

Compal Confidential

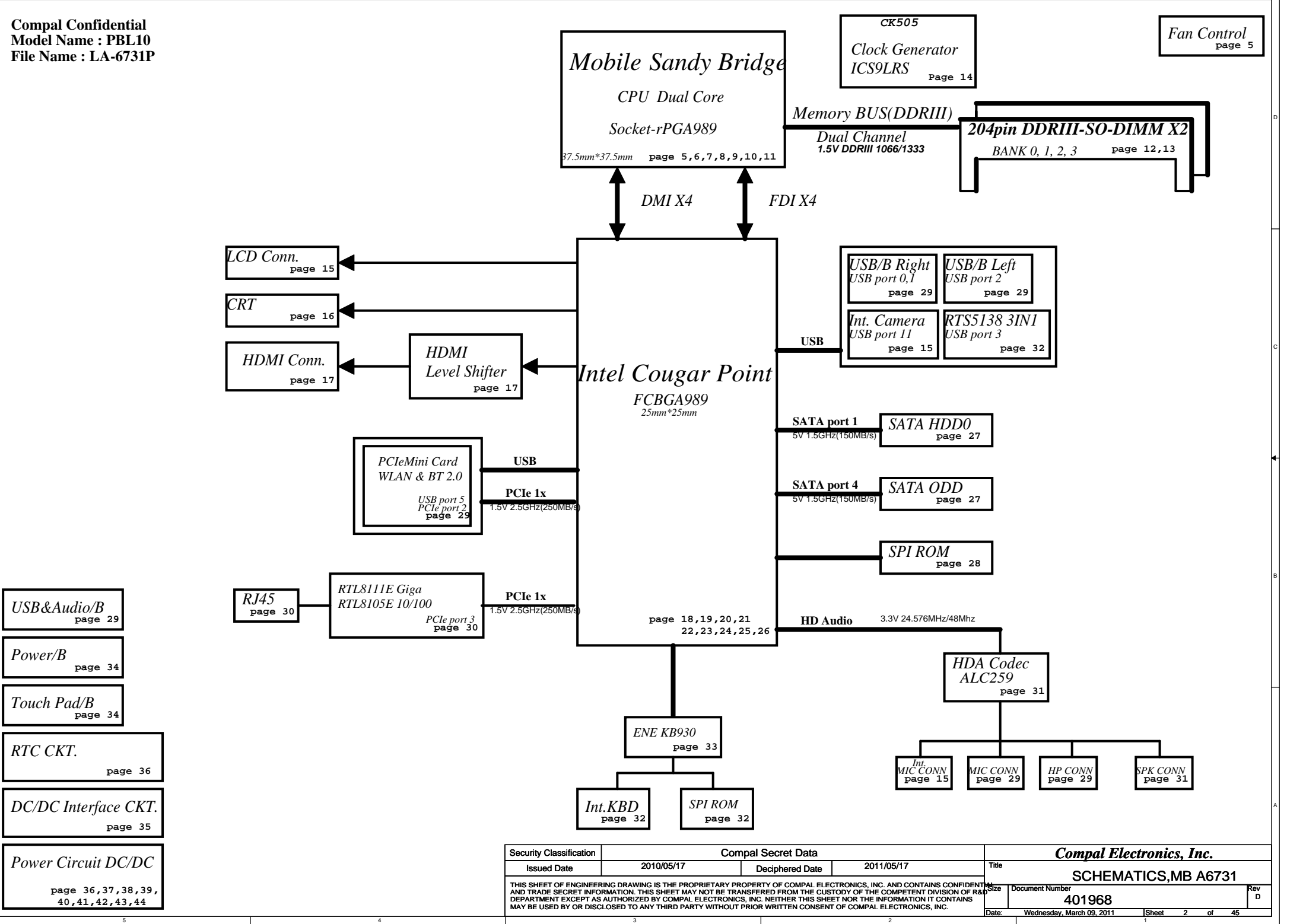
PBL10 Project

LA-6731P REV1.0 Schematic

Intel Sandy Bridge/Cougar Point(UMA)

2010-12-06 Rev 1.0

Security Classification	Compal Secret Data			<i>Compal Electronics, Inc.</i>		
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	SCHEMATICS,MB A6731	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	401968	Rev D
				Date:	Wednesday, March 09, 2011	Sheet 1 of 45



LCD Conn. page 15

CRT page 16

HDMI Conn. page 17

HDMI Level Shifter page 17

USB/B Right USB port 0,1 page 29

USB/B Left USB port 2 page 29

Int. Camera USB port 11 page 15

RTS5138 3IN1 USB port 3 page 32

PCieMini Card WLAN & BT 2.0

USB port 5

PCie port 2 page 29

RJ45 page 30

RTL8111E Giga

RTL8105E 10/100

PCie port 3 page 30

SATA port 1 5V 1.5GHz(150MB/s)

SATA HDD0 page 27

SATA port 4 5V 1.5GHz(150MB/s)

SATA ODD page 27

SPI ROM page 28

HD Audio 3.3V 24.576MHz/48Mhz

HDA Codec ALC259 page 31

Int. MIC CONN page 15

MIC CONN page 29

HP CONN page 29

SPK CONN page 31

ENE KB930 page 33

Int. KBD page 32

SPI ROM page 32

USB&Audio/B page 29

Power/B page 34

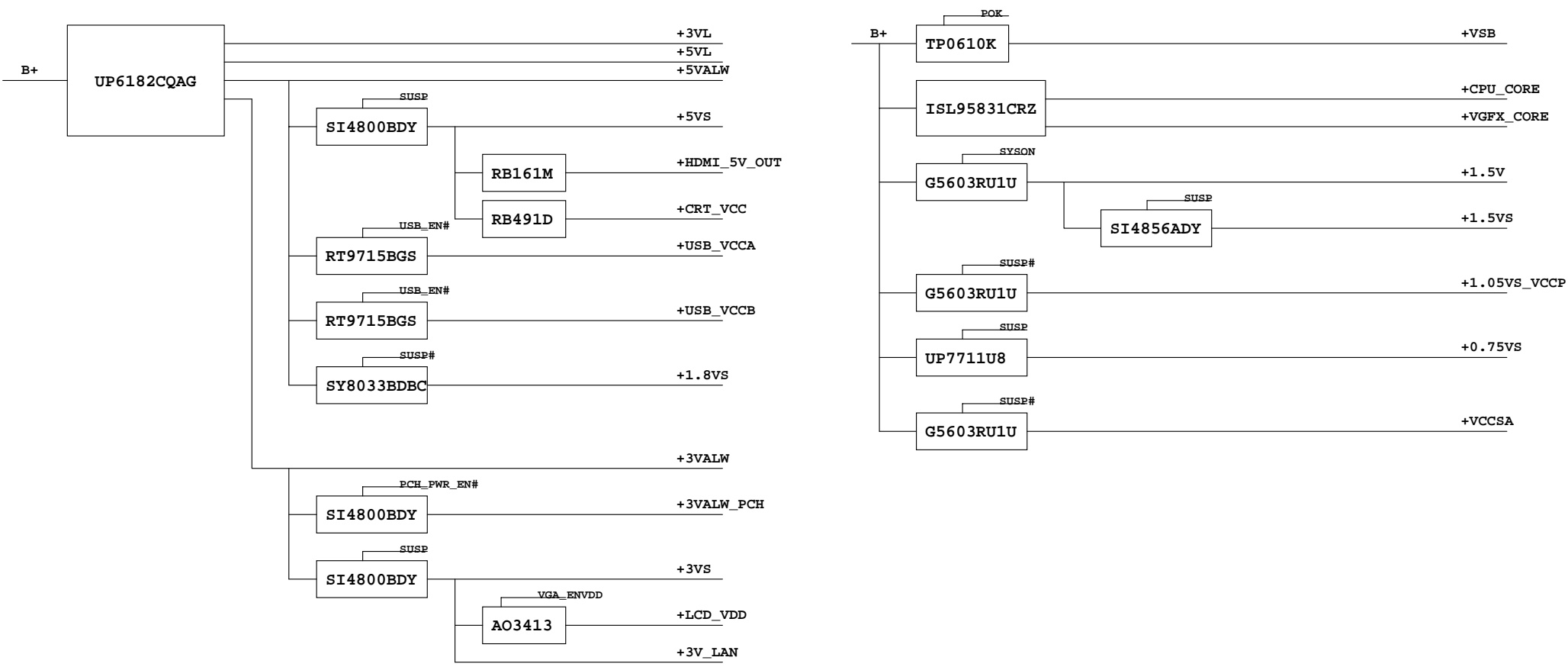
Touch Pad/B page 34

RTC CKT. page 36

DC/DC Interface CKT. page 35

Power Circuit DC/DC page 36,37,38,39,40,41,42,43,44

Security Classification	Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	SCHEMATICS,MB A6731
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number 401968
Date:	Wednesday, March 09, 2011	Sheet	2	of 45



Security Classification		Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev D
				401968	
Date: Wednesday, March 09, 2011				Sheet 3	of 45

Voltage Rails

Power Plane	Description	S1	S3	S5
VIN	Adapter power supply (19V)	N/A	N/A	N/A
BATT+	Battery power supply (12.6V)	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
+VGA_CORE	Core voltage for GPU	ON	OFF	OFF
+VGFX_CORE	Core voltage for UMA graphic	ON	OFF	OFF
+0.75VS	+0.75VP to +0.75VS switched power rail for DDR terminator	ON	OFF	OFF
+1.0VSDGPU	+1.0VSPDGPU to +1.0VSDGPU switched power rail for GPU	ON	OFF	OFF
+1.05VS_VCCP	+1.05VS_VCCPP to +1.05VS_VCCP switched power rail for CPU	ON	OFF	OFF
+1.05VS_PCH	+1.05VS_VCCP to +1.05VS_PCH power for PCH	ON	OFF	OFF
+1.5V	+1.5VP to +1.5V power rail for DDRIII	ON	ON	OFF
+1.5VS	+1.5V to +1.5VS switched power rail	ON	OFF	OFF
+1.5VSDGPU	+1.5VS to +1.5VSDGPU switched power rail for GPU	ON	OFF	OFF
+1.8VS	(+5VALW or +3VALW) to 1.8V switched power rail to PCH & GPU	ON	OFF	OFF
+3VALW	+3VALW always on power rail	ON	ON	ON*
+3VALW_EC	+3VALW always to KBC	ON	ON	ON*
+3V_LAN	+3VALW to +3V_LAN power rail for LAN	ON	ON	ON*
+3VALW_PCH	+3VALW to +3VALW_PCH power rail for PCH (Short Jumper)	ON	ON	ON*
+3VS	+3VALW to +3VS power rail	ON	OFF	OFF
+5VALW	+5VALWP to +5VALW power rail	ON	ON	ON*
+5VALW_PCH	+5VALW to +5VALW_PCH power rail for PCH (Short resister)	ON	ON	ON*
+5VS	+5VALW to +5VS switched power rail	ON	OFF	OFF
+VSB	+VSBP to +VSB always on power rail for sequence control	ON	ON	ON*
+RTCVCC	RTC power	ON	ON	ON

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

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

EC SM Bus1 address

Device	Address
Smart Battery	0001 011X b

EC SM Bus2 address

Device	Address
--------	---------

PCH SM Bus address

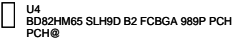

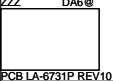
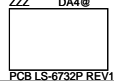
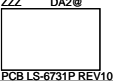
Device	Address
Clock Generator (9LVS3199AKLFT, RTM890N-631-VB-GRT)	1101 0010b
DDR DIMM0	1001 000Xb
DDR DIMM2	1001 010Xb

BOM configu table

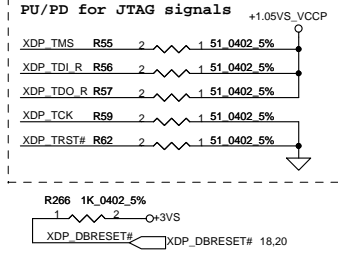
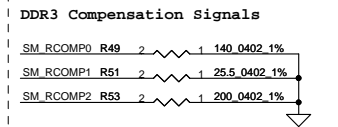
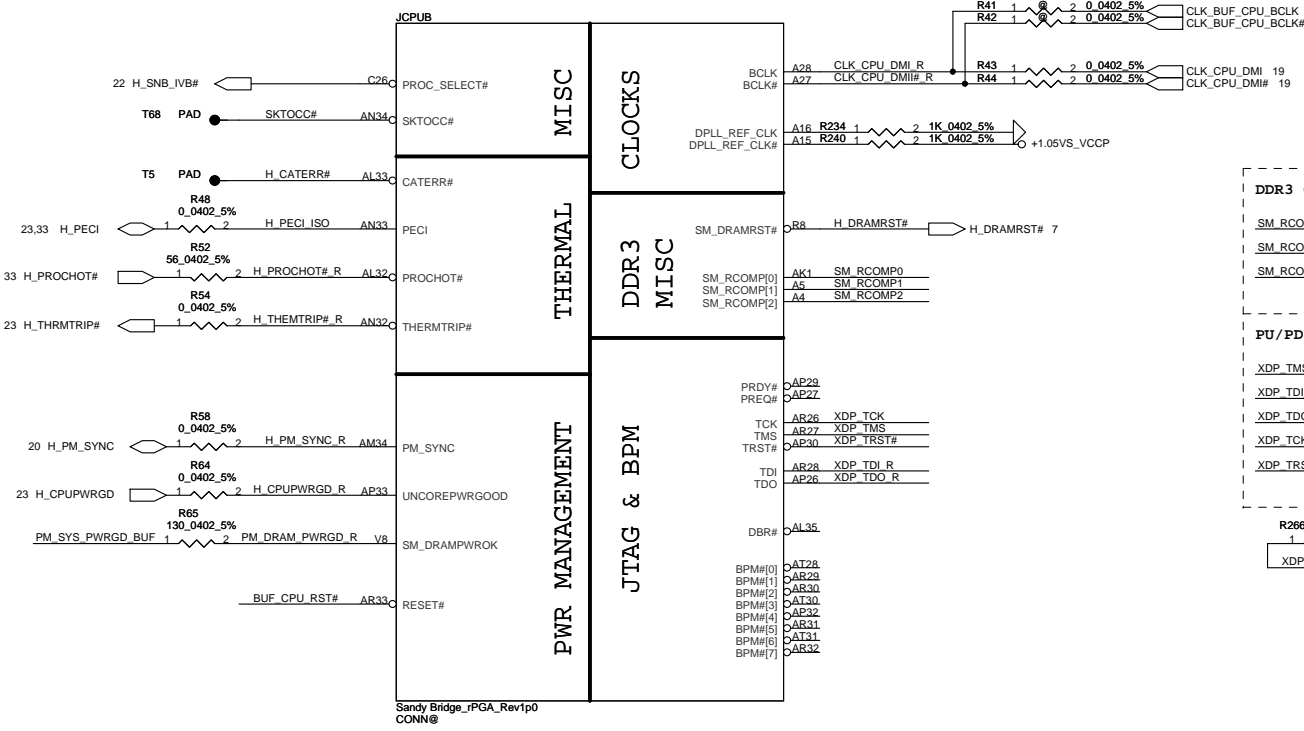
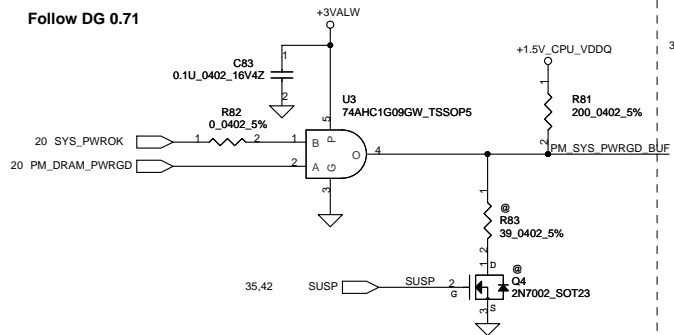
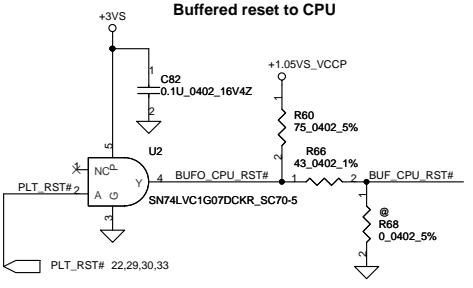
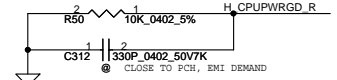
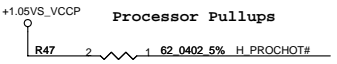
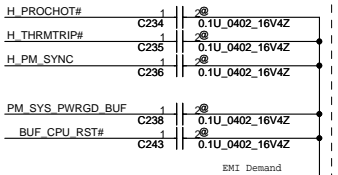
	SKU	Bom config	Description
1	46196830L01	DA6@/HDMI@/8105E@/PCH@	PBL10 UMA DUAL 10-100
2	46196830L02	DA6@/HDMI@/8111E@/PCH@	PBL10 UMA DUAL GIGA LAN
3			
4			
5			
6			
7			
8			

Bom configu(HDMI@/8105E@/8111E@/DA6@/DAZ@/45@)

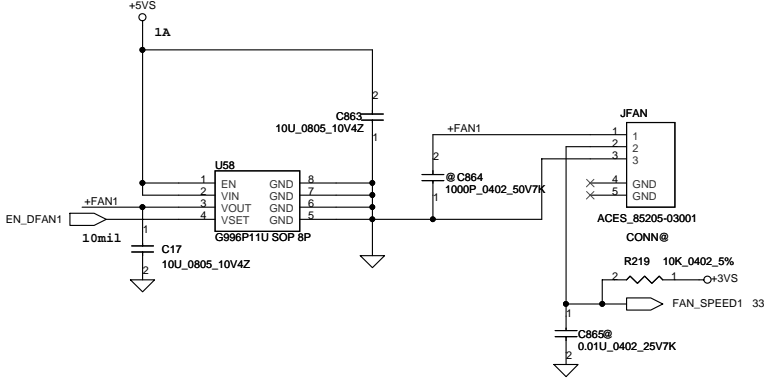
PCH And PCBA table

PCH				
PCB				

Security Classification	Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	SCHEMATICS,MB A6731
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</small>				Size Custom 401968 Date: Wednesday, March 09, 2011 Sheet 4 of 45



FAN Control Circuit

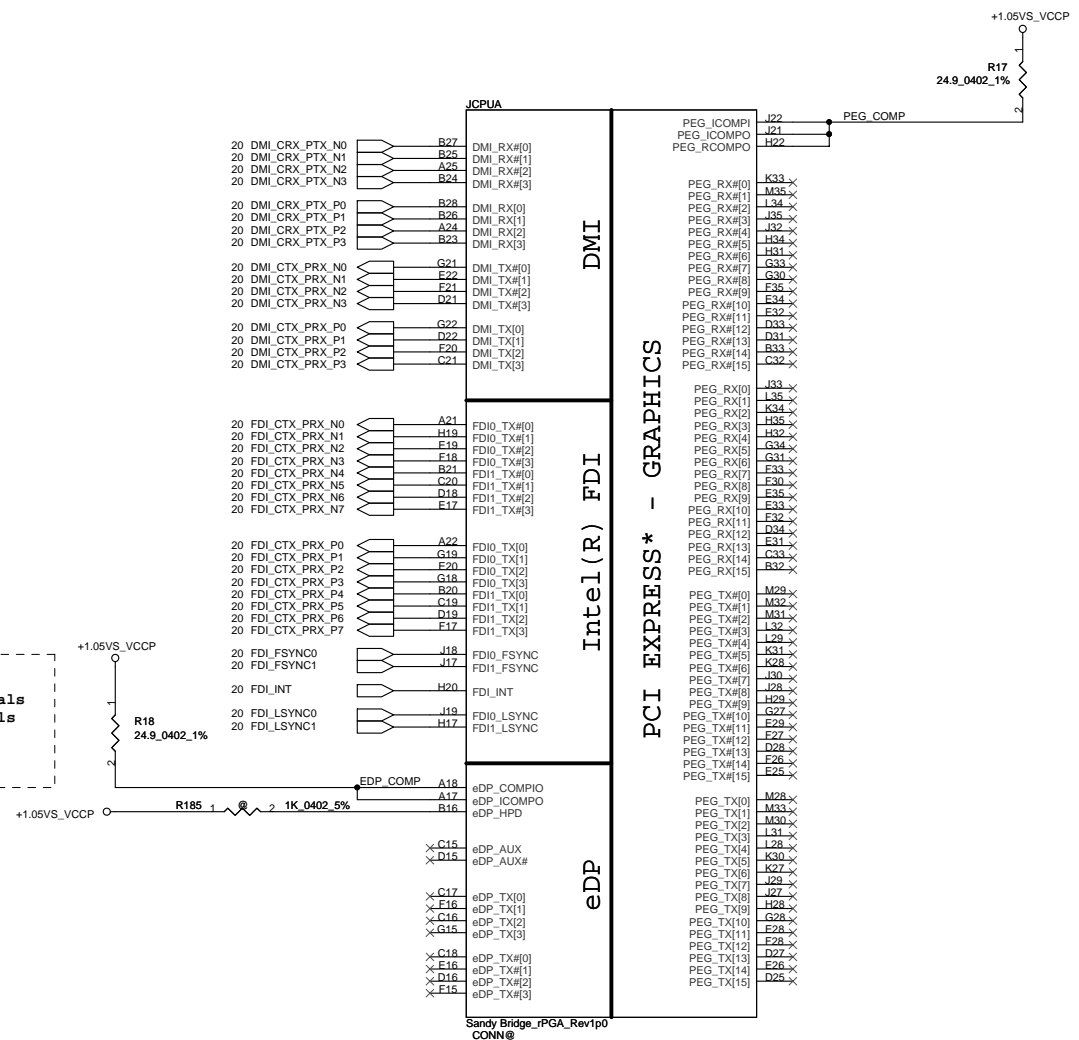


Security Classification	Compal Secret Data	
Issued Date	2010/05/17	Deciphered Date
		2011/05/17
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		

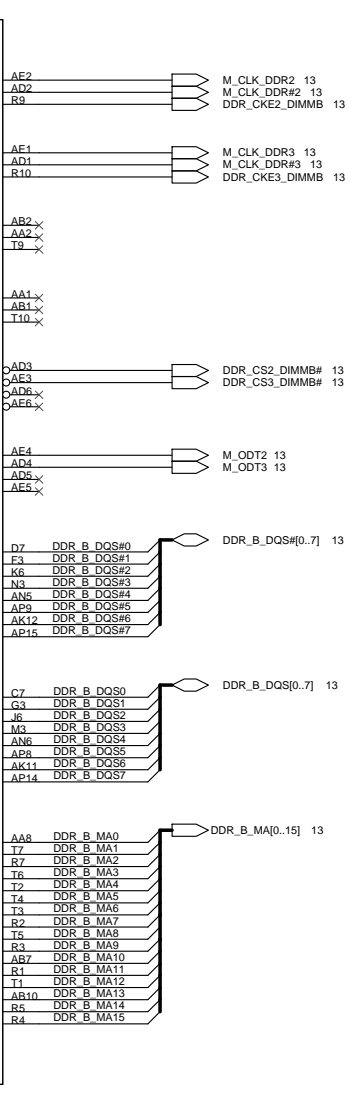
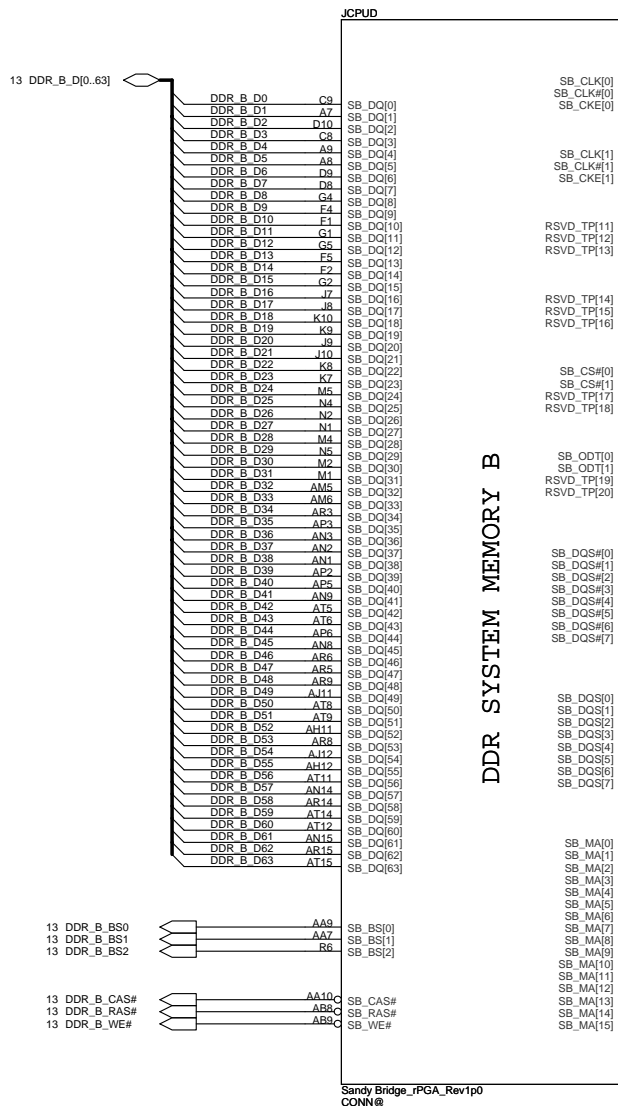
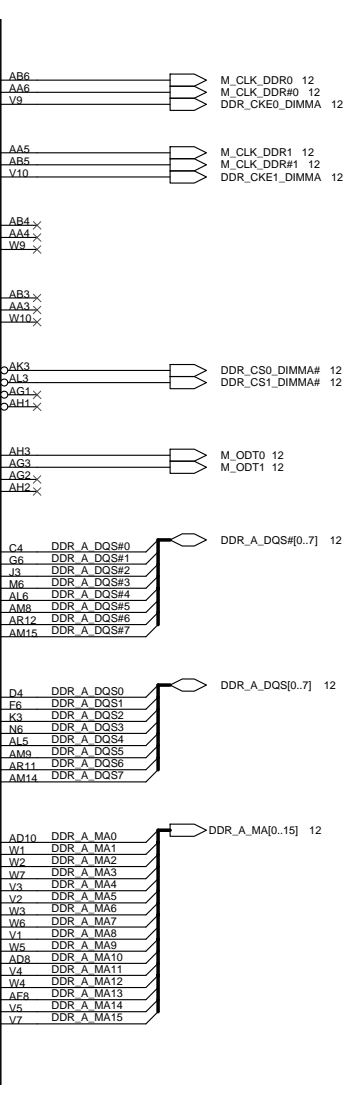
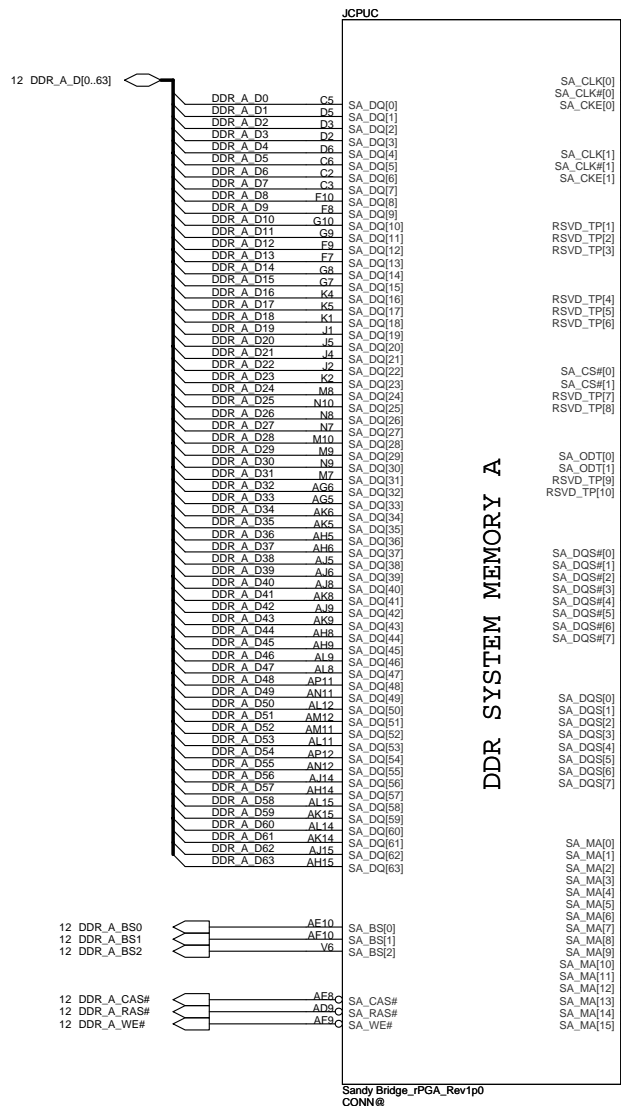
Compal Electronics, Inc.	
Title	SCHEMATICS, MB A6731
Part Number	401968
Date	Wednesday, March 03, 2011
Sheet	5 of 45

PEG_ICOMPI and RCOMPO signals should be shorted and routed with - max length = 500 mils - typical impedance = 43 mohms
 PEG_ICOMPO signals should be routed with - max length = 500 mils - typical impedance = 14.5 mohms

eDP_COMPIO and ICOMPO signals should be shorted near balls and routed with typical impedance <25 mohms



Security Classification	Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number SCHEMATICS, MB A6731 401968 Date: Wednesday, March 09, 2011 Sheet 6 of 45

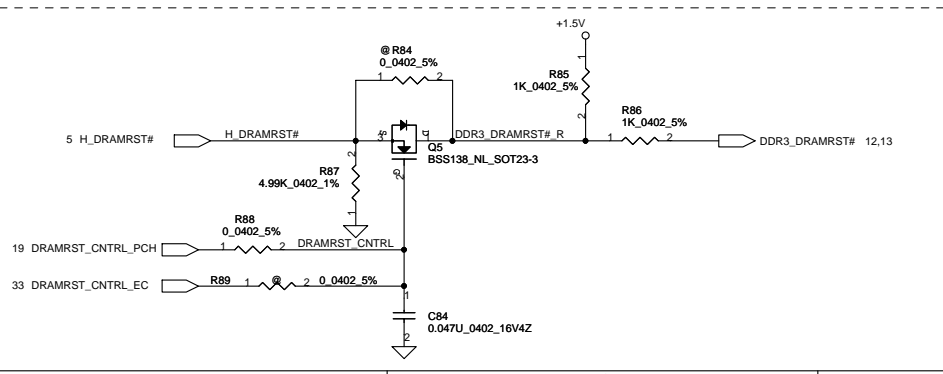


DDR SYSTEM MEMORY A

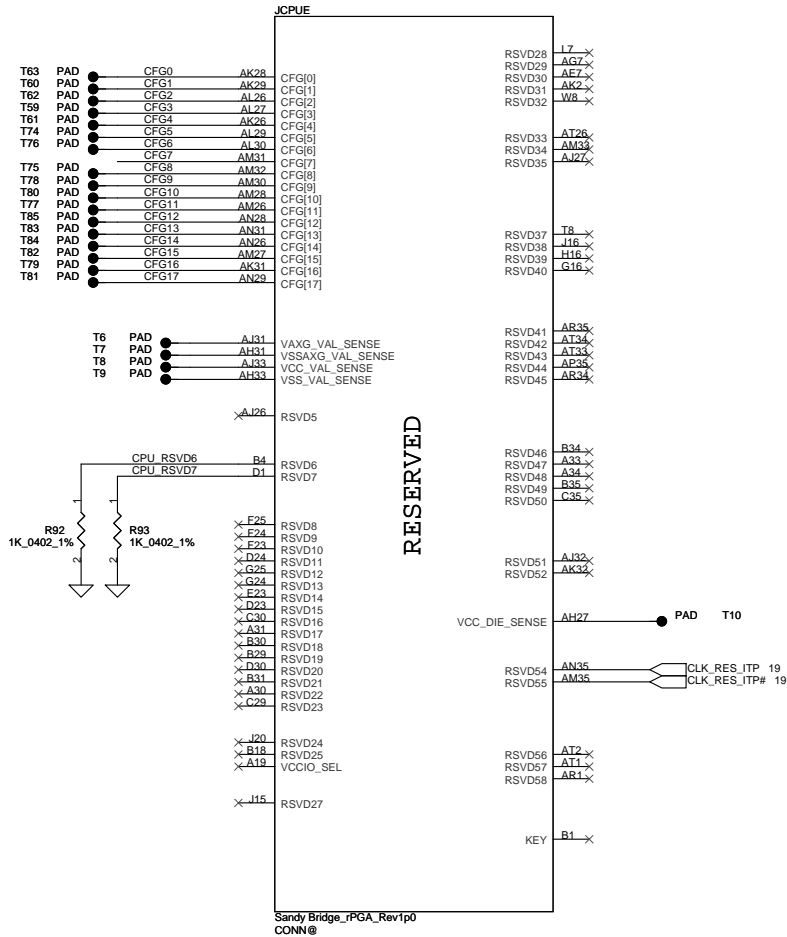
DDR SYSTEM MEMORY B

Sandy Bridge_rPGA_Rev1p0
CONN@

Sandy Bridge_rPGA_Rev1p0
CONN@



Security Classification	Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number 401968 Date: Wednesday, March 08, 2011 Sheet 7 of 45



CFG Straps for Processor

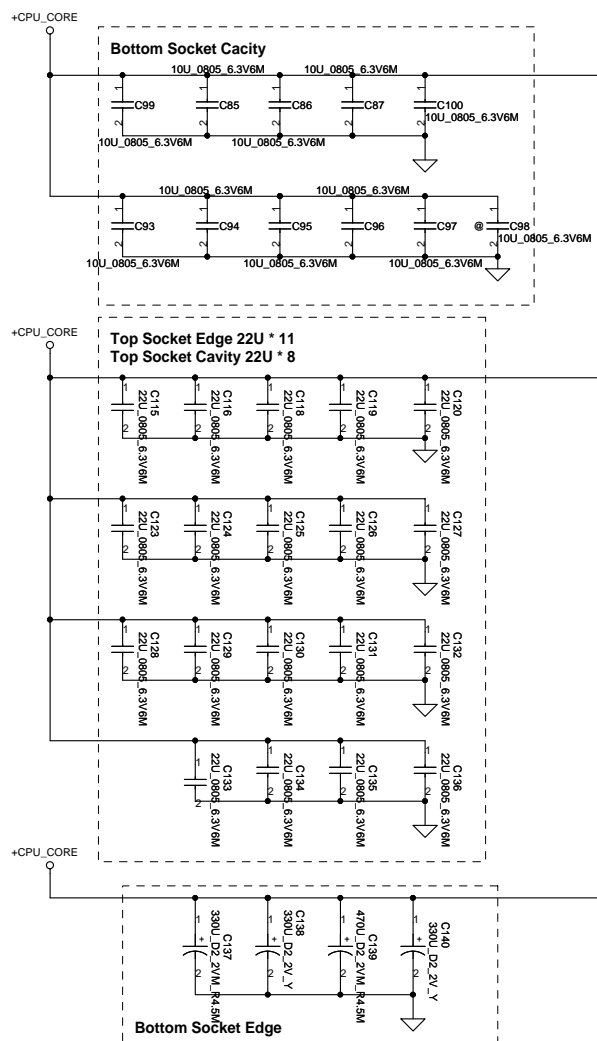
PEG Static Lane Reversal - CFG2 is for the 16x	
CFG2	1: Normal Operation; Lane # definition matches socket pin map definition 0: Lane Reversed

Display Port Presence Strap	
CFG4	1 : Disabled; No Physical Display Port attached to Embedded Display Port * 0 : Enabled; An external Display Port device is connected to the Embedded Display Port

PCIe Port Bifurcation Straps	
CFG[6:5]	*11: (Default) x16 - Device 1 functions 1 and 2 disabled 10: x8, x8 - Device 1 function 1 enabled ; function 2 disabled 01: Reserved - (Device 1 function 1 disabled ; function 2 enabled) 00: x8,x4,x4 - Device 1 functions 1 and 2 enabled

PEG DEFER TRAINING	
CFG7	1: (Default) PEG Train immediately following xxRESETB de assertion 0: PEG Wait for BIOS for training

POWER



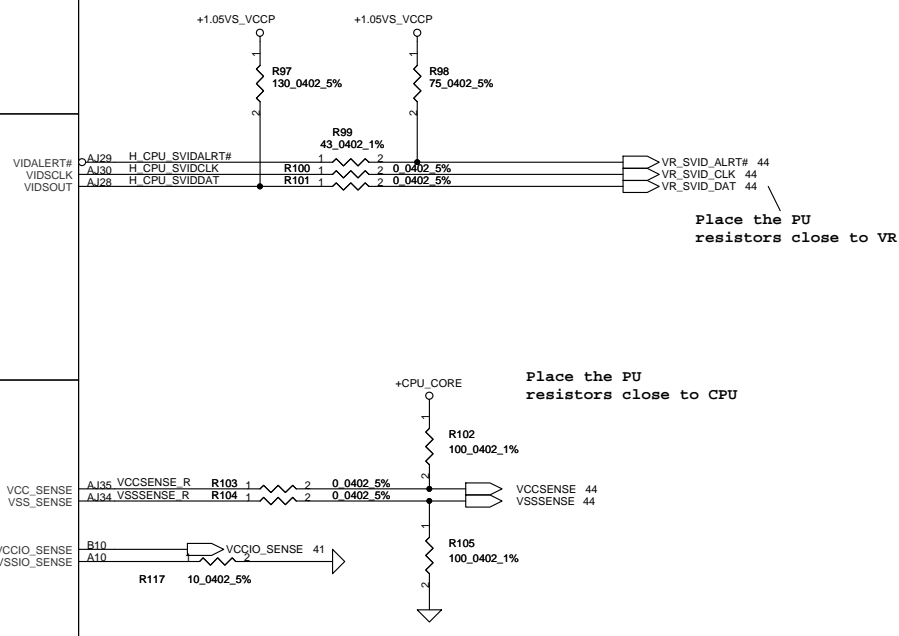
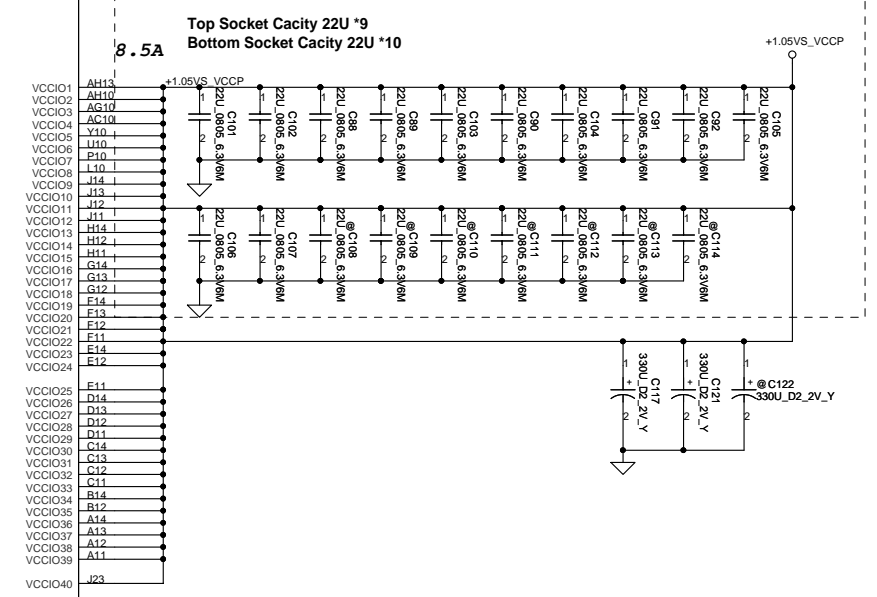
- 94A**
- AG35 VCC1
 - AG34 VCC2
 - AG33 VCC3
 - AG32 VCC4
 - AG31 VCC5
 - AG30 VCC6
 - AG29 VCC7
 - AG28 VCC8
 - AG27 VCC9
 - AG26 VCC10
 - AF35 VCC11
 - AF34 VCC12
 - AF33 VCC13
 - AF32 VCC14
 - AF31 VCC15
 - AF30 VCC16
 - AF29 VCC17
 - AF28 VCC18
 - AF27 VCC19
 - AF26 VCC20
 - AD35 VCC21
 - AD34 VCC22
 - AD33 VCC23
 - AD32 VCC24
 - AD31 VCC25
 - AD30 VCC26
 - AD29 VCC27
 - AD28 VCC28
 - AD27 VCC29
 - AD26 VCC30
 - AC35 VCC31
 - AC34 VCC32
 - AC33 VCC33
 - AC32 VCC34
 - AC31 VCC35
 - AC30 VCC36
 - AC29 VCC37
 - AC28 VCC38
 - AC27 VCC39
 - AC26 VCC40
 - AA35 VCC41
 - AA34 VCC42
 - AA33 VCC43
 - AA32 VCC44
 - AA31 VCC45
 - AA30 VCC46
 - AA29 VCC47
 - AA28 VCC48
 - AA27 VCC49
 - AA26 VCC50
 - Y35 VCC51
 - Y34 VCC52
 - Y33 VCC53
 - Y32 VCC54
 - Y31 VCC55
 - Y30 VCC56
 - Y29 VCC57
 - Y28 VCC58
 - Y27 VCC59
 - Y26 VCC60
 - Y25 VCC61
 - Y24 VCC62
 - Y23 VCC63
 - Y22 VCC64
 - V35 VCC65
 - V34 VCC66
 - V33 VCC67
 - V32 VCC68
 - V31 VCC69
 - V30 VCC70
 - V29 VCC71
 - V28 VCC72
 - V27 VCC73
 - V26 VCC74
 - V25 VCC75
 - V24 VCC76
 - V23 VCC77
 - V22 VCC78
 - V21 VCC79
 - V20 VCC80
 - V19 VCC81
 - V18 VCC82
 - V17 VCC83
 - V16 VCC84
 - V15 VCC85
 - V14 VCC86
 - V13 VCC87
 - V12 VCC88
 - V11 VCC89
 - V10 VCC90
 - P35 VCC91
 - P34 VCC92
 - P33 VCC93
 - P32 VCC94
 - P31 VCC95
 - P30 VCC96
 - P29 VCC97
 - P28 VCC98
 - P27 VCC99
 - P26 VCC100

CORE SUPPLY

PEG AND DDR

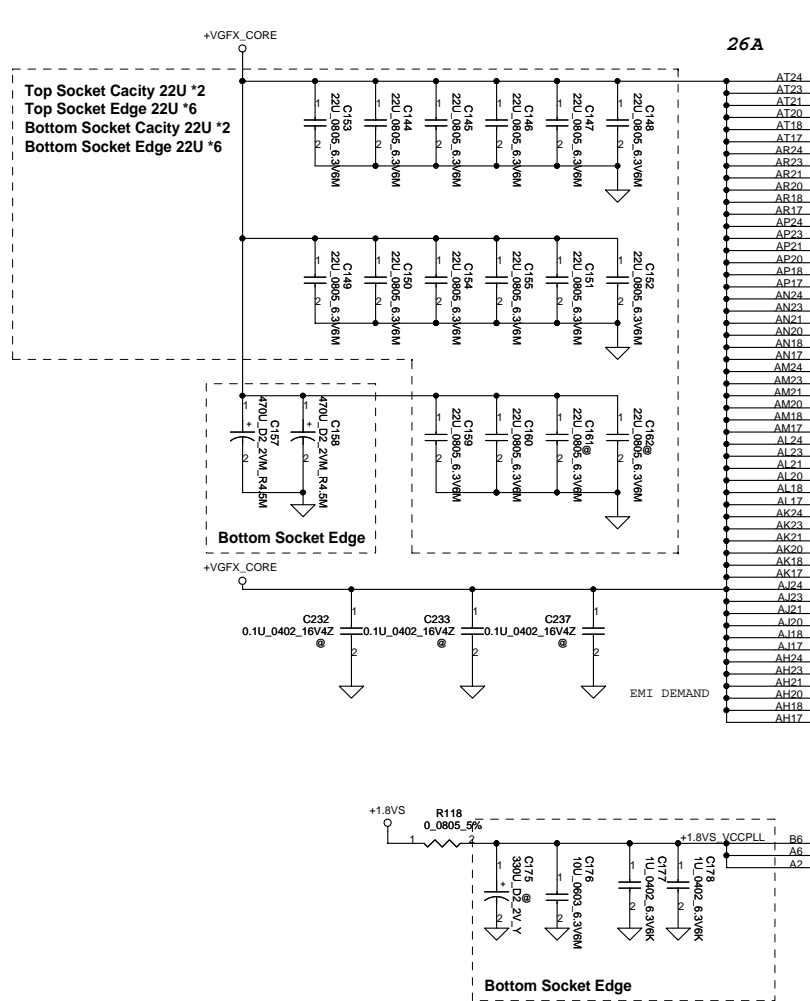
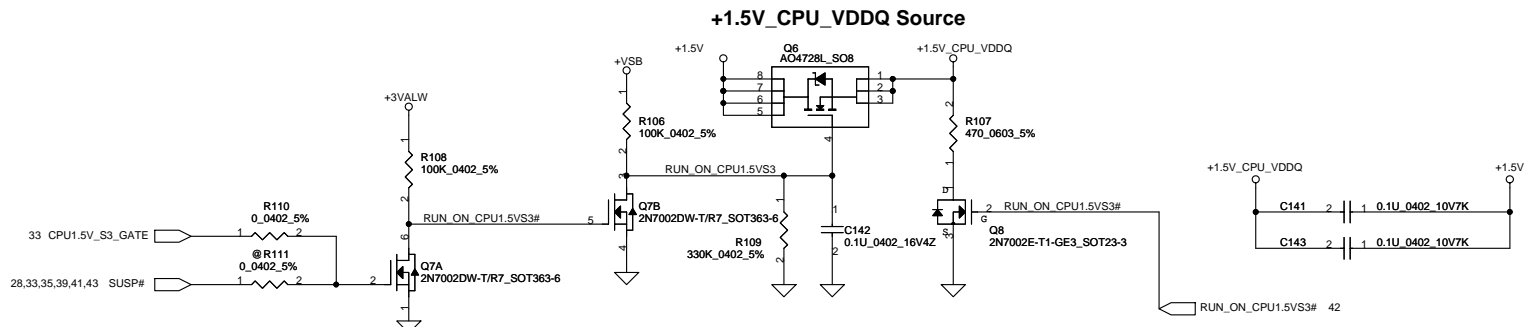
SVID

SENSE LINES

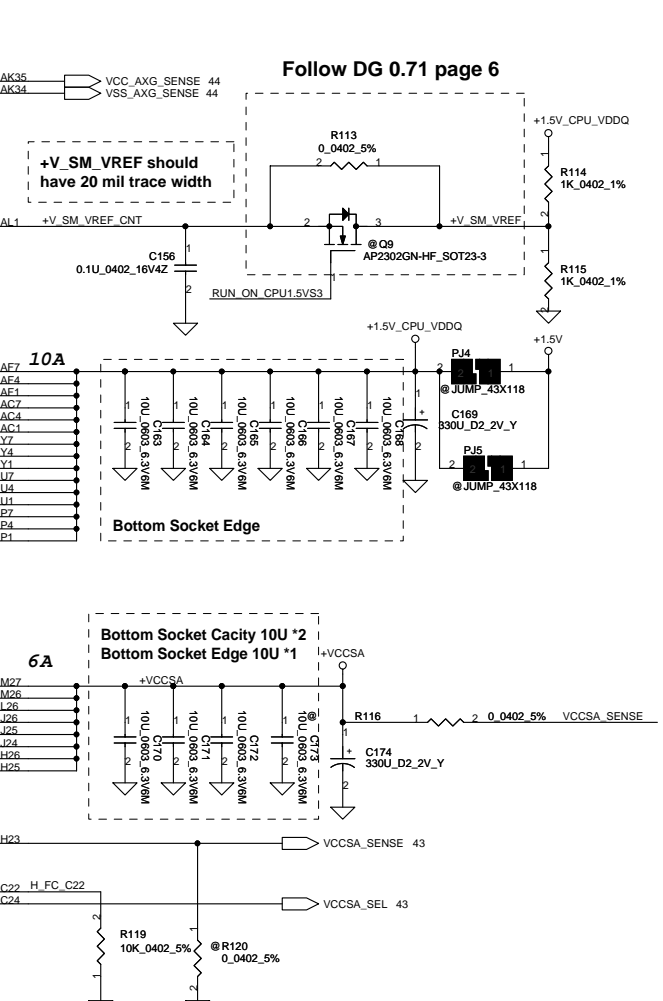


Sandy Bridge_rPGA_Rev1p0
CONN@

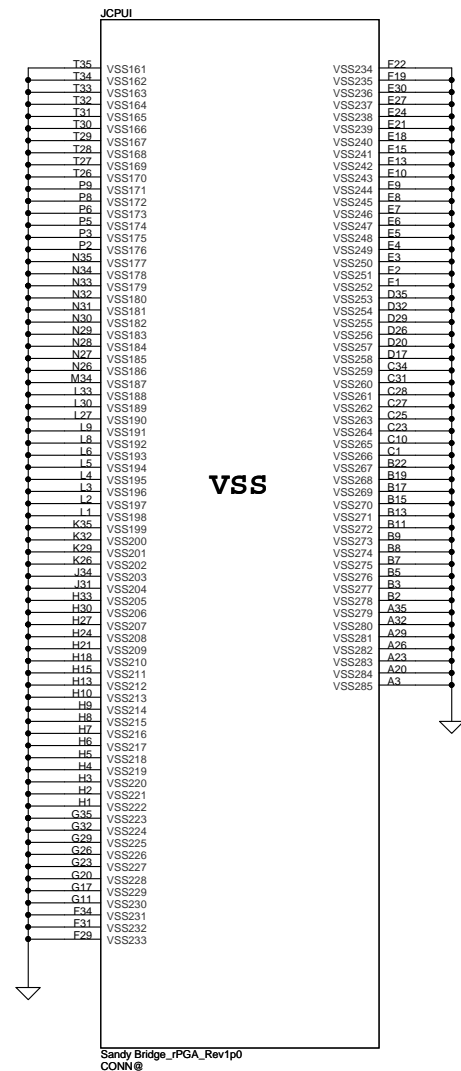
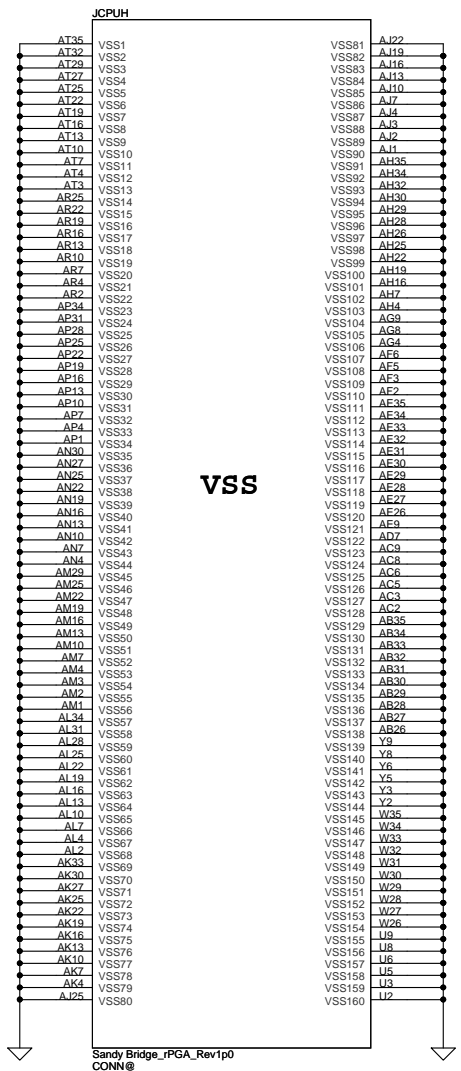
Security Classification	Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	SCHEMATICS, MB A6731
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number 401968
Date:	Wednesday, March 03, 2011	Sheet	9	of 45



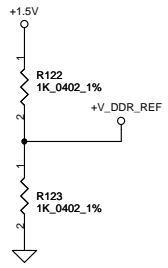
Pin	Signal Name	Signal Name	Signal Name	Signal Name	Signal Name		
AT24	VXG1	SENSE LINES	VXG_SENSE	AK35	VCC_AXG_SENSE 44		
AT23	VXG2		VSSAXG_SENSE	AK34	VSS_AXG_SENSE 44		
AT21	VXG3		VREF	SM_VREF	AL1	+V SM VREF CNT	
AT18	VXG4			10A	VDDQ1	AE7	VXG24
AT17	VXG5				VDDQ2	AE4	VXG25
AR24	VXG7				VDDQ3	AE1	VXG26
AR23	VXG8				VDDQ4	AC7	VXG27
AR22	VXG9				VDDQ5	AC4	VXG28
AR21	VXG10				VDDQ6	AC1	VXG29
AR20	VXG11				VDDQ7	Y7	VXG30
AR18	VXG12	VDDQ8			Y4	VXG31	
AR17	VXG13	VDDQ9			Y1	VXG32	
AR16	VXG14	VDDQ10	U7		VXG33		
AP23	VXG15	VDDQ11	U4	VXG34			
AP21	VXG16	VDDQ12	U1	VXG35			
AP18	VXG17	VDDQ13	P7	VXG36			
AN24	VXG18	VDDQ14	P4	VXG37			
AN23	VXG19	VDDQ15	P1	VXG38			
AN22	VXG20	SA RAIL	VCCSA1	M27	VXG46		
AN20	VXG21		VCCSA2	M26	VXG47		
AN18	VXG22		VCCSA3	L26	VXG48		
AN17	VXG23		VCCSA4	L26	VXG49		
AN16	VXG24		VCCSA5	L26	VXG50		
AM24	VXG25		VCCSA6	J25	VXG51		
AM23	VXG26		VCCSA7	J24	VXG52		
AM22	VXG27		VCCSA8	H26	VXG53		
AM18	VXG28		1.8V RAIL	VCCSA_SENSE	H23	VCCPLL	
AM17	VXG29			VCCSA_SEL	C24	B6	
AM16	VXG30	MISC		FC_C22	A6	VCCPLL2	
AM15	VXG31			VCCSA_VID1	A2	VCCPLL3	
AL24	VXG32			Bottom Socket Edge	C22	H_FC_C22	C22
AL23	VXG33				C24	H_FC_C22	C24
AL21	VXG34				R119	10K_0402_5%	R119
AL20	VXG35				R120	0.0402_5%	R120
AL18	VXG36						
AL17	VXG37						
AK24	VXG38						
AK23	VXG39						
AK20	VXG40						
AK18	VXG41						



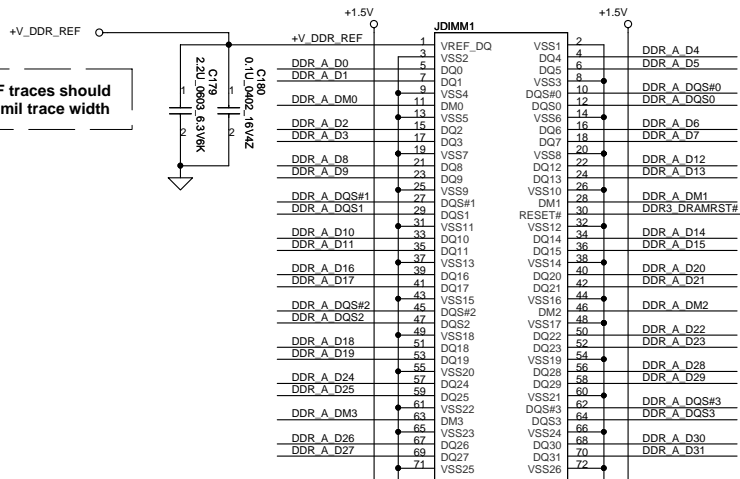
Security Classification	Compal Secret Data			Compal Electronics, Inc.
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title SCHEMATICS, MB A6731
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</small>				Document Number 401968 Date: Wednesday, March 03, 2011 Sheet 10 of 45



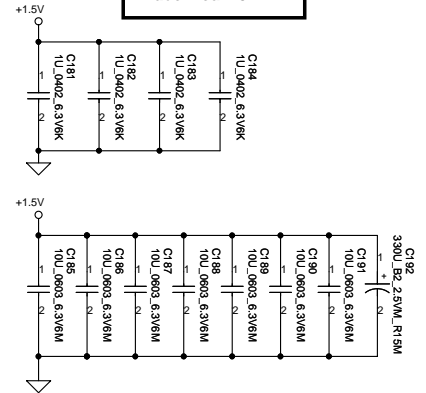
Security Classification	Compal Secret Data		Title
Issued Date	2010/05/17	Deciphered Date	2011/05/17
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSMITTED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			SCHEMATICS, MB A6731 401968 Date: Wednesday, March 08, 2011 Sheet 11 of 45



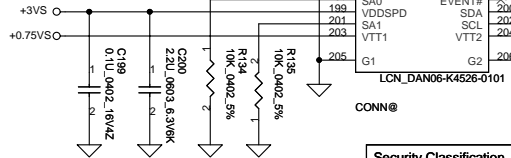
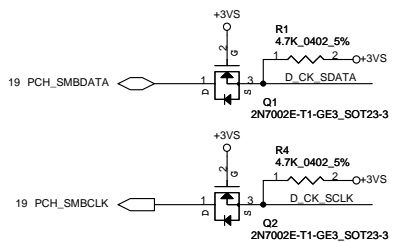
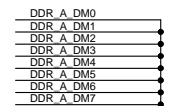
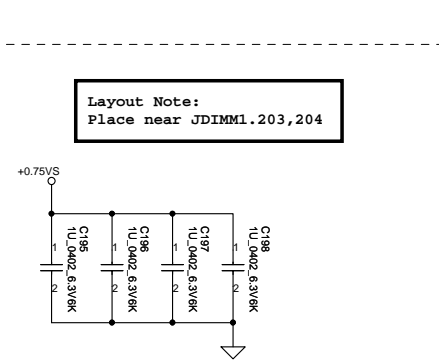
All VREF traces should have 10 mil trace width



Layout Note:
Place near JDIMM1

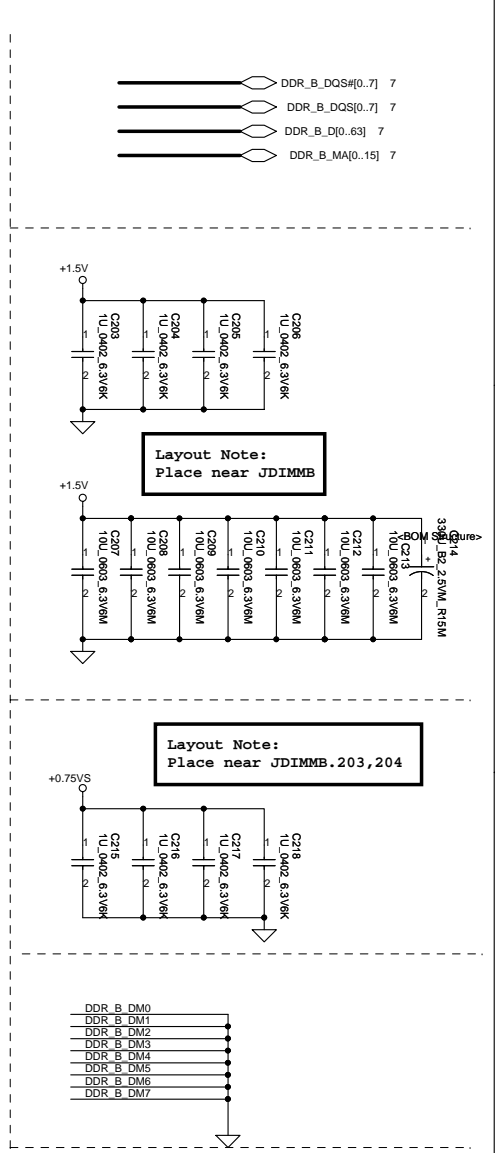
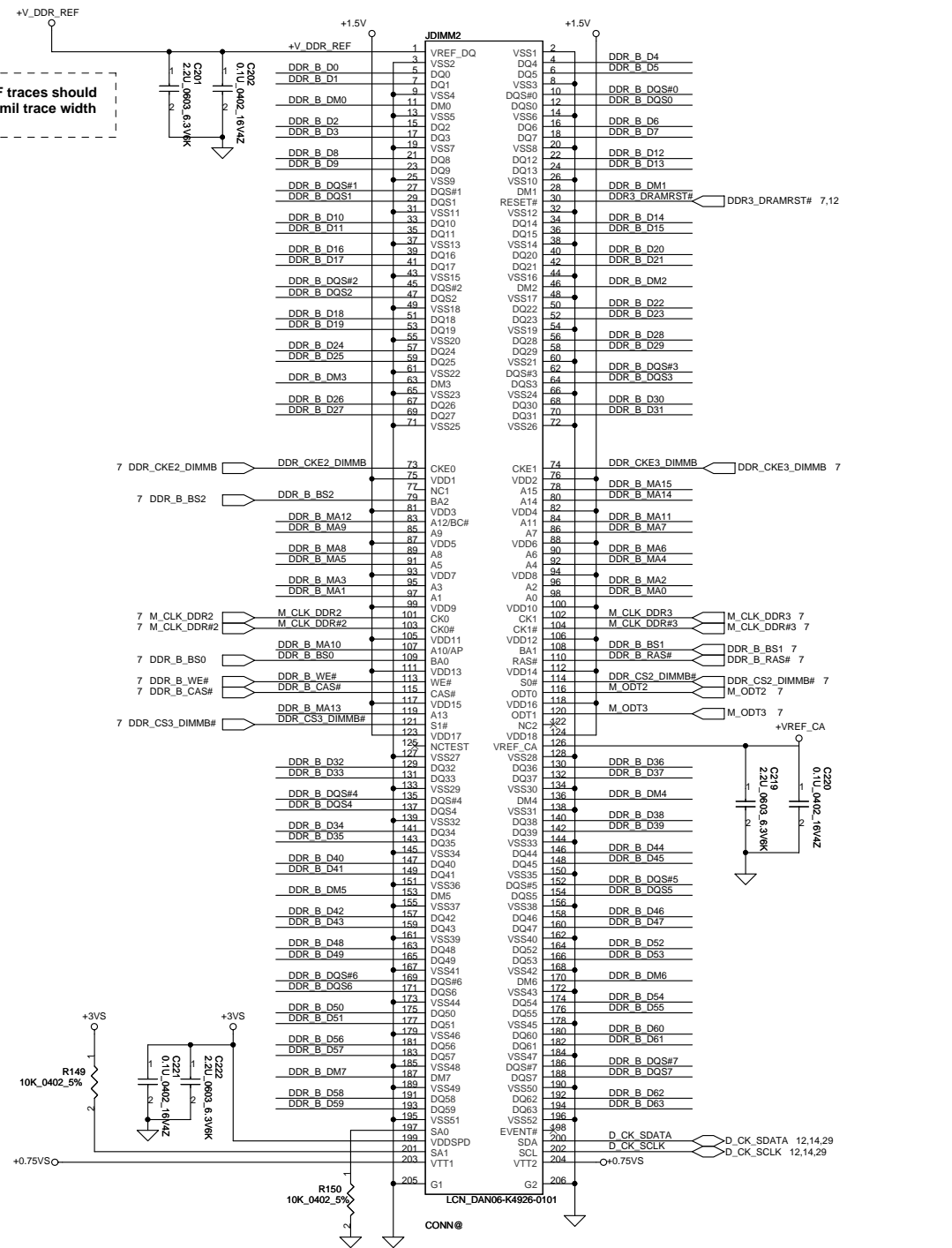


Layout Note:
Place near JDIMM1.203,204



Security Classification	Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	
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 RADEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			Customer Number	Rev
			401968	D
			Date: Wednesday, March 09, 2011	Sheet 12 of 45

All VREF traces should have 10 mil trace width

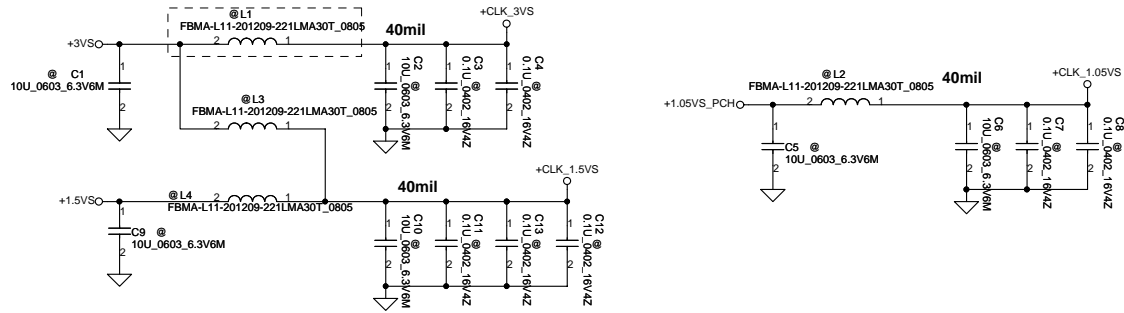


Security Classification	Compal Secret Data	
Issued Date	2010/05/17	Deciphered Date
		2011/05/17

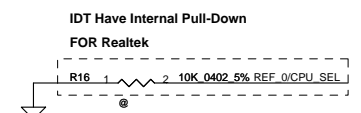
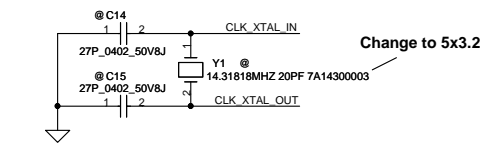
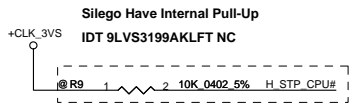
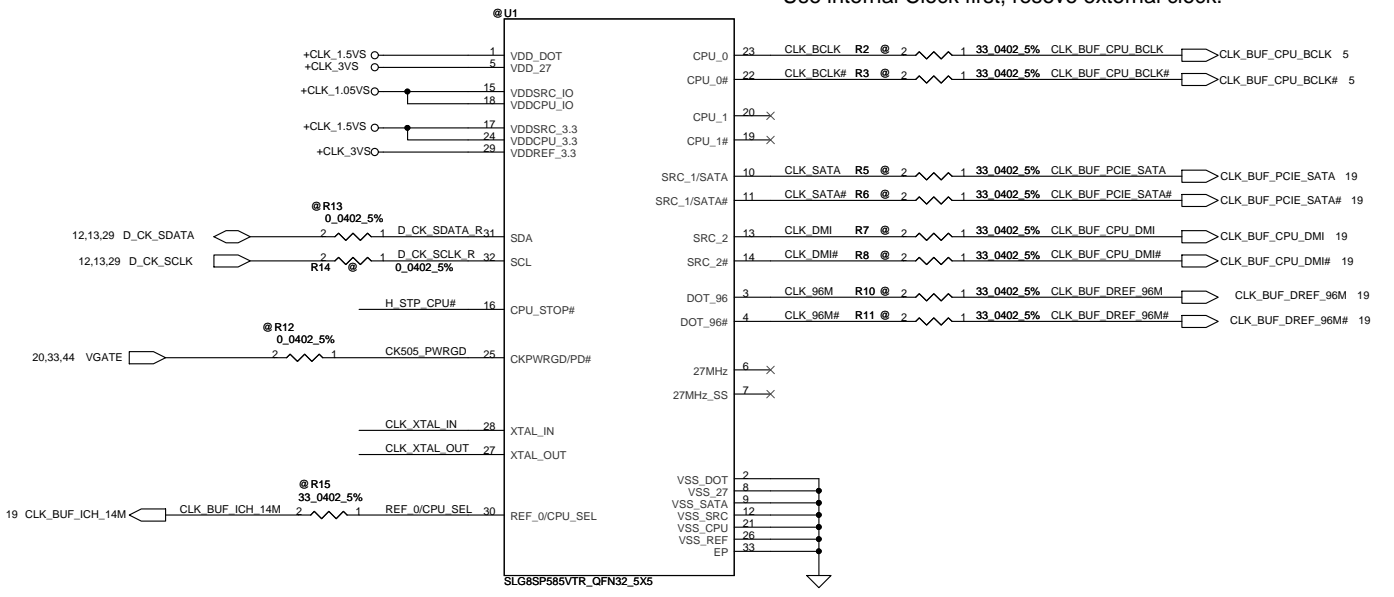
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.	
SCHEMATICS, MB A6731	
Customer	401968
Date:	Wednesday, March 03, 2011
Sheet	13 of 45

SM010014520 3000ma 220ohm @100mhz DCR 0.04

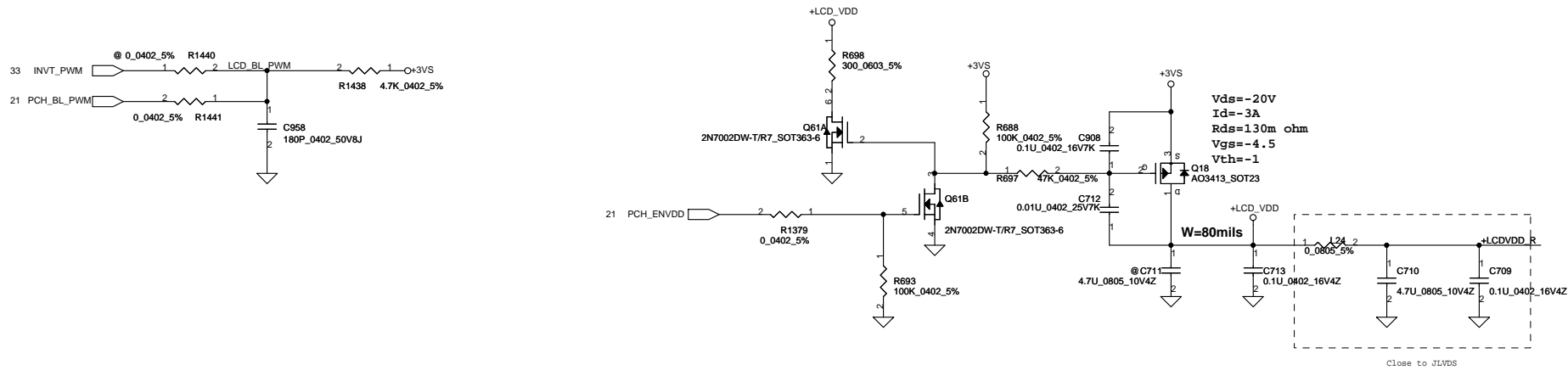


Use internal Clock first, reseve external clock.

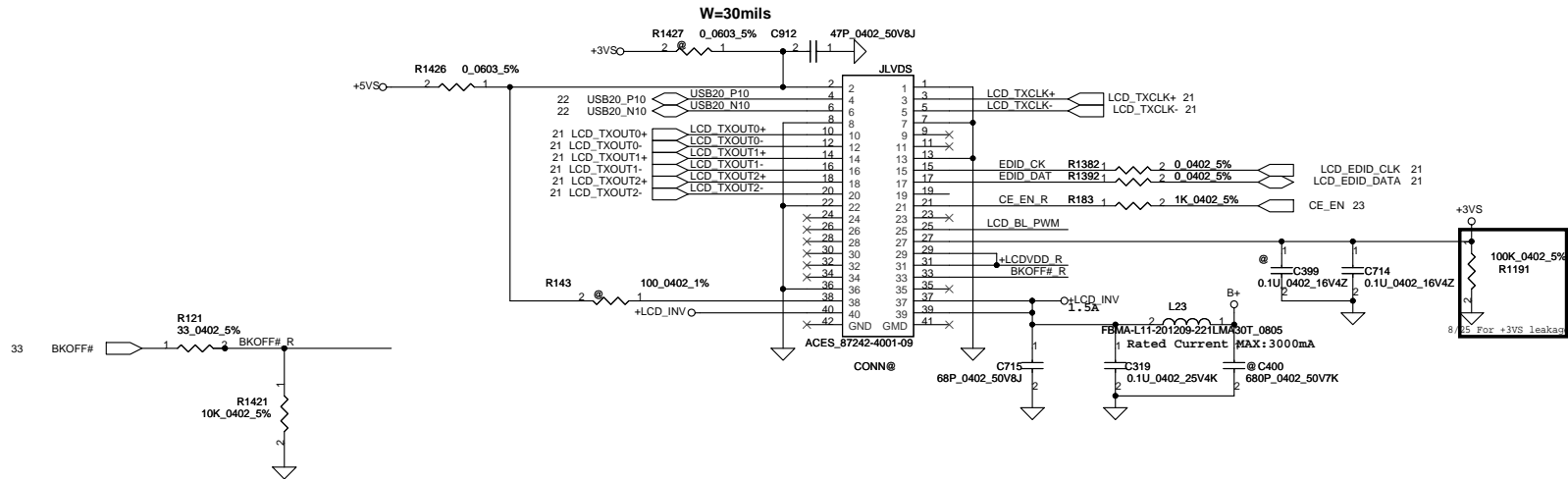


PIN 30	CPU_0	CPU_1
0 (Default)	133MHz	133MHz
1	100MHz	100MHz

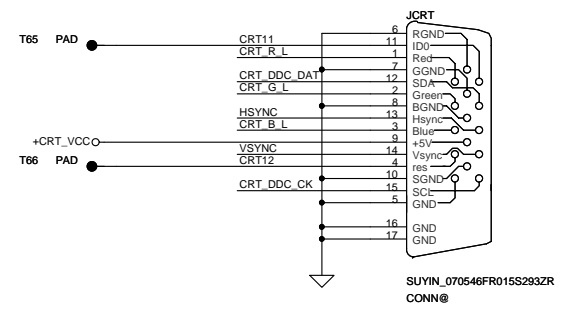
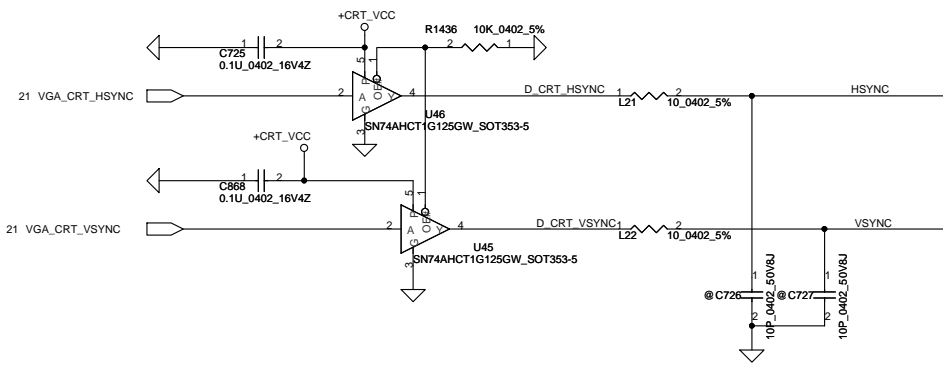
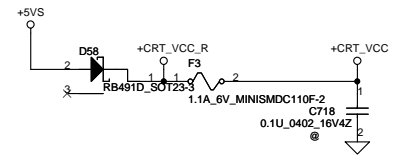
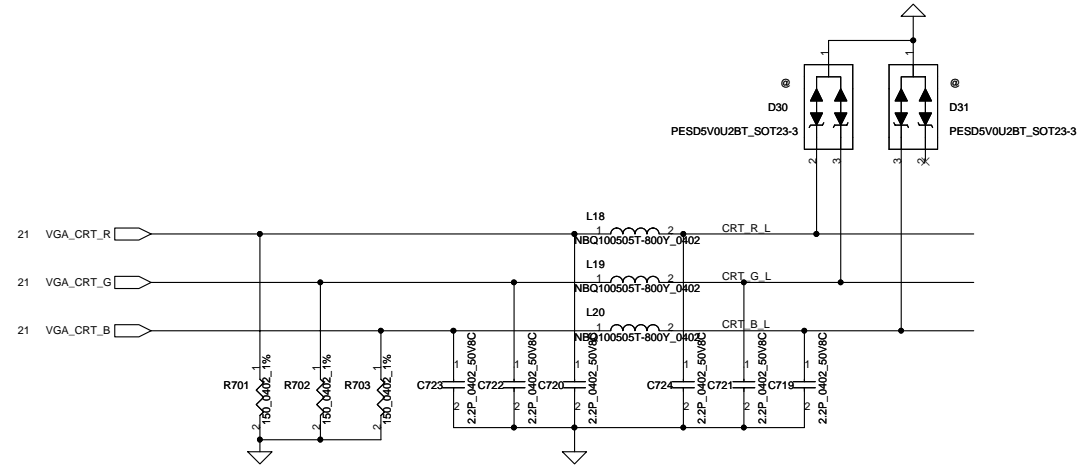
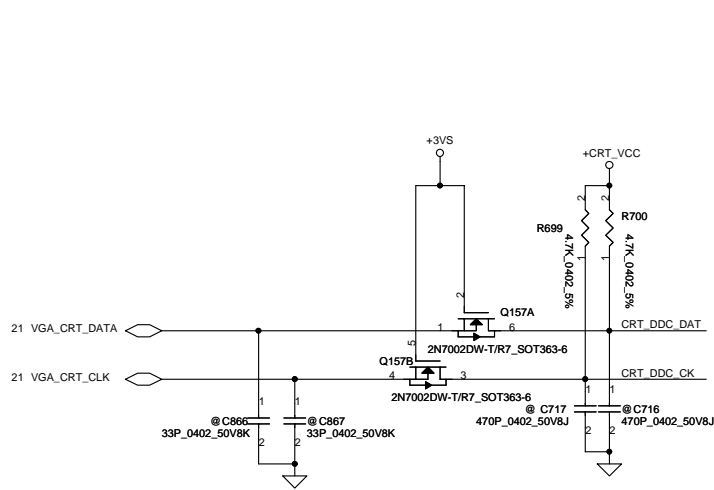
Standard
IDT: 9LRS3199AKLFT, SA000030P00
SILEGO: SLG8SP587V(WF), SA00002XY10



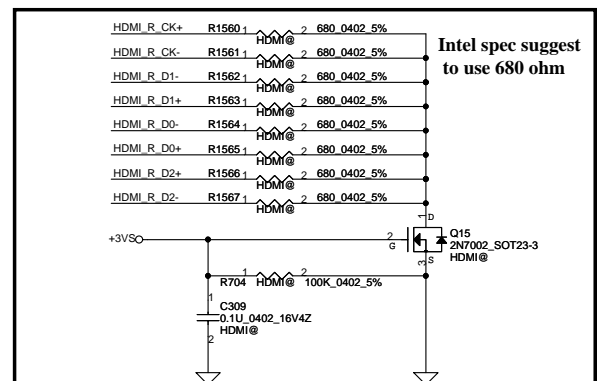
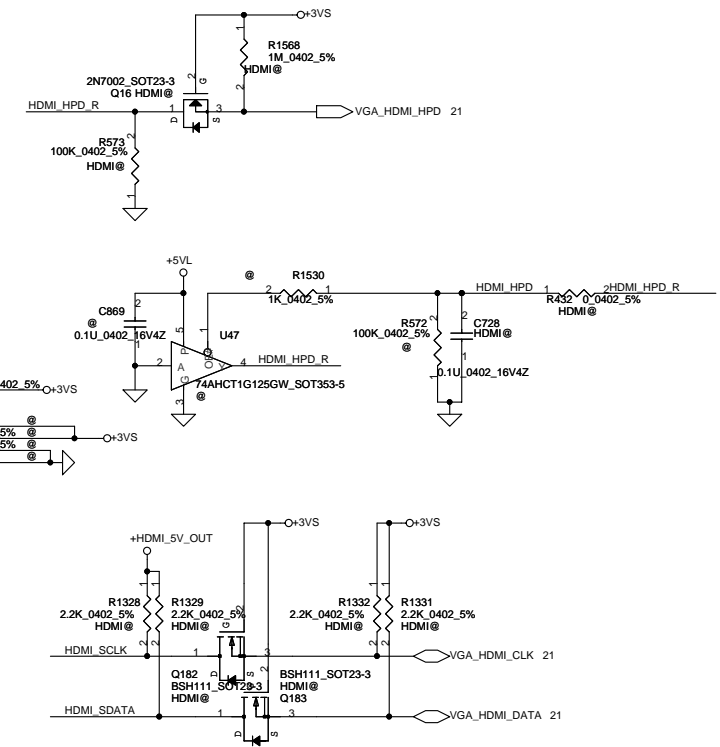
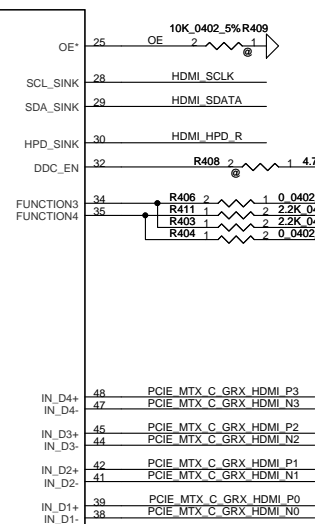
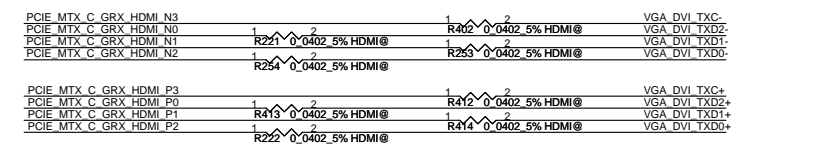
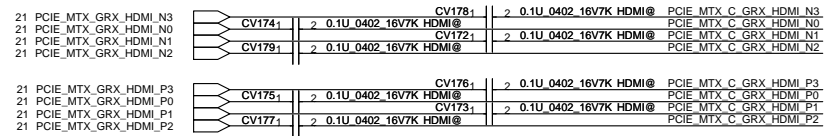
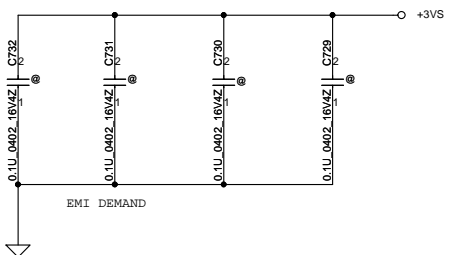
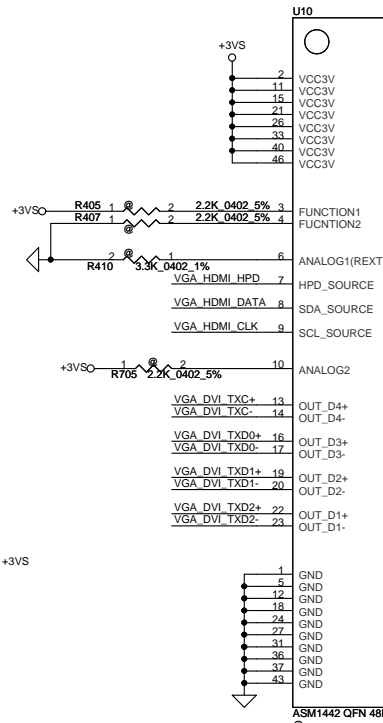
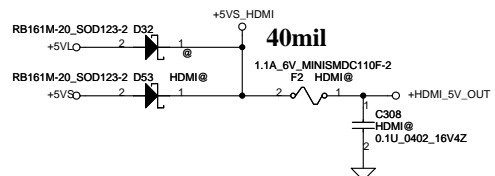
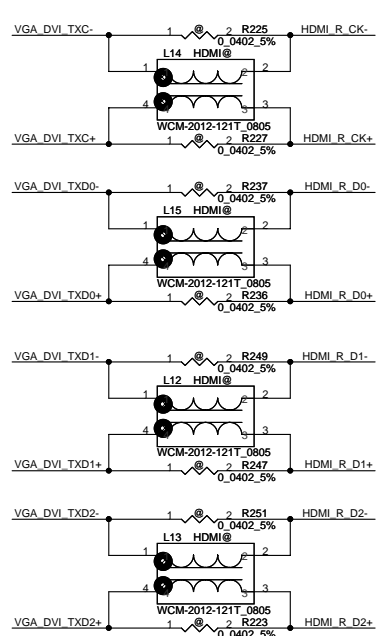
LCD/PANEL BD. Conn.



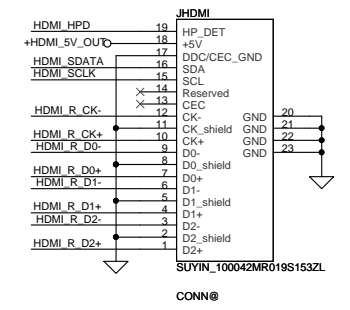
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Schematics, MB A6731 Document Number 401968 Date: Wednesday, March 09, 2011 Sheet 15 of 45



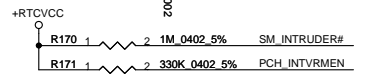
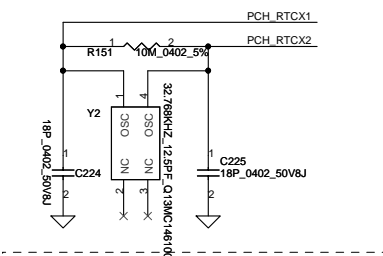
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number	Rev
				401968	D
				Date: Wednesday, March 03, 2011	Sheet 16 of 45



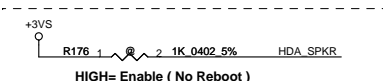
HDMI Connector



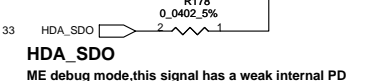
Security Classification		Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	SHEMATICS, MB A6731	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number 401968	Rev D
Date: Wednesday, March 03, 2011				Sheet	17 of 45



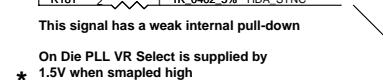
INTVRMEN
 * H : Integrated VRM enable
 L : Integrated VRM disable
 (INTVRMEN should always be pull high.)



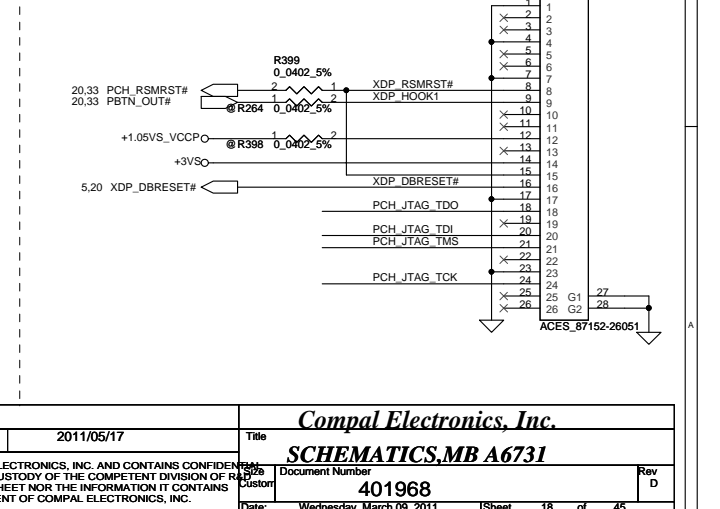
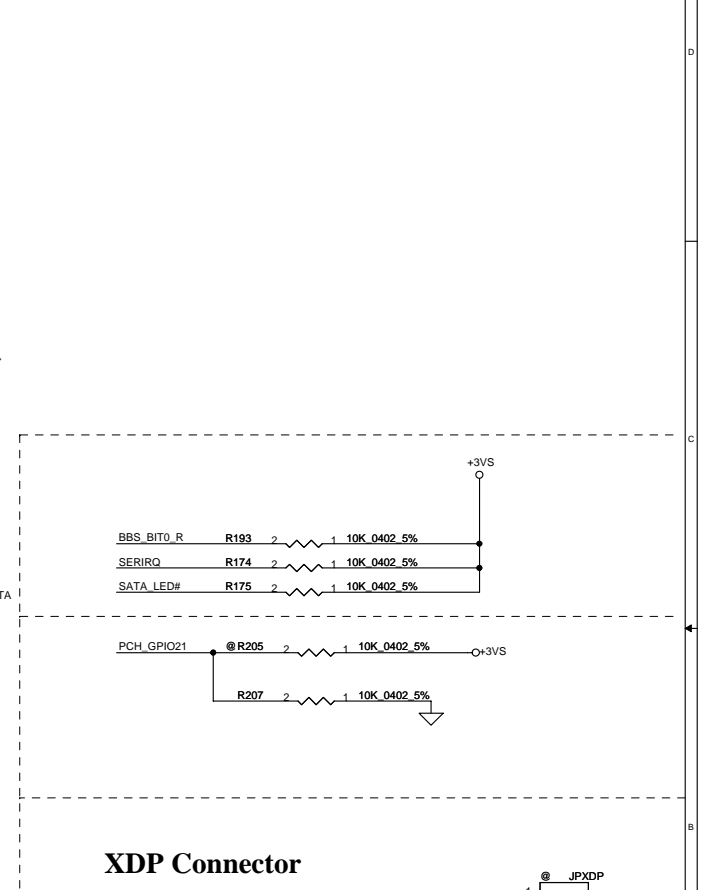
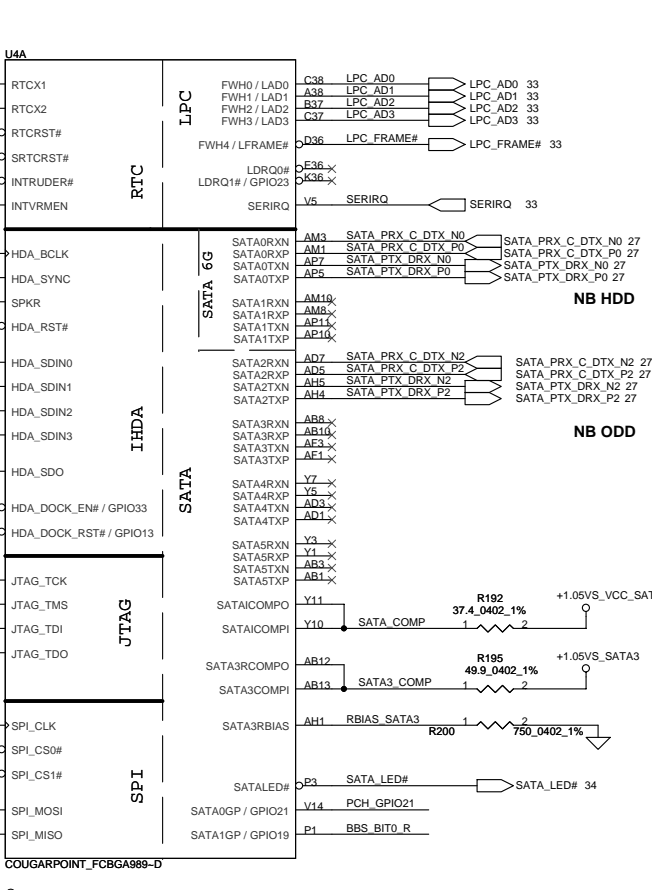
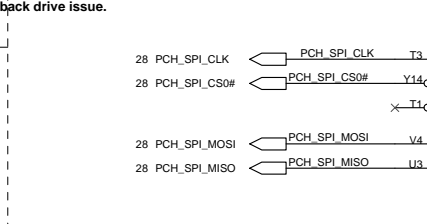
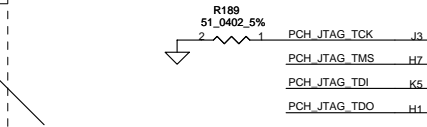
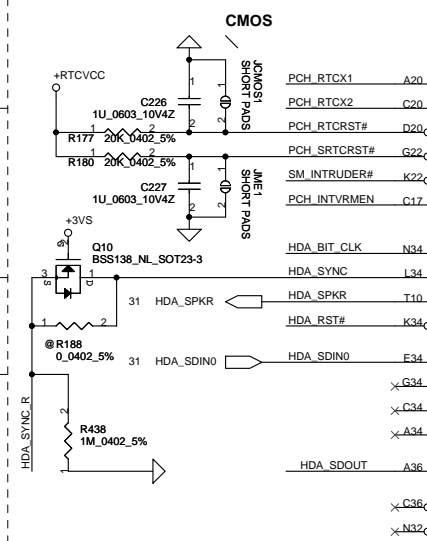
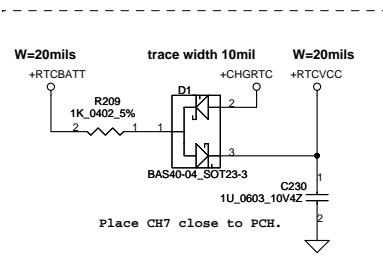
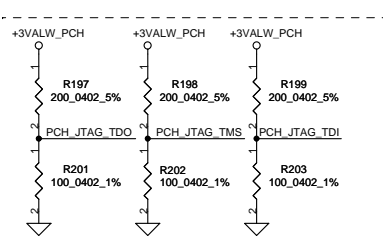
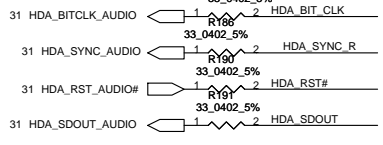
HIGH= Enable (No Reboot)
 * LOW= Disable (Default)



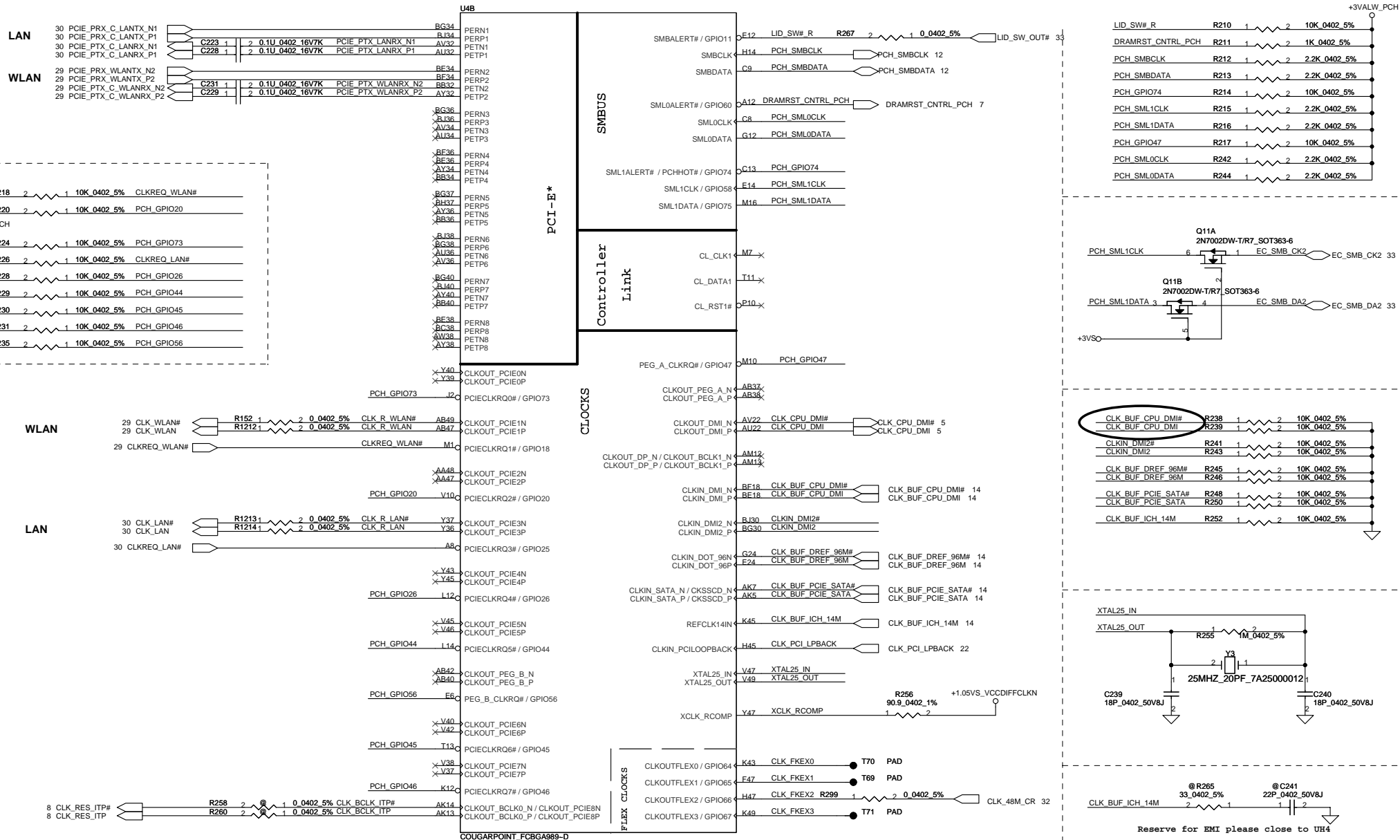
HDA_SDO
 ME debug mode, this signal has a weak internal PD
 Low = Disabled (Default)
 High = Enabled (Flash Descriptor Security Override)



This signal has a weak internal pull-down
 On Die PLL VR Select is supplied by
 * 1.5V when sampled high
 1.8V when sampled low
 Needs to be pulled High for Huron River platform



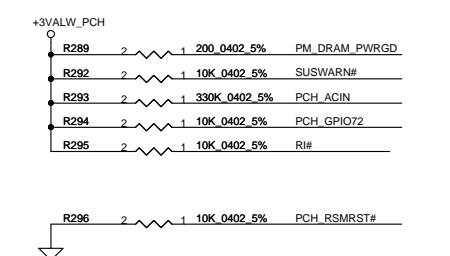
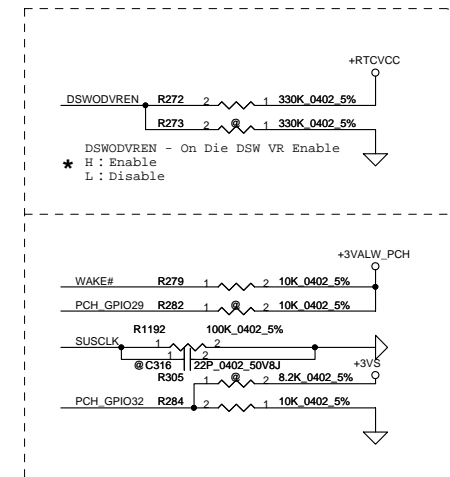
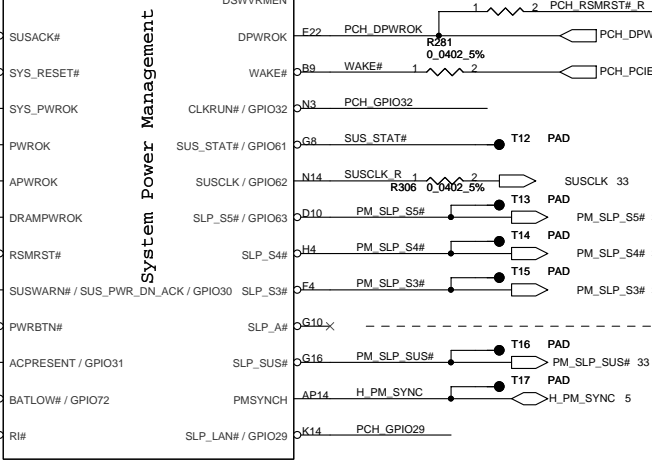
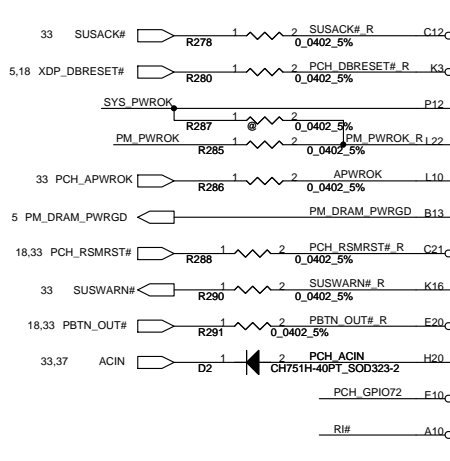
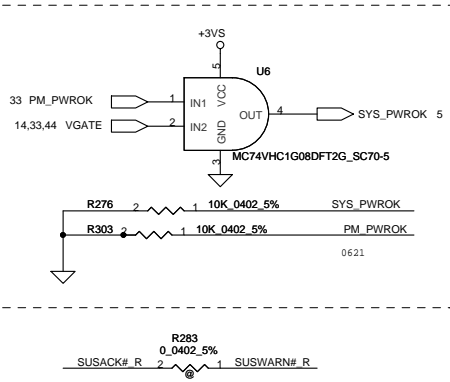
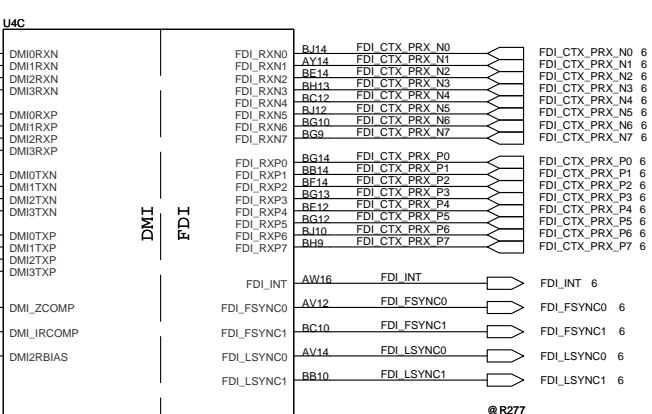
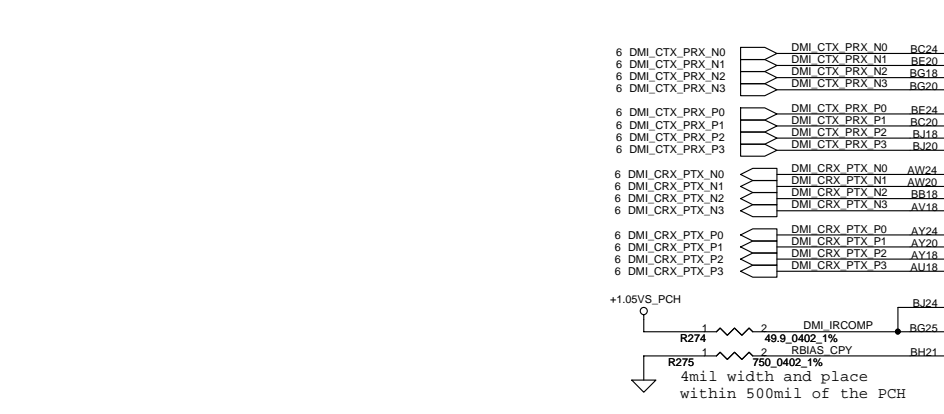
Security Classification	Compal Secret Data		Title	Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	SCHEMATICS, MB A6731	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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, March 09, 2011	Sheet	18	of	45



Security Classification	Compal Secret Data	
Issued Date	2010/05/17	Deciphered Date
		2011/05/17

Compal Electronics, Inc.	
SCHEMATICS, MB A6731	
Rev	D
Document Number	401968
Date	Wednesday, March 03, 2011
Sheet	19 of 45

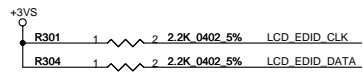
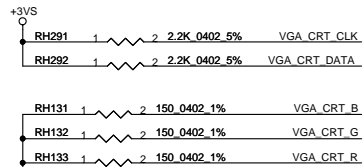
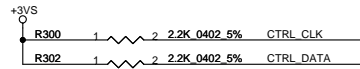
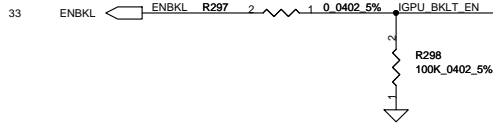
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.



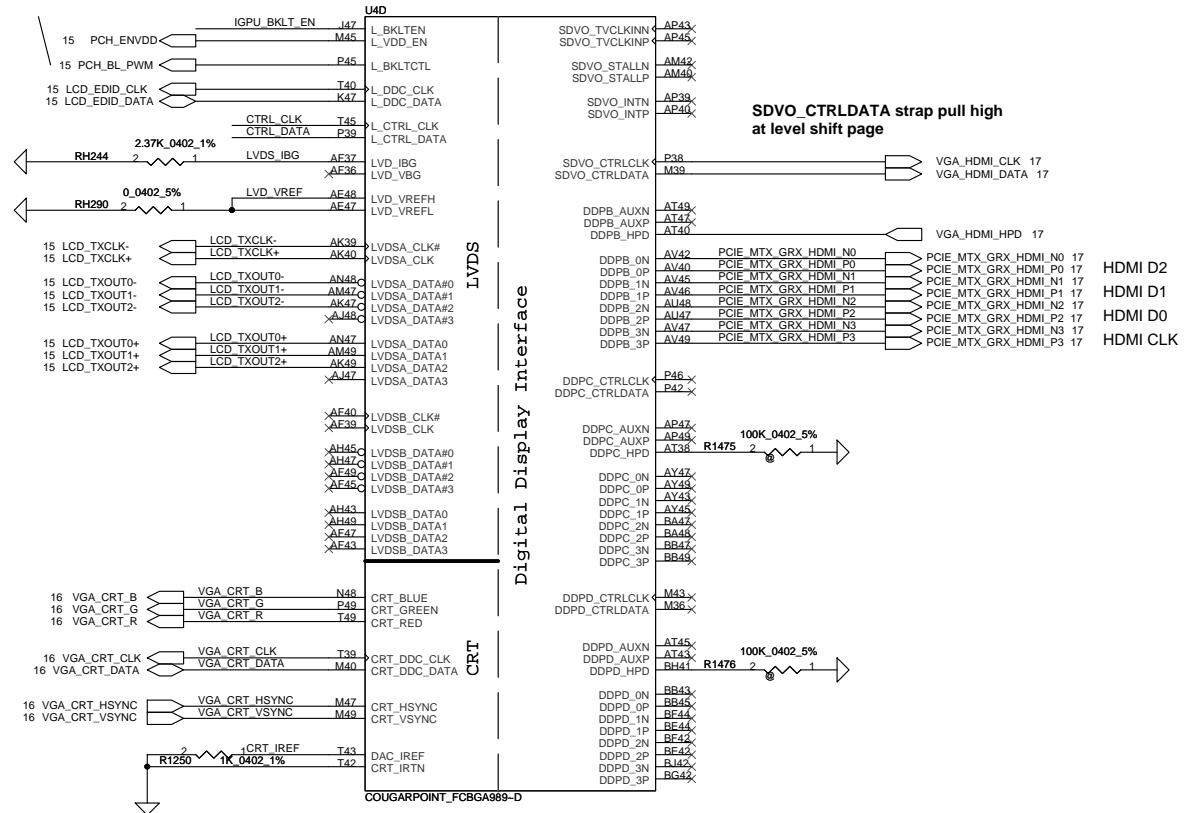
COUGARPOINT_FCBGA989-D

Security Classification	Compal Secret Data	
Issued Date	2010/05/17	Deciphered Date
		2011/05/17
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		

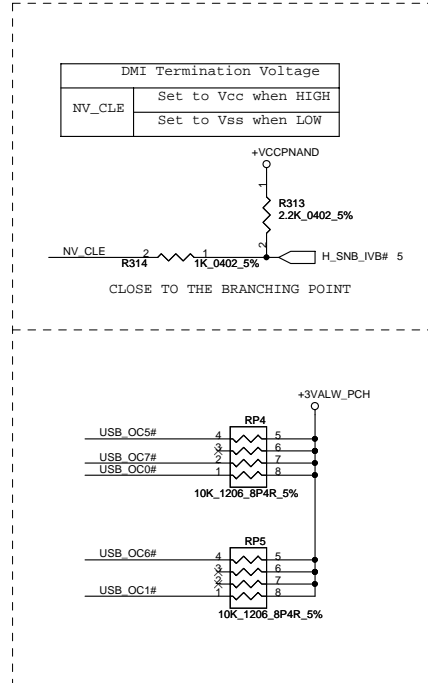
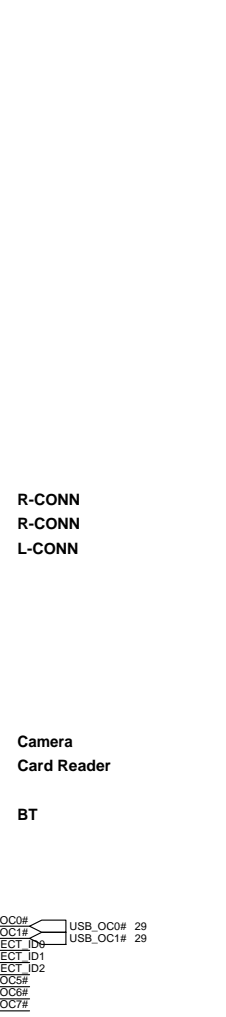
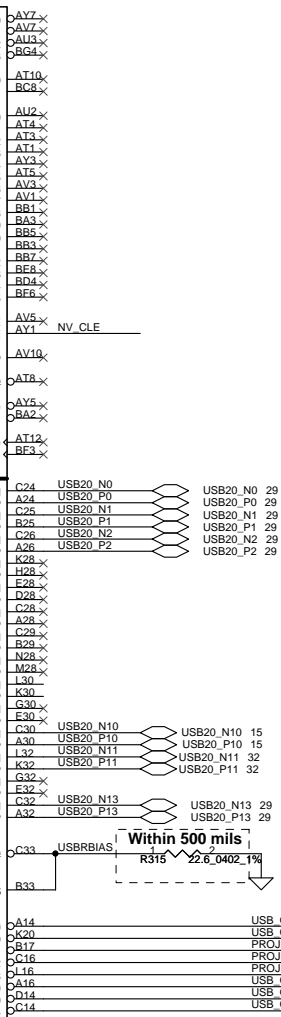
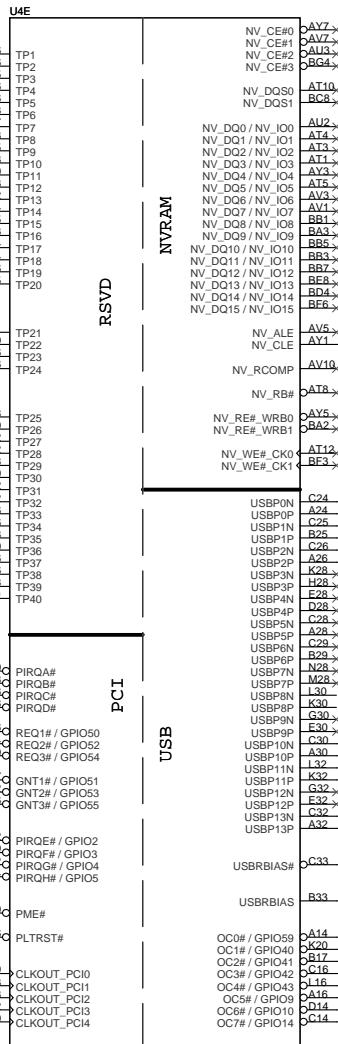
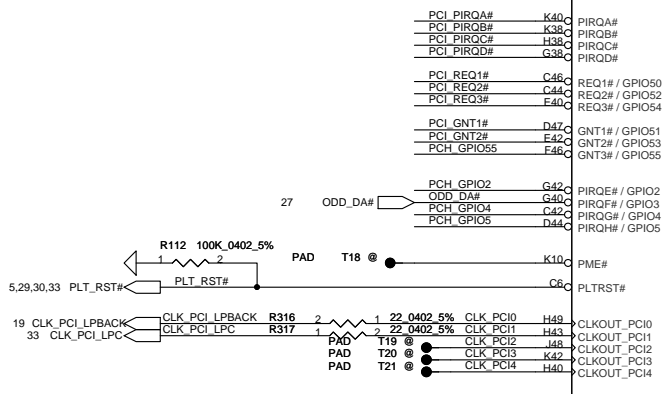
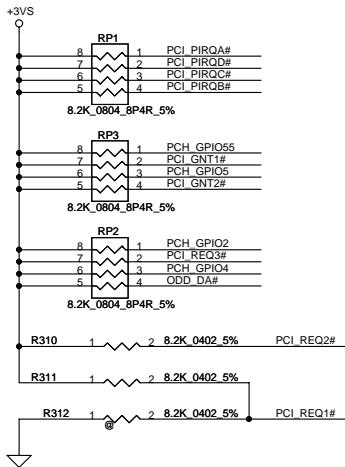
Compal Electronics, Inc.	
SCHEMATICS, MB A6731	
Title	401968
Document Number	401968
Date	Wednesday, March 03, 2011
Sheet	20 of 45



Pull high at LVDS conn side.

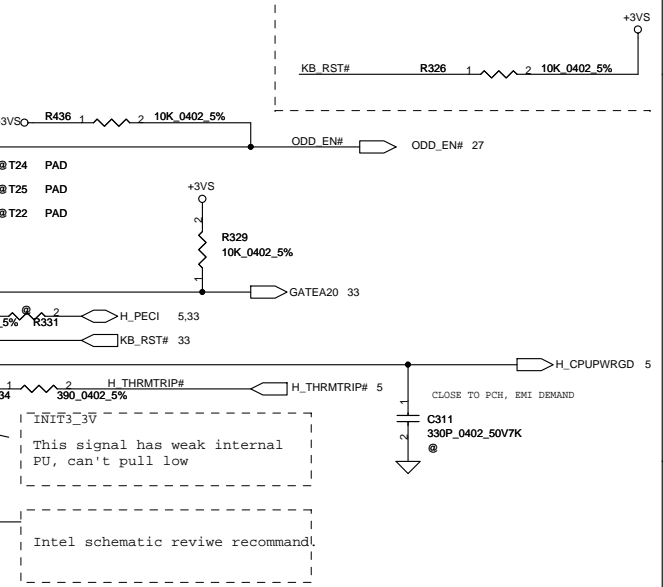
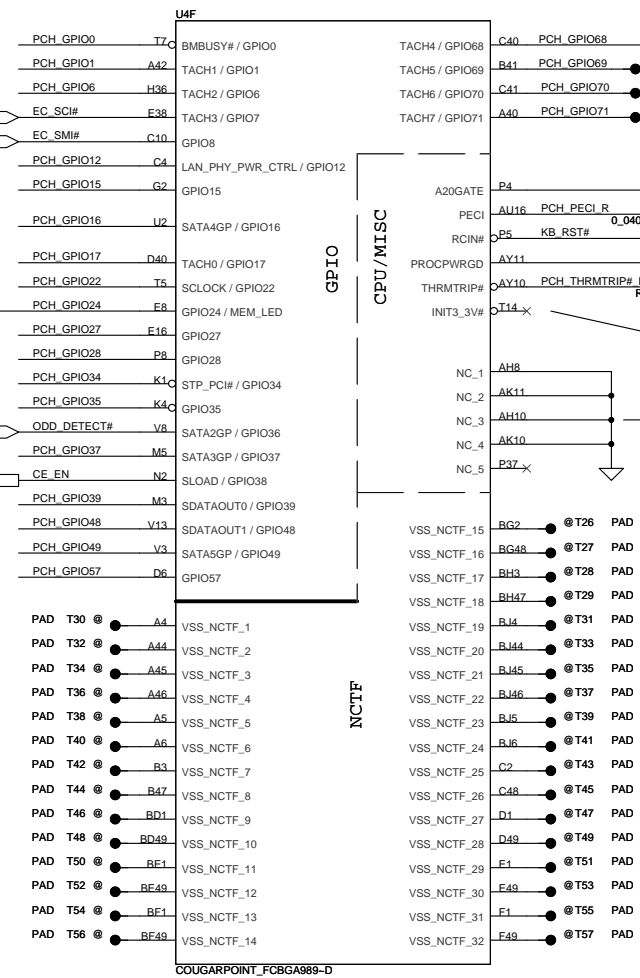
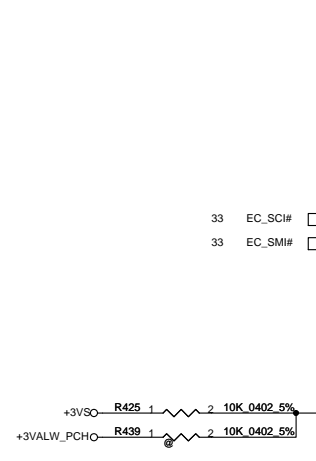
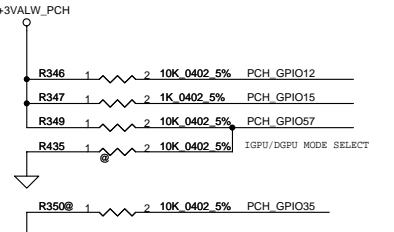
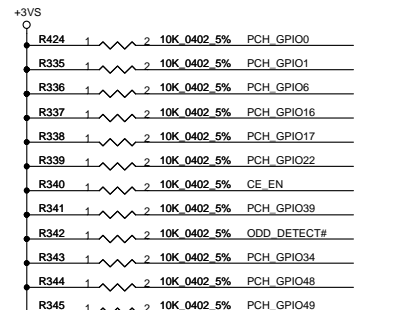
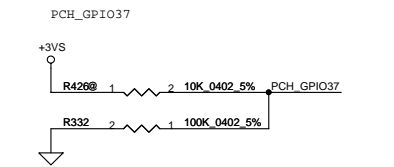
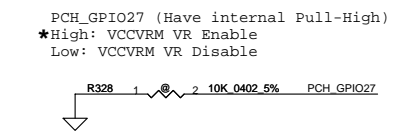
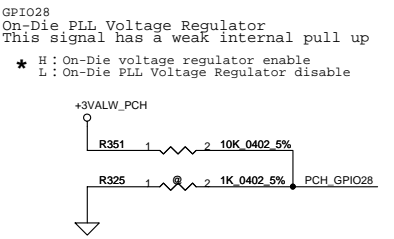
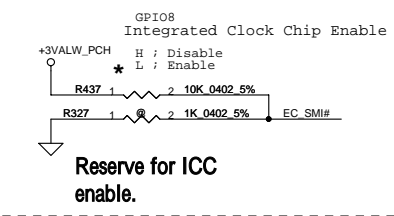


Security Classification	Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Part Number SCHEMATICS, MB A6731 Document Number 401968 Date: Wednesday, March 08, 2011 Sheet 21 of 45



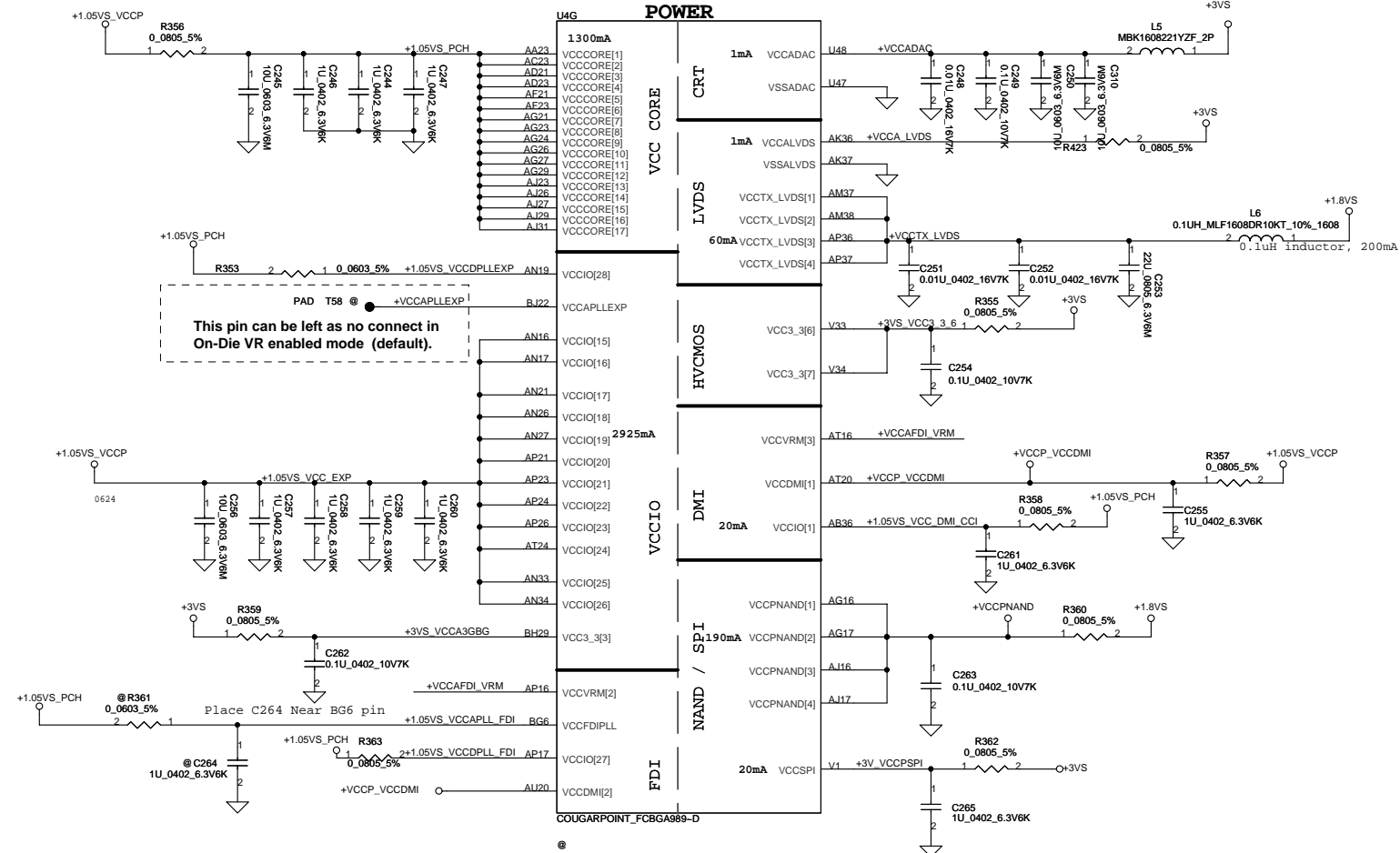
Boot BIOS Strap bit1 BBS1			
	Bit11	Bit10	Boot BIOS Destination
BBS bit1 /BBS bit0	0	1	Reserved
	1	0	PCI
	1	1	SPI *
	0	0	LPC

	PROJECT_ID2	PROJECT_ID1	PROJECT_ID0
PBL10	0	1	0
PBL11	0	1	1



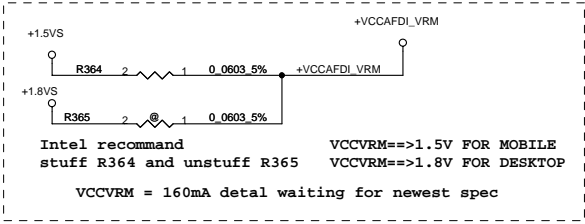
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title
				SCHEMATICS, MB A6731
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</small>				Document Number 401968 Date: Wednesday, March 09, 2011
				Rev D
				Sheet 23 of 45

POWER



PAID T58 @
 This pin can be left as no connect in On-Die VR enabled mode (default).

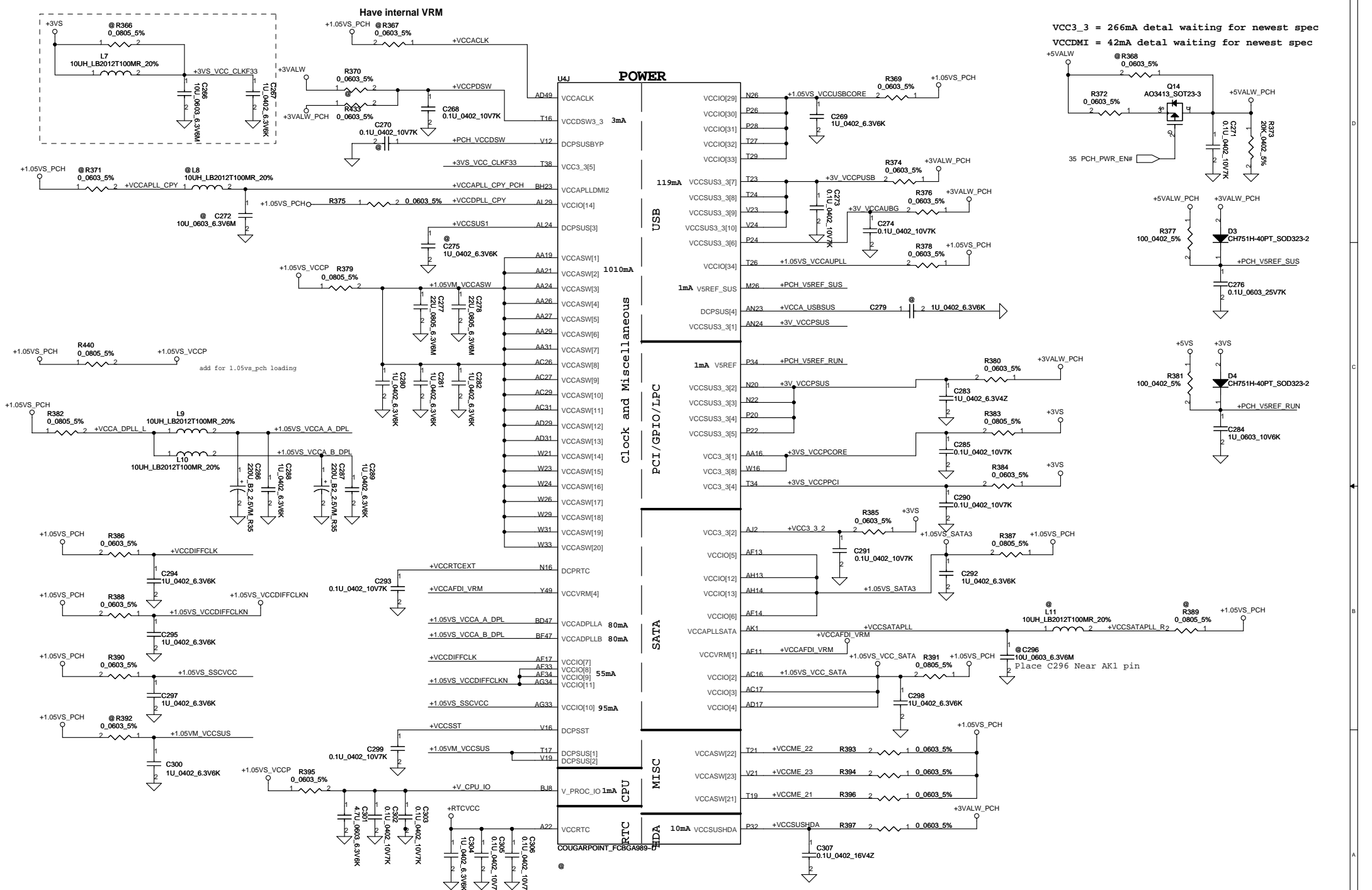
PCH Power Rail Table		
Voltage Rail	Voltage	60 Iccmax Current (A)
V_PROC_IO	1.05	0.001
V5REF	5	0.001
V5REF_Sus	5	0.001
Vcc3_3	3.3	0.266
VccADAC	3.3	0.001
VccADPLLA	1.05	0.08
VccADPLLB	1.05	0.08
VccCore	1.05	1.3
VccDMI	1.05	0.042
VccIO	1.05	2.925
VccASW	1.05	1.01
VccSPI	3.3	0.02
VccDSW	3.3	0.003
VccpNAND	1.8	0.19
VccRTC	3.3	6 uA
VccSus3_3	3.3	0.119
VccSusHDA	3.3 / 1.5	0.01
VccVRM	1.8 / 1.5	0.16
VccCLKDMI	1.05	0.02
VccSSC	1.05	0.095
VccDIFFCLKN	1.05	0.055
VccALVDS	3.3	0.001
VccTX_LVDS	1.8	0.06



Intel recommend VCCVRM==>1.5V FOR MOBILE
 stuff R364 and unstuff R365 VCCVRM==>1.8V FOR DESKTOP
 VCCVRM = 160mA detal waiting for newest spec

Security Classification	Compal Secret Data	
Issued Date	2010/05/17	Deciphered Date
		2011/05/17
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		

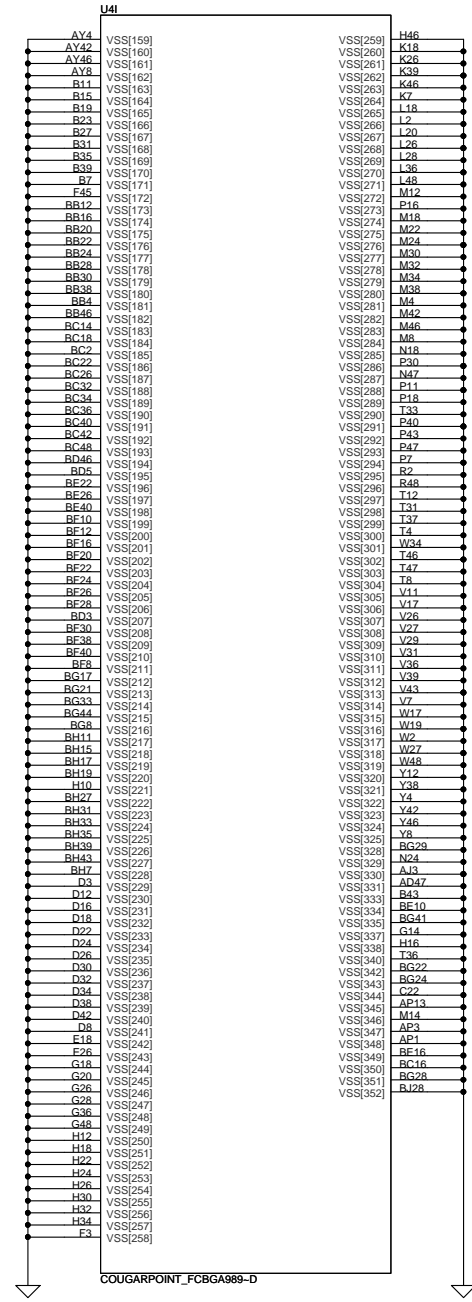
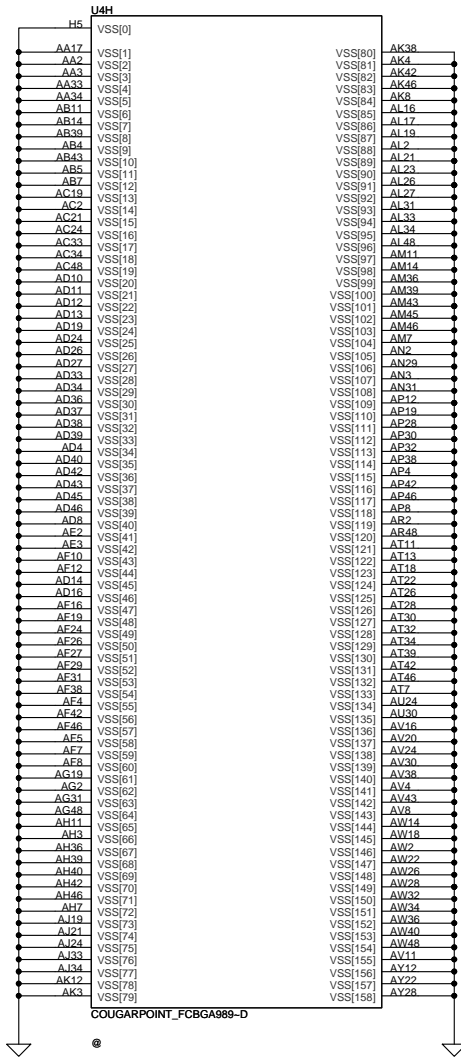
Compal Electronics, Inc.	
Title	SCHEMATICS, MB A6731
Customer	401968
Date	Wednesday, March 09, 2011
Sheet	24 of 45



Security Classification	Compal Secret Data	
Issued Date	2010/05/17	Deciphered Date
		2011/05/17

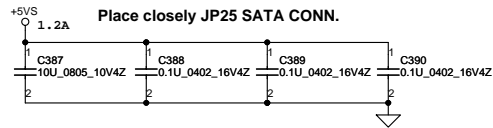
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.

Compal Electronics, Inc.	
SCHEMATICS, MB A6731	
Title	Rev D
Document Number	401968
Date:	Wednesday, March 03, 2011
Sheet	25 of 45

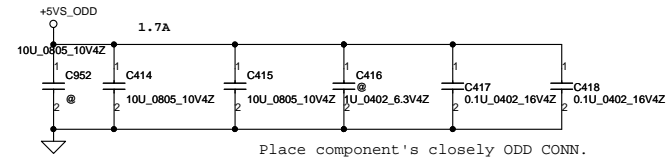


Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	SCHEMATICS, MB A6731
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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 Number	401968
				Date	Wednesday, March 08, 2011
				Sheet	26 of 45

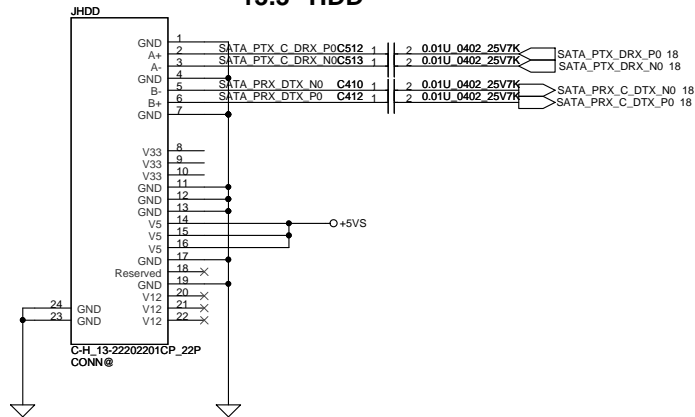
SATA HDD1 Conn.



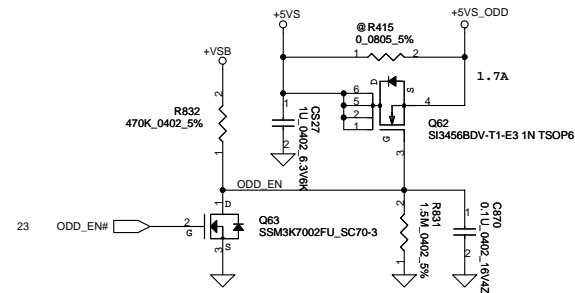
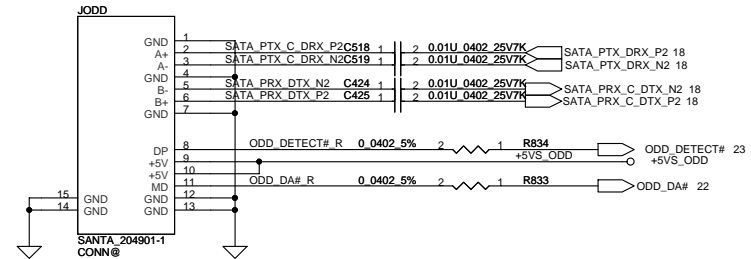
SATA ODD Conn



13.3" HDD

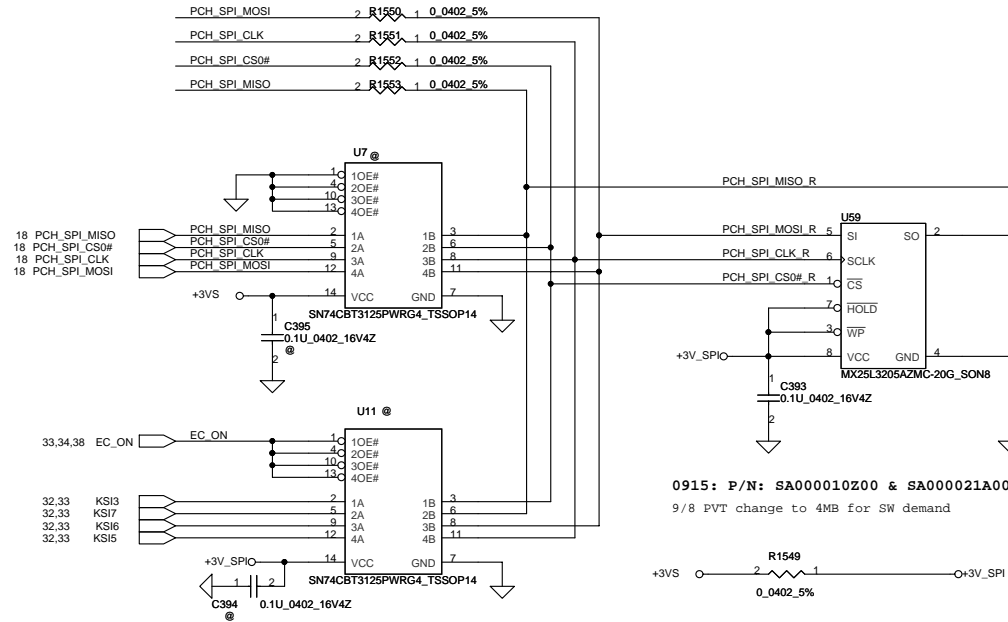
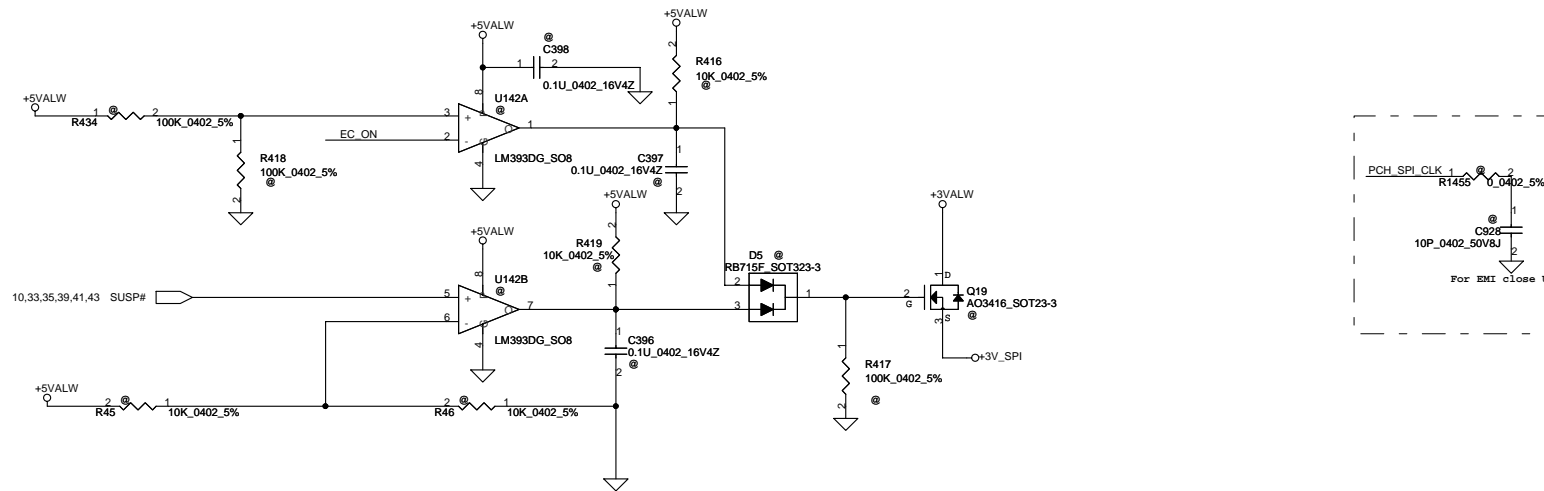


13.3" ODD



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	SCHEMATICS,MB A6731
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev	D
				Document Number	401968
				Date:	Wednesday, March 08, 2011
				Sheet	27 of 45

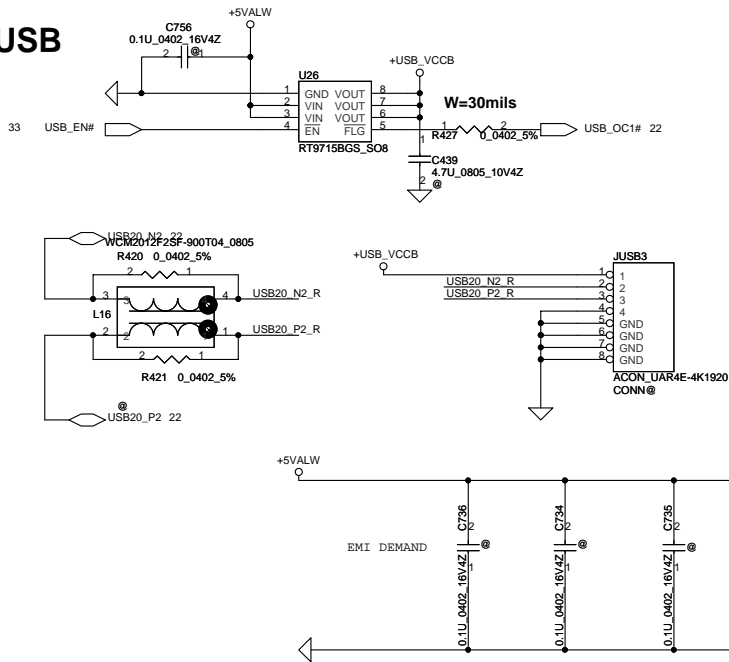
SPI ROM For Basic ME ROM size
(w/o Braidwood & system BIOS):
4MByte



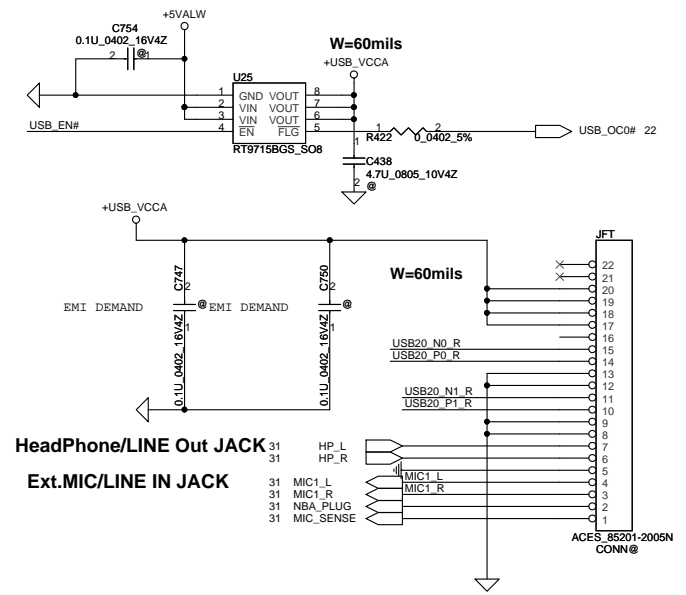
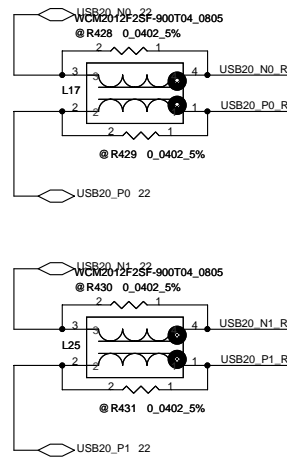
0915: P/N: SA000010Z00 & SA000021A00
9/8 PVT change to 4MB for SW demand

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	SCHEMATICS,MB A6731
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Rev	D
				Date	Wednesday, March 09, 2011
				Sheet	28 of 45

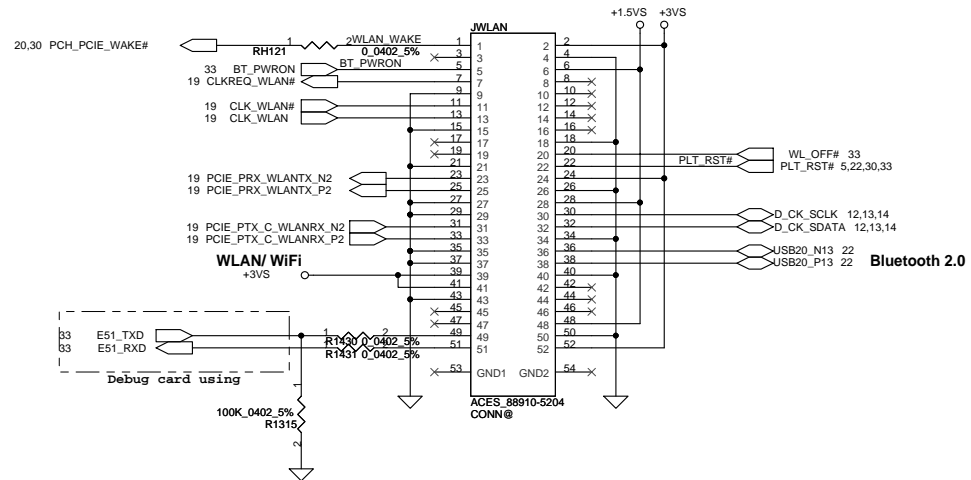
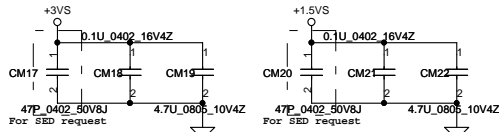
Left USB



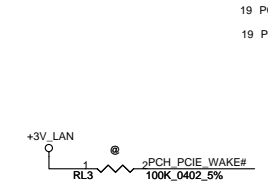
Function Board



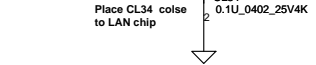
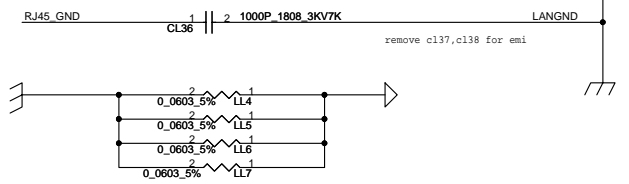
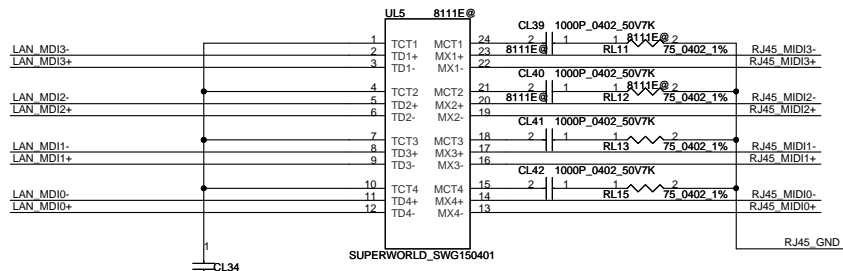
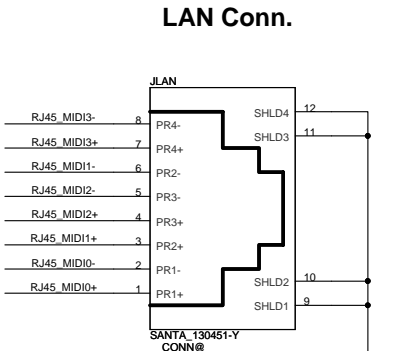
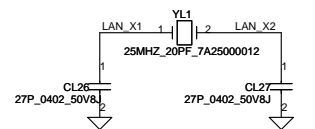
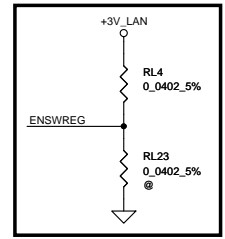
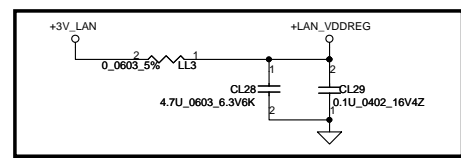
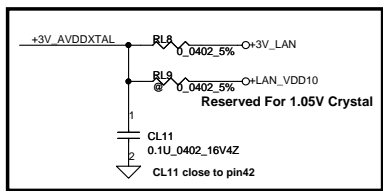
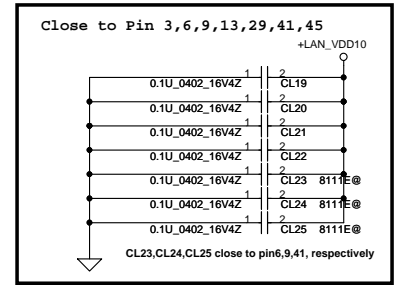
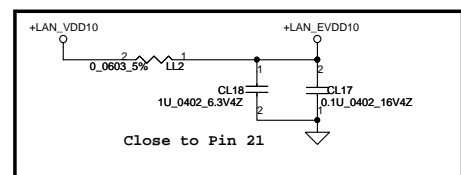
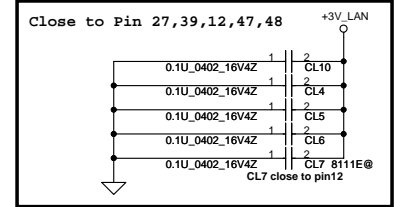
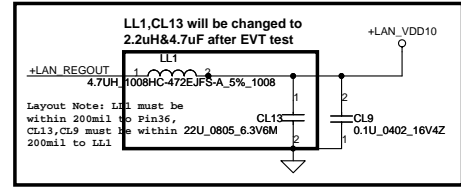
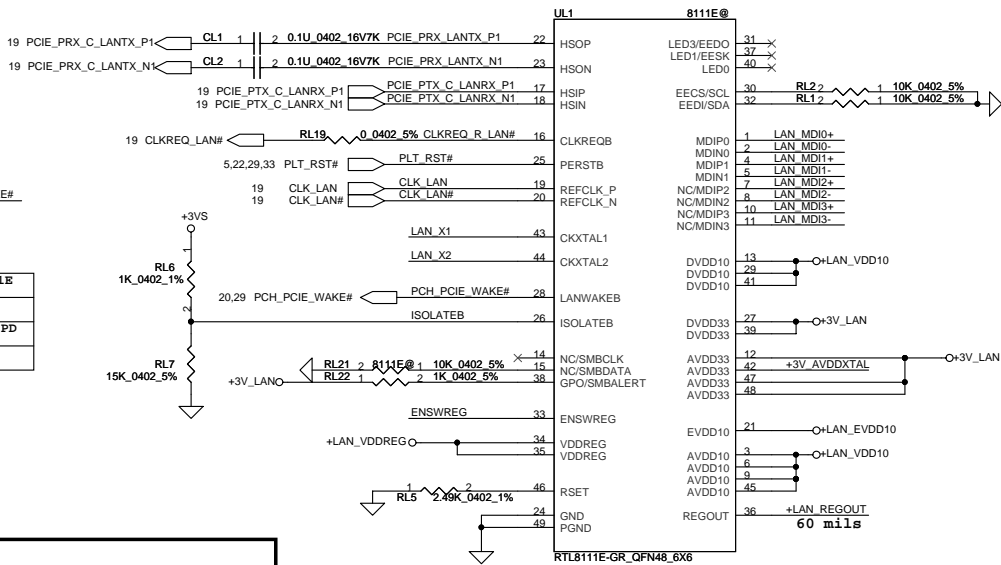
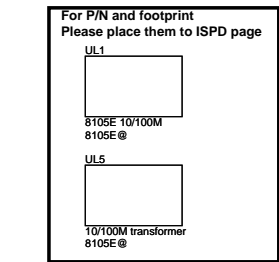
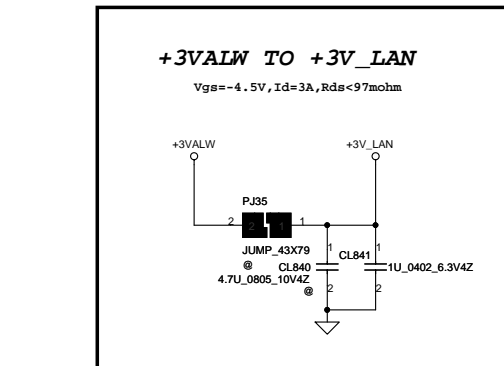
Slot 1 Half PCIe Mini Card-WLAN & BT2.0

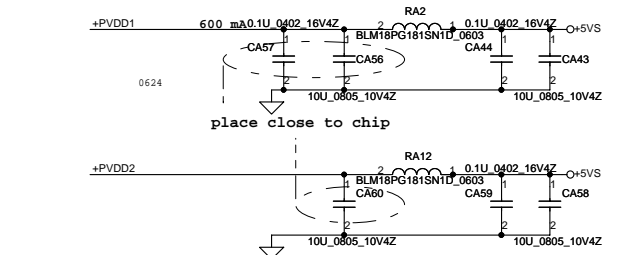
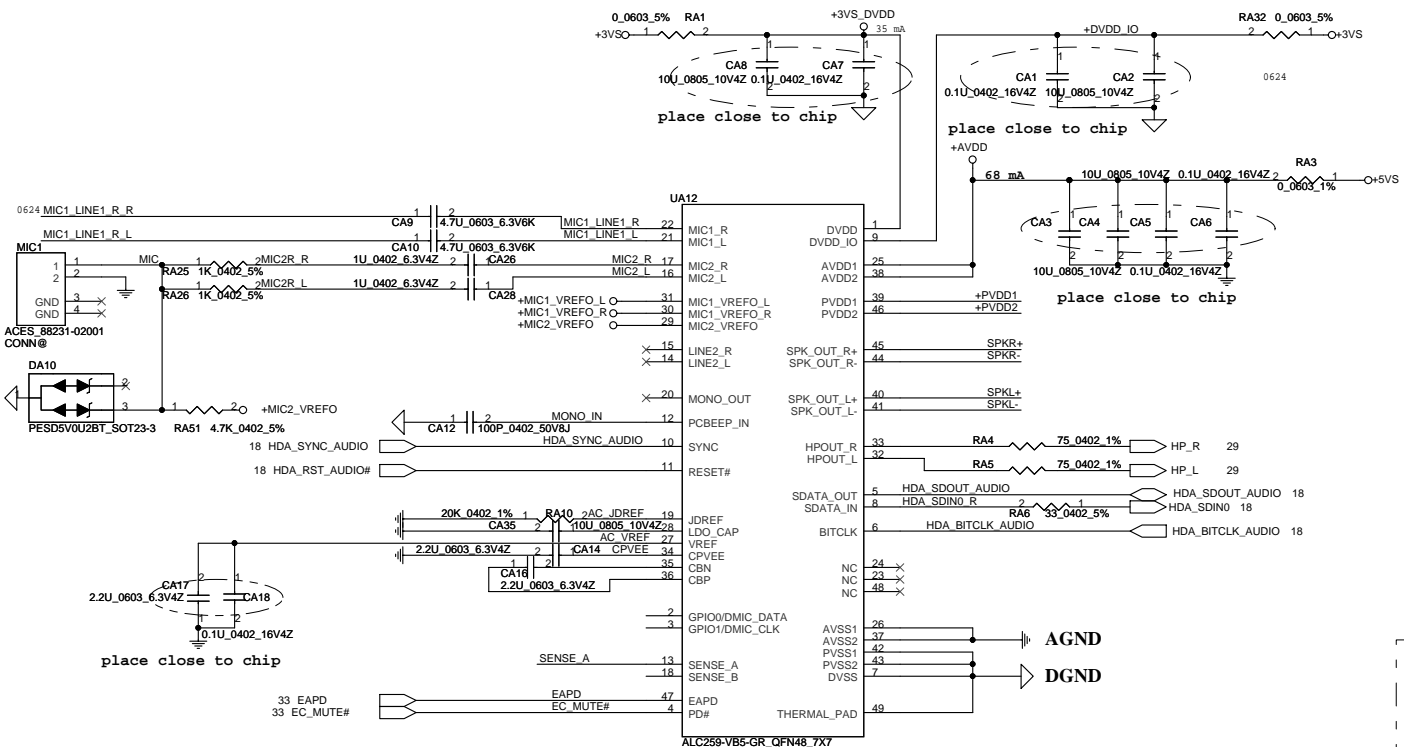


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	SCHMATIC,MB A6731
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.					
Rev	D	Document Number	401968	Date	Wednesday, March 09, 2011
Sheet	29	of	45	Rev	D

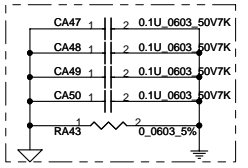
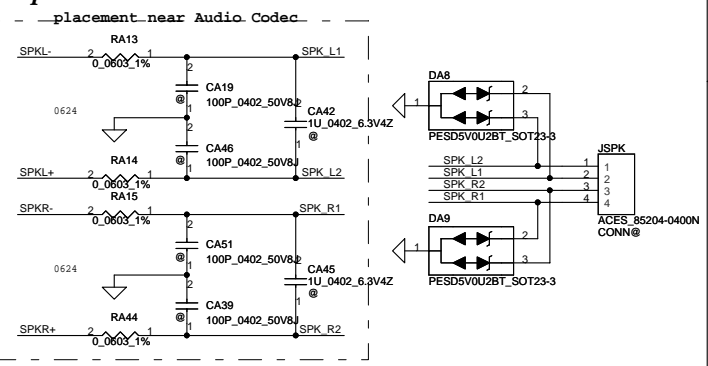


	RTL8105E	RTL8111E
Pin14	NC	NC
Pin15	NC	10K ohm PD
Pin38	1K ohm Pull-high	

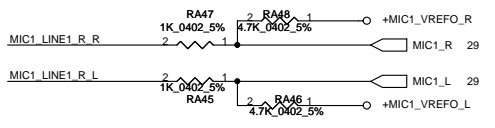




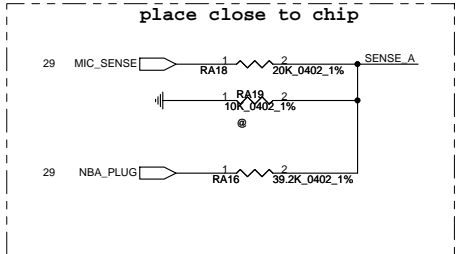
Speaker Connector



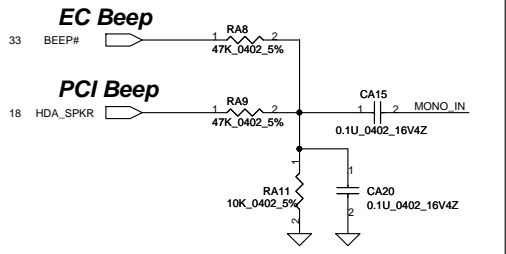
Ext.MIC/LINE IN JACK



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

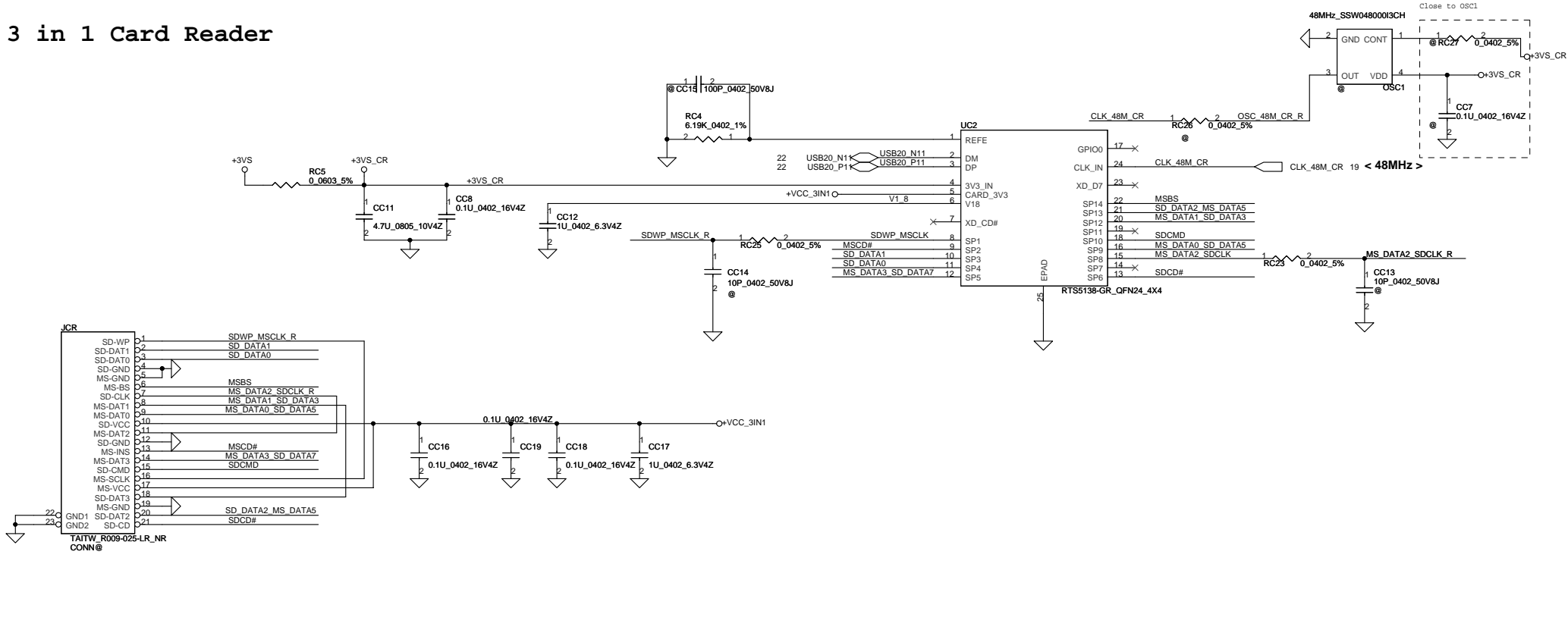


Beep sound

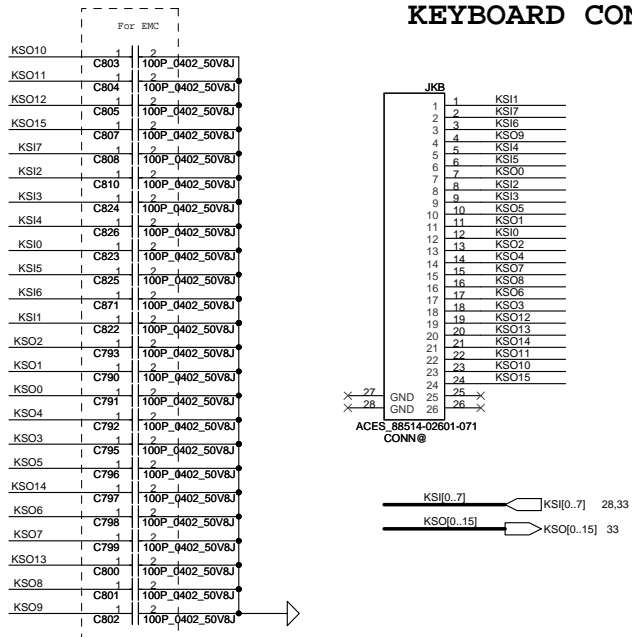


Security Classification		Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				SCHEMATICS, MB A6731	
				Rev	D
				401968	
				Date	Wednesday, March 03, 2011
				Sheet	31 of 45

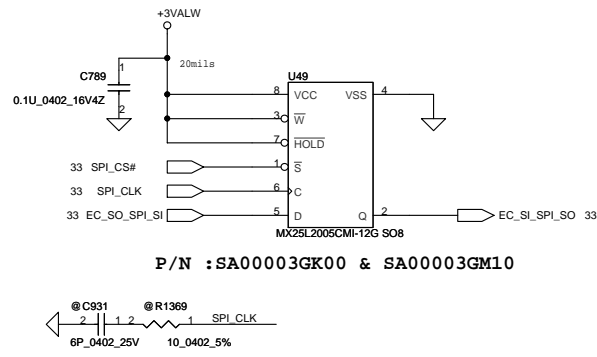
3 in 1 Card Reader



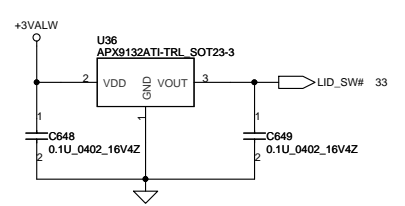
KEYBOARD CONN.



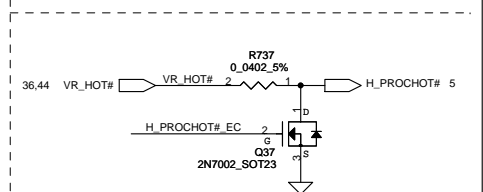
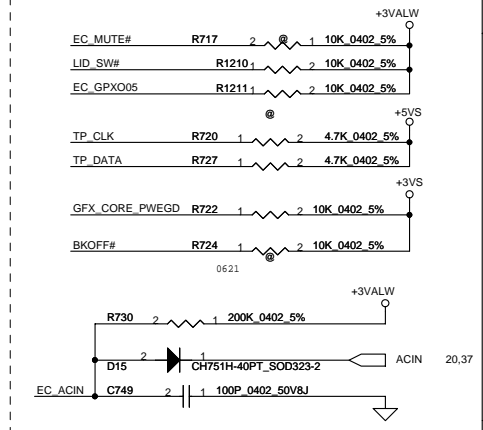
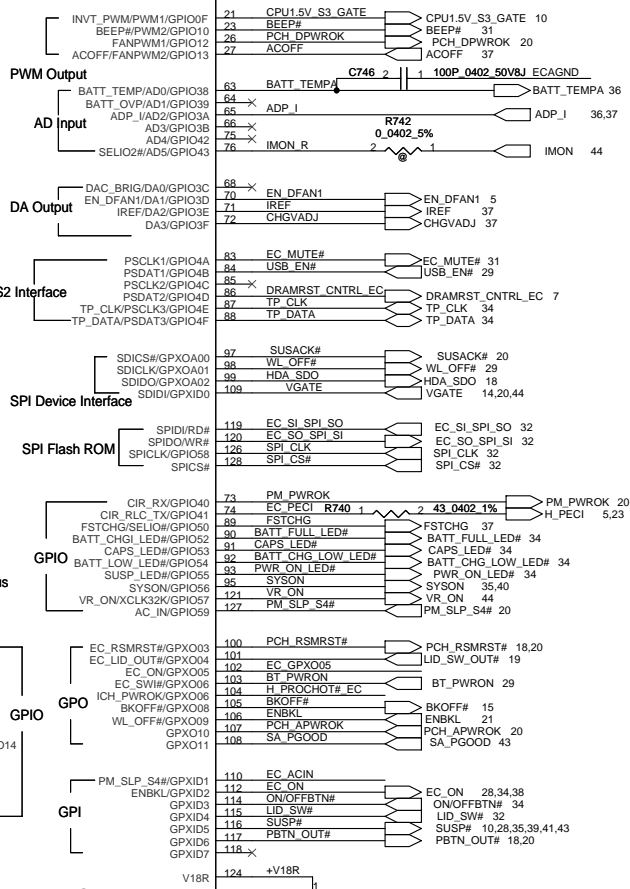
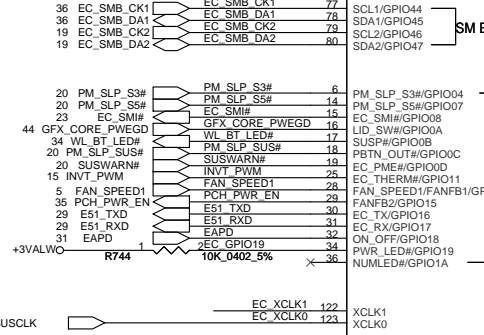
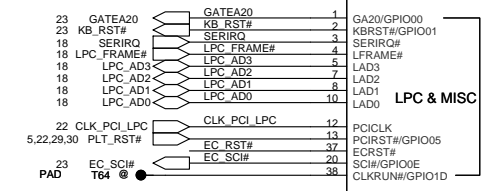
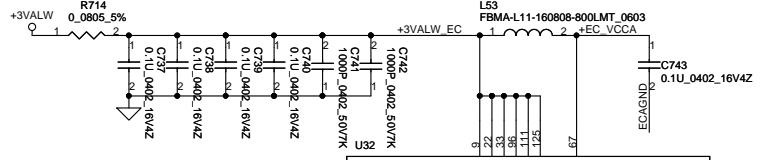
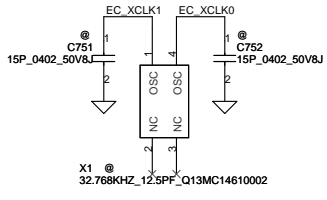
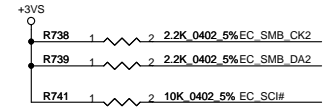
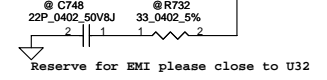
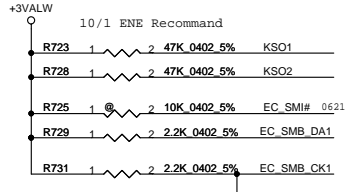
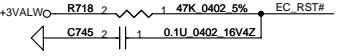
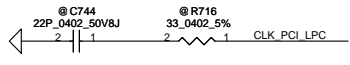
SPI Flash (1MByte*1)



Lid SW

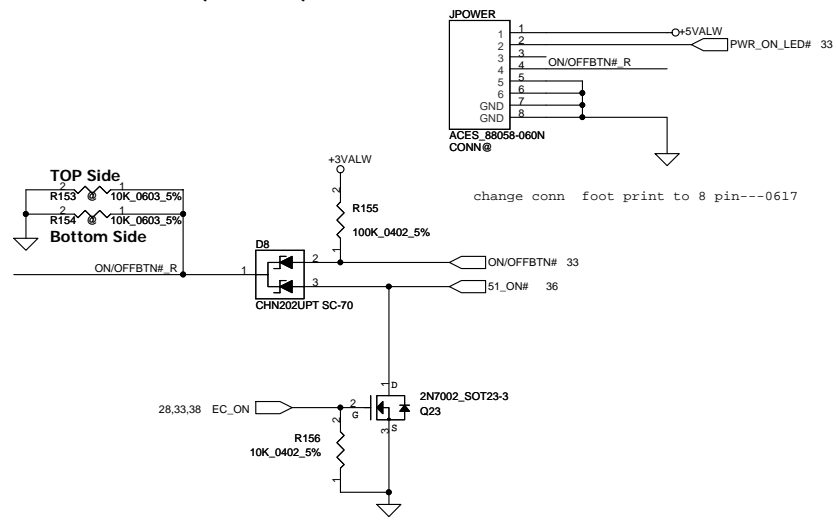


Security Classification		Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				401968	D
Date: Wednesday, March 03, 2011				Sheet	32 of 45

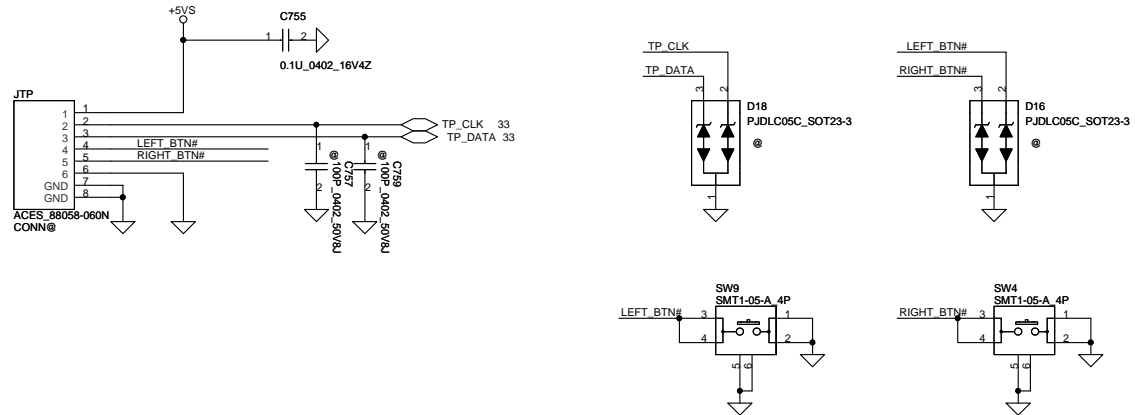


Security Classification	Compal Secret Data		Document Number	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	
AND TRADE SECRET INFORMATION THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				
Title			SCHEMATICS, MB A6731	
Customer			401968	
Date			Wednesday, March 09, 2011	
			Sheet 33 of 45	

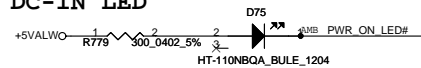
Power Button/ PWR/B



Touch/B Connector



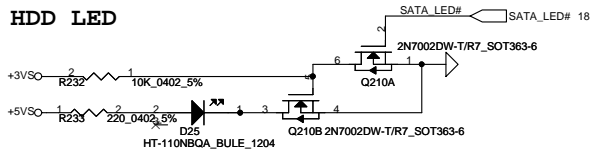
DC-IN LED



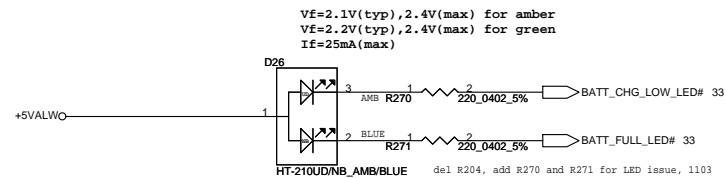
WL&BT LED



HDD LED



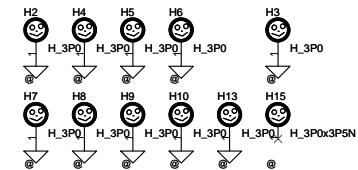
BATT CHARGE/FULL LED



CAP LOCK LED



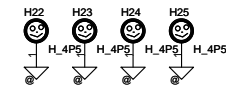
Screw Hole



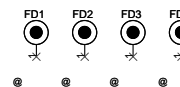
JWLAN



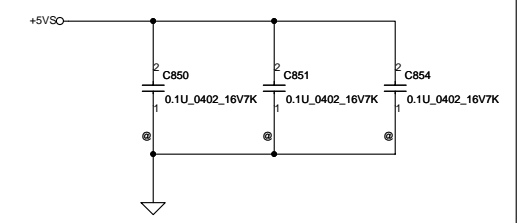
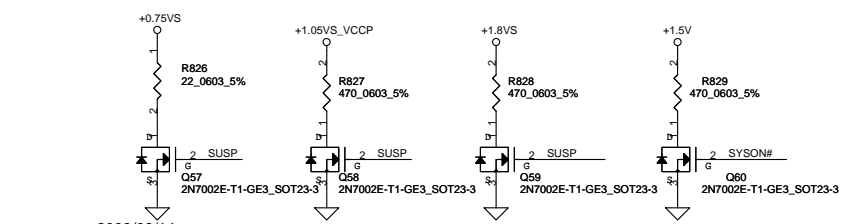
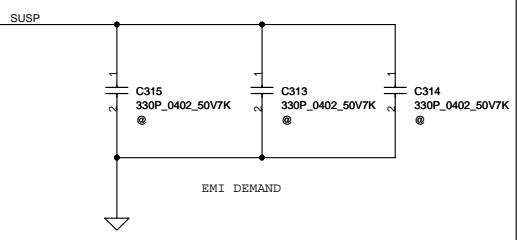
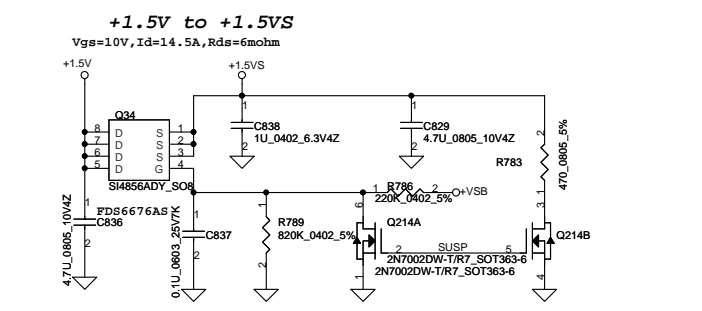
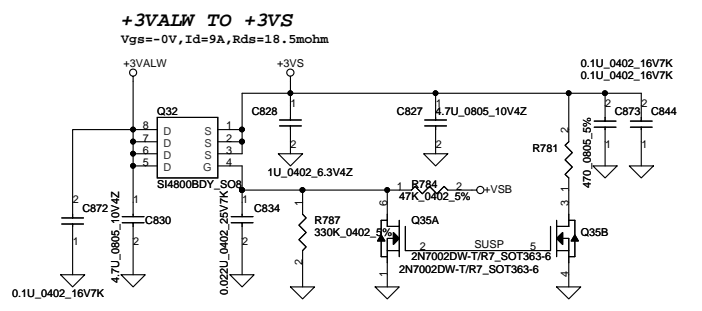
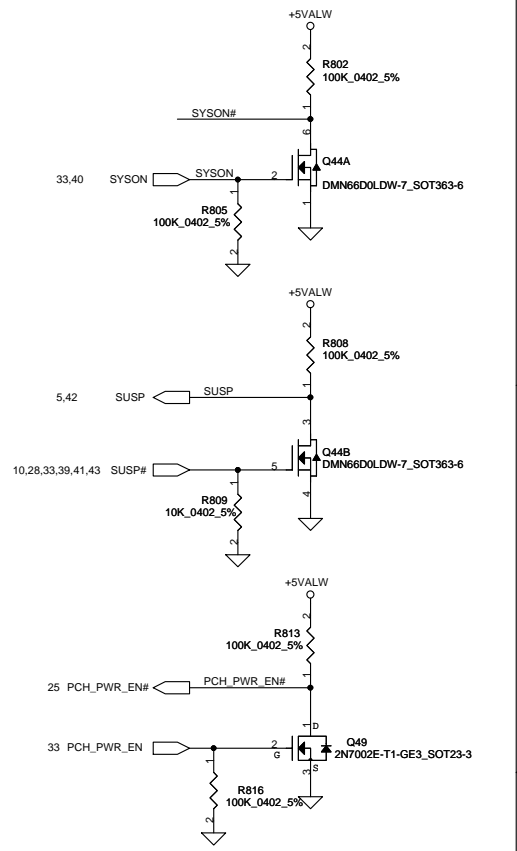
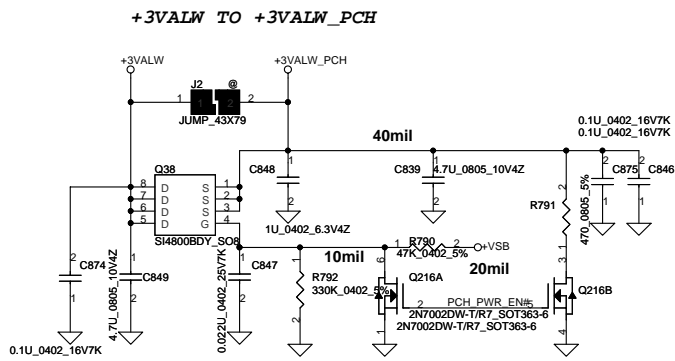
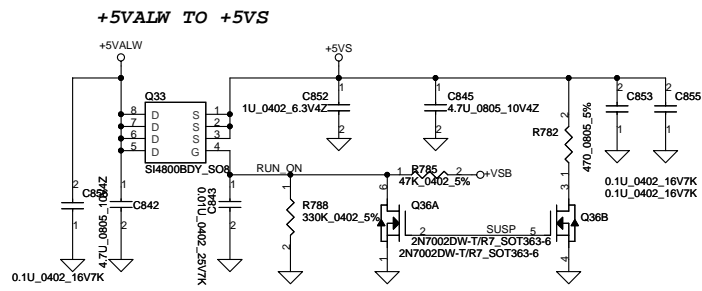
CPU



PCB Fedical Mark PAD



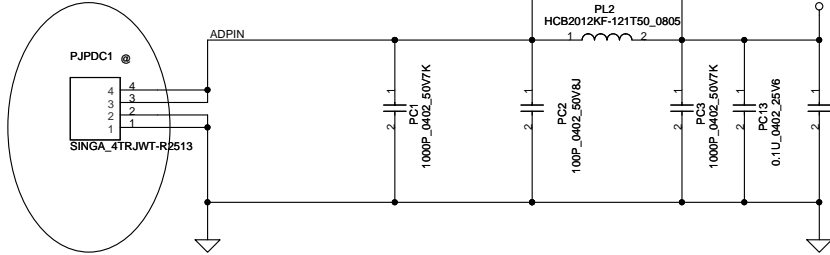
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				SCHEMATICS,MB A6731	
Document Number				Rev D	
401968				Date: Wednesday, March 09, 2011	
Sheet				34 of 45	



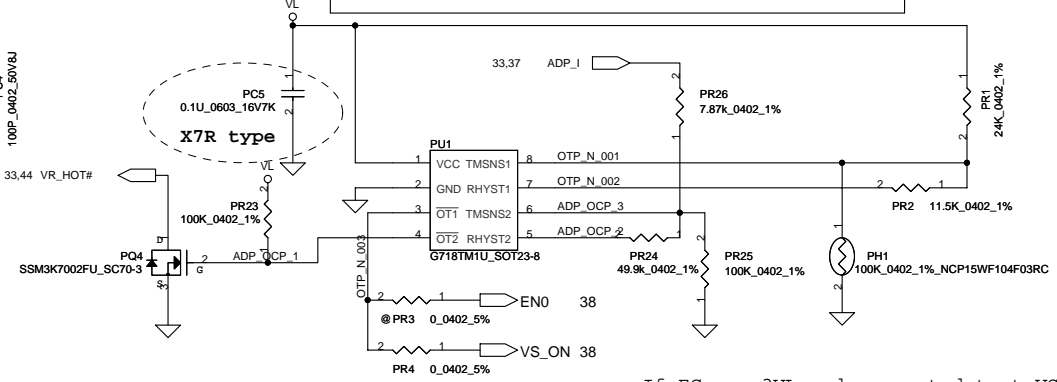
2009/08/14
CP_S3PowerReduction
WhitePaper_Rev0.9
0.75VS speed up discharge

Security Classification		Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	SCHEMATICS,MB A6731	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	401968
Date:	Wednesday, March 03, 2011	Sheet	35	of	45

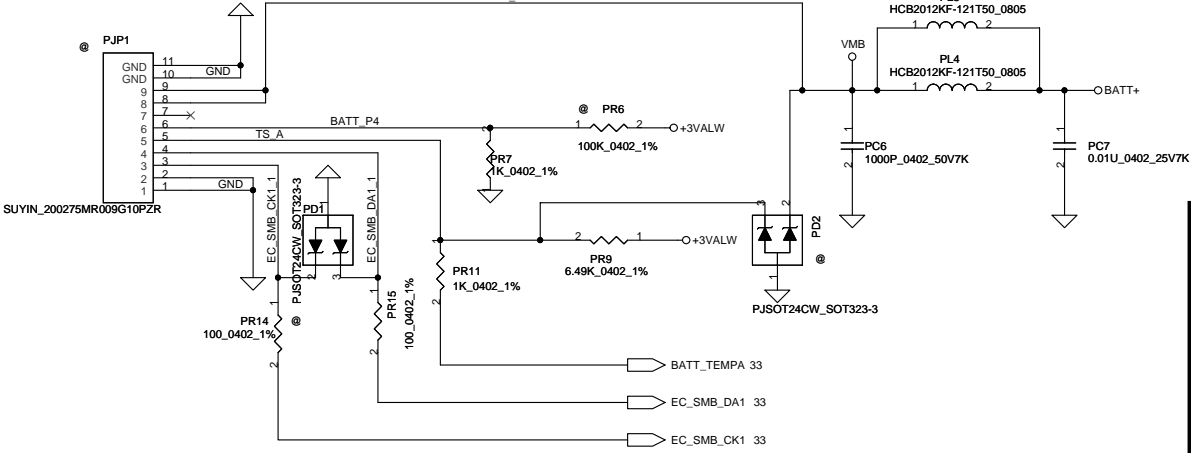
DCIN jack P/N:DC301009U00,
need doble confirm P/N with ME



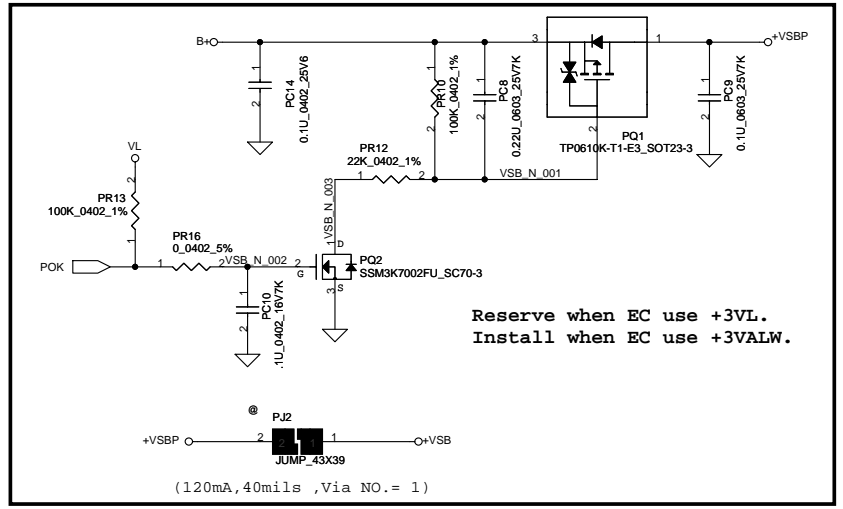
PH1 under CPU botten side :
CPU thermal protection at 93 +-3 degree C
Recovery at 56 +-3 degree C



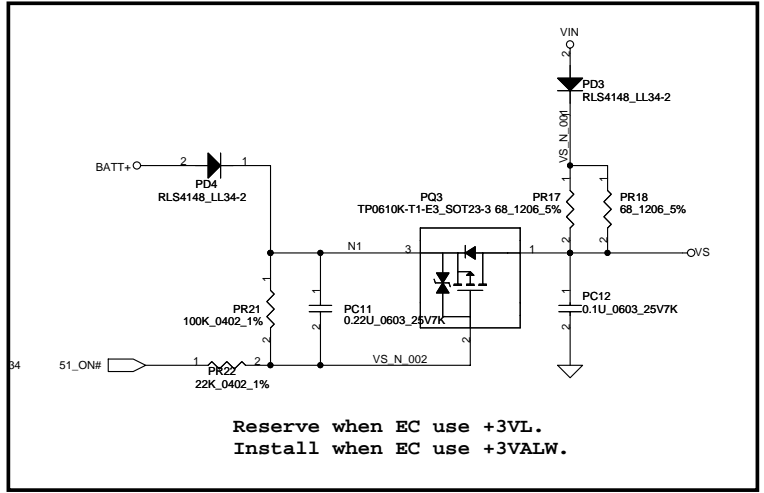
need confirm: ME give us battery
connector P/N is DC040006H00



If EC use 3VL and can not detect VGATE,
must connect EN0

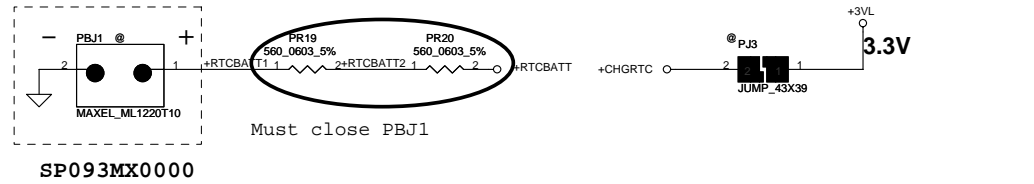


Reserve when EC use +3VL.
Install when EC use +3VALW.



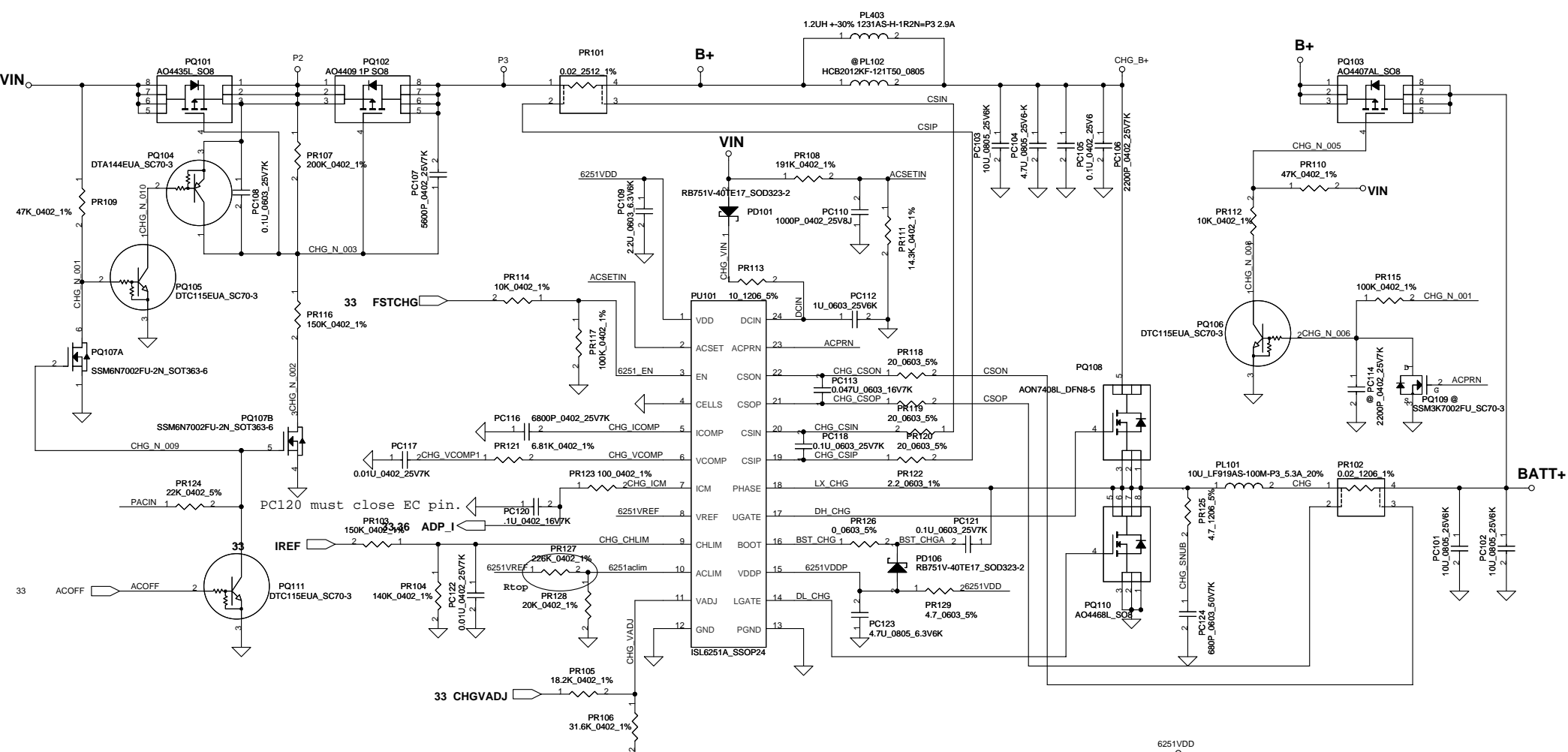
Reserve when EC use +3VL.
Install when EC use +3VALW.

RTC Battery



Must close PBJ1

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title
				SCHEMATICS,MB A6731
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				
Document Number	401968			Rev D
Date:	Wednesday, March 09, 2011	Sheet	36	of 45



$CP = 85\% \cdot I_{ada}$;
 $I_{ada} = 0 \sim 4.737A (90W); CP = 4.03A$; where $R_{acdet} = 0.020\Omega$; where $R_{top} = 12.4K$
 90W for Dis: $R_{top} = SD00000AJ80$
 $I_{ada} = 0 \sim 3.421A (65W); CP = 2.91A$; where $R_{acdet} = 0.020\Omega$; where $R_{top} = 226K$
 65W for UMA: $R_{top} = SD034226380$
 Astro2010_01_15 need confirm P/N

CP mode
 $V_{aclim} = V_{REF} \cdot (R_{bot} // R_{internal} / (R_{top} // R_{internal} + R_{bot} // R_{internal}))$
 when 90W $V_{aclim} = 2.39 \cdot (20K // 152K / (20K // 152K + 12.4K // 152K)) = 1.44966V$
 when 65W $V_{aclim} = 2.39 \cdot (20K // 152K / (20K // 152K + 226K // 152K)) = 0.38914V$
 $I_{input} = (1 / R_{acdet}) \cdot ((0.05 \cdot V_{aclim} / V_{REF} + 0.05))$
 when 90W $I_{input} = (1 / 0.02) \cdot (0.05 \cdot 1.44966 / 2.39 + 0.05) = 4.02A$
 when 65W $I_{input} = (1 / 0.02) \cdot (0.05 \cdot 0.38914 / 2.39 + 0.05) = 2.92A$

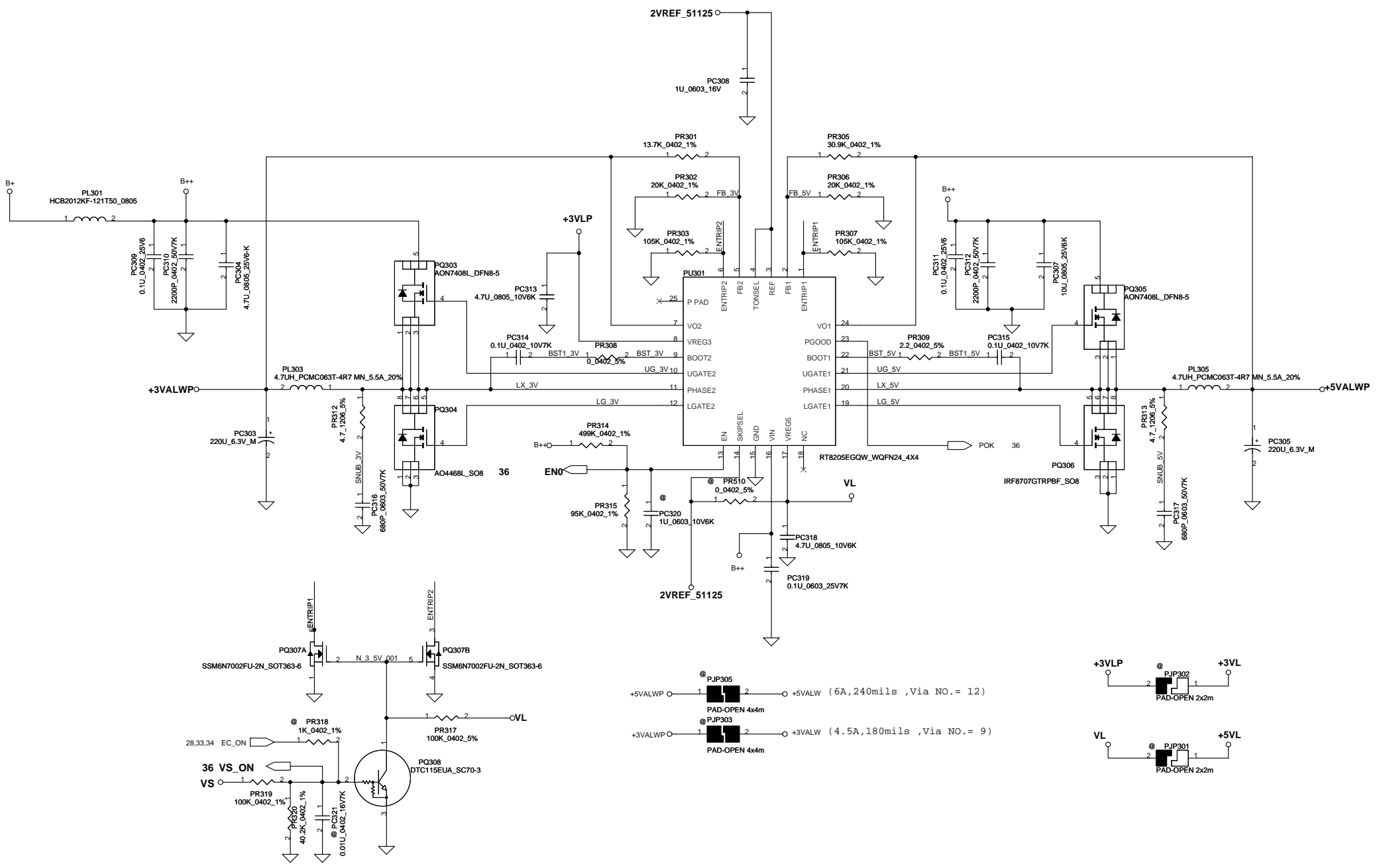
CC=0.25A-3A
 $I_{REF} = 1.016 \cdot I_{charge}$
 $I_{REF} = 0.254V \sim 3.048V$
 VCCLIM need over 95mV

$CHGVADJ = (V_{cell} - 4) / 0.10627$

V _{cell}	CHGVADJ
4V	0V
4.2V	1.882V

Security Classification		Compal Secret Data	
Issued Date	2010/05/17	Deciphered Date	2011/05/17
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.			

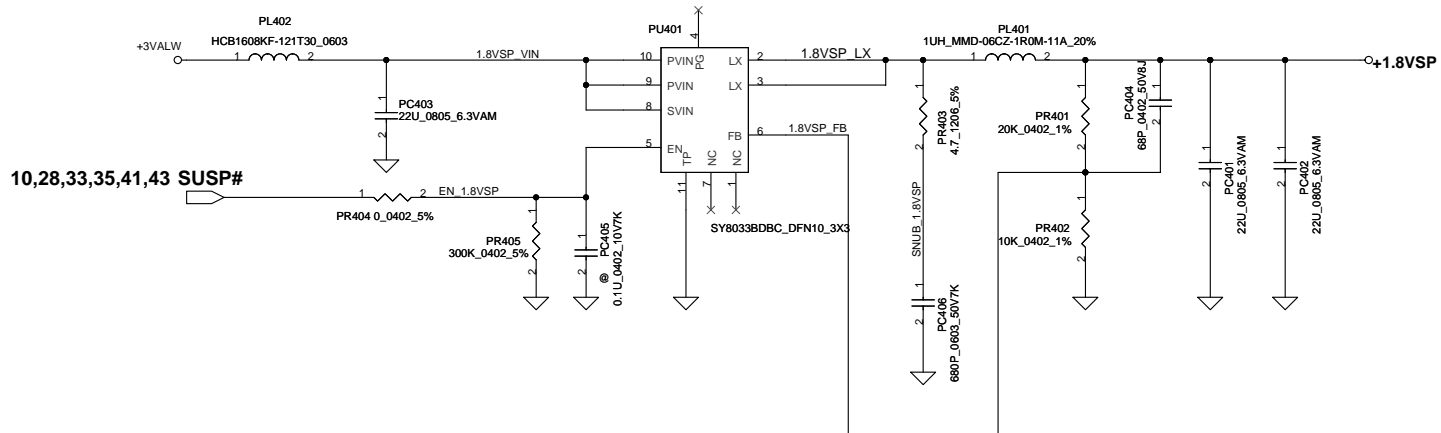
Compal Electronics, Inc.			
SCHEMATICS, MB A6731			
Document Number	401968	Rev	D
Date:	Wednesday, March 09, 2011	Sheet	37 of 45



EC:+3VL, reserve PR319, install PR318, PR320 100K
 EC:+3VALW, reserve PR318, install PR319, PR320 40.2K

Security Classification		Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Compal Electronics, Inc.	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Document Number	Rev
				401968	D
Date: Wednesday, March 09, 2011				Sheet	38 of 45

SHEMATICS, MB A6731

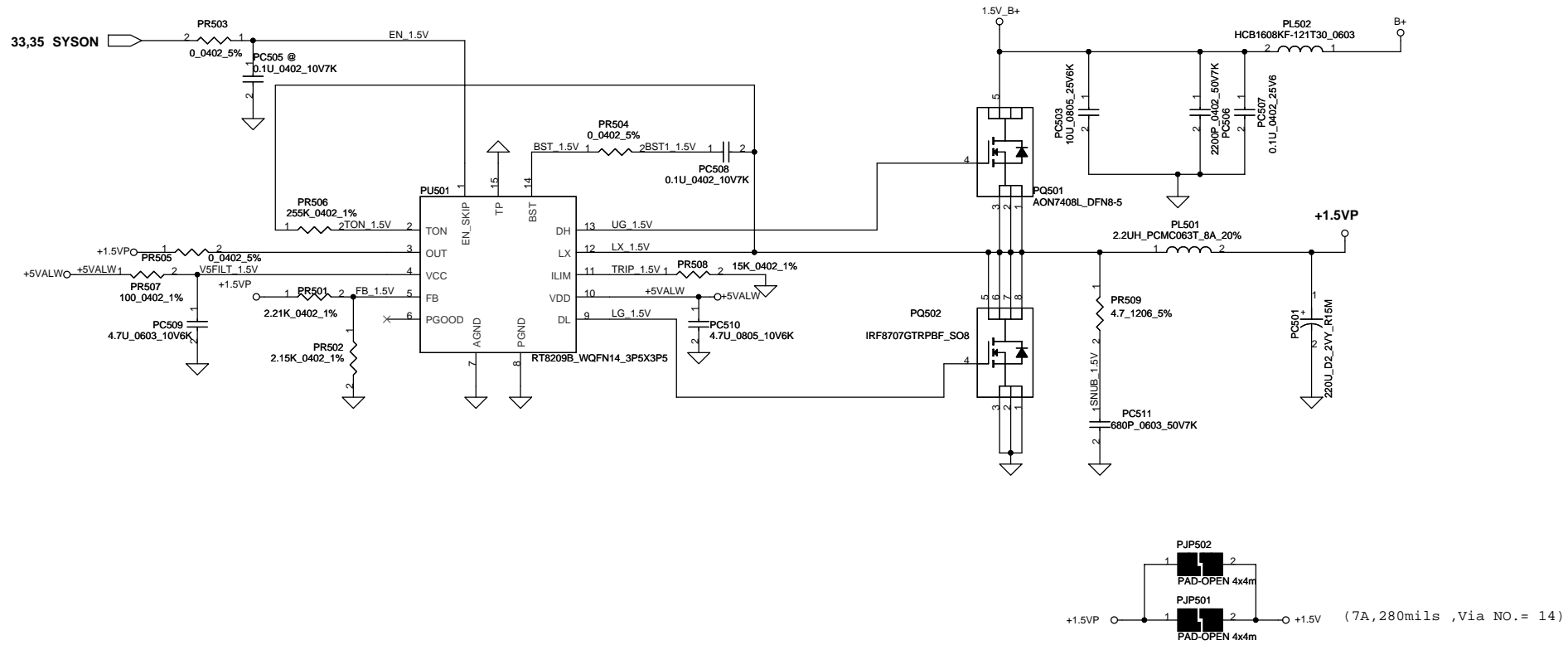


<Vo=1.8V> VFB=0.6V
 $V_o = V_{FB} * (1 + PR401 / PR402) = 0.6 * (1 + 20K / 10K) = 1.8V$

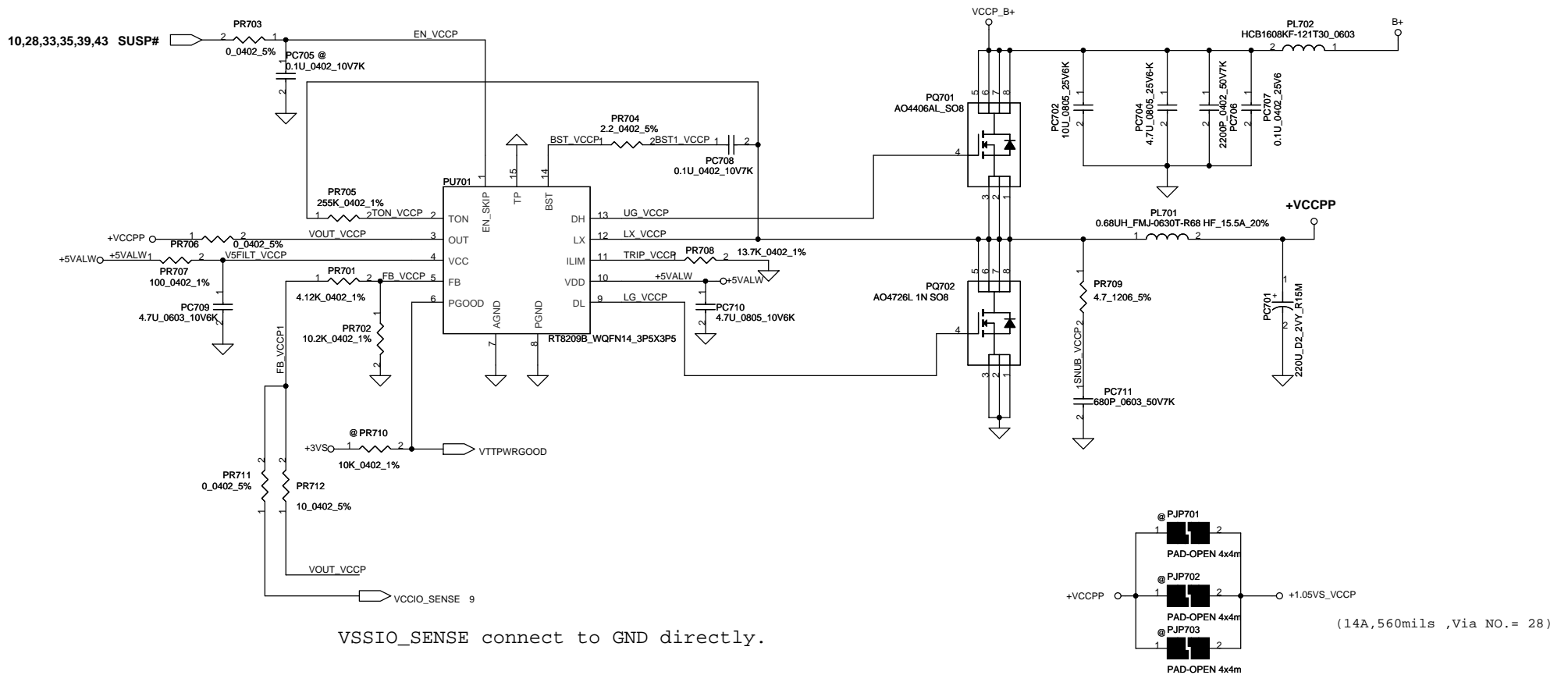
10,28,33,35,41,43 SUSP#



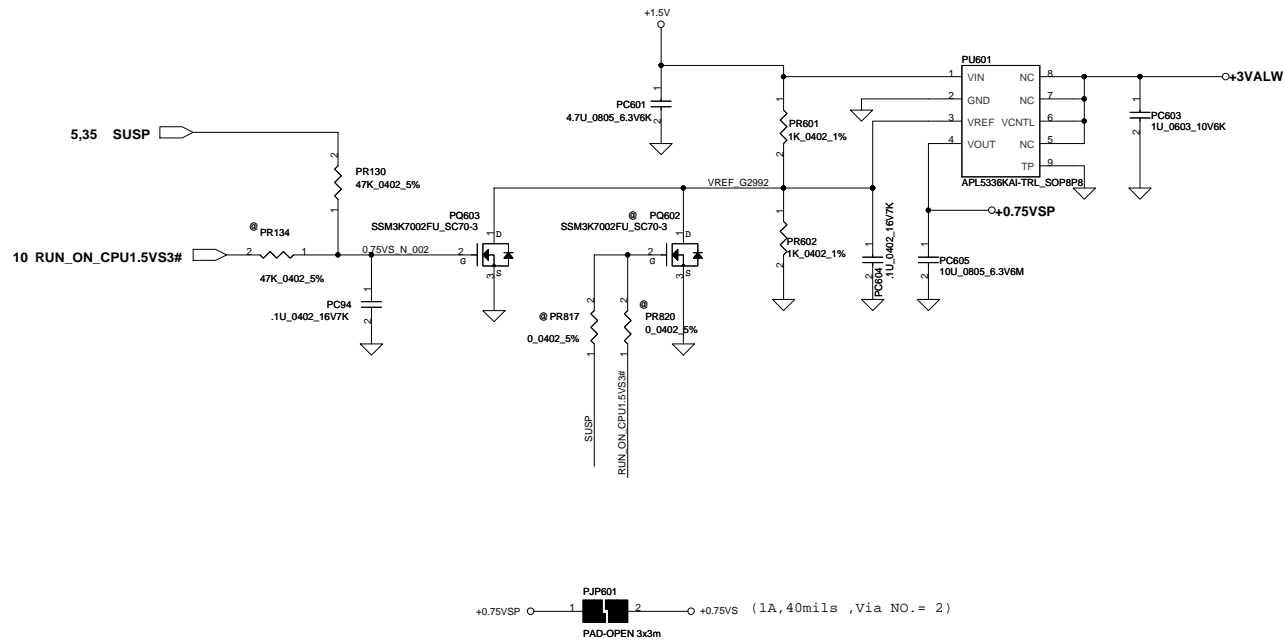
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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.				Document Number	401968
				Date:	Wednesday, March 09, 2011
				Sheet	39 of 45



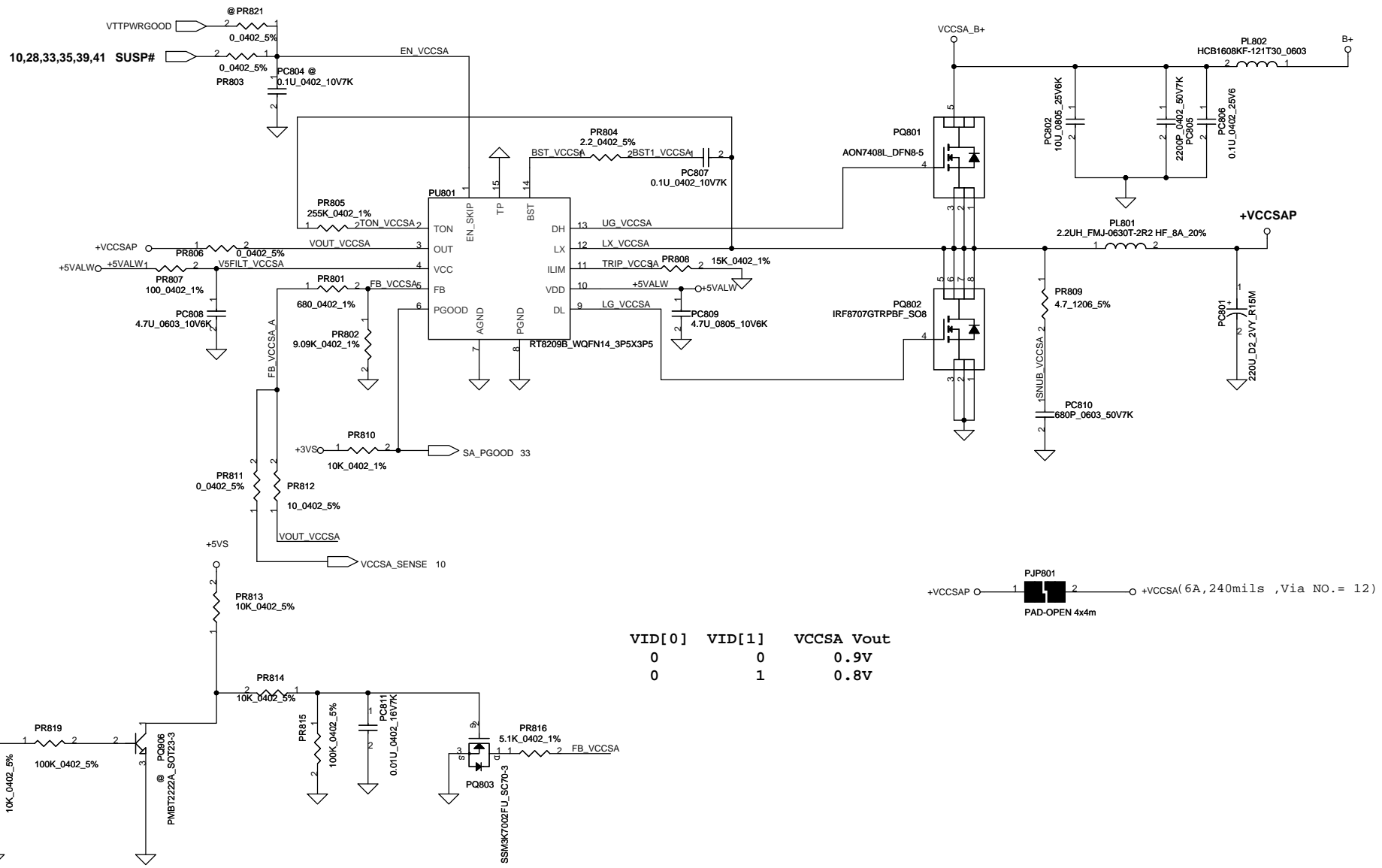
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	SCHEMATICS, MB A6731
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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, March 09, 2011	Sheet	40 of 45	Document Number	401968
Rev	D				



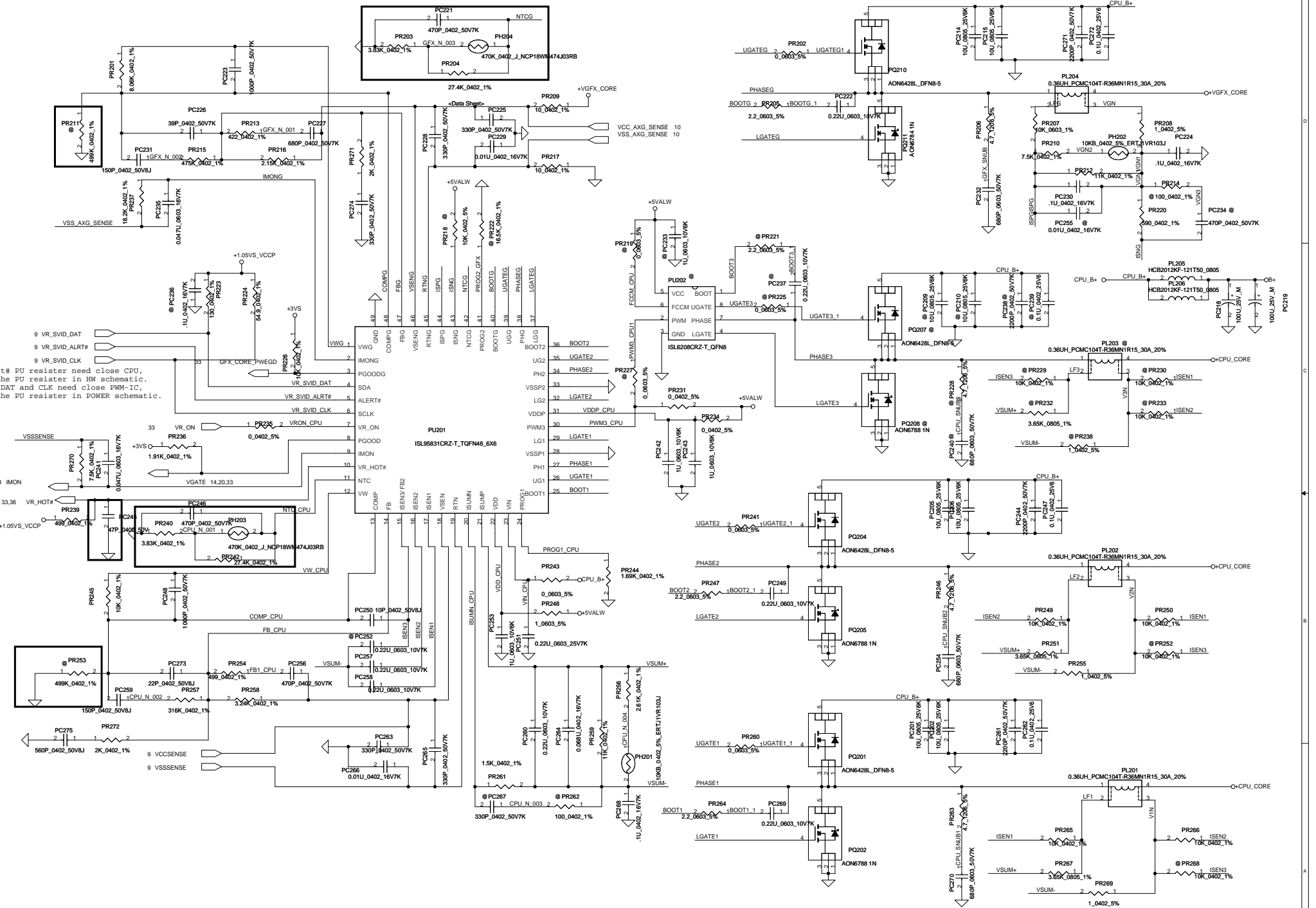
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	SCHEMATICS, MB A6731
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET 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	401968
				Date:	Wednesday, March 09, 2011
				Sheet	41 of 45
				Rev	D



Security Classification	Compal Secret Data		Title	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Compal Electronics, Inc.
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				SCHEMATICS,MB A6731 Document Number 401968 Date: Wednesday, March 09, 2011 Sheet 42 of 45
				Rev D



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/05/17	Deciphered Date	2011/05/17	Title	SCHMATICS,MB A6731
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	401968
				Date:	Wednesday, March 09, 2011
				Sheet	43 of 45
				Rev	D



PIR (Product Improve Record)

Revision Change: 0.1 to 0.2

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	08/13	25	Reserve R433	Reserve +3VLW power for VCCPDSW
2	08/13	31	DEL RA17, RA19-->RA19@, change RA16 to 39.2K	Audio MIC sense from B to A
3	08/13	17	Add R432,unpop R572,R1530,U47,C869 for HDMI HPD	HDMI HPD design change
4	08/23	31	change CA9 CA10 to 4.7u(0603)	Audio test Issue
6	08/23	28	Change U142A compare circuit Change U142B compare circuit Change new Bus switch for 3V system Change KB930 programming strap pin	change degug schematic to follow PBL21
7	08/23	34	change LED(D74,D75,D25,D26) to follow ID and ME define	EMI demand
8	09/03	35	Change ODD_EN# from GPIO24 to GPIO68 GPIO24 PU +3VS 10K	GPIO Common design
9	09/03	41	Reserve C729,C730,C731,C732 to +3VS	EMI demand
10	09/03		Reserve C330,C311 on H_PWRGD	EMI demand
11	09/03		Reserve C314,C315,C315 on SUSP	EMI demand
12	09/03		Reserve C850,C851, C854 on SVS	EMI demand

Revision Change: 0.2 to 0.3

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	09/28	31	change MIC1 from onboard MIC to Conn	change onboard MIC.
2	10/22	18	swap HP_R and HP_L	error
3	10/28	20	Del R734, Add R1192 for SUSCLK PD	EC Request, Common Design
4	10/28	10	R114,R115 change to 1K fro SM_VREF	Follow Intel DG
5	10/28	8	R92,R93 change to mount for RSVD6,7	Follow Intel DG
6	10/28	18	Del T72, Add R193 for PCH_GPIO19,Del R182	Follow Intel DG
7	10/28	22	change R314 to 1K for NV_CLE	Follow Intel DG
8	10/28	24	change VCC_SPI to +3VS	Common DG
9	10/28	18	add R438(1M) for HAD_SNC_R PD	Follow Intel DG
10	10/28	5	add C234,C235,C236,C238,C243 for EMI demand	EMI demand
11	10/29	33	add R744,R1211	EC GPIO Common design for USB30_OC# and P_USB#

Revision Change: 0.3 to 1.0

NO	DATE	PAGE	MODIFICATION LIST	PURPOSE
1	12/06	34	Charge LED:del R204, add R270,R271	to fit the SPEC
2	12/06	10	change C137 from 470U to 330U for PWR demand	CPU_CORE CAP COST
3	12/06	20	add C316 for EC demand	EC Request, Common Design
4	12/06	05	XDP:del XDP for ESD demand	ESD DEMAND
5	12/06	31	MIC:add DA10 A-GND	EMI DEMAND
6	12/06	23	PCH_GPIO24:add R439 for 3VALW_PCH PU(reserve)	Follow Intel DG

Security Classification	Compal Secret Data			Compal Electronics, Inc. SCHEMATICS,MB A6731	
Issued Date	2010/05/27	Deciphered Date	2011/03/04		
<small>THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.</small>				Title Document Number 401968 Date: Wednesday, March 09, 2011	Rev D Sheet 45 of 45

www.s-manuals.com