCELEROMETER

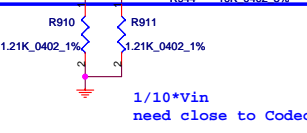


Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/04	Deciphered Date	2006/10/06	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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 Custom
				Document Number LA-4092P
				Rev 0.4
				Date: Thursday, February 21, 2008
				Sheet 35 of 53

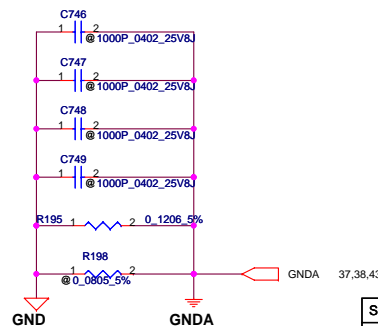
# CODEC POWER



SI2: Use new version Codec

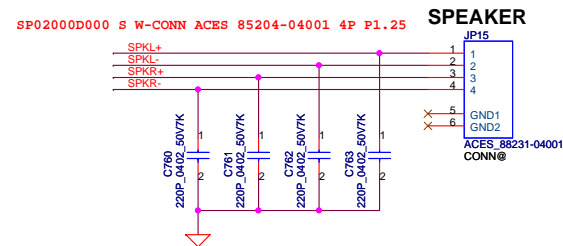
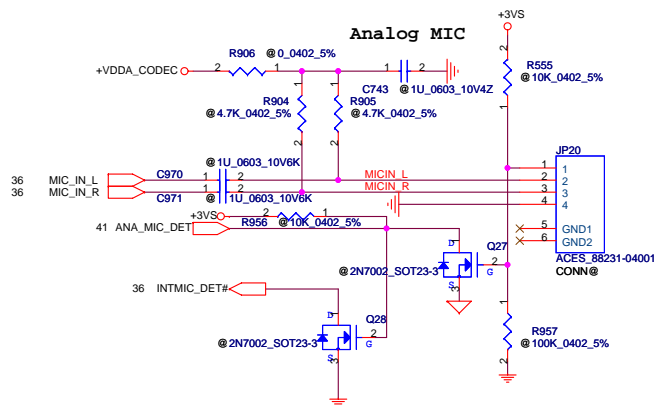
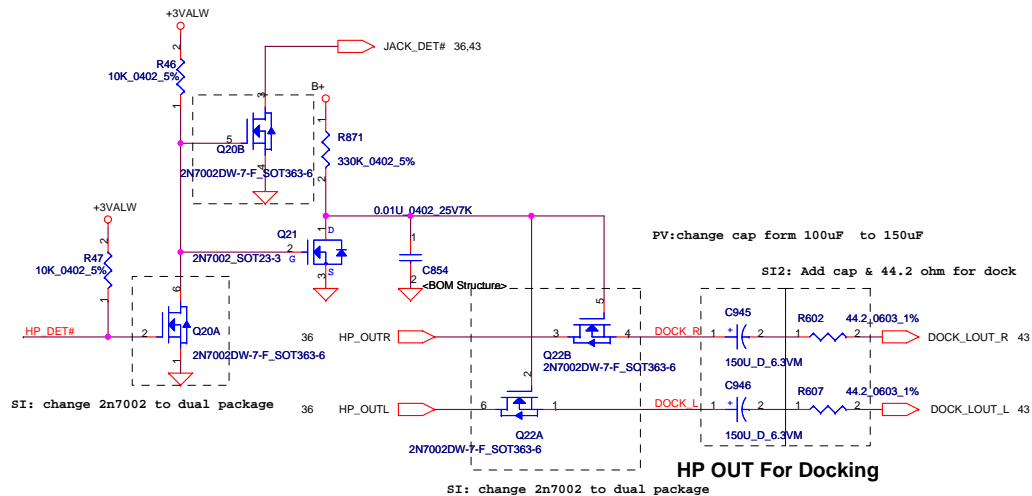
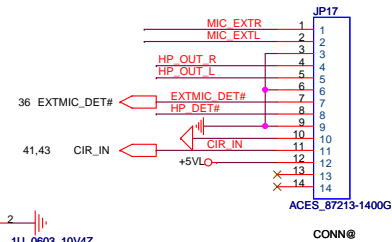
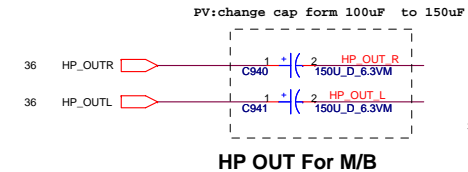
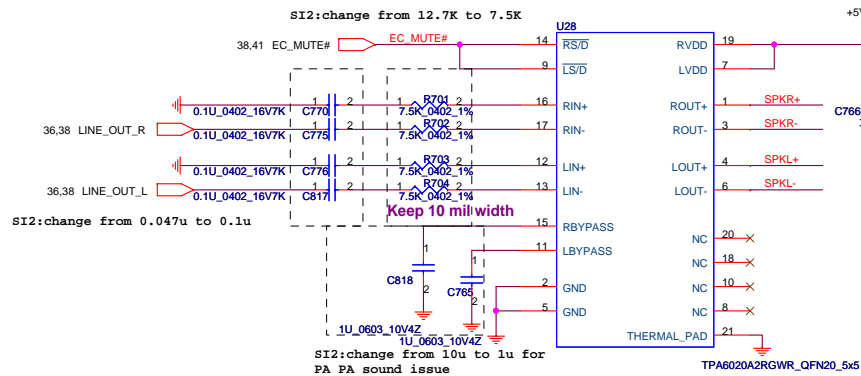


SENSE A		SENSE B	
Port	Resistor	Port	Resistor
A	39.2K	E	39.2K
B	20K	F	20K
C	10K	G	10K
D	5.11K	H	5.11K

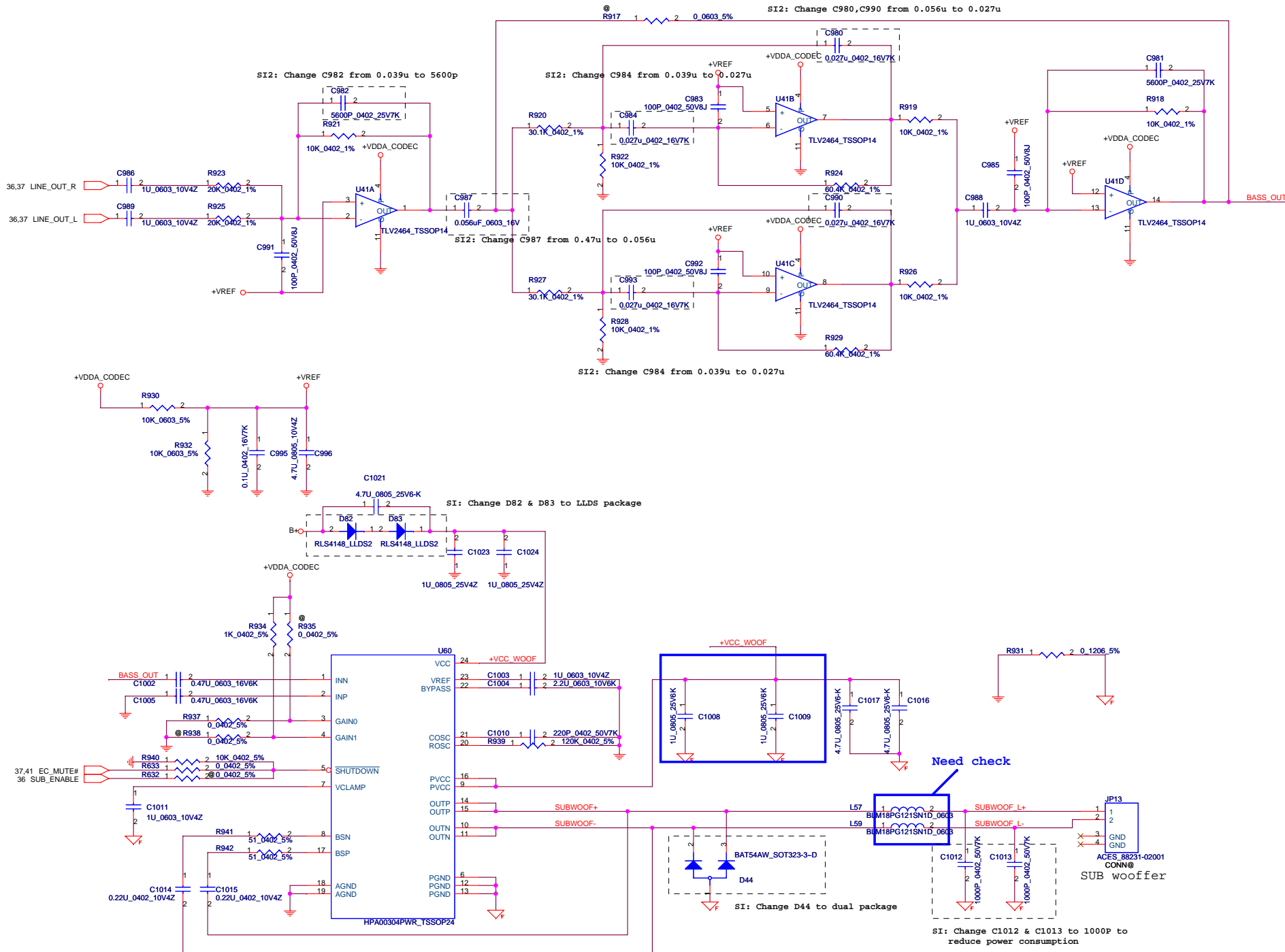


HP_DET#	MIC_DET	LINEOUT	PORT-A <Earphone OUT>	MIC	EQ
0 (LOW)	0 (LOW)	OFF	ON	ON	Disable
0 (LOW)	NC	OFF	ON	OFF	Disable
NC	0 (LOW)	ON	OFF	ON	Enable
NC	NC	ON	OFF	OFF	Enable

Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2007/08/02	Deciphered Date	2008/08/02	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.				Audio Codec-IDT9271B7		
				Size	Document Number	Rev
				Custom	LA-4092P	0.4
Date:		Thursday, February 21, 2008		Sheet	36 of 53	

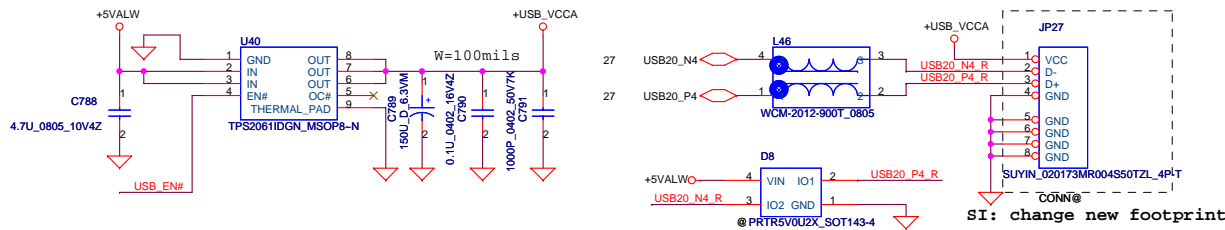


Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2007/08/02				Title			
				Deciphered Date				AMP & Audio Jack			
				2008/08/02				LA-4092P			
								Rev 0.4			
								Date: Thursday, February 21, 2008			
								Sheet 37 of 53			

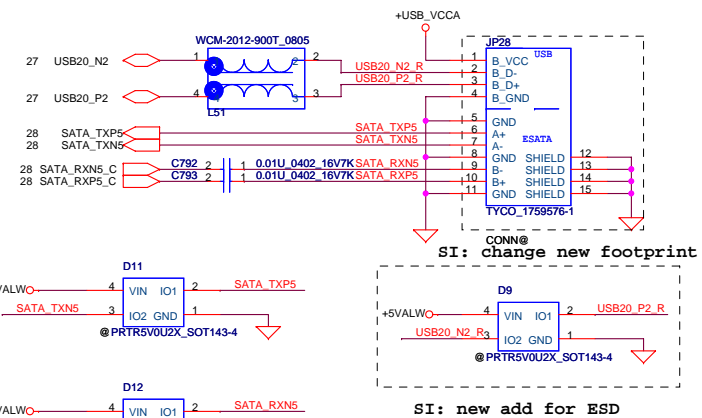


Security Classification		Compal Secret Data		Title	
Issued Date	2006/10/26	Deciphered Date	2006/07/26	EQ & Sub Woofer	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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-4092P
				Date: Thursday, February 21, 2008	Rev 0.4
				[Sheet 38 of 53]	

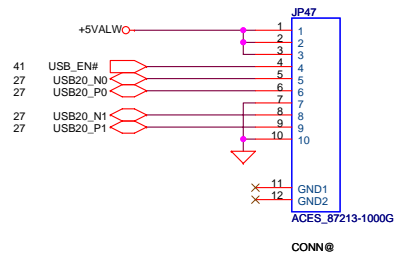
## Left side USB CONNECTOR 0



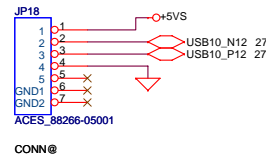
## Left side ESATA/USB combination Connector



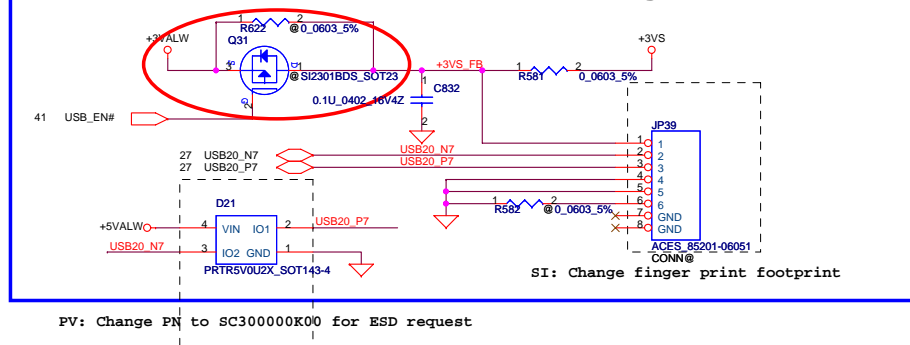
## USB Board Conn



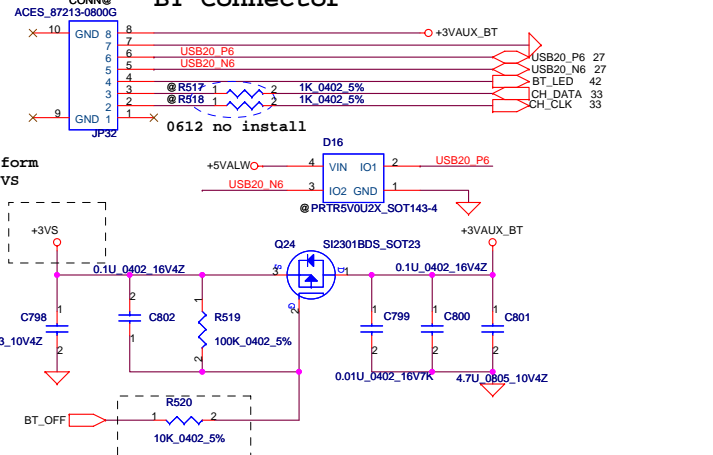
## Touch screen



## Finger printer



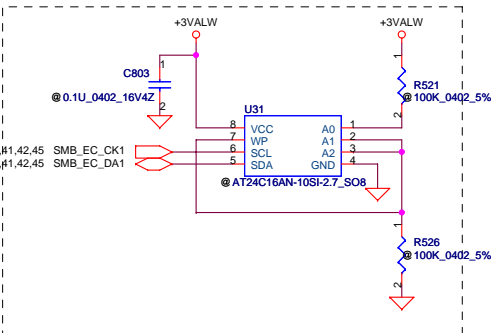
## BT Connector



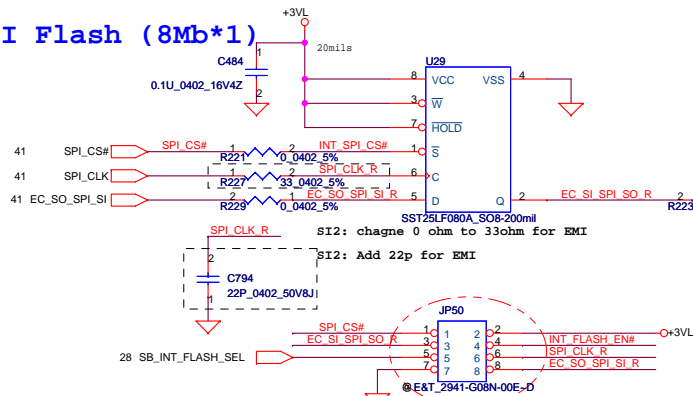
SI: change to 10K ohm to make sure MOS can turn on

Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Compal Electronics, Inc.	
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-4092P
				Rev	0.4
				Date:	Thursday, February 21, 2008
				Sheet	39 of 53

SI2: Change from +3VL to +3VALW and unmount this EEPROM

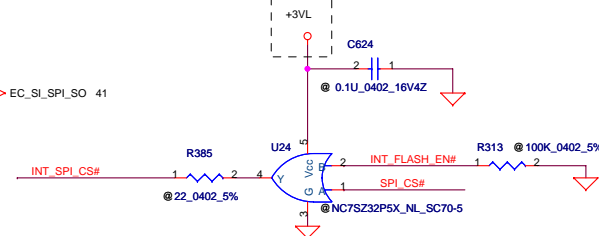


## SPI Flash (8Mb\*1)

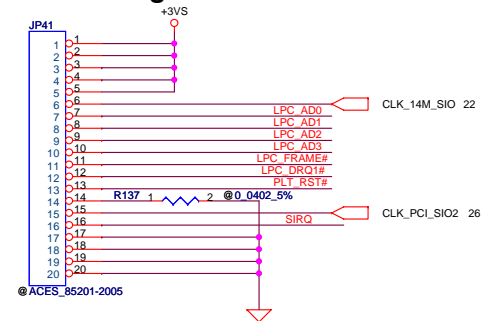


C:Chg. PN to LTC00000200

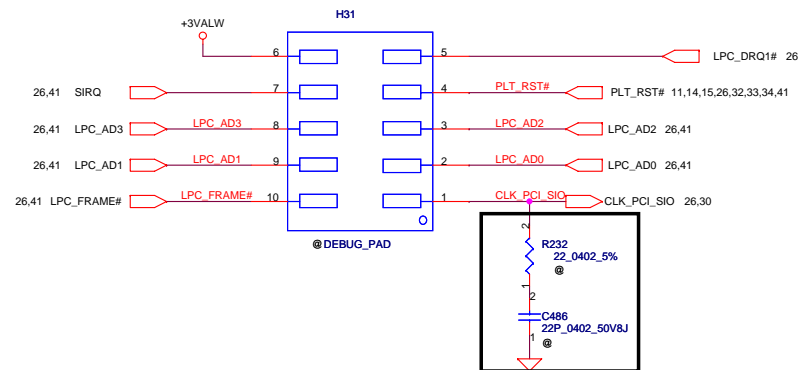
SI2: Change from +3VALW to +3VL



## LPC Debug Port



## LPC Debug Port



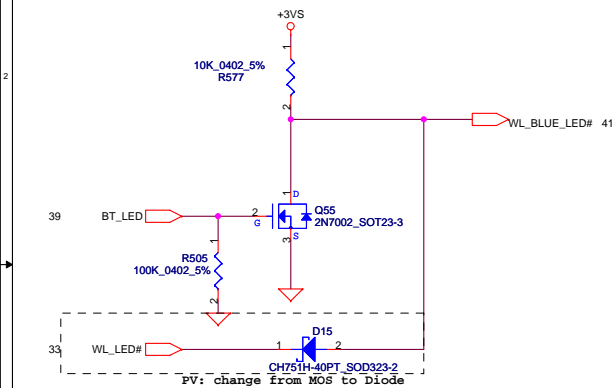
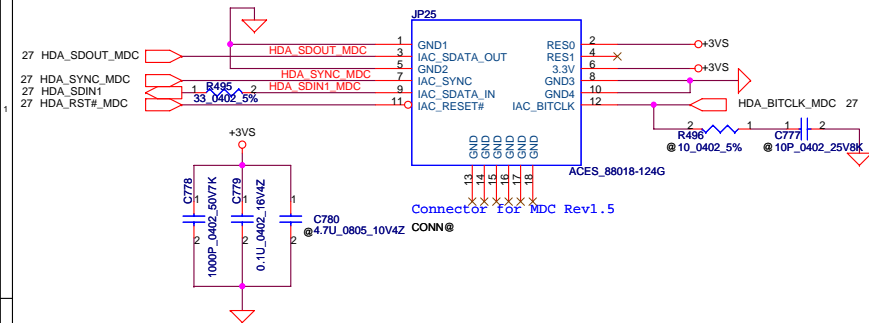
Security Classification	Compal Secret Data			Title		
Issued Date	2007/08/02	Deciphered Date	2008/08/02	TCG/BIOS ROM/PS2/LED/SW		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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
				Custom	LA-4092P	0.4
				Date:	Thursday, February 21, 2008	Sheet 40 of 53



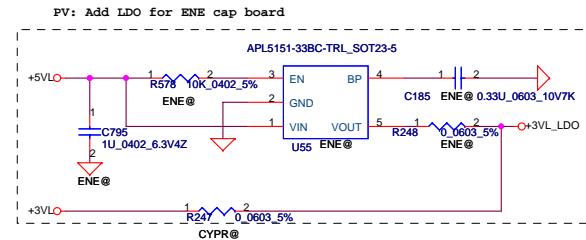
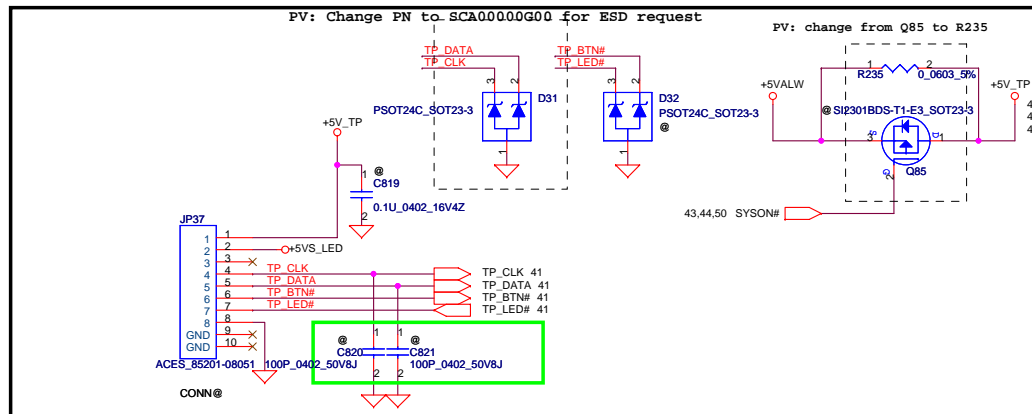


# MDC 1.5 Conn.

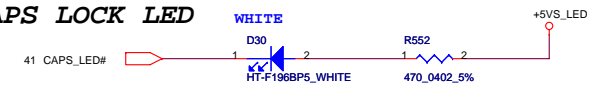
Change type 4/25



## T/P Board (Inculde T/P\_ON/OFF)



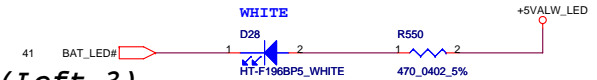
## CAPS LOCK LED



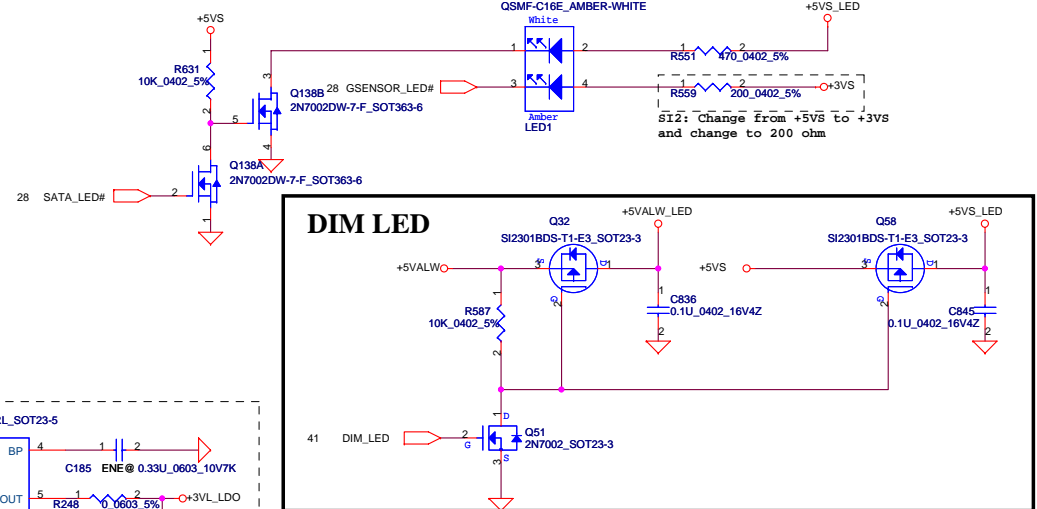
## POWER LED(Left 1)



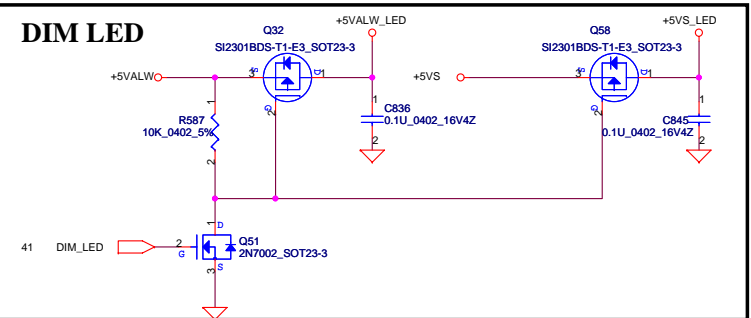
## Battery Charge LED(Left 2)



## HDD LED(Left 3)

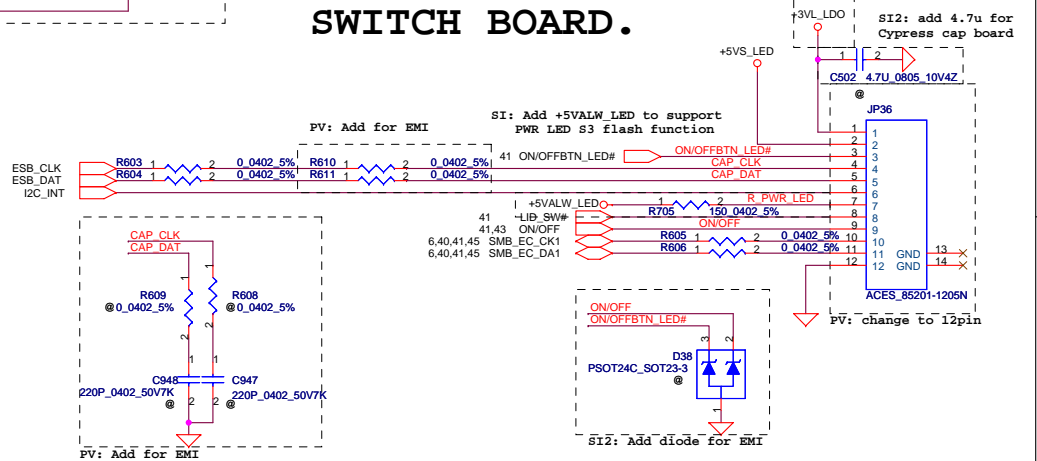


## DIM LED



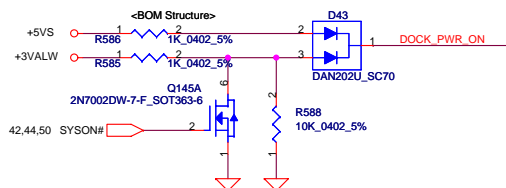
SI: Change to +3VL to support Qplay bottom boot in BATT mode

## SWITCH BOARD.



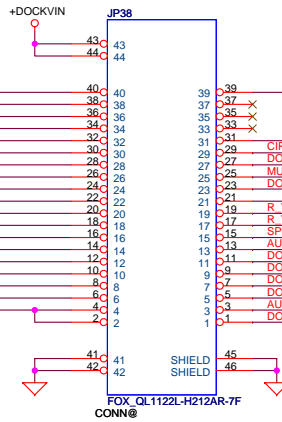
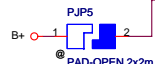
Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				MDC/KBD/ON OFF/LID	
Size	Custom	Document Number	LA-4092P	Rev	0.4
Date:	Thursday, February 21, 2008	Sheet	42	of	53

# Atlas/ Saturn Dock

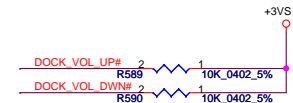


**DOCK\_PWR\_ON Spec**  
0V = Notebook S4/S5, Dock off  
2.5V = Notebook S3, Dock on  
4V = Notebook S0, Dock on

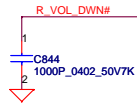
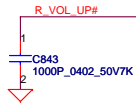
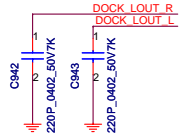
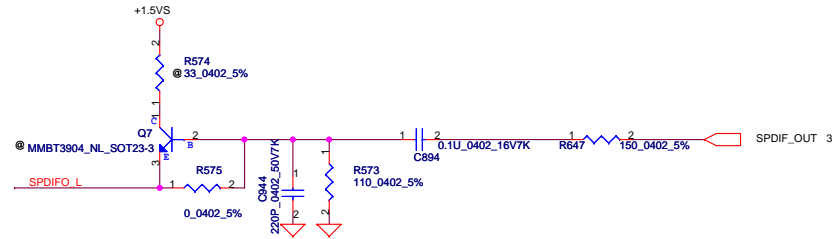
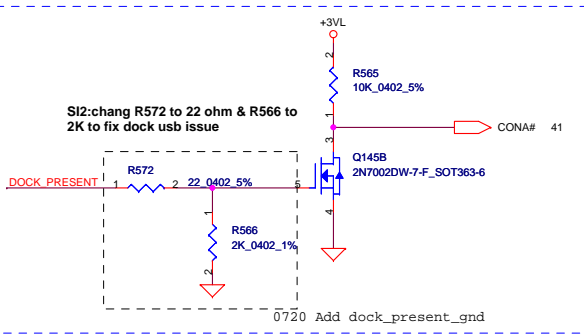
23 GREEN\_L  
23 RED\_L  
23 BLUE\_L  
23 D\_HSYNC  
23 D\_DDCCLK  
27 USB20\_N3  
23 D\_VSYNC  
27 USB20\_P3  
32 RJ45\_MIDI3+  
32 RJ45\_MIDI3-  
32 RJ45\_MIDI2+  
32 RJ45\_MIDI2-  
32 RJ45\_MIDI1+  
32 RJ45\_MIDI1-  
32 RJ45\_MIDI0+  
32 RJ45\_MIDI0-



need change to reverse type connector

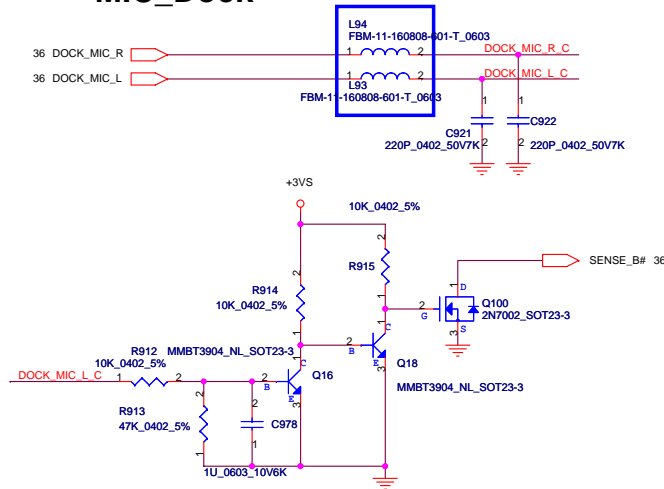


MUTE\_LED 41  
DOCK\_SLP\_BTN# 41,42  
JACK\_DET# 36,37  
DOCK\_VOL\_UP# 41  
DOCK\_VOL\_DWN# 41



## MIC\_Dock

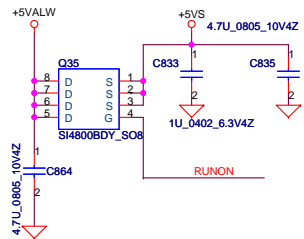
Need 600 Ohm 500 mA



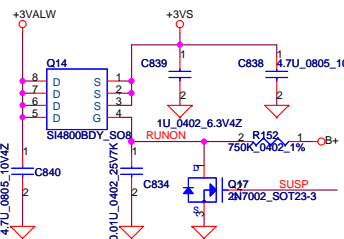
Security Classification		Compal Secret Data		Title	
Issued Date	2007/08/02	Deciphered Date	2008/08/02	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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-4092P	
				Date: Thursday, February 21, 2008	Rev 0.4
				Sheet 43 of 53	

**DOCK CONN**

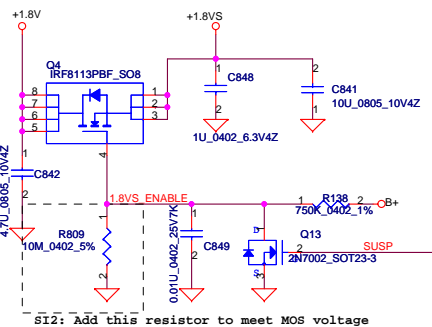
### +5VALW TO +5VS



### +3VALW TO +3VS

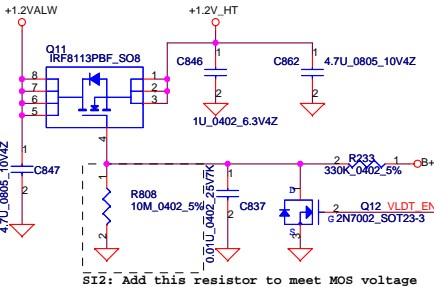


### +1.8V TO +1.8VS

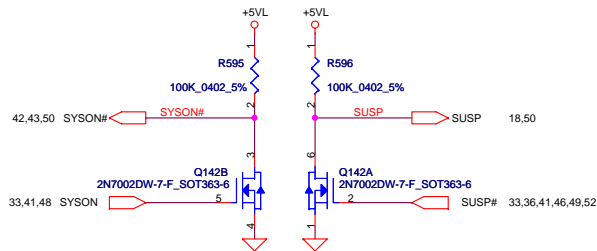
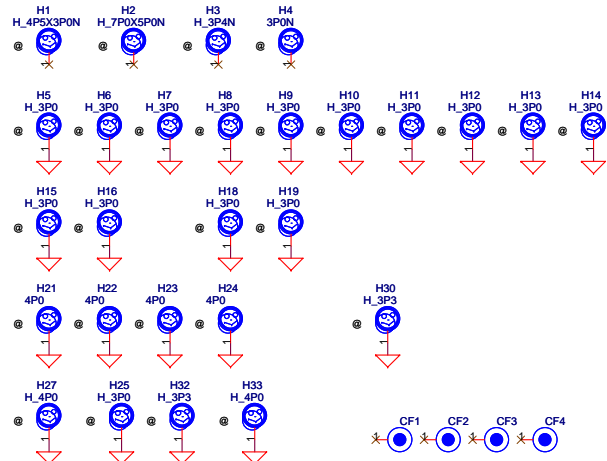


SI2: Add this resistor to meet MOS voltage

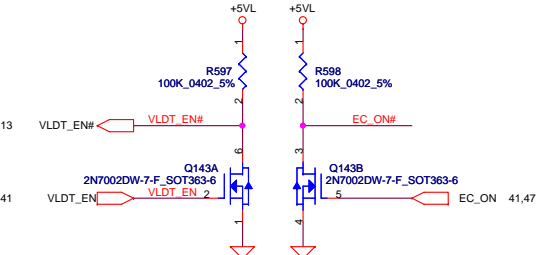
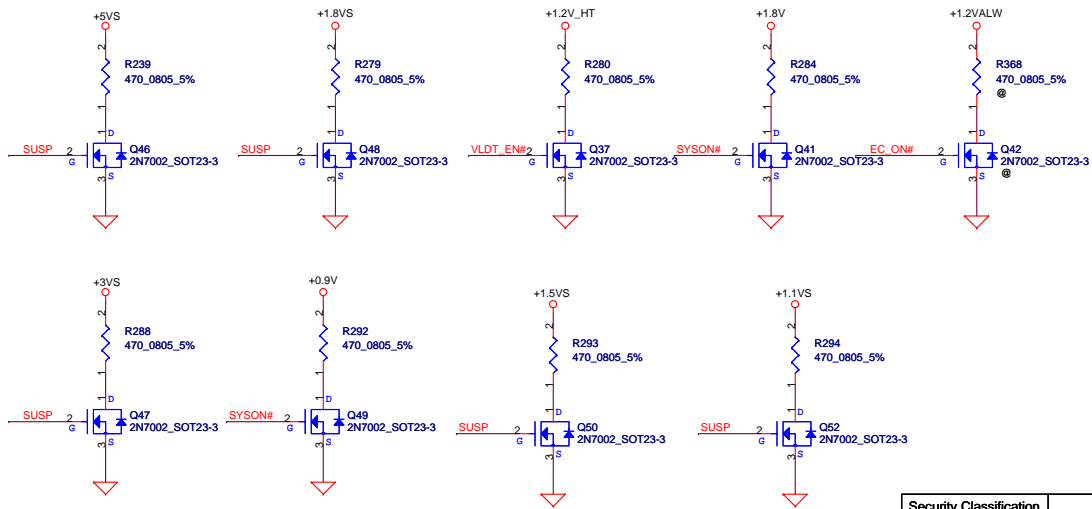
### +1.2VALW TO +1.2V\_HT



SI2: Add this resistor to meet MOS voltage



### Discharge circuit



Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2007/08/02				Title			
Deciphered Date				2008/08/02				DC/DC Circuits			
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-4092P			
				Date:				Thursday, February 21, 2008			
				Sheet				44 of 53			

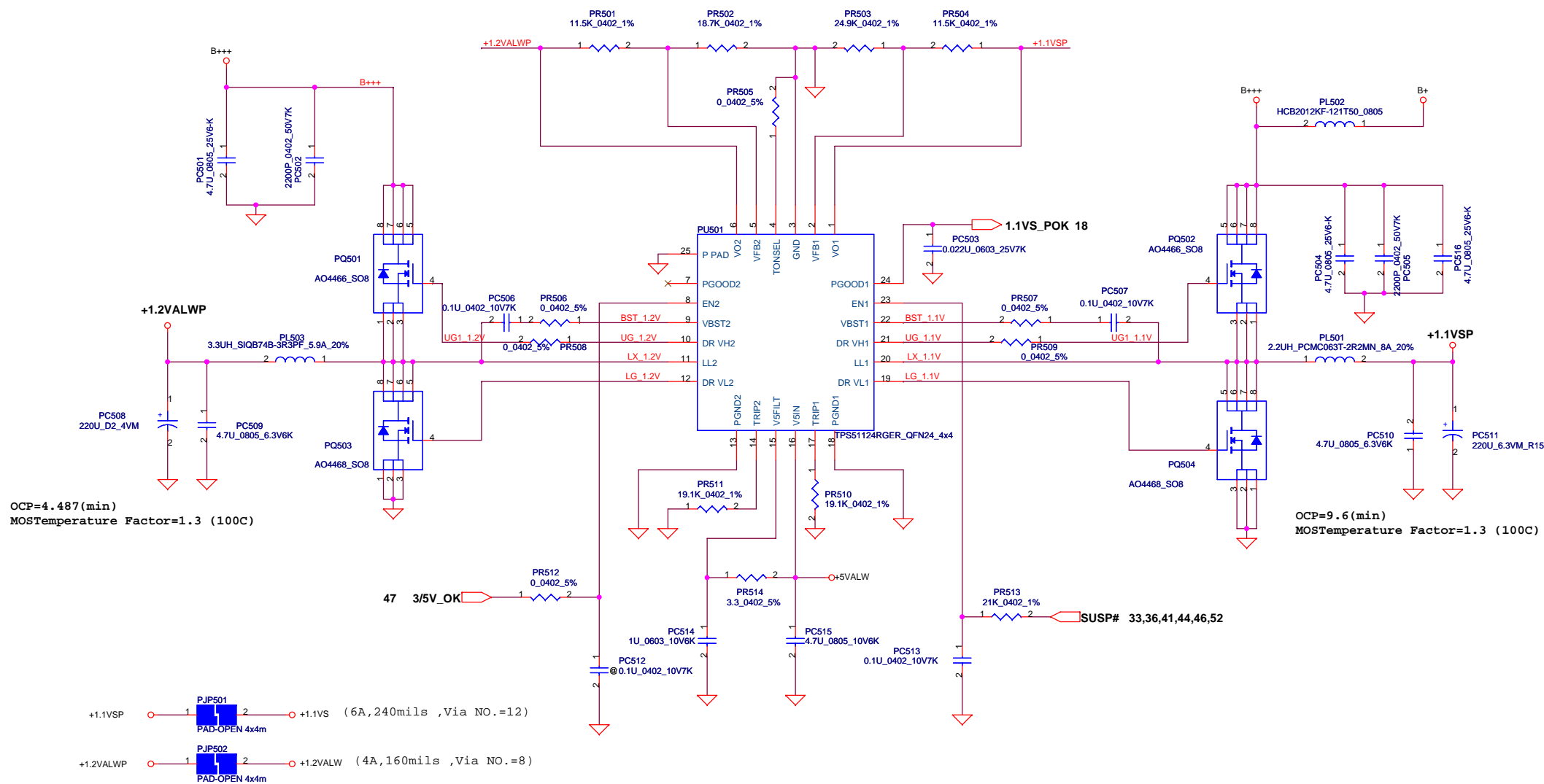




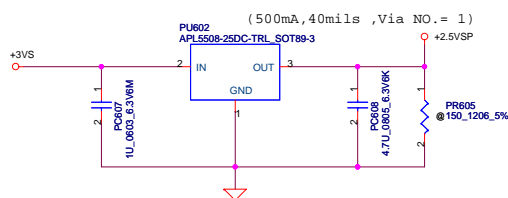
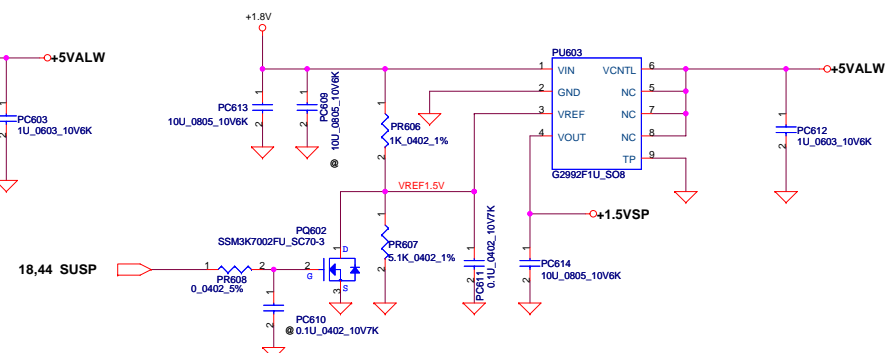




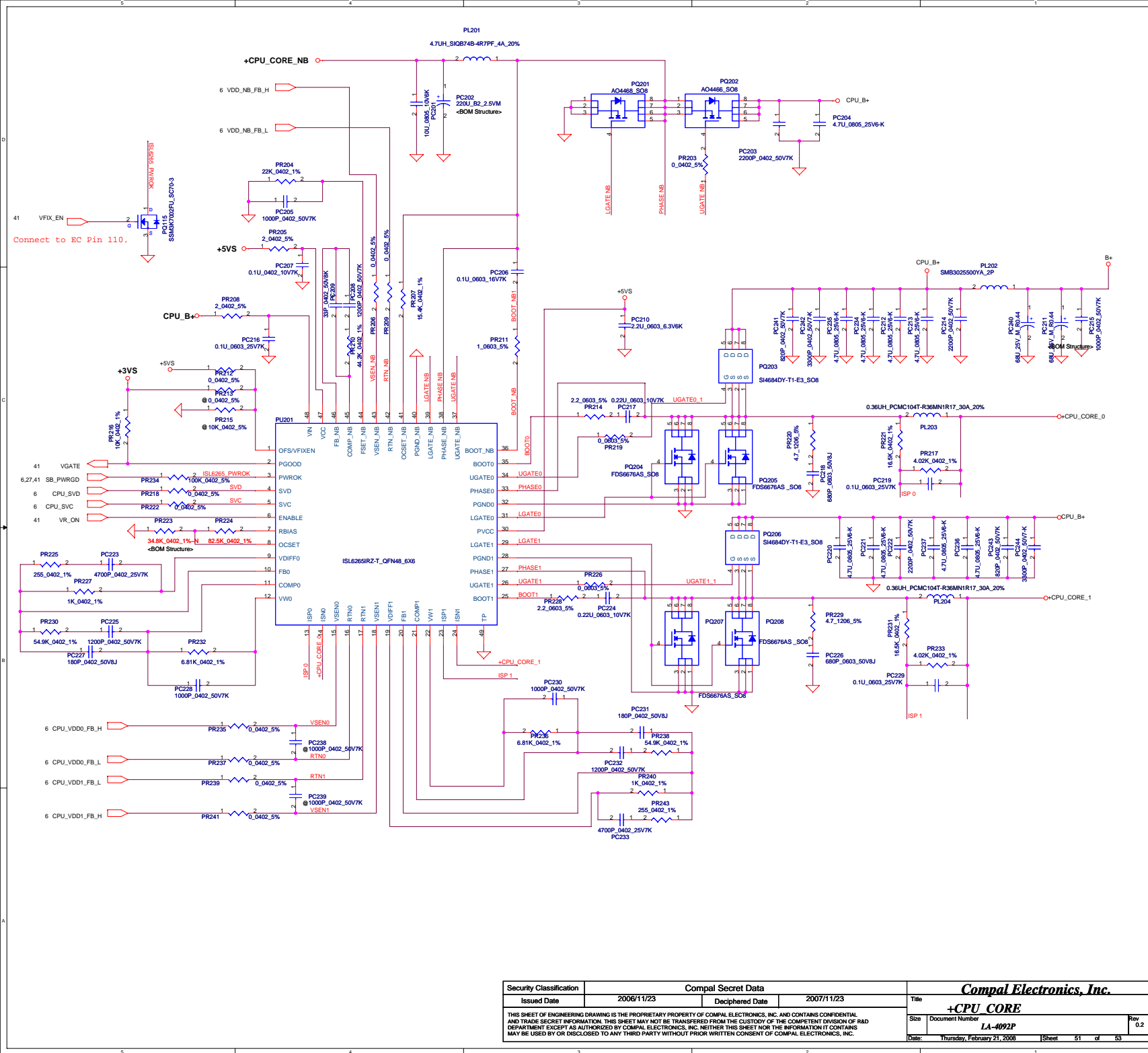




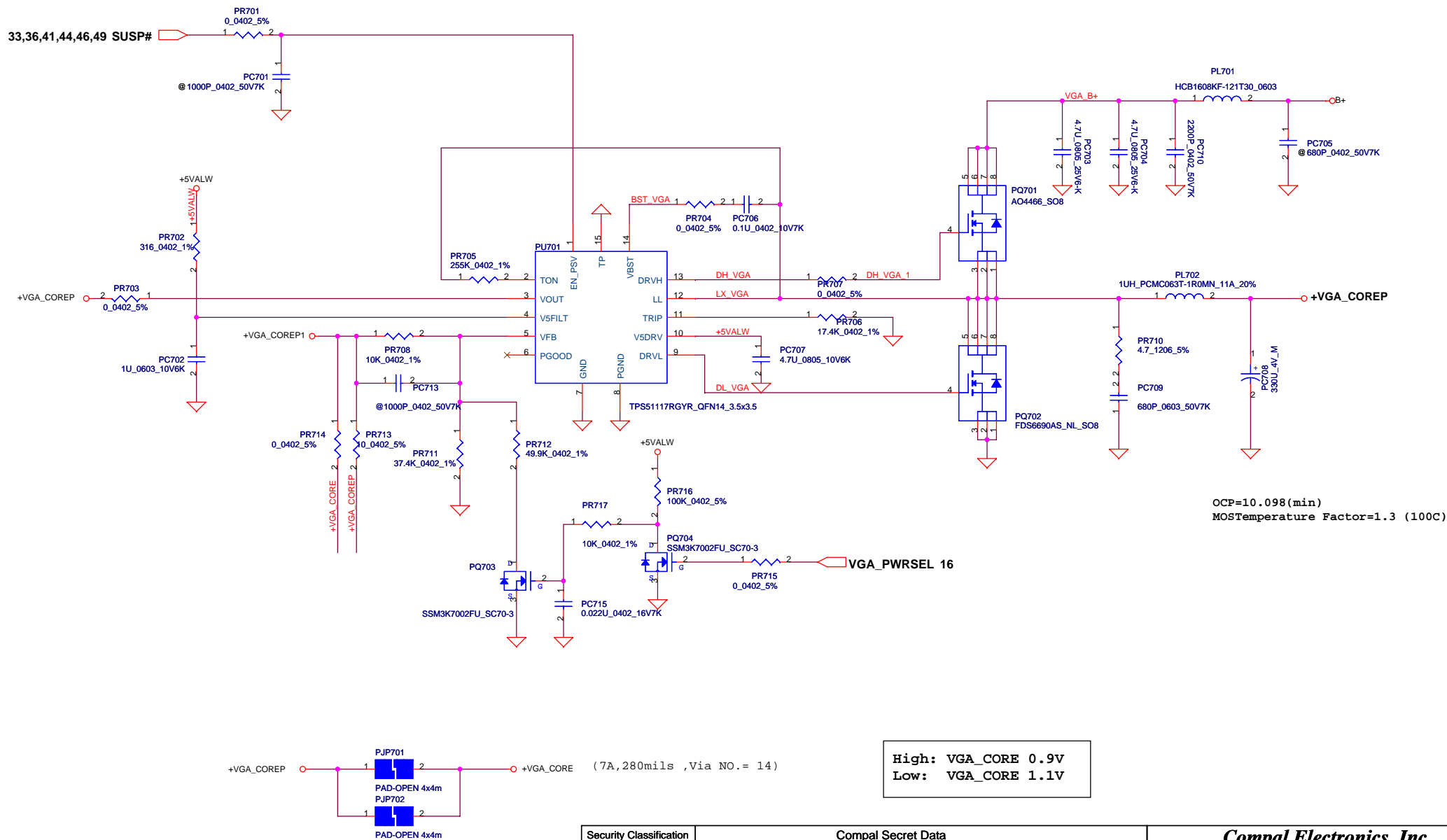
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/05/29	Deciphered Date	2008/05/29	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				1.1VSP/1.2VALWP	
				Size	Document Number
				LA-4092P	
Date				Thursday, February 21, 2008	Sheet 49 of 53



Security Classification		Compal Secret Data		<b>Compal Electronics, Inc.</b> <b>0.9VSP/2.5VSP/1.5VSP</b>	
Issued Date	2006/11/23	Deciphered Date	2007/11/23	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 OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
					LA-4092P
					Rev 0.2
Date:				Thursday, February 21, 2008	Sheet 50 of 53



Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		+CPU CORE	
2006/11/23		2007/11/23		LA-4092P	
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 RAD 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 0.2	
				Date: Thursday, February 21, 2008	
				Sheet 51 of 53	



Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2007/05/29				Title			
				Deciphered Date				VGA_CORE			
				2008/05/29				LA-4092P			
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			
				Document Number				0.1			
				Date:				Thursday, February 21, 2008			
				Sheet				52 of 53			

Version Change List ( P. I. R. List )for Power Circuit

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	48	1.8VP	10/23	Compal	for power request	PU401 change the IC from "S IC RT8204PQW WQFN 16P" to "S IC TPS51117RGYR QFN 14P".	
2	46	Charger	10/30	Compal	for power request	PQ104 swap the PQ104 1,3 Pin	
3	47	3V/5V	10/30	Compal	for power request	Change PR301 to 13.7K modify output voltage	
4	47	3V/5V	10/30	Compal	for power request	Change PR305 to 180K modify OCP	
5	47	3V/5V	10/30	Compal	for power request	Change PR306 to 150K modify OCP	
6	47	3V/5V	10/30	Compal	for power request	Change PR311 to 620K	
7	47	3V/5V	10/30	Compal	for power request	Change PR315 to 604K modify sequence	
8	49	+1.1VSP	10/30	Compal	for power request	Change PR510 to 19.1K modify OCP	
9	49	+1.2VALWP	10/30	Compal	for power request	Change PR511 to 19.1K modify OCP	
10	46	Charger	10/30	Compal	for power request	Del PR119	
11	51	CPU_CORE	10/30	Compal	for power request	Change PC202 to B2 type for ME limit	
12	51	CPU_CORE	10/30	Compal	for power request	Change PR223 to 17.8K and PR224 to 100K modify OCP	
13	51	CPU_CORE	10/30	Compal	for power request	Change PR221,PR231 to 16.5K and PR217,PR233 to 4.02K for CPU_CORE compensation	
14	45	DC connector	10/30	Compal	for power request	Add PR3,PD4,PC12 for ADP_ID function	
15	47	3V/5V	10/30	Compal	for power request	Add PR317,PR318	
16	46	Charger	10/30	Compal	for power request	Change net from +3VLP to +3VL	
17	49	+1.1VSP	10/30	Compal	for power request	Change PR513 to 21K for HW power scquence.	
18	46	Charger	11/09	Compal	for power request	Pop PR119 Unpop PR9	
19	50	0.9VSP	11/09	Compal	for power request	Change PC601,PC605,PC611,PC603,PC613,PC614,PC612, PC201 for common part	
20	46	Charger	11/09	Compal	for power request	Change PR112 to 0.015 Ohm	
21	49	+1.2VALWP	11/09	Compal	for power request	Change PC508 to D2 size for ME limit	
22	51	CPU_CORE	12/05	Compal	for EMI request	Add PR220,PR229 for EMI	
23	49	CPU_CORE	12/05	Compal	for EMI request	Add PC218,PC226 for EMI	

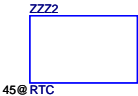
Version Change List ( P. I. R. List )for Power Circuit

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	46	Charger	12/05	Compal	for power request	Change PR120 to 133K to change charger current	
2	47	3V/5V	12/05	Compal	for power request	Change PR302 to 30.9K for common part	
3	47	3V/5V	12/05	Compal	for power request	Change PR304 to 20K for common part	
4	48	+1.8VP	12/05	Compal	for power request	Change PR408 to 18.2K modify OCP	
5	52	VGA_CORE	12/05	Compal	for power request	Change PR306 to 150K modify OCP	
6	52	VGA_CORE	12/05	Compal	for power request	Change PR714 to 0 Ohm	
7	52	VGA_CORE	12/05	Compal	for power request	Add PR713 100 Ohm	
8	45	DC Connector /CPU_OTP	12/25	Compal	for power request	Del PR9	
9	46	Charger	12/25	Compal	for power request	Reconnect from BQ24740VREF to +3VL	
10	47	3V/5V	12/25	Compal	for power request	Add PU302	
11	52	VGA_CORE	12/25	Compal	for power request	Del PC714 Change PC715 to 0.022u & PR713 to 10 Ohm	
12	51	CPU_CORE	12/27	Compal	for power request	ADD PC204 & PC211 68uF	
13	48	+1.8VP	1/2	Compal	for EMI request	Add PR410 4.7ohm and PC410 680P	
14	48	+1.8VP	1/2	Compal	for EMI request	Add PC405 680P and 408 3.3nF	
15	51	CPU_CORE	1/2	Compal	for EMI request	ADD PC241 820p & PC242 3300p	
16	52	VGA_CORE	1/2	Compal	for EMI request	Add PR710 and PC709	
17	51	CPU_CORE	1/2	Compal	for EMI request	ADD PC243 to 3.3n PC244 to 820p	
18	51	CPU_CORE	1/3	Compal	for power request	ADD PR234 & PQ115	

# HW4 Product Improvement Record (P.I.R.)

- 1. Change R538 Pull high from +3VL to +3VALW
- 2. New add R563,R571 Pull high +3VS
- 3. Unmount BKOFF# Pull high R483
- 4. Unmount CPU\_LDT\_REQ# Pull high R318
- 5. Change LED1 P/N to SC500004C00
- 6. Change JP36 Pin2 from +5VS\_LED to +5VALW\_LED
- 7. Change C1012 & C1013 from 4700P to 1000P
- 8. Change R186 size from 0603 to 0402
- 9. Delete TV function and relation component
- 10. Add R554 for CIR pull high
- 11.Add C327 on BATT\_OVT
- 12.Change L57 & L59 to 0603 BLM18PG121SN1D
- 13. exchange TV & WLAN mini card location
- 14.add LAN cable detect circuit
- 15.update ODD CONN footporint and symbol
- 16.delete Lid switch baord Conn
- 17.Change Cap sensor board power to +3VL to support Qplay boot

RTC



PCB



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2007/5/18	Deciphered Date	2008/5/18	Title	PIR
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, February 21, 2008
				Sheet	55 of 54
				Rev	0.4