

ZZZ8
DAZ@
DAZ04300100
PCB

ZZZ1
DA2@
MAIN BOARD
DA600007E10
PCB

ZZZ2
DA2@
E board
DA40000A910
PCB

ZZZ3
DA2@
FP board
DA600007D10
PCB

ZZZ4
DA2@
Function board
DA40000AA10
PCB

ZZZ5
DA2@
USB board
DA40000AB10
PCB

ZZZ6
DA2@
IO board
DA40000AC10
PCB

ZZZ7
DA2@
Power board
DA40000AD10
PCB

Compal Confidential

KAQB0 M/B Schematics Document

Intel Penryn Processor with Cantiga + DDRIII + ICH9M

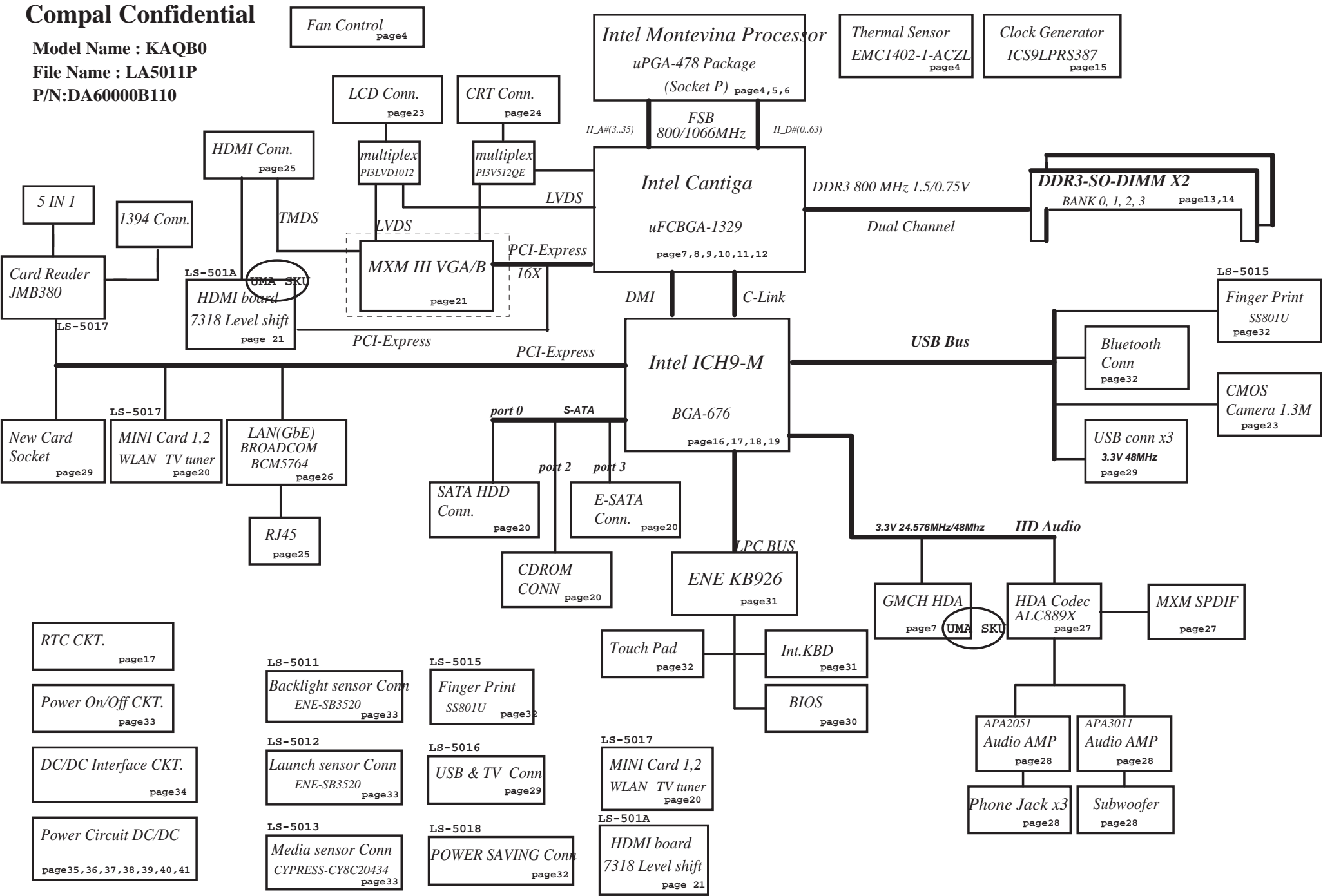
2009-03-27

REV:1.0

Security Classification	Compal Secret Data			Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	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.				Document Number	Rev
				401673	B
				Date:	Thursday, April 30, 2009
				Sheet	1 of 43

Compal Confidential

Model Name : KAQB0
 File Name : LA5011P
 P/N:DA60000B110



- RTC CKT. page17
- Power On/Off CKT. page33
- DC/DC Interface CKT. page34
- Power Circuit DC/DC page35, 36, 37, 38, 39, 40, 41

- LS-5011 Backlight sensor Conn ENE-SB3520 page33
- LS-5012 Launch sensor Conn ENE-SB3520 page33
- LS-5013 Media sensor Conn CYPRESS-CY8C20434 page33
- LS-5014 VR/B Conn SW EC05E1210401 2 LEVEL ALPS page28
- LS-5015 Finger Print SS801U page32
- LS-5016 USB & TV Conn page29
- LS-5018 POWER SAVING Conn page32
- LS-5019 Touch pad Button Conn page32

Security Classification	Compal Secret Data	
Issued Date	2007/09/20	Deciphered Date
		2008/09/20
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.		


Compal Electronics, Inc.	
Title	SHEMATIC,MB A5011
Document Number	401673
Date:	Thursday, April 30, 2009
Sheet	2 of 43

Voltage Rails O MEANS ON X MEANS OFF

power plane State	+B	+5VALW	+1.5V	+5VS +3VS +1.5VS +0.75V +VCCP +CPU_CORE
		+3VALW		+1.8VS
S0	O	O	O	O
S1	O	O	O	O
S3	O	O	O	X
S5 S4/AC	O	O	X	X
S5 S4/ Battery only	O	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X

Symbol Note :

 : means Digital Ground

 : means Analog Ground

@ : means just reserve , no build

DEBUG@ : means just reserve for debug.

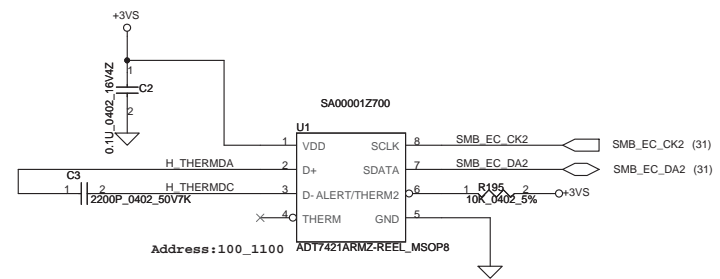
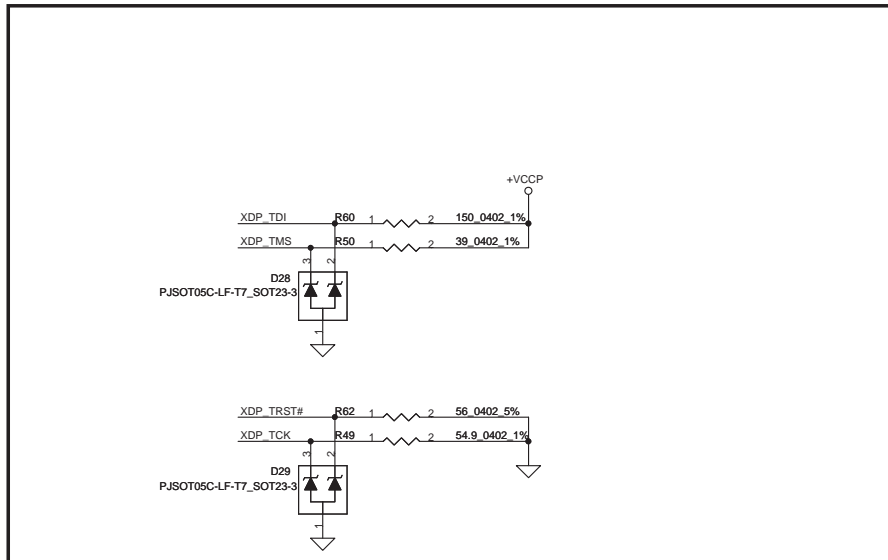
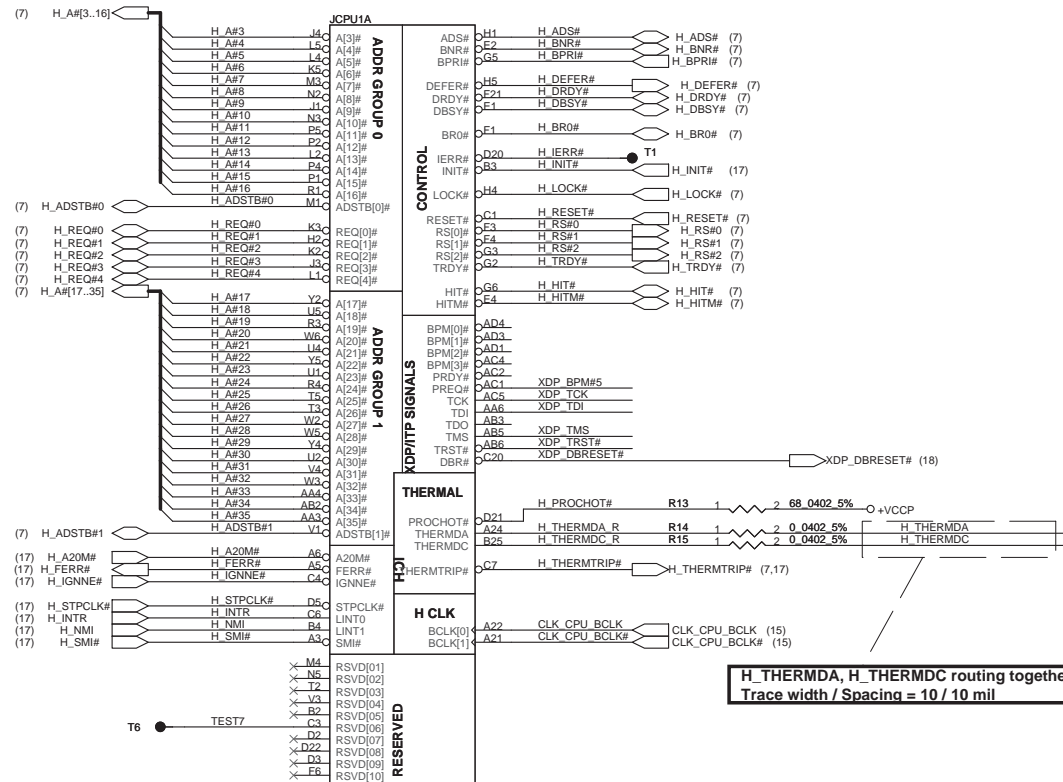
SMBUS Control Table

	SOURCE	INVERTER	BATT	SERIAL EEPROM	THERMAL SENSOR (CPU)	SODIMM	CLK CHIP	MINI CARD	LCD
SMB_EC_CK1 SMB_EC_DA1	KB926	X	V	V	X	X	X	X	X
SMB_EC_CK2 SMB_EC_DA2	KB926	X	X	X	V	X	X	X	X
SMB_CK_CLK1 SMB_CK_DAT1	ICH9	X	X	X	X	V	V	V	X
LCD_CLK LCD_DAT	Cantiga	X	X	X	X	X	X	X	V

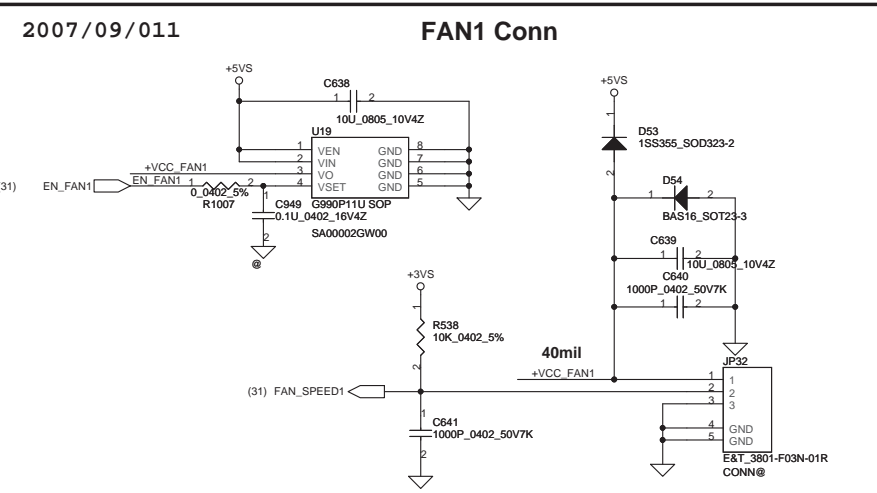
I2C / SMBUS ADDRESSING

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

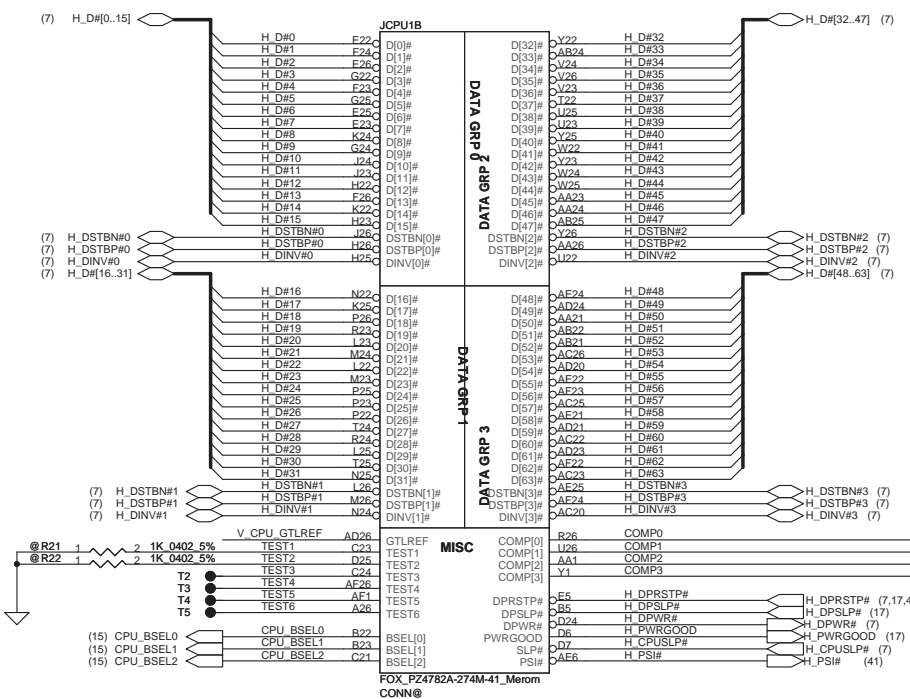
Security Classification	Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number 401673
Date:	Thursday, April 30, 2009	Sheet	3	of 43



H_THERMDA, H_THERMDC routing together,
Trace width / Spacing = 10 / 10 mil

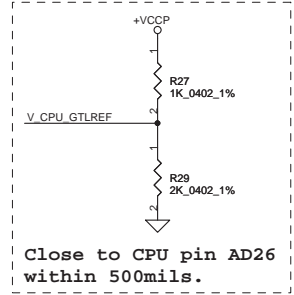


Security Classification		Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Schematic, MB A5011	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.					
Document Number	401673	Rev	B	Date:	Thursday, April 30, 2009
				Sheet	4 of 43

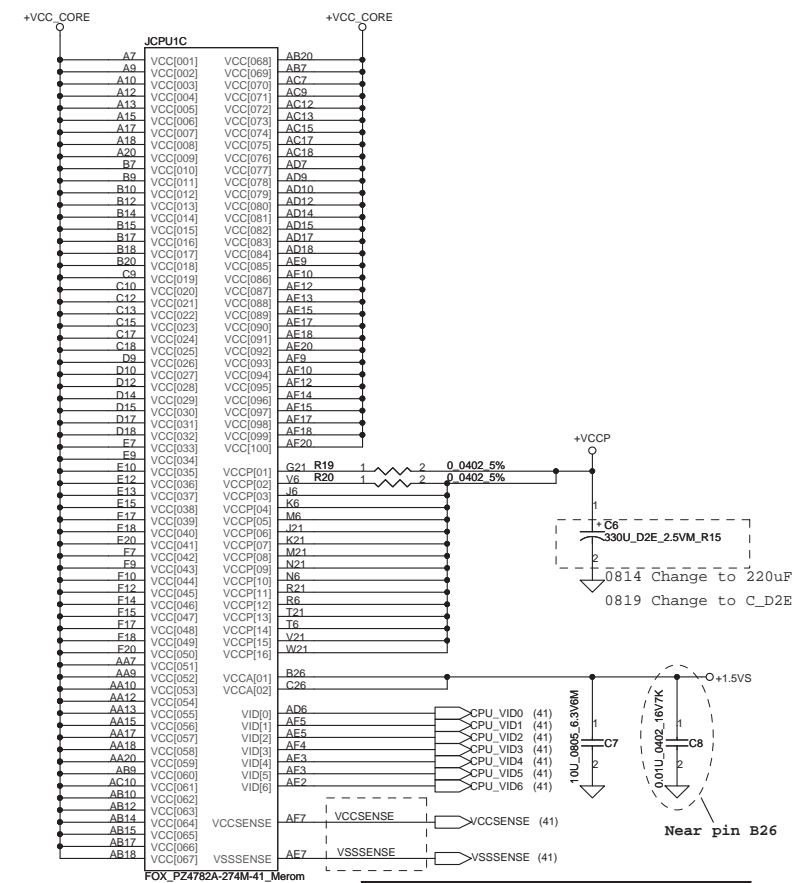


layout note: Route TEST3 & TEST5 traces on ground referenced layer to the TPs

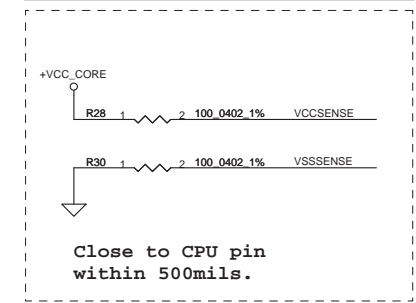
CPU_BSEL	CPU_BSEL2	CPU_BSEL1	CPU_BSEL0
166	0	1	1
200	0	1	0
266	0	0	0

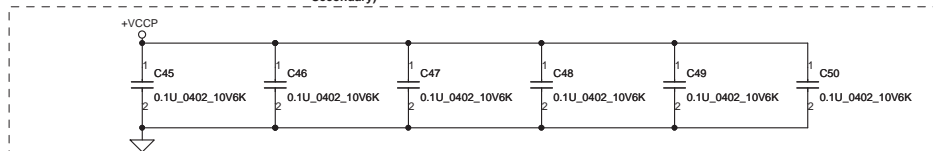
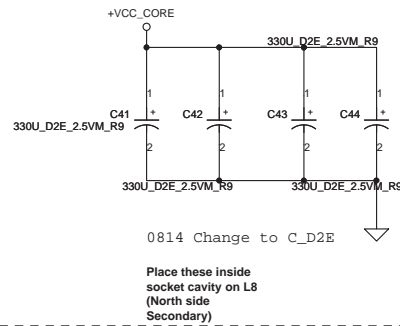
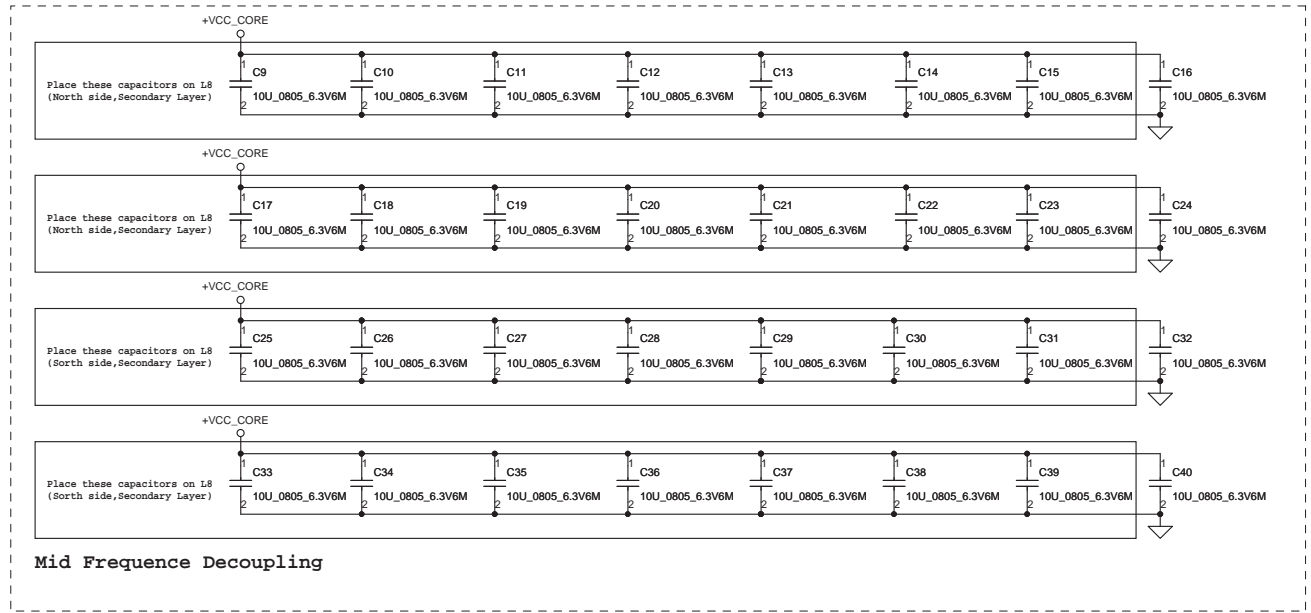
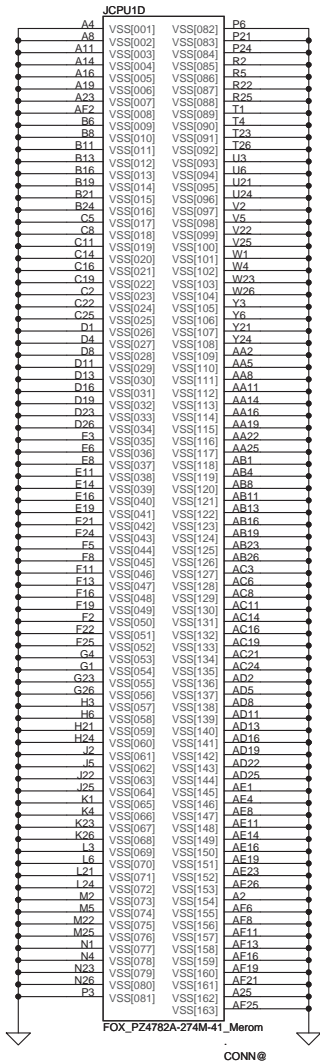


Resistor placed within 0.5" of CPU pin. Trace should be at least 25 mils away from any other toggling signal. COMP[0,2] trace width is 18 mils. COMP[1,3] trace width is 4 mils.

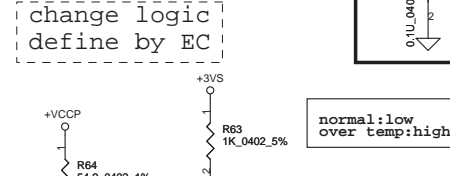
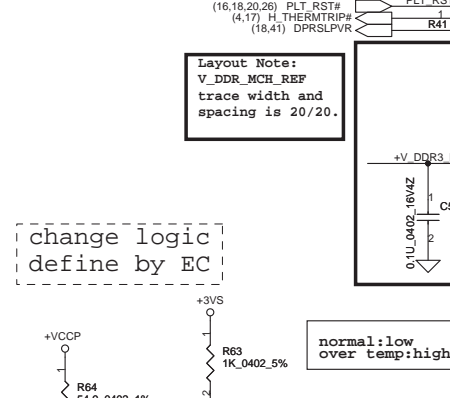
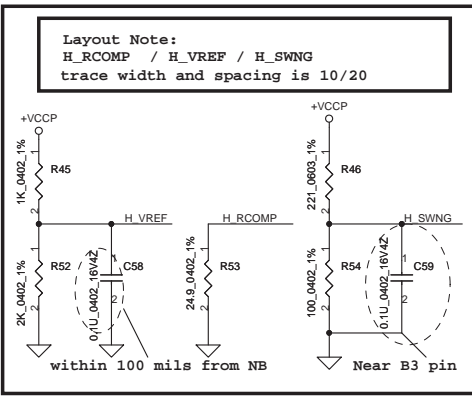
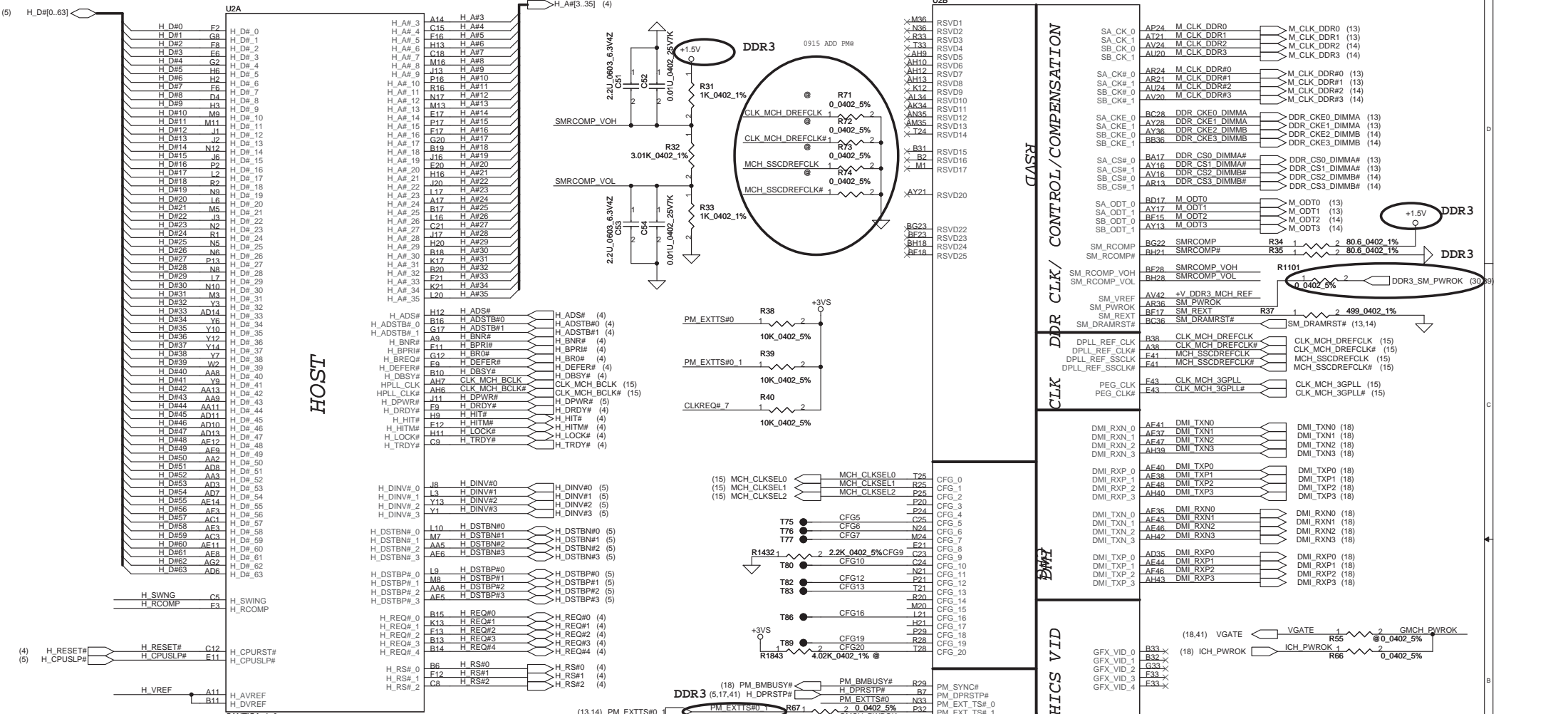


Length match within 25 mils. The trace width/space/other is 20/7/25.

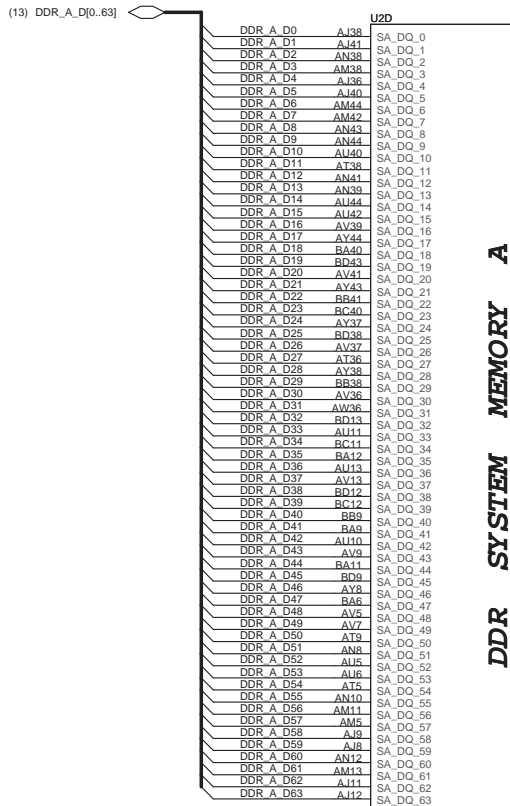




Security Classification	Compal Secret Data			Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number	Rev
				401673	B
Date:				Thursday, April 30, 2009	Sheet 6 of 43

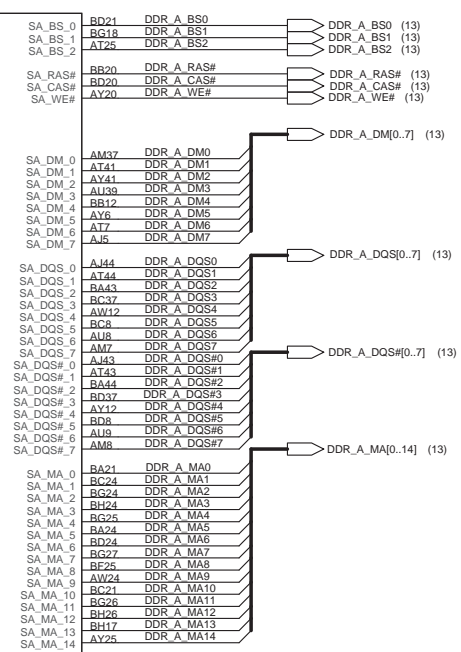


Security Classification		Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	SCHEMATIC, MB A5011	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED FROM THE CUSTODY OF THE COMPANY DIVISION OF COMPAL ELECTRONICS, INC. WITHOUT THE WRITTEN CONSENT OF THE COMPANY. IT IS THE PROPERTY OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
Customer	401673	Document Number	401673	Date:	Thursday, April 30, 2009
Rev	B	Sheet	7	of 43	



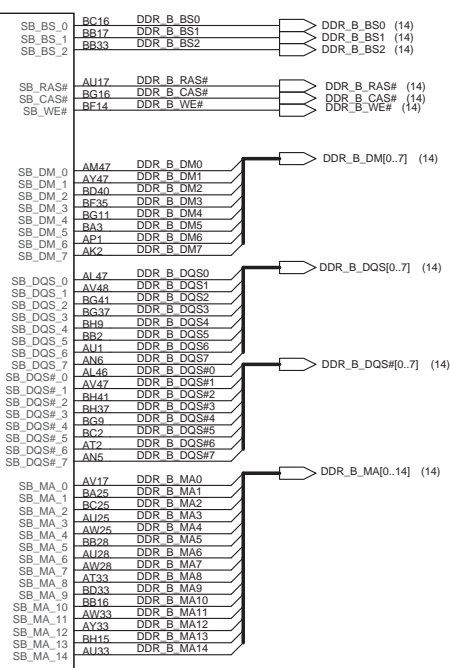
DDR SYSTEM MEMORY A

CANTIGA_1p0

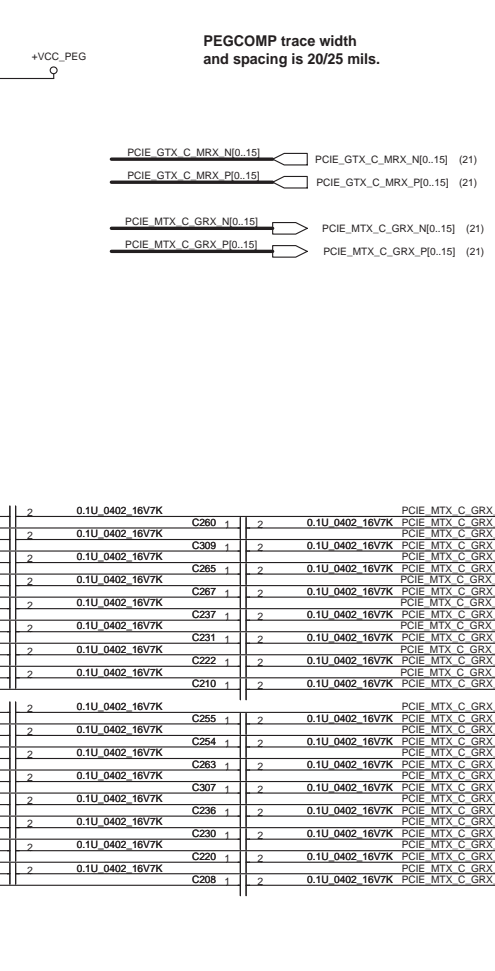
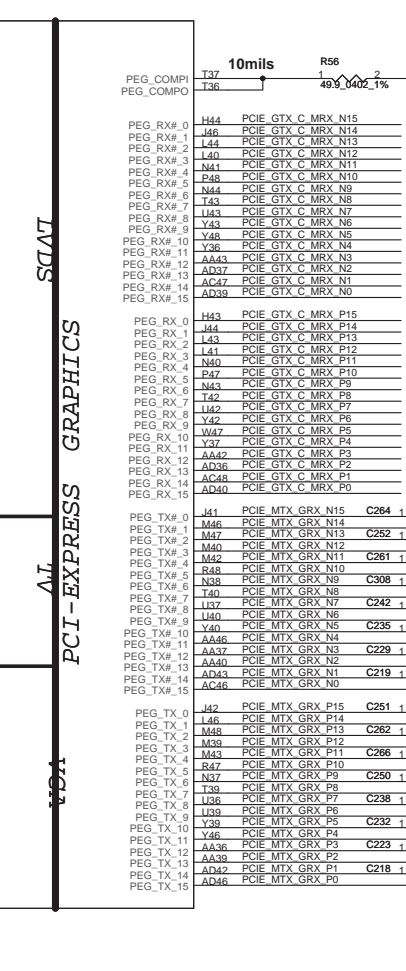
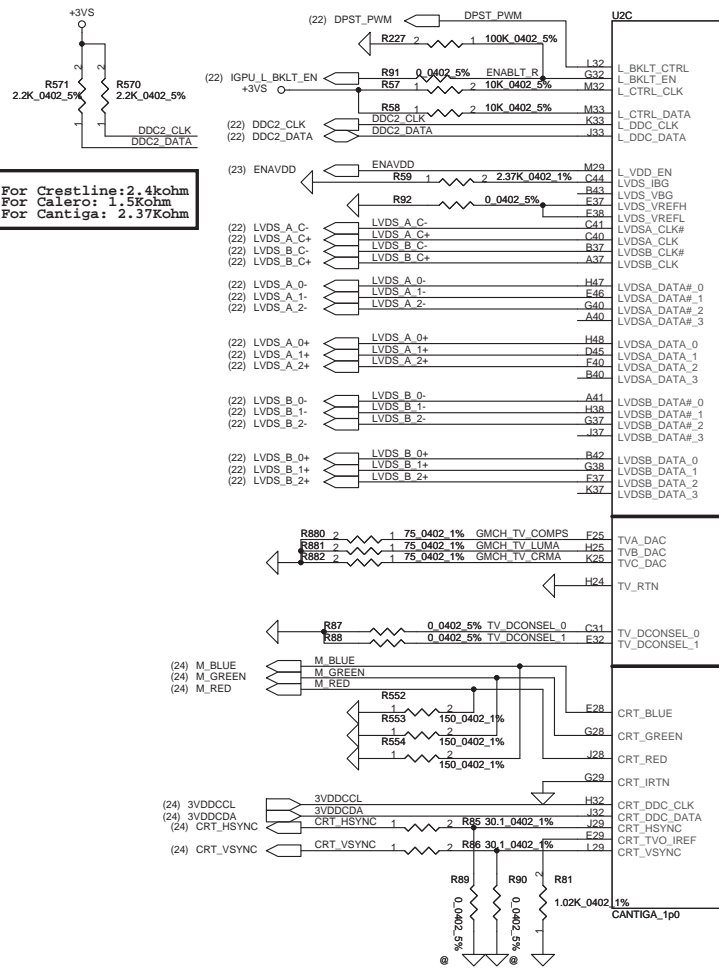


DDR SYSTEM MEMORY B

CANTIGA_1p0



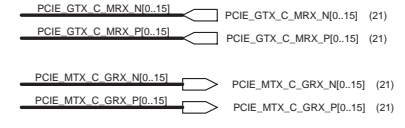
Security Classification		Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	SCHEMATIC, MB A5011	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number	Rev
				401673	B
Date:				Thursday, April 30, 2009	Sheet 8 of 43



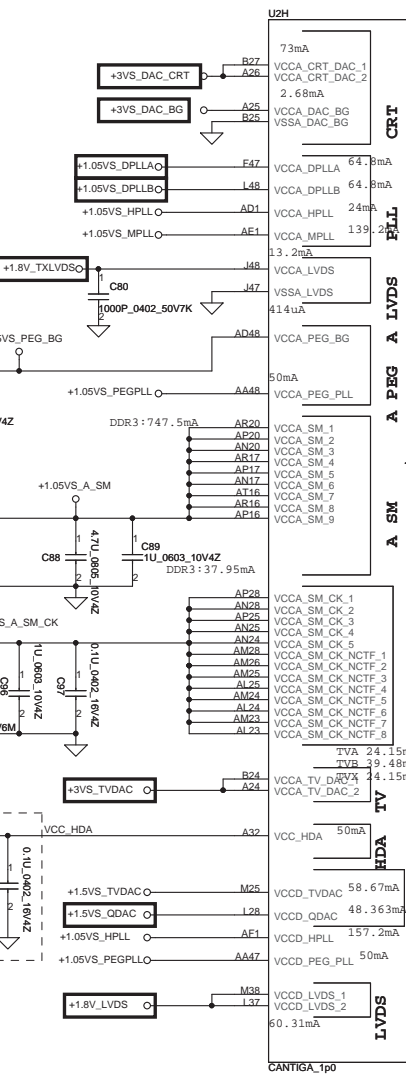
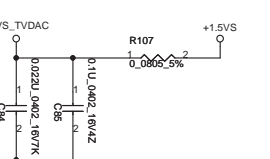
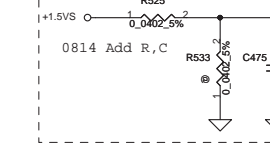
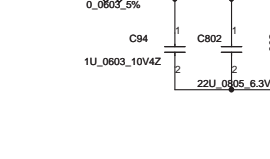
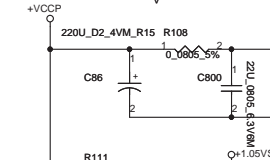
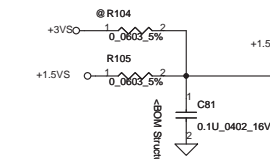
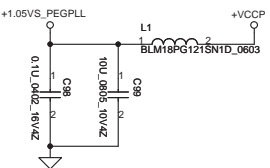
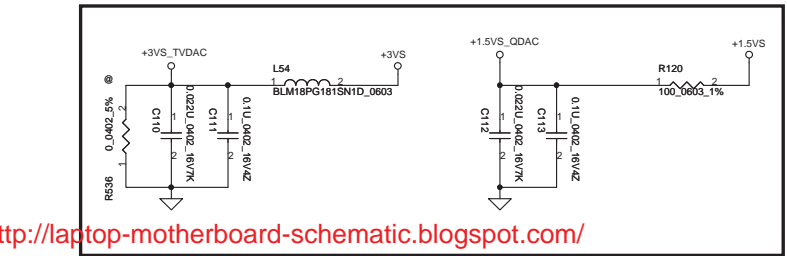
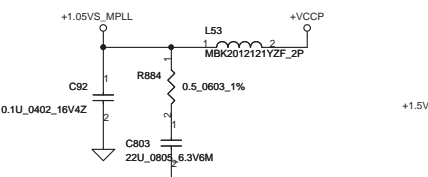
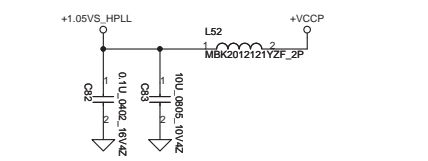
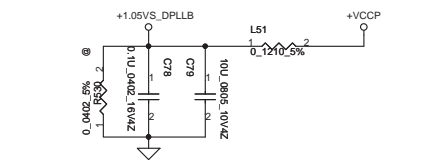
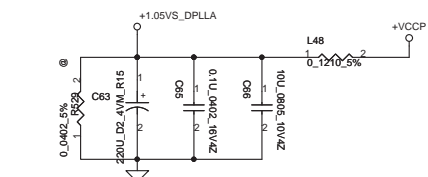
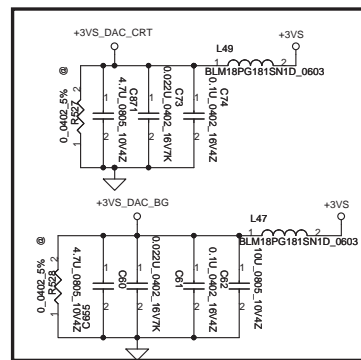
Strap Pin Table

CFG[2:0] FSB Freq select	000 = FSB 1066MHz 010 = FSB 800MHz 011 = FSB 667MHz Others = Reserved
CFG[4:3]	Reserved
CFG5 (DMI select)	0 = DMI x 2 1 = DMI x 4 *
CFG6	0 = The iTPM Host Interface is enable 1 = The iTPM Host Interface is disable *
CFG7 (Intel Management Engine Crypto strap)	0 =(TLS)chiper suite with no confidentiality 1 =(TLS)chiper suite with confidentiality *
CFG8	Reserved
CFG9 (PCIe Graphics Lane Reversal)	0 = Reverse Lane,15->0, 14->1 1 = Normal Operation, Lane Number in order *
CFG10 (PCIe Lookback enable)	0 = Enable 1 = Disable *
CFG11	Reserved
CFG[13:12] (XOR/ALLZ)	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation(Default) *
CFG[15:14]	Reserved
CFG16 (FSB Dynamic ODT)	0 = Disabled 1 = Enabled *
CFG[18:17]	Reserved
CFG19 (DMI Lane Reversal)	0 = Normal Operation * (Lane number in Order) 1 = Reverse Lane
CFG20 (PCIe/SDVO concurrent)	0 = Only PCIe or SDVO is operational. * 1 = PCIe/SDVO are operating simu.

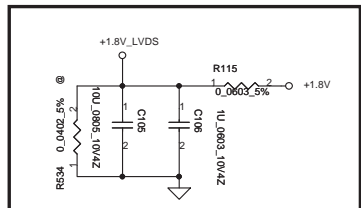
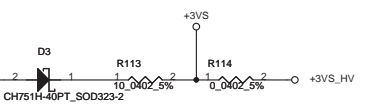
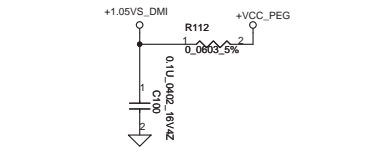
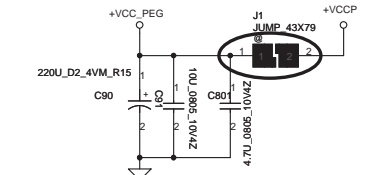
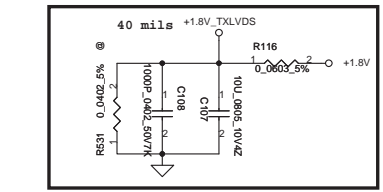
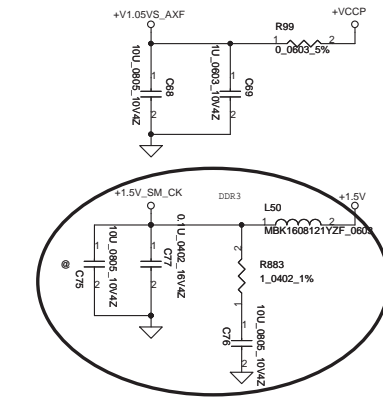
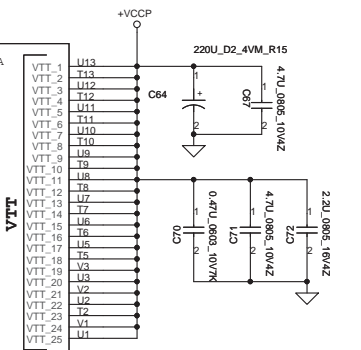
PEGCOMP trace width and spacing is 20/25 mils.



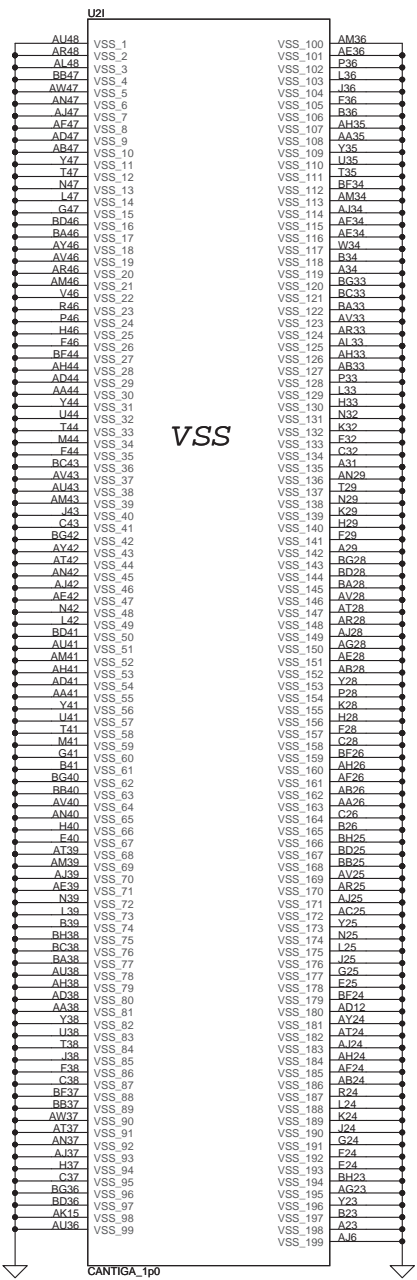
Security Classification	Compal Secret Data		Title		Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	SCHEMATIC_MB A5011		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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		Sheet	Rev	
Custom	401673	Thursday, April 30, 2009		9	B	



POWER

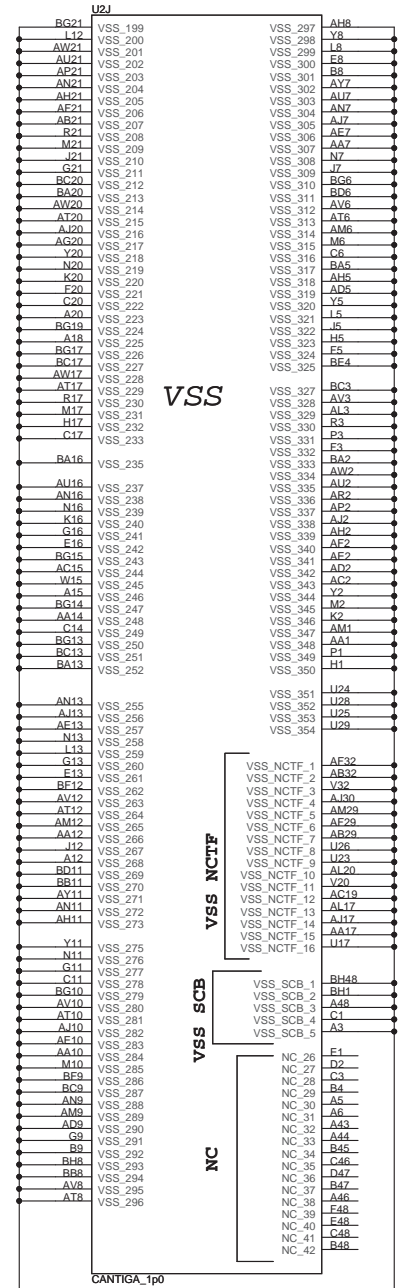


Security Classification	Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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.				Rev B
Date:	Thursday, April 30, 2009	Sheet	10	of 43



VSS

CANTIGA_1p0



VSS

VSS NCTF

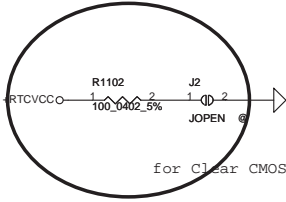
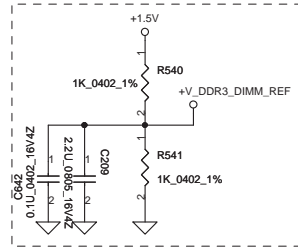
VSS SCB

NC

CANTIGA_1p0

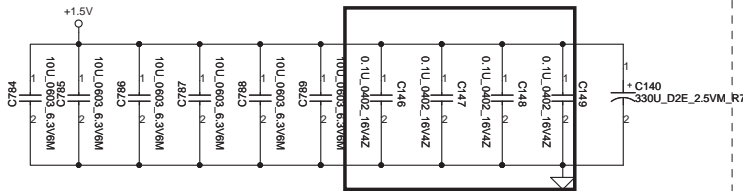
Security Classification		Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number	Rev
				401673	B
Date:				Thursday, April 30, 2009	Sheet 12 of 43

- (8) DDR_A_DQS#[0..7]
- (8) DDR_A_D[0..63]
- (8) DDR_A_DM[0..7]
- (8) DDR_A_DQS[0..7]
- (8) DDR_A_MA[0..14]

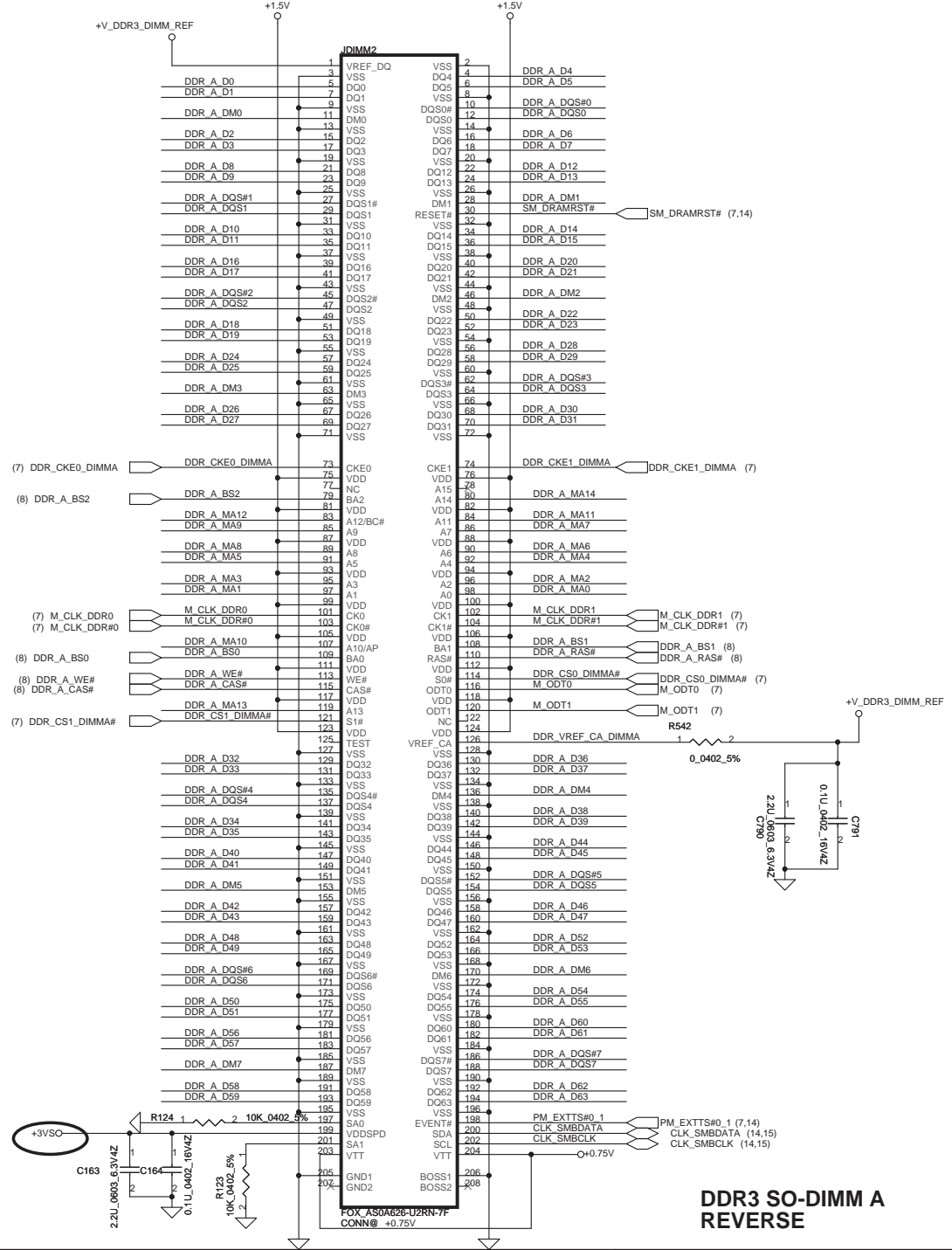
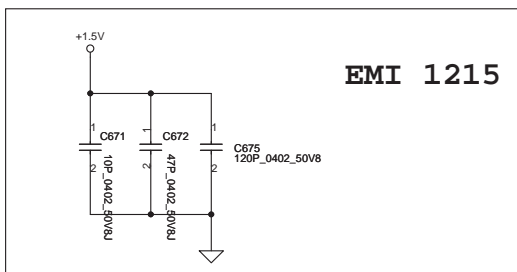
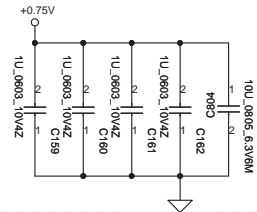


Layout Note:
Place near JP4

Layout Note: Place these 4 Caps near Command and Control-signals-of-DIMMA



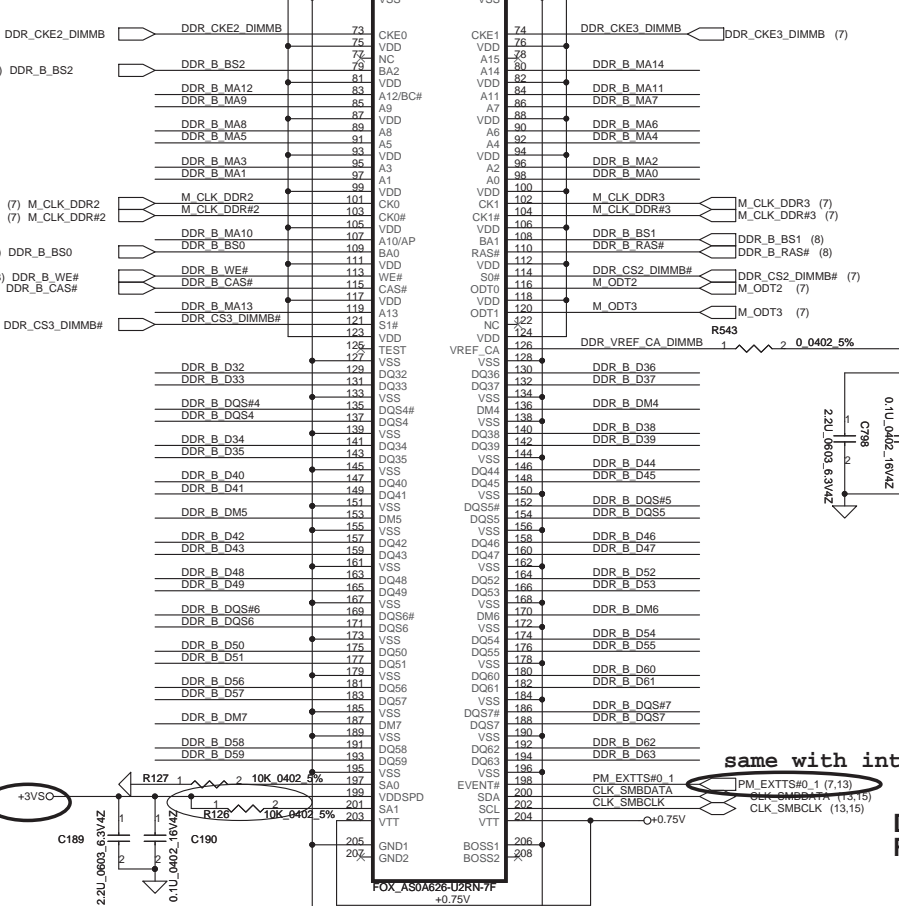
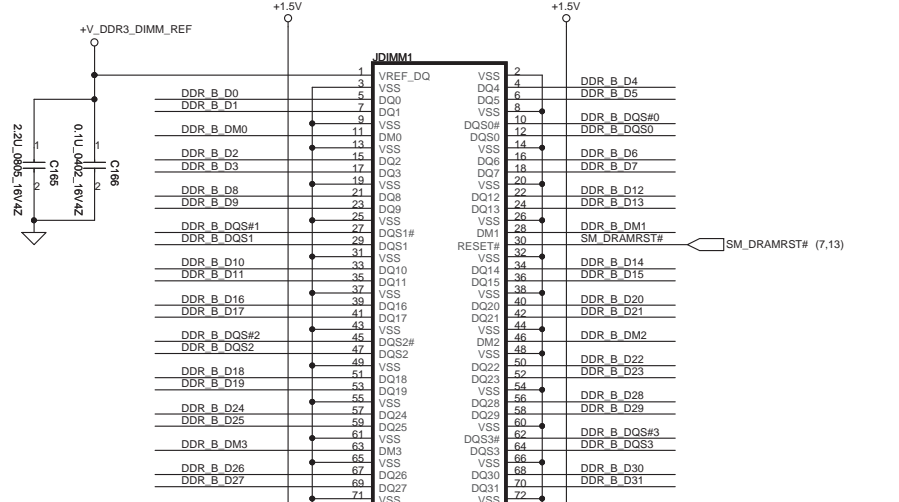
Layout Note:
Place near JP4.203 & JP4.204



DDR3 SO-DIMM A REVERSE

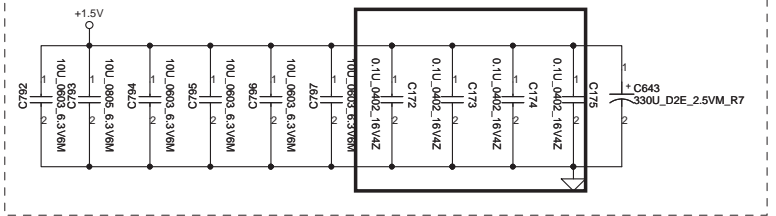
Security Classification	Compal Secret Data		Title
Issued Date	2007/09/29	Deciphered Date	2007/09/29
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE 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.			Document Number 401673
Date: Thursday, April 30, 2009			Sheet 13 of 43

- (8) DDR_B_DQS#[0..7]
- (8) DDR_B_D[0..63]
- (8) DDR_B_DM[0..7]
- (8) DDR_B_DQS#[0..7]
- (8) DDR_B_MA[0..14]

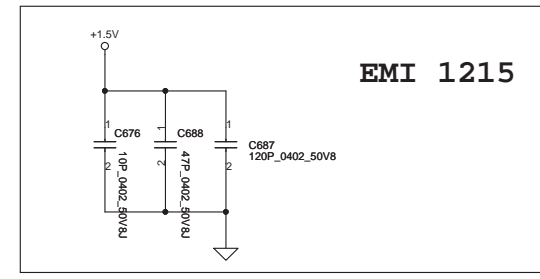
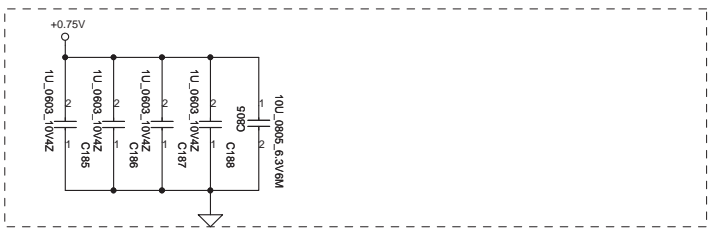


Layout Note:
Place near JP5

Layout Note: Place these 4 Caps near Command and Control signals of DIMMA



Layout Note:
Place near JP5.203 & JP5.204



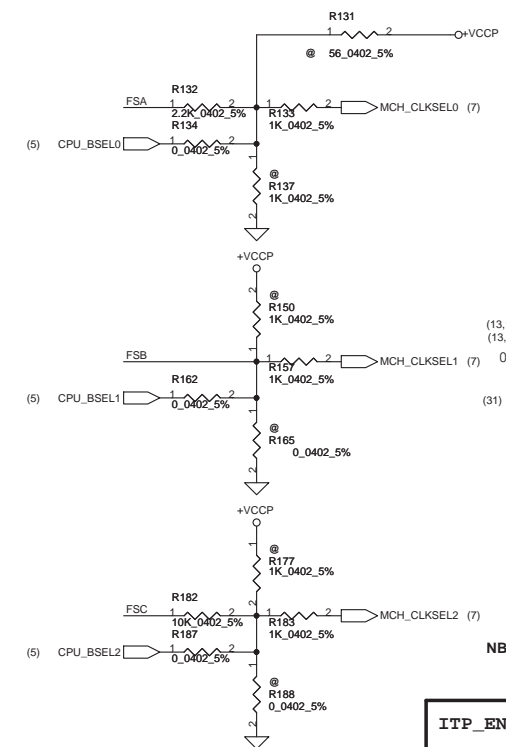
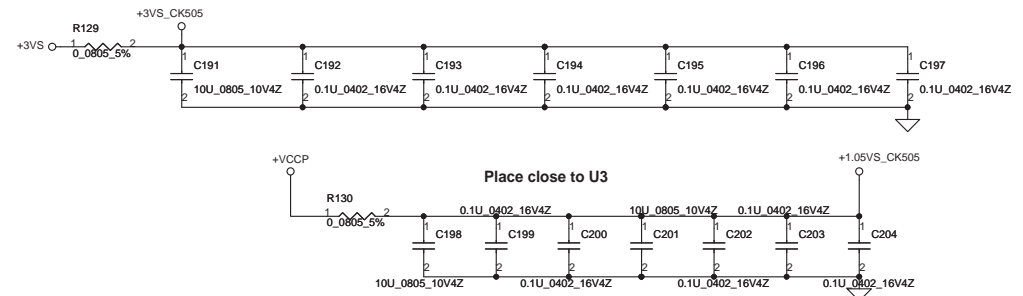
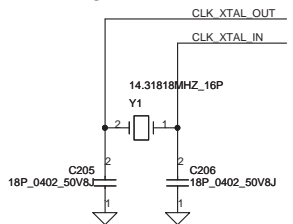
same with intel DDR3 CRB connection

DDR3 SO-DIMM B REVERSE

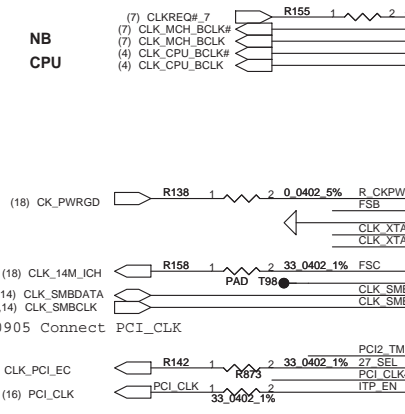
Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Schematic, MB A5011	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
Date: Thursday, April 30, 2009			Sheet	14	of 43

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

Routing the trace at least 10mil



NB CPU

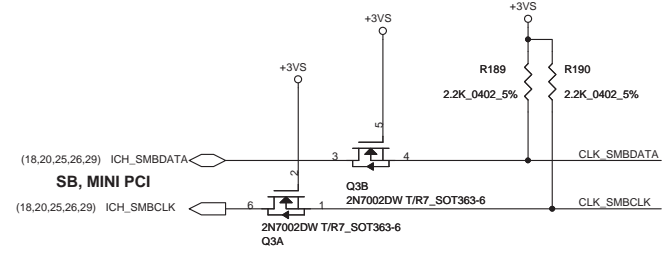
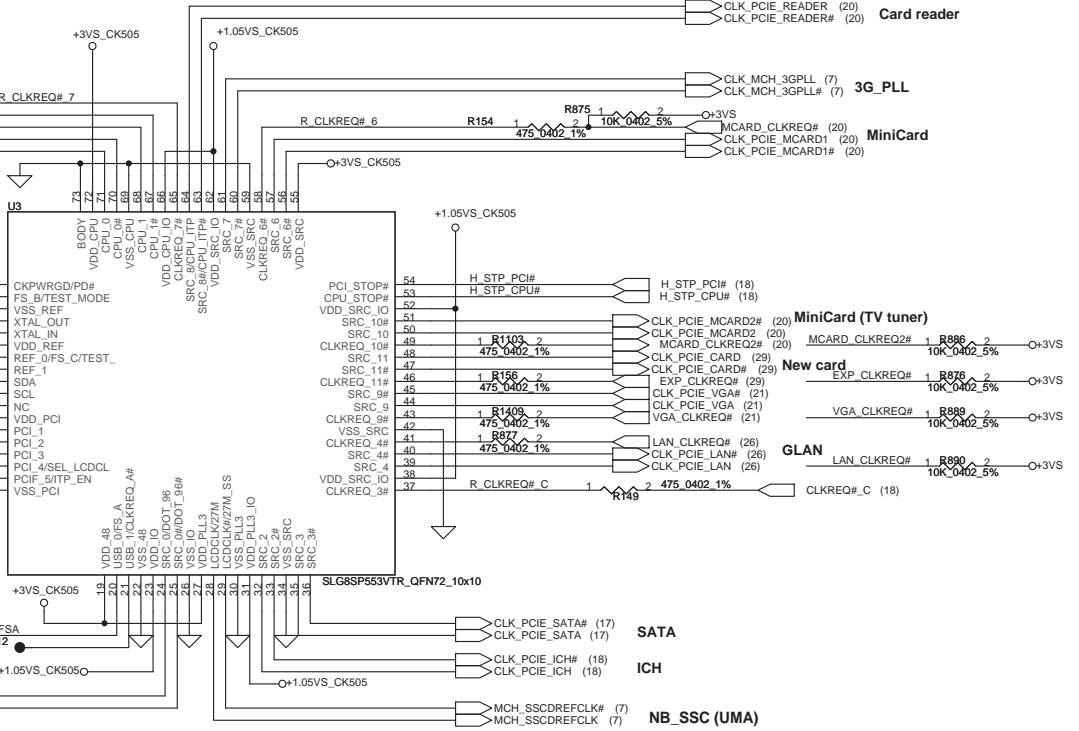


NB (UMA)

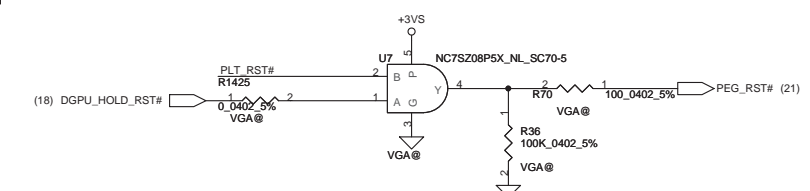
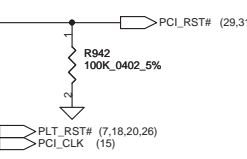
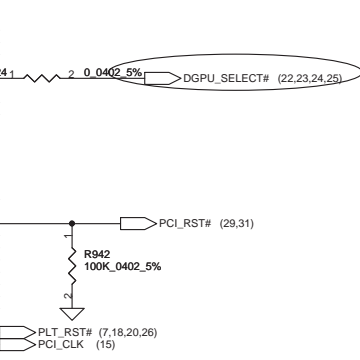
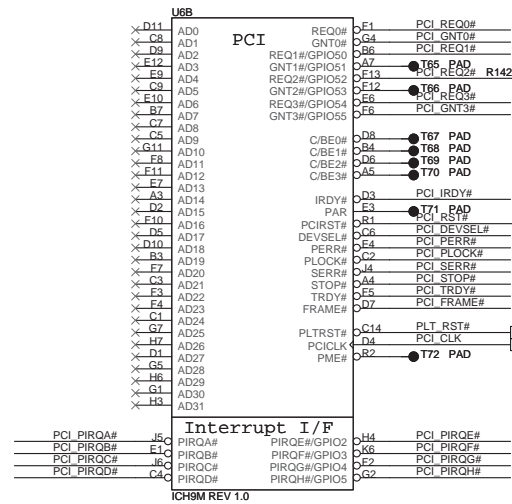
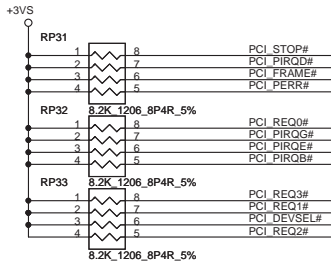
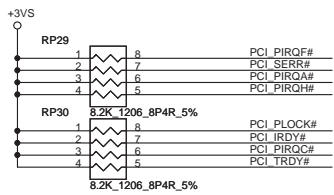


ITP_EN	0 = SRC8/SRC8# 1 = ITP/ITP#
PCI_CLK3	0 = Enable DOT96 & SRC1(UMA) 1 = Enable SRC0 & 27MHz(DIS)

SA000020H10

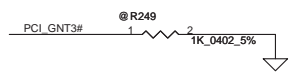


for ICS Overclocking setting
 0=Overclocking of CPU and SRC allowed
 1=Overclocking of CPU and SRC NOT allowed

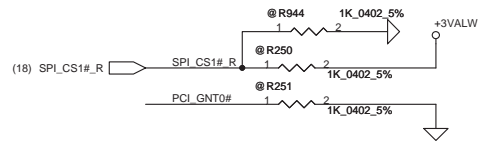


For VGA/B

A16 swap override Strap
 Low= A16 swap override Enable
 High= Default *



Boot BIOS Strap		
PCI_GNT0#	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC *



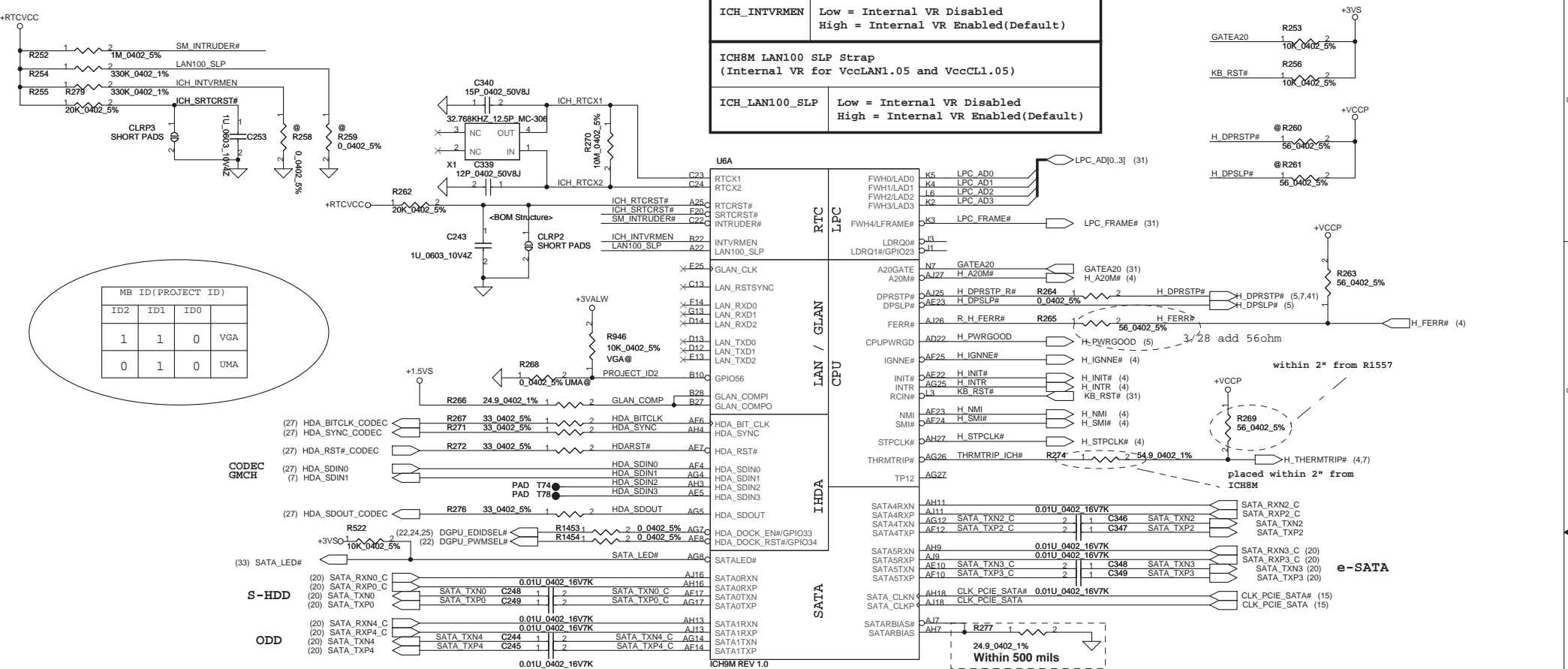
Security Classification	Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number
				401673
Date:				Thursday, April 30, 2009
Sheet				16 of 43

ICH8M Internal VR Enable Strap
(Internal VR for VccSus1.05, VccSus1.5, VccCL1.5)

ICH_INTVRMEN Low = Internal VR Disabled
High = Internal VR Enabled(Default)

ICH8M LAN100 SLP Strap
(Internal VR for VccLAN1.05 and VccCL1.05)

ICH_LAN100_SLP Low = Internal VR Disabled
High = Internal VR Enabled(Default)

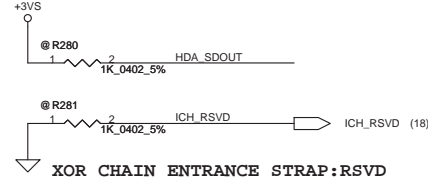
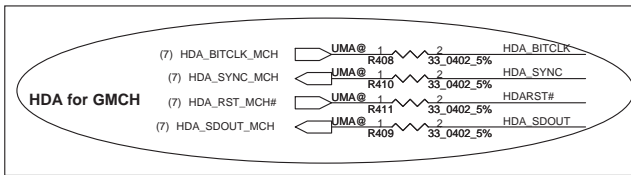


MB ID (PROJECT ID)				
ID2	ID1	ID0		
1	1	0	VGA	
0	1	0	UMA	

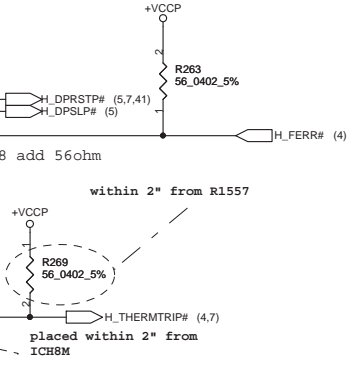
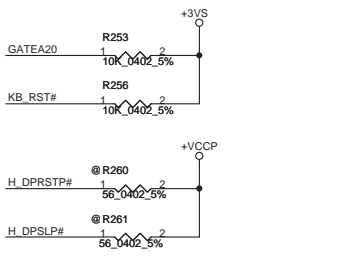
CODEC
GMCH

S-HDD

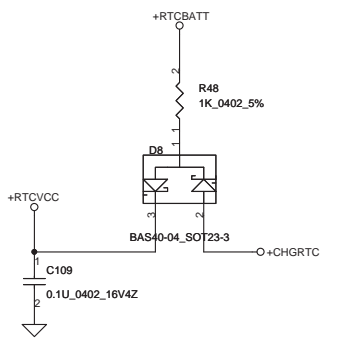
ODD



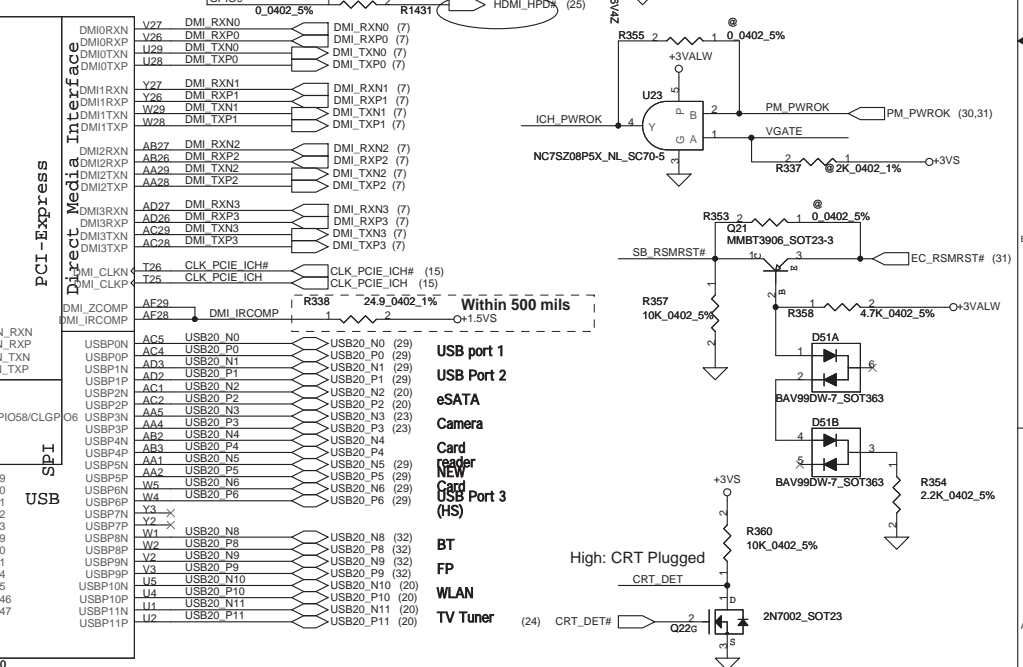
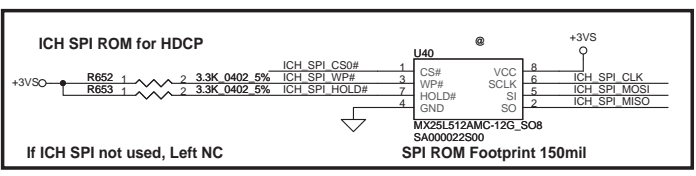
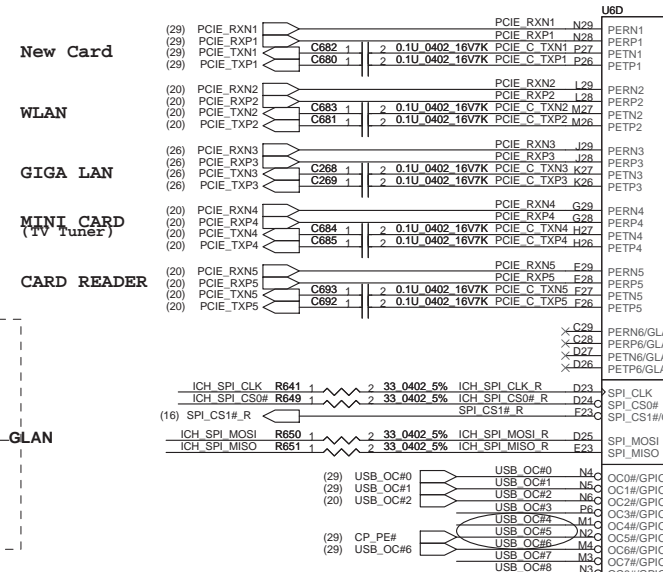
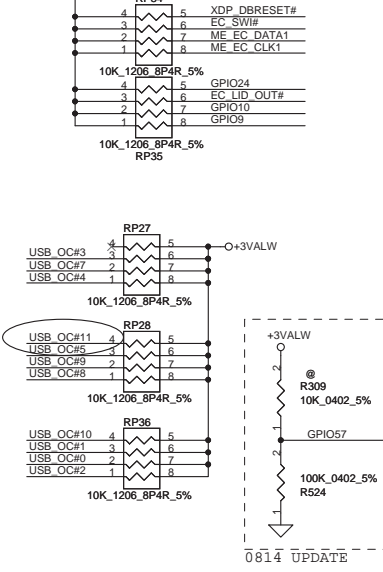
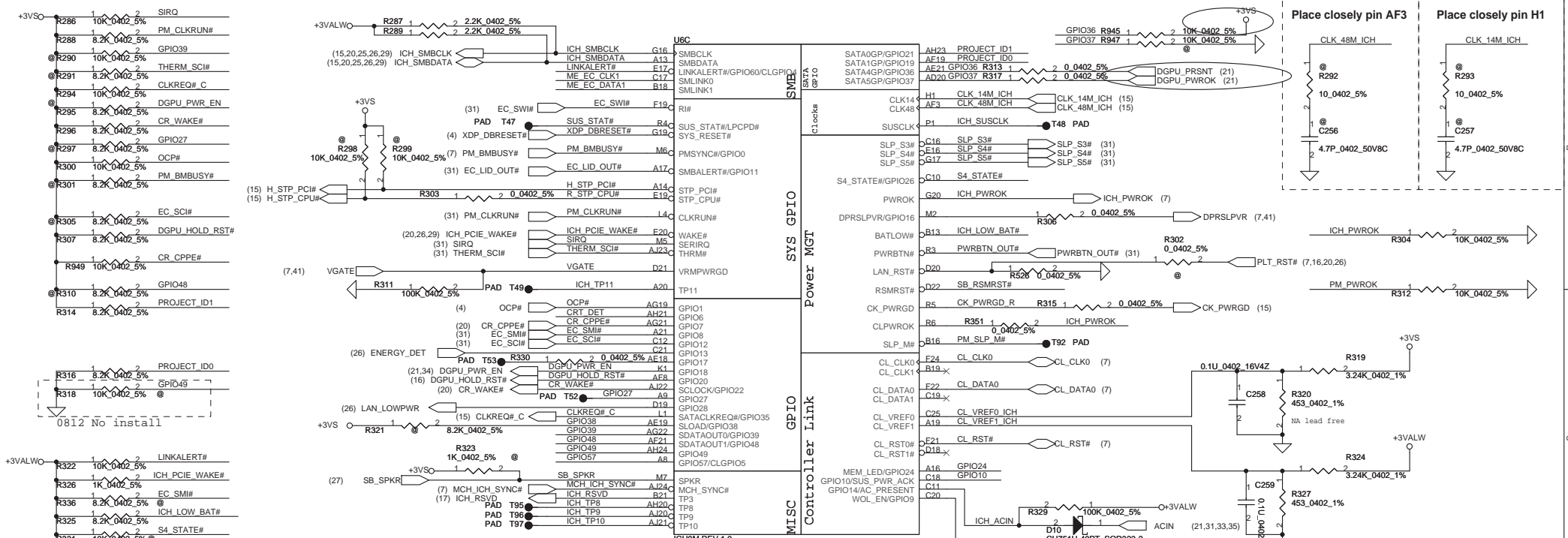
ICH_RSVD	HDA_SDOUT_CODEDC	
0	0	
0	1	
1	0	
1	1	



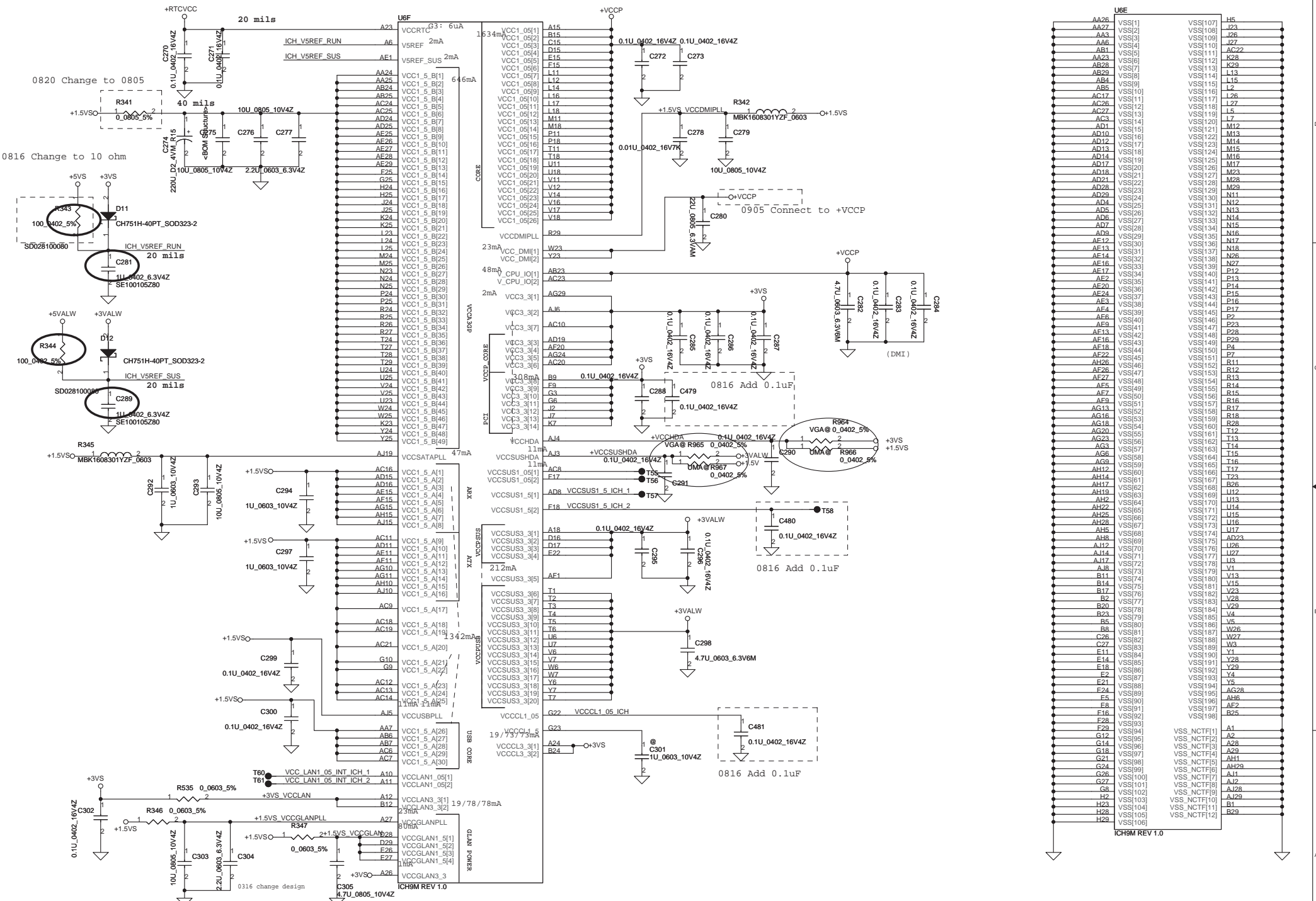
e-SATA



Change BATT1 P/N : SP093PA0200 (Panasonic)
SP093MX0000 (MAXELL)



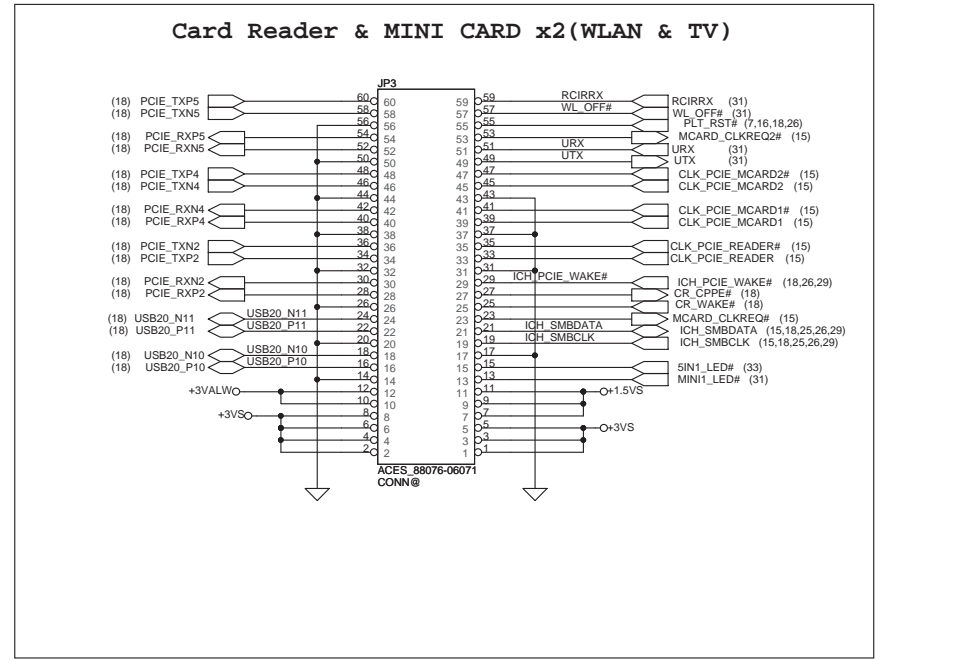
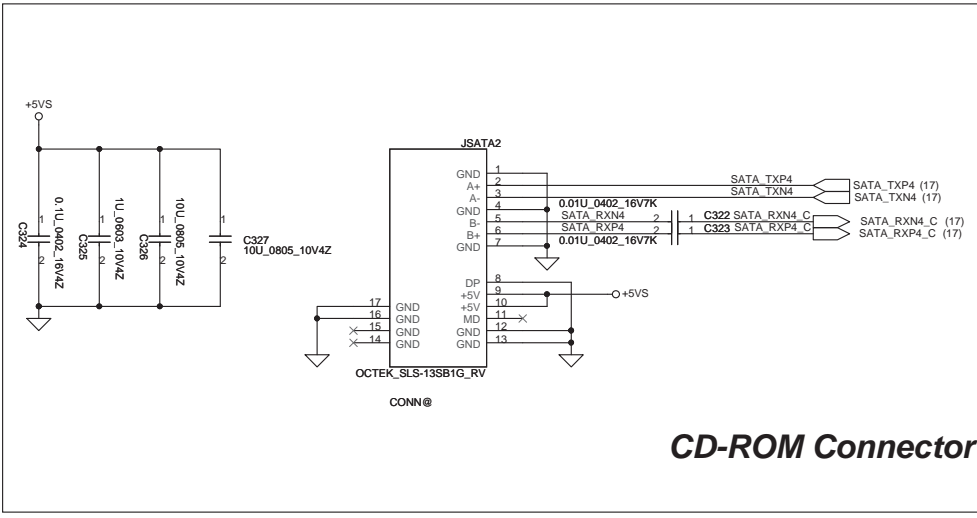
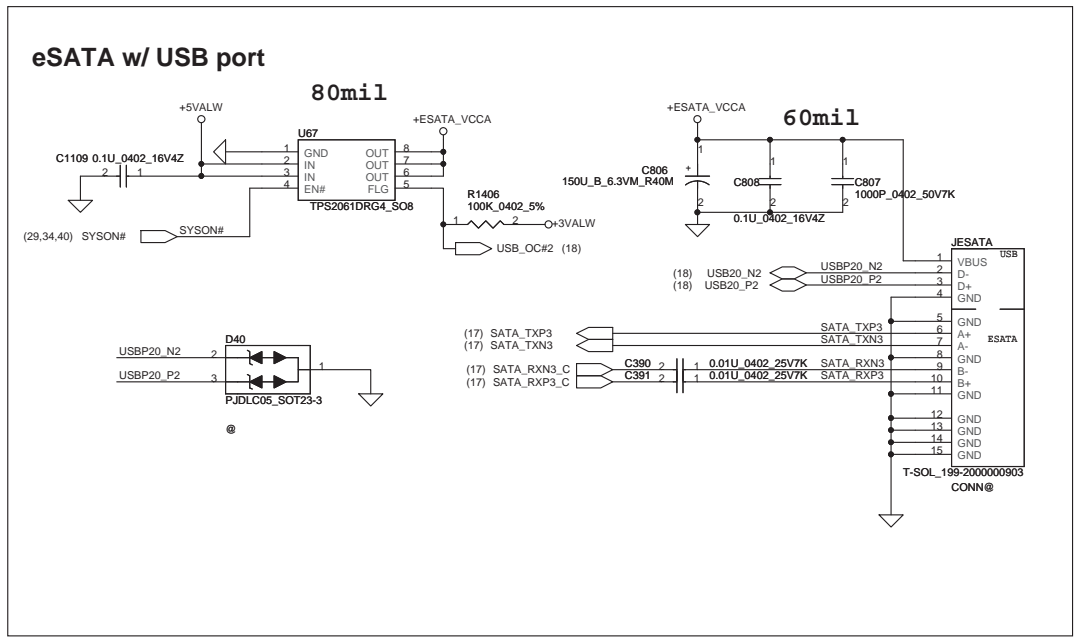
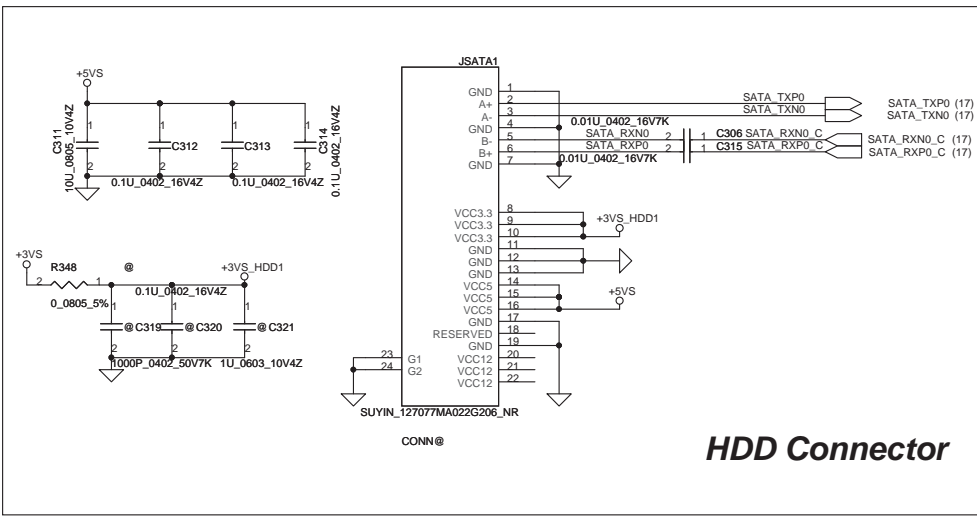
Security Classification	Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	SCHEMATIC, MB A5011
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RA TO ANY OTHER 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>				
Customer	401673	Document Number	401673	Rev B
Date:	Thursday, April 30, 2009	Sheet	18	of 43



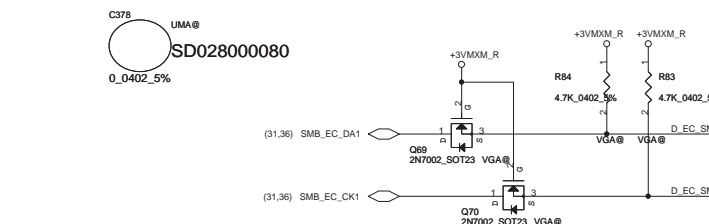
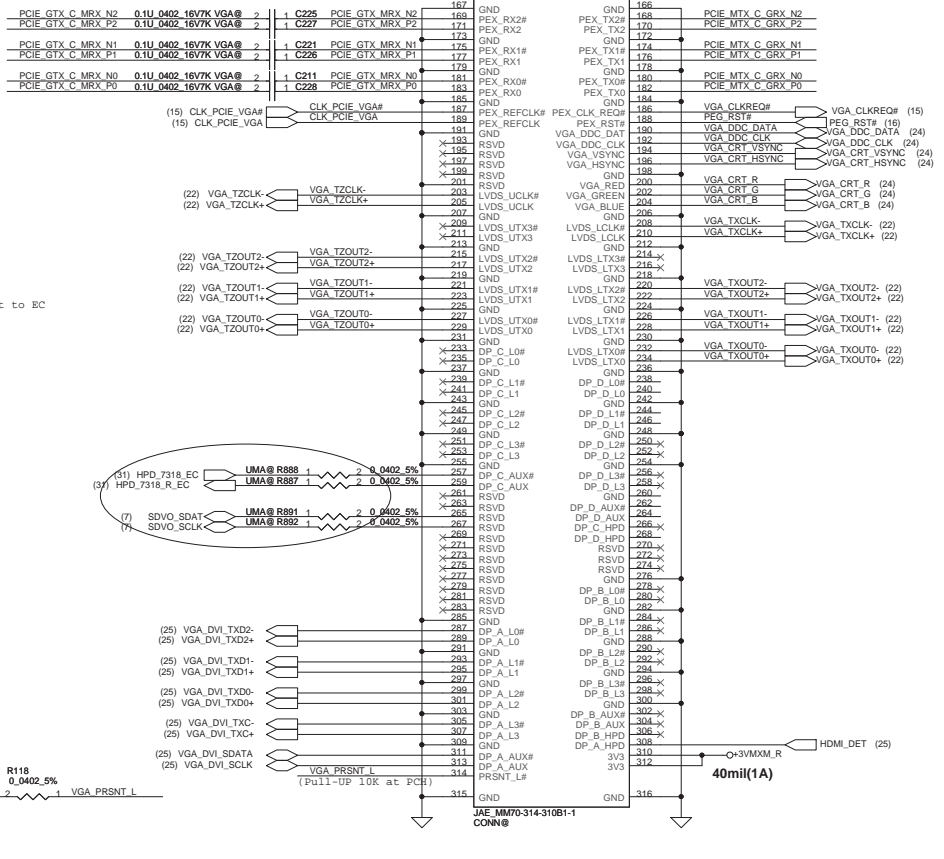
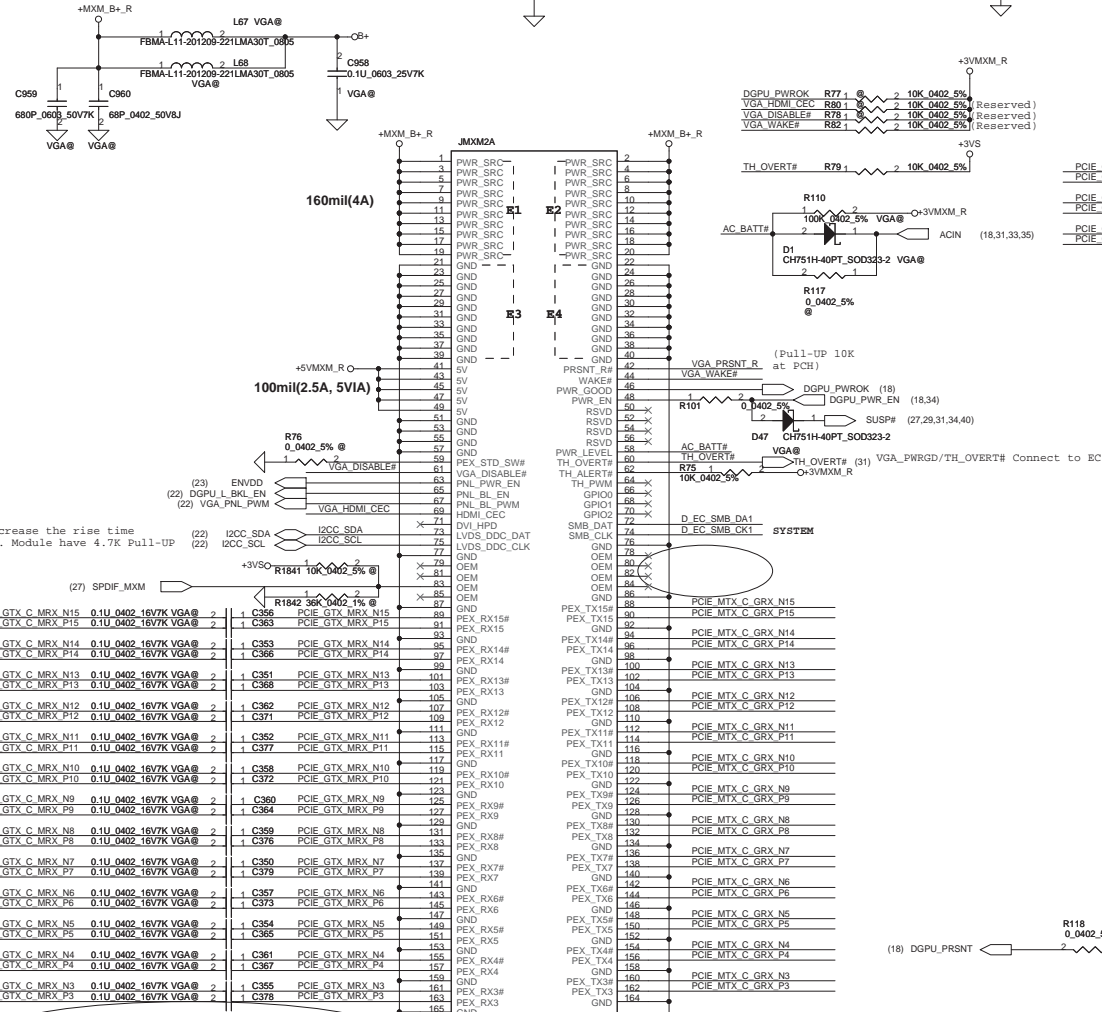
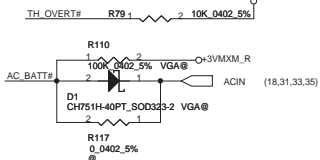
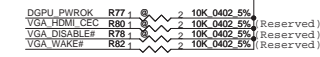
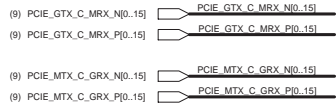
Security Classification	Compal Secret Data	
Issued Date	2007/09/29	Deciphered Date
		2007/09/29
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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		Revision	
Compal Electronics, Inc.		SCHEMATIC, MB A5011	
Docum Number	401673	Rev	B
Date:	Thursday, April 30, 2009	Sheet	19 of 43

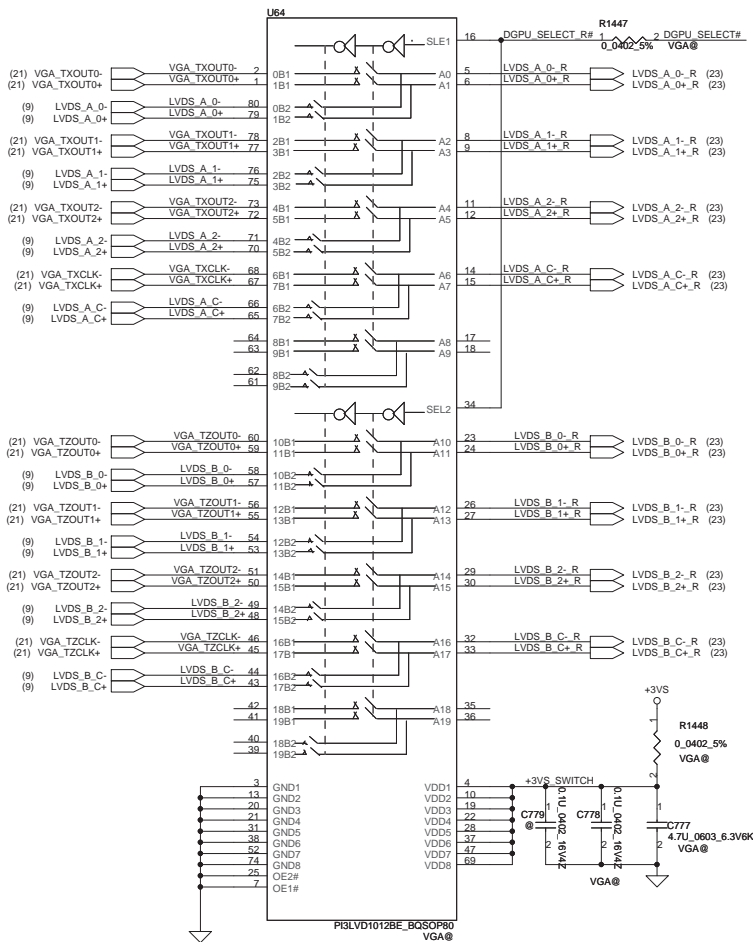
<http://laptop-motherboard-schematic.blogspot.com/>



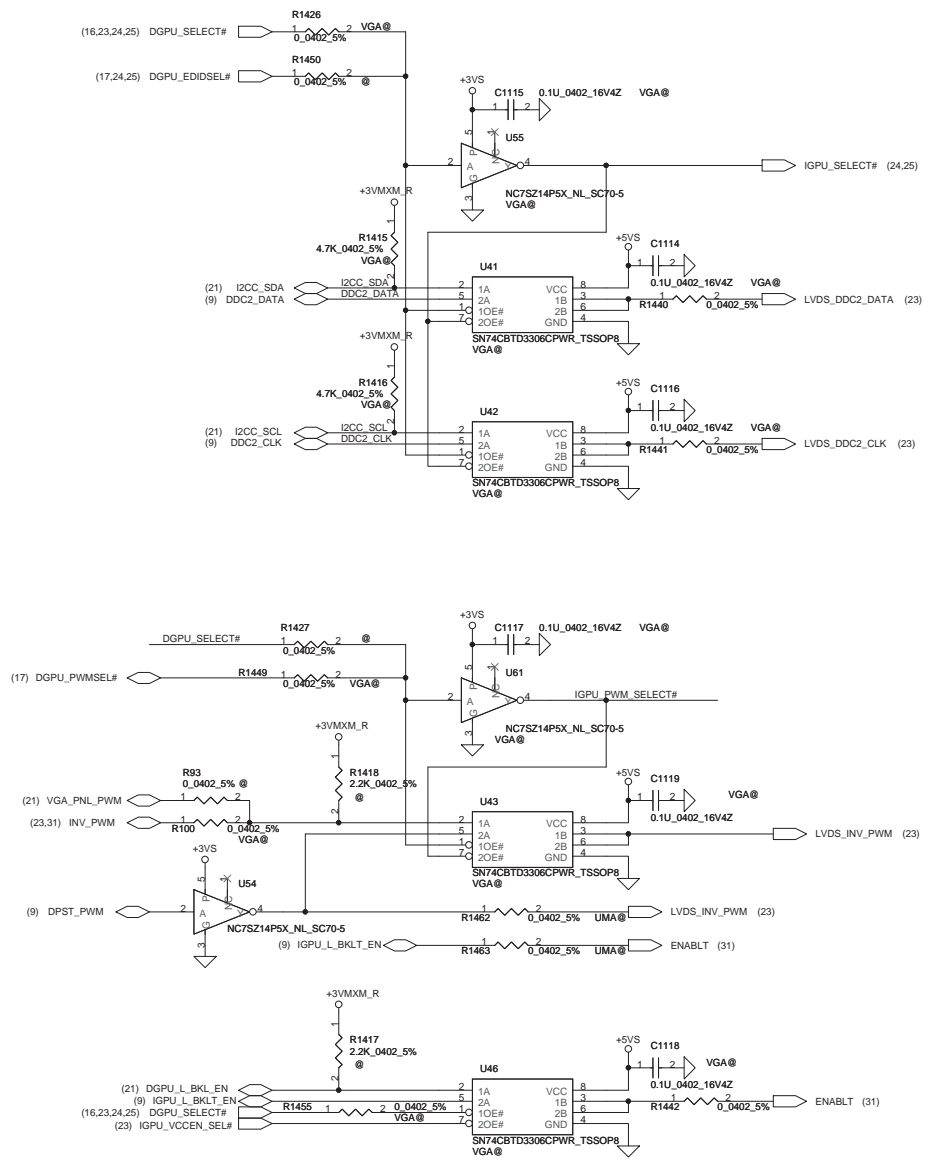
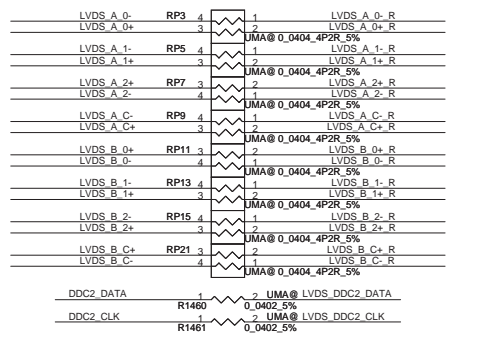
Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Document Number	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Customer	Rev B
				401673	
				Thursday, April 30, 2009	Sheet 20 of 43



Security Classification	Compal Secret Data		Compal Electronics, Inc.
Issued Date	2007/09/20	Deciphered Date	2008/09/20
Title			SCHEMATIC.MB A5011
Size	Document Number	Rev	
C	401673	B	
Date:	Thursday, April 30, 2009	Sheet	21 of 43

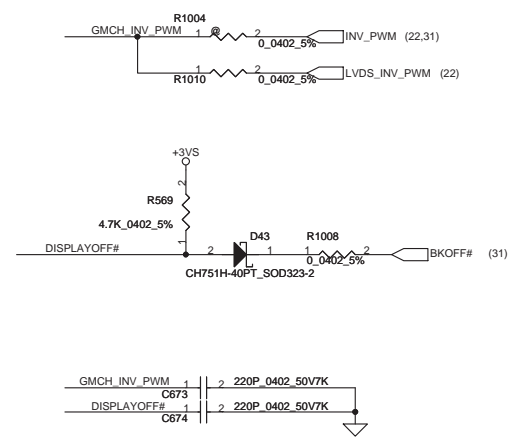
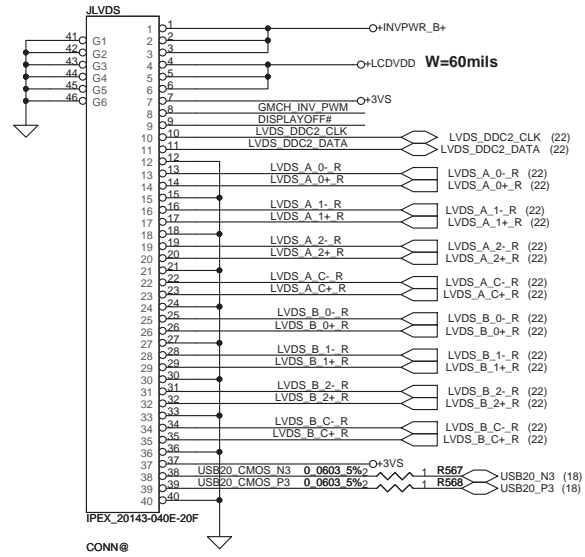
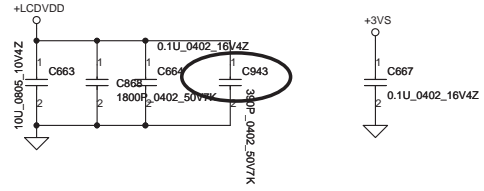
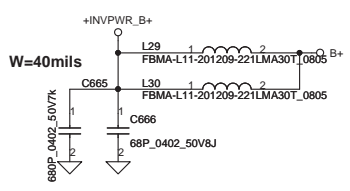
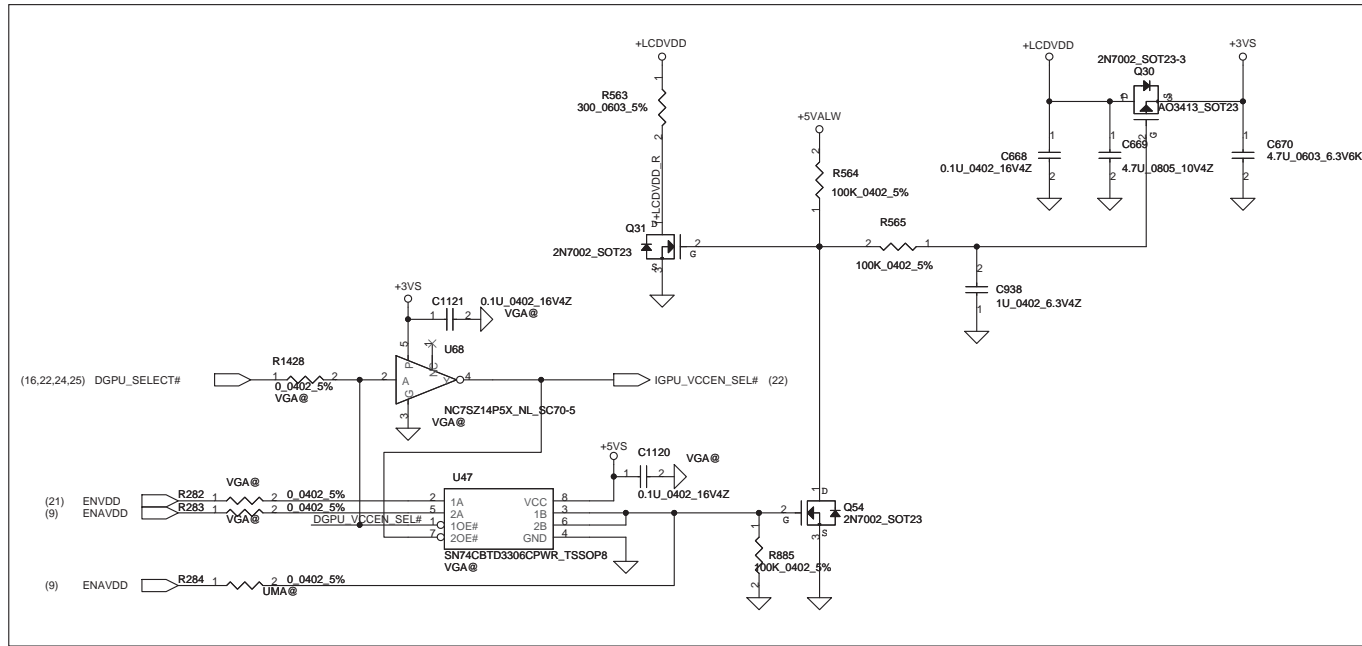


UMA ONLY



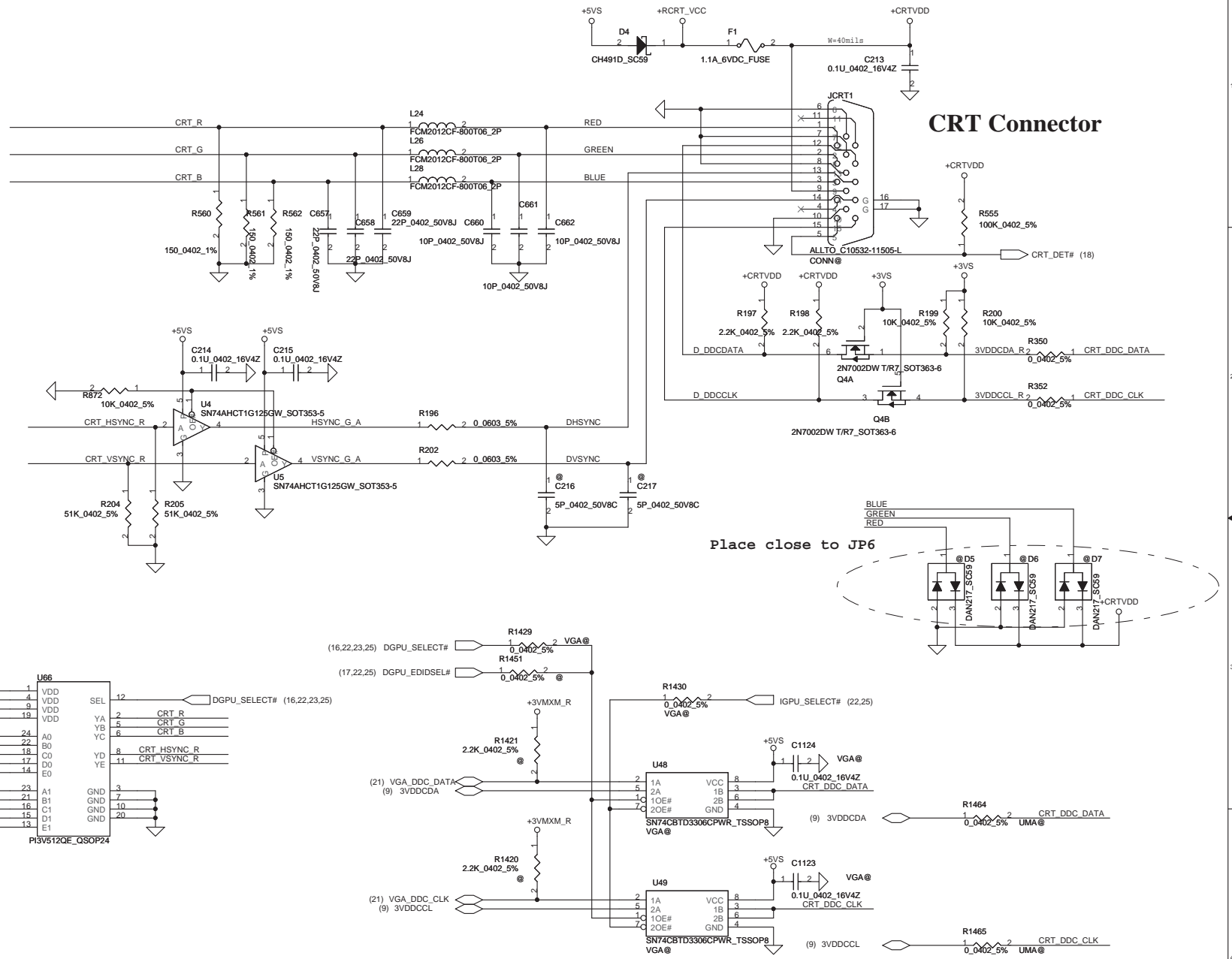
Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.
Issued Date	2007/09/29	Deciphered Date		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Size	Document Number
			Customer	401673
			Date	Thursday, April 30, 2009
			Sheet	22 of 43

LVDS and USB CAM connector



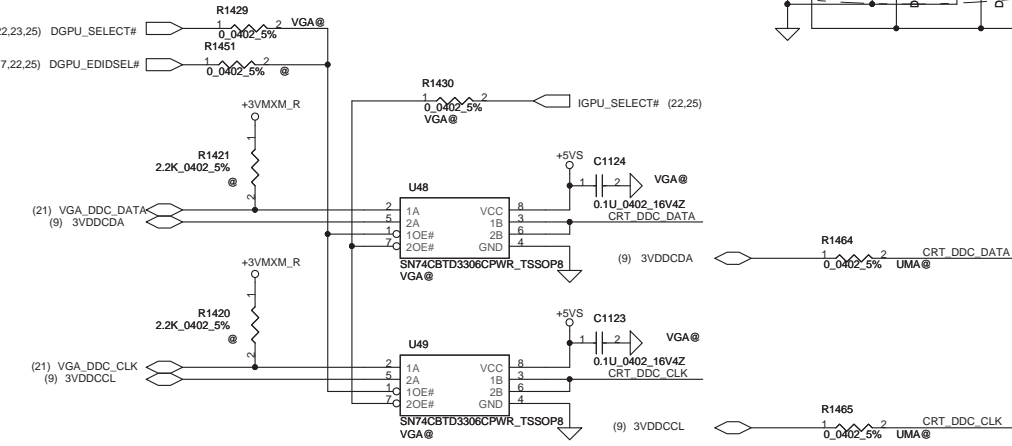
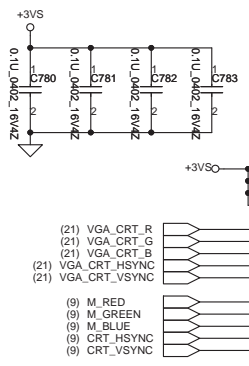
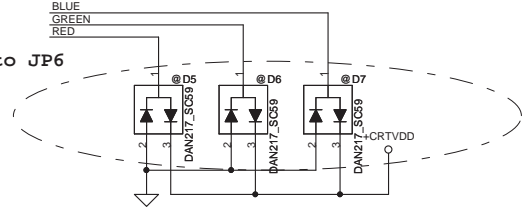
Security Classification	Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				SCHEMATIC, MB A5011 Document Number 401673 Rev B
Date:	Thursday, April 30, 2009	Sheet	23	of 43

NOTE: L: A-->B1
H: A-->B2

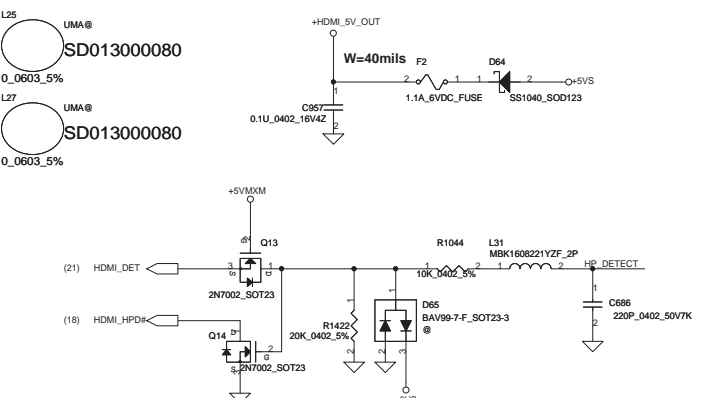
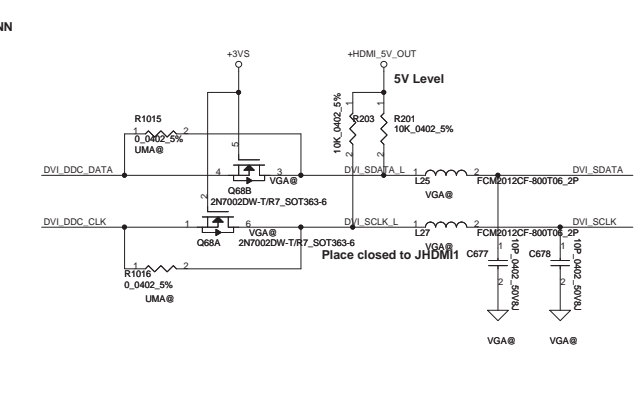
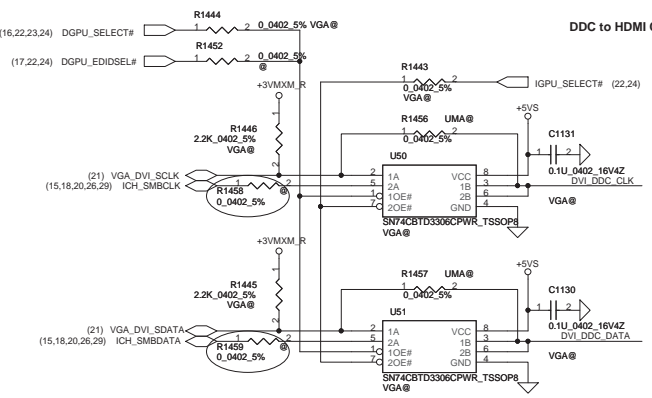


CRT Connector

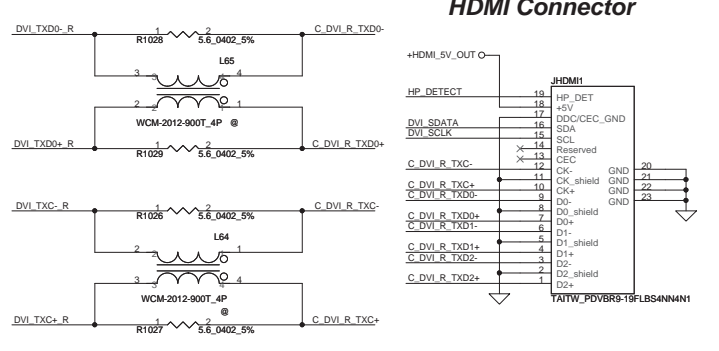
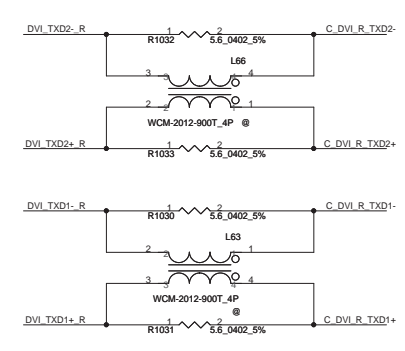
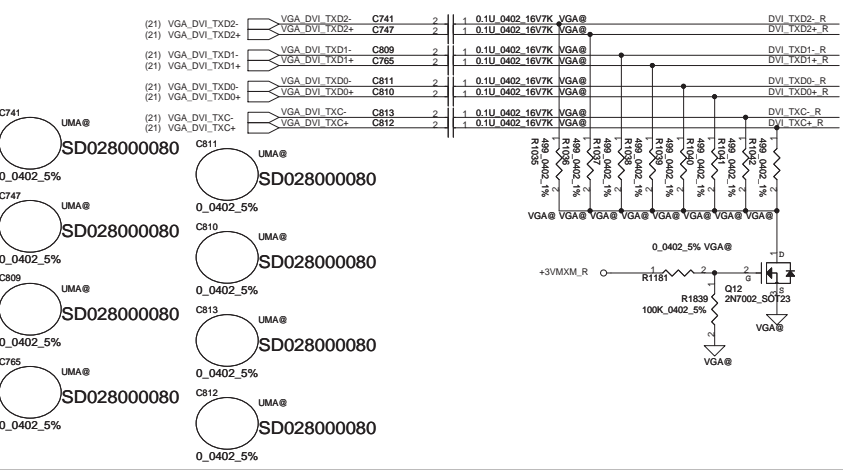
Place close to JP6



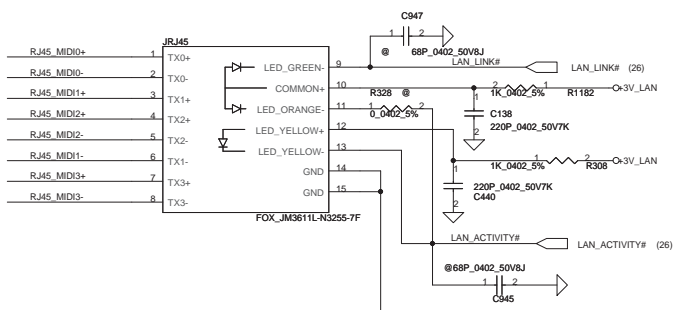
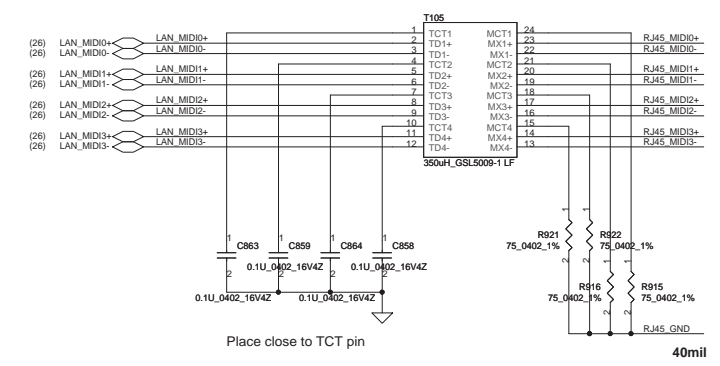
Security Classification		Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number	Rev
				401673	B
Date:				Thursday, April 30, 2009	Sheet 24 of 43



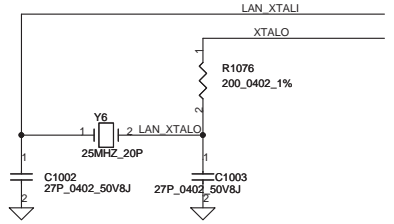
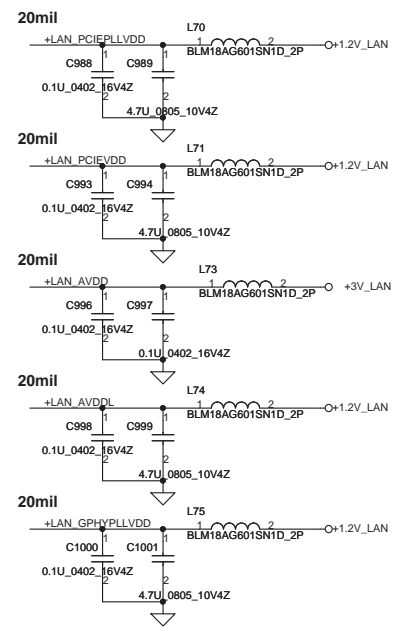
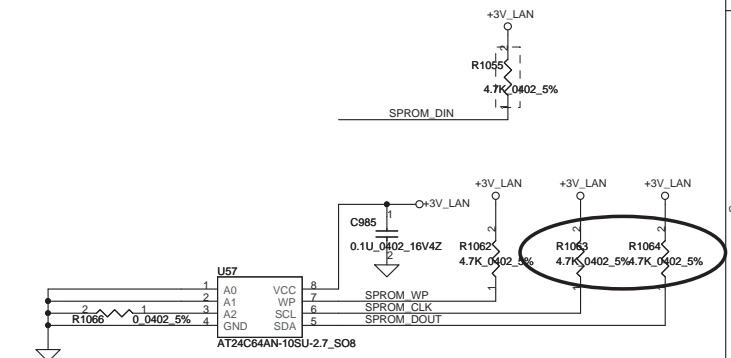
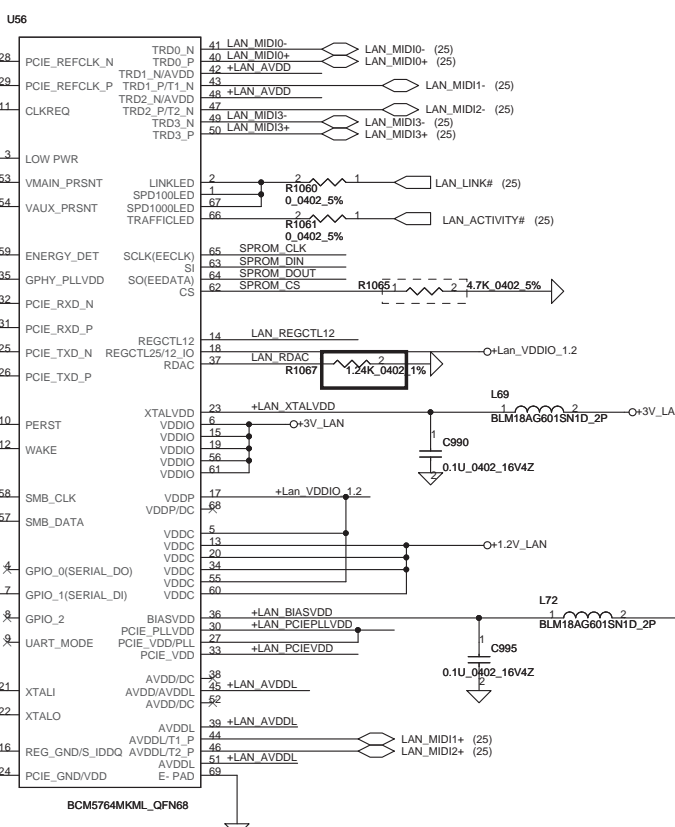
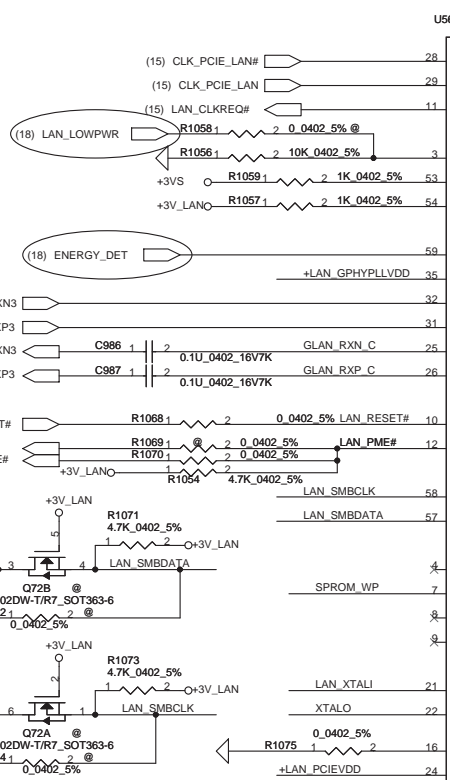
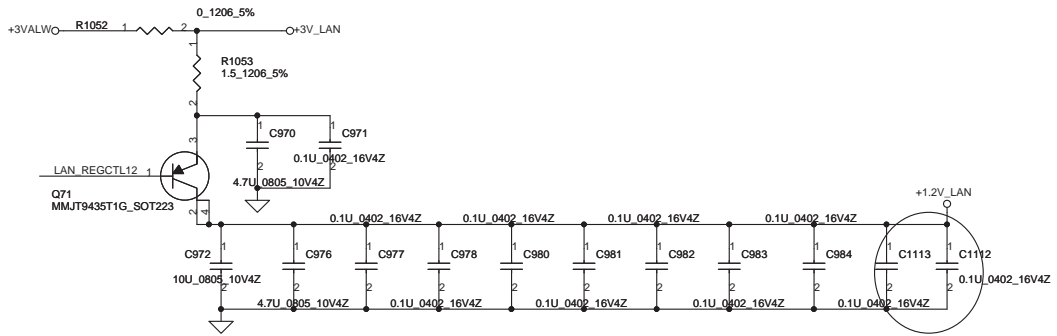
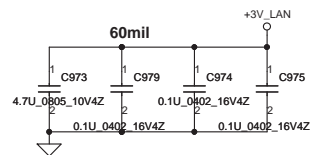
HDMI Connector



LAN Connector

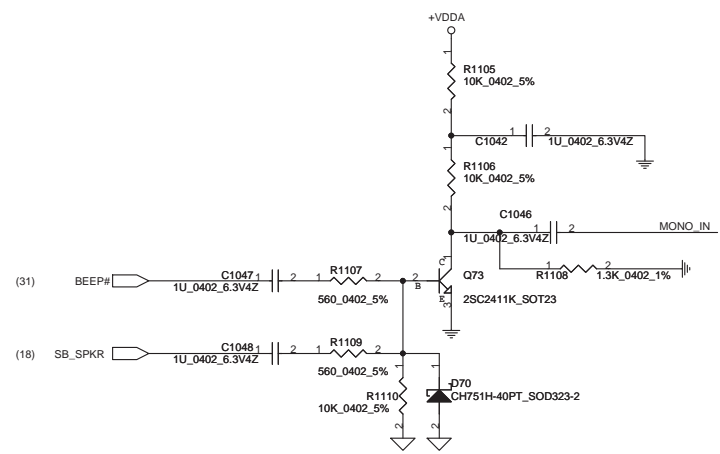


Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				SCHEMATIC_MB A5011
Size	Document Number	Rev	B	
	401673			
Date:	Thursday, April 30, 2009	Sheet	25	of 43

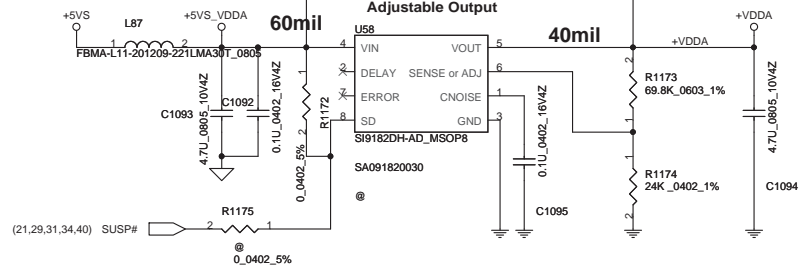


Place closed to Pin2 & Pin59

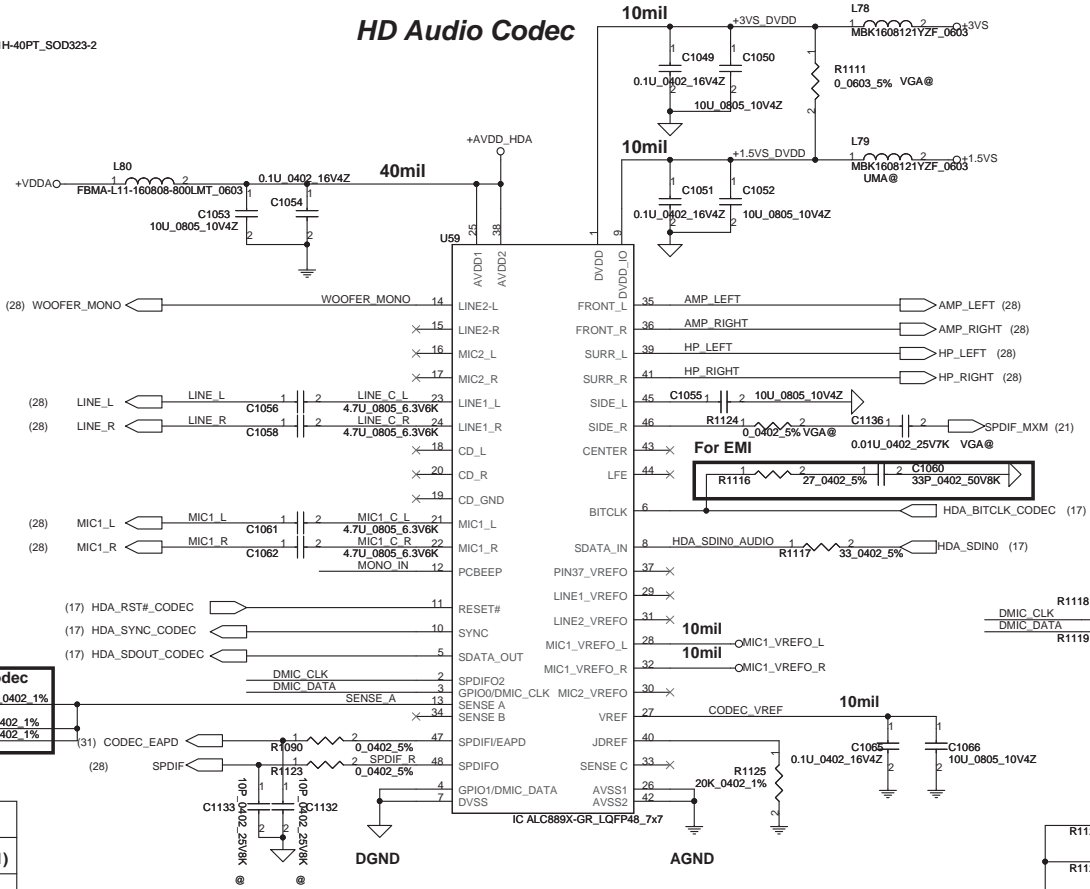
Security Classification		Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Compat Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF THE COMPANY 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.				Document Number	Rev
				401673	B
Date:	Thursday, April 30, 2009	Sheet	26	of 43	



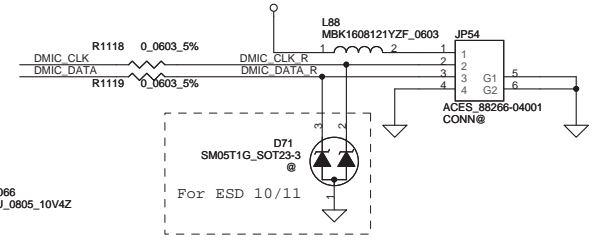
Regulator for CODEC



HD Audio Codec



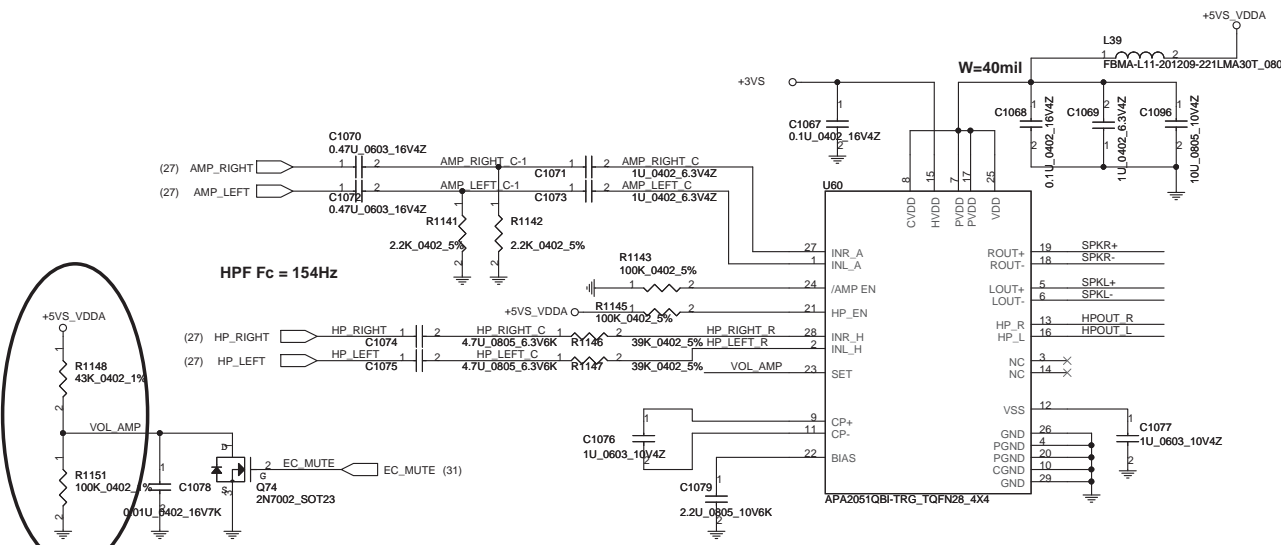
Digital MIC



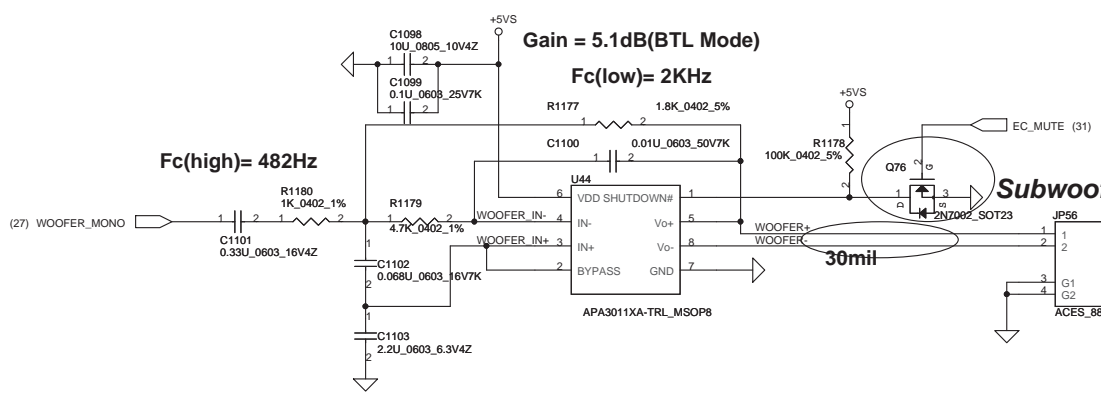
Place close to Codec

Sense Pin	Impedance	Codec Signals
SENSE A	39.2K	PORT-A (PIN 39, 41)
	20K	PORT-B (PIN 21, 22)
	10K	PORT-C (PIN 23, 24)
	5.1K	PORT-D (PIN 35, 36)
SENSE B	39.2K	PORT-E (PIN 14, 15)
	20K	PORT-F (PIN 16, 17)
	10K	PORT-G (PIN 43, 44)
	5.1K	PORT-H (PIN 45, 46)

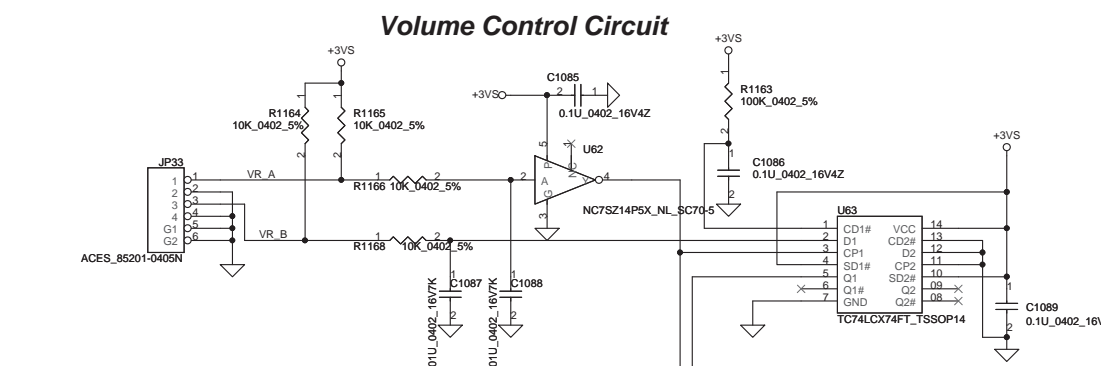
Security Classification	Compal Secret Data		Title	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				SCHEMATIC, MB A5011 Document Number: 401673 Date: Thursday, April 30, 2009 Sheet 27 of 43



Gain = 10dB

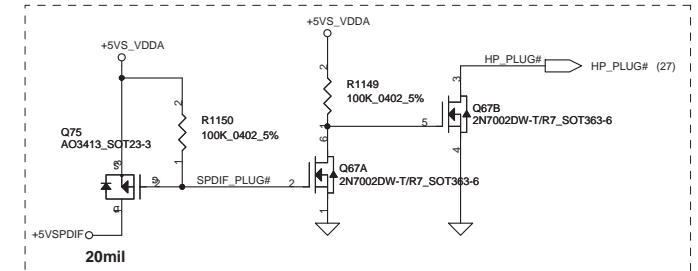
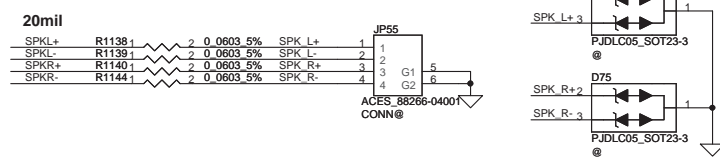


Subwoofer Conn.

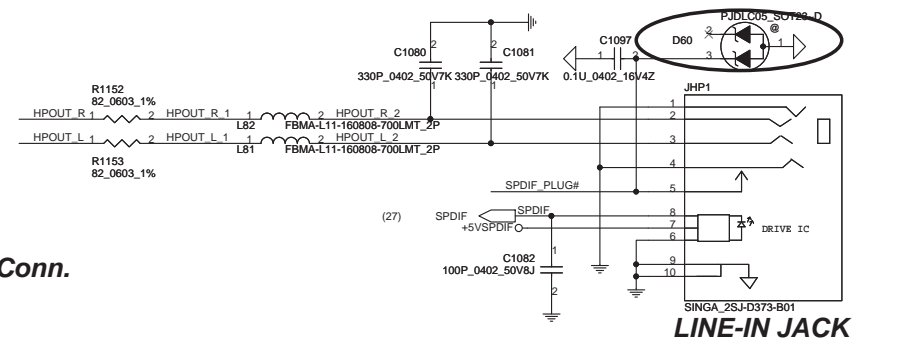


Volume Control Circuit

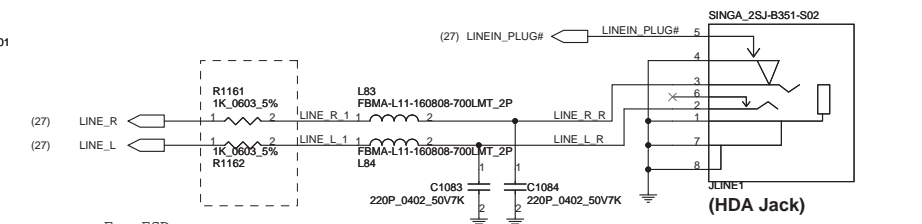
Int. Speaker Conn.



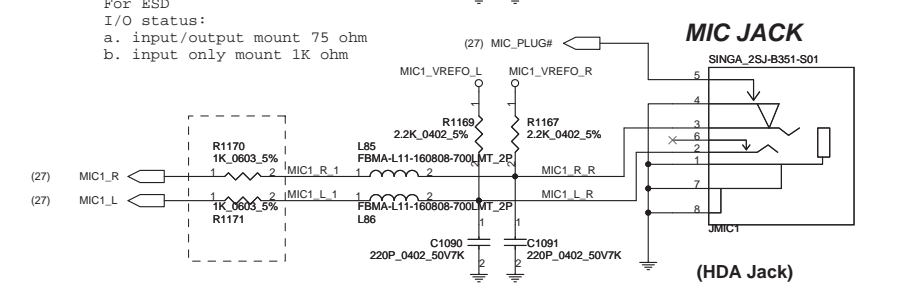
SPDIF Out JACK
LINE Out/Headphone Out



LINE-IN JACK



(HDA Jack)



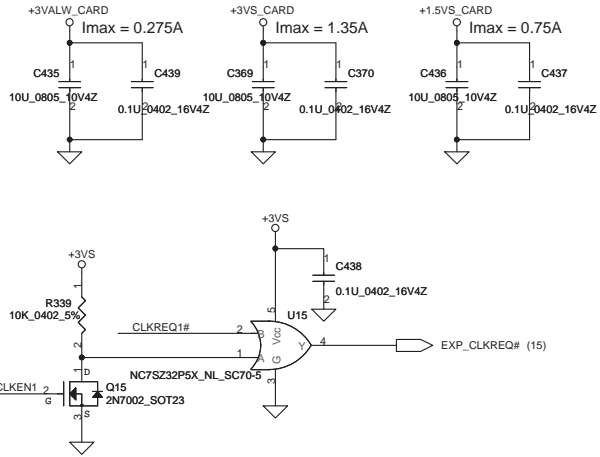
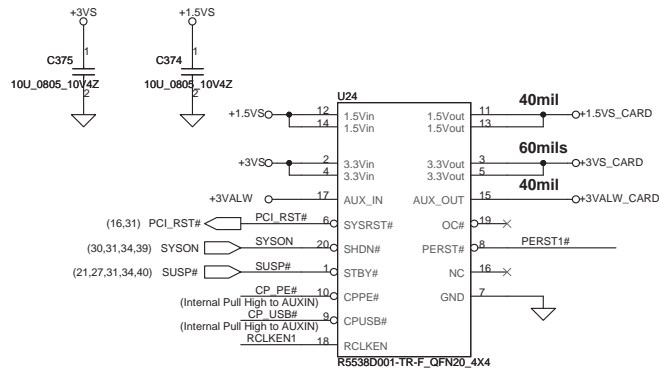
MIC JACK

(HDA Jack)

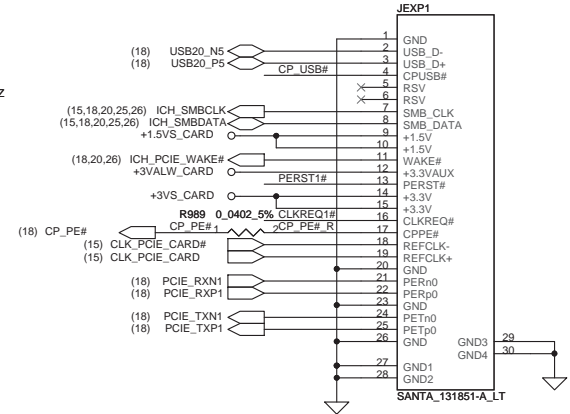
For ESD I/O status:
a. input/output mount 75 ohm
b. input only mount 1K ohm

Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2007/09/20	Deciphered Date	2008/09/20	SCHEMATIC,MB A5011	
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.					
Rev	B	Document Number	401673	Rev	B
Date:	Thursday, April 30, 2009	Sheet	28	of	43

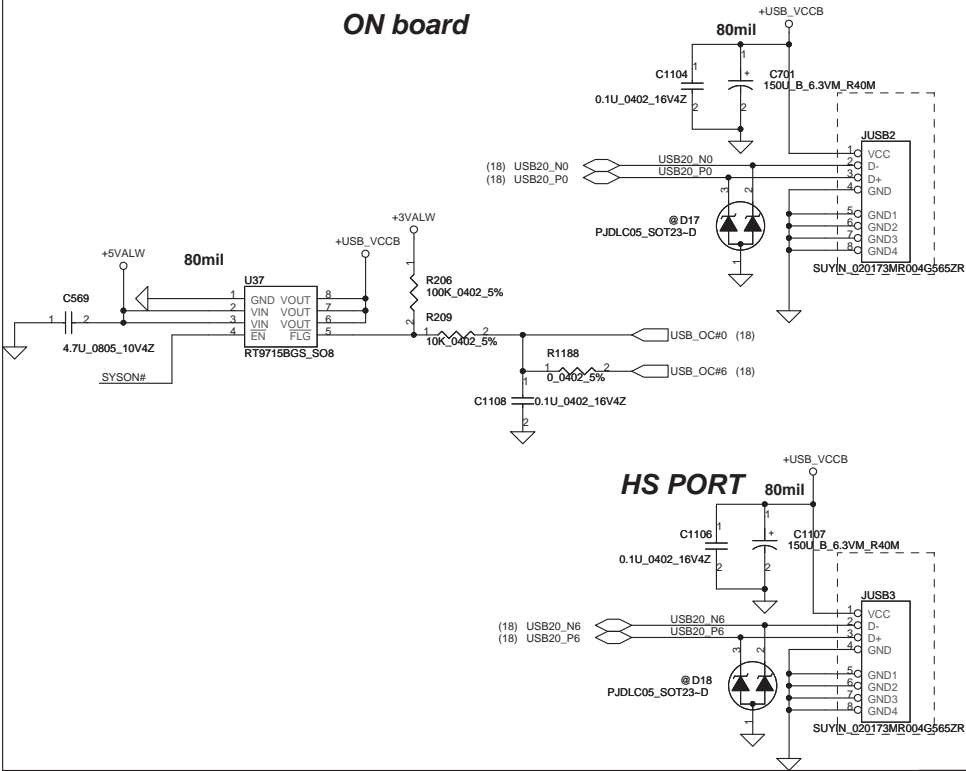
New Card Power Switch



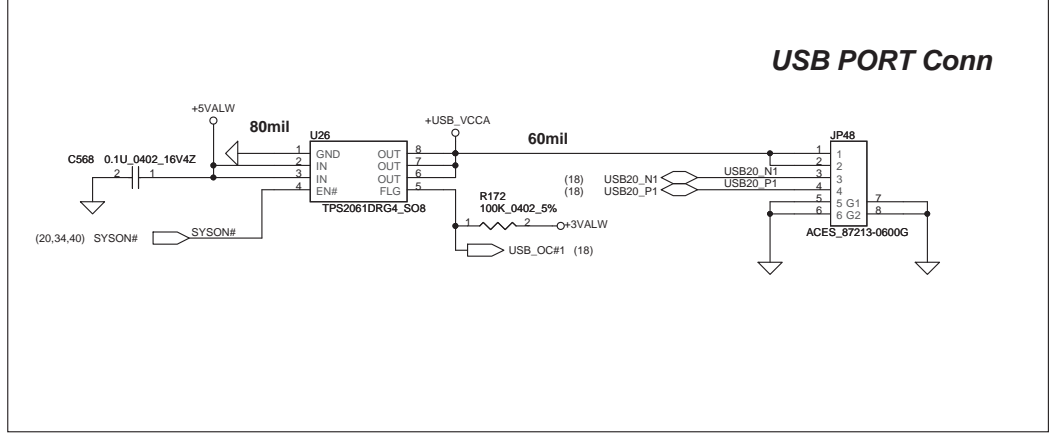
New Card Socket (Left/TOP)



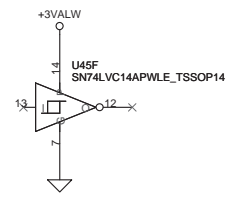
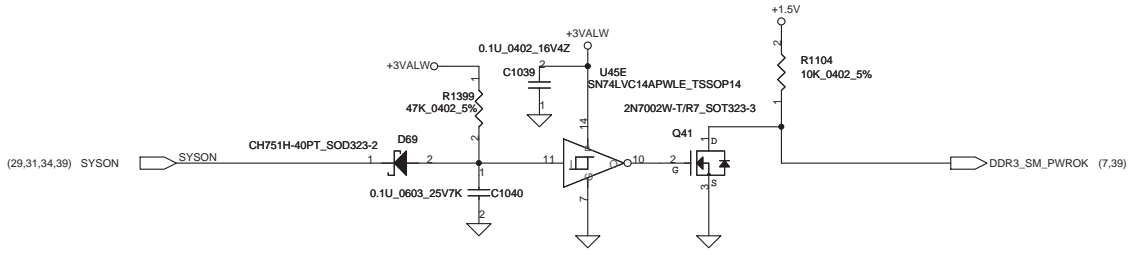
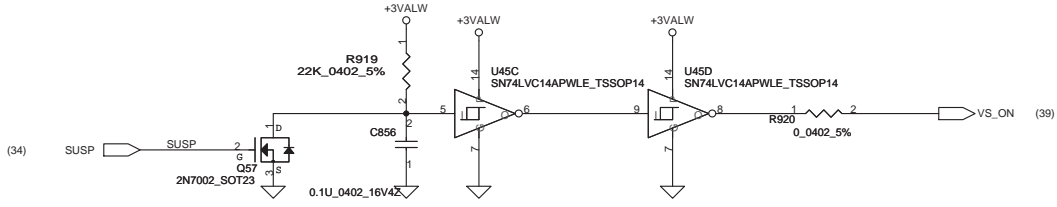
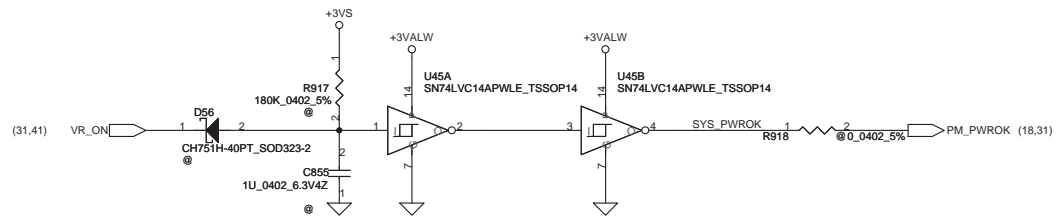
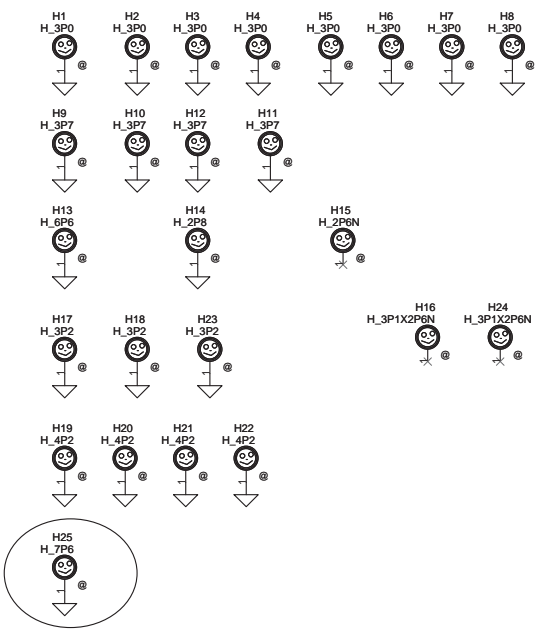
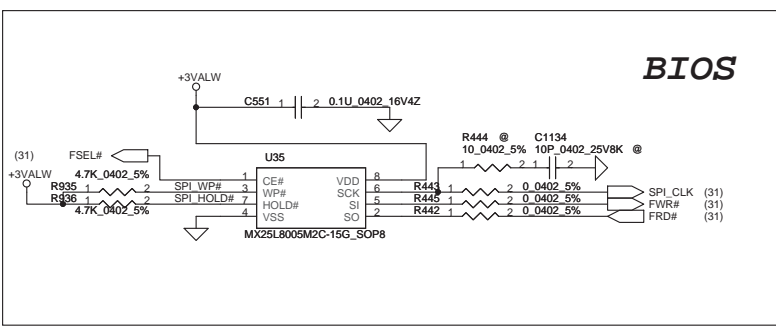
ON board



USB PORT Conn

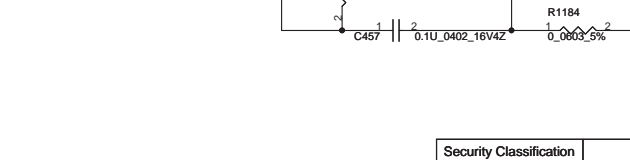
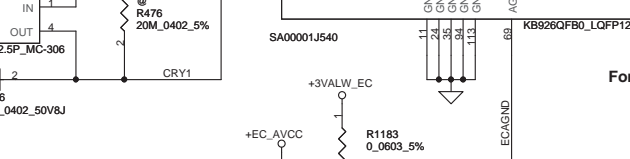
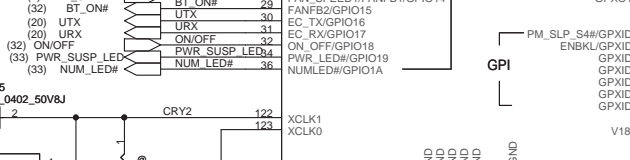
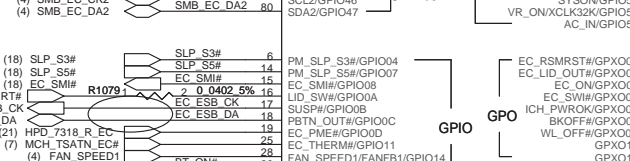
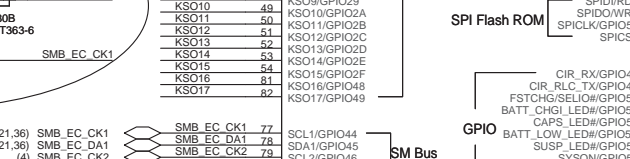
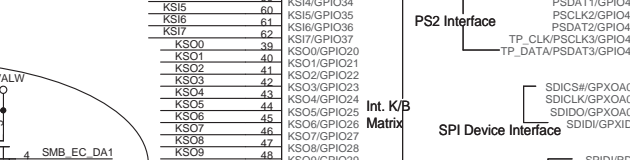
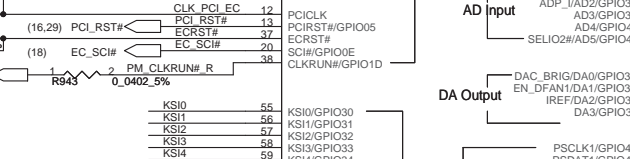
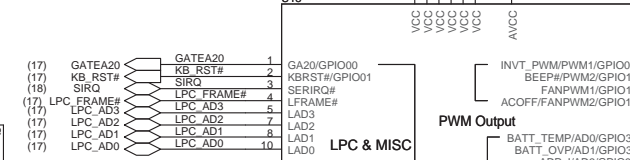
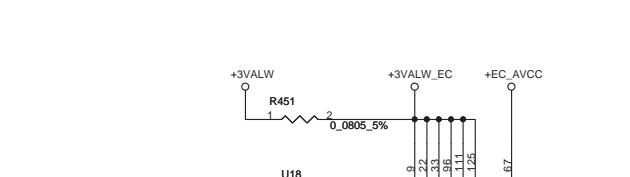
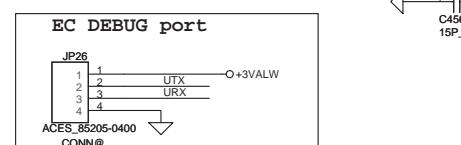
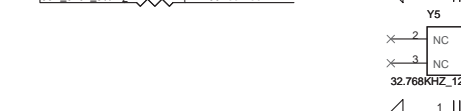
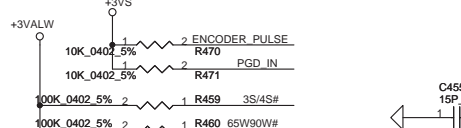
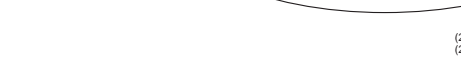
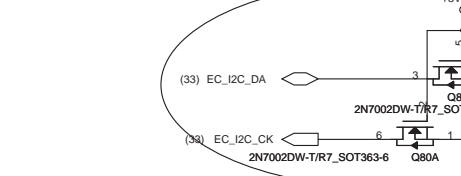
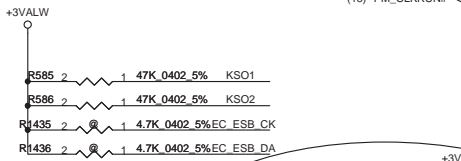
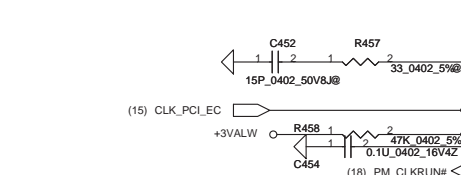
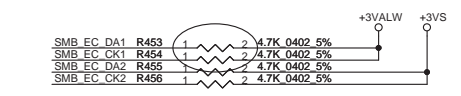
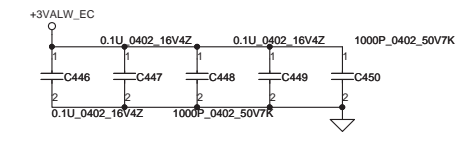


Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	SCHEMATIC_MB A5011	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
Date: Thursday, April 30, 2009			Document Number	401673	Rev B
Sheet 29			of 43		



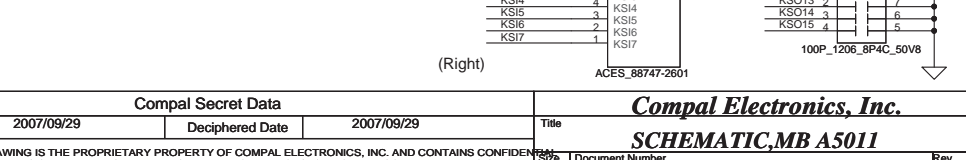
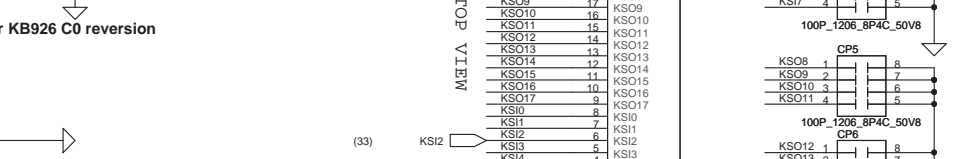
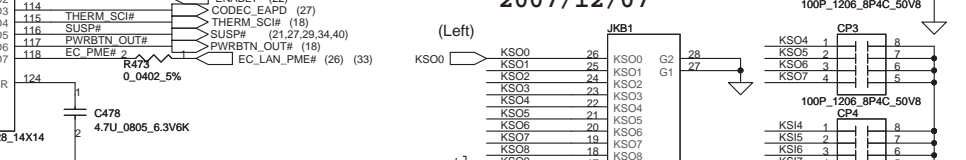
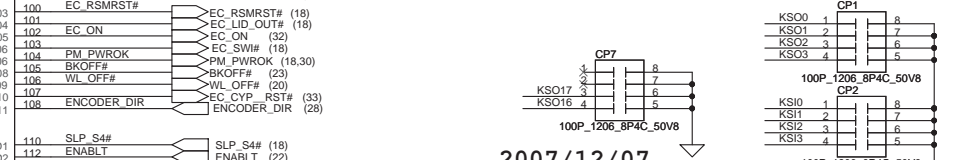
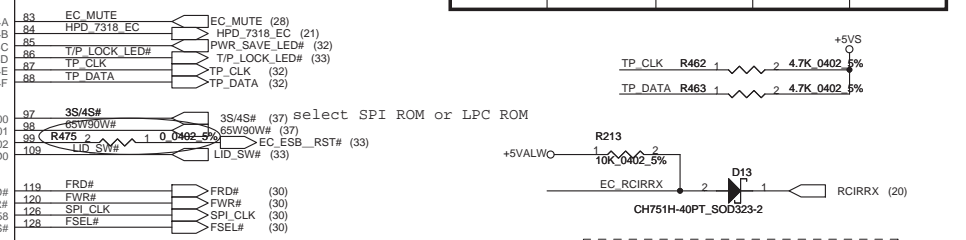
Security Classification		Compal Secret Data	
Issued Date	2007/09/29	Deciphered Date	2007/09/29
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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		Compal Electronics, Inc.	
Document Number		SCHEMATIC_MB A5011	
Date:	Thursday, April 30, 2009	Rev	B
Sheet	30	of	43

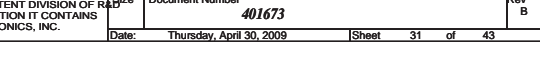
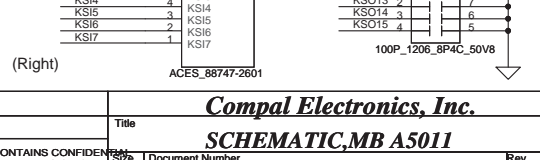
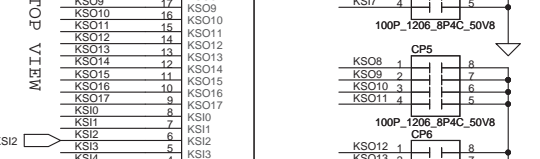
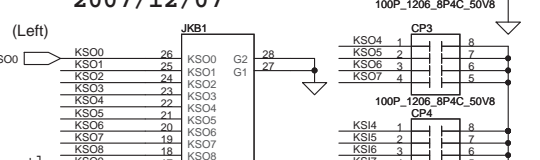
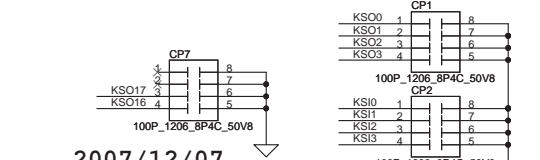
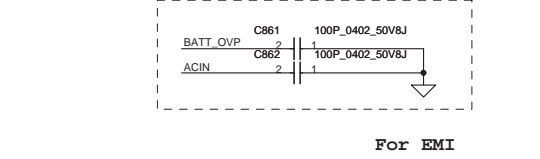
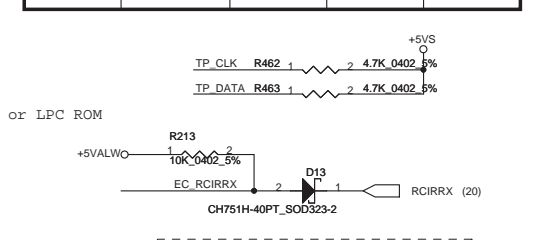


VCC	3.3V +/- -5%
Ra	100K +/- -5%

Board ID	Rb	V _{AD_BTD} min	V _{AD_BTD} typ	V _{AD_BTD} max
0	0	0V	0V	0.155V
1	8.2K +/- -5%	0.168V	0.250V	0.362V
* 2	18K +/- -5%	0.375V	0.503V	0.621V
3	33K +/- -5%	0.634V	0.819V	0.945V
4	56K +/- -5%	0.958V	1.185V	1.359V
5	100K +/- -5%	1.372V	1.650V	1.838V
6	200K +/- -5%	1.851V	2.200V	2.420V
7	NC	2.433V	3.300V	3.300V

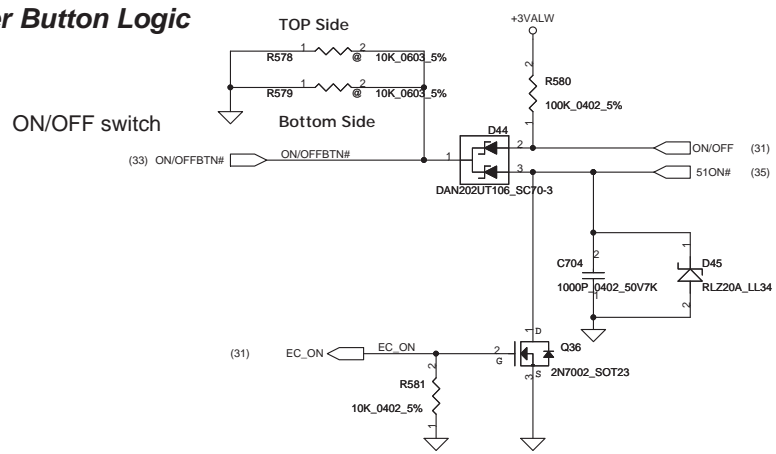


VCC	3.3V +/- -5%
Ra	100K +/- -5%

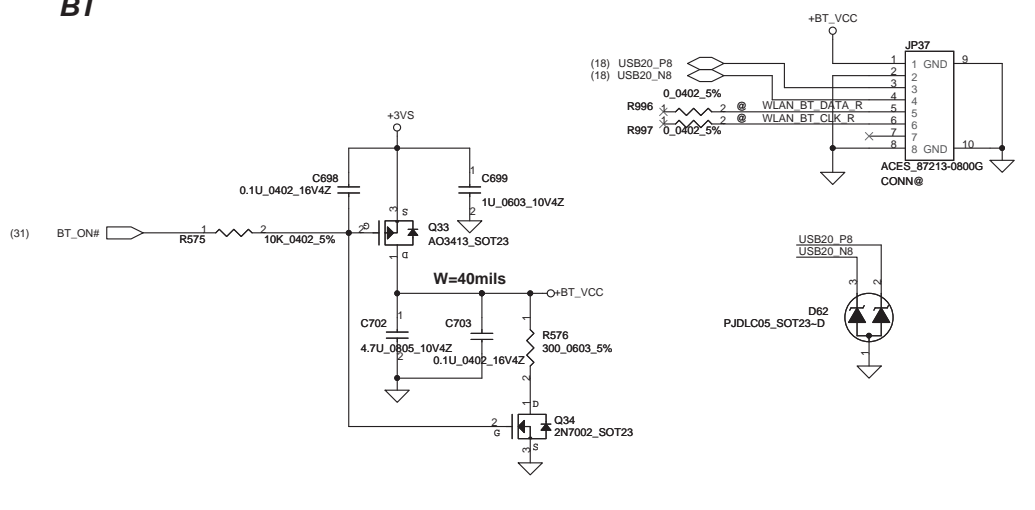


Security Classification	Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	2007/12/07
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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.				
Document Number	401673			Rev B
Date	Thursday, April 30, 2009	Sheet	31	of 43

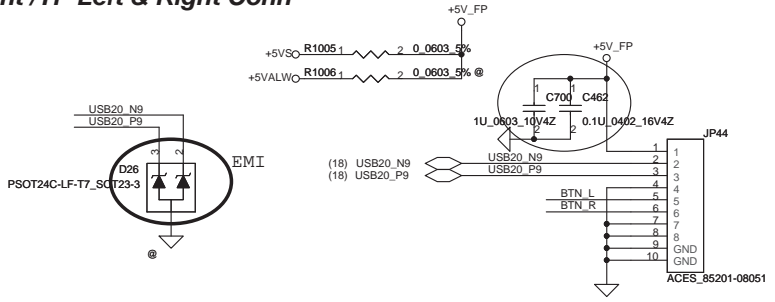
Power Button Logic



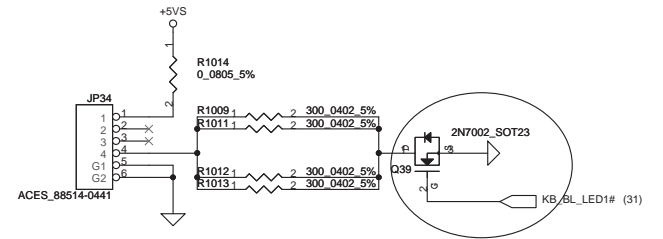
BT



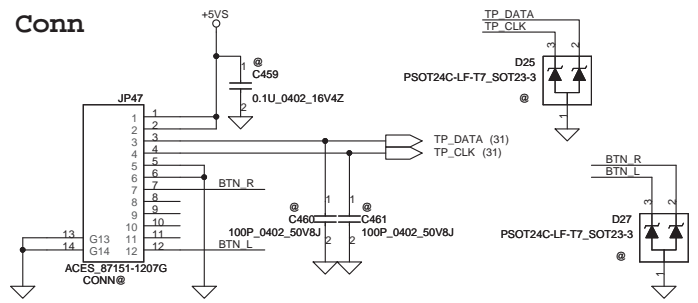
Finger Print /TP Left & Right Conn



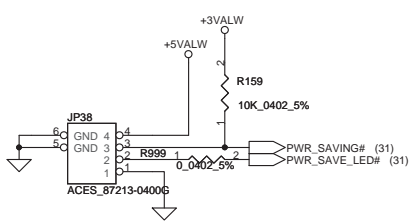
KB back light Conn



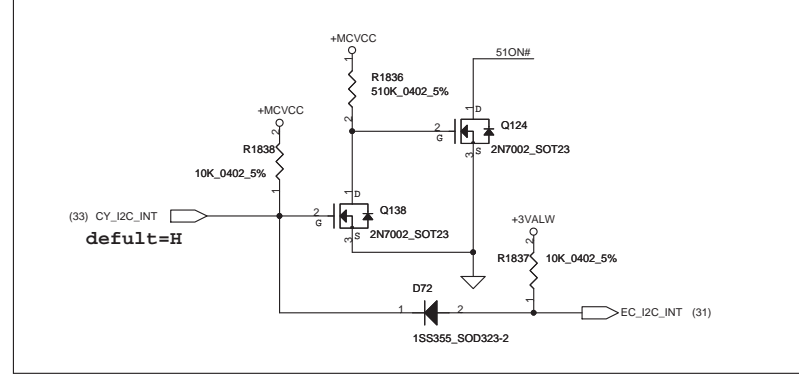
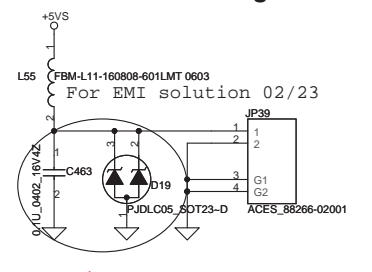
T/P Board Conn



POWER SAVING Conn

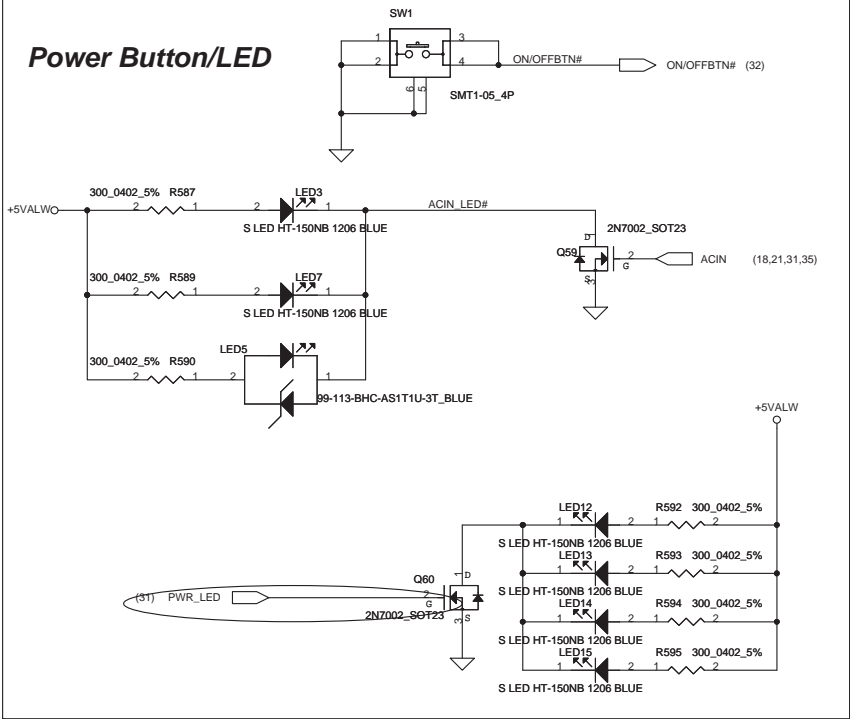


ACER LOGO BackLight Conn

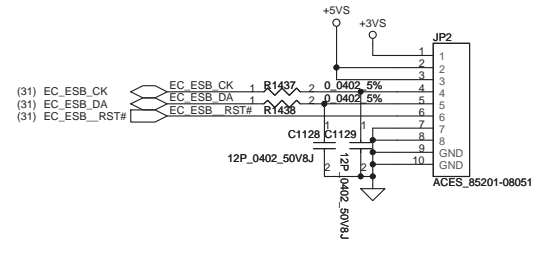


Security Classification		Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number	Rev
				401673	B
Date:	Thursday, April 30, 2009	Sheet	32	of	43

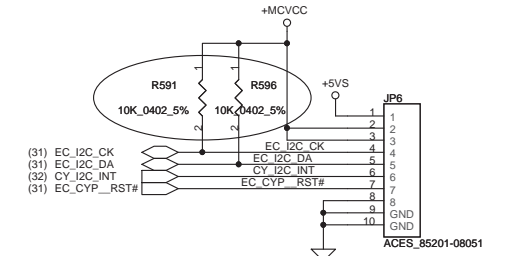
Power Button/LED



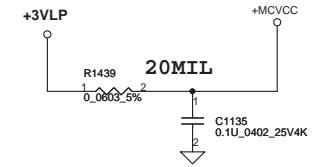
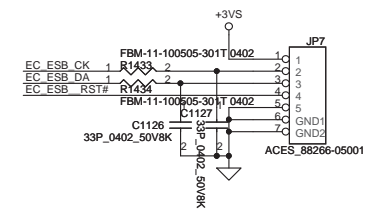
CAP Sانسور left(ENE)



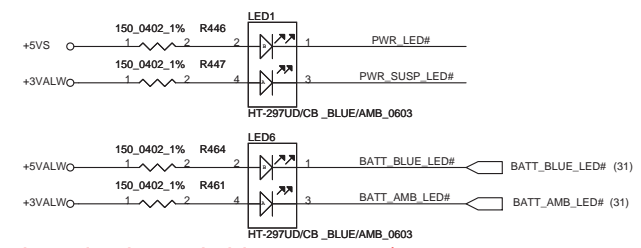
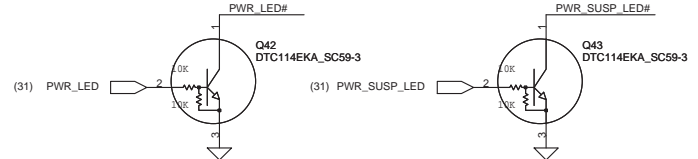
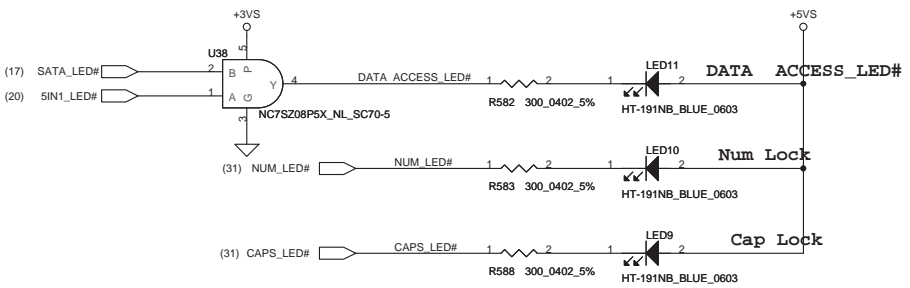
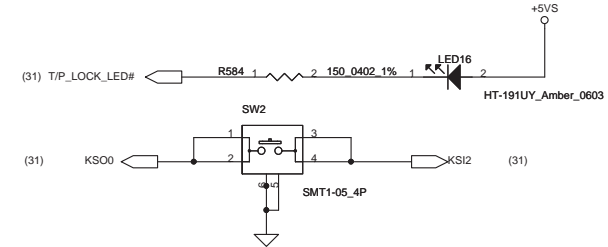
CAP Sانسور right(Cypress)



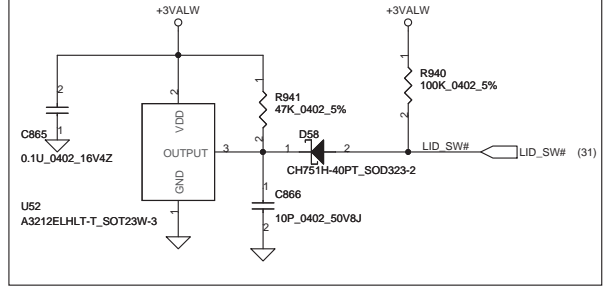
CAP Sانسور B COVER(ENE)



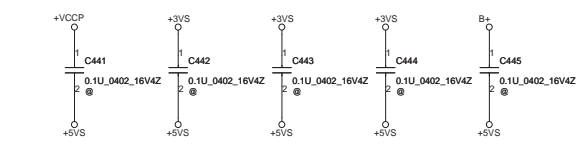
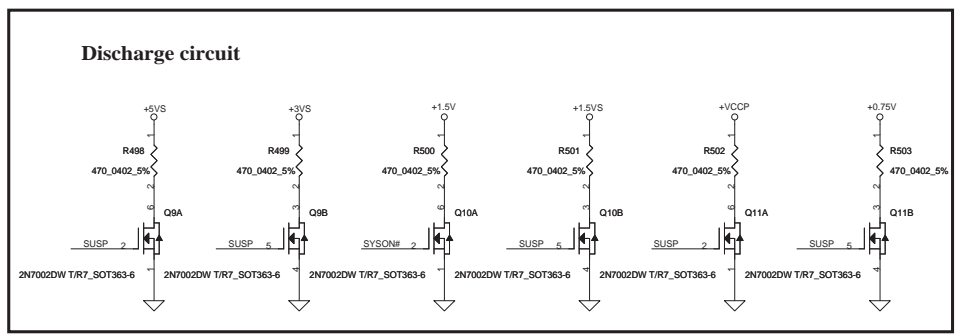
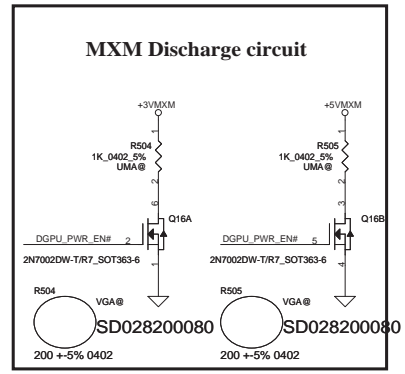
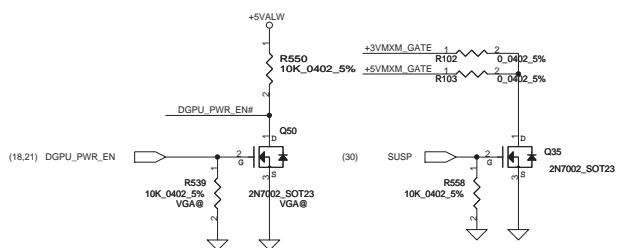
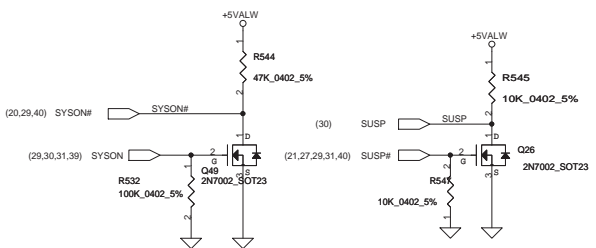
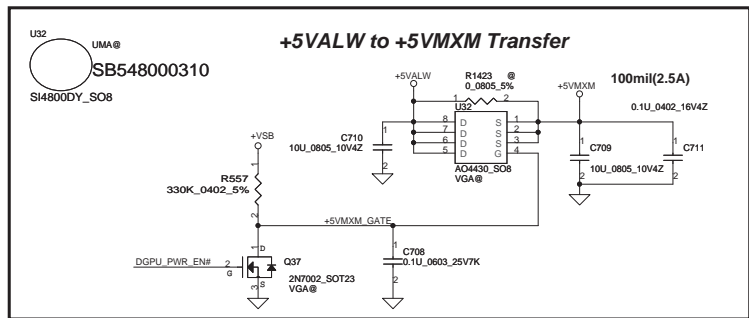
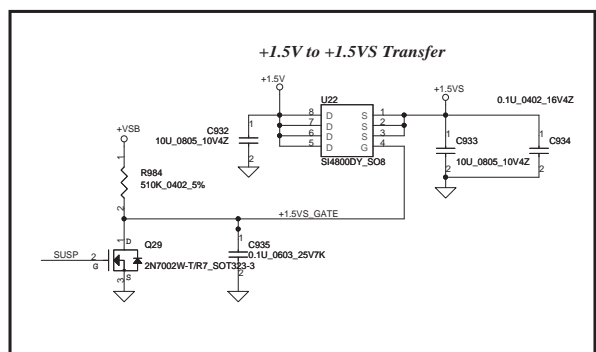
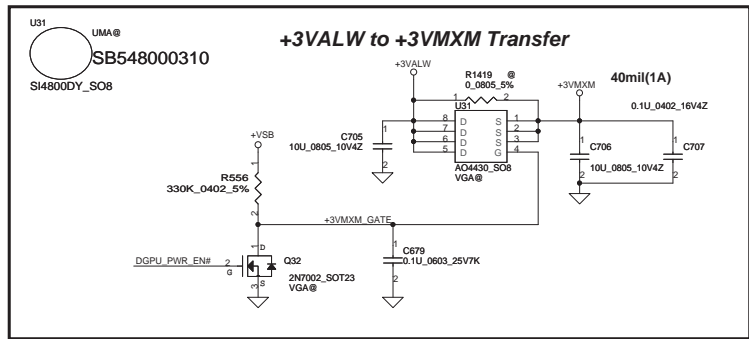
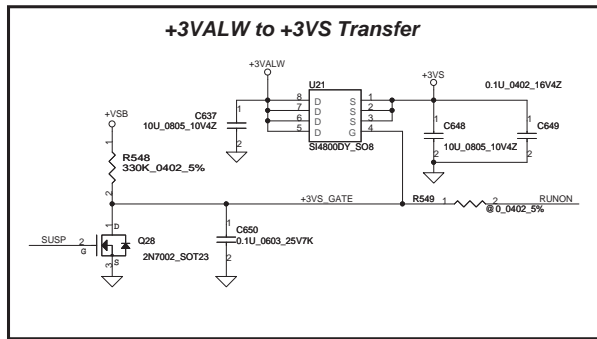
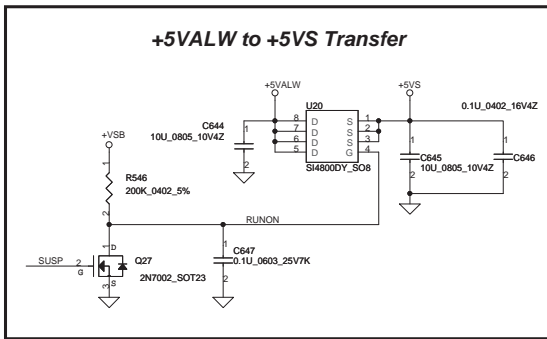
T/P Lock Button/LED



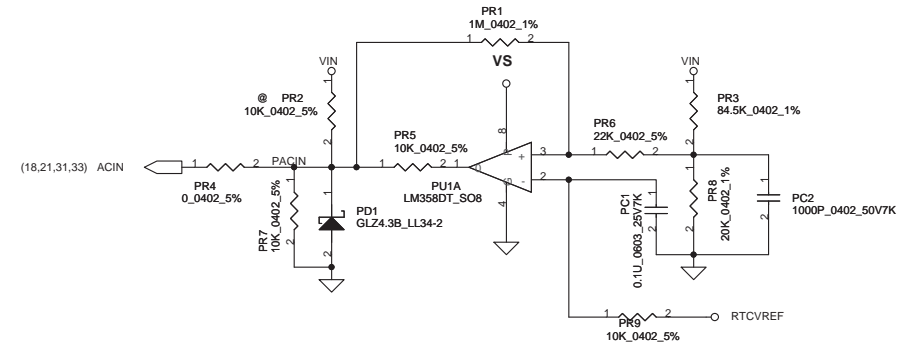
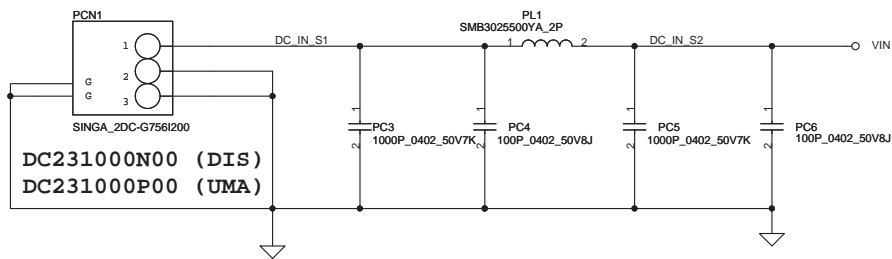
(Hall Effect Switch)



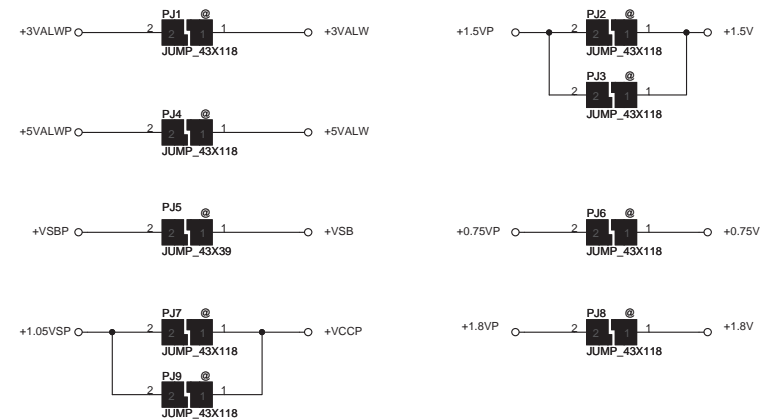
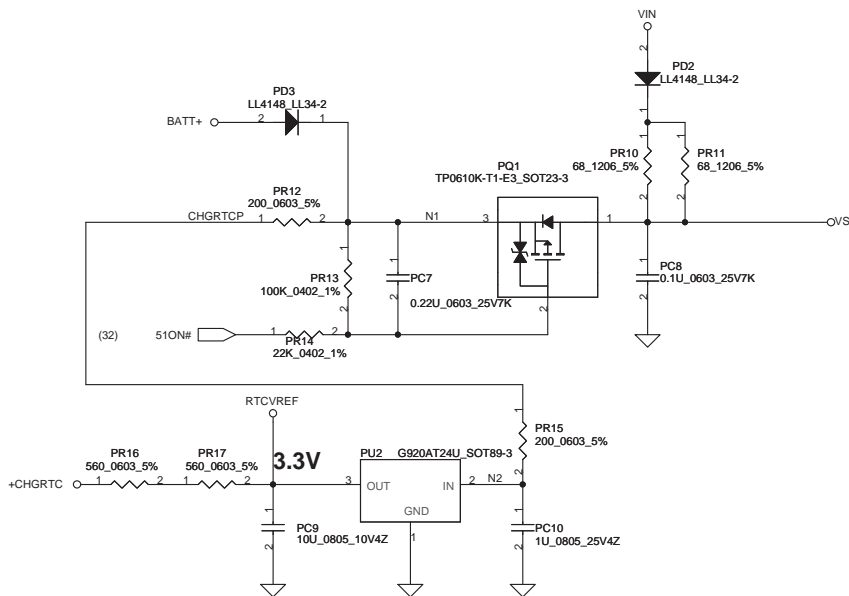
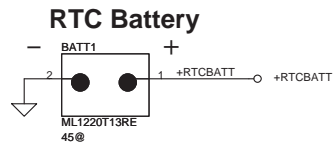
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Title
				SCHMATIC,MB A5011
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF RESEARCH AND DEVELOPMENT 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.			Document Number	Rev
			401673	B
Date:	Thursday, April 30, 2009	Sheet	33	of 43



Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	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.				401673
Date:	Thursday, April 30, 2009	Sheet	34	of 43

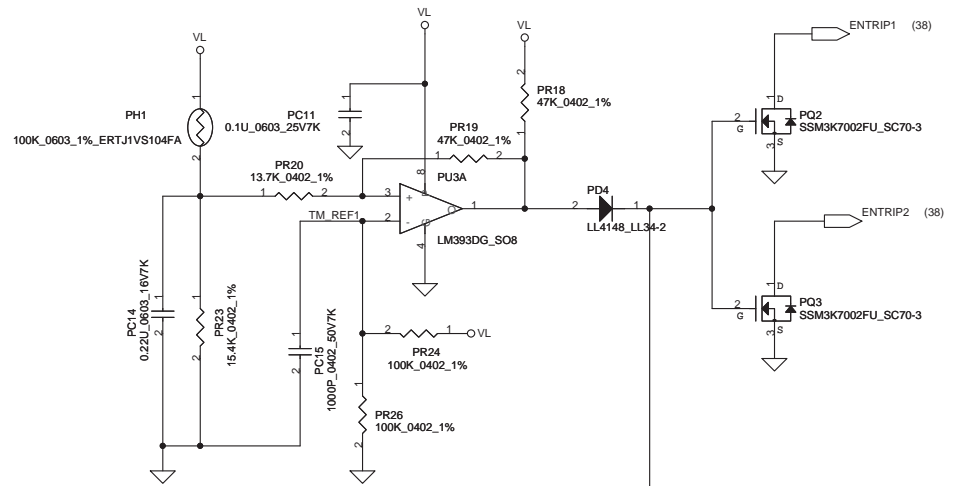


Vin Detector			
	Min.	Typ	Max.
H-->L	17.208V	17.212V	17.217V
L-->H	17.879V	17.894V	17.909V

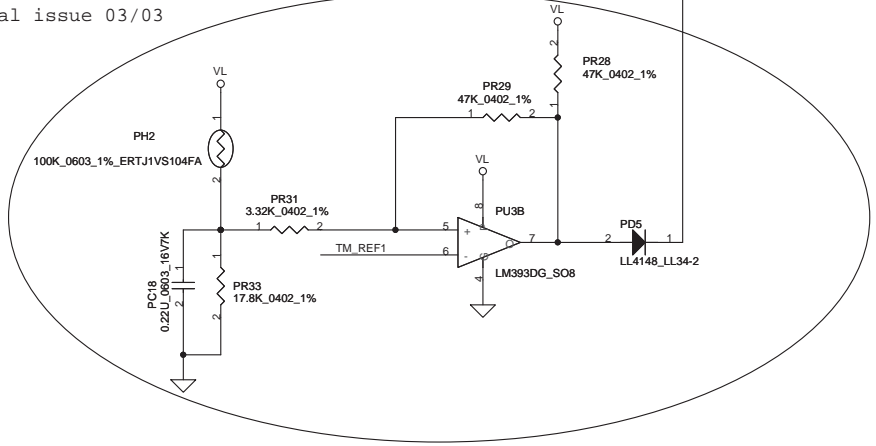


Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Title
				SCHEMATIC,MB A5011
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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.				Document Number
				401673
				Rev B
Date: Thursday, April 30, 2009				Sheet 35 of 43

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



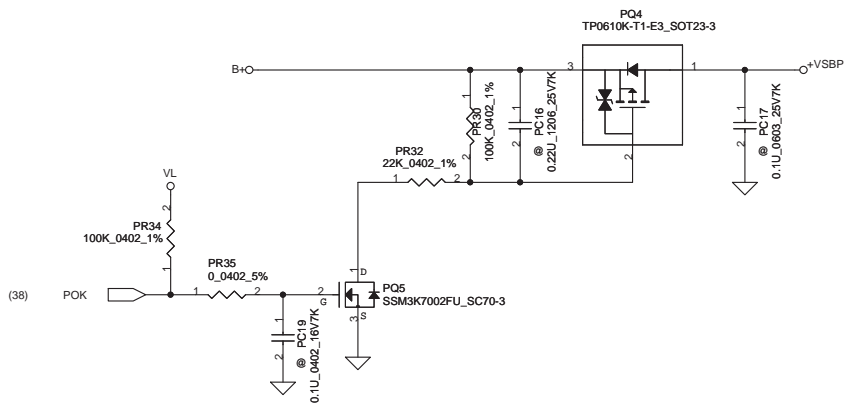
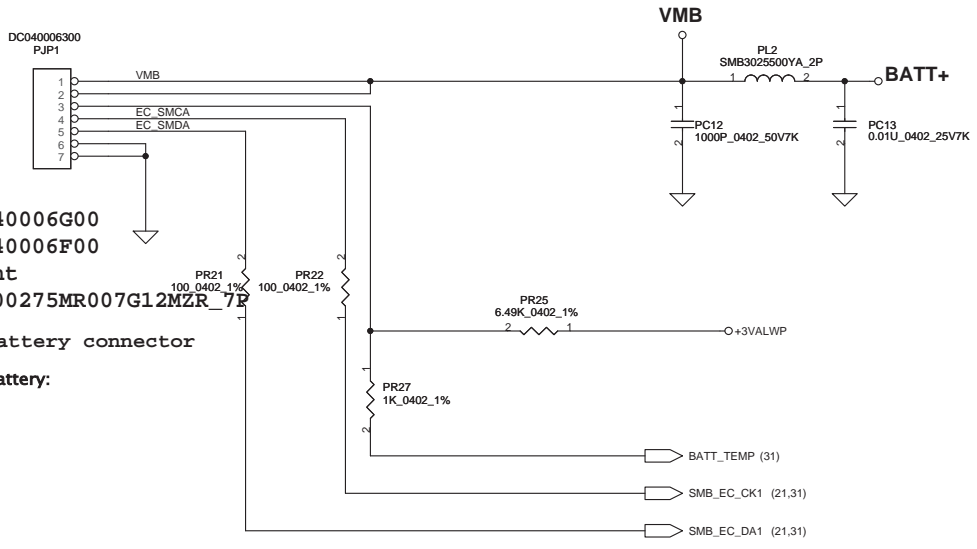
PH2 near main Battery CONN :
 BAT. thermal protection at 76 degree C
 Recovery at 72 degree C



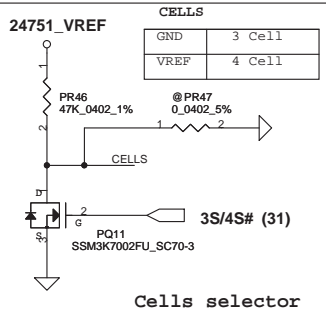
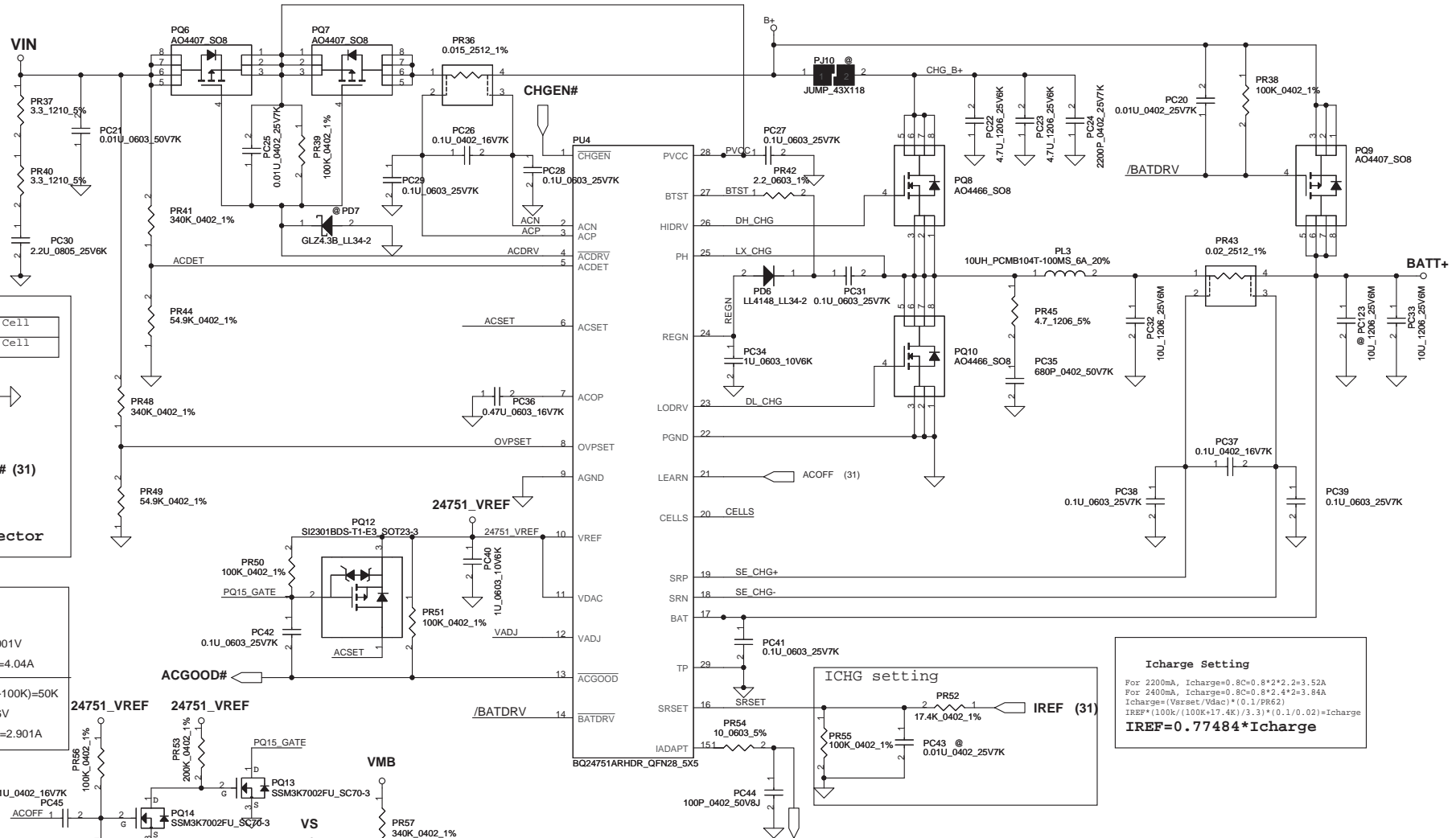
solve battery thermal issue 03/03

改 DC040006G00
 2nd DC040006F00
 Footprint
 SUYIN_200275MR007G12MZR_7P

PJP1 battery connector
 SMART Battery:
 1.VMB
 2.VMB
 3.TSA
 4.SMC
 5.SMD
 6.GND
 7.GND

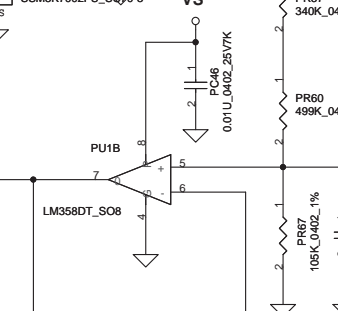
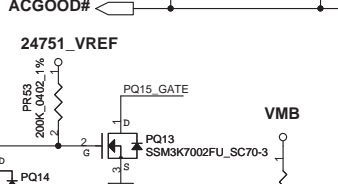
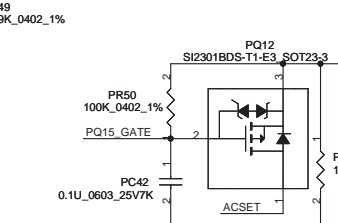
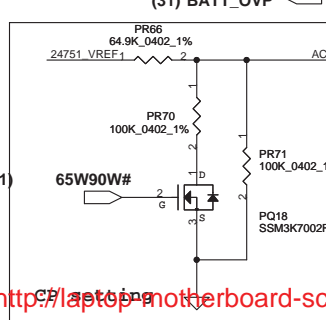


Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number
				401673
				Rev B
Date: Friday, May 15, 2009		Sheet 36 of 43		



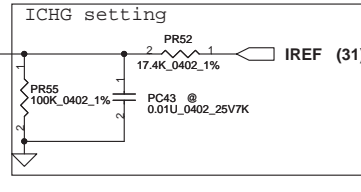
CP Point Setting
 CP point=ladapter*85%
 90W adapter
 $V_{acset}=3.3 \cdot (100K / (64.9K + 100K)) = 2.001V$
 $CP\ Point = (V_{acset} / V_{vdac}) \cdot (0.1 / PR56) = 4.04A$
 65W adapter $R = (100K \cdot 100K) / (100K + 100K) = 50K$
 $V_{acset} = 3.3 \cdot (50K / (50K + 64.9K)) = 1.436V$
 $CP\ POINT = (1.436V / 3.3V) \cdot (0.1 / 0.015) = 2.901A$

Input OVP : 22.3V
 Input UVP : 17.26V
 Fsw : 300KHz

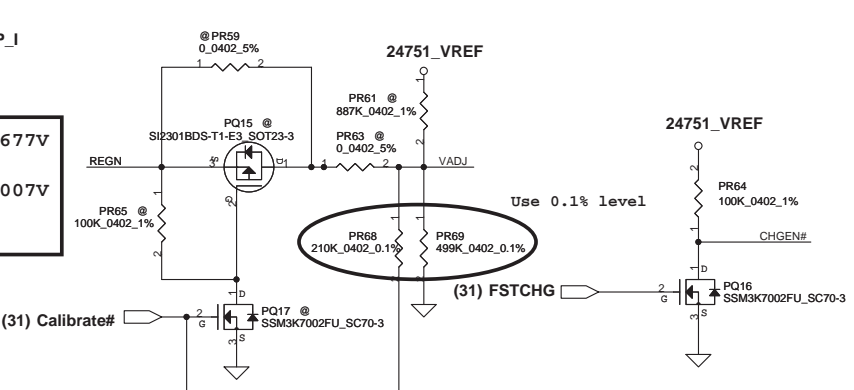


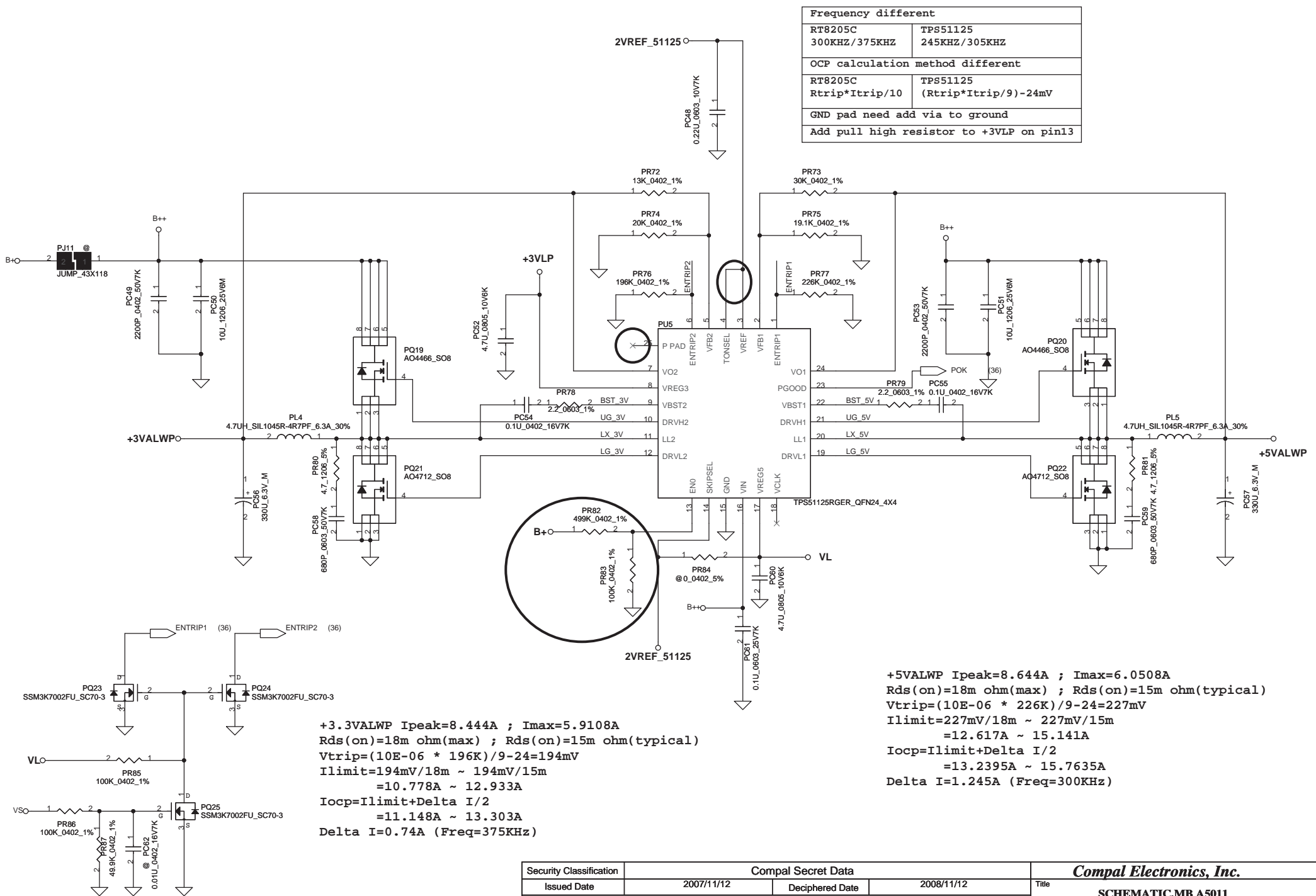
Charger ADJ	Calibrate#
4.0V	L=0V
4.2V	1.8755V
4.3V	2.8132V
4.35V	H=3.3V

LI-4S : 18.0V --- BATT-OVP=2.677V
 BATT-OVP=0.1487*VMB
 LI-3S : 13.5V --- BATT-OVP=2.007V
 BATT-OVP=0.1487*VMB
 Per cell=3.5V



Icharge Setting
 For 2200mA, $I_{charge} = 0.8C \cdot 0.8 \cdot 2 \cdot 2 = 3.52A$
 For 2400mA, $I_{charge} = 0.8C \cdot 0.8 \cdot 2 \cdot 4 = 3.84A$
 $I_{charge} = (V_{refset} / V_{dac}) \cdot (0.1 / PR62)$
 $I_{REF} = (100K / (100K + 17.4K)) / 3.3 \cdot (0.1 / 0.02) = I_{charge}$
 $I_{REF} = 0.77484 \cdot I_{charge}$



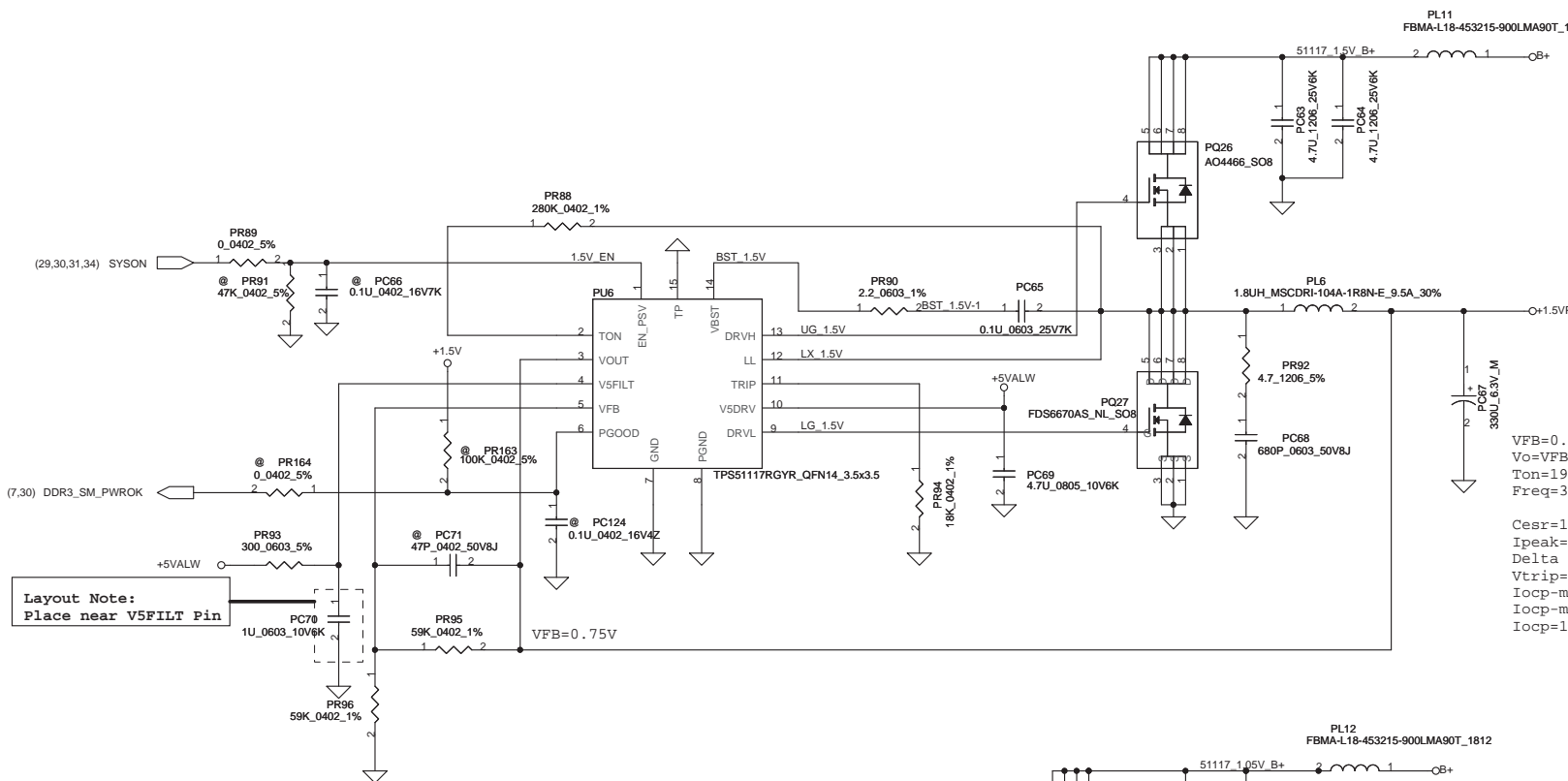


Frequency different	
RT8205C	TPS51125
300KHZ/375KHZ	245KHZ/305KHZ
OCP calculation method different	
RT8205C	TPS51125
Rtrip*Itrip/10	(Rtrip*Itrip/9)-24mV
GND pad need add via to ground	
Add pull high resistor to +3VLP on pin13	

+3.3VALWP Ipeak=8.444A ; Imax=5.9108A
 Rds(on)=18m ohm(max) ; Rds(on)=15m ohm(typical)
 Vtrip=(10E-06 * 196K)/9-24=194mV
 Ilimit=194mV/18m ~ 194mV/15m
 =10.778A ~ 12.933A
 Iocp=Ilimit+Delta I/2
 =11.148A ~ 13.303A
 Delta I=0.74A (Freq=375KHZ)

+5VALWP Ipeak=8.644A ; Imax=6.0508A
 Rds(on)=18m ohm(max) ; Rds(on)=15m ohm(typical)
 Vtrip=(10E-06 * 226K)/9-24=227mV
 Ilimit=227mV/18m ~ 227mV/15m
 =12.617A ~ 15.141A
 Iocp=Ilimit+Delta I/2
 =13.2395A ~ 15.7635A
 Delta I=1.245A (Freq=300KHZ)

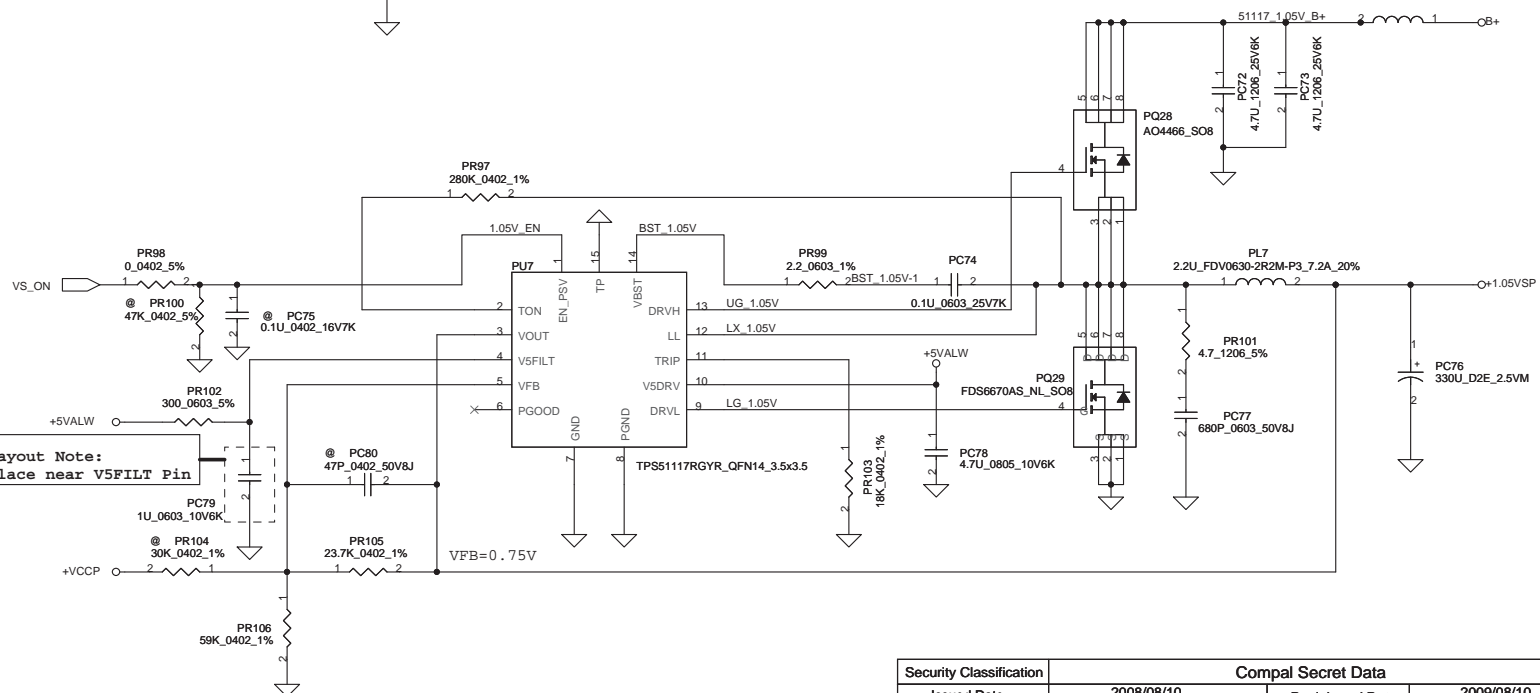
Security Classification				Compal Secret Data		Title	
Issued Date		2007/11/12		Deciphered Date		2008/11/12	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Date		Thursday, April 30, 2009	
Security Classification				Compal Secret Data		Title	
Issued Date				2007/11/12		Deciphered Date	
2008/11/12				Date		Thursday, April 30, 2009	
Document Number				401673		Rev B	
Sheet				38		of 43	



VFB=0.75V
 $V_o = VFB * (1 + PR95 / PR96) = 1.5V$
 $Ton = 19E-12 * Ron * (((2/3) * V_o + 150mV) / Vin) + 50ns = 4.68E-7$
 Freq=356KHz

Cesr=15m ohm
 Ipeak=13.67A Imax=9.569A
 $\Delta I = ((19.5 - 1.5) * (1.5 / 19.5)) / (L * Freq) = 2.429A$
 $V_{trip} = R_{trip} * 10uA = 0.180V$
 $I_{ocp_min} = V_{trip} / R_{dsonmax} * 1.1 + 2.429 = 15.161A$
 $I_{ocp_max} = V_{trip} / R_{dson typ} * 1.1 + 2.429 = 23.436A$
 $I_{ocp} = 15.161 - 23.436A$

Layout Note:
Place near V5FILT Pin

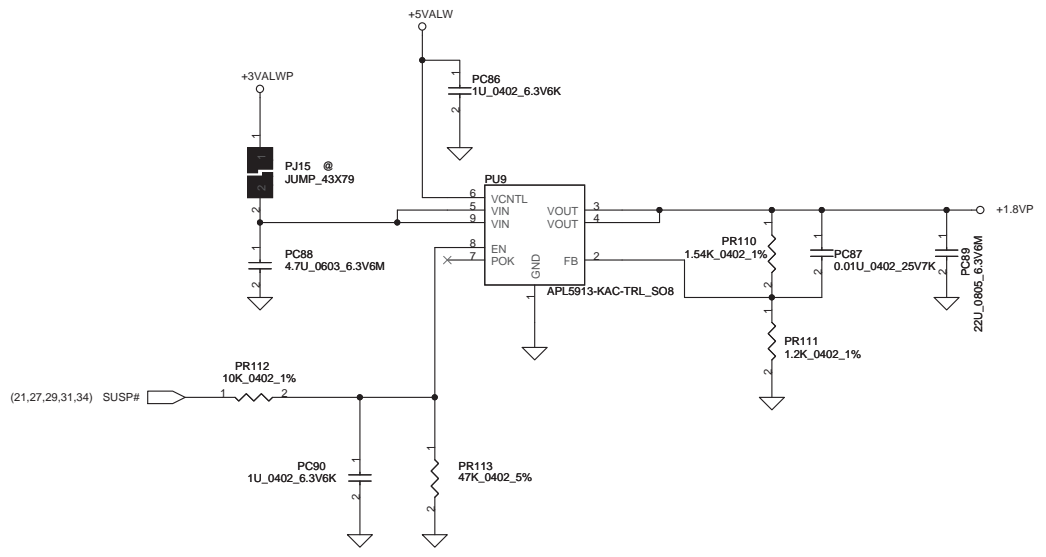
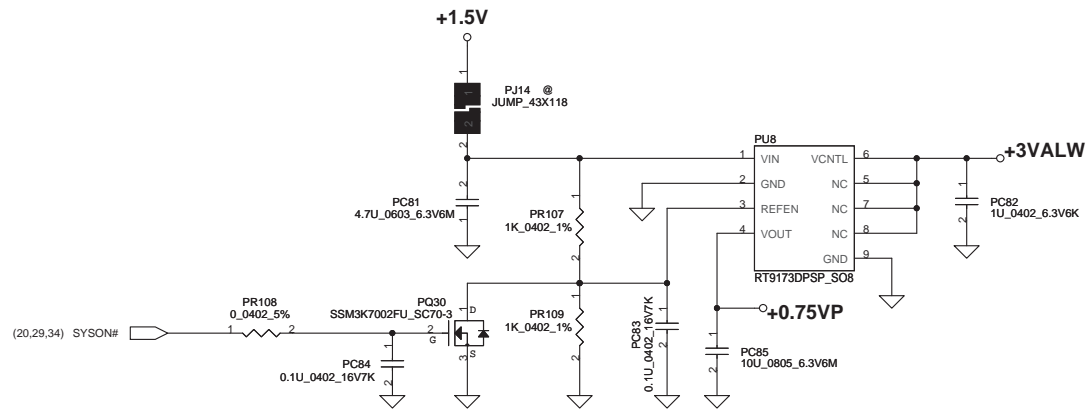


VFB=0.75V
 $V_o = VFB * (1 + PR105 / PR106) = 1.05V$
 $Ton = 19E-12 * Ron * (((2/3) * V_o + 150mV) / Vin) + 50ns = 3.54E-07$
 Freq=330KHz

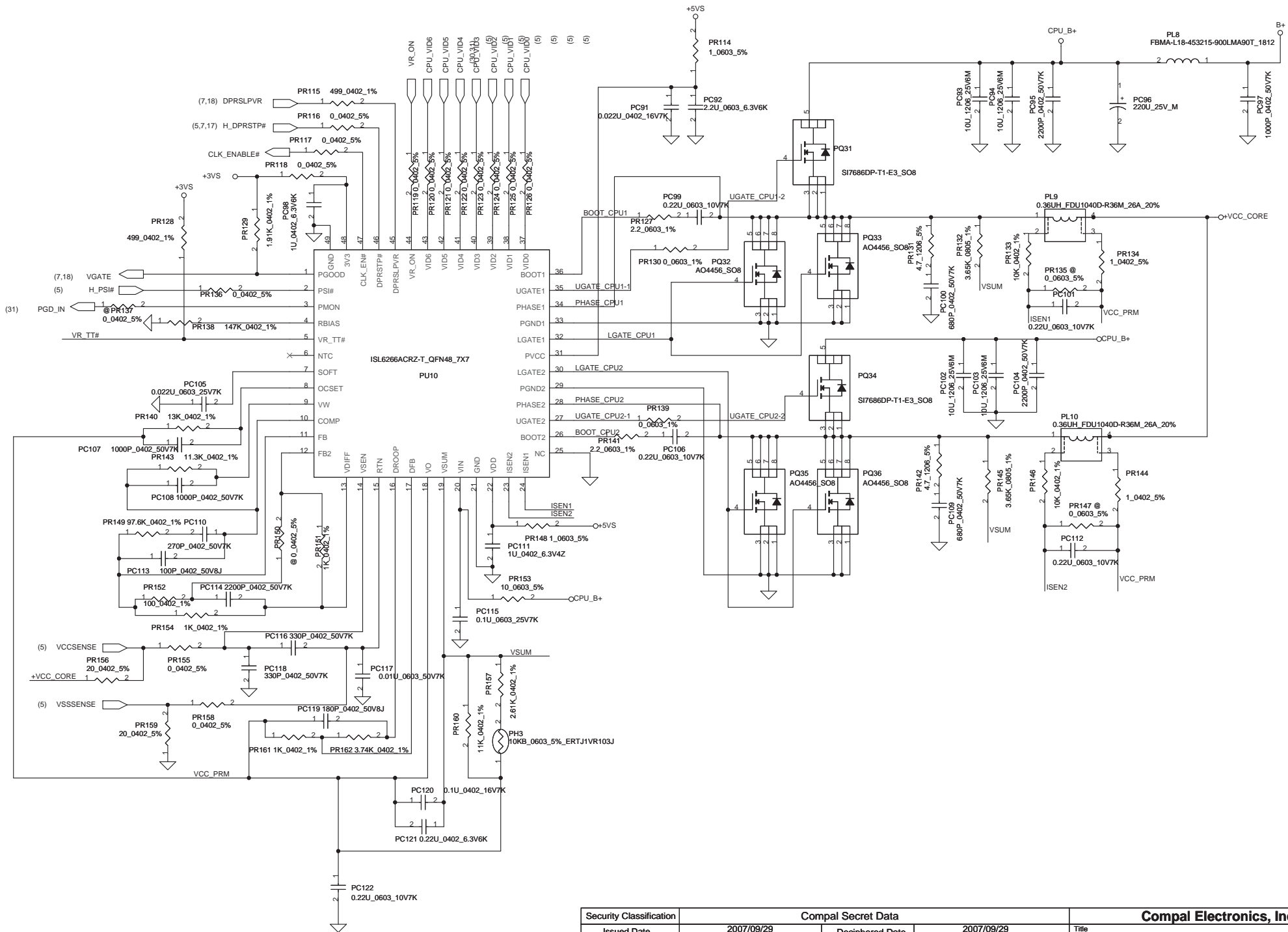
Cesr=15m ohm
 Ipeak=17.47A Imax=12.229A
 $\Delta I = ((19.5 - 1.05) * (1.05 / 19.5)) / (L * Freq) = 1.597A$
 $V_{trip} = R_{trip} * 10uA = 0.180V$
 $I_{ocp_min} = V_{trip} / R_{dsonmax} * 1.1 + 1.597 = 14.745A$
 $I_{ocp_max} = V_{trip} / R_{dson typ} * 1.1 + 1.597 = 23.019A$
 $I_{ocp} = 14.745 - 23.019A$

Layout Note:
Place near V5FILT Pin

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2008/08/10	Deciphered Date	2009/08/10	Title	SCHEMATIC,MB A5011
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 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.					
Rev	Document Number	Rev	Document Number	Rev	Document Number
A	401673	B	401673	B	401673
Date:	Thursday, April 30, 2009	Sheet	39	of	43



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	Title	SCHEMATIC,MB A5011
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.				Document Number	Rev
				401673	B
Date: Thursday, April 30, 2009		Sheet 40 of 43			



Security Classification	Compal Secret Data		Title	
Issued Date	2007/09/29	Deciphered Date	2007/09/29	SCHEMATIC.MB A5011
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.				Rev B
Date: Thursday, April 30, 2009			Sheet 41 of 43	401673

Version change list (P.I.R. List)

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1		Unite parts			PQ5,PQ11,PQ13,PQ14,PQ16,PQ17,PQ18,PQ30 Change from SB000006800 \ SB000009080 to SB000009610	2008 12/19	EVT
2		EMI request			Add PR80,PR81,PR131,PR142 SD001470B80 (S RES 1/4W 4.7 +-5% 1206)	2008 12/19	EVT
3		EMI request			Change PR78,PR79,PR127,PR141 from 0 to 2.2 (SD014220B80)	2008 12/19	EVT
4		Reduse 1.5V, 1.05V frequency to about 300KHz			Change PR88,PR97 from 180K to 280K(SD034280380)	2008 12/19	EVT
5	Output voltage error	Set 1.8V voltage			Change PR111 from 1.71K to 1.2K(SD034120180)	2008 12/19	EVT
6		Down size			Change PC88 from 0805 to 0603(SE093475K80)	2008 12/19	EVT
7	Heavy load efficiency fail	Raise heavy load efficiency		38	Change PL4,PL5 from 10uF to 4.7uF(SH000006J80)	2008 12/19	EVT
8		EMI request			Add PC58,PC59 S CER CAP 680P 50V K X7R 0603 (SE025681K80)	2008 12/19	EVT
9		EMI request			Add PC100,PC109 S CER CAP 680P 50V K X7R 0402 (SE074681K80)	2008 12/19	EVT
10				41	Change PR143 from 8.25K to 11.3K(SD034113280)	2008 12/19	EVT
11		Improve load line		41	Change PR162 from 4.42K to 3.74K(SD034374180)	2008 12/22	EVT
12		New charge voltage setting		37	Delete PQ15,PQ17,PR61,PR63,PR65	2008 12/23	EVT
13		New charge voltage setting		37	Add PR68 210K_0402_1%(SD034210380)	2008 12/23	EVT
14		New charge voltage setting		37	Change PR69 from 221K to 49.9K(SD034499280)	2008 12/23	EVT
15	Battery can't charge to 100%			37	Change PR69 from 49.9K to 499K(SD034499380)	2009 01/12	DVT
16	HDMI 5V voltage test fail(should 4.8~5.3V)	Raise 5V voltage		38	Change PR75 from 20K to 19.1K(SD034191280)	2009 01/17	DVT
17		Prevent spike		37	Add PD7	2009 01/21	DVT
18		Improve charge voltage		37	Change PR68, PR69 from 1% to 0.1%	2009 01/22	DVT
19		EMI request		39	Change PR90, PR99 from 0 to 2.2(SD014220B80) Enable PR92, PR101, PC68, PC77	2009 02/04	DVT
20		EMI request		39	Change PJ12 to PL11(SM010020720) Change PJ13 to PL12(SM010020720)	2009 02/04	DVT
21		EMI request		37	Change PR42 from 0 to 2.2(SD014220B80) Enable PR45, PC35	2009 02/04	DVT
22	Protect logic low	Set trigger point at 76°C		36	Enable PD5, PH2, PR28, PR29, PR31, PR33, PC18	2009 02/25	PVT
23							

2009
02/09
删除

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

Compal Electronics, Inc.			
Title			
SCHEMATIC,MB A5011			
Size	Document Number	Rev	B
	401673		
Date:	Thursday, April 30, 2009	Sheet	42 of 43

Version change list (P.I.R. List)

Page 2 of 2
for PWR

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							

PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS WAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.

Compal Electronics, Inc.			
Title		SCHEMATIC,MB A5011	
Size	Document Number	401673	Rev
			B
Date:	Thursday, April 30, 2009	Sheet	43 of 43