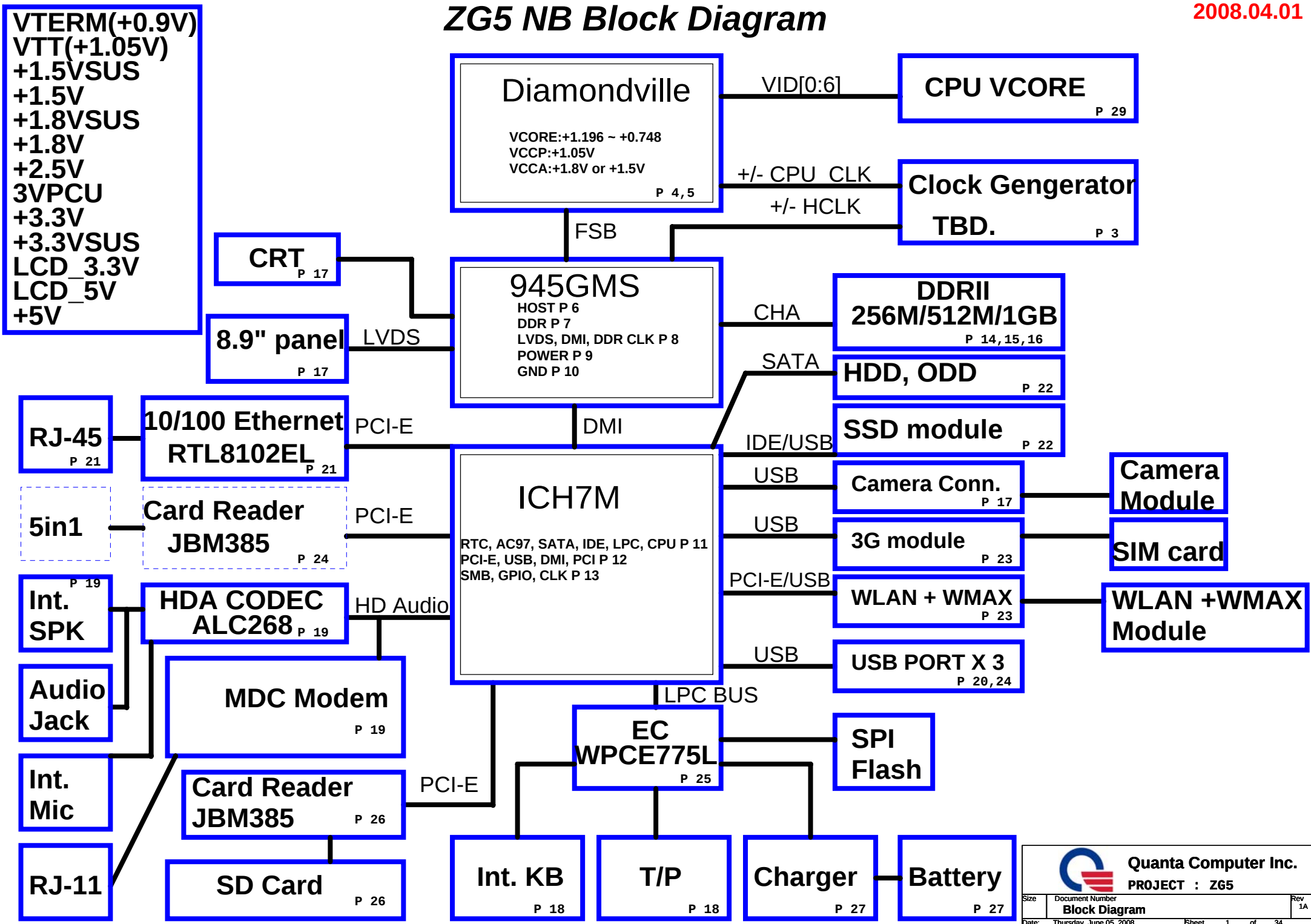


ZG5 NB Block Diagram



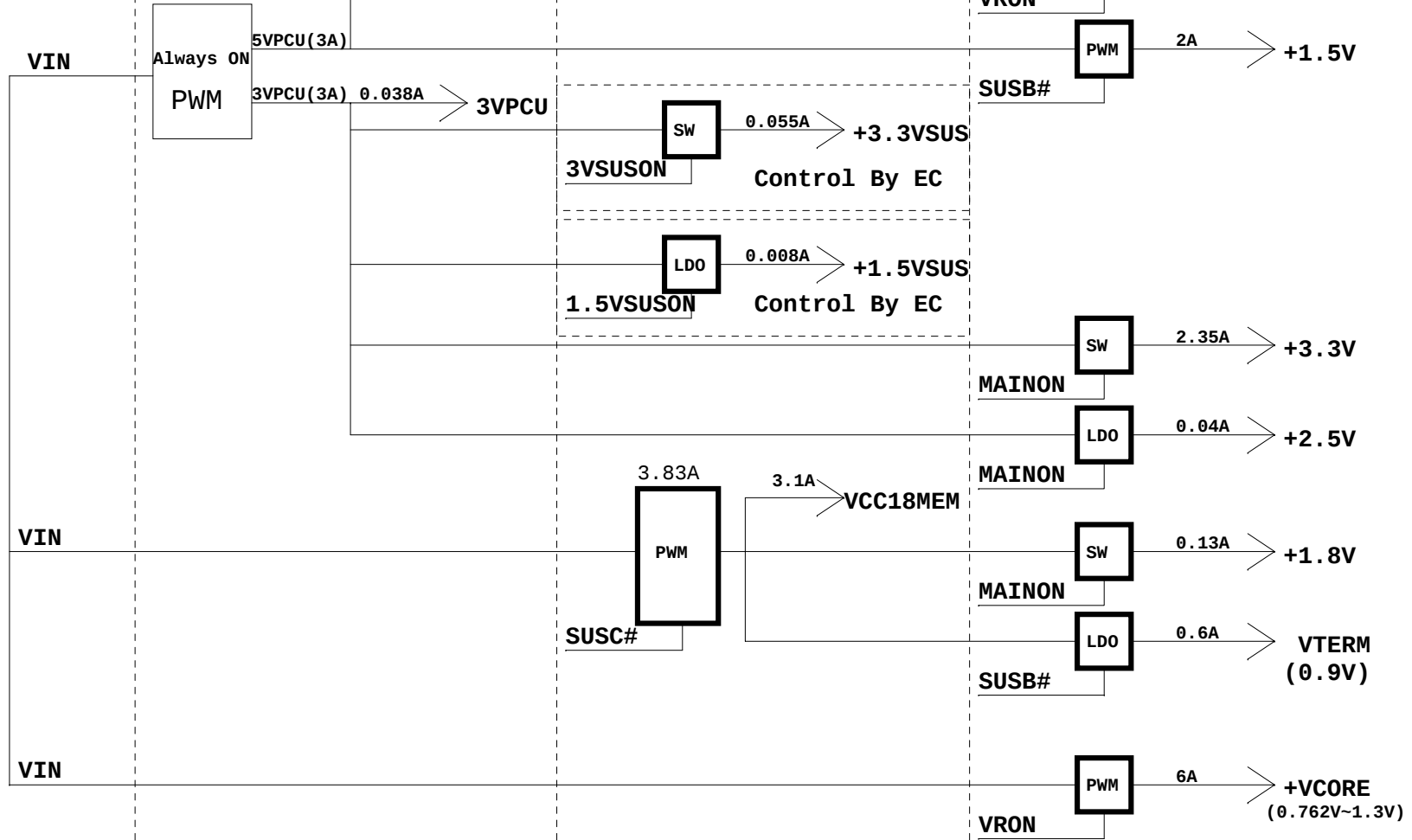
Quanta Computer Inc.
PROJECT : ZG5

DCIN

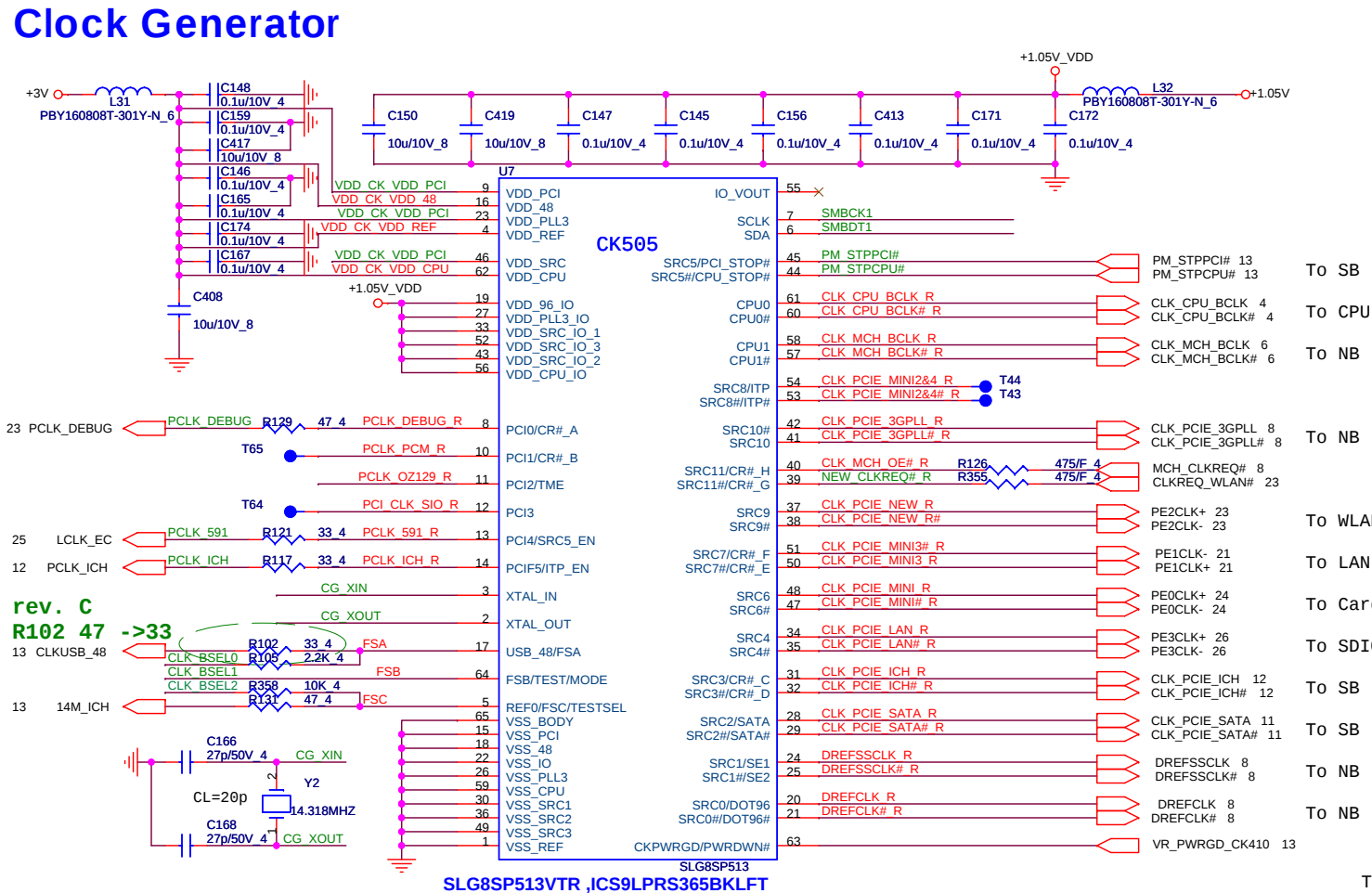
ALWAYS ON

S4 OFF

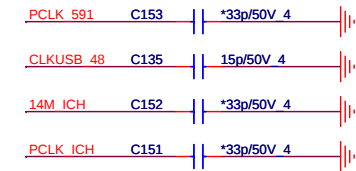
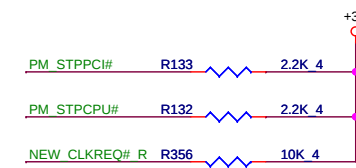
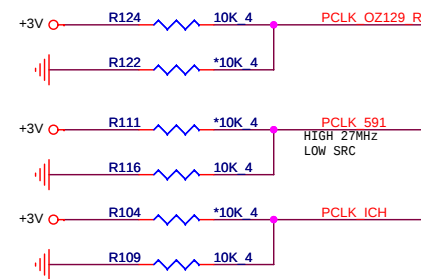
S3 OFF



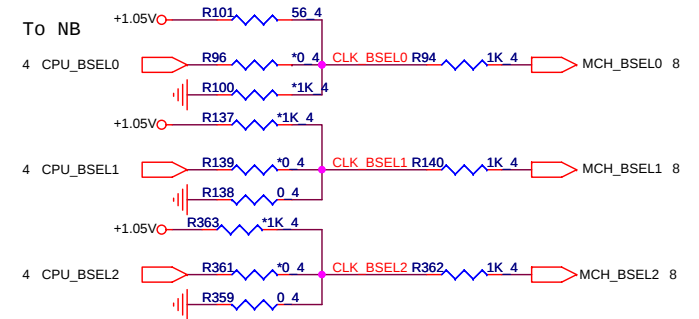
Clock Generator



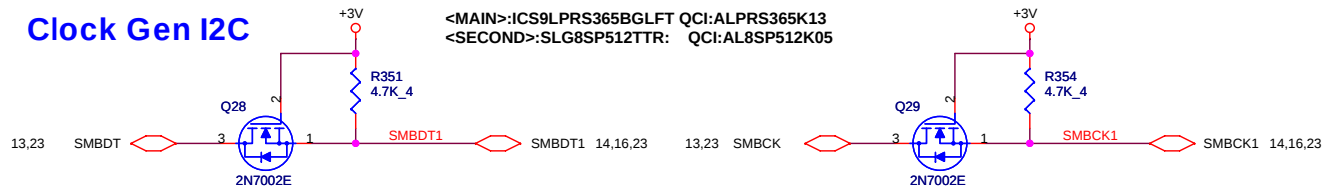
	ICS9LPRS365 (ALPRS365K13)	RTN8751-606 (AL008075K06)	PULL HIGH	PULL DOWN
Pin 11	PCI2/TME	PCI2/TME internal PD	NO OVERCLOCKING (default)	NORMAL RUN
Pin 12	PCI-3	PCI-3/SRC5_EN internal PD	PIN37/38 IS SRC5	PIN37/38 IS PCI_STOP/CPU_STOP (default)
Pin 13	PCI-4/27M_SEL	PCI-4/27M_SEL internal PD	PIN 17/18 IS 27MHz	PIN 17/18 IS SRC/DOT (default)
Pin 14	PCIF-5/I7P_EN	PCIF-5/I7P_EN internal PD	PIN 46/47 IS CPUITP	PIN 46/47 IS SRC8 (default)



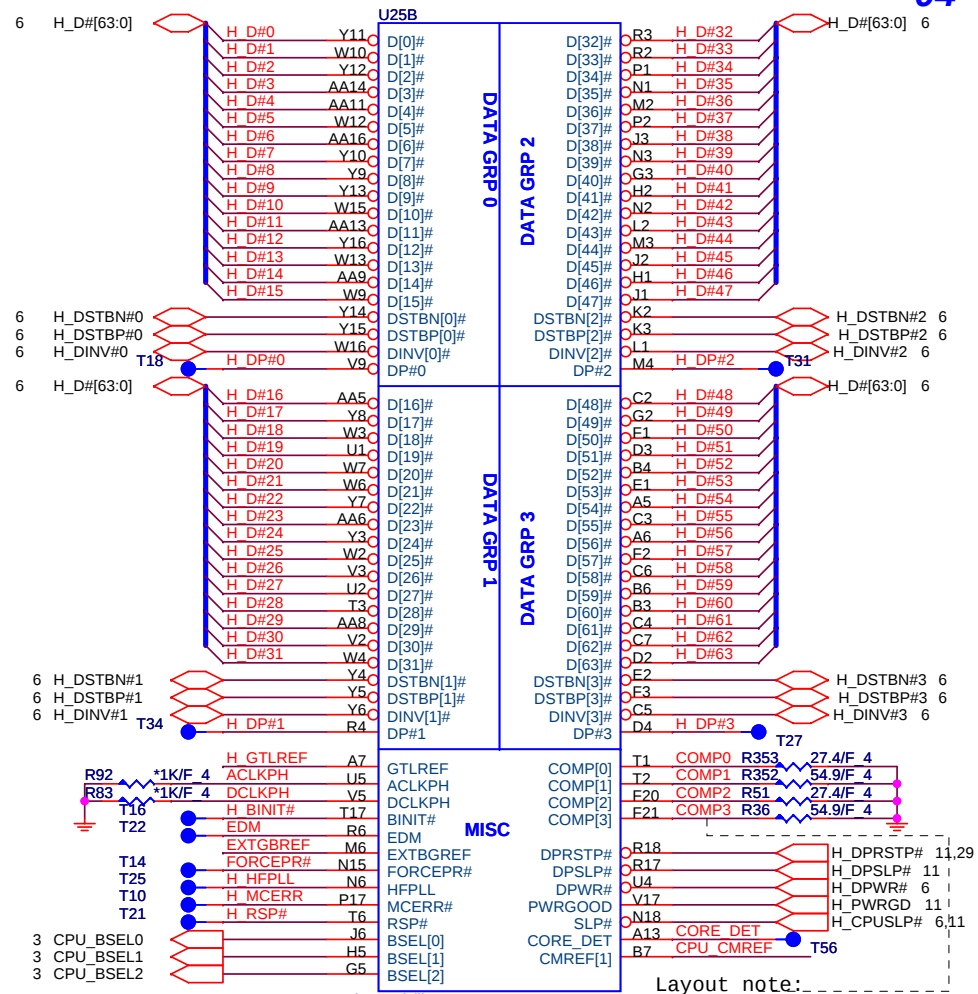
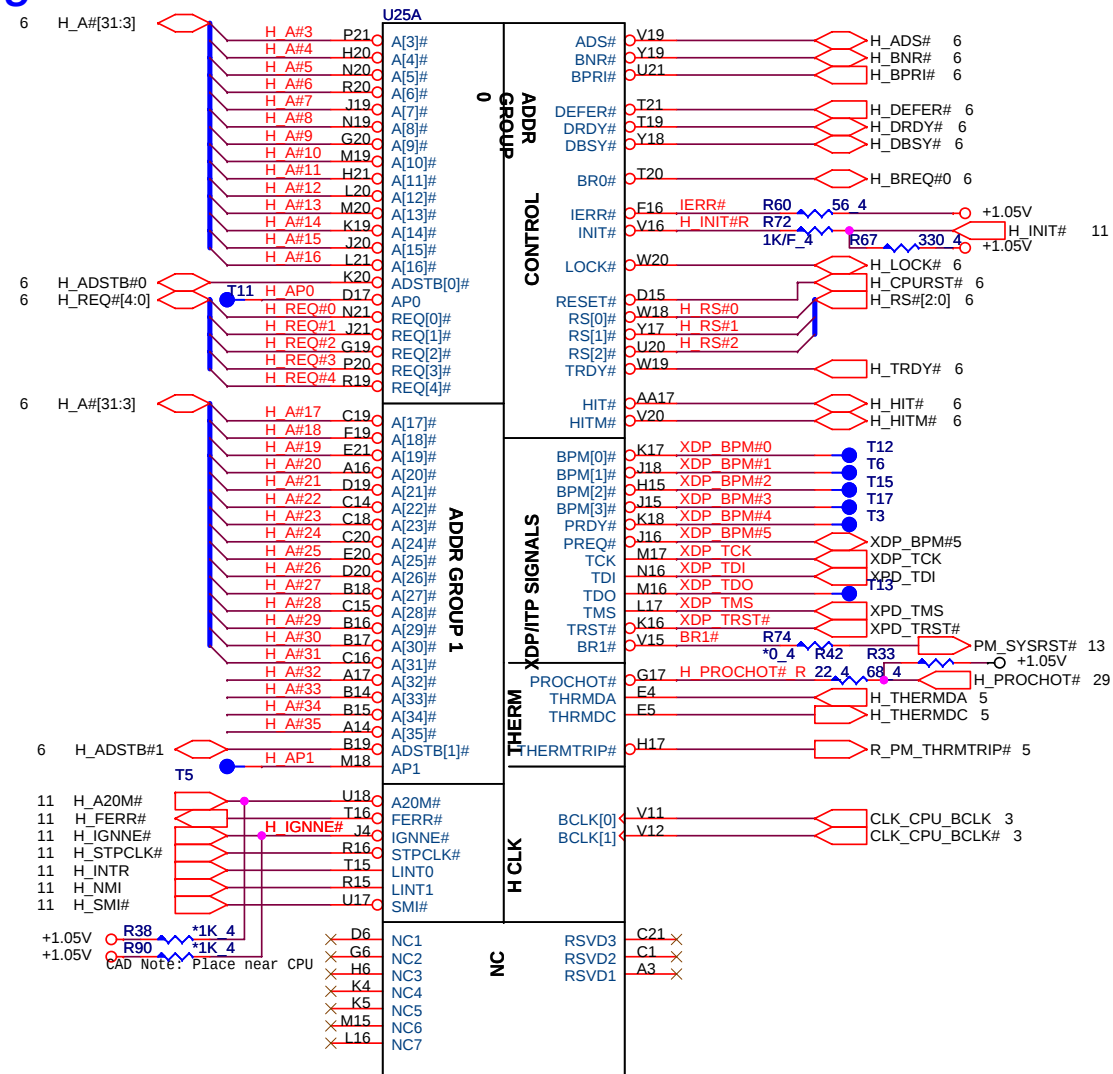
SEL2 SEL1 SEL0			Frequency select		
FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	Reserved		



Clock Gen I2C

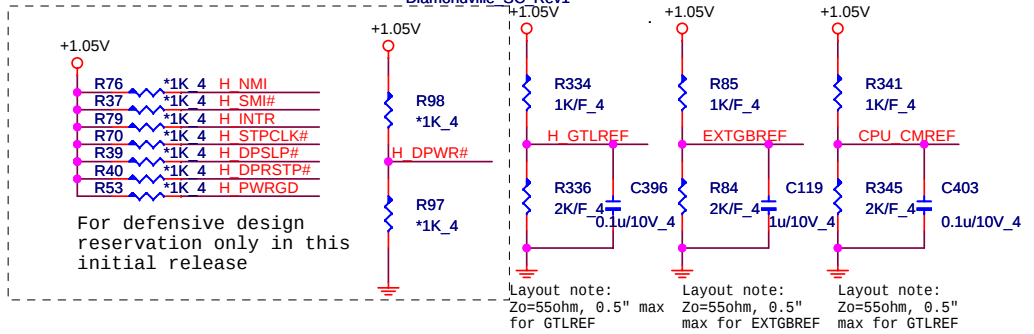


 Quanta Computer Inc. PROJECT : ZG5		Rev 1A
Size	Document Number	
CLOCK GENERATOR		
Date:	Thursday, June 05, 2008	Sheet 3 of 34



Layout note:
Comp0,2 connect with Zo=27.4ohm, make trace length shorter than 0.5"
Comp1,3 connect with Zo=55ohm, make trace length shorter than 0.5"

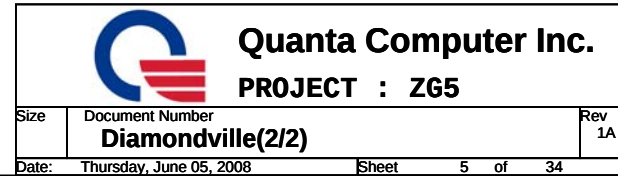
Rev : B
No stuff - R37 ,R38 ,R39 ,R40 ,R70 ,R90 ,R98 from Intel info.

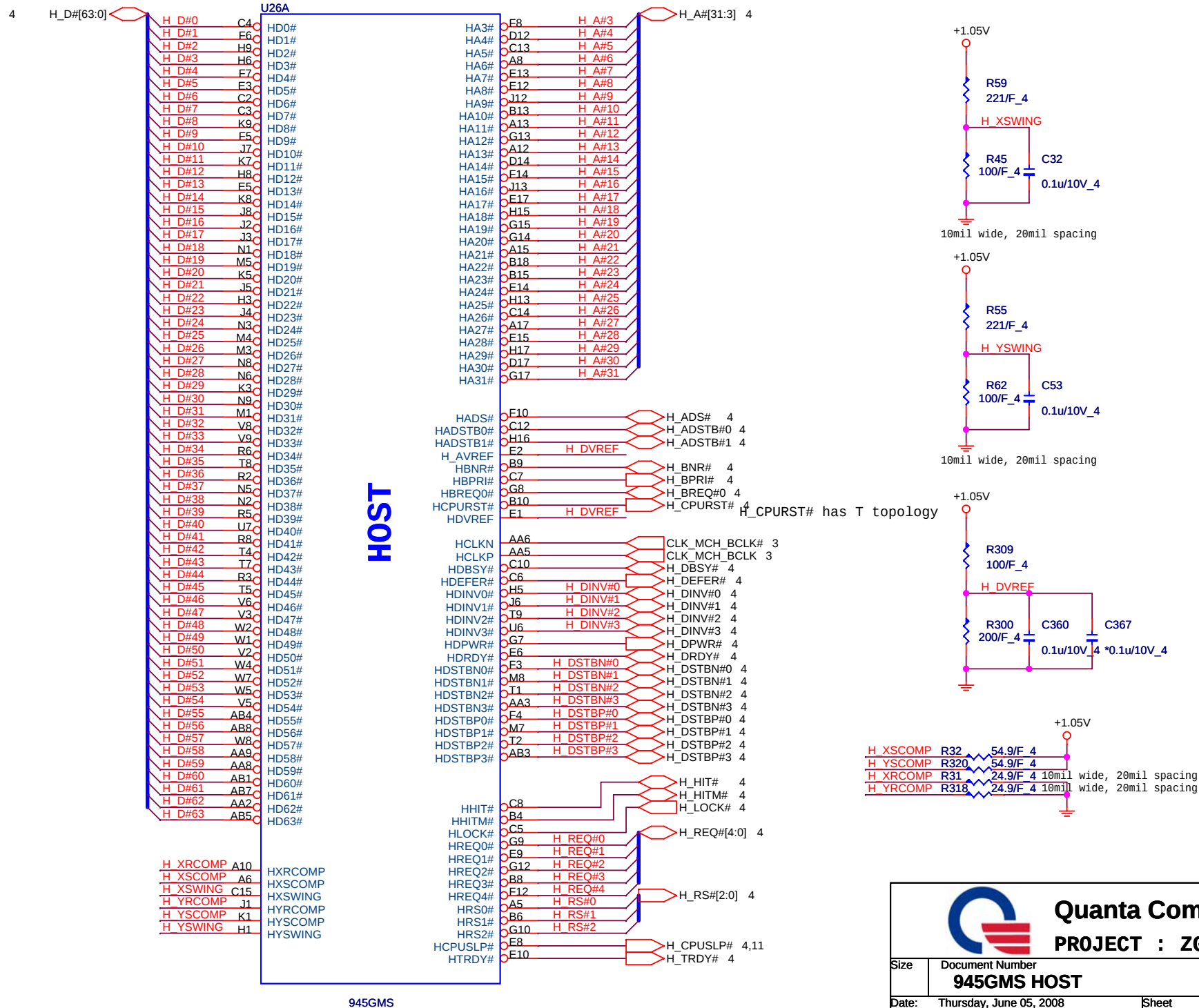




Quanta Computer Inc.
PROJECT : ZG5

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

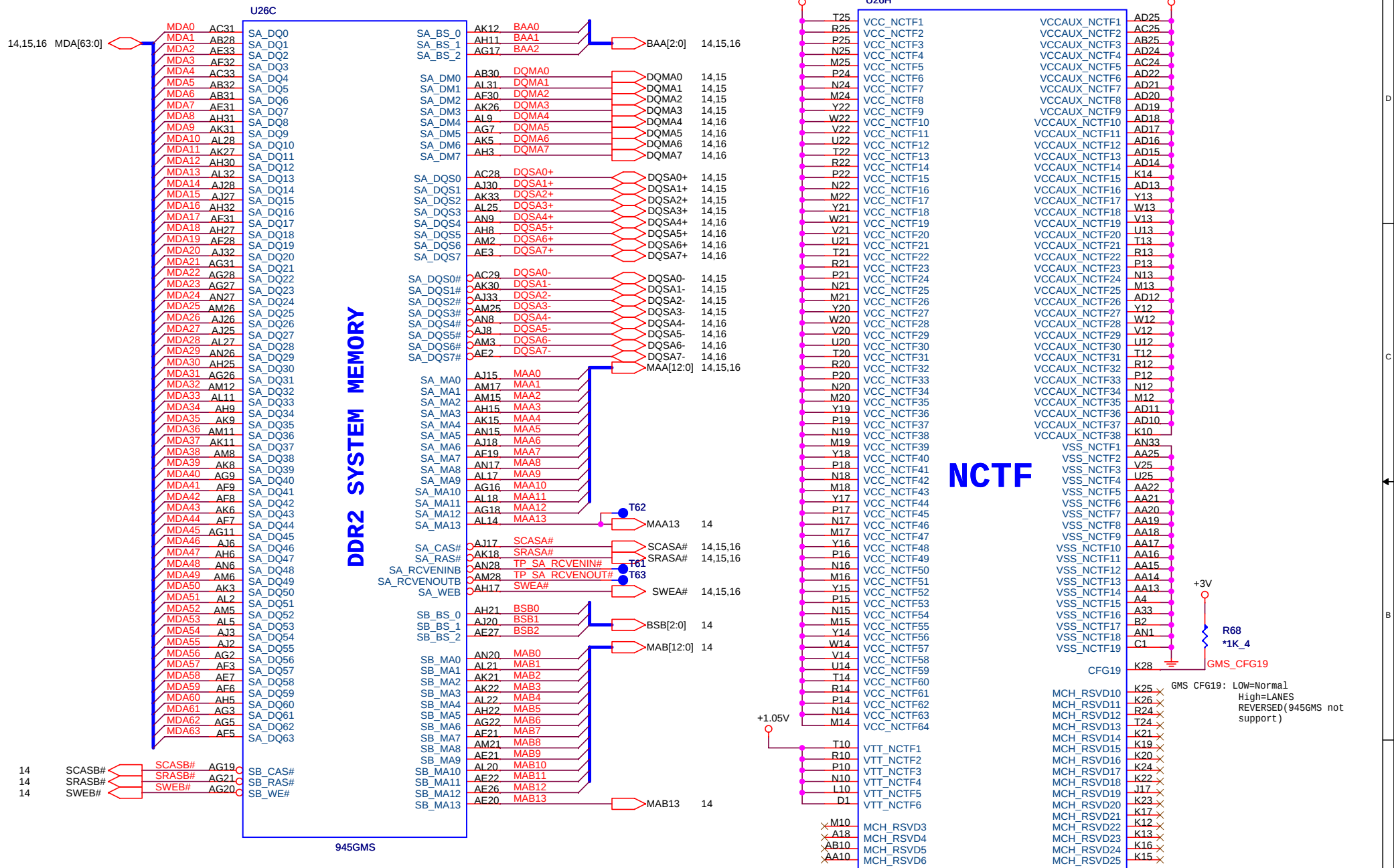




945GMS

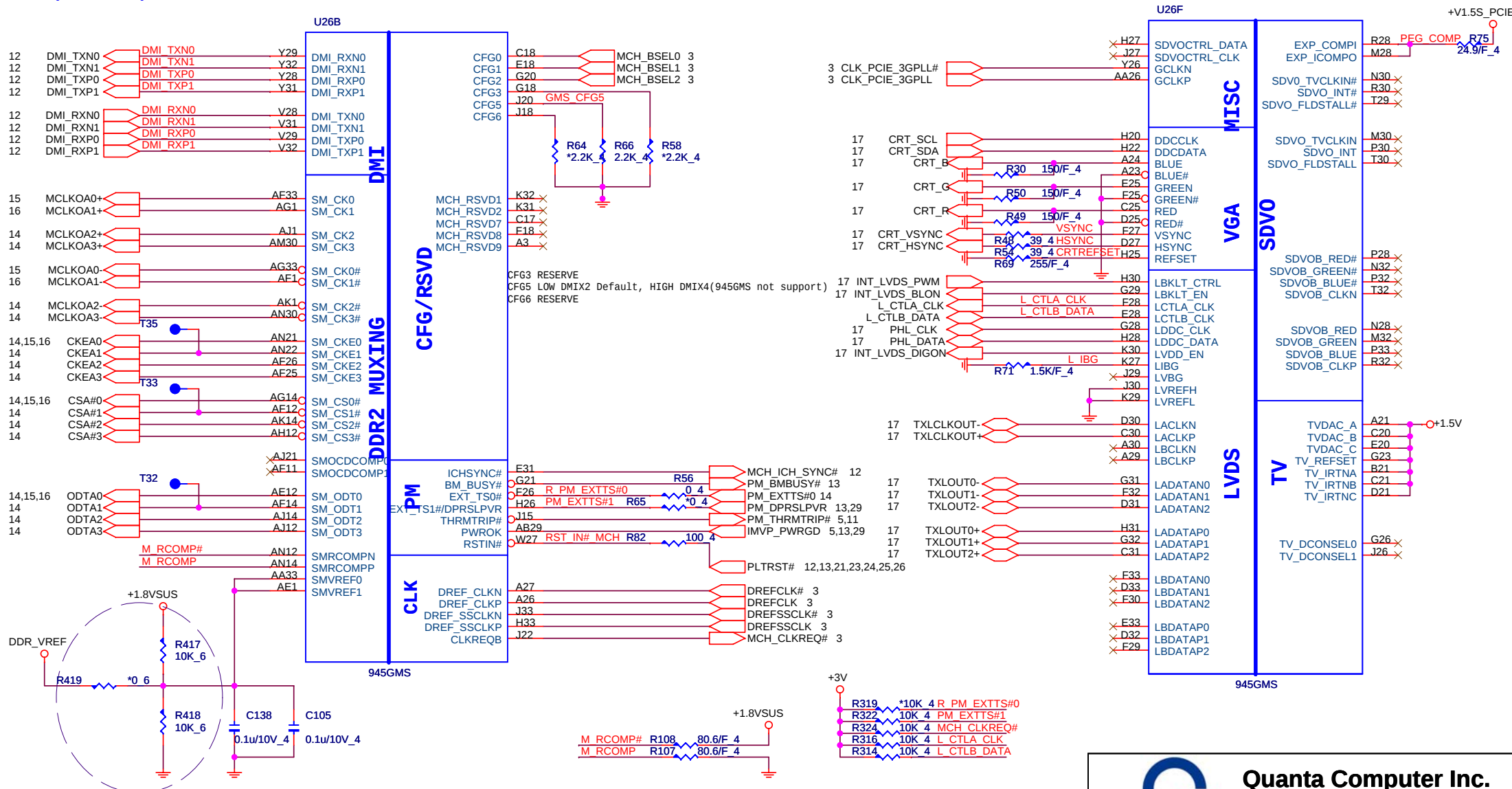
 **Quanta Computer Inc.**
PROJECT : ZG5

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



DMI, LVDS, DDR CLK

08

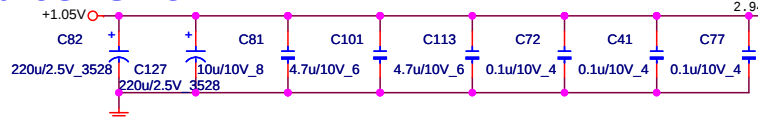


rev. D
Add in R417 , R418 , R419

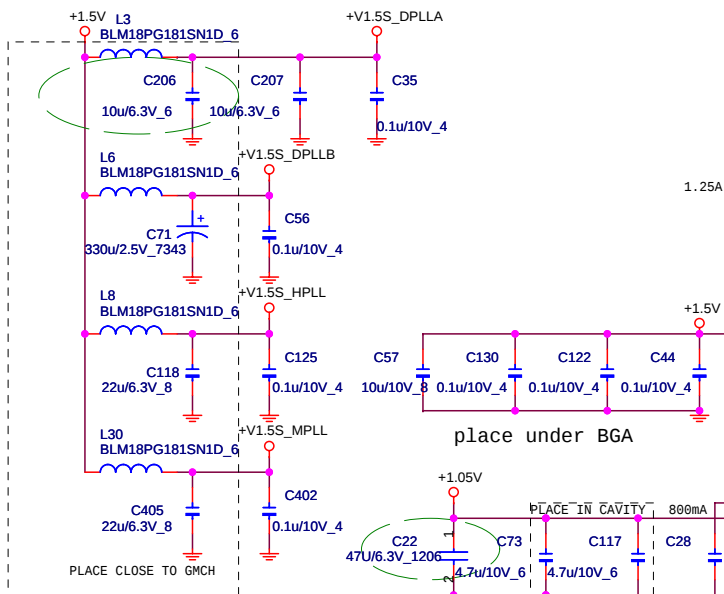
Quanta Computer Inc.
PROJECT : ZG5

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

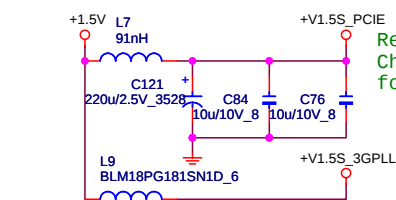
945GMS POWER



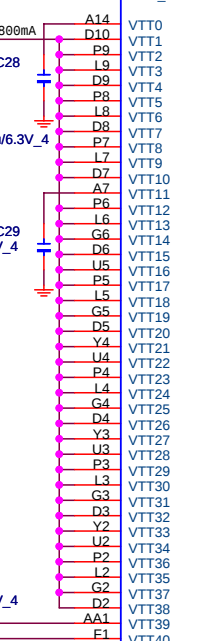
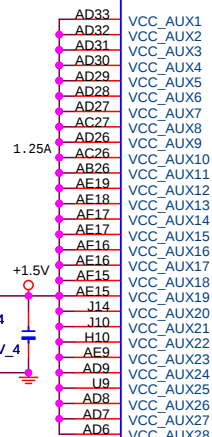
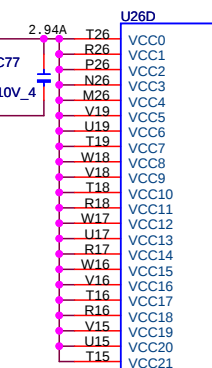
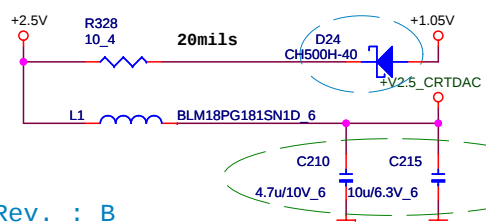
Rev. : C
Del C17 & Add in C206,C207
for M/E interference



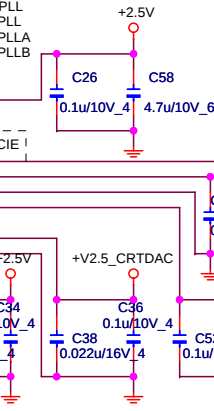
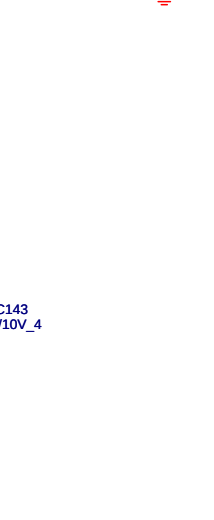
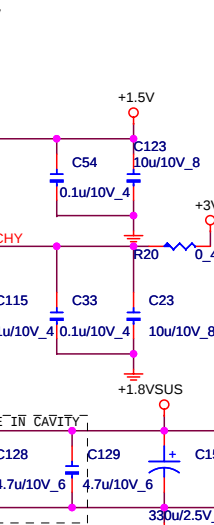
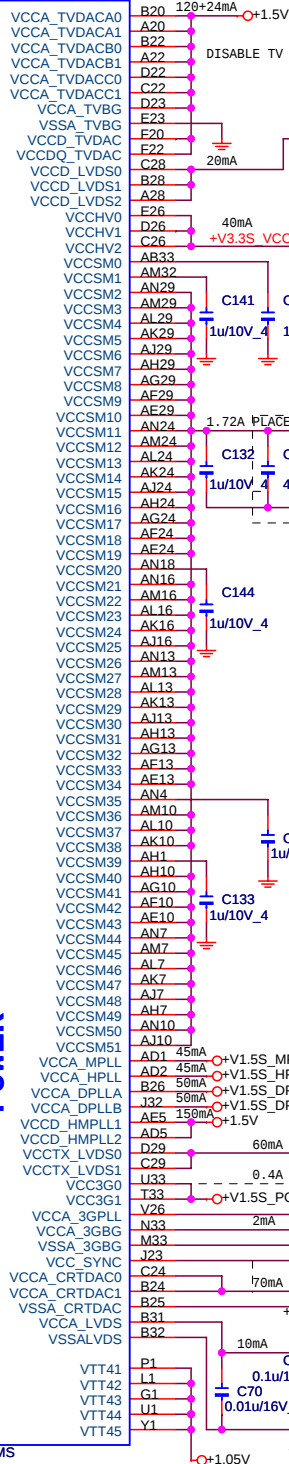
Rev. : C
Change C22 size to 1206
for M/E interference



Rev. : B
Change D24 schottky diode
Rev. : C
Del C21 & Add in C210,C215
for M/E interference



POWER



Quanta Computer Inc.
PROJECT : ZG5

Size	Document Number	Rev
	945GMS POWER	1A
Date:	Thursday, June 05, 2008	Sheet 9 of 34

945GMS GND

AH33	VSS1	VSS111	J16	U26E
V33	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	
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	
AA28	VSS47	VSS157	T6	
U28	VSS48	VSS158	M6	
T28	VSS49	VSS159	K6	
J28	VSS50	VSS160	AN5	
D28	VSS51	VSS161	AJ5	
AM27	VSS52	VSS162	B5	
AE27	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	AE2	
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			
E23	VSS79			
B23	VSS80			
AM22	VSS81			
AJ22	VSS82			
AE22	VSS83			
G22	VSS84			
E22	VSS85			
J21	VSS86			
H21	VSS87			
E21	VSS88			
AM20	VSS89			
AK20	VSS90			
AH20	VSS91			
AE20	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			
AH16	VSS107			
U16	VSS108			
	VSS109			
	VSS110			

U26G	NC1	NC61	W30
W33	NC2	NC62	Y6
AM33	NC3	NC63	AL1
AL33	NC4	NC64	Y5
C33	NC5	NC65	Y10
B33	NC6	NC66	W10
AN32	NC7	NC67	W25
A32	NC8	NC68	V24
AN31	NC9	NC69	U24
W28	NC10	NC70	V10
V27	NC11	NC71	U10
W29	NC12	NC72	K18
J24	NC13		
H24	NC14		
W32	NC15		
G24	NC16		
F24	NC17		
E24	NC18		
D24	NC19		
K33	NC20		
A31	NC21		
E21	NC22		
C23	NC23		
AN19	NC24		
AM19	NC25		
AL19	NC26		
AK19	NC27		
AJ19	NC28		
AH19	NC29		
AN3	NC30		
Y9	NC31		
J19	NC32		
H19	NC33		
G19	NC34		
F19	NC35		
E19	NC36		
D19	NC37		
C19	NC38		
B19	NC39		
A19	NC40		
Y8	NC41		
G16	NC42		
F16	NC43		
E16	NC44		
D16	NC45		
C16	NC46		
B16	NC47		
AN2	NC48		
A16	NC49		
Y7	NC50		
AM4	NC51		
AF4	NC52		
AD4	NC53		
AL4	NC54		
AK4	NC55		
W31	NC56		
N4	NC57		
A14	NC58		
AH4	NC59		
AG4	NC60		
AE4			
AM1			

NC

945GMS

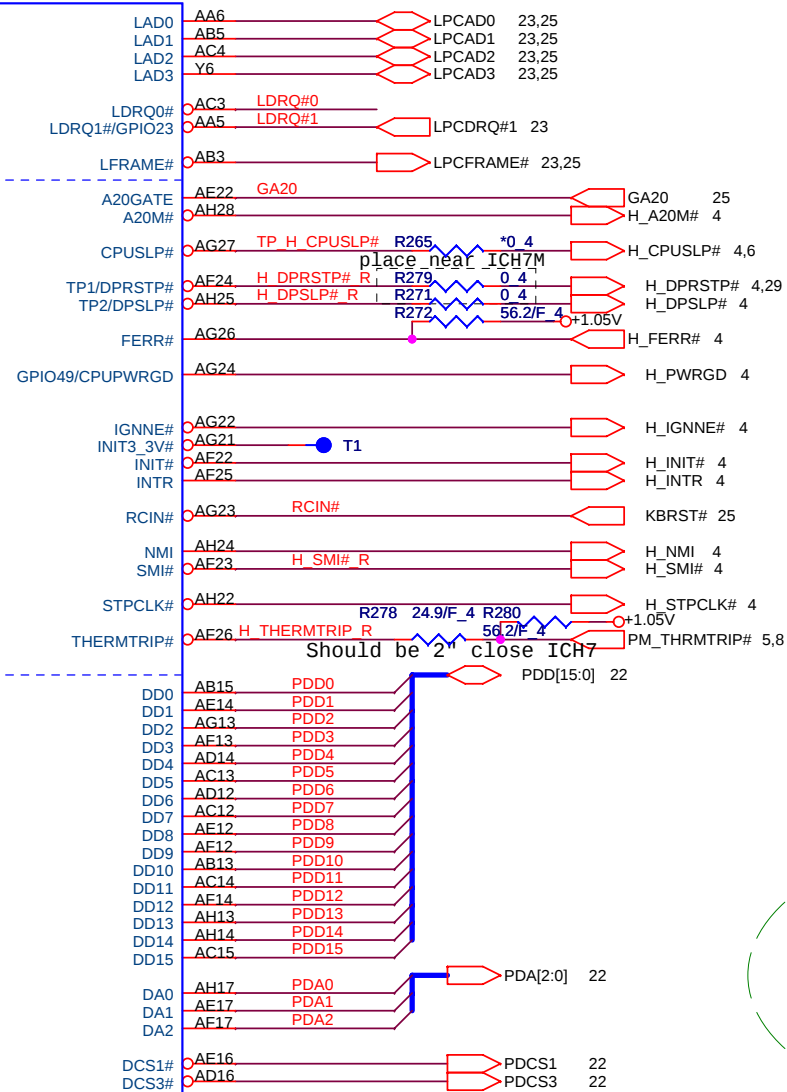
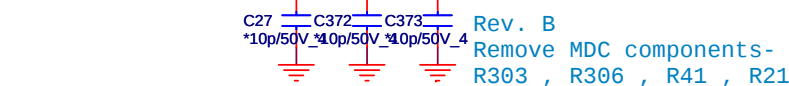
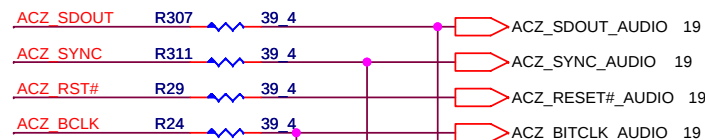
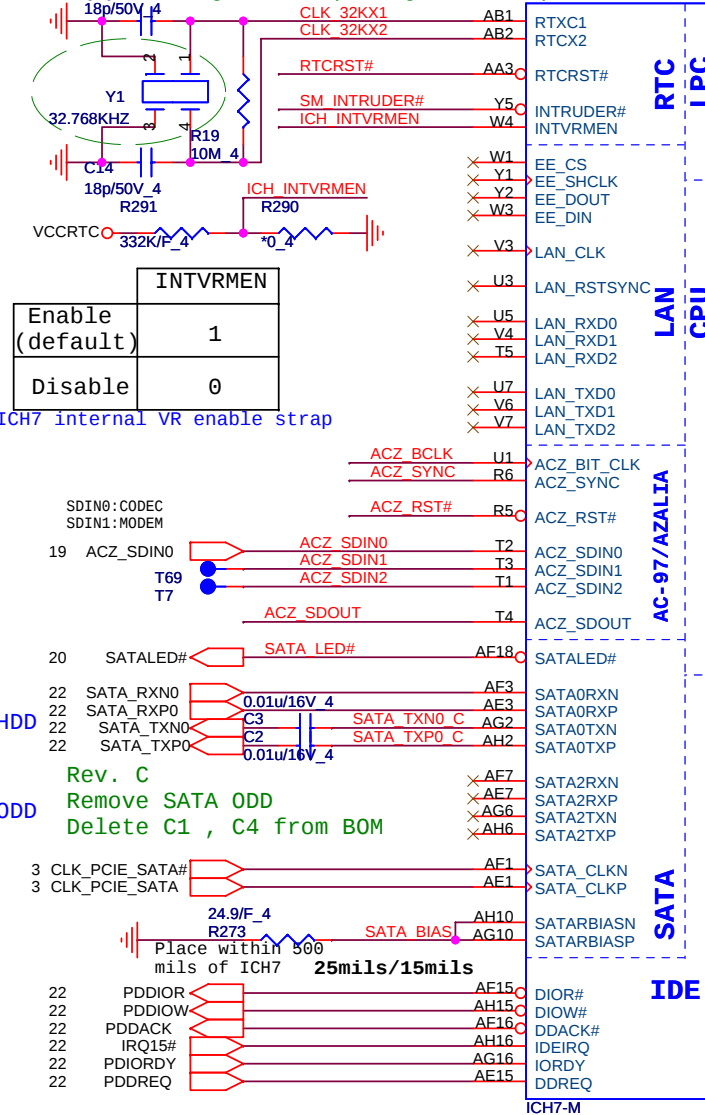
10



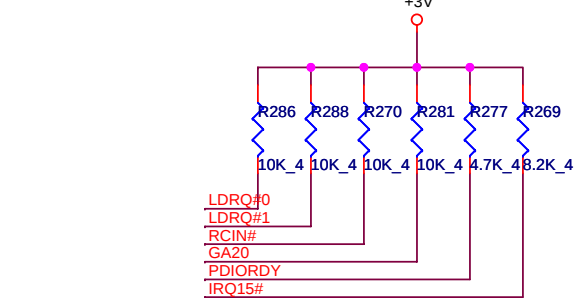
Quanta Computer Inc.
PROJECT : Z65

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

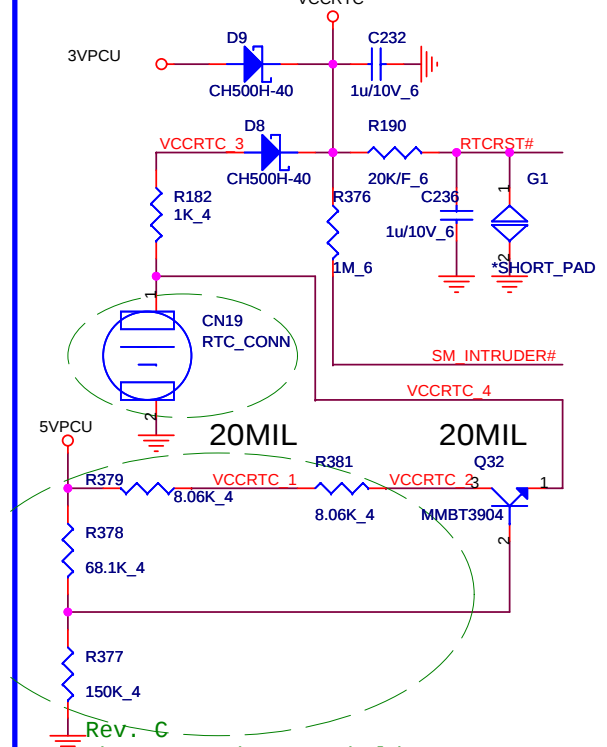
ICH7M Rev. C Change x'tal package to low profile



Pull-UP 11



RTC

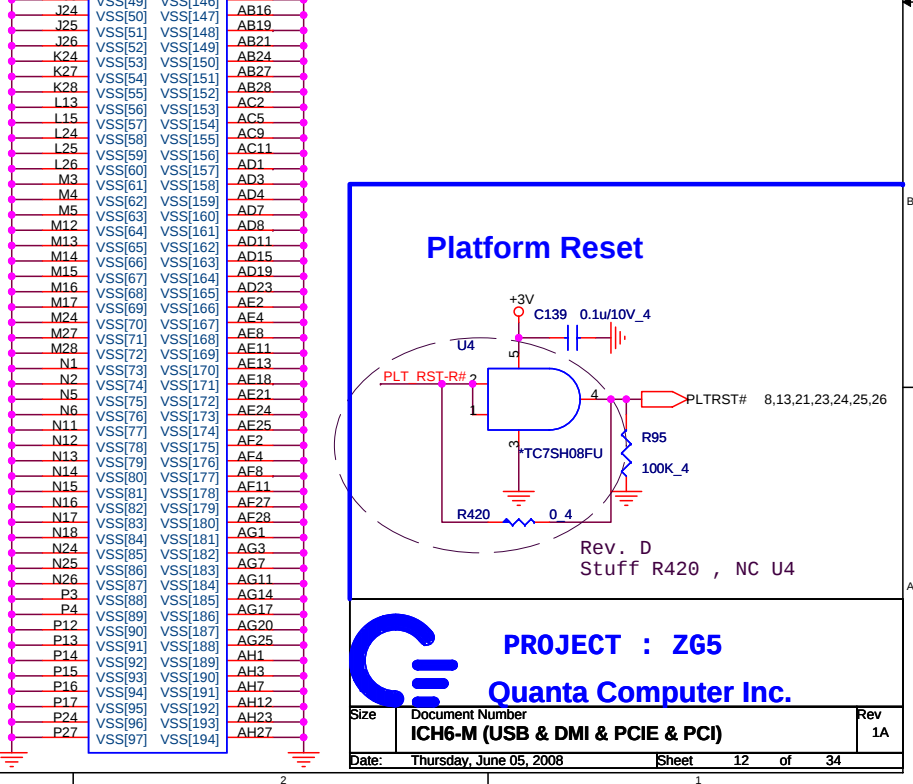
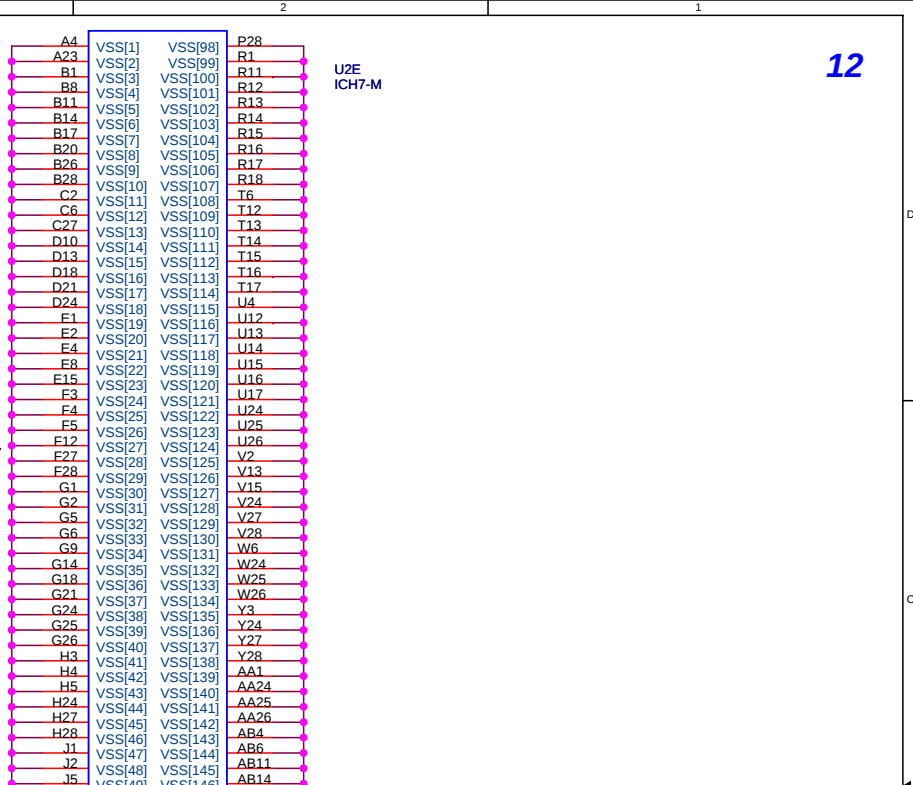


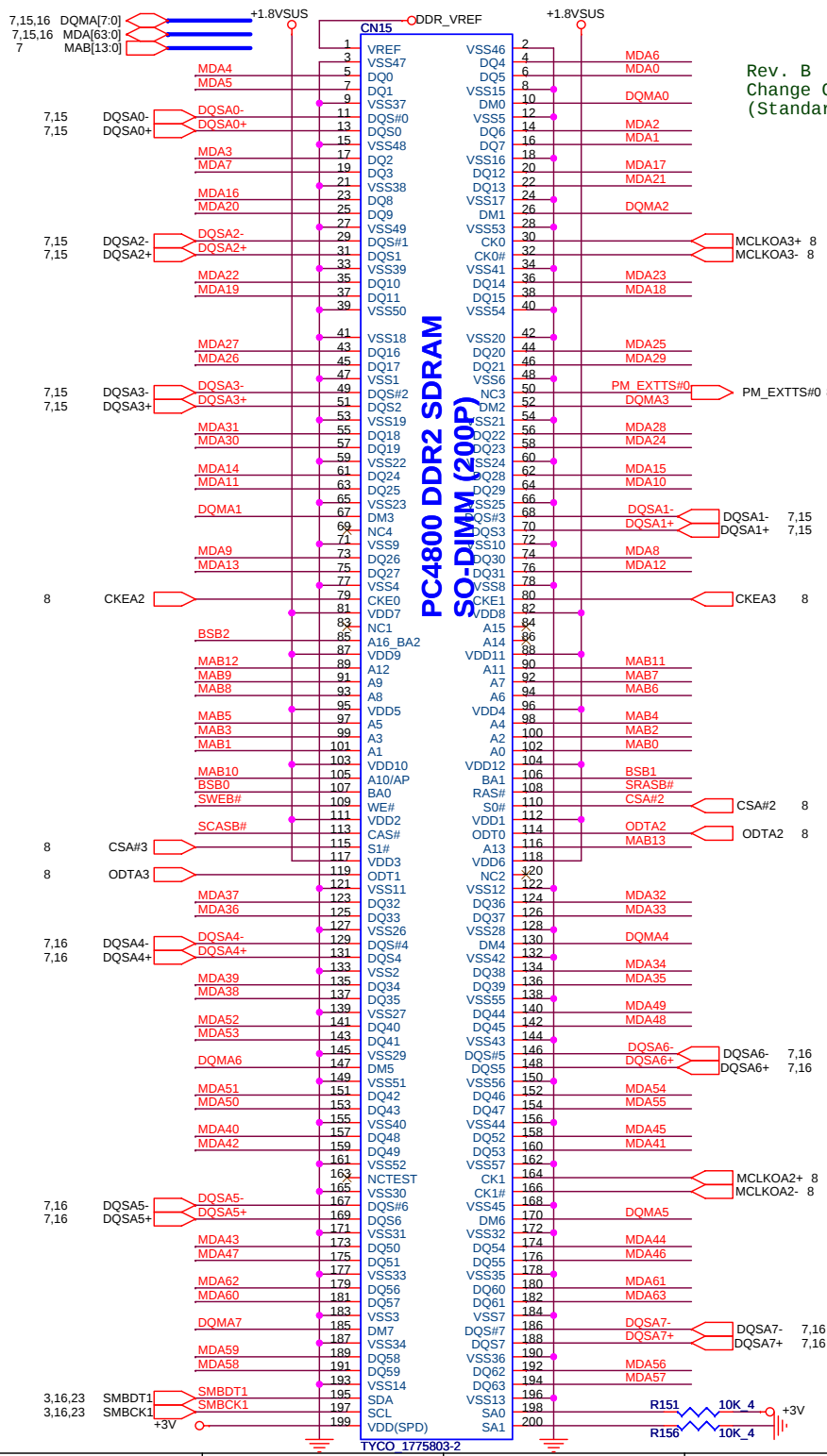
COMPONENTS	P/N
945GM	AJSL8Z20T25
ICH7-M	AJSL8YB0T21

PROJECT : ZG5
Quanta Computer Inc.

Size Document Number
ICH7-M (CPU, SATA, IDE, LPC)

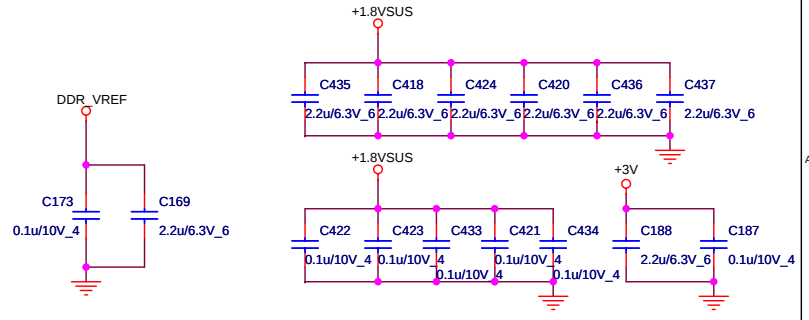
Date: Thursday, June 05, 2008 Sheet 11 of 34



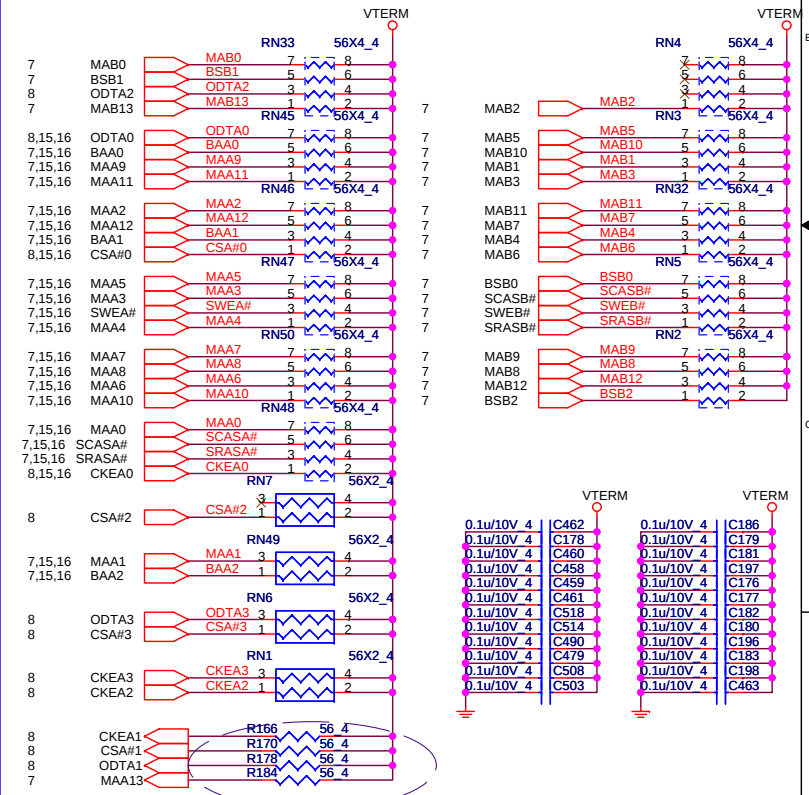


Rev. B
Change CN15 P/N to DGMK0002113
(Standard type)

Close to DIMM



Termination resistor



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

SMbus address A1

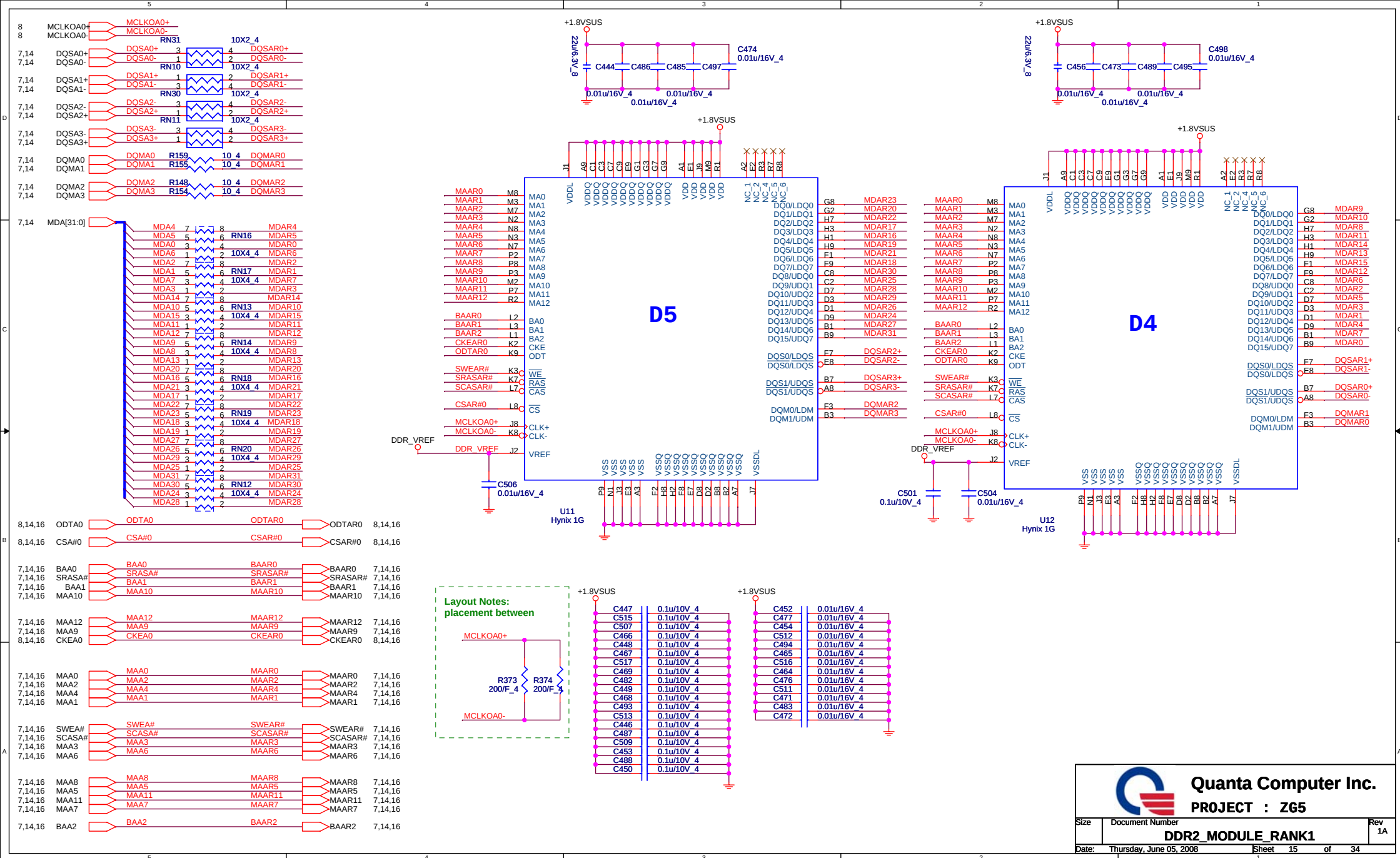
CLOCK 1,2
CKE 2,3

Standard Type H: 5.2mm



Quanta Computer Inc.
PROJECT : ZG5

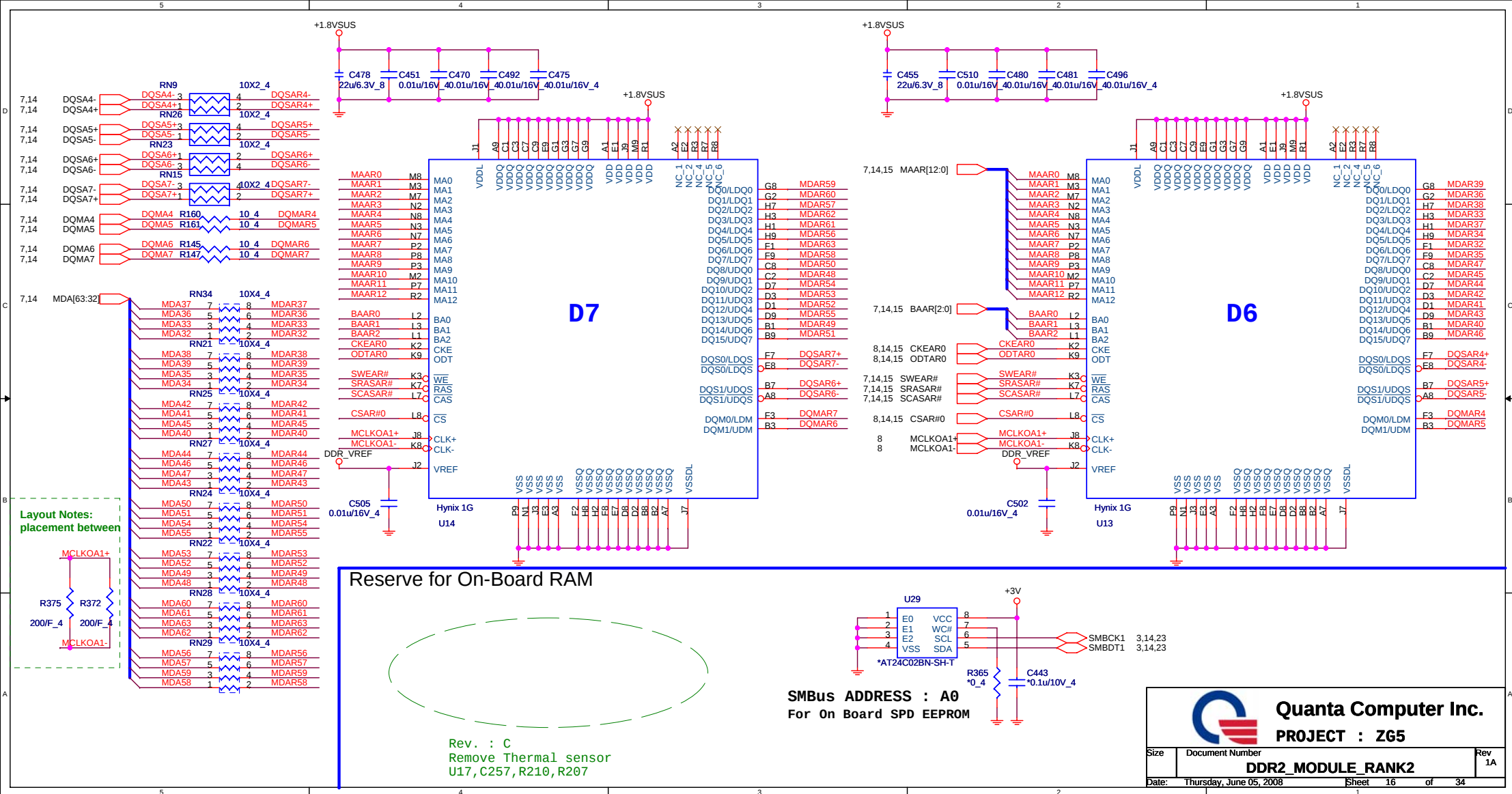
Size	Document Number	Rev
	DDR2 SO-DIMM(200P)	1A
Date:	Thursday, June 05, 2008	Sheet 14 of 34



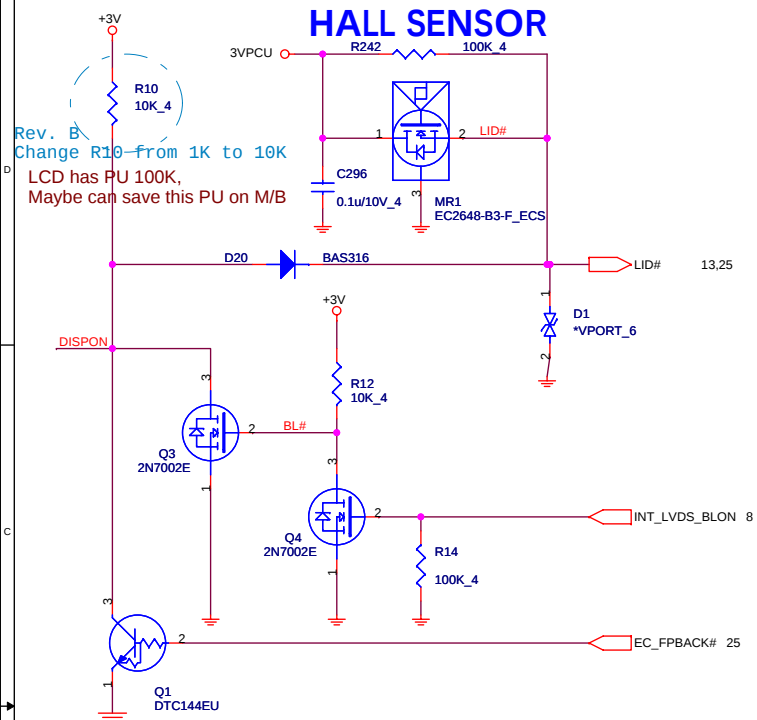
Quanta Computer Inc.
PROJECT : ZG5

DDR2_MODULE_RANK1

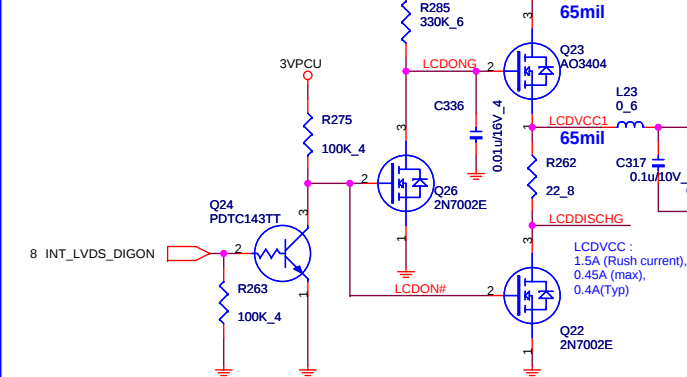
Size	Document Number	Rev
	DDR2_MODULE_RANK1	1A
Date:	Thursday, June 05, 2008	Sheet 15 of 34



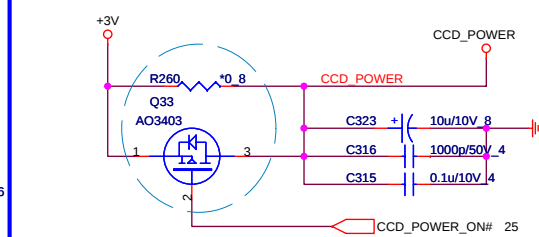
HALL SENSOR



LCD POWER SWITCH

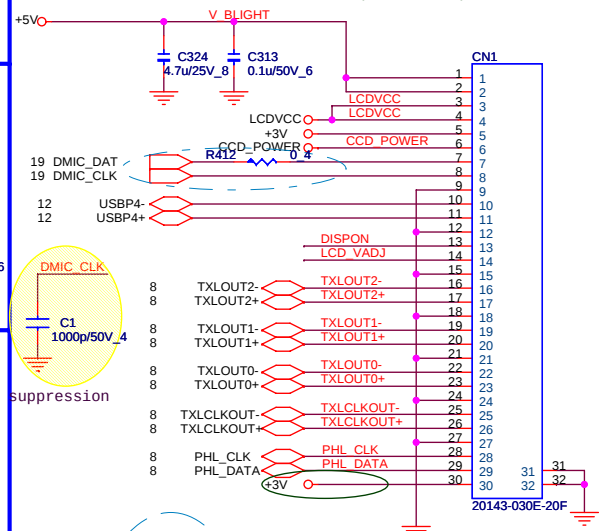


CAMERA POWER

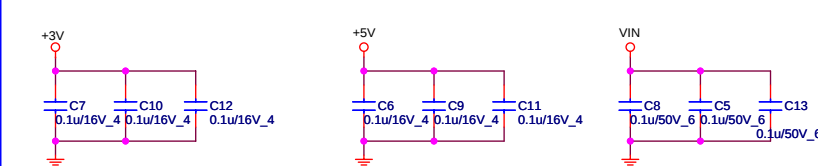


LCD MODULE *V_BLIGHT*
8.9"(5.5V): ZG5 supply 5V

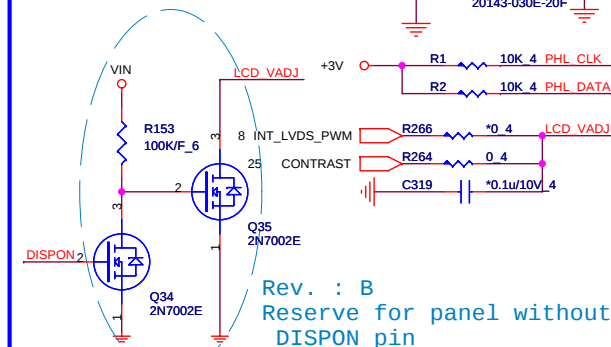
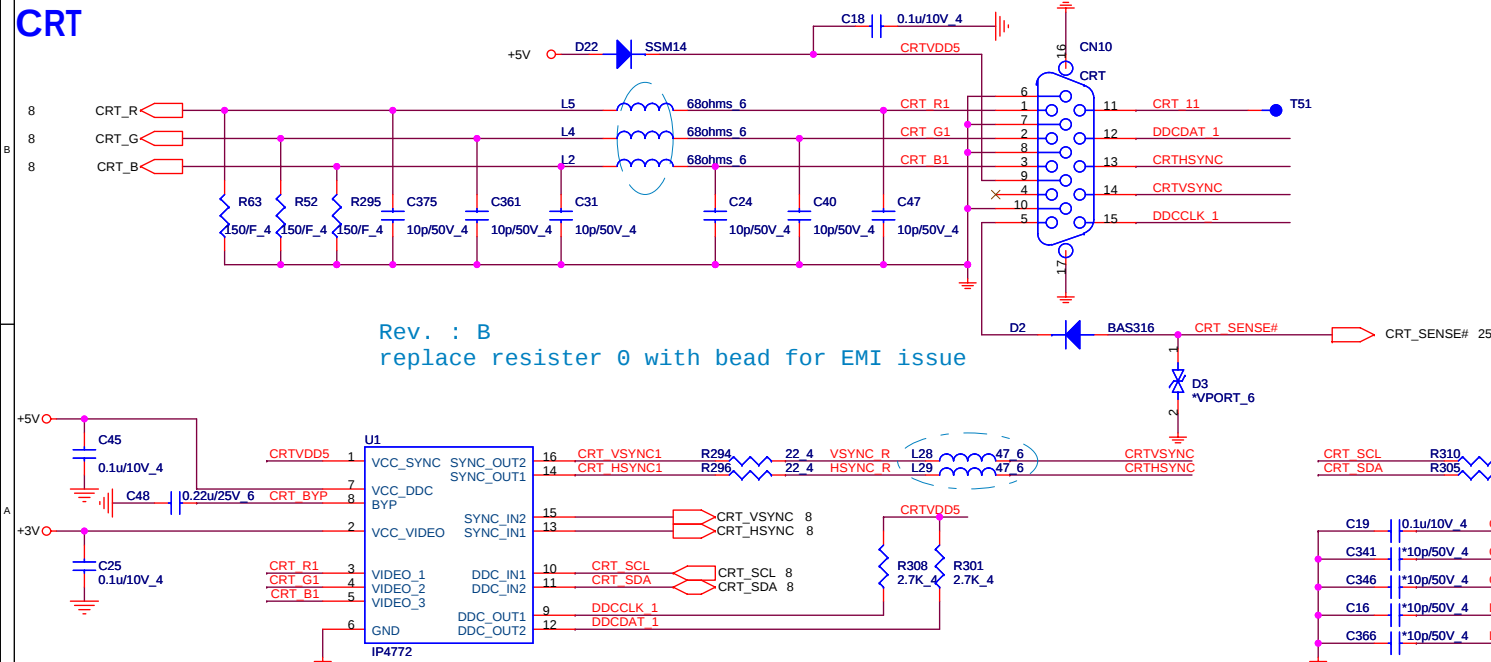
Rev. : B
Remove L25 , C321 , R261



EMI reserve



CRT



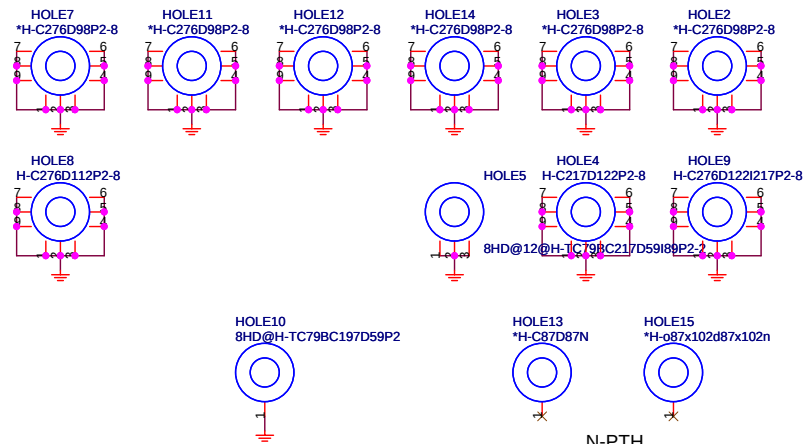
Rev. : B
Reserve for panel without
DISPON pin



Quanta Computer Inc.
PROJECT : ZG5

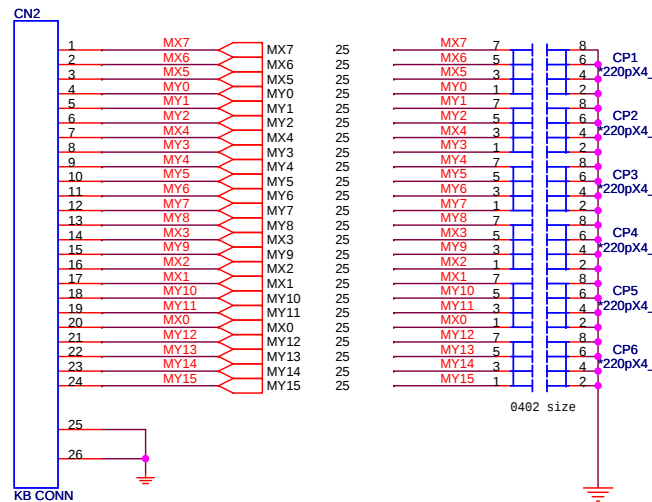
Size	Document Number	Rev
	CRT/LVDS	1A
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SCREW HOLE



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

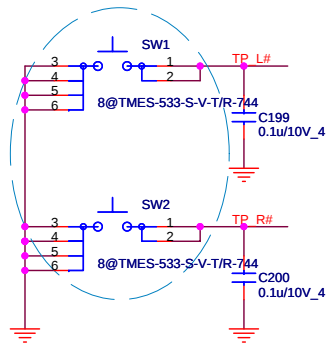
MM20050ICI2 CF@ x 2, HD@ x 2, ODD@ x 2

SSD x 2

HDD x 2

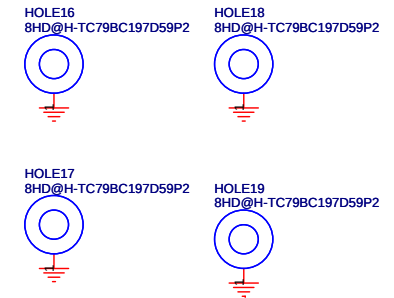
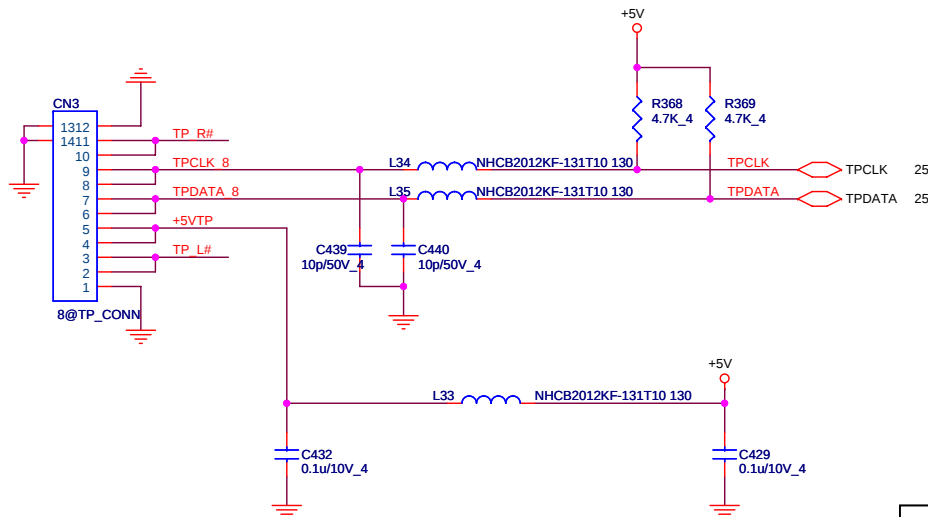
12" x 4

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
	KB/TP/HOLE	1A
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Speaker Amplifier

The schematic diagram illustrates a Speaker Amplifier circuit. The central component is the G1441 (U18), a dual-channel audio amplifier. The circuit is powered by a +5V_ADO supply and a +3V_AVDD supply. 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 amplifier is configured with a 1441 MUTE pin (pin 5) and a SE/BTL pin (pin 11). The output pins are INSPKL+ (pin 19), INSPKR+ (pin 12), INSPKL- (pin 24), and INSPKR- (pin 7). The circuit also includes a 1u10V 6 electrolytic capacitor (C527) and a 1u10V 6 electrolytic capacitor (C528).

[illegible][illegible]

LINE OUT Amplifier

Gain = $-(R_f/R_i)$

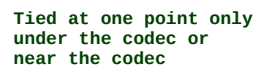
Rev. : C
Change L19 , L20 to res 56ohms
Vendor suggestion

Amplifier POWER

The diagram illustrates the power distribution for the Amplifier section. It features two ground planes, ADOGND1 and ADOGND2, separated by a 60mil gap. The top plane (ADOGND1) is connected to +3V and +3V_AVD. The bottom plane (ADOGND2) is connected to +5V and +5V_ADO. Various capacitors (C259, C256, C249, C248, C276, C275, C271, C269, C530, C268) and inductors (L17, L18) are placed along the planes. Component values are specified: C259, C276, C271 are 4.7u/10V_6; C256, C249, C269, C530 are 0.1u/10V_4; C248, C275, C268 are 0.1u/10V_4. Inductors L17 and L18 are FBMH1608HM151_6_2A.

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

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



MICROPHONE

MIC1_L1 R403 1K 4 MIC1_L2 L37 0.6 MIC1_L MIC1_L 24

MIC1_R1 R402 1K 4 MIC1_R2 L36 0.6 MIC1_R MIC1_R 24

CLOSE U19

C541 *470p/50V_4 C542 *470p/50V_4

ADOGND

INT. MIC.

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

LED on M/B



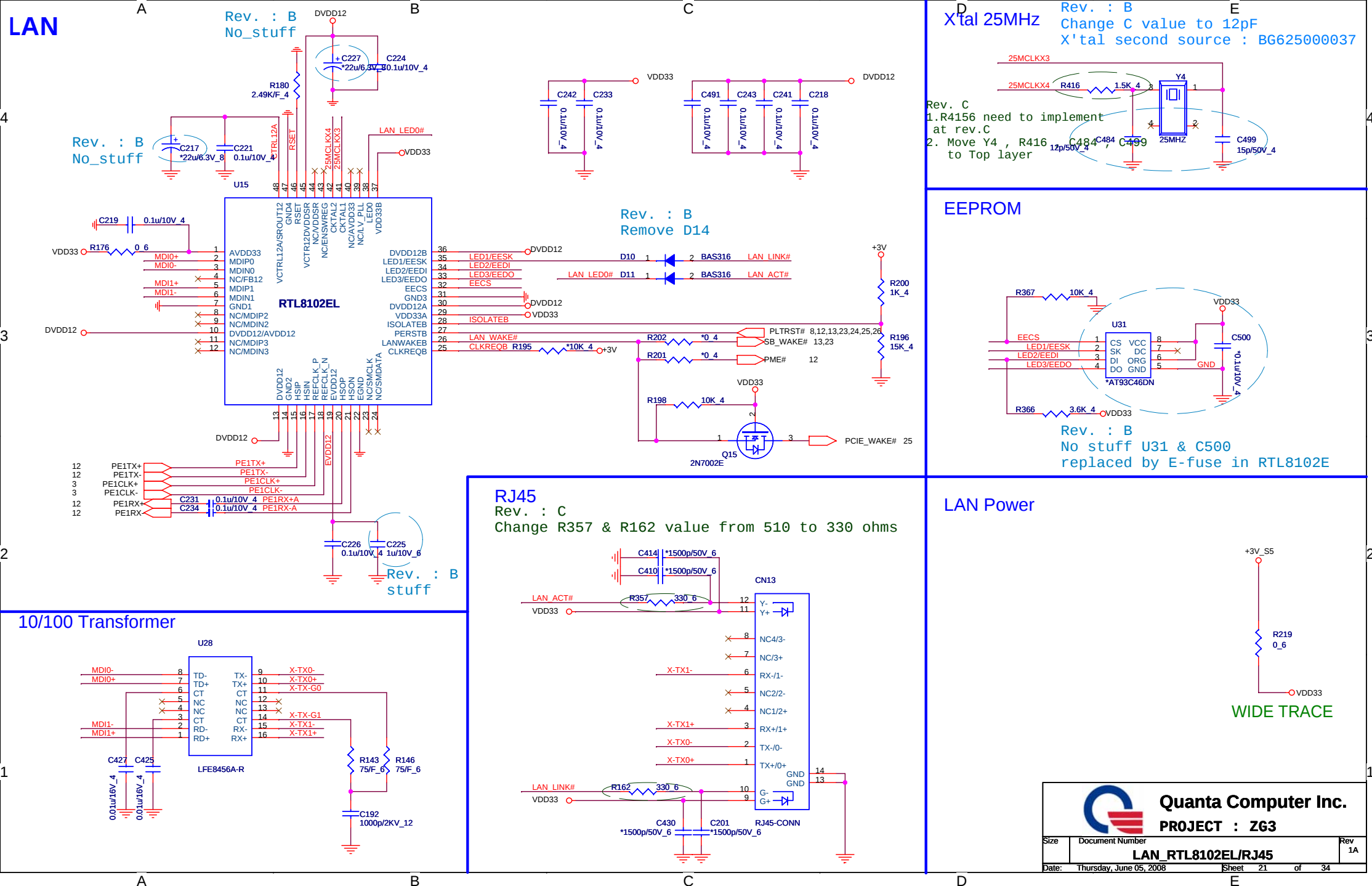
- **Charger (Green/ Abler)**
- **Storage HDD/ SSD/ Media (Gereen)**
- **Caps (Green)**
- **Num (Green)**

Rev. C
Remove Q16



Quanta Computer Inc.
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	USB on Board/LED	1A
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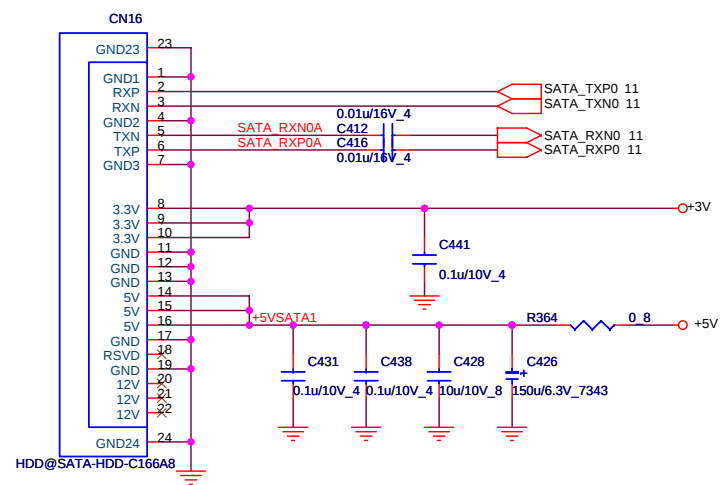


SATA HDD

SATA ODD

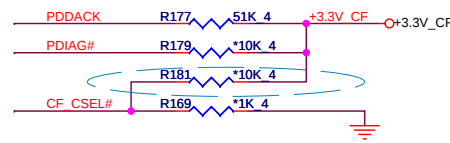
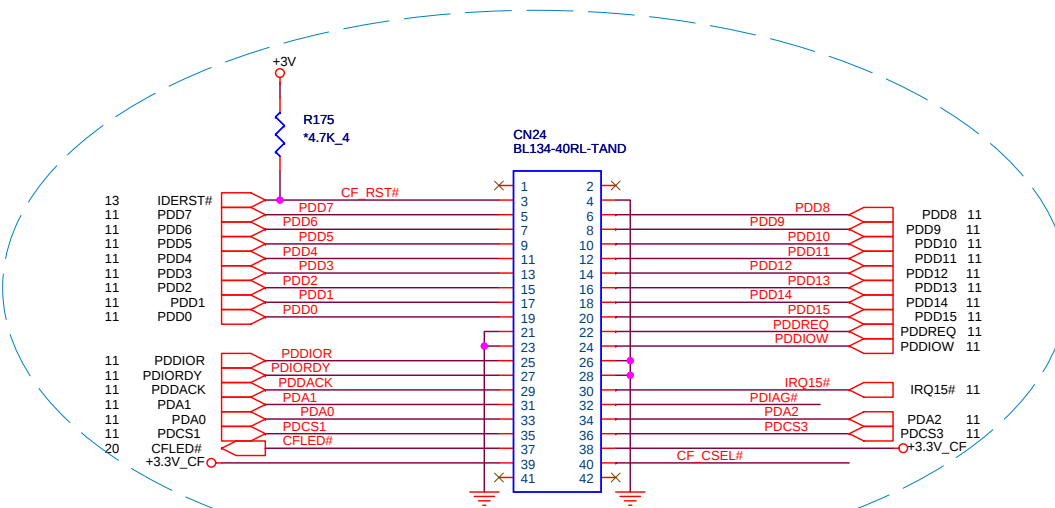
Rev. B
Remove R191 , C240 , C229 , C237 , C235 , C230

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

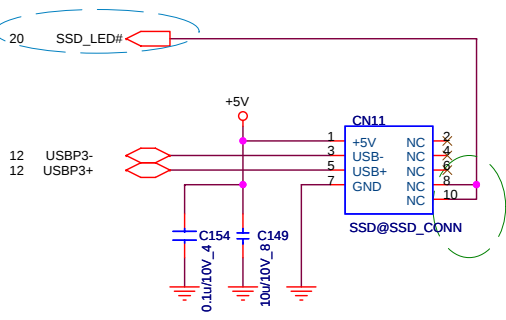
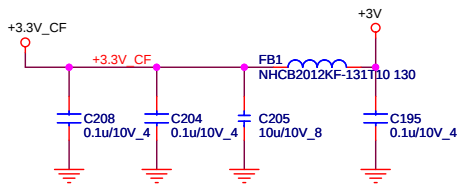


ZT4 card connector

SSD connector



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



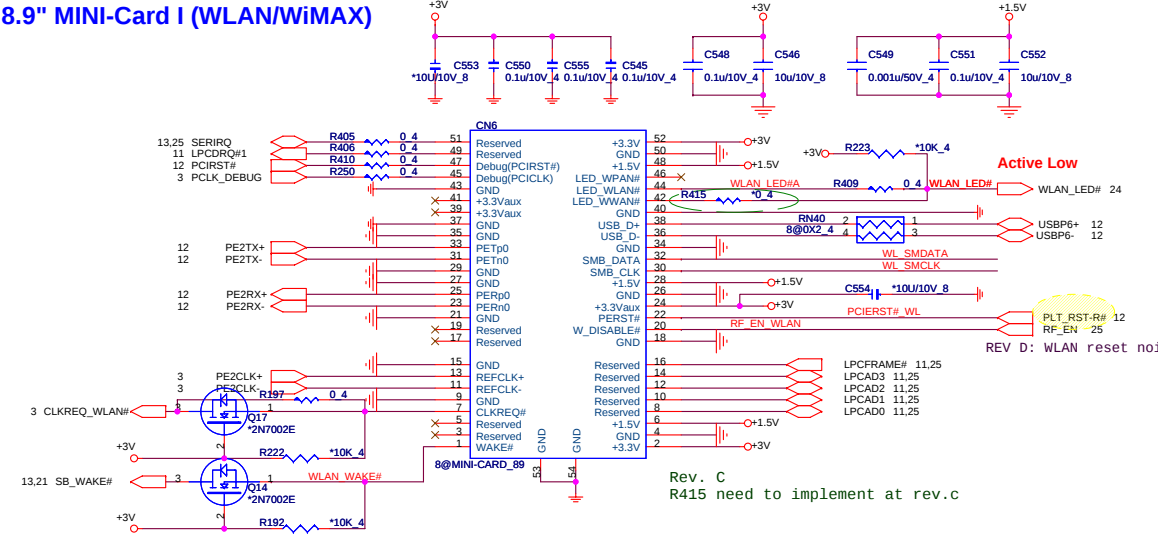
Rev. : C
Change pin 8 to low active
pin8 for sandisk
pin10 for intel

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



Quanta Computer Inc.
PROJECT : ZG3

8.9" MINI-Card I (WLAN/WiMAX)

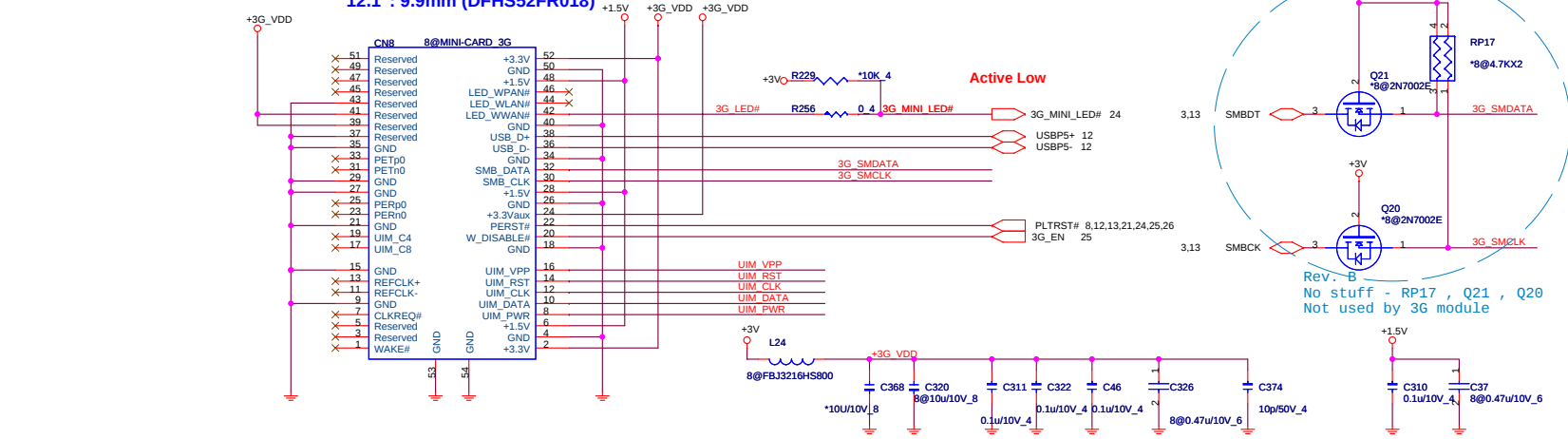


12.1" MINI-Card I (WLAN/ WiMAX)

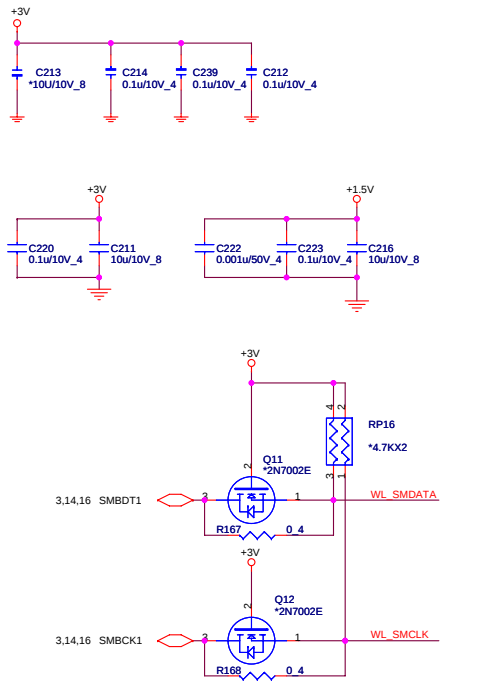
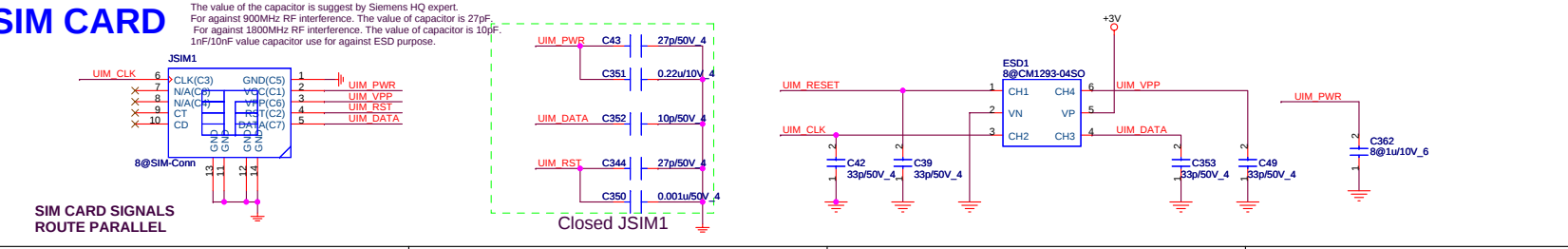
Rev. : B
Remove CN14 , RN38 , RN39 , RN36

3G MINI CARD

8.9": 8mm (DFHD52MS065)
12.1": 9.9mm (DFHS52FR018)



SIM CARD

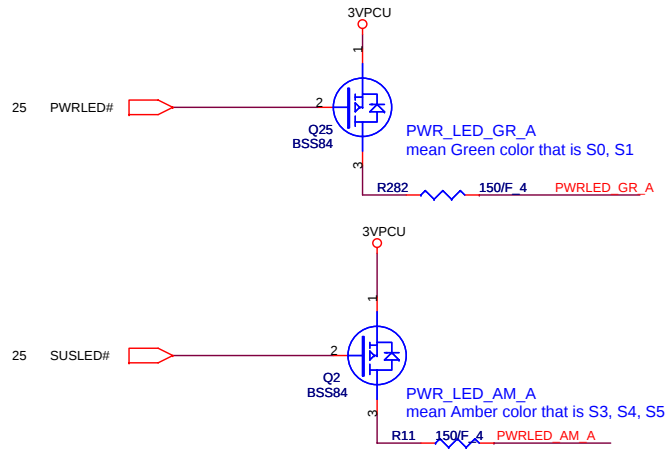


Rev. : B
Remove RN43 , RN44

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

12"
USB/PWR BTN Board
USB/LED Board

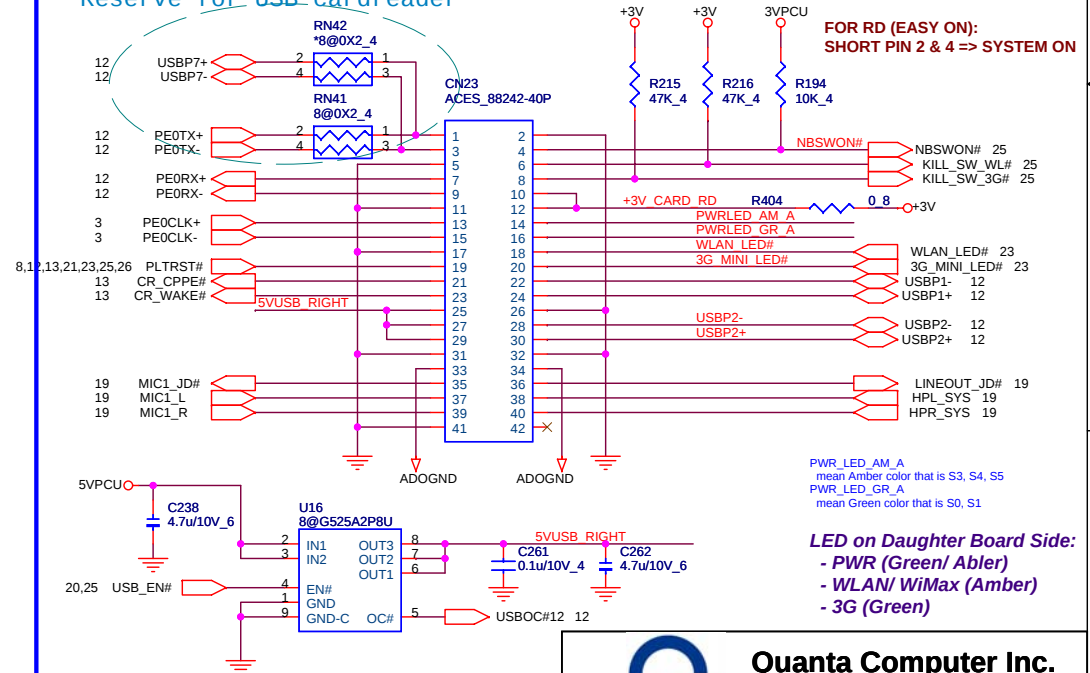
Rev. : B
Remove CN7 , CN26 , U23 , U3 ,
C286 , C300 , C75 , C295



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

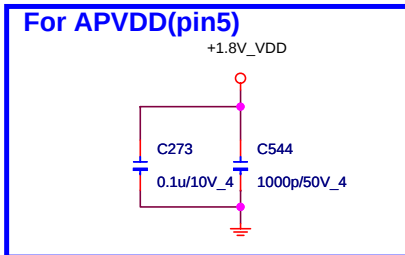
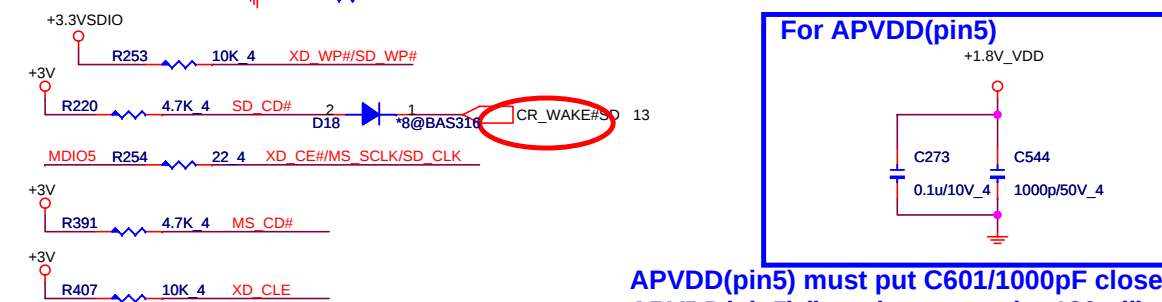
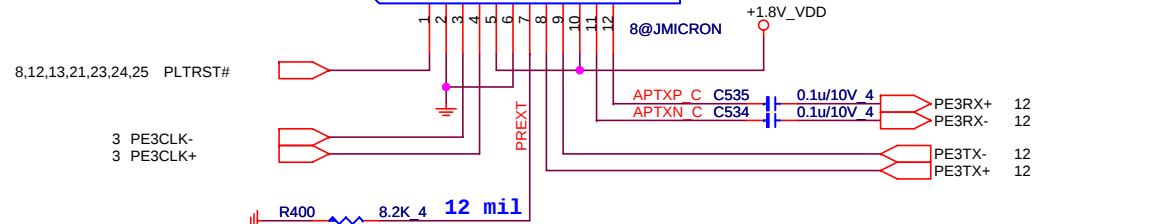
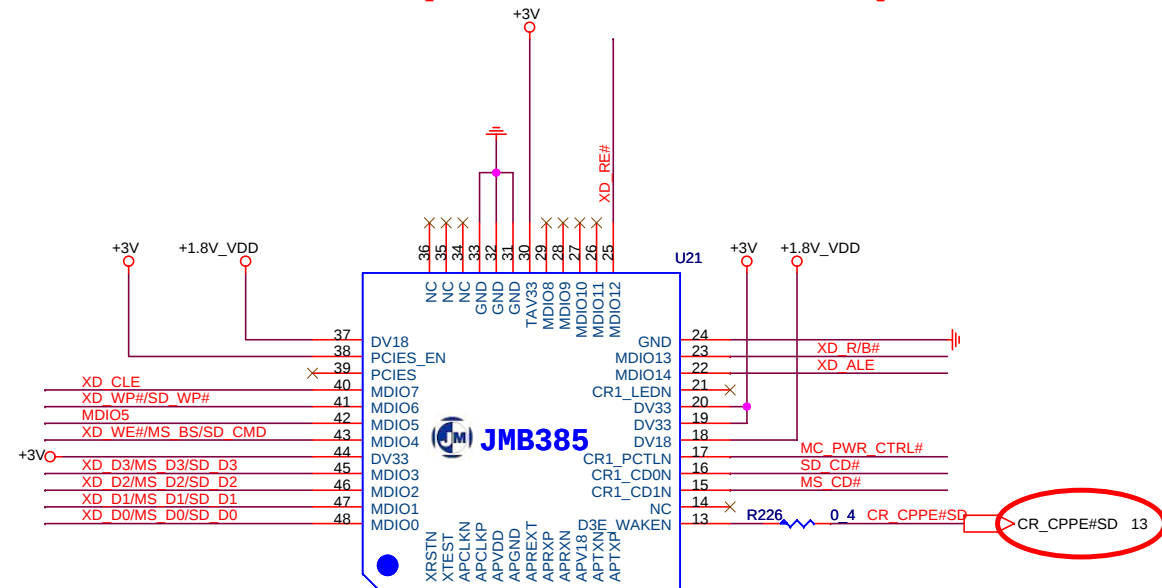
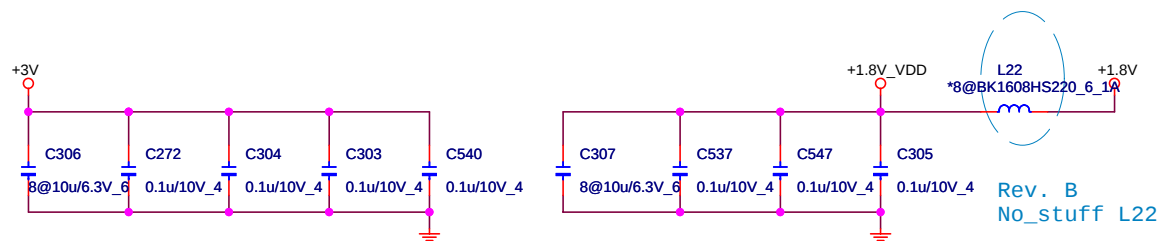
8.9"
Card-Reader / USB / Kill SW / POWER SW

Rev. : B
Reserve for USB cardreader



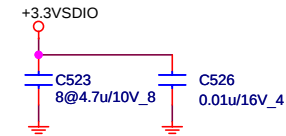
Quanta Computer Inc.
PROJECT : ZG3

Size	Document Number	Rev
	PCle-Cardreader/External-USB	1A
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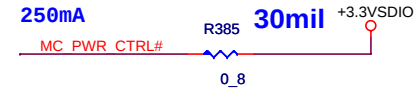


APVDD(pin5) must put C601/1000pF close to APVDD(pin5) (length must under 120mil) and trace width = 20mil, after C601, pls put one more 0.1uF for it.

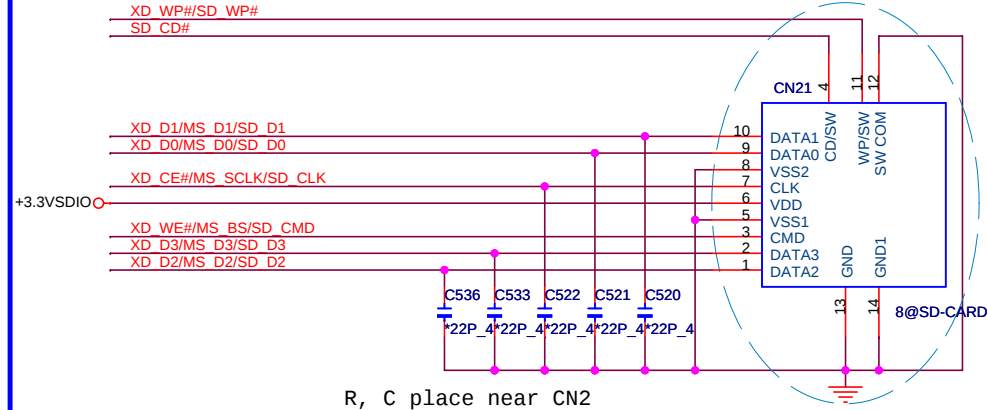
Memory Card Power Supply



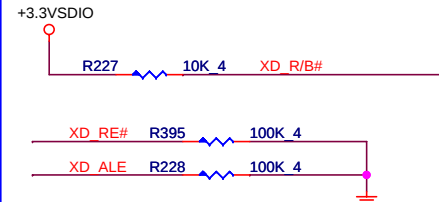
Use 0805 type and over 20 mils trace width on both side



SD CONNDETOR



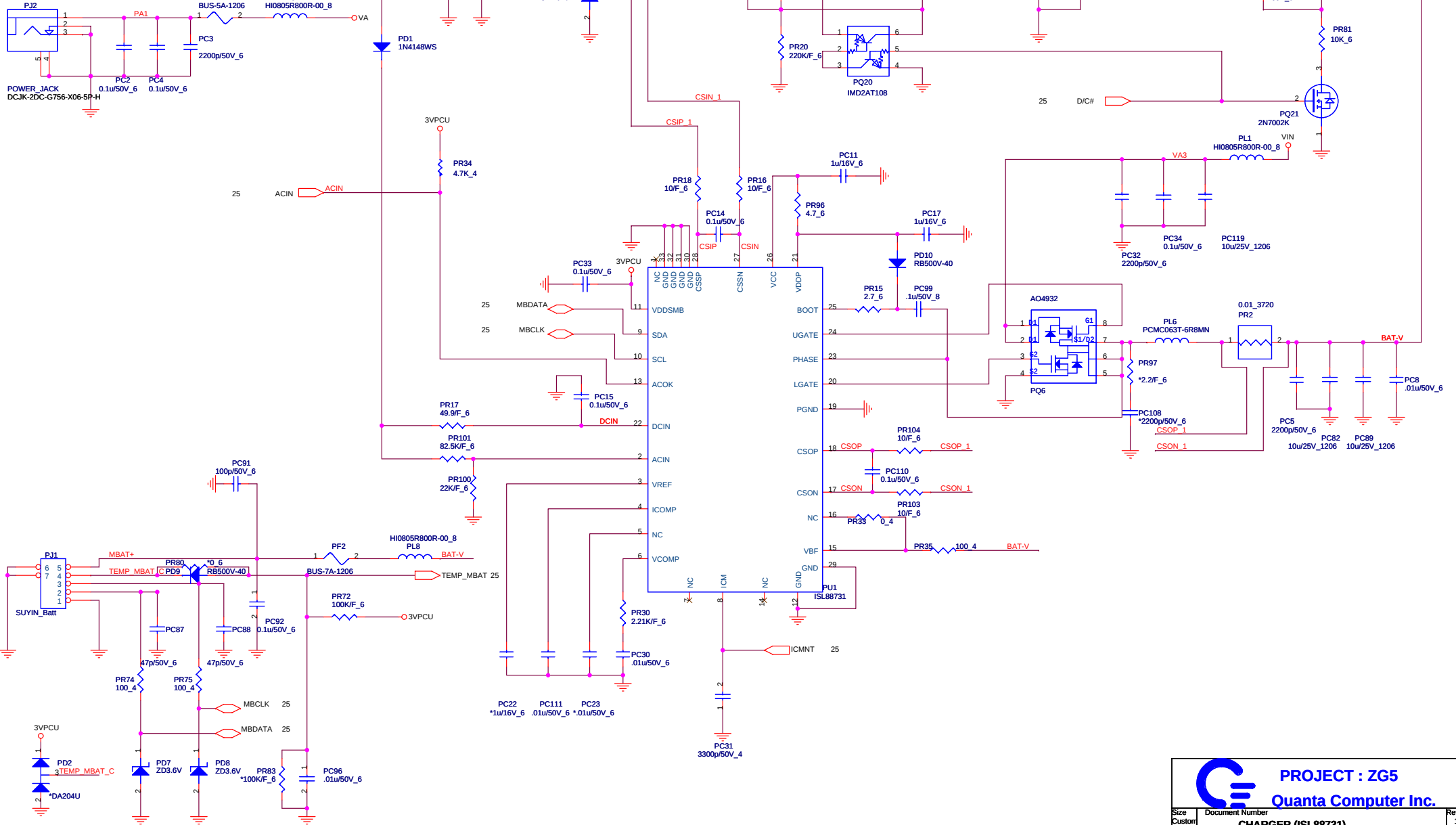
Rev. : B
Swap pin & change conn. P/N



Quanta Computer Inc.
PROJECT : ZG5

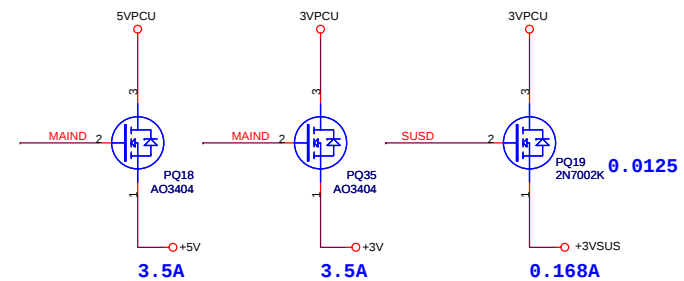
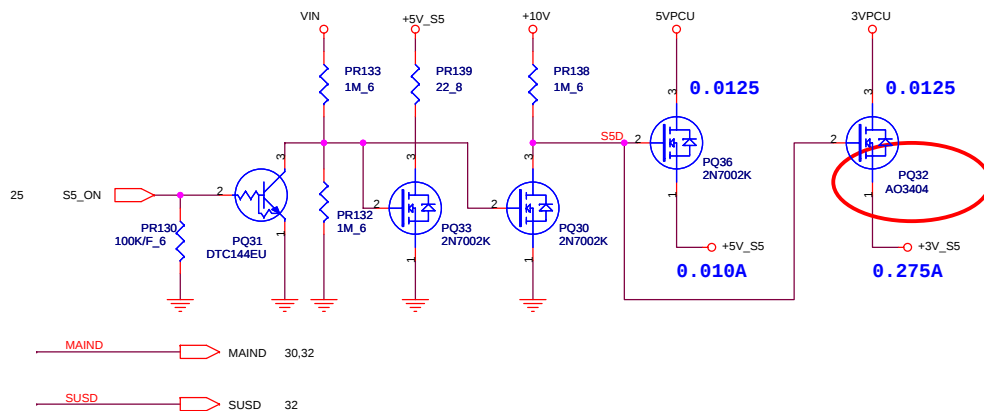
DC-IN JACK

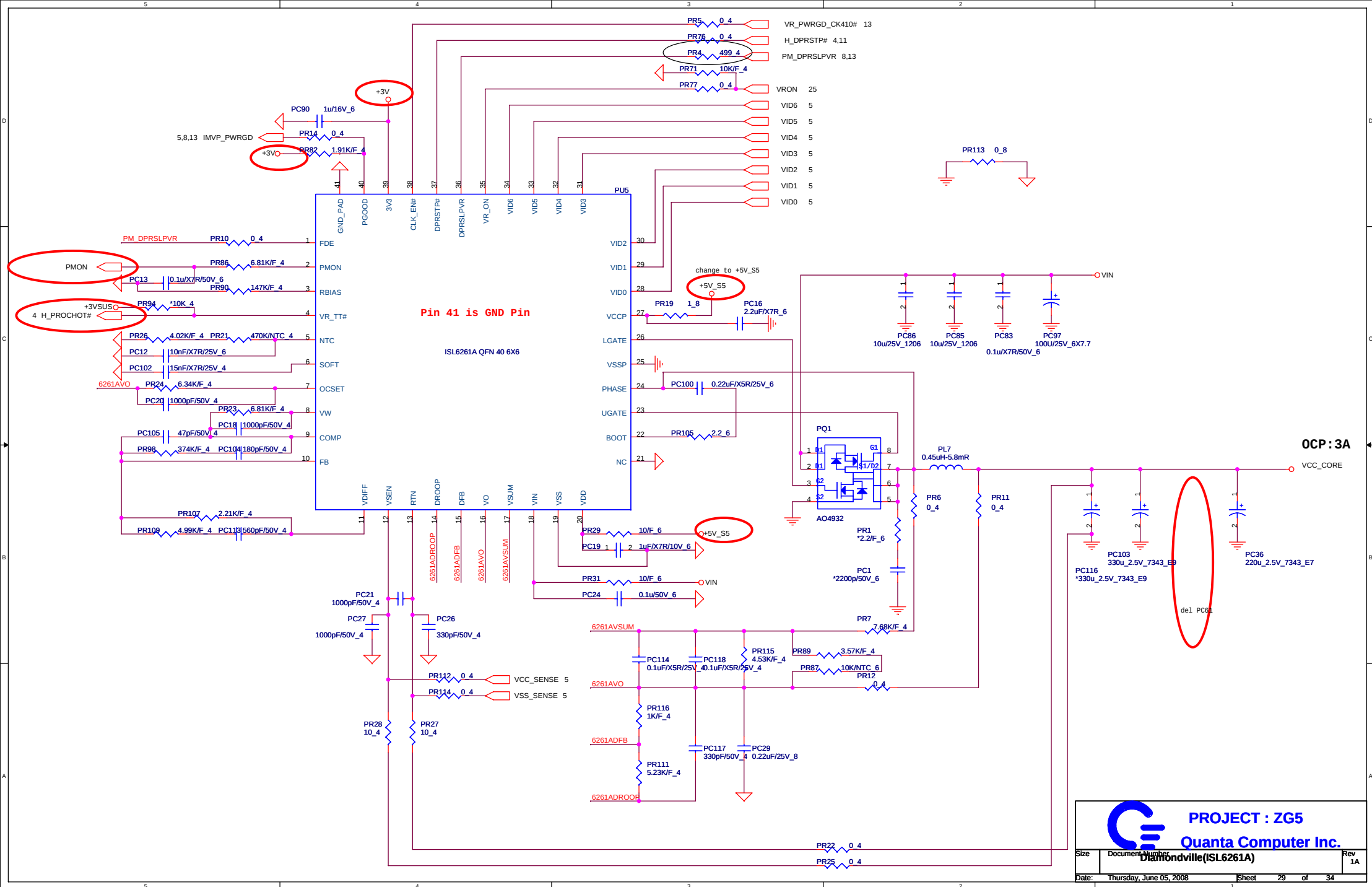
65W Yellow DFPJ05MR007

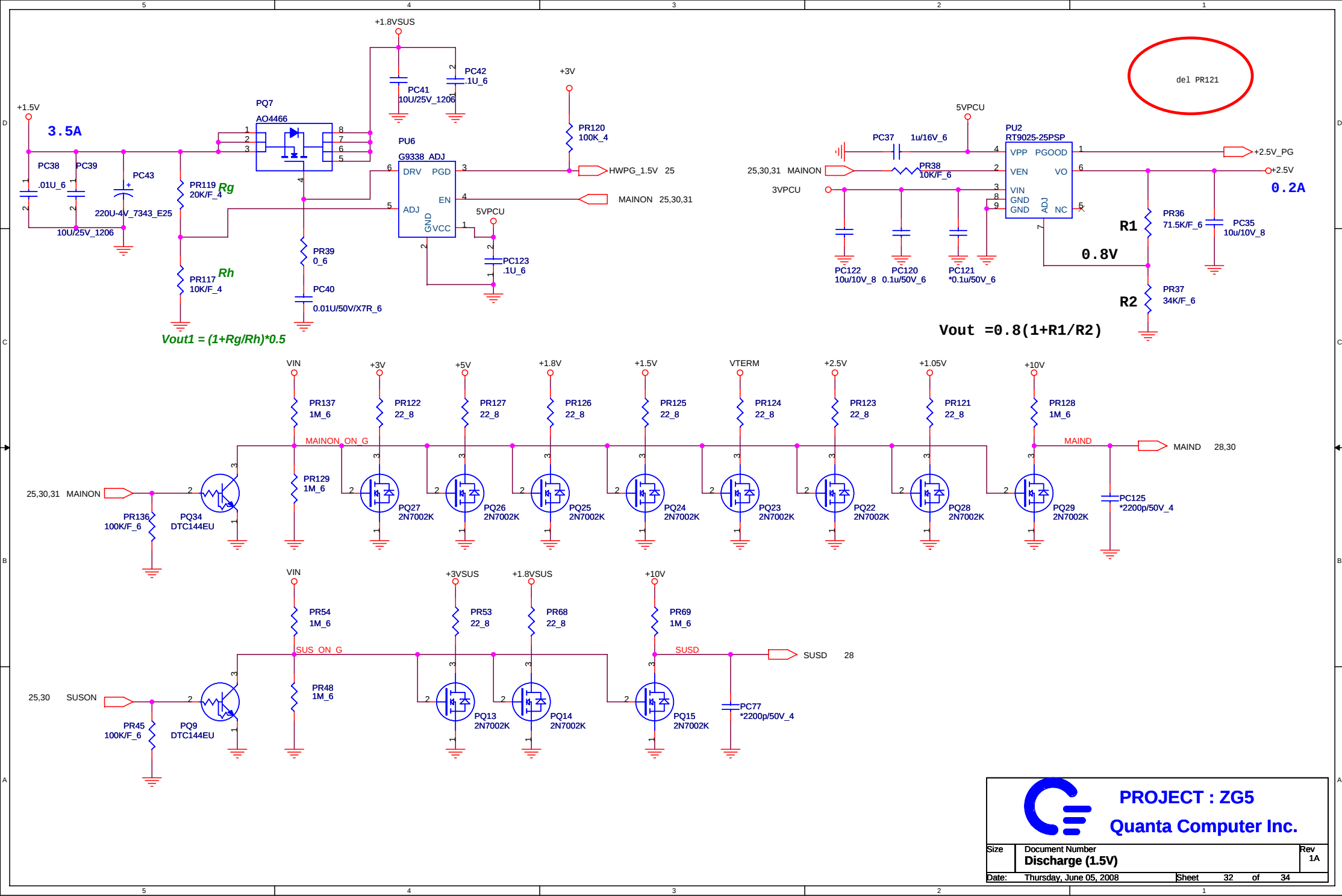


```
PR148 mount 10_6 ( CS01003J953 )
PC126 mount 0.1uF ( CH4104K9B03 )
PR151 mount 0_6 ( CS00003J951 )
```

PC126 mount 1u/6.3V_4 (CH5101K9B01)







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)

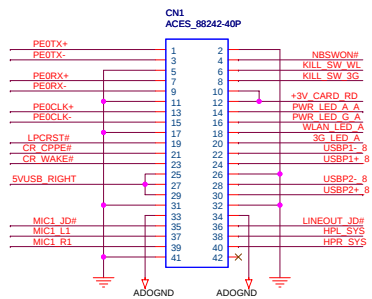
Change PU3 to RT8207 (AL008207000)

Add PR147 620K/F_6 (CS46202FB00)

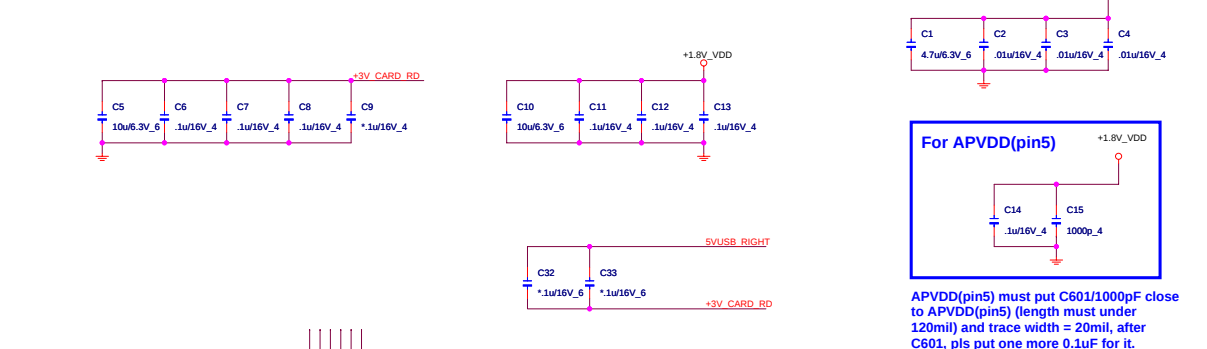
Page 27 : Del PR84 0_6
Page 29 : Del PR3 , PR78 , PR8 , PR79 , PR88 , PR13 , PR92 0_4
Page 32 : Del PR118 0_4

		PROJECT : ZG5	
		Quanta Computer Inc.	
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	Power Change List		1A
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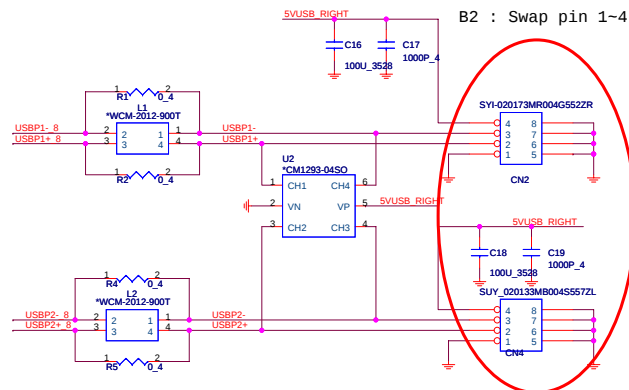
DaughterBorad to MotherBoard CONN



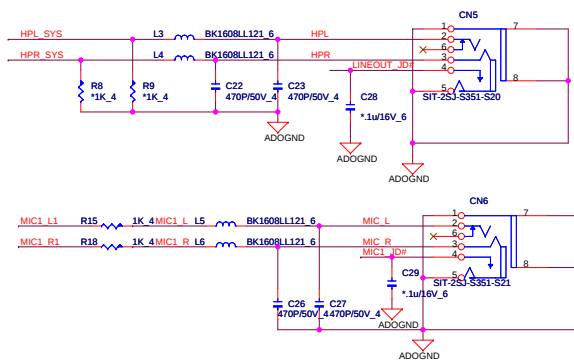
CardReader



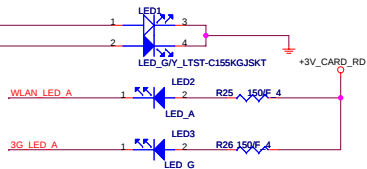
USB CONN



PHONE JACK

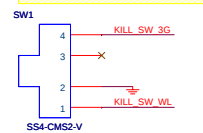


LED

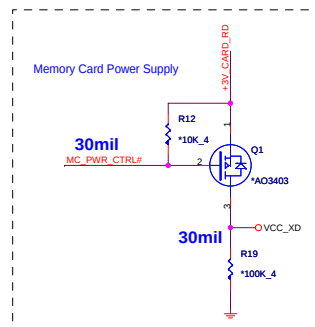
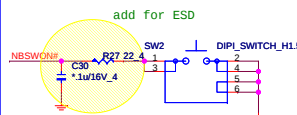


Kill SW

chnge pin sequence



Power SW



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

