Page	Title of schematic page	Rev.	Date
01	Page List		
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03	Change List		
04	BDW MCP(DISPLAY/Sideband)		
05	BDW MCP(MEMORY/GND)		
06	BDW MCP(CFG/PwrMGT)		
07	BDW MCP(POWER)		
08	BDW PCH(RTC/HDA/SATA)		
09	BDW PCH(PCIE/USB/Power M)		
10	BDW PCH(CLK/LPC/SPI/SMB)		
11	BDW PCH(GPIO/LPIO/MISC)		
12	BDW PCH(POWER)		
13	DDR3L MEMORY_x16(CH-A)		
14	DDR3L MEMORY_x16(CH-B)		
15	DDR3L TERMINATION		
16	HOLE/EMI/KB		
17	NPCE985L & FLASH		
18	eDP\TS\Camera		
19	To CARD READER BOARD		
20	HDMI/Thermal		
21	USB/USB repeater		
22	LAN RTL8111GS		
23	WLAN/KB-BL		
24	SSD/TP/FAN		
25	AUDIO(ALC233-CG)HP&MIC		
26	LED/PS/DMIC/TPM		
27	DP to VGA (PTN3355)		
28	Green Clock(SLG3NB3454)		
29	POWER +VCC_CORE (NCP81101)		
30	POWER 3.3V/5V-NB671L/NB670		
31	POWER 1.35VSUS/VTT_MEM		
32	POWER +1.05V /Thermal/+1.5V		
33	POWER CHARGER (ISL88732)		
34	POWER(BAT IN / ADA IN/ UL)		
35	IO PORT LIST		
36	Power Design Diagram		

Page	Title of schematic page	Rev.	Date

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

This part should not contain any substances which are specified in EM-S303.

Broadwell ULT BLOCK DIAGRAM

02

Memory Down(Channel A/B)

X16 X16 X16 X16
X16 X16 X16 X16

DDR3L-1600 : 1.35V

Dual Channel

P13~P14

intel

eDP

DDR SYSTEM MEMORY

DDI

HDMI

DDI

Broadwell ULT
+
Lynx Point-LP

DP

DP to VGA
PTN3355BS

VGA(CRT)

SATA Gen3

5GT/s

PCI-Express Gen2

PCIE3

PCIE1

PCIE4

Camera

P18

PORT7

Touch Screen

P18

PORT4

Bluetooth

P23

PORT5

P24 SSD SATA0
6Gb/s

USB I/O
PORT2

USB I/O
PORT2

USB I/O P23
PORT2

USB 2.0

USB2.0

USB I/O P21
PORT2

USB I/O P21
PORT0

USB I/O P21
PORT1

USB 3.0

USB3.0

BGA1168
(40mm X 24mm)

Giga-LAN
RTL8111GS
P22

RJ45

P22

WLAN/BT P23

Card Reader
RTS5227E
P18

SD-XC

Azalia

HDA

SPI

P8~P13

Audio CODEC
ALC233-CG
P25

SPI ROM
8MB P9

LPC

TPM
P26

Combo Jack

SPK

DMIC

P25

P25

P25

Touch Pad
P24

Keyboard
P15

EC
NPCE985L
P16

Power LED
Sleep LED
Battery LED
CAPSLED

Button
Power SW

This part should not contain any substances which are specified in EM-S303.

Change List

MB_PVT_001:Change resistor value for charging LED lux.

MB_PVT_002:Cancel Jumper-PAD

MB_PVT_003:add PR258 for 3DMark06 hang up issue

MB_PVT_004:add PR259 and NC PD12 for no power issue when battery is under 6V

MB_PVT_005:Remove TPM circuits on motherboard.

MB_PVT_006:Add TPM Switch for TPM version.

MB_PVT_007:Add 150uf for SSD ripple

MB_PVT_008:reserve camera enable by EC.

MB_PVT_009:change PQ30 thermal protection circuit to do more accuracy control on protection point

MB_PVT_010:change PL2's supplier

MB_PVT_011:EMI requirement

MB_PVT_012:EMI requirement

MB_PVT_013:For Keyboard ESD.

MB_PVT_014:Add 0.1uf at SVID power.

MB_PVT_015:Set temperature point for HW shutdown.

MB_PVT_016:change resistor value to meet 74AUP1G07GW's specification

MB_PVT_017:Add second source.

MB_PVT_018:Add second source.

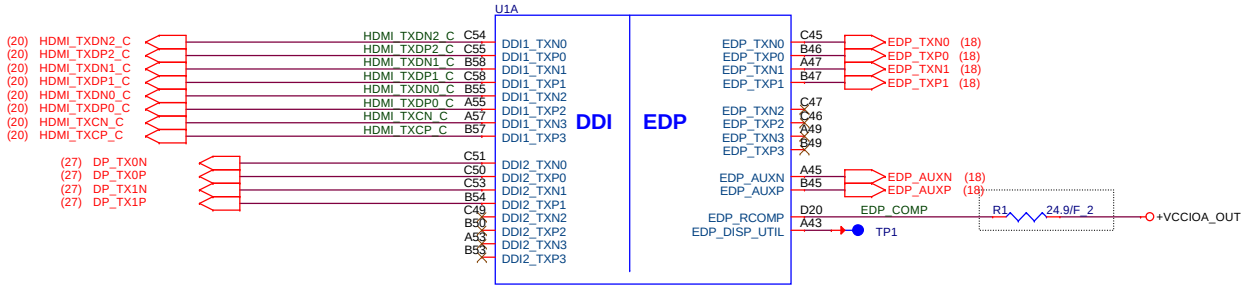
MB_PVT_019:Add second source.

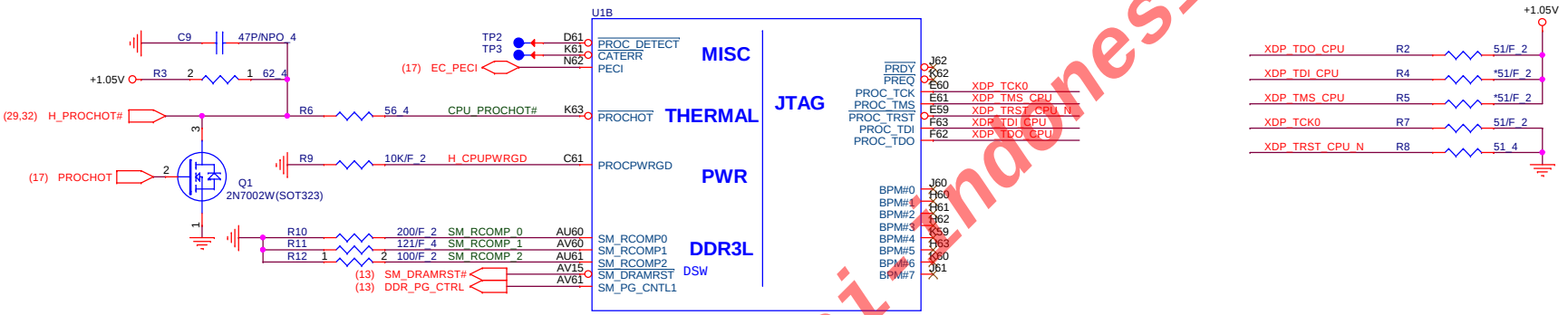
MB_PVT_020:Change capacitor for DDR rest rise time.

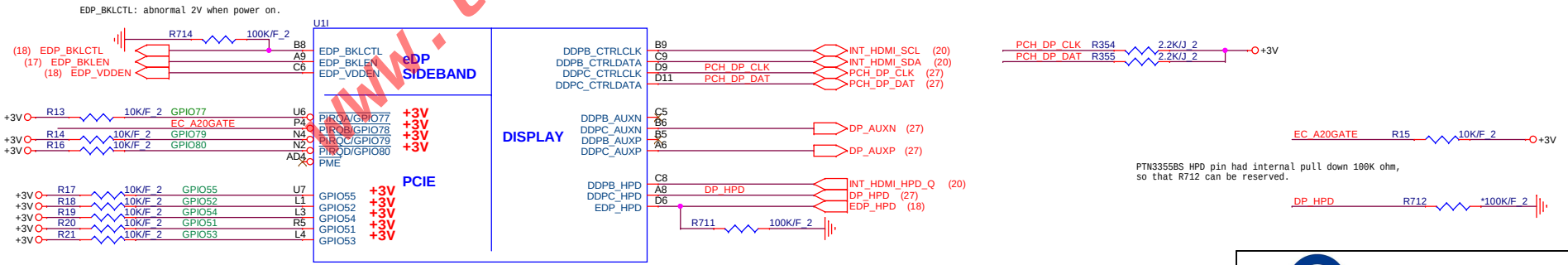
MB_PVT_021:Define TPM configuration

Broadwell U(DISPLAY)

INT. HDMI

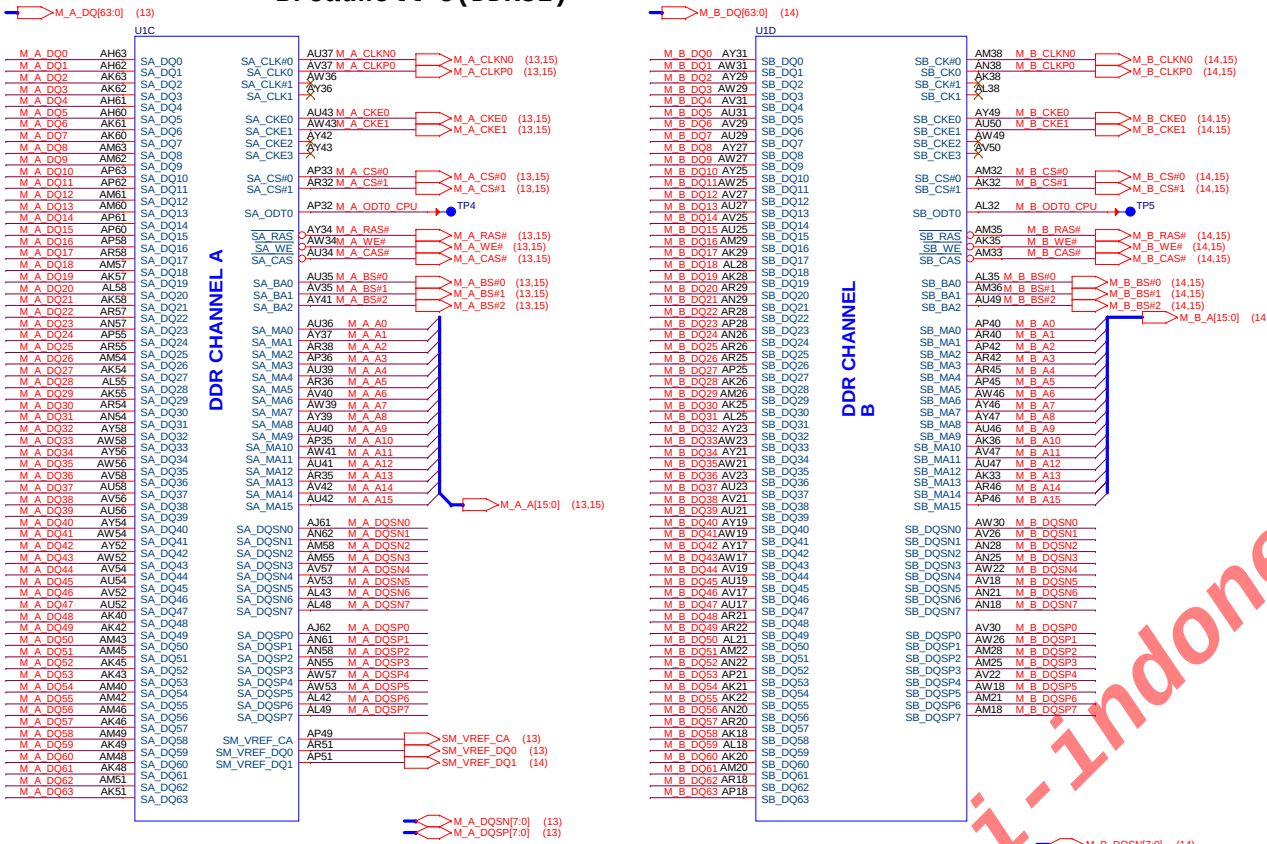






Quanta Computer Inc.		
PROJECT : MS8		
Size	Document Number	Rev
	BDW MCP(Display/eDP)	1A
Date: Wednesday, December 24, 2014	Sheet 4 of 36	

Broadwell U(DDR3L)



Broadwell U(GND)

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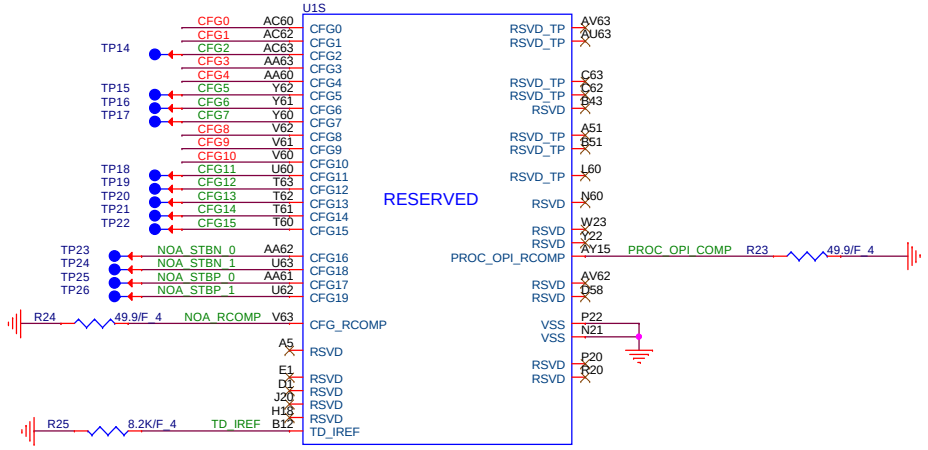
Quanta Computer Inc.
PROJECT : MS8

Size	Document Number	Rev
	BDW MCP(Memory)	1A
Date: Wednesday, December 24, 2014	Sheet 5 of 36	

05



Processor Strapping

	1	0	
CFG0 EAR-STALL/NOT STALL RESET SEQUENCE AFTER PCU PLL IS LOCKED	(DEFAULT) NORMAL OPERATION; NO STALL	STALL	CFG0 R26 *1K/F_2
CFG1 PCH/ PCH LESS MODE SELECTION	(DEFAULT) NORMAL OPERATION	PCH-LESS MODE	CFG1 R27 *1K/F_2
CFG3 PHYSICAL_DEBUG_ENABLED (DFX PRIVACY)	DISABLED	ENABLED SET DFX ENABLED BIT IN DEBUG INTERFACE MSR	CFG3 R28 *1K/F_2
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 R29 1K/F_2
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 R30 *1K/F_2
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 R31 *1K/F_2
CFG10 SAFE MODE BOOT	POWER FEATURES ACTIVATED DURING RESET	POWER FEATURES (ESPECIALLY CLOCK GATINE ARE NOT ACTIVATED	CFG10 R32 *1K/F_2

Broadwell U MCP(POWER)

Haswell ULT 15W : 32A

+1.35V_SUS

2.2uF *4
10uF *6

C12 10U/6.3V/X5R_6
C14 10U/6.3V/X5R_6
C16 10U/6.3V/X5R_6
C18 10U/6.3V/X5R_6
C20 10U/6.3V/X5R_6
C22 10U/6.3V/X5R_6

C25 2.2U/6.3V/X5R_4
C27 2.2U/6.3V/X5R_4
C29 2.2U/6.3V/X5R_4
C31 2.2U/6.3V/X5R_4

U1L

+1.35V_SUS (VDDQ : 4.2A)

AH26 AJ31 AJ33 AJ37 AN33 AP43 AR48 AY35 AY40 AY44 AY50 — VDDQ

+VCC_CORE — F59 N58 AC58 — VCC RSVD RSVD

+VCC_CORE R37 100/F_2 (29) VCC_SENSE — E63 — VCC_SENSE

TP27

+VCCIO_OUT — AB23 — VCCIO_OUT

+VCCIOA_OUT — A59 E20 — VCCIOA_OUT

AD23 AA23 AE59 — RSVD

HSW ULT POWER

VR_EN(1.05V): Output to disable VR in C10
VR_Ready(1.05v):

H_CPU_SVIDALRT_N — L62 — VIDALERT
VR_SVID_CLK — N63 — VIDSCLK
VR_SVID_DATA — L63 — VIDSOUT
VCCST_PWRGD — B59 — VCCST_PWRGD
(29) H_VR_ENABLE_MCP — F60 — VR_EN
R38 10K/F_2 VR_READY — C59 — VR_READY

+1.05V R40 150/F_2 FIVR_EN_BUF — D63 H59 P62 — VSS

P60 — PWR_DEBUG

P61 N59 N61 T59 — VSS

AD60 AD59 AA59 AE60 AC59 AG58 U59 V59 — RSVD

VCCST_PWRGD(O/D Input):
VCC/VDDQ/CLK stable

+1.05V — AC22 AE22 AE23 — VCCST

AB57 — RSVD

+VCC_CORE — AD57 AG57 C24 C28 C32 — VCC

C36 C40 C44 C48 C52 C56 E23 E25 E27 E29 E31 E33 E35 E37 E39 E41 E43 E45 E47 E49 E51 E53 E55 E57 F24 F28 F32 F36 F40 F44 F48 F52 F56 G23 G25 G27 G29 G31 G33 G35 G37 G39 G41 G43 G45 G47 G49 G51 G53 G55 G57 H23 J23 K23 K57 L22 M23 M57 P57 U57 W57 — VCC

C10 C11 C13 C15 C17 C19 C21 C23 C24 C26 C28 C30 C32 C33 C34 C35 C36 C37 C38 C39 C40 C41 C42 C43 C44 C45 C46 C47 C48 C49 — 22U/6.3V/X5R_6

23 X 22UF(0805 MLCC)

HOLE1

intel-bkt-shark-ult

SVID ALERT

close to CPU

+1.05V R33 75/F_2

H_CPU_SVIDALRT_N R34 43_4 VR_SVID_ALERT# (29)

SVID DATA

close to CPU

+1.05V R35 130/F_2 C407 0.1U/10V/X5R_2

MB_PVT_014:Add 0.1uf at SVID power.

close to VR

+1.05V R36 130/F_2 C408 0.1U/10V/X5R_2

MB_PVT_014 Add 0.1uf at SVID power.

VR_SVID_DATA VR_SVID_DATA (29)

close to VR

+1.05V R39 54.9_4

VR_SVID_CLK VR_SVID_CLK (29)

+3V_S5 R42 100K/F_2

(9,17) EC_PWROK

+1.05V R45 10K/F_2

VCCST_PWRGD

Q2 2N7002DW

C50 680P/X7R_4

+3V +3V R43 100K/F_2 R44 100K/F_2

(17,29) IMVP_PWRGD

VR_READY

Q3 2N7002DW

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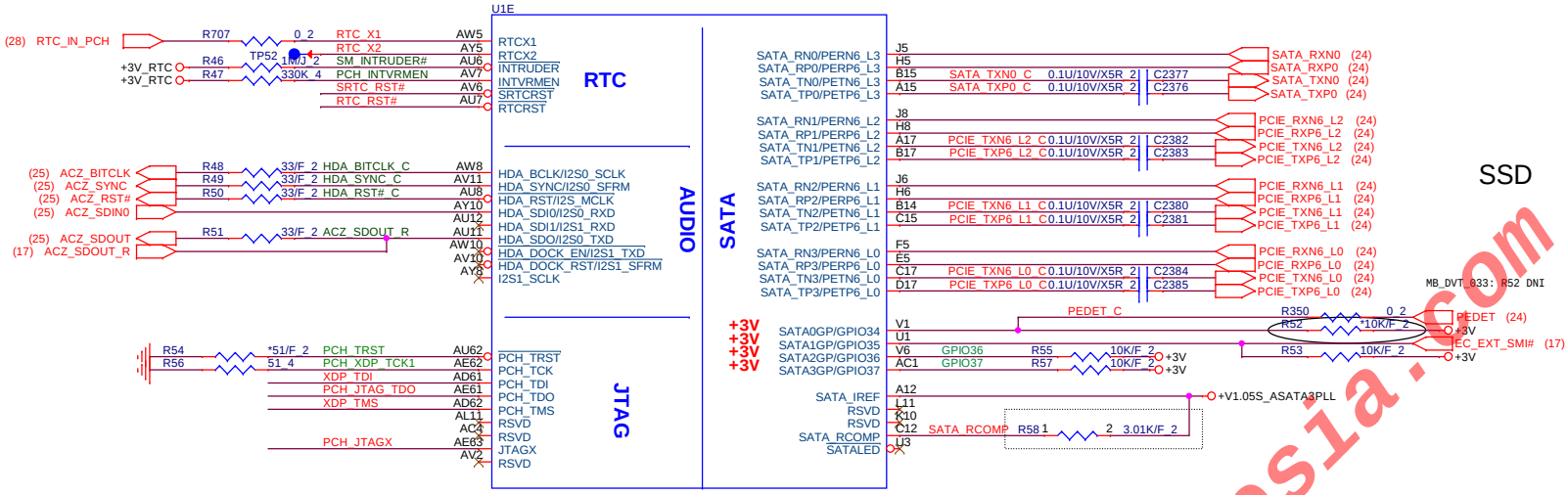
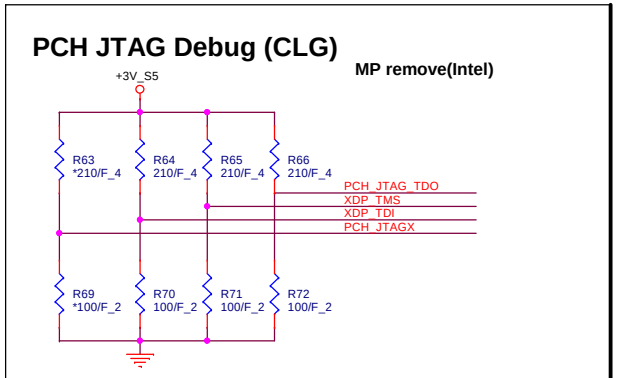
PROJECT : MS8

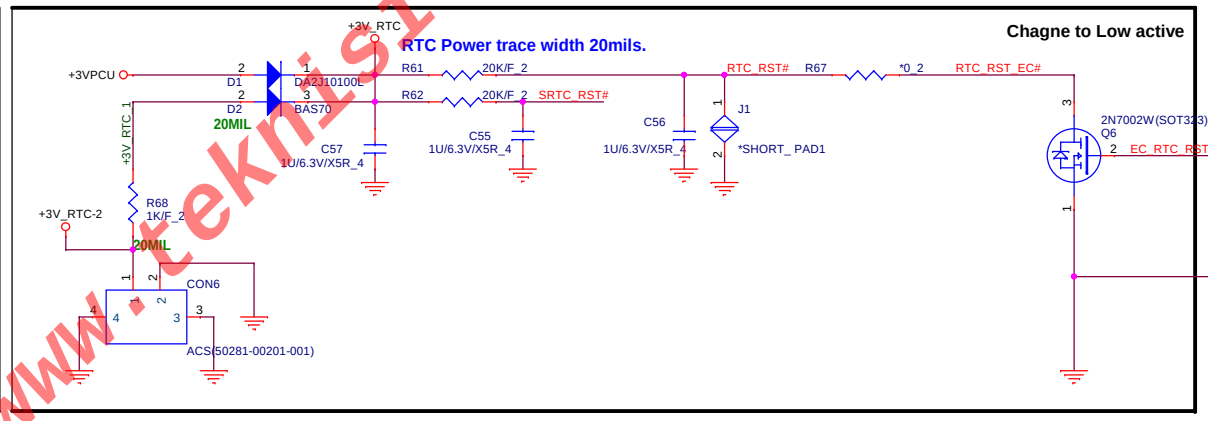
Size	Document Number	Rev
	BDW MCP(Power)	1A

Date: Wednesday, December 24, 2014 Sheet 7 of 36

Broadwell U(RTC, HDA, JTAG, SATA)







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 R73 *1K/F_2 SPKR (11)
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	

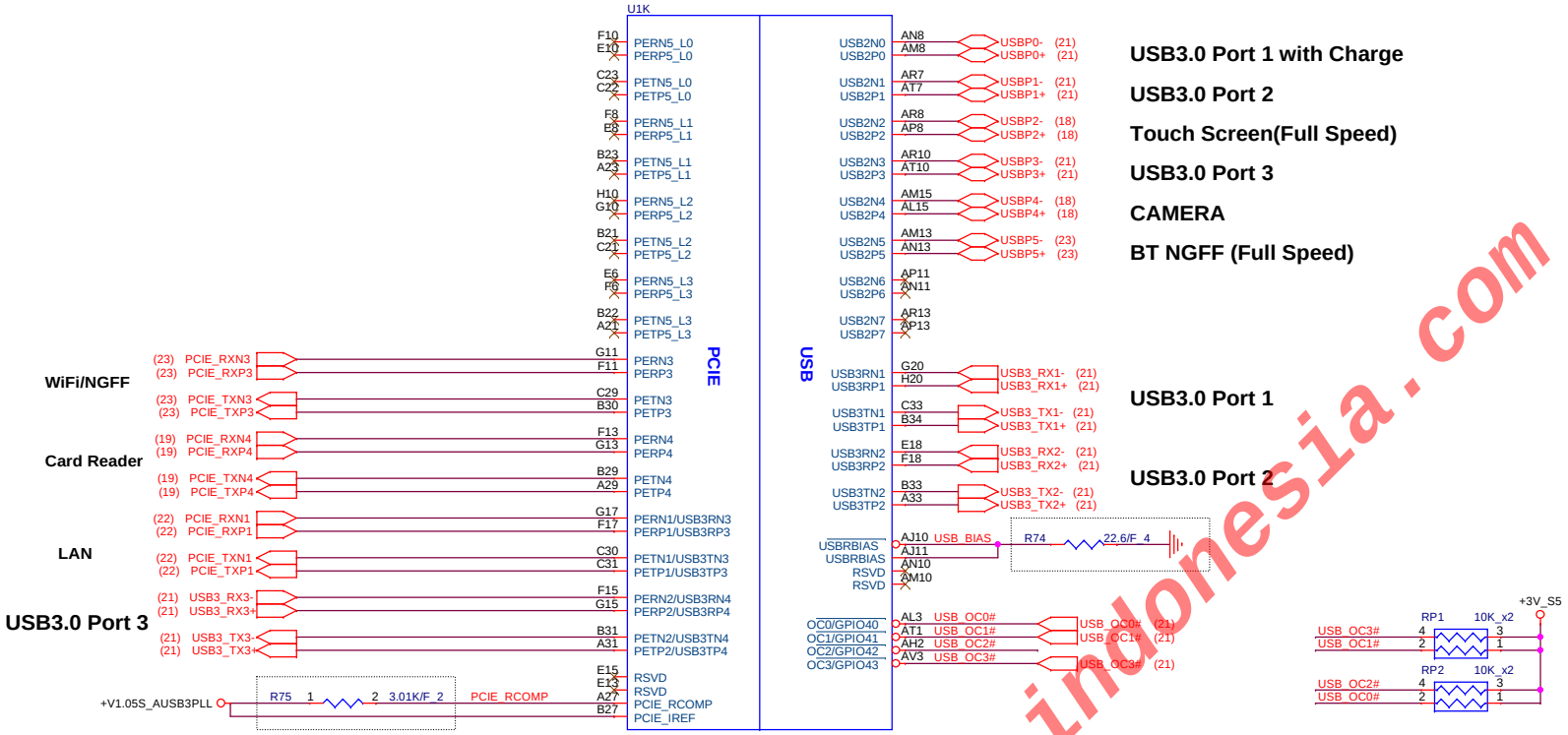
Quanta Computer Inc.
PROJECT : MS8

Size	Document Number	Rev
	BDW PCH(RTC/HDA/SATA)	2A

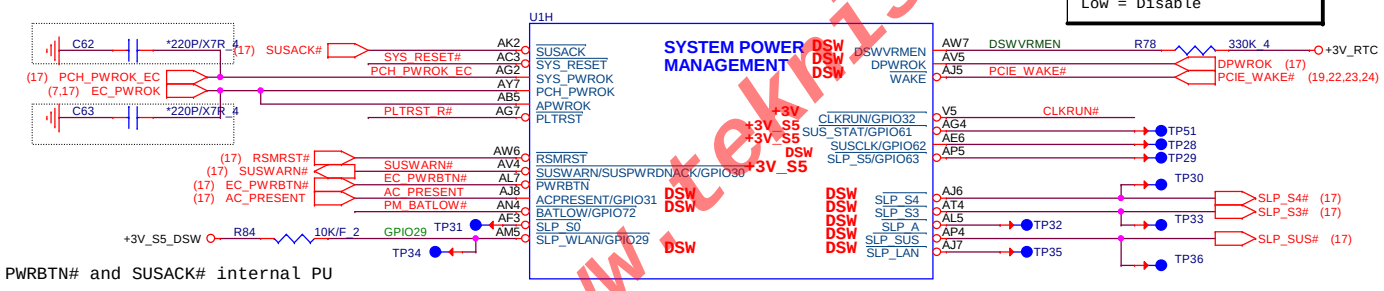
Date: Wednesday, December 24, 2014 Sheet 8 of 36

Broadwell U(PCIE,USB)

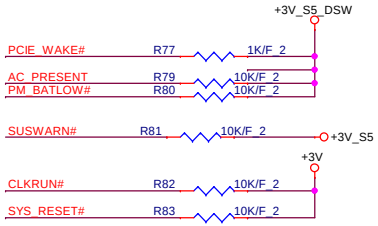
09

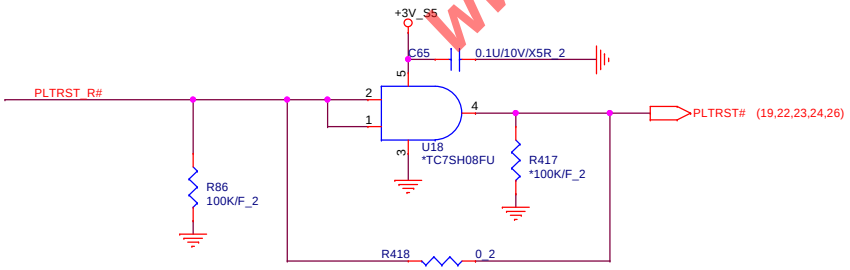


Broadwell U(SYSTEM POWER MANAGEMENT)



PCH Pull-high/low(CLG)





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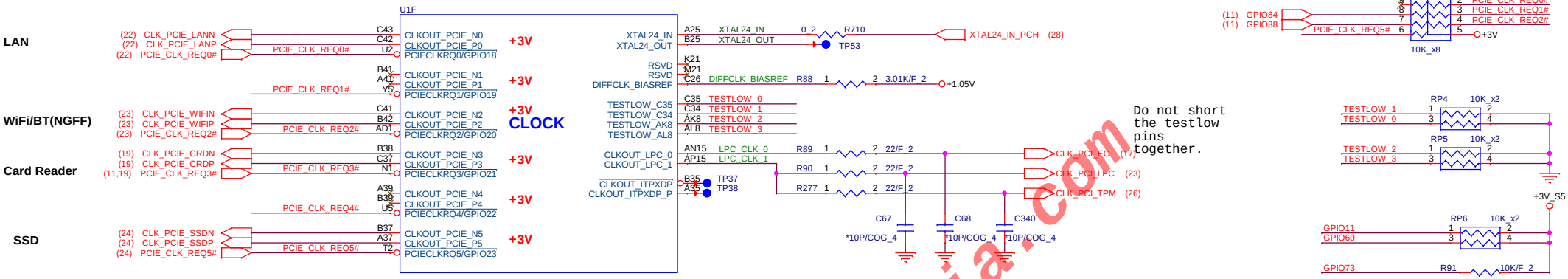
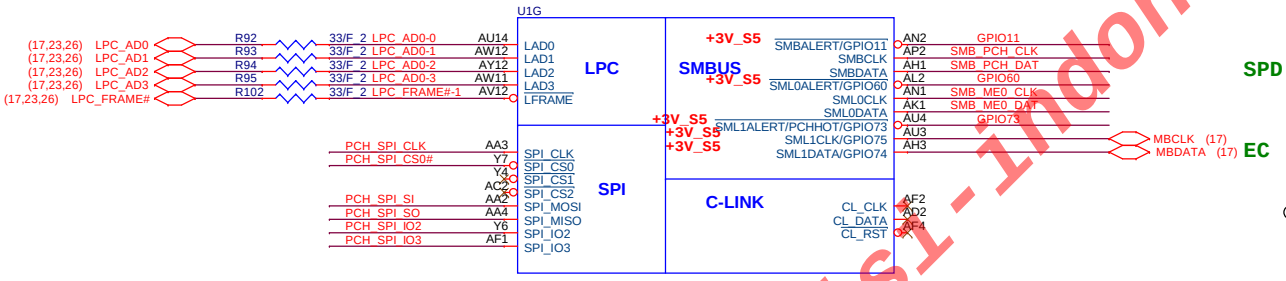
Quanta Computer Inc.
PROJECT : MS8

Size	Document Number	Rev
	BDW PCH(PCIE/USB)	1A
Date: Wednesday, December 24, 2014	Sheet 9 of 36	

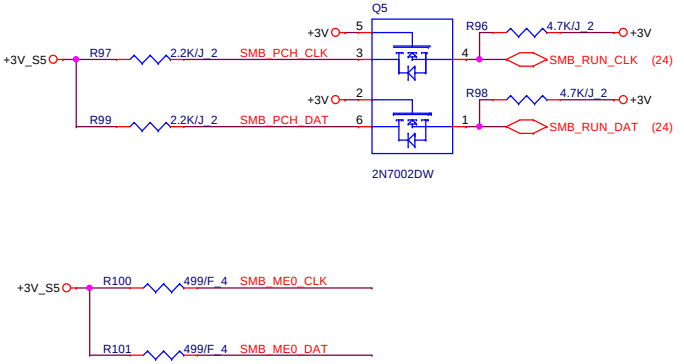
Broadwell U(CLK)



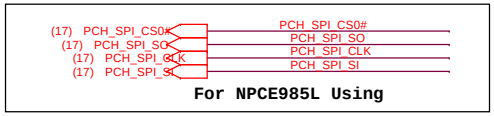
Broadwell U(LPC/SPI/SMB/CLINK)

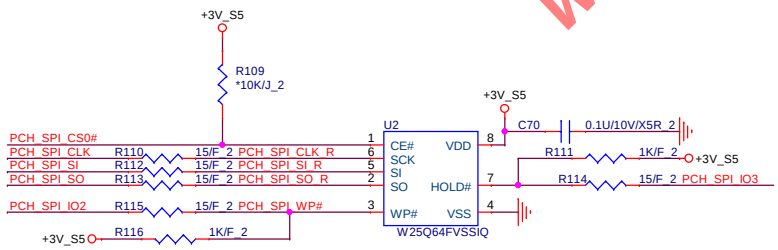


SMBus/Pull-up(CLG)



SPI FLASH





Quanta Computer Inc.
PROJECT : MS8

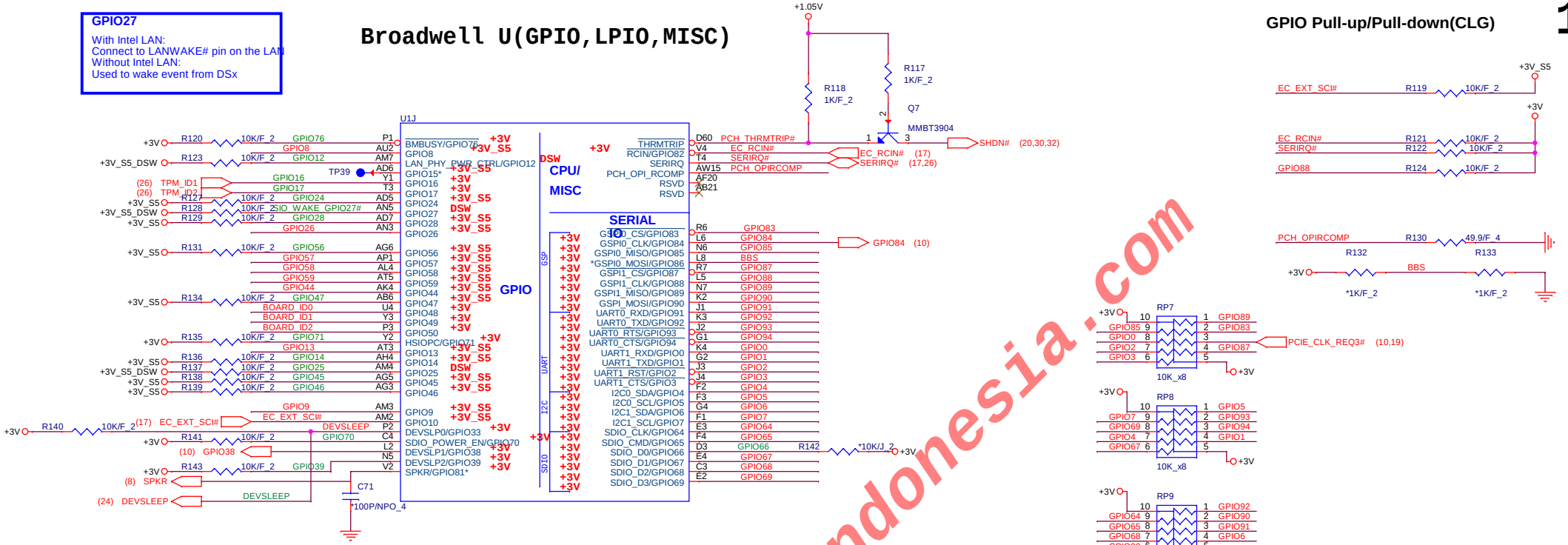
Size	Document Number	Rev
	BDW PCH(CLK/LPC/SPI/SMB)	1A
Date: Wednesday, December 24, 2014	Sheet 10 of 36	

Broadwell U(GPIO,LPIO,MISC)

GPIO Pull-up/Pull-down(CLG)

GPIO27

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



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

Vendor	Vendor Part Number	VIO P/N	BOARD_ID0	BOARD_ID1	BOARD_ID2
Micron(8G)	MT41K512M16HA-125:A	AKD5QGSTL03	0	0	0
Samsung(8G)	K4B8G1646Q-MYK0	AKD5QGST505	0	0	1
Hynix(8G)			0	1	0
Micron(4G)	MT41K256M16HA-125:E	AKD5JGSTL20	0	1	1
Samsung(4G)	K4B4G1646Q-HYK0	AKD5PGST518	1	0	0
Hynix(4G)	H5TC4G63AFR-PBA	AKD5JGETW20	1	0	1
			1	1	0
Elpida(8G)	EDJ8416E6MB-GN-F	AKD5FGST411	1	1	1

This part should not contain any substances which are specified in EM-S303.

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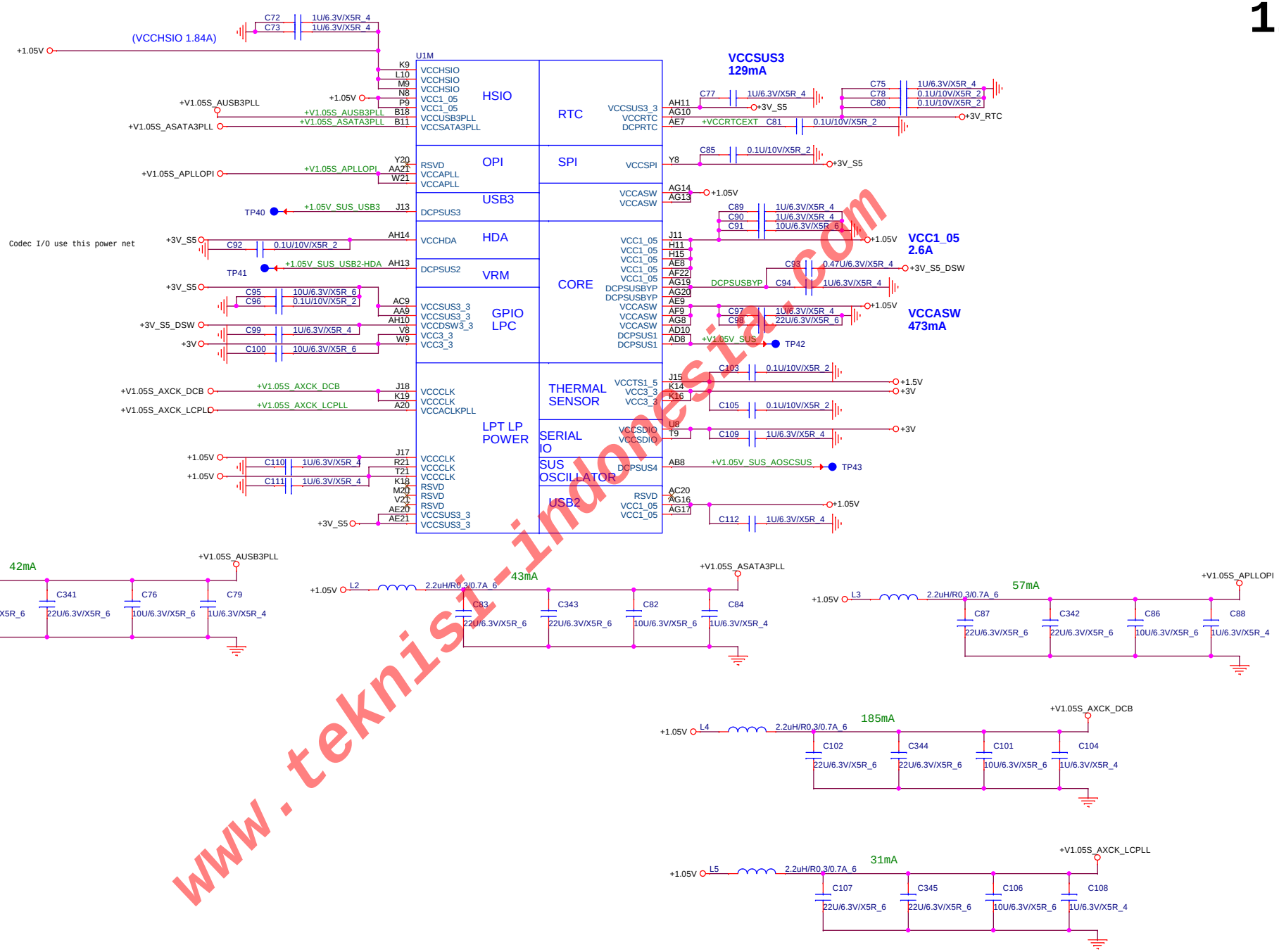
PROJECT : MS8

Size	Document Number	Rev
	BDW PCH(GPIO/MISC)	1A

Date: Wednesday, December 24, 2014 Sheet 11 of 36



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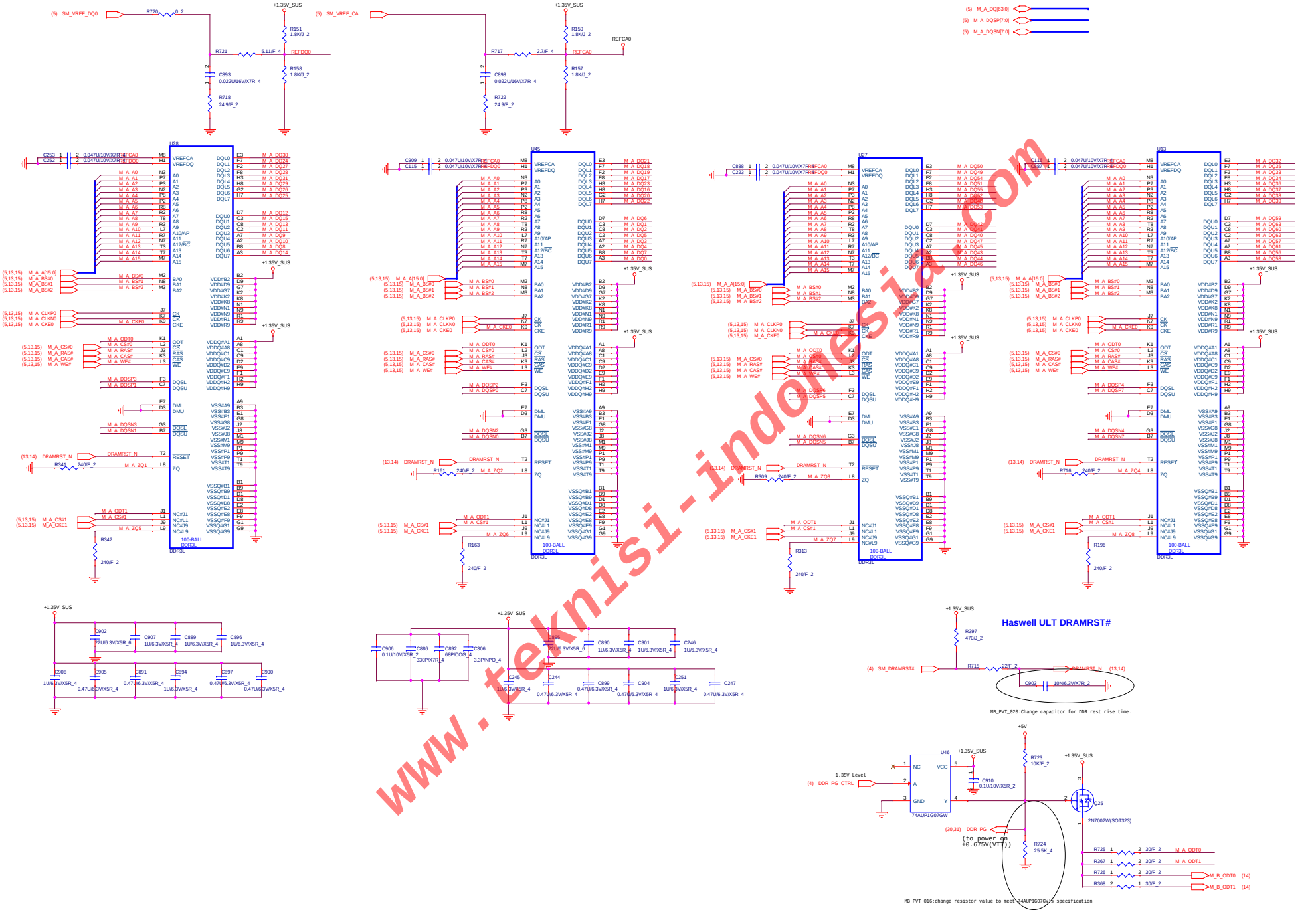
PROJECT : MS8

Size	Document Number	Rev
	BDW PCH(Power)	1A
Date: Wednesday, December 24, 2014	Sheet 12 of 36	



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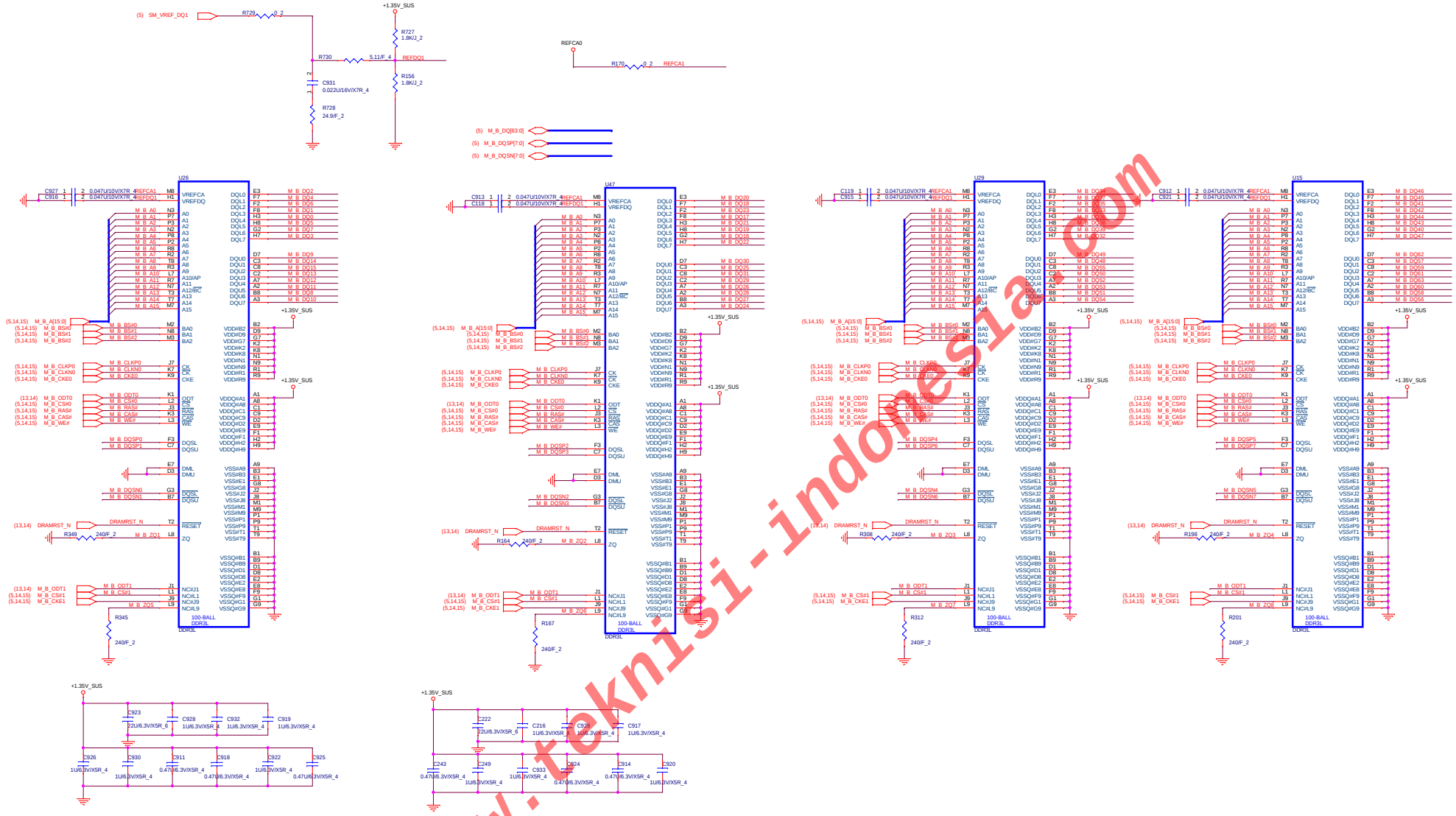
Quanta Computer Inc.			
PROJECT : MS8			
Size	Document Number		Rev
	DDR3 DIMM0		1A
Date: Wednesday, December 24, 2014	Sheet 13 of 36		



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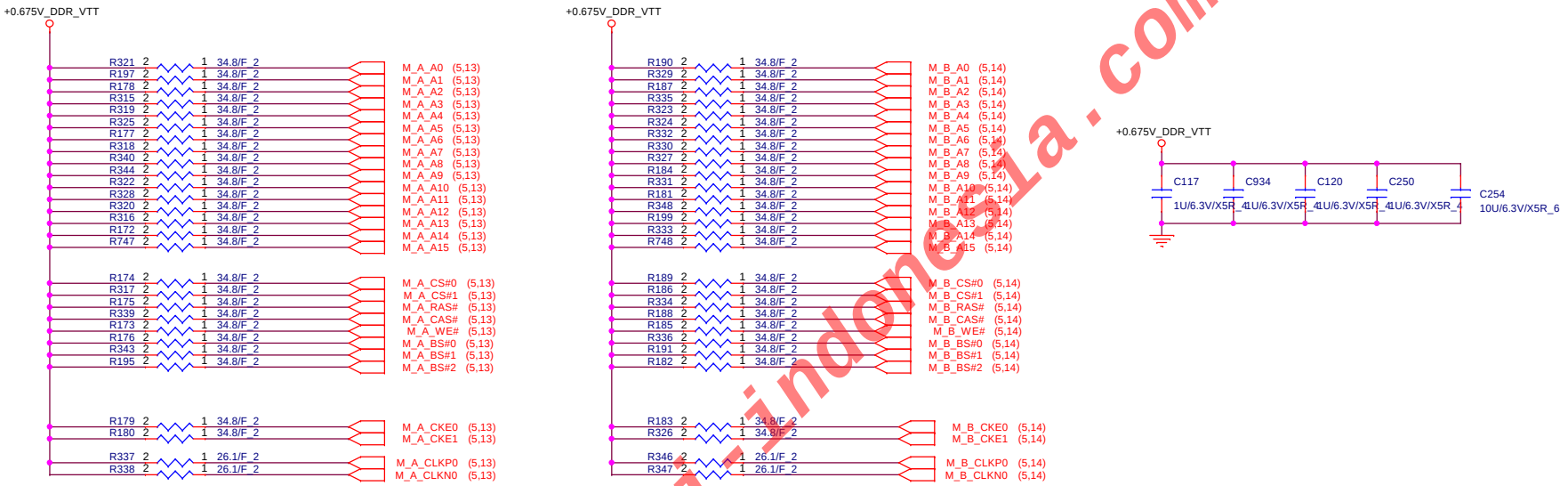
Quanta Computer Inc.			
PROJECT : MS8			
Size	Document Number		Rev
	DDR3 DIMM1		1A
Date: Wednesday, December 24, 2014	Sheet 14 of 36		



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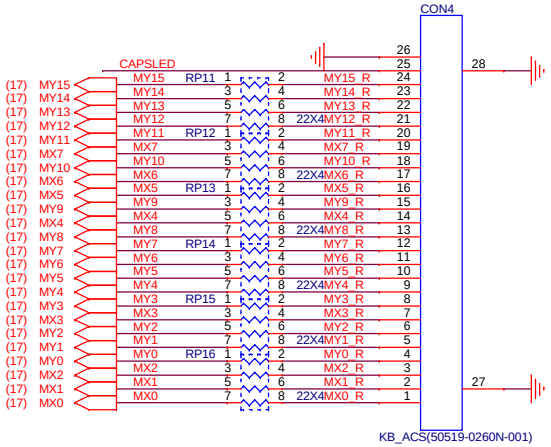
Quanta Computer Inc.

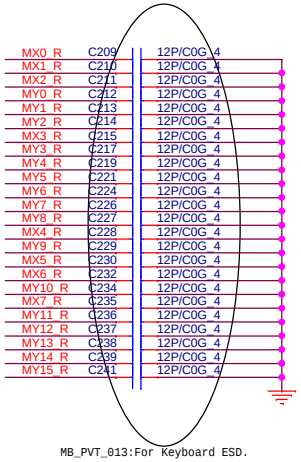
PROJECT : MS8

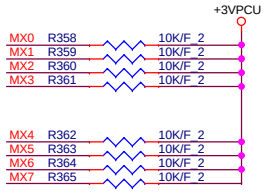
Size	Document Number	Rev
	DDR3L TERMINATION	1A

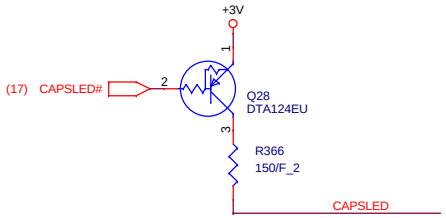
Date: Wednesday, December 24, 2014 Sheet 15 of 36

KEY BOARD Connector

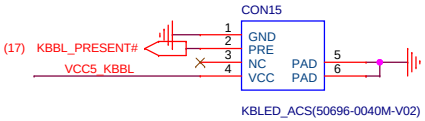


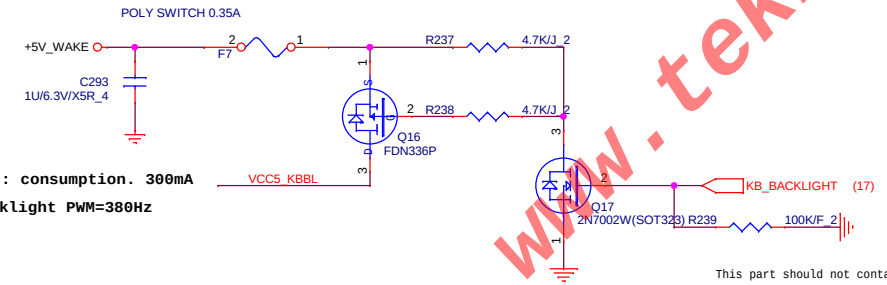






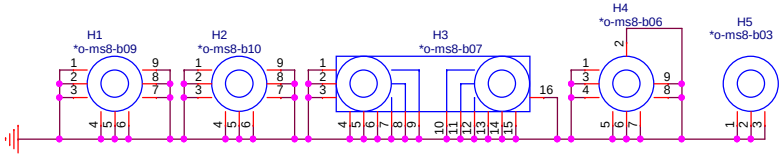
KB BACKLIGHT

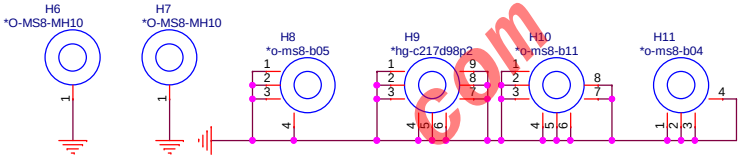




KB Backlight: consumption. 300mA

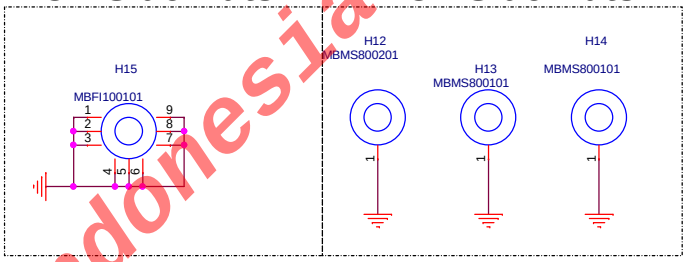
KB Backlight PWM=380Hz

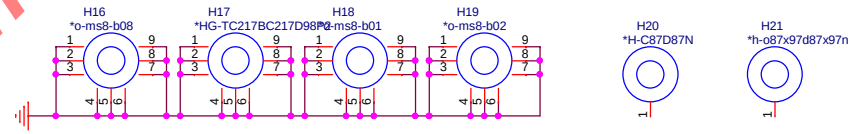


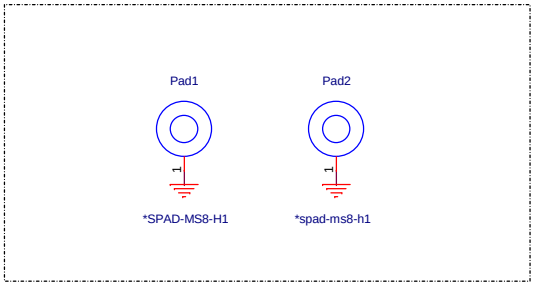


TOP Side Nuts

BOT Side Nuts







This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.

PROJECT : MS8

Size	Document Number	Rev
	HOLE/EMI/KB	2A

Date: Wednesday, December 24, 2014 Sheet 16 of 36

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

Magnetic Lid Switch

KU2 — E-CMOS

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

GPIO36 : EC_PWRBTN# EC setting-->OD output

	MB_ID1	MB_ID2
EVT	0	0
DVT	0	1

ALL_SYS_PWRGD >10ms
EC_PWROK 99ms
PCH_PWROK_EC

VCC POWER ON RESET

This part should not contain any substances which are specified in EM-S303.

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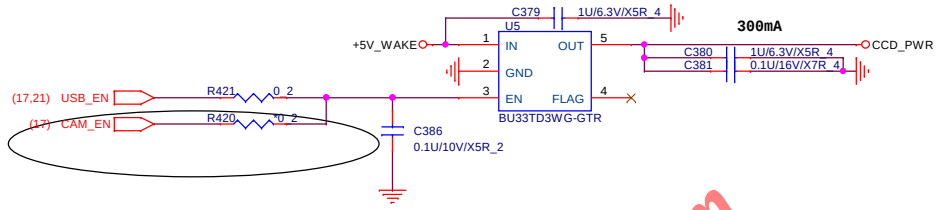
PROJECT : MS8

Size	Document Number	Rev
	NPCE985L	2A

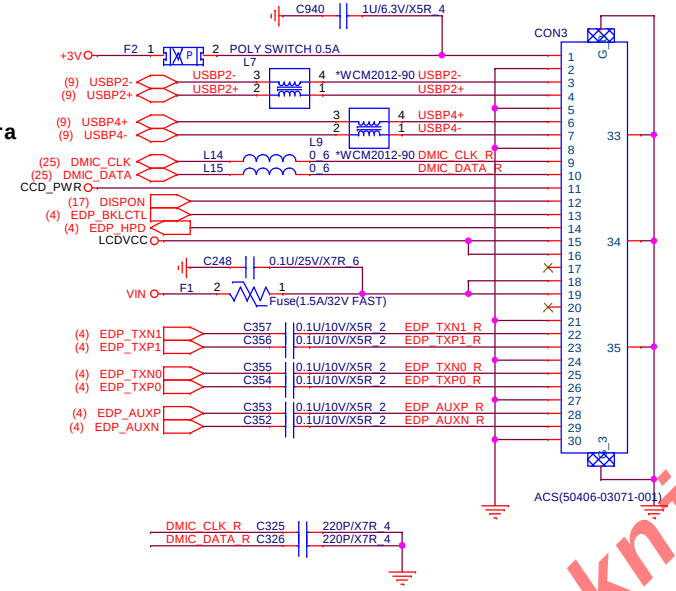
Date: Wednesday, December 24, 2014 Sheet 17 of 36

USB Camera Power

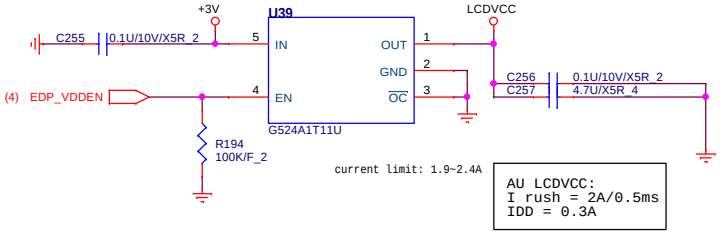


eDP+Touch Sceen+Camera

Camera



NB LVDS enable



GND Pin Distribute

	Pin number
TouchScreen	Pin2&Pin5
Camera	Pin8
Backlight of Panel	Pin21&Pin24
Logic circuits of Panel	Pin27&Pin30

This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.
PROJECT : MS8

Size	Document Number	Rev
	eDP/TS/Camera	2A

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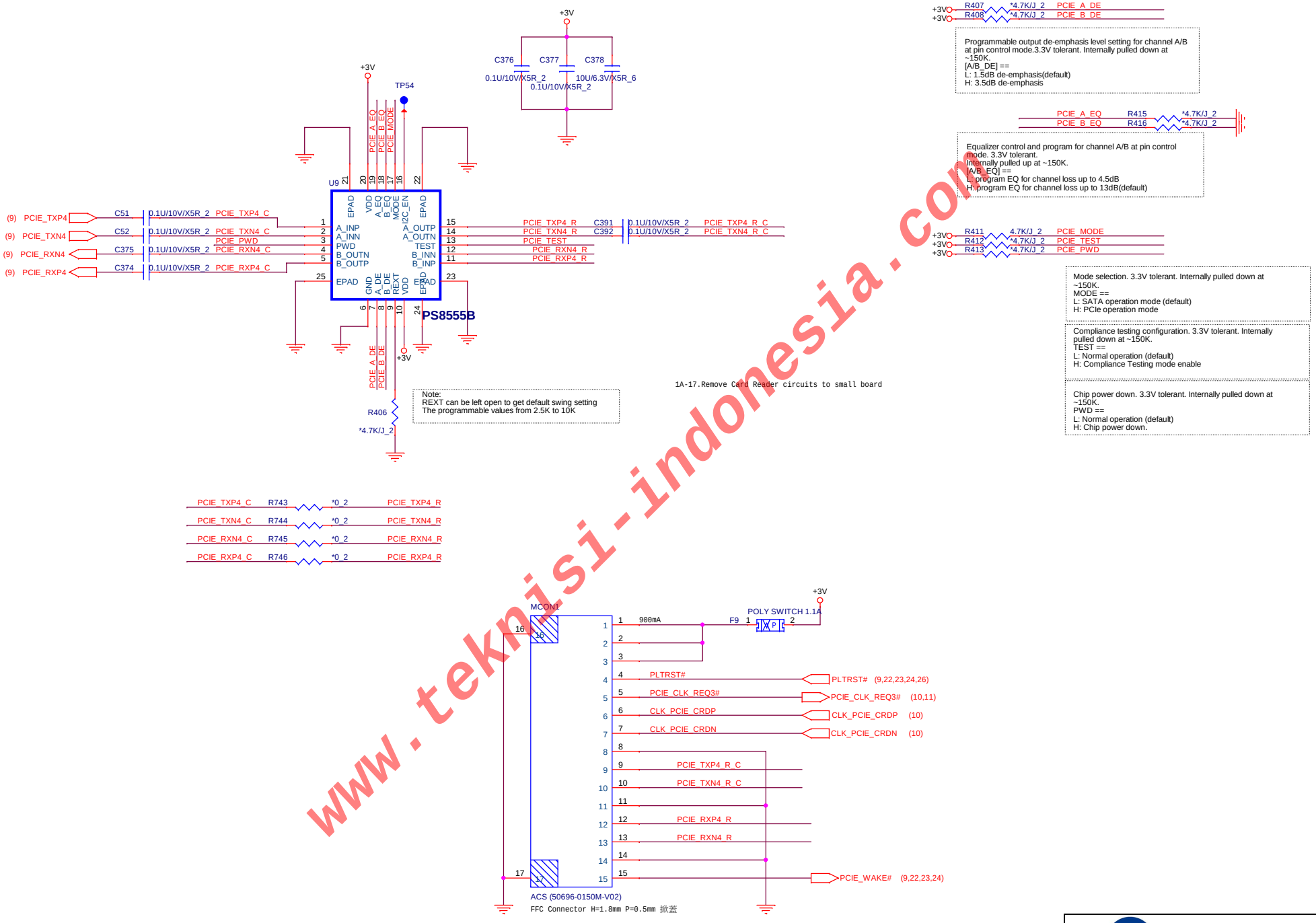
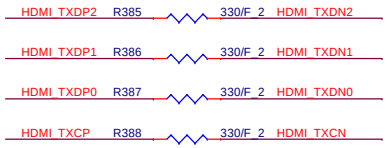
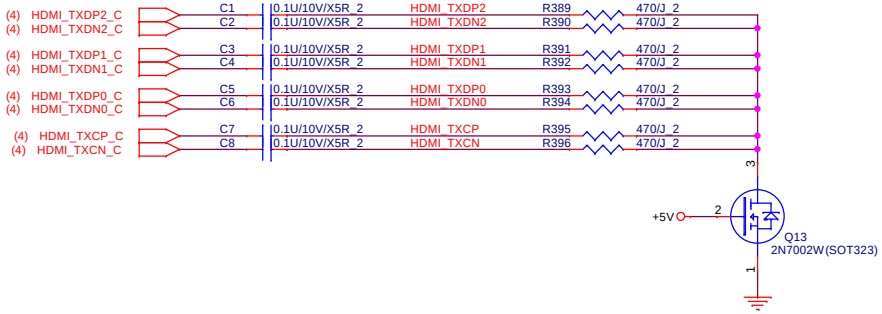
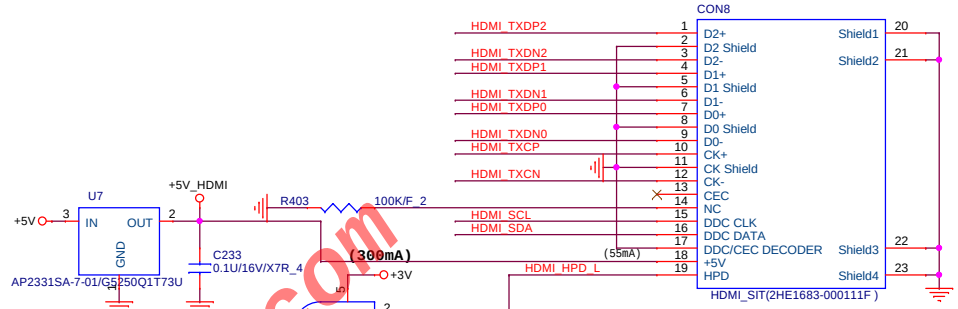


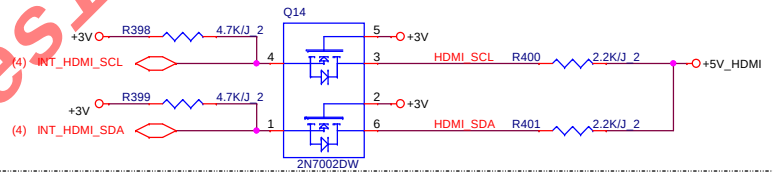
This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.		
PROJECT : MS8		
Size	Document Number: Cared Reader Samll Board	Rev: 1A
Date: Wednesday, December 24, 2014	Sheet 19 of 36	



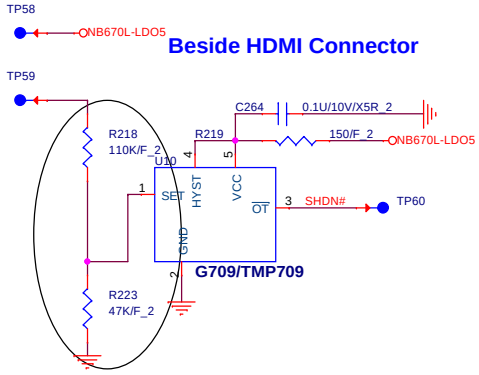






H/W Thermal Protect

Beside HDMI Connector

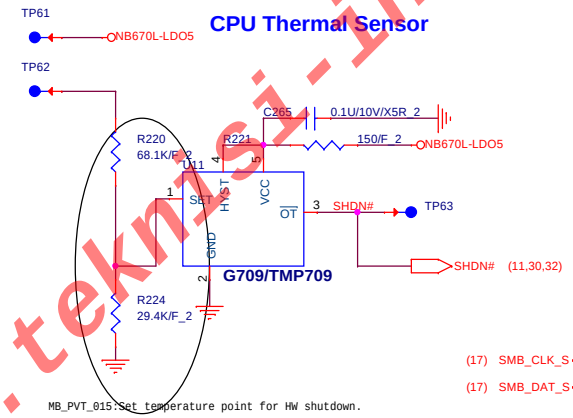


MB_PVT_015:Set temperature point for HW shutdown.

RSET(kΩ)= 0.0012T2 – 0.9308T + 96.147

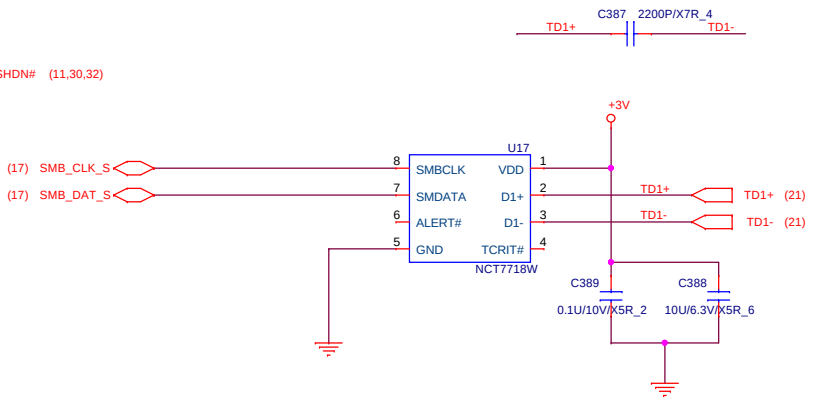
57	47K
80	29.4K
107	10.3K
110	8.2K

CPU Thermal Sensor



MB_PVT_015:Set temperature point for HW shutdown.

H/W Thermal sensor



UMA SKU

Location of IC	Temp	R-Set	Parts in BOM	Max	Min
Near CPU sensor temp		R223=10K		105	105
Near AUDIO sensor temp		R224=10K		105	105

This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.
PROJECT : MS8

Size	Document Number	Rev
	HDMI/Thermal IC	2A

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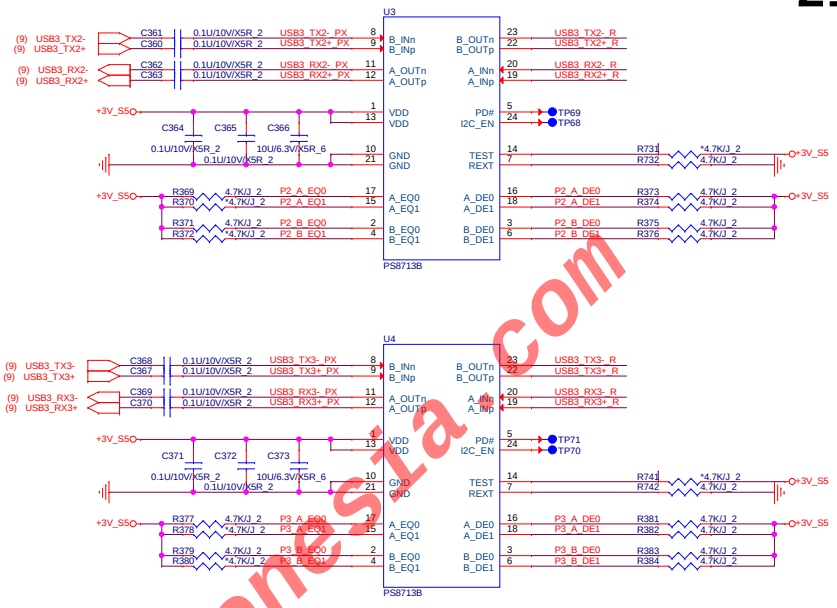
USB 3.0 Re-Driver

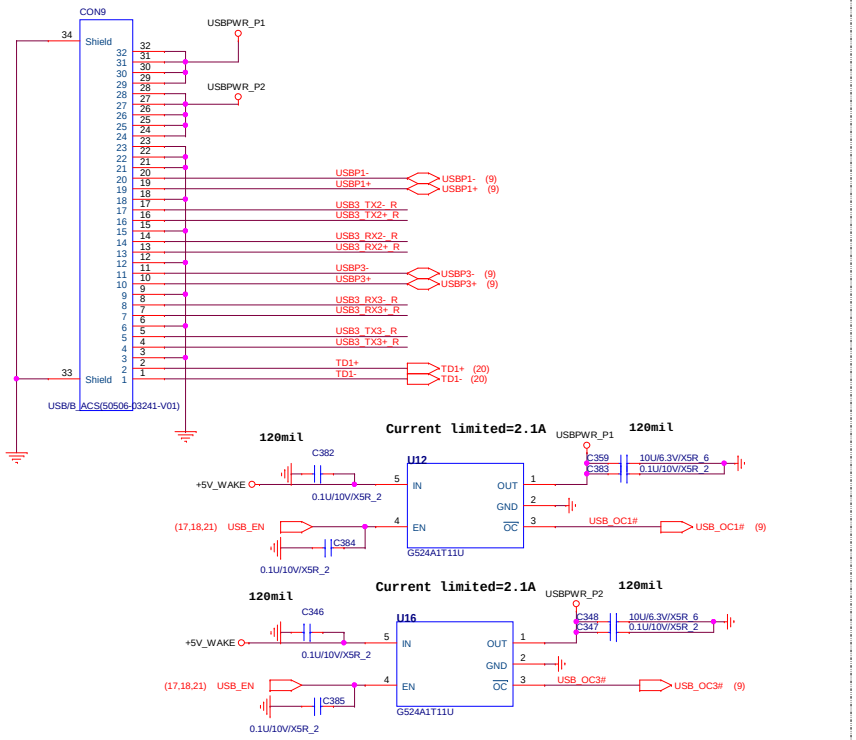


Programmable output pre-emphasis level setting for channel A/B
3.3V tolerant. Internally pulled down at ~150K
[A/B_DE1, A/B_DE0] ==
LL: 3.5dB de-emphasis (defaul)
LH: NO de-emphasis
HL: 2.7dB de-emphasis
HH: 5dB de-emphasis

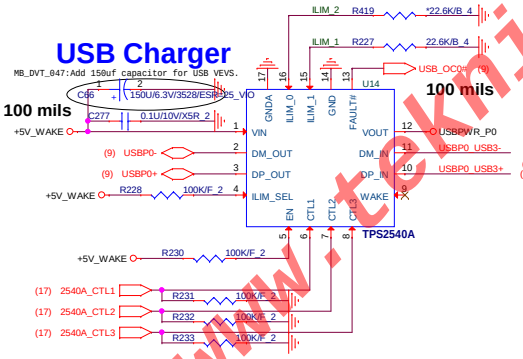
Equalizer control and program for channel A/B
3.3V tolerant. Internally pulled down at ~150K.
[A/B_EQ1, A/B_EQ0] ==
LL: Program EQ for channel loss up to 9.5dB(default)
LH: Program EQ for channel loss up to 13dB
HL: Program EQ for channel loss up to 4.5dB
HH: Program EQ for channel loss up to 7.5dB

LFPS swing adjust. 3.3V tolerant. Internally pulled down at ~150K.
TEST ==
L: Normal LFPS swing(default)
H: Tune down LFPS swing

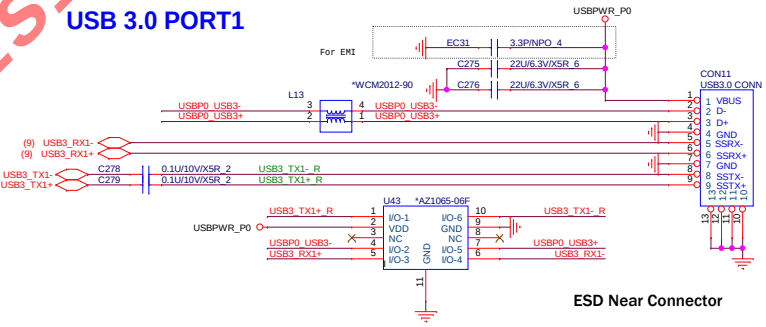
Note:
REXT can be left open to get default swing setting
The programmable values from 2.5K to 10K



USB Charger



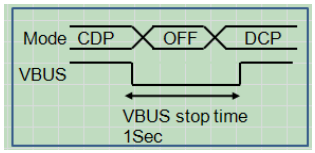
USB 3.0 PORT1



ESD Near Connector

	TPS2540A		
ILIM_SEL	Pin15	Pin16	
High	V		
Low		V	

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



CTL_1	CTL_2	CTL_3	TPS 2540A 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

Quanta Computer Inc.
PROJECT : MS8

Size	Document Number	Rev
	USB/USB Charger	2A

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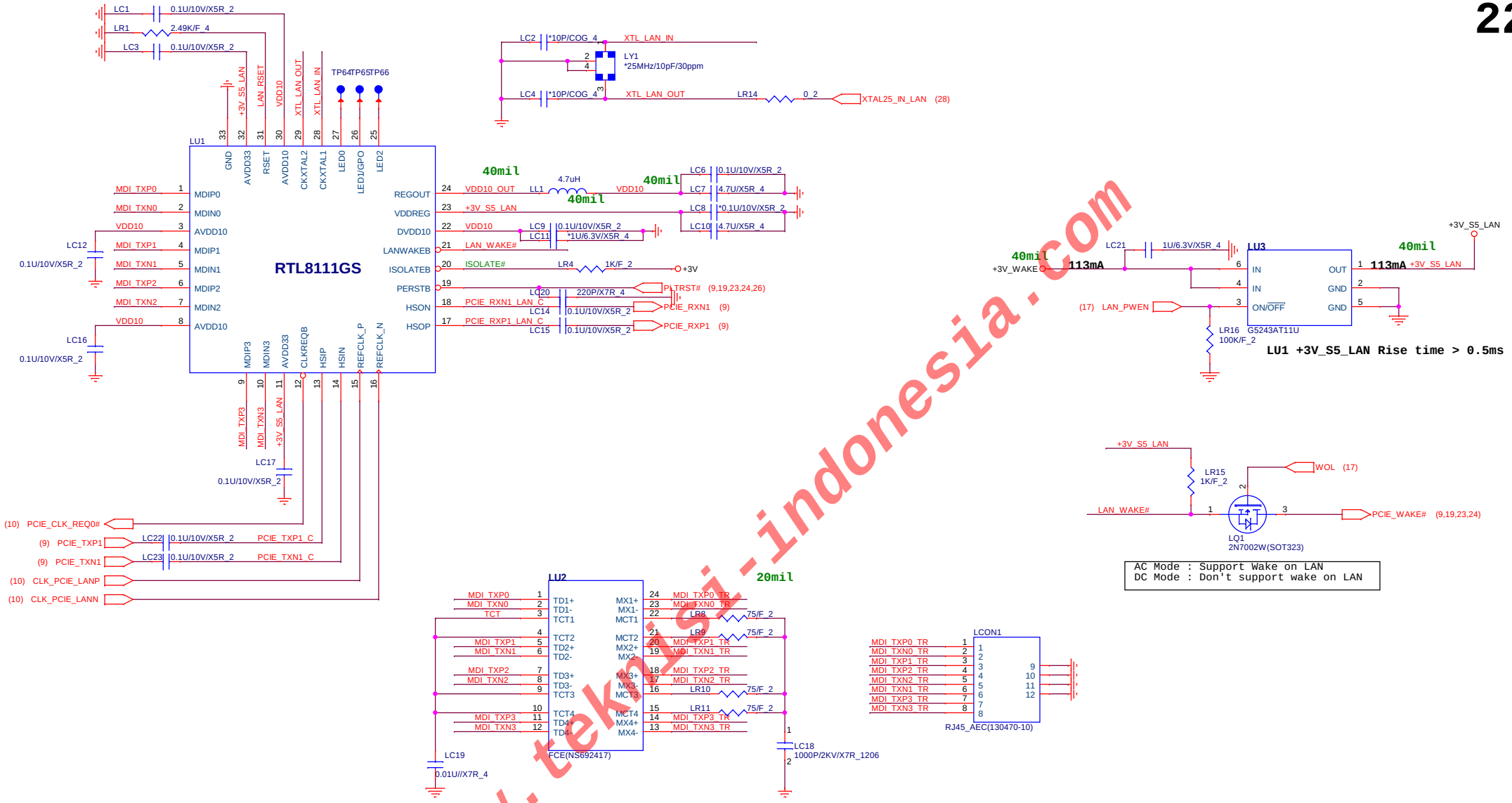

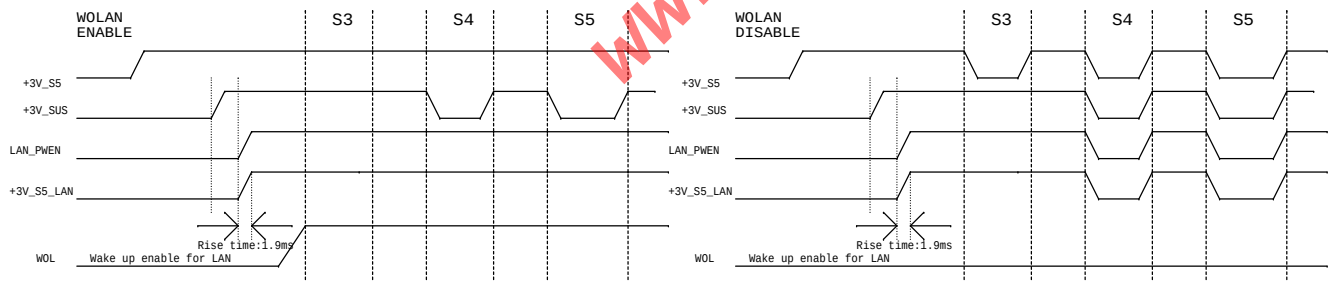

BIOS Setup	WOLAN DISABLE		WOLAN ENABLE	
	LAN_PWEN	WOL	LAN_PWEN	WOL
S3	H	H	H	H
S4	L	L	H	H
S5	L	L	H	H

This part should not contain any substances which are specified in EM-S303.

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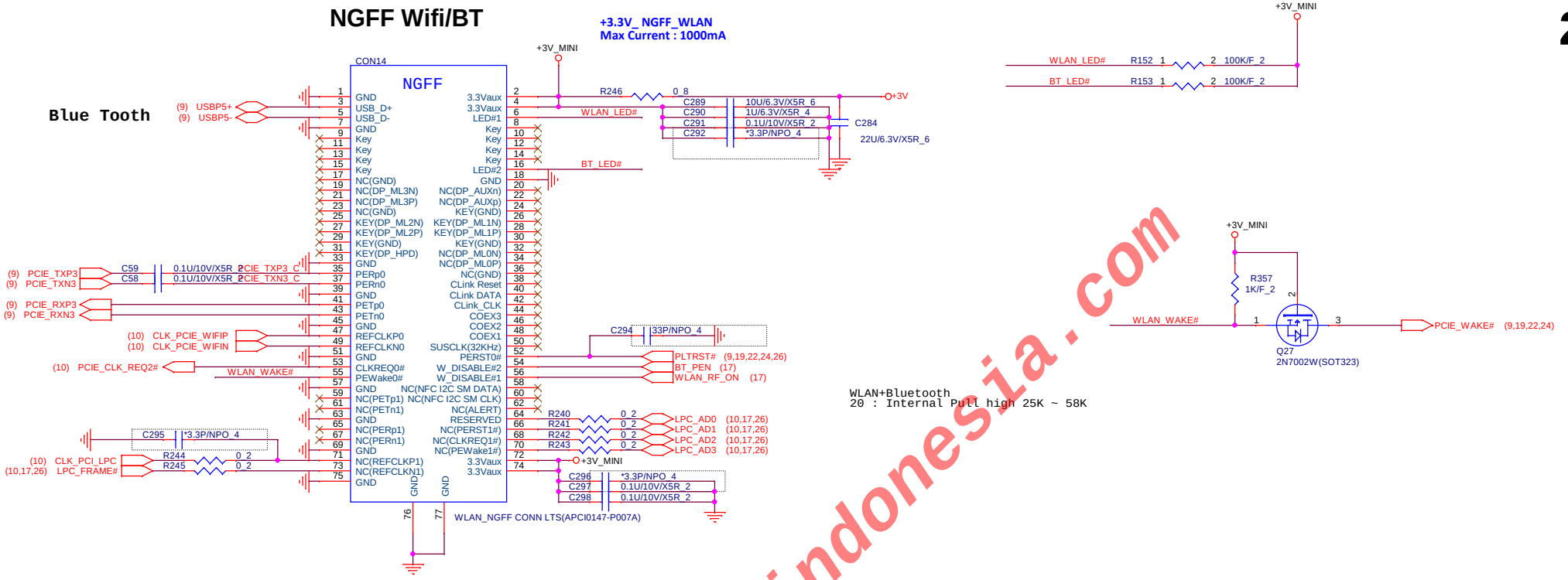
Size	Document Number	Rev
	Giga LAN RTL8111GS	2A
Date: Wednesday, December 24, 2014	Sheet 22 of 36	

NGFF Wifi/BT

+3.3V_ NGFF_WLAN
Max Current : 1000mA

Blue Tooth

WIFI



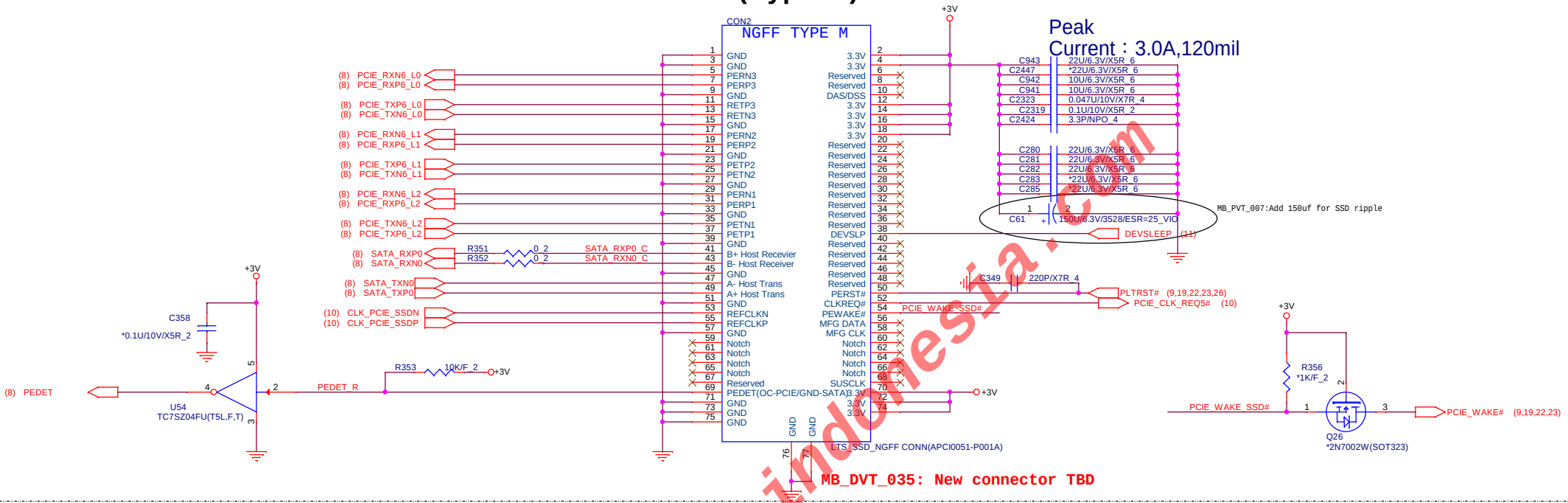
WLAN+Bluetooth
20 : Internal Pull high 25K ~ 58K

This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.
PROJECT : MS8

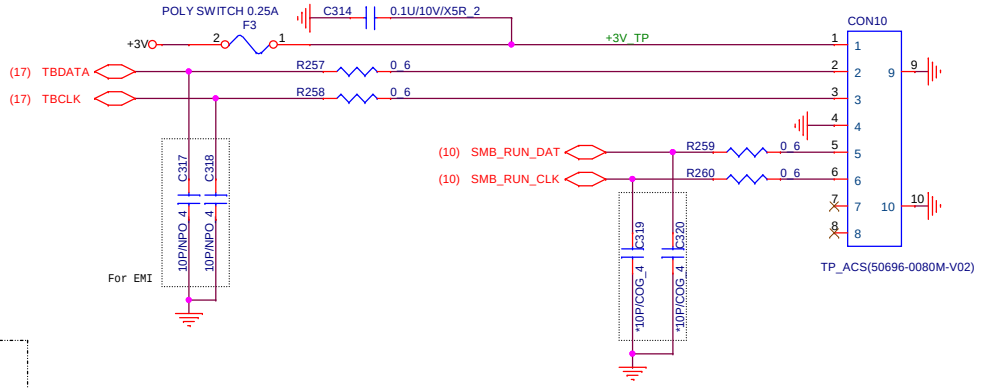
Size	Document Number	Rev
	WLAN	1A
Date: Wednesday, December 24, 2014	Sheet 23 of 36	

SSD CONNECTOR (Type M)

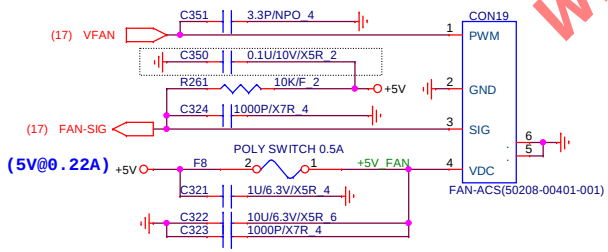


MB_DVT_035: New connector TBD

T/P Board to T/P



MAIN FAN



Pin No.	Signal	Note	Lead Color
1	PWM	------	WHITE
2	GND	------	BLACK
3	SIG	FG OUT (2Pulses/rev) (Open Collector)	GRAY
4	VDC	+5V	RED

This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.
PROJECT : MS8

Size	Document Number	Rev
	SSD/TP/FAN	2A

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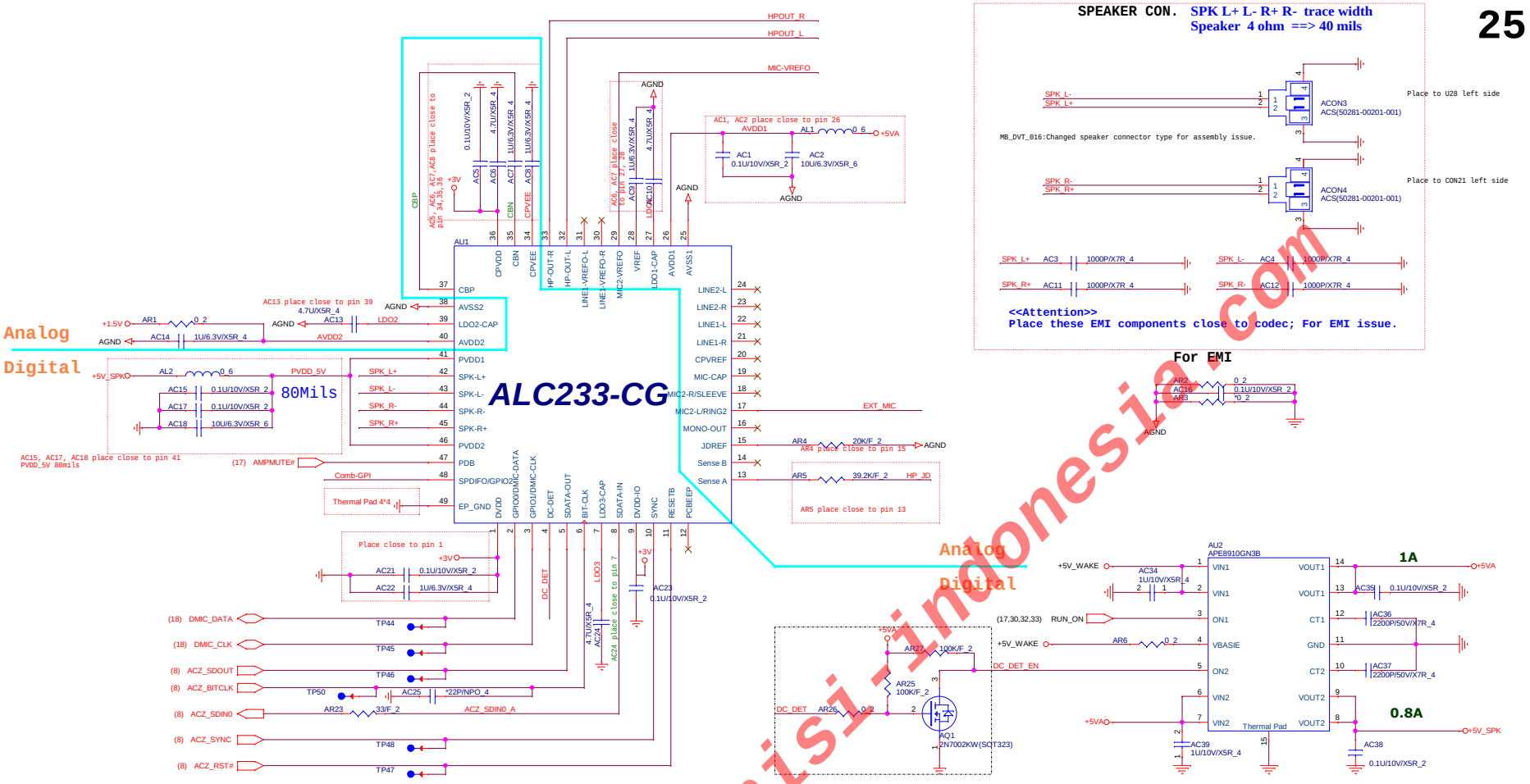


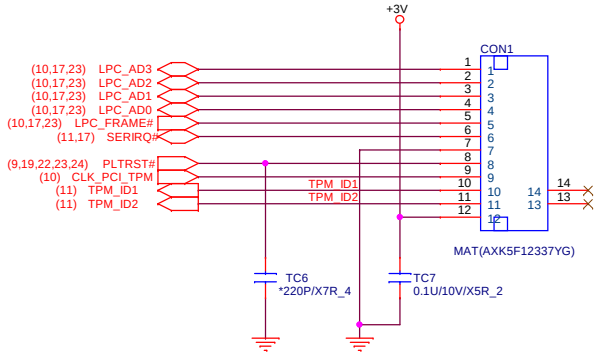
	DC_DET
Assert	Floting
De-assert	Pull down to GND

This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.
PROJECT : MS8

Size	Document Number	Rev
	Audio Codec ALC233-CG	1A
Date: Wednesday, December 24, 2014	Sheet 25 of 36	

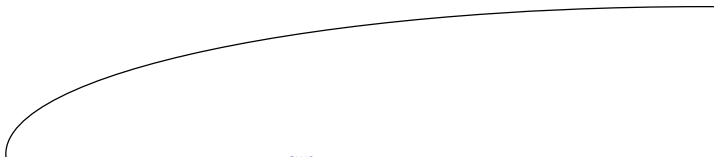
TPM BTB



TPM

MB_PVT_005:Remove TPM circuits on motherboard.

MB_PVT_021:Define TPM configuration

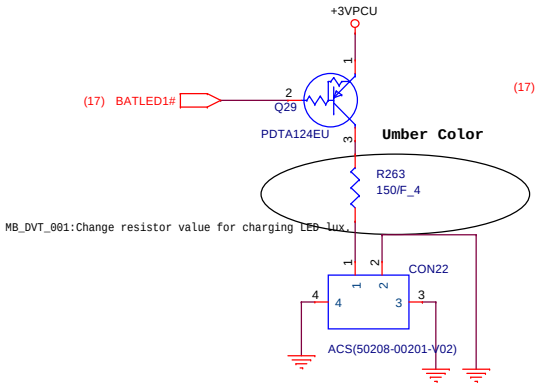


MB_PVT_006:Add TPM Switch for TPM version.

TPM_ID1	FW_VER
0	V1.2
1	V2.0

TPM_ID2	FW_VER
0	W/O TPM
1	W TPM

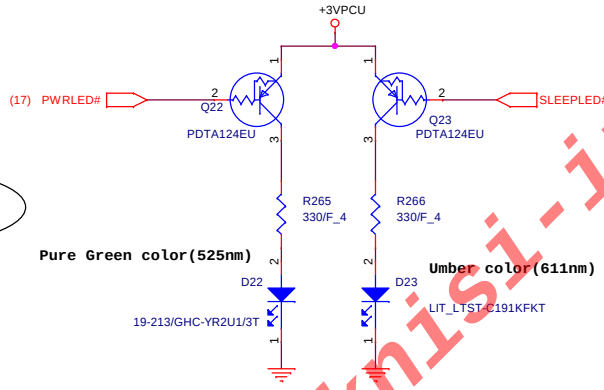
BATTERY LED



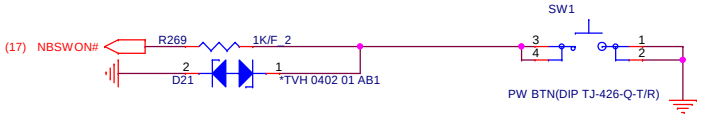
MB_DVT_001:Change resistor value for charging LED lux.

TPM BTB

Power/Sleep LED



Power SW



Cross Power Plane Capacitors

Quanta Computer Inc.
PROJECT : MS8

Size	Document Number	Rev
	LED/PS	2A

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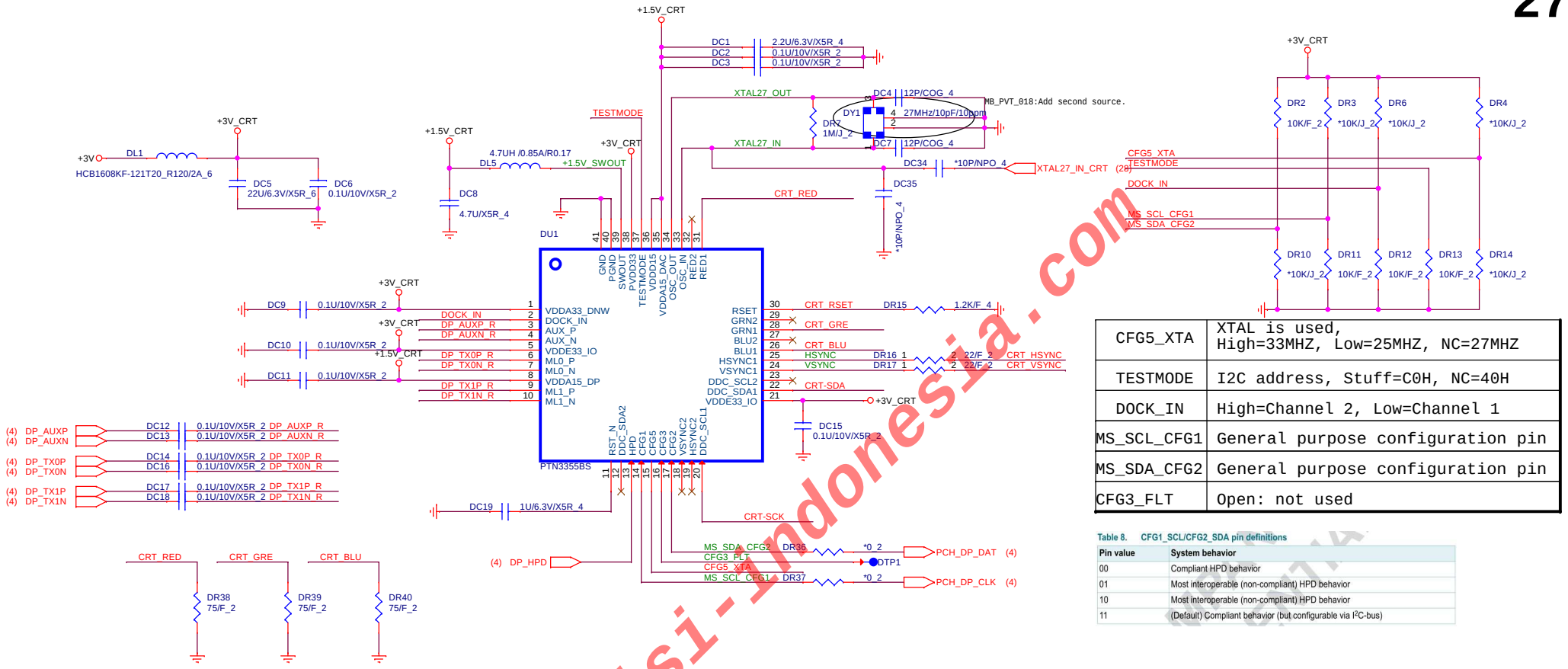
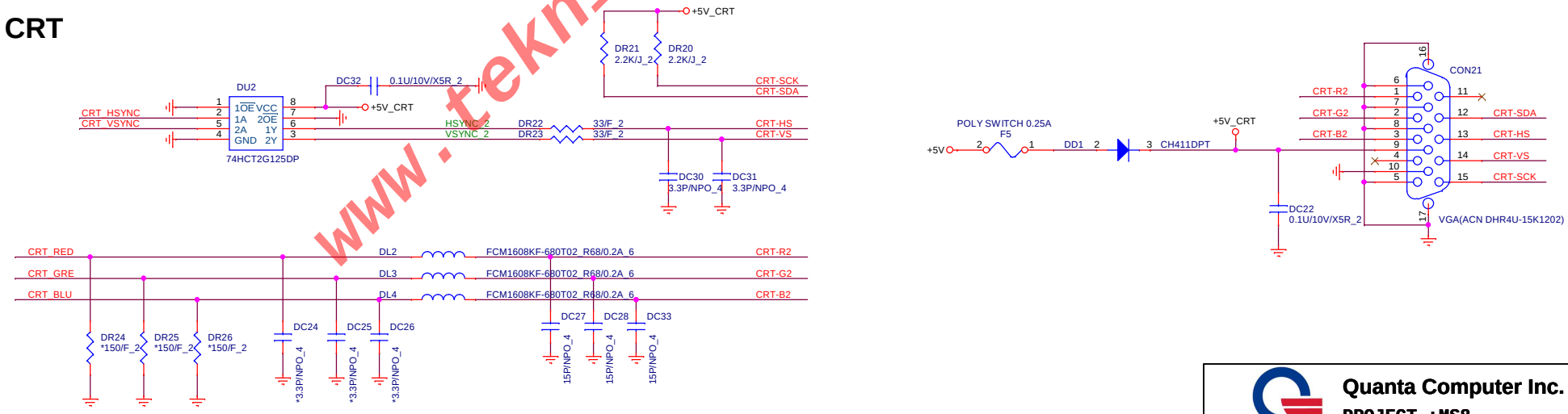


CFG5_XTA	XTAL is used, High=33MHZ, Low=25MHZ, NC=27MHZ
TESTMODE	I2C address, Stuff=C0H, NC=40H
DOCK_IN	High=Channel 2, Low=Channel 1
MS_SCL_CFG1	General purpose configuration pin
MS_SDA_CFG2	General purpose configuration pin
CFG3_FLT	Open: not used

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)

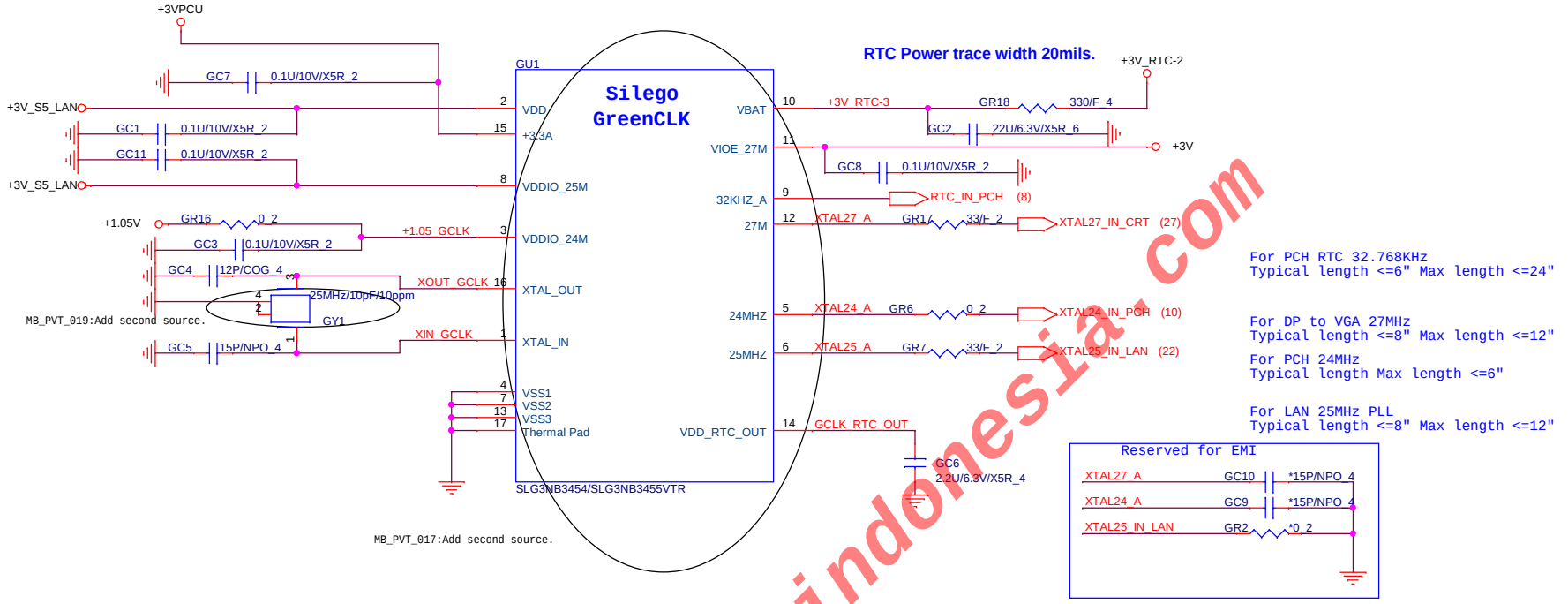
CRT



This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.
PROJECT : MS8

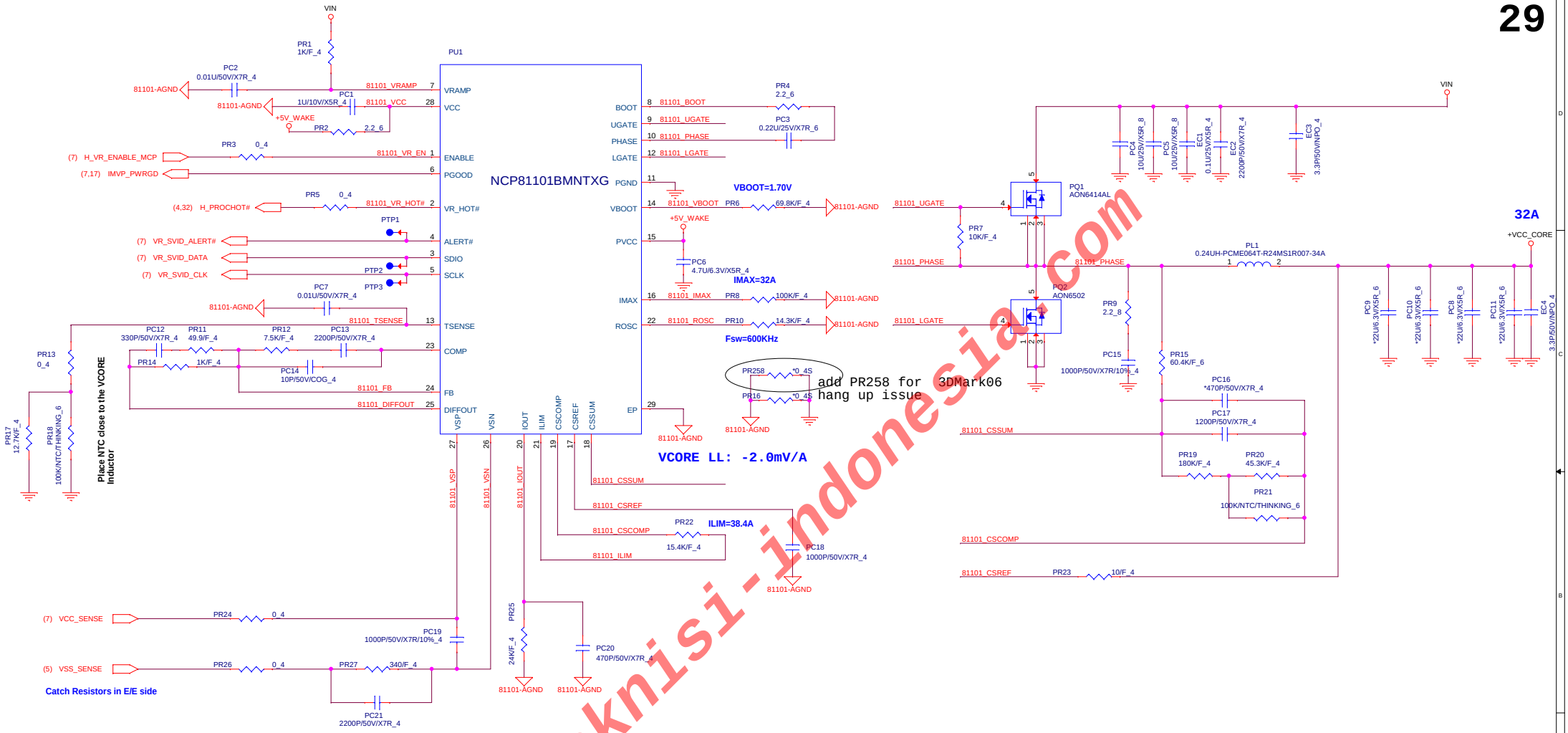
Size	Document Number	Rev
	DP2VGA	2A
Date: Wednesday, December 24, 2014	Sheet 27 of 36	



This part should not contain any substances which are specified in EM-S303.

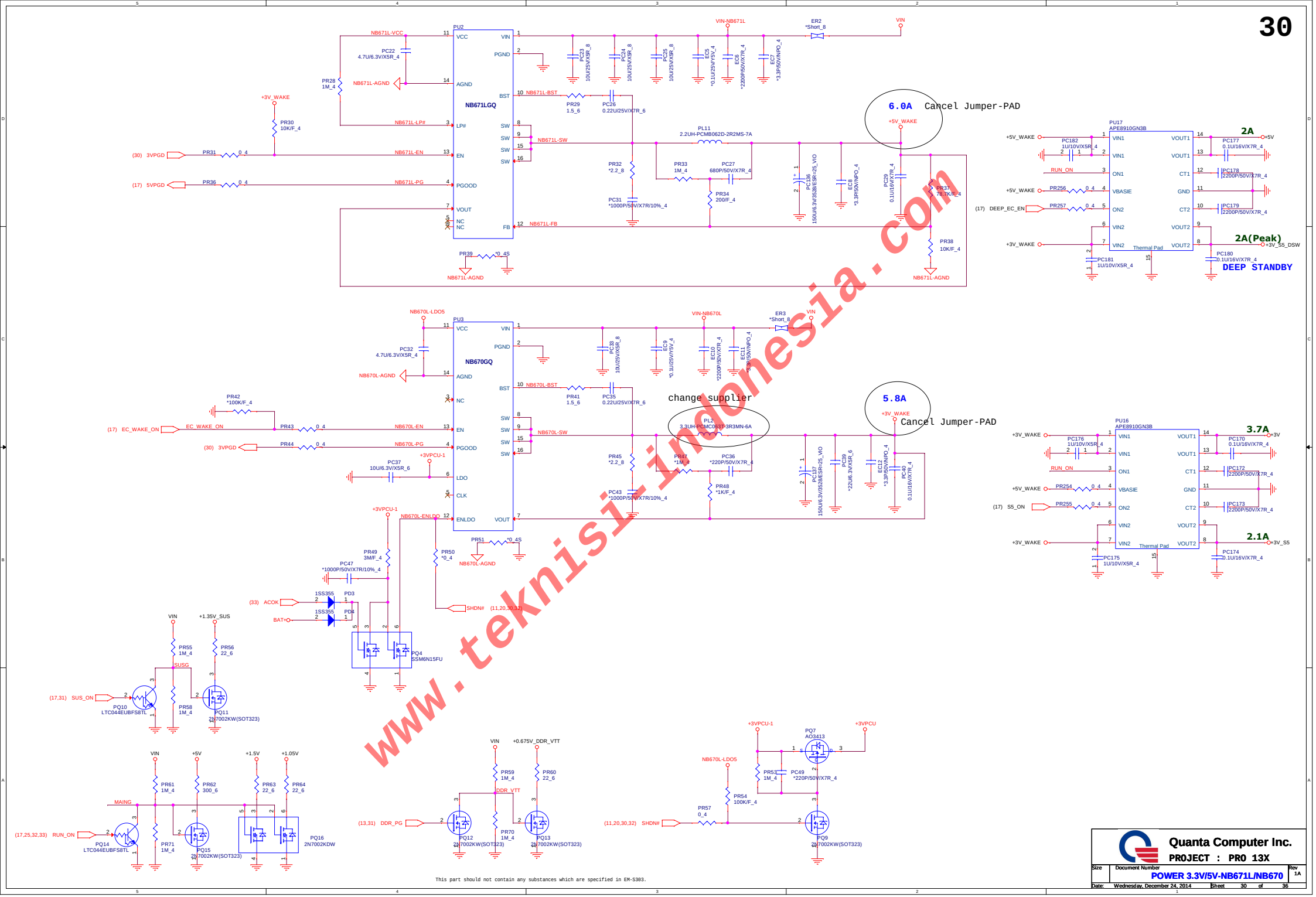
Quanta Computer Inc.
PROJECT :

Size	Document Number	Rev
	GreenCLK(SLG3NB3454)	2A
Date: Wednesday, December 24, 2014	Sheet 28 of 36	

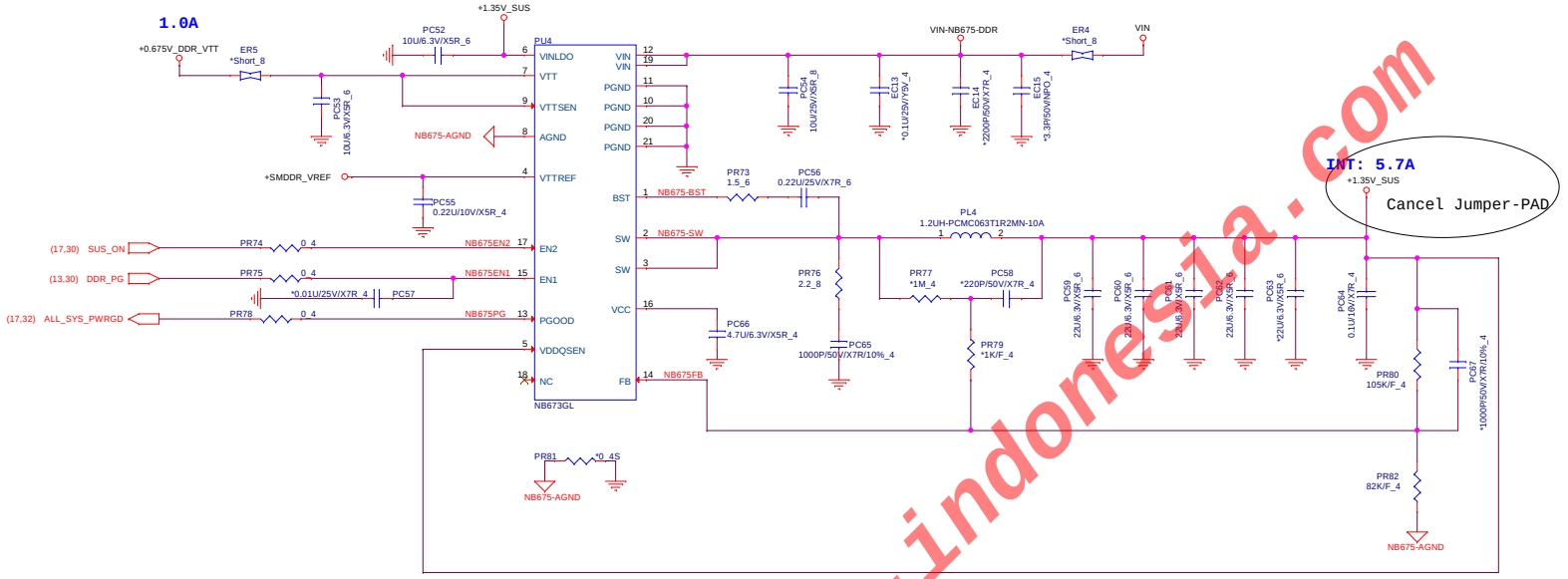


This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.		
PROJECT : PRO 13X		
Size	Document Number: +VCC_CORE (NCP81101)	Rev: 1A
Date: Wednesday, December 24, 2014	Sheet 29 of 36	


NB671LGQ
6.0A Cancel Jumper-PAD
2A
2A(Peak)
DEEP STANDBY
NB670GQ
change supplier
5.8A
Cancel Jumper-PAD
3.7A
2.1A
Thermal Pad
www.teknisi-indonesia.com

1.35VSUS & VTT_MEM



This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.
PROJECT : PRO 13X

Size	Document Number	Rev
	1.35VSUS/VTT_MEM	1A

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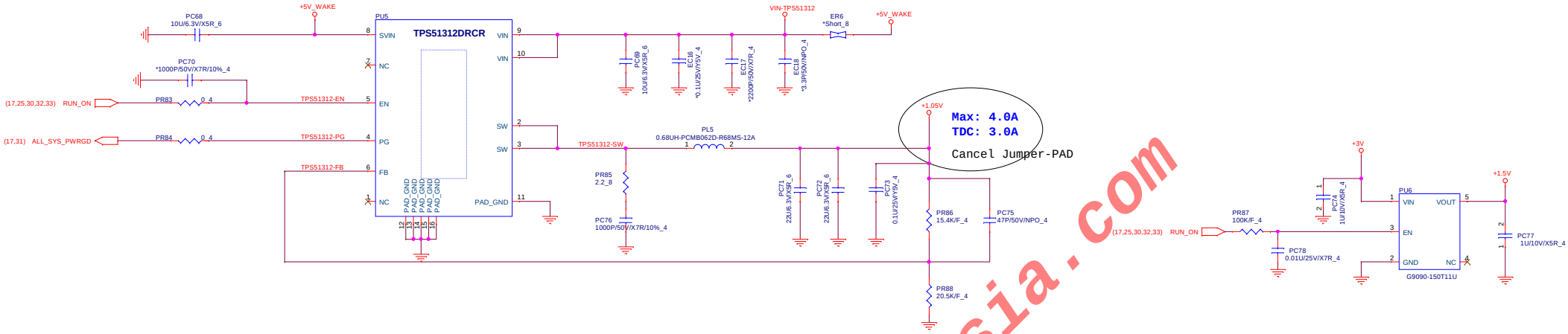
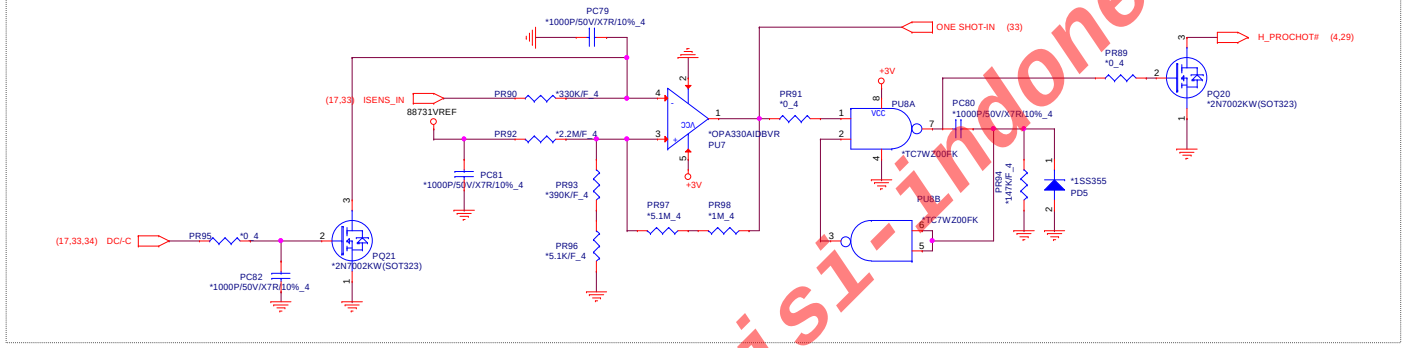
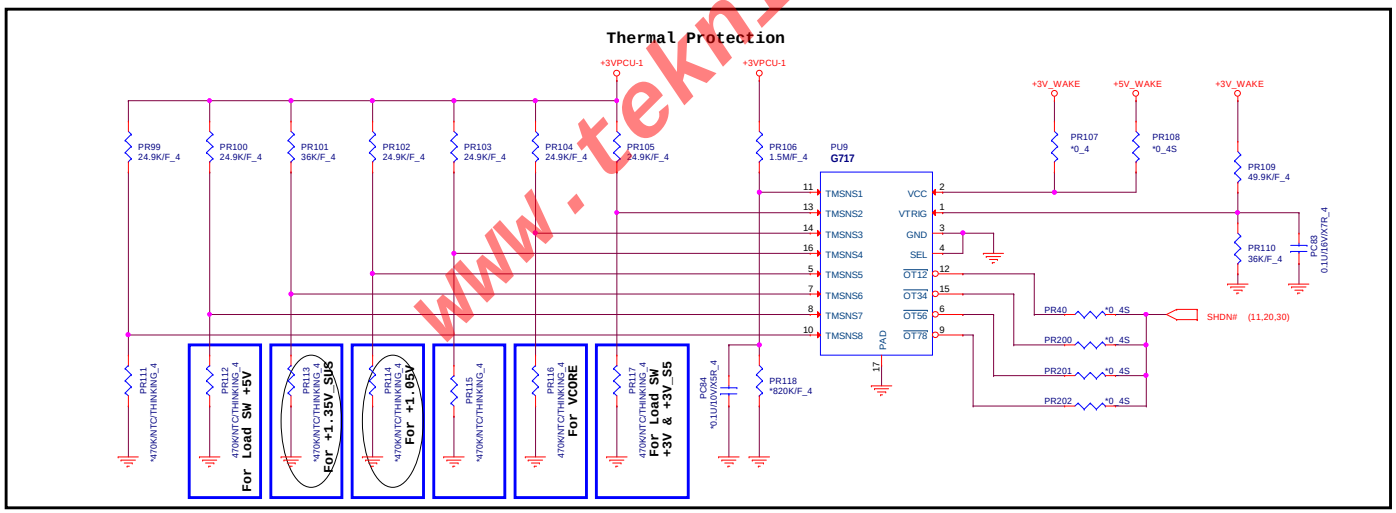
+1.05V / 3.0A



One-Shot 10ms PROCHOT# For ADP



Thermal Protection



MB_DVT_026:PR113 & PR114 de-populate because of PWM IC has thermal protection

This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.
PROJECT : PRO 13X
Size | Document Number: POWER +1.05V /Thermal/+1.5V | Rev: 1A
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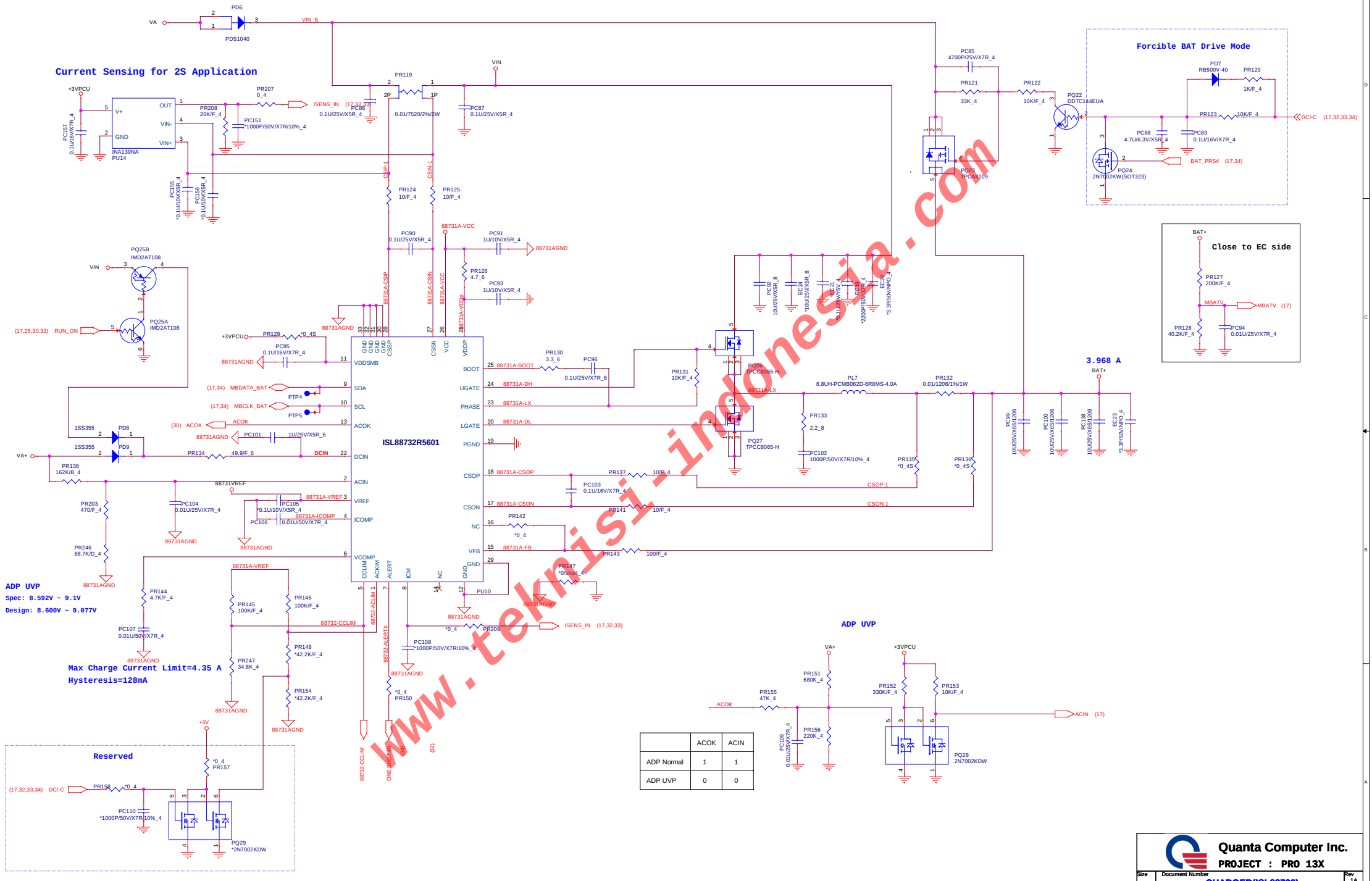
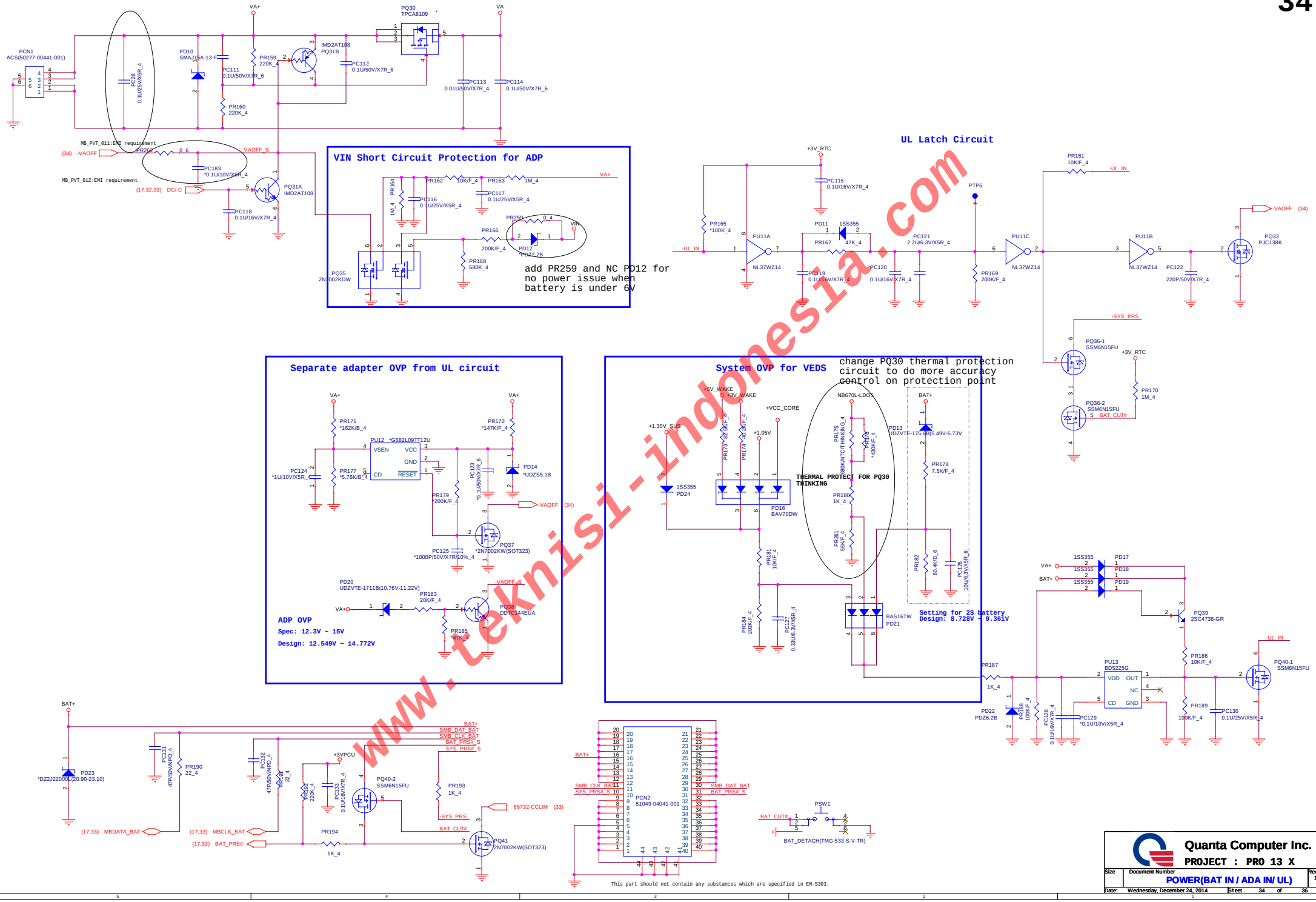


This part should not contain any substances which are specified in EM-S303.



Quanta Computer Inc.
PROJECT : PRO 13 X

Size	Document Number	Rev
	POWER(BAT IN / ADA IN/ UL)	1A

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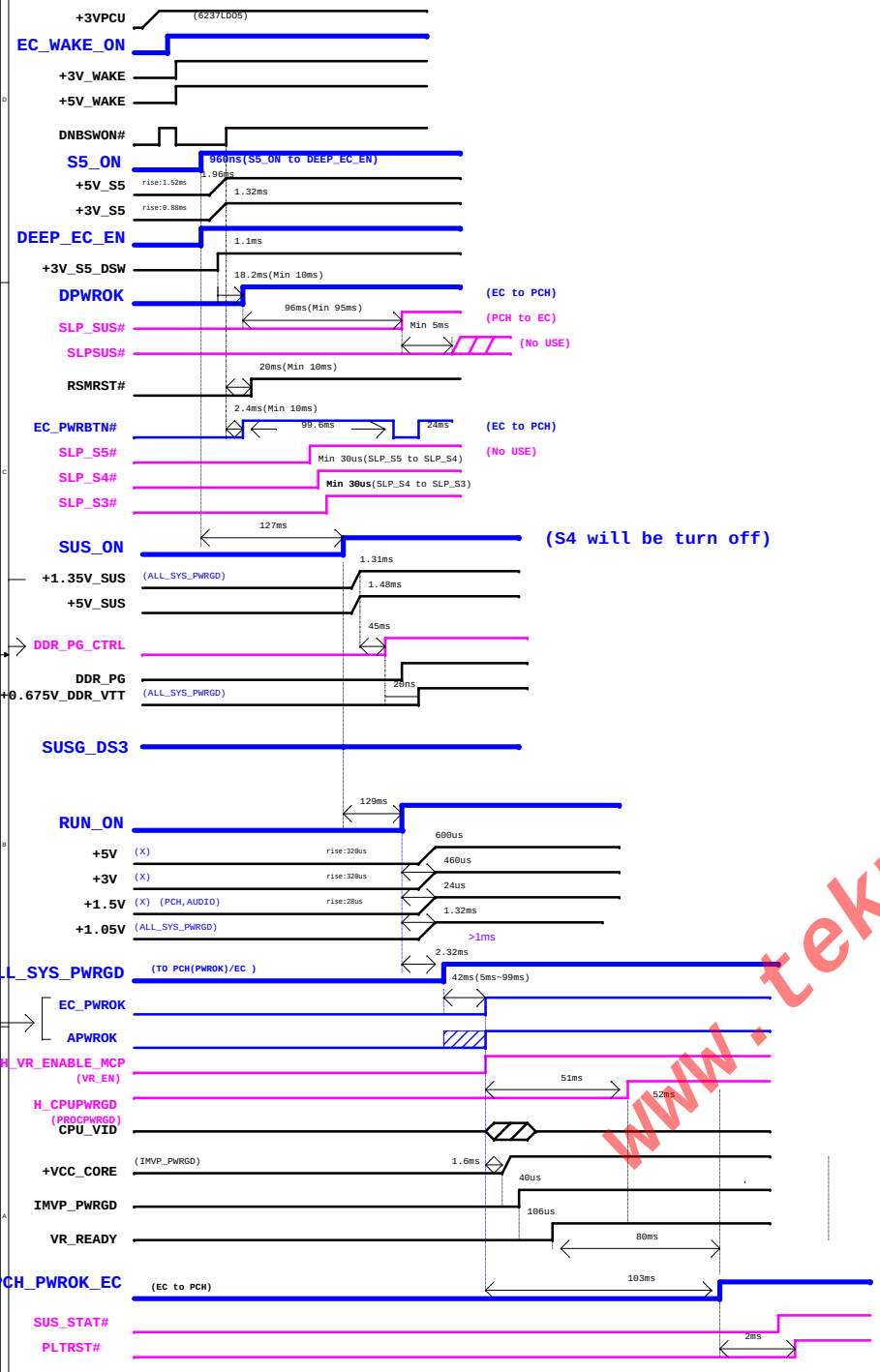
HSW Power-Up Sequencing



SM BUS	MBCLK/MBDATA	WRITE	READ	Function
ISL88731CHRTZ	0001 001X	0001 0010	0001 0011	Charger
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
+1.5V	H	L	L	L	L	L	L	L
+1.05V	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	L
+3V_S5_DSW	H	H	H	H	L	L	L	L

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

USB PORT Architecture	
PORT 0	USB3.0
PORT 1	USN3.0
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	Card Reader
PORT 12	Touch Screen
PORT 13	N/A

This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.
PROJECT : MS8
Size | Document Number: IO PORT LIST | Rev 1A
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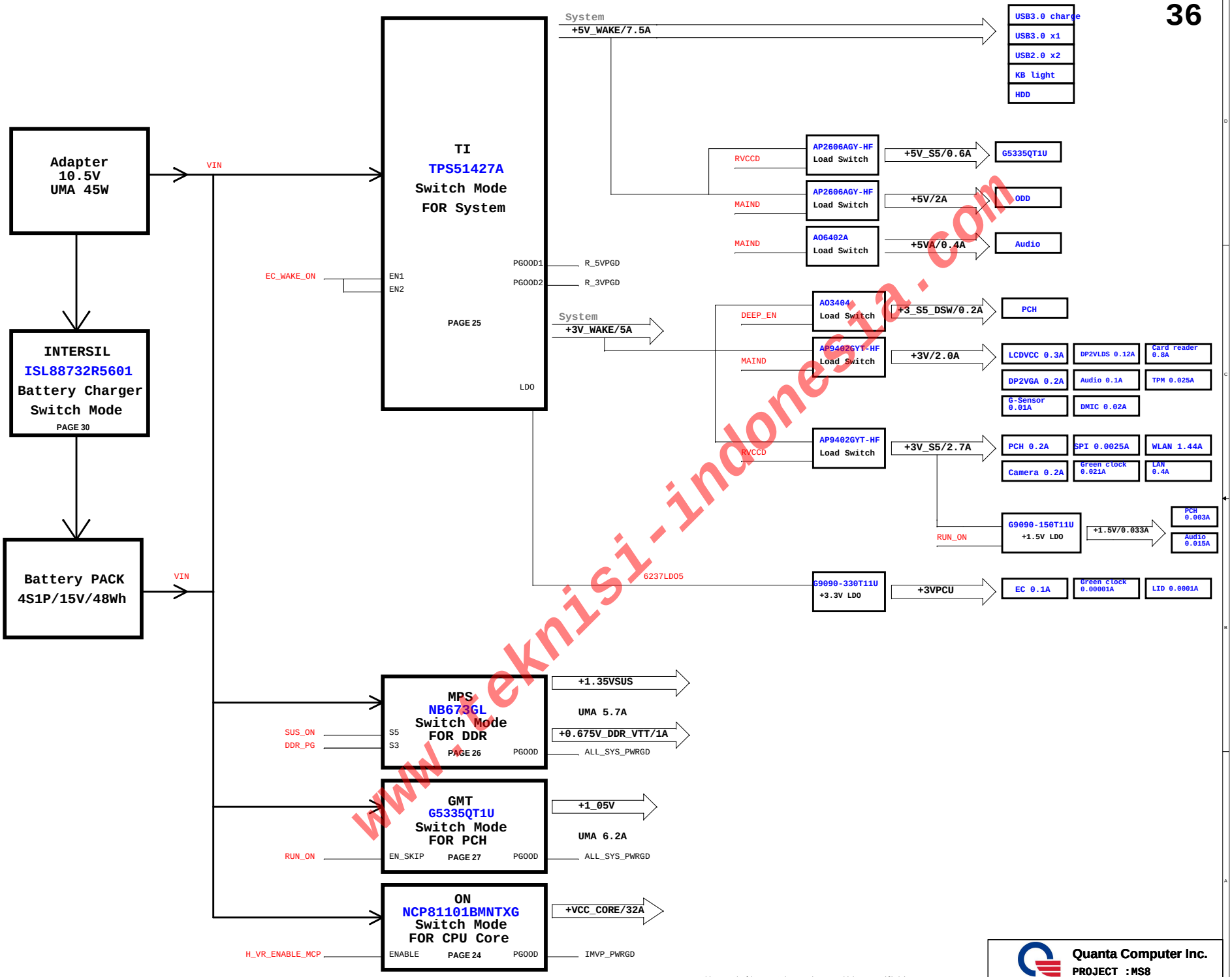

This part should not contain any substances which are specified in EM-S303.

Quanta Computer Inc.			
PROJECT : MS8			
Size	Document Number	Power TREE	Rev 1A
Date: Wednesday, December 24, 2014	Sheet 36 of 36		