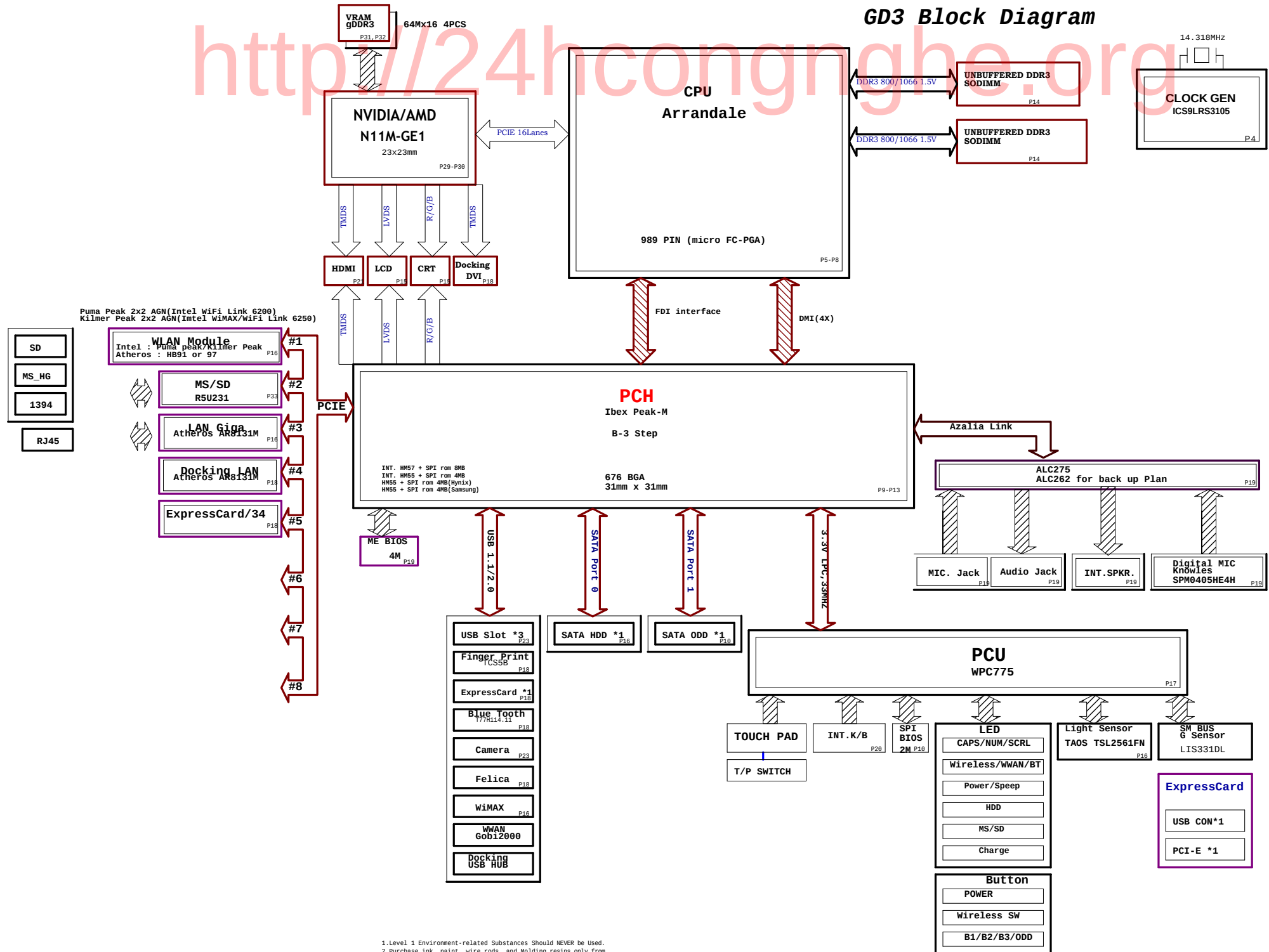


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02	Block Diagram	1A	
03	Change List	1A	
04	ICS9LR3197	1A	
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06	PROCESSOR 2/4(DDR)	1A	
07	PROCESSOR 3/4(POWER)	1A	
08	PROCESSOR 4/4(GND)	1A	
09	PCH 1/5 (DMI&VIDEO)	1A	
10	PCH 2/5 (SATA/LPC/Azalia)	1A	
11	PCH 3/5 (PCI/PCIE/CLK/USB)	1A	
12	PCH 4/5 (GPIO)	1A	
13	PCH 5/5 (POWER)	1A	
14	DDR3 DIMM	1A	
15	CRT/LVDS	1A	
16	WWAN/Light Sensor	1A	
17	WPCE775L & FLASH	1A	
18	Docking/35001/TP/S1	1A	
19	HDD/ODD/SSD	1A	
20	KB/USB/FAN/Reset	1A	
21	HDMI	1A	
22	POWER CPU CORE (ISL62882)	1A	
23	POWER 3VPCU&5VPCU(PM6686)	1A	
24	POWER 1.5VSUS/VTT_MEM	1A	
25	POWER VCC1.05(0Z8111LN)-26A	1A	
26	POWER VCC_CFXCORE(MAX17028)	1A	
27	POWER(ADAPTER IN / CONN)	1A	
28	POWER VCC1.8	1A	
29	NVIDIA N11M-GE1 PCIE&PW 1/3	1A	
30	NVIDIA N11M-GE1 TMDS&DAC 2/3	1A	
31	NVIDIA N11M-GE1 VRAM 3/4	1A	
32	NVIDIA N11M-GE1 VRAM 4/4	1A	
33	R5U231	1A	

 QUANTA COMPUTER			
Title			
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Custom	GD3 Main Board		1A
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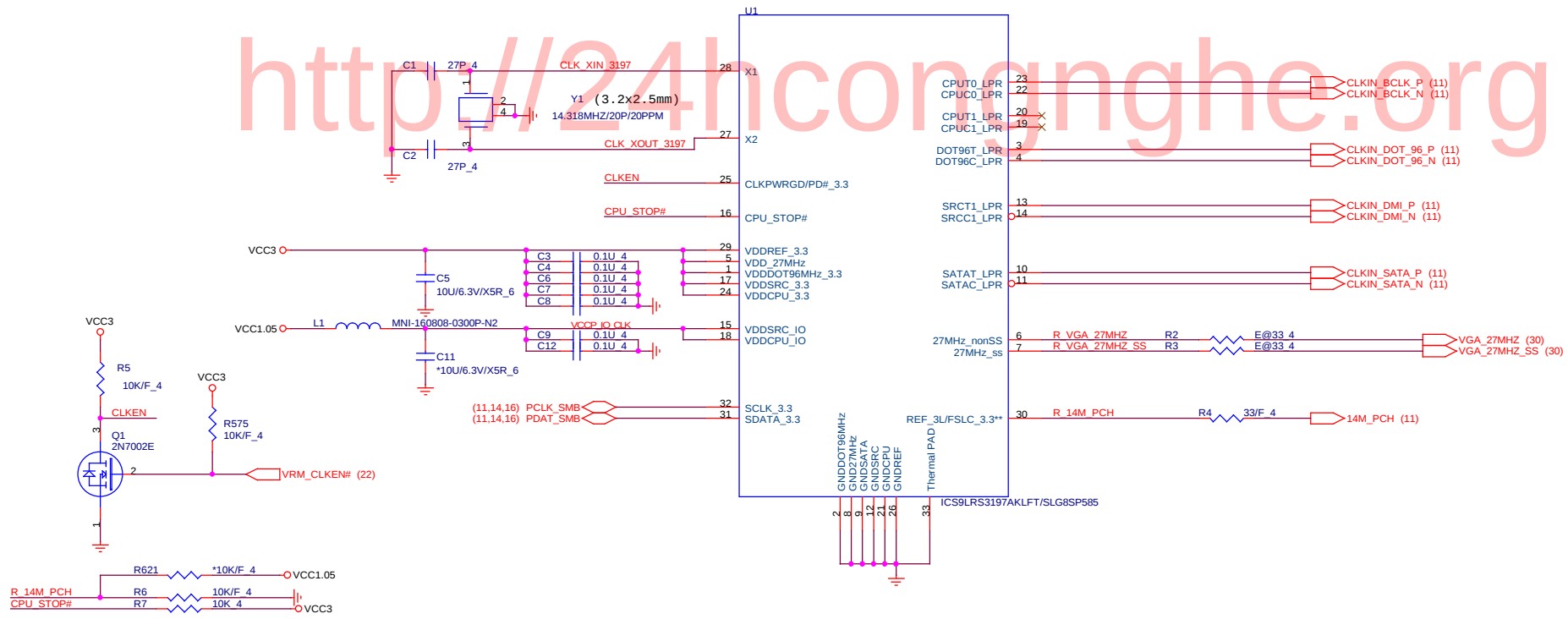
GD3 Block Diagram



PVT change list

- 1010:
- P5 Delete R21 0 ohm.(Cost down)
 - P7 C56 mount only in Intel.
 - P7 Delete R45,R46(Cost down)
 - P10 Delete R132(Cost down)
 - P10 Add R636,R637,R638 100K.
 - P11 Delete RP11,RP12,RP13,RP14,RP15,RP9,RP10.(Cost Down)
 - P12 Delete RP16
 - P13 Delete R580.(Cost Down)
 - P16 Delete F13
 - P17 Add R639 100K in U23.3.
 - P17 Add VSPGD_775 in U23.3.
 - P18 R340 change from 10K to 4.7K.(For 35001 signal)
 - P18 CON42 change from 16pin to 14 pin.(For TP/B con)
 - P18 Delete R331,R332,R333
 - P18 Add L30,L31,L32
 - P19 R613 change to 10 ohm
 - P19 R588 change from 36K to 34.8K/F.(For ODD test)
 - P23 PR72 pin1 change to PM_SYS_PWRGD.(For BIOS protect)
 - P23 PR75 pin 1 change to VSPGD_775.(For BIOS protect)
 - P23 Add D61(For BIOS Protect)
 - P24 Add PU18 LM393.
 - P24 Add PC249 0.1UF.
 - P24 Add PR325 100K/F
 - P24 Add PR326 12K/F
 - P24 Delete PU17
 - P24 PC212 change from 2200PF to 0.01UF.
 - P26 PR202 change value from 47K/F to 270K/F.
 - P27 PU15 change footprint
 - P28 PR252 change value from 49.9K to 200K.
- 1019:
- P20 Add R640 100K.(For KB BLIGHT initial)

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CPU Frequency Select Table					
FSLC	CPU MHz	SRC MHz	REF MHz	USB MHz	DOT MHz
0 (default)	133.33	100.00	14.318	48.00	96.00
1	100.00				

Table 2: pin 6, 7 Configuration

B1b4	B1b3	B1b2	B1b1	Pin 6 MHz	Pin 7 MHz	Spread %	Comment
0	0	0	0	N/A	N/A	N/A	N/A
0	0	0	1	N/A	N/A	N/A	N/A
0	0	1	0	27MHz_nonSS	27MHz_SS	-0.5%	
0	0	1	1	27MHz_nonSS	27MHz_SS	-1%	
0	1	0	0	27MHz_nonSS	27MHz_SS	-1.5%	
0	1	0	1	27MHz_nonSS	27MHz_SS	-2%	
0	1	1	0	27MHz_nonSS	27MHz_SS	-0.75%	
0	1	1	1	27MHz_nonSS	27MHz_SS	-1.25%	
1	0	0	0	27MHz_nonSS	27MHz_SS	-1.75%	
1	0	0	1	27MHz_nonSS	27MHz_SS	+0.5%	
1	0	1	0	27MHz_nonSS	27MHz_SS	+0.75%	
1	0	1	1	N/A	N/A	N/A	N/A
1	1	0	0	N/A	N/A	N/A	N/A
1	1	0	1	N/A	N/A	N/A	N/A
1	1	1	0	N/A	N/A	N/A	N/A
1	1	1	1	N/A	N/A	N/A	N/A

Table 4: Device ID table

B8b7	B8b6	B8b5	B8b4	Comment
0	0	0	0	56 pin TSSOP
0	0	0	1	64 pin TSSOP
0	0	1	0	Reserved
0	0	1	1	Reserved
0	1	0	0	Reserved
0	1	0	1	72 pin QFN
0	1	1	0	Reserved
0	1	1	1	Reserved
1	0	0	0	32 pin QFN
1	0	0	1	Reserved
1	0	1	0	Reserved
1	0	1	1	Reserved
1	1	0	0	Reserved
1	1	0	1	Reserved
1	1	1	0	Reserved
1	1	1	1	Reserved

Table 3: IO Vout select table

B9b2	B9b1	B9b0	IO_Vout
0	0	0	0.3V
0	0	1	0.4V
0	1	0	0.5V
0	1	1	0.6V
1	0	0	0.7V
1	0	1	0.8V
1	1	0	0.9V
1	1	1	1.0V



QUANTA
COMPUTER

TitleCLOCK GENERATOR

SizeDocument NumberRev1A

GD3 Main Board

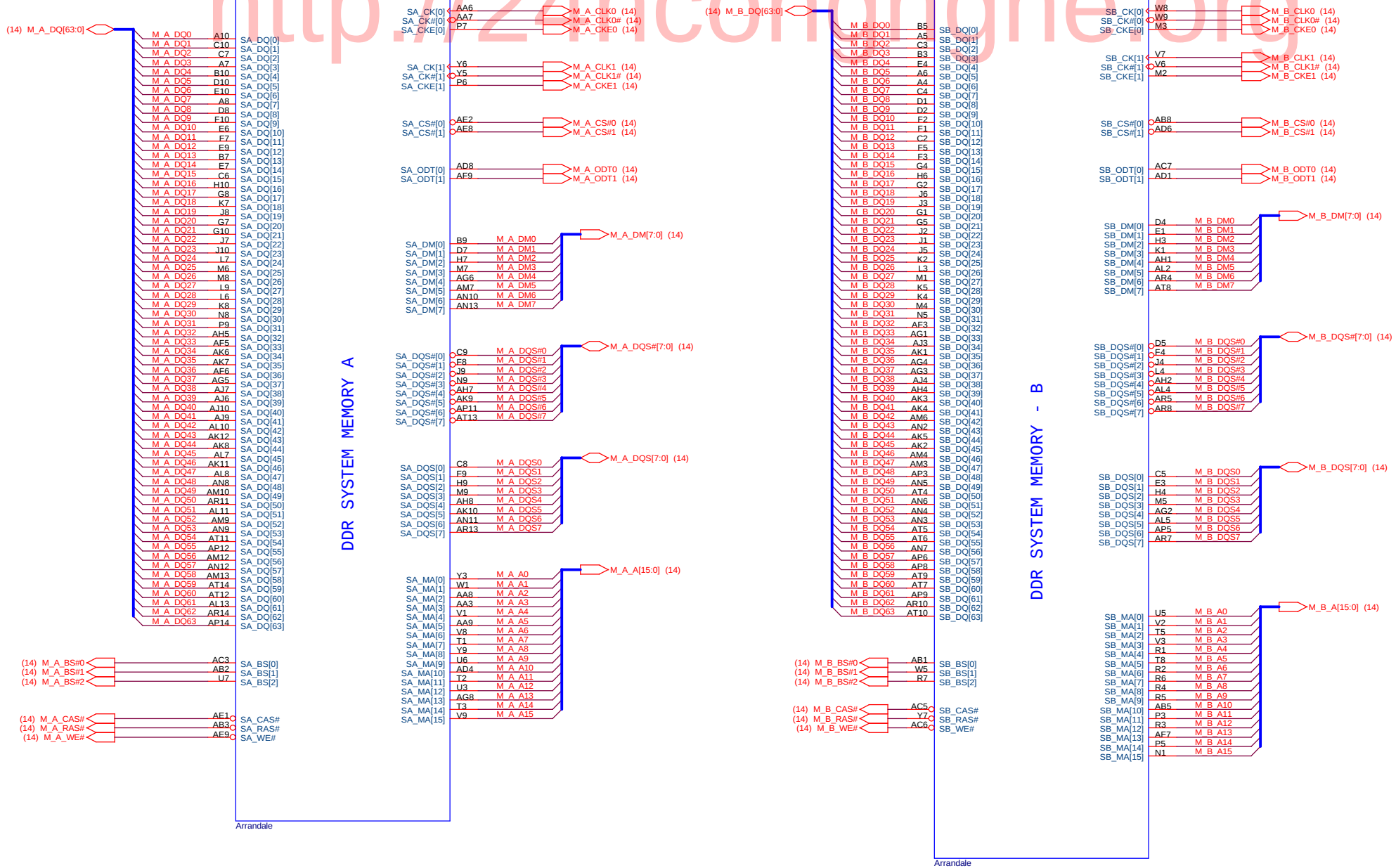
DateMonday, October 05, 2009Sheet4 of 33

1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that Sony approves as Green Partners.

ARRANDALE PROCESSOR (DDR3)

U2C

U2D



Arrandale

Arrandale

QUANTA
COMPUTER

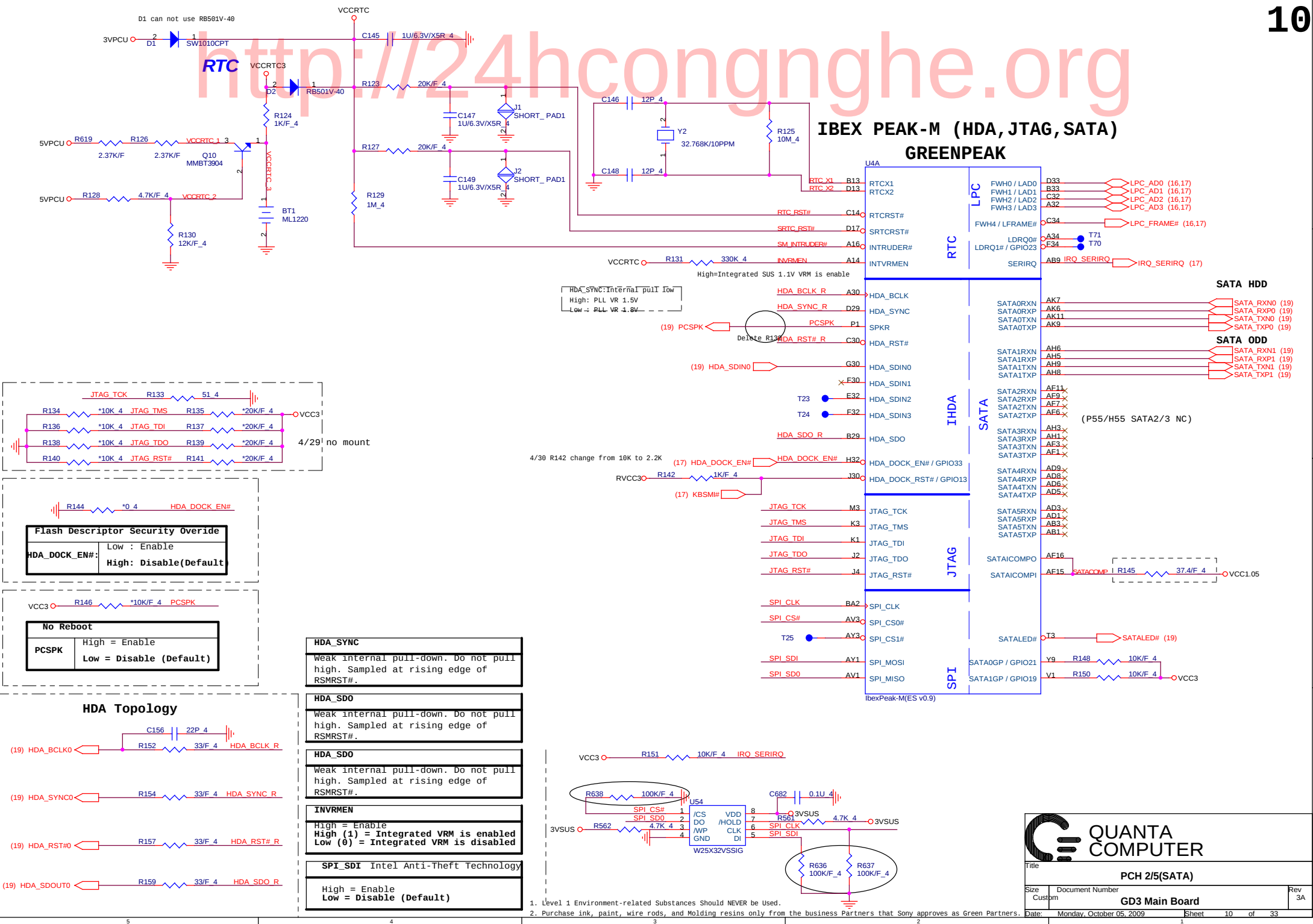
Title			PROCESSOR 2/4(DDR)
Size	Document Number	Rev	
Custom	GD3 Main Board	1A	
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1. Level 1 Environment-related Substances should NEVER be Used.

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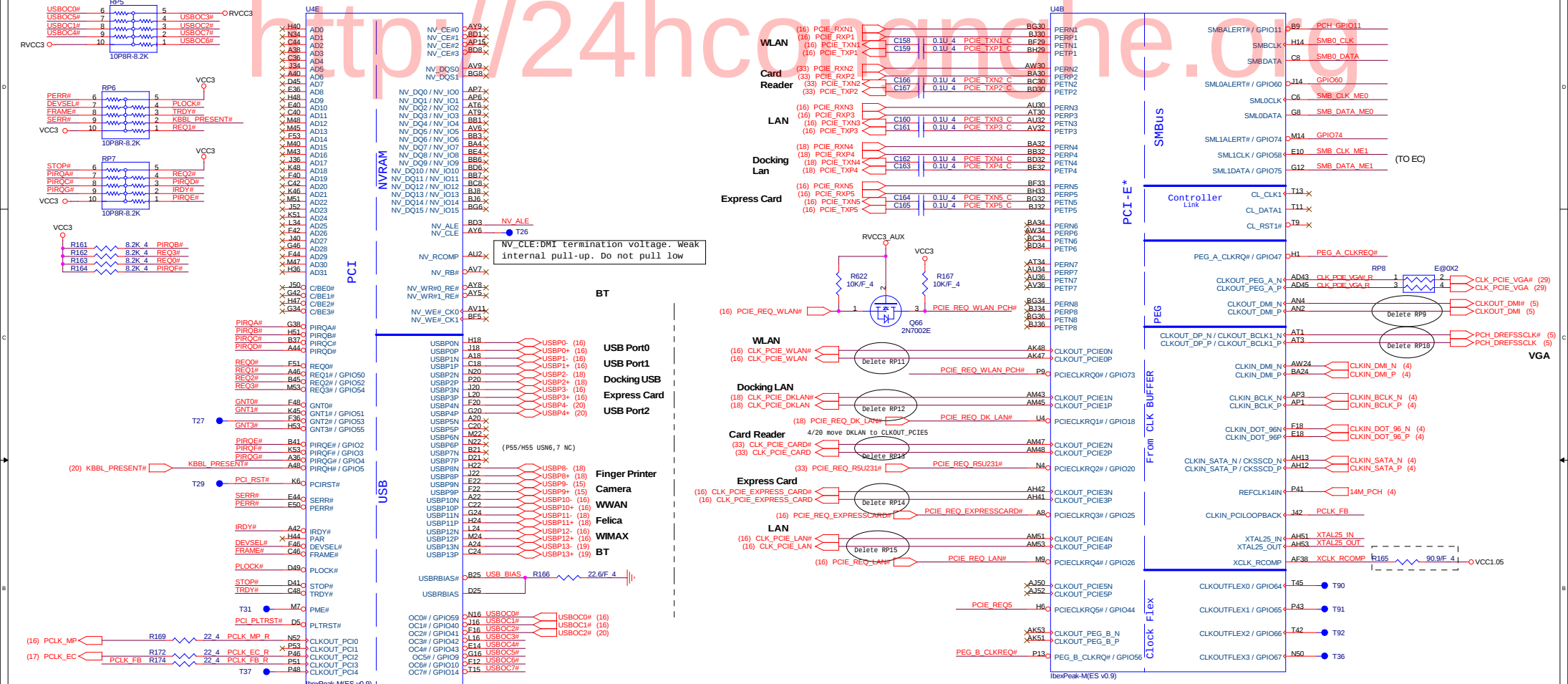


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IBEX PEAK-M (PCI,USB,NVRAM)

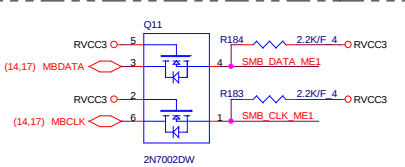
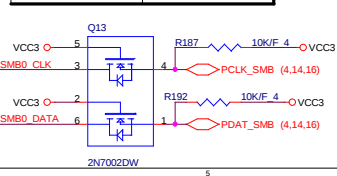
IBEX PEAK-M (PCI-E,SMBUS,CLK)



GNT2#/GPI053 :
High : Internal pull-up
Low : Configures DMI for ESI compatible operation (for servers only. Not for mobile/desktops)

SM BUS for C0 (CLOCK/DRAM)

PCLK_SMB/PDAT_SMB	Address
S0-DIMM0	1010 000X A0h
S0-DIMM1	1010 010X A4h
ICS0LRS105 Express Card	1101 0010 D2h



A16 swap override Strap/Top-Block Swap Override jumper

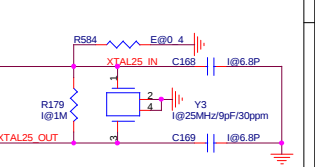
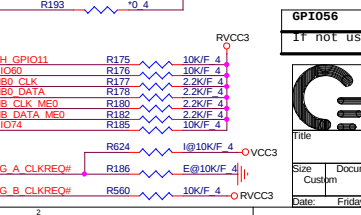
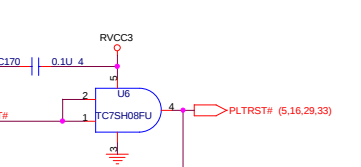
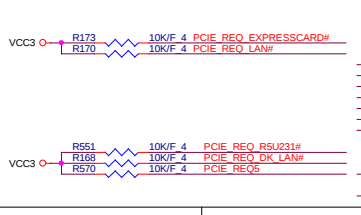
GNT3#	Low = A16 swap override/Top-Block Swap Override enabled	High = Default
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI

Anti-Theft Technology

NV_ALE	High = Enable	Low = Disable
0	0	LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI

Boot BIOS Strap

GNT0#	GNT1#	Boot BIOS Location
0	0	* LPC
0	1	Reserved (NAND)
1	0	PCI
1	1	SPI



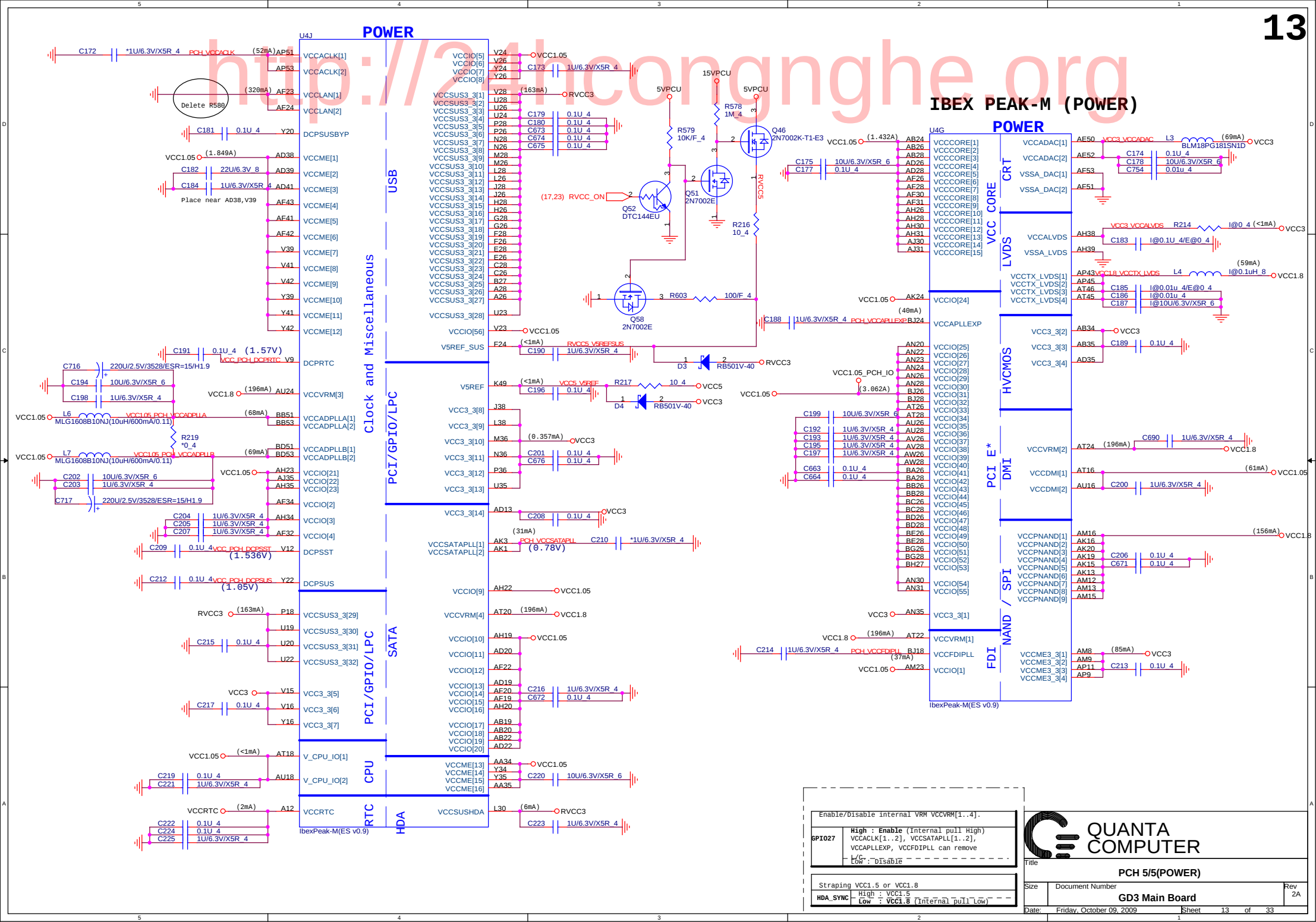
GPT056
If not used, 8.2-K Ω to 10-K Ω pull-up to +V3.3A

QUANTA COMPUTER

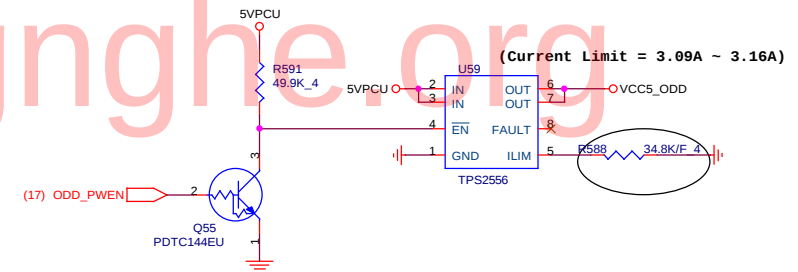
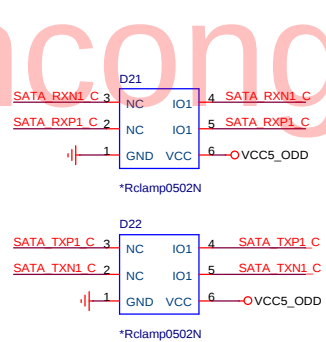
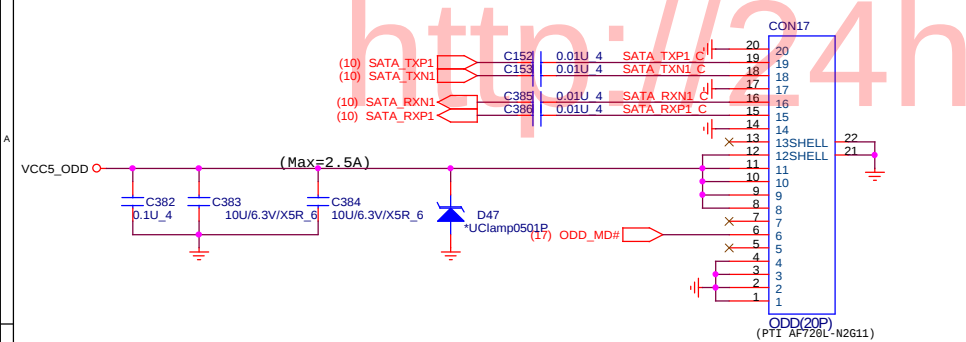
PCH 3/5(PCI)

Size: Custom Document Number: **GD3 Main Board** Rev: 2A

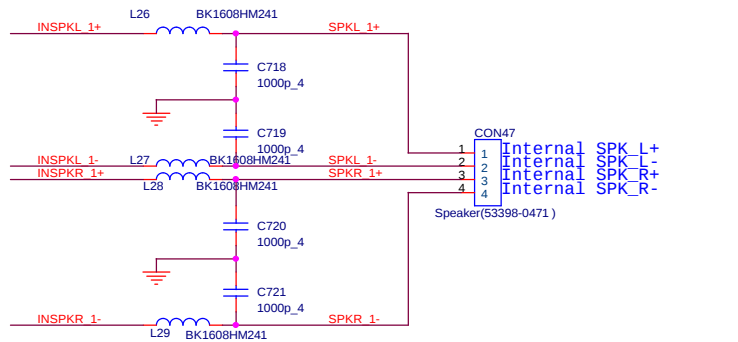
Date: Friday, October 09, 2009 Sheet: 11 of 33



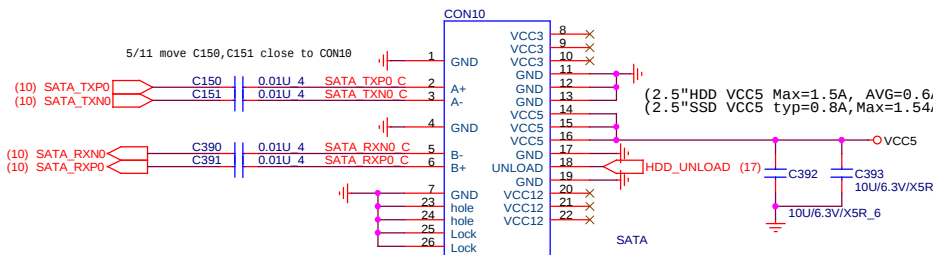
ODD CONNECTOR (FPC 20pin)



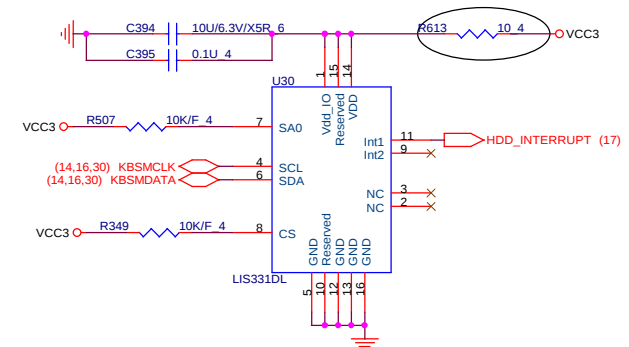
SPEAKER CONNECTOR



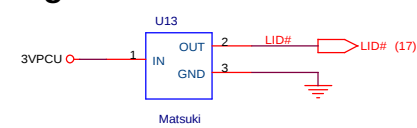
HDD CONNECTOR



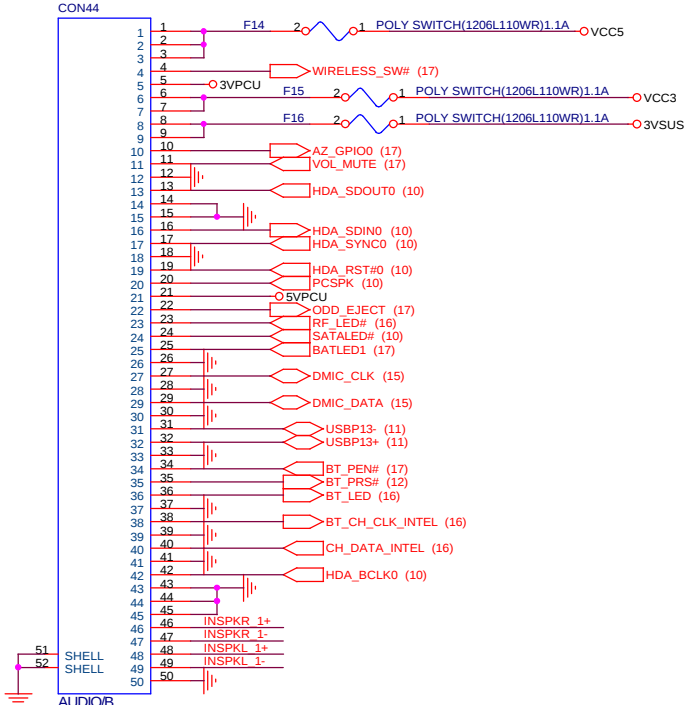
HDD PROTECT



Magnetic Lid Switch

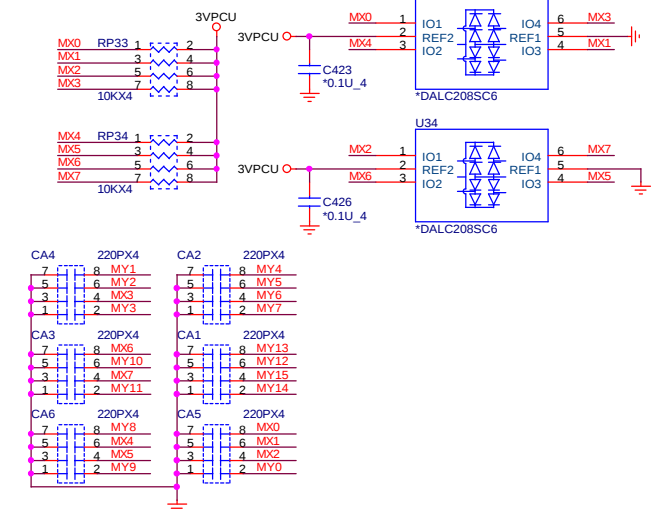
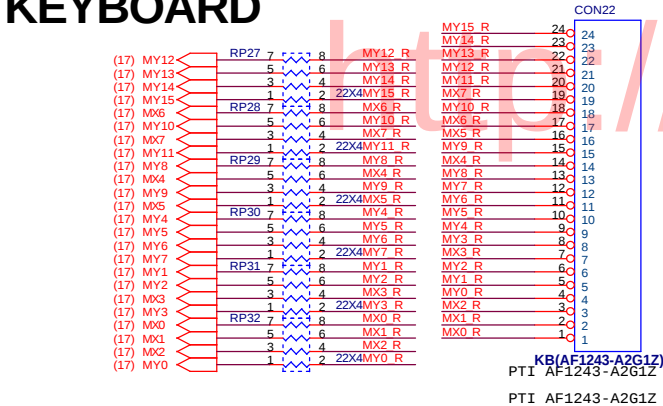


Audio Board

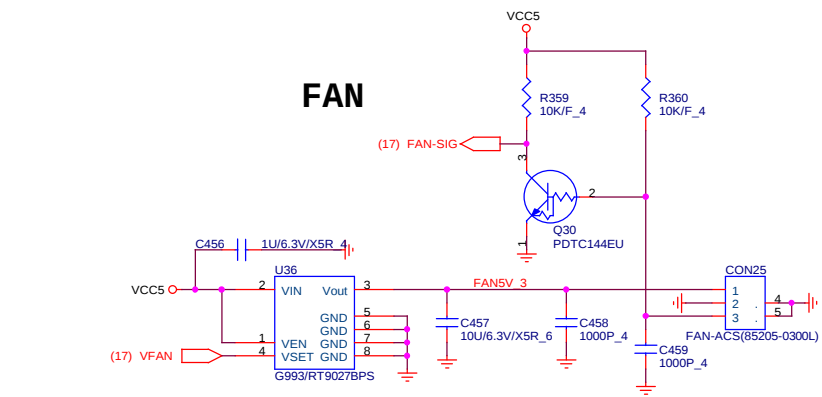
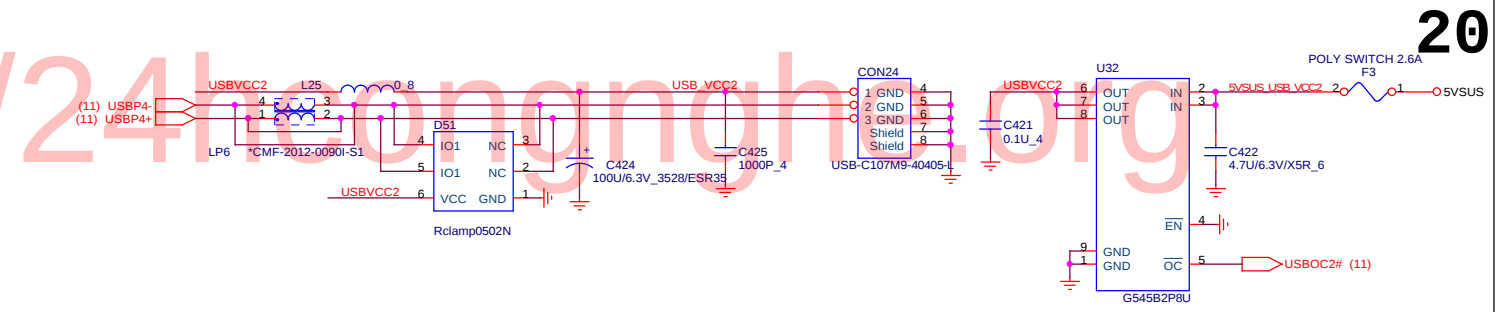
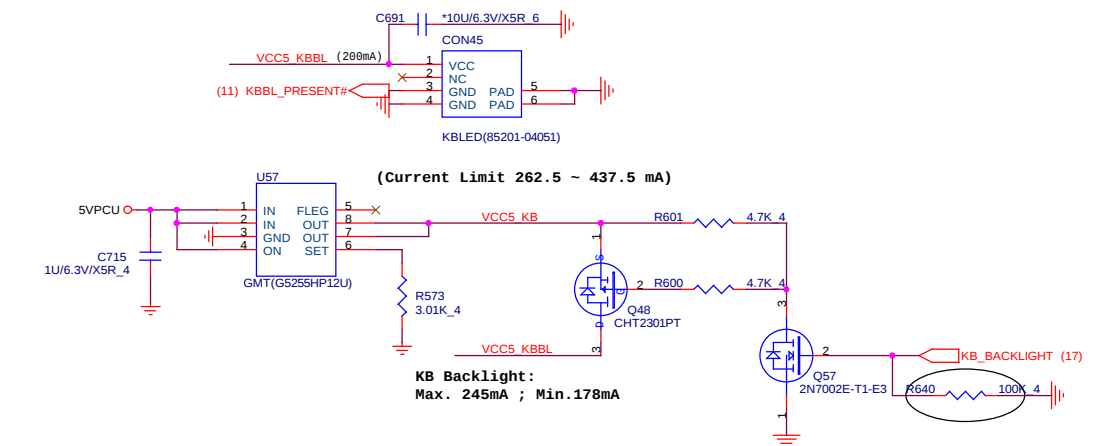


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KEYBOARD



KB BACKLIGHT





QUANTA
COMPUTER

Title

KB/USB/FAN

Size

Document Number

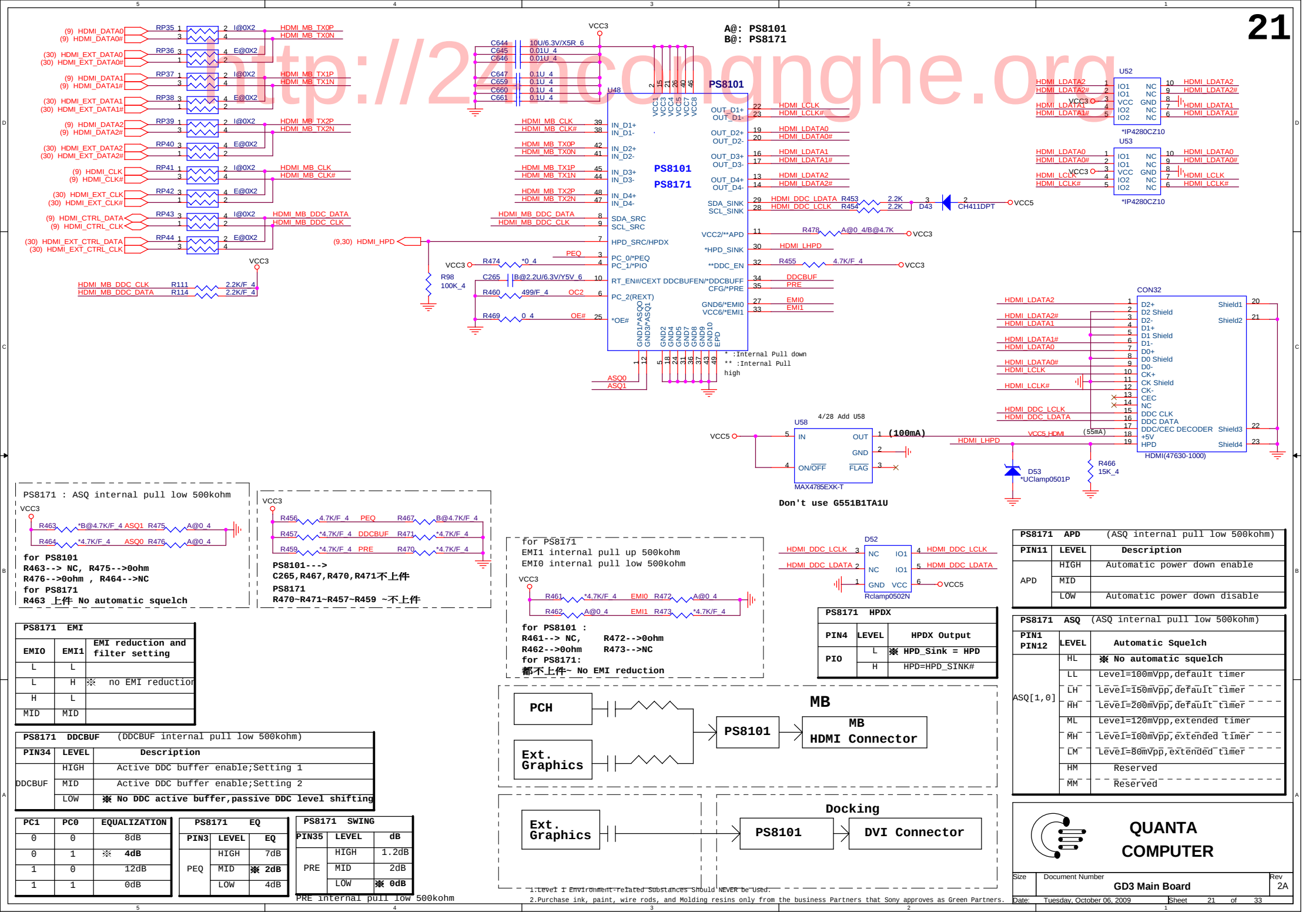
Rev 2A

Main Board

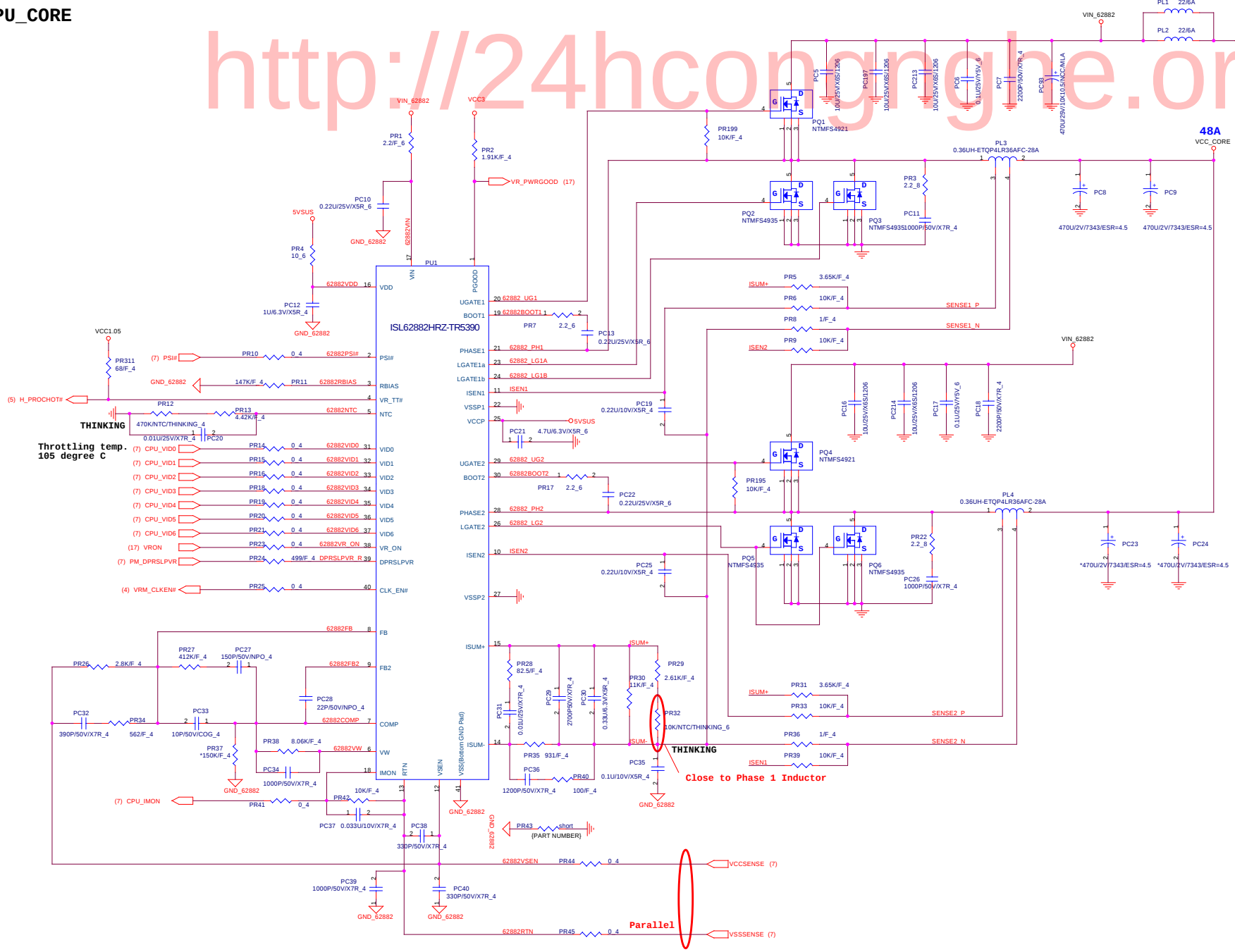
Date: Monday, October 19, 2009

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1.Level 1 Environment-related Substances Should NEVER be Used.
2.Purchase ink, paint, wire rods, and Molding resins only from the business Partners that SonyE approves as Green Partners.

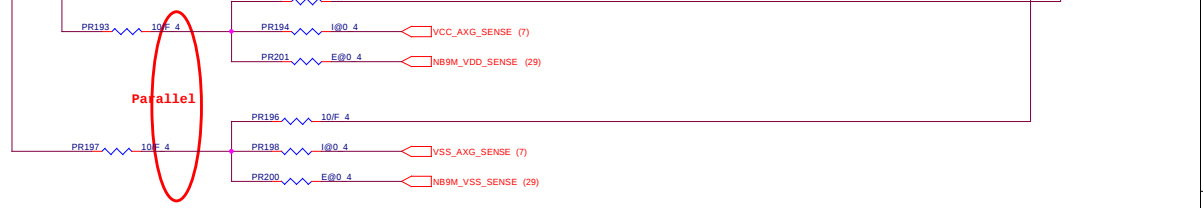
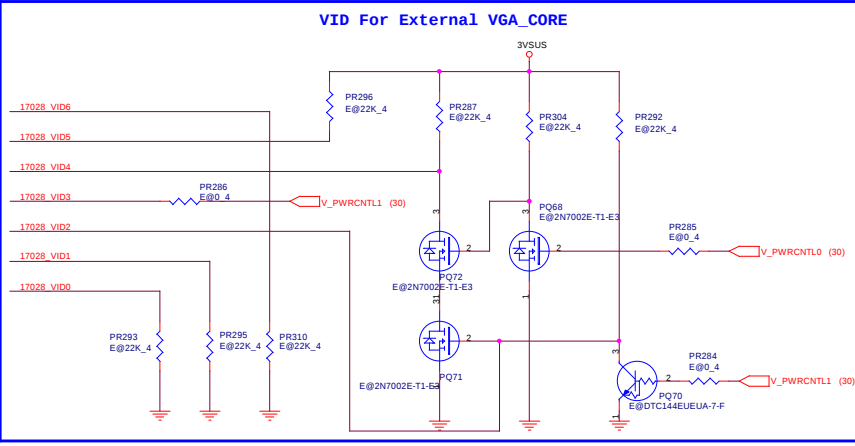
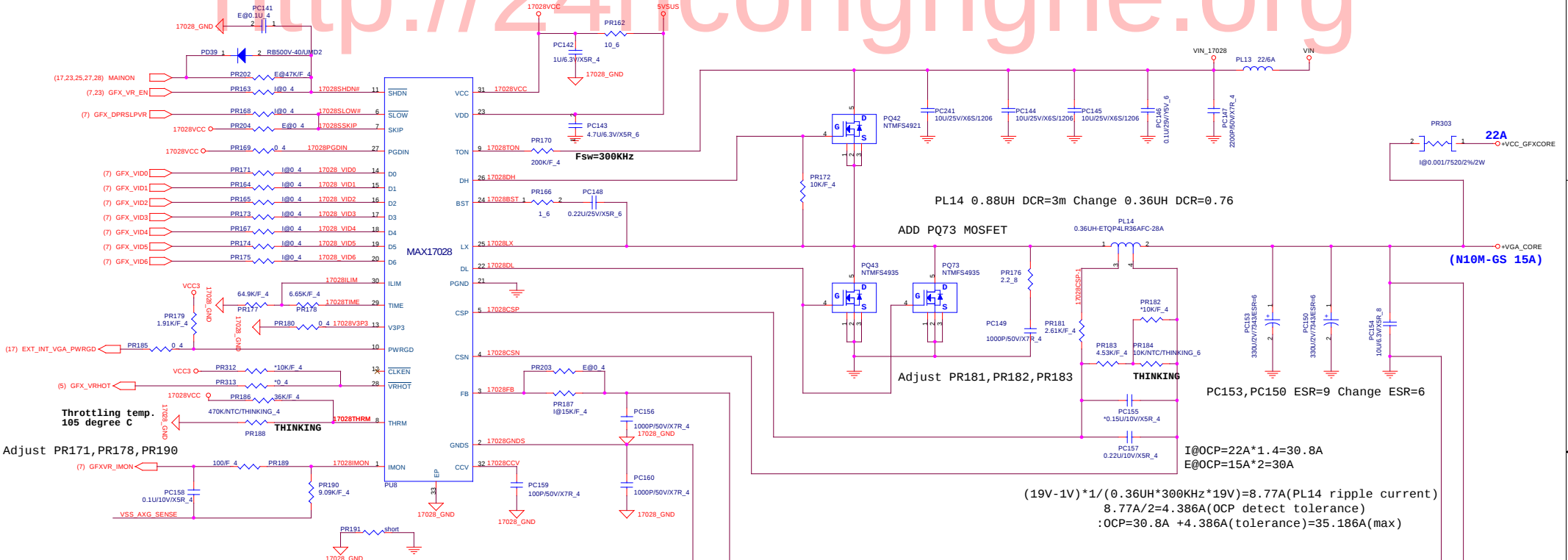


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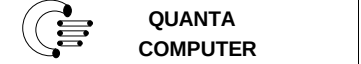
1.Level 1 Environment-related Substances Should NEVER be Used.
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External VGA_CORE voltage setting:

V_PWRCNTL1	V_PWRCNTL0	VGA_VID	VGA_CORE
0	0	0100100	1.05V
0	1	0110100	0.85V
1	0	0111000	0.8V



nVidia VGA_CORE voltage setting:

V_PWRCNTL1	V_PWRCNTL0	VGA_VID	VGA_CORE
0	0	0101000	1.0V
0	1	0110100	0.85V
1	0	0111000	0.8V

Logical Strap Bit Mapping

Resistor Value	Pull to VDD	Pull to GND
5K	1000	0000
10K	1001	0001
15K	1010	0010
20K	1011	0011
25K	1100	0100
30K	1101	0101
35K	1110	0110
45K	1111	0111

Strap Bit Define

Straps	Bit 3	Bit 2	Bit 1	Bit 0
ROM_S0	XCLK_417	FB_0_BAR_SIZESMB_ALT_ADDR	VGA_DEVICE	
ROM_SCLK	PCI_DEVID[4]	SUB_VENDOR	SLOT_CLK_CFG	PEX_PLL_EN
ROM_SI	RAMCFG[3]	RAMCFG[2]	RAMCFG[1]	RAMCFG[0]
STRAP2	PCI_DEVID[3]	PCI_DEVID[2]	PCI_DEVID[1]	PCI_DEVID[0]
STRAP1	3GIO_PADCFG6	3GIO_PADCFG6	3GIO_PADCFG6	3GIO_PADCFG6
STRAP0	USER[3]	USER[2]	USER[1]	USER[0]

VRAM Strap:ROM_SI ; RAMCFG[x]

VRAM Capacity	VRAM Vender	ID	R4028
DDR3 64Mx16	Samsung	0011	PD20K
	Hynix	0010	PD15K

