

Compal Confidential

Everest Schematics Document

Intel Merom Processor with Calistoga + DDRII + ICH7M

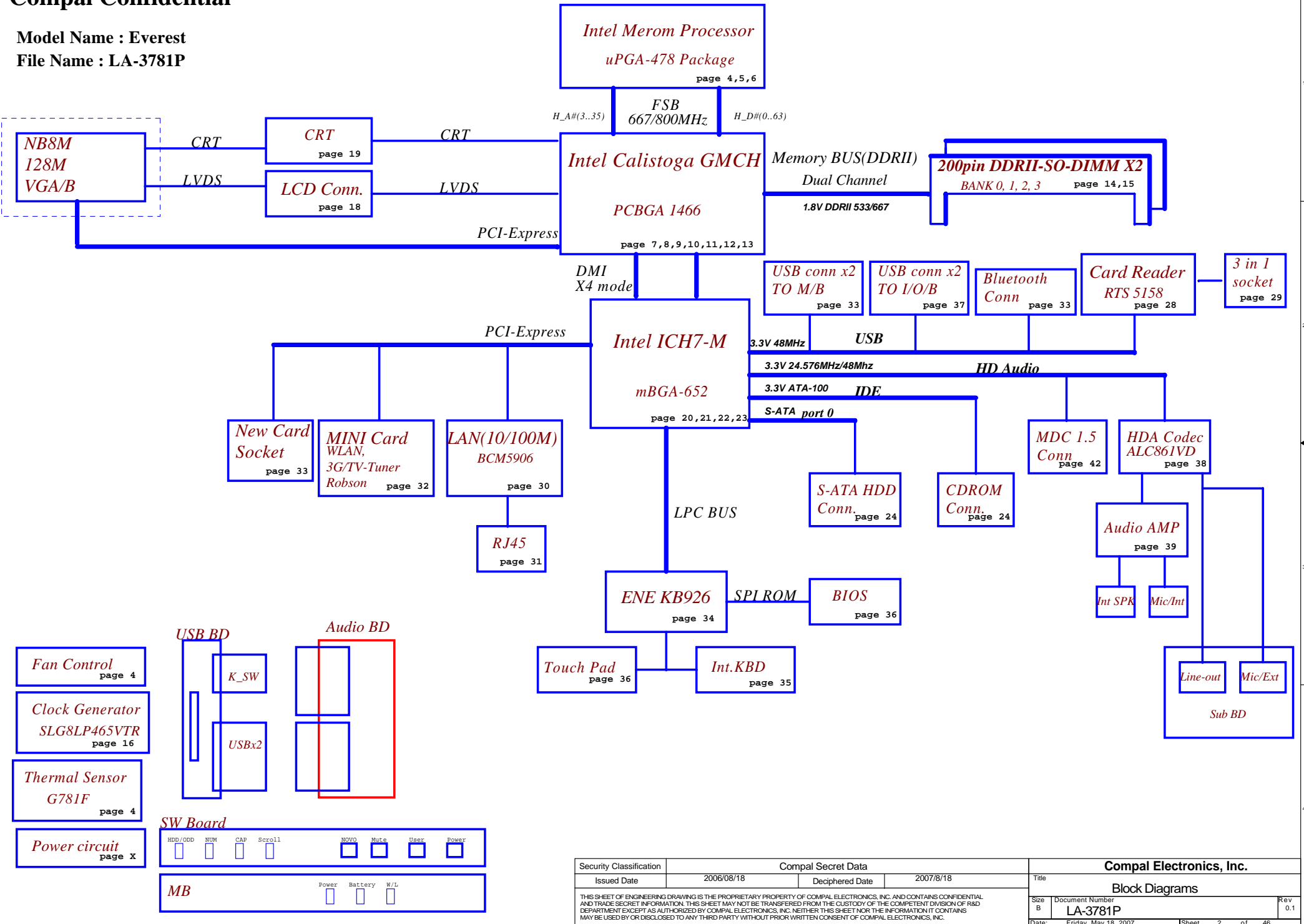
2007-05-15

REV: 1.0

Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title		
				Cover Page		
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 B	Document Number LA-3781P	Rev 0.1
				Date:	Friday, May 18, 2007	Sheet 1 of 46

Compal Confidential

Model Name : Everest
File Name : LA-3781P



Security Classification	Compal Secret Data		
Issued Date	2006/08/18	Deciphered Date	2007/8/18
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 Block Diagrams			
Size B	Document Number LA-3781P	Rev 0.1	
Date:	Friday, May 18, 2007	Sheet	2 of 46

Voltage Rails

Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	NA	NA	NA
B+	AC or battery power rail for power circuit.	NA	NA	NA
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+0.9VS	0.9V switched power rail for DDR terminator	ON	OFF	OFF
+VCCP	VCCP switched power rail	ON	OFF	OFF
+1.5VS	1.5V switched power rail	ON	OFF	OFF
+1.8V	1.8V power rail for DDR	ON	ON	OFF
+1.8VS	1.8V switched power rail	ON	OFF	OFF
+2.5VS	2.5V switched power rail	ON	OFF	OFF
+3VALW	3.3V always on power rail	ON	ON	ON*
+3VS	3.3V switched power rail	ON	OFF	OFF
+5VALW	5V always on power rail	ON	ON	ON*
+5VS	5V switched power rail	ON	OFF	OFF
+VSB	VSB always on power rail	ON	ON	ON*
+RTCVCC	RTC power	ON	ON	ON

Note : ON* means that this power plane is ON only with AC power available, otherwise it is OFF.

External PCI Devices

DEVICE	IDSEL #	REQ/GNT #	PIRQ
No PCI Device			

EC SM Bus1 address

EC SM Bus2 address

Device	Address	Device	Address
Smart Battery	0001 011X b	GMT-781	1001 100X b
EEPROM(24C16/02)	1010 000X b	NVIDIA NB8X	

STATE	SIGNAL	SLP				+VALW	+V	+VS	Clock
		SLP_S1#	SLP_S3#	SLP_S4#	SLP_S5#				
Full ON	HIGH	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1 (Power On Suspend)	LOW	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3 (Suspend to RAM)	LOW	LOW	HIGH	HIGH	HIGH	ON	ON	OFF	OFF
S4 (Suspend to Disk)	LOW	LOW	LOW	HIGH	HIGH	ON	OFF	OFF	OFF
S5 (Soft OFF)	LOW	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF

BOARD ID Table

ID	BRD ID	R54/42 (Rb)	Vab
IHL00	0	R01 (EVT)	0
	1	R02 (DVT)	8.2K
	2	R03 (PVT)	18K
	3	R10A (MP)	33K
IHLV3	4	R01 (EVT)	56K
	5	R02 (DVT)	100K
	6	R03 (PVT)	200K
	7	R10A (MP)	NC

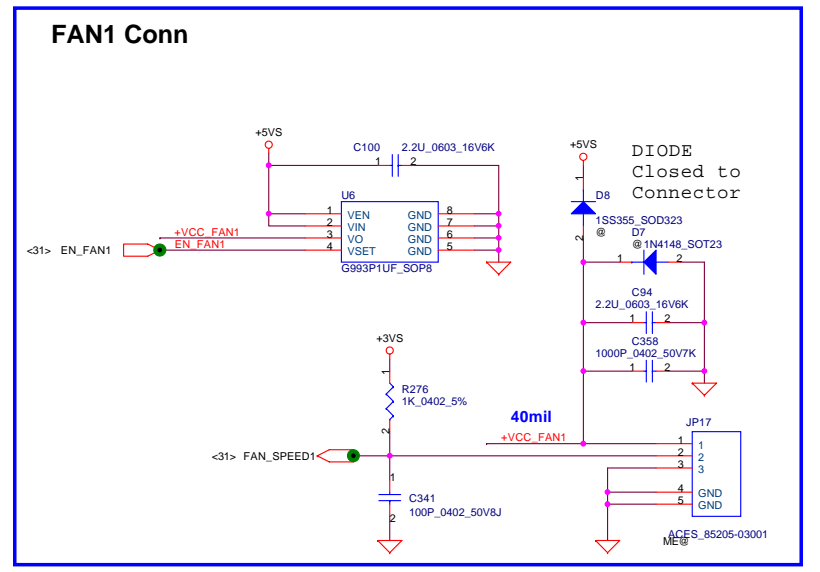
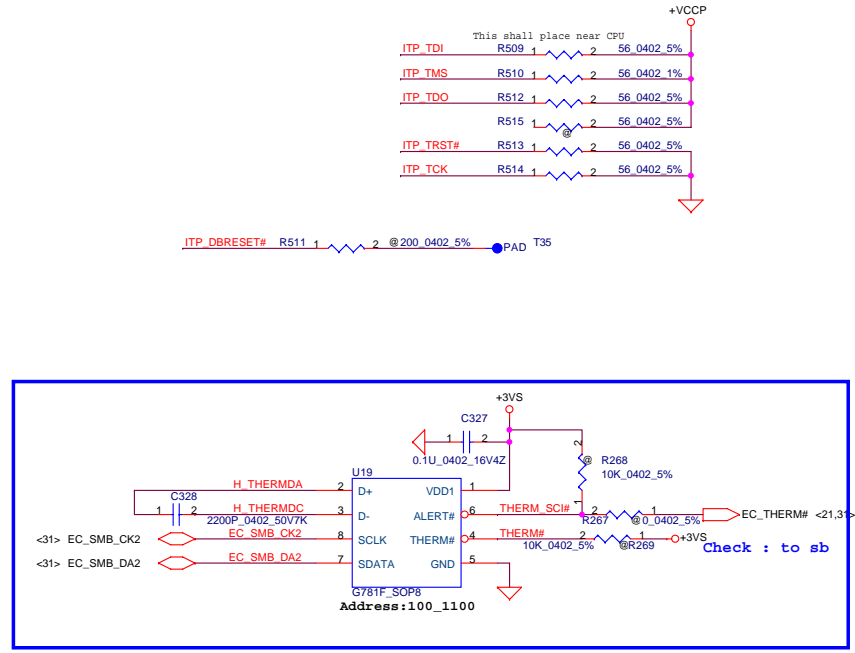
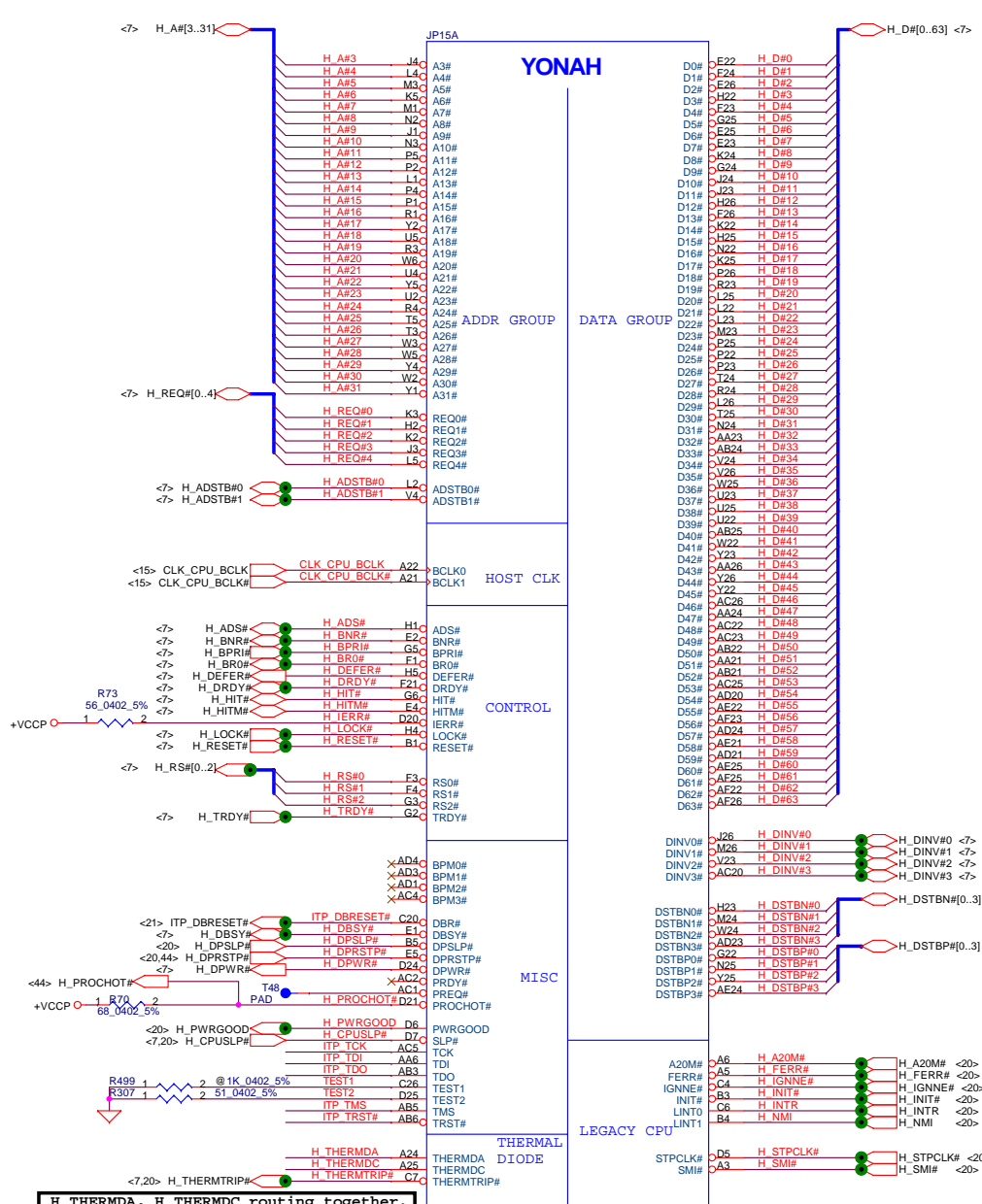
PANEL ID Table

ID	UMA_DES	Vab
0	IHL00/IGT30 UMA	3.30V
1	IHLV3 UMA	2.20V
2		
3		
4		
5		
6	IHLV2 VGA	0.25V
7	IHL00/IGT30 VGA	0V

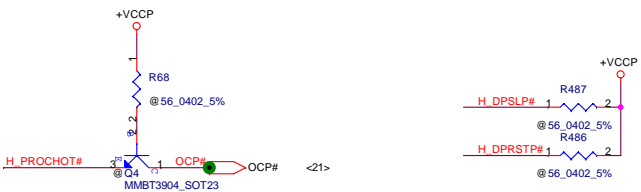
ICH7M SM Bus address

Device	Address
Clock Generator (SLG8LP465VTR)	1101 001Xb
DDR DIMM0	1010 000Xb
DDR DIMM1	1010 010Xb
Wireless	
NewCard	
LAN	

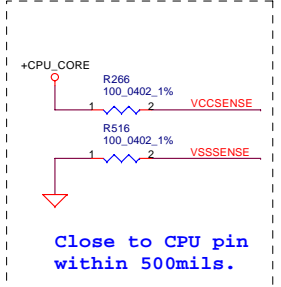
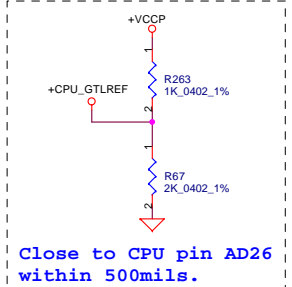
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title
				Notes List
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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 B Document Number LA-3781P Date: Friday, May 18, 2007
				Rev 0.1
				Sheet 3 of 46



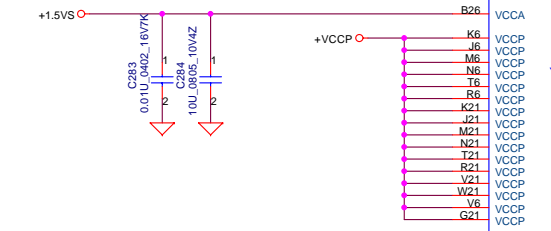
H_THERMDA, H_THERMDC routing together.
Trace width / Spacing = 10 / 10 mil



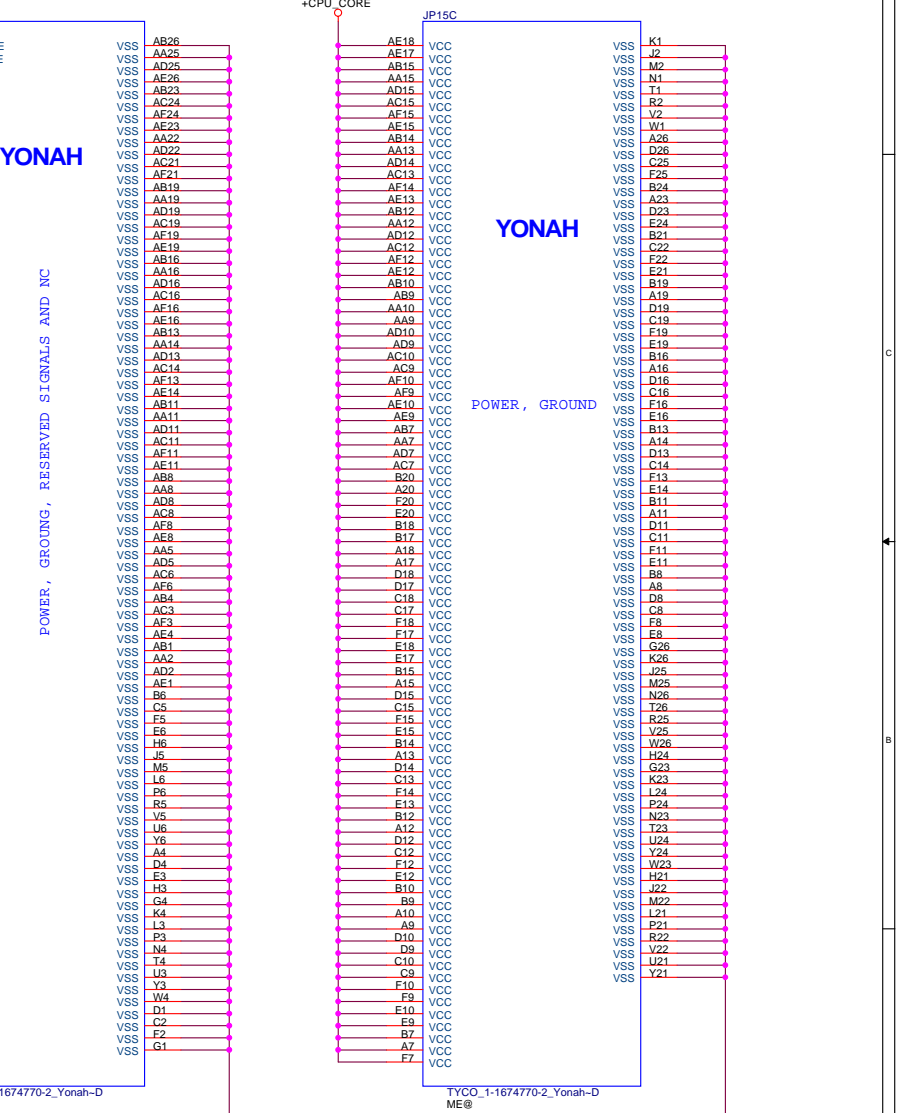
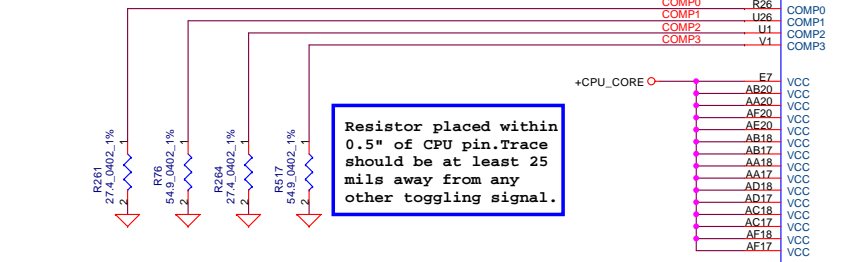
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title
				Merom (1/3)
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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-3781P Date: Friday, May 18, 2007 Sheet 4 of 46

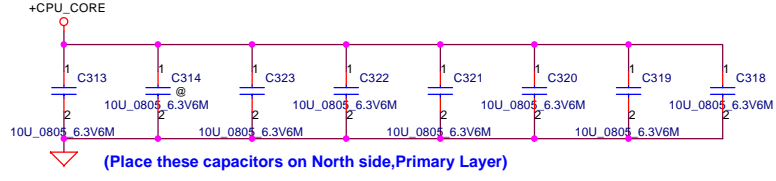
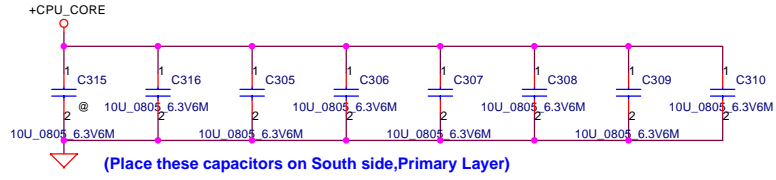
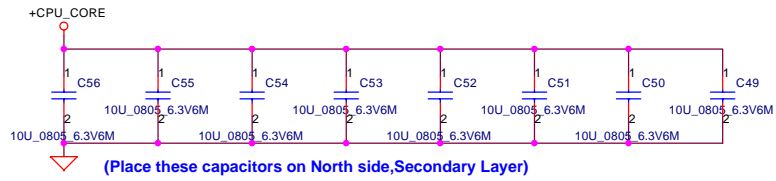
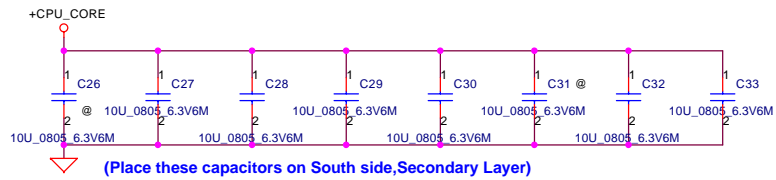
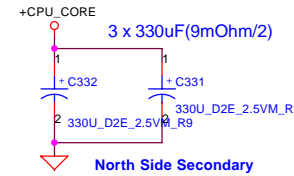
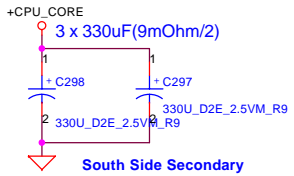


Length match within 25 mils
The trace width 18 mils space 7 mils



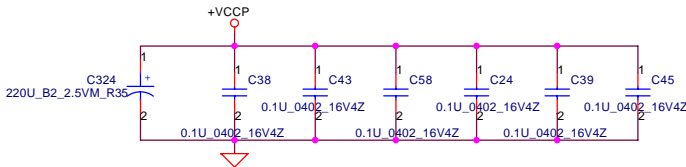
CPU_BSEL	CPU_BSEL2	CPU_BSEL1	CPU_BSEL0
133	0	0	1
166	0	1	1



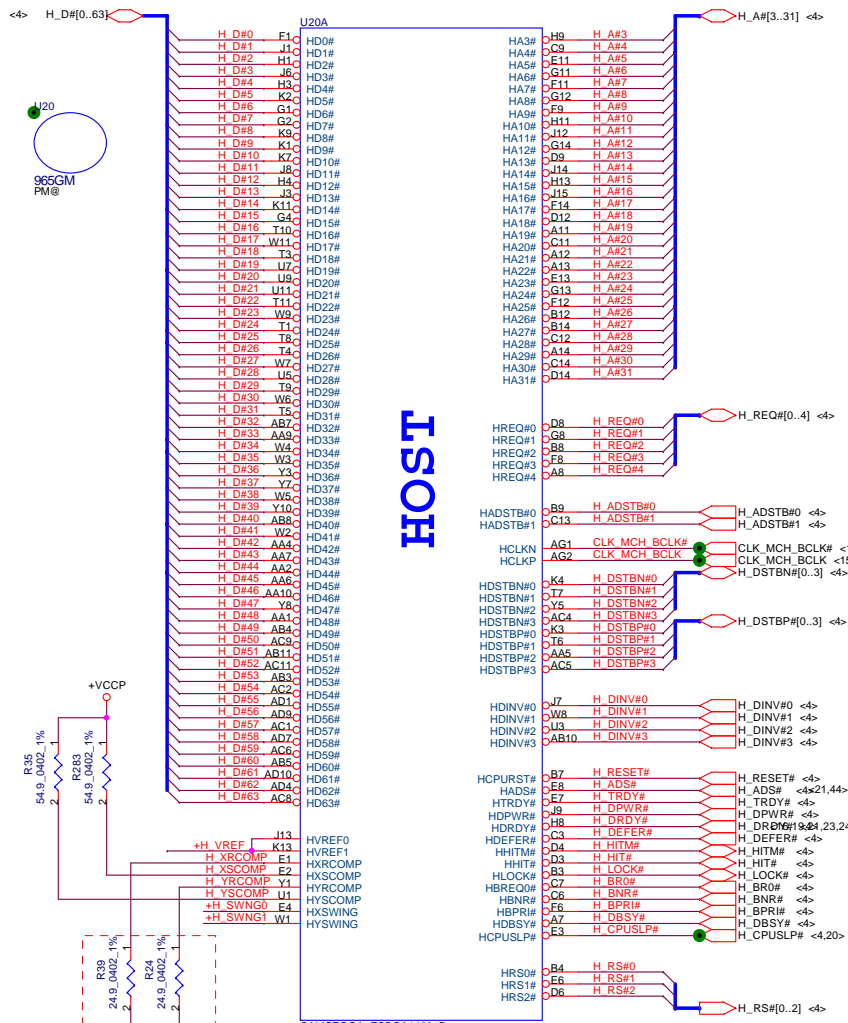


9/25 10U checked. OK for use!

+CPU-CORE Decoupling	C,uF	ESR, mohm	ESL,nH
SPCAP, Polymer	6X330uF	9m ohm/6	1.8nH/6
MLCC 0805 X5R	32X22uF	3m ohm/32	0.6nH/32
	32X10uF	3m ohm/32	0.6nH/32

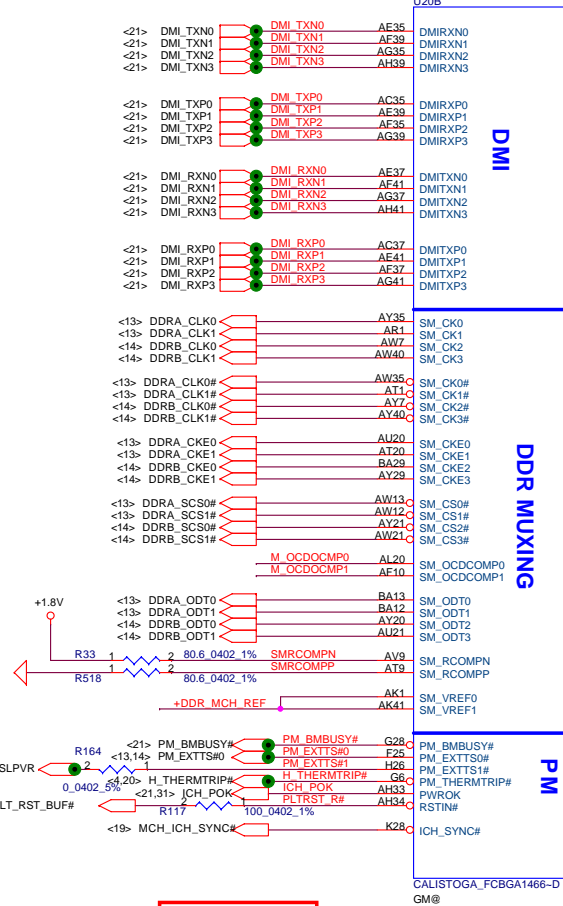


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	
				Merom (3/3)	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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 B	Document Number			Date:	Rev
	LA-3691P			Friday, May 18, 2007	0.1
				Sheet	6 of 46



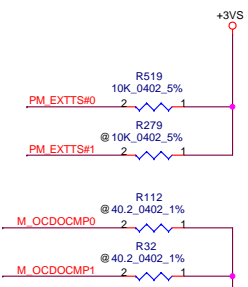
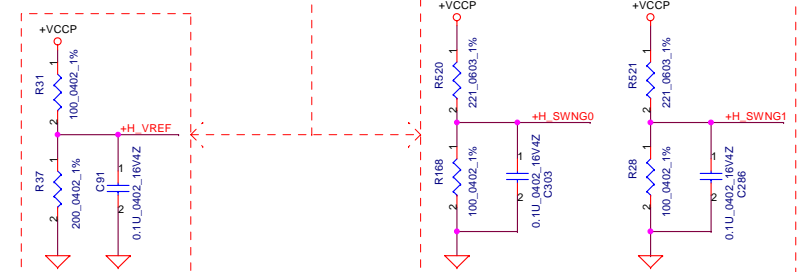
HOST

Description at page15.



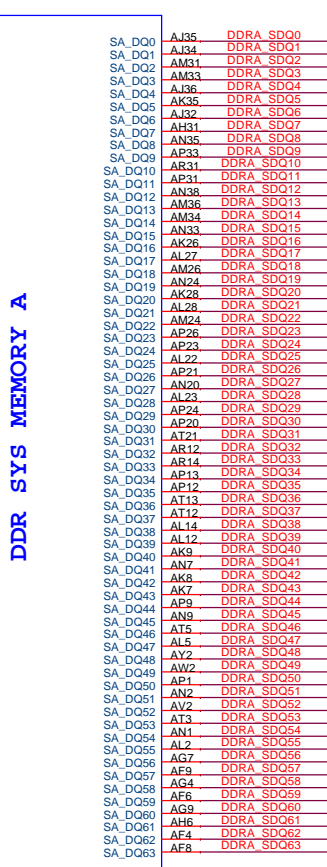
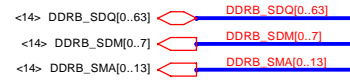
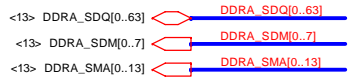
Layout Note:
+DDR_MCH_REF trace width and spacing is 20/20.

Layout Note:
H_XRCOMP / H_YRCOMP / H_VREF / H_SWNG0 / H_SWNG1 trace width and spacing is 10/20.

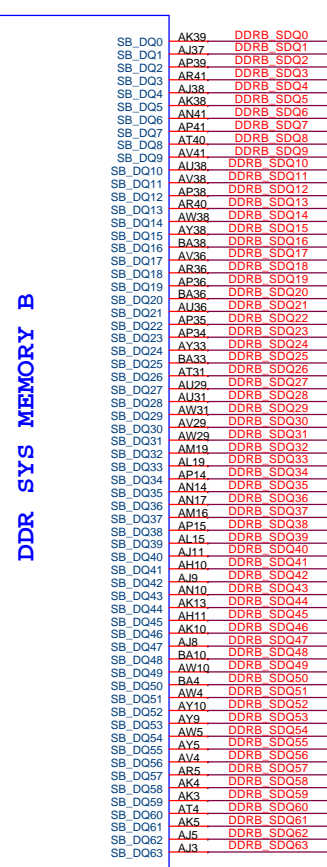
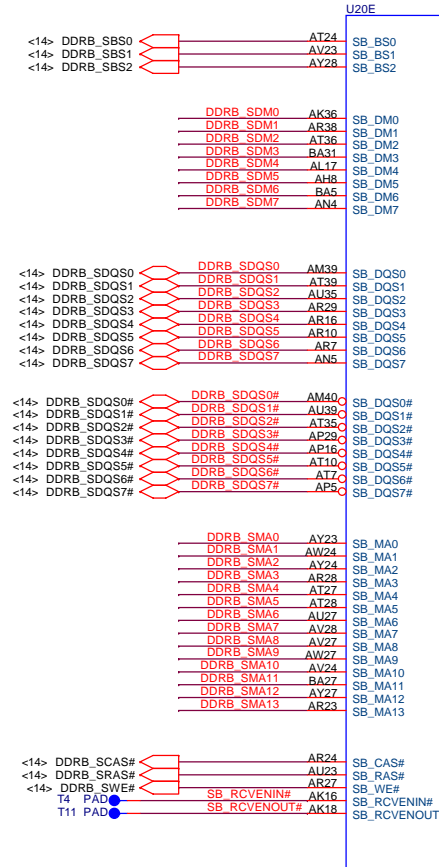


Security Classification		Compal Secret Data		Title	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Compal Electronics, Inc.	
				Crestline (17)-GTL	
Size	Document Number	Date		Sheet	Rev
Custom	LA-3691P	Friday, May 18, 2007		7	0.1
				of	46

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 CUSTOMER TO 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.

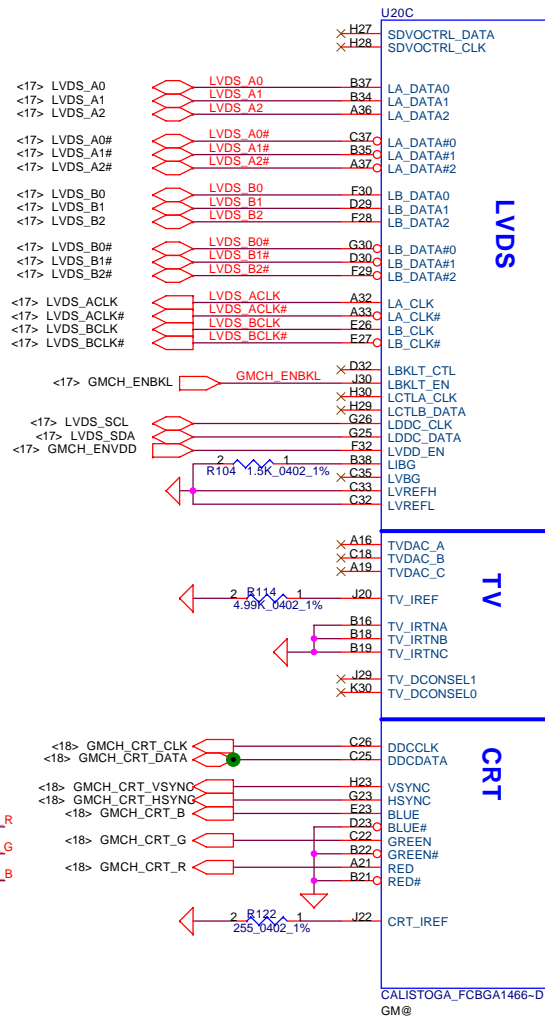


DDR SYS MEMORY A



DDR SYS MEMORY B

Security Classification	Compal Secret Data		Title	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Crestline (2/7)-DM/DDR
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-3691P
				Rev 0.1
Date:	Friday, May 18, 2007	Sheet	8	of 46

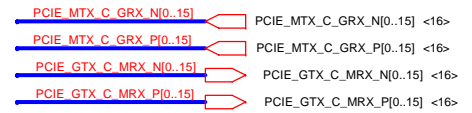
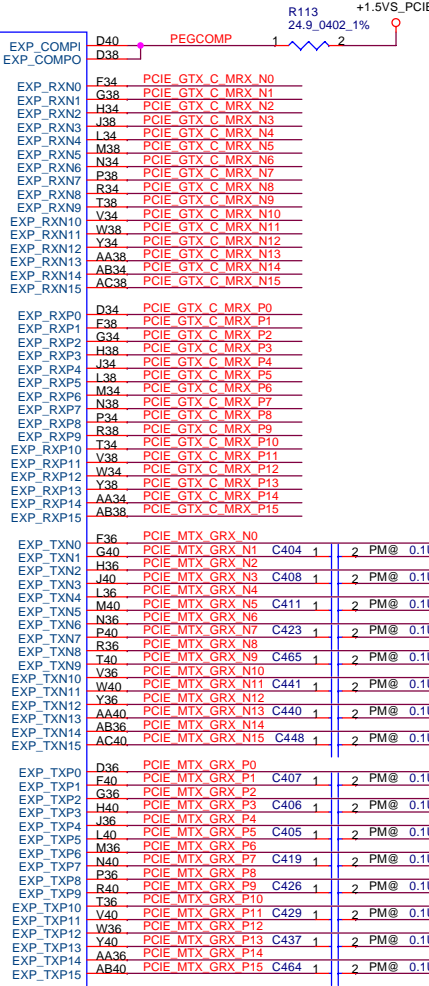


LVDS

TV

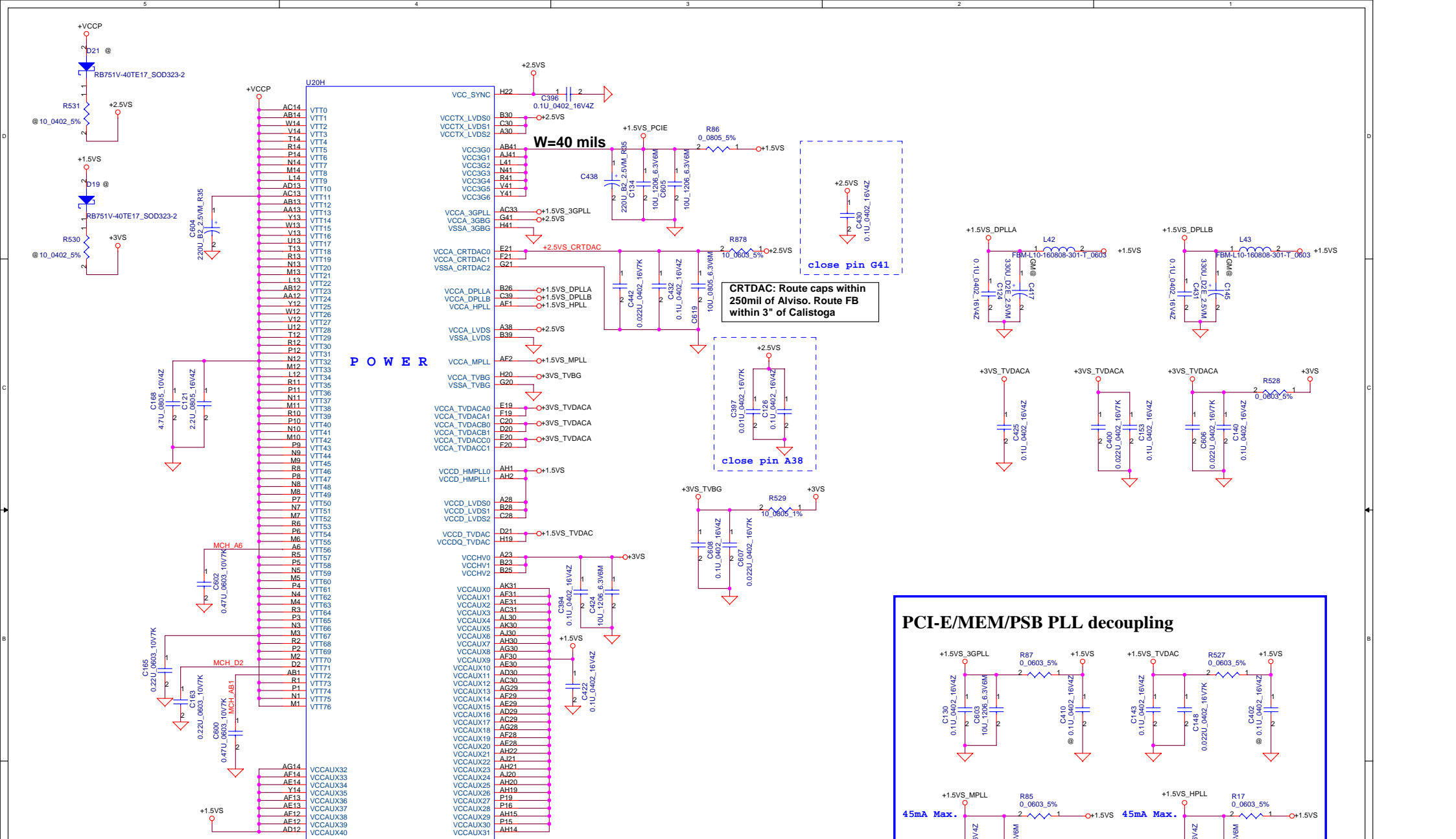
CRT

PCI-EXPRESS GRAPHICS



CALISTOGA_FCBGA1466-D
GM@

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	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.				Crestline (3/7)-DDRII	
Size B	Document Number	Rev		0.1	
	LA-3691P				
Date:	Friday, May 18, 2007	Sheet	9	of	46

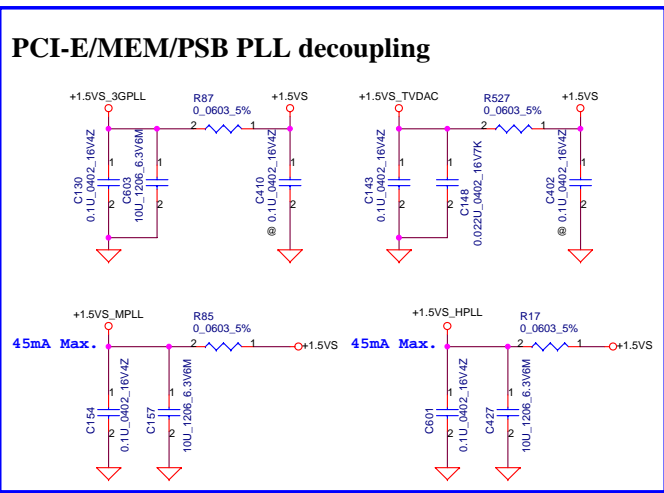


POWER

W=40 mils

CRTDAC: Route caps within 250mil of Alviso. Route FB within 3" of Calistoga

close pin A38



CALISTOGA_FCBGA1466-D
GM@

Security Classification	Compal Secret Data	
Issued Date	2006/08/18	Deciphered Date
		2007/8/18

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.

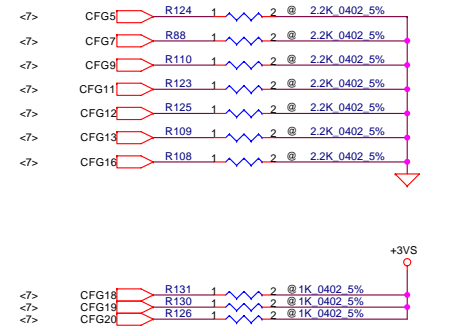
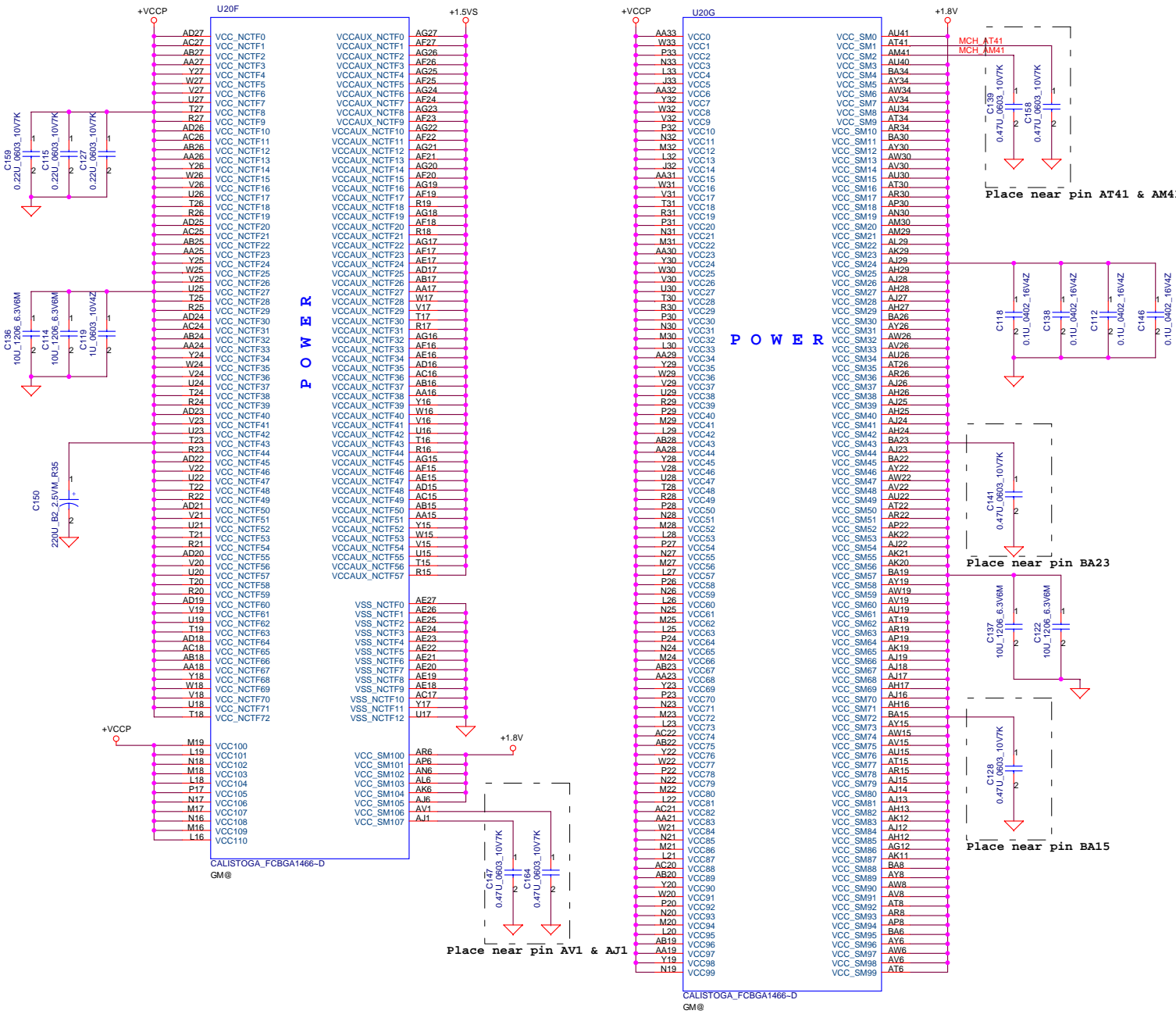
Compal Electronics, Inc.		
Title		
Crestline (47)-VGA/LVDS/TV		
Size	Document Number	Rev
Custom	LA-3691P	0.1
Date:	Friday, May 18, 2007	Sheet 10 of 46

Strap Pin Table

CFG[3:17] have internal pull up

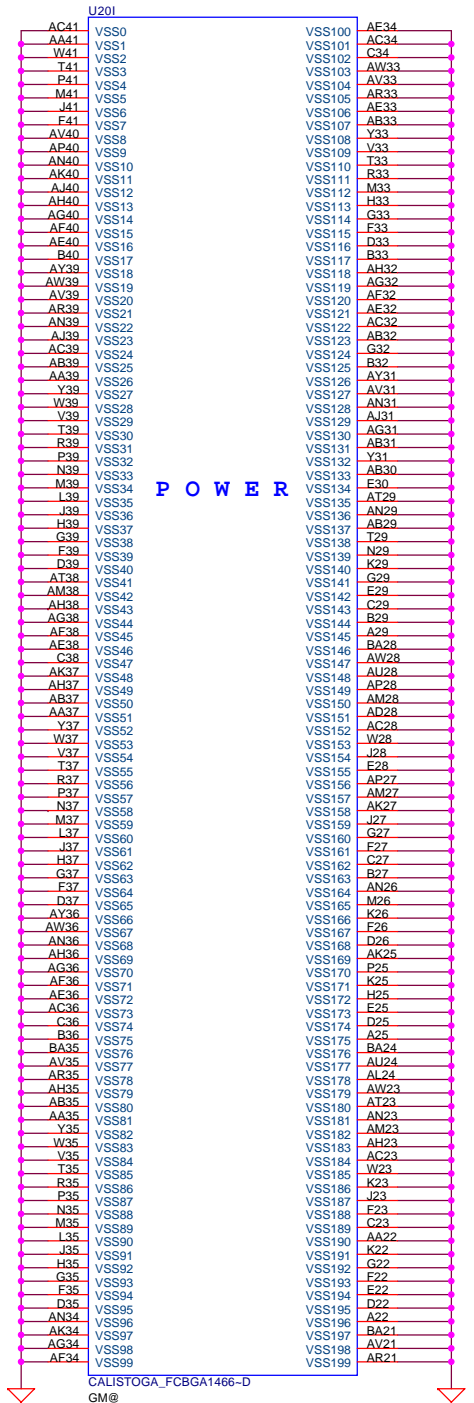
CFG[19:18] have internal pull down

CFG[2:0]	011 = 667MT/s FSB 001 = 533MT/s FSB
CFG5	0 = DMI x 2 1 = DMI x 4 *(Default)
CFG7	0 = Reserved 1 = Mobile Yonah CPU *(Default)
CFG9	0 = Lane Reversal Enable 1 = Normal Operation (Default)*
CFG6	0 = Reserved 1 = Calistoga *
CFG[13:12]	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation *(Default)
CFG16	0 = Dynamic ODT Disabled 1 = Dynamic ODT Enabled *(Default)
CFG10 CFG18	10 = 1.05V *(Default) 01 = 1.5V
CFG19	0 = Normal Operation *(Default) 1 = DMI Lane Reversal Enable
SDVO_CTRLDATA	0 = No SDVO Device Present *(Default) 1 = SDVO Device Present
CFG20 (PCIe/SDVO select)	0 = Only PCIe or SDVO is operational. *(Default) 1 = PCIe/SDVO are operating simu.

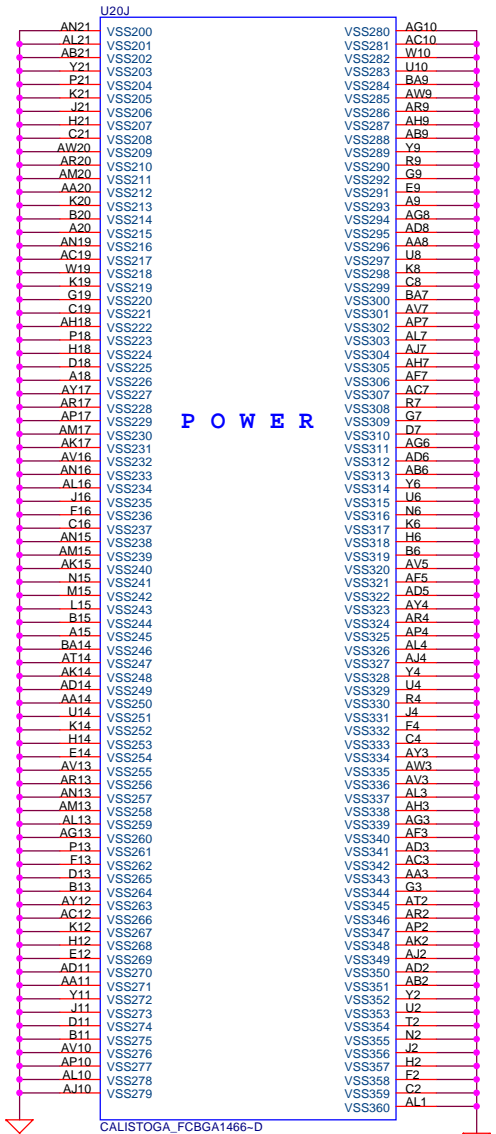


Security Classification	Compal Secret Data	
Issued Date	2006/08/18	Deciphered Date
		2007/8/18
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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 Crestline (5/7)-VCC		
Size	Document Number	Rev
Custom	LA-3691P	0.1
Date:	Friday, May 18, 2007	Sheet 11 of 46



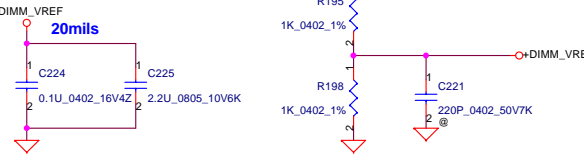
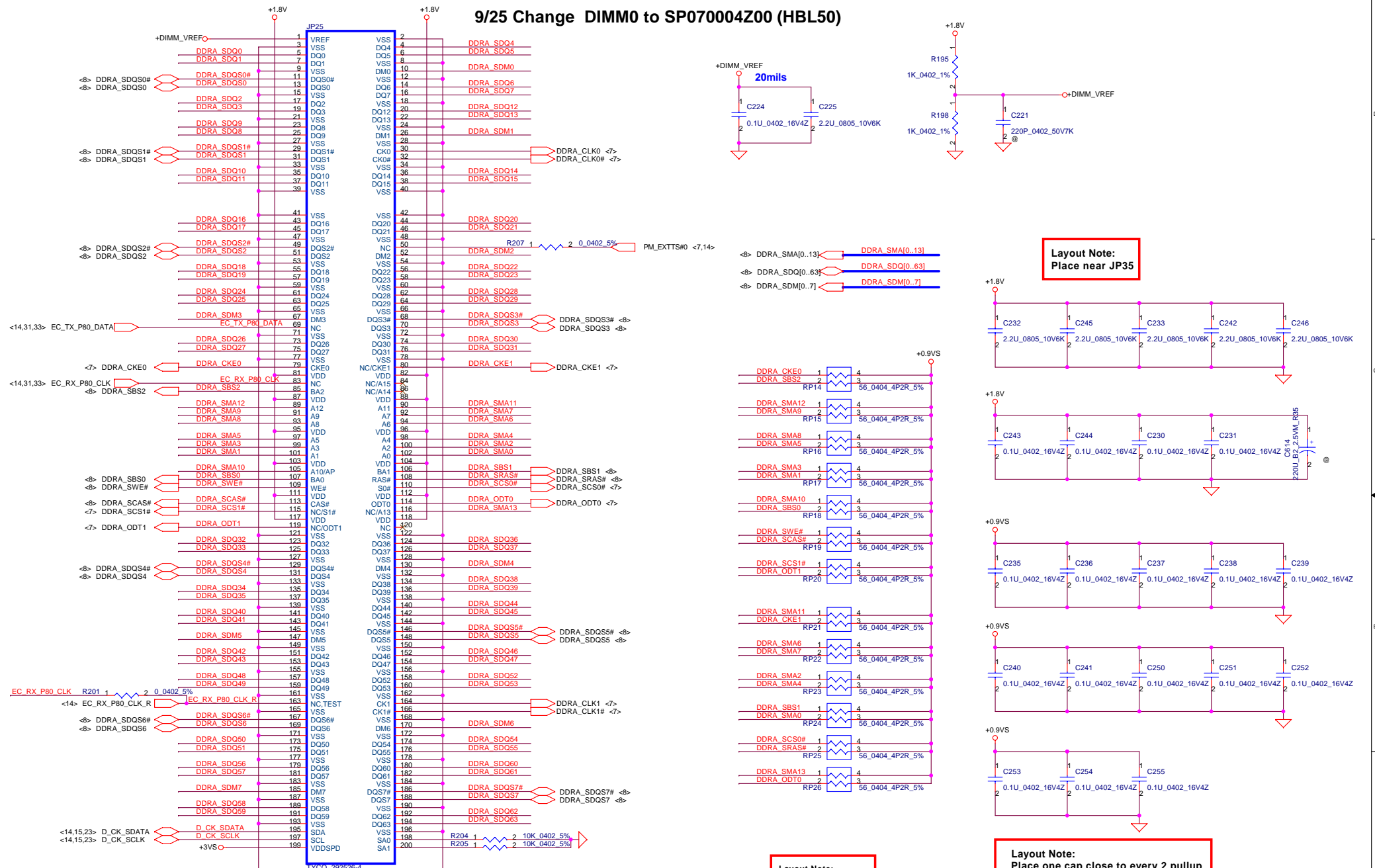
POWER



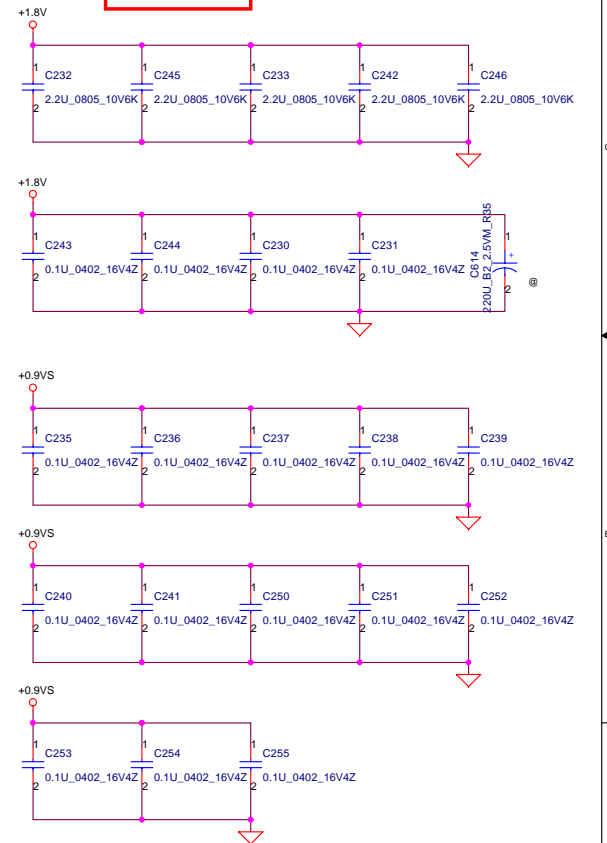
POWER

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	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.				Crestline (6/7)-VCC	
Size	Document Number			Rev	
B	LA-3691P			0.1	
Date:	Friday, May 18, 2007	Sheet	12	of	46

9/25 Change DIMM0 to SP070004Z00 (HBL50)



Layout Note:
Place near JP35



Layout Note:
Place these resistor closely JP35, all trace length Max=1.5"

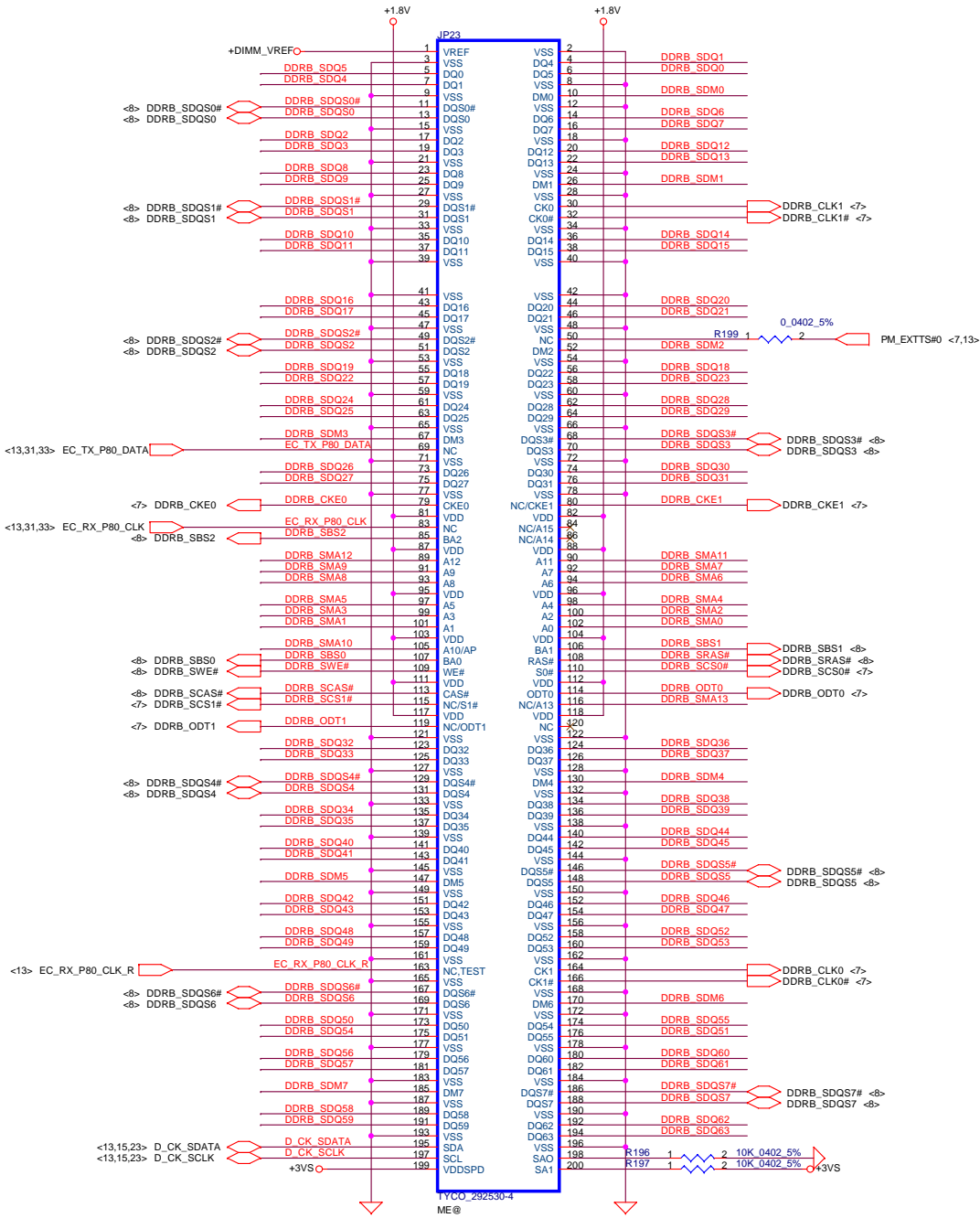
Layout Note:
Place one cap close to every 2 pullup resistors terminated to +0.9VS

Change PCB Footprint

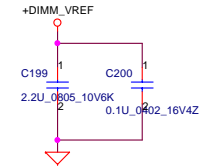
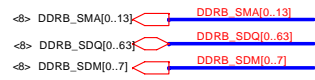
DIMM0 STD H:5.2mm (BOT)

Security Classification		Compal Secret Data		Title	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	DDRII-SODIMM0	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
Size B	Document Number	Date:		Sheet	Rev
	LA-3691P	Friday, May 18, 2007		13	0.1
			Sheet	13 of 46	

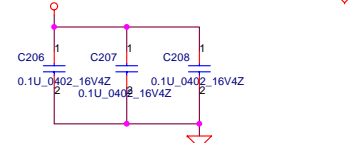
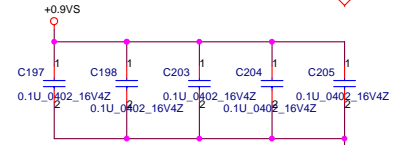
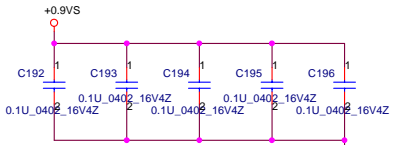
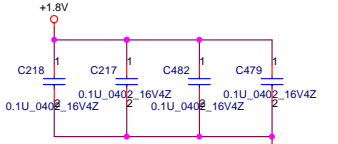
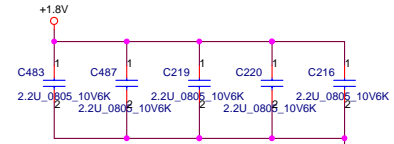
9/25 Change DIMM1 to SP070006F00



DIMM1 STD H:9.2mm (BOT)



Layout Note:
Place near JP34



Layout Note:
Place these resistor closely JP35, all trace length Max=1.5"

Layout Note:
Place one cap close to every 2 pullup resistors terminated to +9.9VS

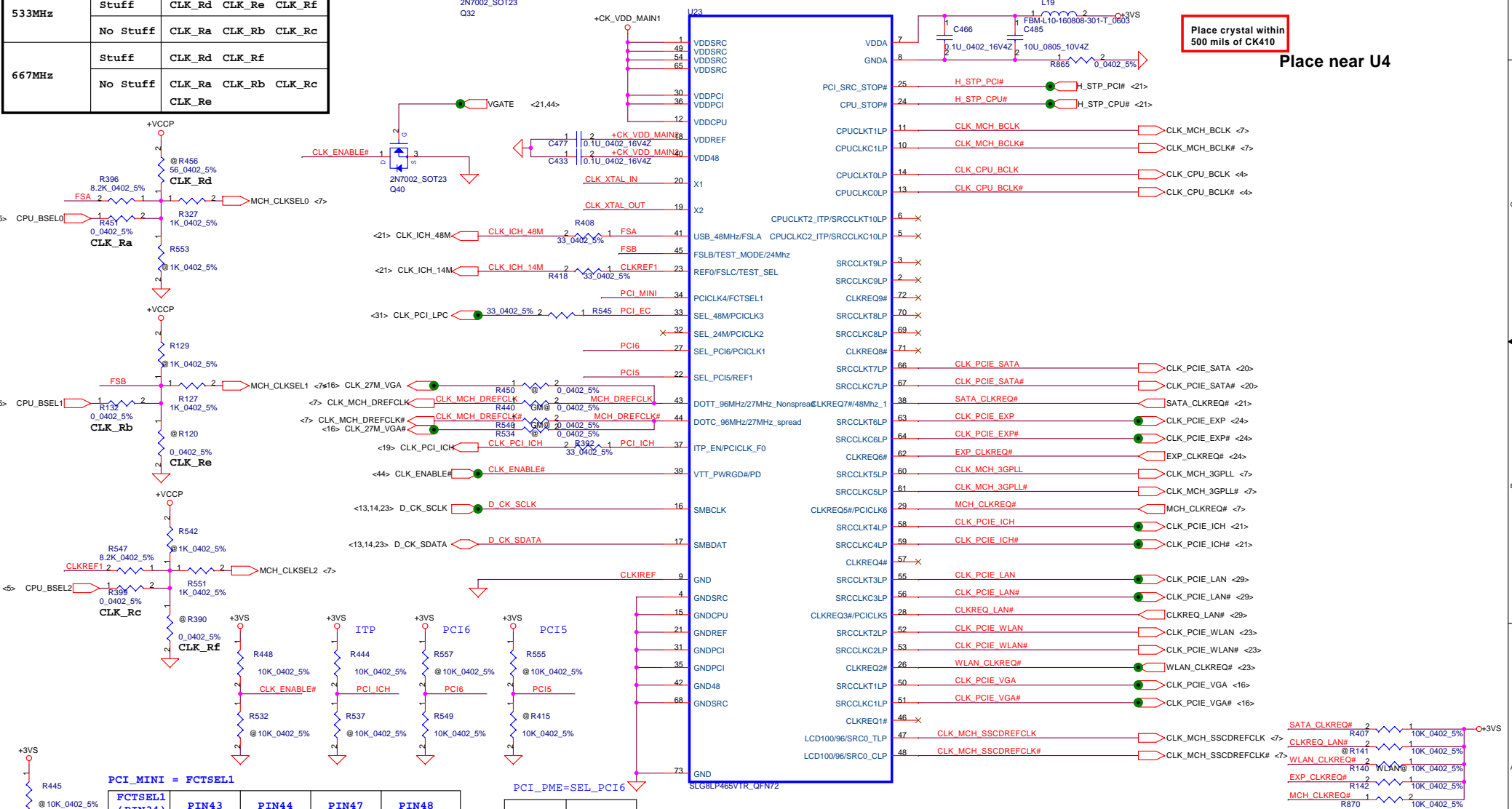
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title
				DDRII-SODIMM1
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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		
B	LA-3691P	0.1		
Date:	Friday, May 18, 2007	Sheet	14	of 46

FSLC	FSLB	FSLA	CPU	SRC	PCI
CLKSEL2	CLKSEL1	CLKSEL0	MHz	MHz	MHz
0	0	1	133	100	33.3
0	1	1	166	100	33.3

Table : ICS954306

FSB Frequency Selet:

CPU Driven	Stuff	CLK_Ra	CLK_Rb	CLK_Rc
*(Default)	No Stuff	CLK_Rd	CLK_Re	CLK_Rf
	Stuff	CLK_Ra	CLK_Rb	CLK_Rc
533MHz	No Stuff	CLK_Rd	CLK_Re	CLK_Rf
	Stuff	CLK_Ra	CLK_Rb	CLK_Rc
667MHz	No Stuff	CLK_Ra	CLK_Rb	CLK_Rc
	Stuff	CLK_Rd	CLK_Re	CLK_Rf



Place crystal within 500 mils of CK410

Place near U4

PCI_MINI = FCTSEL1

FCTSEL1 (PIN34)	PIN43	PIN44	PIN47	PIN48
0	DOT96T	DOT96C	96/100M_T	96/100M_C
1	27Mout	27MSSout	SRCT0	SRCC0

PCI_PME=SEL_PCI6

PCI6	PIN27
0	CLKREQ5
1	PCICLK6

Security Classification	Compal Secret Data	
Issued Date	2006/08/04	Deciphered Date
		2006/10/06

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.

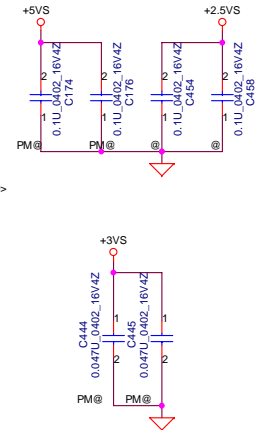
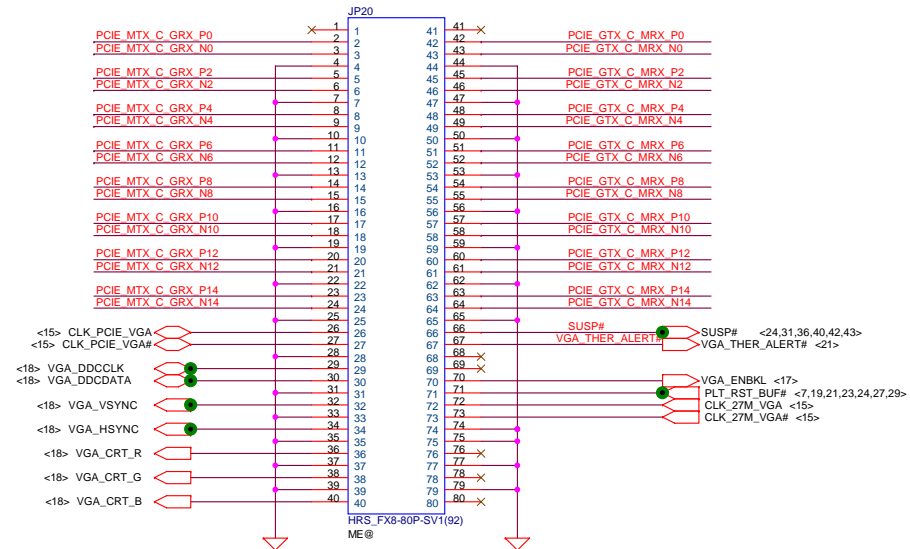
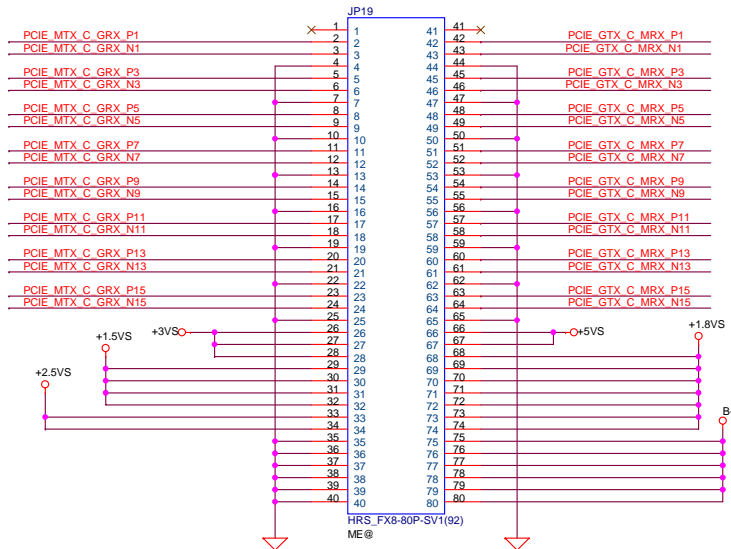
Title		
Compal Electronics, Inc.		
Clock generator		
Size	Document Number	Rev
	LA-3691P	0.1
Date:	Friday, May 18, 2007	Sheet
		15 of 46

MAX. 4.06A @ 1.8V

MAX. 130mA @ 2.5V

MAX. 655mA @ 3.3V

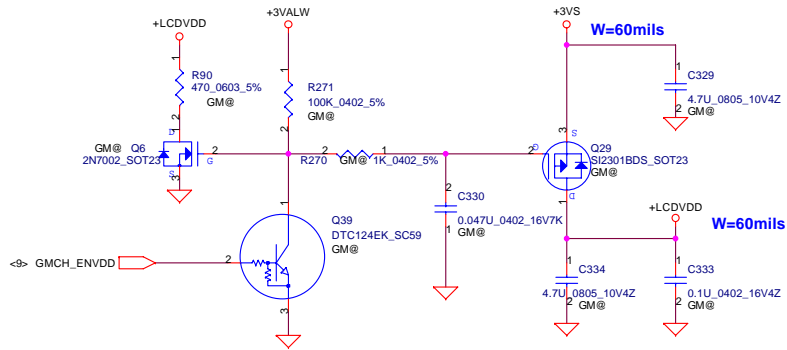
- <-> PCIE_MTX_C_GRP_N[0..15] <-> PCIE_MTX_C_GRP_N0..15
- <-> PCIE_MTX_C_GRP_P[0..15] <-> PCIE_MTX_C_GRP_P0..15
- <-> PCIE_GTX_C_MRX_N[0..15] <-> PCIE_GTX_C_MRX_N0..15
- <-> PCIE_GTX_C_MRX_P[0..15] <-> PCIE_GTX_C_MRX_P0..15



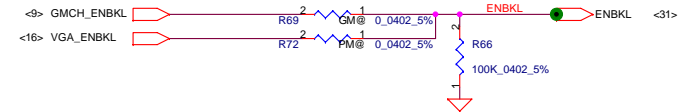
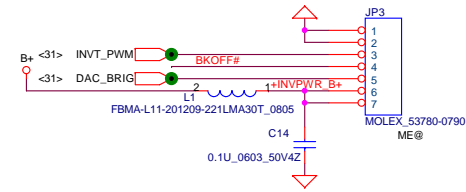
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS 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.		
Size			VGA/B connector		
Customer	Document Number	Rev			
	IEL10 LA-3451P	0.2			
Date:	Friday, May 18, 2007	Sheet	16	of	46

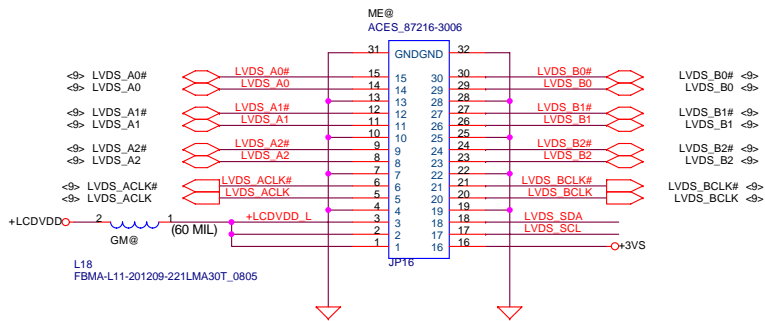
LCD POWER CIRCUIT



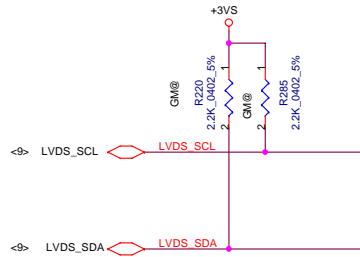
INVERTER Conn.



LCD/PANEL BD. Conn.



Follow HEL80's pin definition
Except pin 29

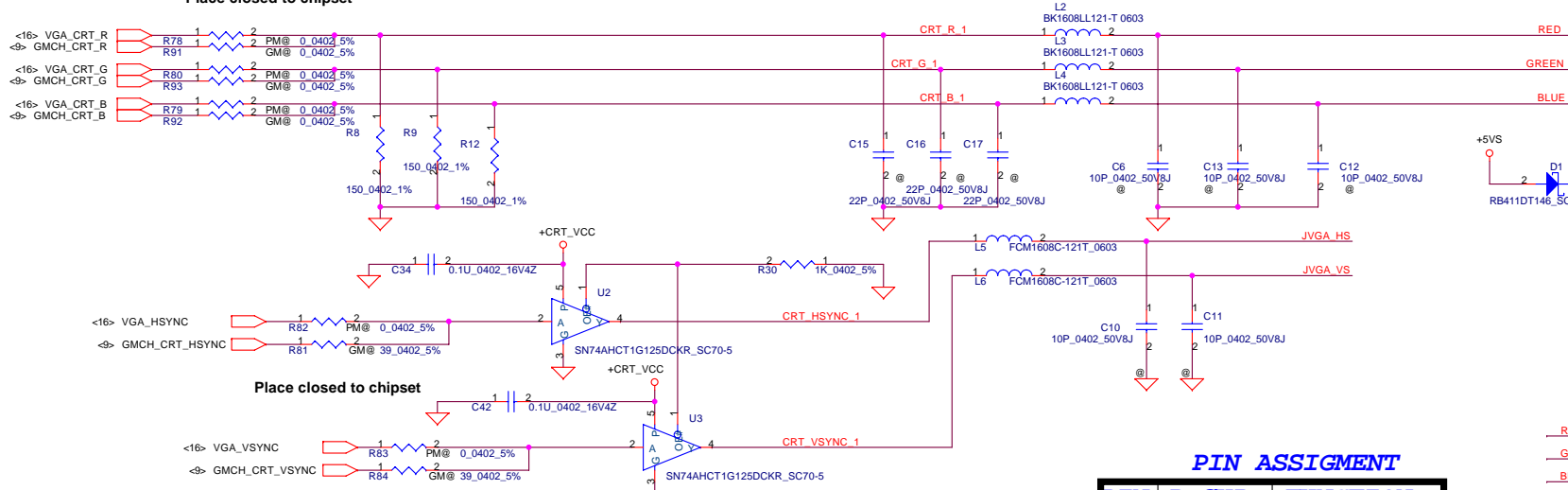


Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title		
				LVDS & DVI Connector		
Size B	Document Number			Rev		
	LA-3691P			0.1		
Date:	Friday, May 18, 2007	Sheet	17	of	46	

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 Connector

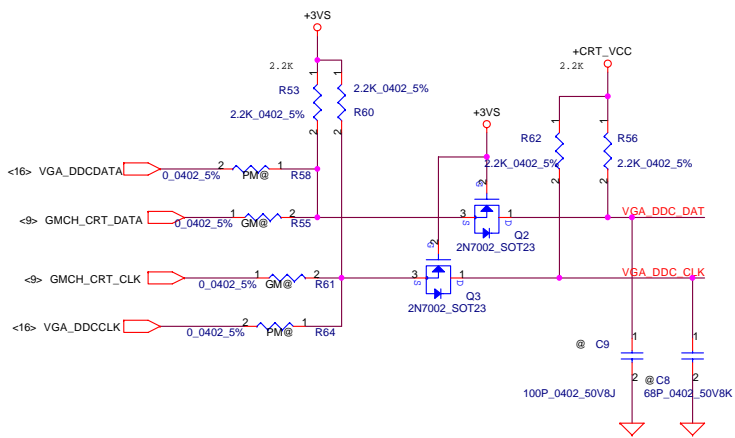
Place closed to chipset



Place closed to chipset

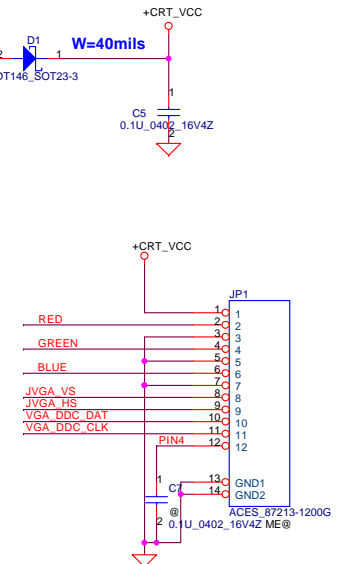


Update Footprint



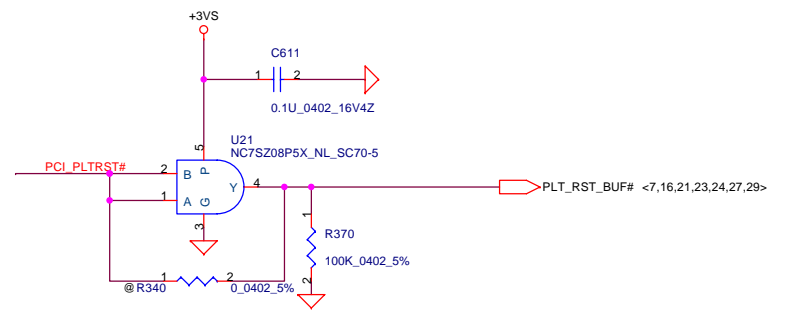
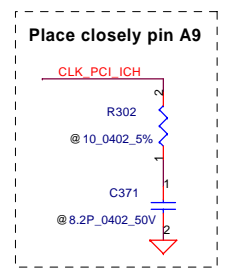
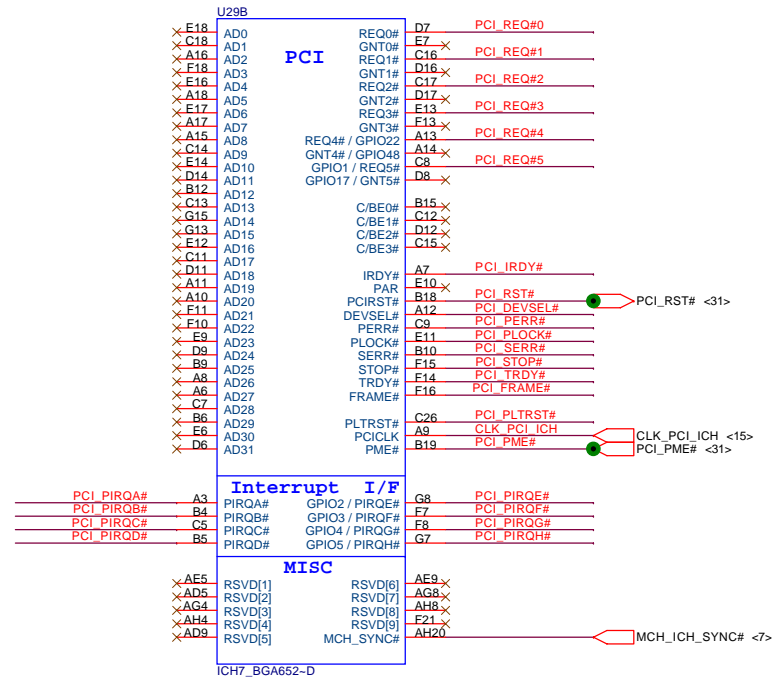
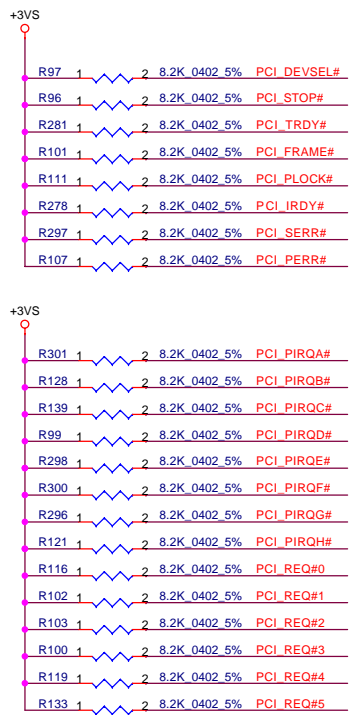
PIN ASSIGNMENT

PIN	D-SUB	FUNCTION
1	9	+CRT_VCC
2	1	RED
3	6	GND
4	2	GREEN
5	7	GND
6	3	BLUE
7	8	GND
8	14	VSYNC
9	10	GND
	11	SENSE
10	12	SM_DAT
11	15	SM_CLK
	5	GND
	4	

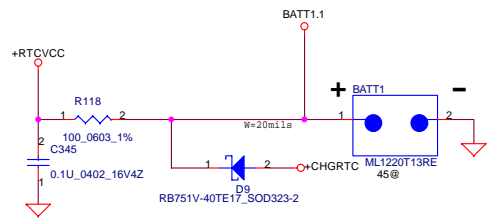
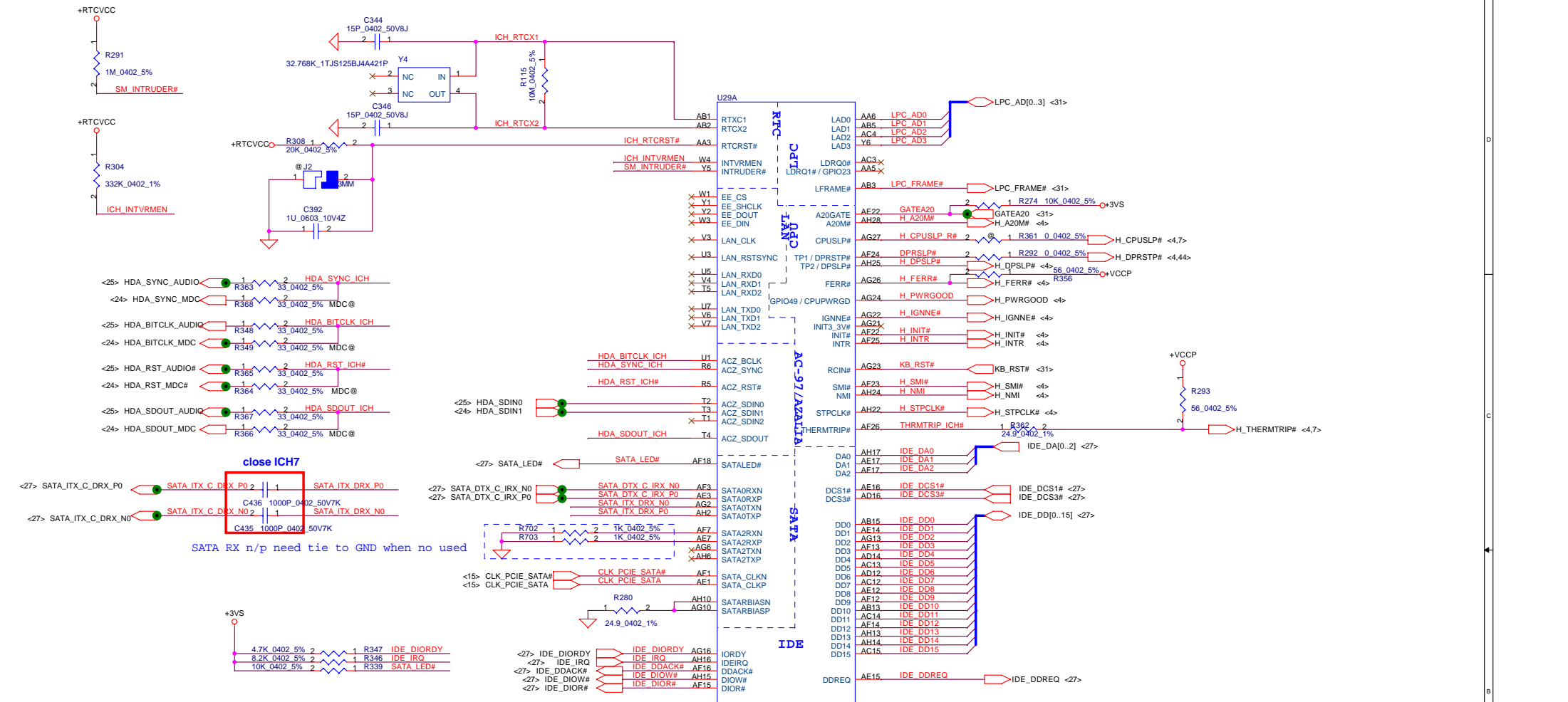


Security Classification	Compal Secret Data	
Issued Date	2006/08/18	Deciphered Date
		2007/8/18
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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.		

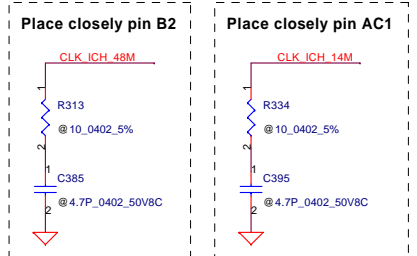
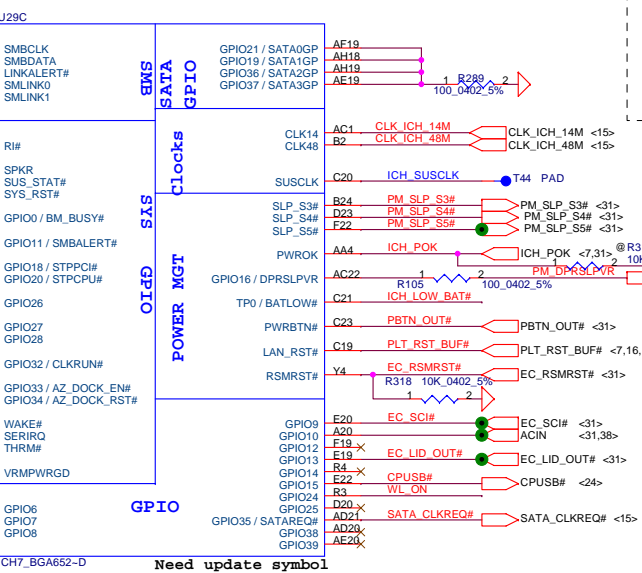
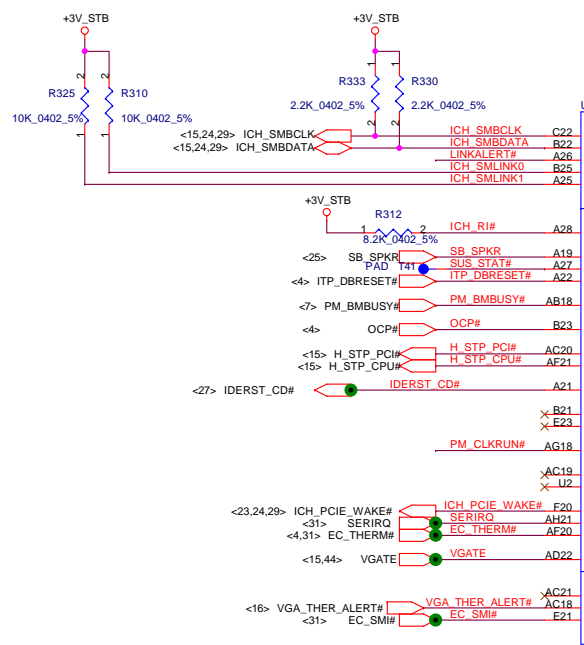
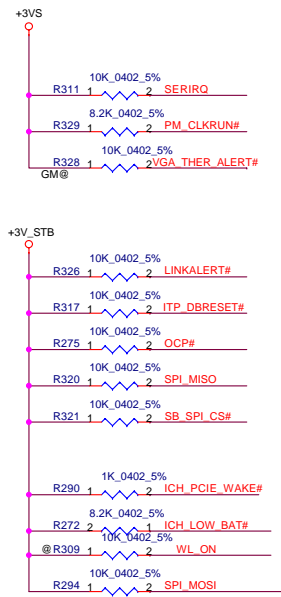
Compal Electronics, Inc.			
Title CRT & TV-OUT Connector			
Size	Document Number	Rev	
B	LA-3691P	0.1	
Date:	Friday, May 18, 2007	Sheet	18 of 46



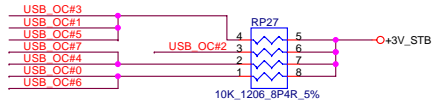
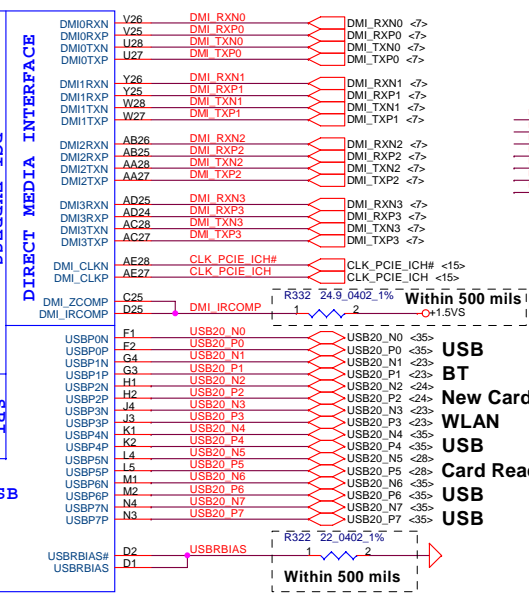
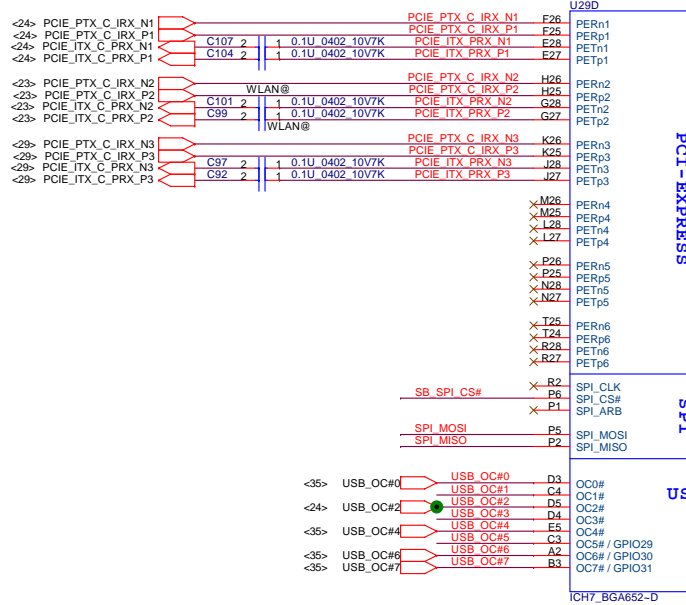
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				ICH8M(1/4)-PCI	
Size	Document Number	Rev		0.1	
Date:	Friday, May 18, 2007	Sheet	19	of	46



Security Classification		Compal Secret Data		Title	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	ICH8M(2/4)-LAN, IDELPC, RTC	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
Size	Document Number	Date		Sheet	Rev
LA-3691P	LA-3691P	Friday, May 18, 2007		20	0.1
				of	46

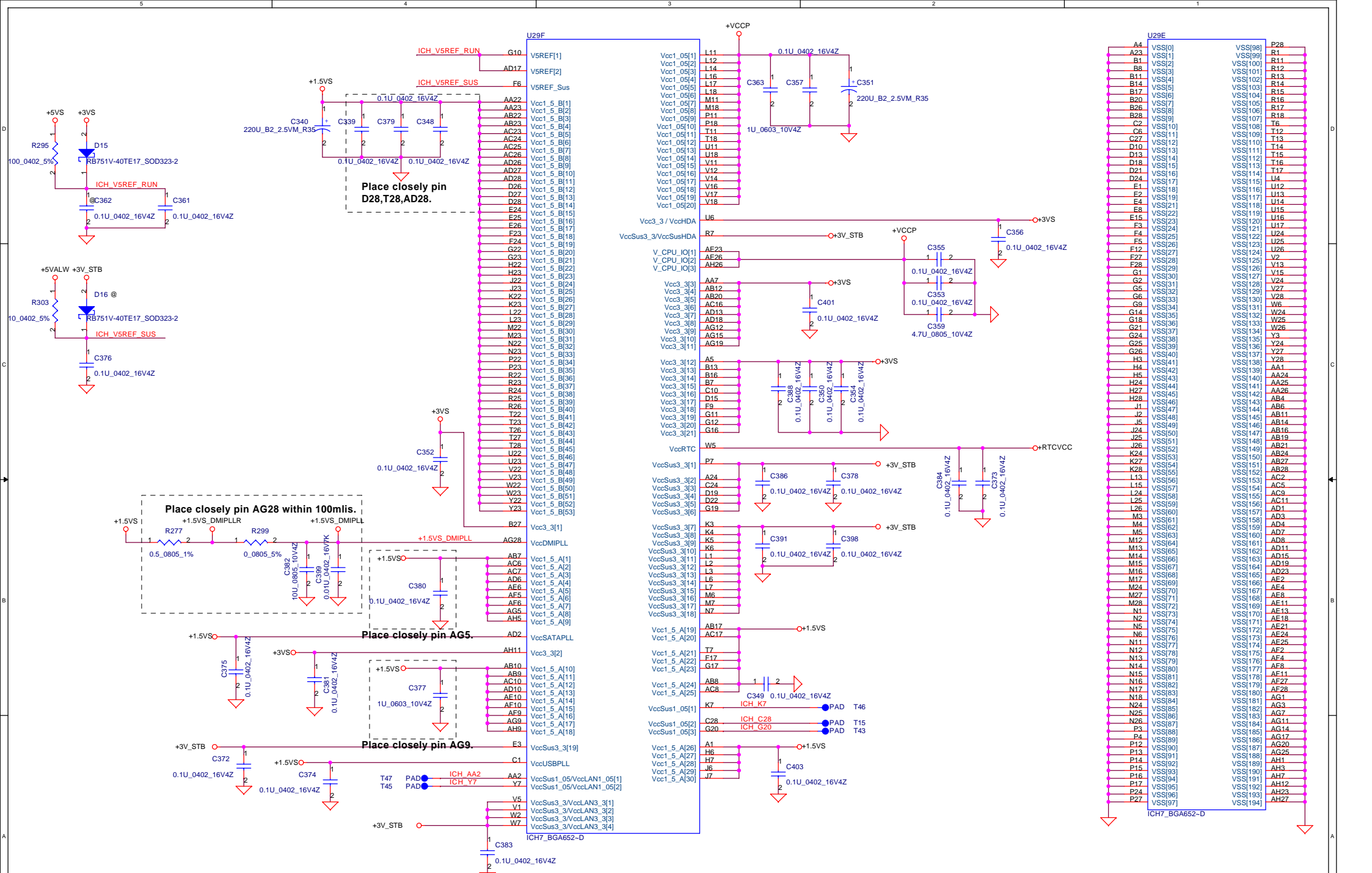


NEW Card
WLAN
LAN



USB
BT
New Card
WLAN
USB
Card Reader
USB
USB

Security Classification	Compal Secret Data		
Issued Date	2006/08/18	Deciphered Date	2007/8/18
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 ICH8M(3/4)-USB,GPIO,PCIE			Rev 0.1
Size LA-3691P	Date Friday, May 18, 2007	Sheet 21	of 46

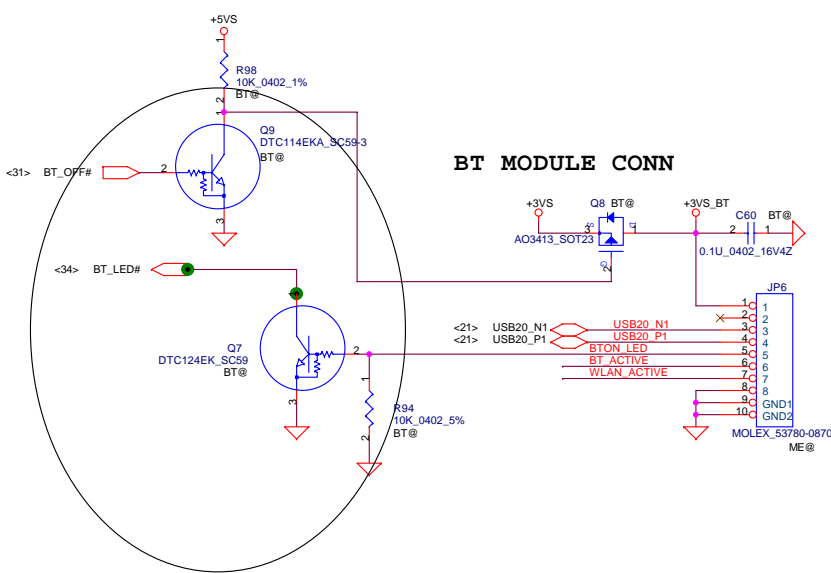
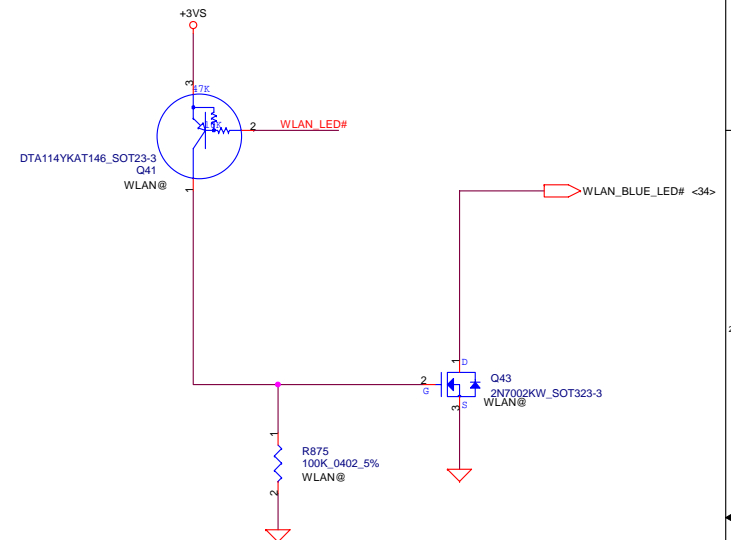
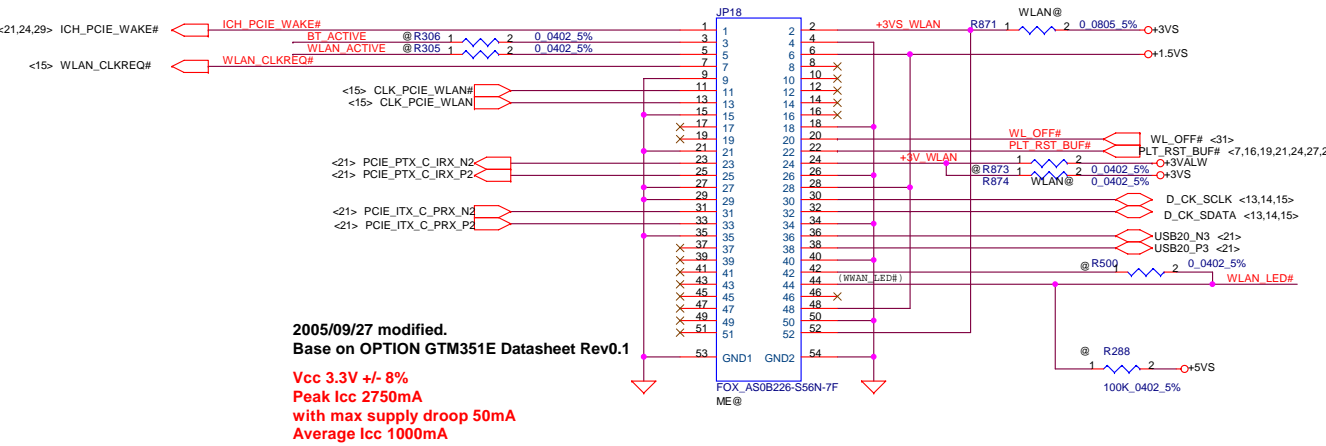
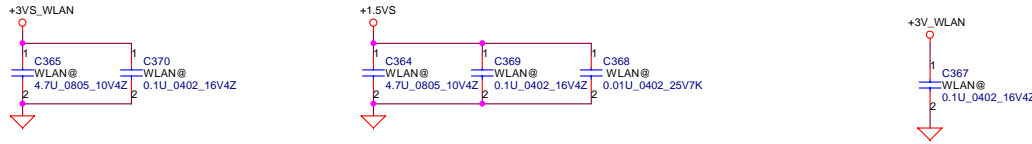


Security Classification	Compal Secret Data	
Issued Date	2006/08/18	Deciphered Date
		2007/8/18
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</small>		

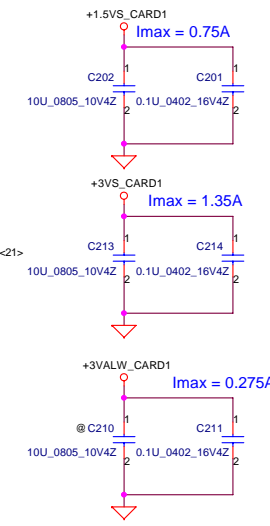
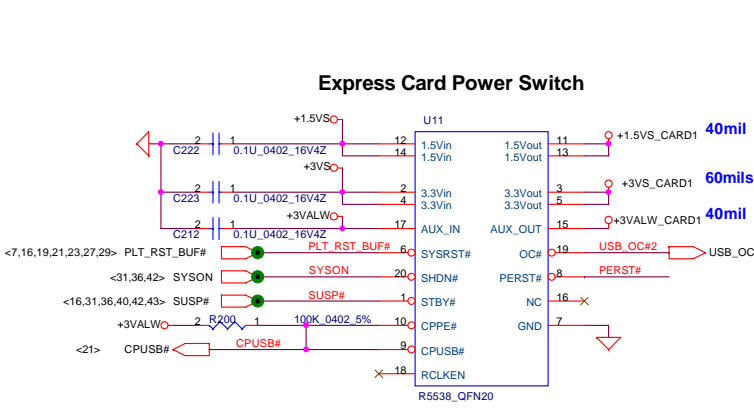
Compal Electronics, Inc.		
Title		
IFTXX MB LA-3541P Schematic		
Size	Document Number	Rev
Custom	LA-3691P	0.1
Date:	Friday, Mar 18, 2007	Sheet
		22 of 46

Mini-Express Card for 3G Or TV Tuner

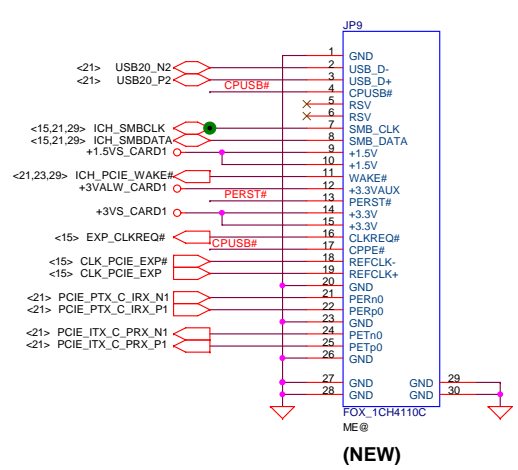
Mini-Express Card for WLAN



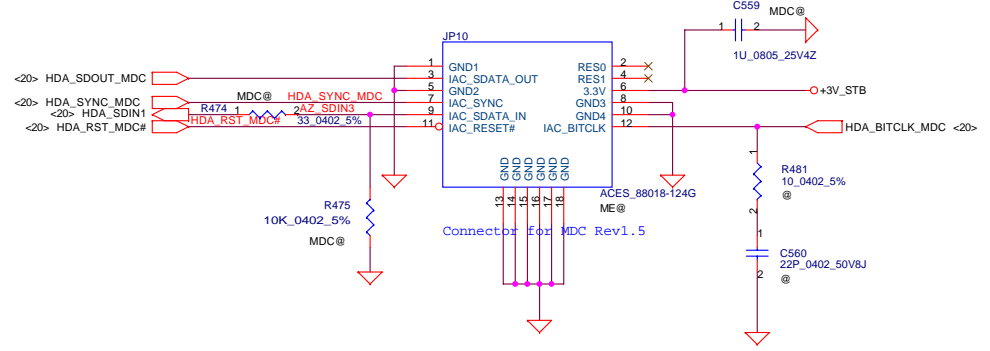
Security Classification	Compal Secret Data			Title		
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Mini-Card/3G/FeliCa/FP		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
					LA-3691P	0.1
				Date:	Friday, May 18, 2007	Sheet 23 of 46



New Card Socket (Left/TOP)



MDC CONN.

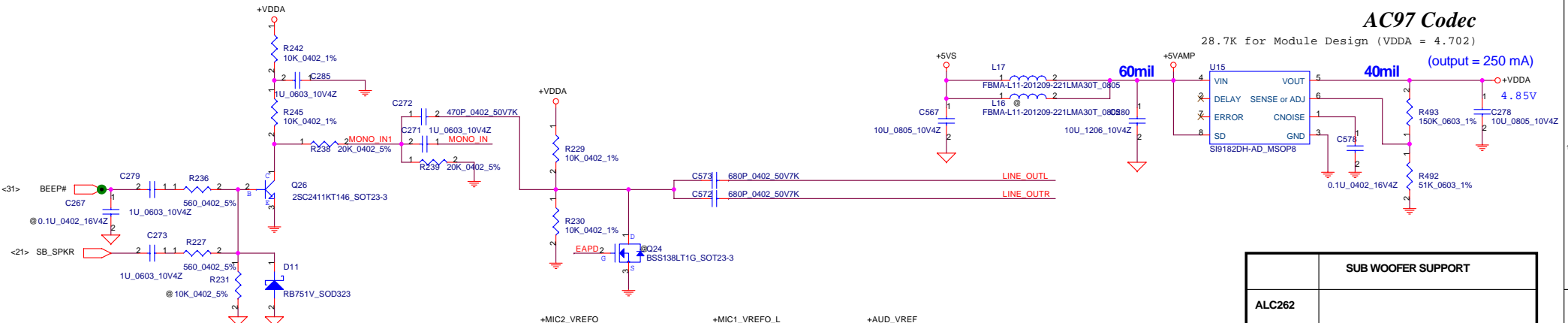


Security Classification	Compal Secret Data		Title	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	NEW CARD & USB Connector
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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
Size	Document Number	Rev		0.1
B	LA-3691P	Date:		Friday, May 18, 2007
Sheet			24	of 46

AC97 Codec

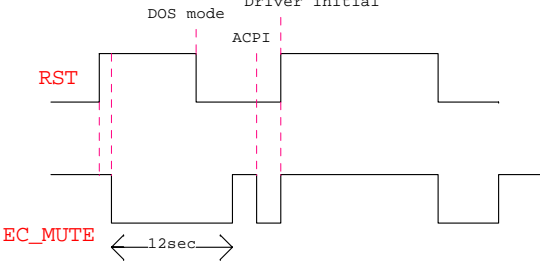
28.7K for Module Design (VDDA = 4.702)

(output = 250 mA)

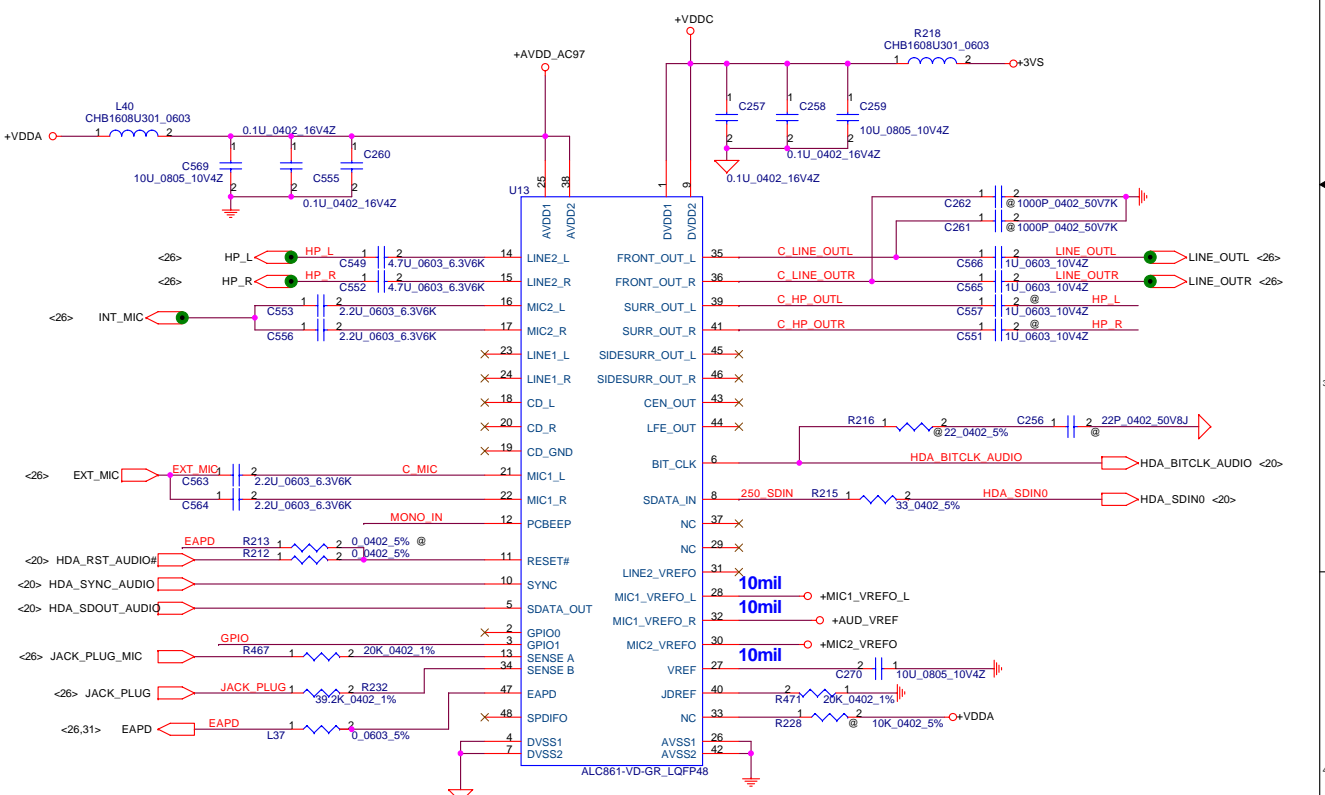
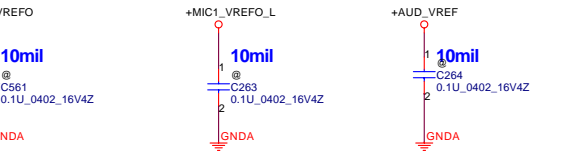
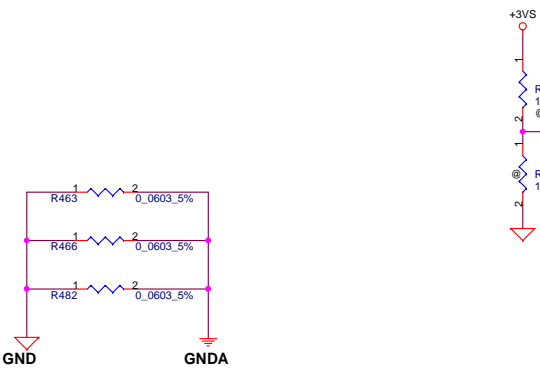
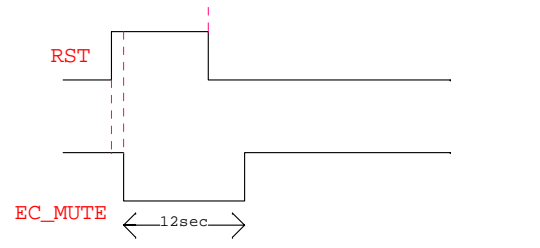


	SUB WOOFER SUPPORT
ALC262	
ALC861D	

Window mode



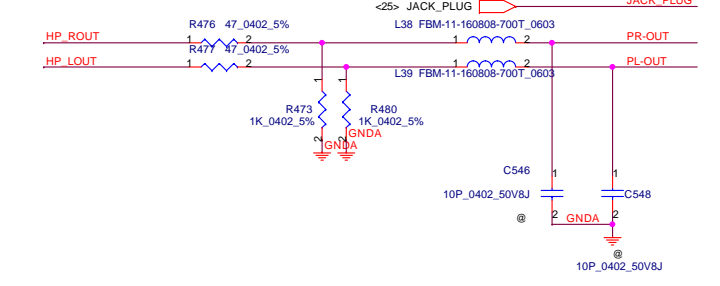
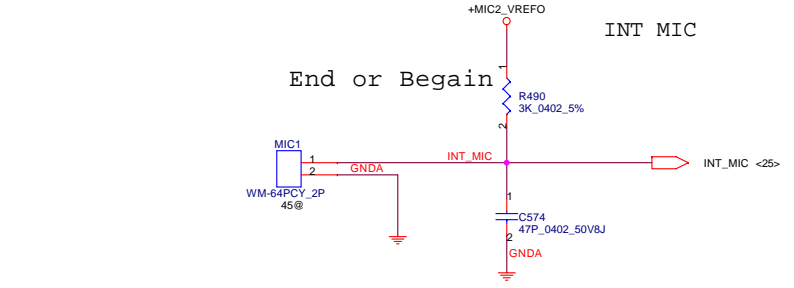
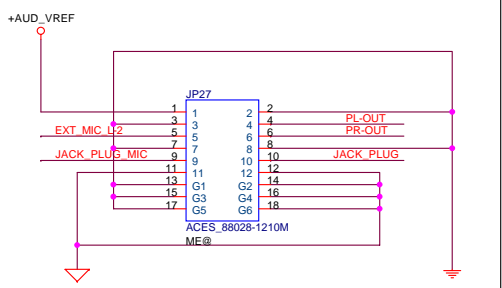
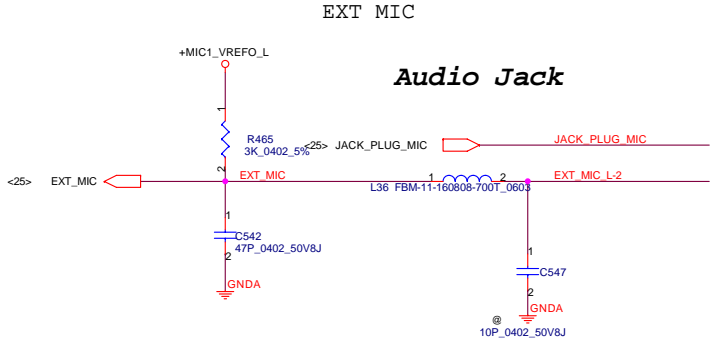
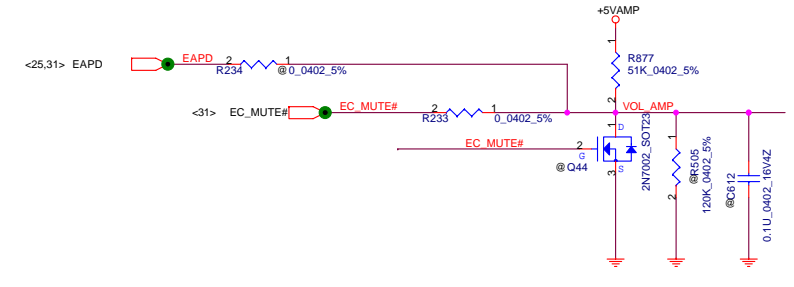
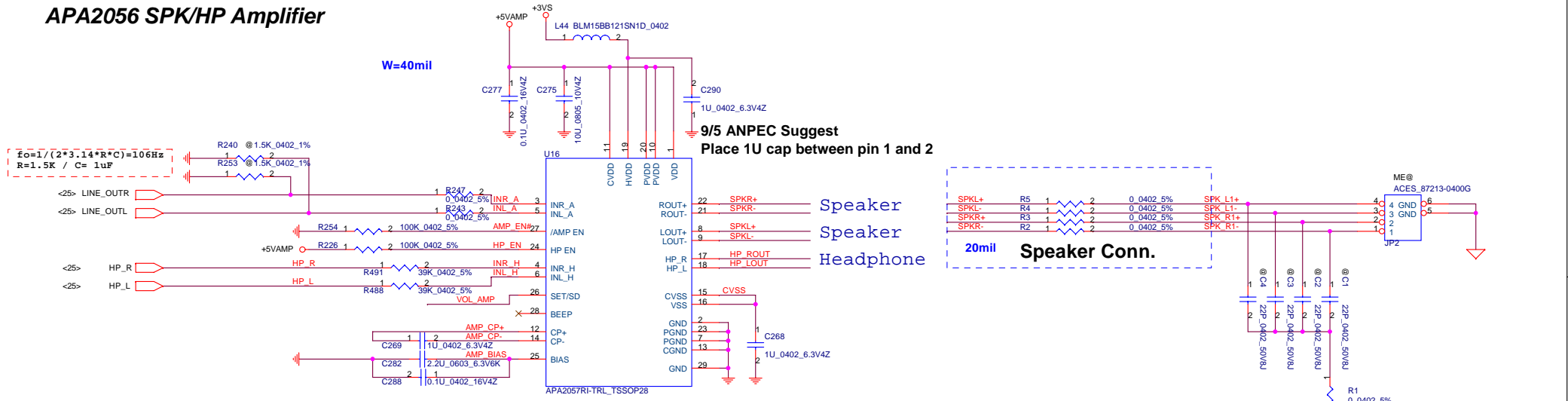
DOS mode



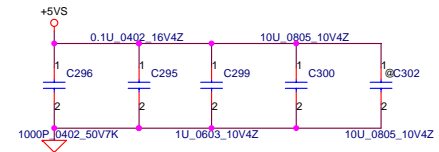
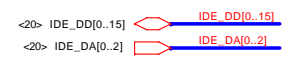
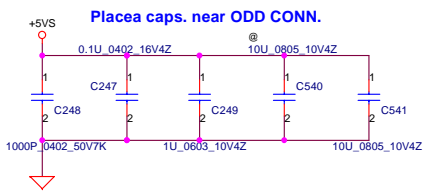
Security Classification	Compal Secret Data	
Issued Date	2006/08/04	Deciphered Date
		2006/10/06
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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.		
ALC861 VD Codec		
Title	Document Number	Rev
	IEL10 LA-3451P	0.2
Date:	Friday, May 18, 2007	Sheet 25 of 46

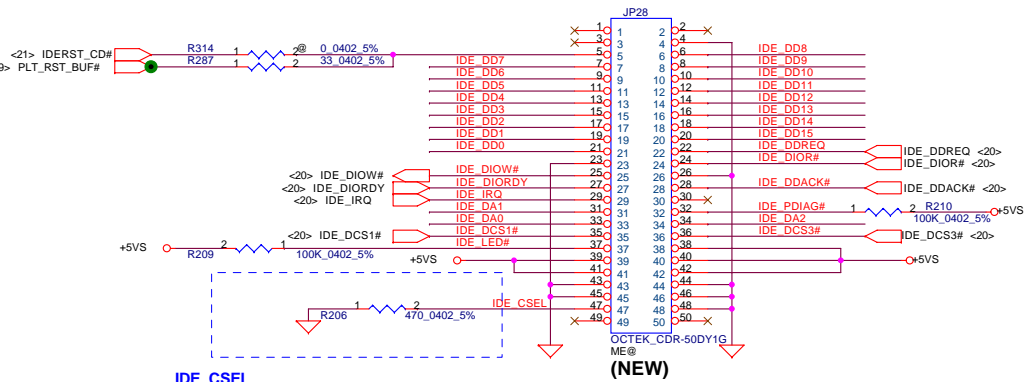
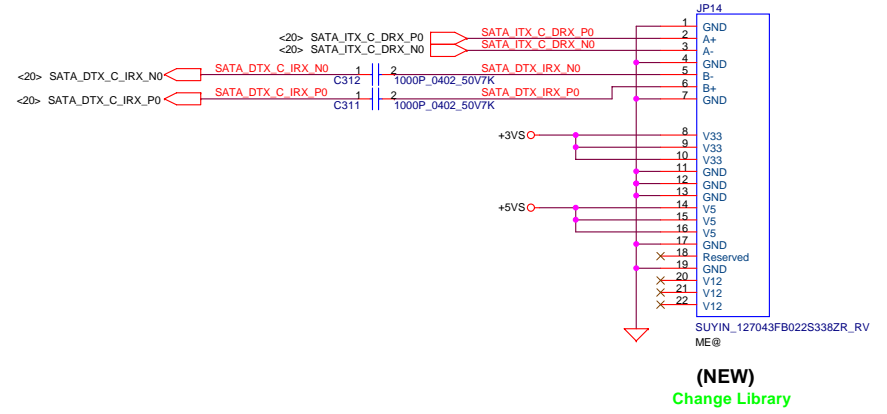
APA2056 SPK/HP Amplifier



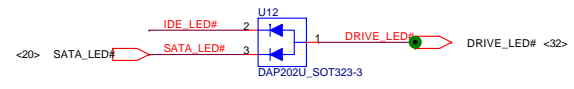
Security Classification		Compal Secret Data		Title	
Issued Date	2006/08/05	Deciphered Date	2007/08/05	AMP/V/R/Audio Jack/MIC	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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	Document Number	LA-3691P	0.1	Date:	Monday, May 21, 2007
				Sheet	26 of 46



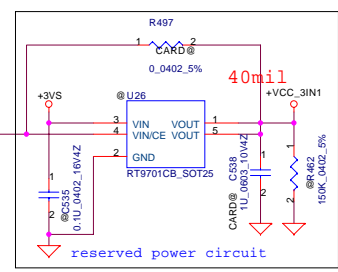
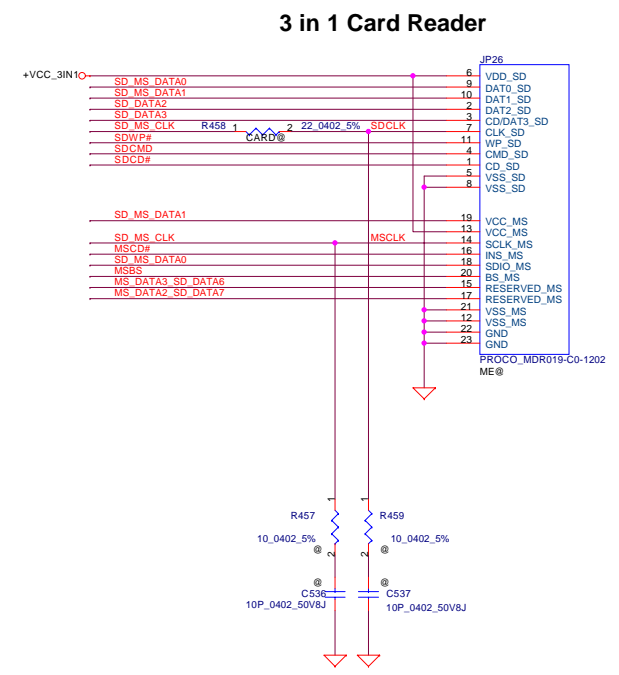
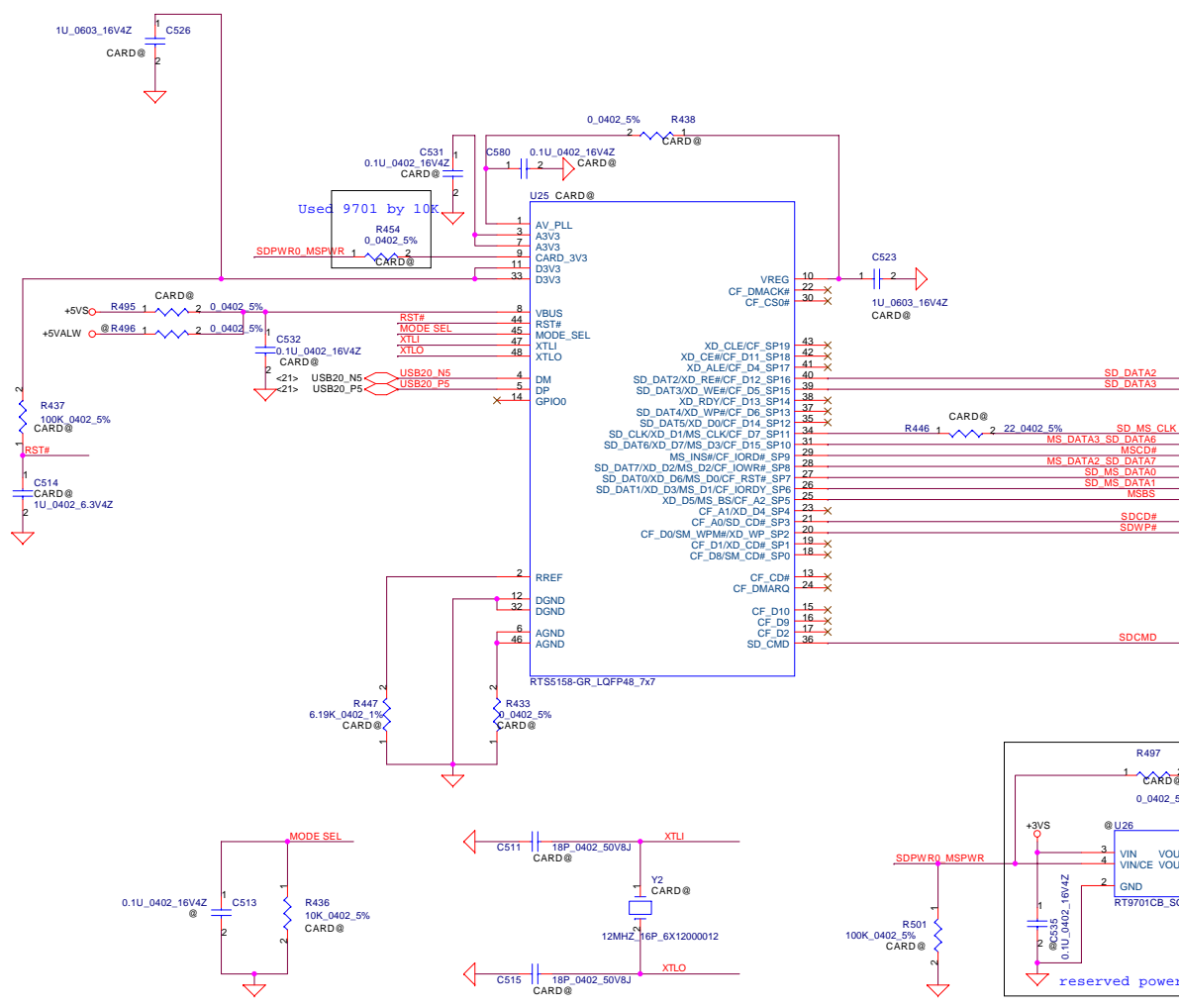
SATA HDD Conn.



IDE_CSEL
 Grounding for Master (When use SATA HDD)
 Open or High for Slaver (Normal)

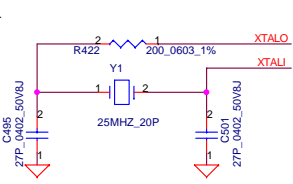
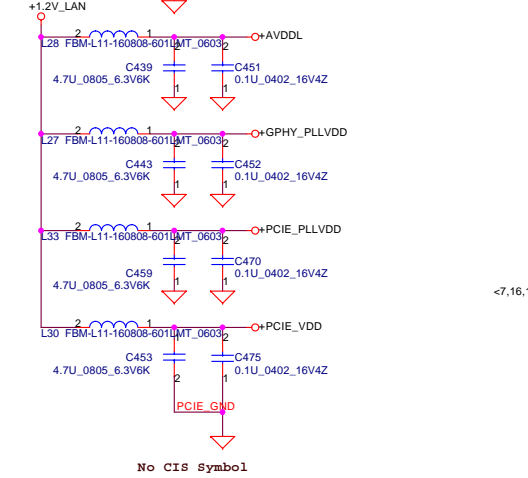
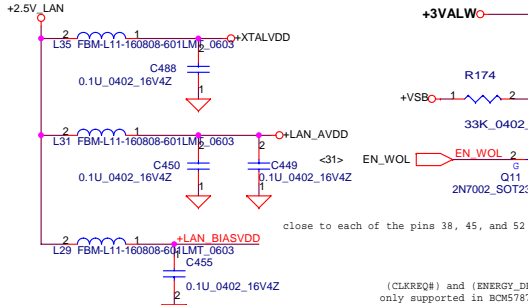


Security Classification	Compal Secret Data		Title	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	HDD & ODD Connector
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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 0.1
Size B	Document Number LA-3691P	Date Friday, May 18, 2007	Sheet 27	of 46



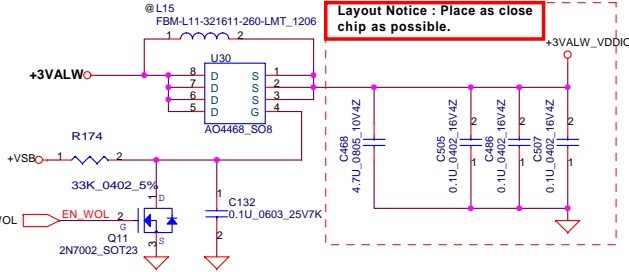
Security Classification	Compal Secret Data		Title	
Issued Date	2006/08/04	Deciphered Date	2006/10/06	1394+3 in 1 Card
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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
Date: Friday, May 18, 2007				Sheet 28 of 46

Layout Notice : Filter place as close chip as possible.

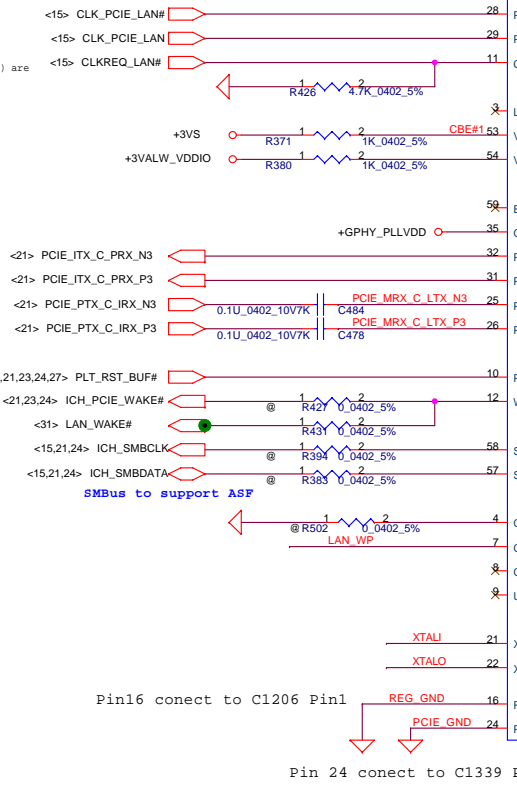


No CIS symbol

U30 C test change to 3413

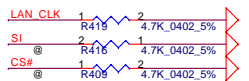
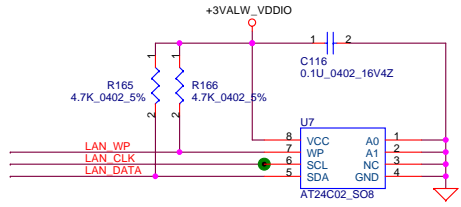


Layout Notice : Place as close chip as possible.

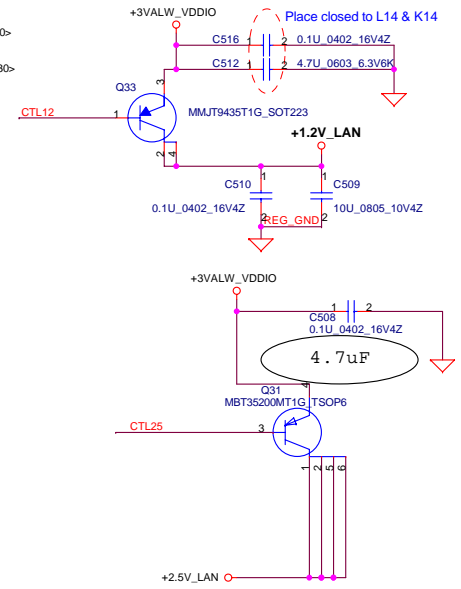
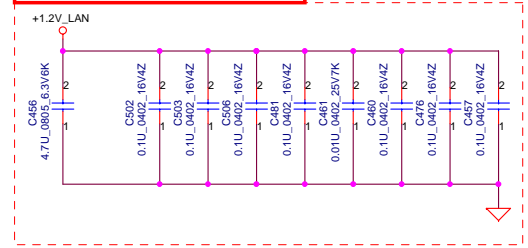


Pin16 connect to C1206 Pin1

Pin 24 connect to C1339 Pin1



Layout Notice : 1.2V filter. Place as close chip as possible.

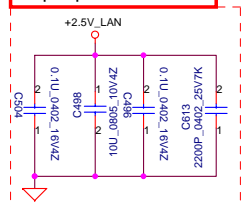


Place closed to L14 & K14

Notice : 4.7u 6.3V capacitor Thickness 1.25mm

Layout Notice : Filter place as close chip as possible.

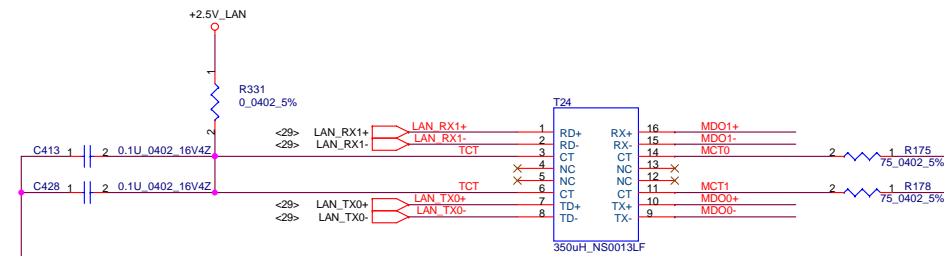
Layout Notice : Place as close chip as possible.



Close to U87

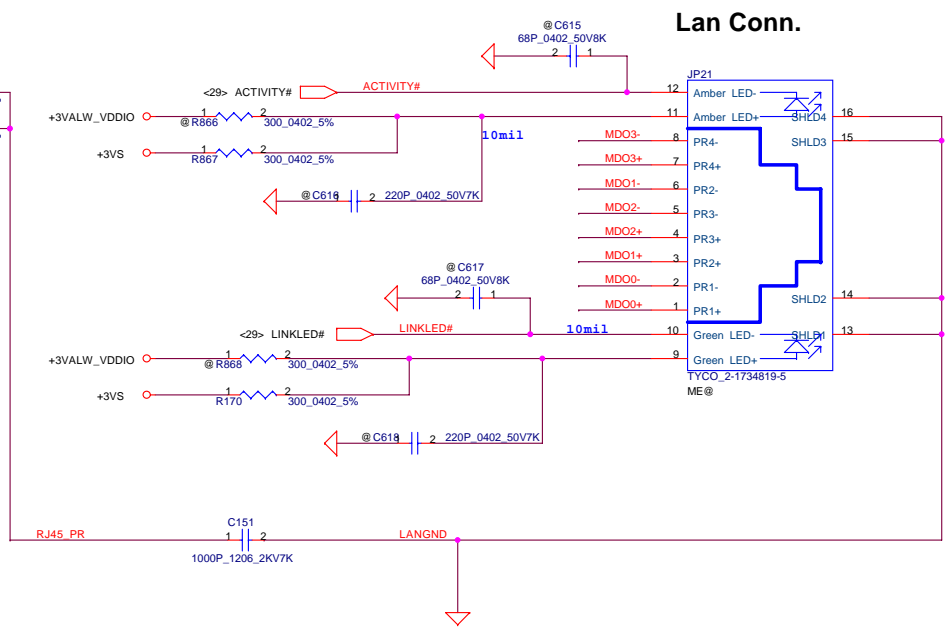
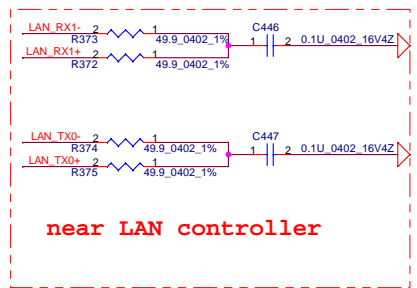
Security Classification	Compal Secret Data	
Issued Date	2006/08/04	Deciphered Date
		2006/10/06
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT 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	BCM5787M-GLAN	
Size	Document Number	Rev
Customer	IEL20 LA-3471P	0.1
Date:	Friky, May 18, 2007	Sheet 29 of 46

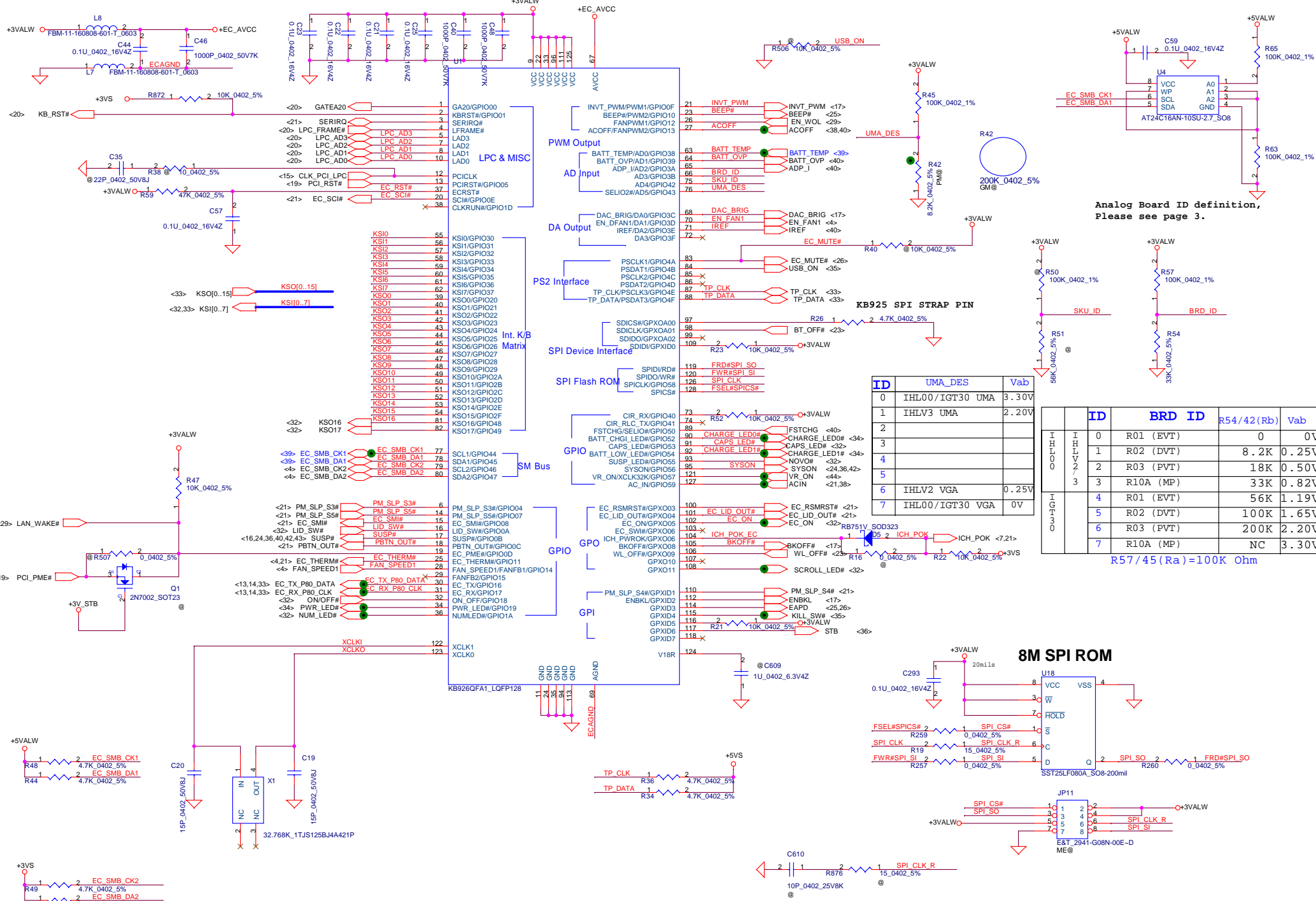


Change T1 from SP050001210 to SP050001210

Change C468,C470,C473,C474,C475,C476 from 0.01uF to 0.1uF



Security Classification		Compal Secret Data		Title	
Issued Date	2006/08/04	Deciphered Date	2006/10/06	LAN CONTROLLER	
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-3691P
				Date:	Friday, May 18, 2007
				Sheet	30 of 46

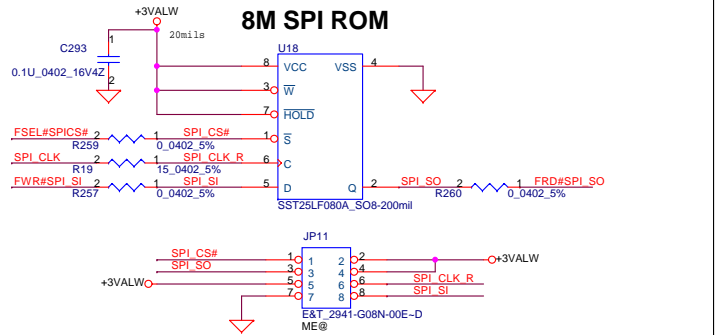


Analog Board ID definition, Please see page 3.

ID	UMA_DES	Vab
0	IHL00/IGT30 UMA	3.30V
1	IHLV3 UMA	2.20V
2		
3		
4		
5		
6	IHLV2 VGA	0.25V
7	IHL00/IGT30 VGA	0V

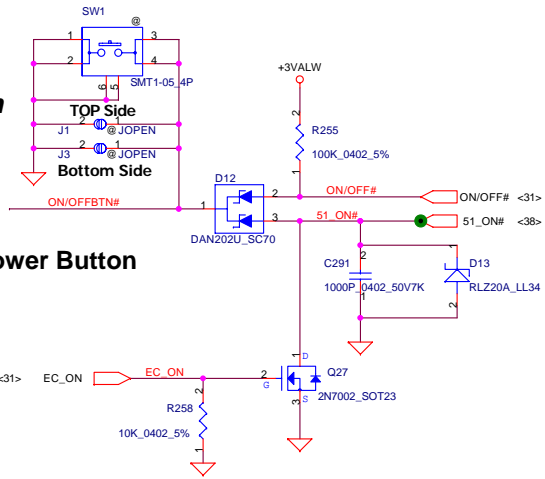
ID	BRD ID	R54/42 (Rb)	Vab
IHL00	0	R01 (EVT)	0
	1	R02 (DVT)	8.2K
	2	R03 (PVT)	18K
IHLV3	3	R10A (MP)	33K
	4	R01 (EVT)	56K
	5	R02 (DVT)	100K
	6	R03 (PVT)	200K
IHLV2	7	R10A (MP)	NC

R57/45 (Ra) = 100K Ohm

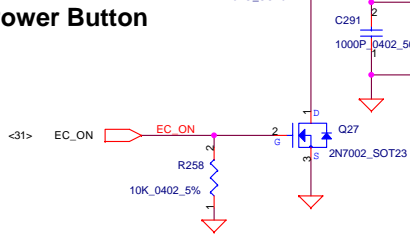


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/04	Deciphered Date	2006/10/06	Title	BIOS & EC I/O Port
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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	Document Number			Rev	0.1
Customer	IGT30 LA-3571P			Date:	Friday, May 18, 2007
				Sheet	31 of 46

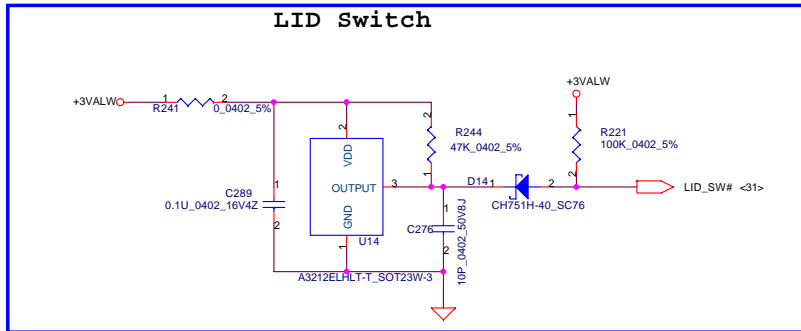
ON/OFF switch



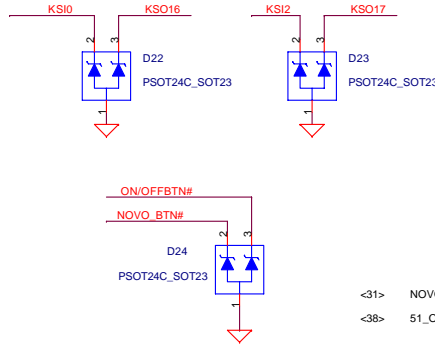
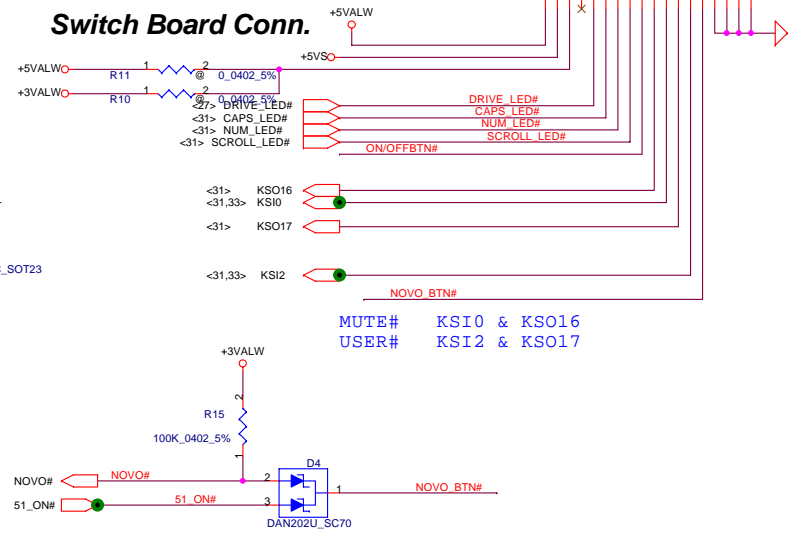
Power Button



LID Switch

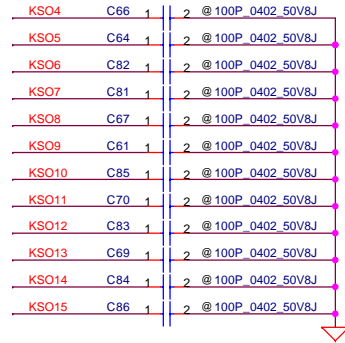
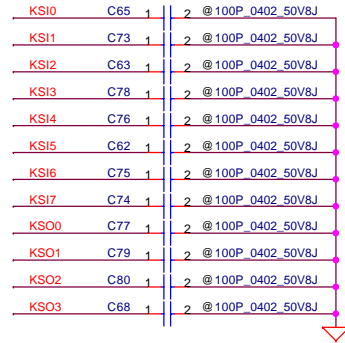
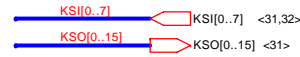


Switch Board Conn.

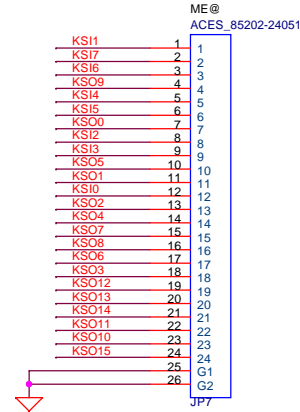


Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				BIOS, I/O Port & K/B Connector
Size	Document Number	Rev		
B	LA-3691P	0.1		
Date:	Friday, May 18, 2007	Sheet	32	of 46

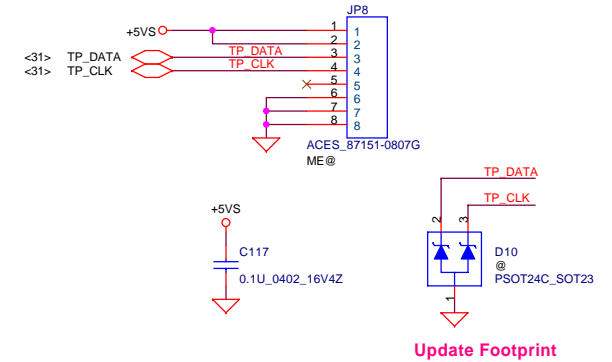
INT_KBD Conn.



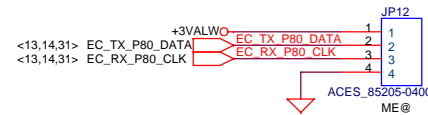
For IHL00



To TP/B Conn.

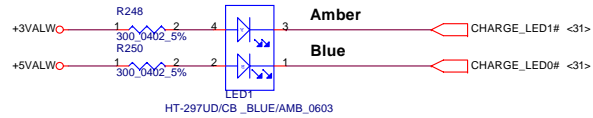
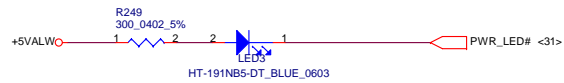


EC DEBUG PORT

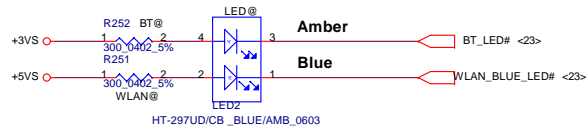


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title EC ENE KB910L(Reserved)	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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 B	Document Number LA-3691P
Date:	Friday, May 18, 2007	Sheet	33	of	46
			1		Rev 0.1

LED



Blue&Amber

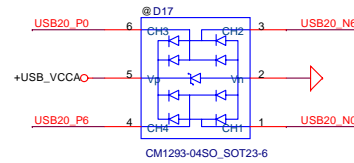
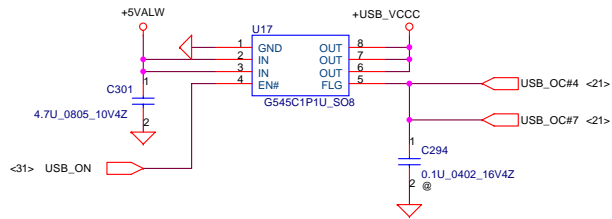
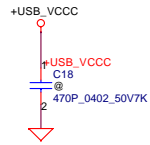
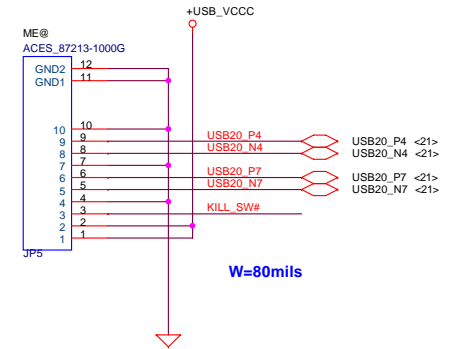
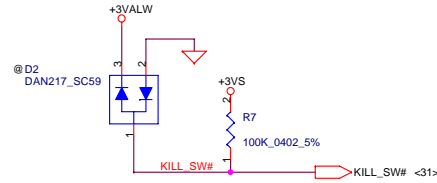


Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				MDC/CIR & LED	
				Size B	Document Number LA-3691P
Date: Friday, May 18, 2007		Sheet	34	of	46

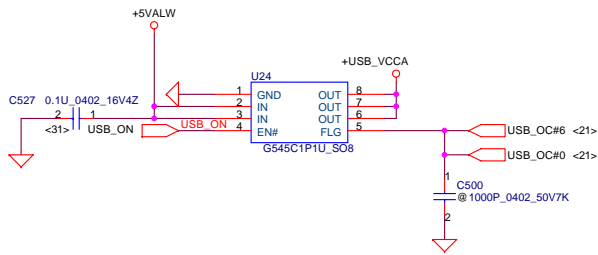
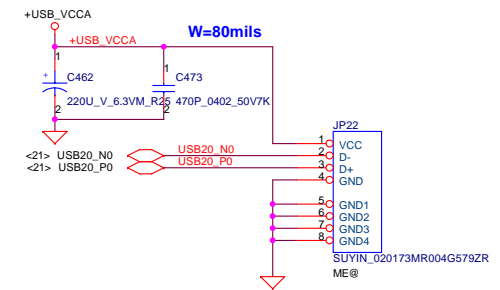
USB Conn.

W=80mils

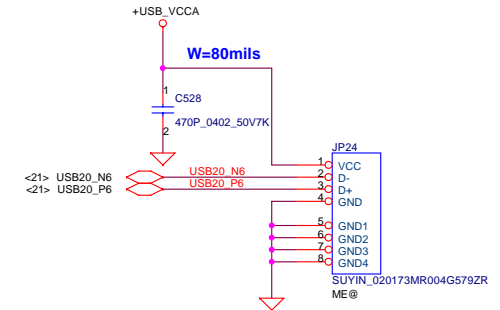
Kill SWITCH



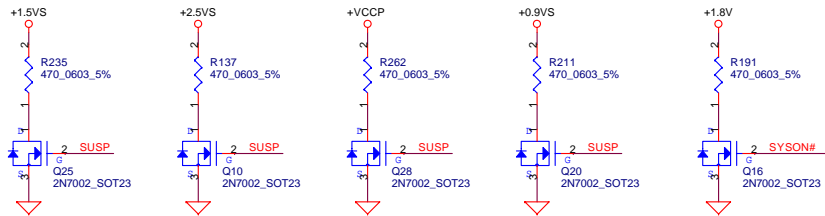
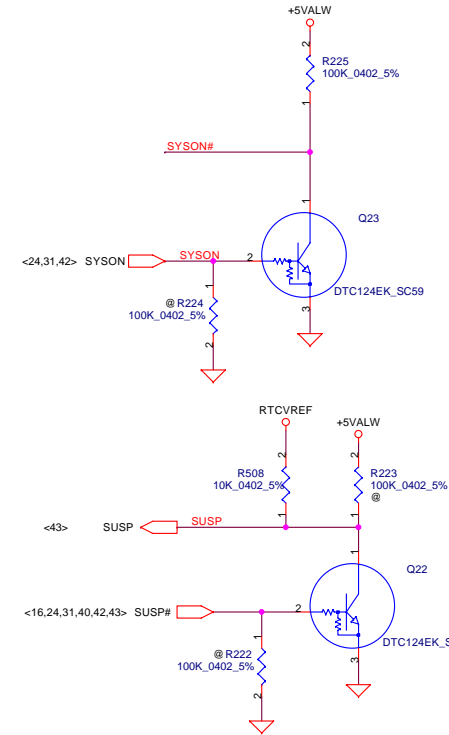
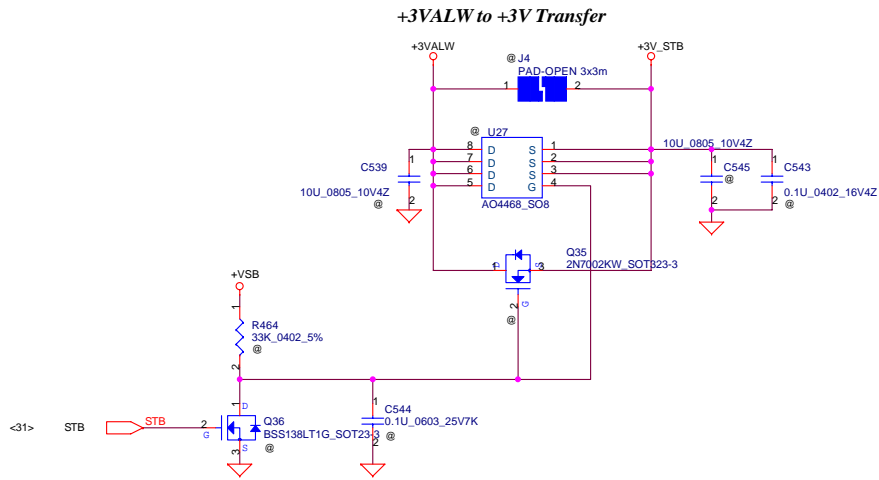
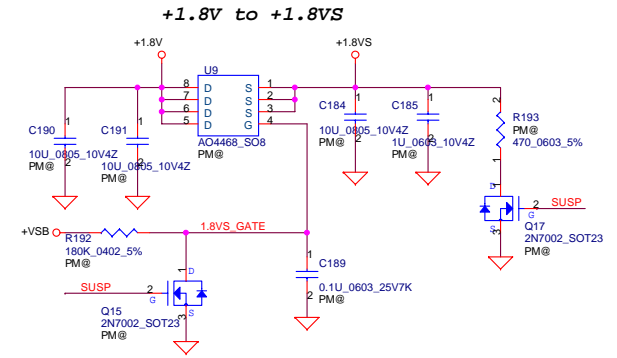
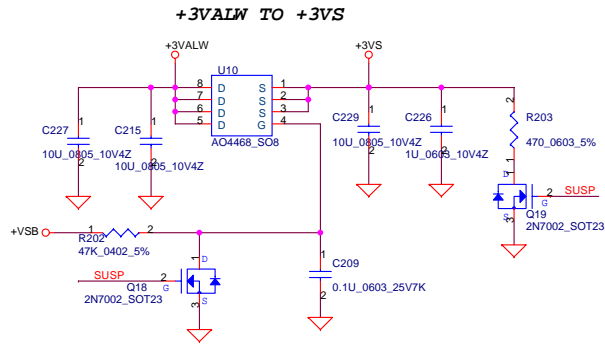
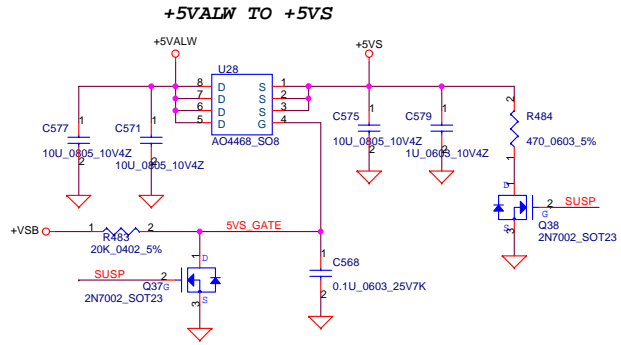
USB CONN. 1



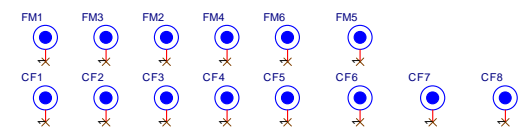
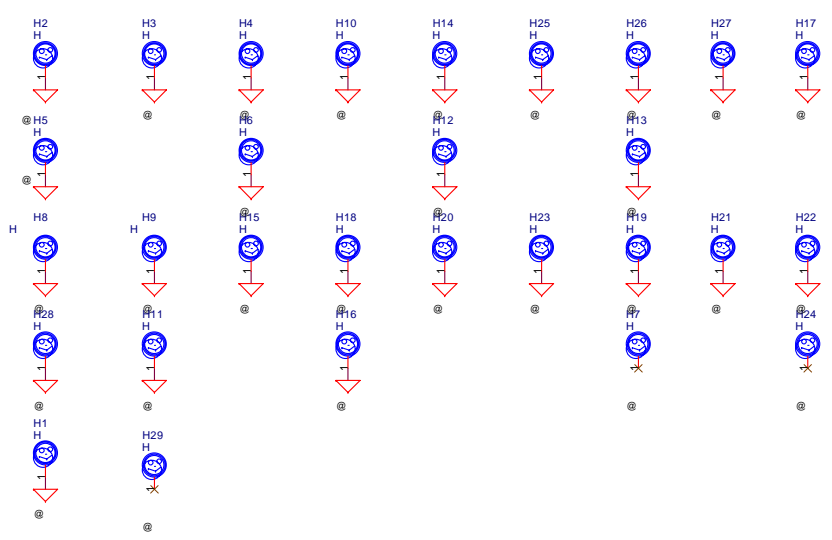
USB CONN. 2



Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title Power OK, Reset and RTC Circuit, TP		
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 B	Document Number LA-3691P	Rev 0.1
Date:	Friday, May 18, 2007	Sheet	35	of	46	

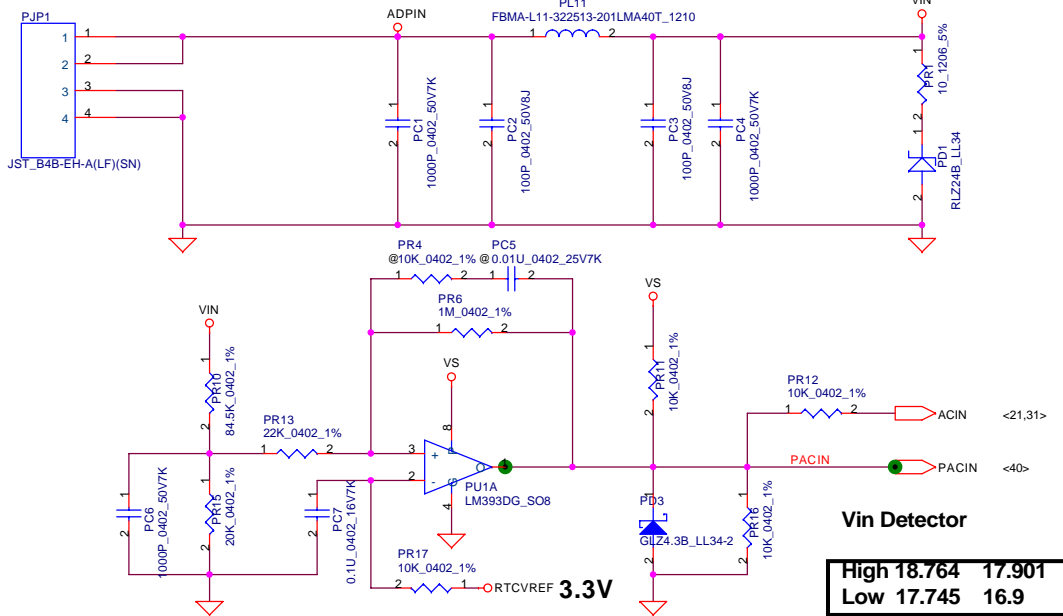


Security Classification		Compal Secret Data		Title	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	DC Interface	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE 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 B	Document Number LA-3691P
Date:	Friday, May 18, 2007	Sheet	36	of	46



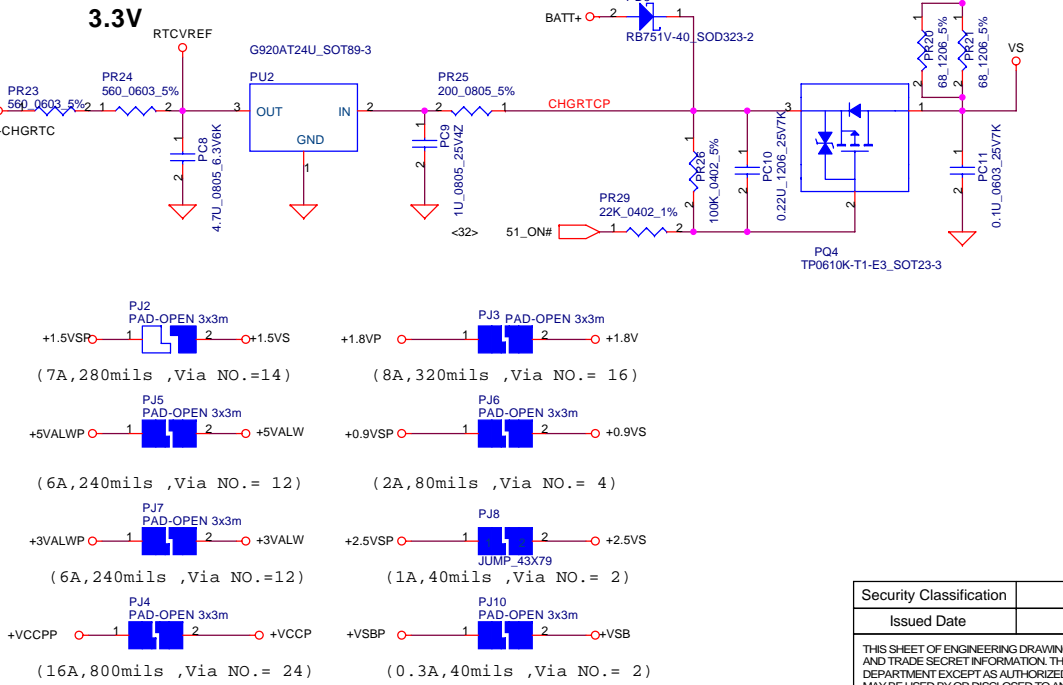
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title FAN & Screw Hole	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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 B	Document Number LA-3691P
Date:	Friday, May 18, 2007	Sheet	37	of	46
				Rev	0.1

DC030005Q00



Vin Detector

High	18.764	17.901	17.063
Low	17.745	16.9	16.03

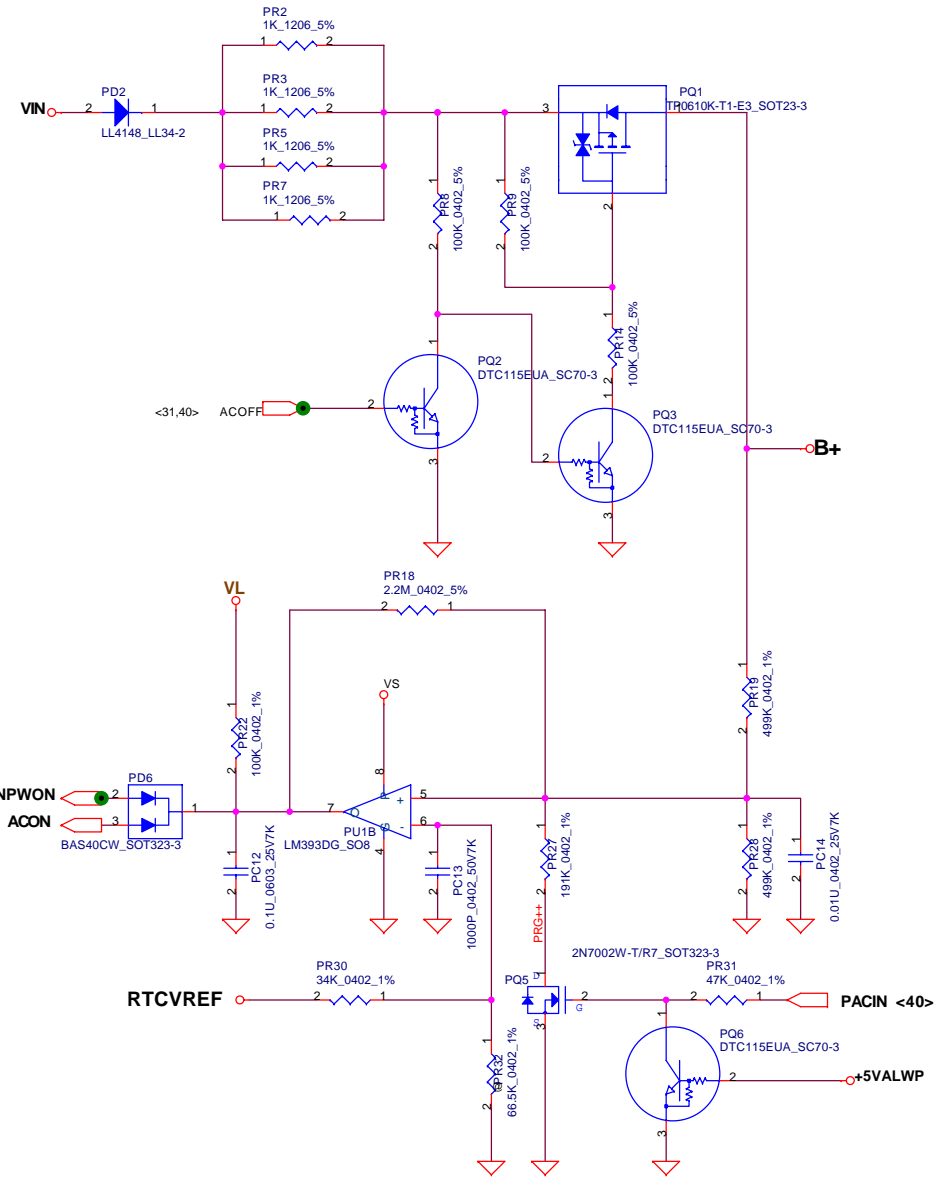


ACIN

	Min.	typ.	Max.
H->L	14.589V	14.84V	15.243V
L->H	15.562V	15.97V	16.388V

BATT ONLY

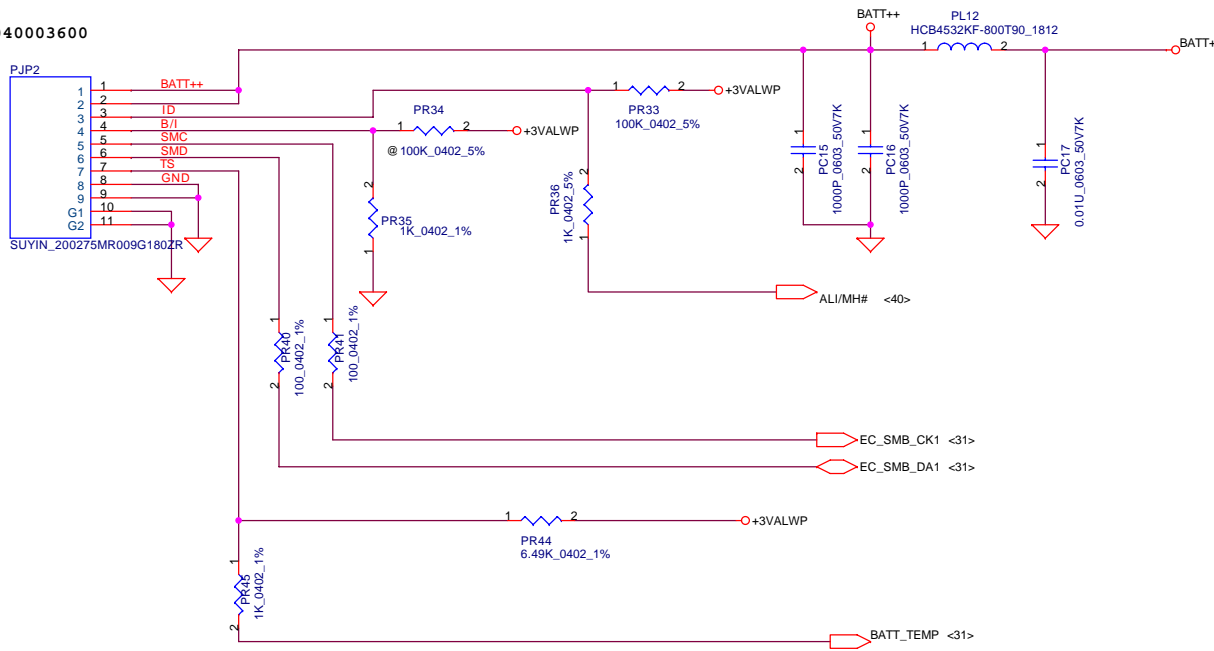
	Min.	typ.	Max.
H->L	6.138V	6.214V	6.359V
L->H	7.196V	7.349V	7.505V



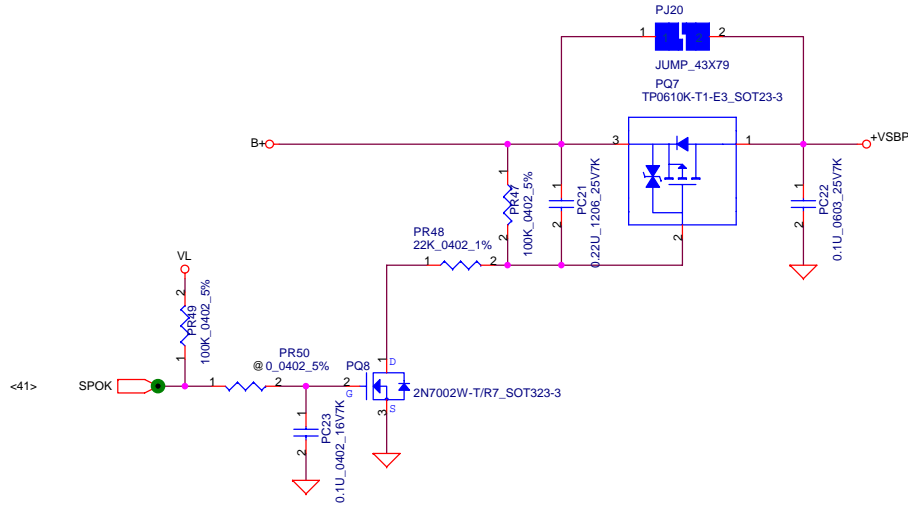
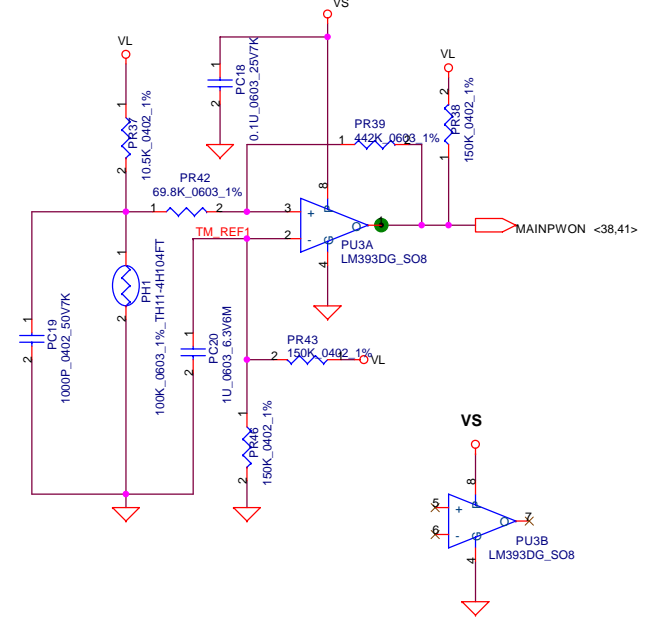
Security Classification		Compal Secret Data	
Issued Date	2005/10/17	Deciphered Date	2006/10/17

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 DCIN/DECTOR		
Size B	Document Number	Rev 0.1
Date: Friday, May 18, 2007	Sheet 38	of 46



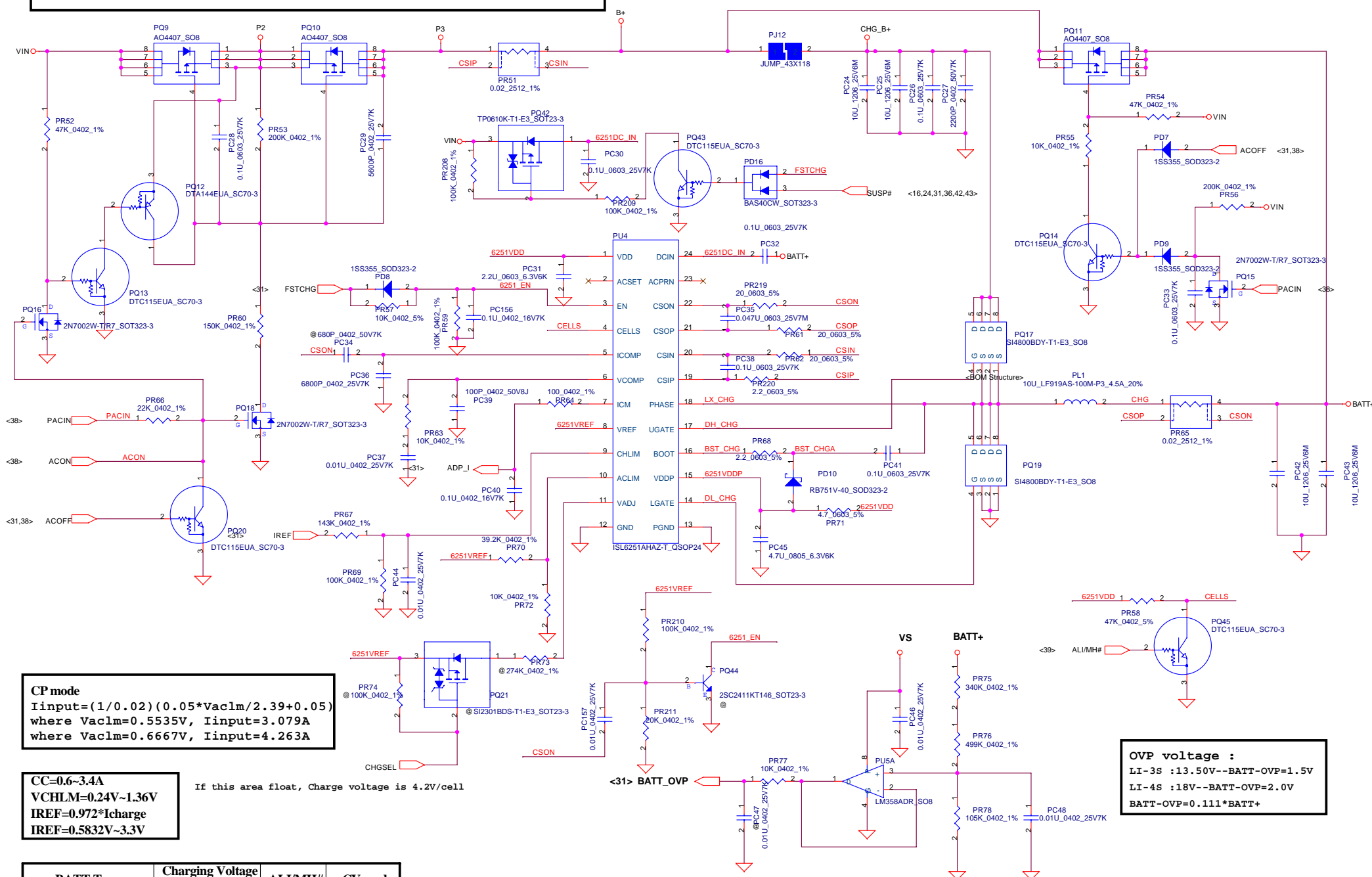
PH1 under CPU bottom side :
 CPU thermal protection at 85 degree C
 Recovery at 70 degree C



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2005/10/17	Deciphered Date	2006/10/17	Title	BATTERY CONN. / OTP
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 B	Document Number IHL00 LA-3691P
Date:	Friday, May 18, 2007	Sheet	39	of	46

65W, Iadapter=0~3.42A, Current sense=0.02ohm, PR69=39.2K, CP=3.079A
 90W, Iadapter=0~4.74A, Current Sense=0.015ohm, PR69=28.7K, CP=4.263A

$$ADP_I = 19.9 * I_{adapter} * R_{sense}$$



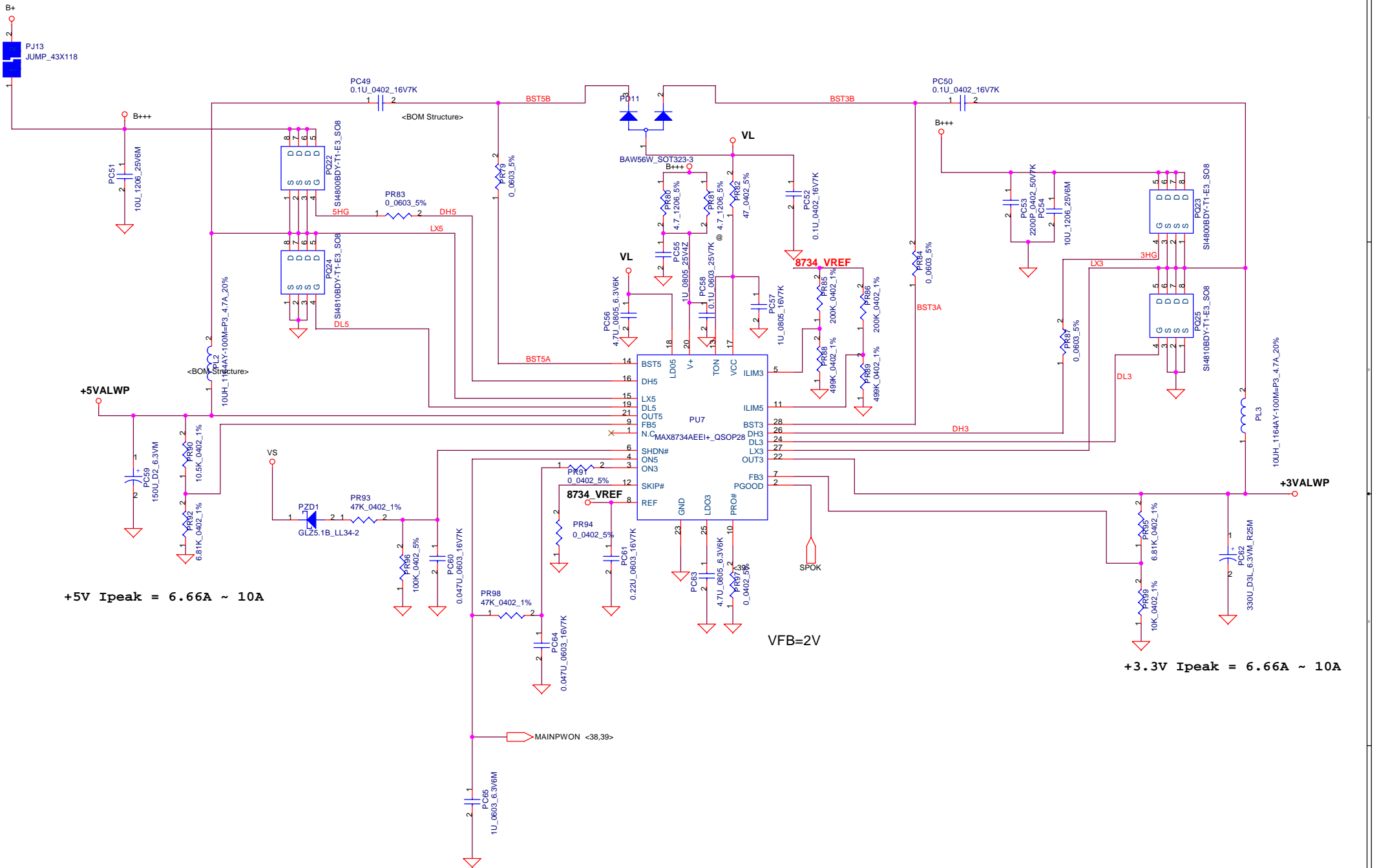
CP mode
 $I_{input} = (1/0.02) (0.05 * V_{aclm} / 2.39 + 0.05)$
 where $V_{aclm} = 0.5535V$, $I_{input} = 3.079A$
 where $V_{aclm} = 0.6667V$, $I_{input} = 4.263A$

CC=0.6~3.4A
 $V_{CHLM} = 0.24V \sim 1.36V$
 $I_{REF} = 0.972 * I_{charge}$
 $I_{REF} = 0.5832V \sim 3.3V$

If this area float, Charge voltage is 4.2V/cell

OVP voltage :
 LI-3S : 13.50V -- BATT-OVP=1.5V
 LI-4S : 18V -- BATT-OVP=2.0V
 $BATT-OVP = 0.111 * BATT+$

BATT Type	Charging Voltage (0x15)	ALI/MH#	CV mode
4800mAH 3S pack	16800mV	LOW	16.8V
2400mAH 4S pack	12600mV	HIGH	12.60V

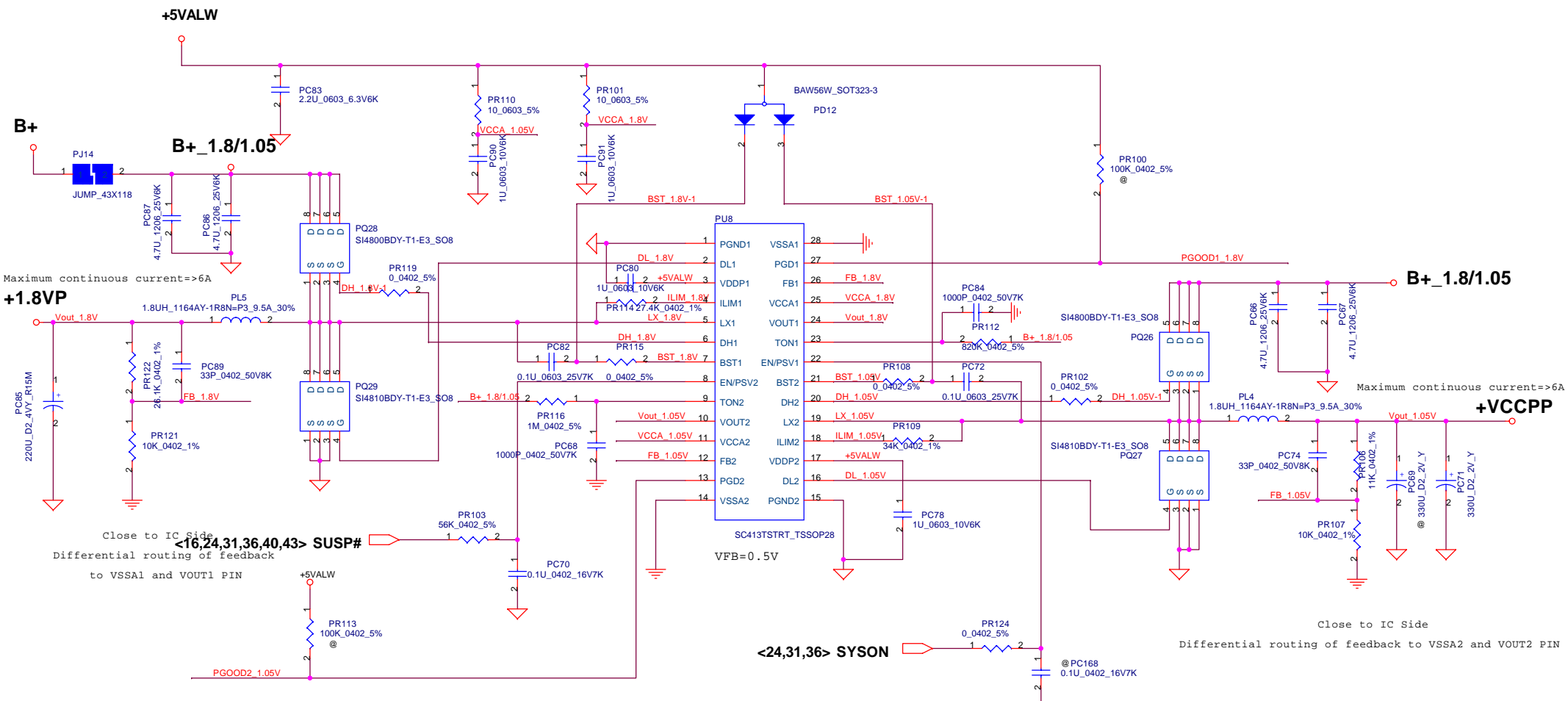


+5V Ipeak = 6.66A ~ 10A

+3.3V Ipeak = 6.66A ~ 10A

VFB=2V

Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2005/10/17	Deciphered Date	2006/10/17	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.				+5VALWP/+3VALWP		
Size	Document Number	Rev		Date: Friday, May 18, 2007		
Custom		0.1		Sheet 41 of 46		



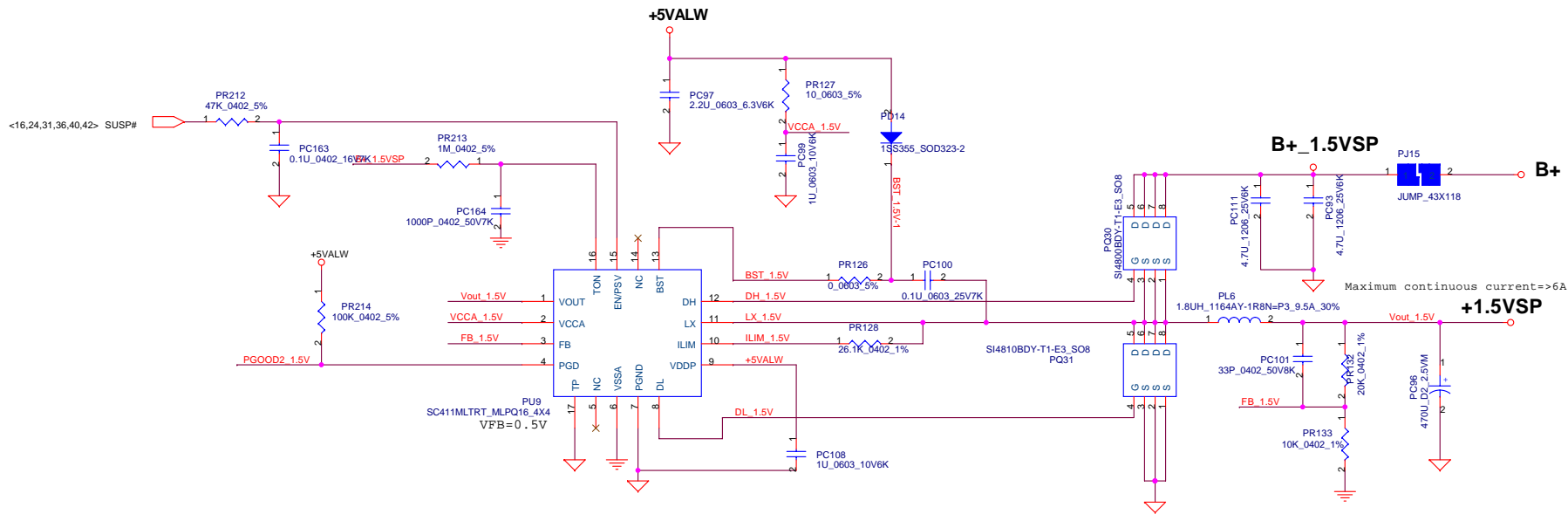
Maximum continuous current=>6A
+1.8VP
 Vout 1.8V

Maximum continuous current=>6A
+VCCPP
 Vout 1.05V

VFB=0.5V
 $V_o = VFB * (1 + PR122 / PR127) = 1.805V$
Ipeak=12.17A, Imax=8.519A
 $Ton = (3.3E-12 * (PR121 + 37K) * (Vout / VBat)) + 50ns$
 $= 3.3 * 10e-12 * (820K + 37K) * (1.8 / 19) + 50ns = 0.3179us$
 FDS6670AS:Rds(on)=>Typ:9 mOhm
 Max:11.5 mOhm
 $Iocp = Ivalley + Iripple / 2$
 $Iripple = (vin - vout) * (Ton / L) = 5.467A, 1/2 Iripple = 2.734A$
 $Ivalleymin = 10E-6 * (PR120 / Rds(ON)max * 1.5)$
 $= 9 * 10e-6 * (27.4K / 0.0115 * 1.5) = 14.295A > 11.73 * 1.2 = 14.076A$
 $Ivalleymax = 10E-6 * (PR120 / Rds(ON)typ * 1.2)$
 $= 11 * 10e-6 * (27.4K / 0.009 * 1.2) = 27.907A$
 OCP=>17.029A~30.641A

VFB=0.5V
 $V_o = VFB * (1 + PR129 / PR130) = 1.5V$
Ipeak=5.16A, Imax=3.612A
 $Ton = (3.3E-12 * (PR125 + 37K) * (Vout / VBat)) + 50ns$
 $= 0.3201us$
 AO4916 Rds(on)=>Typ:21 mOhm
 Max:27 mOhm
 $Ivalleymin = 9 * 10u * (29.4K / 0.027 * 1.4) = 7A$
 $Ivalleymax = 11 * E-6 * (29.4K / 0.021 * 1.1) = 12.833A$
 $Iripple = (vin - vout) * (Ton / L) = 2.546A, 1/2 Iripple = 1.273A$
 $Iocp = Ivalley + Iripple / 2$
 OCP=>8.273A~14.106A

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/01/16	Deciphered Date	2008/01/16	Title +VCCPP/+1.8VP	
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 0.1
Date:	Friday, May 18, 2007	Sheet	42	of	46



B+ 1.5VSP

+1.5VSP

Close to IC Side
Differential routing of feedback to VSSA2 and VOUT2 PIN

VFB=0.5V, Ipeak=14.02A, Imax=9.814A

The current rating of +1.05VSP include +VCC_GFX current.

$V_o = V_{FB} * (1 + PR146 / PR147) = 1.05V$

$T_{on} = (3.3E-12 * (PR142 + 37K) * (V_{out} / V_{bat})) + 50ns = 0.2391us$

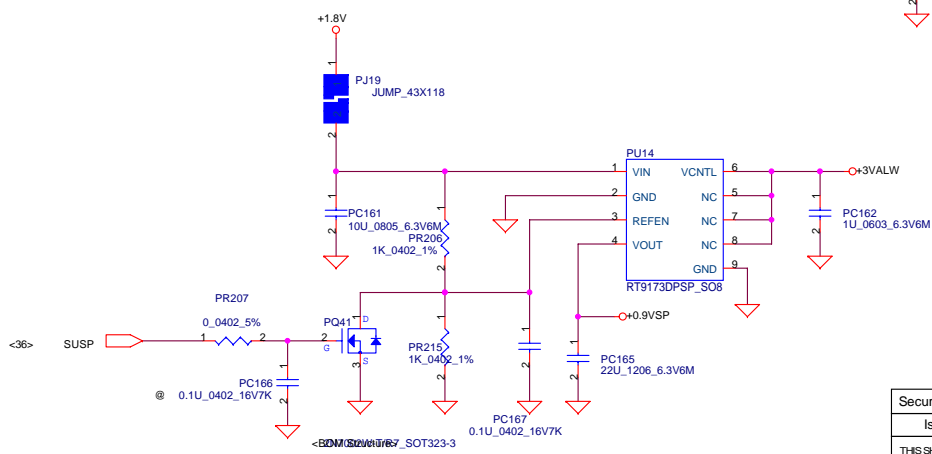
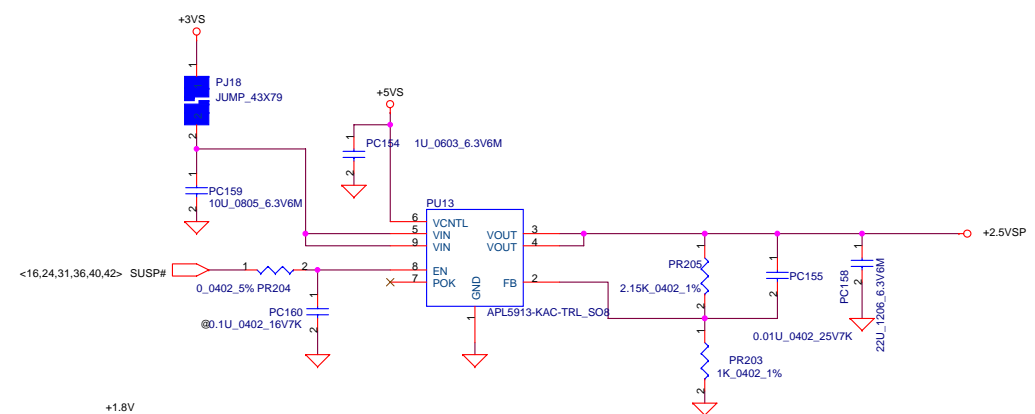
SI4810BDY:Rds(on) => Typ: 9mOhm
Max: 11.5 mOhm

$I_{valleymin} = 9 * 10E-6 * (PR145 / R_{ds(ON)max} * 1.5)$
= 9 * 10E-6 * (26.1K / (0.0115 * 1.5)) = 13.617A

$I_{valleymax} = 11 * 10E-6 * (PR145 / R_{ds(ON)min} * 1.2)$
 $= 11 * 10E-6 * (26.1K / (0.009 * 1.3)) = 20.076A$

$I_{ripple} = (v_{in} - v_{out}) * (T_{on} / L) = 4.292A, 1/2 I_{ripple} = 2.146A$

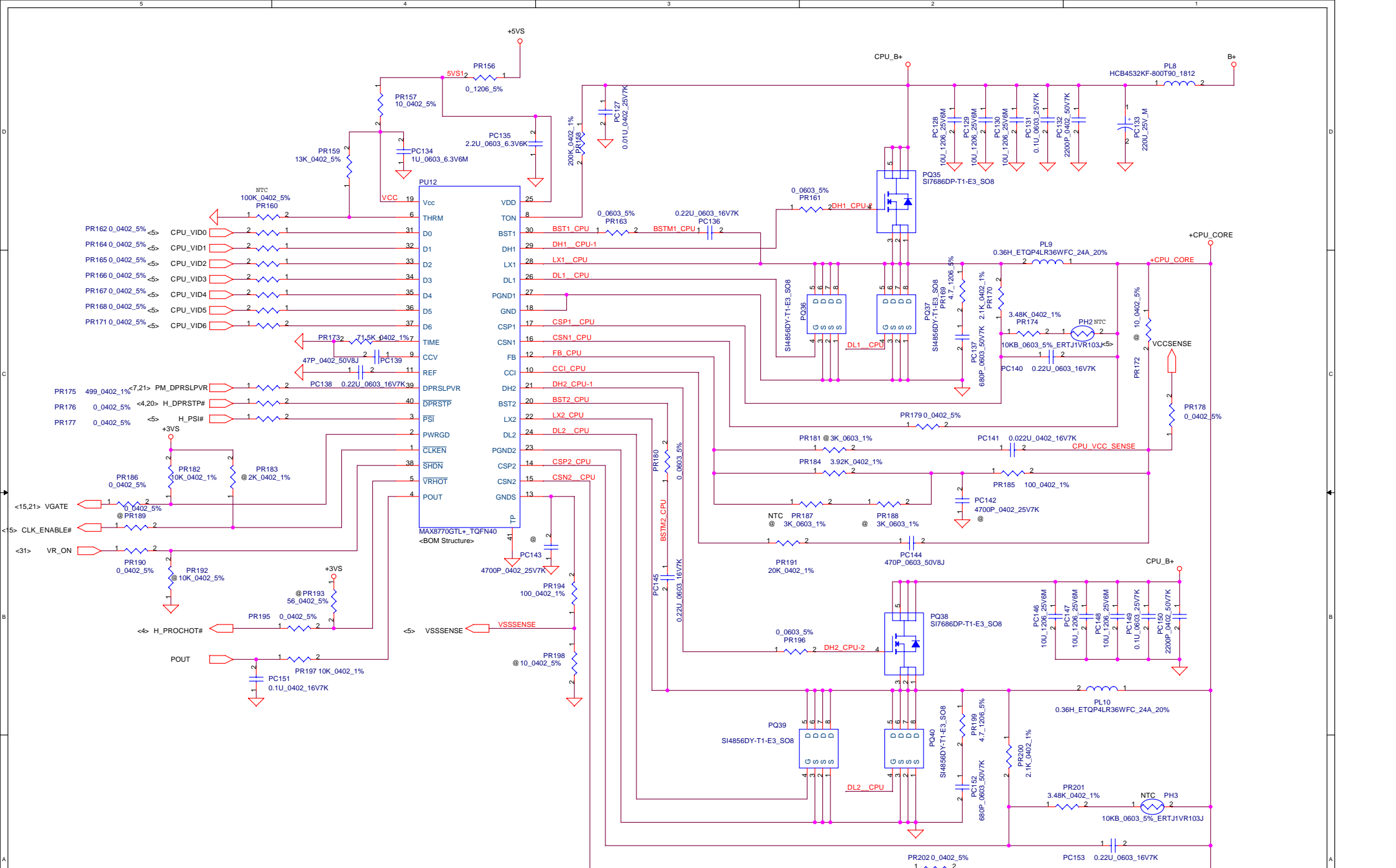
$I_{ocp} = I_{valley} + I_{ripple} / 2$
OCP => 15.763A ~ 22.222A



Security Classification	Compal Secret Data	
Issued Date	2005/10/17	Deciphered Date
		2006/10/17

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.		
1.5VSP/2.5VSP/0.9VSP		
Title	Document Number	Rev
	Custom	0.1
Date: Ficksy, May 18, 2007	Sheet	43 of 46



Security Classification	Compal Secret Data		Title	
Issued Date	2005/10/17	Deciphered Date	2006/10/17	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom
				Document Number
				Rev 0.1
				Date: Friday, May 18, 2007
				Sheet 44 of 46

Item	Fixed Issue	Rev.	PG#	Modify List
1	USB port 2 and 4 can't work	0.2	P.35	Change U17 P/N SA005280110 to SA00001H600
2	Change symbol	0.2	P.20.31	Change Y4 and X1 to SJ132P7K220
3	CRT wave	0.2	P.10	Change L41 to R878 and reserve C619
4	To meet INTEL SPEC	0.2		Change C148.C442.C171.C400.C606.C607 from 2200P to 22N
5	Delete reserve	0.2	P.17	Delete R71,74 Delete C171
6	FACTORY REQUEST	0.2	P.35	Delete JP5 PIN3
7	To meet CRT SPEC	0.2	P.18	Remove C7
8	Tune frequency	0.2	P.28	Change C511;515 from 27p to 18p
9	EMI Request	0.2		change C632 to 2.2nF Remove R441,R145,C6,12,13,change L2,3,4 to SM01000AL00
10	EMI Request	0.2	P.30	LAN RX TX change
11	EMI Request	0.2	P.32	ADD D22;23;24
12	EMI Request	0.2	P.4	Delete ITP_BPM0-5 and R515
13	FAN issue	0.2	P.4	Change R276 from 10k to 1k ohm C341 from 1000p to 100p
14	USB issue	1.0	P.21	Change USB port 2 to NEW card port 7 to USB Change R322 to 22 ohm
15	Remove LPC debug connect	1.0	P.33	Remove JP13,R265,R441,R145
16	ESD Request and reserve	1.0		ADD T48 AND R515 AND JP9 29,30 pin to GND
17	Power improve	1.0	P.6	RemoveC26,31,314,315
18		0.2		
19		0.2		
20		0.2		

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		
HW PIR		
Size	Document Number	Rev
Date:	Friday, May 18, 2007	Sheet 45 of 46

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

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
1	+1.5VSP output voltage is 2V.	BOM error for +1.5VSP output.	0.2	6	1.Change the PR132 for 30K to 20K.	03/20/07	DVT
2	Power sequence update for 1.5VS.	HW request.	0.2	6	1.Add the PC163 0.1u_0402_16V. 2.Change the PR212 from 0 to 47K.	04/09/07	FVT
3	Power sequence update for +VCCPP.	HW request.	0.2	5	1.Add the PC97 0.1u_0402_16V. 2.Change the PR103 from 0 to 56K.	04/09/07	FVT
4	Reduce the overshoot on P2 point.	IFL01 issue.	0.2	1	1.Add the PR1 10_1206 and PD1 RZ24B.	04/09/07	FVT
5	Symbol issue.	DFB team request.	0.2	1/3	1.Change the symbol for the PZD1,PD2,PD3,PD4 and PQ21.	04/09/07	FVT
6	Noise issue for idle.	Noise issue for idle.	0.2	7	1.Change the PC133 from 100U to 220U 25V.	04/09/07	FVT