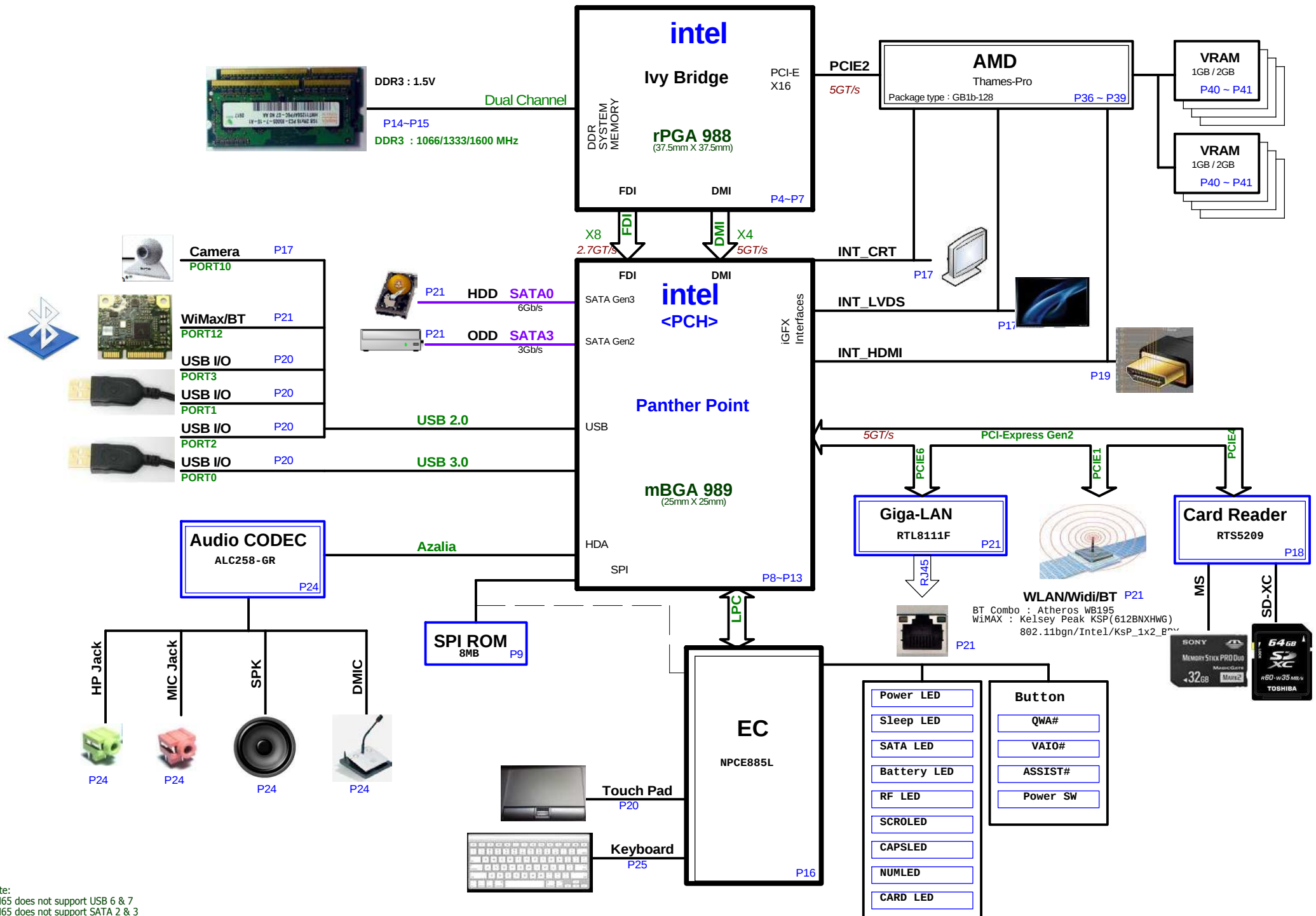


Page	Title of schematic page	Rev.	Date
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02	Block Diagram	1A	
03	Change List	1A	
04	SNB 1/4(HOST&PCIE)	1A	
05	SNB 2/4(DDR3 I/F)	1A	
06	SNB 3/4(POWER)	1A	
07	SNB 4/4(GND/Strap)	1A	
08	PCH 1/6(DMI/FDI/VIDEO)	1A	
09	PCH 2/6(SATA/RTC/HDA/LPC)	1A	
10	PCH 3/6(PCIE/USB/CLK/NV)	1A	
11	PCH 4/6(GPIO/CPU/STRAP)	1A	
12	PCH 5/6(POWER)	1A	
13	PCH 6/6 (GND)	1A	
14	DDR3 DIMM-0-STD	1A	
15	DDR3 DIMM-1-STD	1A	
16	WPCE791L & FLASH	1A	
17	CRT/LVDS/CAMERA	1A	
18	CARD READER(RTS5209)	1A	
19	HDMI/THERMAL	1A	
20	USB	1A	
21	LAN (RTL8111F)	1A	
22	WLAN/KB-BL	1A	
23	HDD/ODD/G-SENSOR/TP/FAN	1A	
24	Audio ALC258-GR	1A	
25	LED/RF/PS	1A	
26	POWER +VCC_CORE (ISL95835)	1A	
27	POWER 3VPCU&RVCC5(PM6686)	1A	
28	POWER 1.5VSUS/VTT_MEM	1A	
29	POWER +1.05V(G5602R41U) -15A	1A	
30	POWER VCCSA/VCCIO	1A	
31	POWER VCC1.8/Thermal	1A	
32	POWER(BAT IN / ADA IN/ UL)	1A	
33	POWER CHARGER (ISL88731C)	1A	
34	POWER VGA_CORE(OZ8117)	1A	
35	POWER VGA_VCC1.8/VCC1.0	1A	
36	Thames_PCIE I/F/DP Power	1A	
37	Thames_IO & STRAP	1A	
38	Thames_MEMORY/THERM	1A	
39	Thames_POWER	1A	

Page	Title of schematic page	Rev.	Date
40	Thames_DDR3_A_512M	1A	
41	Thames_DDR3_B_512M	1A	
42	HOLE/EMI/KB	1A	
43	IO PORT LIST	1A	

* : No mount
E@ : For DIS GFX only
I@ : For INT GFX only



Note:
HM65 does not support USB 6 & 7
HM65 does not support SATA 2 & 3

Change List

HK5_MB_SCH_PVT_001
P21--Add LQ2[CHT2301PT],LR18[47K],LC27[0.01UF],LC26[1U].
P21--No mount LR15[0 ohm].
P21--LR16 pin1 connect to "+3V_S5".

Reason : Modify circuit for LAN power Rise time.
Possible Risk: No.

HK5_MB_SCH_PVT_002
P22--Delete R409[3.01K].
P22--U29 value change to "G5240/TPS2051".
Reason : Modify circuit for K/B Backlight protect.
Possible Risk: No.

HK5_MB_SCH_PVT_003
P4--Delete R332[0 ohm].
P5--Delete R171[0 ohm].
P6--Delete R189,R186,R197[0 ohm].
P8--Delete R438,R38,R37,R439[0 ohm].
P9--Delete R121,R67,R65,R122[0 ohm].
P10--Delete R73[0 ohm].
P12--Delete R102,R126,R299,R302[0 ohm]
P14--Delete R312[0 ohm]
P15--Delete R309[0 ohm]
P16--Delete KR39,KR60,KR6,KR30[0 ohm]
P18--Delete ML1,MR5[0 ohm]
P21--Delete LR12[0 ohm]
P22--Delete R96[0 ohm]
P23--Delete R461 ,R462
P24--Delete AL1,AR21,AR8,AR23,AR24,AR25,AR22,AR15,AR16,AR17,AL3,AL4,R418,AR20[0 ohm]
P27--Delete PR490,PR502[0 ohm]
P31--Delete PR504[0 ohm]
Reason : Cancel 0 ohm.
Possible Risk: No.

HK5_MB_SCH_PVT_004
P27--Delete PR513.
Reason : Cancel 0 ohm.
Possible Risk: No.

HK5_MB_SCH_PVT_005
P26--PR100,PR108,PR109 change to short PAD.
P27--PR325,PR318,PR324,PR326 change to short PAD.
P28--PR352,PR356,PR360,PR357,PR358 change to short PAD.
P30--PR388,PR390,PR392 change to short PAD.
P31--PR413,PR429,PR430,PR440,PR441 change to short PAD.
P33--PR271 change to short PAD.

Reason : Cancel 0 ohm.
Possible Risk: No.

HK5_MB_SCH_PVT_006
P23--reserve D9 and D10
Reason : reserve ESD diode
Possible Risk: No.

HK5_MB_SCH_PVT_007
P25--change CON1 form 12Pin to 10pin
Reason : delete samll board LID fuction
Possible Risk: No.

HK5_MB_SCH_PVT_008
P42-- Del J5,J6,J7,J8,J9,J10 for EMI request
Reason : For EMI
Possible Risk:
No.

HK5_MB_SCH_PVT_009
P23-- Delete reserve ESD diode D23 ,D24
Reason : ESD test PASS , we don't need to reserve
Possible Risk: No.

HK5_MB_SCH_PVT_010
P23-- change ODD ESD diode form Rclamp0502n to SR05
Reason : for SMT issue , Rclamp0502n easy to short , we change to SR05 and still reserve it
Possible Risk: No.

HK5_MB_SCH_PVT_011
P25-- change R225 form 150ohm to 40.2ohm
Reason : for W/L LED dark issue
Possible Risk: No.

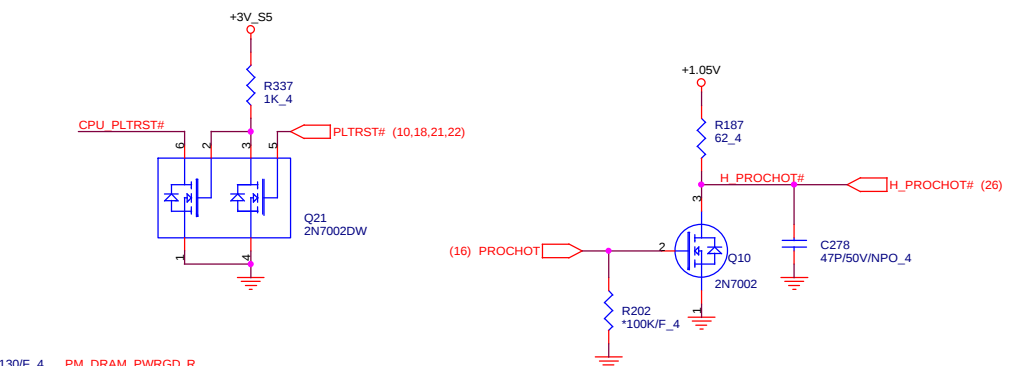
HK5_MB_SCH_PVT_012
P25-- change R224 R226 R349 form 150ohm to 75ohm
Reason : for HDD ,Battery and card reader LED dark issue
Possible Risk: No.

HK5_MB_SCH_PVT_013
P23-- add R461 ,R462 [0ohm]
Reason : customer requirement for TP SMBUS signal
Possible Risk: No.

Ivy Bridge Processor (CLK,MISC,JTAG)

The diagram illustrates the electrical connections for the Ivy Bridge rPGA_2DPC_Rev0p61, organized into five functional sections:

- MISC:**
 - PROC_SELECT# (C26) to (9) H_SNB_IVB#
 - SKTOCC# (AN34) to TP15 SKTOCC#
 - CATERR# (AL33) to TP14 TP CATERR#
 - PECI (AN33) to (16) EC_PECI
 - PROCHOT# (AL32) to H_PROCHOT#
 - THERMTRIP# (AN32) to (7,11) PM_THRMTRIP#
 - PM_SYNC (AM34) to (8) PM_SYNC, connected to C498, R332 (0.4S), and C457 (0.1U/10V/X5R_4)
 - UNCOREPWRGOOD (AP33) to (11) H_PWRGOOD, connected to R333 (22/J_4) and R334 (10K/J_4)
 - SM_DRAMPWROK (VB) to PM_DRAM_PWRGD R_VB
 - RESET# (AR33) to CPU_PLTRST# (R336, 43_4), connected to R338 (75/J_4) and C714 (0.1U/10V/X5R_4)
- THERMAL:**
 - PROCHOT# (AL32) to H_PROCHOT#
 - THERMTRIP# (AN32) to (7,11) PM_THRMTRIP#
- CLOCKS:**
 - BCLK_BCLK# (A28, A27) to CLK_CPU_BCLKP (10) and CLK_CPU_BCLKN (10)
 - DPLL_REF_CLK (A16) and DPLL_REF_CLK# (A15) to R329 (1K_4) and R330 (1K_4), connected to +1.05V
- DDR3 MISC:**
 - SM_DRAMRST# (R8) to CPU_DRAMRST# (5)
 - SM_RCOMP[0] (AK1) to SM_RCOMP 0 (R185, 140/F_4)
 - SM_RCOMP[1] (A5) to SM_RCOMP 1 (R324, 25.5/F_4)
 - SM_RCOMP[2] (A4) to SM_RCOMP 2 (R325, 200/F_4)
- JTAG & BPM:**
 - PRDY# (AP23) and PREQ# (AP23) to ~~AR23~~
 - TCK (AR26) to XDP TCLK (R201, 51_4)
 - TMS (AR27) to XDP TMS (R200, 51_4)
 - TRST# (AP30) to XDP TRST# (R335, 51_4)
 - TDI (AR28) to XDP TDI_R (R339, 51_4)
 - TDO (AP26) to XDP TDO_R (R441, 51_4)
 - DBR# (AL35) to XDP_DBRST# (8)
 - BPM# [0] (AT28) to ~~AR28~~
 - BPM# [1] (AR23) to ~~AR23~~
 - BPM# [2] (AR30) to ~~AR30~~
 - BPM# [3] (AT33) to ~~AR33~~
 - BPM# [4] (AP32) to ~~AR32~~
 - BPM# [5] (AT31) to ~~AR31~~
 - BPM# [6] (BPM# [6]) to ~~AR31~~
 - BPM# [7] (AR33) to ~~AR33~~



FDI Disabling (Discrete Only)

- FDI_FSYNC (J18/J17/J19/H17) can gang all these 4 signals together and tie them with only one 1K resistor to GND (DG V0.5 Ch2.2.9).
- FDI_INT connect to GND with 1K ohm.

(8,16,26,28,30,31,35) ALL_SYS_PWRGD

(8) PM_DRAM_PWRGD

U7
74AHC1G09

R158 130/F 4 PM DI

R169 *39

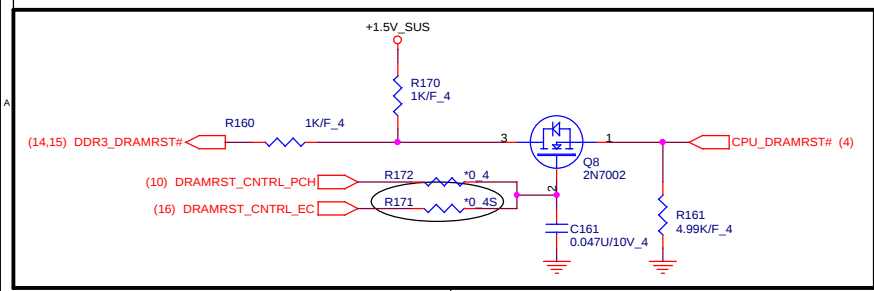
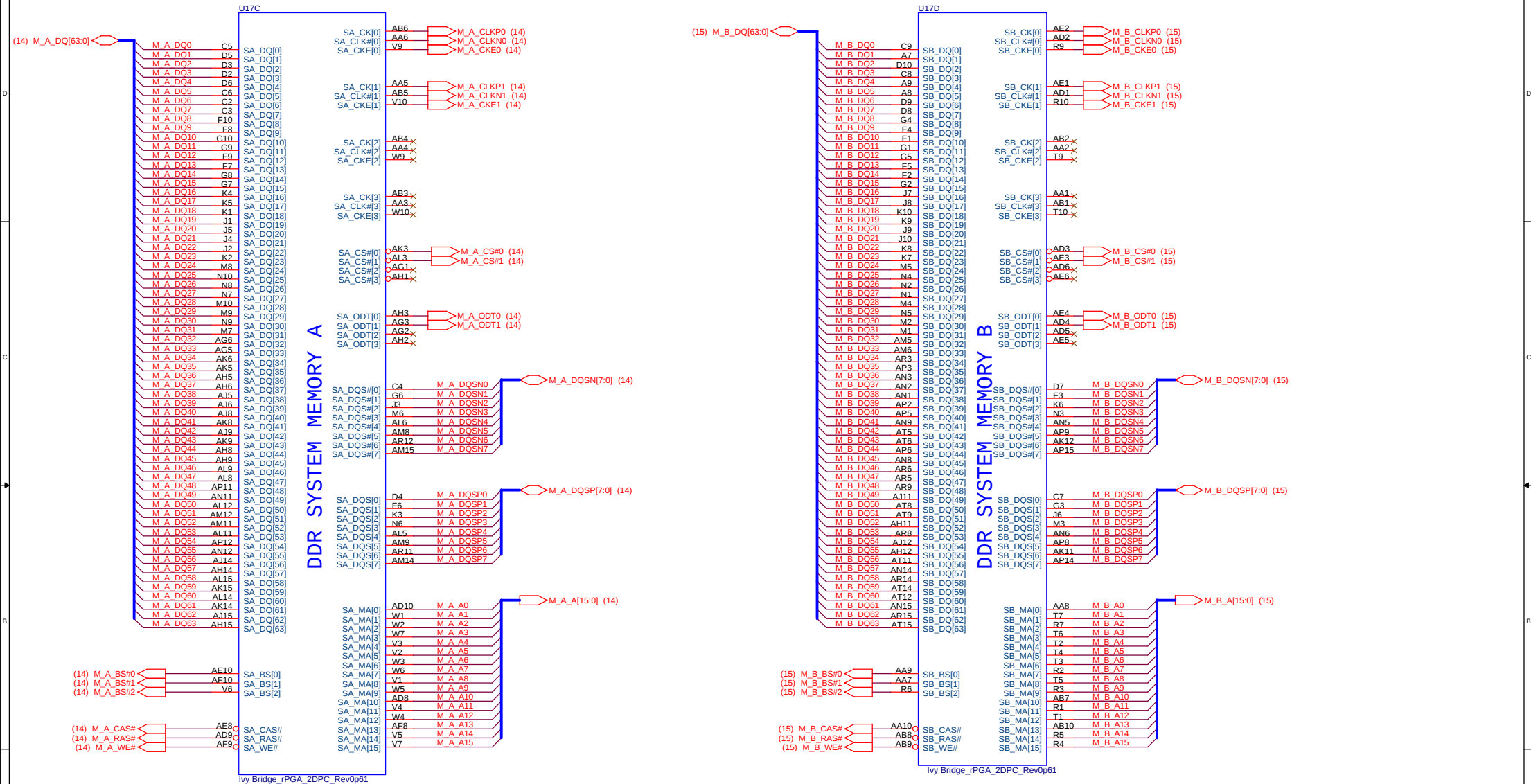
Q7
*2N7002
MAING (27.28.35)

 Quanta Computer Inc. PROJECT :Chief River	
Size	Document Number SNB/IVB 1/4
Date: Wednesday, February 01, 2012	Sheet 4 of 43 Rev 1A

1.Level 1 Environment-related Substances Should Never be Used.	SNB/IVB 1/4				
2.Recycled Resin and Coated Wire should be procured from Green Partners.					
	Date: Wednesday, February 01, 2012	Sheet	4	of	43

Ivy Bridge Processor (DDR3)

05



Quanta Computer Inc.

PROJECT :Chief River

Size	Document Number	Rev
	SNB/IVB 2/4	1A

1.Level 1 Environment-related Substances Should Never be Used.

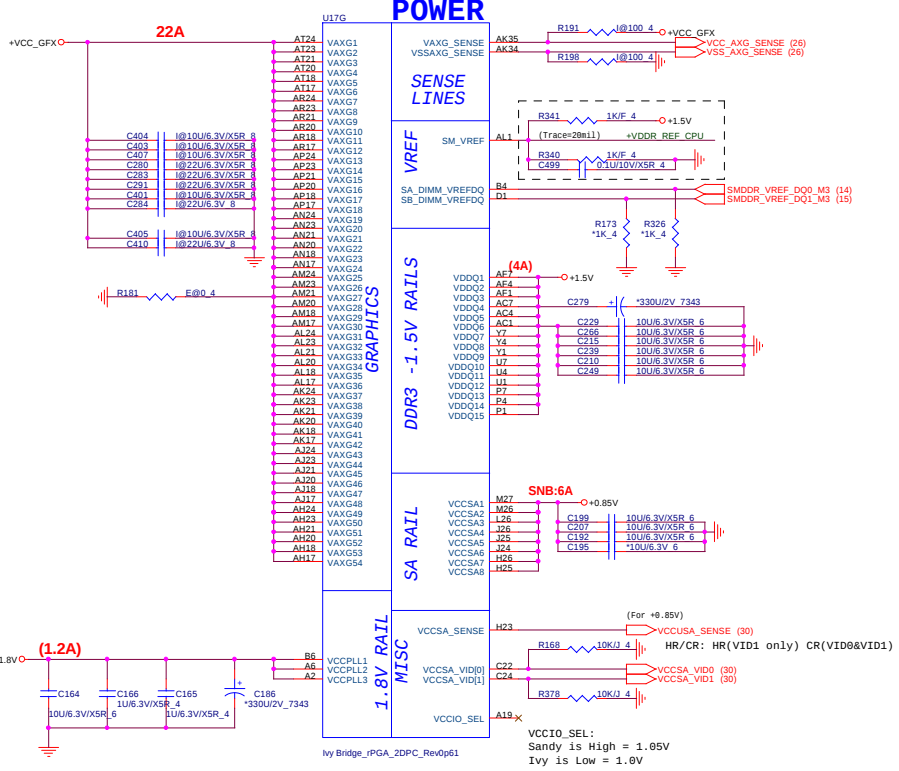
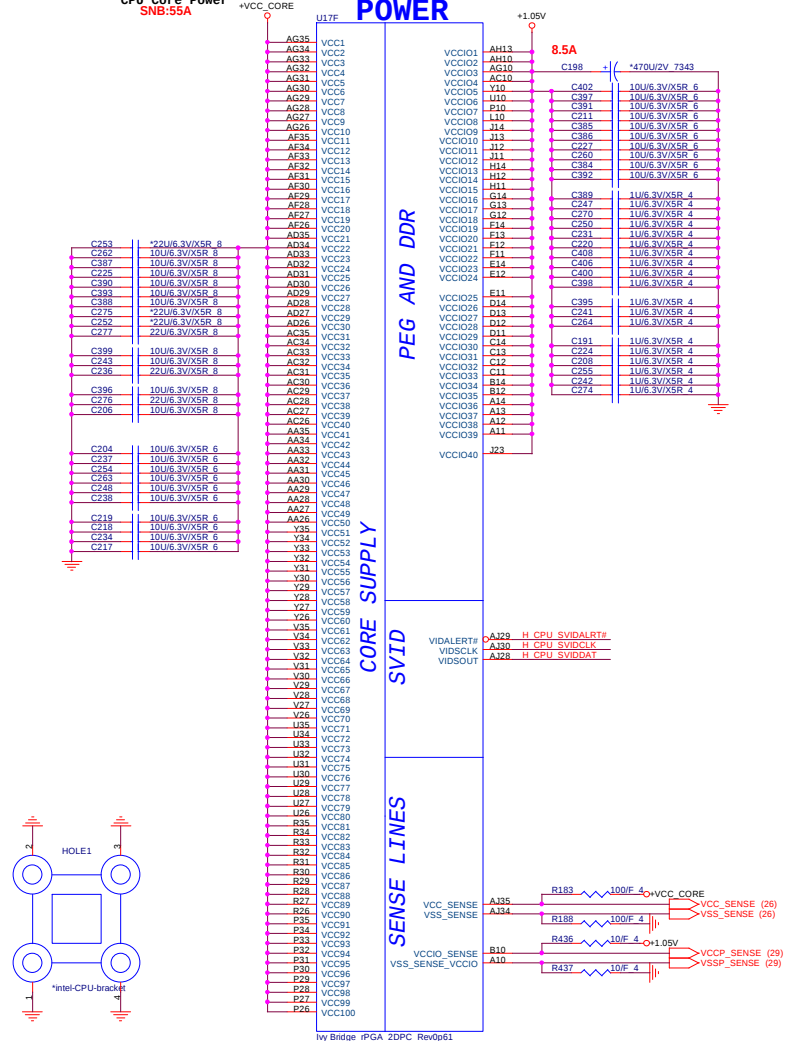
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Date: Wednesday, February 01, 2012

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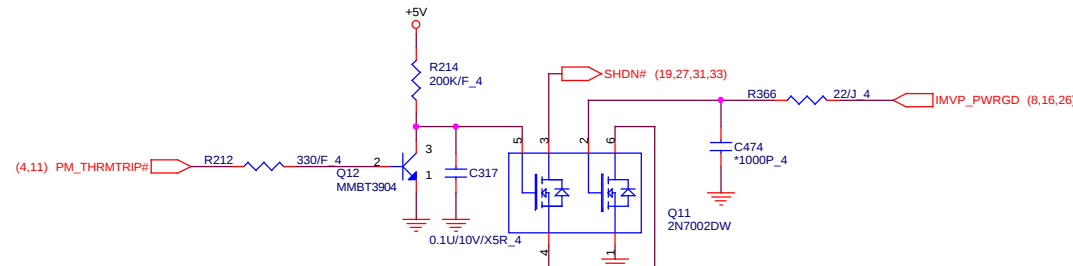
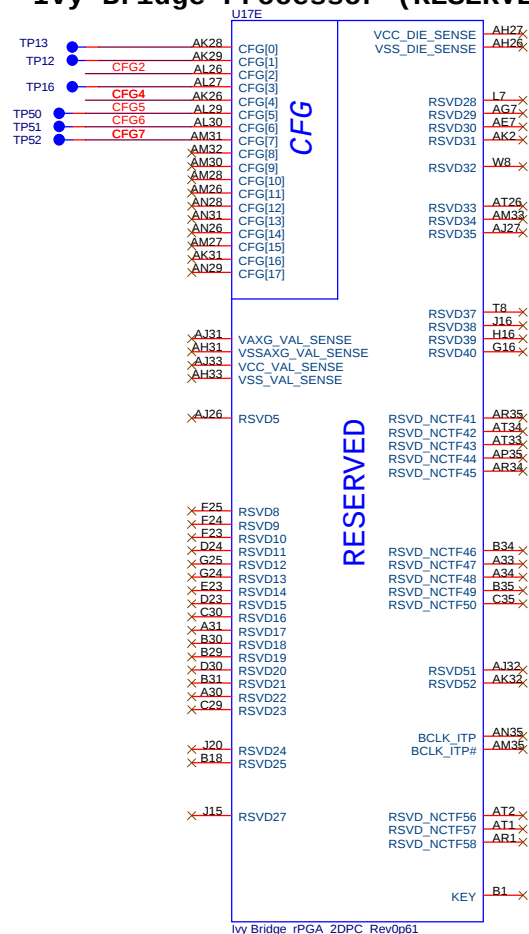
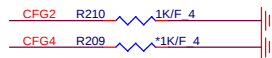
Ivy Bridge Processor (POWER)

Ivy Bridge Processor (GRAPHIC POWER)



1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Ivy Bridge Processor (RESERVED, CFG)



The CFG signals have a default value of '1' if not terminated on the board.

	1	0
CFG2 (PEG Static Lane Reversal)	Normal Operation	Lane Reversed
CFG4 (DP Presence Strap)	Disable; No physical DP attached to eDP	Enable; An ext DP device is connected to eDP
CFG7 (PEG Defer Training)	PEG train immediately following xxRESETB de assertion	PEG wait for BIOS training

```
CFG[6:5] (PCIe Port Bifurcation Straps)
11: (Default) x16 - X16 PEG interface
10: PEG x8 x8 bifurcation enableddisabled
01: Reserved - (Device 1 function 1 disabled ; function 2 enabled
00: x8,x4,x4 - Device 1 functions 1 and 2 enabled
```

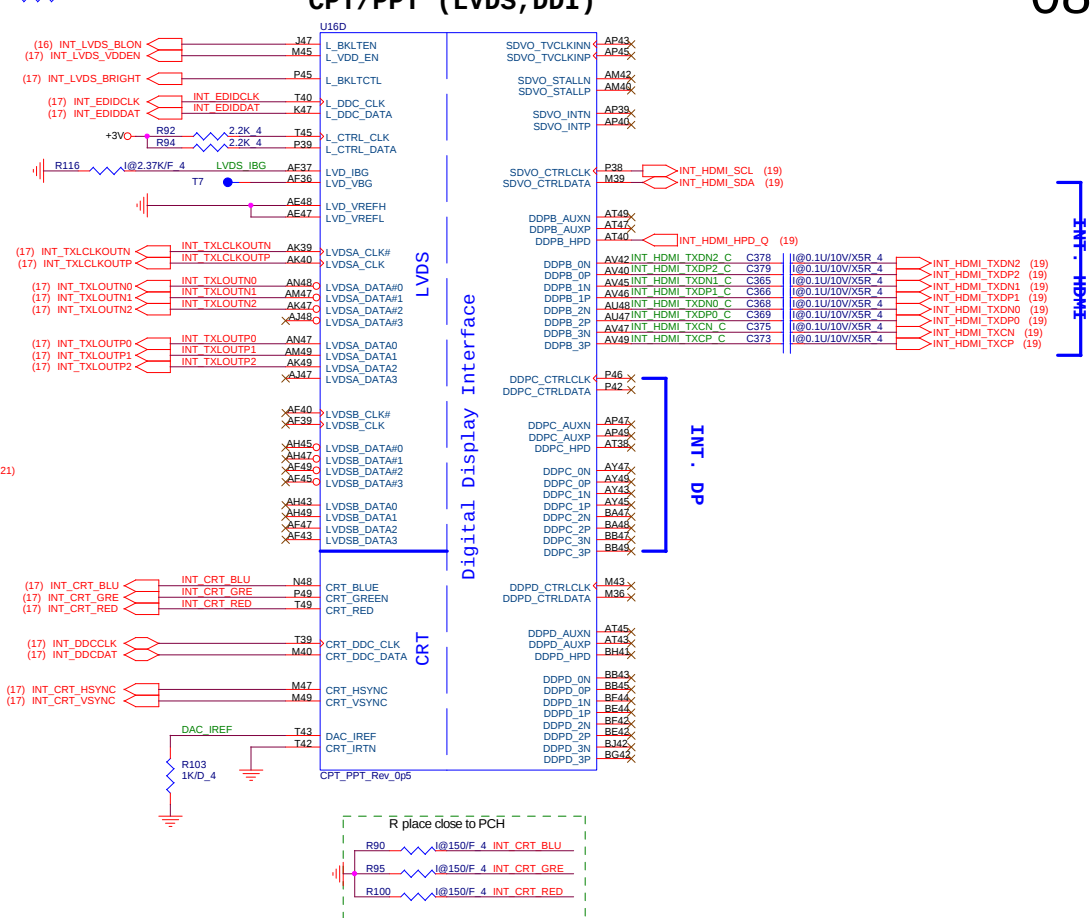


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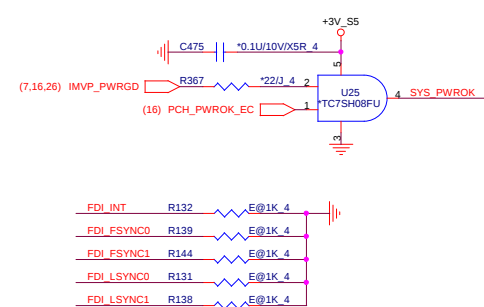
Size	Document Number SNB/IVB 4/4	Rev 1A
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- 1.Level 1 Environment-related Substances Should Never be Used.
- 2.Recycled Resin and Coated Wire should be procured from Green Partners

CPT/PPT (LVDS, DDI)

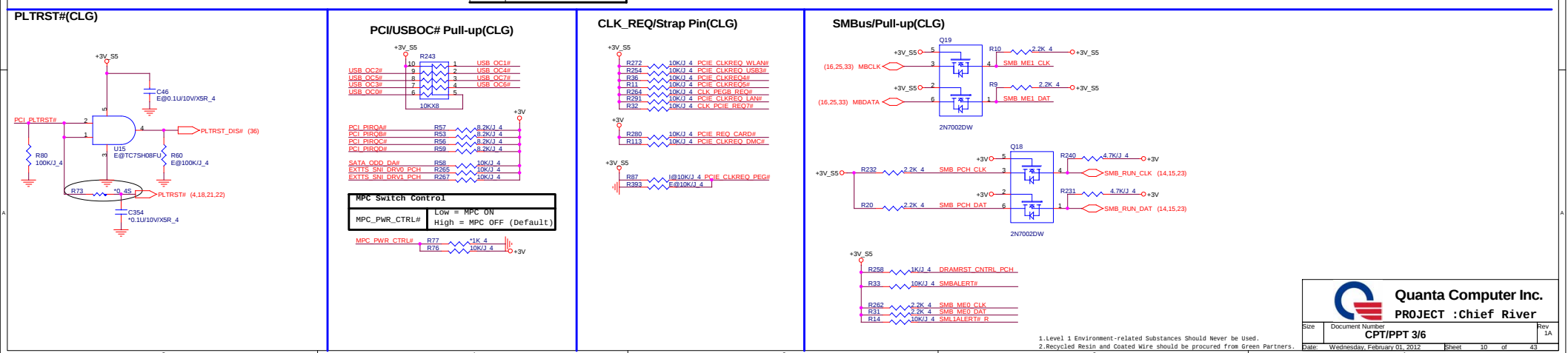


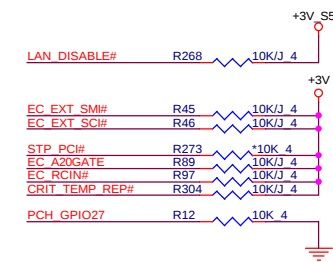
On Die DSW VR Enable
High = Enable (Default)
Low = Disable



1.Environment-related Substances Should Never be Used.	CPT/PP1 2/6			2/1
2.Recycled Resin and Coated Wire should be procured from Green Partners.	Date: Wednesday, February 01, 2012	Sheet	9	of 43

CPT/PPT (PCI-E, SMBUS, CLK)

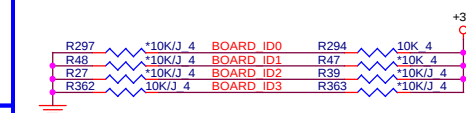




	R363(High) R362(Low)	R294(High) R297(low)
14"/HK6/HK76	0	0
14"/HK6/HK70	1	0
15"/HK5/HM76	0	1
15"/HK5/HM70	1	1

Board ID1 (VRAM Vendor)	Samaung(1)	Hynix(0)
R47(High)	Stuff	No Stuff
R48(Low)	No Stuff	Stuff

Board ID2		
14" 4PCS	1G	512M
15" 8PCS	1G	2G
R39(High)	Stuff	No Stuff
R27(Low)	No Stuff	Stuff



PCBA SKU	Discrete	UMA
R277(Pull High)	Stuff	No Stuff
R275(Pull Low)	No Stuff	Stuff



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Size	Document Number	Rev
	CPT/PPT 4/6	1A

- 1.Level 1 Environment-related Substances Should Never be Used.
- 2.Recycled Resin and Coated Wire should be procured from Green Partners

Date: Wednesday, February 01, 2012 Sheet 11 of 43

Rev 1.0

FDI TERMINATION VOLTAGE OVERRIDE	LOW - Tx, Rx terminated to same voltage
--	--

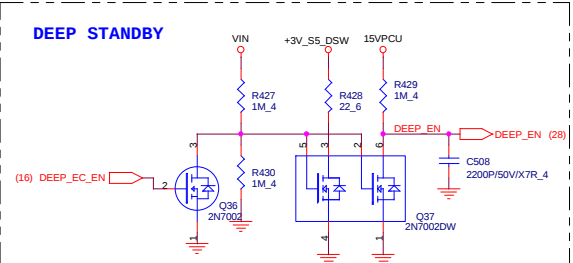
DMI TERMINATION VOLTAGE OVERRIDE	Low = Tx, Rx terminated to same voltage (DC Coupling Mode) (DEFAULT)
-------------------------------------	--

BIOS RECOVERY	High = Disable (Default) Low = Enable
---------------	--

MFG-TEST

Intel ME Crypto Transport Layer Security (TLS) cipher suite
Low = Disable (Default)
High = Enable

MFG - TEST



CPT/PPT (GND)

U16I

H5	VSS[0]		
AA17	VSS[1]	VSS[80]	AK38
AA2	VSS[2]	VSS[81]	AK4
AA3	VSS[3]	VSS[82]	AK42
AA33	VSS[4]	VSS[83]	AK46
AA34	VSS[5]	VSS[84]	AK8
AB11	VSS[6]	VSS[85]	AL16
AB14	VSS[7]	VSS[86]	AL17
AB38	VSS[8]	VSS[87]	AL19
AB4	VSS[9]	VSS[88]	AL2
AB43	VSS[10]	VSS[89]	AL21
AB5	VSS[11]	VSS[90]	AL23
AB7	VSS[12]	VSS[91]	AL26
AC19	VSS[13]	VSS[92]	AL27
AC2	VSS[14]	VSS[93]	AL31
AC21	VSS[15]	VSS[94]	AL33
AC24	VSS[16]	VSS[95]	AL34
AC33	VSS[17]	VSS[96]	AL48
AC34	VSS[18]	VSS[97]	AM11
AC46	VSS[19]	VSS[98]	AM14
AD10	VSS[20]	VSS[99]	AM36
AD11	VSS[21]	VSS[100]	AM39
AD12	VSS[22]	VSS[101]	AM43
AD13	VSS[23]	VSS[102]	AM45
AD19	VSS[24]	VSS[103]	AM46
AD24	VSS[25]	VSS[104]	AM7
AD26	VSS[26]	VSS[105]	AN2
AD27	VSS[27]	VSS[106]	AN29
AD33	VSS[28]	VSS[107]	AN3
AD34	VSS[29]	VSS[108]	AN31
AD36	VSS[30]	VSS[109]	AP12
AD37	VSS[31]	VSS[110]	AP19
AD38	VSS[32]	VSS[111]	AP28
AD39	VSS[33]	VSS[112]	AP30
AD4	VSS[34]	VSS[113]	AP32
AD40	VSS[35]	VSS[114]	AP38
AD42	VSS[36]	VSS[115]	AP4
AD43	VSS[37]	VSS[116]	AP42
AD45	VSS[38]	VSS[117]	AP46
AD46	VSS[39]	VSS[118]	AP8
AD8	VSS[40]	VSS[119]	AR2
AE2	VSS[41]	VSS[120]	AR48
AE3	VSS[42]	VSS[121]	AT11
AF10	VSS[43]	VSS[122]	AT13
AF12	VSS[44]	VSS[123]	AT18
AD14	VSS[45]	VSS[124]	AT22
AD16	VSS[46]	VSS[125]	AT26
AF16	VSS[47]	VSS[126]	AT28
AF19	VSS[48]	VSS[127]	AT30
AF24	VSS[49]	VSS[128]	AT32
AF26	VSS[50]	VSS[129]	AT34
AF27	VSS[51]	VSS[130]	AT39
AF29	VSS[52]	VSS[131]	AT42
AF31	VSS[53]	VSS[132]	AT46
AF38	VSS[54]	VSS[133]	AT7
AF4	VSS[55]	VSS[134]	AU24
AF42	VSS[56]	VSS[135]	AU30
AF46	VSS[57]	VSS[136]	AU6
AF5	VSS[58]	VSS[137]	AV120
AF7	VSS[59]	VSS[138]	AV24
AF8	VSS[60]	VSS[139]	AV30
AG19	VSS[61]	VSS[140]	AV38
AG2	VSS[62]	VSS[141]	AV4
AG31	VSS[63]	VSS[142]	AV43
AG48	VSS[64]	VSS[143]	AV8
AH11	VSS[65]	VSS[144]	AW14
AH3	VSS[66]	VSS[145]	AW18
AH36	VSS[67]	VSS[146]	AW2
AH39	VSS[68]	VSS[147]	AW22
AH40	VSS[69]	VSS[148]	AW26
AH42	VSS[70]	VSS[149]	AW28
AH46	VSS[71]	VSS[150]	AW32
AH7	VSS[72]	VSS[151]	AW34
AJ19	VSS[73]	VSS[152]	AW36
AJ21	VSS[74]	VSS[153]	AW40
AJ24	VSS[75]	VSS[154]	AW48
AJ33	VSS[76]	VSS[155]	AV11
AJ34	VSS[77]	VSS[156]	AY12
AK12	VSS[78]	VSS[157]	AY22
AK3	VSS[79]	VSS[158]	AY28

AY4	VSS[159]	VSS[269]	H46
AY42	VSS[160]	VSS[260]	K18
AY46	VSS[161]	VSS[261]	K26
AY8	VSS[162]	VSS[262]	K39
B11	VSS[163]	VSS[263]	K46
B15	VSS[164]	VSS[264]	K7
B19	VSS[165]	VSS[265]	L18
B23	VSS[166]	VSS[266]	L2
B27	VSS[167]	VSS[267]	L20
B31	VSS[168]	VSS[268]	L26
B35	VSS[169]	VSS[269]	L28
B39	VSS[170]	VSS[270]	L36
B7	VSS[171]	VSS[271]	L48
F45	VSS[172]	VSS[272]	M12
BB12	VSS[173]	VSS[273]	P16
BB16	VSS[174]	VSS[274]	M18
BB20	VSS[175]	VSS[275]	M22
BB22	VSS[176]	VSS[276]	M24
BB24	VSS[177]	VSS[277]	M30
BB28	VSS[178]	VSS[278]	M32
BB30	VSS[179]	VSS[279]	M34
BB38	VSS[180]	VSS[280]	M38
BB4	VSS[181]	VSS[281]	M4
BB46	VSS[182]	VSS[282]	M42
BC14	VSS[183]	VSS[283]	M46
BC18	VSS[184]	VSS[284]	M8
BC2	VSS[185]	VSS[285]	N18
BC22	VSS[186]	VSS[286]	P30
BC26	VSS[187]	VSS[287]	P47
BC32	VSS[188]	VSS[288]	P11
BC34	VSS[189]	VSS[289]	P18
BC36	VSS[190]	VSS[290]	T33
BC40	VSS[191]	VSS[291]	P40
RC42	VSS[192]	VSS[292]	P43
BC48	VSS[193]	VSS[293]	P47
BD46	VSS[194]	VSS[294]	R2
BD5	VSS[195]	VSS[295]	R48
BE22	VSS[196]	VSS[296]	T12
BE26	VSS[197]	VSS[297]	T31
BE40	VSS[198]	VSS[298]	T37
BE10	VSS[199]	VSS[299]	T4
BE12	VSS[200]	VSS[300]	V34
BF16	VSS[201]	VSS[301]	T46
BF20	VSS[202]	VSS[302]	T47
BF22	VSS[203]	VSS[303]	T8
BF24	VSS[204]	VSS[304]	V11
BE26	VSS[205]	VSS[305]	V17
BE28	VSS[206]	VSS[306]	V26
BD3	VSS[207]	VSS[307]	V27
BF30	VSS[208]	VSS[308]	V29
BF38	VSS[209]	VSS[309]	V31
BE40	VSS[210]	VSS[310]	V36
BF8	VSS[211]	VSS[311]	V39
BG17	VSS[212]	VSS[312]	V43
BG21	VSS[213]	VSS[313]	V7
BG33	VSS[214]	VSS[314]	W17
BG44	VSS[215]	VSS[315]	W19
BG8	VSS[216]	VSS[316]	W2
BH11	VSS[217]	VSS[317]	W27
AU30	VSS[218]	VSS[318]	W48
BH17	VSS[219]	VSS[319]	Y12
BH19	VSS[220]	VSS[320]	Y38
H10	VSS[221]	VSS[321]	Y4
BH27	VSS[222]	VSS[322]	Y42
BH31	VSS[223]	VSS[323]	Y46
AV4	VSS[224]	VSS[324]	Y8
BH33	VSS[225]	VSS[325]	BG29
BH35	VSS[226]	VSS[326]	N24
BH39	VSS[227]	VSS[327]	AJ3
BH43	VSS[228]	VSS[328]	AD47
BH7	VSS[229]	VSS[329]	B42
D3	VSS[230]	VSS[330]	BE10
D12	VSS[231]	VSS[331]	BG41
D16	VSS[232]	VSS[332]	G14
D18	VSS[233]	VSS[333]	H16
D22	VSS[234]	VSS[334]	T36
D24	VSS[235]	VSS[335]	BG22
D26	VSS[236]	VSS[336]	BG24
D30	VSS[237]	VSS[337]	C22
D32	VSS[238]	VSS[338]	AP13
D34	VSS[239]	VSS[339]	M14
D38	VSS[240]	VSS[340]	AP3
D42	VSS[241]	VSS[341]	AP1
D8	VSS[242]	VSS[342]	BE16
E18	VSS[243]	VSS[343]	BC16
E26	VSS[244]	VSS[344]	BG28
G18	VSS[245]	VSS[345]	BJ28
G20	VSS[246]	VSS[346]	
G26	VSS[247]	VSS[347]	
G28	VSS[248]	VSS[348]	
G36	VSS[249]	VSS[349]	
G48	VSS[250]	VSS[350]	
H12	VSS[251]	VSS[351]	
H18	VSS[252]	VSS[352]	
H22	VSS[253]		
H24	VSS[254]		
H26	VSS[255]		
H30	VSS[256]		
H32	VSS[257]		
H34	VSS[258]		
F3			

CPT_PPT_Rev_0p5



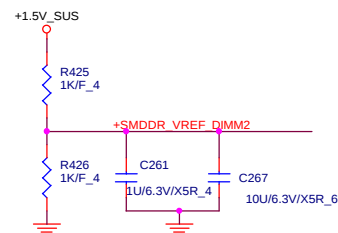
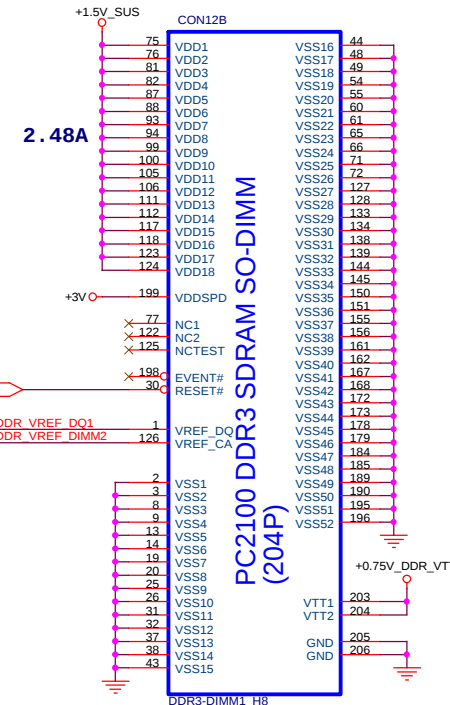
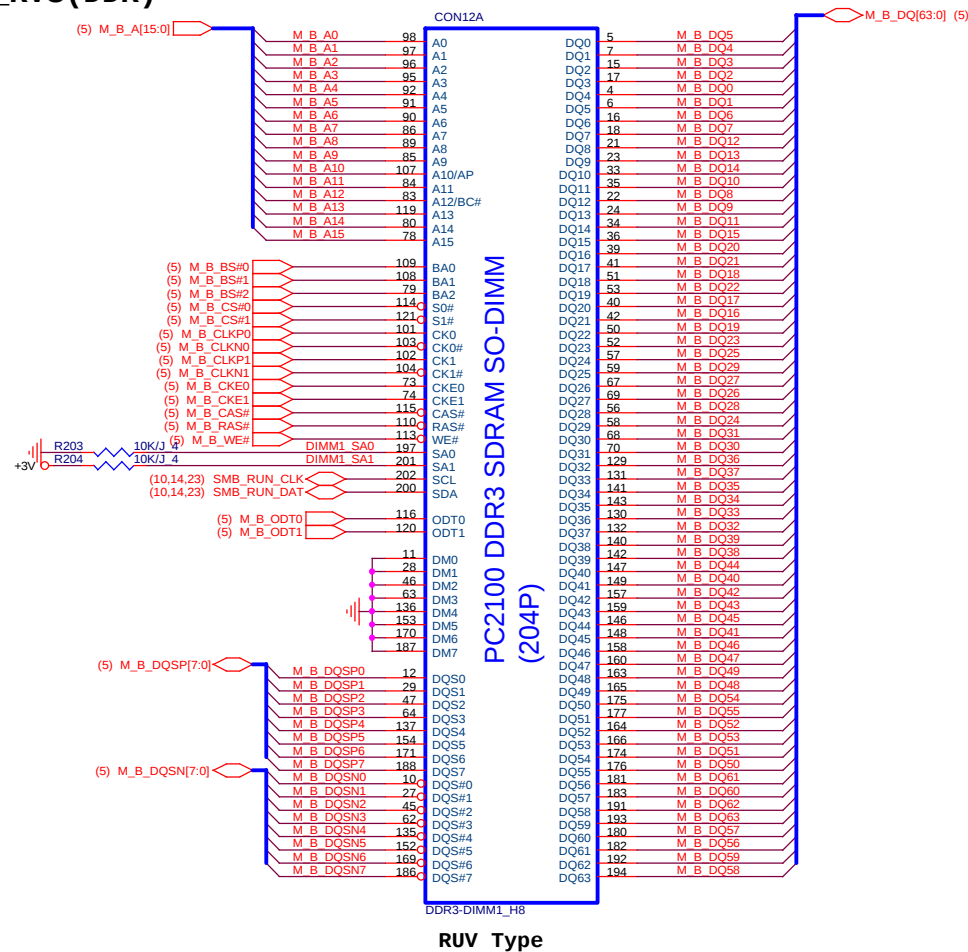
Quanta Computer Inc.
PROJECT :Chief River

Size	Document Number	Rev
	CPT/PPT 6/6	1A
1.Level 1 Environment-related Substances Should Never be Used.		
2.Recycled Resin and Coated Wire should be procured from Green Partners.		
Date:	Wednesday, February 01, 2012	Sheet 13 of 43

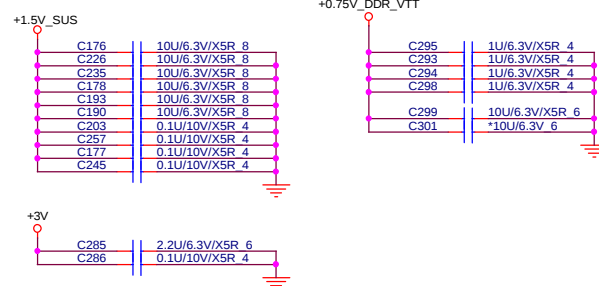


DDR_RVS(DDR)

15



Place these Caps near So-Dimm1.



Quanta Computer Inc.

PROJECT :Chief River

DDRIII SO-DIMM-1

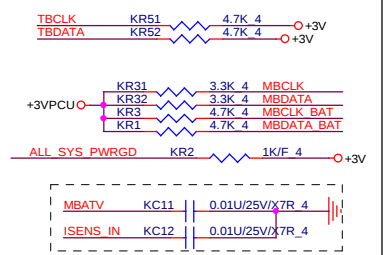
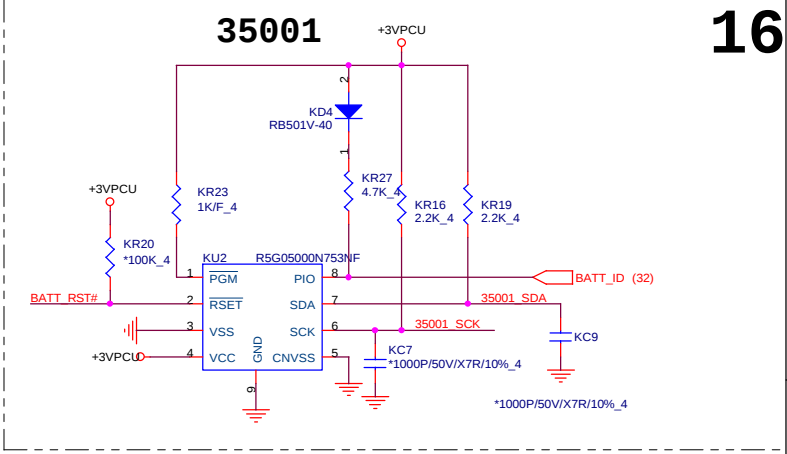
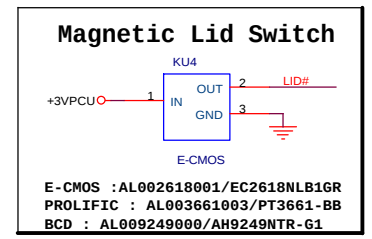
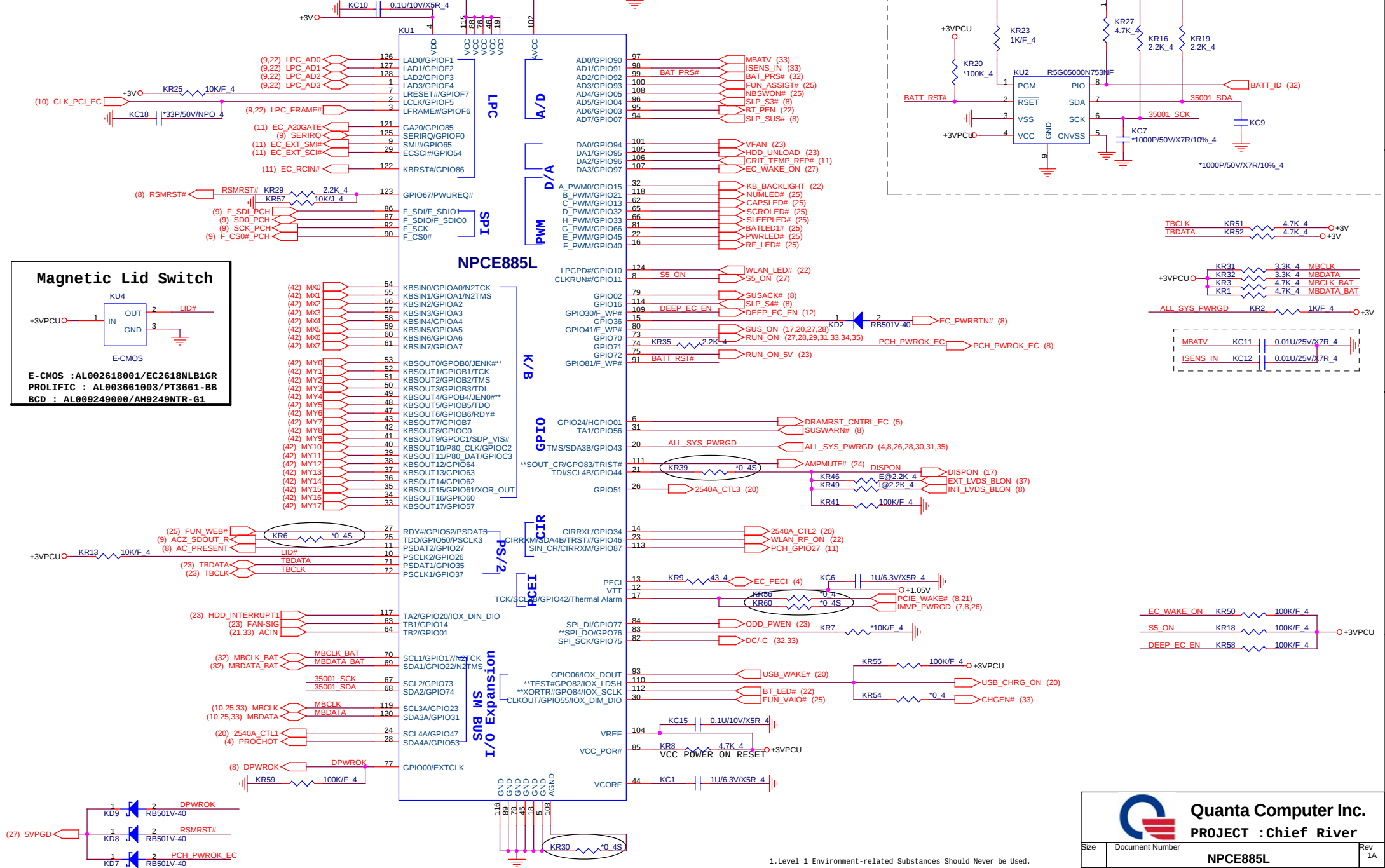
Size: Document Number: Rev 1A

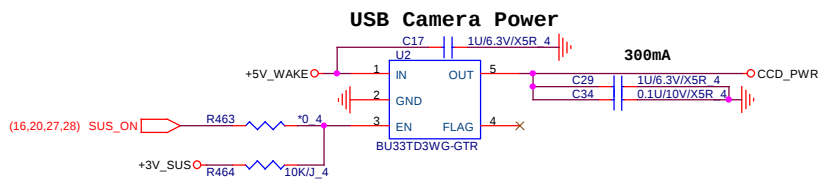
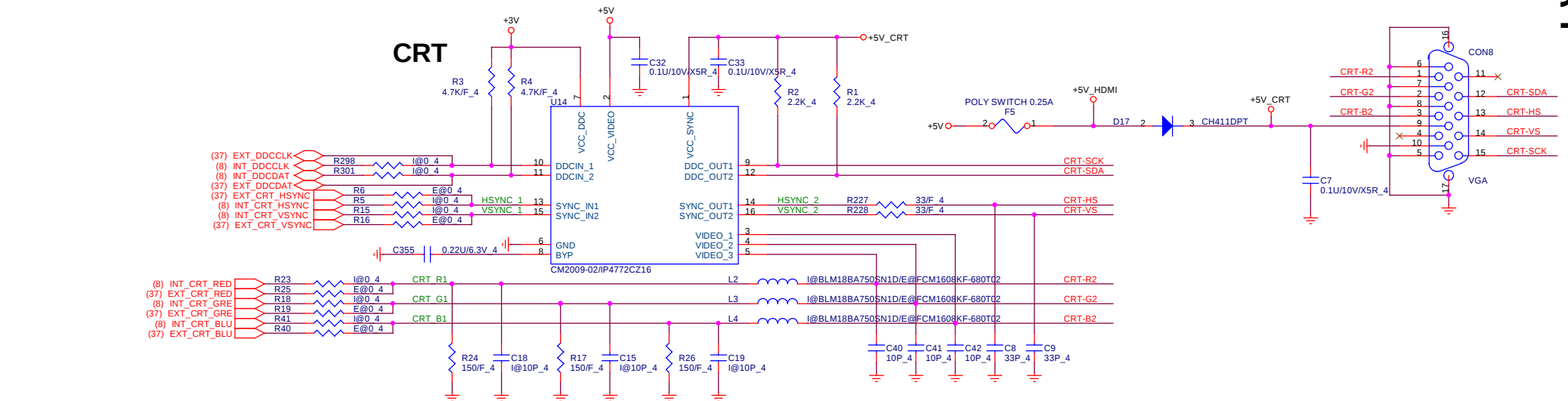
Date: Wednesday, February 01, 2012 Sheet 15 of 43

1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

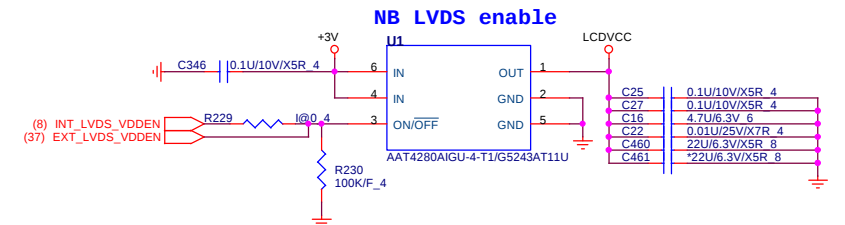
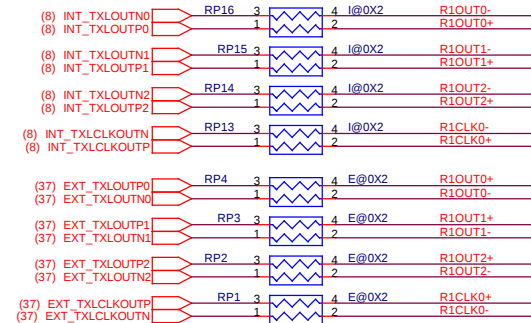
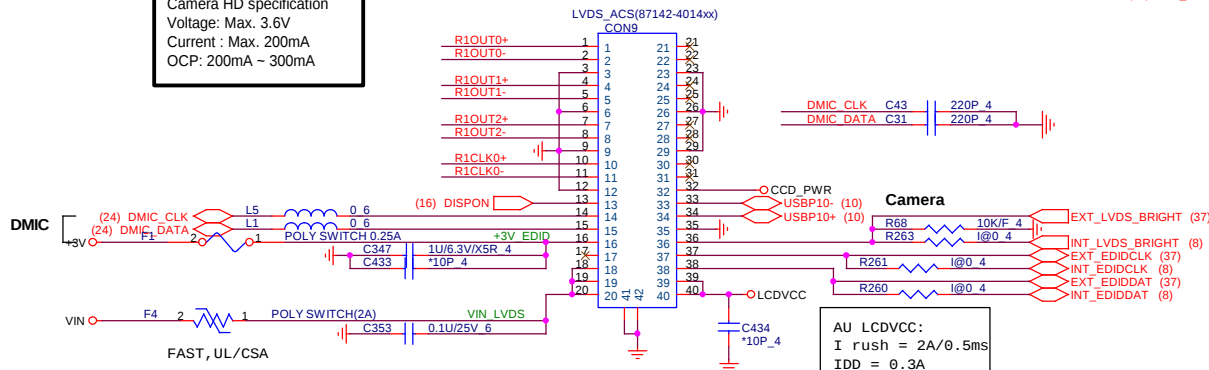
**** Strapping Pin, Can not pull low.**
Note the input leakage current to the strap pins must be less than 10uA.

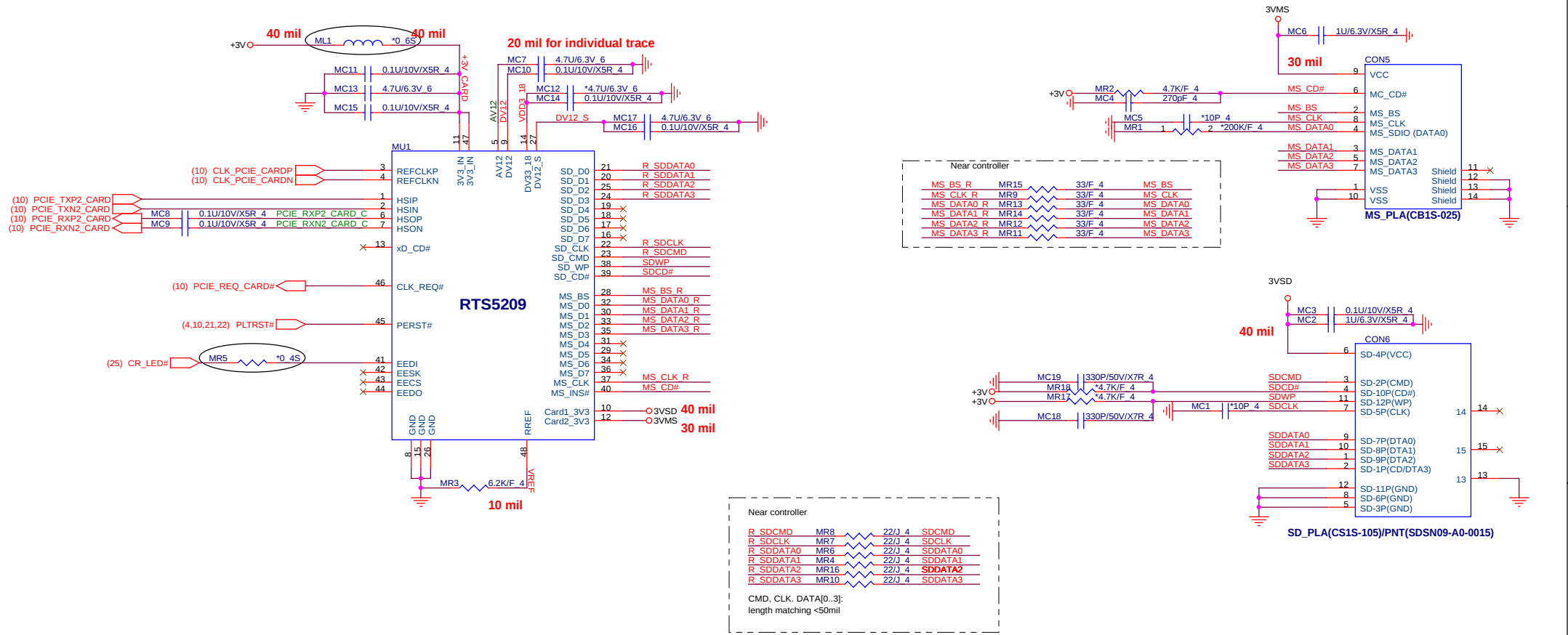
Since ECSCI is OD, no need for a back-drive protection diode on this signal. But note there is internal PU in chipset at default

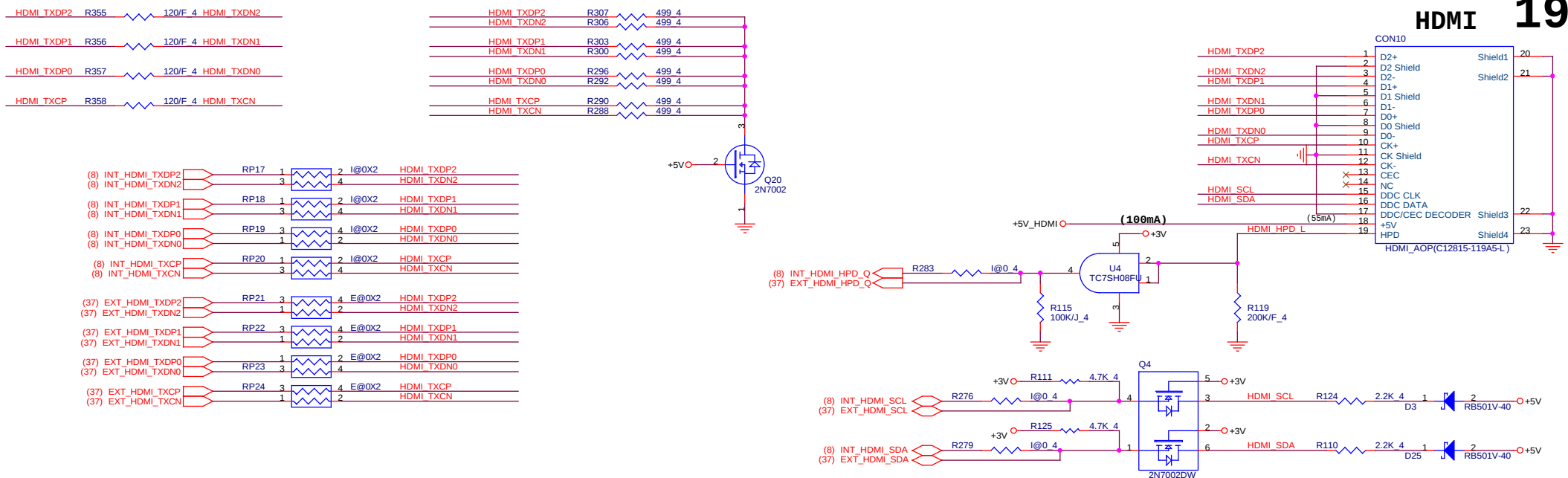




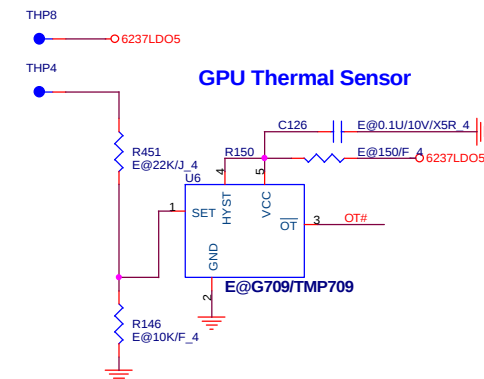
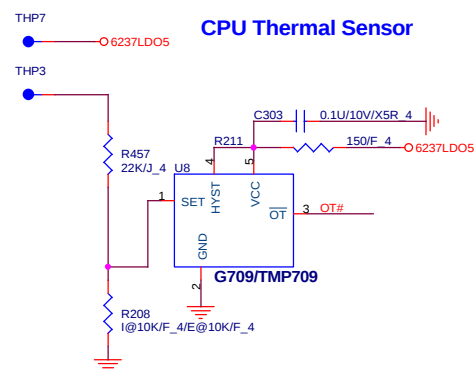
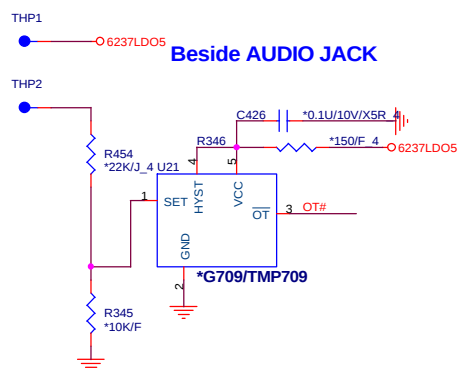
Camera HD specification
Voltage: Max. 3.6V
Current : Max. 200mA
OCP: 200mA ~ 300mA







H/W Thermal Protect



$$R_{SET}(k\Omega) = 0.0012T^2 - 0.9308T + 96.147$$

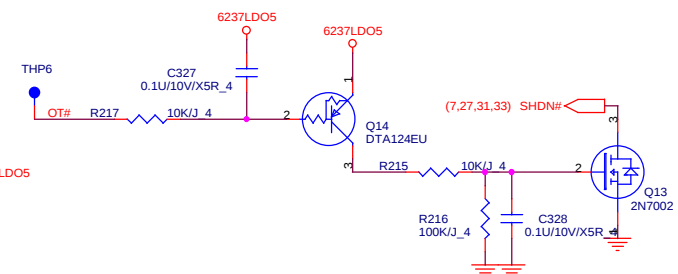
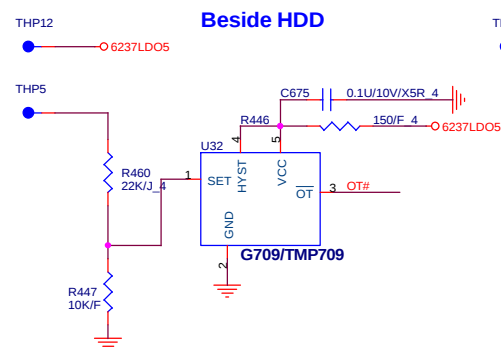
95	18.5K
100	15K
107	10.3K
110	8.2K

DIS SKU

Location of IC	Temp	R-Set	Parts in BOM	Max	Min
Near CPU sensor temp	73	R208=34.59K	34.8K	73.2	72.2
Near GFX sensor temp	73	R146=34.59K	34.8K	73.2	72.2
Near AUDIO sensor temp	55	R345=48.58K	48.7K	55.5	54.2

UMA SKU

Location of IC	Temp	R-Set	Parts in BOM	Max	Min
Near CPU sensor temp	82	R208=27.89K	27.4K	83.1	82.2
Near AUDIO sensor temp	55	R345=48.58K	48.7K	55.5	54.2



Quanta Computer Inc.
PROJECT : Chief River

HDMI/Thermal IC

Rev	1A
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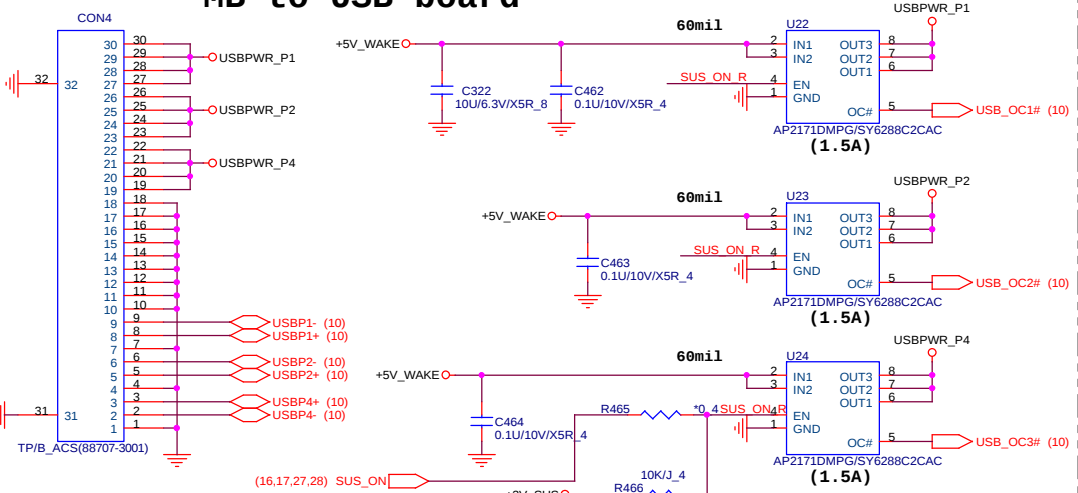
1.Level 1 Environment-related Substances Should Never be Used.

2. Recycled Resin and Coated Wire should be procured from Green Partners.

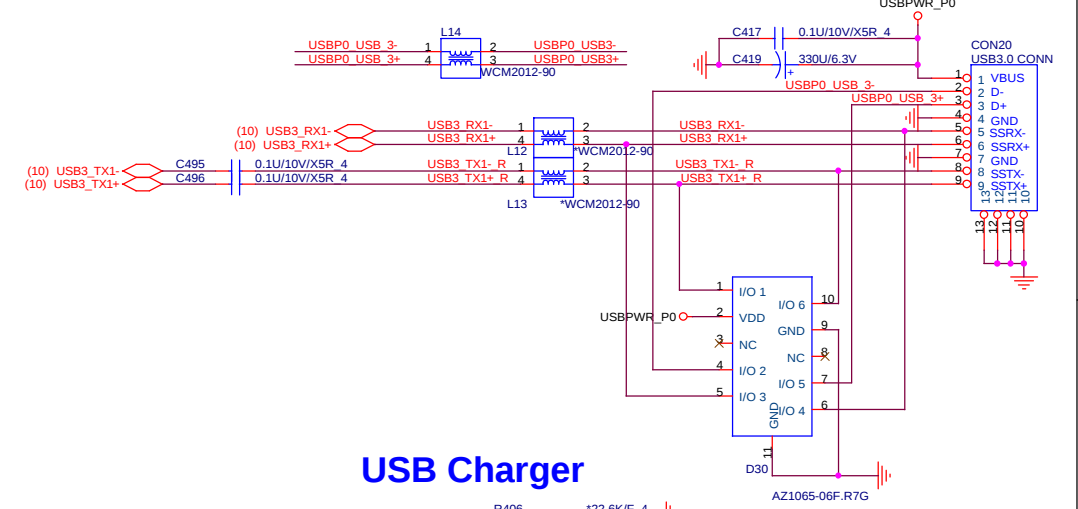
rs.Date: Friday, February 03, 2012

Sheet 19 of 43

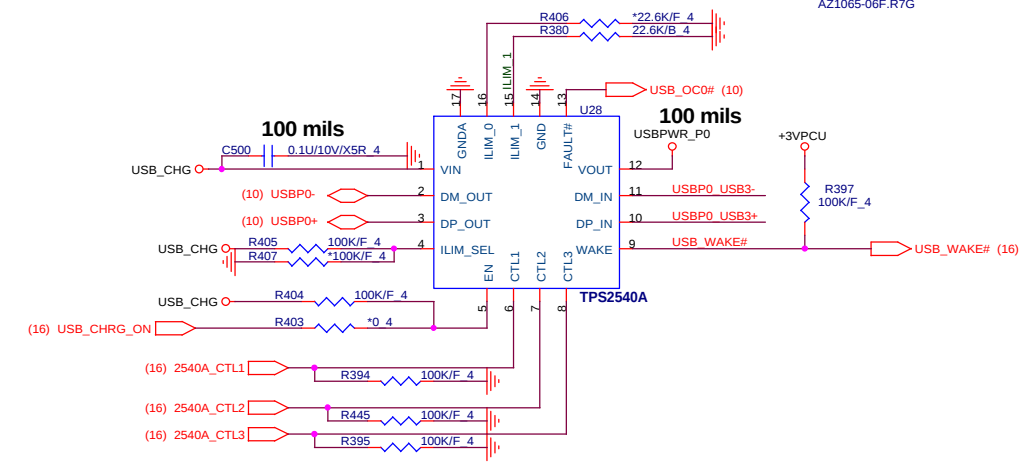
MB to USB board



USB 3.0 PORT0



USB Charger



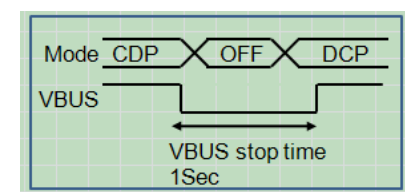
System State	USB Battery Charging Setting	
	Disable	Enable
S0	SDP	CDP
S3	SDP	DCP
Deep Standby	SDP (VBUS OFF)	DCP
S4	SDP (VBUS OFF)	DCP
S5	SDP (VBUS OFF)	DCP

SDP : Standard Downstream Port
CDP : Charging downstream port
DCP : Dedicated Charging Port
Enable/Disable : setting by BIOS

CTL_1	CTL_2	CTL_3	TPS 2540A/2543 Truth Table
0	0	0	OUT discharge, power switch OFF
0	X	1	DCP, Auto-detect (S3/S4/S5, 1.5A)
X	1	0	SDP, USB2.0 mode (S0, 0.5A)
1	0	0	DCP, BC SPEC1.2 only (S3/Deep standby/S4/S5, 1.5A)
1	0	1	DCP, Divider mode only (S3/S4/S5, 1.5A)
1	1	1	CDP (S0, 1.5A)

TPS-2540A	TPS-2543	MODE	AC/DC Mode			
			C1	C2	C3	ILIM_SEL
S0	S0	SDP	X(1)	1	0	X
S0	S0	CDP	1	1	1	1
S3(Wake Enable)	X	SDP	1	1	0	1
S3(Charger Mode)	S3	DCP	1	X(0)	0	1
S4	S4	DCP	1	X(0)	0	1
S5	S5	DCP	1	X(0)	0	1
Discharge	Discharge	DIS	0	0	0	X

DCP: BC 1.2 only.



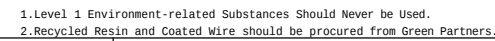
USB WAKE	
1	No device plug(LDO)
0	Device plug(Switch Power)

ILIM_SEL (I LIMIT(A)= 48000/R)	
HI	I_LIM_1
LO	I_LIM_0

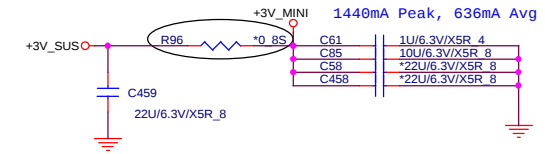
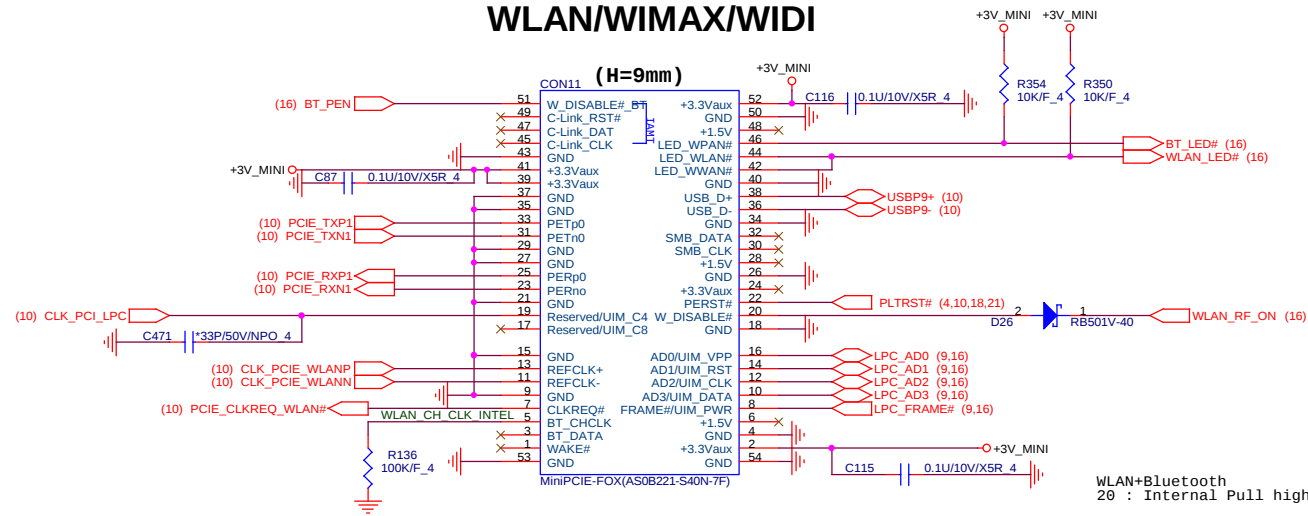
Quanta Computer Inc.
PROJECT :Chief River
USB/USB Charger

Size Document Number
Date: Thursday, February 02, 2012 Sheet 20 of 43

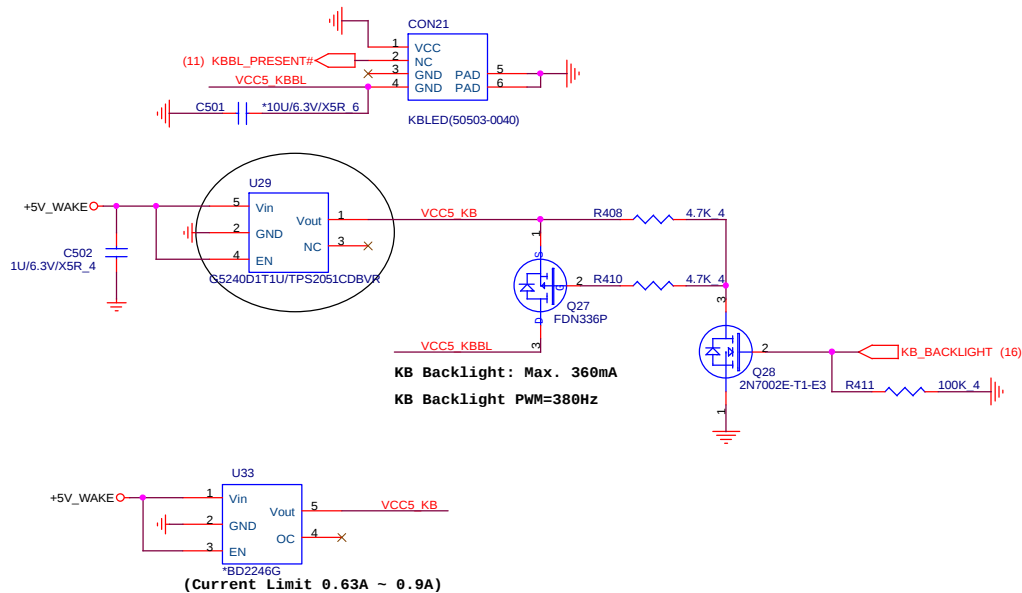
1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.



WLAN/WIMAX/WIDI



KB BACKLIGHT



Quanta Computer Inc.
PROJECT : Chief River

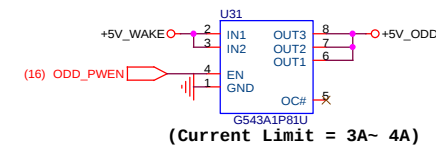
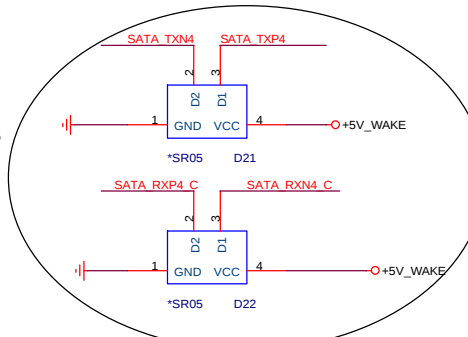
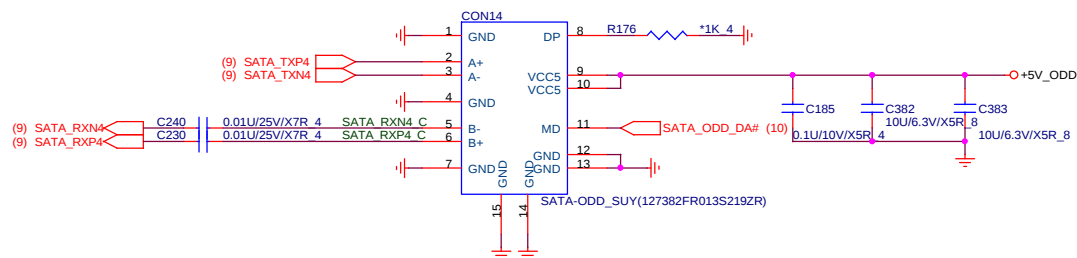
Size	Document Number	Rev
	WLAN/KB BL	1A

1. Level 1 Environment-related Substances Should Never be Used.

2. Recycled Resin and Coated Wire should be procured from Green Partners.

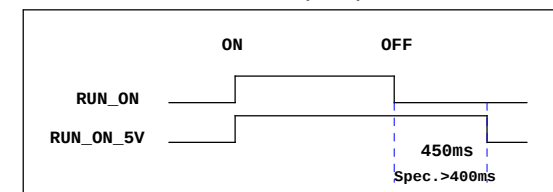
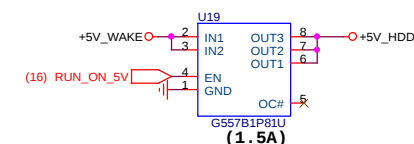
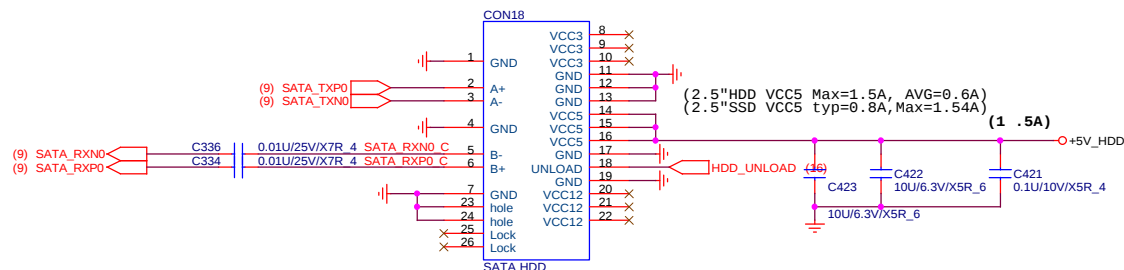
Date: Wednesday, February 01, 2012 Sheet 22 of 43

ODD CONNECTOR



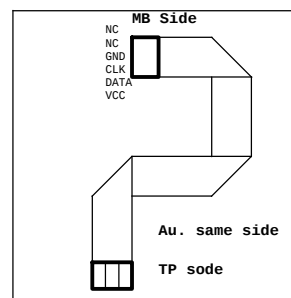
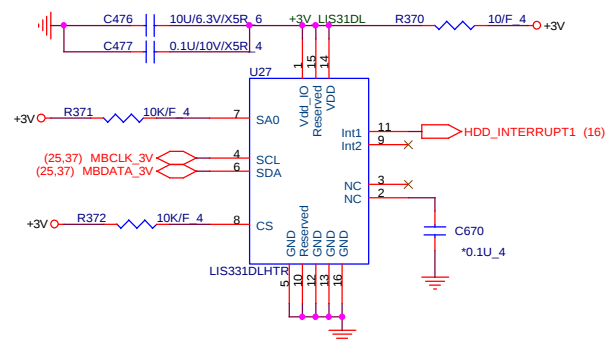
0130-- change ODD ESD diode form Rclamp0502n to SR05

HDD CONNECTOR

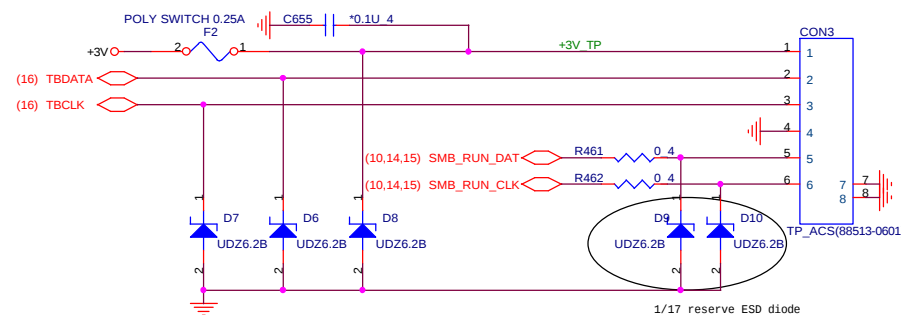


01/30 del D23 , D24 ESD diode

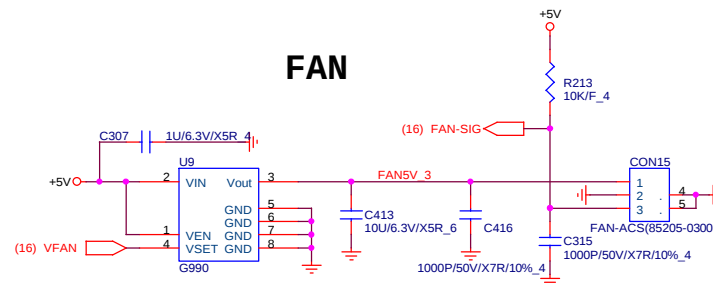
HDD PROTECT

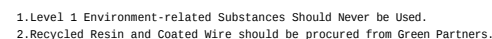


T/P Board to T/P

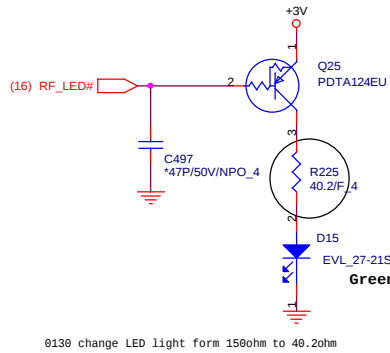


FAN

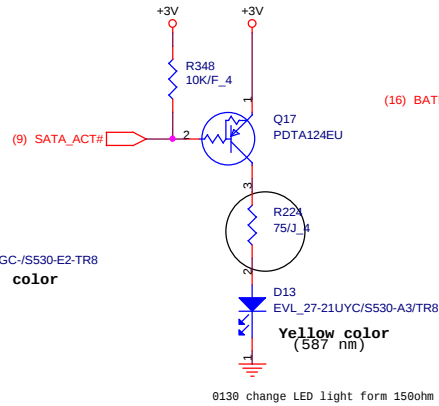




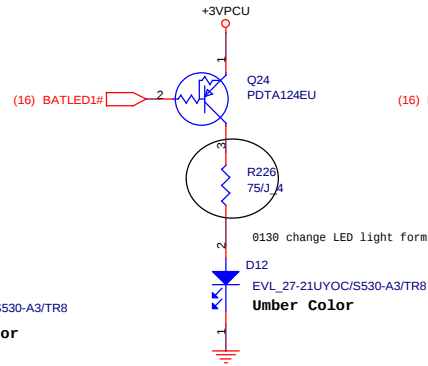
RF LED



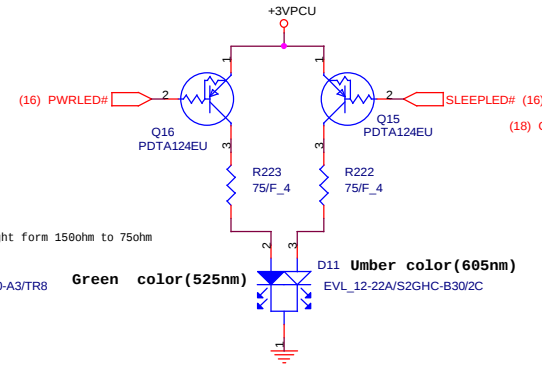
SATA LED



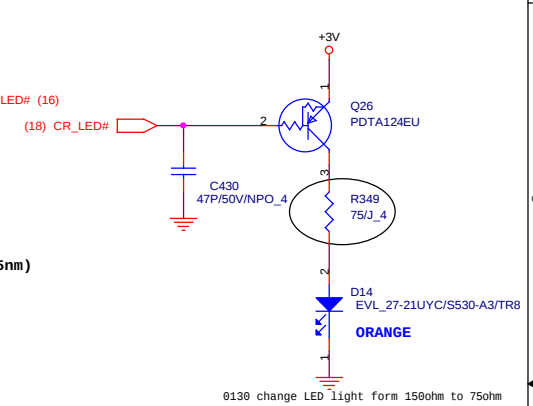
BATTERY LED



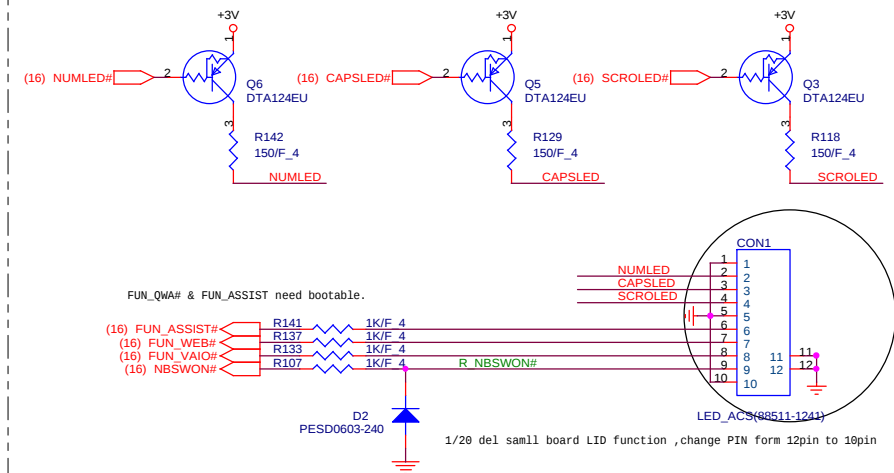
Power/Sleep LED



CARD LED



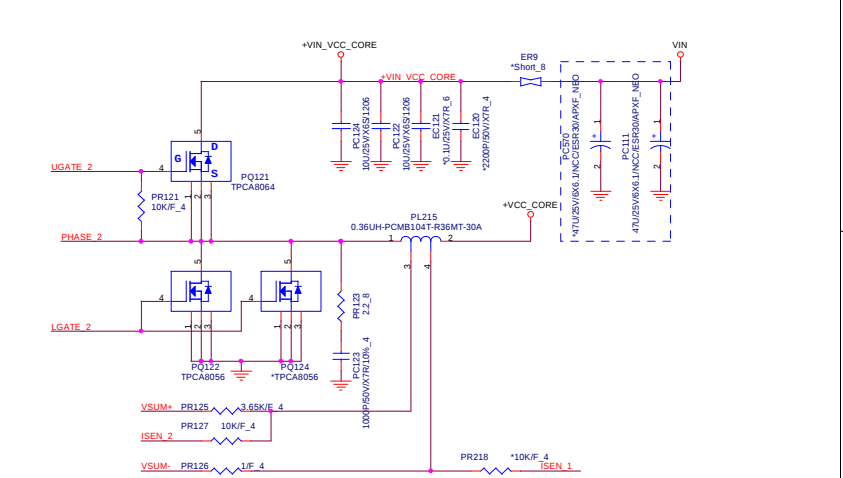
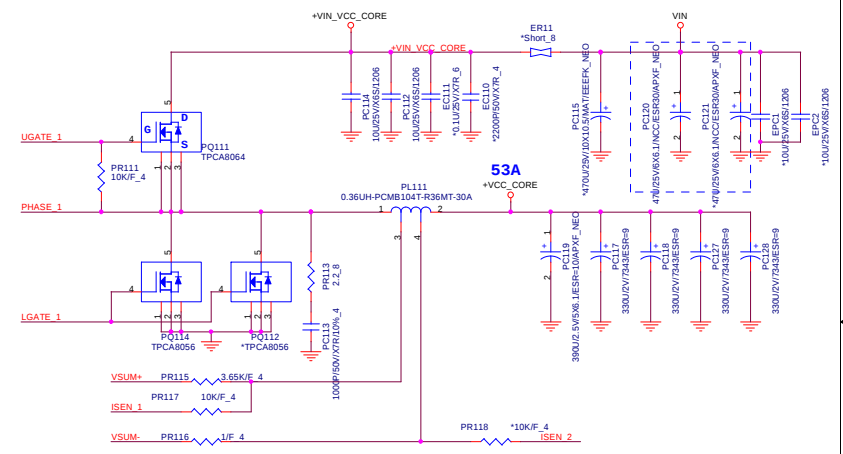
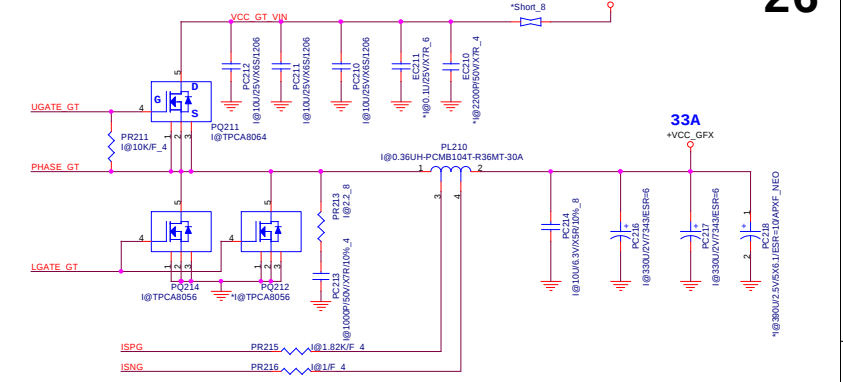
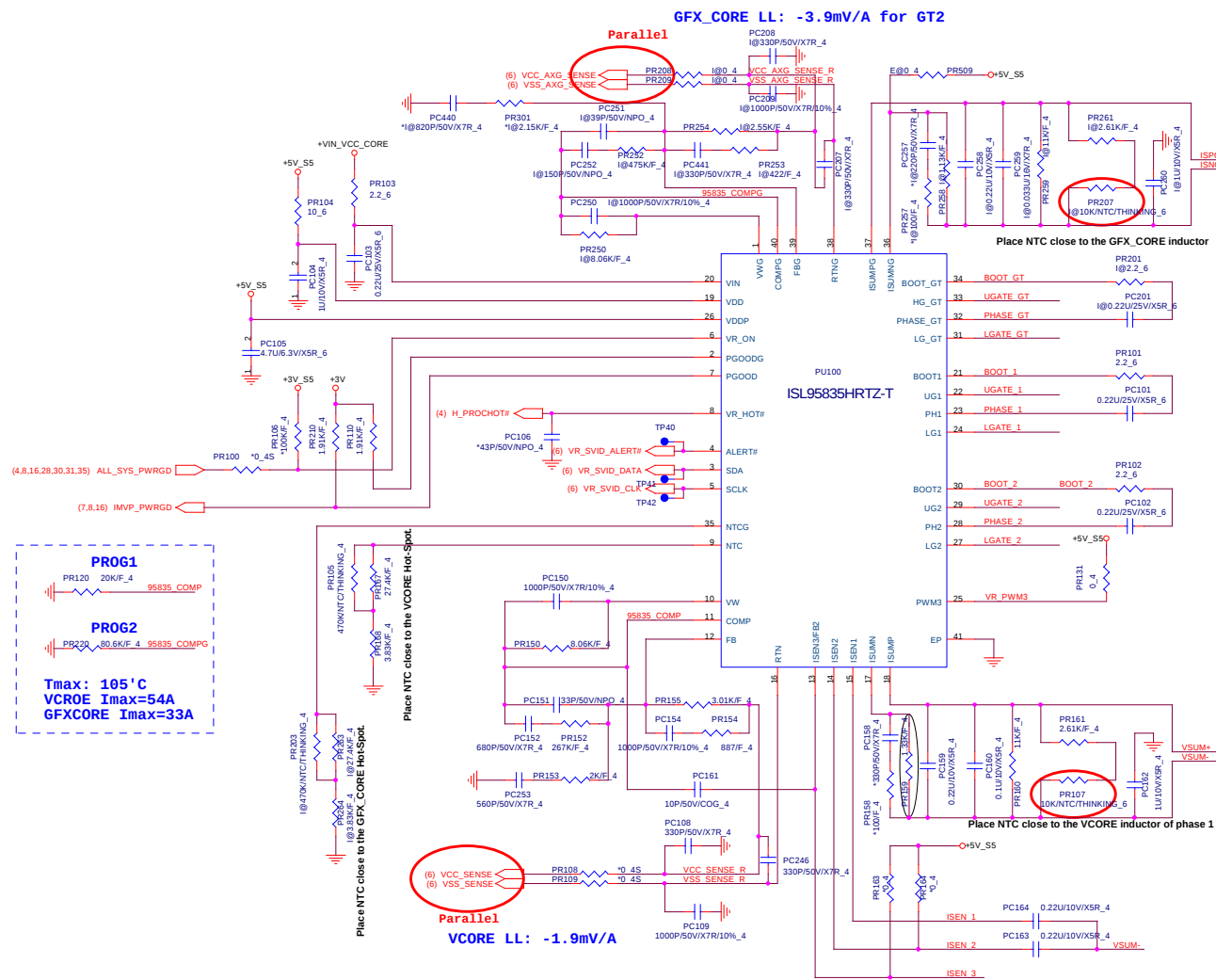
Power SW Board Connector

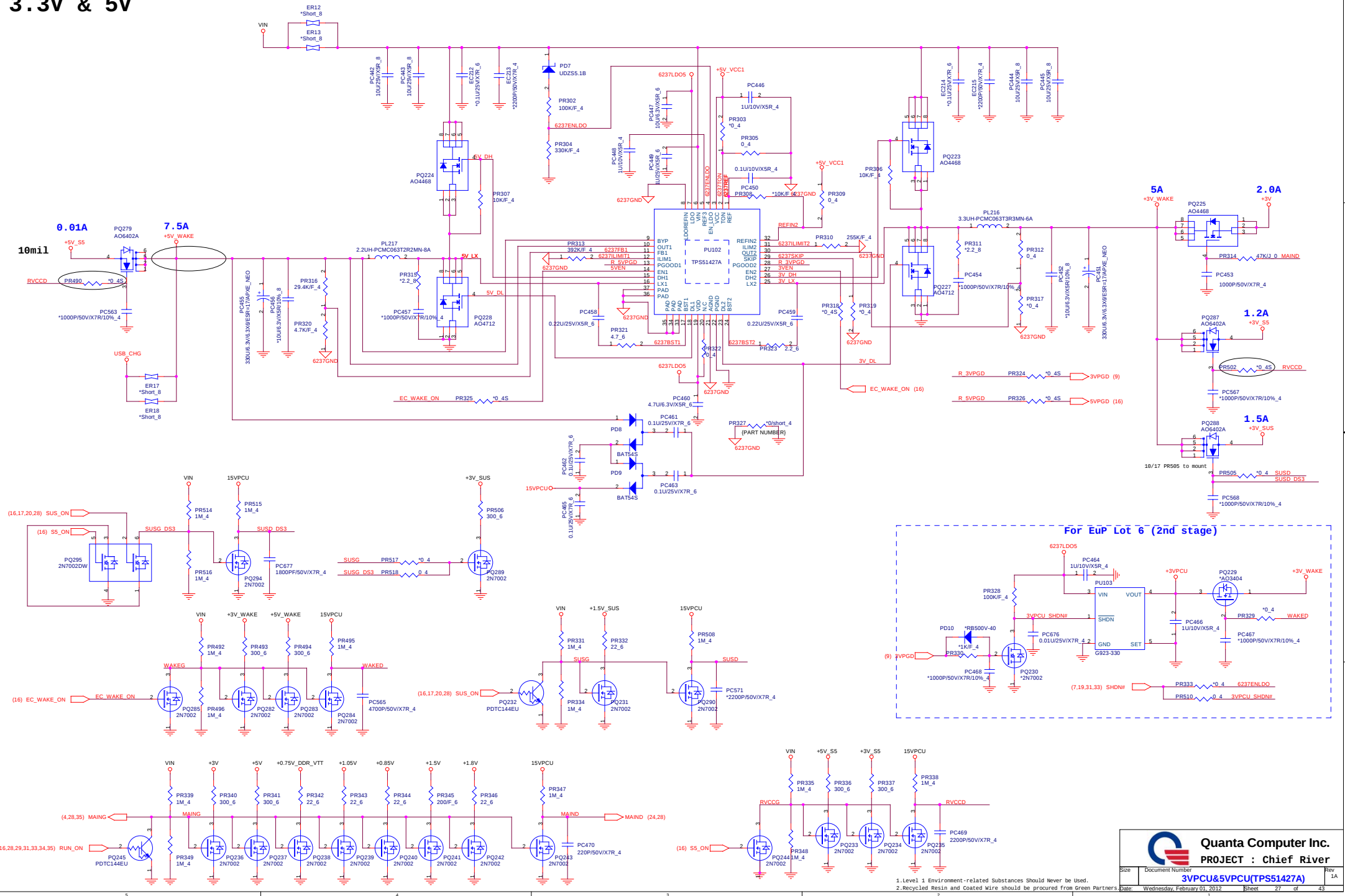


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PROJECT :Chief River

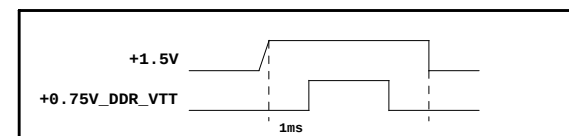
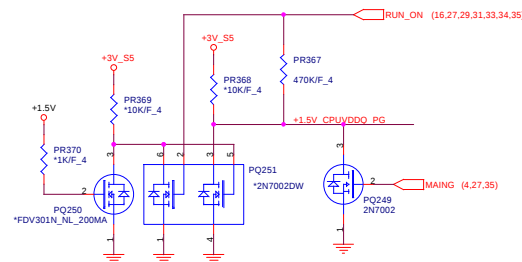
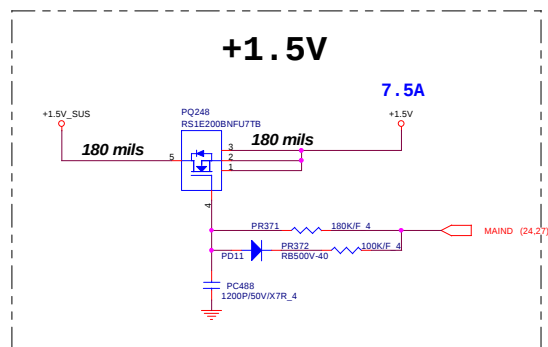
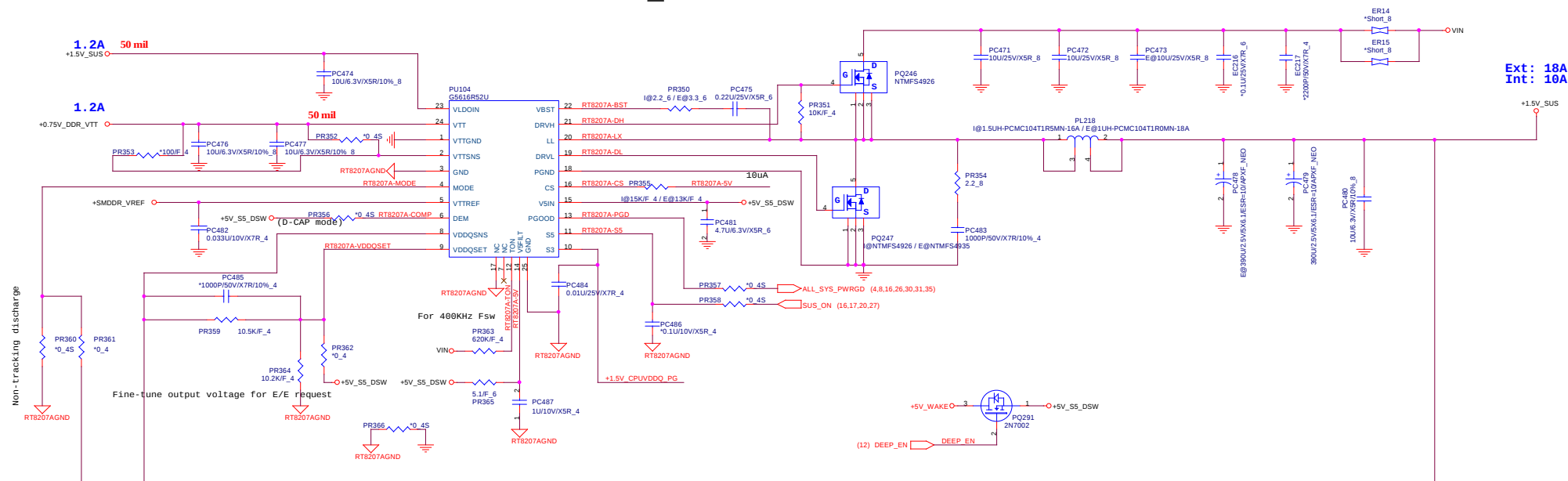
Size	Document Number	Rev
	LED/RF/KB/PS	1A
Date:	Wednesday, February 01, 2012	Sheet 25 of 43

1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.





1.5VSUS & VTT_MEM

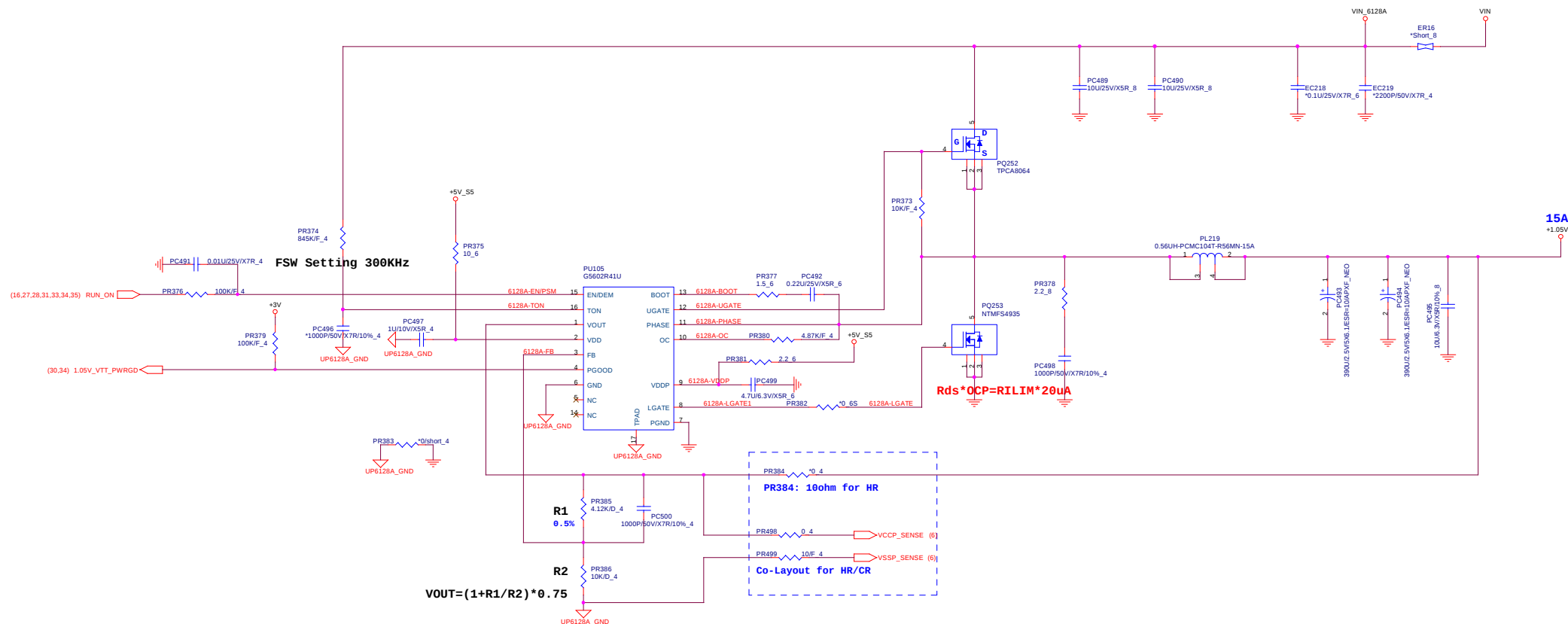


MODE	DISCHARGE MODE
+5V	No discharge
+1.5V	Tracking discharge
GND	Non-tracking discharge

VDDQSET	VDDQ(V)	VTTREF & VTT	NOTE
GND	1.5 fixed	VDDQSNS/2	DDR3
5V	1.8 fixed	VDDQSNS/2	DDR2
FB-Resistor	Adjustable	VDDQSNS/2	1.5V<VDDQ<3V

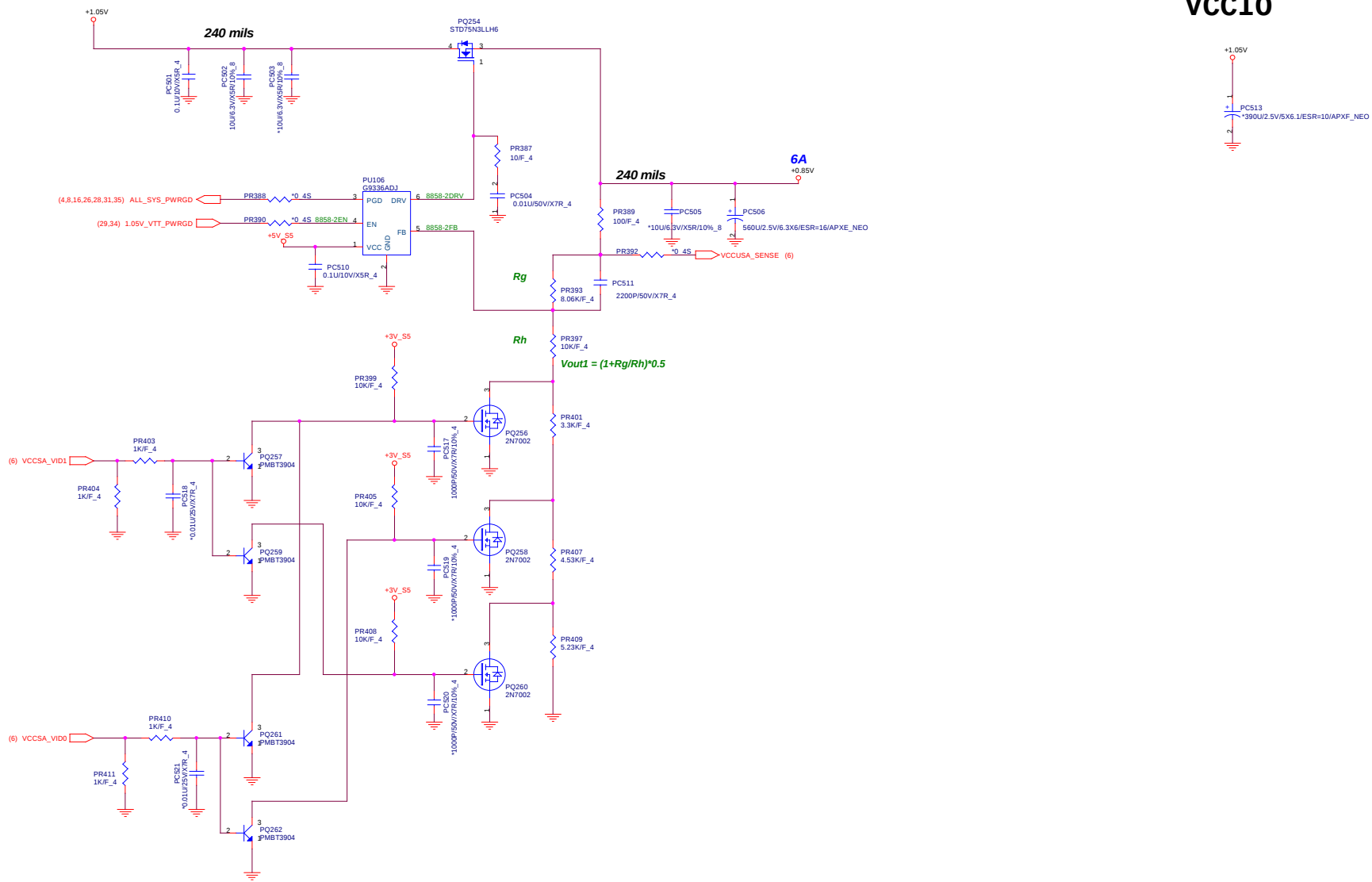
$$V_{TT} = V_{TTREF} = V_{DDQSNS}/2 = 0.75V$$

STATE	S3	S5	1.5VSUS	VTTREF	VTT
S0	1	1	on	on	on
S3	0	1	on	on	off
S4/S5	0	0	off	off	off



VCCSA

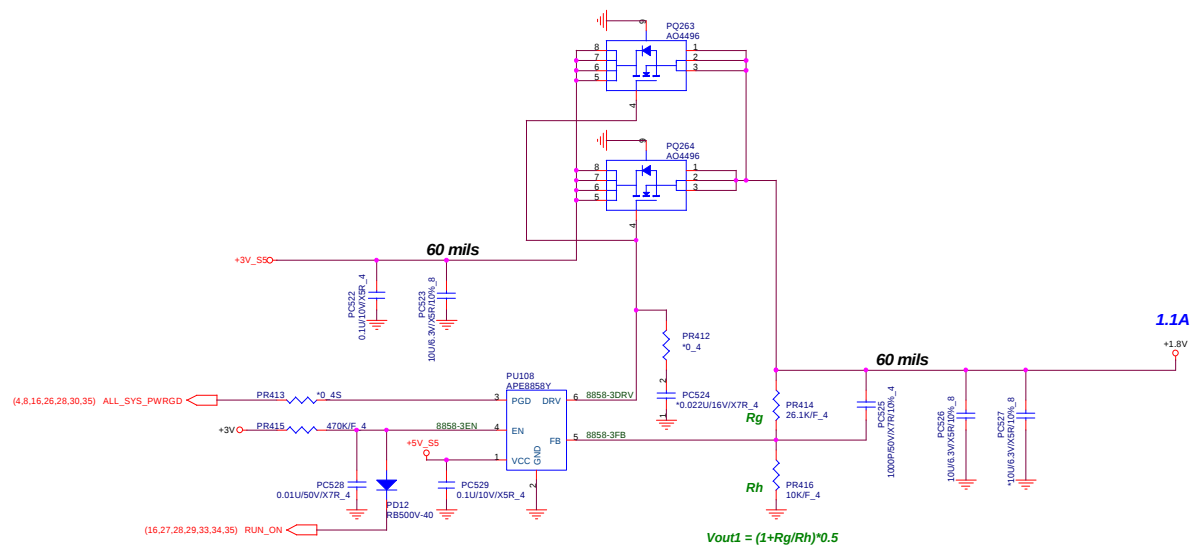
VCCIO



VID 0	VID 1	+0.85V
0	0	0.9V
0	1	0.8V
1	0	0.725V
1	1	0.675V

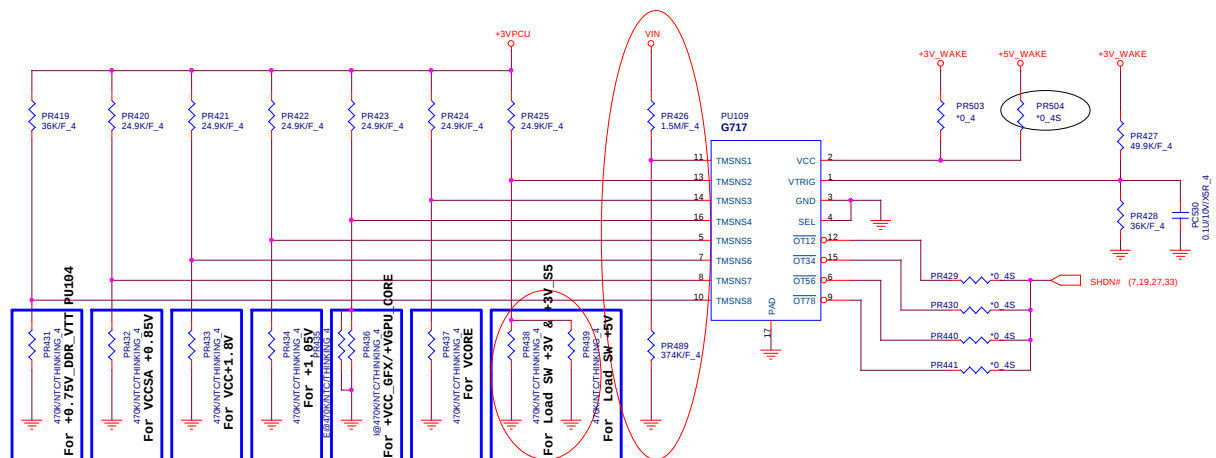
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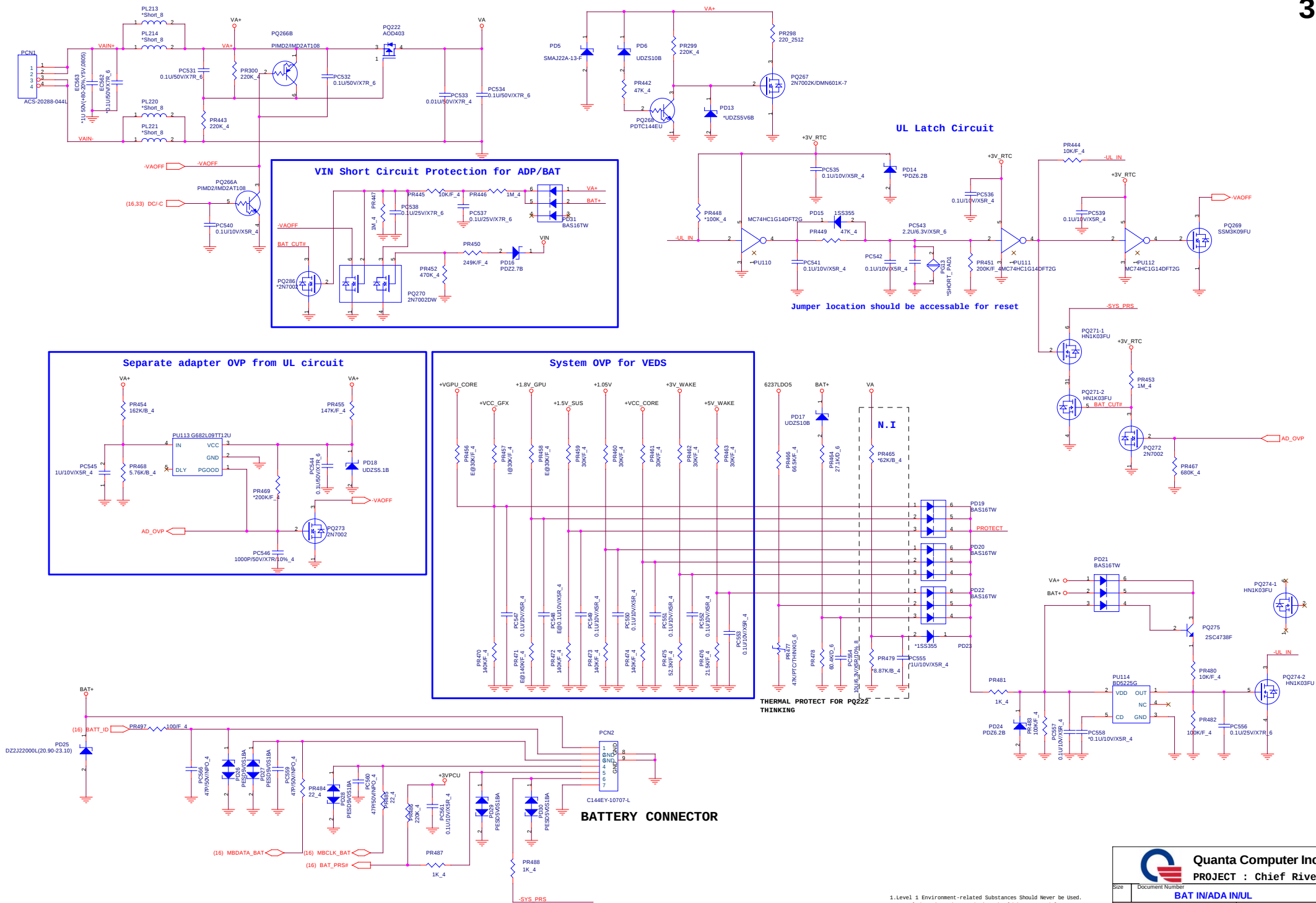
VCC1.8

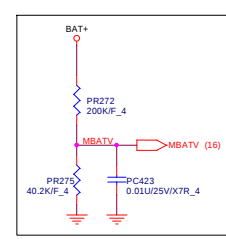


Thermal Protection and Battery UVP for VEDS

For DVT 111115

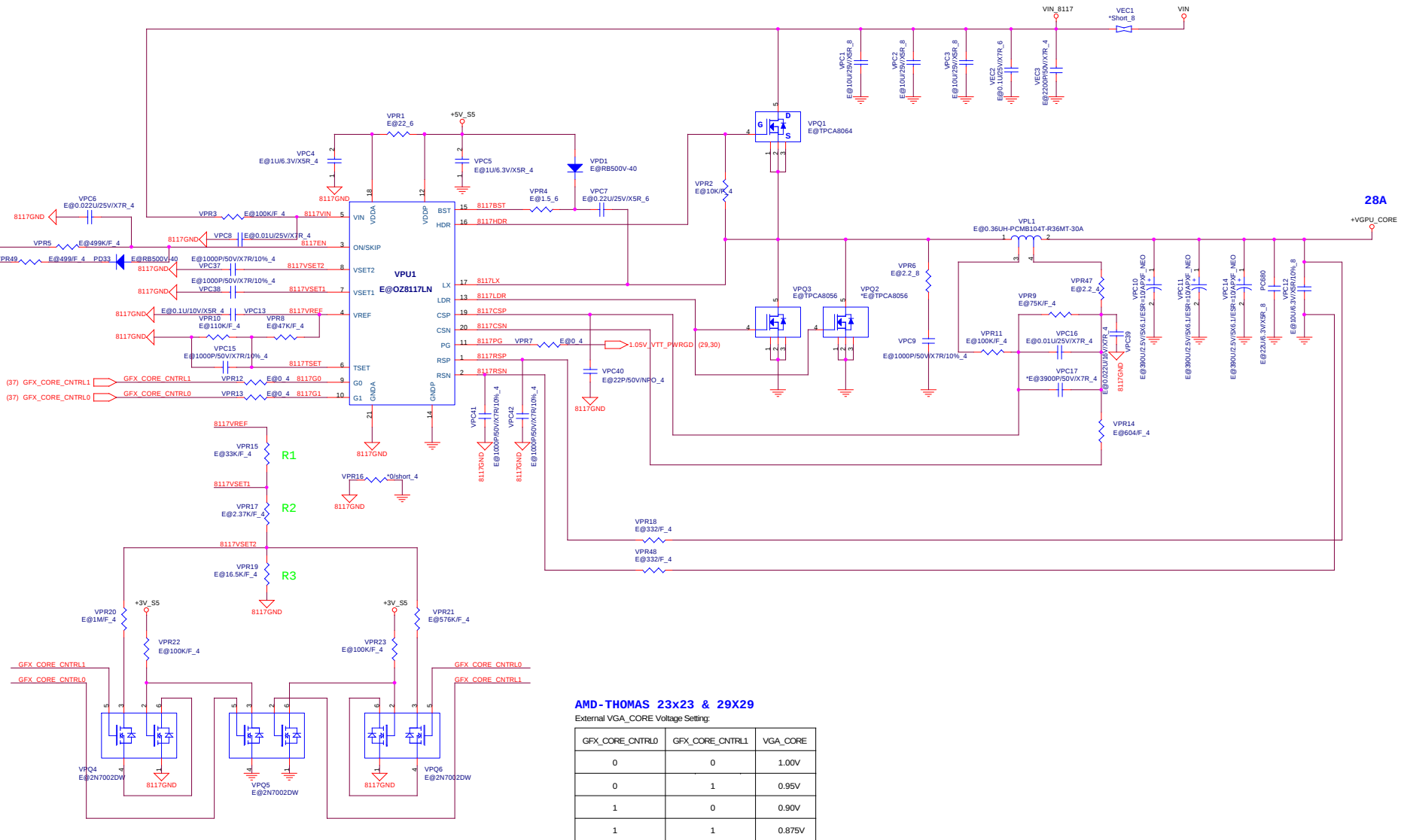






	ACOK	SHDN#	ACIN
ADP Normal	1	1	1
ADP UVP	0	0	0

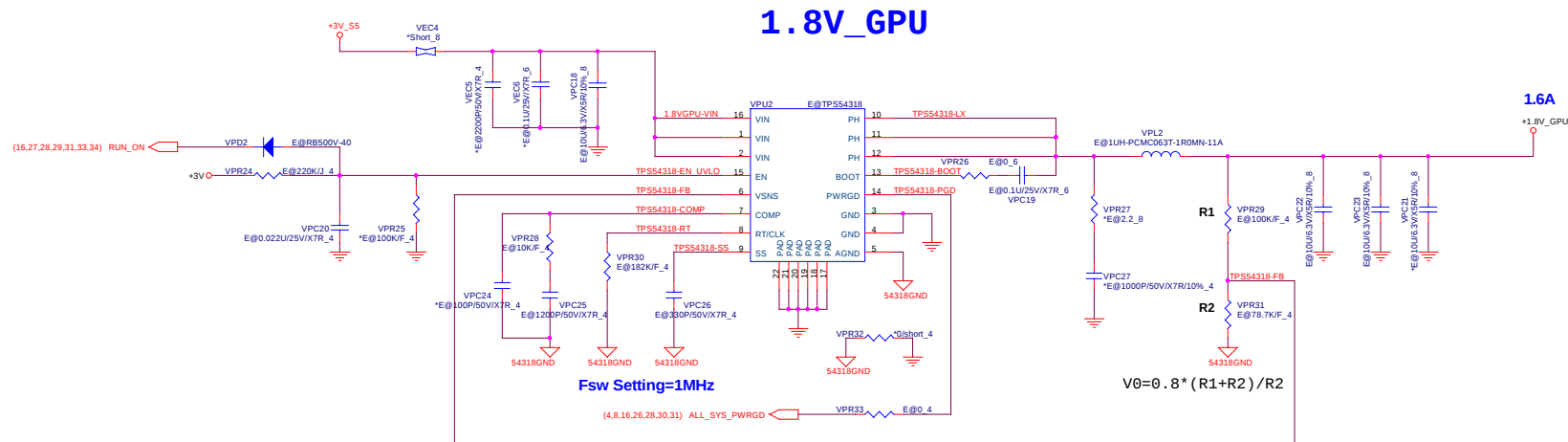
Adapter UV



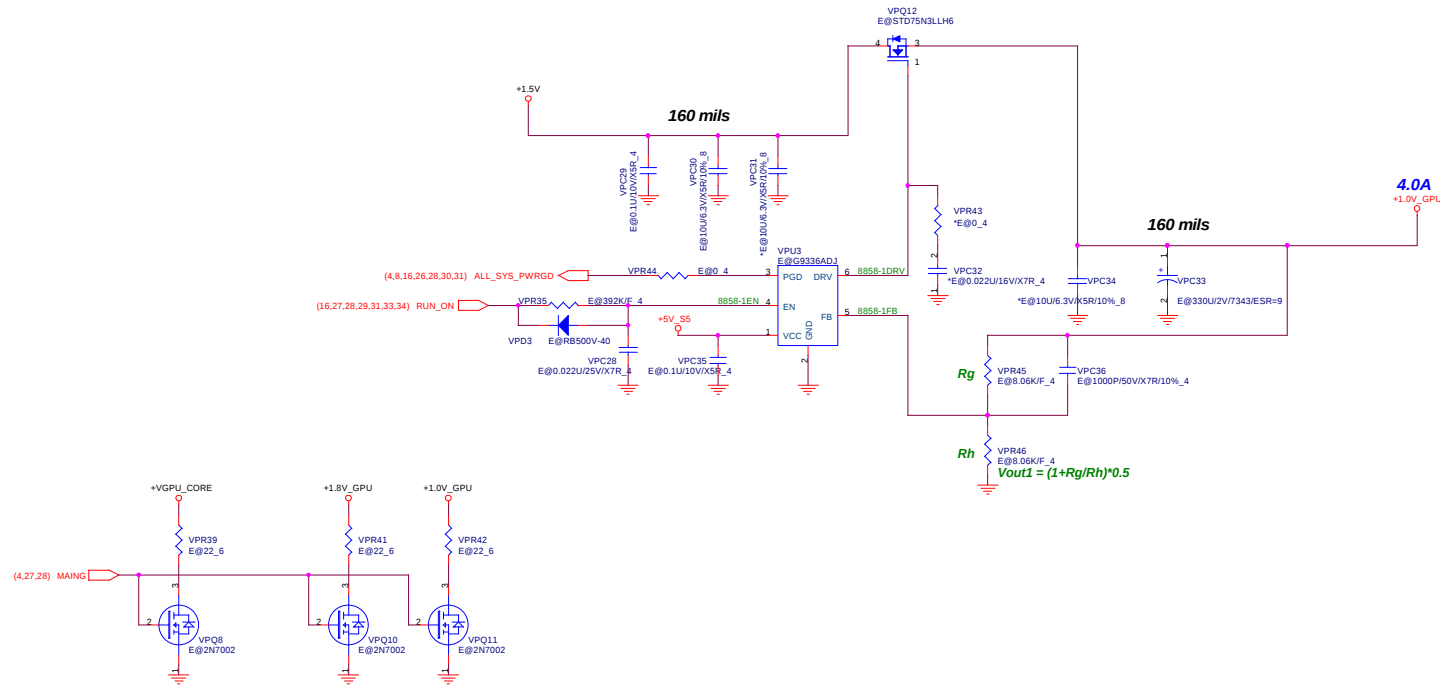
Quanta Computer Inc.
PROJECT : Chief River

Size Document Number
VGA_CORE (OZ8117)
Rev 1A

1. Level 1 Environment-related Substances Should Never be Used.
2. Recycled Resin and Coated Wire should be procured from Green Partners.
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+1.0V_GPU (Support VRAM 900MHz)





All power rails reach nominal within 20ms

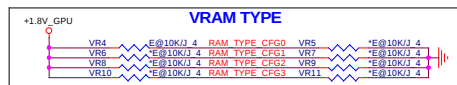
```
1 => +3V_GPU
2 => +VDDC_CORE
3 => +1.0V_GPU
3 => +1.8V_GPU
```



Size	Document Number	Rev
	Thames/PCIE	1A
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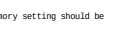
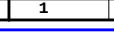
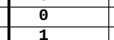
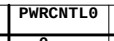
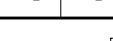
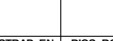
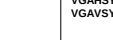
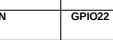
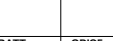
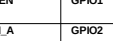
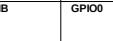
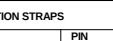
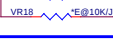
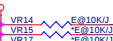
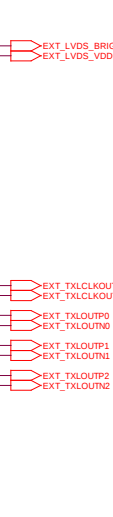
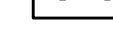
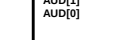
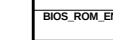
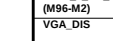
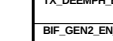
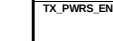
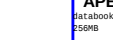
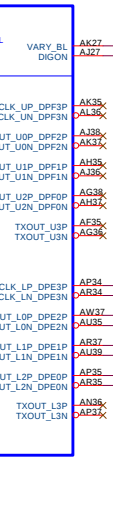
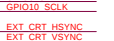
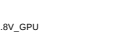
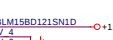
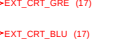
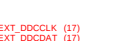
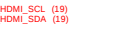
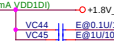
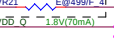
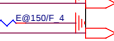
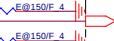
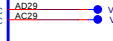
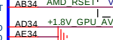
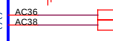
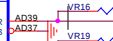
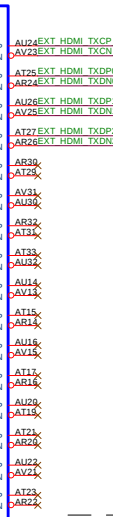
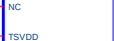
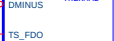
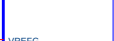
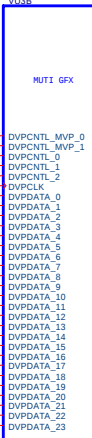
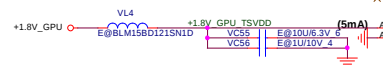
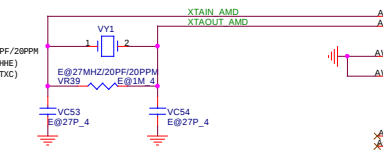
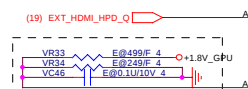
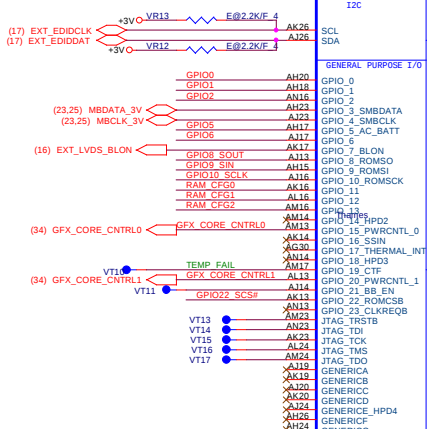
2. Recycled Resin and Coated Wire should be procured from Green

2. Recycled Resin and Coated Wire should be procured from Green Partners.	Date: Wednesday, February 01, 2012	Sheet 36 of 43
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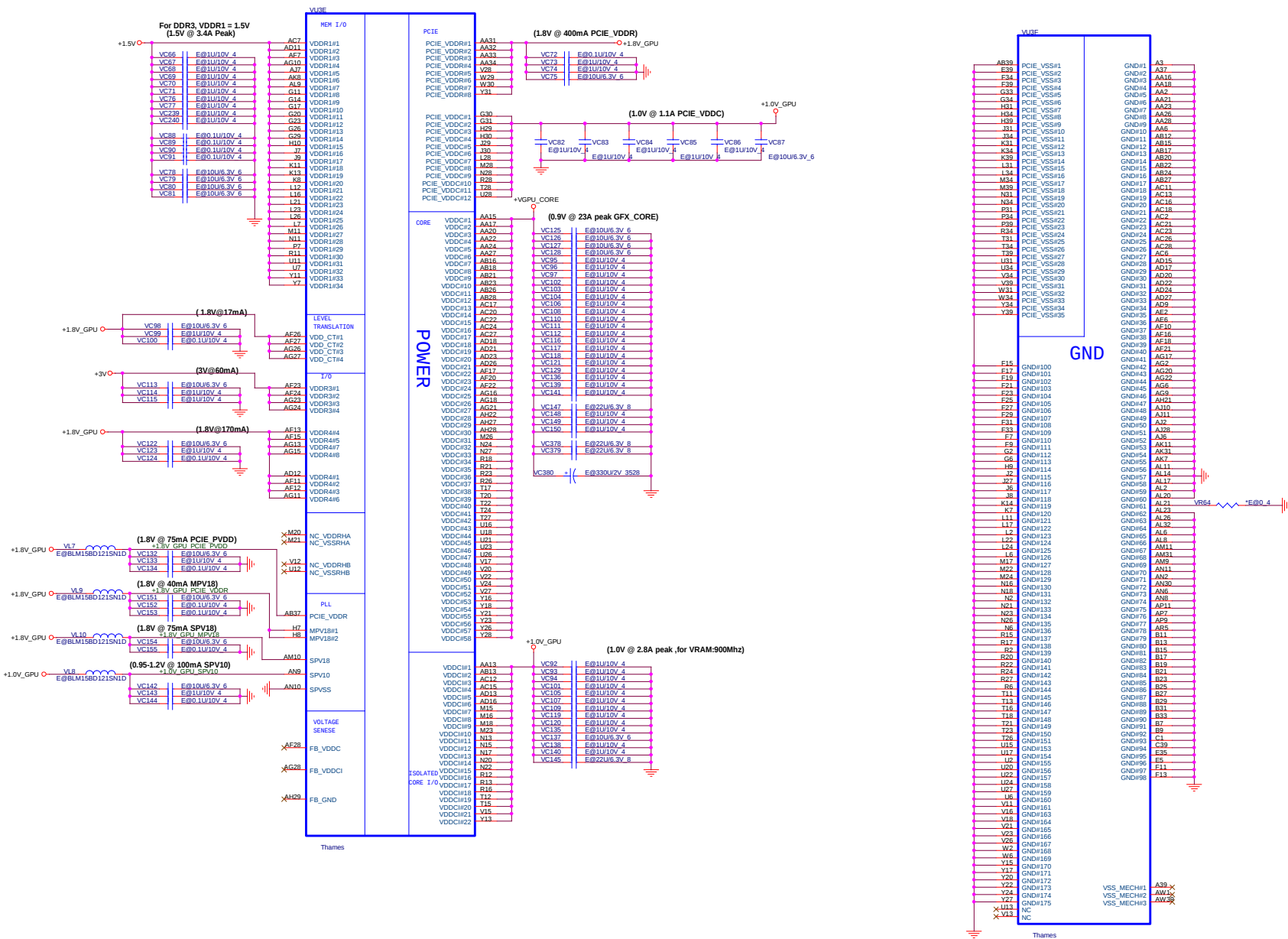


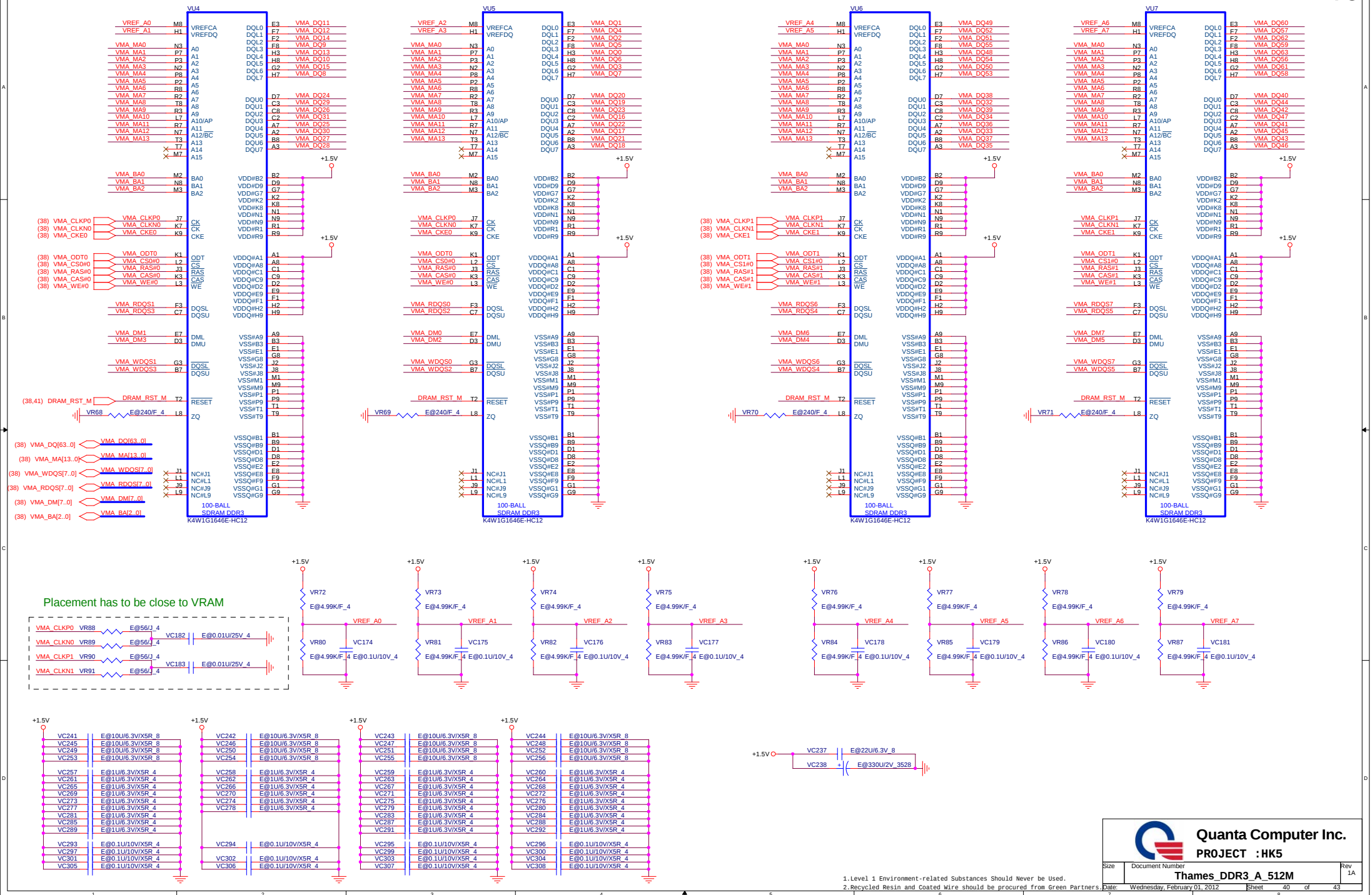
Note : Required Frequency = 900 MHz

Memory Straps	MCLK:900Mhz	RAM_TYPE_CFG0	RAM_TYPE_CFG1	RAM_TYPE_CFG2	RAM_TYPE_CFG3
900 MHz 2Gb(128M*16) Hynix_Vega die	H5TQ2G63BFR-11C	0	0	0	0
900 MHz 2Gb(128M*16) Samsung_C die	K4W2G1646C-HC11	0	0	0	1
900 MHz 1Gb(64M*16) Hynix_Vega die	H5TQ1G63DFR-11C	0	0	1	0
900 MHz 1Gb(64M*16) Samsung_G die	K4W1G1646G-BC11	0	0	1	1



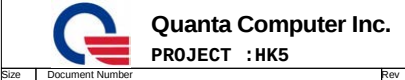






1. Level 1 Environment-related Substances Should Never be Used.

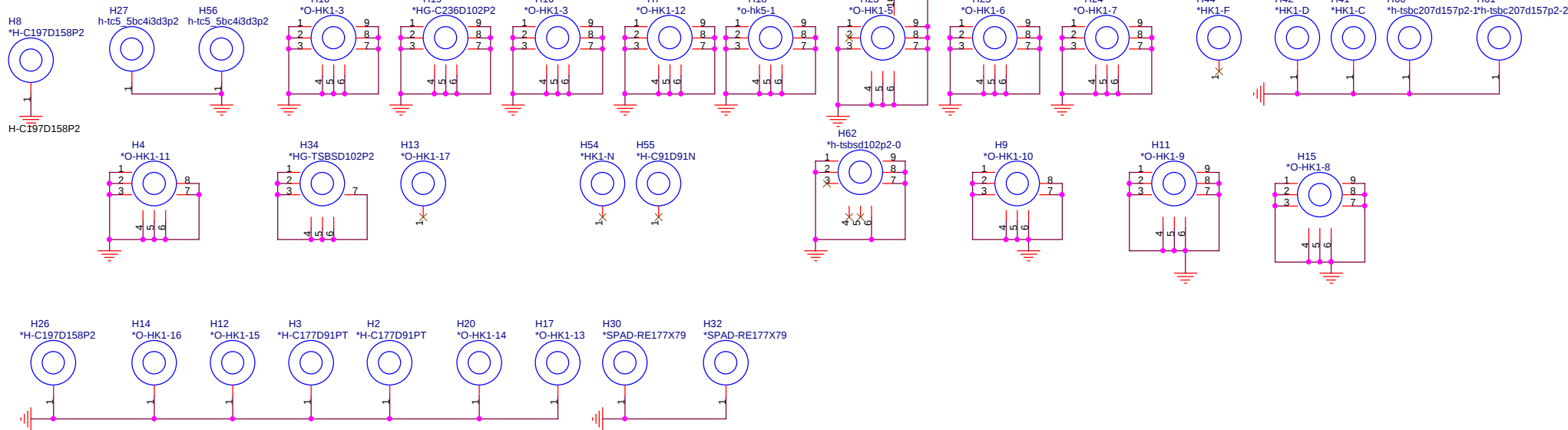
2. Recycled Resin and Coated Wire should be procured from Green Partners.



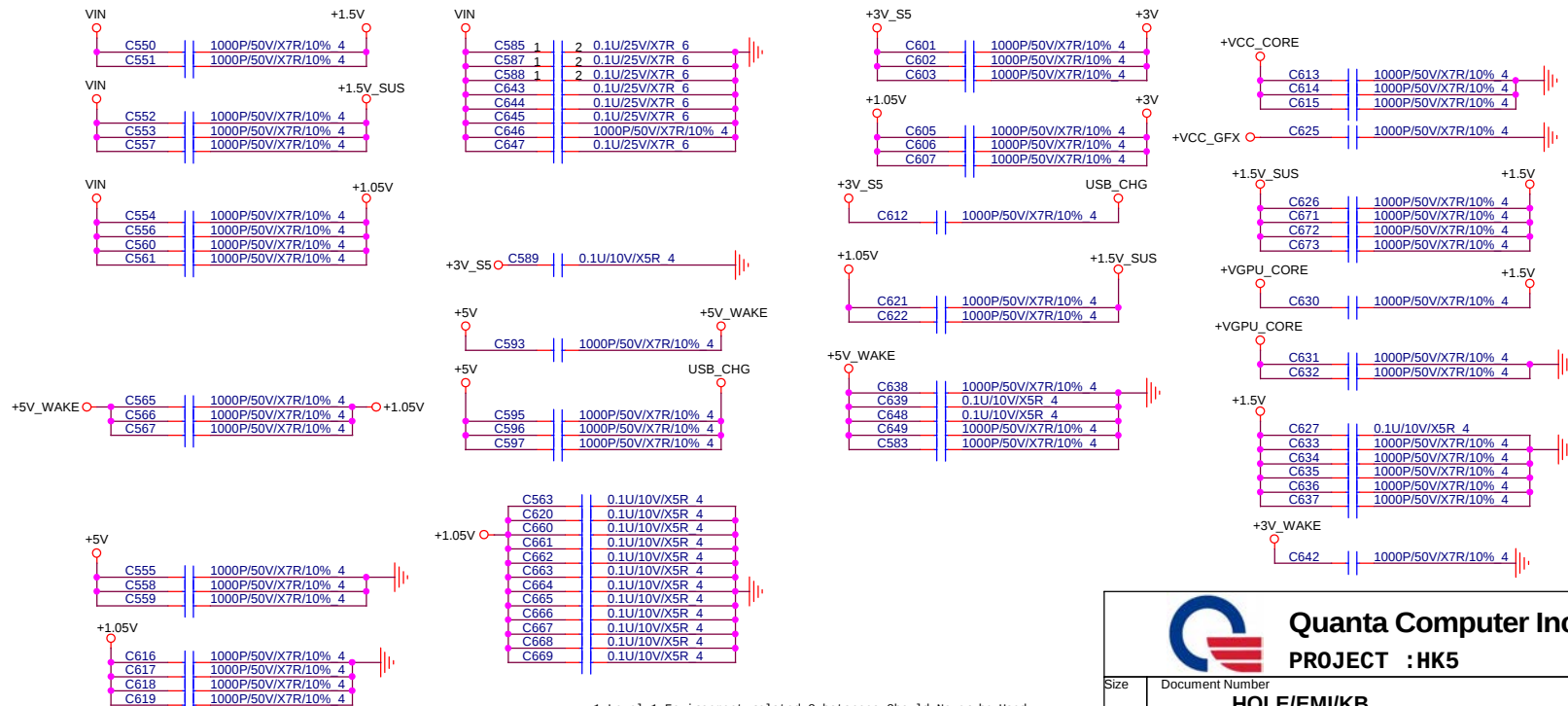
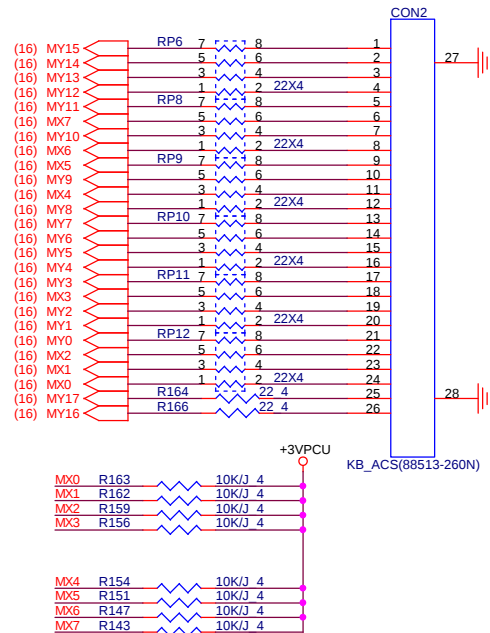
1.Level 1 Environment-related Substances Should Never be Used.		Thames_DDR3_B_512M		1A
2.Recycled Resin and Coated Wire should be procured from Green Partners.		Date:	Wednesday, February 01, 2012	Sheet 41 of 43

WLAN

PCH



KEY BOARD Connector



Quanta Computer Inc.
PROJECT :HK5

Size	Document Number	Rev
	HOLE/EMI/KB	1A

1.Level 1 Environment-related Substances Should Never be Used.

2.Recycled Resin and Coated Wire should be procured from Green Partners.

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USB PORT Architecture	
PORT 0	USB3.0
PORT 1	USN2.0
PORT 2	USN2.0
PORT 3	USB2.0
PORT 4	N/A
PORT 5	N/A
PORT 6	N/A
PORT 7	N/A
PORT 8	N/A
PORT 9	WiMax/BT
PORT 10	Camera
PORT 11	N/A
PORT 12	N/A
PORT 13	N/A

PCIE BUS	
PORT 1	WLAN Port
PORT 2	CARD READER
PORT 3	GLAN(RTL8111E)
PORT 4	N/A
PORT 5	N/A
PORT 6	N/A
PORT 7	N/A
PORT 8	N/A

SATA BUS	
PORT 0	HDD
PORT 1	N/A
PORT 2	N/A
PORT 3	N/A
PORT 4	ODD
PORT 5	N/A

SM BUS	MBCLK/MBDATA	WRITE	READ	Function
ISL88731CHRTZ	0001 001X	0001 0010	0001 0011	Charger
AMD Thames	0100 0001	-	0100 0001	Graphice
LIS331DL	0011 101X	0011 1010	0011 1011	G Sensor

SM BUS	MBCLK_BAT/MBDATA_BAT	WRITE	READ	Function
VGP-BPS26	0001 011X	0001 0110	0001 0111	Battery

SM BUS	SMB_PCH_CLK/SMB_PCH_DAT	WRITE	READ	Function
DIMM Module0	1010 000X	1010 0000	1010 0001	DDRIII
DIMM Module 1	1010 010X	1010 0100	1010 0101	DDRIII
Synaptics	0010 110X	0010 1100	0010 1101	Click PAD

	R363(High) R362(Low)	R294(High) R297(low)
	Board ID3	Board ID0
14"/HK6	0	0
15"/HK5	0	1
17"/HK7	1	0

Board ID1 (VRAM Vendor) R47(High)	Samaung(1)	Hynix(0)
R48(Low)	Stuff	No Stuff
	No Stuff	Stuff

Board ID2		
14" 4PCS	1G	512M
15" 8PCS	1G	2G
R39(High)	Stuff	No Stuff
R27(Low)	No Stuff	Stuff

PCBA SKU	Discrete	UMA
R277(Pull High)	Stuff	No Stuff
R275(Pull Low)	No Stuff	Stuff

	S0	S3	DS3	S4	S5 (Charger Enable)	S5 (Charger Disable)
RUN_ON	H	L	L	L	L	L
+3V	H	L	L	L	L	L
+5V	H	L	L	L	L	L
+0.75V_DDR_VTT	H	L	L	L	L	L
+1.05V	H	L	L	L	L	L
+0.85V	H	L	L	L	L	L
+1.5V	H	L	L	L	L	L
+1.8V	H	L	L	L	L	L
+1.8V_GPU	H	L	L	L	L	L
+1.0V_GPU	H	L	L	L	L	L
+VGPU_CORE	H	L	L	L	L	L
+VCC_GFX	H	L	L	L	L	L
+VCC_CORE	H	L	L	L	L	L
SUS_ON	H	H	H	L	L	L
+1.5V_SUS	H	H	H	L	L	L
S5_ON	H	H	L	H	L	L
+5V_S5	H	H	L	H	L	L
+3V_S5	H	H	L	H	L	L
EC_WAKE_ON	H	H	H	H	H	L
+3V_WAKE	H	H	H	H	H	L
+5V_WAKE	H	H	H	H	H	L
DEEP_EC_EN	H	H	H	H	L	L
+3V_S5_DSW	H	H	H	H	L	L
+3V_SUS	H	H	L	L	L	L