

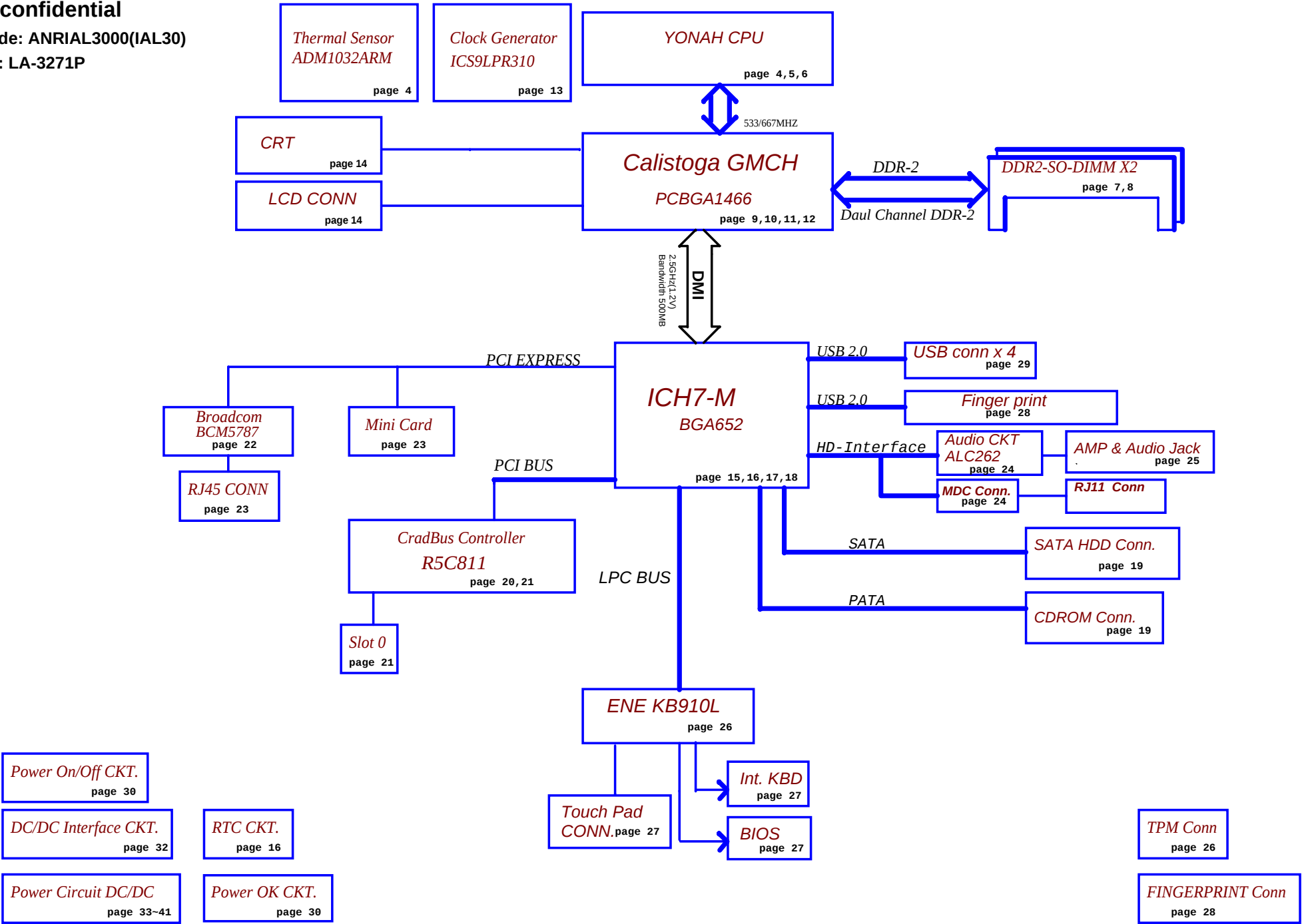
Compal Confidential

Schematics Document

945GM+ICH7

2006 / 08 / 18 Rev:0.4

Security Classification	Compal Secret Data			Title	
Issued Date	2005/12/1	Deciphered Date	2006/12/01	Cover Sheet	
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Power Plane	Description	S1	S3	S4/ S5
VIN	Adapter power supply (19V)	ON	ON	ON
B+	AC or battery power rail for power circuit.	ON	ON	ON
+5VALW	5V always on power rail	ON	ON	ON
+3VALW	3.3V always on power rail	ON	ON	ON
+RTCVCC	RTC power	ON	ON	ON
+5V	5V power rail	ON	ON	OFF
+3V	3.3V power rail	ON	ON	OFF
+1.8V	1.8V power rail for DDR	ON	ON	OFF
+5VS	5V switched power rail	ON	OFF	OFF
+3VS	3.3V switched power rail	ON	OFF	OFF
+2.5VS	2.5V switched power rail	ON	OFF	OFF
+1.5VS	1.5V switched power rail	ON	OFF	OFF
+0.9VS	0.9V switched power rail for DDR terminator	ON	OFF	OFF
+CPU_CORE	Core voltage for CPU	ON	OFF	OFF
+VCCP	1.05V power rail	ON	OFF	OFF

Device	IDSEL#	REQ#/GNT#	Interrupts
CardBus	AD21	0	PIRQE/PIRQF/PIRQG
Mini-PCI	AD22	1	PIRQF/PIRQG

Device	Address	Device	Address
Smart Battery	0001 011X b?	ADM1032	1001 110X b?
EEPROM(24C16/02)	1010 000X b?		
(24C04)	1011 000Xb?		

Device	Address
Clock Generator (ICS ICS9LPR310)	1101 001Xb?
DDRII DIMM0	1001 000Xb?
DDRII DIMM2	1001 010Xb?

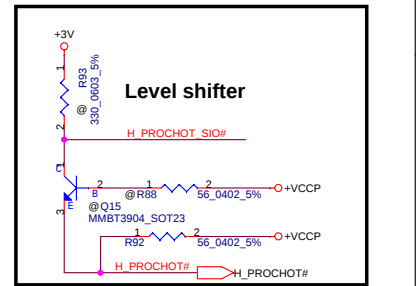
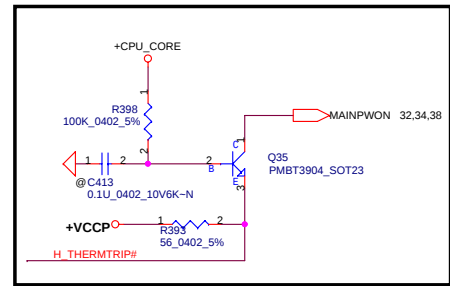
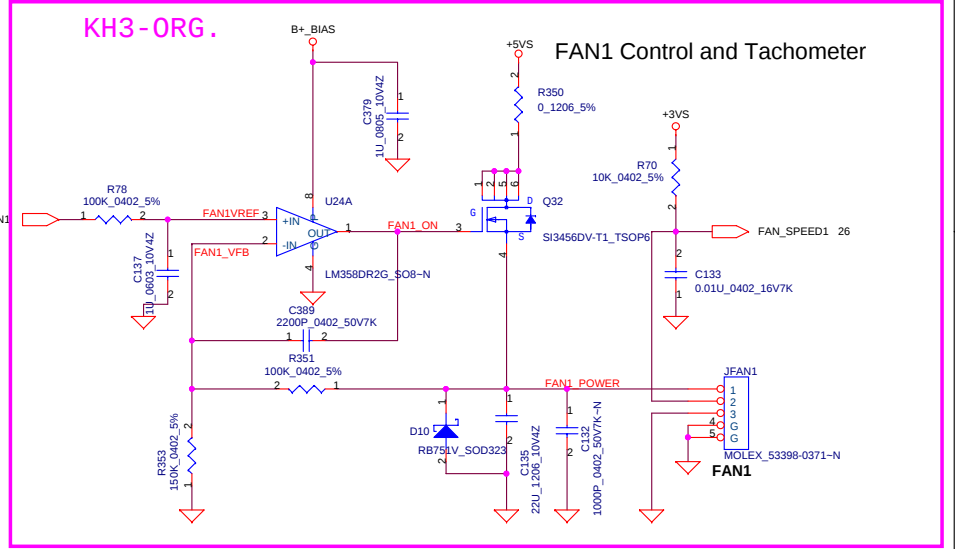
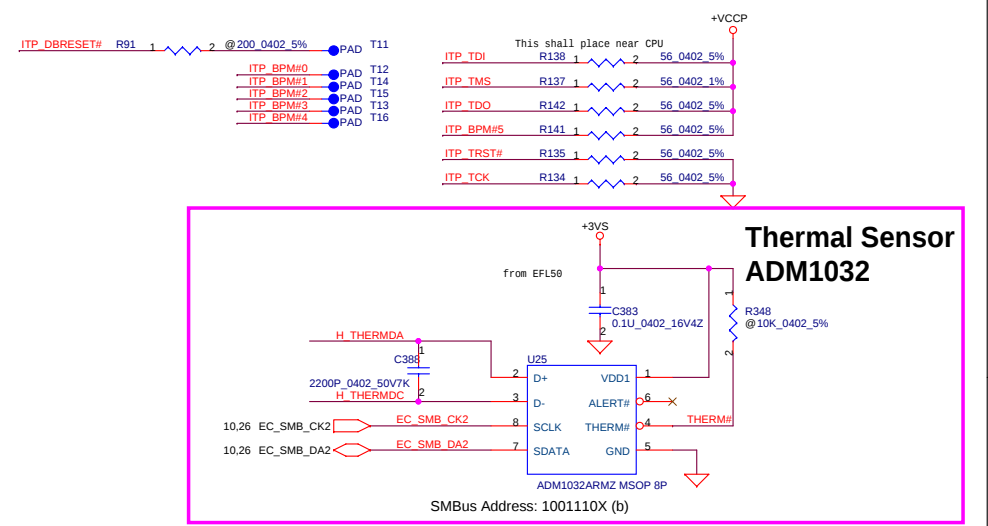
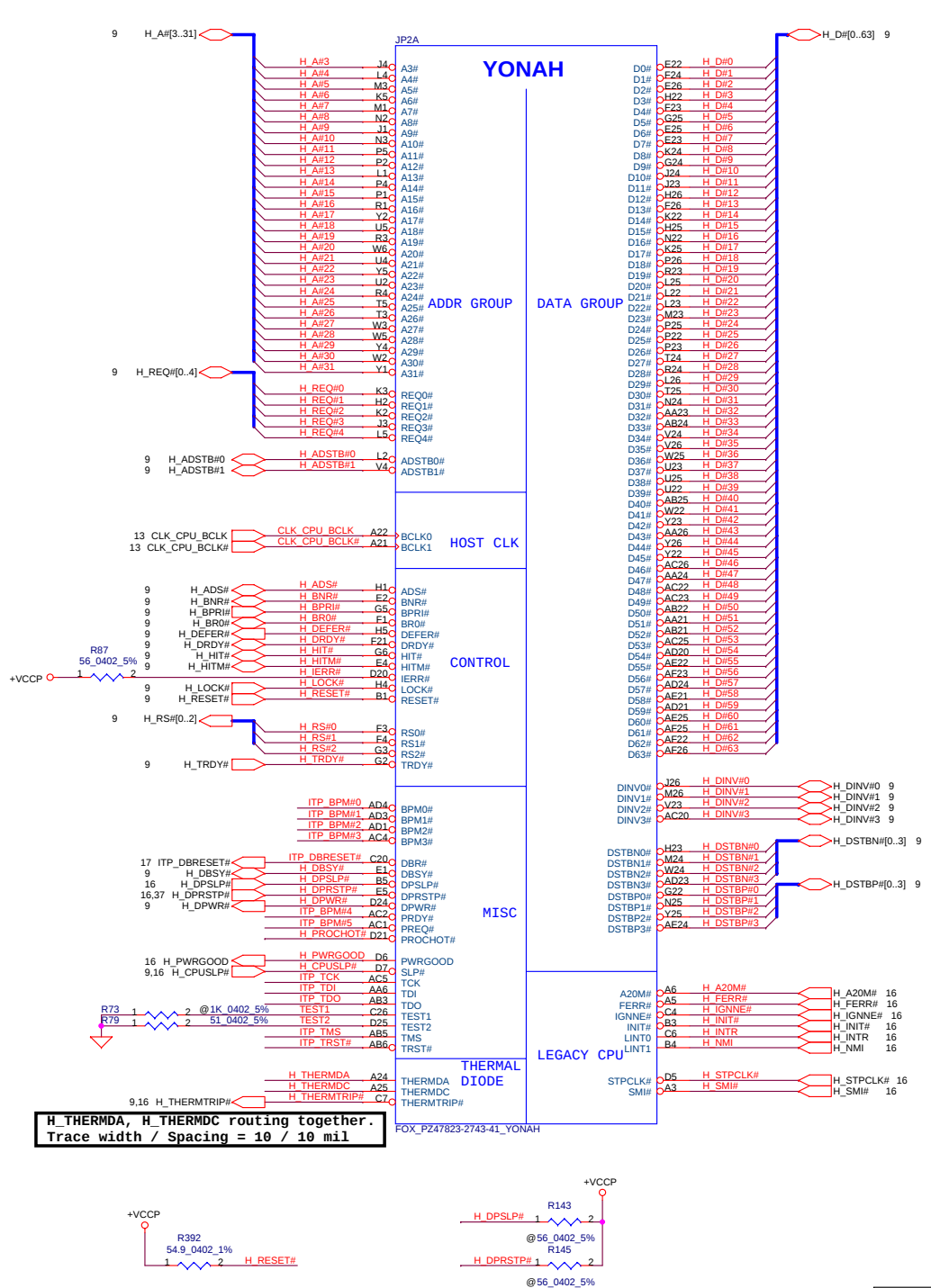
SIGNAL STATE	SLP_S1#	SLP_S3#	SLP_S4#	SLP_S5#	+VALW	+V	+VS	Clock
Full ON	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1(Power On Suspend)	LOW	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3 (Suspend to RAM)	LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4 (Suspend to Disk)	LOW	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 (Soft OFF)	LOW	LOW	LOW	LOW	ON	OFF	OFF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

Vcc	3.3V +/- 5%			
Ra / Rc	100K +/- 5%			
Board ID	Rb / Rd	V_{AD_BID} min	V_{AD_BID} typ	V_{AD_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

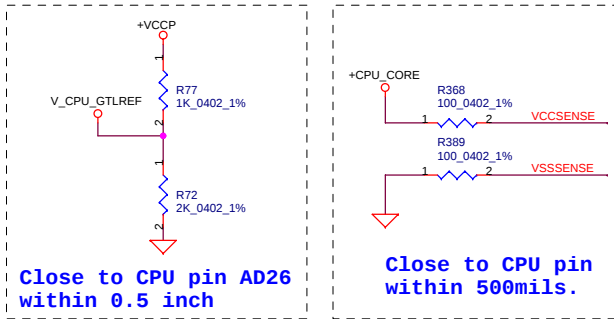
Board ID	PCB Revision
0	0.1
1	0.2
2	
3	
4	
5	
6	
7	

[illegible]

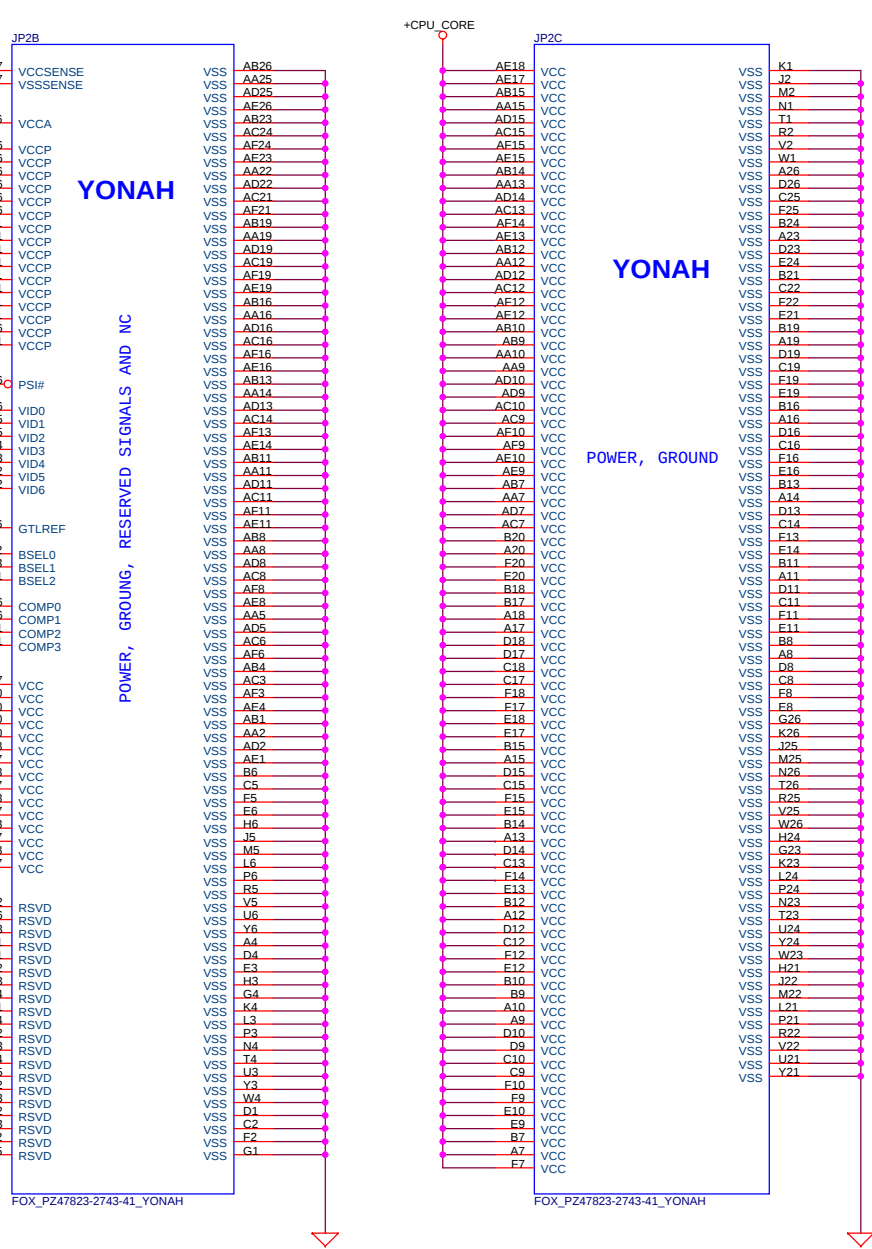
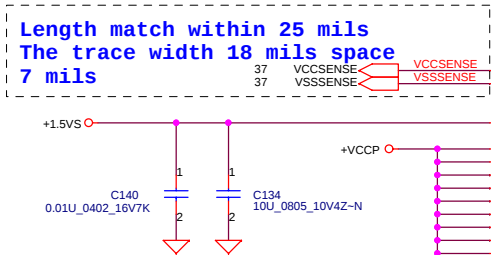
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				Custom	LA-3271P	0.4
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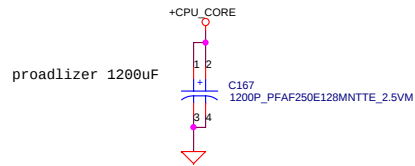


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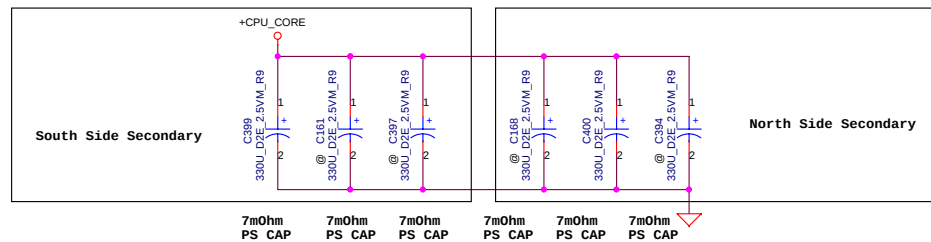


CPU_BSEL	CPU_BSEL2	CPU_BSEL1	CPU_BSEL0
133	0	0	1
166	0	1	1

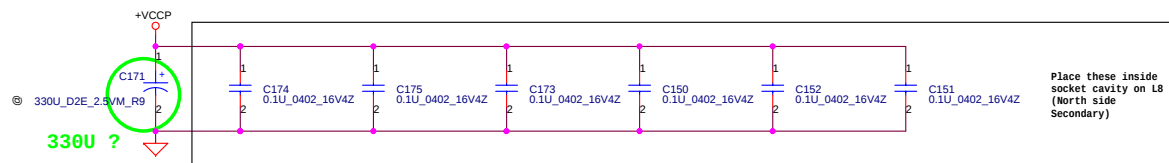




Mid Frequency Decoupling



ESR <= 1.5m ohm
Capacitor > 1980uF



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Compal Electronics, Inc.

ATHLON64 CTRL & DEBUG

Document Number

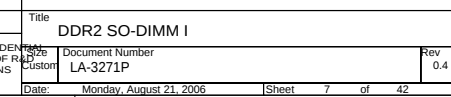
LA-3271P

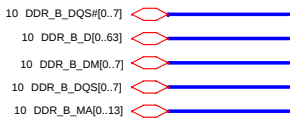
Rev

0.4

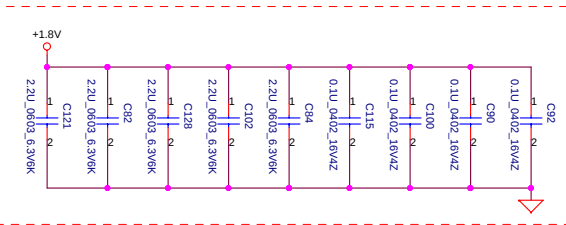
Date: Monday, August 21, 2006

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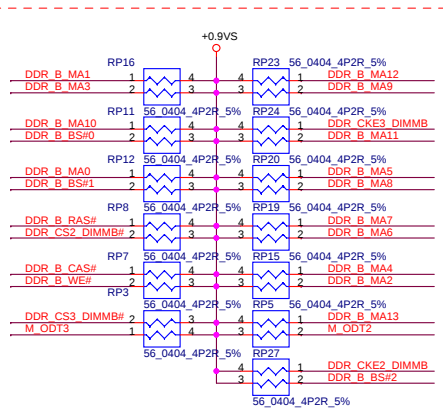
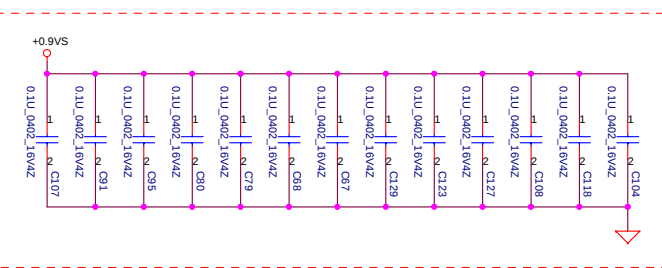




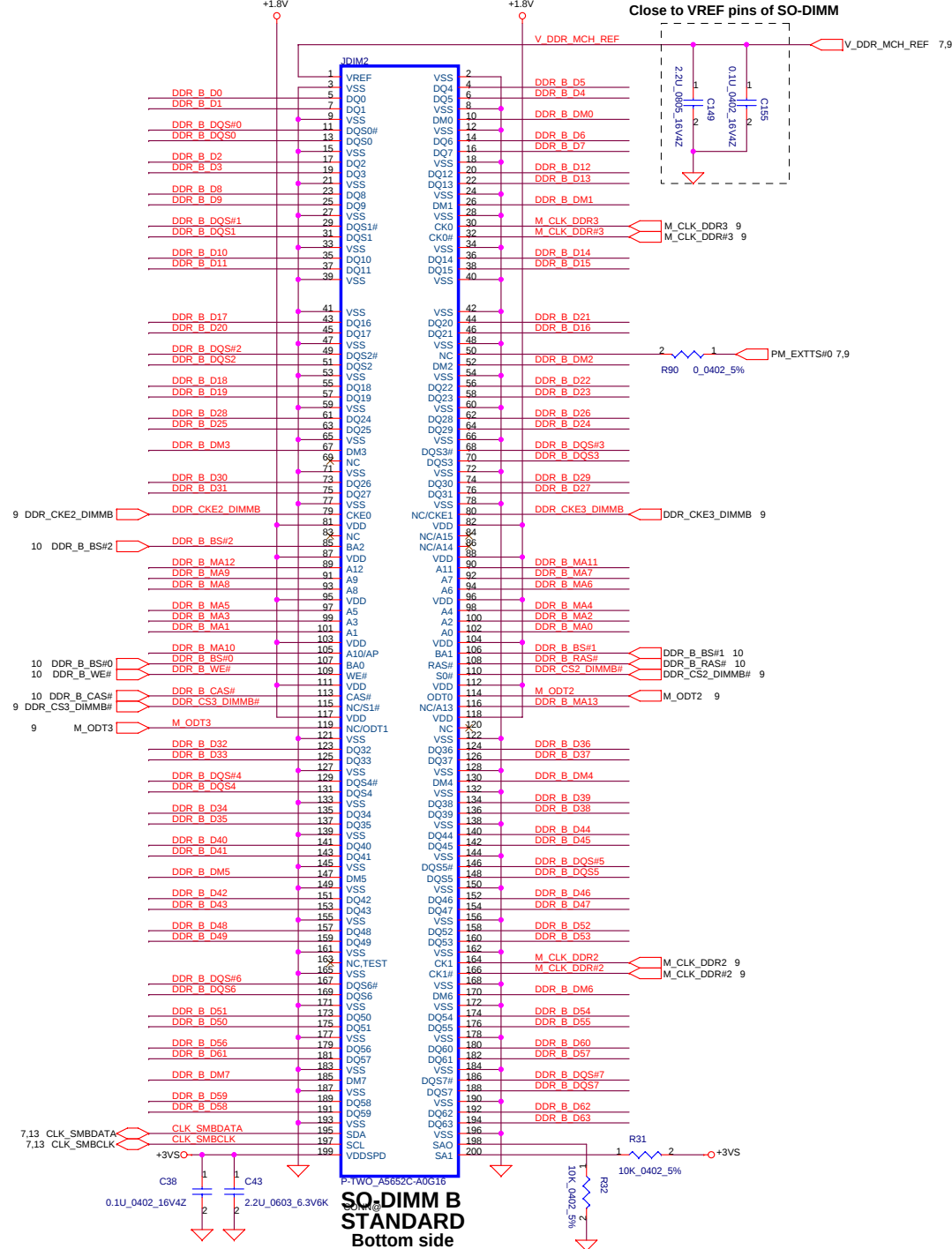
Layout Note:
Place near JP42



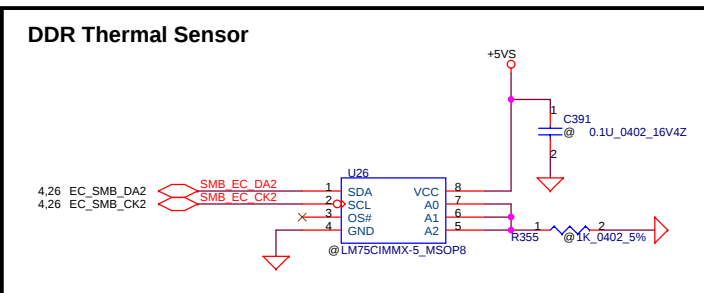
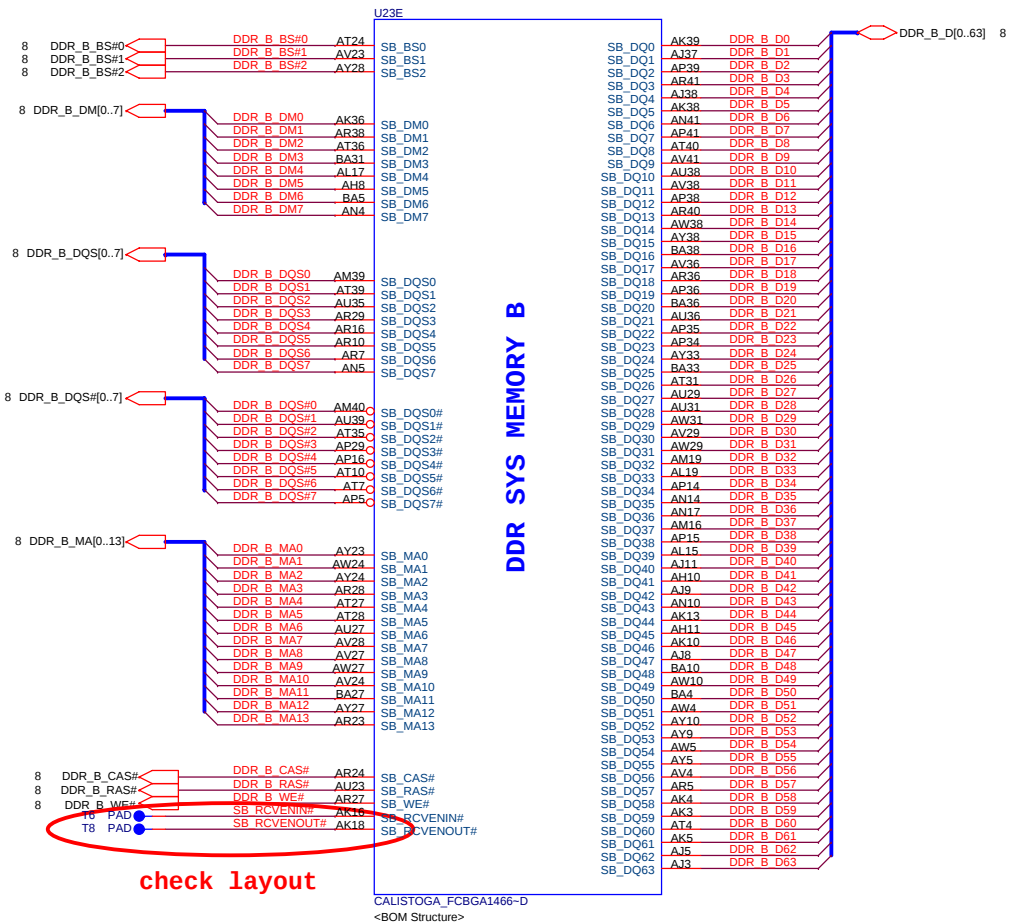
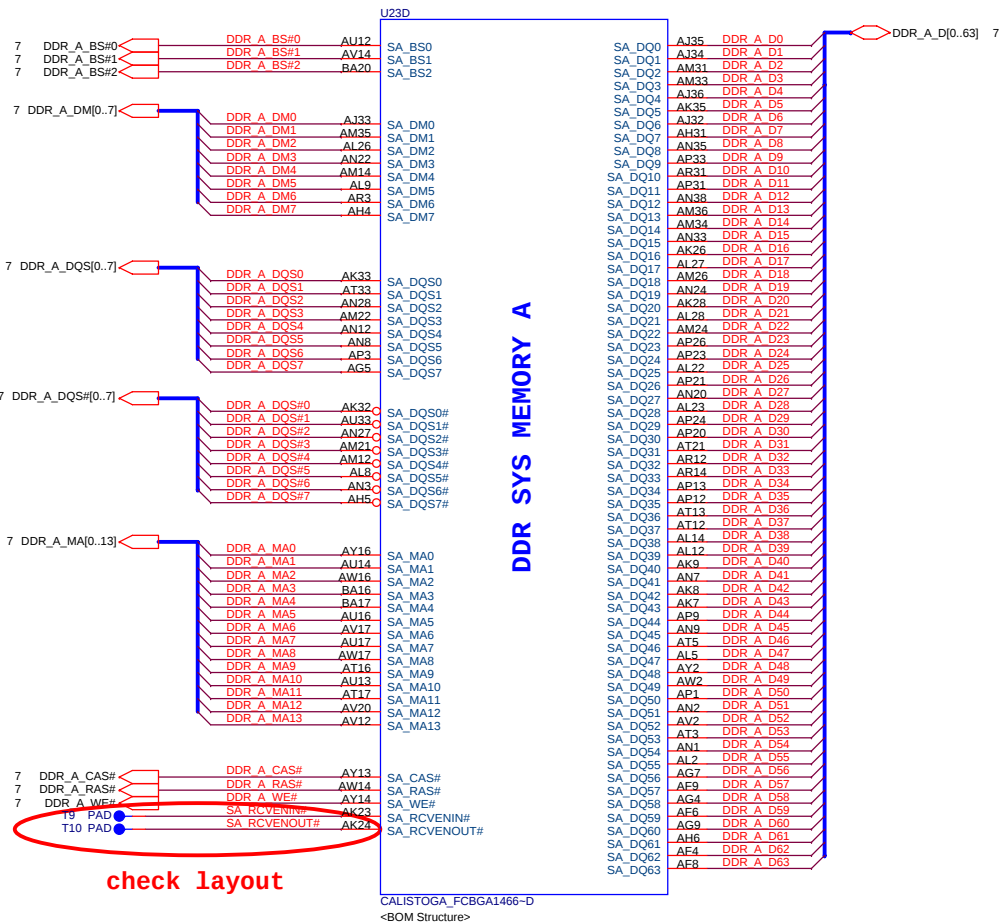
Layout Note:
Place one cap close to every 2 pullup
resistors terminated to +0.9VS



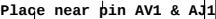
Layout Note:
Place these resistor
closely JP42,all
trace length Max=1.5"



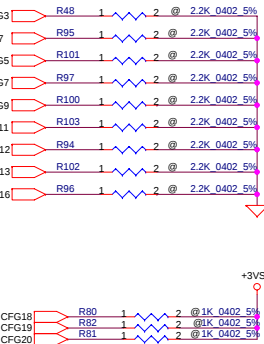
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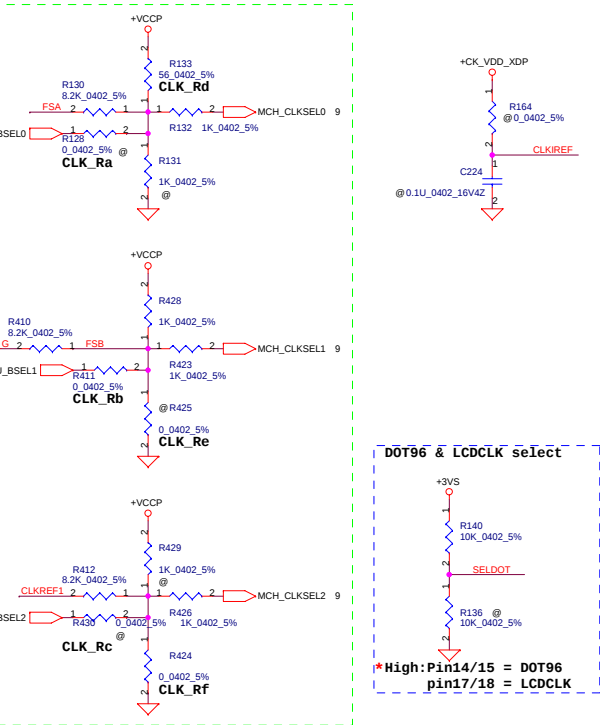
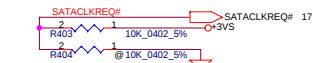
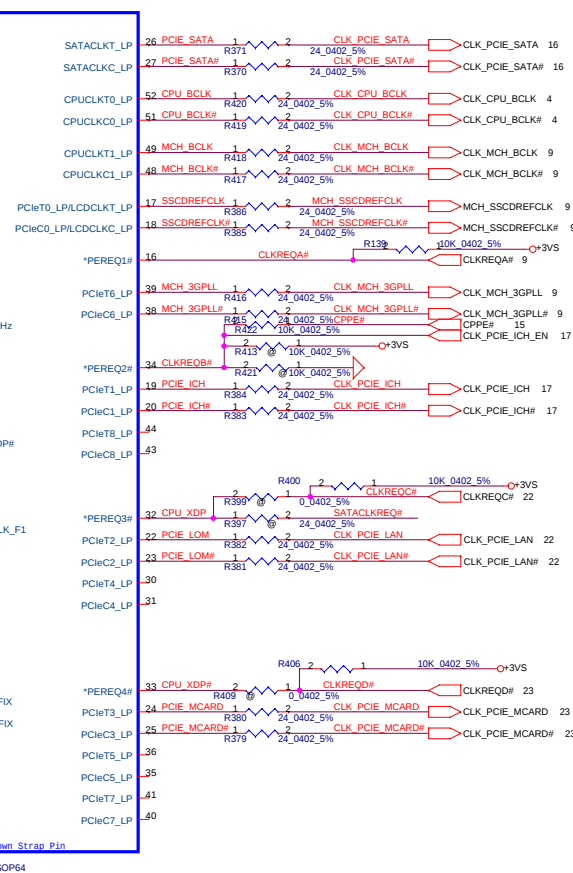
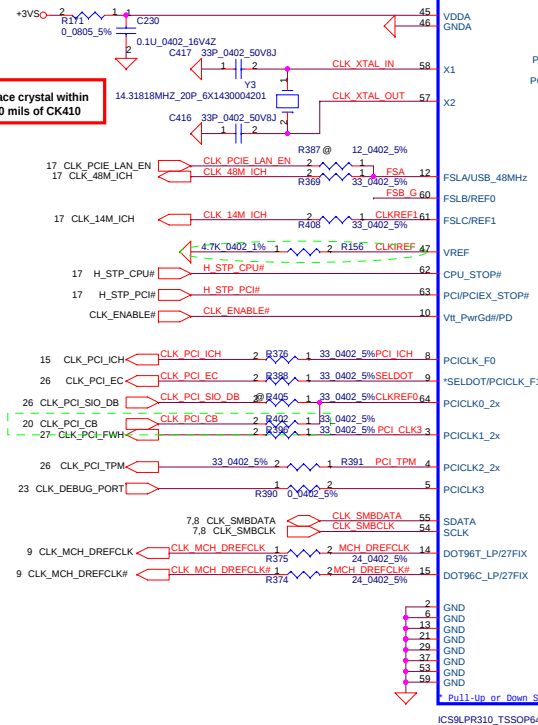
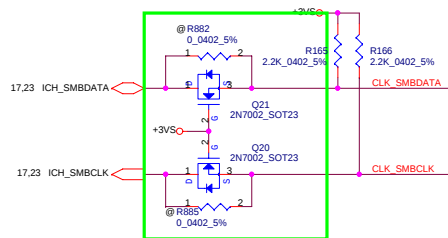


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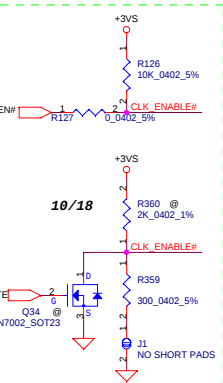


Calistoga(3)





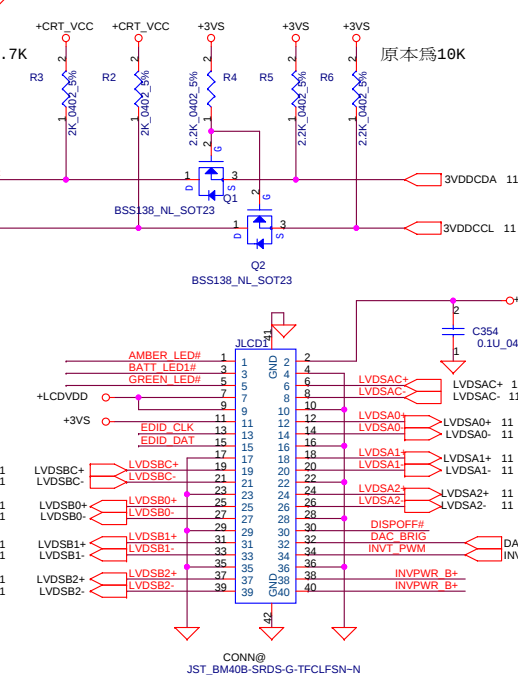
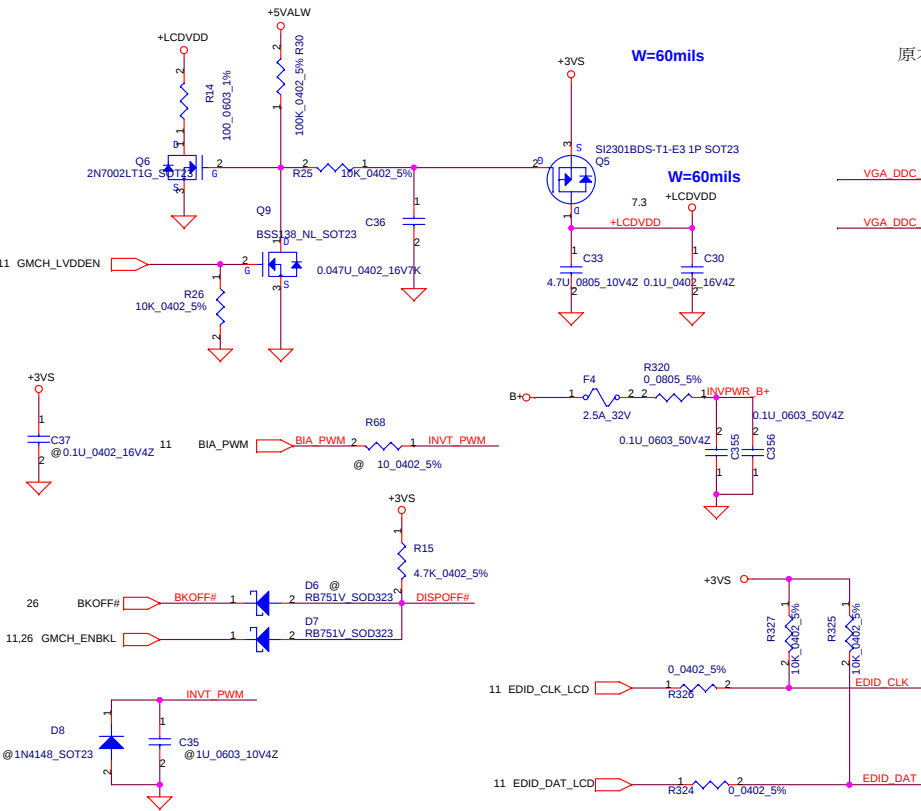
FSLC CLKSEL2	FSLB CLKSEL1	FSLA CLKSEL0	CPU MHZ	SRC MHZ	PCI MHZ
0	0	1	133	100	33.3
0	1	1	166	100	33.3



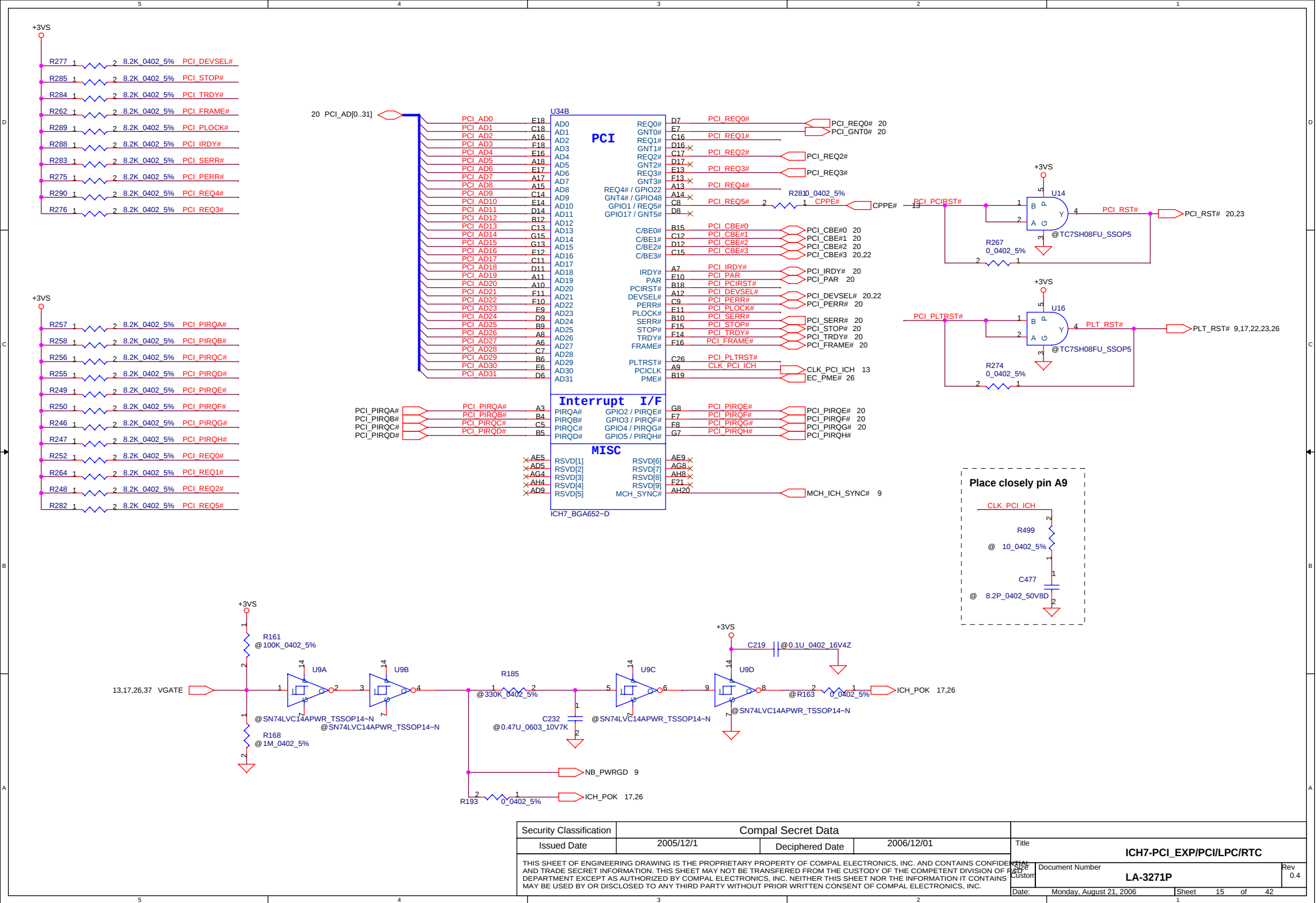
XDP@ : means just build when XDP function enable.
When this time, docking PCI express will not work.

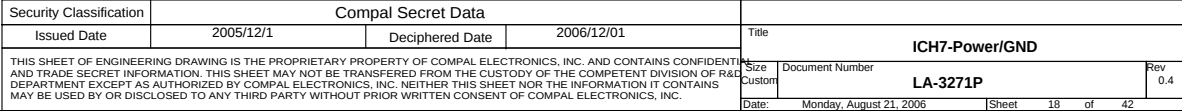
Security Classification	Compal Secret Data					
Issued Date	2005/12/1	Deciphered Date	2006/12/01	Title	Clock Generator	
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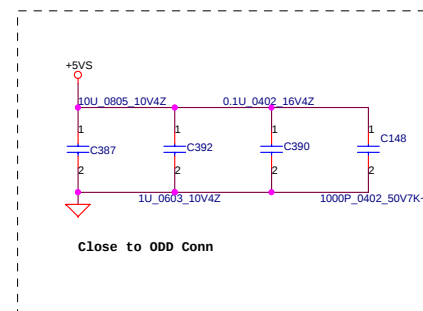
LCD POWER CIRCUIT



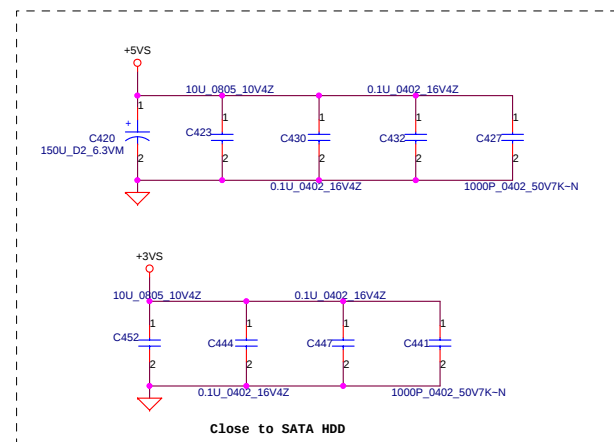
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Issued Date		2005/12/1		Deciphered Date		2006/12/01		Title	
								TV_OUT/CRT CONN	
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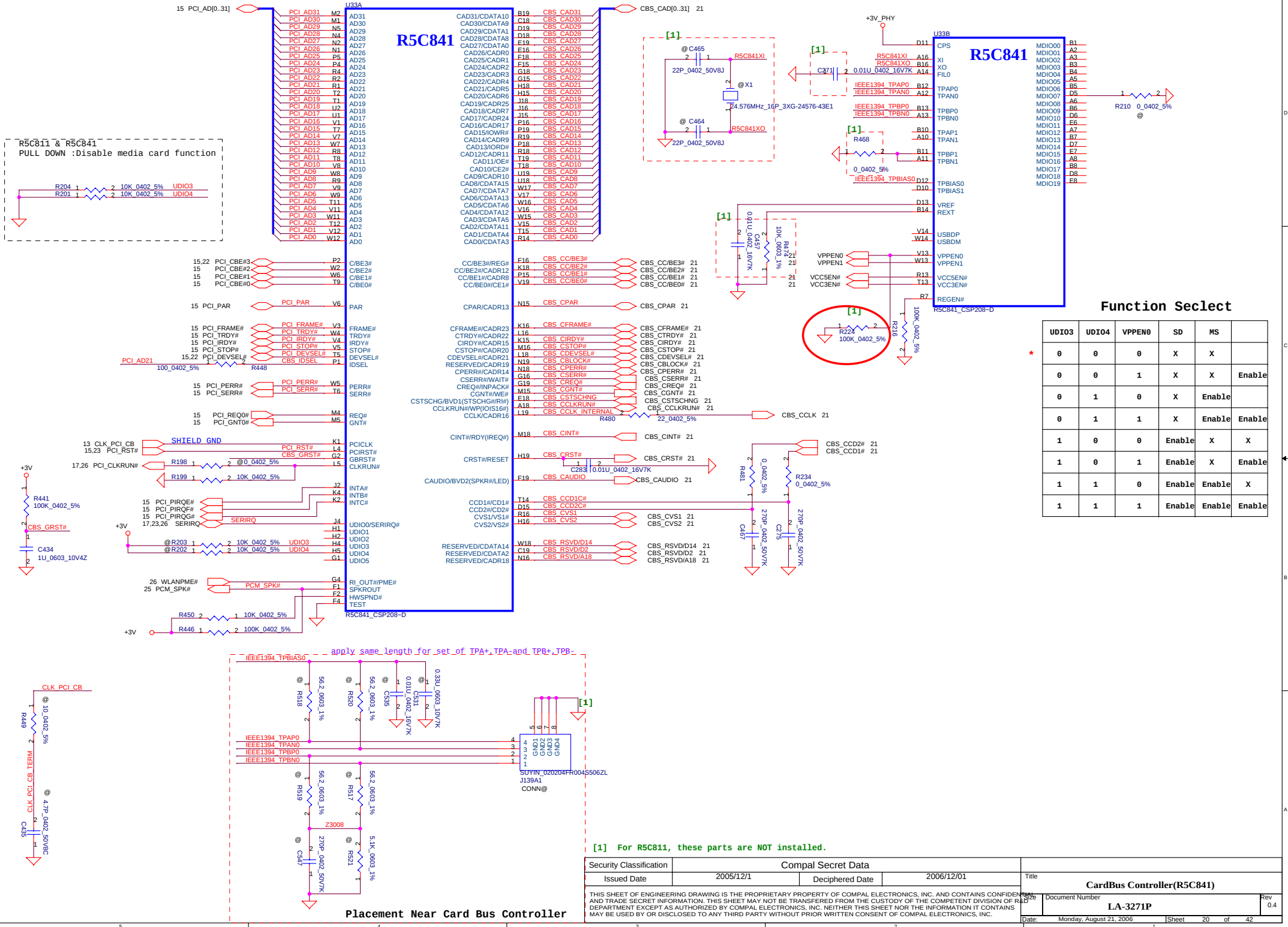


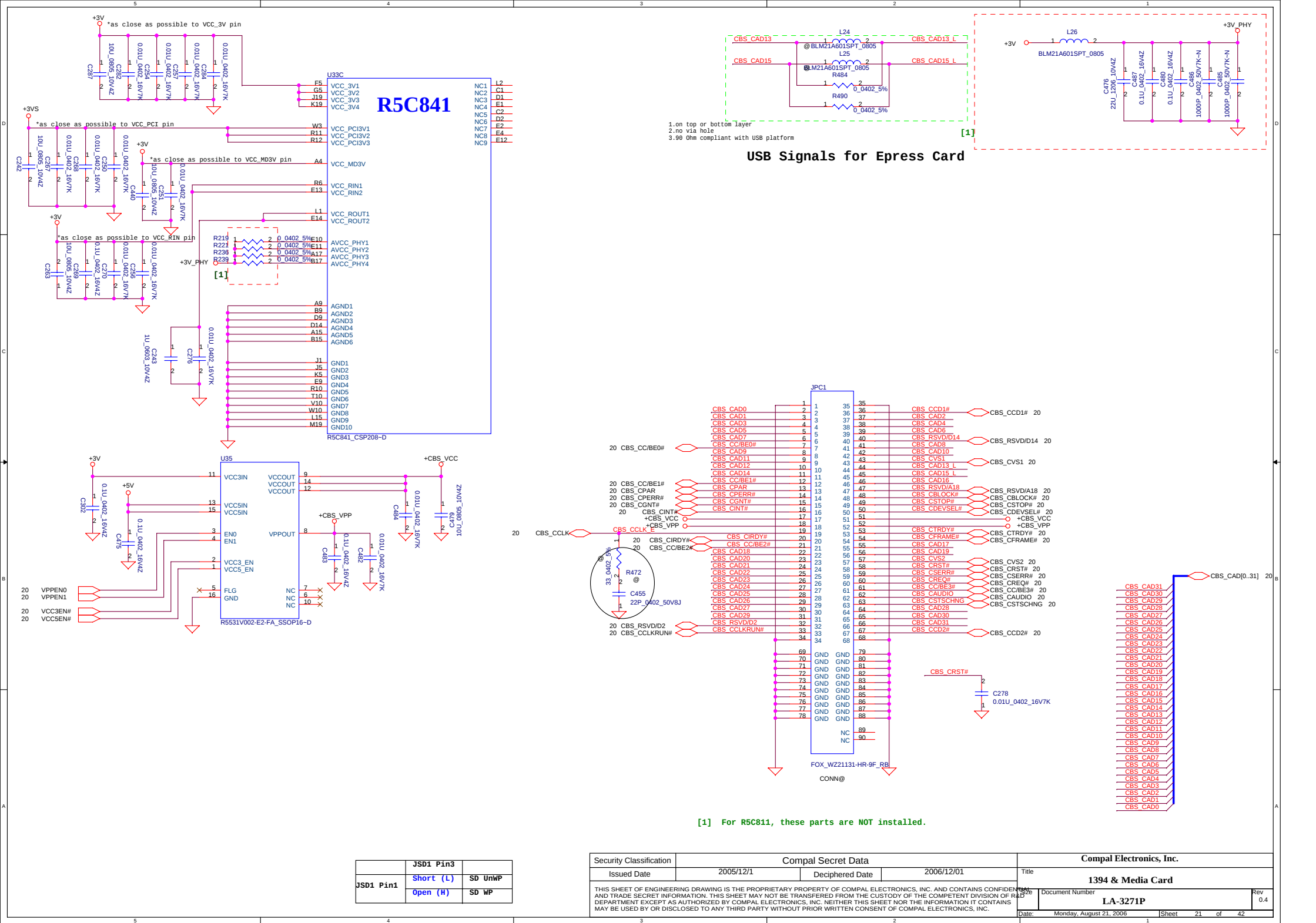


SATA HDD CONN

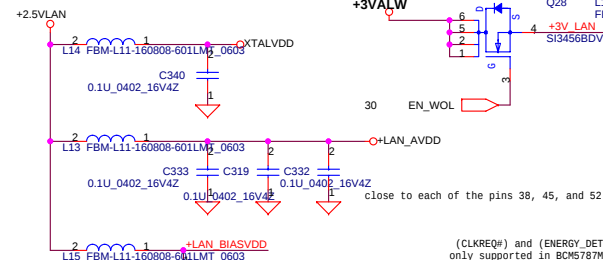


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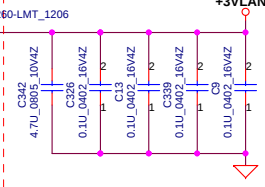




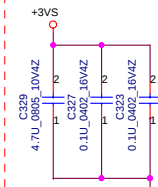
Layout Notice : Filter place as close chip as possible.



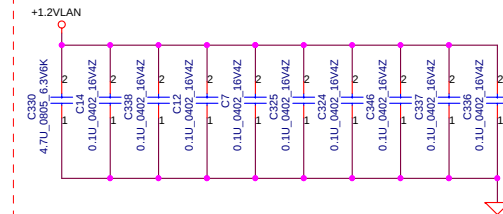
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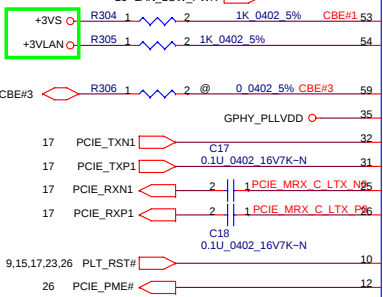
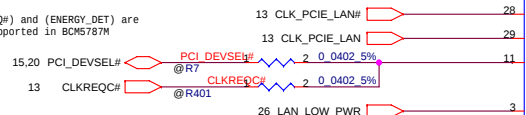
Layout Notice : 3.3V filter. Place as close chip as possible.



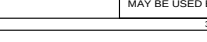
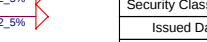
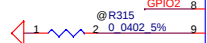
Layout Notice : 1.2V filter. Place as close chip as possible.



(CLKREQ#) and (ENERGY_DET) are only supported in BCM5787M

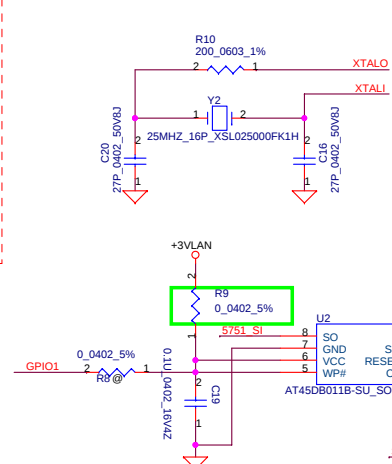
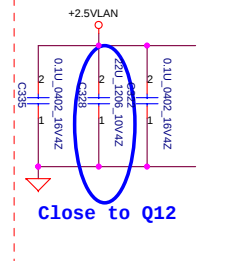


SMBus to support ASF

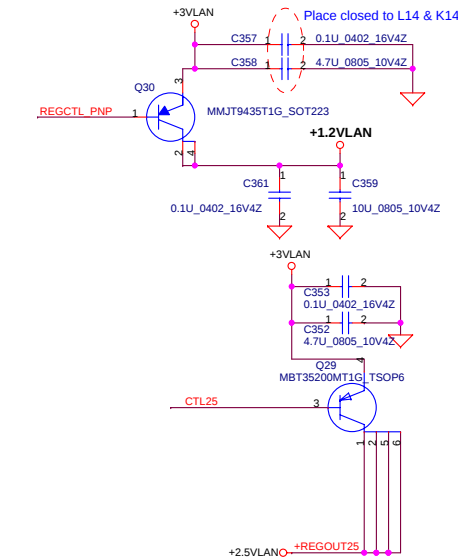


No CIS Symbol

Layout Notice : Place as close chip as possible.



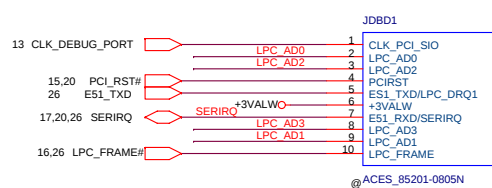
R884, R864 stuff if U61 is installed



Notice : 4.7u 6.3V capacitor Thickness 1.25mm

Layout Notice : Filter place as close chip as possible.

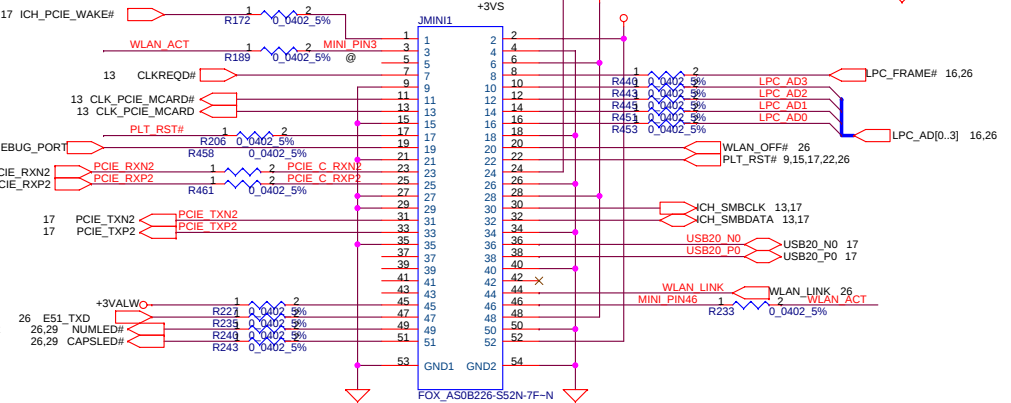
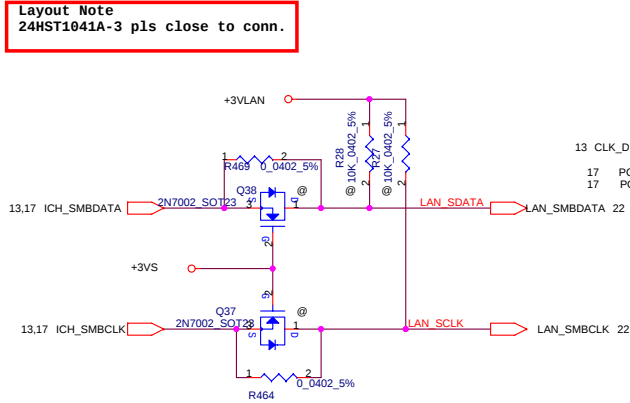
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2005/12/1				2006/12/01				Rev			
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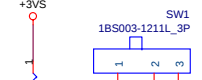
The diagrams show the following connections:

- Top Diagram (+1.5VS):** Capacitors C265, C235, and C462 are connected in parallel between the +1.5VS supply and ground. C265 and C235 are 0.1uF/402 16V4Z, and C462 is a 10uF/1206 16V4Z.
- Middle Diagram (+3VS):** Capacitors C233, C281, and C422 are connected in parallel between the +3VS supply and ground. C233 and C281 are 0.1uF/402 16V4Z, and C422 is a 10uF/1206 16V4Z.
- Bottom Diagram (+3VALW):** Capacitors C255 and C443 are connected in parallel between the +3VALW supply and ground. C255 is a 0.1uF/402 16V4Z, and C443 is a 10uF/1206 16V4Z.

Layout Note
24HST1041A-3 pls close to conn.

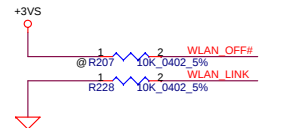


All 49.9 ohm + 0.1 uF
termination components close
to BCM5751M

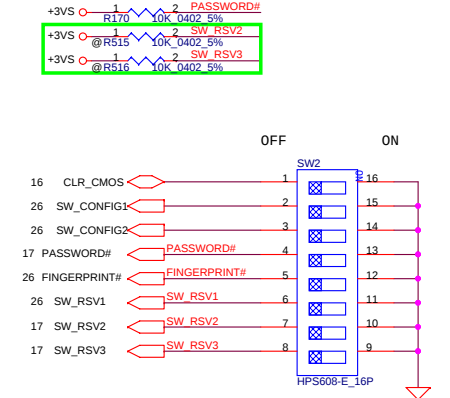
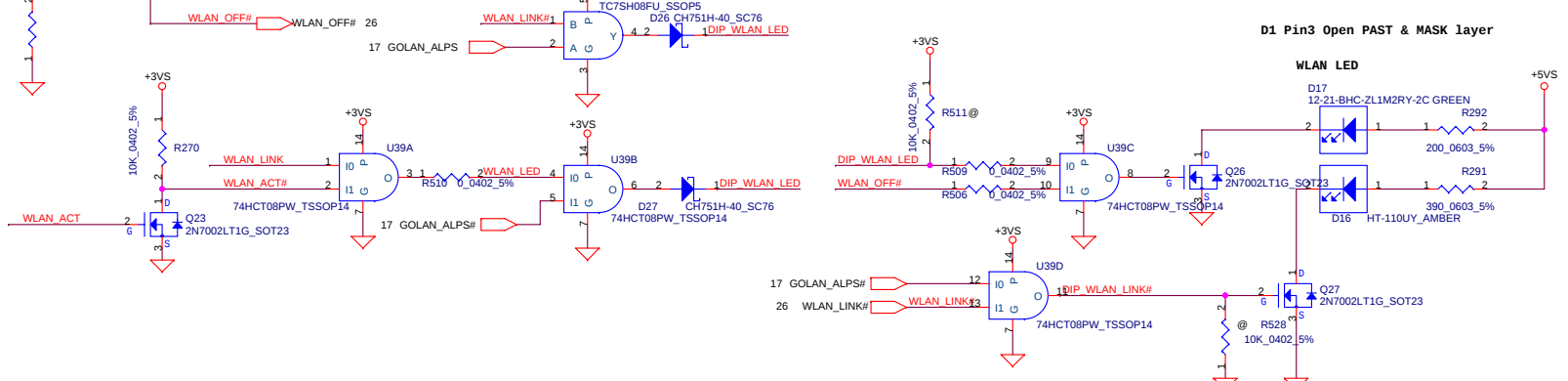


GOLAN_ALPS#	
0	GOLAN
1	ALPS

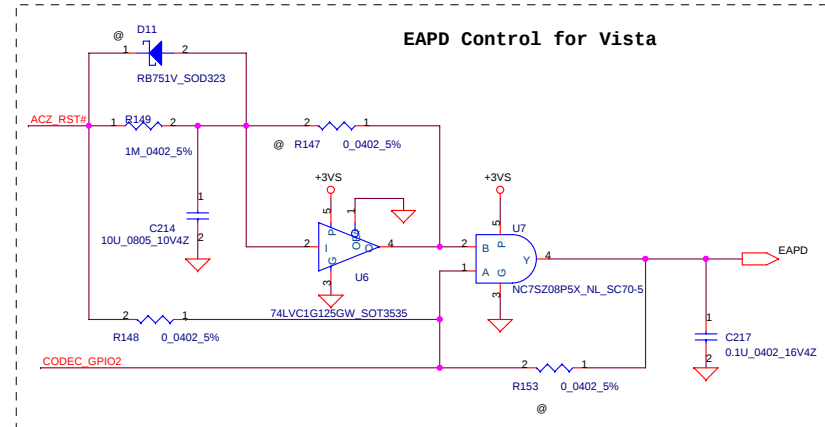
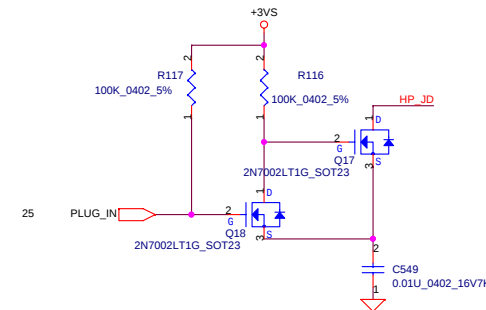
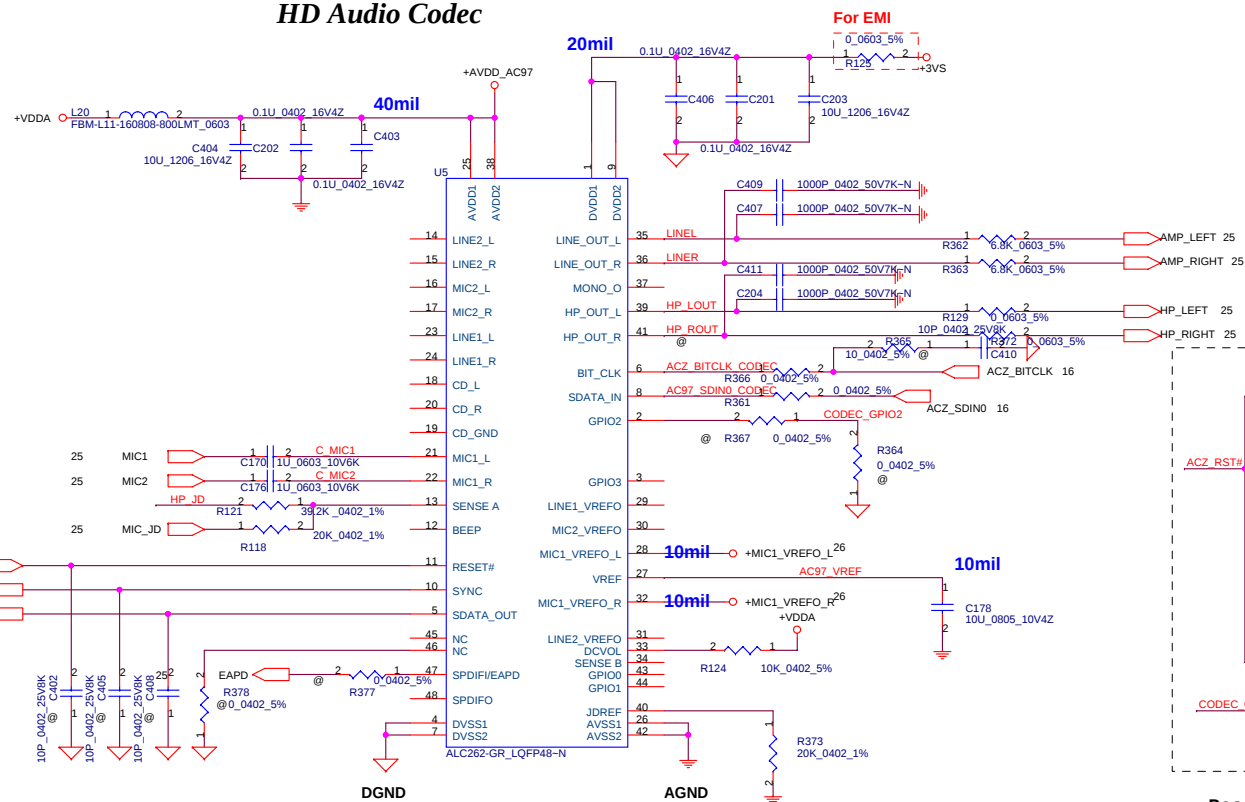
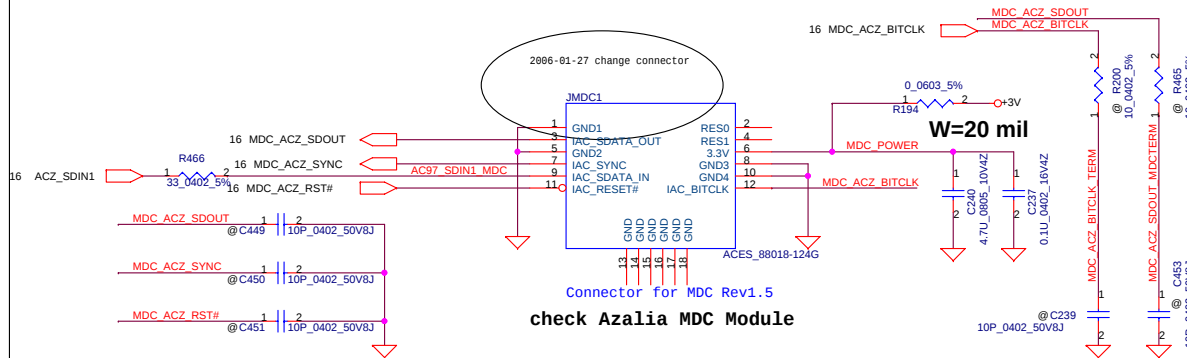
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# WLAN detect by BIOS and program GOLAN_ALPS# to control WLAN LED
```



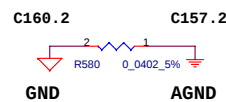
D1 Pin3 Open PAST & MASK layer



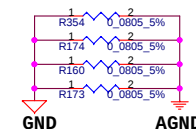
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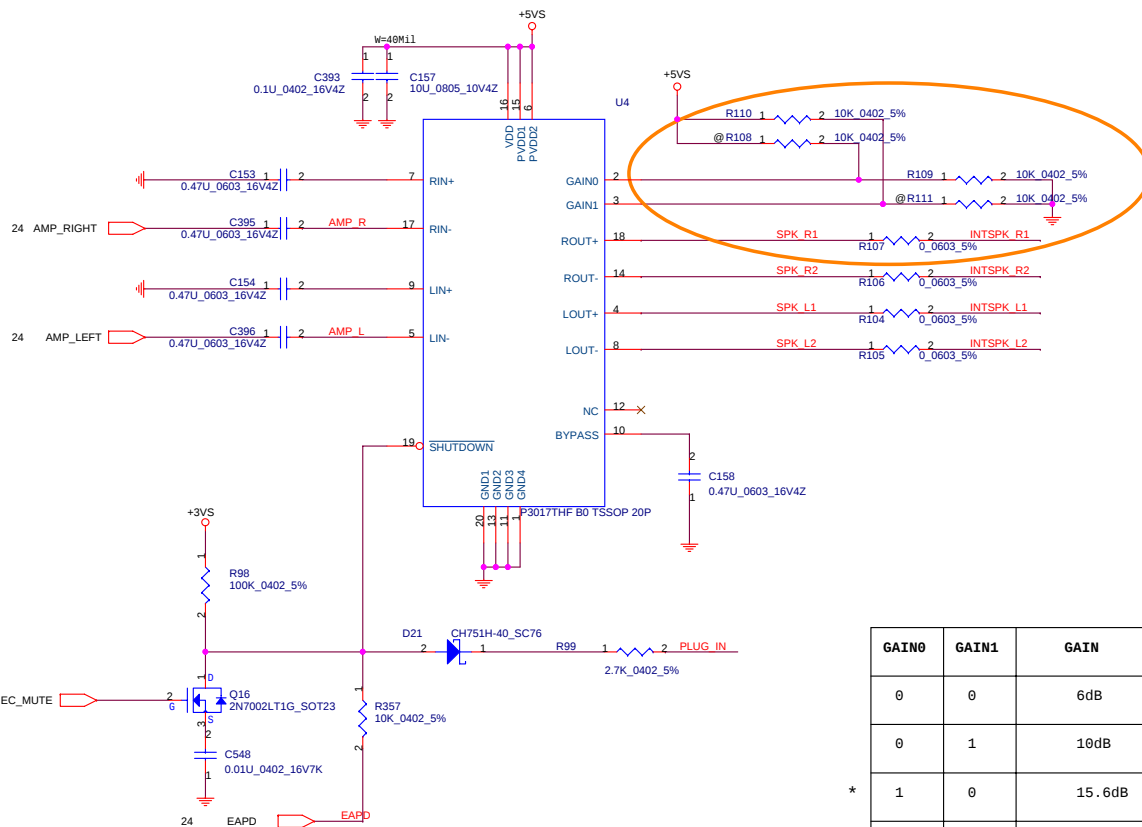


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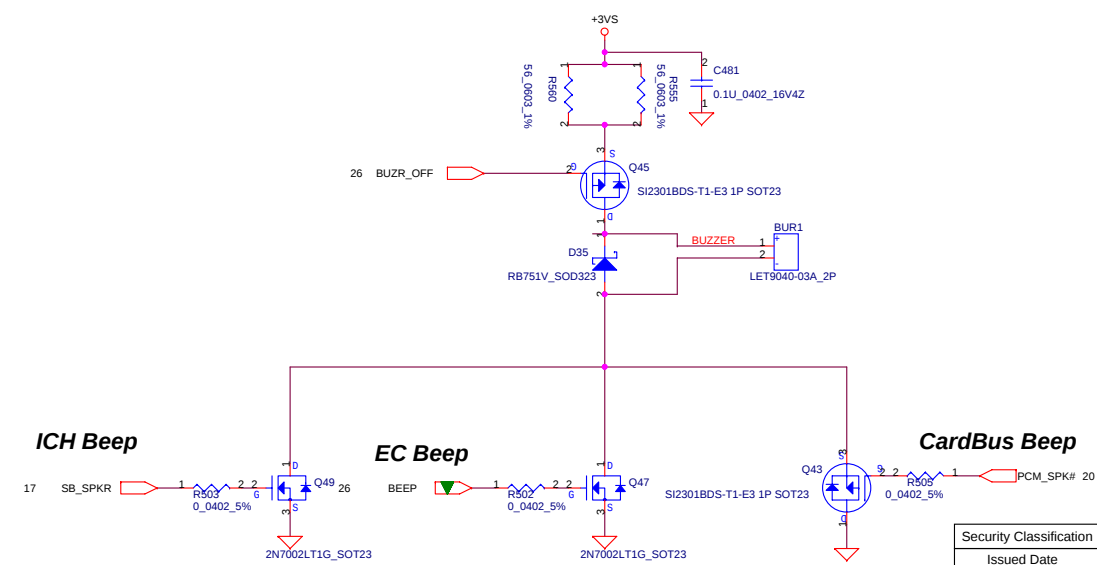


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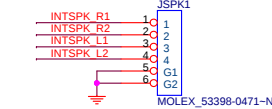




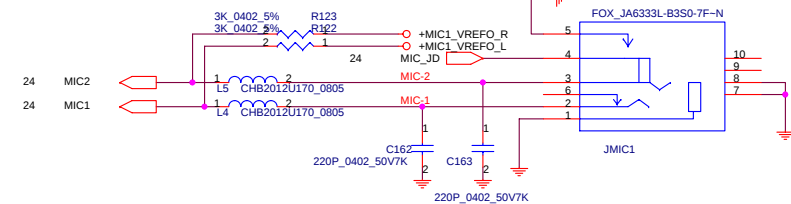
Buzzer need to support ICH/PCM_SPK/Battery_low and WL_on/off



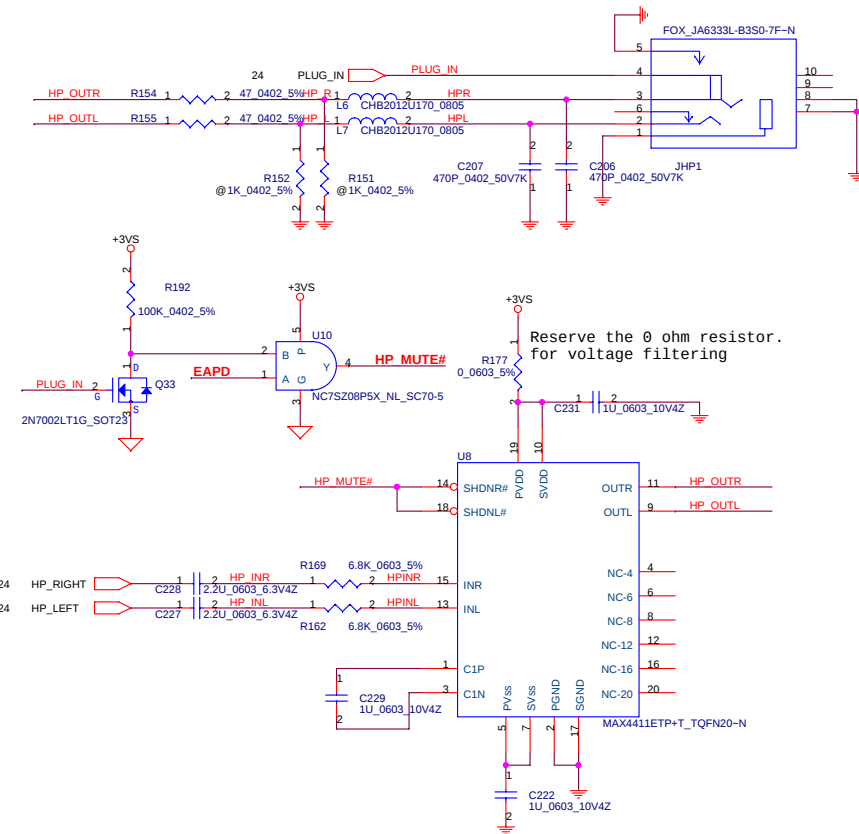
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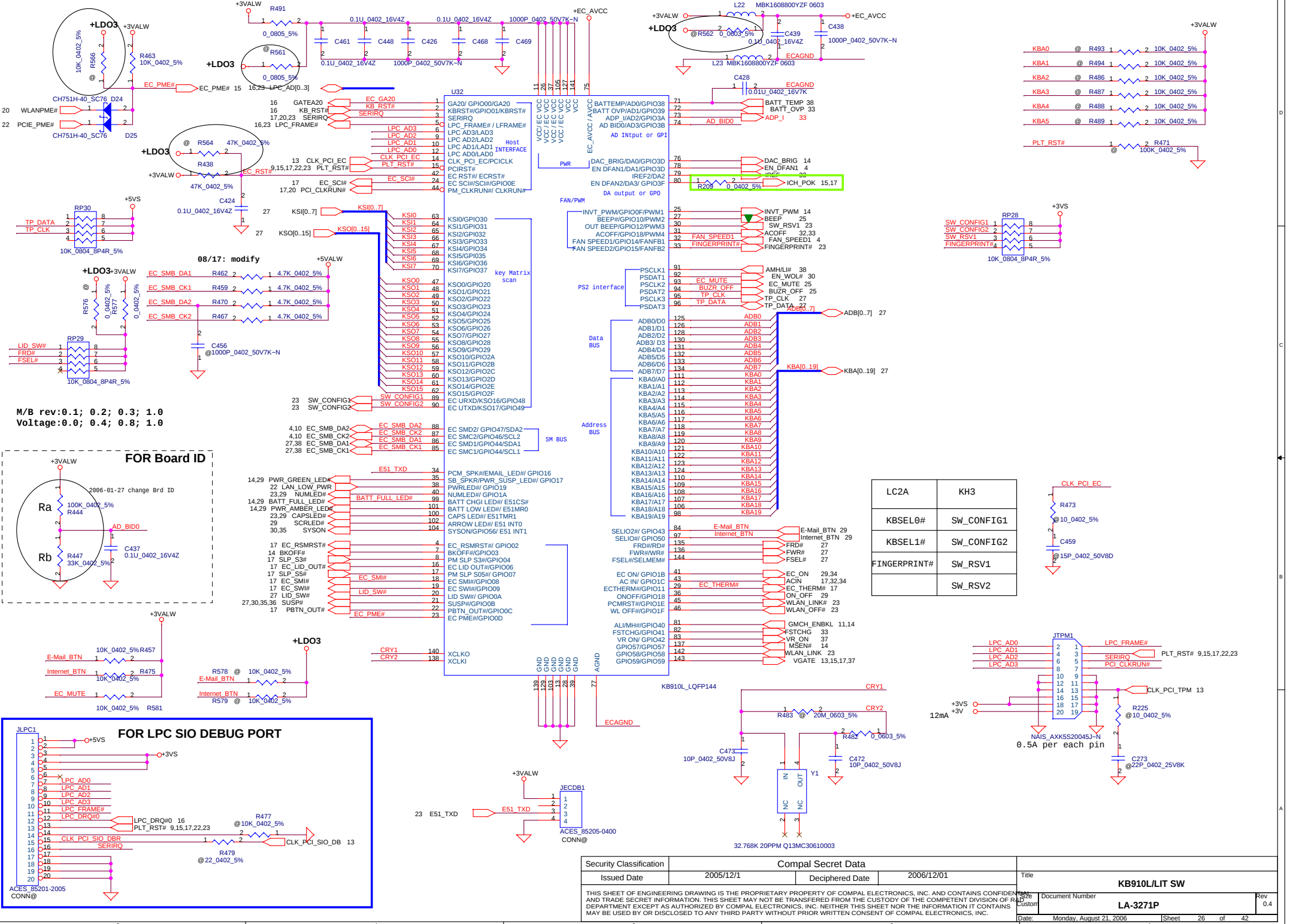


MICROPHONE IN JACK



HEADPHONE OUT JACK



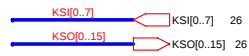


M/B rev:0.1; 0.2; 0.3; 1.0
Voltage:0.0; 0.4; 0.8; 1.0

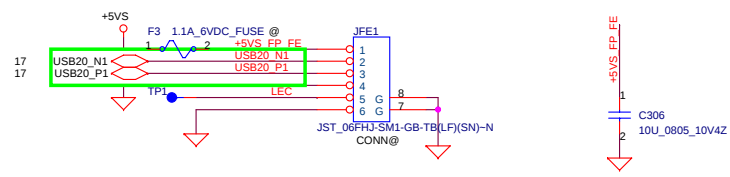
FOR Board ID

FOR LPC SIO DEBUG PORT

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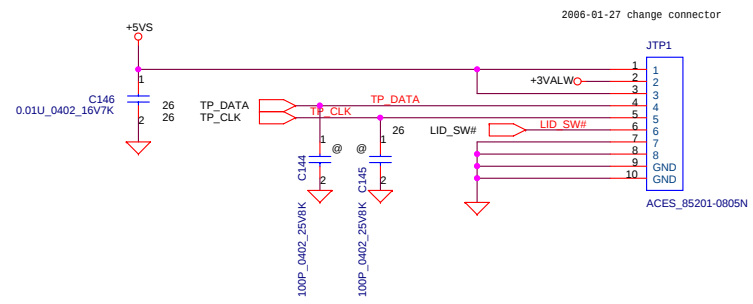
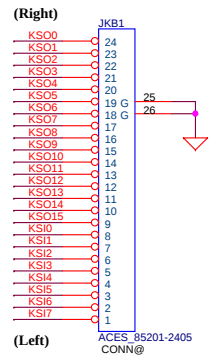


Felica Conn

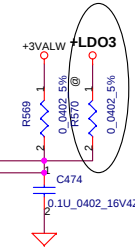
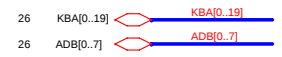


INT_KBD CONN.

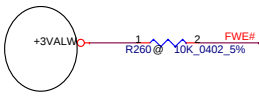
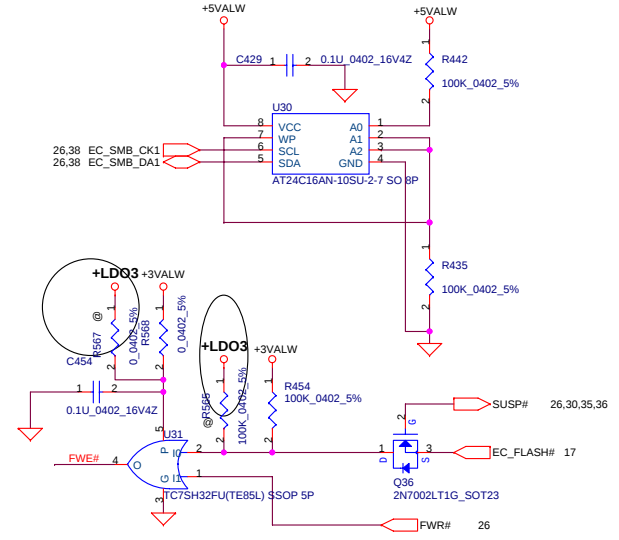
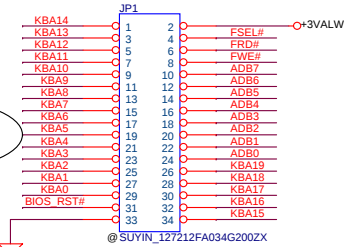
TO M/B



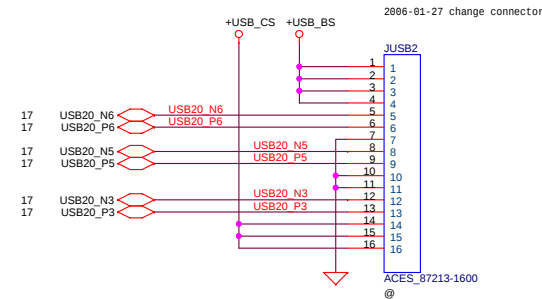
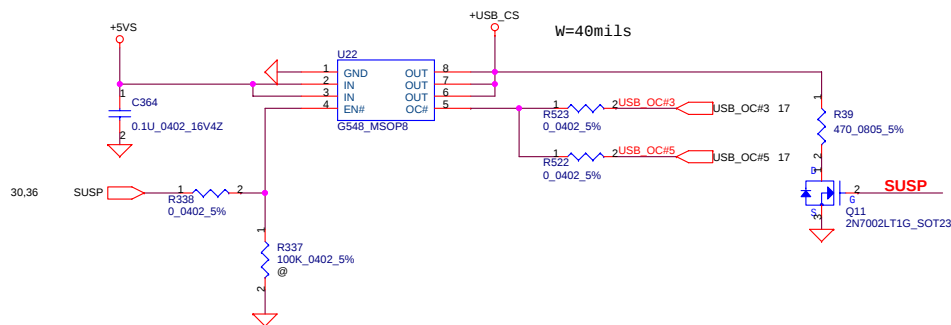
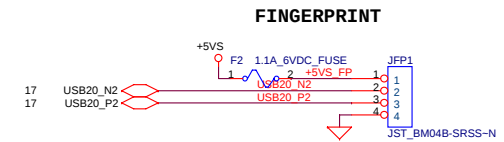
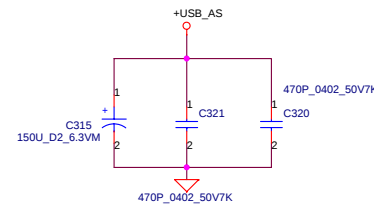
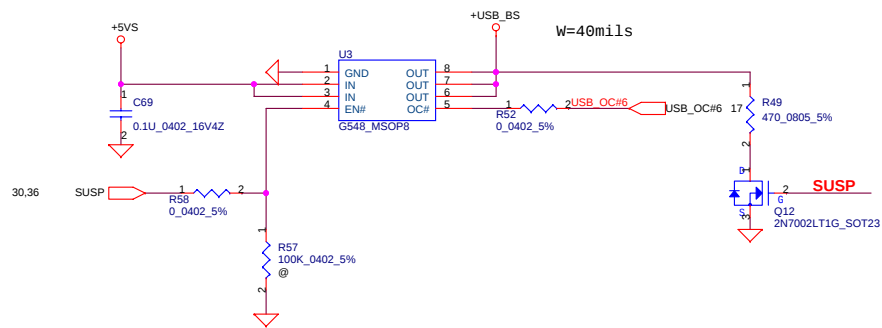
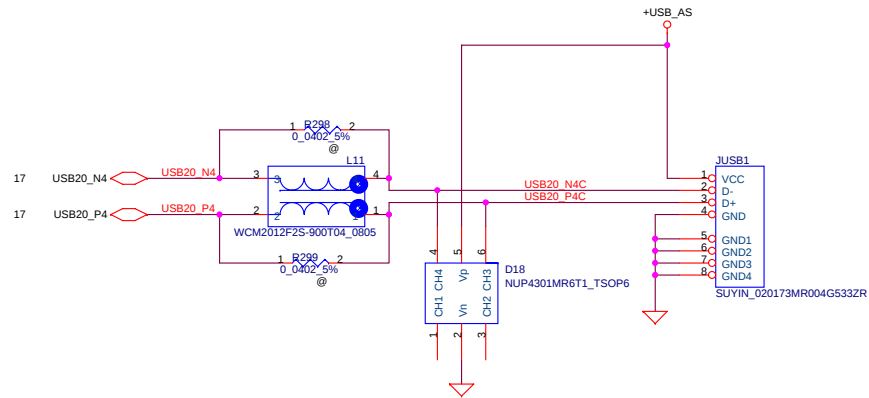
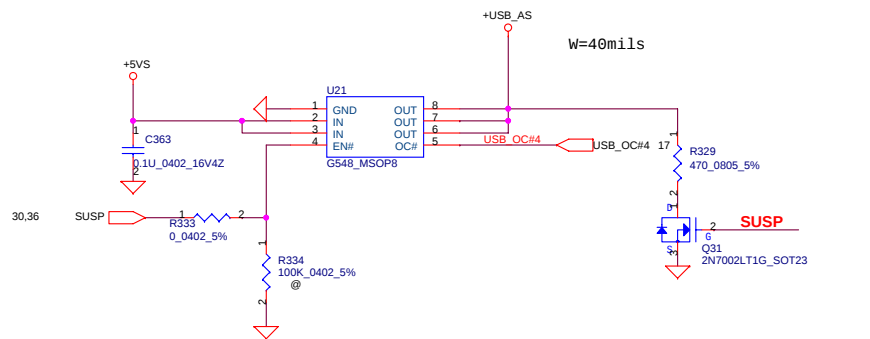
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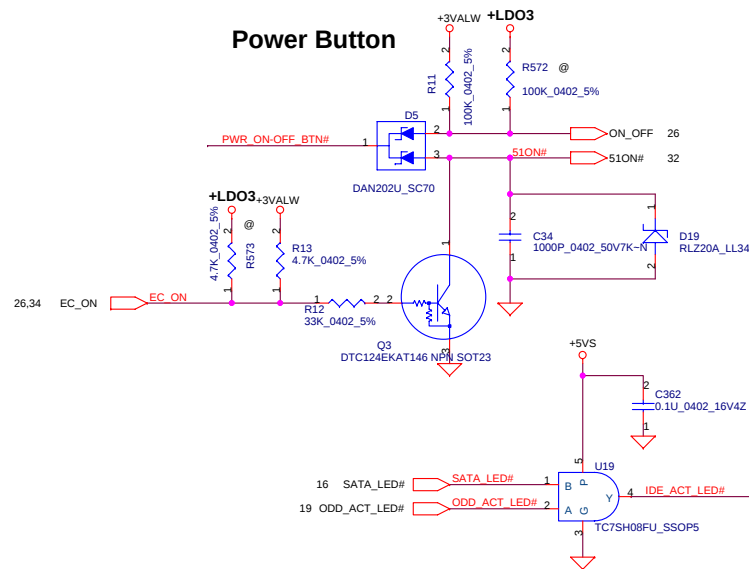
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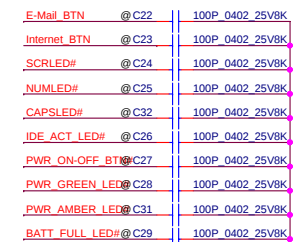
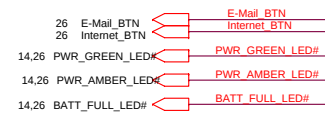
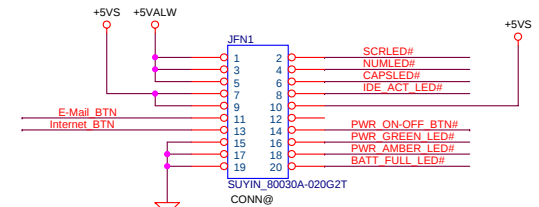
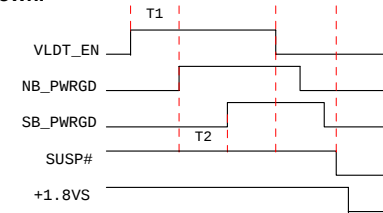
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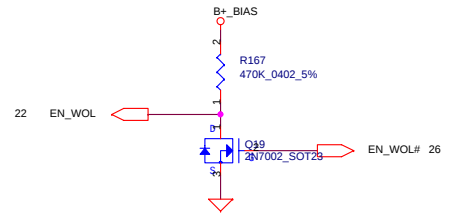
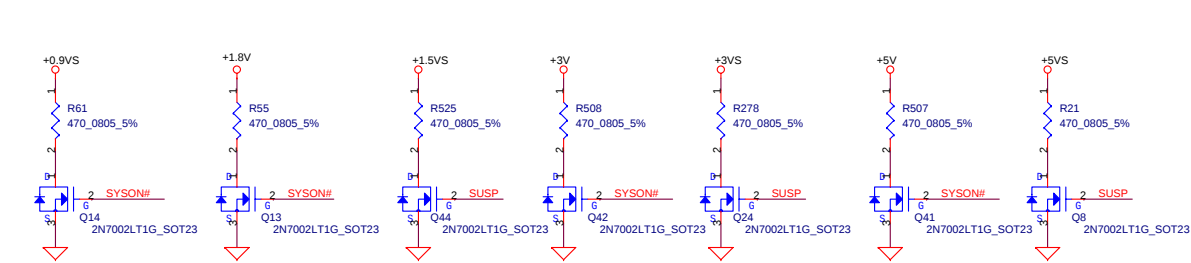
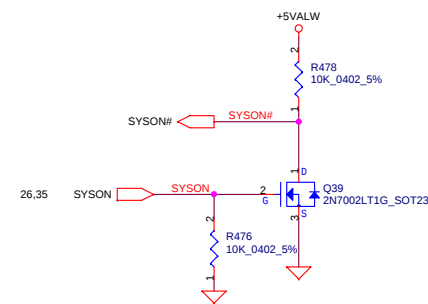
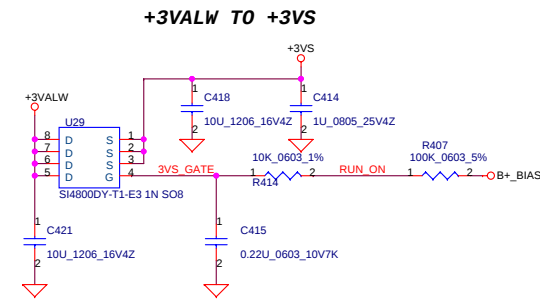
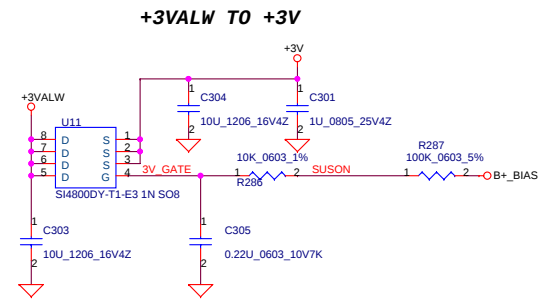
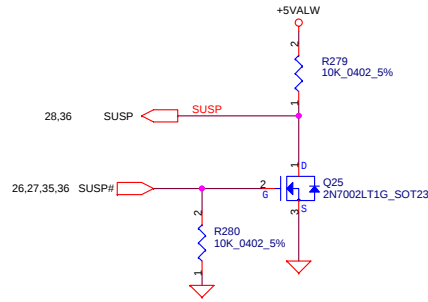
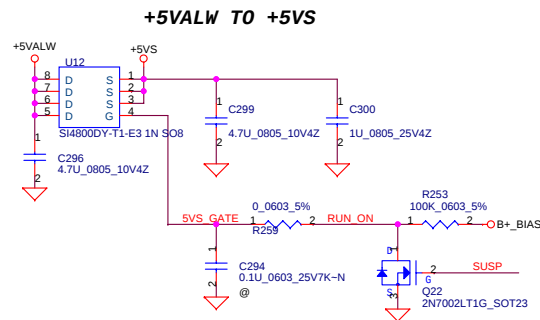
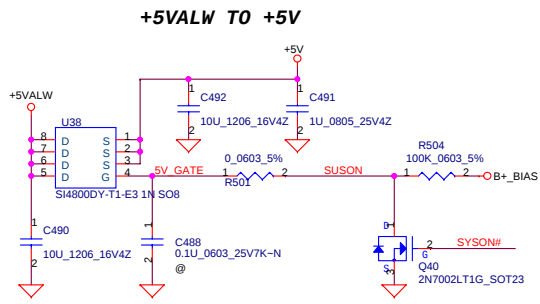
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						Document Number		LA-3271P		Rev	
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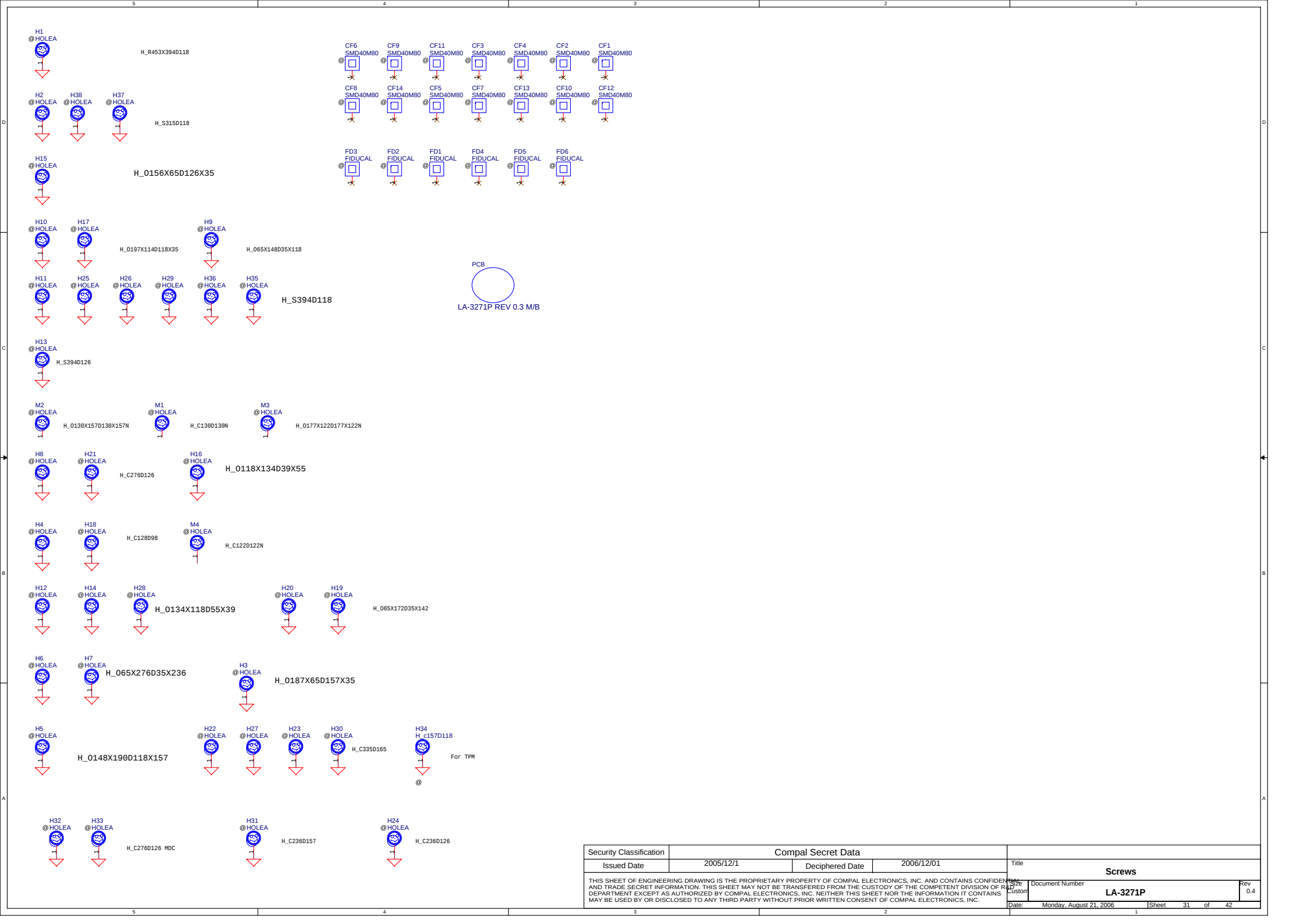
note:T1 minimum 15ms,T2 minimum 33ms/maximum 500ms,
SUSP# goes to low after SB_PWRGD goes to low for power
down.



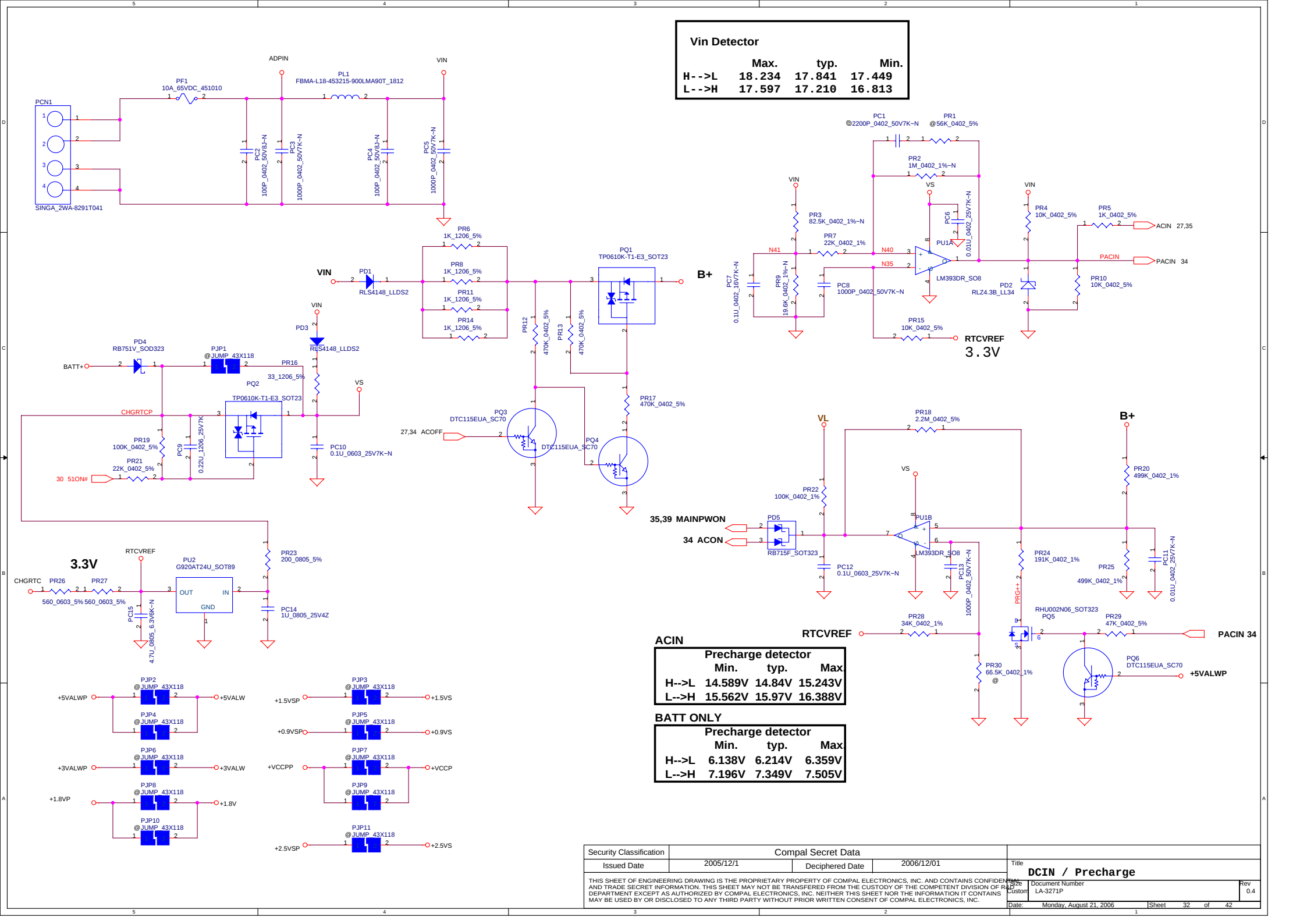
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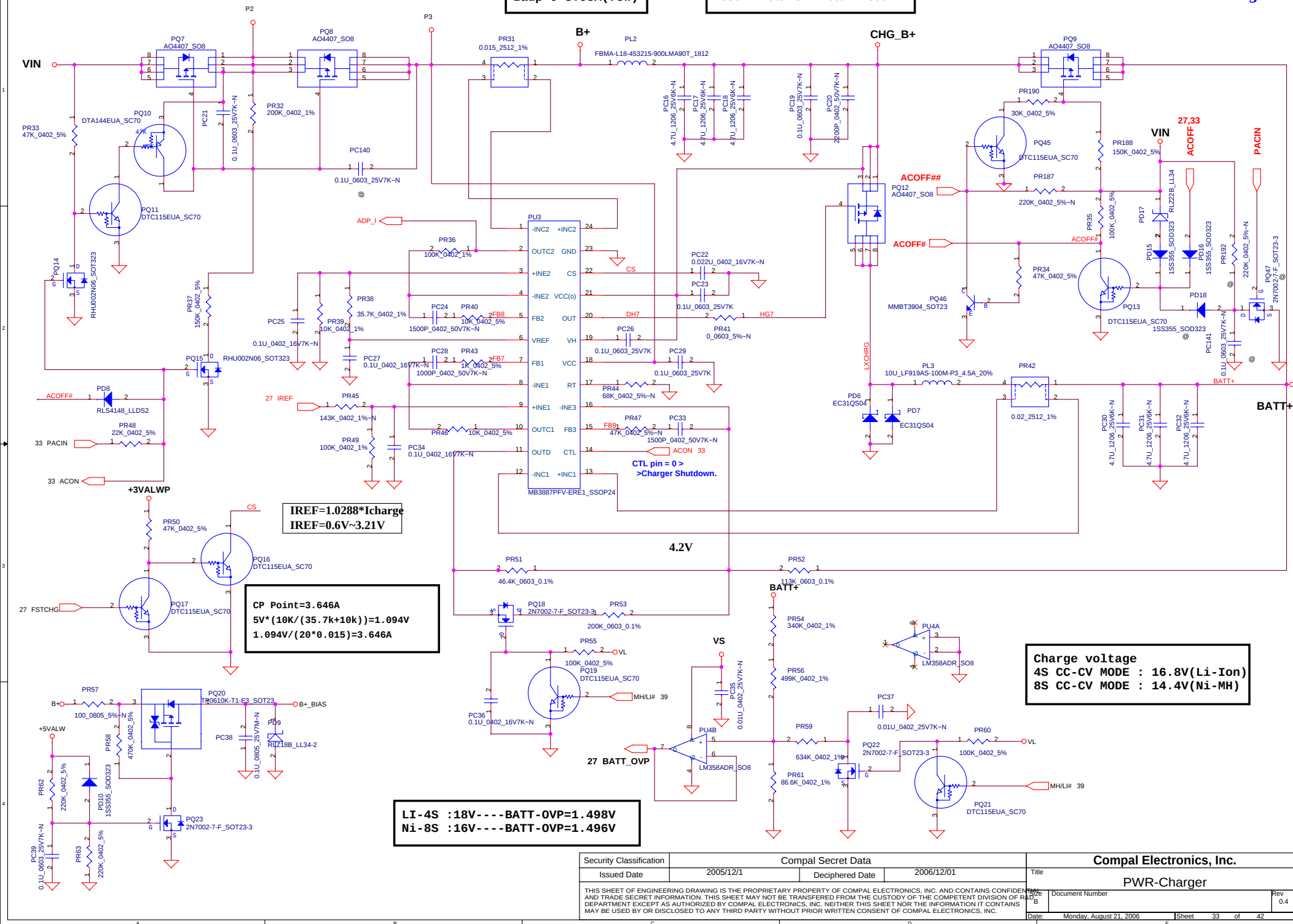
Vin Detector			
	Max.	typ.	Min.
H-->L	18.234	17.841	17.449
L-->H	17.597	17.210	16.813



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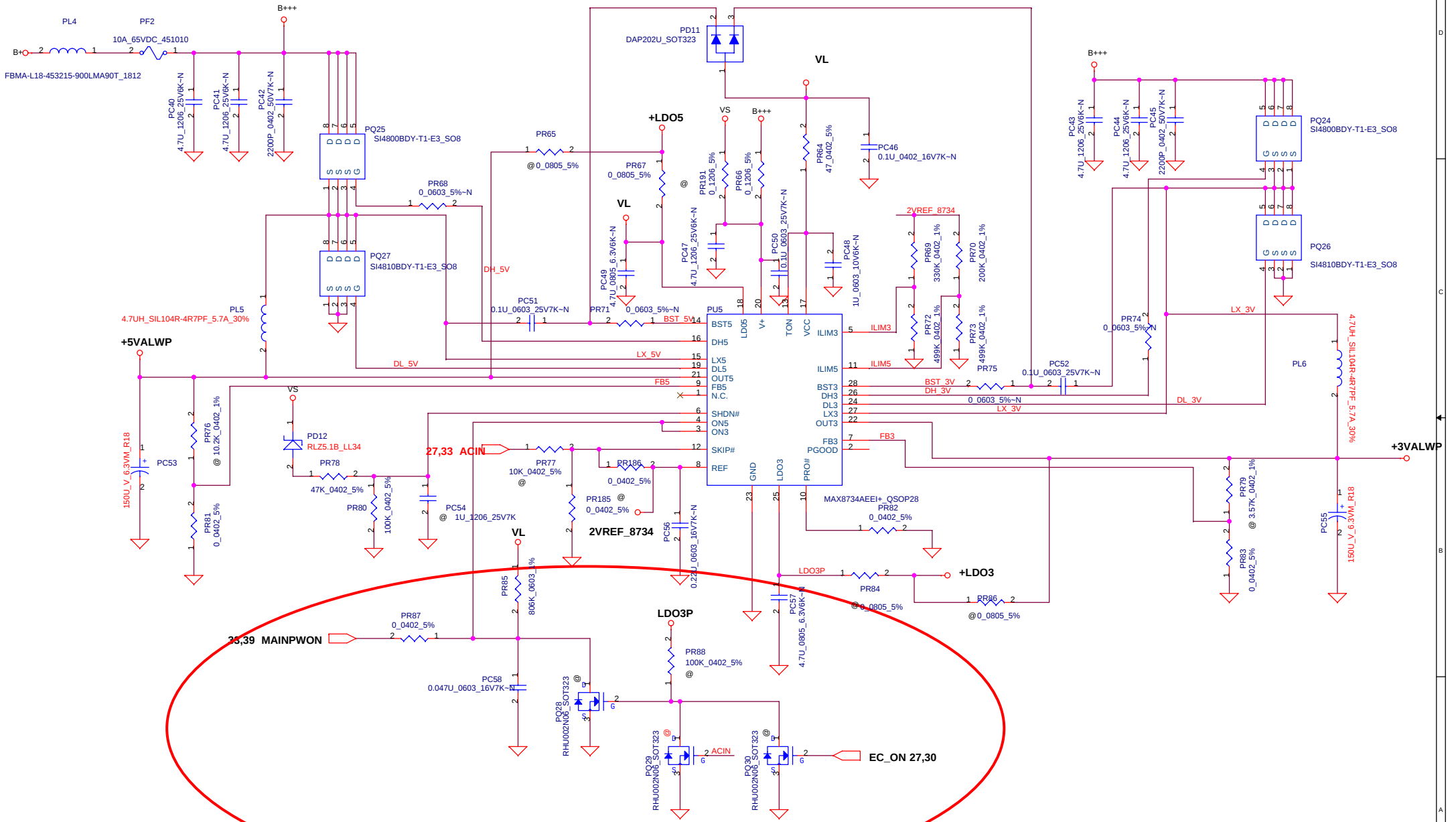
$$F_{osc} = 14100 / R_t = 14100 / 47 = 300 \text{ KHz}$$

Charger

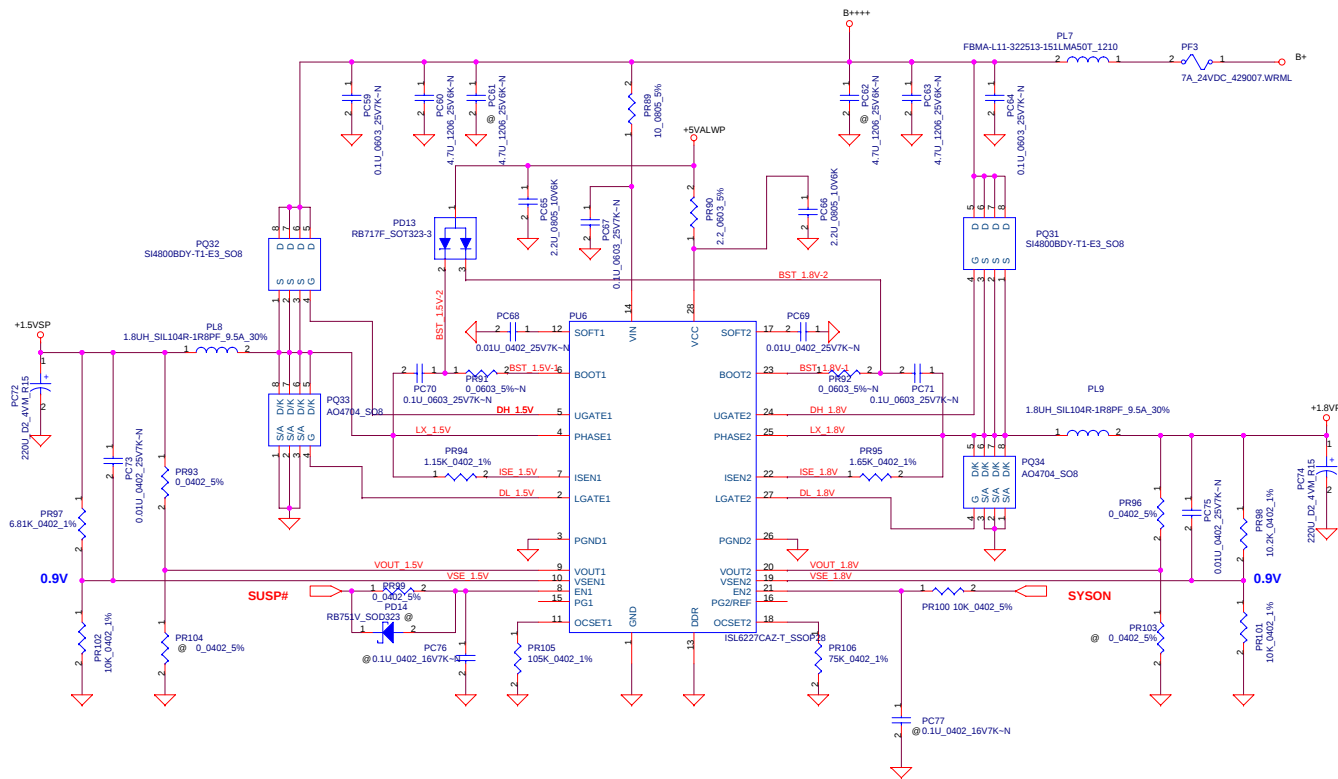


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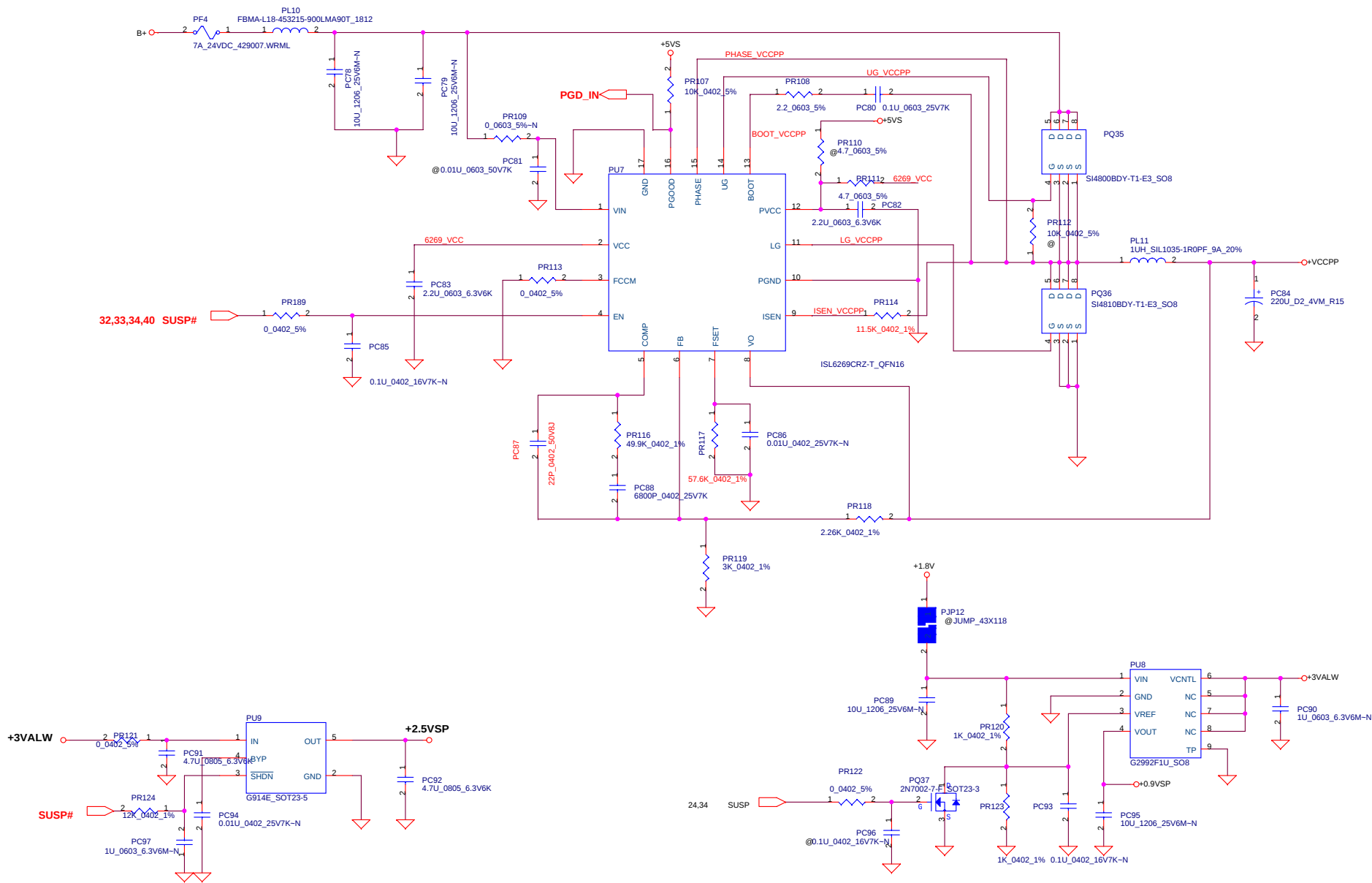
+3.3VALWP/+5VALWP



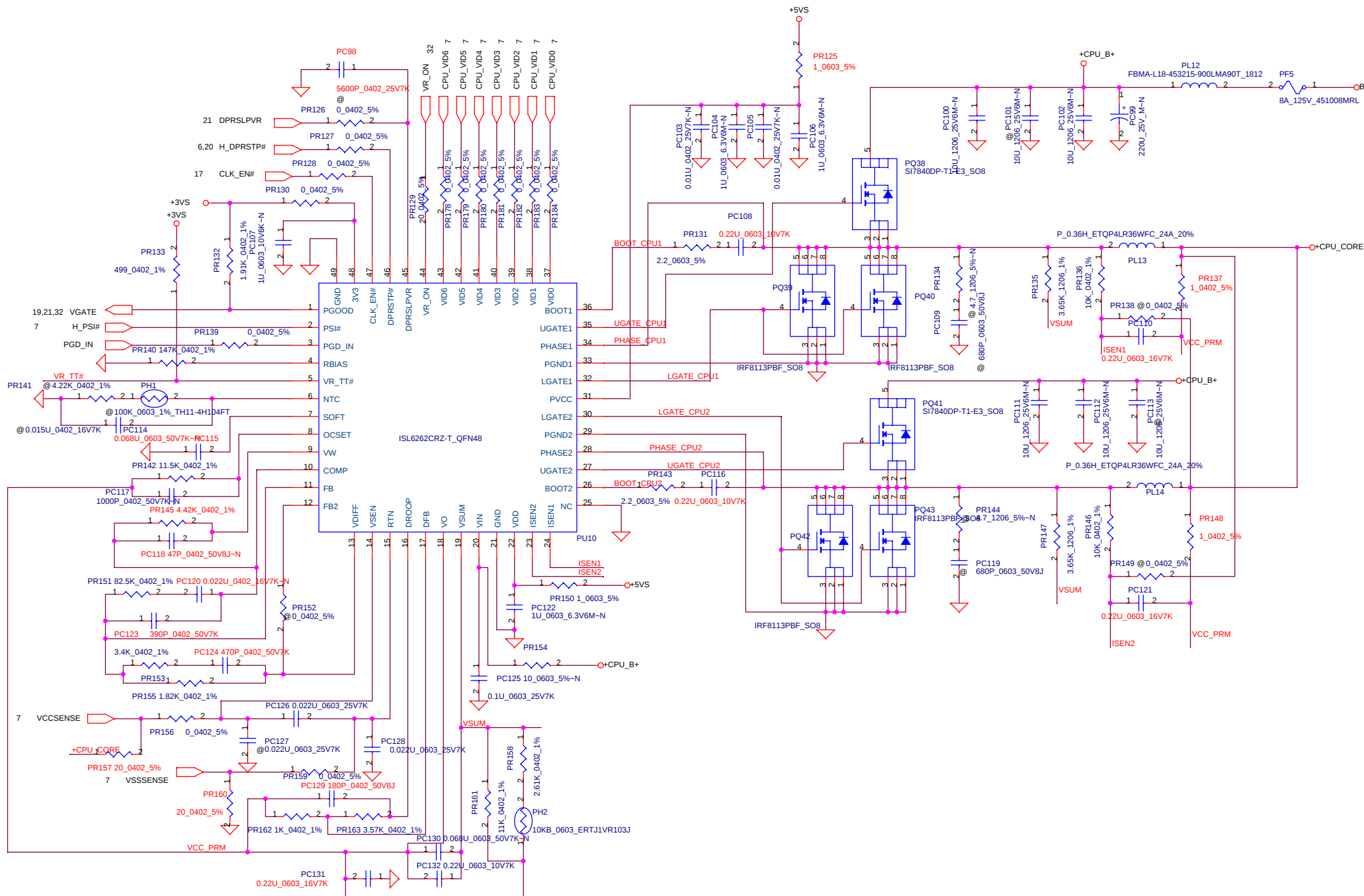
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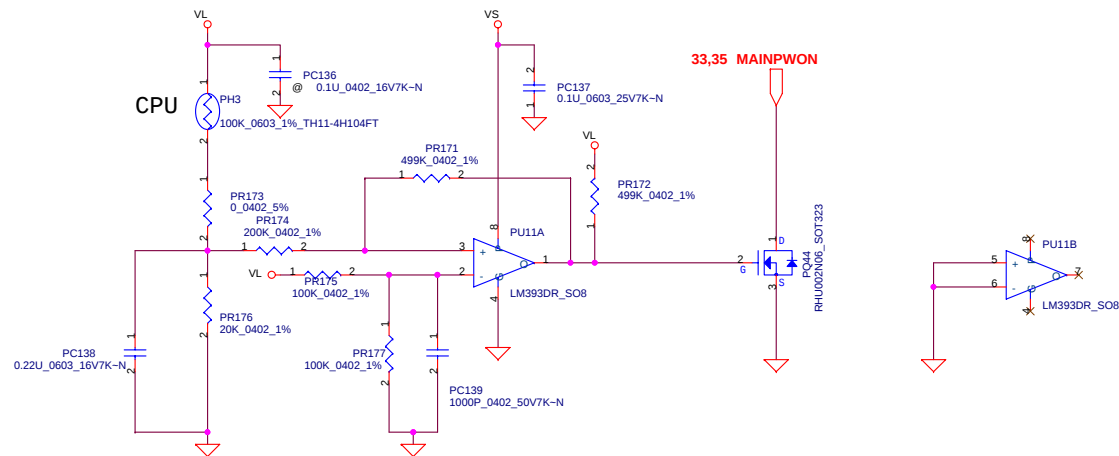
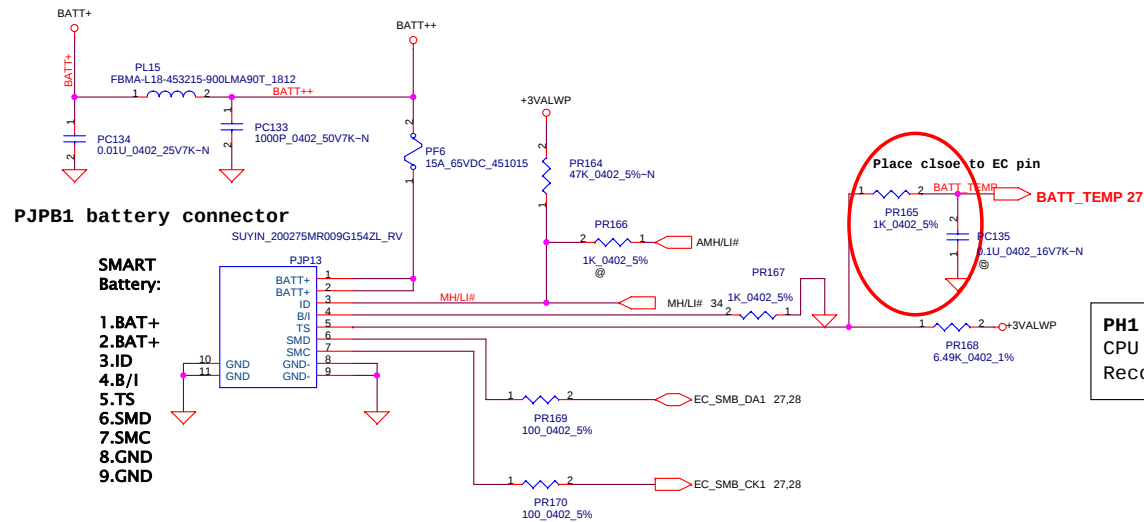
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		Size			0.4
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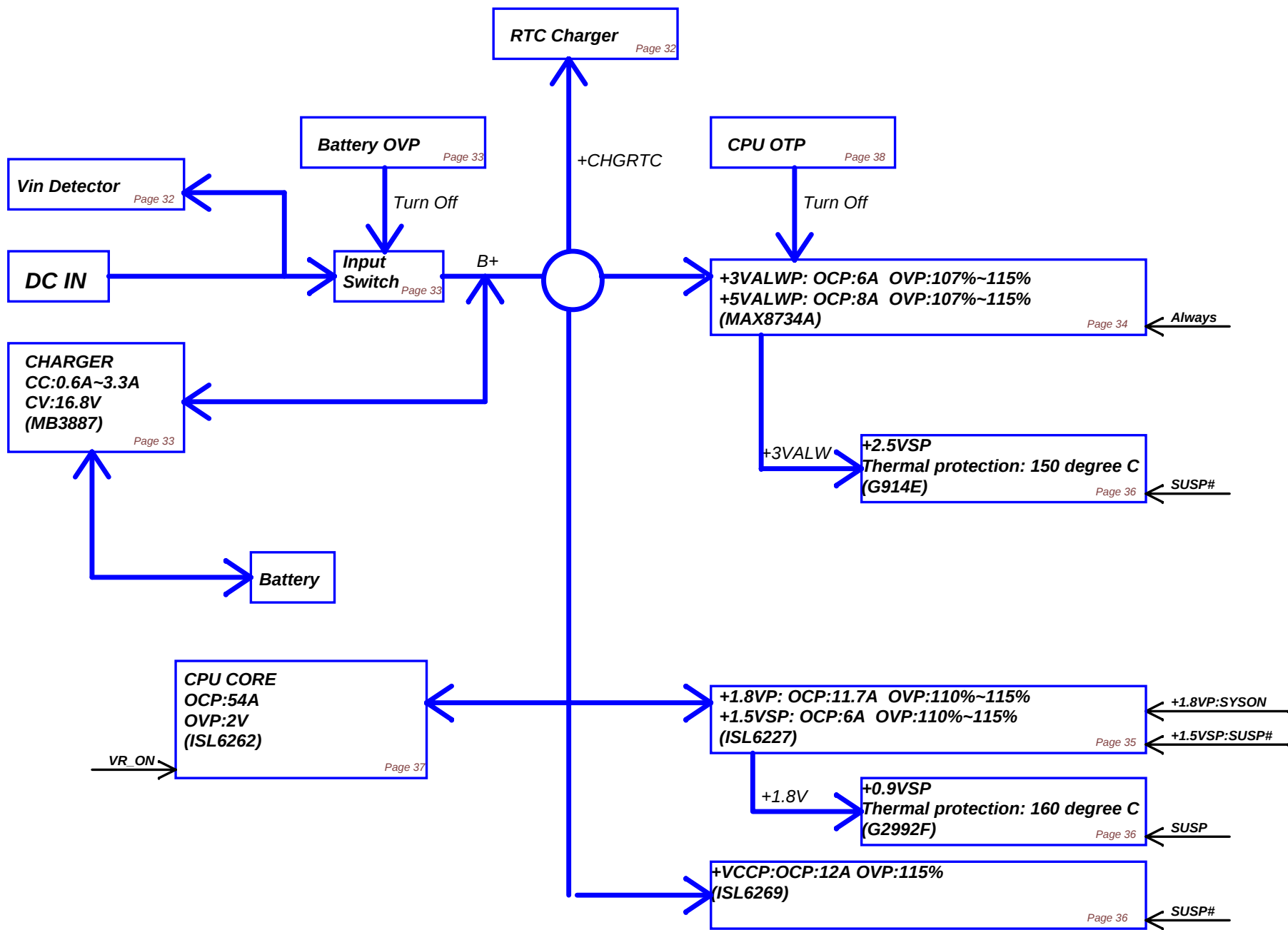
Compal Electronics, Inc.			
Title			
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CONTRIBUTOR'S IDENTIFICATION NUMBER			Rev
LA-3271P			0.4
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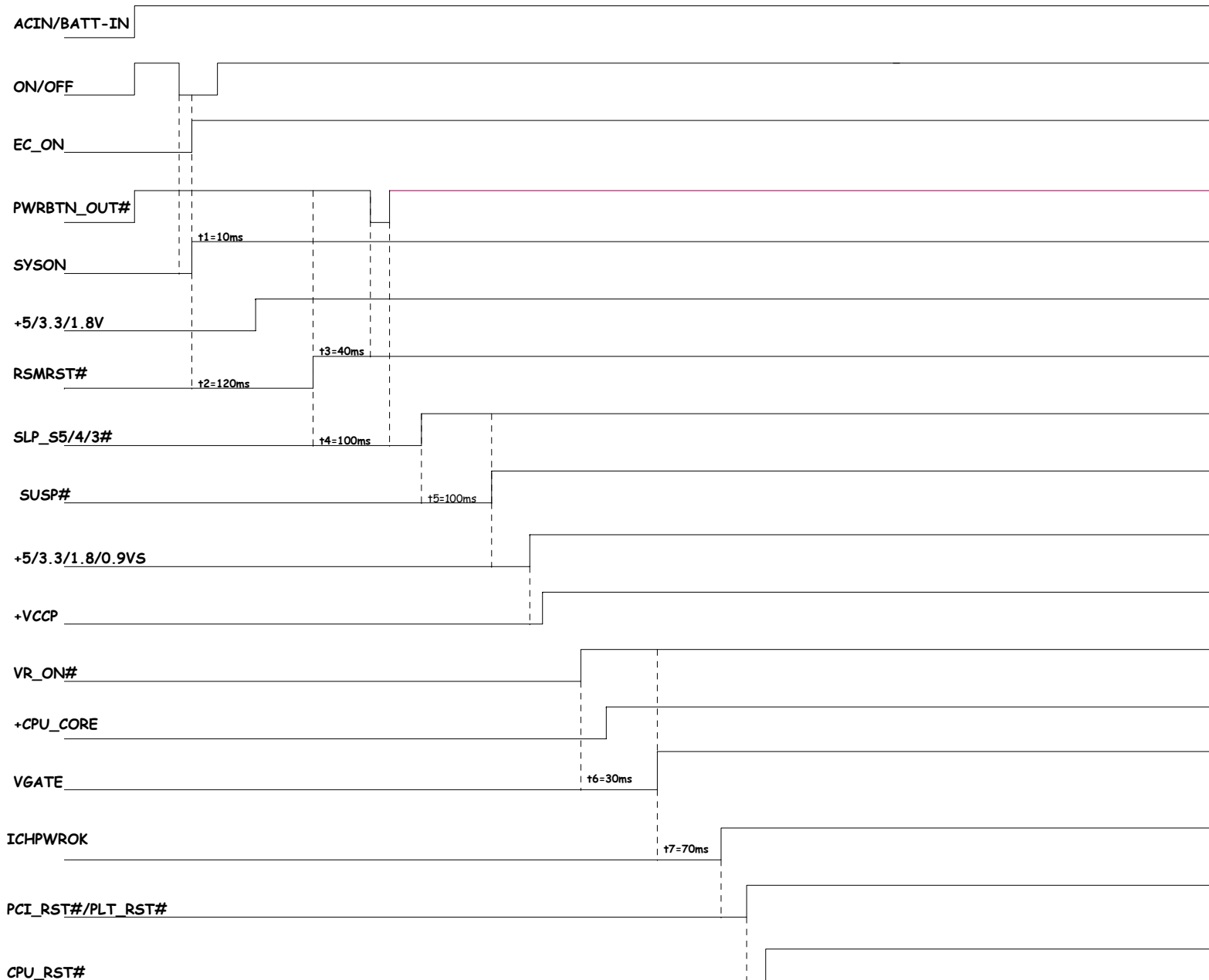
Next: PR238, PC202, PQ56, PD42, PJP21

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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	14	CRT Conn.& LCD Conn.	Mar. 28th	COMPAL	Add LVDS-EDID CLK&DAT pull high	Add pull high to +3VS for EDID_CLK & EDID_DAT	0.2
2	26	EC KB910L/REED SW/TPM1.2	Mar. 28th	COMPAL	Add ICH_POK & GMCH_ENBKL to pin 80& 81	Add ICH_POK & GMCH_ENBKL to pin 80& 81	0.2
3	27	KB / TouchPad / BIOS/Felica	Apr. 2nd	COMPAL	Feloca can't detect.	Swap pin 2& 3 (pin2->D-; pin3->D+)	0.2
4	14	CRT Conn.& LCD Conn.	Apr. 2nd	COMPAL	White screen when boot.	Use NB to control LCD backlight	0.2
5	13	Clock Generator	Apr. 2nd	COMPAL	Cardbus can't detect.	Add cardbud CLK.	0.2
6	13	Clock Generator	Apr. 2nd	COMPAL	CPU_CLK 266MHZ issue.	Take off R894	0.2
7	22	BCM5787M-GLAN	Apr. 2nd	COMPAL	LAN can't detect .	Swap VMIN(pin53) & VAUX(pin54) power plan	0.2
8	22	BCM5787M-GLAN	Apr. 2nd	COMPAL	EEPROM can't detect .	Change R868 to 0 ohm	0.2
9	13	Clock Generator	Apr. 2nd	COMPAL	+3VS leakage issue	Add D15, D19.	0.2
10	19	HDD/CDROM	Apr. 2nd	COMPAL	HD can't detect	SATA TX & RX pin swap	0.2
11	20	CardBus/R5C841/R5C811(1/2)	Apr. 2nd	COMPAL	cardbus of device manager show "I"	UDI03 & 4 change to GND for HW select	0.2
12	6	Yonah bypass	Apr. 2nd	COMPAL	Use 2 330U for Decoupling	Take off C677 & C680	0.2
13	28	USB Conn/FINGERPRINT	Apr. 20th	COMPAL	Fingerprint can;t be detect	Swap Fingerprint signal for correct pin define	0.2
14	26	EC KB910L/REED SW/TPM1.2	Apr. 20th	COMPAL	+5VS leakage	Chaneg EC_MUTE pull high to +3VS	0.2
15	22	BCM5787M-GLAN	Apr. 27th	NEC	Material change for same type	Change L15 to CHB1608U301	0.2
16	23	Mini card & LAN CONN	Apr. 27th	COMPAL	Change R319 to LAN vender suggestion one	Change R319 to CHB1608U301	0.2
17	13	Clock Generator	May. 4th	COMPAL	Dubug code '28' issue	Take off D12 & D13, mount Q20, Q21	0.3
18	26	EC KB910L/REED SW/TPM1.2	May. 17th	COMPAL	+3VS leakage issue	Modify EC_MUTE pull high to +3VALW	0.3
19	28	USB Conn/FINGERPRINT	May. 17th	NEC	For USB port 5 0C protect	Add USB_OC#5 to U22	0.3
20	14	CRT Conn.& LCD Conn.	May. 17th	EMI	For EMI request	Change L8, L9, L10 form FCM2012C-800 to BK2125LL121-T	0.3
21	30	Power CTRL/ RESET CKT	May. 17th	COMPAL	For +1.5VS discharge	Add +1.5VS discharge circuit. (Q44)	0.3
22	18	ICH7-M(4/4)_POWER&GND	May. 17th	COMPAL	For SB +3VALW modify to +3V reserve by jump select for power consumption save in S5.	Add PJP15 & PJP15 for +3VALW and +3V select for SB.	0.3
23	13	Clock Generator	May. 17th	COMPAL	For CLK SPEC define	Modify R381, R382 form 0 to 24ohm	0.3
24	4	Yonah(1/2)-GTL/ITP-XDP	May. 23th	NEC	For FAN power issue prevent	Modify R350 PAD size to 1206 for Fuse.	0.3
25	14	CRT Conn.& LCD Conn.	May. 28th	COMPAL	H_SYNC, V_SYNC over/under shoot issue	Add R526 & R527.	0.3
26	14	CRT Conn.& LCD Conn.	Jun. 1st	COMPAL	Fine tune LCDVDD discharge time.	Modify R14 to 300 ohm, R30 to 100K ohm, R25 to 10K.	0.3
27	25	AMP./ Audio Jack	Jun. 6th	COMPAL	For PCMCIA-Modem card dial tone too samll issue.	Modify Buzzer circuit.	0.3
28	23	Mini card & LAN CONN	Jun. 13th	NEC	For both INTEL GOLAN and ALPS WLAN LED function OK.	Modify circuit and use 2 DIP Switch to control.	0.3
29	26	EC KB910L/REED SW/TPM1.2	Aug. 10th	COMPAL	For S5 power consumption	Added LD03 power plan	
30	14	CRT Conn.& LCD Conn.	Aug. 10th	COMPAL	For V/H sync delay	Del R526 & R527.Change C308 C311	
31	25	AMP./ Audio Jack	Aug. 10th	COMPAL	For EMI request	Add C548 & C549.	
32	23	Mini card & LAN CONN	Aug. 10th	COMPAL	For LAN immunity	Change R556,R557,R558,R559 to 0ohm	
	23	Mini card & LAN CONN	Aug. 10th	NEC	For both INTEL GOLAN and ALPS WLAN LED control by software	Add U39	

AK1 Power block





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