

SE000008600

Compal Confidential

Tanglha Schematics Document

Intel Merom Processor with Crestline + DDRII + ICH8M

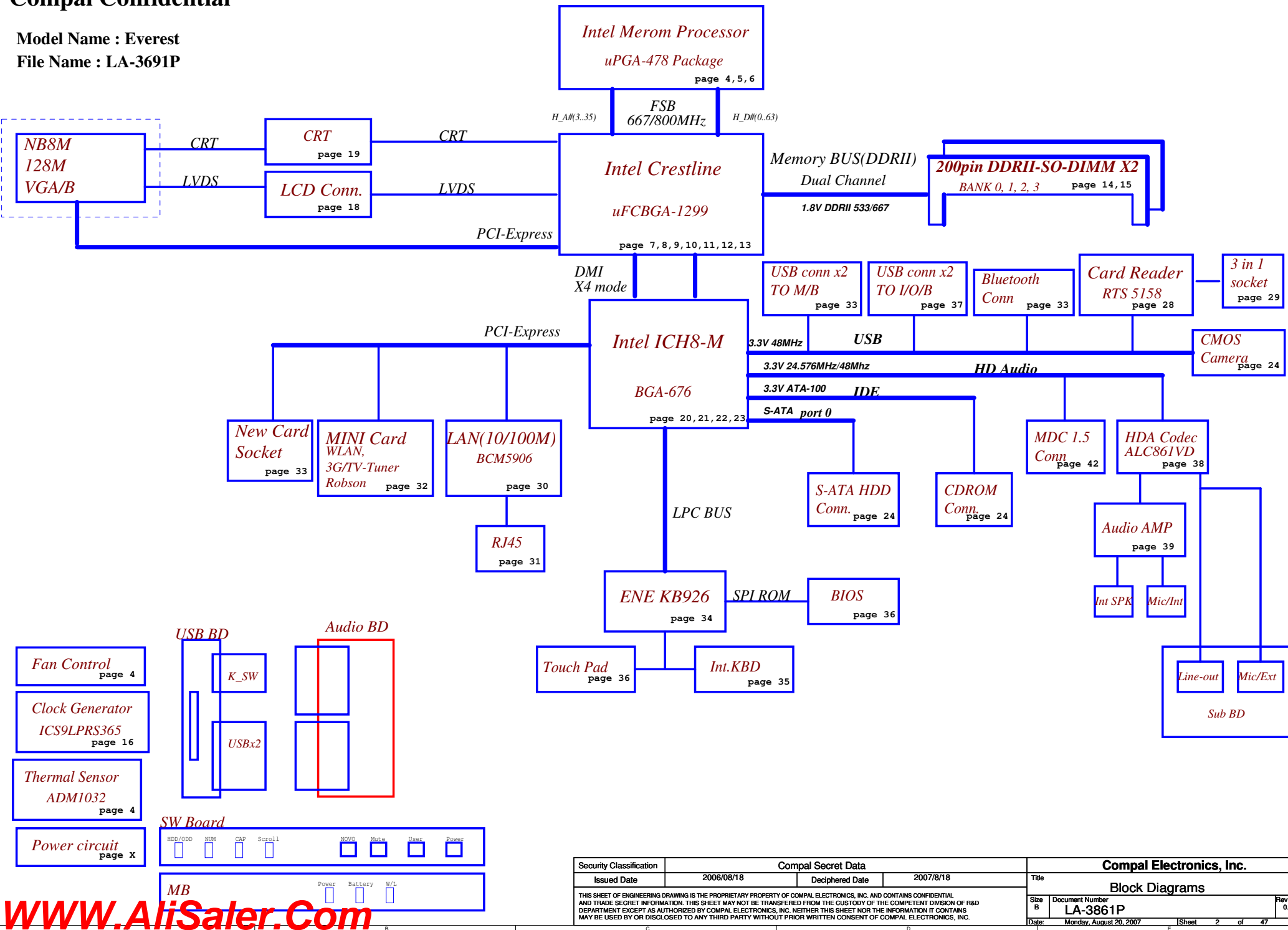
2007-08-16

REV: 1.0

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.				Size	Document Number
				B	LA-3861P
				Date	Monday, September 03, 2007
				Sheet	1 of 47
				Rev	0.1

Compal Confidential

Model Name : Everest
File Name : LA-3691P



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.				Size B	Document Number
				LA-3861P	Rev 0.1
				Date: Monday, August 20, 2007	Sheet 2 of 47

Voltage Rails

Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
B+	AC or battery power rail for power circuit.	N/A	N/A	N/A
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+0.9VS	0.9V switched power rail for DDR terminator	ON	OFF	OFF
+1.05VS	1.05V switched power rail	ON	OFF	OFF
+1.25VS	1.25V 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

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

BOARD ID Table

ID1	ID0	TEST
0 (R744)	0 (R745)	A-TEST
0 (R744)	1 (R742)	B-TEST
1 (R741)	0 (R745)	C-TEST

PANEL ID Table

R	Size
Ra (R743)	15W
Rb (R740)	14W

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

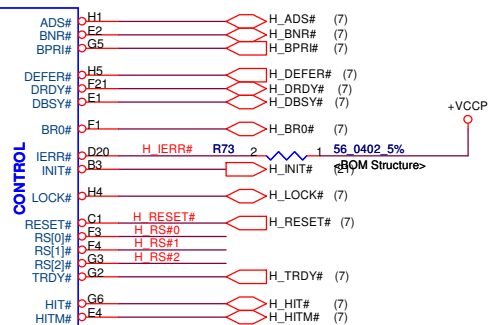
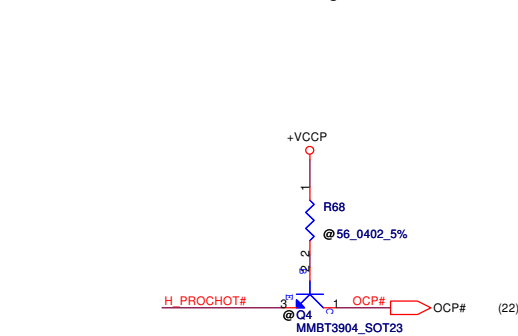
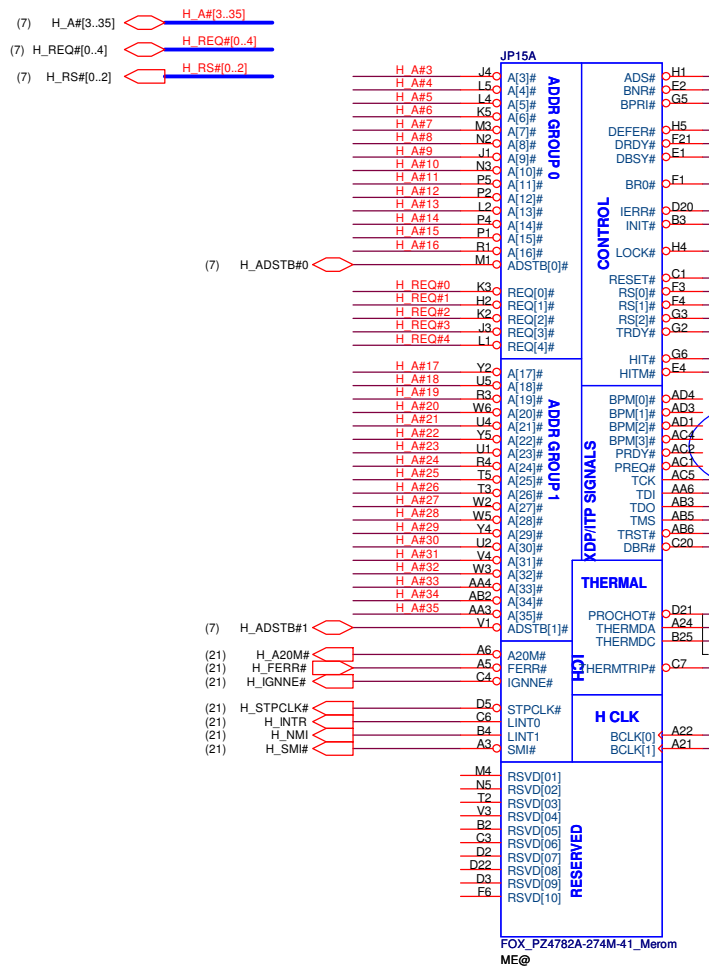
Device	Address
Smart Battery	0001 011X b
EEPROM(24C16/02)	1010 000X b

EC SM Bus2 address

Device	Address
GMT-781	1001 100X b
NVIDIA NB8X	

ICH8M SM Bus address

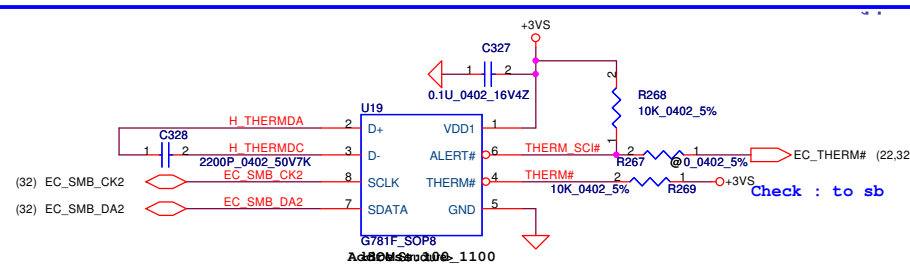
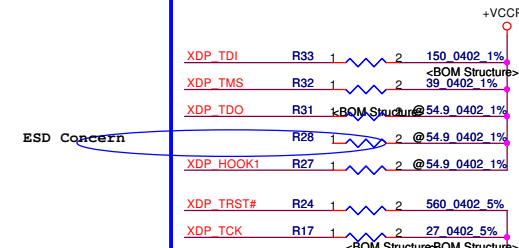
Device	Address
Clock Generator (ICS9LPRS325AKLFT_MLF72)	1101 001Xb
DDR DIMM0	1010 000Xb
DDR DIMM1	1010 010Xb



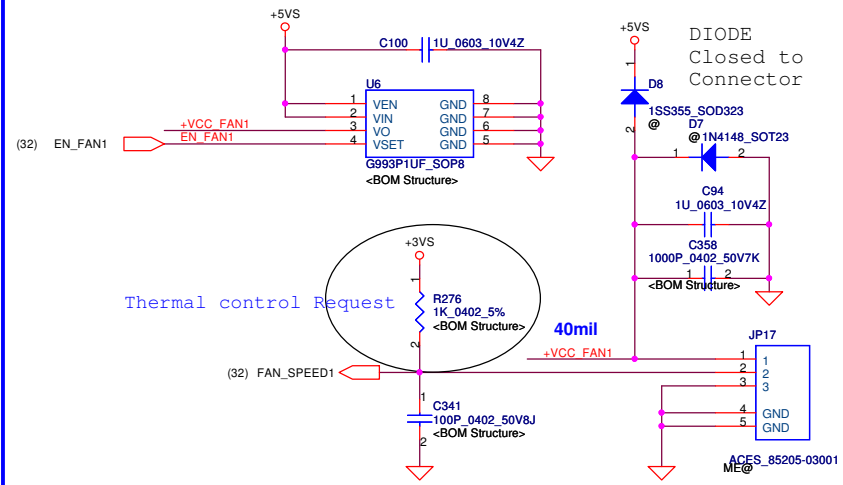
H_THERMDA, H_THERMDC routing together,
Trace width / Spacing = 10 / 10 mil

Place close to CPU within 500mil

XDP Reserve

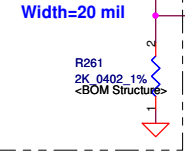
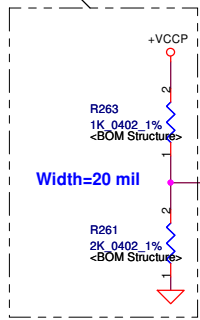


FAN1 Conn



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	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 B	Document Number LA-3861P
				Date: Monday, August 20, 2007	Sheet 4 of 47

Close to CPU pin AD26
within 500mils.



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

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.

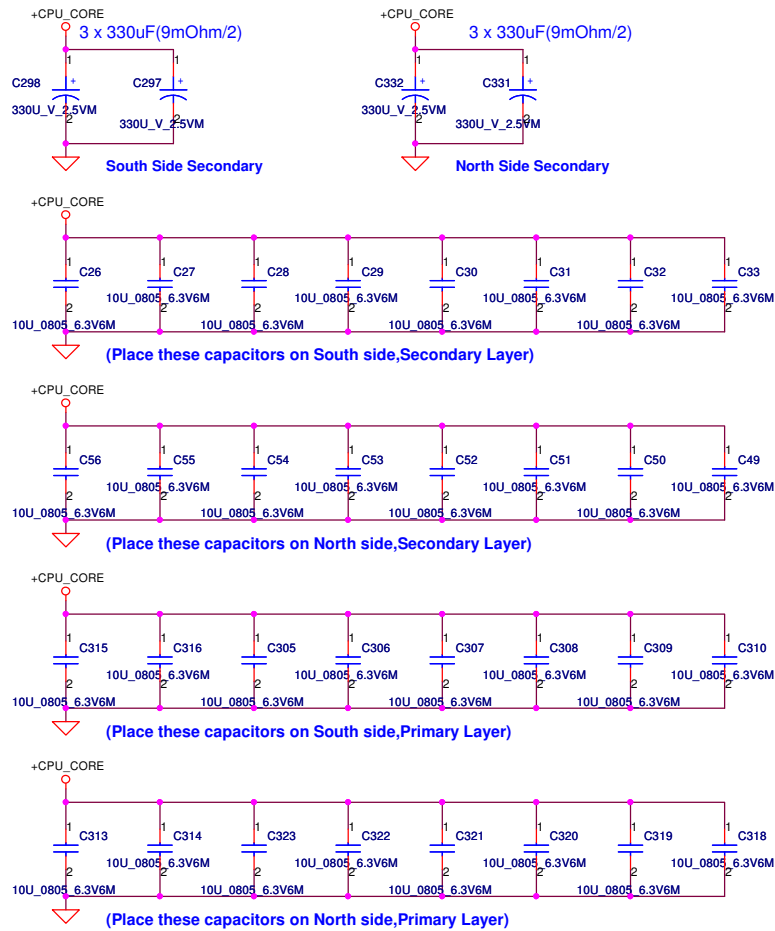
Close to CPU pin
within 500mils.

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.								Merom (2/3)			
								Size B		Document Number	
								LA-3861P		0.1	
Date:								Monday, August 20, 2007		Sheet 5 of 47	

JP15D	
A4	VSS[001]
A8	VSS[002]
A11	VSS[003]
A14	VSS[004]
A16	VSS[005]
A19	VSS[006]
A23	VSS[007]
AF2	VSS[008]
B21	VSS[009]
B6	VSS[010]
B8	VSS[011]
B11	VSS[012]
B13	VSS[013]
B16	VSS[014]
B19	VSS[015]
B21	VSS[016]
B24	VSS[017]
C5	VSS[018]
C8	VSS[019]
C11	VSS[020]
C14	VSS[021]
C16	VSS[022]
C19	VSS[023]
C2	VSS[024]
C22	VSS[025]
C25	VSS[026]
D1	VSS[027]
D4	VSS[028]
D8	VSS[029]
D11	VSS[030]
D13	VSS[031]
D16	VSS[032]
D19	VSS[033]
D23	VSS[034]
D26	VSS[035]
E3	VSS[036]
E6	VSS[037]
E8	VSS[038]
E11	VSS[039]
E14	VSS[040]
E16	VSS[041]
E19	VSS[042]
E21	VSS[043]
E24	VSS[044]
F5	VSS[045]
F8	VSS[046]
F11	VSS[047]
F13	VSS[048]
F16	VSS[049]
F19	VSS[050]
F2	VSS[051]
F22	VSS[052]
F25	VSS[053]
G4	VSS[054]
G1	VSS[055]
G23	VSS[056]
G26	VSS[057]
H3	VSS[058]
H6	VSS[059]
H21	VSS[060]
H24	VSS[061]
J2	VSS[062]
J5	VSS[063]
J22	VSS[064]
J25	VSS[065]
K1	VSS[066]
K4	VSS[067]
K23	VSS[068]
K26	VSS[069]
L3	VSS[070]
L6	VSS[071]
L21	VSS[072]
L24	VSS[073]
M2	VSS[074]
M5	VSS[075]
M22	VSS[076]
M25	VSS[077]
N1	VSS[078]
N4	VSS[079]
N23	VSS[080]
N26	VSS[081]
P3	VSS[082]
	VSS[083]
	VSS[084]
	VSS[085]
	VSS[086]
	VSS[087]
	VSS[088]
	VSS[089]
	VSS[090]
	VSS[091]
	VSS[092]
	VSS[093]
	VSS[094]
	VSS[095]
	VSS[096]
	VSS[097]
	VSS[098]
	VSS[099]
	VSS[100]
	VSS[101]
	VSS[102]
	VSS[103]
	VSS[104]
	VSS[105]
	VSS[106]
	VSS[107]
	VSS[108]
	VSS[109]
	VSS[110]
	VSS[111]
	VSS[112]
	VSS[113]
	VSS[114]
	VSS[115]
	VSS[116]
	VSS[117]
	VSS[118]
	VSS[119]
	VSS[120]
	VSS[121]
	VSS[122]
	VSS[123]
	VSS[124]
	VSS[125]
	VSS[126]
	VSS[127]
	VSS[128]
	VSS[129]
	VSS[130]
	VSS[131]
	VSS[132]
	VSS[133]
	VSS[134]
	VSS[135]
	VSS[136]
	VSS[137]
	VSS[138]
	VSS[139]
	VSS[140]
	VSS[141]
	VSS[142]
	VSS[143]
	VSS[144]
	VSS[145]
	VSS[146]
	VSS[147]
	VSS[148]
	VSS[149]
	VSS[150]
	VSS[151]
	VSS[152]
	VSS[153]
	VSS[154]
	VSS[155]
	VSS[156]
	VSS[157]
	VSS[158]
	VSS[159]
	VSS[160]
	VSS[161]
	VSS[162]
	VSS[163]

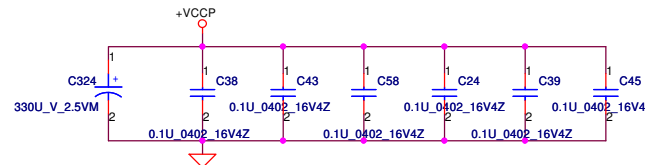
FOX_PZ4782A-274M-41_Merom

ME@

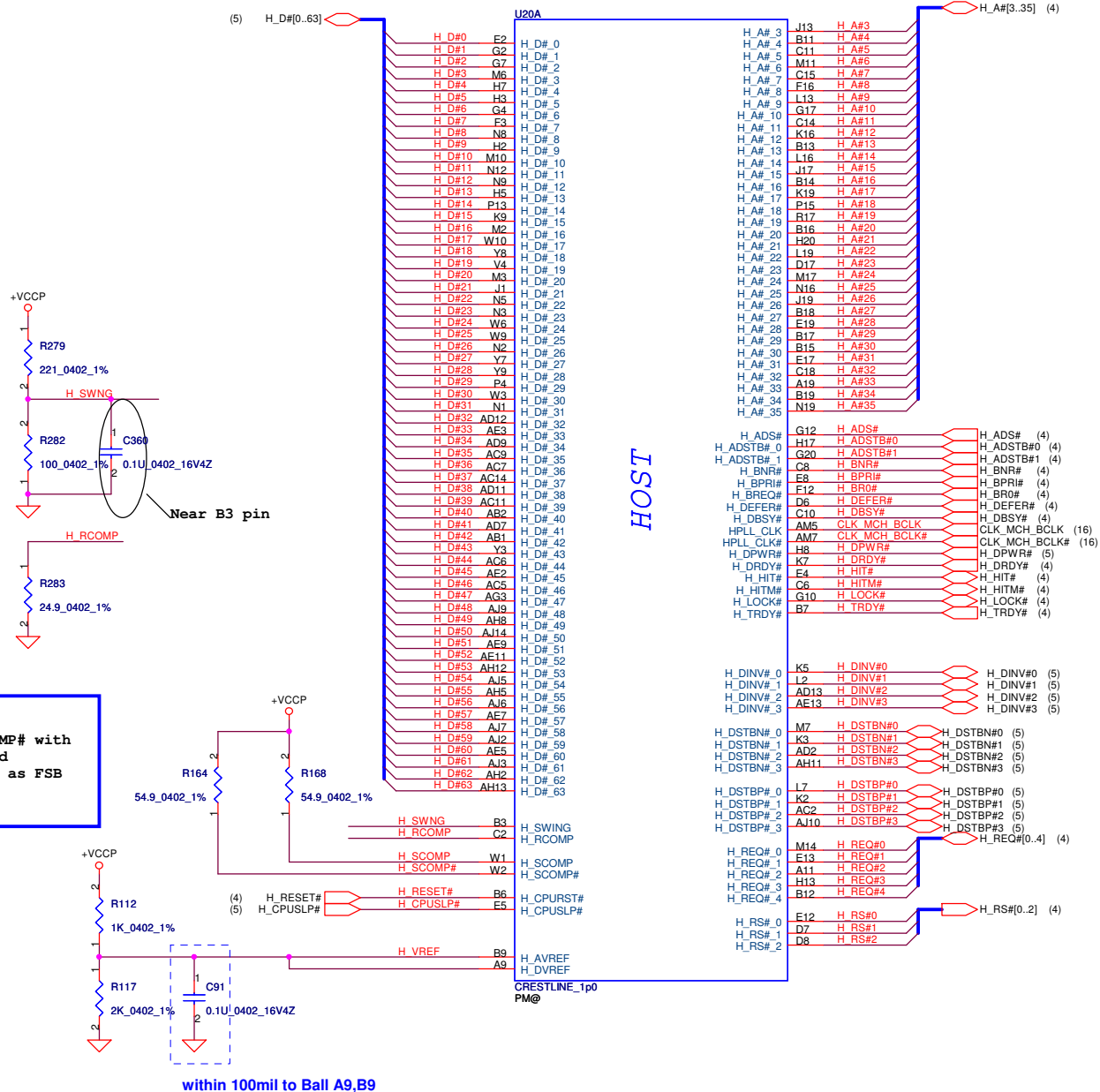


9/25 10U checked. OK for use!

+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



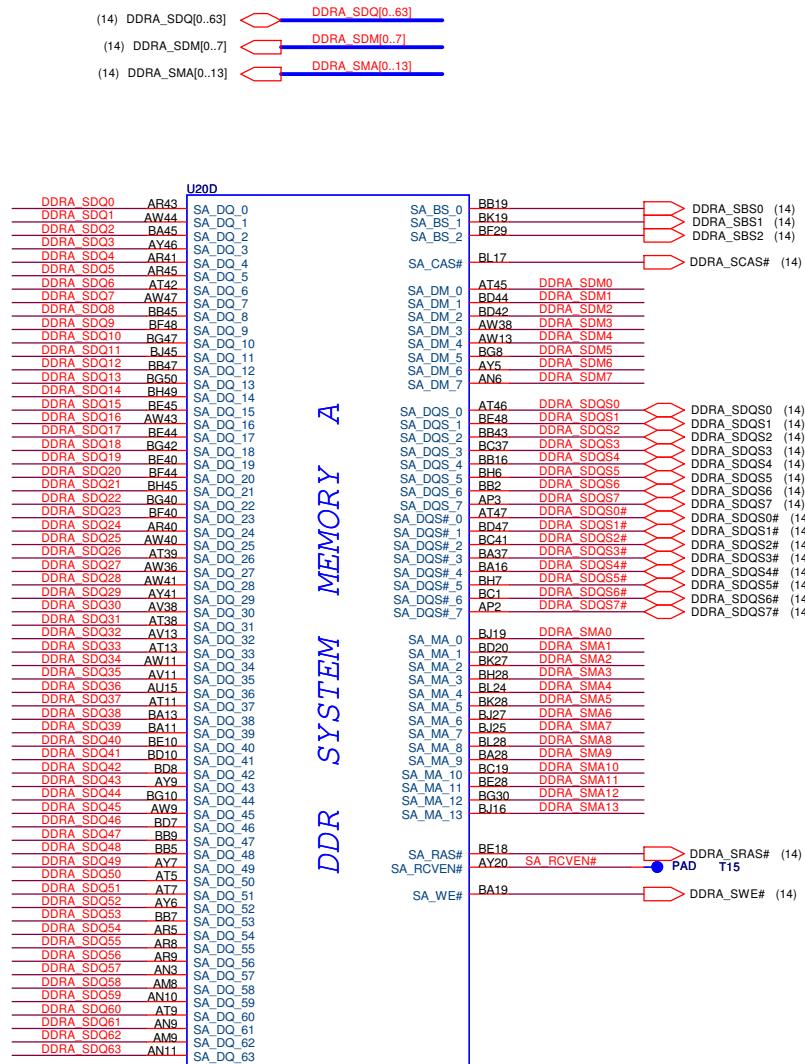
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	Merom (3/3)
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT 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	Monday, August 20, 2007
				Sheet	6 of 47
				Rev	0.1



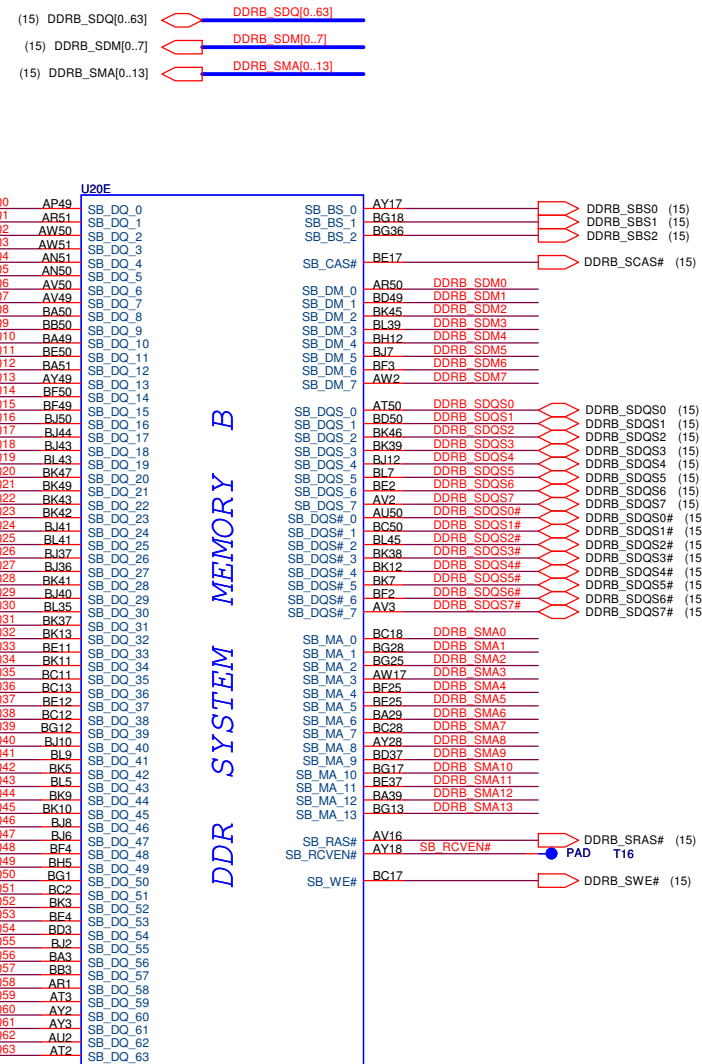
Layout Note:
H_RCOMP / H_VREF / H_SWNG
trace width and spacing is 10/20

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 (1/7)-GTL	
Size B	Document Number	LA-3861P		Rev	0.1
Date:	Monday, August 20, 2007	Sheet	7	of	47



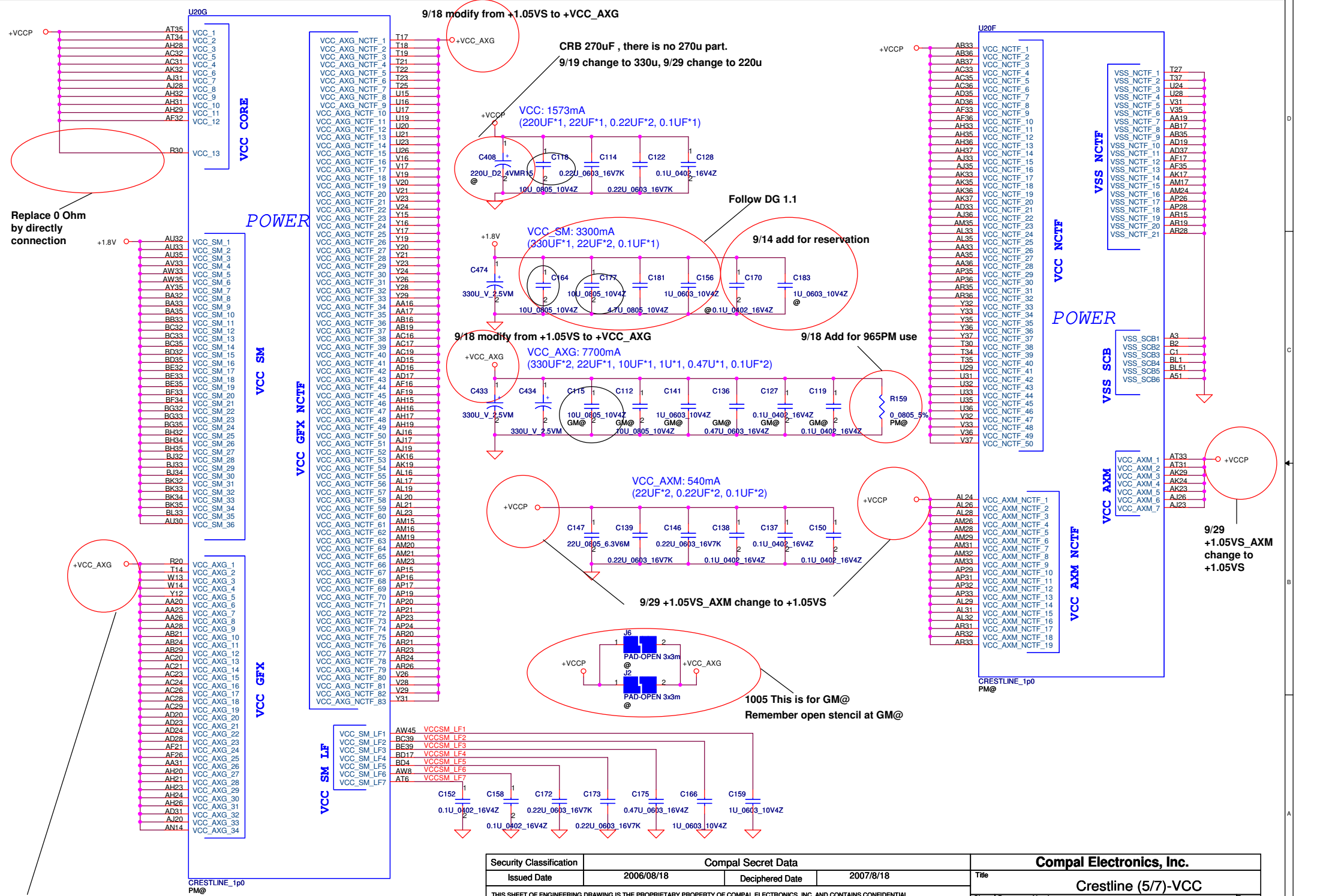


CRESTLINE_1p0
PM@



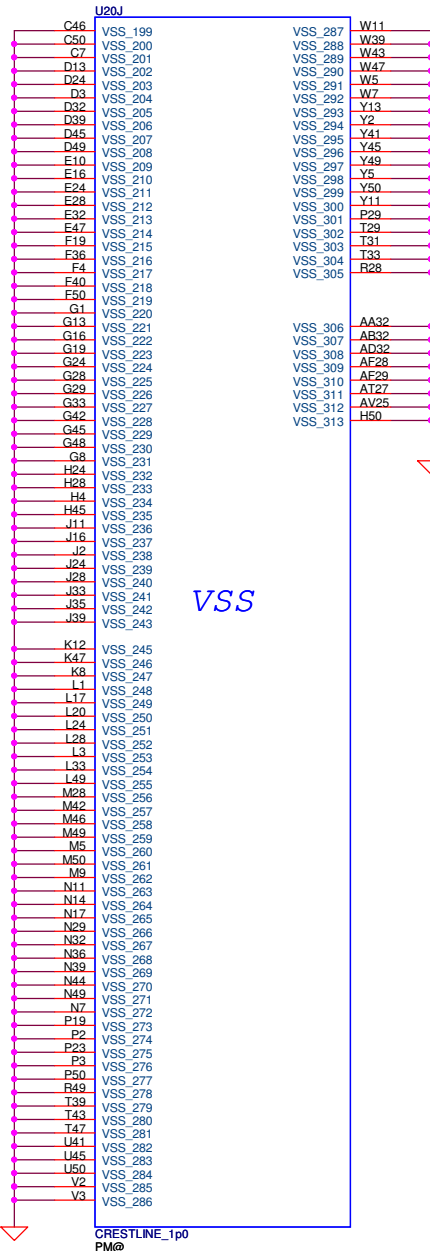
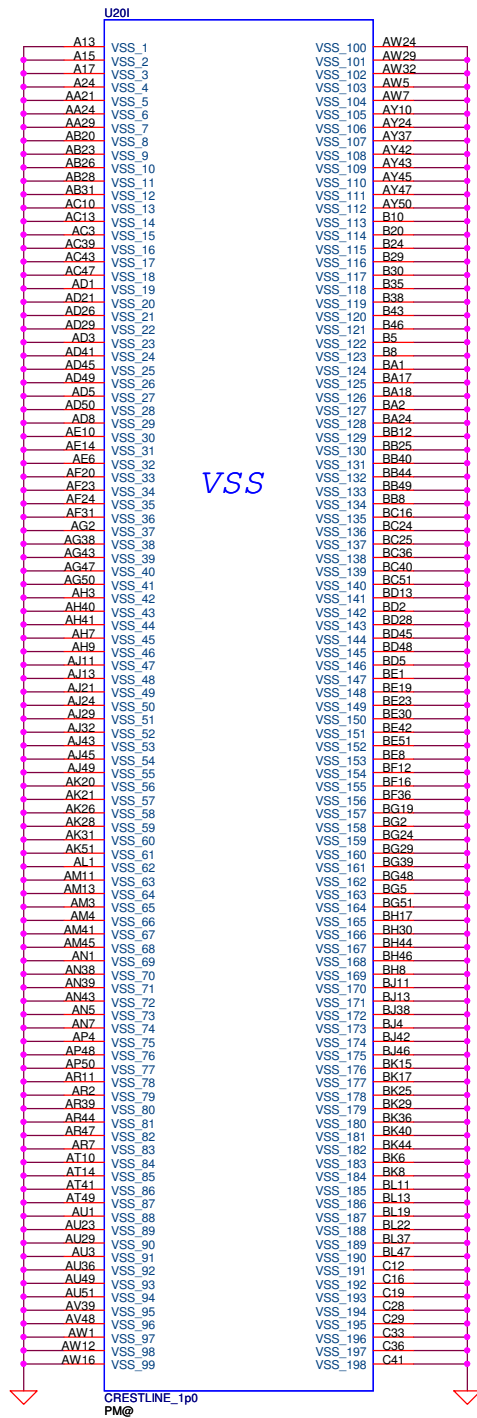
CRESTLINE_1p0
PM@

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)-DDR11					
								Size B		Document Number		Rev 0.1	
								LA-3861P					
								Date:		Monday, August 20, 2007			
								Sheet 9 of 47					



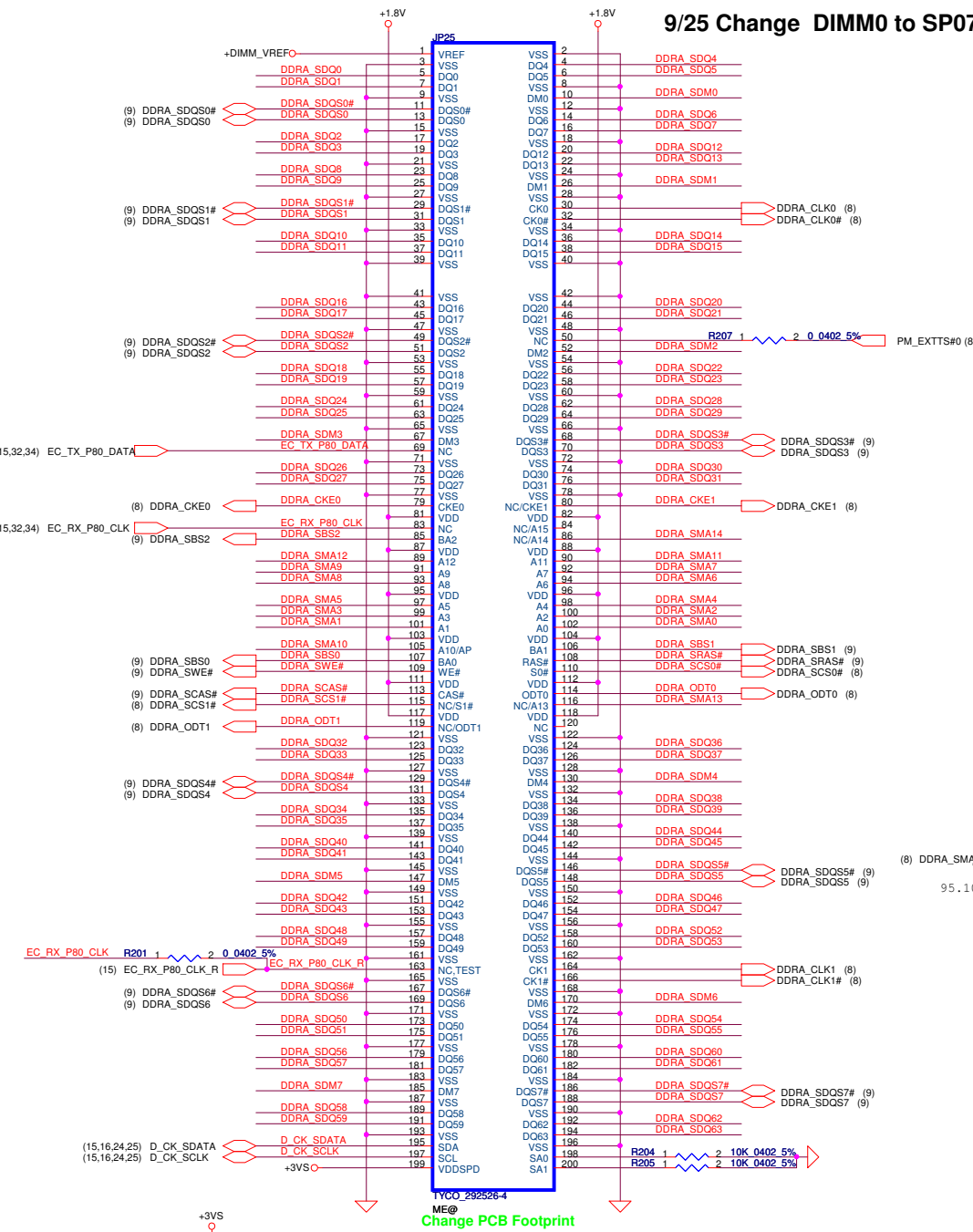
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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 (5/7)-VCC	
Size	Document Number	Rev		Date	
B	LA-3861P	0.1		Monday, August 20, 2007	
Sheet		of		47	
11					



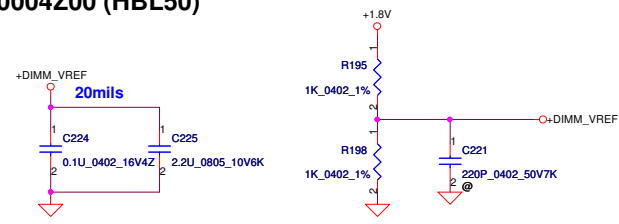


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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 (7/7)-GND	
Size B	Document Number	LA-3861P		Rev	0.1
Date:	Monday, August 20, 2007	Sheet	13 of 47		

9/25 Change DIMM0 to SP070004Z00 (HBL50)

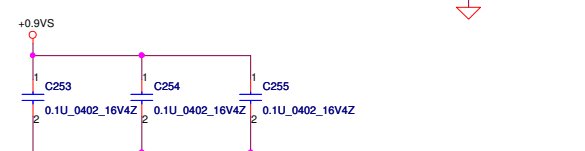
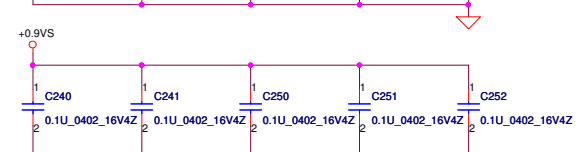
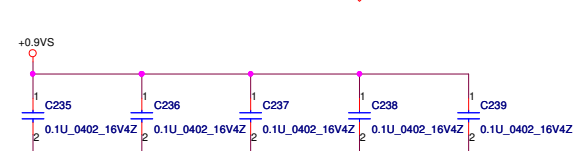
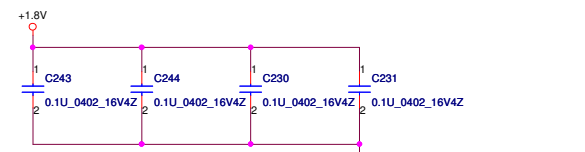
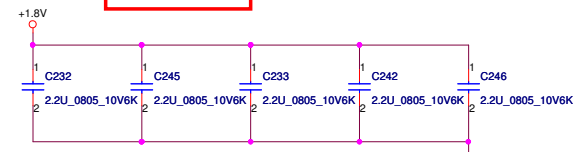


DIMM0 STD H:5.2mm (BOT)



- (9) DDR*_SMA[0..13] < DDR*_SMA[0..13]
- (9) DDR*_SDQ[0..63] < DDR*_SDQ[0..63]
- (9) DDR*_SDM[0..7] < DDR*_SDM[0..7]

Layout Note:
Place near JP35

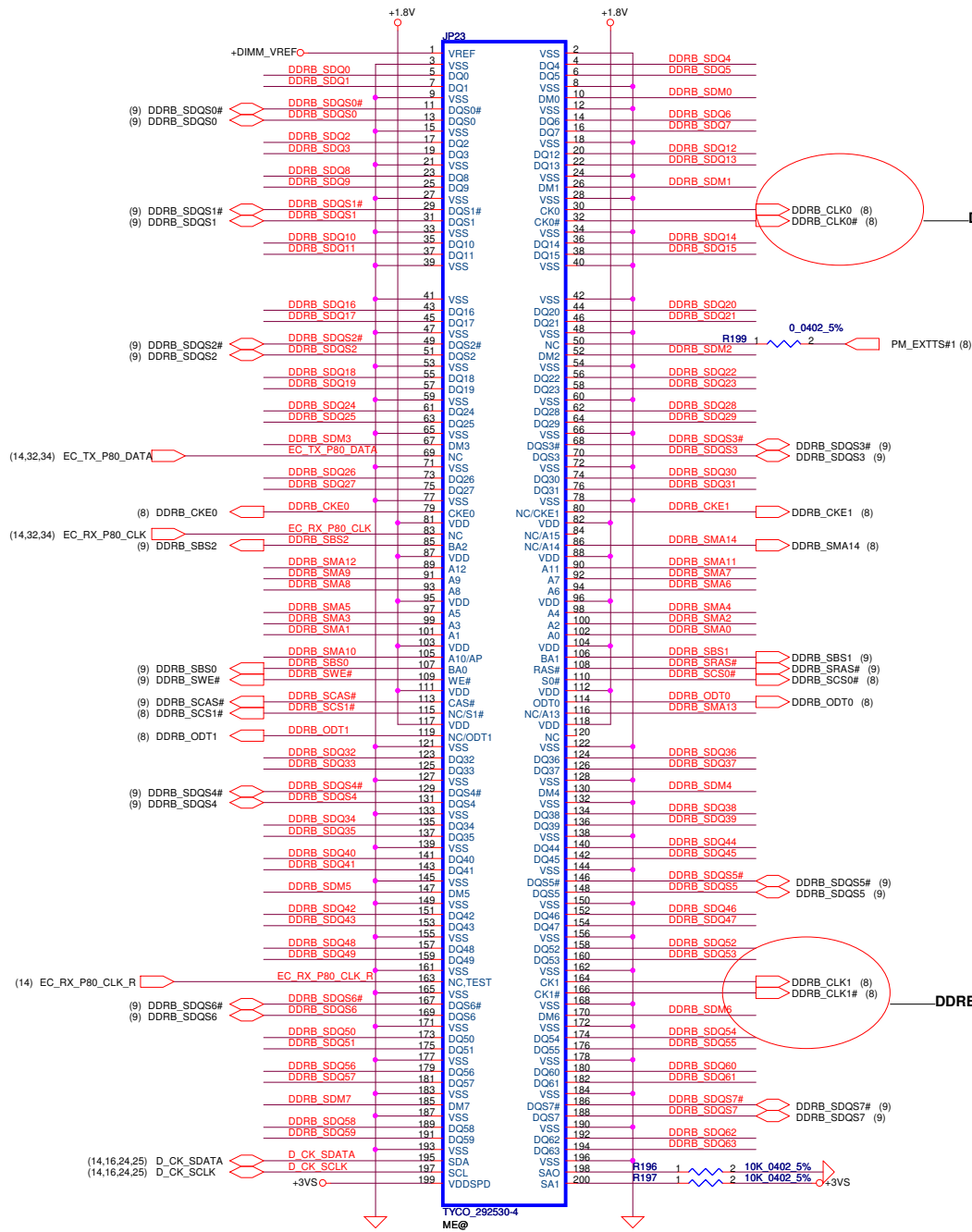


Layout Note:
Place one cap close to every 2 pullup resistors terminated to +0.9VS

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

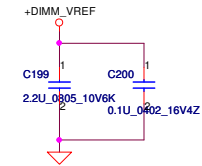
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				DDR-II-SODIMMO	
Size B		Document Number		Rev 0.1	
		LA-3861P		Date: Monday, August 20, 2007	
				Sheet 14 of 47	

9/25 Change DIMM1 to SP070006F00

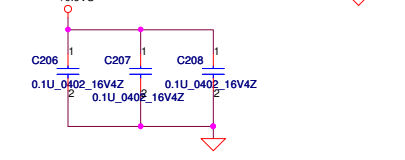
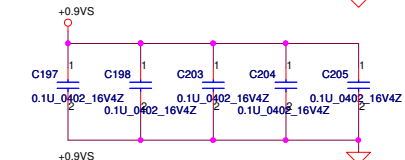
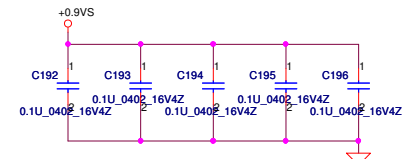
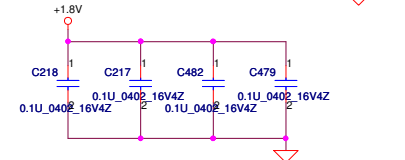
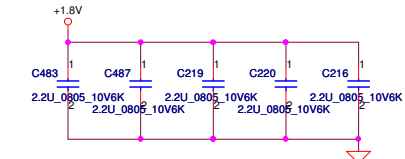


DIMM1 STD H:9.2mm (BOT)

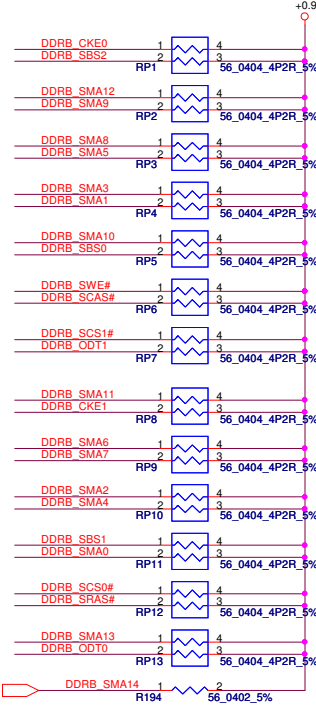
(9) DDRB_SMA[0..13] ← DDRB_SMA[0..13]
(9) DDRB_SQ[0..63] ← DDRB_SQ[0..63]
(9) DDRB_SDM[0..7] ← DDRB_SDM[0..7]



Layout Note:
Place near JP34



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



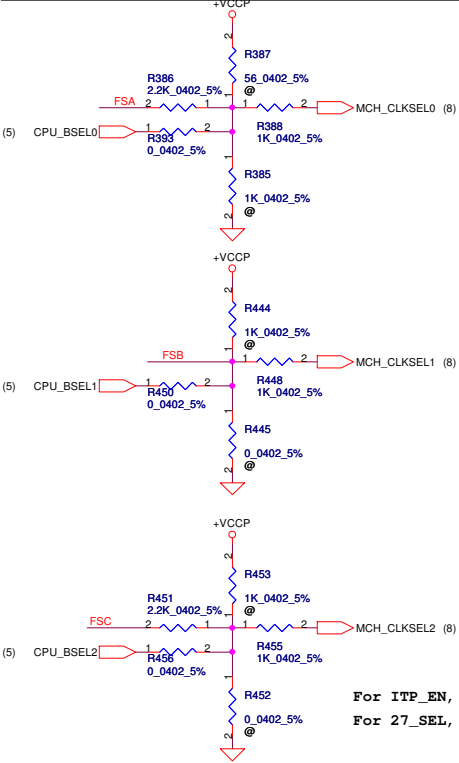
Layout Note:
Place these resistor closely JP35, all trace length Max=1.5"

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.					DDRII-SODIMM1		
					Size B	Document Number	Rev
					LA-3861P	0.1	
					Date:	Monday, August 20, 2007	Sheet 15 of 47

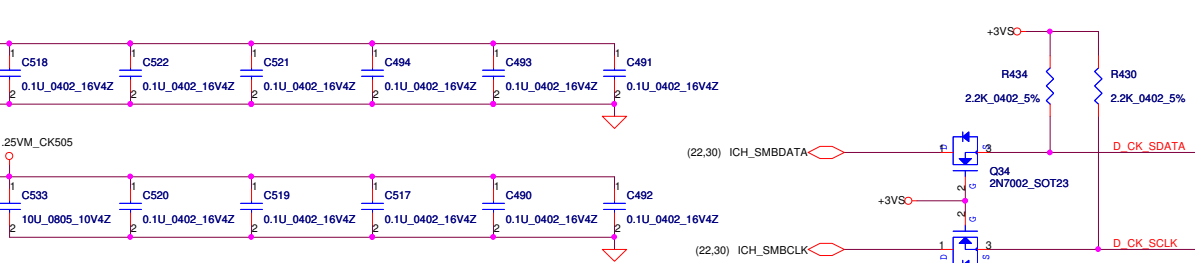
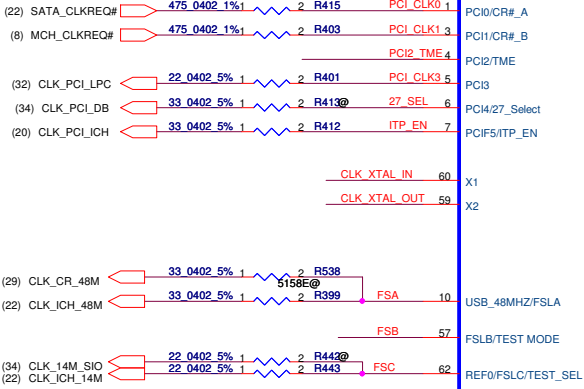
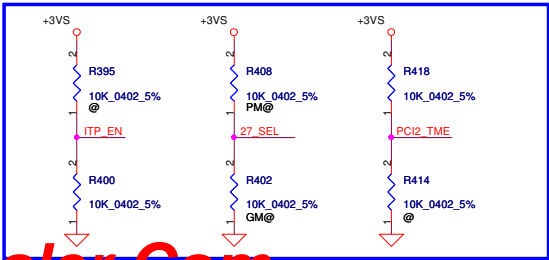
FSLC	FSLB	FSLA	CPU	SRC	PCI
CLKSEL2	CLKSEL1	CLKSEL0	MHz	MHz	MHz
0	1	0	200	100	33.3
0	1	1	166	100	33.3

FSB Frequency Selet:

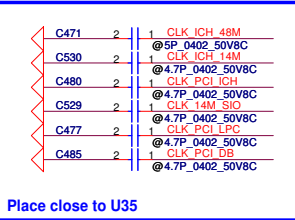
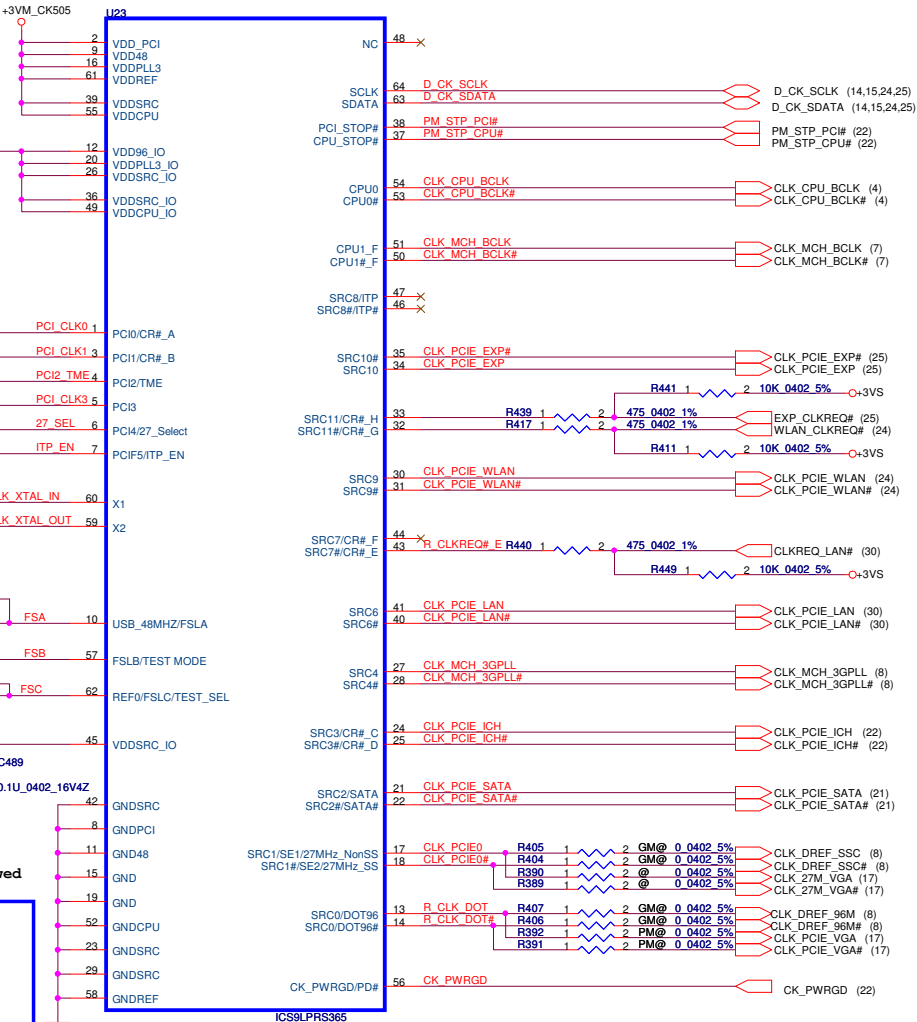
CPU Driven	Stuff						
★(Default)	No Stuff	R401	R408	R417	R430	R438	R447
667MHz	Stuff	R401	R417	R447			
	No Stuff	R408	R430	R438			
800MHz	Stuff	R408	R417	R447			
	No Stuff	R401	R430	R438			



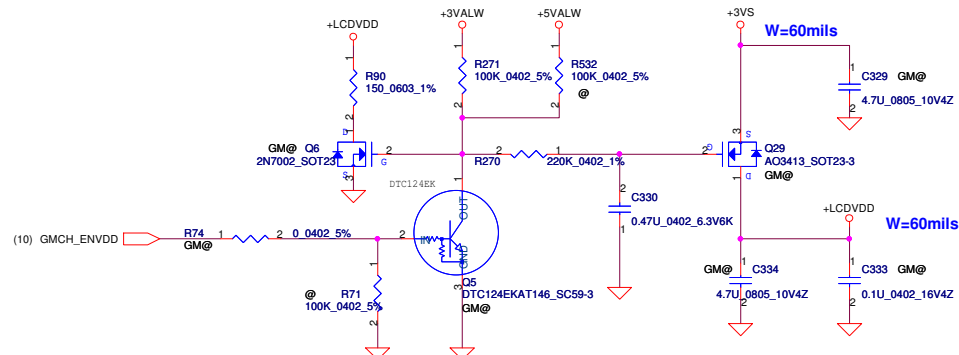
For ITP_EN, 0 =SRC8/SRC8#; 1 = ITP/ITP#
For 27_SEL, 0 = Enable DOT96 & SRC1,
1 = Enable SRC0 & 27MHz
For PCI2_EN, 0 = Overclocking of CPU and SRC Allowed
1 = Overclocking of CPU and SRC NOT allowed



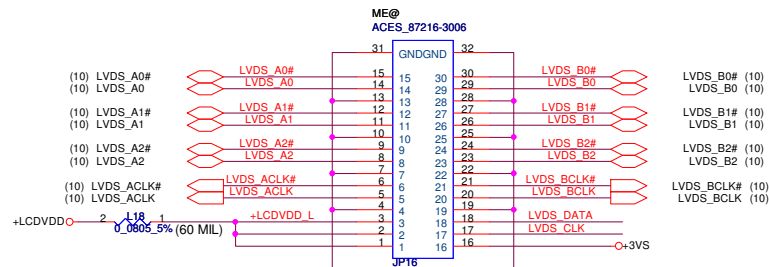
4/16 : Change P/N from SA0001GT10(ICS) to SA00001J00 (SILEGO)



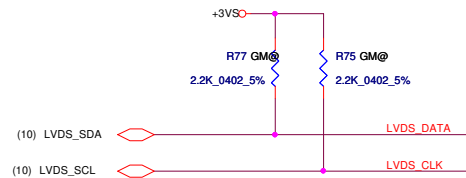
LCD POWER CIRCUIT



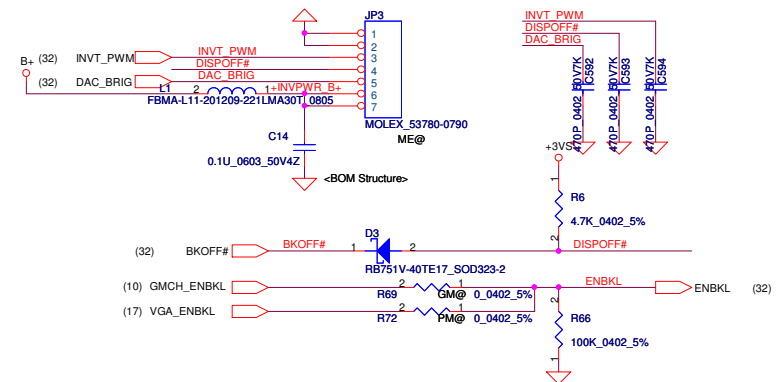
LCD/PANEL BD. Conn.



Follow HEL80's pin definition
Except pin 29



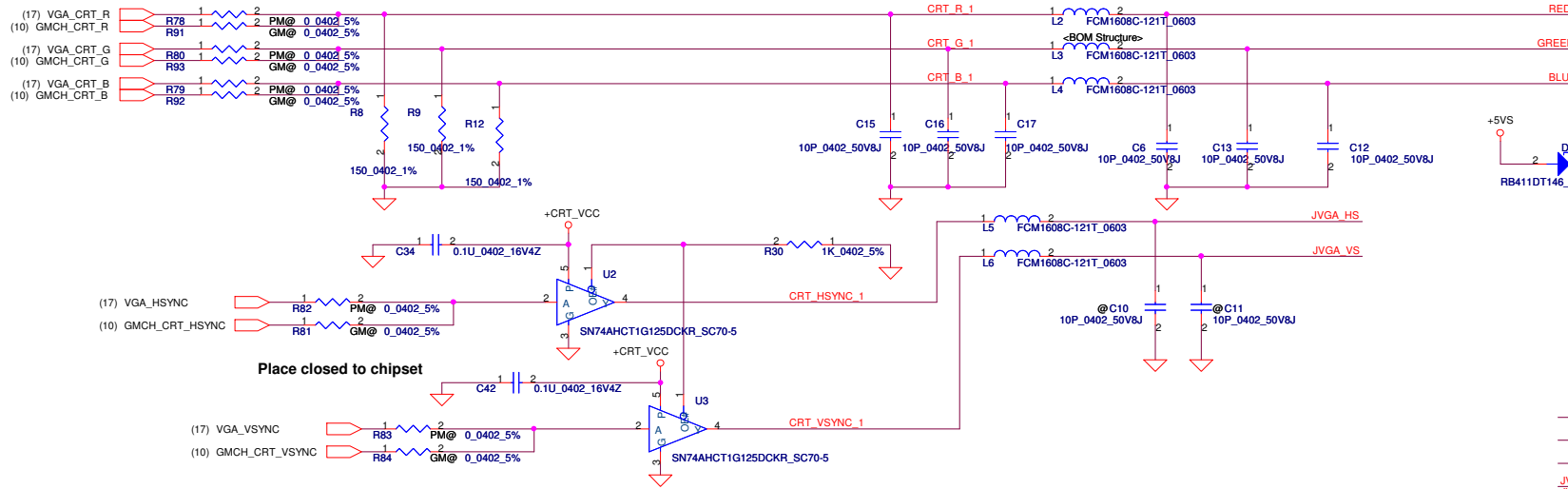
INVERTER Conn.



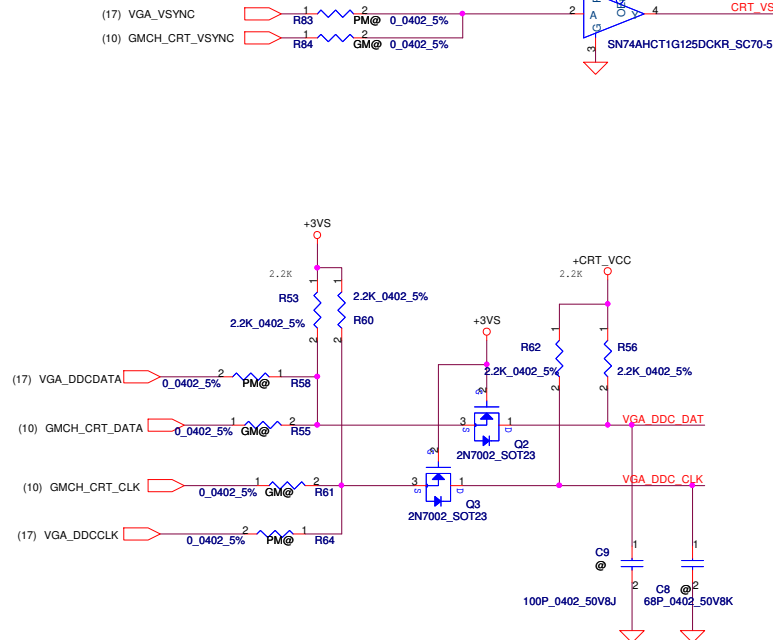
Security Classification				Compal Electronics, Inc.		
Compal Secret Data				Title		
Issued Date	2006/08/18	Deciphered Date	2007/8/18	LVDS & DVI Connector		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. 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.				Size B	Document Number LA-3861P	Rev 0.1
				Date: Monday, August 20, 2007	Sheet 18	of 47

CRT Connector

Place closed to chipset

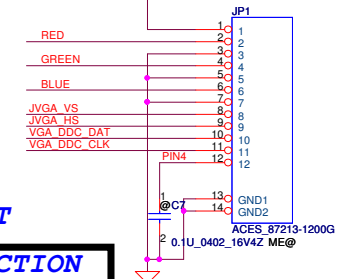


Place closed to chipset

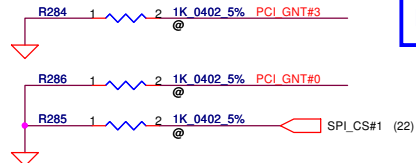
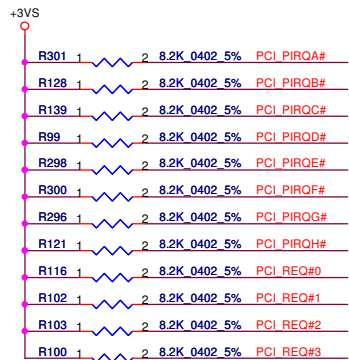
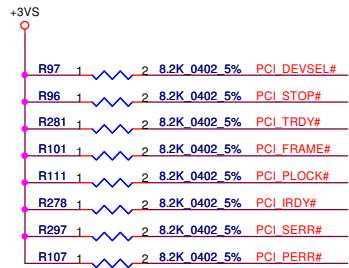


PIN ASSIGNMENT

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	VSNC
9	10	GND
10	13	HSYNC
11	11	SENSE
12	12	SM_DAT
13	15	SM_CLK
14	4	PIN4



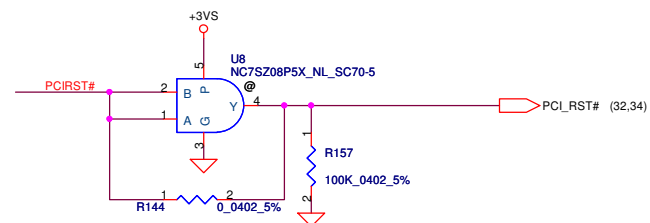
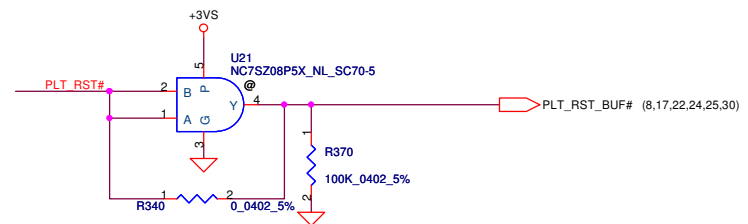
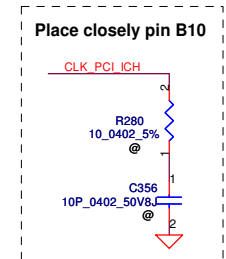
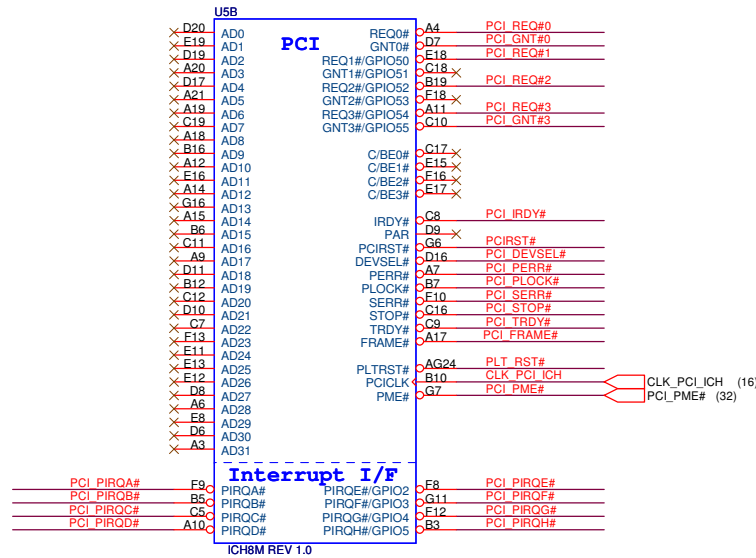
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Size B	Document Number
				LA-3861P	Rev 0.1
				Date: Monday, August 20, 2007	Sheet 19 of 47



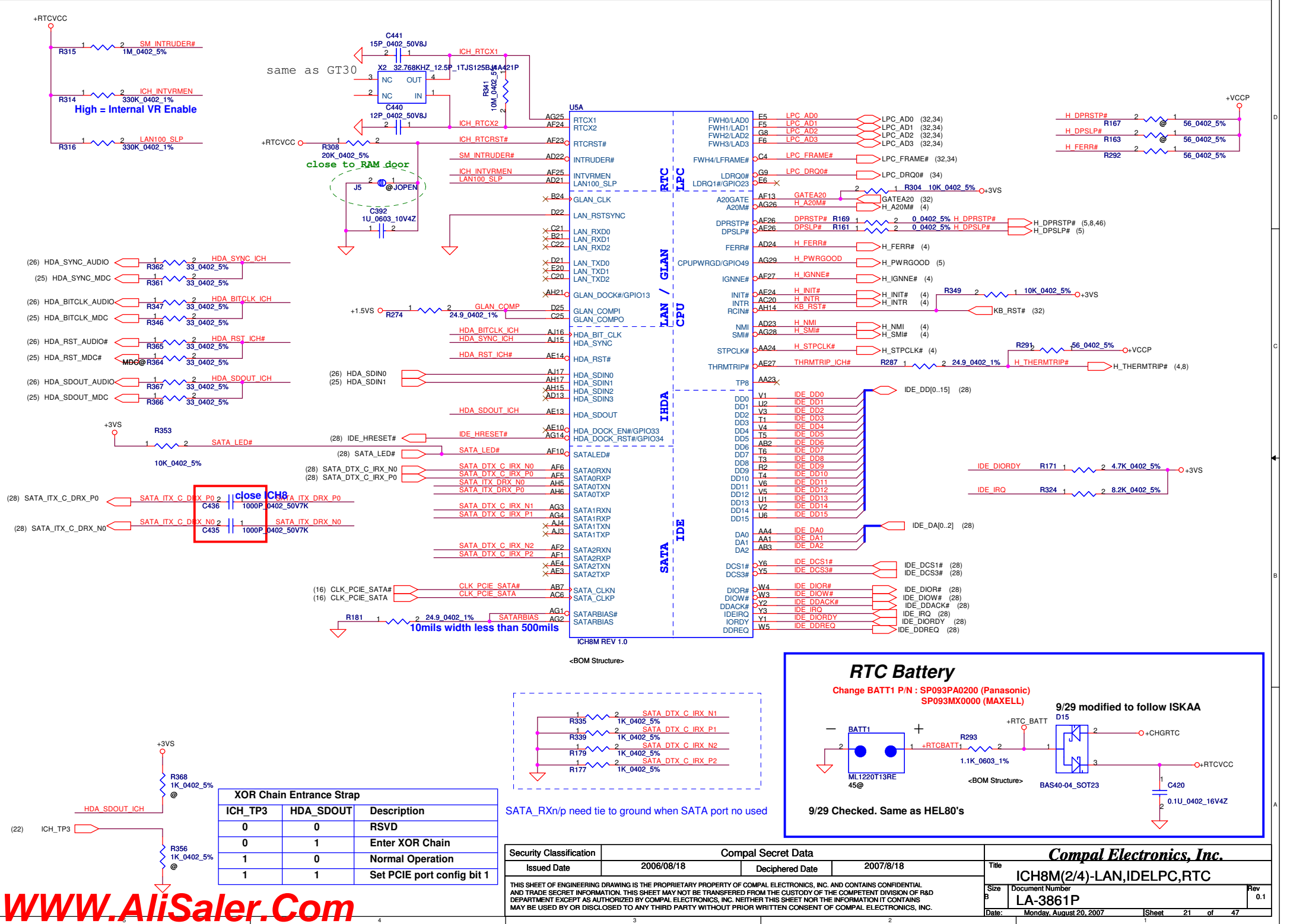
A16 Swap Override Strap	
PCI_GNT#3	Low= A16 swap override Enable High= Default*

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

10/17 : Change P/N from SA000010G00 to SA00001JU10
 10/17 : FootPrint : SA000010G00
 BOM : SA00001JU10



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	ICH8M(1/4)-PCI
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
				Date	Monday, August 20, 2007
				Sheet	20 of 47

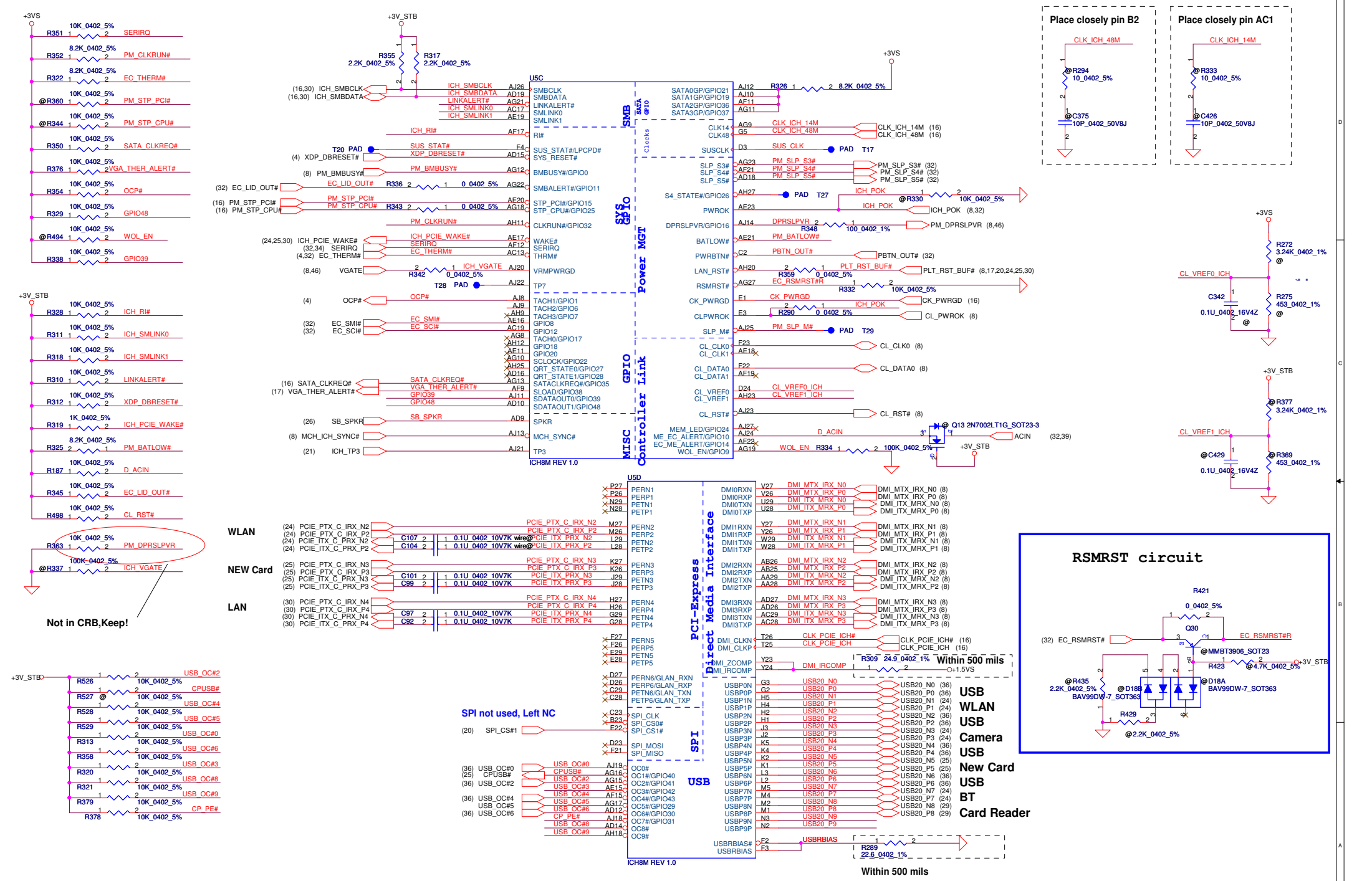


XOR Chain Entrance Strap		
ICH_TP3	HDA_SDOUT	Description
0	0	RSVD
0	1	Enter XOR Chain
1	0	Normal Operation
1	1	Set PCIE port config bit 1

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 ICH8M(2/4)-LAN, IDELPC, RTC		
Size B	Document Number LA-3861P	Rev 0.1
Date Monday, August 20, 2007	Sheet 21	of 47

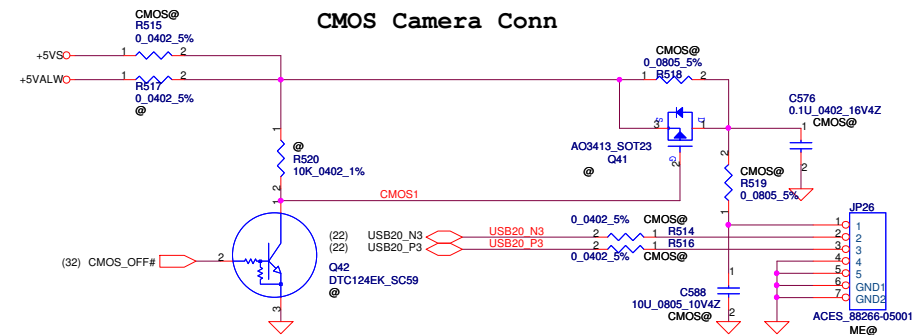
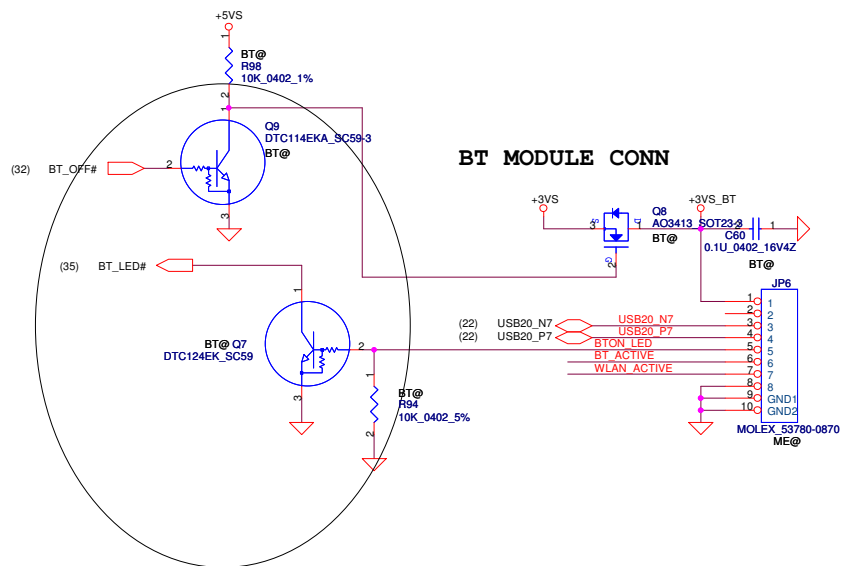
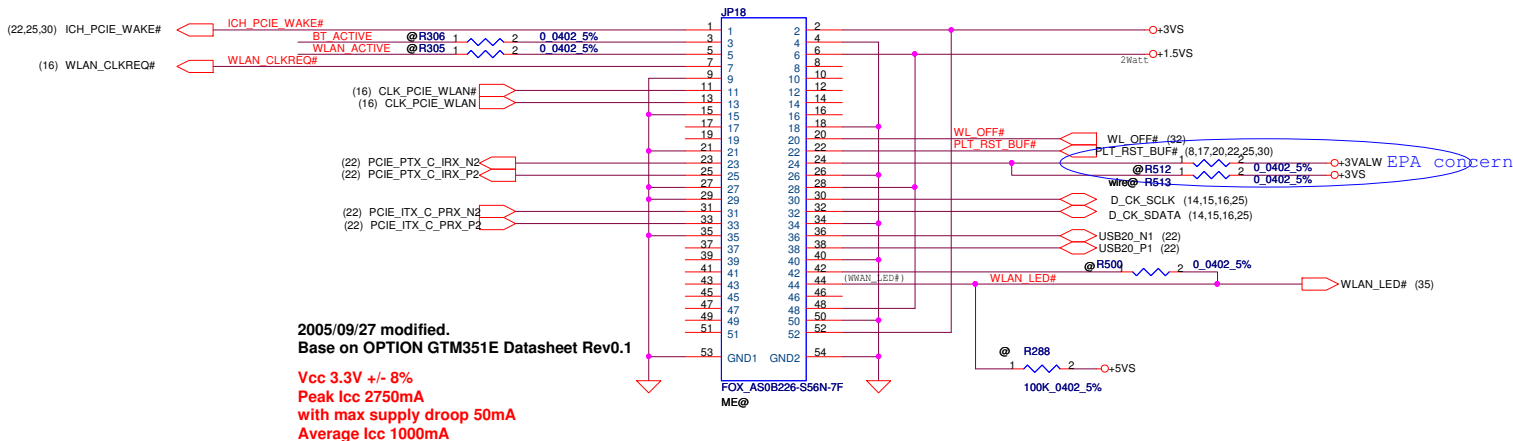
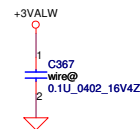




Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				IFTXX M/B LA-3541P Schematic		
				Size	Document Number	Rev
				Cust	LA-3861P	0.1
3 1 2				Date:	Monday, August 20, 2007	Sheet 23 of 47

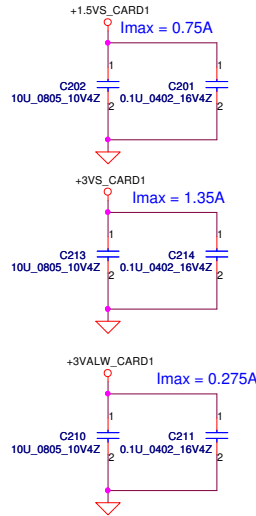
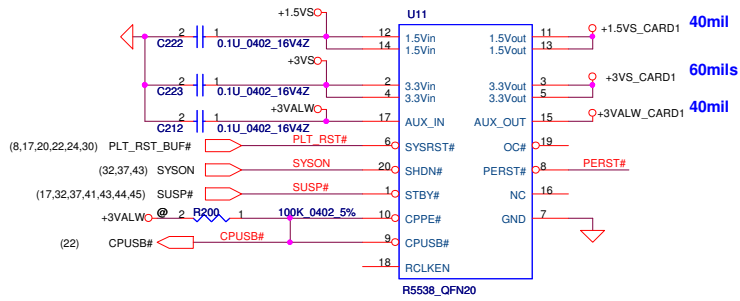
Mini-Express Card for 3G Or TV Tuner

Mini-Express Card for WLAN

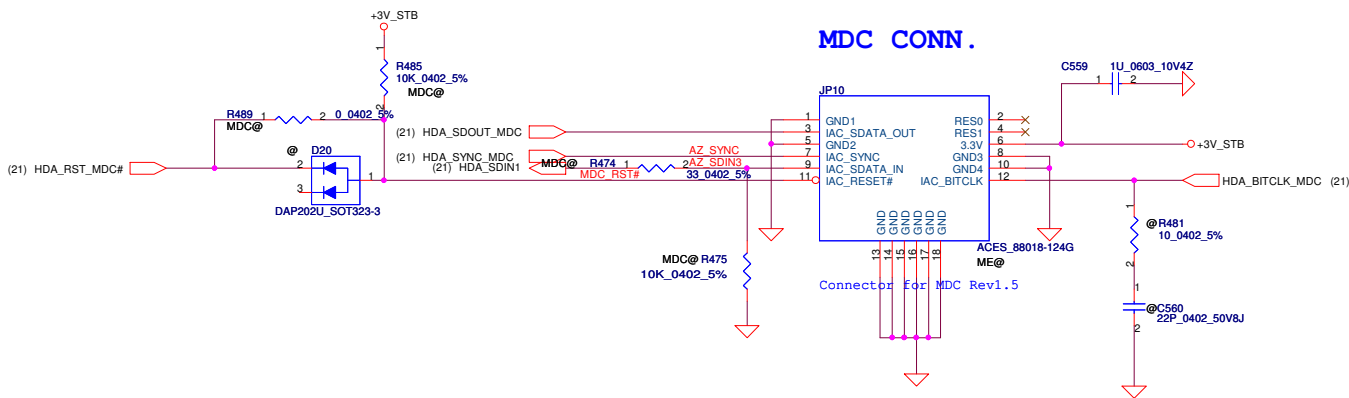
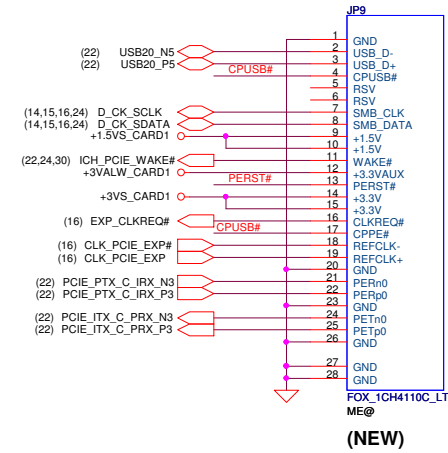


Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2006/08/05	Deciphered Date	2007/08/05	Title Mini-Card/3G/FeliCa/FP		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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-3861P		0.1
				Date:	Monday, August 20, 2007	Sheet

Express Card Power Switch

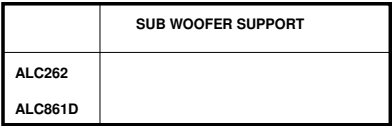


New Card Socket (Left/TOP)



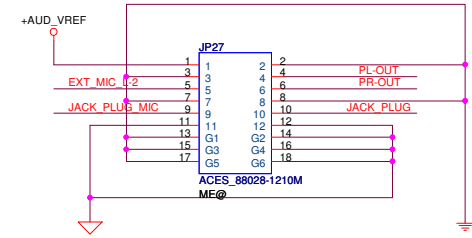
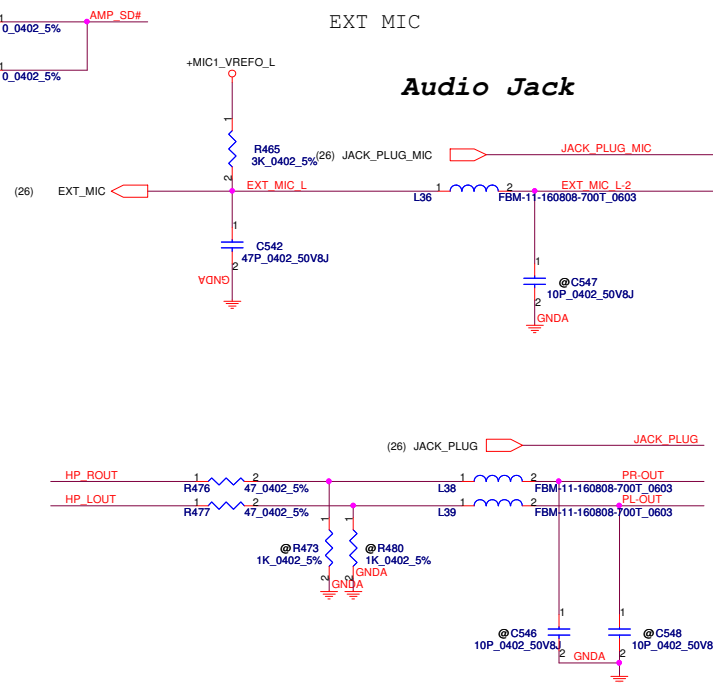
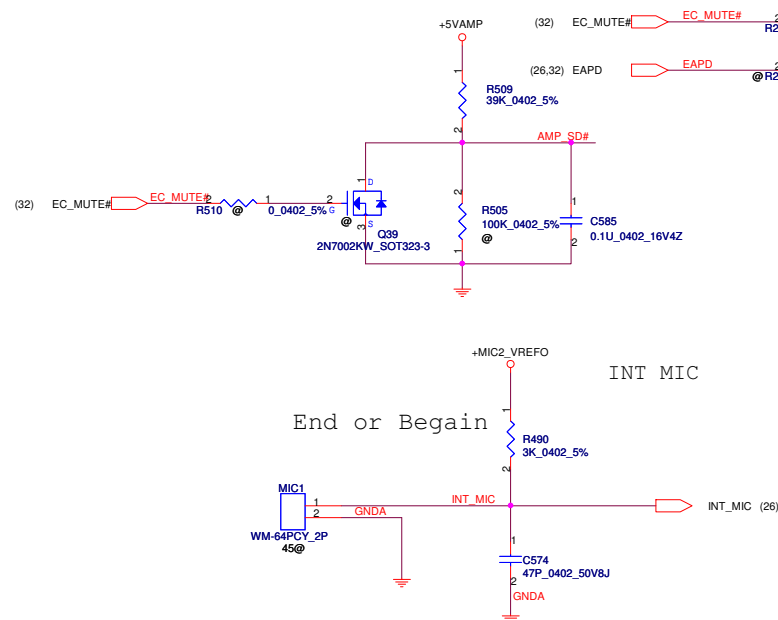
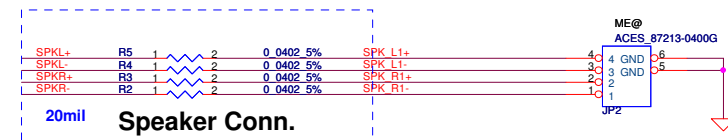
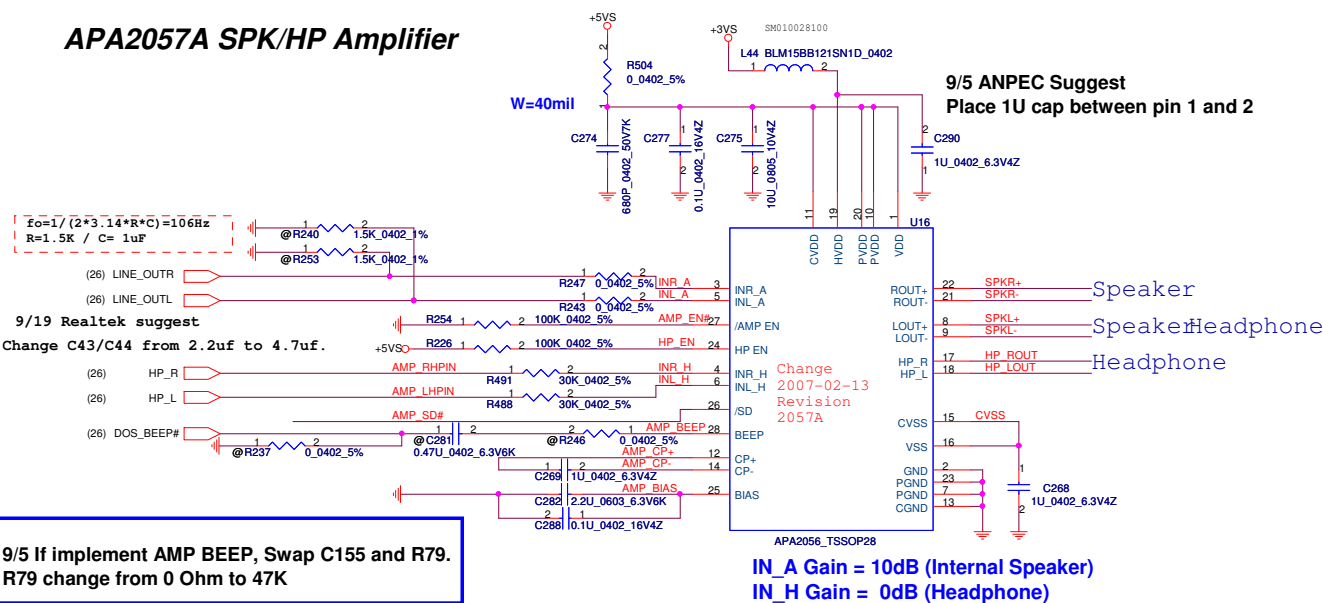
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	NEW CARD & USB Connector
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS 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.				Size B	Document Number LA-3861P
				Date: Monday, August 20, 2007	Rev 0.1
				Sheet 25 of 47	

28.7K for Module Design (VDDA = 4.702

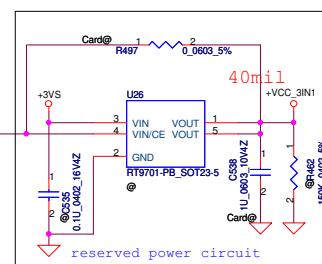
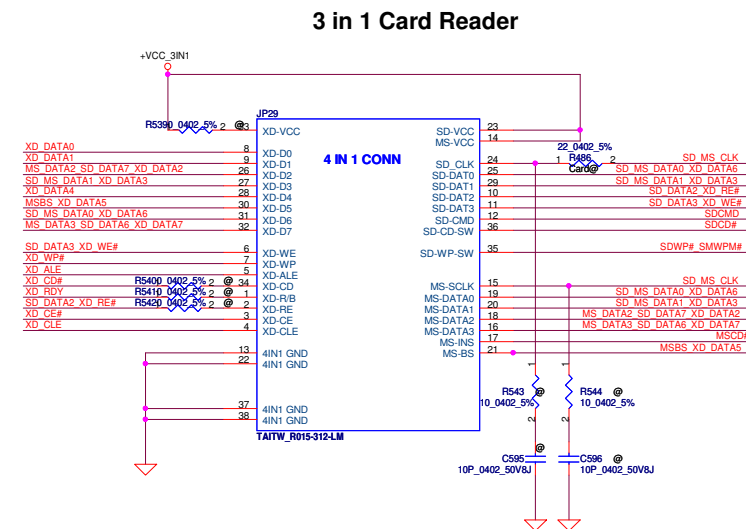


Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2006/08/04	Deciphered Date	2006/10/06	Title ALC861 VD Codec		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	
				CustID	LA-3861P	Rev 0.1
				Date:	Monday, August 20, 2007	Sheet 26 of 47

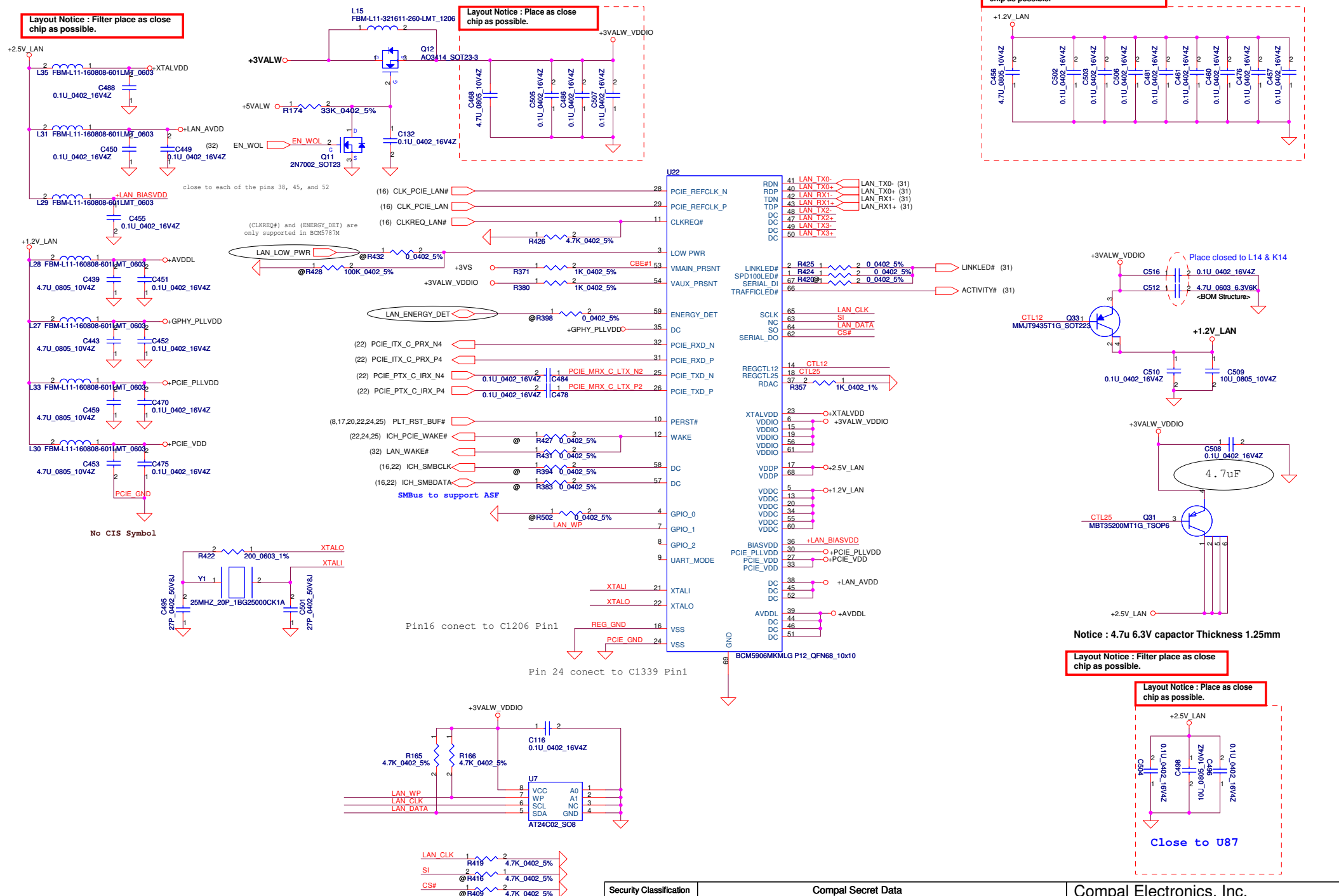
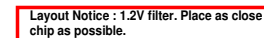
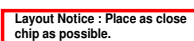
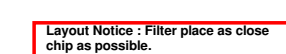
APA2057A SPK/HP Amplifier



Security Classification		Compal Secret Data		Compal Electronics, Inc.				
Issued Date		2006/08/05	Deciphered Date		2007/08/05			
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	AMP/VR/Audio Jack/MIC	
						Size	Document Number	Rev 0.1
						Custom	LA-3861P	
Date:		Monday, August 20, 2007		Sheet	27	of	47	



Security Classification		Compal Secret Data		Compal Electronics, Inc. <i>1394+3 in 1 Card</i>	
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 <i>1394+3 in 1 Card</i>	Rev 0.1
				Size Custom Document Number LA-3861P	
				Date: Monday, August 20, 2007	Sheet 29 of 47

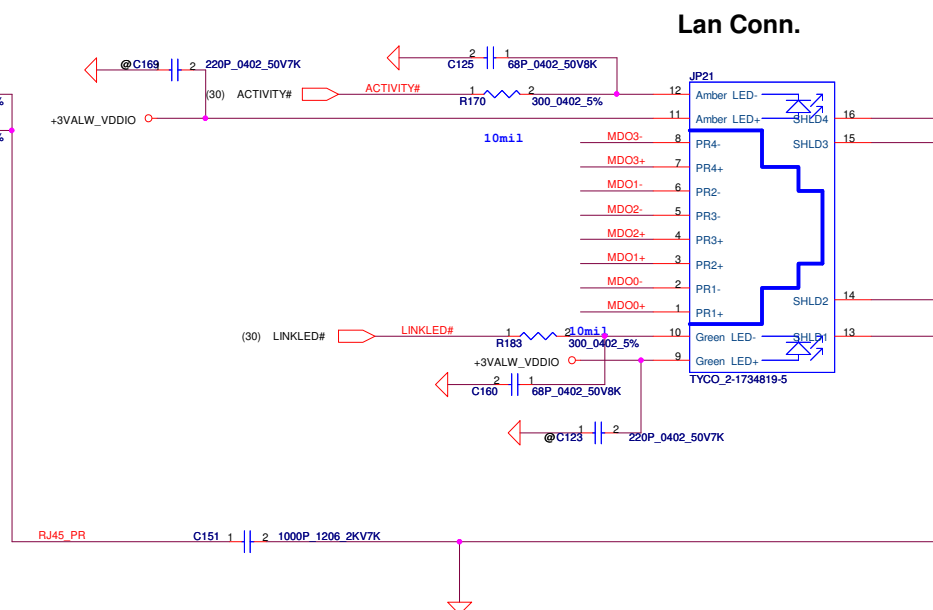
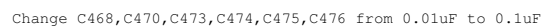


Notice : 4.7u 6.3V capactor Thickness 1.25mm

Layout Notice : Filter place as close chip as possible.

Layout Notice : Place as close to the chip as possible.

Close to U87

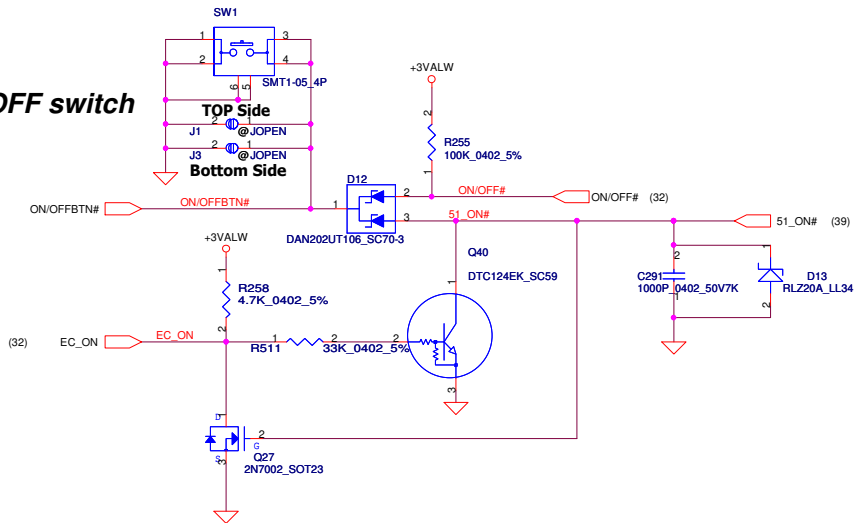


Security Classification		Compal Secret Data		<i>Compal Electronics, Inc.</i>	
Issued Date	2006/08/04	Deciphered Date	2006/10/06	Title	LAN CONTROLLER
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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	Document Number
				Custom	LA-3861P
				Date:	Monday, August 20, 2007
				Sheet	31 of 47

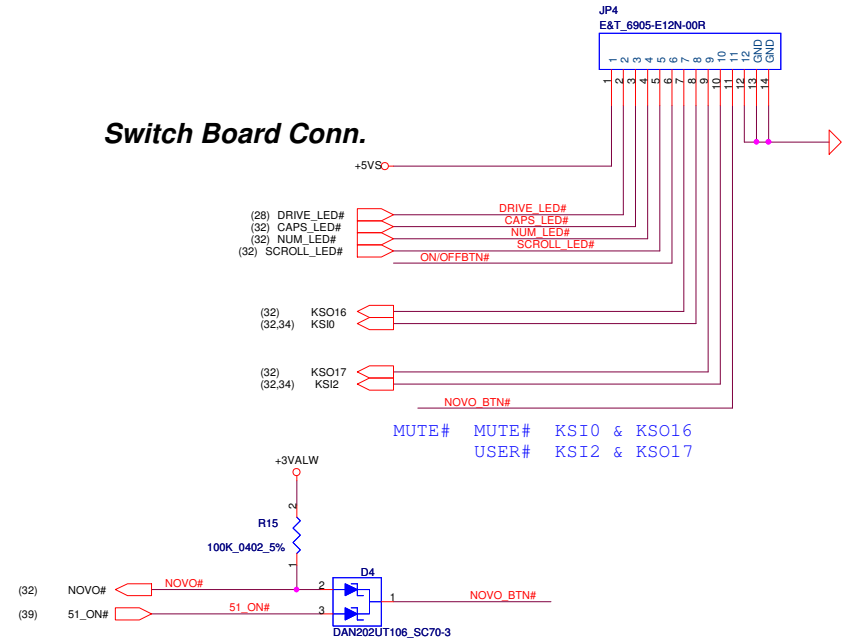


Power Button

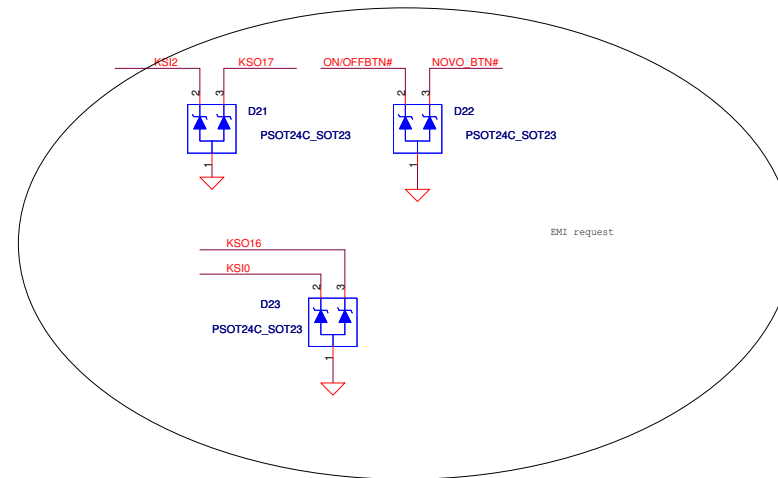
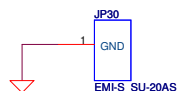
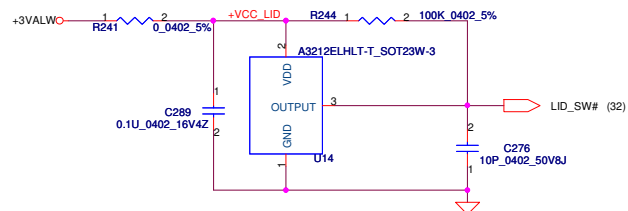
ON/OFF switch



Switch Board Conn.

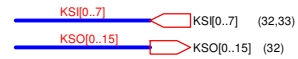


Lid Switch

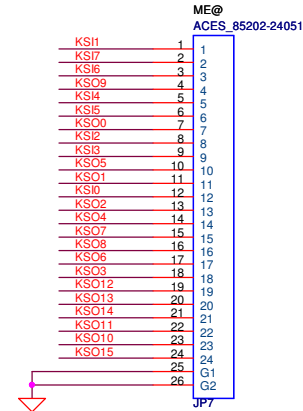
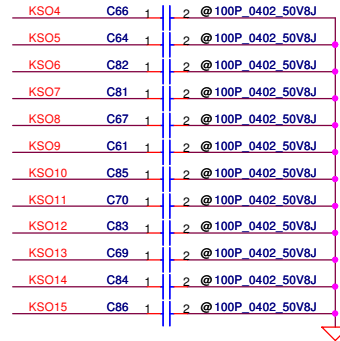
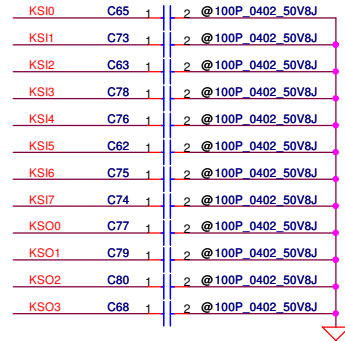


Security Classification	Compal Secret Data			Compal Electronics, Inc.		
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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	B	Document Number	LA-3861P	Rev	0.1	
Date:	Monday, August 20, 2007	Sheet	33	of	47	

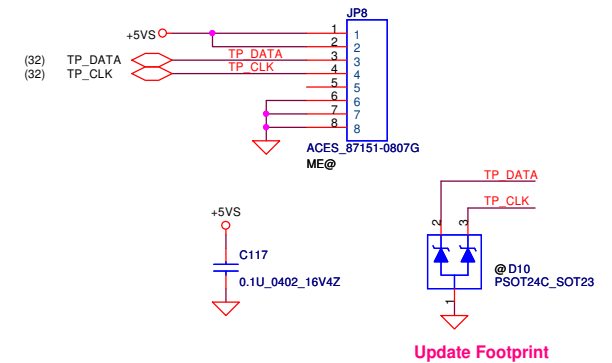
INT_KBD Conn.



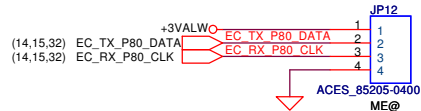
For IHL00



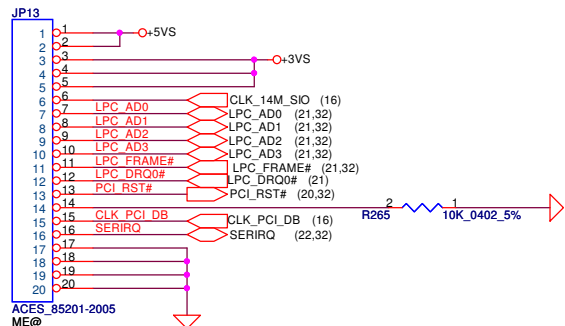
To TP/B Conn.



EC DEBUG PORT

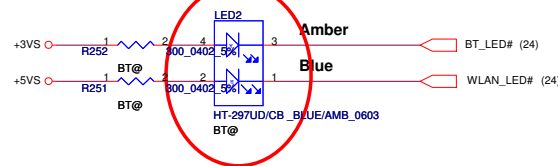
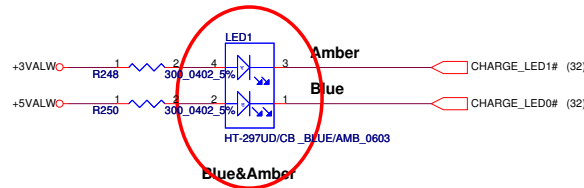


FOR LPC SIO DEBUG PORT



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.				EC ENE KB910L(Reserved)	
Size	Document Number	Rev		0.1	
B	LA-3861P	Date:		Monday, August 20, 2007	
Sheet		34		of 47	

LED

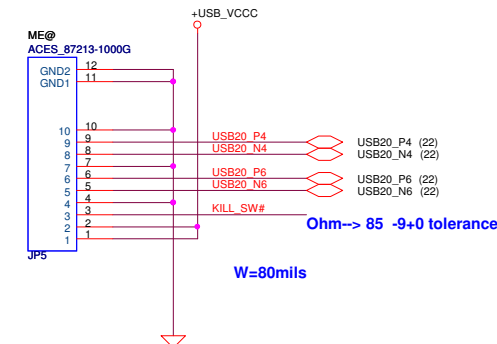
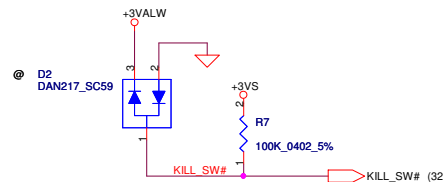


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	MDC/CIR & LED
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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: Monday, August 20, 2007	Rev 0.1
				Sheet 35 of 47	

USB Conn.

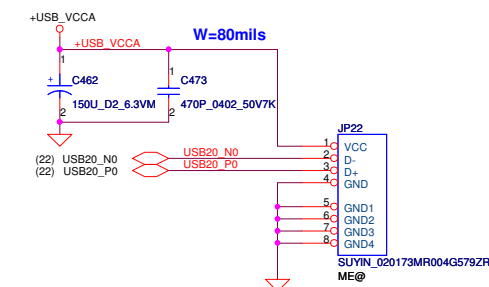
W=80mils

Kill SWITCH

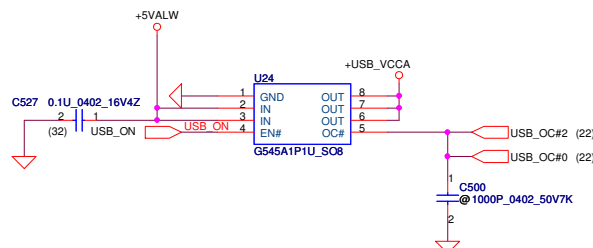
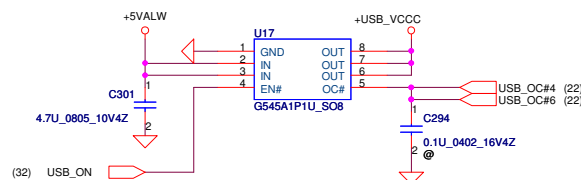
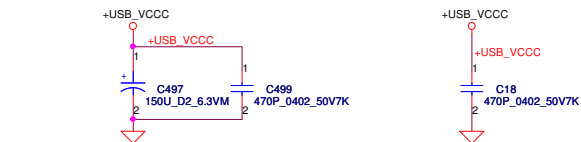
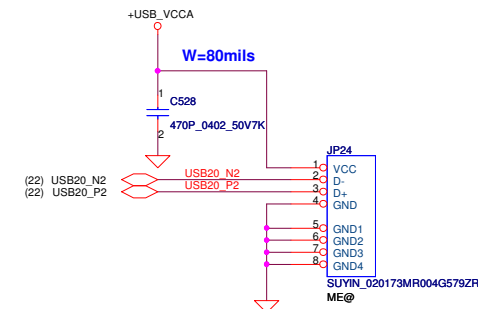


W=80mils

USB CONN. 1



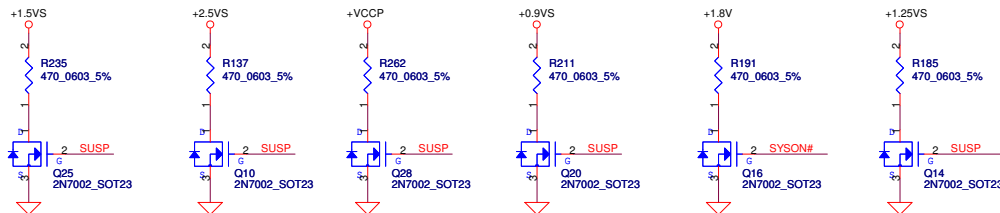
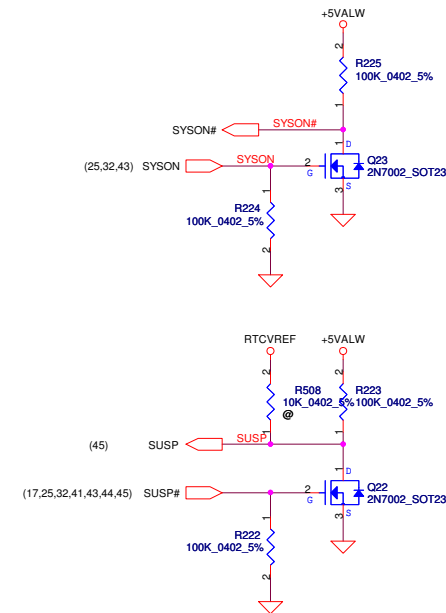
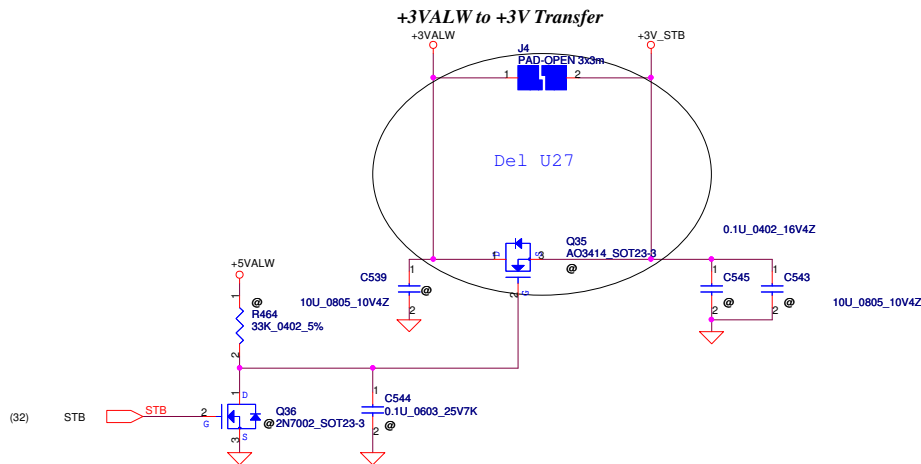
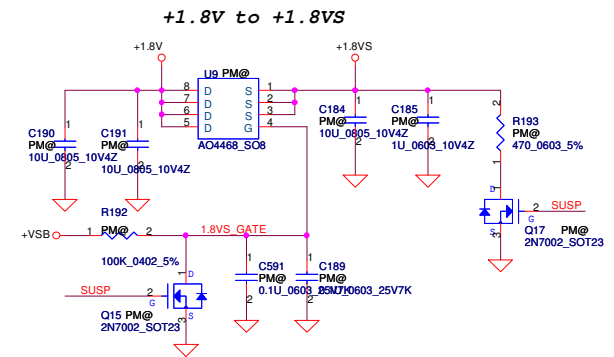
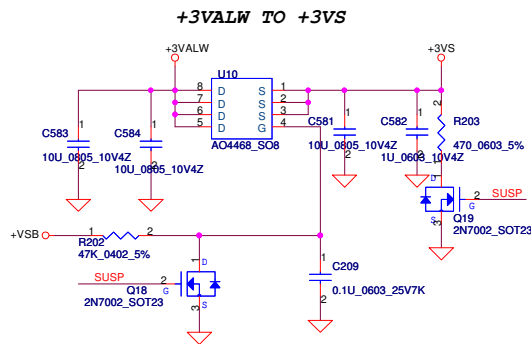
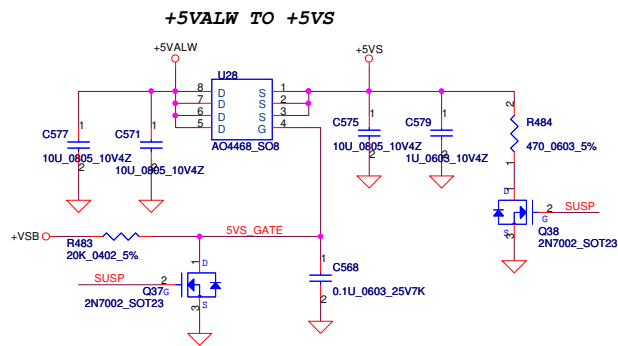
USB CONN. 2



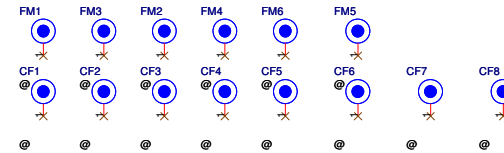
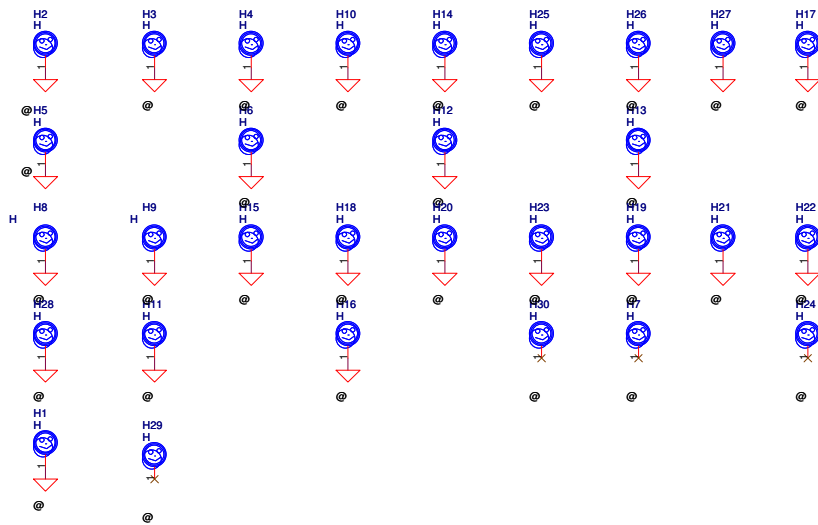
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2006/08/18				Title			
				Deciphered Date				Power OK, Reset and RTC Circuit, TP			
				2007/8/18				Size B			
								Document Number			
								LA-3691P			
								Rev 0.1			
								Date: Monday, August 20, 2007			
								Sheet 36 of 47			

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
Date: Monday, August 20, 2007
Sheet 36 of 47



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.				Size B	Document Number
				LA-3861P	
				Date: Tuesday, August 21, 2007	Rev 0.1
				Sheet 37 of 47	



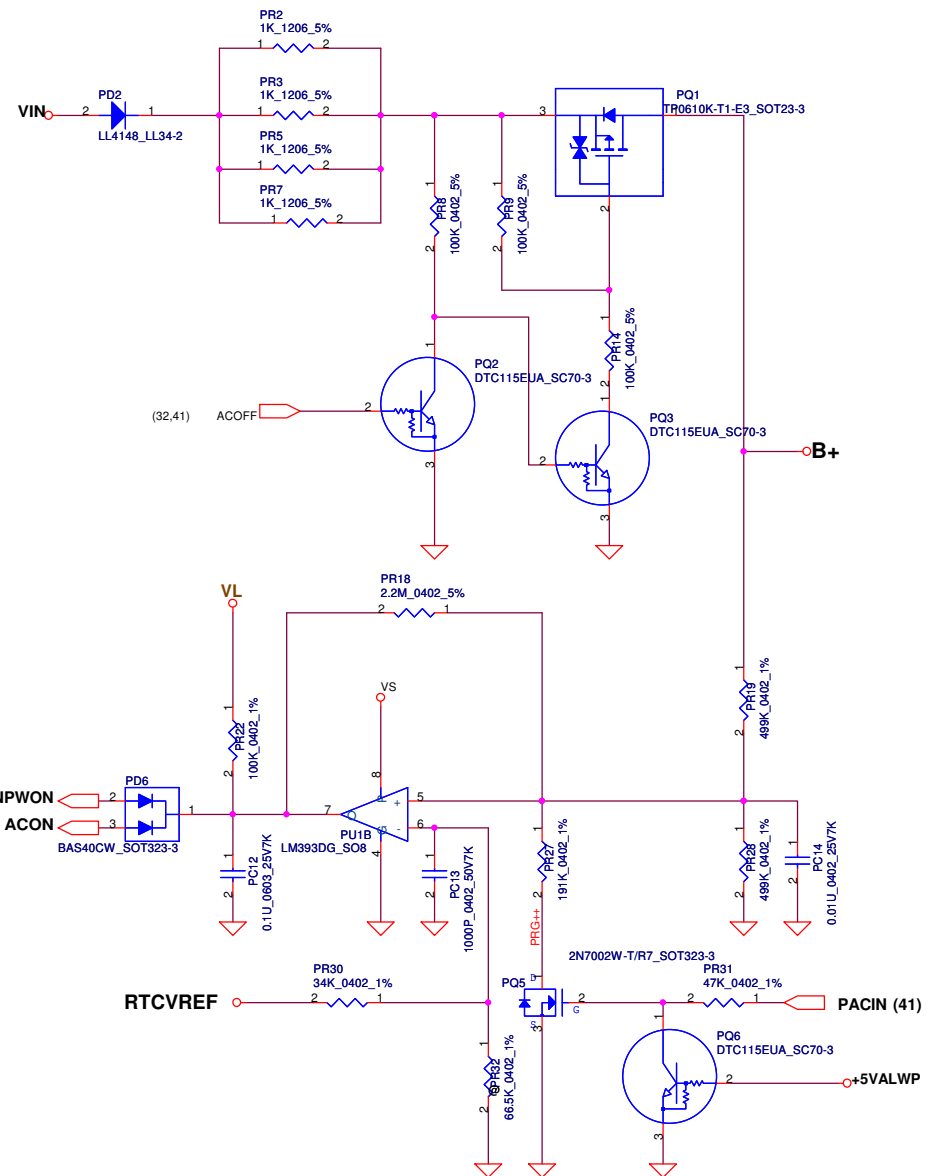
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2006/08/18	Deciphered Date	2007/8/18	Title	FAN & Screw Hole
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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: Monday, August 20, 2007	Rev 0.1
				Sheet 38	of 47

[illegible]

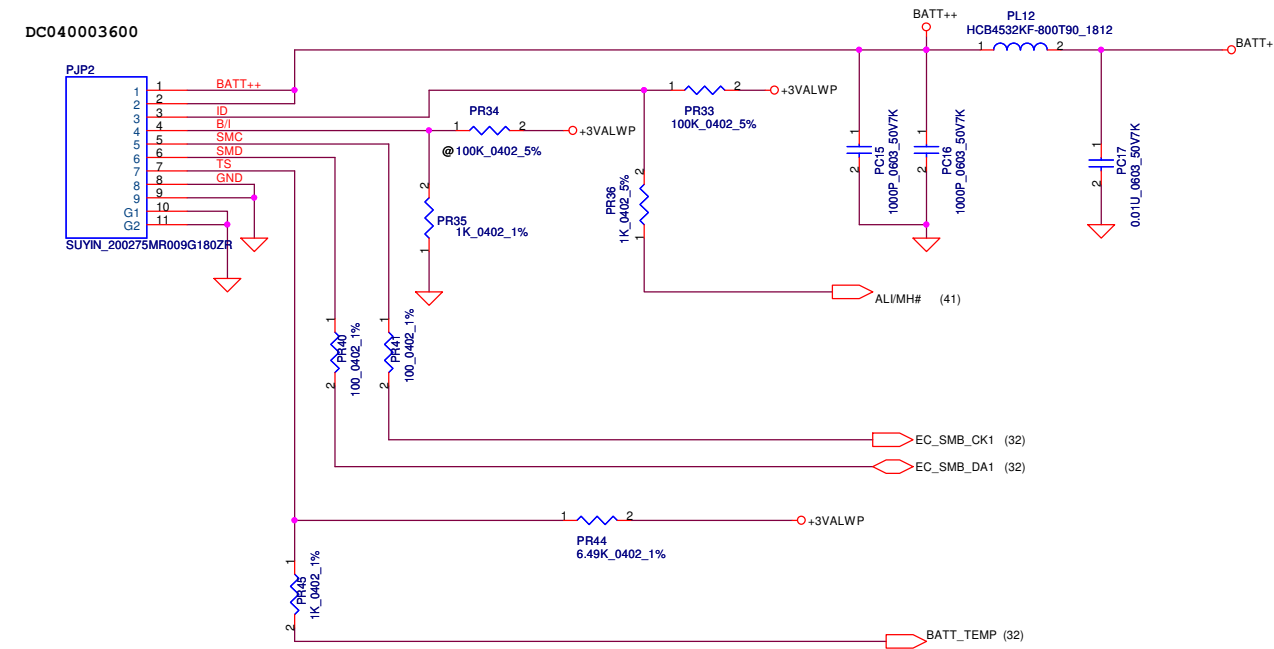
High	18.764	17.901	17.063
Low	17.745	16.9	16.03

Precharge detector		
Min.	typ.	Max.
14.589V	14.84V	15.243V
15.562V	15.97V	16.388V

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



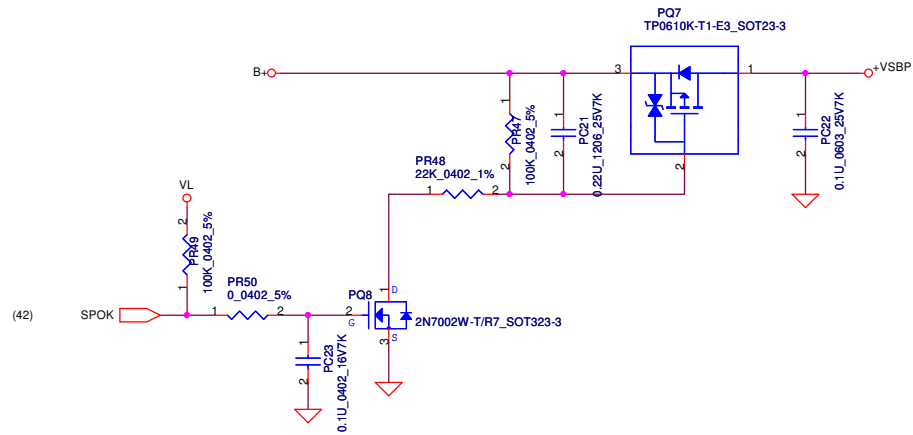
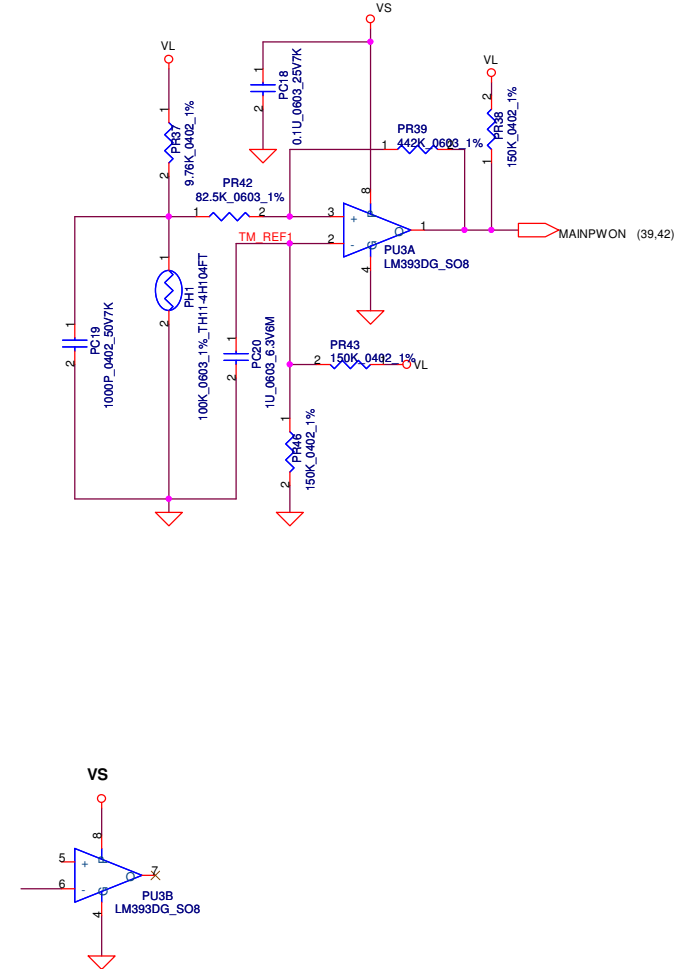
Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2005/10/17	Deciphered Date	2006/10/17	Title	DCIN/DECTOR	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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	IHL00 LA-3691P	0.3
				Date: Monday, August 20, 2007	Sheet 39 of 47	



PH1 under CPU bottom side :

CPU thermal protection at 87 degree C

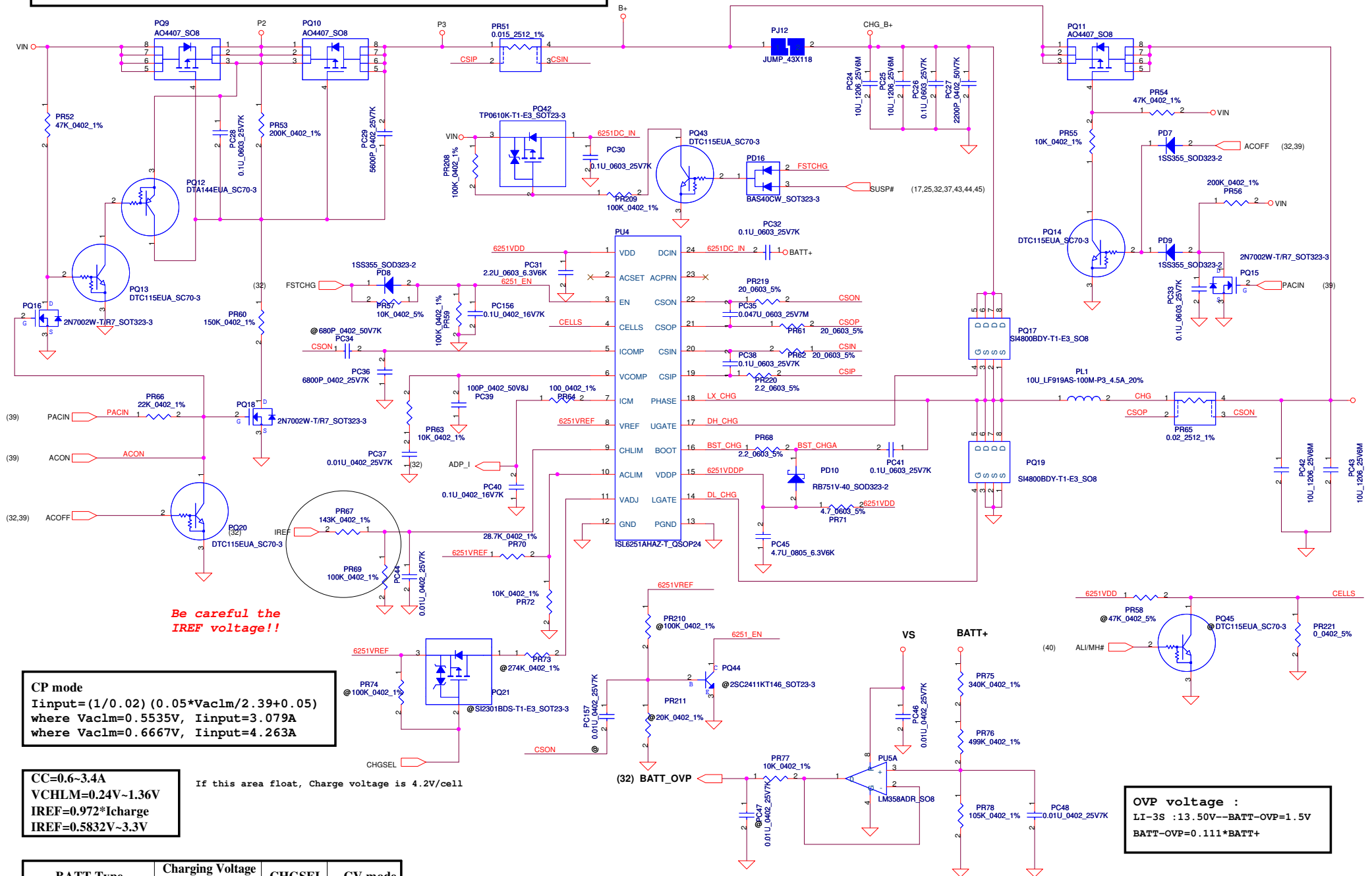
Recovery at 70 degree C

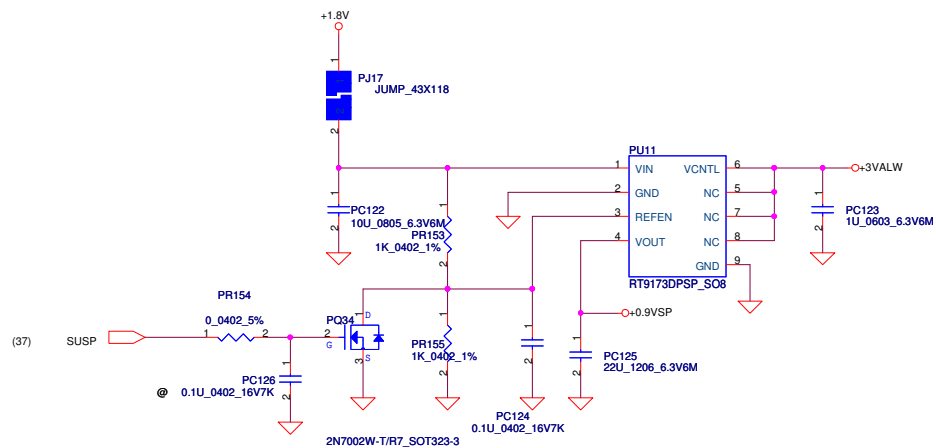
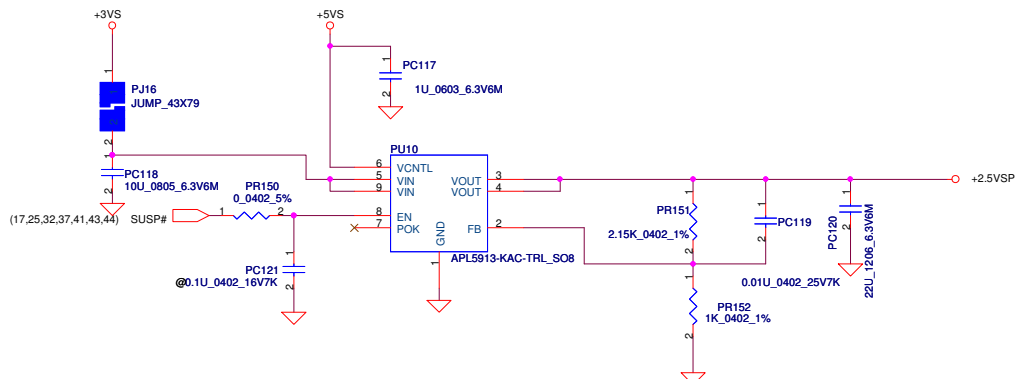


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2005/10/17	Deciphered Date	2006/10/17	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				BATTERY CONN. / OTP	
Size B	Document Number			IHL00 LA-3691P	Rev 0.3
Date:		Monday, August 20, 2007		Sheet 40	of 47

65W, Iadapter=0~3.42A, Current sense=0.02ohm, PR70=39.2K, CP=3.079A
90W, Iadapter=0~4.74A, Current Sense=0.015ohm, PR70=28.7K, CP=4.263A

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





Security Classification		Compal Secret Data		Compal Electronics, Inc.	
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.				Title	
				+2.5VSP/0.9VSP	
Size		Document Number		Rev	
Custom		IHL00 LA-3691P		0.3	
Date:		Monday, August 20, 2007		Sheet 45 of 47	

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

*Page 1 of 2
for PWR*

[illegible]