GIGABYTE GA-8IE2004P Schematics

Revision 1.0

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	WILLIAMATE_478A
04	WILLIAMATE_478B
05	WILLIAMATE_478C
06	MCH-BROOKDALE-E_A
07	MCH-BROOKDALE-E_B
08	MCH-BROOKDALE-E_C
09	MD0~63
10	DDR1~2
11	DDR-TERM
12	AGP
13	ICH4_1
14	ICH4_2
15	FWH (SINGLE BIOS)
16	ICS950223 CLOCK GEN
17	PCI1_2
18	PCI3_4
19	PCI5
20	ITE LPC I/O
21	IDE
22	KB_PS2

SHEET	TITLE
23	COM_LPT_FDD
24	F-USB1 & F-USB2
25	FPANEL
26	CODEC
27	AUDIO_GAMEPORT
28	AUDIO_SPDIF
29	DDR POWER
30	POWER1
31	POWER2
32	LAN RTL8100C & B-USB CONNECTOR
33	GPIO LIST
34	PCI ROUNT LIST
35	
36	
37	
38	
PCB	4V藍C

COMPONENT SIDE (0.5 oz. Copper)
VCC SIDE (1 oz. Copper)
GND SIDE (1 oz. Copper)
SOLDER SIDE (0.5 oz. Copper)

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Title: COVER SHEET

Size: Custom | Document Number: GA-8IE2004P | Rev: 1.0

Date: 星期一, 七月 21, 2003 | Sheet 1 of 34

Model Name: 8IE2004P

Version: 1.0

BOM 修改 History

2003/07/21

BOM 版本	修改項目內容	修改原因
06/13	BOM MODIFY FROM 8IE800-00-11E	1.AC97 ALC655
07/07	PVT BOM:8IE2004P-00-10A P-BOM	1.R211->R210 (4.7K)PULL-UP FOR REALTEK MTS
		2.改CU1:ALC655/D
07/21	MP ECN 刪除:群祥(USB,KB_MS孔徑太小),十美從未試產	

PCB version 變更(線路及Layout Change)Histoty

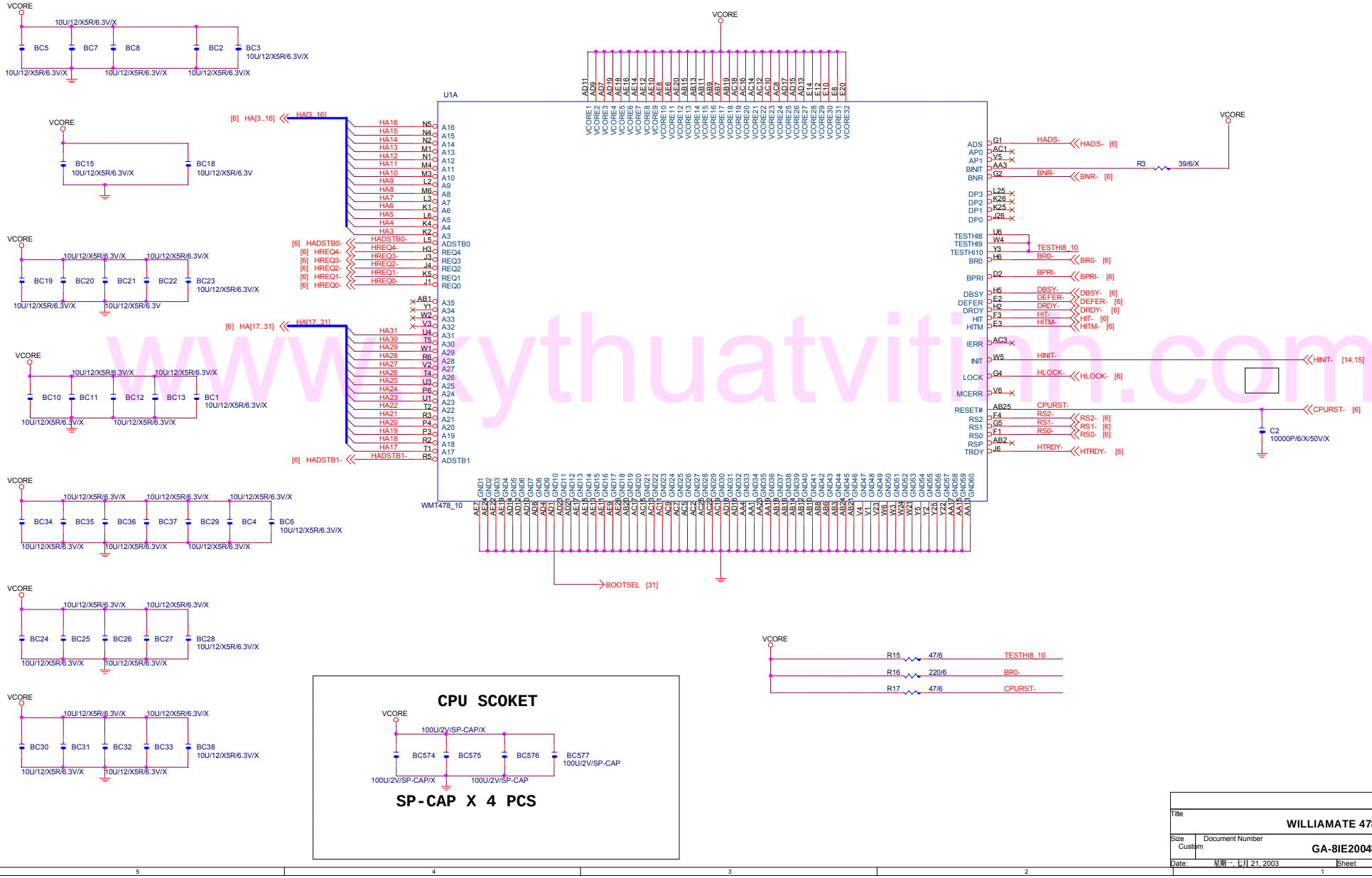
PCB 版本	修改項目內容	修改原因

GIGABYTE

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-8IE2004P | Rev: 1.0

Date: 星期一, 七月 21, 2003 | Sheet 2 of 34



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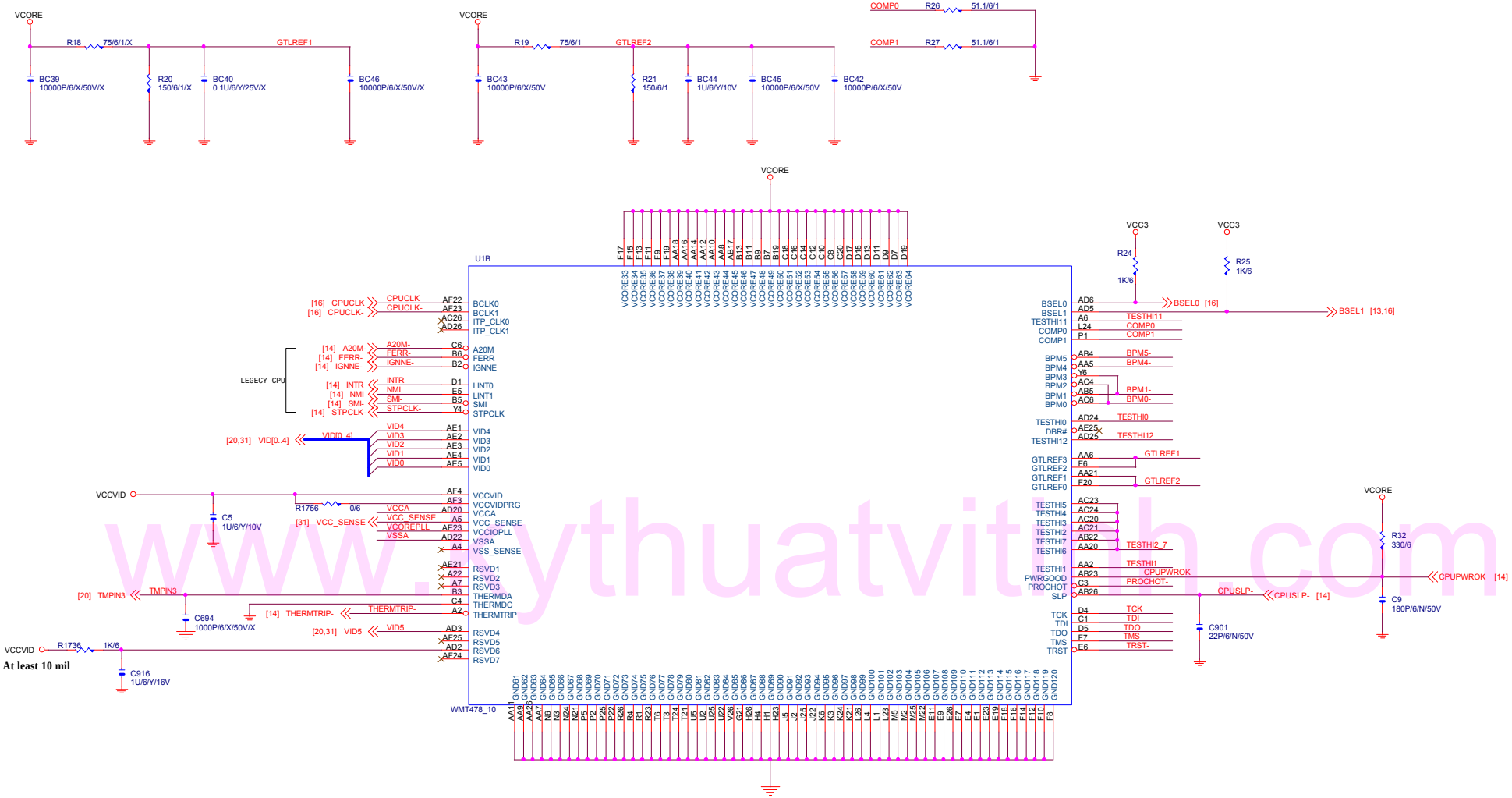
Size: Custom	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 3 of 34	



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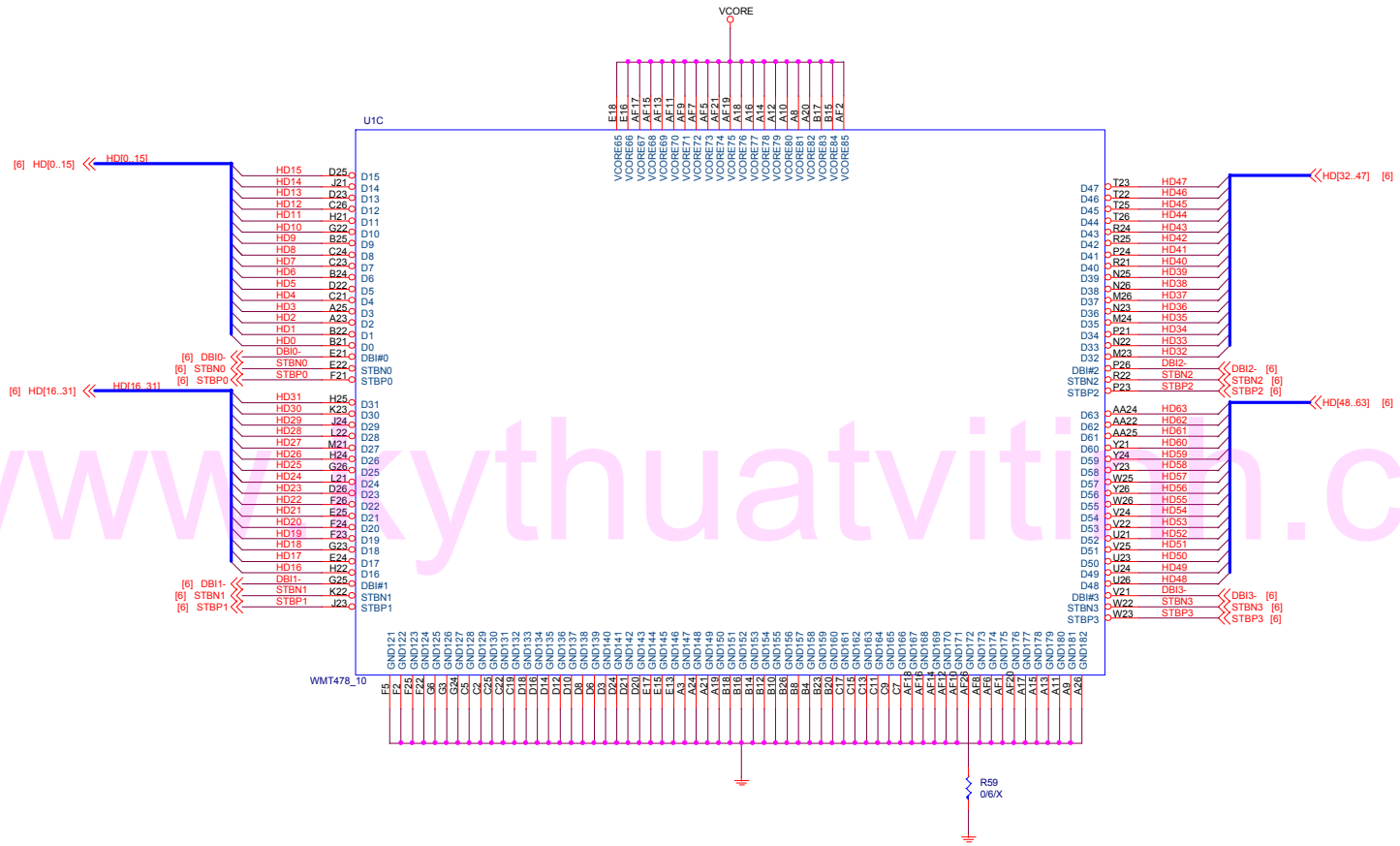
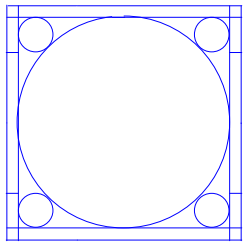
Size: Custom	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 4 of 34	



CR
CPU RETAINTION/ORANGE



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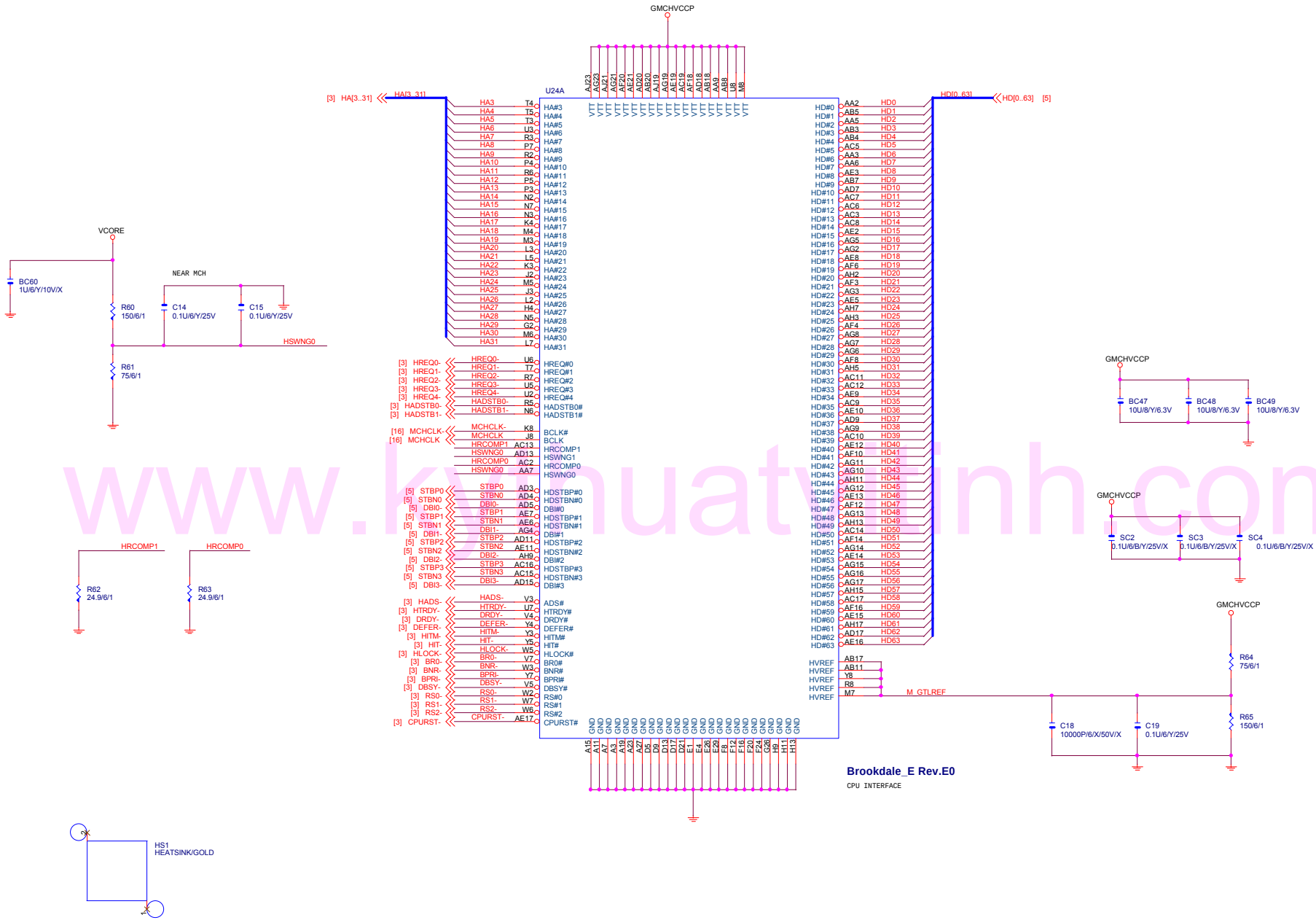
Size: Custom	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 5 of 34	



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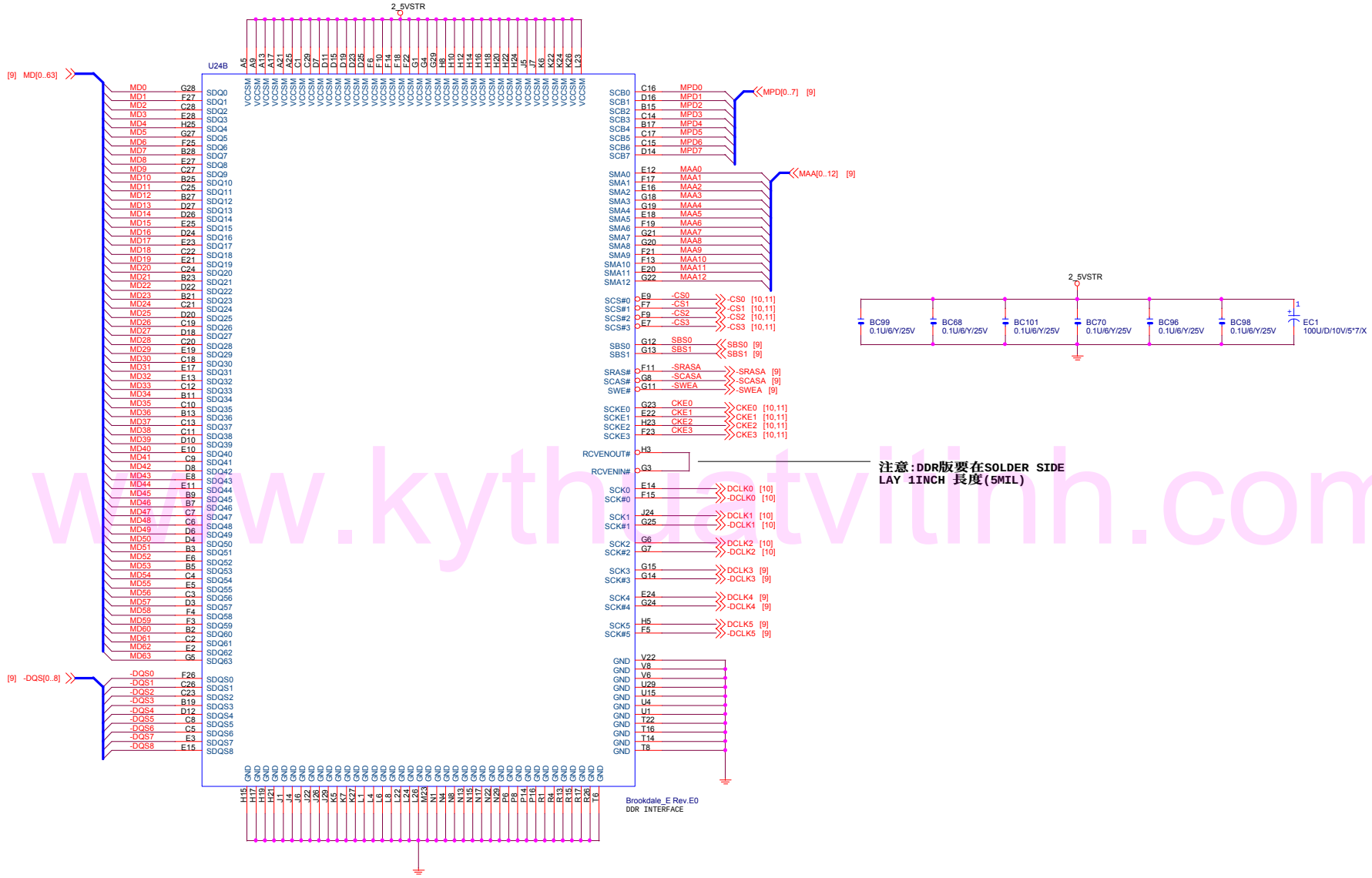
Size: Custom	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 6 of 34	



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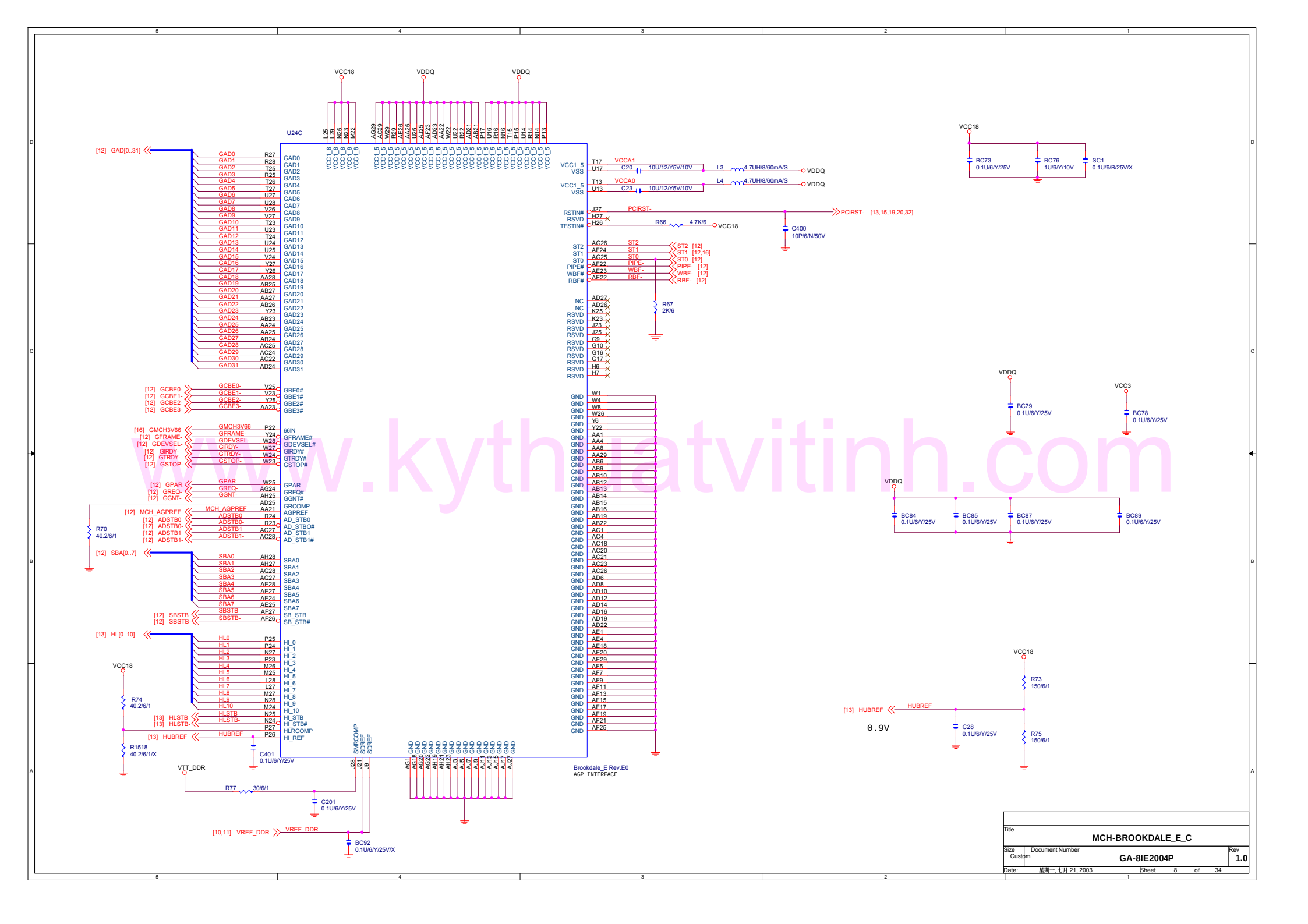
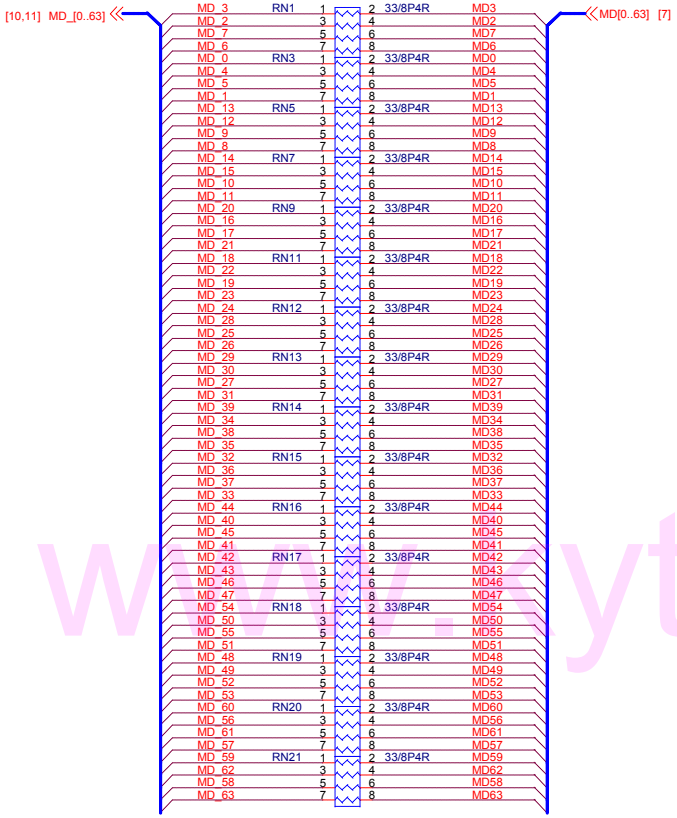
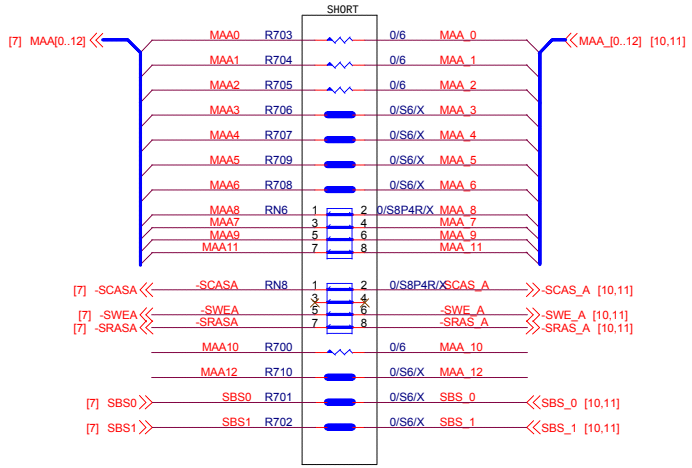
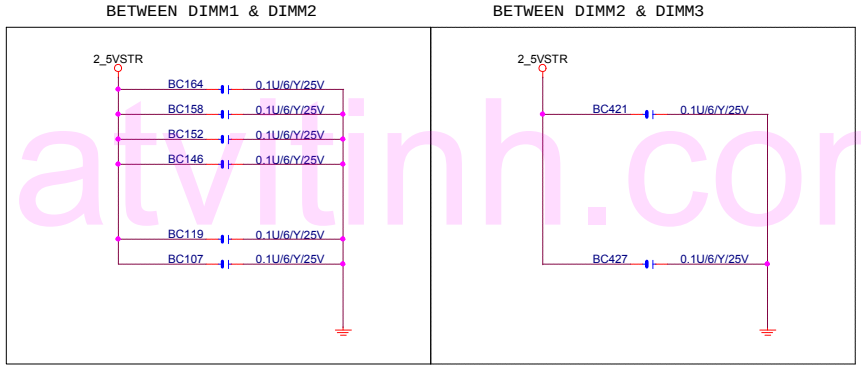
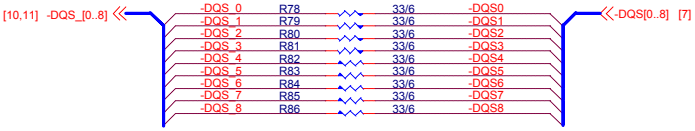
Size: Custom	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 7 of 34	

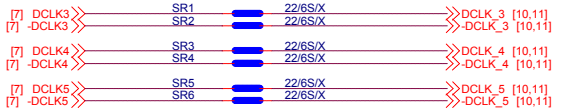


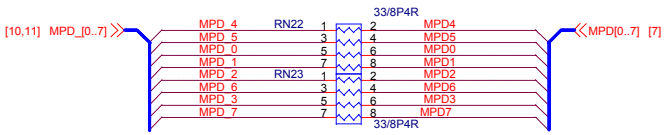


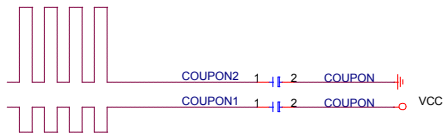










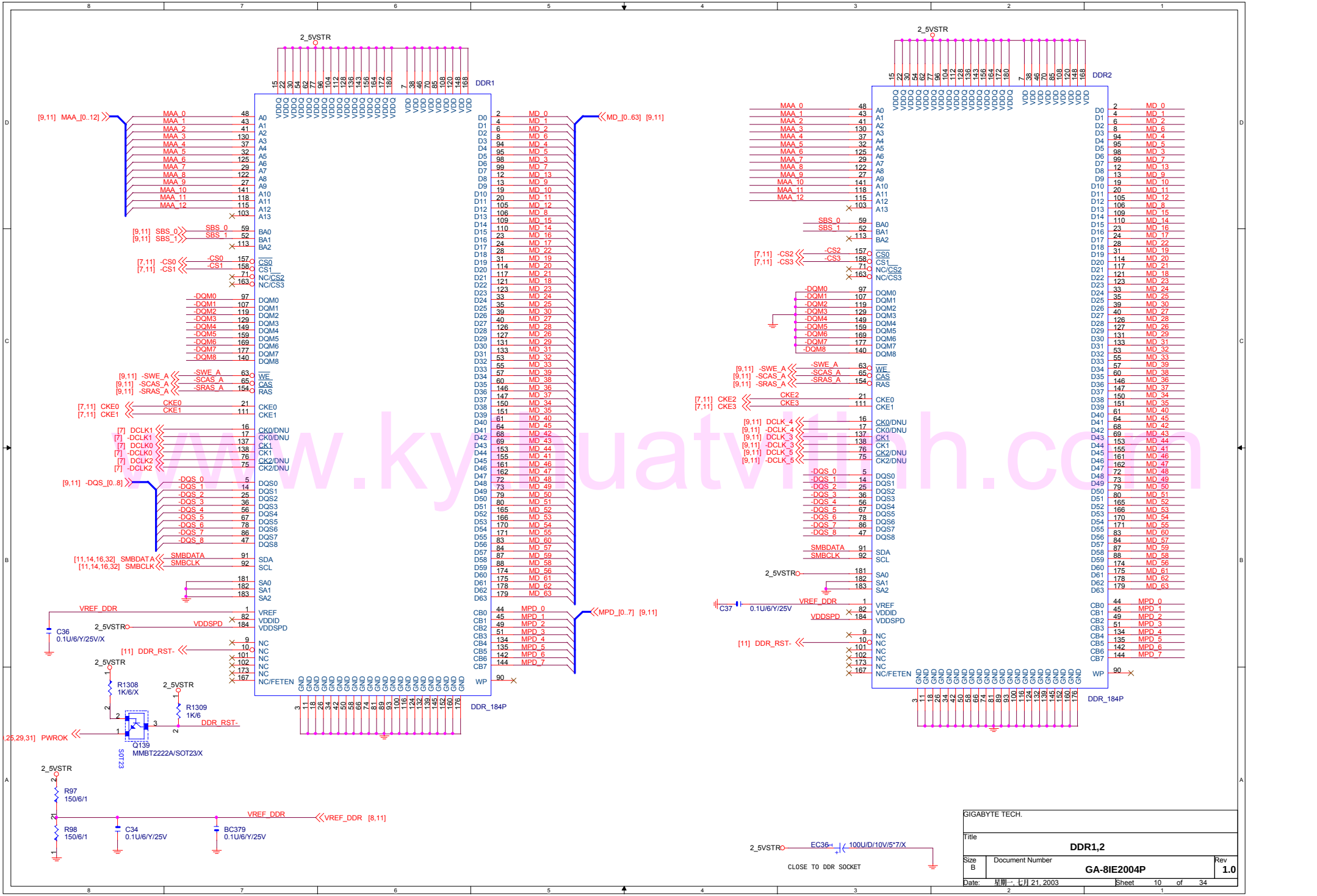


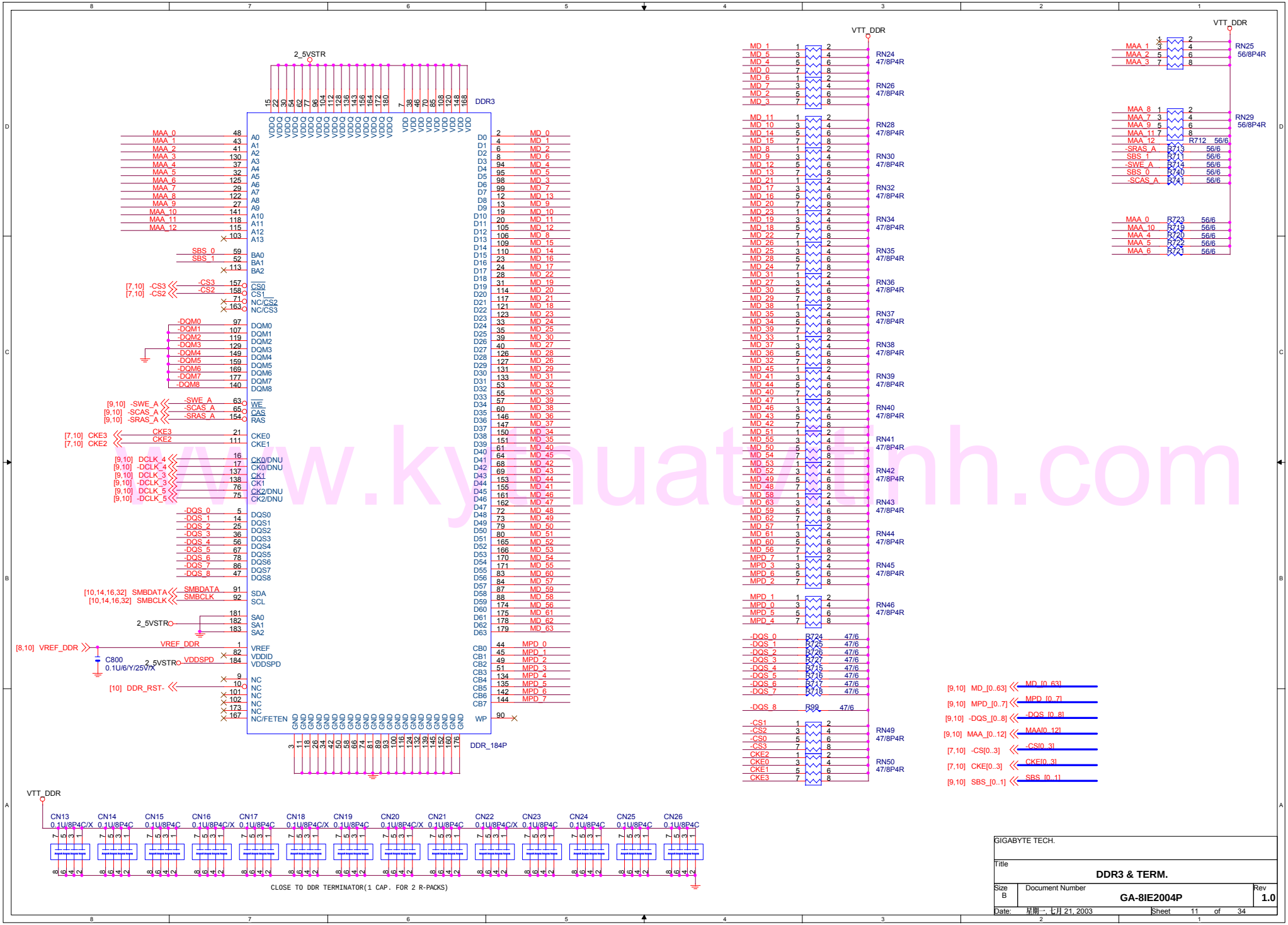
GIGABYTE CORP.

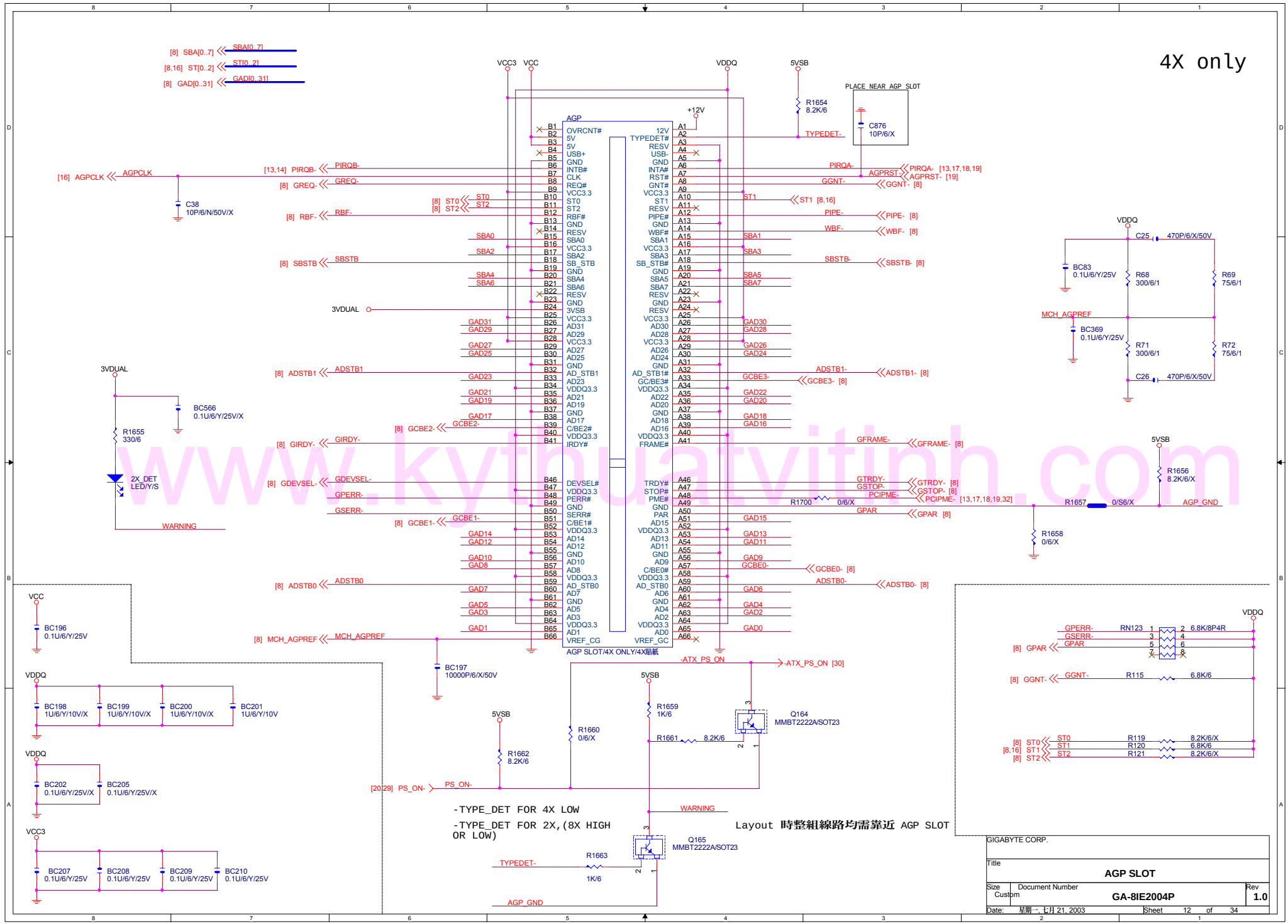
Title: **MD0_63 SERIAL TERM.**

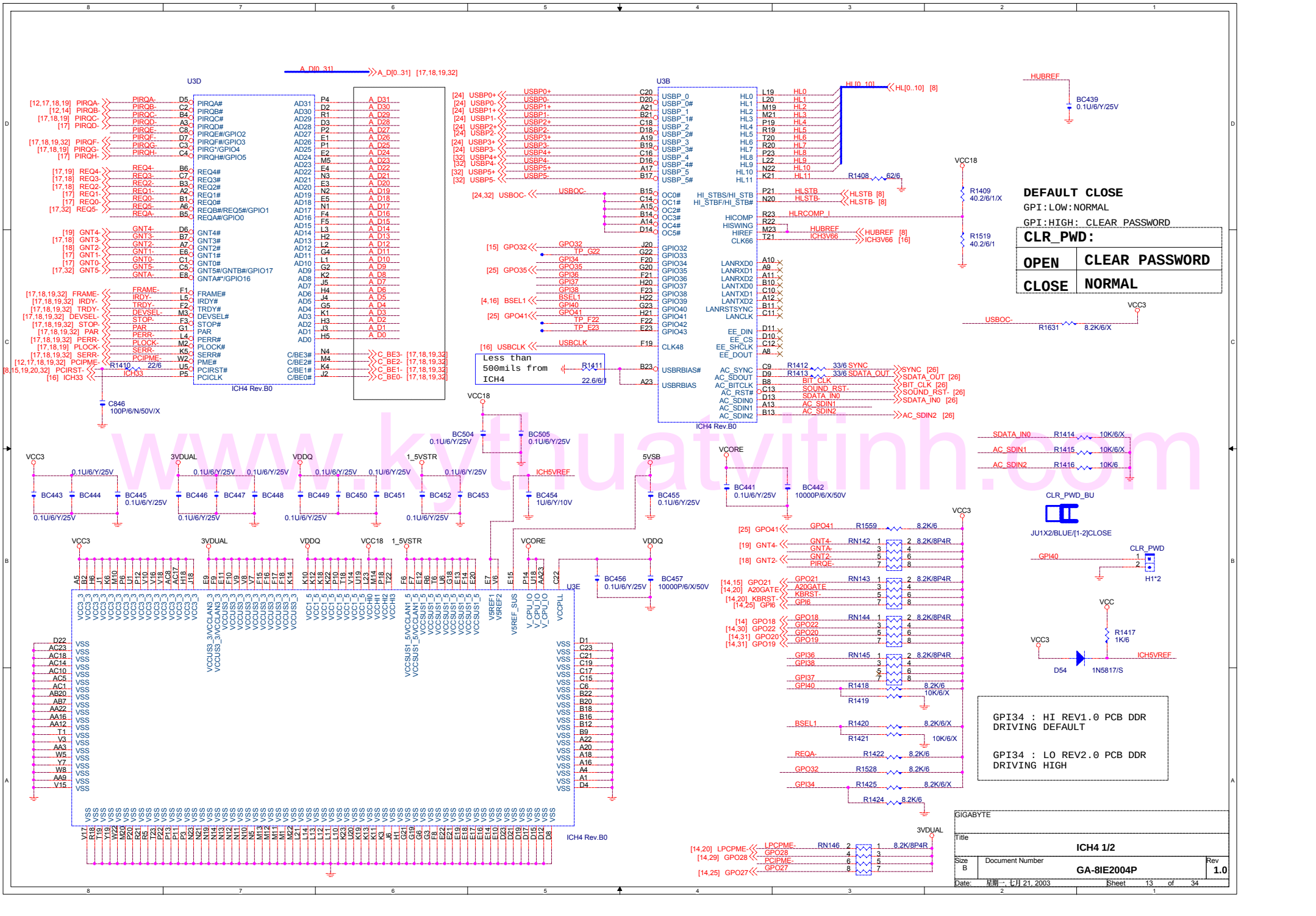
Size	Document Number	Rev
B	GA-8IE2004P	1.0

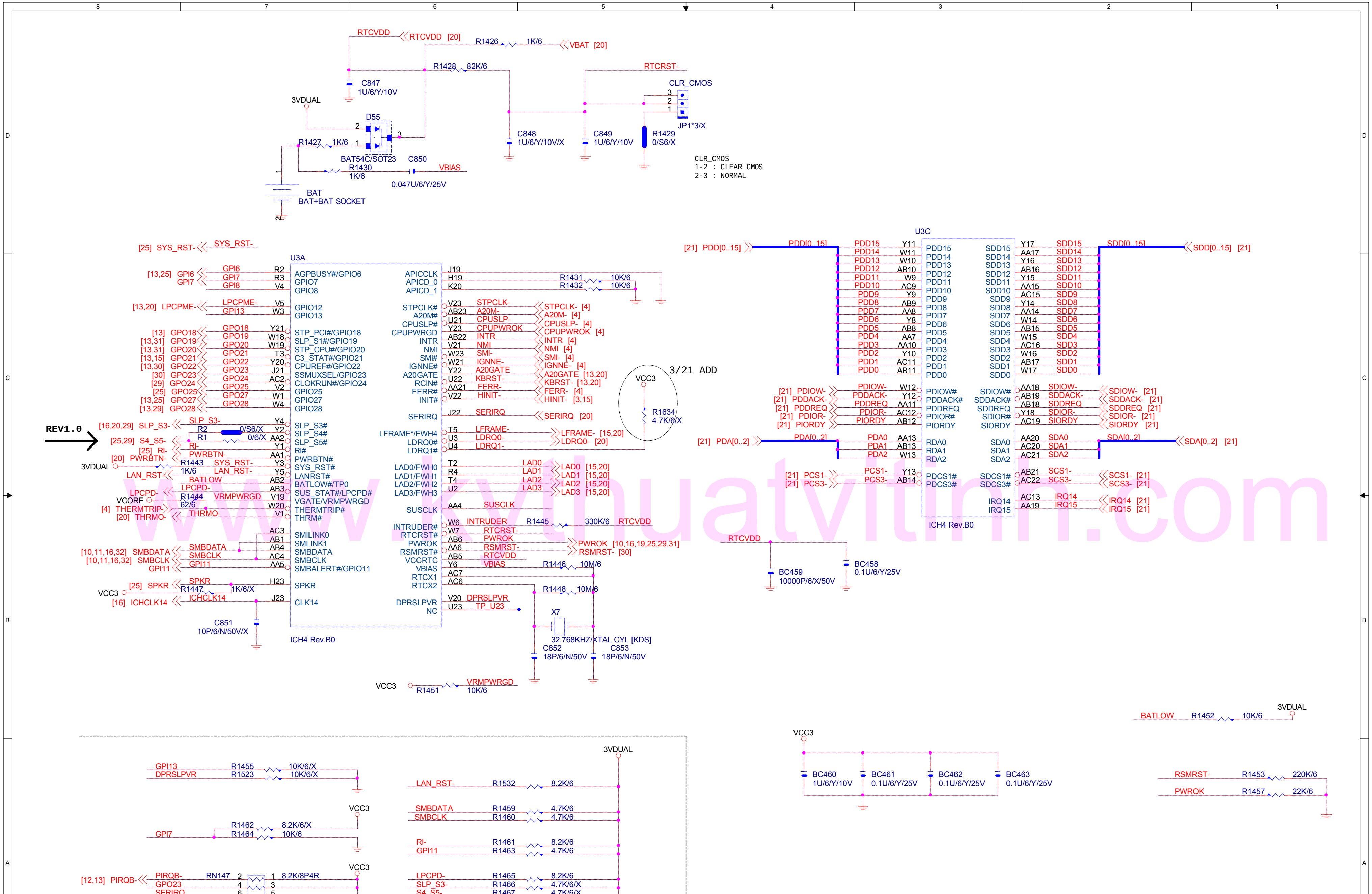
Date: 星期一, 七月 21, 2003 Sheet 9 of 34


DDR1
DDR2
DDR_184P
2_5VSTR
MAA_[0..12]
MD_[0..63]
MPD_[0..7]
DDR_RST-
PWROK
VREF_DDR
VDDSPD
R1308 1K/6/X
R1309 1K/6
Q139 MMBT2222A/SOT23/X
SOT23
R97 150/6/1
R98 150/6/1
C34 0.1U/6/Y/25V
BC379 0.1U/6/Y/25V
C36 0.1U/6/Y/25V/X
C37 0.1U/6/Y/25V
EC36 100U/D/10V/5*7/X
CLOSE TO DDR SOCKET
GIGABYTE TECH.
DDR1,2
GA-8IE2004P
Rev 1.0
Size B
Date: 星期一, 七月 21, 2003
Sheet 10 of 34







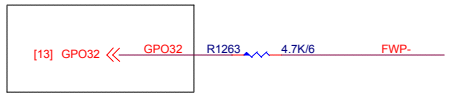


GIGABYTE

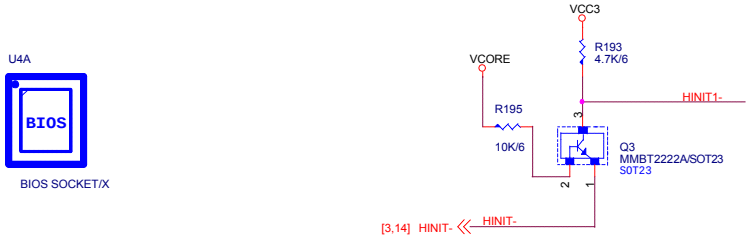
Title: ICH4 2/2

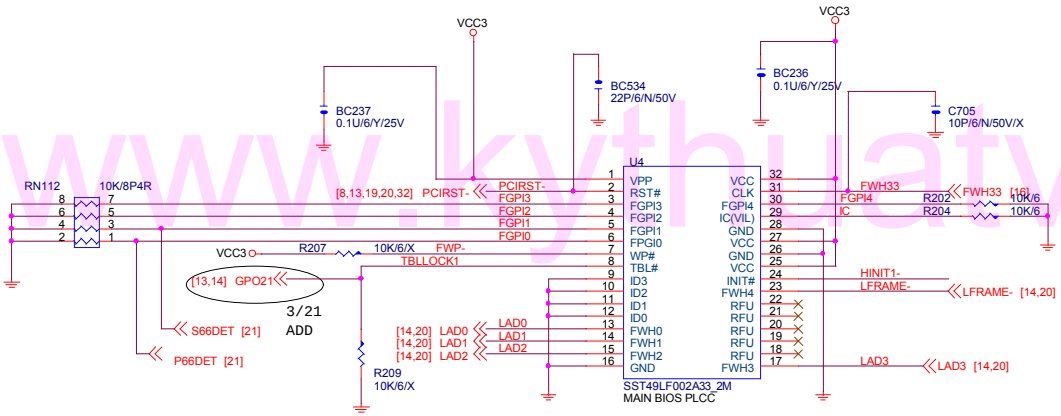
Size: Custom | Document Number: GA-8IE2004P | Rev: 1.0

Date: 星期一, 七月 21, 2003 | Sheet 14 of 34

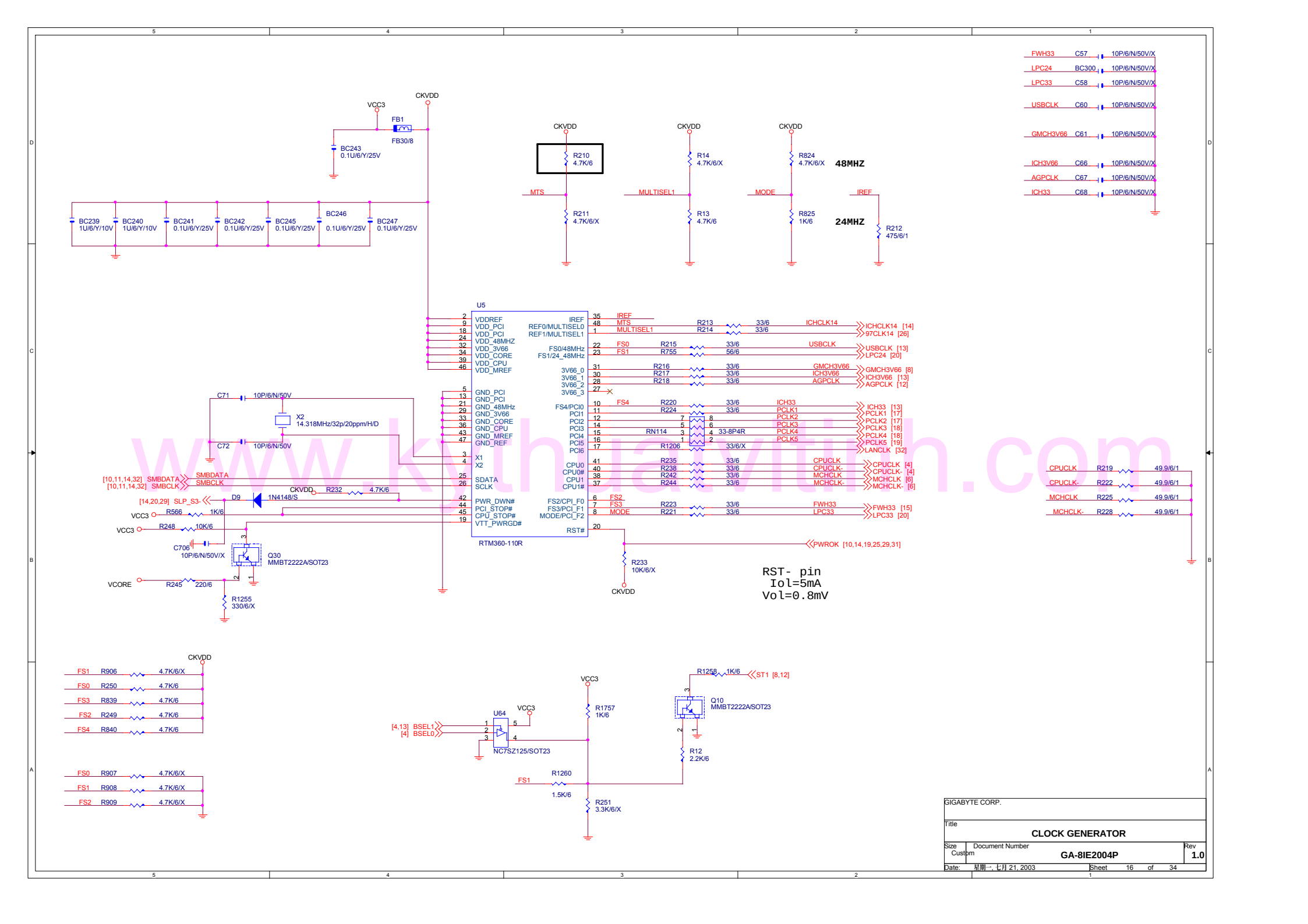


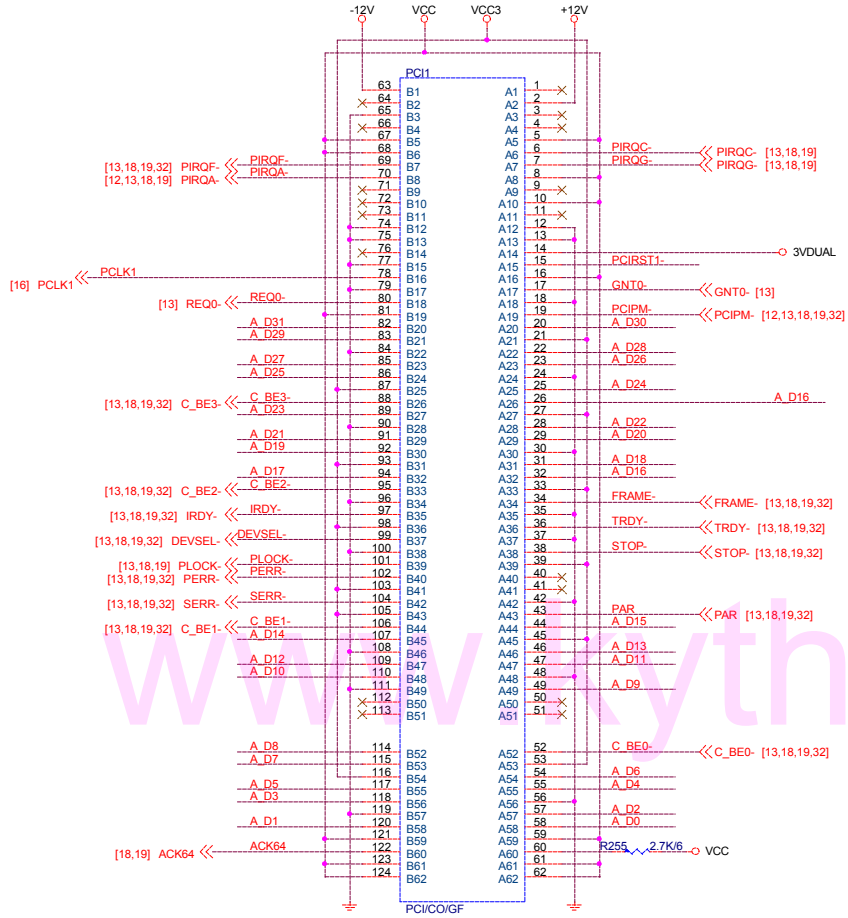
2002/04/15 MODIFY WRITE PROTECT



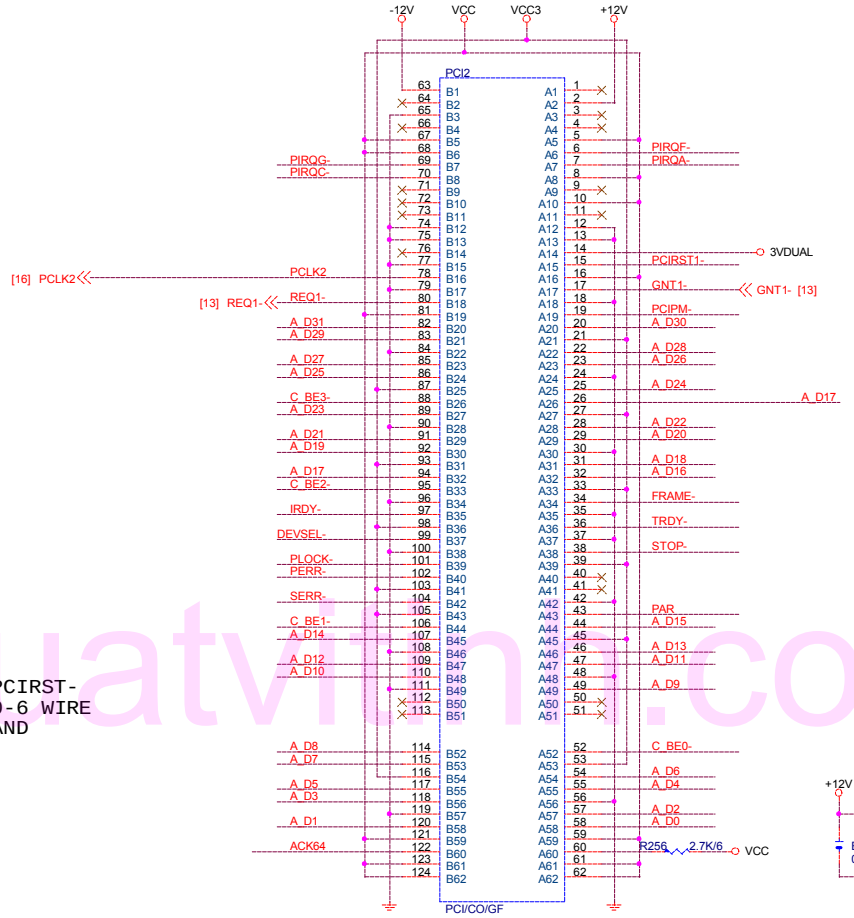


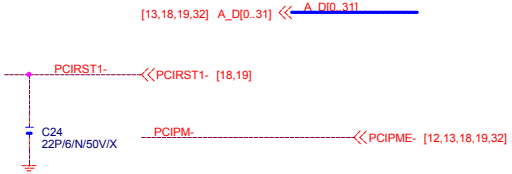
GIGABYTE CORP.		
Title: FWH		
Size: B	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 15 of 34	


VCC3
CKVDD
FB1
FB30/8
BC243 0.1U/6/Y/25V
BC239 1U/6/Y/10V
BC240 1U/6/Y/10V
BC241 0.1U/6/Y/25V
BC242 0.1U/6/Y/25V
BC245 0.1U/6/Y/25V
BC246 0.1U/6/Y/25V
BC247 0.1U/6/Y/25V
R210 4.7K/6
R211 4.7K/6/X
MTS
R14 4.7K/6/X
R13 4.7K/6
MULTISEL1
R824 4.7K/6/X
48MHZ
R825 1K/6
24MHZ
MODE
IREF
R212 475/6/1
FWH33 C57 10P/6/N/50V/X
LPC24 BC300 10P/6/N/50V/X
LPC33 C58 10P/6/N/50V/X
USBCLK C60 10P/6/N/50V/X
GMCH3V66 C61 10P/6/N/50V/X
ICH3V66 C66 10P/6/N/50V/X
AGPCLK C67 10P/6/N/50V/X
ICH33 C68 10P/6/N/50V/X
U5
RTM360-110R
VDDREF
VDD_PCI
VDD_48MHZ
VDD_3V66
VDD_CORE
VDD_CPU
VDD_MREF
GND_PCI
GND_48MHz
GND_3V66
GND_CORE
GND_CPU
GND_MREF
GND_REF
X1
X2
SDATA
SCLK
PWR_DWN#
PCI_STOP#
CPU_STOP#
VTT_PWRGD#
RST#
REF0/MULTISEL0
REF1/MULTISEL1
FS0/48MHz
FS1/24_48MHz
3V66_0
3V66_1
3V66_2
3V66_3
FS4/PCI0
PCI1
PCI2
PCI3
PCI4
PCI5
PCI6
CPU0
CPU0#
CPU1
CPU1#
FS2/CPI_F0
FS3/PCI_F1
MODE/PCI_F2
C71 10P/6/N/50V
C72 10P/6/N/50V
X2 14.318MHz/32p/20ppm/H/D
[10,11,14,32] SMBDATA
[10,11,14,32] SMBCLK
SMBDATA
SMBCLK
[14,20,29] SLP_S3-
D9 1N4148/S
R232 4.7K/6
R566 1K/6
R248 10K/6
C706 10P/6/N/50V/X
Q30 MMBT2222A/SOT23
VCORE
R245 220/6
R1255 330/6/X
R213 33/6
R214 33/6
ICHCLK14
ICHCLK14 [14]
97CLK14 [26]
R215 33/6
R755 56/6
USBCLK
USBCLK [13]
LPC24 [20]
R216 33/6
R217 33/6
R218 33/6
GMCH3V66 [8]
ICH3V66 [13]
AGPCLK [12]
R220 33/6
R224 33/6
ICH33
ICH33 [13]
PCLK1 [17]
PCLK2 [17]
PCLK3 [18]
PCLK4 [18]
PCLK5 [19]
LANCLK [32]
RN114 33-8P4R
R1206 33/6/X
R235 33/6
R238 33/6
R242 33/6
R244 33/6
CPUCLK
CPUCLK- [4]
MCHCLK
MCHCLK- [6]
R223 33/6
R221 33/6
FWH33
LPC33
FWH33 [15]
LPC33 [20]
PWROK [10,14,19,25,29,31]
R233 10K/6/X
CKVDD
RST- pin
Iol=5mA
Vol=0.8mV
CPUCLK R219 49.9/6/1
CPUCLK- R222 49.9/6/1
MCHCLK R225 49.9/6/1
MCHCLK- R228 49.9/6/1
FS1 R906 4.7K/6/X
FS0 R250 4.7K/6
FS3 R839 4.7K/6
FS2 R249 4.7K/6
FS4 R840 4.7K/6
FS0 R907 4.7K/6/X
FS1 R908 4.7K/6/X
FS2 R909 4.7K/6/X
U64
NC7SZ125/SOT23
[4,13] BSEL1
[4] BSEL0
R1757 1K/6
R1258 1K/6
ST1 [8,12]
Q10 MMBT2222A/SOT23
R12 2.2K/6
R1260 1.5K/6
R251 3.3K/6/X
GIGABYTE CORP.
Title
CLOCK GENERATOR
Size Custom
Document Number GA-8IE2004P
Rev 1.0
Date: 星期一, 七月 21, 2003
Sheet 16 of 34

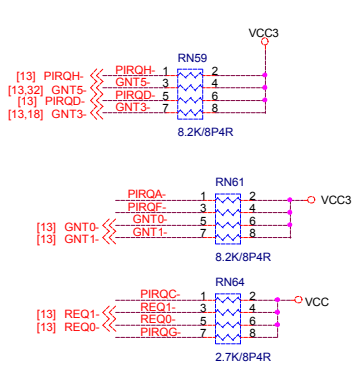


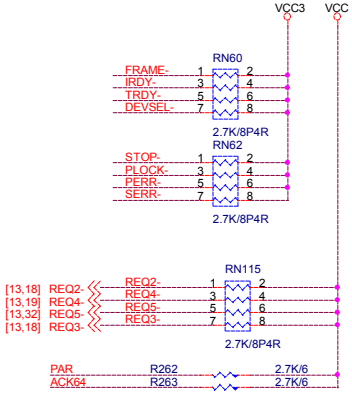
PCIRST-
0-6 WIRE
AND

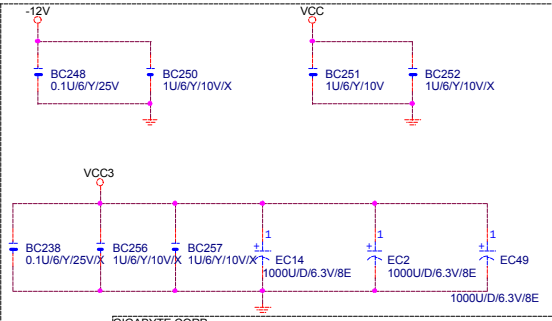




CLOSE PCI1 SLOT







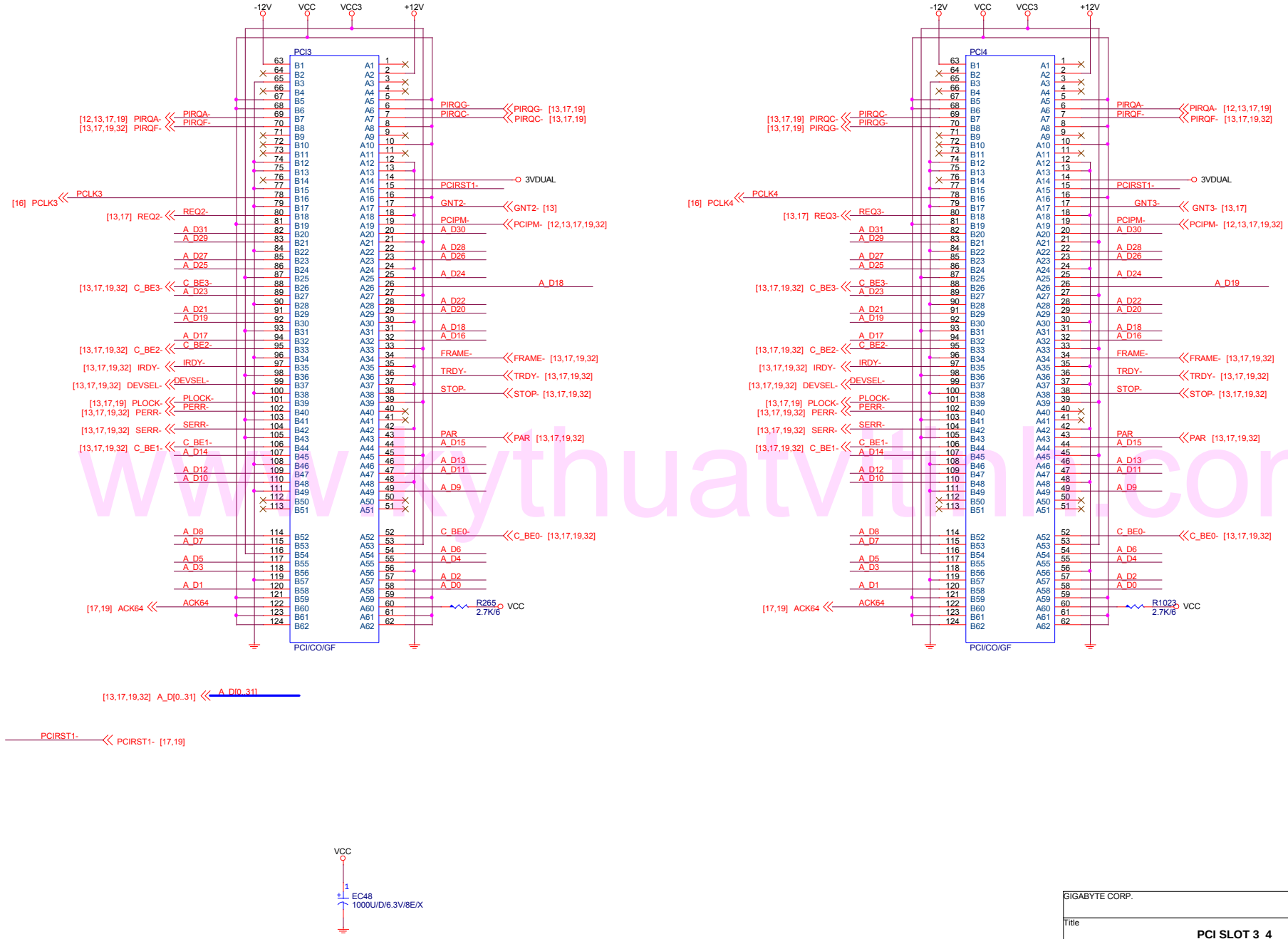
GIGABYTE CORP.

Title

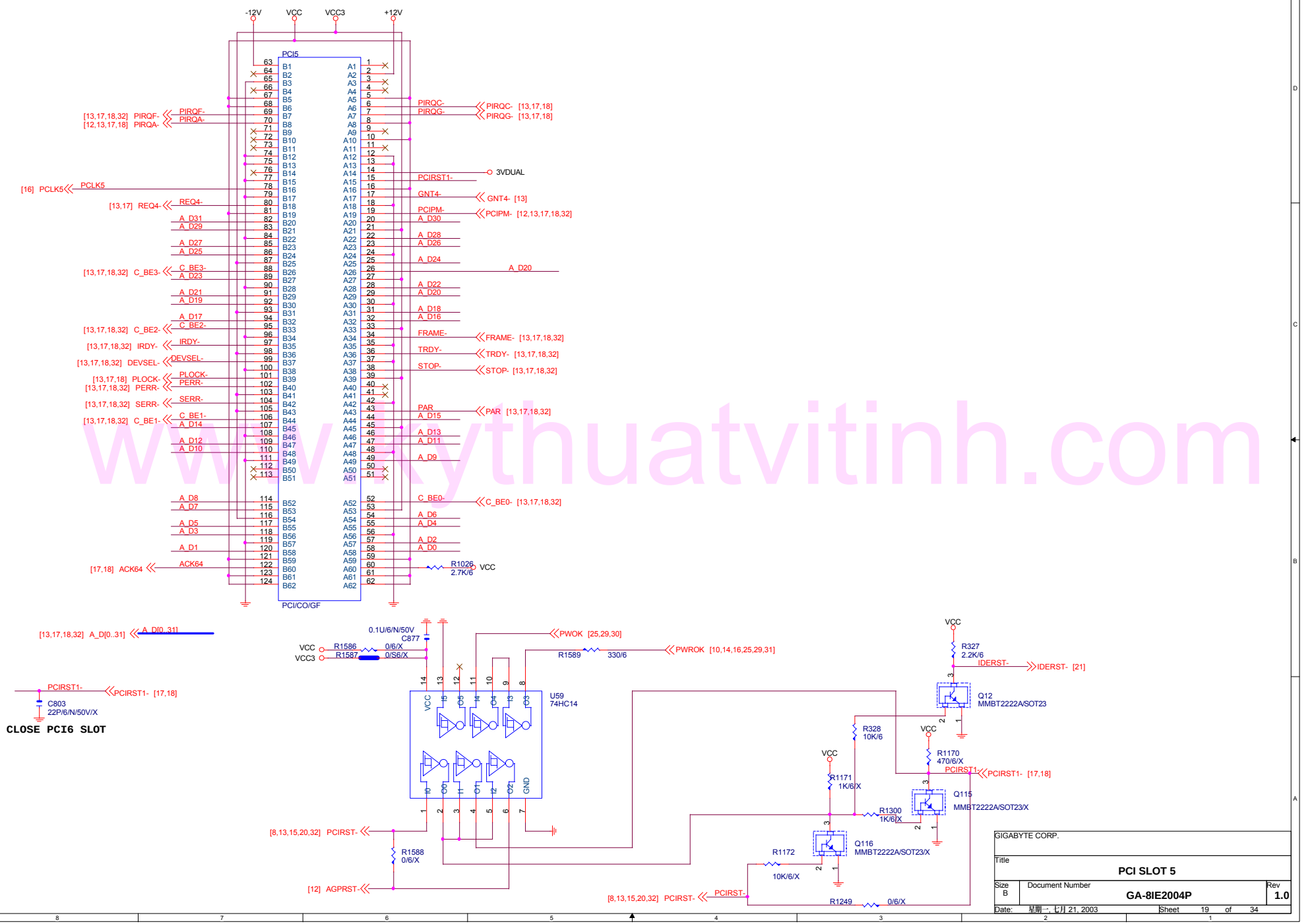
PCI SLOT 1/2

Size	Document Number	Rev
B	GA-8IE2004P	1.0

Date: 星期一, 七月 21, 2003 Sheet 17 of 34



GIGABYTE CORP.		
Title: PCI SLOT 3_4		
Size: B	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 18 of 34	

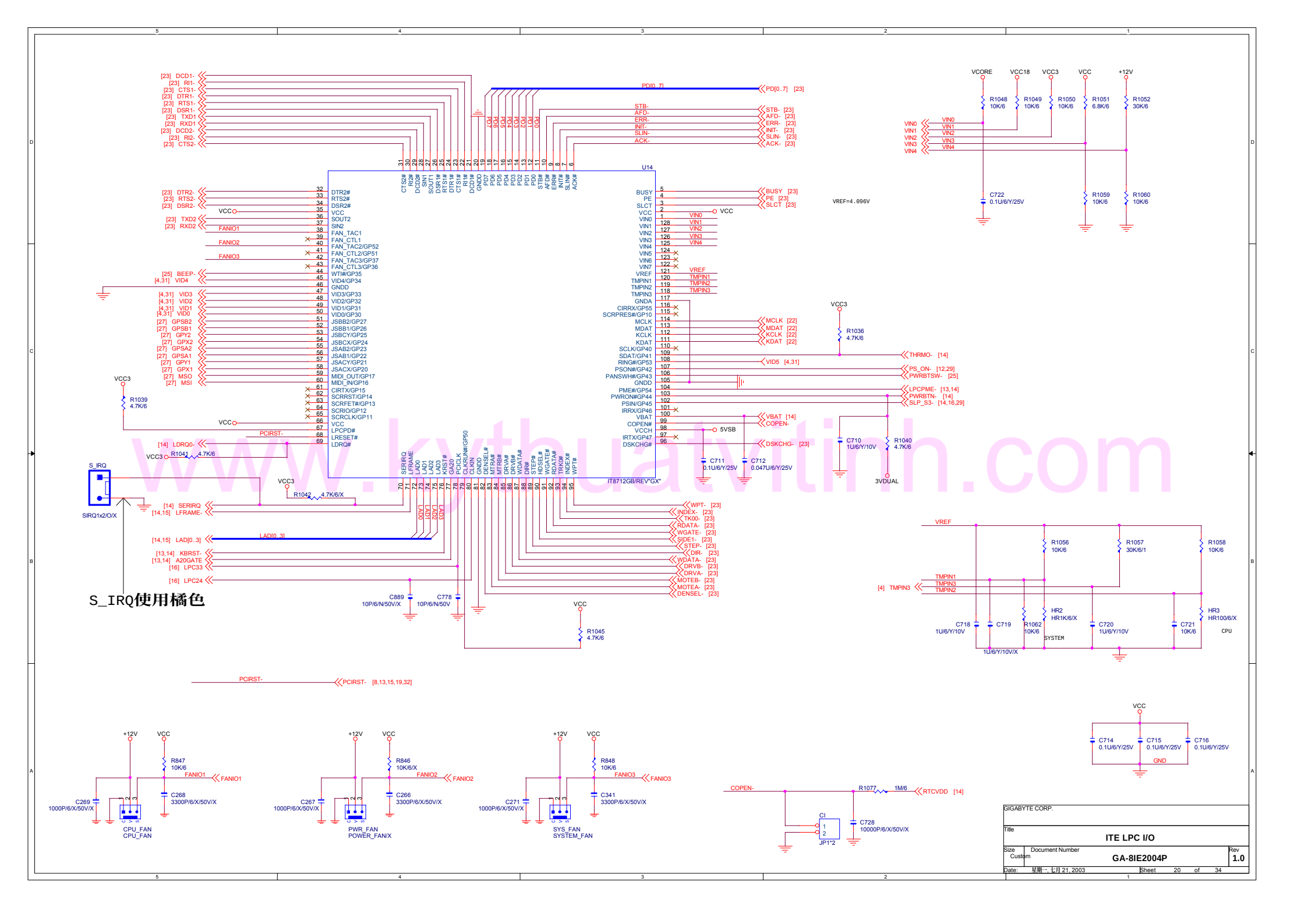


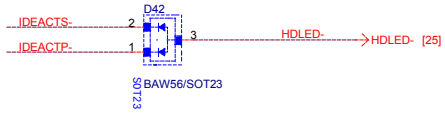
GIGABYTE CORP.

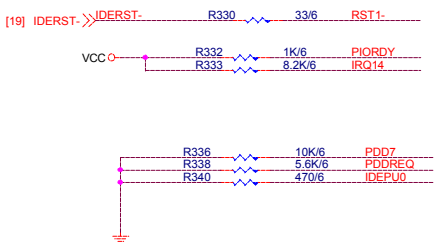
Title: **PCI SLOT 5**

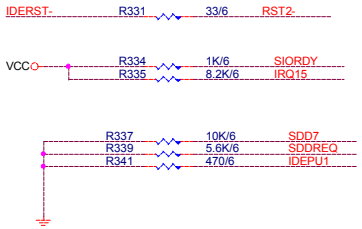
Size	Document Number	Rev
B	GA-8IE2004P	1.0

Date: 星期一, 七月 21, 2003 Sheet 19 of 34

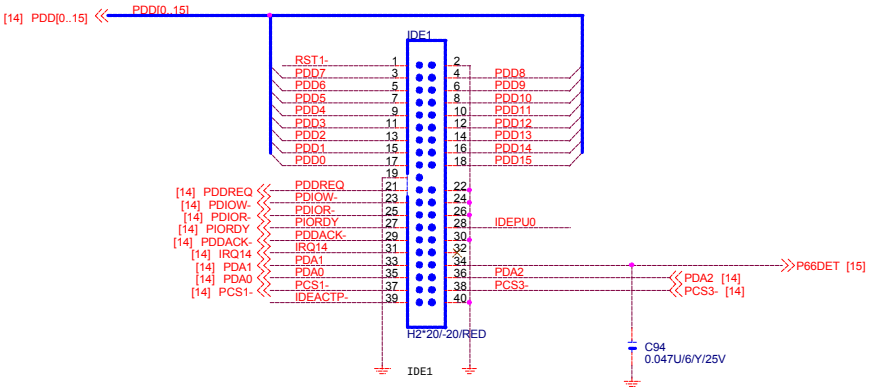






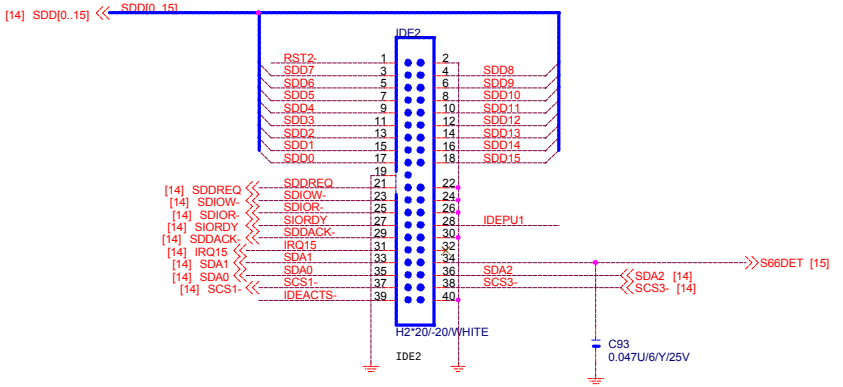


PRIMARY IDE CONNECTOR



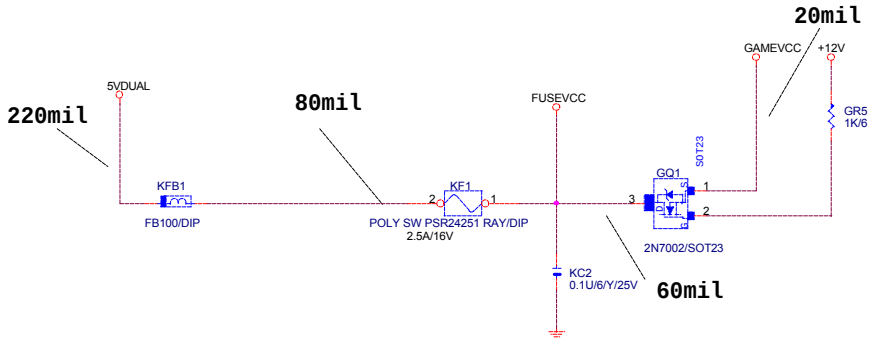
BIOS:CABLE DETECT AND DEVICE DETECT

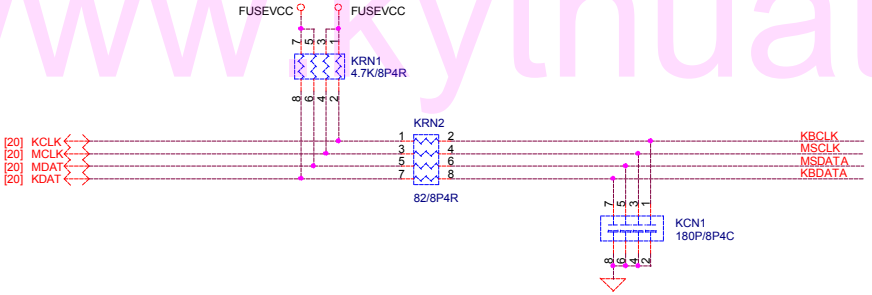
SECONDARY IDE CONNECTOR

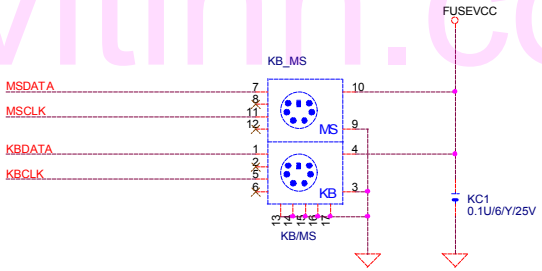


GIGABYTE CORP.		
Title: IDE CONNECTOR		
Size: B	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 21 of 34	

模組化線路



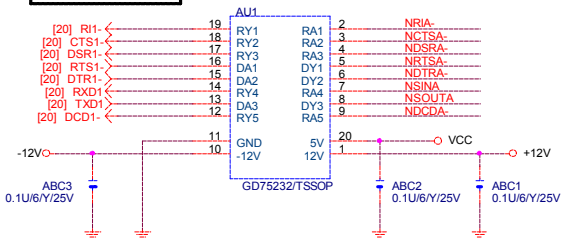


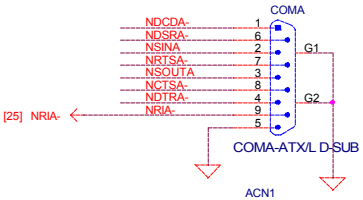


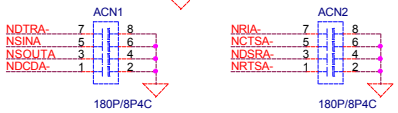
GIGABYTE CORP.		
Title: KB & PS2 MOUSE & IR		
Size: B	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 22 of 34	

COMA

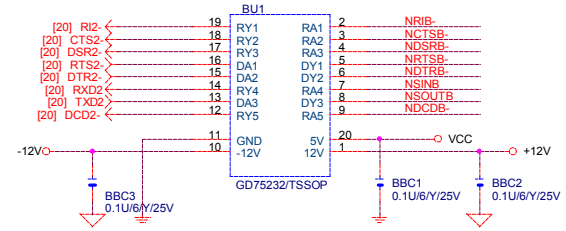
模組化線路

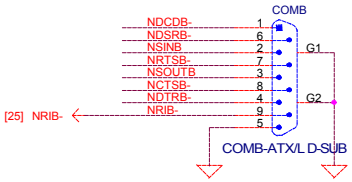


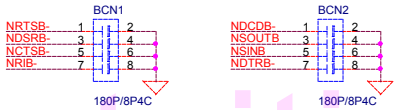




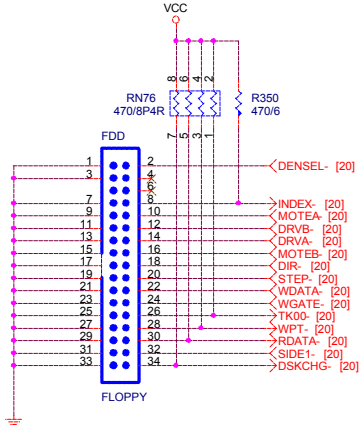
COMB



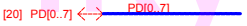


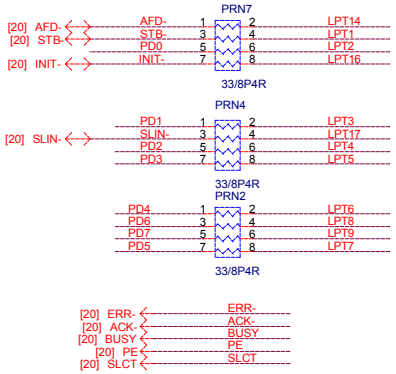


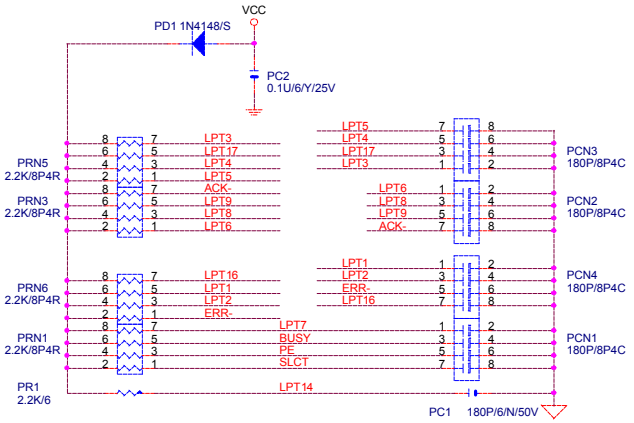
FLOPPY

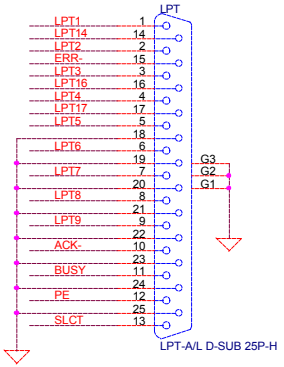


PRT PORT

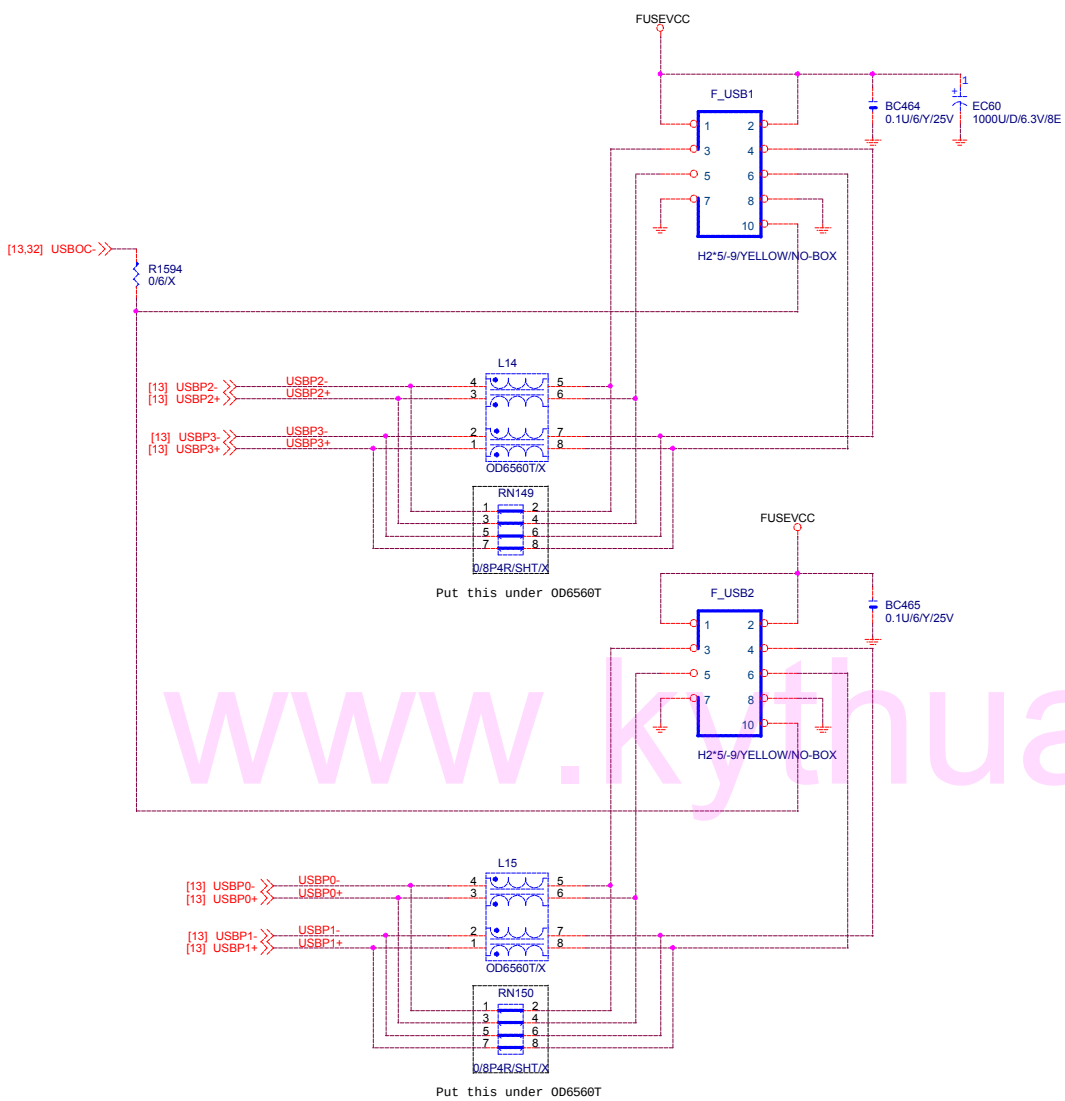




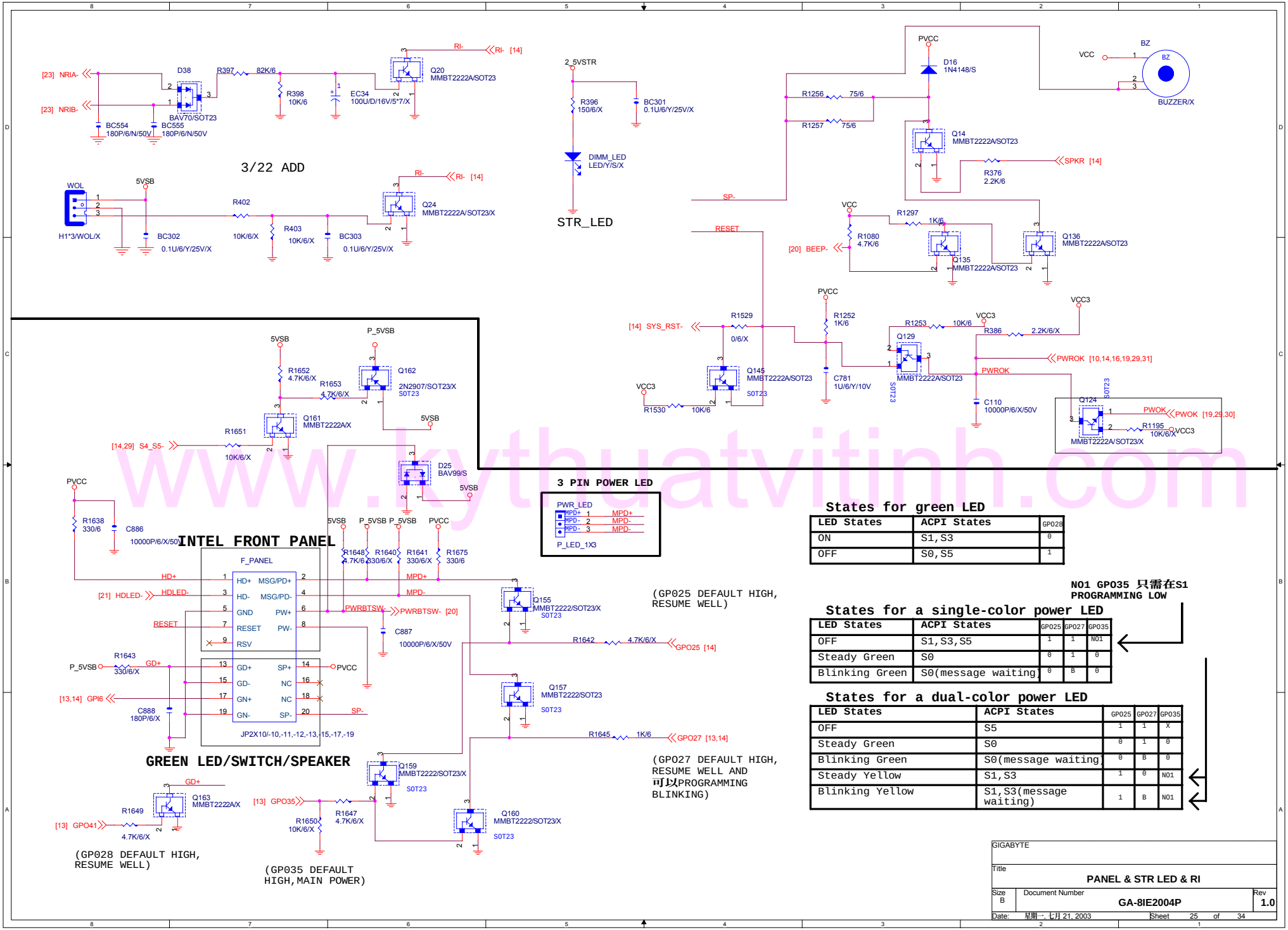




GIGABYTE CORP.		
Title: COM & IR & LPT PORT &FLOOPY		
Size: B	Document Number: GA-8IE2004P	Rev: 1.0
Date: 星期一, 七月 21, 2003	Sheet 23 of 34	



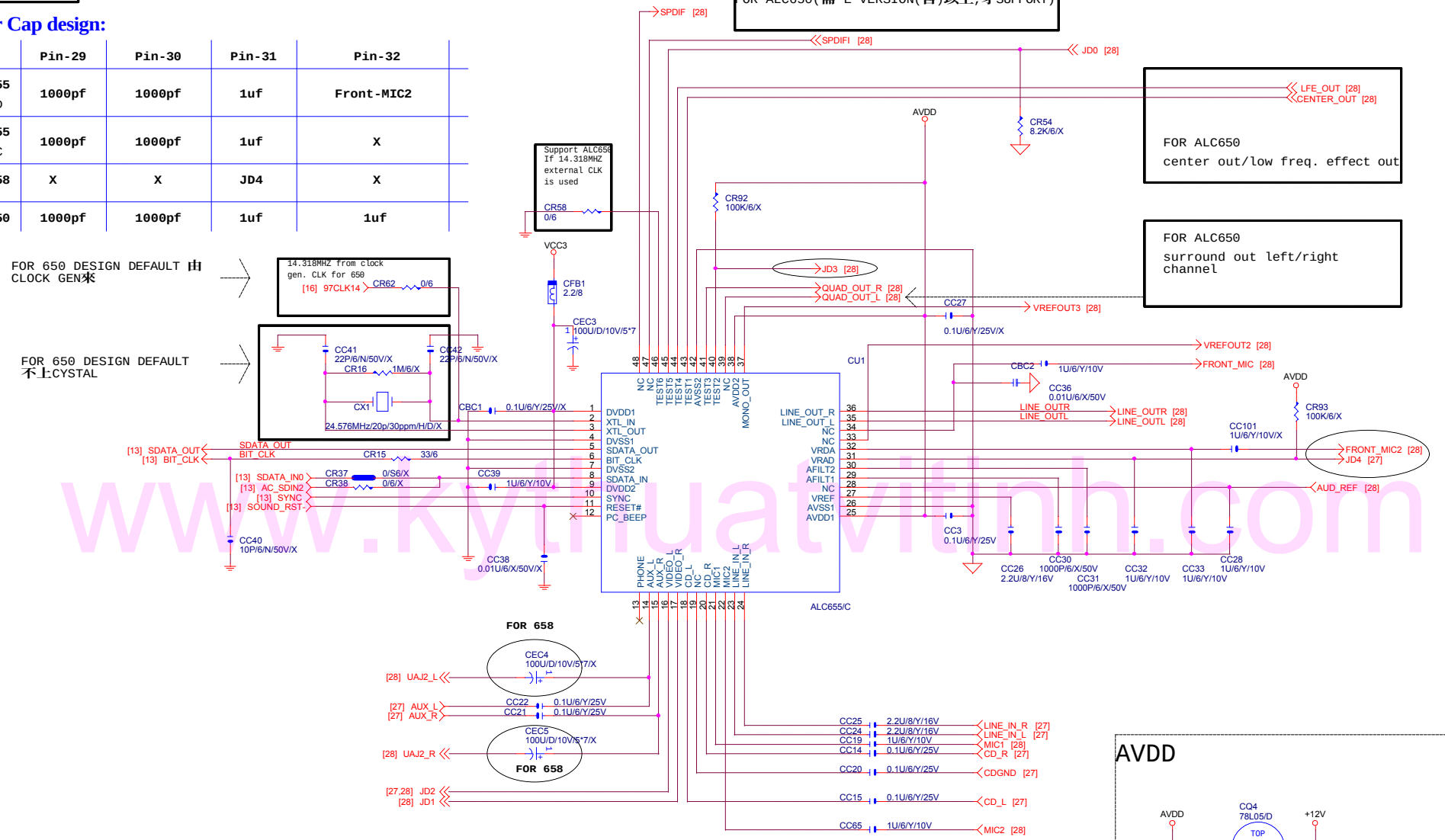
GIGABYTE		
Title	ICH USB+LAN PORT	
Size B	Document Number GA-8IE2004P	Rev 1.0
Date: 星期一, 七月 21, 2003	Sheet 24 of 34	



模組化線路

Filter Cap design:

	Pin-29	Pin-30	Pin-31	Pin-32
ALC655 Rev D	1000pf	1000pf	1uf	Front-MIC2
ALC655 Rev C	1000pf	1000pf	1uf	X
ALC658	X	X	JD4	X
ALC650	1000pf	1000pf	1uf	1uf



Arrangement of Jack detection Pin:

	Pin-45(JD0)	Pin-17(JD1)	Pin-16(JD2)	Pin-40(JD3)	Pin-31(JD4)
ALC655	for MIC-IN	for FRONT-OUT	for LINE-IN		
ALC658	for MIC-IN	for UAJ1	for UAJ2	for FRONT-OUT Exernal pull high is needed	for LINE-IN Exernal pull high is needed

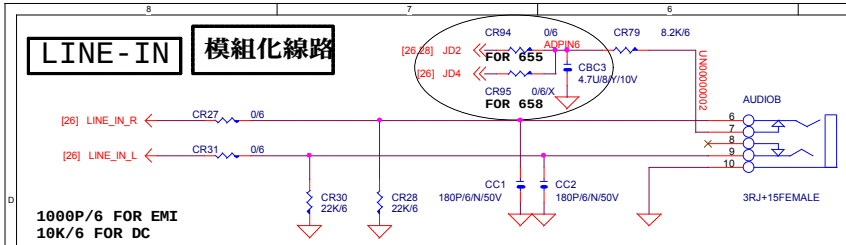
GIGABYTE CORP.

Title: AC97

Size: B | Document Number: GA-8IE2004P | Rev: 1.0

Date: 星期一, 七月 21, 2003 | Sheet 26 of 34

LINE-IN 模組化線路

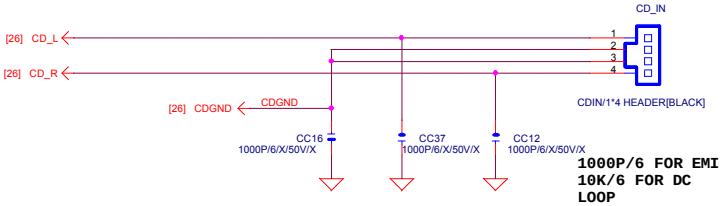


1000P/6 FOR EMI
10K/6 FOR DC
LOOP

LINE IN SENSING(當OUTPUT)
R>4K OHM=>POWER SPEAKER
4K OHM>R>400 OHM=>MICROPHONE
R<400 OHM=>HEADPHONE

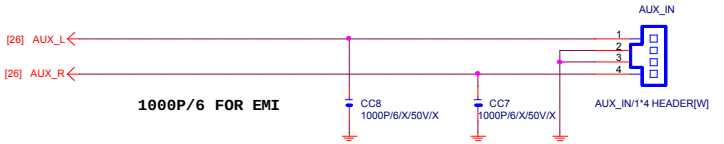
LINE IN SENSING(當INPUT)
swing of input signal>-40dbv(10mv)===>line in device active
swing of input signal<-40dbv(10mv)===>unknown line in device

CDIN



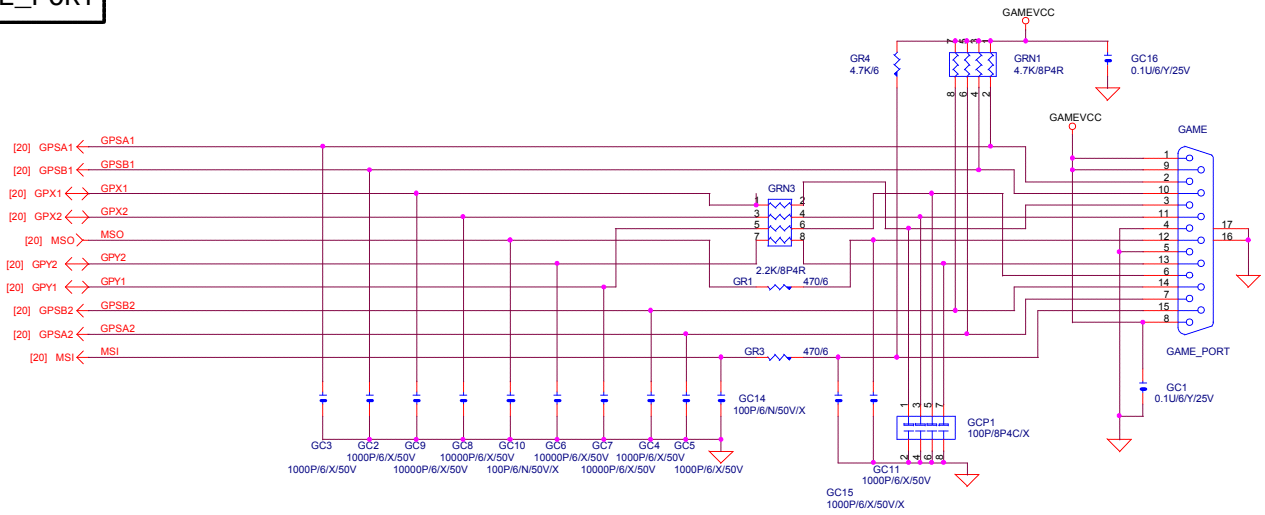
1000P/6 FOR EMI
10K/6 FOR DC
LOOP

AUX_IN



1000P/6 FOR EMI

GAME_PORT



GIGABYTE CORP.

Title: PHONE JACK, GAME PORT

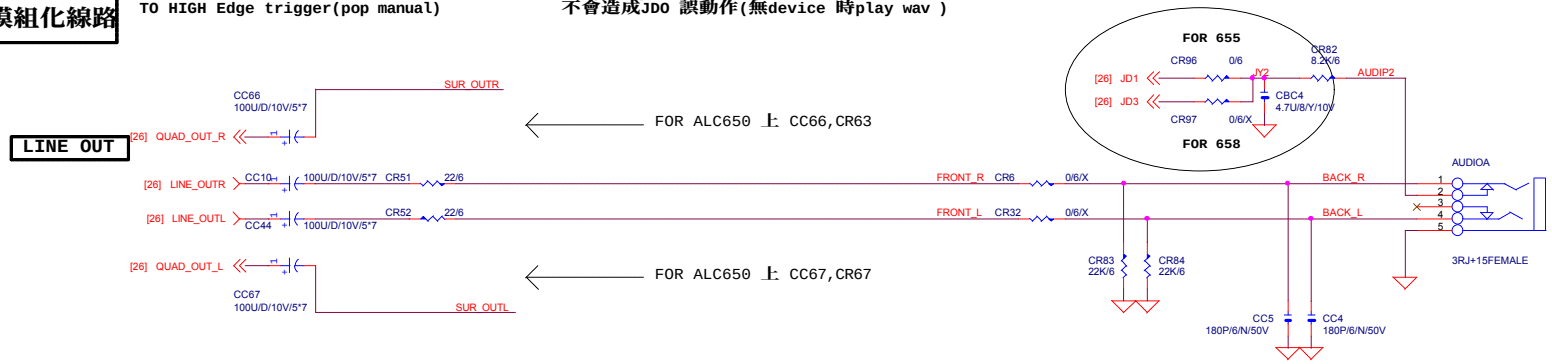
Size: Custom | Document Number: GA-8IE2004P | Rev: 1.0

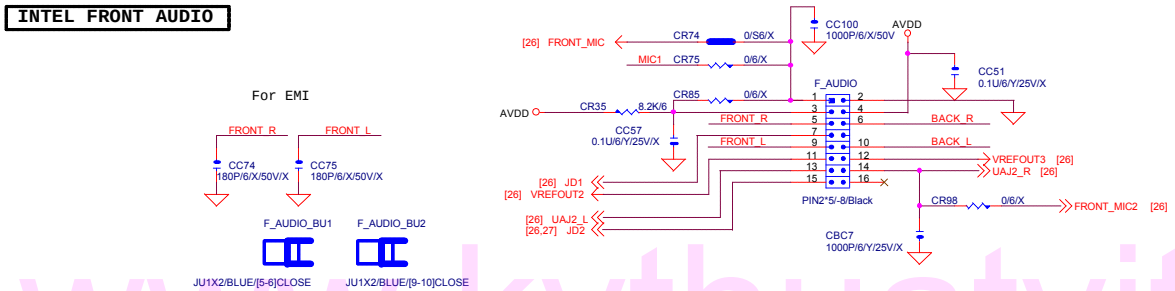
Date: 星期一, 七月 21, 2003 | Sheet 27 of 34

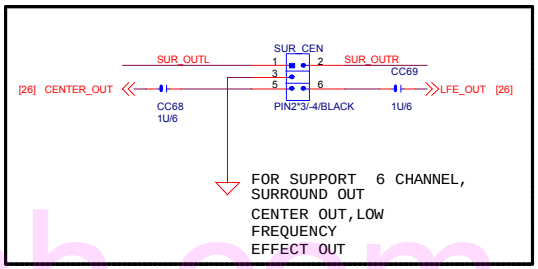
模組化線路

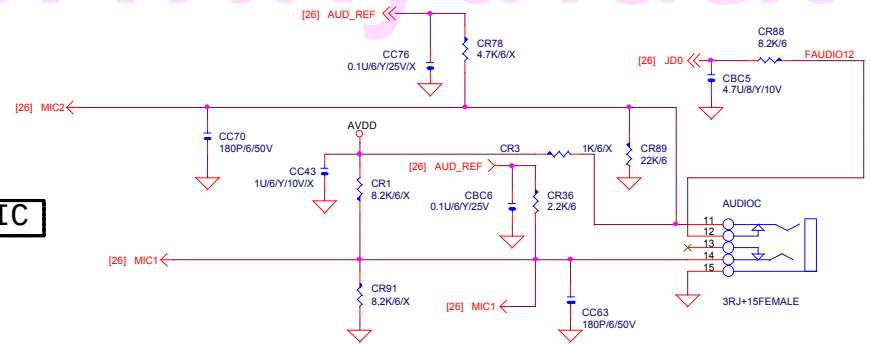
JDO,JD2,GPIO0 為偵測DEVICE INPUT 時由LOW TO HIGH Edge trigger(pop manual)

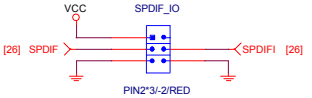
1/2(3.14)RC=1/2(3.14)8.2K*4.7U=4.3HZ以上AC 信號全部衰減 TO 0V 不會造成JDO 誤動作(無device 時play wav)











MICROPHONE IN SENSING(當INPUT)(利用vref 偏壓與CR43,CR32 並聯求出阻抗)
7.1k ohm>R>2.3k ohm===>microphone in
R<2.3k ohm or R>7.1k ohm===>unknown device

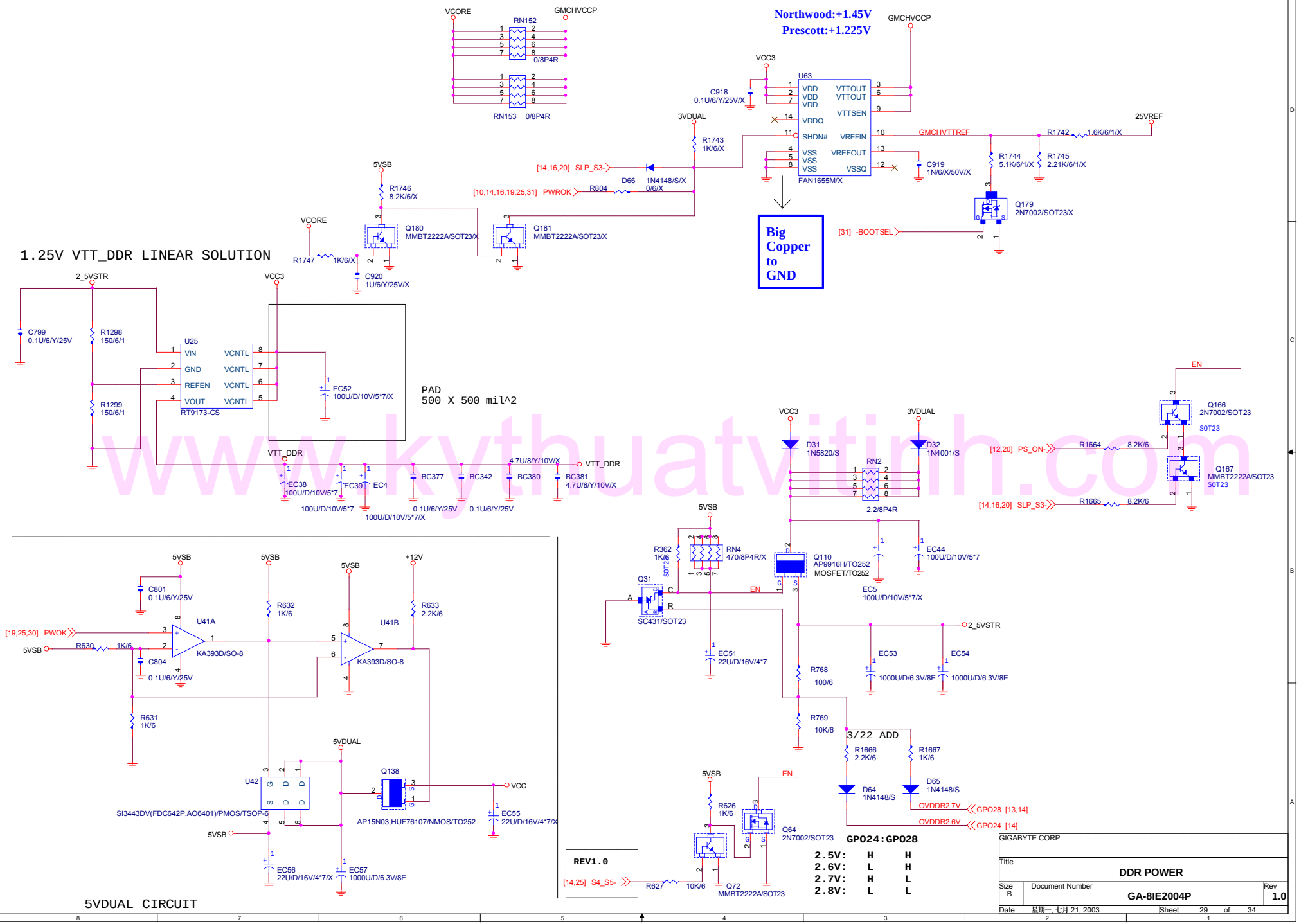
MICROPHONE IN SENSING(當OUTPUT)
R>4K OHM=>POWER SPEAKER
4K OHM>R>400 OHM=>MICROPHONE
R<400 OHM=>HEADPHONE

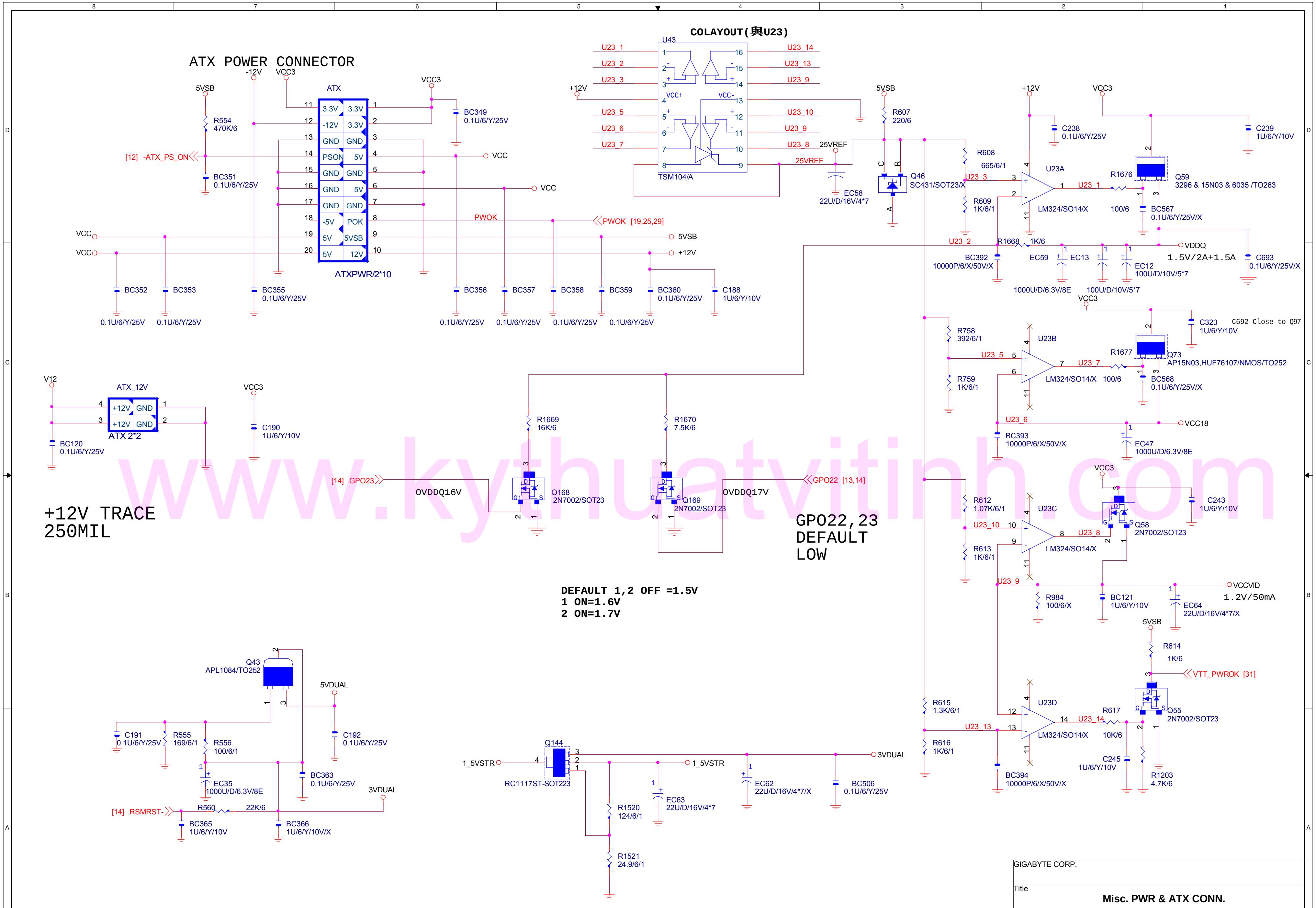
GIGABYTE CORP.

Title: PHONE JACK, GAME PORT

Size: Custom | Document Number: GA-8IE2004P | Rev: 1.0

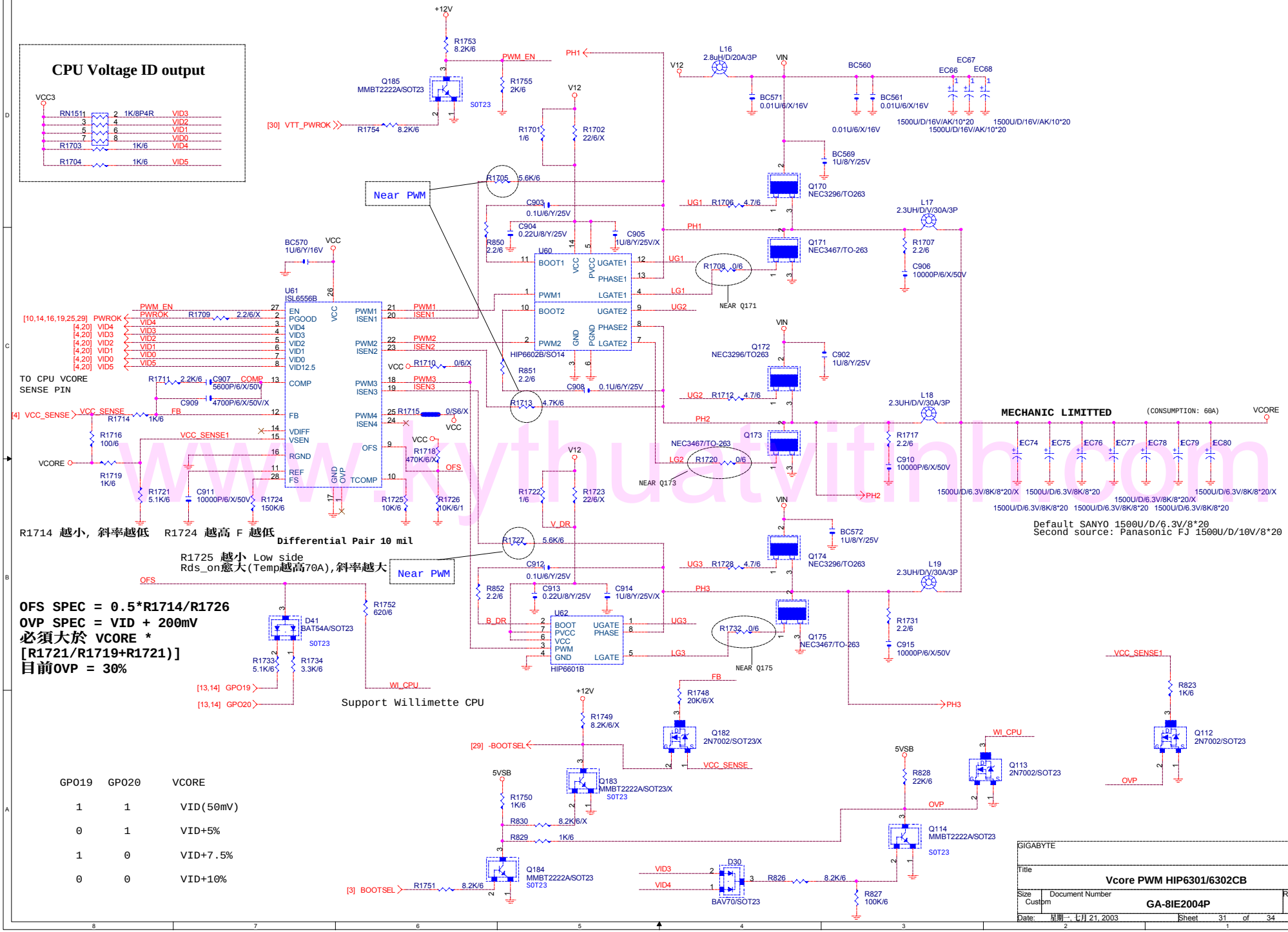
Date: 星期一, 七月 21, 2003 | Sheet 28 of 34





GIGABYTE CORP.

Title	Misc. PWR & ATX CONN.	
Size B	Document Number GA-8IE2004P	Rev 1.0
Date: 星期一, 七月 21, 2003	Sheet 30 of 34	



	10/100 8100C	Giga 8110S	Giga 8110SB
AVDDH	N/A	3.3V	3.3V
V_12P	2.5V	N/A	3.3V
AVDDL	3.3V	2.5V	2.5V
V_DAC	N/A	2.5V	2.5V
DVDD	2.5V	1.8V	1.3V
DVDD_A	2.5V	1.8V	1.3V

LU1:
100M:RTL8100C

LR15:
100M:5.9K/6/1

LR4:
93C46:N/A
93C56:8.2K/6

LQ3:
100M:2N2907A
1G:N/A

DVDD:
100M:2.5V
1G:1.8V

IDESEL 21
-REQ/-GNT(5)
-PIRQF

FOR 100M:P35-152-11Z9

FOR EMI

FOR EMI

LBC25:
100M:0.1U/6

Spacing : at least 50 mils between each differential pair

LR22, LR23, LBC26 Close to Lan Chip
Realtek suggestion (TX+, TX-).

LR24, LR25, LBC27 Close to Lan Chip
Realtek Suggestion (RX+, RX-).

POWER DECOUPLING CAP.

REAR USBX2

Close to USB port

LAN EEPROM

When Inetl & GBT Gigabit (8110S)
Note: LEDS1-0 must set to 00 in EEPROM

RTL8100C 10M/100M	10Mb	---	ON	OFF
	100Mb	---	ON	OFF
	Link	---	ON	---
	Active	Blink	---	---

GIGABYTE

Title: LAN RTL8100C

Size: Custom | Document Number: GA-8IE2004P | Rev: 1.0

Date: 星期一, 七月 21, 2003 | Sheet 32 of 34

GIGABYTE GA-8IE2004P GPIO LIST

Revision 1.0

SHEET TITLE

GPI		
GPI0/REQA-	NA	PULL 8.2K TO VCC3
GPI1/REQ5-		PULL 2.7K TO VCC
GPI2/PIRQE-	ID	PULL 8.2K TO VCC3 (default)
GPI3/PIRQF-		PULL 8.2K TO VCC3
GPI4/PIRQG-		PULL 8.2K TO VCC3
GPI5/PIRQH-	ID	PULL 8.2K TO VCC3 (default)
GPI6		PULL 8.2K TO VCC3(GREEN_BUTTON)
GPI7		PULL DOWN 10K TO GND
GPI8	ID	PULL 8.2K TO VCC3 (default)
GPI9	NA	NOT IMPLEMENTED
GPI10	NA	NOT IMPLEMENTED
GPI11		PULL 4.7K TO 3VDUAL (SMBALERT)
GPI12/LPCPME-		PULL 8.2K TO 3VDUAL (PME-)
GPI13		NC
GPI14	NA	NOT IMPLEMENTED
GPI15	NA	NOT IMPLEMENTED

SHEET TITLE

GPO		
GPO16	NA	PULL 8.2K TO VCC3(CAN'T PULL DOWN)因為會decode bios address 不正確:FF
GPO17		PULL 8.2K TO VCC3 (GNT5-)
GPO18	NA	PULL 8.2K TO VCC3 此OUTPUT會TOGGLE,(在開機時),BIOS POST OK
GPO19		PULL 8.2K TO VCC3
GPO20		PULL 8.2K TO VCC3
GPO21		PULL 8.2K TO VCC3 (TOP BLOCK)
GPO22		PULL 8.2K TO VCC3
GPO23		PULL 8.2K TO VCC3
GPO24		PULL 4.7K TO 3VDUAL
GPO25		PULL 4.7K TO 3VDUAL (POWER LED)
GPO26		NOT IMPLEMENTED
GPO27		PULL 8.2K TO 3VDUAL (POWER LED)
GPO28		PULL 8.2K TO 3VDUAL
GPO32		PULL 8.2K TO 3VDUAL (BIOS WRITE PROTECT)
GPO35		PULL DOWN 10K TO GND (POWER LED)

COMPONENT SIDE (0.5 oz. Copper)
VCC SIDE (1 oz. Copper)
GND SIDE (1 oz. Copper)
SOLDER SIDE (0.5 oz. Copper)

GIGABYTE

Title: GPIO LIST

Size: Custom | Document Number: GA-8IE2004P | Rev: 1.0

Date: 星期一, 七月 21, 2003 | Sheet 33 of 34

LAN33

GIGABYTE GA-GA-8IE2004P PCI ROUNTING LIST *Revision 1.0*

SHEET TITLE

PCI ROUNTING	PIRQ-	REQ-/GNT-	IDSEL-	CLOCK
PCI1	PIRQC/F/G/A-	0REQ-	A_D16-	PCLK1
PCI2	PIRQF/G/A/C-	1REQ-	A_D17-	PCLK2
PCI3	PIRQG/A/C/F-	2REQ-	A_D18-	PCLK3
PCI4	PIRQA/C/F/G-	3REQ-	A_D19-	PCLK4
PCI5	PIRQC/F/G/A-	4REQ-	A_D20-	PCLK5
AGP	PIRQA/B-	GREQ-	NA	AGPCLK

SHEET TITLE

COMPONENT SIDE (0.5 oz. Copper)
VCC SIDE (1 oz. Copper)
GND SIDE (1 oz. Copper)
SOLDER SIDE (0.5 oz. Copper)

GIGABYTE

Title: PCI ROUNT LIST

Size: Custom | Document Number: GA-8IE2004P | Rev: 1.0

Date: 星期一, 七月 21, 2003 | Sheet 34 of 34