

Compal confidential

Los Angeles 10A+/10AG+

KTKAE LA-4581P REV4.0 Schematics Document

**Mobile AMD S1G2 /RS780M&RS780MC&RX781/SB700
2008-12-26 Rev. 4.0**

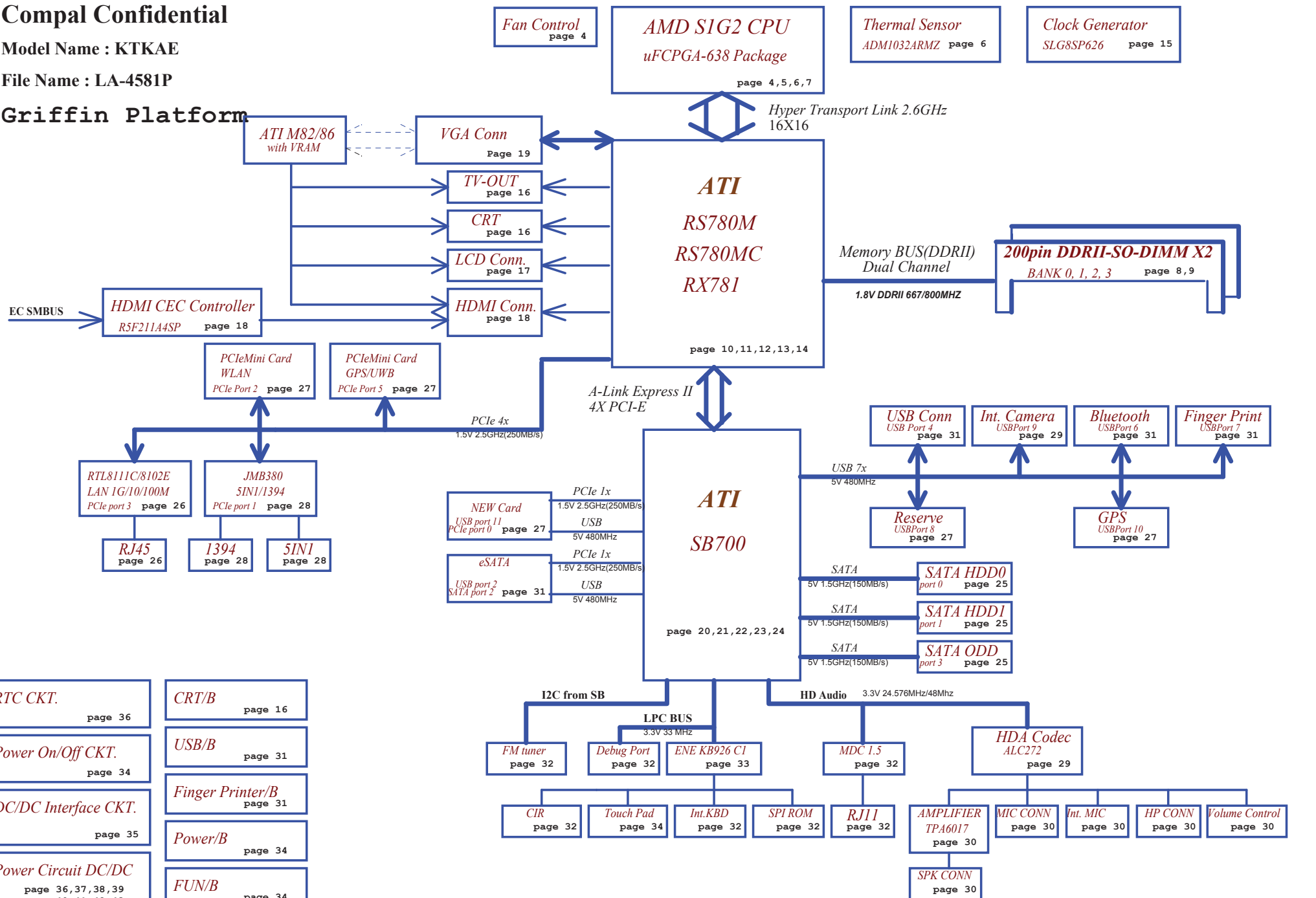
Security Classification	Compal Secret Data		Compal Electronics, Inc.			
Issued Date	2008/04/14	Deciphered Date	2009/04/14	Title Cover Sheet		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4581P	Rev 1.0
				Date: Thursday, January 08, 2009	Sheet 1 of 45	

Compal Confidential

Model Name : KTKAE

File Name : LA-4581P

Griffin Platform



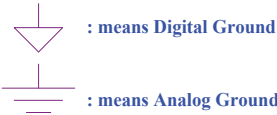
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Custom	LA-4581P
				Date	Rev
				Friday, December 26, 2008	1.0
				Sheet	2 of 45

Voltage Rails

○ MEANS ON X MEANS OFF

power plane State	+B +3VL +5VL +RTCVCC	+5VALW +3VALW +1.2VALW +3V_LAN	+1.8V +0.9V +0.9V	+5VS +3VS +2.5VS +1.8VS +1.5VS +1.1VS +VGA_CORE +1.2V_HT +CPU_CORE_NB +CPU_CORE_0 +CPU_CORE_1
S0	○	○	○	○
S1	○	○	○	○
S3	○	○	○	X
S5 S4/AC	○	○	X	X
S5 S4/ Battery only	○	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X

Symbol Note :



@ : means just reserve , no build
DEBUG@ : means just reserve for debug.

Ⓛ Layout Notes

UMA@ : means for RS780M.

Item	CPU	NB	VGA	SB
GM@	S1G2	RS780M	NA	SB700
PM@+PM1@	S1G2	RX781	M82/M86	SB700
RV@+PM@	S1G2	RS780M	M82	SB700
GM@	S1G2	RS780MC	NA	SB700

BTO Option Table

Function	HDMI			TV-out	
description	(Y)			(S)	
explain	AMD (UMA)	ATI VGA/B	COMMON		
BTO	IHDMI@	HDMI@	H@	TV@	

Function	2nd HDD	LAN		Mini card	RJ11/FM tuner		3G SIM slot
description	(2H)	(E)	(C)	(D2)	(R)	(M)	(G)
explain		10/100M	Giga	Two Crads	RJ11	FM	
BTO	HDD2@	8102E@	8111C@	WLAN@	GPS@	MDC@	3G@

Function	Felica	BLUE TOOTH	CIR	CAMERA & MIC		Finger printer	
description	(J)	(B)	(I)	(X)		(F)	
explain				CAMERA	MIC		
BTO	FLICA@	BT@	CIR@	CAM@	MIC@	FP@	

I2C / SMBUS ADDRESSING

DEVICE	HEX	ADDRESS
DDR SO-DIMM 0	A0	10100000
DDR SO-DIMM 1	A4	10100100
CLOCK GENERATOR (EXT.)	D2	11010010

EC SM Bus1 address

Device	HEX	Address
Smart Battery	16H	0001 011X b
HDMI-CEC	34H	0011 010X b
EC KB926C1		

EC SM Bus2 address

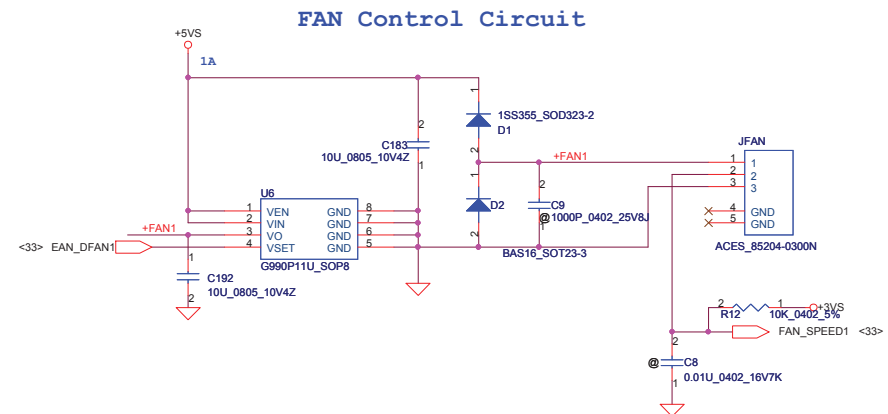
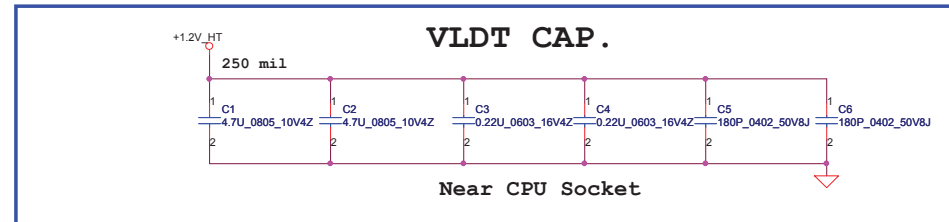
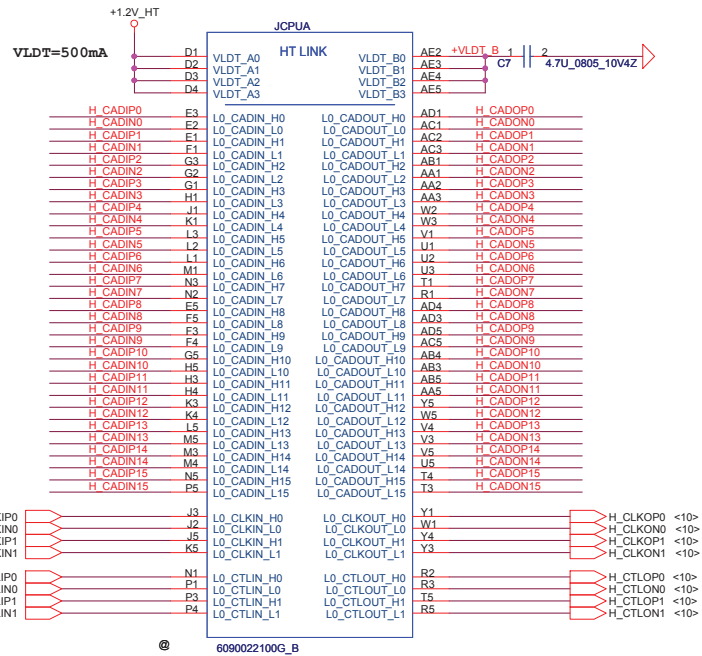
Device	HEX	Address
AD1032-1 CPU	98H	1001 100X b
AD1032-2 VGA	9AH	1001 101X b
EC KB926C1		
Ext. VGA/B		
CS/B		

SMBUS Control Table

	SOURCE	INVERTER	BATT	CEC	THERMAL SENSOR CPU & ADM1032	SODIMM I / II	CLK CHIP	MINI CARD Slot 2	LCD	HDMI	G-Sensor
SMB_EC_CK1 SMB_EC_DA1	KB926	X	V	V	X	X	X	X	X	X	X
SMB_EC_CK2 SMB_EC_DA2	KB926	X	X	X	V	X	X	X	X	X	X
I2C_CLK I2C_DATA	RS780M	X	X	X	X	X	X	X	V	X	X
DDC_CLK0 DDC_DATA0	RS780M	X	X	X	X	X	X	X	X	V	X
DDC_CLK1 DDC_DATA1	RS780M	X	X	X	X	X	X	X	X	X	X
SCL0 SDA0	SB700	X	X	X	X	V	V	X	X	X	V
SCL1 SDA1	SB700	X	X	X	X	X	X	V	X	X	X
SCL2 SDA2	SB700	X	X	X	X	X	X	X	X	X	X
SCL3 SDA3	SB700	X	X	X	X	X	X	X	X	X	X

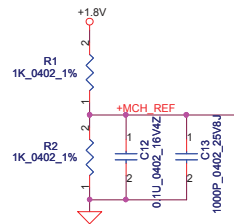
Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2008/04/14	Deciphered Date	2009/04/14	Title	Notes List	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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 Custom	Document Number LA-458IP	Rev 1.0
				Date:	Friday, December 26, 2008	Sheet 3 of 45

<10> H_CADIP[0..15] H_CADIP[0..15]
<10> H_CADIN[0..15] H_CADIN[0..15]
<10> H_CADOP[0..15] H_CADOP[0..15]
<10> H_CADON[0..15] H_CADON[0..15]

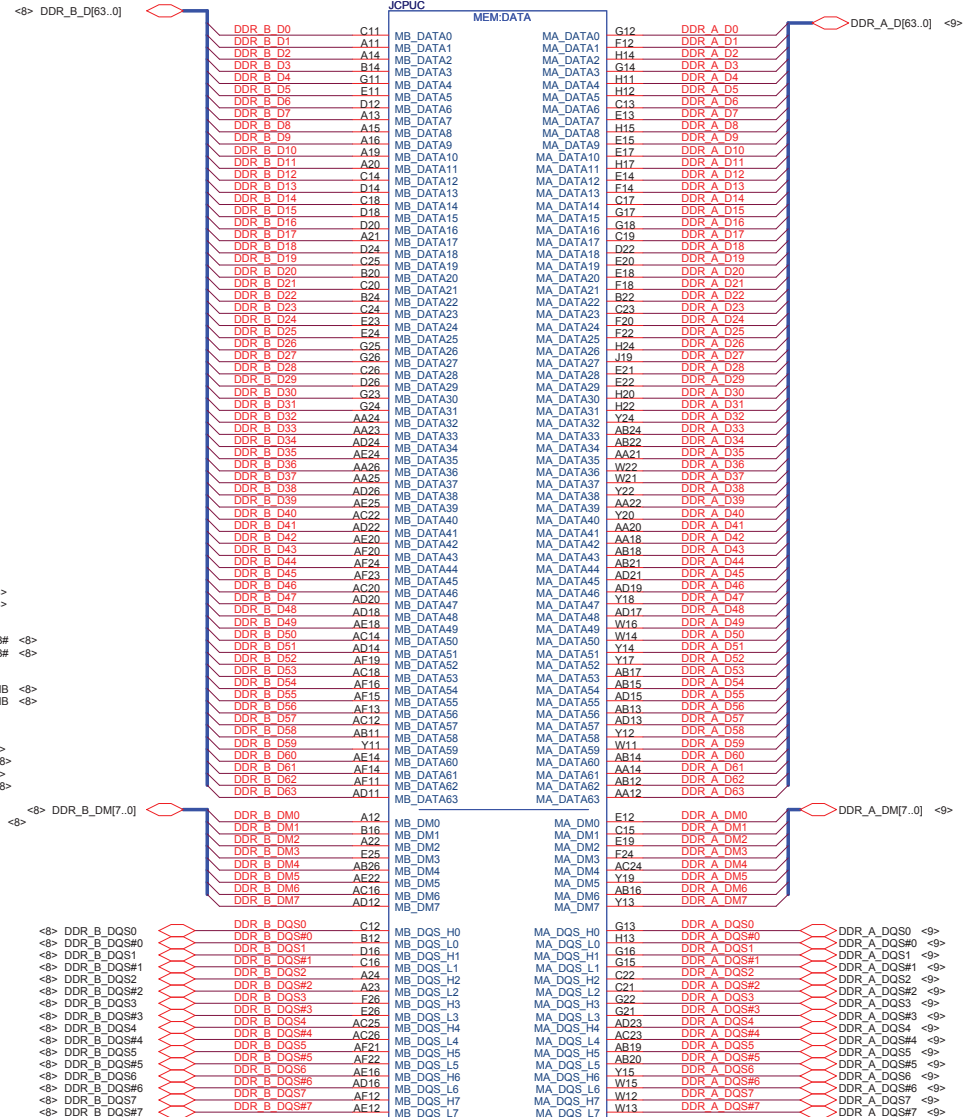
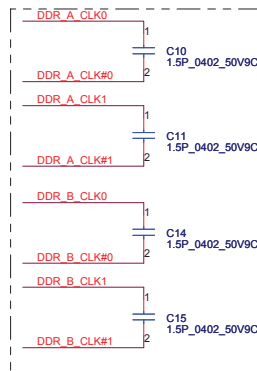


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2008/04/14	Deciphered Date	2009/04/14	AMD CPU S1G2 HT I/F		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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	Document Number	Rev
				Custom	LA-4581P	1.0
				Date:	Friday, December 26, 2008	Sheet 4 of 45

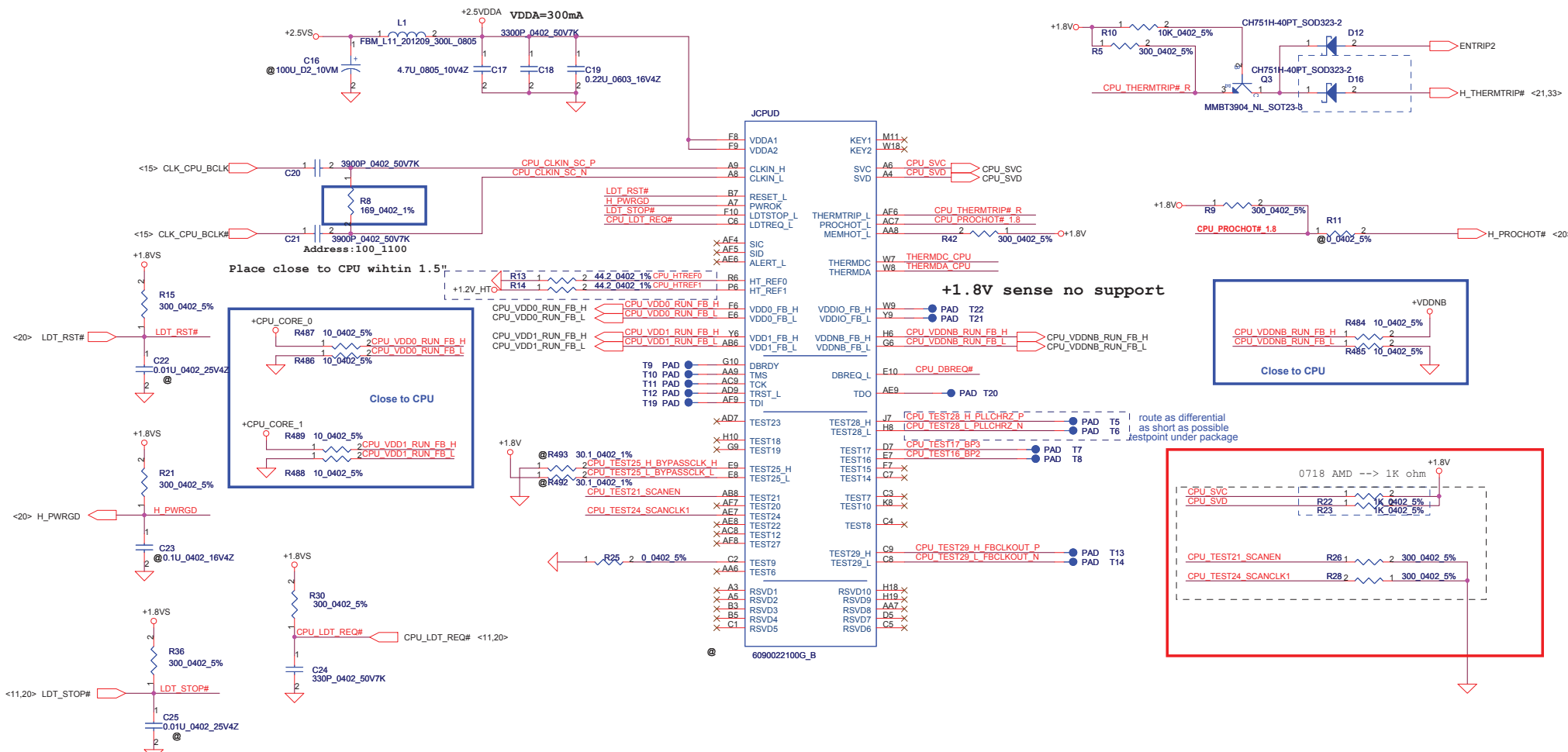
Processor DDR2 Memory Interface



**PLACE CLOSE TO PROCESSOR
WITHIN 1.5 INCH**

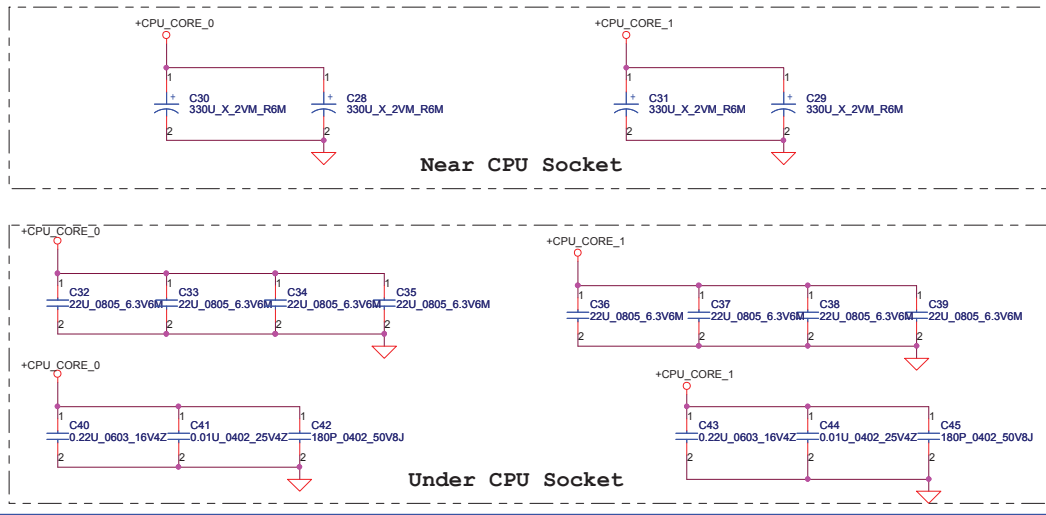


Security Classification		Compal Secret Data		Compal Electronics, Inc.						
Issued Date		2008/04/14	Deciphered Date	2009/04/14	Title					
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT 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.					AMD CPU SIG2 DDRII I/F					
					Size	Document Number		Rev		
					Custom	LA-4581P		1.0		
Date:					Friday, December 26, 2008		Sheet	5	of	45

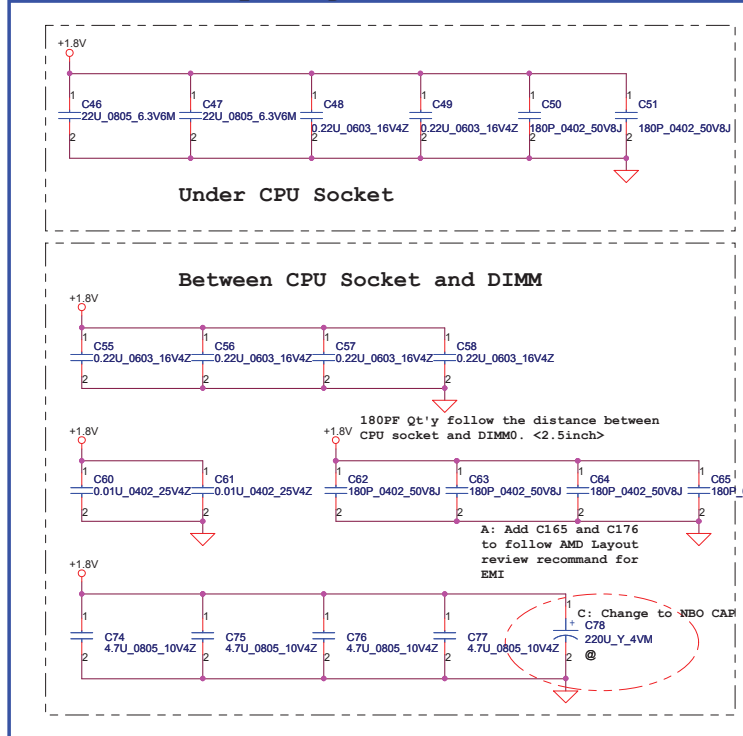


Security Classification		Compal Secret Data				Compal Electronics, Inc.					
Issued Date		2008/04/14		Deciphered Date		2009/04/14		Title			
								AMD CPU S1G2 CTRL			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET 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-4581P		Rev	
										1.0	
Date:						Friday, December 26, 2008		Sheet 6 of 45			

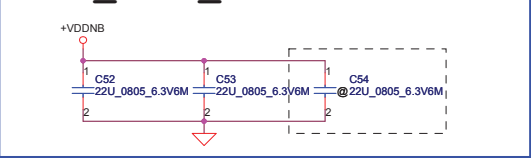
VDD (+CPU_CORE) decoupling.



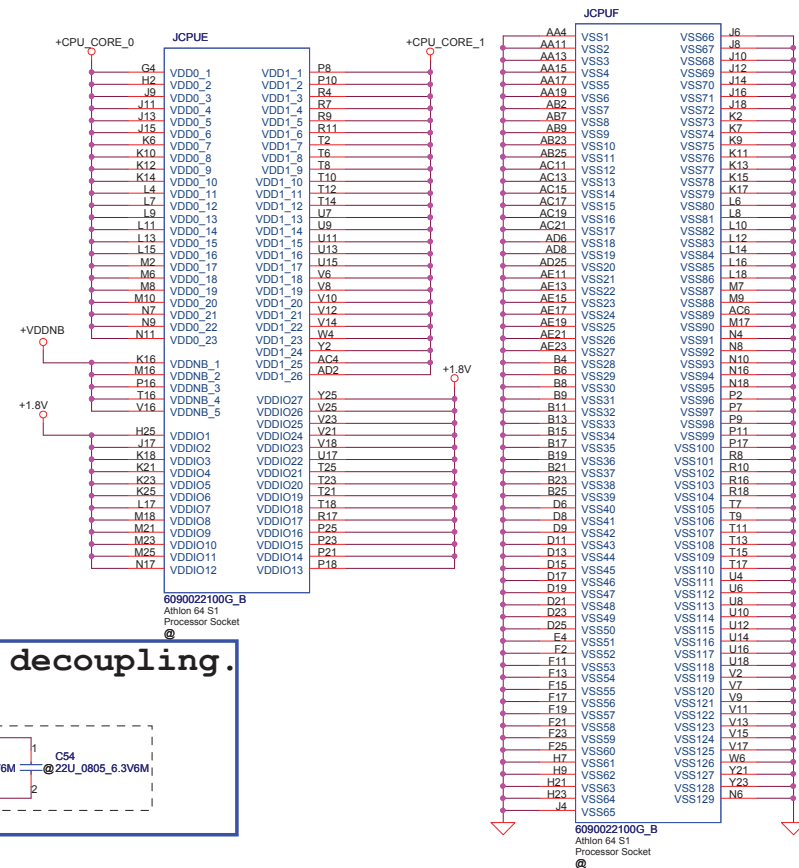
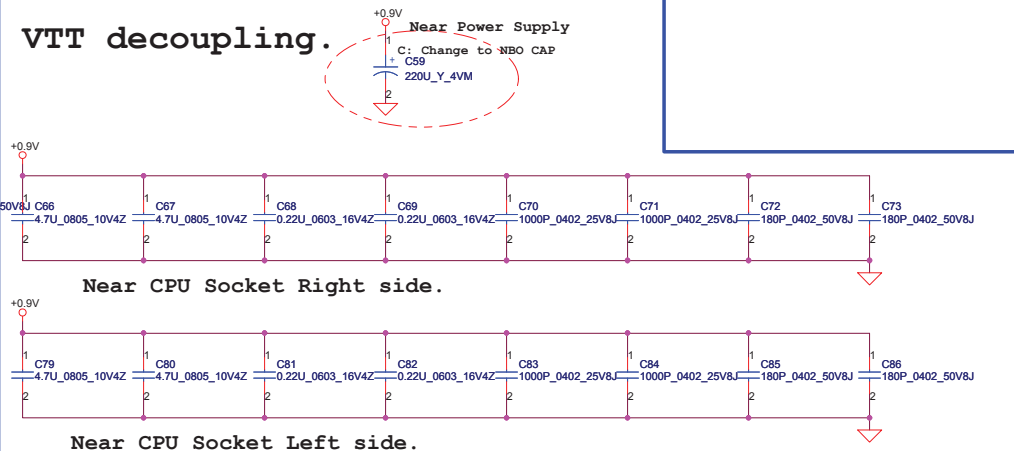
VDDIO decoupling.



+CPU_CORE_NB decoupling.



VTT decoupling.



Security Classification		Compal Secret Data		Title	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	AMD CPU SIG2 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 Custom	Document Number
				LA-458IP	
				Date: Friday, December 26, 2008	Rev 1.0
				Sheet 7 of 45	

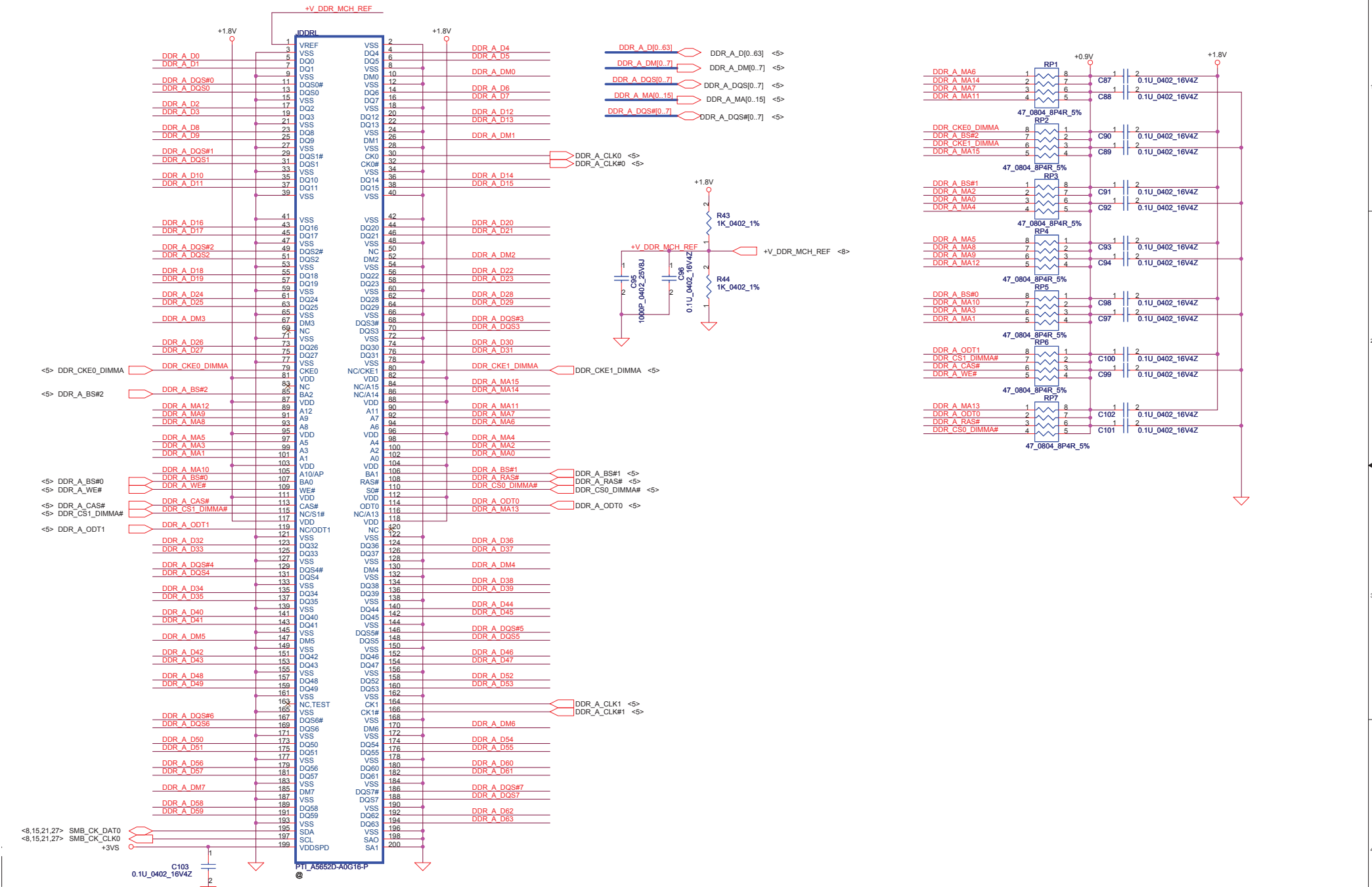
Compal Electronics, Inc.

AMD CPU SIG2 PWR & GND

LA-458IP

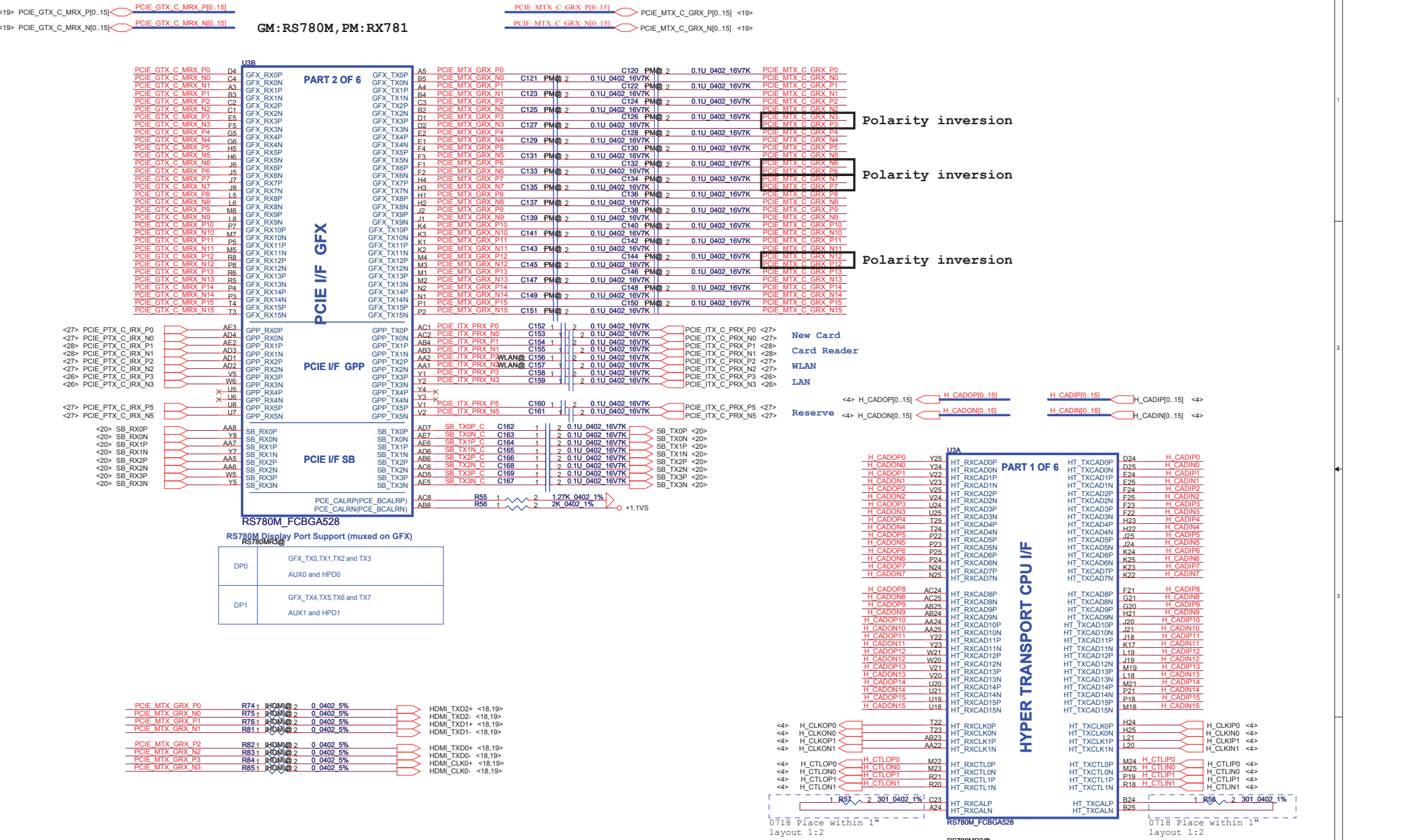
Friday, December 26, 2008

Sheet 7 of 45



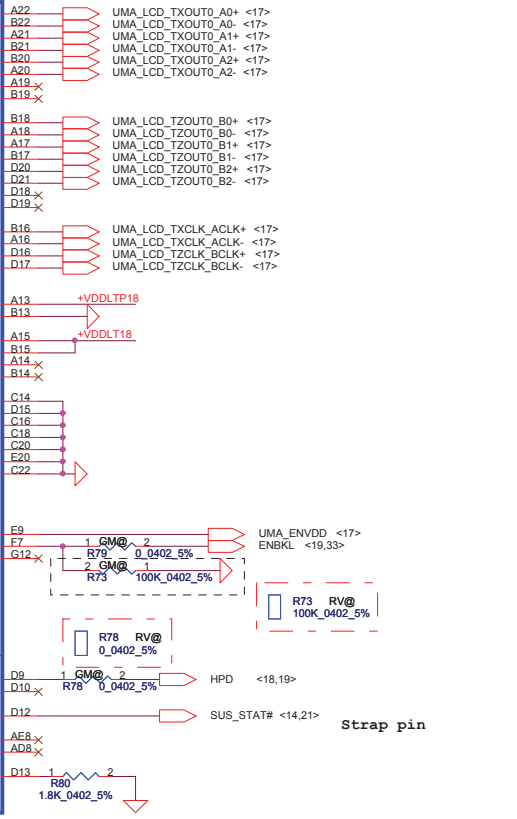
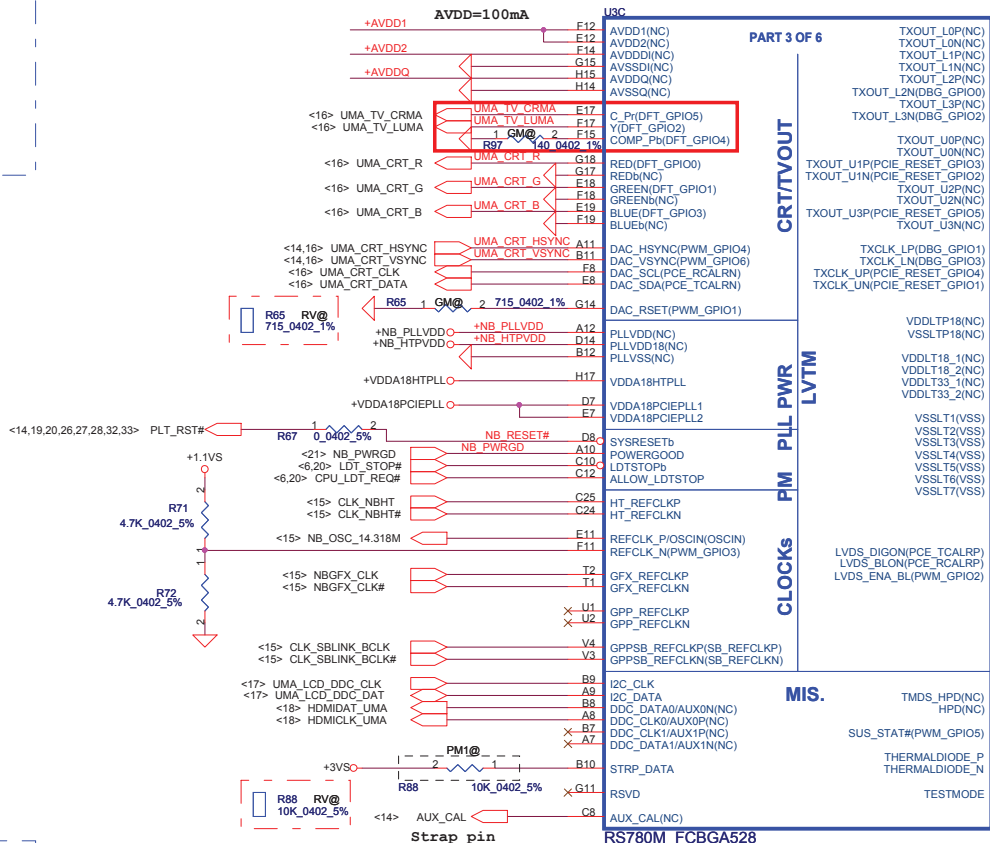
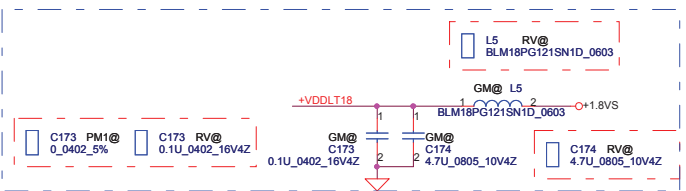
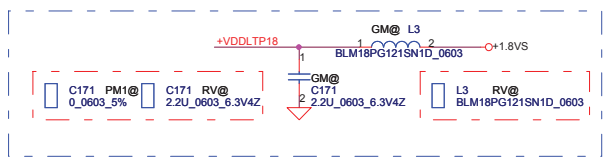
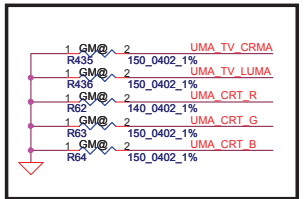
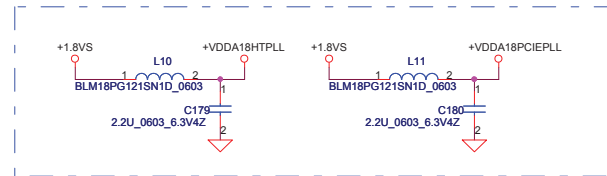
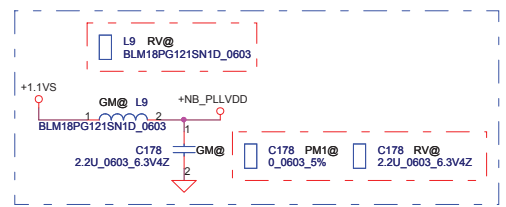
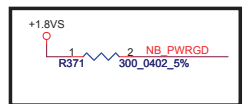
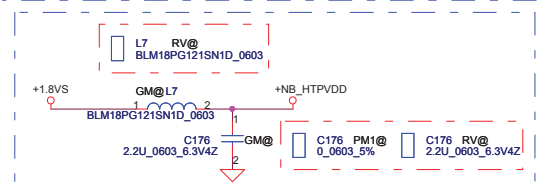
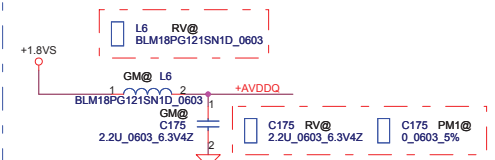
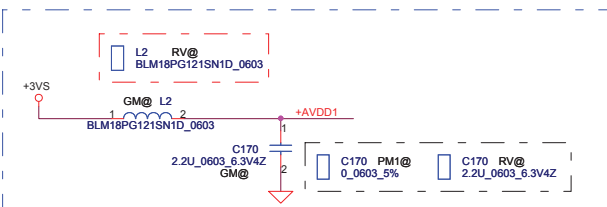
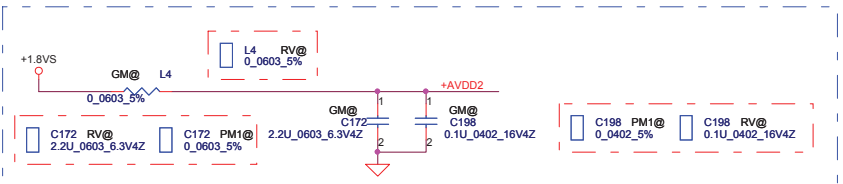
DIMM0 STD H:5.2mm (Bot)

Security Classification		Compal Secret Data		Title	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	DDR II 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-4581P
				Date: Friday, December 26, 2008	Rev 1.0
				Sheet 9	of 45

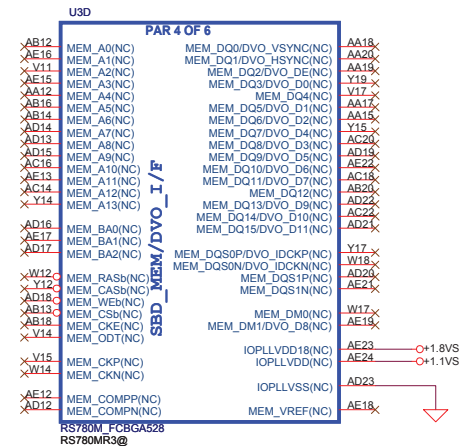


NEED CHECK R57 & R58 WITH AMD

Security Classification		Compal Secret Data		Title	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	RS780M&RX781-HT/PCIE	
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 REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. ANY UNAUTHORIZED USE, REPRODUCTION, OR DISCLOSURE OF THIS INFORMATION IS STRICTLY PROHIBITED AND MAY BE SUBJECT TO LEGAL ACTION.				Size Custom	Document Number LA-4581P
				Date Friday, December 26, 2008	Rev 1.0

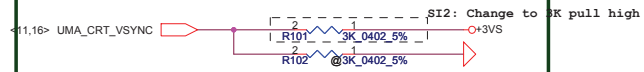


Security Classification				Compal Secret Data				Title			
Issued Date				2008/04/14				2009/04/14			
Deciphered Date				2009/04/14				Friday, December 26, 2008			
Size				Custorm				Document Number			
Date				Rev				1.0			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				RS780 VEDIO/CLK GEN				LA-4581P			
Sheet				11				of			
45											



Security Classification		Compal Secret Data		Title	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	RS780M&RX781 SIDE PORT	
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-4581P
				Date:	Friday, December 26, 2008
				Sheet	12 of 45
				Rev	1.0

RS780 DFT_GPIO5 mux at CRT_VSYNC pull High to 3K



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

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

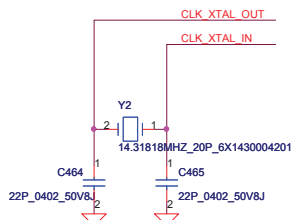
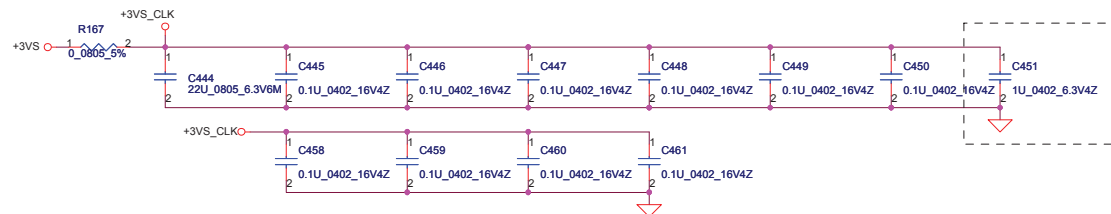
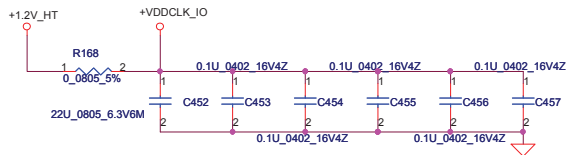


DFT_GPIO0: STRAP_DEBUG_BUS_PCIE_ENABLEb

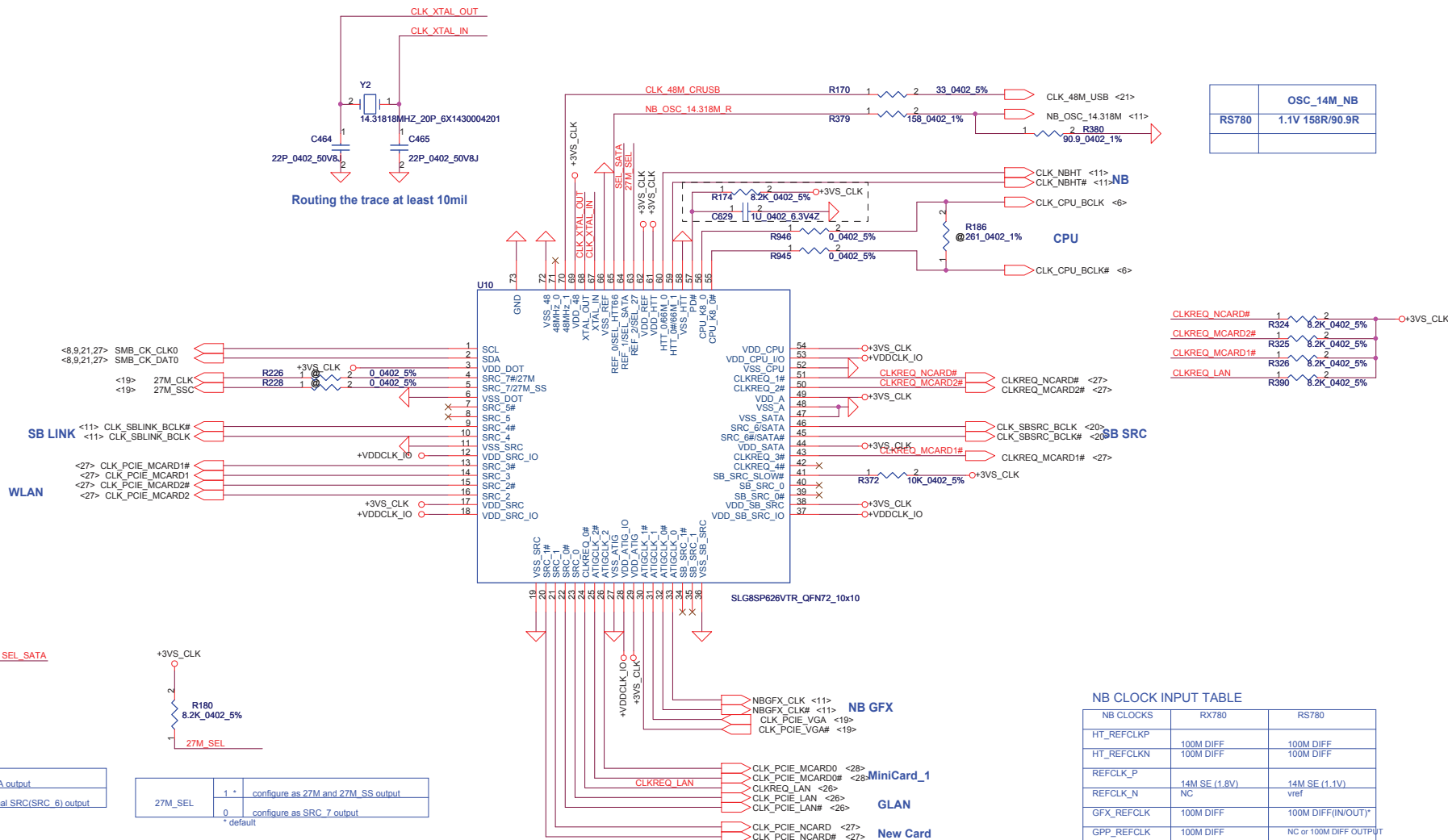
RX780: Enables the Test Debug Bus using PCIE bus
1 : Disable (Can still be enabled using nbcbf register access)
0 : Enable

RS780: Enables Side port memory (RS780 use HSYNC#)
1. Disable (RS780)
0 : Enable (RS780)

Security Classification		Compal Secret Data		Compal Electronics, Inc.					
Issued Date		2008/04/14	Deciphered Date		2009/04/14				
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		RS780M&RX781 STRAPS			
				Size Custom		Document Number	LA-4581P	Rev	1.0
				Date:		Friday, December 26, 2008	Sheet	14	of 45



Routing the trace at least 10mil



	OSC_14M_NB
RS780	1.1V 158R/90.9R

CLKREQ_NCARD#	1	2	8.2K_0402_5%	+3VS_CLK
CLKREQ_MCARD2#	1	2	8.2K_0402_5%	
CLKREQ_MCARD1#	1	2	8.2K_0402_5%	
CLKREQ_LAN	1	2	8.2K_0402_5%	

NB CLOCK INPUT TABLE

NB CLOCKS	RX780	RS780
HT_REFCLKP	100M DIFF	100M DIFF
HT_REFCLKN	100M DIFF	100M DIFF
REFCLK_P	14M SE (1.8V)	14M SE (1.1V)
REFCLK_N	NC	vref
GFX_REFCLK	100M DIFF	100M DIFF(IN/OUT)*
GPP_REFCLK	100M DIFF	NC or 100M DIFF OUTPUT
GPPSB_REFCLK	100M DIFF	100M DIFF

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

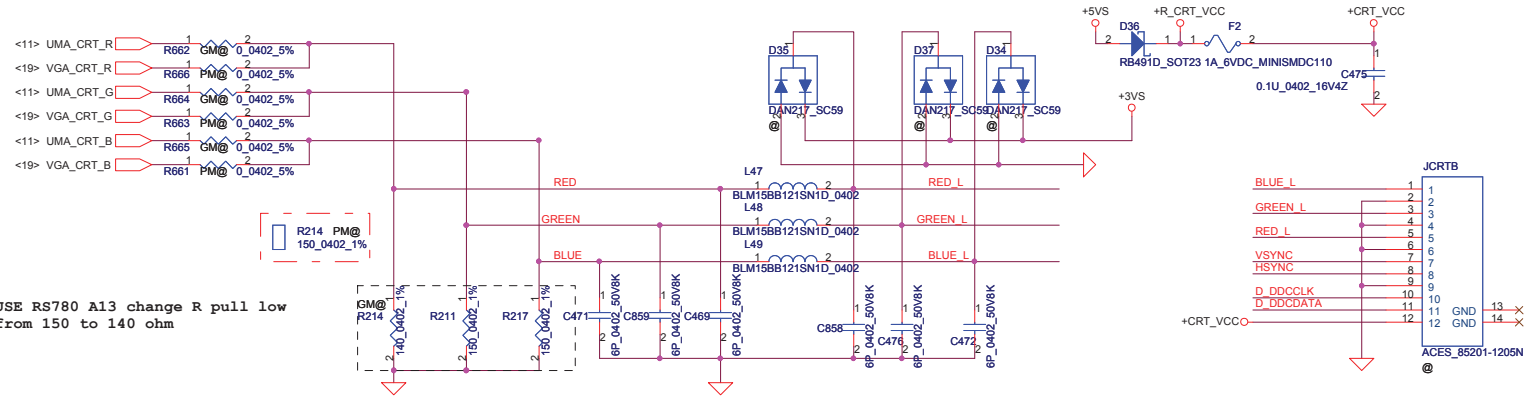
27M_SEL	1 *	configure as 27M and 27M_SS output
	0	configure as SRC_7 output
		* default

Use voltage divider resistor R379 & R380 to pull low

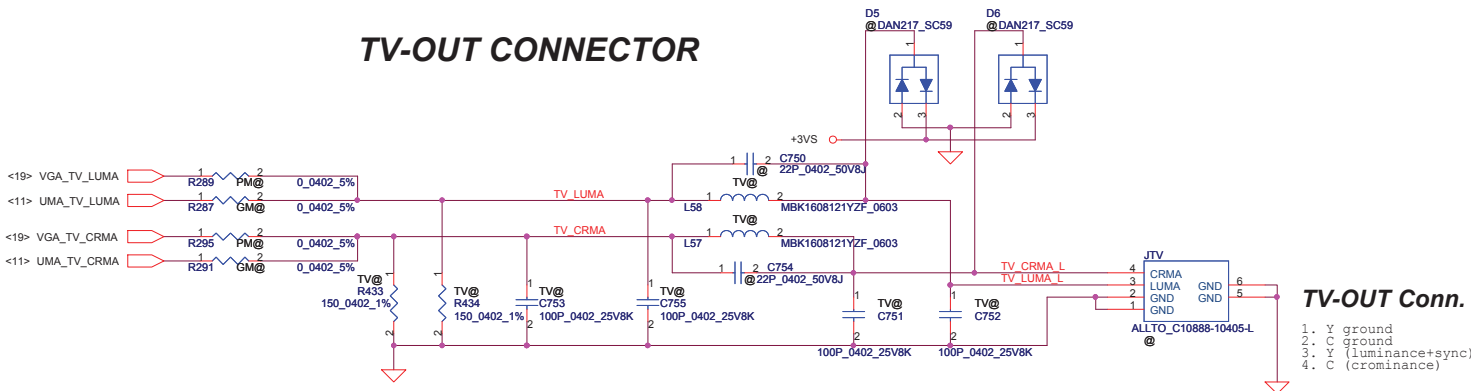
NB_OSC_14.318M	1	configure as single-ended 66MHz output
	0 *	configure as differential 100MHz output
		* default

Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2008/04/14	Deciphered Date	2009/04/14	Title	Clock Generator	
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-4581P	1.0
				Date:	Friday, December 26, 2008	Sheet 15 of 45

CRT CONNECTOR

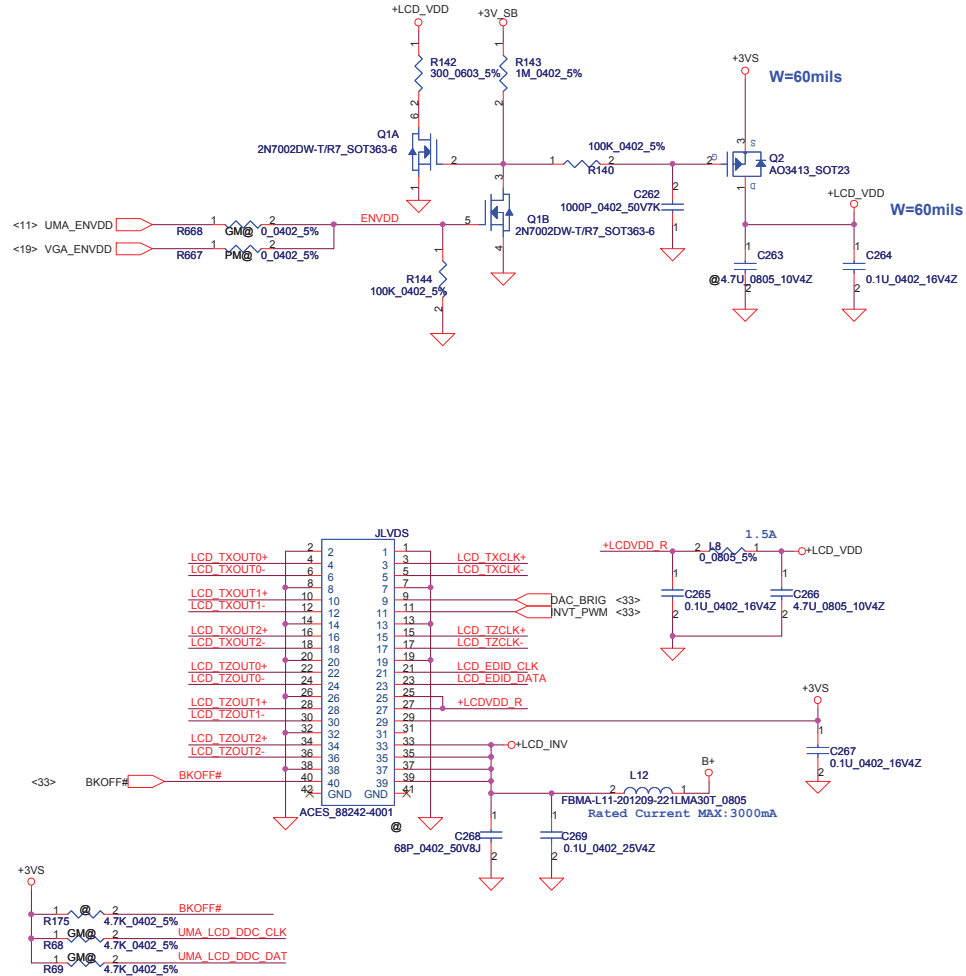
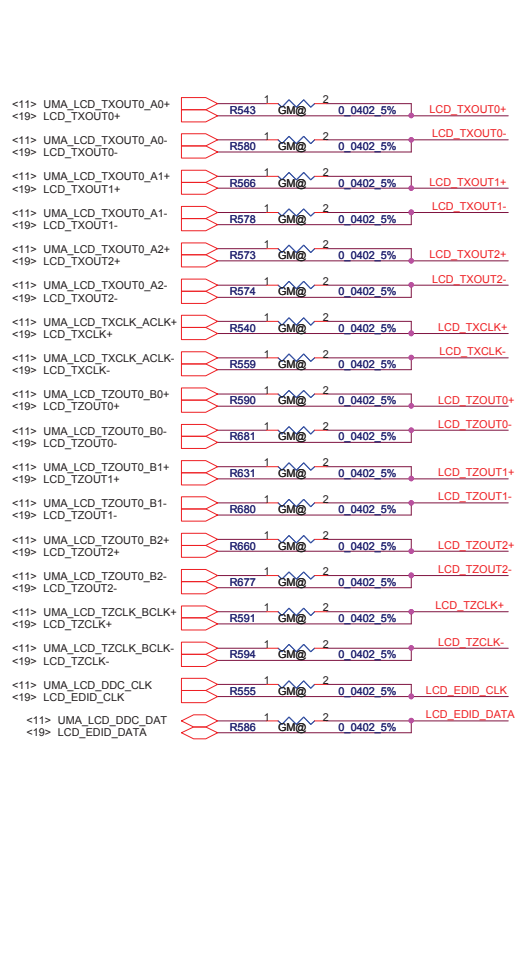


TV-OUT CONNECTOR



Security Classification		Compal Secret Data		Title	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	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.				CRT/TV-OUT Connector	
Size	Document Number	LA-458IP		Rev 1.0	
Date:	Friday, December 26, 2008	Sheet	16	of	45

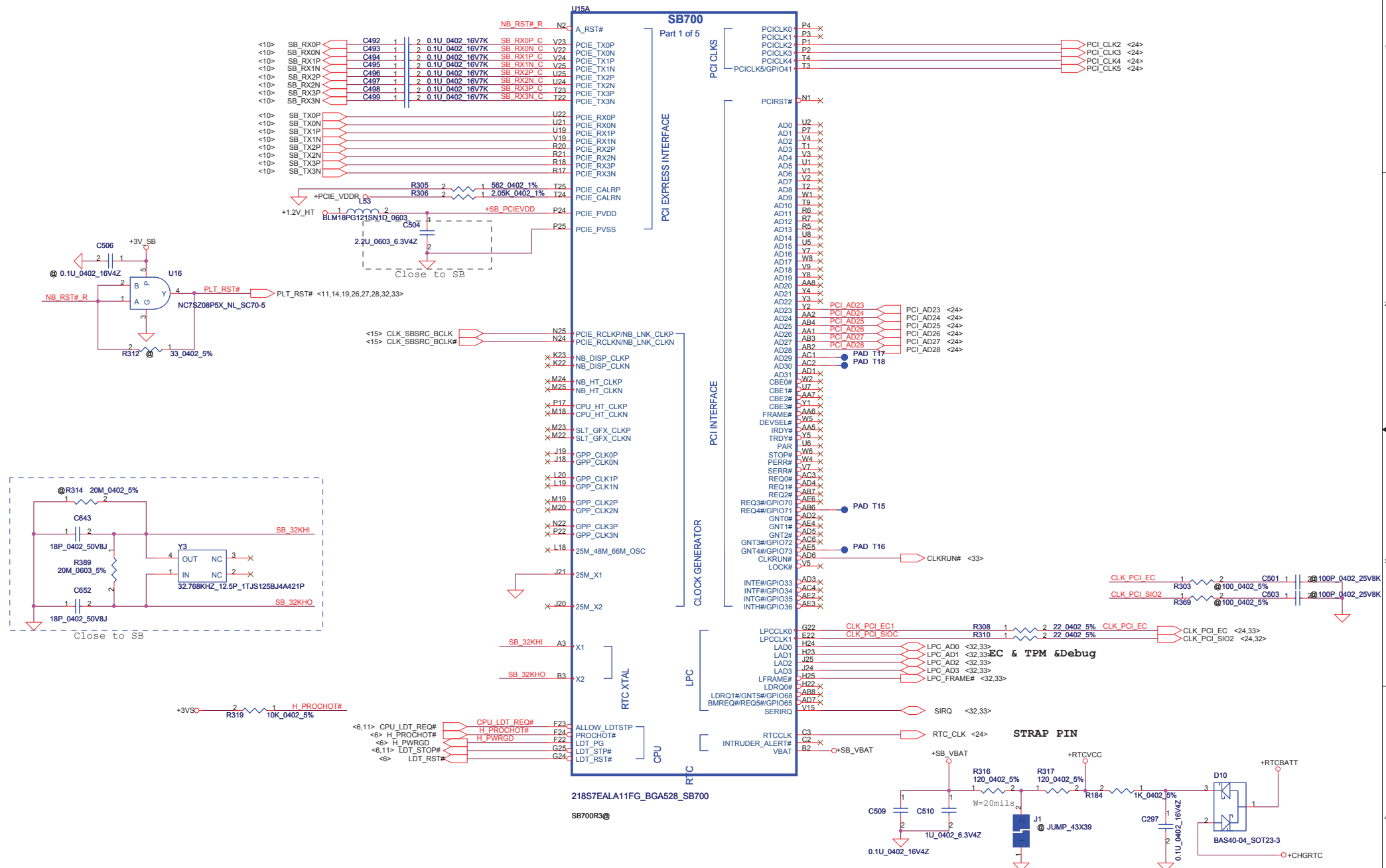
LCD/PANEL BD. Conn.



Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2008/04/14				Deciphered Date			
								2009/04/14			
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			
								LCD CONN.			
								Size			
								Document Number			
								LA-4581P			
								Rev			
								1.0			
								Date:			
								Friday, December 26, 2008			
								Sheet			
								17 of 45			

U

TH



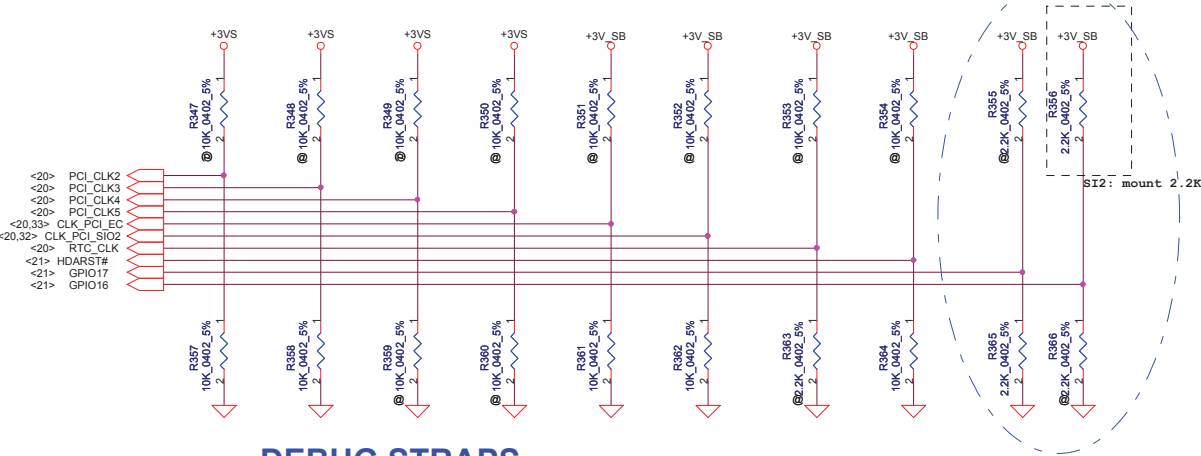
Security Classification		Compal Secret Data		Title	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	Size	Document Number
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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-4581P
				Date:	Friday, December 26, 2008
				Sheet	20 of 45

Compal Electronics, Inc.
SB700-PCI/PCI/ACPI/LPC/RTC
 Rev 1.0

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

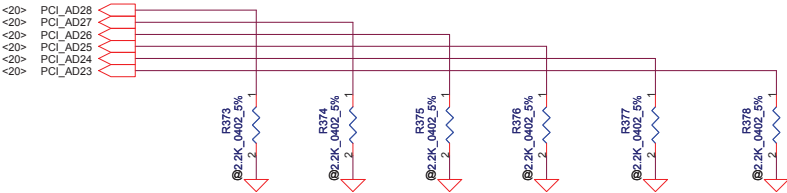


DEBUG STRAPS

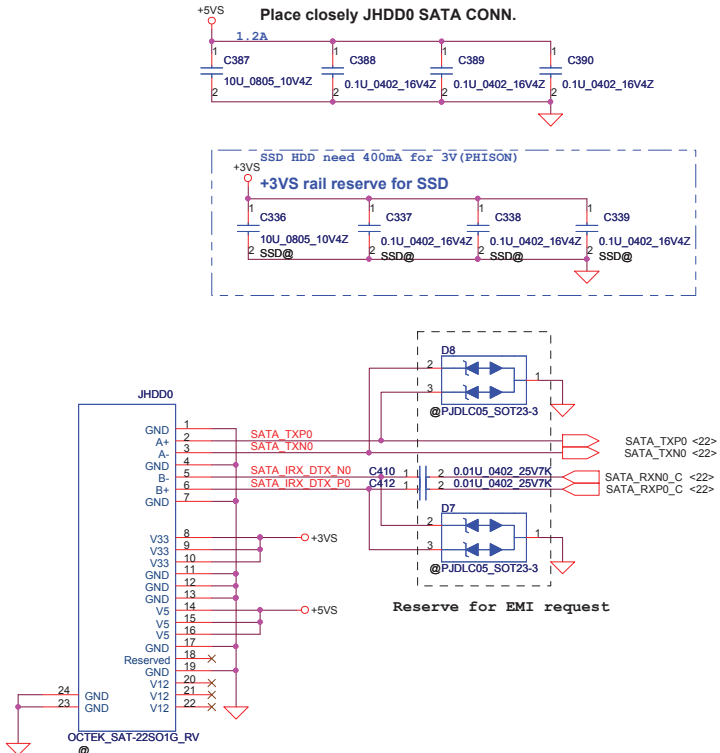
SB700 HAS 15K INTERNAL PU FOR PCI_AD[28:23]

Need to confirm if SB SPI ROM will mount

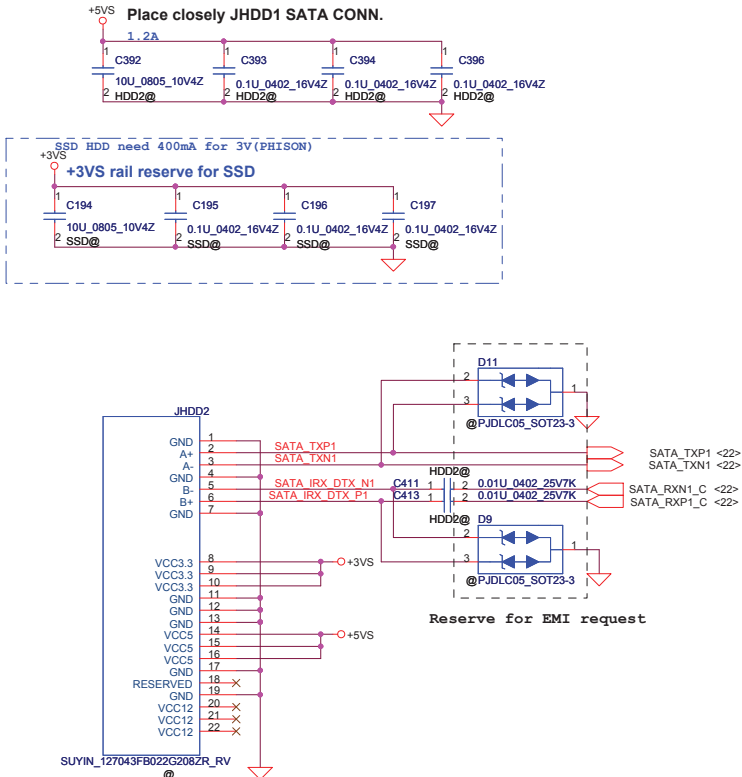
	PCI_AD28	PCI_AD27	PCI_AD26	PCI_AD25	PCI_AD24	PCI_AD23
PULL HIGH	USE LONG RESET DEFAULT	USE PCI PLL DEFAULT	USE ACPI BCLK DEFAULT	USE IDE PLL DEFAULT	USE DEFAULT PCIE STRAPS DEFAULT	RESERVED
PULL LOW	USE SHORT RESET	BYPASS PCI PLL	BYPASS ACPI BCLK	BYPASS IDE PLL	USE EEPROM PCIE STRAPS	



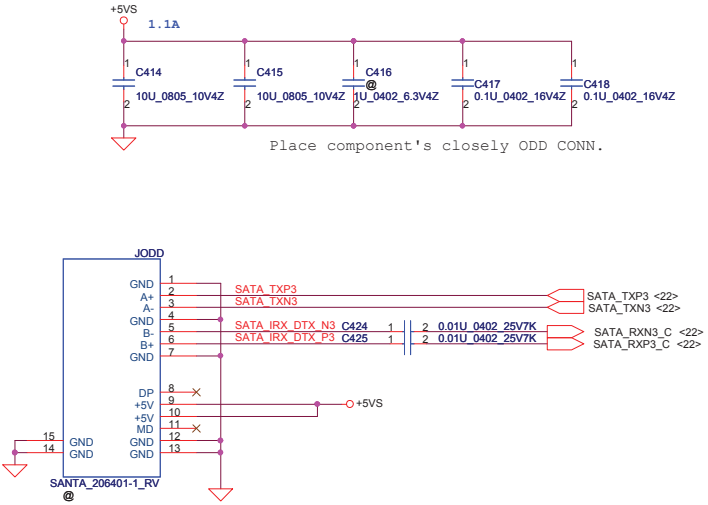
SATA HDD1 Conn.



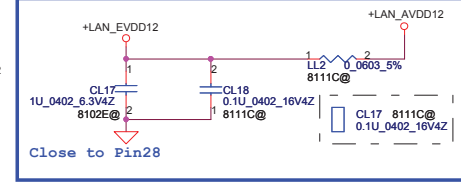
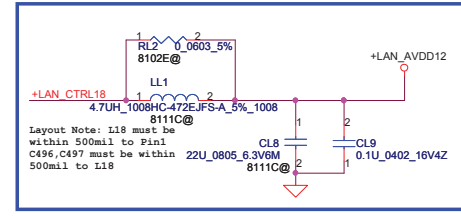
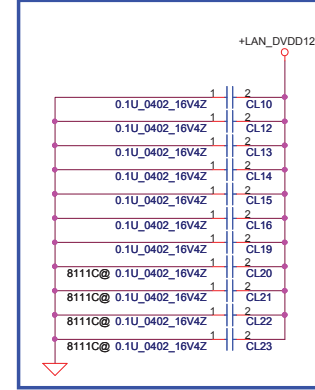
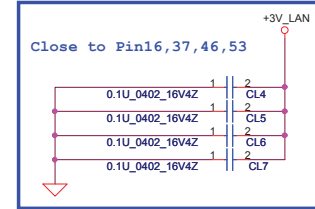
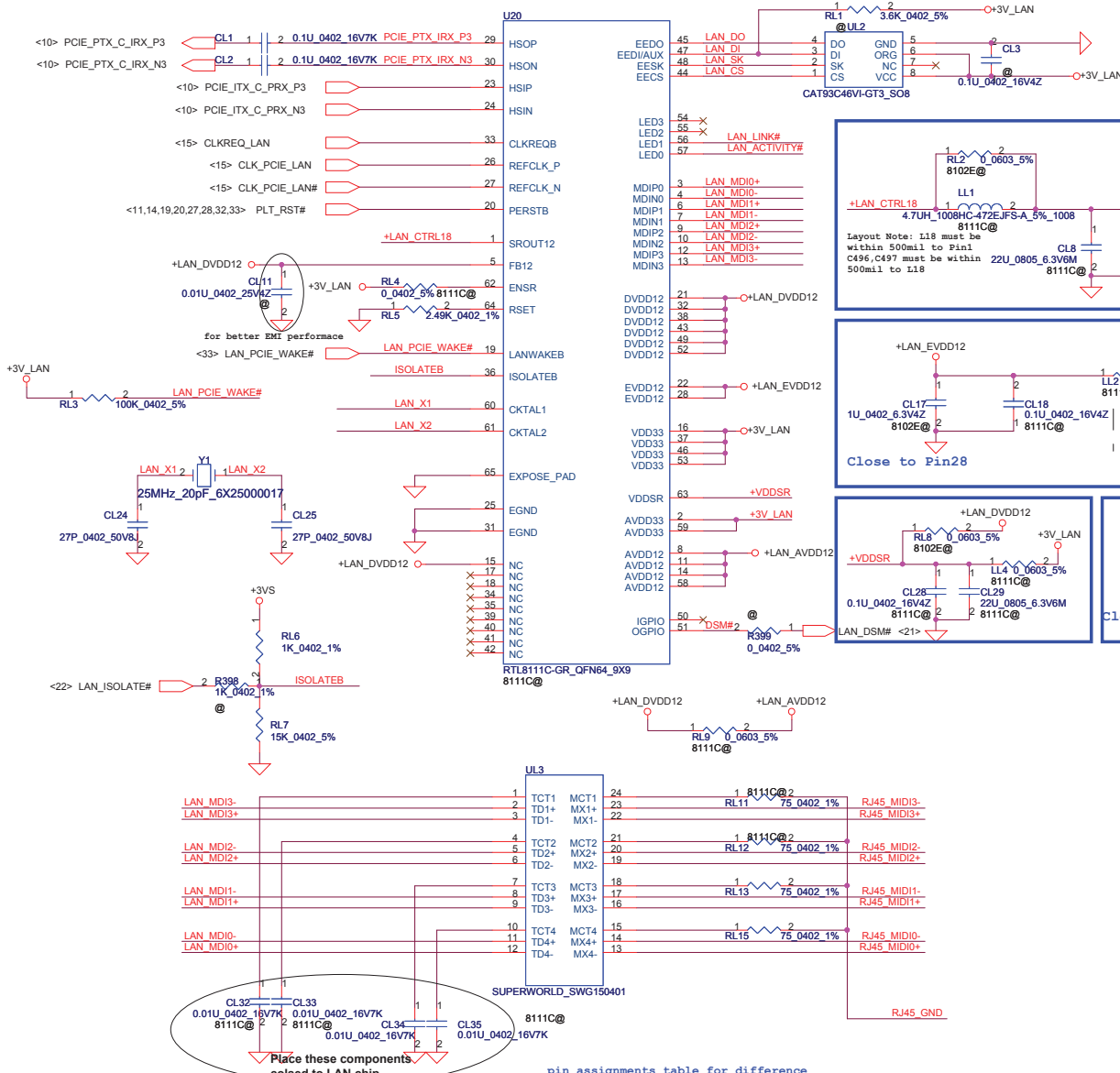
SATA HDD2 Conn.



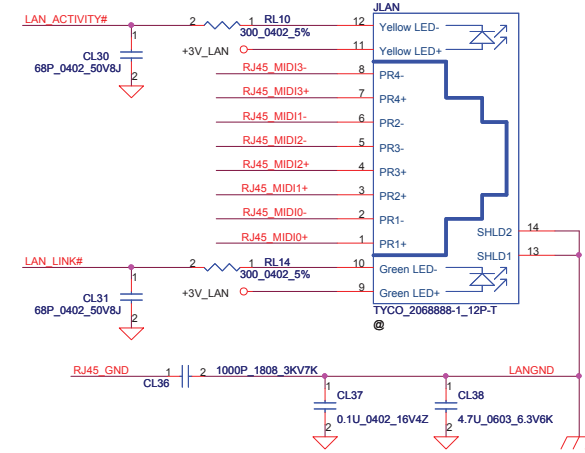
SATA ODD Conn

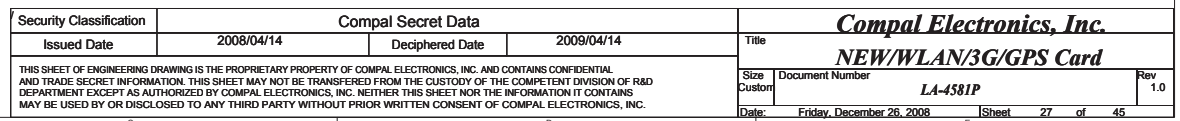


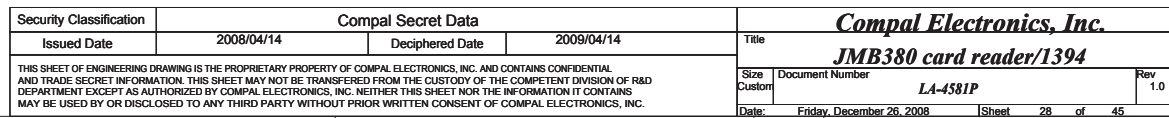
Security Classification		Compal Secret Data		Title	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENCY 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-4581P	
				Date: Friday, December 26, 2008	Rev 1.0
				Sheet 25 of 45	

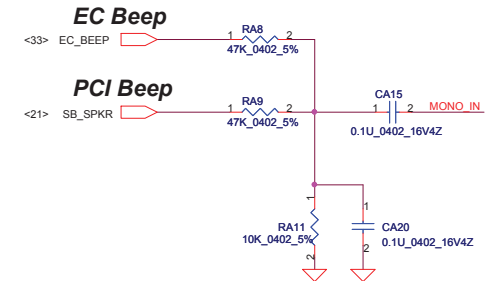
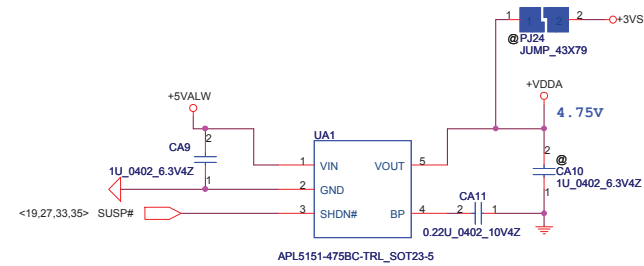
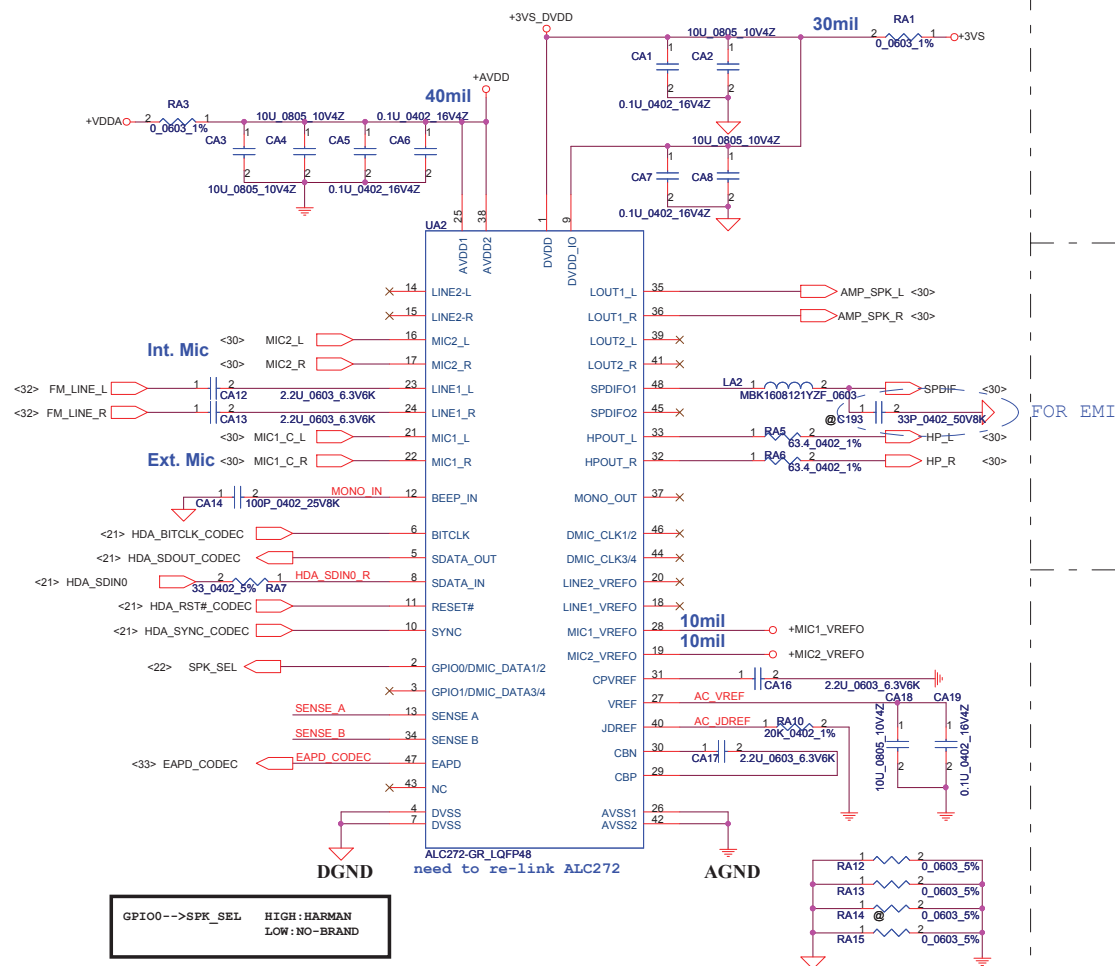


LAN Conn.

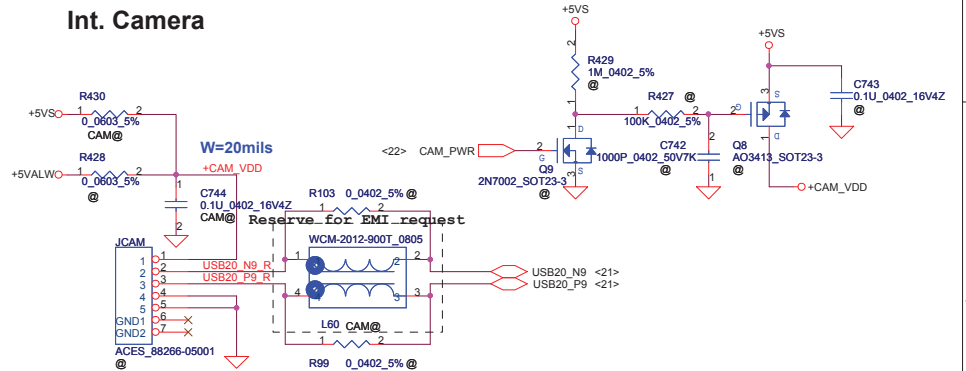
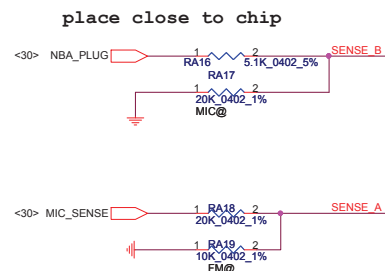






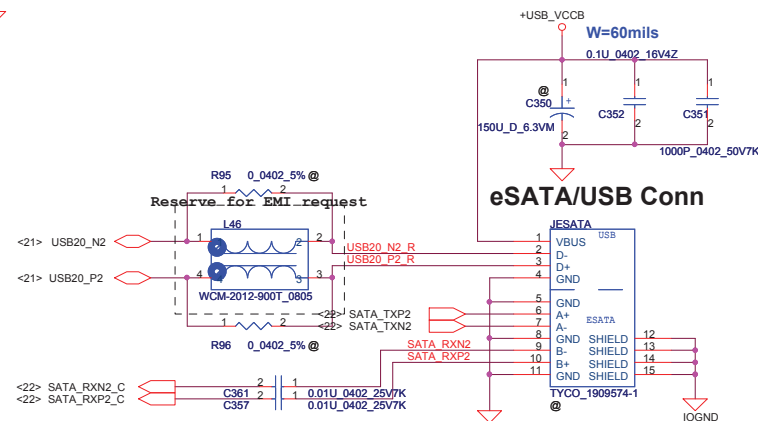
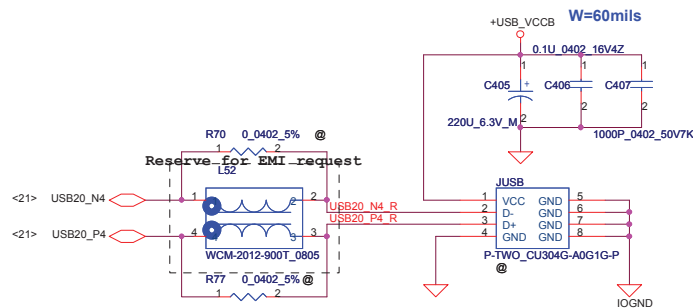
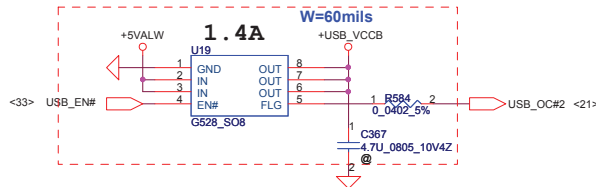


Sense Pin	Impedance	Codec Signals	Function
SENSE A	39.2K	PORT-A (PIN 39, 41)	
	20K	PORT-B (PIN 21, 22)	Ext. MIC
	10K	PORT-C (PIN 23, 24)	FM tuner
	5.1K	PORT-D (PIN 35, 36)	SPK out
SENSE B	39.2K	PORT-E (PIN 14, 15)	
	20K	PORT-F (PIN 16, 17)	Int. MIC
	10K	PORT-H (PIN 37)	
	5.1K	PORT-I (PIN 32, 33)	Headphone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

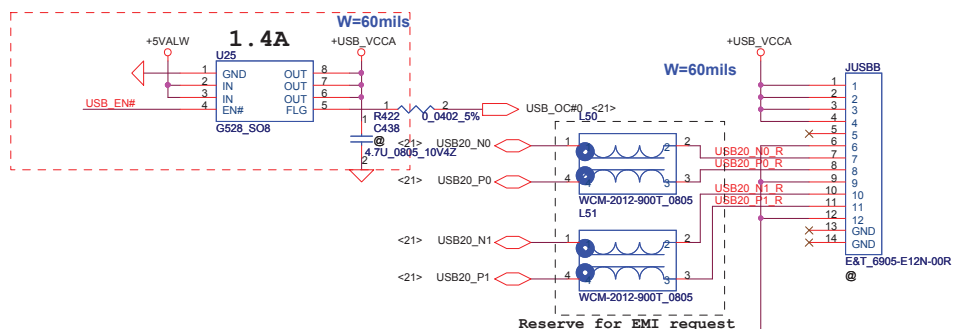


Security Classification	Compal Secret Data			Compal Electronics, Inc. HD Audio ALC272 Codec		
Issued Date	2008/04/14	Deciphered Date	2009/04/14	Title	HD Audio ALC272 Codec	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET 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	Rev 1.0
				Date:	Friday, December 26, 2008	Sheet 29 of 45

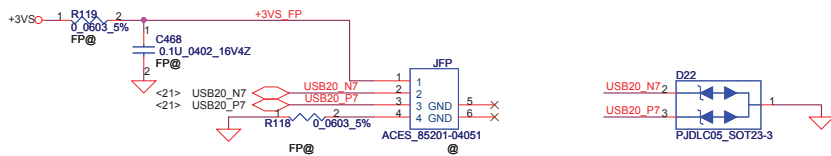
eSATA/USB



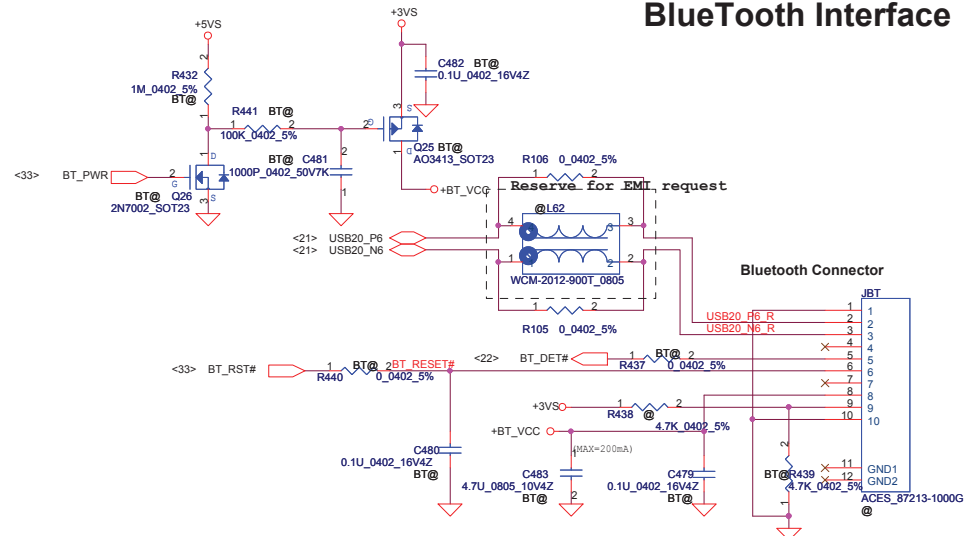
USB Board



Finger printer

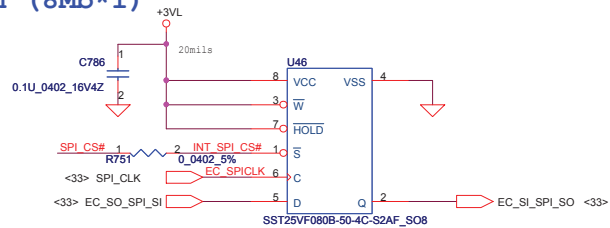


BlueTooth Interface

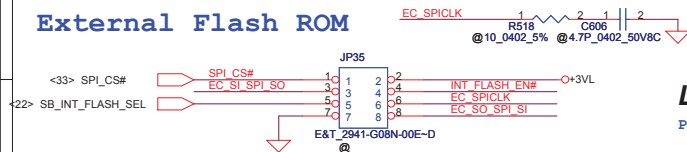


Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2008/04/14				Title			
				Deciphered Date				USB/BT/FingerPrint			
				2009/04/14				LA-4581P			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL 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			
				Date				Friday, December 26, 2008			
				Sheet				31 of 45			

SPI Flash (8Mb*1)

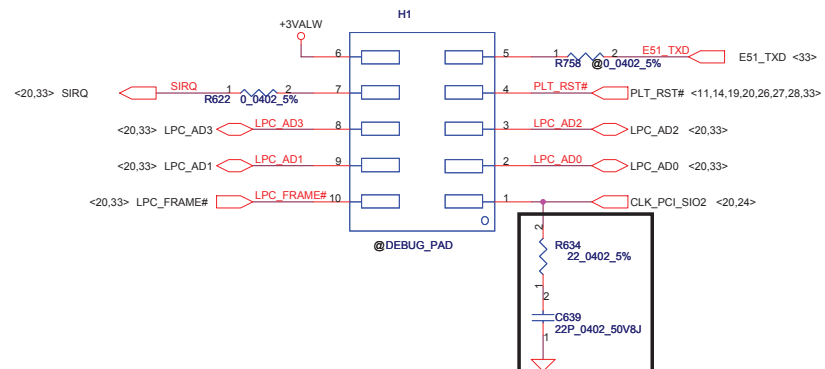


External Flash ROM

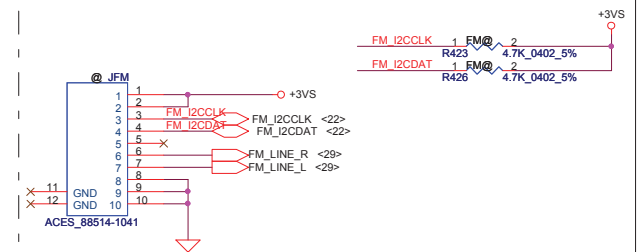


LPC Debug Port

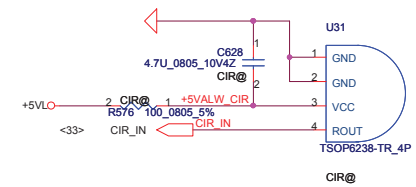
Please place the PAD under DDR DIMM.



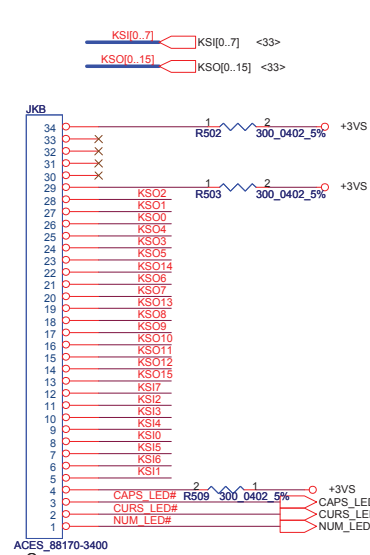
FM tuner



CIR



KEYBOARD CONN.

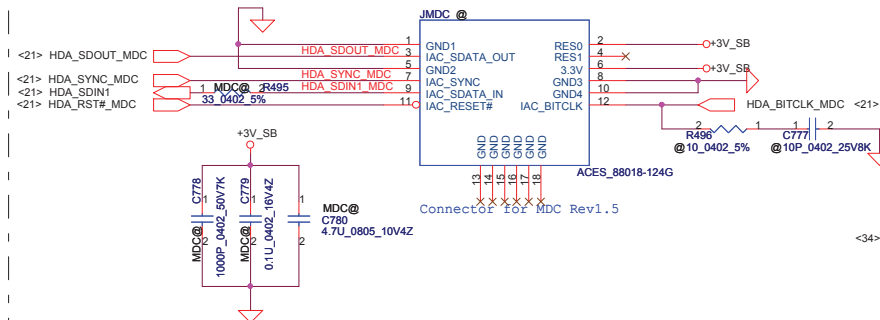


~~For EMI~~

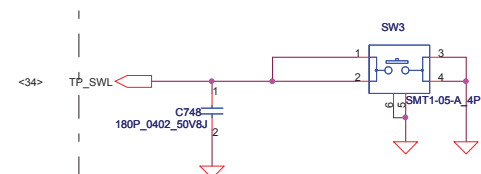
KS02	1	2
KS01	C725	100P_0402_25V8K
	1	2
	C717	100P_0402_25V8K
KS00	C721	100P_0402_25V8K
KS04	1	2
	C609	100P_0402_25V8K
KS03	C724	100P_0402_25V8K
KS05	1	2
	C728	100P_0402_25V8K
KS014	C730	100P_0402_25V8K
KS06	1	2
	C715	100P_0402_25V8K
KS07	1	2
	C731	100P_0402_25V8K
KS013	1	2
	C733	100P_0402_25V8K
KS08	1	2
	C740	100P_0402_25V8K
KS09	C737	100P_0402_25V8K
KS010	1	2
	C729	100P_0402_25V8K
KS011	C738	100P_0402_25V8K
KS012	1	2
	C718	100P_0402_25V8K
KS015	C736	100P_0402_25V8K
KS17	1	2
	C716	100P_0402_25V8K
KS12	C741	100P_0402_25V8K
KS13	1	2
	C726	100P_0402_25V8K
KS14	C723	100P_0402_25V8K
KS10	1	2
	C731	100P_0402_25V8K
KS15	1	2
	C731	100P_0402_25V8K
KS16	1	2
	C735	100P_0402_25V8K
KS11	1	2
	C734	100P_0402_25V8K
CAPS_LED#	C722	100P_0402_25V8K
CURS_LED#	1	2
	C727	100P_0402_25V8K
NUM_LED#	C714	100P_0402_25V8K

MDC 1.5 Conn.

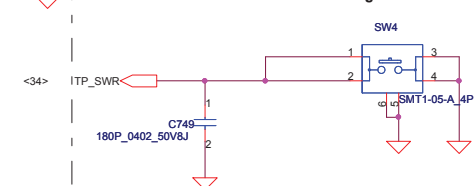
Change type 4/25



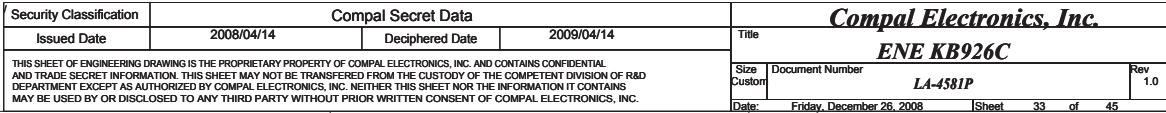
Left switch



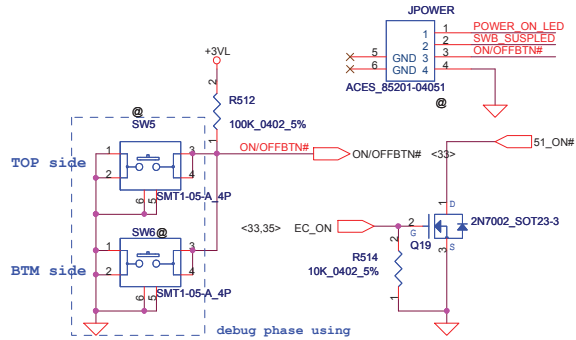
Right Switch



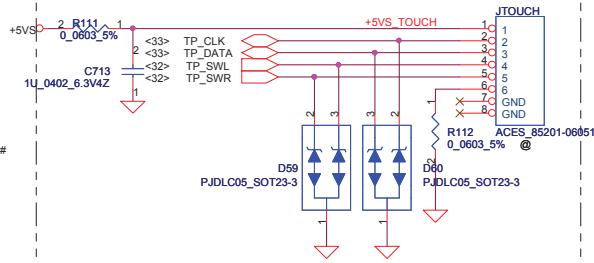
Security Classification		Compal Secret Data		Compal Electronics, Inc. SPI/LPC/PS2/MDC/FM/CIR	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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	Rev 1.0
				Document Number	
				LA-4581P	
Date:	Friday, December 26, 2008	Sheet	32	of	45



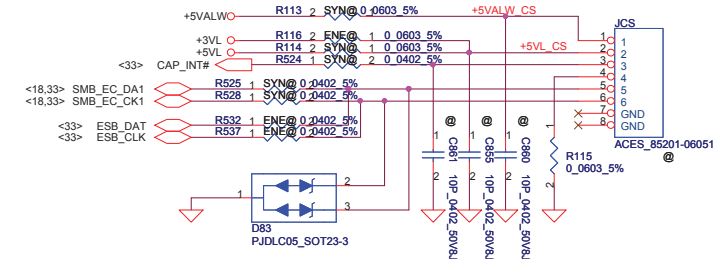
Power Button/ PWR/B



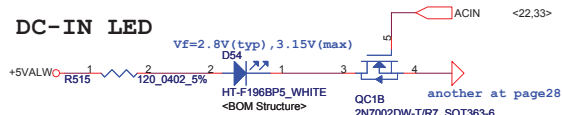
Touch/B Connector



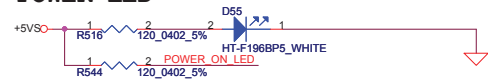
FUN/B Connector



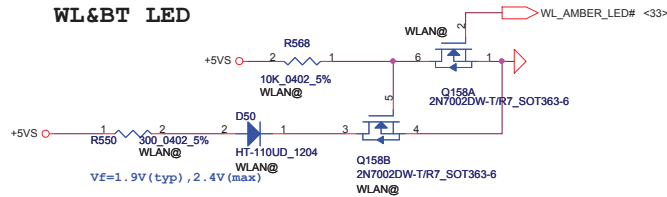
DC-IN LED



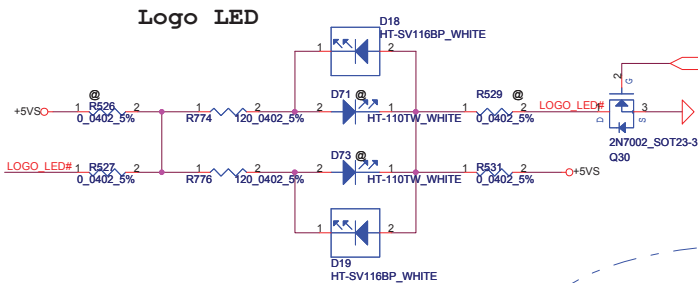
POWER LED



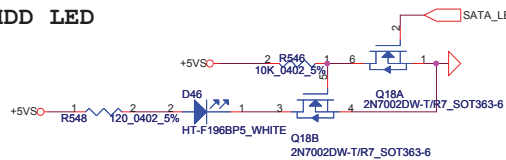
WL&BT LED



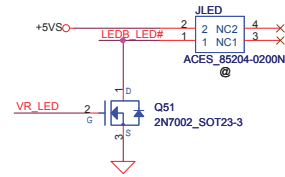
Logo LED



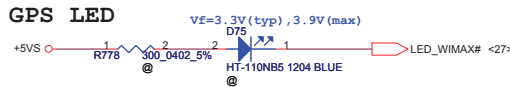
HDD LED



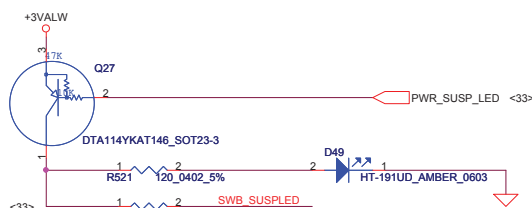
LED/B Connector



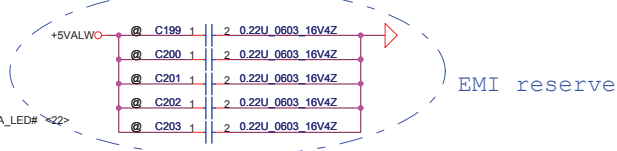
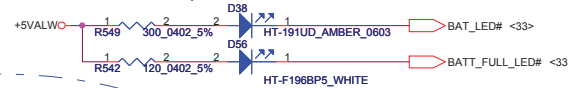
GPS LED



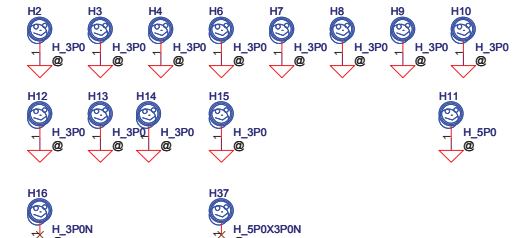
SUSPEND LED



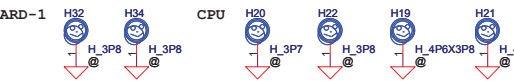
BATT CHARGE/FULL LED



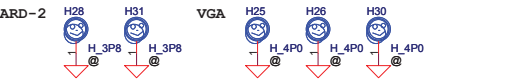
Screw Hole



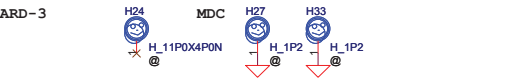
MINI CARD-1



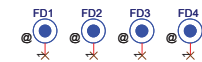
MINI CARD-2



MINI CARD-3

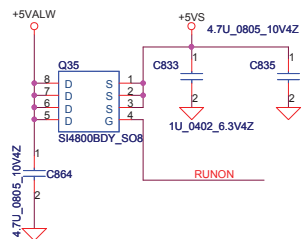


PCB Fedcal Mark PAD

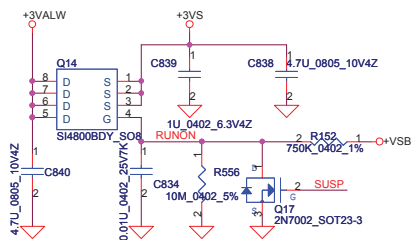


Security Classification		Compal Secret Data		Title	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	LED/LID/PB/FB/SCREW HOLE	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Rev
				Customer	1.0
				Document Number	LA-4581P
				Date	Friday, December 26, 2008
				Sheet	34 of 45

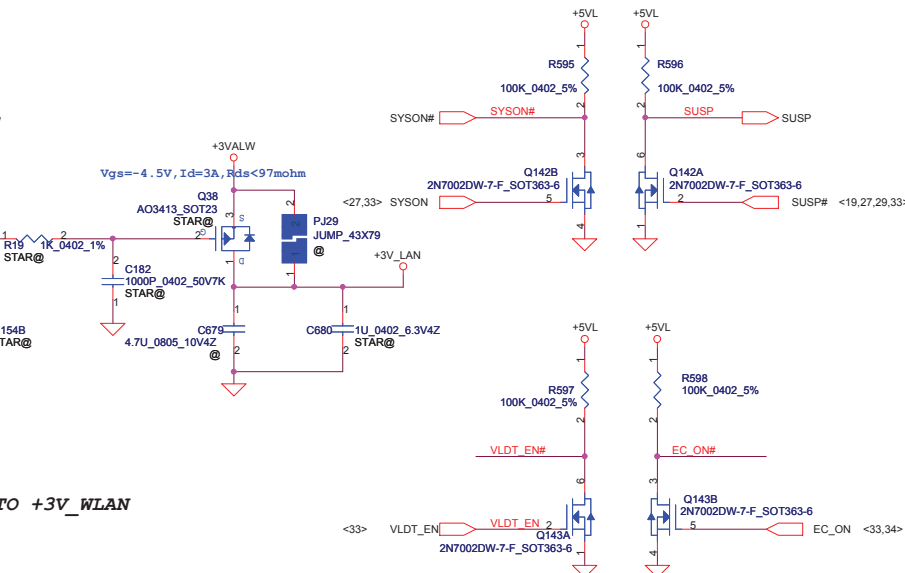
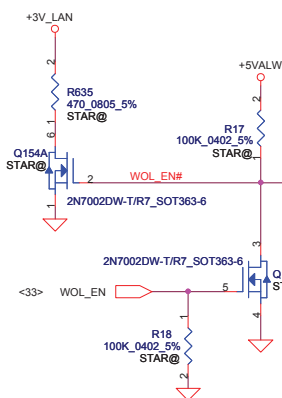
+5VALW TO +5VS



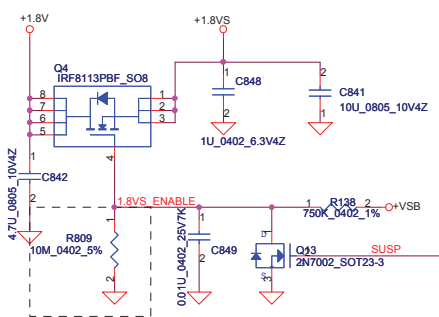
+3VALW TO +3VS



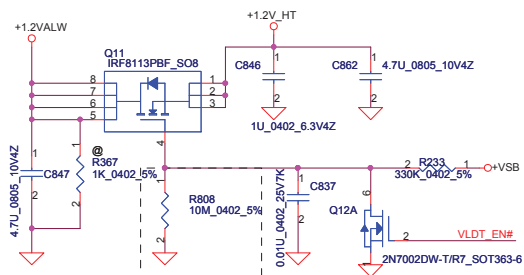
+3VALW TO +3V_LAN



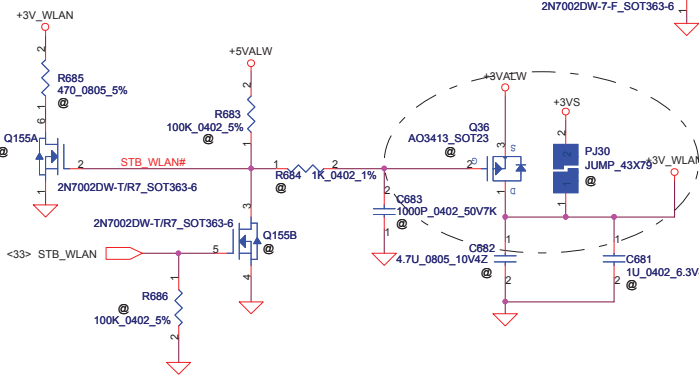
+1.8V TO +1.8VS



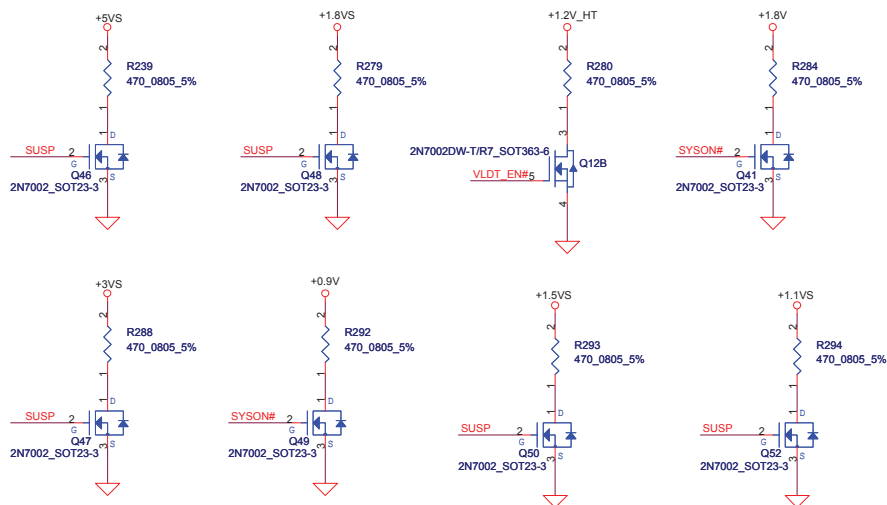
+1.2VALW TO +1.2V_HT



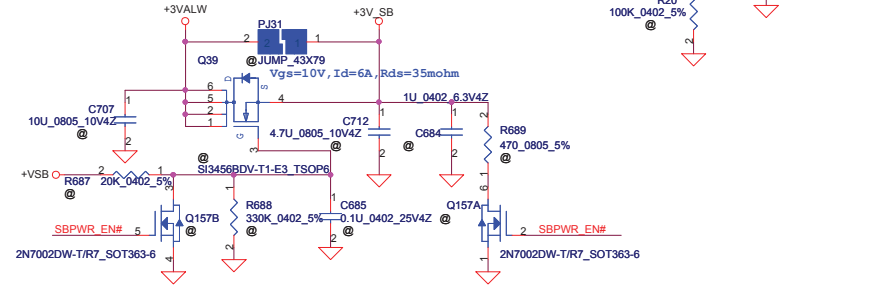
+3VALW TO +3V_WLAN



Discharge circuit

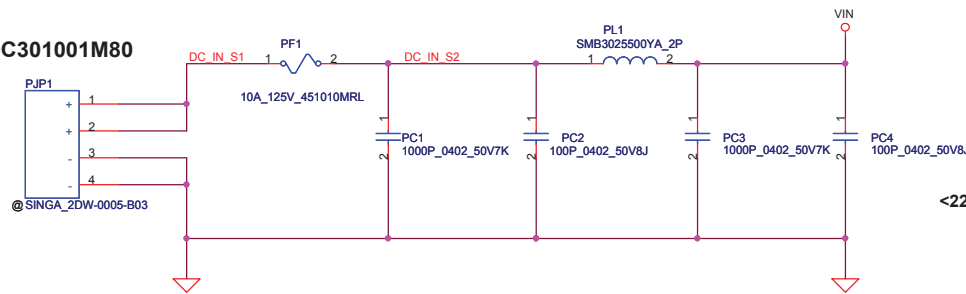


+3VALW TO +3V_SB



Security Classification		Compal Secret Data		Title	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	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.				DC/DC Circuits	
				Size	Document Number
				Custom	LA-4581P
				Date	Friday, December 26, 2008
				Sheet	35 of 45
				Rev	1.0

DC301001M80



<22,33,34> ACIN

0_0402_1%
PR7 10K_0402_1%

PR2 10K_0402_1%

PR1 1M_0402_1%

PR4 22K_0402_1%

PR3 84.5K_0402_1%

PU1A LM358DT SO8

VS

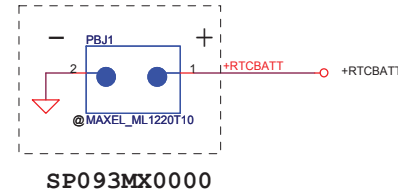
PC6 0.1U_0603_25V7K

PC5 1000P_0402_50V7K

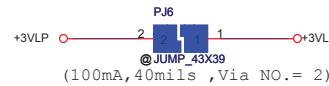
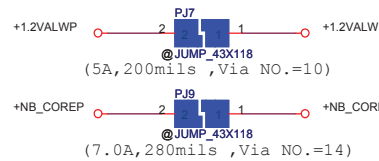
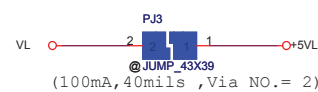
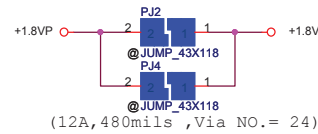
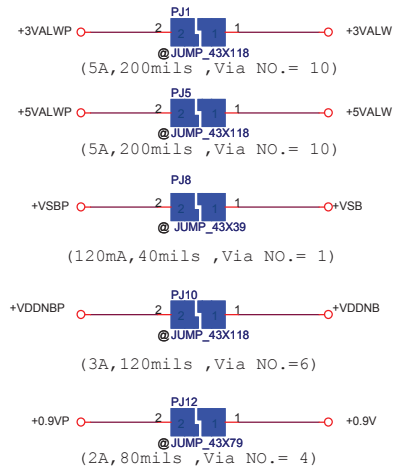
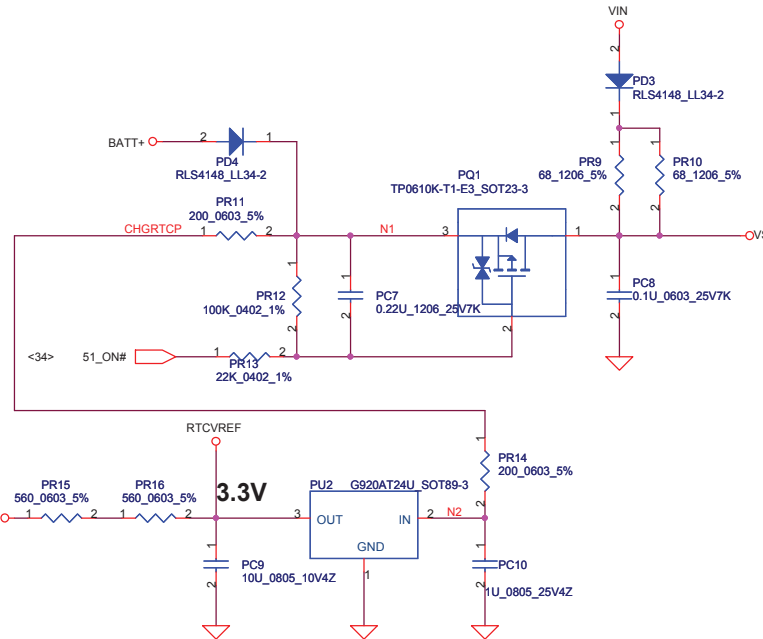
Vin Detector

High 18.384 17.901 17.430
Low 17.728 17.257 16.976

RTC Battery

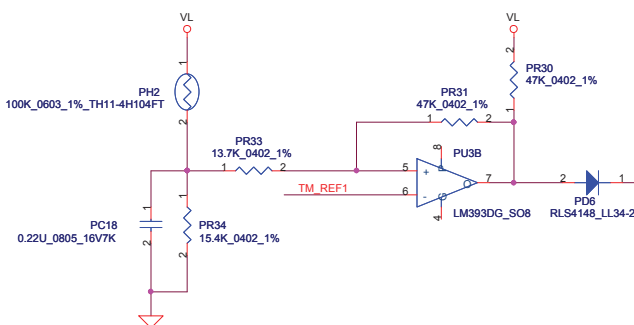
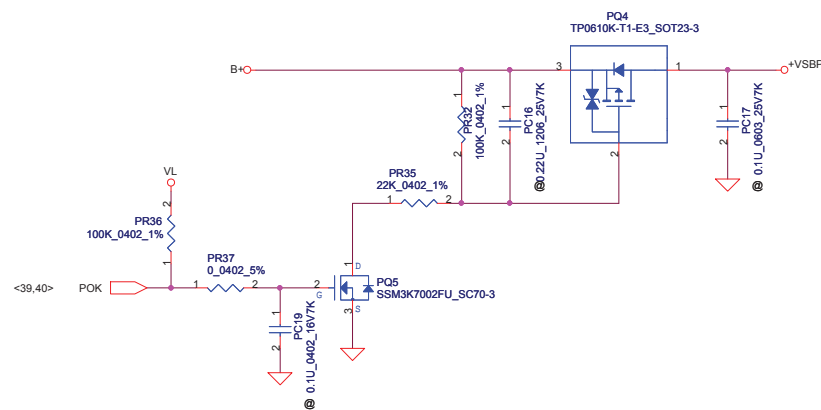
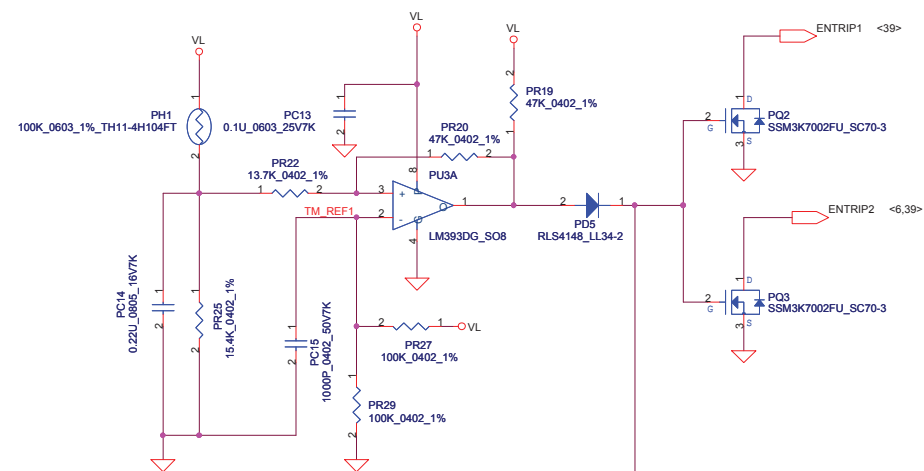
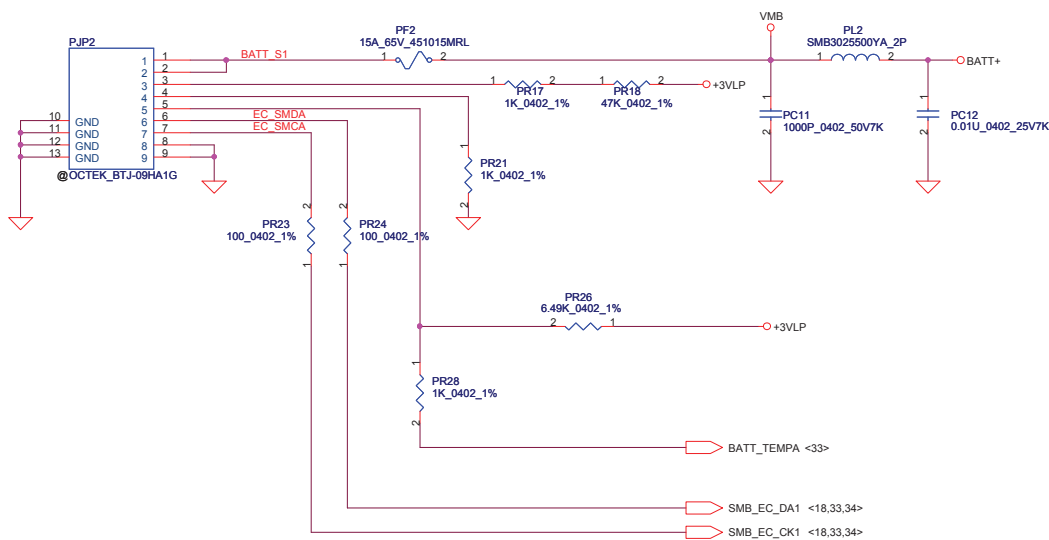


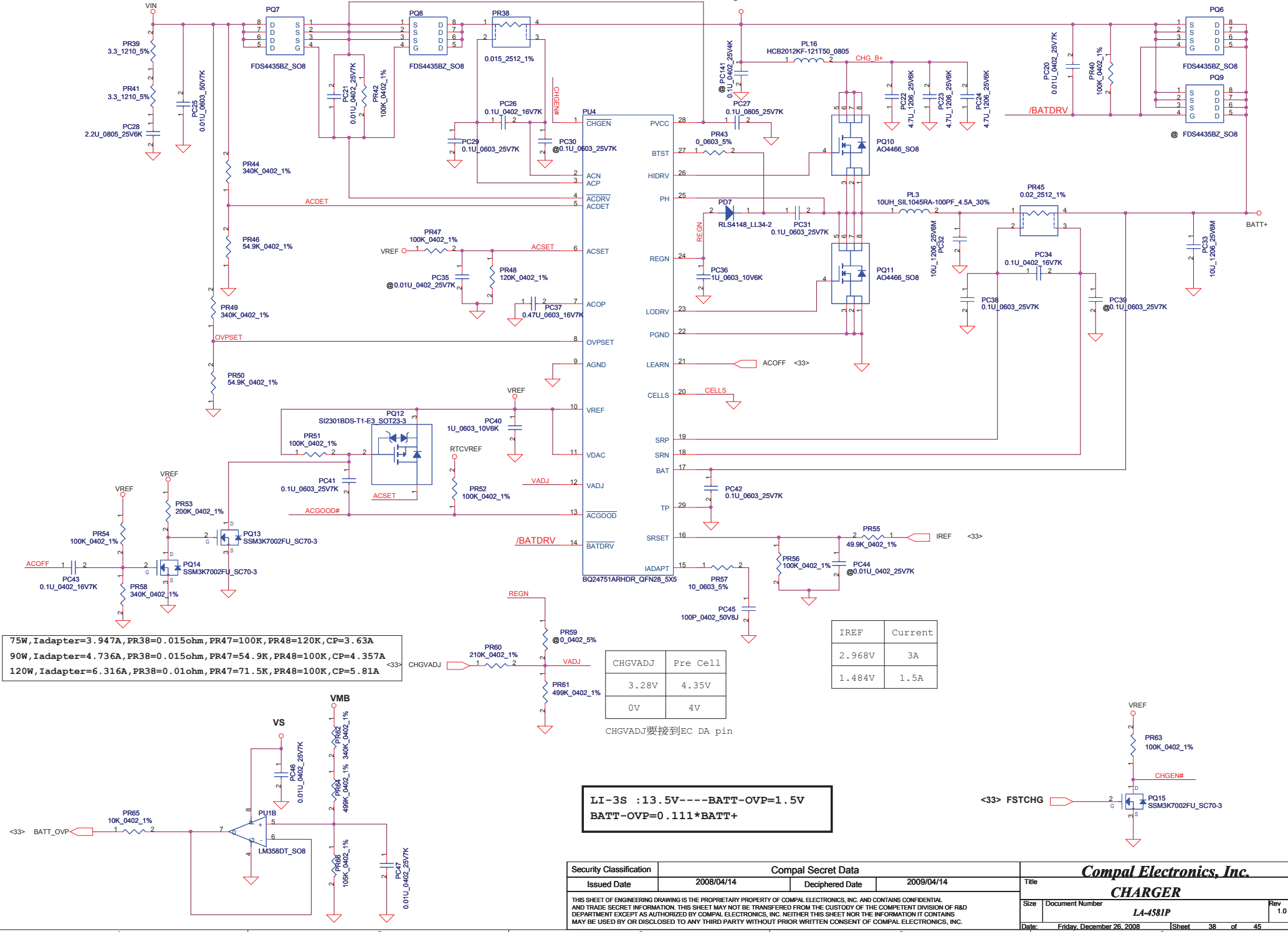
SP093MX0000



Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2008/04/14				Title			
				Deciphered Date				DCIN/DECTOR			
				2009/04/14				LA-4581P			
								Rev 1.0			
								Date: Friday, December 26, 2008			
								Sheet 36 of 45			

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.





75W, Iadapter=3.947A, PR38=0.015ohm, PR47=100K, PR48=120K, CP=3.63A
90W, Iadapter=4.736A, PR38=0.015ohm, PR47=54.9K, PR48=100K, CP=4.357A
120W, Iadapter=6.316A, PR38=0.01ohm, PR47=71.5K, PR48=100K, CP=5.81A

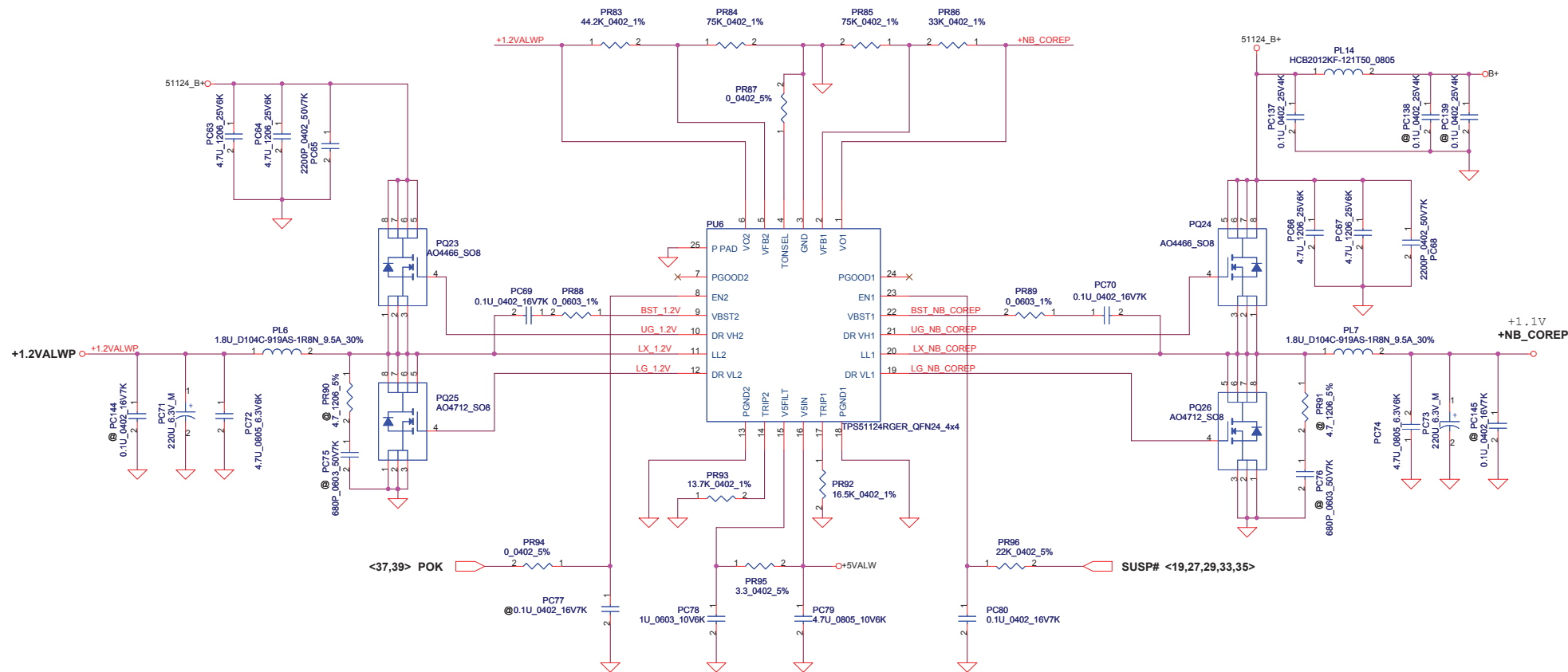
CHGVADJ	Pre Cell
3.28V	4.35V
0V	4V

CHGVADJ要接到EC DA pin

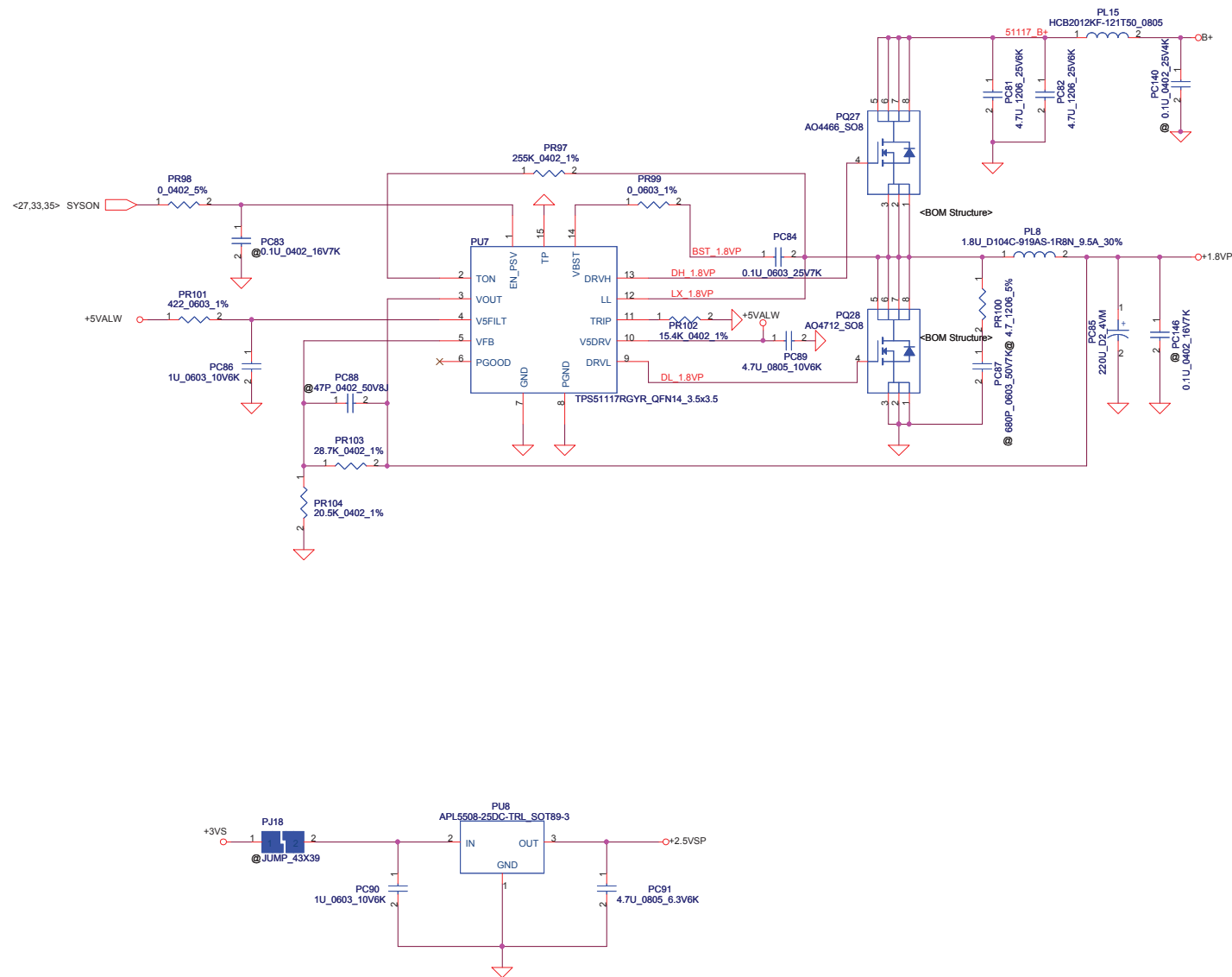
LI-3S :13.5V---BATT-OVP=1.5V
BATT-OVP=0.111*BATT+

IREF	Current
2.968V	3A
1.484V	1.5A

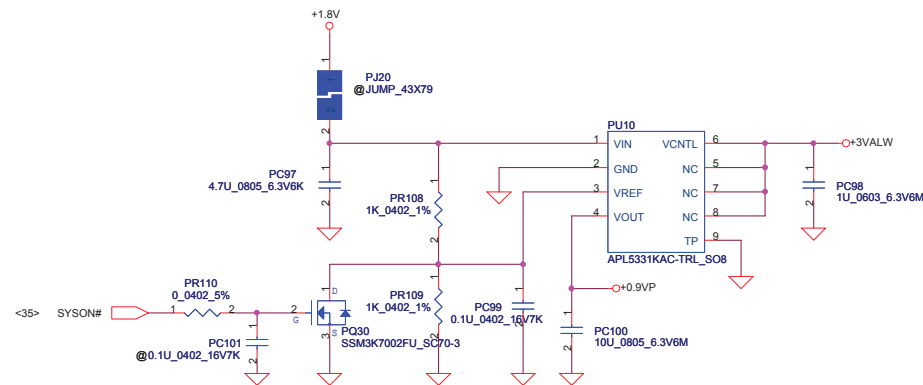
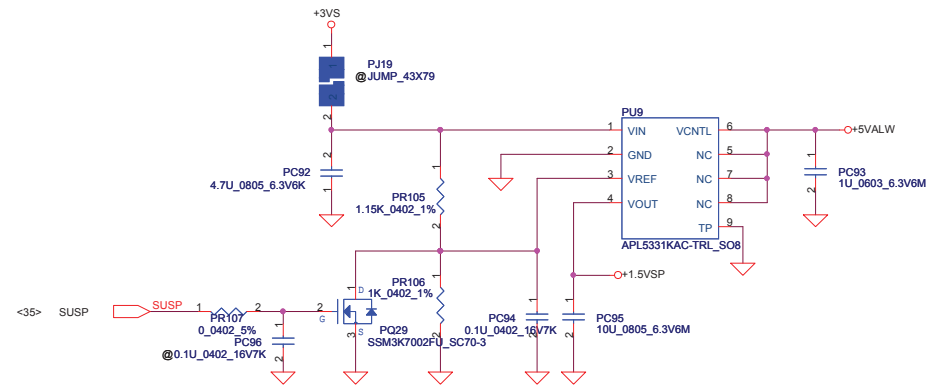
<33> FSTCHG



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	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-4581P	
				Date:	Friday, December 26, 2008
				Sheet	40 of 45
				Rev	1.0



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	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.				1.8VP/2.5VS	
				Size	Document Number
				LA-4581P	
Date: Friday, December 26, 2008				Sheet	41 of 45



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/04/14	Deciphered Date	2009/04/14	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-4581P	
Date: Friday, December 26, 2008				Sheet	42 of 45

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

Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
43		Add PR158 remove PR129	2008/06/23	HW	Code 88	change EC to CPU control signal,PWROK	
41		Change UMA PR102 to 15.4K	2008/06/23	POWER	OCP to low	Change trip resistor.	
42		Change PU10 SUSP to SYSON#	2008/06/23	HW		Change control signal	
39		Add PC142,PC143	2008/07/23	SED	GPS	Reduce GPS noise	
40		Add PC144,PC145	2008/07/23	SED	GPS	Reduce GPS noise	
41		Add PC146,Change PC85	2008/07/23	SED,ME	GPS	Reduce GPS noise	

Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date		2008/04/14		Deciphered Date		
		2009/04/14		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 TRANSFERED 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.				List History		
				Size	Document Number	Rev
				Custom	LA-4581P	1.0
Date:				Friday, December 26, 2008	Sheet 44 of 45	

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

Revision Change: 0.1 to 0.2

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	6/20	27	Exchange UIM_RESET and UIM_CLK connect to J3GSIM	Correct schematic
2	6/20	21	Change FM_I2CCLK and FM_I2CDAT to GPIO50, GPIO51	For NXP request
3	6/20	25	Remove JHDD1	Remove Dip HDD
4	6/20	34	Change Q27.3 to pull up with +3VALW and R521, R522 to 120ohm	Solve suspend led issue
5	6/22	27	Change CM15, CM16 to 10P and un-mount RM1 and CM14	For customer request
6	6/23	32	Change ROM from 1M to 2M	For BIOS request
7	6/23	30	Change CA30, CA32 from0.47u to 0.033u	Set high pass frequency to 68Hz
8	6/24	16, 29	Reserve C177, C181, C193	For EMI request

Revision Change: 0.2 to 0.3

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	7/14	29	Remove Felica function schematic	KTkAE don't support
2	7/14	18	Change U39.5 from +HDMI_5V_OUT to +5VL	For customer request and follow Toshiba deisgn guide with CEC
3	7/18	21	Change internal camera USB port from port 5 to port 9	For USB sleep and charge function
4	7/21	27	Change New card SMBus from 1 to 0	For Express card logo
5	7/22	32	Change MDC power from +3VS to +3V_SB	Support wake on MDC
6	7/22	28	Add ESD diode near 1394 connector	For EMI request
7	7/23	22	Add SPI ROM schematic on SB	For AMD+ENE issue
8	7/24	34	Co-layout LOGO LED	Change logo led to high illumination
9	7/24	32	Change BIOS ROM from 2M to 1M	For SW request
10	7/24	28	Add D3E mode schematic	For Energy star
11	7/24	26	Add LAN saving mode schematic	For Energy star
10	8/8	21	Change R328, R329 to 1.2K	For new card recognize issue
11	8/8	22	Add R557	Correct CIR schematic
12	8/8	16	Change R433, R435 from 137 to 150ohm	For TV out
13	8/8	21	Correct HDA SSC schematic	For EMI request
14	8/8		Add EMI test schematic	For EMI request

Revision Change: 0.3 to 1.0

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	8/06	6	CPU thermtrip connection	For customer request
2	8/11	29	Change Camera power from +5VALW to +5VS	For Energy star
3	8/12	32	Delete TEST@	For MP
4	8/12	35	Change all +3VALW to +3V_WLAN components from STAR@ to @	No need
5	8/12	22	Add R557	Correct CIR schematic
6	8/13	28	Correct JMB380 schematic	For Energy star
7	8/24	26	Delete R398	No need LAN saving mode function
8	8/24	35	Short PJ31, Delete Q15, R24, R20,Q39,Q157, R687,R688,R689,C707,C685,C684,C712	For SB leakage issue
9	8/24	18	Add L85,L86,L87,L88, Delete R616~R621,R623,R624	For EMI request
10	8/28	33	Change R536 from 100k to 10k	For LED twinkle when insert AC issue
11	9/10	26	Remove R399	No DSM function
12	9/24	6	Add C24	Add ESD solution

