

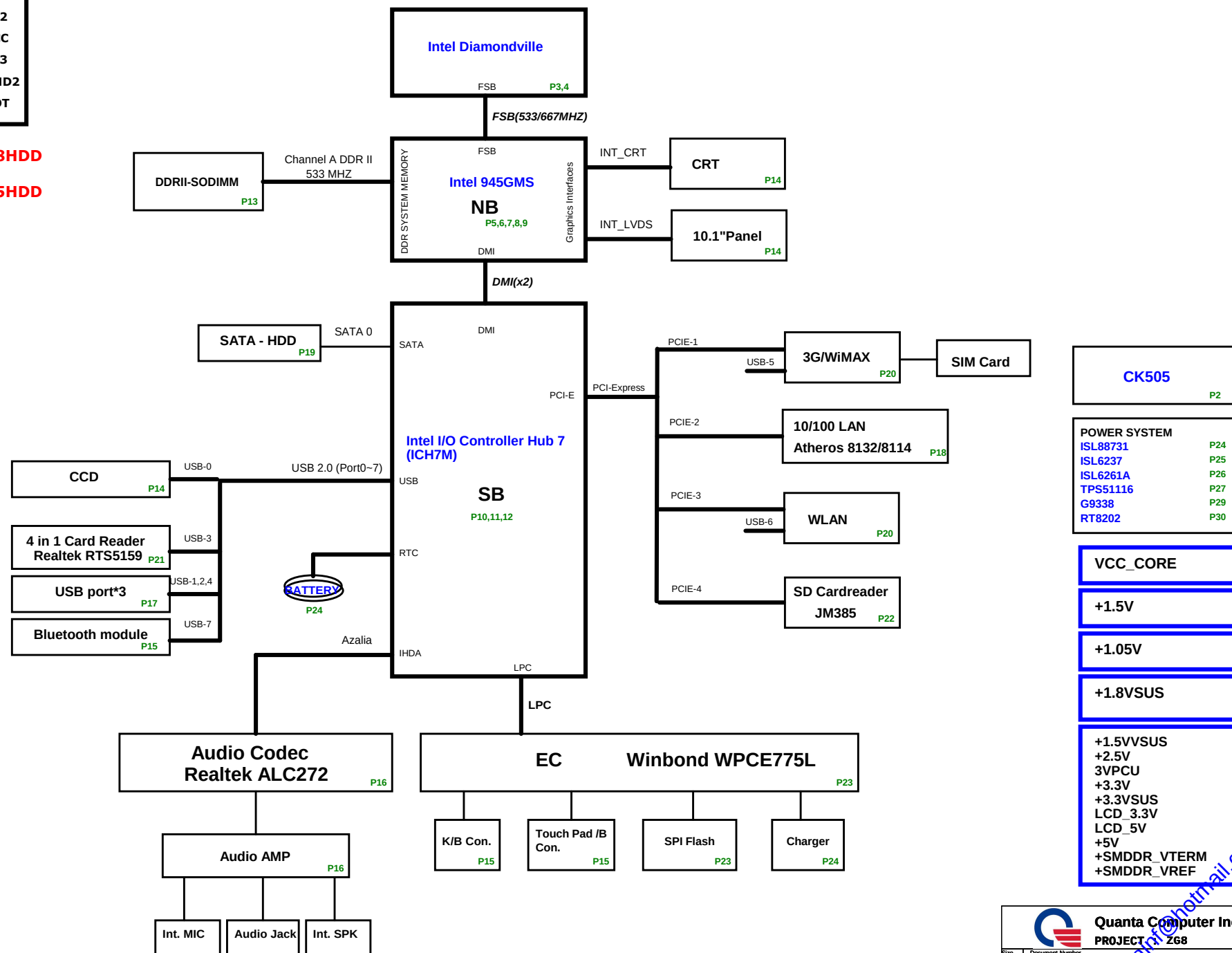
ZG8 Block Diagram

PCB STACK UP

LAYER 1 : TOP
LAYER 2 : GND1
LAYER 3 : IN1
LAYER 4 : IN2
LAYER 5 : VCC
LAYER 6 : IN3
LAYER 7 : GND2
LAYER 8 : BOT

1.8@ for 1.8HDD

2.5@ for 2.5HDD



CK505 (P2)

POWER SYSTEM

ISL88731 (P24)
ISL6237 (P25)
ISL6261A (P26)
TPS51116 (P27)
G9338 (P29)
RT8202 (P30)

VCC_CORE

+1.5V

+1.05V

+1.8VSUS

+1.5VVSUS

+2.5V

3VPCU

+3.3V

+3.3VSUS

LCD_3.3V

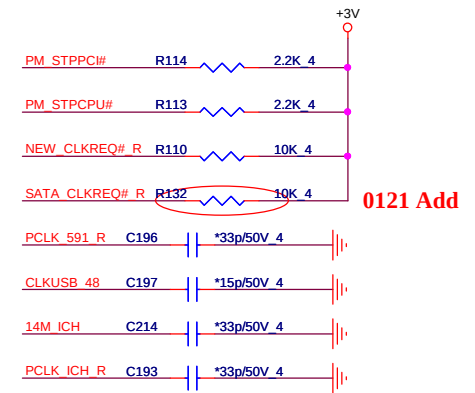
LCD_5V

+5V

+SMDDR_VTERM

+SMDDR_VREF

02

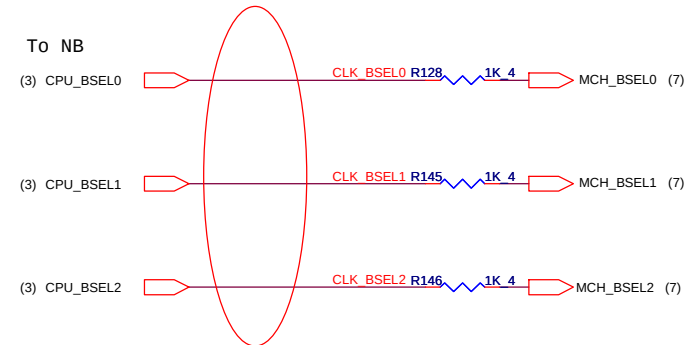
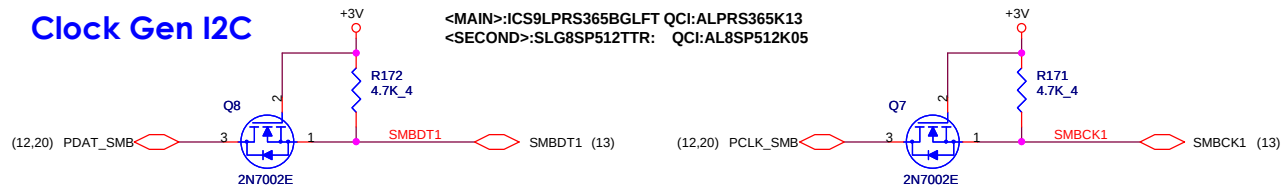


SEL2 SEL1 SEL0			Frequency select		
FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	Reserved		

12/19 modify

	ICS9LPR365 (ALPRS365K13)	RTM8751-868 (AL000875K06)	PULL HIGH	PULL DOWN
Pin 11	PCI2/TME	PCI2/TME internal PD	NO OVERCLOCKING (default)	NORMAL RUN
Pin 12	PCI-3	PCI-3/SRC5_EN internal PD	PIN37/38 IS SRC5	PIN37/38 IS PCI_STOP/CPU_STOP (default)
Pin 13	PCI-4/27M_SEL	PCI-4/27M_SEL internal PD	PIN 17/18 IS 27MHz	PIN 17/18 IS SRC/DO0 (default)
Pin 14	PCIF-5/ITP_EN	PCIF-5/ITP_EN internal PD	PIN 46/47 IS CPUITP	PIN 46/47 IS SRC8 (default)

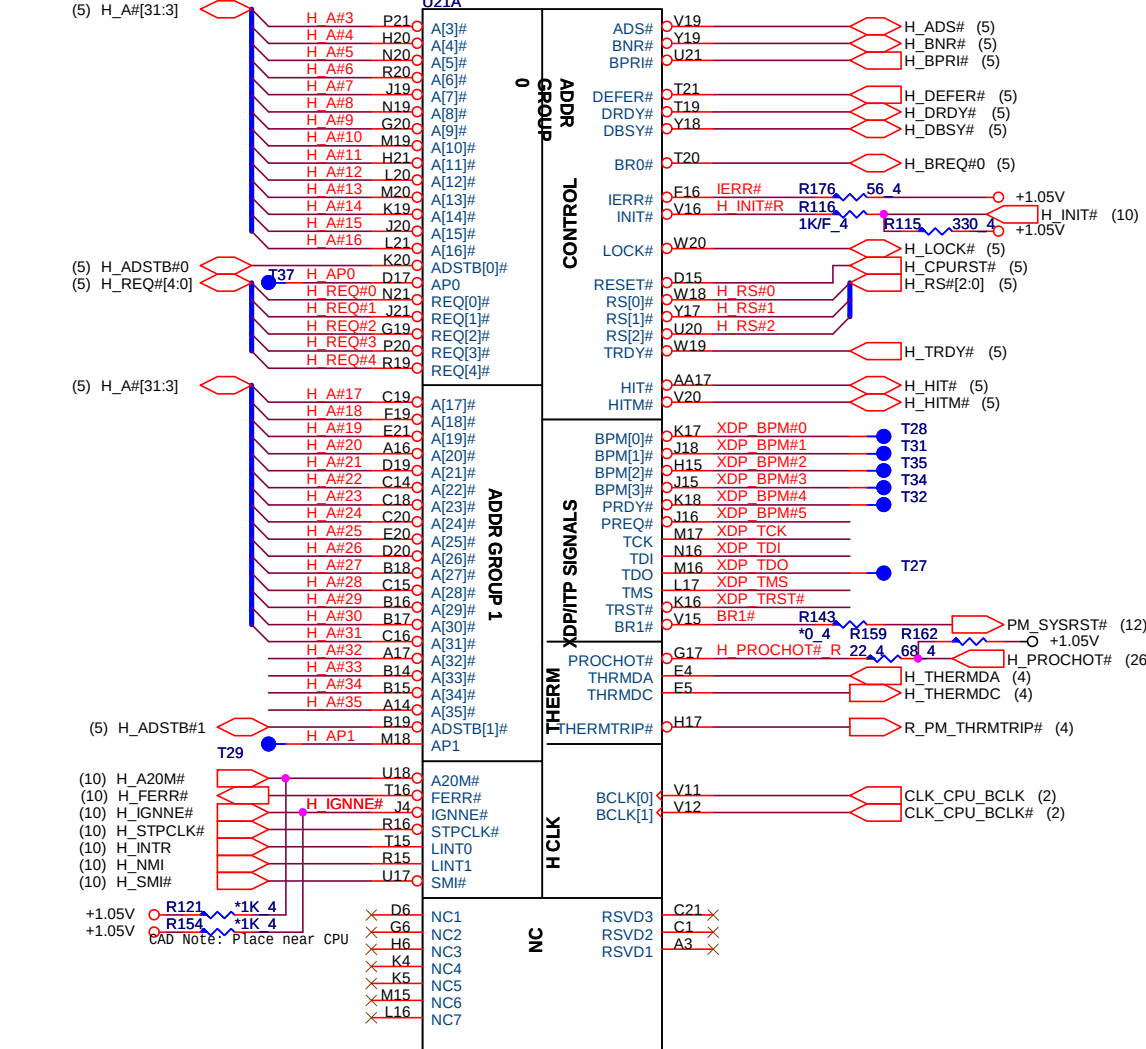
<MAIN>:ICS9LPRS365BGLFT QCI:ALPRS365K13
<SECOND>:SLG8SP512TTR: QCI:AL8SP512K05



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PROJECT : ZG8

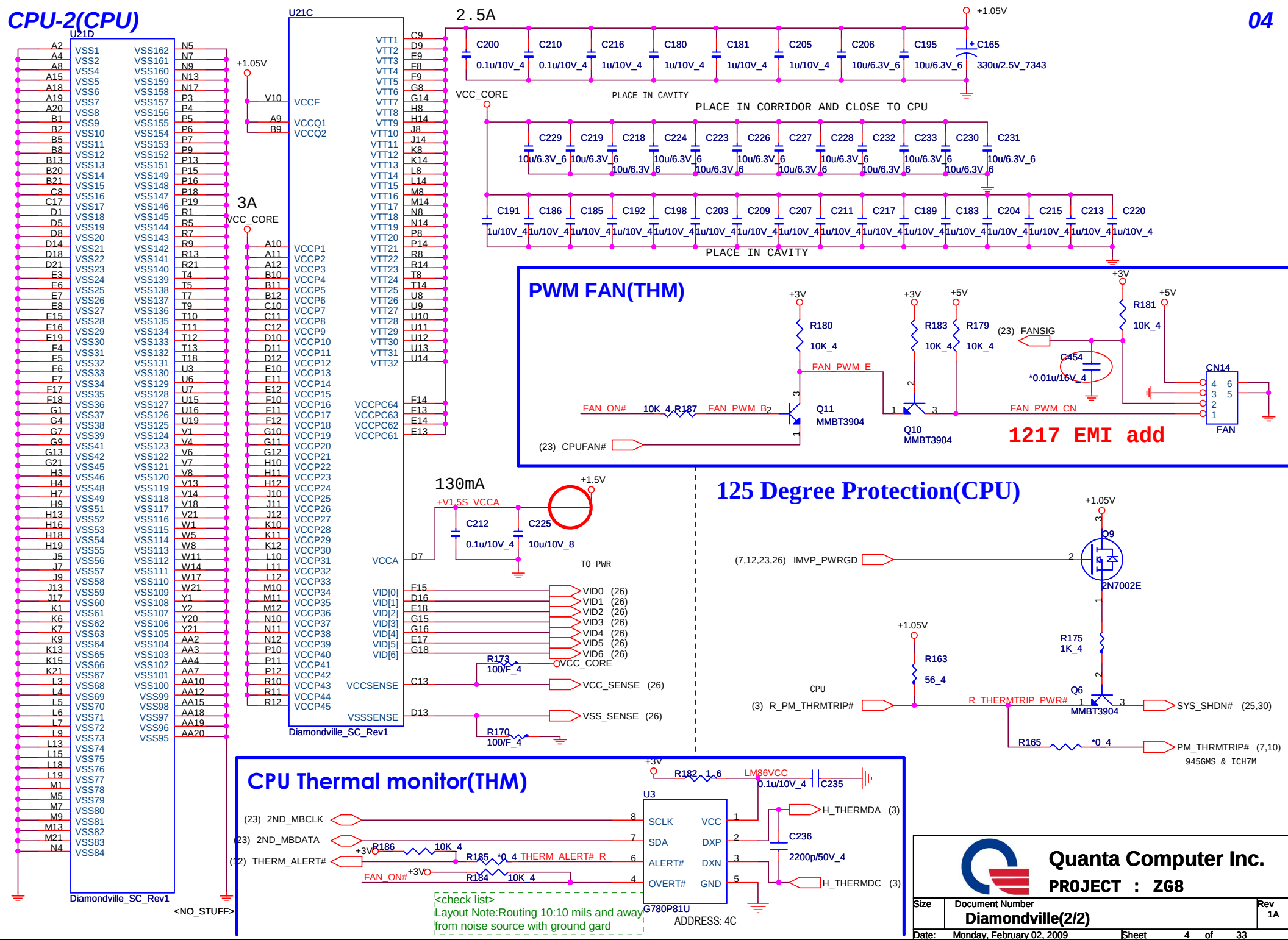
Size	Document Number CLOCK GENERATOR	Rev 1A
Date:	Tuesday, February 03, 2009	Sheet 2 of 33

CPU-1(CPU)

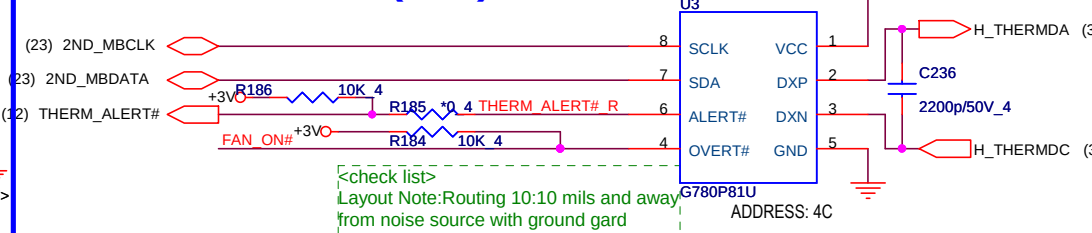


CPU-2(CPU)

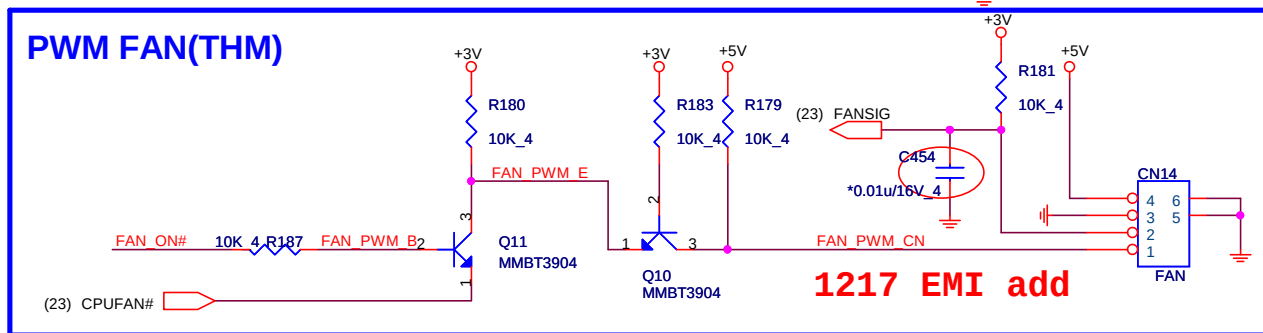
04



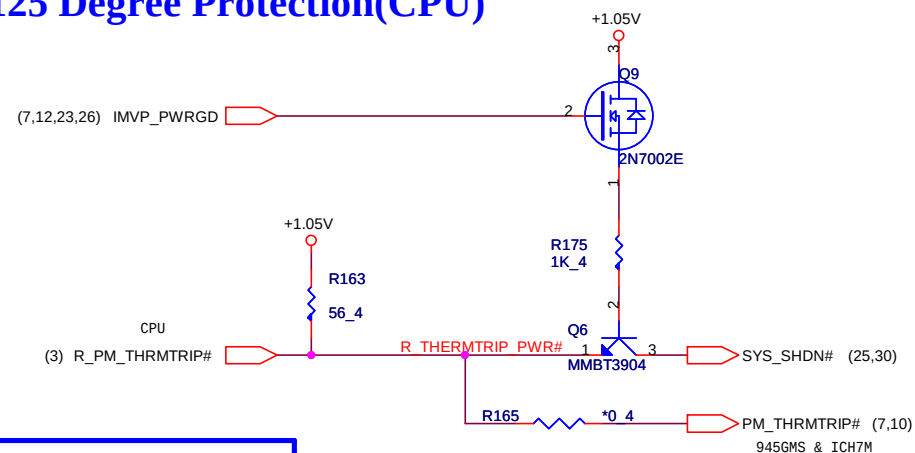
CPU Thermal monitor(THM)



PWM FAN(THM)



125 Degree Protection(CPU)

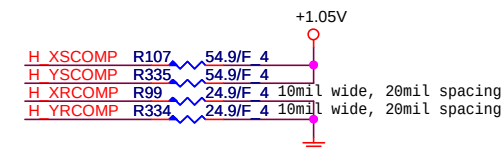
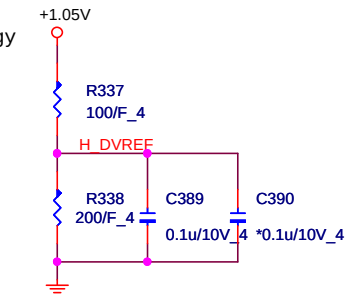
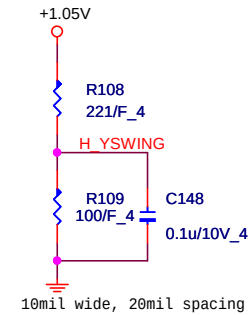
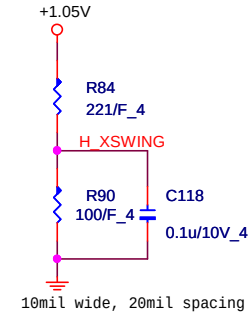
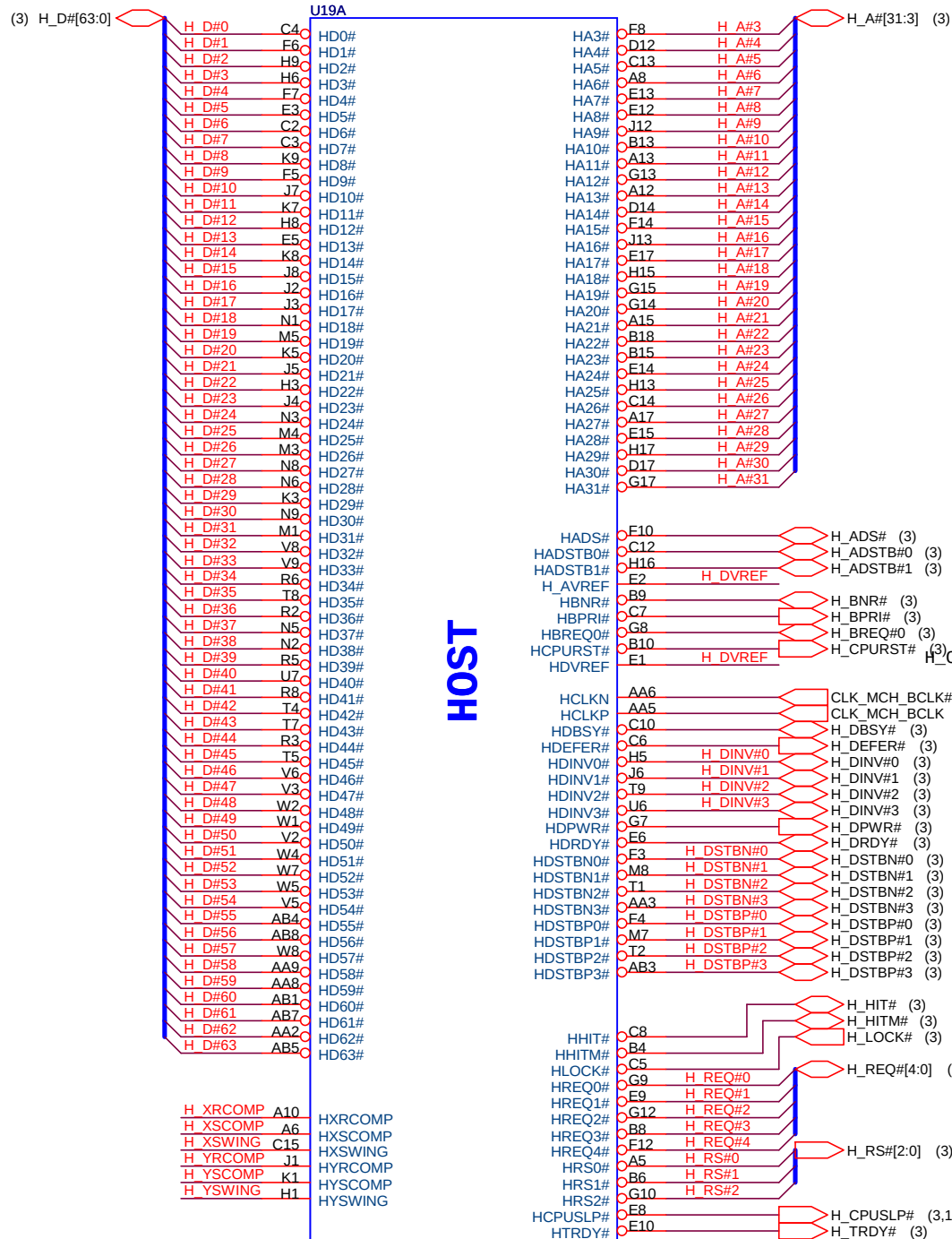




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PROJECT : ZG8

Size	Document Number	Rev
	Diamondville(2/2)	1A
Date:	Monday, February 02, 2009	Sheet 4 of 33



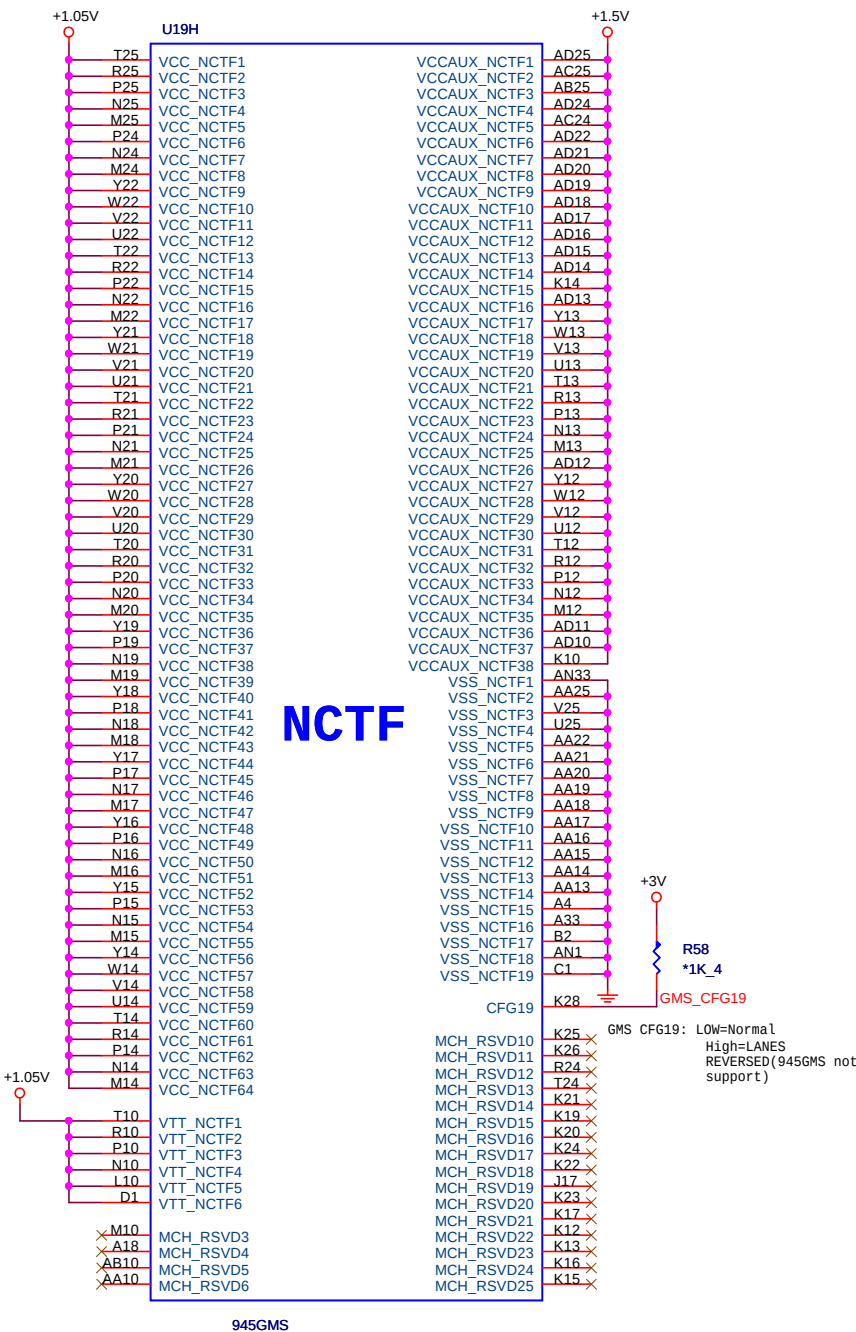
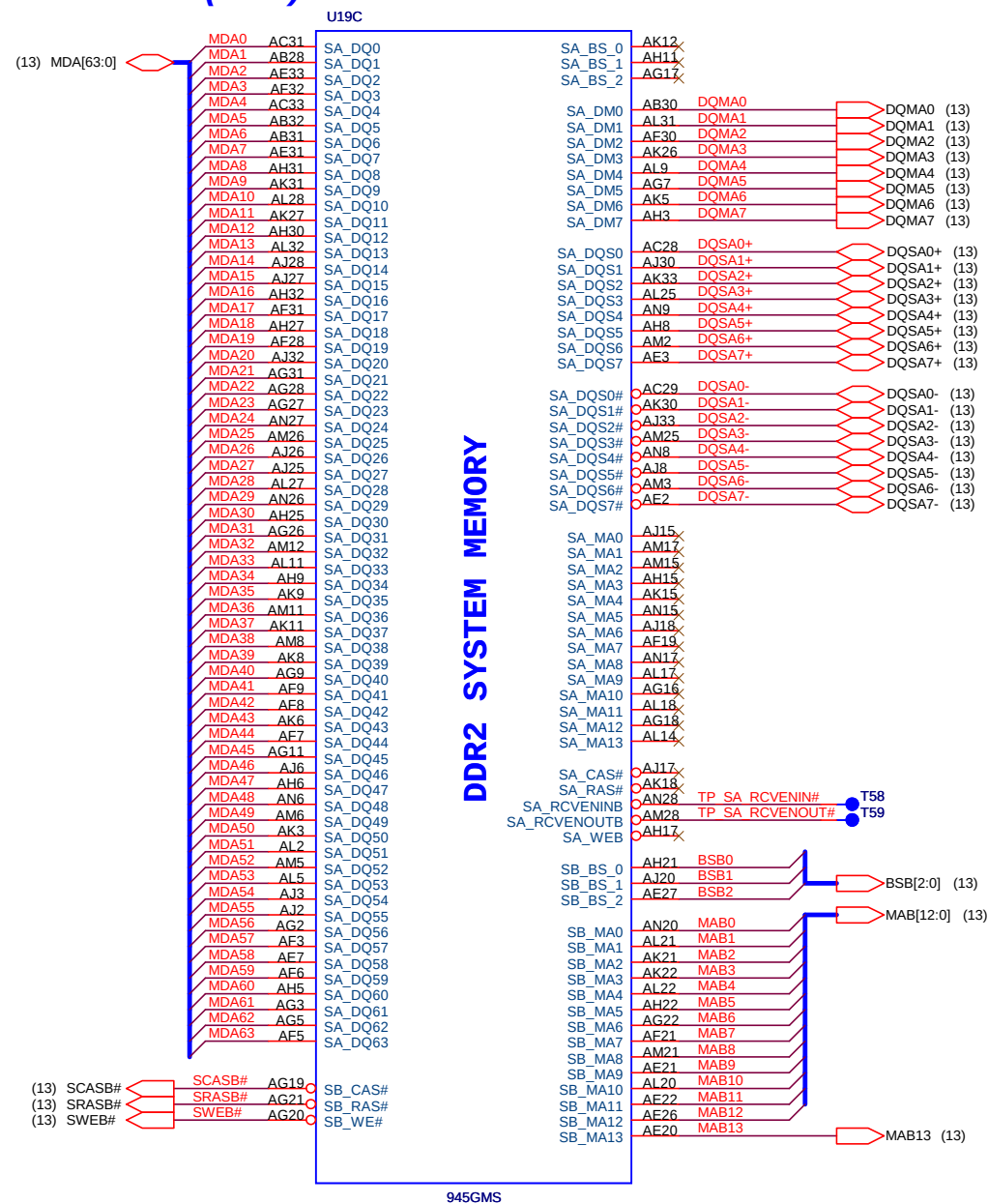
Quanta Computer Inc
PROJECT : ZG8

Size	Document Number	Rev
	945GMS HOST	1A
Date:	Monday, January 19, 2009	Sheet 5 of 33

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945GMS DDR(CLG)

06

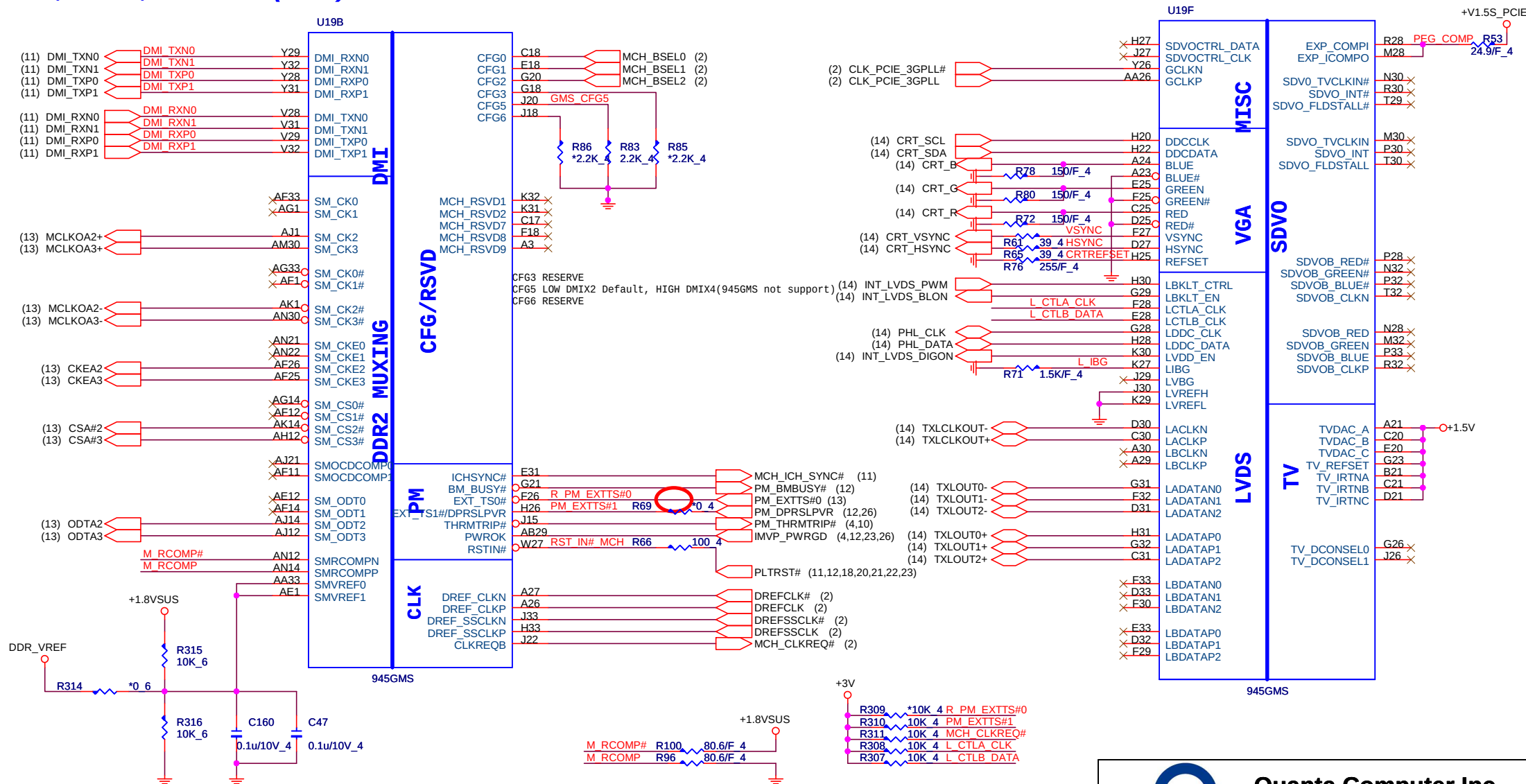


Quanta Computer Inc.
PROJECT : ZG8

Size	Document Number	Rev
	945GMS DDR	1A
Date:	Monday, February 02, 2009	Sheet 6 of 33

DMI, LVDS, DDR CLK(CLG)

07



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PROJECT : ZG8

Size	Document Number	Rev
	945GMS LVDS, DMI, DDR CLK	1A
Date:	Monday, January 19, 2009	Sheet 7 of 33

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945GMS GND(CLG)

09

AH33	VSS1	VSS111	J16	U19E
Y33	VSS2	VSS112	AL15	945GMS
R33	VSS3	VSS113	AG15	
G33	VSS4	VSS114	W15	
AK32	VSS5	VSS115	R15	
AG32	VSS6	VSS116	F15	
AE32	VSS7	VSS117	D15	
AC32	VSS8	VSS118	AM14	
AA32	VSS9	VSS119	AH14	
U32	VSS10	VSS120	AE14	
H32	VSS11	VSS121	H14	
E32	VSS12	VSS122	B14	
C32	VSS13	VSS123	F13	
AM31	VSS14	VSS124	D13	
AJ31	VSS15	VSS125	AL12	
AA31	VSS16	VSS126	AG12	
U31	VSS17	VSS127	H12	
T31	VSS18	VSS128	B12	
R31	VSS19	VSS129	AN11	
P31	VSS20	VSS130	AJ11	
N31	VSS21	VSS131	AE11	
M31	VSS22	VSS132	AM9	
J31	VSS23	VSS133	AJ9	
F31	VSS24	VSS134	AB9	
AL30	VSS25	VSS135	W9	
AG30	VSS26	VSS136	R9	
AE30	VSS27	VSS137	M9	
AC30	VSS28	VSS138	J9	
AA30	VSS29	VSS139	F9	
Y30	VSS30	VSS140	C9	
V30	VSS31	VSS141	A9	
U30	VSS32	VSS142	AL8	
G30	VSS33	VSS143	AG8	
E30	VSS34	VSS144	AE8	
B30	VSS35	VSS145	LB	
AA29	VSS36	VSS146	AA7	
U29	VSS37	VSS147	V7	
R29	VSS38	VSS148	R7	
P29	VSS39	VSS149	N7	
N29	VSS40	VSS150	H7	
M29	VSS41	VSS151	E7	
H29	VSS42	VSS152	B7	
E29	VSS43	VSS153	AL6	
B29	VSS44	VSS154	AG6	
AK28	VSS45	VSS155	AE6	
AH28	VSS46	VSS156	AB6	
AE28	VSS47	VSS157	W6	
AA28	VSS48	VSS158	T6	
U28	VSS49	VSS159	M6	
T28	VSS50	VSS160	K6	
J28	VSS51	VSS161	AN5	
D28	VSS52	VSS162	AJ5	
AM27	VSS53	VSS163	B5	
AE27	VSS54	VSS164	AA4	
AB27	VSS55	VSS165	V4	
AA27	VSS56	VSS166	R4	
Y27	VSS57	VSS167	N4	
U27	VSS58	VSS168	K4	
T27	VSS59	VSS169	H4	
R27	VSS60	VSS170	E4	
P27	VSS61	VSS171	AL3	
N27	VSS62	VSS172	AD3	
M27	VSS63	VSS173	W3	
G27	VSS64	VSS174	T3	
E27	VSS65	VSS175	B3	
C27	VSS66	VSS176	AK2	
B27	VSS67	VSS177	AH2	
AL26	VSS68	VSS178	AE2	
AH26	VSS69	VSS179	AB2	
W26	VSS70	VSS180	M2	
U26	VSS71	VSS181	K2	
AN25	VSS72	VSS182	H2	
AK25	VSS73	VSS183	F2	
AG25	VSS74	VSS184	V1	
AE25	VSS75	VSS185	R1	
J25	VSS76			
G25	VSS77			
A25	VSS78			
H23	VSS79			
F23	VSS80			
B23	VSS81			
AM22	VSS82			
AJ22	VSS83			
AF22	VSS84			
G22	VSS85			
E22	VSS86			
J21	VSS87			
H21	VSS88			
F21	VSS89			
AM20	VSS90			
AK20	VSS91			
AH20	VSS92			
AF20	VSS93			
D20	VSS94			
W19	VSS95			
R19	VSS96			
AM18	VSS97			
AH18	VSS98			
AF18	VSS99			
U18	VSS100			
H18	VSS101			
D18	VSS102			
AK17	VSS103			
V17	VSS104			
T17	VSS105			
F17	VSS106			
B17	VSS107			
AH16	VSS108			
U16	VSS109			
	VSS110			

U19G	W33	NC1	NC61	W30
	AM33	NC2	NC62	Y6
	AL33	NC3	NC63	AL1
	C33	NC4	NC64	Y5
	B33	NC5	NC65	Y10
	AM32	NC6	NC66	W10
	A32	NC7	NC67	W25
	AN31	NC8	NC68	W24
	W28	NC9	NC69	U24
	V27	NC10	NC70	V10
	W29	NC11	NC71	U10
	J24	NC12	NC72	K18
	H24	NC13		
	W32	NC14		
	G24	NC15		
	F24	NC16		
	E24	NC17		
	D24	NC18		
	K33	NC19		
	A31	NC20		
	E21	NC21		
	C23	NC22		
	AN19	NC23		
	AM19	NC24		
	AL19	NC25		
	J9	NC26		
	AJ19	NC27		
	AH19	NC28		
	AN3	NC29		
	Y9	NC30		
	J19	NC31		
	H19	NC32		
	G19	NC33		
	F19	NC34		
	E19	NC35		
	D19	NC36		
	C19	NC37		
	B19	NC38		
	E7	NC39		
	Y8	NC40		
	G16	NC41		
	F16	NC42		
	E16	NC43		
	D16	NC44		
	C16	NC45		
	B16	NC46		
	AN2	NC47		
	A16	NC48		
	Y7	NC49		
	AM4	NC50		
	AF4	NC51		
	AA4	NC52		
	AL4	NC53		
	AK4	NC54		
	W31	NC55		
	AJ4	NC56		
	AH4	NC57		
	AG4	NC58		
	AE4	NC59		
	AM1	NC60		

945GMS

NC

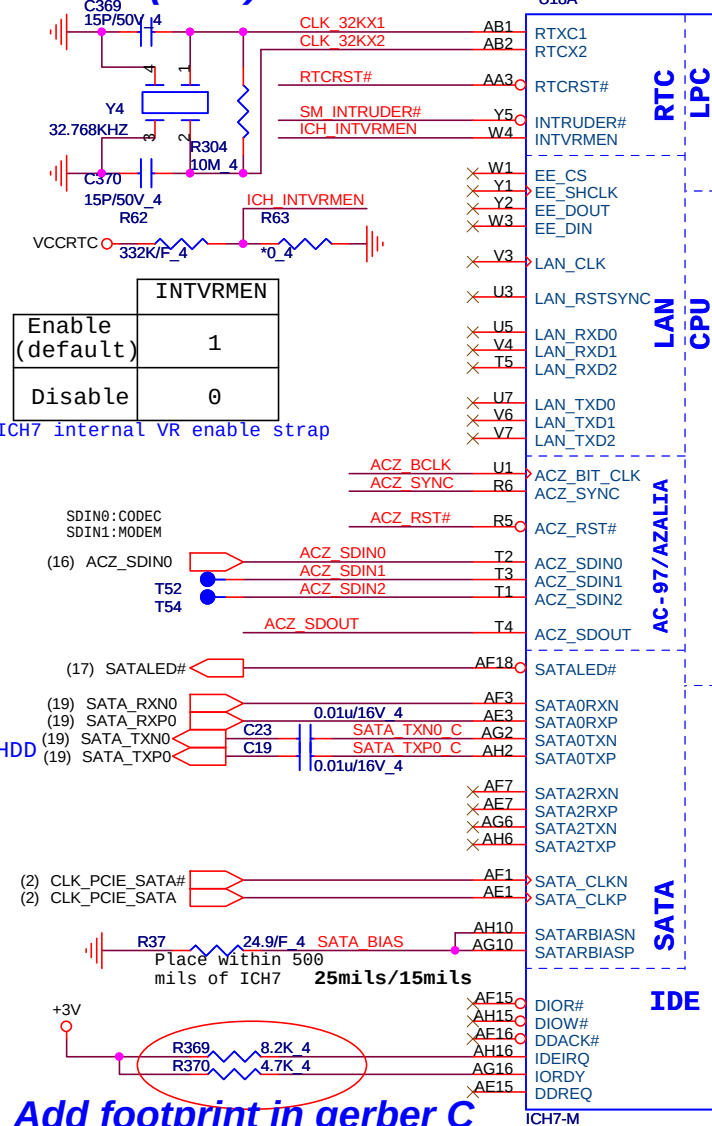


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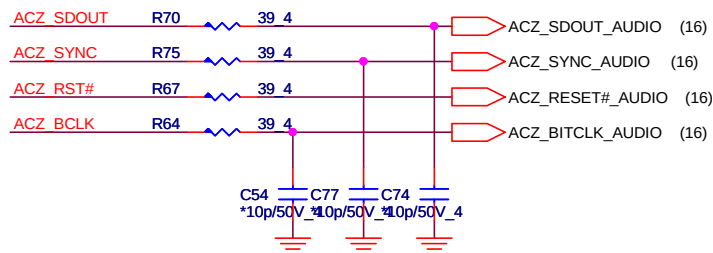
Size	Document Number	Rev
	945GMS GND	1A
Date:	Monday, January 19, 2009	Sheet 9 of 33

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ICH7-M(CLG) 1/7 Change CAP to 15P for crystal precision



Add footprint in gerber C



COMPONENTS

945GMS

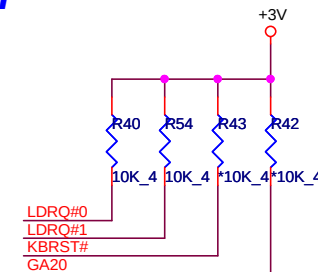
ICH7-M

P/N

AJSLB2R0T00

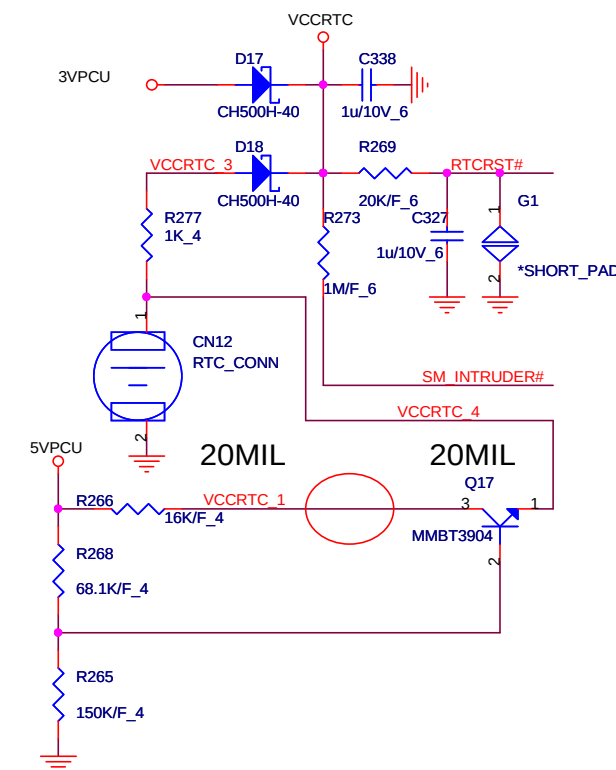
AJSL8YB0T21

Pull-UP



10

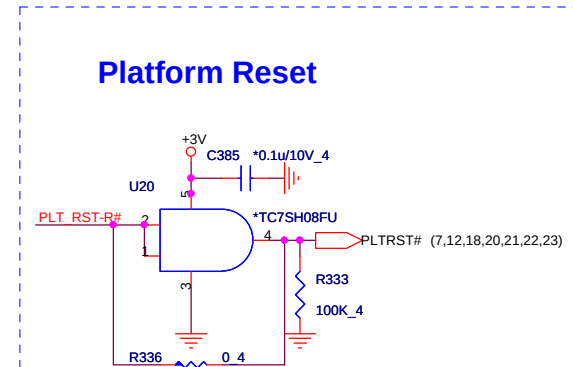
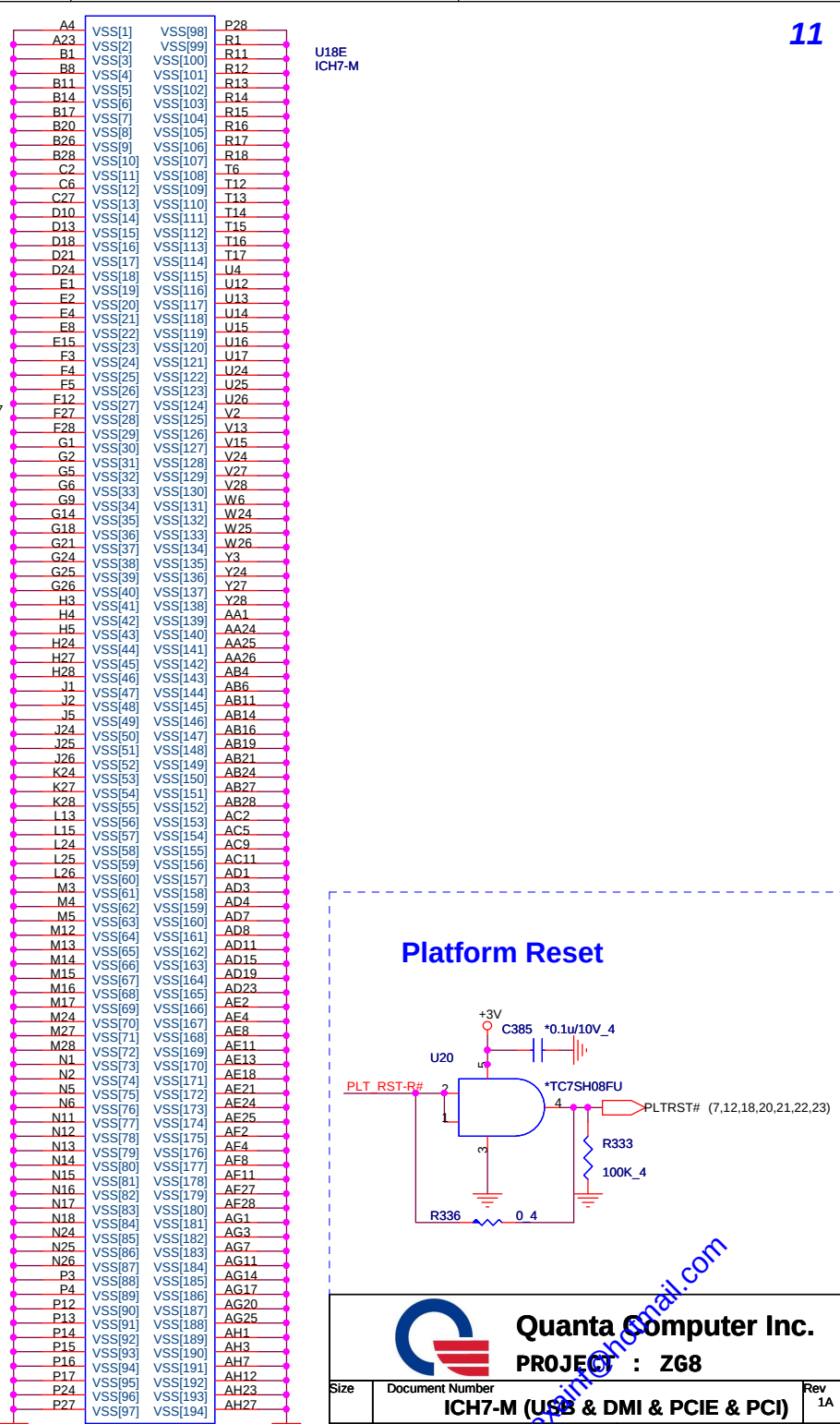
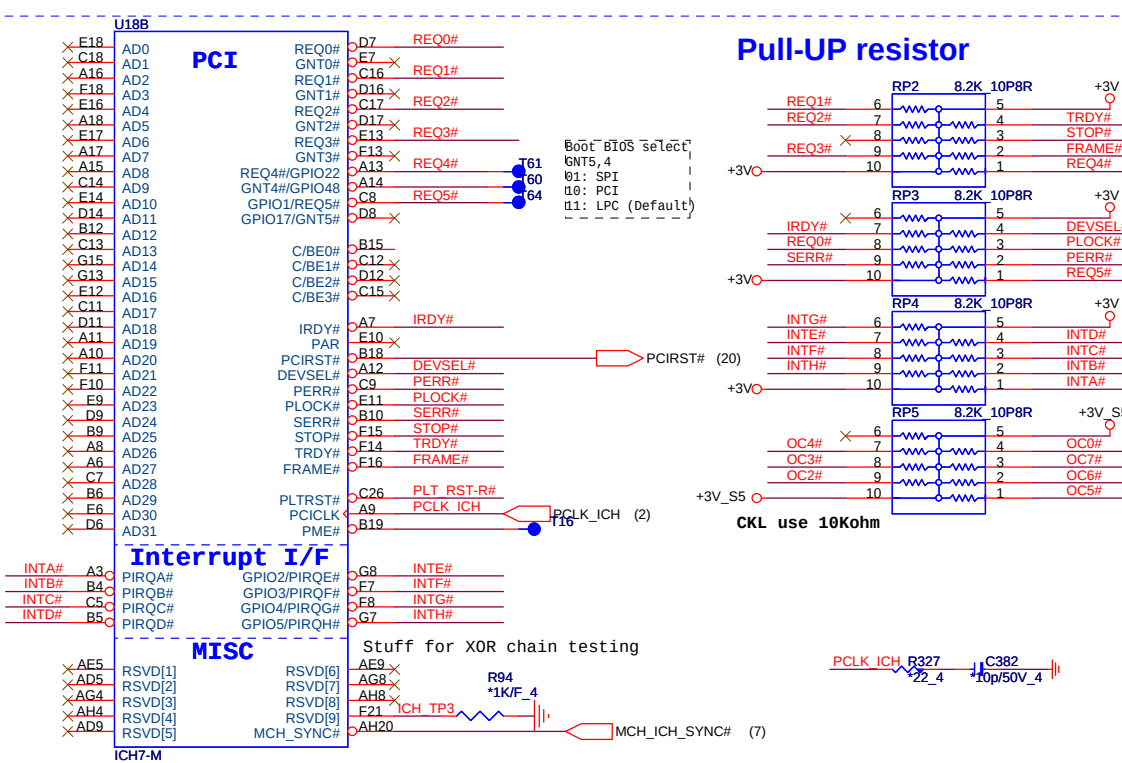
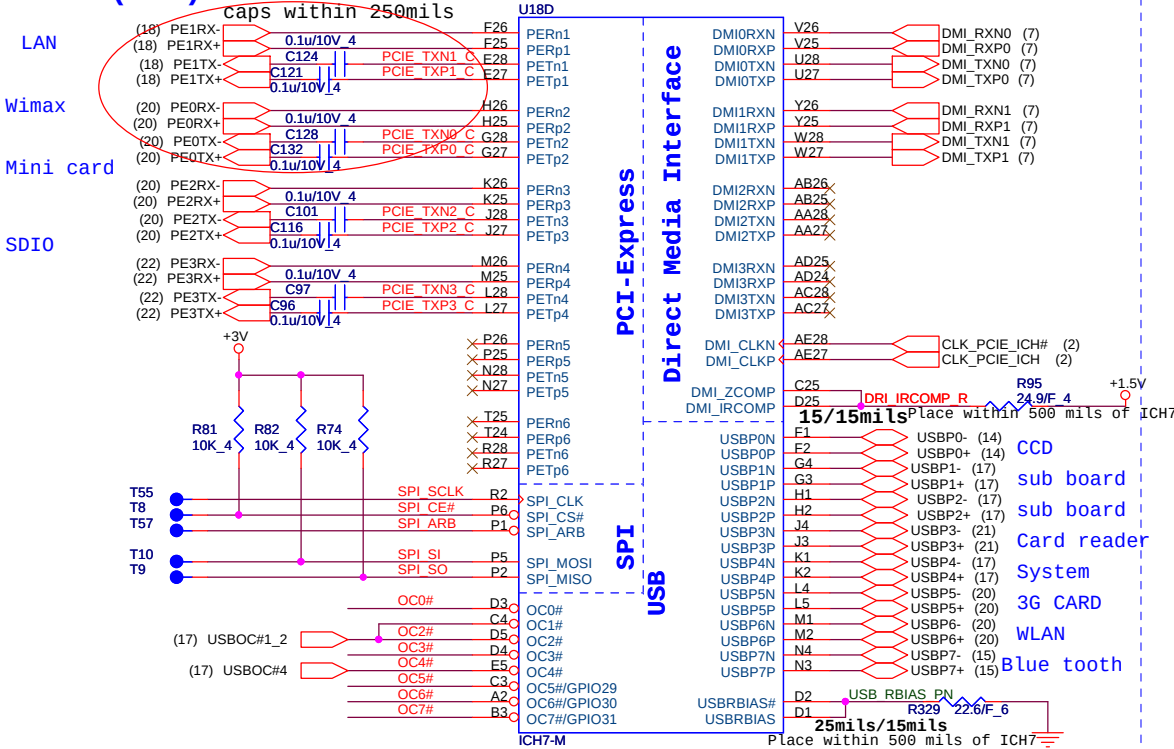
RTC(RTC)

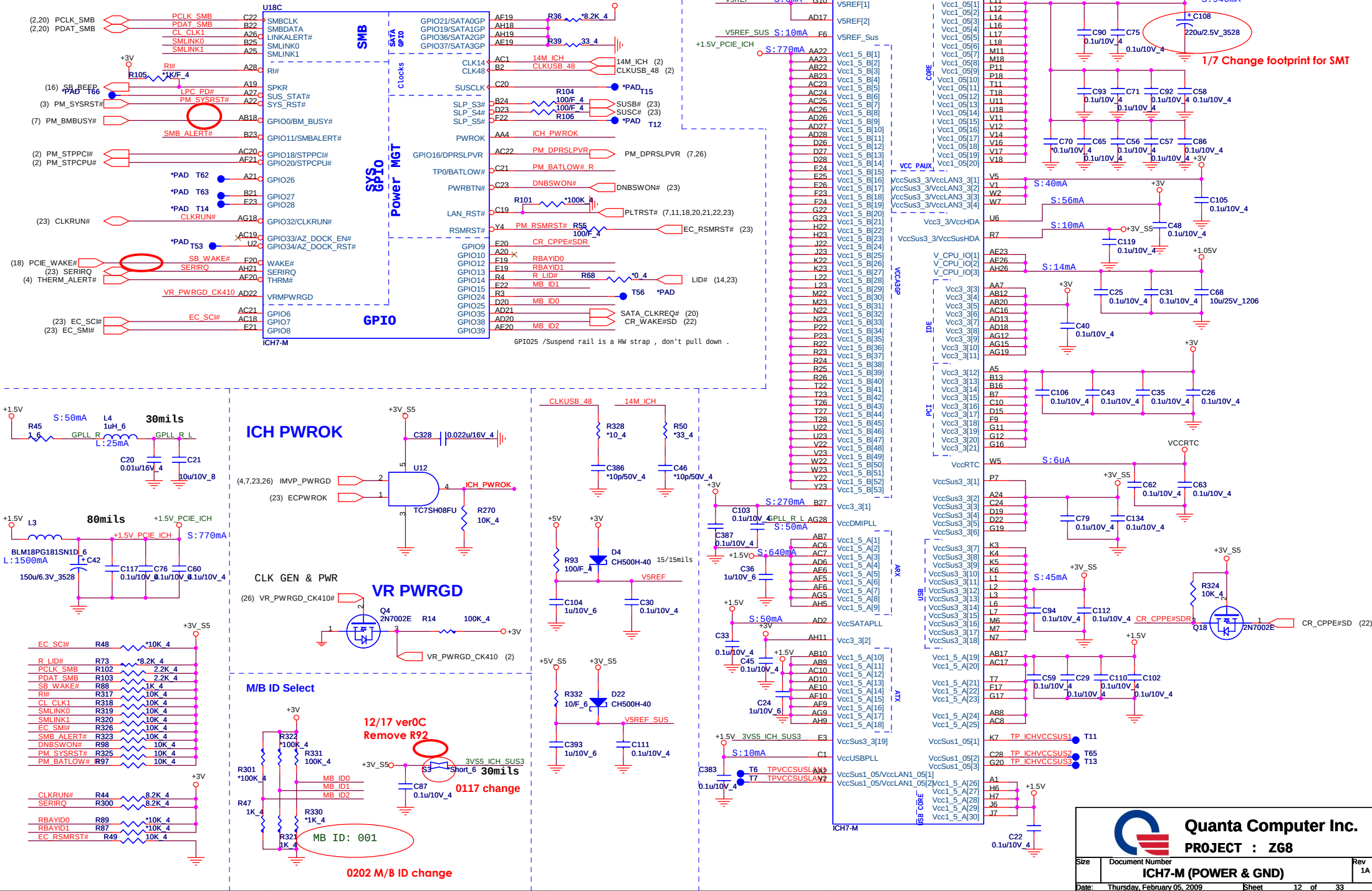


Quanta Computer Inc.
PROJECT : ZG8

Size	Document Number	Rev
	ICH7-M (CPU, SATA, IDE,LPC)	1A
Date:	Tuesday, February 03, 2009	Sheet 10 of 33

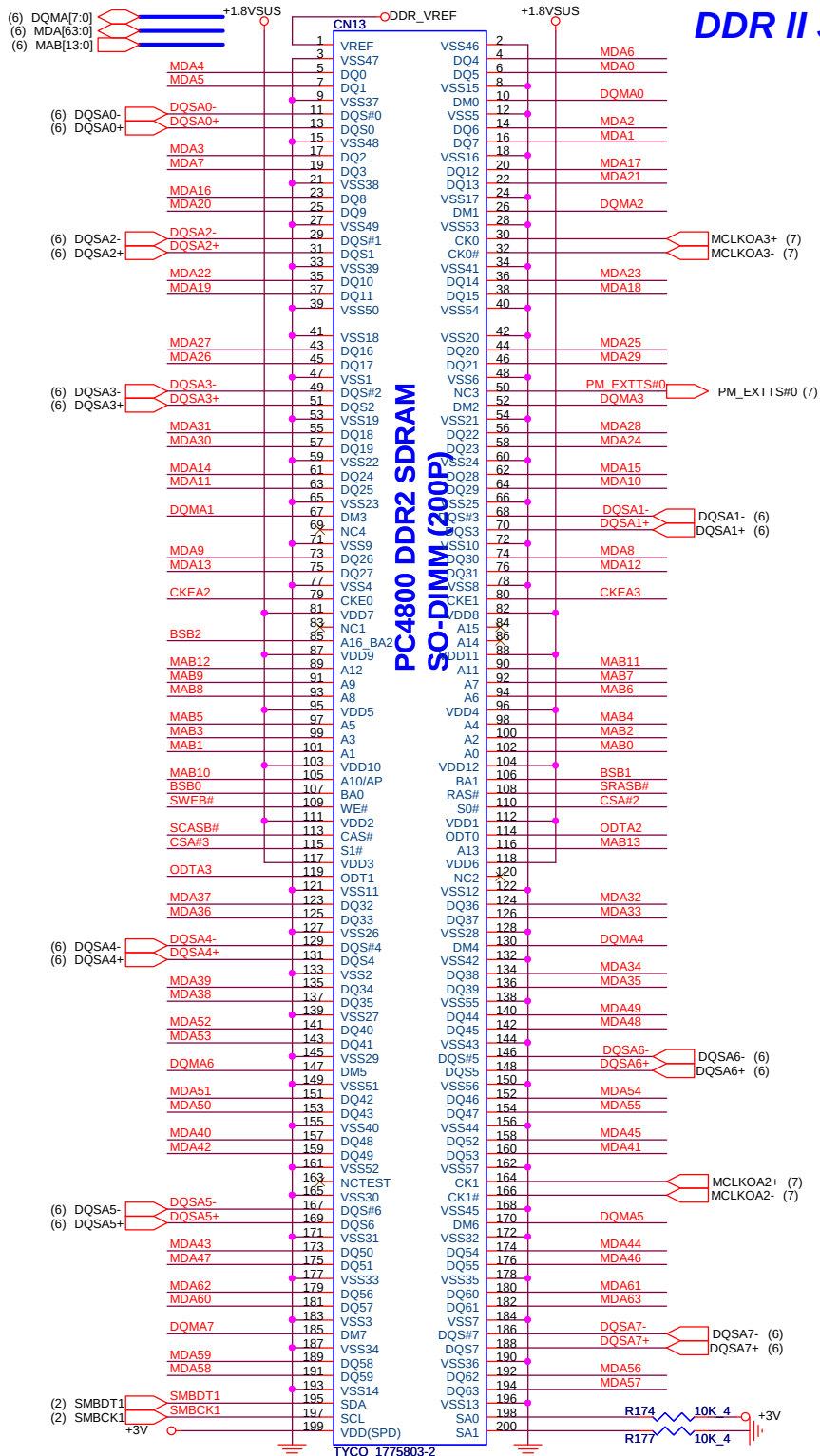
ICH7-M(CLG) **Exchange LAN & Wimax**



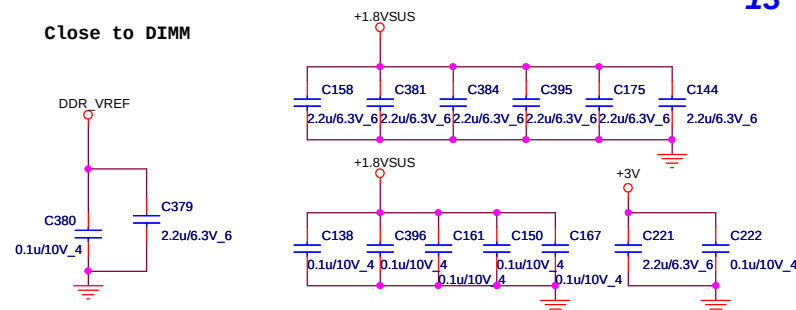


DDR II SOCKET(DDR)

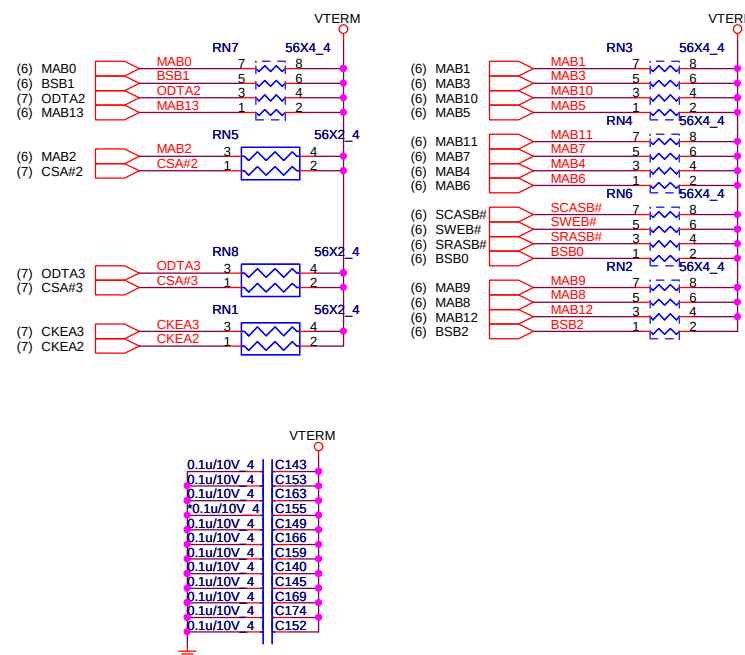
13



Close to DIMM



Termination resistor



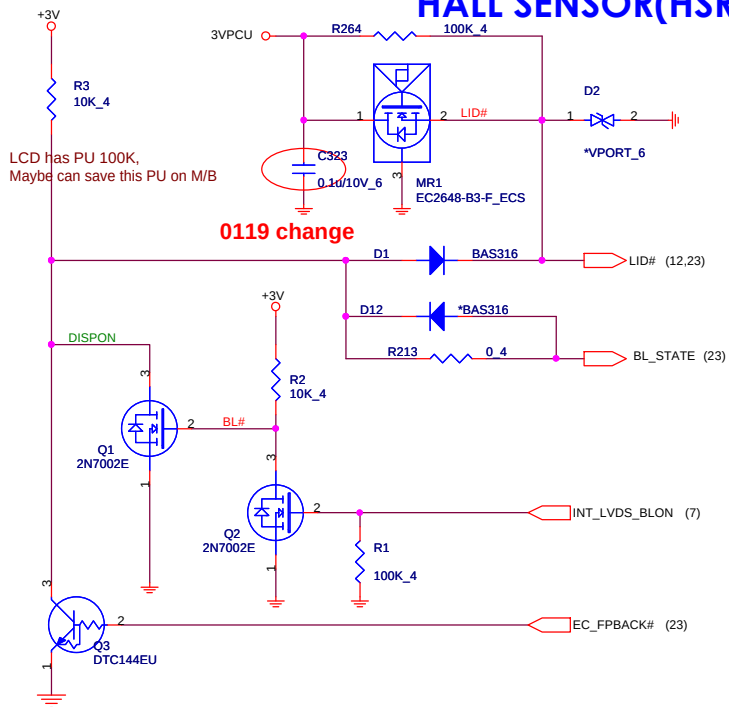
STD H: 4.0mm

SMbus address A1

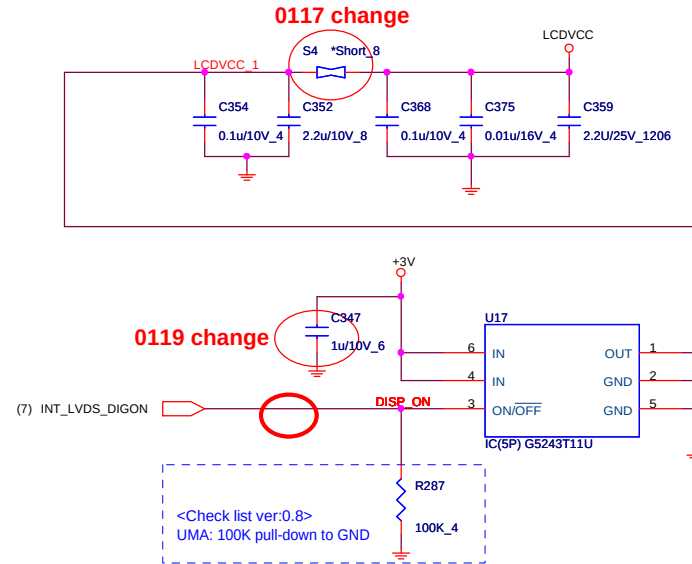
CLOCK 1,2
CKE 2,3

Quanta Computer Inc. PROJECT Z68		Rev 1A
Size	Document Number	
DDR2 SO-DIMM(200P)		
Date: Monday, February 02, 2009	Sheet 13 of 33	

HALL SENSOR(HSR)

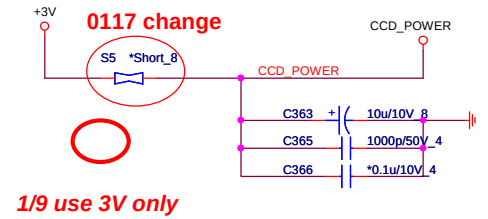


LCD POWER SWITCH(LDS)



CAMERA POWER(CCD)

14

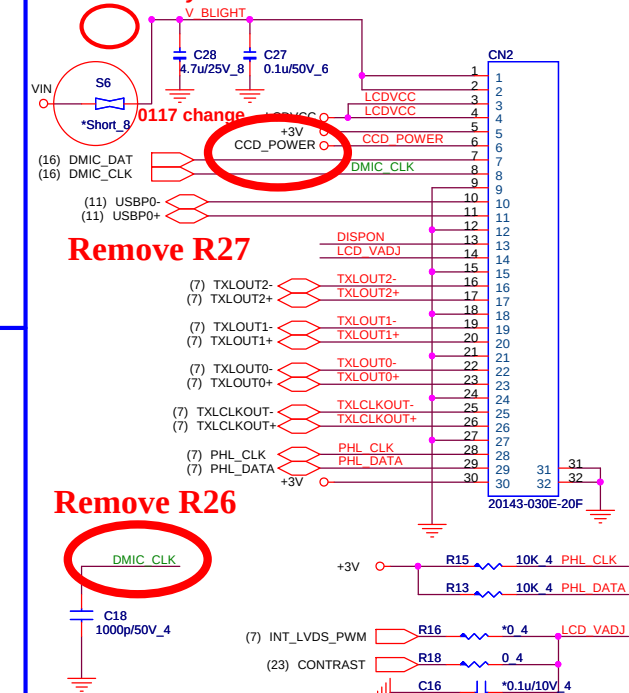


LCD MODULE(LDS)

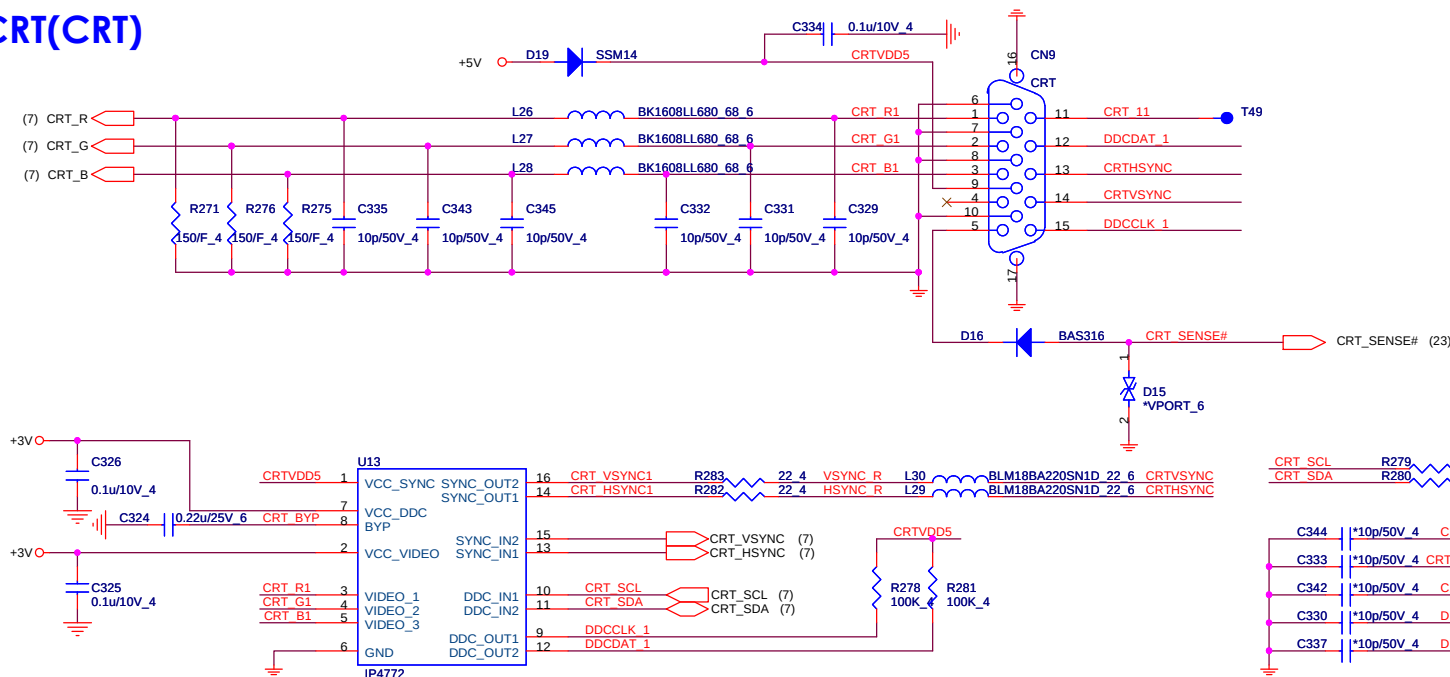
V_BLIGHT

8.9"(5.5V):supply 5V 10.1":supply 19V

1/9 use 19V only



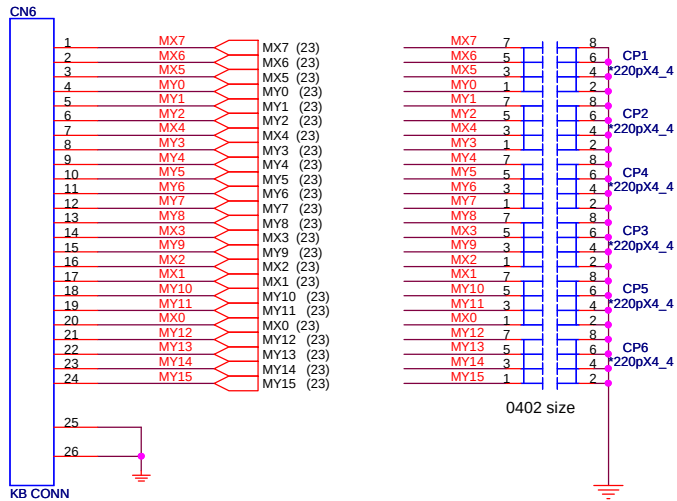
CRT(CRT)



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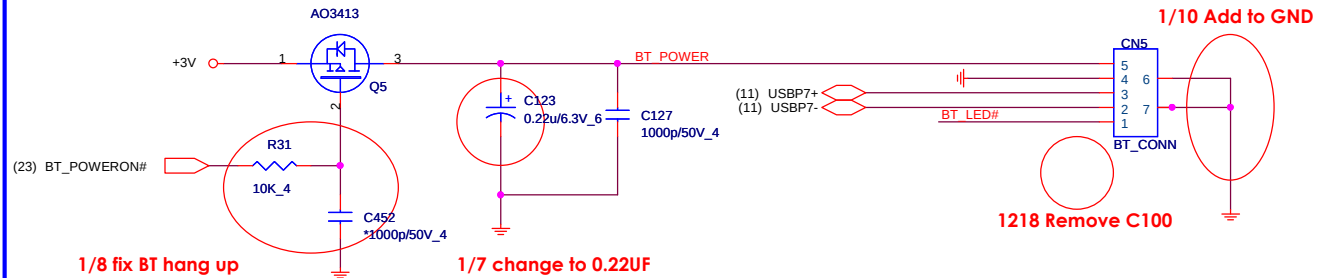
Size Document Number CRT/LVDS
Date: Monday, February 02, 2009 Sheet 14 of 33 Rev 1A

KEYBOARD(KBC)

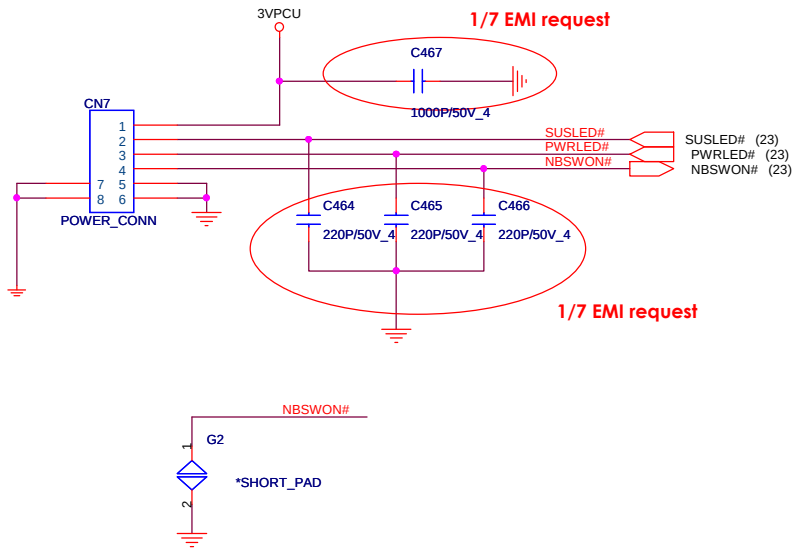


BLUETOOTH(BTM)

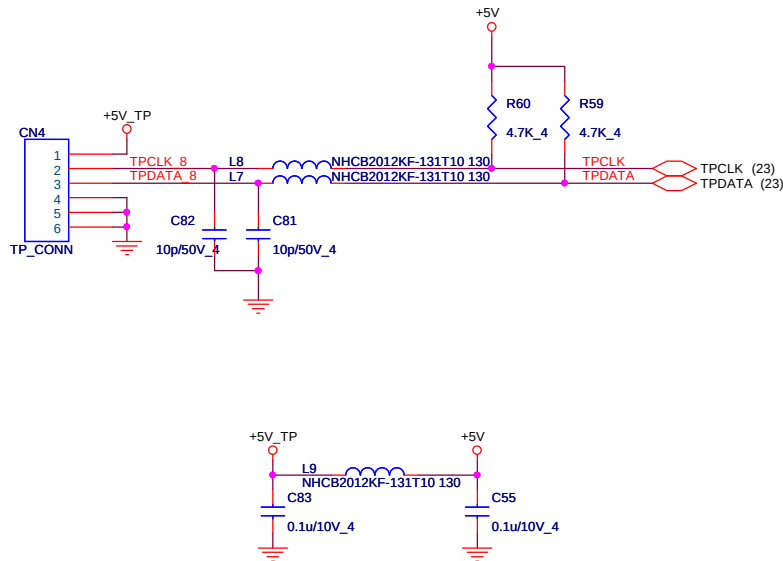
15



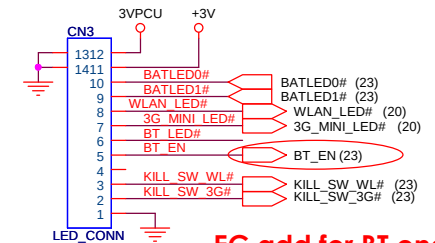
Power On Connector(UIF)



TOUCH PAD(TPD)



LED CONNECTOR(KBC)

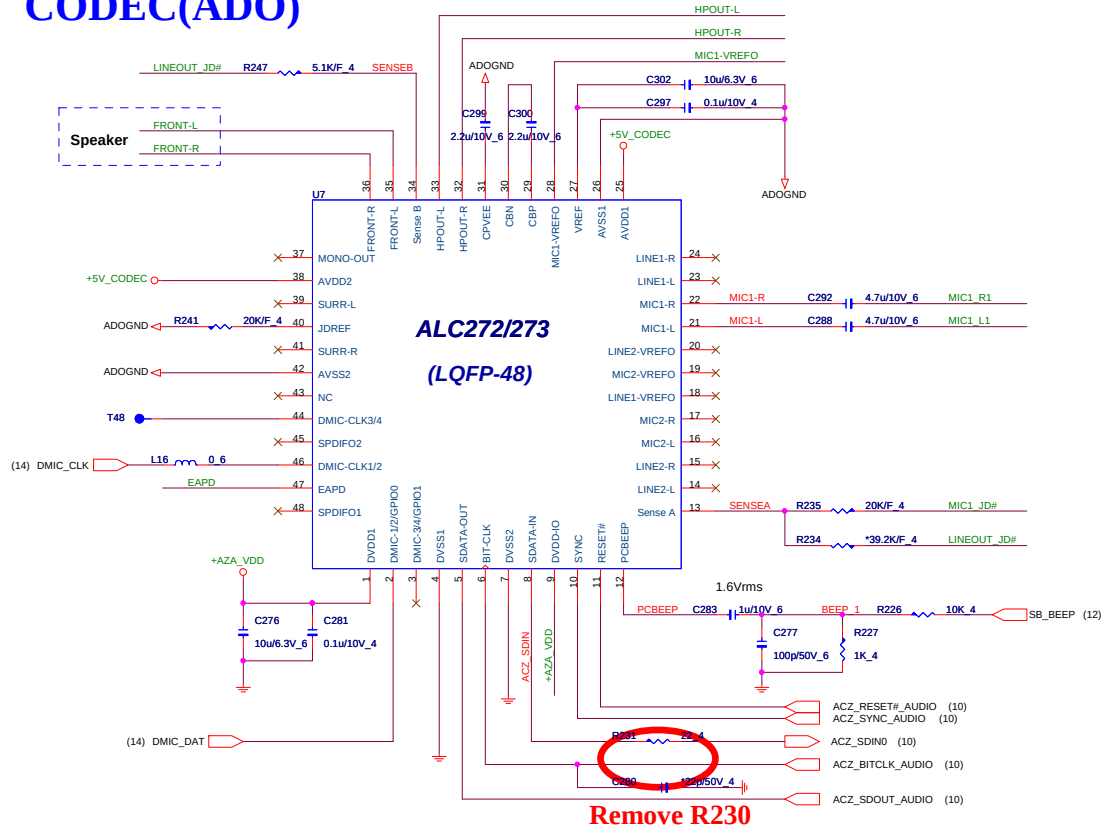


Quanta Computer Inc.
PROJECT : Z68

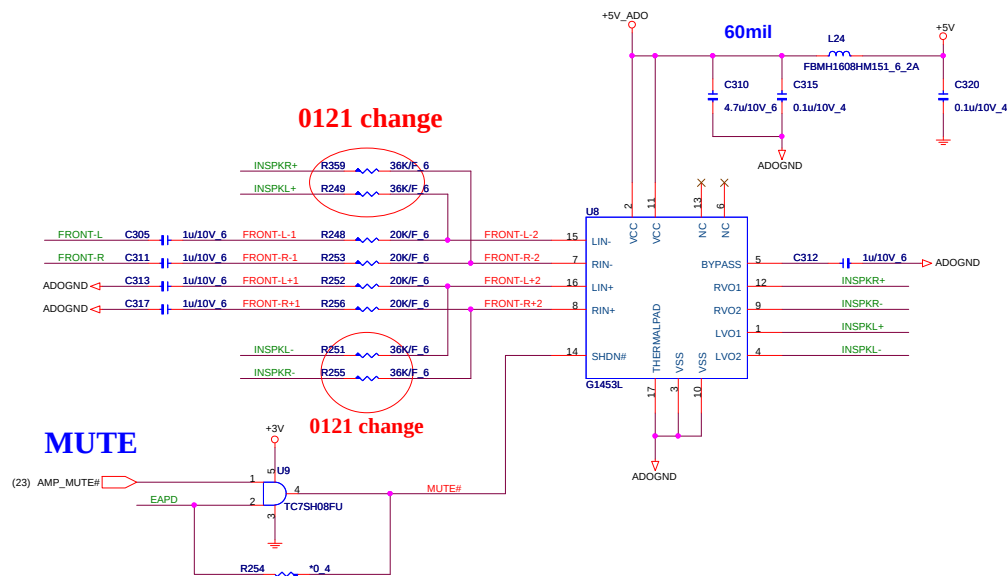
Size	Document Number	Rev
	KB/BT/TP/LED/Power Connector	1A
Date:	Thursday, February 05, 2009	Sheet 15 of 33

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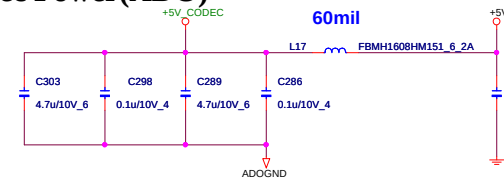
CODEC(ADO)



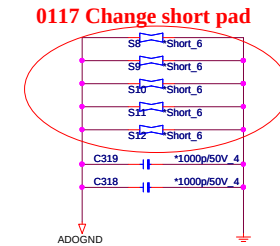
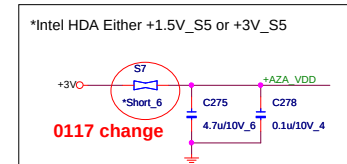
Speaker Amplifier(AMP)



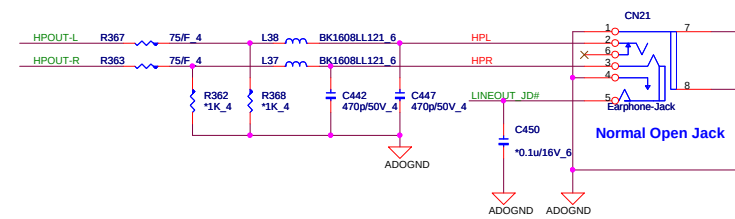
Codec Power(ADO)



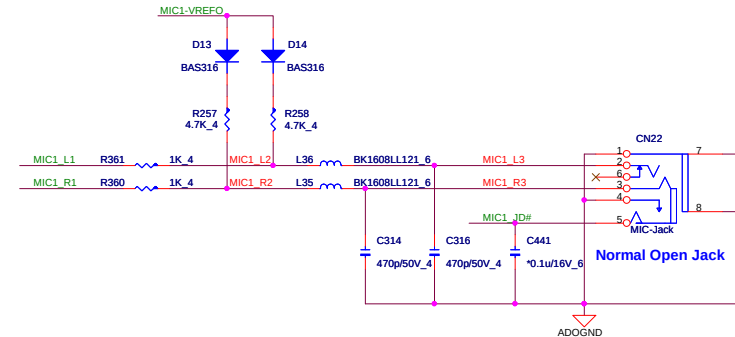
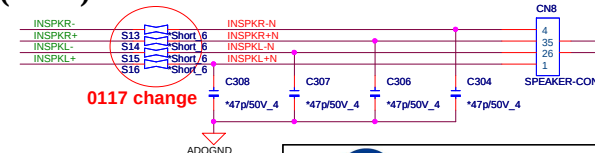
HDA Power(ADO)



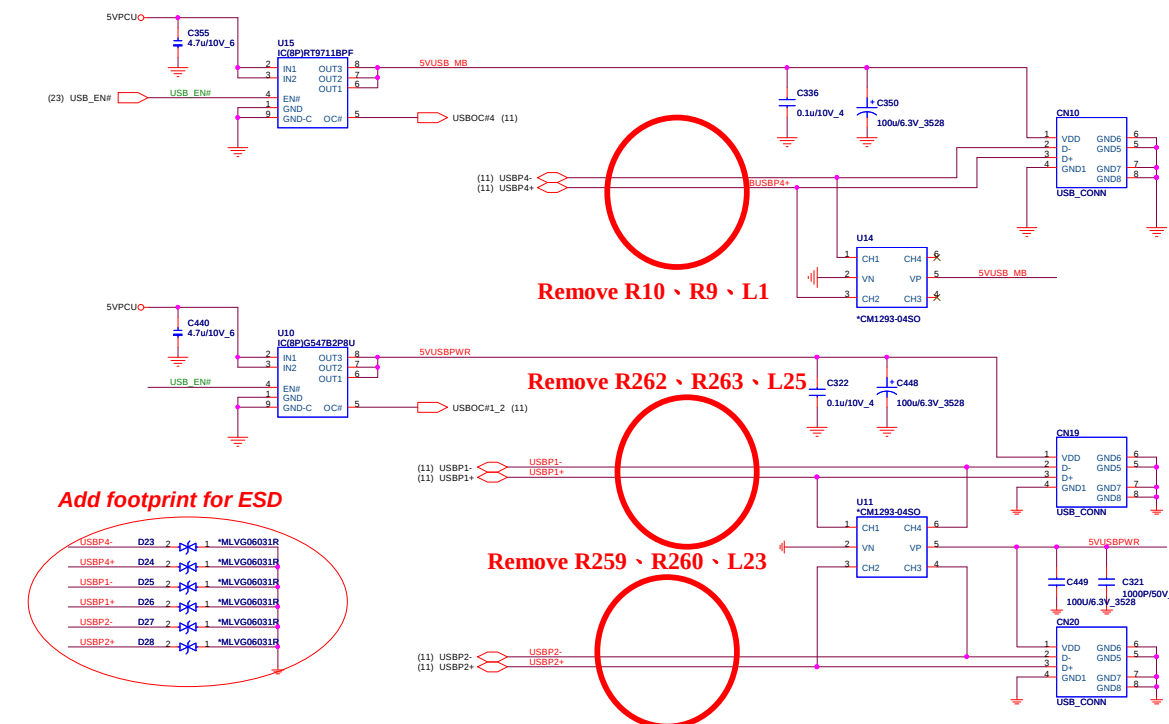
Earphone(AMP)



System MIC(AMP)

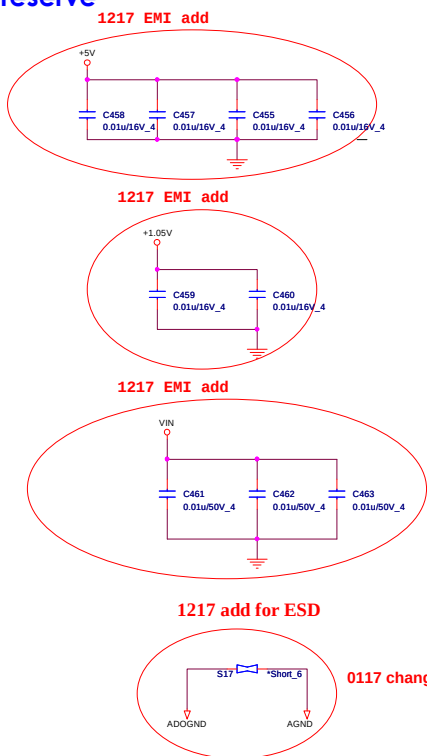
**Speaker(AMP)**

USB(USB)

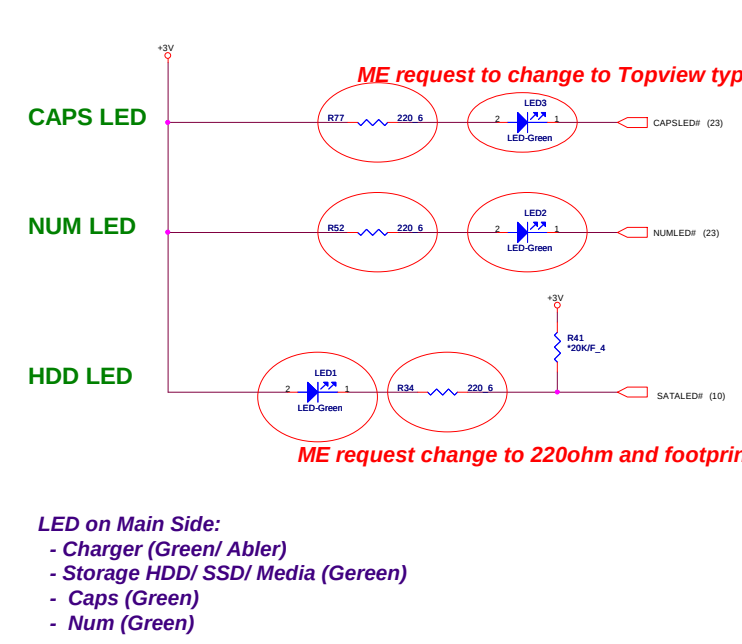


EMI reserve

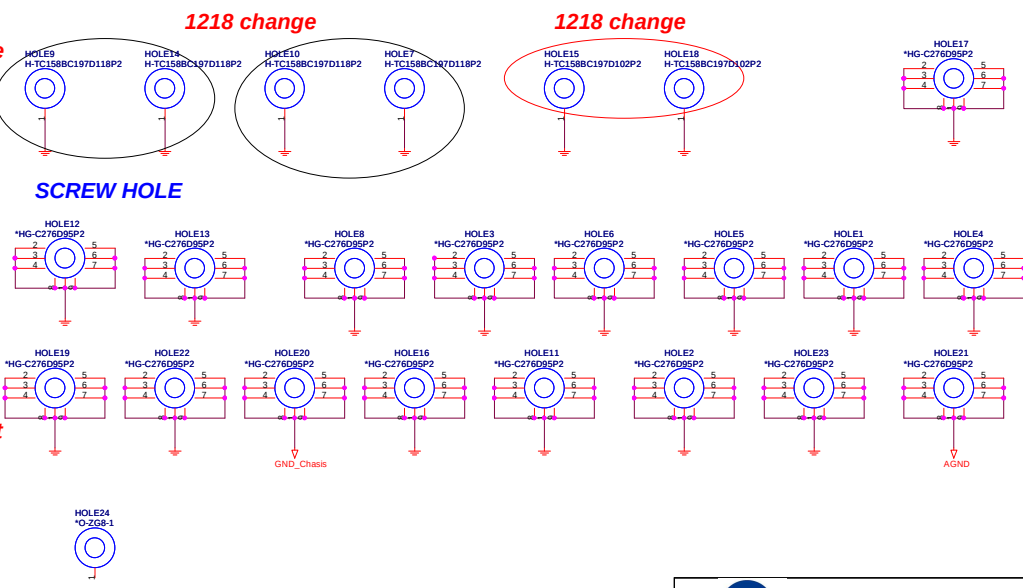
17



LED on M/B(UIF)

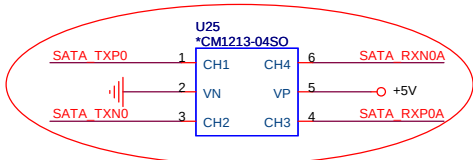
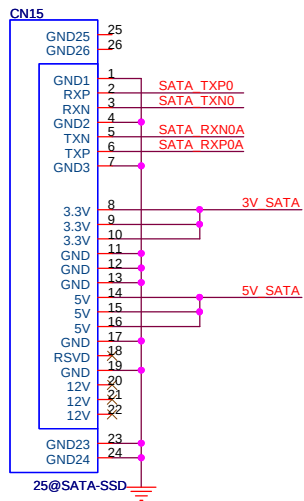
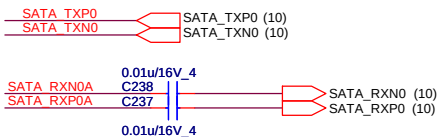


SCREW HOLE



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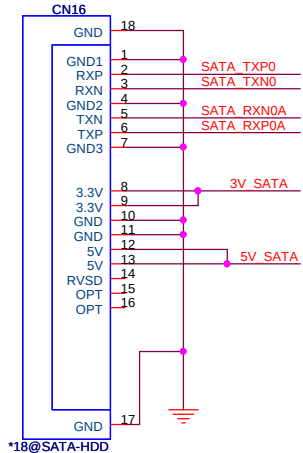
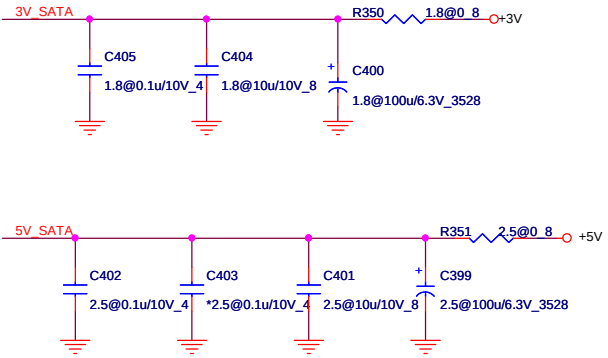
2.5" SATA HDD(HDD)



0119 add for ESD and place near SATA conn

0120 : CN15 PIN25 & 26 IS NP, NO contact to GND.

1.8" SATA HDD(TOSHIBA)



ZT4 card connector

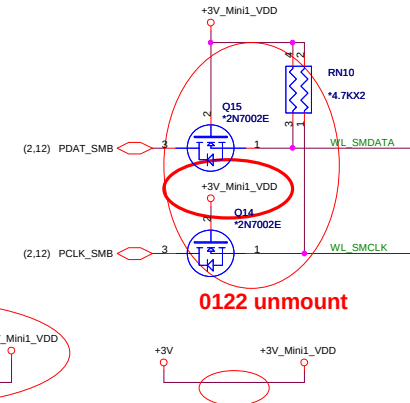
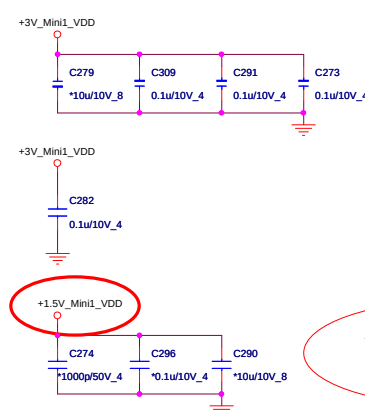
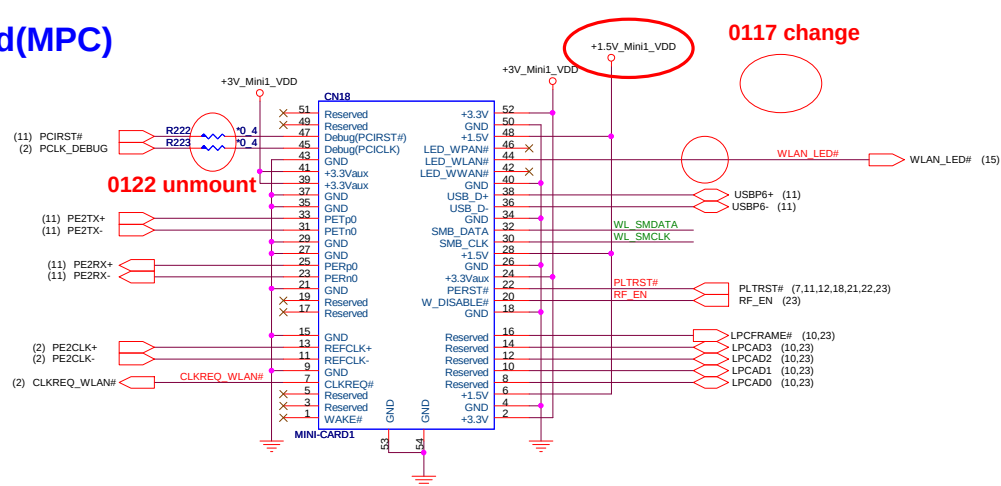


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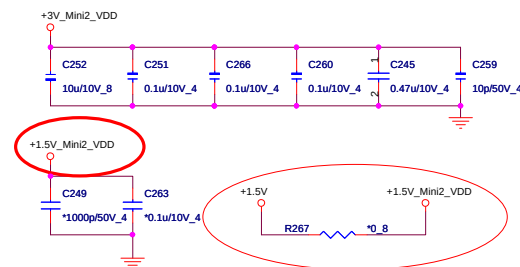
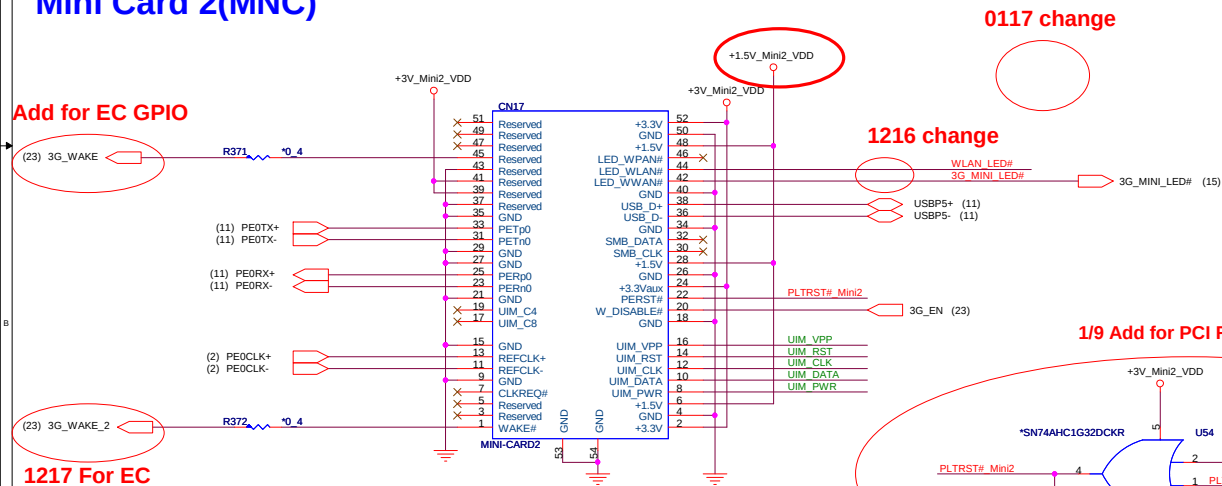
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Mini Card(MPC)



20

Mini Card 2(MNC)

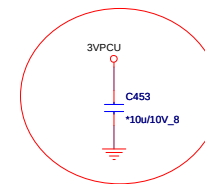
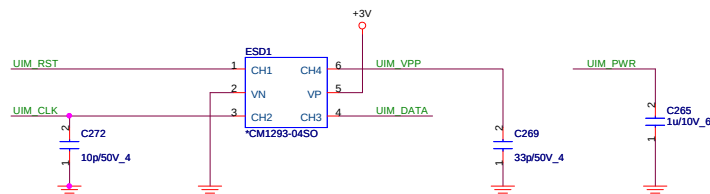
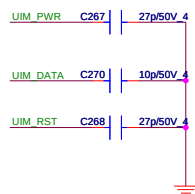
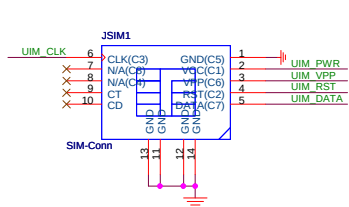


0117 Remove

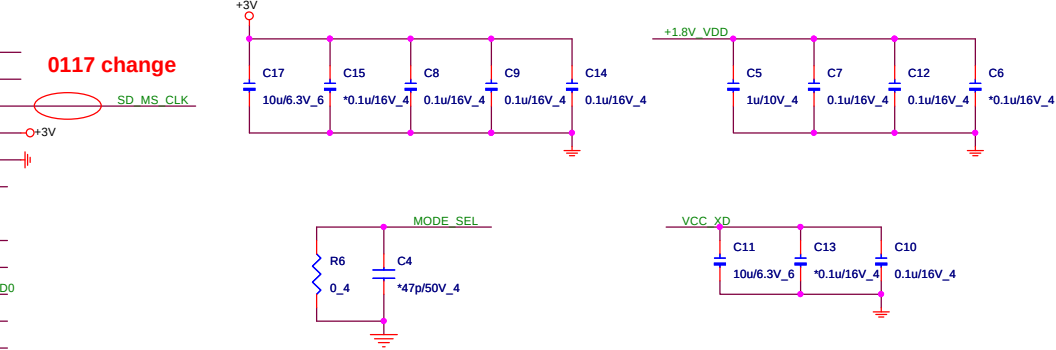
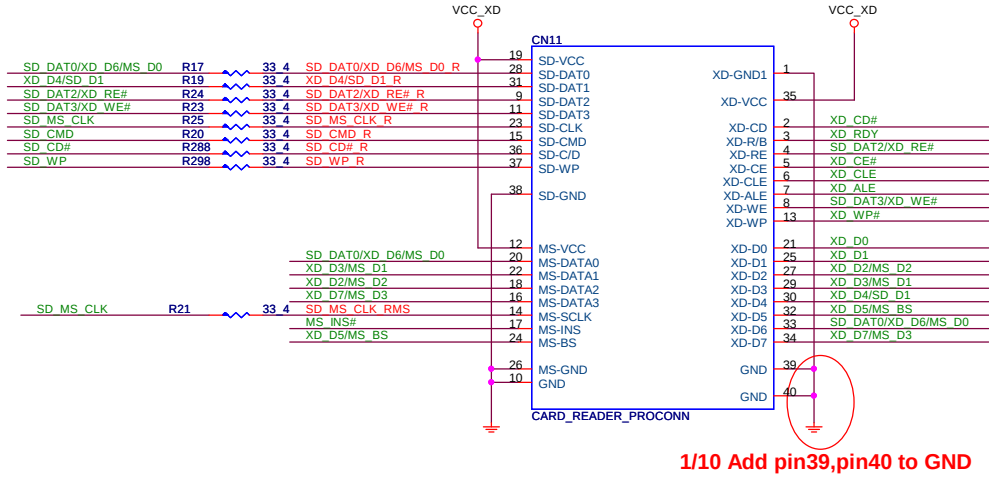
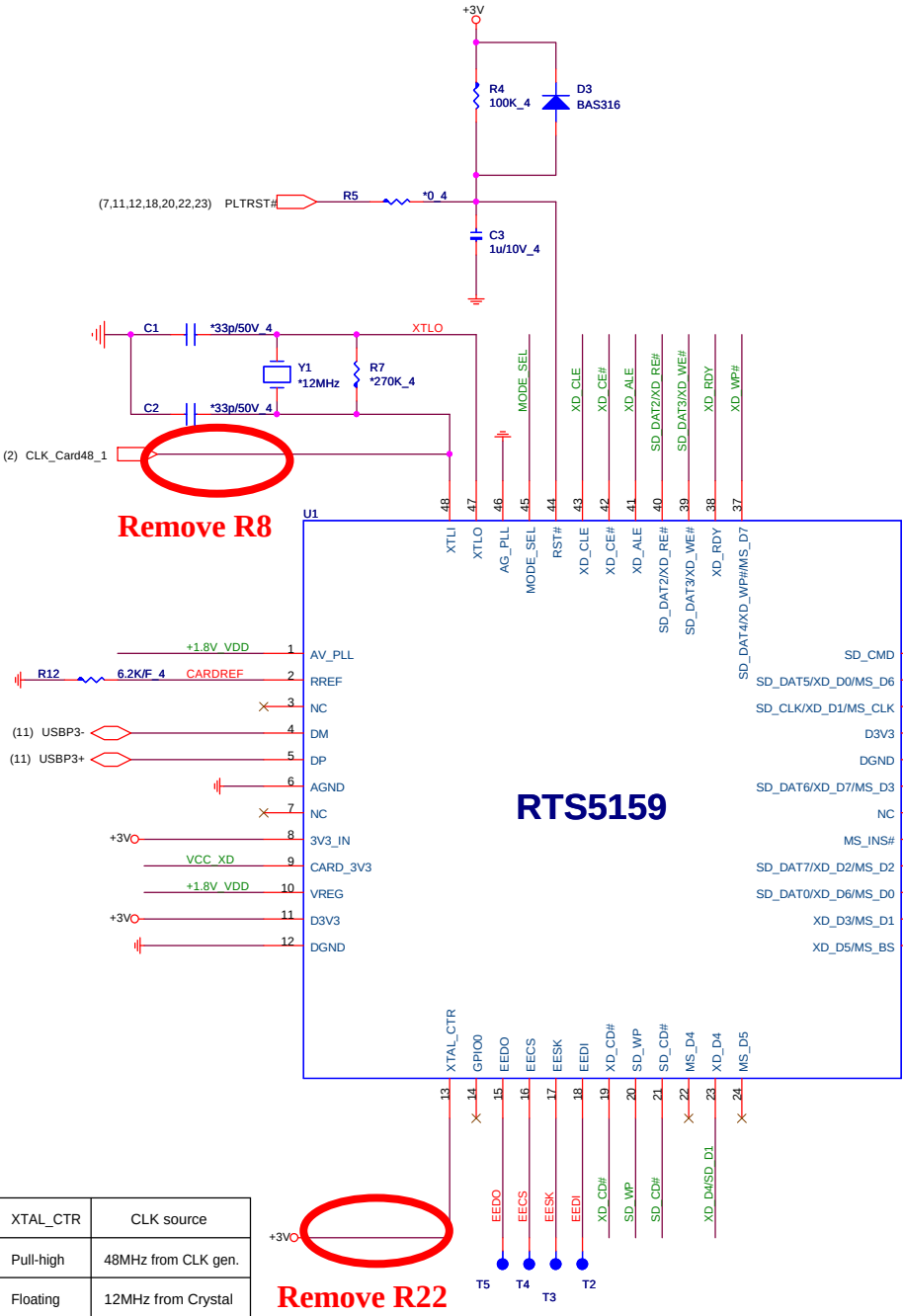
1211 Add

1/7 Change power source

SIM



0117 Add



MODE_SEL Table (Please refer to Realtek Application Notes for more detail description)

	R9016	C9016	Power mode	SD_D1 Out From
RTS 5158E	NC	NC	Power Saving	Pin23
RTS 5159	0 ohm	NC	Power Saving	Pin23

Power Saving mode need install Realtek icon driver.
USB Hotfix KB941600 is also needed for Vista SP0 but SP1.

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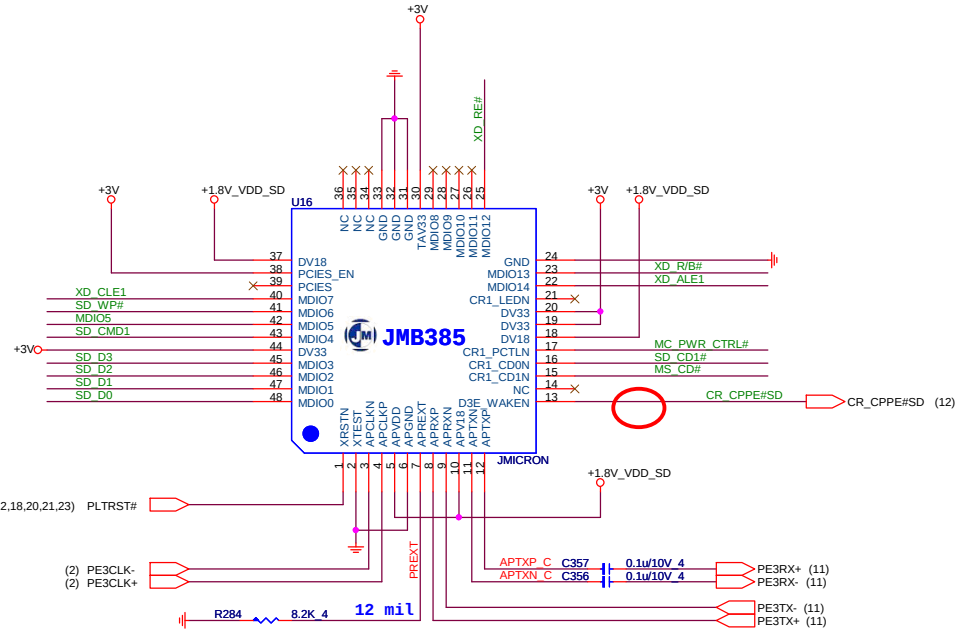
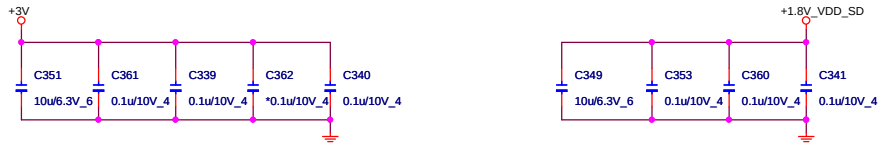
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RTS5159 (Card Reader)

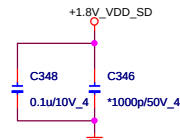
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JMB385 SIDO(MMC)



For APVDD(pin5)



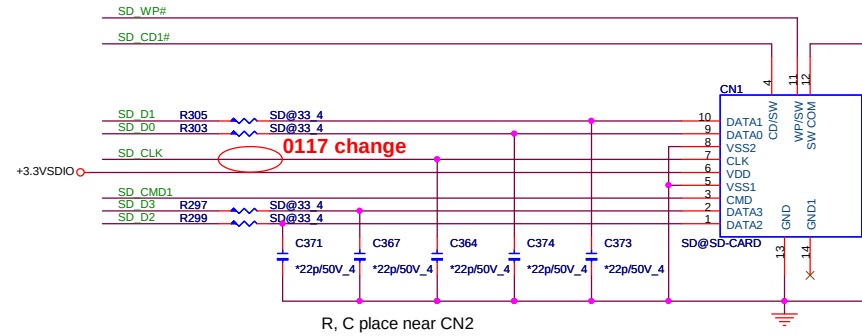
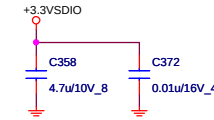
APVDD(pin5) must put C346/1000pF close to APVDD(pin5) (length must under 120mil) and trace width = 20mil, after C346, pls put one more 0.1uF for it.

SD CONNDETOR

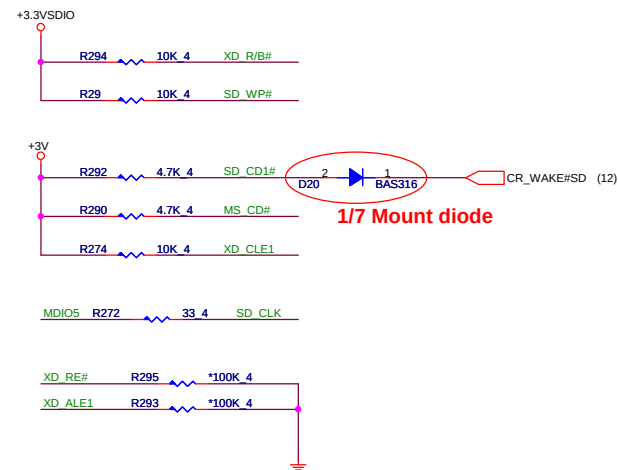
Use 0805 type and over 20 mils trace width on both side



Memory Card Power Supply



R, C place near CN2

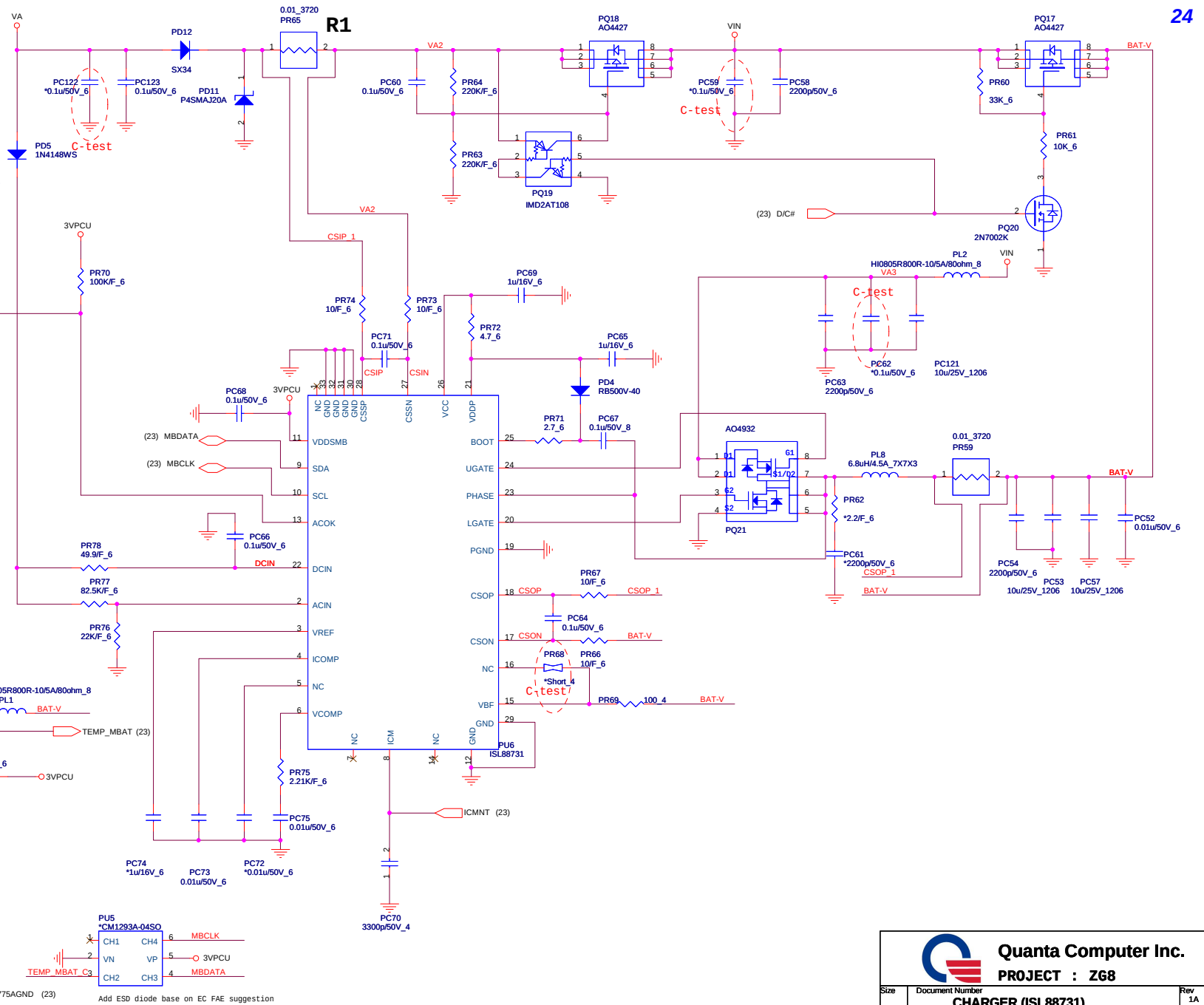
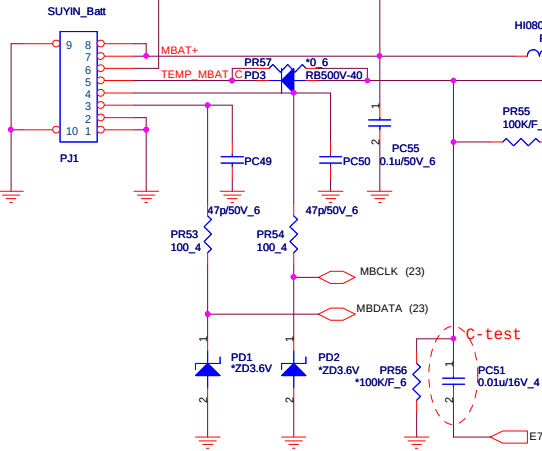
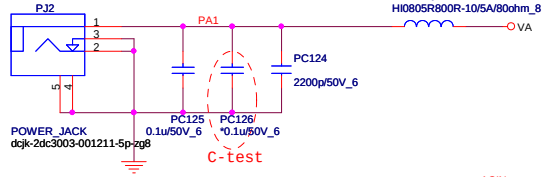


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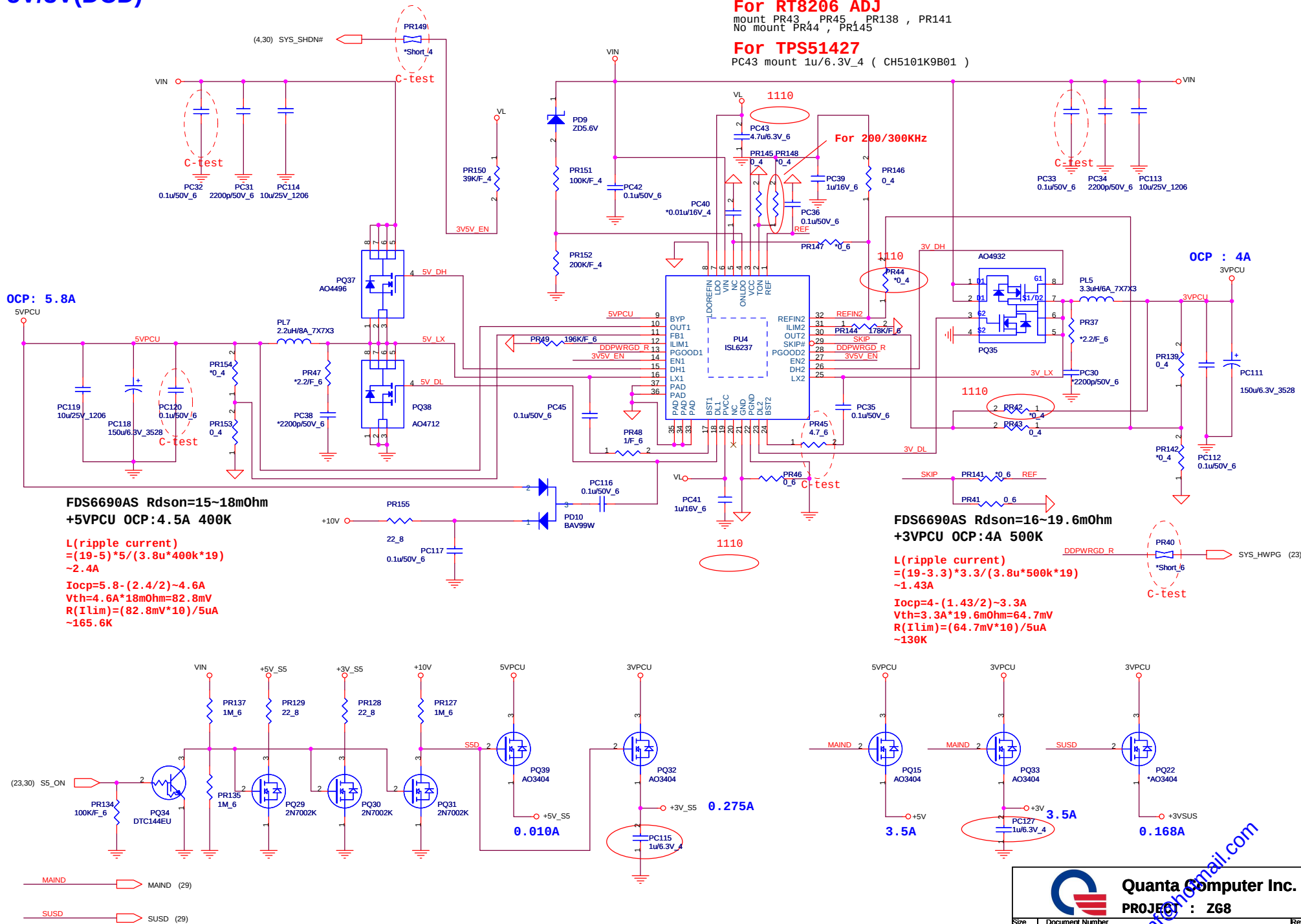
Charger(DCD)

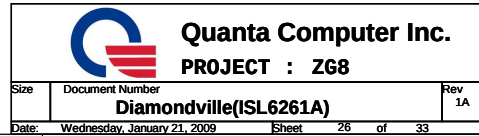
24

DC-IN JACK

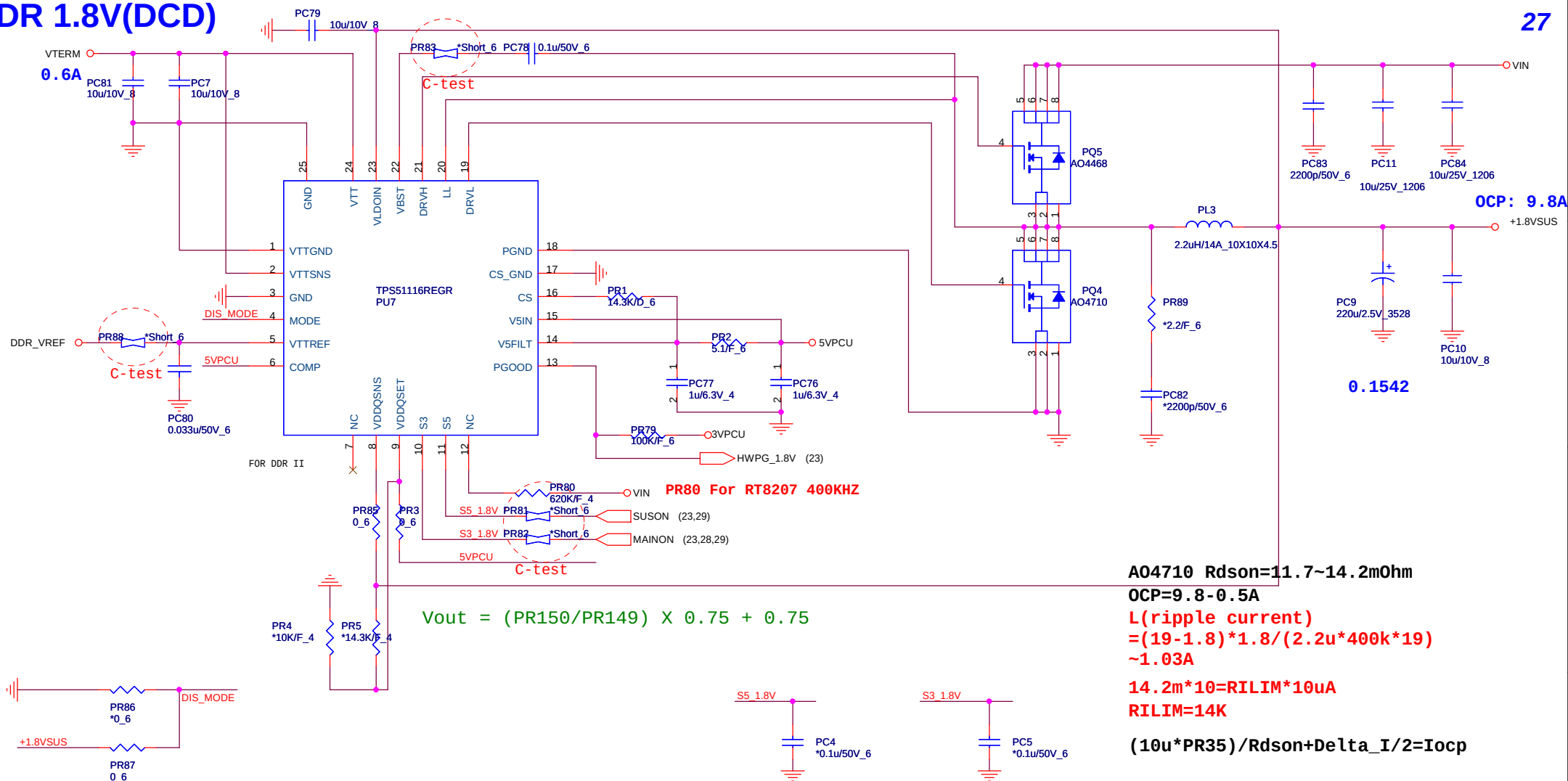


5V/3V(DCD)





DDR 1.8V(DCD)



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