

Model Name: KML50 DIS
PCB NO: LA-4595PR04
BOM P/N: DA80000DR00

Half Penny Bridge 15.4

Compal Confidential

Schematic Document

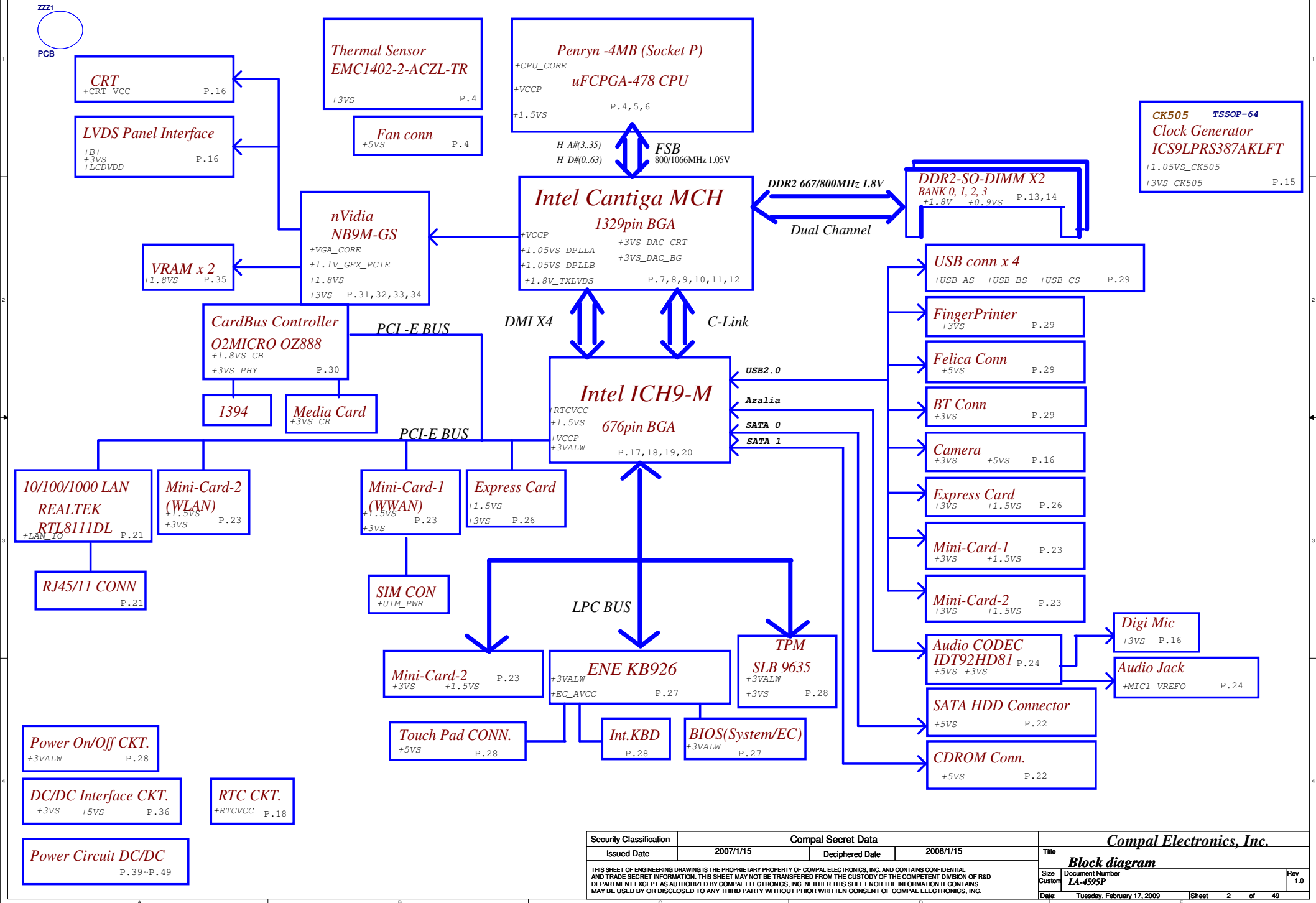
Cantiga + ICH9

2009 / 02 / 17 Rev:1.0 (A00)

Security Classification		Compal Secret Data		Compal Electronics, Inc.		
Issued Date		2007/1/15	Deciphered Date	2008/1/15		Title Cover Sheet Document Number LA-4595P Rev 1.0
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File Name : LA-4595P

Half Penny Bridge 15.4 DIS



O MEANS ON X MEANS OFF

ICH9-M	USB PORT#	DESTINATION
	0	JUSBP1
	1	CAMERA
	2	JUSBP3 TOP
	3	Felica
	4	Blue Tooth
	5	Finger Printer
	6	JMINI2-WLAN
	7	Express card
	8	JUSBP3 BOT
	9	JMINI1-WWAN
	10	JUSBP4
	11	NA

 : means Digital Ground
 : means Analog Ground

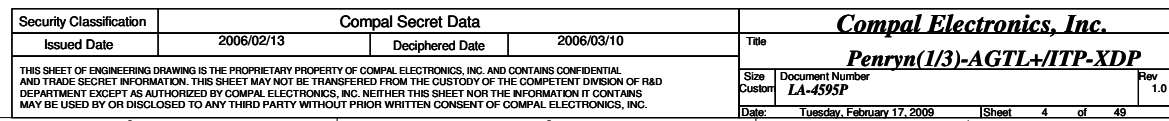
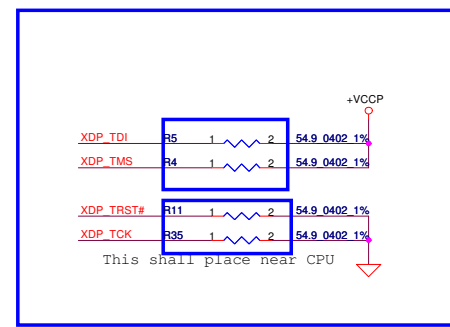
@ : means just reserve , no build
CON@ : means ME connectors
TPM@ : means TPM function

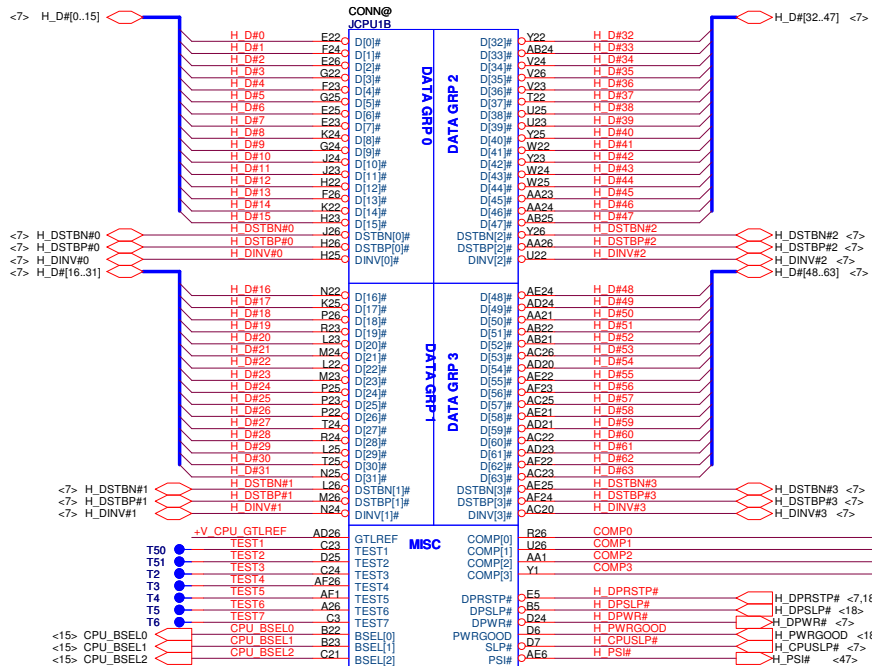
SATA	DESTINATION
Lane 0	HDD
Lane 1	ODD
Lane 4	NA
Lane 5	NA

	SOURCE	INVERTER	BATT	SERIAL EEPROM	THERMAL SENSOR (CPU)	SODIMM	CLK CHIP	MINI CARD	LCD
SMB_EC_CK1 SMB_EC_DA1	KB926	X	V	V	X	X	X	X	X
SMB_EC_CK2 SMB_EC_DA2	KB926	X	X	X	V	X	X	X	X
SMB_CK_CLK1 SMB_CK_DAT1	ICH9	X	X	X	X	V	V	X	X
LCD_CLK LCD_DAT	Cantiga	X	X	X	X	X	X	X	V

DEVICE	HEX	ADDRESS
DDR SO-DIMM 0	A0	10100000
DDR SO-DIMM 1	A4	10100100
CLOCK GENERATOR (EXT.)	D2	11010010
LED panel	58	01011000

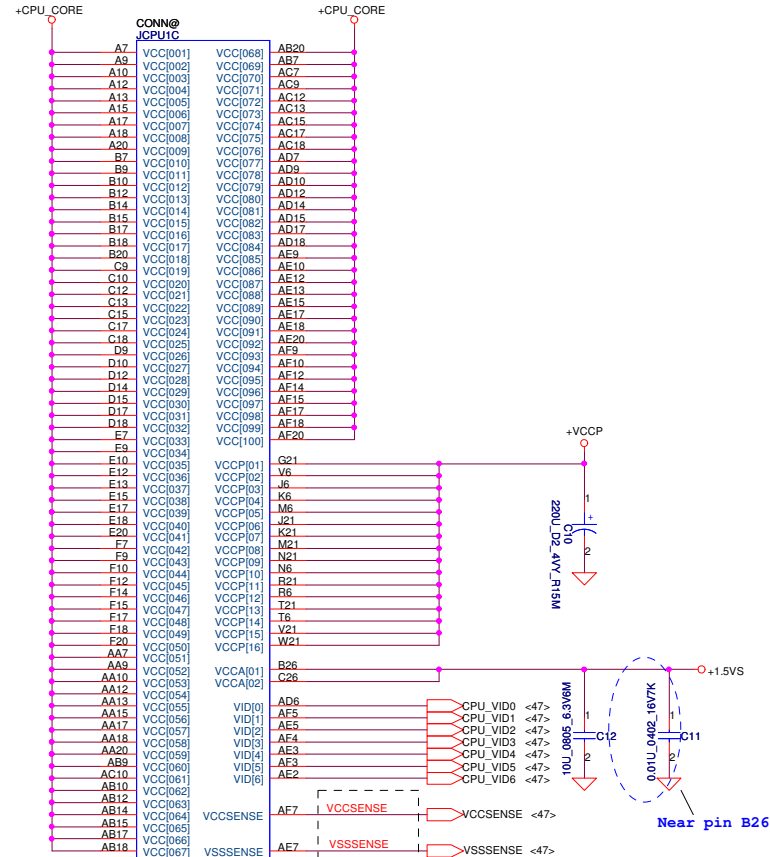
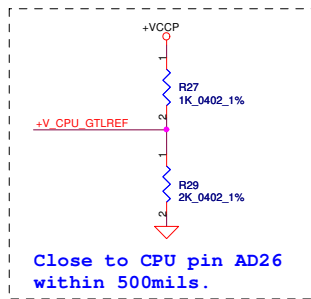
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Issued Date	2005/03/10	Deciphered Date	2006/03/10		
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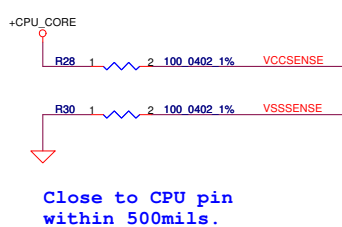


layout note: Rout H_DPRSTP# from ICH9 to IMVP6 then to GMCH & CPU
 layout note: Route TEST3 & TEST5 traces on ground referenced layer to the TPs

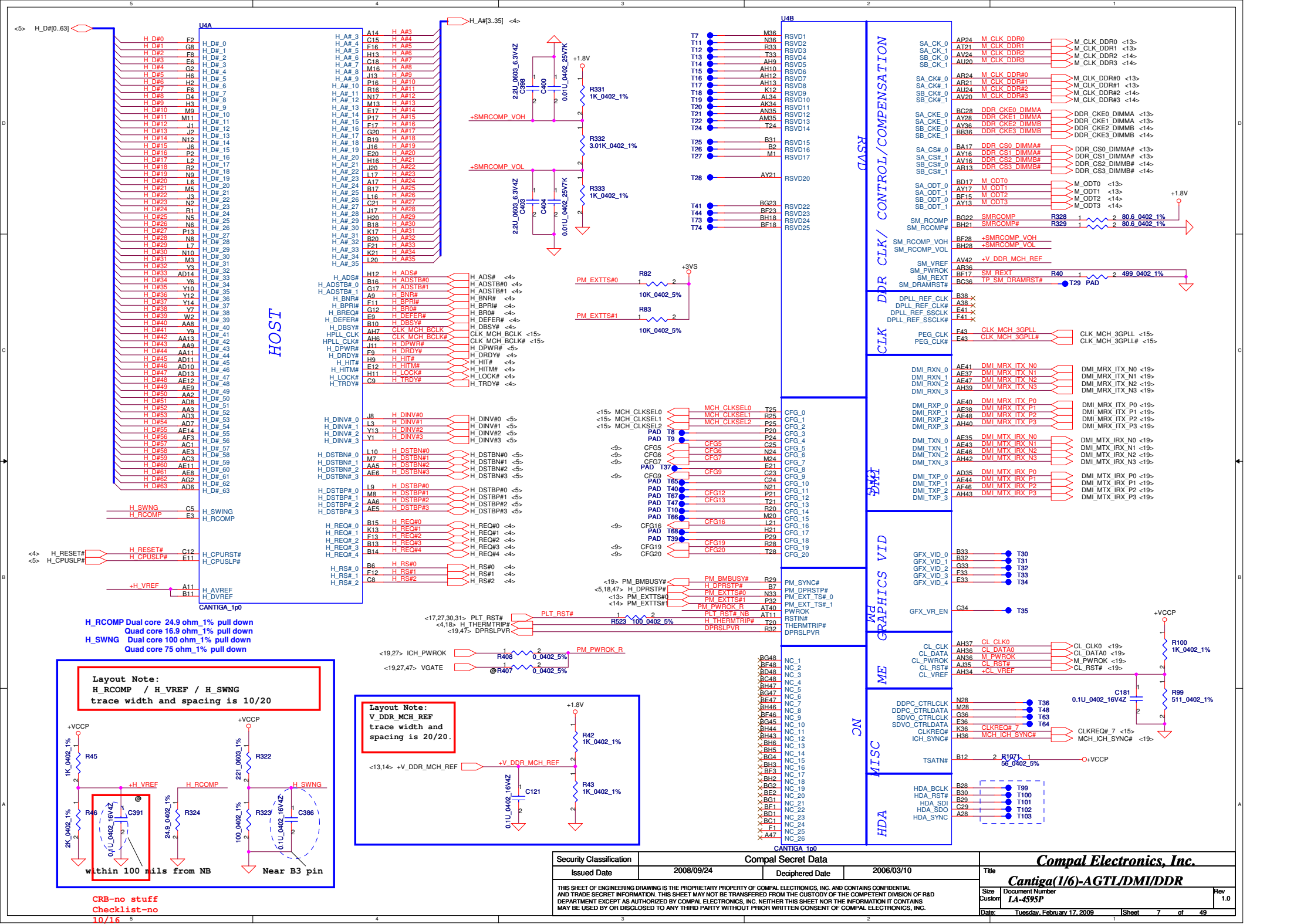
Resistor placed within 0.5" of CPU pin. Trace should be at least 25 mils away from any other toggling signal. COMP[0,2] trace width is 18 mils. COMP[1,3] trace width is 4

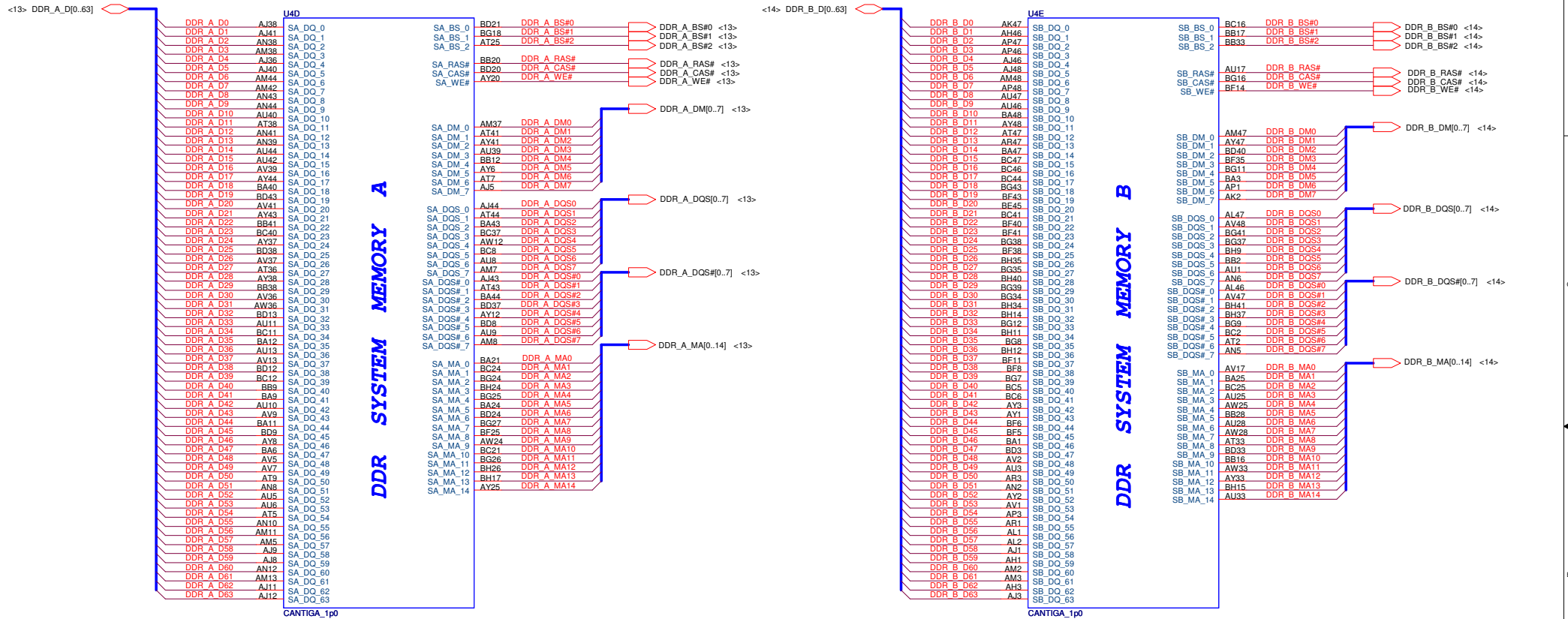


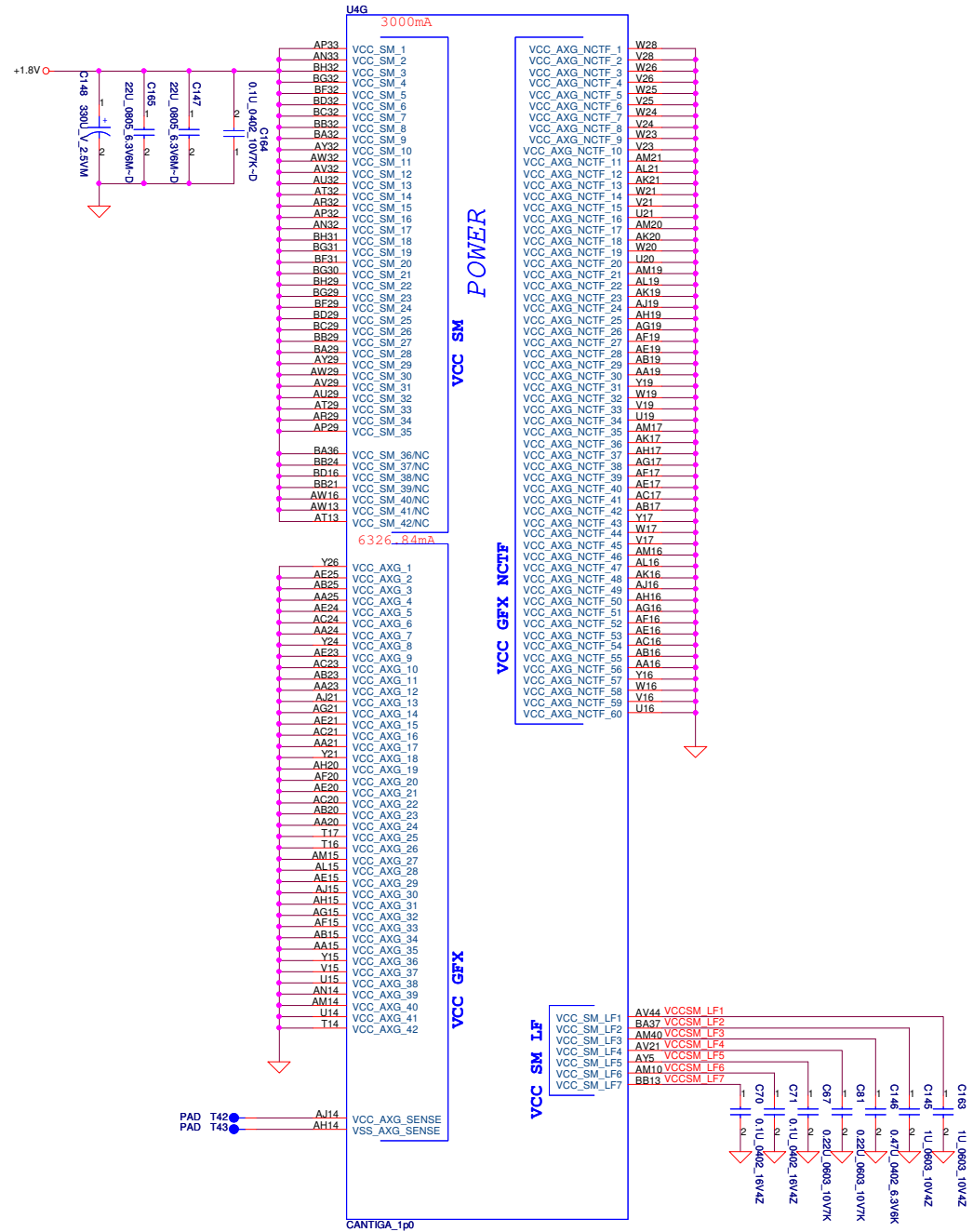
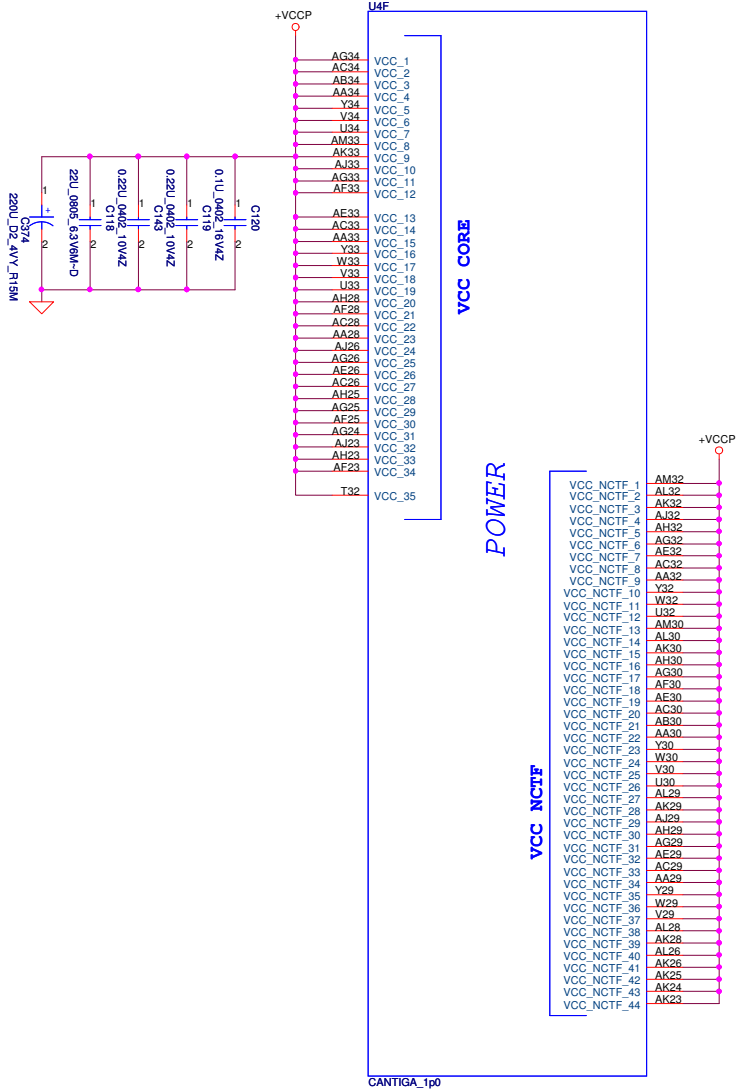
For 8 layer condition
 Length match within 25 mils. Z0=27.4 ohm
 The trace width/space/other is 20/7/25.



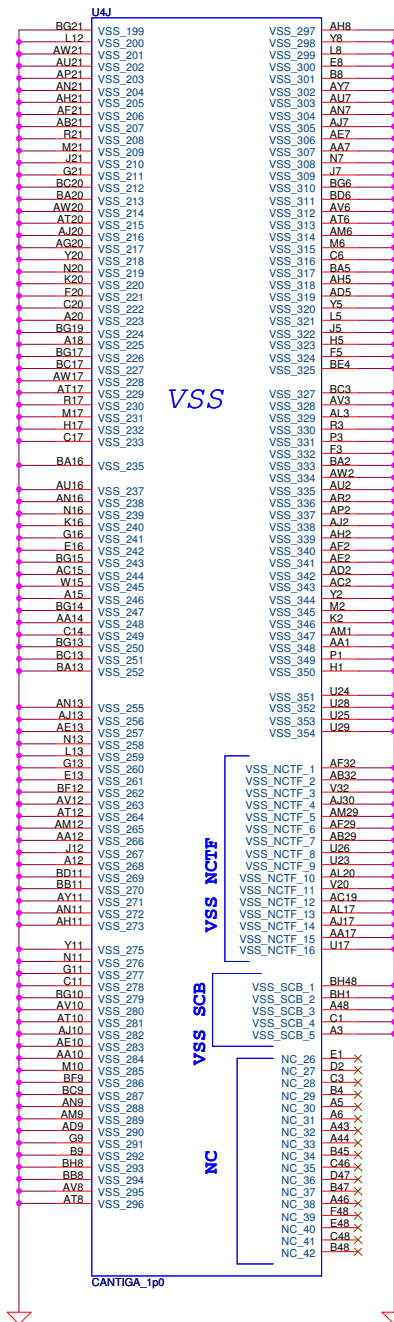
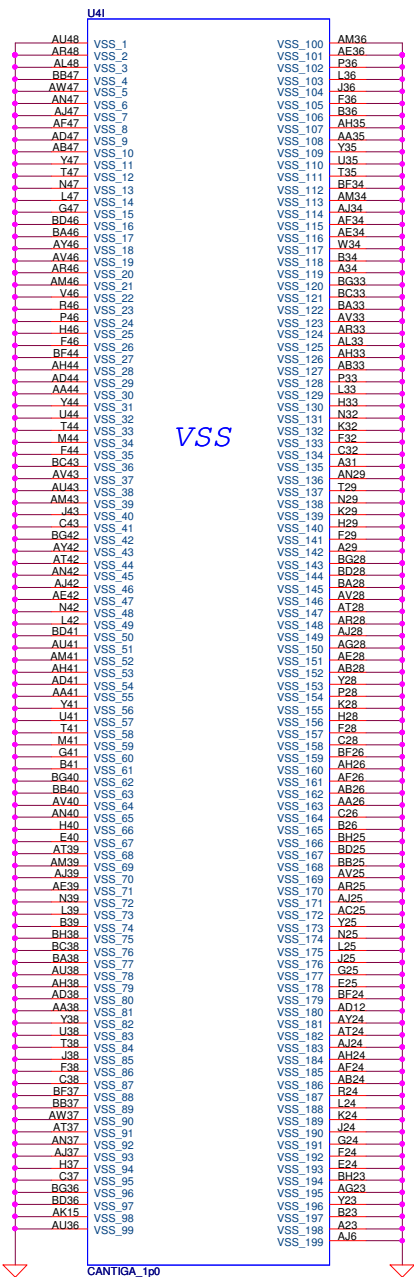
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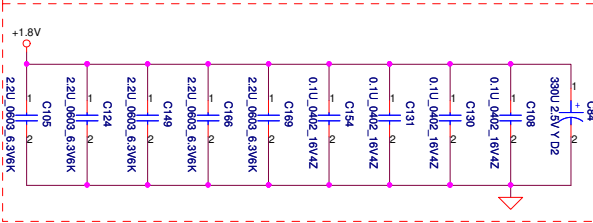
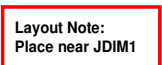




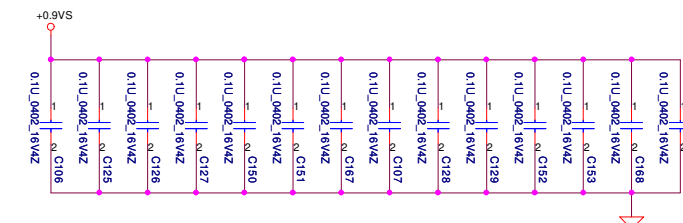
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					Size	Document Number	Rev
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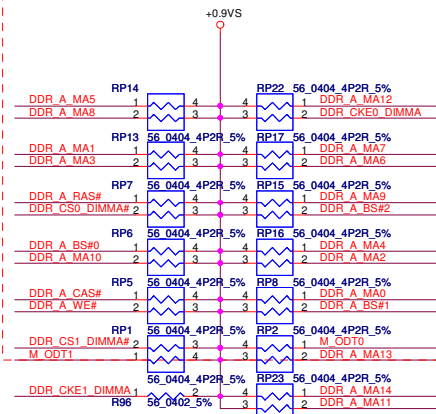
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Issued Date	2006/02/13	Deciphered Date	2006/03/10	Compal Electronics, Inc.	
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Layout Note:
Place one cap close to every 2 pullup resistors terminated to +0.9V



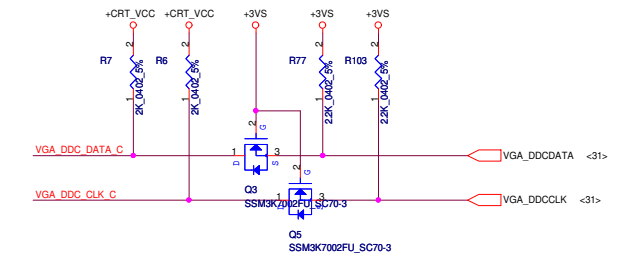
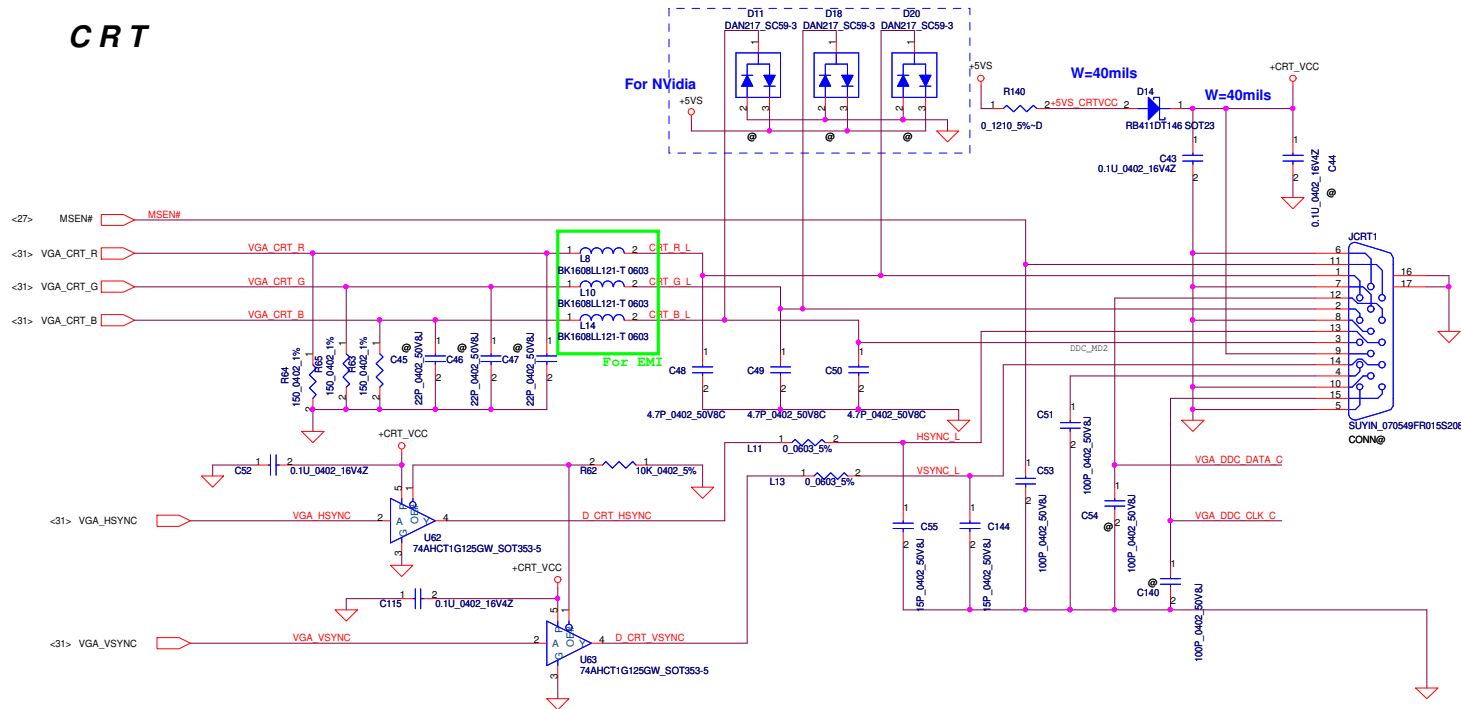
Layout Note:
Place these resistor
closely JP41,all
trace length Max=1.5"



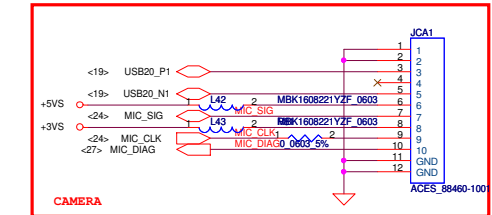
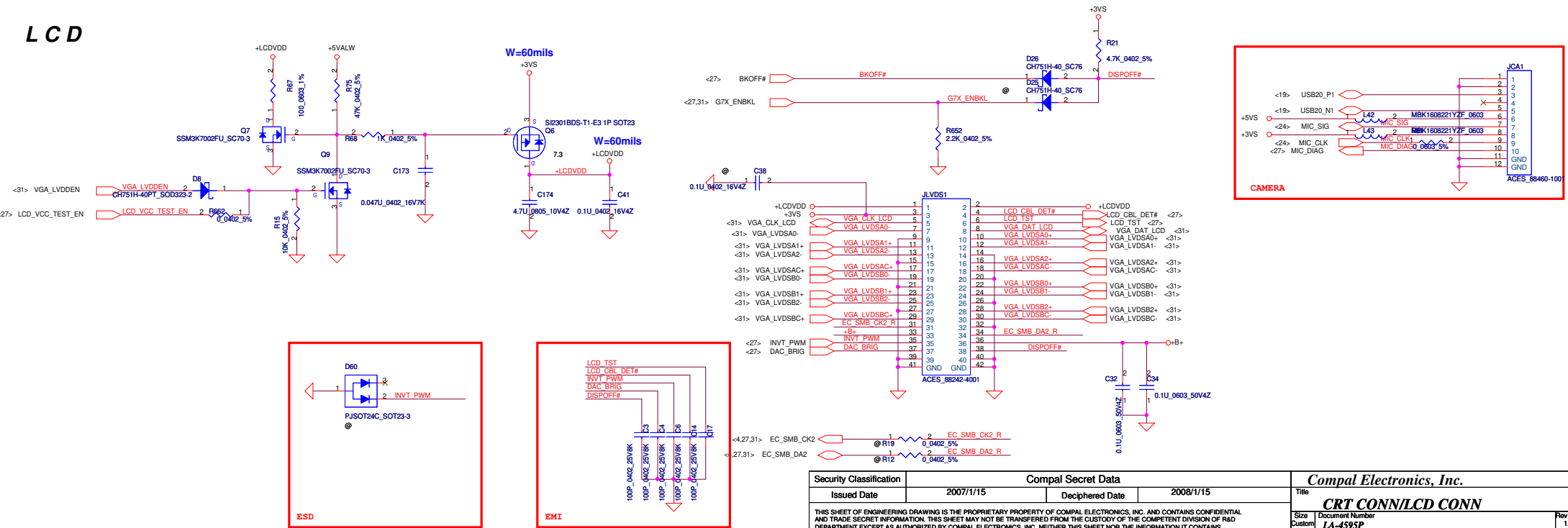
SO-DIMM A
REVERSE
Bottom side

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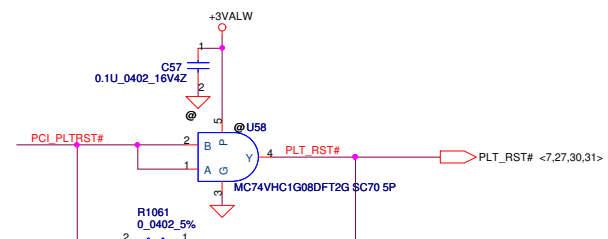
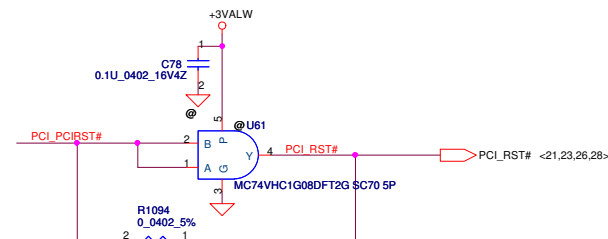
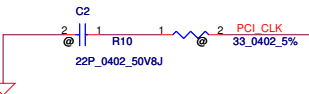
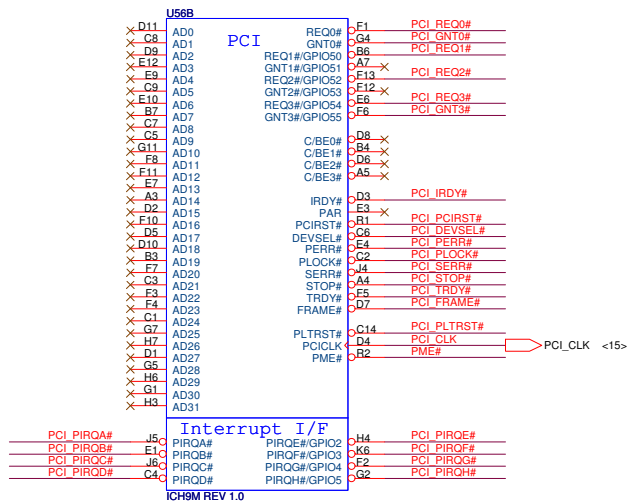
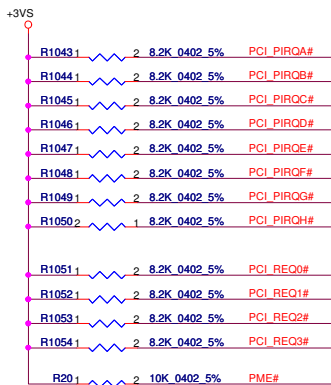
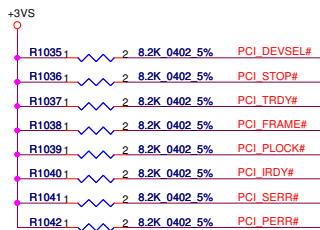
CRT



LCD

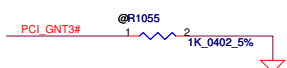


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Size	Custom	Document Number	LA-4595P	Rev	1.0
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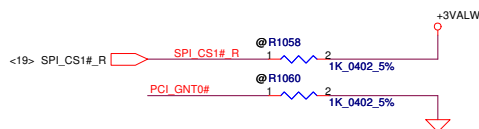
A16 swap override Strap

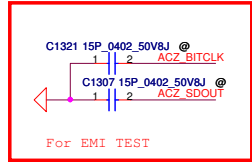
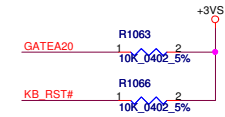
Low= A16 swap override Enable
High= Default *



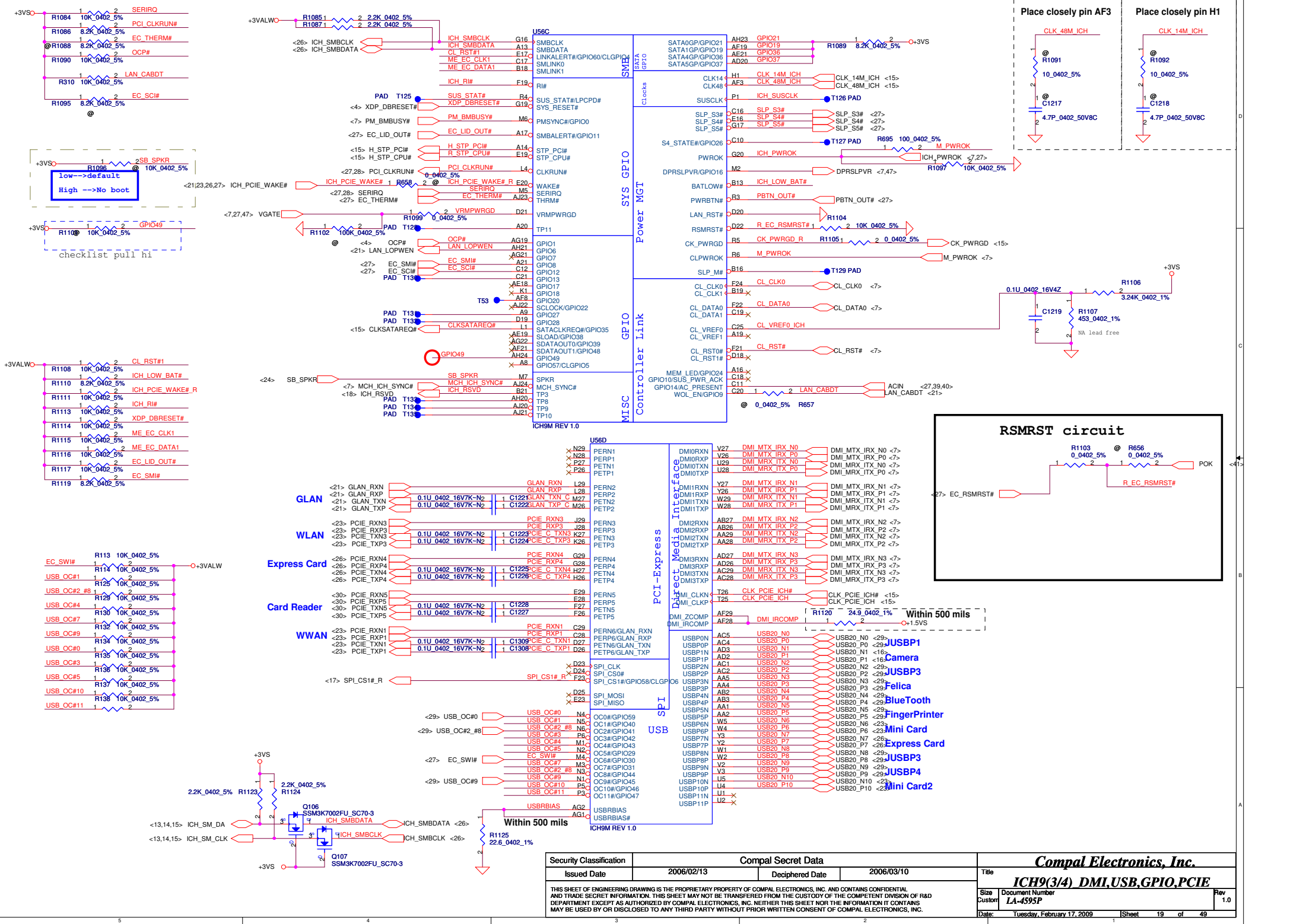
Boot BIOS Strap

PCI_GNT0#	SPI_CS#1	Boot BIOS Location
0	1	SPI
1	0	PCI
1	1	LPC *

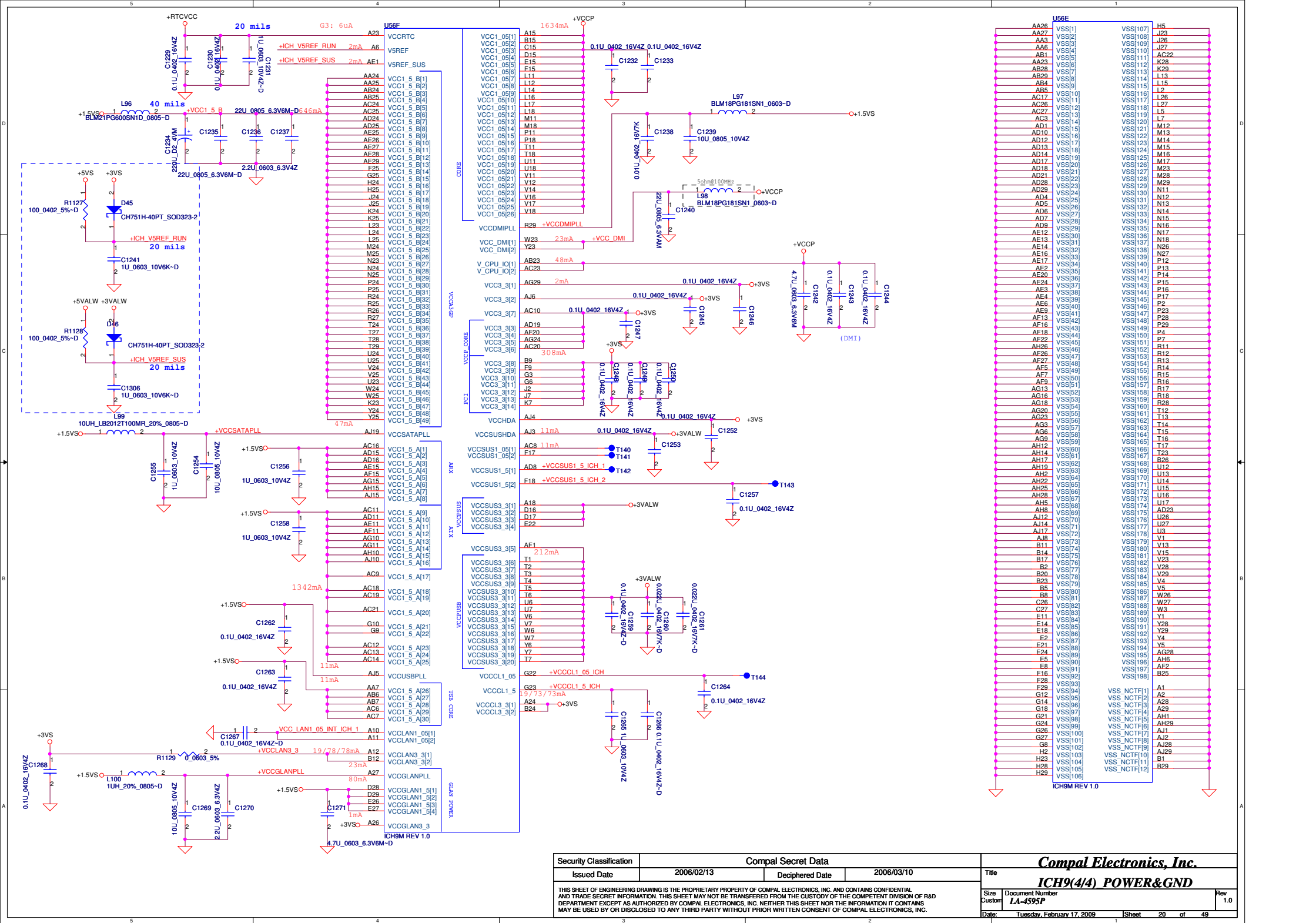


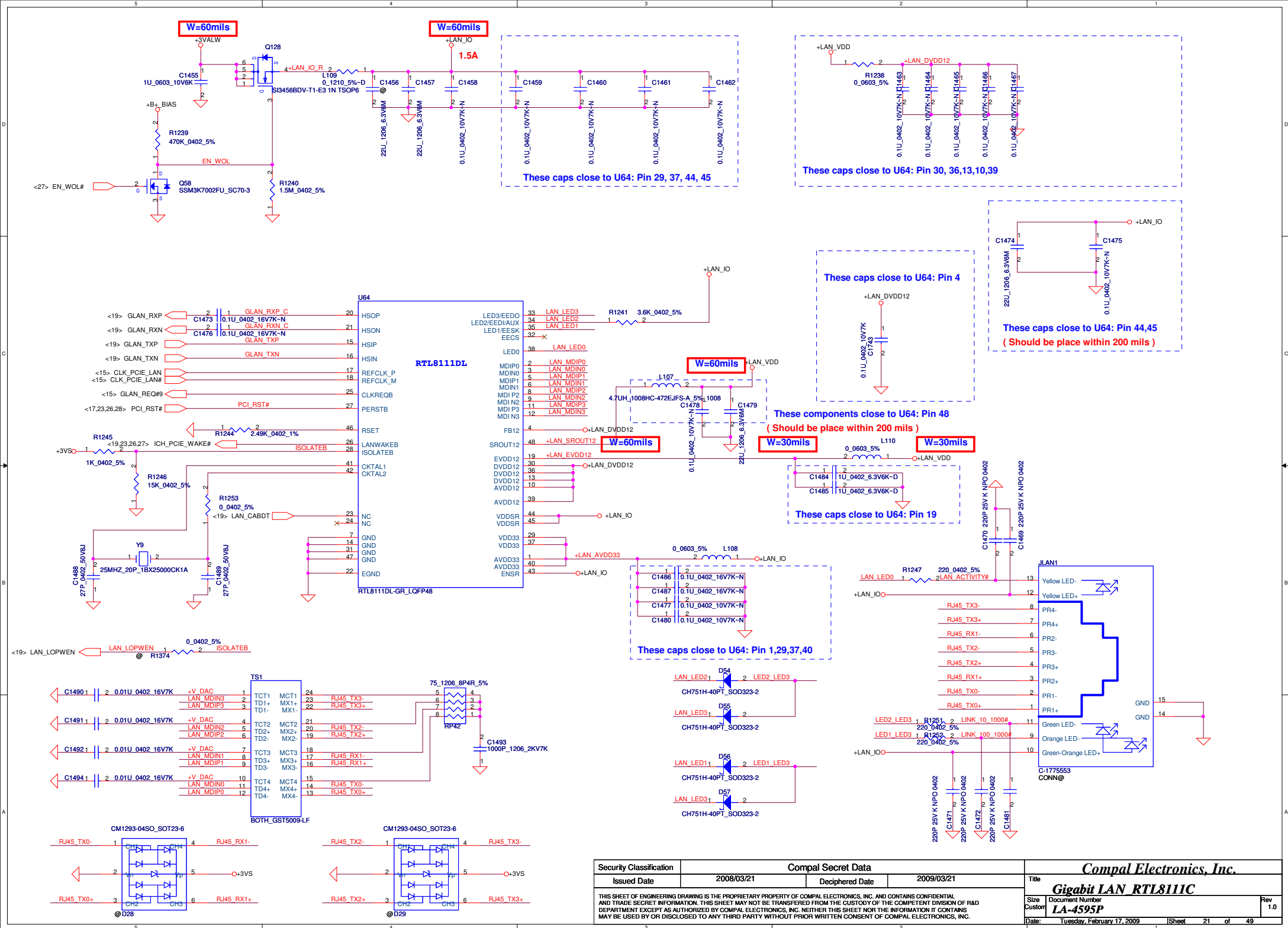


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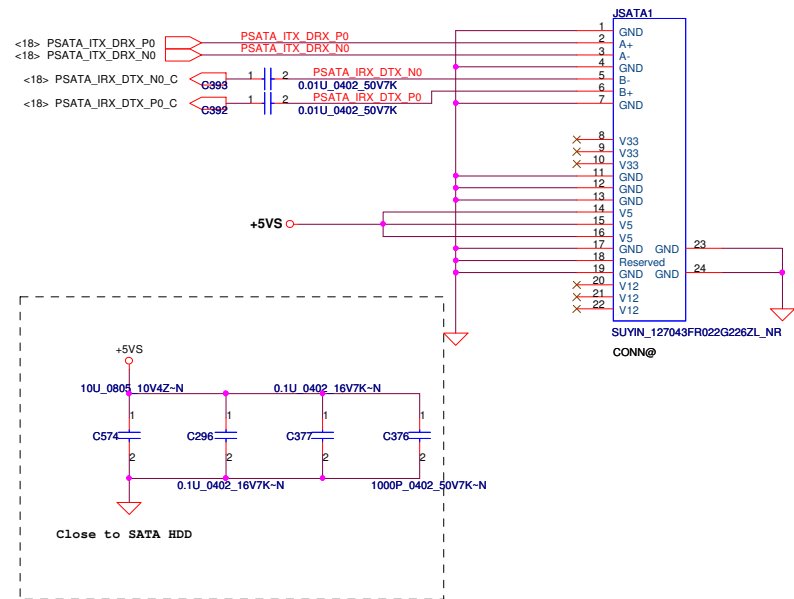


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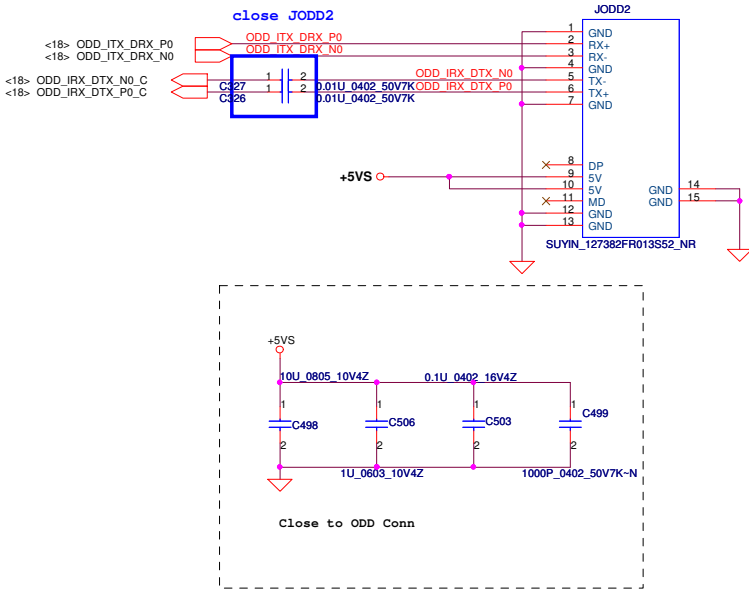




SATA HDD CONN

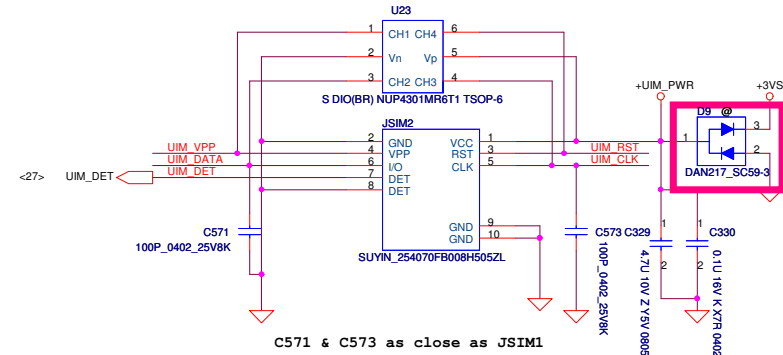
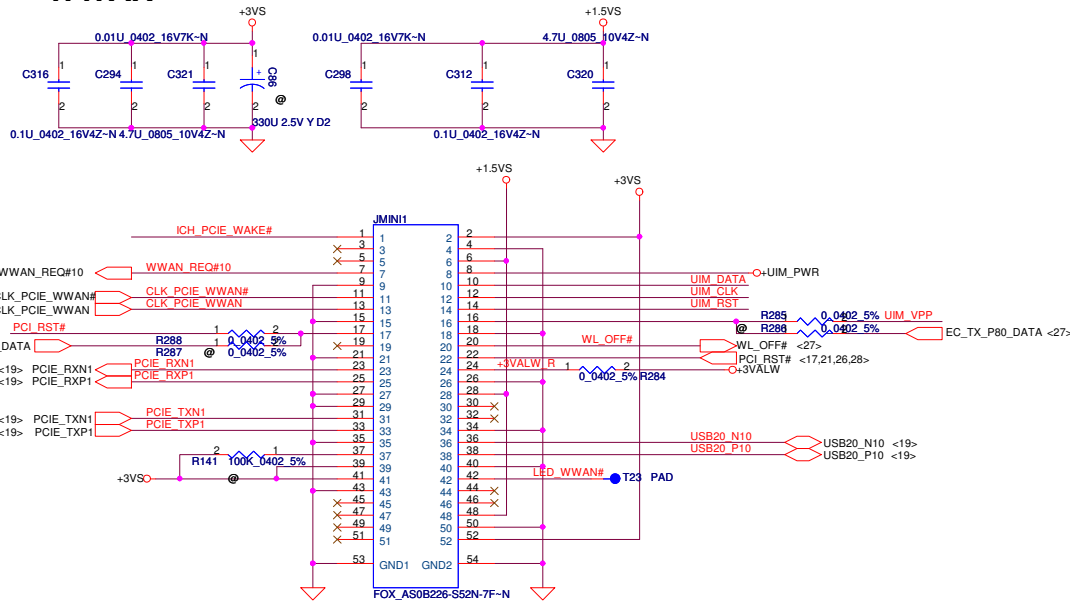


SATA ODD CONN

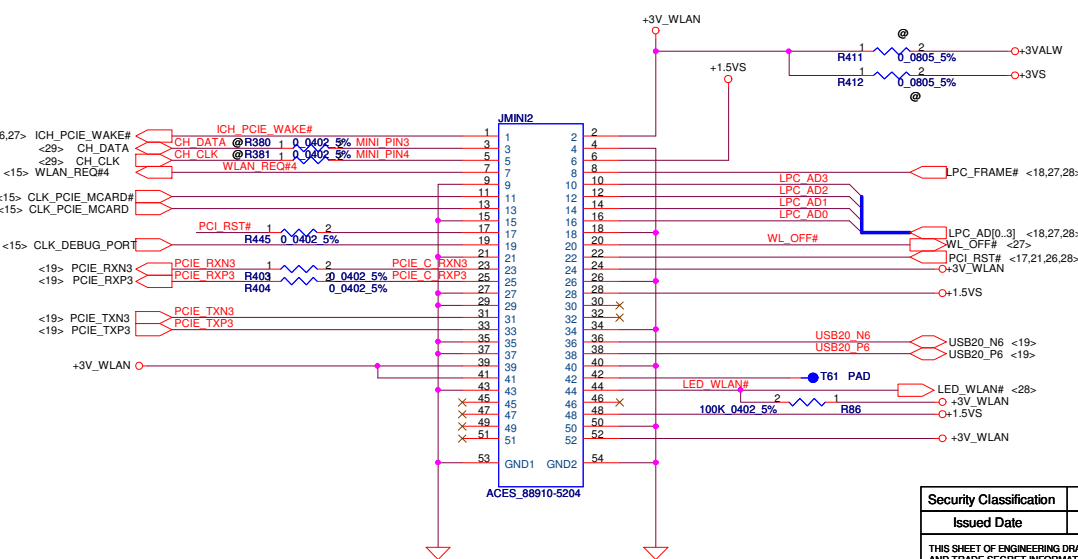


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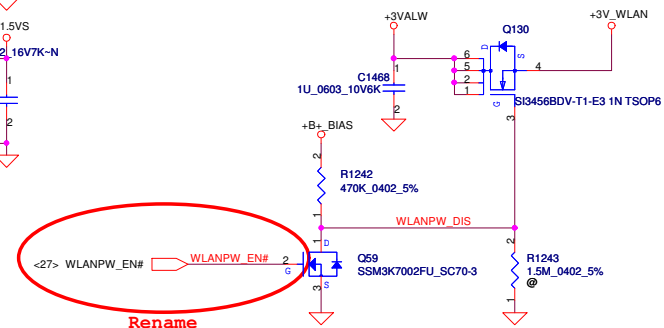
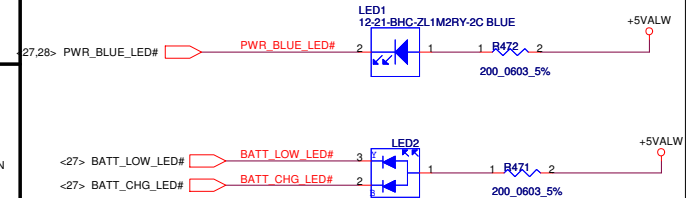
WWAN



Mini-Express Card---WLAN

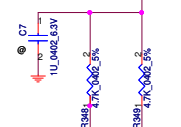
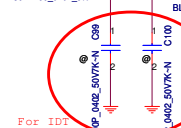
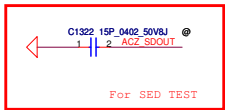


Power status (Left)

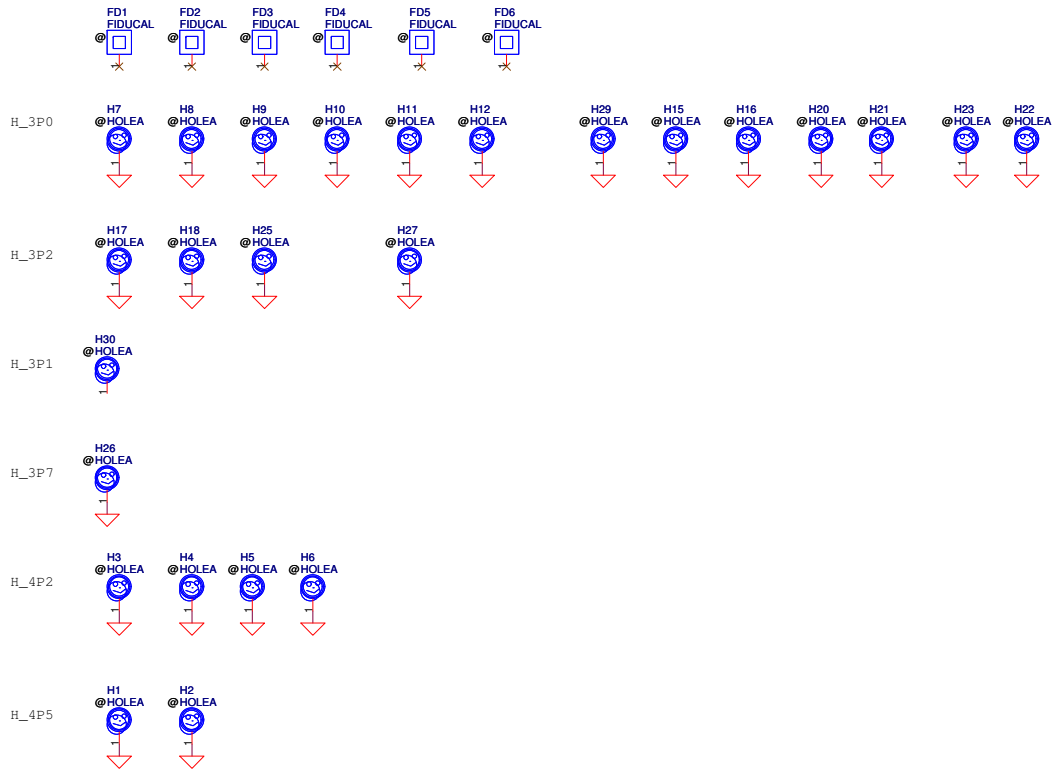


Rename

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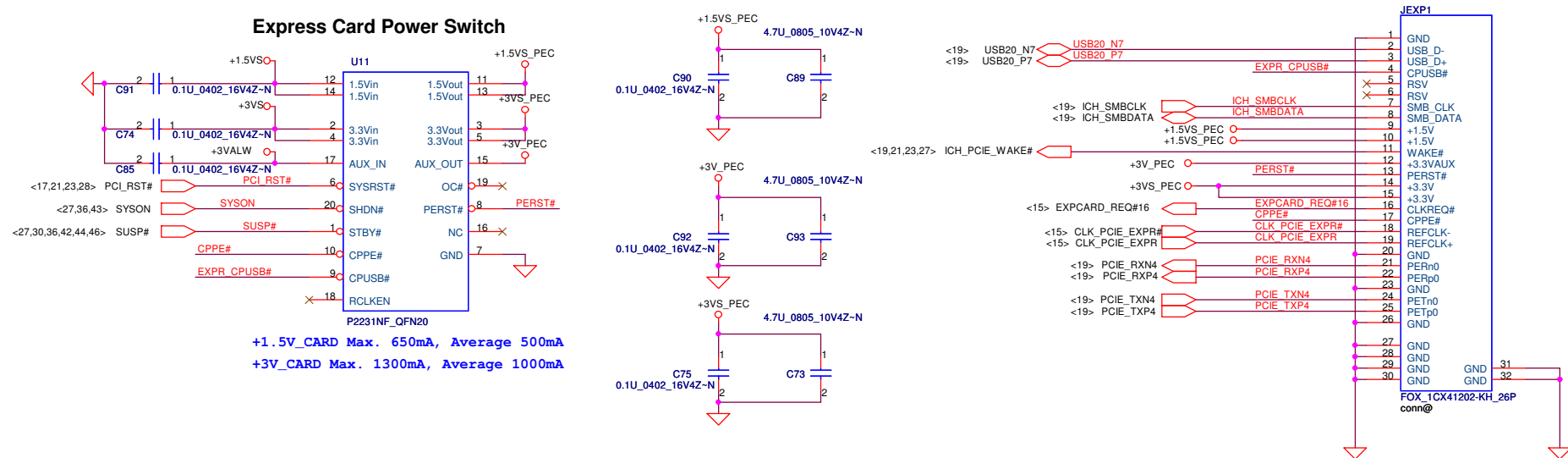


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Version	Revision	Quantity	Unit	Price	Amount



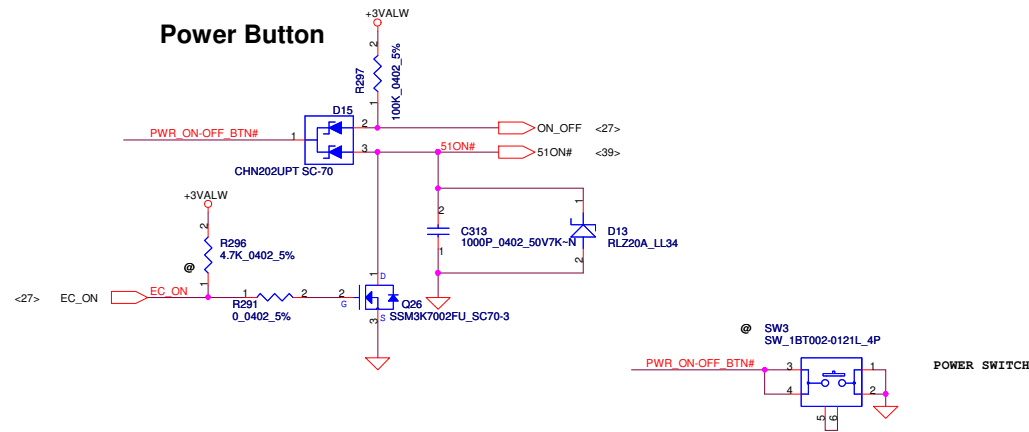
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Express card

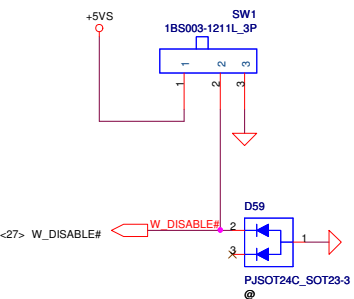


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				Date: Tuesday, February 17, 2009	Rev 1.0
				Sheet 26 of 49	

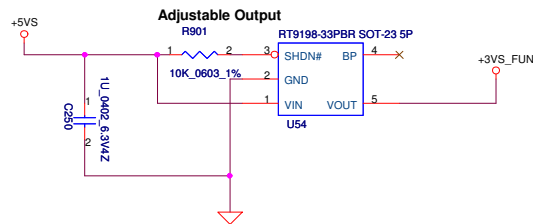
Power Button



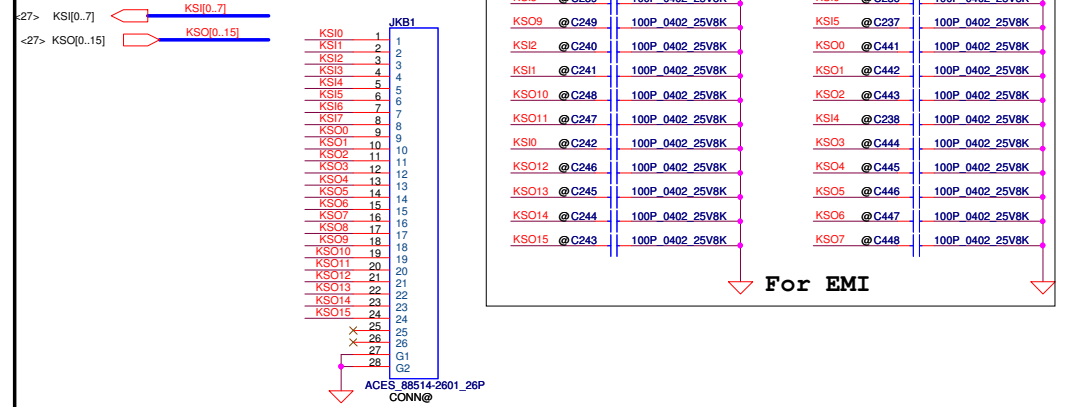
Wireless_BTN



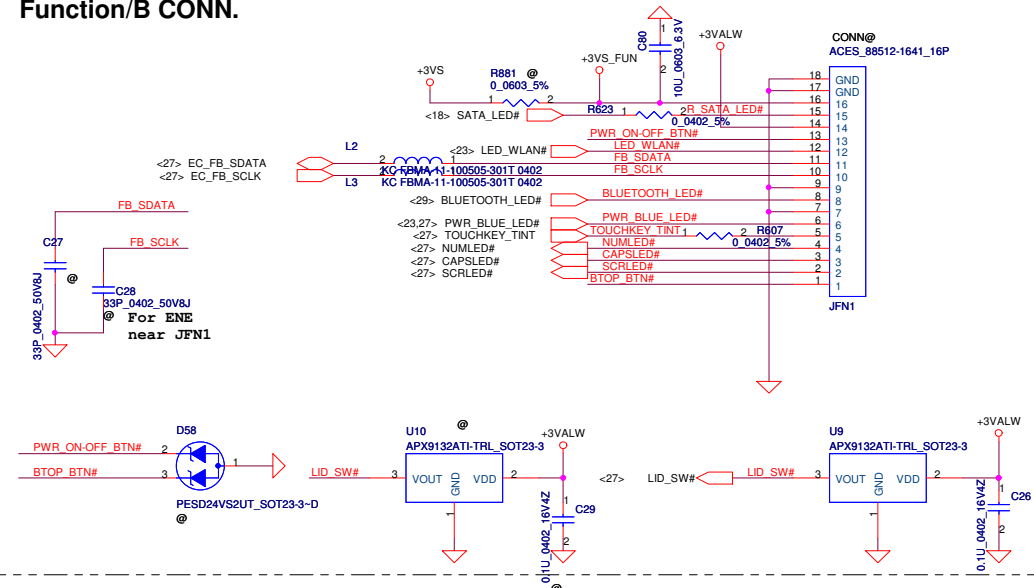
Regulator for ENE sensor



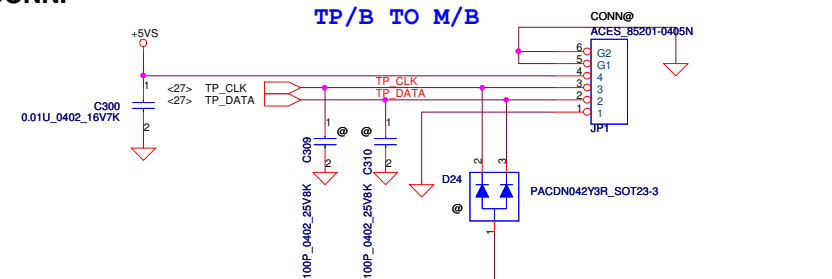
INT_KBD CONN.



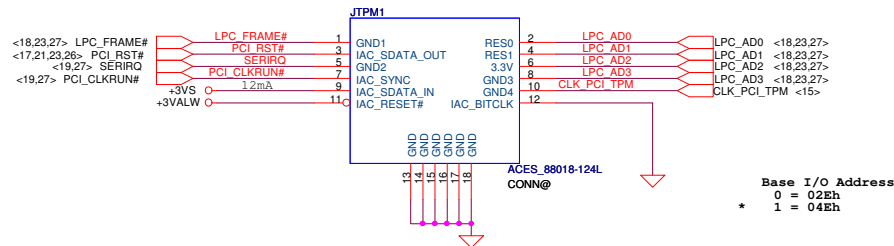
Function/B CONN.



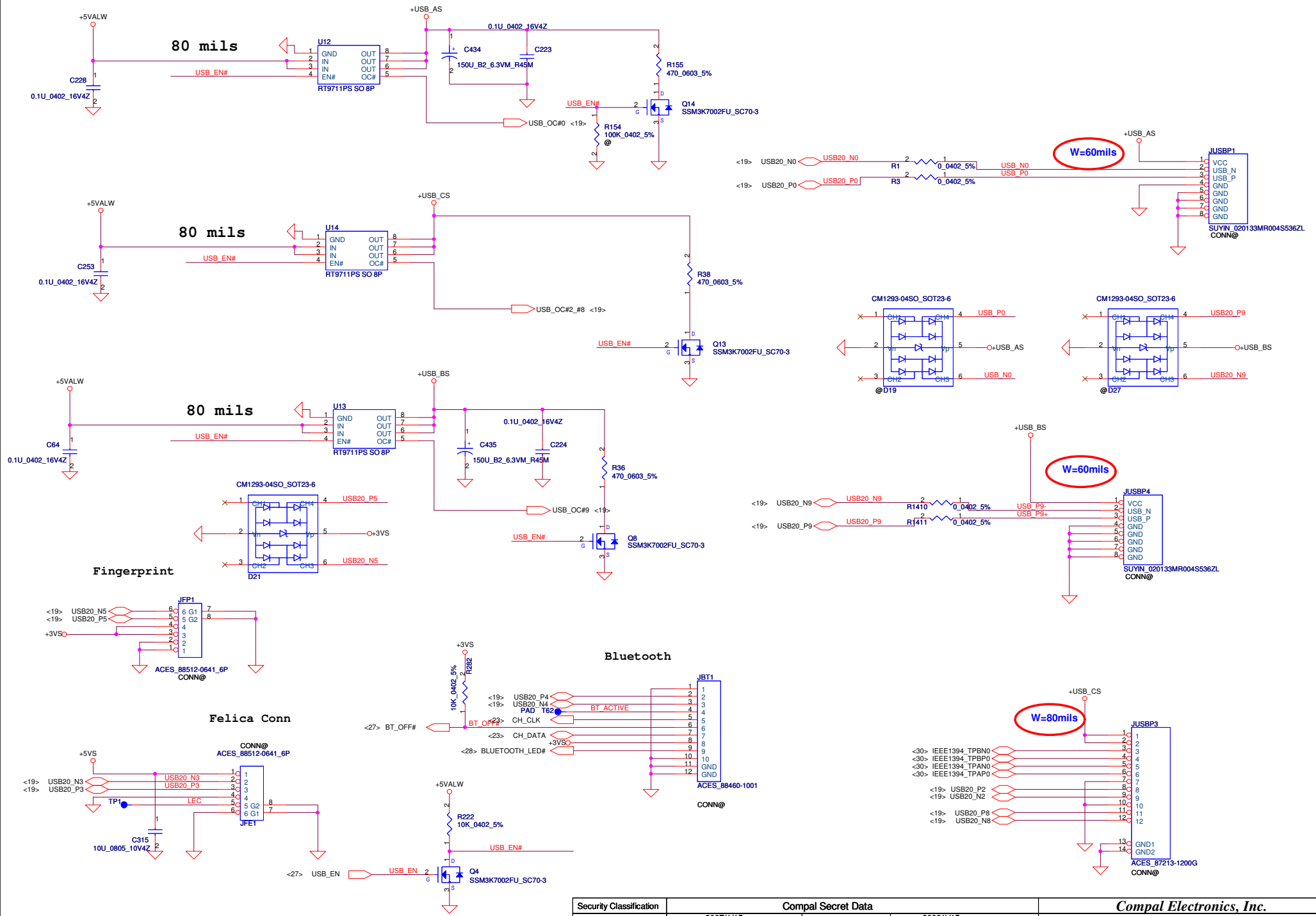
Touch PAD/B CONN.



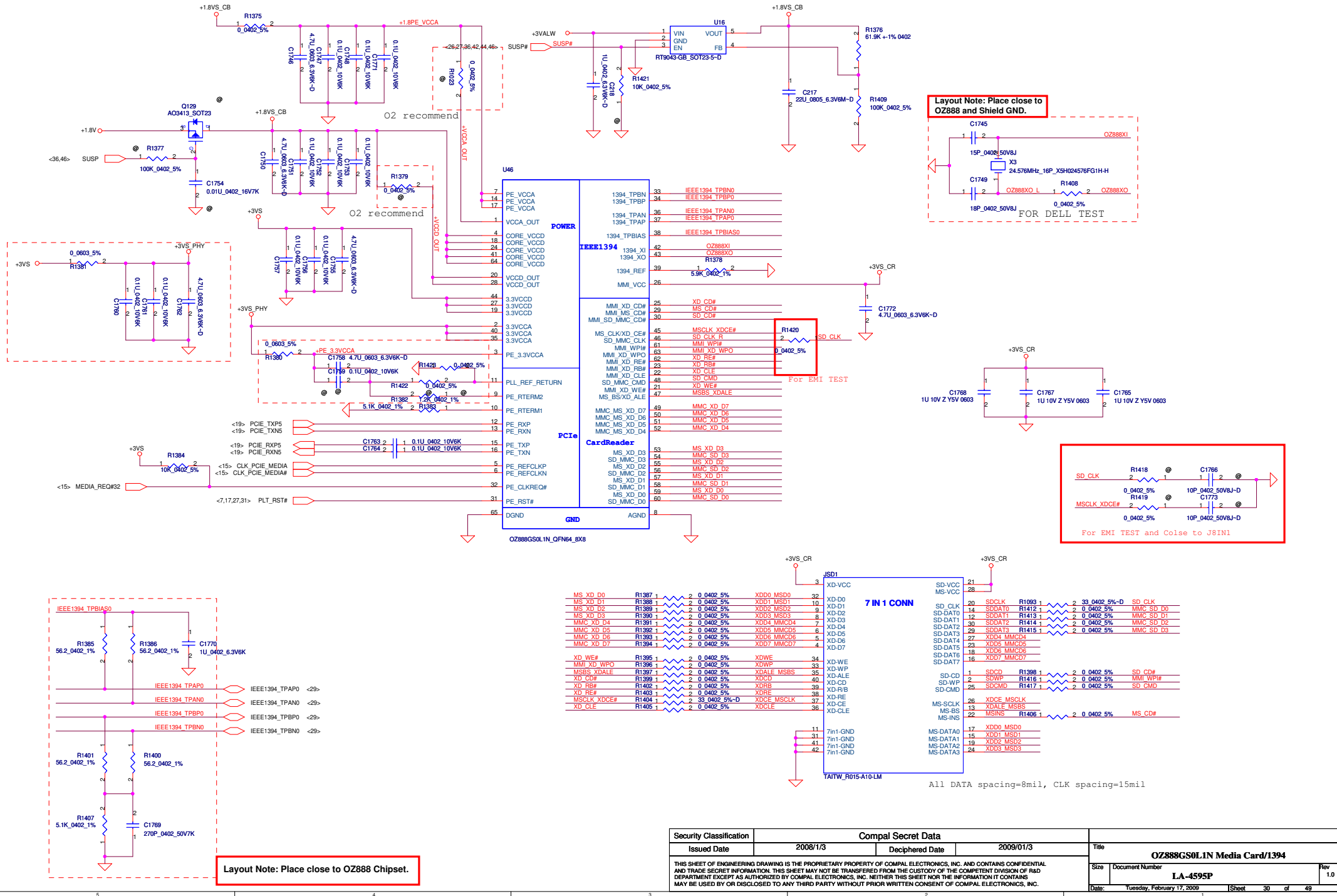
TPM 1.2



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Size		Document Number		Rev	
Custom		LA-4595P		1.0	
Date:		Tuesday, February 17, 2009		Sheet 28 of 49	

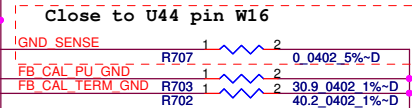
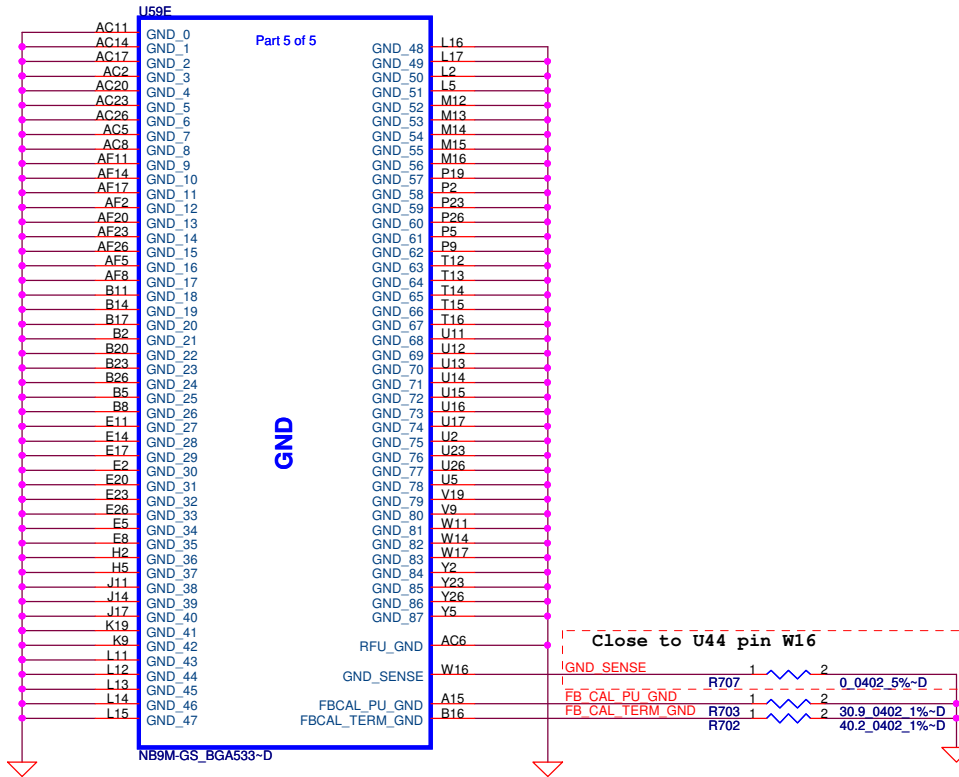
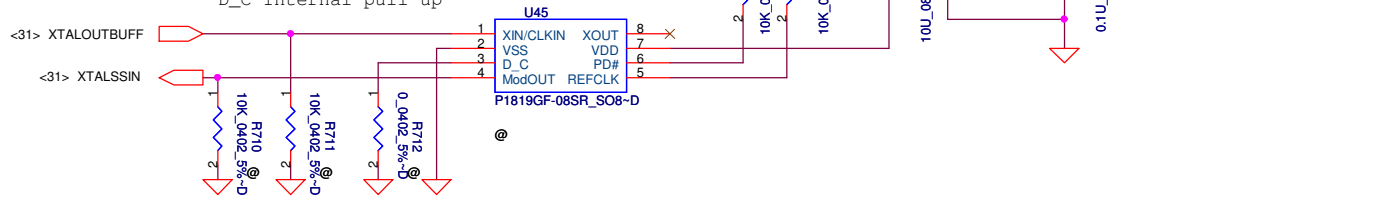


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Size	Custom	Document Number	LA-4595P	Rev 1.0		
Date:	Tuesday, February 17, 2009	Sheet	29	of 49		



	D_C
-1.75% (DOWN)	0
±0.875% (CENTER)	1

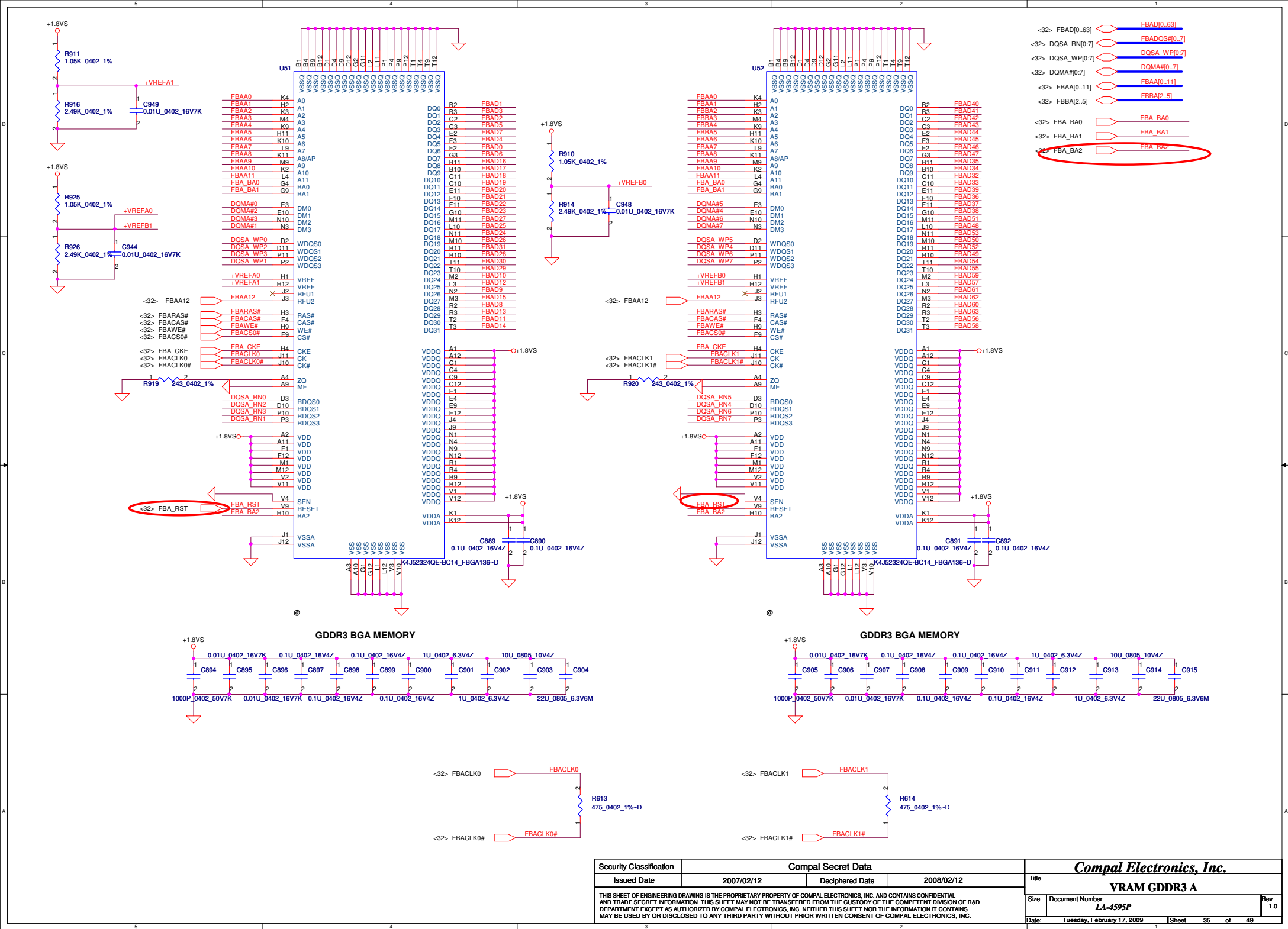
D_C Internal pull up



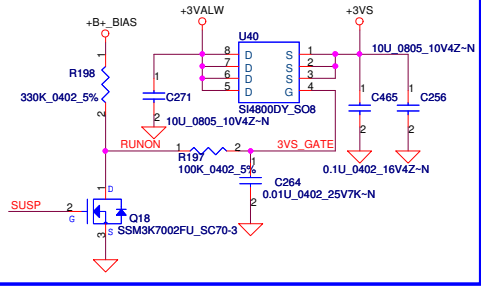
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DELL CONFIDENTIAL/PROPRIETARY

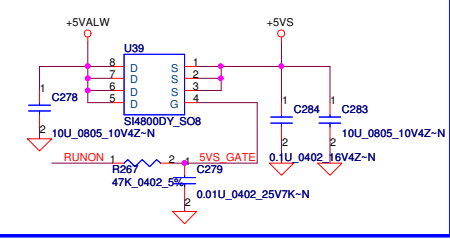
Compal Electronics, Inc.		
Title		
NVG98 GND		
Size	Document Number	Rev
	LA-4595P	1.0
Date:	Tuesday, February 17, 2009	Sheet 34 of 49



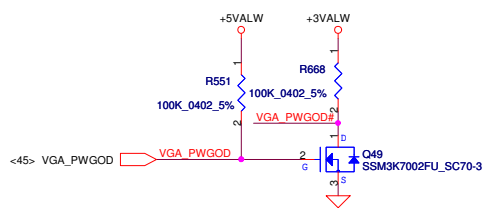
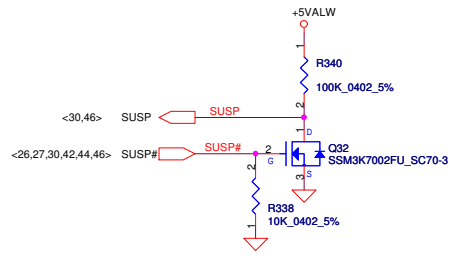
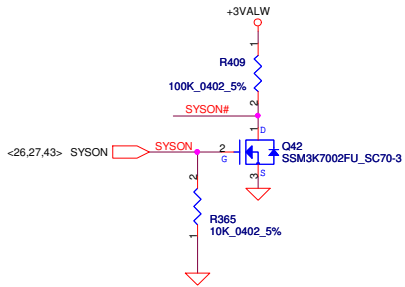
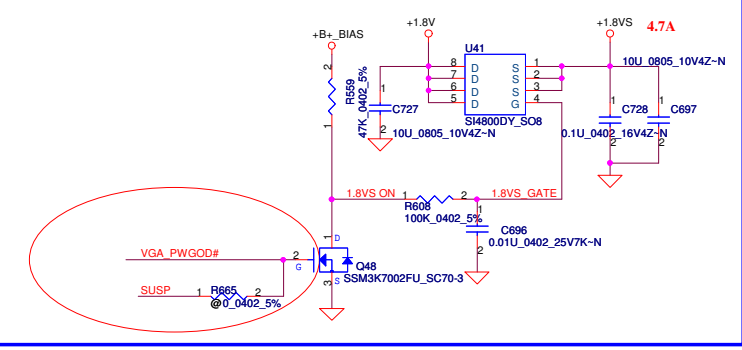
+3VALW to +3VS Transfer



+5VALW to +5VS Transfer

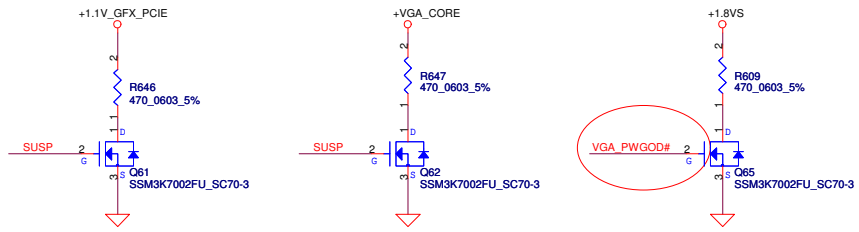


+1.8V to +1.8VS Transfer

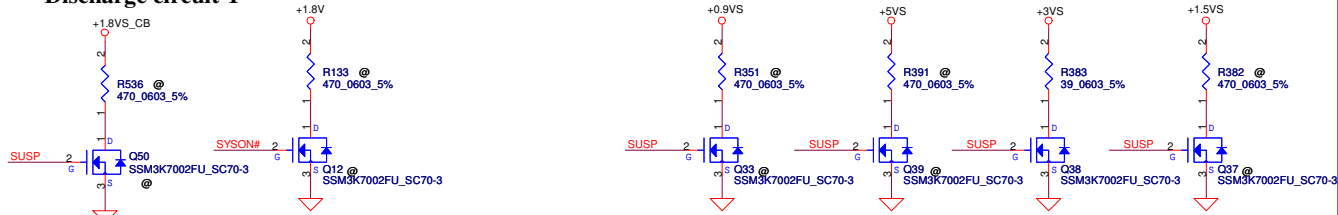


SYSON -> SUSP# -> VGA_ON->VGA_PWGD

VGA Discharge circuit

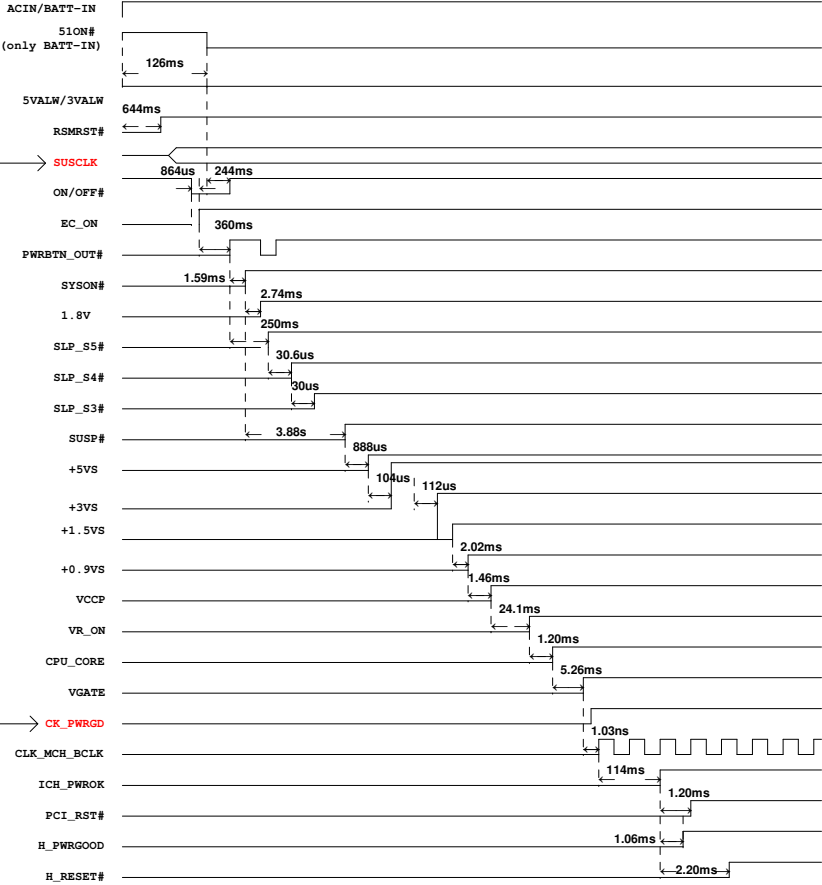


Discharge circuit-1



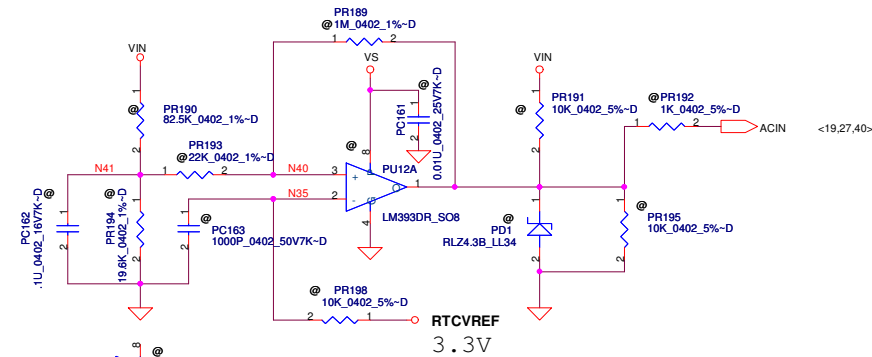
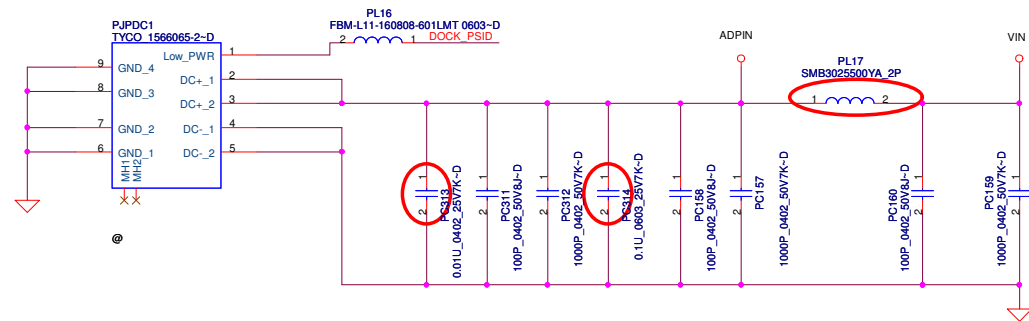
Security Classification				Compal Secret Data				Compal Electronics, Inc.			
Issued Date		2007/1/15		Deciphered Date		2008/1/15		Title			
								DC/DC Circuits			
Size		Document Number		Date		Tuesday, February 17, 2009		Sheet		36 of 49	
Custort		LA-4595P						Rev		1.0	

KAL80 POWER UP SEQUENCE

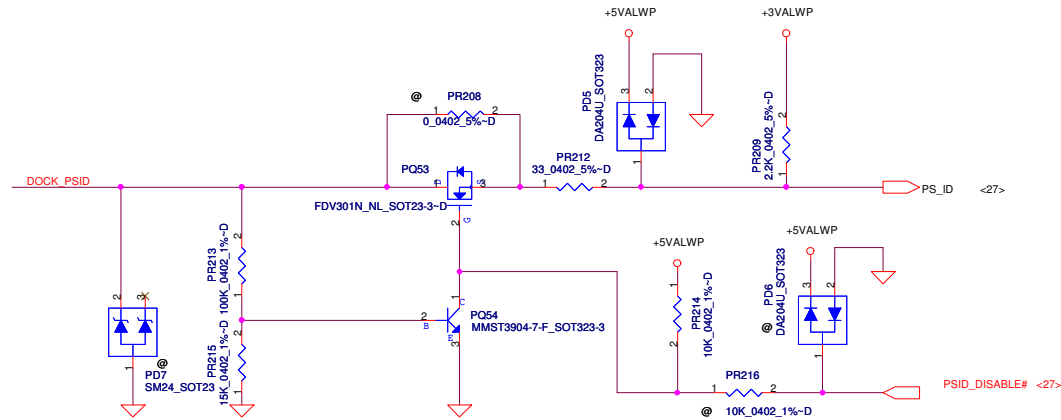
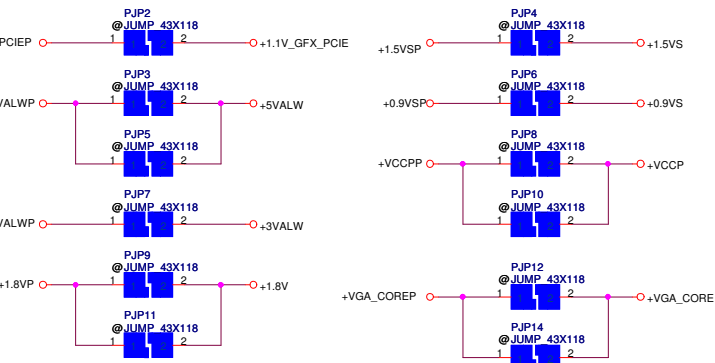
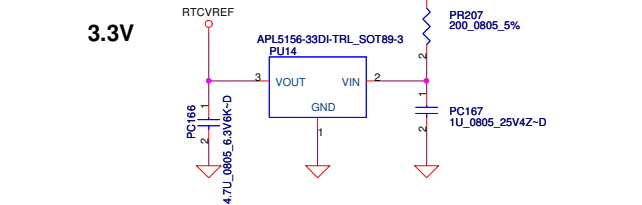
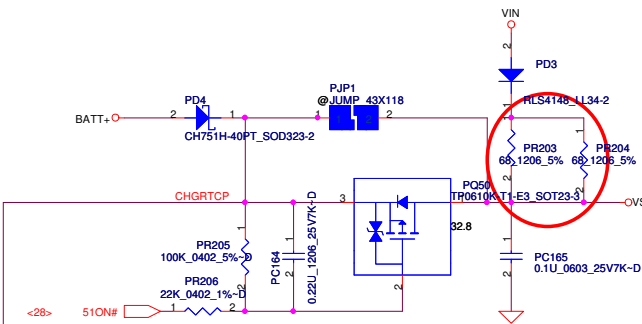


Version Change List (P. I. R. List)					Page 1/1		
Item	Page #	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1		Swap SW1	12/02	EE			
2		Update JUSBP3 pin define	12/02	EE			
3		R405 POP	12/02	EE			
4		U50 unPOP & R1190 POP	12/02	EE			
5		WWAN move to PORT6	12/02	BIOS			
6		Add C1391 & C1392	12/02	Nvidia	LVDS single channel issue	Short U59.V2 & U59.V3. Add C1391 C1392 for IFPB_IOVDD	
7		Swap JSPK1 Pin	12/02	EE			
8		R101	12/04	EE	Change to 0805		
9		TPM Con	12/04	EE	Modify to Con		
10		R76 & R78 UnPOP	12/09	EE	EC update to Rev:C1		
11		Q7 & Q9	12/09	EE	Update Q7 & 9 footprint		
12		R658 & R281	12/11	EE	R685 UnPOP & R281 UnPOP for wake on LAN		
13		U89 & WLANPW_DIS#	12/11	EE	Add U89 for wake on LAN. Add WLANPW_DIS# of EC		
14		C1484 & C1485	12/11	EE	C1484 & C1485 modify to 1U form LAN vendor		
15		Update PW schematic	12/12	PW			
16		C260 & C252	12/15	EE	IDT ask UnPop		
17		Add D29 D28	12/15	ESD	ESD for LAN		
18		U9 Pop & U10 UnPop	12/15	ME			
19		Wake On WLAN	12/16	EE	Modify WLANPW_DIS# circuit		
20		Add T49 & T53	12/16	Layout			
21		C696	12/16	EE	Update PN		
22		WLANPW_DIS#	12/17	EE	Move WLANPW_DIS# to EC-GPIO40 and Del BTOP_ON		
23		L42 & L43	12/17	EMI	L42 & L43 update to Bead from 0 ohm		
24		C3 C4 C6 C14 C17	12/17	EMI	POP 100 P		
25		R69	12/17	EE	Update to Bead drom 100 ohm		
26		Cap	12/17	EMI	Add C1469 C1470 C1471 C1472 C1481 R81		
27		D21 D12 D17	12/17	ESD	ESD ask POP		
28		Update PW schematic	12/17	PW			
29		Update Q128 Q130 PN	12/18	EE			
30		Update Board ID	12/18	EE	R231		
31		Add U16 for OZ888	12/18	EE			
32		C1323 POP	12/18	EE	For Kepar		
33		R1421 UnPOP	12/22	EE			
34		C292 C297	12/22	EE	Modify to 22P form 18P (Crystal Vendor)		
35		C1745 C1749	12/22	EE	Modify to 18P form 10P(C1749) and 15P from 10P(C1745)(Crystal Vendor)		
36		C1211	12/22	EE	Modify to 12P form 15P (Crystal Vendor)		
37		R1423 & R1422	01/07	EE	Add for O2		
38		L6 & R1190	01/10	EE	Change to 0805		
39		Modify LDO to +5VS	01/12	EE			
40		Add C80 & D59 & D60	01/12	EE			
41		Add components of JHP1	01/13	EE	For vendor		
42		R360 & R361	01/19	EE	Update R360 & R361 to 56 ohm		
43		U37	01/19	EE	Update U37 to SA00001KN10		
44		R231	01/19	EE	Update Board ID		

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				Document Number	
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				Rev	
				1.0	
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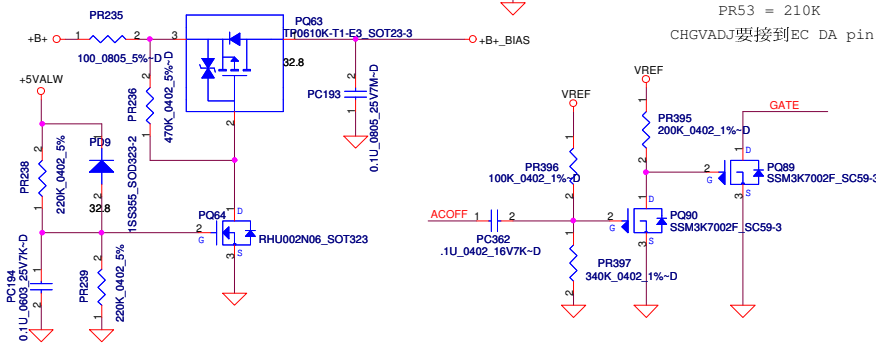
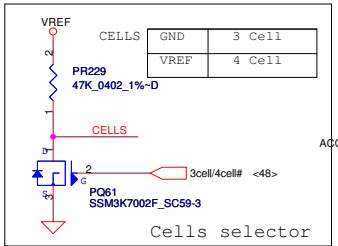


Vin Detector			
	Max.	typ.	Min.
L-->H	18.234	17.841	17.449
H-->L	17.597	17.210	16.813

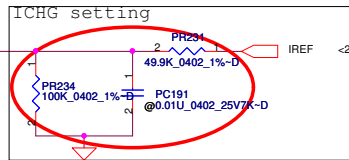


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Title			
DCIN / Vin Detector			
Size	Document Number	Rev	
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90W adapter
 $I_{charge} = (V_{srset}/V_{vdac}) * (0.1/PR34) = 3.34A$
 $I_{adapter} = (V_{acset}/V_{vdac}) * (0.1/PR217) = 4.27A$
 Input OVP : 22.3V
 Input UVP : 16.98V
 Fsw : 300KHz

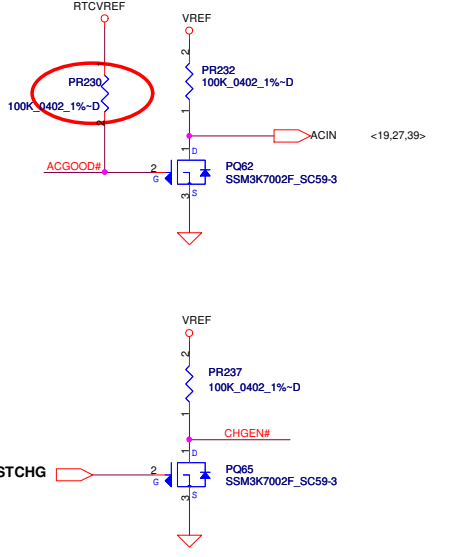
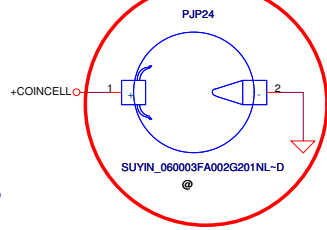


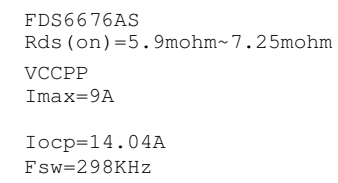
CHGVADJ	Pre Cell
3.282V	4.35V
0V	4V



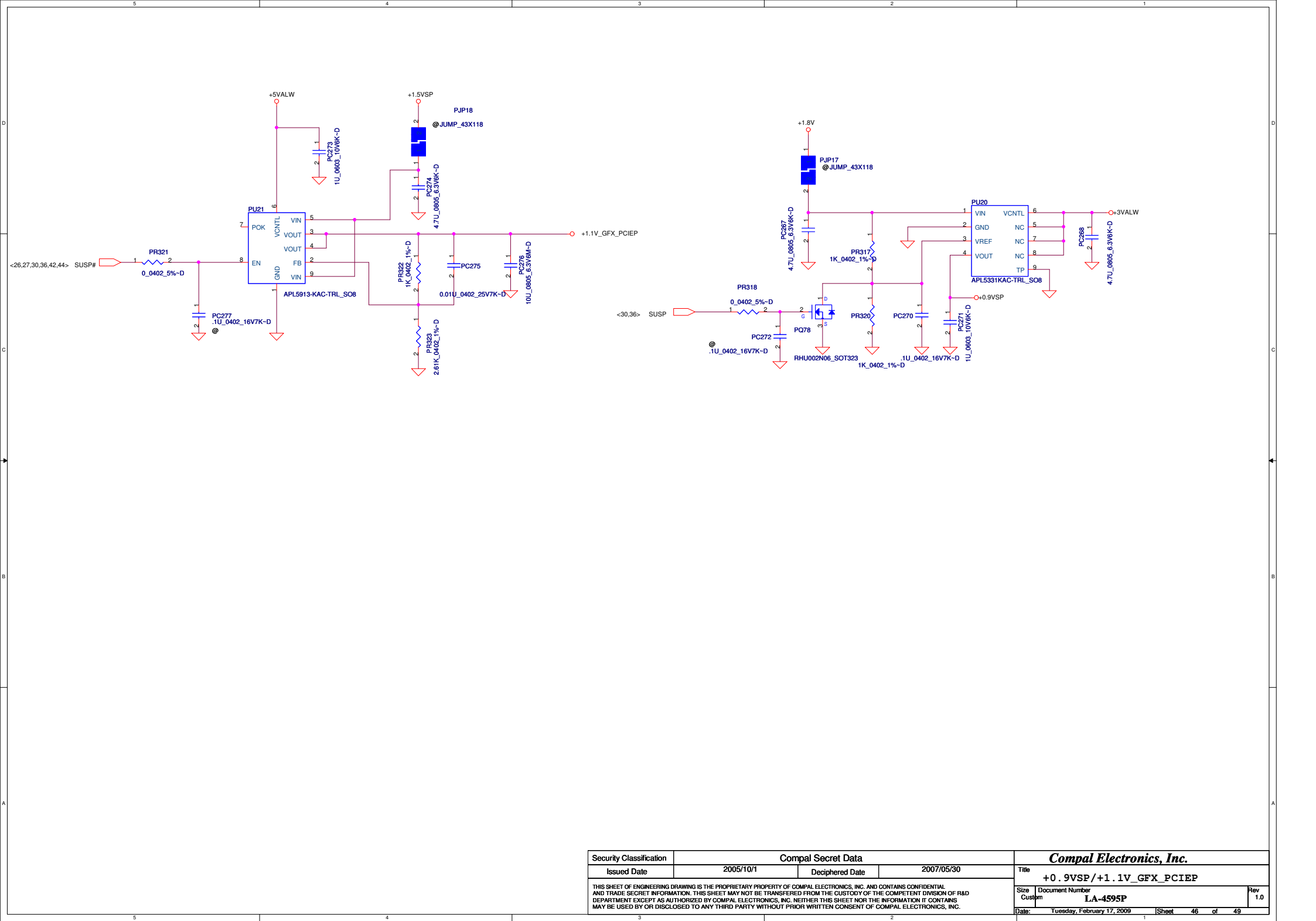
IREF	Current
2.968V	3A

COIN RTC Battery

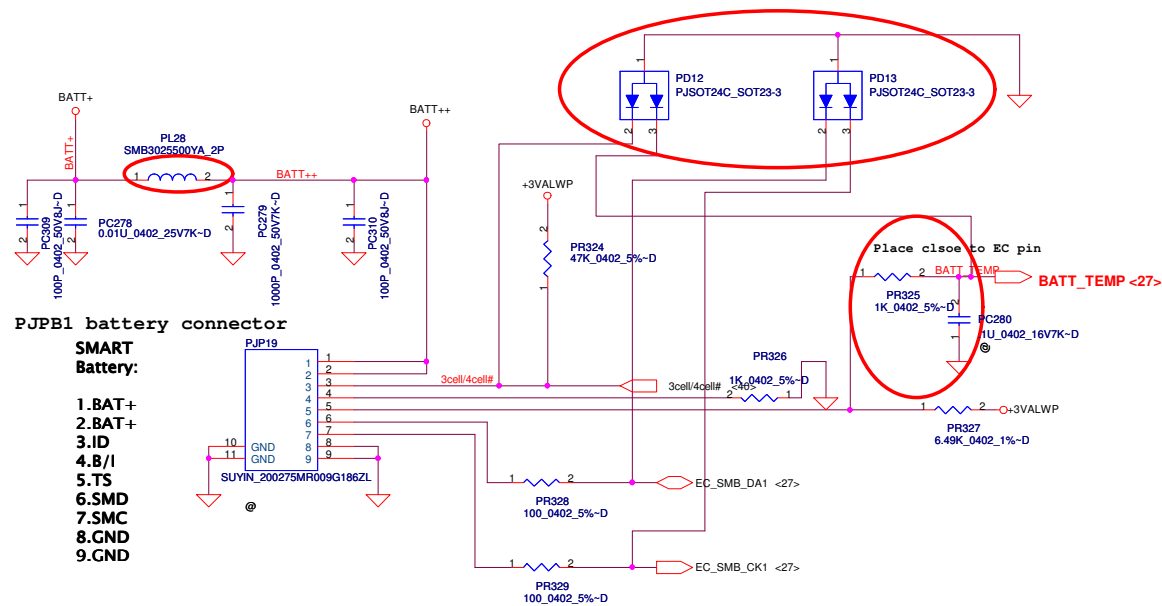




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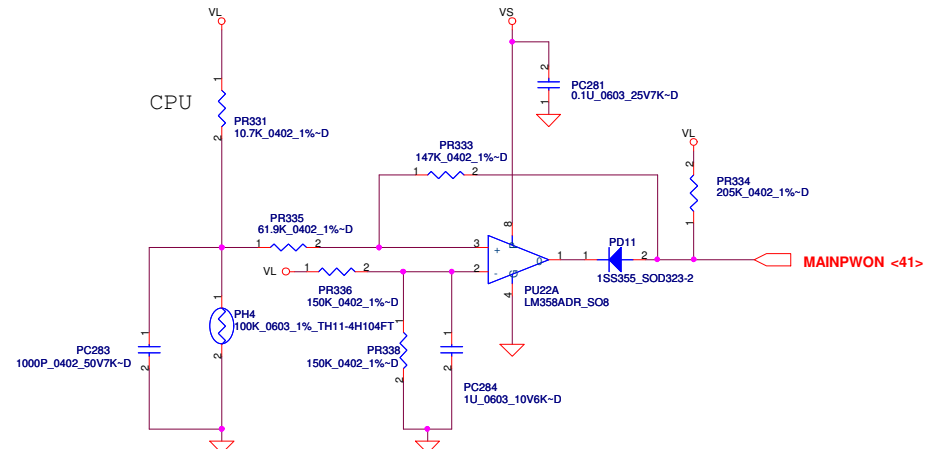
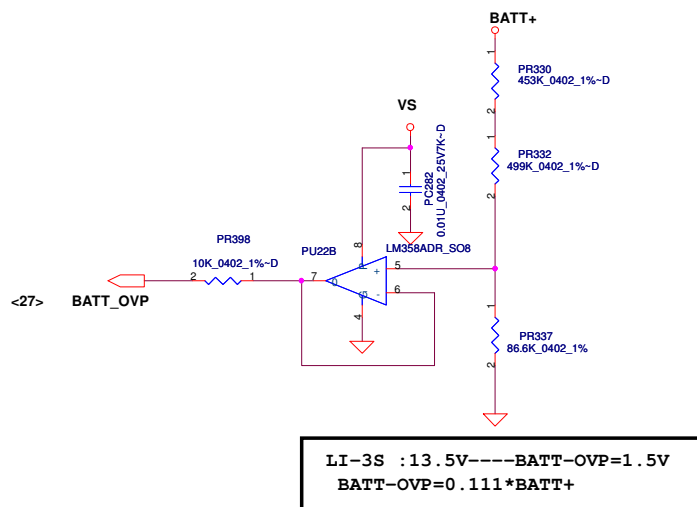
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								Size		Document Number		Rev	
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Battery Connect/OTP

CPU

PH1 under CPU bottom side :
CPU thermal protection at 90 +3 degree C
Recovery at 50 +3 degree C



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2007/05/30				Title				BATTERY CONN			
Size				Document Number				Rev			
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Item	Page#	Title	Date	Request Owner	Issue Description	Solution Description	Rev.
1	39	DCIN /Vin Detector	08/12/08	COMPAL	common circuit design modify	change PR203 from 33 to 68 and add PR204 to 68	0.3
2			08/12/08	COMPAL	design modify	change PL17 from SM010018880 to SM010008E10	0.3
3	40	Charger	08/12/08	COMPAL	vendor FAE suggest	change PR272 PR339 from 1 to 3.3	0.3
4	48	BATTERY CONN	08/12/08	COMPAL	design modify	change PL28 from SM010018210 to SM010008E10	0.3
5	39	DCIN /Vin Detector	08/12/12	COMPAL	increase capacitor for EMI request	add PC313 at 0.01uf and PC314 at 0.1uf	0.3
6	42	VCCPP	08/12/12	COMPAL	change resister for EMI request	change PR342 from 0 to 2.2	0.3
7	43	1.8VP	08/12/12	COMPAL	change resister for EMI request	change PR352 from 0 to 2.2	0.3
8	44	1.5VSP	08/12/12	COMPAL	change resister for EMI request	change PR362 from 0 to 2.2	0.3
9							
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