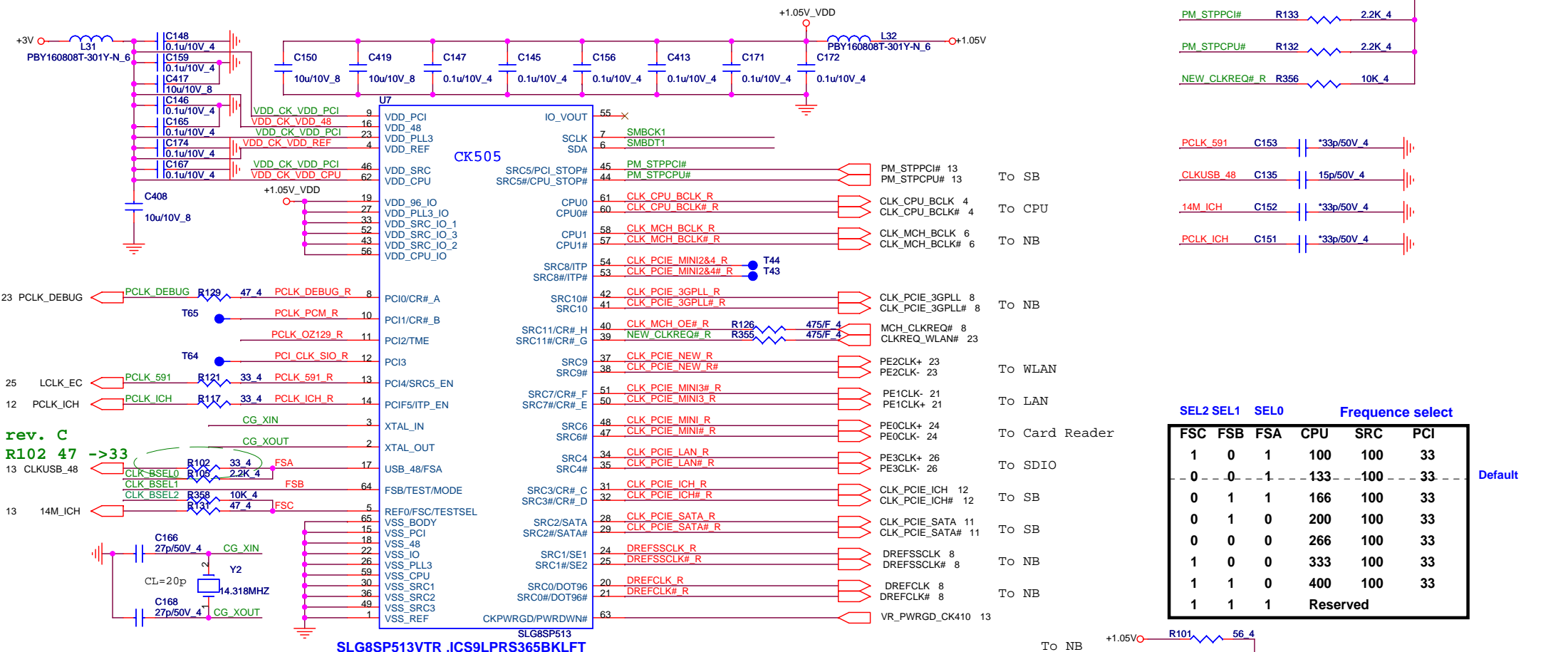
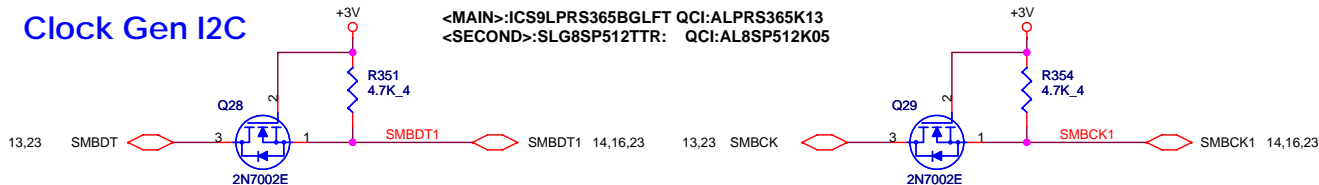


Clock Generator



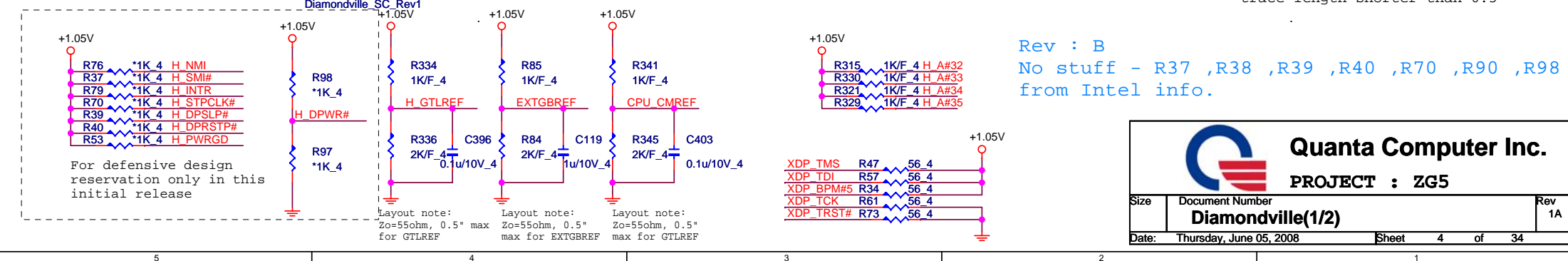
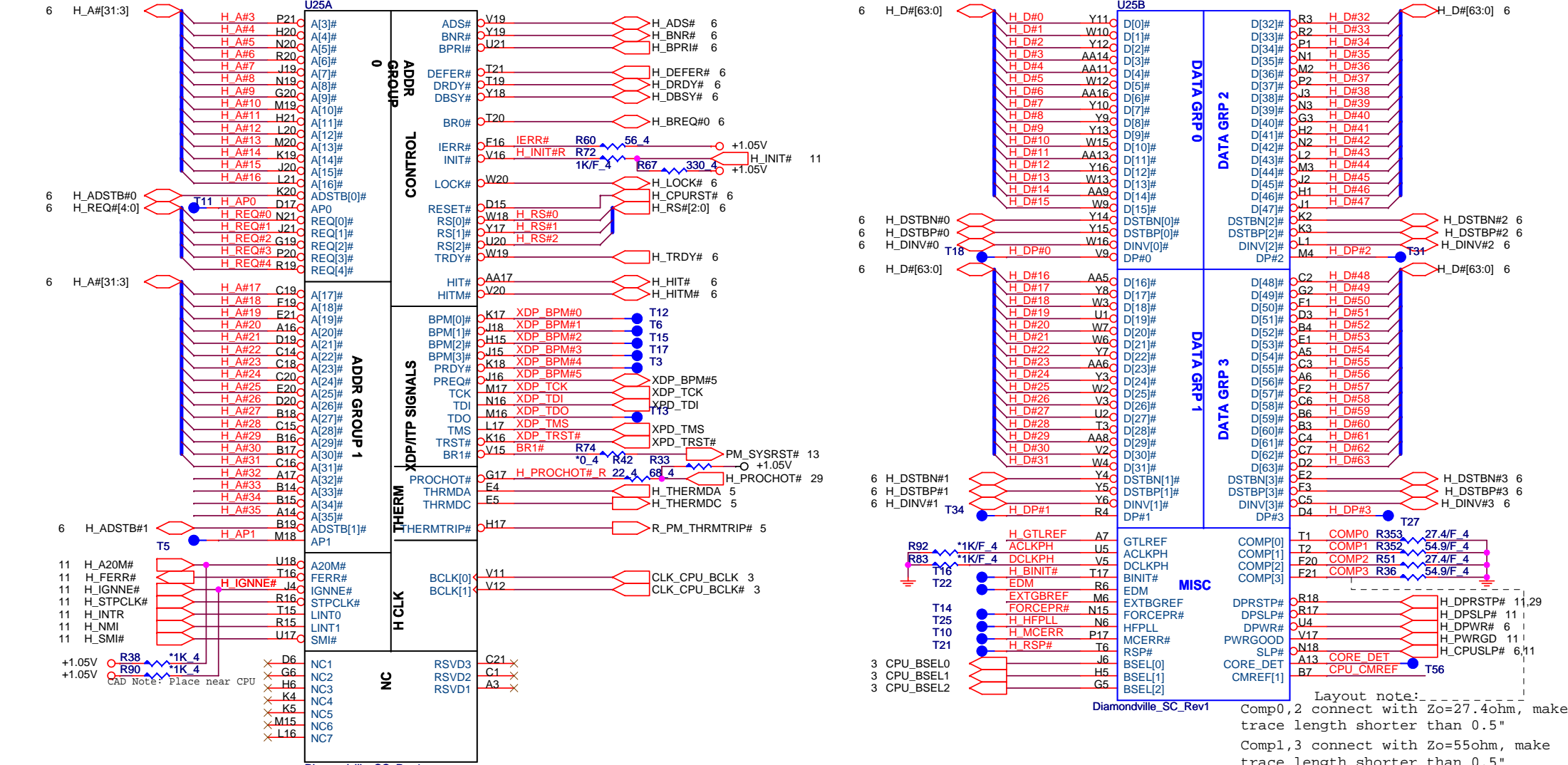
	ICS9LPRS365 (ALPRS365K13)	RTM8751-606 (AL000875K06)	PULL HIGH	PULL DOWN
Pin 11	PCI2/TME	internal PD	NO OVERCLOCKING (default)	NORMAL RUN
Pin 12	PCI-3	PCI-3/SRC5_EN internal PD	PIN37/38 IS SRC5	PIN37/38 IS PCI_STOP/CPU_STOP (default)
Pin 13	PCI-4/27M_SEL	internal PD	PIN 17/18 IS 27MHz	PIN 17/18 IS SRC/DOT (default)
Pin 14	PCIF-5/ITP_EN	internal PD	PIN 46/47 IS CPUITP	PIN 46/47 IS SRC8 (default)

Clock Gen I2C




Quanta Computer Inc.
PROJECT : ZG5

Size	Document Number	Rev
	CLOCK GENERATOR	1A
Date:	Thursday, June 05, 2008	Sheet 3 of 34

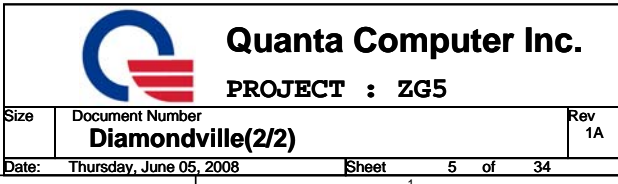


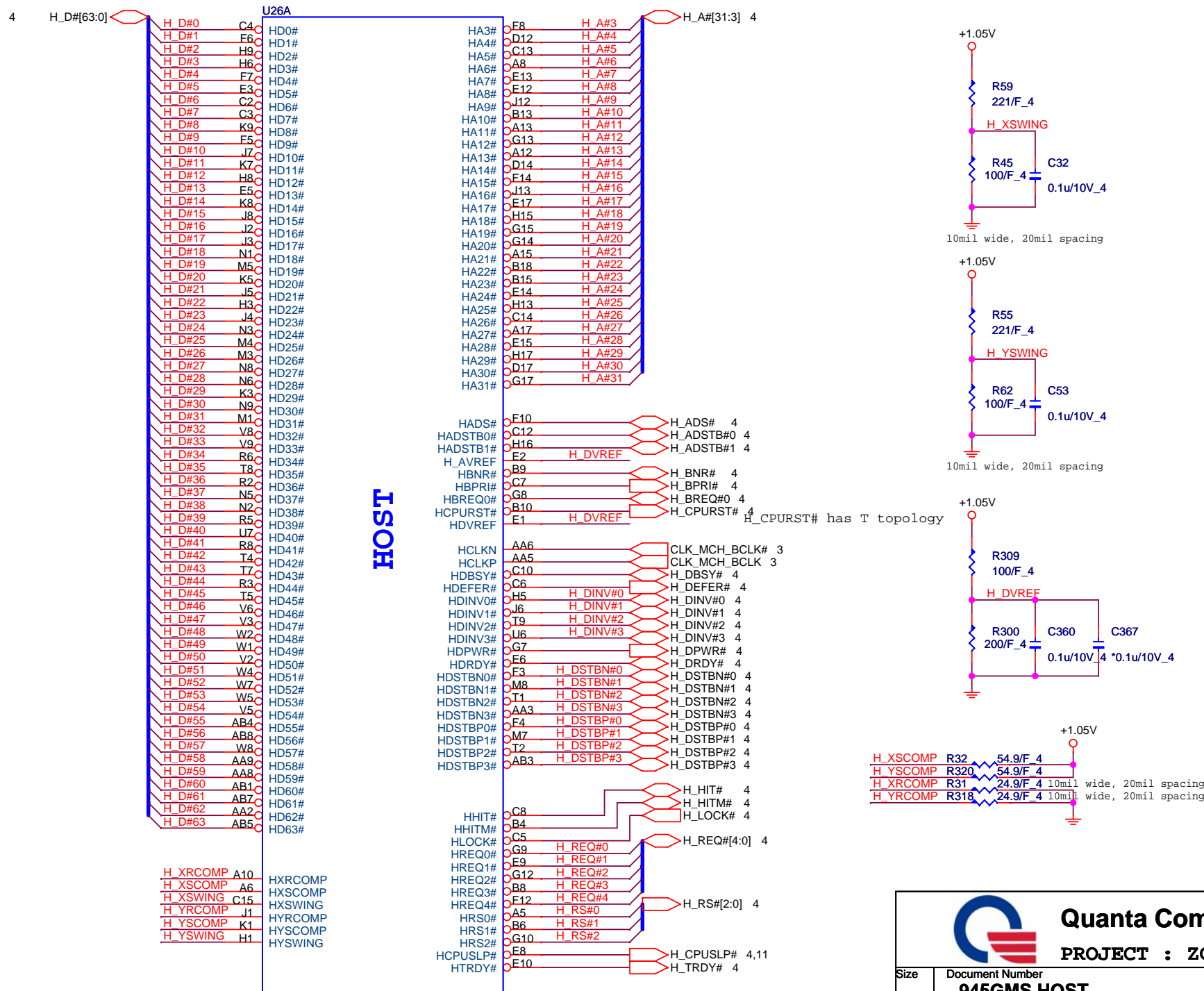
Rev : B
No stuff - R37 ,R38 ,R39 ,R40 ,R70 ,R90 ,R98 from Intel info.



Quanta Computer Inc.
PROJECT : ZG5

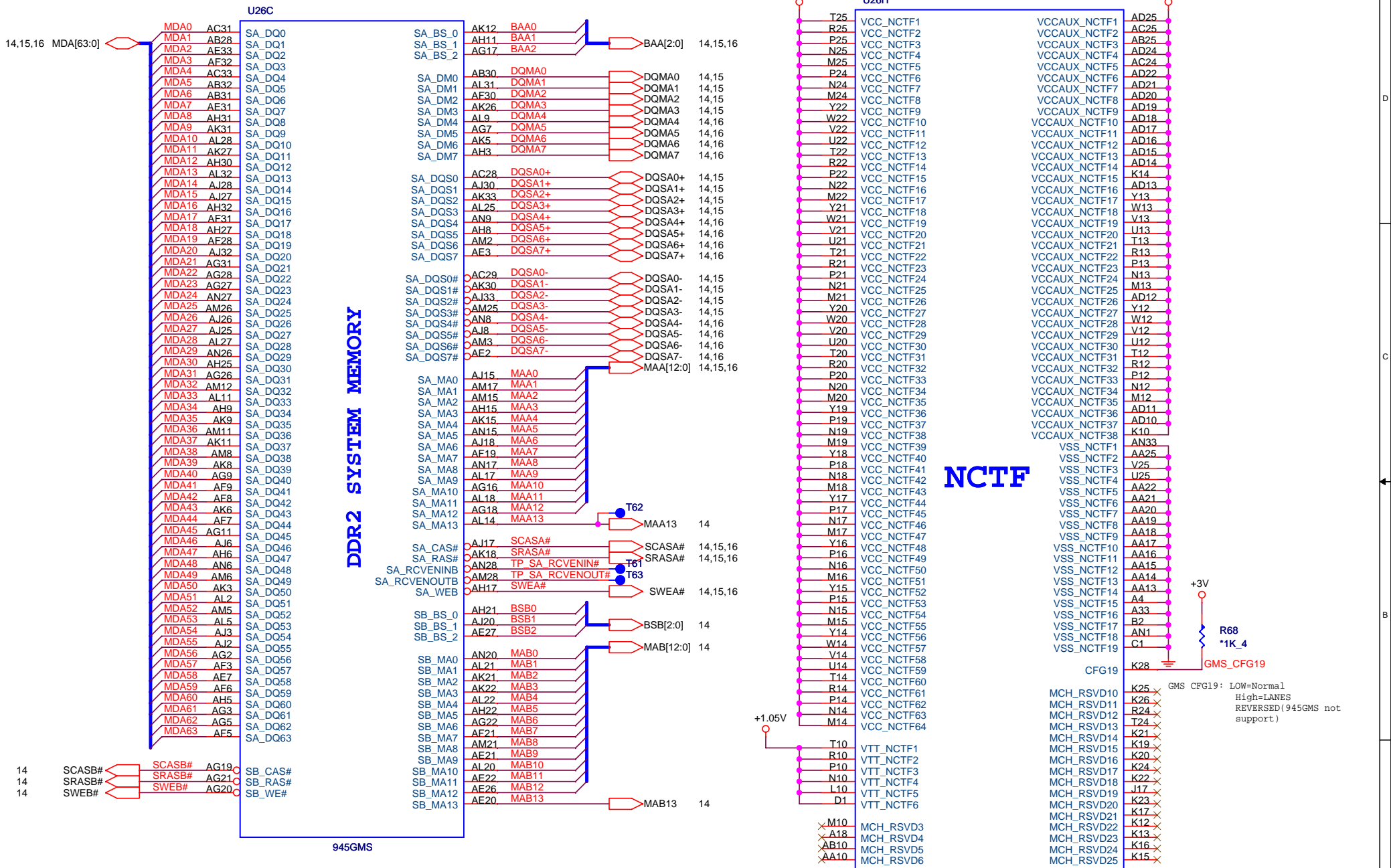
Size	Document Number	Rev
	Diamondville(1/2)	1A
Date:	Thursday, June 05, 2008	Sheet 4 of 34





Quanta Computer Inc.
PROJECT : ZG5

Size	Document Number	Rev
	945GMS HOST	1A
Date:	Thursday, June 05, 2008	Sheet 6 of 34



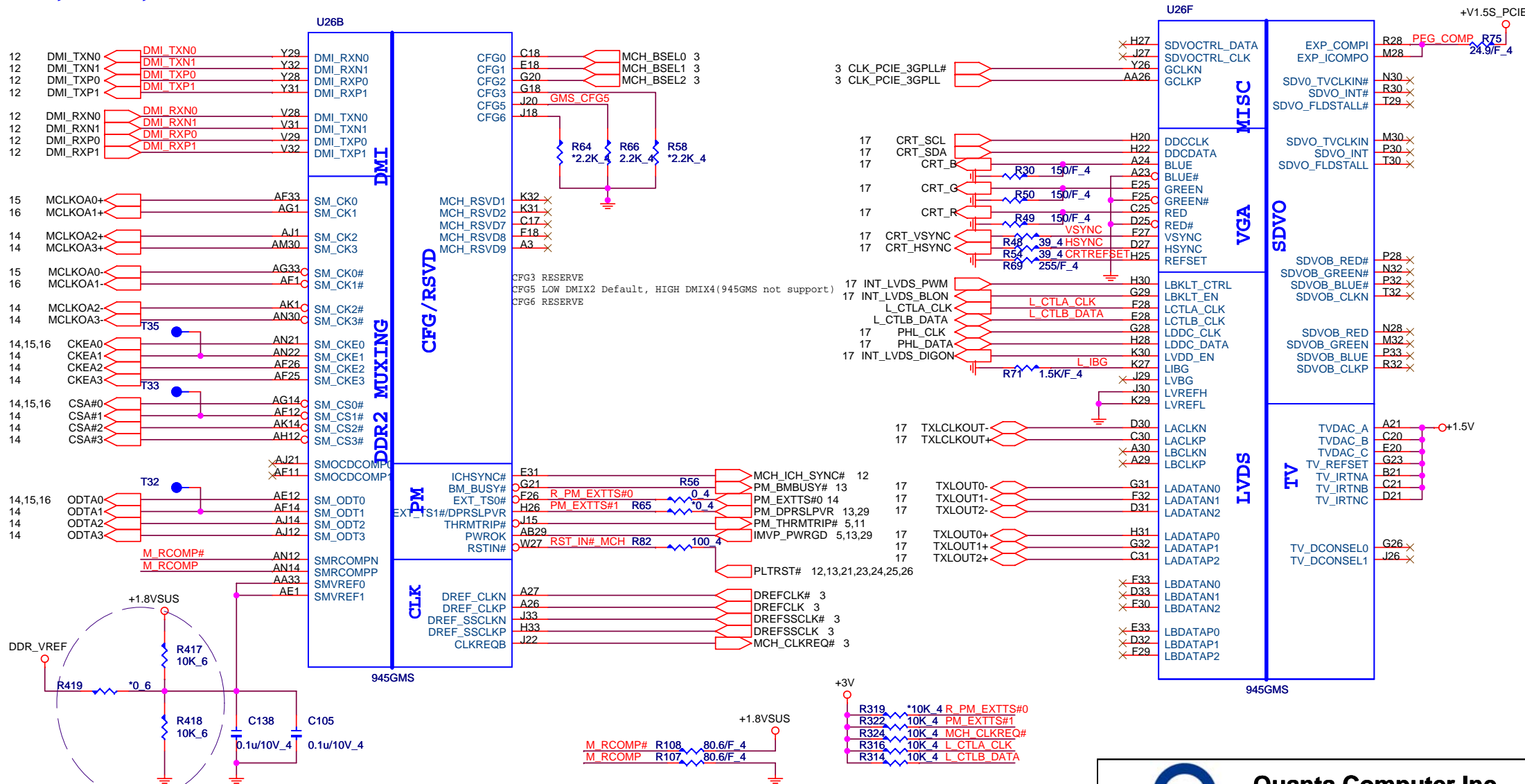
Quanta Computer Inc.

PROJECT : ZG5

Size	Document Number	Rev
	945GMS DDR	1A
Date:	Thursday, June 05, 2008	Sheet 7 of 34

DMI, LVDS, DDR CLK

08



rev. D
Add in R417 , R418 , R419

Quanta Computer Inc.
PROJECT : ZG5

Size	Document Number	Rev
	945GMS LVDS, DMI, DDR CLK	1A
Date:	Thursday, June 05, 2008	Sheet 8 of 34

AH33	VSS1	VSS111	J16
V33	VSS2	VSS112	AL15
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
AG30	VSS25	VSS135	W9
AE30	VSS26	VSS136	M9
AC30	VSS27	VSS137	J9
AA30	VSS28	VSS138	F9
Y30	VSS29	VSS139	C9
V30	VSS30	VSS140	A9
U30	VSS31	VSS141	AL8
G30	VSS32	VSS142	AG8
E30	VSS33	VSS143	AE8
B30	VSS34	VSS144	U8
AA29	VSS35	VSS145	AA7
U29	VSS36	VSS146	V7
R29	VSS37	VSS147	R7
P29	VSS38	VSS148	N7
N29	VSS39	VSS149	H7
M29	VSS40	VSS150	E7
H29	VSS41	VSS151	B7
E29	VSS42	VSS152	AL6
B29	VSS43	VSS153	AG6
AK28	VSS44	VSS154	AE6
AH28	VSS45	VSS155	AB6
AE28	VSS46	VSS156	W6
AC28	VSS47	VSS157	T6
U28	VSS48	VSS158	M6
T28	VSS49	VSS159	K6
J28	VSS50	VSS160	AN5
D28	VSS51	VSS161	AJ5
AM27	VSS52	VSS162	B5
AF27	VSS53	VSS163	AA4
AB27	VSS54	VSS164	V4
AA27	VSS55	VSS165	R4
Y27	VSS56	VSS166	N4
U27	VSS57	VSS167	K4
T27	VSS58	VSS168	H4
R27	VSS59	VSS169	E4
P27	VSS60	VSS170	AL3
N27	VSS61	VSS171	AD3
M27	VSS62	VSS172	W3
G27	VSS63	VSS173	T3
E27	VSS64	VSS174	B3
C27	VSS65	VSS175	AK2
B27	VSS66	VSS176	AH2
AL26	VSS67	VSS177	AF2
AH26	VSS68	VSS178	AB2
W26	VSS69	VSS179	M2
U26	VSS70	VSS180	K2
AN25	VSS71	VSS181	H2
AK25	VSS72	VSS182	F2
AG25	VSS73	VSS183	V1
AE25	VSS74	VSS184	R1
J25	VSS75	VSS185	
G25	VSS76		
A25	VSS77		
H23	VSS78		
F23	VSS79		
B23	VSS80		
AM22	VSS81		
AJ22	VSS82		
AF22	VSS83		
G22	VSS84		
F22	VSS85		
J21	VSS86		
H21	VSS87		
E21	VSS88		
AM20	VSS89		
AK20	VSS90		
AH20	VSS91		
AF20	VSS92		
D20	VSS93		
W19	VSS94		
R19	VSS95		
AM18	VSS96		
AH18	VSS97		
AF18	VSS98		
U18	VSS99		
H18	VSS100		
D18	VSS101		
AK17	VSS102		
V17	VSS103		
T17	VSS104		
F17	VSS105		
B17	VSS106		
H16	VSS107		
G16	VSS108		
A16	VSS109		
V16	VSS110		

VSS

U26E
945GMS

U26G


W33	NC1	NC61	W30
AM33	NC2	NC62	Y6
AL33	NC3	NC63	AL1
C33	NC4	NC64	Y5
B33	NC5	NC65	Y10
AN32	NC6	NC66	W10
A32	NC7	NC67	W25
AN31	NC8	NC68	V24
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		
AK19	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		
A19	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		
AD4	NC52		
AL4	NC53		
AK4	NC54		
W31	NC55		
AJ4	NC56		
AH4	NC57		
AG4	NC58		
AE4	NC59		
AM1	NC60		

NC

945GMS

MCH_RSVD26	Y25
MCH_RSVD27	Y24
MCH_RSVD28	AB22
MCH_RSVD29	AB21
MCH_RSVD30	AB19
MCH_RSVD31	AB16
MCH_RSVD32	AB14
MCH_RSVD33	AA12
MCH_RSVD34	W24
MCH_RSVD35	AA24
MCH_RSVD36	AB24
MCH_RSVD37	AB20
MCH_RSVD38	AB18
MCH_RSVD39	AB15
MCH_RSVD40	AB13
MCH_RSVD41	AB12
MCH_RSVD42	AB17

10



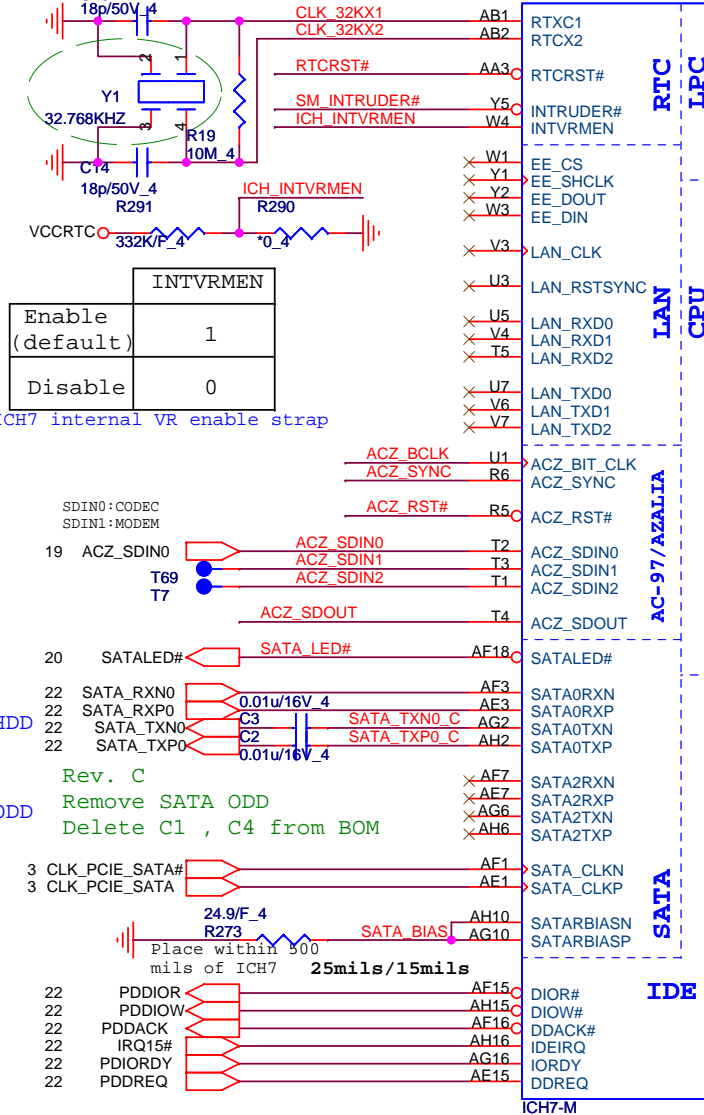
Quanta Computer Inc.
PROJECT : ZG5

Size	Document Number	Rev
	945GMS GND	1A
Date:	Thursday, June 05, 2008	Sheet 10 of 34

ICH7M

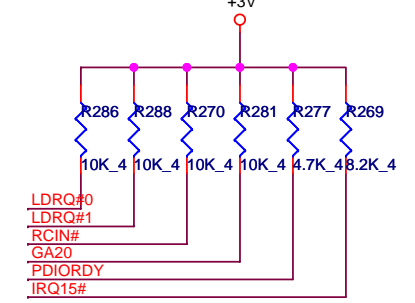
Rev. C

Change x'tal package to low profile

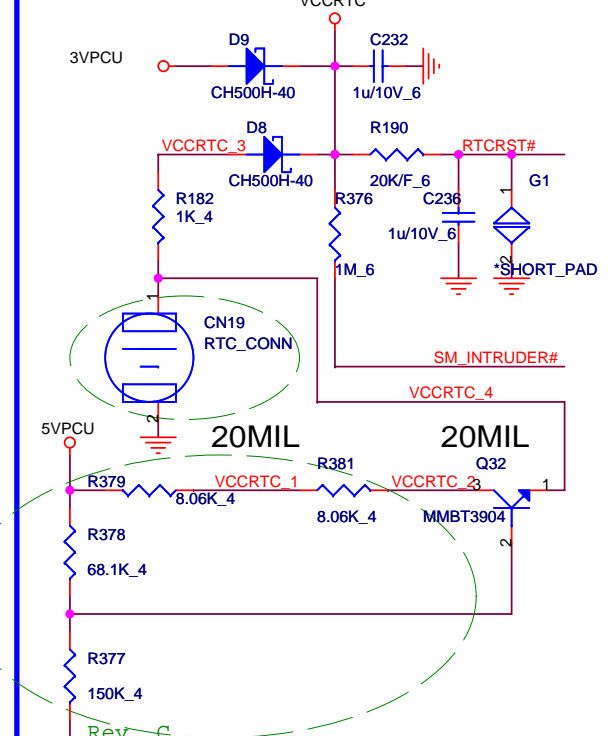


Pull-UP

11



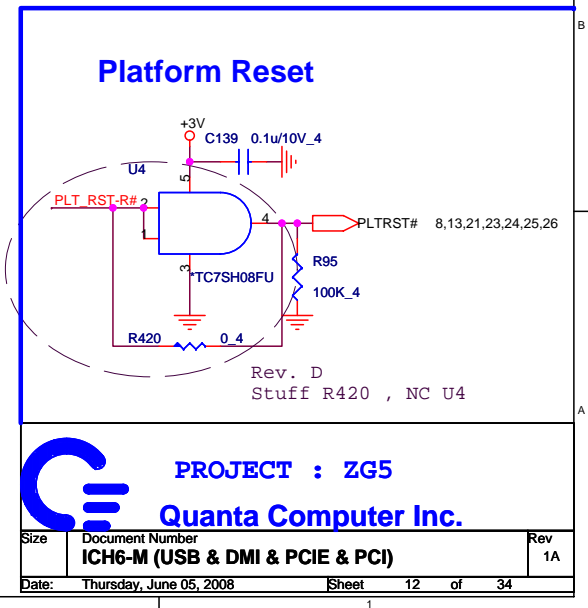
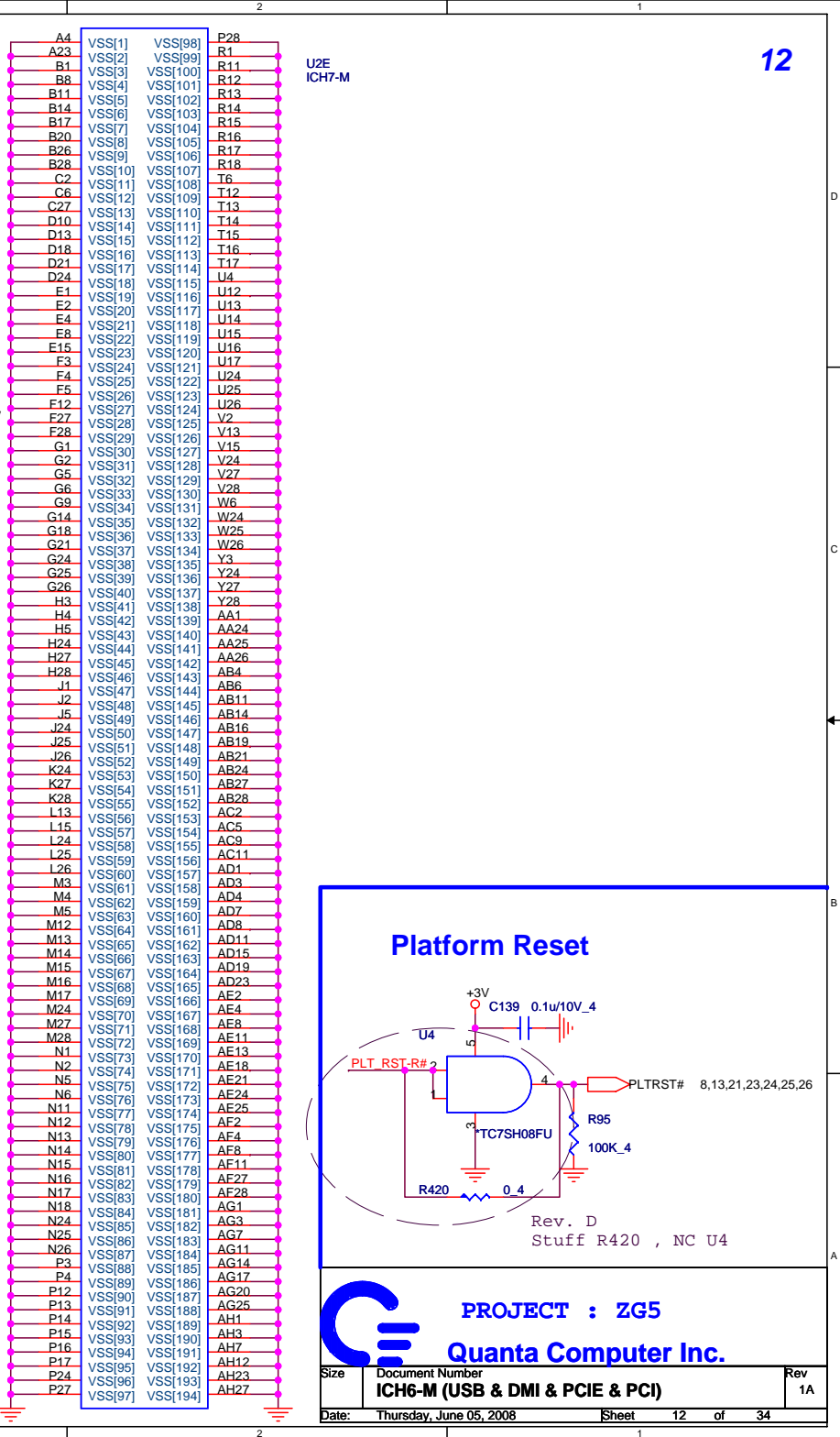
RTC

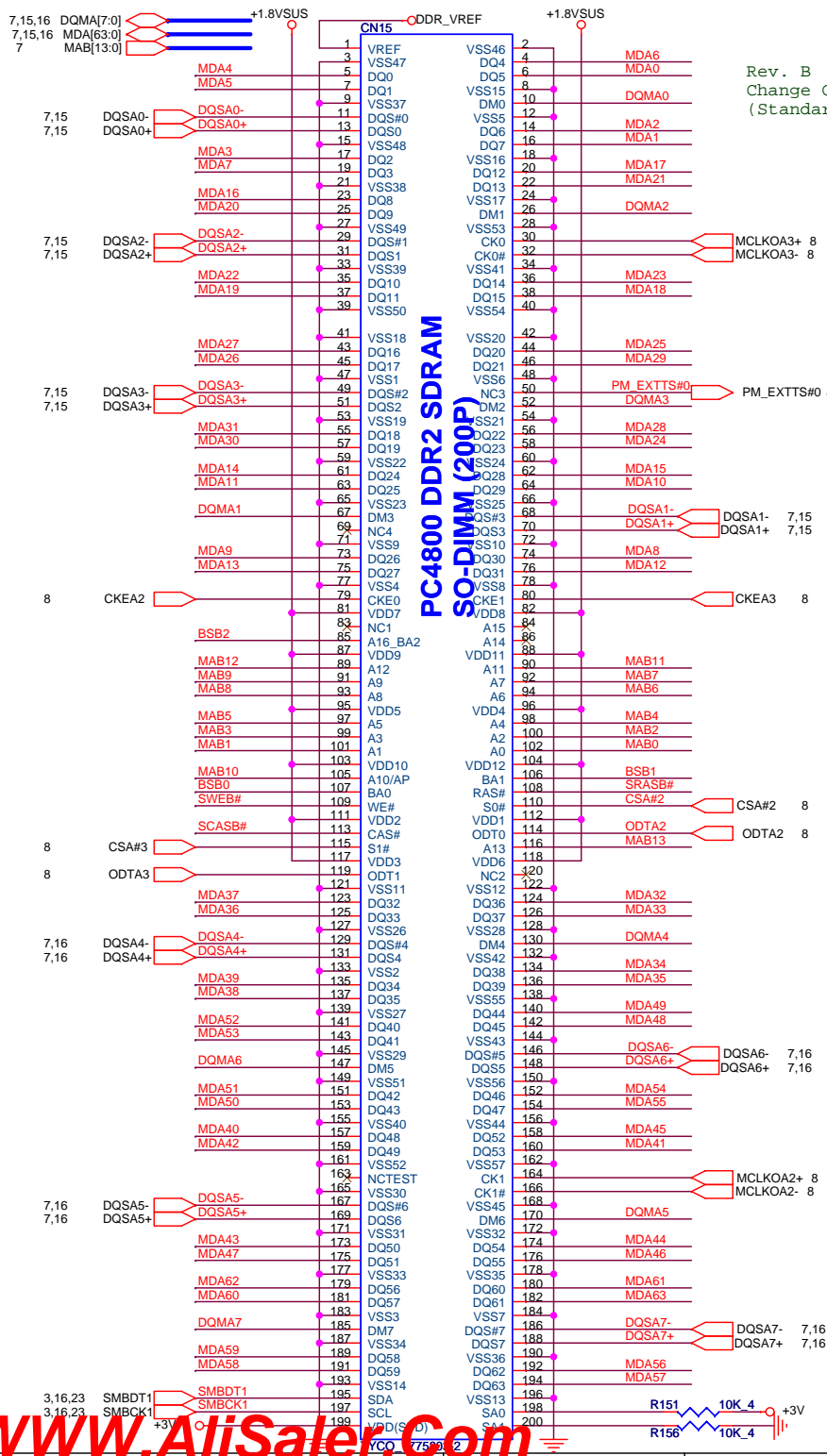


Rev. C
Change RTC battery holder
Change R379, R381, R378
, R377 value for RTC charge function

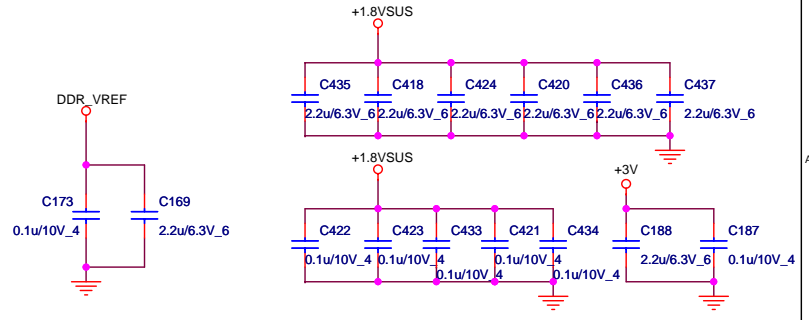
COMPONENTS	P/N
945GM	AJSL8Z20T25
ICH7-M	AJSL8YB0T21

PROJECT : ZG5	
Quanta Computer Inc.	
Size	Document Number
ICH7-M (CPU, SATA, IDE, LPC)	
Rev	1A
Date:	Thursday, June 05, 2008
Sheet	11 of 34

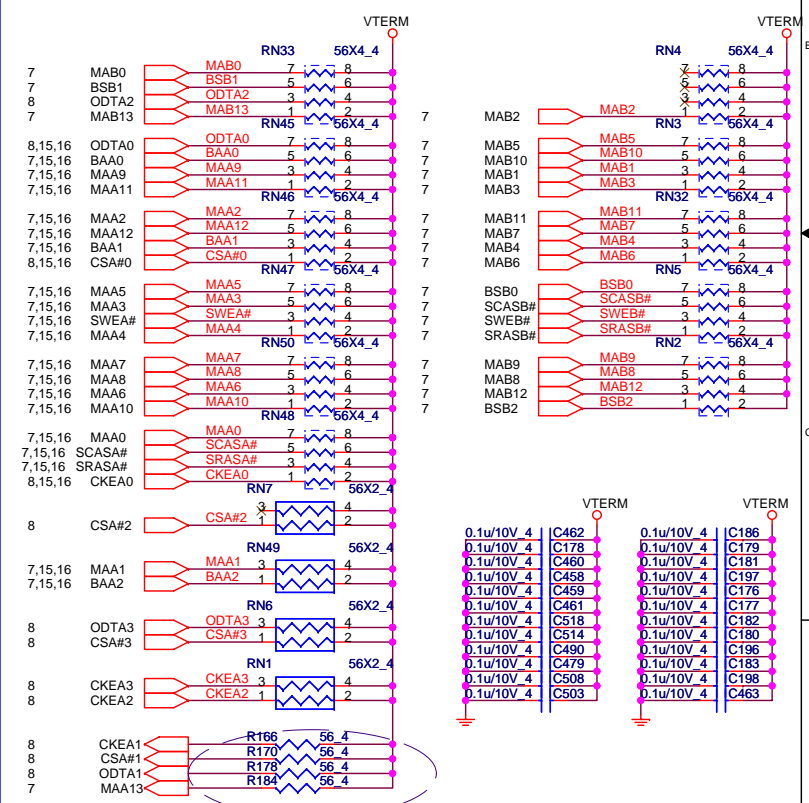




Close to DIMM




Termination resistor



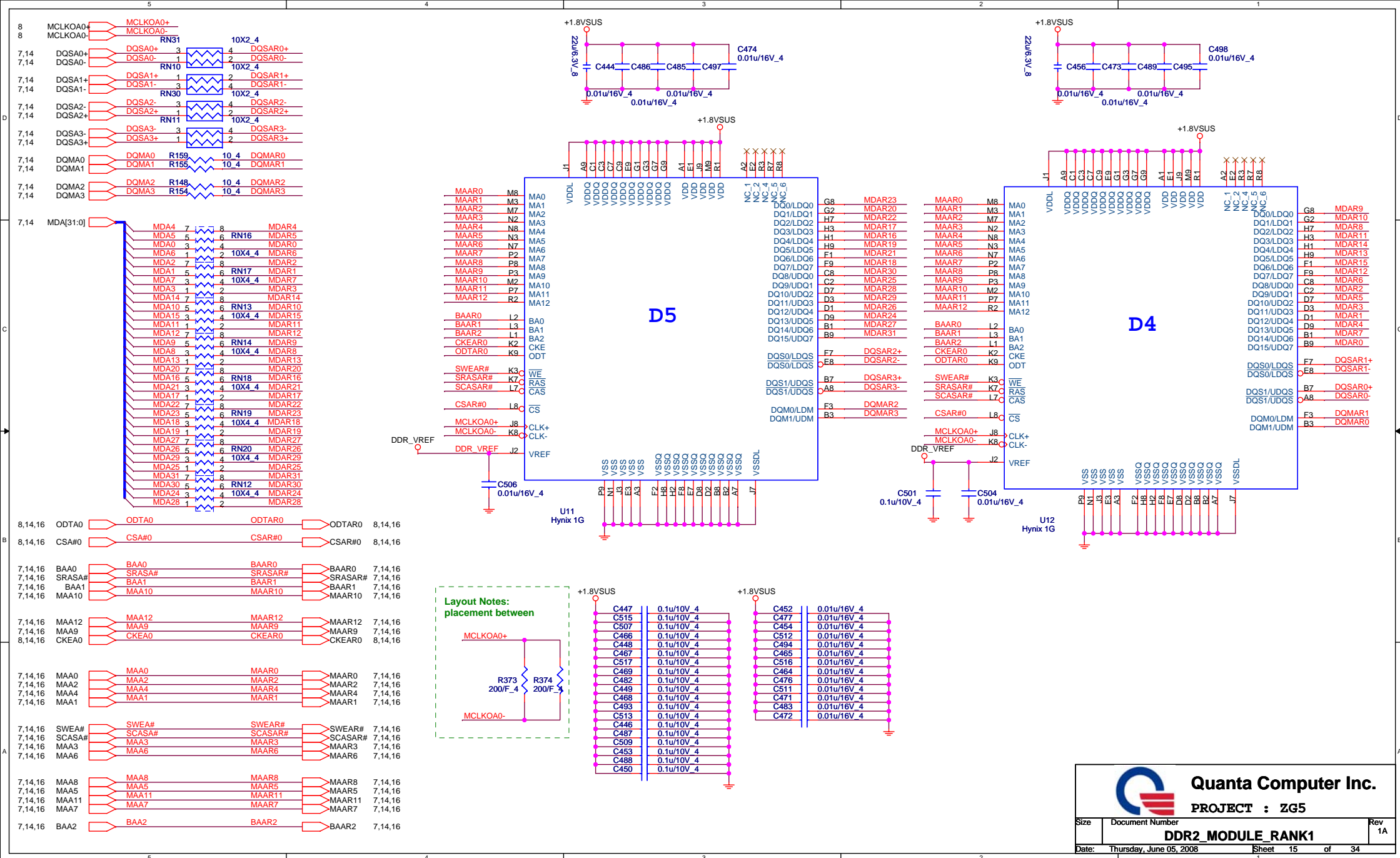
rev. D
Add in R166 , R170 , R178 , R184

SMbus address A1
CLOCK 1,2
CKE 2,3
Standard Type H: 5.2mm



Quanta Computer Inc.
PROJECT : ZG5

Size	Document Number	Rev
	DDR2 SO-DIMM(200P)	1A
Date:	Thursday, June 05, 2008	Sheet 14 of 34

**Quanta Computer Inc.**

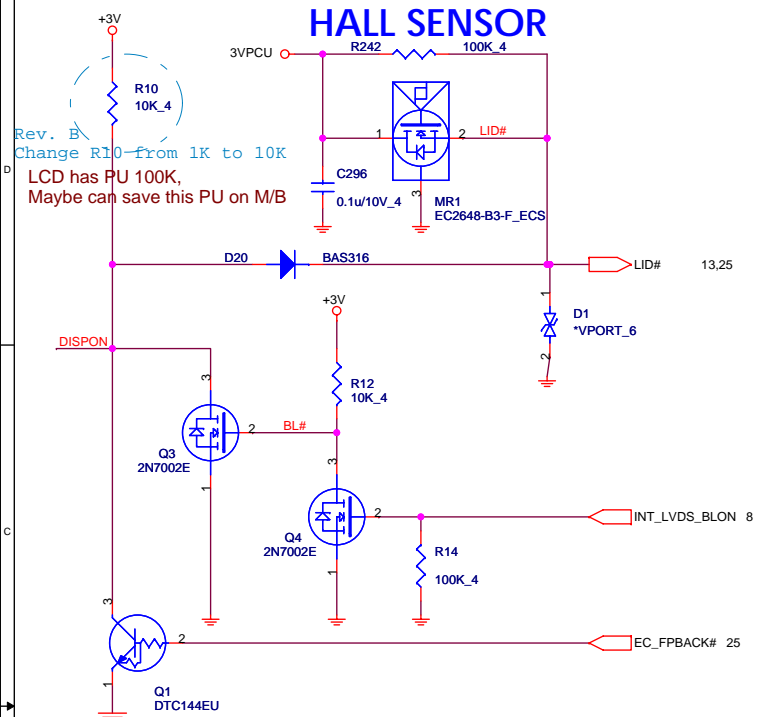
PROJECT : ZG5

DDR2 MODULE RANK1

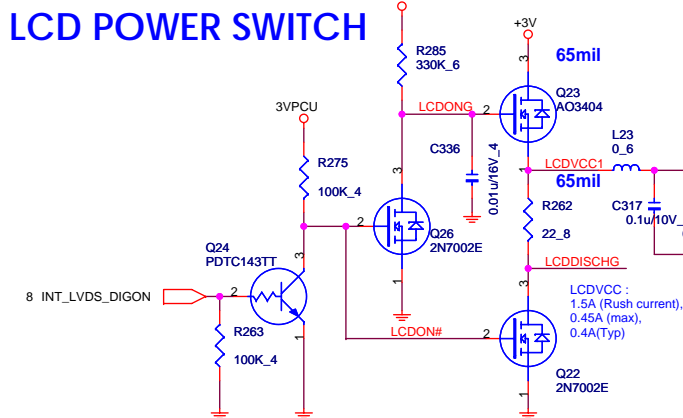
Size	Document Number	Rev
	DDR2_MODULE_RANK1	1A
Date:	Thursday, June 05, 2008	Sheet 15 of 34



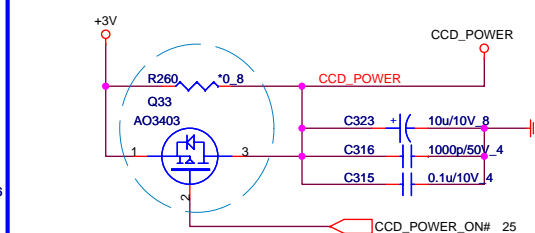
HALL SENSOR



LCD POWER SWITCH

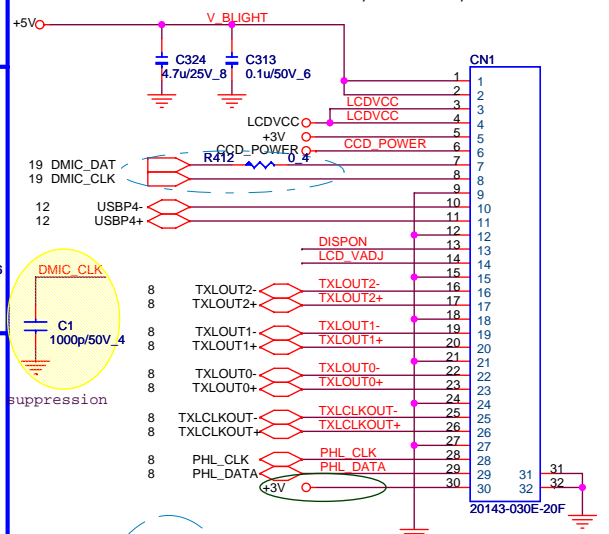


CAMERA POWER

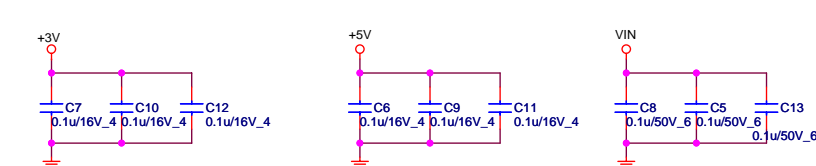


LCD MODULE *V_BLIGHT*
8.9"(5.5V): ZG5 supply 5V

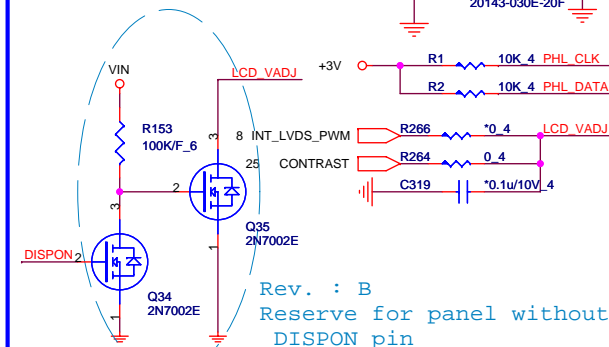
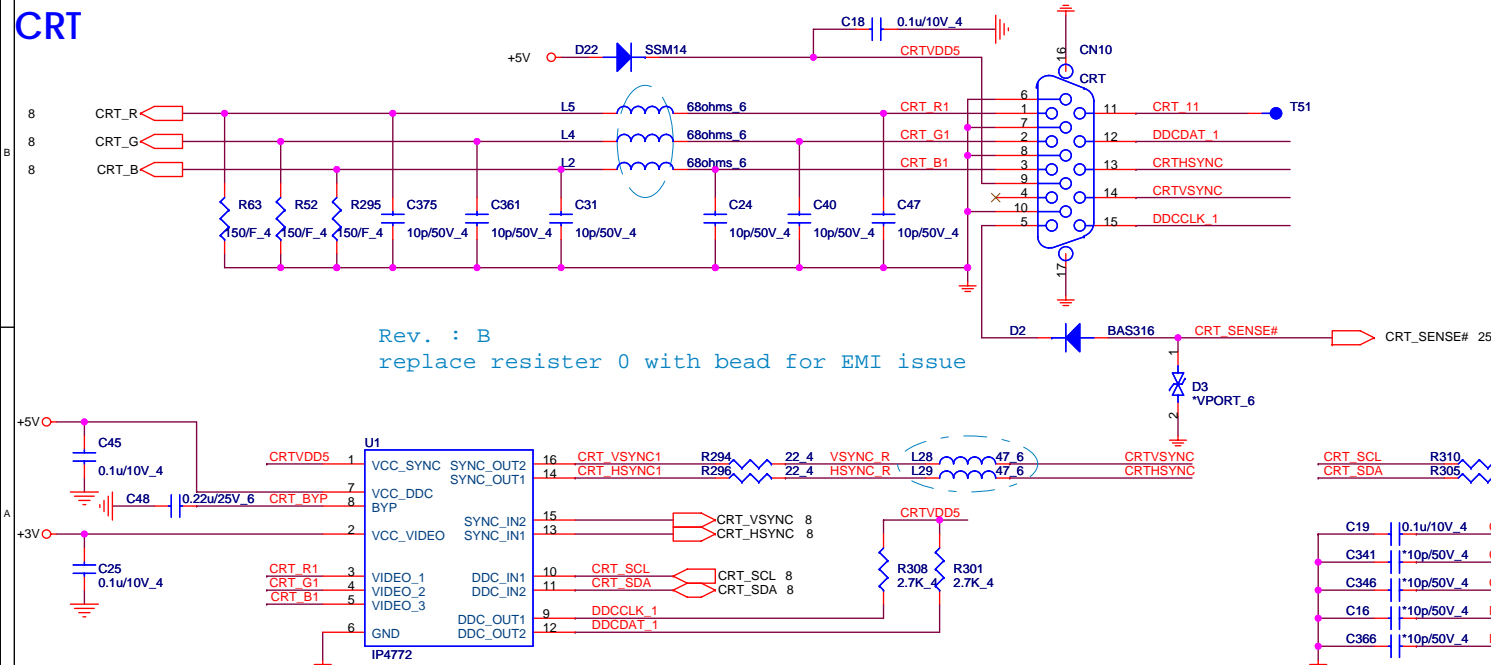
Rev. : B
Remove L25 , C321 , R261



EMI reserve



CRT

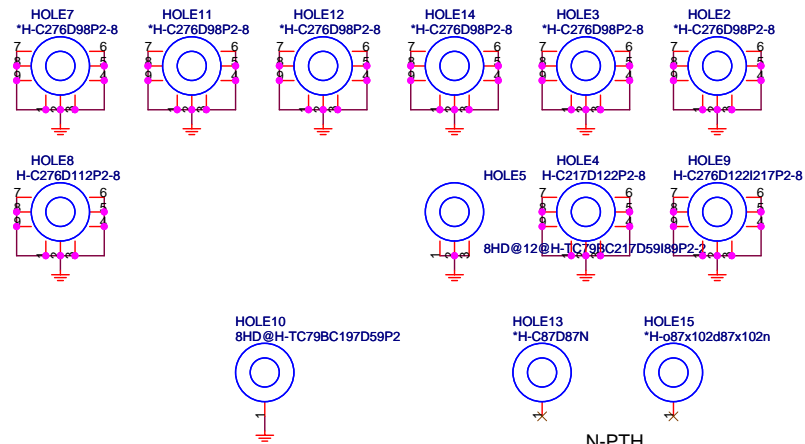
**Quanta Computer Inc.**

PROJECT : ZG5

Size	Document Number	Rev
	CRT/LVDS	1A

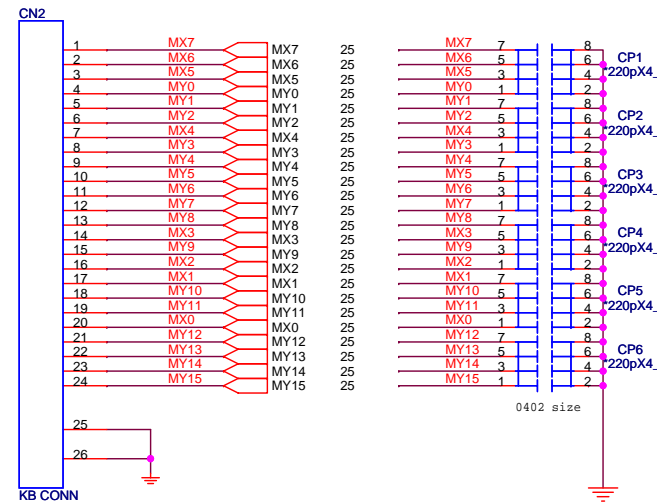
Date: Thursday, June 05, 2008 Sheet 17 of 34

SCREW HOLE



Rev. : B
Remove HOLE 1 , HOLE 6
Add HOLE 15

KEYBOARD



12" TOUCH PAD BOARD

Rev. : B
Remove T/P conn.-CN4 , C210 , C206 , C207

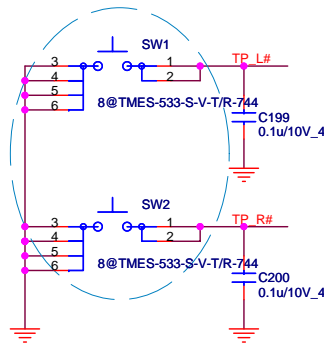
MM20050ICI2 CF@ x 2, HD@ x 2, ODD@ x 2

SSD x 2

HDD x 2

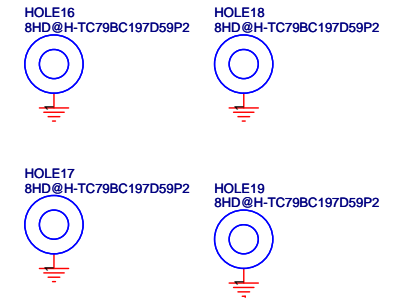
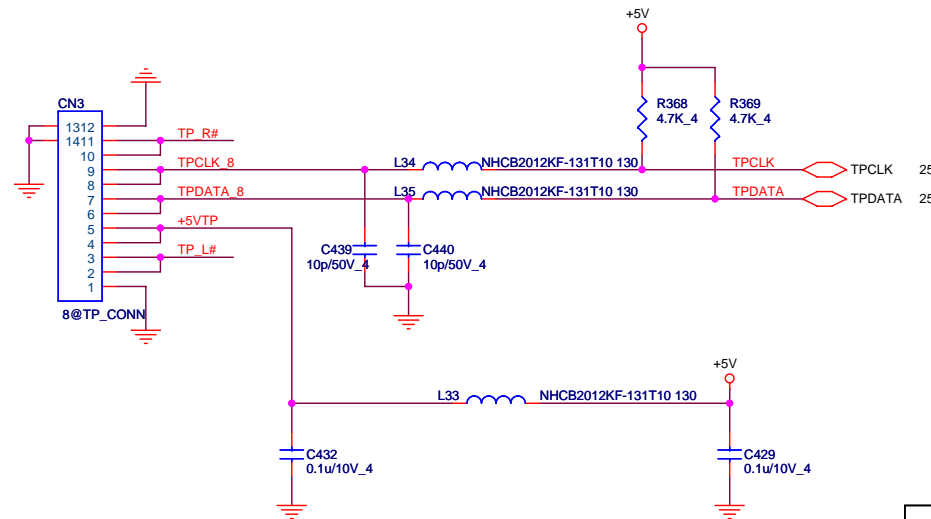
12" x 4

8.9" TOUCH PAD CONNECTOR



Rev. : B
Swap pin2 & 3 for touch pad
function fail .

Rev. : C
SMT line suggest to change switch P/N



Quanta Computer Inc.

PROJECT : ZG5

Size	Document Number	Rev 1A
Date	Thursday, June 05, 2008	Sheet 18 of 34

Speaker Amplifier

The schematic diagram illustrates a Speaker Amplifier circuit. The circuit is powered by +5V_ADO and +3V_AVD. It features a U18 operational amplifier (G1441) configured as a voltage follower. The input stage includes two channels: FRONT-L and FRONT-R, each with a 2.2µF/6.3V capacitor (C263, C255) and a 10KΩ resistor (R214, R205). The output stage includes two channels: INSPKL+ and INSPKR+, each with a 10KΩ resistor (R389, R386) and a 330pF capacitor (C525, C524). The output is connected to a 1u10V_6 capacitor (C527) and a 1u10V_6 capacitor (C527). The circuit also includes a 1441 MUTE pin (pin 5) connected to ADOGND via a 0.4Ω resistor (R388) and a SE/BTL pin (pin 11) connected to ADOGND via a 0.4Ω resistor (R388). The output is connected to a 1u10V_6 capacitor (C527) and a 1u10V_6 capacitor (C527).

SPEAKER

INSPKR- L15 0.6 INSPKR-N

INSPKR+ L14 0.6 INSPKR+N

INSPKL- L16 0.6 INSPKL-N

INSPKL+ L13 0.6 INSPKL+N

CN5

1
25
36
4

C244

*180p/50V_4

C245

*180p/50V_4

C246

*180p/50V_4

C247

SPEAKER-CC

17

[illegible]

LINE OUT Amplifier

Gain = $-(R_f/R_i)$

LINE OUT

Rev. : C
Change L19 , L20 to res 56ohms
Vendor suggestion

MDC

Rev. : B

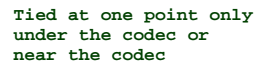
Remove CN9 , R26 , R22 , R297 ,
R289 , C342 , C343 , C347

Rev. : B
Remove CN9 , R26 , R22 , R297 ,
R289 , C342 , C343 , C347

12.1" Audio Conn.

Rev. : B

Remove CN22 , CN20 , CN24 , R208 , R211 ,
R218 , R221 , R223 , R229 , C258 , C260 ,
C264 , C265 , C267 , C274 , R235 , R236 ,
R189 , C228 , C289



INT. MIC.

Rev. : B
Remove R234 , R238 , C278
for internal-MIC

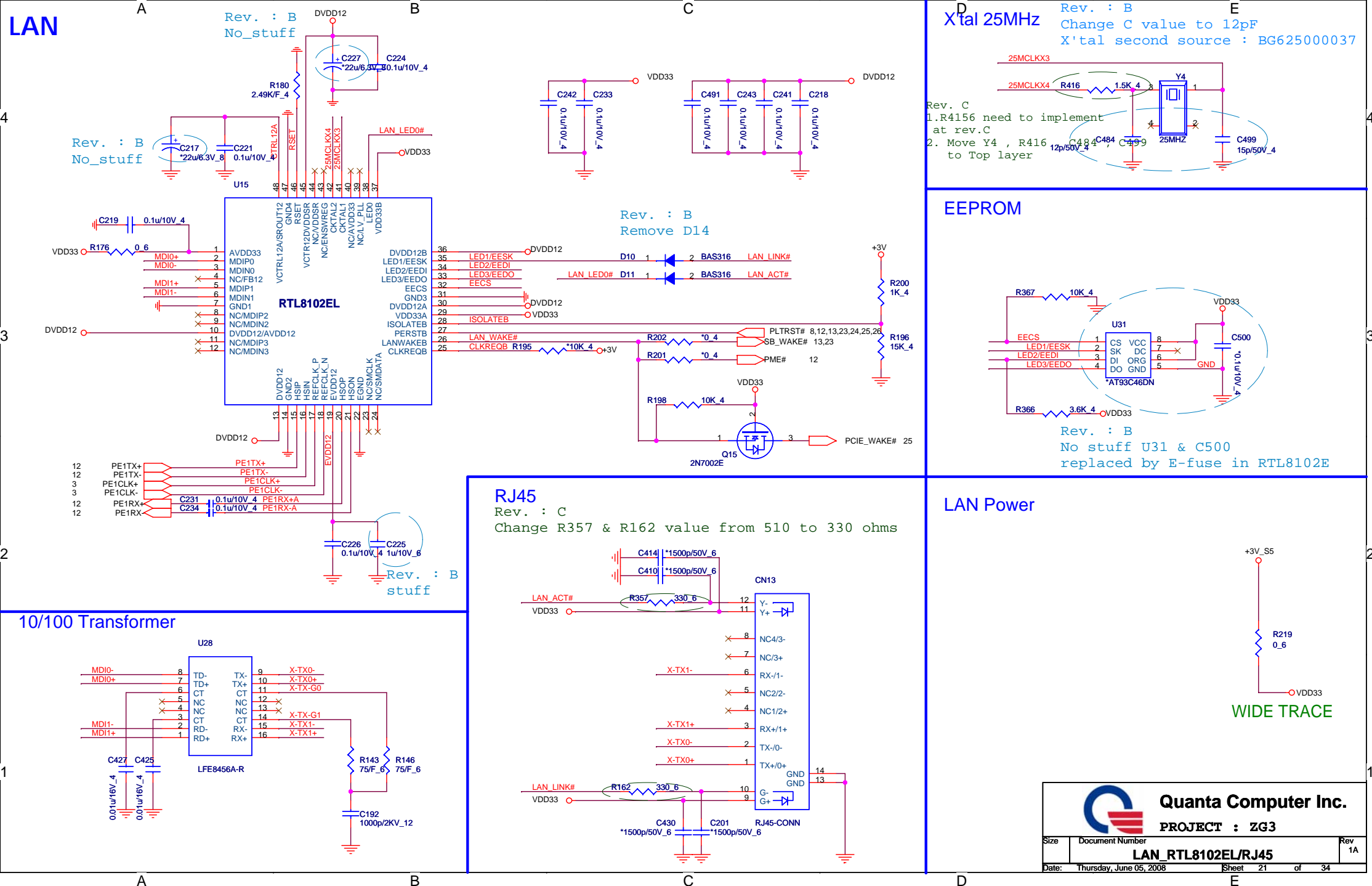
CLOSE U19

```
Rev. : B
Remove R234 , R238 , C278
for internal-MIC
```



Size	Document Number CODEC/AMP/MDC	Rev 1A
Date:	Thursday, June 05, 2008	Sheet 19 of 34

[illegible][illegible]

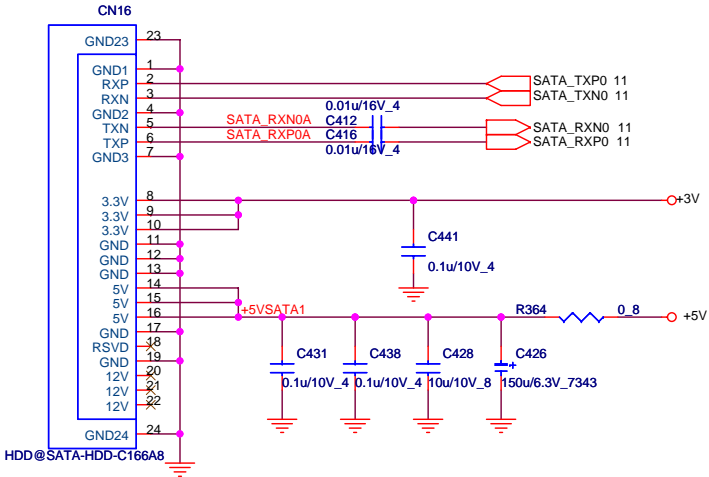


SATA HDD

SATA ODD

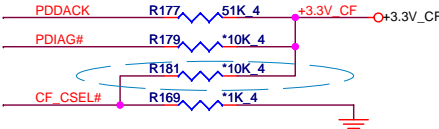
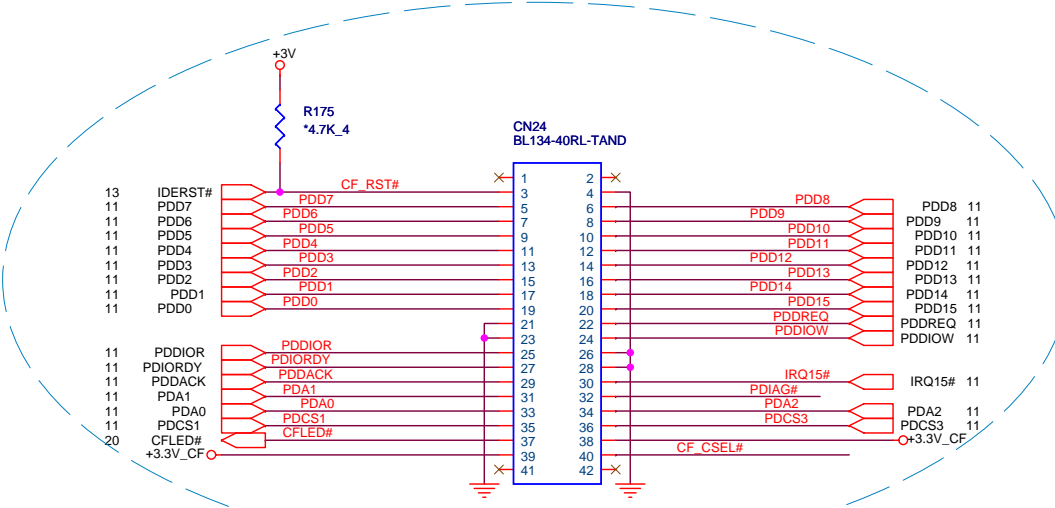
Rev. B
Remove R191 , C240 , C229 , C237 , C235 , C230

Rev. C
Remove SATA ODD
Delete C538 , C543 , R193 from BOM

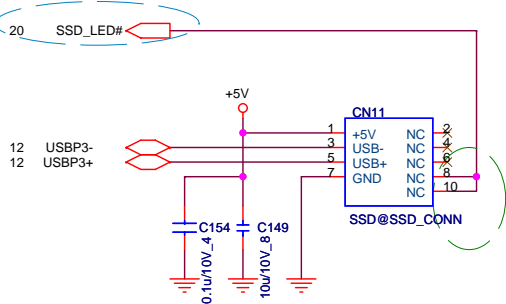
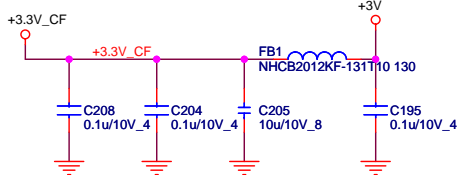


ZT4 card connector

SSD connector




Rev. : B
Change R169 to NA
Remove R166 , R153 , R184 , R135 , R181, R170



Rev. : C
Change pin 8 to low active
pin8 for sandisk
pin10 for intel

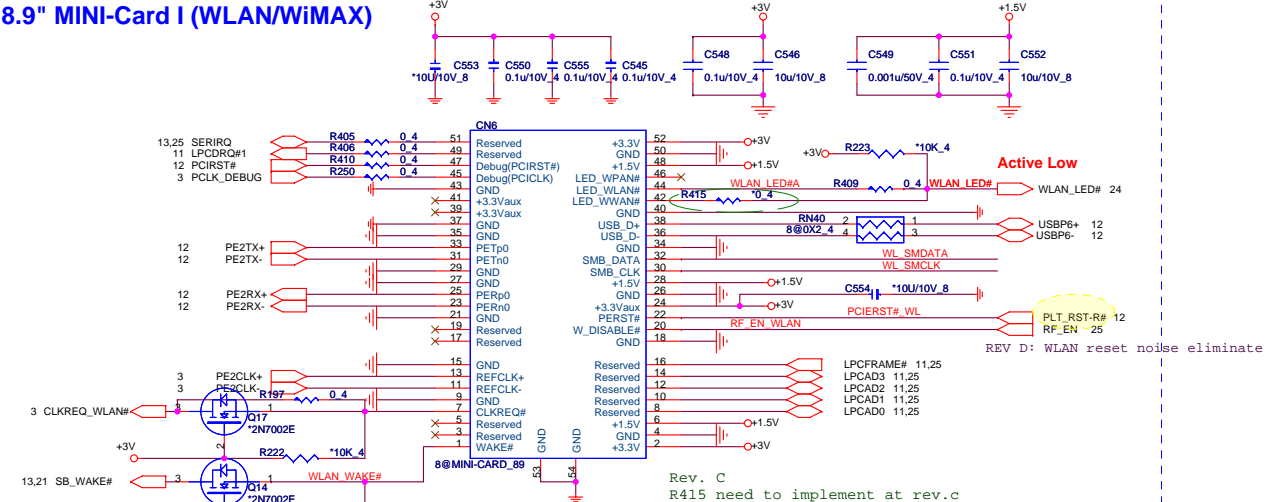
Rev. : B
Change connector from CF(CN17) to ZIF(CN24)
Change R172 from 33 to 0 ohms



Quanta Computer Inc.
PROJECT : ZG3

Size	Document Number	Rev 1A
SATA-HDD/ODD/CF/SSD		
Date: Thursday, June 05, 2008	Sheet 22 of 34	

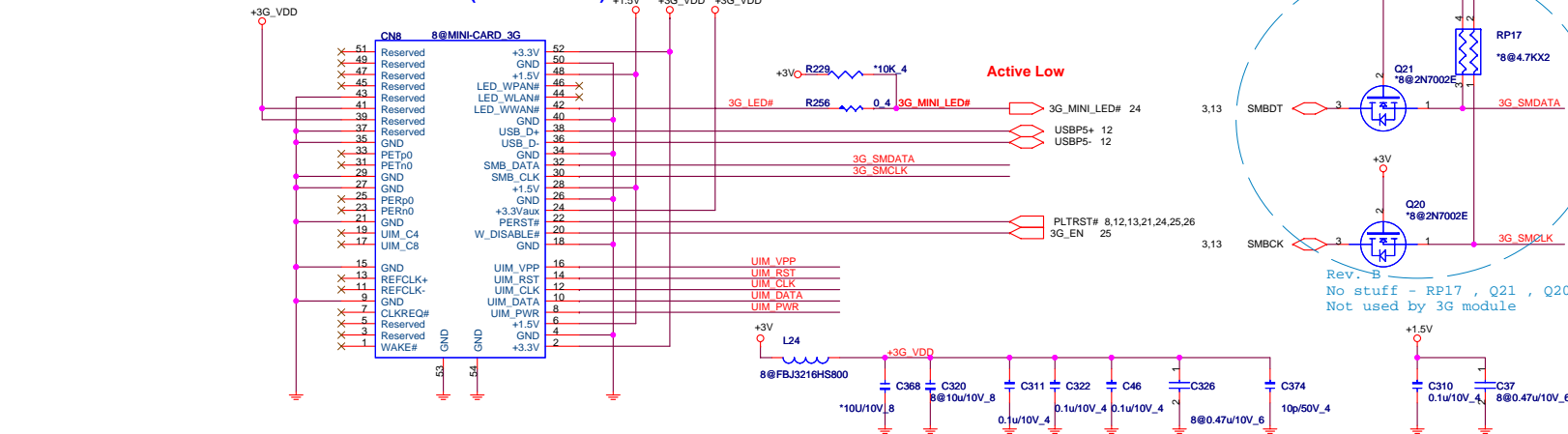
8.9" MINI-Card I (WLAN/WiMAX)



3G MINI CARD

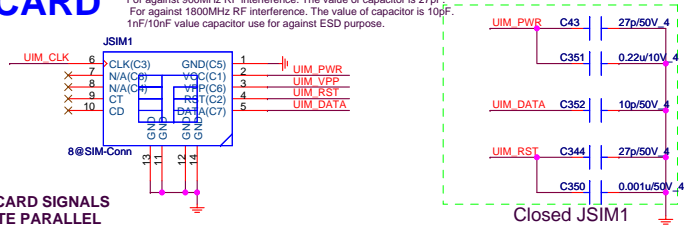
8.9": 8mm (DFHD52MS065)

12.1": 9.9mm (DFHS52FR018)

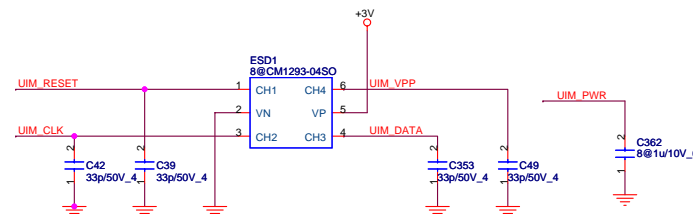


SIM CARD

The value of the capacitor is suggest by Siemens HQ expert.
For against 900MHz RF interference. The value of capacitor is 27pF.
For against 1800MHz RF interference. The value of capacitor is 10pF.
1nF/10nF value capacitor use for against ESD purpose.



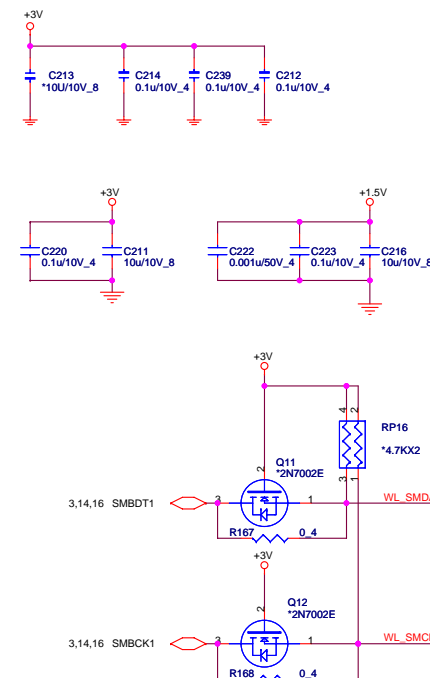
SIM CARD SIGNALS ROUTE PARALLEL



12.1" MINI-Card I (WLAN/ WiMAX)

Rev. : B

Remove CN14 , RN38 , RN39 , RN36



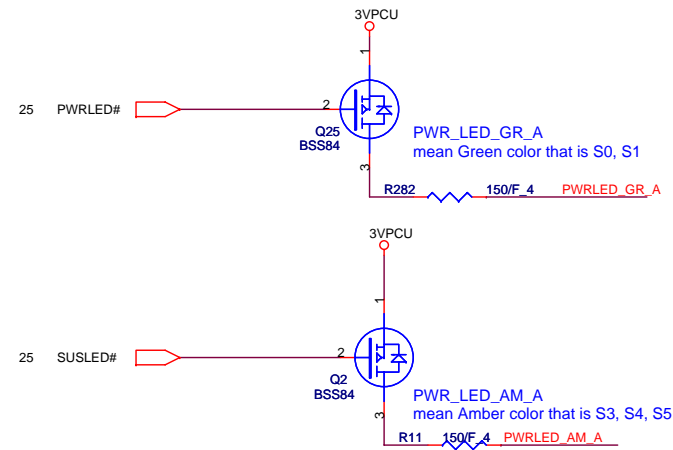
Rev. B
No stuff - RP17 , Q21 , Q20
Not used by 3G module

Rev. : B
Remove RN43 , RN44

USB#1=> 8.9" (Left side) or 12.1" (Right-Front side)

12" USB/PWR BTN Board USB/LED Board

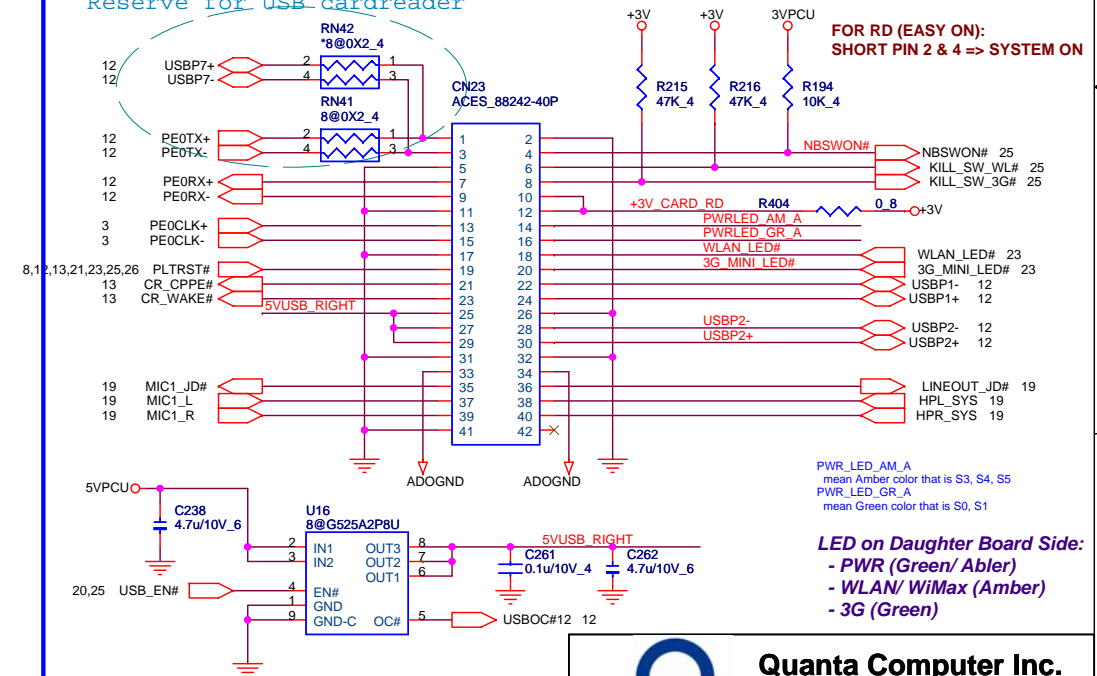
Rev. : B
Remove CN7 , CN26 , U23 , U3 ,
C286 , C300 , C75 ,C295



Rev. : B
Remove WLAN & 3G LED driving transistor
(Q19 , Q13 , R241 , R178)

8.9" Card-Reader / USB / Kill SW / POWER SW

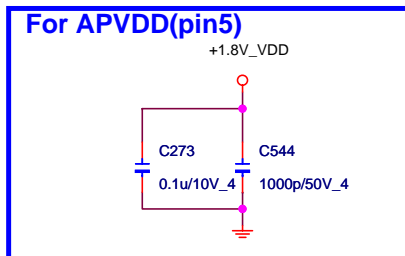
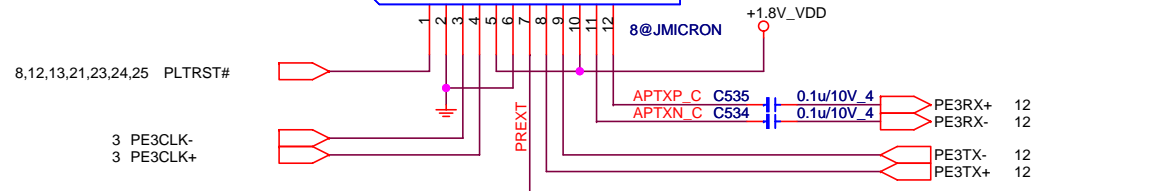
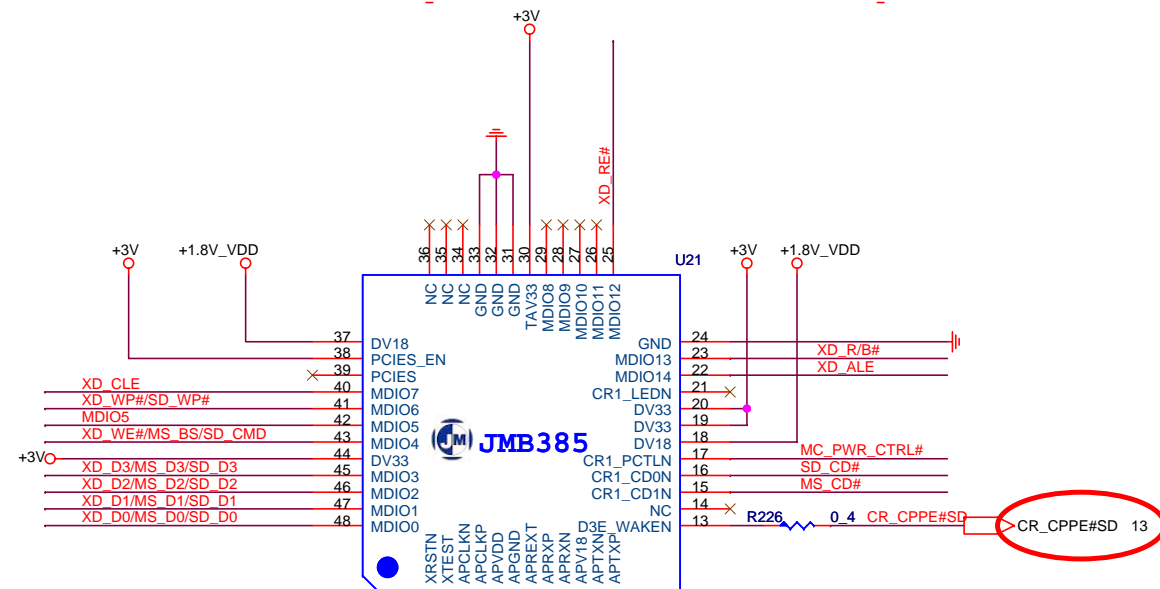
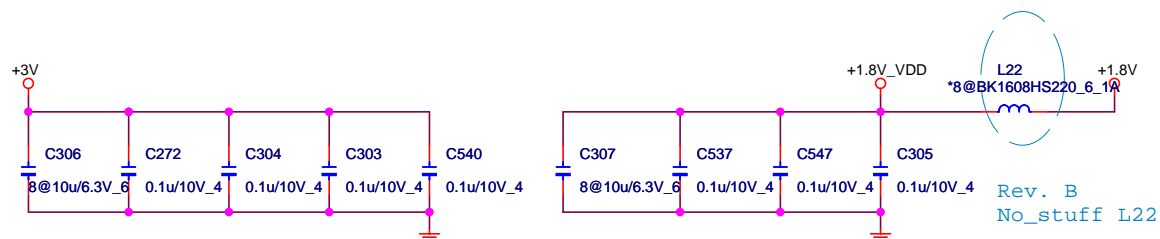
Rev. : B
Reserve for USB cardreader



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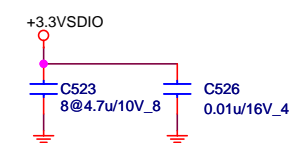
PROJECT : ZG3

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	PCle-Cardreader/External-USB	1A
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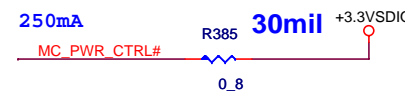


APVDD(pin5) must put C601/1000pF close to APVDD(pin5) (length must under 120mil) and trace width = 20mil, after C601, pls put one more 0.1uF for it.

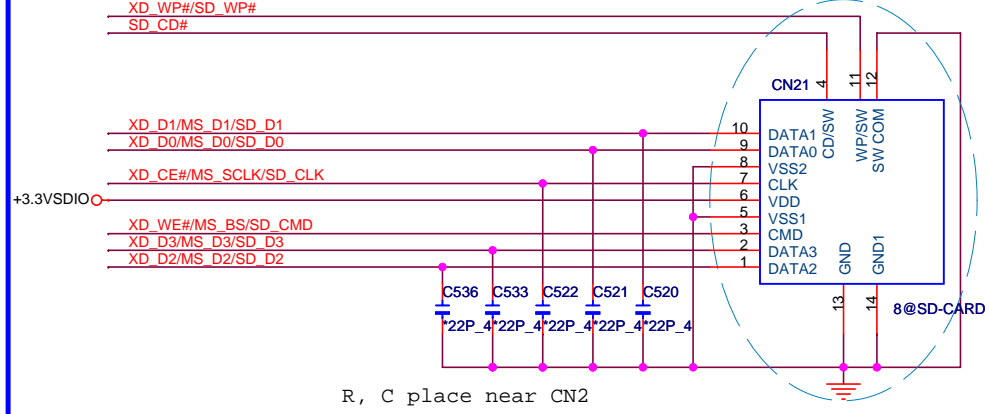
Memory Card Power Supply



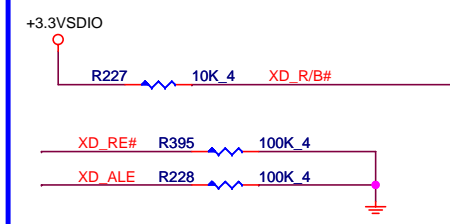
Use 0805 type and over 20 mils trace width on both side



SD CONNDETOR



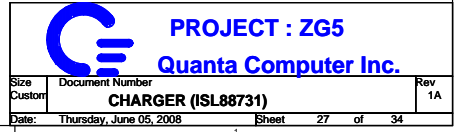
Rev. : B
Swap pin & change conn. P/N



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	JMB385 SIDO	1A
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65W Yellow DFPJ05MR007

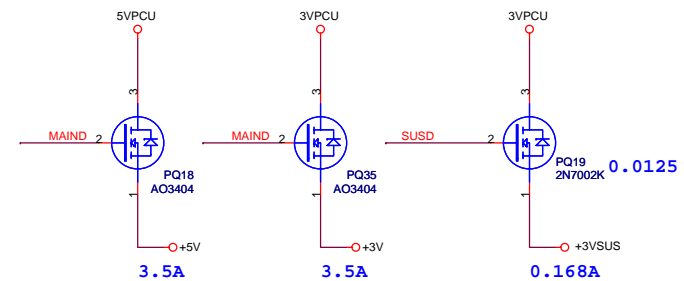
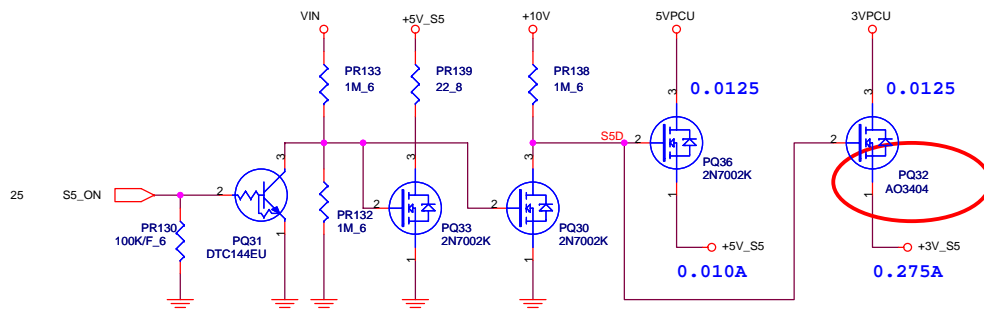
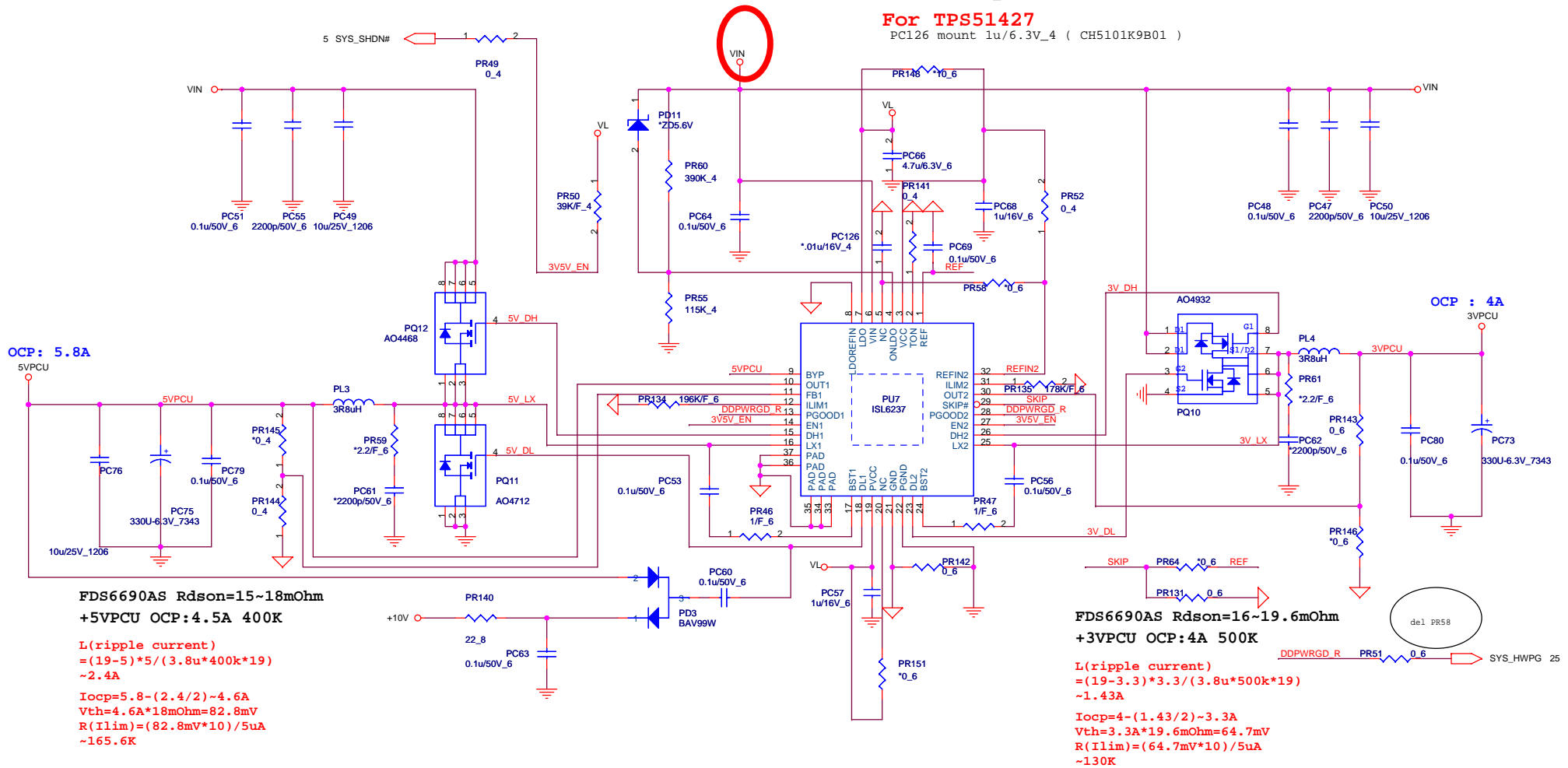


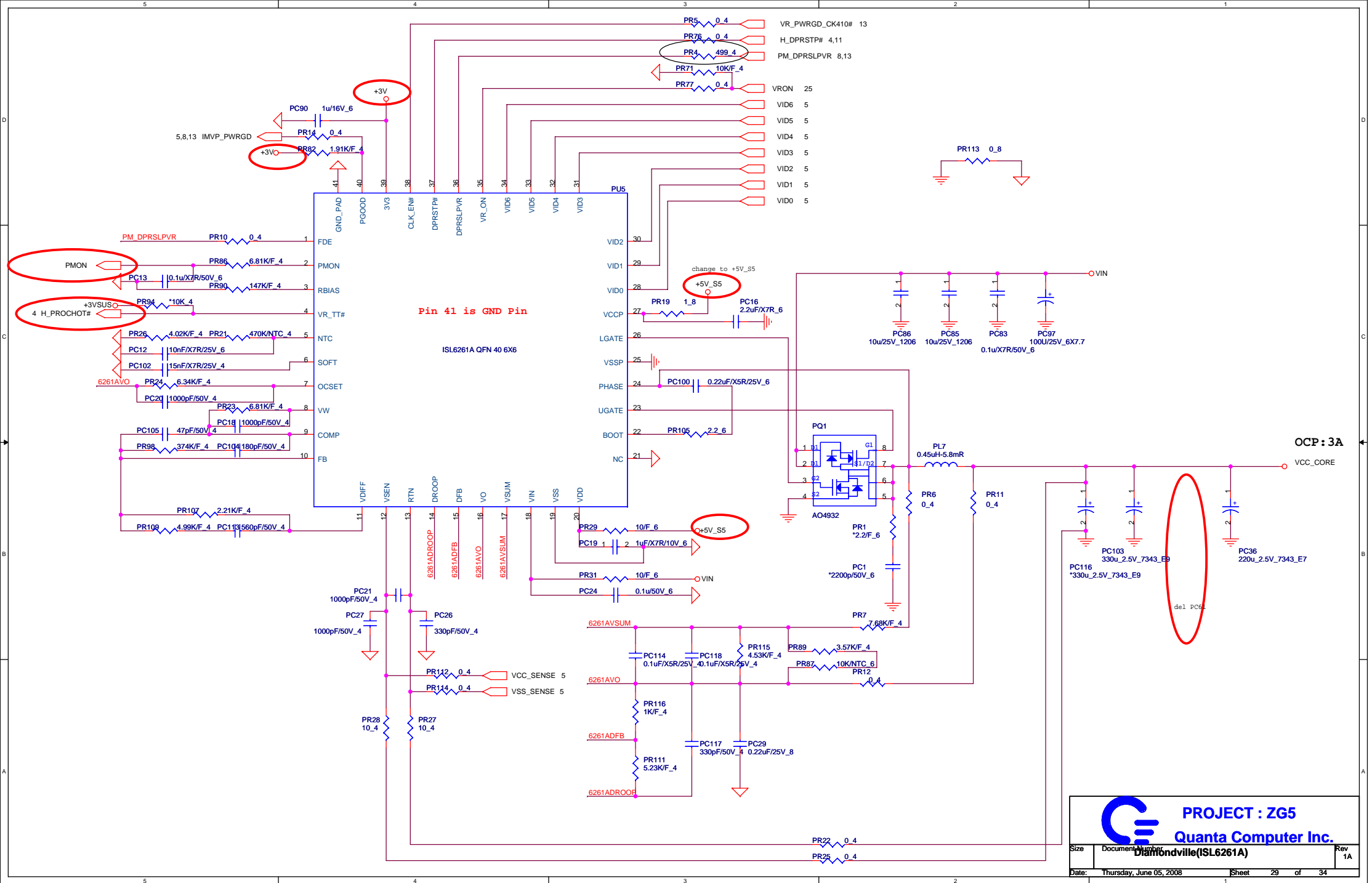
For MAX17101

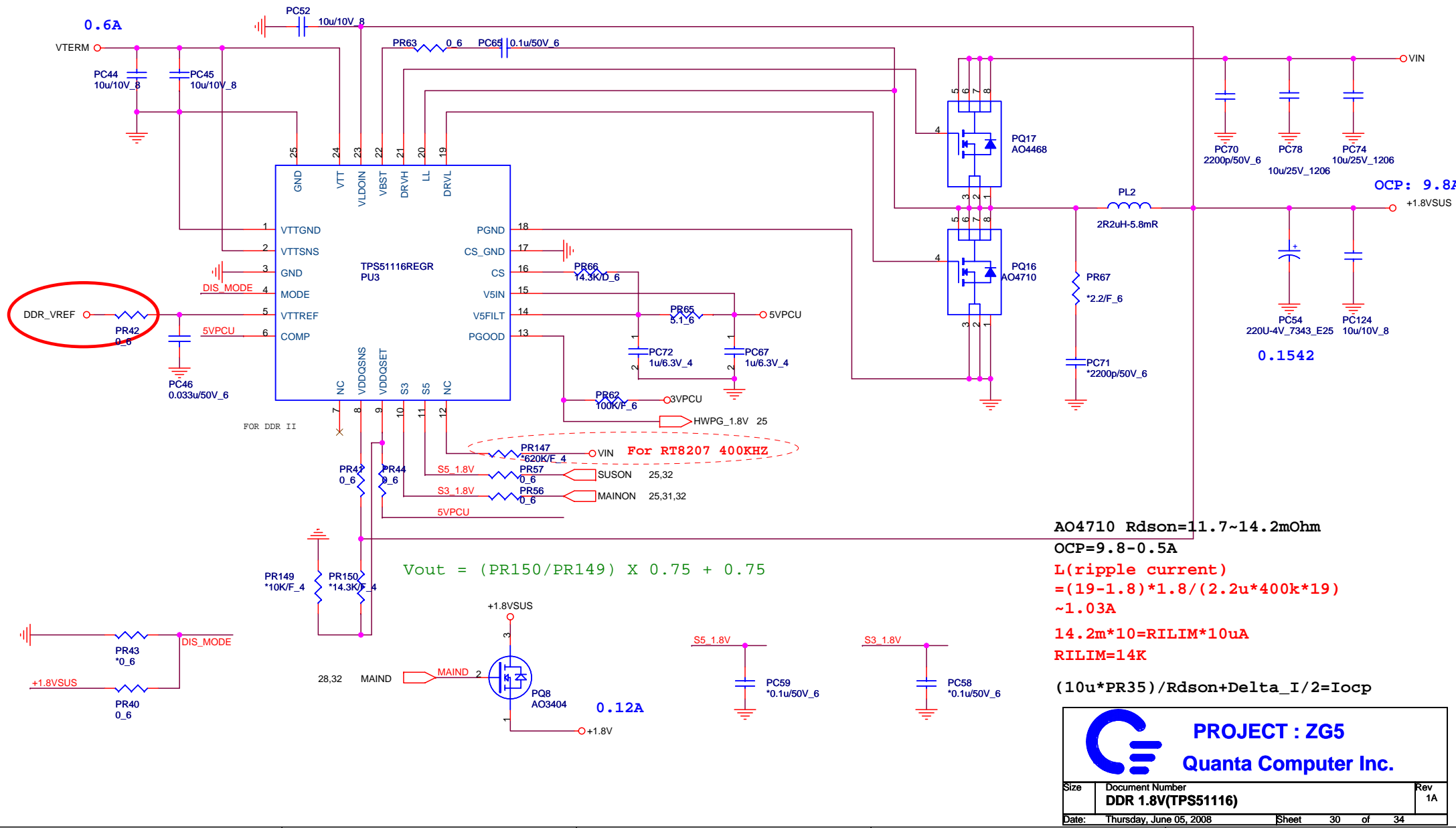
PR148 mount 10_6 (CS01003J953)
PC126 mount 0.1uF (CH4104K9B03)
PR151 mount 0_6 (CS00003J951)

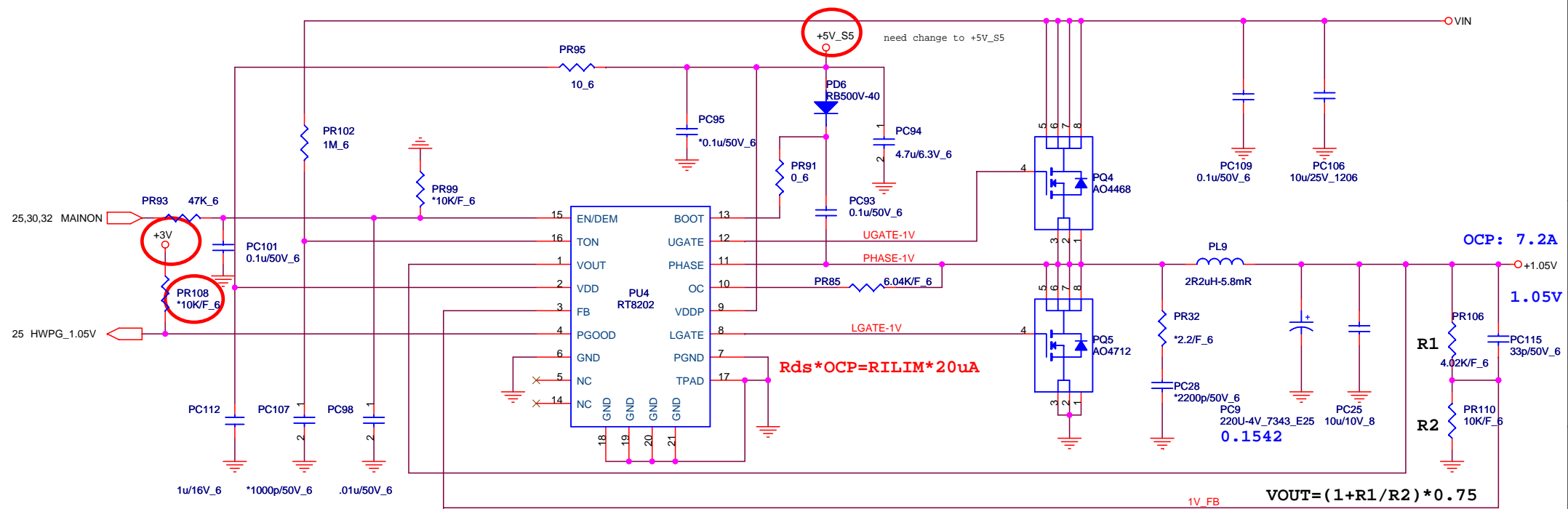
For TPS51427

PC126 mount 1u/6.3V_4 (CH5101K9B01)









$$TON = 3.85p \cdot R_{TON} \cdot V_{out} / (V_{in} - 0.5)$$

$$Frequency = V_{out} / (V_{in} \cdot TON)$$

$$TON = 3.85p \cdot 1M \cdot 1 / (V_{in} - 0.5)$$

$$Frequency = 1 / (0.0036767) = 272K$$

AO4712 $R_{ds(on)} = 15 \sim 18m\Omega$

OCP = 7.2 - 0.8A

$$L(\text{ripple current}) = (19 - 1.05) \cdot 1.05 / (2.2\mu \cdot 272k \cdot 19) \sim 1.63A$$

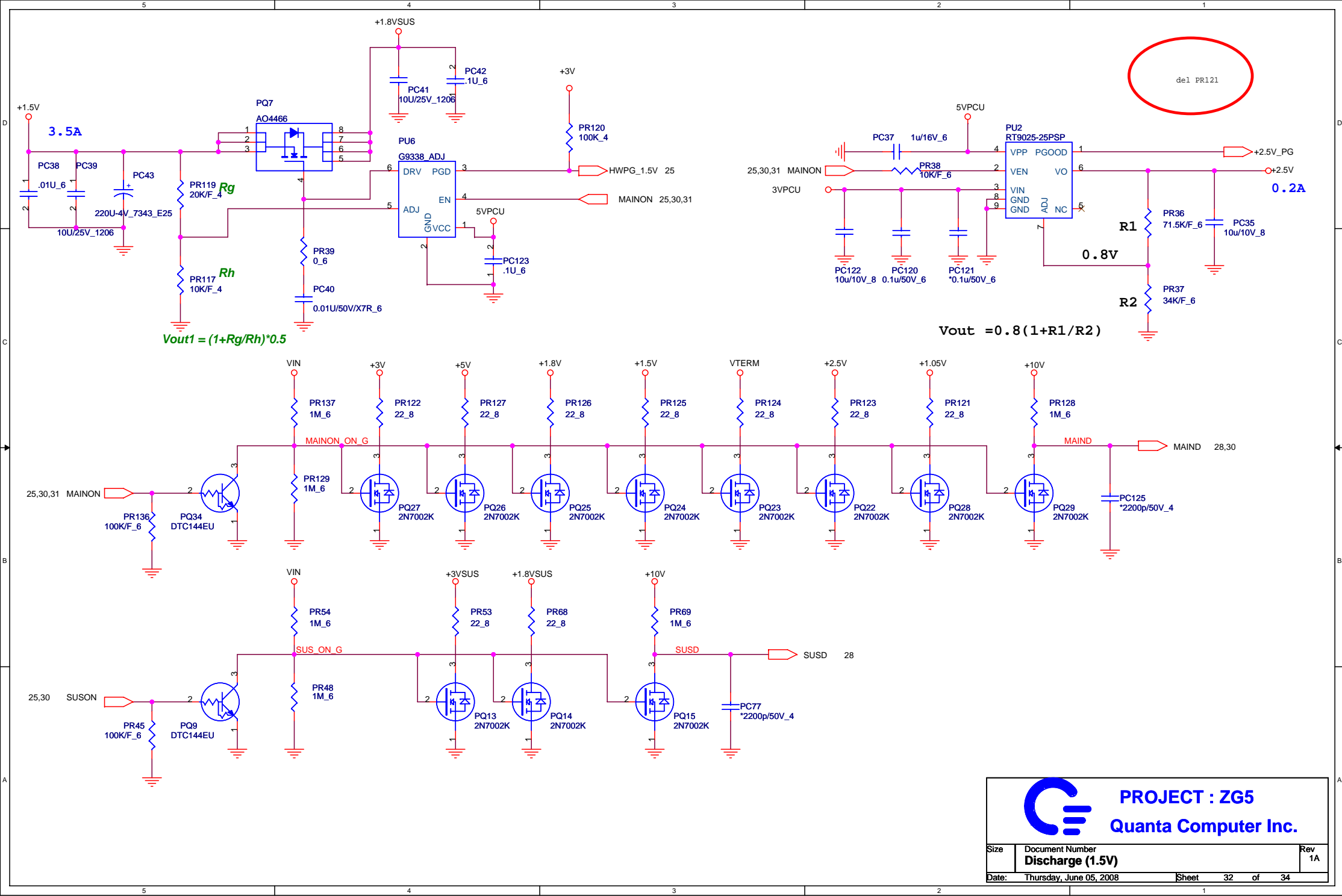
$$18m \cdot 7 = RILIM \cdot 20\mu A$$

$$RILIM = 6K (2.5 \sim 8K)$$



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	VCCP 1.05V(RT8202)	1A
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B test change list

Page 27 : Change PQ6 to BAM49320000
Page 28 : Change PR134 to CS41963F916
Page 28 : Change PD3 to BCBAV99W022
Page 28 : Change PC73 , PC75 to CH73301M8B9
Page 28 : Change PQ10 to BAM49320000
Page 28 : Change PQ11 to BAM47120000
Page 28 : Change PQ12 to BAM44680003
Page 29 : Change PQ1 to BAM49320000
Page 29 : Change PC103 , PC116 to CH7330LM8812
Page 30 : Change PR65 to CS-5103F916
Page 30 : Change PR66 to CS31433B917
Page 30 : Change PC67 , PC72 to CH5101K9B01
Page 30 : Change PQ16 to BAM47100000
Page 30 : Change PQ17 to BAM44680003
Page 30 : Change PU3 to AL051116008
Page 31 : Change PQ4 to BAM44680003
Page 31 : Change PQ5 to BAM47120000
Page 32 : Change PQ7 to BAM44660000

C test change list

Page 28 : Change PL3 , PL4 footprint to CDRH104R-zg5
Page 28 : Add layout location PR151
Page 29 : Change PU5 footprint to qfn40-6X6-5-41p-0_9h-zg5
Page 30 : Add layout location PR149 , PR150

D test change list


Page 28 : Change PR55 to CS41152FB08
Page 28 : Add PD11 Component

M/B sku 2 : Change PU7 to RT8206 (AL008206000)

Change PU3 to RT8207 (AL008207000)

Add PR147 620K/F_6 (CS46202FB00)

Page 27 : Del PR84 0_6
Page 29 : Del PR3 , PR78 , PR8 , PR79 , PR88 , PR13 , PR92 0_4
Page 32 : Del PR118 0_4

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		Quanta Computer Inc.	
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	Power Change List		1A
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