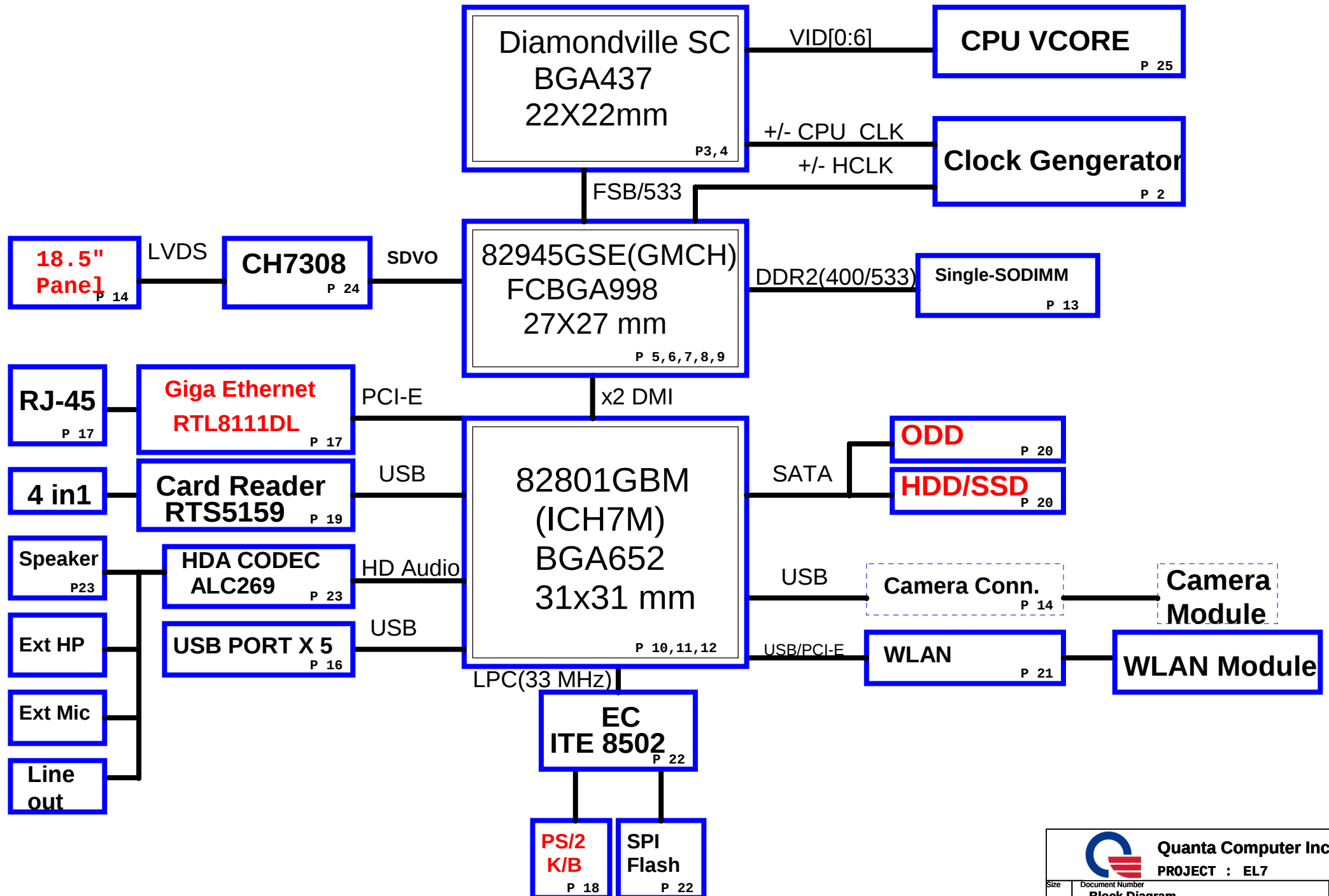
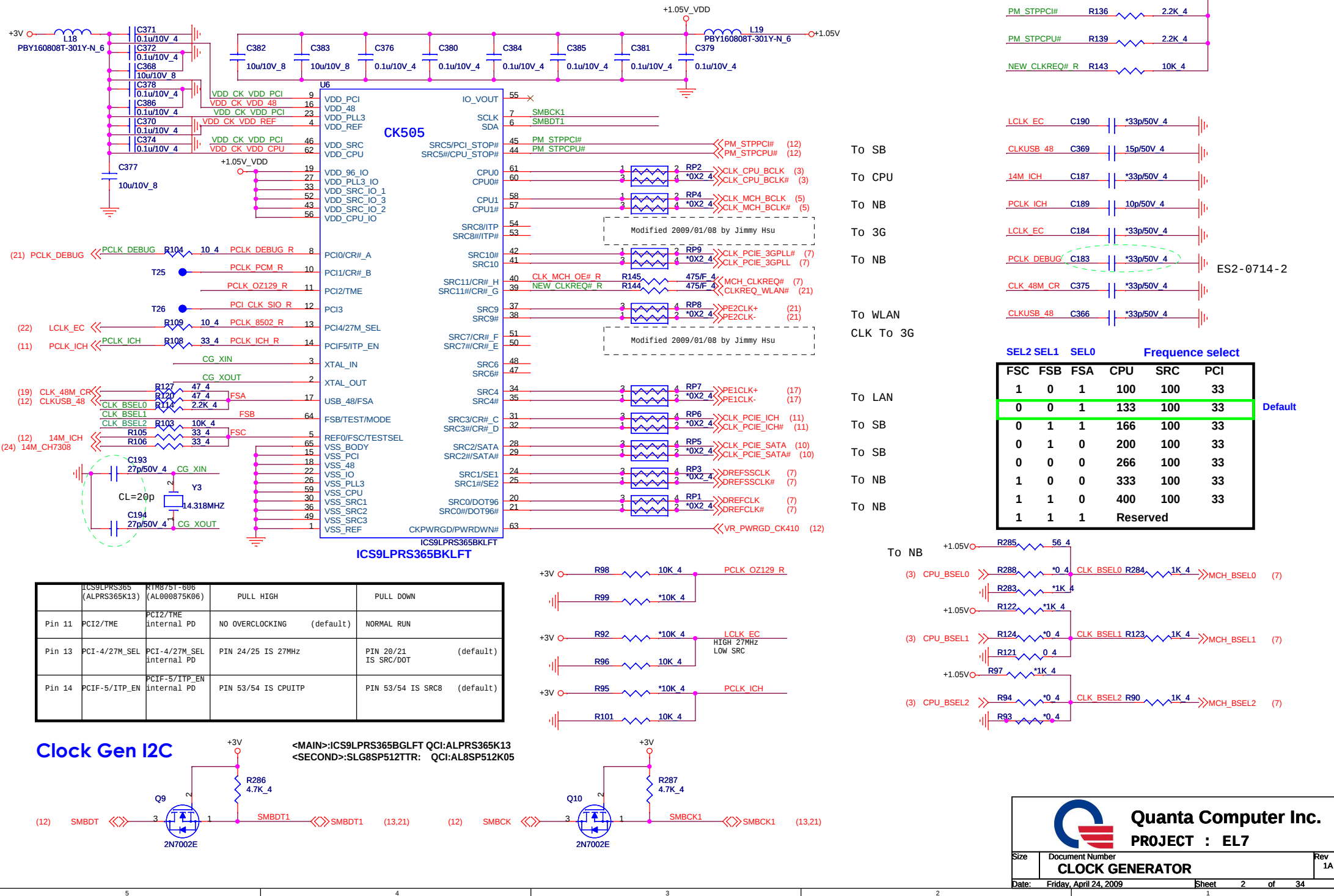


Clapton (EL7) AIO Block Diagram

01



Clock Generator



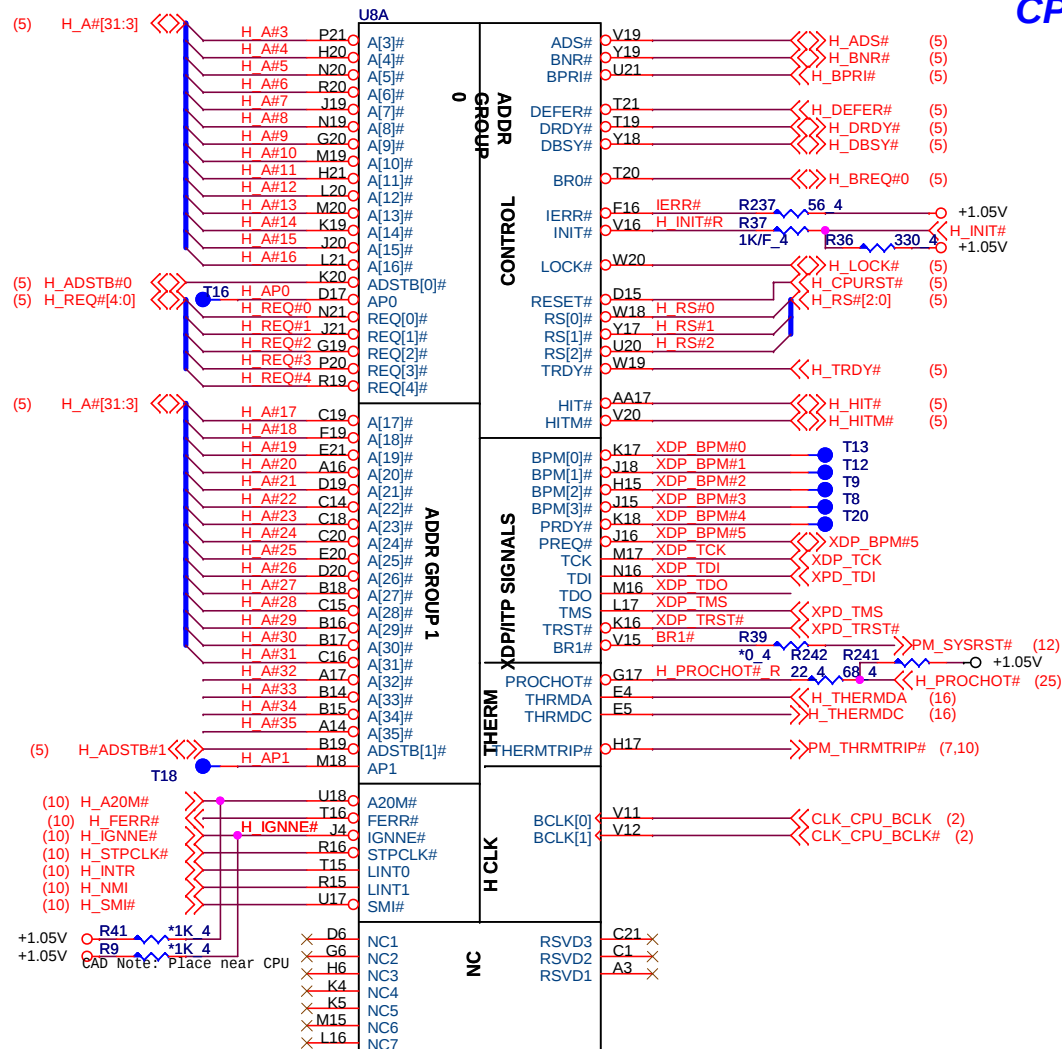
Quanta Computer Inc.

PROJECT : EL7

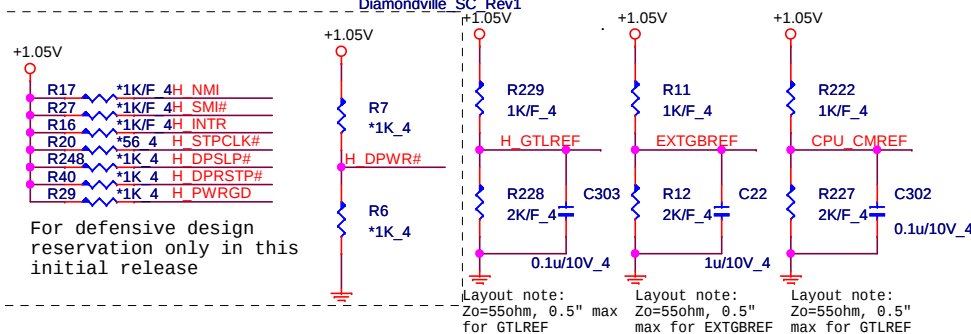
Size	Document Number	Rev
	CLOCK GENERATOR	1A
Date:	Friday, April 24, 2009	Sheet 2 of 34

CPU

03



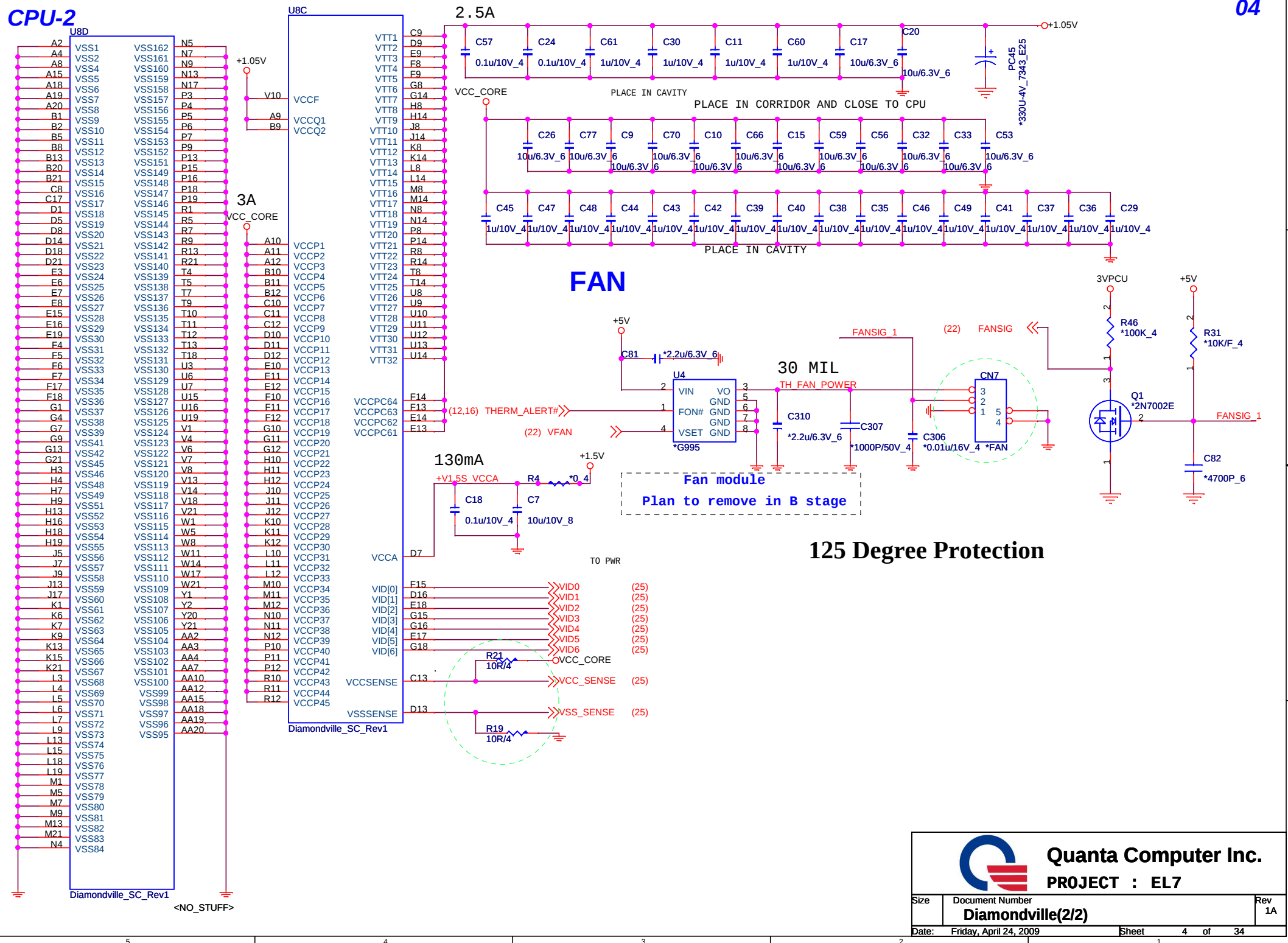
CPU P/N: AJSLB73VT01

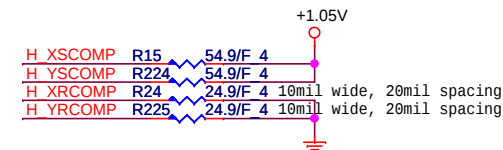
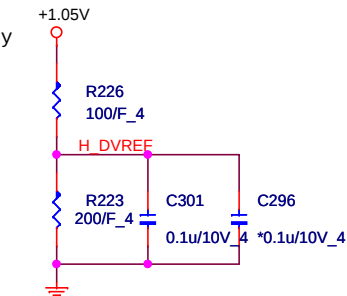
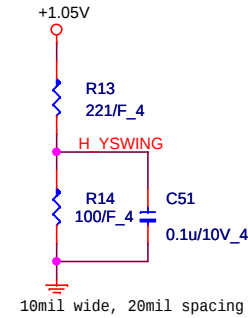
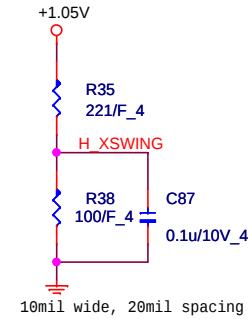


Quanta Computer Inc.

PROJECT : EL7

Size	Document Number	Rev
	Diamondville(1/2)	1A
Date:	Friday, April 24, 2009	Sheet 3 of 34





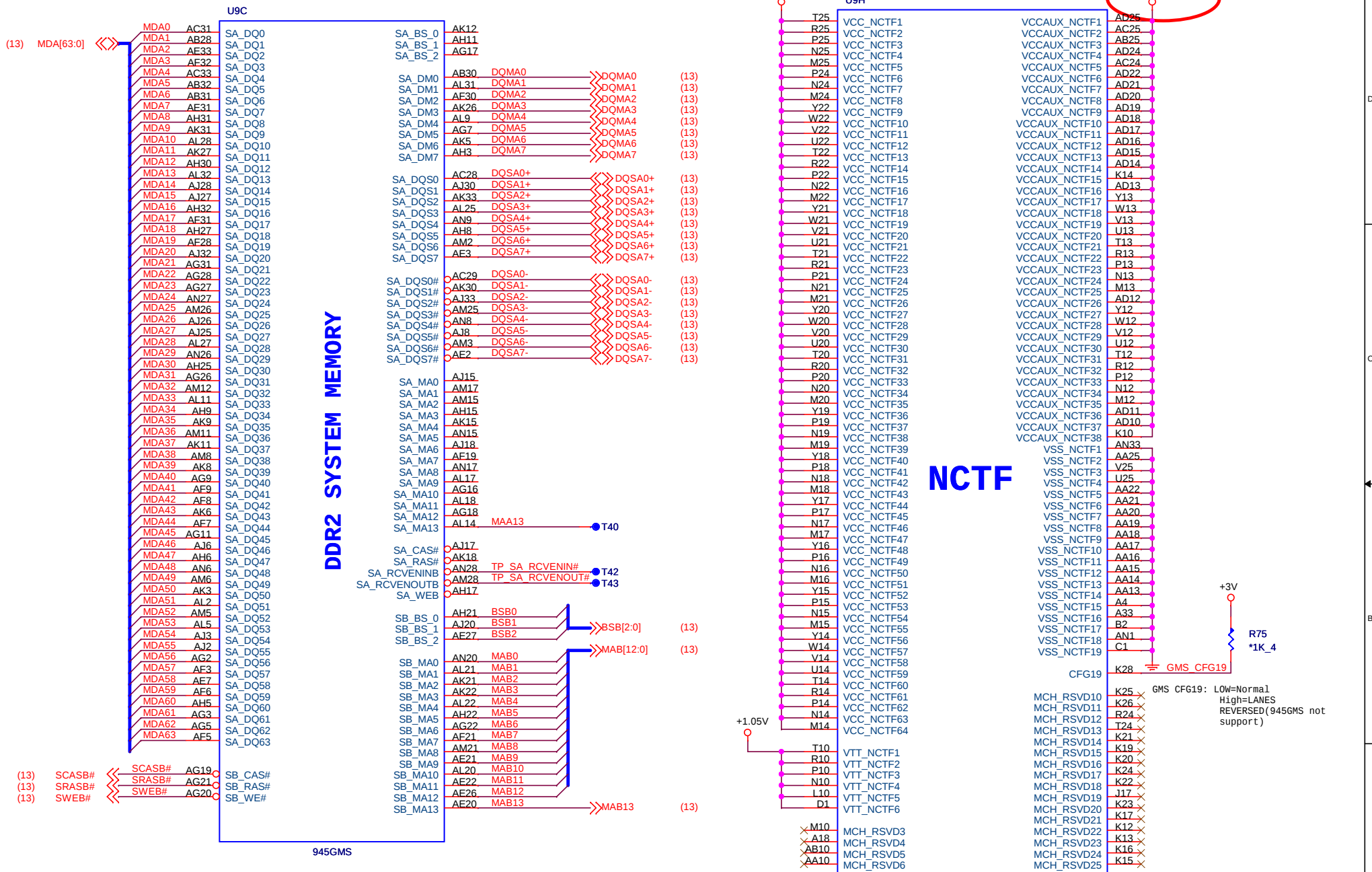
Quanta Computer Inc.
PROJECT : EL7

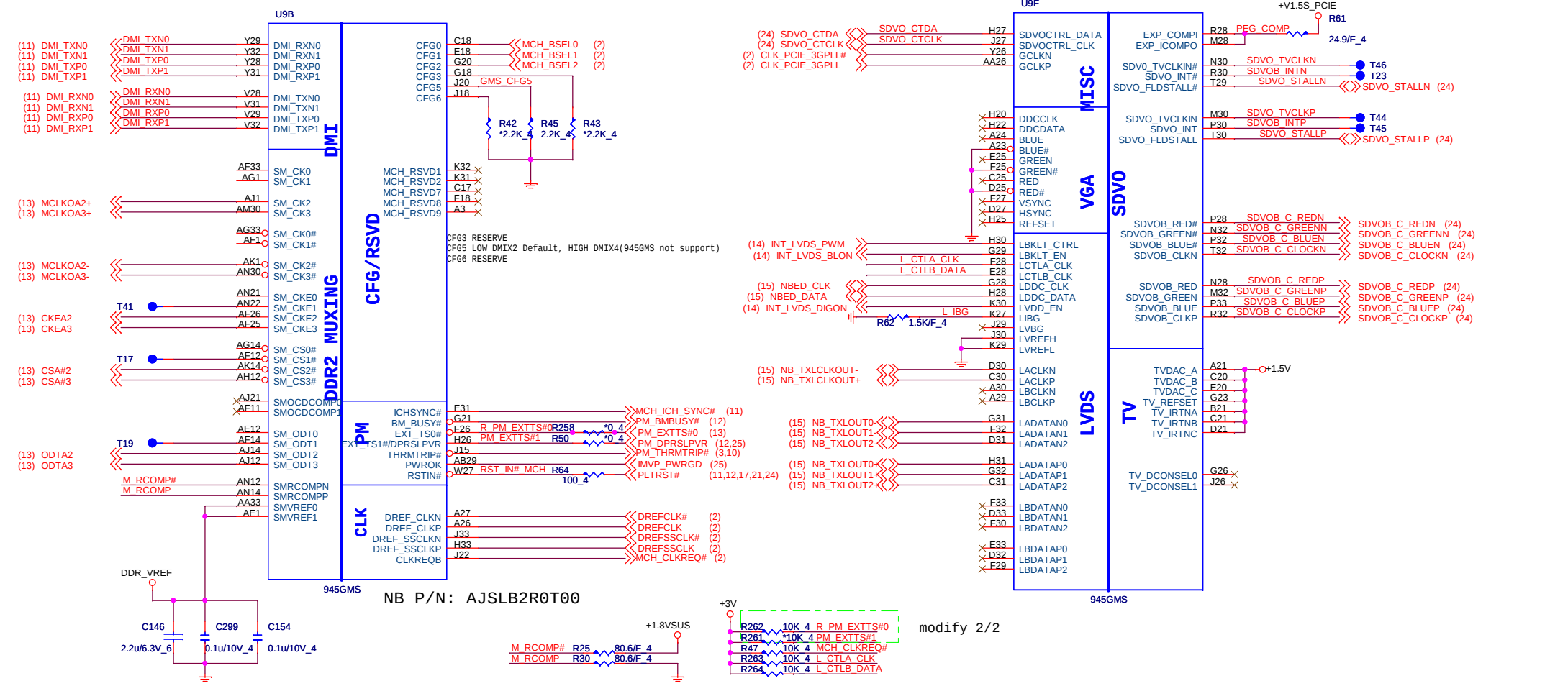
Size	Document Number	Rev
	945GMS HOST	1A
Date:	Friday, April 24, 2009	Sheet 5 of 34

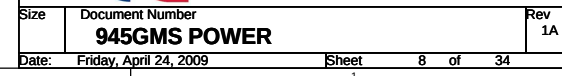
945GMS DDR

06

DDR2 SYSTEM MEMORY



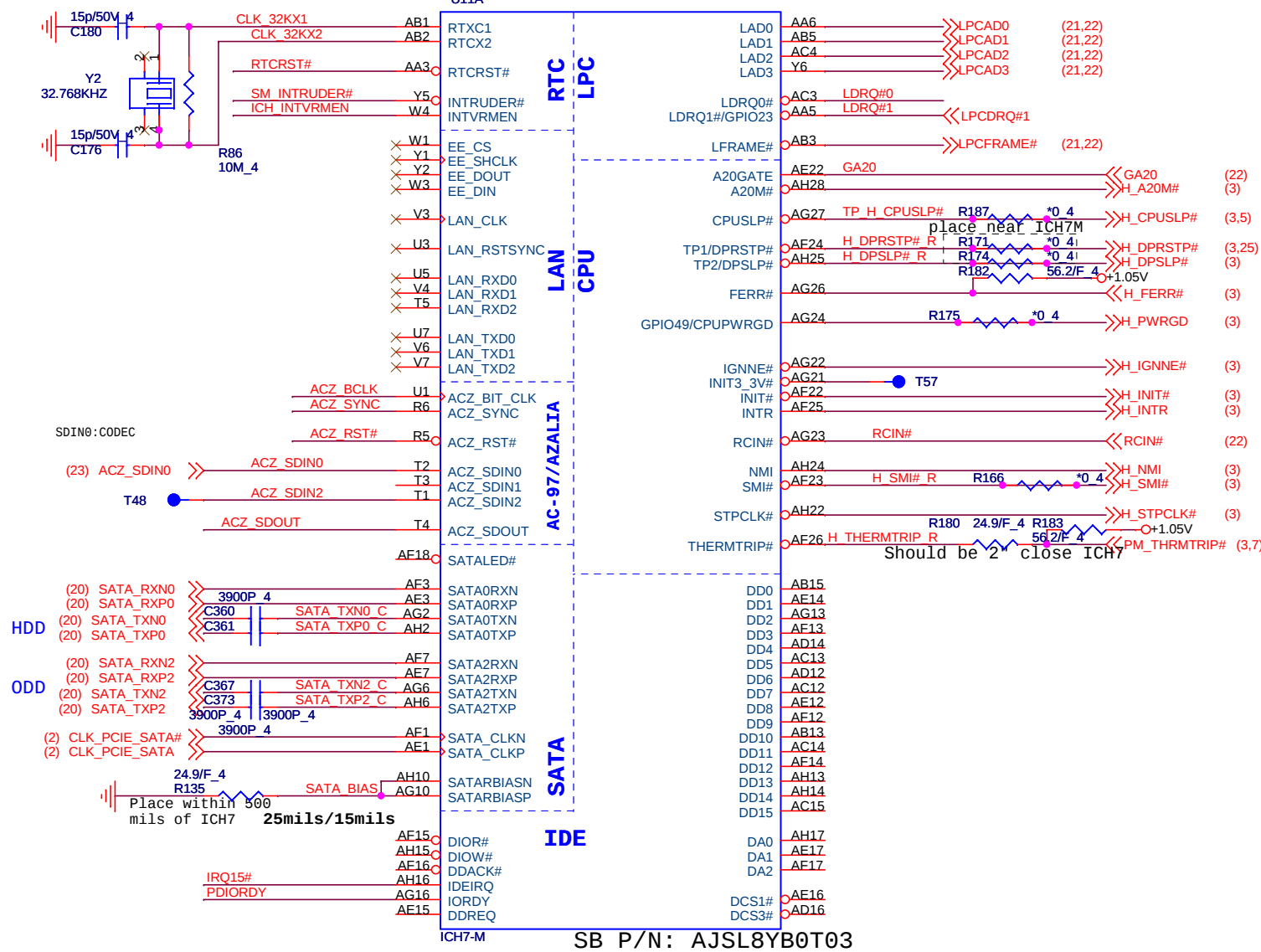






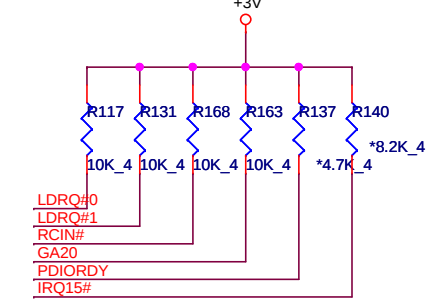
NC

ICH7M

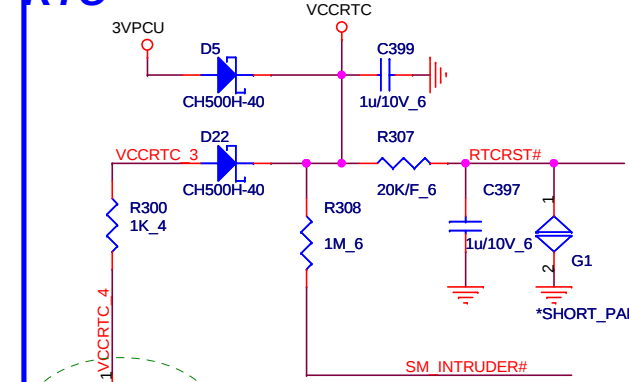


Pull-UP

10



RTC



Modified 2009/01/21

RTC Battery P/N: AHL03003002

COMPONENTS

P/N

N270

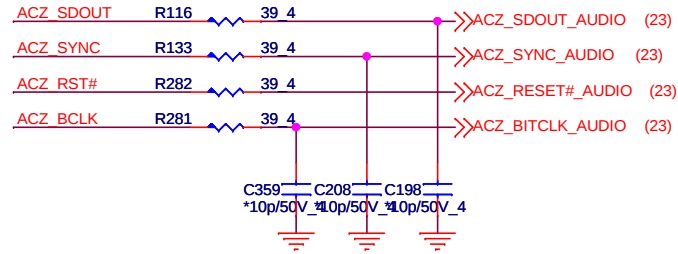
AJSLB73VT01

945GSE

AJSLB2R0T00

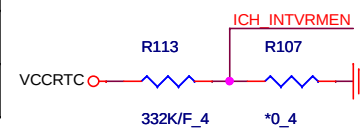
ICH7-M

AJSL8YB0T03



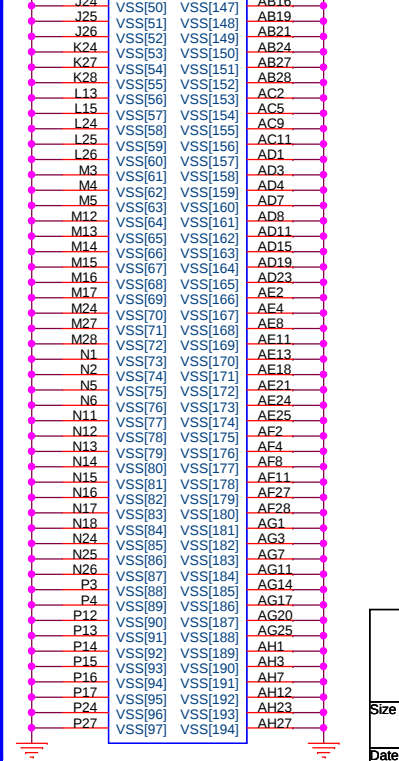
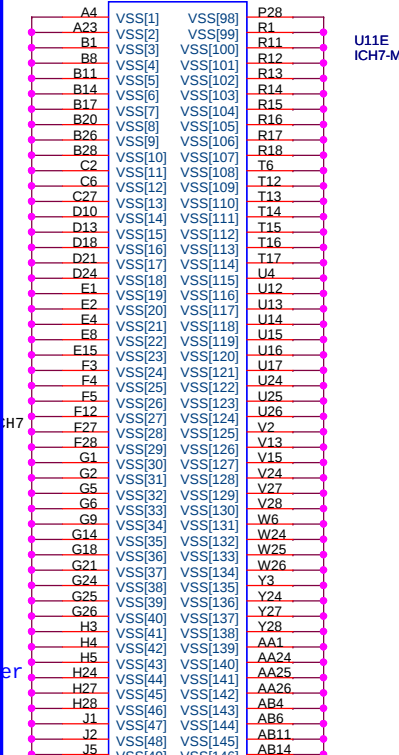
ICH7 internal VR enable strap

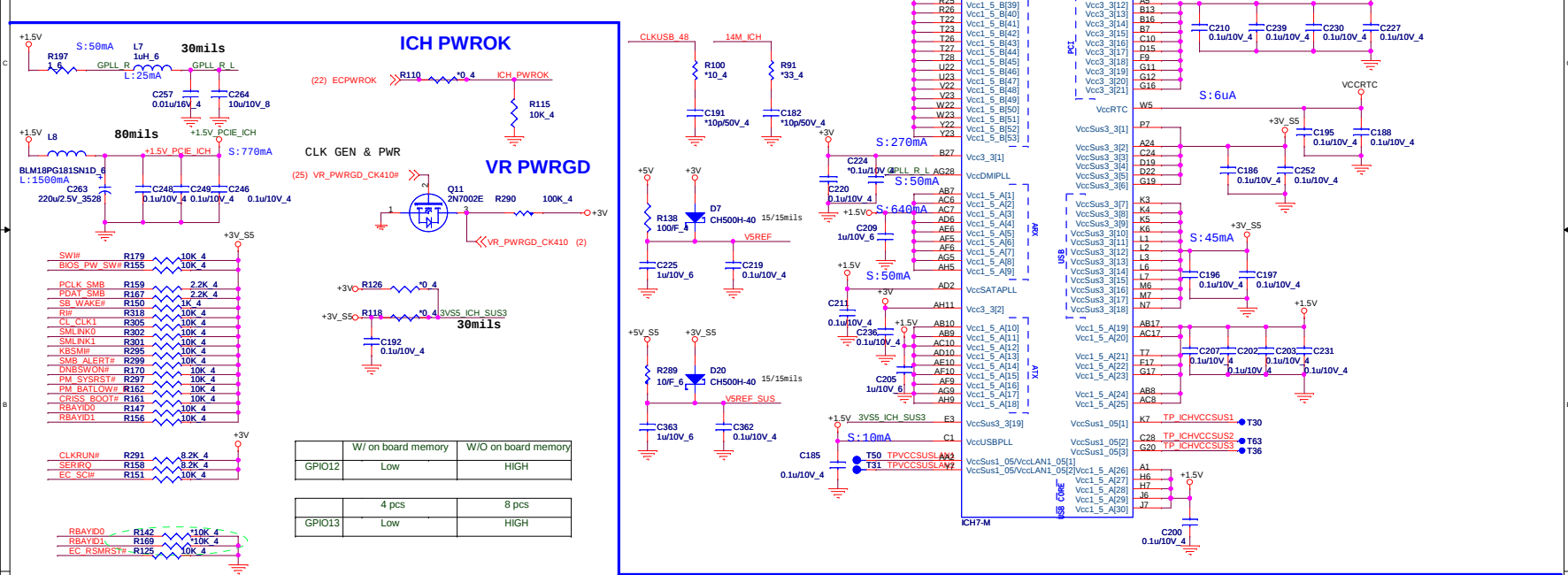
	INTVRMEN
Enable (default)	1
Disable	0



Quanta Computer Inc.
PROJECT : EL7

Size	Document Number	Rev
	ICH7-M (CPU, SATA, IDE, LPC)	1A
Date:	Friday, April 24, 2009	Sheet 10 of 34





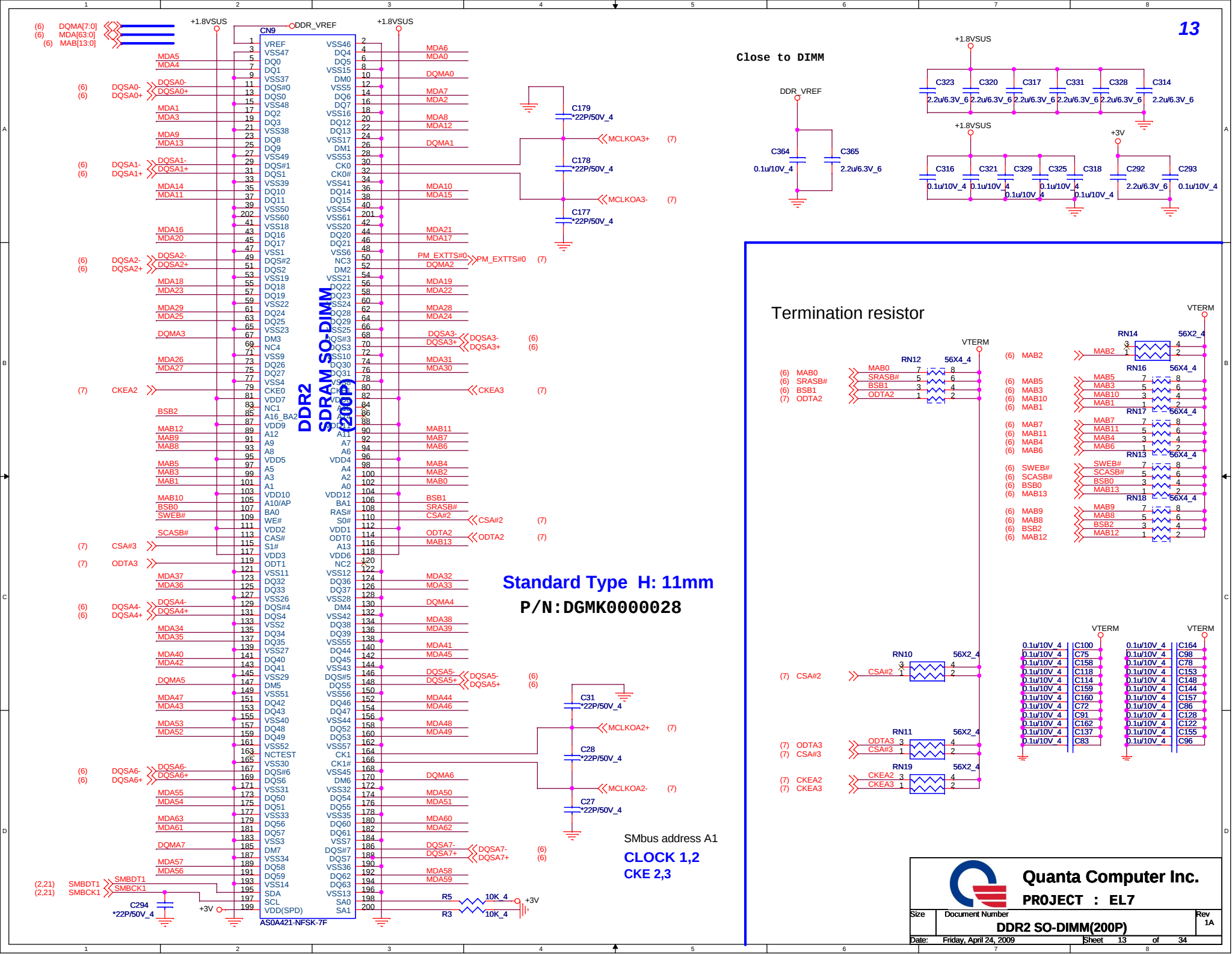
GP15	GP14	GP38	GP39
MID1	MID2	MID3	MID4
1	1 e Machines	1	1 xp
1	0 ACER	1	0 Winnodws 7
0	1 Packard Bell	0	1 Linux
0	0 Gateway	0	0 Free DOS

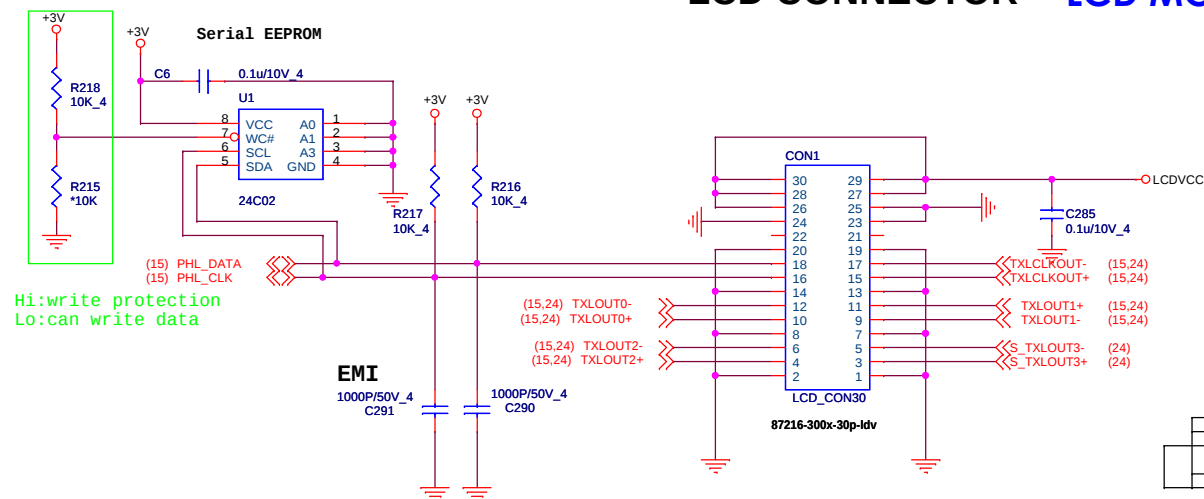
OFF=1= Hi On= 0= Low



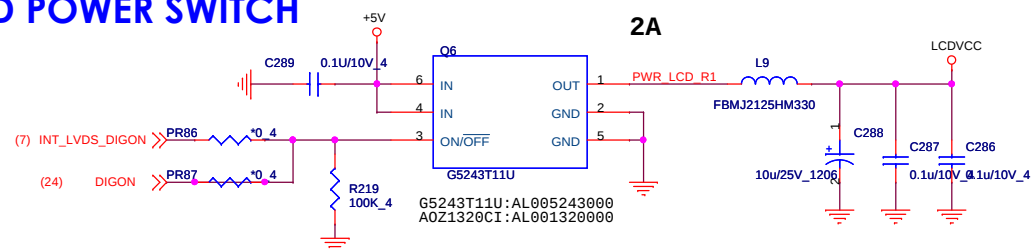
Quanta Computer Inc.
PROJECT : EL7

Size	Document Number ICH7-M (POWER & GND)	Rev 1A
Date:	Friday, April 24, 2009	Sheet 12 of 34

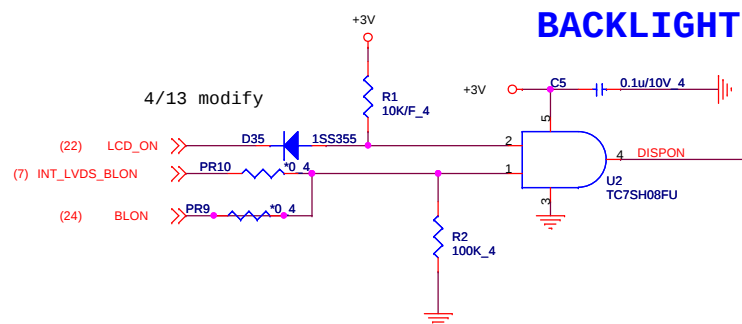




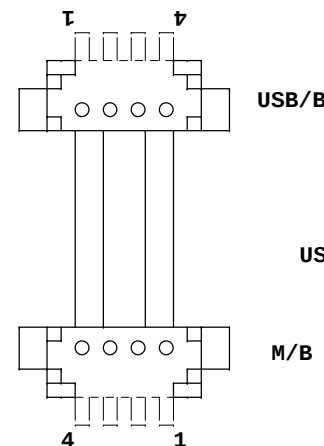
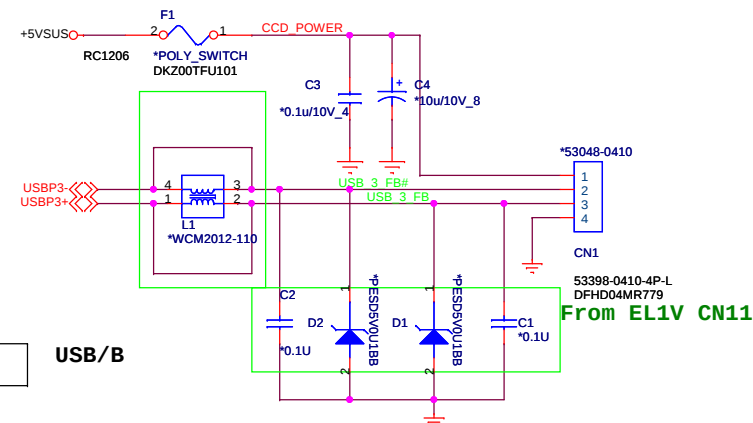
LCD POWER SWITCH



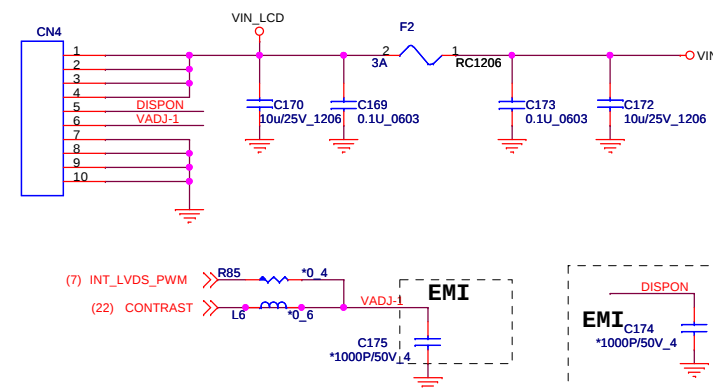
BACKLIGHT CONTROL

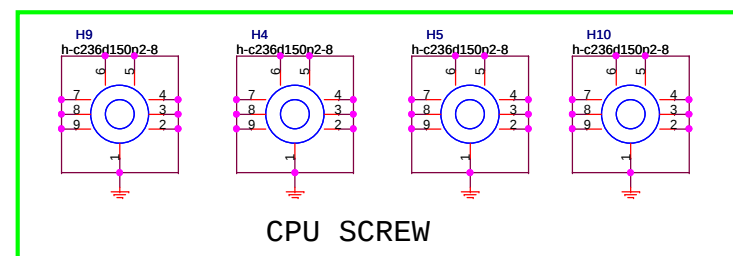
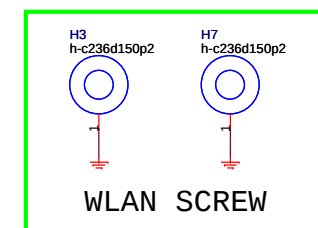


CAMERA POWER



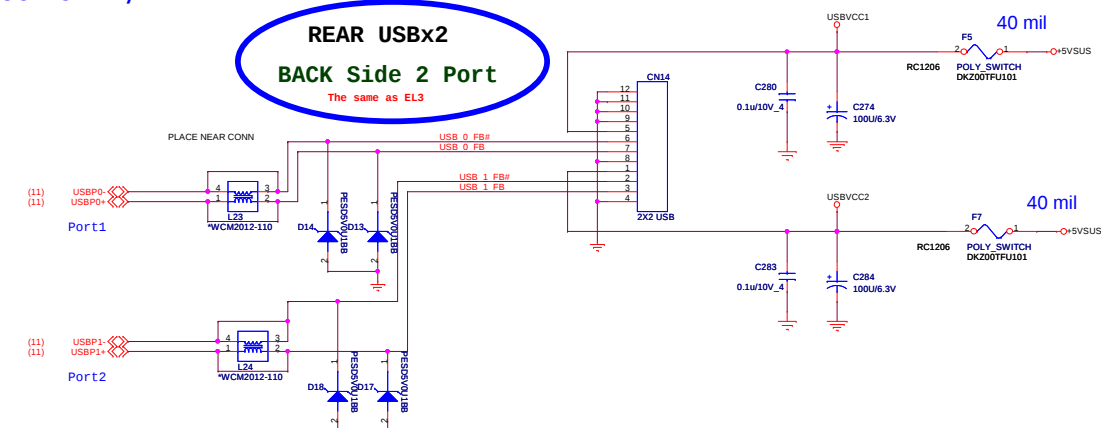
TO INVERTER POWER



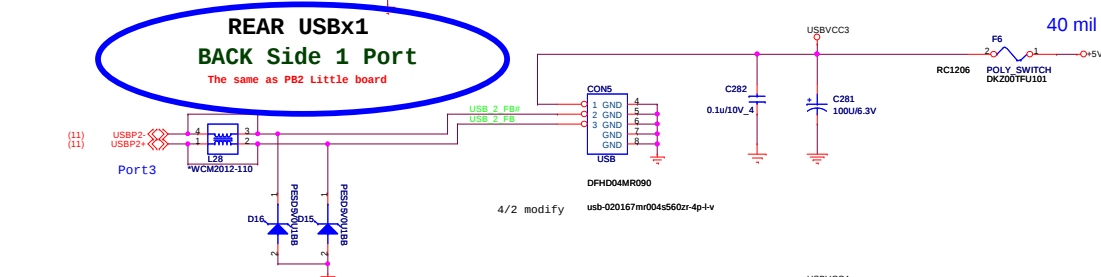


Modify footprint 2009/03/05 by Jimmy:h-c236d150p2-8
NUT is the same as JR1:MBJR1003010

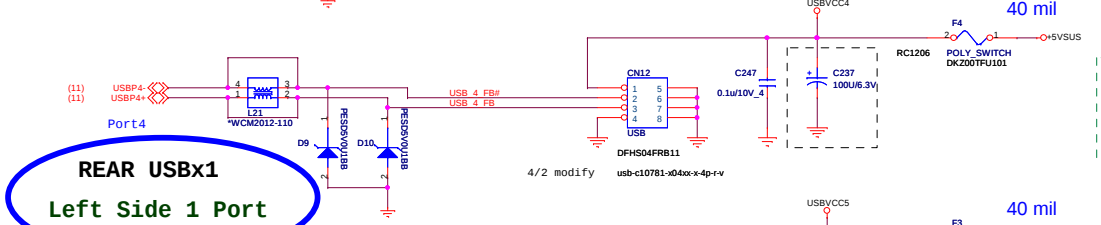
REAR USBx2
BACK Side 2 Port
The same as EL3



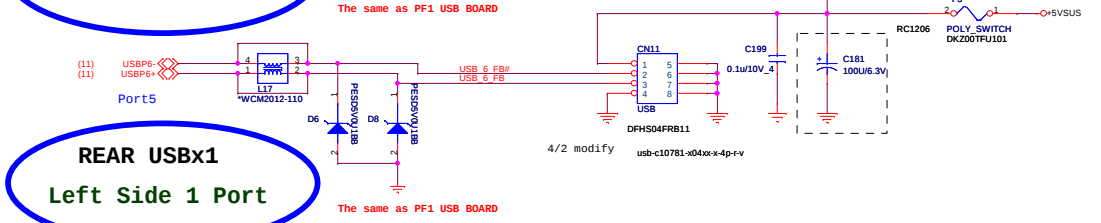
REAR USBx1
BACK Side 1 Port
The same as PB2 Little board



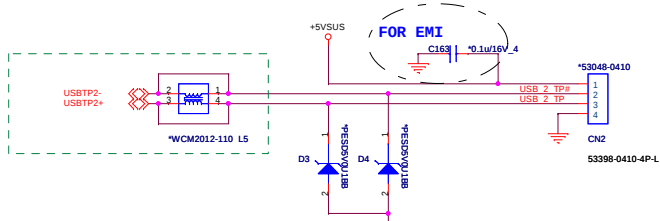
REAR USBx1
Left Side 1 Port



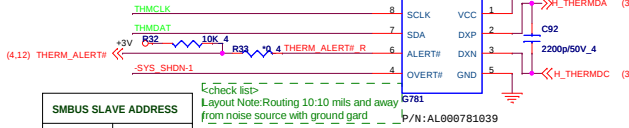
REAR USBx1
Left Side 1 Port



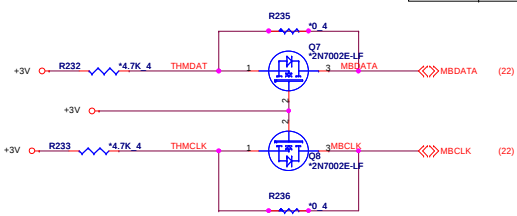
*touch panel connector



CPU Thermal monitor

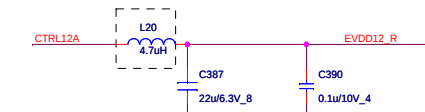


SMBUS SLAVE ADDRESS	
G781	98
G781-1	9A

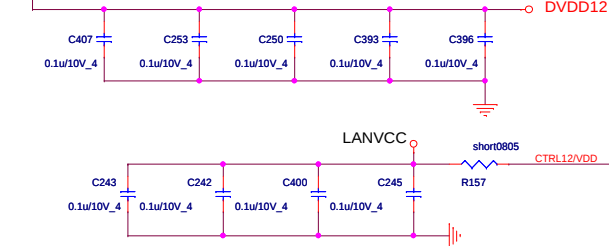


LANVCC

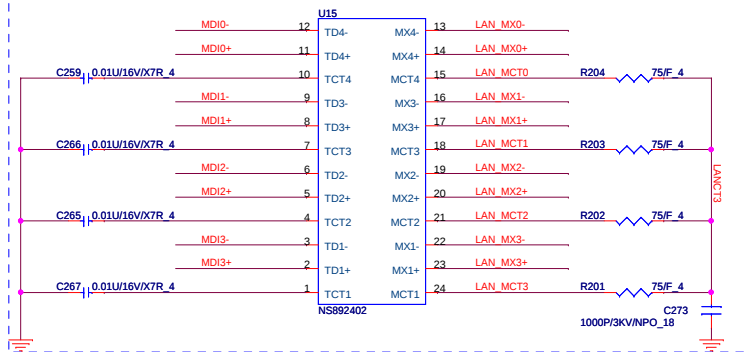
+3V_S5 R192 short0805 LANVCC



modified 2009/01/13 by Rich Power comment



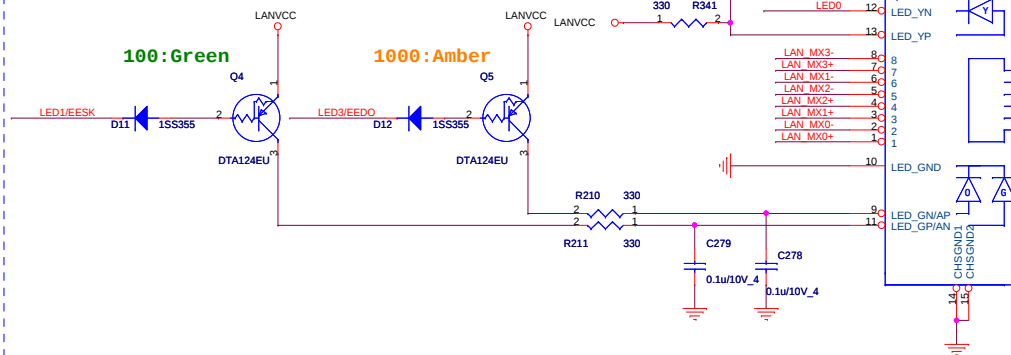
Transformer



P/N: DB0AT9LAN05

100:Green

1000:Amber

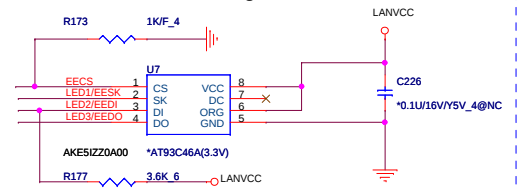


CLK G have't CLKREQB function

(11) PE1TX+
(11) PE1TX-
(11) PE1RX-
(11) PE1RX+
(2) PE1CLK-
(2) PE1CLK+

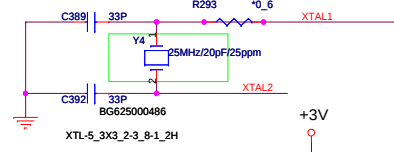
Remove R394 if external power 1.2v is used.
Remove R395 if switching regulator is enable

Reserve EEPROM for first stage. No stuff.

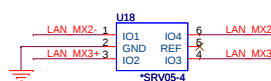
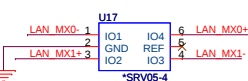
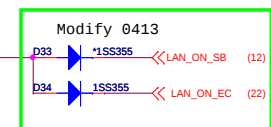


Rich Power comment: No matter U28 mounted or not, R397 always shall be mounted!

X'tal 25MHz

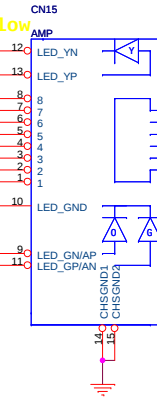


Modify 0413



EMI: NEAR CN27

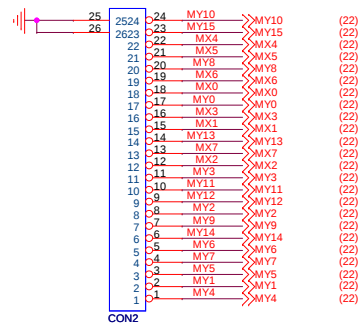
Active: Yellow



KEYBOARD For debug

(22) MY[15..0] >> (22) MY[7..0]

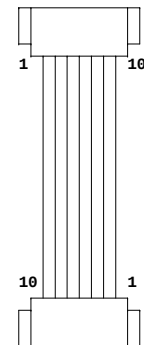
*88502-2401-24P-L



From EL1V

TOP Side

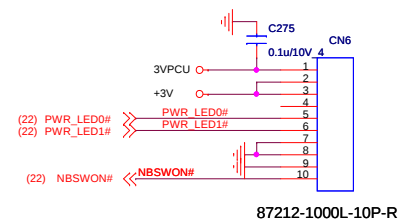
MB Side



TOP Side

SWITCH/B Side

Power SW



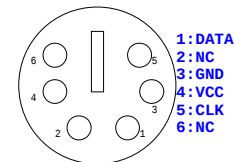
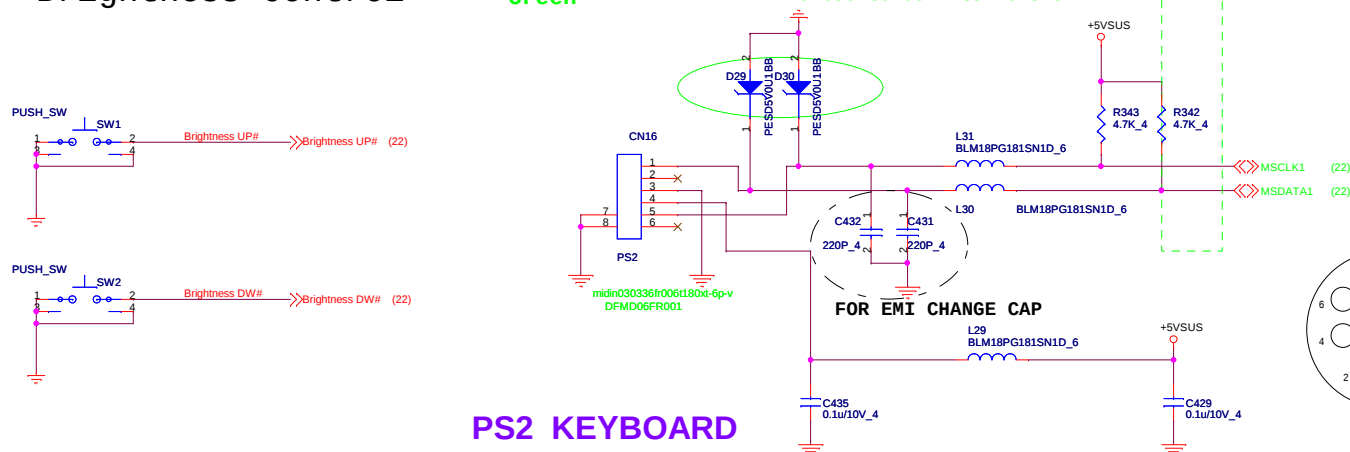
Modify 2209/03/02 :the same as CN4

Brightness Control

PS2 MOUSE

Green

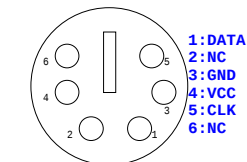
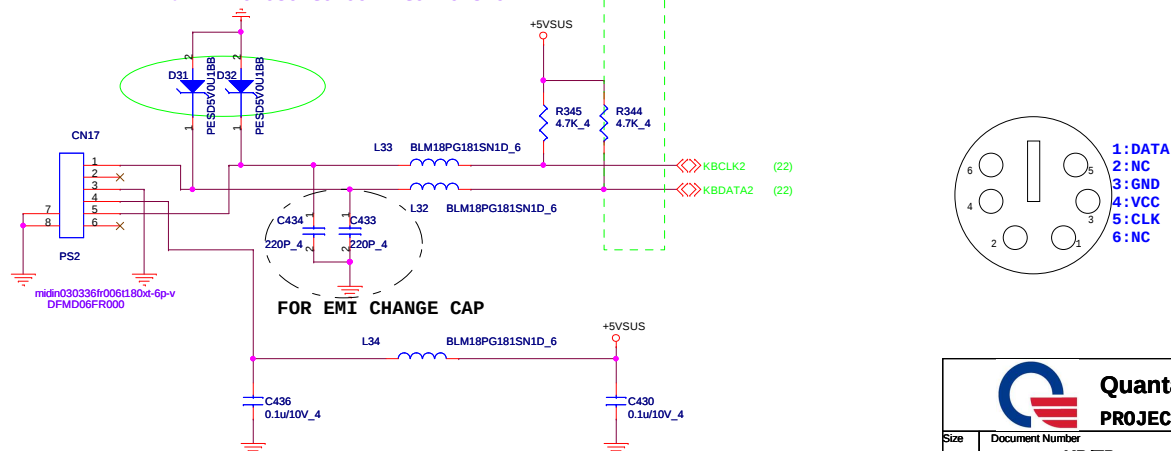
close to conn to version:A

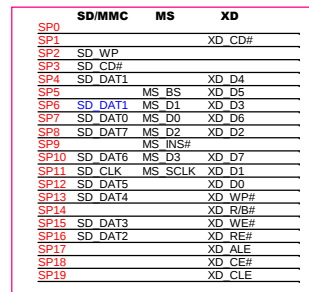


PS2 KEYBOARD

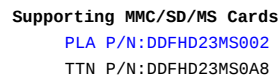
Purple

close to conn to version:A

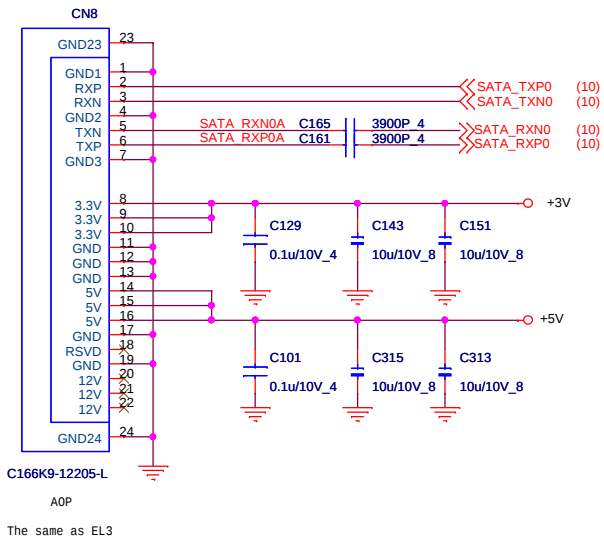




From PB2

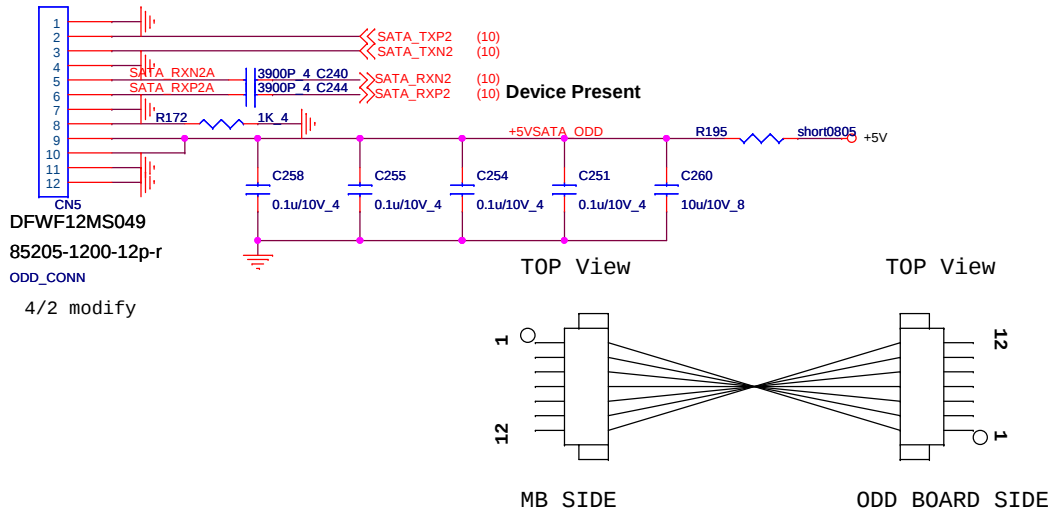


SATA HDD



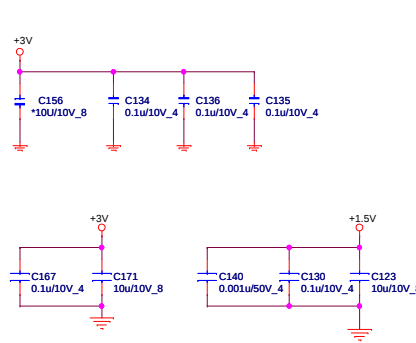
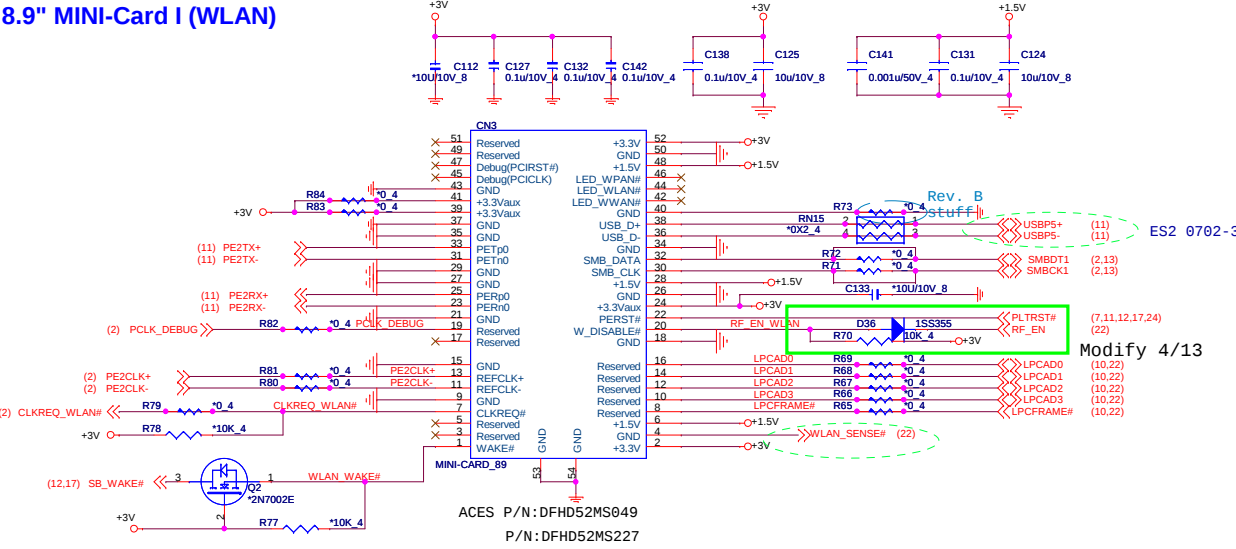
SATA ODD

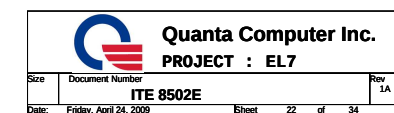
Check New ODD CONN Pin Define.

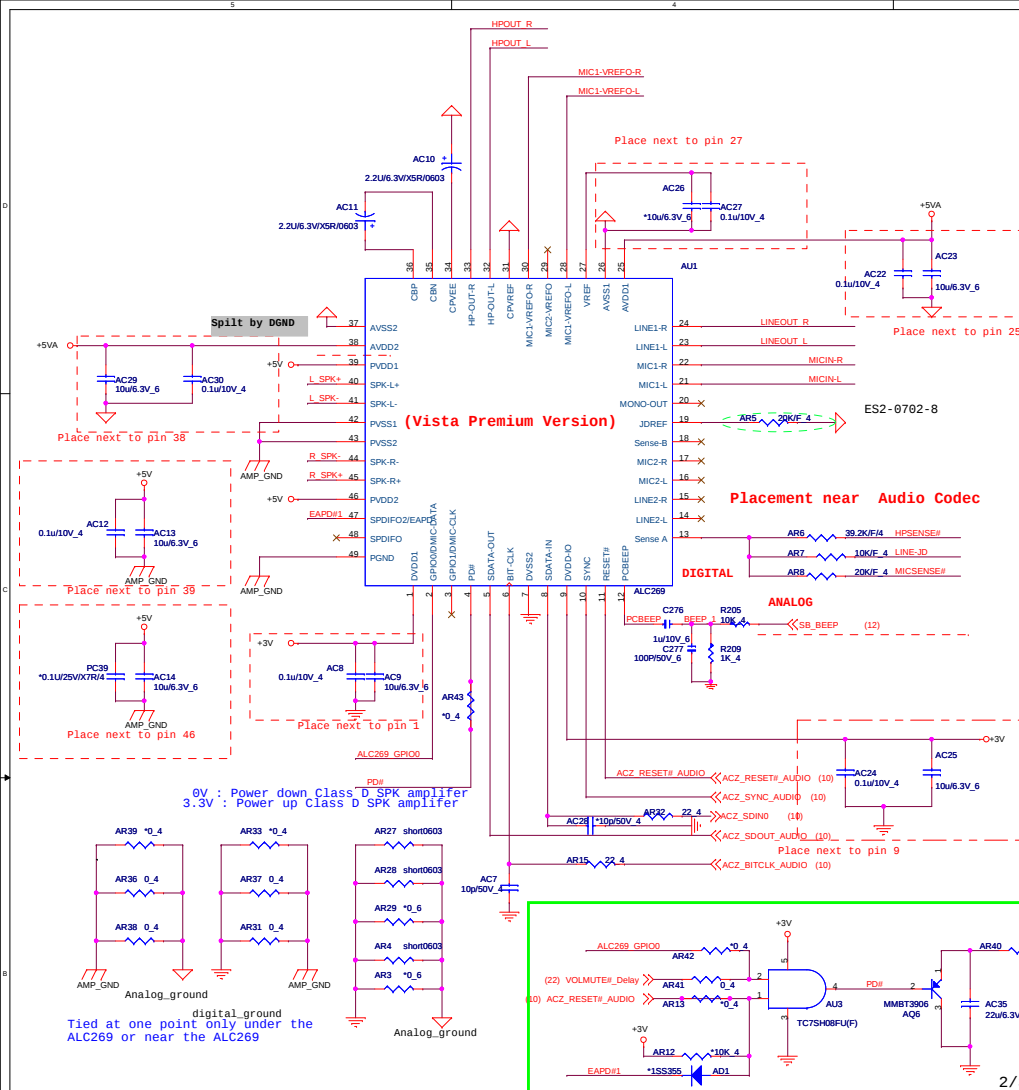


ZT4 card connector

8.9" MINI-Card I (WLAN)

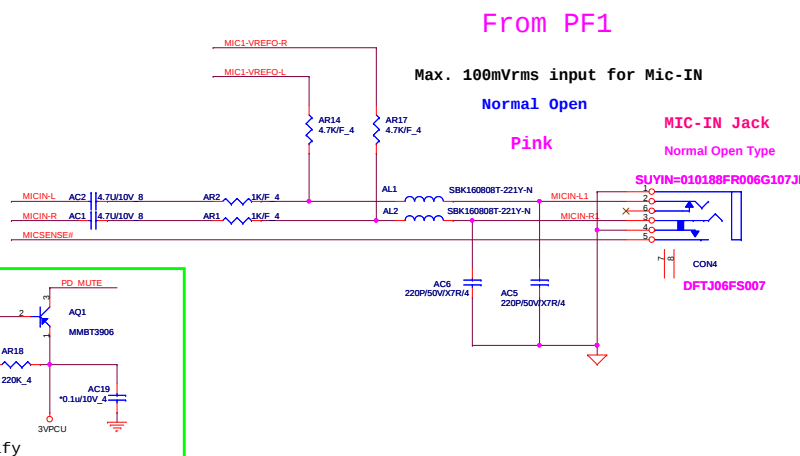
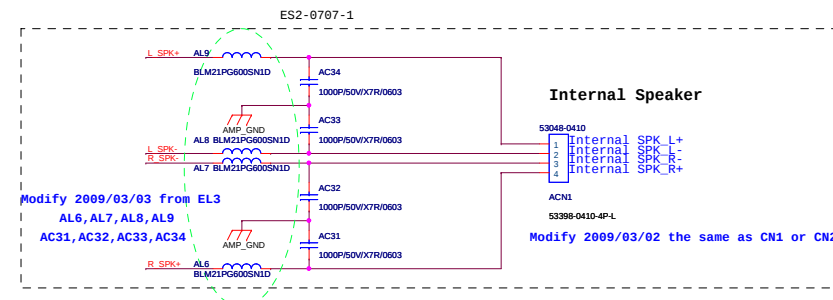
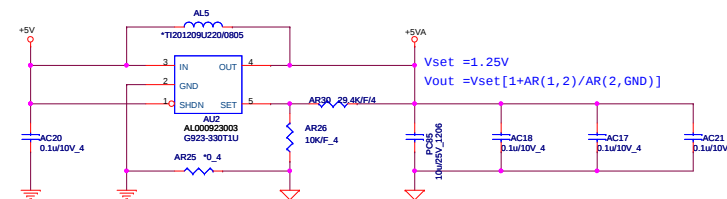






Demodulation Filter

Place close to Codec

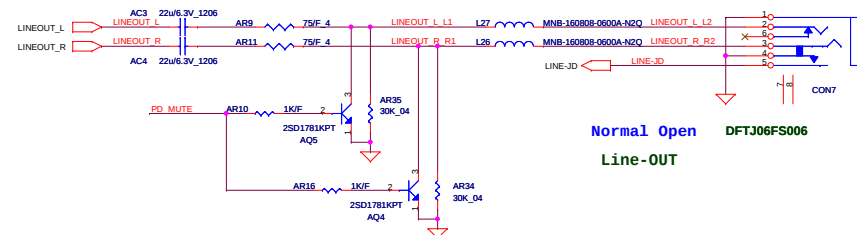


Comment by RichPower Vic 2008/01/12

From PF1

Green SUYIN=010188FR006G107HL

Normal Open
Line-OUT



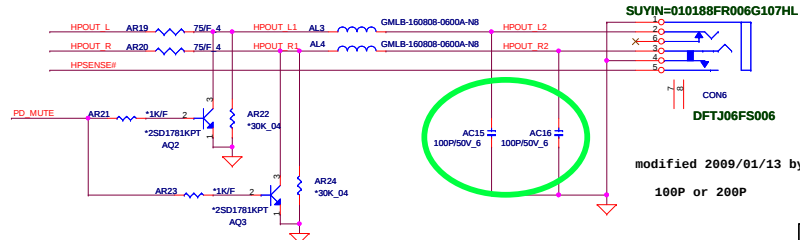
From PF1

Normal Open Green

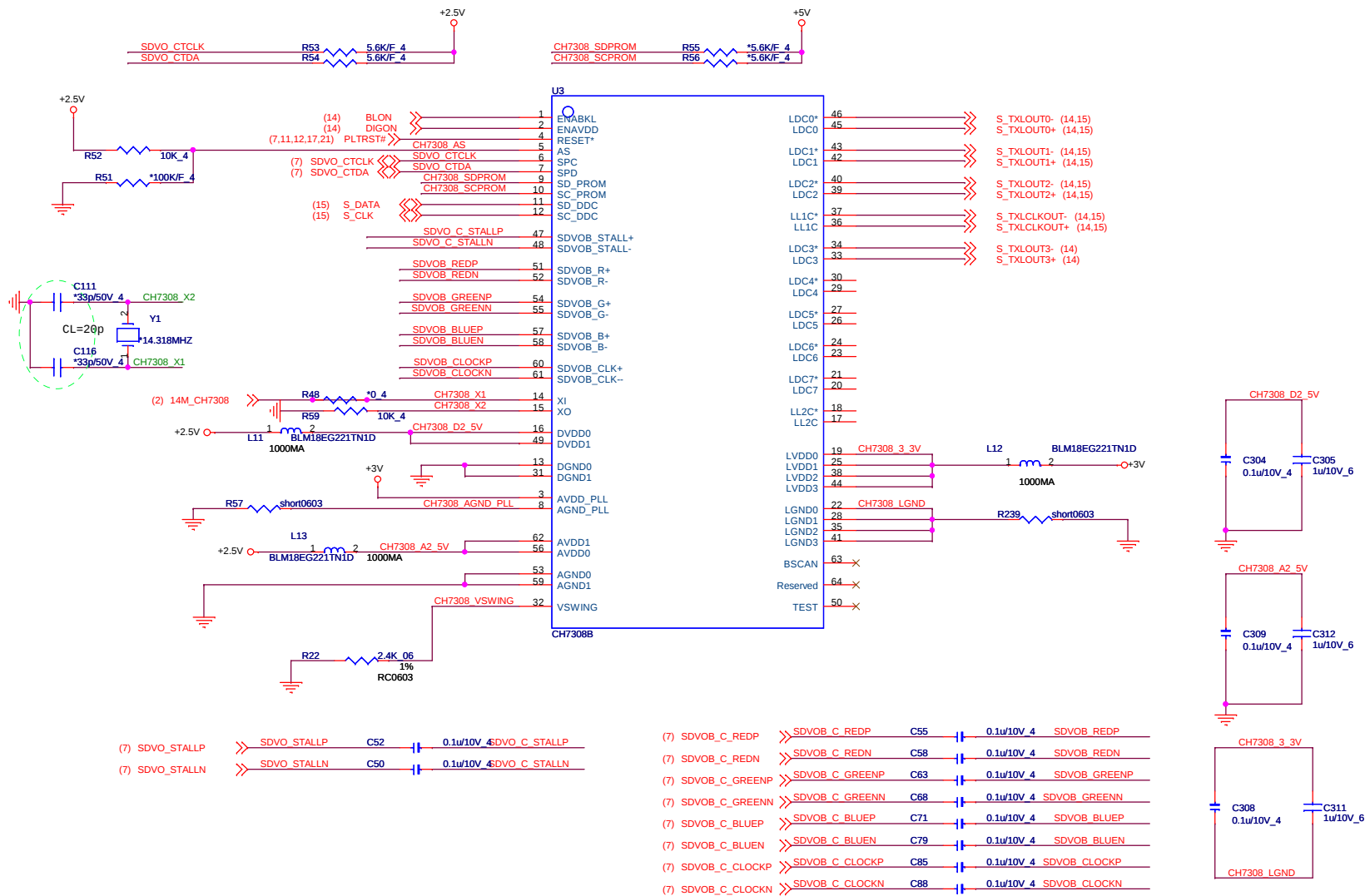
Headphone-OUT

Normal Open Type
SUYIN=010188FR006G107HL

DFTJ06FS006

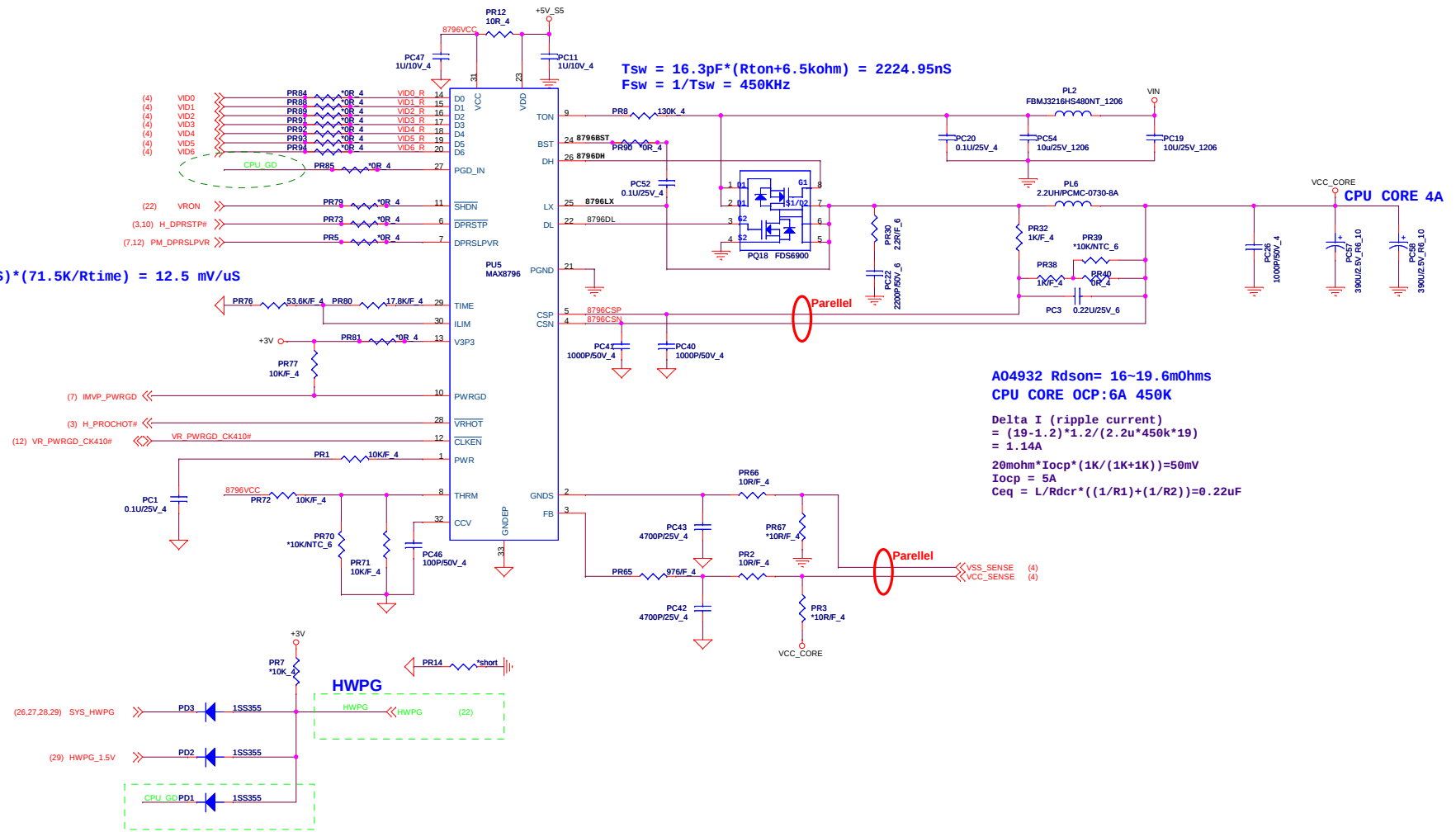


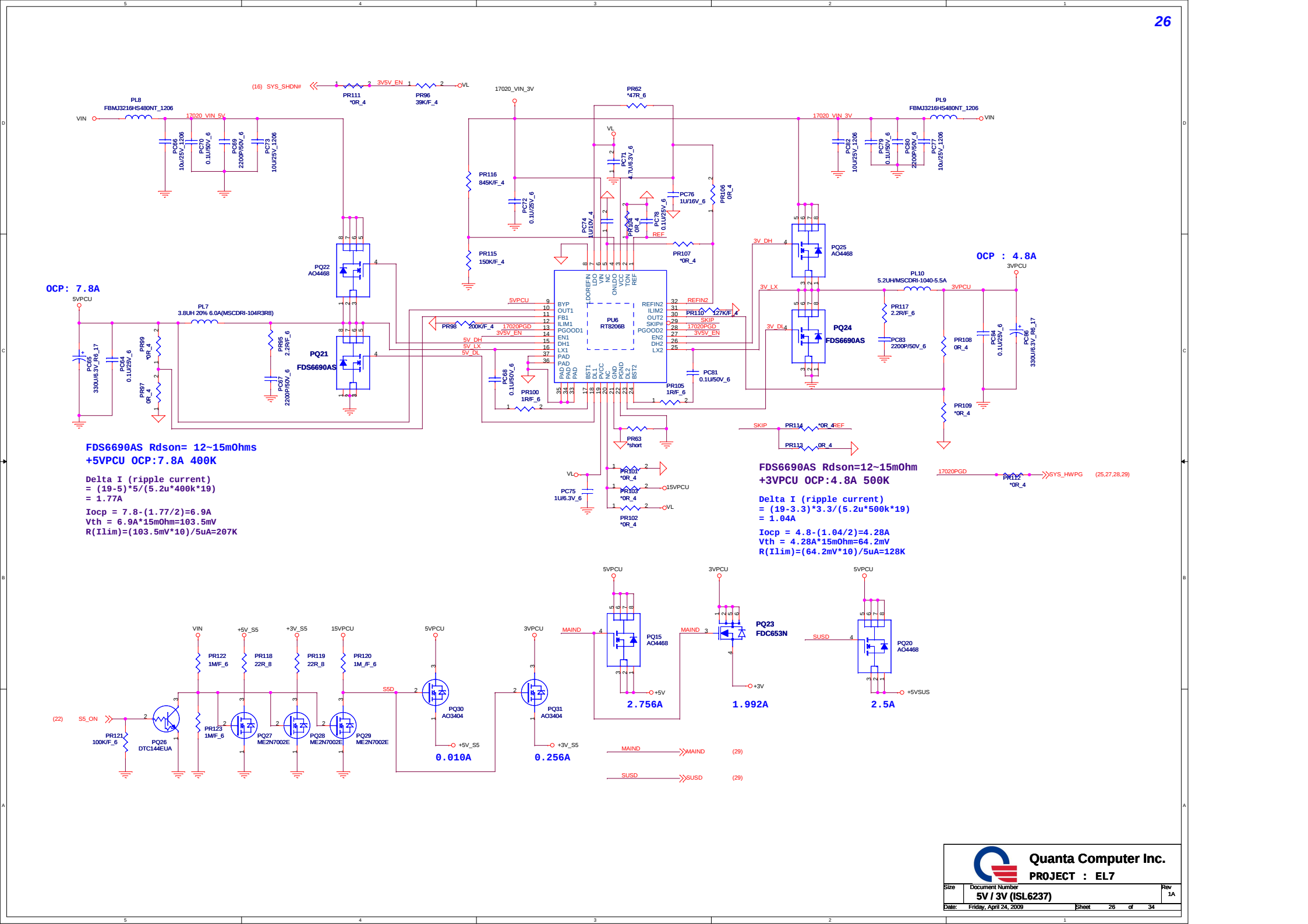
modified 2009/01/13 by Rich Power comment
100P or 200P

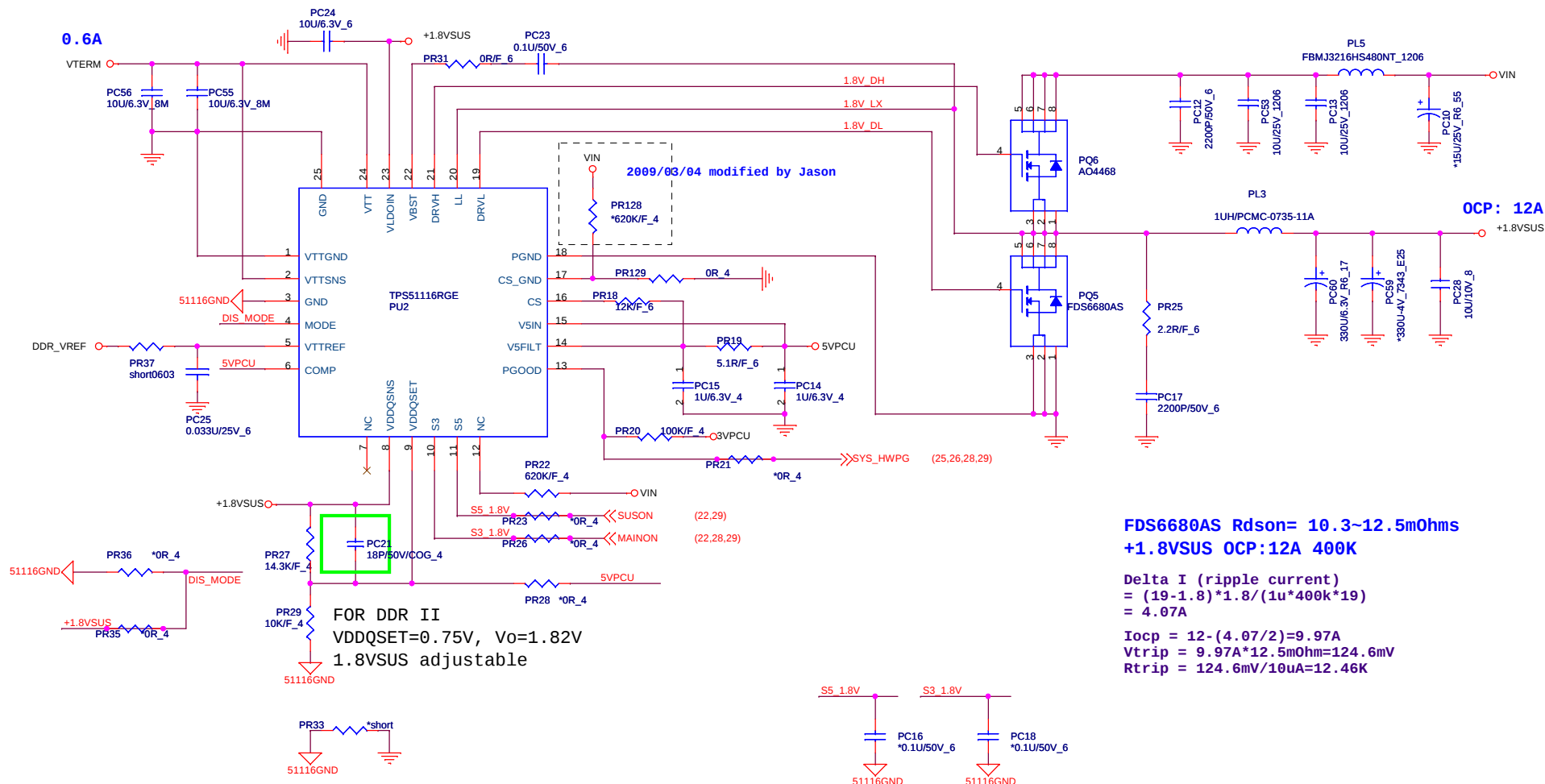


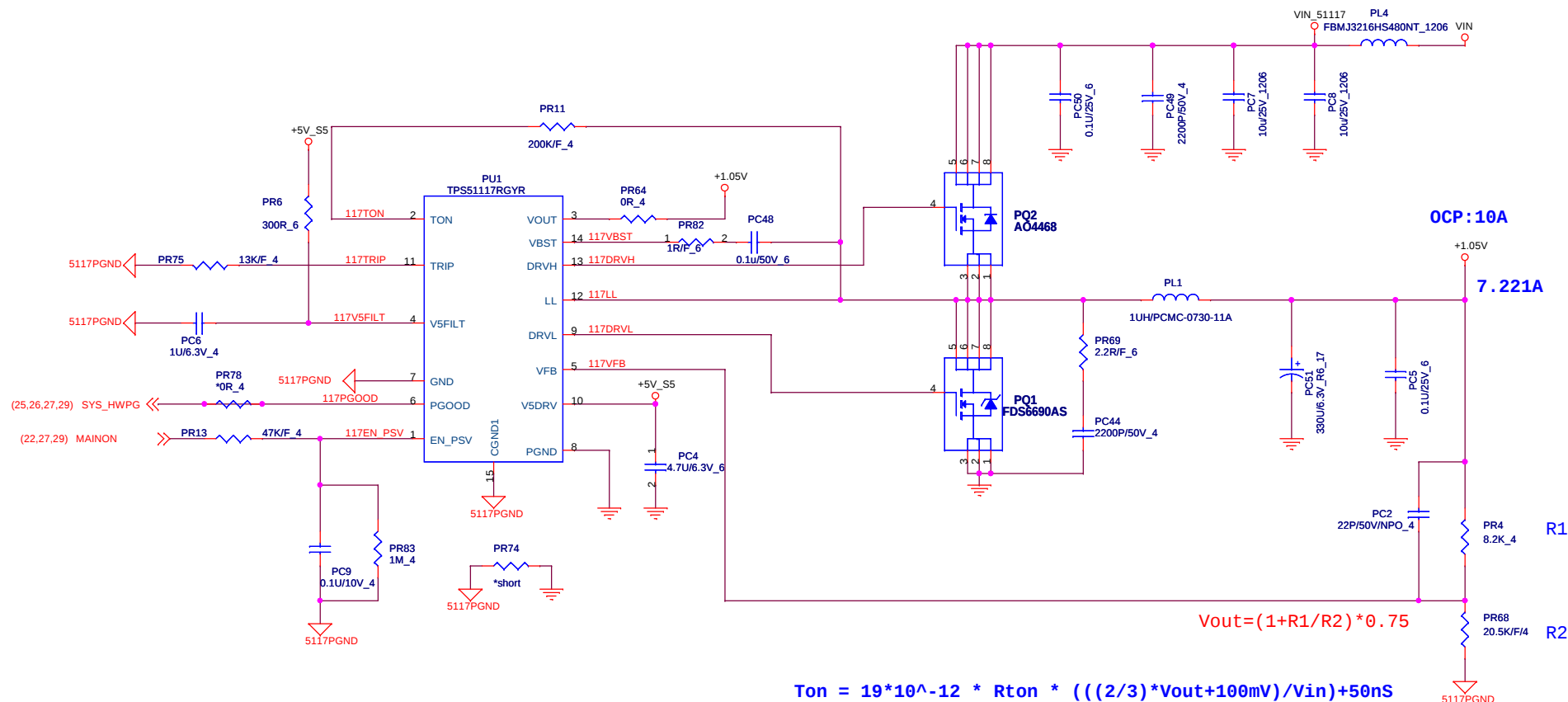
CPU CORE

Slew Rate = $12.5(\text{mV/uS}) * (71.5\text{K}/\text{Rtime}) = 12.5 \text{ mV/uS}$
 Vlimit = 1.5V









$$\begin{aligned}
 T_{on} &= 19 \times 10^{-12} \times R_{ton} \times (((2/3) \times V_{out} + 100\text{mV}) / V_{in}) + 50\text{nS} \\
 &= 210\text{nS} \\
 f &= (1/T_{on}) \times (V_{out} / V_{in}) \\
 &\sim 263\text{Hz}
 \end{aligned}$$

FDS6690AS $R_{ds(on)} = 12 \sim 15\text{m}\Omega$
+1.05V OCP:10A 263K

$$\begin{aligned}
 \Delta I \text{ (ripple current)} &= (19 - 1.05) \times 1.05 / (1\mu \times 263\text{k} \times 19) \\
 &= 3.77\text{A}
 \end{aligned}$$

$$\begin{aligned}
 I_{ocp} &= 10 - (3.77/2) = 8.16\text{A} \\
 V_{trip} &= 8.16\text{A} \times 15\text{m}\Omega = 122.4\text{mV} \\
 R_{trip} &= 122.4\text{mV} / 10\mu\text{A} = 12.24\text{k}\Omega
 \end{aligned}$$

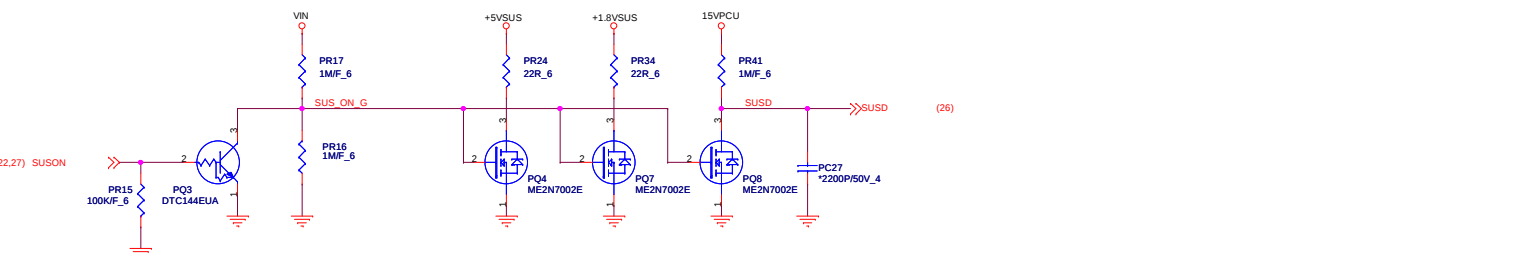


Quanta Computer Inc.

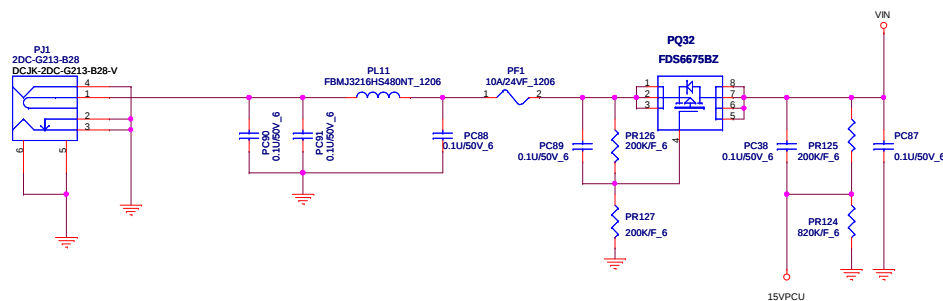
PROJECT : EL7

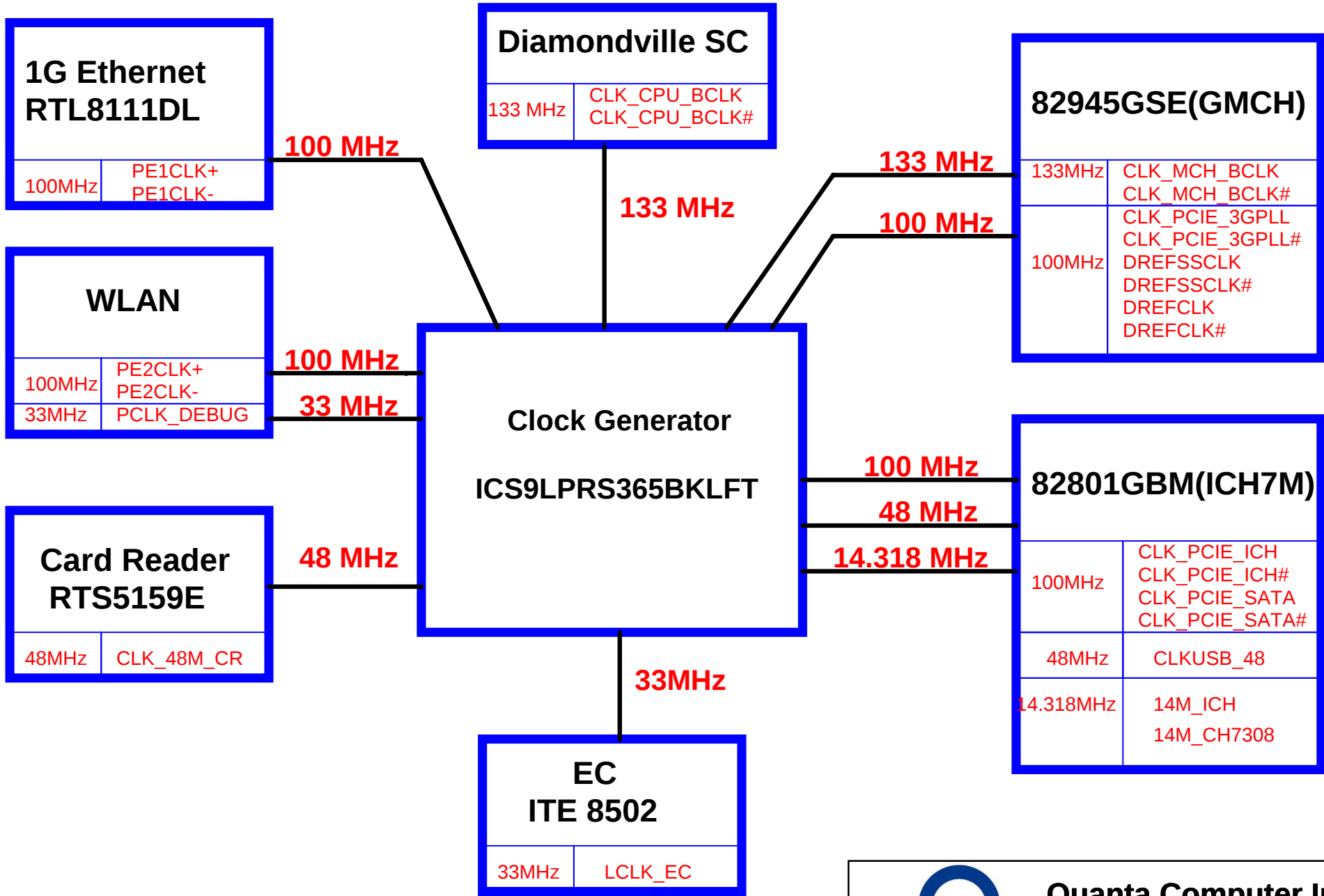
Size	Document Number	Rev
	VCCP 1.05V(TPS51117)	1A

Date: Friday, April 24, 2009 Sheet 28 of 34

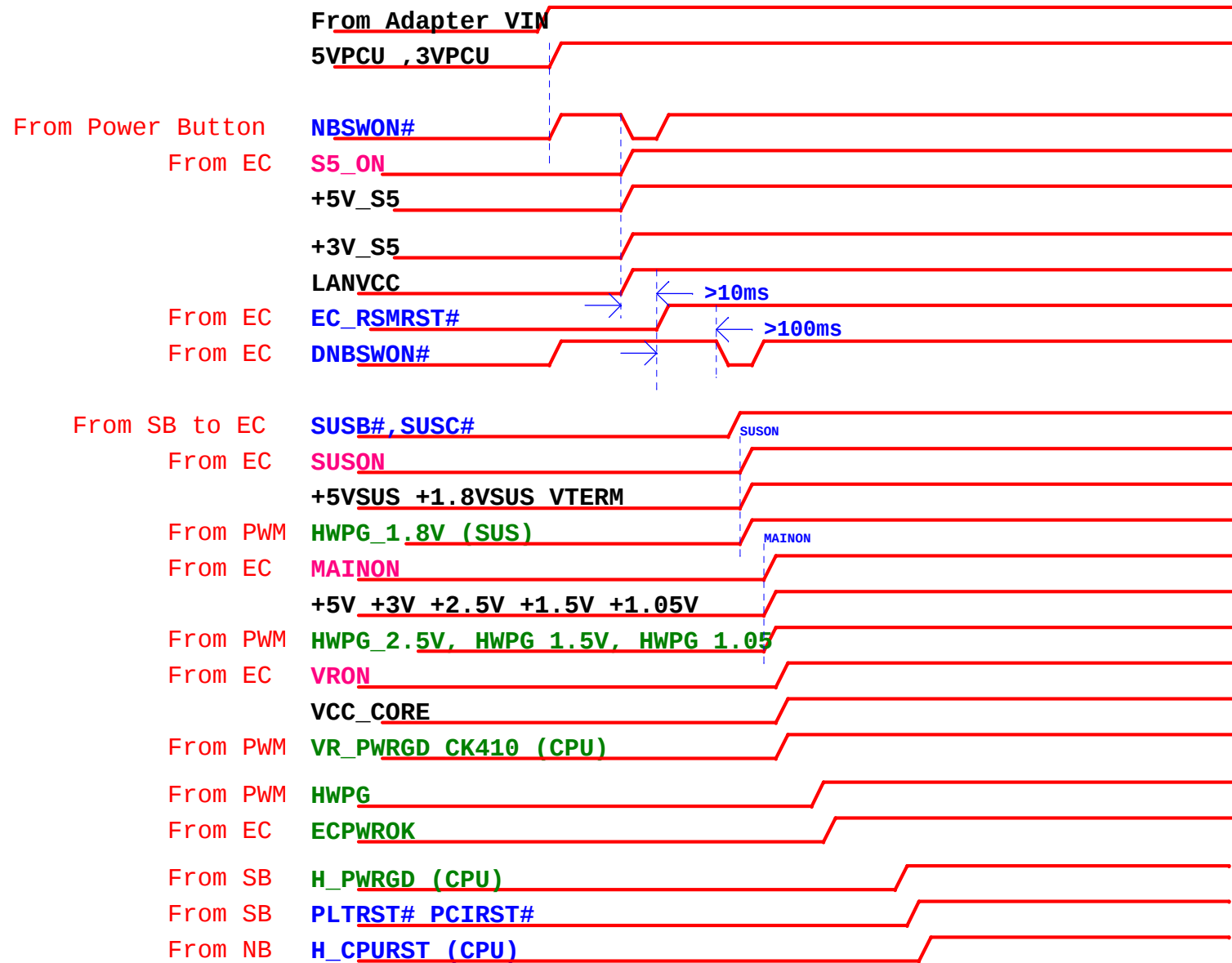


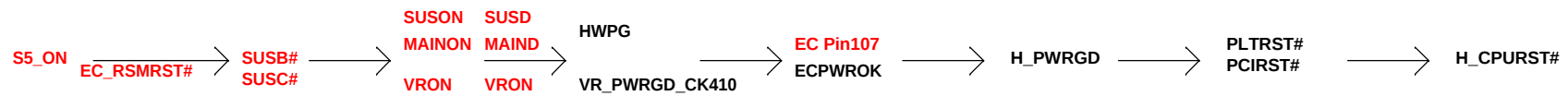
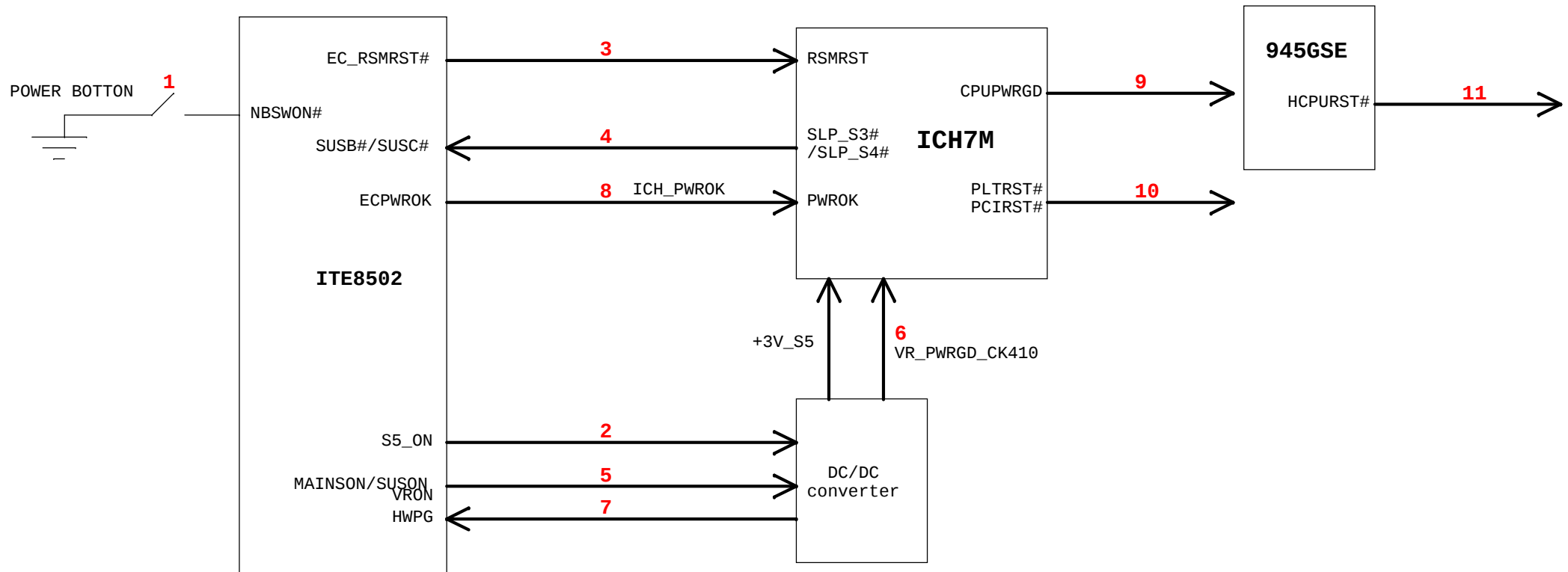
DC IN JACK

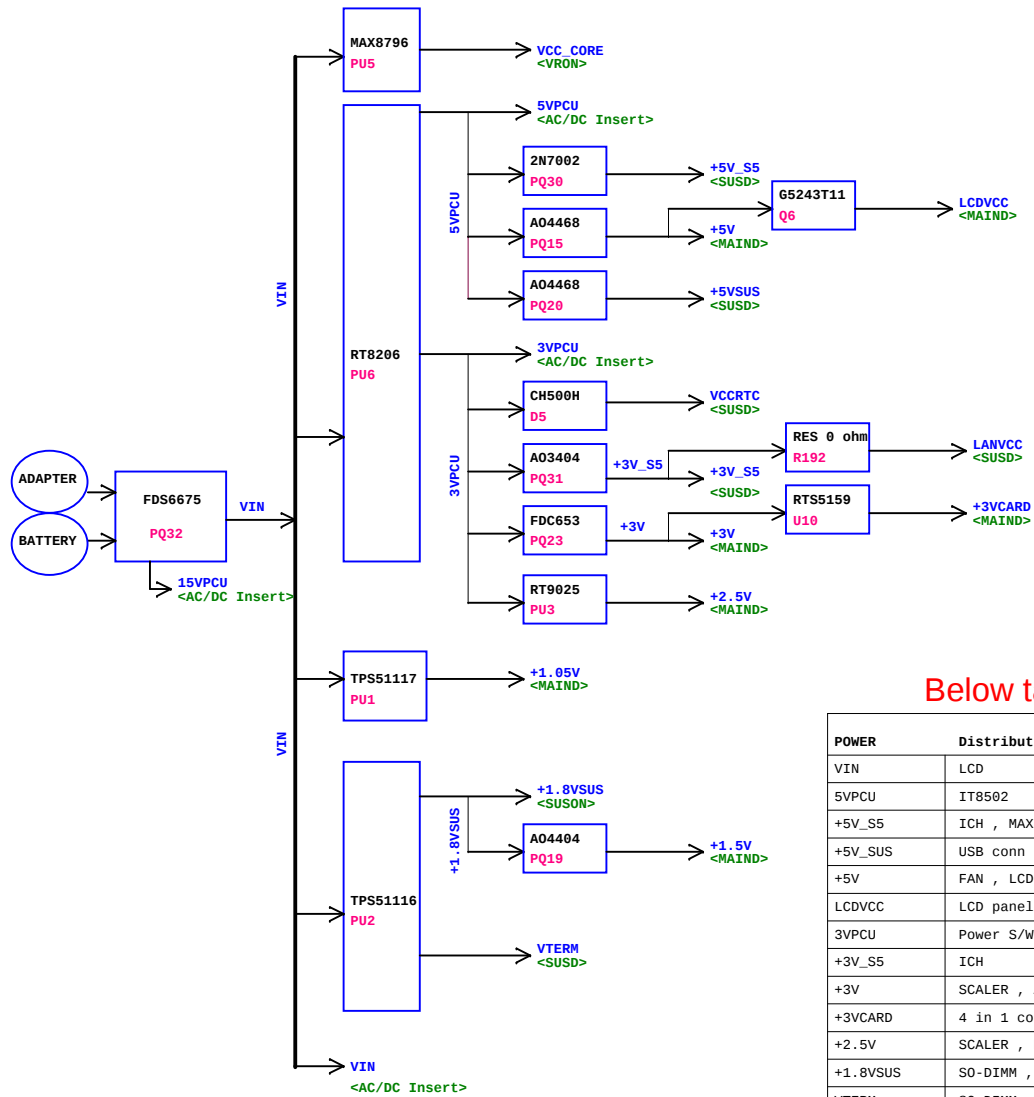




Power On Sequence







Below table need be modify (waiting other schematic ready)

POWER	Distribution
VIN	LCD
5VPCU	IT8502
+5V_S5	ICH , MAX8796 , TPS51117
+5V_SUS	USB conn , PS/2 mouse K/B conn , CAMERA
+5V	FAN , LCD , SATA HDD , SATA ODD , ALC269 , ICH
LCDVCC	LCD panel
3VPCU	Power S/W , IT8502 , ICH
+3V_S5	ICH
+3V	SCALER , ALC269 , IT8502 , CLK gen , MCH , ICH , SO-DIMM , EDID EEPROM , SATA HDD , SSD , WLAN , Power S/W , G781 , RTL8111 , RTS5159
+3VCARD	4 in 1 conn
+2.5V	SCALER , MCH
+1.8VSUS	SO-DIMM , MCH , TPS51116
VTERM	SO-DIMM
+1.5V	CPU , MCH , ICH , WLAN
+1.05V	CLK gen , CPU , MCH , ICH
VCC_CORE	CPU
LANVCC	RTL8111

DATE	Modify Description List	Note
2009 0302 VER:B	1.PAG23 SPK Change ACN1 :the same as CN1 or CN2 (53398-0410-4P-L) 2.PAG18 SW Change CN6:the same as CN4 (87212-1000L-10P-R) 3.PAG20&PG18 Remove SSD module ,H6 and H11 4.PAG12 Signal MID2 change form GPIO35 to GPIO14 5.Change caps or resistors footprints with "-C" to non "-C" 6.PAG16 Chage C274,C281 and C284 to CC3528	
2009 0303 VER:B	1.PAG16 delete R129,R132,R181,R185 of USB 2.PAG25 Short 0 Ohm resistor:PR84,PR88,PR89,PR91,PR92,PR93,PR94,PR85,PR79,PR73,PR5,PR81,PR90 3.PAG26 Short 0 Ohm resistor:PR104,PR111,PR112 4.PAG29 Short 0 Ohm resistor:PR49,PR51 5.PAG22 Modify EC Pin3 to VCCRTC 6.PAG29 Solve +1.5 discharge circuit short problem 7.PAG23 Modify AL6,AL7,AL8,AL9,AC31,AC32,AC33,AC34 8.PAG12 Change GPIO6 to BIOS_WP#,delete R164,R165 9.PAG22 ADD BIOS PROTECT Circuit	
2009 0305 VER:B	1.PAG18 Change L29,L30,L31,L32,L33,L34 to BLM18PG181SN1D_6(The same as L10) 2.PAG27 Add PR129	
2009 0413 VER:C	1.PAG16 Chage C237,C181 to CC3528 2.PAG20 Chage CN5 footprint to 85205-1200-12p-r (DFWF12MS049) 3.PAG14 Add D35 U2 pin connector to EC U14_124 LCD_ON 4.PAG17 Add D33,D34 GPIO34 LAN_ON_SB and LAN_ON_EC U12 pin28 5.PAG21 Add D36,R70 6.PAG22 Add U20,C437	