

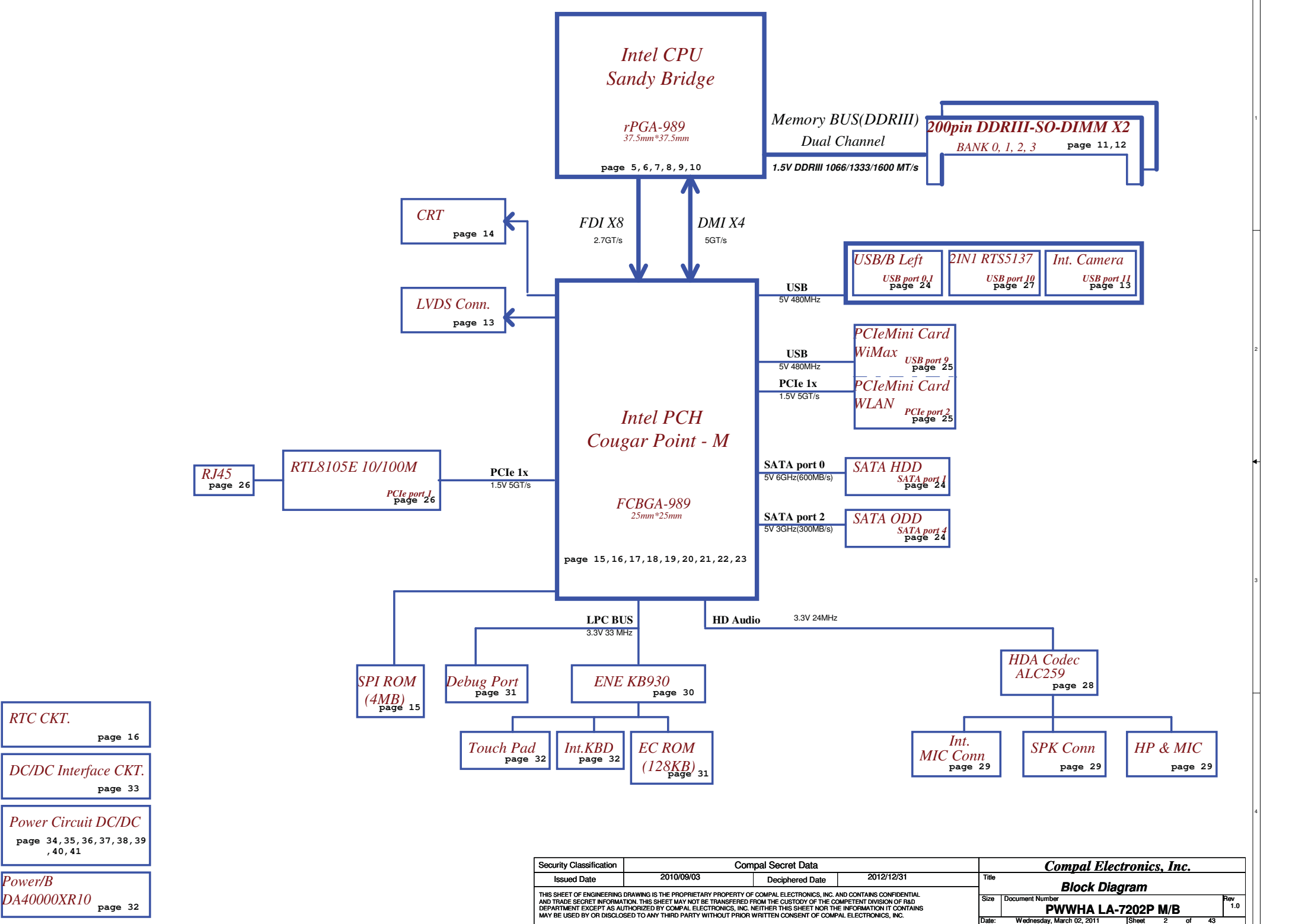
PWWHA

Delhi 10R

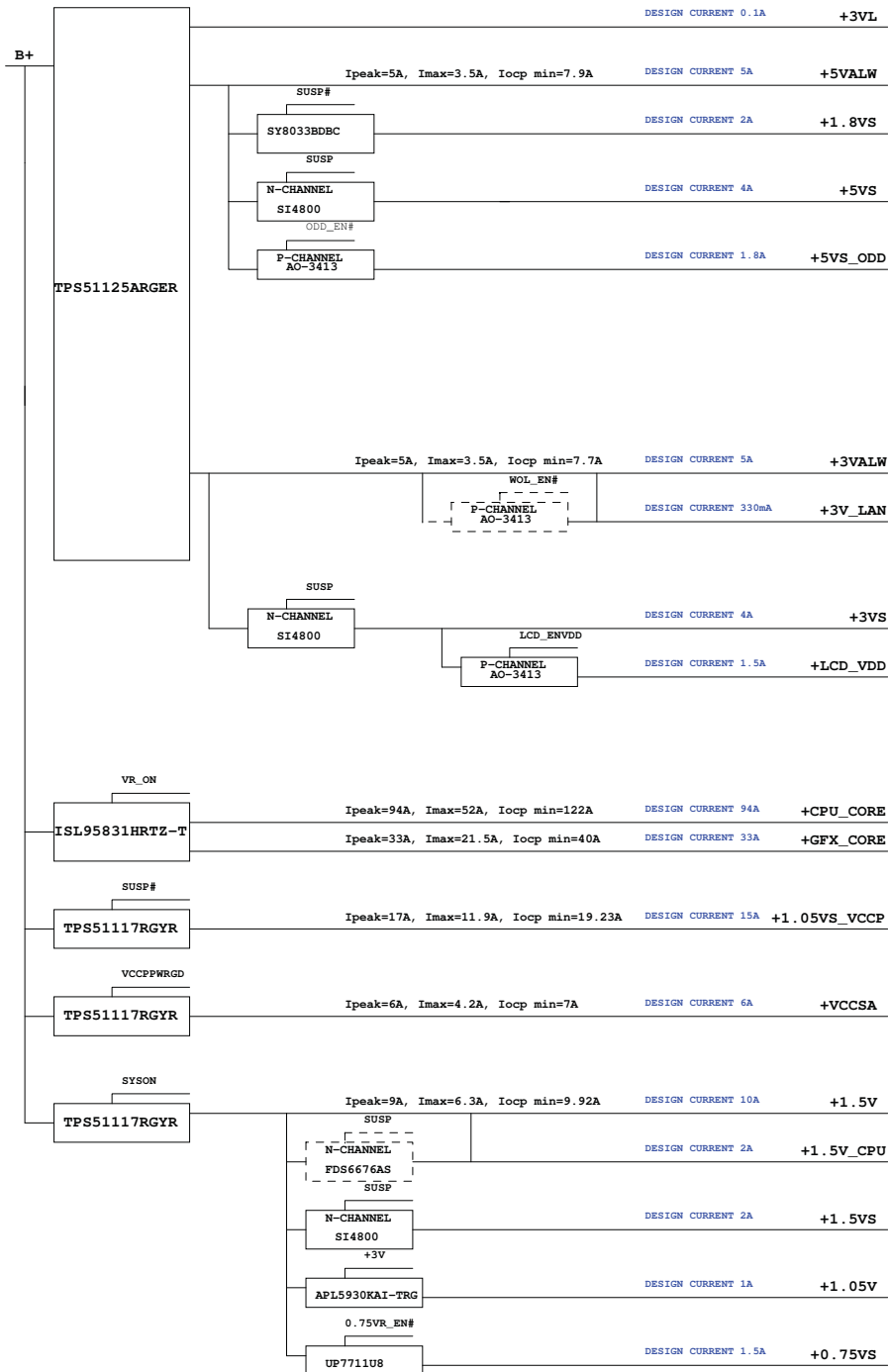
LA-7202P REV 1.0 Schematic

Intel Processor(Sandy Bridge) / PCH(Cougar Point)
2011-02-08 Rev 1.0

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Voltage Rails

(O MEANS ON X MEANS OFF)

power plane State	+RTCVCC	B+	+3VL	+5VALW +3VALW +VSB	+1.5V	+5VS +3VS +1.8VS +1.5VS +1.05VS +0.75VS +CPU_CORE +GFX_CORE
S0	O	O	O	O	O	O
S1	O	O	O	O	O	O
S3	O	O	O	O	O	X
S5 S4/AC	O	O	O	O	X	X
S5 S4/ Battery only	O	O	O	X	X	X
S5 S4/AC & Battery don't exist	O	X	X	X	X	X

PCH SM Bus Address

Power	Device	HEX	Address
+3VS	DDR SO-DIMM 0	A0 H	1010 0000 b
+3VS	DDR SO-DIMM 1	A4 H	1010 0100 b
+3VS	Clock Generator	D2 H	1101 0010 b
+3VS	WLAN/WIMAX		

EC SM Bus1 Address

Power	Device	HEX	Address
+3VL	Smart Battery	16 H	0001 0110 b

EC SM Bus2 Address

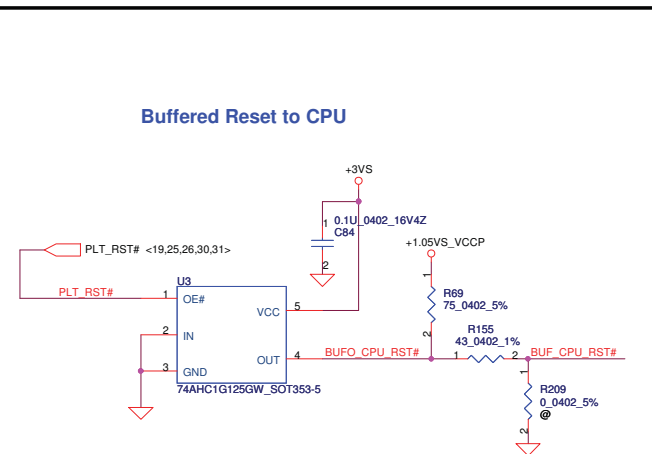
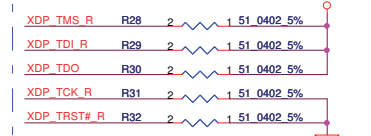
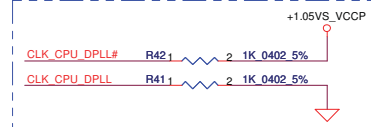
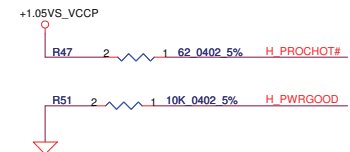
Power	Device	HEX	Address
+3VS	PCH	96 H	1001 0110 b

BTO Option Table

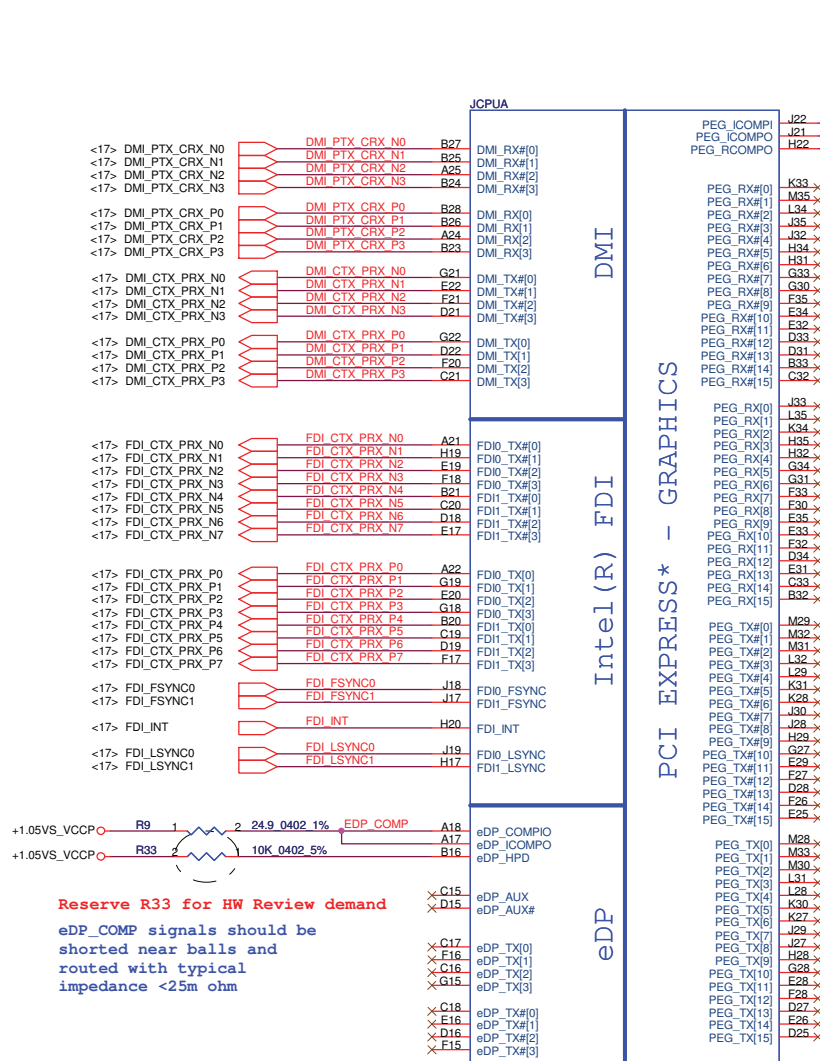
Function	MINI PCI-E SLOT	LAN		Camera & Mic	FAN		S3 Power Saving		Load Power Switch	
description	SLOT1	LAN		Camera & Mic	FAN		S3 Power Saving		Load Power Switch	
explain	WIMAX	10/100M	Giga	Camera & Mic	PWM	RPM	1.5V	1.5VS	Old Sch.	New Sch.
BTO	WIMAX@	8105E@	8111E@	CAM@	PWM@	RPM@	WPS3@	PS3@	OLS@	NLS@

STATE SIGNAL	SLP_S3#	SLP_S4#	SLP_S5#
Full ON	HIGH	HIGH	HIGH
S1 (Power On Suspend)	HIGH	HIGH	HIGH
S3 (Suspend to RAM)	LOW	HIGH	HIGH
S4 (Suspend to Disk)	LOW	LOW	HIGH
S5 (Soft OFF)	LOW	LOW	LOW
G3	LOW	LOW	LOW

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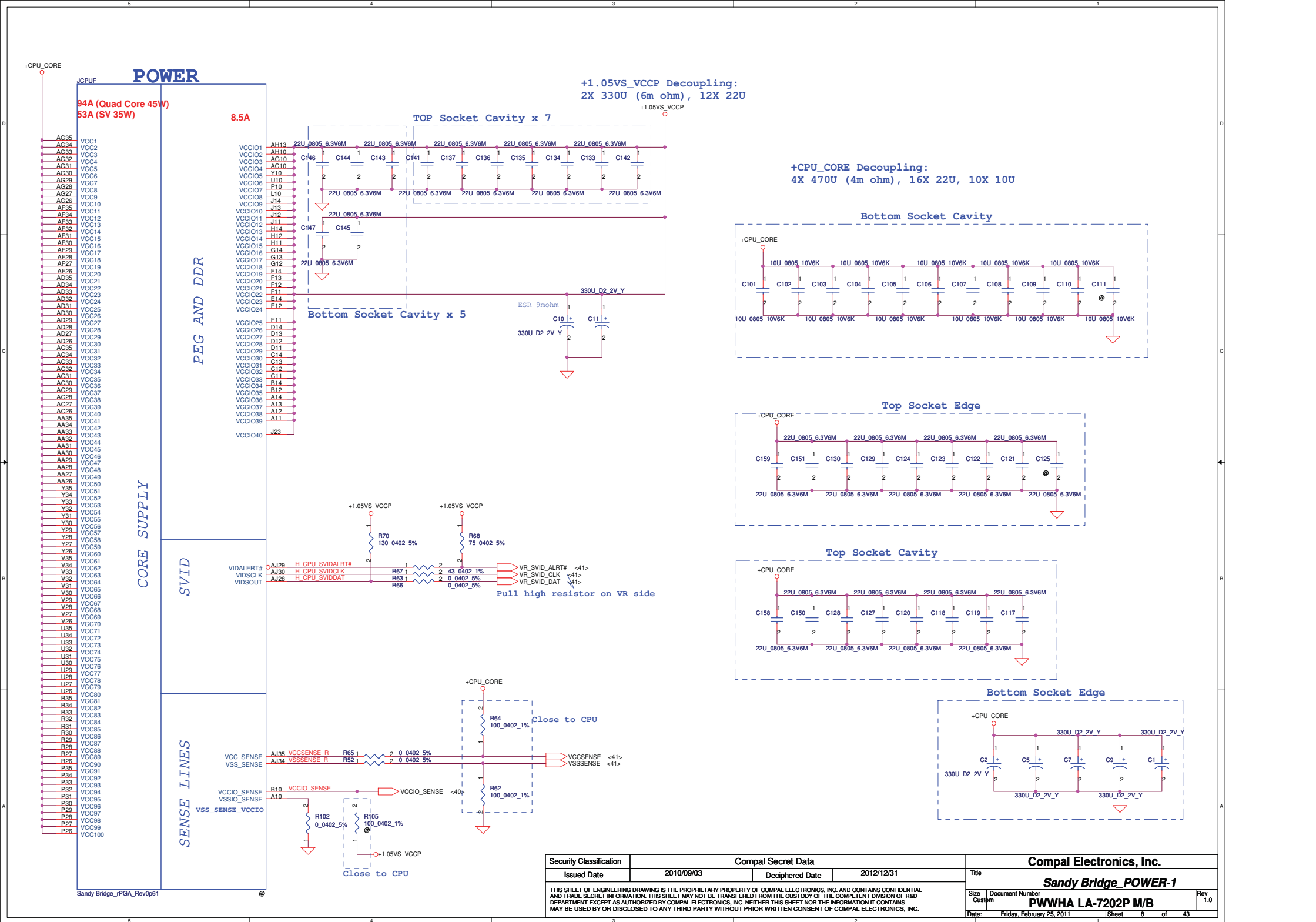


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PEG_ICOMPI and RCOMPO signals should be shorted and routed with - max length = 500 mils - typical impedance = 43 m ohm (4 mils)
PEG_ICOMPO signals should be routed with - max length = 500 mils - typical impedance = 14.5 m ohm (12 mils)

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Change C873 from 330uF to 560uF for power issue

Bottom Socket Edge

ESR 10mohm

C873
560U_2.5V_M_R17

22U_0805_6.3V6M

C266, C267, C271, C338, C341, C342

22U_0805_6.3V6M

Bottom Socket Cavity

Bottom Socket Edge

22U_0805_6.3V6M

C343, C344, C345, C346, C347, C348

22U_0805_6.3V6M

Top Socket Cavity

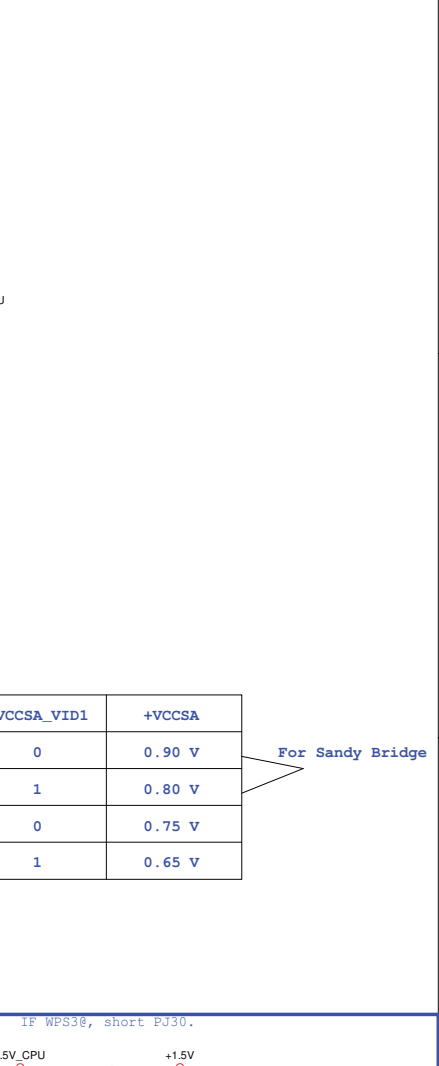
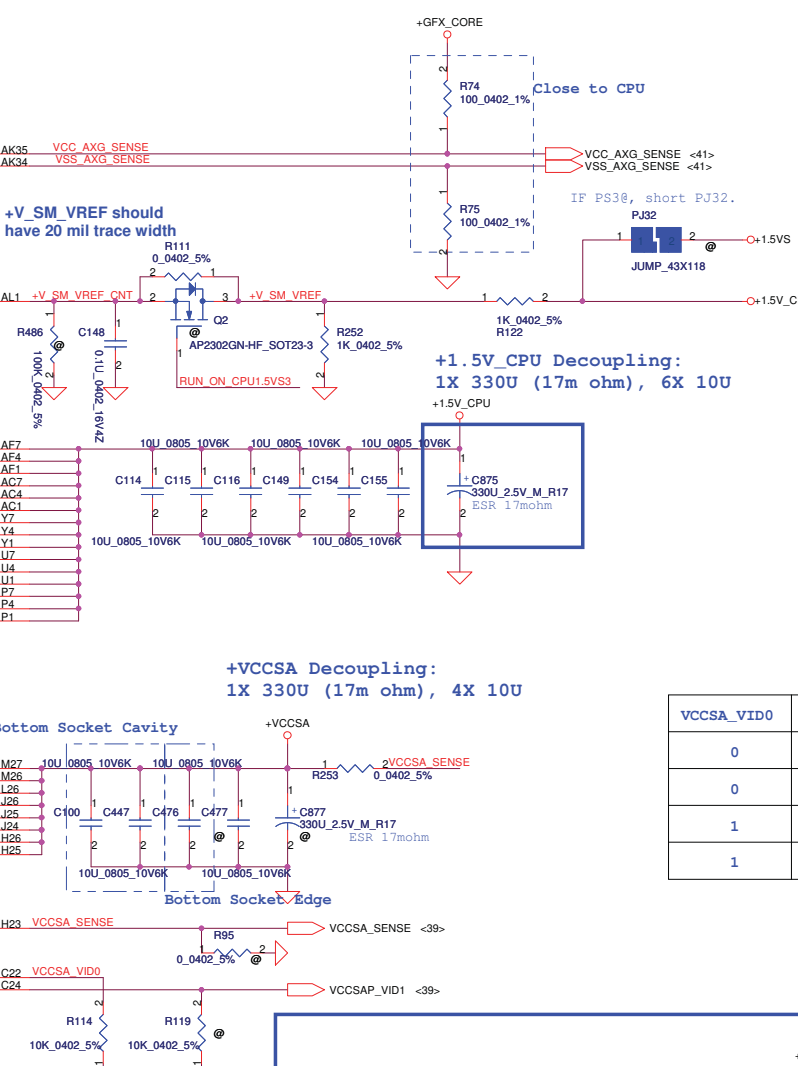
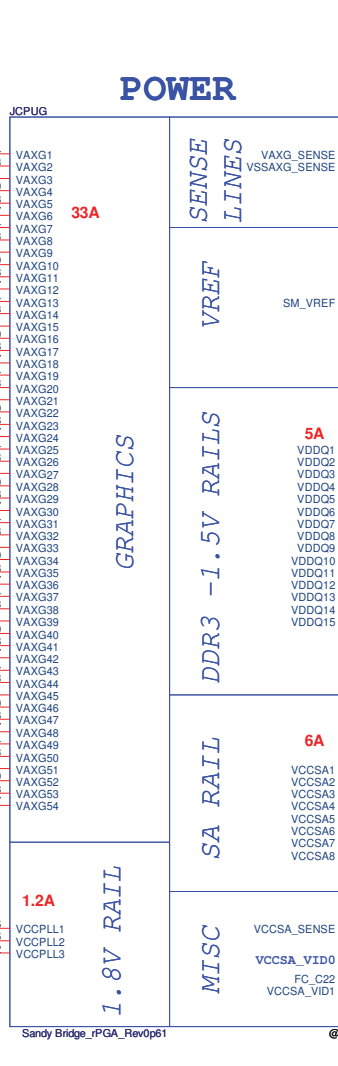
Top Socket Edge

22U_0805_6.3V6M

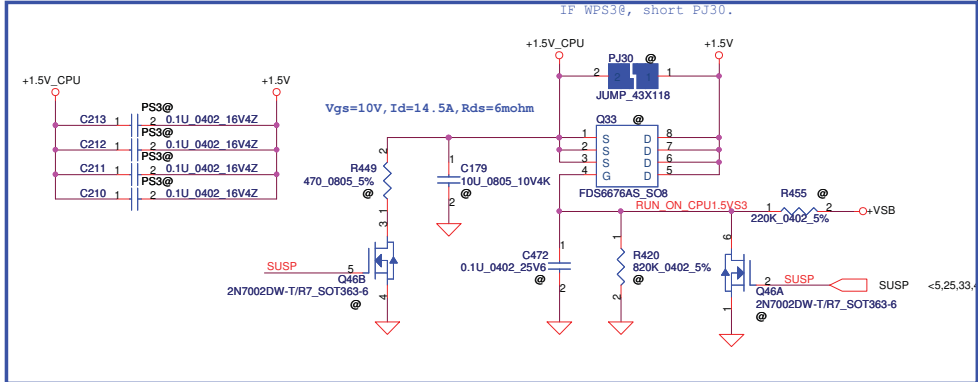
C349, C350, C351, C391

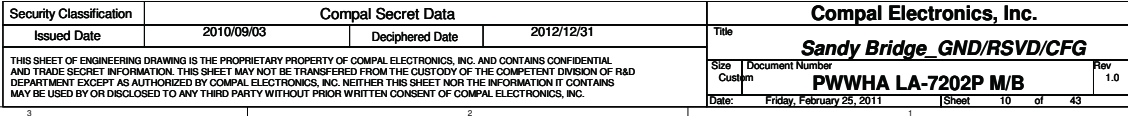
22U_0805_6.3V6M

AT, AT, AT, AT, AR, AR, AR, AR, AP, AP, AP, AN, AN, AN, AM, AM, AM, AM, AL, AL, AL, AK, AK, AK, AK, AJ, AJ, AJ, AH, AH, AH, AH

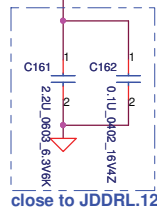
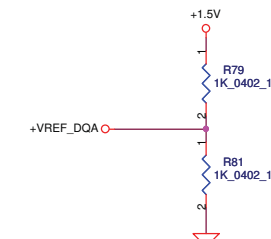
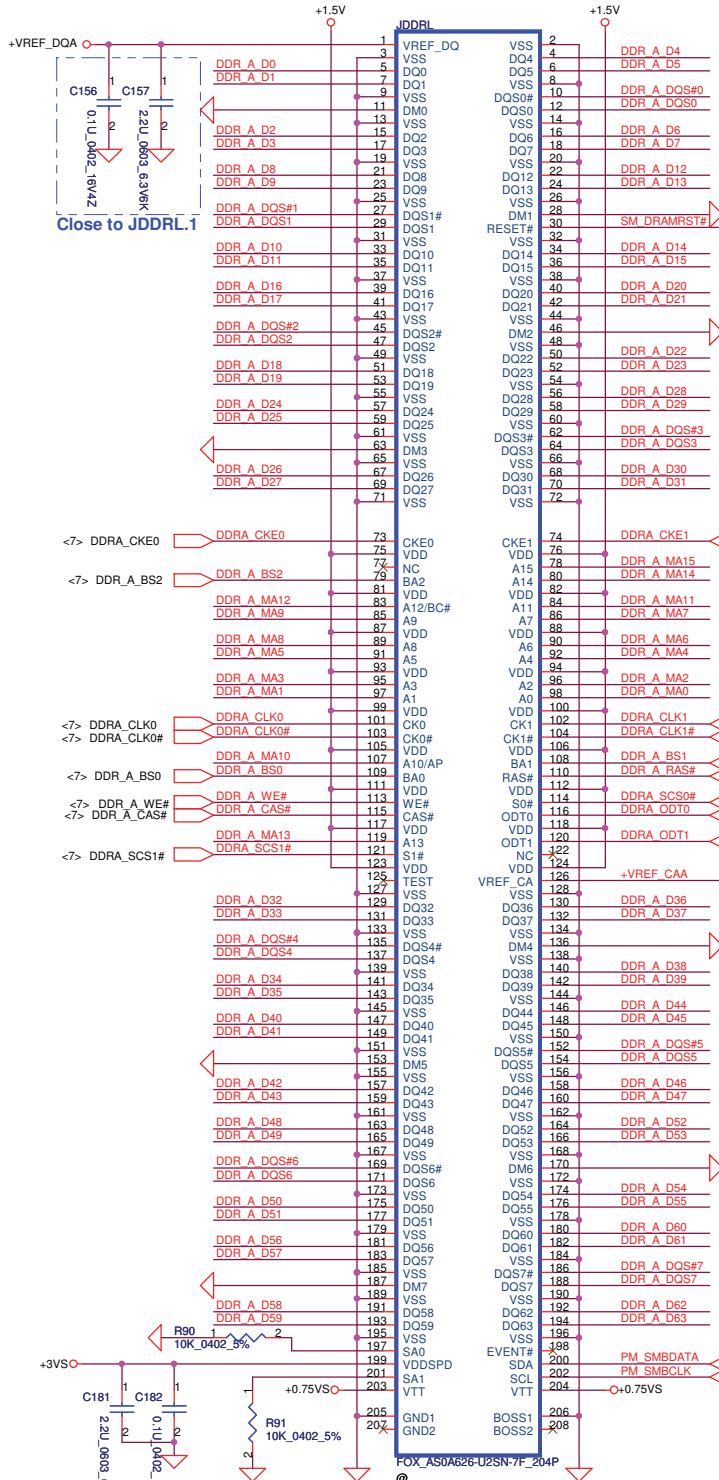


VCCSA_VID0	VCCSA_VID1	+VCCSA
0	0	0.90 V
0	1	0.80 V
1	0	0.75 V
1	1	0.65 V





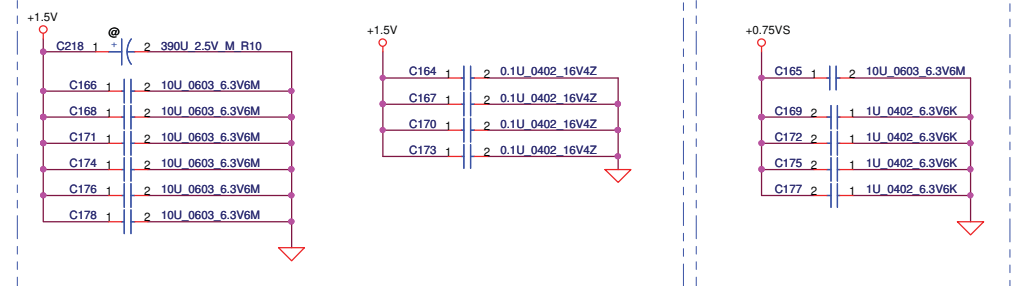
DDR3 SO-DIMM A Reverse Type



Layout Note:
Place near JDDR.L

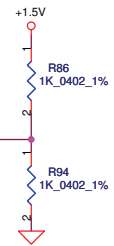
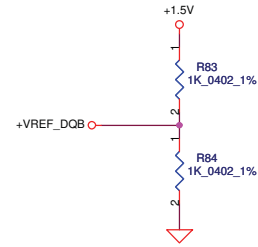
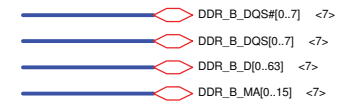
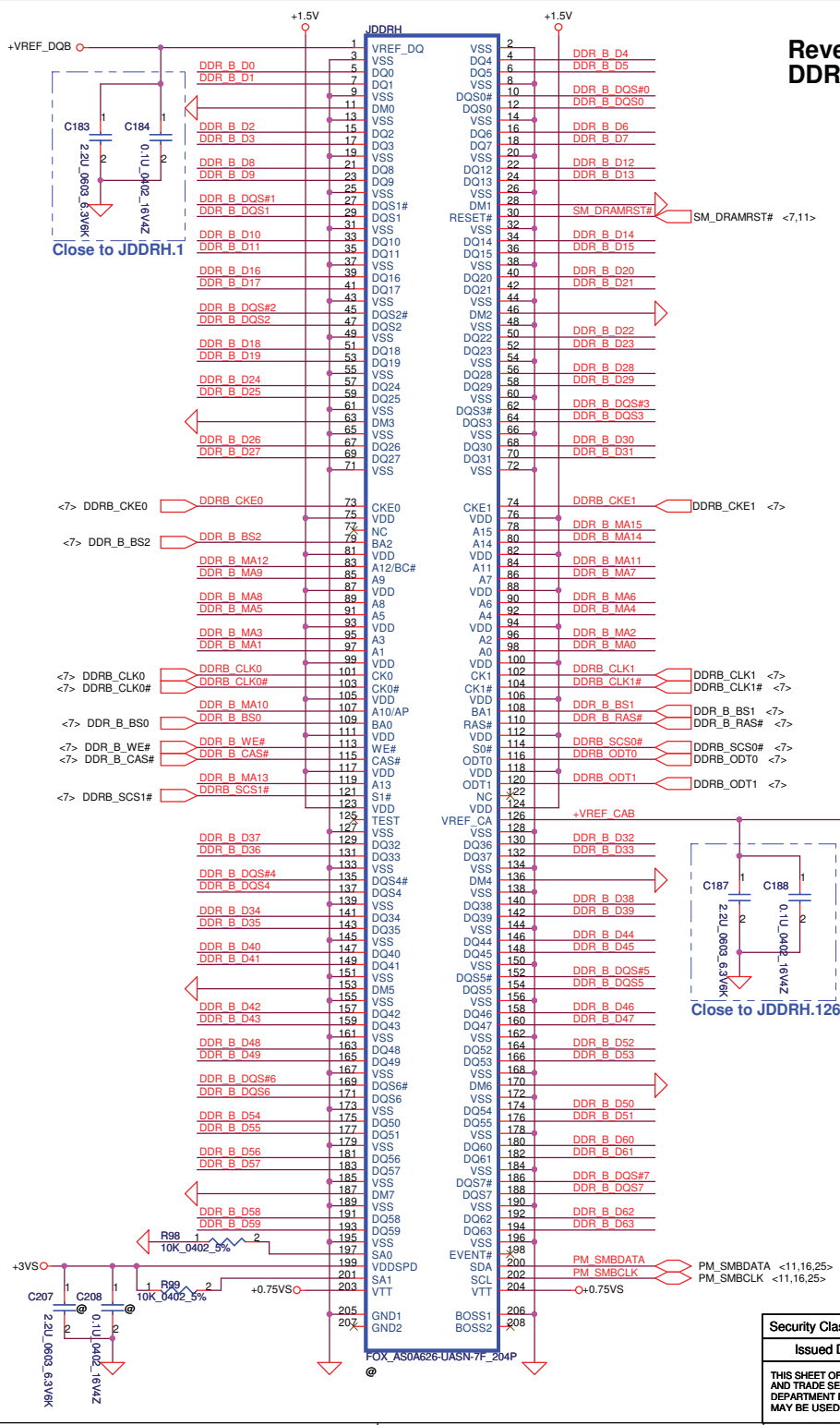
Layout Note: Place these 4 Caps near
Command and Control signals of DIMMA

Layout Note:
Place near JDDR.L1.203 and 204



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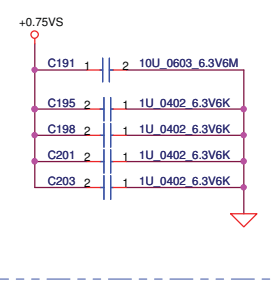
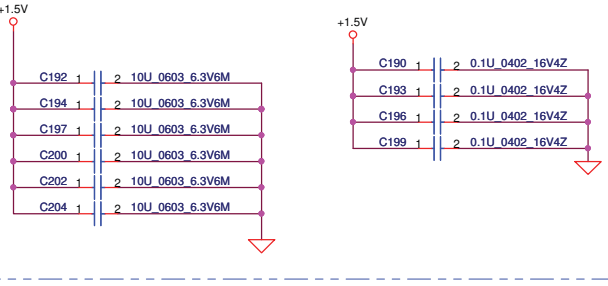
Reverse Type DDR3 SO-DIMM B



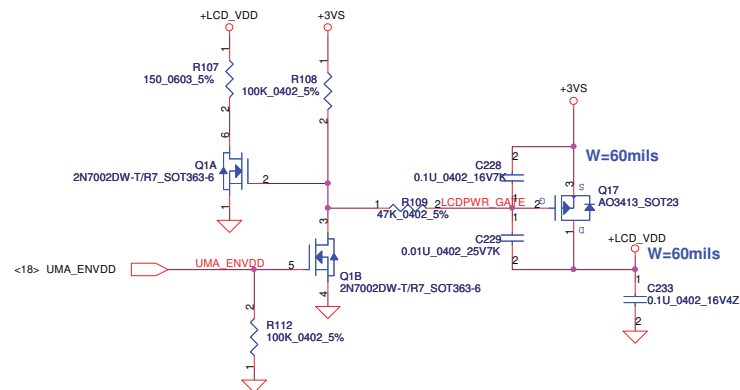
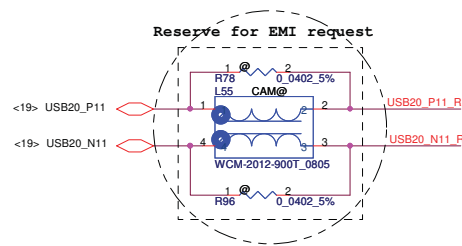
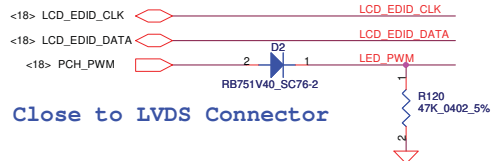
Layout Note:
Place near JDDRH

Layout Note: Place these 4 Caps near
Command and Control signals of DIMMB

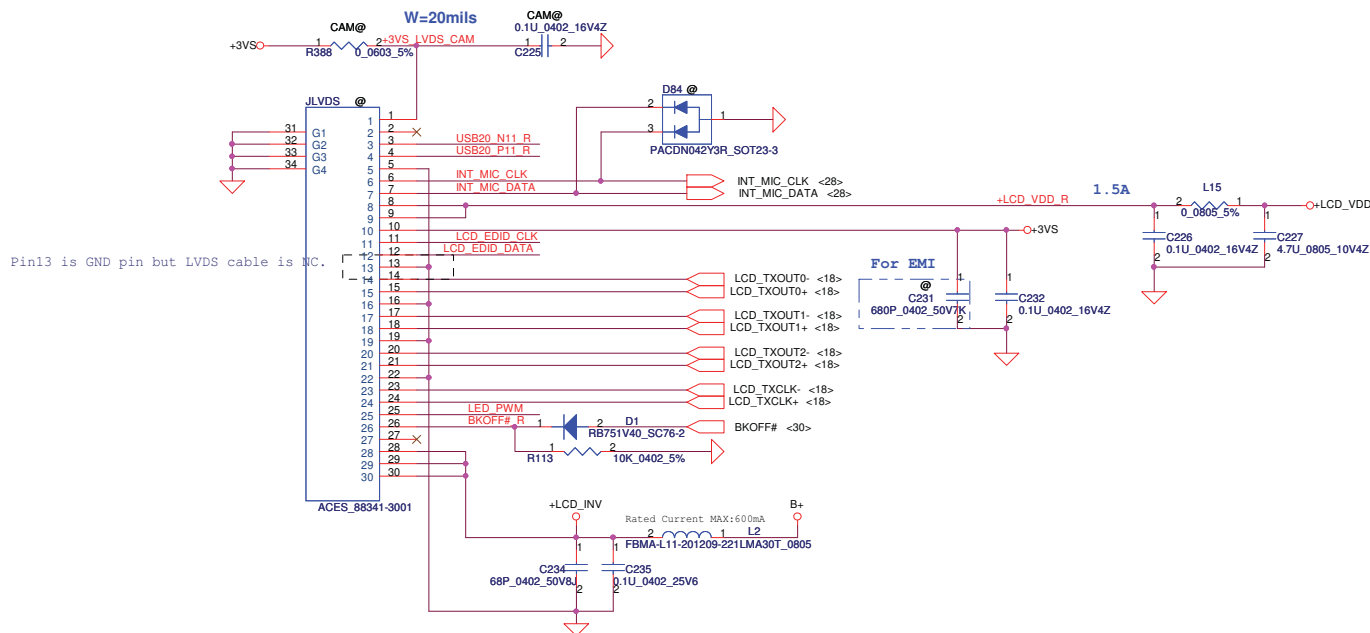
Layout Note:
Place near JDDRH.203 and 204



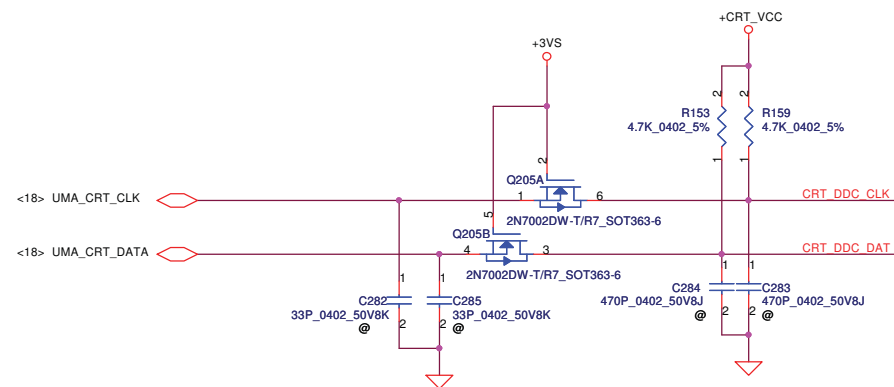
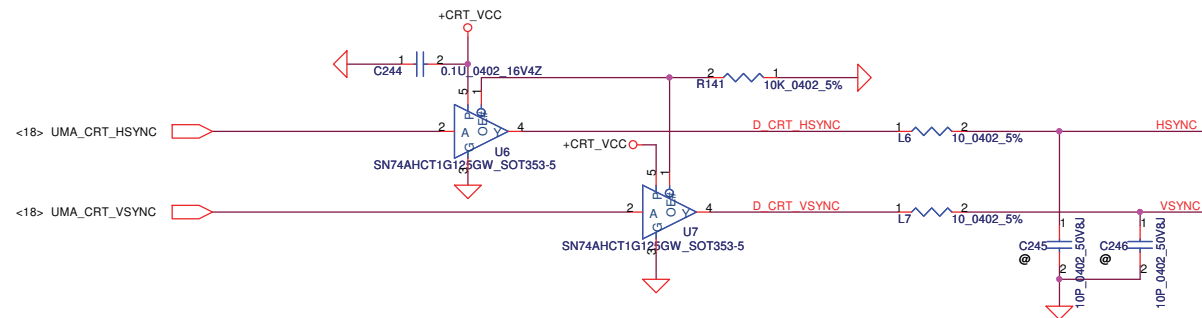
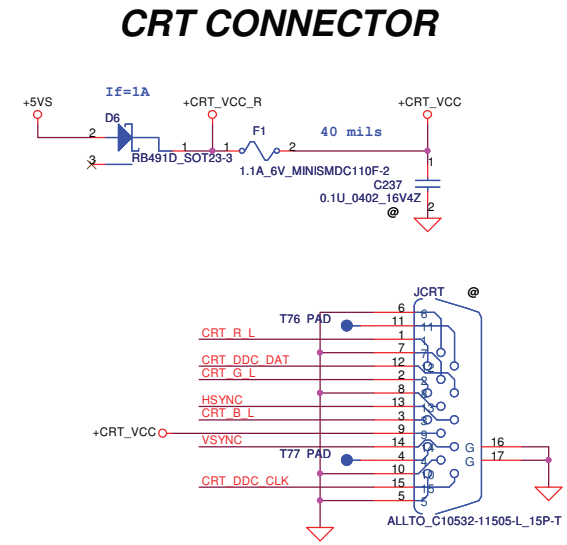
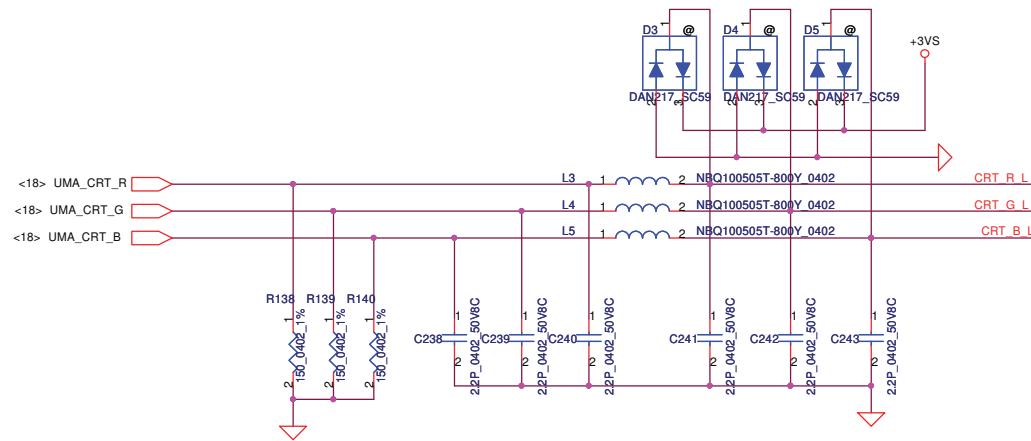
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LCD/PANEL BD. Conn.

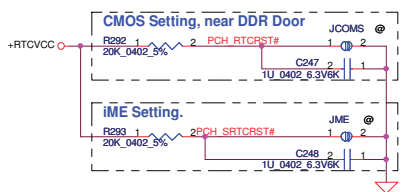


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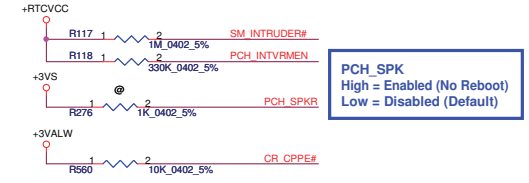
CRT CONNECTOR

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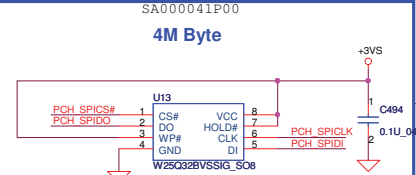
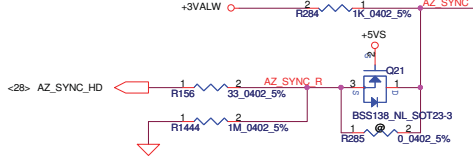
Integrated SUS 1.05V VRM Enable

PCH_INTVRMEN High - Enable Internal VRs (must be always pulled high)

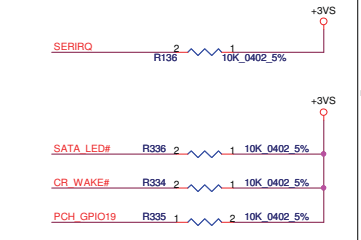
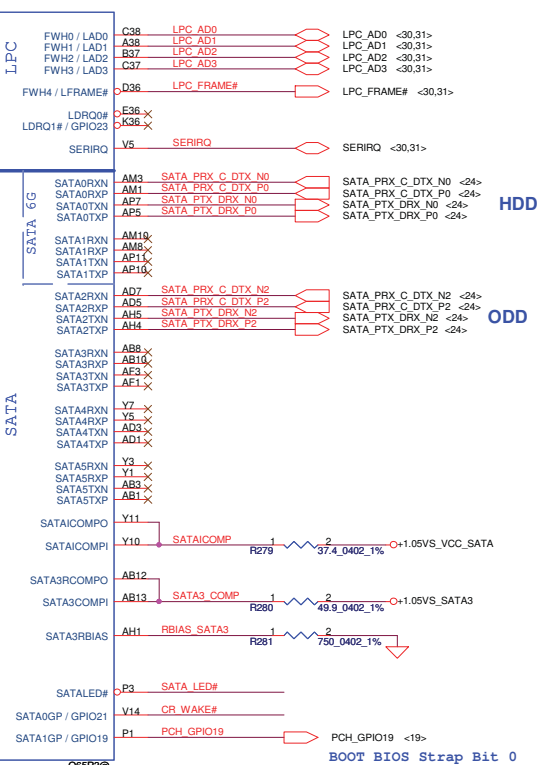
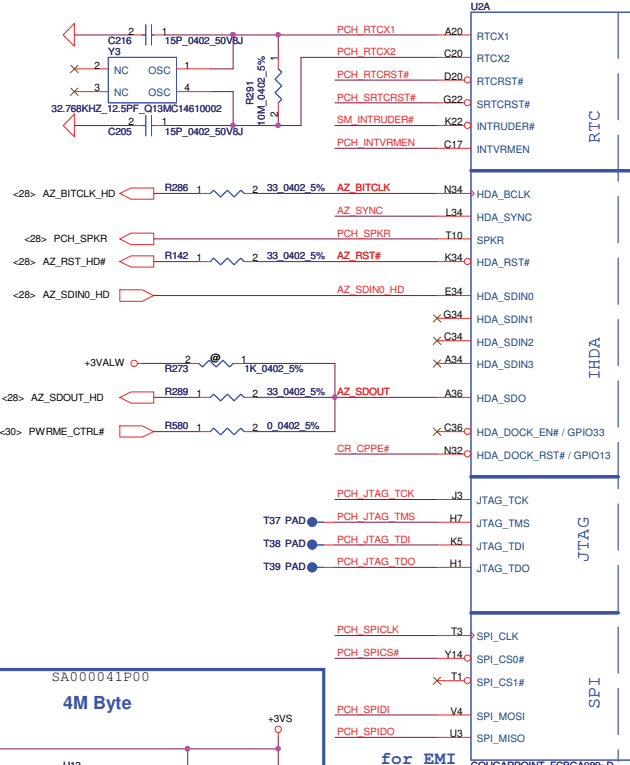


HDA_SDO
ME debug mode,
this signal has a weak internal pull down
★Low = Disable (default)
High = Enable (flash descriptor security override)

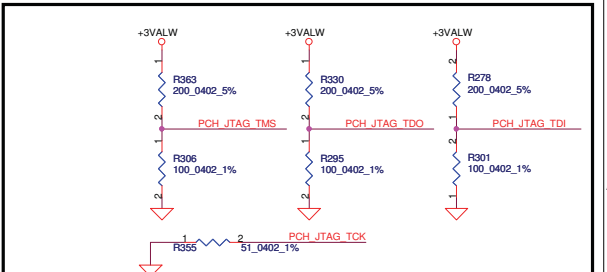
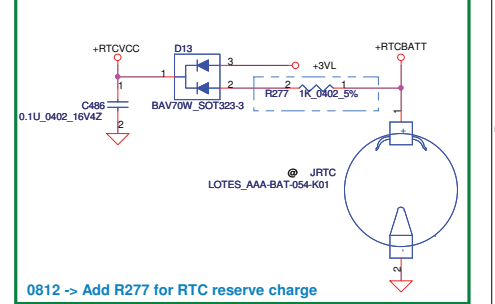
HDA_SYNC
★This signal has a weak internal pull down
H=>On Die PLL is supplied by 1.5V
L=>On Die PLL is supplied by 1.8V
Need to pull high for Huron River platform



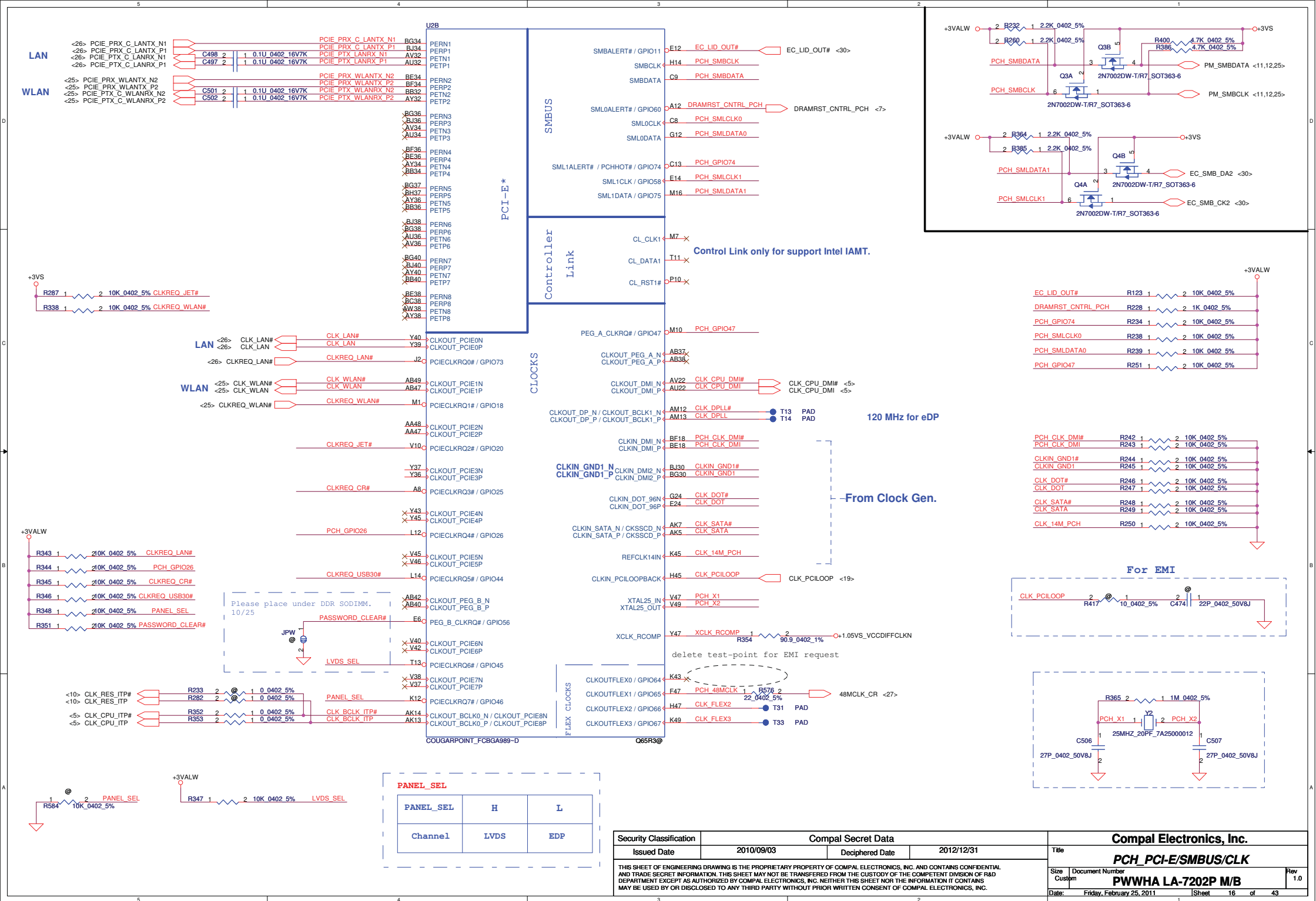
remove socket for DVT phase, due to ME height limitation
Please close to U2 PCH

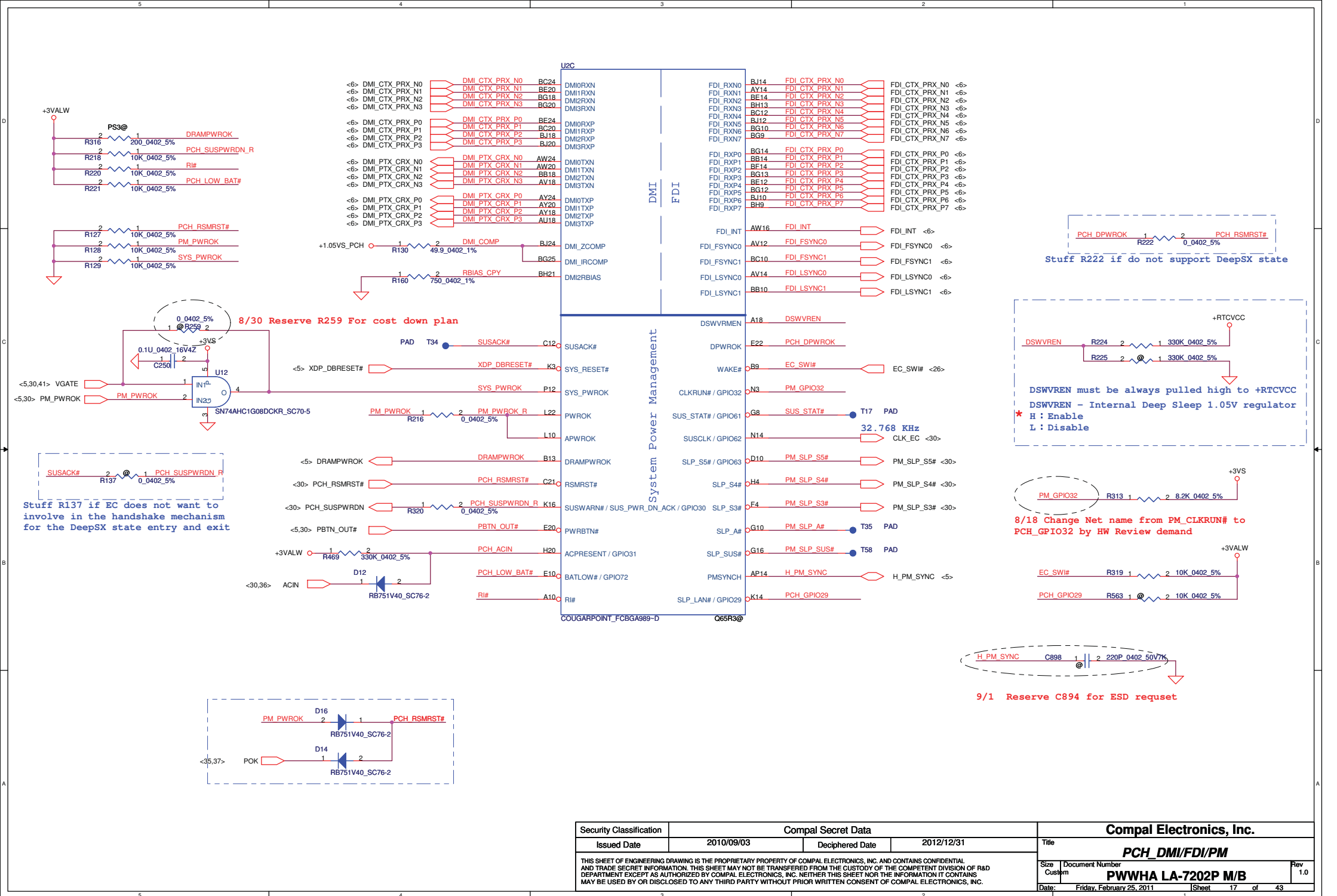


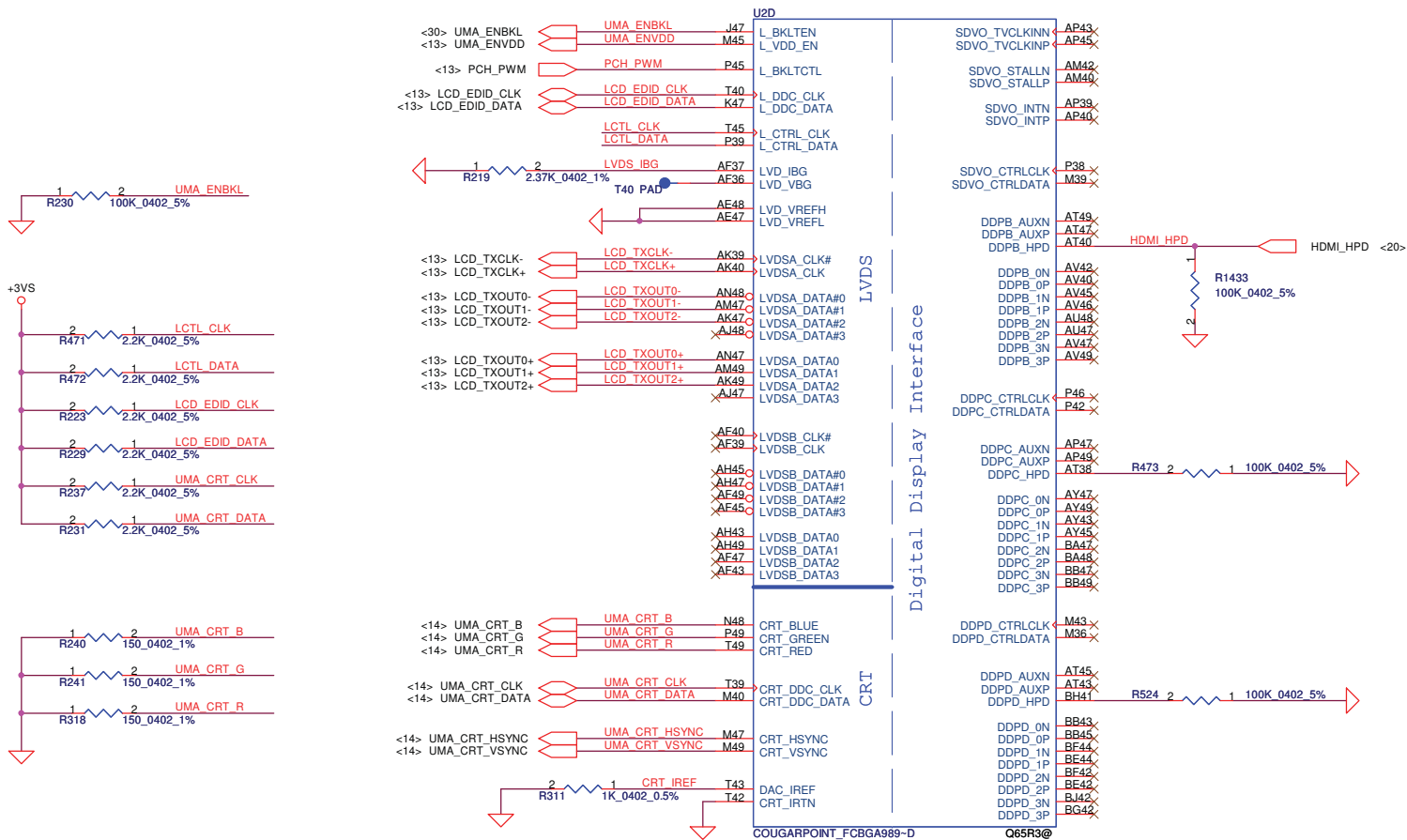
RTC schematic for non-chargeable



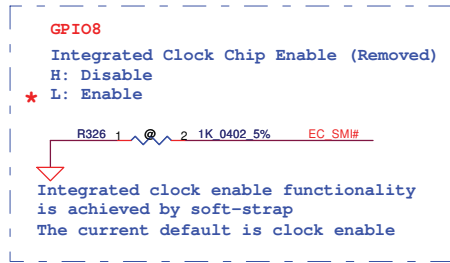
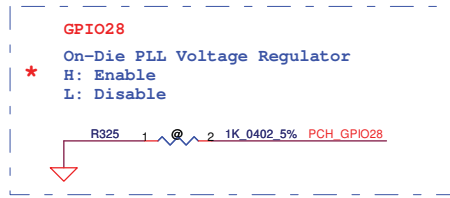
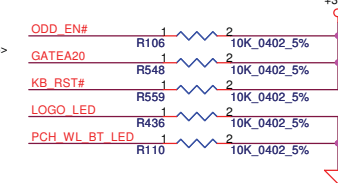
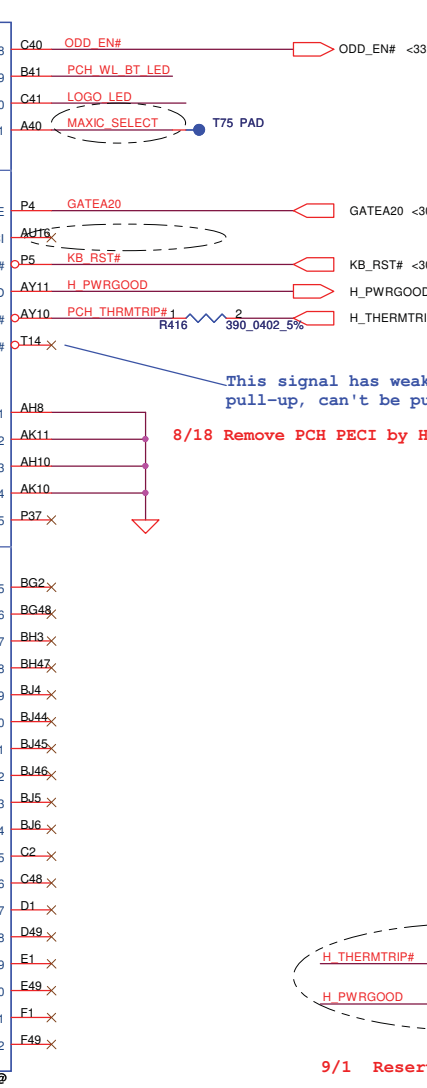
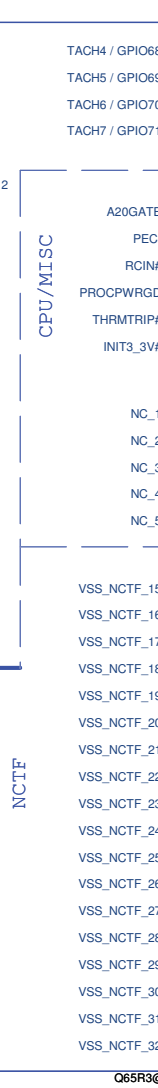
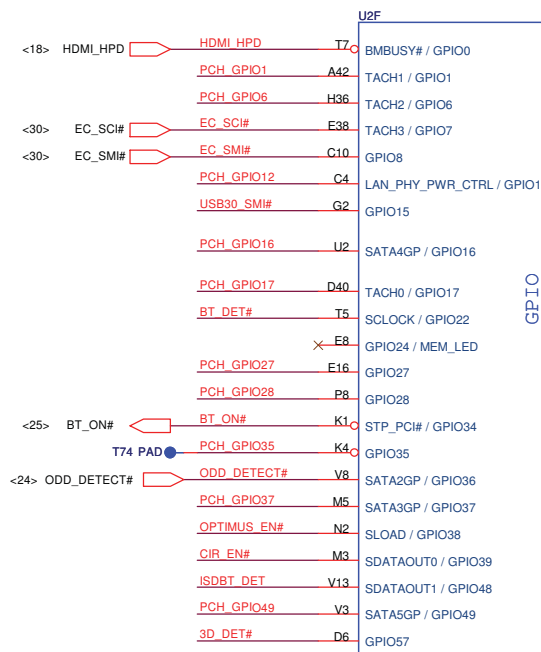
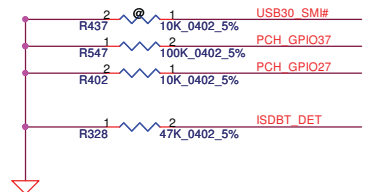
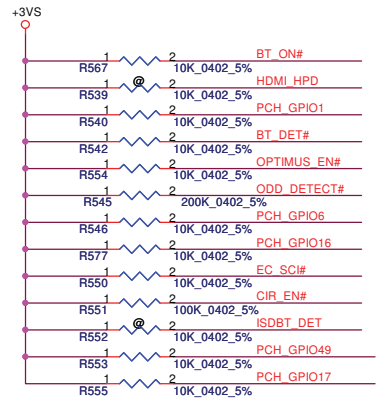
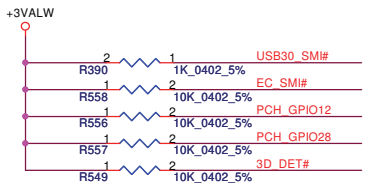
Security Classification	Compal Secret Data			Compal Electronics, Inc.	
Issued Date	2010/09/03	Deciphered Date	2012/12/31	PCH_HDA/JTAG/SATA/SPI/LPC	
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				Custom	PWWHA_LA-7202P M/B
				Date	Friday, February 25, 2011
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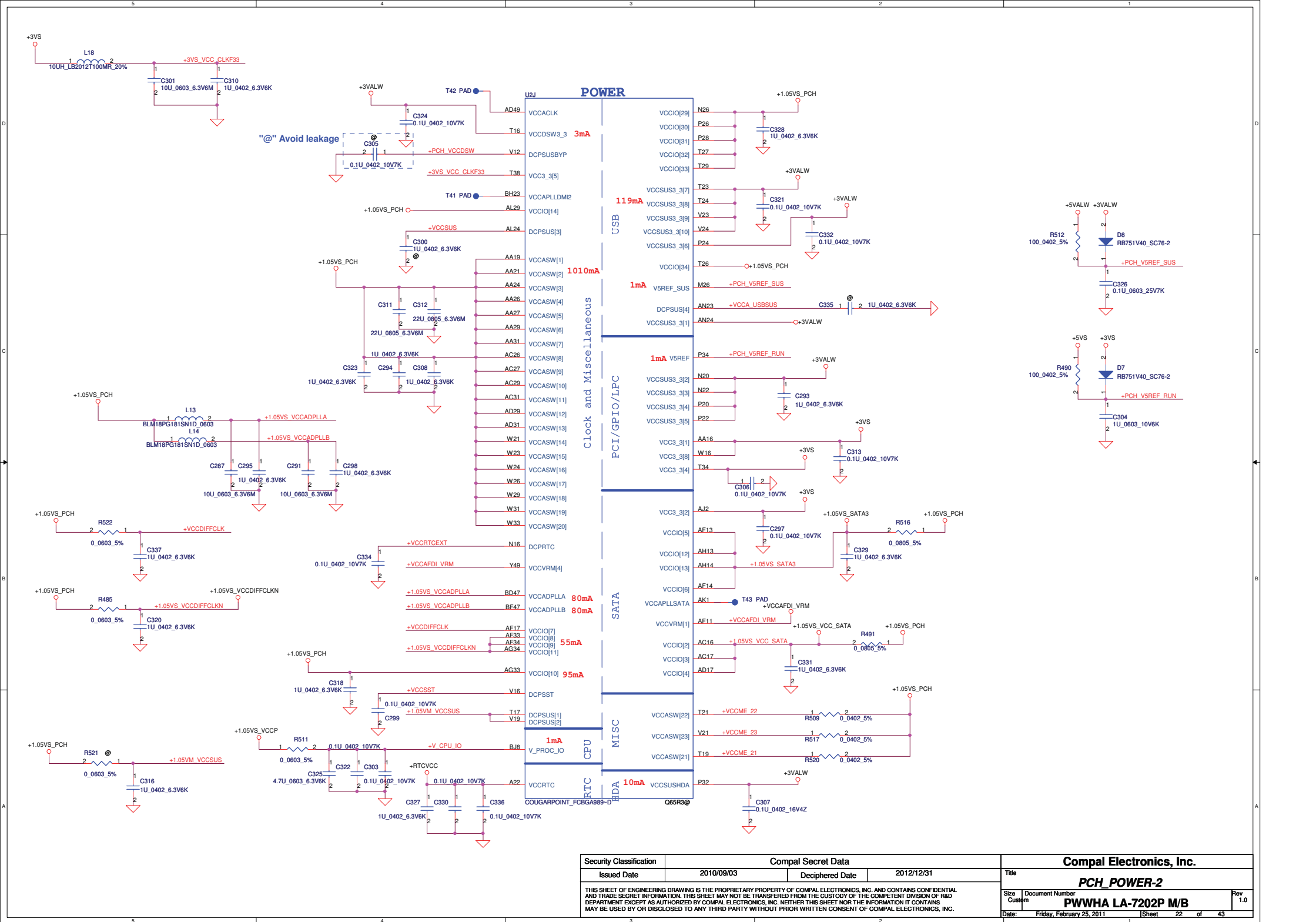


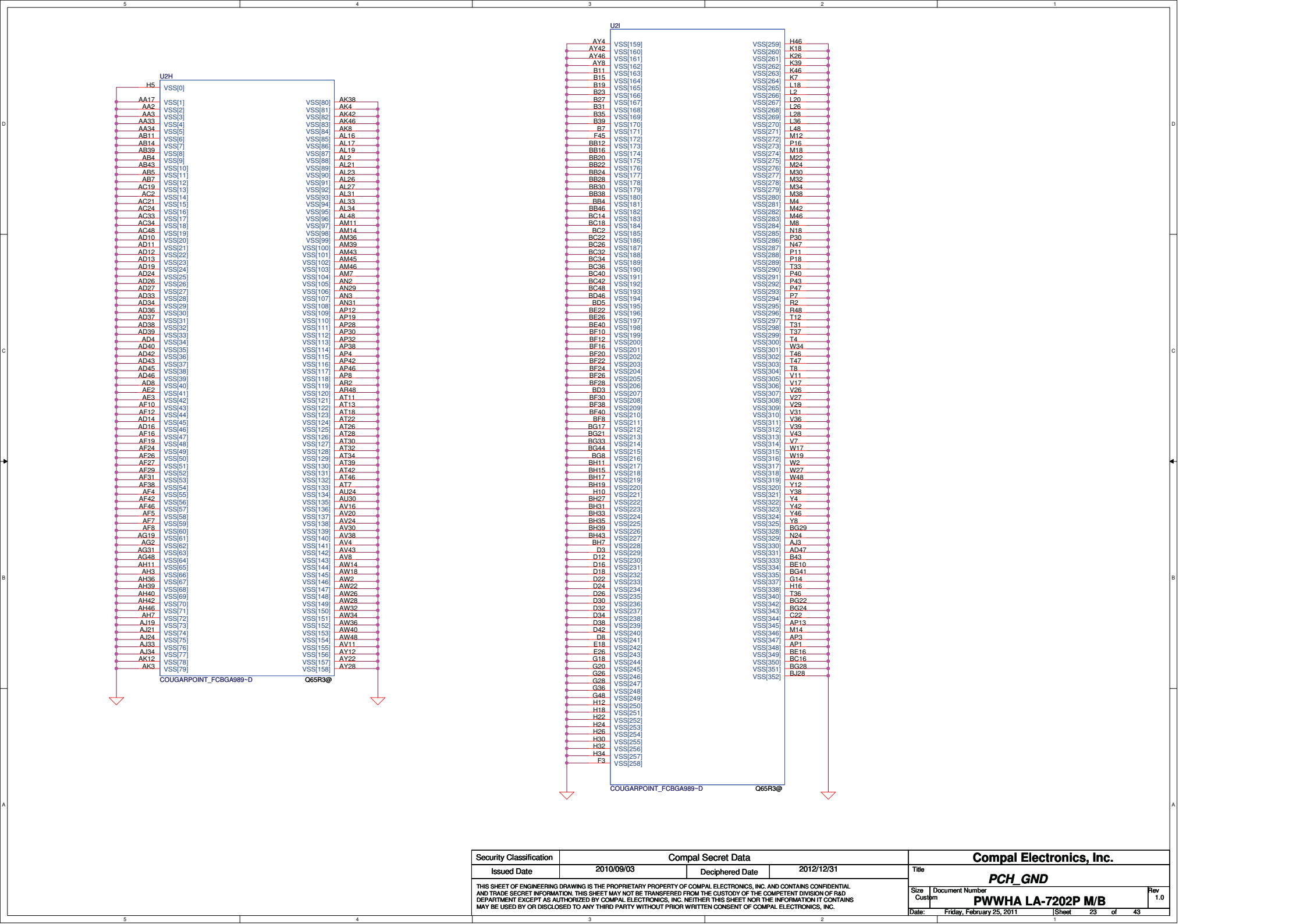


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Issued Date	2010/09/03	Deciphered Date	2012/12/31	Title	
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Size		Document Number		Rev	
Custom		PWWHA LA-7202P M/B		1.0	
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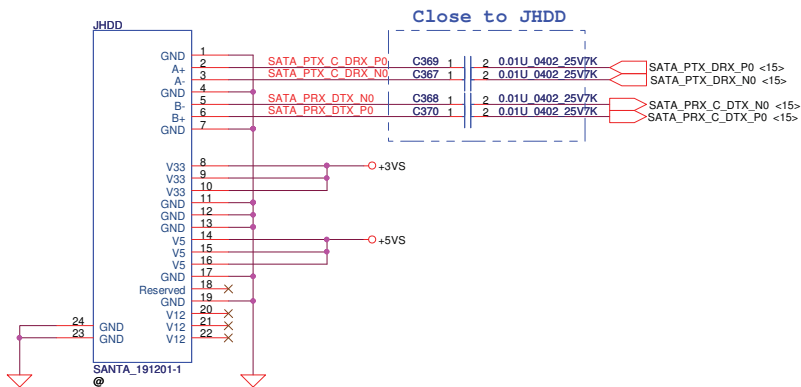


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Issued Date	2010/09/03	Deciphered Date	2012/12/31	Title	
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				PWWHA LA-7202P M/B	
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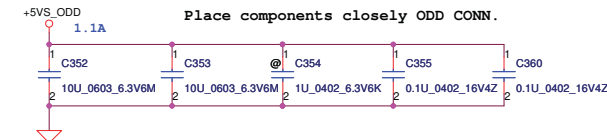




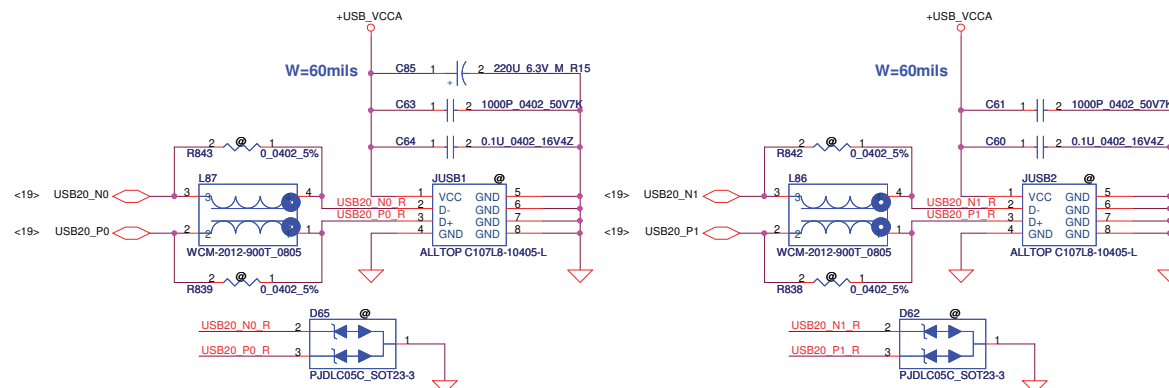
Security Classification		Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/09/03	Deciphered Date	2012/12/31	Title	
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Size		Document Number		Rev	
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SATA ODD Conn

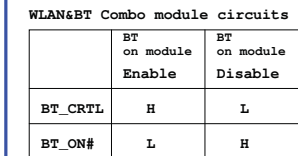
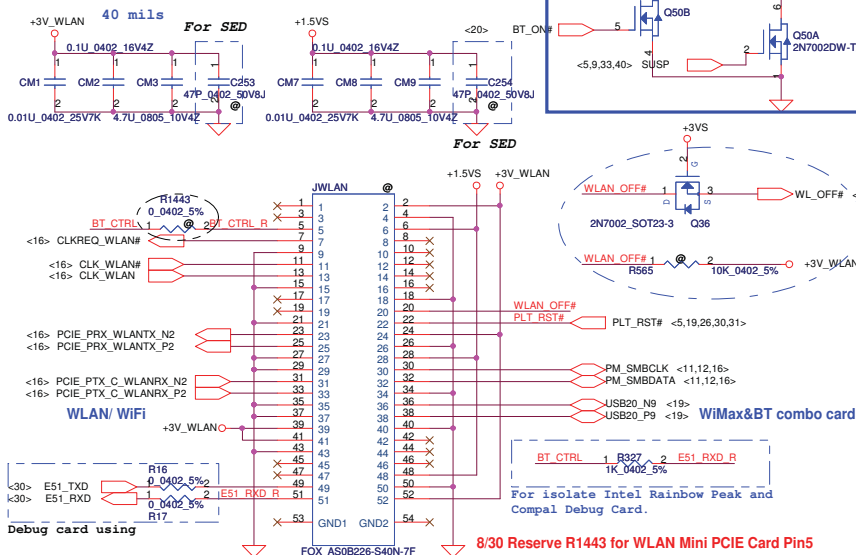
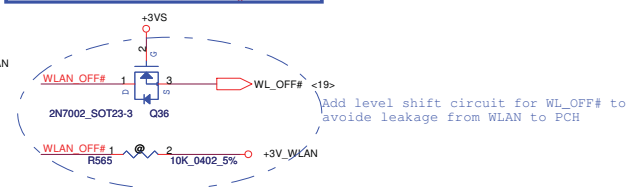


USB Conn. Left Side



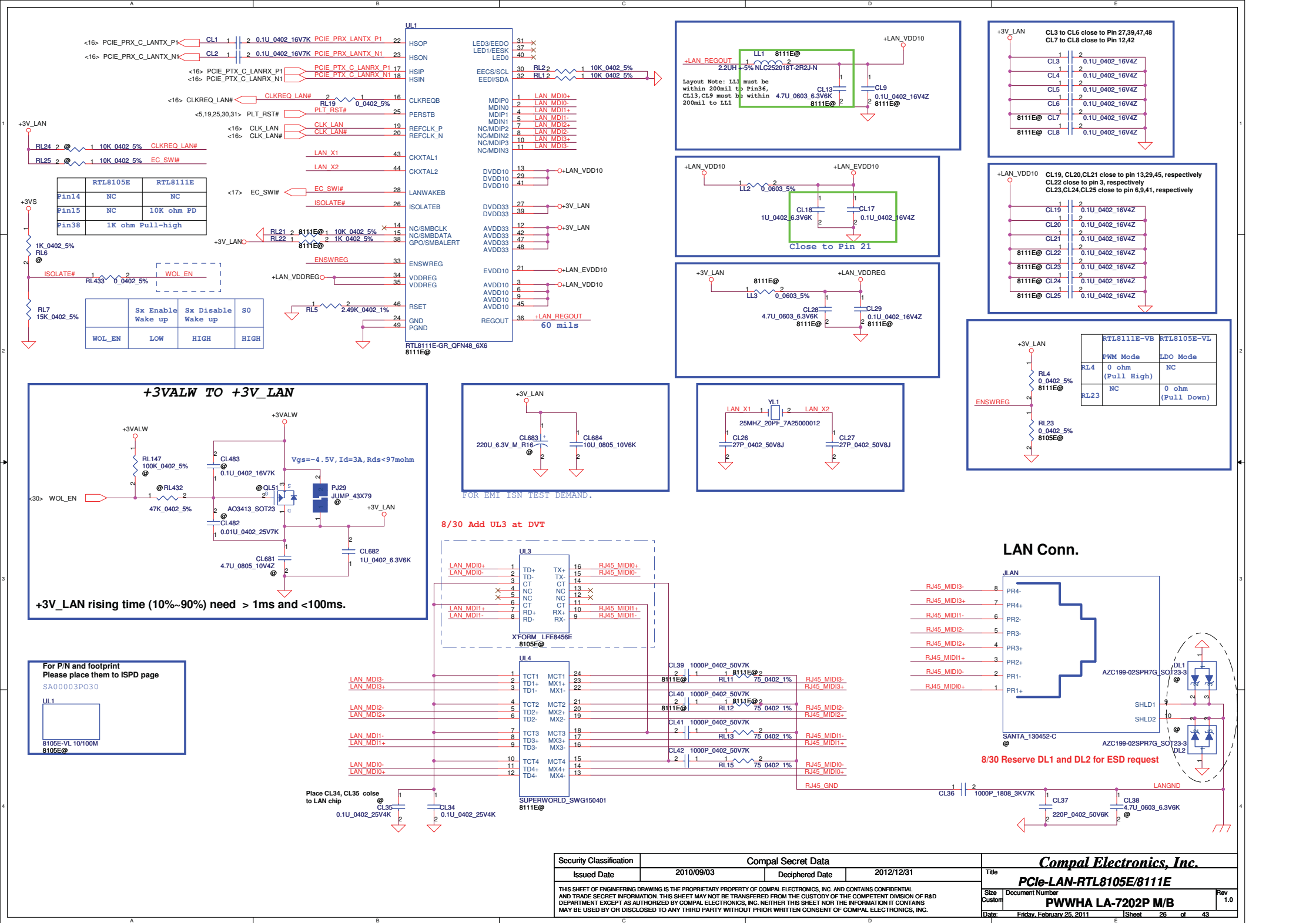
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Issued Date	2010/09/03	Deciphered Date	2012/12/31	Title		
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				Size	Document Number	Rev
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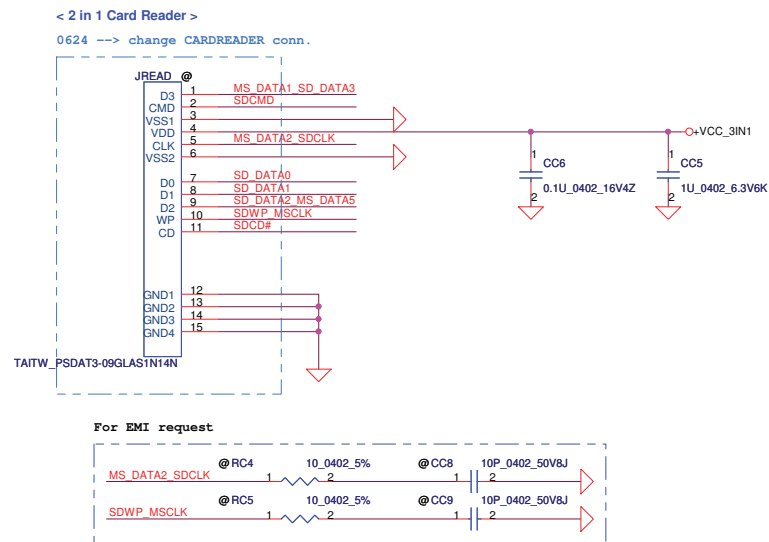
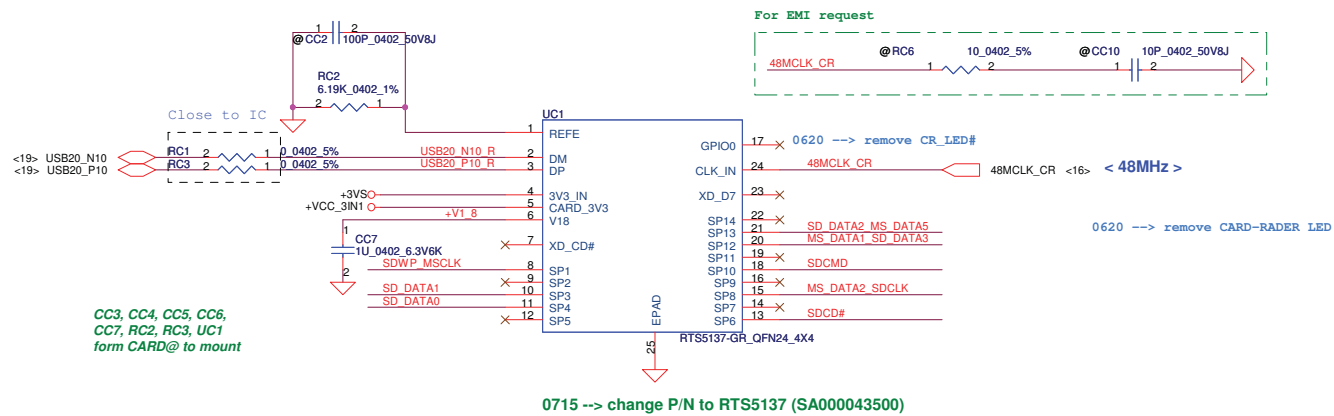
Diagram showing the connection for Wimax and WLAN. It features two JUMP components, PJ27 and PJ26, both labeled JUMP_43X79. PJ27 has pins 2 and 1 connected to +3VALW and +3V_WLAN respectively. PJ26 has pins 2 and 1 connected to +3VS and +3V_WLAN respectively. A note below the diagram states: "Short PJ27 for Wimax" and "Short PJ26 for WLAN".

[illegible]

8/30 Reserve R1443 for WLAN Mini PCIE Card Pin5

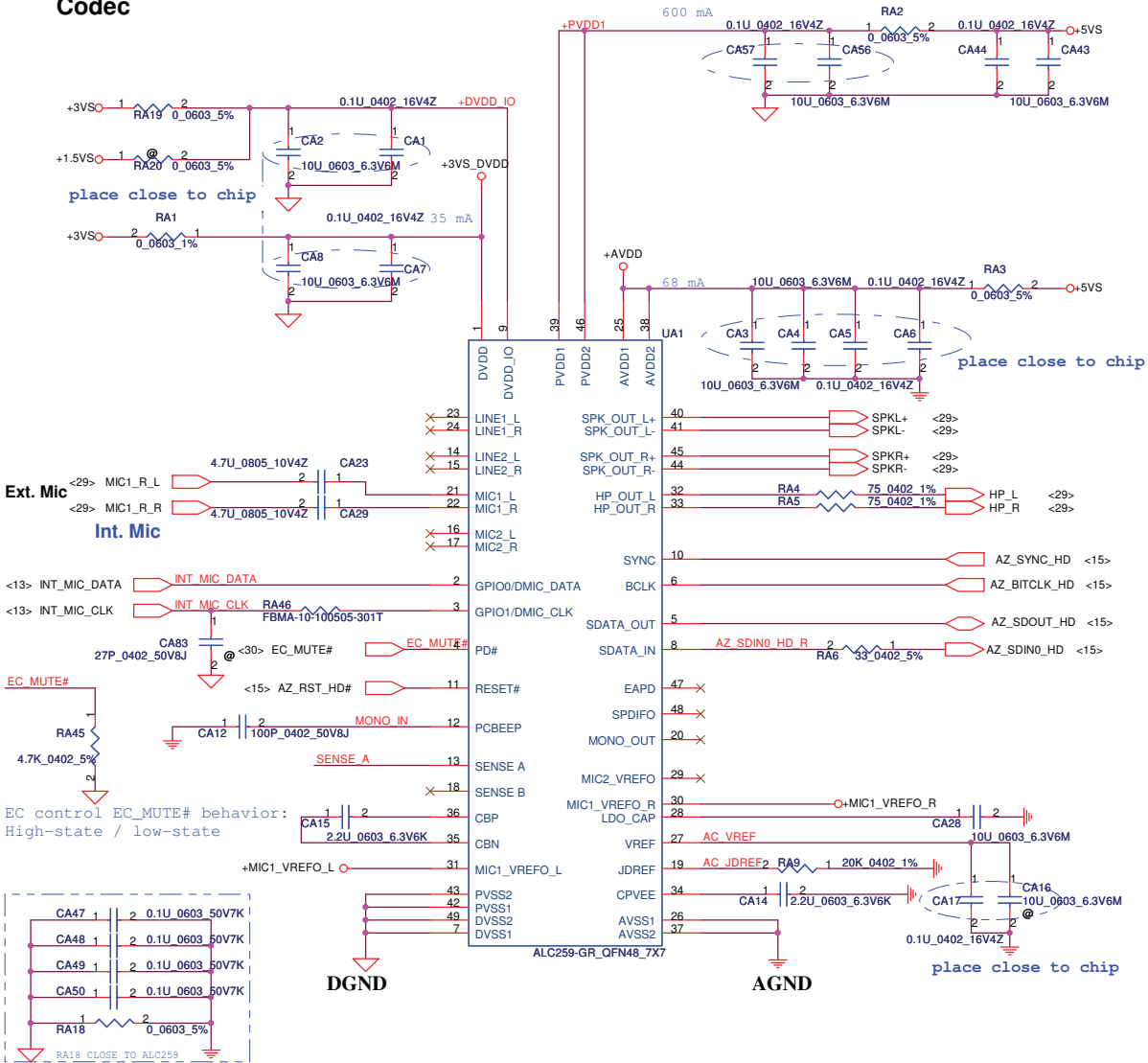
Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date	2010/09/03	Deciphered Date	2012/12/31	Title		
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				Size	Document Number	Rev
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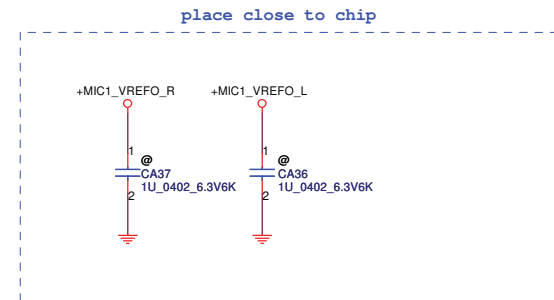
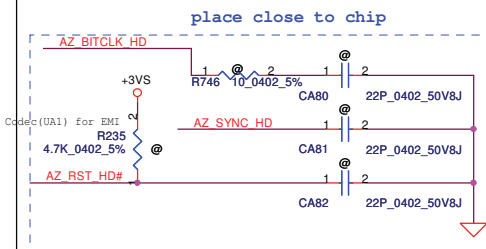
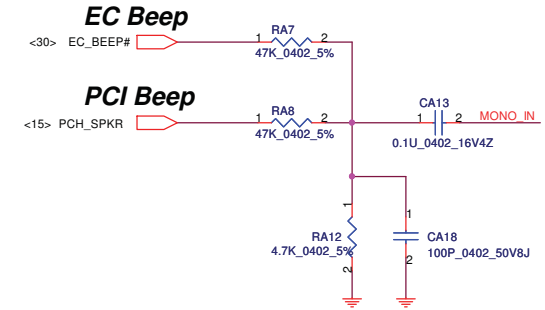


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Size Custom	Document Number			PWWHA LA-7202P M/B	Rev 1.0
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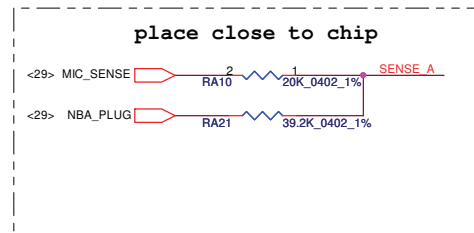
Codec



Beep sound



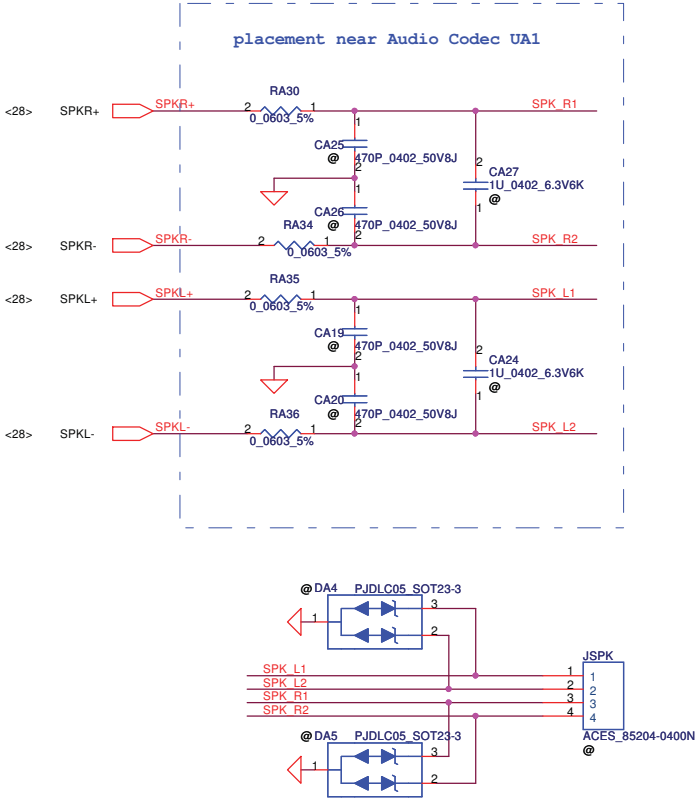
Sense Pin	Impedance	Codec Signals	Function
SENSE A	39.2K	PORT-I (PIN 32, 33)	Headphone out
	20K	PORT-B (PIN 21, 22)	Ext. MIC
	10K	PORT-C (PIN 23, 24)	
SENSE B	5.1K	(PIN 48)	
	39.2K	PORT-E (PIN 14, 15)	
	20K	PORT-F (PIN 16, 17)	Int. MIC
	10K	PORT-H (PIN 20)	



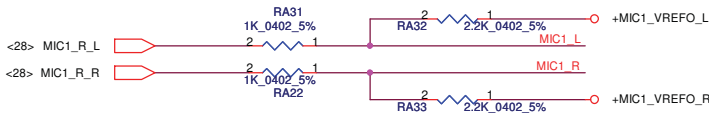
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date				2010/09/03				Deciphered Date			
2012/12/31				Title				HDA-ALC259			
Size				Document Number				PWWHA LA-7202P M/B			
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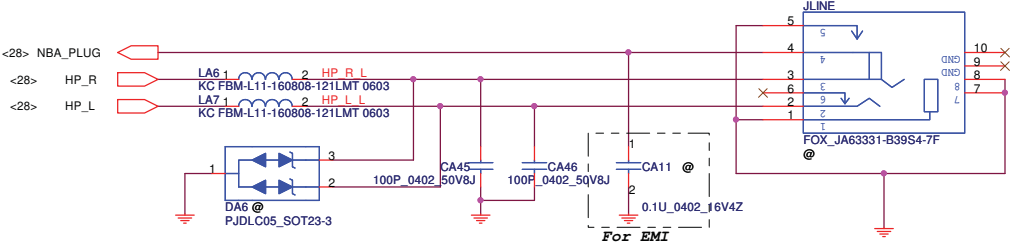
Speaker Connector



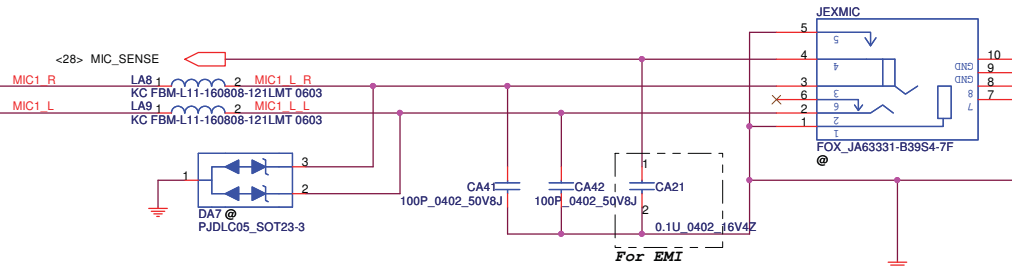
Ext. Mic



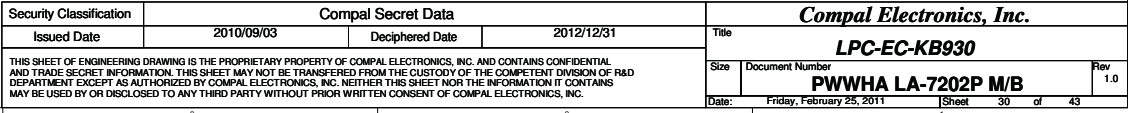
HeadPhone/LINE Out JACK



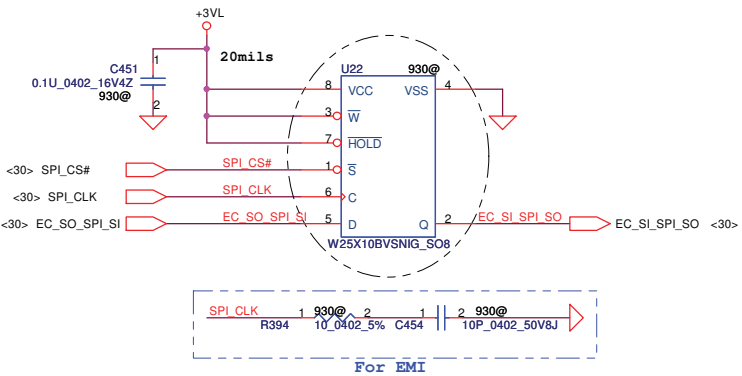
Ext.MIC/LINE IN JACK



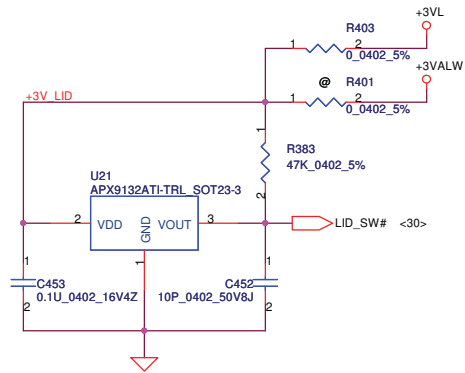
Security Classification	Compal Secret Data		Compal Electronics, Inc.	
Issued Date	2010/09/03	Deciphered Date	2012/12/31	Title
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Size		Document Number		Rev
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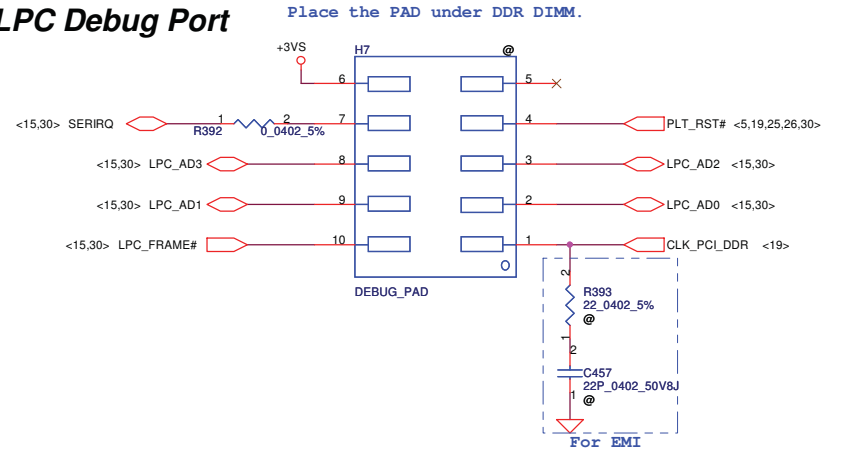
SPI Flash (256KB)



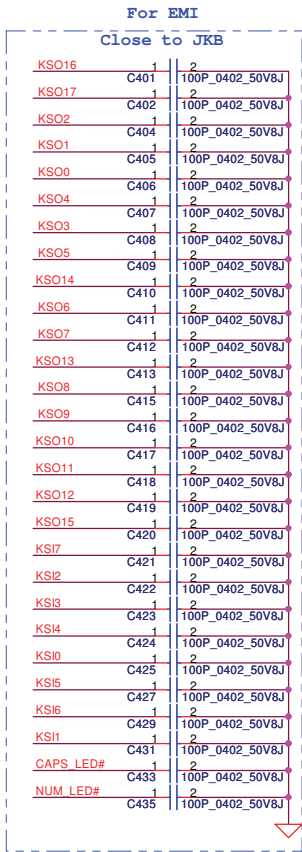
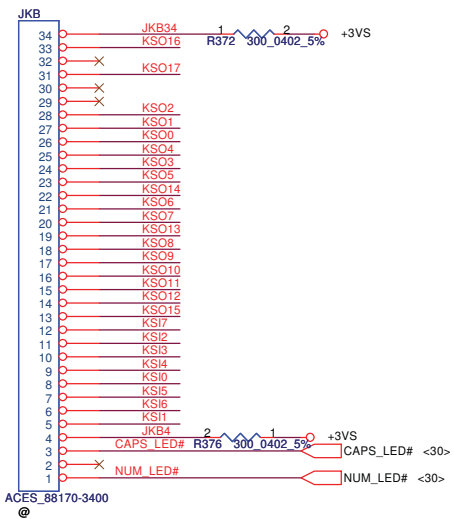
Lid SW



LPC Debug Port

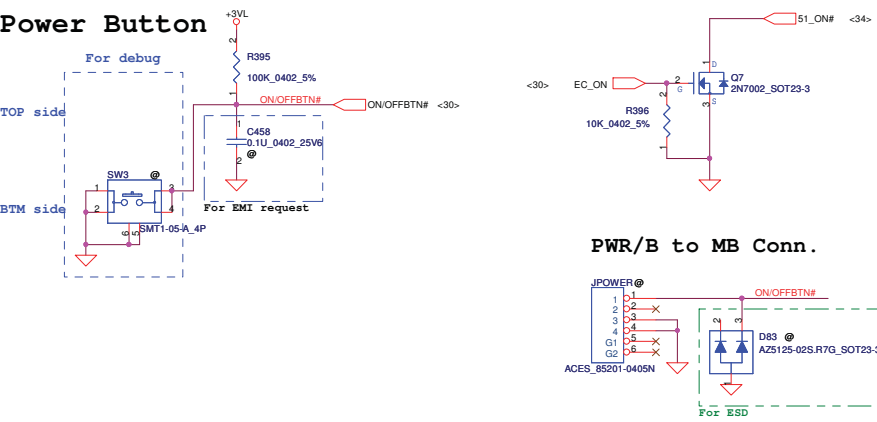


KEYBOARD CONN.

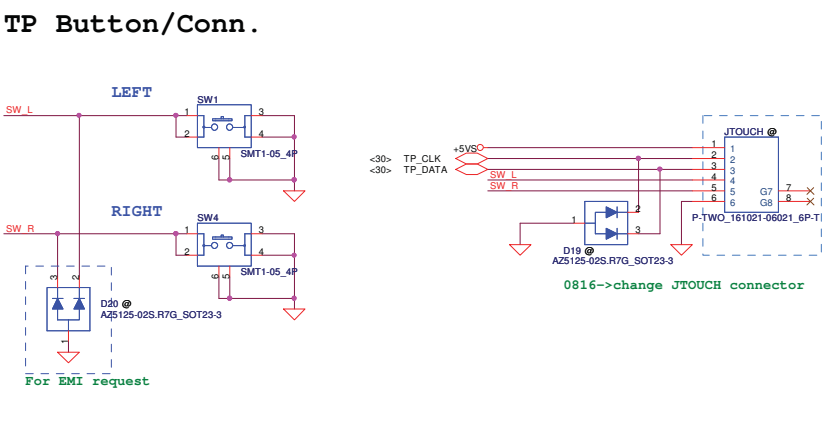


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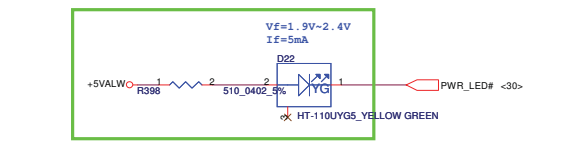
Power Button



TP Button/Conn.



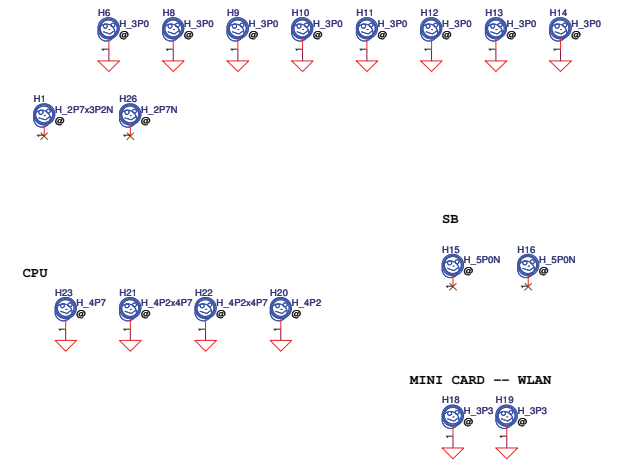
POWER/SUSPEND LED



BATT CHARGE/FULL LED



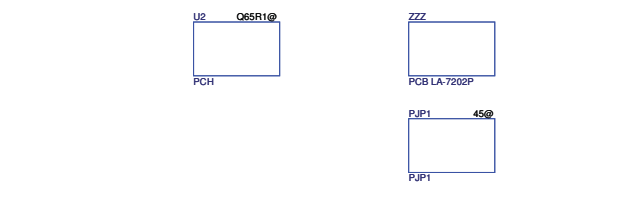
Screw Hole



PCB Fedical Mark PAD

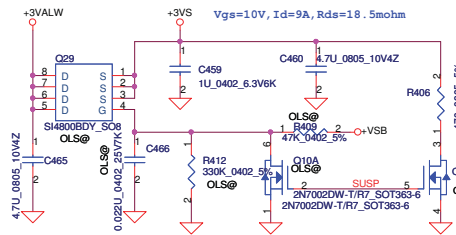


ISPD

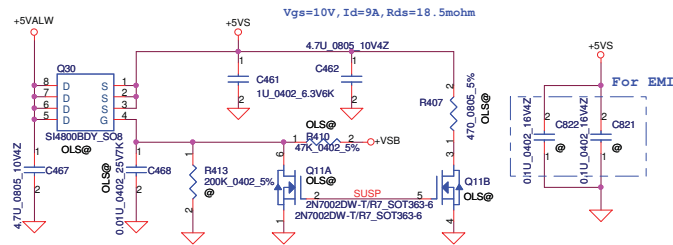


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				Date:	Friday, February 25, 2011	Sheet 32 of 43

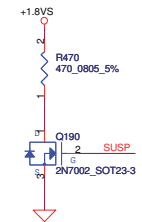
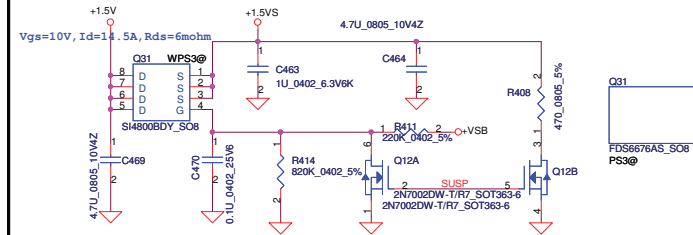
+3VALW TO +3VS



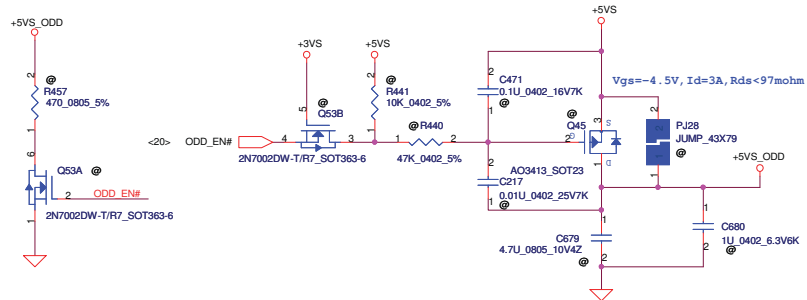
+5VALW TO +5VS



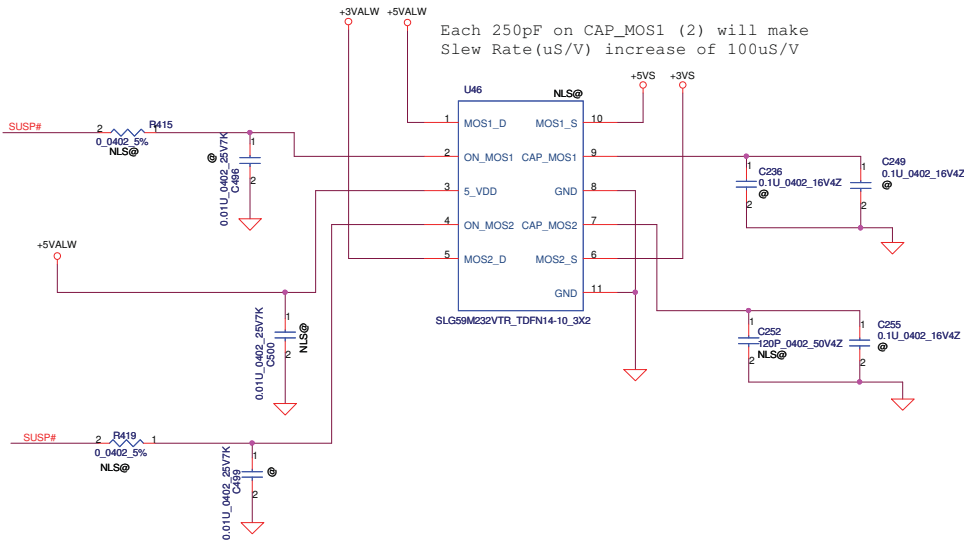
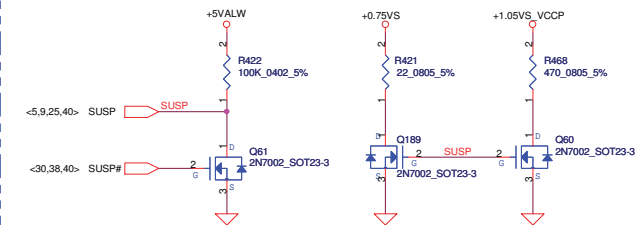
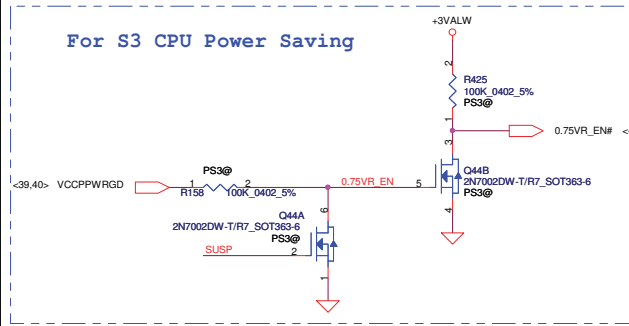
+1.5V to +1.5VS



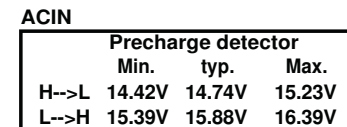
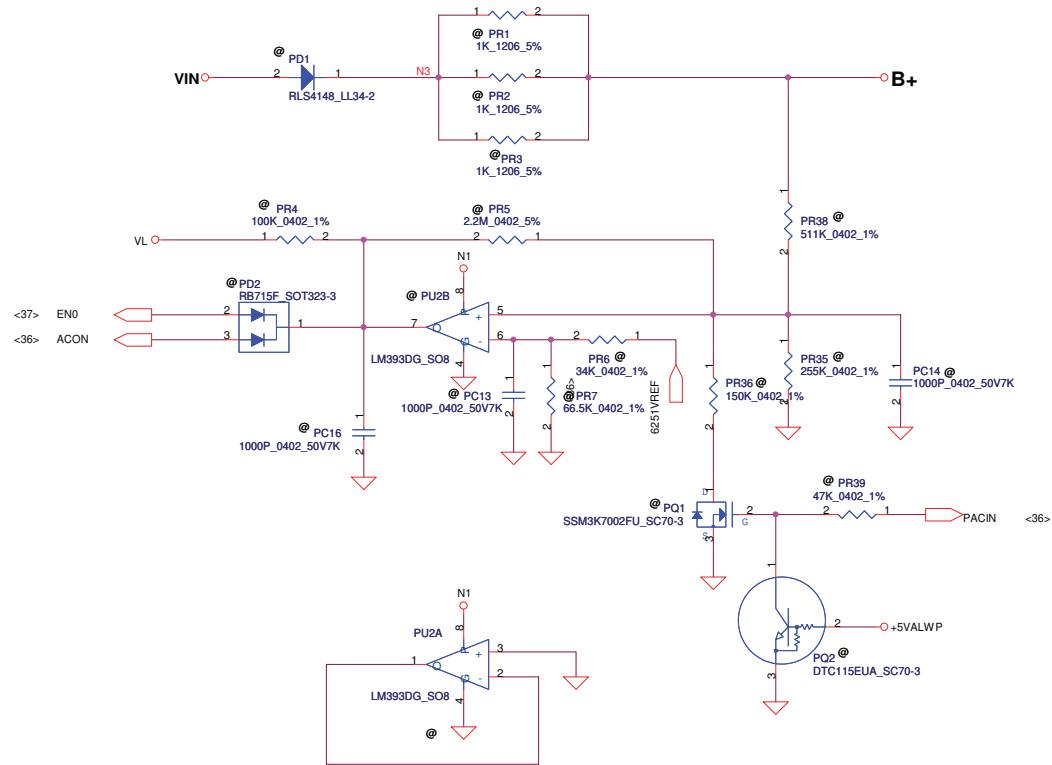
+5VS TO +5VS_ODD



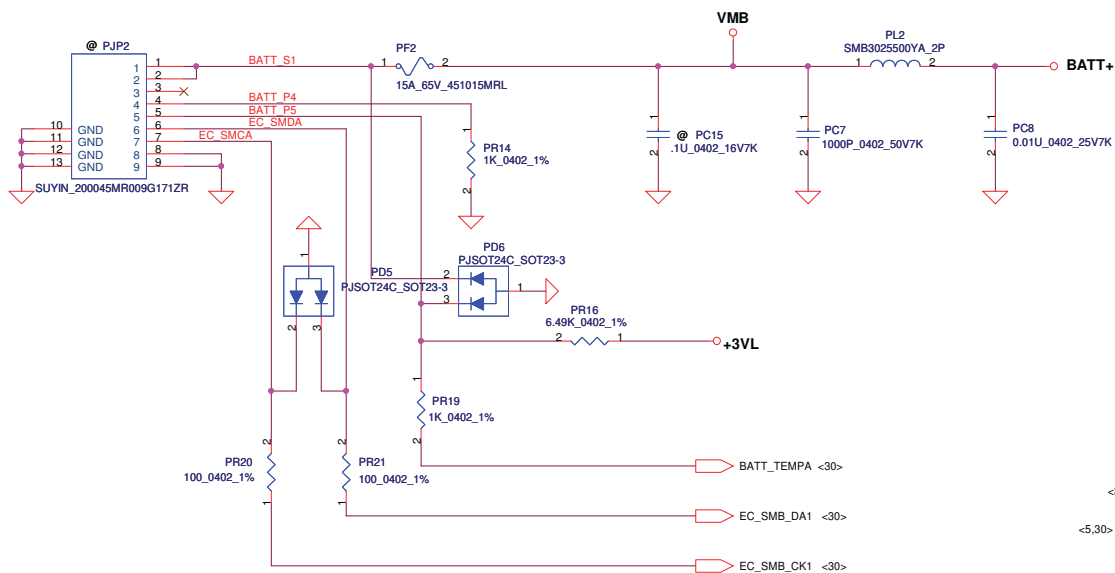
For S3 CPU Power Saving



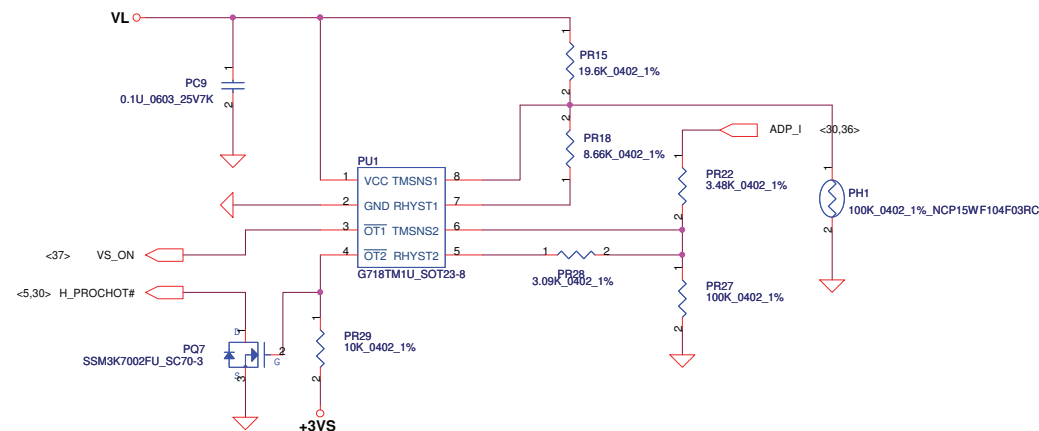
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				PWWHA LA-7202P M/B	
				Date	Friday, February 25, 2011
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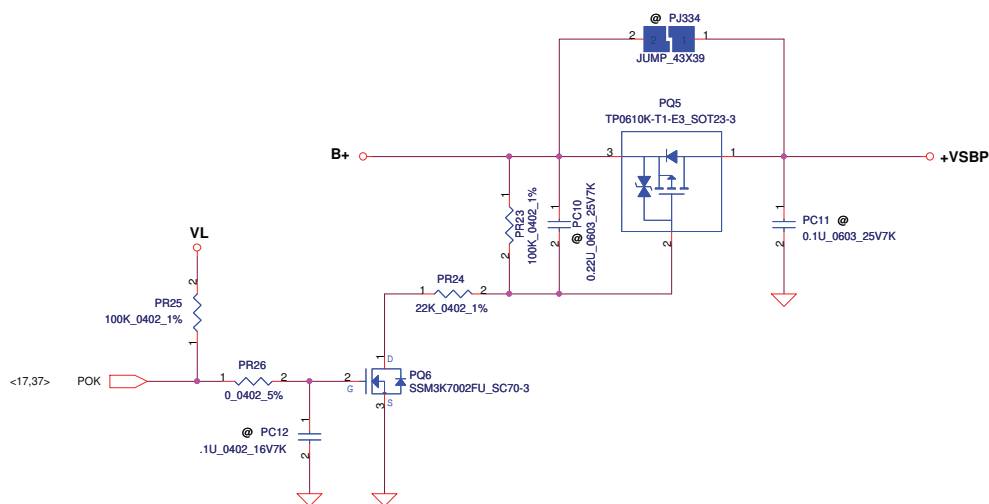
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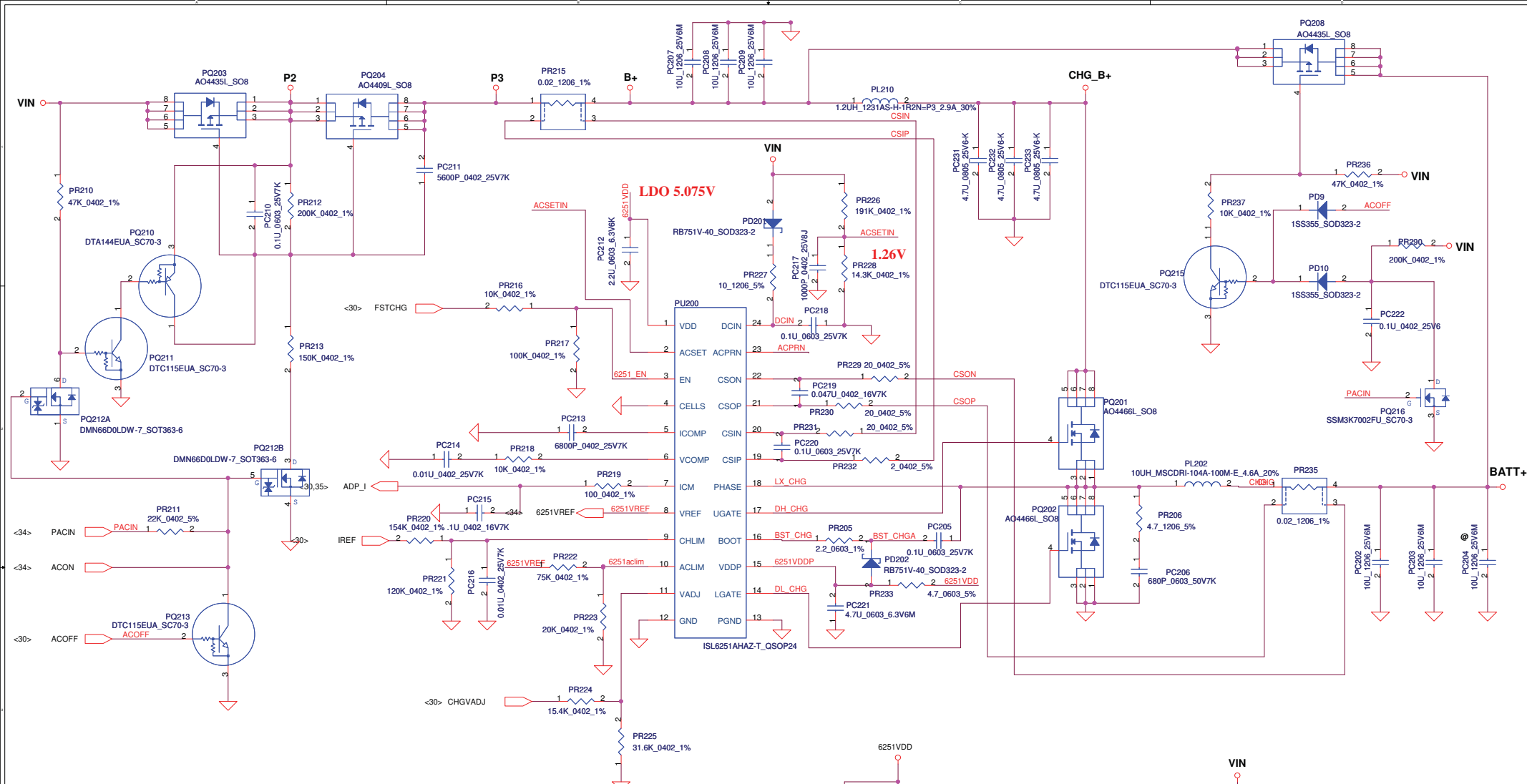


PH1 under CPU botten side :
CPU thermal protection at 95 degree C
Recovery at 56 degree C



Adapter	Throttle Watt	Recovery Watt	Throttle Point	Recovery Point
65W_UMA	71.25W	62.4W	1.48V	1.308V
75W_DIS	85.5W	72W	1.78V	1.5V
75W_QCore	85.5W	72W	1.78V	1.5V





CC=0.25A~3A
 IREF=1.016*Icharge
 IREF=0.254V~3.048V
 VCHLIM need over 95mV

CHGVADJ=(Vcell-4)*9.445	
Vcell	CHGVADJ
4V	0V
4.2V	1.882V
4.35V	3.2935V

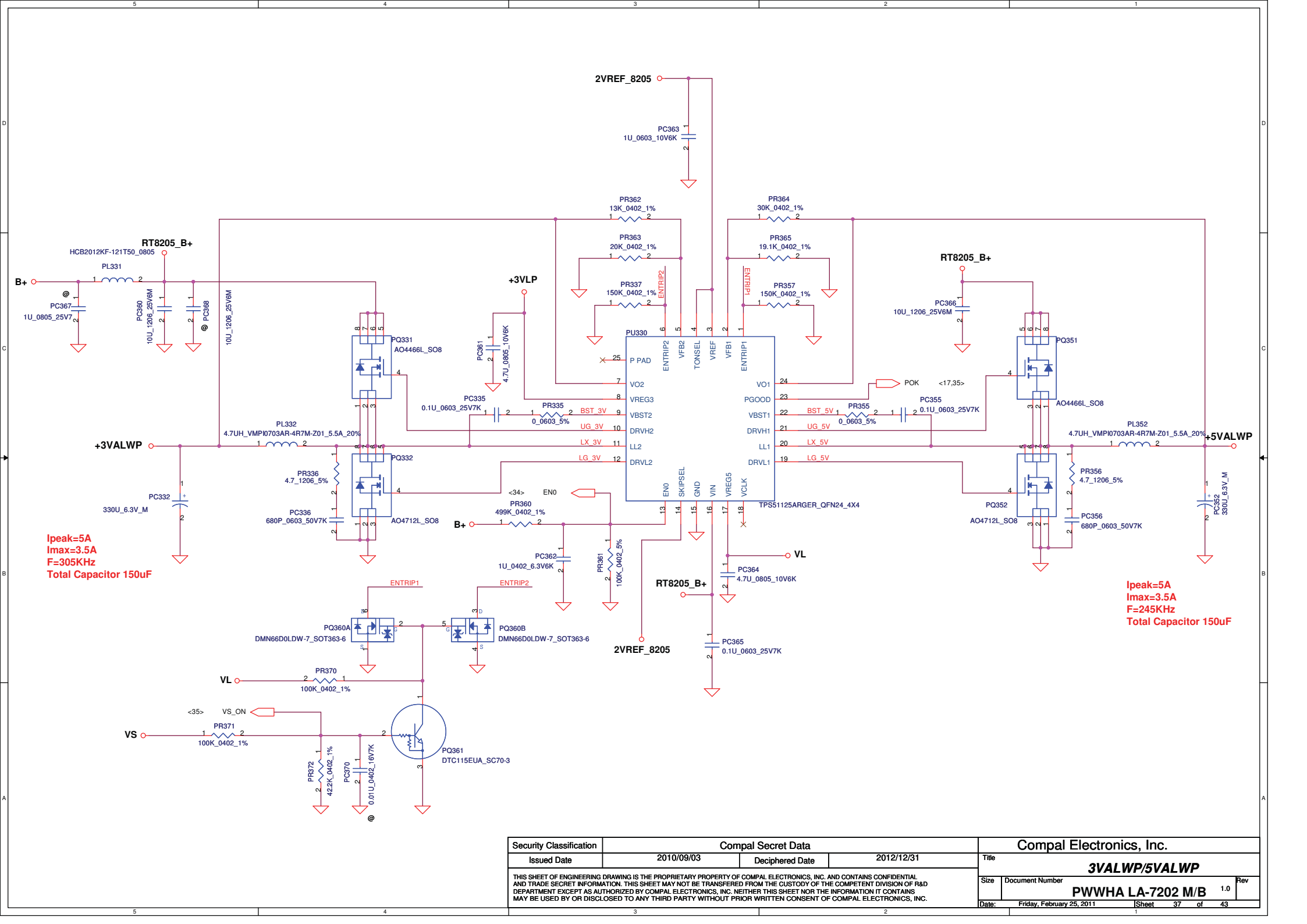
CP mode	
Iada=0~3.42A (65W)	CP= 92%*Iada; CP=3.147A
VacLim=1.08V (65W)	PR222=75k PR223=20k PR215=0.02
Iada=0~3.947A (75W)	CP= 92%*Iada; CP=3.63A
VacLim=0.736V (75W)	PR222=24k PR223=20k PR215=0.02

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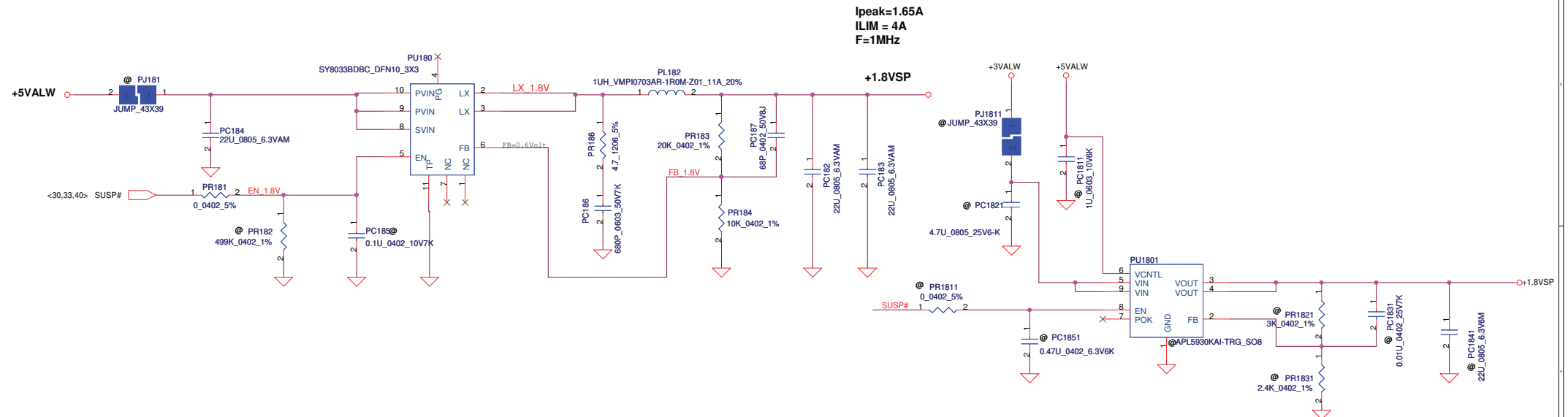
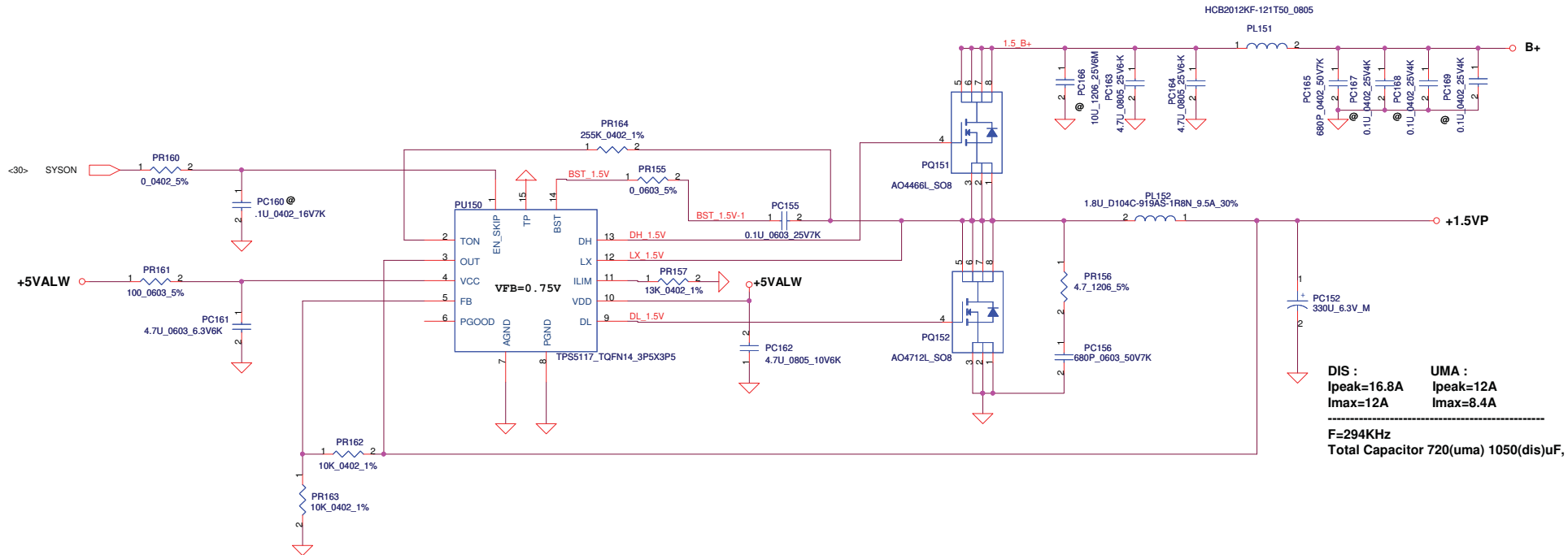
Compal Electronics, Inc.			
Title CHARGER			
Size	Document Number	PWWHA LA-7202 M/B	
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Vin Detector
 High 18.089V
 Low 17.44V

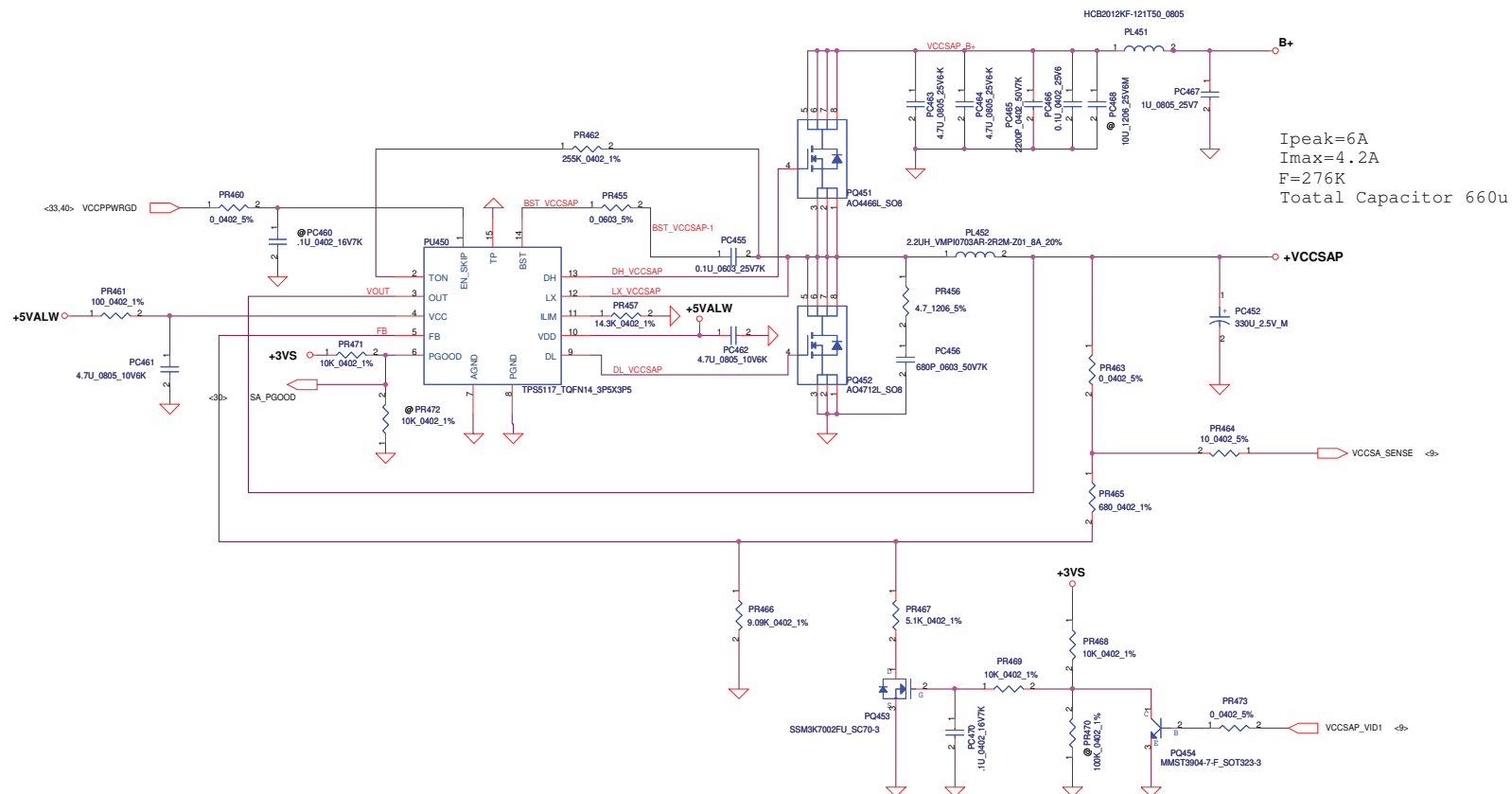
$1.26 / 14.3 * 205.3 = 18.089V$



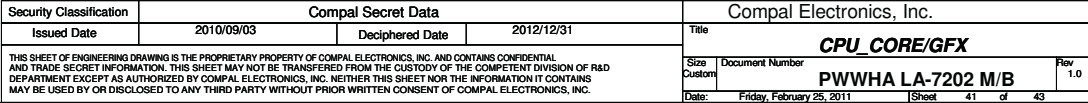
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VID1	+VCCSAP
1	0.8V
0	0.9V



	5	4	3	2	1
	PAGE		MODIFICATION LIST		PURPOSE
	2010/12/31 (PVT) P36 Charger		Change PQ203,PQ208 to AO4435L		Cost down
	2010/12/31 (PVT) P36 Charger		add PQ207,PQ208,PQ209 10u		EMI command
	2010/12/31 (PVT) P36 Charger		add snubber PR206,PC206		EMI command
	2010/12/31 (PVT) P36 Charger		change boost to 2.2 ohm PR205		EMI command
	2010/12/31 (PVT) P35 +3VALW/+5VALW		add snubber PR336,PC336,PR356,PC336		EMI command
	2010/12/31 (PVT) P37 +1.5VP/+1.8VSP		add snubber PR156,PC156		EMI command
	2010/12/31 (PVT) P37 +1.5VP/+1.8VSP		add PC165 for MEI		EMI command
	2010/12/31 (PVT) P37 +VCCSA		add snubber PR456,PC456		EMI command
	2010/12/31 (PVT) P37 +VCCSA		change output capacitor PC452 to OS-con		cost down
	2010/12/31 (PVT) P37 +VCCSA		change choke PL452 to molding		cost down
	2010/12/31 (PVT) P38 +1.05VS/+0.75		add snubber PC406 PR406		EMI command
	2010/12/31 (PVT) P38 +1.05VS/+0.75		change 0.75V enable PR279 tp PR282		HW command
	2010/12/31 (PVT) P39 +CPU_CORE		change PC549,PC515,PC525,PC 505 to correct rating		design change
	2010/12/31 (PVT) P39 +CPU_CORE		change PL502,PL503,PL504 to DCR 5%		design change
	2010/12/31 (PVT) P39 +CPU_CORE		change PC568 PC 566 to 5.8mmm capacitor		design change
	2010/12/31 (PVT) P39 +CPU_CORE		change PL551 for load line adjust		design change
	2010/12/31 (PVT) P39 +CPU_CORE		change PR560 for program temperture		design change
	2010/12/31 (PVT) P39 +CPU_CORE		change PC502,PC531,PC532 for burn-in shun down		design change

HW PIR (Product Improve Record)

PWWHA LA-7202P SCHEMATIC CHANGE LIST
REVISION CHANGE: 1.0
GERBER-OUT DATE: 2011/02/18

MODIFICATION LIST				PURPOSE
NO	DATE	PAGE		
1)	01/24	05	modify FAN with BTO item PWM and RPM	For HW BTO item
2)	01/24	05	modify RPM FAN connector pin define	Request from thermal team
3)	02/14	30	co-lay KB9012	For BTO item
4)	02/15	24	Add C450	For ESD request

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