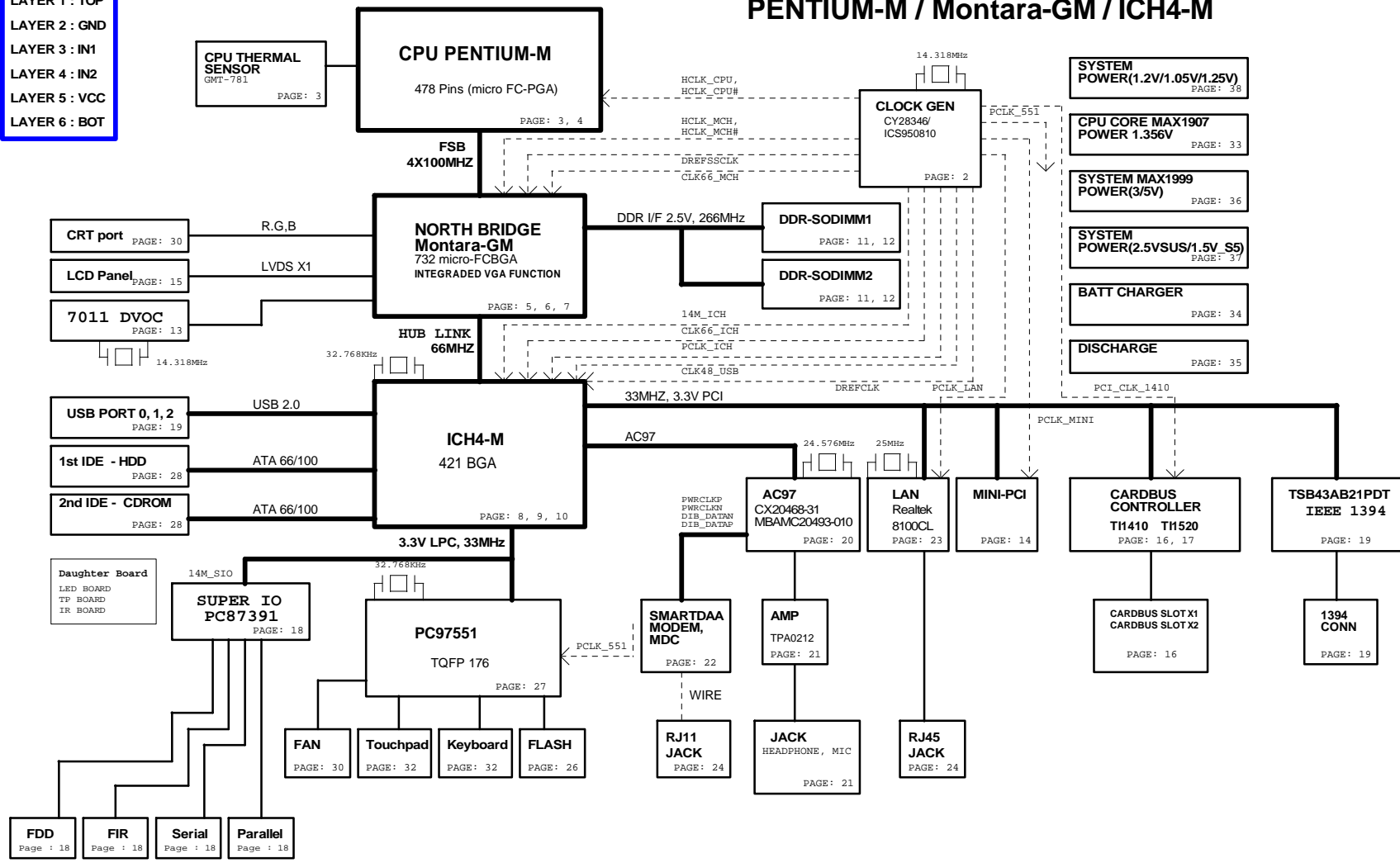


KT2 BLOCK DIAGRAM

PENTIUM-M / Montara-GM / ICH4-M

PCB STACK UP

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



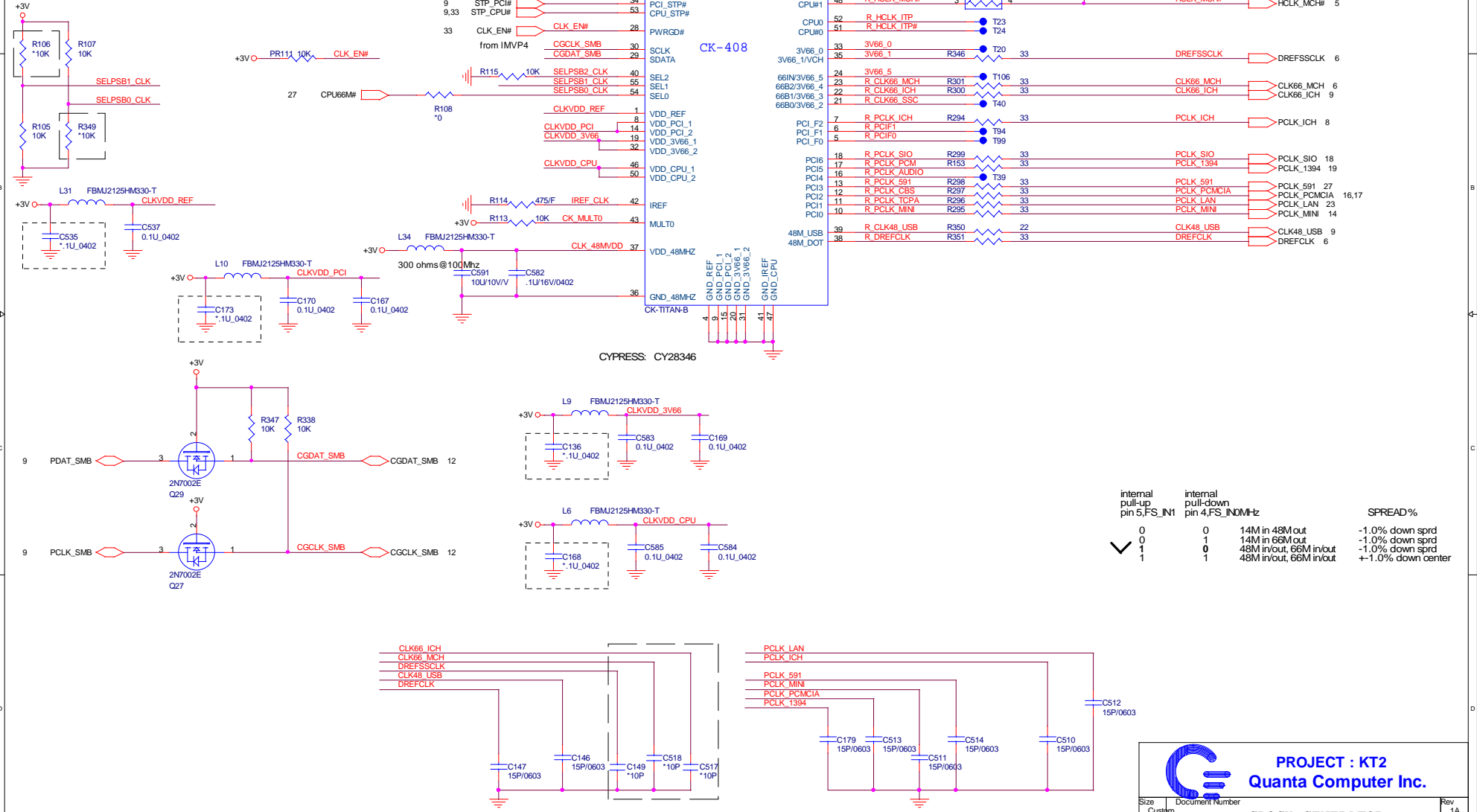
REQ0#, GNT0# : PCMCIA
 REQ1#, GNT1# : MINIPCI
 REQ2#, GNT2# : LAN
 REQ3#, GNT3# : IEEE1394
 REQ4#, GNT4# : N/A

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

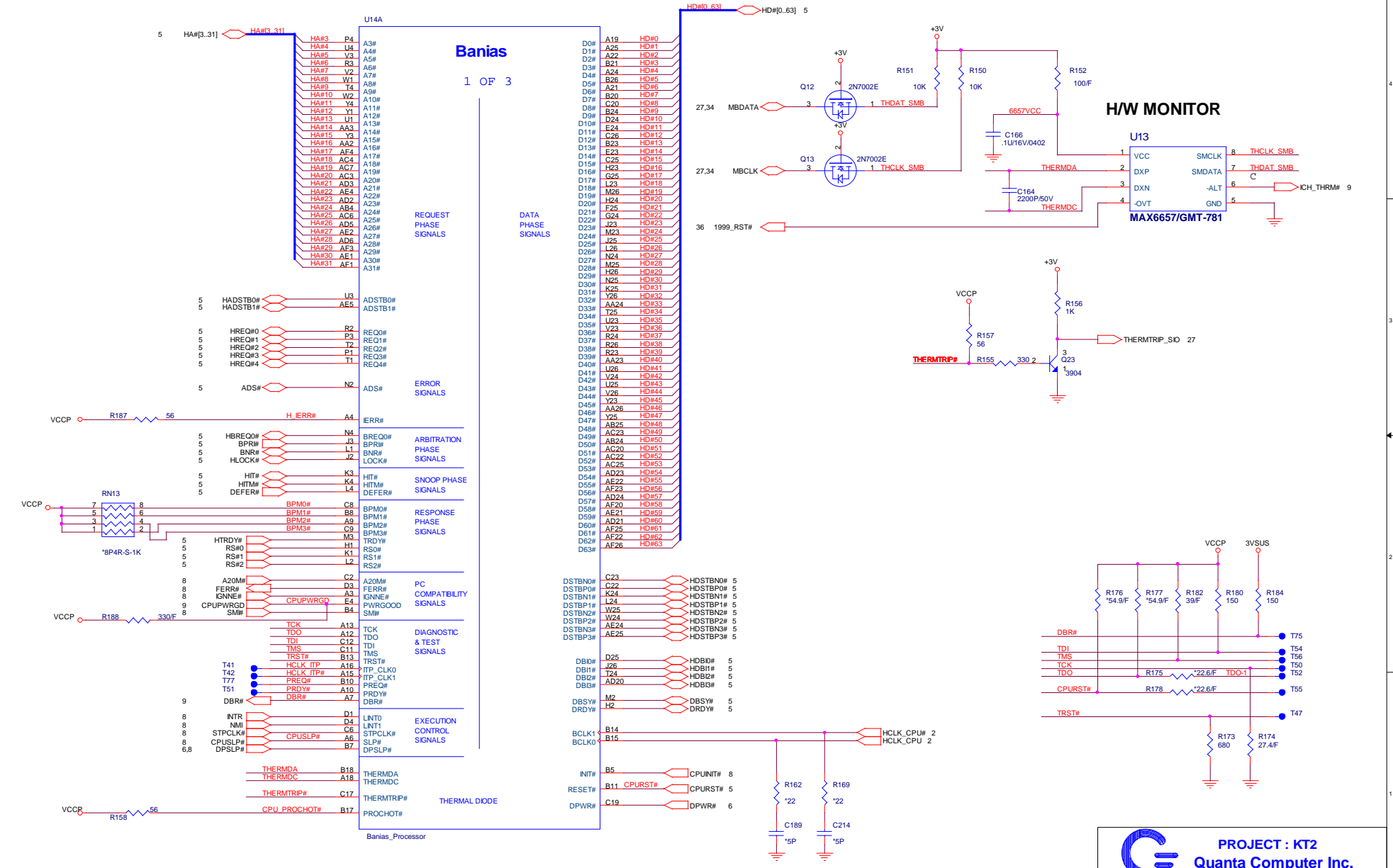
S2	S1	S0	CPU	3V66[0..4]	3V66_5/66IN
1	0	0	66	66IN	66 Input
1	0	1	100	66IN	66 Input
1	1	0	200	66IN	66 Input
1	1	1	133	66IN	66 Input
0	0	0	66	66	66 Input
0	0	1	100	66	66 Input
0	1	0	200	66	66 Input
0	1	1	133	66	66 Input



internal pull-up pin 5,FS_IN1	internal pull-down pin 4,FS_IN0MHz	SPREAD%
0	0	14M in 48M out -1.0% down sprd
0	1	14M in 66M out -1.0% down sprd
1	0	48M in/out, 66M in/out -1.0% down sprd
1	1	48M in/out, 66M in/out +1.0% down center

PROJECT : KT2
Quanta Computer Inc.

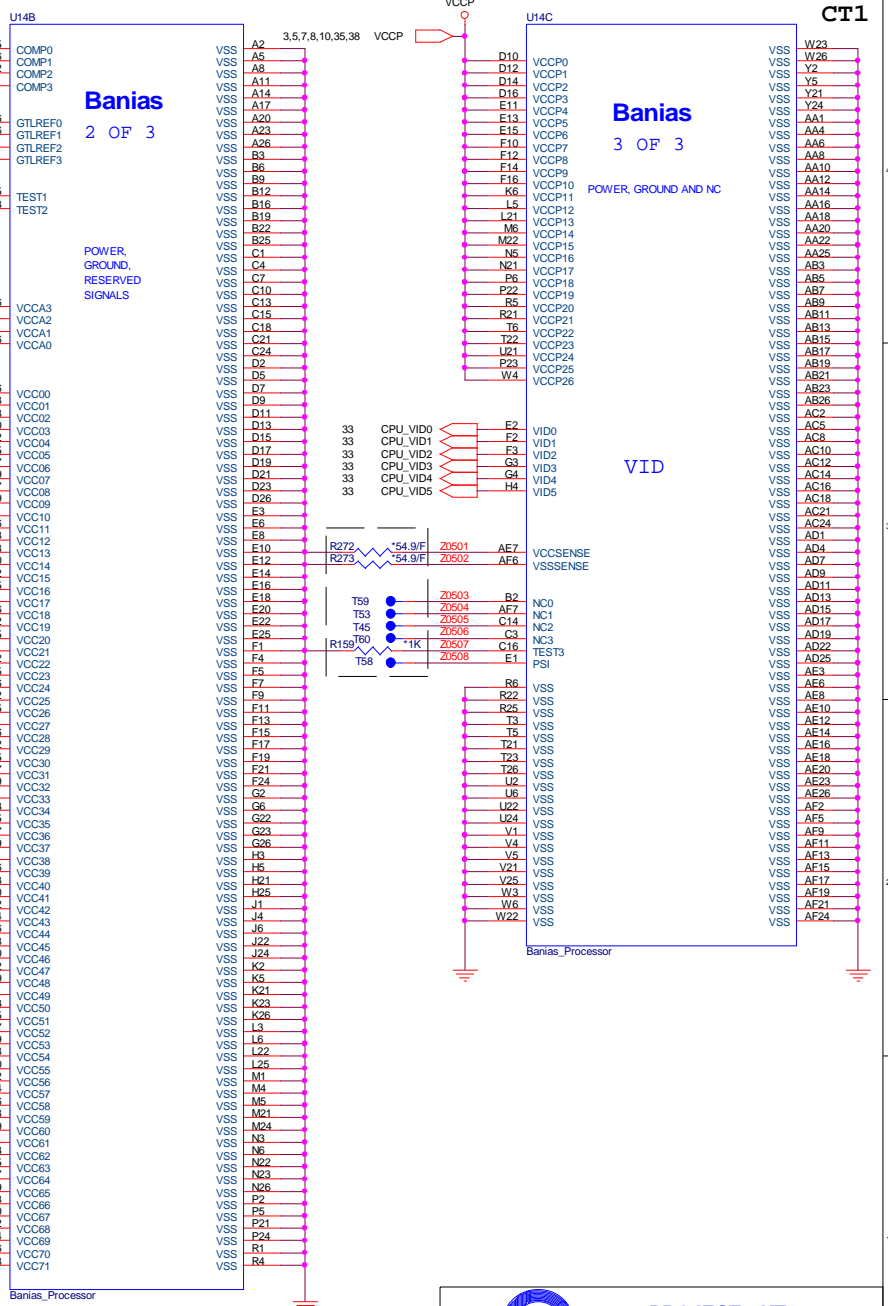
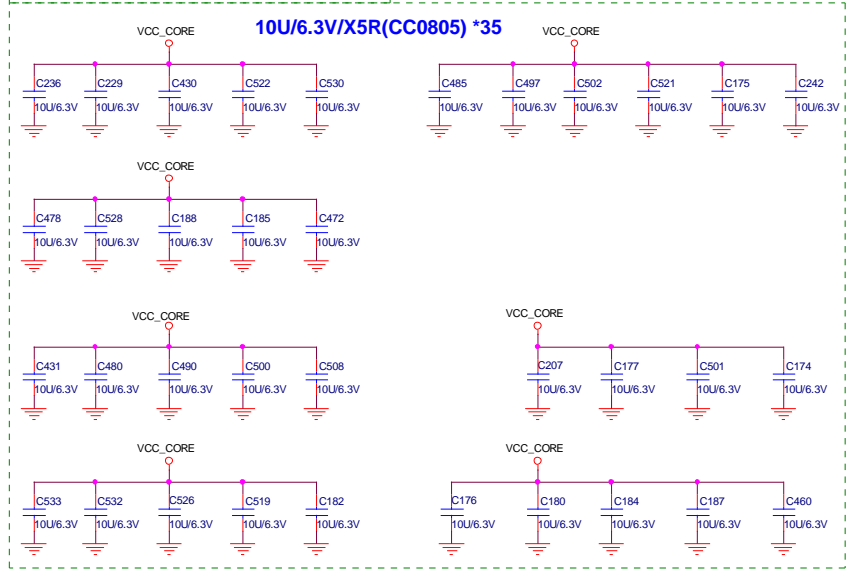
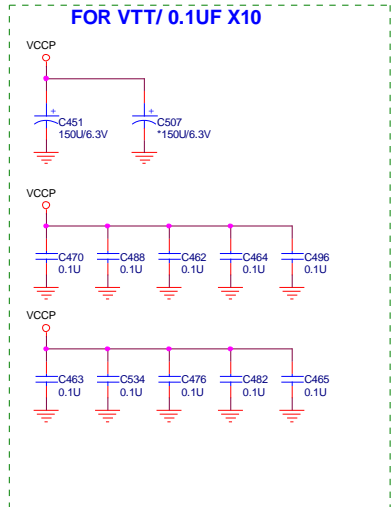
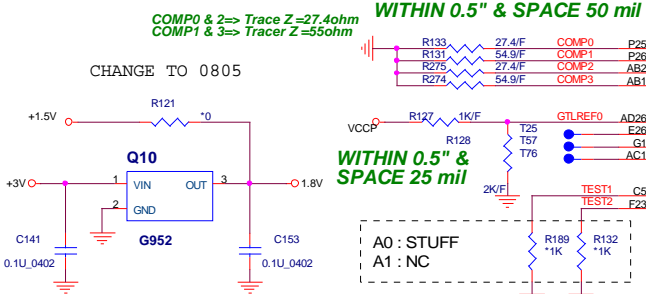
Size Custom	Document Number	Rev 1A
CLOCK GENERATOR		
Date: Wednesday, April 07, 2004	Sheet 2 of 38	




BANIAS CPU 1 of 2 (HOST BUS)

PROJECT : KT2
Quanta Computer Inc.

Size	Document Number	Rev
Custom		1A
Date:	Wednesday, April 07, 2004	Sheet 3 of 38

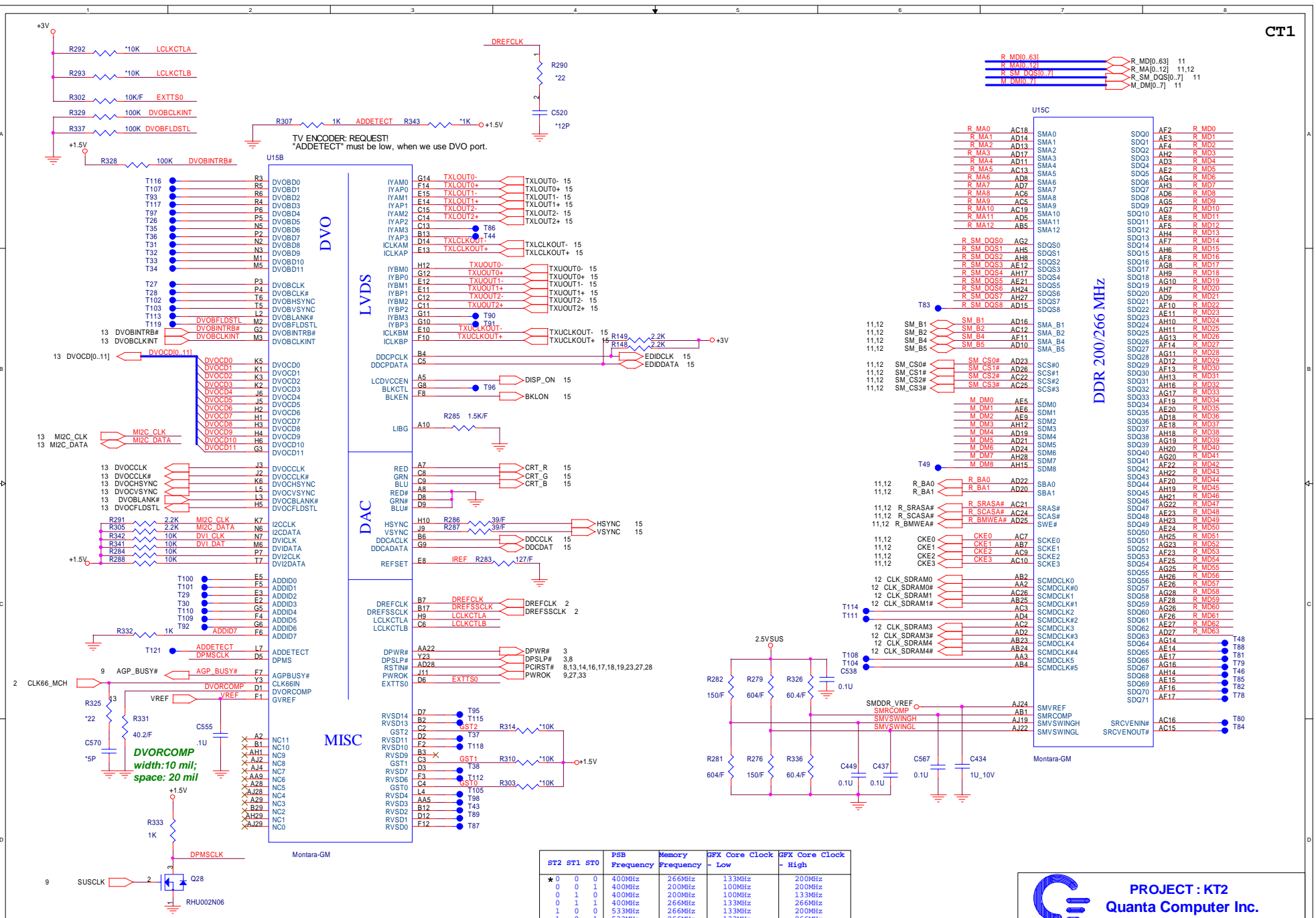


BANIAS CPU 2 of 2 (PWR)

 PROJECT : KT2
Quanta Computer Inc.

Size B Document Number
Date: Wednesday, April 07, 2004 Sheet 4 of 38

CPU POWER Rev 1A



MONTARA-GME/ 855GM+ 2 of 3 (DVO & DDR)

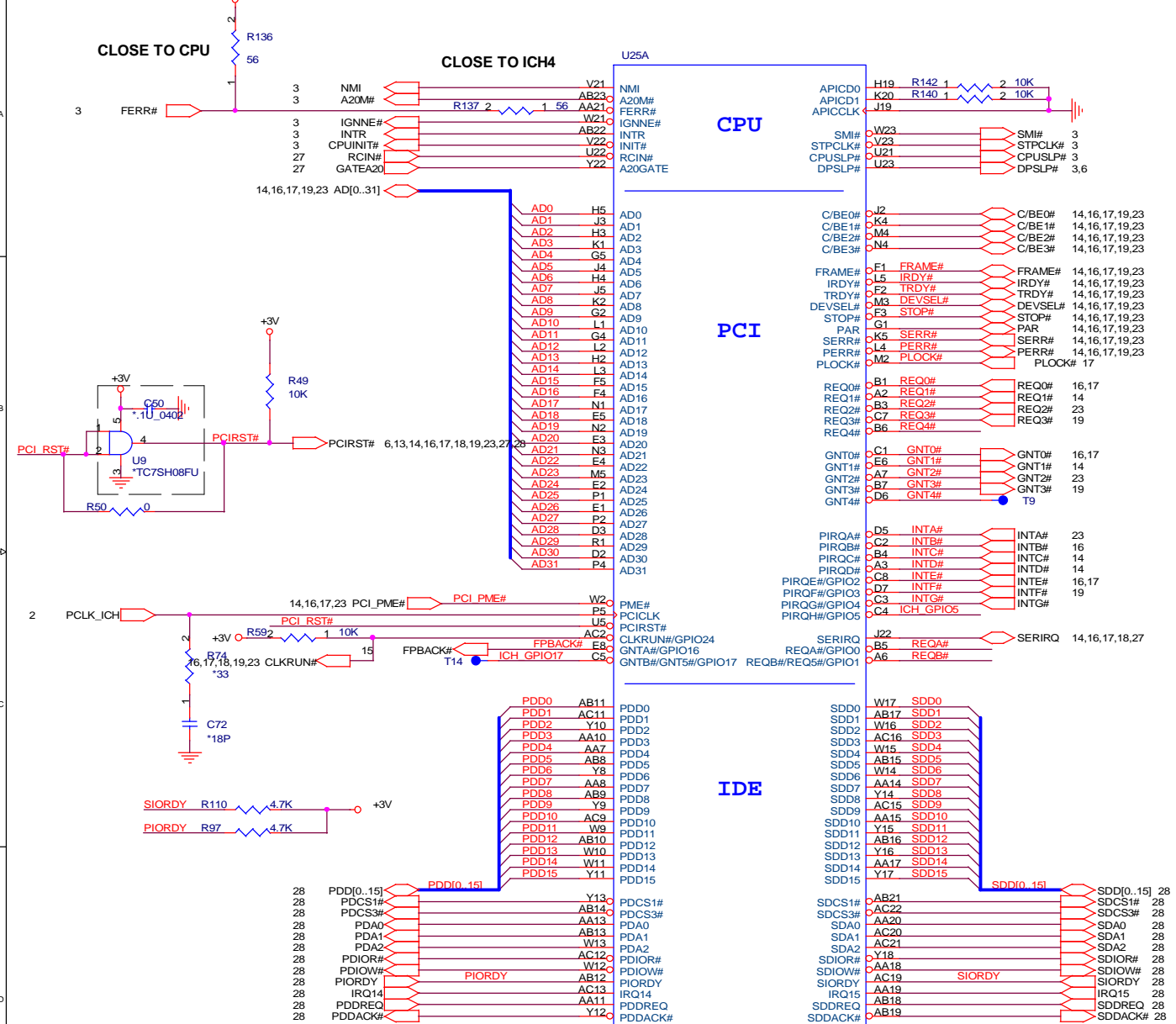
ST2	ST1	ST0	PSB Frequency	Memory Frequency	GFX Core Clock - Low	GFX Core Clock - High
* 0	0	0	400MHz	266MHz	133MHz	200MHz
0	0	1	400MHz	200MHz	100MHz	200MHz
0	1	0	400MHz	200MHz	100MHz	133MHz
0	1	1	400MHz	266MHz	133MHz	266MHz
1	0	0	533MHz	266MHz	133MHz	266MHz
1	0	1	533MHz	266MHz	133MHz	266MHz
1	1	0	400MHz	333MHz	166MHz	266MHz
1	1	1	400MHz	333MHz	166MHz	250MHz

Quantum Computer Inc.
Project : KT2
MontaraGM_B

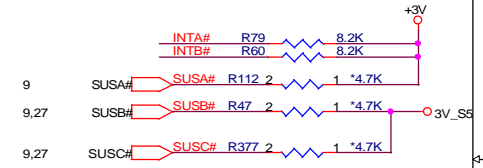
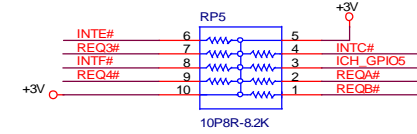
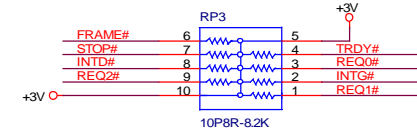
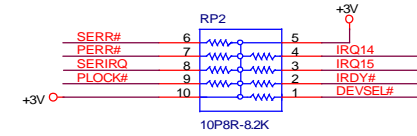
Date: Wednesday, April 07, 2004
 Sheet 8 of 38
 Rev 1A

ICH4-M 1/3 (CPU, PCI, IDE)

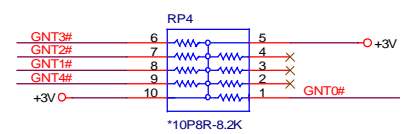
CT1



PCI Bus pull high resistor

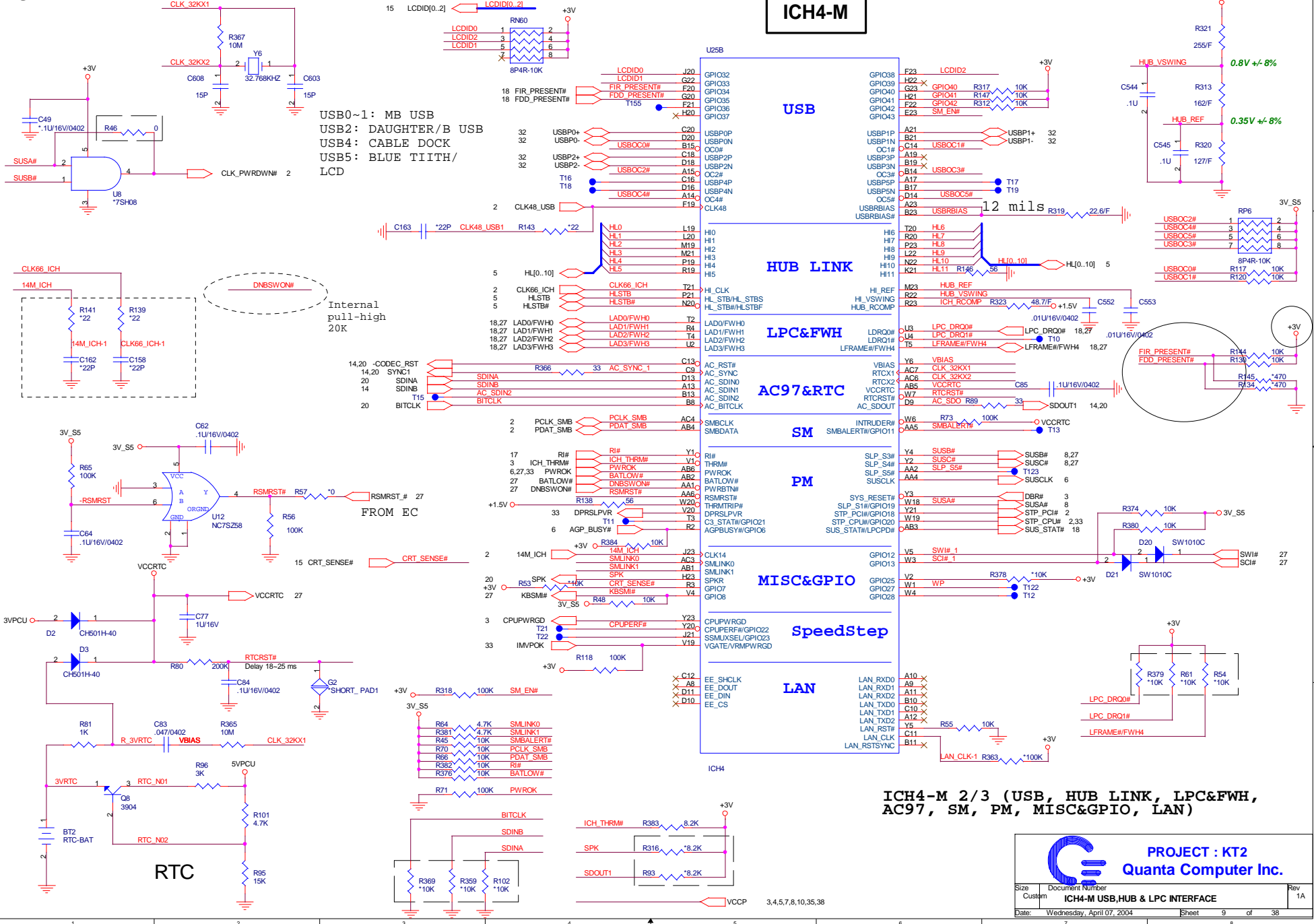


PME CIRCUIT



PROJECT : KT2
Quanta Computer Inc.

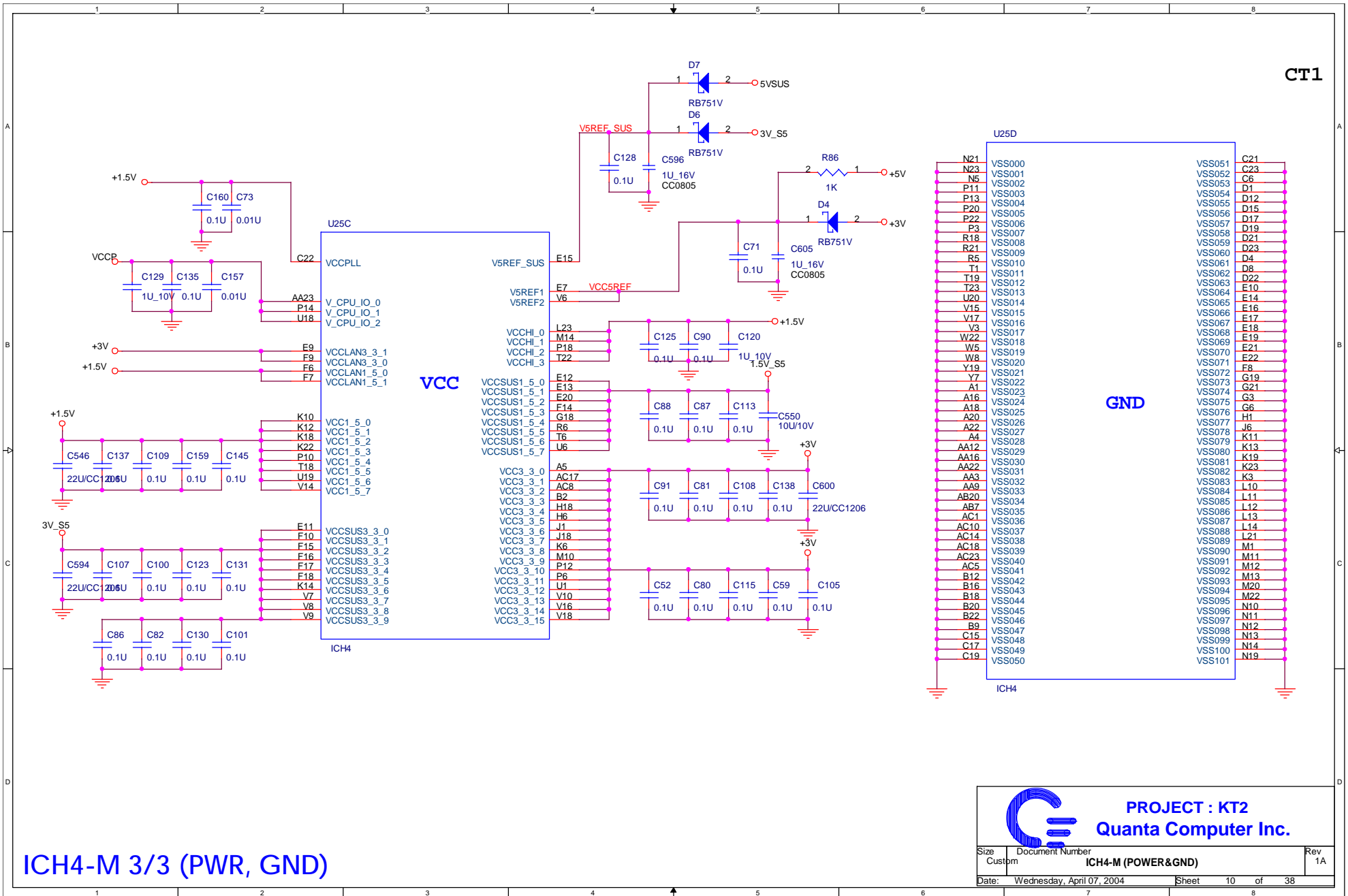
Size	Document Number	Rev
Custom	ICH4-M (CPU,PCI,IDE)	1A
Date:	Wednesday, April 07, 2004	Sheet 8 of 38



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

PROJECT : KT2
Quanta Computer Inc.

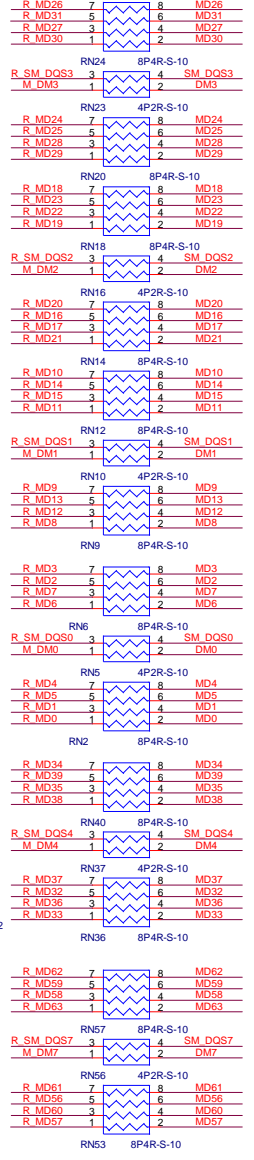
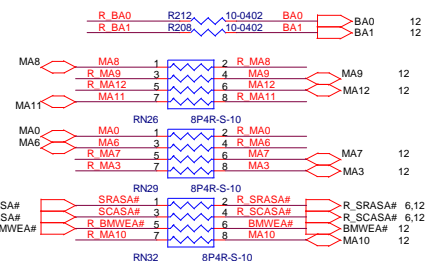
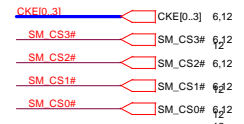
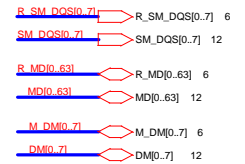
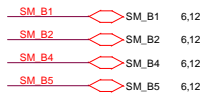
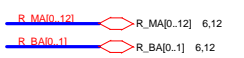
Size: Custom Document Number: ICH4-M USB,HUB & LPC INTERFACE Rev: 1A
 Date: Wednesday, April 07, 2004 Sheet: 9 of 38



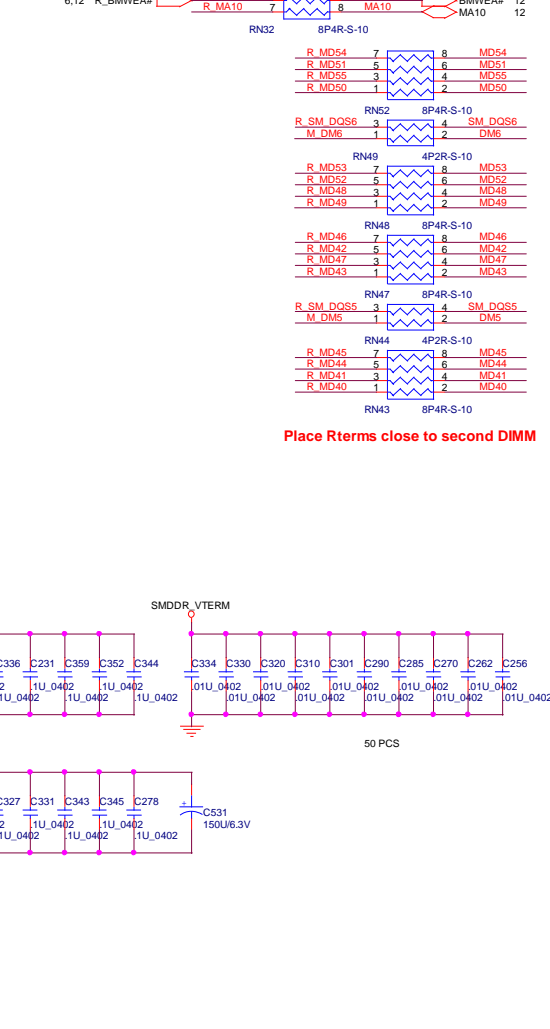
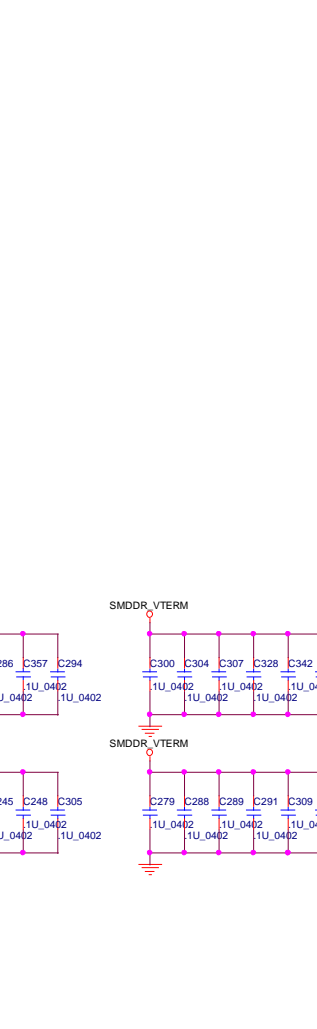
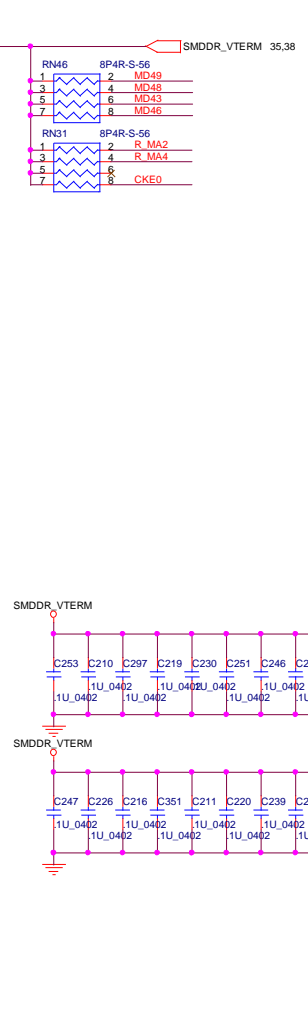
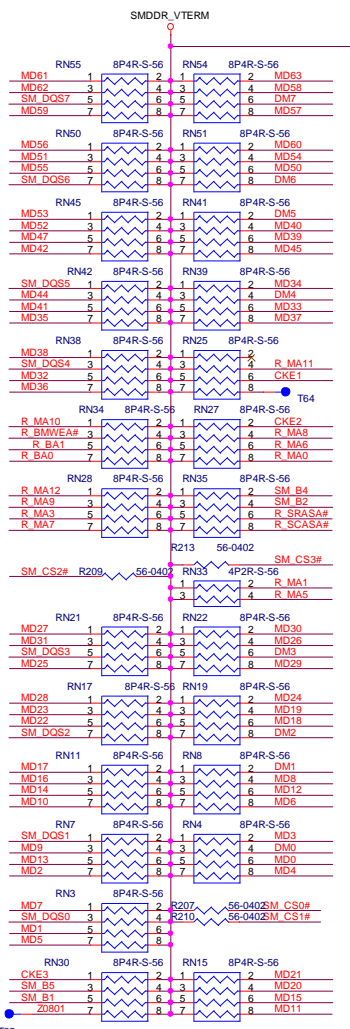
ICH4-M 3/3 (PWR, GND)

PROJECT : KT2
Quanta Computer Inc.

Size	Document Number	Rev	
Custom	ICH4-M (POWER&GND)	1A	
Date: Wednesday, April 07, 2004		Sheet	10 of 38



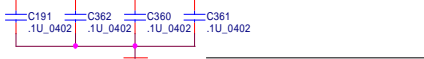
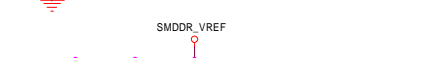
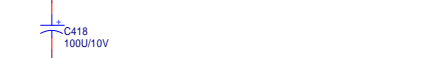
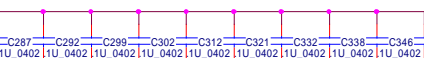
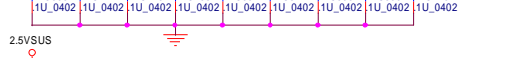
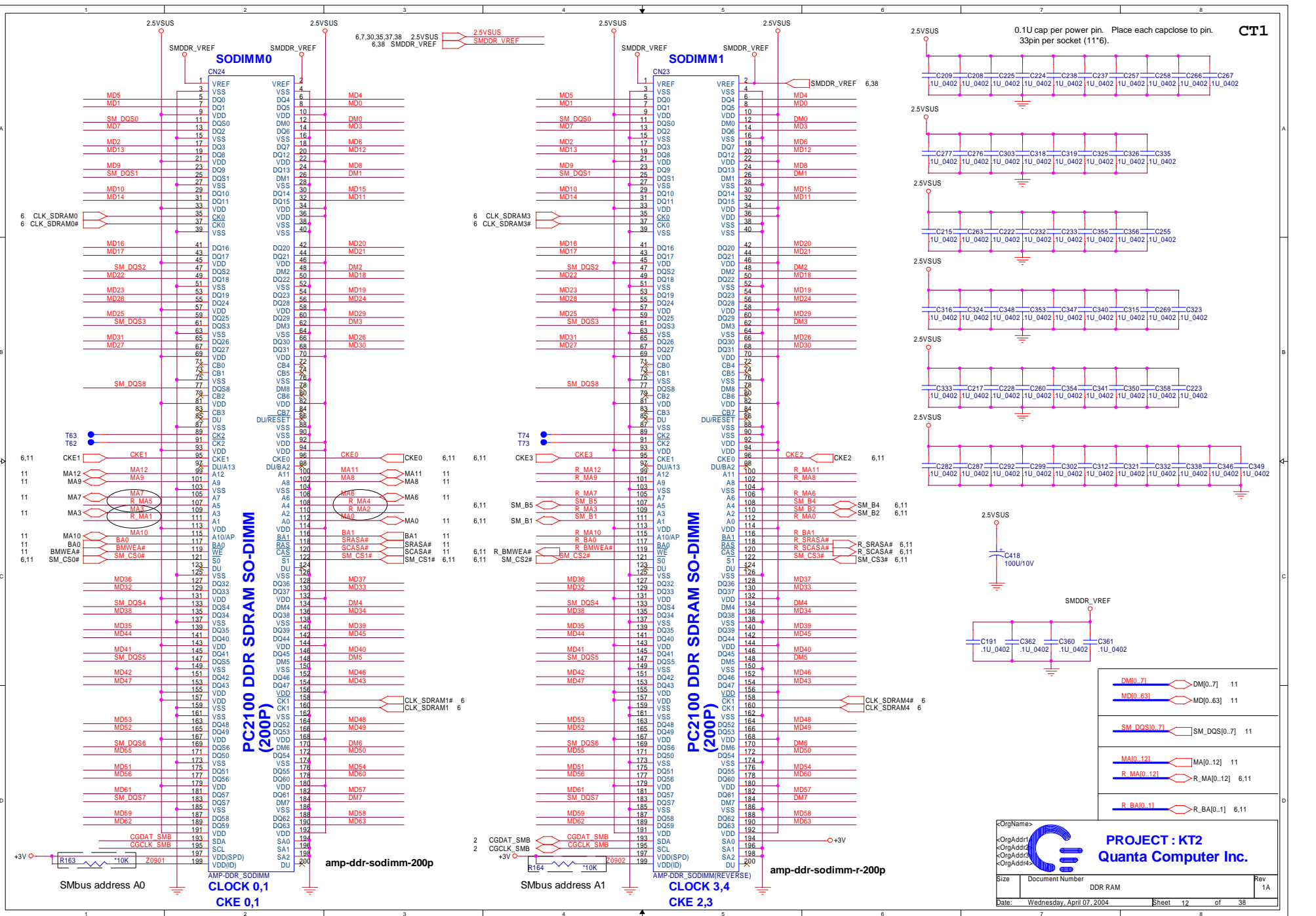
USE 8P4R-0402 package



Place Terms close to second DIMM

PROJECT : KT2 Quanta Computer Inc. Size Customer Document Number DDR I/F Rev 1A Date: Wednesday, April 07, 2004 Sheet 11 of 38

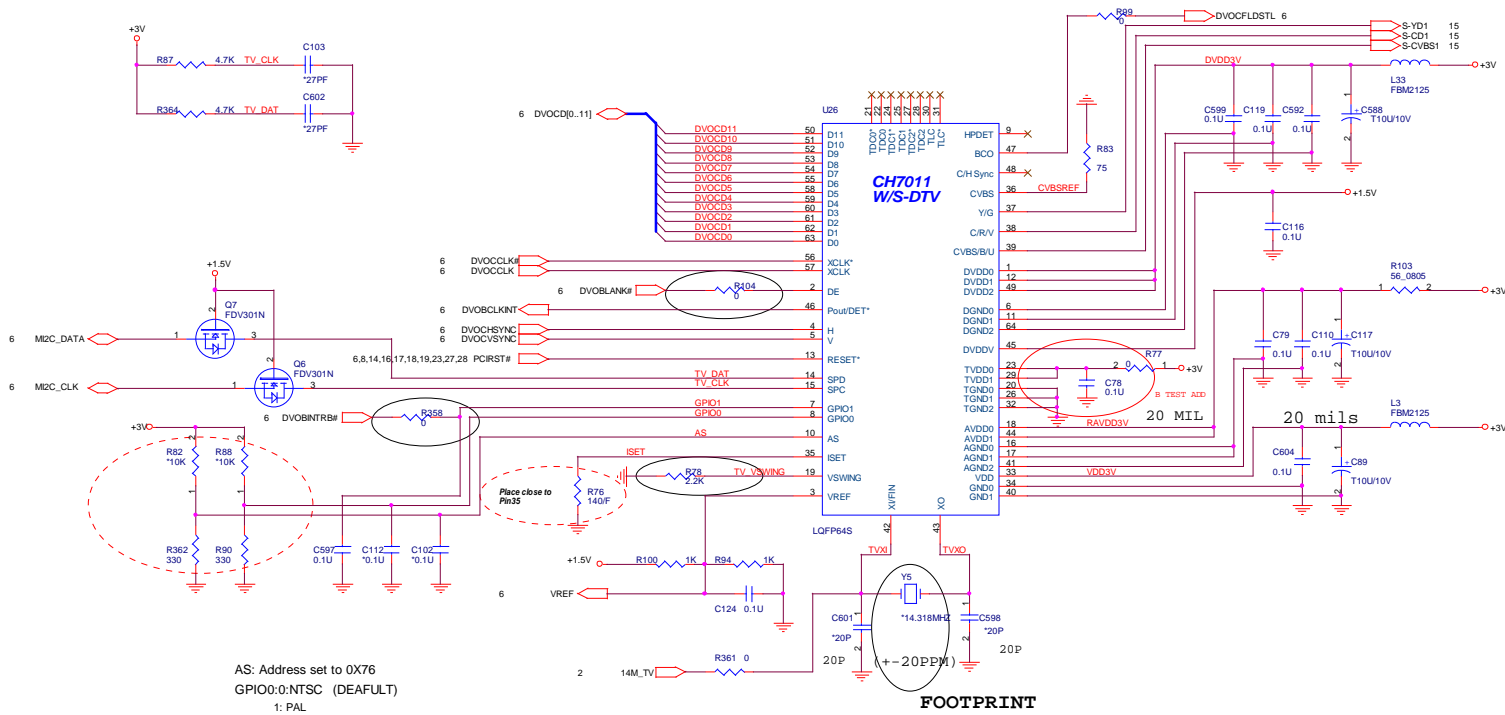
0.1u cap per power pin. Place each cap close to pin. 33pin per socket (11*6).



DM0_71	DM[0..7]	11
MD0_631	MD[0..63]	11
SM_DQS0_71	SM_DQS[0..7]	11
MA0_121	MA[0..12]	11
R_MA0_121	R_MA[0..12]	6,11
R_BA0_11	R_BA[0..1]	6,11

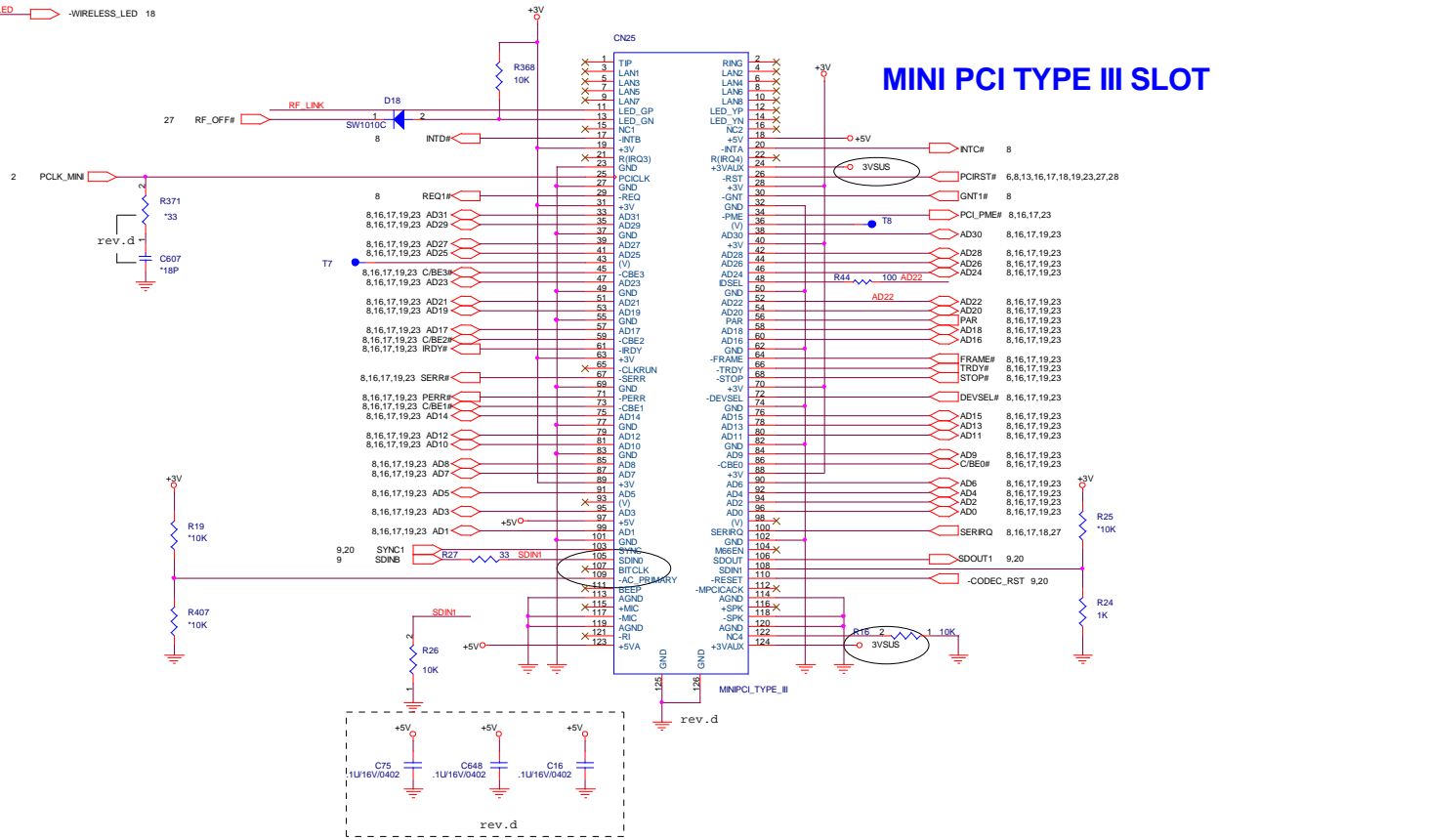
PROJECT : KT2
Quanta Computer Inc.

Size	Document Number	DDR RAM	Rev
			1A
Date:	Wednesday, April 07, 2004	Sheet 12	of 38

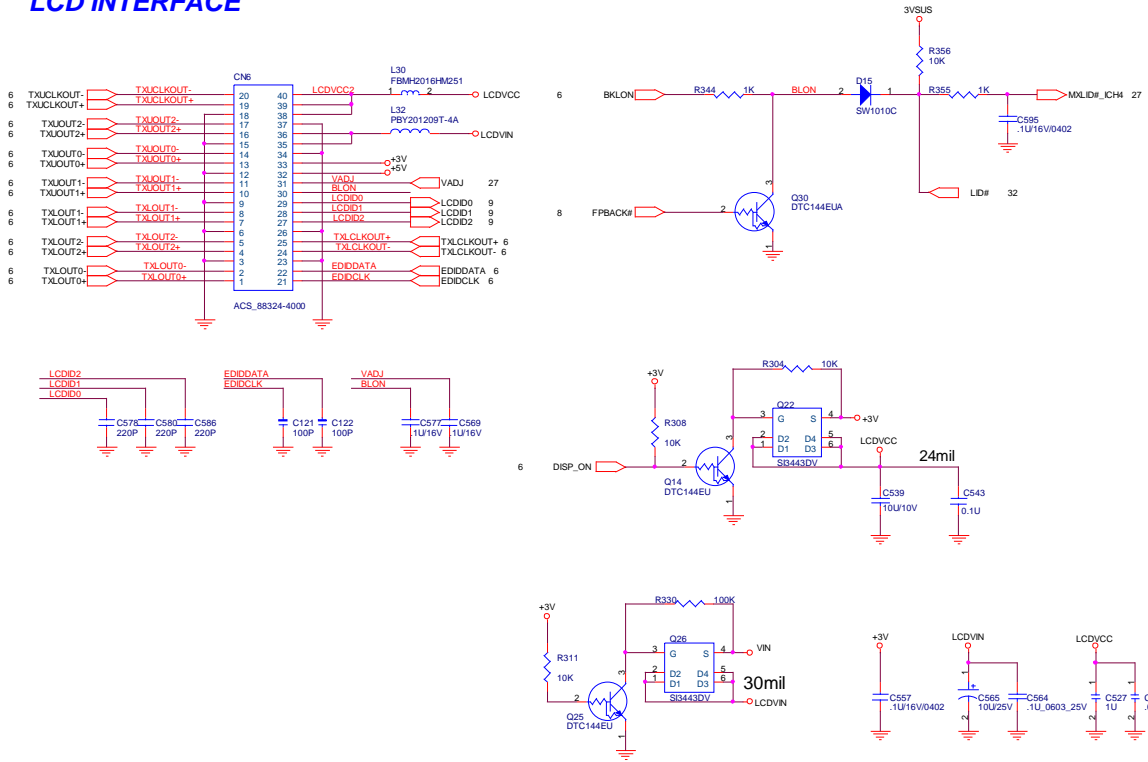


AS: Address set to 0X76
 GPIO0:0:NTSC (DEAFULT)
 1: PAL

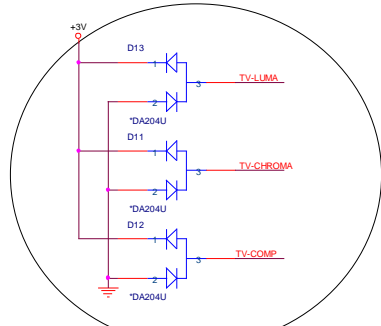
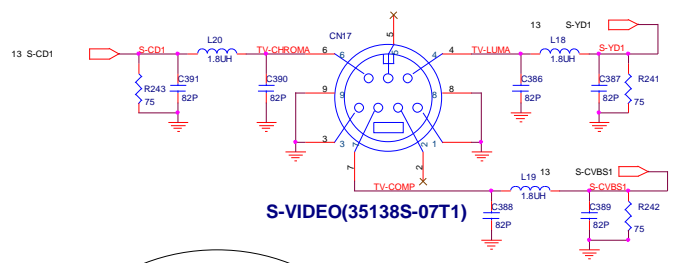
FOOTPRINT



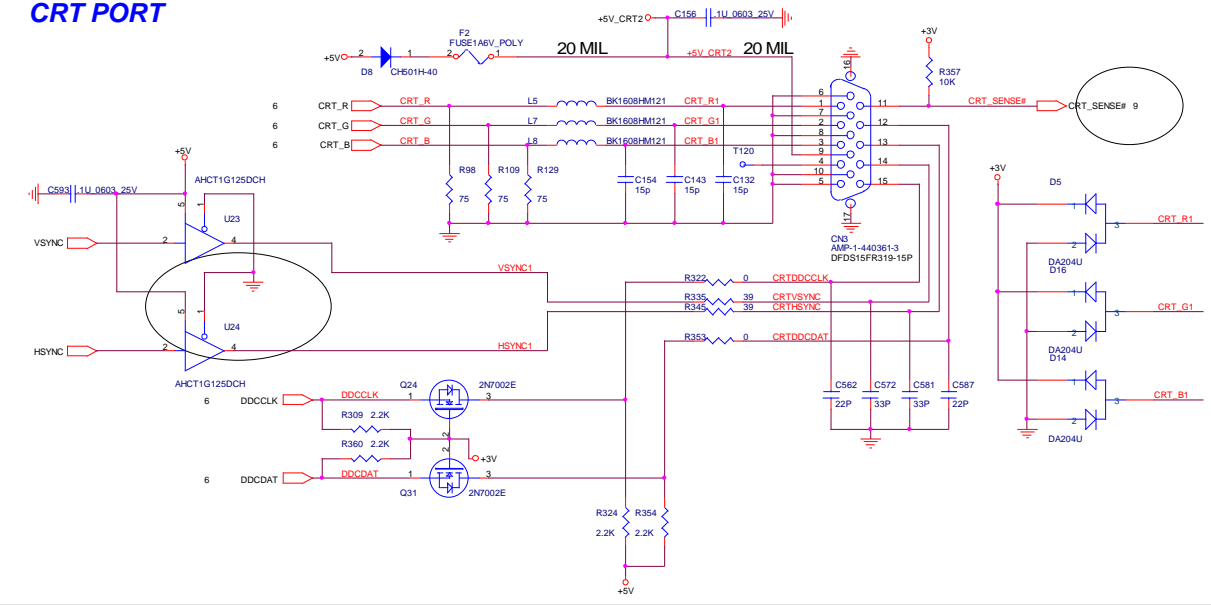
LCD INTERFACE



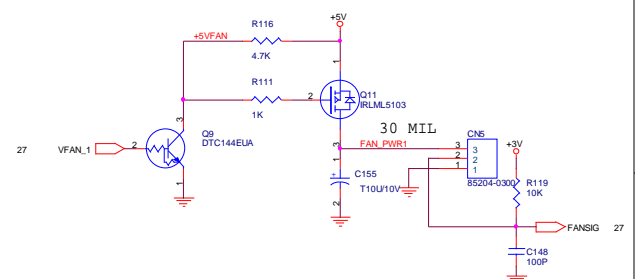
S-VIDEO CONNECTOR



CRT PORT



FAN CONTROL

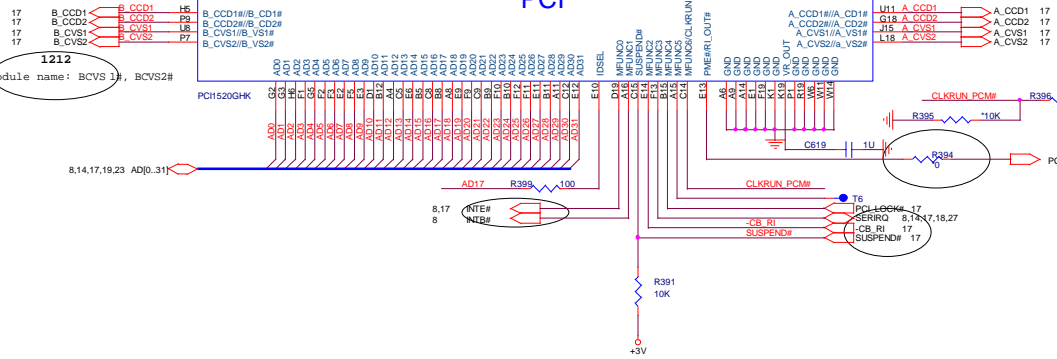
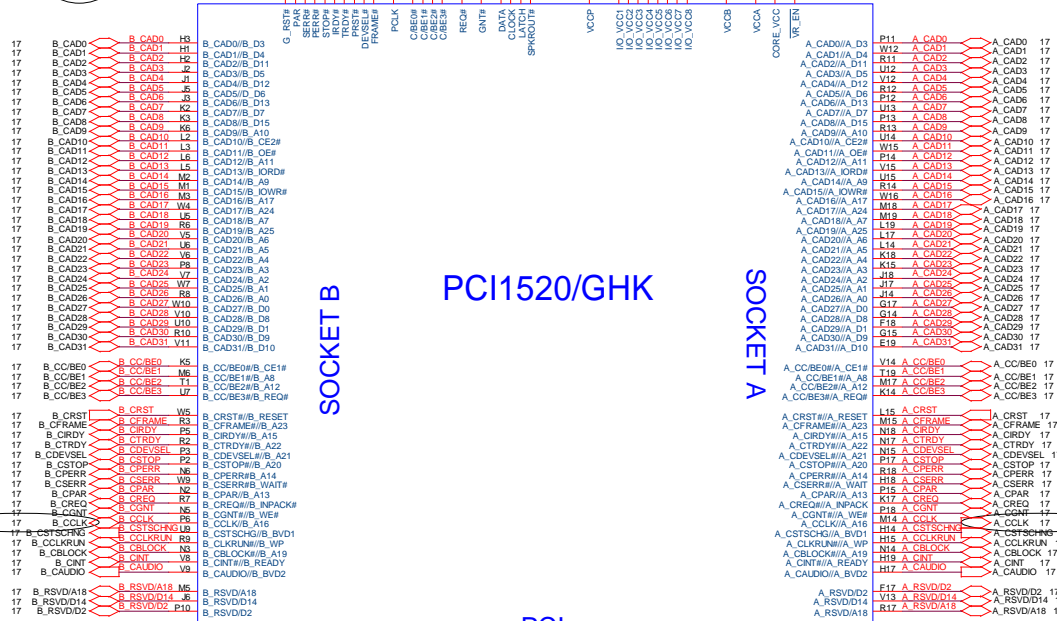


2.17 PCLK_PCMCIA \leftrightarrow PCLK_PCMCIA \leftrightarrow R997 \leftrightarrow PCLK_1520

R9022 FOR 1520 INSTALL
PLACEMENT CLOSE TO 1410

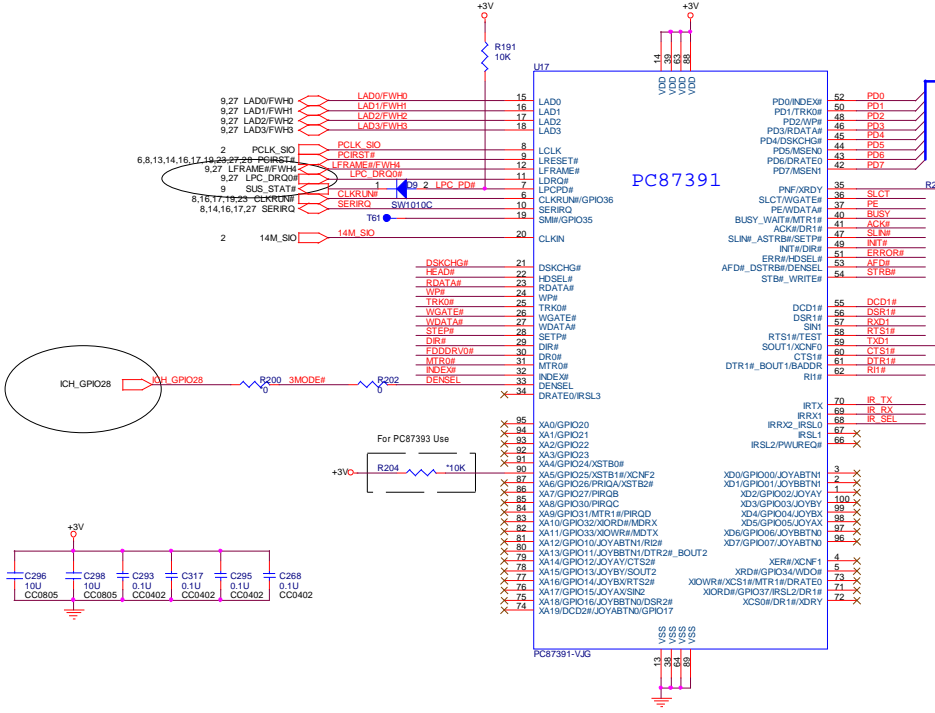
- 8.17 GNT0#
- 8.17 REQ0#
- 8.14,17,19,23 CBE2#
- 8.14,17,19,23 CBE2#
- 8.14,17,19,23 CBE1#
- 8.14,17,19,23 CBE0#
- 8.14,17,19,23 FRAME#
- 8.14,17,19,23 DEVSSEL#
- 6.8,13,14,17,18,19,23,27,28 PCIRST#
- 8.14,17,19,23 TRDY#
- 8.14,17,19,23 RDY#
- 8.14,17,19,23 STOP#
- 8.14,17,19,23 PERR#
- 8.14,17,19,23 SERR#
- 8.14,17,19,23 PAR#
- 6.8,13,14,17,18,19,23,27,28 PCIRST#

- TPSDATA 17
- TPSCLOCK 17
- TPSLATCH 17
- PCMSPK 17,20
- +3V
- B_VCC
- A_VCC
- Directly connect VR_EN# to GND (TFAE, 200mA max)
- VCCP
- IO_VCC1
- IO_VCC2
- IO_VCC3
- IO_VCC4
- IO_VCC5
- IO_VCC6
- IO_VCC7
- IO_VCC8
- VCCB
- VCCA
- CORE_VCC
- VR_EN

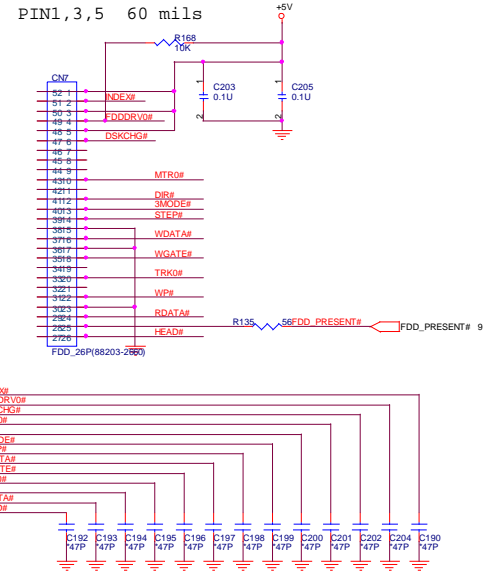


Correct module name: BCVS1, BCVS2#

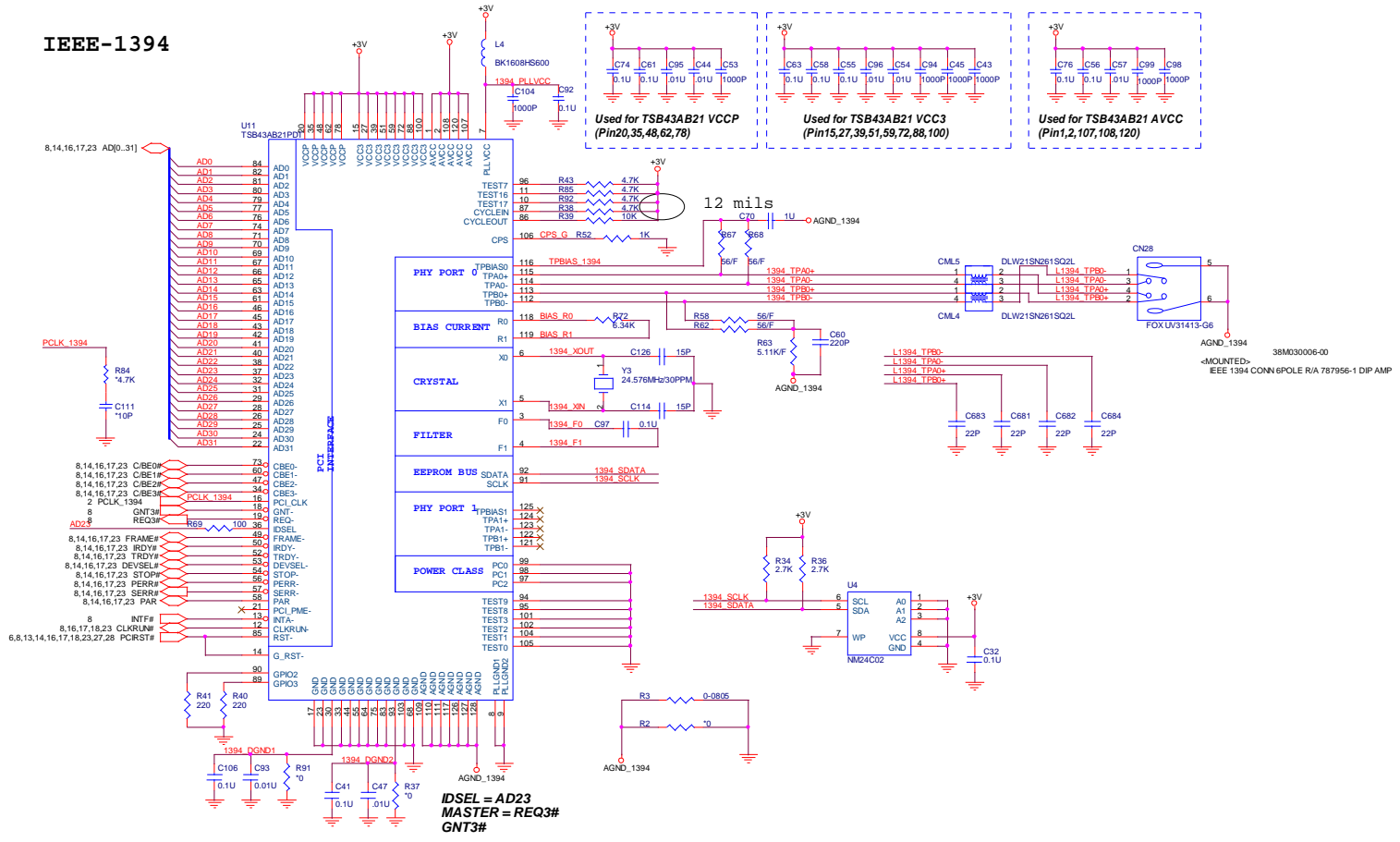
LPC SUPER I/O

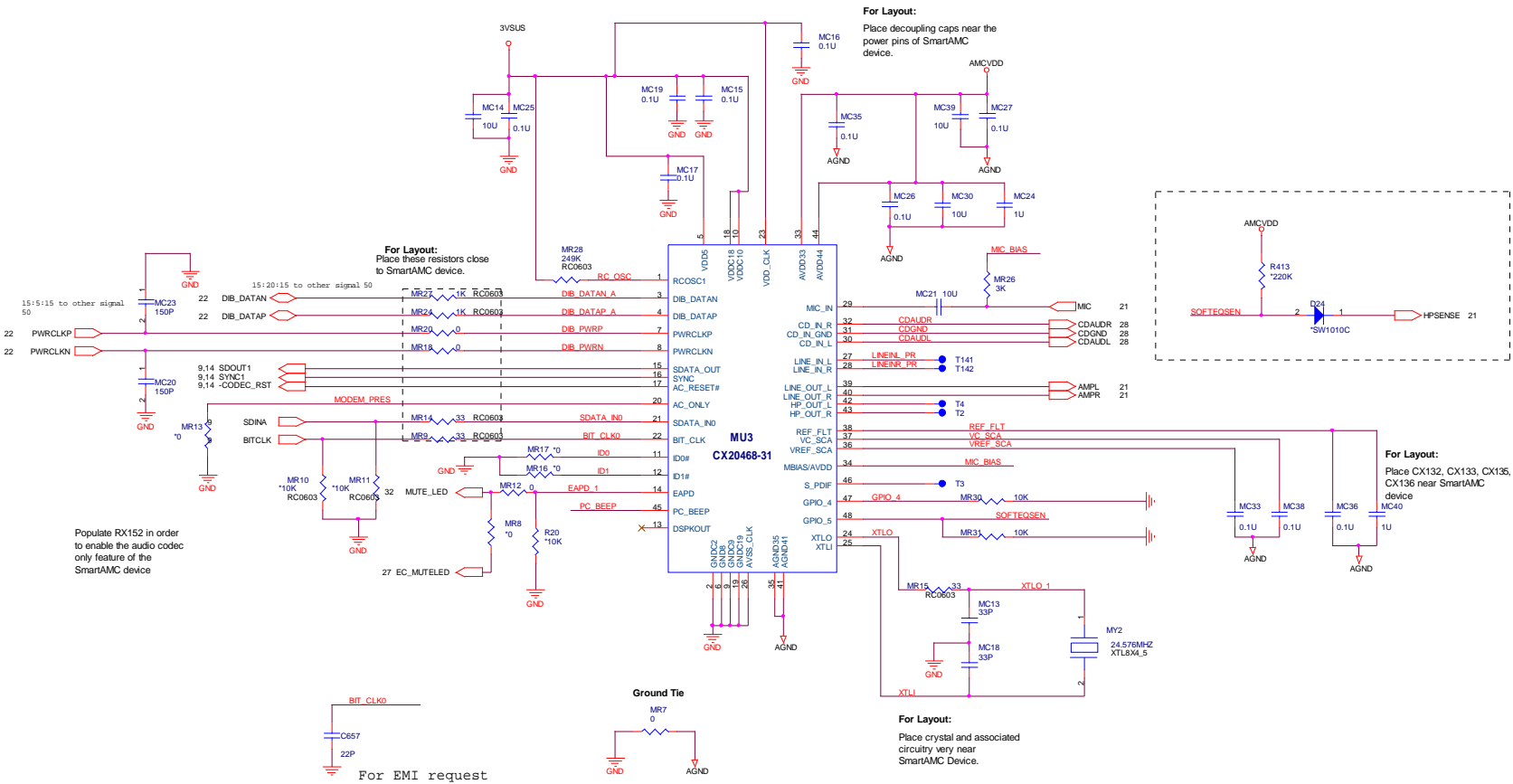


FDD CONN

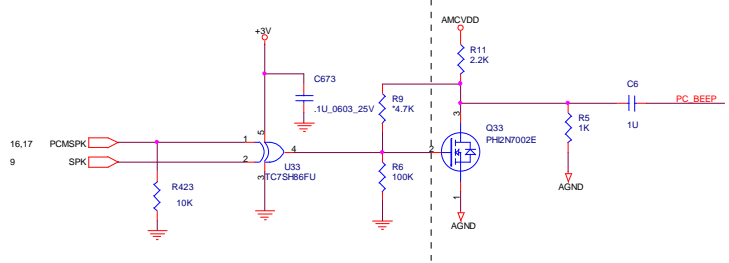


IEEE-1394



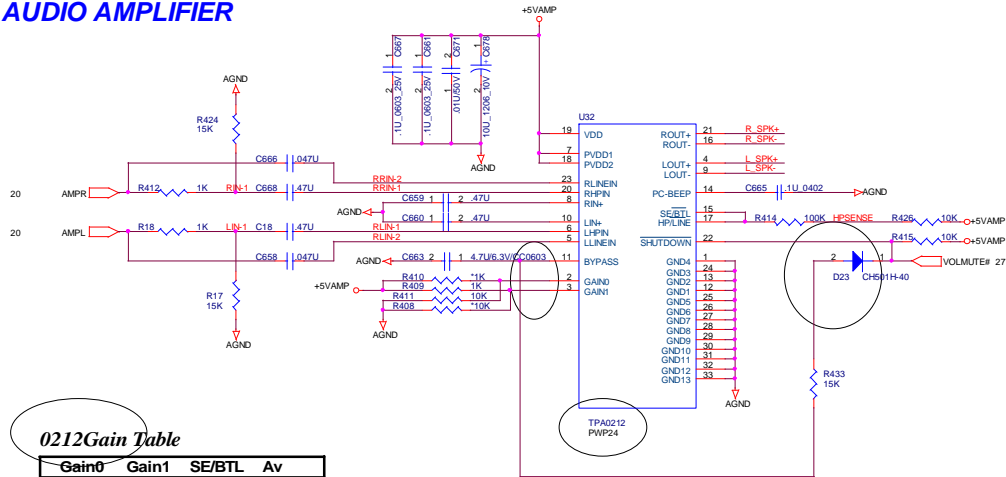


PC SPEAKER



- CX20468-21: ADD R9026, MR9, MR19
REMOVE MR8, R9025, D8
- CX20468-31: ADD MR8, R9025, D8
REMOVE R9026, MR9, MR19
- CX20468-31 without software EQ:
ADD MR8, MR9
REMOVE R9025, D8

AUDIO AMPLIFIER

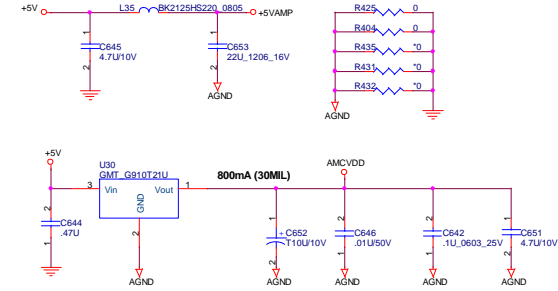
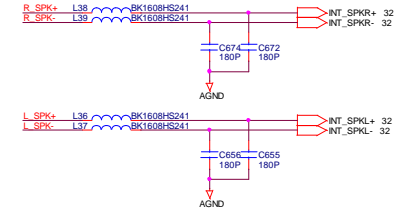


0212Gain Table

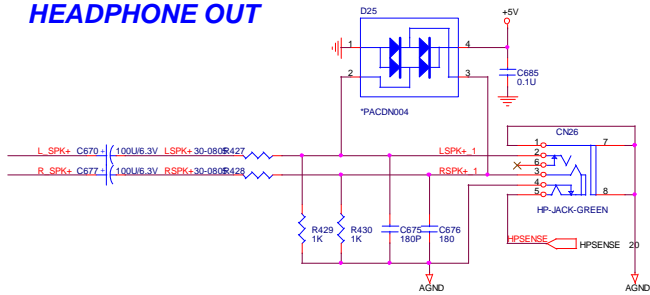
Gain0	Gain1	SE/BTL	Av
0	0	0	6dB
0	1	0	15.6dB
1	0	0	21.6dB
1	1	0	27.6dB
X	X	1	4.1dB

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

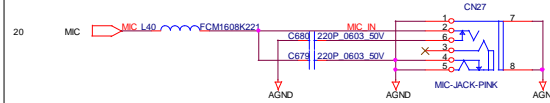
INTERNAL SPK



HEADPHONE OUT

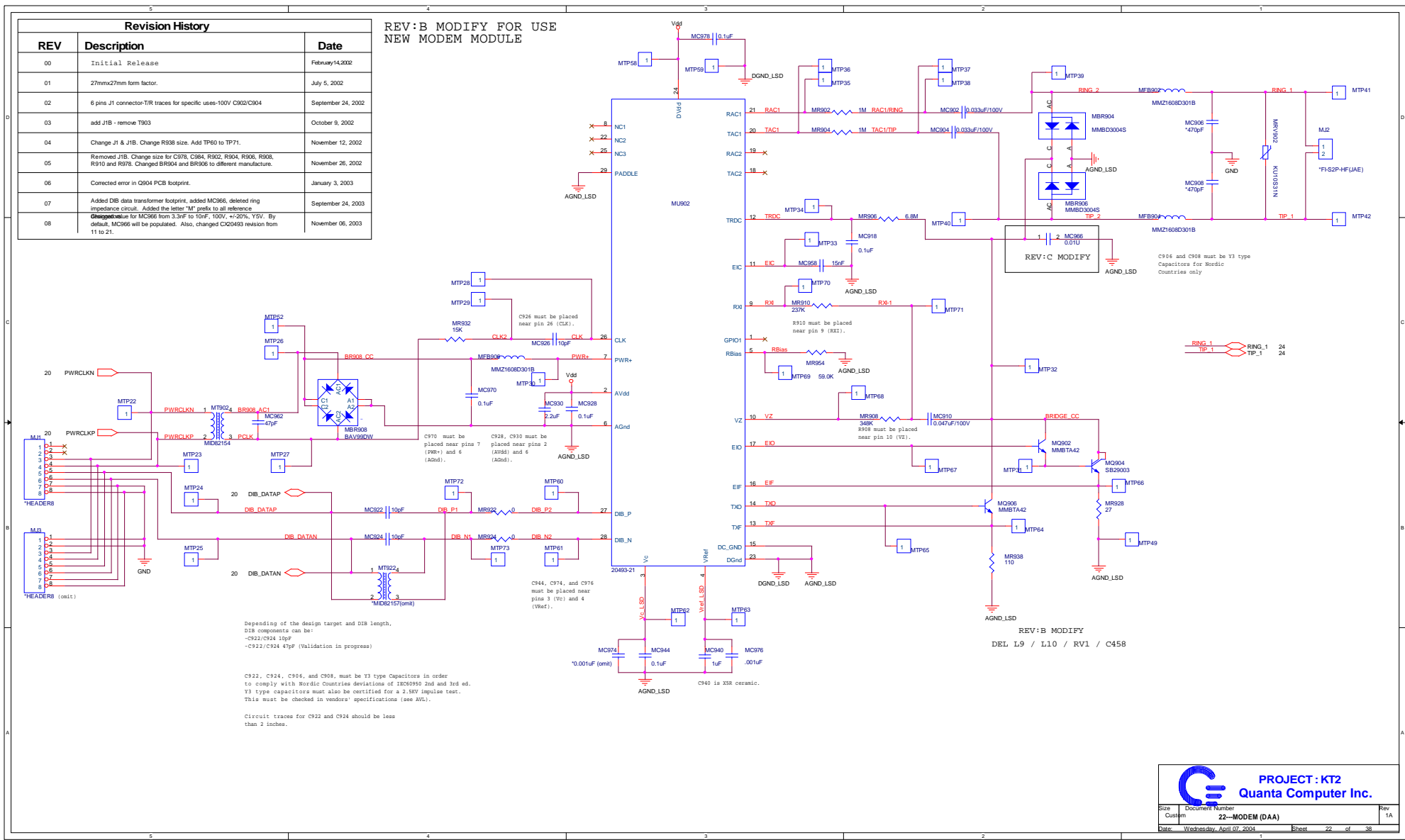


MICROPHONE



REV:B MODIFY FOR USE
NEW MODEM MODULE

Revision History		
REV	Description	Date
00	Initial Release	February 14, 2002
01	27mmx27mm form factor.	July 5, 2002
02	6 pins J1 connector-T/R traces for specific; uses-100V C902/C904	September 24, 2002
03	add J1B - remove T903	October 9, 2002
04	Change J1 & J1B. Change R938 size. Add TP60 to TP71.	November 12, 2002
05	Removed J1B. Change size for C978, C984, R902, R904, R906, R908, R910 and R976. Changed BR904 and BR906 to different manufacture.	November 26, 2002
06	Corrected error in Q904 PCB footprint.	January 3, 2003
07	Added DIB data transformer footprint, added MC966, deleted ring impedance circuit. Added the letter "M" prefix to all references.	September 24, 2003
08	Changed value for MC966 from 3.3nF to 10nF, 100V, +/-20%, Y5V. By default, MC966 will be populated. Also, changed CX20493 revision from 11 to 21.	November 06, 2003



Depending of the design target and DIB length, DIB components can be:
 -C922/C924 10pF
 -C922/C924 47pF (Validation in progress)

C922, C924, C926, and C928, must be V3 type Capacitors in order to comply with Nordic Countries deviations of ISO6959 2nd and 3rd ed. V3 type capacitors must also be certified for a 2.5kV impulse test. This must be checked in vendors' specifications (see AVL).

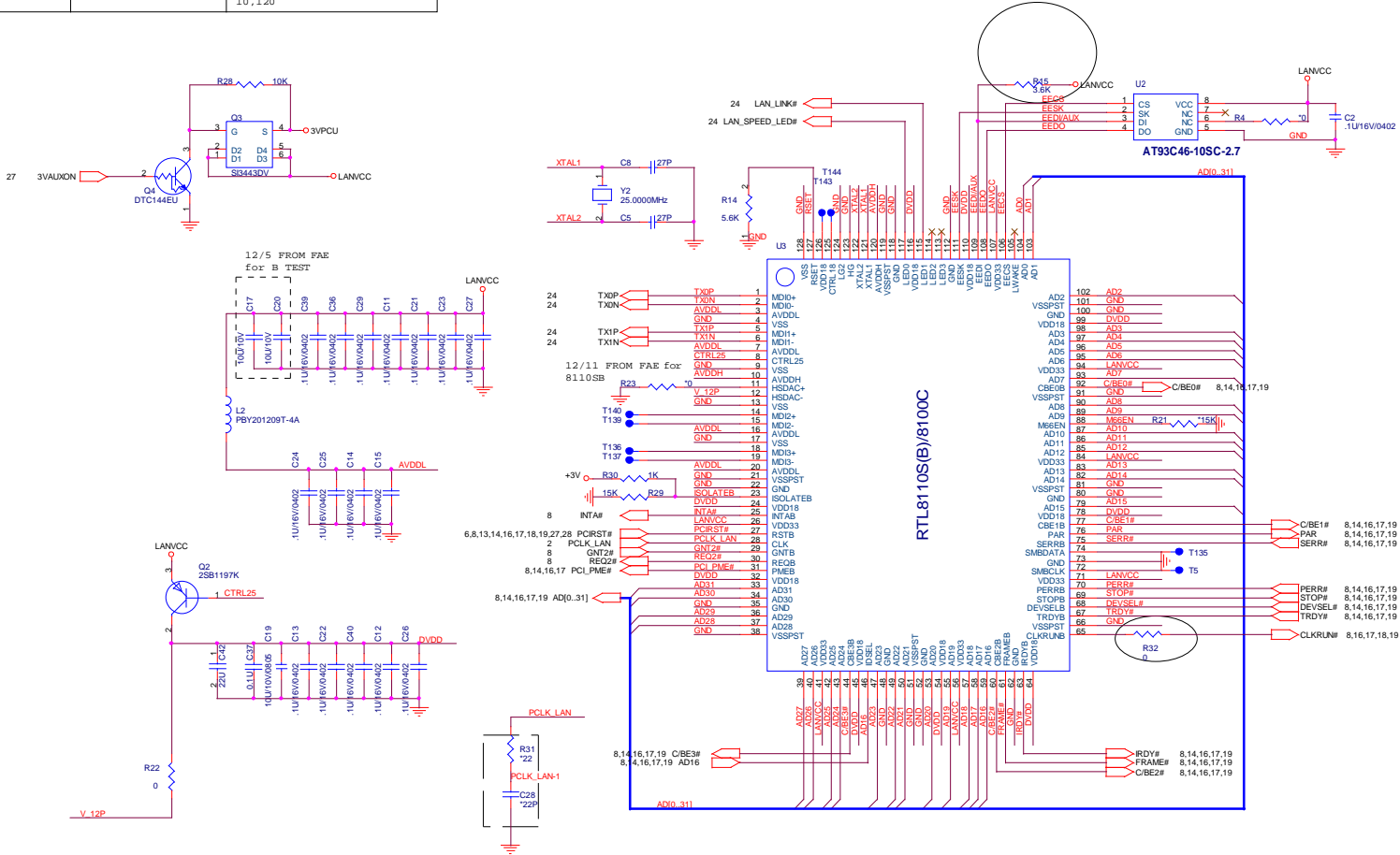
Circuit traces for C922 and C924 should be less than 2 inches.

REV:B MODIFY
 DEL I9 / L10 / RV1 / C458

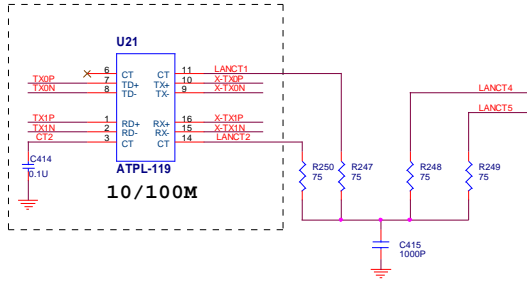
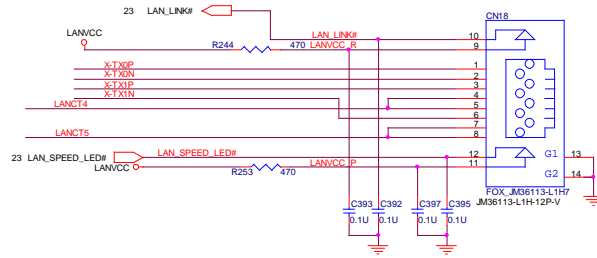
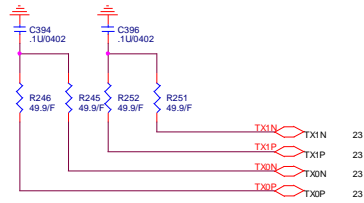
PROJECT : KT2
Quanta Computer Inc.

Size: Custom
 Document Number: 22--MODEM (DAA)
 Rev: 1A
 Date: Wednesday, April 07, 2004
 Sheet: 22 of 38

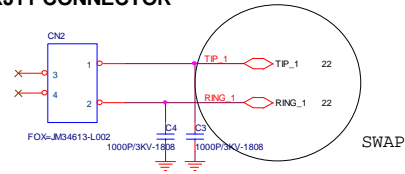
	8100CL(10/100M)	8110SB(1G)
DVDD33	3.3VD 26, 41, 56, 71, 84, 94, 107	3.3VD 26, 41, 56, 71, 84, 94, 107
AVDDL	3.3VA 3, 7, 20	2.5VA 3, 7, 20, 16
DVDD	2.5VD 32, 54, 78, 99	1.8VD 32, 54, 78, 99, 24, 45, 64, 110, 116, 126
AVDD25	2.5VA 12	NC
AVDDH	NC	3.3VA 10, 120

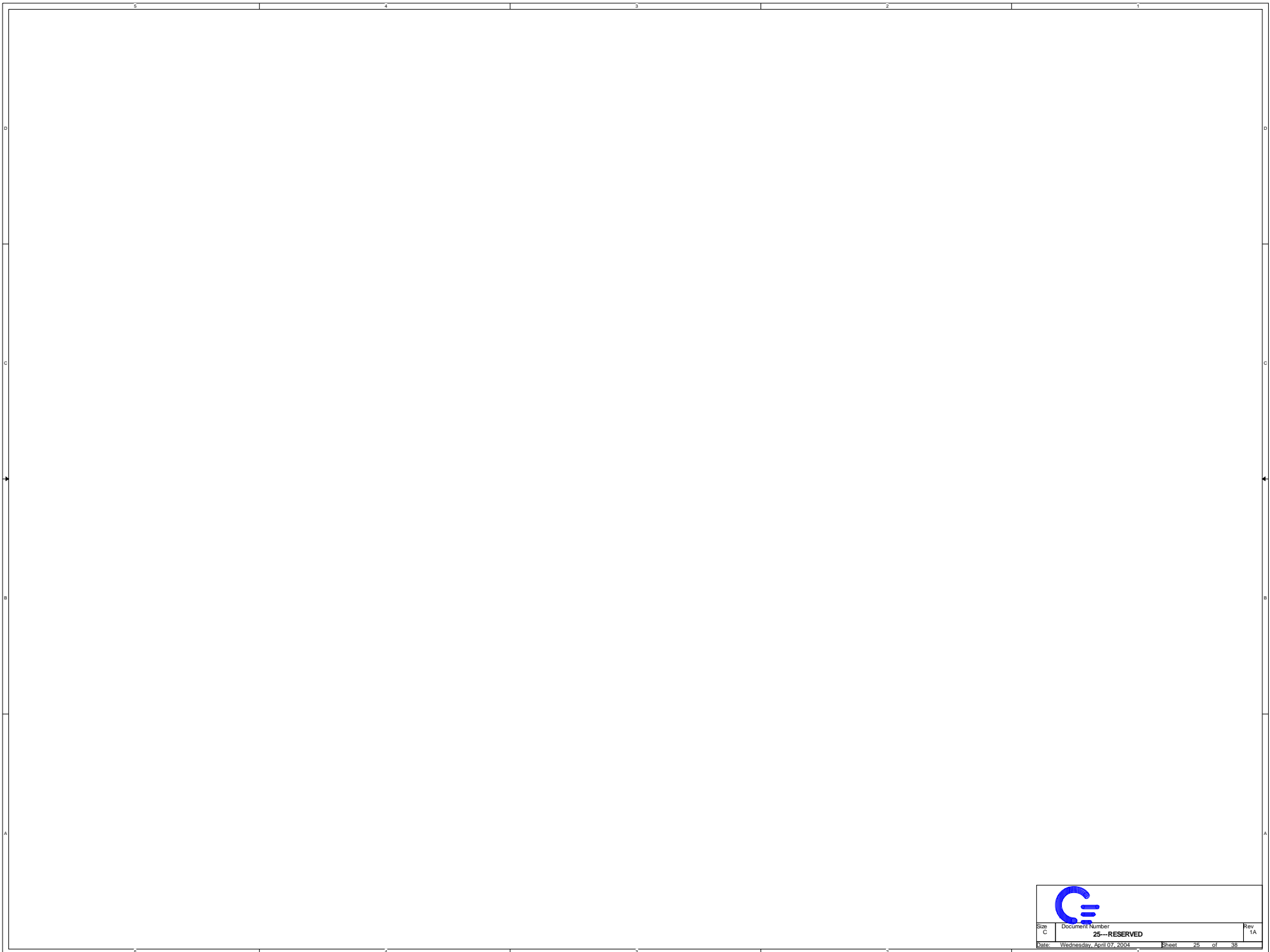


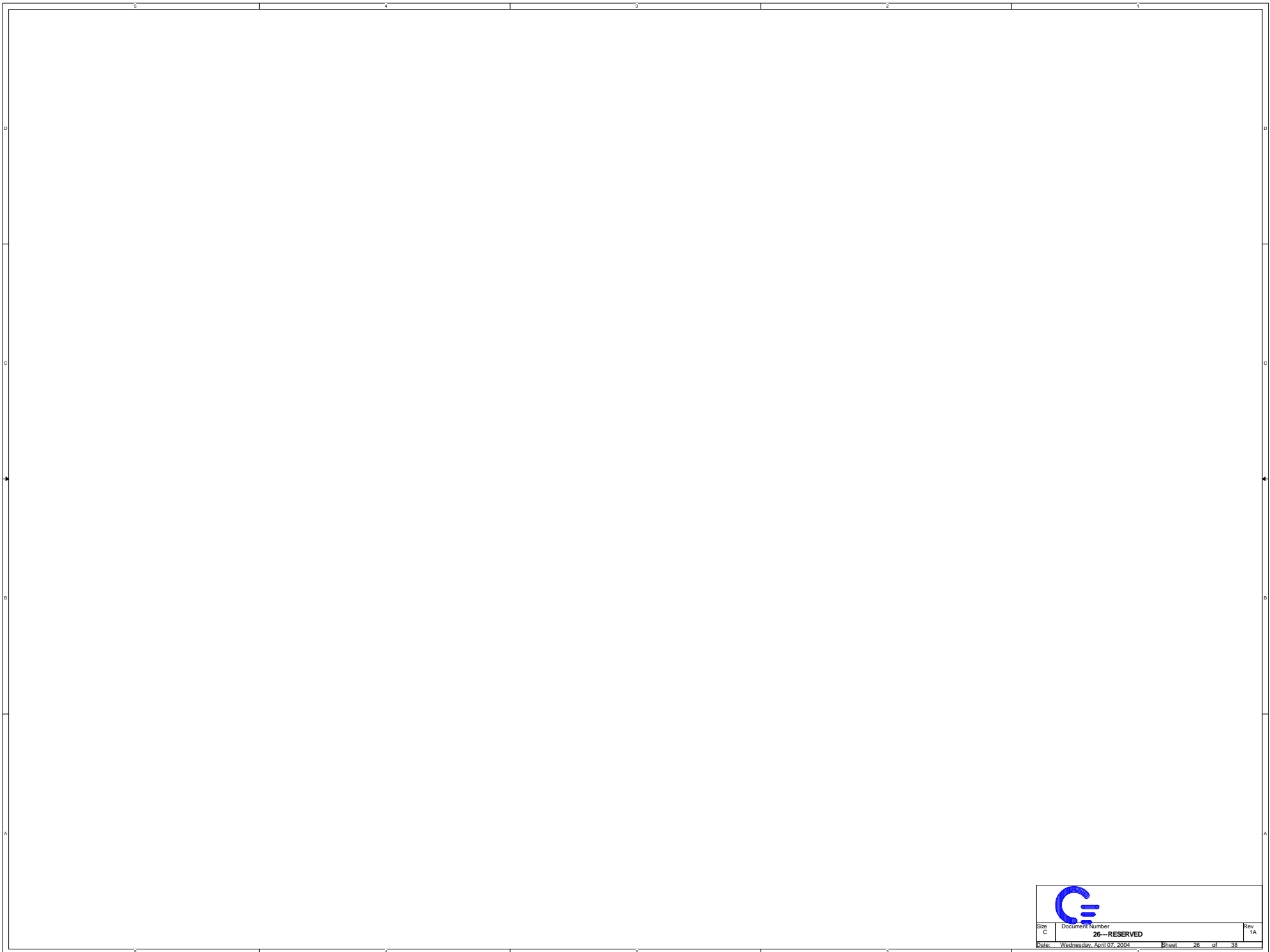
Close to Chip



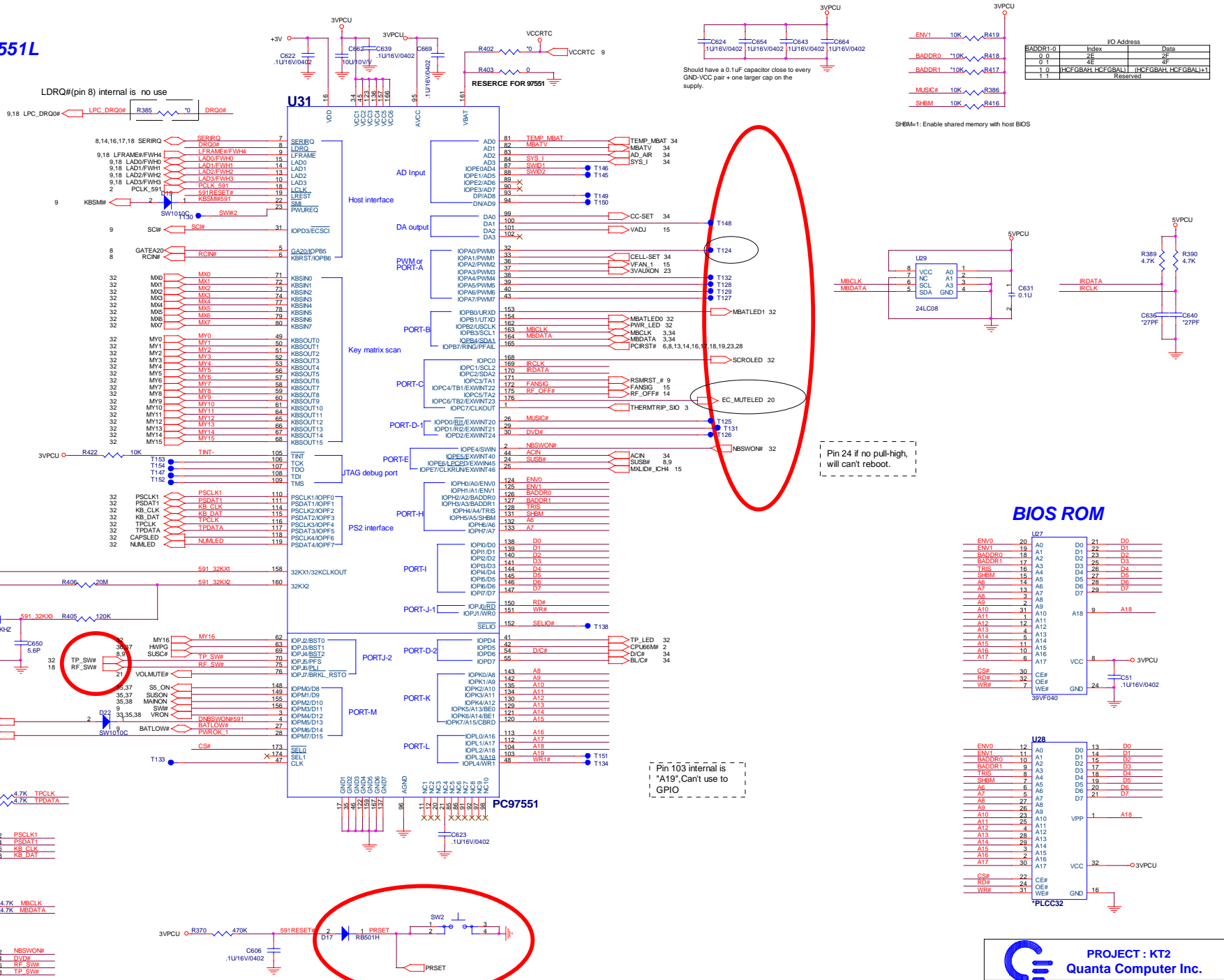
RJ11 CONNECTOR







KBC-NS87551L



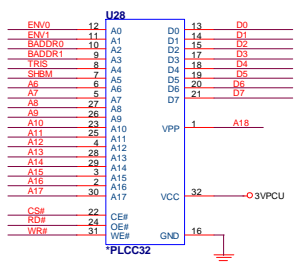
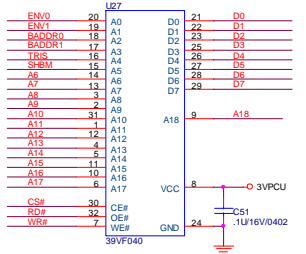
IO Address		
Index	Data	
0 0	2E	2F
1 0	HCFGBAH	HCFGBAL
1 1	Reserved	Reserved

SHM=1: Enable shared memory with host BIOS

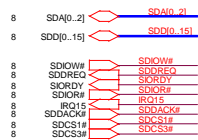
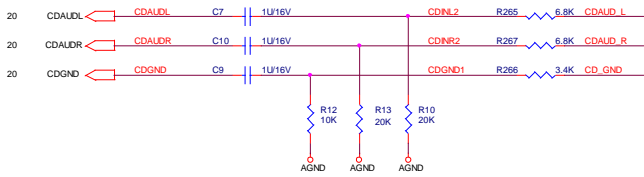
Pin 24 if no pull-high, will can't reboot.

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

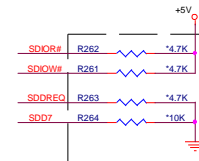
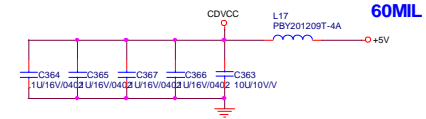
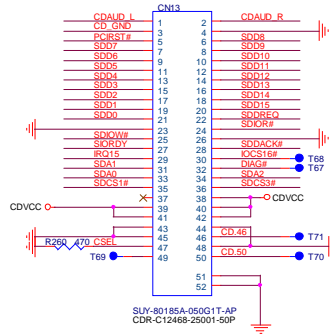
BIOS ROM



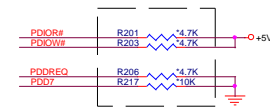
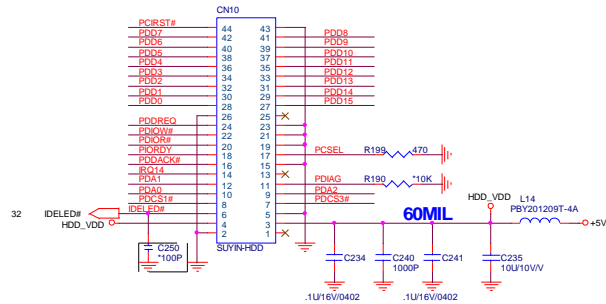
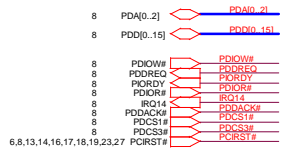
PROJECT : KT2
Quanta Computer Inc.



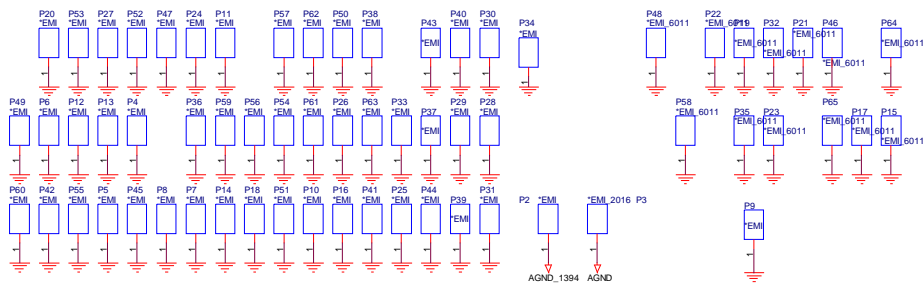
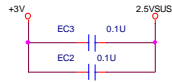
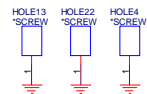
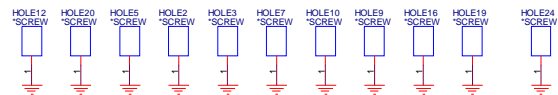
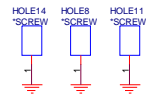
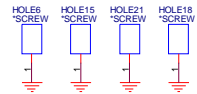
CD-ROM

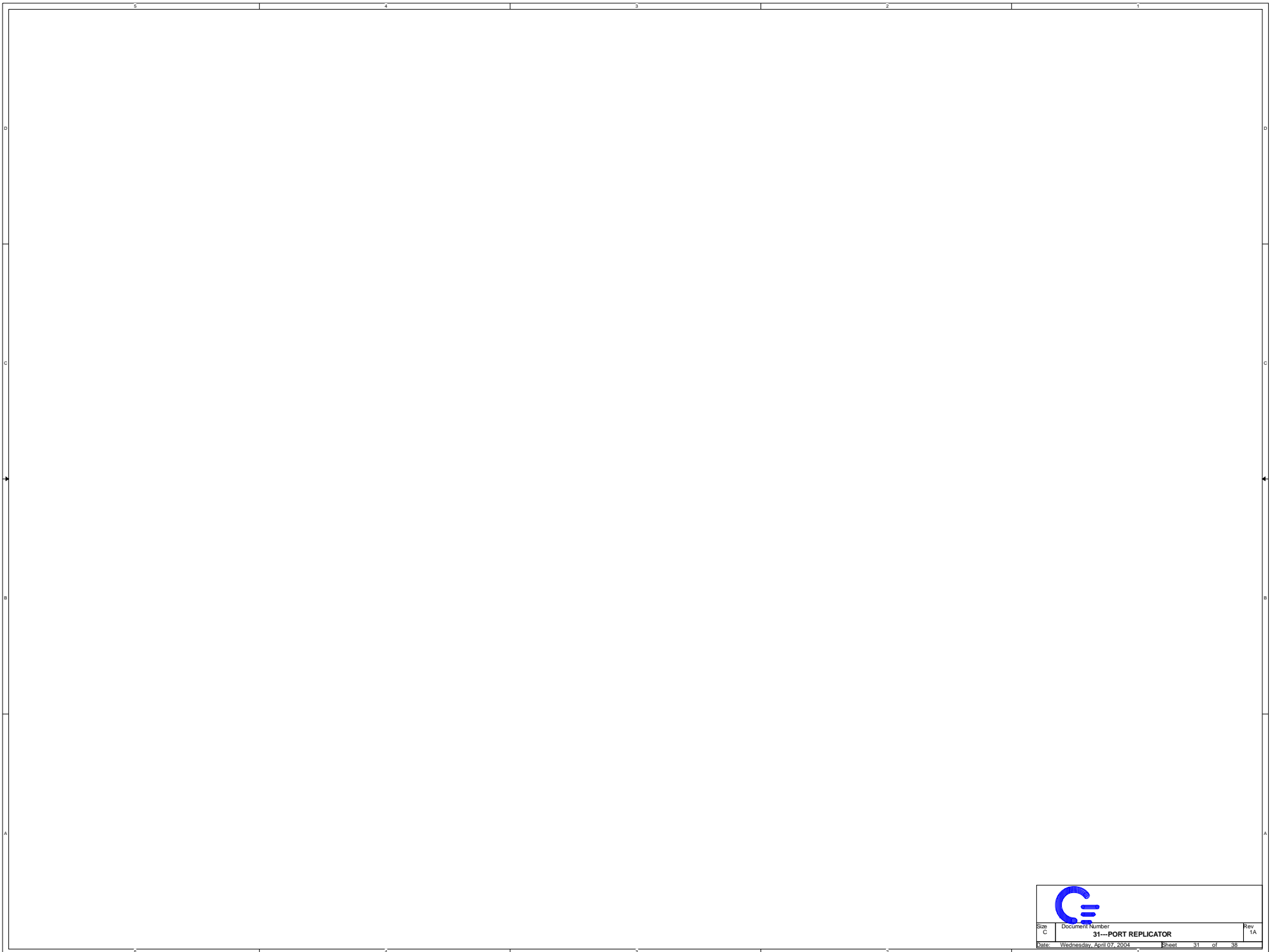



HDD CONNECTOR



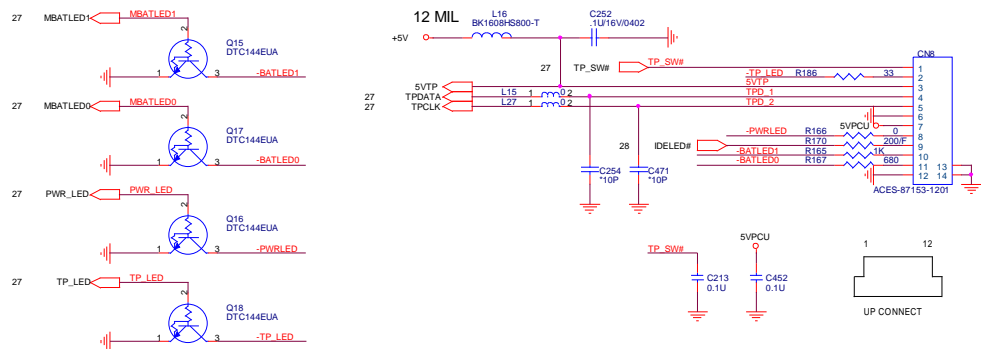




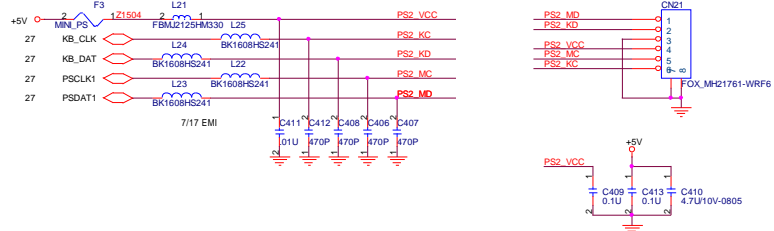


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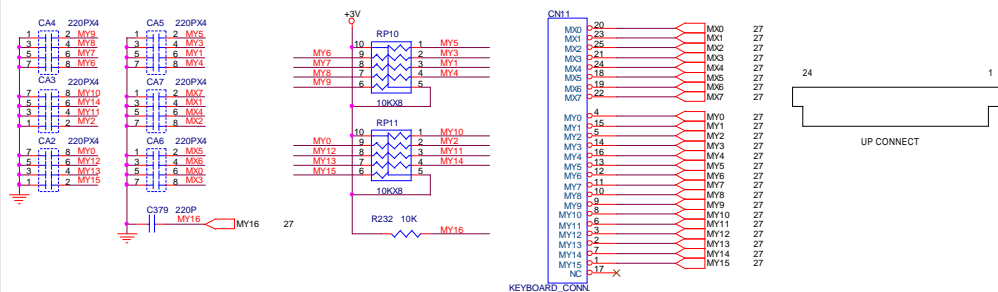
TOUCH PAD CONNECTOR



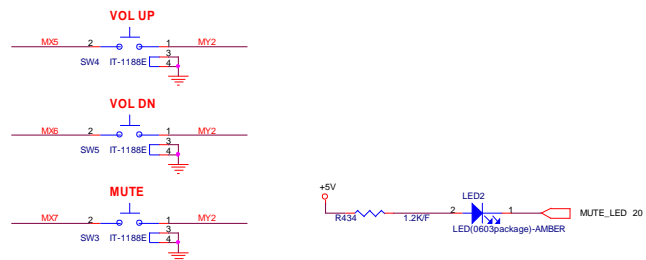
PS/2 PORT



KEYBOARD CONNECTOR

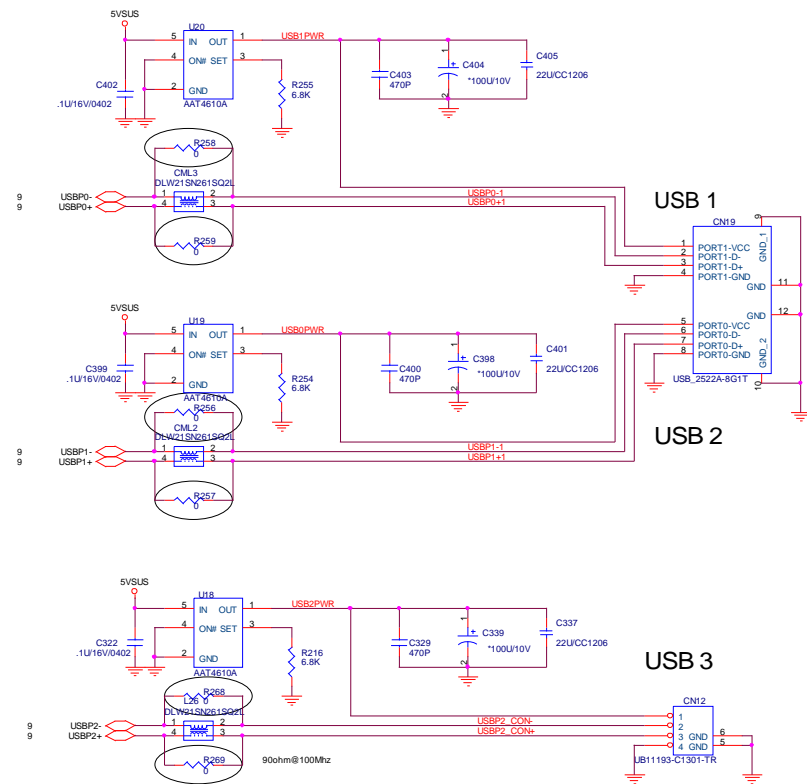


VOLUME CONTROL

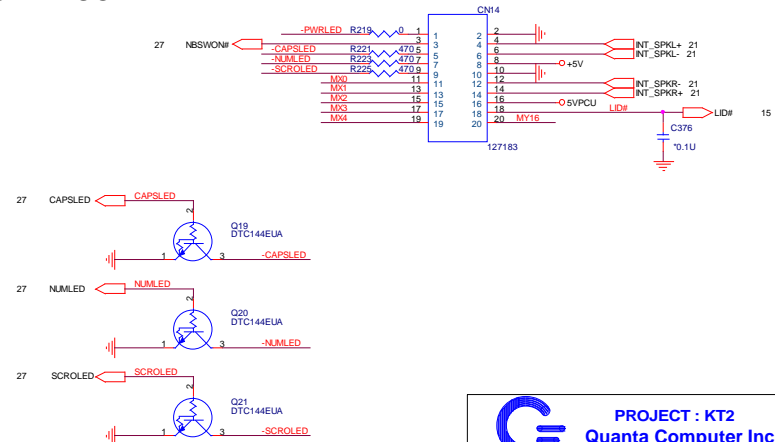


	MX0	MX1	MX2	MX3	MX4	MX5	MX6	MX7
MY2	RF	TouchPad				VOL UP	VOL DN	MUTE
MY7								
MY16	QS1	QS2	QS3	QS4	QS5			

USB PORT

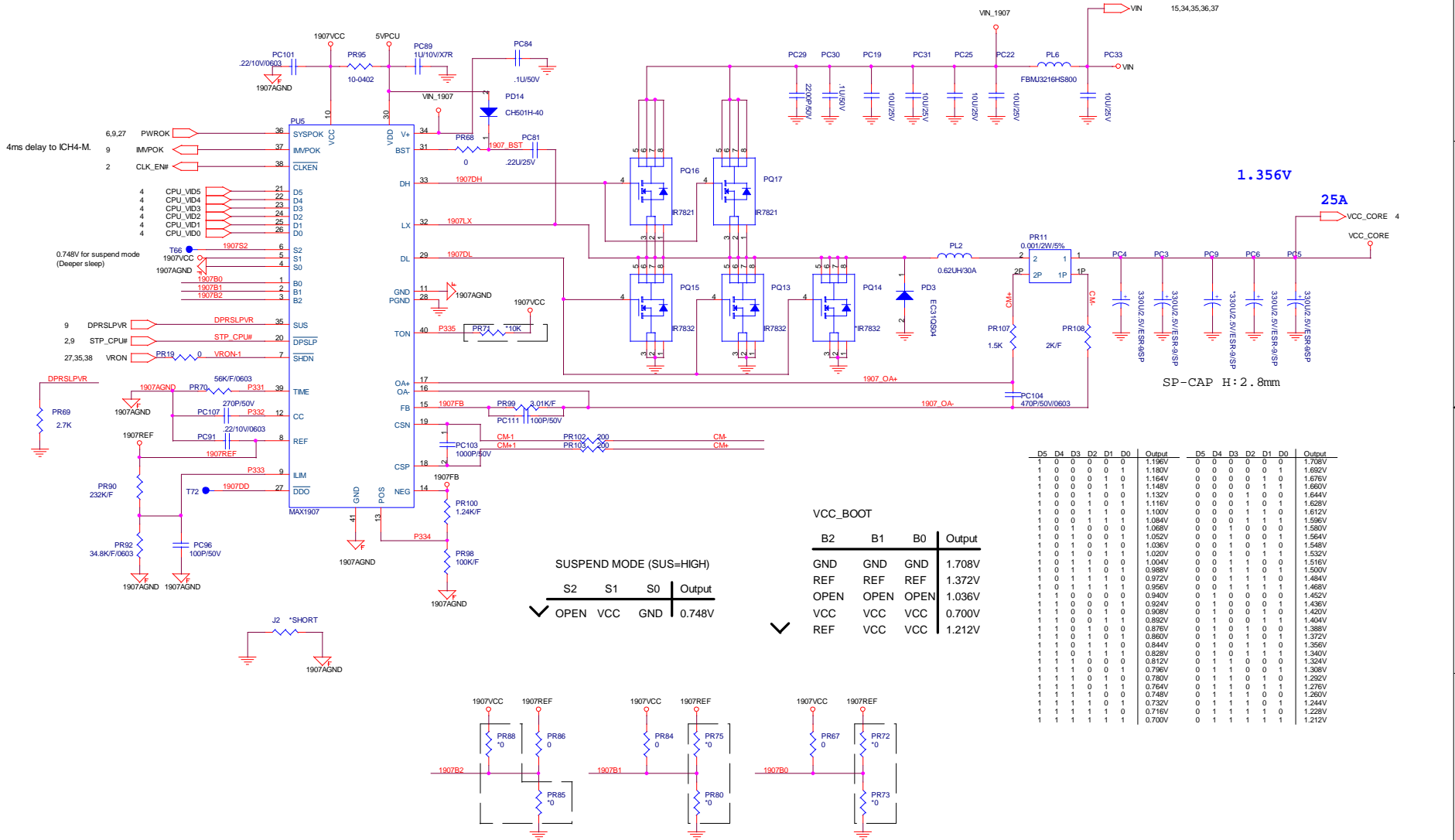


LED BOARD CON



4ms delay to ICH4-M.

0.748V for suspend mode (Deeper sleep)



1.356V

25A

SP-CAP H: 2.8mm

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

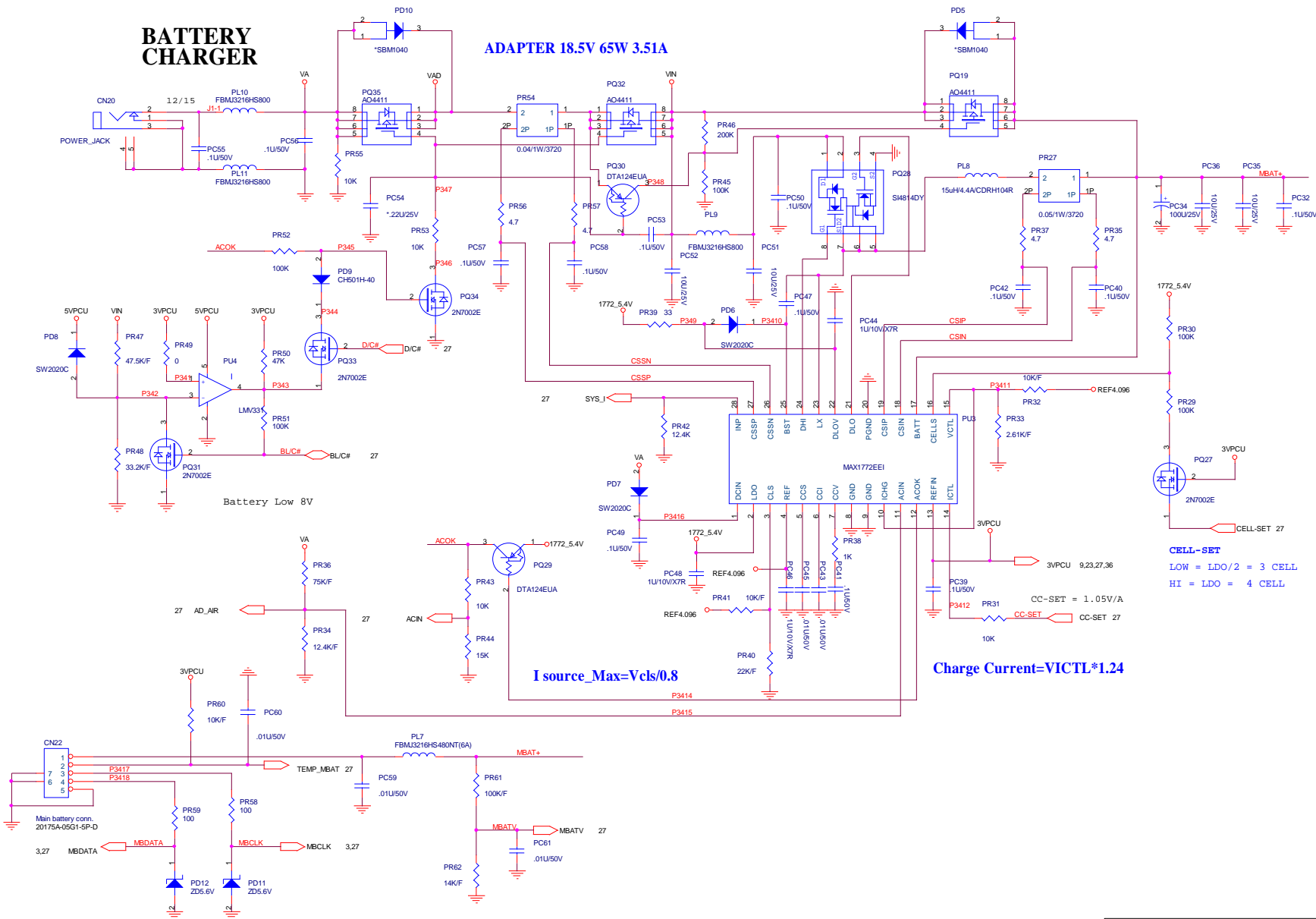
SUSPEND MODE (SUS=HIGH)

S2	S1	S0	Output
✓ OPEN	VCC	GND	0.748V

D5	D4	D3	D2	D1	D0	Output	D5	D4	D3	D2	D1	D0	Output
1	0	0	0	0	0	1.186V	0	0	0	0	0	0	1.186V
1	0	0	0	0	1	1.190V	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	1.084V	0	0	0	1	0	1	1.596V
1	0	0	1	1	0	1.068V	0	0	1	0	0	0	1.580V
1	0	1	0	0	0	1.052V	0	0	1	0	0	1	1.564V
1	0	1	0	0	1	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	0	1	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	1	0	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	1	0	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

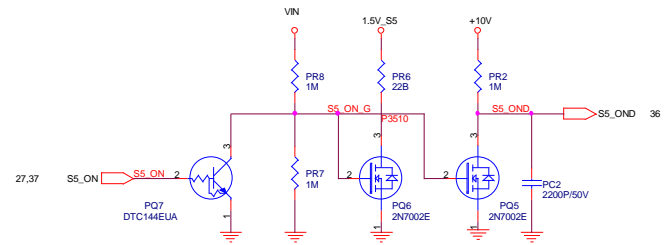
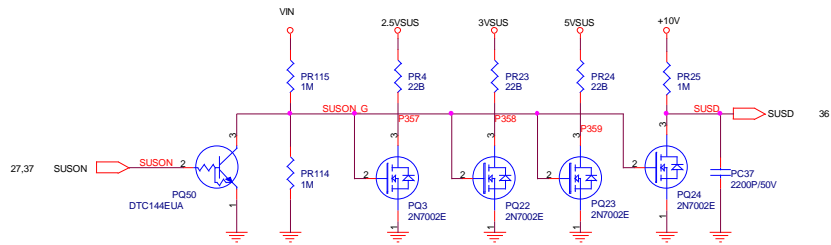
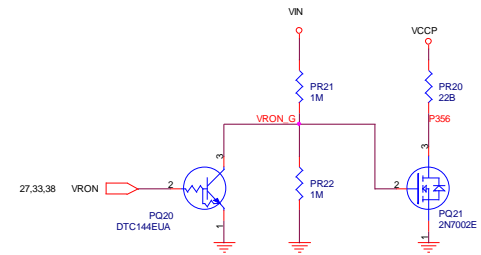
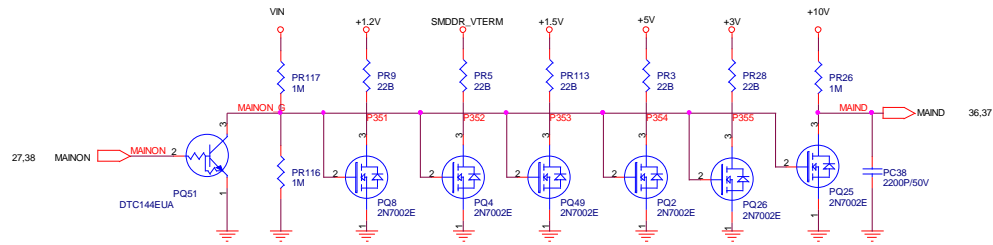
$I_{source_Max} = V_{cls} / 0.8$

Charge Current = $VICTL \cdot 1.24$

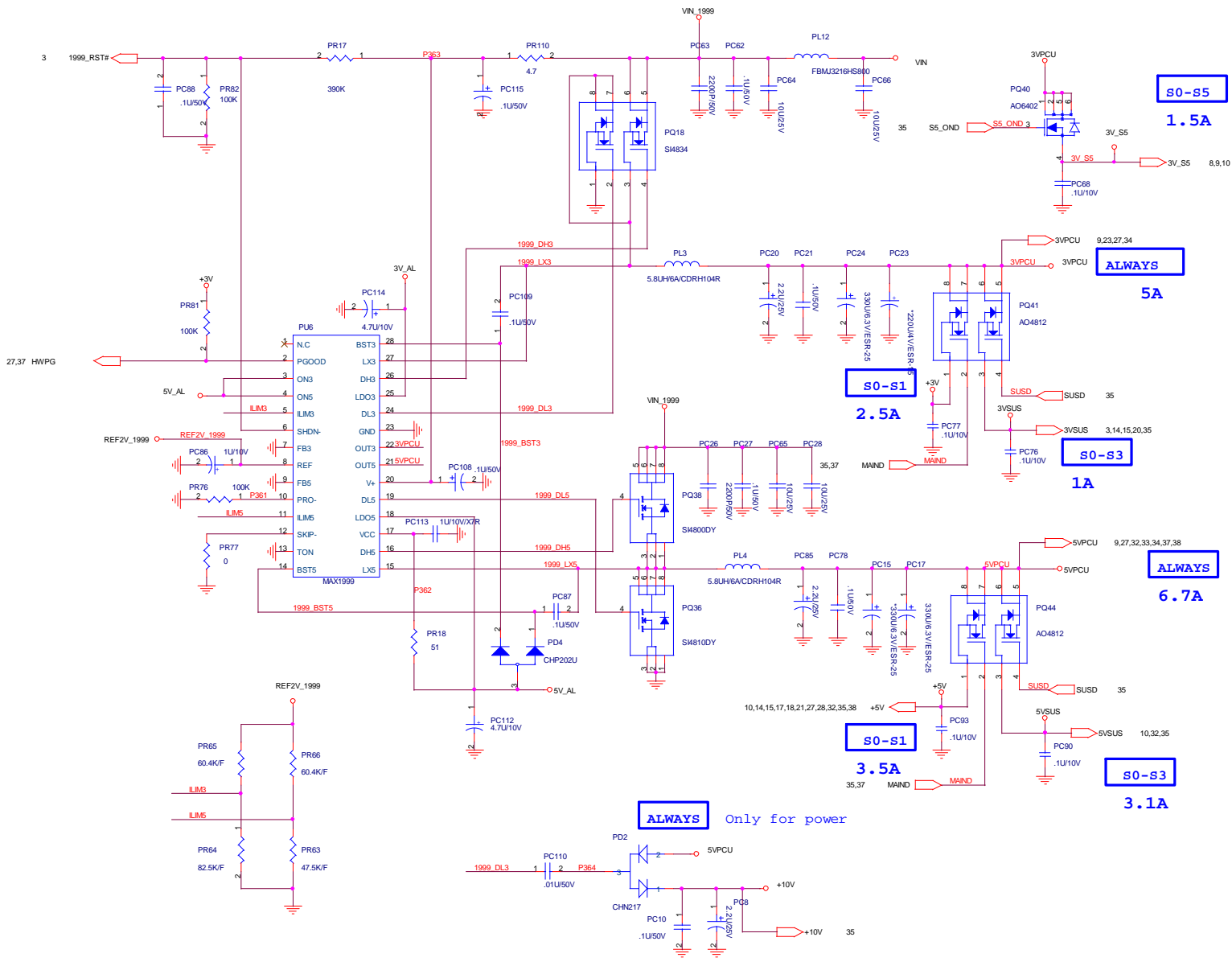
CELL-SET
 LOW = $LDO / 2 = 3 \text{ CELL}$
 HI = $LDO = 4 \text{ CELL}$

CC-SET = $1.05V / A$
 CC-SET 27

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<Title>		
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S0-S5
1.5A

ALWAYS
5A

S0-S1
2.5A

S0-S3
1A

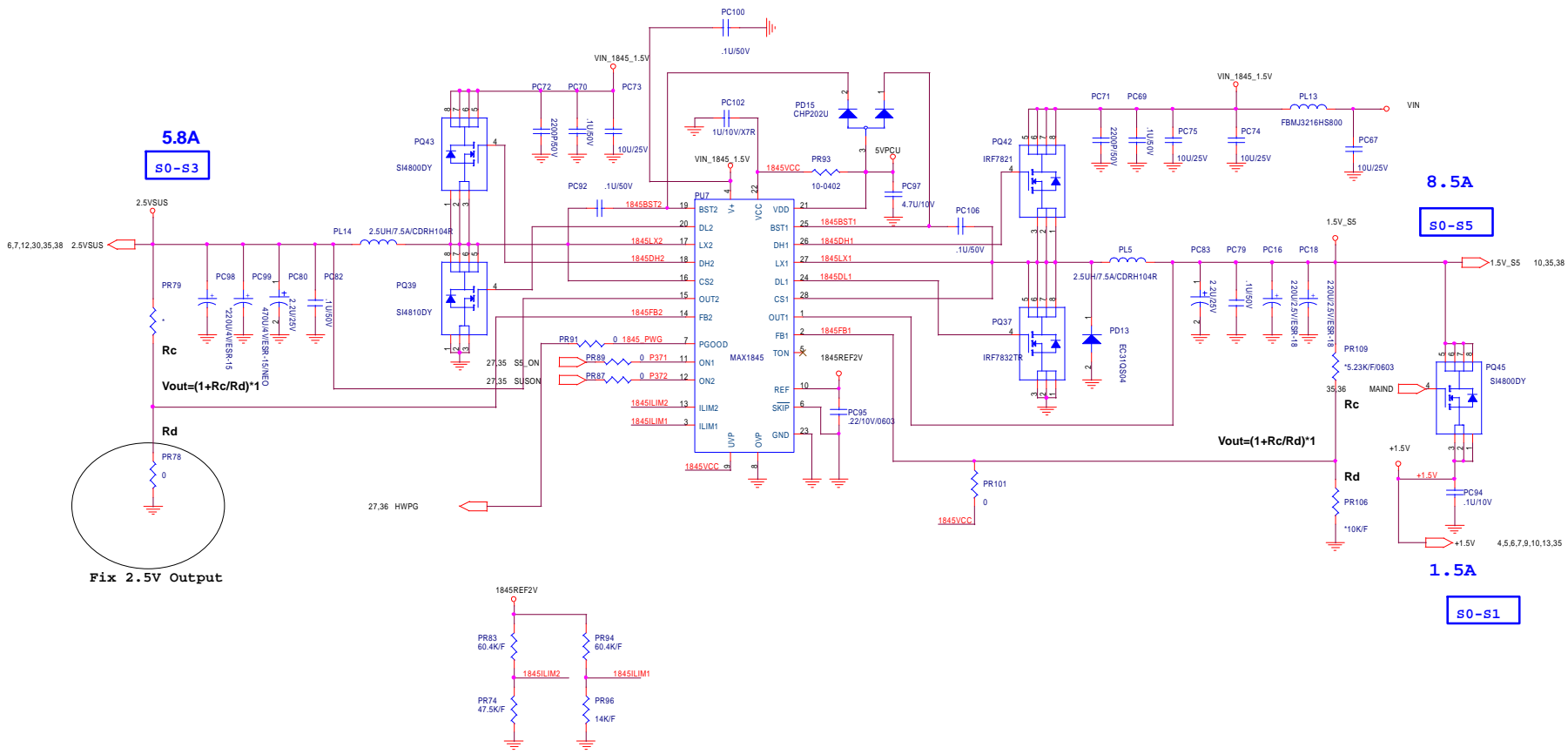
ALWAYS
6.7A

S0-S1
3.5A

S0-S3
3.1A

ALWAYS Only for power

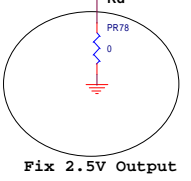
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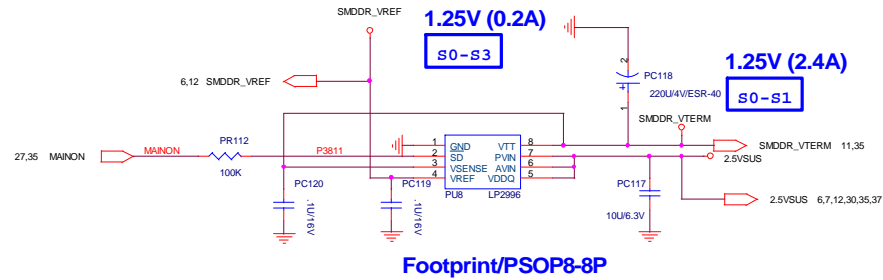
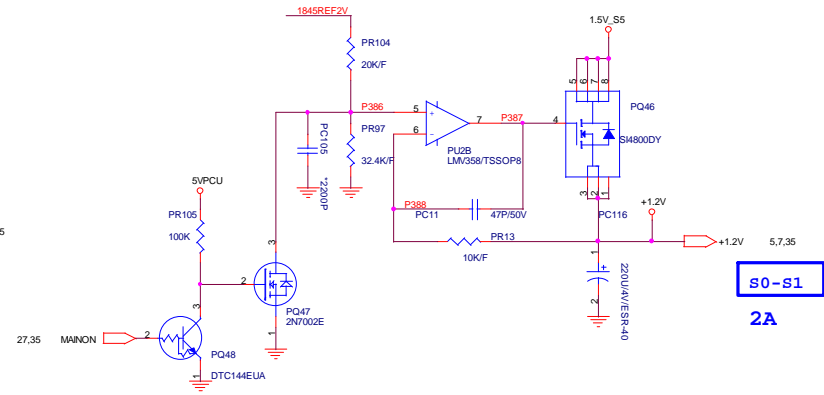
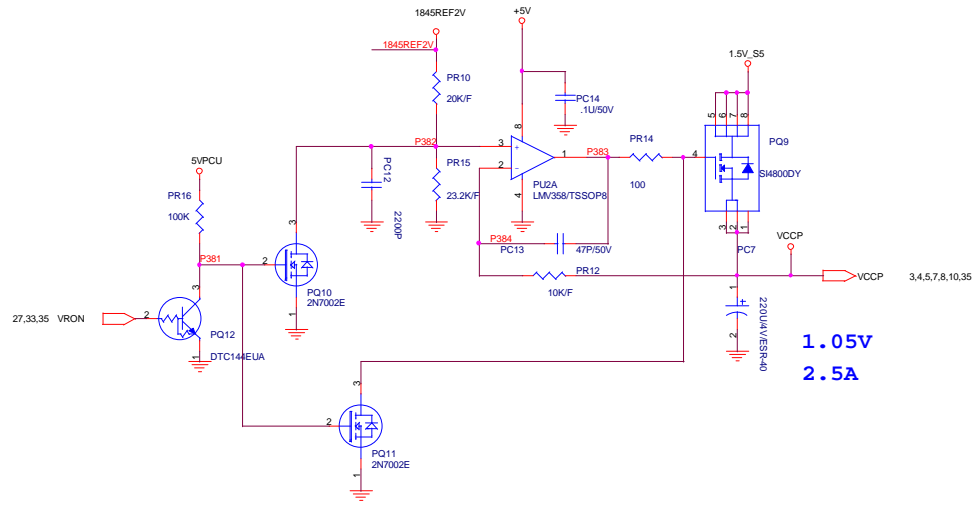
5.8A
S0-S3

8.5A
S0-S5

1.5A
S0-S1



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<Title>		
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Customr/Doc>		<Rev Code>
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