

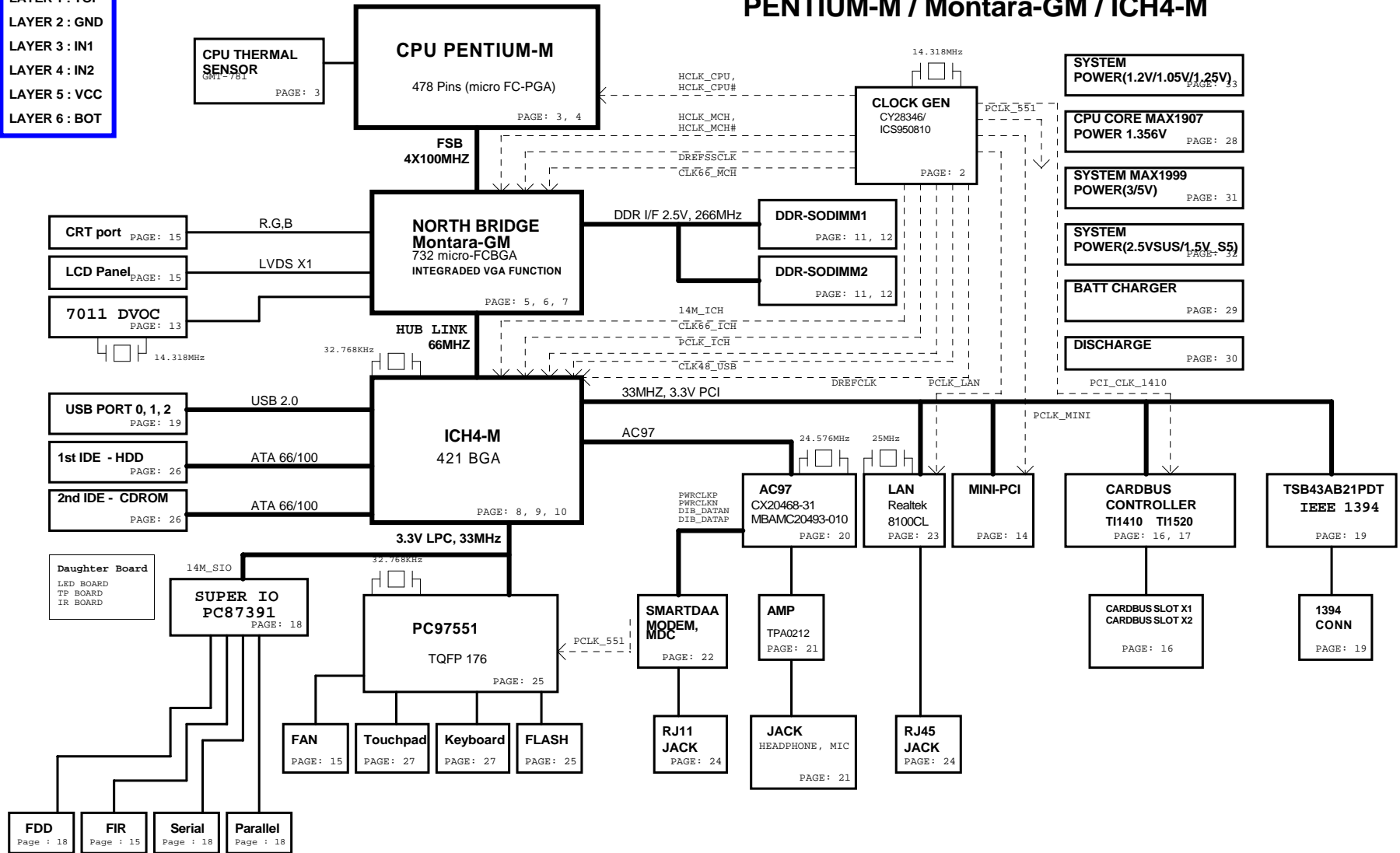
KT2 BLOCK DIAGRAM (KT2 FF)

PENTIUM-M / Montara-GM / ICH4-M

31KT2MB0026

PCB STACK UP

- LAYER 1 : TOP
- LAYER 2 : GND
- LAYER 3 : IN1
- LAYER 4 : IN2
- LAYER 5 : VCC
- LAYER 6 : BOT



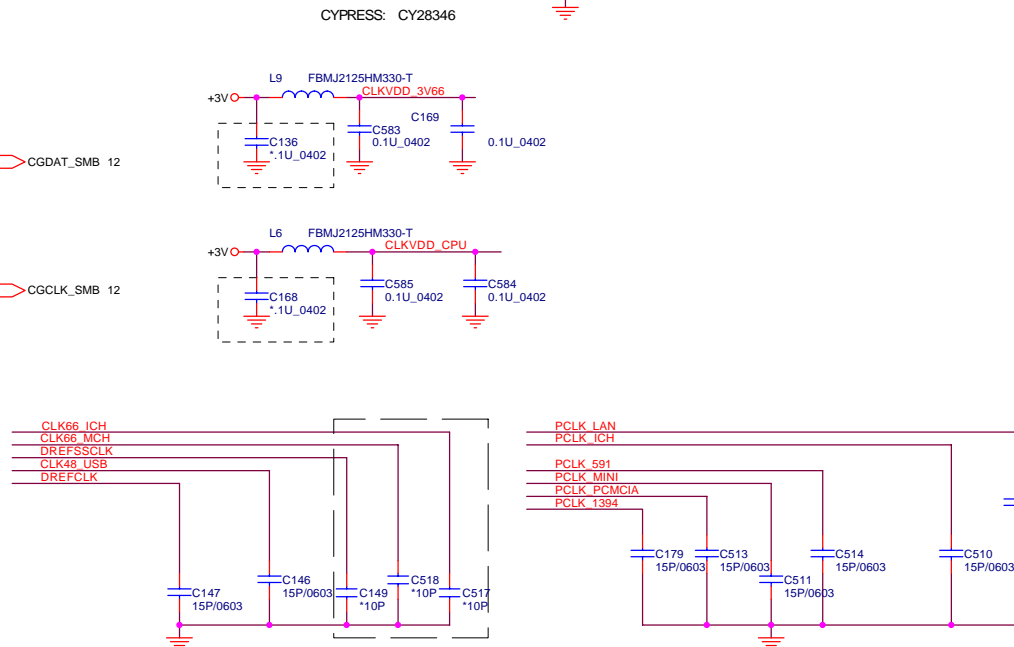
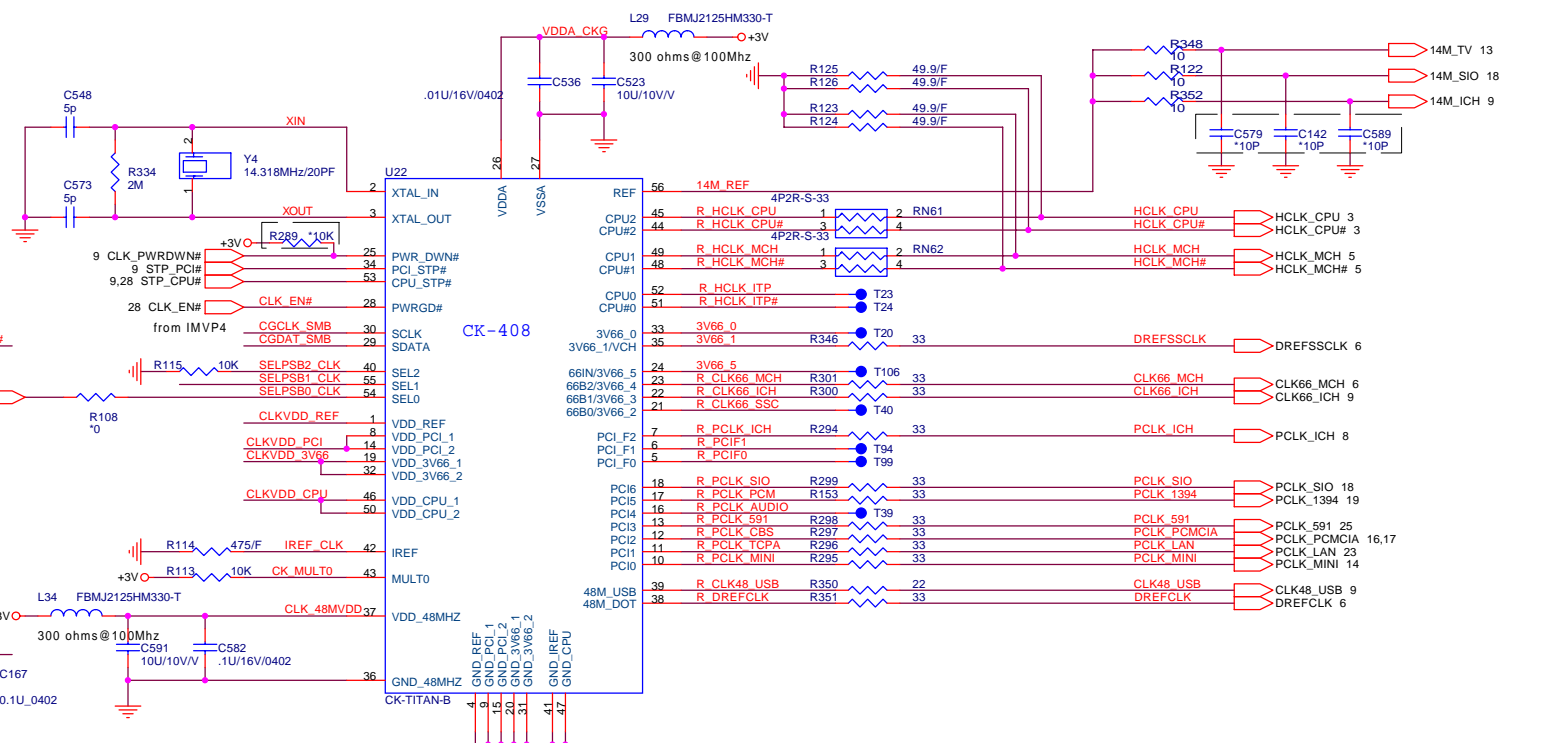
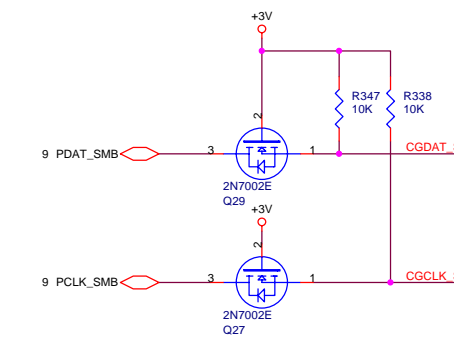
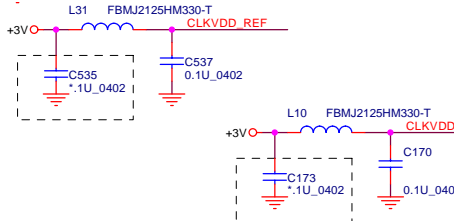
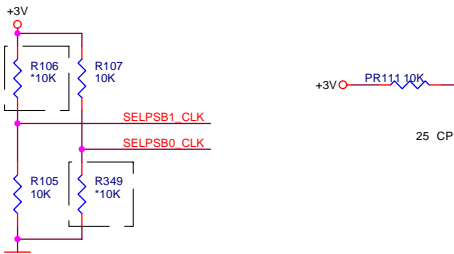
REQ0#, GNT0# : PCMCIA
 REQ1#, GNT1# : MINIPCI
 REQ2#, GNT2# : LAN
 REQ3#, GNT3# : IEEE1394
 REQ4#, GNT4# : N/A

INTA# : LAN
 INTB# : CARDBUS 1520
 INTC# : MINIPCI
 INTD# : MINIPCI
 INTE# : CARDBUS
 INTF# : IEEE1394
 INTG# : NC
 INTH# : Internal USB

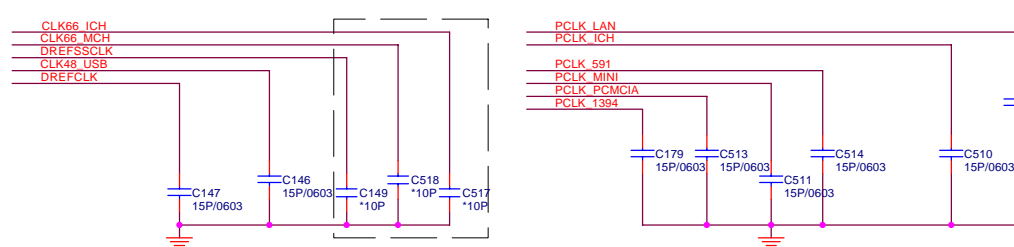
AD16 : RTL8100CL
 AD17 : PCI1520
 AD21 : PCI1410
 AD22 : MINIPCI
 AD23 : IEEE1394


CLK GEN

S2	S1	S0	CPU	3V66[0..4]	3V66_5/66IN
1	0	0	66	66IN	66 Input
1	0	1	100	66IN	66 Input
1	1	0	200	66IN	66 Input
1	1	1	133	66IN	66 Input
0	0	0	66	66	66 Input
0	0	1	100	66	66 Input
0	1	0	200	66	66 Input
0	1	1	133	66	66 Input



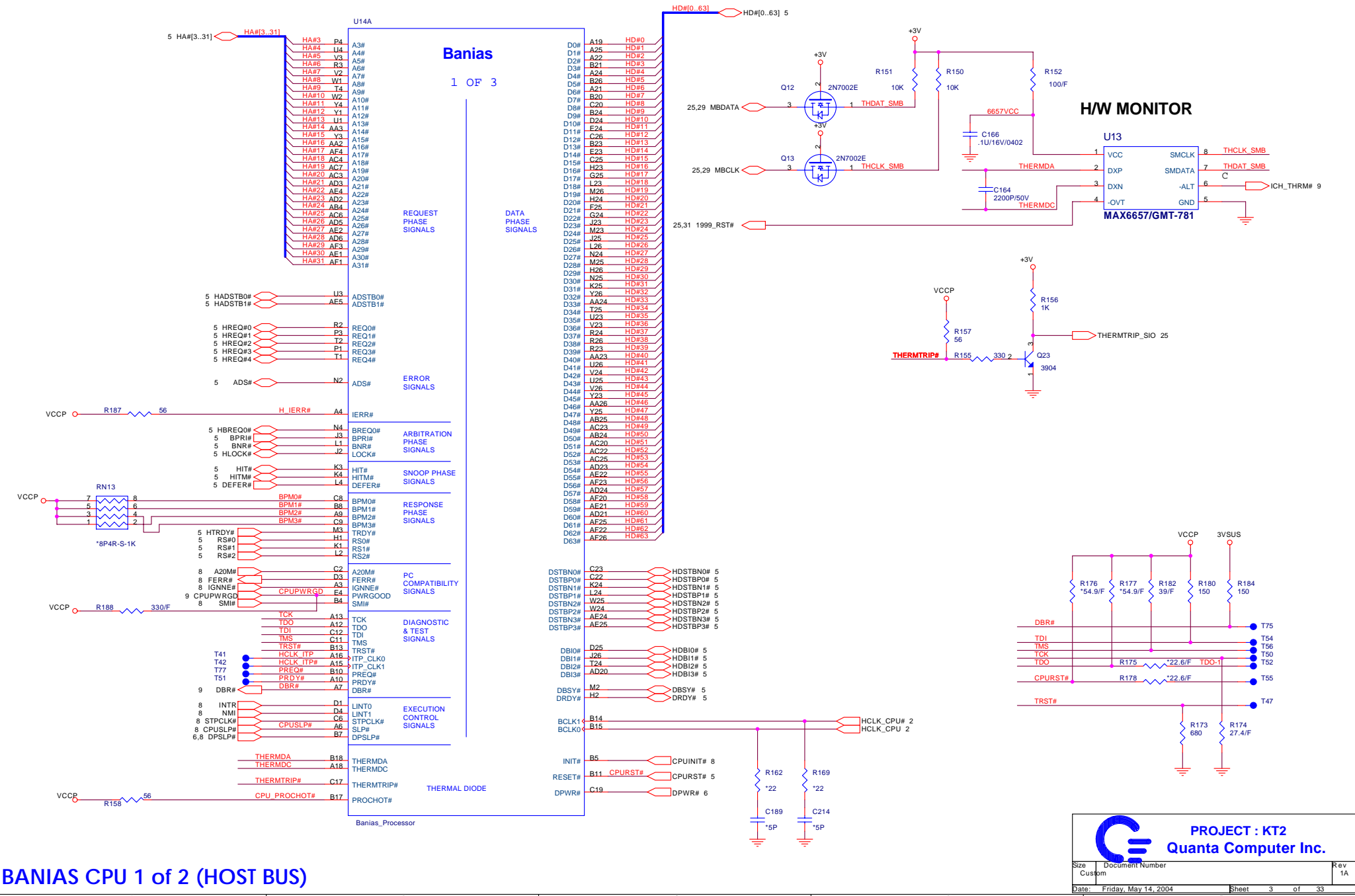
internal pull-up pin 5, FS_IN1	internal pull-down pin 4, FS_IN0MHz	SPREAD %
0	0	14M in 48M out
0	1	14M in 66M out
1	0	48M in/out, 66M in/out
1	1	48M in/out, 66M in/out





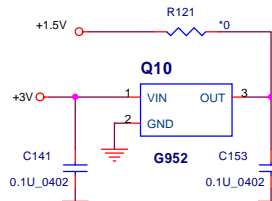
PROJECT : KT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	CLOCK GENERATOR	1A
Date:	Friday, May 14, 2004	Sheet 2 of 33



COMP0 & 2=> Trace Z=27.4ohm
 COMP1 & 3=> Tracer Z=55ohm

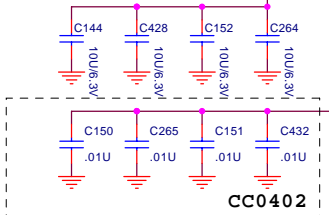
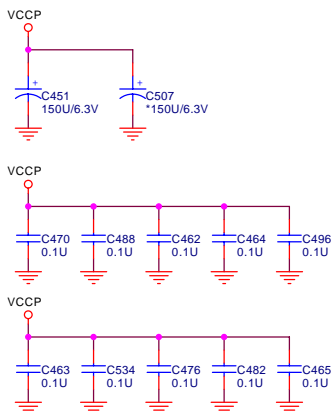
CHANGE TO 0805



WITHIN 0.5" & SPACE 25 mil

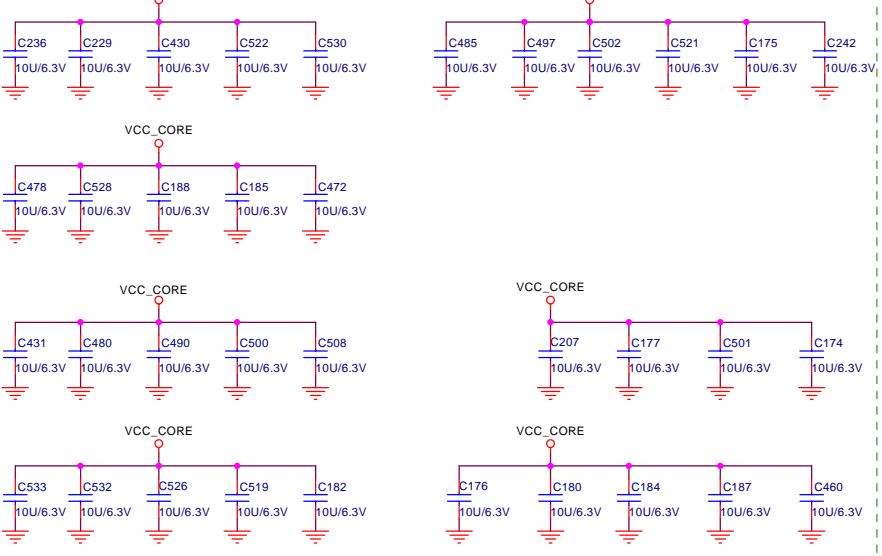
A0 : STUFF
 A1 : NC

FOR VT7/ 0.1UF X10

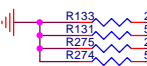


CC0402

100U/6.3V/X5R(CC0805) *35

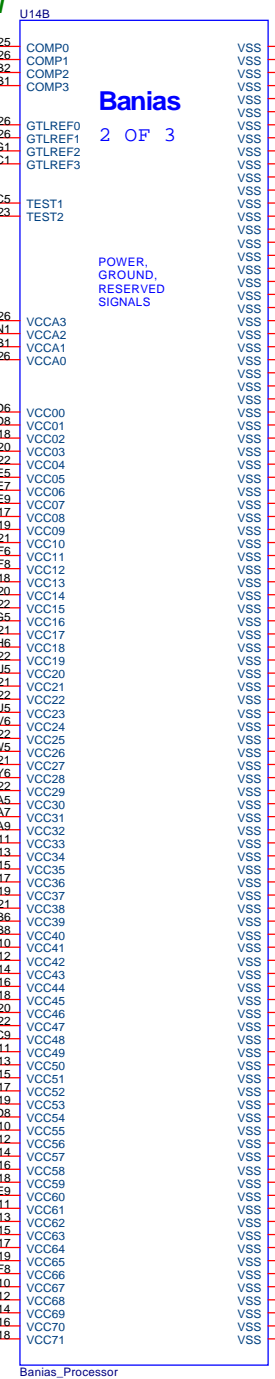


WITHIN 0.5" & SPACE 50 mil



Banias
 2 OF 3

POWER, GROUND, RESERVED SIGNALS

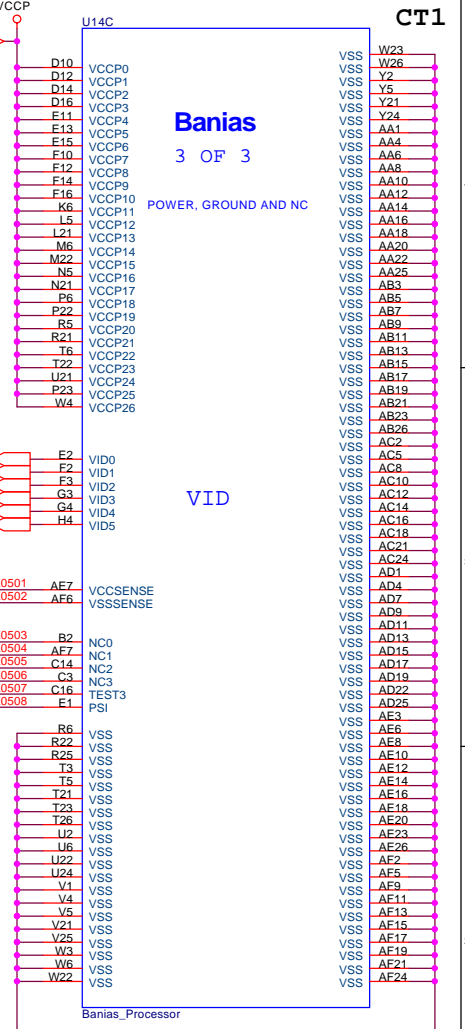


Banias_Processor

Banias
 3 OF 3

POWER, GROUND AND NC

VID



Banias_Processor

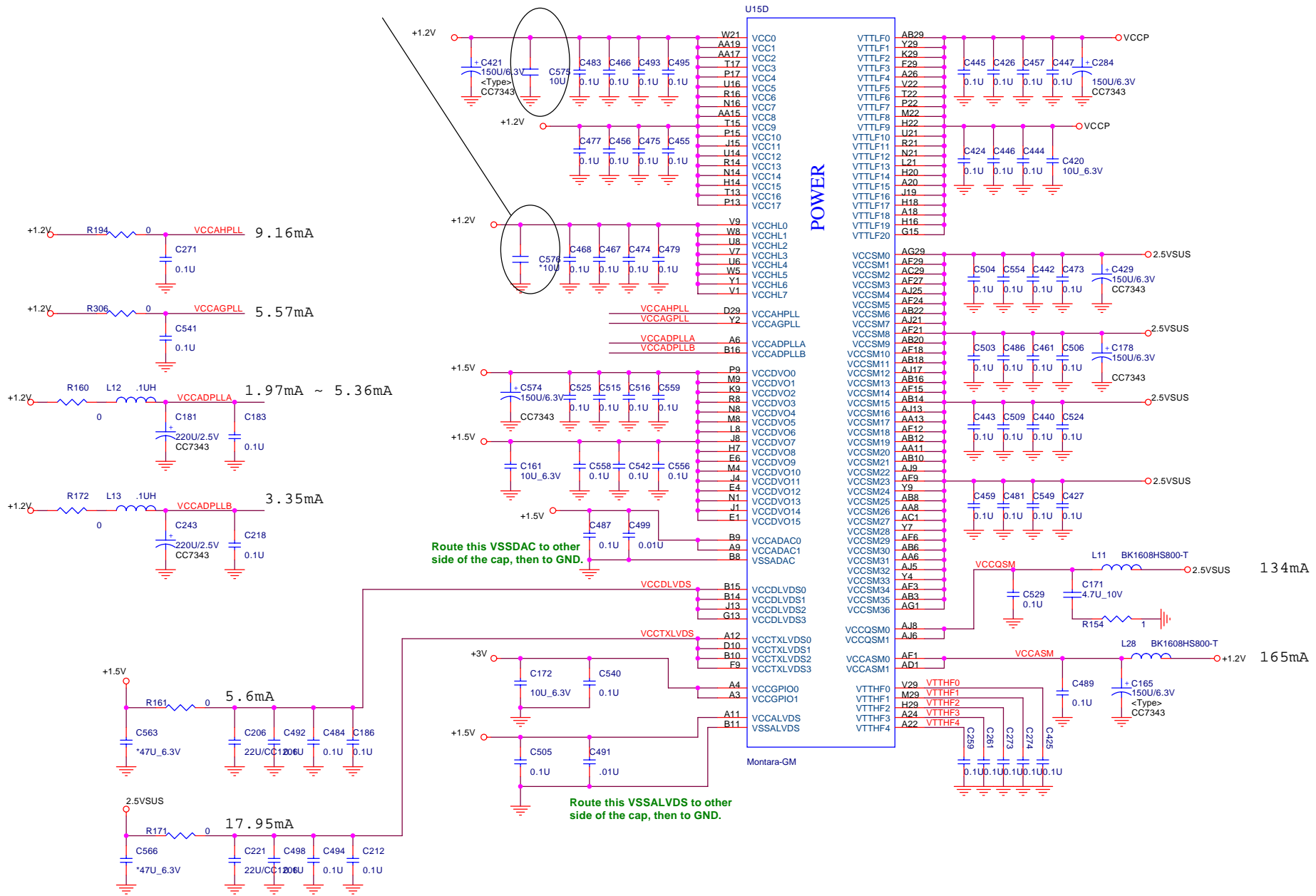


PROJECT : KT2
 Quanta Computer Inc.

Size B	Document Number	Rev 1A
CPU POWER		
Date: Friday, May 14, 2004	Sheet 4 of 33	

BANIAS CPU 2 of 2 (PWR)

REV:C from 1206 size change to 0805 size



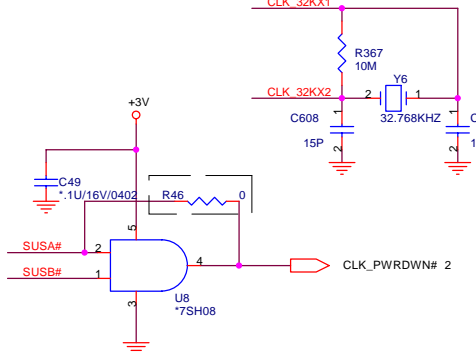
change +2.5v to 2.5vsus

MONTARA-GME/ 855GM+ 3 of 3 (POWER & CAP.)

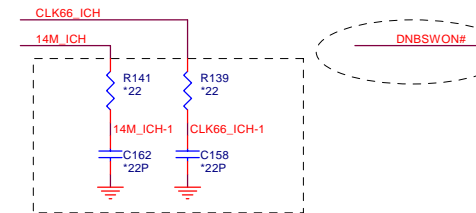
PROJECT : KT2
Quanta Computer Inc.

Size	Document Number	Rev
Cusbm	MontaraGM_C	1A
Date:	Friday, May 14, 2004	Sheet 7 of 33

ICH4-M

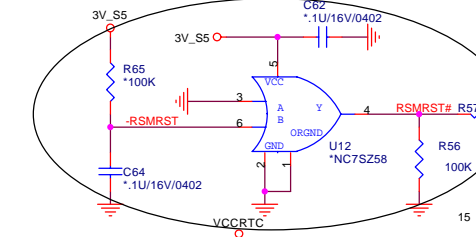


USB0~1: MB USB
 USB2: DAUGHTER/B USB
 USB4: CABLE DOCK
 USB5: BLUE TIITH/
 LCD

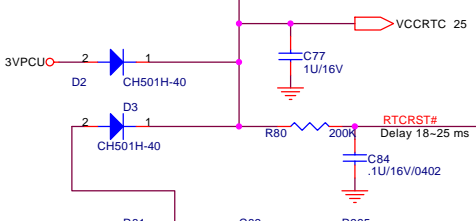


Internal pull-high
 20K

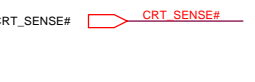
REV:B change to EC control



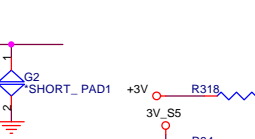
FROM EC



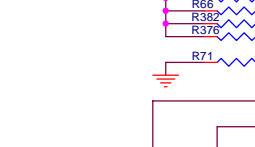
RTC



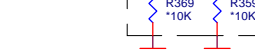
CRT_SENSE#



VBIAS



SM_EN#



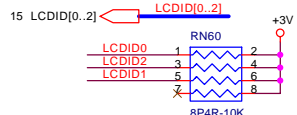
ICH_THRM#



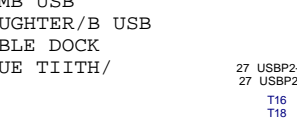
SPK



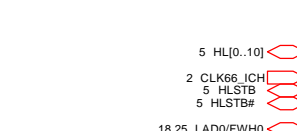
SDOUT1



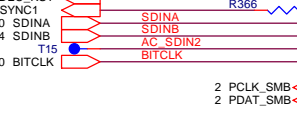
LCDID[0..2]



FIR_PRESENT#
 FDD_PRESENT#



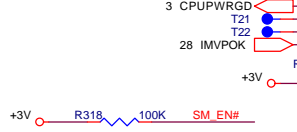
HL[0..10]



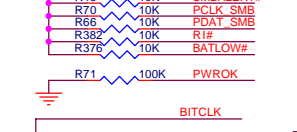
LAD[0..3]



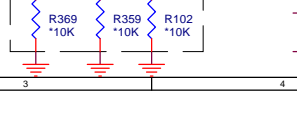
SDINA
 SDINB
 BITCLK



PCLK_SMB
 PDAT_SMB



SMLINK0
 SMLINK1
 SMBALERT#
 BATLOW#

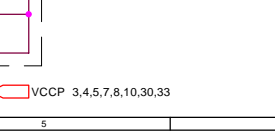
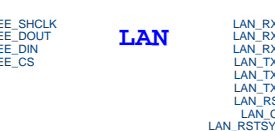
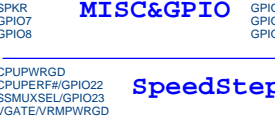
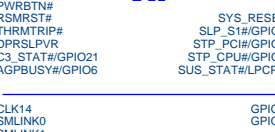
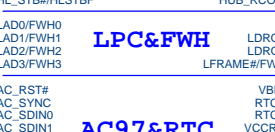
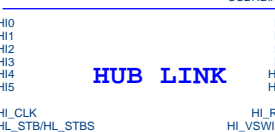


RSMRST#
 WPROK



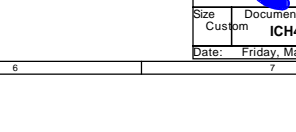
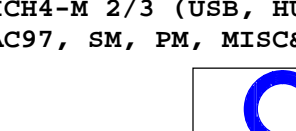
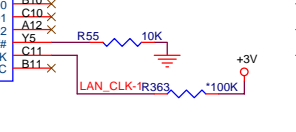
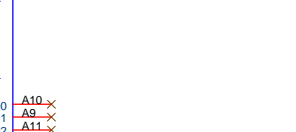
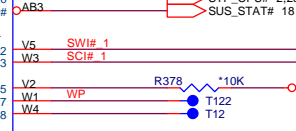
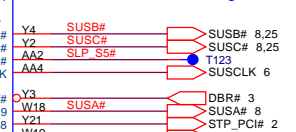
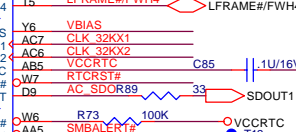
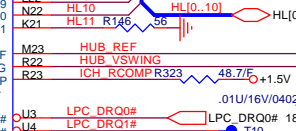
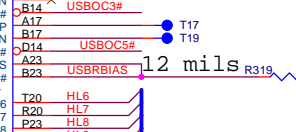
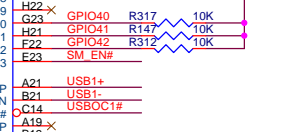
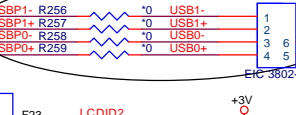
CPUPERF#

ICH4-M



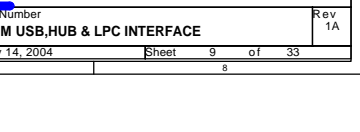
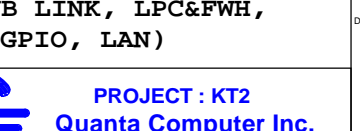
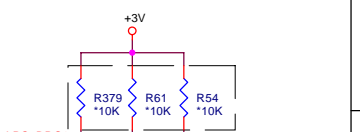
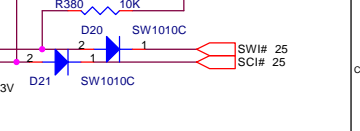
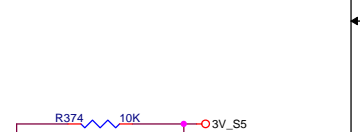
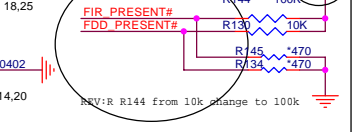
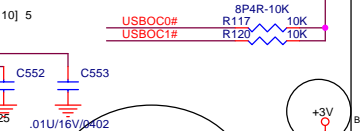
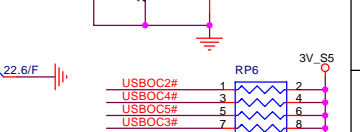
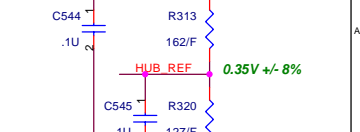
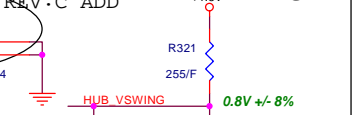
ICH4-M

VCCP 3,4,5,7,8,10,30,33



ICH4-M

VCCP 3,4,5,7,8,10,30,33



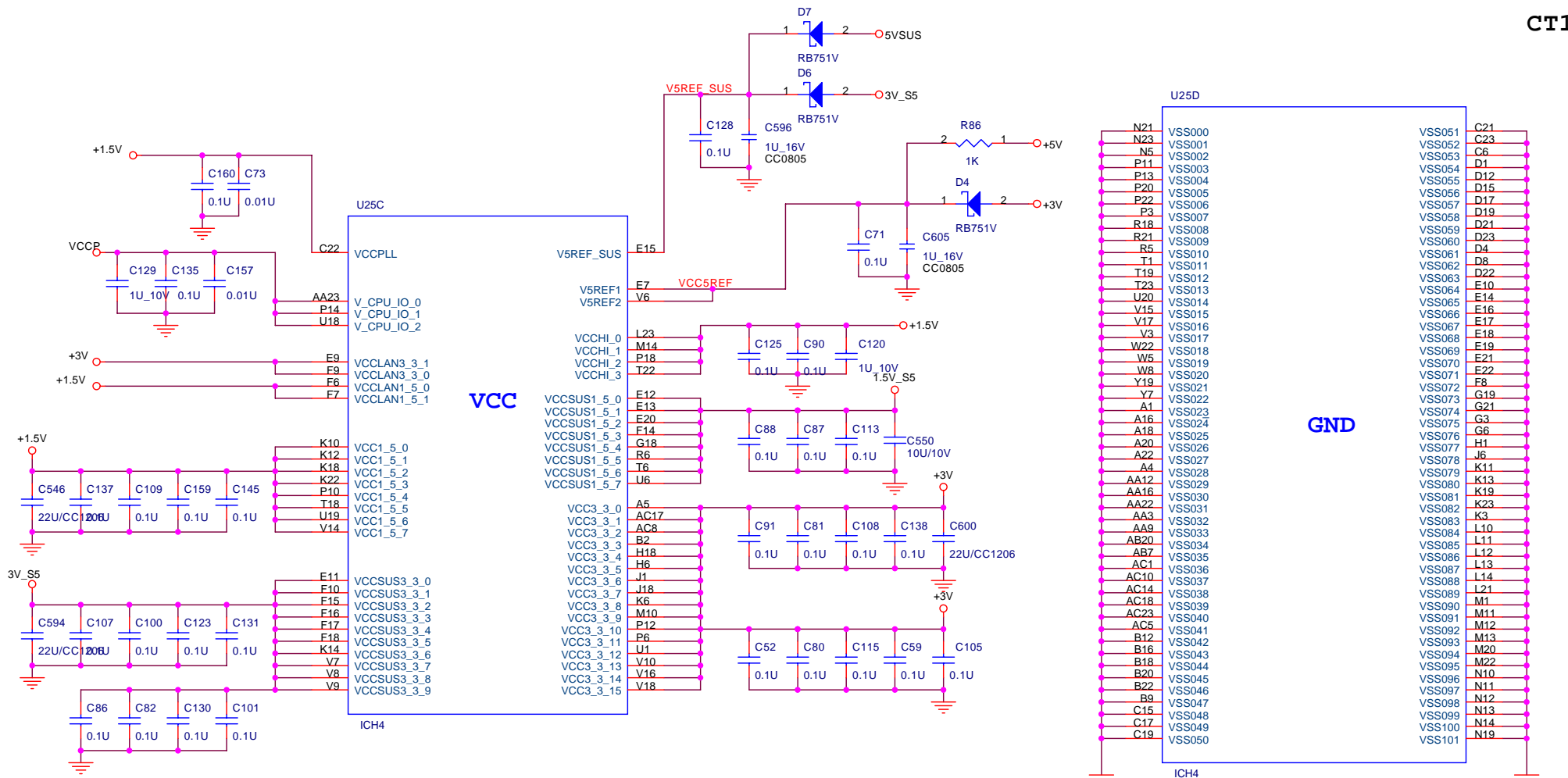
CT1

VCCP 3,4,5,7,8,10,30,33

ICH4-M 2/3 (USB, HUB LINK, LPC&FWH, AC97, SM, PM, MISC&GPIO, LAN)

PROJECT : KT2
Quanta Computer Inc.

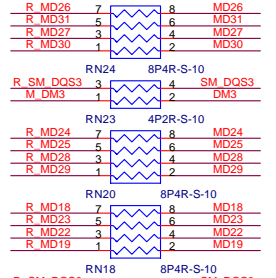
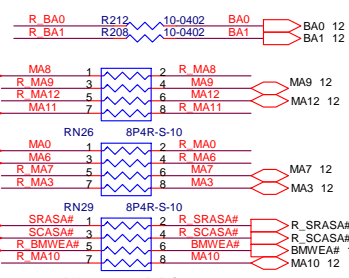
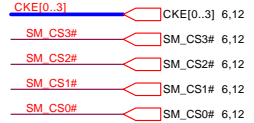
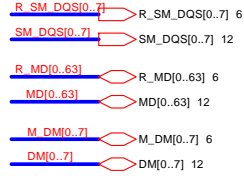
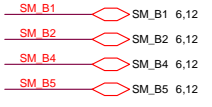
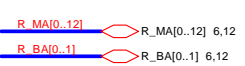
Size	Document Number	Rev
Custom	ICH4-M USB,HUB & LPC INTERFACE	1A
Date:	Friday, May 14, 2004	Sheet 9 of 33



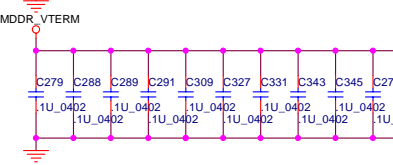
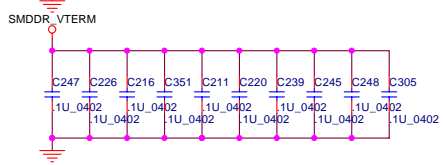
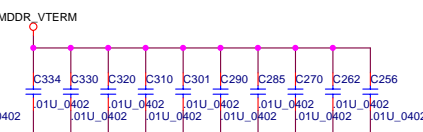
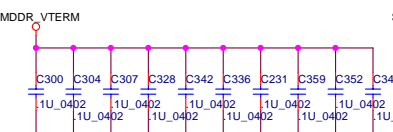
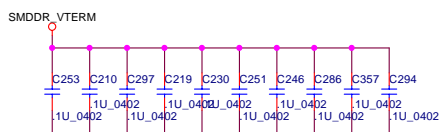
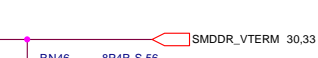
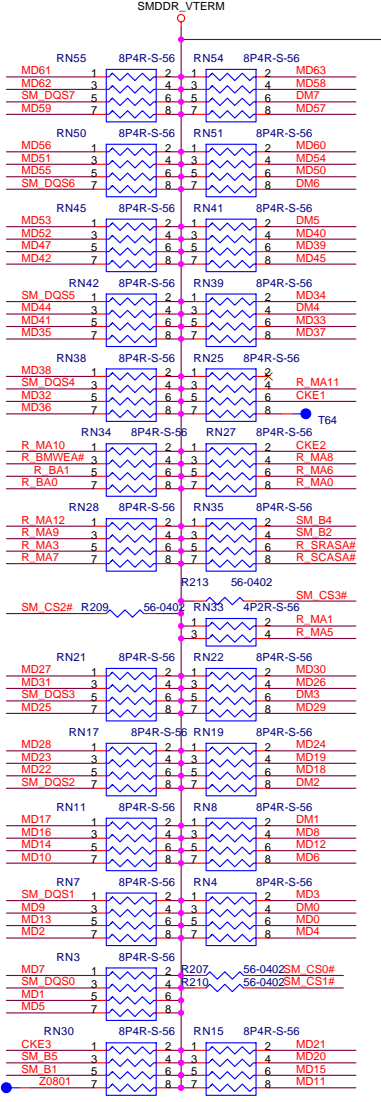
ICH4-M 3/3 (PWR, GND)



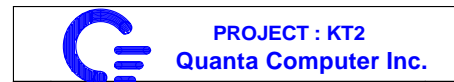
Size	Document Number	Rev
Custom	ICH4-M (POWER&GND)	1A
Date:	Friday, May 14, 2004	Sheet 10 of 33

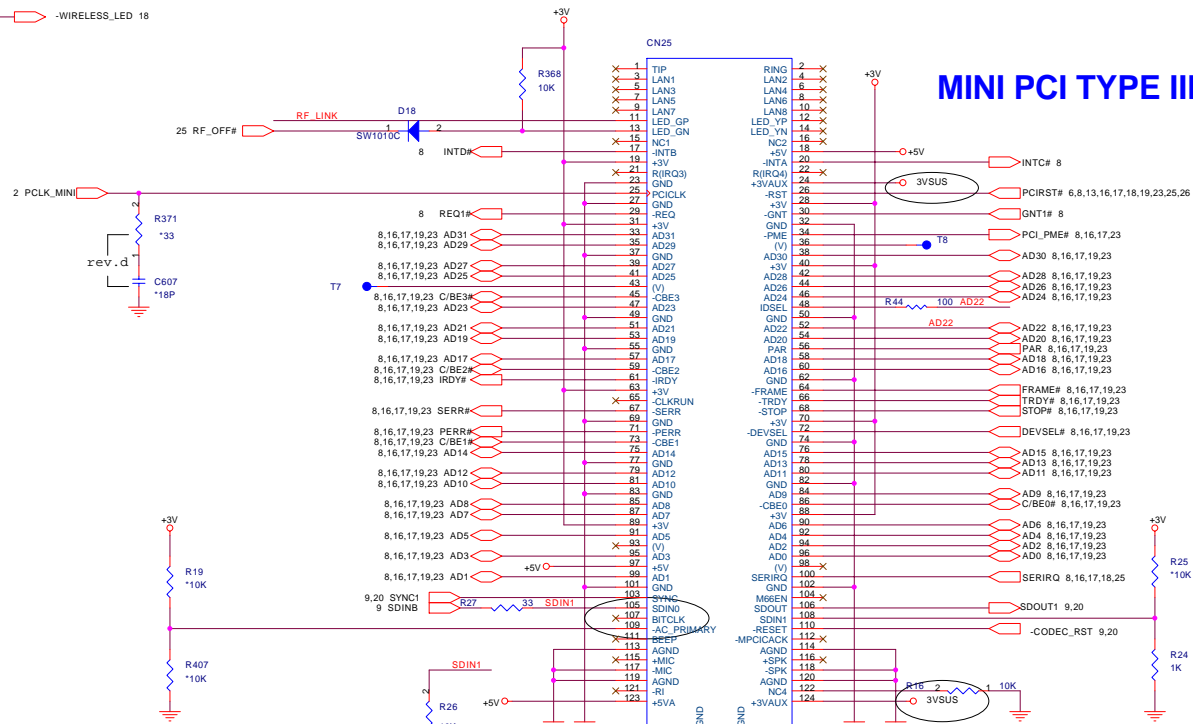


USE 8P4R-0402 package

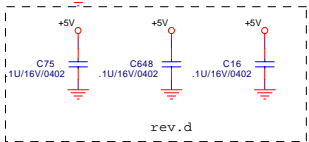


Place Terms close to second DIMM

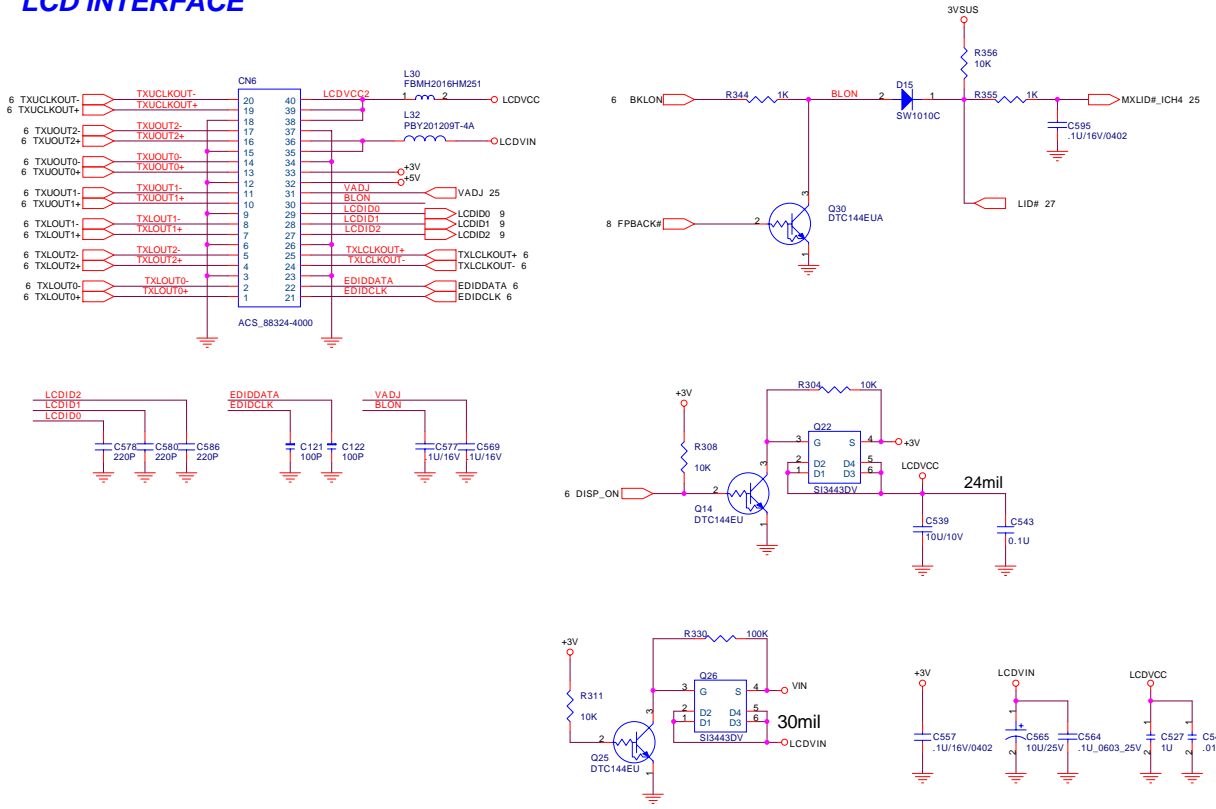




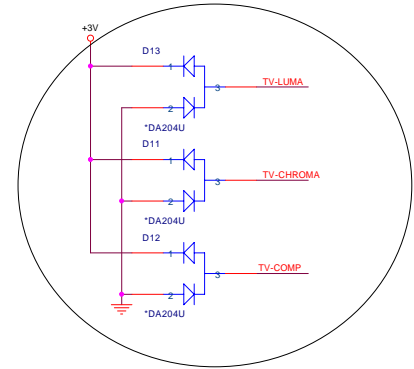
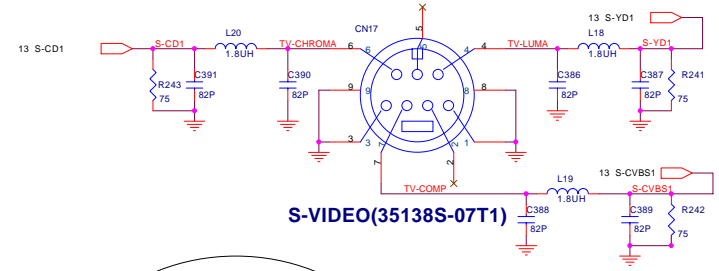
MINI PCI TYPE III SLOT



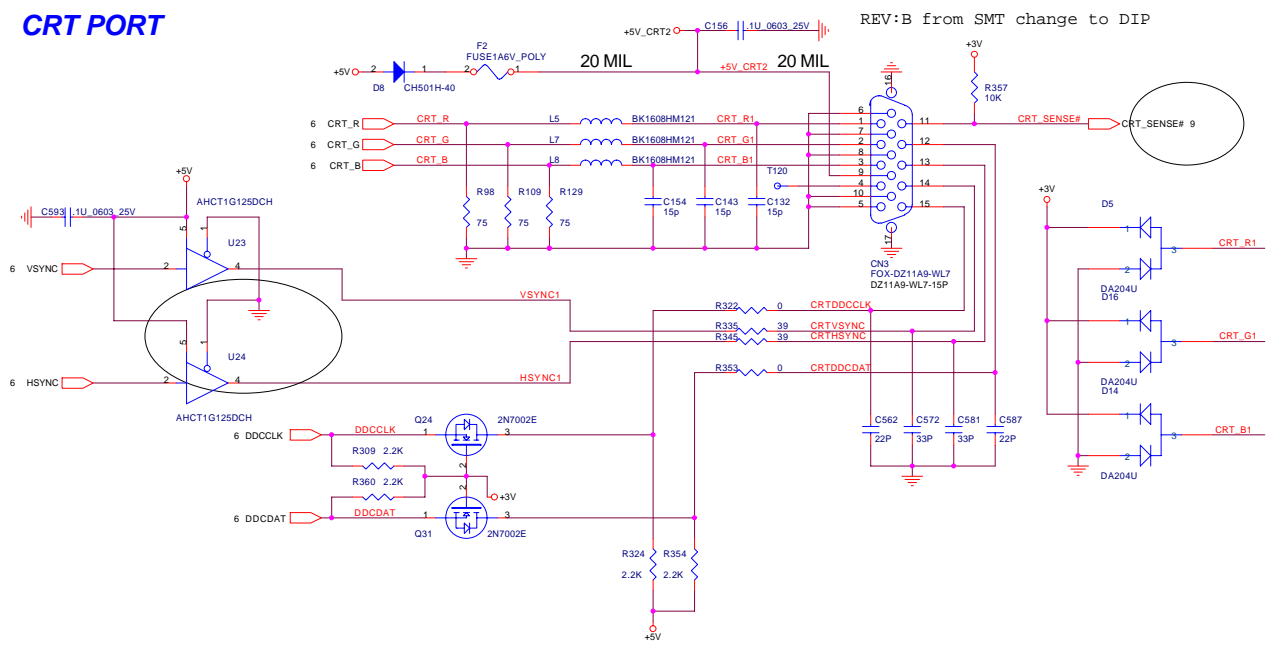
LCD INTERFACE



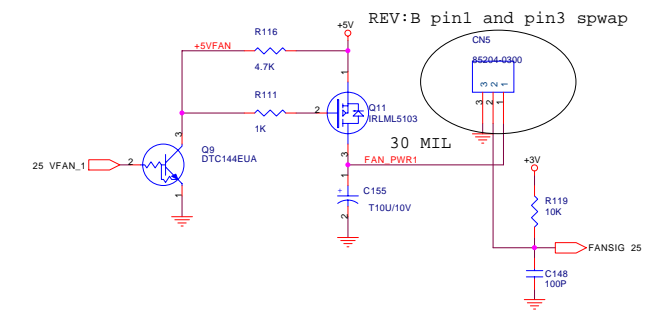
S-VIDEO CONNECTOR



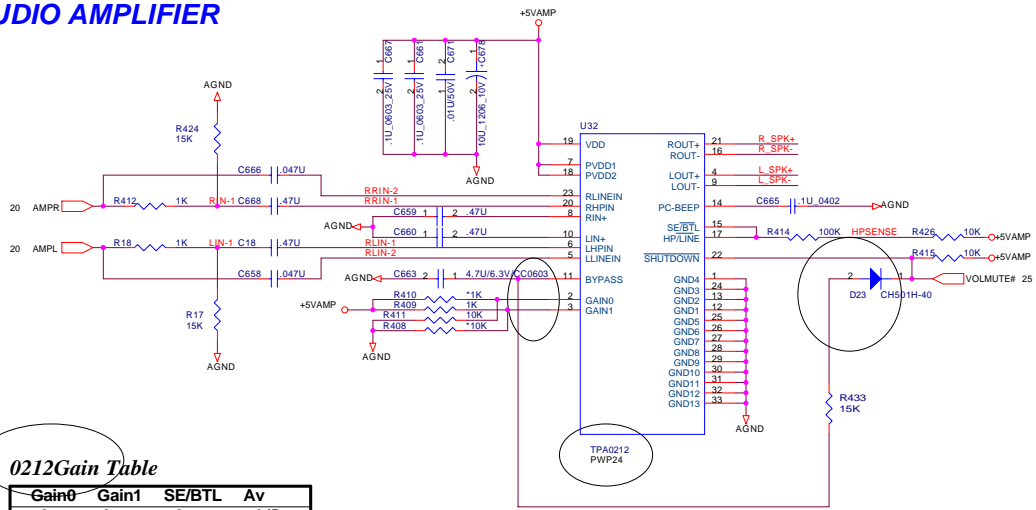
CRT PORT



FAN CONTROL



AUDIO AMPLIFIER

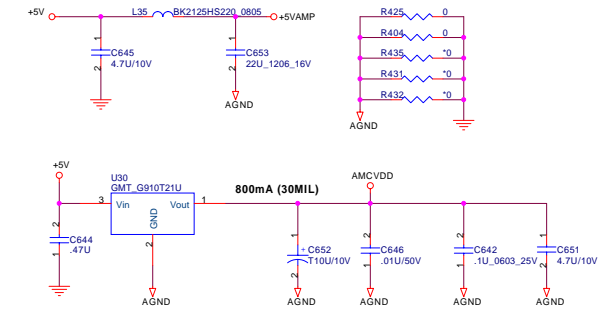
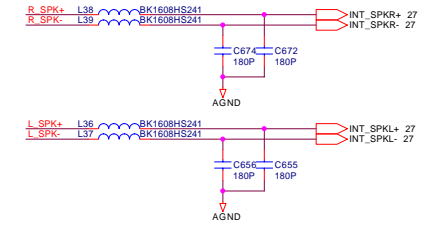


0212Gain Table

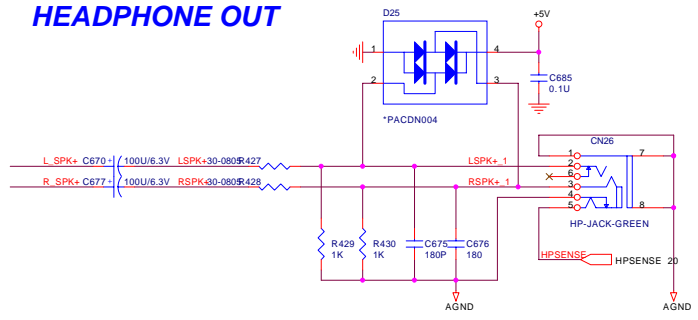
Gain0	Gain1	SE/BTL	Av
0	0	0	6dB
0	1	0	15.6dB
1	0	0	21.6dB
1	1	0	27.6dB
X	X	1	4.1dB

- Priority :
1. Port-replicator headphone is 1st priority
 2. Notebook headphone is 2nd priority
 3. Notebook internal speaker is 3rd priority
- 2004/03/20

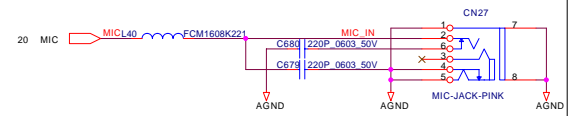
INTERNAL SPK



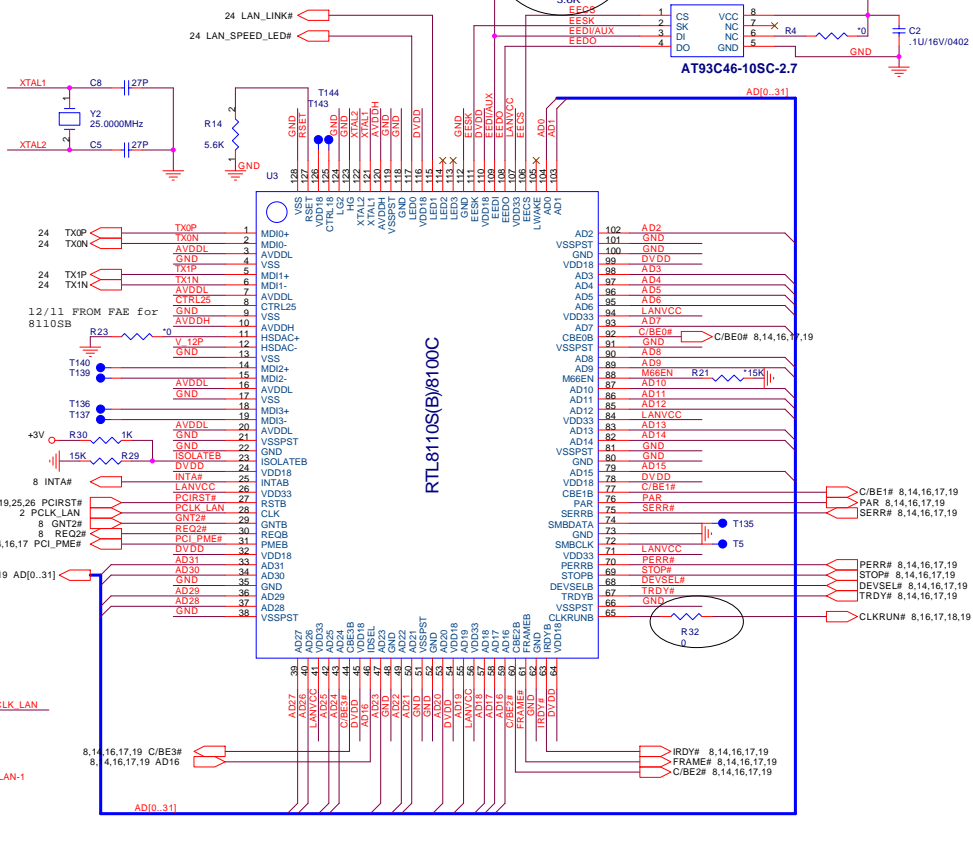
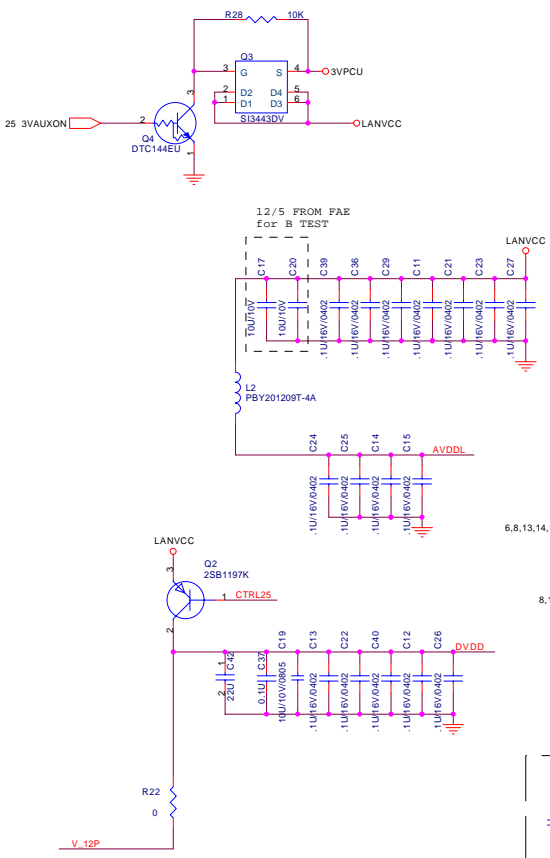
HEADPHONE OUT



MICROPHONE



	8100CL(10/100M)	8110SB(1G)
DVDD33	3.3VD 26,41,56,71,84,94,107	3.3VD 26,41,56,71,84,94,107
AVDDL	3.3VA 3,7,20	2.5VA 3,7,20,16
DVDD	1.8VD 32,54,78,99	1.8VD 32,54,78,99,24,45,64,110,116,126
AVDD25	2.5VA 12	NC
AVDDH	NC	3.3VA 10,120

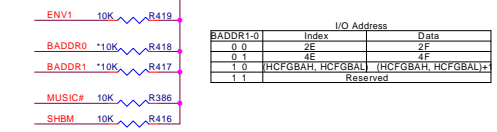
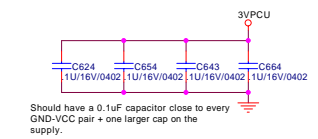


KBC-NS87551L

LDRQ#(pin 8) internal is no use
 9.18 LPC_DRQ# → LPC_DRQ# R385 '0' DROQ#

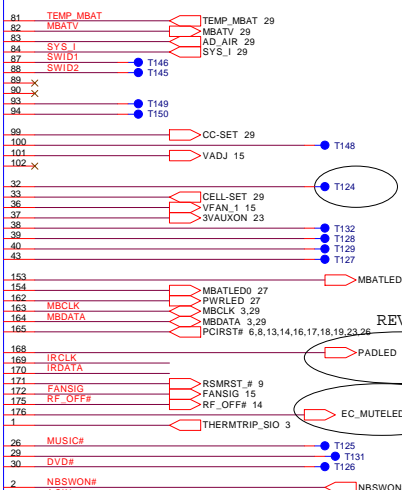
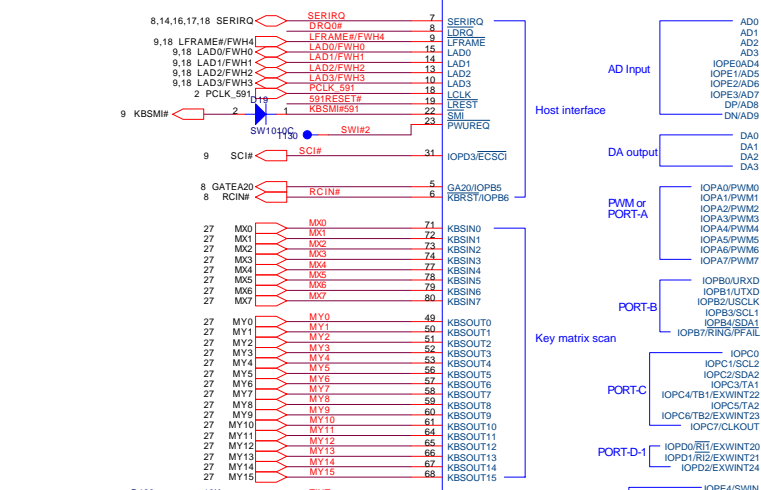
U31
 VCC1 VCC2 VCC3 VCC4 VCC5 VCC6
 VDD VCC AVCC VBAT

RESERVE FOR 97551
 VCCRTC VCCRTC 9
 R402 R403 0

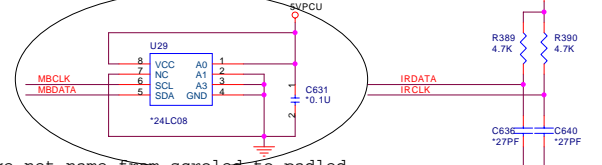


BADDR1-0	Index	I/O Address	Data
0 0	2E	2F	
0 1	4E	4F	
1 0	HCFGBAH, HCFGBAL		(HCFGBAH, HCFGBAL)
1 1	Reserved		

SHBM=1: Enable shared memory with host BIOS



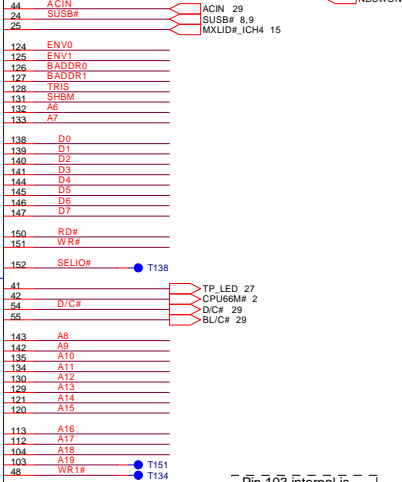
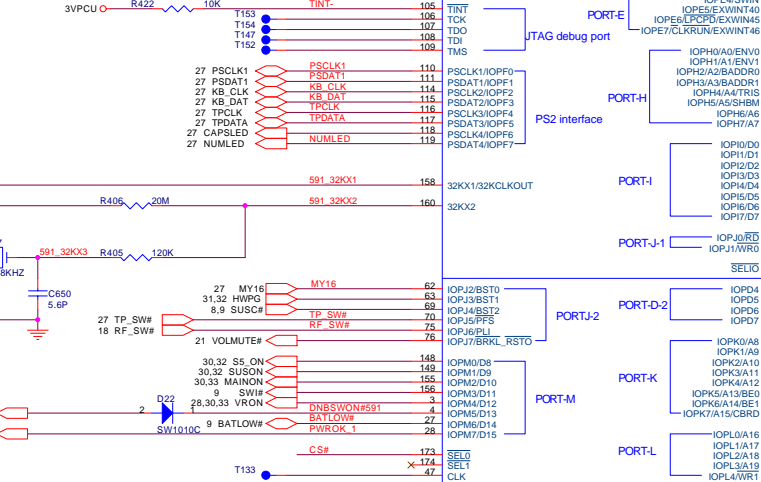
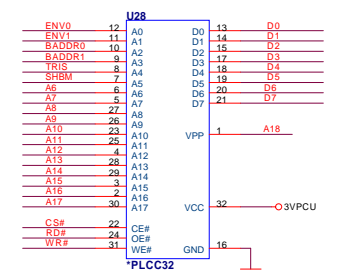
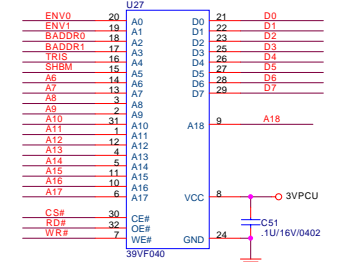
REV:B u29 remove from BOM



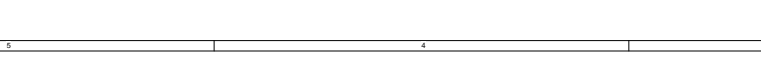
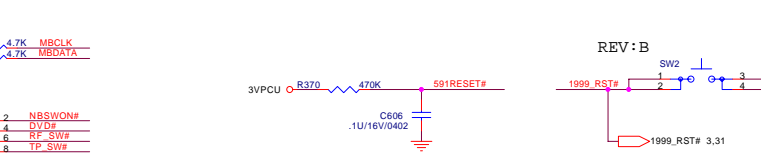
REV:B change net name from serled to padded

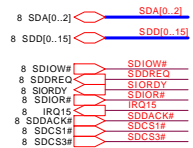
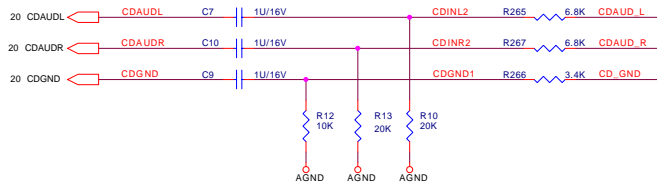
Pin 24 if no pull-high, will can't reboot.

BIOS ROM

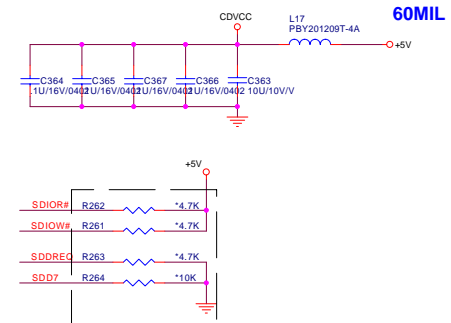
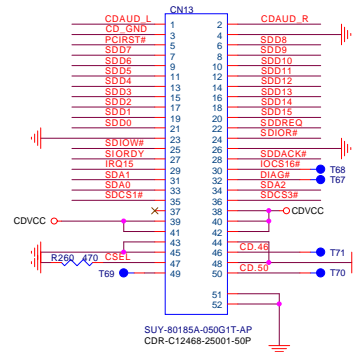


Pin 103 internal is 'A19'. Can't use to GPIO

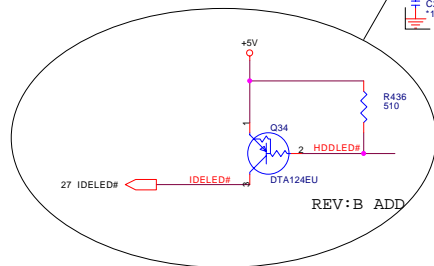
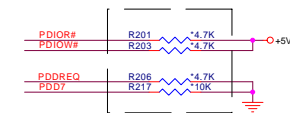
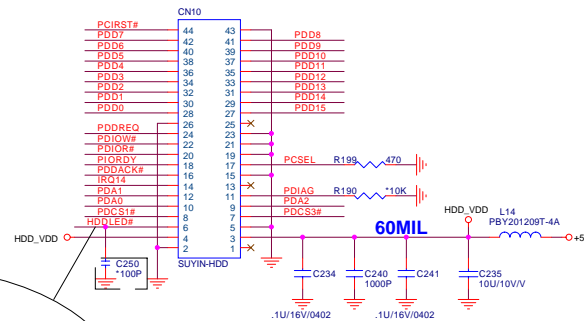
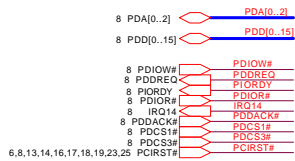




CD-ROM

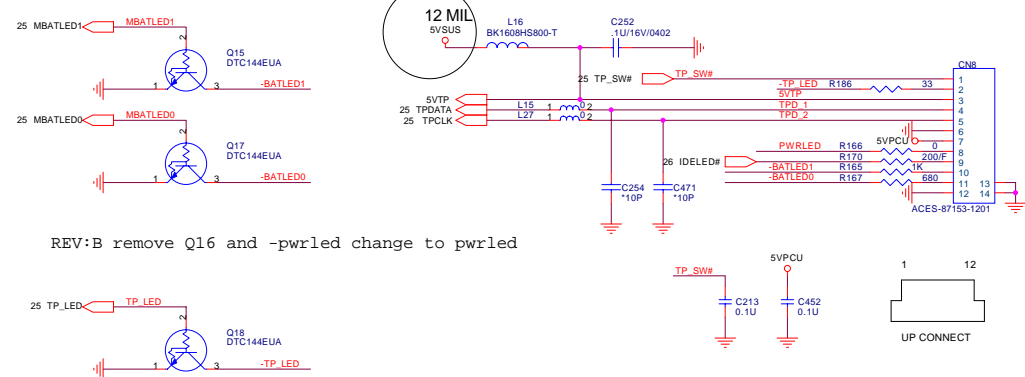


HDD CONNECTOR

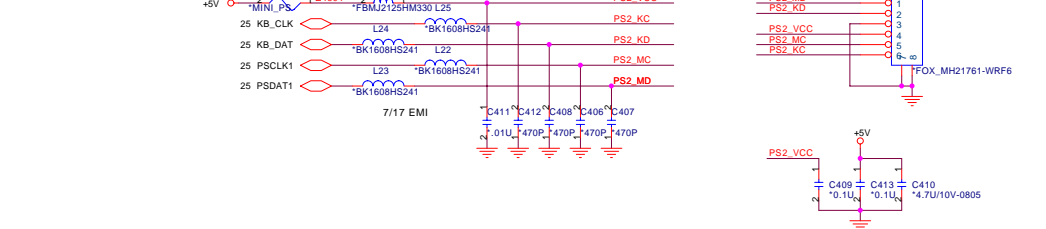


REV: B ADD

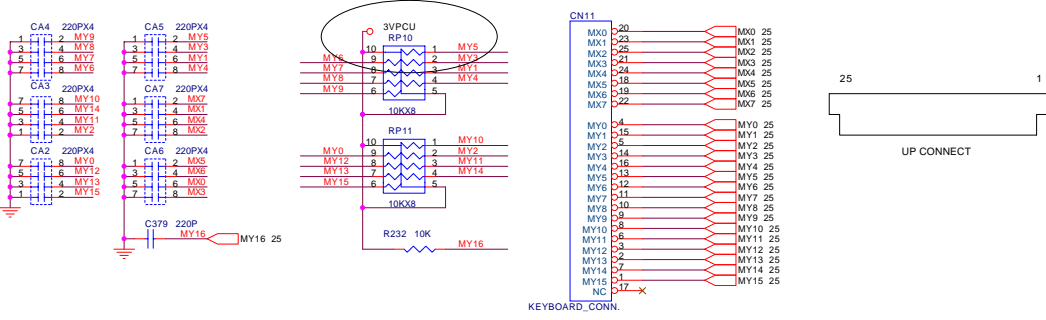
TOUCH PAD CONNECTOR



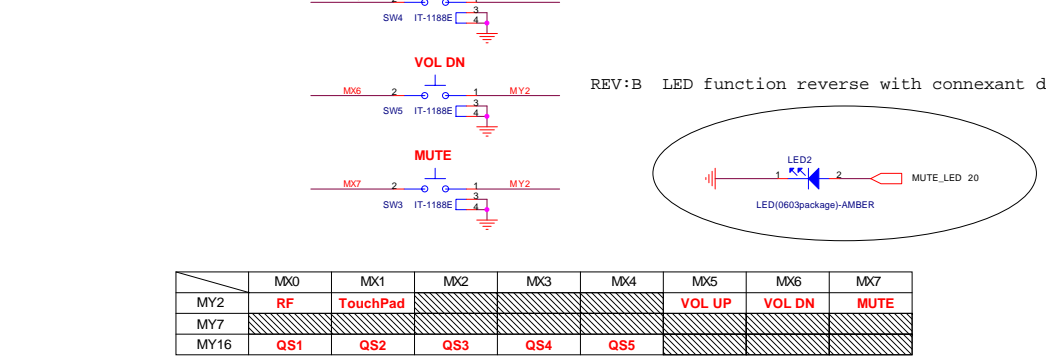
PS/2 PORT



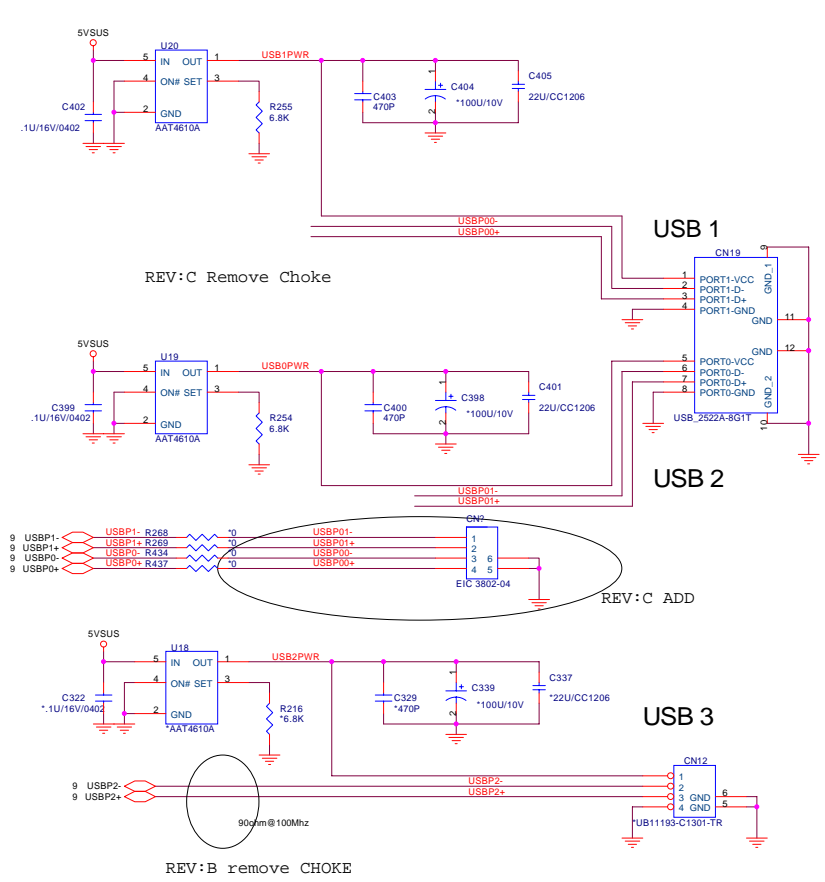
KEYBOARD CONNECTOR



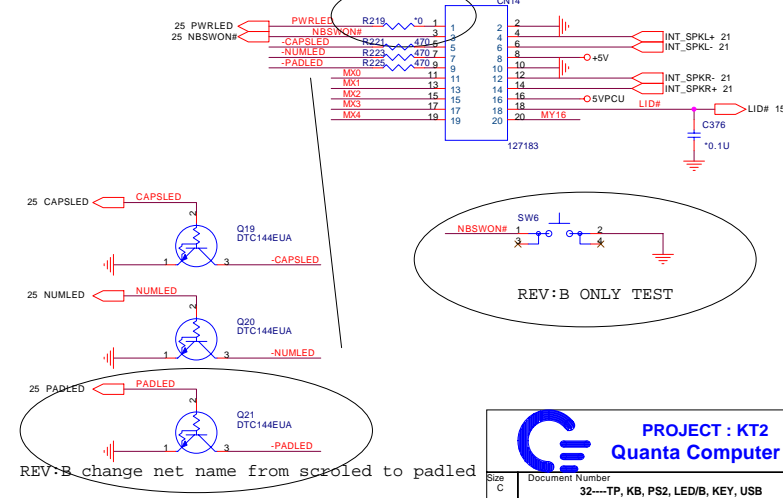
VOLUME CONTROL

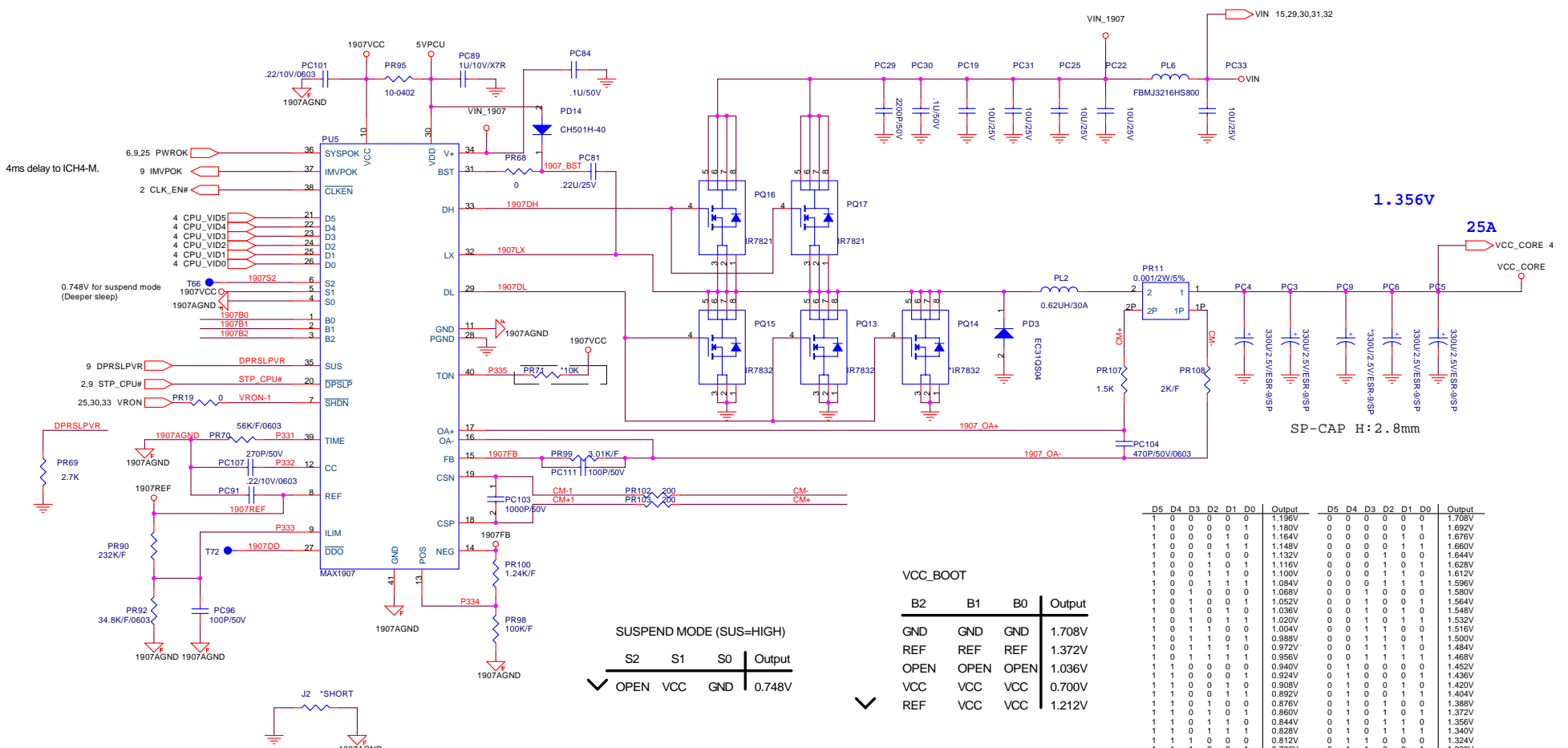


USB PORT



LED BOARD CON





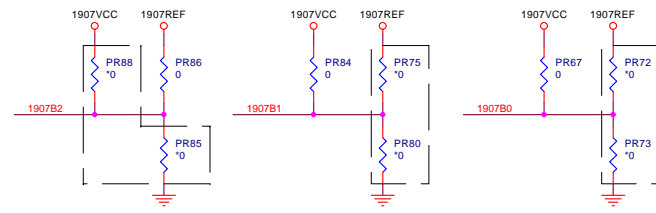
SUSPEND MODE (SUS=HIGH)

S2	S1	S0	Output
✓ OPEN	VCC	GND	0.748V

VCC_BOOT

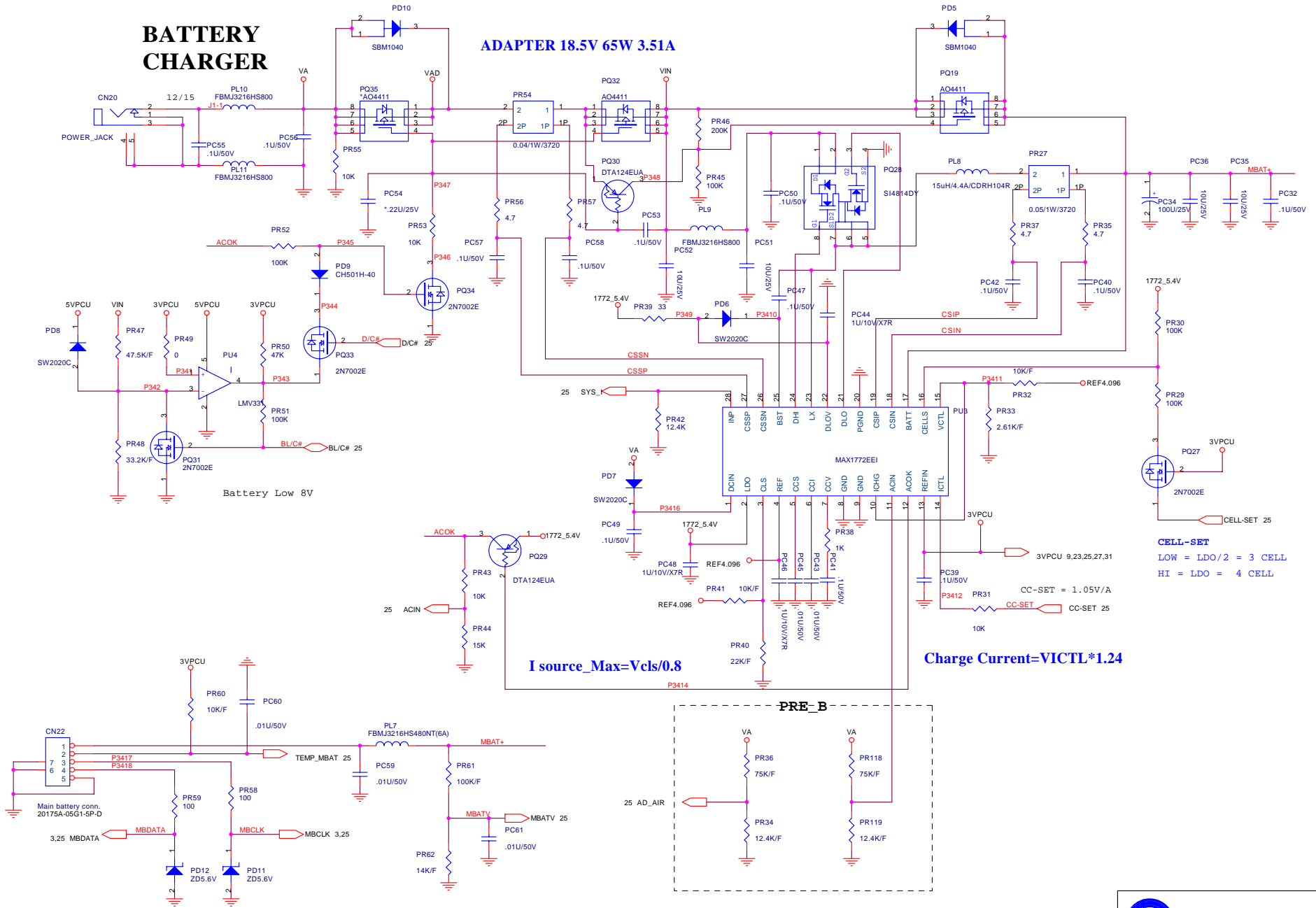
B2	B1	B0	Output
GND	GND	GND	1.708V
REF	REF	REF	1.372V
OPEN	OPEN	OPEN	1.036V
VCC	VCC	VCC	0.700V
REF	VCC	VCC	1.212V

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	0	1	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	1	0	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



BATTERY CHARGER

ADAPTER 18.5V 65W 3.51A



Battery Low 8V

$$I_{source_Max} = V_{cls} / 0.8$$

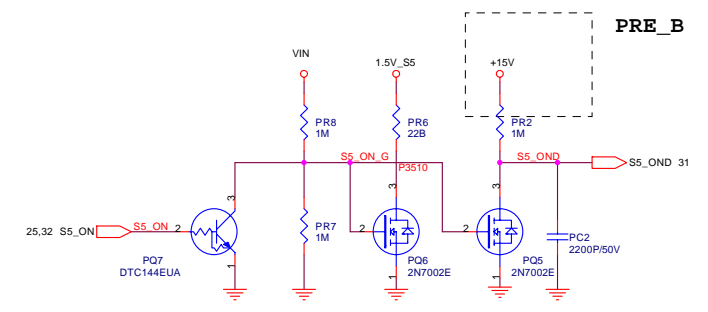
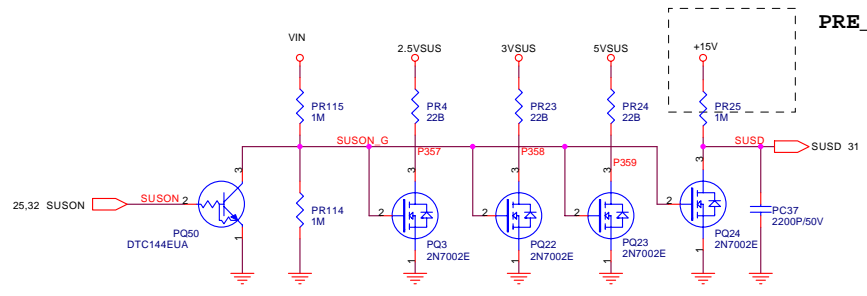
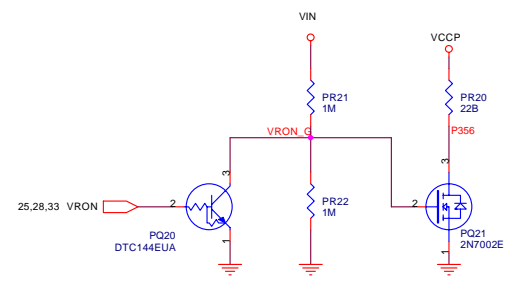
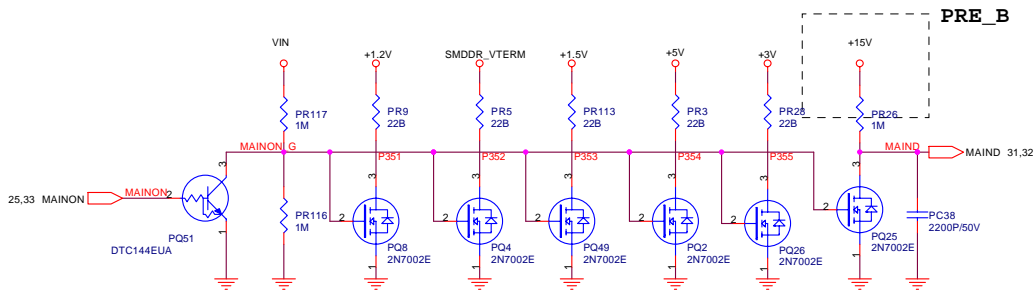
$$\text{Charge Current} = VICTL * 1.24$$

CELL-SET
 LOW = LDO / 2 = 3 CELL
 HI = LDO = 4 CELL

CC-SET = 1.05V/A

PROJECT : KT2
Quanta Computer Inc.

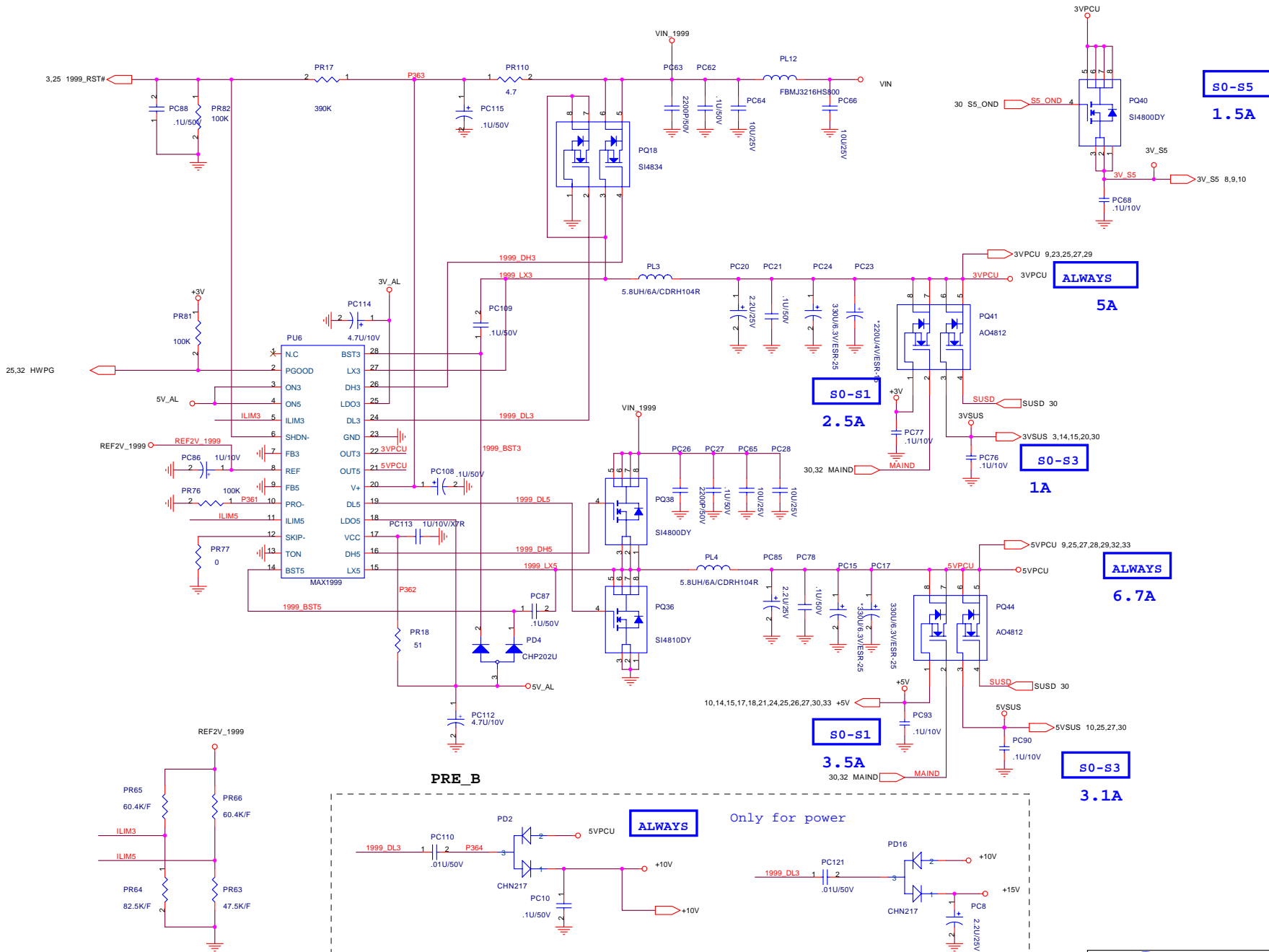
Size: Custom Client Number: 29---CHARGER MAX1772 Rev: 1A
 Date: Friday, May 14, 2004 Sheet: 29 of 33



PROJECT : KT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	30--DISCHARGE	1A

Date: Friday, May 14, 2004 Sheet 30 of 33



S0-S5
1.5A

ALWAYS
5A

S0-S1
2.5A

S0-S3
1A

ALWAYS
6.7A

S0-S1
3.5A

S0-S3
3.1A

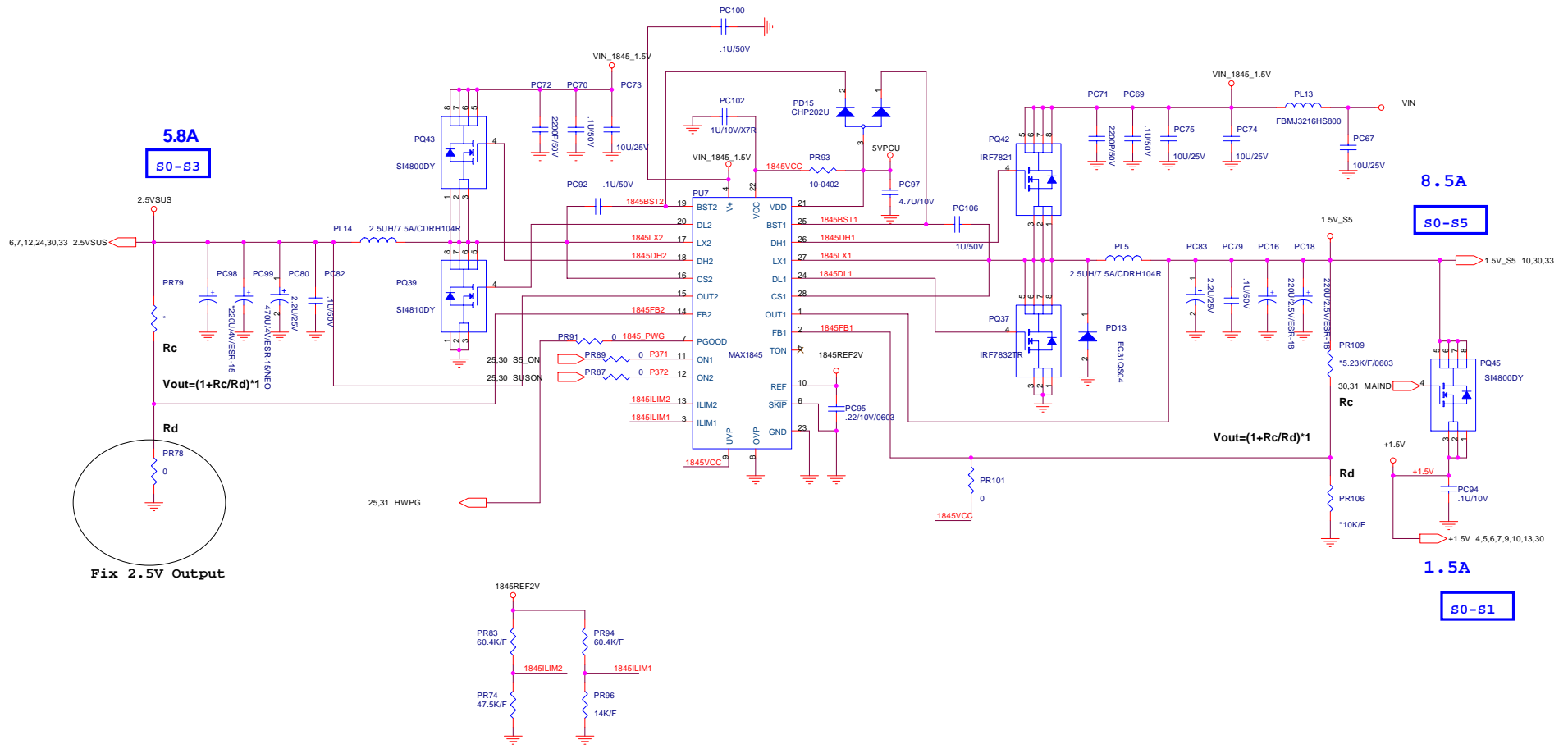
ALWAYS

Only for power



PROJECT : KT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom	31--MAX1999(3V/5V)	1A
Date:	Friday, May 14, 2004	Sheet 31 of 33



5.8A

S0-S3

8.5A

S0-S5

1.5A

S0-S1

$$V_{out} = (1 + R_c/R_d) * 1$$

$$V_{out} = (1 + R_c/R_d) * 1$$

Fix 2.5V Output

