

Compal confidential

Schematics Document

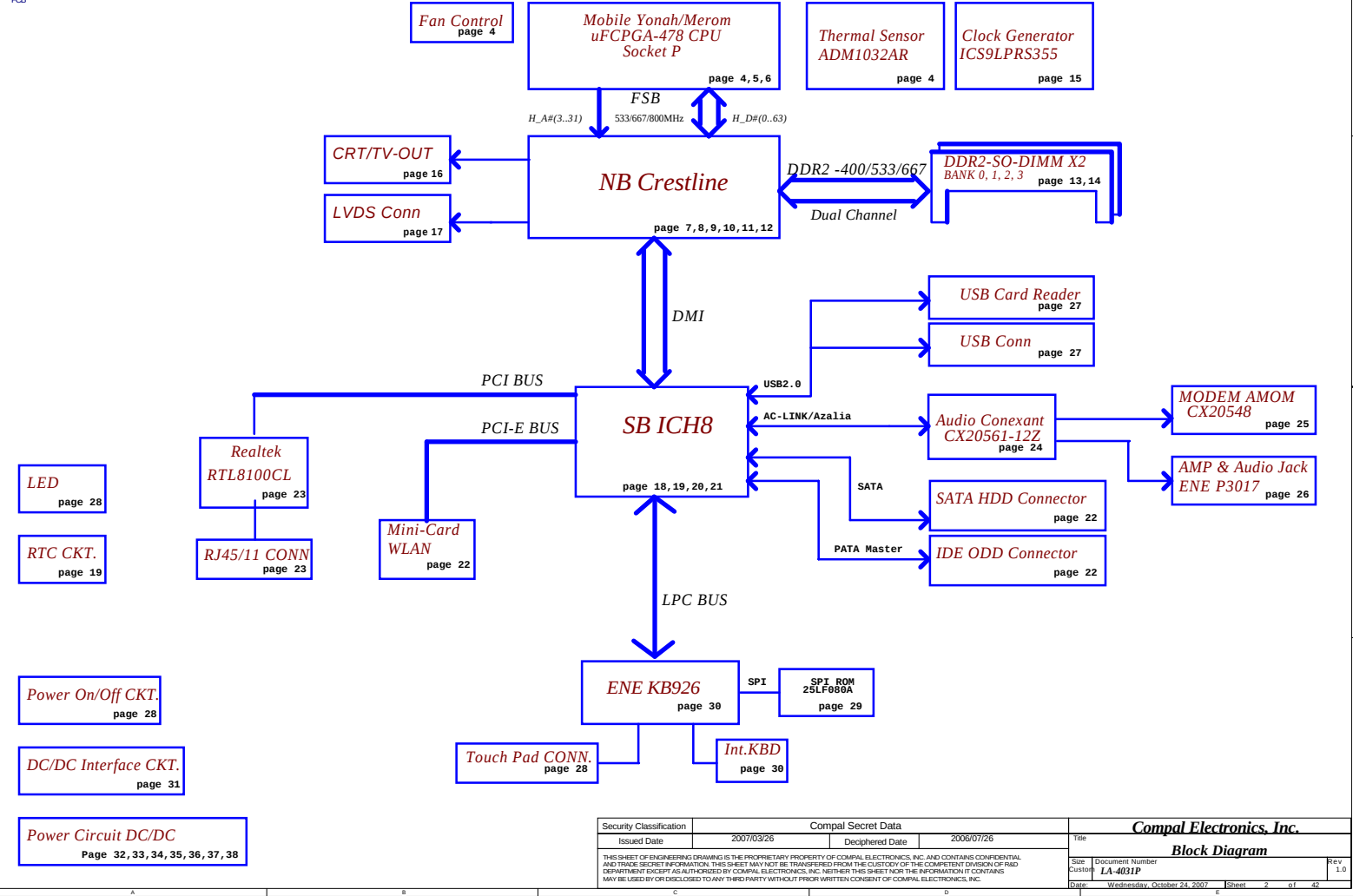
Mobile Merom uFCPGA with Satna Rosa Platform

2007-07-30
REV:0.2

Security Classification	Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2006/07/26	
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-4031P
				Rev 1.0
				Date Wednesday, October 24, 2007
				Sheet 1 of 42



Spartan 1.1 (Merom +Crestline+ICH8)



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/03/26	Deciphered Date	2006/07/26	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 REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Customer	LA-4031P
				Date	Wednesday, October 24, 2007
				Sheet	2 of 42
				Rev	1.0

Voltage Rails

State \ power plane	+B	+5VALW +3VALW	+1.8V	+5VS +3VS +1.5VS +1.25VS +0.9V +VCCP +CPU_CORE
S0	0	0	0	0
S1	0	0	0	0
S3	0	0	0	X
S5 S4/AC	0	0	X	X
S5 S4/ Battery only	0	X	X	X
S5 S4/AC & Battery don't exist	X	X	X	X

Symbol Note :



: means Digital Ground



: means Analog Ground

@ : means just reserve , no build

DEBUG@ : means just reserve for debug.

External PCI Devices

DEVICE	IDSEL #	REQ/GNT #	PIRQ
LAN	AD17	0	A

I2C / SMBUS ADDRESSING

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

SMBUS Control Table

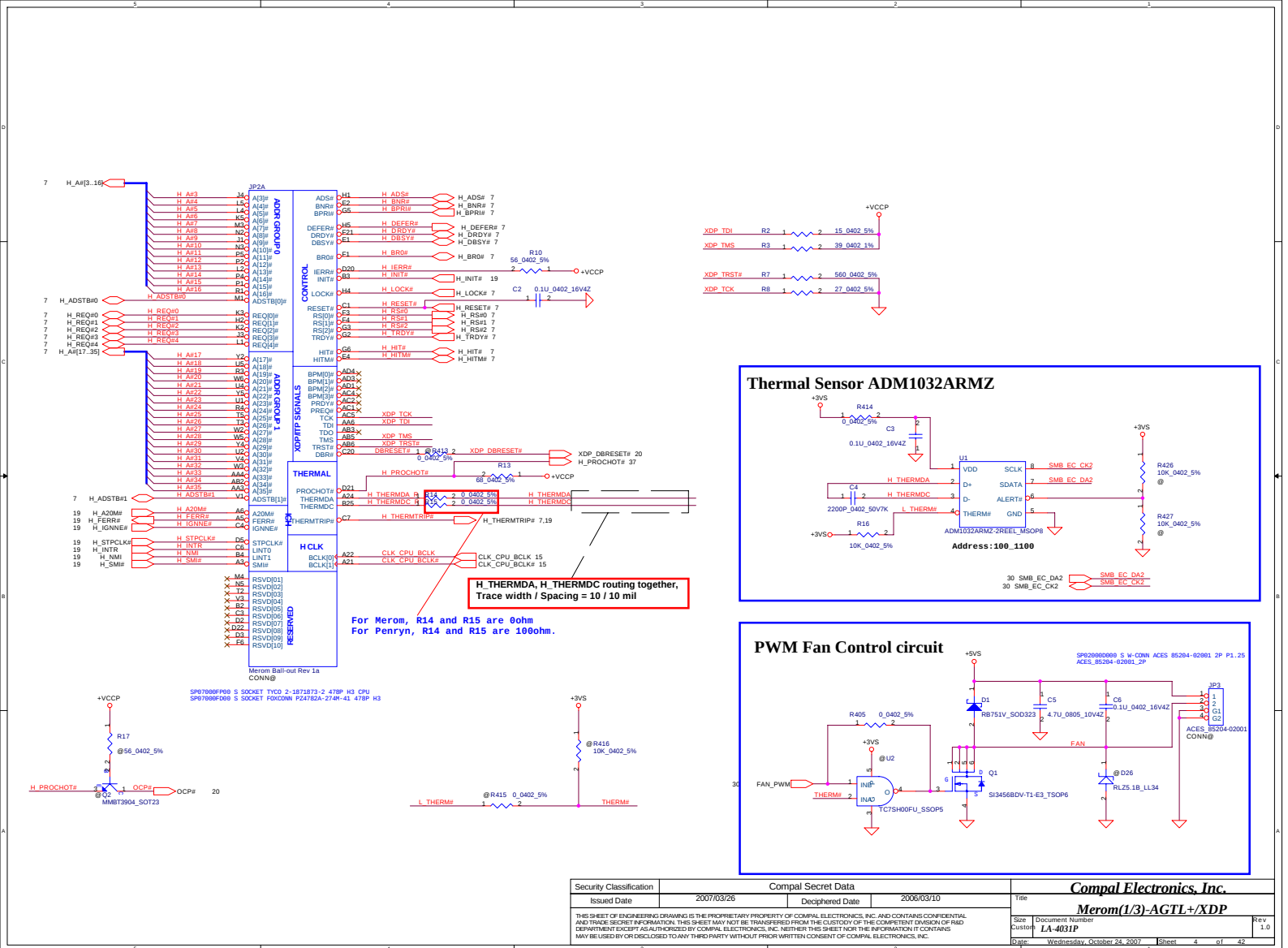
	SOURCE	INVERTER	BATT	SERIAL EEPROM	THERMAL SENSOR (CPU)	SODIMM	CLK CHIP	MINI CARD	LCD
SMB_EC_CK1 SMB_EC_DA1	KB925	X	V	V	X	X	X	X	X
SMB_EC_CK2 SMB_EC_DA2	KB925	X	X	X	V	X	X	X	X
SMB_CK_CLK1 SMB_CK_DAT1	ICH8	X	X	X	X	V	V	V	X
LCD_CLK LCD_DAT	Crestline	X	X	X	X	X	X	X	V

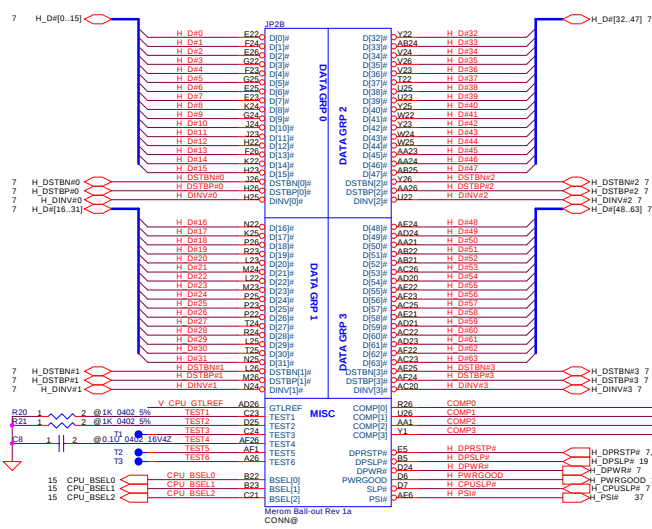
BOM: 43152432L03(965GM) & 43152432L04(960GML) with card reader

BOM: 43152432L01(965GM) & 43152432L02(960GML) without card reader

Jump-Short: PJP?

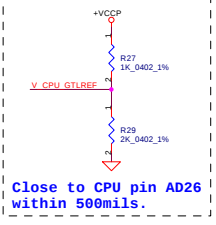
Security Classification		Compal Secret Data		Compal Electronics, Inc.							
Issued Date		2007/03/26		Deciphered Date		2006/07/26		Title			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY 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 REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.								Notes List			
								Size	Document Number	Rev	
								LA-4031P		1.0	
								Date	Wednesday, October 24, 2007	Sheet	3 of 42



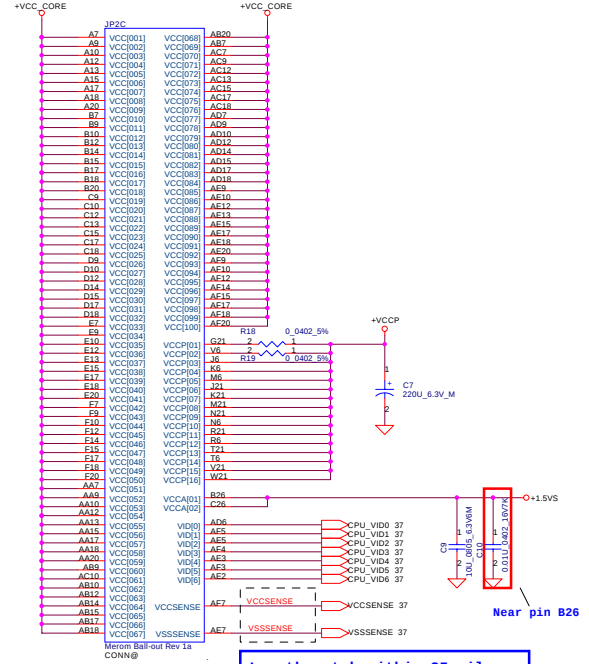


layout note: Route TEST3 & TEST5 traces on ground referenced layer to the TPs

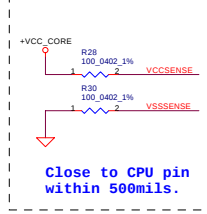
CPU_BSEL	CPU_BSEL2	CPU_BSEL1	CPU_BSEL0
166	0	1	1
200	0	1	0



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



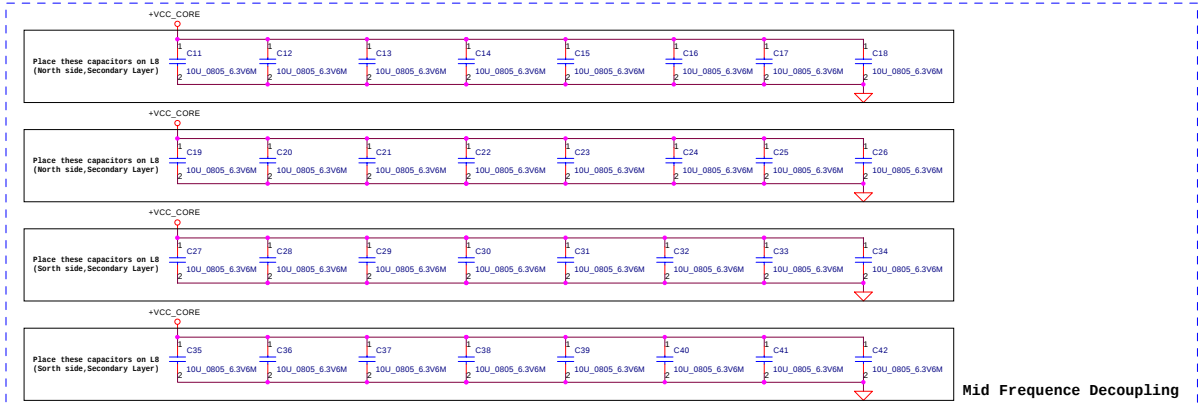
Length match within 25 mils. The trace width/space/other is 20/7/25.



Security Classification	Compal Secret Data	Title	Compal Electronics, Inc.	
Issued Date	2007/03/26	Deciphered Date	2006/03/10	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				
Size	Document Number	Rev	1.0	
Customer	LA-4031P	Date	Wednesday, October 24, 2007	
Sheet	5	of	42	

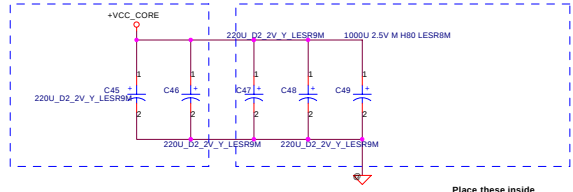
A4	VSS[001]	VSS[082]	P6
A6	VSS[002]	VSS[083]	P21
A11	VSS[003]	VSS[084]	P24
A16	VSS[004]	VSS[085]	R2
A18	VSS[009]	VSS[089]	R22
A22	VSS[006]	VSS[091]	S25
A25	VSS[008]	VSS[088]	T1
B6	VSS[009]	VSS[090]	T4
B8	VSS[010]	VSS[091]	T23
B11	VSS[011]	VSS[092]	T26
B13	VSS[012]	VSS[093]	T27
B16	VSS[013]	VSS[094]	U6
B19	VSS[014]	VSS[095]	U24
B21	VSS[015]	VSS[096]	U2
B24	VSS[016]	VSS[097]	U5
C3	VSS[017]	VSS[098]	V2
C8	VSS[018]	VSS[099]	V22
C11	VSS[019]	VSS[100]	V25
C14	VSS[020]	VSS[101]	W1
C16	VSS[021]	VSS[102]	W4
C18	VSS[022]	VSS[103]	W23
C2	VSS[023]	VSS[104]	Y1
C22	VSS[024]	VSS[105]	Y6
C25	VSS[025]	VSS[106]	Y21
D4	VSS[027]	VSS[108]	Y24
D8	VSS[028]	VSS[109]	AA2
D11	VSS[029]	VSS[110]	AA5
D16	VSS[030]	VSS[111]	AA11
D18	VSS[031]	VSS[112]	AA14
D19	VSS[032]	VSS[113]	AA16
D21	VSS[033]	VSS[114]	AA19
D24	VSS[034]	VSS[115]	AA25
E3	VSS[035]	VSS[116]	AB2
E6	VSS[036]	VSS[117]	AB5
E11	VSS[037]	VSS[118]	AB11
E14	VSS[038]	VSS[119]	AB12
E16	VSS[039]	VSS[120]	AB16
E19	VSS[040]	VSS[121]	AB19
E21	VSS[041]	VSS[122]	AB26
E24	VSS[042]	VSS[123]	AC1
F3	VSS[043]	VSS[124]	AC2
F6	VSS[044]	VSS[125]	AC5
F8	VSS[045]	VSS[126]	AC11
F11	VSS[046]	VSS[127]	AC14
F16	VSS[047]	VSS[128]	AC16
F19	VSS[048]	VSS[129]	AC19
F21	VSS[049]	VSS[130]	AC21
F22	VSS[050]	VSS[131]	AC24
F25	VSS[051]	VSS[132]	AD2
G4	VSS[052]	VSS[133]	AD5
G11	VSS[053]	VSS[134]	AD11
G16	VSS[054]	VSS[135]	AD16
G21	VSS[055]	VSS[136]	AD19
G24	VSS[056]	VSS[137]	AD22
H6	VSS[057]	VSS[138]	AE2
H11	VSS[058]	VSS[139]	AE5
H21	VSS[059]	VSS[140]	AE11
H24	VSS[060]	VSS[141]	AE14
I2	VSS[061]	VSS[142]	AE16
J2	VSS[062]	VSS[143]	AE19
J5	VSS[063]	VSS[144]	AE23
K1	VSS[064]	VSS[145]	AE26
K4	VSS[065]	VSS[146]	AE2
K21	VSS[066]	VSS[147]	AE5
K26	VSS[067]	VSS[148]	AE11
L3	VSS[068]	VSS[149]	AE14
L6	VSS[069]	VSS[150]	AE16
L11	VSS[070]	VSS[151]	AE19
L24	VSS[071]	VSS[152]	AE23
M2	VSS[072]	VSS[153]	AE26
M5	VSS[073]	VSS[154]	AE2
M21	VSS[074]	VSS[155]	AE5
M26	VSS[075]	VSS[156]	AE11
N1	VSS[076]	VSS[157]	AE14
N4	VSS[077]	VSS[158]	AE16
N21	VSS[078]	VSS[159]	AE19
N26	VSS[079]	VSS[160]	AE23
N41	VSS[080]	VSS[161]	AE26
P1	VSS[081]	VSS[162]	AE2
		VSS[163]	AE5

Merom Ball-out Rev 1a
CONN

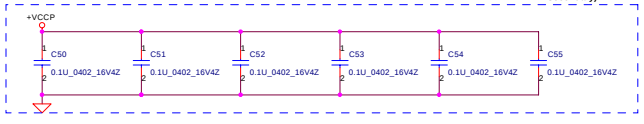


Near CPU CORE regulator

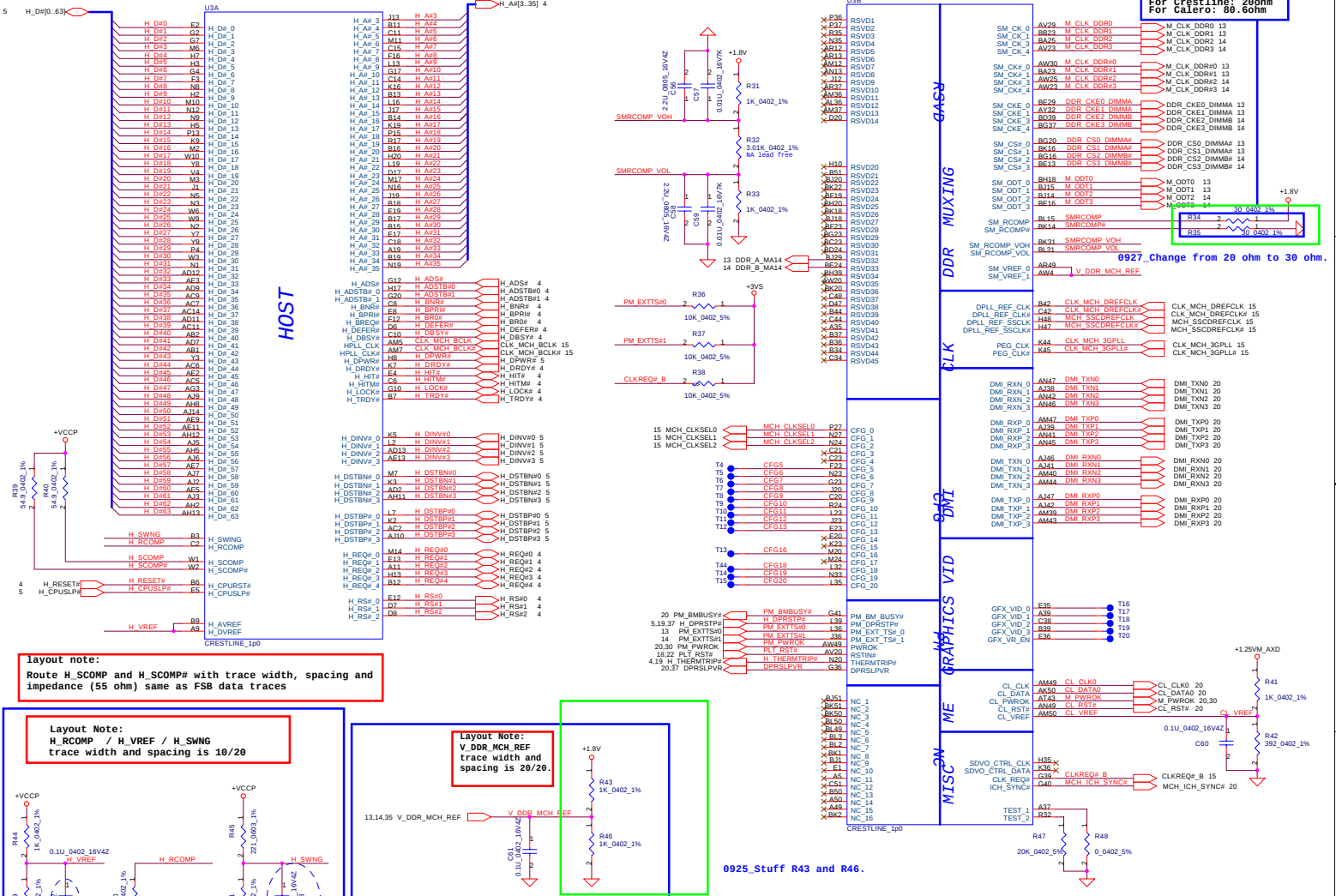
ESR <= 1.5m ohm
Capacitor > 1980uF



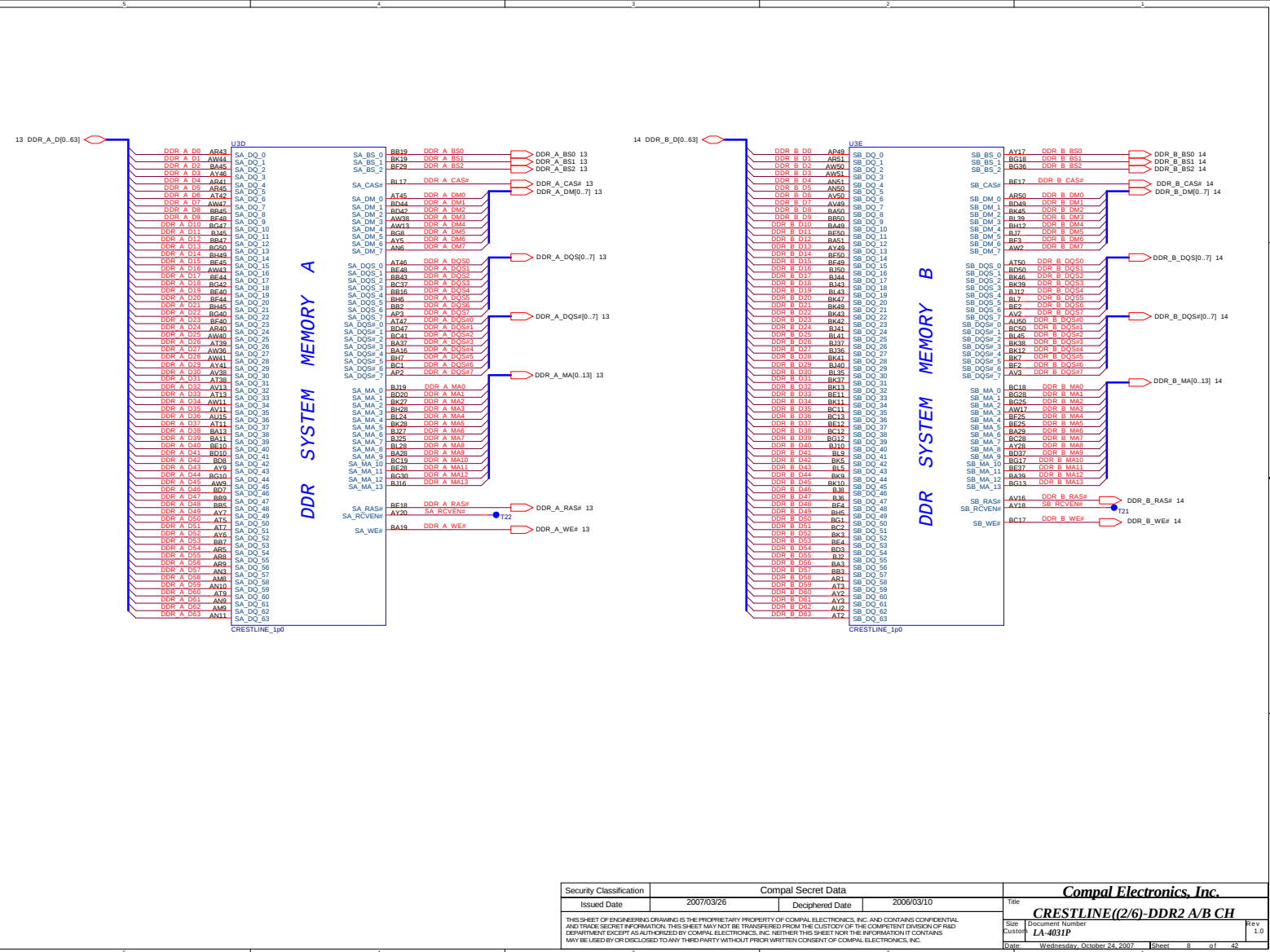
Place these inside
socket cavity on L8
(North side
Secondary)



Security Classification	Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2006/03/10	
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 REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Customer LA-4031P
				Rev 1.0
				Date: Wednesday, October 24, 2007 1 Sheet 6 of 42



Security Classification		Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2006/03/10	Size	10
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. ANY UNAUTHORIZED REPRODUCTION OR TRANSMISSION OF THIS SHEET IS STRICTLY PROHIBITED. ANY VIOLATION OF THIS NOTICE IS SUBJECT TO LEGAL ACTION.				Customer	LA-4031P
				Date	Wednesday, October 24, 2007
				Sheet	7 of 42



Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		Customer	
2007/03/26		2006/03/10		LA-4031P	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Date		Wednesday, October 24, 2007	
				Sheet 8 of 42	

Strap Pin Table

CFG[2:0] FSB Freq select	010 = FSB 800MHz 011 = FSB 667MHz Others = Reserved
CFG5 (DMI select)	0 = DMI x 2 1 = DMI x 4 *
CFG6	Reserved
CFG7 (CPU Strap)	0 = Reserved 1 = Mobile CPU *
CFG8 (Low power PCIe)	0 = Normal mode 1 = Low Power mode *
CFG9 (PCIe Graphics Lane Reversal)	0 = Reverse Lane 1 = Normal Operation *
CFG[11:10]	Reserved
CFG[13:12] (XOR/ALLZ)	00 = Reserved 01 = XOR Mode Enabled 10 = All Z Mode Enabled 11 = Normal Operation(Default) *
CFG[15:14]	Reserved
CFG16 (FSB Dynamic ODT)	0 = Disabled 1 = Enabled *
CFG[18:17]	Reserved
SDVO_CTRLDATA	0 = No SDVO Device Present 1 = SDVO Device Present *
CFG19 (DMI Lane Reversal)	0 = Normal Operation (Lane number in Order) *
	1 = Reverse Lane
CFG20 (PCIe/SDVO concurrent)	0 = Only PCIe or SDVO is operational. *
	1 = PCIe/SDVO are operating simu.

CFG[17:3] have internal pull up

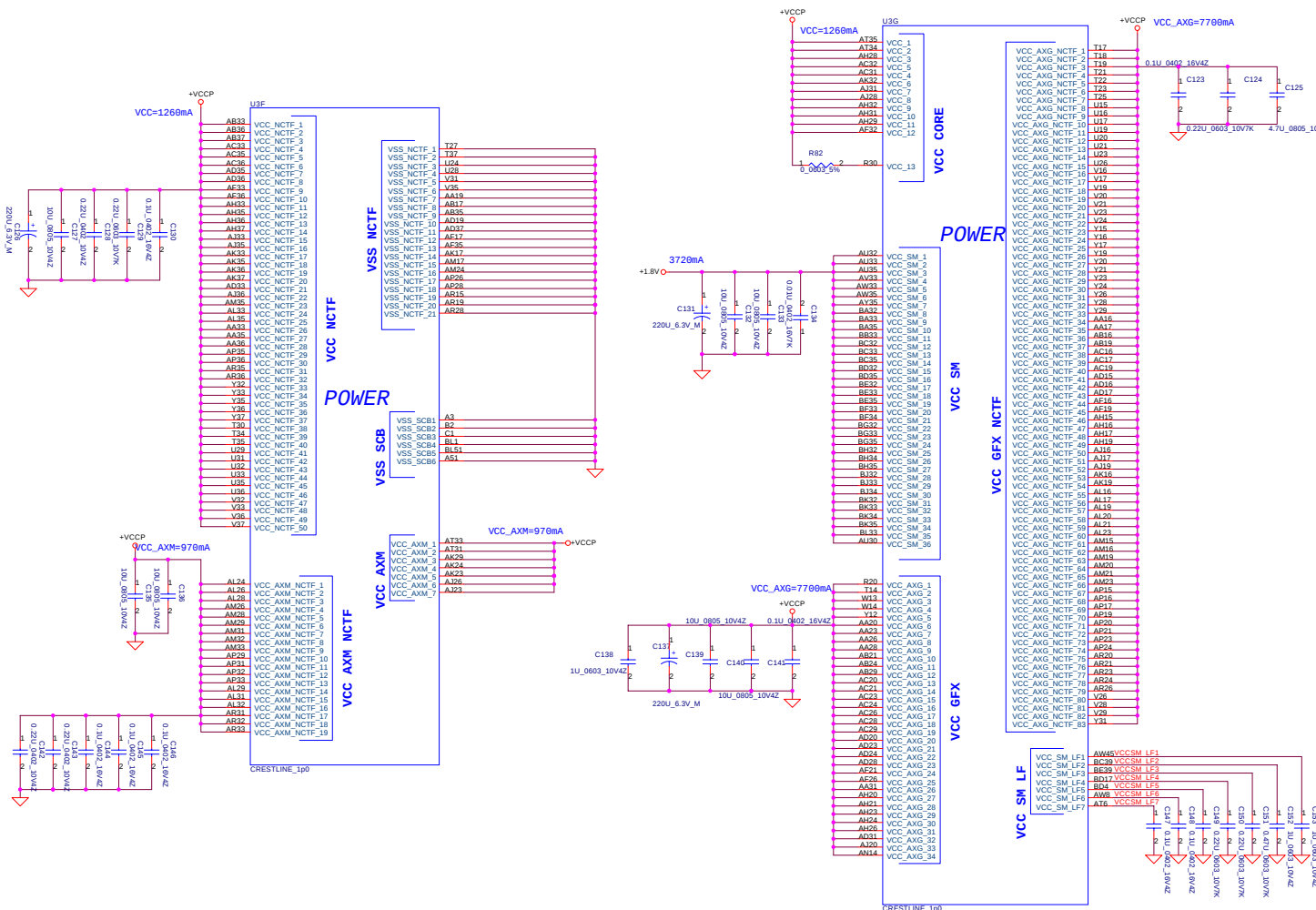
CFG[19:18] have internal pull down

For Crestline: 2.4kohm
For Calero: 1.5kohm

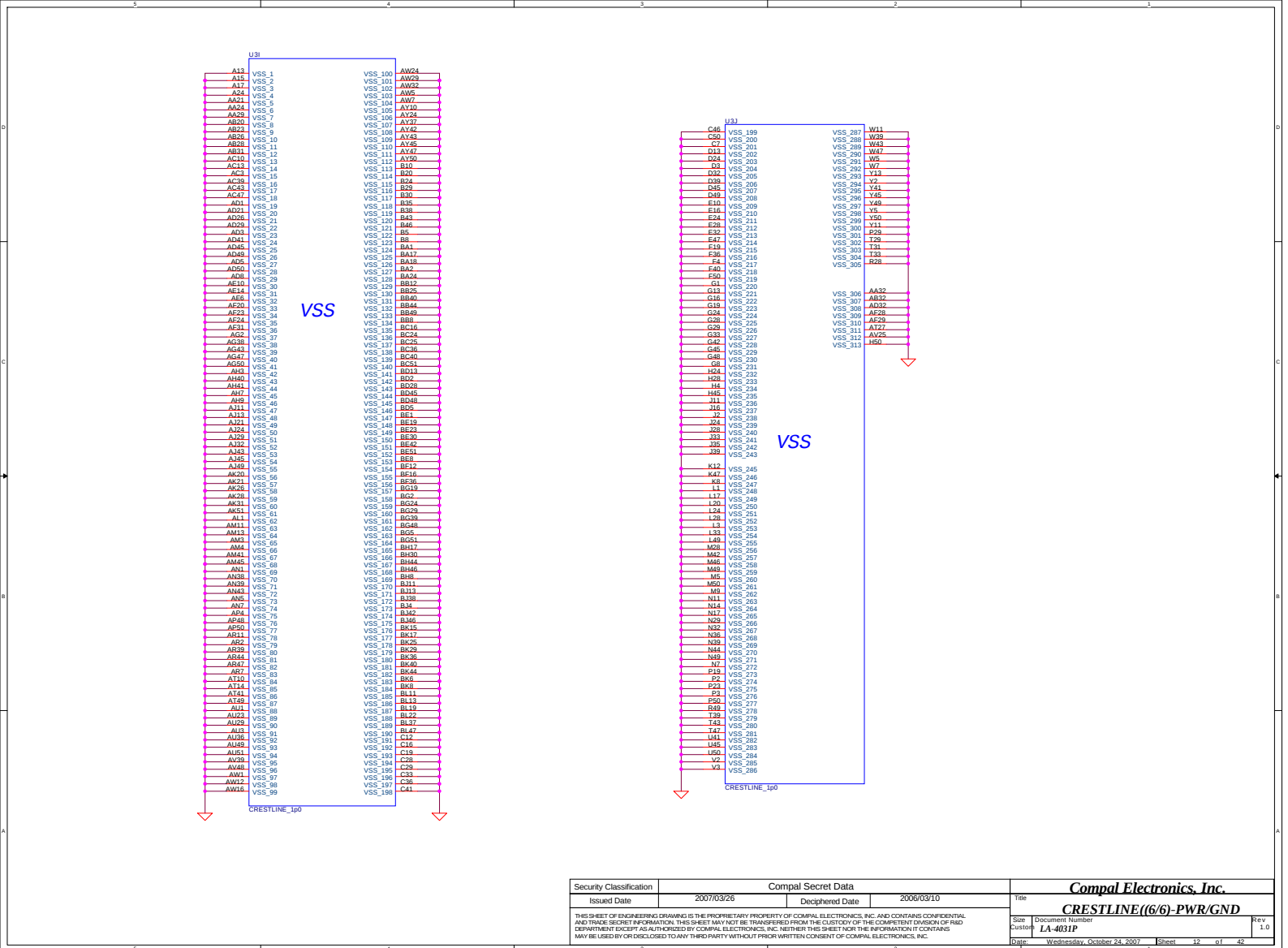
PEGCOMP trace width
and spacing is 20/25 mils.

For Crestline: 1.3kohm
For Calero: 255ohm

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/03/26	Deciphered Date	2006/03/10	Title	CRESTLINE(3/6)-VGA/LVDS/TV
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 Customer	Document Number LA-4031P
				Date	Wednesday, October 24, 2007
				Sheet	9 of 42
				Rev	1.0



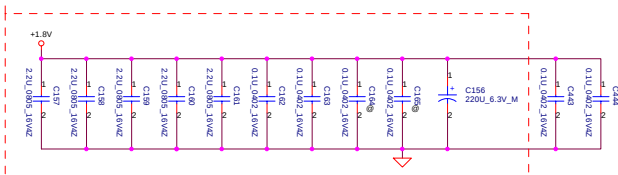
Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		2006/03/10	
2007/03/26				CRESTLINE (5/6)-PWR/GND	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Date	LA-4031P
				Wednesday, October 24, 2007	Sheet 13 of 42
				Rev	1.0



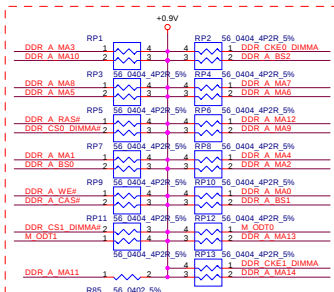
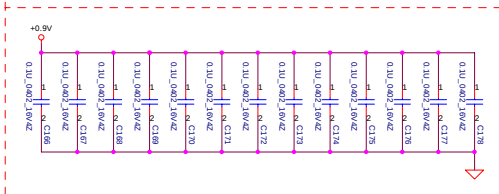
Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2007/03/26	Deciphered Date	2006/03/10	Title		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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((6/6)-PWR/GND		
				Size Customer	Document Number LA-4031P	Rev 1.0
				Date	Wednesday, October 24, 2007	Sheet 12 of 42

8 DDR_A_DQS#0(.7)
8 DDR_A_DQ0(.63)
8 DDR_A_DM0(.7)
8 DDR_A_DQS0(.7)
7.8 DDR_A_MA0(.14)

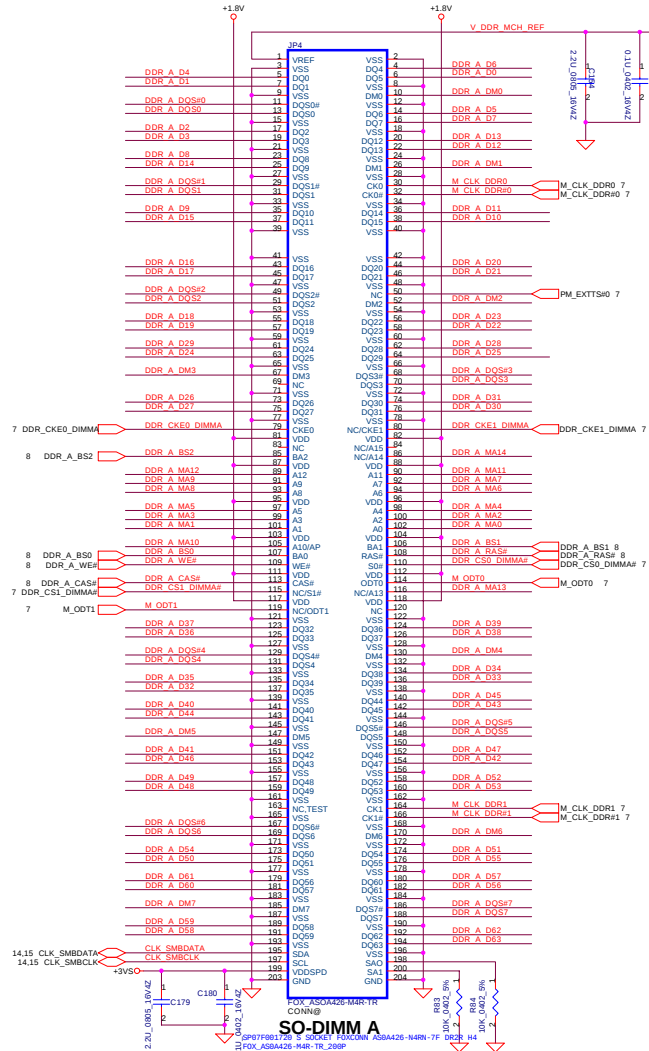
Layout Note:
Place near JP34



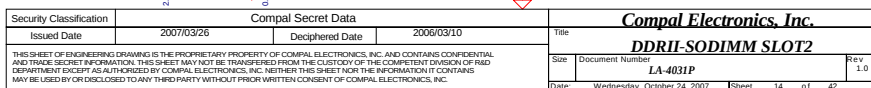
Layout Note:
Place one cap close to every 2 pullup resistors terminated to +0.9V5

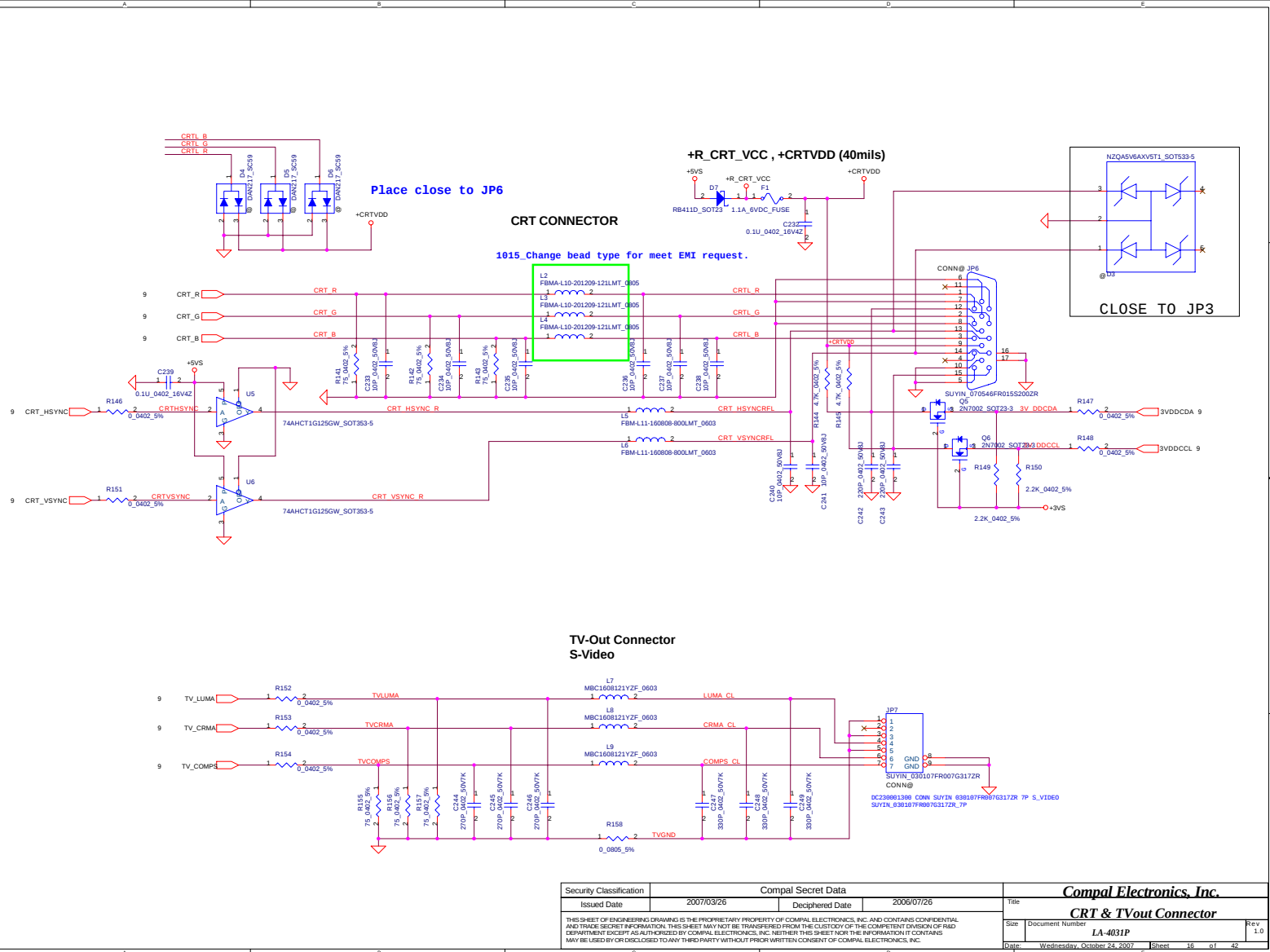


Layout Note:
Place these resistor closely JP34,all trace length Max=1.5"

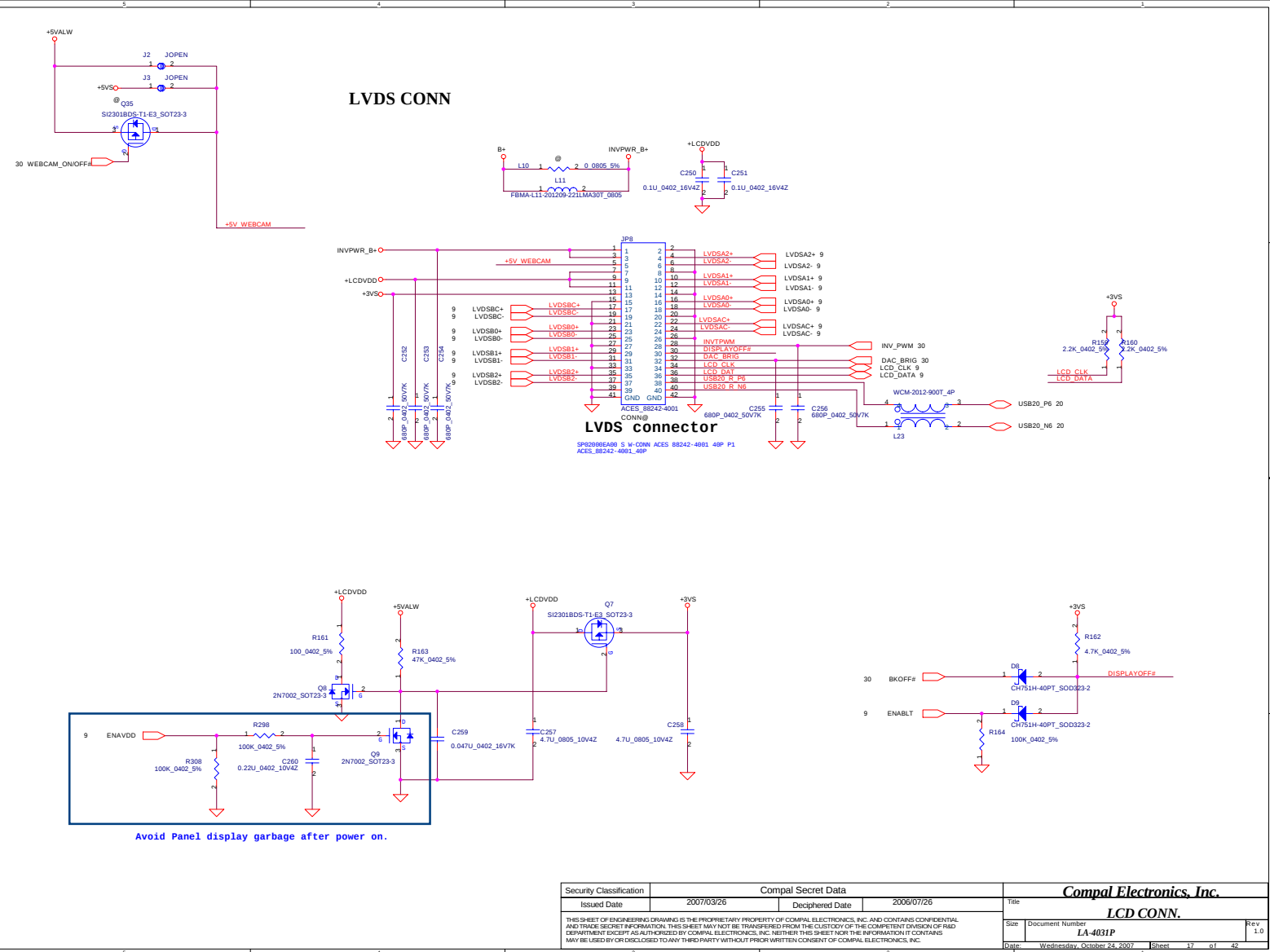


Security Classification		Compal Secret Data		Title			
Issued Date	2007/03/26	Deciphered Date	2006/03/10	Compal Electronics, Inc.			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				DDR2-SODIMM SLOT1			
				Size		Document Number	Rev
				Date		LA-4031P	1.0
				Date: Wednesday, October 24, 2007		Sheet	13 of 42

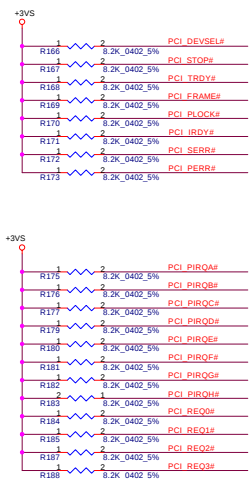




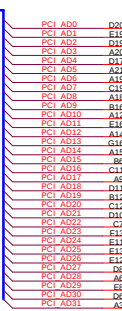
Security Classification		Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2006/07/26	CRT & TVout Connector	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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 REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-4031P	Rev 1.0
				Date	Wednesday, October 24, 2007
				Sheet	18 of 42



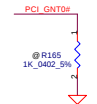
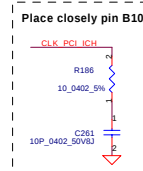
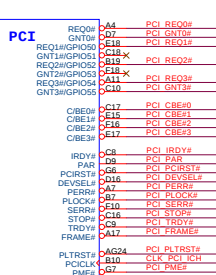
Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		2007/03/26	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		2005/07/26		LCD CONN.	
Size		Document Number		LA-4031P	
Date		Wednesday, October 24, 2007		Sheet 17 of 42	
Rev		1.0			



23 PCI_AD[0..31]



Interrupt I/F
ICH8M REV 1.0

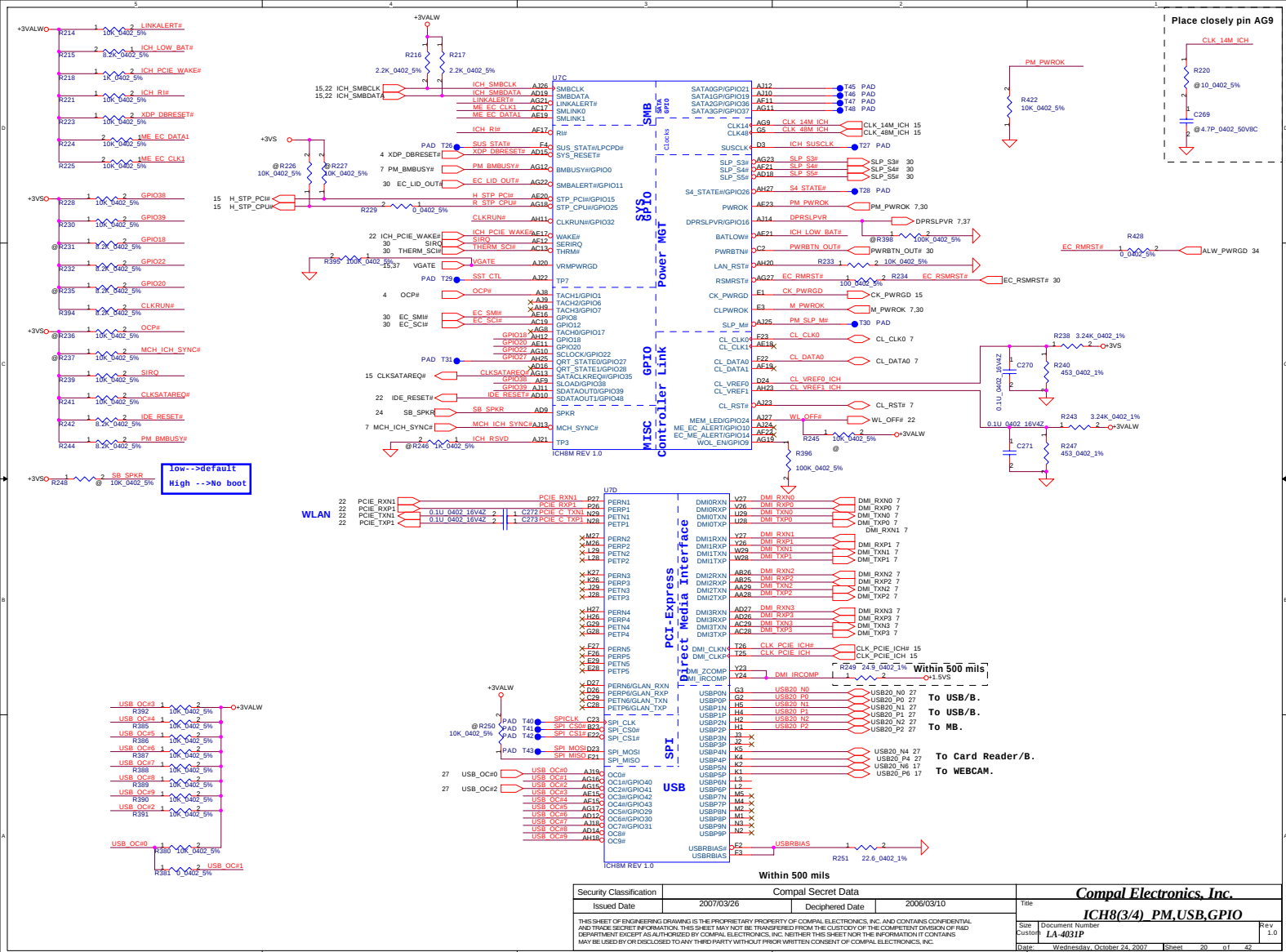


Boot BIOS Strap		
PCI_GNT0#	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC *
A16 swap override Strap		
PCI_GNT3#	*Low= A16 swap override Enble High= Default	



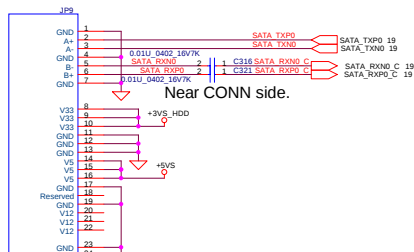
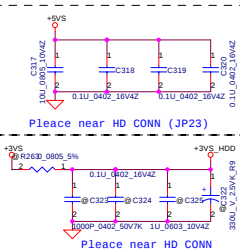
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2007/03/26				Title			
Deciphered Date				2006/03/10				IC88(1/4)-PCI/INT			
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size				Document Number			
								LA-4031P			
								Date			
								Wednesday, October 24, 2007			
								Sheet			
								18 of 42			

Security Classification	Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2006/03/10	ICH8(2/4) LAN HD, IDE, LPC
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL INFORMATION. THIS INFORMATION IS NOT TO BE TRANSMITTED OR DISCLOSED TO ANY COMPETITOR OR TO ANY OTHER PARTY WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.			Size	Document Number
DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT OUR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Date	LA-4031P
			Revision	1.0
			Date	Wednesday, October 24, 2007
			Sheet	19 of 41



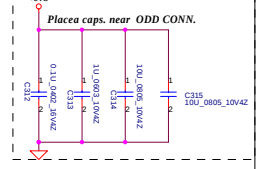
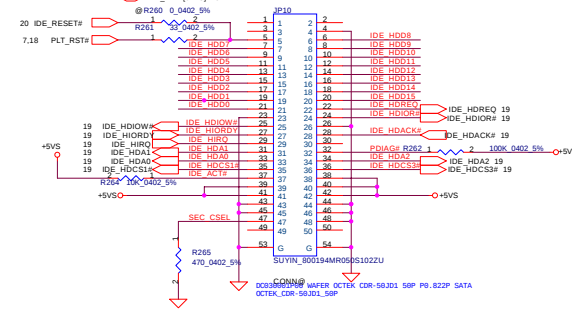
Security Classification	Compal Secret Data		Compal Electronics, Inc. ICH8(3/4) PM,USB,GPIO	
Issued Date	2007/03/26	Deciphered Date	2006/03/10	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPLETE DIVISION OR F&D DEPARTMENT TO ANY OTHERS 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.			Document Number LA-4031P	
Date	2007/03/26		Sheet	1 of 1

HDD Connector

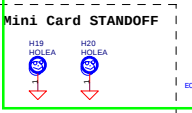
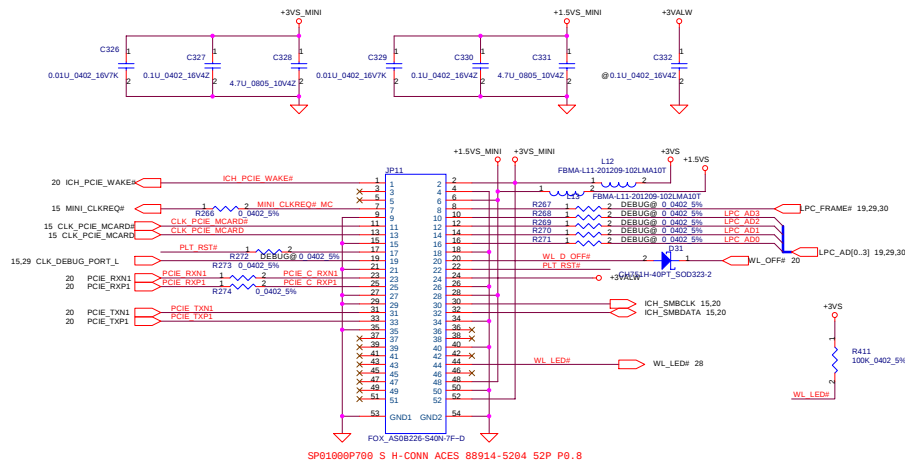


CONN@
S01VN 127043FR022G204L_HR
DC15882968 HDU216 S01VN 127843FB22G284ZL_Z2P SATA
S01VN 127843FR022G284ZL_Z2P_HR

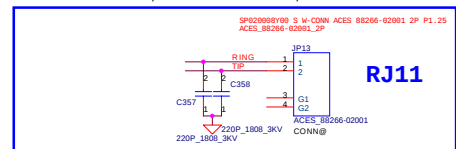
CD-ROM Connector



Mini-Express Card---WLAN



Security Classification		Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2007/08/29	HDD/ODD/Mini Card CONN.	
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	Documents Number
				LA-4031P	Rev 1.0
				Date	Wednesday, October 31, 2007
				Sheet	22 of 42



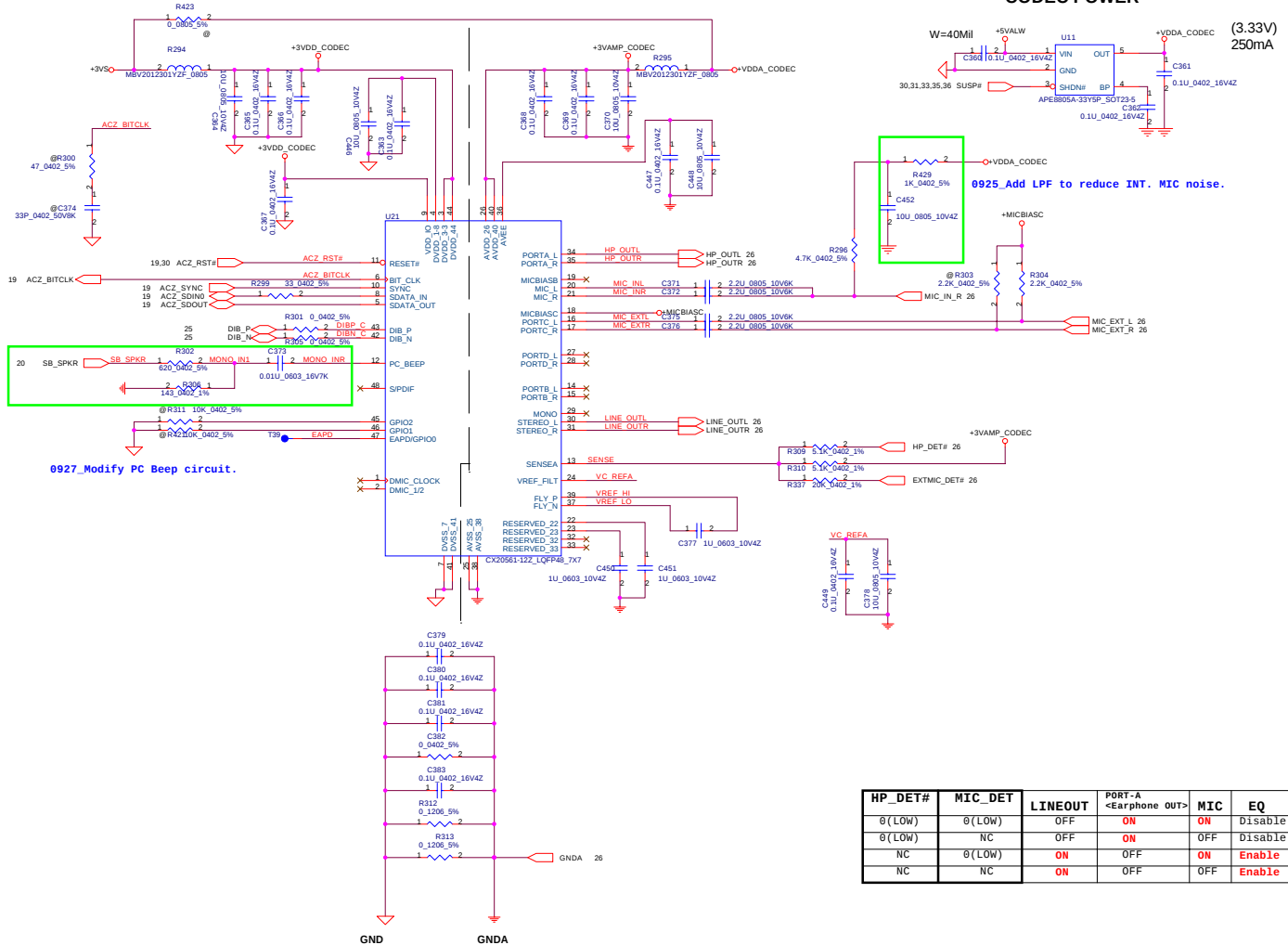
Security Classification	Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2007/08/29	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR R&D DEPARTMENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET OF INFORMATION NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			LAN-8100CL LA-4031P	
Date			Wednesday, October 24, 2007	Sheet
			23	of 42
			Rev 1.0	

In order for the modem wake on ring feature to function, the CODEC must be powered by a rail that is not removed when the system is in standby.

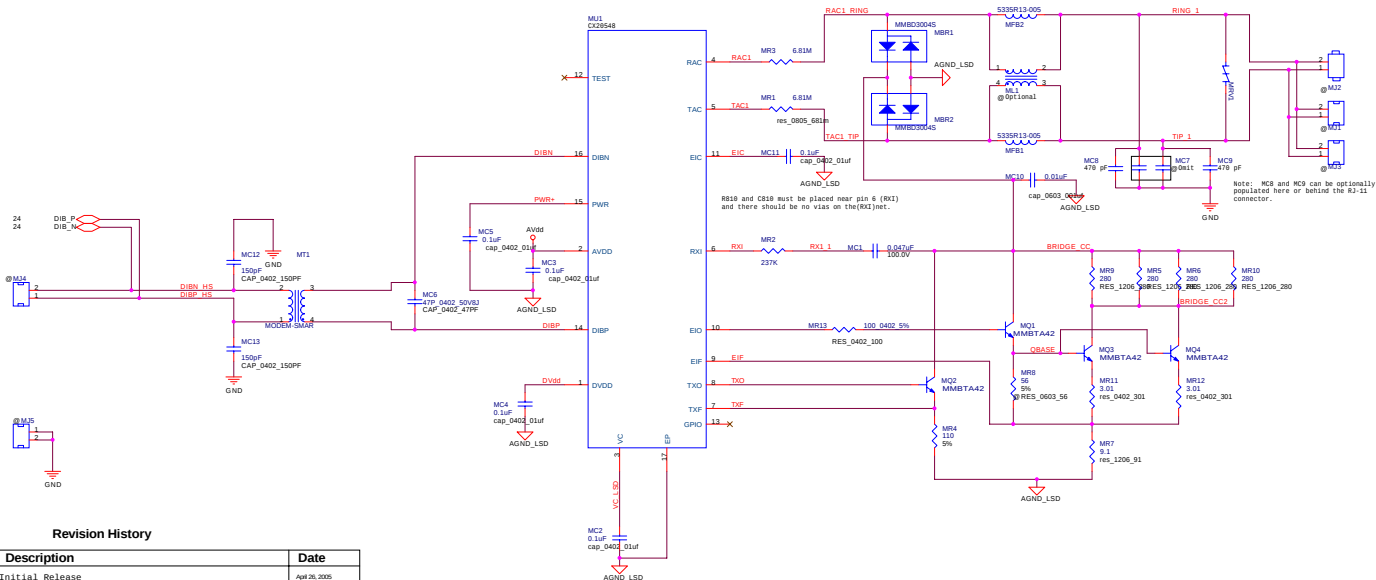
AUDIO CODEC

For Layout:
Place decoupling caps near the power pins of SmartAMC device.

CODEC POWER



Security Classification		Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2006/03/10	AMOM 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 TRANSMITTED 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 REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Customer	LA-4031P
				Date	Wednesday, October 24, 2007
				Sheet	24 of 42

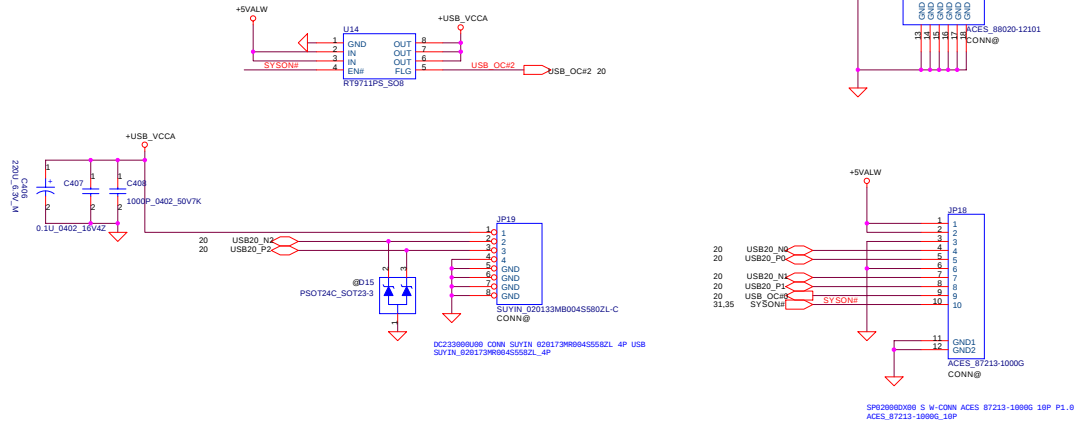


Revision History

REV	Description	Date
0	Initial Release	April 26, 2005
1	No changes to schematic. PCB updated to -003. Updated footprints and corrected via spacing errors.	August 18, 2005
2	Changed MC8 and MC9 pads. No schematic changes. PCB updated to -005.	November 3, 2005
3	Added MR11 and MR12. PCB updated to -007.	November 18, 2005
4	Added MR13. PCB updated to -009.	January 3, 2006
4.01	AVL update only.	April 20, 2006

Security Classification	Compal Secret Data	Title	Compal Electronics, Inc.
Issued Date	2007/03/26	Deciphered Date	2007/07/26
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC.			
Doc No.	LA-4031P	Rev	1.0
Date	Wednesday, October 24, 2007	Sheet	25 of 45

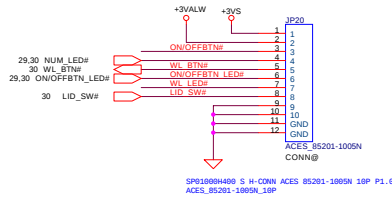
USB Port



Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		2007/03/26	
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.		2005/07/26		2005/07/26	
Size		Document Number		Rev	
1		LA-403P		1.0	
Date		Wednesday, October 24, 2007		Sheet	
1		27		42	

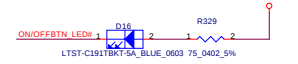
1015_Remove U22 and U23.

M/BtoS/B



POWER LED(Left 1)

BLUE



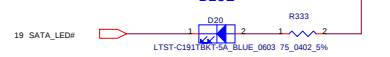
Battery Charge LED(Left 2)

BLUE

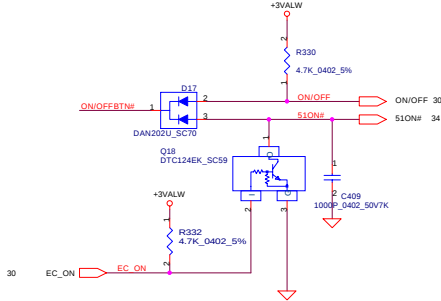


HDD LED(Left 3)

BLUE

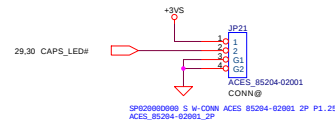


Power ON/OFF

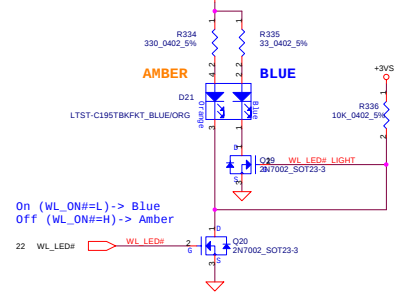


0426_Change all LED power source from 5V to 3V.

M/B to SB(Caps Lock LED)

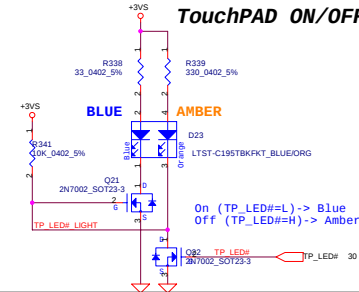


Wireless ON/OFF LED(Left 4)

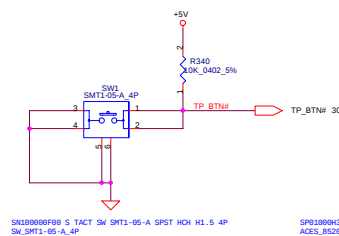


D21, D25, D23 Footprint can not match part number.

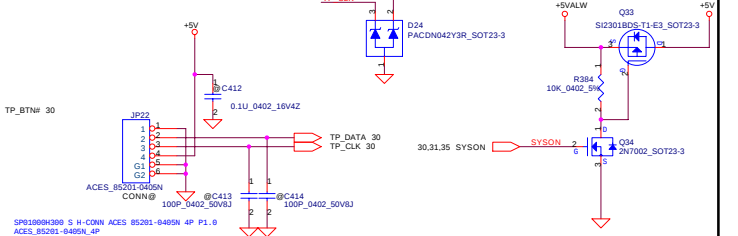
TouchPAD ON/OFF LED



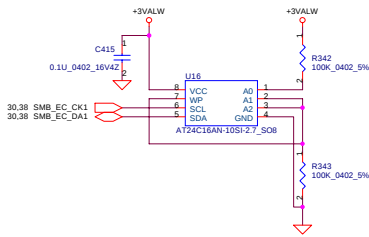
TP ON/OFF



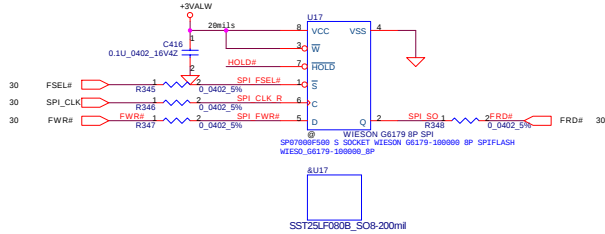
T/P Board



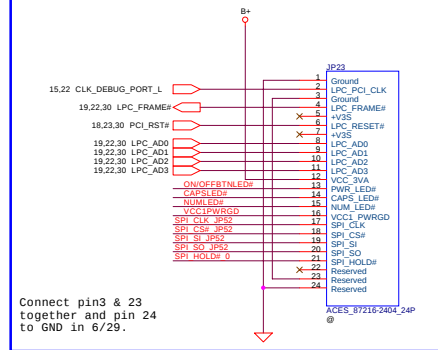
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2007/03/26	Deciphered Date	2006/07/26	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				LED/SW
Size		Document Number		Rev
Date		Wednesday, October 24, 2007		1.0
Sheet		28		of 42



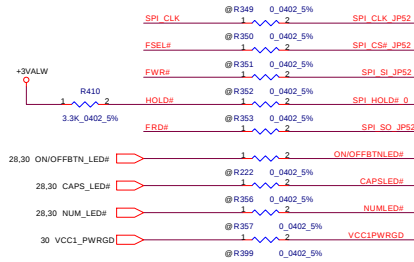
SPI ROM



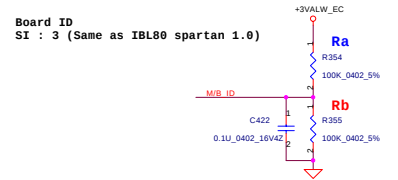
LPC Debug Port



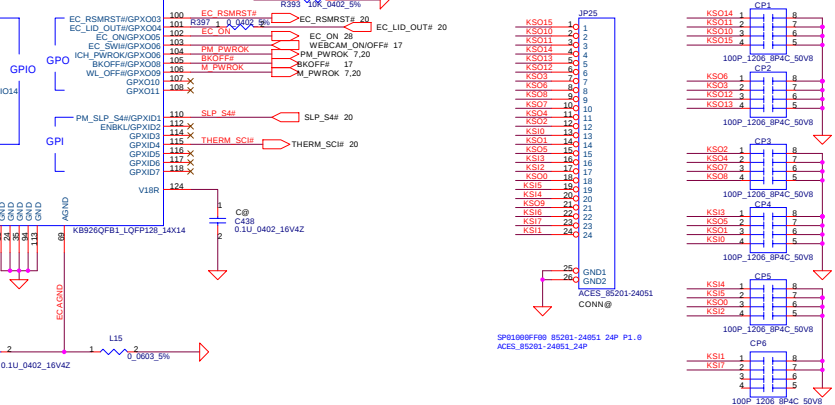
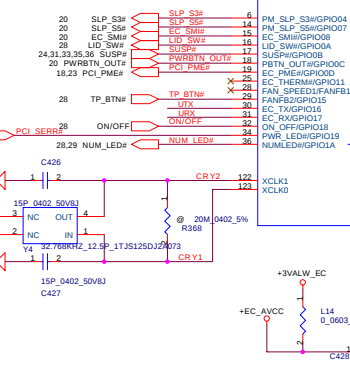
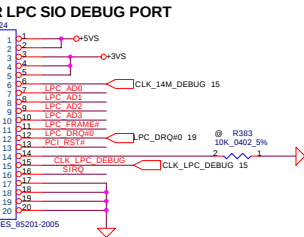
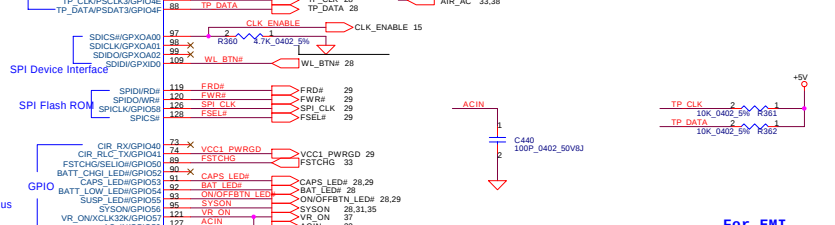
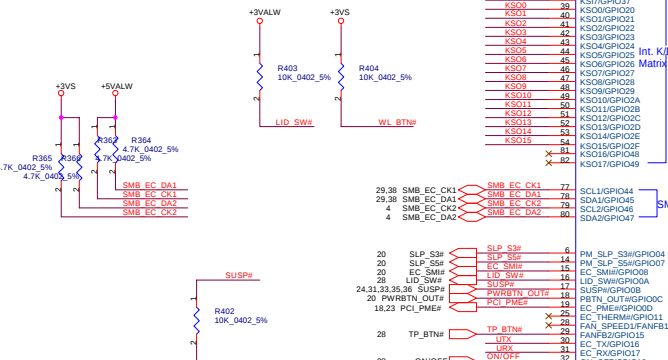
Connect pin3 & 23
together and pin 24
to GND in 6/29.



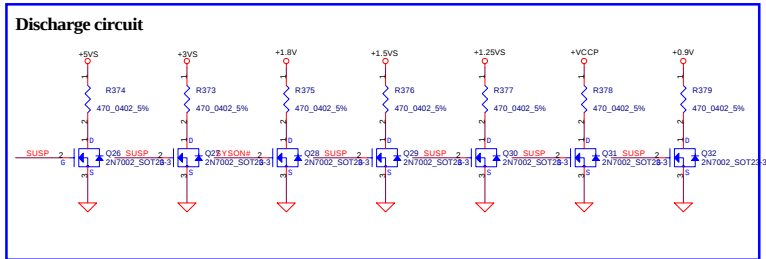
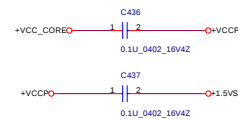
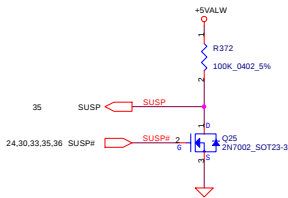
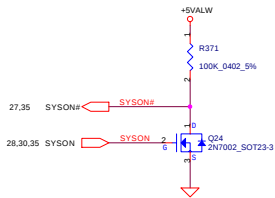
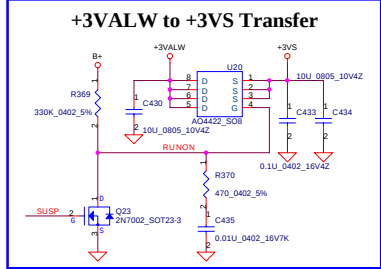
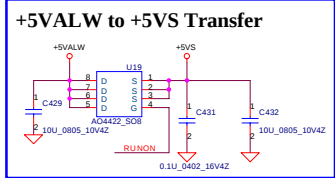
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2007/03/26	Deciphered Date	2006/07/26	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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
				Date	Wednesday, October 24, 2007
				Sheet	29 of 42
				Rev	1.0



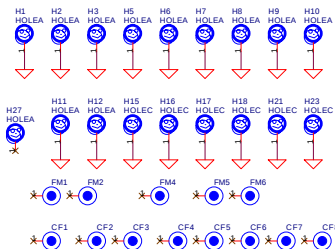
VCC	3.3V+/-5%						
Ra	100k+/-5%						
Board ID	KB	V _{CC}	min	V _{CC}	typ	V _{CC}	max
0		0V		0V		0V	
1	8.2K+/-5%	0.216V		0.250V		0.289V	
2	18K+/-5%	0.436V		0.503V		0.538V	
3	33K+/-5%	0.712V		0.819V		0.875V	
4	56K+/-5%	1.036V		1.185V		1.264V	
5	100K+/-5%	1.453V		1.650V		1.759V	
6	200K+/-5%	1.935V		2.200V		2.341V	
7	NC	2.500V		3.280V		3.300V	



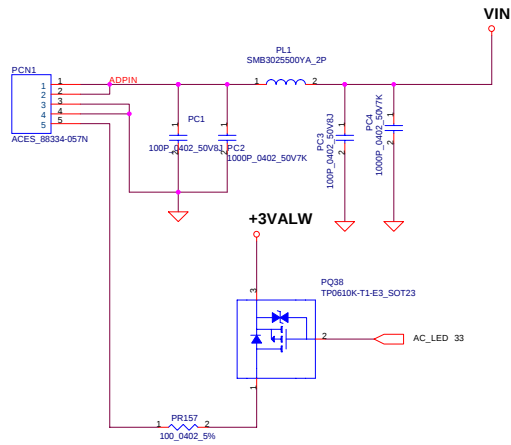
Security Classification	Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2006/07/26	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. IT IS NOT TO BE REPRODUCED, COPIED, REPRODUCED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC. EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR FOR THE BENEFIT OF ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Compal Electronics, Inc. EC KB926/KB conn LA 4031P	
Date: Wednesday, October 24, 2007			Sheet	31 of 42
			Rev	1.0



For Card reader/B stand off.

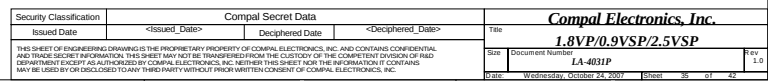


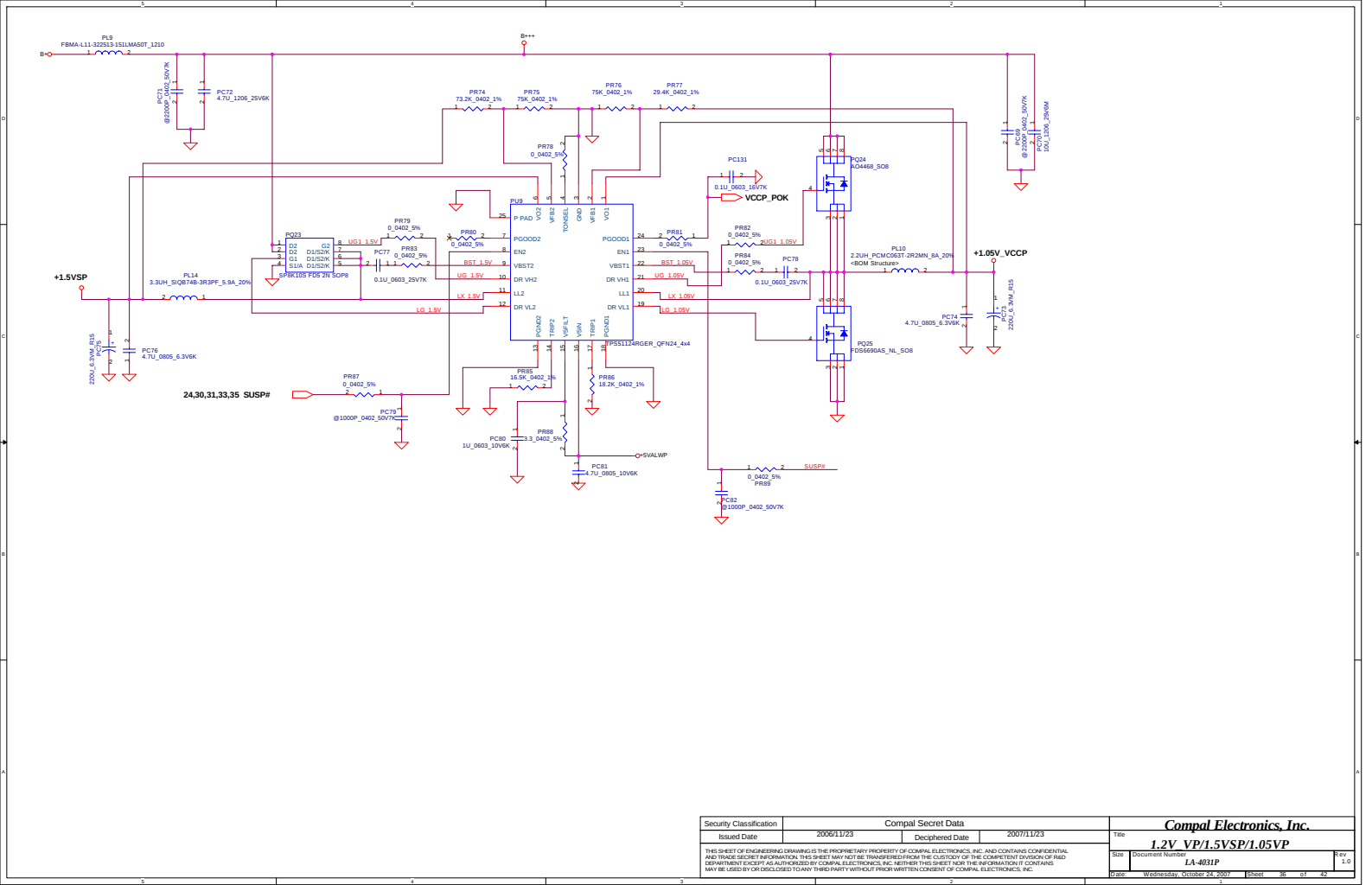
Security Classification	Compal Secret Data		Title	
Issued Date	2007/03/26	Deciphered Date	2006/07/26	DC/DC Interface
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM 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 RELEASED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev 1.0
Date	Wednesday, October 24, 2007	Sheet	38	of 42

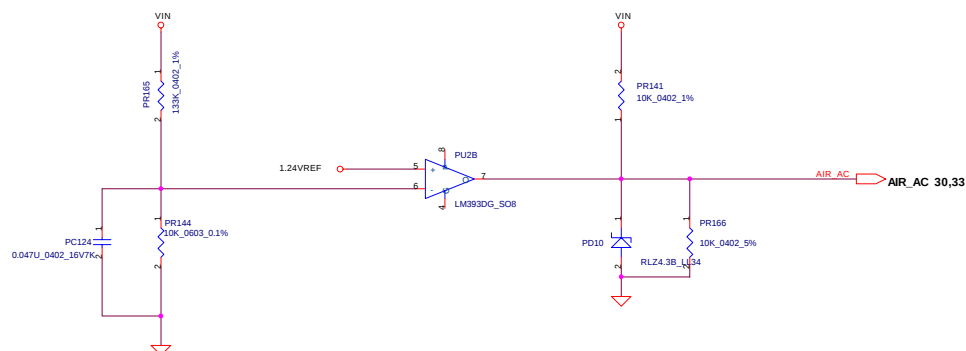
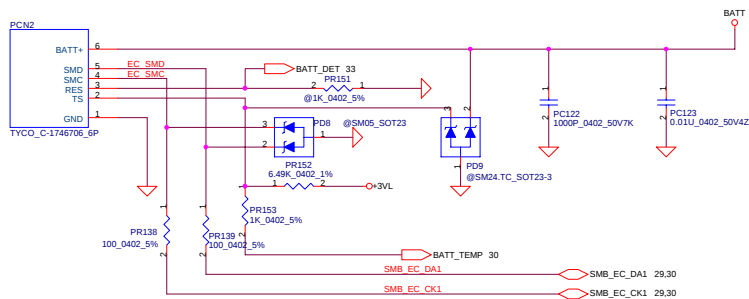


Security Classification		Compal Secret Data			
Issued Date	<Issued_Date>	Deciphered Date	<Deciphered_Date>	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size Custom	Document Number LA-4031P
				Date	Wednesday, October 24, 2007
				Sheet	32 of 42

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	<Issued_Date>	Deciphered Date	<Deciphered_Date>	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.				3.3VALWP / 5VALWP	
				Size	Document Number
				Date	Wednesday, October 24, 2007
				Sheet	34 of 42







Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	<Issued_Date>	Deciphered Date	<Deciphered_Date>	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.				Doc Custom	Rev
				Document Number LA-4031P	
				Date: Wednesday, October 24, 2007	Sheet 42 of 38

Item	Reason for change	PG#	Modify List	Date	Phase
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					

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

Item	Change item	Page		Date	Phase
1	Change R296 2.2K to 4.7K and Reserved R303	24	Follow conexant new design rule	8/6	SI-->PV
2	Add R424 R425 100ohm on MIC_EXT_R and MIC_EXT_L	26	Follow conexant new design rule	8/6	SI-->PV
3	Fine tune R298 C260 value	17	Reduce surge current on power on	8/6	SI-->PV
4	Change PIRQ from F to A	18	Choose R419 then control PIRQ A	8/14	SI-->PV
5	Connect PCI_SERR# to EC GPIO pin.	18	Connect PCI_SERR# to EC GPIO pin.	8/31	SI-->PV
6	Modify PC BEEP circuit.	20	Modify PC BEEP circuit.	8/31	SI-->PV
7	For support Intel Penryn CPU.	04	Reserve R426 and R427 for support Intel Penryn CPU.	9/3	SI-->PV
8	For ESD request.	28	Add U22 and U23 for ESD request.	9/3	SI-->PV
9	For EMI request.	26	Add L24-L27	9/5	SI-->PV
10	Change C391, C393, C395, C396 from 0.47uF to 0.047uF.	26	Change C391, C393, C395, C396 from 0.47uF to 0.047uF.	9/7	SI-->PV
11	Add R417 and R418 to fine-tune Vp-p.	26	Add R417 and R418 to fine-tune Vp-p.	9/7	SI-->PV
12	For ESD request.	20	Add U22 and U23 for ESD request.	9/7	SI-->PV
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

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

Item	Change item	Page		Date	Phase
1	Solve Vref miss when entry S3 mode.	7	Stuff R43 and R46.	9/25	PV-->MV
2	Solve wave ripple on CRF and IV.	10	Change C439 from 0.47uF to 4.7uF.	9/25	PV-->MV
3	Solve RTC timing too exceed.	18	Change C262 and C263 from 12pF to 15pF.	9/25	PV-->MV
4	Reduce INT.MIC noise.	24	Add LPF (R429 and C452).	9/25	PV-->MV
5	Solve S3 resume fail when use Micron DDR module.	35	Add PR169 to separate V_DDR_MCH_REF from PU8.	10/05	PV-->MV
6	Solve pop noise when entry or resume from S3.	24	Modify PC Beep (C373, R382, R306) circuit.	9/27	PV-->MV
7	Solve EMI fail for Memory module.	7	Change R34/R35 from 20 ohm to 30 ohm.	9/27	PV-->MV
8	ICH 1.5V power rail 700mA current requirement.	21	Change R252 package from 0603 to 0805.	10/04	PV-->MV
9	Remove U22 and U23.	28	Remove U22 and U23.	10/15	PV-->MV
10	For EMI request.	16	Change L2, L3, L4 to FBMA-L10-201209-121LMT_0005.	10/15	PV-->MV
11	To avoid too easy to open solder for CLRP2.	15	Change CLRP1 and CLRP2 type like the same as PJP4.	10/15	PV-->MV
12	Solve acoustic noise issue.	10	Change R64, R79 from 0 ohm to 10H/400mA inductor.	10/22	PV-->MV
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					

Security Classification	Compal Secret Data			
Issued Date	2007/03/26	Deciphered Date	2007/02/28	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION THAT SHOULD NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OR FOLD REPRODUCED WITHOUT BEING AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION CONTAINED THEREIN MAY BE USED OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				
Date	Document Number		Rev	
Size	LA-4031P		1/4	
Date	Wednesday, October 24, 2007	Sheet	41 of	41

[illegible]

Security Classification		Compul Secret Data				Compul Electronics, Inc.																	
Issued Date		2007/03/26		Derchiged Date		2007/02/28		Title		HW Changed-List History-1													
THIS SET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPUL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED OR REPRODUCED OR COMERCIALIZED OR DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN PERMISSION OF COMPUL ELECTRONICS, INC. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM COMPUL ELECTRONICS, INC.												Size		Document Number		LA-4031P					Rev. 1.0		
												Date		Wednesday, October 3, 2007		Sheet		42		of 42			