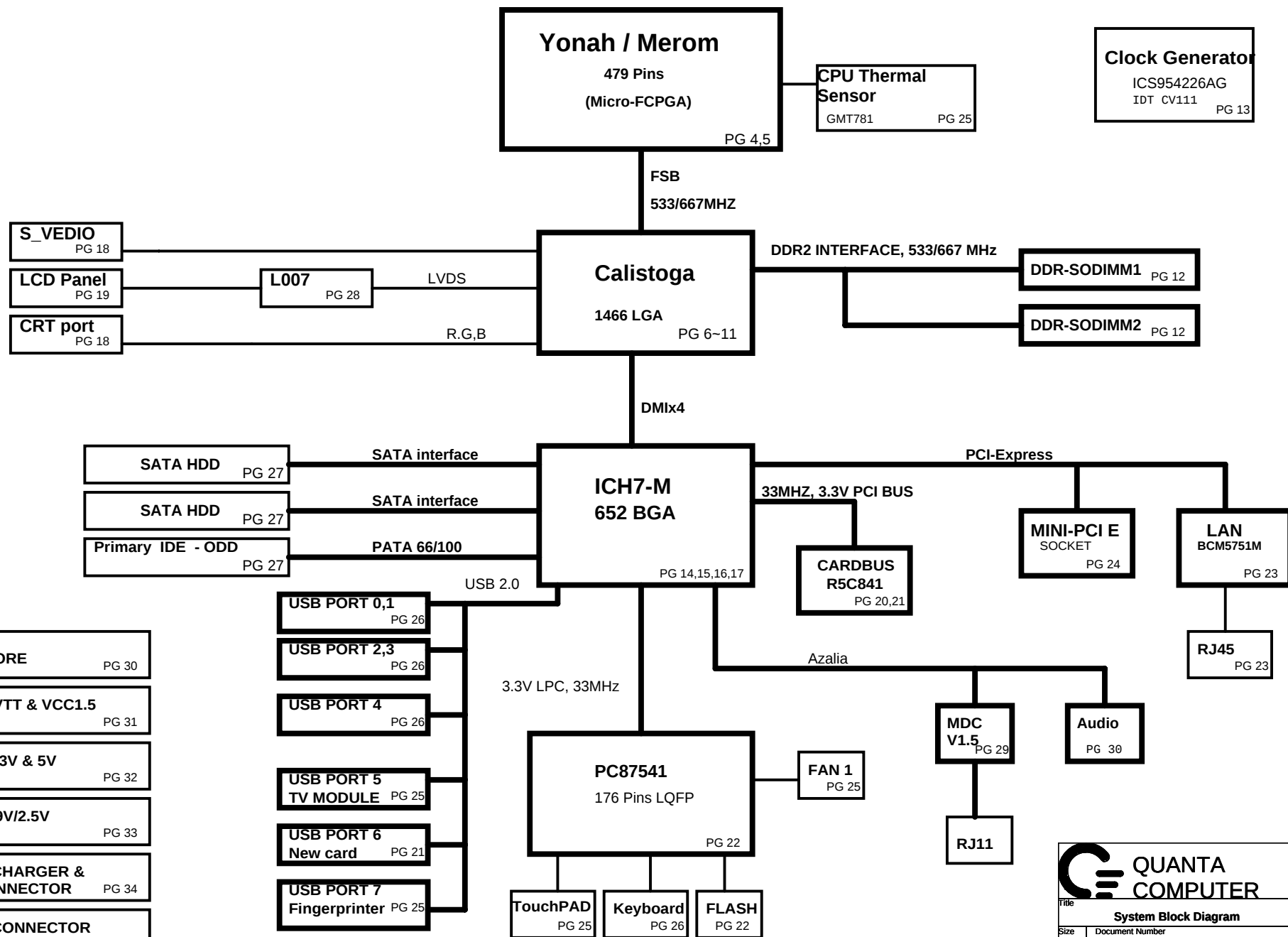


DO1 BLOCK DIAGRAM

01

YONAH+CALISTOGA+ICH_7



1. Schematic Page Description :

02

DO1 Schematic Ver : 0.2

1. Block Diagram

2. Schematic Page List

3. System Info

4. u-FCPGA Yonah (1/2)

5. u-FCPGA Yonah (2/2)

6. Calistoga HOST

7. Calistoga DDR II

8. Calistoga VGA/DMI/NCTF

9. Calistoga POWER

10. Calistoga POWER

11. Calistoga GND

12. DDR II SODIMM CNN

13. Clock Generator

14. ICH7-M CPU/IDE/SATA/AC97/LPC

15. ICH7-M USB/DMI/LPC/PCI_E/PCI
16. ICH7-M GPIO/SMB

17. ICH7-M POWER/GND

18. CRT Port / S-VIDEO

19. LCD CNN / LID / Audio board CONN

20. R5C841 CONTROLLER

21. R5C841 CNN & 4 IN 1

22. PC87541L / BIOS

23. LAN MARVELL 88E8055/RJ45 CONN

24. Mini PCIE

25. FAN/THERMAL/SWICH CONN/BEEP/TOUCH PAD/ IR RECEIVER

26. USB K/B CNN

27. SATA / PATA HDD

28. L007

29. MDC1.5

30. CODEC ALC262
31. AMP for Speaker

32. CPU CORE

33. VCC1.5V / GMCHVTT

34. DC/DC 3V,5V POWER

35. 1.8V / 0.9V DDR2 / VCC2.5

36. Battery Charge Circuit

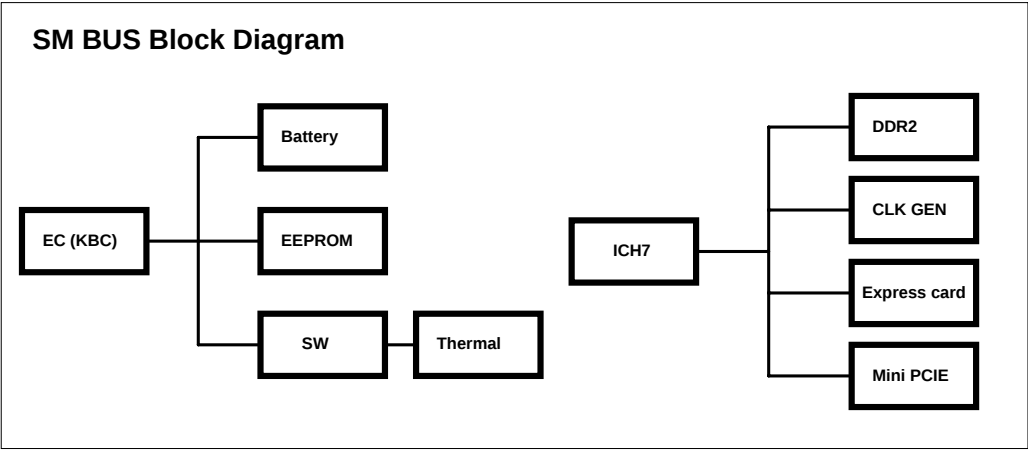
37. Battery Select

2. PCI Description :

IDSEL	CHIP
AD25	CardBus (R5C841)

PCIINT	CHIP
IRQA	CardBus
IRQB	CardBus
IRQC	CardBus
IRQD	
IRQE	
IRQF	

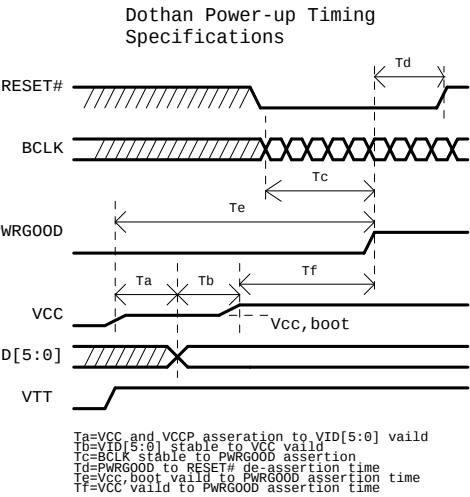
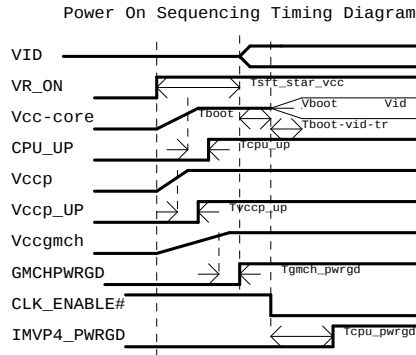
BUSMASTER	CHIP
REQ	
REQ0 / GNT0	
REQ1 / GNT1	CardBus (R5C841)
REQ2 / GNT2	
REQ3 / GNT3	
REQ4 / GNT4	



Board Stack up Description

PCB Layers

- Layer 1 TOP (FSB, DDR2, CLK, PEG, Component)
- Layer 2 Ground Plane
- Layer 3 IN1 (FSB, CLOCK, DDR2, PEG, CLK)
- Layer 4 IN2 (PCI, IDE, LPC)
- Layer 5 Power Plane
- Layer 6 BOTTOM, (Component, Other)

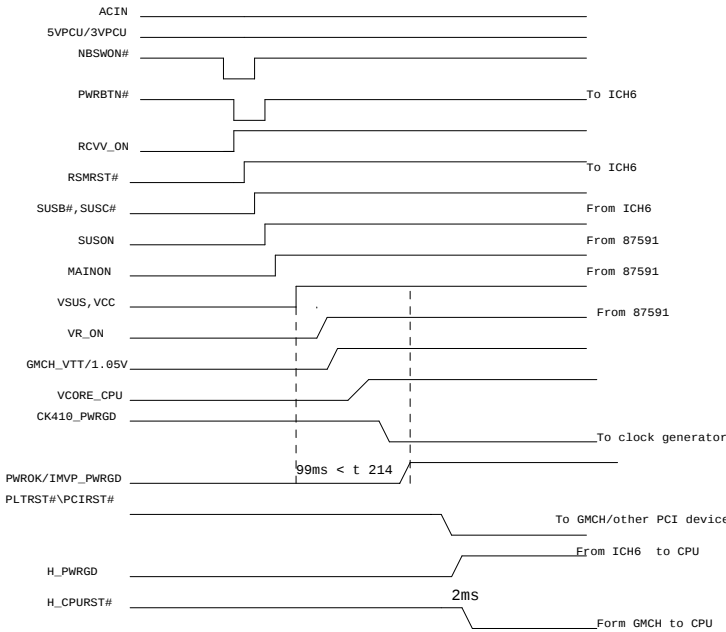


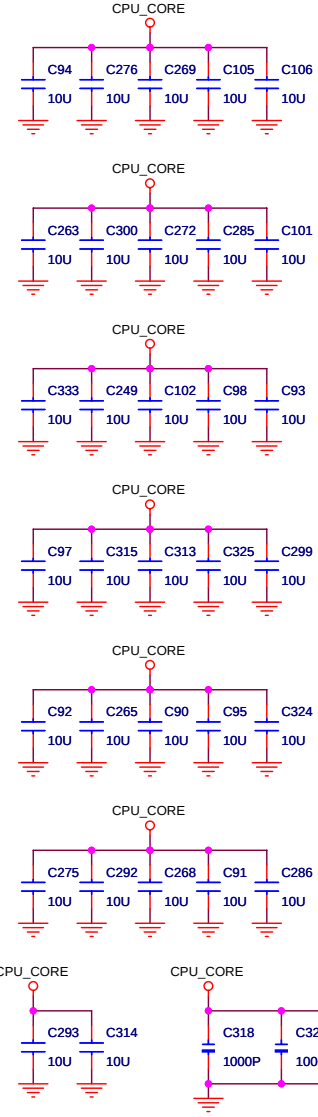
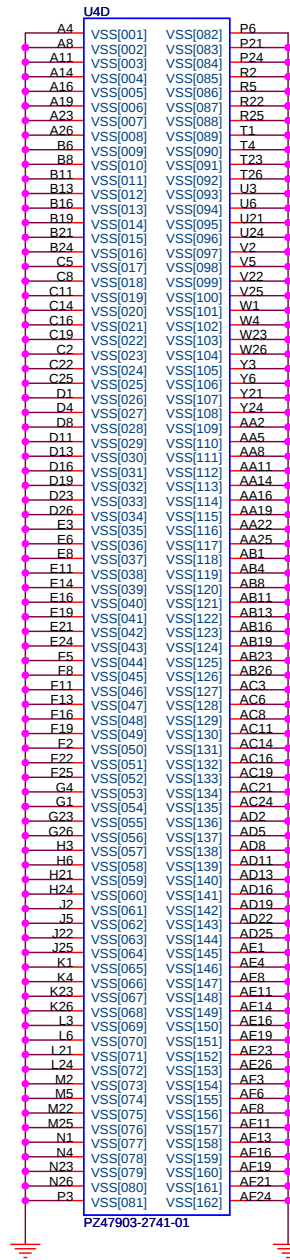
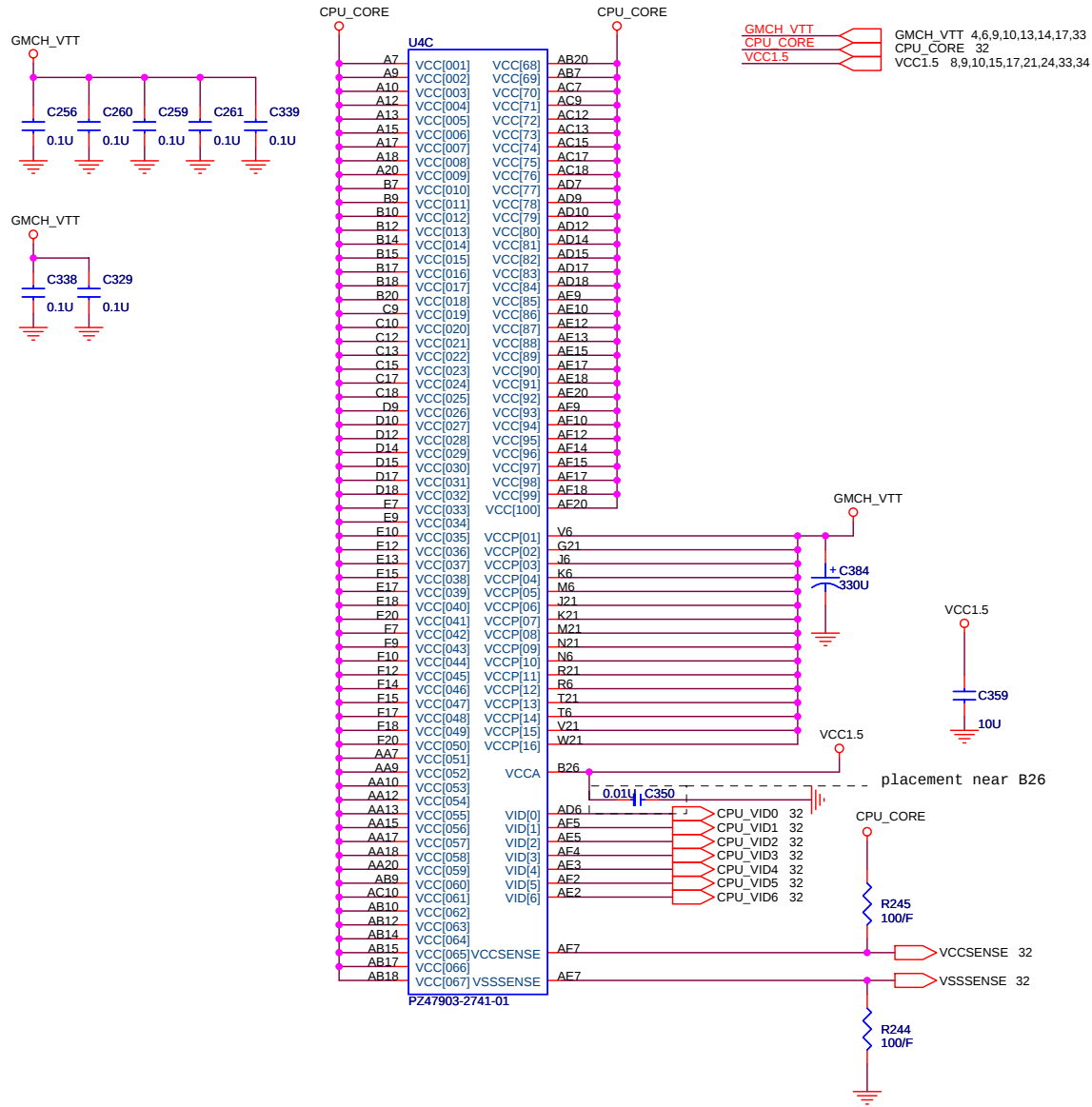
Ta=VCC and VCCP assertion to VID[5:0] valid
Tb=VID[5:0] stable to VCC valid
Tc=BCLK stable to PWRGOOD assertion
Td=PWRGOOD to RESET# de-assertion time
Te=VCC boot valid to PWRGOOD assertion time
Tf=VCC valid to PWRGOOD assertion time

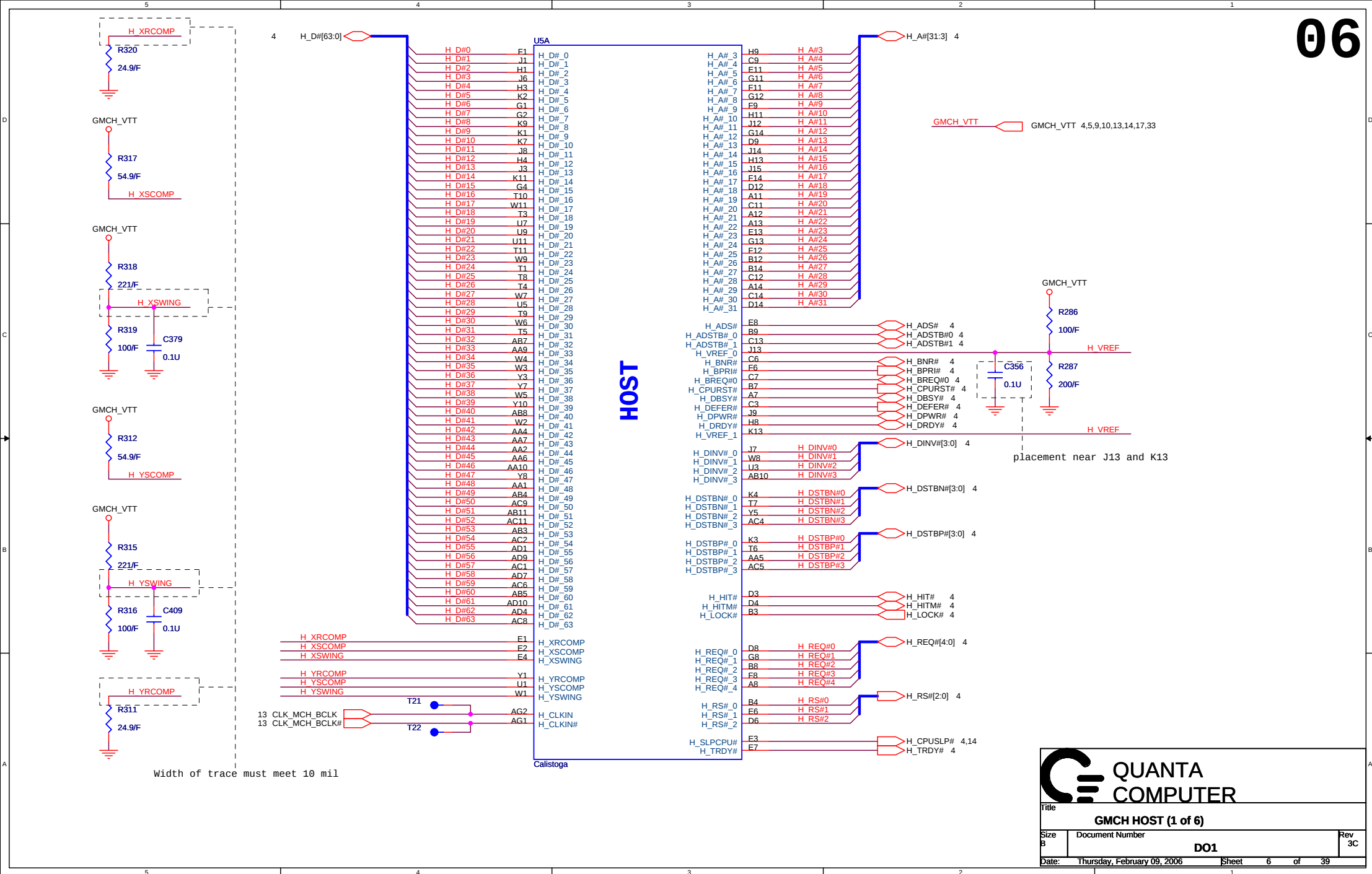
Voltage Rails

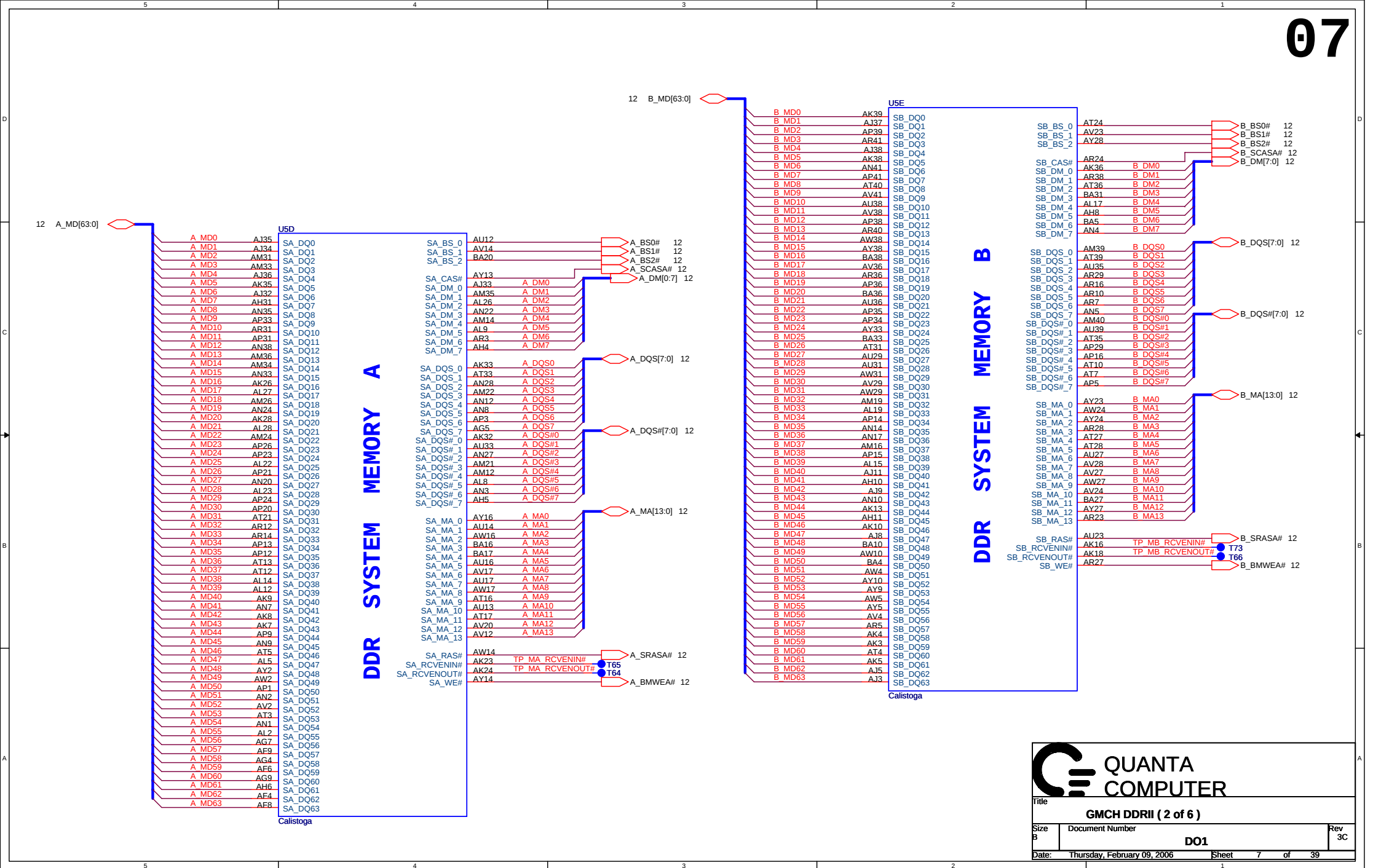
Voltage Rails		ON S0~S2	ON S3	ON S4	ON S5	Control signal
VCC_CORE	Core voltage for Processor	X				GMCHPG
GMCH_VTT	Core voltage for CPU / NB	X				VR_ON
SMDDR_VREF	0.9V for DDR2 Termination voltage	X				MAINON
RVCC3		X	X	X		RVCCD
VCC1.5		X				MAINON
VCC1.8		X				MAINON
VCC2.5		X				MAINON
VCC3		X				MAIND
VCC5		X				MAIND
1.8VSUS		X	X			SUSON
3VSUS		X	X			SUSD
5VSUS		X	X			SUSD
3VPCU		X	X	X	X	VL
5VPCU		X	X	X	X	VL
9VPCU		X	X	X	X	5VPCU

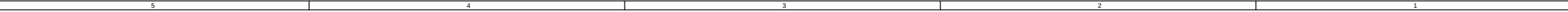
ACIN POWER ON TIMING



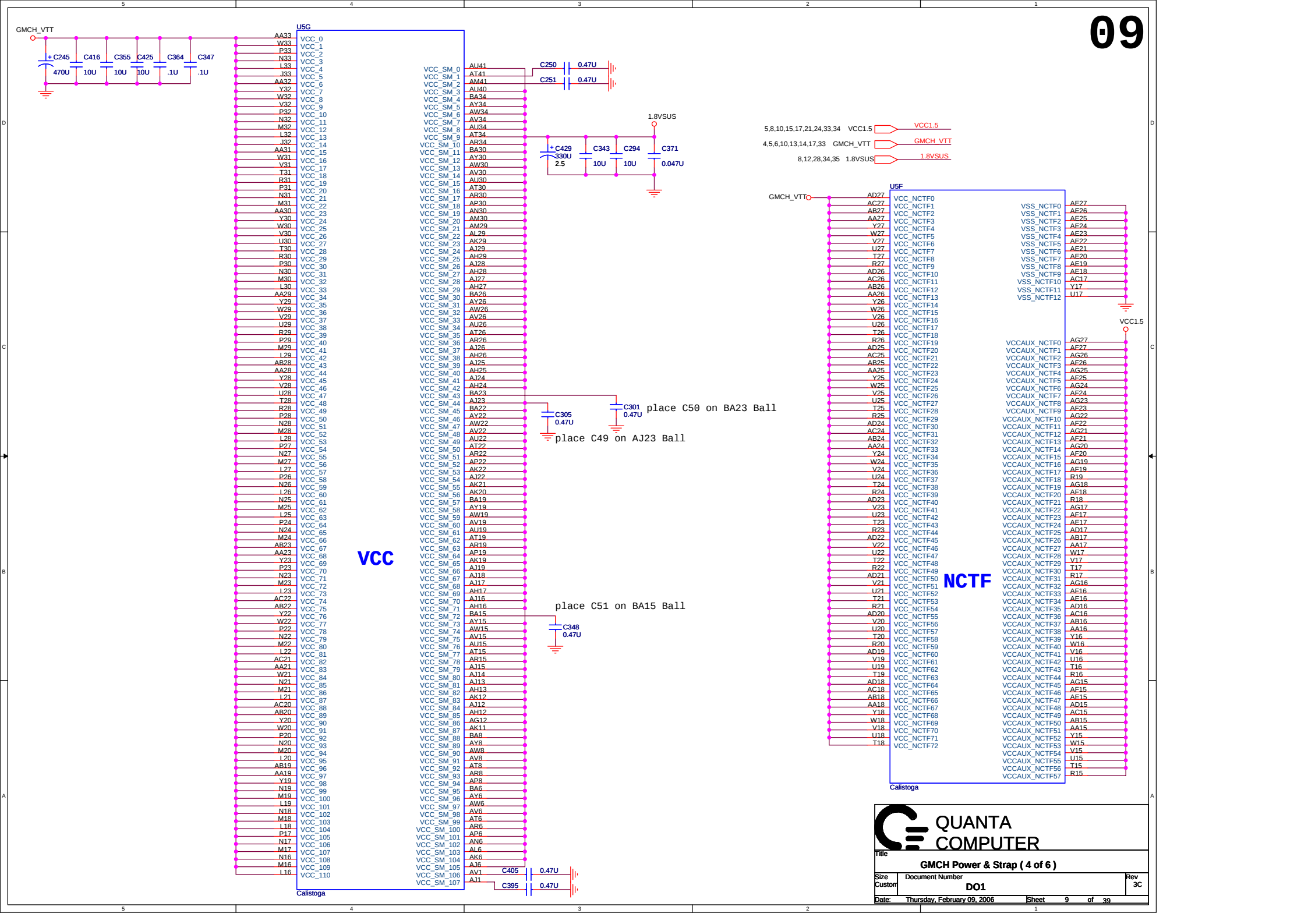




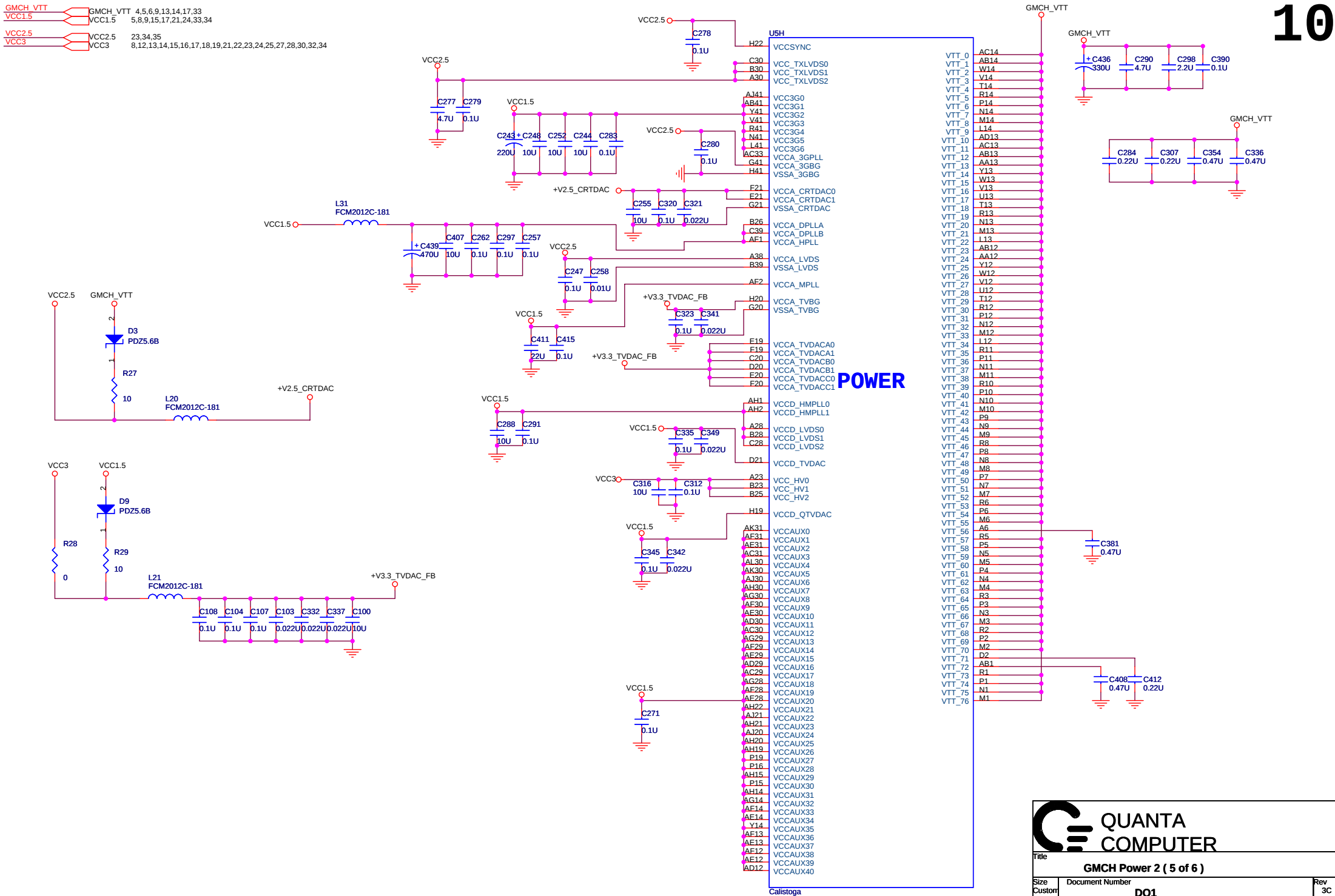


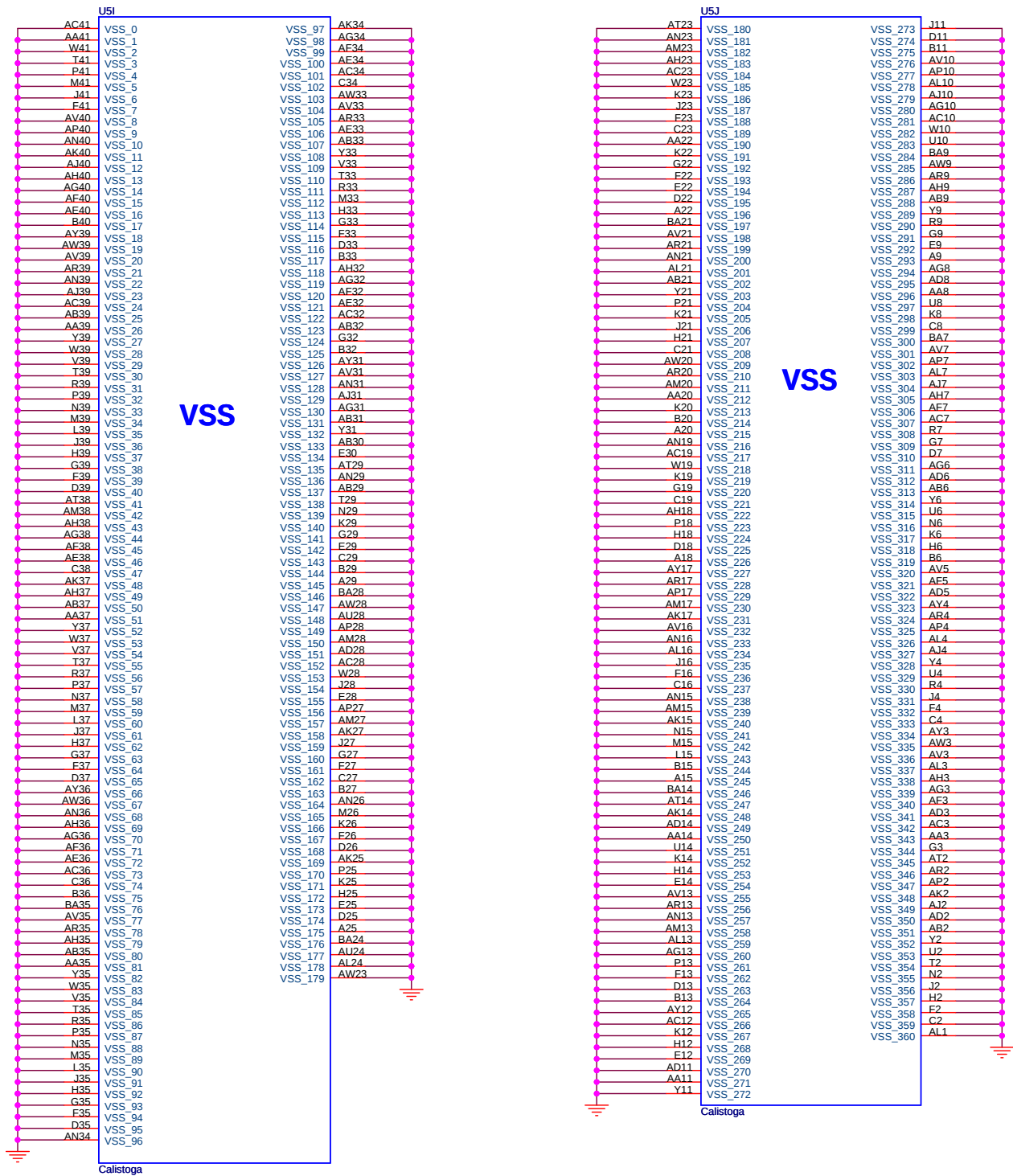


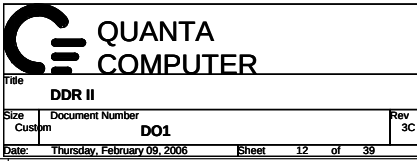
-
- Figure 10 shows the pull-up resistors for the MCH_CFG pins. The pins are connected to VCC3 through resistors with the following values:
- MCH_CFG 5: R297, *2.2K
 - MCH_CFG 9: R276, *2.2K
 - MCH_CFG 12: R289, *2.2K
 - MCH_CFG 13: R303, *2.2K
 - MCH_CFG 18: R280, *2.2K
 - MCH_CFG 19: R260, *1K
 - MCH_CFG 20: R248, *1K
 - MCH_CFG 20: R257, *1K

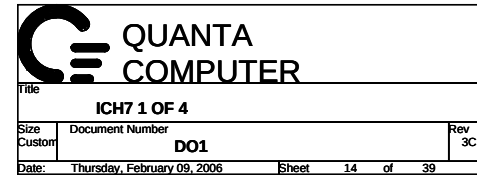


GMCH_VTT	GMCH_VTT	4,5,6,9,13,14,17,33
VCC1.5	VCC1.5	5,8,9,15,17,21,24,33,34
VCC2.5	VCC2.5	23,34,35
VCC3	VCC3	8,12,13,14,15,16,17,18,19,21,22,23,24,25,27,28,30,32,34





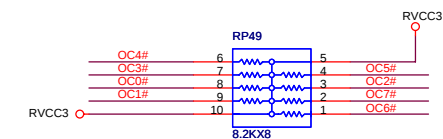
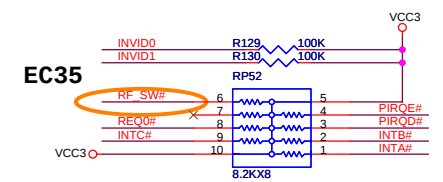
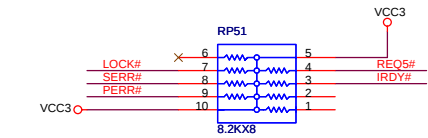
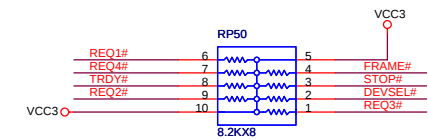
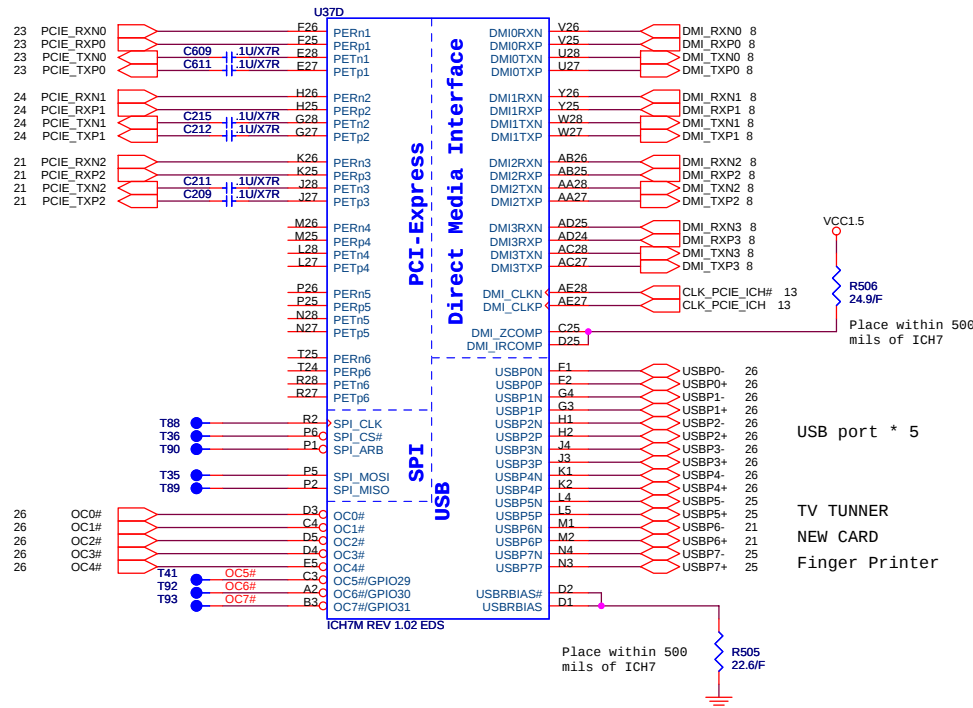




MARVELL 88E8055 LAN

Mini PCI-E

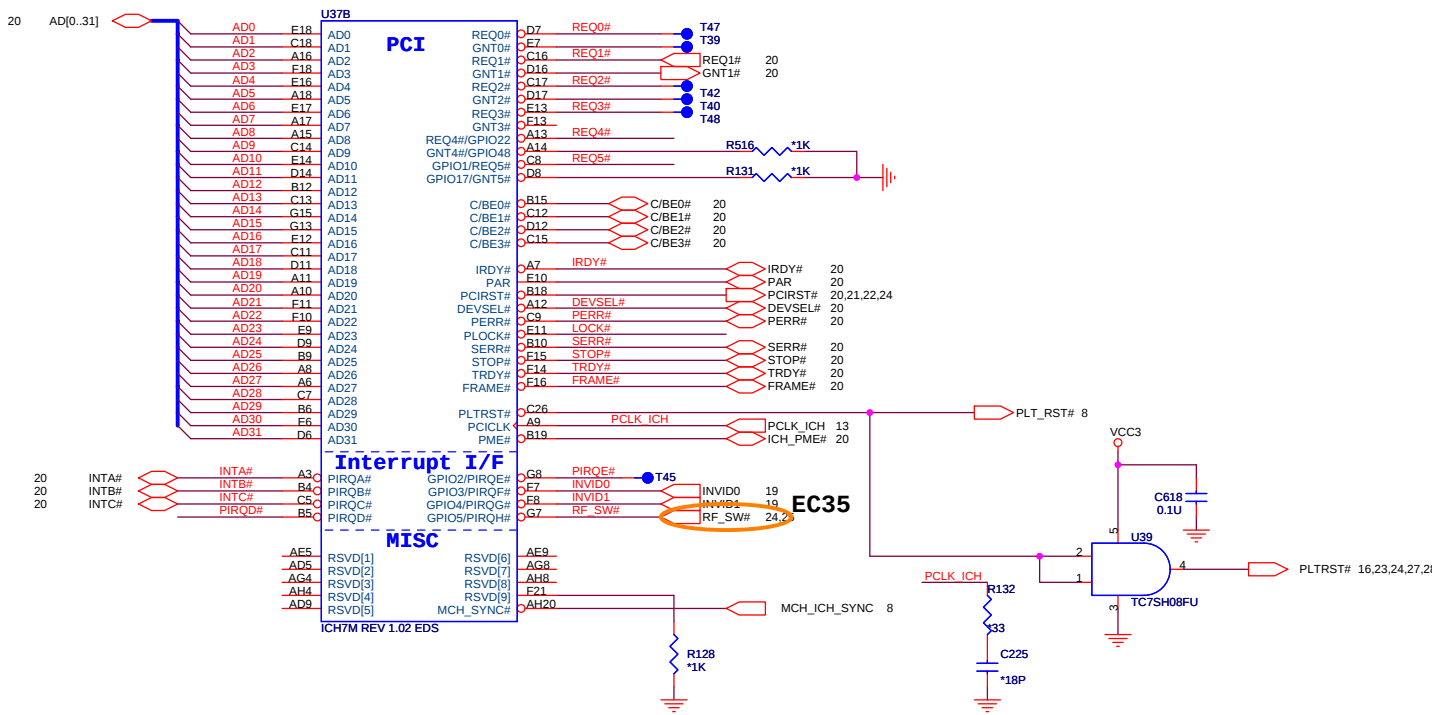
NEW CARD



ICH7 Boot BIOS select

	STRAP	GNT5# R1	GNT4# R2
LPC (default)	11	UNSTUFF	UNSTUFF
PCI	10	UNSTUFF	STUFF
SPI	01	STUFF	UNSTUFF

PCI DEVICE	IDSEL#	REQ# / GNT#	Interrupts
R5C841	AD25	REQ1# / GNT1#	PIRQ B/C/D



QUANTA COMPUTER

File: **ICH7 2 OF 4**

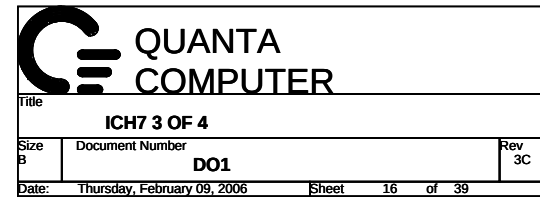
Size: Custom

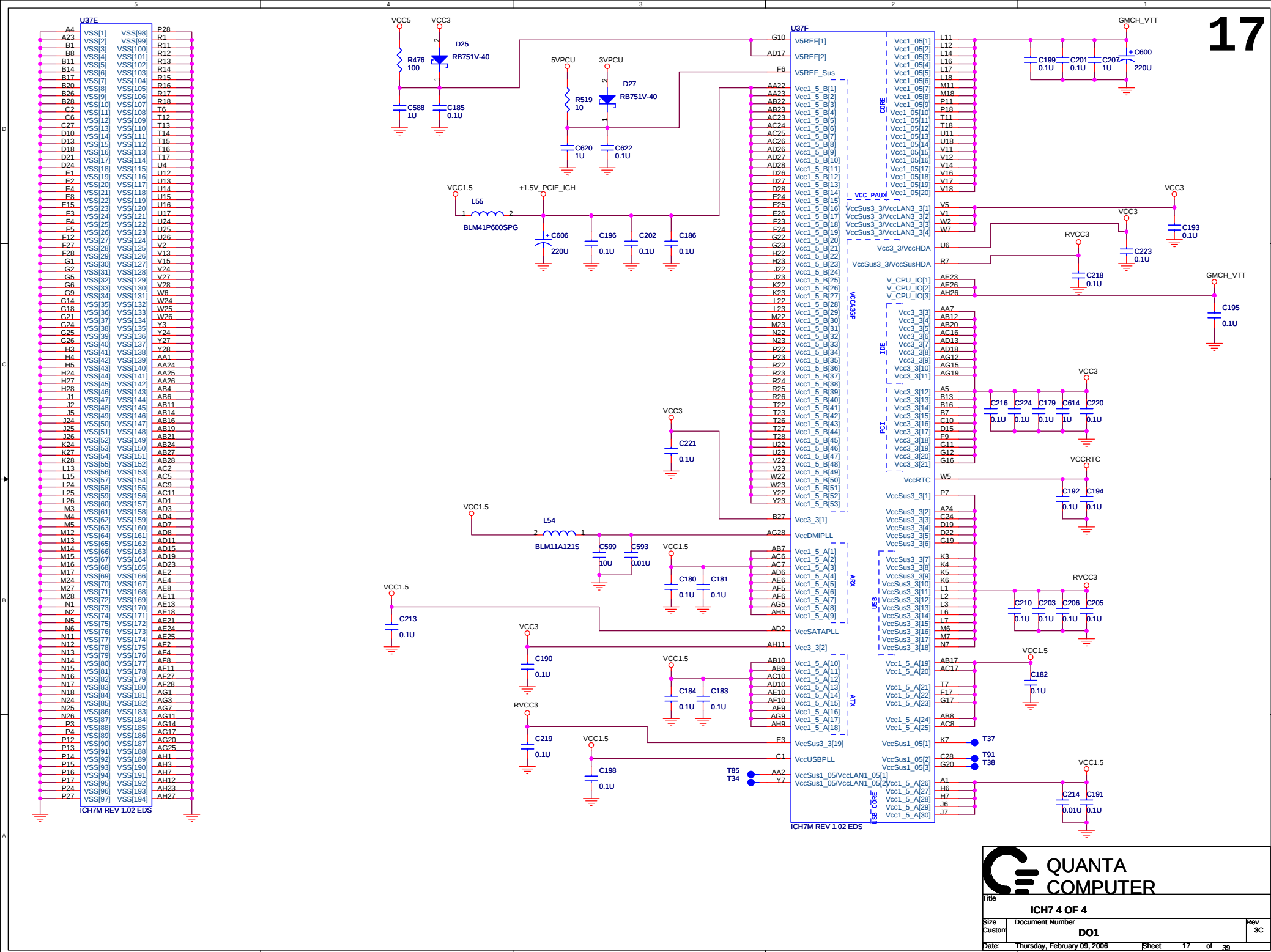
Document Number: **DO1**

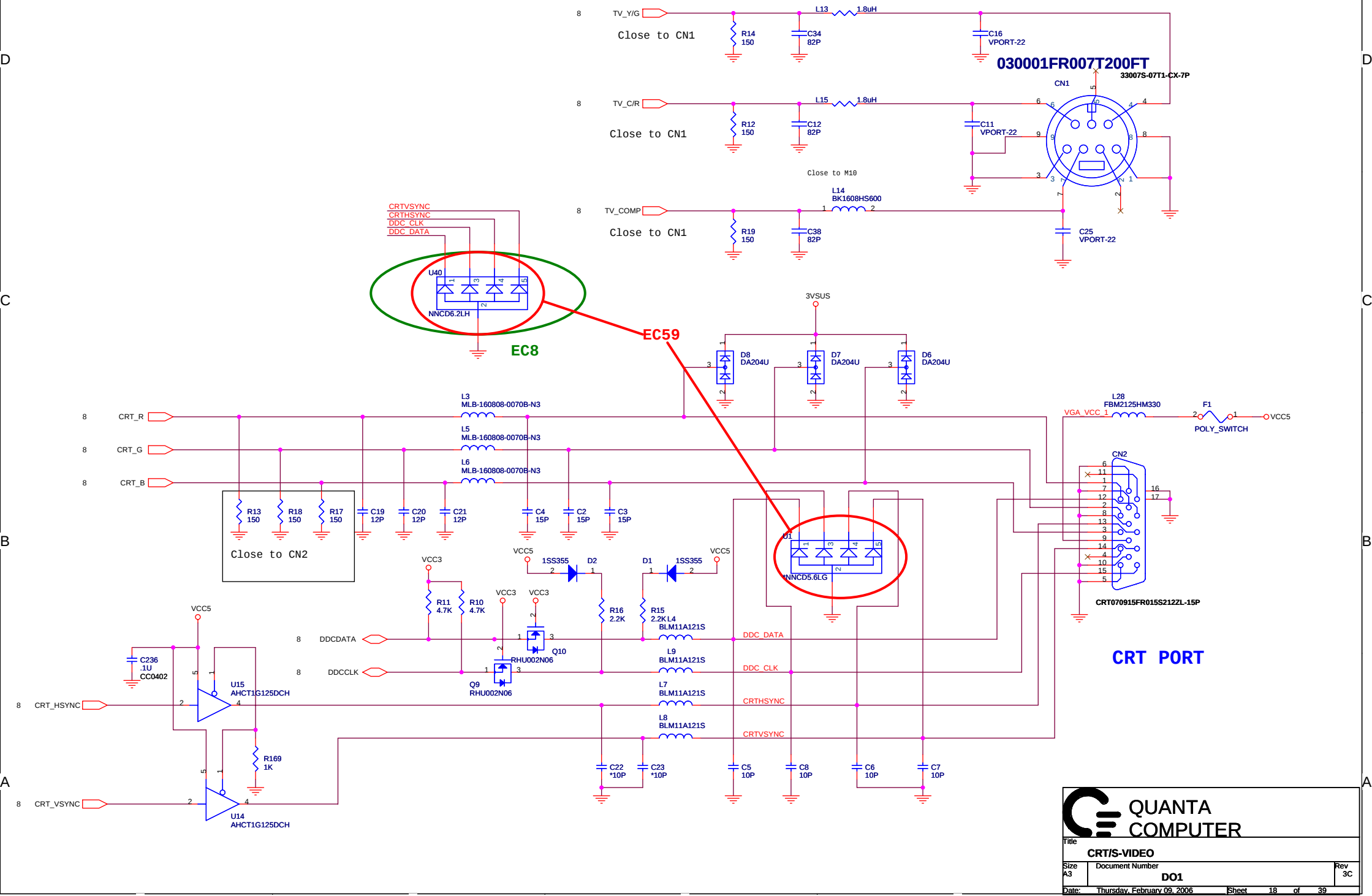
Date: Thursday, February 09, 2006

Sheet: 15 of 39

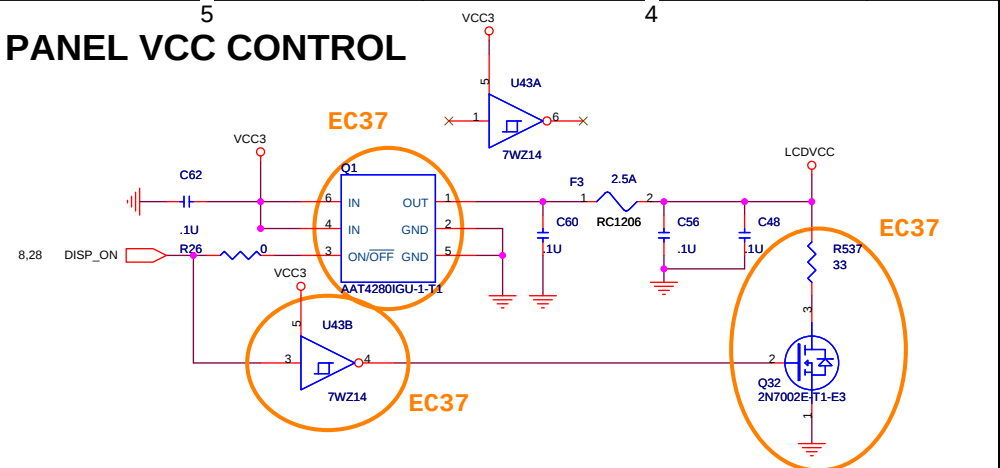
Rev: 3C



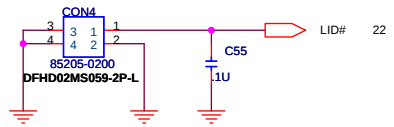




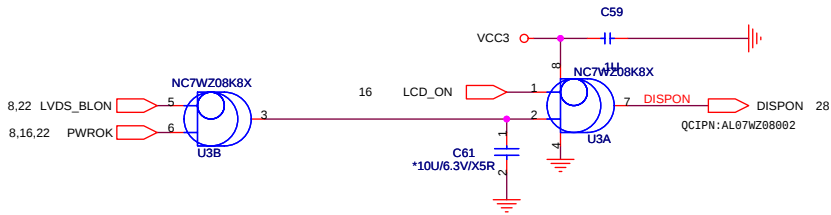
PANEL VCC CONTROL



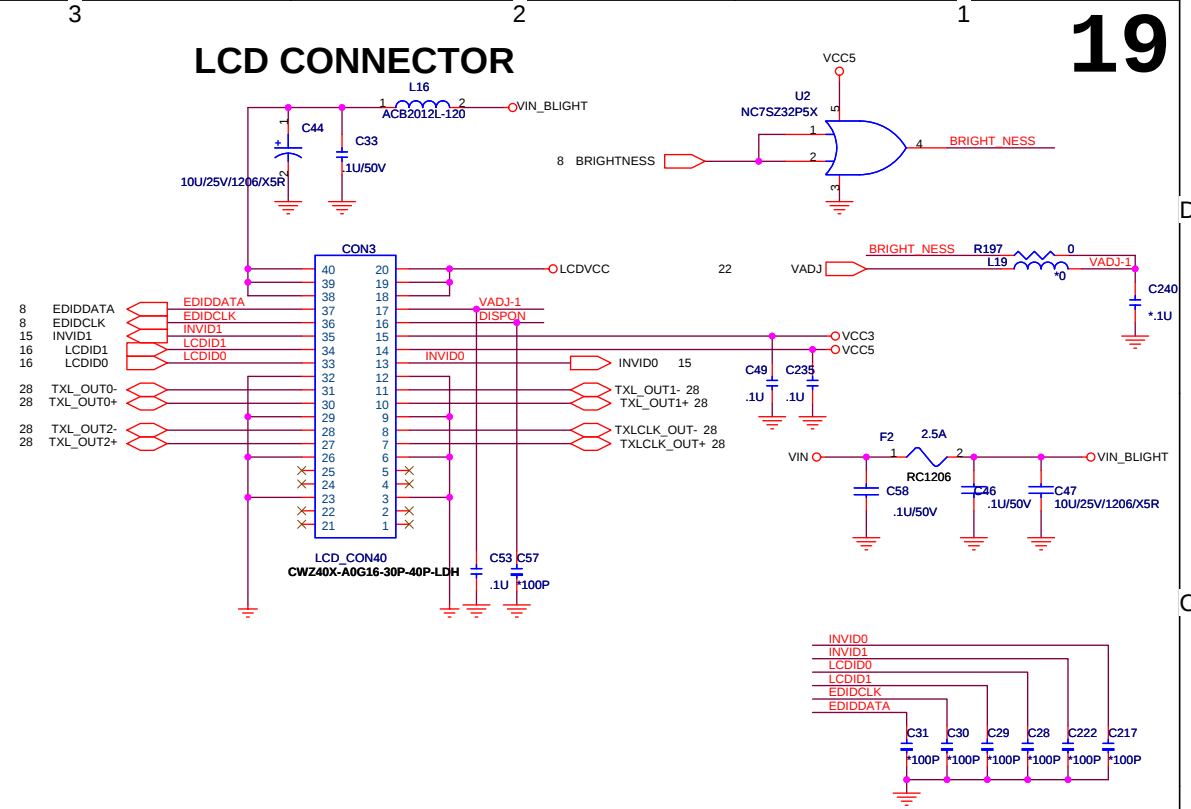
LID



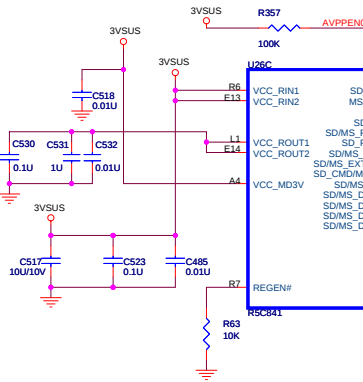
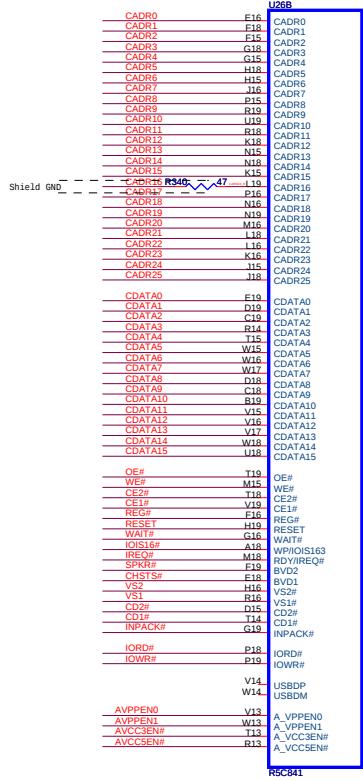
BACKLIGHT CONTROL



LCD CONNECTOR

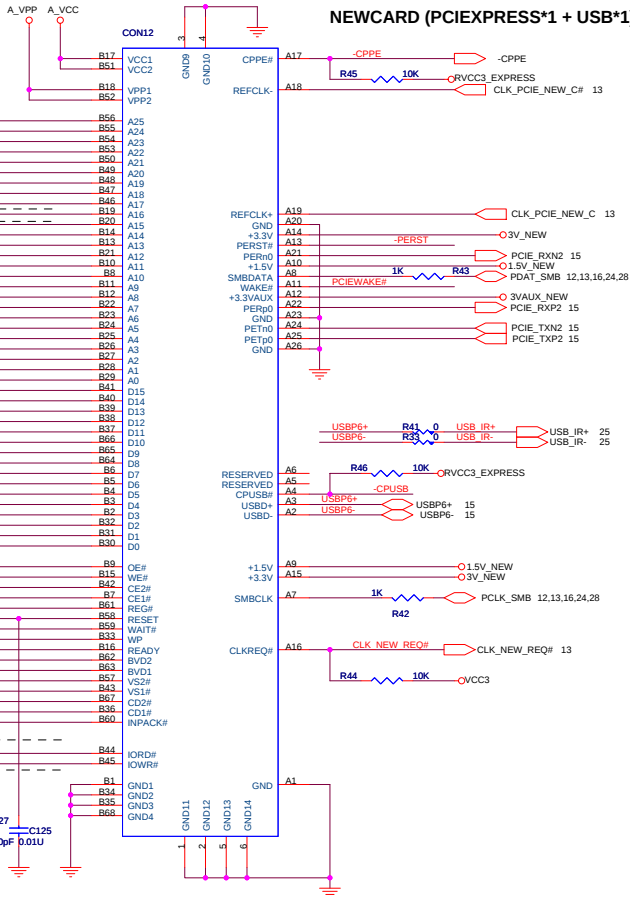


PCMCIA Conn.

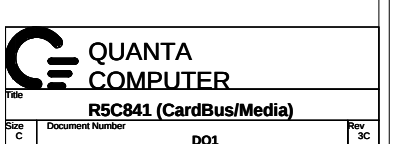
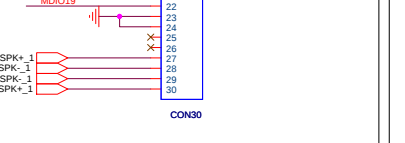
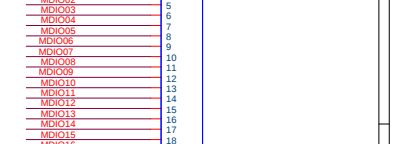
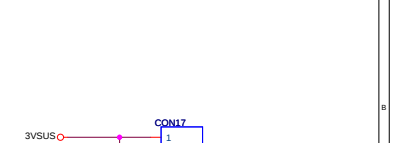
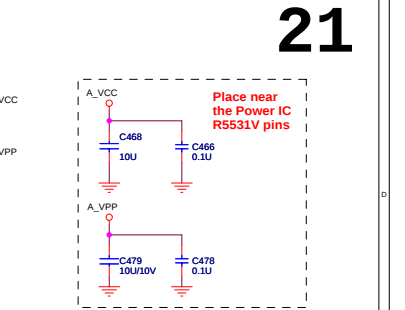
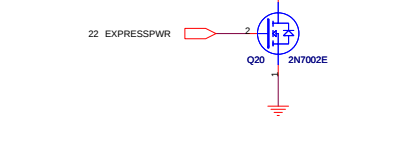
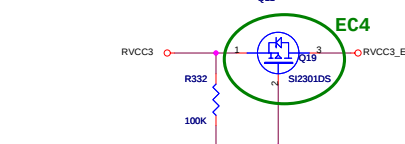
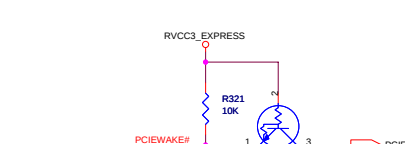
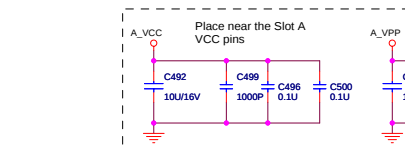
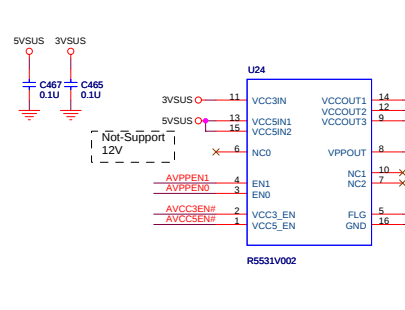
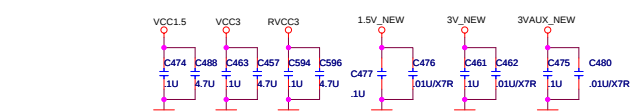
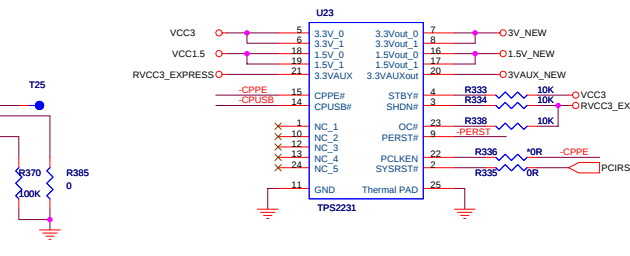


Media I/F	SD Card	Memory Stick	xD Picture Card
MD1000	SDC000	MSD000	XDC000
MD1001	SDC001	MSD001	XDC001
MD1002	SDC002	MSD002	XDC002
MD1003	SDC003	MSD003	XDC003
MD1004	SDC004	MSD004	XDC004
MD1005	SDC005	MSD005	XDC005
MD1006	SDC006	MSD006	XDC006
MD1007	SDC007	MSD007	XDC007
MD1008	SDC008	MSD008	XDC008
MD1009	SDC009	MSD009	XDC009
MD1010	SDC010	MSD010	XDC010
MD1011	SDC011	MSD011	XDC011
MD1012	SDC012	MSD012	XDC012
MD1013	SDC013	MSD013	XDC013
MD1014	SDC014	MSD014	XDC014
MD1015	SDC015	MSD015	XDC015
MD1016	SDC016	MSD016	XDC016
MD1017	SDC017	MSD017	XDC017
MD1018	SDC018	MSD018	XDC018
MD1019	SDC019	MSD019	XDC019

NEWCARD (PCIEXPRESS*1 + USB*1)

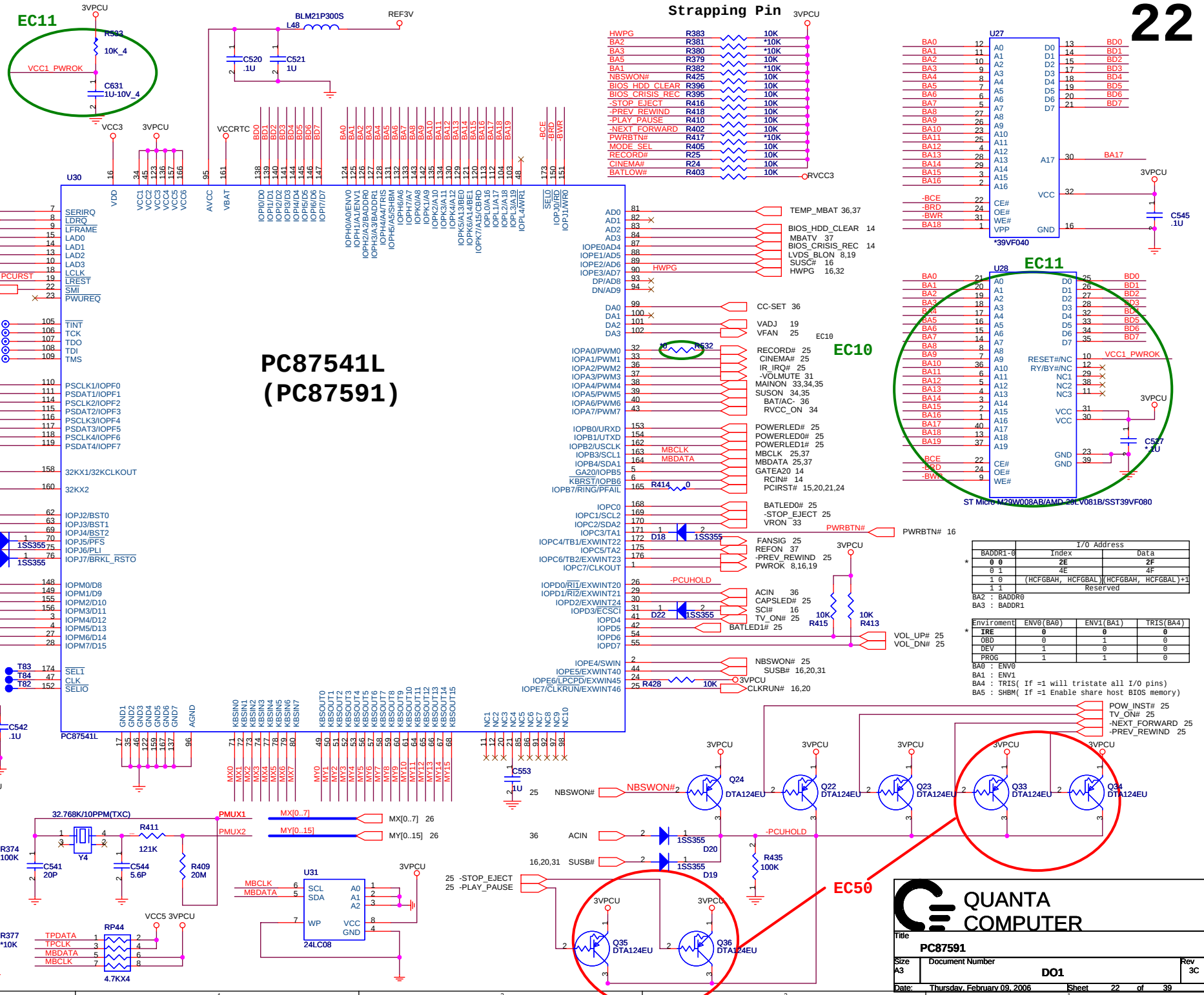


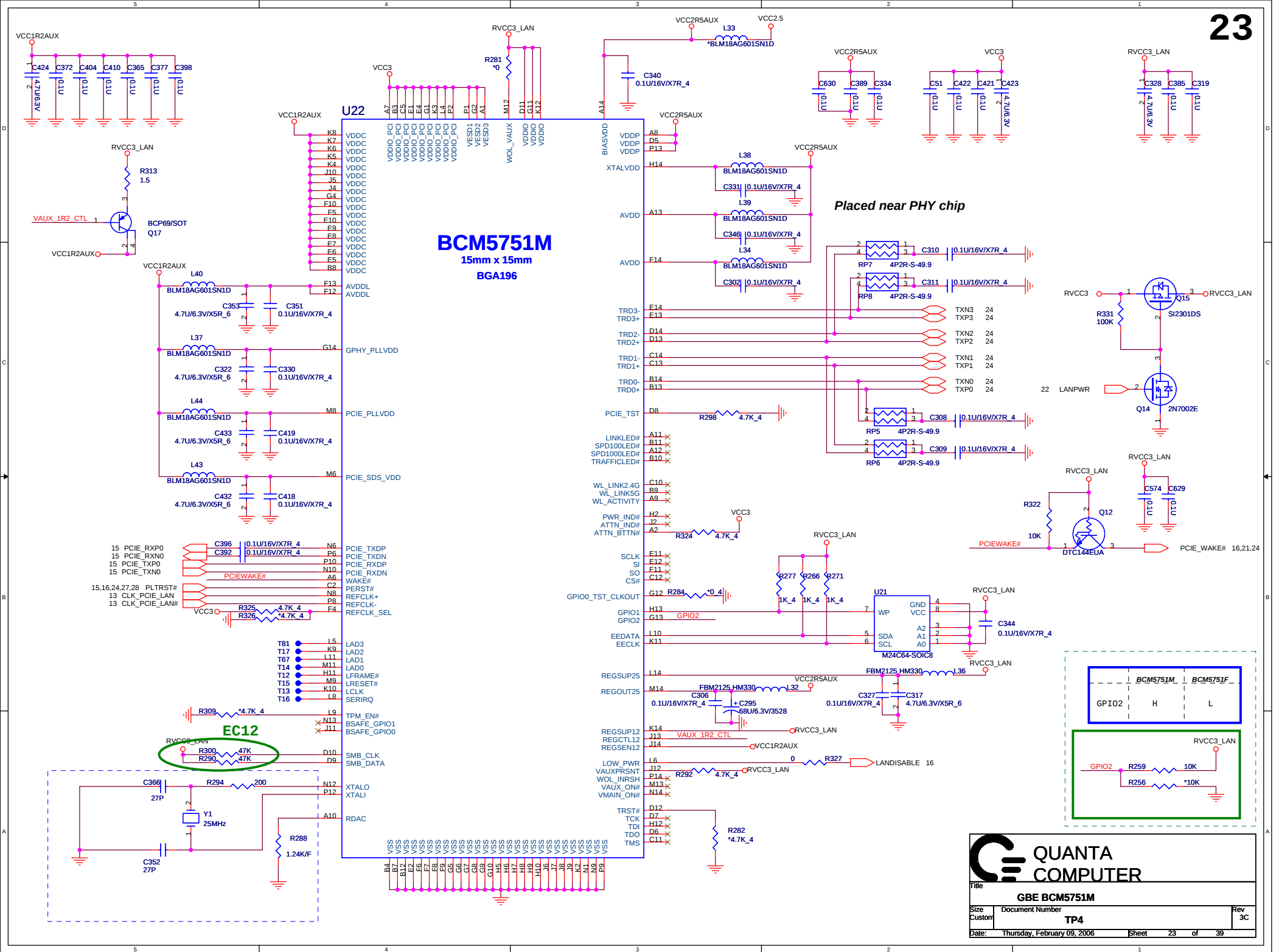
PCI-Express TX and RX direct to connector

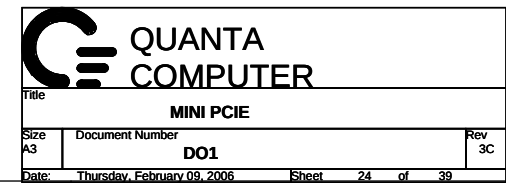


21

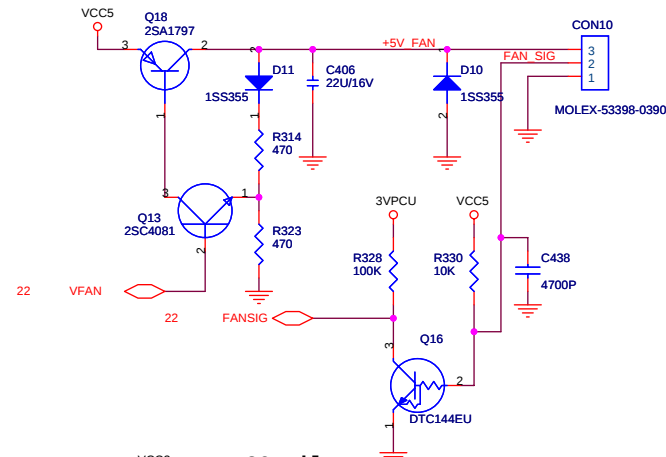
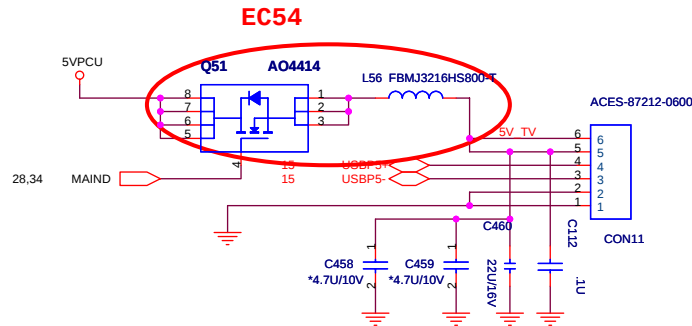
KBSEL0KBSEL1		
0	0	US KeyBoard
0	1	UK KeyBoard
1	0	Reserved
1	1	JP KeyBoard



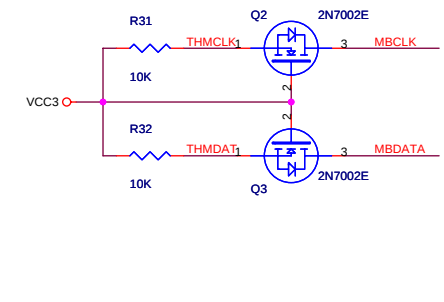
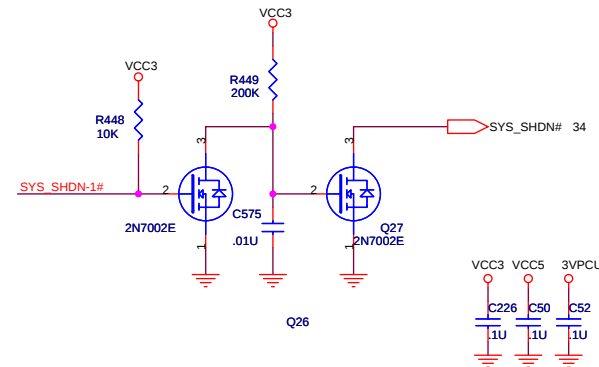
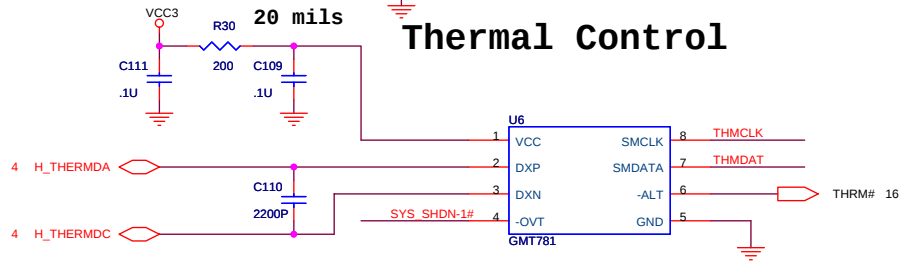




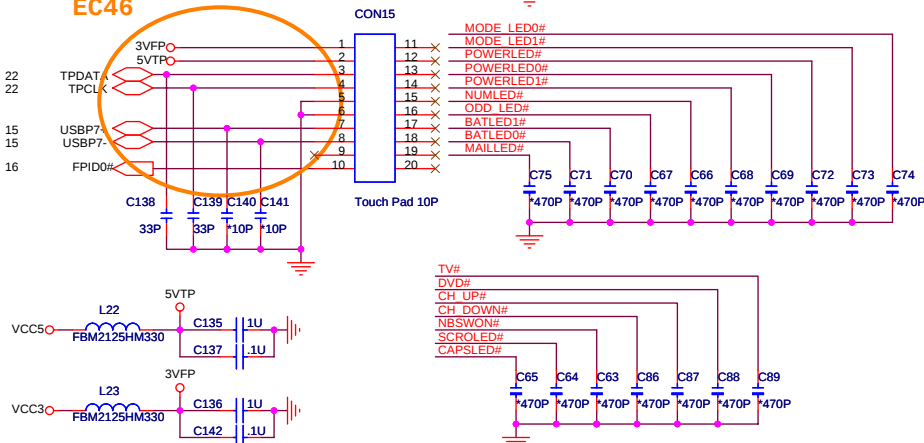
FAN CONN

20 mils
TV-TUNER

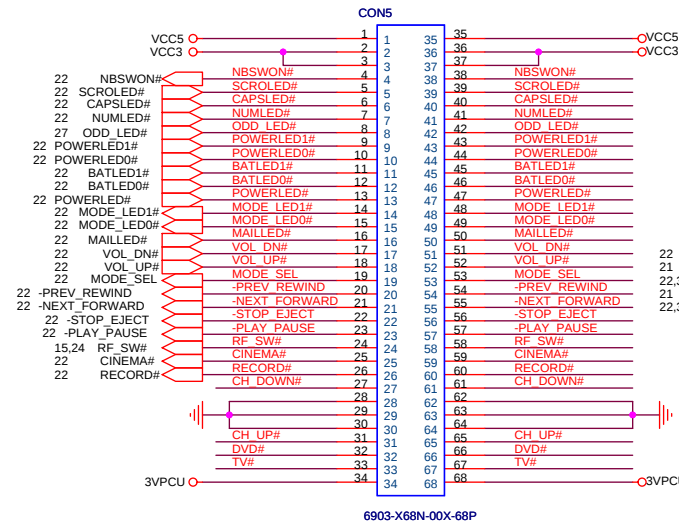
Thermal Control

Touch Pad & Finger Print
Power trace keep 12mil.

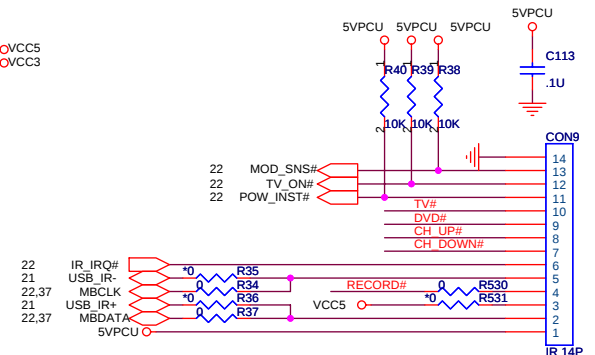
EC46



BUTTON BOARD

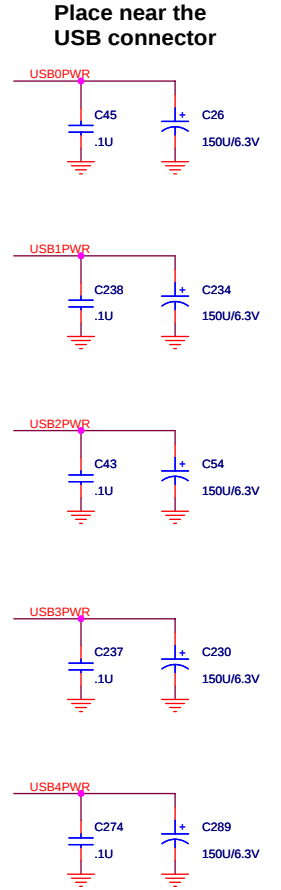
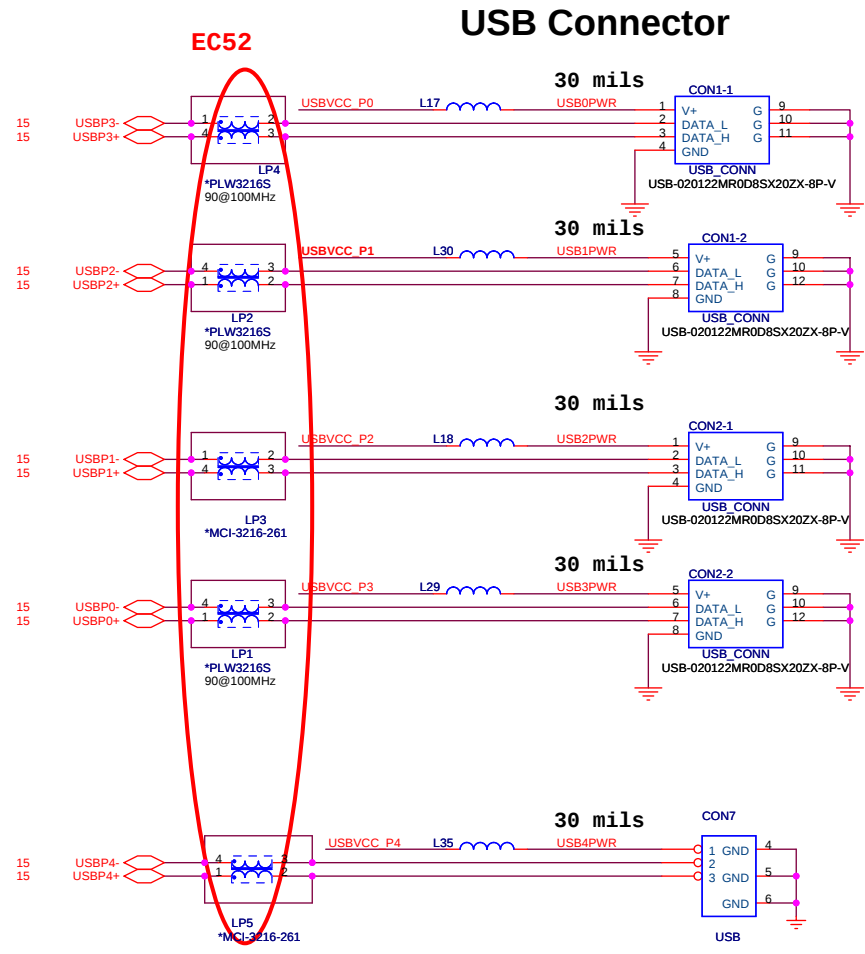
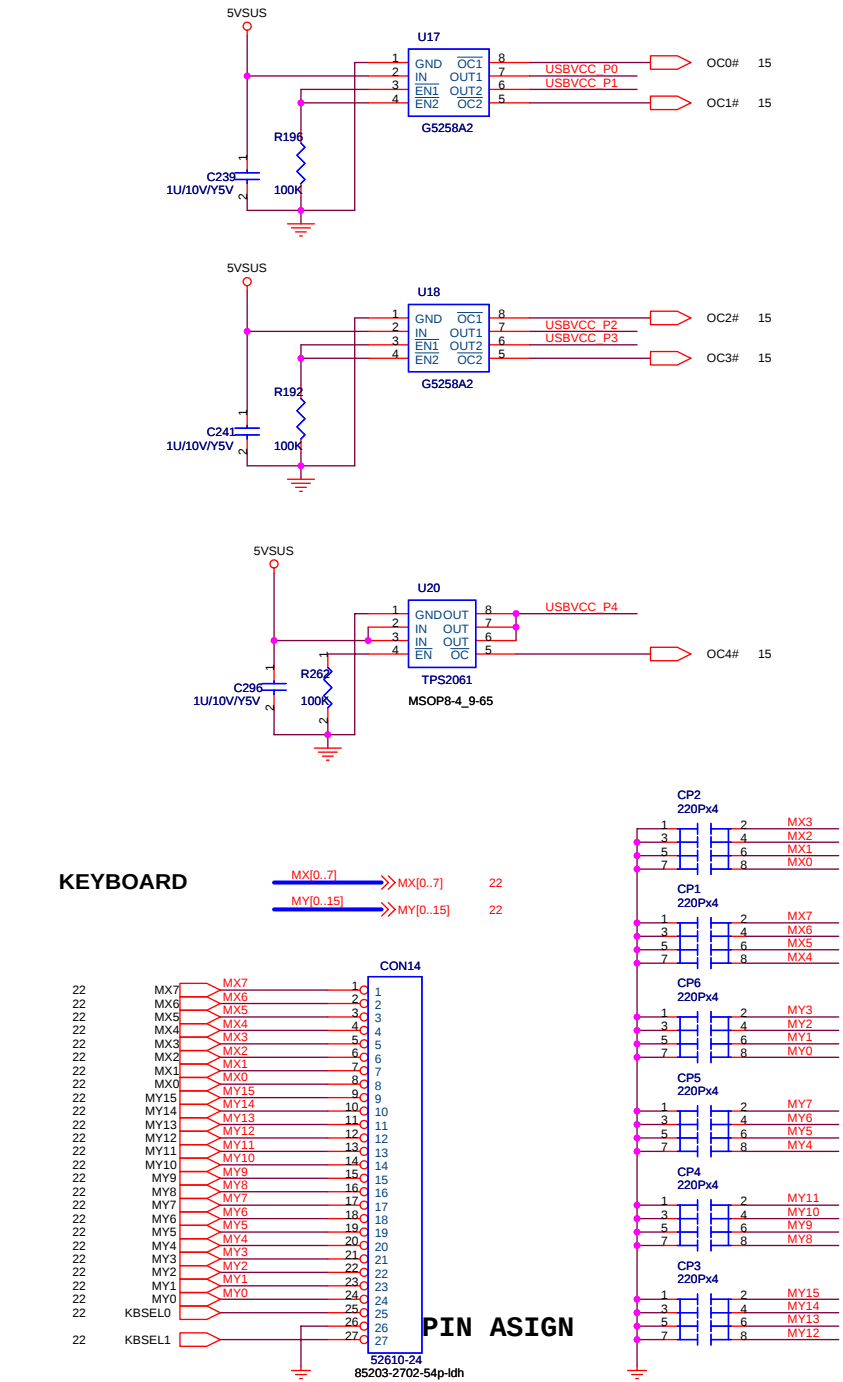


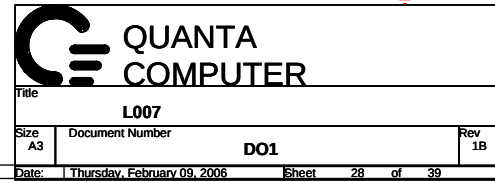
TO RECEIVER MODULE



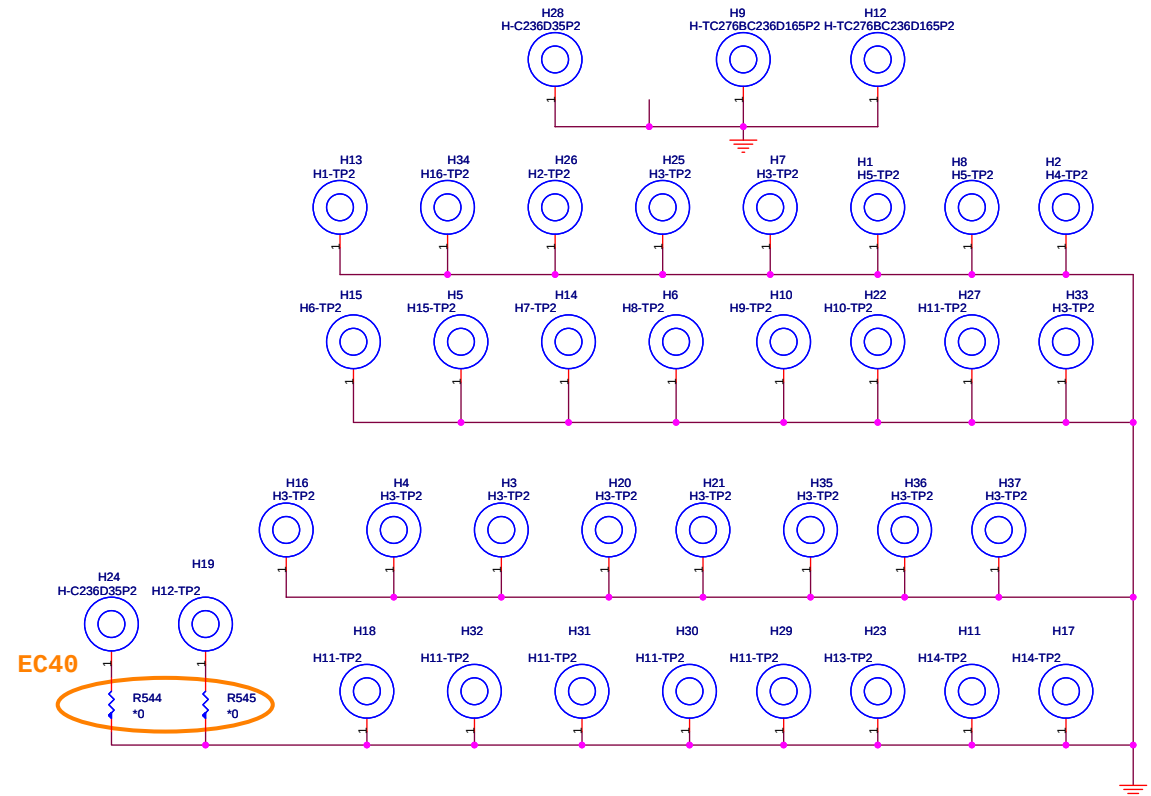
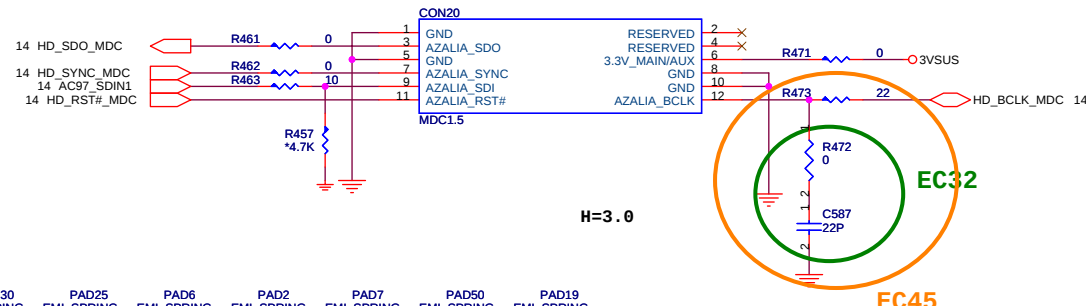
QUANTA
COMPUTER

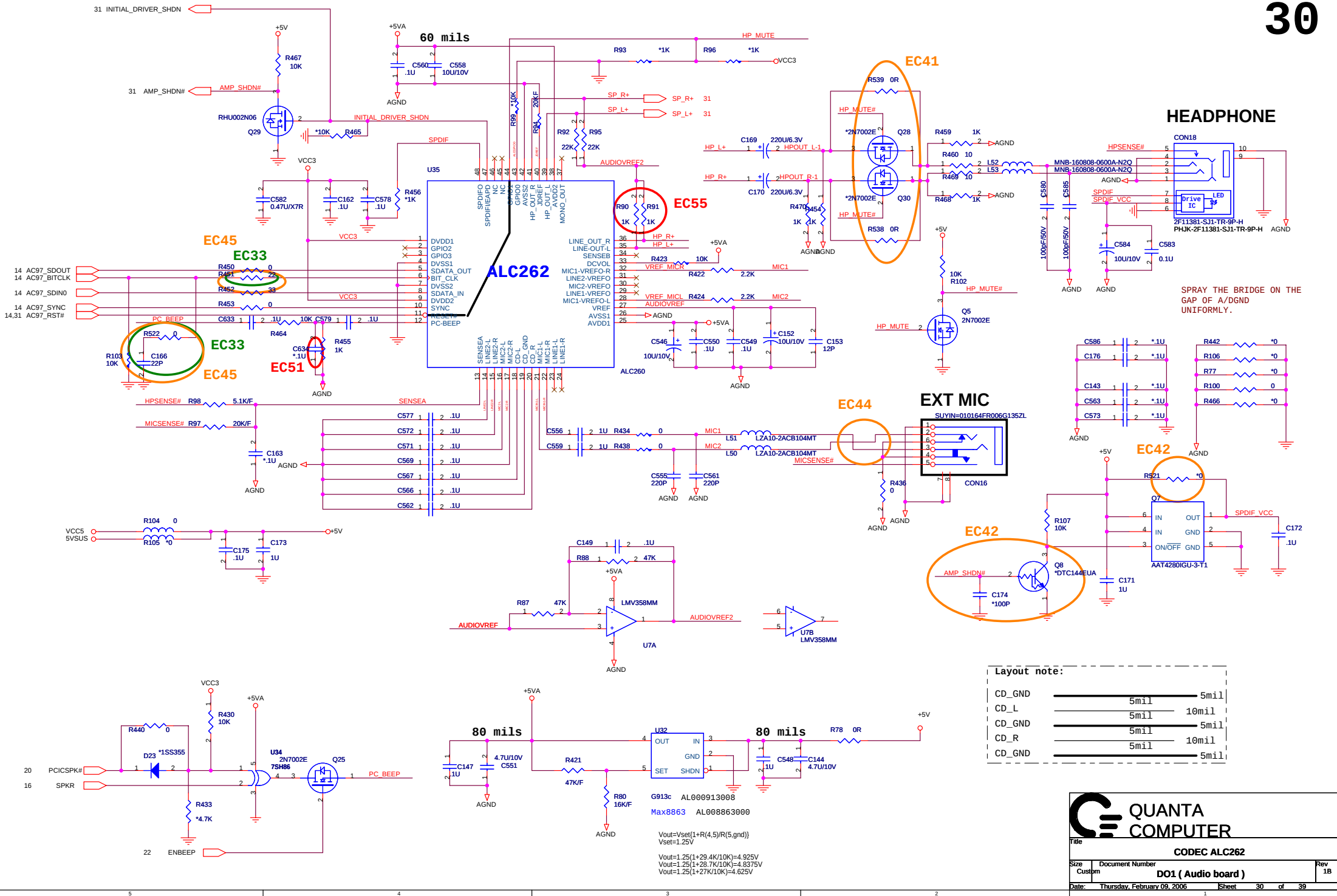
USB Power and Over current



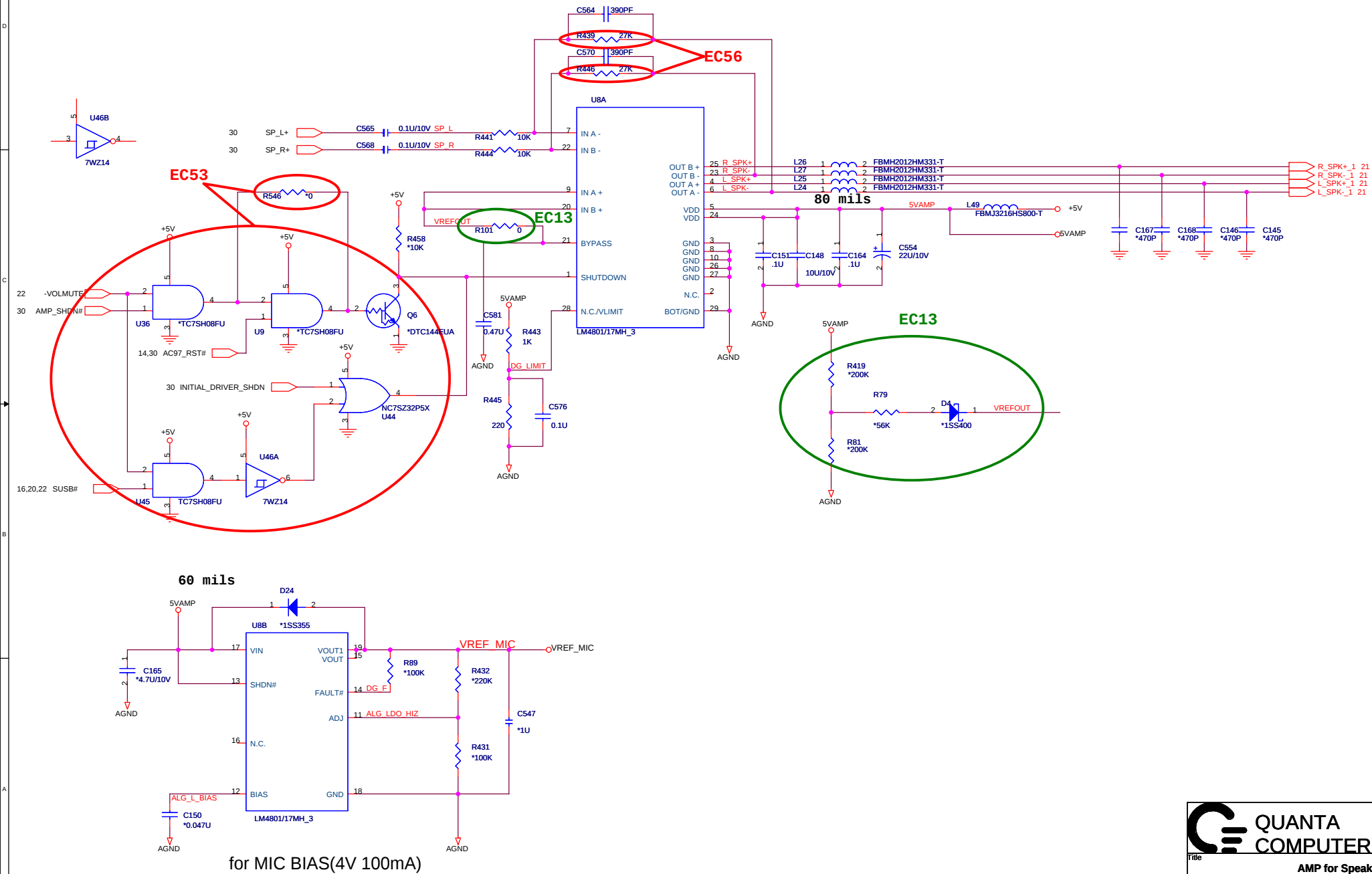


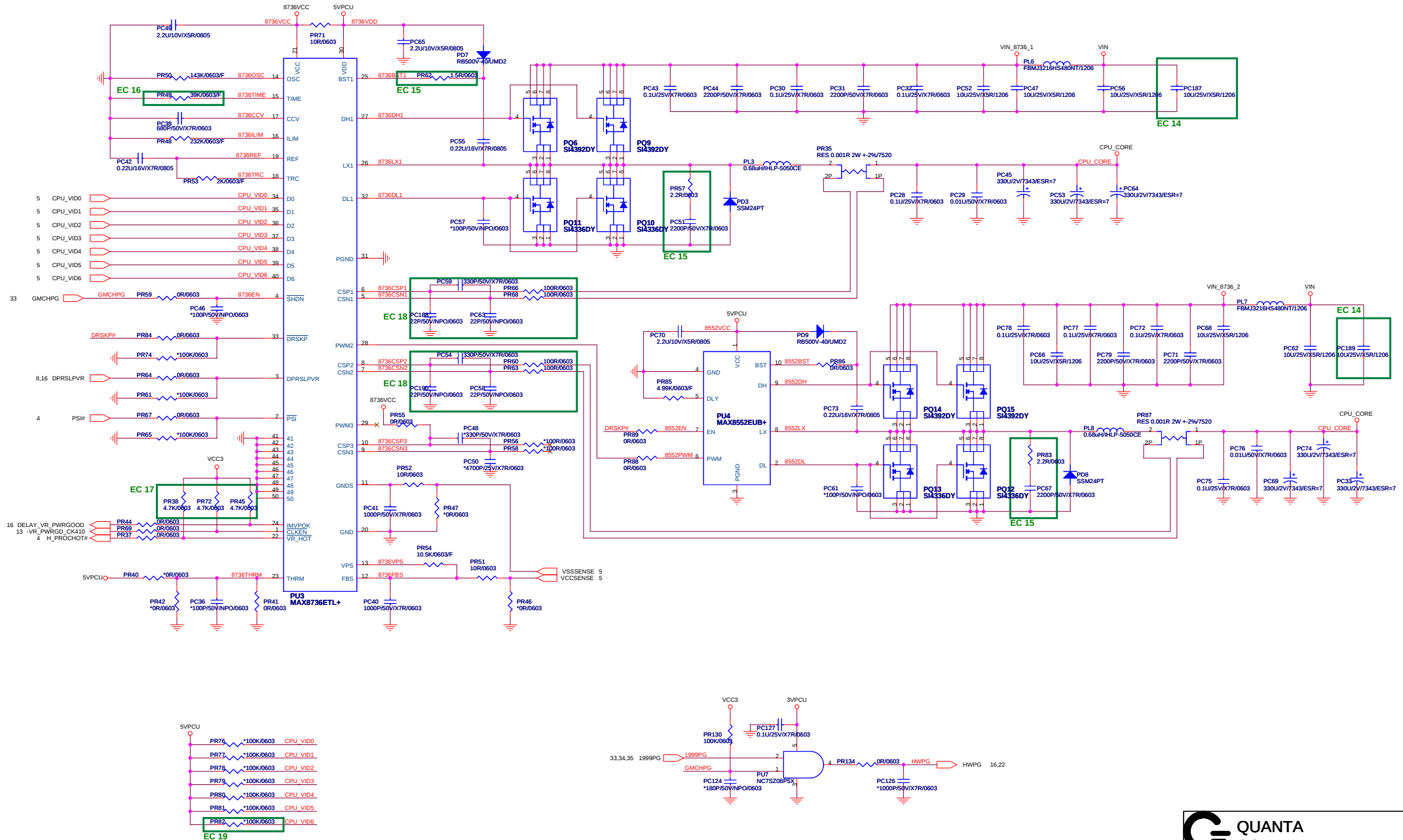
MDC V1.5 12Pin (Askey) Azalia MDC interface

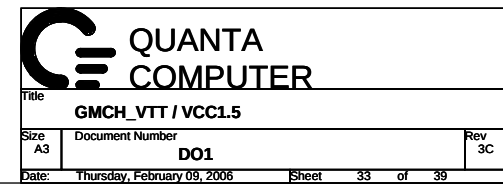


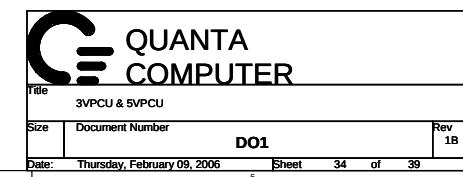


AUDIO AMPLIFIER LM4817

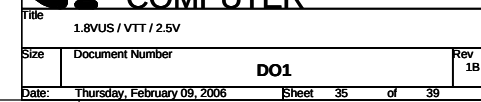
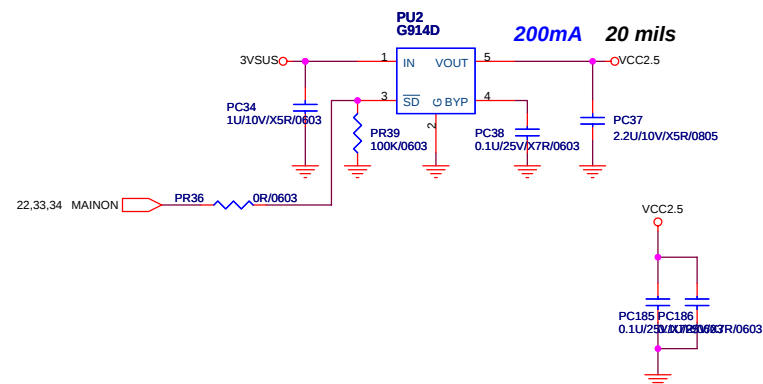






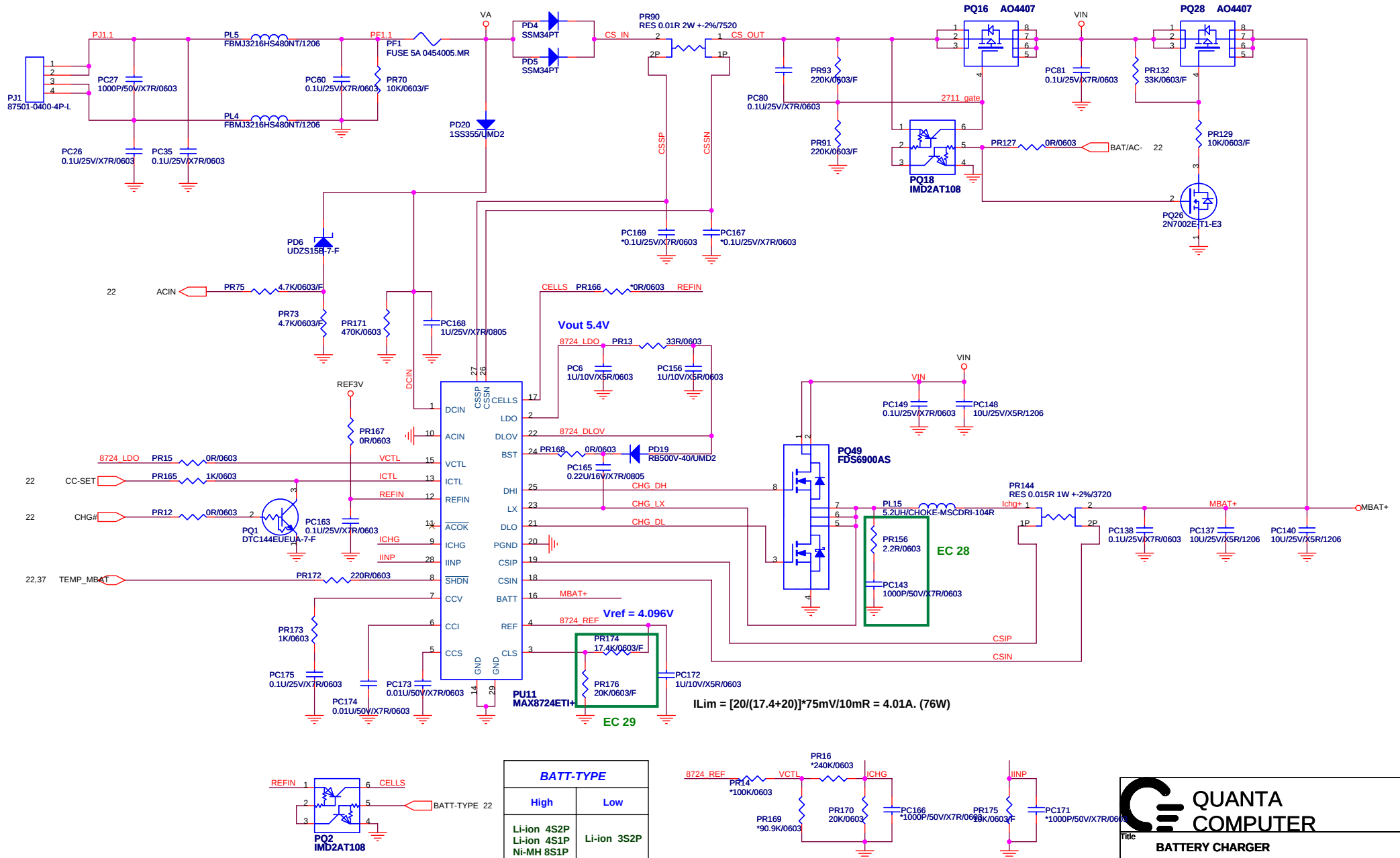


35



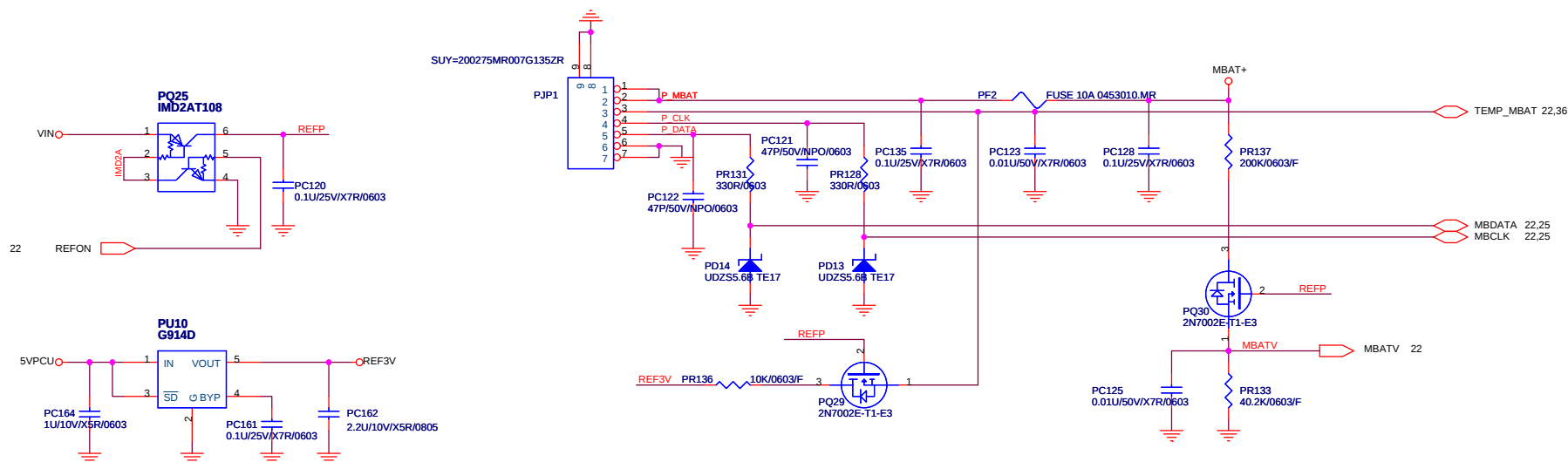
Battery Charger

36



Battery Connector

Battery Connector



TEMP_MBAT voltage :

	System Off	System On
Battery	0V	1.6V
Adapter	3.3V	3.3V
Battery+Adapter	1.6V	1.6V

MBATV voltage :

Li-ion 4S*P	$16.8V \cdot 40.2 / (200 + 40.2) = 2.812V$ $12.0V \cdot 40.2 / (200 + 40.2) = 2.008V$
Ni-MH 8S1P	$8.0V \cdot 40.2 / (200 + 40.2) = 1.34V$
Li-ion 3S*P	$12.6V \cdot 40.2 / (200 + 40.2) = 2.109V$ $9.0V \cdot 40.2 / (200 + 40.2) = 1.506V$

EC LIST -- A to B test :

EC1-- Page 8 -- Remove R255, C273, C267, C96, C99, C254, C253 -- Solving can't boot
 EC2-- Page 13 -- RP40 change to pop -- Solving BOM issue
 EC3-- Page 16 -- R491 change to 100 ohm -- Intel suggestion
 EC4-- Page 21 -- Q19 change to SI2301DS -- It is solve unstable voltage of express caed
 EC5-- Page 28 -- Remove R191, R180, R173, R165 -- Solving LCD can't display
 EC6-- Page 28 -- Add C623, C624, C625, C626 ,C627 ,C628 -- Kawano-san suggestion
 EC7-- Page 8 -- CRT_VSYNC and CRT_HSYNC net name exchange -- Solving CRT can't display
 EC8-- Page 18 -- Colay U40 -- ESD solution
 EC9-- Page 19 -- CON21 de-pop
 EC10--Page 22 -- Add R532---Record come from remote control
 EC11--Page 22 -- U28 change to 1M flash momory
 EC12--Page 23 -- R290, R300 pop---Tanaka-san suggestion
 EC13--Page 23 -- R81, R419, D4 de-pop, R101 pop---solve background noise
 EC14--Page 32 -- Add PC187, PC189 -- improve input voltage ripple
 EC15--Page 32 -- PR62, PR57, PC51, PR83, PC67 -- improve EMI
 EC16--Page 32 -- PR49 -- Speed step voltage change slew rate
 EC17--Page 32 -- PR38, PR45, PR72 -- enhance pull high voltage
 EC18--Page 32 -- PC59, PR66, PC68, PC188, PC63, PC54, PR60, PR63, PC190, PC58 -- enhance 2 phase current sharing
 EC19--Page 32 -- PR82 -- error during A-stage
 EC20--Page 33 -- PR106, PR109 -- ouput voltage setting
 EC21--Page 33 -- PQ22, PC90 -- low cost
 EC22--Page 33 -- PR115, PR113, PC104 -- adjust OCP point
 EC23--Page 33 -- PR25, PR27 -- output voltage setting
 EC24--Page 33 -- PR32, PR28, PC23 -- adjust OCP point
 EC25--Page 34 -- PR160, PR157, PC150 -- improve EMI
 EC26--Page 35 -- PR101, PC93 -- improve EMI
 EC27--Page 35 -- PR122, PR126 -- adjust OCP point
 EC28--Page 36 -- PR156, PC143 -- improve EMI
 EC29--Page 36 -- PR174, PR176 -- total power setting
 EC30--Page 13 -- C472, C427 change from 33P to 27P -- Solving signal quality issue
 EC31--Page 14 -- C601, C603 change from 10P to 22P -- Solving EMI issue
 EC32--Page 29 -- R472, C587 POP -- Solving EMI issue
 EC33--Page 30 -- R451 change to 0 ohm, C166 change to 22p, addR522 -- Solving EMI issue

EC LIST -- B to C test :

MB

EC34--Page 28 -- L1 change to 0 ohm --- Solving LCD garbage
 EC35--Page 15 -- For Fujitsu request --- Please refer to schematic review item#86
 EC36--Page 16 -- POP R133 --- Solving reboot issue
 EC37--Page 19 -- Q1 change to AAT4280IGU-1, add U43, Q32, R537--- Solving LCD power sequence
 EC38--Page 24 -- For Fujitsu request --- Please refer to schematic review item#91
 EC39--Page 28 -- For Fujitsu request --- Please refer to schematic review item#79,81,82,87,88
 EC40--Page 29 -- ESD solution
 EC41--Page 30 -- Remove Q28,Q30, add R538,R539---Solving headphone no sound
 EC42--Page 30 -- For Fujitsu request --- Please refer to schematic review item#84
 EC43--Page 33 -- improve EMI
 EC44--Page 30 -- MIC-L/R line connection is inversion in B-stage. Now we modify correct
 EC45--Page 29,30 -- R451,R473 change to 22 ohm, R522,R472 change to 0 ohm. --- Solving audio noise
 EC46--Page 25 -- For Fujitsu request --- Please refer to schematic review item#77

Touchpad board

EC47--Page 1 -- For Fujitsu request --- Please refer to schematic review item#77

Switch board

EC48--Page 1 -- SW8 net name change --- Solving WLAN switch function inverse

 QUANTA COMPUTER			
Title CHANGE LIST			
Size Custom	Document Number DO1		Rev 1B
Date:	Thursday, February 09, 2006		Sheet 38 of 39

EC LIST -- C to MP1 test :

MB

EC49--Page 20 -- Remove R306, R307, R308, R310 -- Solving SMT issue
EC50--Page 22 -- Adding Q33,Q34,Q35,Q36 -- Application button support power on in DC mode(battery only)
EC51--Page 30 -- Adding C634 -- Solving audio noise
EC52--Page 26 -- Remove R20, R21,R22,R23, R181,R182,R185,R186,R269,R275 -- Solving SMT issue
EC53--Page 31 -- Adding R546,U44,U45,U46, remove U36,U9,Q6,R458 -- Solving audio driver initiation pop noise
EC54--Page 25 -- Adding Q51,L56 -- Solving TV noise
EC55--Page 30 -- R90,R91 change to 1K ohm -- Solving audio driver initiation pop noise
EC56--Page 31 -- R439,R446 chnge value from 33K to 27K for FUJITSU suggestion(implement in C-stage)
EC57--Page 28 -- Adding R20,R21 for Jepico suggestion
EC58--Page 14 -- Reserve L57,L58 for improve EMI quality, if waveform can't meet SPEC, will pop 0ohm
EC59--Page 18 -- Remove U1, add U40 -- implement in C-stage

Media board

EC60--Page 1 -- Adding R16 -- Solving XD_VCC discharge too slow
EC61--Page 1 -- SD/MS_3V add protect fuse,XD_3V remove protect fuse -- for FUJITSU suggestion

Fingerprint board

EC62--Page 1 -- ESD sultion (R10 is Authentec suggestion)

Touchpad board

EC63--Page 1 -- ESD sultion

IR board

EC64--Page 1 -- Crystal chnage to 20MHz -- Solving IR remote controller issue

Switch board

EC65--Page 1 -- Change resistor value -- Solving LED too shine

 QUANTA COMPUTER			
Title CHANGE LIST			
Size Custom	Document Number DO1		Rev 1B
Date:	Thursday, February 09, 2006		Sheet 39 of 39