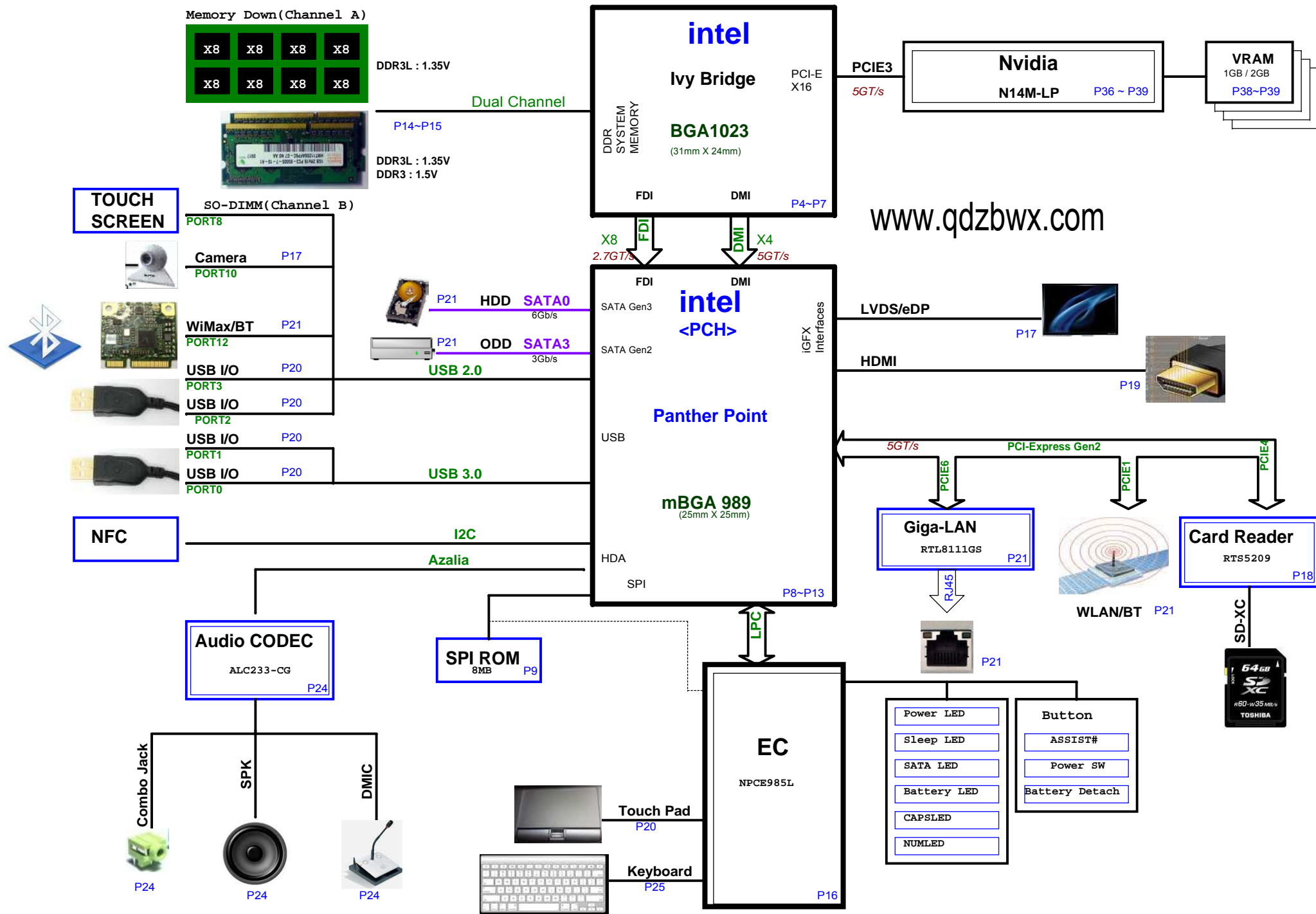


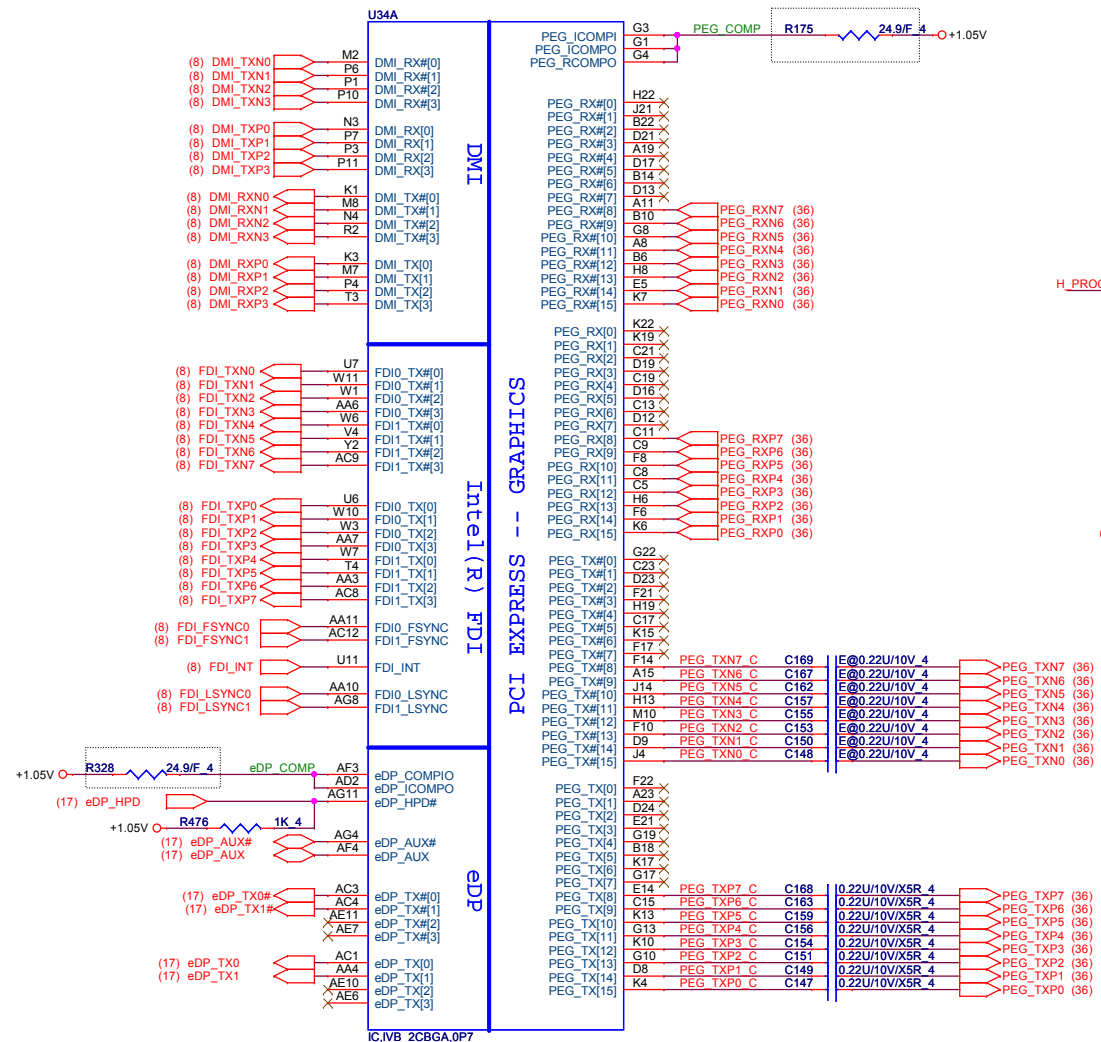
Page	Title of schematic page	Rev.	Date
01	Page List	1A	
02	Block Diagram	1A	
03	Change List	1A	
04	SNB 1/4(HOST&PCIE)	1A	
05	SNB 2/4(DDR3 I/F)	1A	
06	SNB 3/4(POWER)	1A	
07	SNB 4/4(GND/Strap)	1A	
08	PCH 1/6(DMI/FDI/VIDEO)	1A	
09	PCH 2/6(SATA/RTC/HDA/LPC)	1A	
10	PCH 3/6(PCIE/USB/CLK/NV)	1A	
11	PCH 4/6(GPIO/CPU/STRAP)	1A	
12	PCH 5/6(POWER)	1A	
13	PCH 6/6 (GND)	1A	
14	DDR3L MEMORY DOWN(1RX8)	1A	
15	DDR3 DIMM-1-STD(5.2H)	1A	
16	NPCE985E & FLASH	1A	
17	LVDS/TS/NFC	1A	
18	CARD READER(RTS5209)	1A	
19	HDMI/THERMAL	1A	
20	USB	1A	
21	LAN RTL8111GS	1A	
22	WLAN/KB-BL	1A	
23	HDD/ODD/GSENSOR/TP/FAN	1A	
24	AUDIO(ALC233-CG)	1A	
25	LED/PS	1A	
26	POWER +VCC_CORE (ISL95837)	1A	
27	POWER 3VPCU&RVCC5(TPS51427)	1A	
28	POWER 1.35VSUS/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/1.0(RT8812A)	1A	
35	POWER VCC1.5_VRAM/1.05V	1A	
36	NVIDIA N14 GB2-64 PCIE 1/4	1A	
37	NVIDIA N14 GB2-64 TMDS 2/4	1A	
38	NVIDIA N14 GB2-64 VRAM 3/4	1A	
39	NVIDIA N14 GB2-64 VRAM 4/4	1A	

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

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



Ivy Bridge Processor (DMI,PEG,FDI)



SNB_IVB#:

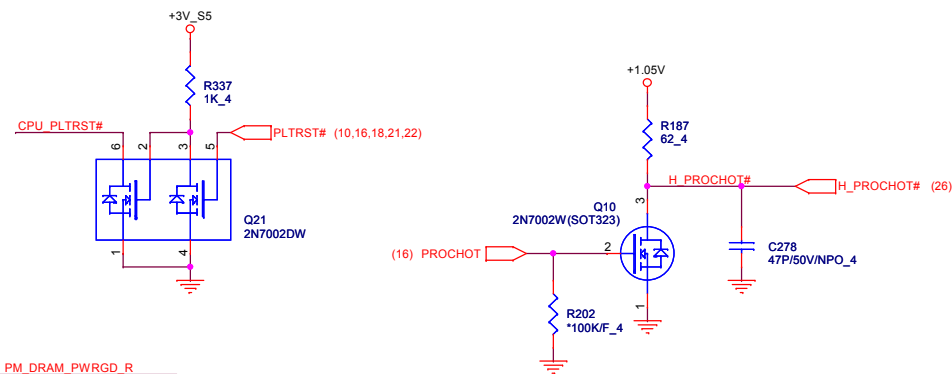
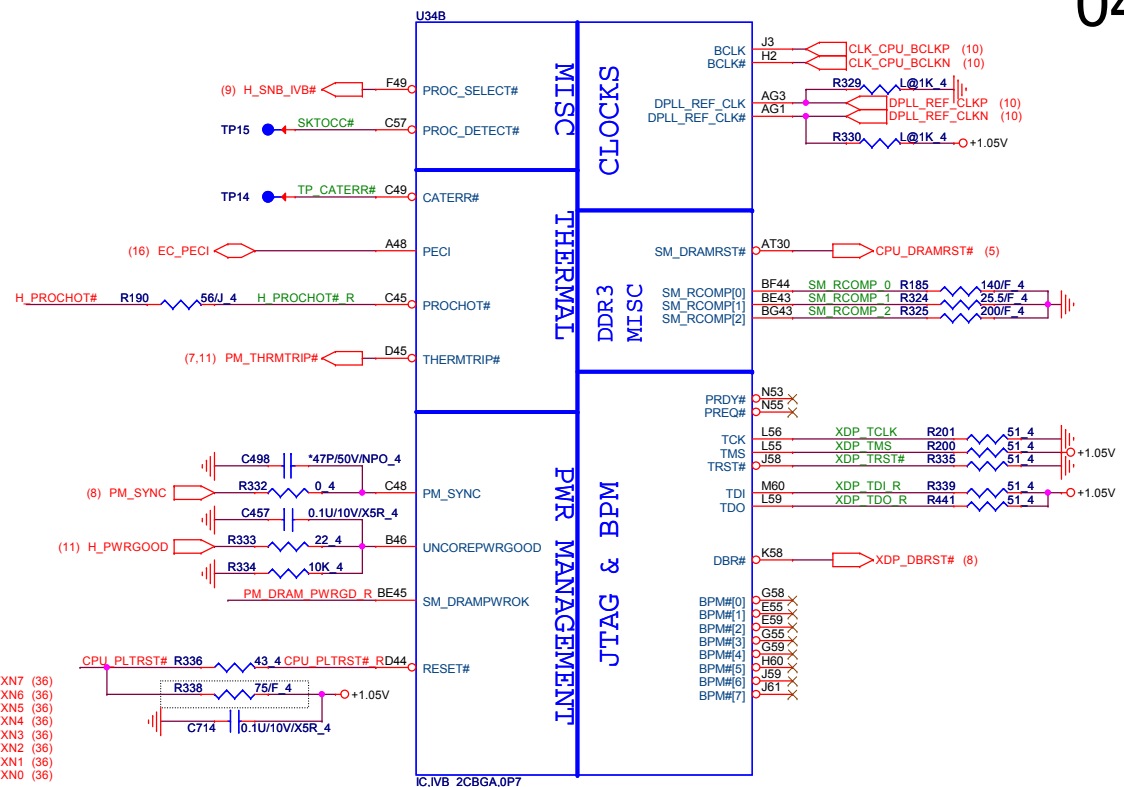
- It is NC when using Sandy Bridge.(1.05V)
- For next generation processor it will be grounded in package.(1.0V)

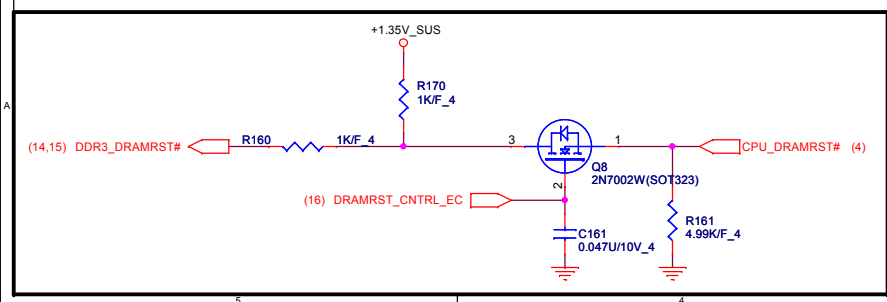
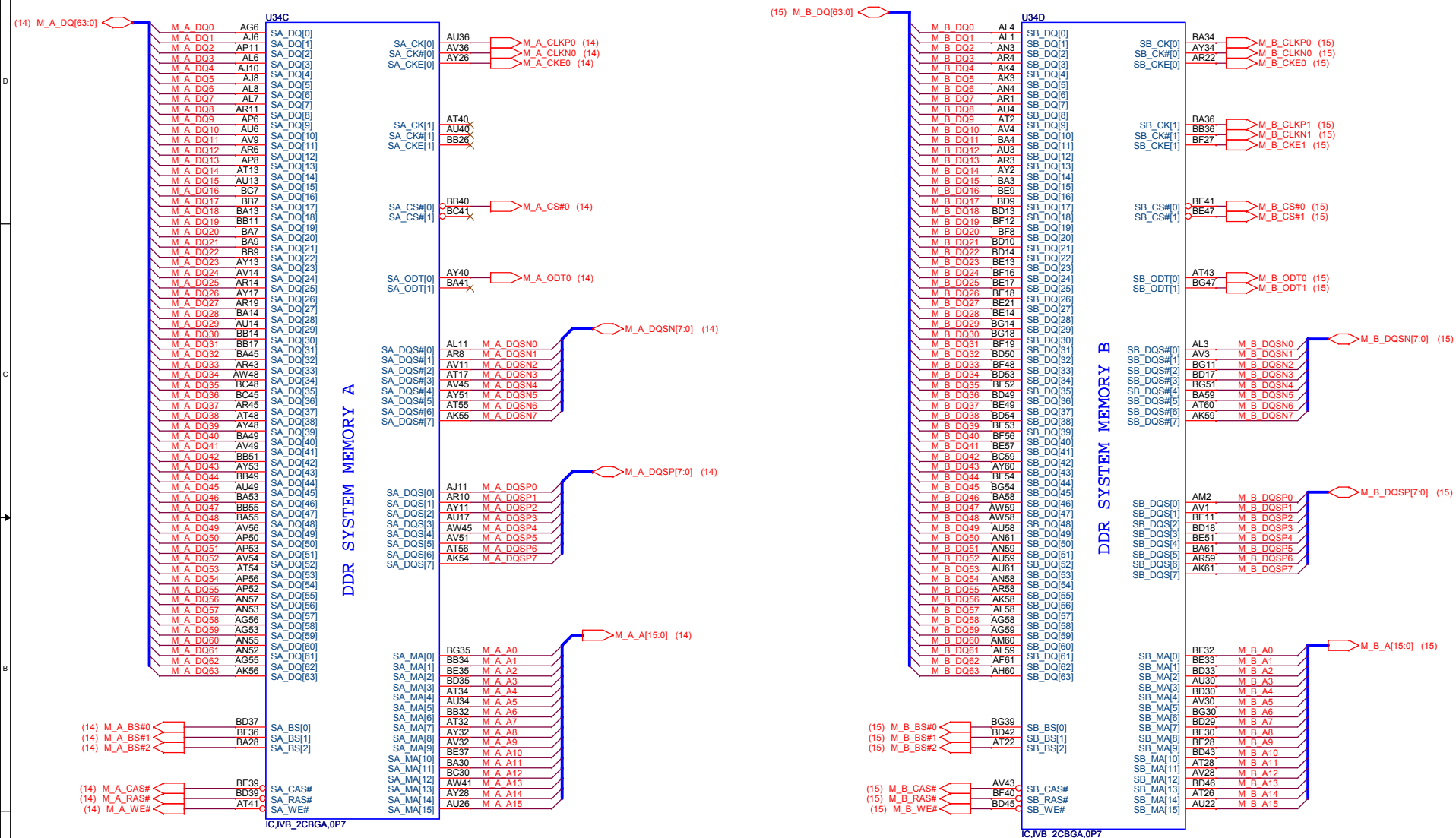
FDI Disabling (Discrete Only)

```
- 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.
```

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Ivy Bridge Processor (CLK,MISC,JTAG)



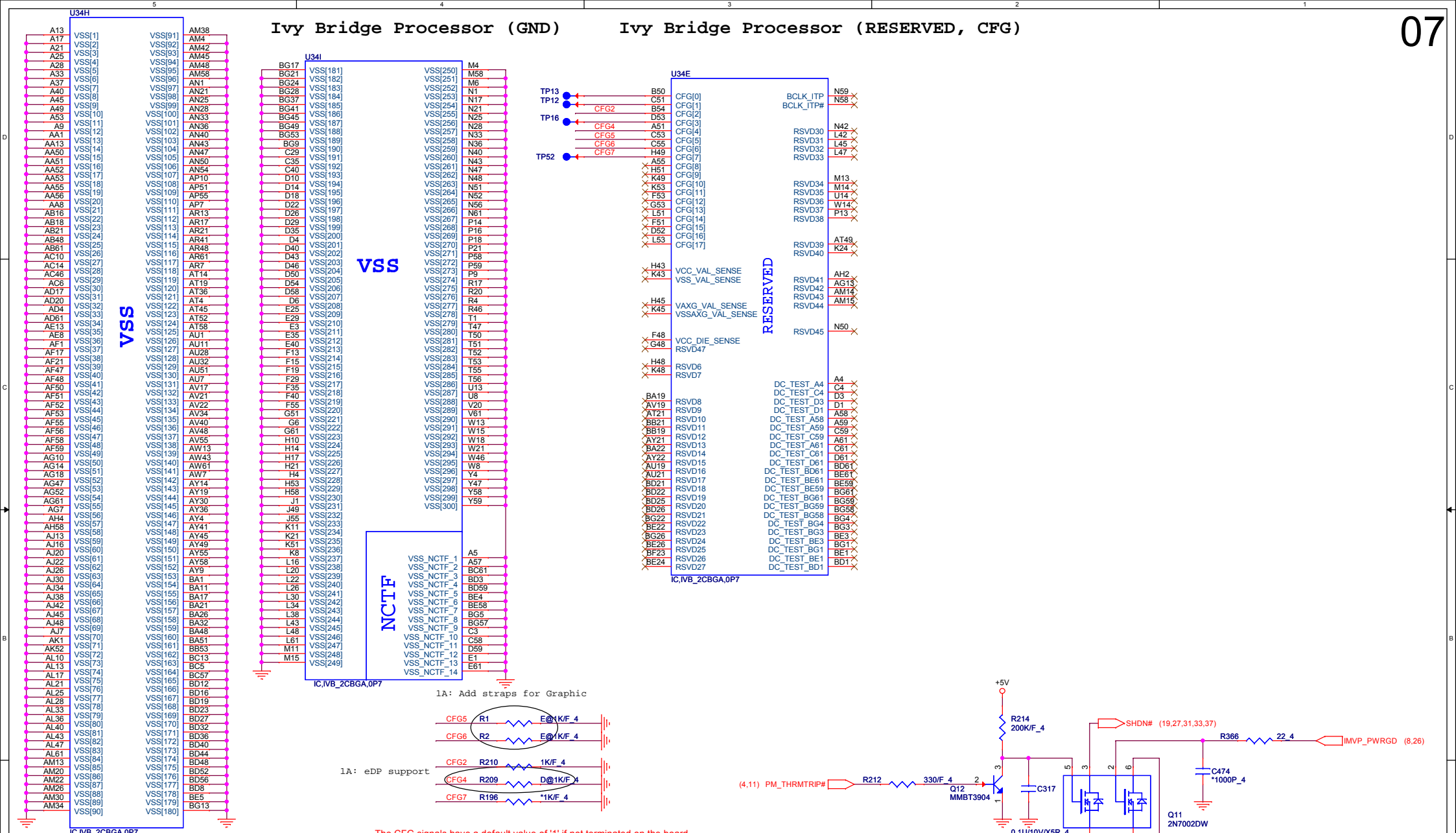


Quanta Computer Inc.
PROJECT : GD5

Size Document Number Rev 1A
SNB/IVB 2/4
Date: Thursday, October 25, 2012 Sheet 5 of 41

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 (GND) Ivy Bridge Processor (RESERVED, CFG)



	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

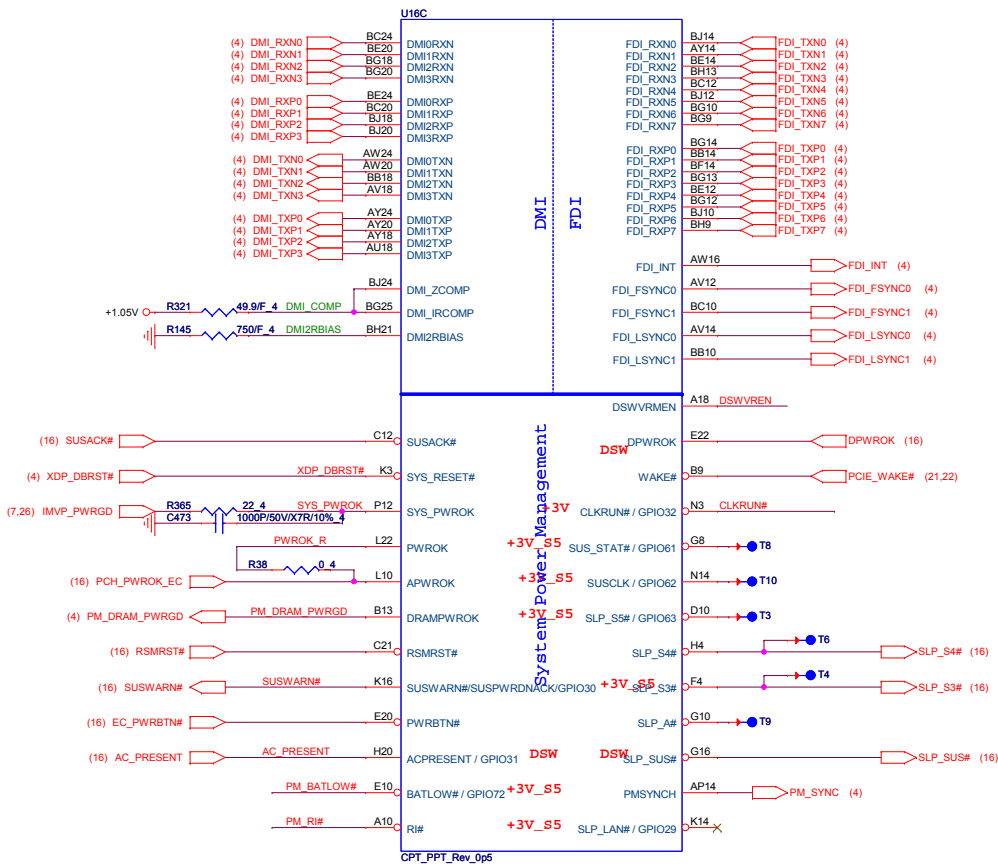


Quanta Computer Inc.
PROJECT : GD5

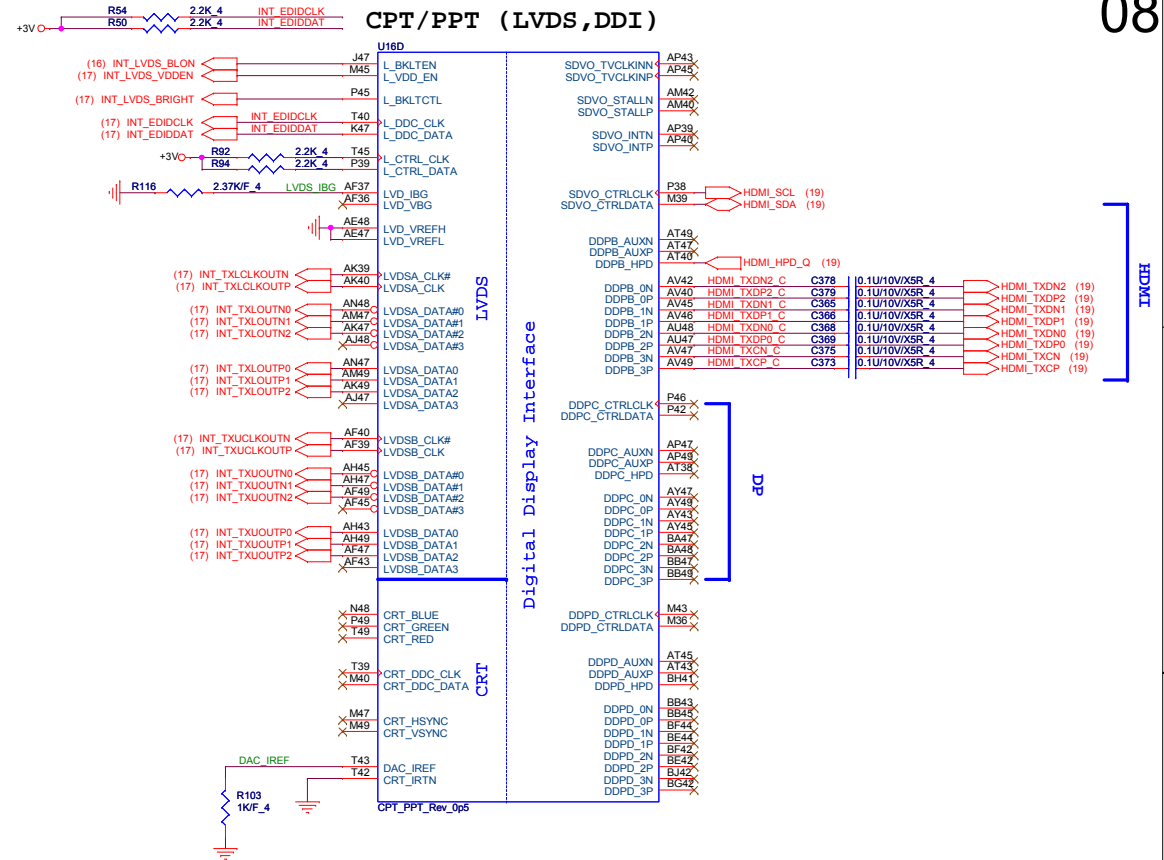
Size	Document Number	Rev
	SNB/IVB 4/4	1A
Date:	Thursday, October 25, 2012	Sheet 7 of 41

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

CPT/PPT (DMI, FDI, PM)



CPT/PPT (LVDS, DDI)



HDMI

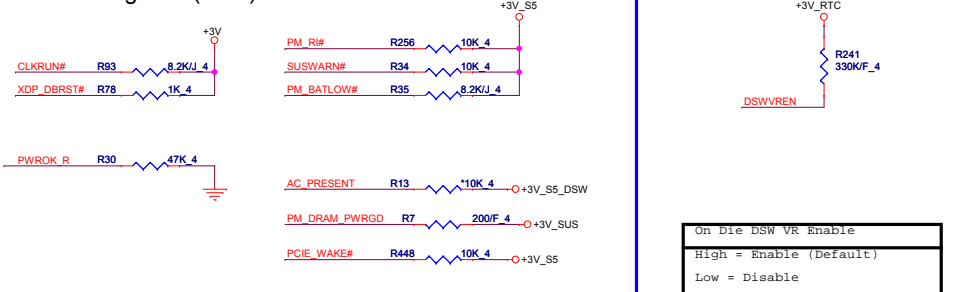
C

B

A

A

PCH Pull-high/low(CLG)



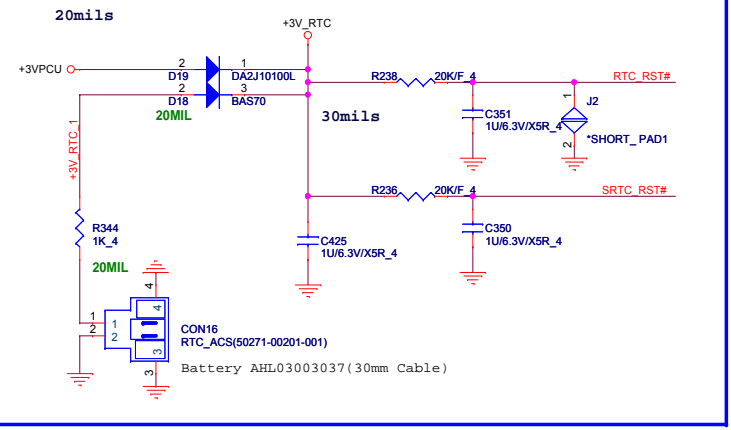
1. Level 1 Environment-related Substances should Never be Used.
2. Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.
PROJECT : GD5

Size: Document Number: CPT/PTT 1/6
Date: Thursday, October 25, 2012 Sheet 8 of 41

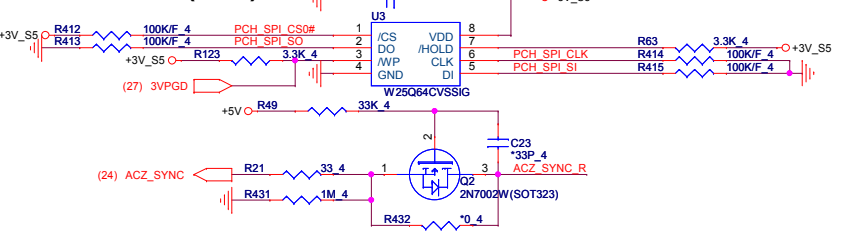
Rev 1A

RTC Circuitry(RTC)



MX25L3205DM2I-12G: AKE39FP0Z00
W25X32VSSIG: AKE39ZP0N00

PCH SPI (CLG)



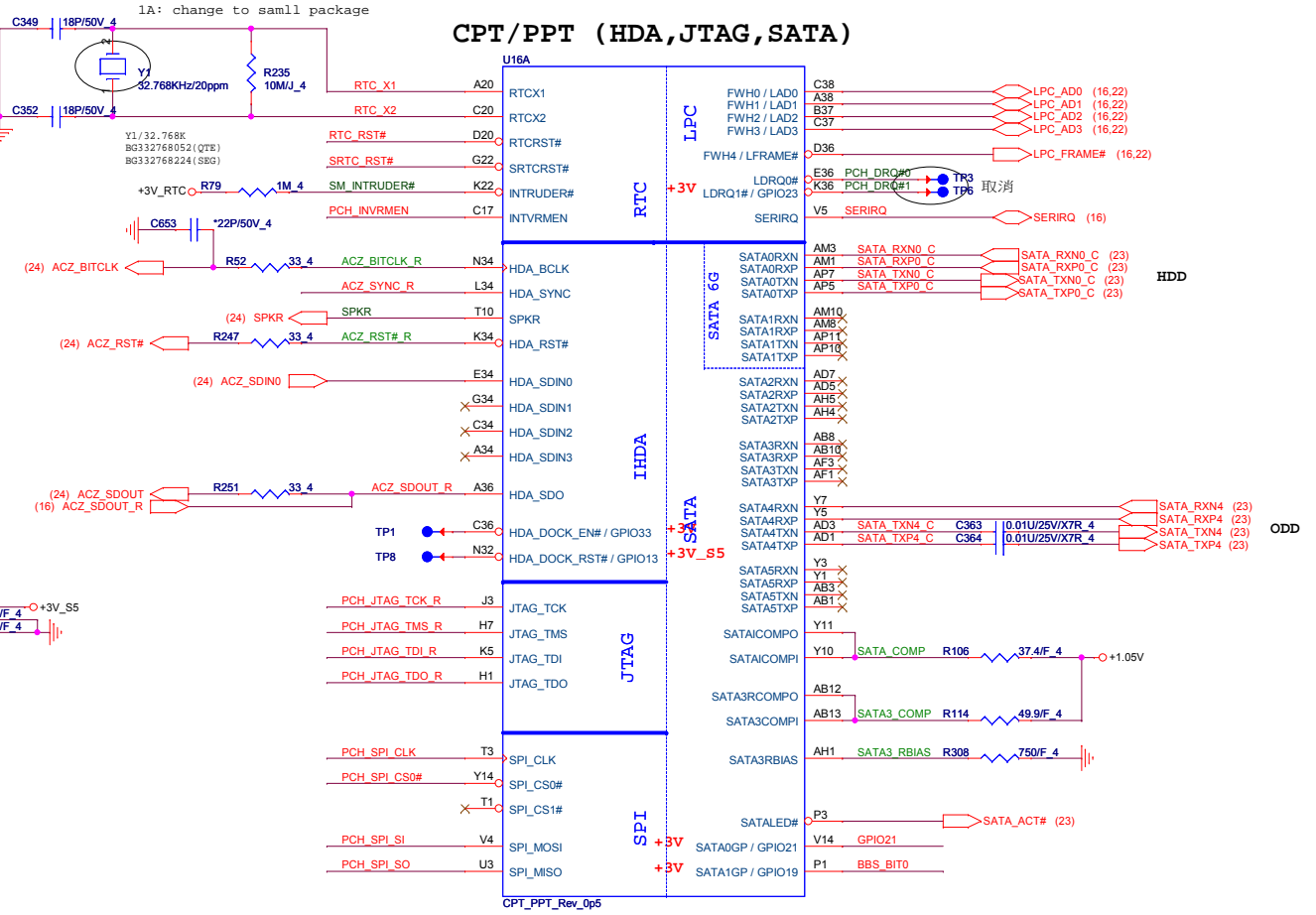
For NPCE885L Using

(16) F_CS0#_PCH	R121	0.4	PCH SPI CS0#
(16) F_SD1_PCH	R67	0.4	PCH SPI SO
(16) SCK_PCH	R65	0.4	PCH SPI CLK
(16) SD0_PCH	R122	0.4	PCH SPI SI

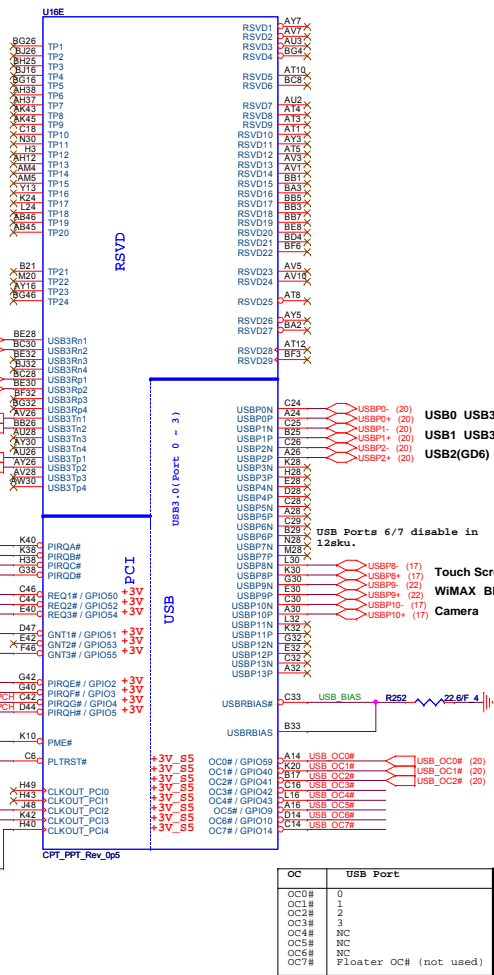
PCH Strap Table

Pin Name	Strap description	Sampled	Configuration	Note									
SPKR	No reboot mode setting	PWROK	0 = Default (weak pull-down 20K) 1 = Setting to No-Reboot mode	SPKR									
PCI_GNT3# / GPIO55	Top-Block Swap Override	PWROK	0 = "top-block swap" mode 1 = Default (weak pull-up 20K)	TP53 PCI_GNT3# (10)									
INTVRMEN	Integrated 1.05V VRM enable	ALWAYS	Should be always pull-up	+3V_RTC R242 330K/F 4 PCH_INVRMEN									
GNT1# / GPIO51	Boot BIOS Selection 1 [bit-1]	PWROK	<table><tr><th>GNT1#</th><th>GNT0#</th><th>Boot Location</th></tr><tr><td>1</td><td>1</td><td>SPI *</td></tr><tr><td>0</td><td>0</td><td>LPC</td></tr></table>	GNT1#	GNT0#	Boot Location	1	1	SPI *	0	0	LPC	Default weak pull-up on GNT0/1# [Need external pull-down for LPC BIOS] TP47 BBS_BIT1 (10) TP43 BBS_BIT0
GNT1#	GNT0#	Boot Location											
1	1	SPI *											
0	0	LPC											
GPIO19	Boot BIOS Selection 0 [bit-0]	PWROK											
HDA_SDO	Flash Descriptor Security	PWROK	0 = Default (weak pull-down 20K) 1 = Enabled	ACZ_SDOUT_R R140 2.2K_4 +1.8V R320 1K_4 NV_CLE (11) H_SNB_IVB# (4)									
DF_TV5	DMI/FDI Termination voltage	PWROK	0 = Set to Vss for Ivy Bridge 1 = Set to Vcc for Sandy Bridge (weak pull-down 20K)	TP44 PLL_ODRV_EN (11)									
GPIO28	On-die PLL Voltage Regulator	RSMRST#	0 = Disable 1 = Enable (Default)	+3V_S5 R29 1K_4 ACZ_SYNC_R									
HDA_SYNC	On-Die PLL VR Voltage Select	RSMRST	0 = Support by 1.8V (weak pull-down) 1 = Support by 1.5V										

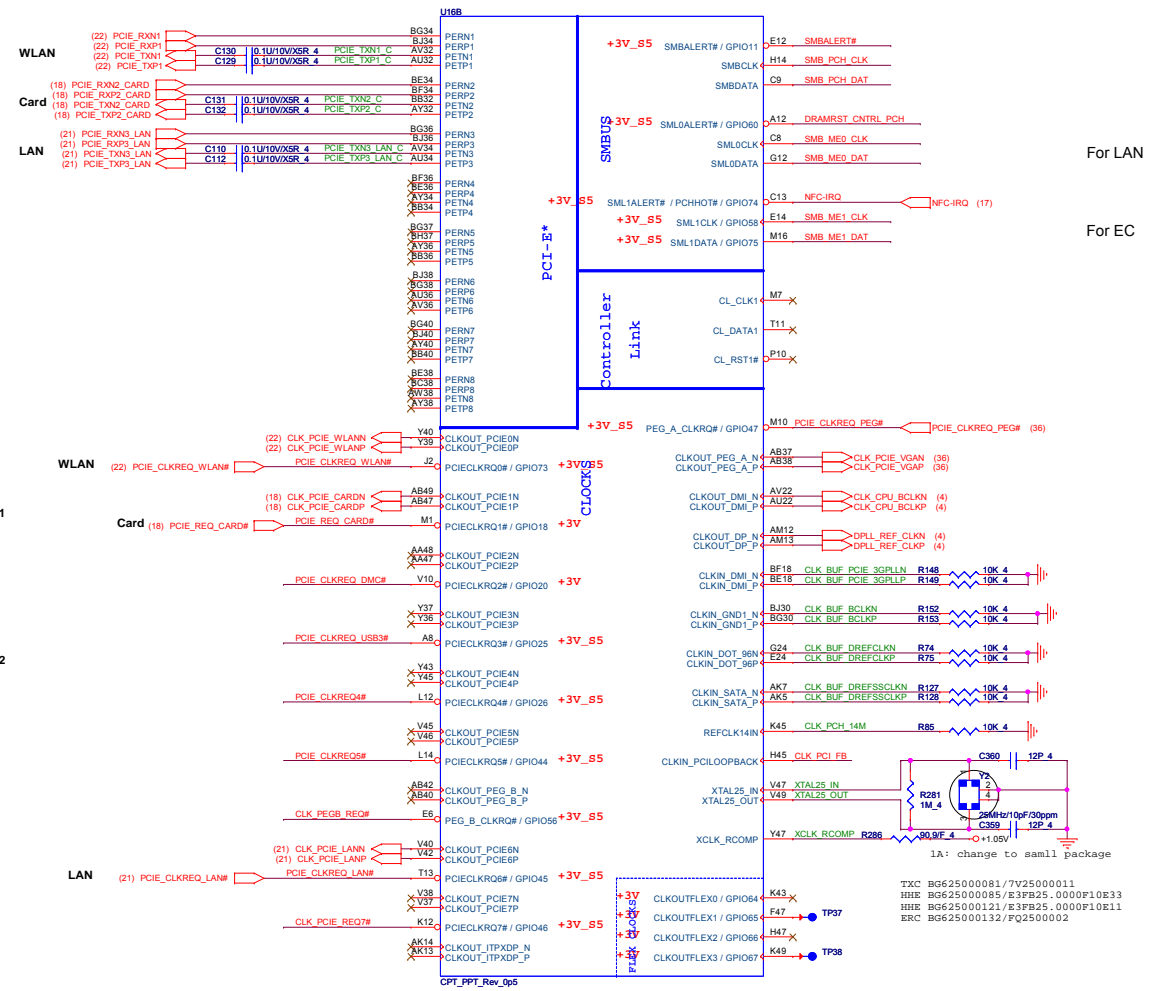
CPT/PPT (HDA,JTAG,SATA)



CPT/PPT (PCI,USB,NVRAM)



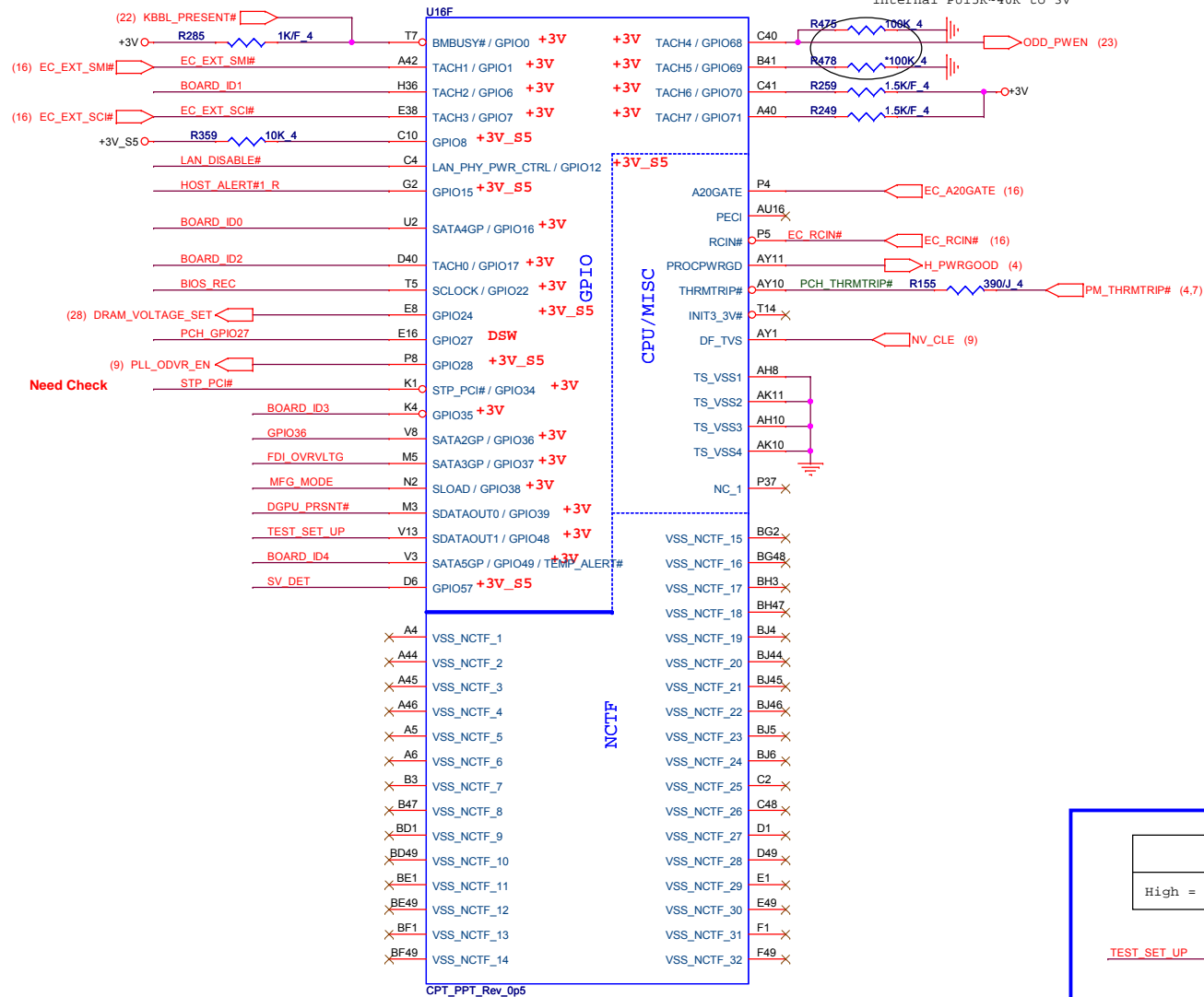
CPT/PPT (PCI-E,SMBUS,CLK)



For LAN

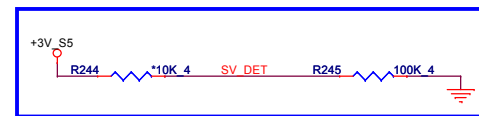
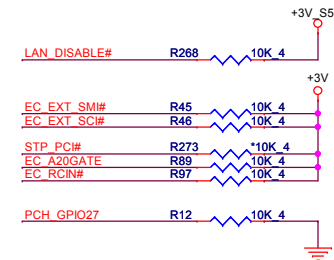
For EC

CPT/PPT (GPIO,VSS_NCTF,RSVD)



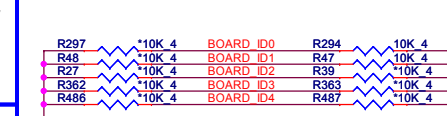
GPIO Pull-up/Pull-down(CLG)

11

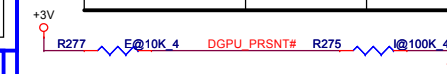


	0	1
Board ID0	CaspicCRA1/CRB1 HK8/9	SuperiorCRA1/CRB1 GD5/6
Board ID1	14"	15"

	Board ID2	Board ID3	Board ID4
SAM 2G	0	0	1
SAM 4G	0	1	0
HYN 2G	0	1	1
HYN 4G	1	0	0
ELP 2G	1	0	1
ELP 4G	1	1	0



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



Quanta Computer Inc.
PROJECT : GD5

CPT/PPT (GND)


U16I

H5			U16H		
AA17	VSS[1]		VSS[0]		
AA2	VSS[2]				
AA3	VSS[3]	VSS[80]			AK38
AA33	VSS[4]	VSS[81]			AK4
AA34	VSS[5]	VSS[82]			AK42
AB11	VSS[6]	VSS[83]			B11
AB14	VSS[7]	VSS[84]			B15
AB39	VSS[8]	VSS[85]			B19
AB4	VSS[9]	VSS[86]			B23
AB43	VSS[10]	VSS[87]			B27
AB5	VSS[11]	VSS[88]			B31
AB7	VSS[12]	VSS[89]			B35
AC19	VSS[13]	VSS[90]			B39
AC2	VSS[14]	VSS[91]			B7
AC21	VSS[15]	VSS[92]			F45
AC24	VSS[16]	VSS[93]			BB12
AC33	VSS[17]	VSS[94]			BB16
AC34	VSS[18]	VSS[95]			BB20
AC48	VSS[19]	VSS[96]			BB22
AD10	VSS[20]	VSS[97]			BB24
AD11	VSS[21]	VSS[98]			BB28
AD12	VSS[22]	VSS[99]			BB30
AD13	VSS[23]	VSS[100]			BB38
AD19	VSS[24]	VSS[101]			BB4
AD24	VSS[25]	VSS[102]			BB44
AD26	VSS[26]	VSS[103]			BB46
AD27	VSS[27]	VSS[104]			BC14
AD33	VSS[28]	VSS[105]			BC18
AD34	VSS[29]	VSS[106]			BC2
AD36	VSS[30]	VSS[107]			BC22
AD37	VSS[31]	VSS[108]			BC26
AD38	VSS[32]	VSS[109]			BC32
AD39	VSS[33]	VSS[110]			BC34
AD4	VSS[34]	VSS[111]			BC36
AD40	VSS[35]	VSS[112]			BC40
AD42	VSS[36]	VSS[113]			BC42
AD43	VSS[37]	VSS[114]			BC48
AD45	VSS[38]	VSS[115]			BD46
AD46	VSS[39]	VSS[116]			BD5
AD8	VSS[40]	VSS[117]			BE22
AE2	VSS[41]	VSS[118]			BE26
AE3	VSS[42]	VSS[119]			BE40
AF10	VSS[43]	VSS[120]			BF10
AF12	VSS[44]	VSS[121]			BF20
AD14	VSS[45]	VSS[122]			BF22
AD16	VSS[46]	VSS[123]			BF24
AF16	VSS[47]	VSS[124]			BF26
AF19	VSS[48]	VSS[125]			BF28
AF24	VSS[49]	VSS[126]			BD3
AF26	VSS[50]	VSS[127]			BD30
AF27	VSS[51]	VSS[128]			BF38
AF29	VSS[52]	VSS[129]			BF40
AF31	VSS[53]	VSS[130]			BF8
AF38	VSS[54]	VSS[131]			BG17
AF4	VSS[55]	VSS[132]			BG21
AF42	VSS[56]	VSS[133]			BG33
AF46	VSS[57]	VSS[134]			AT42
AF5	VSS[58]	VSS[135]			AT46
AF7	VSS[59]	VSS[136]			AT7
AG19	VSS[60]	VSS[137]			BH11
AG2	VSS[61]	VSS[138]			BH15
AG31	VSS[62]	VSS[139]			BH17
AG48	VSS[63]	VSS[140]			BH19
AH11	VSS[64]	VSS[141]			H10
AH3	VSS[65]	VSS[142]			AV30
AH36	VSS[66]	VSS[143]			AV38
AH39	VSS[67]	VSS[144]			AV4
AH40	VSS[68]	VSS[145]			AV43
AH42	VSS[69]	VSS[146]			AV8
AH46	VSS[70]	VSS[147]			AW14
AH7	VSS[71]	VSS[148]			AW18
AJ19	VSS[72]	VSS[149]			AW2
AJ21	VSS[73]	VSS[150]			AW22
AJ24	VSS[74]	VSS[151]			D12
AJ33	VSS[75]	VSS[152]			D16
AJ34	VSS[76]	VSS[153]			D18
AK12	VSS[77]	VSS[154]			D22
AK3	VSS[78]	VSS[155]			D24
	VSS[79]	VSS[156]			D26
					D30
					D32
					D34
					D38
					D42
					D8
					E18
					E26
					G18
					G20
					G26
					G28
					G36
					G48
					H12
					H18
					H22
					H24
					H26
					H30
					H32
					H34
					F3

AY4			U16I		
AY42	VSS[159]		VSS[159]		H46
AY46	VSS[160]		VSS[160]		K18
AY8	VSS[161]		VSS[161]		K26
B11	VSS[162]		VSS[162]		K39
B15	VSS[163]		VSS[163]		K46
B19	VSS[164]		VSS[164]		K7
B23	VSS[165]		VSS[165]		L18
B27	VSS[166]		VSS[166]		L2
B31	VSS[167]		VSS[167]		L20
B35	VSS[168]		VSS[168]		L26
B39	VSS[169]		VSS[169]		L28
B7	VSS[170]		VSS[170]		L36
F45	VSS[171]		VSS[171]		L48
BB12	VSS[172]		VSS[172]		M12
BB16	VSS[173]		VSS[173]		M16
BB20	VSS[174]		VSS[174]		M18
BB22	VSS[175]		VSS[175]		M22
BB24	VSS[176]		VSS[176]		M24
BB28	VSS[177]		VSS[177]		M30
BB30	VSS[178]		VSS[178]		M32
BB38	VSS[179]		VSS[179]		M34
BB4	VSS[180]		VSS[180]		M38
BB44	VSS[181]		VSS[181]		M4
BB46	VSS[182]		VSS[182]		M42
BC14	VSS[183]		VSS[183]		M46
BC18	VSS[184]		VSS[184]		M8
BC2	VSS[185]		VSS[185]		N18
BC22	VSS[186]		VSS[186]		P30
BC26	VSS[187]		VSS[187]		N47
BC32	VSS[188]		VSS[188]		P11
BC34	VSS[189]		VSS[189]		P18
BC36	VSS[190]		VSS[190]		T33
BC40	VSS[191]		VSS[191]		P40
BC42	VSS[192]		VSS[192]		P43
BC48	VSS[193]		VSS[193]		P47
BD46	VSS[194]		VSS[194]		P7
BD5	VSS[195]		VSS[195]		R2
BE22	VSS[196]		VSS[196]		R48
BE26	VSS[197]		VSS[197]		T12
BE40	VSS[198]		VSS[198]		T31
BF10	VSS[199]		VSS[199]		T37
BF12	VSS[200]		VSS[200]		T4
BF16	VSS[201]		VSS[201]		V34
BF20	VSS[202]		VSS[202]		V46
BF22	VSS[203]		VSS[203]		V47
BF24	VSS[204]		VSS[204]		T8
BF26	VSS[205]		VSS[205]		V11
BF28	VSS[206]		VSS[206]		V17
BD3	VSS[207]		VSS[207]		V26
BD30	VSS[208]		VSS[208]		V27
BF38	VSS[209]		VSS[209]		V29
BF40	VSS[210]		VSS[210]		V31
BF8	VSS[211]		VSS[211]		V36
BG17	VSS[212]		VSS[212]		V39
BG21	VSS[213]		VSS[213]		V43
BG33	VSS[214]		VSS[214]		V7
AT42	VSS[215]		VSS[215]		W17
AT46	VSS[216]		VSS[216]		W19
AT7	VSS[217]		VSS[217]		W2
BH11	VSS[218]		VSS[218]		W27
BH15	VSS[219]		VSS[219]		W48
BH17	VSS[220]		VSS[220]		Y12
BH19	VSS[221]		VSS[221]		Y38
H10	VSS[222]		VSS[222]		Y4
AV30	VSS[223]		VSS[223]		Y42
AV38	VSS[224]		VSS[224]		Y46
AV4	VSS[225]		VSS[225]		Y8
AV43	VSS[226]		VSS[226]		BG29
AV8	VSS[227]		VSS[227]		N24
AW14	VSS[228]		VSS[228]		AJ3
AW18	VSS[229]		VSS[229]		AD47
AW2	VSS[230]		VSS[230]		B43
AW22	VSS[231]		VSS[231]		BE10
D12	VSS[232]		VSS[232]		BG41
D16	VSS[233]		VSS[233]		G14
D18	VSS[234]		VSS[234]		H16
D22	VSS[235]		VSS[235]		T36
D24	VSS[236]		VSS[236]		BG22
D26	VSS[237]		VSS[237]		BG24
D30	VSS[238]		VSS[238]		C22
D32	VSS[239]		VSS[239]		AP13
D34	VSS[240]		VSS[240]		M14
D38	VSS[241]		VSS[241]		AP3
D42	VSS[242]		VSS[242]		AP1
D8	VSS[243]		VSS[243]		BE16
E18	VSS[244]		VSS[244]		BC16
E26	VSS[245]		VSS[245]		BG28
G18	VSS[246]		VSS[246]		BJ28
G20	VSS[247]		VSS[247]		
G26	VSS[248]		VSS[248]		
G28	VSS[249]		VSS[249]		
G36	VSS[250]		VSS[250]		
G48	VSS[251]		VSS[251]		
H12	VSS[252]		VSS[252]		
H18	VSS[253]		VSS[253]		
H22	VSS[254]		VSS[254]		
H24	VSS[255]		VSS[255]		
H26	VSS[256]		VSS[256]		
H30	VSS[257]		VSS[257]		
H32	VSS[258]		VSS[258]		
H34					
F3					

CPT_PPT_Rev_0p5

CPT_PPT_Rev_0p5

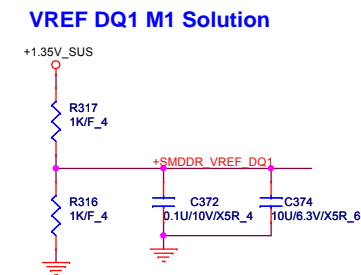
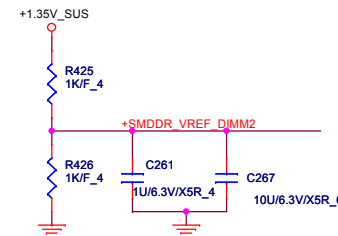
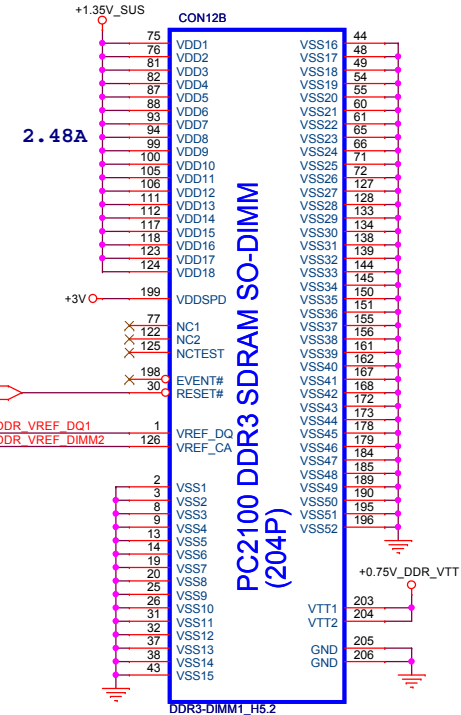
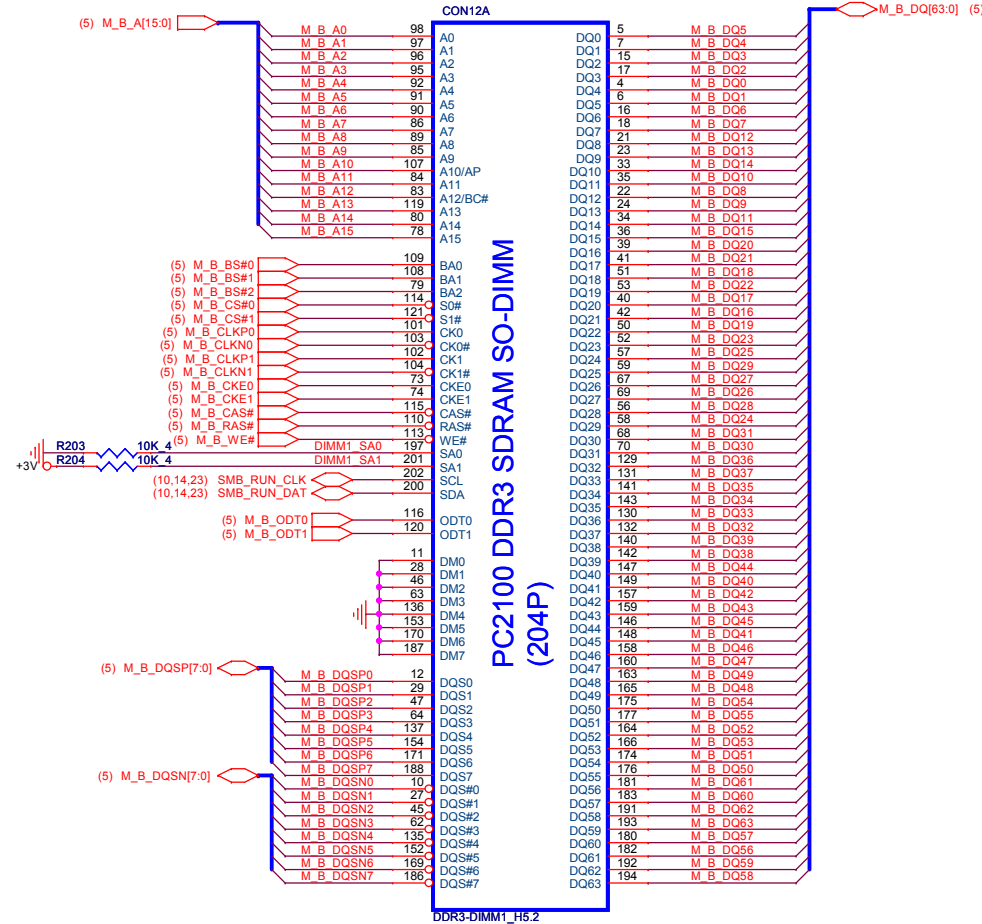


Quanta Computer Inc.
PROJECT : GD5

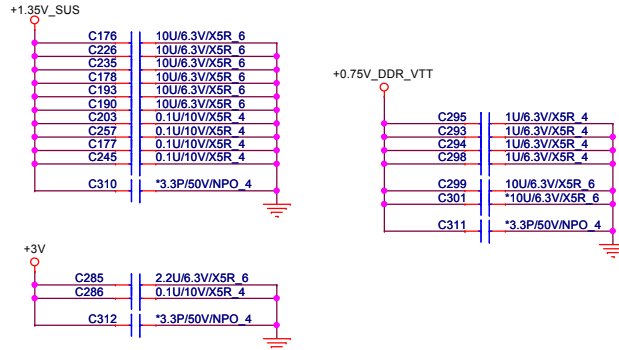
Size	Document Number	Rev 1A
CPT/PPT 6/6		
Date:	Thursday, October 25, 2012	Sheet 13 of 41

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

DDR_RVS (DDR)



Place these Caps near So-Dimm1.

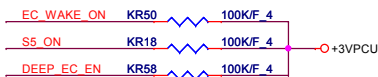
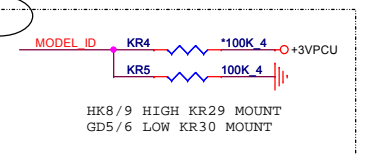
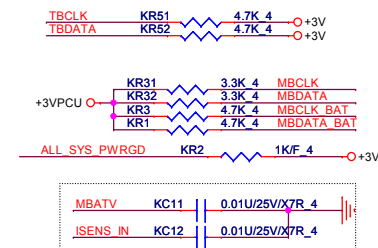
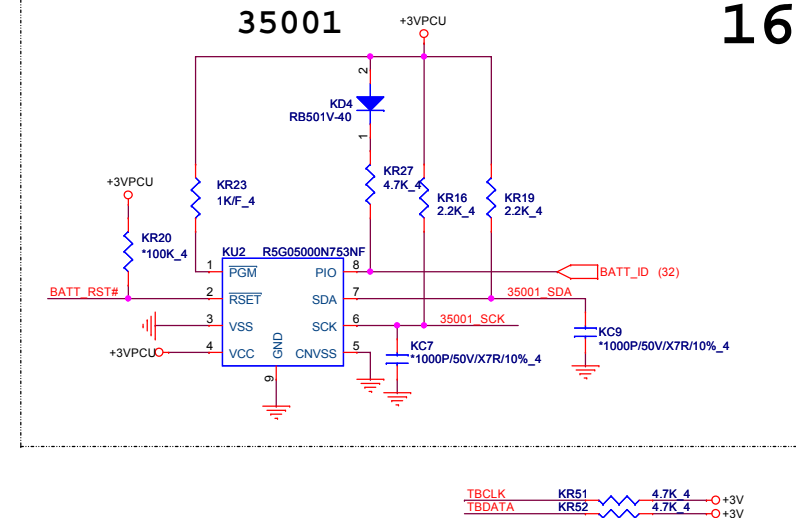
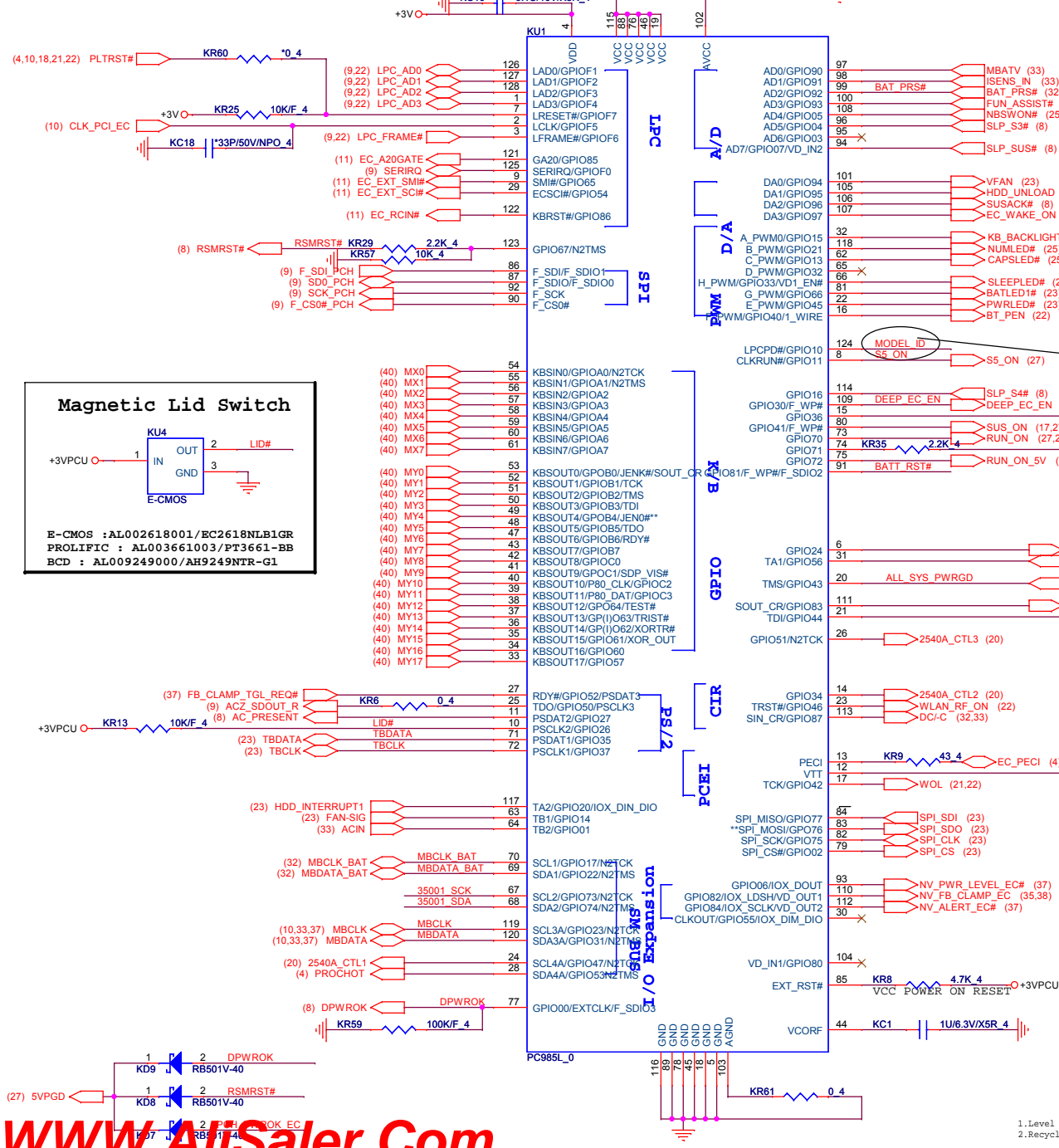


Quanta Computer Inc.
PROJECT : GD5

Size	Document Number	Rev
	DDRIII SO-DIMM-1	1A
Date:	Thursday, October 25, 2012	Sheet 15 of 41

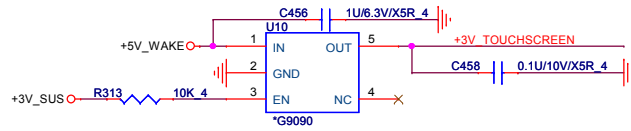
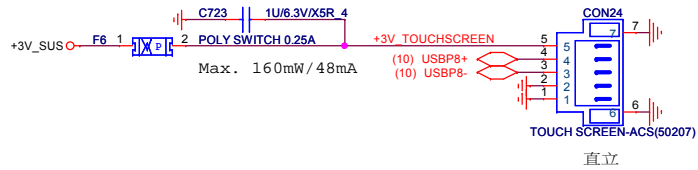
1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

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



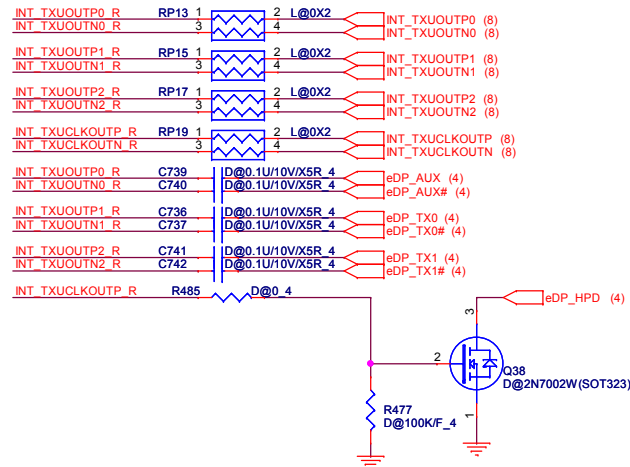
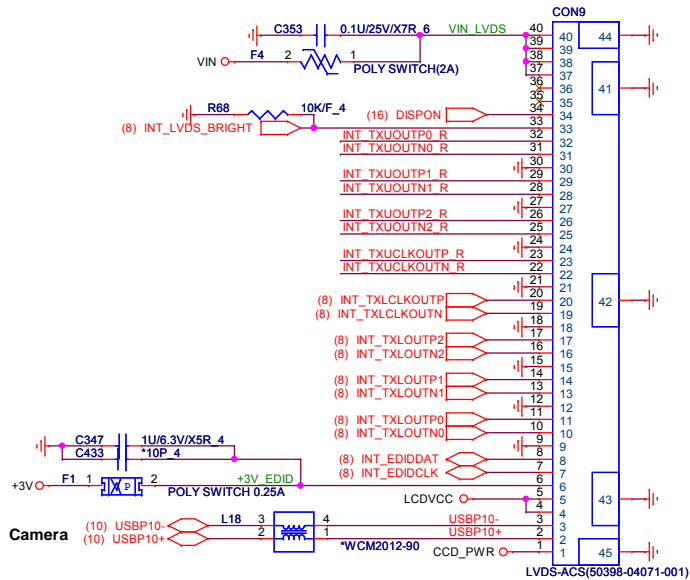
DRAM_VOLTAGE_SET Low: 1.5V High : 1.35V

Touch Screen

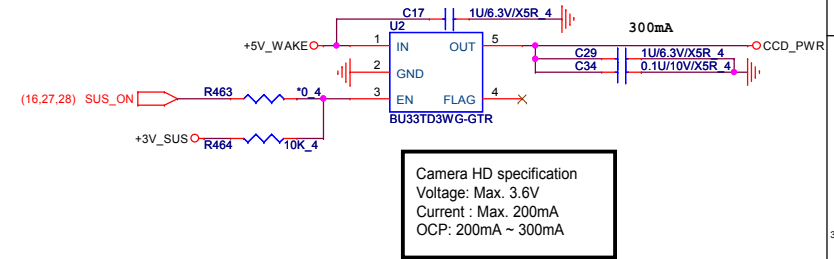


LVDS

FAST, UL/CSA

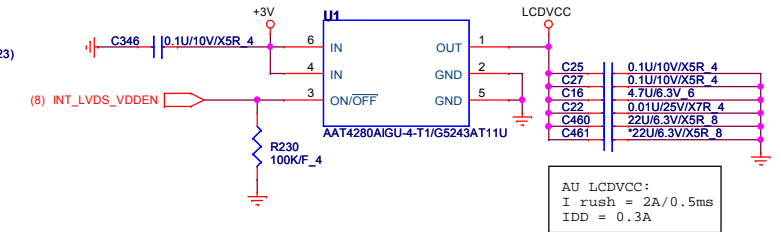


USB Camera Power



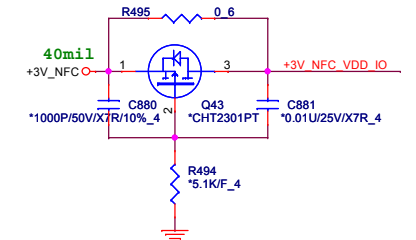
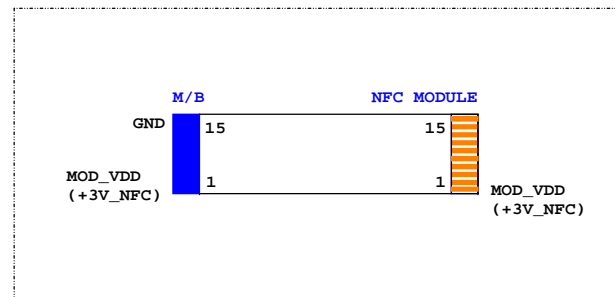
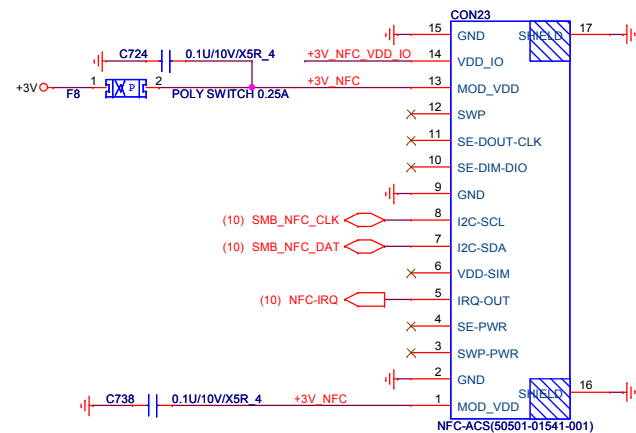
Camera HD specification
Voltage: Max. 3.6V
Current : Max. 200mA
OCP: 200mA ~ 300mA

NB LVDS enable



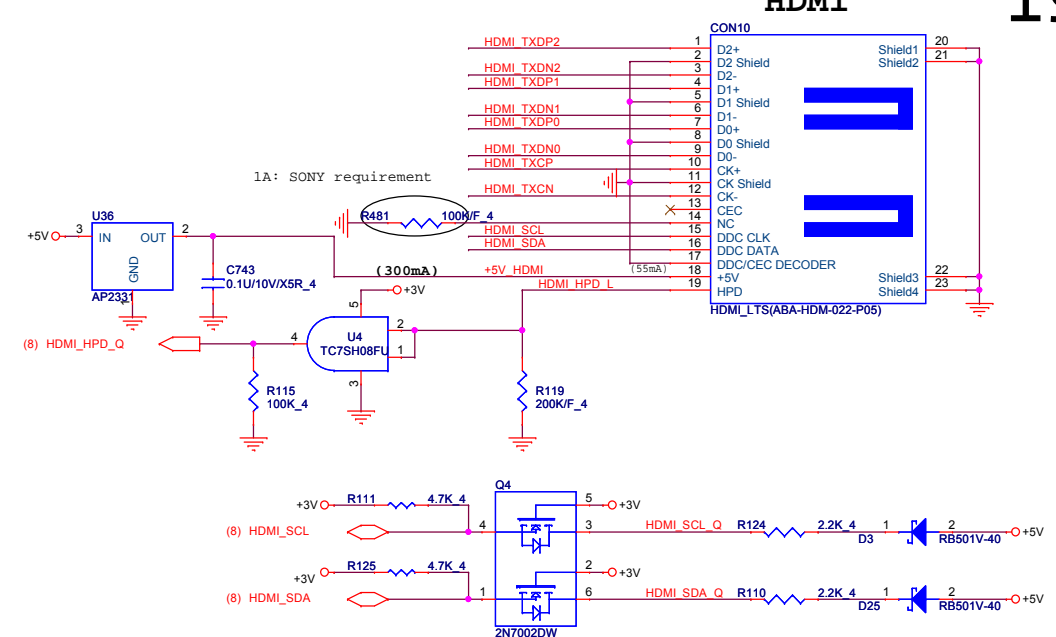
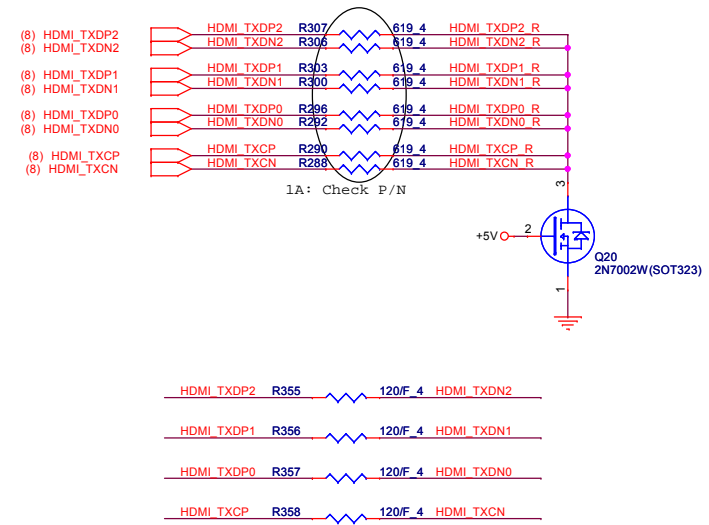
AU LCDVCC:
I rush = 2A/0.5ms
IDD = 0.3A

NFC

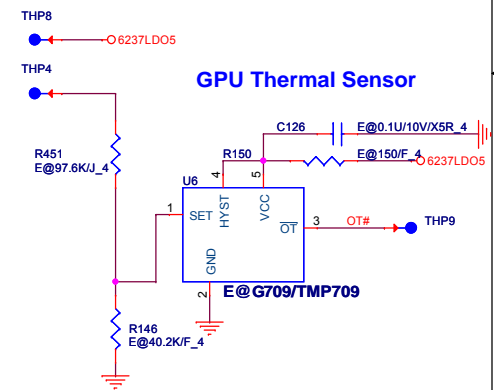
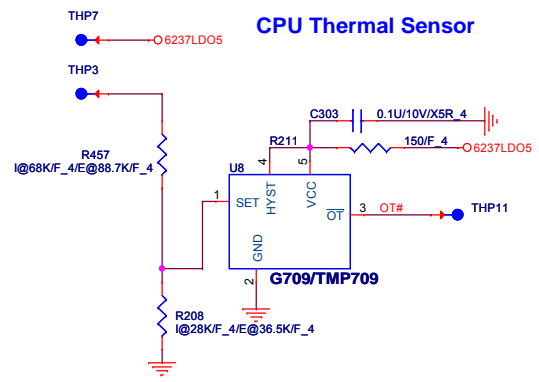
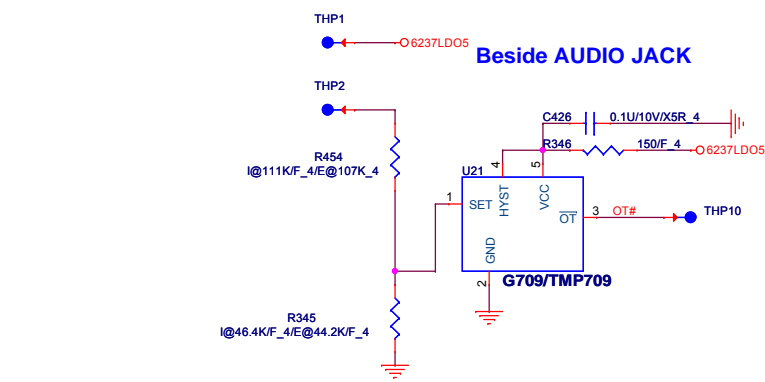


PROJECT : GD5
NFC/TOUCH SCREEN/0DP

HDMI



H/W Thermal Protect



RSET(kΩ)= 0.0012T2 - 0.9308T + 96.147

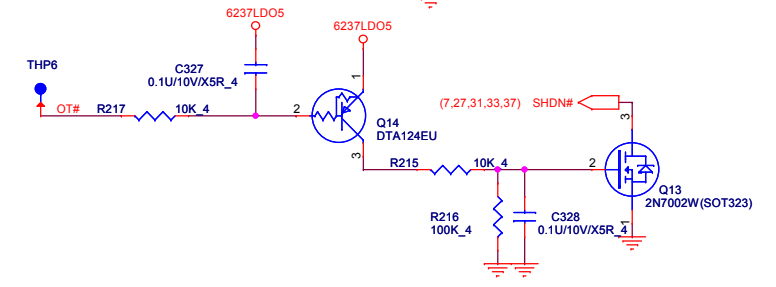
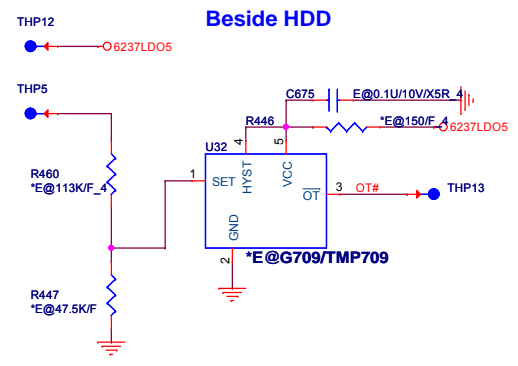
95	18.5K
100	15K
107	10.3K
110	8.2K

DIS SKU

Location of IC	Temp	R-Set	Parts in BOM	Max	Min
Near CPU sensor temp	70	R208=36.87K	36.5K	71	70
Near GFX sensor temp	65	R146=40.72K	40.2K	66.3	65.1
Near AUDIO sensor temp	60	R345=44.62K	44.2K	61.2	60

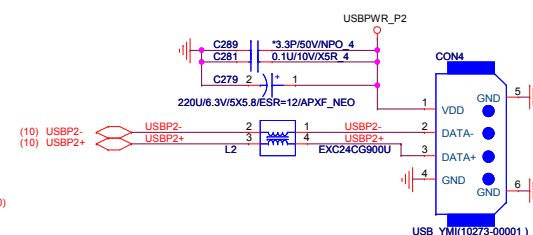
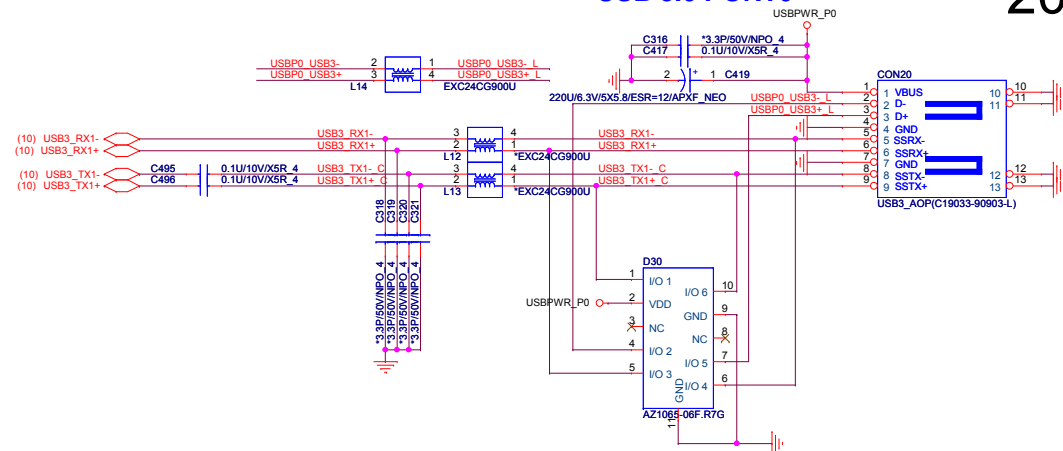
UMA SKU

Location of IC	Temp	R-Set	Parts in BOM	Max	Min
Near CPU sensor temp	81	R208=28.63K	28K	82.3	81.4
Near AUDIO sensor temp	58	R345=46.2K	46.4K	58.4	57.1

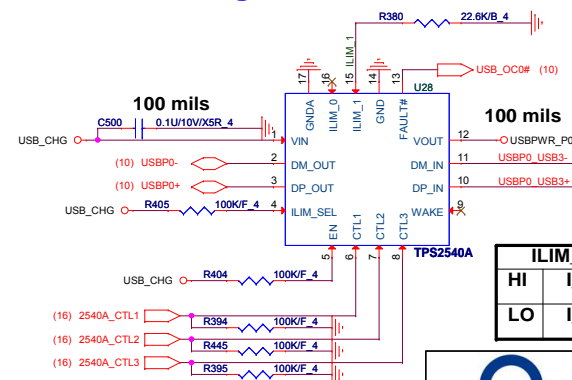


Quanta Computer Inc.
PROJECT : GD5


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



USB Charger

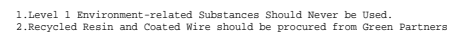


ILIM_SEL (I LIMIT(A)= 48000/R)		
HI	I_LIM_1	
LO	I_LIM_0	48000/22.6K=2.123A

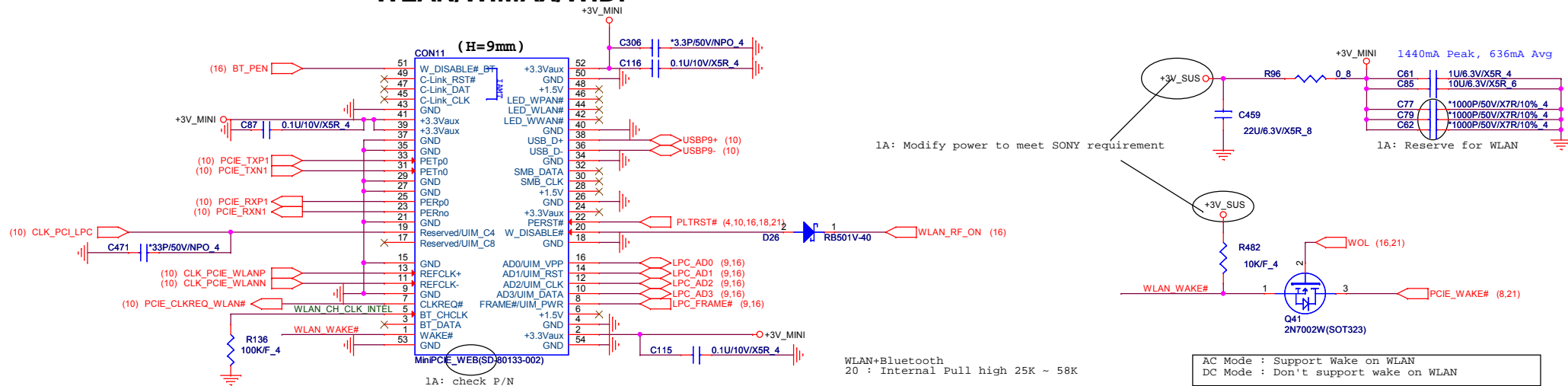
 Quanta Computer Inc. PROJECT : GD5	
Size	Document Number USB/USB Charger
Date	Thursday, October 25, 2012 Sheet 20 of 41

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

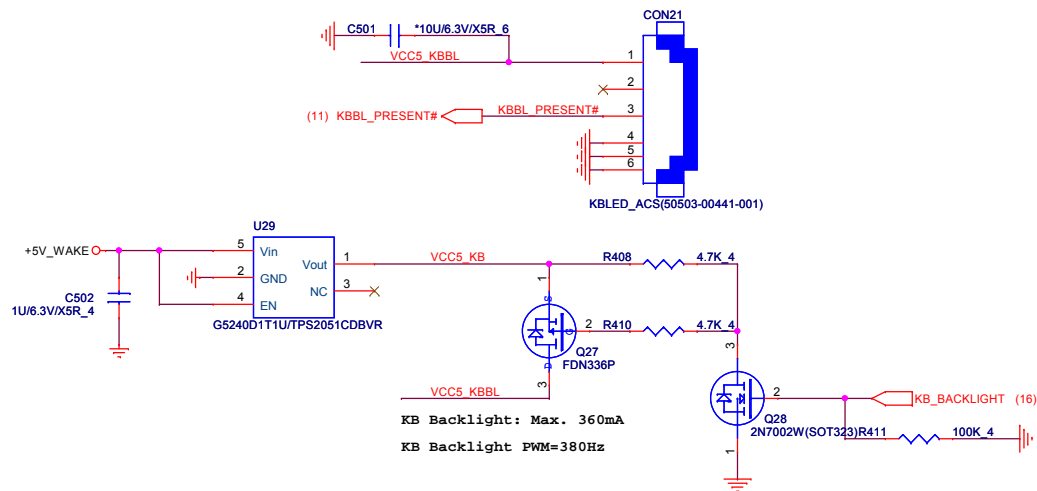
System State	USB Battery Charging Setting			
	Disable	C(1 2 3)	Enable	C(1 2 3)
S0	SDP	(X 1 0)	CDP	(1 1 1)
S3	SDP	(X 1 0)	DCP BC	(1 0 0)
DS3	Charger OFF	(0 0 0)	DCP BC	(1 0 0)
S4	Charger OFF	(0 0 0)	DCP BC	(1 0 0)
S5	Charger OFF	(0 0 0)	DCP BC	(1 0 0)



WLAN/WIMAX/WIDI



KB BACKLIGHT



Quanta Computer Inc.
PROJECT : GD5

Size	Document Number	Rev
	WLAN/KB BL	1A
Date	Thursday, October 25, 2012	Sheet 22 of 41

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

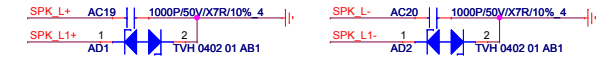
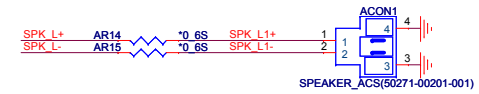
Analog

Digital

ALC233-CG

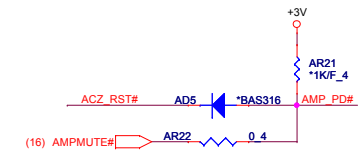
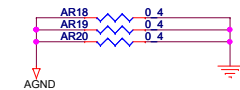
SPK L+ L- R+ R- trace width
Speaker 4 ohm ==> 50 mils

SPEAKER CON.



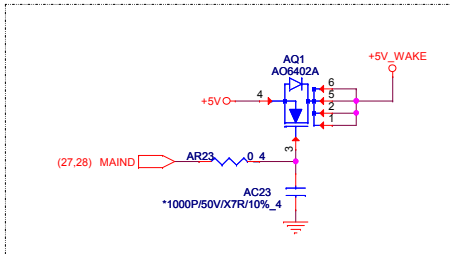
<<Attention>>
Place these EMI components close to codec; For EMI issue.

For EMI

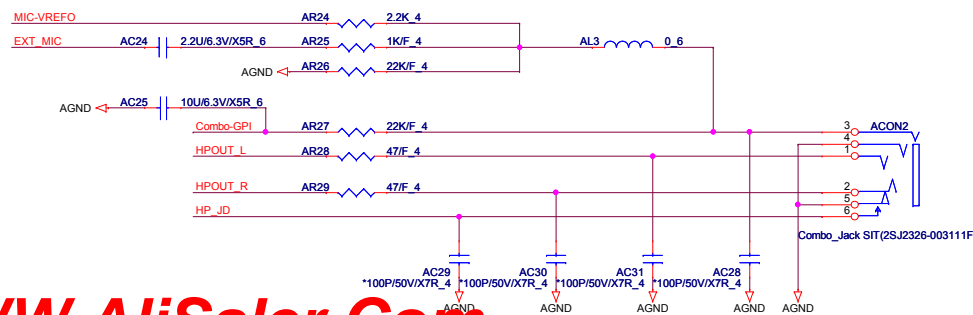


Analog

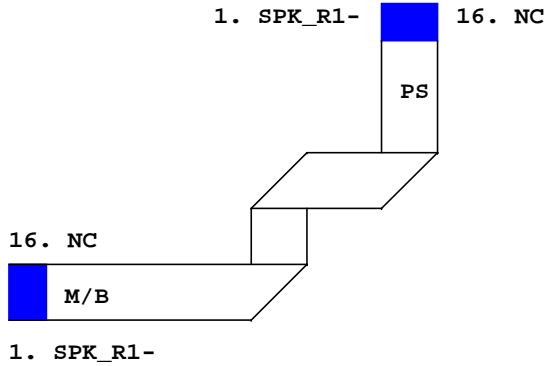
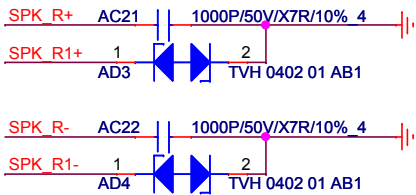
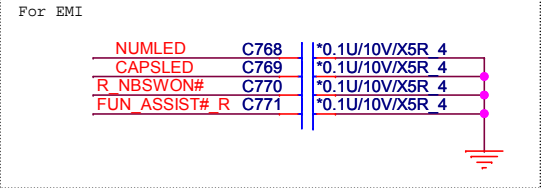
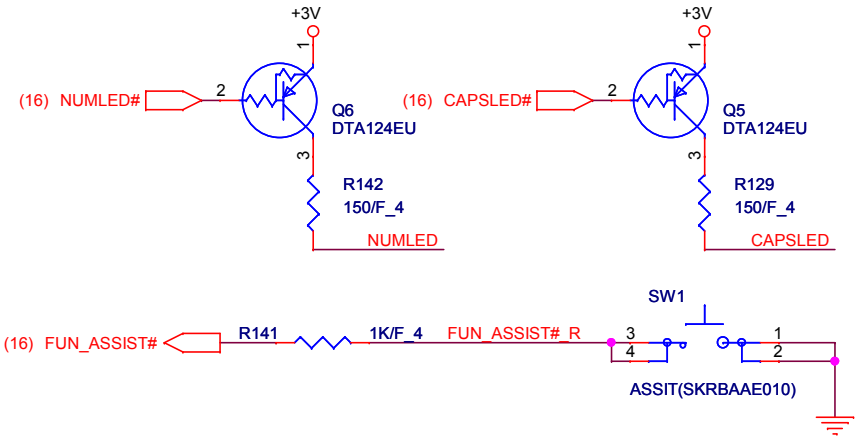
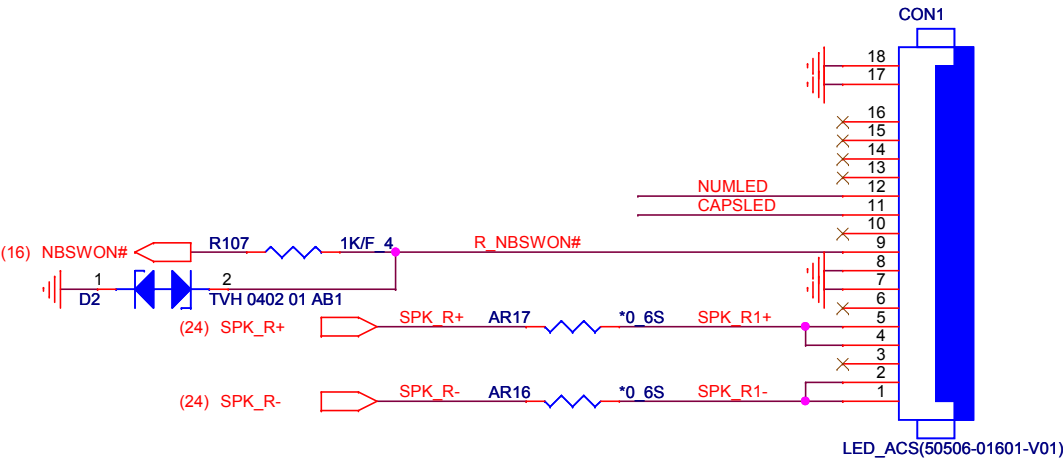
Digital




Combo Jack



Power SW Board Connector

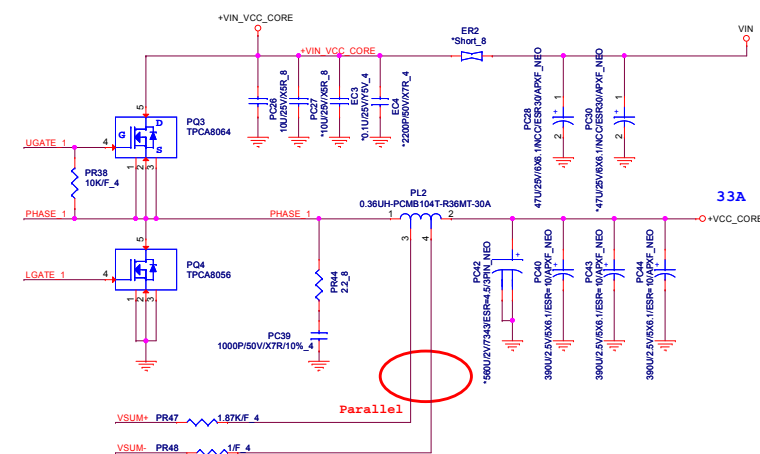
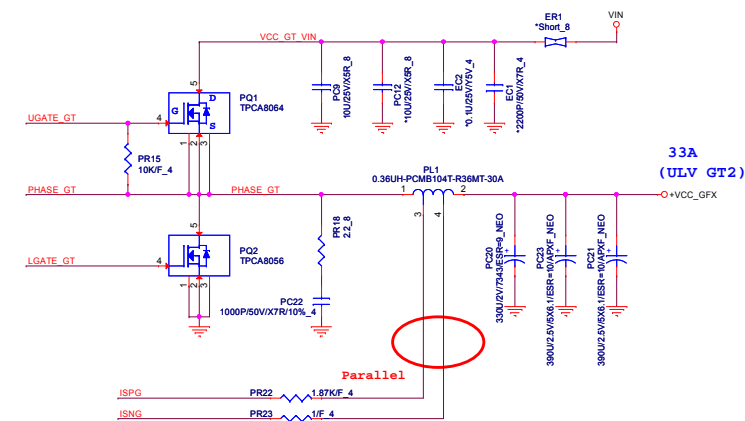
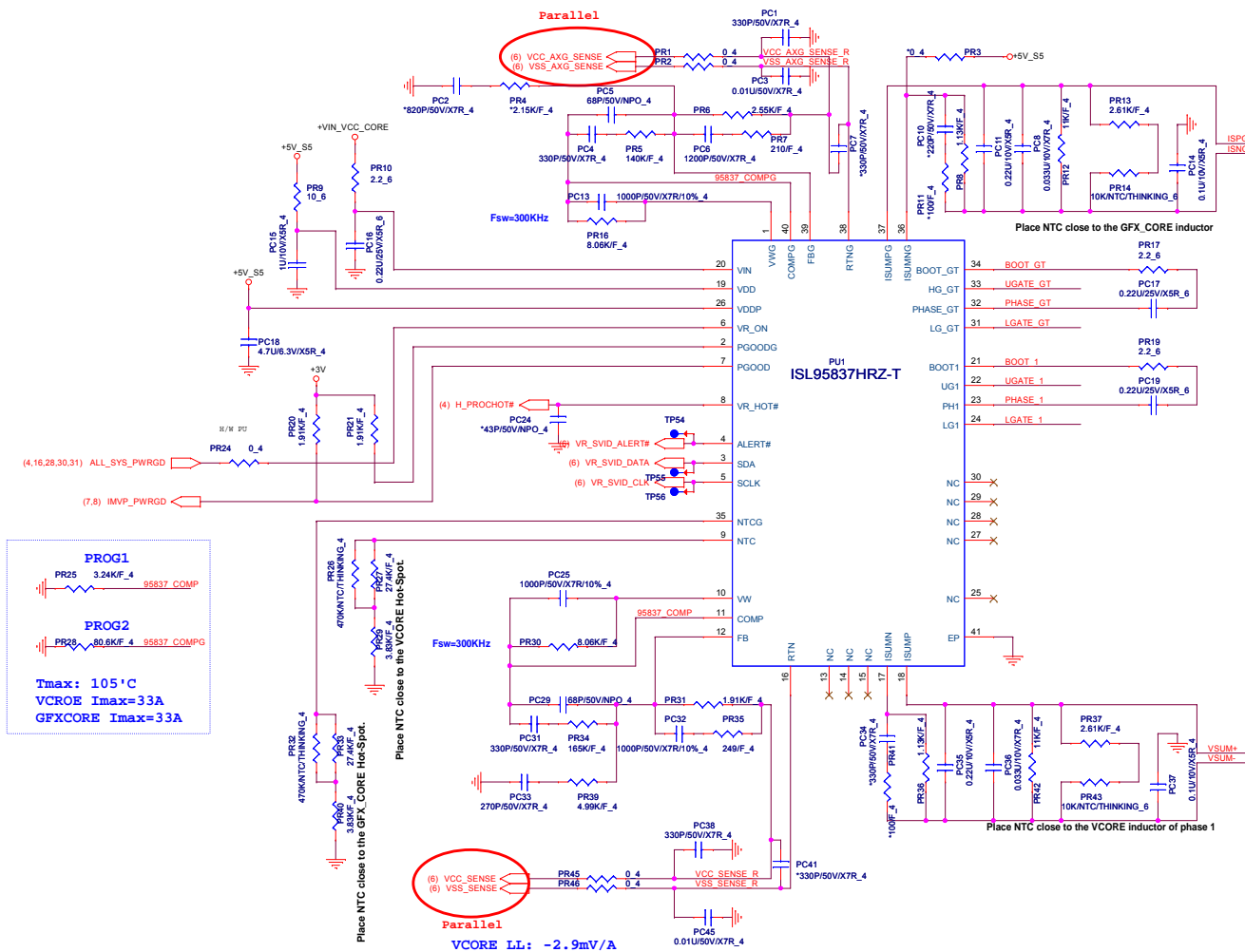


1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

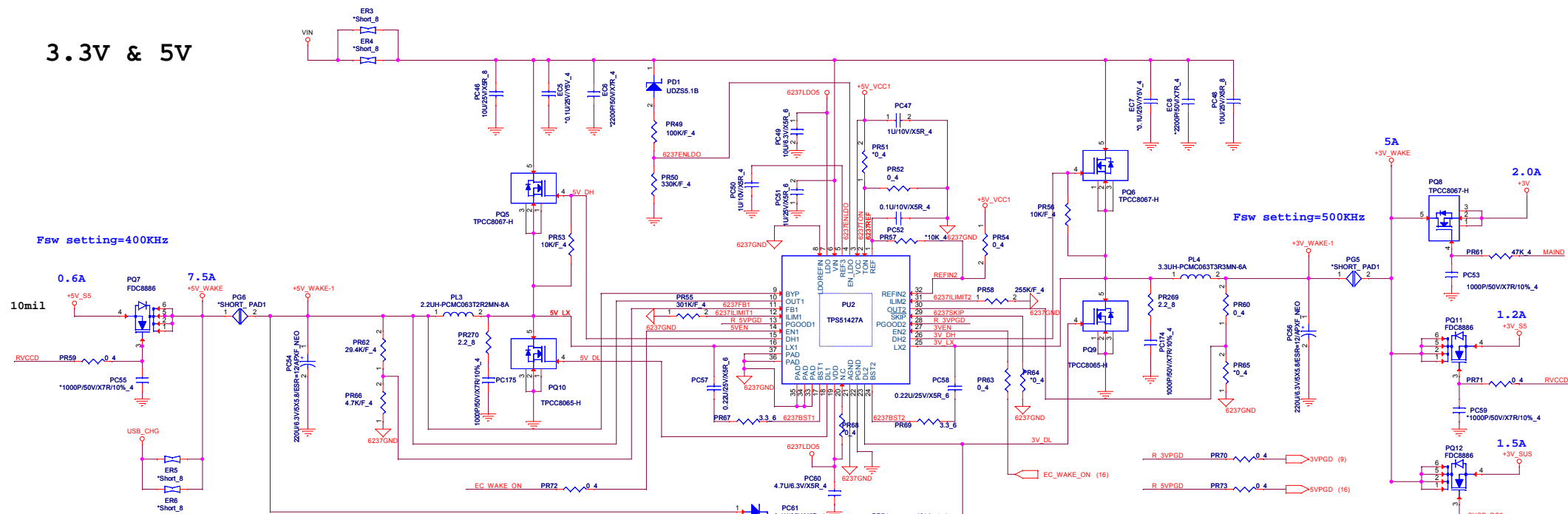


Quanta Computer Inc.
PROJECT :GD5

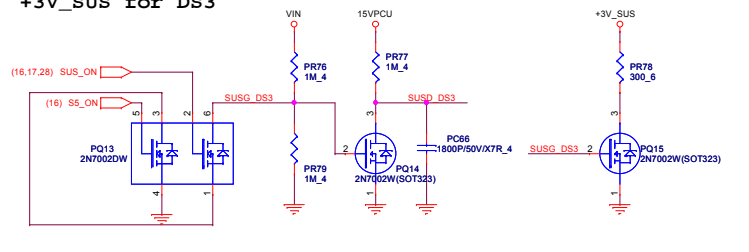
Size	Document Number	Rev
	LED/PS	1A
Date:	Thursday, October 25, 2012	Sheet 25 of 41



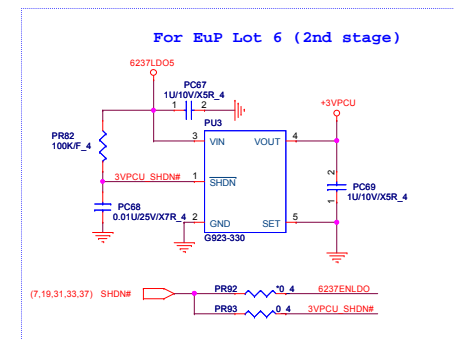
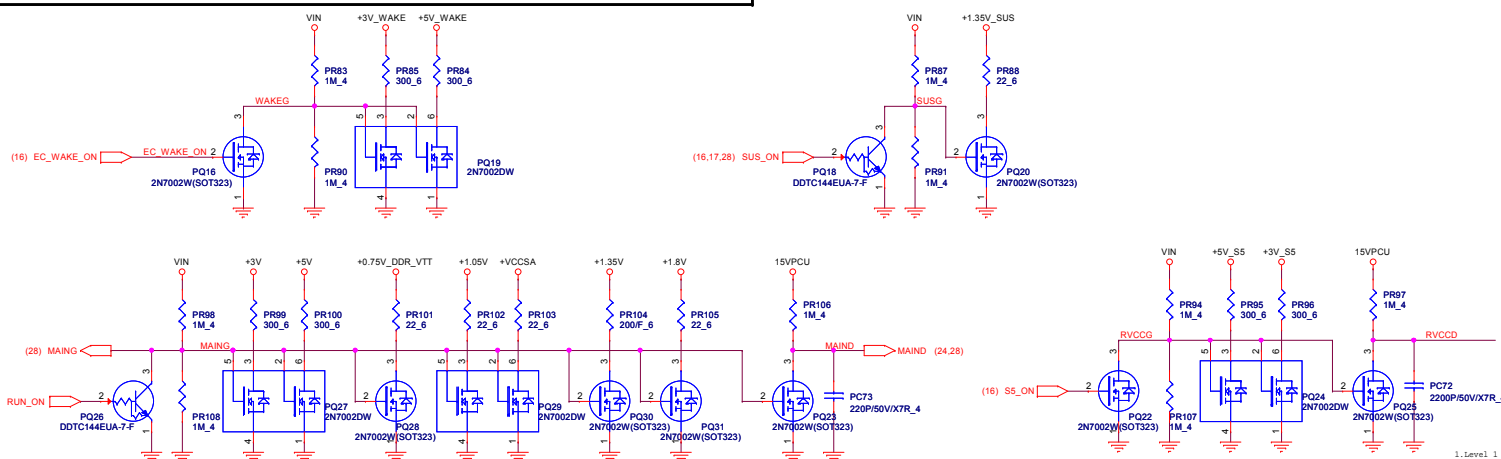
3.3V & 5V

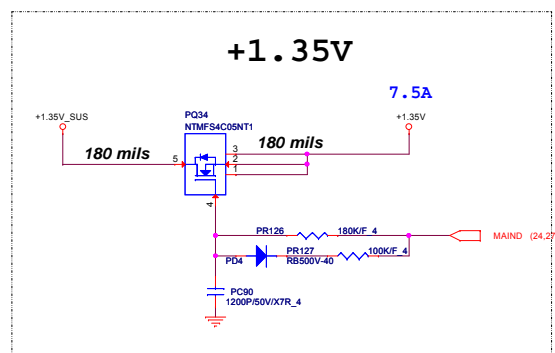
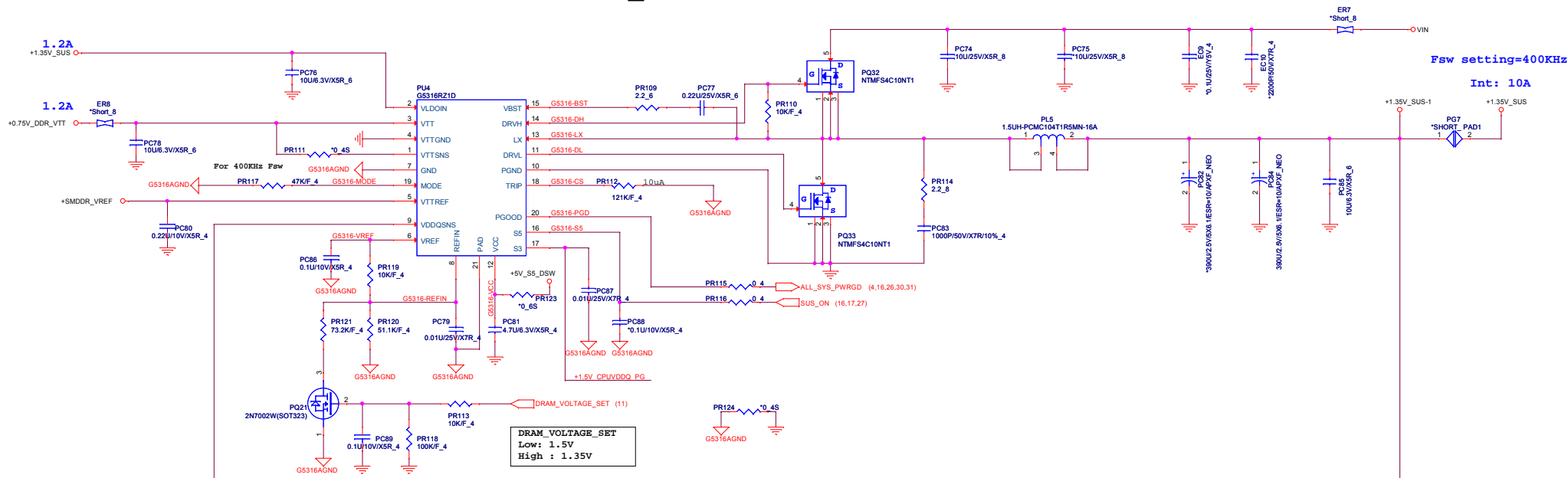


+3V_SUS for DS3

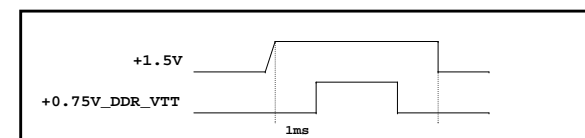
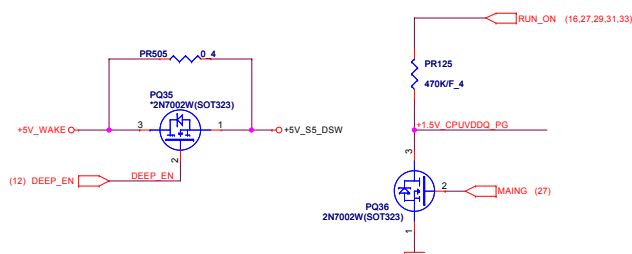


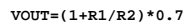
www.qdzbwx.com

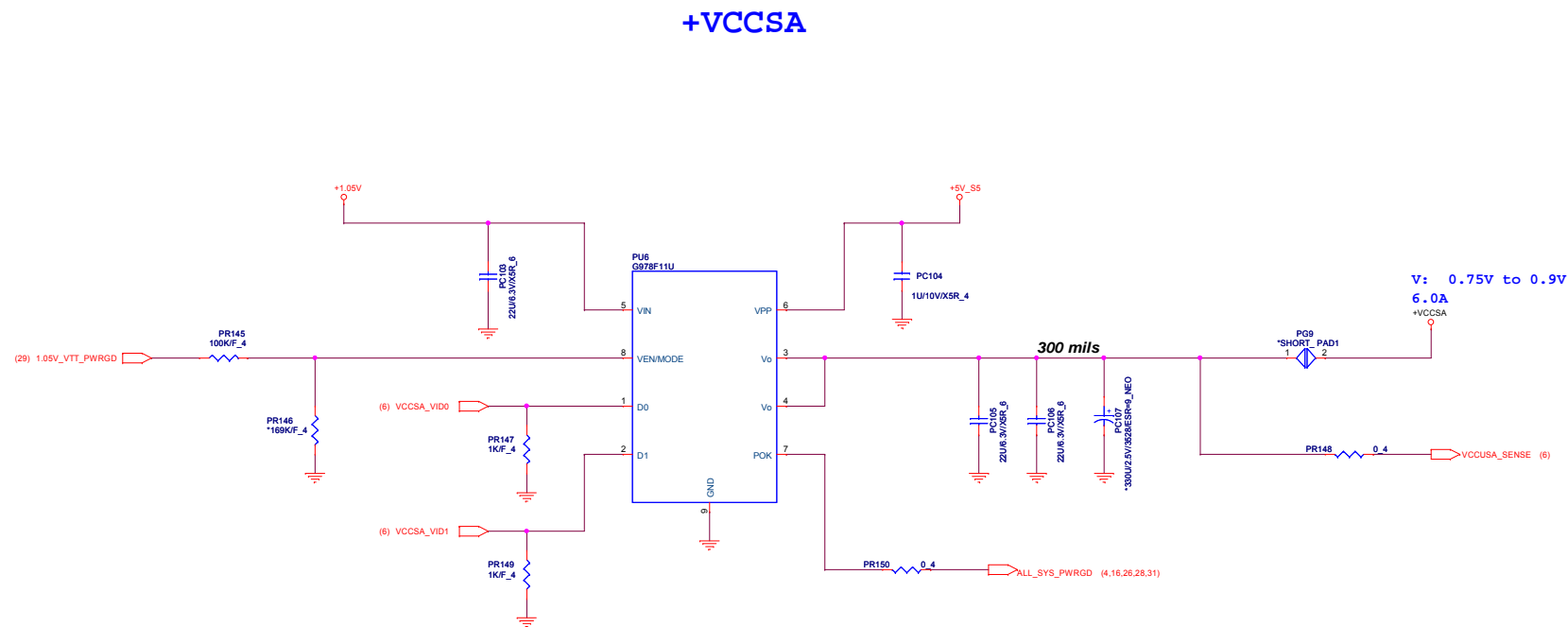




STATE	S3	S5	1.5VSUS	VTTREF	VTT
S0	1	1	On	On	On
S3	0	1	On	On	Off/High Z
S4/S5	0	0	Off	Off	Off



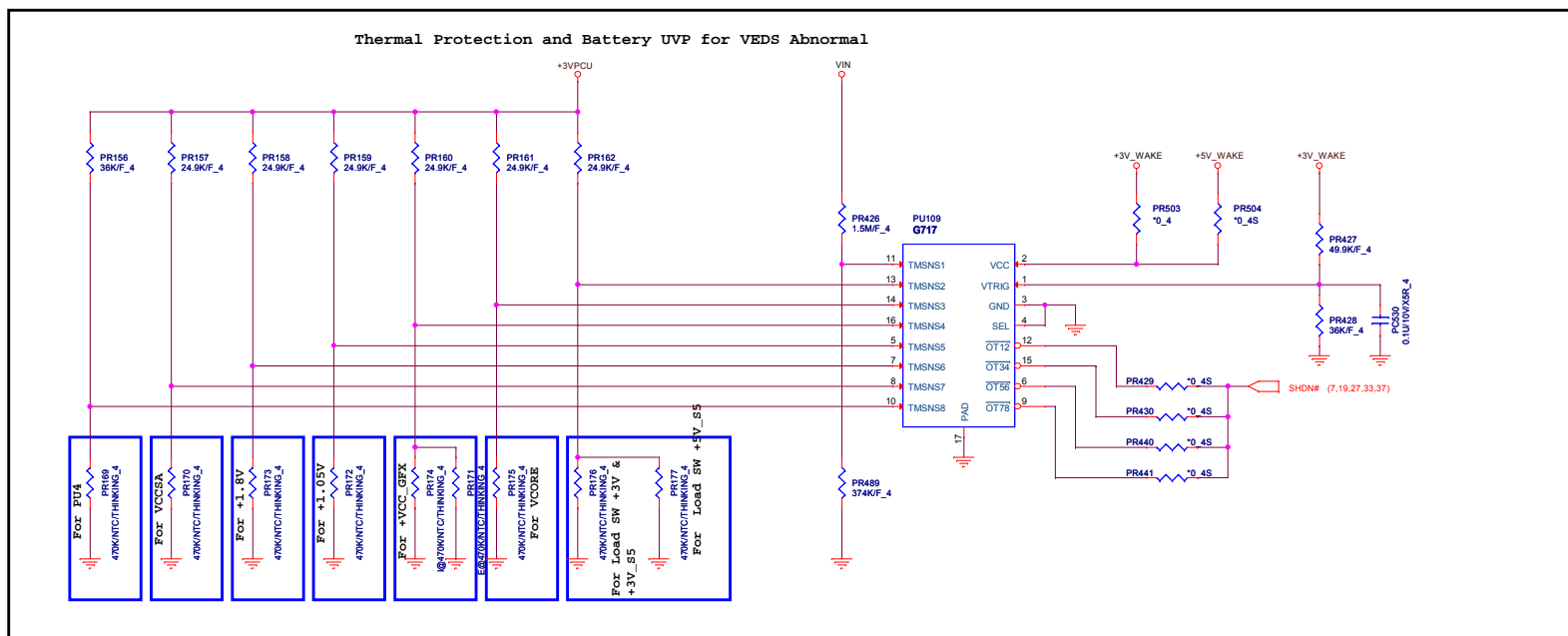
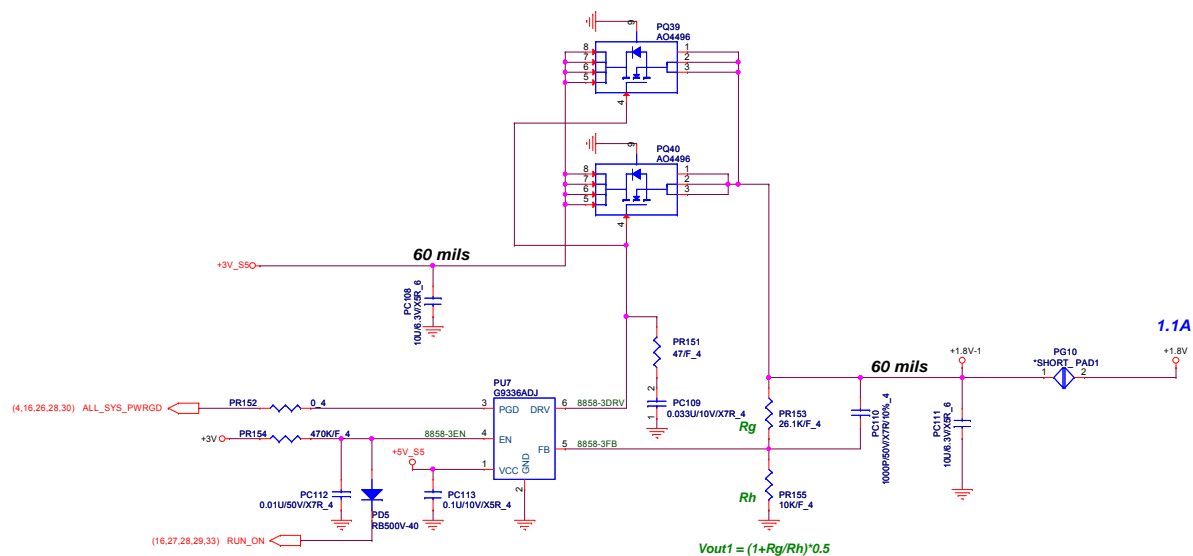




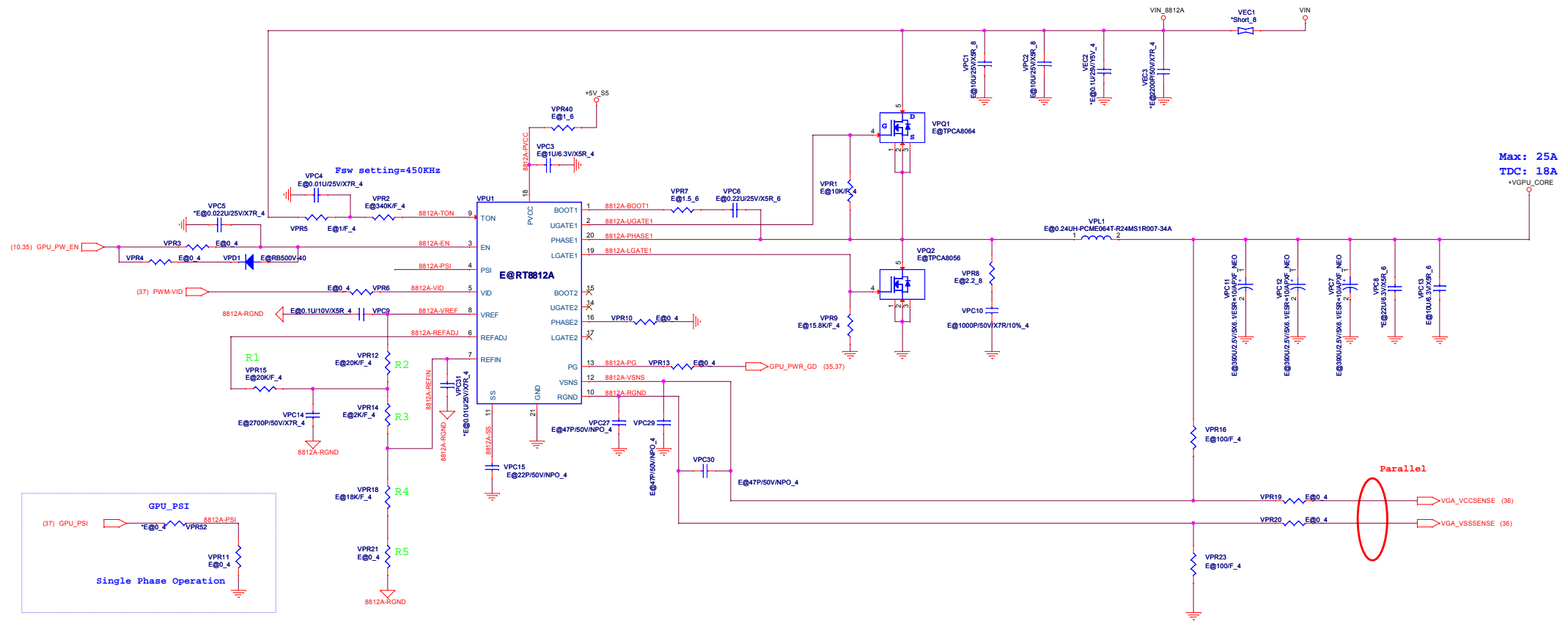
For Chief River ULV

VCCSA_VID0	VCCSA_VID1	+VCCSA
0	0	0.9V
0	1	0.85V
1	0	0.775V
1	1	0.75V

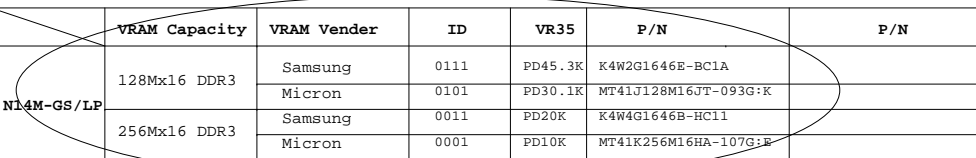
VCC1.8



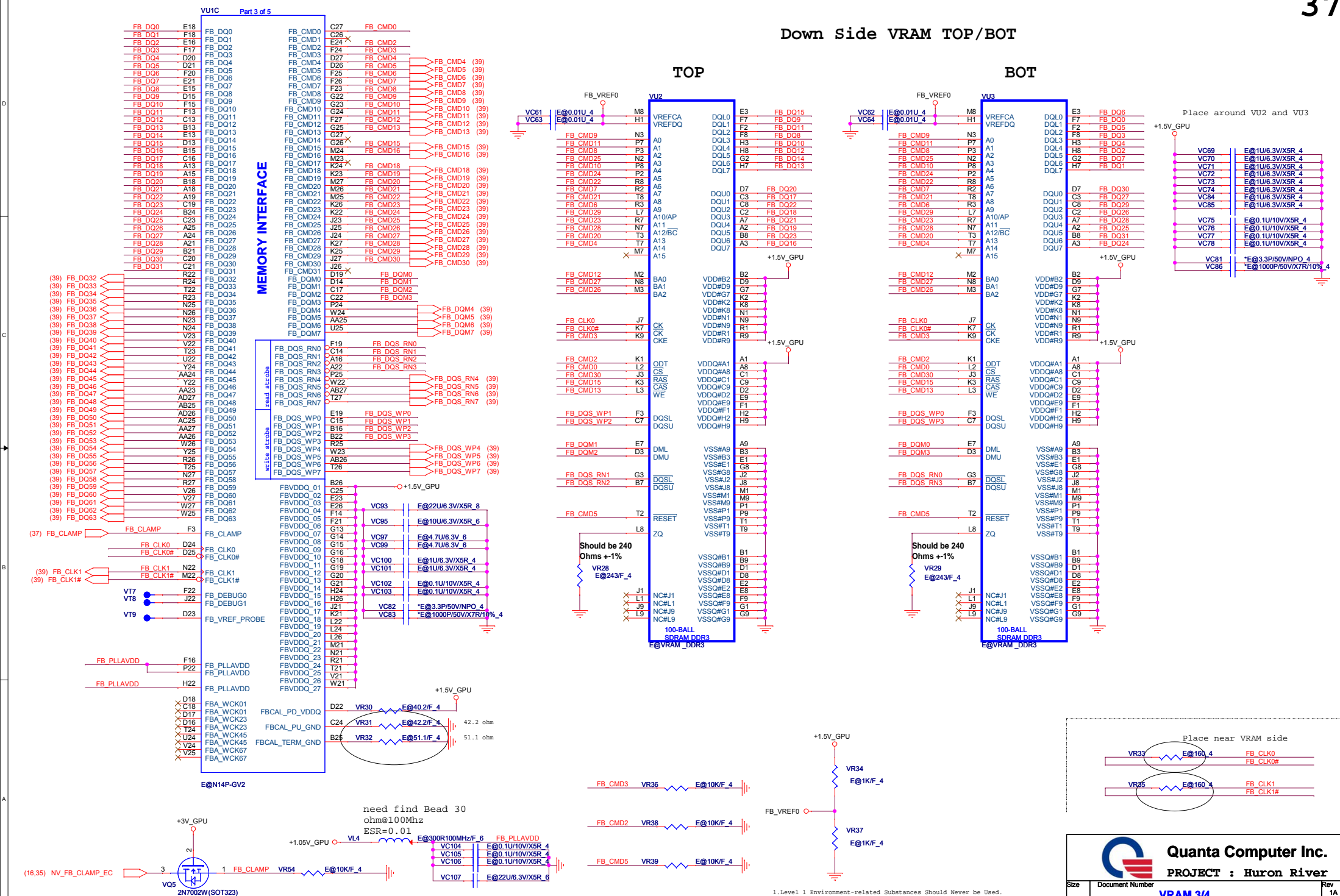
VGA-CORE



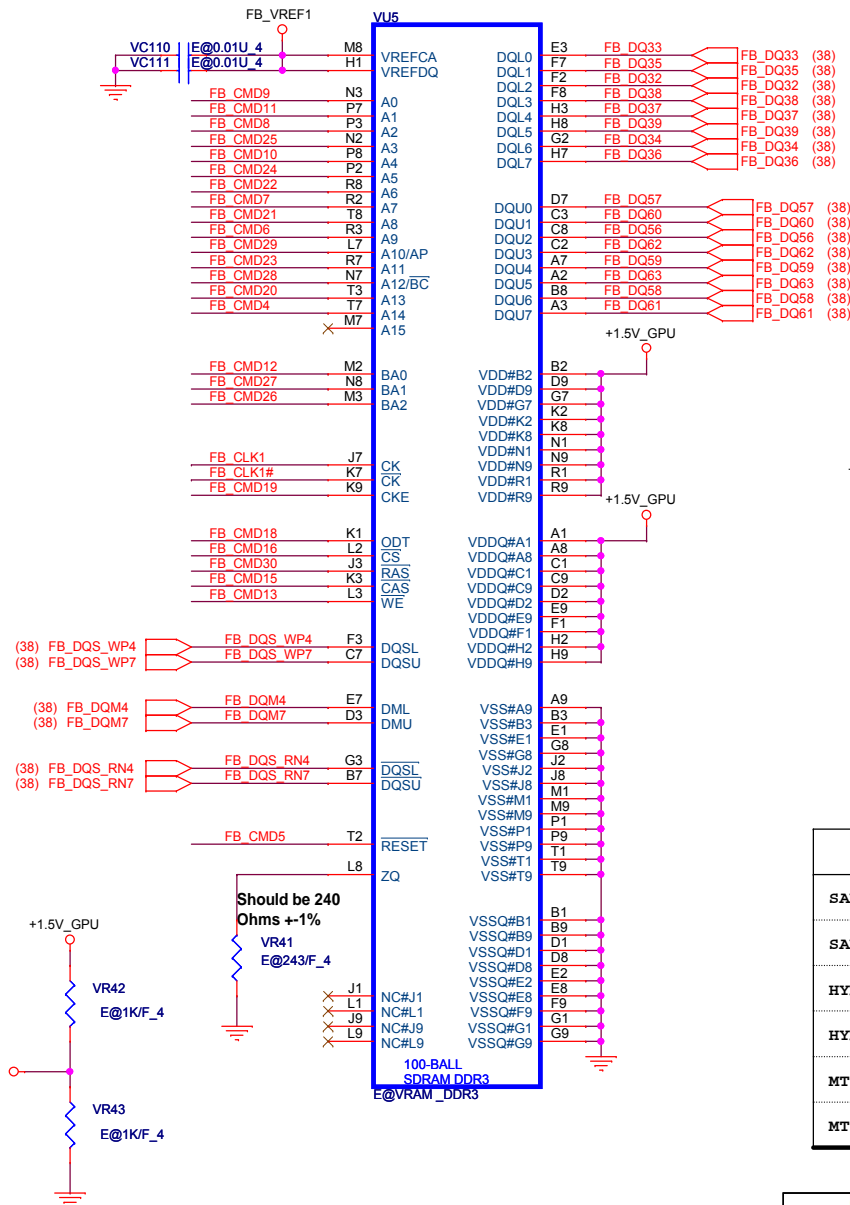




Down Side VRAM TOP/BOT



BOT



+1.5V_GPU

Capacitor	Requirement
VC116	E@1U/6.3V/X5R 4
VC117	E@1U/6.3V/X5R 4
VC118	E@1U/6.3V/X5R 4
VC119	E@1U/6.3V/X5R 4
VC120	E@1U/6.3V/X5R 4
VC121	E@1U/6.3V/X5R 4
VC122	E@1U/6.3V/X5R 4
VC123	E@1U/6.3V/X5R 4
VC125	E@0.1U/10V/X5R 4
VC126	E@0.1U/10V/X5R 4
VC127	E@0.1U/10V/X5R 4
VC128	E@0.1U/10V/X5R 4
VC87	*E@3.3P/50V/INPO 4
VC88	*E@1000P/50V/X7R/10% 4

	P/N	Vendor P/N
SAM 2G	AKD5MGGT525	K4W2G1646E-BC11
SAM 4G	AKD5MGSTL14	K4W4G1646B-HC11
HYN 2G		
HYN 4G		
MTI 2G	AKD5MGWT525	MT41J128M16JT-107G:K
MTI 4G	AKD5PGSTL07	MT41K256M16HA-107G:E

**Quanta Computer Inc.**

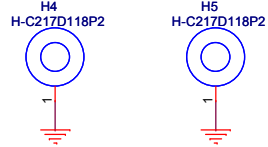
PROJECT : Huron River

VRAM 4/4

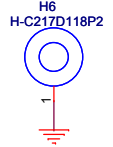
Size	Document Number	Re
	VRAM 4/4	
Date:	Thursday, October 25, 2012	Sheet 39 of 41

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

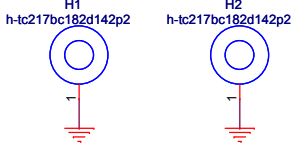
GRAPHIC NUT



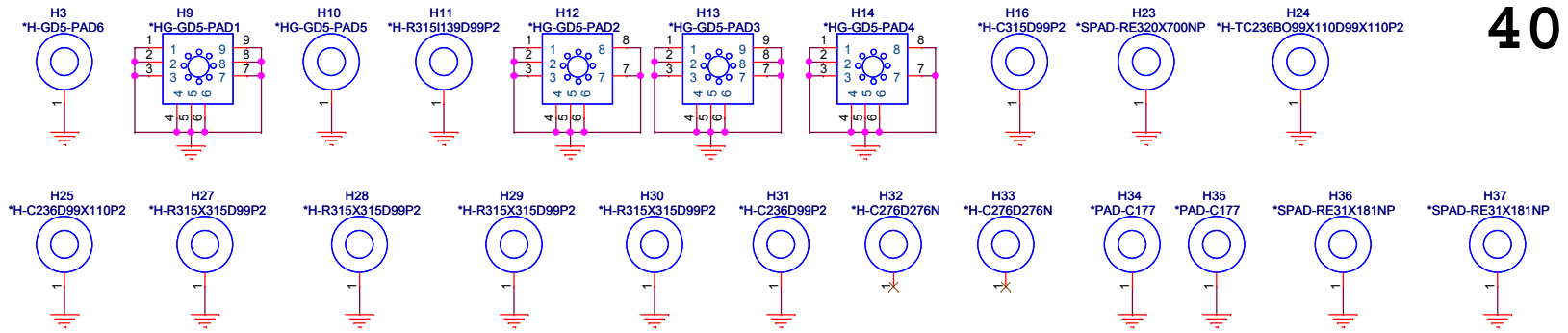
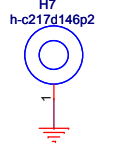
PCH NUT



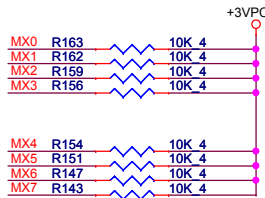
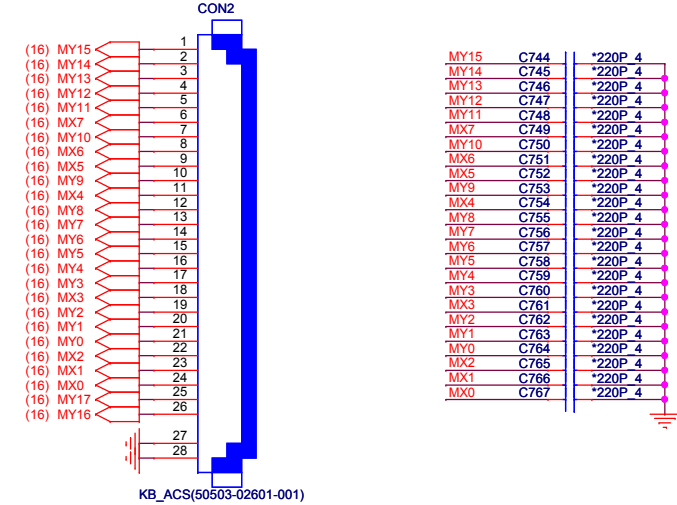
WALN NUT



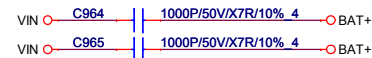
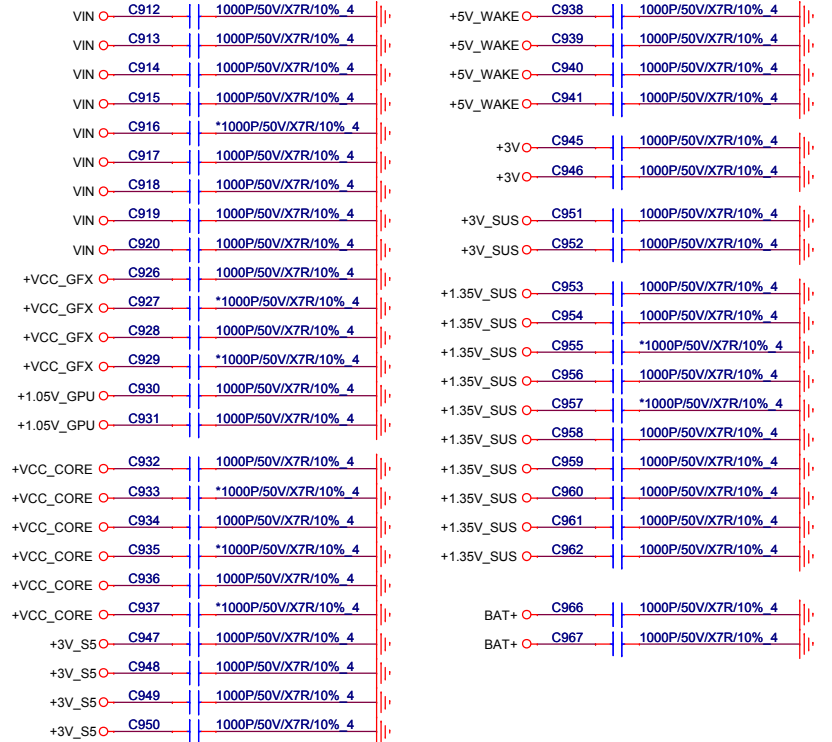
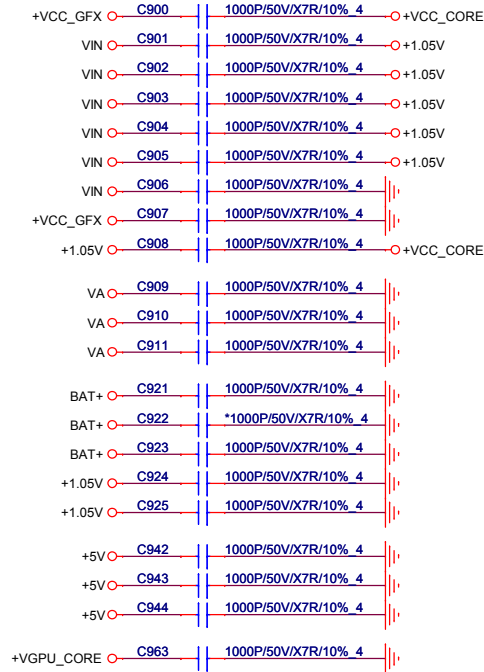
HDD/B NUT



KEY BOARD Connector



	Quanta P/N	Vendor P/N	Foot Print
14 "	DFFC24FS002	88483-2441-FN	88483-2441-fn-24p-rdv_ab
15 "	DFFC26FR039	50503-02601-001	88513-2641-26p-l-smt



- Level 1 Environment-related Substances Should Never be Used.
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Quanta Computer Inc.
PROJECT : GD5

Size	Document Number	Rev
	HOLE/EMI/KB	1A
Date:	Thursday, October 25, 2012	Sheet 40 of 41

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)	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

	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	Lw