QR1 Block Diagram

VTERM(+0.9V)
VTT(+1.05V)
+1.2VSUS
+1.2V
+1.8VMEM
+1.8V
3VPCU
+3.3V
+3.3VSUS
LCD_3.3V
LCD_5V
+5V
+2.5V

Nano / C7M

VCORE:+1.196 ~ +0.748
VCCP:+1.05V
VCCA:+1.8V

VID[0:6] → CPU VCORE

+/- CPU_CLK
+/- HCLK → Clock Gengerator ICS9UM702

V4 BUS

VX855

VTT:VCCP (+1.05V)
VCC12:+1.2V
VCC33:+3.3V
VCCMEM:+1.8V
VSUS12:+1.2VSUS
VSUS33:+3.3VSUS
V2.5V: +2.5V

CHA → DDRII SO-DIMM

LVDS → 10.1" LCD

IDE → IDE to SATA ACARD → SATA 2.5" HDD/SSD

RGB → CRT

USB X 1 → Card Reader

PCI → VT6107 LAN (PCI) → RJ45

USB X 1 → USB PORT

HD Audio → HDA CODEC ALC269VB → Int. SPK, Audio Jack, Int. Mic

USB x 1 → USB PORT

USB X 1 → WLAN

LPC BUS → EC KB3926 → SPI Flash

USB X 1 → USB HUB

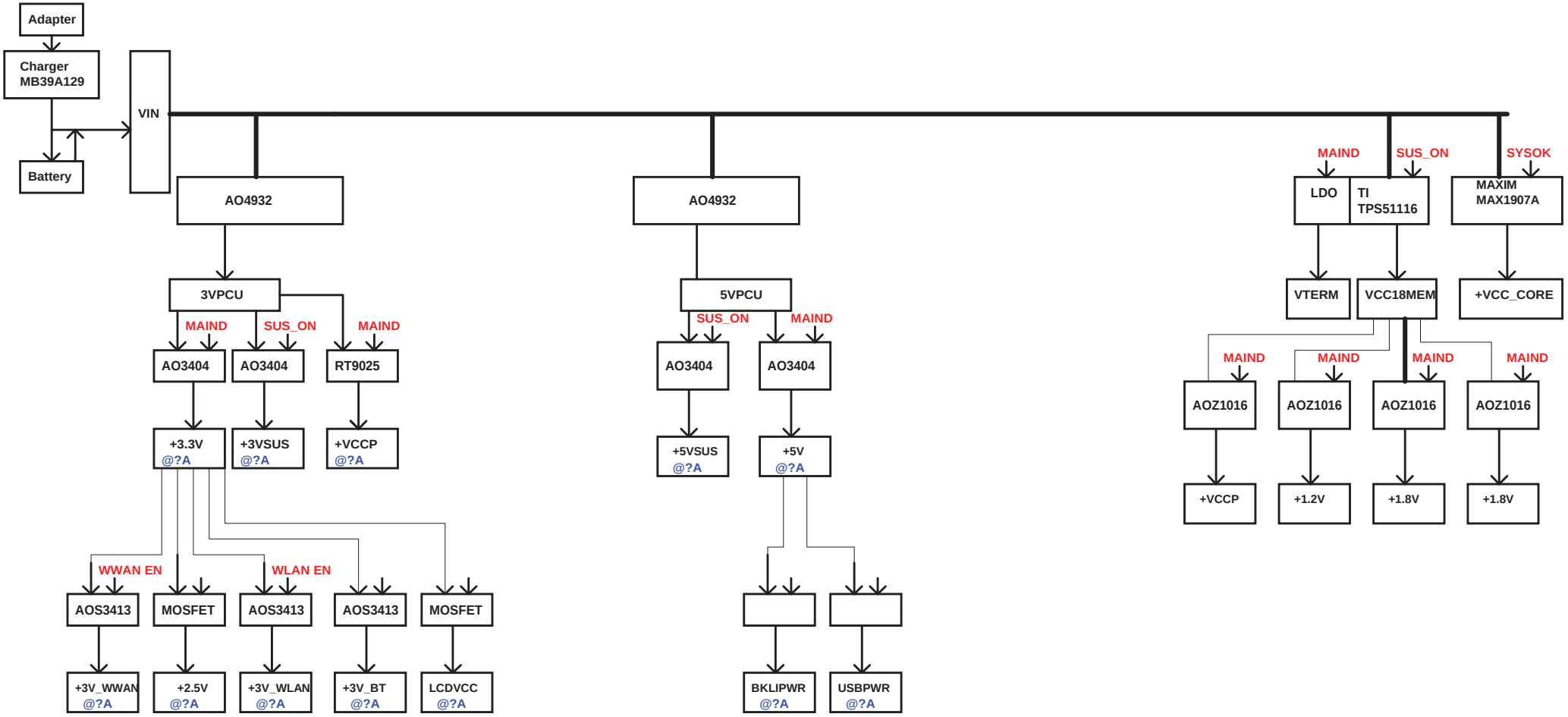
Camera
SIM Card
WWAN
Modify on 8/2
USB PORT X2
BT Conn.

EC KB3926 → Int. KB, T/P, Battery → Charger

Quanta Computer Inc.
PROJECT : QR1

Size	Document Number	Rev
	BLOCK DIAGRAM	1A

Date: Thursday, December 10, 2009 Sheet 1 of 35

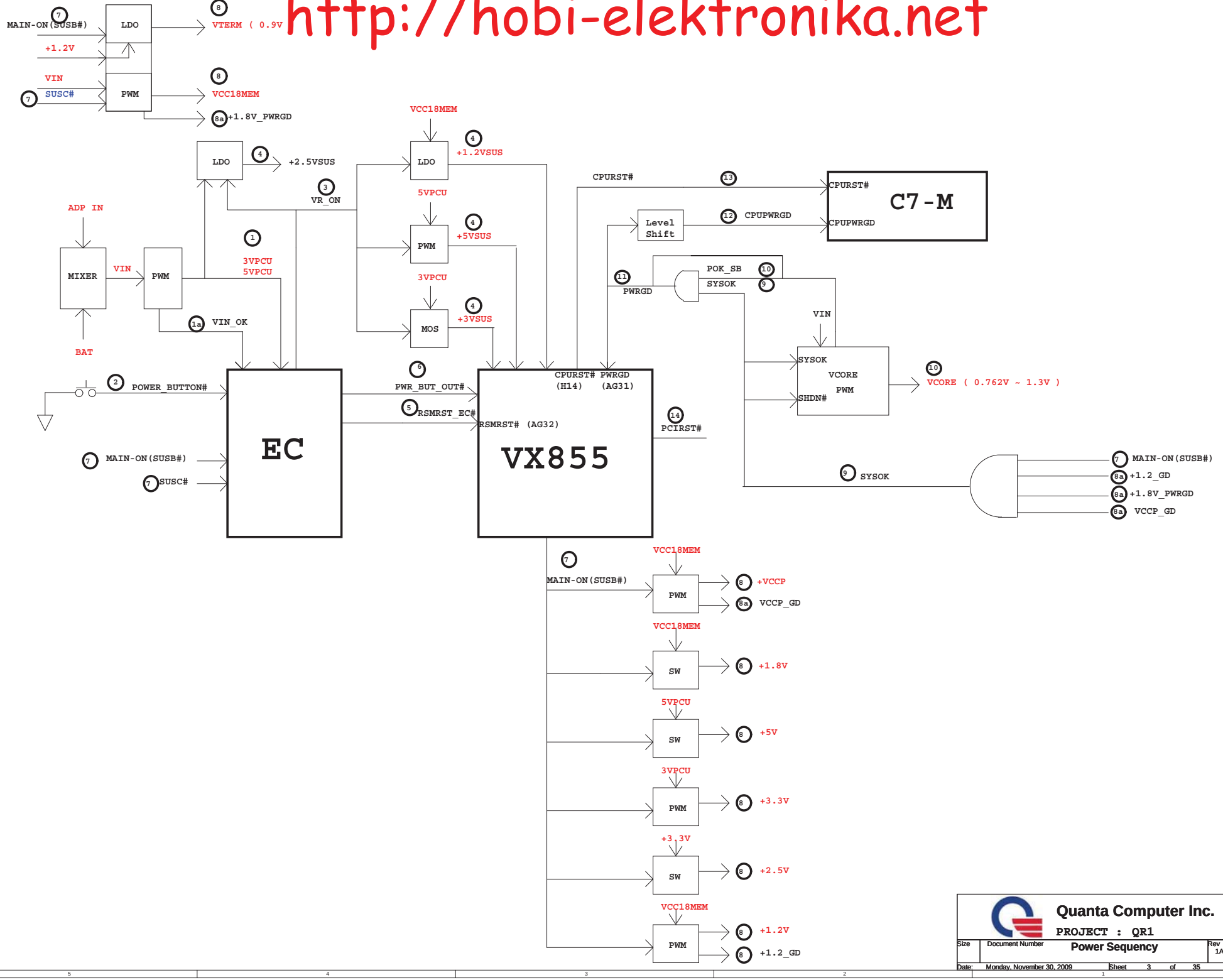


Quanta Computer Inc.

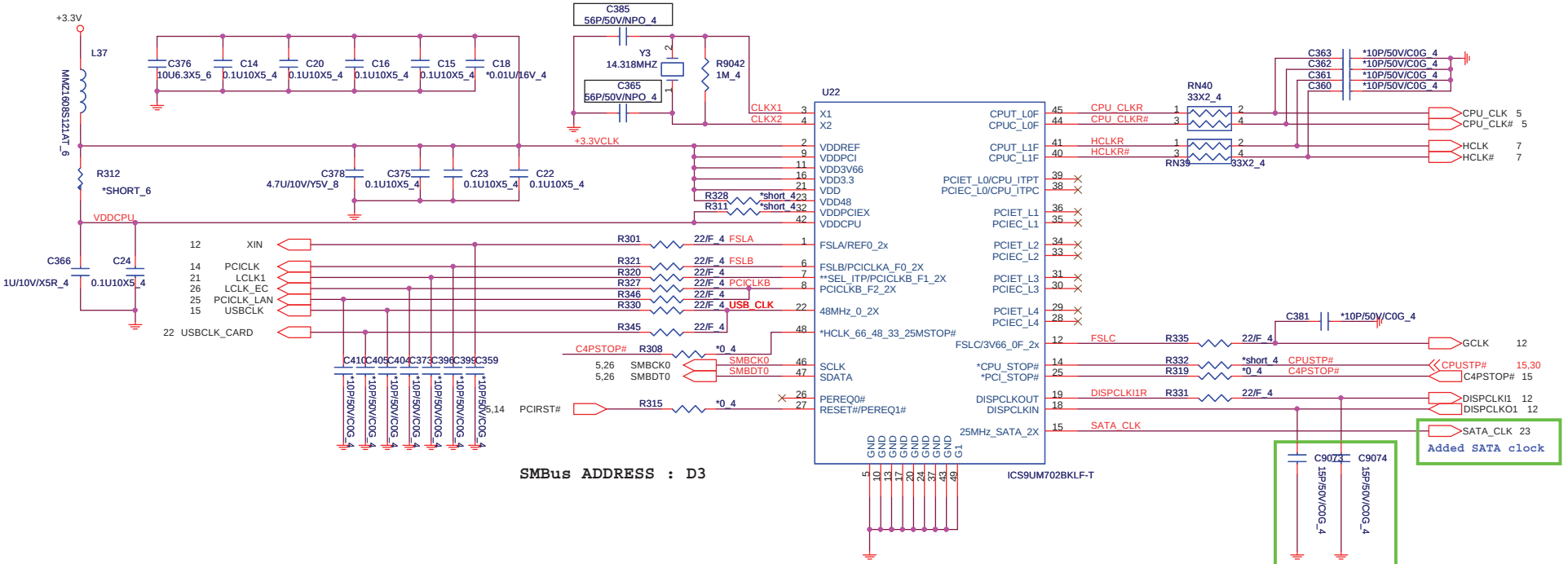
PROJECT : QR1

Size	Document Number	Rev
	POWER MANGER DIAGRAM	1A

Date: Monday, November 30, 2009 Sheet 2 of 35



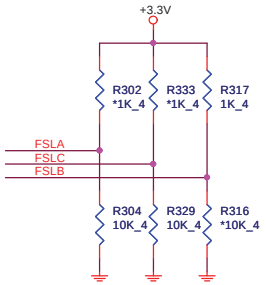
Quanta Computer Inc.			
PROJECT : QR1			
Size	Document Number	Power Sequency	Rev 1A
Date: Monday, November 30, 2009	Sheet 3 of 35		



SMBus ADDRESS : D3

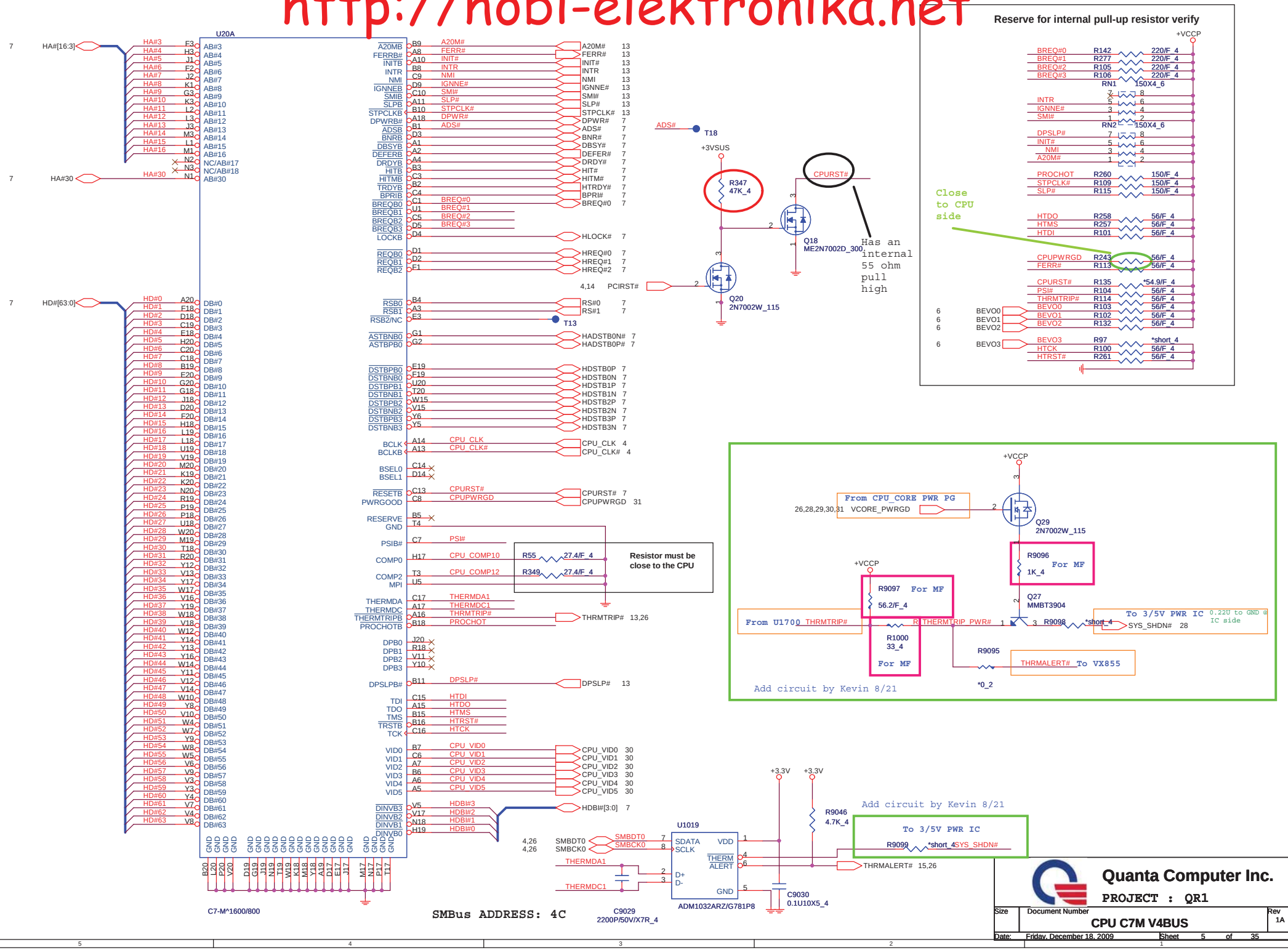
ICS9UM701 ON : 0 OFF : 1

3	2	1		
FSLA	FSLC	FSLB	CPU	PCI
0	0	0	266.66	33
1	0	0	133.33	33
0	0	1	200	33
1	0	1	166.66	33
0	1	0	333.33	33
1	1	0	100	33
0	1	1	400	33
1	1	1	200	33

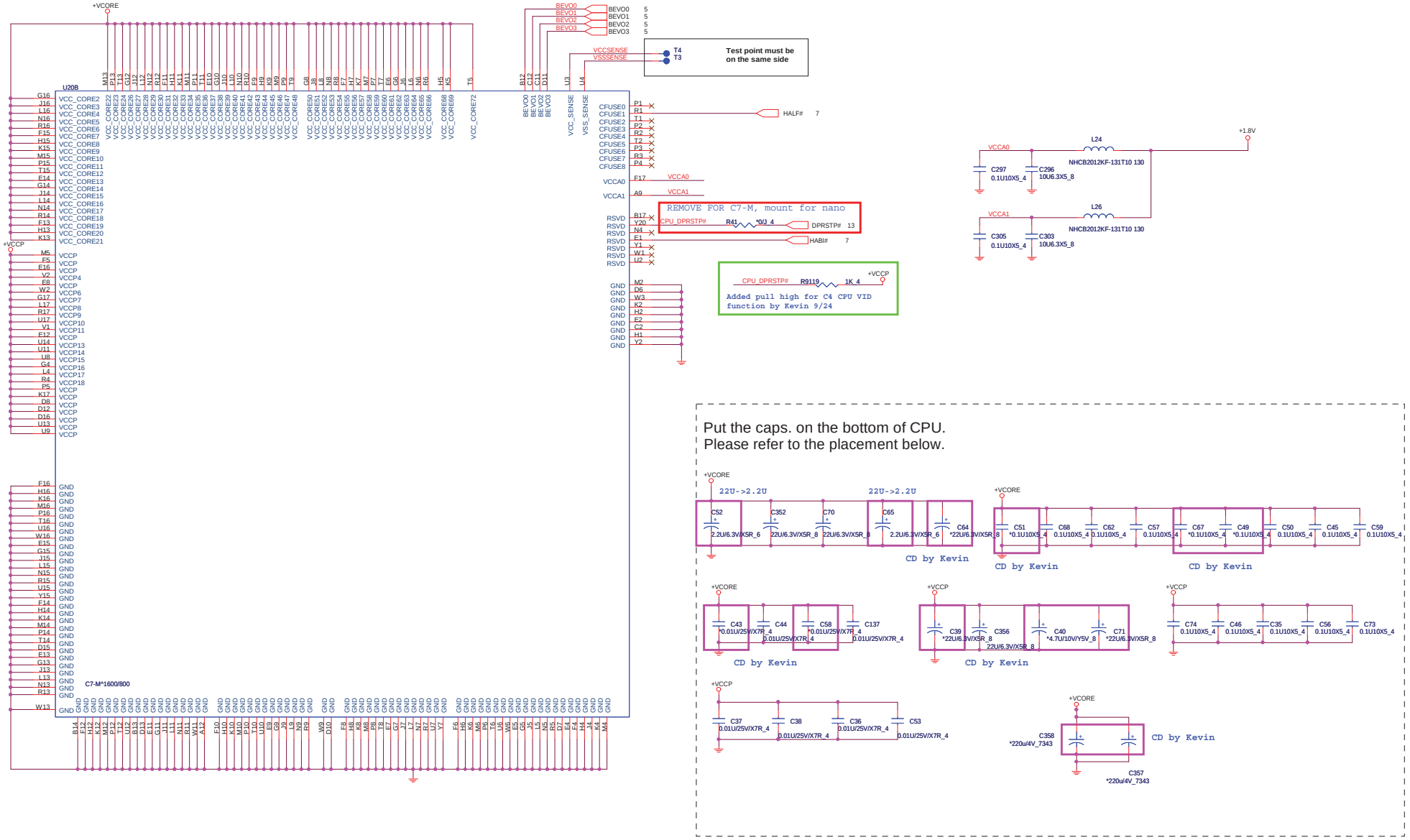


Quanta Computer Inc.
PROJECT : QR1

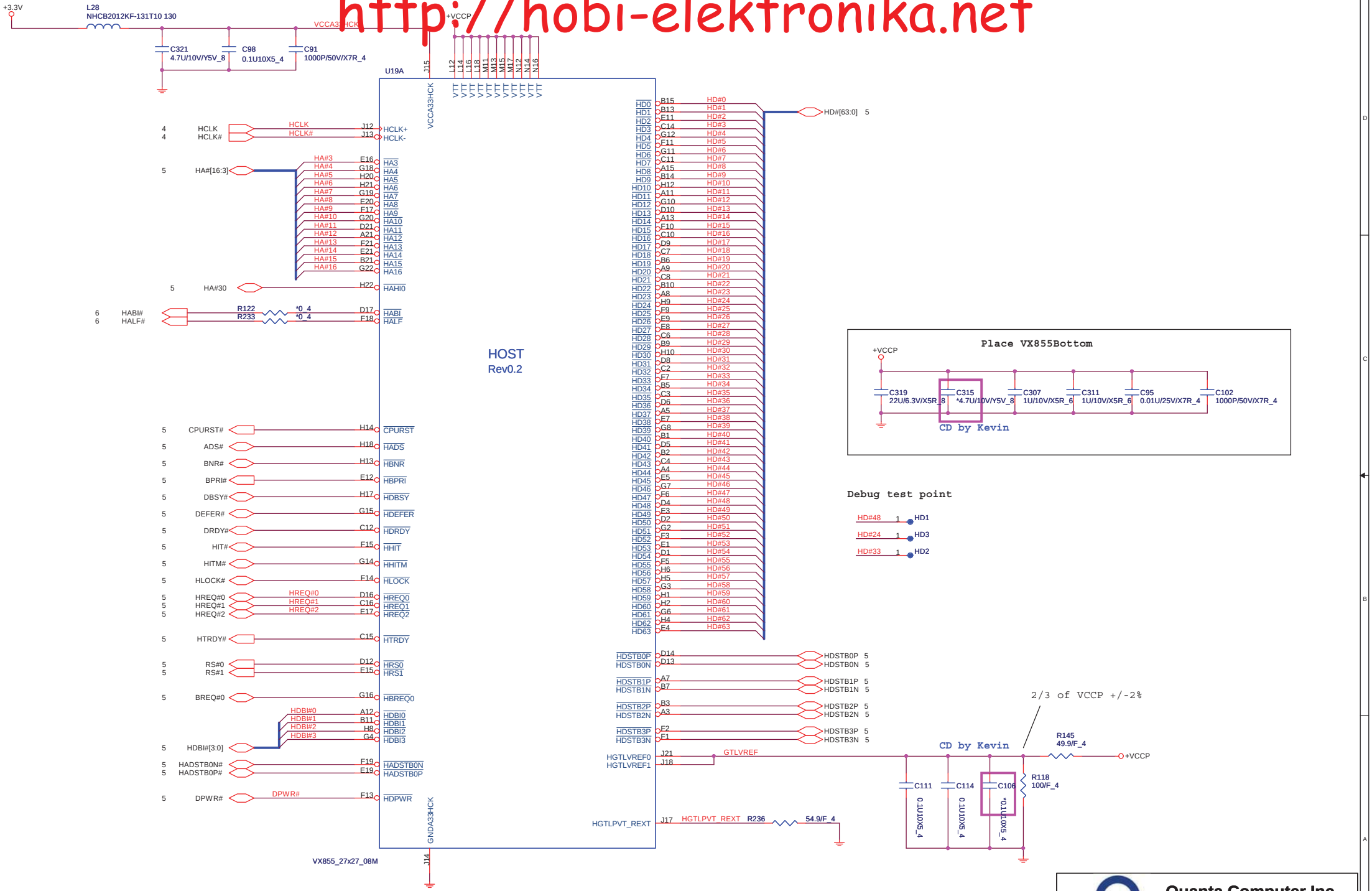
Size	Document Number	Rev
	CLOCK GENERATOR	1A
Date: Friday, December 18, 2009	Sheet 4 of 35	



Quanta Computer Inc.		
PROJECT : QR1		
Size	Document Number: CPU C7M V4BUS	Rev: 1A
Date: Friday, December 18, 2009	Sheet 5 of 35	



Quanta Computer Inc.			
PROJECT : QR1			
Size	Document Number		Rev
	CPU C7M POWER&GND		1A
Date: Friday, December 18, 2009	Sheet 6	of 35	

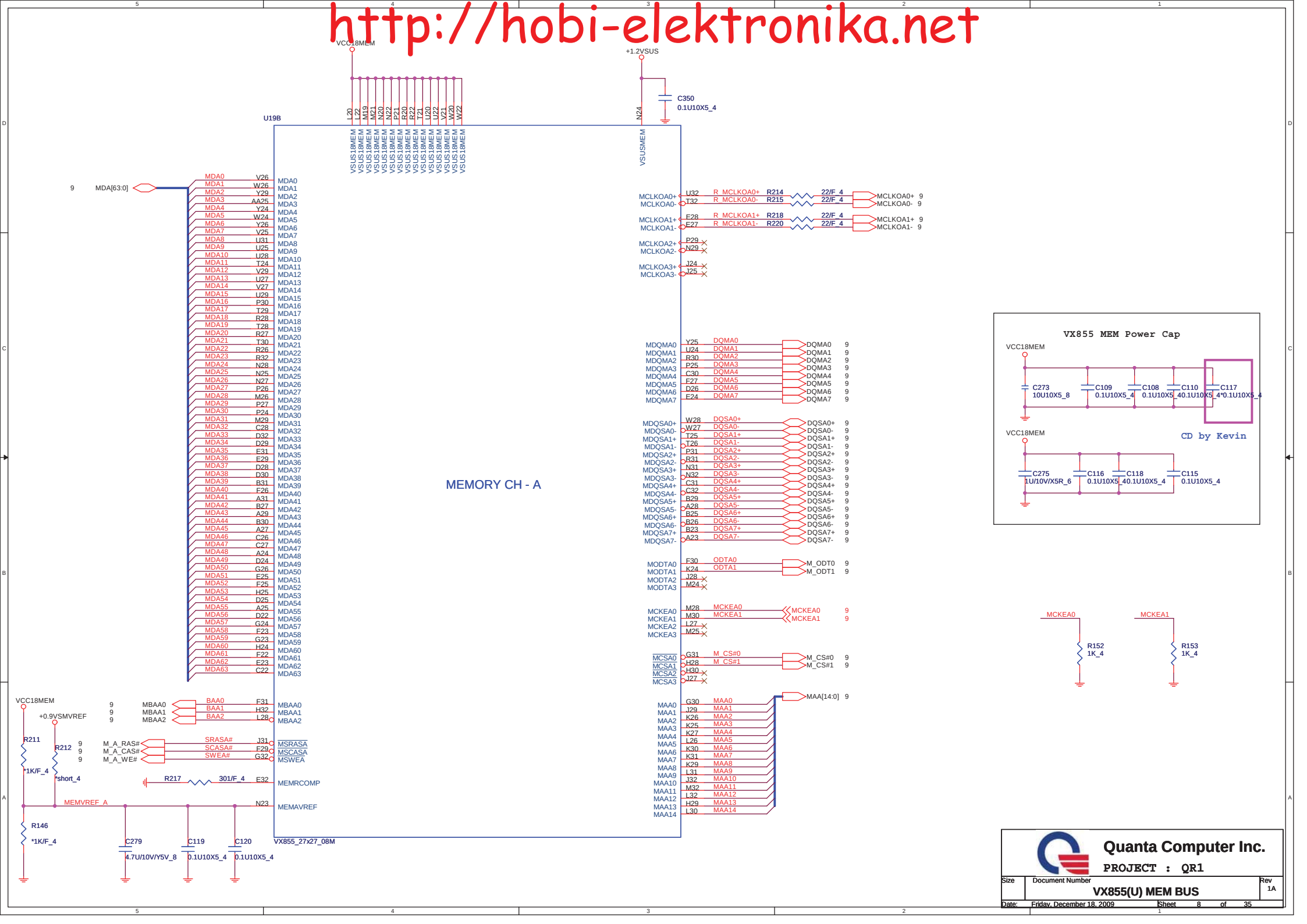


Quanta Computer Inc.

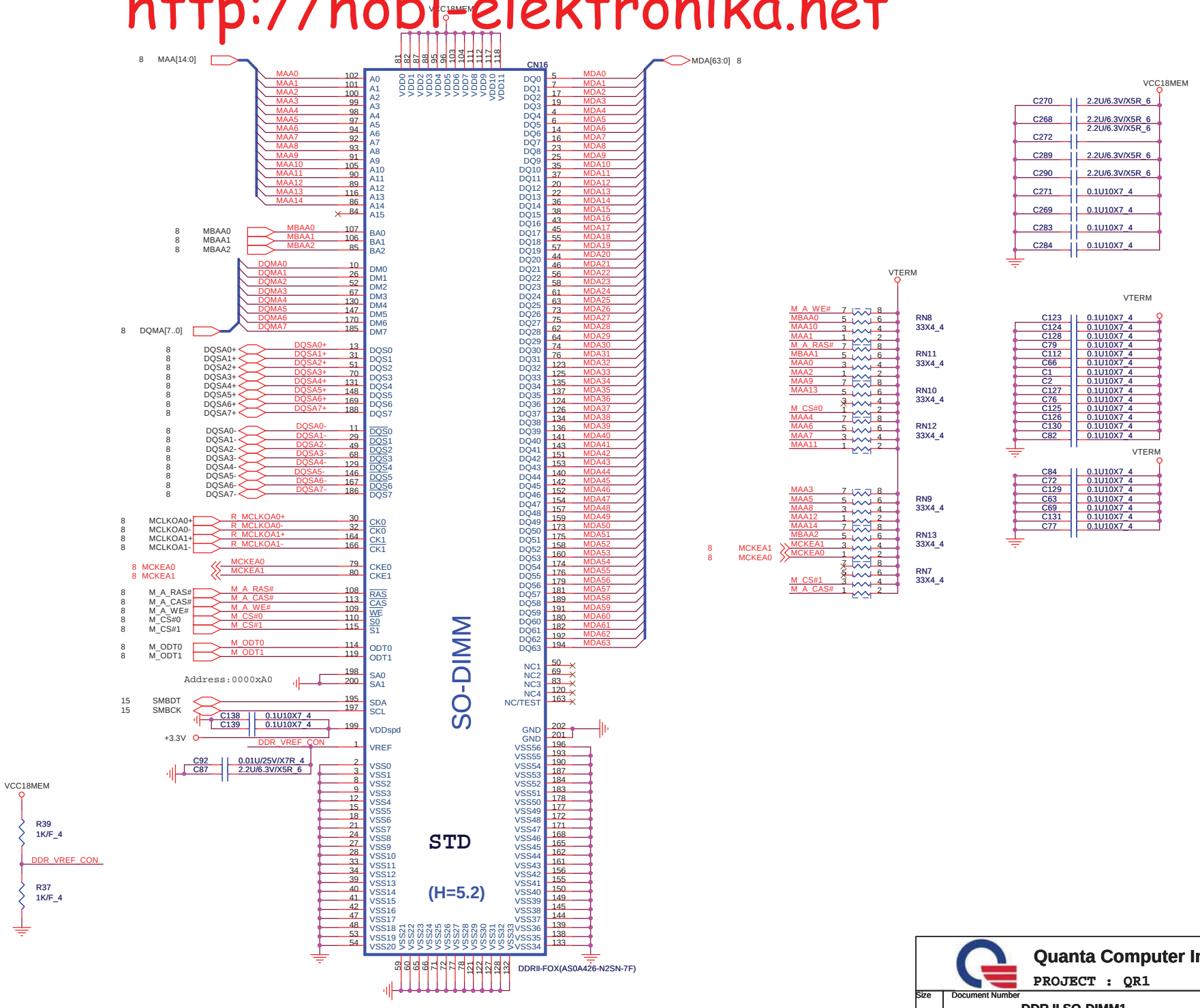
PROJECT : QR1

Size	Document Number	Rev
	VX855(U) HOST BUS	1A

Date: Friday, December 18, 2009 Sheet 7 of 35



Quanta Computer Inc.		
PROJECT : QR1		
Size	Document Number	Rev
	VX855(U) MEM BUS	1A
Date: Friday, December 18, 2009	Sheet 8 of 35	

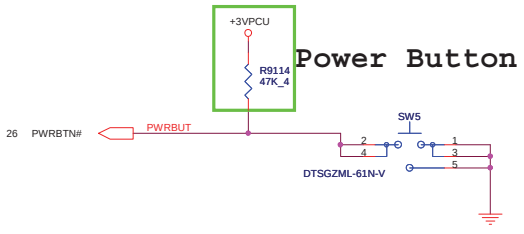


Quanta Computer Inc.	
PROJECT : QR1	
Size	Document Number: DDR II SO-DIMM1 — Rev: 1A
Date: Friday, December 18, 2009	Sheet 9 of 35

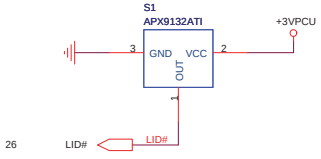
SCREW HOLE

Added PWRBUT pull high 47KR

Power Button

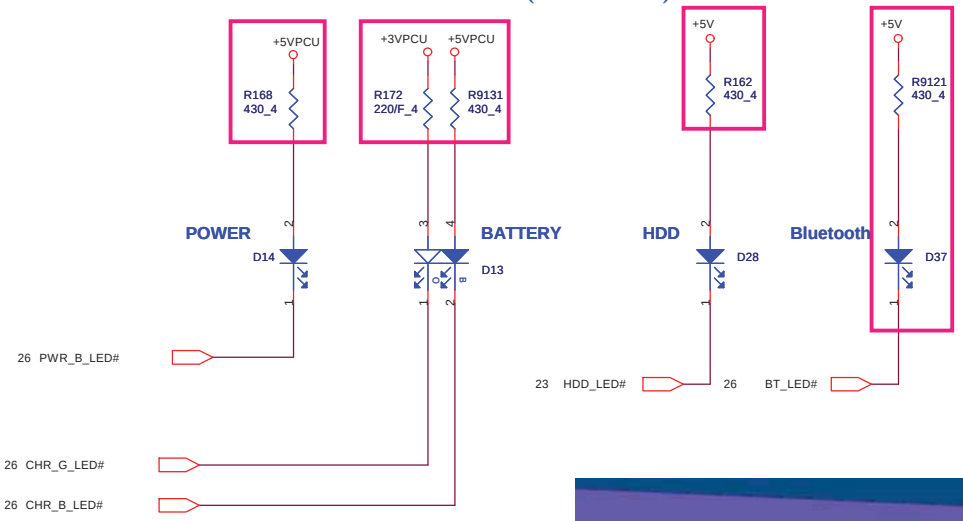


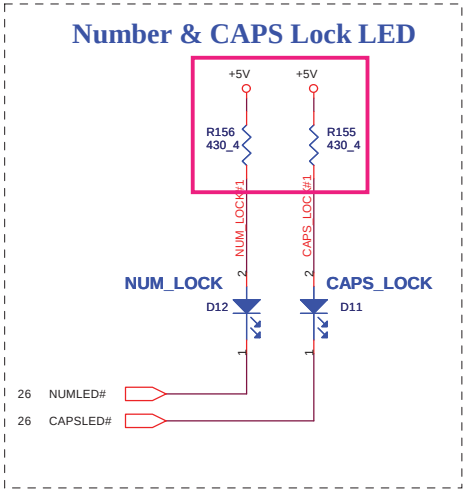
MR Sensor

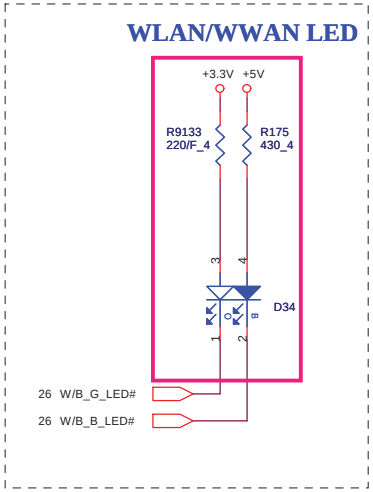


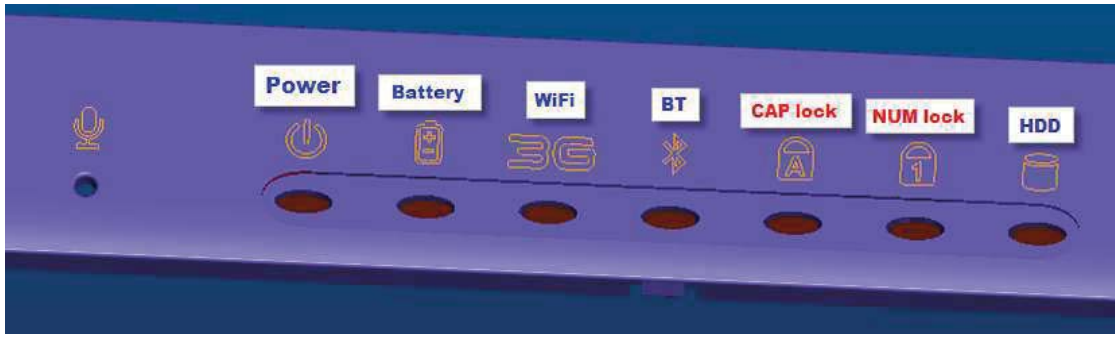
Quanta Computer Inc.		
PROJECT : QR1		
Size	Document Number: Power Button/Screw Hole	Rev: 1A
Date: Friday, December 18, 2009	Sheet 10 of 35	

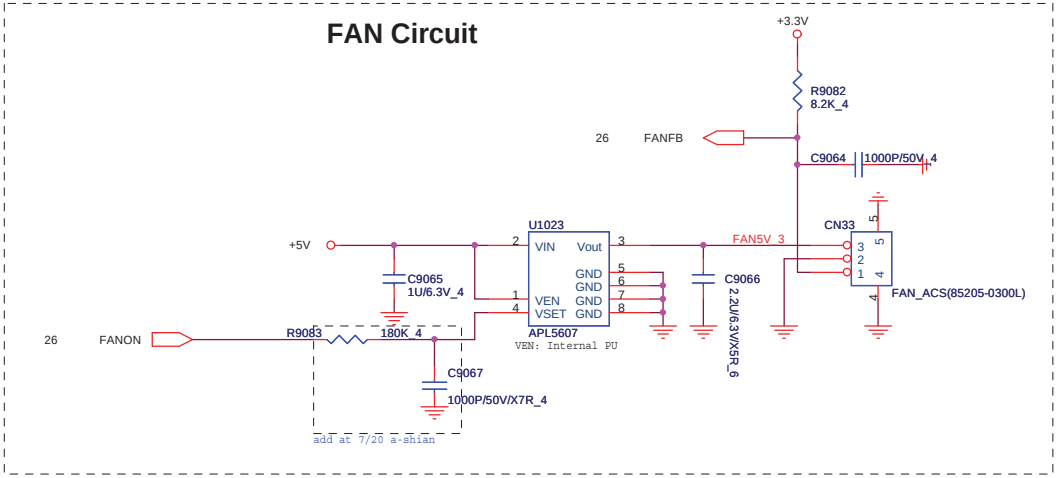
5V : 430 ohm (CS14302JB07)
3.3v : 220 ohm (CS12202JB08)







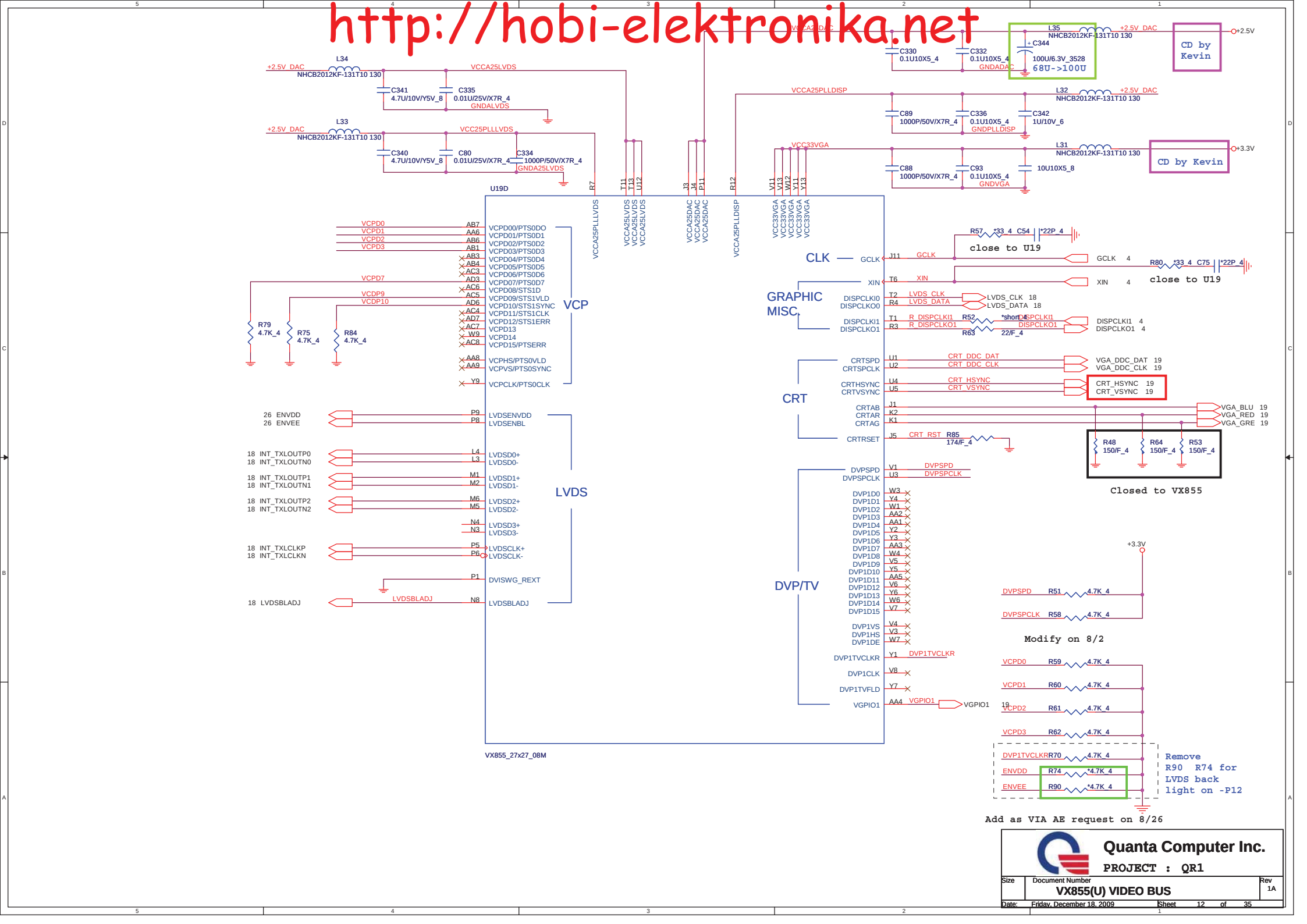




Quanta Computer Inc.
PROJECT : QR1

Size	Document Number	Rev
	QR1 LED INDICATOR/FAN Control	1A

Date: Friday, December 18, 2009 Sheet 11 of 35

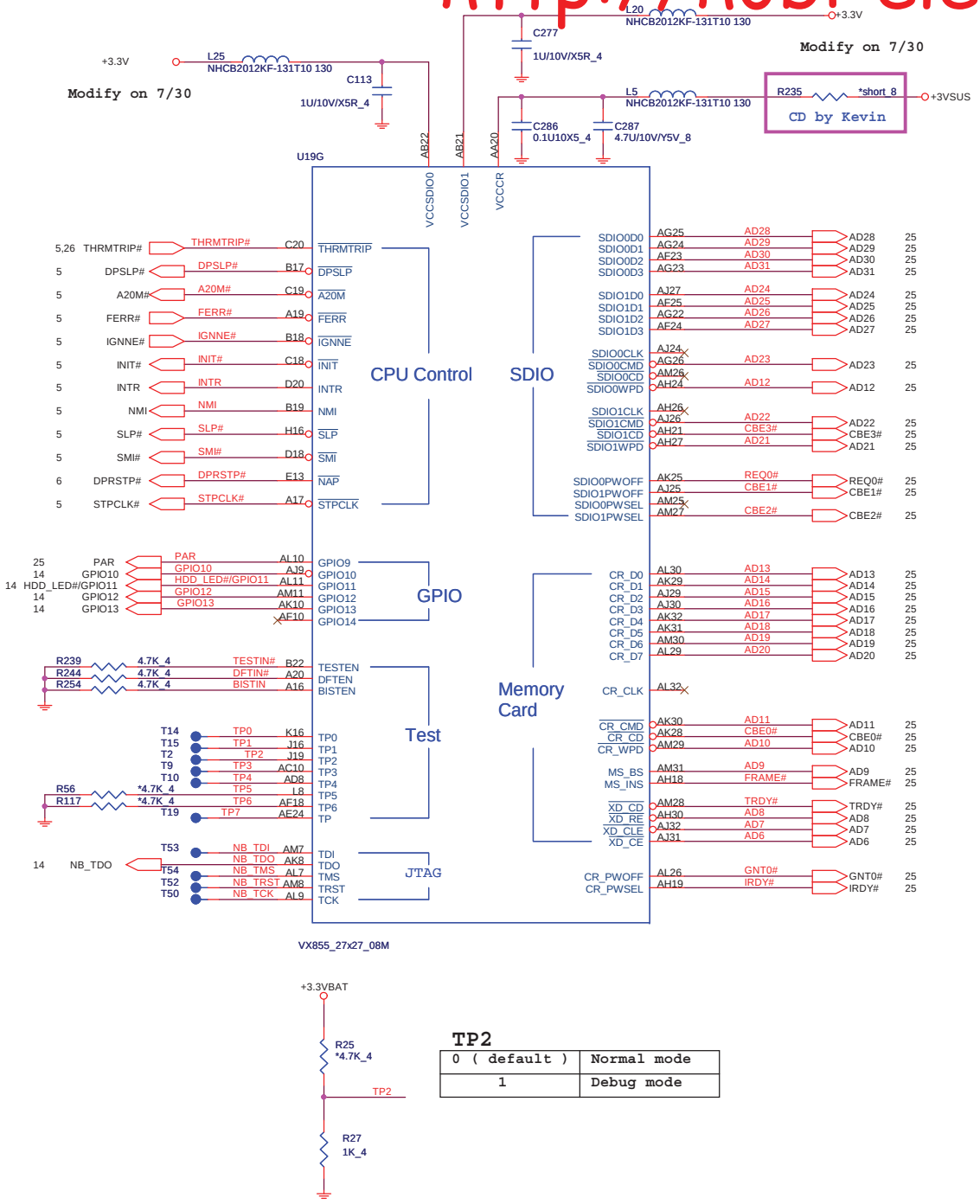


Quanta Computer Inc.

PROJECT : QR1

Size	Document Number	Rev
	VX855(U) VIDEO BUS	1A

Date: Friday, December 18, 2009 Sheet 12 of 35



TP2

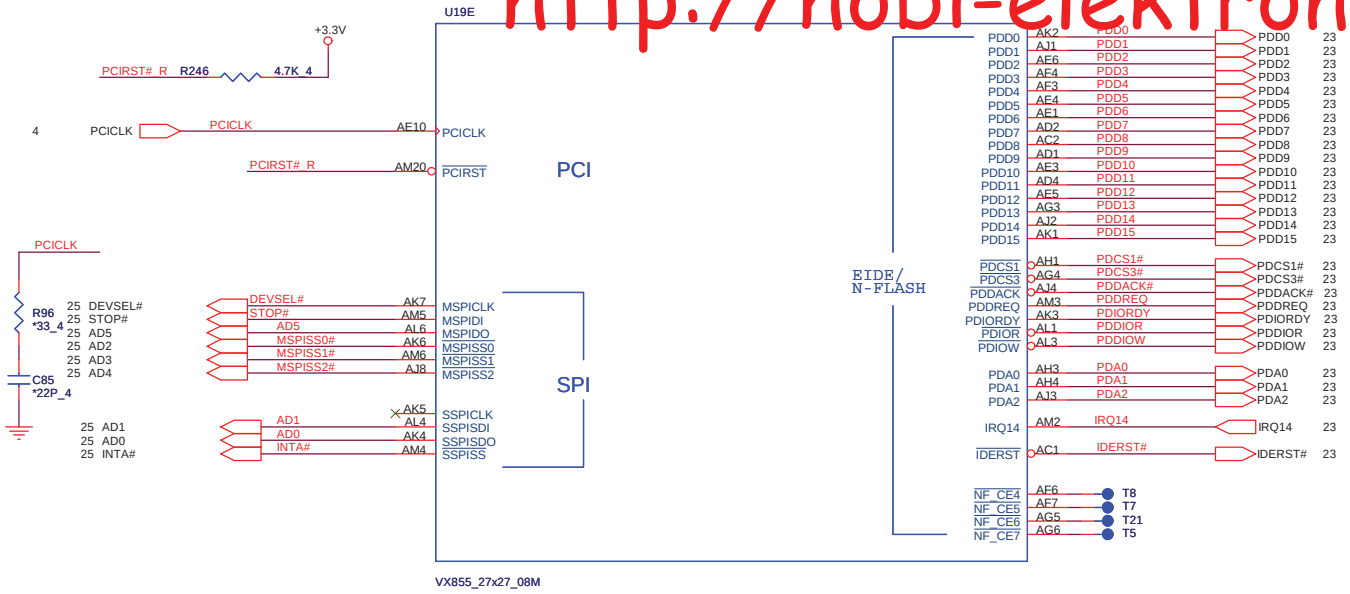
0 (default)	Normal mode
1	Debug mode

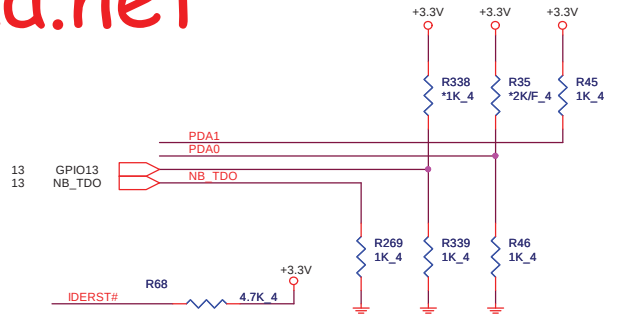
Quanta Computer Inc.

PROJECT : QR1

Size	Document Number	Rev
	VX855(U) SPI/PCI	1A

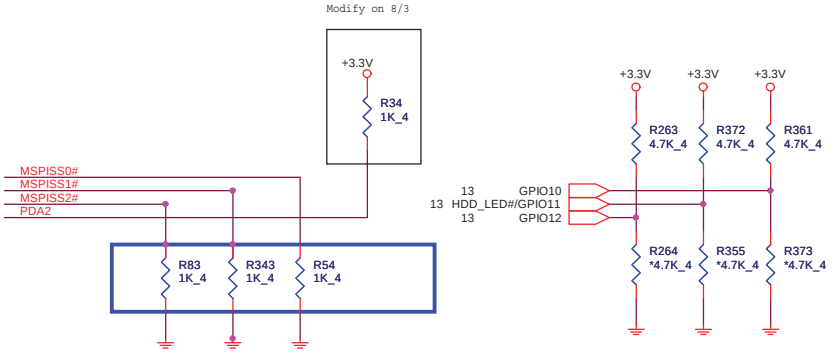
Date: Friday, December 18, 2009 Sheet 13 of 35

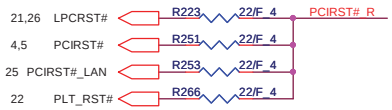




NB Strapping

Pin	Function	Pull Low	Pull High
PDA1	PLL OK source select	from NB PLL	from SB Logic*
PDA0	IOQ depth	12 *	1
GPIO13	GTL pull up	Enable *	Disable
NB_TDO	Debug Link enable	XD Mode*	Debug Link





SB Strapping

Pin	0:LOW 1:High	Function
MSPISS1/ MSPISS0	00 *	IDE
	01	NFC
	10	CE ATA
MSPISS2	0: SPI/LPC *	NFC ROM Select
	1: NFC ROM	
PDA2	0: Disable	PCI Master Mode Enable
	1: Enable	

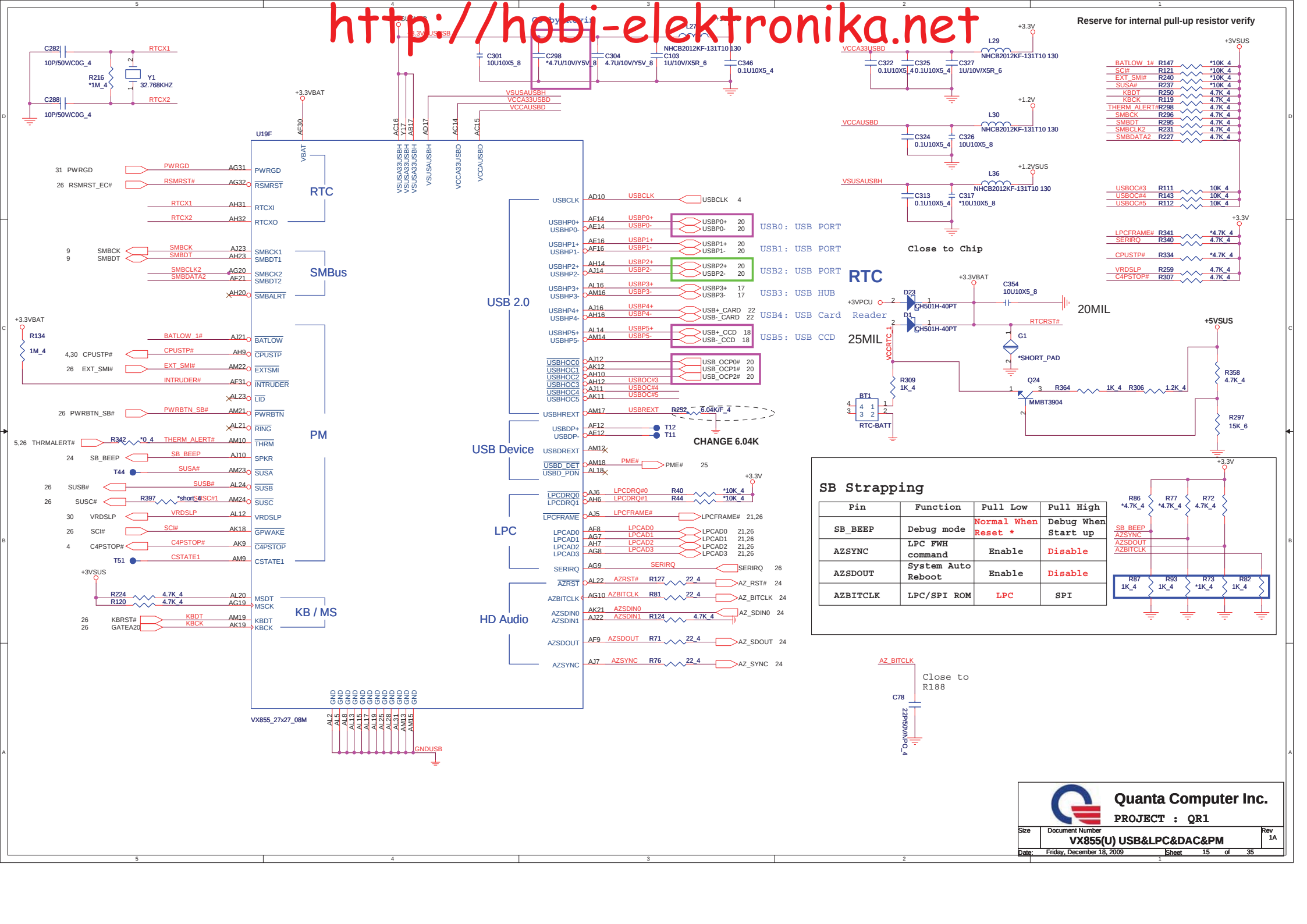
NB Strapping

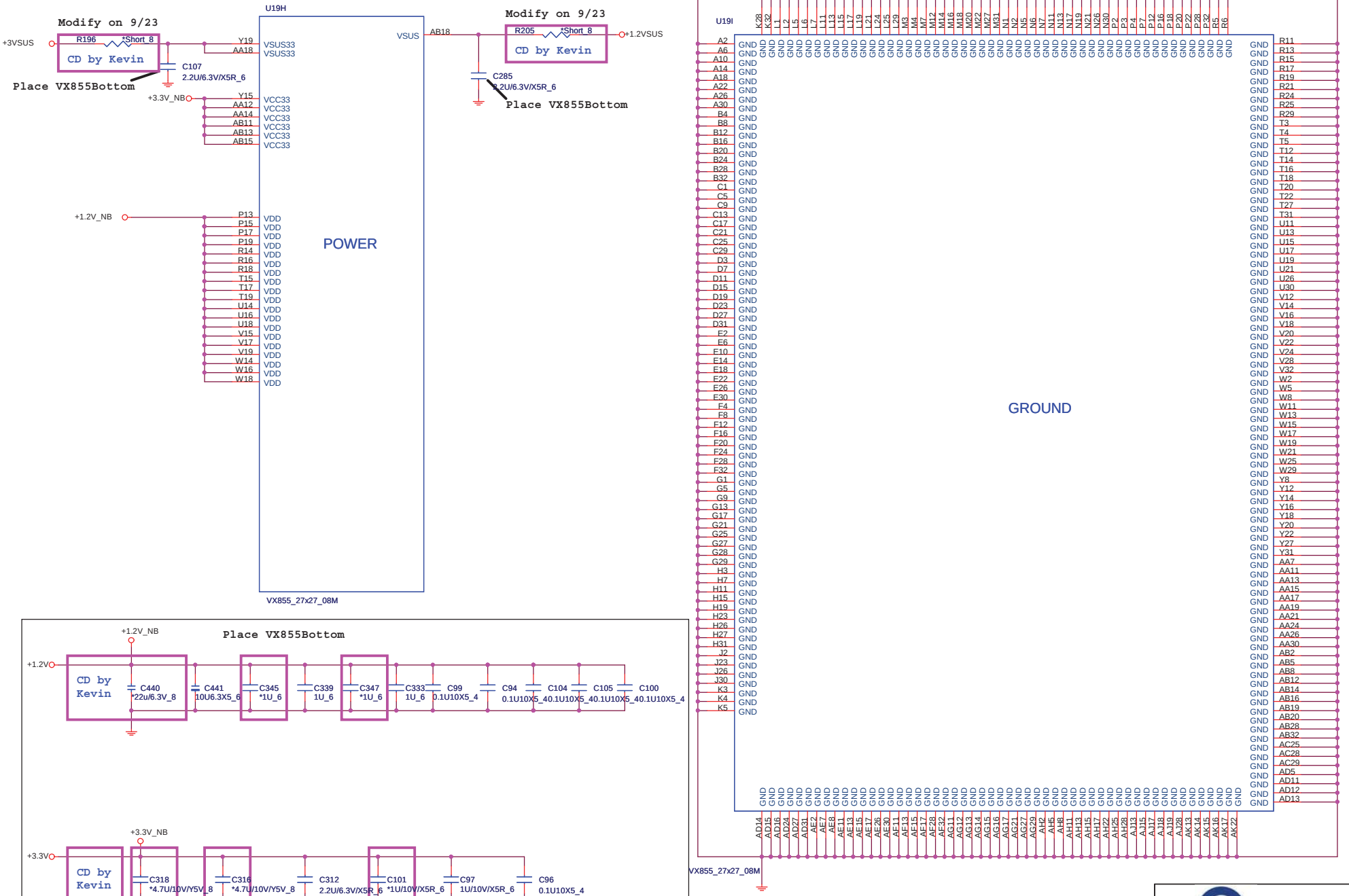
Pin	0:Low 1:High	FSB Freq.
GPIO12/ GPIO11/ GPIO10	000	100Mhz
	001	133Mhz
	010	200Mhz
	011	266Mhz
	111 *	Auto Mode

Quanta Computer Inc.

PROJECT : QR1

Size	Document Number	Rev
	VX855(U) PCI&PATA&SATA BUS	1A
Date: Friday, December 18, 2009	Sheet 14 of 35	



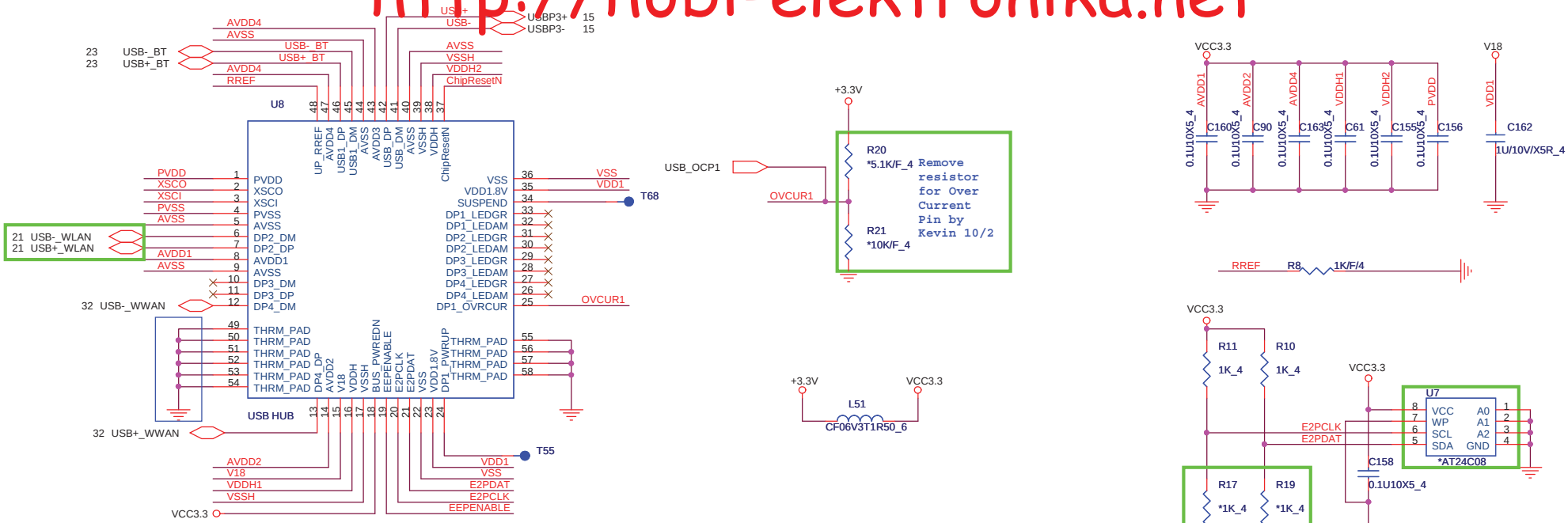


Quanta Computer Inc.

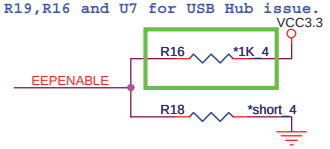
PROJECT : QR1

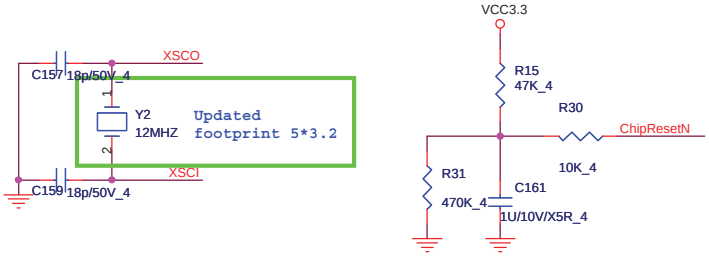
Size	Document Number	Rev
	VX855(U) POWER&GND	1A

Date: Monday, November 30, 2009 Sheet 16 of 35



Remove R17,R19,R16 and U7 for USB Hub issue.

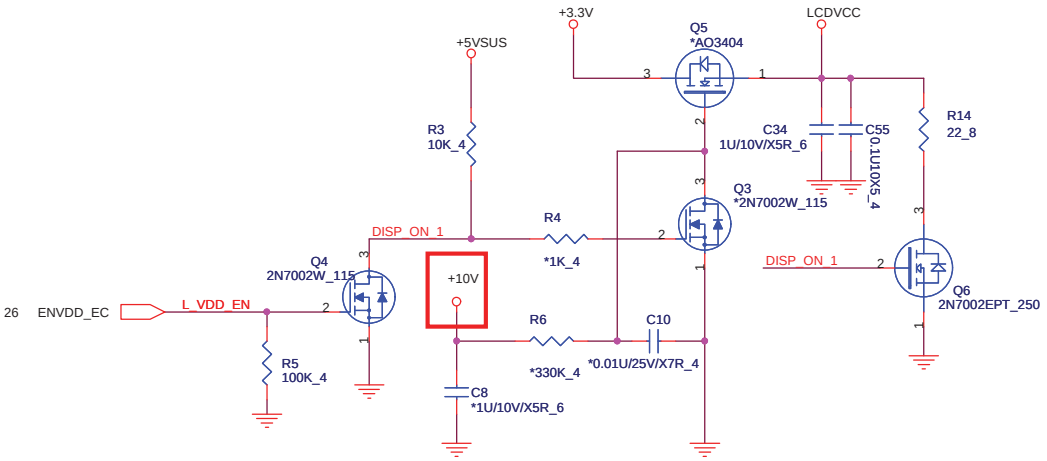


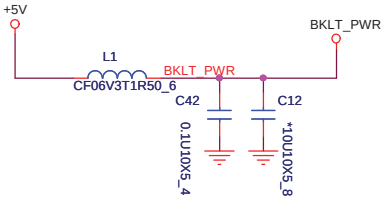


Quanta Computer Inc.		
PROJECT : QR1		
Size	Document Number: USB HUB	Rev: 1A
Date: Friday, December 18, 2009	Sheet 17 of 35	

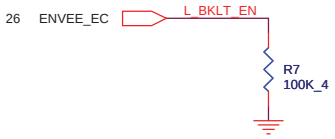
LVDS

LVDS Enable

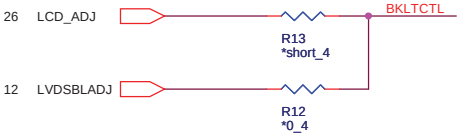


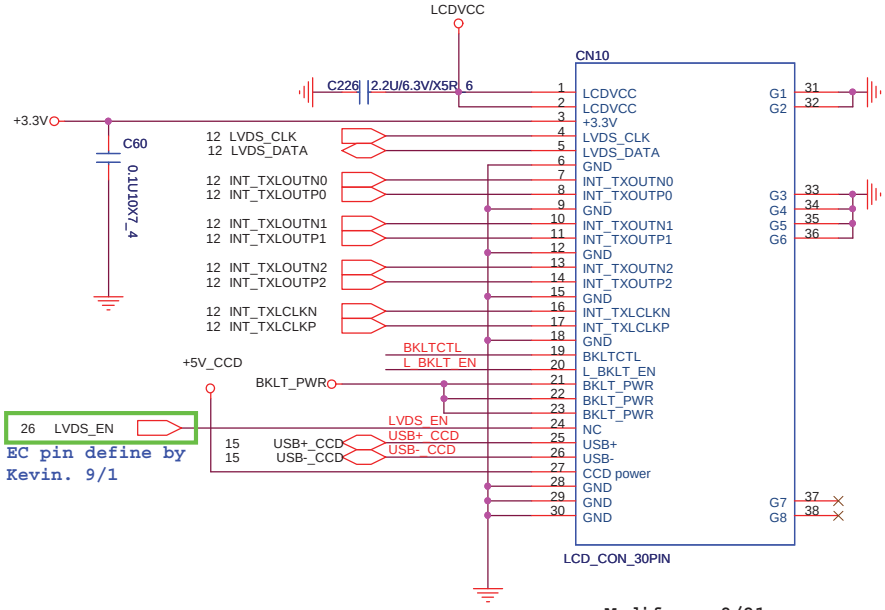


Display On



Backlight Control





LVDS (10.1") (1024x600, 1366x768)

Modify on 8/21

Quanta Computer Inc.

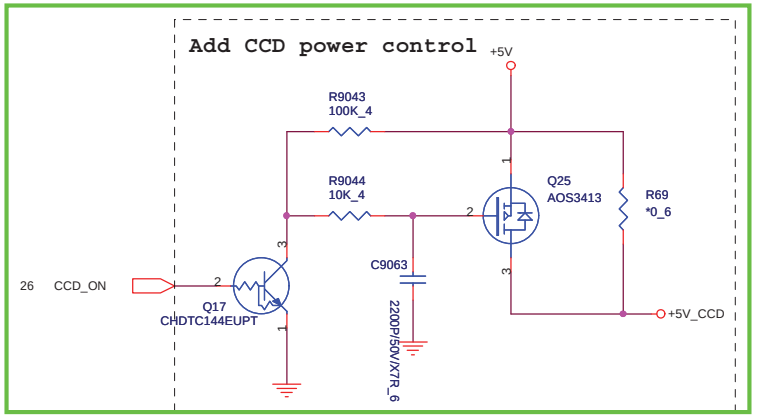
PROJECT : QR1

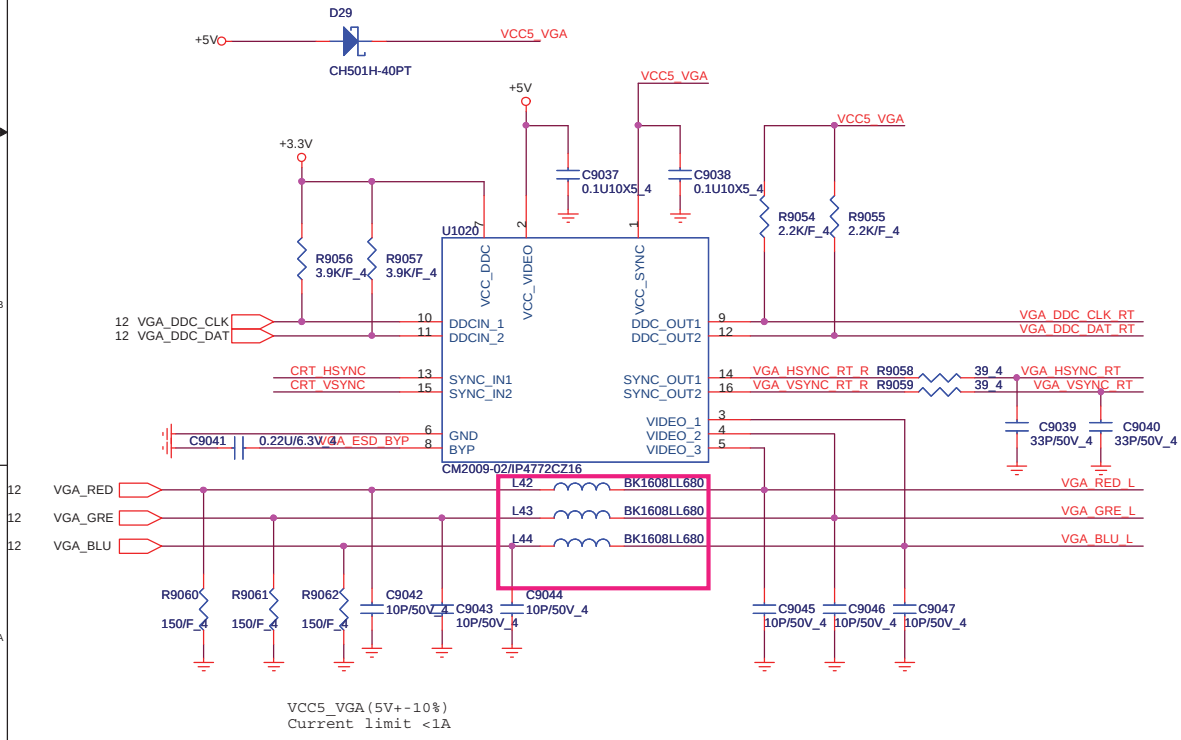
Size	Document Number	Rev
	LVDS	1A
Date: Friday, December 18, 2009	Sheet 18 of 35	

12 CRT_HSYNC — CRT_HSYNC

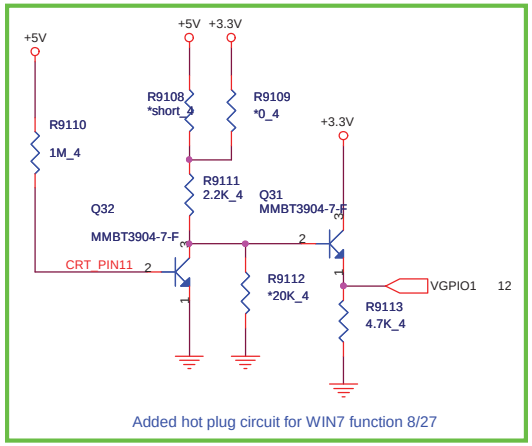
12 CRT_VSYNC — CRT_VSYNC

Remove CRT HSY/VSY buffer 11/2
(VGA IC has buffer)

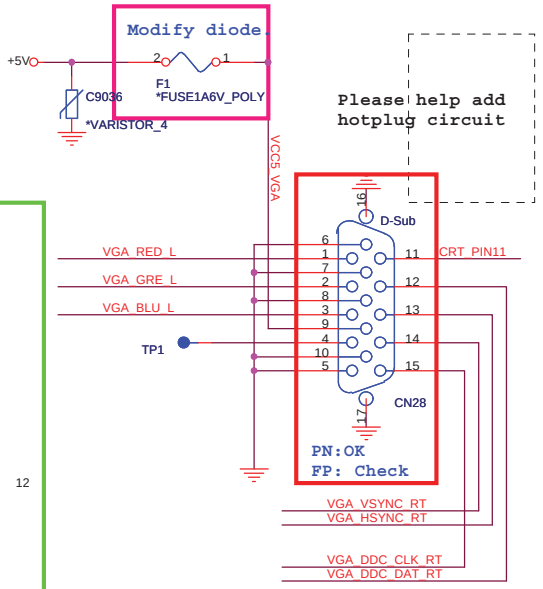




VCC5_VGA(5V+-10%)
Current limit <1A

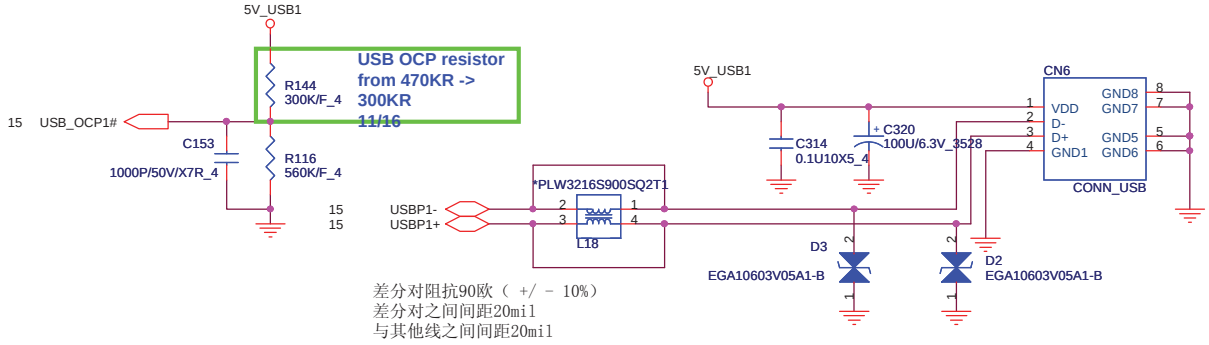


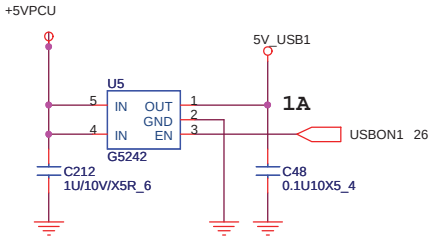
Added hot plug circuit for WIN7 function 8/27

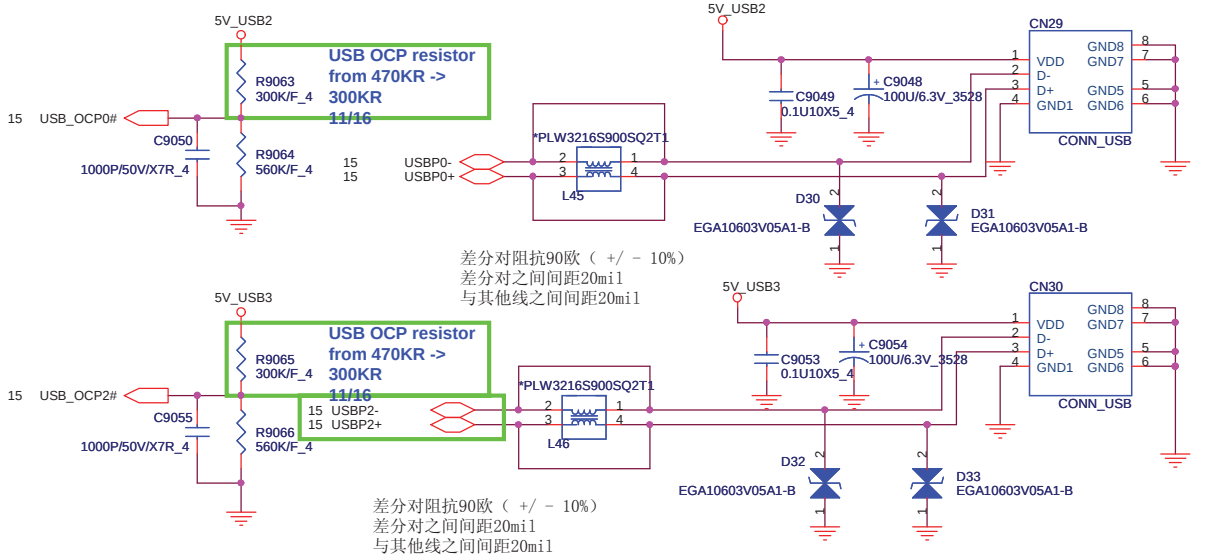


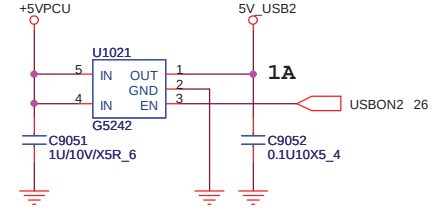
Quanta Computer Inc.
PROJECT : QR1

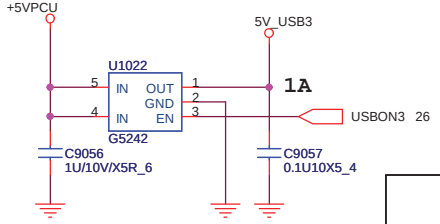
Size	Document Number	Rev
	CRT & LED & Camera	1A
Date: Friday, December 18, 2009	Sheet 19 of 35	

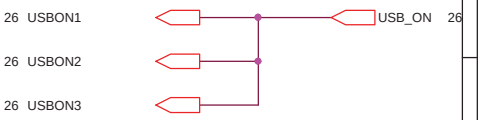




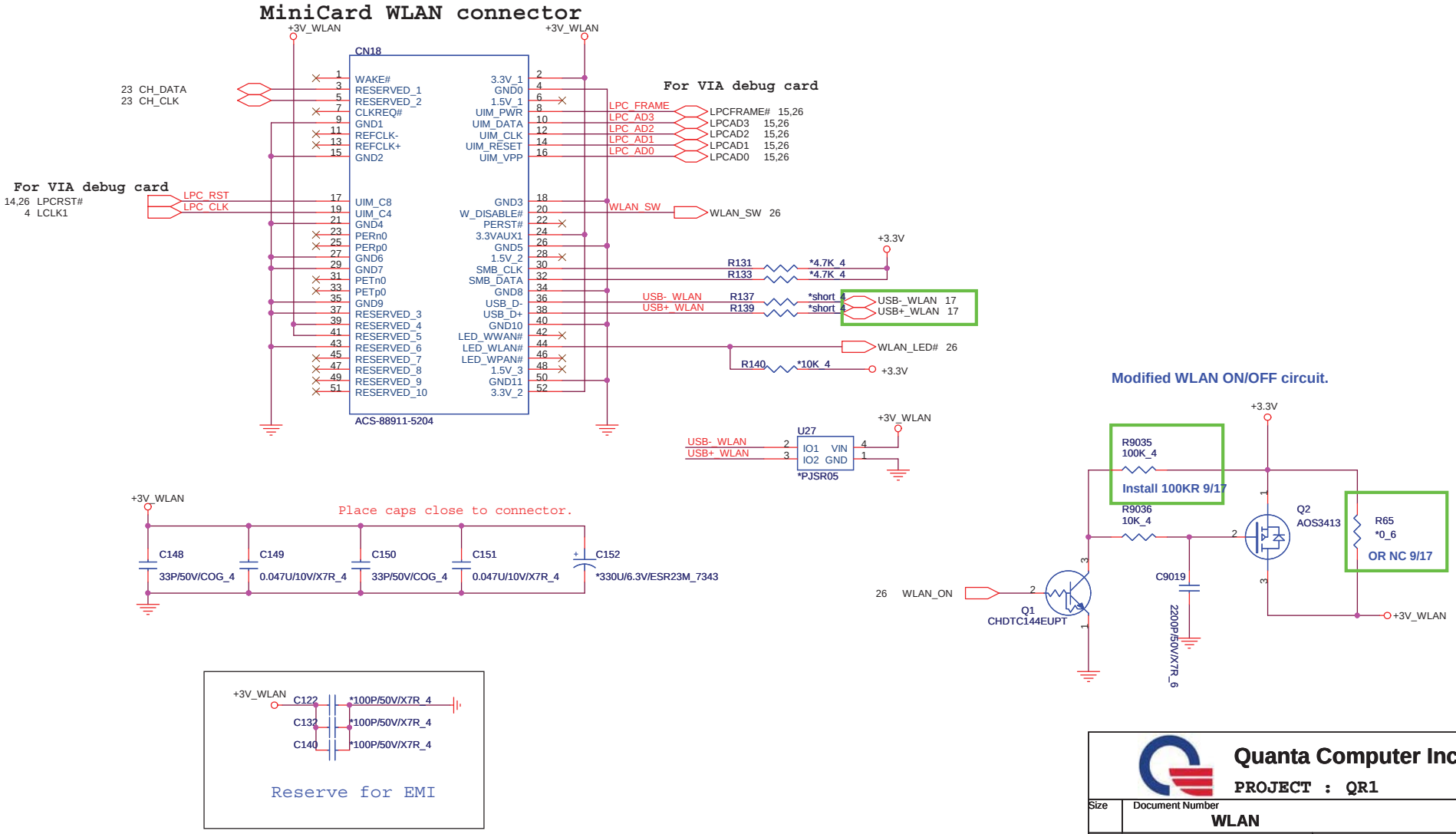








Quanta Computer Inc.		
PROJECT : QR1		
Size	Document Number: USB	Rev: 1A
Date: Friday, December 18, 2009	Sheet 20 of 35	

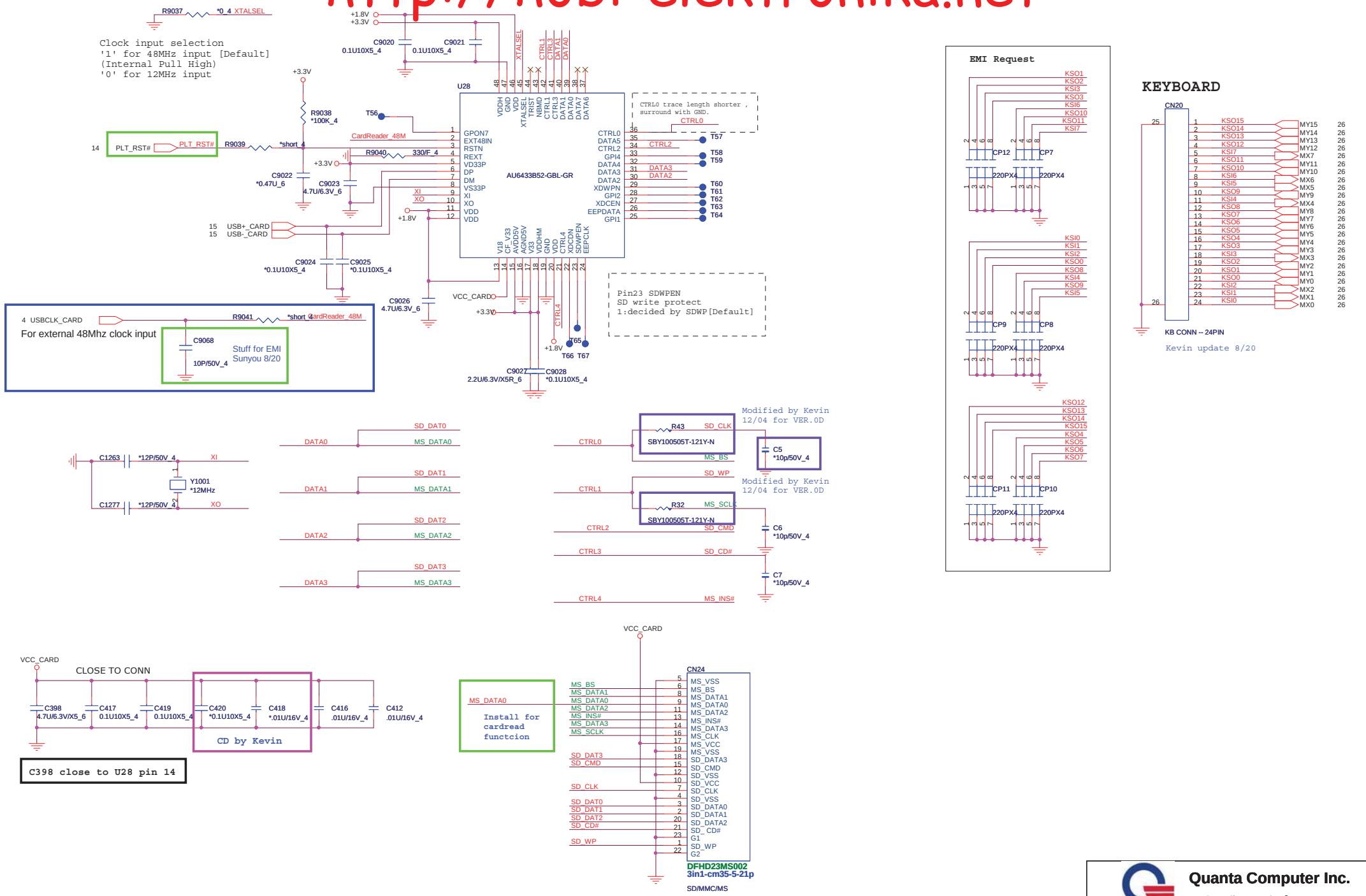


Quanta Computer Inc.

PROJECT : QR1

Size	Document Number	Rev
	WLAN	1A

Date: Friday, December 18, 2009 Sheet 21 of 35



3 in 1 Socket(MS, MS PRO,SD/MMC)

Quanta Computer Inc.			
PROJECT : QR1			
Size	Document Number		Rev
	3 in 1 Card Reader		1A
Date: Friday, December 18, 2009		Sheet 22 of 35	

BT Conn.

6 PIN bluetooth only

R9120 10K_4 Install for BT function by Kevin 8/28

J11 — SM08B

2009/8/14 CON. Update PN. and check OK by Kevin.

Modified by Kevin 9/23

R9077 100K_4, R9078 10K_4, Q16 AOS3413, R67 *0_6, C9032 2200P/50V/X7R_6, Q14 CHDTC144EUPT

CN14 — SATA--22P

CD by Kevin

Modified power plane from VCC18MEM to +1.8V

Gavin_0628 change PN,Footprint

CD by Kevin

SOL->MLCC 22U_SOL->4.7U_MLCC

U17 — ARC772 — ARC772-B1

NC=Master, 0R=Slaver

TX_P_X/TX_N_X (width=8mil, space=12mil)
RX_P_X/RX_N_X (width=8mil, space=12mil)
100ohm

OSC2 — *25MHz

MODE2	MODE1/TPO1	MODE0/TPO0	
20	19	18	DIL / DIOH / DIOL 8 mA

Operation Mode (MODE2, MODE1, MODE0)/ Test output port (TPO0, TPO1)
Configure host/device and Ultra DMA speed.
0,0,0: Device Mode at 200MB/s
0,0,1: Device Mode at 133MB/s
0,1,0: Device Mode at 150MB/s (default)
0,1,1: Reserved
1,0,0: Host Mode at 200MB/s
1,0,1: Host Mode at 133MB/s
1,1,0: Host Mode at 150MB/s
1,1,1: Reserved

M1	M0	MODE
0	0	HOST MODE 200MB/s
0	1	HOST MODE 133MB/s
1	0	HOST MODE 150B/s
1	1	RESERVED

PHYSPEED: 0 = 1.5GHz, 1 = 3.0GHz — Modified by Kevin 12/04 for VER.0D

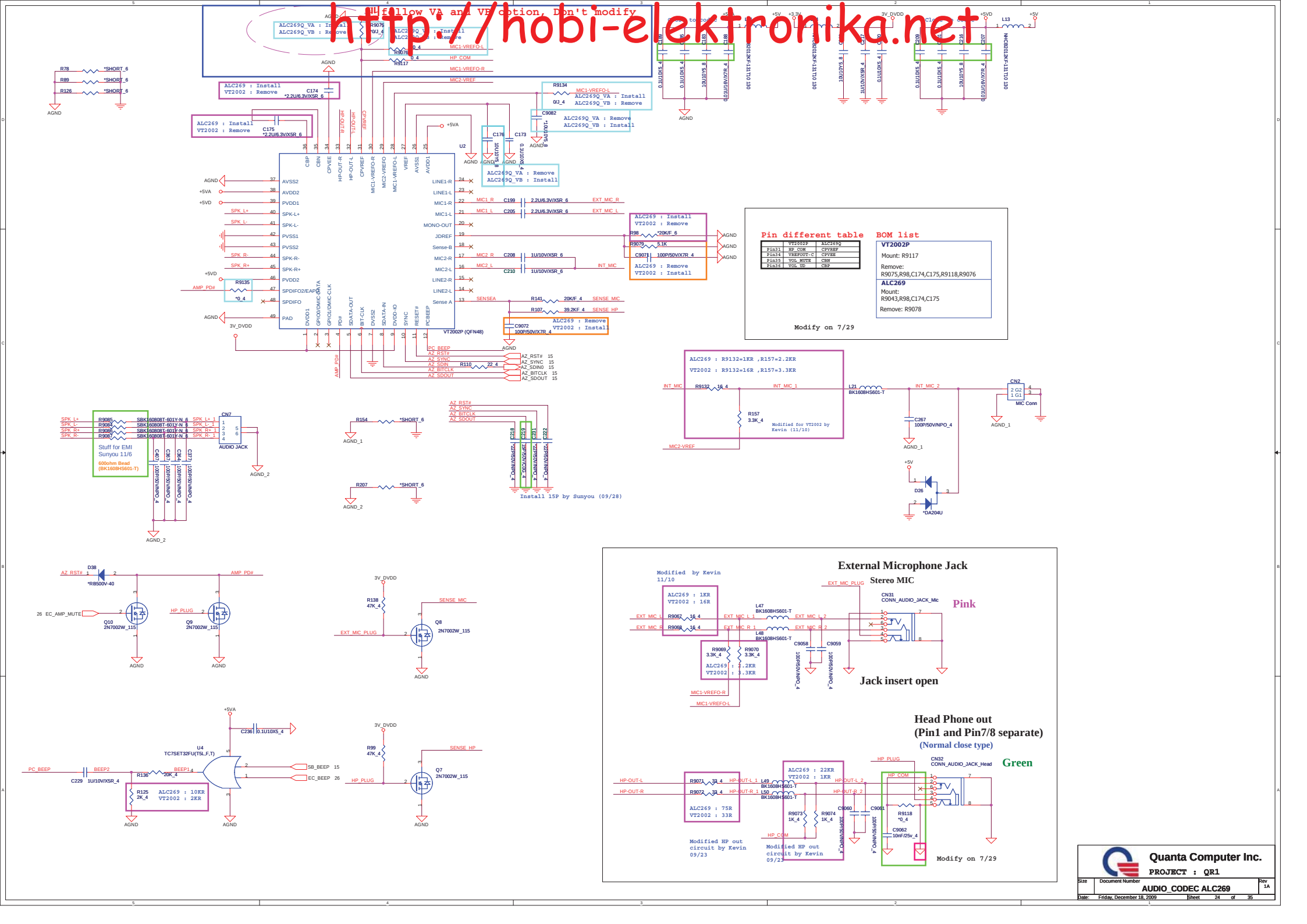
TXLEVEL: 0 = Gen1/2i (500mV), 1 = Gen1/2m (550mV) — OPEN

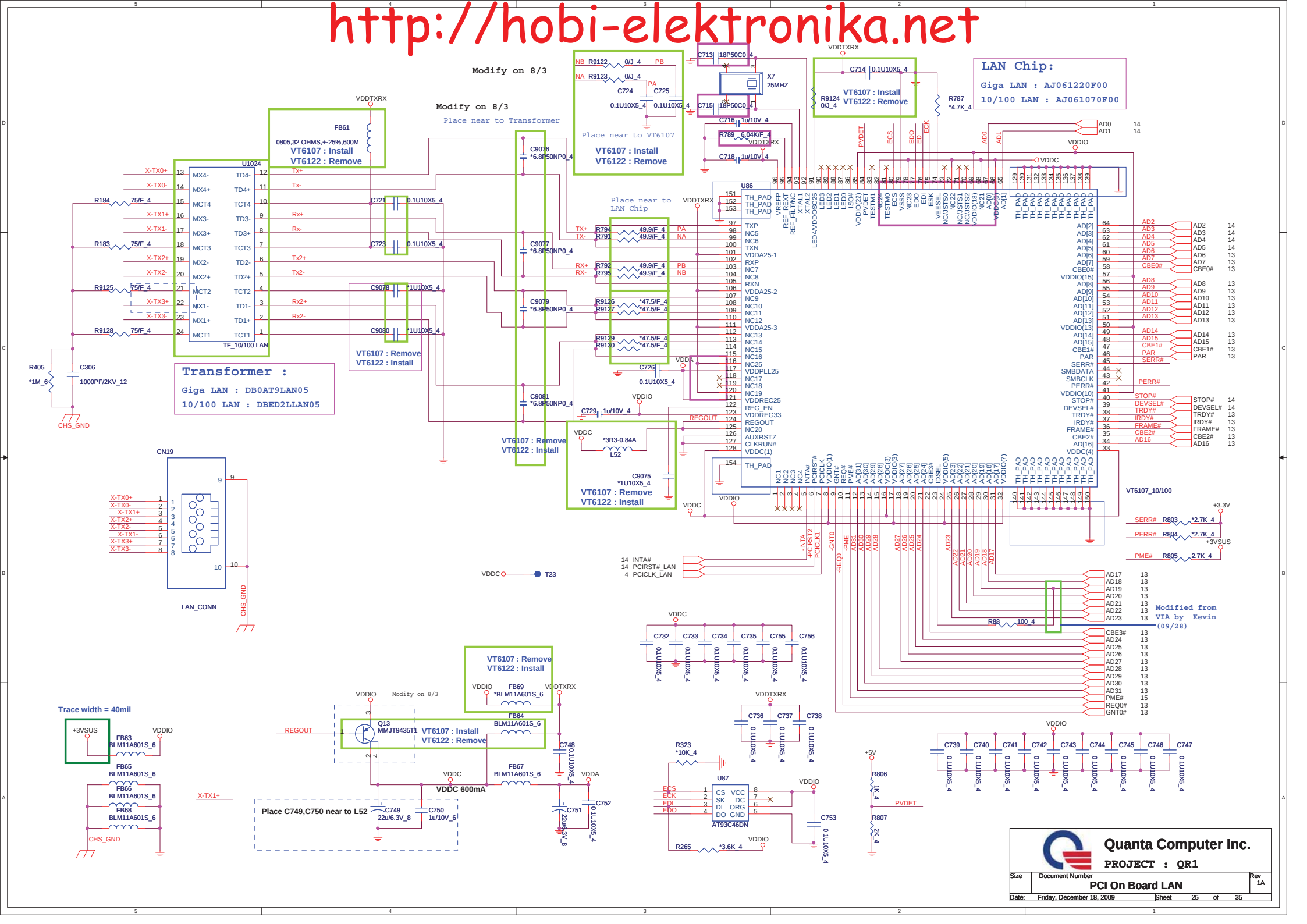
FXDMA: 0 = ADJ UDMA RATE, 1 = FIX UDMA RATE — OPEN

Add on 8/19

D19 RB501V-40

Quanta Computer Inc.		
PROJECT : QR1		
Size	Document Number: ARC772 Series ATAII	Rev 1A
Date: Friday, December 18, 2009	Sheet 23 of 35	





U23

KB3926QF D2

EC pin define by Kevin 9/1

Fixed SMBus data and clock pin define.

11/6 for EMI

for Battery charge/charge and cap board

for VGA/CPU thermal

TOUCH PAD CONNECTOR

Update VER.C

TOUCH PAD L/R

Remove by Kevin. 9/23

USB to SPI writer Connector to update EC F/W

EC debug circuit by Kevin. 8/24

thermal shutdown circuit

Socket: DG008000031

WINBOND AKE3GFS0N00

1M byte SPI BIOS

Modified by Kevin. 9/23

Prevent electric leakage

PCBA ID

Close to SPI BIOS

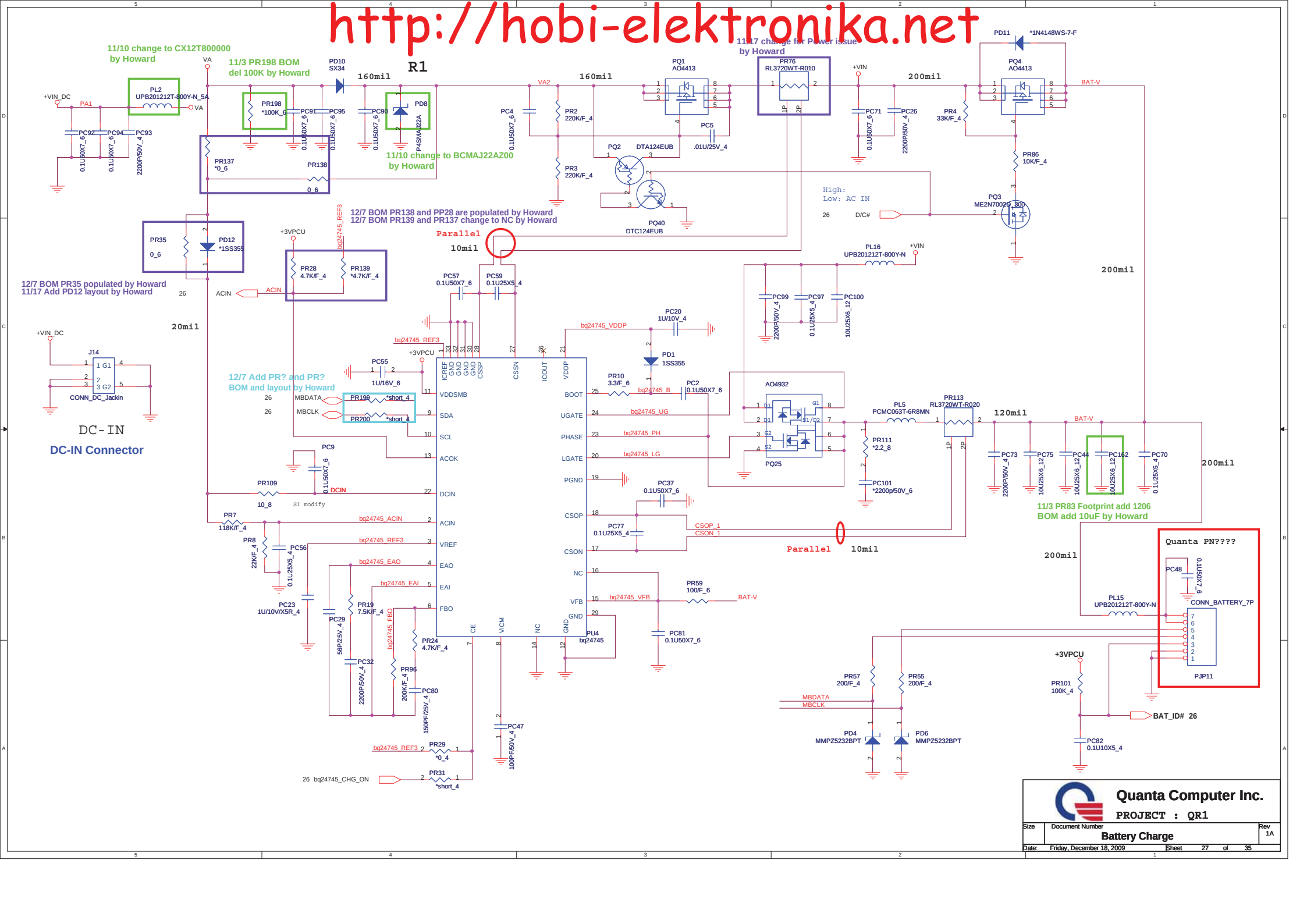
Modify on 8/3

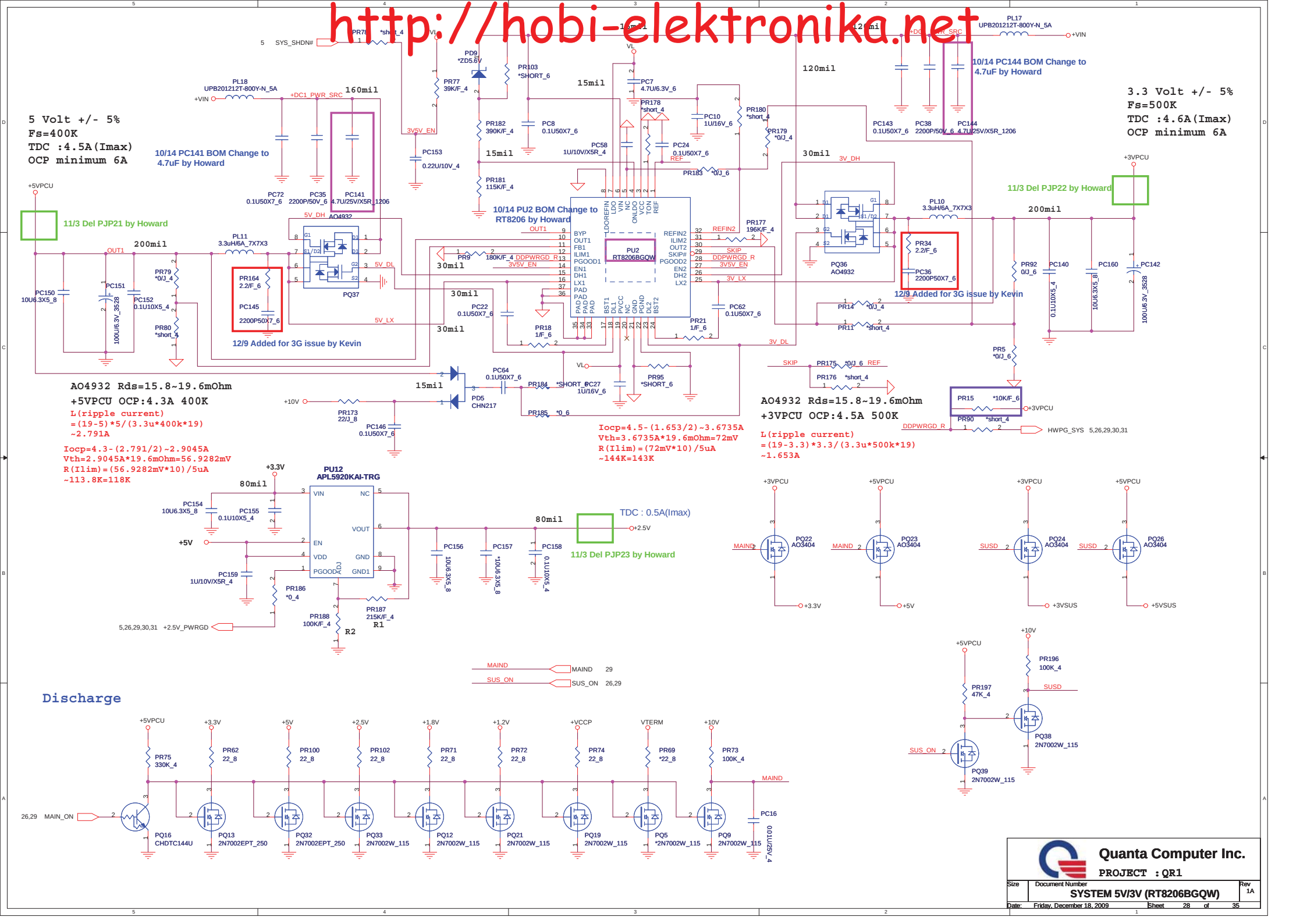
Quanta Computer Inc.

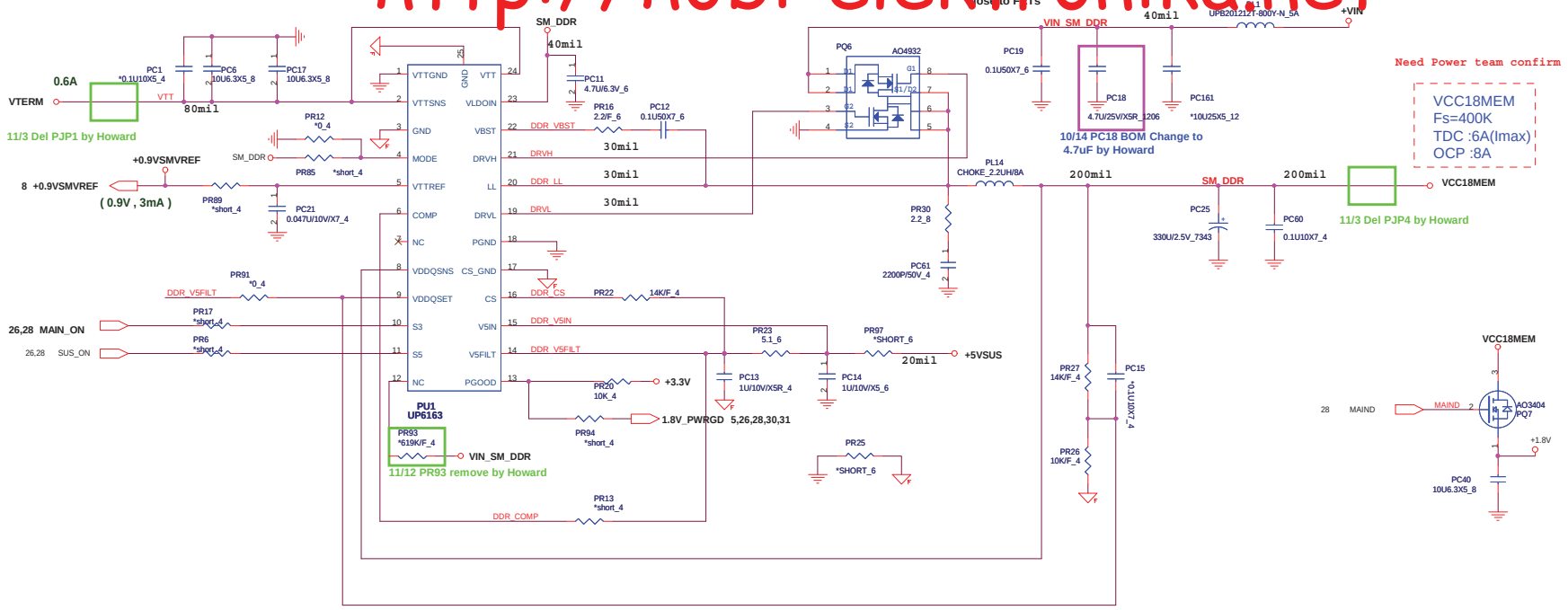
PROJECT : QR1

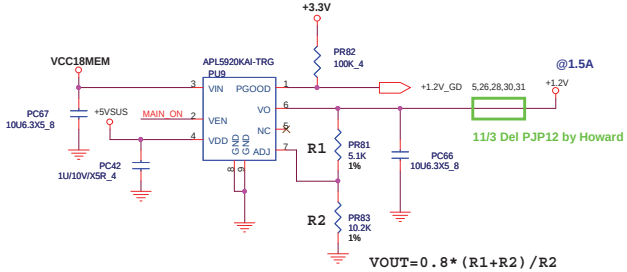
Size: | Document Number: EC KB3926 | Rev: 1A

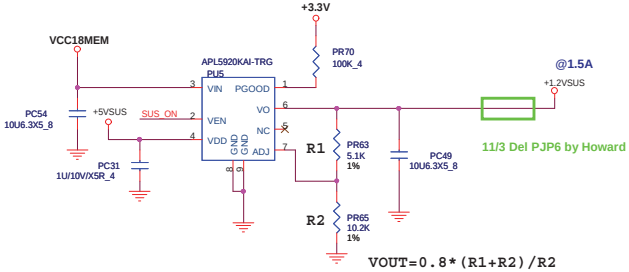
Date: Friday, December 18, 2009 | Sheet 26 of 35

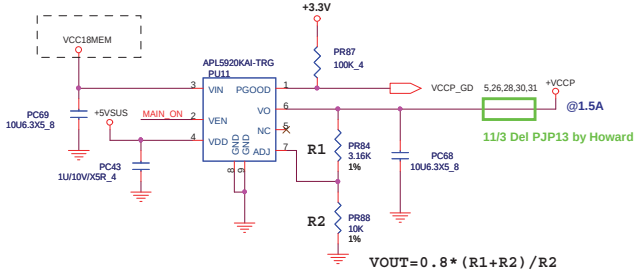






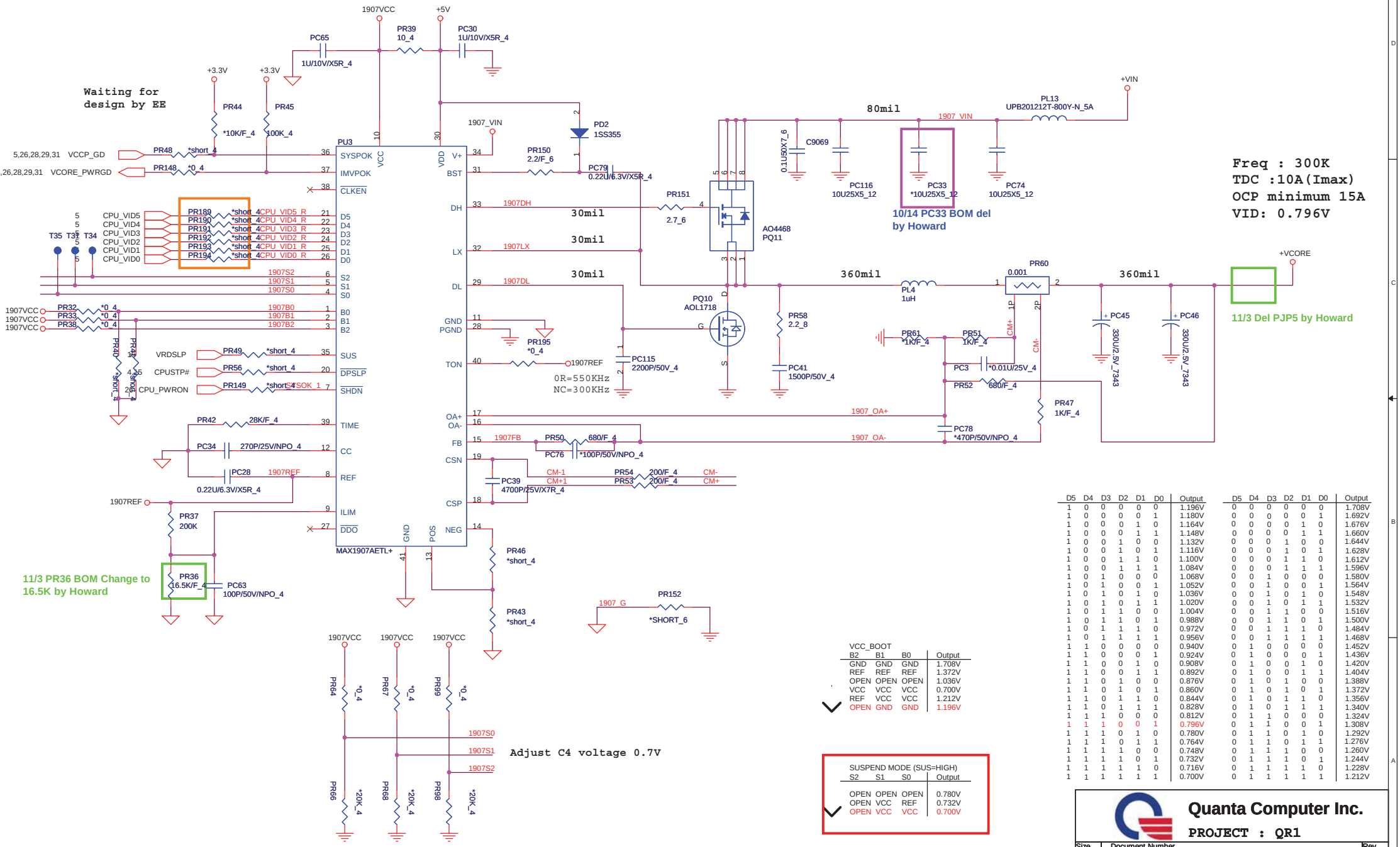






Quanta Computer Inc.		
PROJECT : QR1		
Size	Document Number: DDRII/+0.9V(TPS51116)/1.2V/VCCP	Rev: 1A
Date: Friday, December 18, 2009	Sheet 29 of 35	

CPU CORE(MAX1907)



D5	D4	D3	D2	D1	D0	Output	D5	D4	D3	D2	D1	D0	Output
1	0	0	0	0	0	1.196V	0	0	0	0	0	0	1.708V
1	0	0	0	0	1	1.180V	0	0	0	0	0	1	1.692V
1	0	0	0	1	0	1.164V	0	0	0	0	1	0	1.676V
1	0	0	0	1	1	1.148V	0	0	0	0	1	1	1.660V
1	0	0	1	0	0	1.132V	0	0	0	1	0	0	1.644V
1	0	0	1	0	1	1.116V	0	0	0	1	0	1	1.628V
1	0	0	1	1	0	1.100V	0	0	0	1	1	0	1.612V
1	0	0	1	1	1	1.084V	0	0	0	1	1	1	1.596V
1	0	1	0	0	0	1.068V	0	0	1	0	0	0	1.580V
1	0	1	0	0	1	1.052V	0	0	1	0	0	1	1.564V
1	0	1	0	1	0	1.036V	0	0	1	0	1	0	1.548V
1	0	1	0	1	1	1.020V	0	0	1	0	1	1	1.532V
1	0	1	1	0	0	1.004V	0	0	1	1	0	0	1.516V
1	0	1	1	0	1	0.988V	0	0	1	1	0	1	1.500V
1	0	1	1	1	0	0.972V	0	0	1	1	1	0	1.484V
1	0	1	1	1	1	0.956V	0	0	1	1	1	1	1.468V
1	1	0	0	0	0	0.940V	0	1	0	0	0	0	1.452V
1	1	0	0	0	1	0.924V	0	1	0	0	0	1	1.436V
1	1	0	0	1	0	0.908V	0	1	0	0	1	0	1.420V
1	1	0	0	1	1	0.892V	0	1	0	0	1	1	1.404V
1	1	0	1	0	0	0.876V	0	1	0	1	0	0	1.388V
1	1	0	1	0	1	0.860V	0	1	0	1	0	1	1.372V
1	1	0	1	1	0	0.844V	0	1	0	1	1	0	1.356V
1	1	0	1	1	1	0.828V	0	1	0	1	1	1	1.340V
1	1	1	0	0	0	0.812V	0	1	1	0	0	0	1.324V
1	1	1	0	0	1	0.796V	0	1	1	0	0	1	1.308V
1	1	1	0	1	0	0.780V	0	1	1	0	1	0	1.292V
1	1	1	0	1	1	0.764V	0	1	1	0	1	1	1.276V
1	1	1	1	0	0	0.748V	0	1	1	1	0	0	1.260V
1	1	1	1	0	1	0.732V	0	1	1	1	0	1	1.244V
1	1	1	1	1	0	0.716V	0	1	1	1	1	0	1.228V
1	1	1	1	1	1	0.700V	0	1	1	1	1	1	1.212V

VCC_BOOT			
B2	B1	B0	Output
GND	GND	GND	1.708V
REF	REF	REF	1.372V
OPEN	OPEN	OPEN	1.036V
VCC	VCC	VCC	0.700V
REF	VCC	VCC	1.212V
OPEN	GND	GND	1.196V

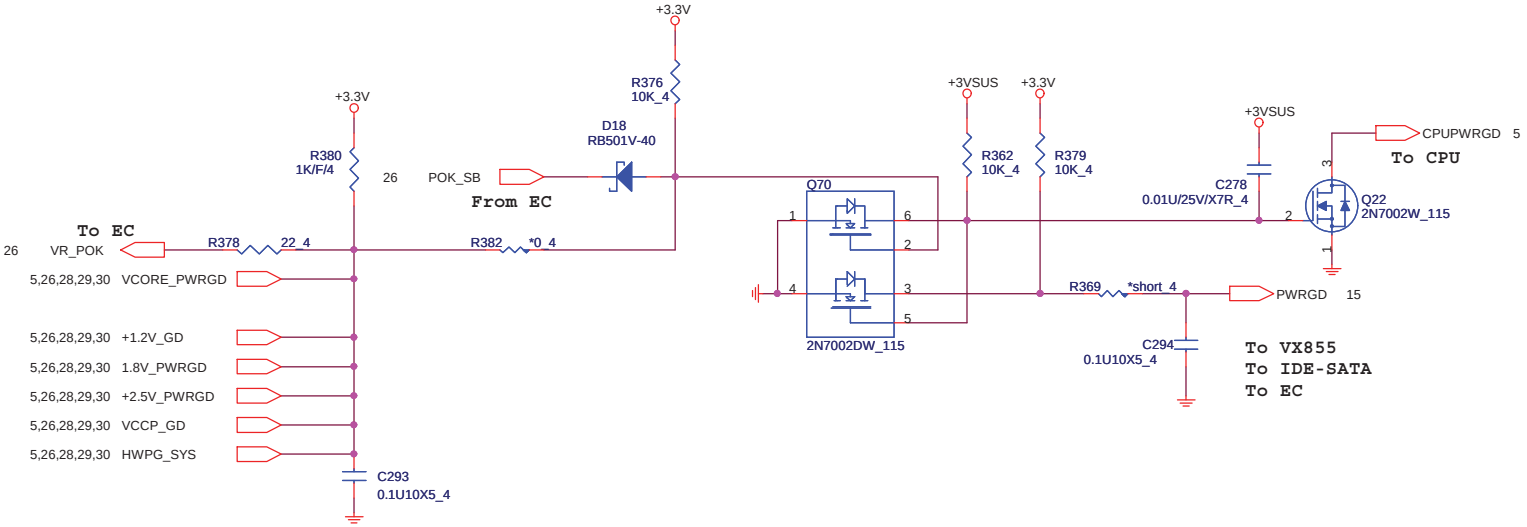
SUSPEND MODE (SUS=HIGH)			
S2	S1	S0	Output
OPEN	OPEN	OPEN	0.780V
OPEN	VCC	REF	0.732V
OPEN	VCC	VCC	0.700V

Quanta Computer Inc.

PROJECT : QR1

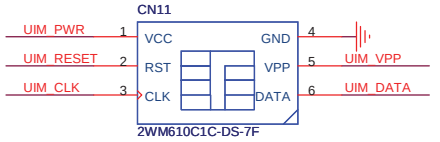
Size	Document Number	Rev
	DC/DC CPU CORE (MAX1907A)	1A
Date: Friday, December 18, 2009	Sheet 30 of 35	

Power Good Circuit

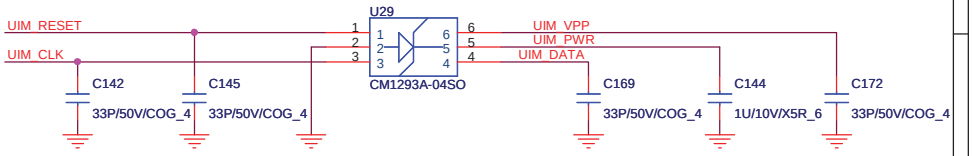


Quanta Computer Inc.		
PROJECT : QR1		
Size	Document Number: Power Good circuit	Rev 1A
Date: Friday, December 18, 2009	Sheet 31 of 35	

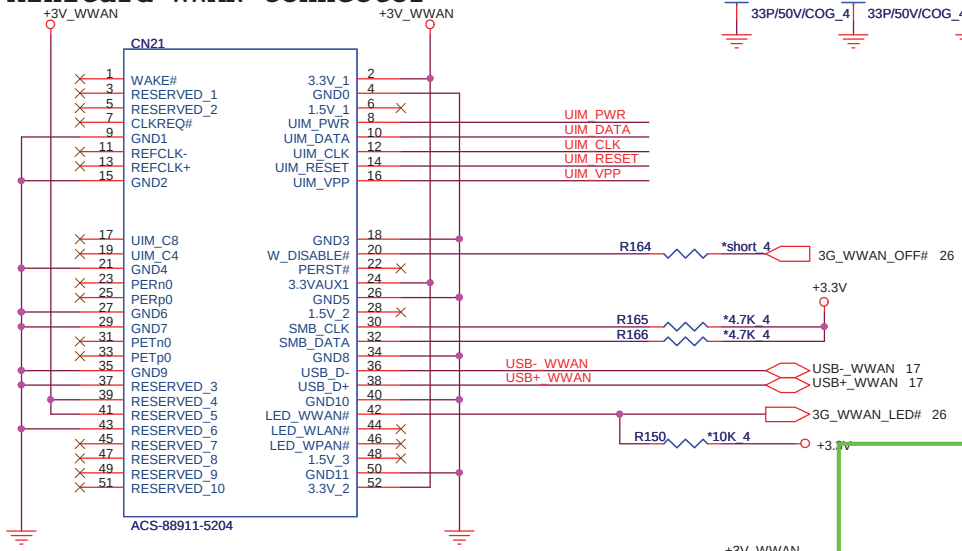
SIM Card CONN

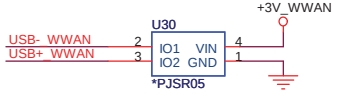


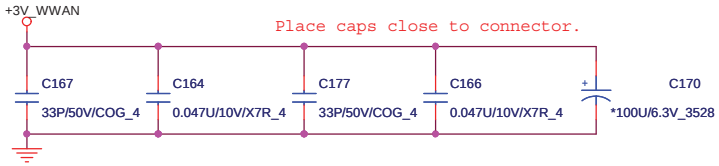
Layout Note:
UIM_RESET,UIM_CLK,UIM_DATA routting as short as possible

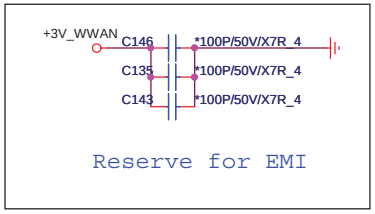


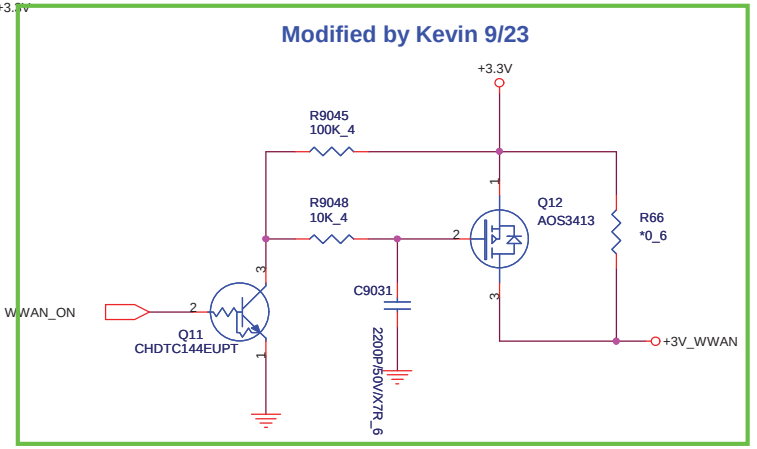
MiniCard WWAN connector











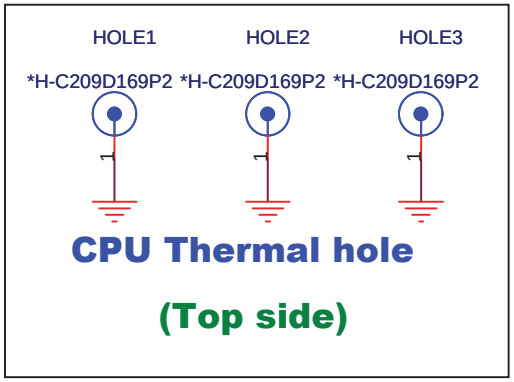
Quanta Computer Inc.

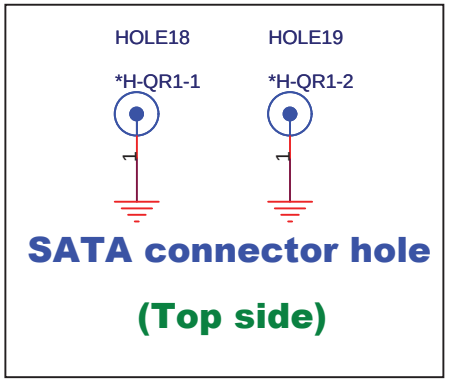
PROJECT : QR1

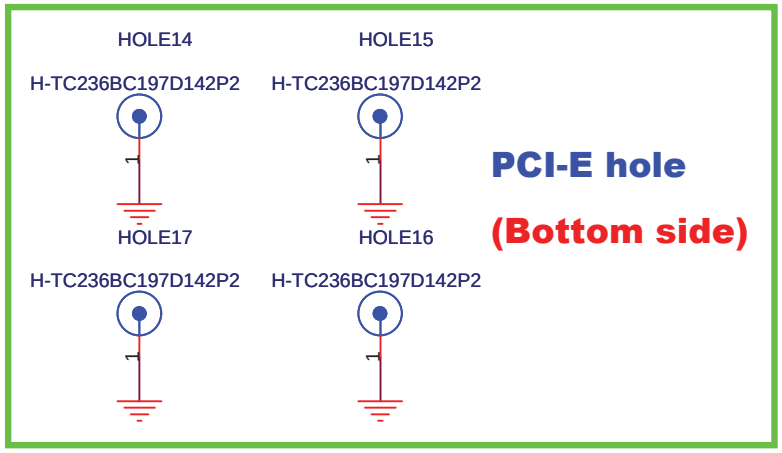
Size	Document Number	Rev
	WWAN	1A

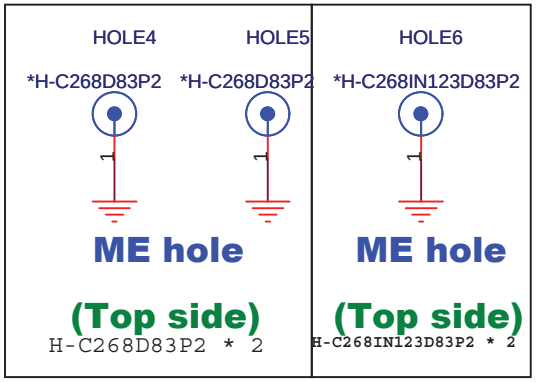
Date: Friday, December 18, 2009 Sheet 32 of 35

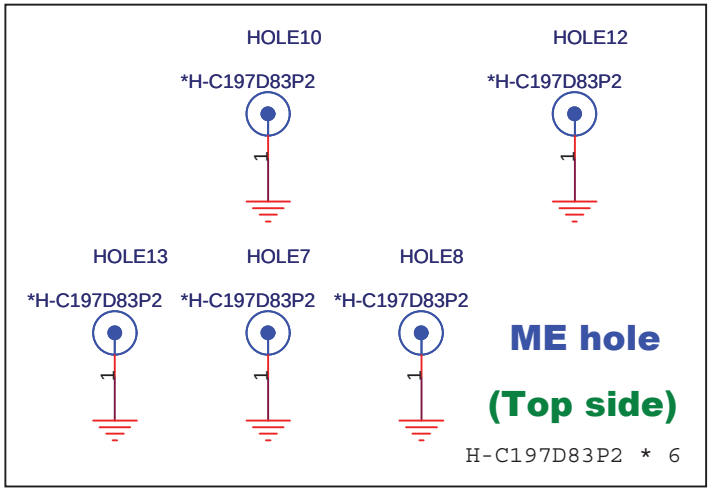
Screw Hole

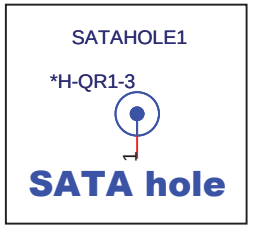


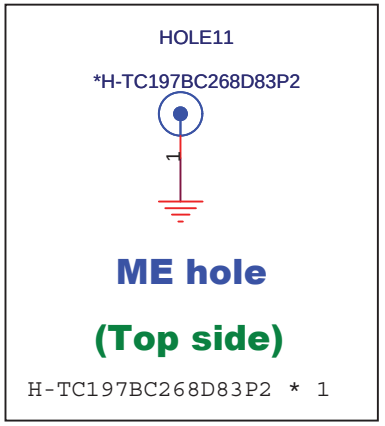


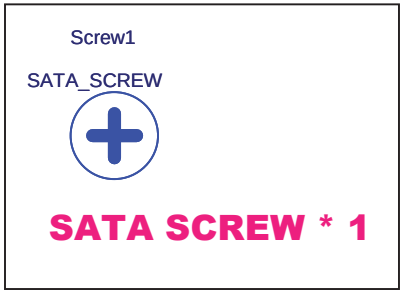












Title	<Title>	
Size A	Document Number Screw hole / EMI	Rev 1A
Date: Monday, December 07, 2009	Sheet 33 of 35	

1. Modified MAIND circuit (to separate MAIN_ON) -P28
2. Modified SUS_ON to SUSD circuit. - p28
3. Added PWRBUT pull high 47KR - p28

4. From 10KR to 100KR for battery internal pull low 5KR issue.

5. Modified WLAN ON/OFF circuit.
   R9035 install 100KR, R65 N/C

6. Remove R17,R19,R16 and U7 for USB Hub issue.(Modified USB Hub only 2 port be workable) -P17

7. Modified power plane from VCC18MEM to +1.8V(Modified 簐篸issue) -P23

8. Remove R90 R74 for LVDS back light on -P12

9. Fixed SMBus data and clock pin define. - P26

10. Audio net: SENSEA added 100pf for VT2002 by Kevin (09/21) - P24

11. Audio JDREF added 100pf for VT2002 by Kevin (09/21) - P24

12. Update USB port setting for wake up function (09/23) - P

13. Install for cardread functcion - P22

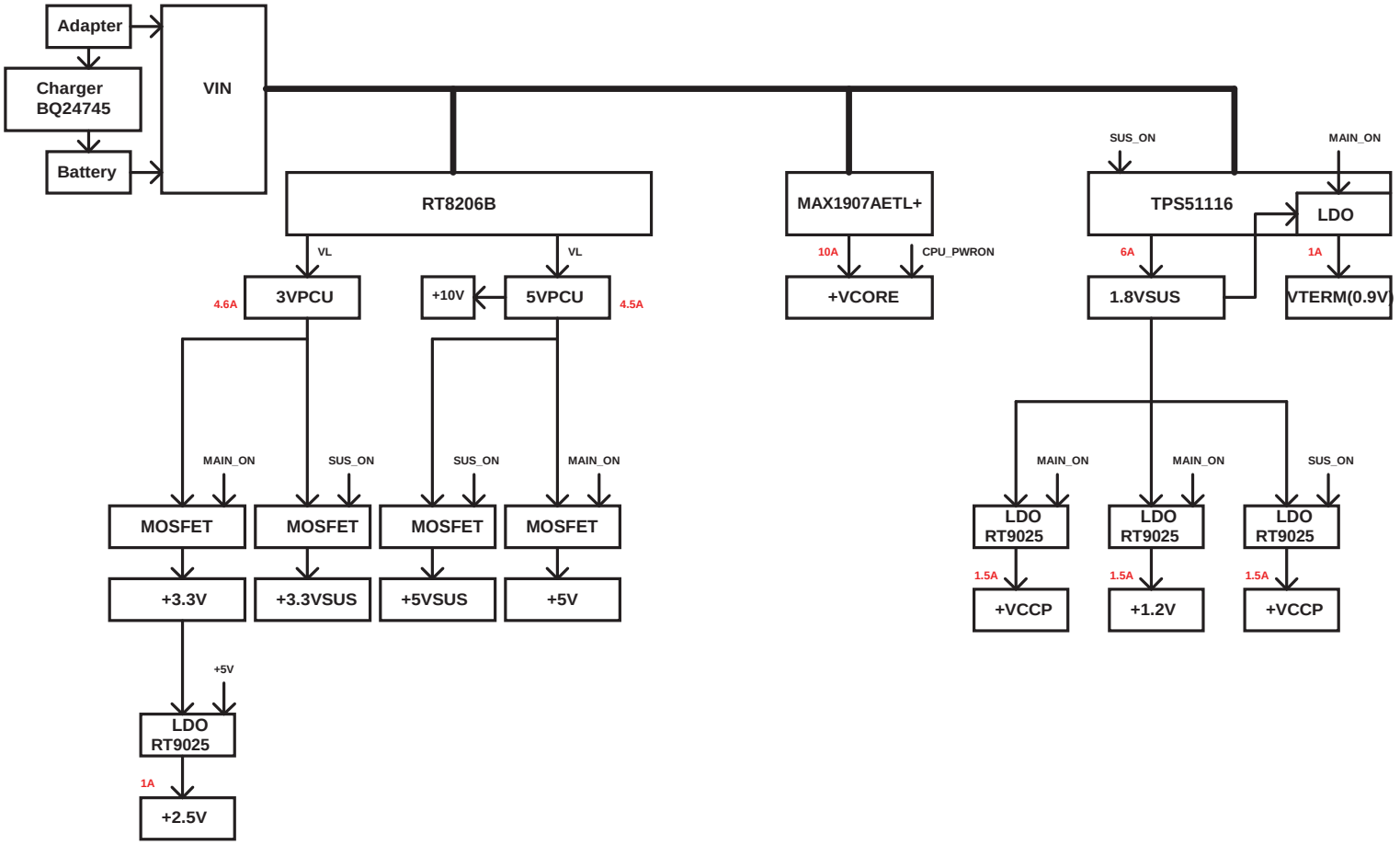
14. DPRSTP# added pull high for C4 CPU VID function -P6

15. Remove resistor for Over Current Pin by Kevin 10/2 - P17

Update bug for VER.C.

1. ENE "AGATE20" and "kb_reset" added diode for electric leakage by Kevin 10/16 - P26

Quanta Computer Inc.		
PROJECT : QR1		
Size	Document Number: Change List	Rev 1A
Date: Monday, November 30, 2009	Sheet 34 of 35	



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PROJECT : QR1

Size	Document Number	Rev
	Power Block Diagram	1A
Date: Monday, November 30, 2009	Sheet 35 of 35	