Page	Title of schematic page	Rev.	Date
01	Page List	1A	
02	Block Diagram	1A	
03	Change List	1A	
04	HSW MCP(DISPLAY/Sideband)	1A	
05	HSW MCP(MEMORY/GND)	1A	
06	HSW MCP(CFG/PwrMGT)	1A	
07	HSW MCP(POWER)	1A	
08	HSW PCH(RTC/HDA/SATA)	1A	
09	HSW PCH(PCIE/USB)	1A	
10	HSW PCH(CLK/LPC/SPI/SMB)	1A	
11	HSW PCH(GPIO/LPIO/MISC)	1A	
12	HSW PCH(POWER)	1A	
13	DDR3 DIMM0-STD (5.2H)	1A	
14	DDR3 DIMM1-RSV (5.2H)	1A	
15	HOLE/EMI/KB	1A	
16	NPCE985L & FLASH	1A	
17	LVDS/TS/NFC	1A	
18	CARD READER(RTS5227E)	1A	
19	HDMI/THERMAL	1A	
20	DP to VGA	1A	
21	USB	1A	
22	LAN (RTL8111GS)	1A	
23	WLAN/KB-BL	1A	
24	HDD/ODD/G-SENSOR/TP/FAN	1A	
25	Audio ALC233-CG	1A	
26	LED/PS/DMIC/Camera	1A	
27	POWER +VCC_CORE (NCP81101)	1A	
28	POWER 3VPCU&RVCC5(TPS51427)	1A	
29	POWER 1.35VSUS/VTT_MEM	1A	
30	POWER +1.05V(G5602R41U)	1A	
31	POWER VCC1.5/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	Woofer	1A	
41	IO PORT LIST	1A	
		1A	
		1A	

* : No mount
L@ : For LVDS output
D@ : For eDP output
E@ : For DIS GFX
I@ : For UMA

HKDD Haswell ULT BLOCK DIAGRAM

DDR3L-1600 : 1.35V — Dual Channel — P14~P15

intel
Shark Bay

DDR SYSTEM MEMORY

Haswell ULT
+
Lynx Point-LP

BGA1168
(40mm X 24mm)

PCI-E X16 — PCIE3 — 5GT/s

Nvidia
N14P-GV2 — P36 ~ P39

EMPTY

VRAM
1GB / 2GB
P38~P39

iGFX Interfaces

eDP — P17

HDMI — P19

DP — **DP to VGA** PTN3355BS — VGA(CRT) — P20

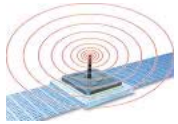
5GT/s — PCI-Express Gen2

PCIE3 — PCIE1 — PCIE4

Giga-LAN
RTL8111GS — P22

RJ45

P22



WLAN/BT P23

Card Reader
RTS5227E — P18

SD-XC

TOUCH SCREEN — P17 — PORT8

Camera — P26 — PORT10

WLAN/BT — P23 — PORT9

P24 — HDD — SATA0 — 6Gb/s — SATA Gen3

P24 — ODD — SATA3 — 3Gb/s — SATA Gen2

USB I/O — P21 — PORT3 — USB 2.0

USB I/O — P21 — PORT2

USB I/O — P21 — PORT0 — USB 3.0

USB

EMPTY
NFC — I2C

Azalia

HDA

SPI

P8~P13

LPC

TPM P23

For Win-7: TPM1.2 SLB9660
For Win-8: TPM2.0 SLB9665

SPI ROM 8MB P9

Audio CODEC
ALC233-CG
P25

HP Jack — MIC Jack — SPK — DMIC

P25

P25

P25

P25

Touch Pad — P24

Keyboard — P15

EC
NPCE985L
P16

Power LED
Sleep LED
SATA LED
Battery LED
CAPSLED
NUMLED

Button
EMPTY
ASSIST#
Power SW

Change List

MB_SCH_PVT_01

P20- DC27, DC28, DC33 change from 15p to 3.3p

Reason : Base on EVT aRGB VEVS, fine tune the value
Possible Risk: No.

MB_SCH_PVT_02

P23- Add F8 for TPM D/B

Reason : Base on EVT overload result.
Possible Risk: No.

MB_SCH_PVT_03

P10- Add 33 ohm for LPC_FRAME#

Reason : the overshoot and undershoot is big, add 33 ohm to reduce
Possible Risk: No.

MB_SCH_PVT_04

P23- Add SW1 for TPM _ID select

Reason : Reserve for TPM_ID SW used
Possible Risk: No.

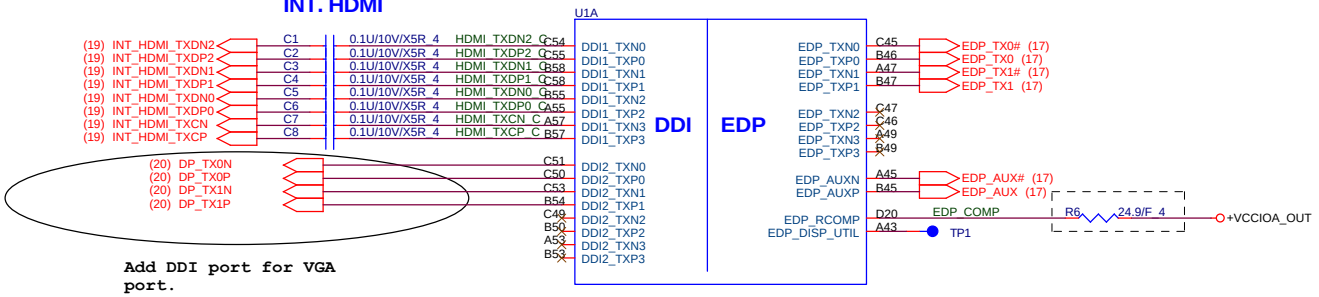
MB_SCH_EVT_05

P22- CON14, C270, F7, R239, R240, Q18, Q19, R241 change to no mount

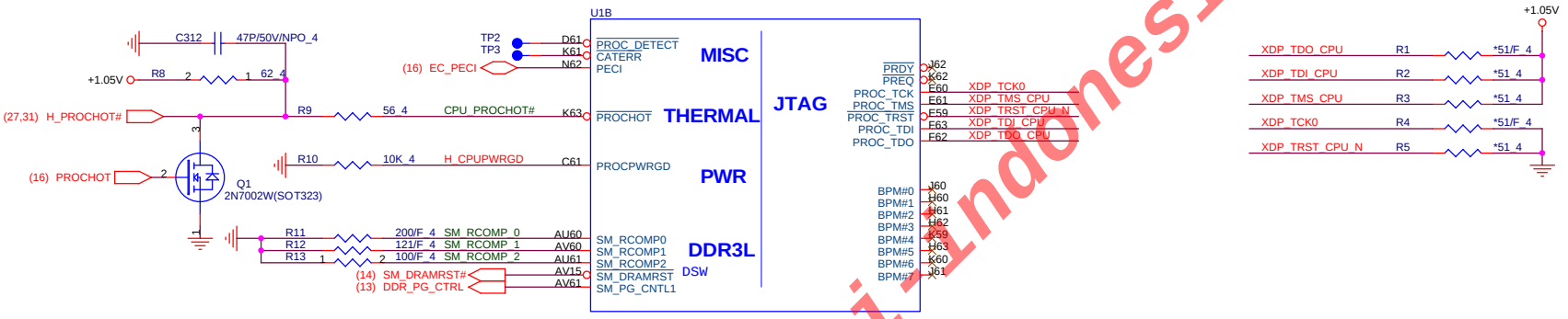
Reason : Delete Keyboard light function for RFQ requirement
Possible Risk: No.

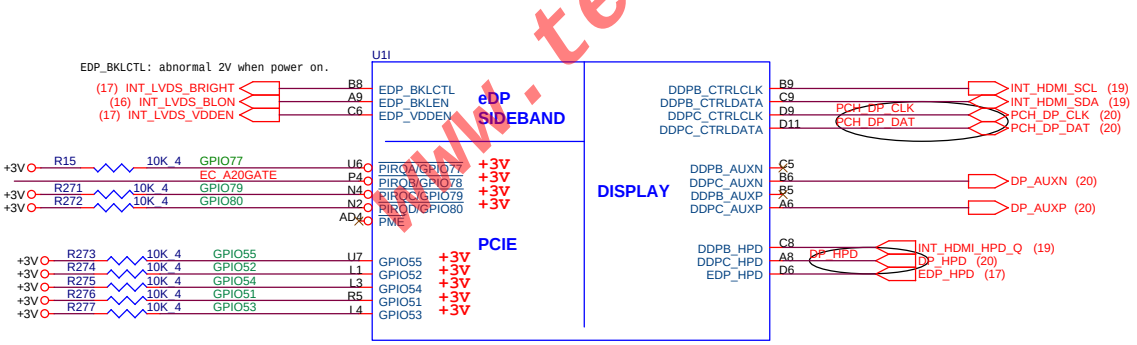
Haswell ULT (DISPLAY)

INT. HDMI

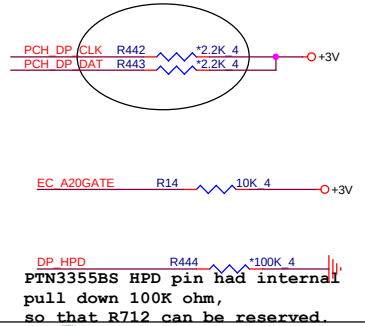


Add DDI port for VGA port.





Add DDI port for VGA port.

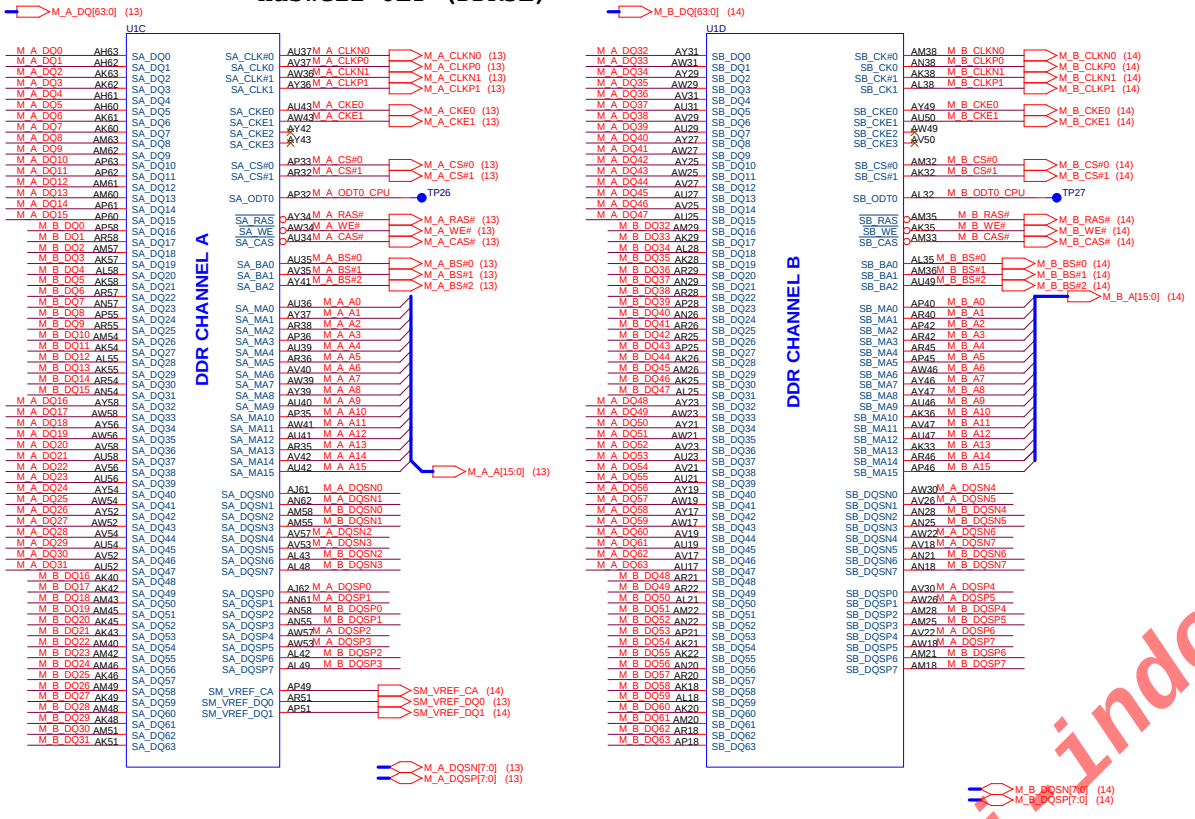


PTN3355BS HPD pin had internal pull down 100K ohm, so that R712 can be reserved.

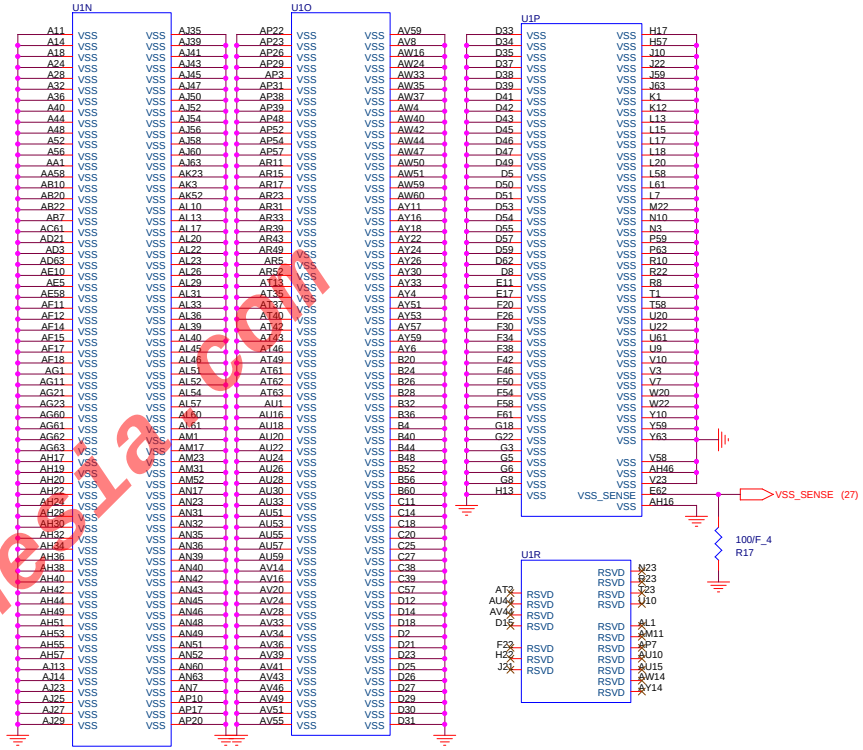
1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

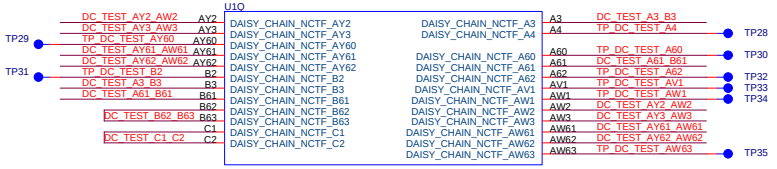
Quanta Computer Inc.		
PROJECT : HKDD		
Size	Document Number	Rev
	HSW MCP(Display/eDP)	1A
Date: Monday, November 10, 2014	Sheet 4 of 41	

Haswell ULT (DDR3L)



HSW ULT(GND)





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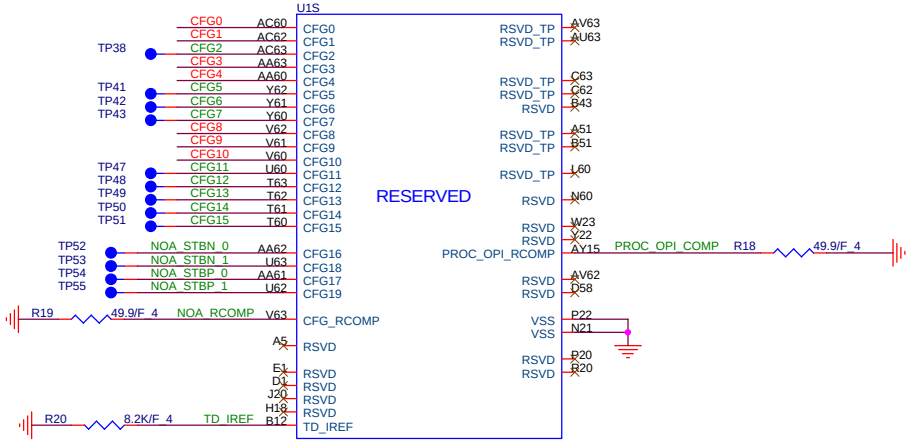
Quanta Computer Inc.
PROJECT : HKDD

Size	Document Number	Rev
	HSW MCP(Memory)	1A
Date: Monday, November 10, 2014	Sheet 5 of 41	



Processor Strapping

	1	0	
CFG0 EAR-STALL/NOT STALL RESET SEQUENCE AFTER PCU PLL IS LOCKED	(DEFAULT) NORMAL OPERATION; NO STALL	STALL	CFG0 R21 *1K_4
CFG1 PCH/ PCH LESS MODE SELECTION	(DEFAULT) NORMAL OPERATION	PCH-LESS MODE	CFG1 R22 *1K_4
CFG3 PHYSICAL_DEBUG_ENABLED (DFX PRIVACY)	DISABLED	ENABLED SET DFX ENABLED BIT IN DEBUG INTERFACE MSR	CFG3 R23 *1K_4
CFG4 DISPLAY PORT PRESENCE STRAP	DISABLED NO PHYSICAL DISPLAY PORT ATTACHED TO EMBEDDED DISPLAY PORT	ENABLED; NOA WILL BE AVAILABLE REGARDLESS OF THE LOCKING OF THE UNIT	CFG4 R24 1K_4
CFG 8 ALLOW THE USE OF NOA ON LOCKED UNITS	DISABLED(DEFAULT); IN THIS CASE, NOA WILL BE DISABLED IN LOCKED UNITS AND ENABLED IN UN-LOCKED UNITS	ENABLED AN EXTERNAL DISPLAY PORT DEVICE IS CONNECTED TO THE EMBEDDED DISPLAY PORT	CFG8 R25 *1K_4
CFG9 NO SVID PROTOCOL CAPABLE VR CONNECTED	VRS SUPPORTING SVID PROTOCOL ARE PRESENT	NO VR SUPPORTING SVID IS PRESENT. THE CHIP WILL NOT GENERATE (OR RESPOND TO) SVID ACTIVITY	CFG9 R26 *1K_4
CFG10 SAFE MODE BOOT	POWER FEATURES ACTIVATED DURING RESET	POWER FEATURES (ESPECIALLY CLOCK GATINE ARE NOT ACTIVATED	CFG10 R27 *1K_4

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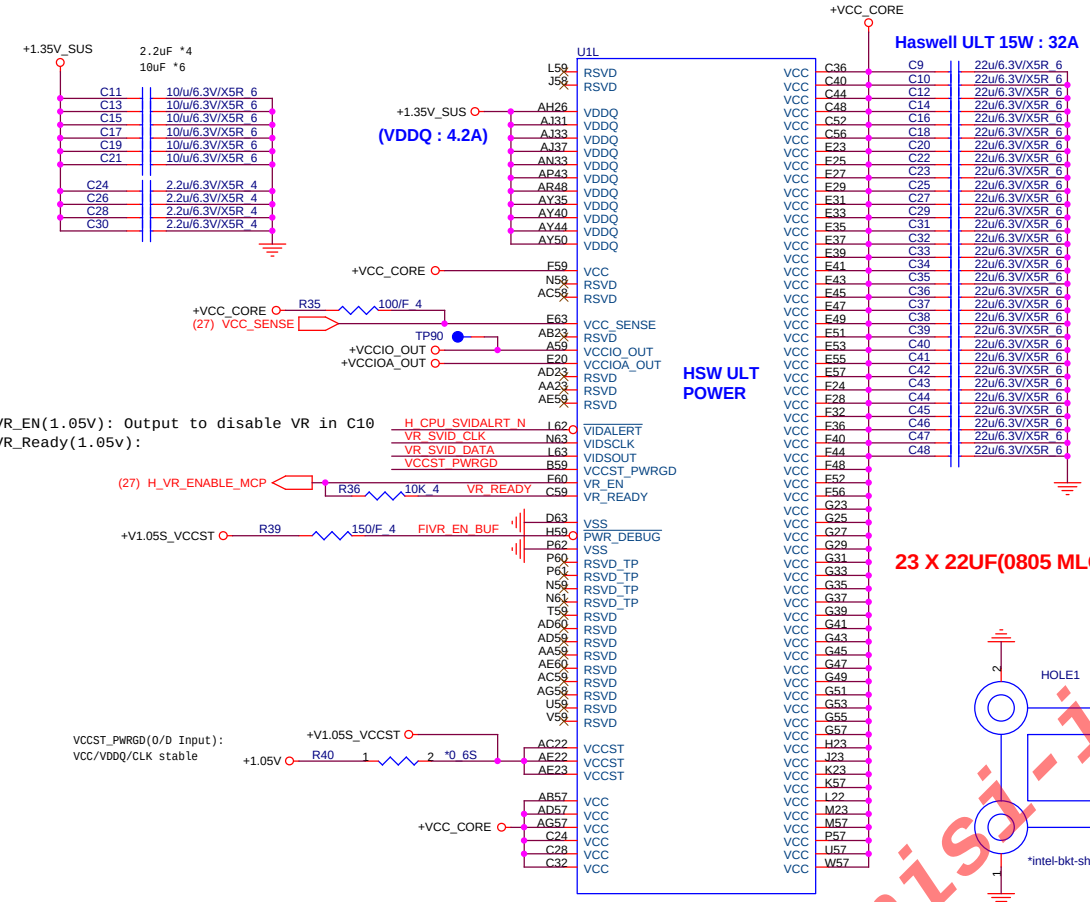
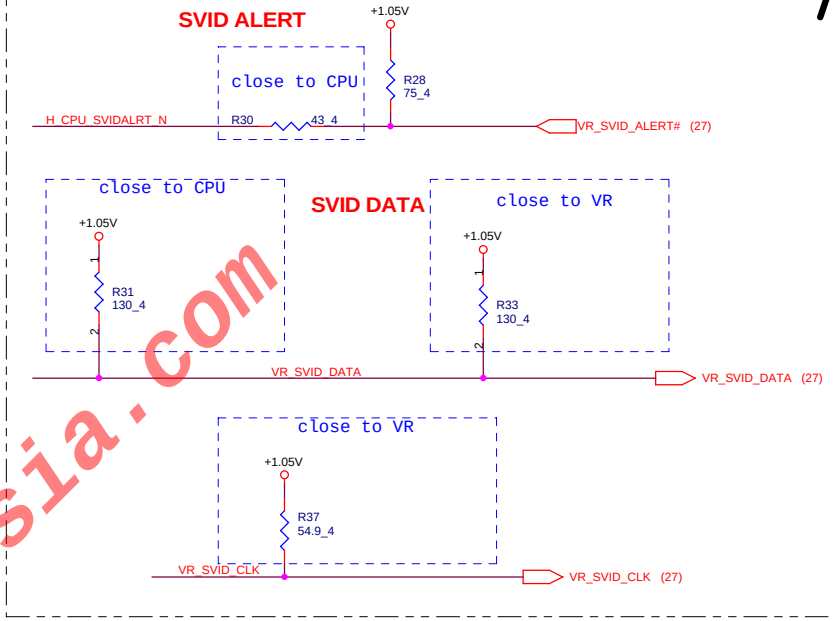
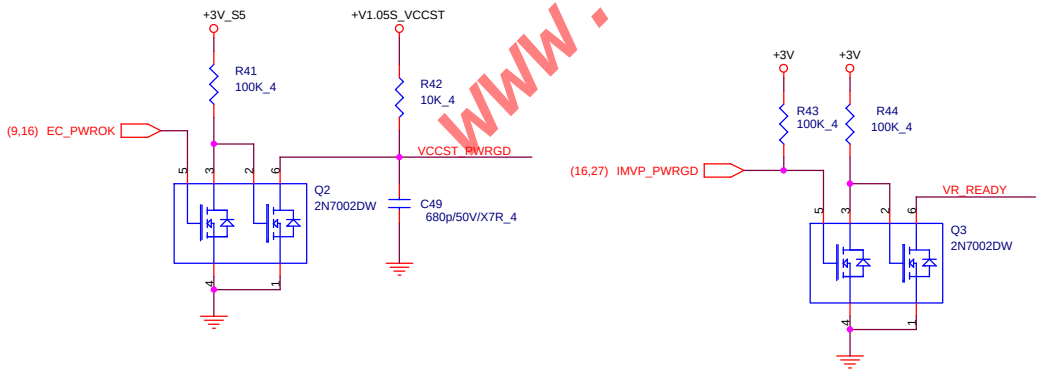
Haswell ULT MCP(POWER)







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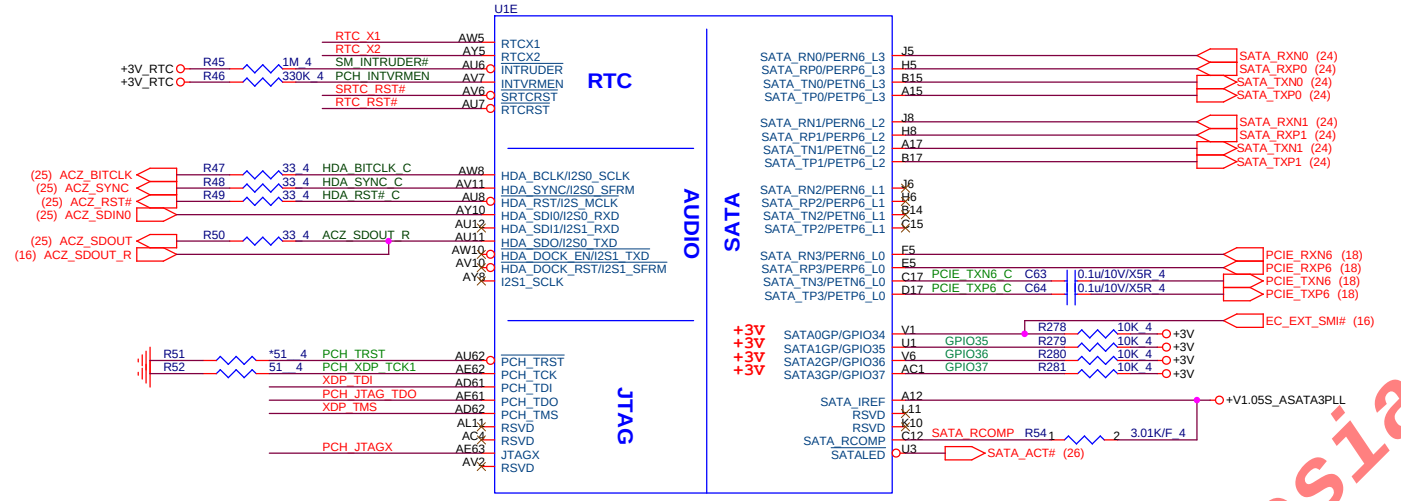
Quanta Computer Inc.
PROJECT : HKDD

Size	Document Number	Rev
	HSW MCP(Power)	1A
Date: Monday, November 10, 2014	Sheet 7 of 41	

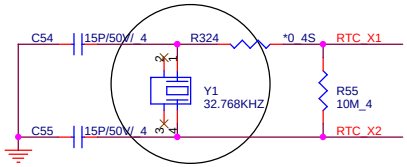
Haswell ULT (RTC, HDA, JTAG, SATA)



HDD

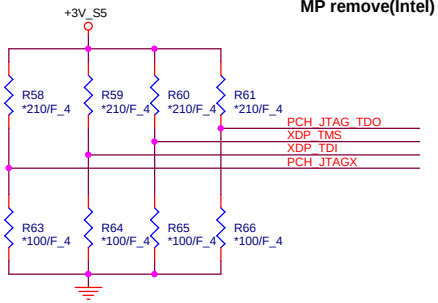
ODD

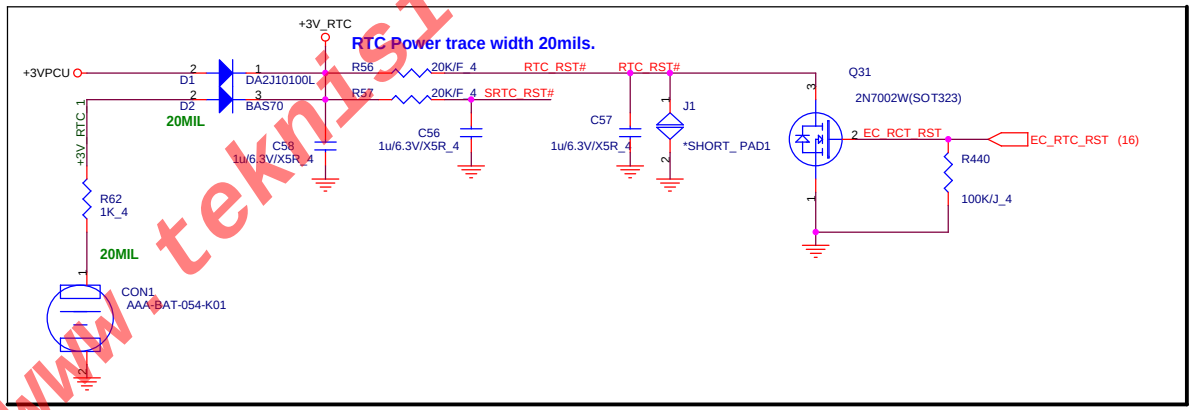
Card Reader



PCH JTAG Debug (CLG)

MP remove(Intel)





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	+3V — R67 *1K_4 — SPKR (11,25)
HDA_SDO	Flash Descriptor Security Override / Intel ME Debug Mode	PWROK	0 = Security Effect (Int PD) 1 = Can be Override	
INTVRMEN	Integrated 1.05V VRM enable	ALWAYS	Should be always pull-up	

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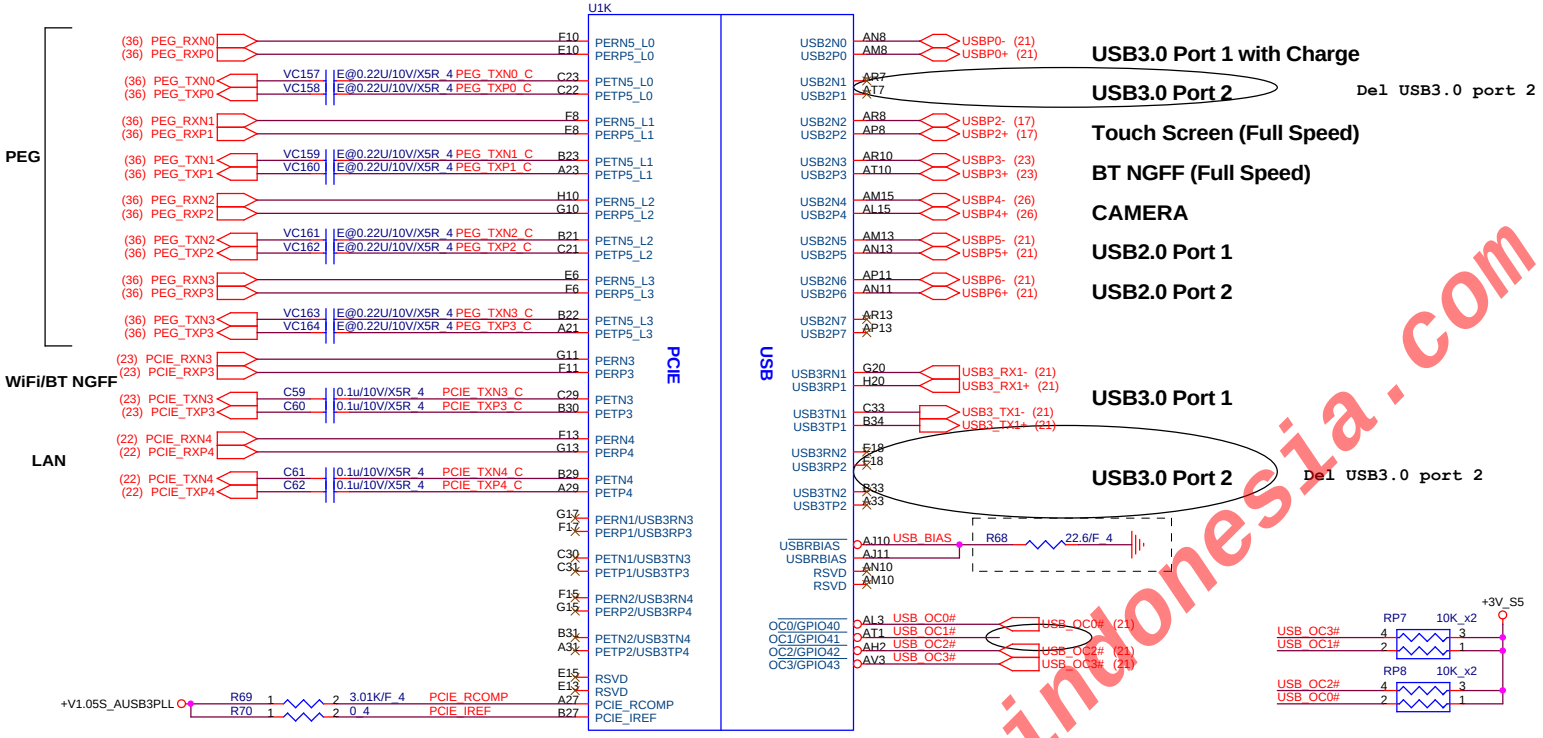
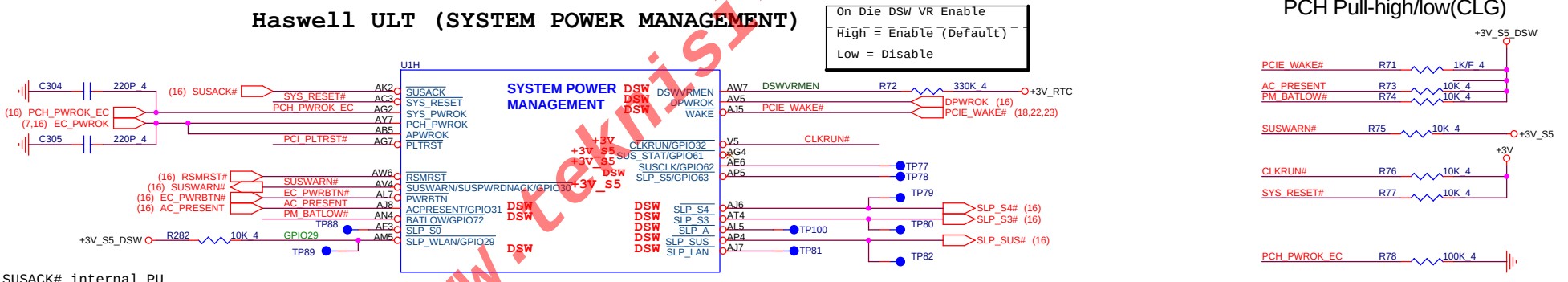
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Haswell ULT (PCIE,USB)

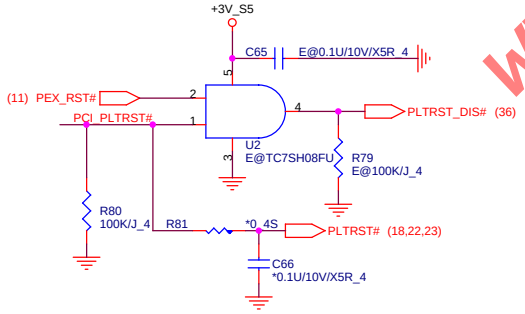


Haswell ULT (SYSTEM POWER MANAGEMENT)



PCH Pull-high/low(CLG)

PWRBTN# and SUSACK# internal PU



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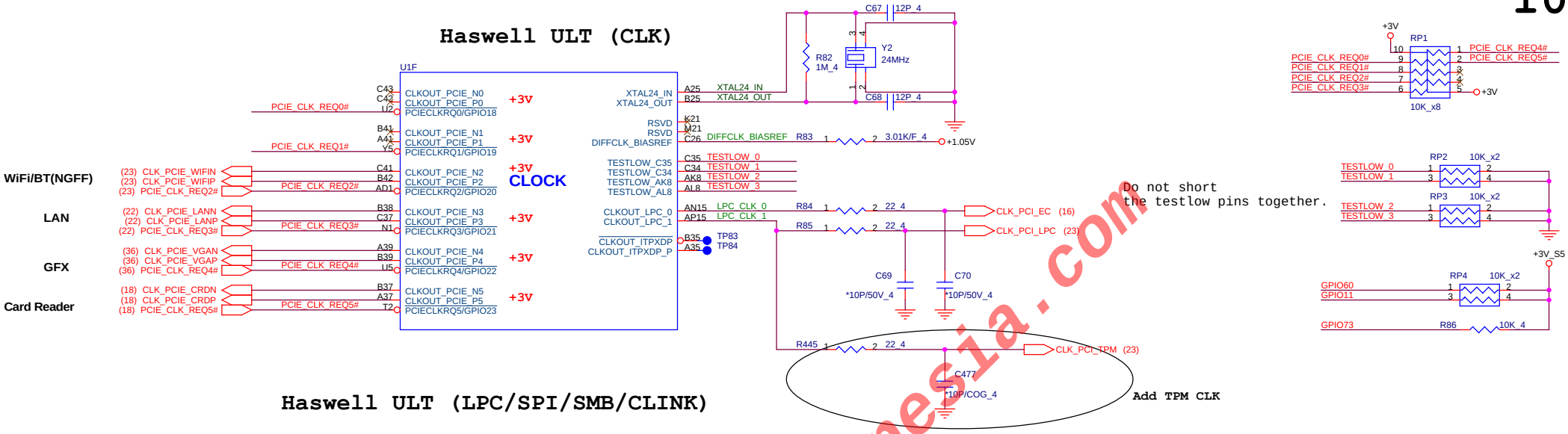
Quanta Computer Inc.		
PROJECT : HKDD		
Size	Document Number	Rev
	HSW PCH(PCIE/USB)	1A
Date: Wednesday, November 12, 2014	Sheet 9 of 41	

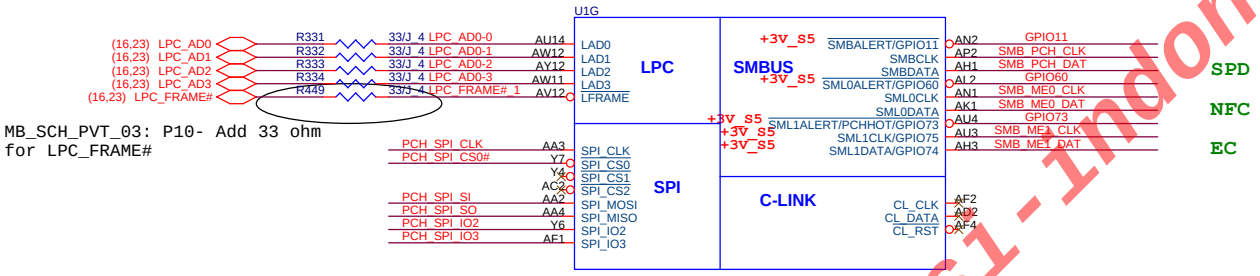
Haswell ULT (CLK)



Do not short
the testlow pins together.

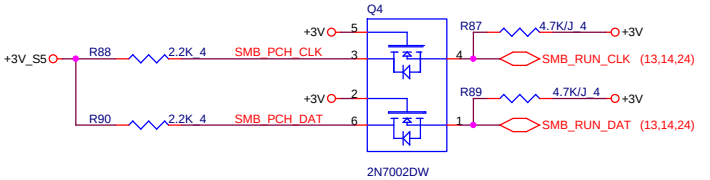
Add TPM CLK

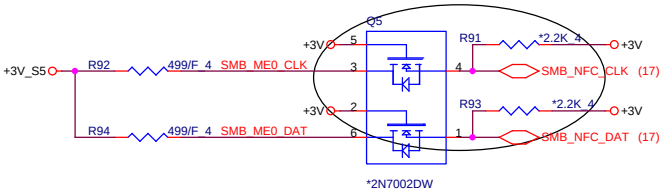
Haswell ULT (LPC/SPI/SMB/CLINK)

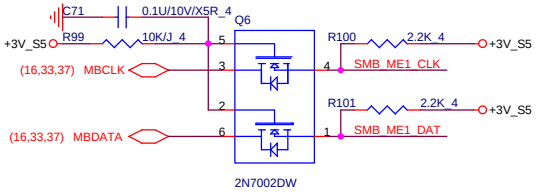


MB_SCH_PVT_03: P10- Add 33 ohm
for LPC_FRAME#

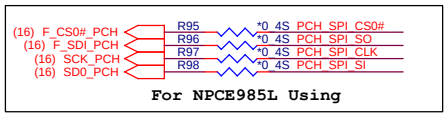
SMBus/Pull-up(CLG)

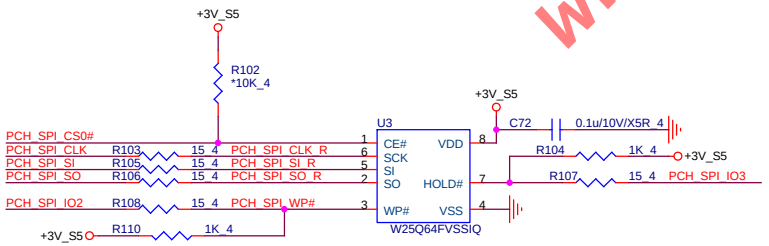






SPI FLASH





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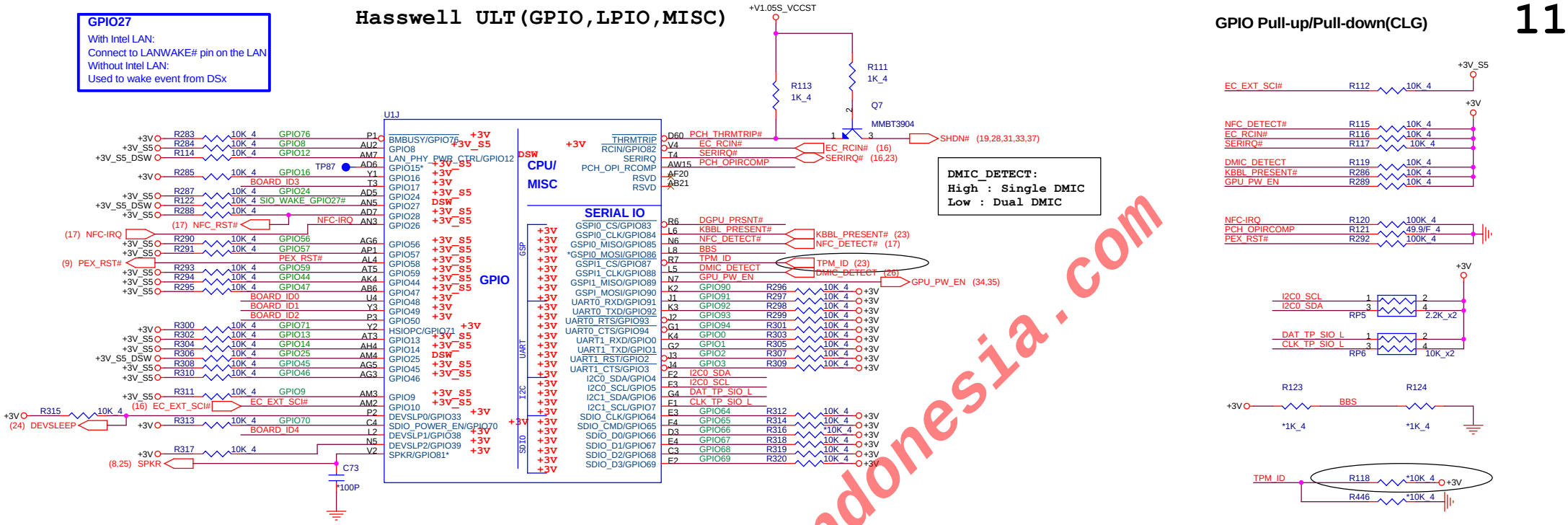
Quanta Computer Inc.
PROJECT :HKDD

Size	Document Number	Rev
	HSW PCH(CLK/LPC/SPI/SMB)	1A
Date: Wednesday, November 12, 2014	Sheet 10 of 41	

Hasswell ULT(GPIO,LPIO,MISC)

GPIO27
With Intel LAN:
Connect to LANWAKE# pin on the LAN
Without Intel LAN:
Used to wake event from DSx



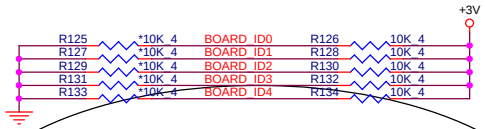
GPIO Pull-up/Pull-down(CLG)

GPIO66	Top-Block Swap
PU	Enable
PD	Disable(Default) internal week pull-dpwn

	GPIO86
PU	LPC
PD	SPI (Default IPD)

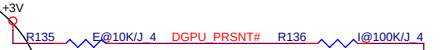
No Reboot Strap(GPIO81)	
NC	Default
PU	EN

TLS CONFIDENTIALITY STRAP(GPIO15)	
NC	Default
PU	EN



MB_SCH_PVT_04: P11- Add BOARD ID table

	BOARD_ID0	BOARD_ID1
CaspiV1 HSW	1	1
CaspiV1 BDW	0	0

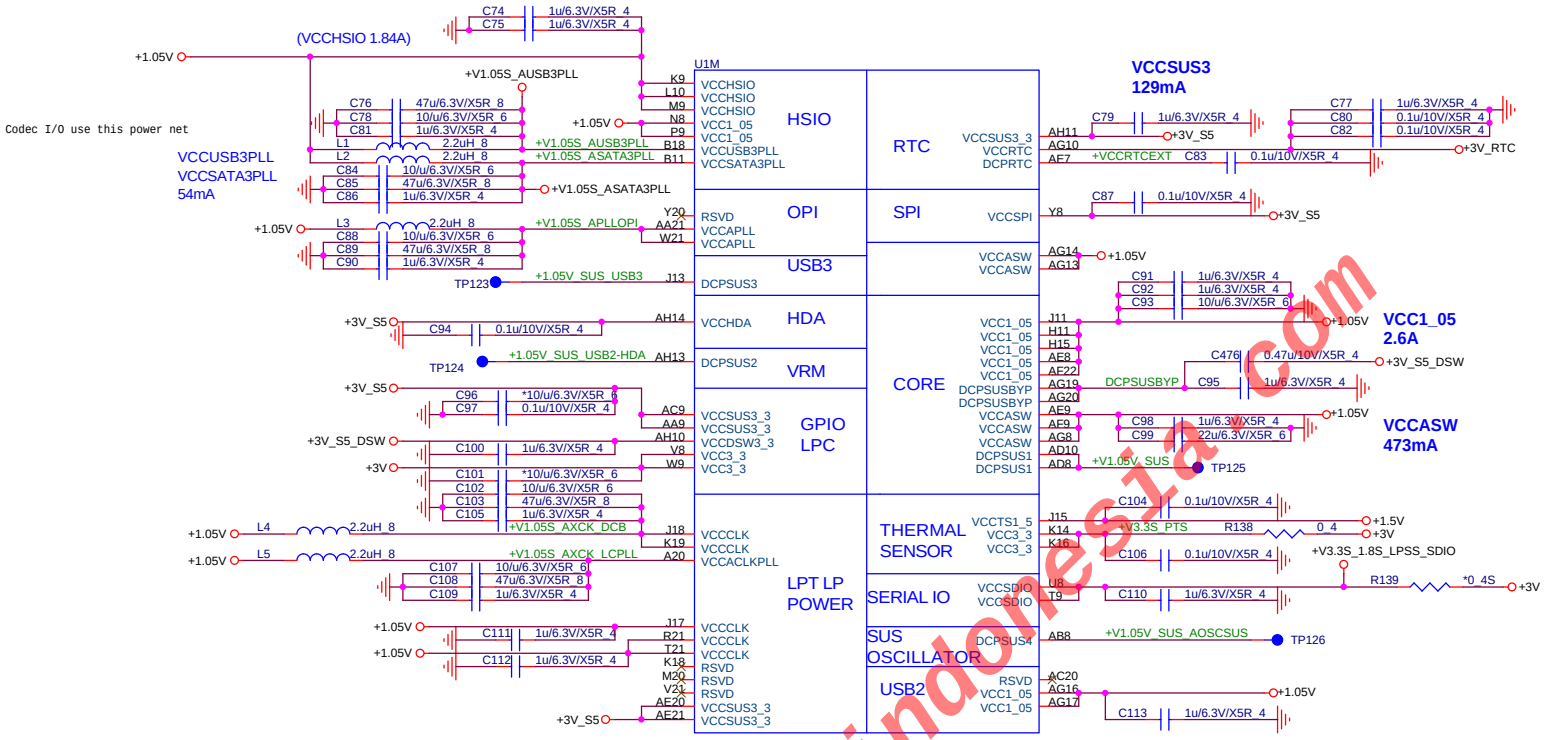


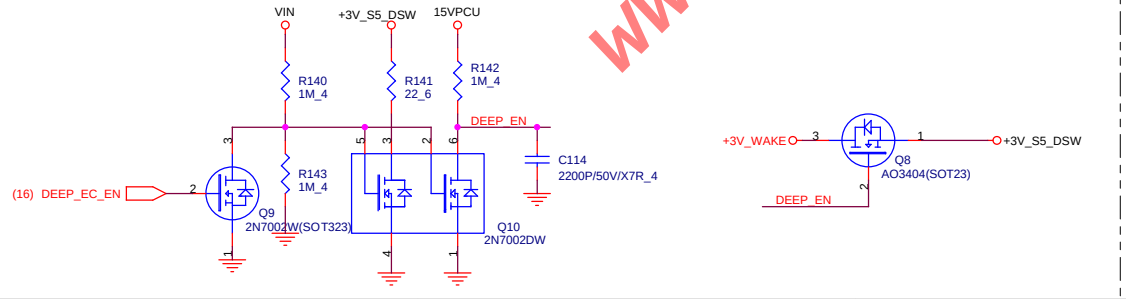
PCBA SKU	Discrete	UMA
R135(Pull High)	Stuff	No Stuff
R136(Pull Low)	No Stuff	Stuff

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 :HKDD

Size	Document Number	Rev
	HSW PCH(GPIO/MISC)	1A
Date: Monday, November 10, 2014	Sheet 11 of 41	





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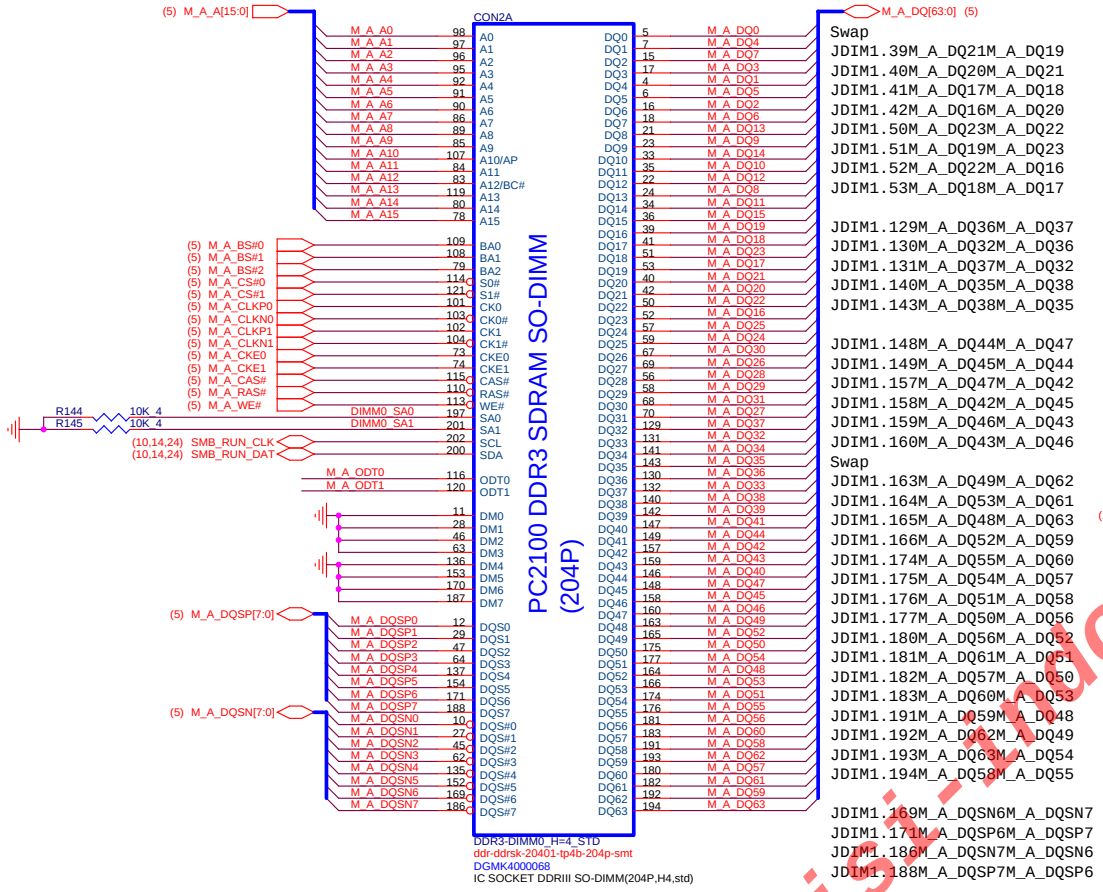
Quanta Computer Inc.
PROJECT : HKDD

Size	Document Number	Rev
	HSW PCH(Power)	1A

Date: Wednesday, November 12, 2014 Sheet 12 of 41

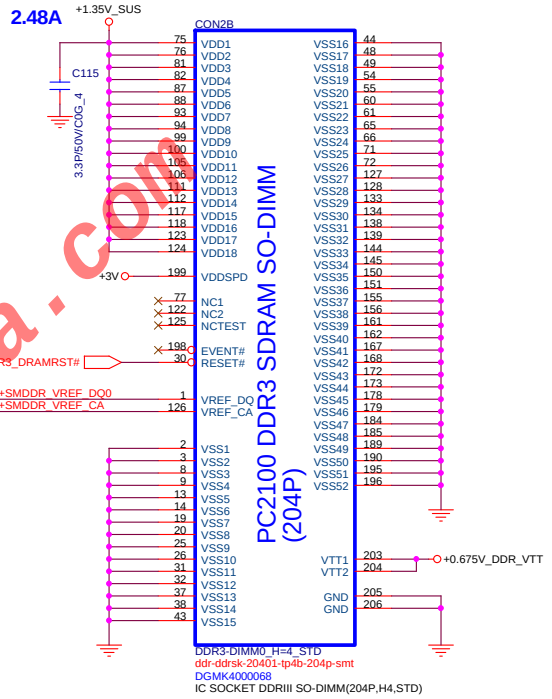


Swap
JDIM1.39M_A_DQ21M_A_DQ19
JDIM1.40M_A_DQ20M_A_DQ21
JDIM1.41M_A_DQ17M_A_DQ18
JDIM1.42M_A_DQ16M_A_DQ20
JDIM1.50M_A_DQ23M_A_DQ22
JDIM1.51M_A_DQ19M_A_DQ23
JDIM1.52M_A_DQ22M_A_DQ16
JDIM1.53M_A_DQ18M_A_DQ17

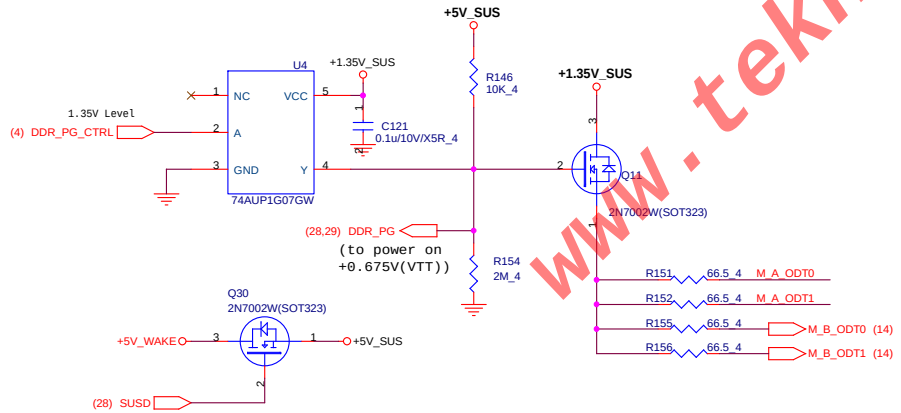
JDIM1.129M_A_DQ36M_A_DQ37
JDIM1.130M_A_DQ32M_A_DQ36
JDIM1.131M_A_DQ37M_A_DQ32
JDIM1.140M_A_DQ35M_A_DQ38
JDIM1.143M_A_DQ38M_A_DQ35

JDIM1.148M_A_DQ44M_A_DQ47
JDIM1.149M_A_DQ45M_A_DQ44
JDIM1.157M_A_DQ47M_A_DQ42
JDIM1.158M_A_DQ42M_A_DQ45
JDIM1.159M_A_DQ46M_A_DQ43
JDIM1.160M_A_DQ43M_A_DQ46
Swap
JDIM1.163M_A_DQ49M_A_DQ62
JDIM1.164M_A_DQ53M_A_DQ61
JDIM1.165M_A_DQ48M_A_DQ63
JDIM1.166M_A_DQ52M_A_DQ59
JDIM1.174M_A_DQ55M_A_DQ60
JDIM1.175M_A_DQ54M_A_DQ57
JDIM1.176M_A_DQ51M_A_DQ58
JDIM1.177M_A_DQ50M_A_DQ56
JDIM1.180M_A_DQ56M_A_DQ52
JDIM1.181M_A_DQ61M_A_DQ51
JDIM1.182M_A_DQ57M_A_DQ50
JDIM1.183M_A_DQ60M_A_DQ53
JDIM1.191M_A_DQ59M_A_DQ48
JDIM1.192M_A_DQ62M_A_DQ49
JDIM1.193M_A_DQ63M_A_DQ54
JDIM1.194M_A_DQ58M_A_DQ55

JDIM1.169M_A_DQSN6M_A_DQSN7
JDIM1.171M_A_DQSP6M_A_DQSP7
JDIM1.186M_A_DQSN7M_A_DQSN6
JDIM1.188M_A_DQSP7M_A_DQSP6



DDR3L SODIMM ODT GENERATION



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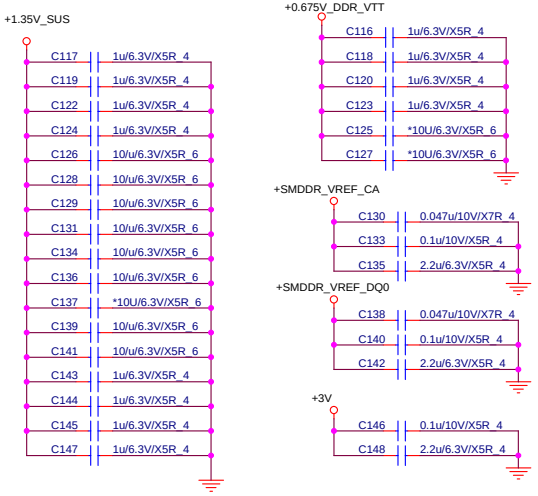
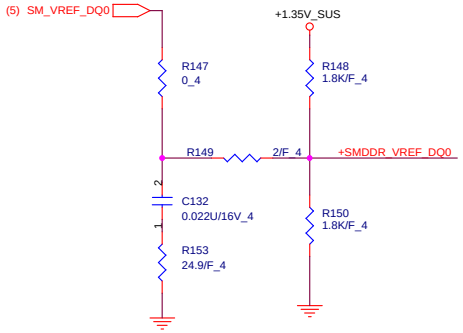
Place these Caps near So-Dimm0.

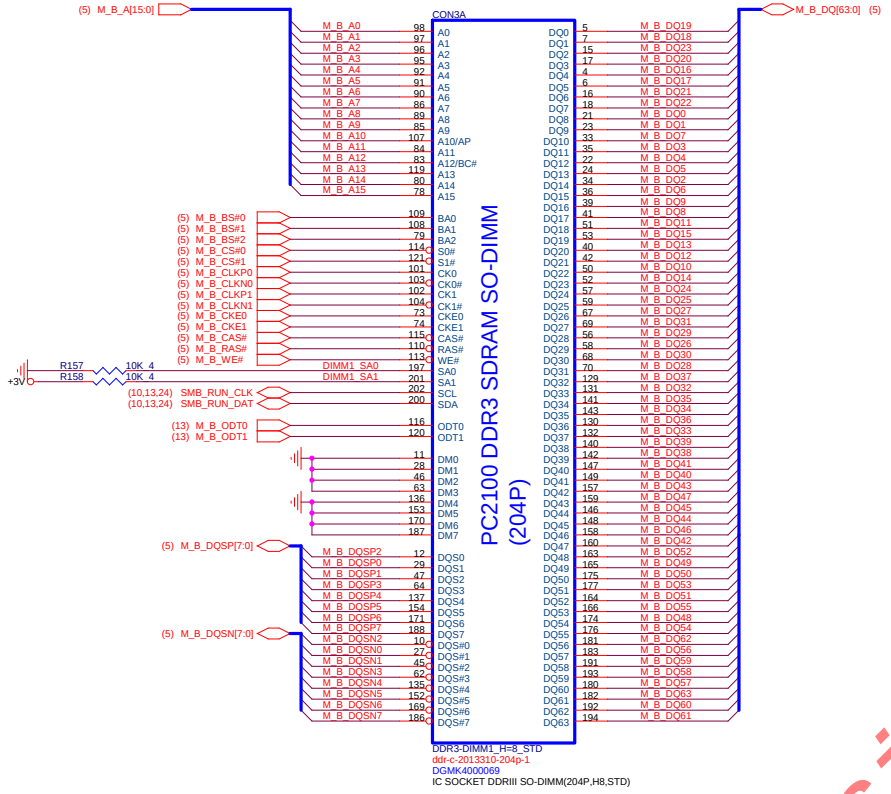


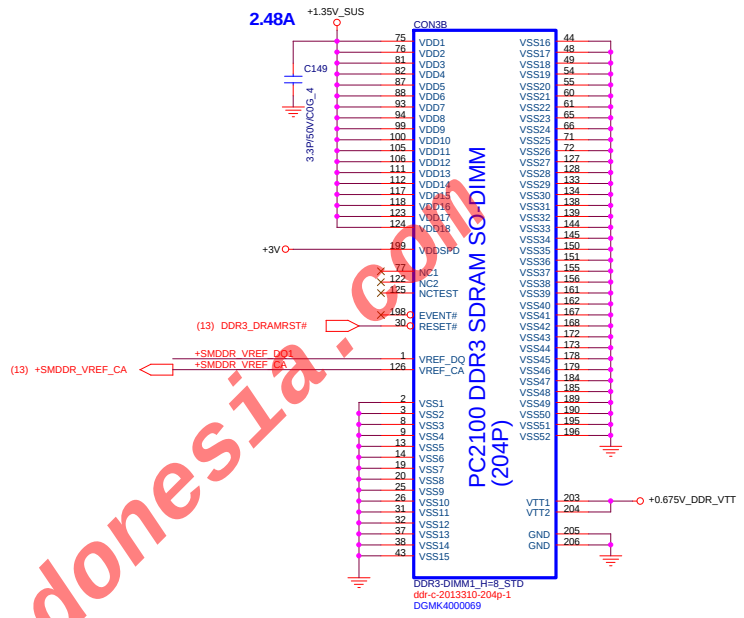
VREF DQ0 M1/M3 Solution

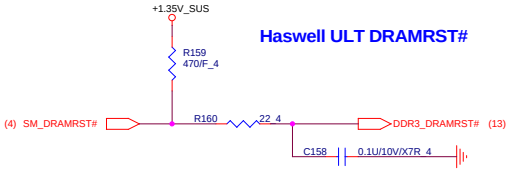


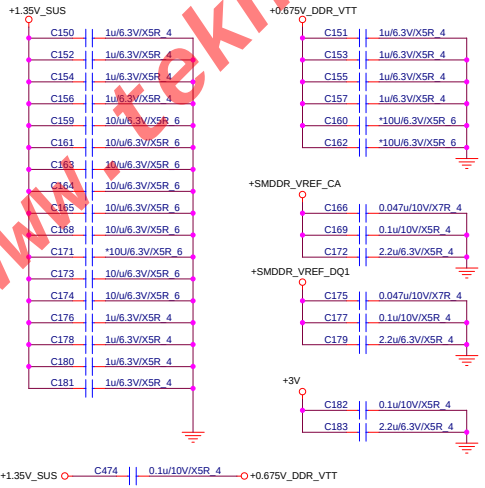
Quanta Computer Inc.
PROJECT :HKDD

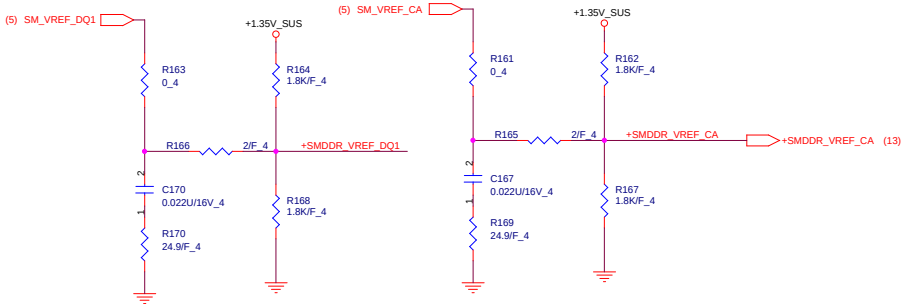
Size	Document Number	Rev
	DDR3 DIMM0	1A
Date: Wednesday, November 12, 2014	Sheet 13 of 41	











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Quanta Computer Inc.
PROJECT : HKDD

Size	Document Number	Rev
	DDR3 DIMM1	1A
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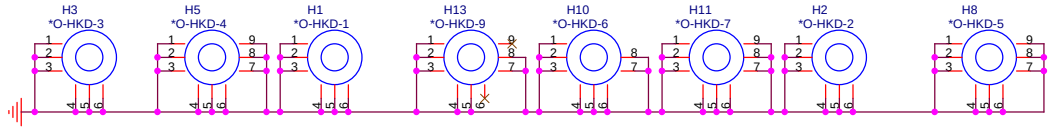
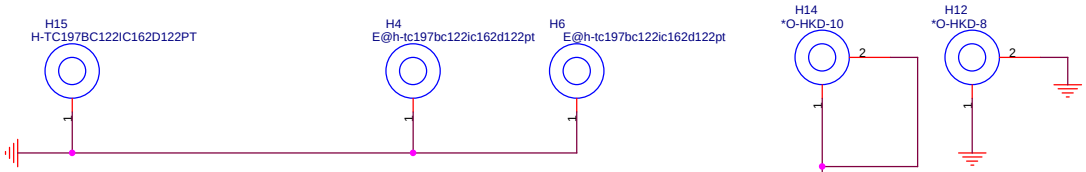
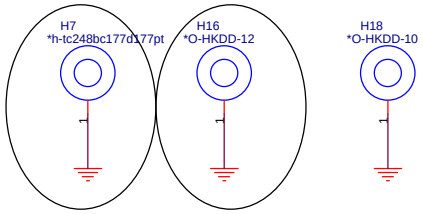
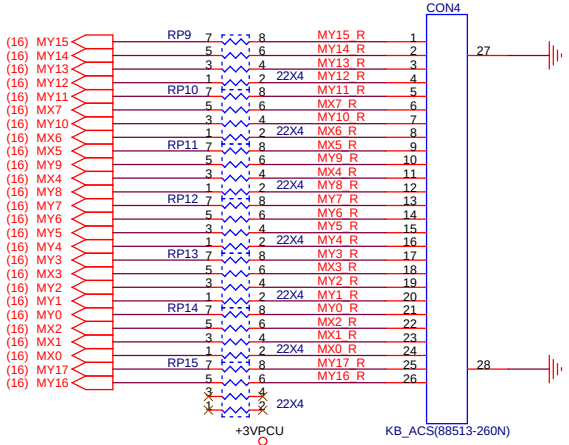
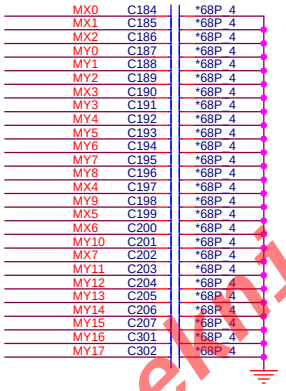


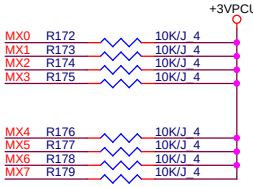


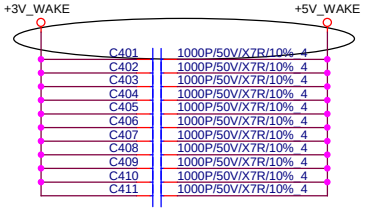


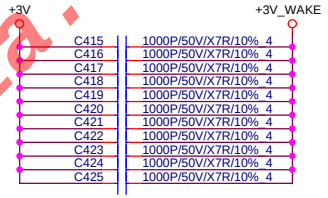
KEY BOARD Connector

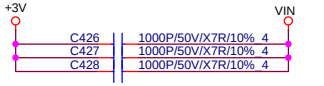


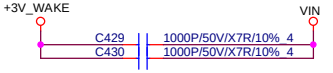


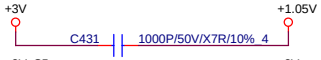


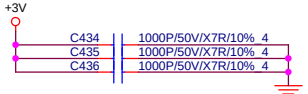


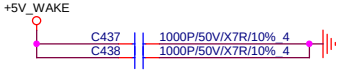


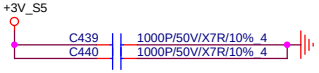


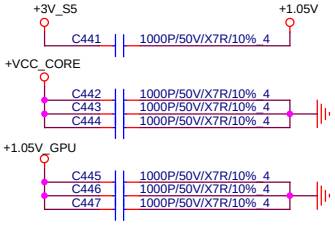


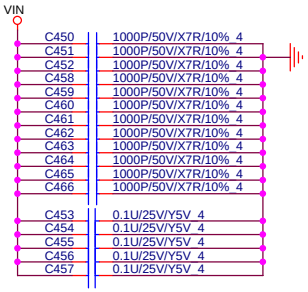


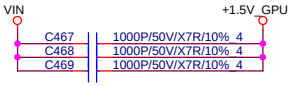


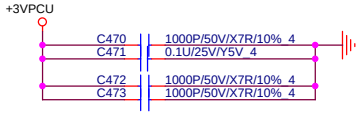












1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.
PROJECT : HKDD

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	HOLE/EMI/KB	1A
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New ADD

** Straping 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

KR31	CPUID	TDP
X	3.3V	28W
470K	2.9V	TDB
220K	2.6V	
100K	2.2V	
68K	1.9V	
47K	1.6V	15W(cDP-UP)
33K	1.3V	
22K	1.0V	
10K	0.5V	
4.7K	0.3V	
0	0V	15W(NO cTDP-UP)

Magnetic Lid Switch

KU2 E-CMOS: IN, OUT, GND; +3VPCU, LID#

E-CMOS :AL002618001/EC2618NLB1GR
PROLIFIC : AL003661003/PT3661-BB
BCD : AL009249000/AH9249NTR-G1

MODEL ID	
High	HKC/HKD(KR21 mount KR22 no mount)
Low	GD9/GDA(KR21 no mount KR22 mount)

DRAM_VOLTAGE_SET
Low: 1.5V
High : 1.35V

ALL_SYS_PWRGD >10ms
EC_PWROK
99ms
PCH_PWROK_EC

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Size	Document Number	Rev
	NPCE985L	1A

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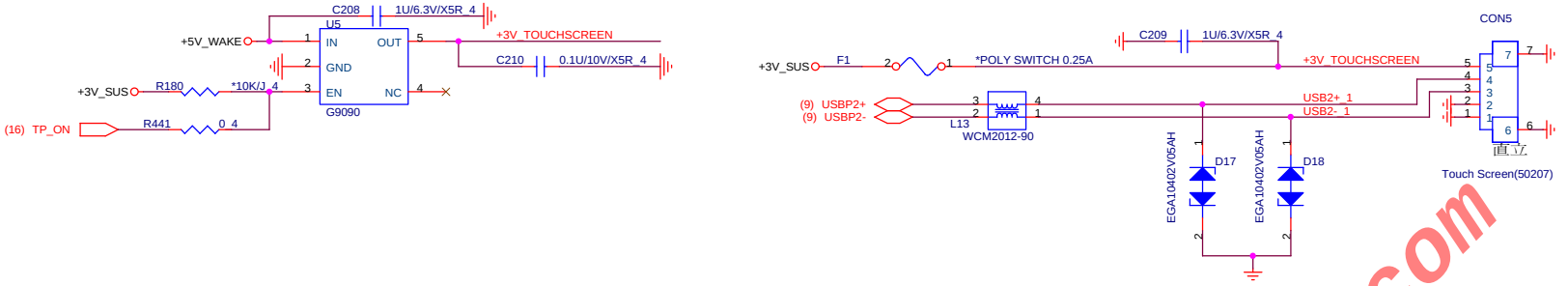
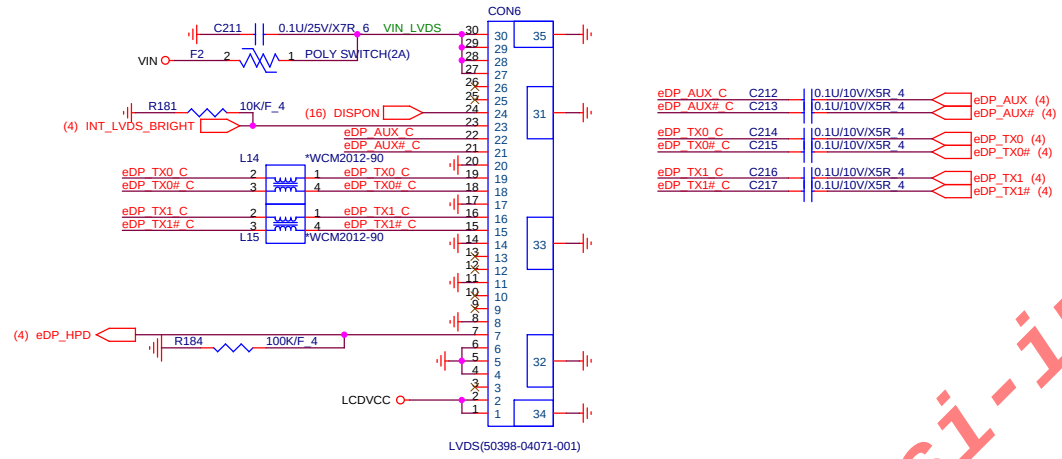
Touch Screen

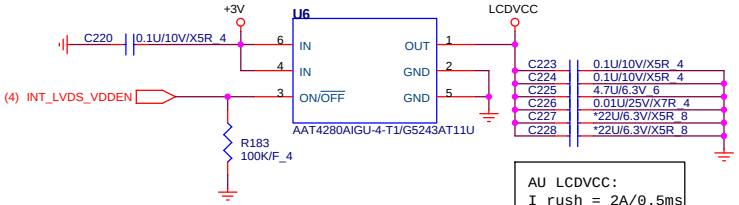


eDP

FAST, UL/CSA

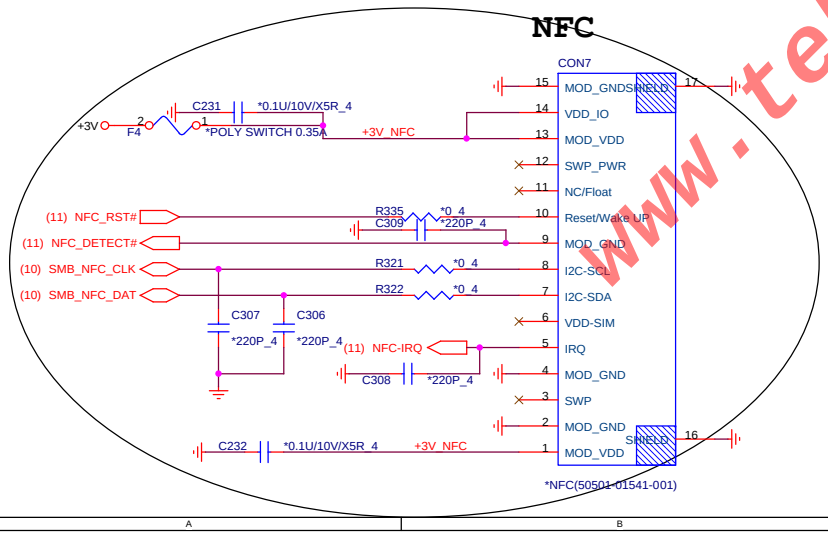


NB LVDS enable



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

NFC



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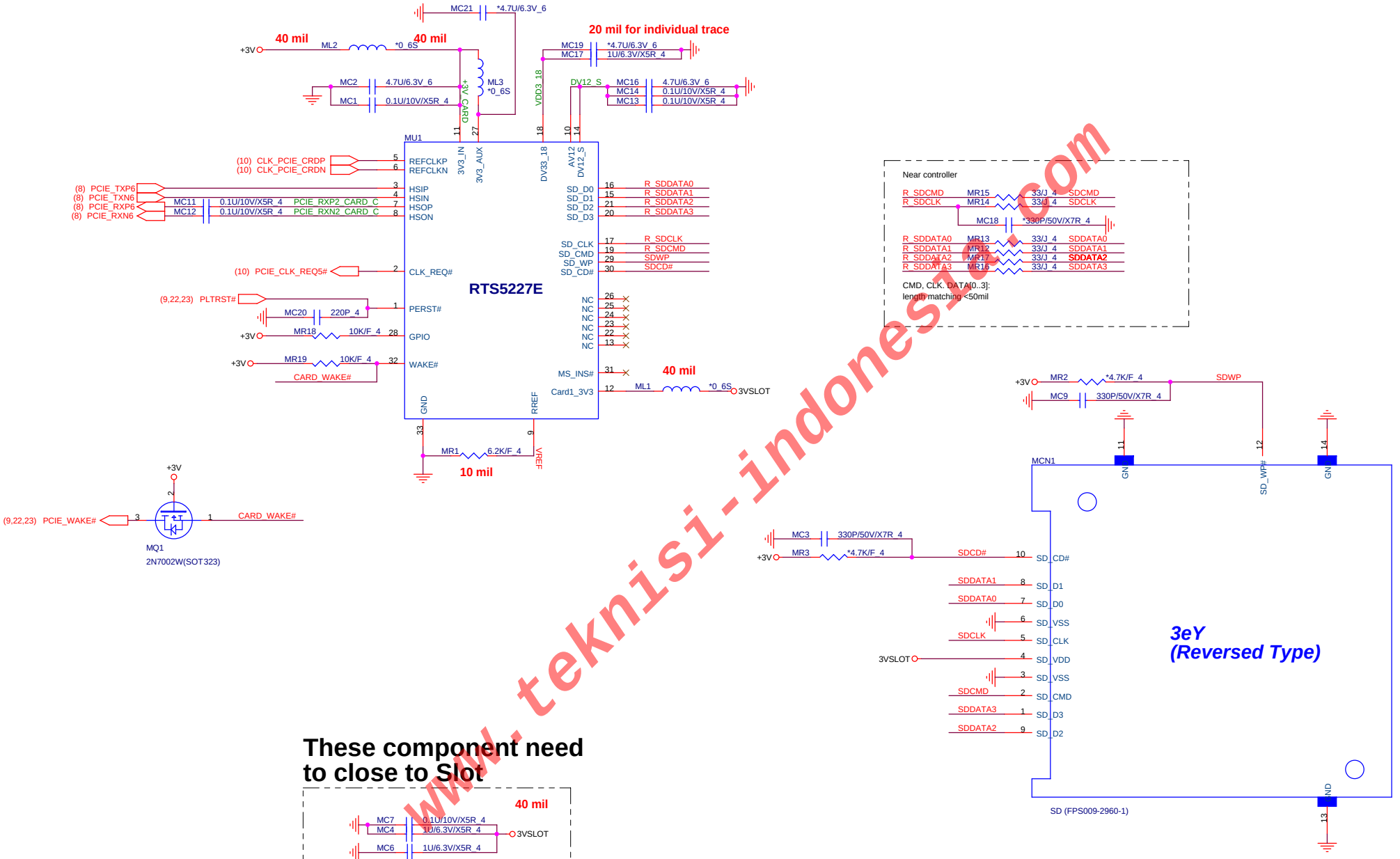
Quanta Computer Inc.
PROJECT : HKDD

Size	Document Number	Rev
	CRT/LVDS	1A
Date: Wednesday, November 12, 2014	Sheet 17 of 41	



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Size	Document Number	Rev
	CARD	1A
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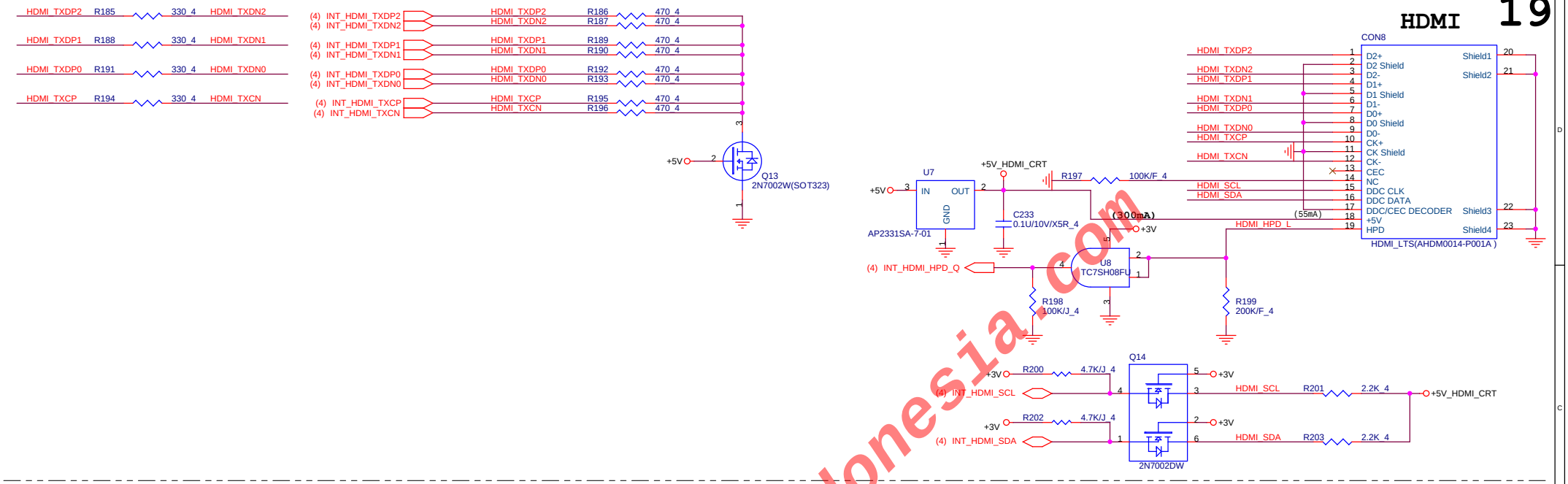
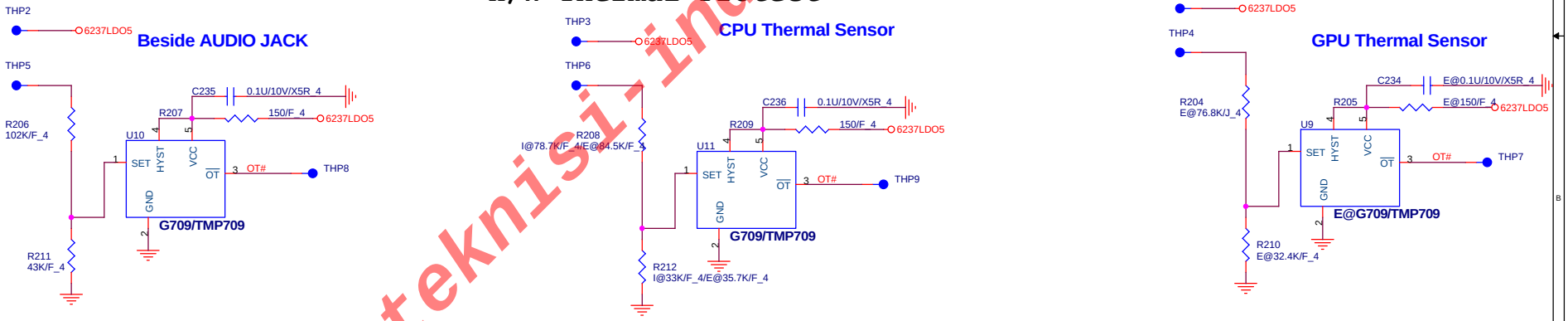
HDMI



H/W Thermal Protect



RSET(kΩ)= 0.0012T2 – 0.9308T + 96.147

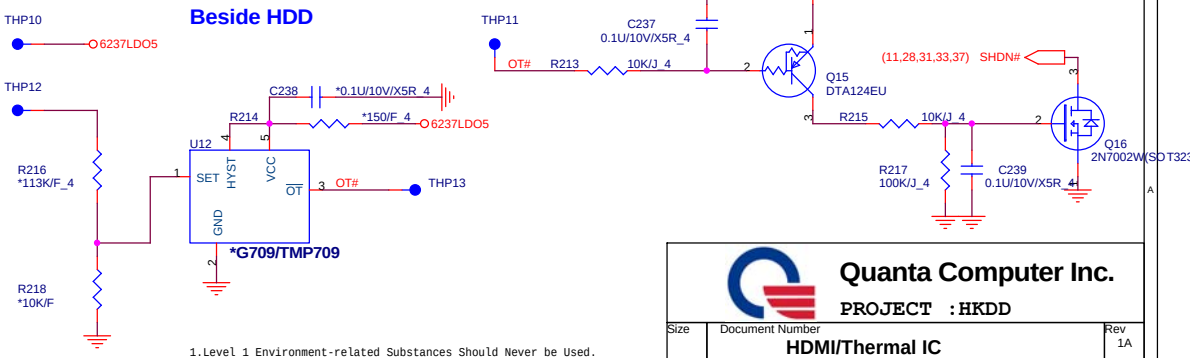
95	18.5K
100	15K
107	10.3K
110	8.2K

DIS SKU

Location of IC	Temp	R-Set	Parts in BOM	Max	Min
Near CPU sensor temp	72	R212=35.35K	35.7K	72.1	71.1
Near GFX sensor temp	76	R210=40.72K	32.4K	76.4	75.4
Near AUDIO sensor temp	62	R211=43.05K	43K	62	61

UMA SKU

Location of IC	Temp	R-Set	Parts in BOM	Max	Min
Near CPU sensor temp	81	R212=33.09K	33K	82.3	81.4
Near AUDIO sensor temp	58	R211=43.05K	43K	62	61



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PROJECT : HKDD

Size	Document Number	Rev
	HDMI/Thermal IC	1A
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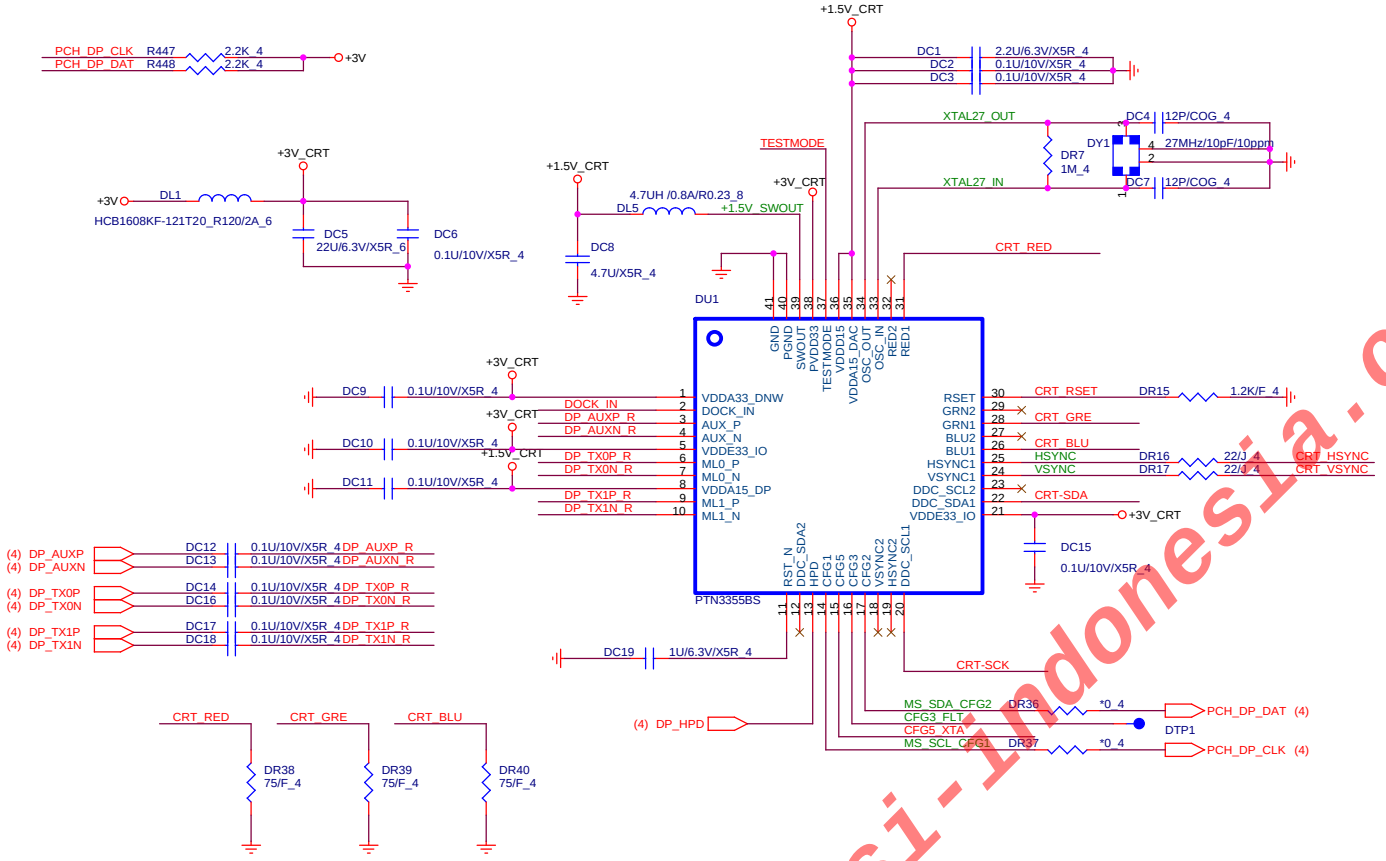
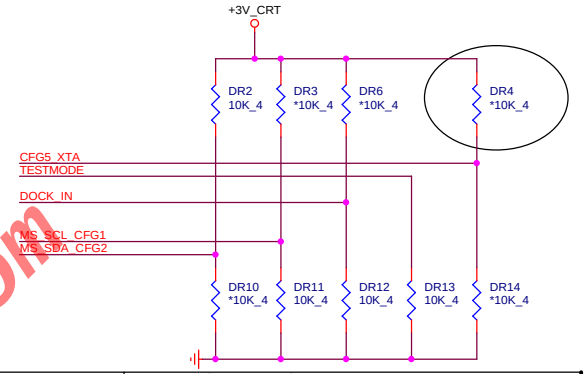


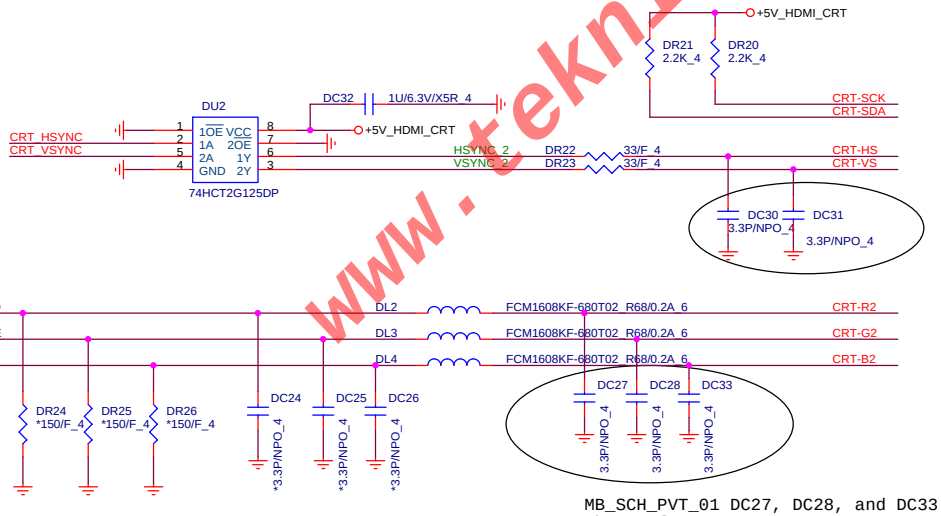


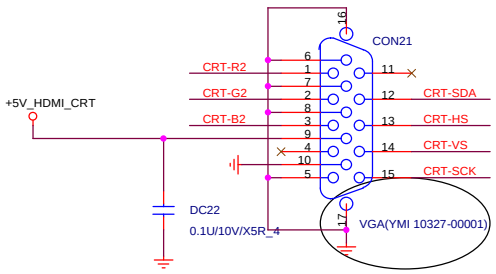
CFG5_XTA	XTAL is used, High=33MHZ, Low=25MHZ, NC=27MHZ
TESTMODE	I2C address, Stuff=C0H, NC=40H
DOCK_IN	High=Channel 2, Low=Channel 1
MS_SCL_CFG1	General purpose configuration pin
MS_SDA_CFG2	General purpose configuration pin
CFG3_FLT	Open: not used

Table 8. CFG1_SCL/CFG2_SDA pin definitions

Pin value	System behavior
00	Compliant HPD behavior
01	Most interoperable (non-compliant) HPD behavior
10	Most interoperable (non-compliant) HPD behavior
11	(Default) Compliant behavior (but configurable via I²C-bus)

CRT





MB_SCH_PVT_01 DC27, DC28, and DC33 change from 15p to 3.3p

Quanta Computer Inc.
PROJECT :HKDD

Size	Document Number	Rev
	DP2VGA	1A
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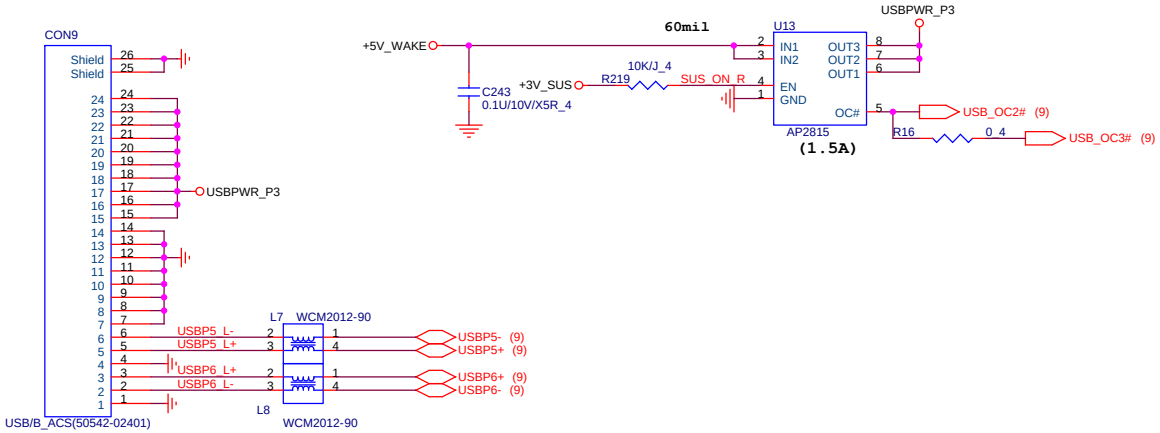
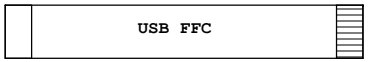
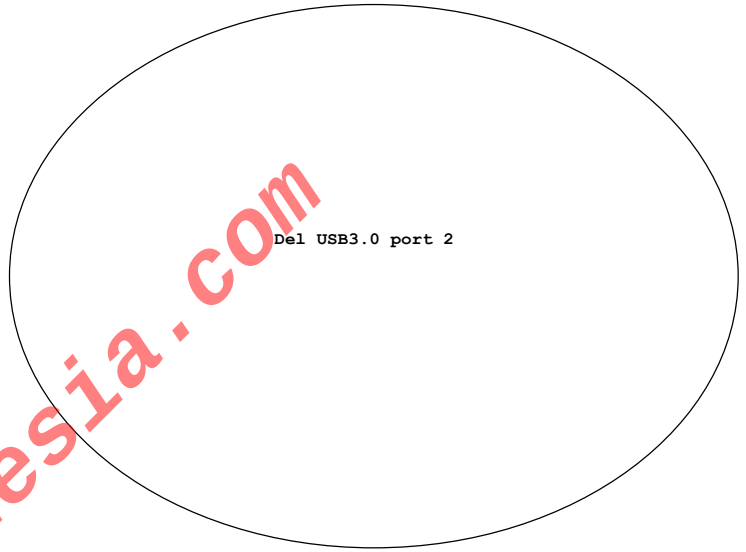
MB to USB board

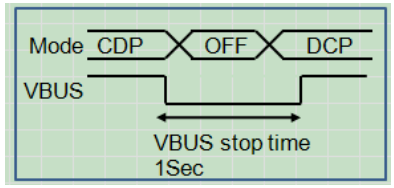




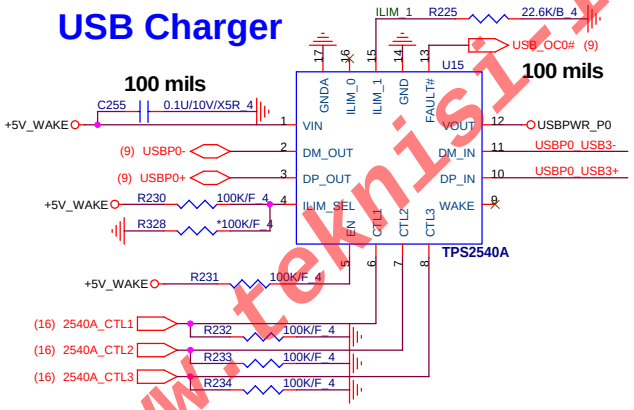


	TPS2540A		TPS2543	
ILIM_SEL	Pin15	Pin16	Pin15	Pin16
High	V			V
Low		V	V	

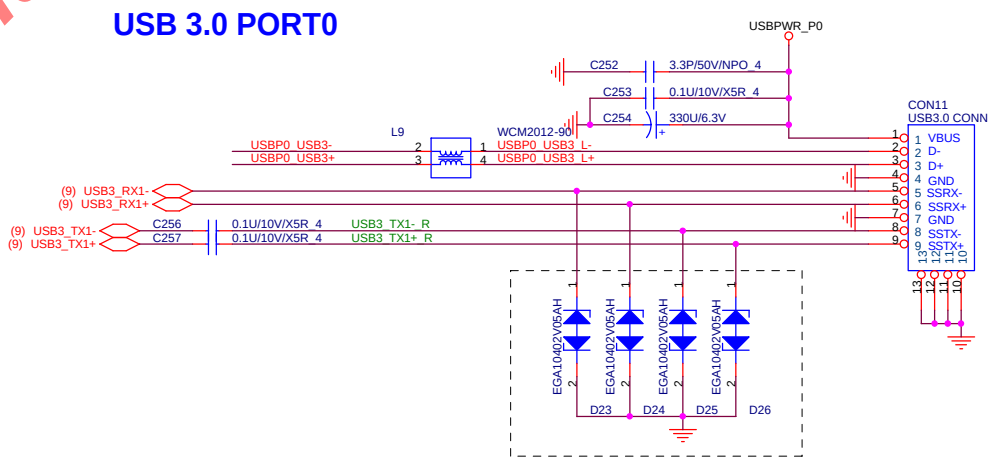
SDP : Standard Downstream Port
CDP : Charging downstream port
DCP : Dedicated Charging Port
Enable/Disable : setting by BIOS



USB Charger



USB 3.0 PORT0



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)

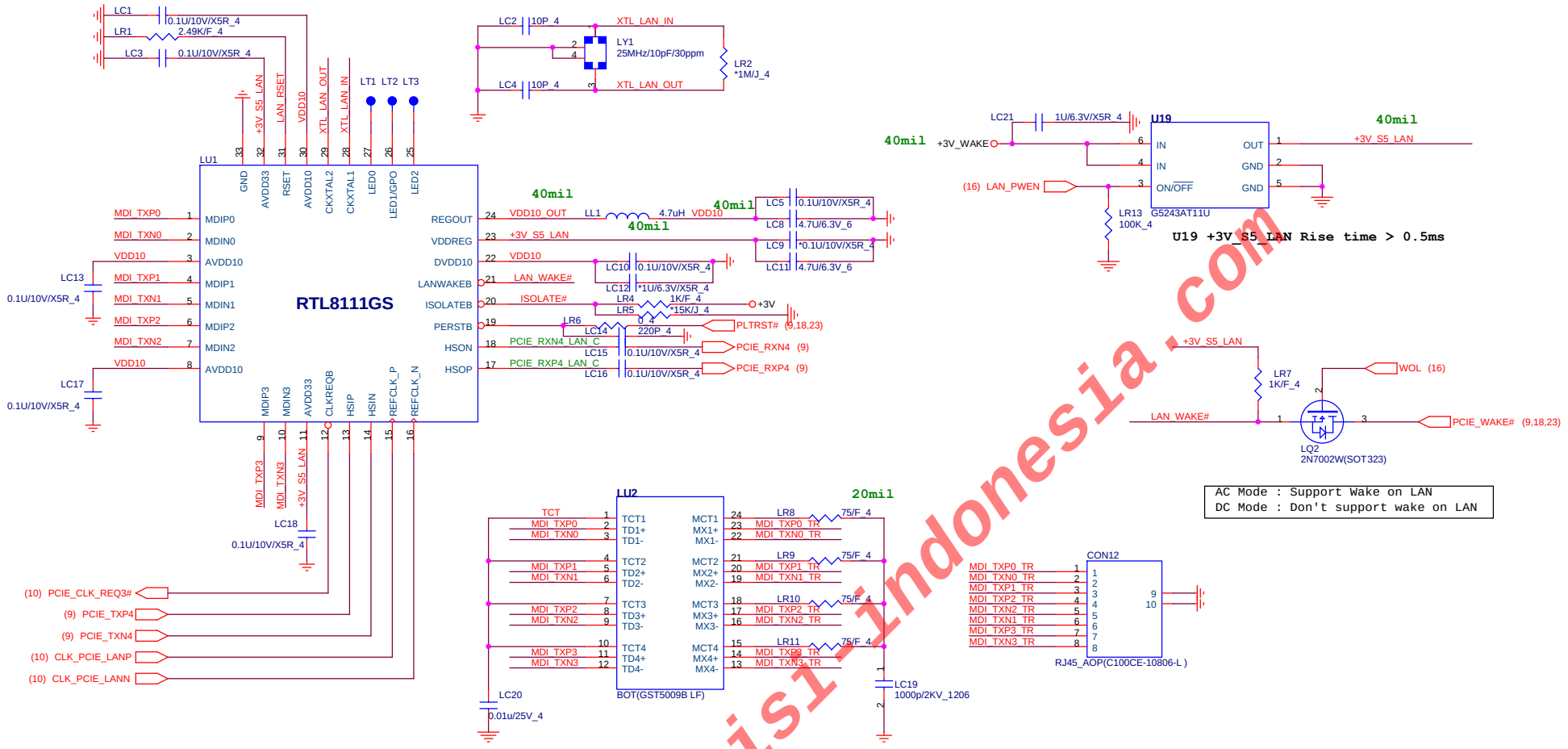
System State	USB Battery Charging Setting			
	Disable	C(1 2 3)	Enable	C(1 2 3)
S0	SDP	(X 1 0)	CDP	(1 1 1)
S3	SDP	(X 1 0)	DCP BC	(1 0 0)
DS3	Charger OFF	(0 0 0)	DCP BC	(1 0 0)
S4	Charger OFF	(0 0 0)	DCP BC	(1 0 0)
S5	Charger OFF	(0 0 0)	DCP BC	(1 0 0)

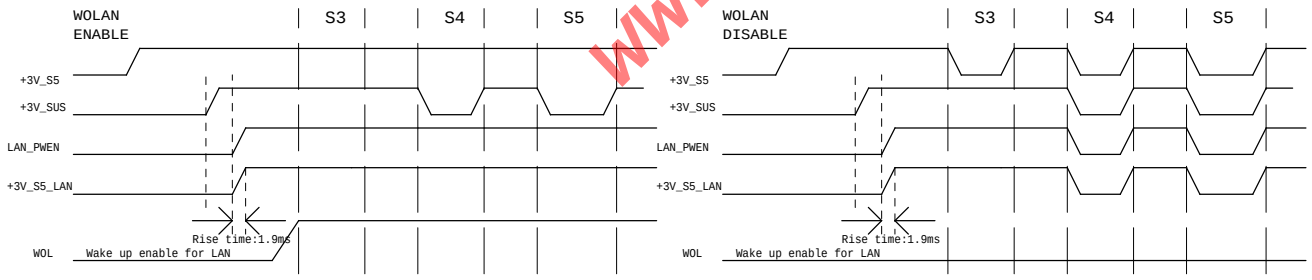
ILIM_SEL	(I LIMIT(A)= 48000/R)	
HI	I_LIM_1	
LO	I_LIM_0	48000/22.6K=2.123A

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 : HKDD

Size	Document Number	Rev
	USB/USB Charger	1A
Date: Thursday, November 13, 2014	Sheet 21 of 41	





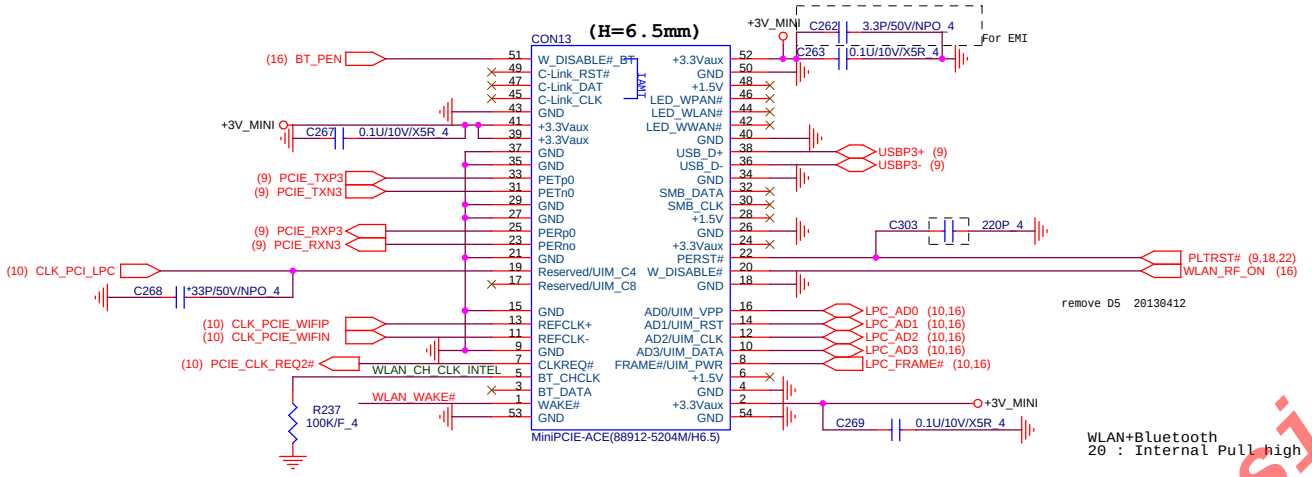
BIOS Setup	WOLAN DISABLE		WOLAN ENABLE	
	LAN_PWEN	WOL	LAN_PWEN	WOL
S3	H	H	H	H
S4	L	L	H	H
S5	L	L	H	H

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

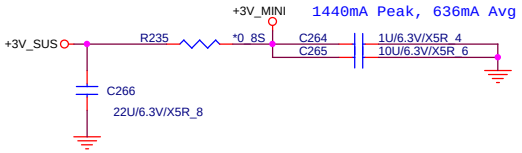
Quanta Computer Inc.
PROJECT : HKDD

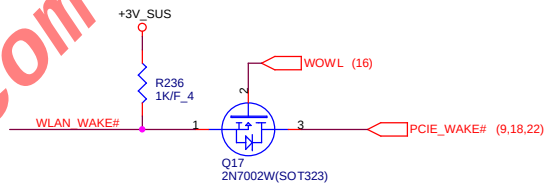
Size	Document Number	Rev
	Giga LAN RTL8111GS	1A
Date: Thursday, November 13, 2014	Sheet 22 of 41	

WLAN/WIMAX/WIDI



remove D5 20130412



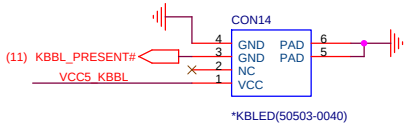


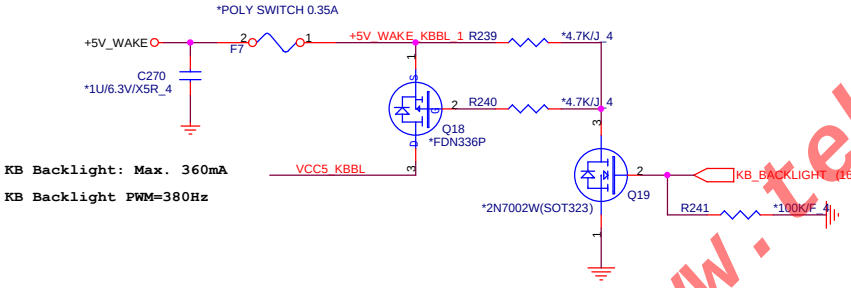
WLAN+Bluetooth
20 : Internal Pull high 25K ~ 58K

AC Mode : Support Wake on WLAN
DC Mode : Don't support wake on WLAN

MB_SCH_PVT_02: P23- Add F8 for TPM D/B

KB BACKLIGHT



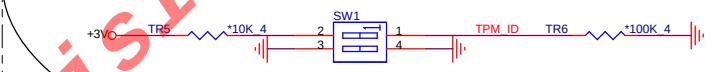


KB Backlight: Max. 360mA

KB Backlight PWM=380Hz

TPM_ID	TPM
0	TPM 1.2
1	TPM 2.0

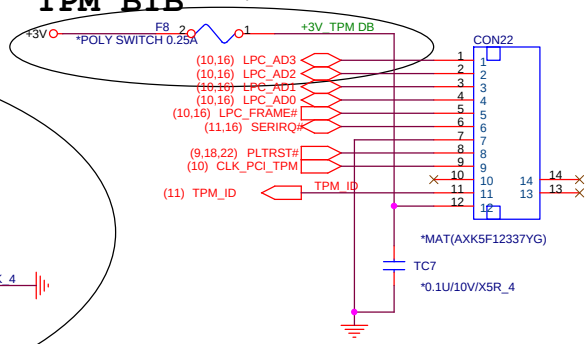
TPM ID



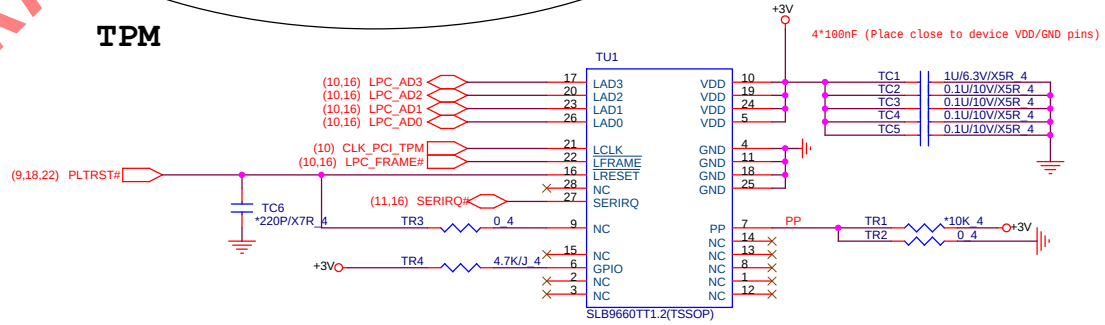
*DIP(DHN-02-T-Q-T/R)

MB_SCH_PVT_04: P23- Add SW1 for TPM _ID select

TPM BTB



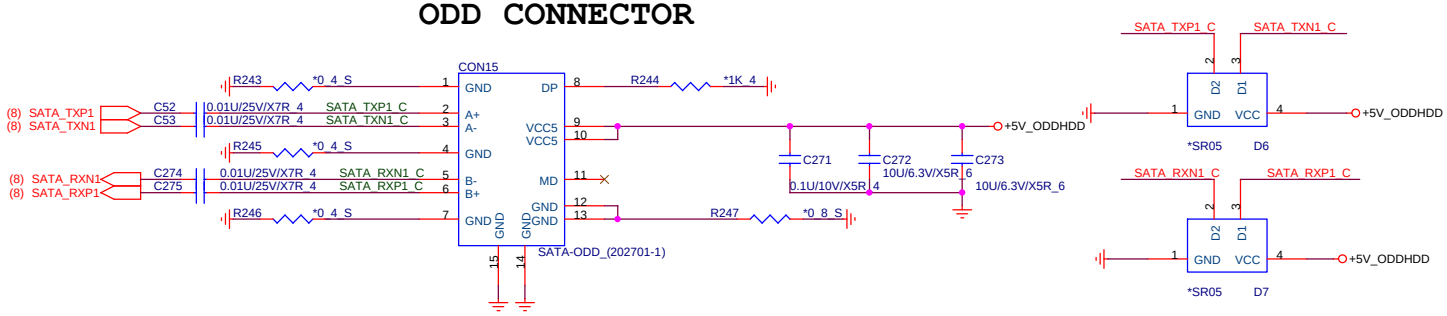
TPM



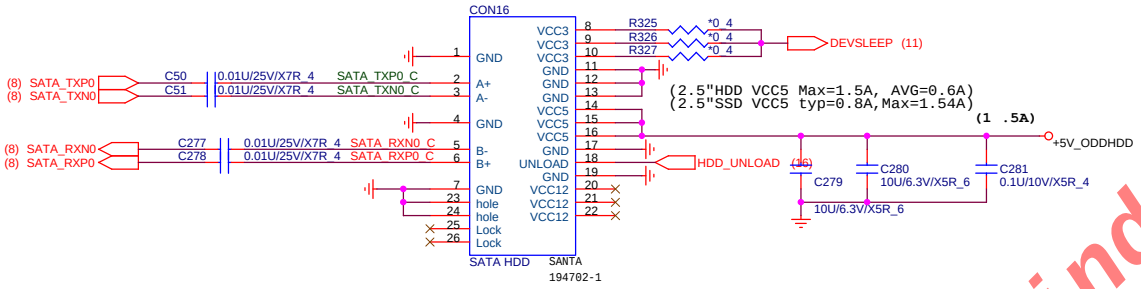
Quanta Computer Inc.
PROJECT : HKDD

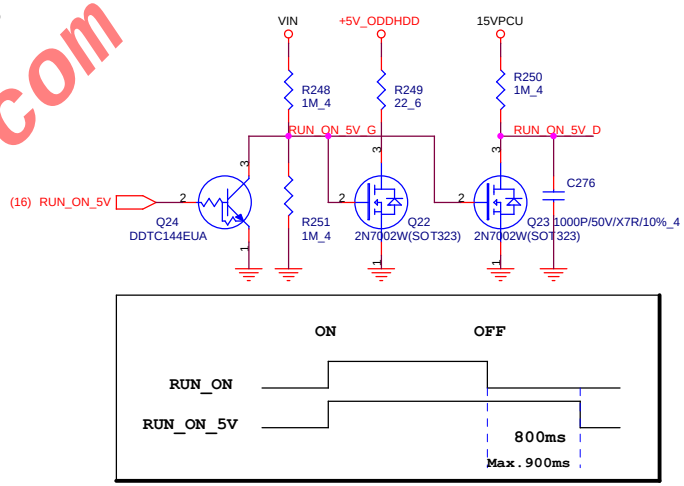
Size	Document Number	Rev
	WLAN/KB BL/TPM	1A
Date: Tuesday, December 16, 2014	Sheet 23 of 41	

ODD CONNECTOR

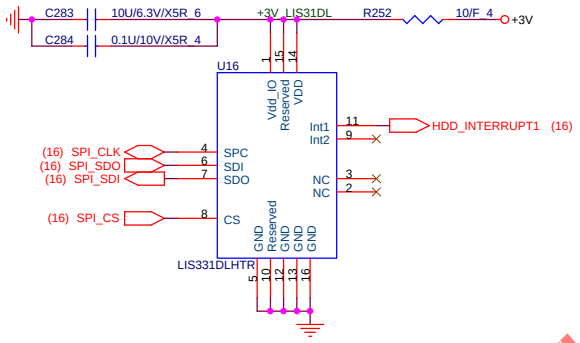


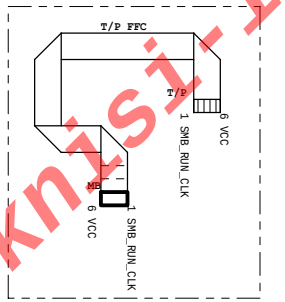
HDD CONNECTOR



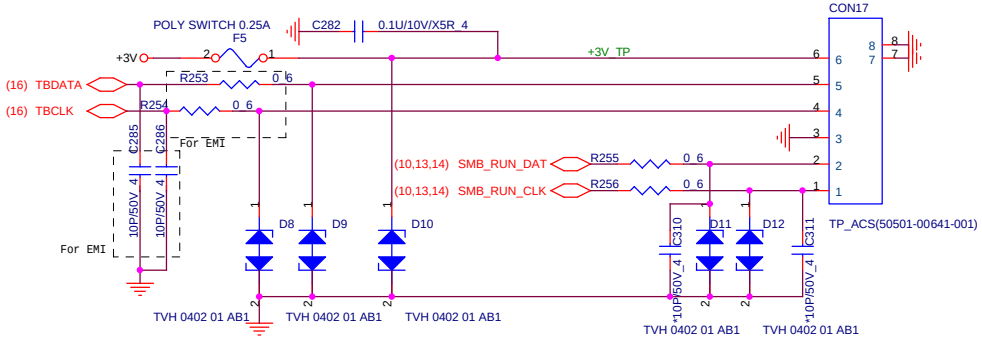


HDD PROTECT SPI INTERFACE

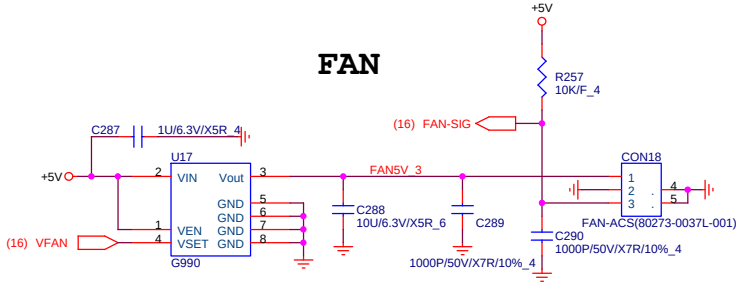




T/P Board to T/P

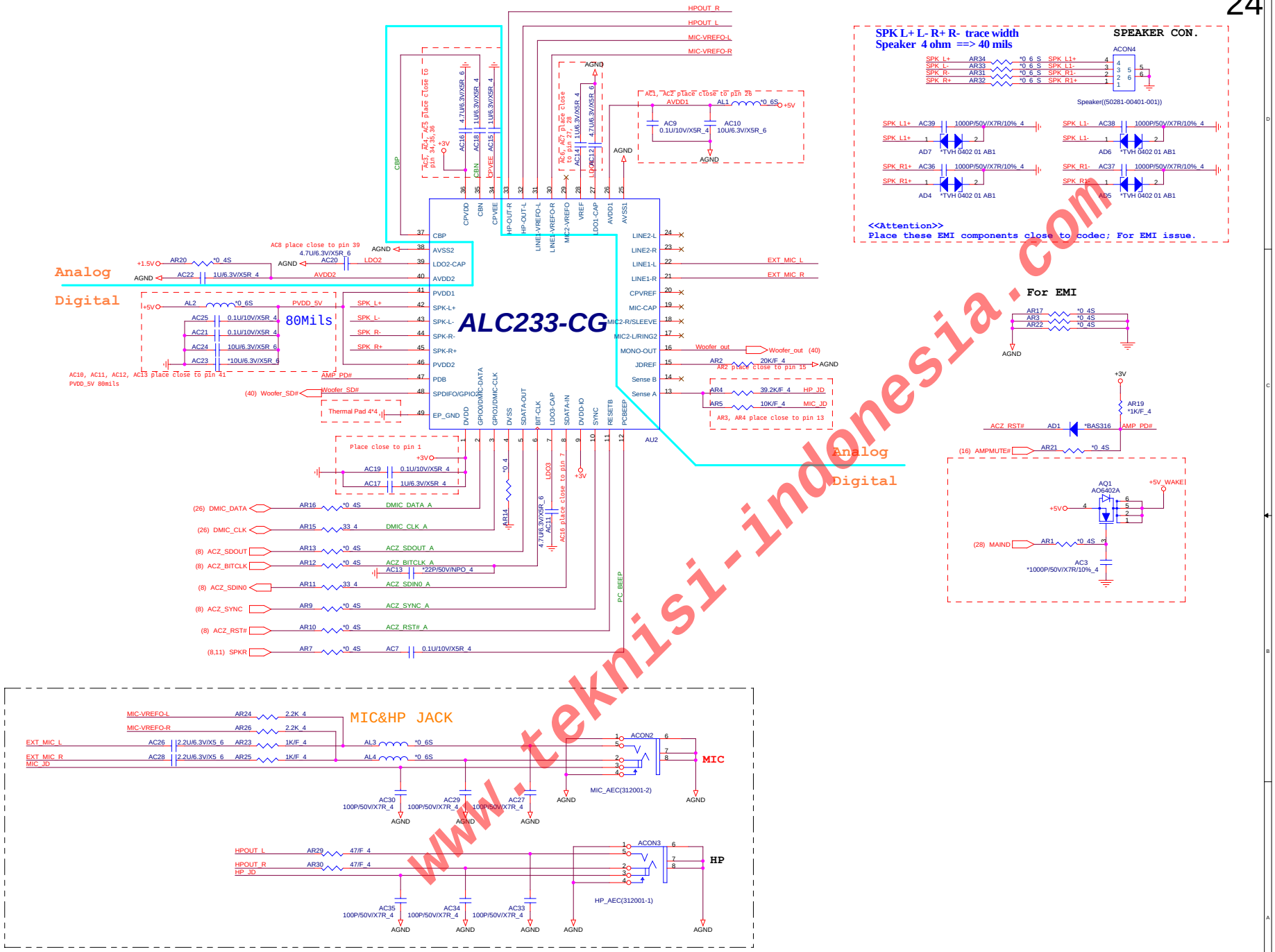


FAN



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 : HKDD		
Size	Document Number	Rev
	HDD/ODD/TP/FAN	1A
Date: Thursday, November 13, 2014	Sheet 24 of 41	



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Quanta Computer Inc.
PROJECT : HKDD

Size	Document Number	Rev
	Audio Codec ALC233-CG	1A
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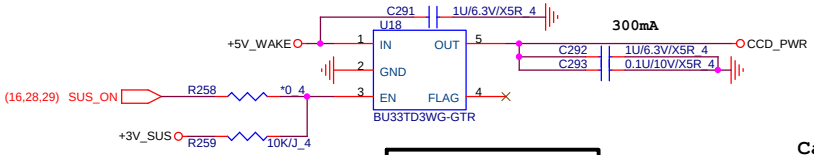
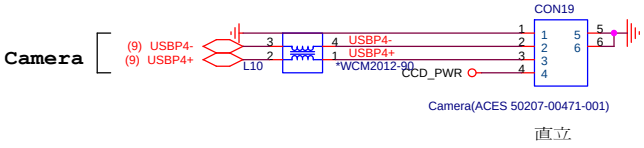
Camera

USB Camera Power

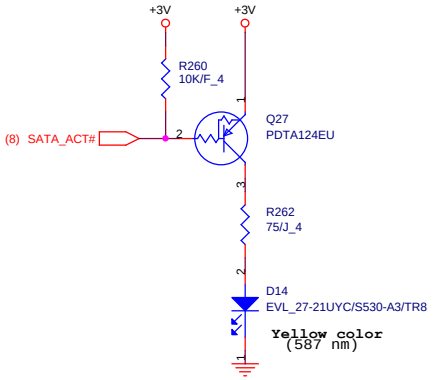


Camera HD specification
Voltage: Max. 3.6V
Current : Max. 200mA
OCP: 200mA ~ 300mA

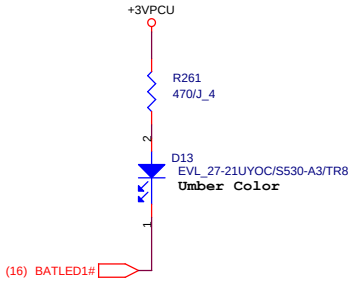
Camera



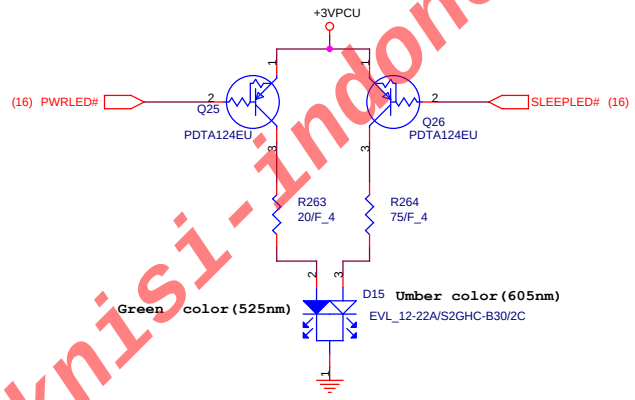
SATA LED



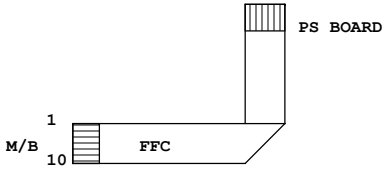
BATTERY LED



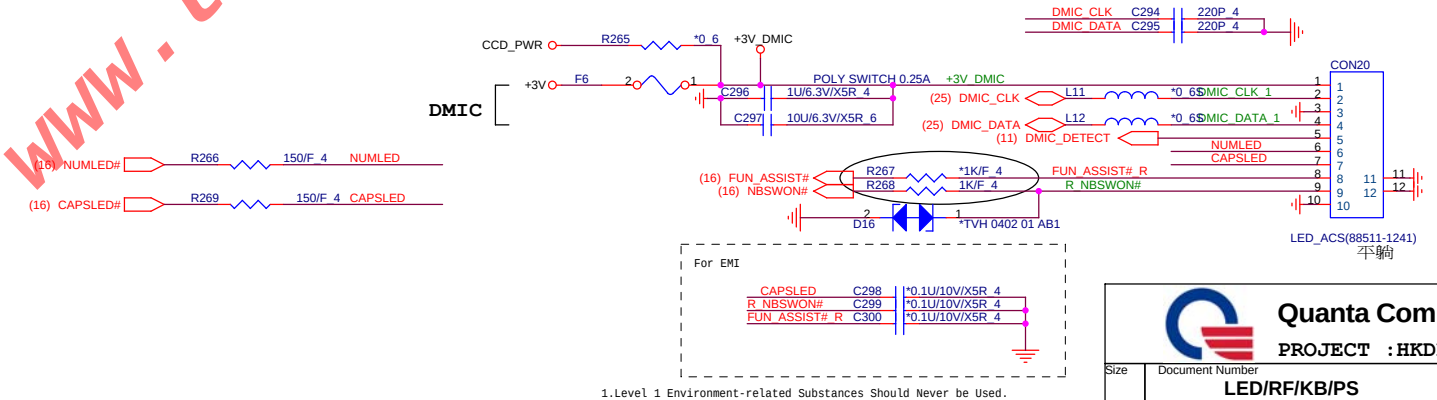
Power/Sleep LED



PS BOARD



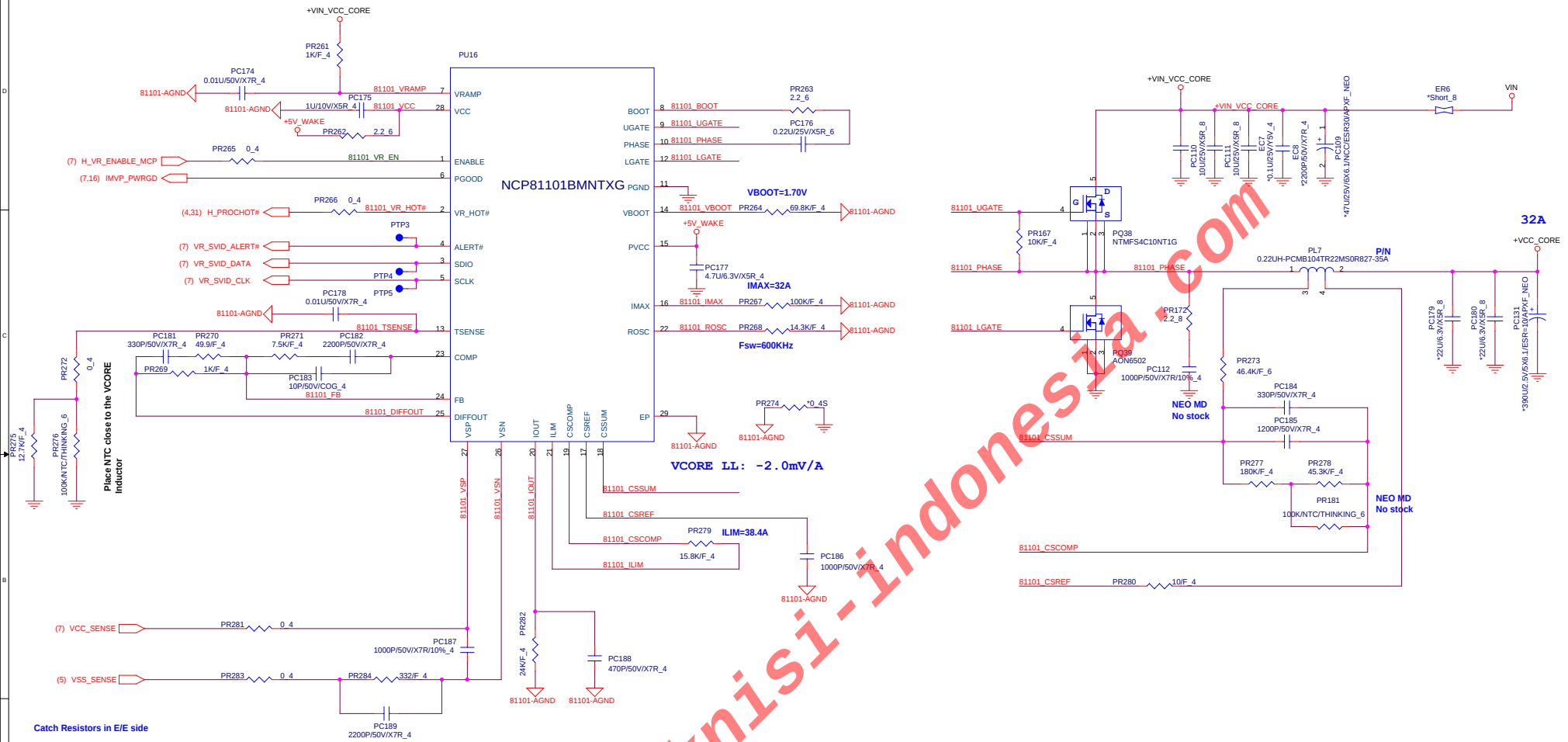
Power SW Board Connector



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 : HKDD

Size	Document Number	Rev
	LED/RF/KB/PS	1A
Date: Thursday, November 13, 2014	Sheet 26 of 41	



1.Level 1 Environment-related Substances Should Never be Used.
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Quanta Computer Inc.		
PROJECT : HKDD		
Size	Document Number: +VCC_CORE (NCP81101)	Rev: 1A
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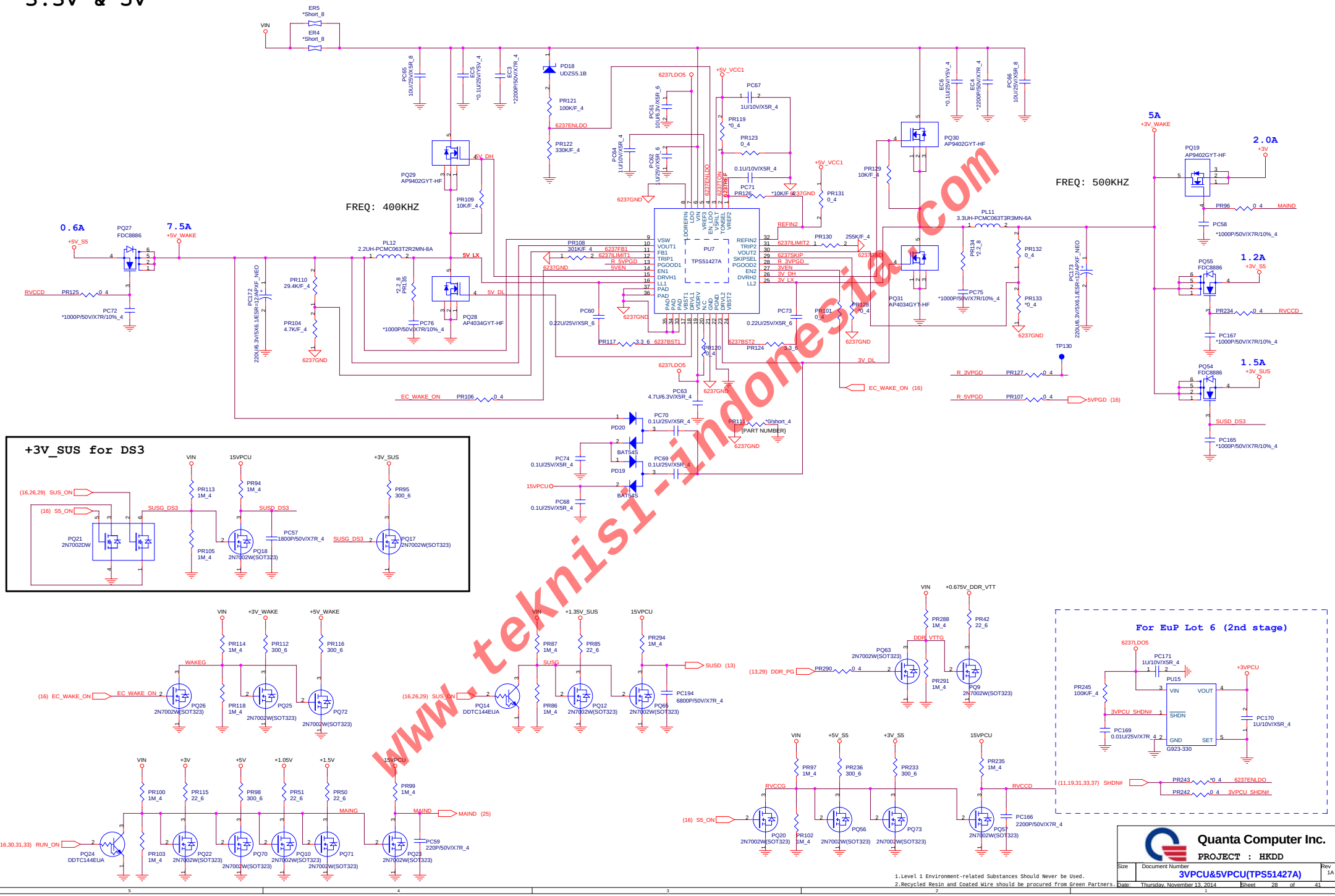
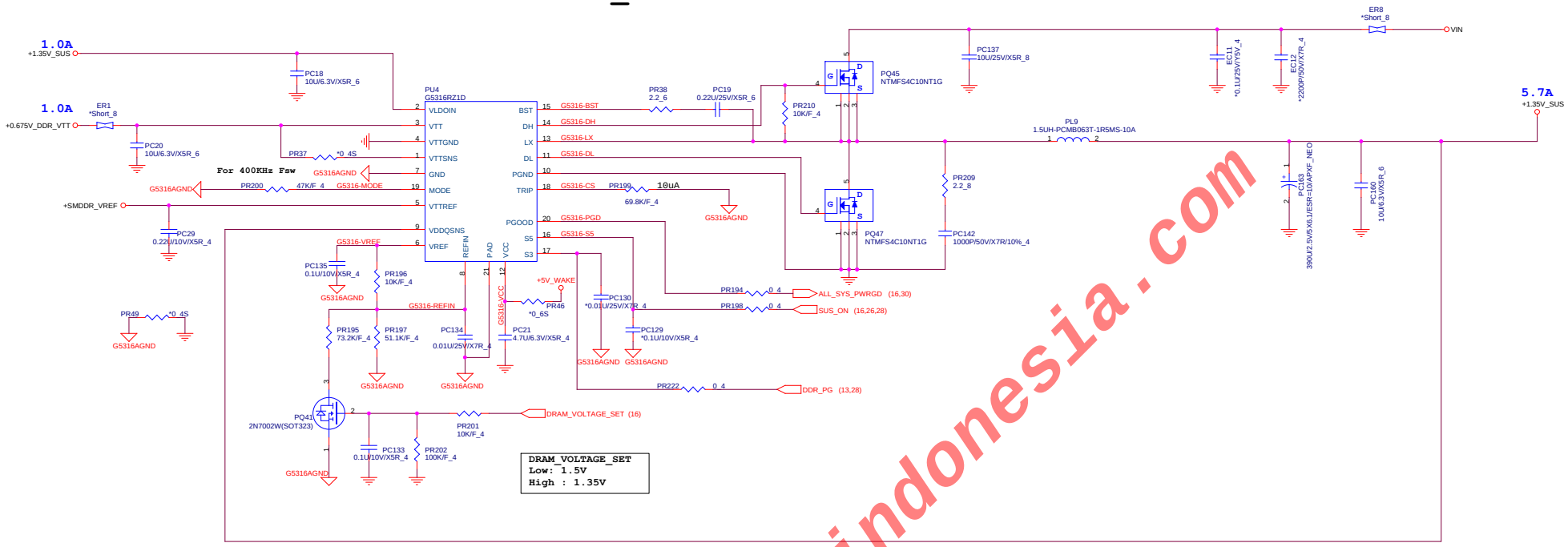
3.3V & 5V



1.5VSUS & VTT_MEM



MODE	Resistor on Mode	Fsw	Discharge Mode
3	200Kohm	400KHz	Tracking discharge
2	100Kohm	300KHz	
1	68Kohm	300KHz	**Non-tracking discharge**
0	**47Kohm**	**400KHz**	

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

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Quanta Computer Inc.
PROJECT : HKDD

Size	Document Number	Rev
	1.5VSUS/VTT_MEM	1A

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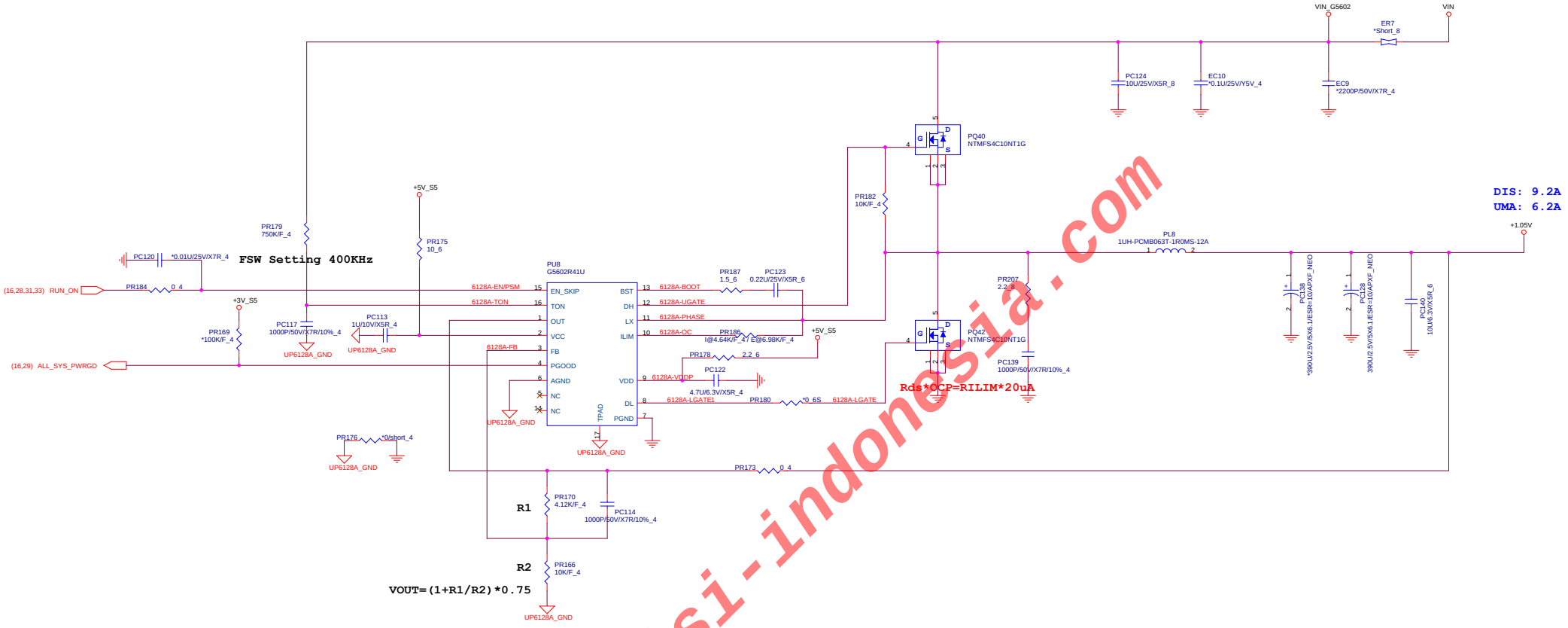

1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.

Quanta Computer Inc.
PROJECT : HKDD

Size	Document Number	Rev
	+1.05V (UP1522RQDD)	1A

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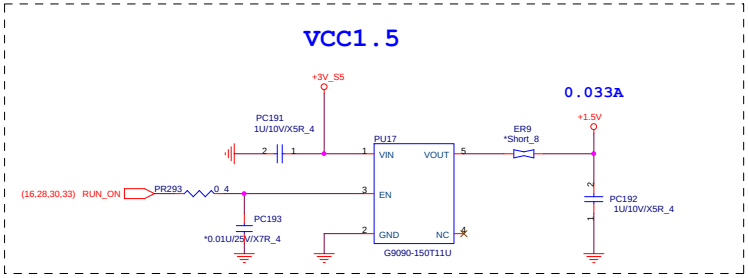
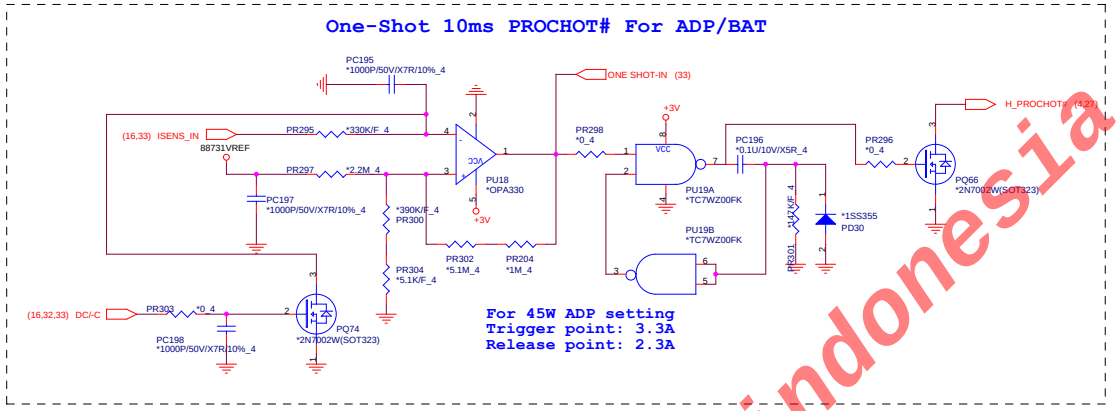
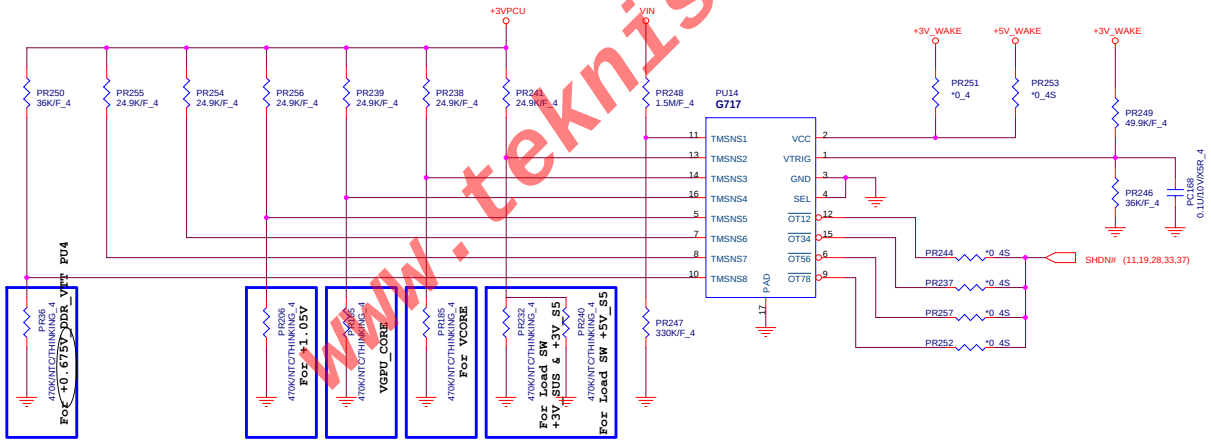
VCC1.5



One-Shot 10ms PROCHOT# For ADP/BAT



Thermal Protection and Battery UVP for VEDS



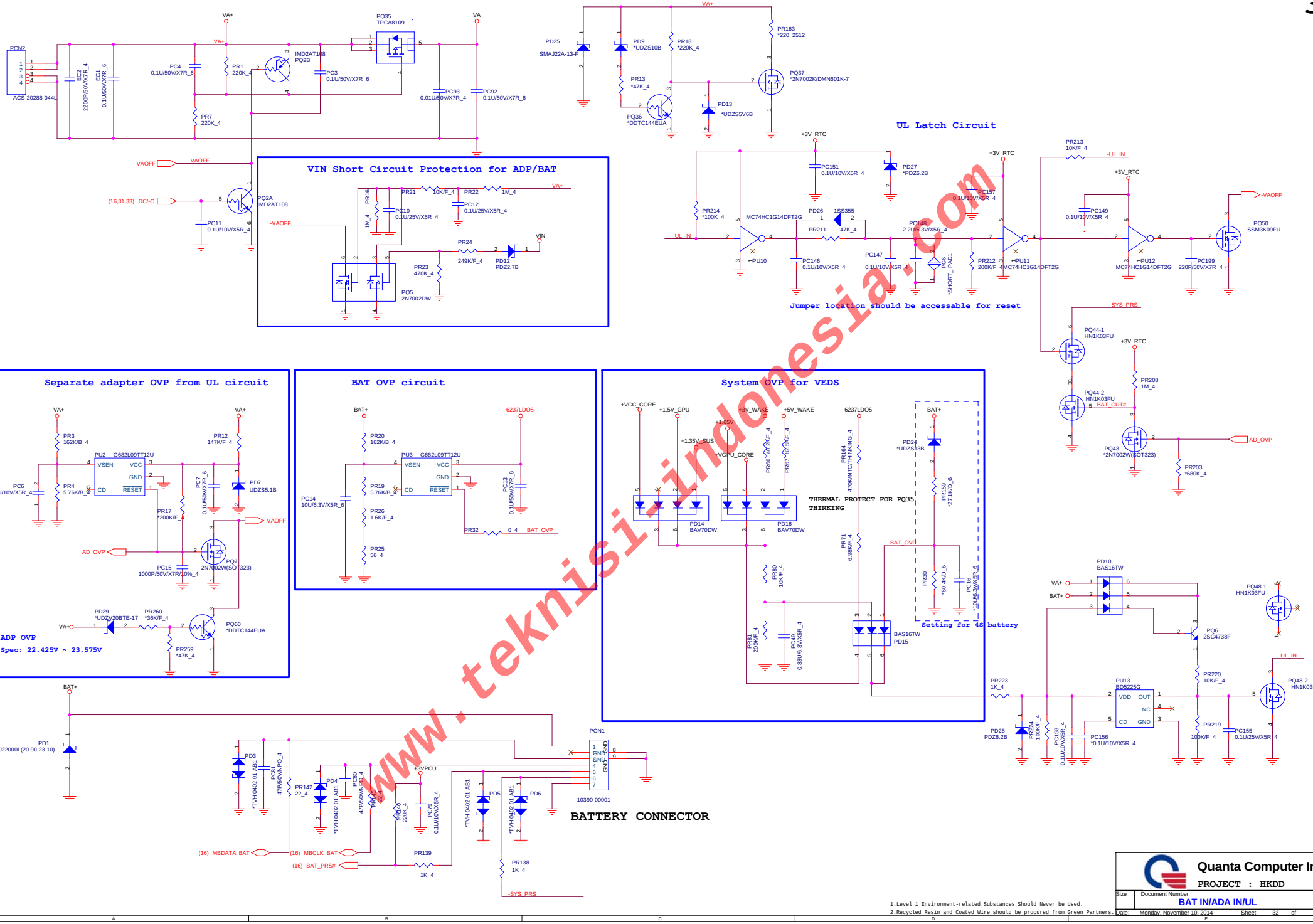
Quanta Computer Inc.

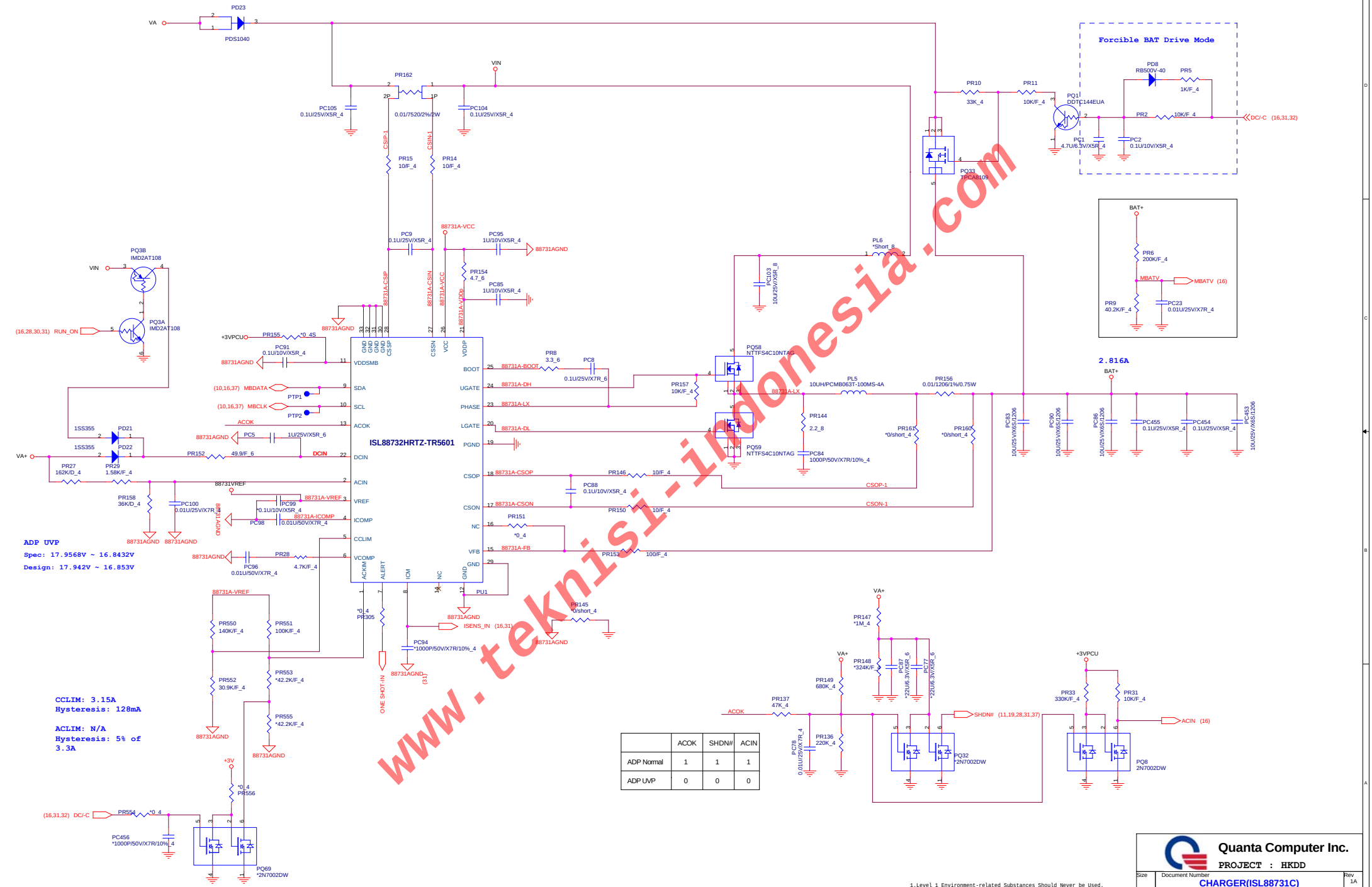
PROJECT : HKDD

Size	Document Number	Rev
	VCC1.8	1A

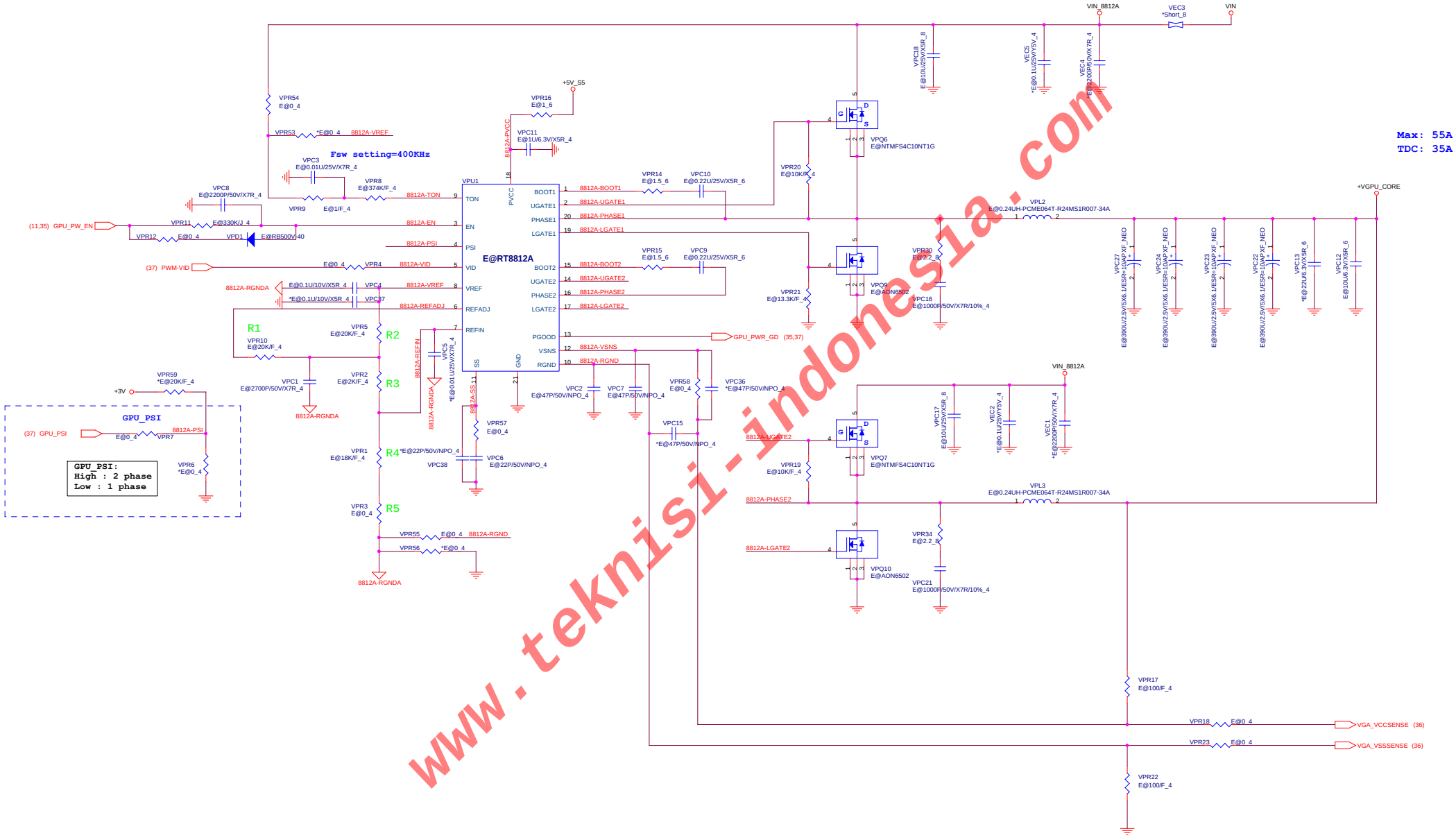
Date: Thursday, November 13, 2014 Sheet 31 of 41

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





VGA-CORE



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

Size	Document Number	Rev
	VGA_CORE (RT8812A)	1A

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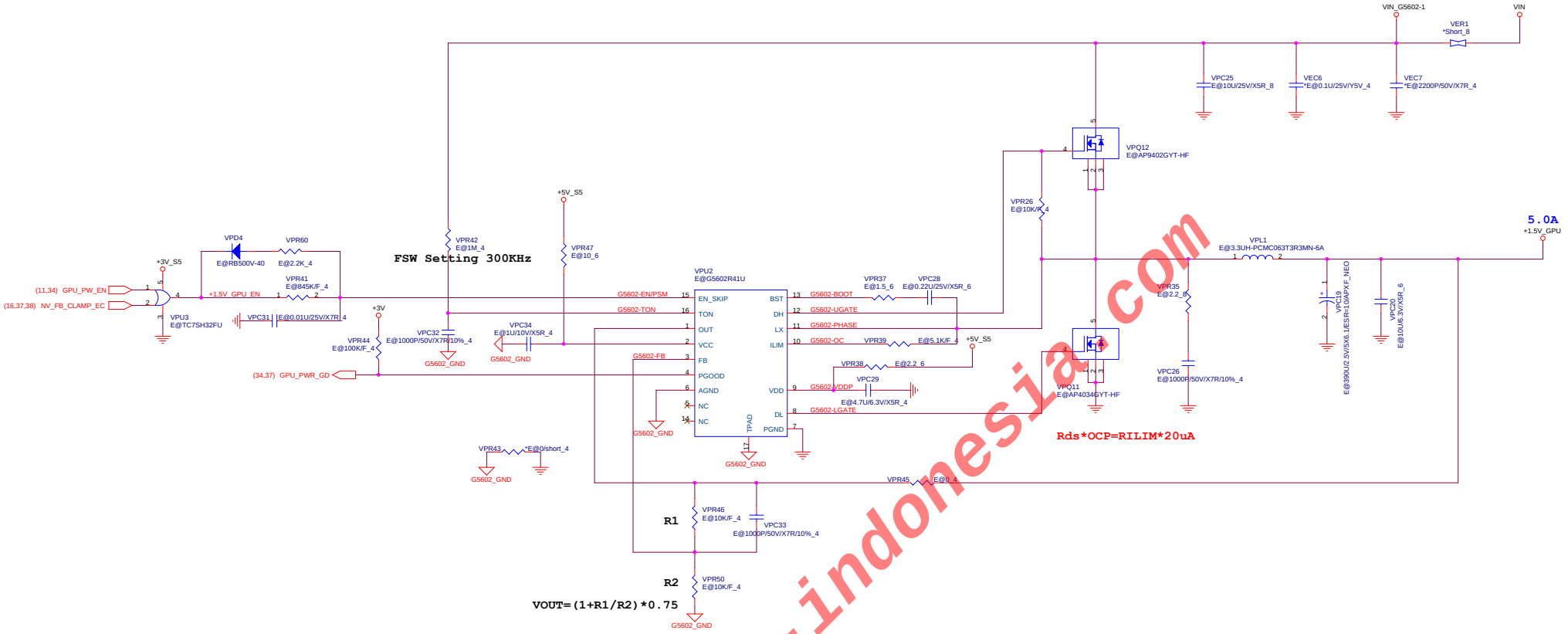

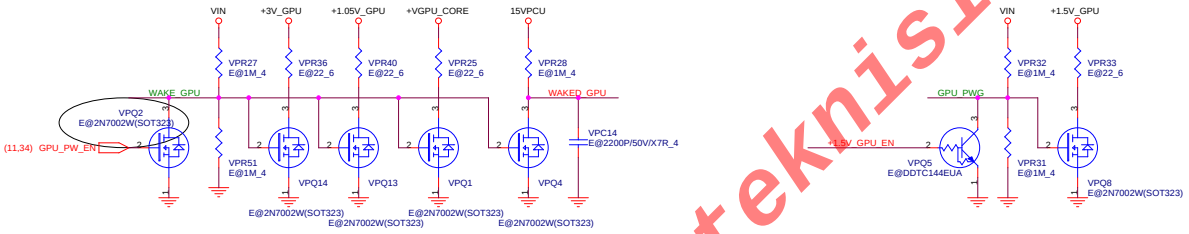

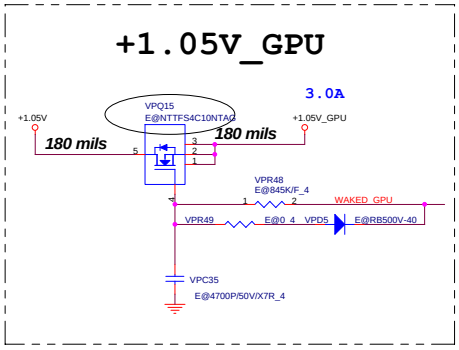

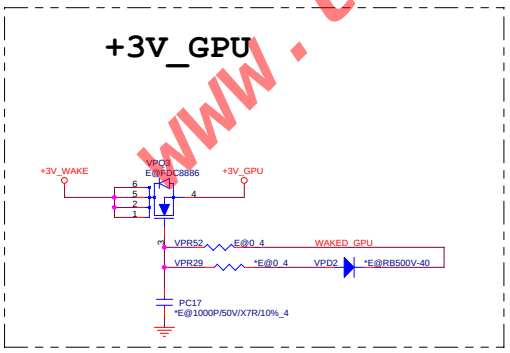

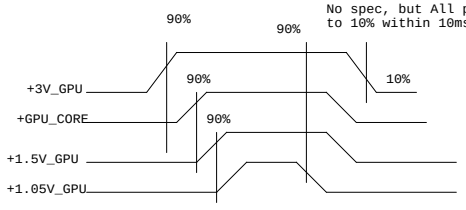

Quanta Computer Inc.

PROJECT : HKDD

Size	Document Number	Rev
	1.8_GPU / 1.0_GPU	1A

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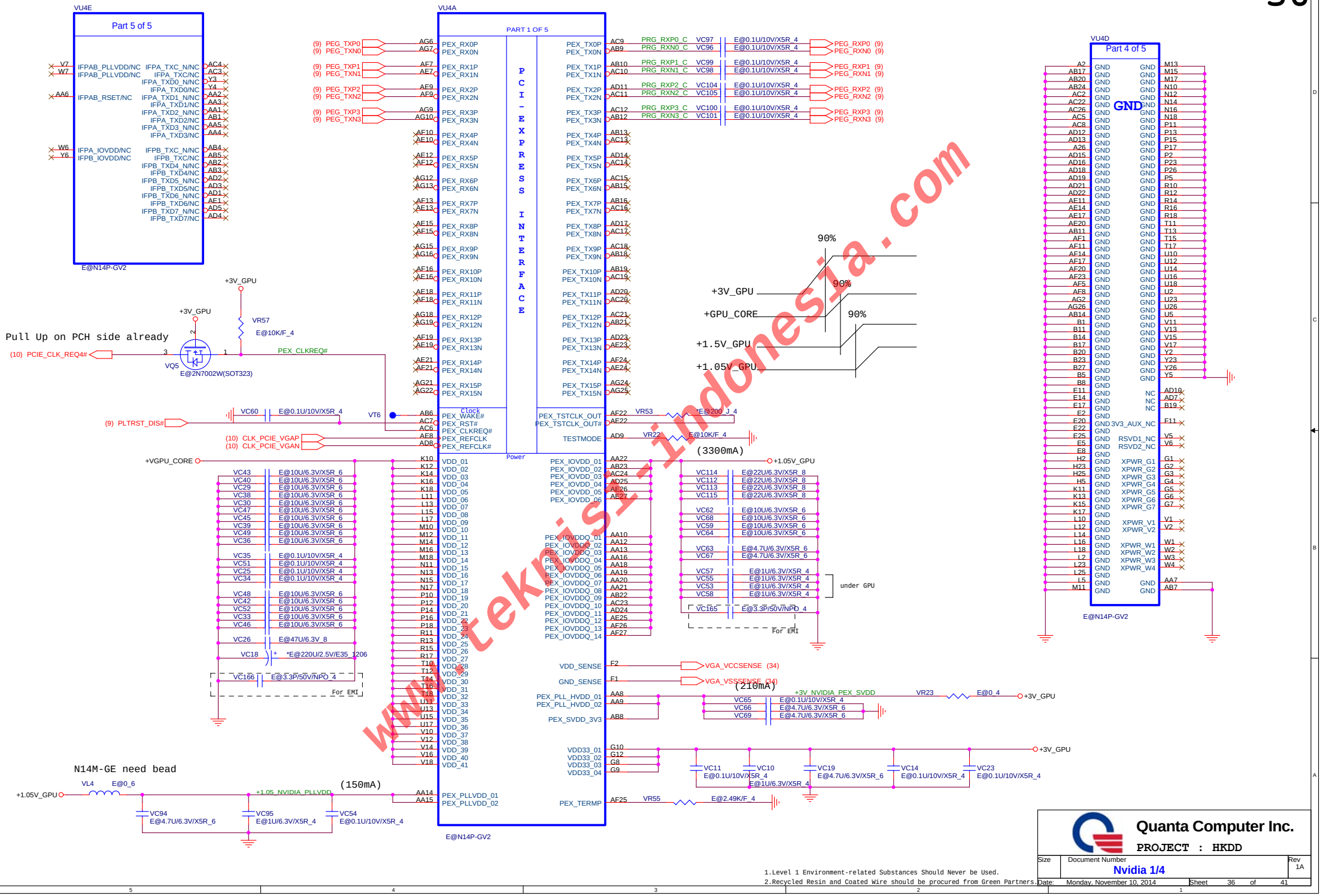
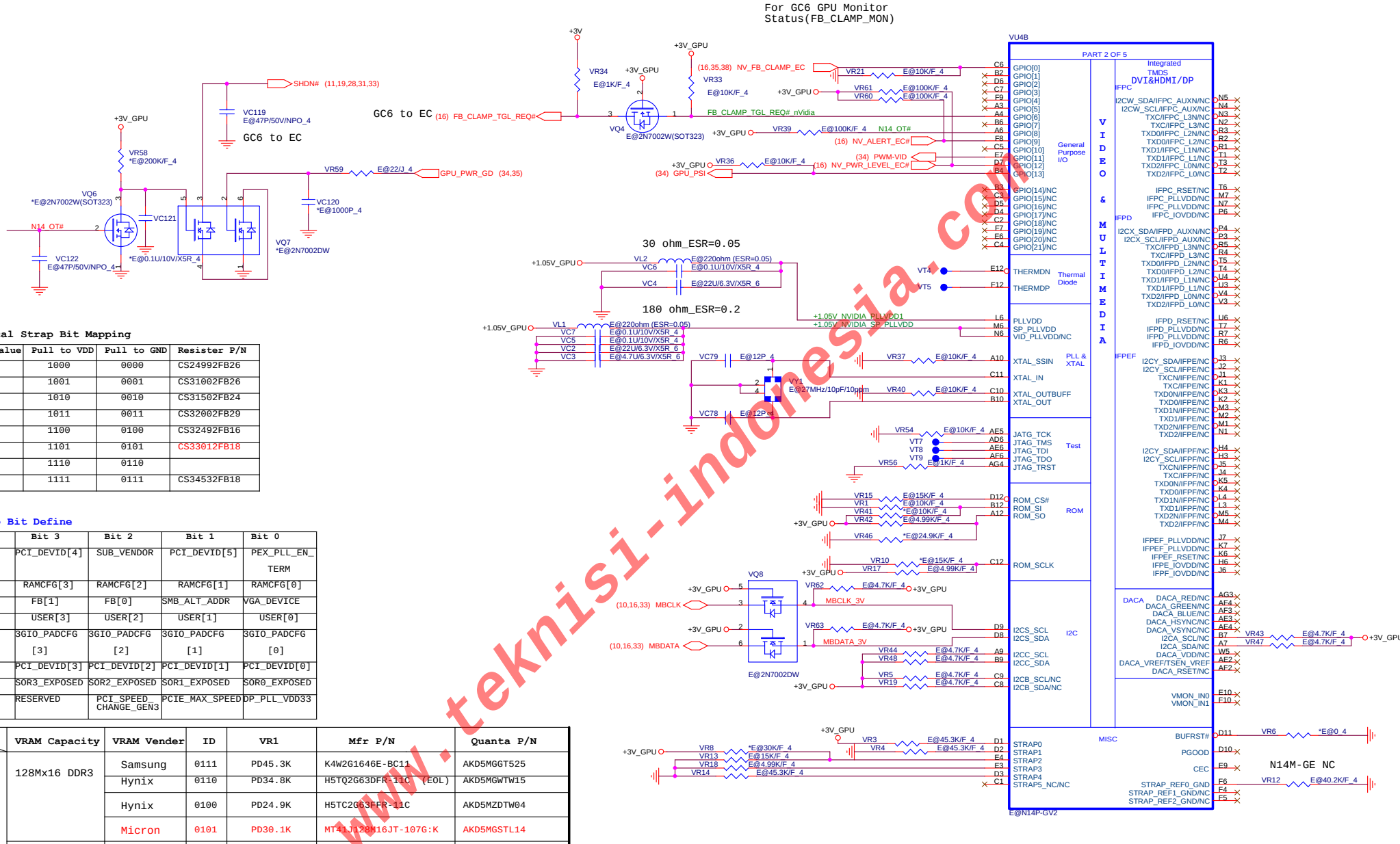
1.Level 1 Environment-related Substances Should Never be Used.
2.Recycled Resin and Coated Wire should be procured from Green Partners.





N14 Logical Strap Bit Mapping

Resister Value	Pull to VDD	Pull to GND	Resister P/N
4.99K	1000	0000	CS24992FB26
10K	1001	0001	CS31002FB26
15K	1010	0010	CS31502FB24
20K	1011	0011	CS32002FB29
24.9K	1100	0100	CS32492FB16
30.1K	1101	0101	CS33012FB18
34.8K	1110	0110	
45.3K	1111	0111	CS34532FB18

N14 Strap Bit Define

Straps	Bit 3	Bit 2	Bit 1	Bit 0
ROM_SCLK	PCI_DEVID[4]	SUB_VENDOR	PCI_DEVID[5]	PEX_PLL_EN_TERM
ROM_SI	RAMCFG[3]	RAMCFG[2]	RAMCFG[1]	RAMCFG[0]
ROM_SO	FB[1]	FB[0]	SMB_ALT_ADDR	VGA_DEVICE
STRAP0	USER[3]	USER[2]	USER[1]	USER[0]
STRAP1	3GIO_PADCFG [3]	3GIO_PADCFG [2]	3GIO_PADCFG [1]	3GIO_PADCFG [0]
STRAP2	PCI_DEVID[3]	PCI_DEVID[2]	PCI_DEVID[1]	PCI_DEVID[0]
STRAP3	SOR3_EXPOSED	SOR2_EXPOSED	SOR1_EXPOSED	SOR0_EXPOSED
STRAP4	RESERVED	PCI_SPEED_CHANGE_GEN3	PCIE_MAX_SPEED	DP_PLL_VDD33

	VRAM Capacity	VRAM Vender	ID	VR1	Mfr P/N	Quanta P/N
N14M-LP N14P-GV2	128Mx16 DDR3	Samsung	0111	PD45.3K	K4W2G1646E-BC11	AKD5MGGT525
		Hynix	0110	PD34.8K	H5TQ2G63DFR-11C (EOL)	AKD5MGWTW15
		Hynix	0100	PD24.9K	H5TC2G63FFR-11C	AKD5MZDTW04
		Micron	0101	PD30.1K	MT41J128M16JT-107G:K	AKD5MGSTL14
	256Mx16 DDR3	Samsung	0011	PD20K	K4W4G1646B-HC11	AKD5MGWT525
		Hynix	0010	PD15K	H5TC4G63AFR-11C	AKD5PGWTW10
		Micron	0001	VR41 no mount VR1 PD10Kohm	MT41K256M16HA-107G:E	AKD5PGSTL07

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 : HKDD
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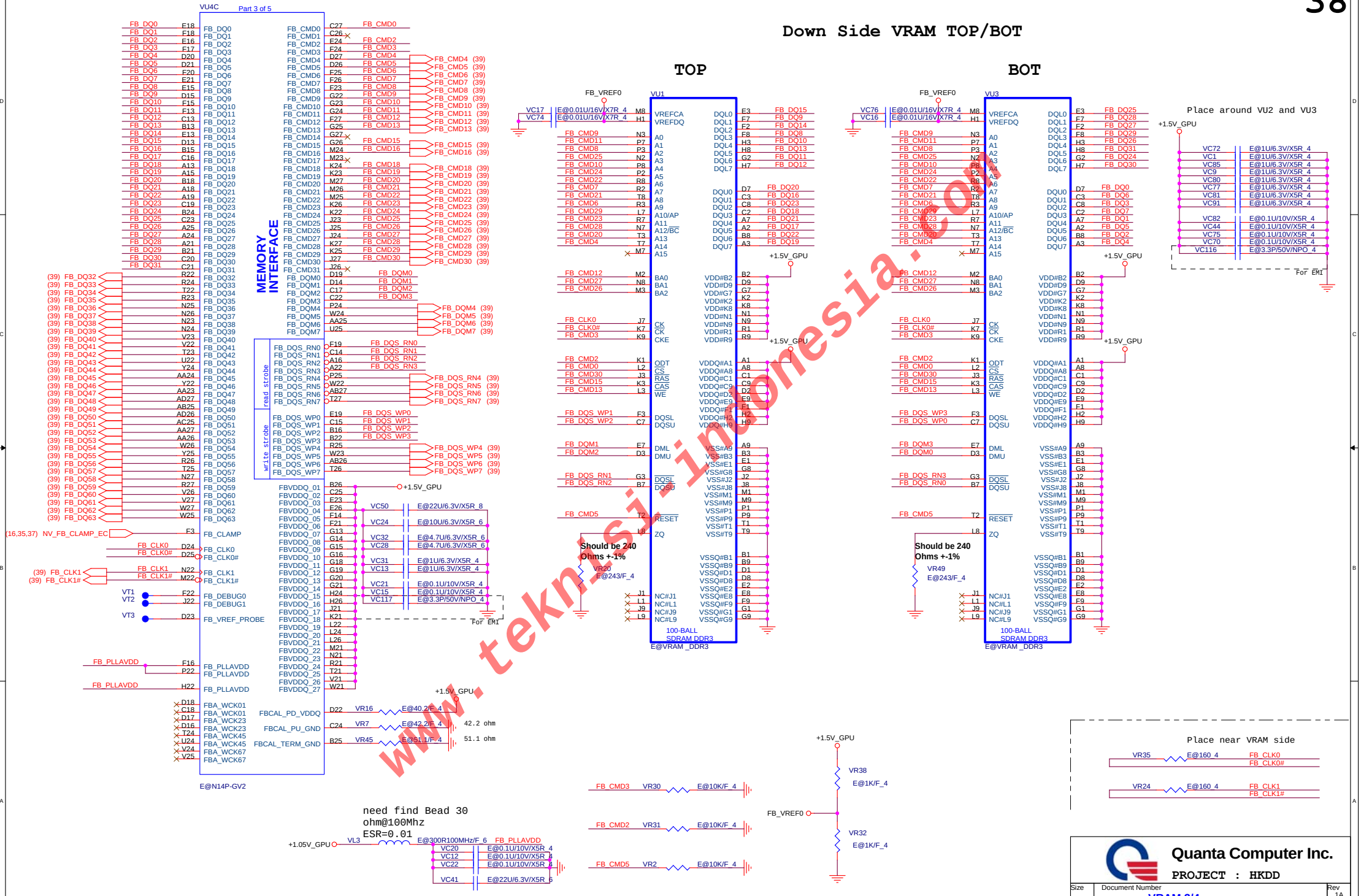
Down Side VRAM TOP/BOT

TOP

BOT



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Quanta Computer Inc.
PROJECT : HKDD

Size	Document Number	Rev
	VRAM 3/4	1A

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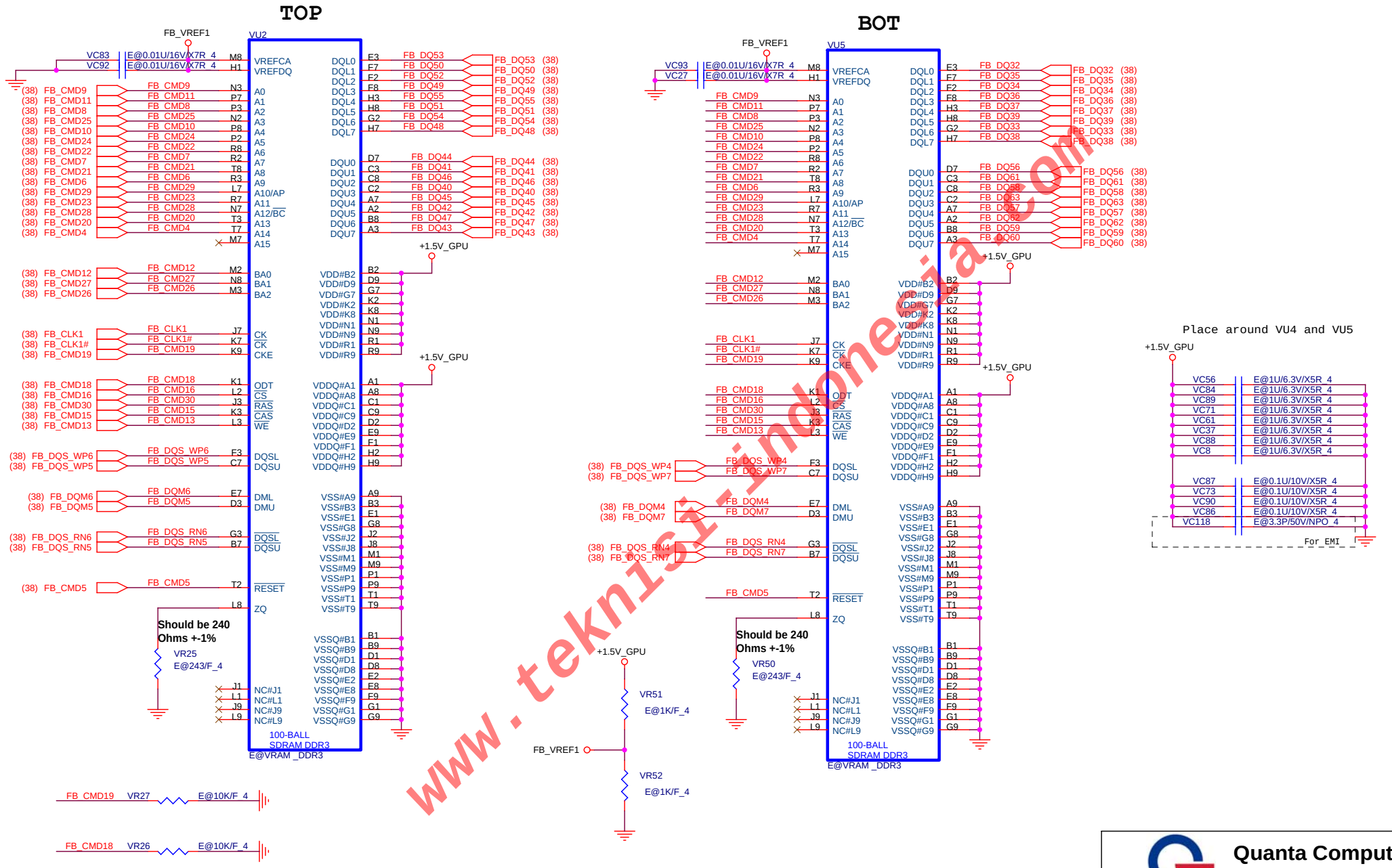
Up Side VRAM TOP/BOT



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 : HKDD

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	VRAM 4/4	1A
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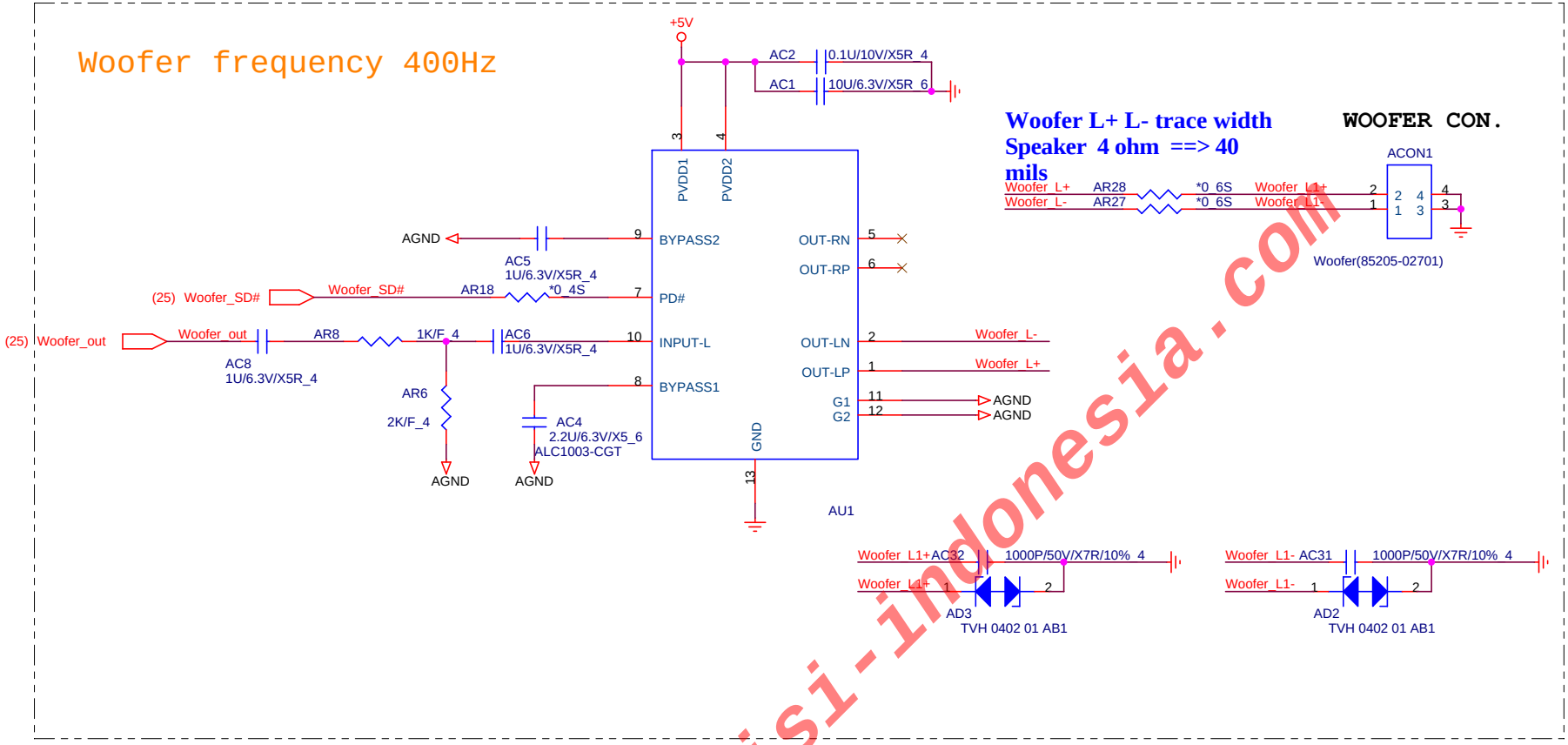

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PROJECT : HKDD

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	Audio Codec Woofer	1A
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USB PORT Architecture	
PORT 0	USB3.0
PORT 1	USN3.0
PORT 2	USN2.0
PORT 3	USB2.0
PORT 4	NFC
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	Card Reader
PORT 12	Touch Screen
PORT 13	N/A

PCIE BUS	
PORT 1	WLAN Port
PORT 2	CARD READER
PORT 3	GLAN(RTL8111G)
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
Nvidia	1001 1110	-	1001 1110	Graphice
LIS331DL	0011 101X	0011 1010	0011 1011	G Sensor

SM BUS	MBCLK_BAT/MBDATA_BAT	WRITE	READ	Function
VGP-BPS35A	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

Not support "DC only"

OS status	S0	S3	DS3	(Soft OFF)	(Soft OFF)	(Soft OFF)	(Soft OFF)	(Soft OFF)
H/W status	S0	S3	DS3	S4 (Win8 off) RTC wake Enable WOLAN Enable	S4 (Win8 off) RTC wake Disable WOLAN Disable	S5 Charge Enable	S5 Charge Disable WoL Disable	S5 WoL Enable
RUN_ON	H	L	L	L	L	L	L	L
+3V	H	L	L	L	L	L	L	L
+5V	H	L	L	L	L	L	L	L
+0.675V_DDR_VTT	H	L	L	L	L	L	L	L
+1.05V	H	L	L	L	L	L	L	L
+0.85V	H	L	L	L	L	L	L	L
+1.5V	H	L	L	L	L	L	L	L
+3V_GPU	H	L	L	L	L	L	L	L
+1.05V_GPU	H	L	L	L	L	L	L	L
+VGPU_CORE	H	L	L	L	L	L	L	L
+VCC_CORE	H	L	L	L	L	L	L	L
SUS_ON	H	H	H	L	L	L	L	L
+1.35V_SUS	H	H	H	L	L	L	L	L
S5_ON	H	H	L	H	L	L	L	H
+5V_S5	H	H	L	H	L	L	L	H
+3V_S5	H	H	L	H	L	L	L	H
EC_WAKE_ON	H	H	H	H	L	H	L	H
+3V_WAKE	H	H	H	H	L	H	L	H
+5V_WAKE	H	H	H	H	L	H	L	H
DEEP_EC_EN	H	H	H	H	L	L	L	H
+3V_S5_DSW	H	H	H	H	L	L	L	H
+3V_SUS	H	H	L	L	L	L	L	L