

MODEL NAME : ZBW00  
PCB NO :

# Dell / Compal Confidential

## Schematic Document

Intel Bay Trail M  
OAK MLK UMA

X76@ : 76 level  
46@ : 46 level  
3VLP@For EC +3VLP  
EMC@Pop EMC Component  
ESD@Pop ESD Component  
XDP@XDP Component

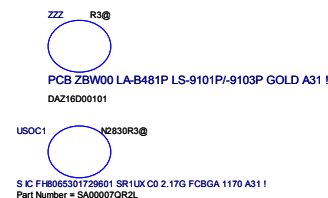
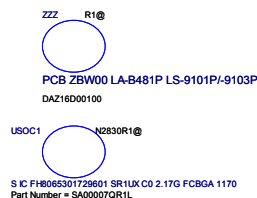
CONN@Connector Component  
@Un-pop Component  
GCLK@For Green CLK function  
JP@Jump Component  
N3VLP@For EC +3VALW  
NEMC@Un-pop EMC Component  
NESD@Un-pop ESD Component  
TEST@Test Point  
TOUCH@For Touch Screen Function

N2910@CPU Component  
N3510@CPU Component  
R1@PCB

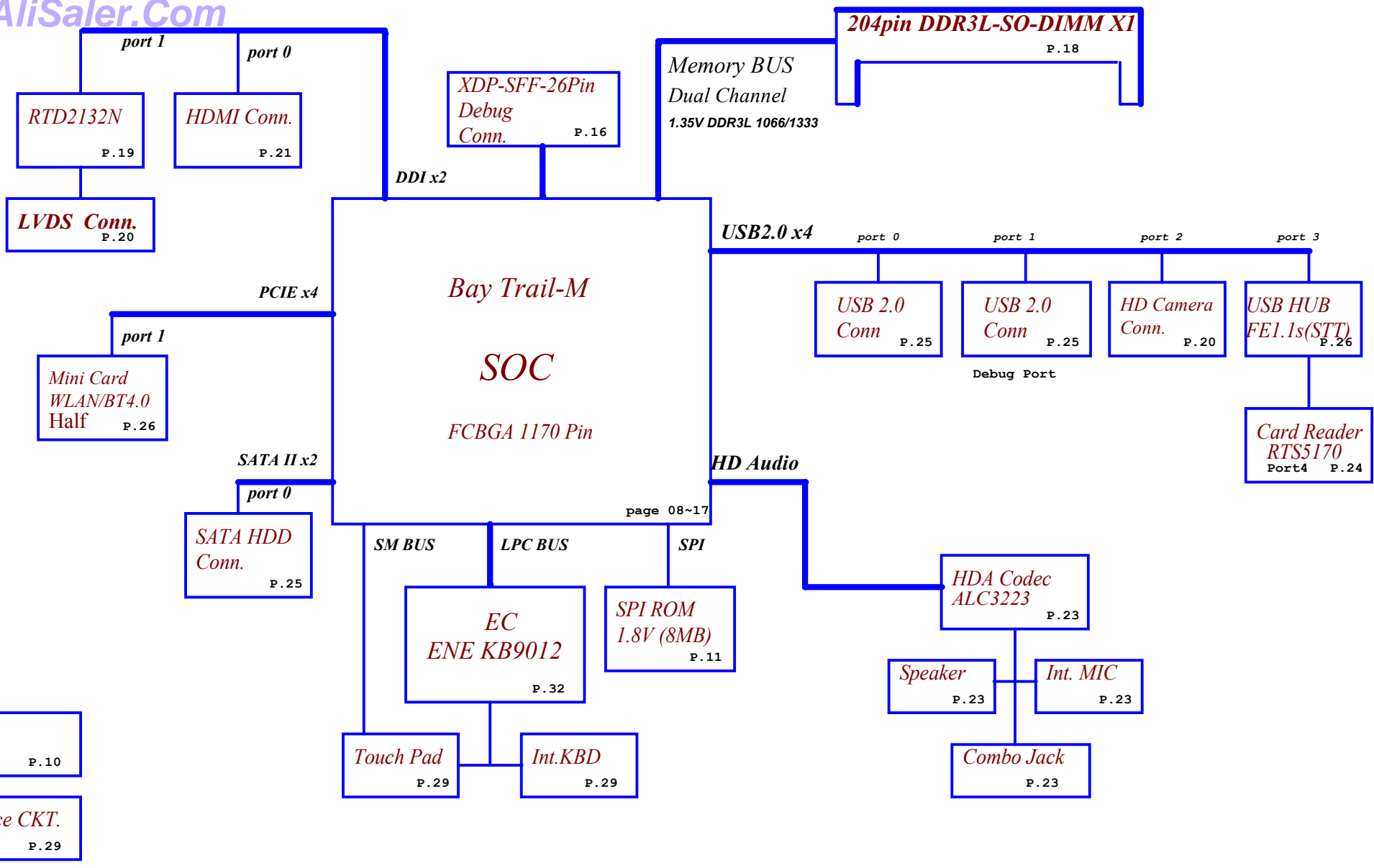
2014-03-10 Rev: 2.0

BOM config

LM-43XXXXXXL01:N2910@/3VLP@/EMC@/ESD@/XDP@/3223@/JHP@  
LM-43XXXXXXL01:N2910@/3VLP@/EMC@/ESD@/XDP@/3234@/JHP@

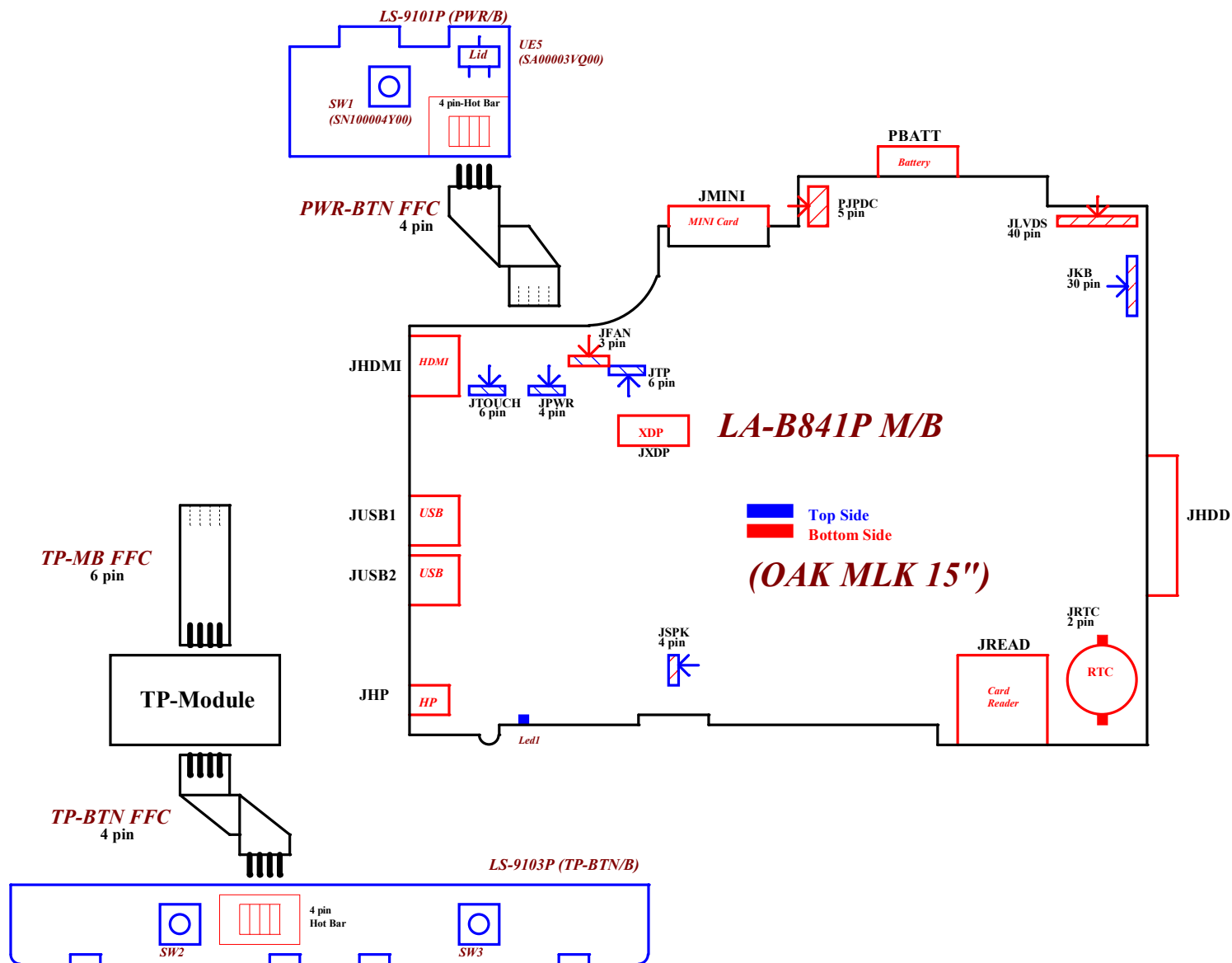


Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	Cover Page
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS A WORKING DOCUMENT TO COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Custom	LA-B481P
				Date	Monday, March 10, 2014
				Sheet	1 of 42
				Rev	2.0



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	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
				LA-B481P	2.0
Date: Monday, March 10, 2014				Sheet	2 of 42

Compal Confidential  
Project Code : ZBW00  
File Name : LA-B841P



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	DB block diagram
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 THE PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
					LA-B481P
				Date	Monday, March 10, 2014
				Sheet	3 of 42
				Rev	2.0

Power Plane	Description	S0	S3	S4/S5
VIN	19V Adapter power supply	ON	ON	ON
BATT+	12V Battery power supply	ON	ON	ON
B+	AC or battery power rail for power circuit. (19V/12V)	ON	ON	ON
+RTCVCC	RTC Battery Power	ON	ON	ON
+1.0VALW	+1.0v Always power rail	ON	ON	ON
+1.8VALW	+1.8v Always power rail	ON	ON	ON
+3VALW	+3.3v Always power rail	ON	ON	ON
+5VALW	+5.0v Always power rail	ON	ON	ON
+1.35V	+1.35V power rail for DDR3L	ON	ON	OFF
+SOC_VCC	Core voltage for SOC	ON	OFF	OFF
+SOC_VNN	GFX voltage for SOC	ON	OFF	OFF
+0.675VS	+0.675V power rail for DDR3L Terminator	ON	OFF	OFF
+1.0VS	+1.0v system power rail	ON	OFF	OFF
+1.05VS	+1.05v system power rail	ON	OFF	OFF
+1.35VS	+1.35v system power rail	ON	OFF	OFF
+1.5VS	+1.5v system power rail	ON	OFF	OFF
+1.8VS	+1.8v system power rail	ON	OFF	OFF
+3VS	+3.3v system power rail	ON	OFF	OFF
+5VS	+5.0v system power rail	ON	OFF	OFF
Note : ON* means that this power plane is ON only with AC power available, otherwise it is OFF.				

Board ID / SKU ID Table for AD channel

Vcc	3.3V +/- 5%			
Ra/Rc/Re	100K +/- 5%			
Board ID	Rb / Rd / Rf	VAD_BID min	VAD_BID typ	VAD_BID max
0	0	0 V	0 V	0 V
1	8.2K +/- 5%	0.216 V	0.250 V	0.289 V
2	18K +/- 5%	0.436 V	0.503 V	0.538 V
3	33K +/- 5%	0.712 V	0.819 V	0.875 V
4	56K +/- 5%	1.036 V	1.185 V	1.264 V
5	100K +/- 5%	1.453 V	1.650 V	1.759 V
6	200K +/- 5%	1.935 V	2.200 V	2.341 V
7	NC	2.500 V	3.300 V	3.300 V

BOARD ID Table

Board ID	PCB Revision
0	X01
1	X02
2	X03
3	A00
4	
5	
6	
7	

BOM Option Table

Item	BOM Structure
Unpop	@
Connector	CONN@
XDP (Debug Port)	XDP@
EMC requirement	EMC@
EMC requirement unpop	@EMC@
TPM	TPM@
Touch Screen	TS@
R short	RS@
Test Point	TEST@

EC SM Bus1 address

Device	Address	Device	Address
Smart Battery	0001 011X b	SoC	0x9A

SOC SM Bus address

Device	Address	Device	Address
SO-DIMM A (JDIMM1)	A0h	MINI Card	0x98
		DDR	0x82
		RTD2136	0x94

43 level BOM table

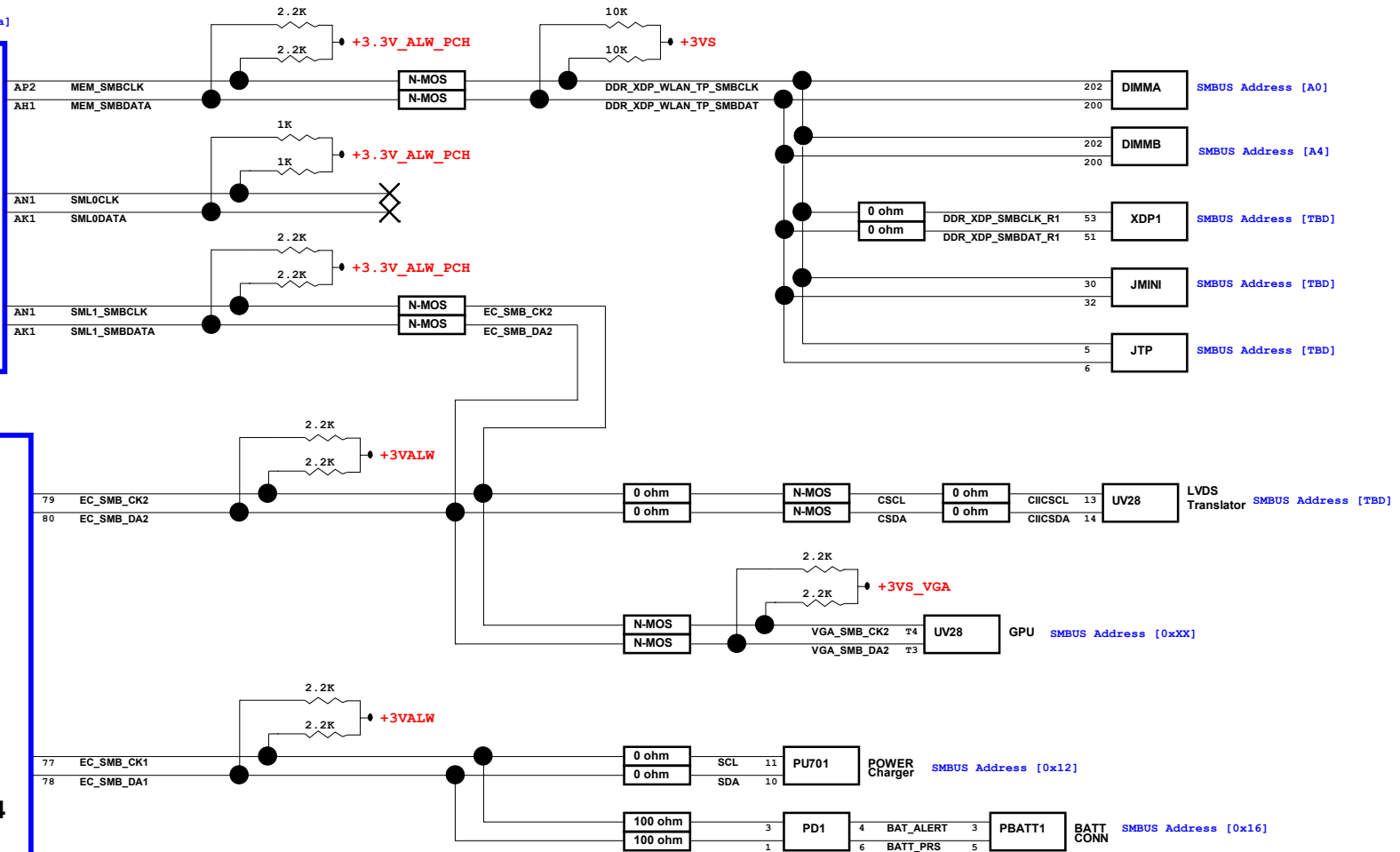
43 Level	Description	BOM Structure
4319T731L01	SMT MB AB481 ZBW00 UMA BTM HDMW2R30R1@/EMC@/ESD@/XDP@/3223@/JHP@/R1@	

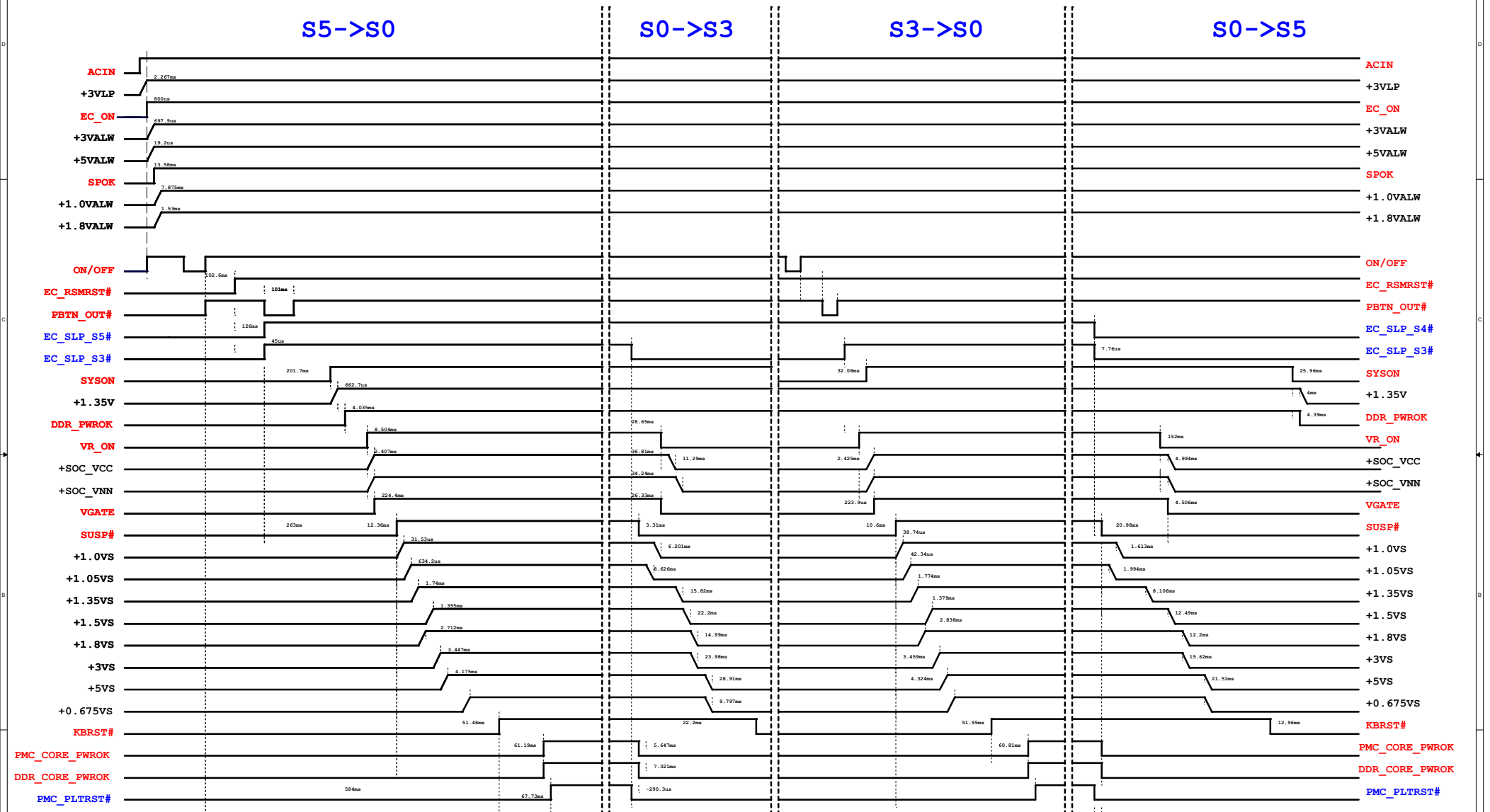
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	Notes List
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF 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
				LA-B481P	2.0
				Date: Monday, March 10, 2014	Sheet 4 of 42

SMBUS Address [0x9a]

MCH  
Shark bay

KBC  
KB9012A4



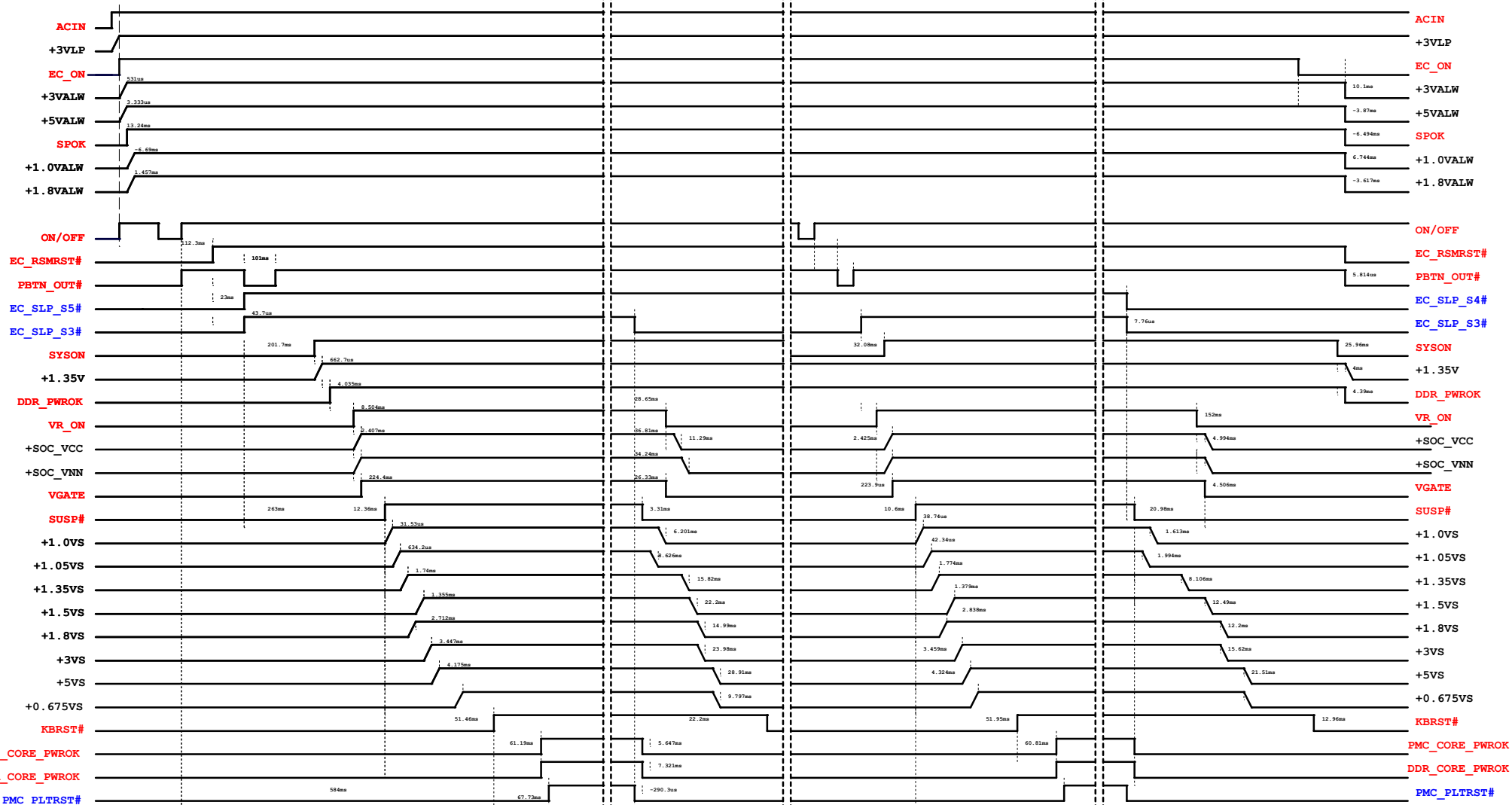


S5-&gt;S0

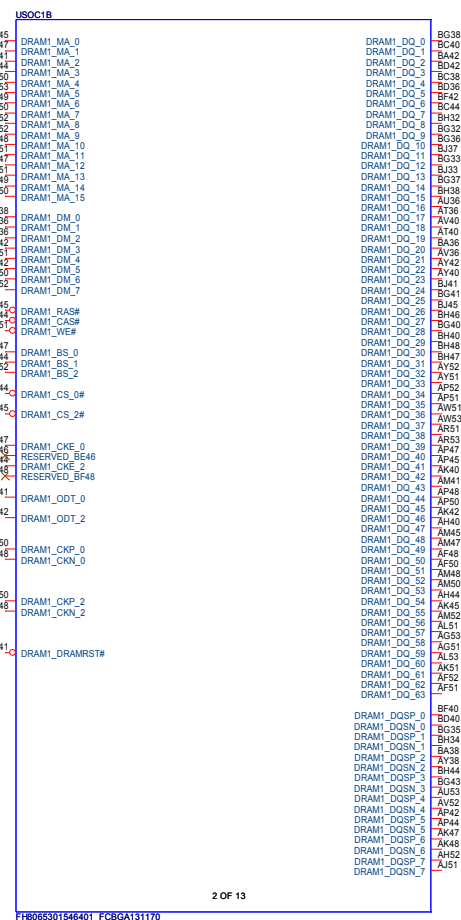
S0-&gt;S3

S3-&gt;S0

S0-&gt;S5



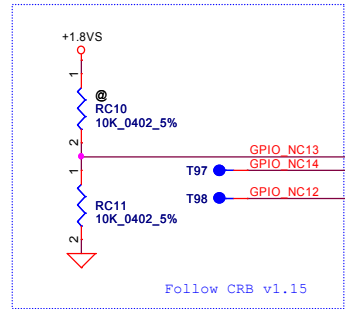
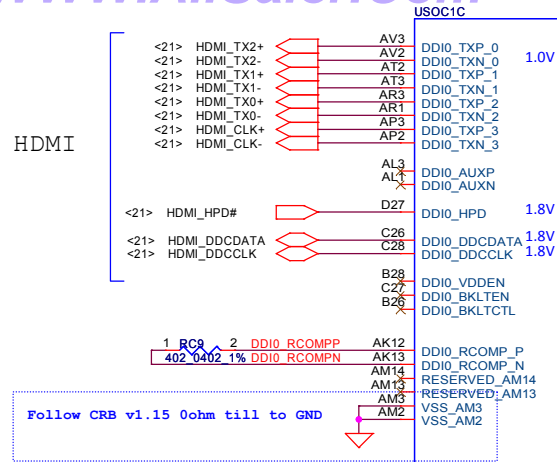
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THE INFORMATION IT CONTAINS NOR ITS USE IS TO BE DISCLOSED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Power Sequence	
Size	C	Document Number	LA-B481P	Rev	2.0
Date:		Monday, March 10, 2014	Sheet	7	of 42



Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2014/03/10		Deciphered Date	
				2015/03/31	
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 ARE TO BE USED, REPRODUCED, OR IN ANY MANNER DISCLOSED TO ANY THIRD PARTY WITHOUT THE PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Title	
				VLV-M SOC Memory DDR3L	
Size		Document Number		Rev	
		LA-B481P		2.0	
Date:		Monday, March 10, 2014		Sheet 8 of 42	

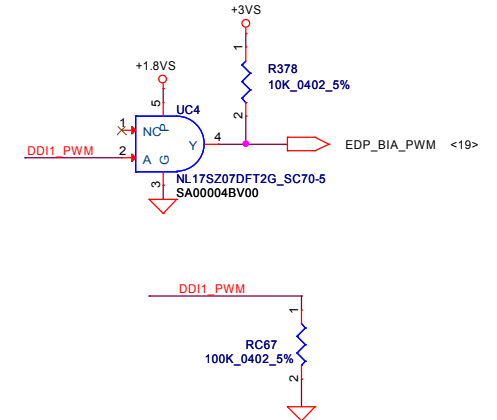


HDMI

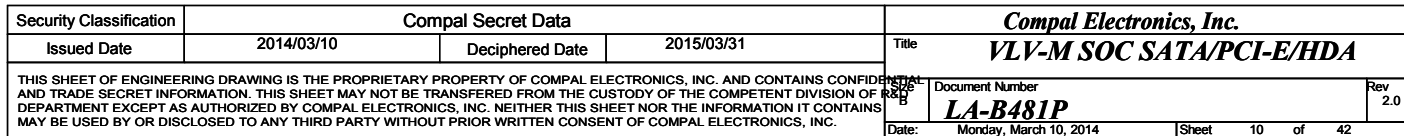


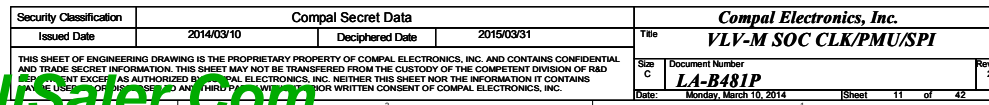
3 OF 10

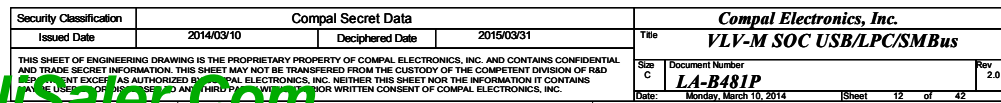
eDP to LVDS Panel

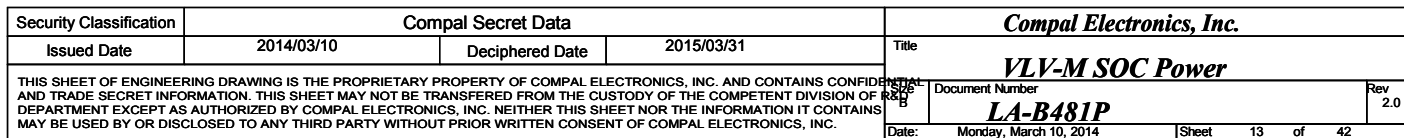


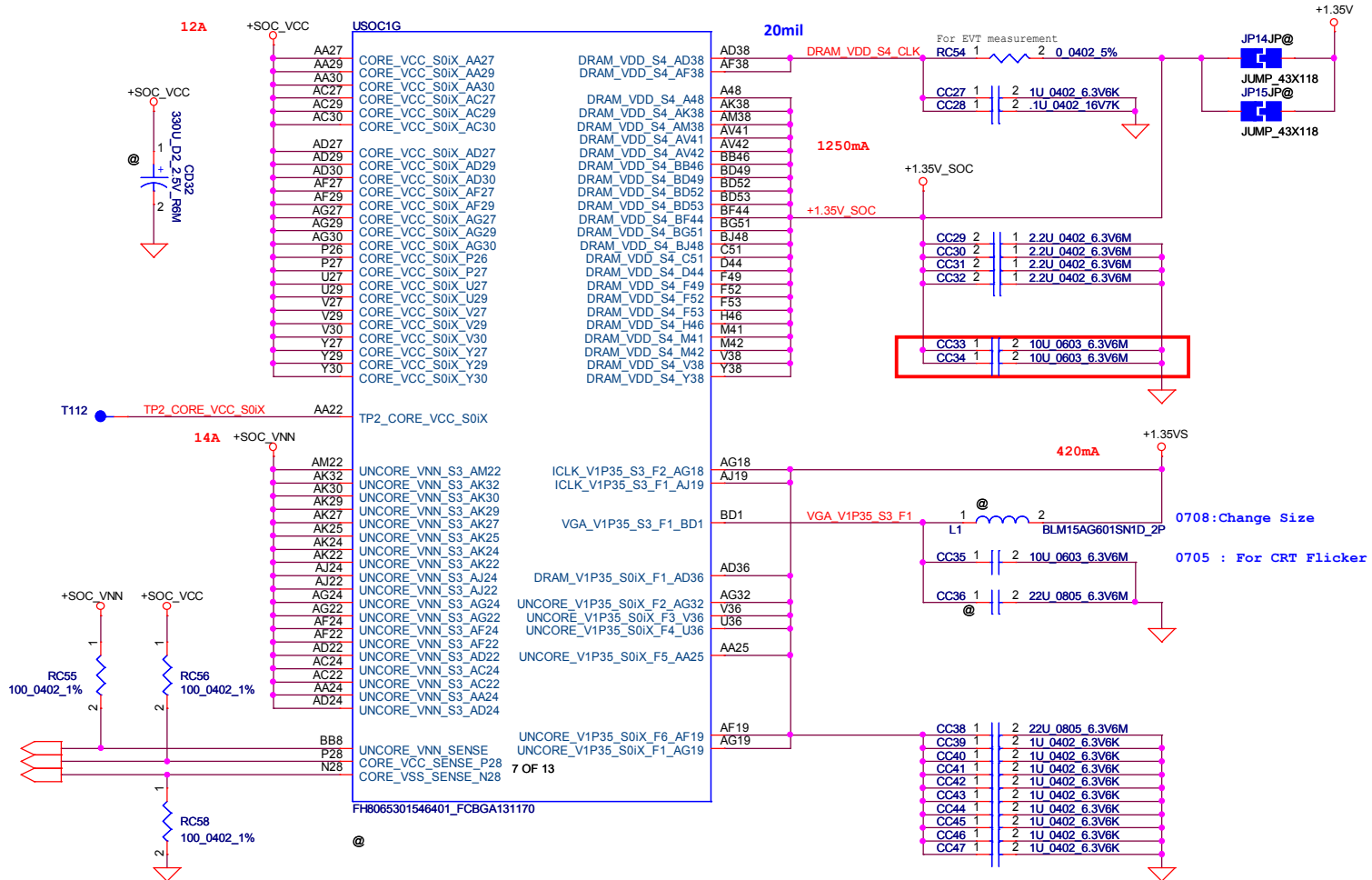
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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
				Date: Monday, March 10, 2014	Rev 2.0
				Sheet 9 of 42	





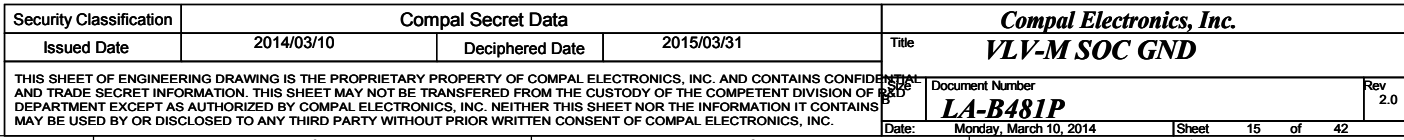


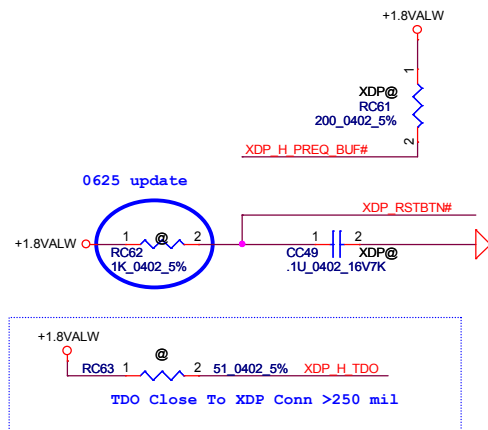




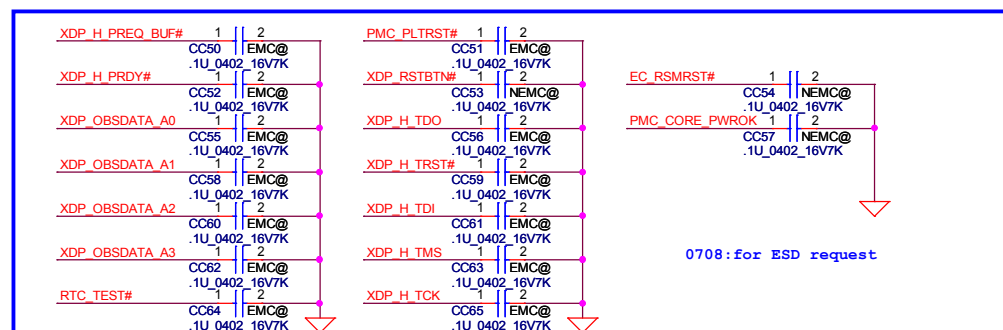
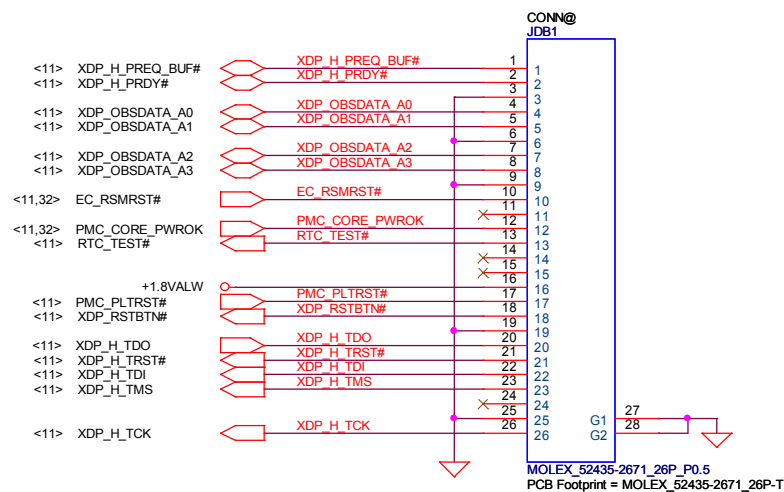
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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
				LA-B481P	2.0
Date: Monday, March 10, 2014				Sheet	14 of 42





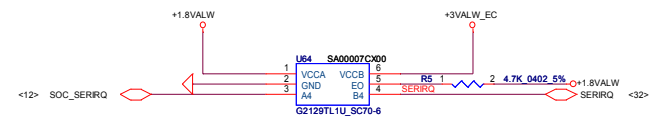
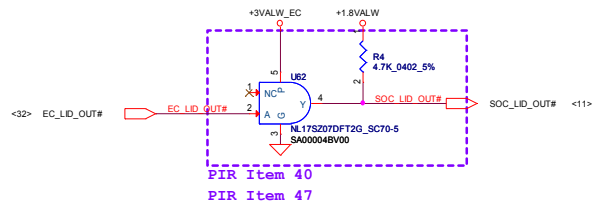
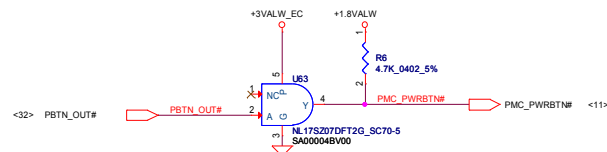
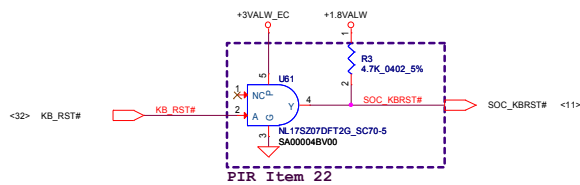
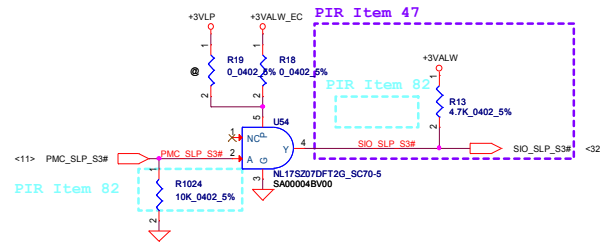
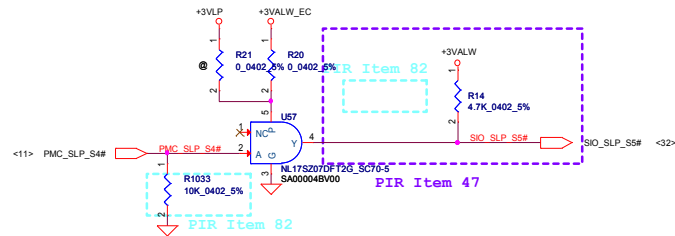
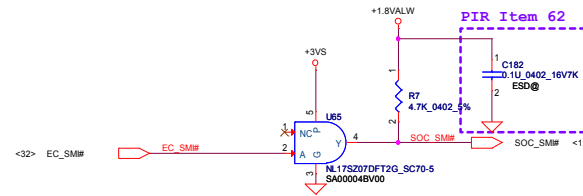
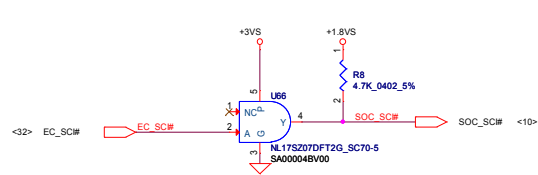


## XDP-SFF-26Pin



Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	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
				LA-B481P	2.0
				Date: Monday, March 10, 2014	Sheet 16 of 42





Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	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 ARE TO BE USED FOR ANY PURPOSES WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				LA-B481P	
Size	C	Document Number	LA-B481P	Rev	2.0
Date:	Monday, March 10, 2014	Sheet	17	of	42

H=4mm

2-3A to 1 DIMMs/channel

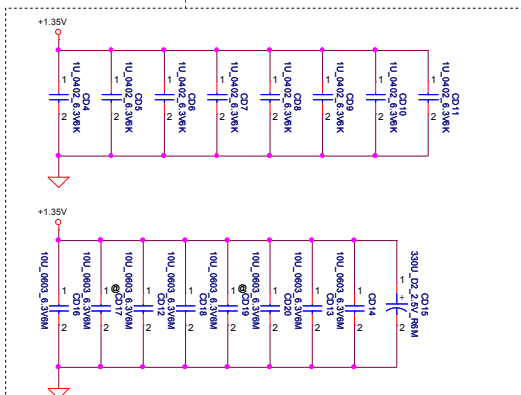
Populate RD1, De-Populate RD7 for Intel DDR3 VREFDQ multiple methods M1  
Populate RD7, De-Populate RD1 for Intel DDR3 VREFDQ multiple methods M3

<8> DDR\_A\_DM[0..7]  
<8> DDR\_A\_DQS[0..7]  
<8> DDR\_A\_DQ[0..63]  
<8> DDR\_A\_DQS[0..7]  
<8> DDR\_A\_MA[0..15]

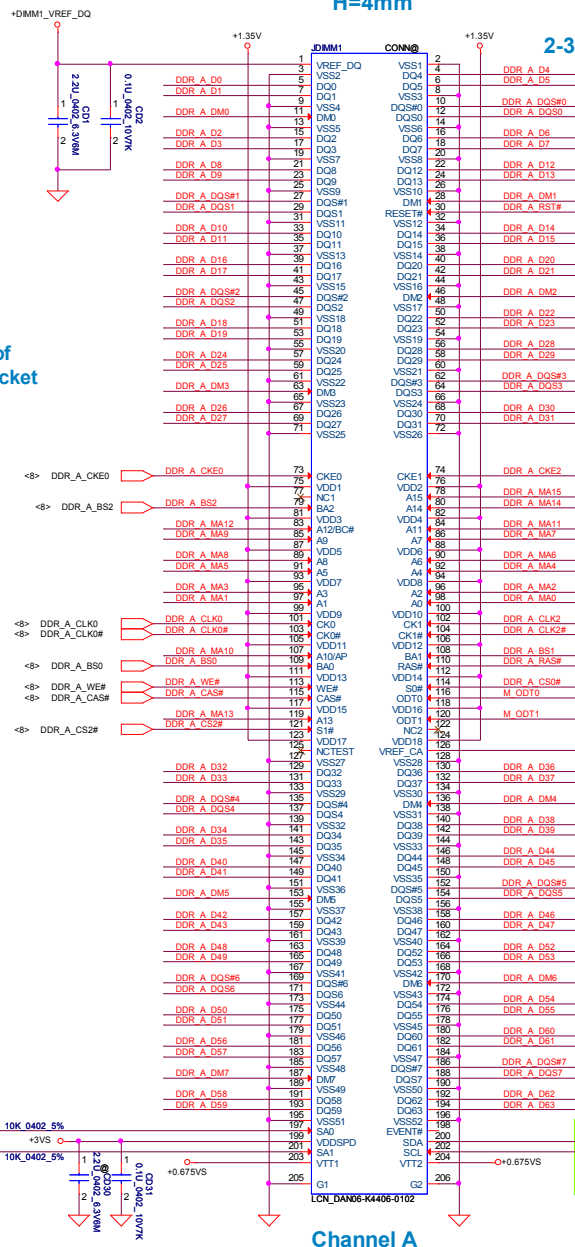
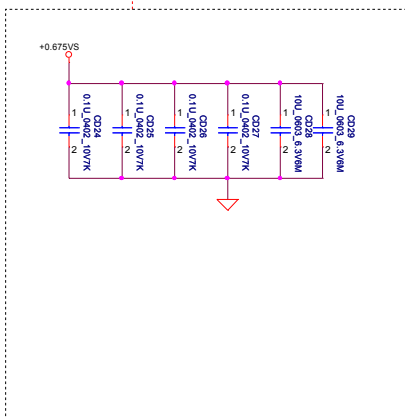
All VREF traces should have 10 mil trace width

Layout Note:  
Place near JDIMM1

Note:  
Check voltage tolerance of VREF\_DQ at the DIMM socket

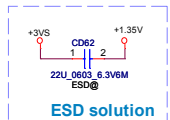


Layout Note:  
Place near JDIMM1.203,204



Channel A

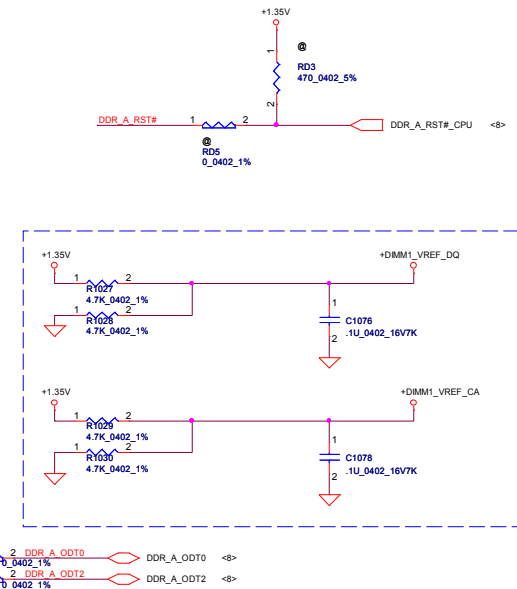
<Address: SA1:SA0=00 (A0H)>  
DIMM\_1 STD H:4mm



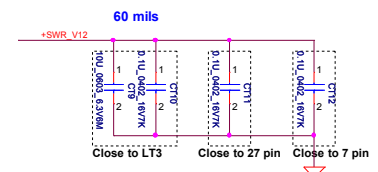
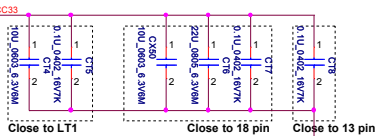
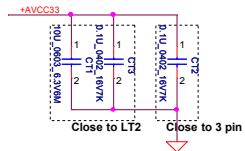
ESD solution

CAD NOTE  
PLACE THE CAP NEAR TO DIMM RESET PIN

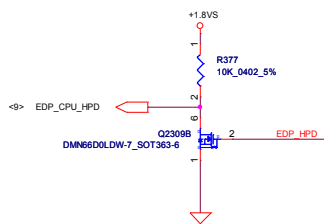
Need to Confirm



Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		DDRIII DIMMA	
2014/03/10		2015/03/31		Document Number	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DEPARTMENT OR TO ANY OTHER PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		LA-B481P		Rev 2.0	
Date: Monday, March 10, 2014		Sheet 18 of 42			

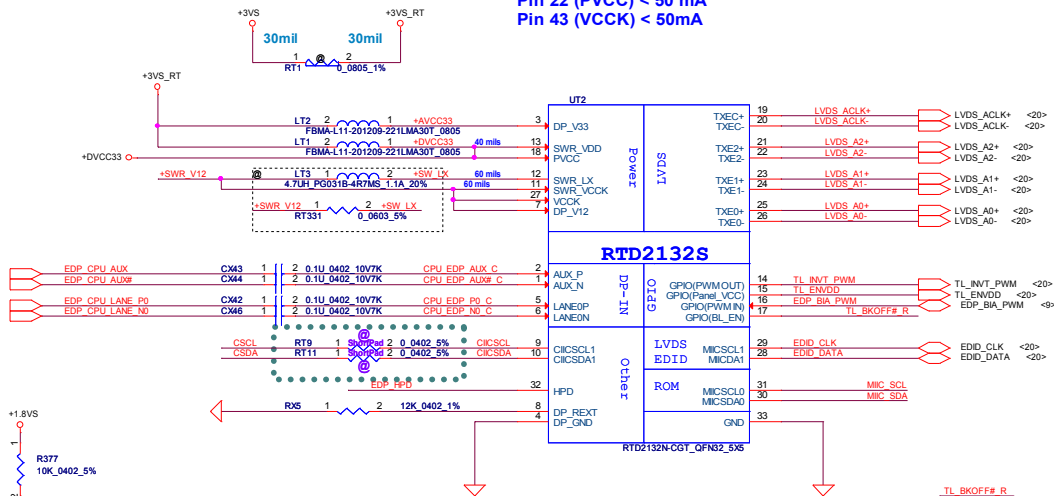


<9> EDP\_CPU\_AUX  
<9> EDP\_CPU\_AUX#  
<9> EDP\_CPU\_LANE\_P0  
<9> EDP\_CPU\_LANE\_N0



### Power Consumption:

Pin22 (DPV33) < 20mA  
Pin 11 (DP\_V12) < 100mA  
Pin 15 (SWR\_VCCCK) < 100mA (layout trace > 60 mil)  
Pin 17 (SWR\_LX) < 600mA (layout trace > 60 mil)  
Pin 18 (SWR\_VDD) < 200mA (layout trace > 40 mil)  
Pin 22 (PVCC) < 50 mA  
Pin 43 (VCCCK) < 50mA

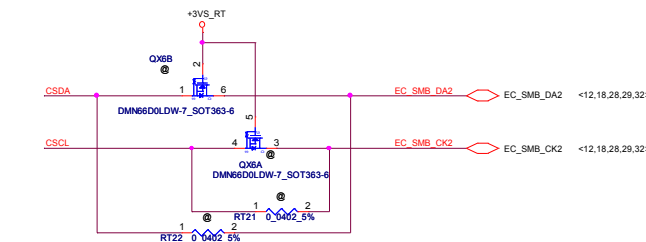
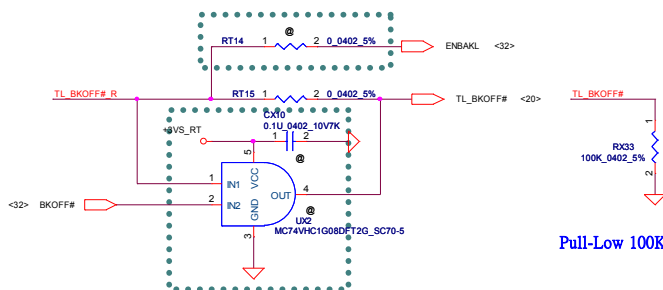


1: RevD W EEPROM  
0: RevE W/O EEPROM

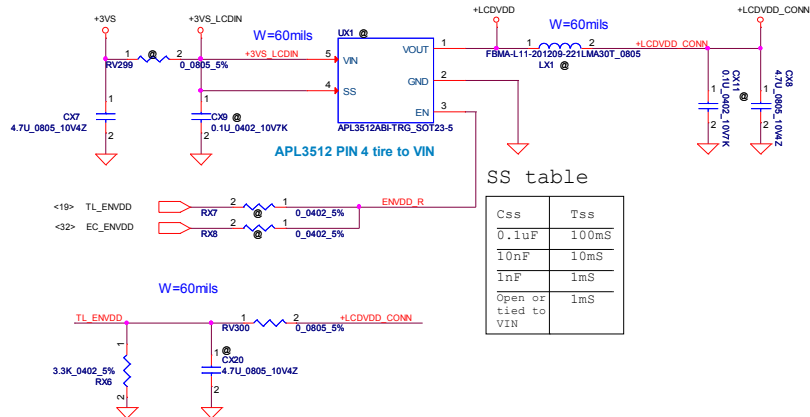
		Pin47 MIIC_SDA	
		0	1
Pin48 MIIC_SCL	0	x	EP MODE
	1	ROM	EEPROM

RTD2132R : SA000069200  
RTD2132N : SA00007A300

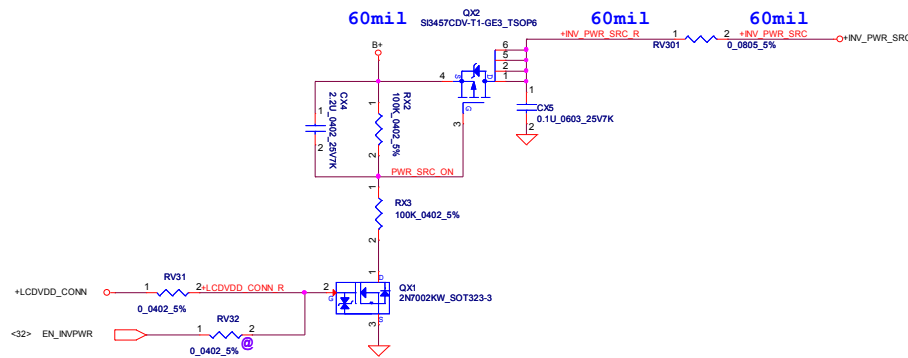
### Vendor advise reserve it



Security Classification		Compal Secret Data		Title	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	eDP to LVDS converter	
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 WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Document Number		Rev	2.0
LA-B481P		Date: Monday, March 10, 2014		Sheet	19 of 42



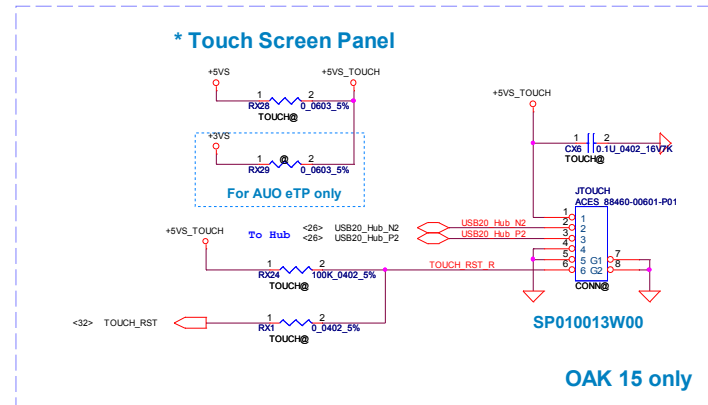
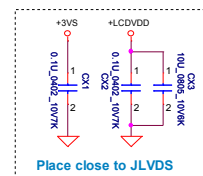
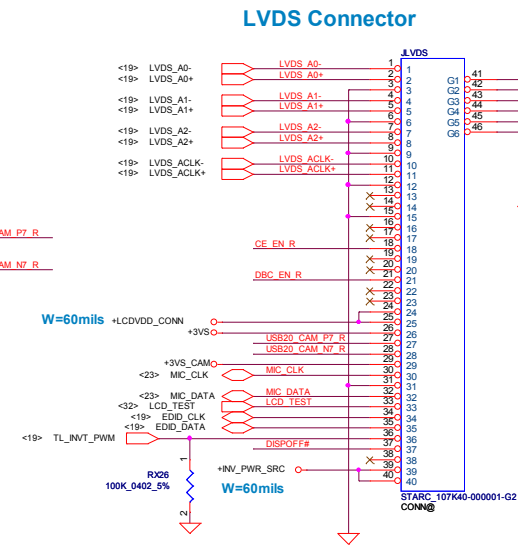
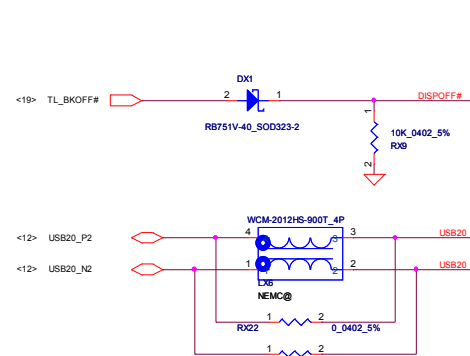
### LCD backlight PWR CTRL



### Webcam PWR CTRL



Short pad list  
RX19  
RX27

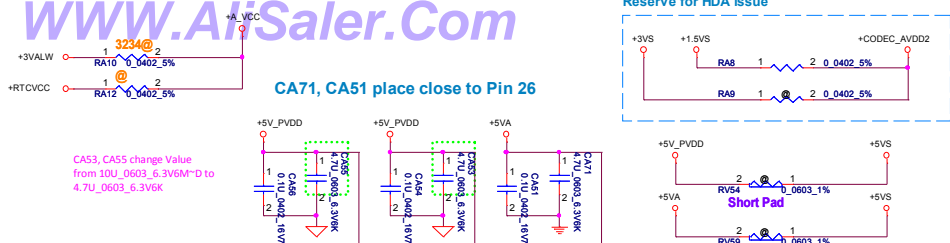


BOM Structure  
TOUCH@  
NEMC@



**WWW.AliSaler.Com**



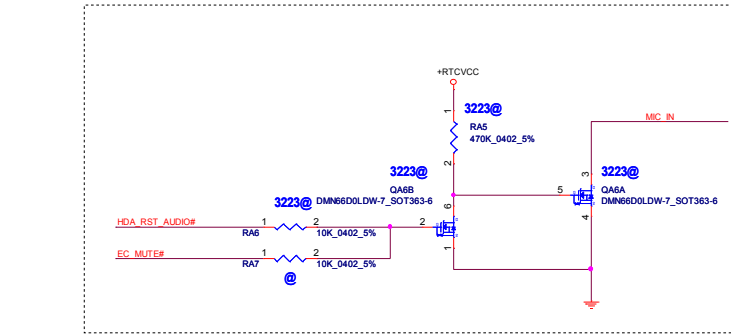
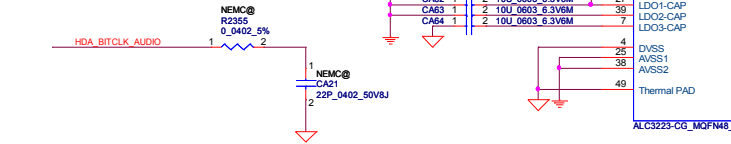


CA57, CA58 close to UA1 pin1

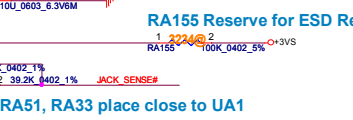
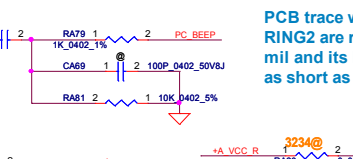
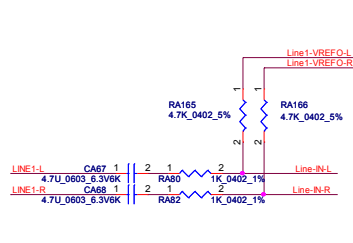
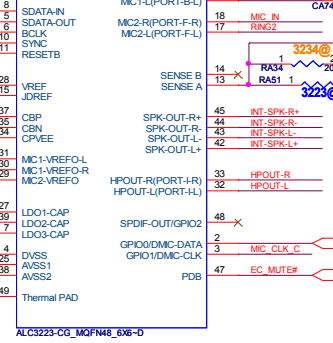
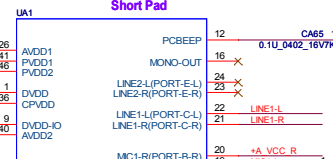
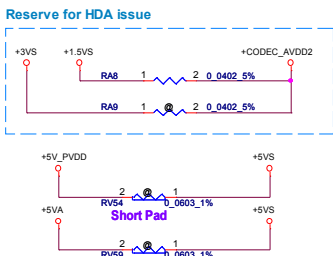
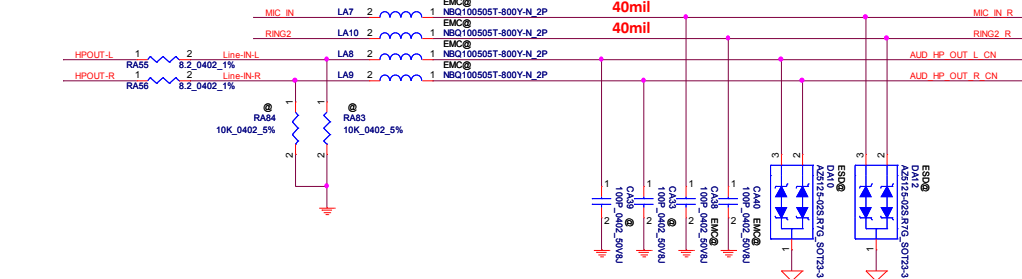
Digital power for HDA link (Bay Trail M -- Pin9 -->1.5VS)

100K is used to speed up the discharge for LDO1. It could solve the pop sound during system boot up and reboot. RA154 place close to Pin 26

RA154 Reserve for ESD Request

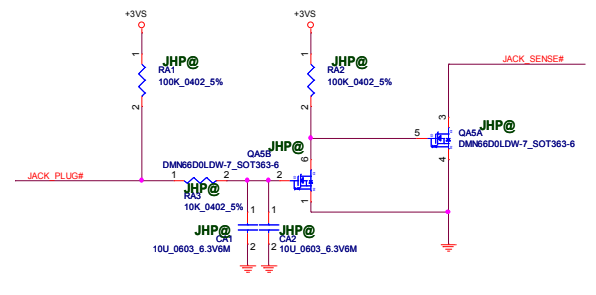


RA57, RA58 Reserve for ESD Request

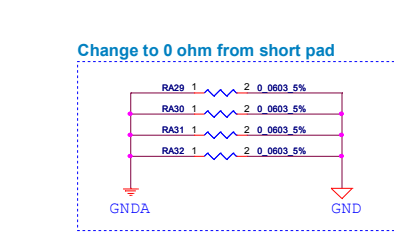


PCB trace width of SLEEVE and RING2 are required at least 40 mil and its length should be as short as possible.

## JACK\_PLUG Delay circuitis



## Reserve for cancel Delay circuitis



Place on the moat between GND & GNDA.

SM01000BV00 need CIS symbol

Close to UA1 Pin11,13,14,16

Trace width for SPK-L/SPK-L/SPK-R/SPK-R-Speaker 4 ohm : 40mil Speaker 8 ohm : 20mil

close to Codec

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

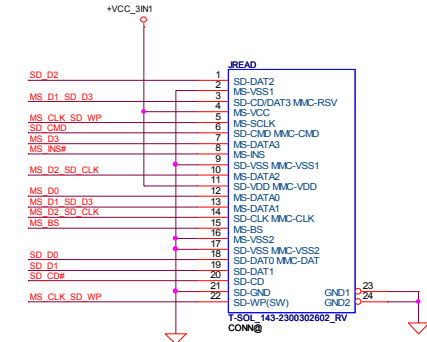
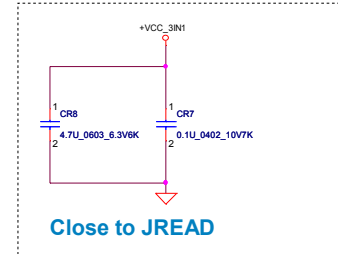
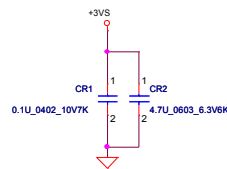
DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

DC230007Y00 DC021103300 (OLD)

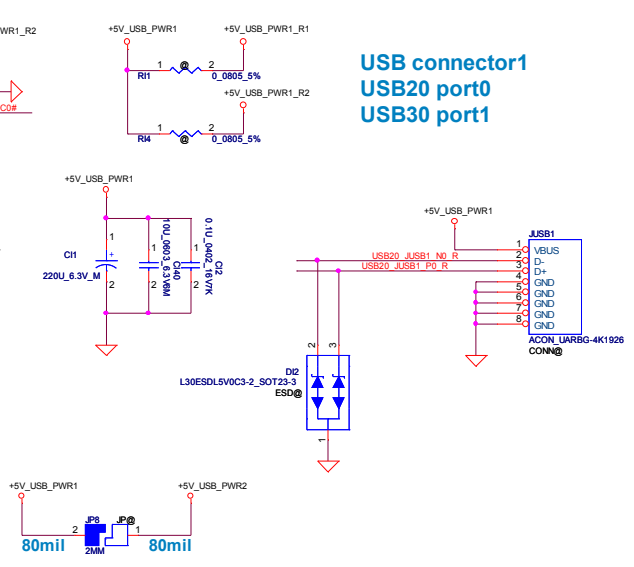
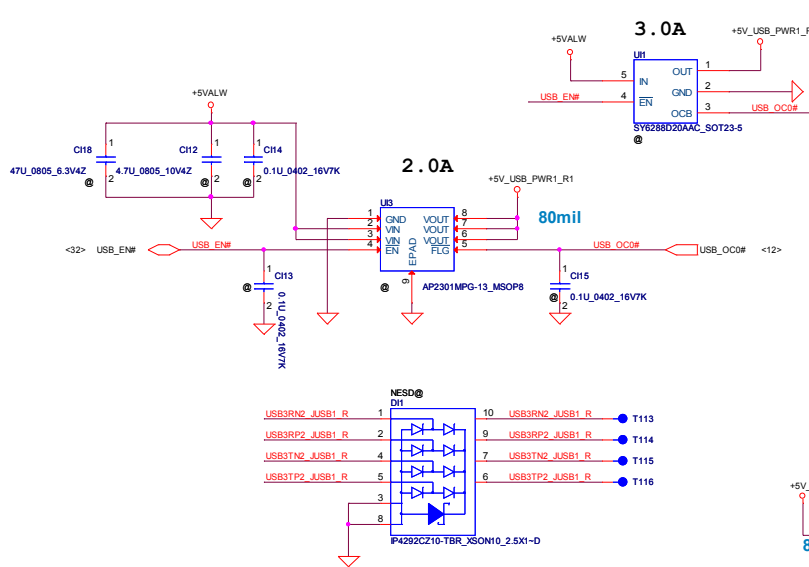
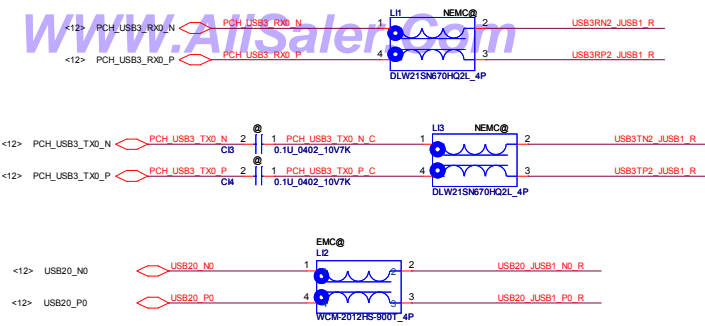
DC230007Y00 DC021103300 (OLD)

Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		Audio Codec ALC3223	
2014/03/10		2015/03/31		LA-B481P	
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 TO ANY OTHER DIVISION OR TO ANY OTHER PERSON WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		Size		Rev	
Document Number		2		2.0	
Date		Monday, March 10, 2014		Sheet 23 of 42	

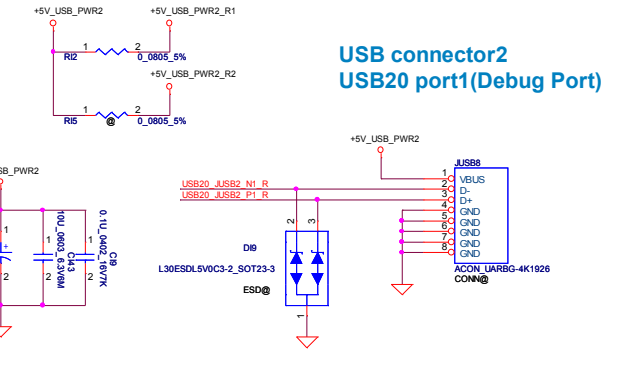
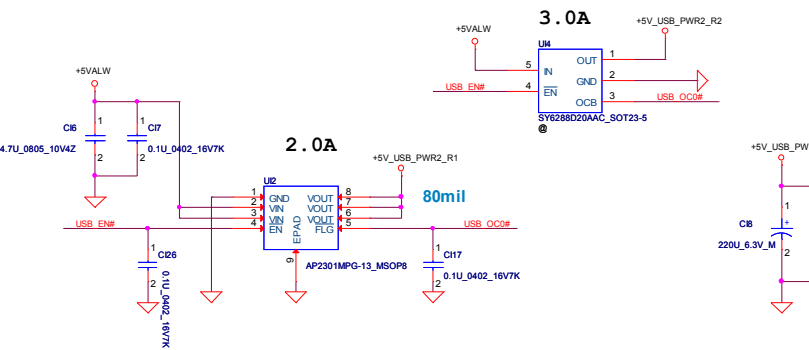


Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title <b>Card Reader RTS5179</b>		
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DEPARTMENT OR PERSON WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS IS TO BE USED FOR DISSEMINATION TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev 2.0
				<b>LA-B481P</b>		
				Date:	Monday, March 10, 2014	Sheet

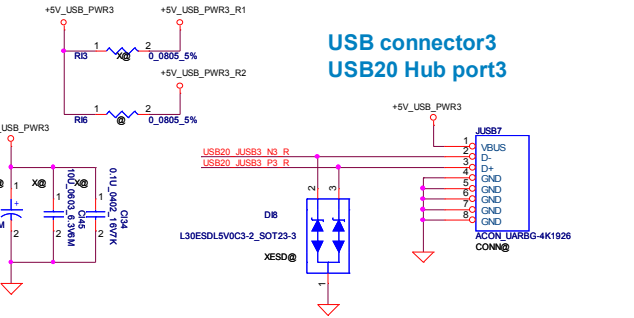
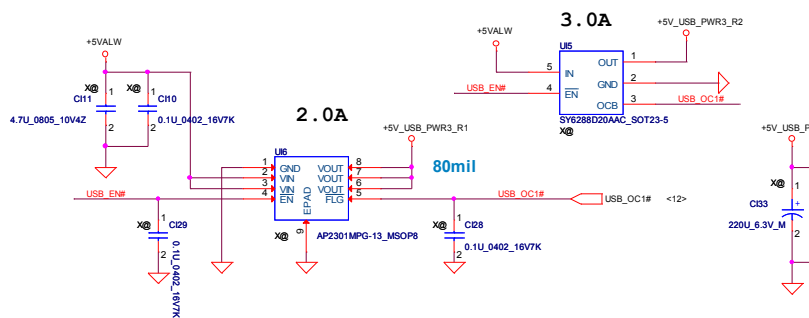
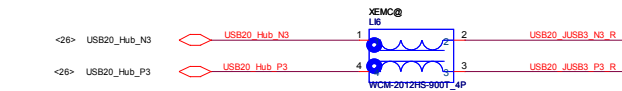




USB connector1  
USB20 port0  
USB30 port1

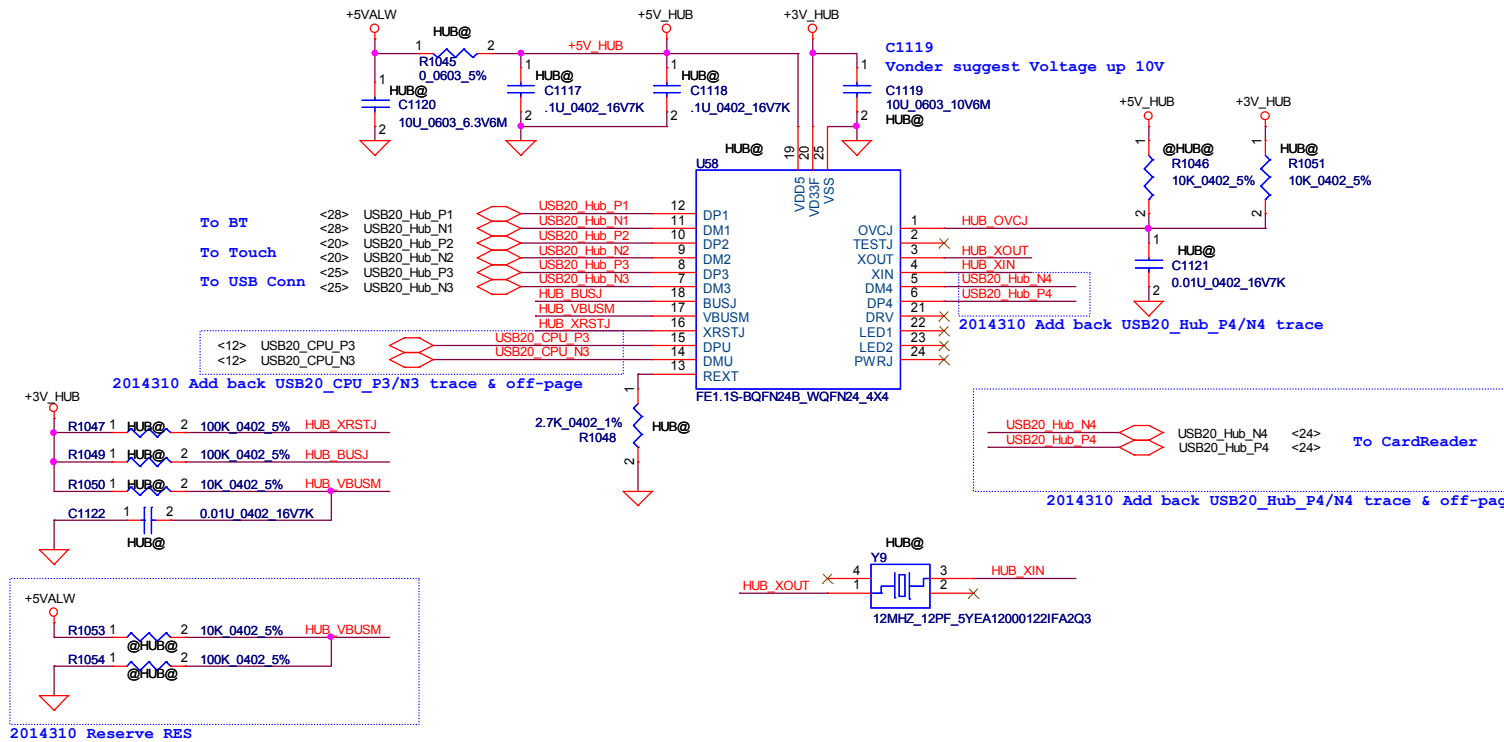


USB connector2  
USB20 port1(Debug Port)



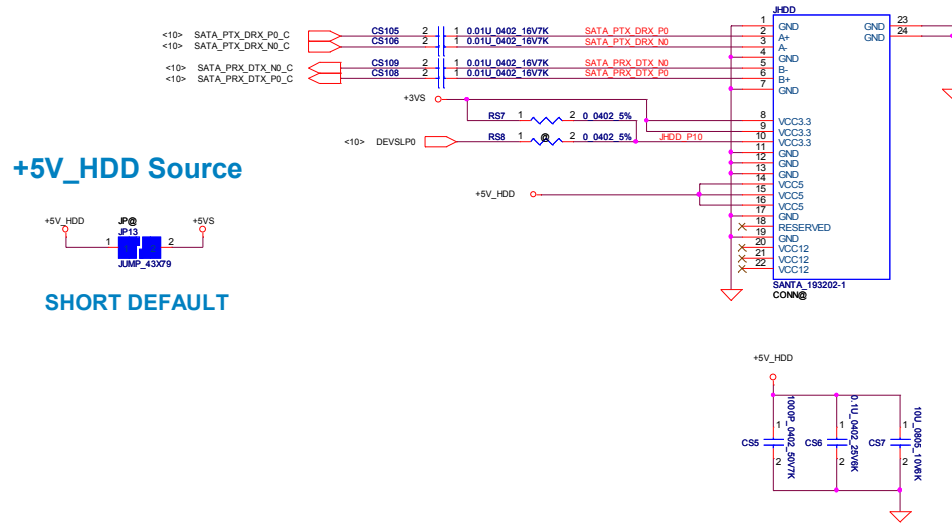
USB connector3  
USB20 Hub port3

Security Classification		Compal Secret Data		Title	
Issued Date		Deciphered Date		USB3.0	
2014/03/10		2015/03/31		Document Number	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D ENGINEERING DEPT. AS A COMPANY EMPLOYEE, YOU ARE NOT TO DISCLOSE OR USE ANY INFORMATION CONTAINED HEREIN FOR ANY PURPOSES WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.		LA-B481P		Rev 2.0	
Date:		Monday, March 10, 2014		Sheet 25 of 42	

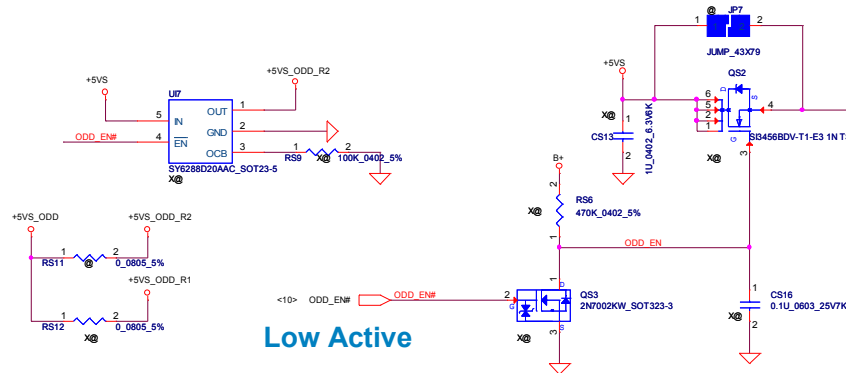


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED 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
				LA-B481P	2.0
Date: Monday, March 10, 2014				Sheet	26 of 42

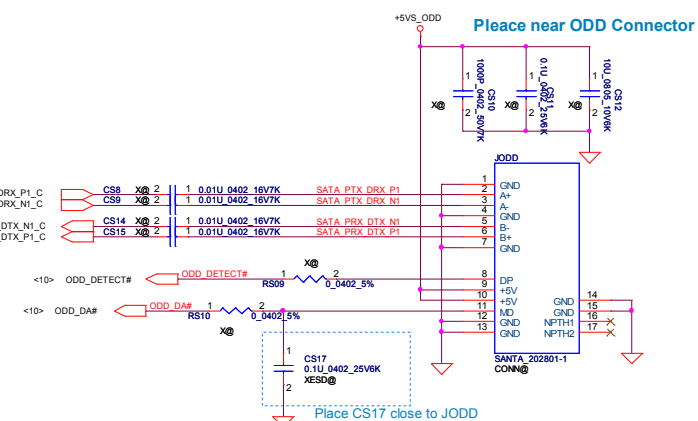
## SATA HDD Connector



## ODD Power Control

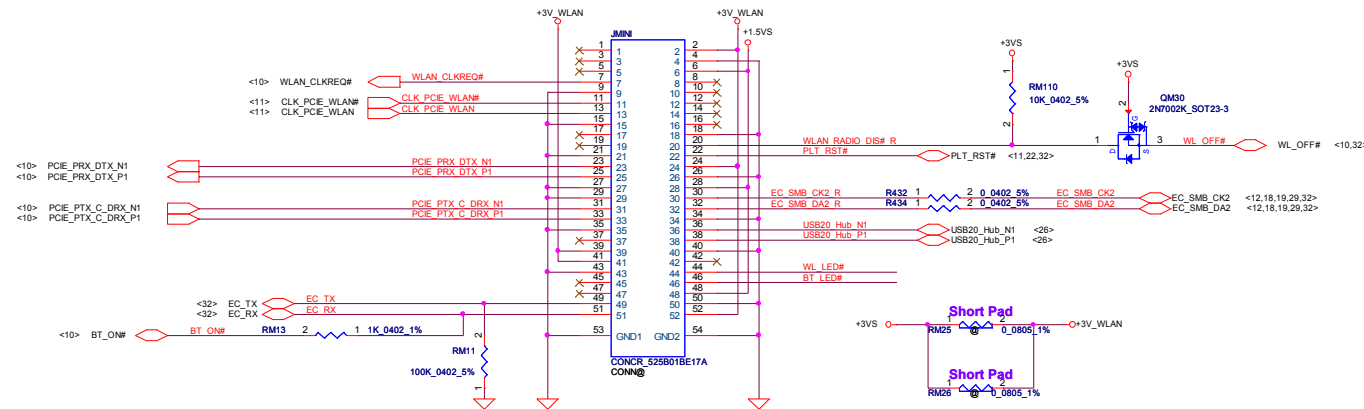


## SATA ODD Connector

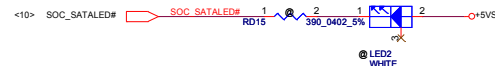


Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	HDD/ODD	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DEPARTMENT OR PERSON WITHOUT THE WRITTEN CONSENT OF 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 2.0
				LA-B481P		
				Date:	Monday, March 10, 2014	
				Sheet	27	of 42

# Mini WLAN/WIMAX H=6.7

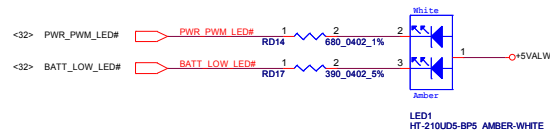


## HDD LED

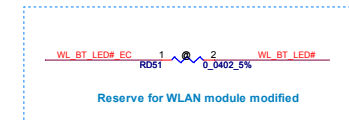
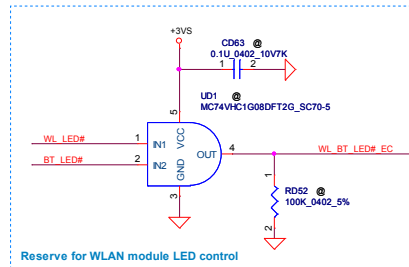
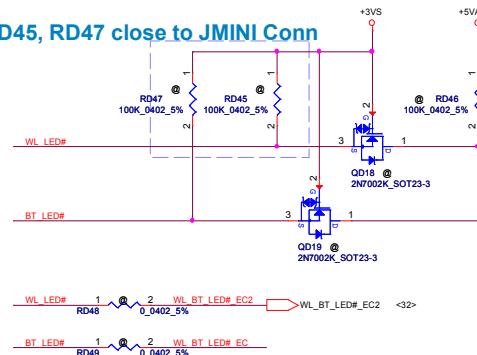


12-21C-T3D-CM2P1B18X-2C\_WHITE

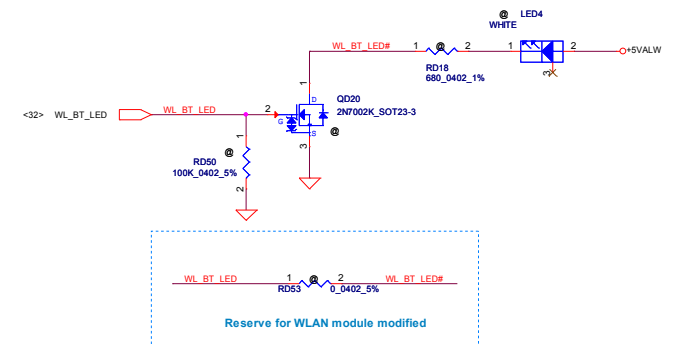
## Power / Battery LED



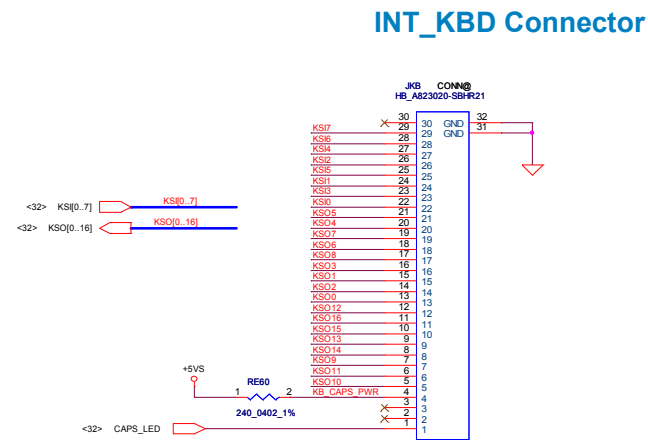
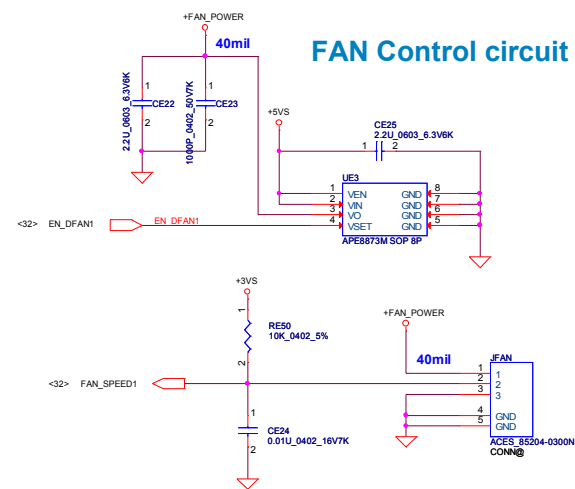
## RD45, RD47 close to JMINI Conn



## Wireless LED

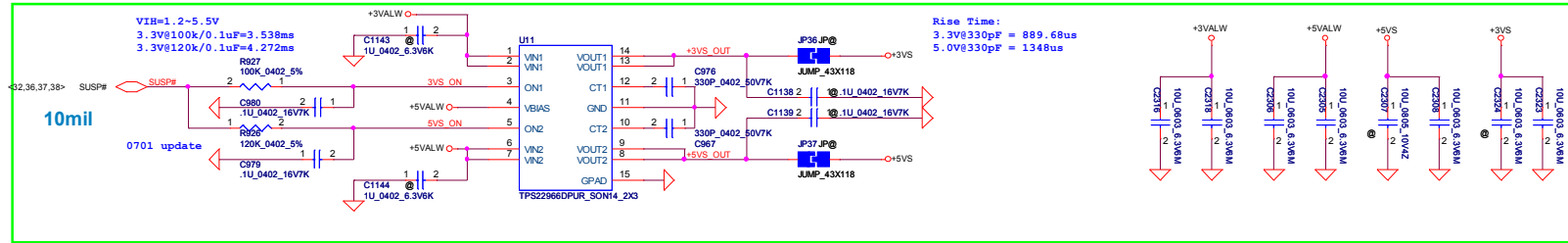


Security Classification		Compal Secret Data		Title	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Mini Card/LED	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE USED BY OR FOR ANY OTHER PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Rev	2.0
				Date	Monday, March 10, 2014
				Sheet	28 of 42

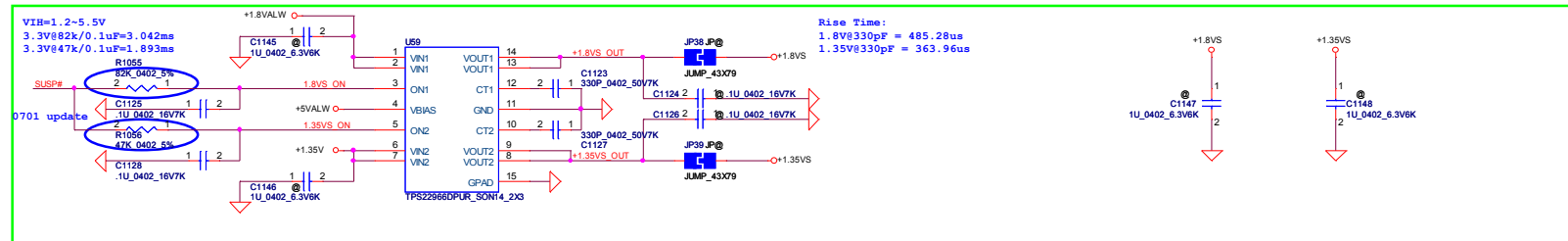


Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	FAN/TP/PWR SW	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D. NO REPRODUCTION OR DISCLOSURE OF ANY INFORMATION HEREON TO ANY OTHER PERSON OR ENTITY, INCLUDING COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS SHALL BE USED FOR DISCLOSURE TO ANY OTHER PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev 2.0
				LA-B481P		
				Date:	Monday, March 10, 2014	Sheet 29 of 42

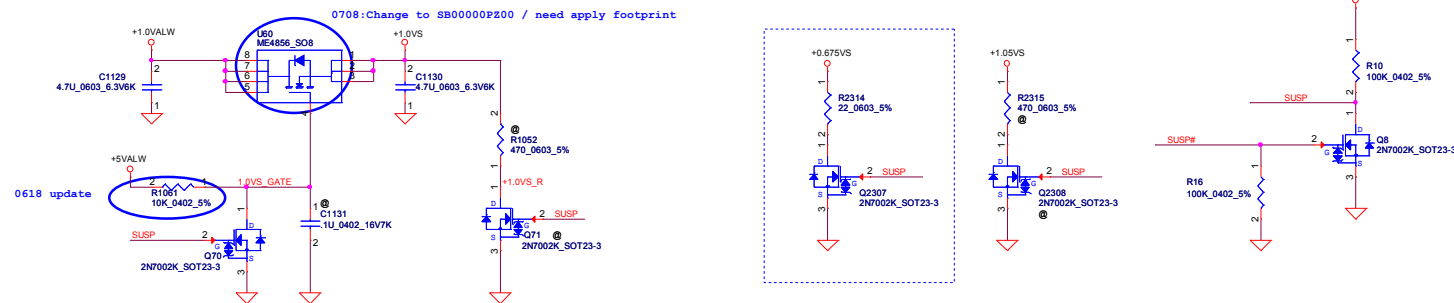
## +5VS and +3VS Switch



## +1.8VS and +1.35VS Switch



**+1.0VALW TO +1.0VS**



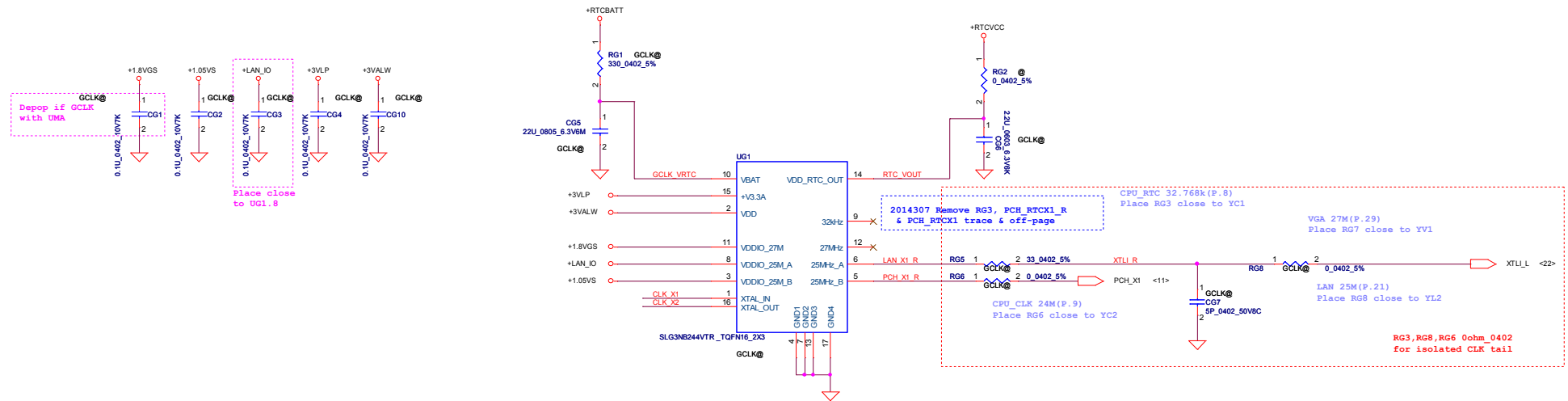
### For Intel S3 Power Reduction

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2014/03/10		Deciphered Date	
				2015/03/31	
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 TO ANY OTHER DEPARTMENT OR PERSON WITHOUT THE WRITTEN CONSENT OF THE COMPETENT DIVISION OF R&D. THIS SHEET IS NOT TO BE USED FOR DISSEMINATION TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Title	
				DC/DC Interface	
Size		Document Number		Rev	
		LA-B481P		2.0	
Date:		Monday, March 10, 2014		Sheet 30 of 42	

SLG3NB3374VTR is for DIS by output 24M\*1,25M\*1, 27M\*1, 32K\*1

SLG3NB3375VTR is for UMA by output 24M\*1, 25M\*1, 32K\*1

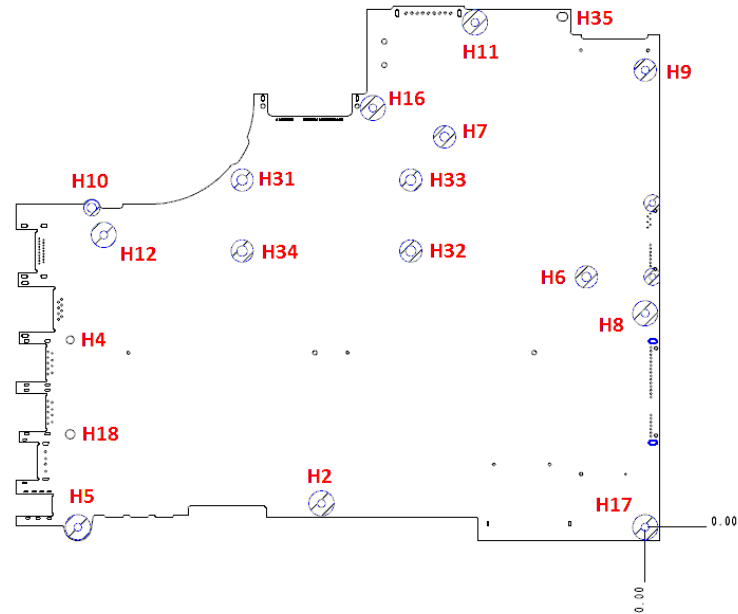
SLG3NB244VTR is for UMA by output 25M\*2, 32K\*1



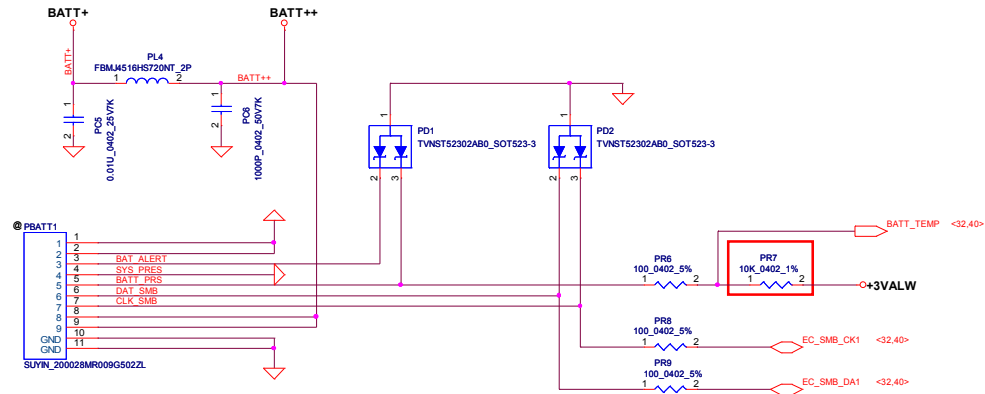
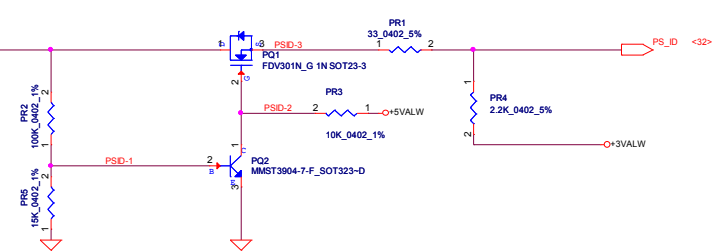
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	GCLK
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				Date	Monday, March 10, 2014
				Sheet	31 of 42
				Rev	2.0





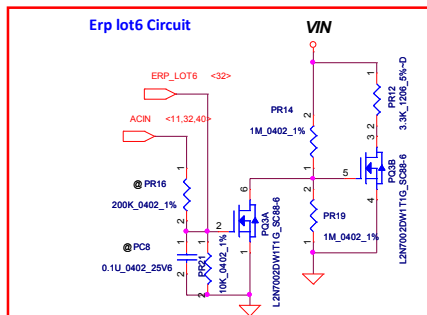


Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date		2014/03/10		Deciphered Date	
				2015/03/31	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D TO ANY OTHER DEPARTMENT OR PERSON WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE REPRODUCED OR USED IN ANY MANNER WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Title	
				Screw Hole	
				Size Document Number	
				Rev 2.0	
				LA-B481P	
Date:				Monday, March 10, 2014	
Sheet				33 of 42	

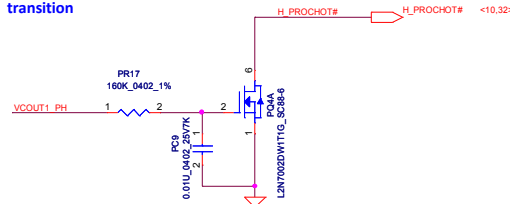


```
CPU thermal protection at 93 degree C ( shutdown )
```

Other component (37.1)

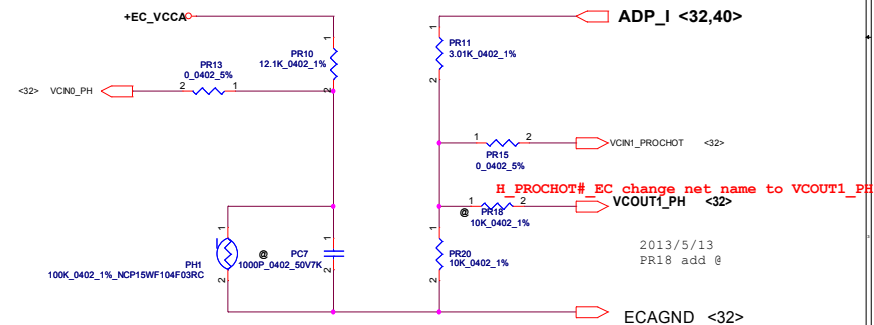
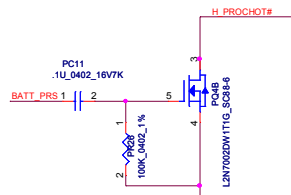


Delay adaptor OC H\_PROCHOT#  
2ms while hybrid power  
transition



**Adapter protection:**

if battery removed, adaptor only,  
then trigger the H\_PROCHOT#,  
keep @ in BOM since battery can not  
be removed by end user



DELL CONFIDENTIAL/PROPRIETARY

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	P31-PWR DCIN/BATT CONN/OTP
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D OR BE LOANED, REPRODUCED, COPIED, OR DISCLOSED TO ANY OTHER COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED FOR OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number
				LA-B481P	
Date:				Monday, March 10, 2014	Sheet 34 of 42

3VALWP  
TDC 4.5A  
Peak Current 7.09A  
OCP current 8.51A

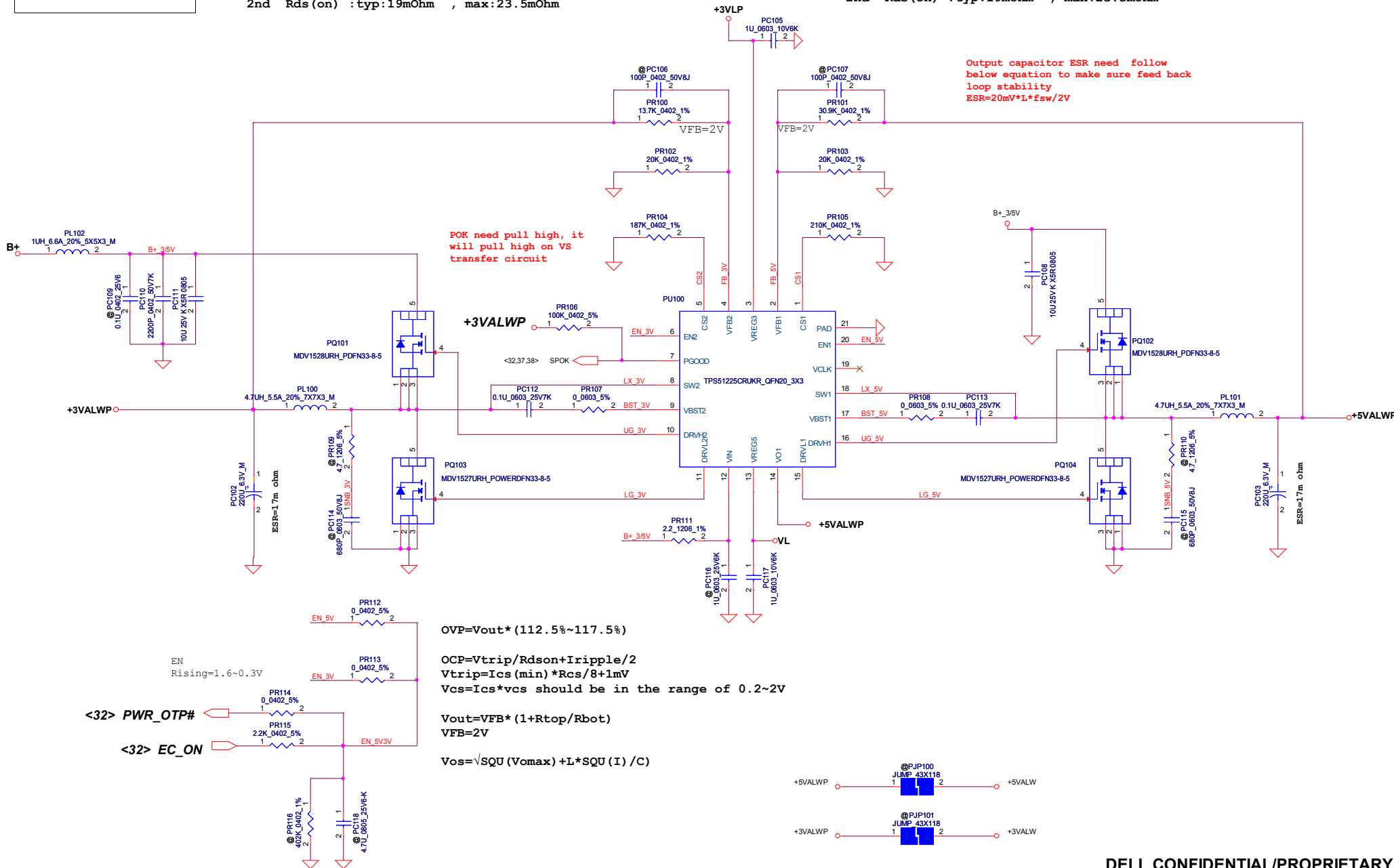
H/S main Rds(on) : typ:23.2mOhm, max:27.8mOhm  
2nd Rds(on) : typ:27mOhm, max:34mOhm

L/S main Rds(on) : typ:19.7mOhm, max:23.7mOhm  
2nd Rds(on) : typ:19mOhm, max:23.5mOhm

H/S main Rds(on) : typ:23.2mOhm, max:27.8mOhm  
2nd Rds(on) : typ:27mOhm, max:34mOhm

L/S main Rds(on) : typ:19.7mOhm, max:23.7mOhm  
2nd Rds(on) : typ:19mOhm, max:23.5mOhm

5VALWP  
TDC 4.91A  
Peak Current 8.63A  
OCP current 10.36A



DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data			Title		
Issued Date	2014/03/10	Deciphered Date	2015/03/31	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 SHALL BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	LA-B481P	2.0
				Date	Monday, March 10, 2014	Sheet 35 of 42

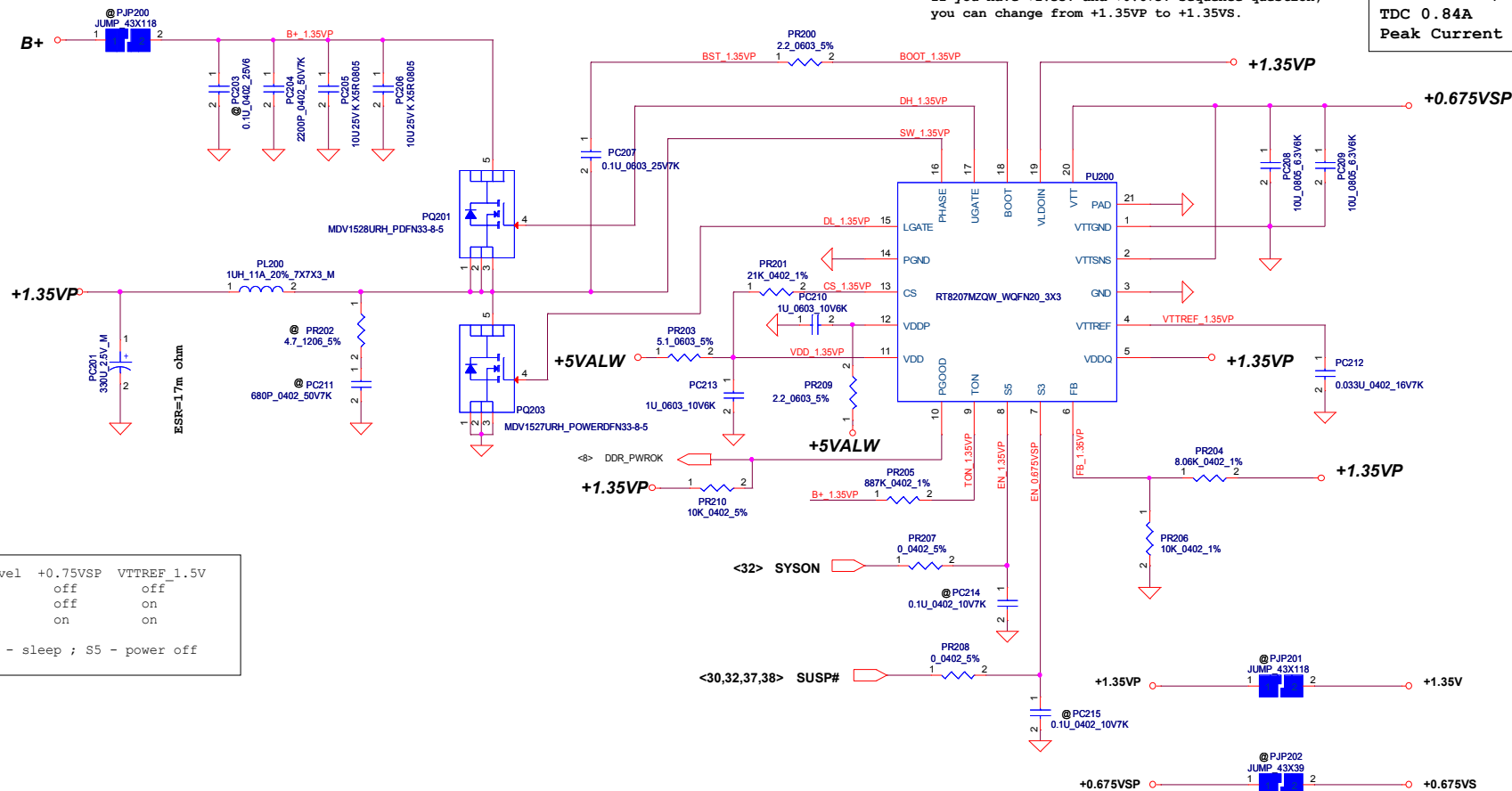
1.35VP  
TDC 6.87A  
Peak Current 9.81A  
OCP current 11.77A

H/S main Rds(on) : typ:23.2mOhm, max:27.8mOhm  
2nd Rds(on) : typ:27mOhm, max:34mOhm

L/S main Rds(on) : typ:19.7mOhm, max:23.7mOhm  
2nd Rds(on) : typ:19mOhm, max:23.5mOhm

Pin19 need pull separate from +1.35VP.  
If you have +1.35V and +0.675V sequence question,  
you can change from +1.35VP to +1.35VS.

0.675VOLT +/- 5%  
TDC 0.84A  
Peak Current 1.2A

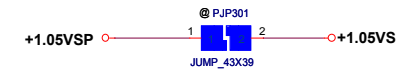
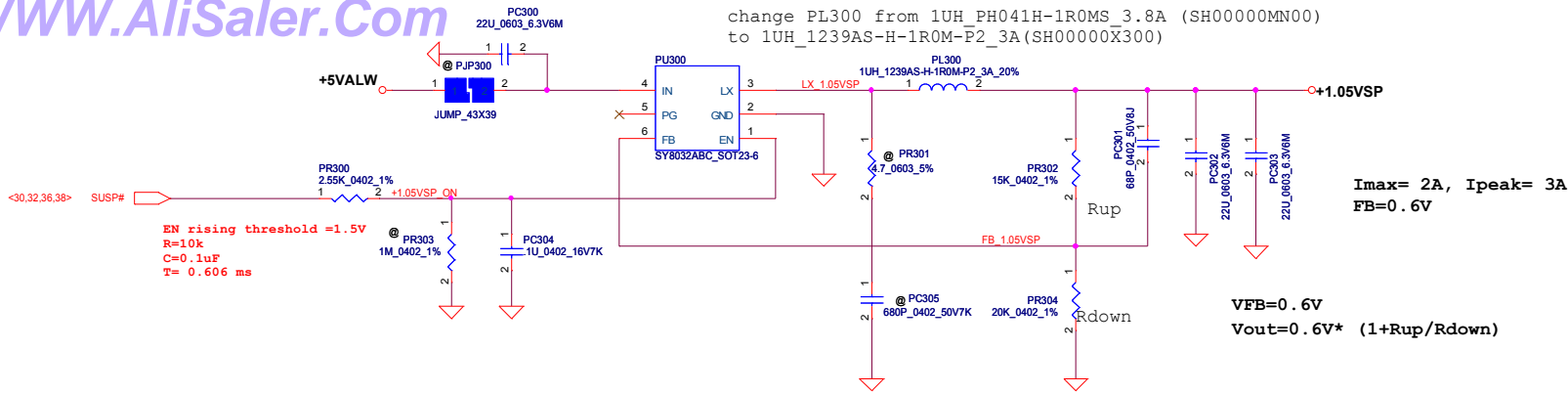


Mode Level +0.75VSP VTTREF\_1.5V  
S5 L off off  
S3 L off on  
S0 H on on  
Note: S3 - sleep ; S5 - power off

DELL CONFIDENTIAL/PROPRIETARY

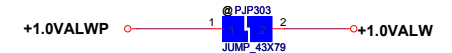
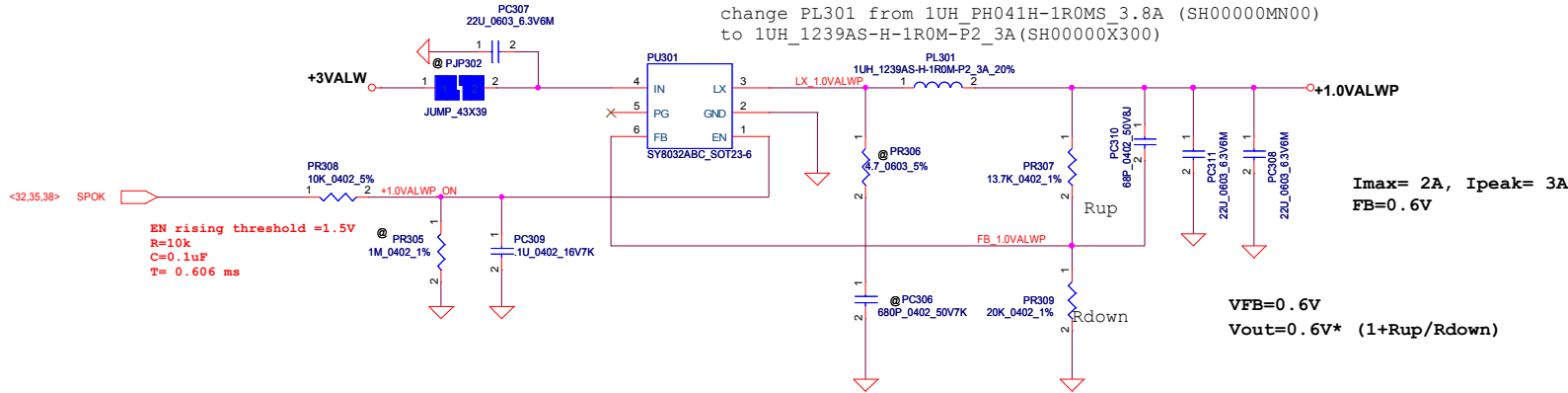
Security Classification				Compal Secret Data			Compal Electronics, Inc.		
Issued Date		2014/03/10		Deciphered Date		2015/03/31		Title	
								P33-PWR-1.35VP/0.675VSP	
Size		Document Number						Rev	
Custom		LA-B481P						2.0	
Date:								Sheet	
								36 of 42	

change PL300 from 1UH\_PH041H-1R0MS\_3.8A (SH00000MN00)  
to 1UH\_1239AS-H-1R0M-P2\_3A(SH00000X300)



+1.05VSP  
TDC 0.7A  
Peak Current 1A  
OCP current 3.5A

change PL301 from 1UH\_PH041H-1R0MS\_3.8A (SH00000MN00)  
to 1UH\_1239AS-H-1R0M-P2\_3A(SH00000X300)

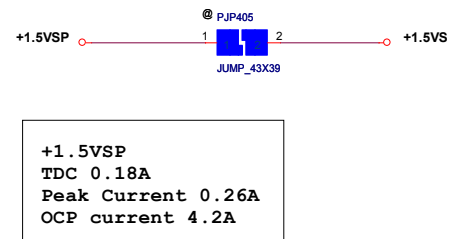
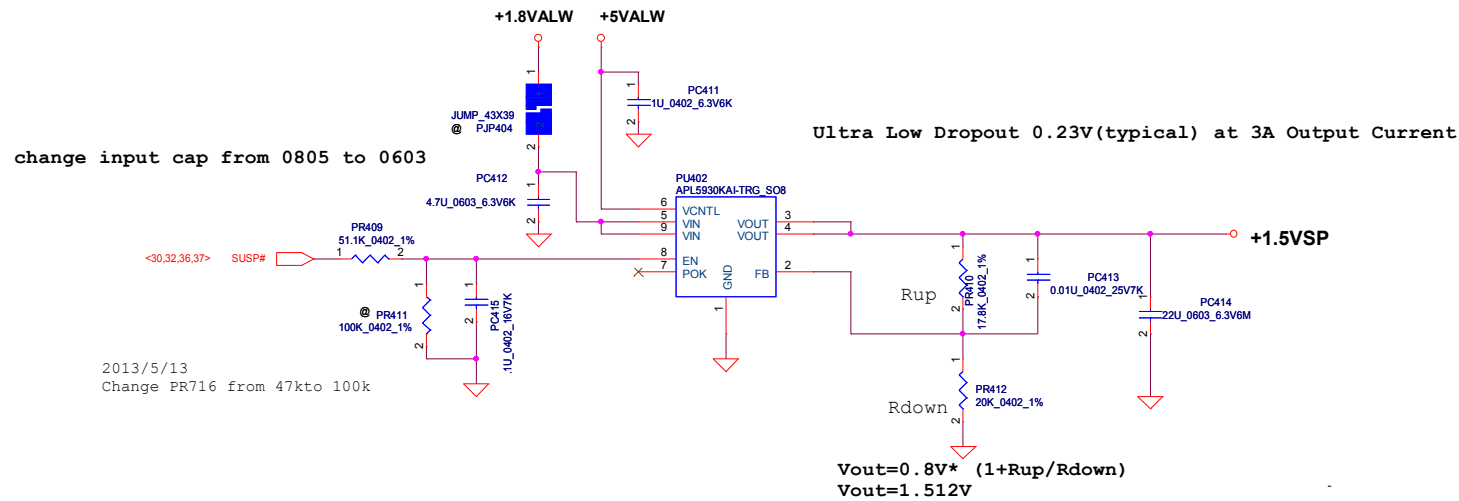
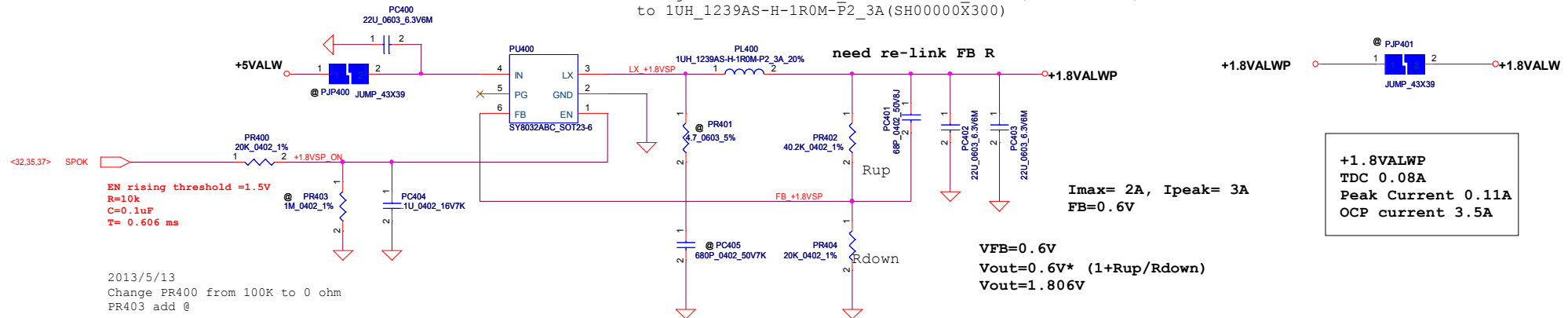


+1.0VALWP  
TDC 2.15A  
Peak Current 3.08A  
OCP current 3.5A

DELL CONFIDENTIAL/PROPRIETARY

Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	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.				P34-PWR-1.05VSP/1.0VALWP
Size	Document Number	Rev	Date	
Custom	LA-B481P	2.0	Sheet 37 of 42	

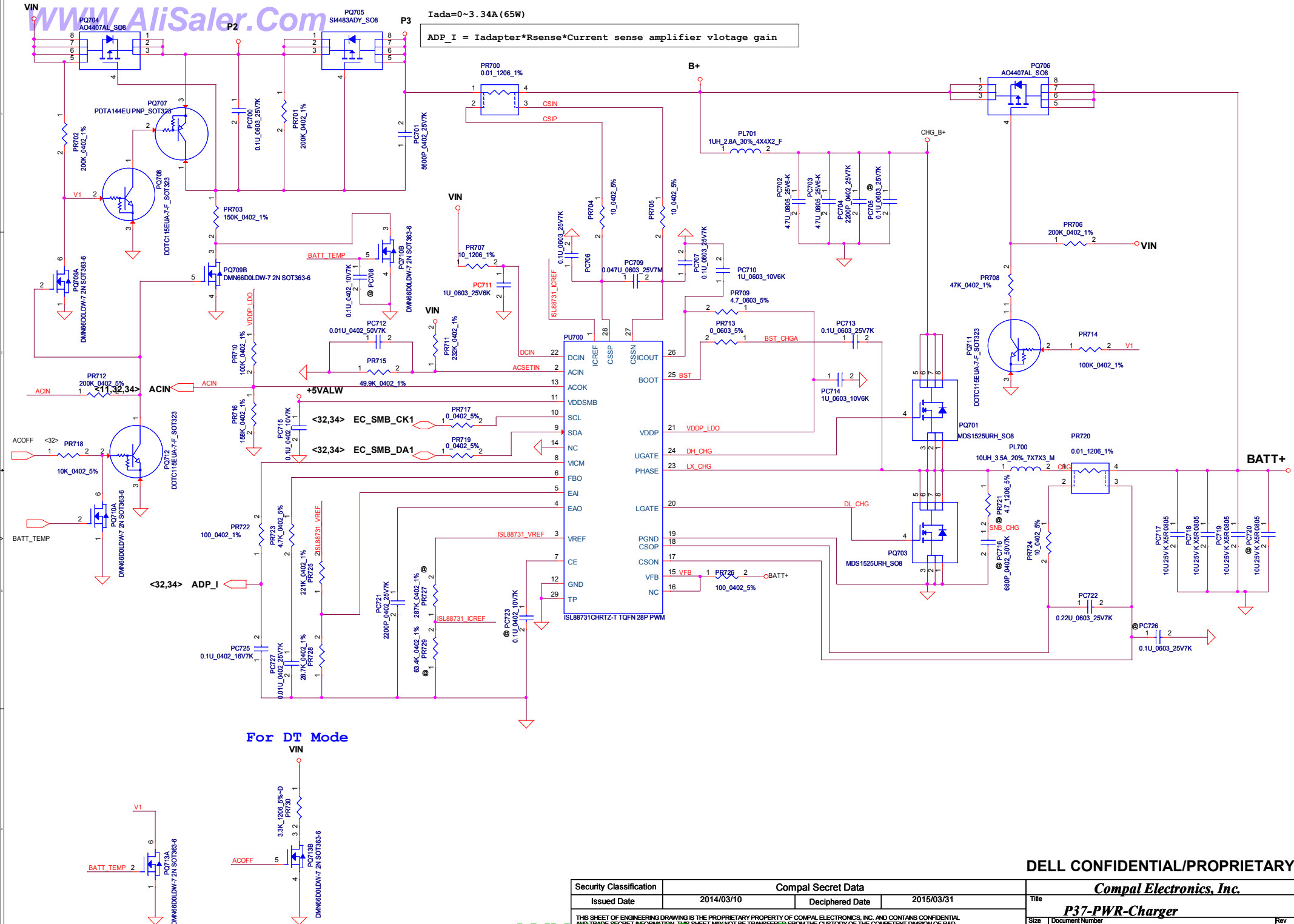
change PL400 from 1UH\_PH041H-1R0MS\_3.8A (SH00000MN00)  
to 1UH\_1239AS-H-1R0M-P2\_3A(SH00000X300)



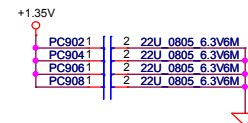
DELL CONFIDENTIAL/PROPRIETARY

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	PWR-1.8VALW/1.5VSP
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 ENGINEERING EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. ANY REPRODUCTION OR DISCLOSURE OF THIS SHEET WITHOUT THE PRIOR WRITTEN PERMISSION OF COMPAL ELECTRONICS, INC. IS STRICTLY PROHIBITED.				Size	Custom
WWW.AliSaler.Com				Document Number	LA-B481P
				Date:	Monday, March 10, 2014
				Sheet	38 of 42
				Rev	2.0









**DELL CONFIDENTIAL/PROPRIETARY**

Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	<b><i>P38-PWR-CPU CORE CAP</i></b>	
THIS SHEET OF ENGINEERING DRAWING IS THE PROPRIETARY PROPERTY OF COMPAL ELECTRONICS, INC. AND CONTAINS CONFIDENTIAL AND TRADE SECRET INFORMATION. THIS SHEET MAY NOT BE TRANSFERRED FROM THE CUSTODY OF THE COMPETENT DIVISION OF R&D DEPARTMENT EXCEPT AS AUTHORIZED BY COMPAL ELECTRONICS, INC. NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT PRIOR WRITTEN CONSENT OF COMPAL ELECTRONICS, INC.				Size	Document Number	Rev
				Custom	<b><i>LA-B481P</i></b>	2.0
				Date:	Sheet 41 of 42	

5

4

3

2

1

Item	Fixed Issue	Reason for change	Rev.	PG#	Modify List	Date	Phase
------	-------------	-------------------	------	-----	-------------	------	-------

1

2

3

4

5

6

7

Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2014/03/10	Deciphered Date	2015/03/31	Title	<b>PWR-PIR</b>
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 2.0
				Date:	Sheet 42 of 42