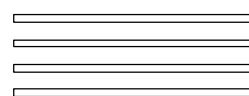


GIGABYTE GA-8IRX Schematics

Revision2.0

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	WILLIAMATE_478A
04	WILLIAMATE_478B
05	WILLIAMATE_478C
06	MCH-BROOKDALE_A
07	MCH-BROOKDALE_B
08	MCH-BROOKDALE_C
09	MD0_63
10	DDR1_2
11	DDR_TERM
12	AGP
13	ICH2_1
14	ICH2_2
15	FWH (DUAL BIOS)
16	CY28324 CLOCK GEN
17	PCI1_2
18	PCI3_4
19	PCI5_6
20	ITE LPC I/O
21	FAN
22	IDE

SHEET	TITLE
23	KB_PS2
24	COM_LPT_FDD
25	USB-P
26	FPANEL
27	CODEC
28	AUDIO_J1
29	AUDIO_J2_GAMEPORT
30	DDR POWER
31	POWER1
32	POWER2
33	CNR
34	CT5880 (SOUND)
35	GAL,ASIC
36	RTL8100
37	GPIO LIST
38	PCI ROUNT LIST
PCB	統盟,十美,騰元

		COMPONENT SIDE (0.5 oz. Copper) VCC SIDE (1.2 oz. Copper) GND SIDE (1 oz. Copper) SOLDER SIDE (0.5 oz. Copper)
GIGABYTE		
Title COVER SHEET		
Size Custom	Document Number GA-8IRX	Rev 2.0
Date: 星期二,十一月26,2001	Sheet 1 of 38	

Model Name: 8IRX

Version:

90/07/23

BOM 修改

History 版本	修改項目內容	修改原因
10A	First release veriosn modify from 8IRXH-00-10A	
	remove Dual BIOS, H/W Sound, LAN, GAL and related parts	
10B	Add Dual BIOS function and related parts Page 15	
10C	U43 TSM104A REMOVE ADD U23 LM324M(NS)AND KA324AD(FAIRCHILD)禁用 U23禁用 LM324DR	
	ADD 12LC2-03DUAL-00 (DUAL BIOS LABLE FOR COLOR BOX)	
	ADD AGP RM	
	IUCD 1.81 CHANGE 1.9	
	U24 MCH A3 CHANGE B0	
	U3 ICH2X C0 CHANGE ICH2 B5	
	12ME-8IRXH-1001 CHANGE 12MD-8IRX-1001	
	U31,U4 49LF002A CHANGE 49LF004A	
	RN76 2.2K-8P4R CHANGE 470-8P4R	
	R350 2.2K/6 CHANGE 470/6	
20A	REMOVE LAN FUNCTION BC5-11,BC14,BC17,BC18,BC21 10U/1206 CHANGE TO 10U/1206/X5R BC15,BC16,BC19,BC20,BC22,BC23,BC29,BC34,BC35,BC36,BC37 10U/12 REMOVE D39,D40,1N4001 REMOVE Q139 2N3904 REMOVE R1130 470/6,R1308 1K/6 ,R561 470/6 REMOVE C144 ,C145 1U/6 CHANGE 2.2U/8 Q50,Q52,Q54 NEC2SK3467 CHANGE TO 2SK3296 R571,R584 3K/6 CHANGE TO 3.9K/6 R596 4.3K/6 CHANGE TO 3.9K/6 ADD C191 1U/6,EC59 330U/25/10X15,Q43 APL1084/TO252,R555 169/6/1,R556 100/6/1 PCB1.0 CHANGE TO PCB2.0	
20AA	REMOVE I/O PANEL 擴片 ADD CT5880	

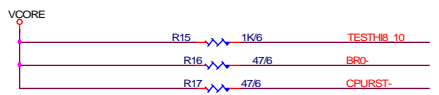
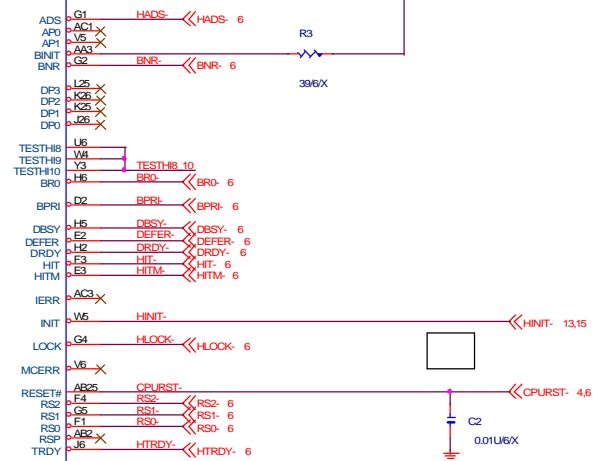
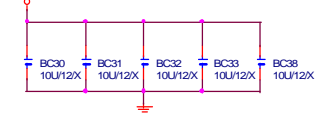
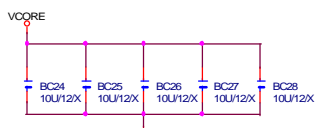
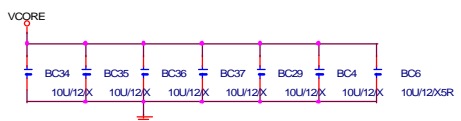
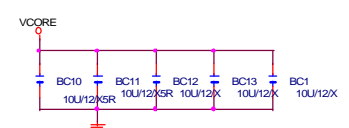
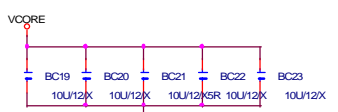
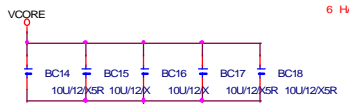
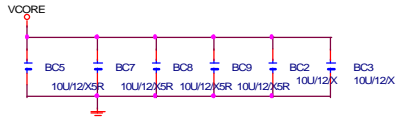
PCB version 變更(線路及Layout

Change) PCB 版本	修改項目內容	修改原因
20BA	RN65 10K-8P4R CHANGE TO 1K-8P4R R308 10K/6 CHANGE TO 1K/6 12SP2-100001-03 CHANGE TO 12SP2-100001-13 RN103 1K-8P4R CHANGE TO 47-8P4R R98 165/6/1 CHANGE TO 150/6/1 ADD R1020 15/6	
20CA	Q50,Q52,Q54 NEC2SK3296 CHANGE TO 2SK3467 R1214 ,R1215 SHORT WIRE REMOVE PCB 2.0 CHANGE TO 2.0 1 VCCVID CAP C5 0.1U/6 CHANGE TO 1U/6 ADD CASE OPEN FUNCTION(R1077 1M/6,CI 1X2 PIN CONN) ADD 12GE-845850-00,12LC2-03DUAL-00	

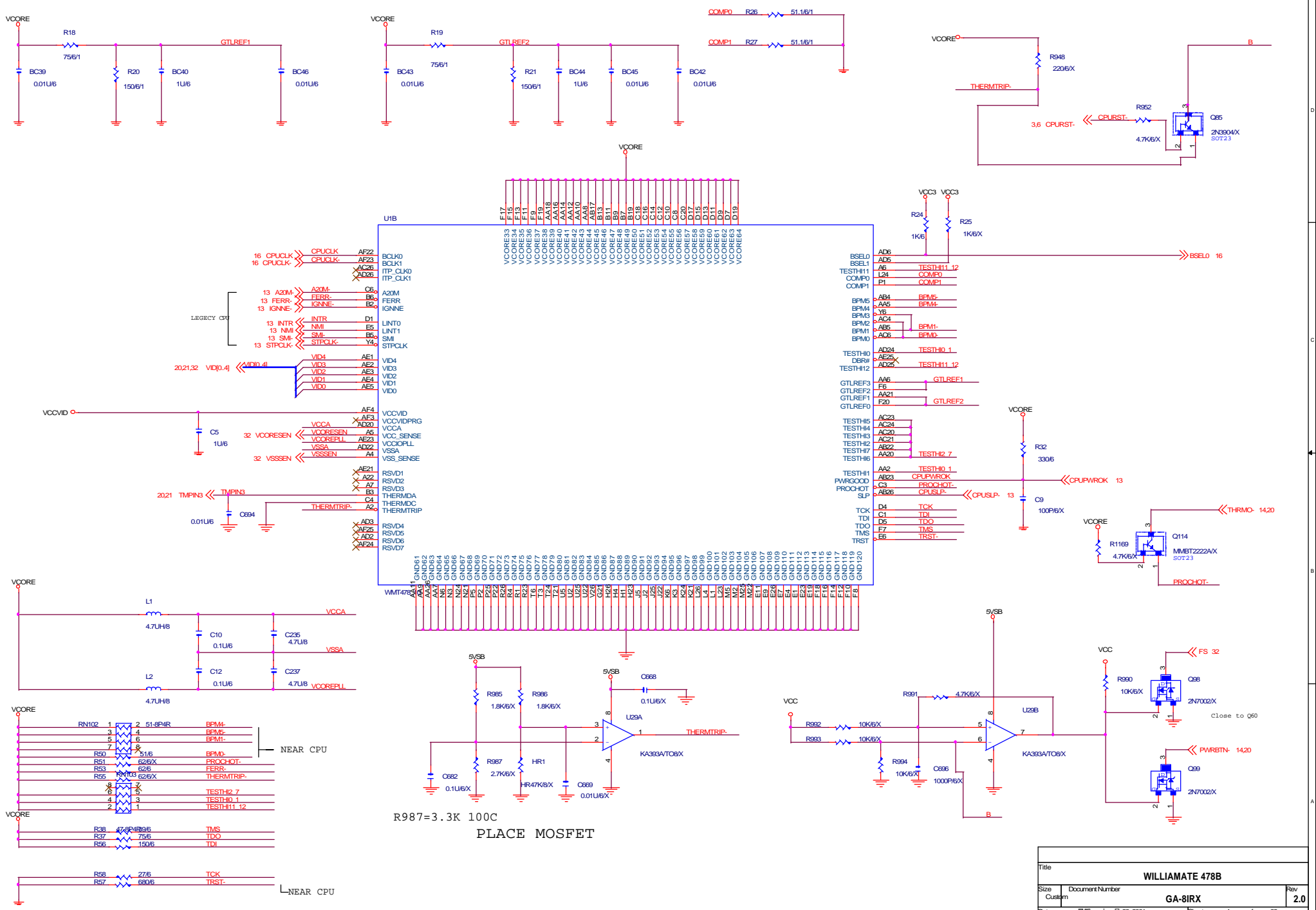
GIGABYTE

Title BOM & PCB MODIFY HISTORY

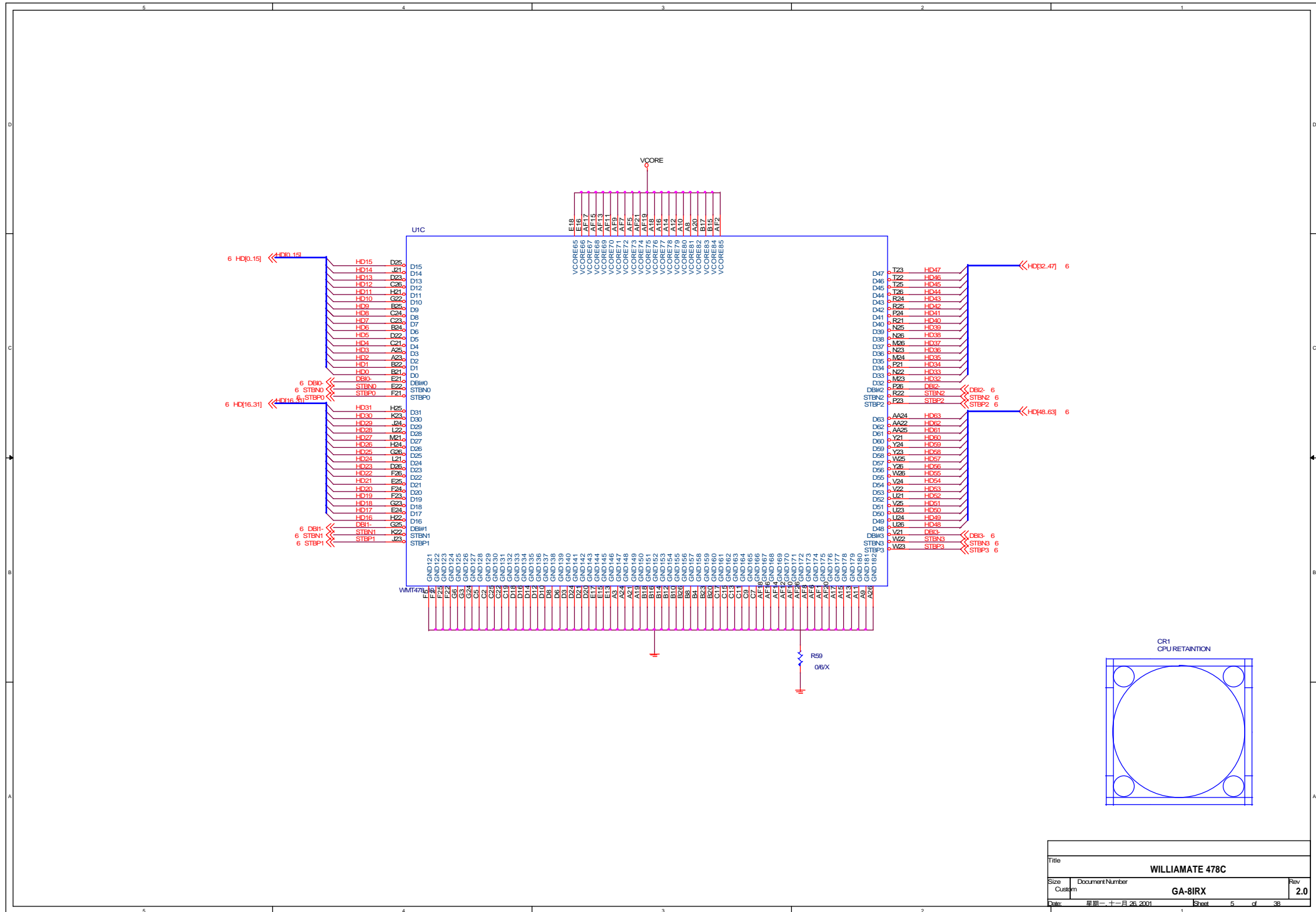
Size Custom Document Number GA-8IRX Rev 2.0
Date 星期一 十一月 26 2001 Sheet 2 of 38



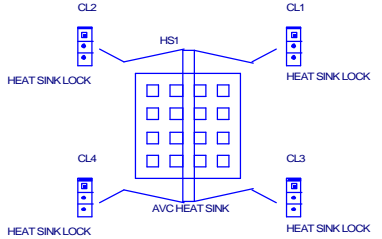
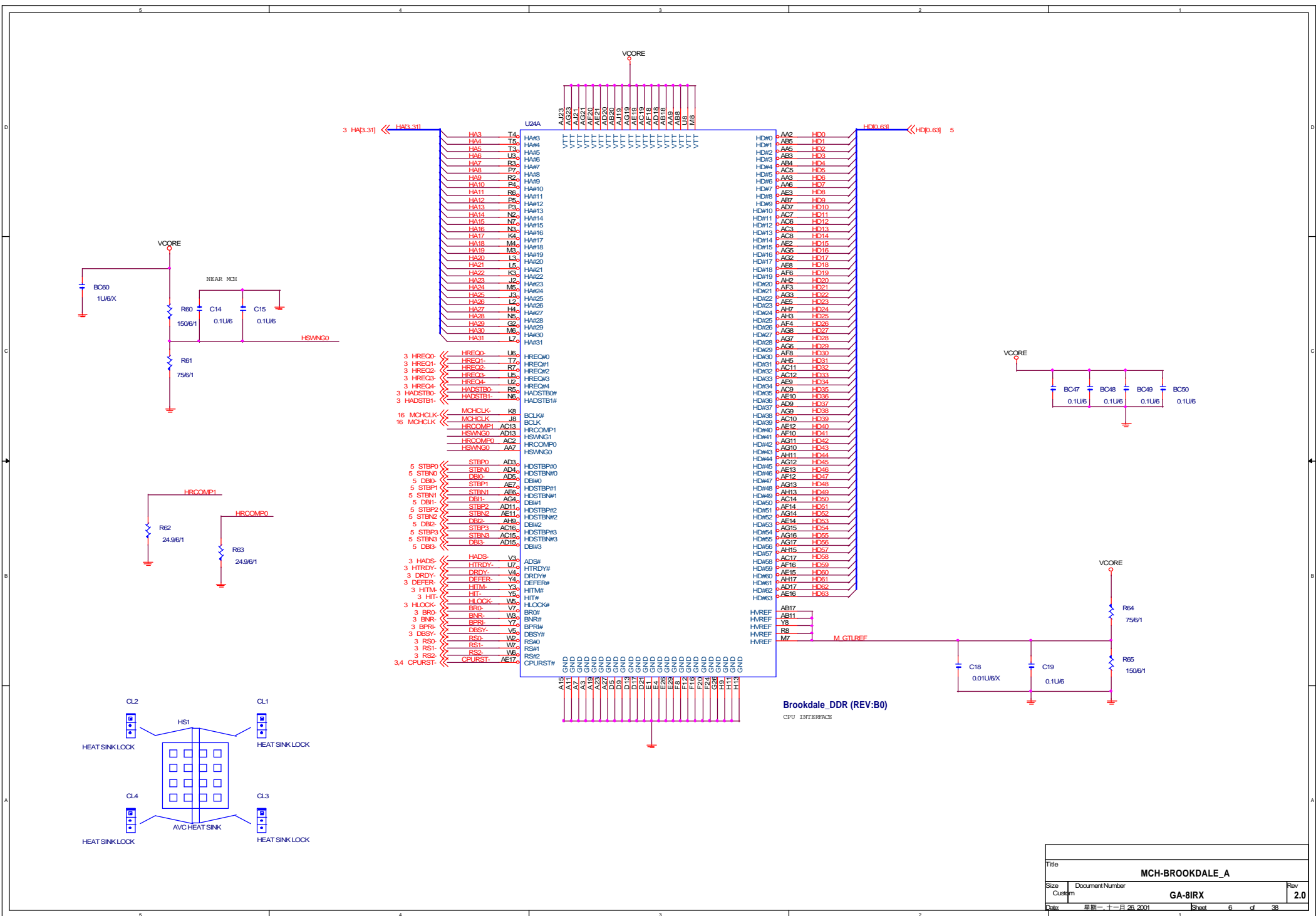
Title			WILLIAMATE 478A	
Size	Document Number	GA-81RX		Rev
Custom				2.0
Date:	星期一, 十一月 26, 2001	Sheet	3	of 38



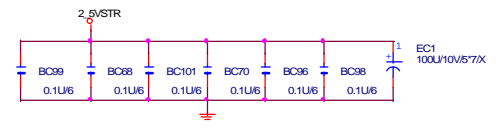
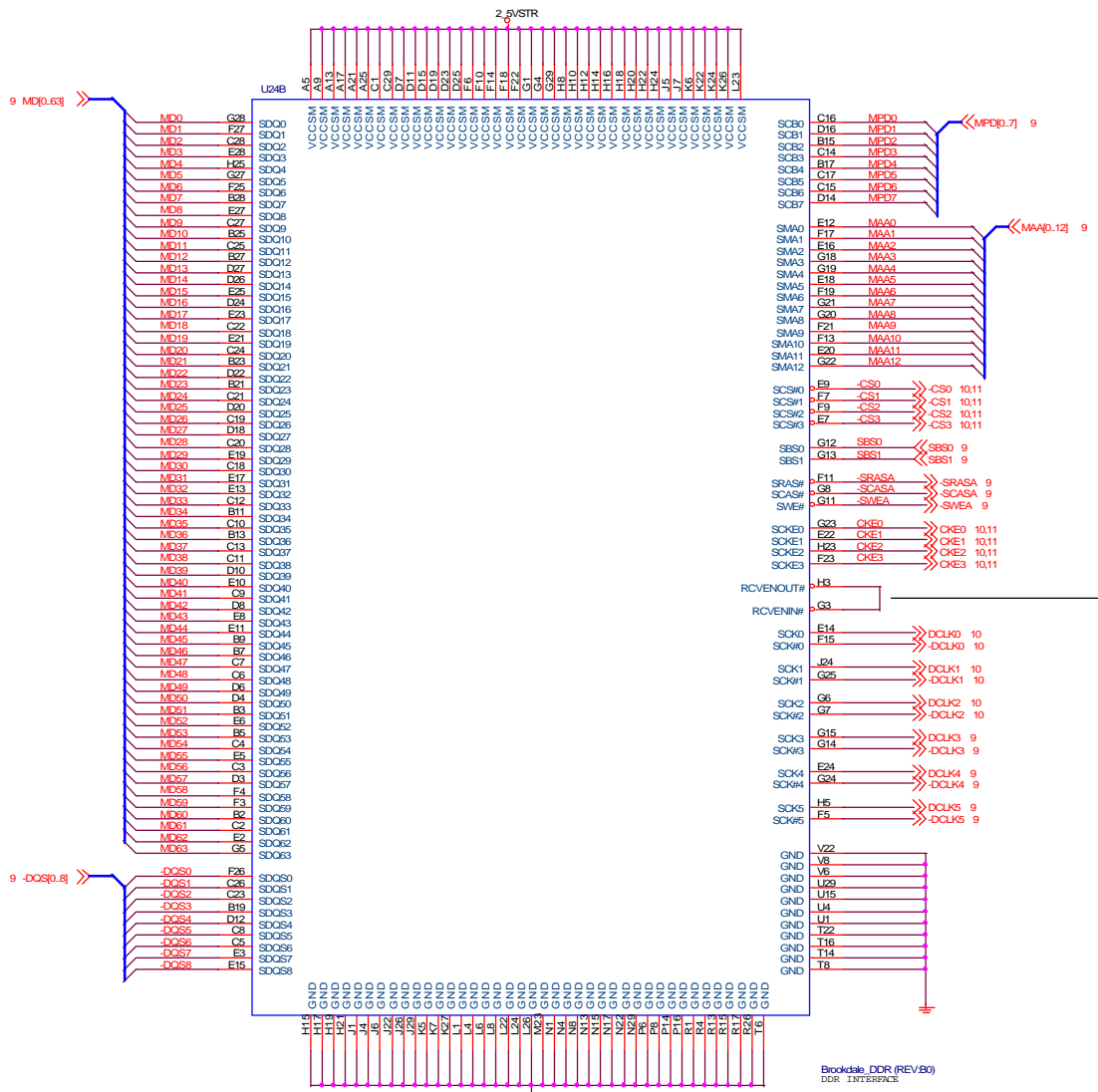
Title			
WILLIAMATE 478B			
Size	Document Number	Rev	
Custom	GA-BIRX	2.0	
Date:	星期一, 十二月 26, 2001	Sheet	4 of 38



Title			WILLIAMATE 478C	
Size	Document Number	GA-81RX		Rev
Custom				2.0
Date:	星期二, 十一月 26, 2001	Sheet	5	of 38

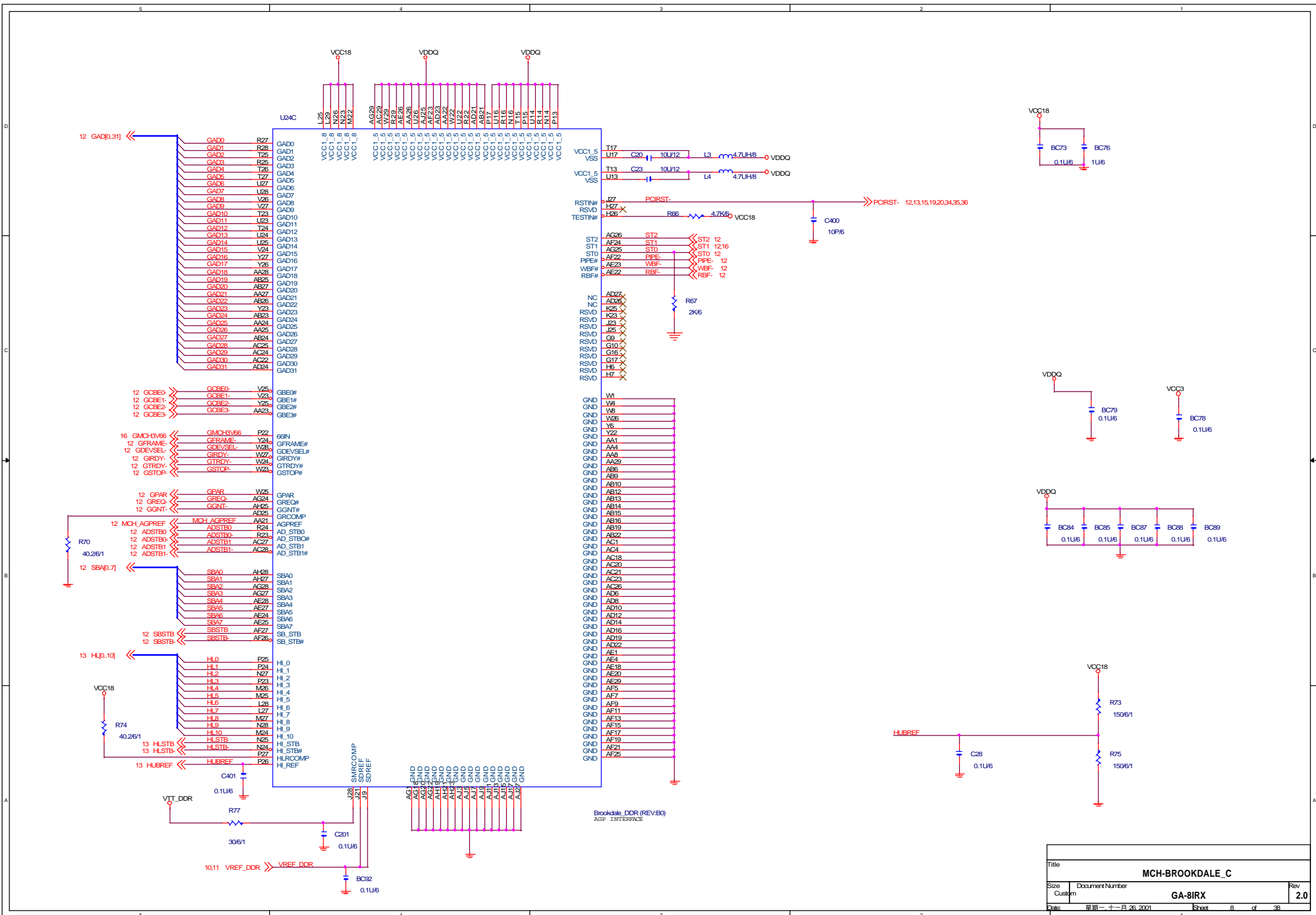


Title			
MCH-BROOKDALE_A			
Size	Document Number	Rev	
Custom	GA-81RX	2.0	
Date	星期一, 十一月 26, 2001	Sheet	6 of 38

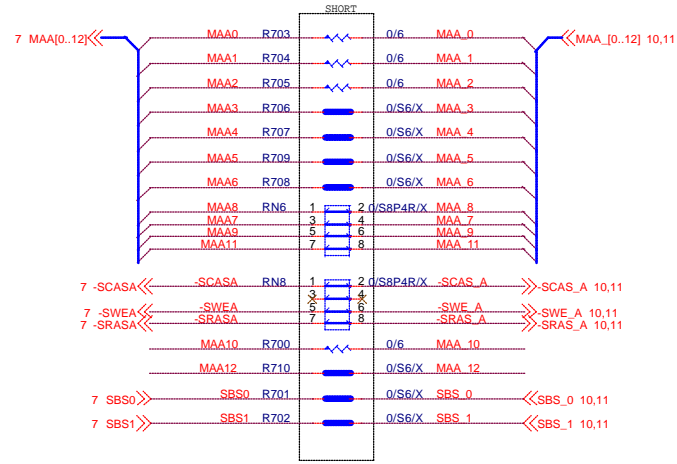
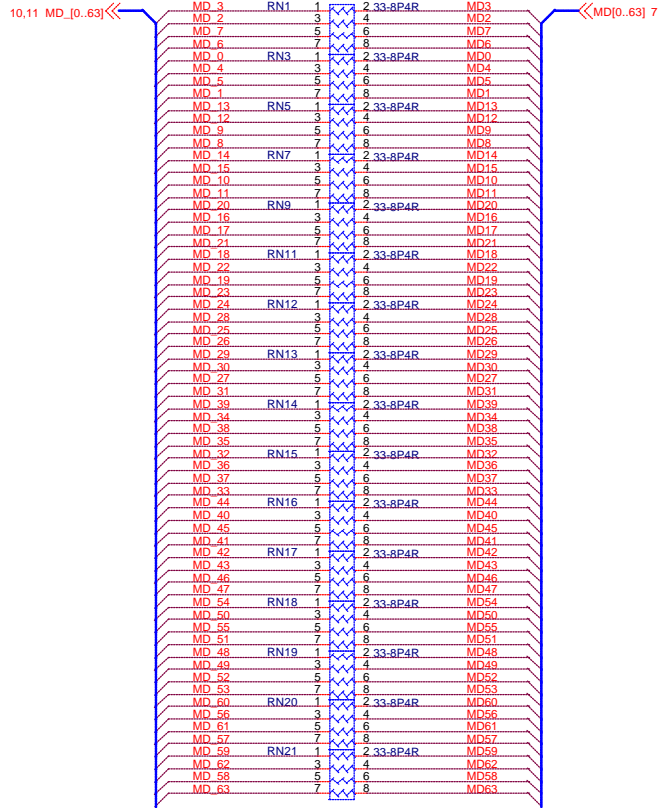


注意:DDR版要在SOLDER SIDE
LAY 1 INCH 長度(5MIL)

Title			MCH-BROOKDALE_B
Size	Document Number	Rev	2.0
Custom	GA-8IRX		
Date:	星期一, 十二月 26, 2001	Sheet	7 of 38

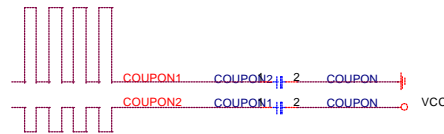
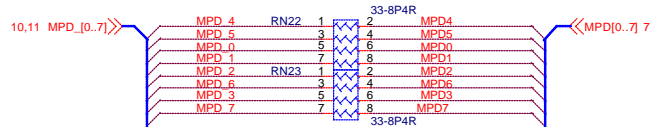
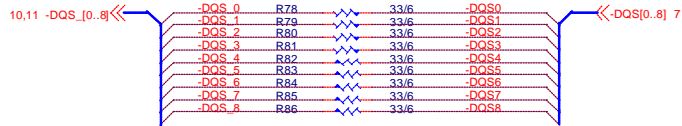
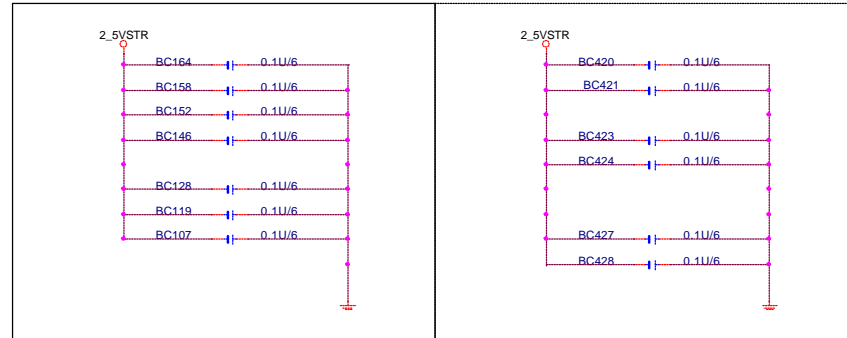


Title			MCH-BROOKDALE_C	
Size	Document Number	GA-8IRX		Rev
Custom				2.0
Date:	星期一, 十一月 26, 2001	Sheet	8	of 38

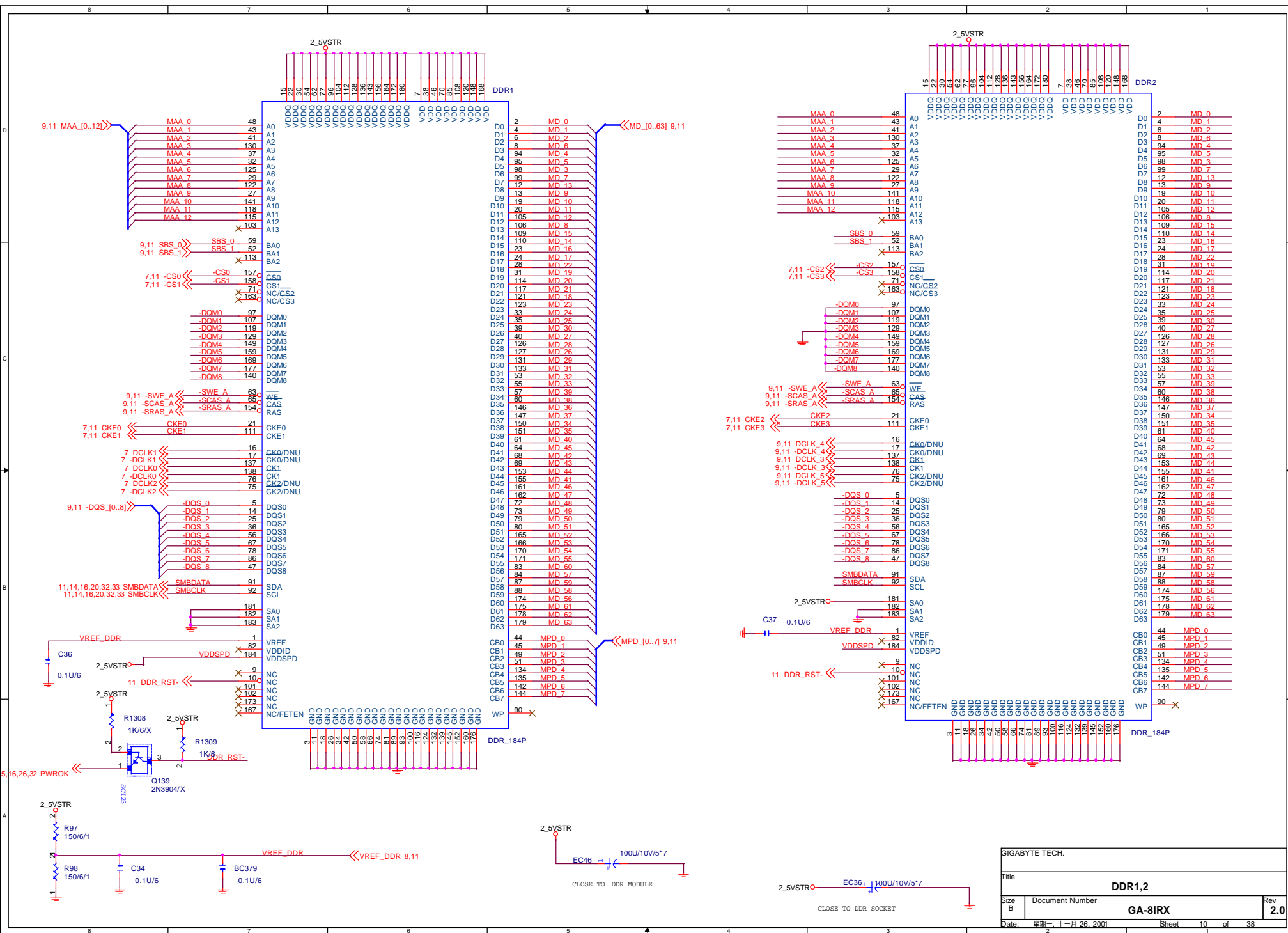


BETWEEN DIMM1 & DIMM2

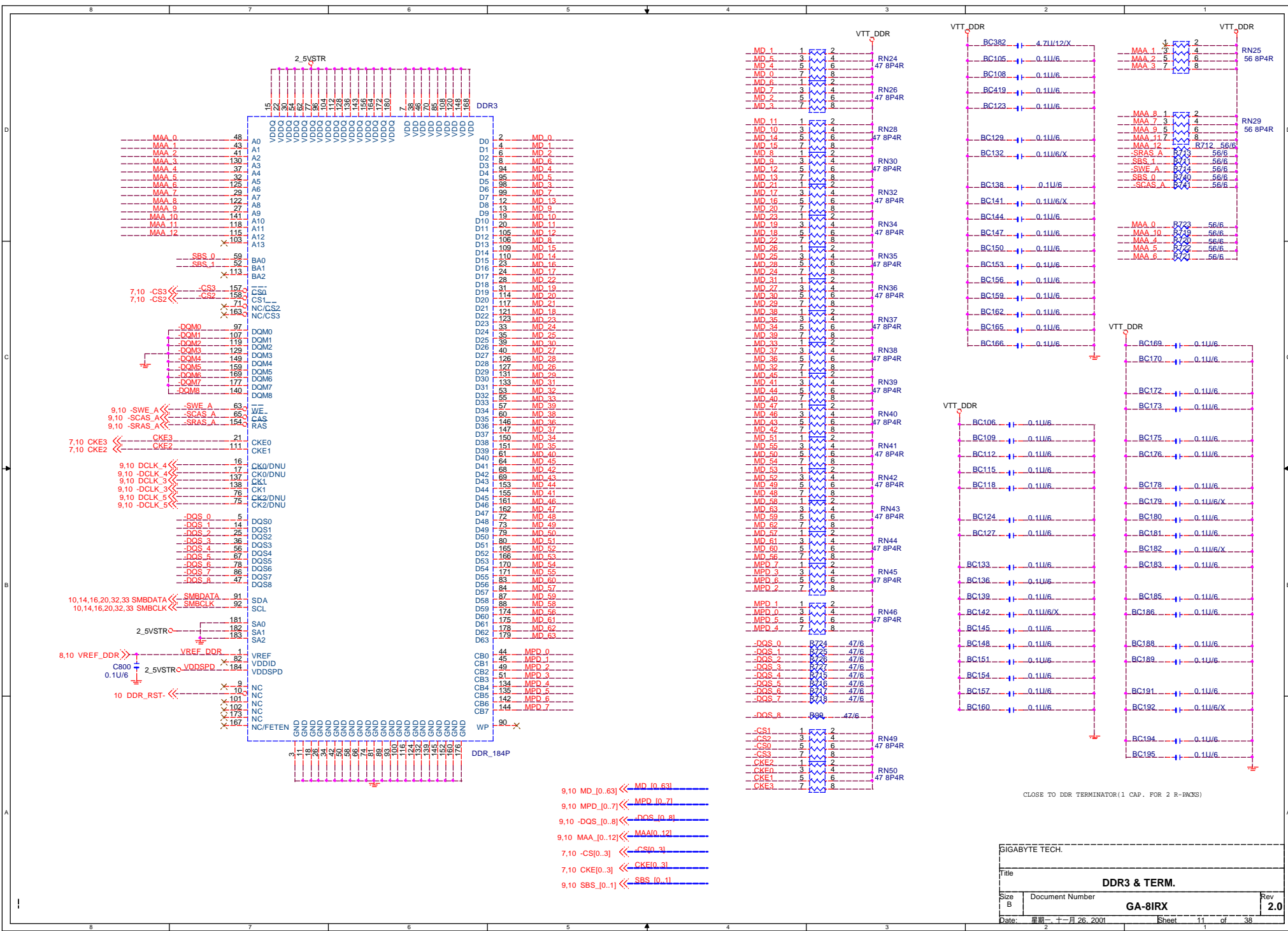
BETWEEN DIMM2 & DIMM3



GIGABYTE CORP.	
Title MD0_63 SERIAL TERM.	
Size B	Document Number GA-8IRX
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GIGABYTE TECH.		
Title		
DDR1,2		
Size	Document Number	Rev
B	GA-B1RX	2.0
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GIGABYTE TECH.	
Title: DDR3 & TERM.	
Size: B	Document Number: GA-8IRX
Date: 星期二, 十一月 26, 2001	Rev: 2.0
Sheet: 11	of 38

CLOSE TO DDR TERMINATOR(1 CAP. FOR 2 R-FINCS)

4X only

8 SBA[0..7] << SBA[0..7]
 8,16 ST[0..2] << ST[0..2]
 8 GAD[0..31] << GAD[0..31]

14,33,36 USB0C << USB0C- R100 0/6/X

25 USBAGP+ << USBAGP+

13 PIROB << PIROB

8 GREQ << GREQ

8 RBF << RBF

8 SBSTB << SBSTB

3VDUAL

8 ADSTB1 << ADSTB1

8 GIRDY << GIRDY

8 GDEVSEL << GDEVSEL

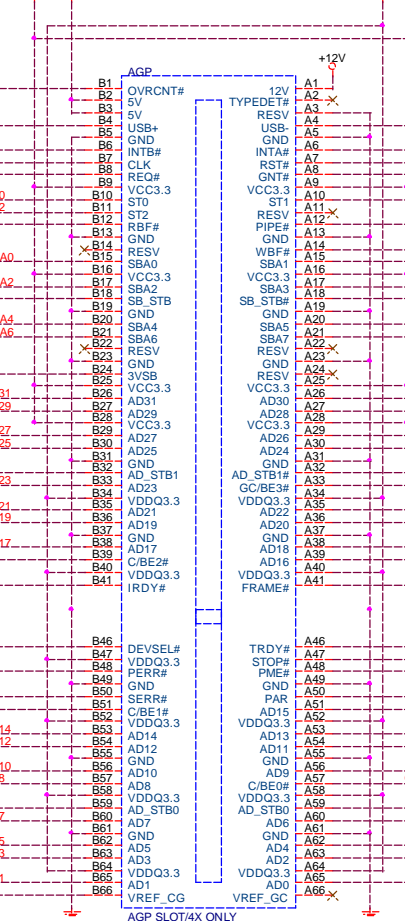
8 GCBE2 << GCBE2

8 GCBE1 << GCBE1

8 ADSTB0 << ADSTB0

8 MCH_AGPREF << MCH_AGPREF

VCC3 VCC VDDQ +12V



USBAGP- << USBAGP- 25
 PIRQA- << PIRQA- 13,17,18,19
 PCIRST- << PCIRST- 8,13,15,19,20,34,35,36
 GGNT- << GGNT- 8

PIPE- << PIPE- 8
 WBF- << WBF- 8
 SBSTB- << SBSTB- 8

ADSTB1- << ADSTB1- 8
 GCBE3- << GCBE3- 8

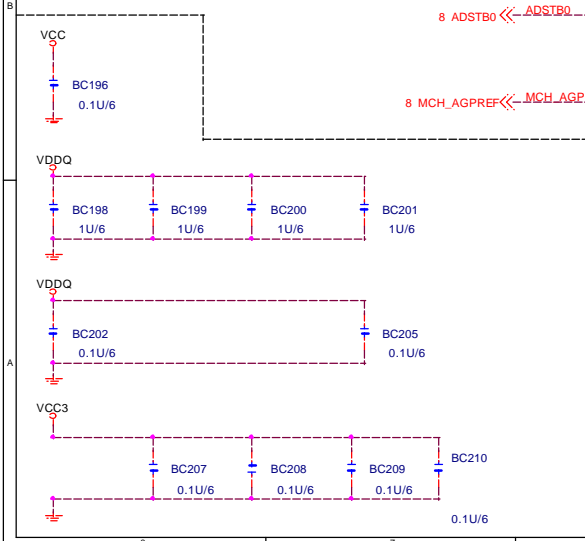
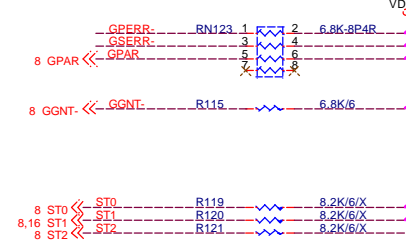
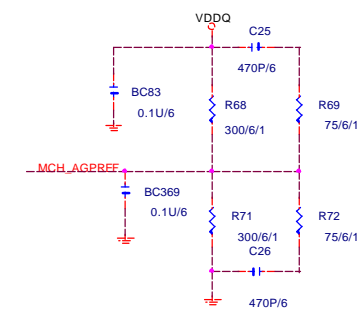
GFRAME- << GFRAME- 8

GTRDY- << GTRDY- 8
 GSTOP- << GSTOP- 8
 PCIPME- << PCIPME- 13,17,18,19,36

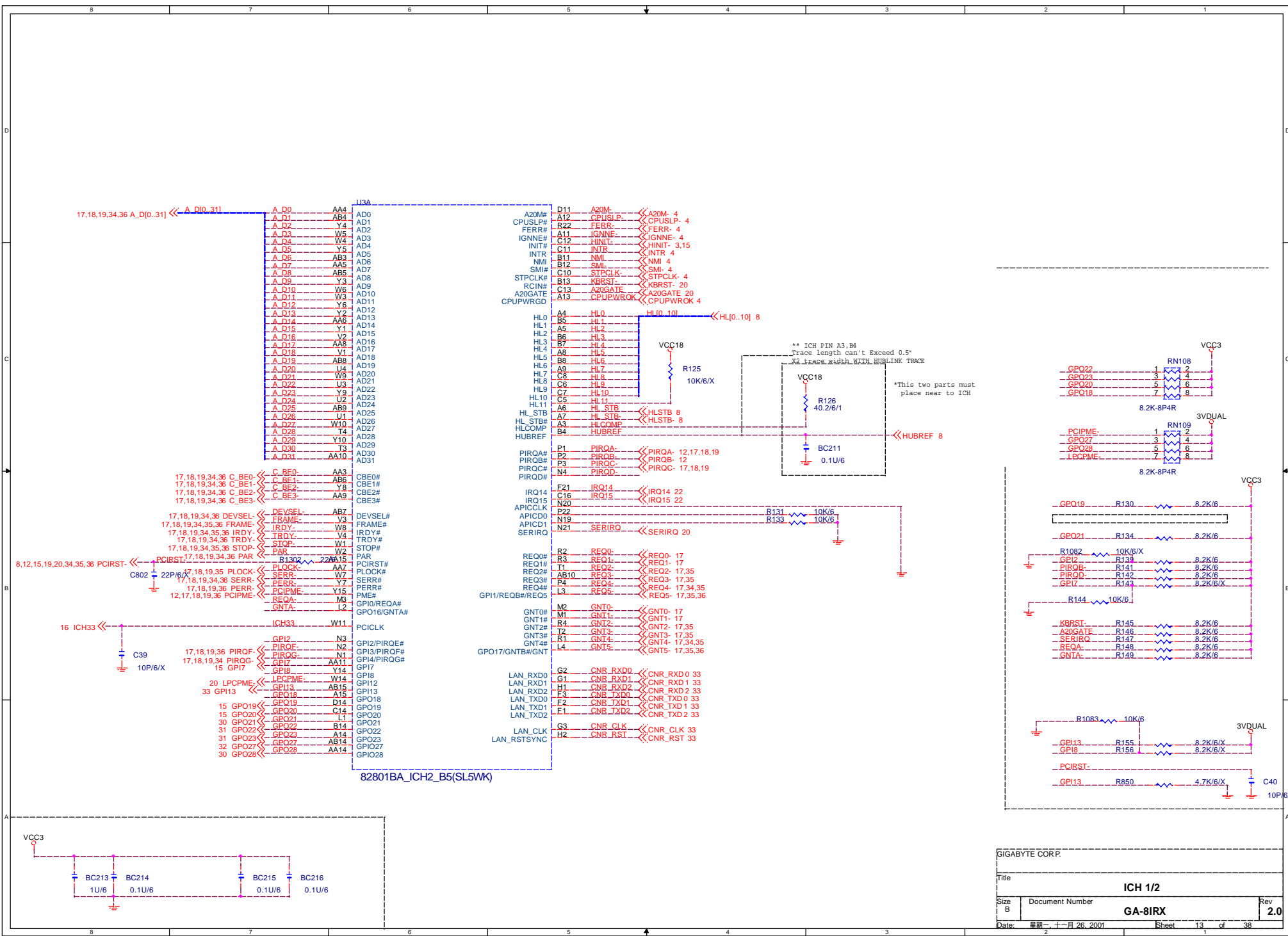
GPARR << GPARR 8
 GPAR << GPAR 8

ADSTB0- << ADSTB0- 8

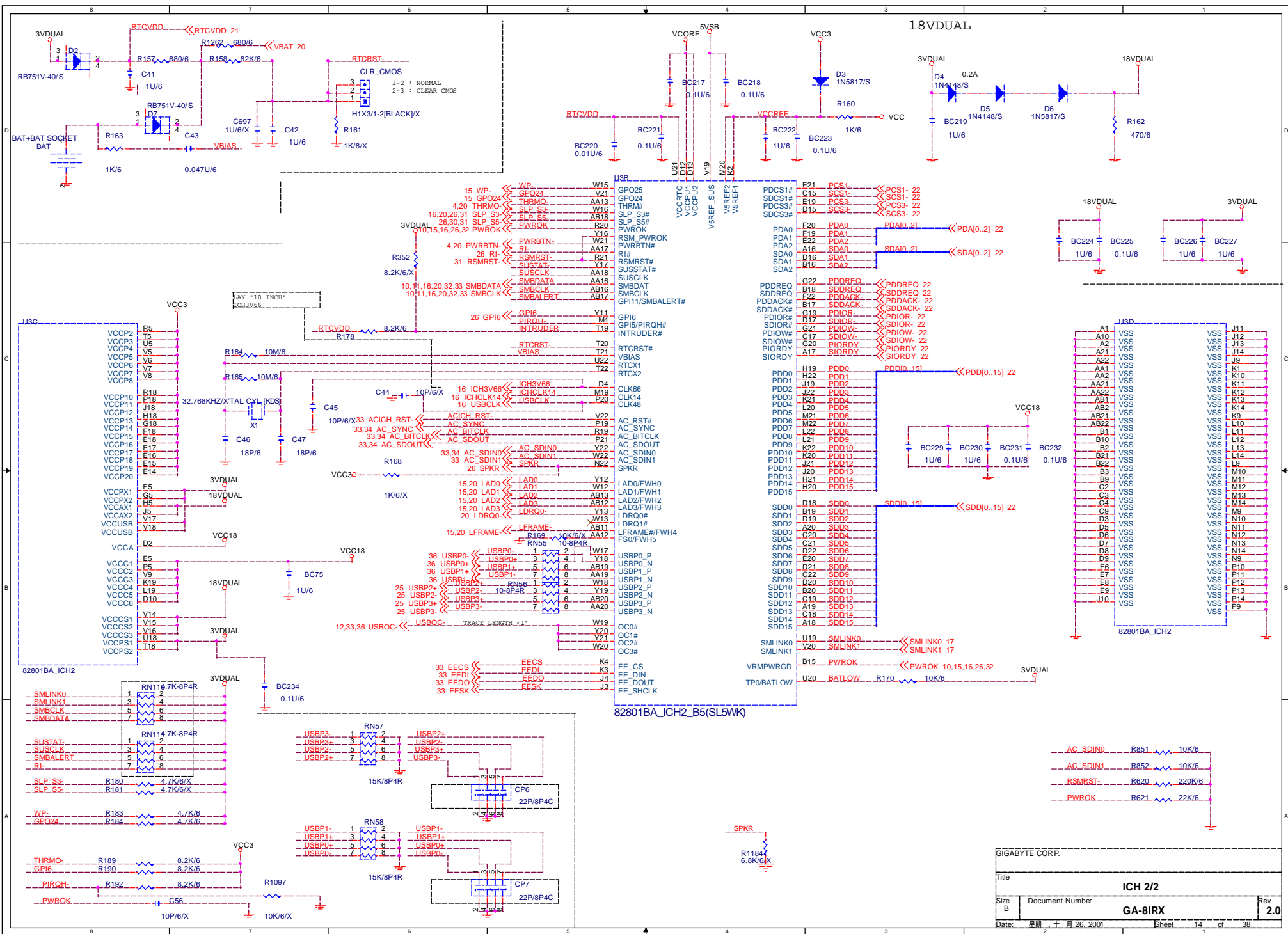
GAD0

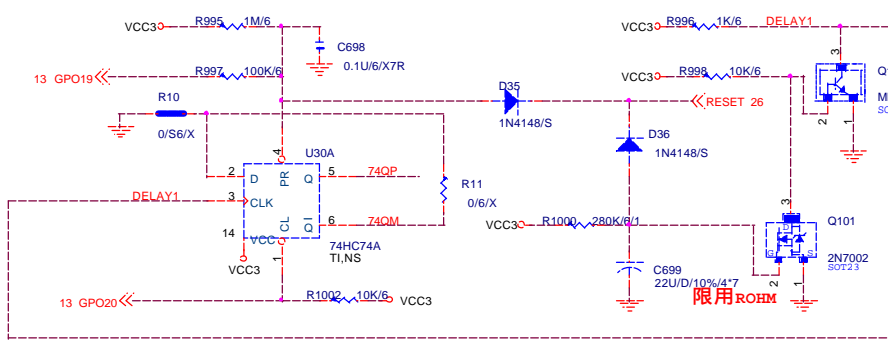


GIGABYTE CORP.			
Title AGP SLOT			
Size	Document Number	Rev 2.0	
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Date:	日期: 十一月 26, 2001	Sheet	12 of 38

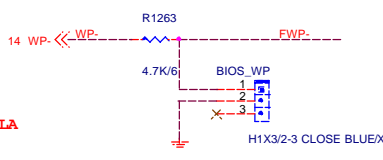


GIGABYTE CORP.			
Title		ICH 1/2	
Size	Document Number	GA-8IRX	
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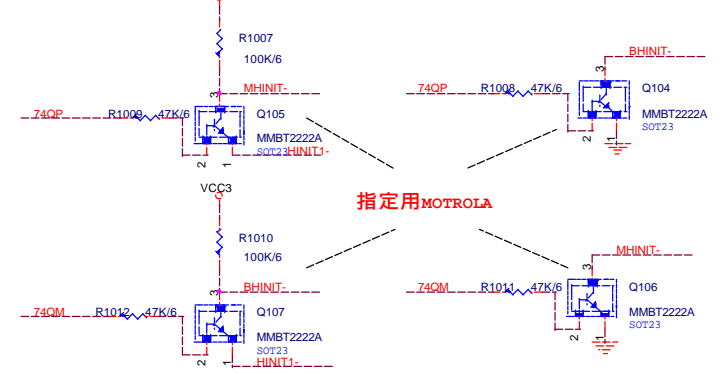
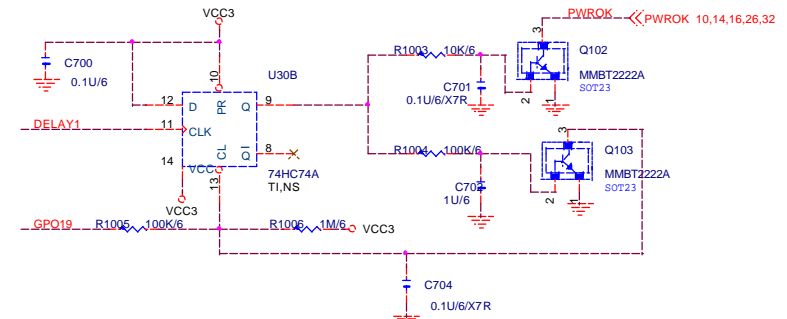
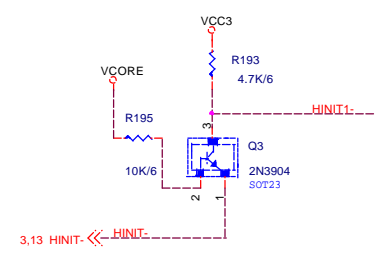




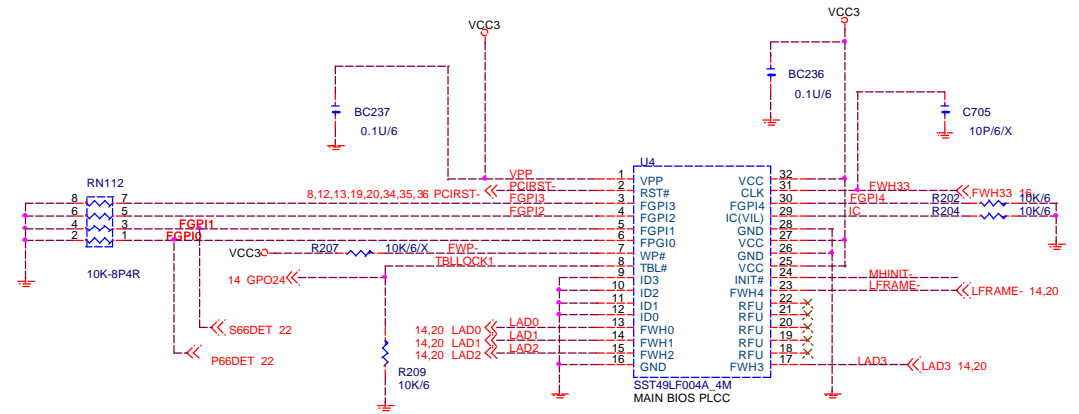
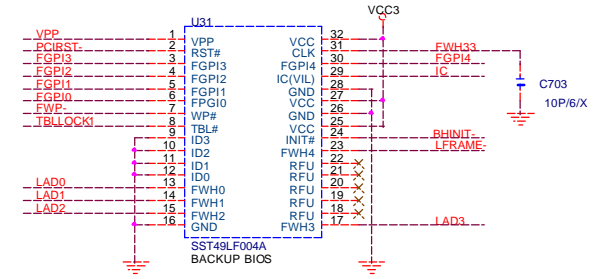
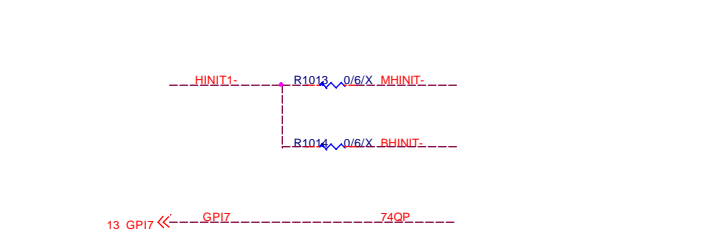
指定用MOTROLA



H1X3/2-3 CLOSE BLUEX
1-2 CLOSE WRITE PROTECT
2-3 CLOSE DISABLE

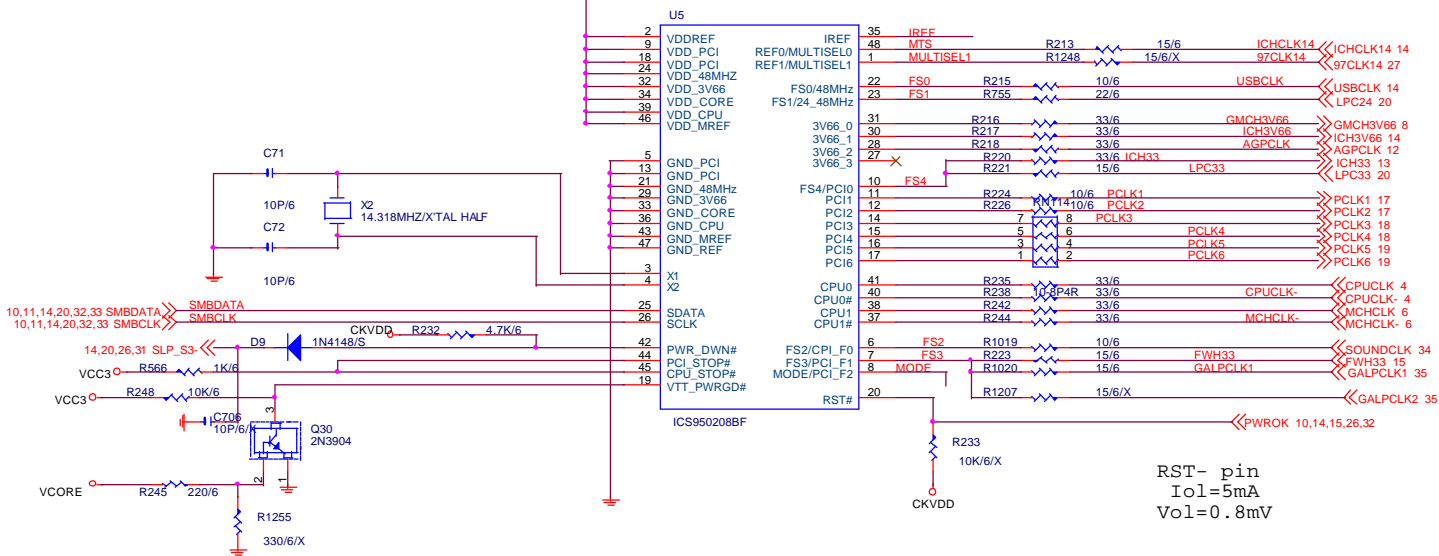
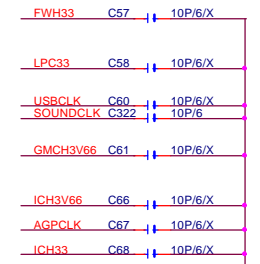
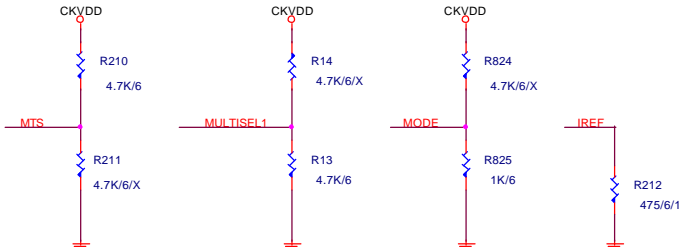
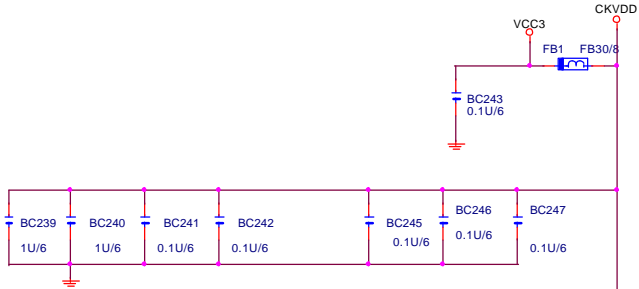


指定用MOTROLA

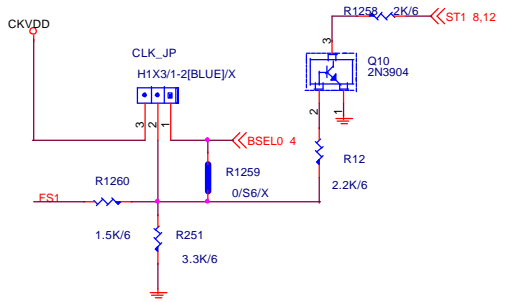
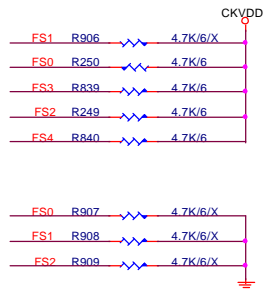


ADD WINBOUD FWH SEC. SOURCE

GIGABYTE CORP.			
Title			
FWH			
Size	Document Number	GA-8IRX	
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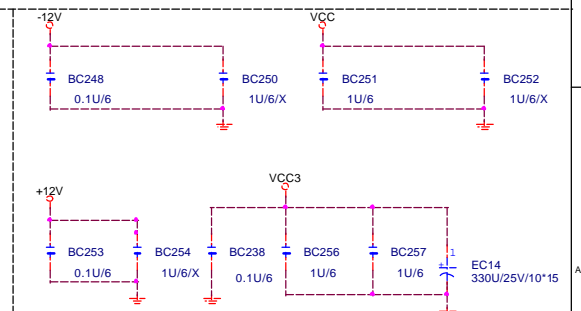
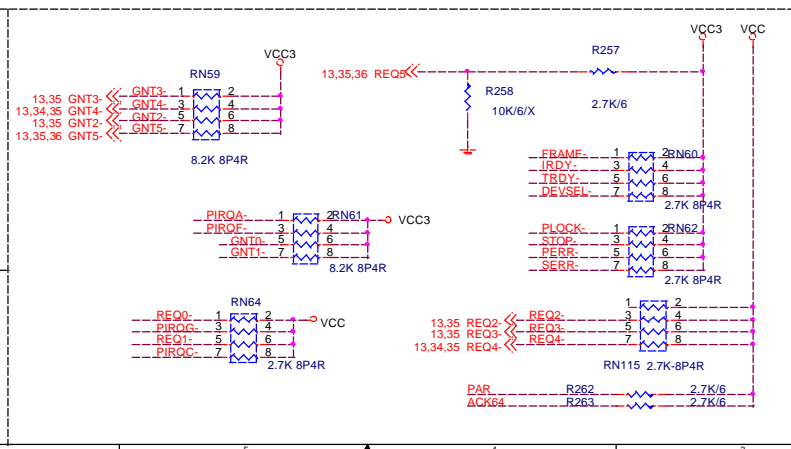
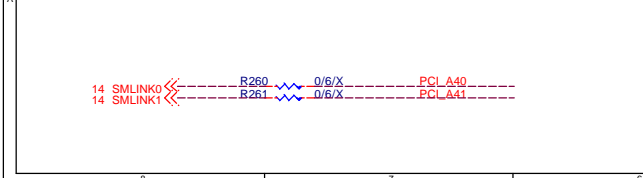
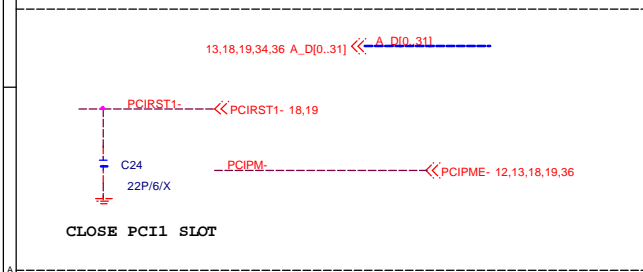
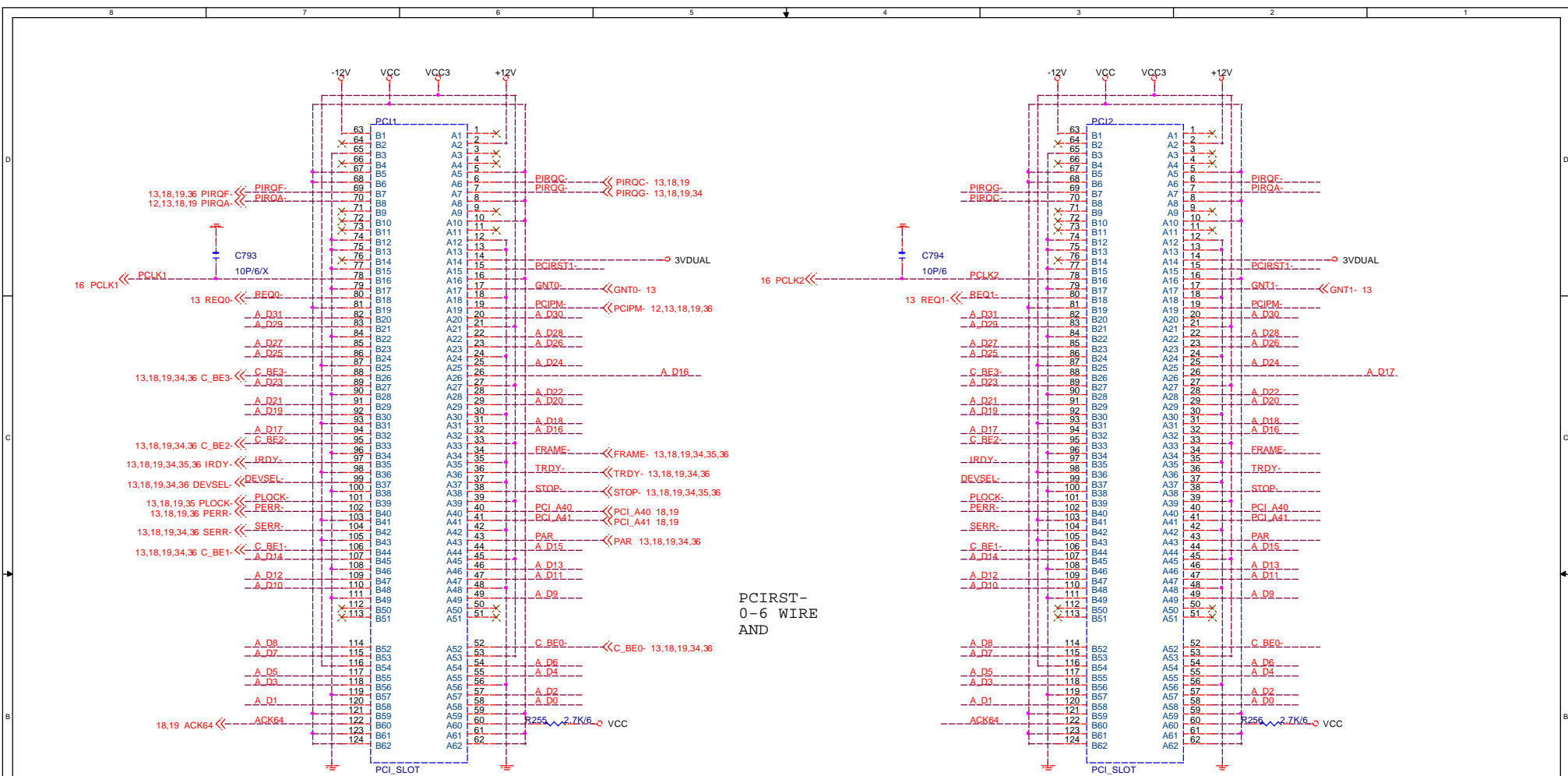


RST- pin
Iol=5mA
Vol=0.8mV

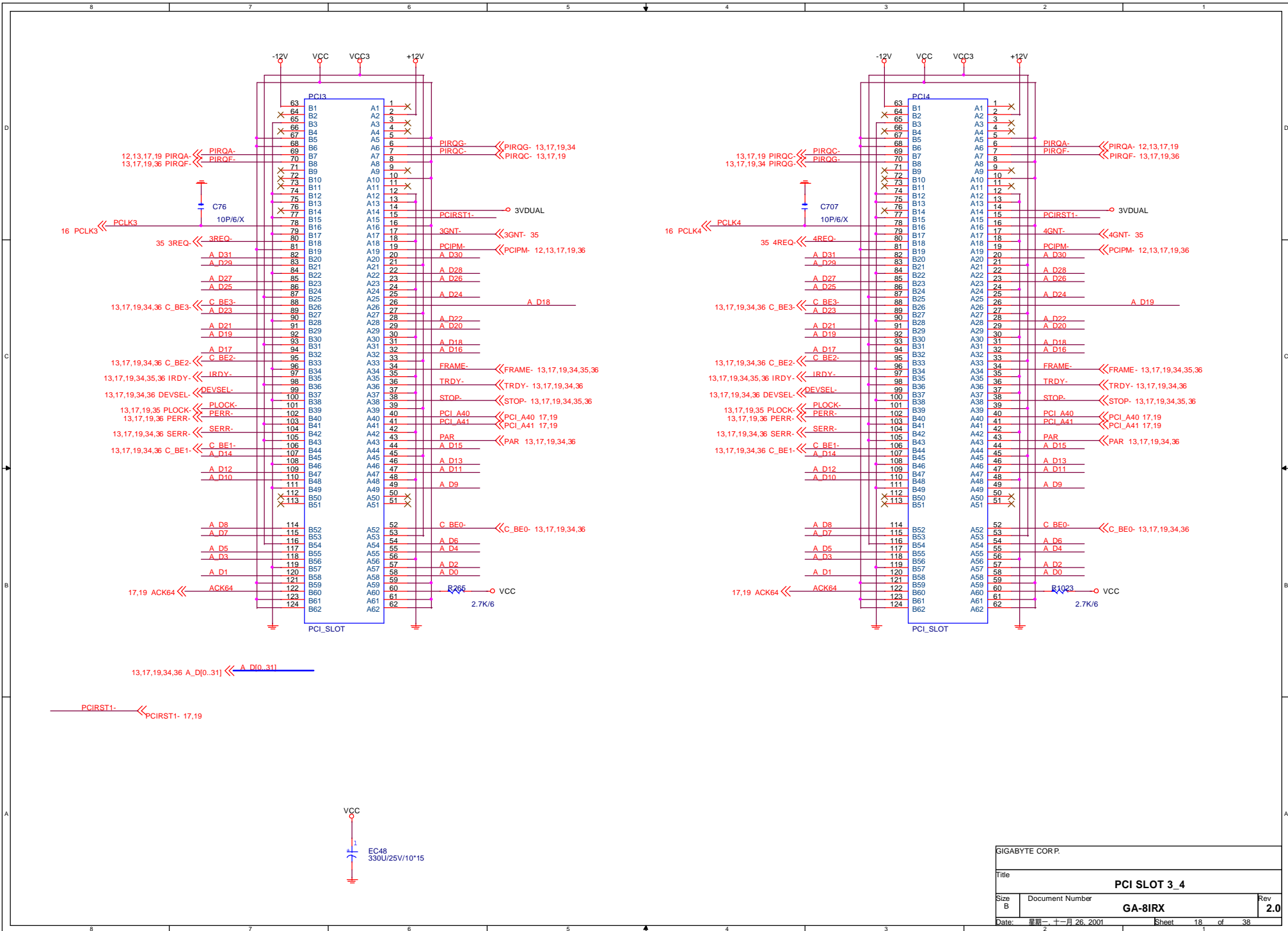


CPU	CLK_JP1
AUTO	1-2
133	2-3
100	OPEN

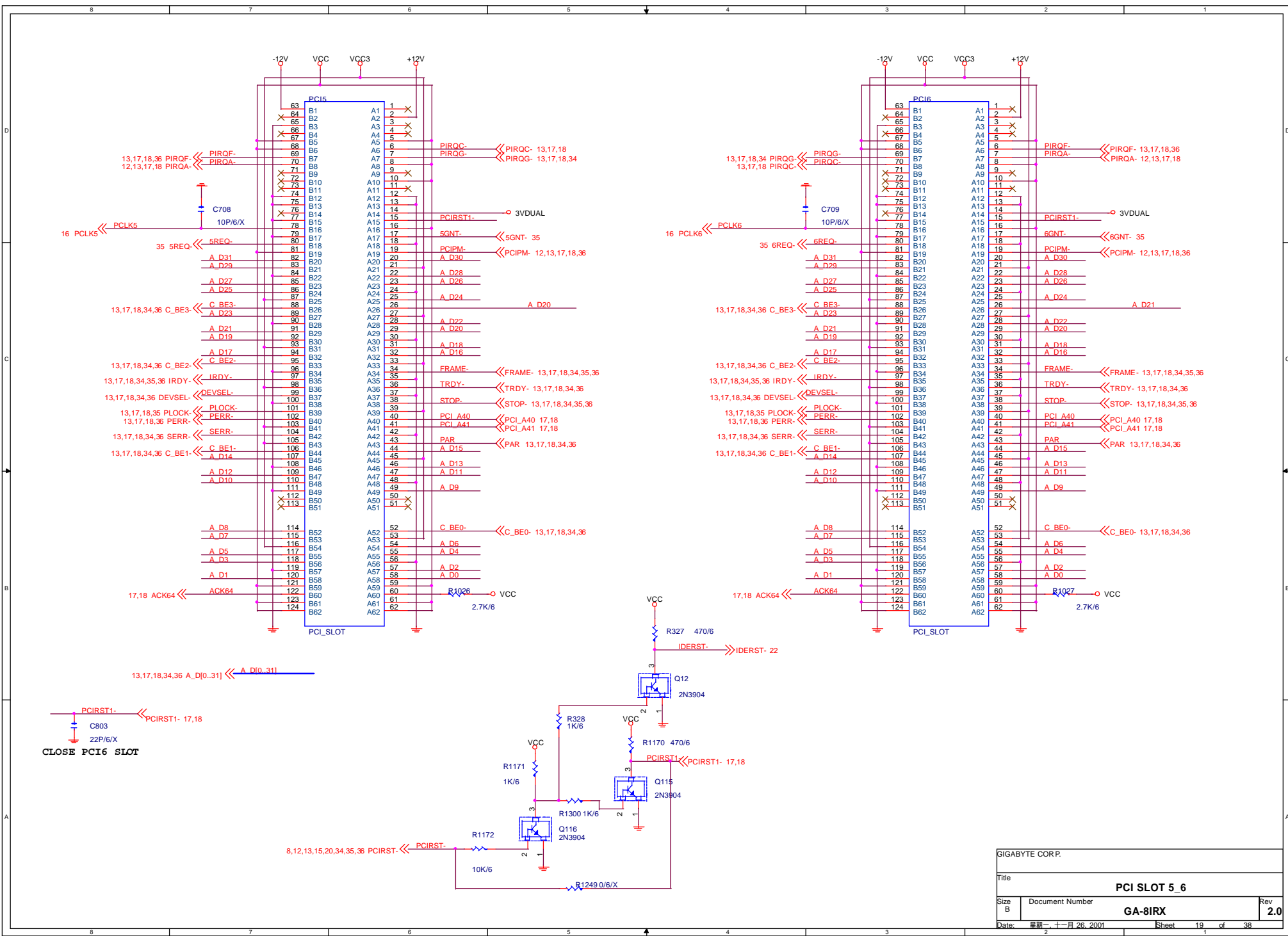
1-2:DEFAULT



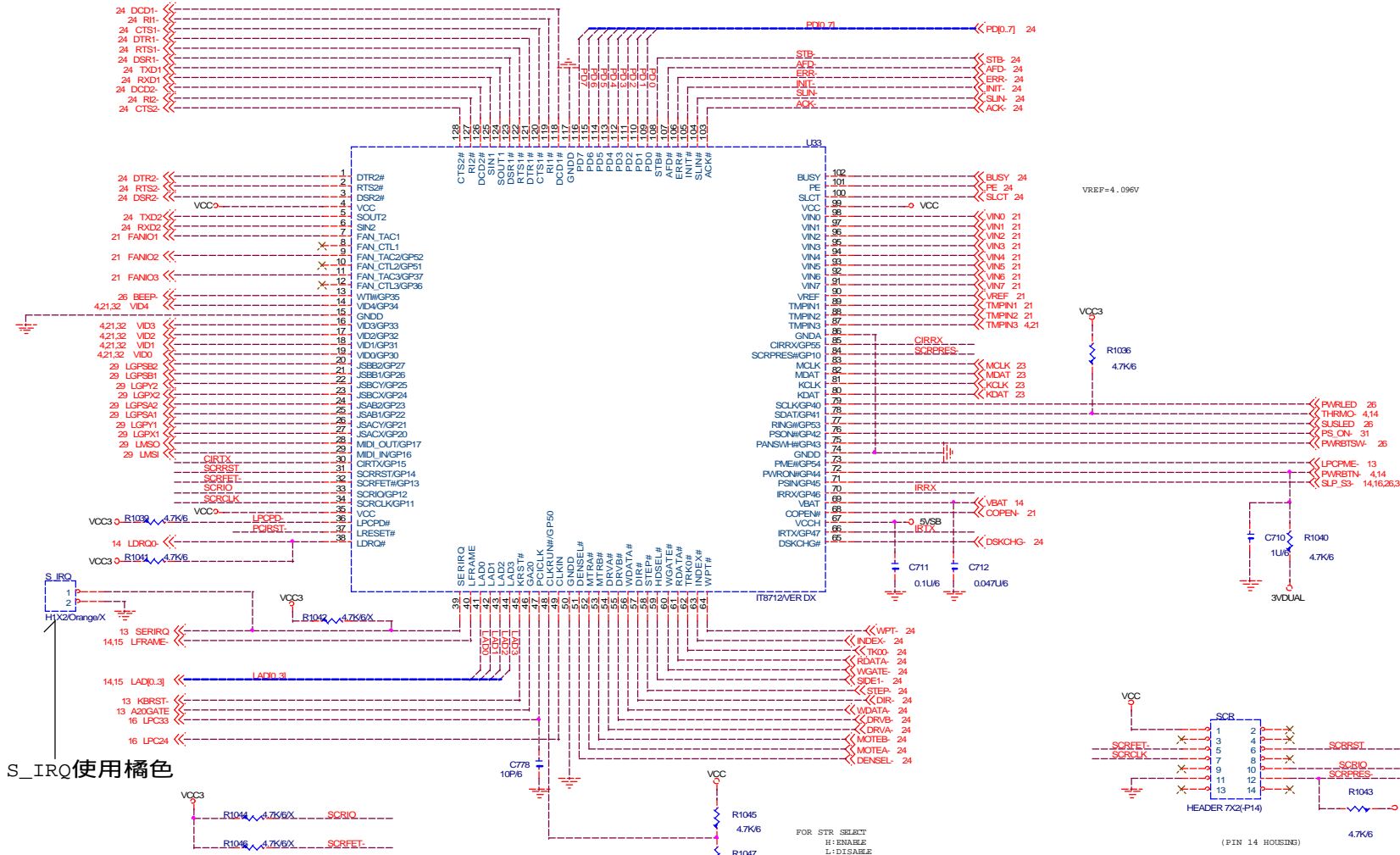
GIGABYTE CORP.		
PCI SLOT 1/2		
Title	PCI SLOT 1/2	
Size B	Document Number	GA-8IRX
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		Rev 2.0



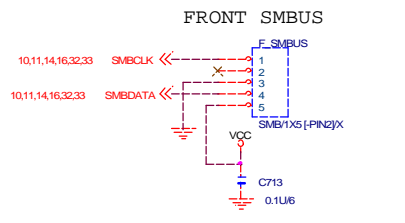
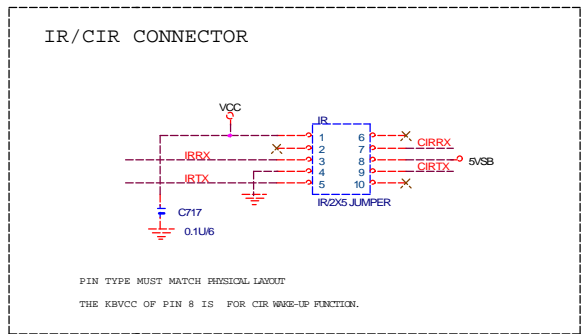
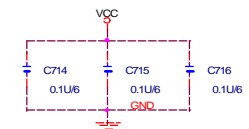
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Title PCI SLOT 3_4		
Size B	Document Number GA-B1RX	Rev 2.0
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GIGABYTE CORP.			
Title PCI SLOT 5_6			
Size B	Document Number	GA-8IRX	Rev 2.0
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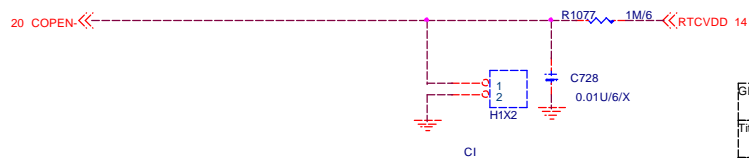
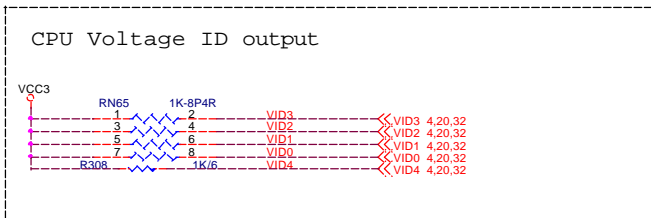
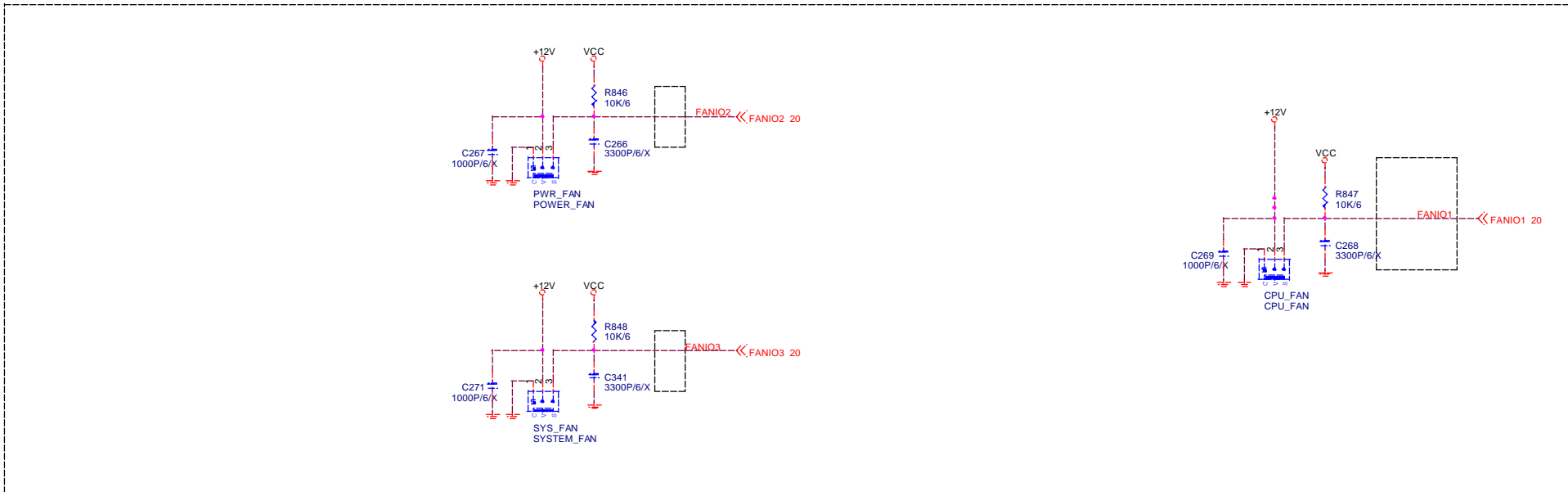
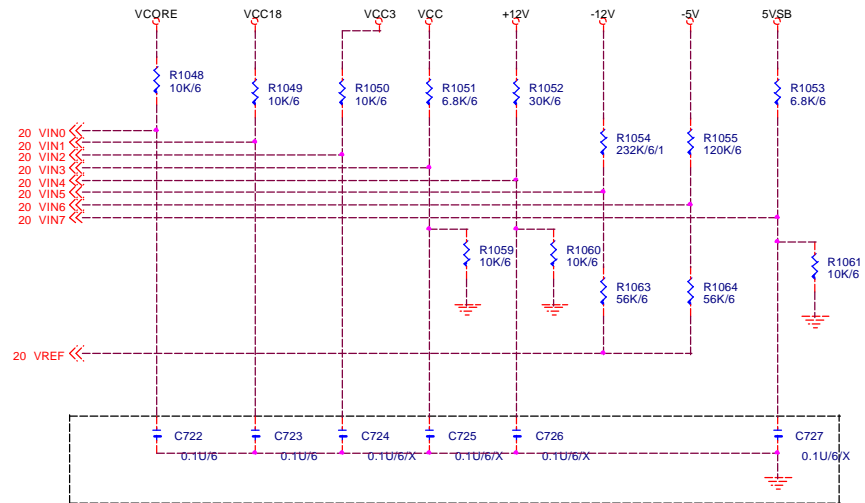
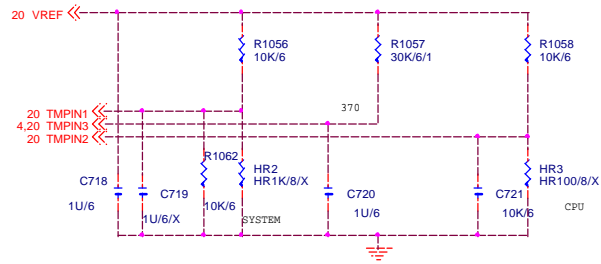


S_IRQ使用橘色

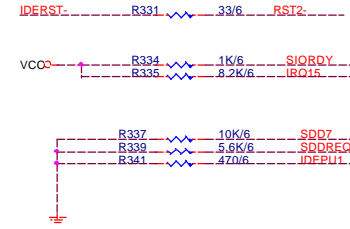
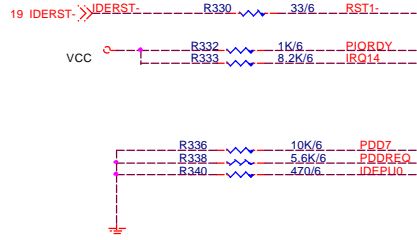
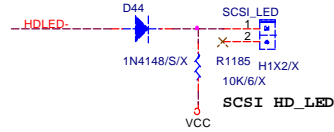
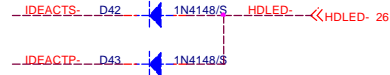


SIGABYTE CORP.			
Title			
ITE LPC I/O			
Size	Document Number	Rev	
Custom	GA-8IRX	2.0	
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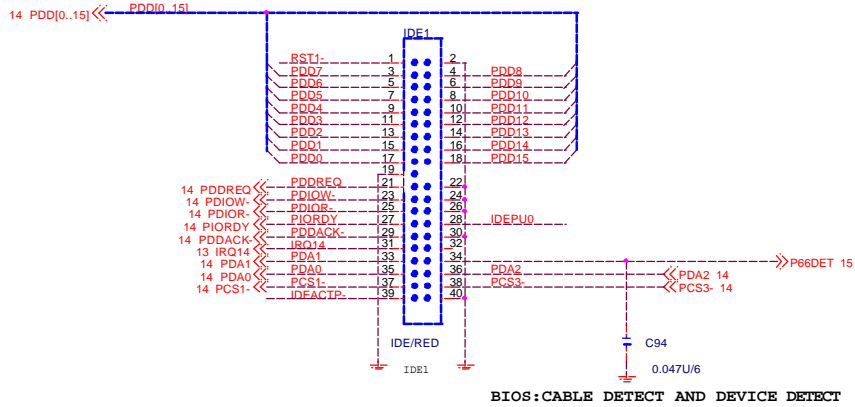
Hardware Monitor circuits



GIGABYTE CORP.		
File		
HAREWARE MONITOR		
Size B	Document Number	Rev 2.0
GA-8IRX		
Date: 星期一, 十一月 26, 2001	Sheet 21	of 38

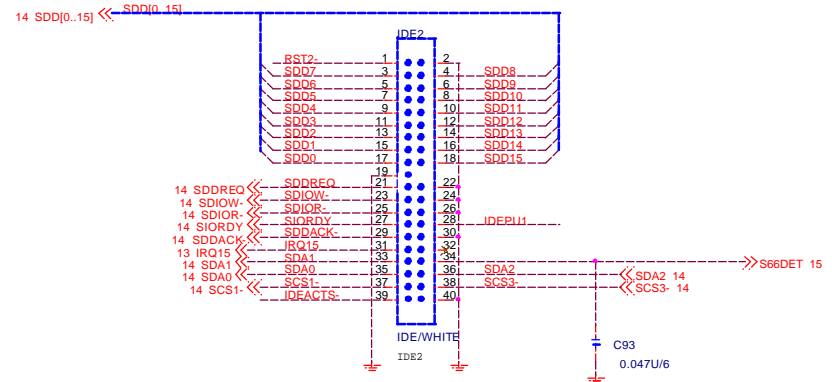


PRIMARY IDE CONNECTOR

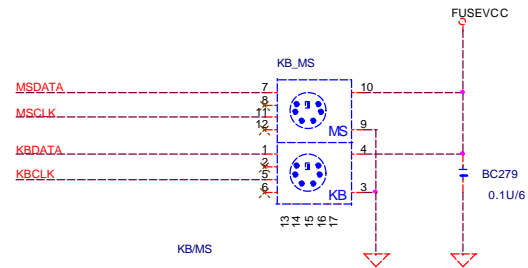
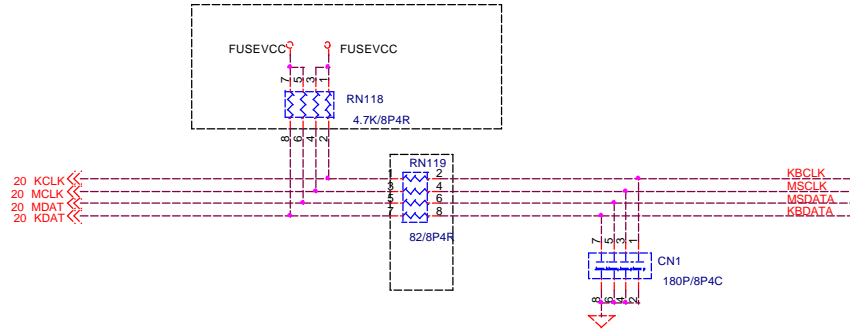
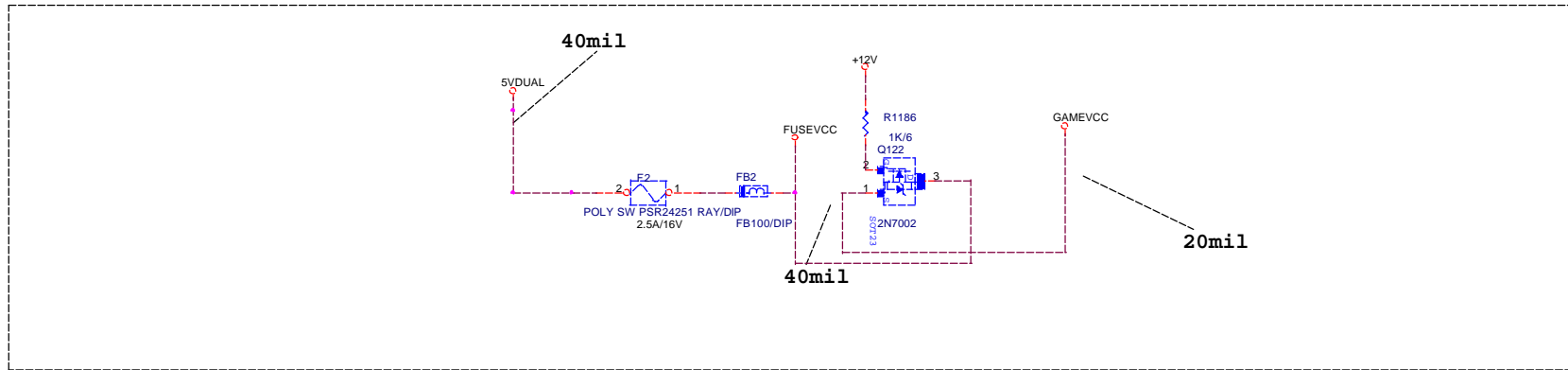


BIOS:CABLE DETECT AND DEVICE DETECT

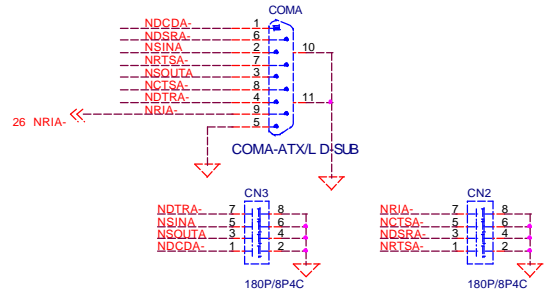
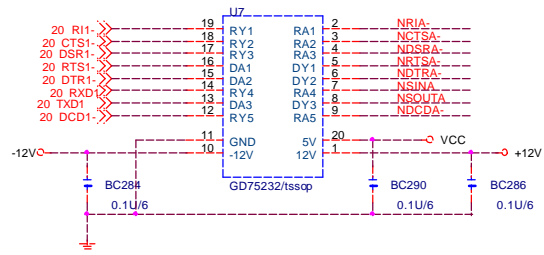
SECONDARY IDE CONNECTOR



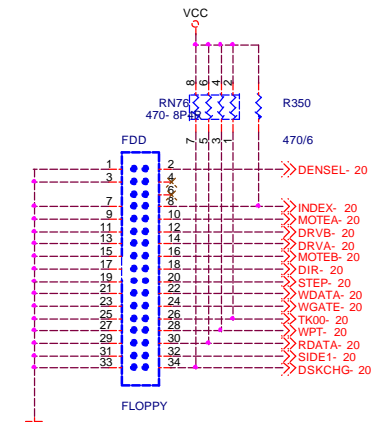
GIGABYTE CORP.			
Title			
IDE CONNECTOR			
Size B	Document Number	GA-8IRX	Rev 2.0
Date:	星期一 十一月 26, 2001	Sheet	22 of 38



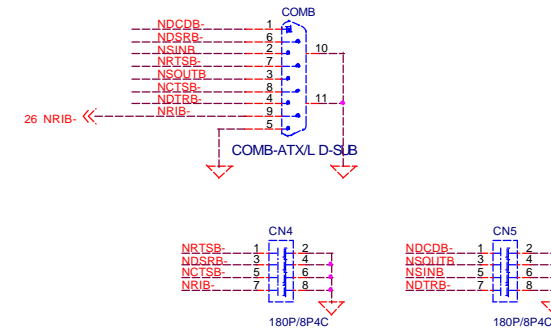
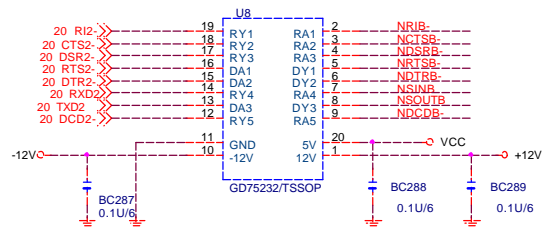
COMA



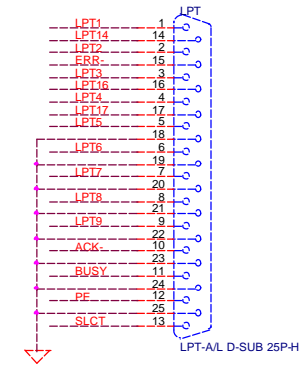
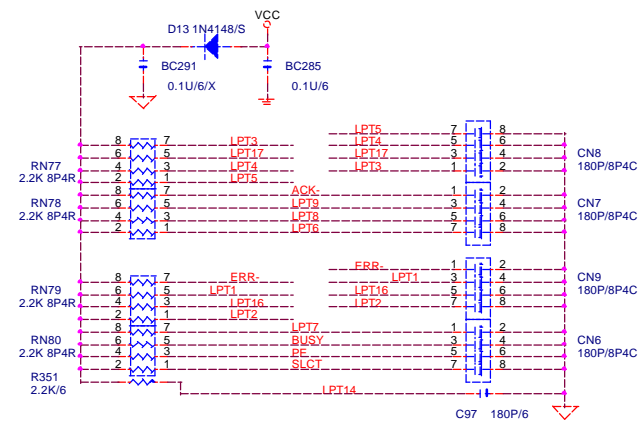
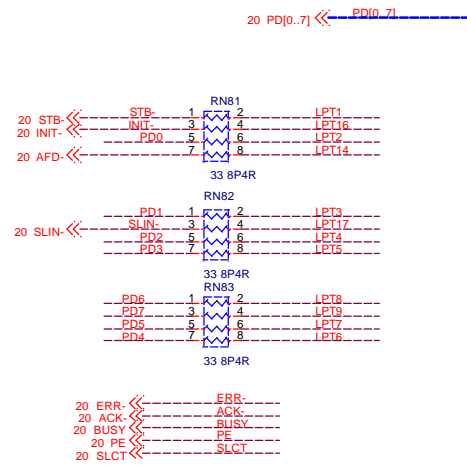
FLOPPY



COMB



PRT PORT

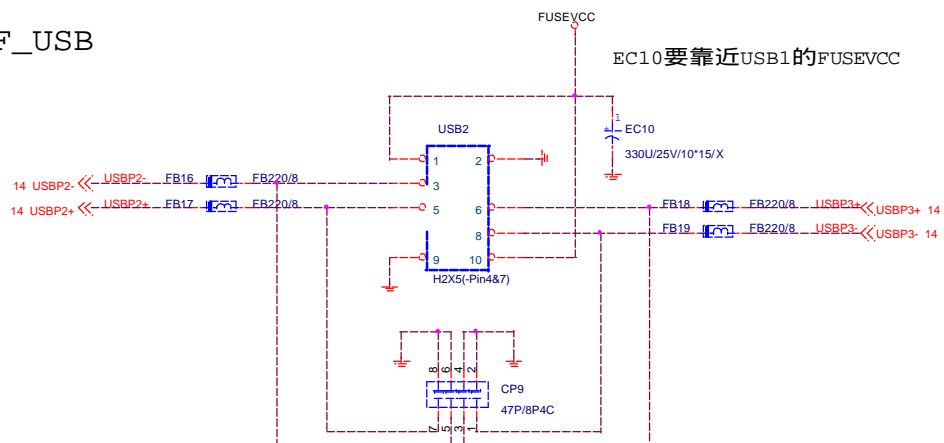


GIGABYTE CORP.			
Title COM & IR & LPT PORT & FLOOPY			
Size B	Document Number	GA-8IRX	Rev 2.0
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REAR USB PORT

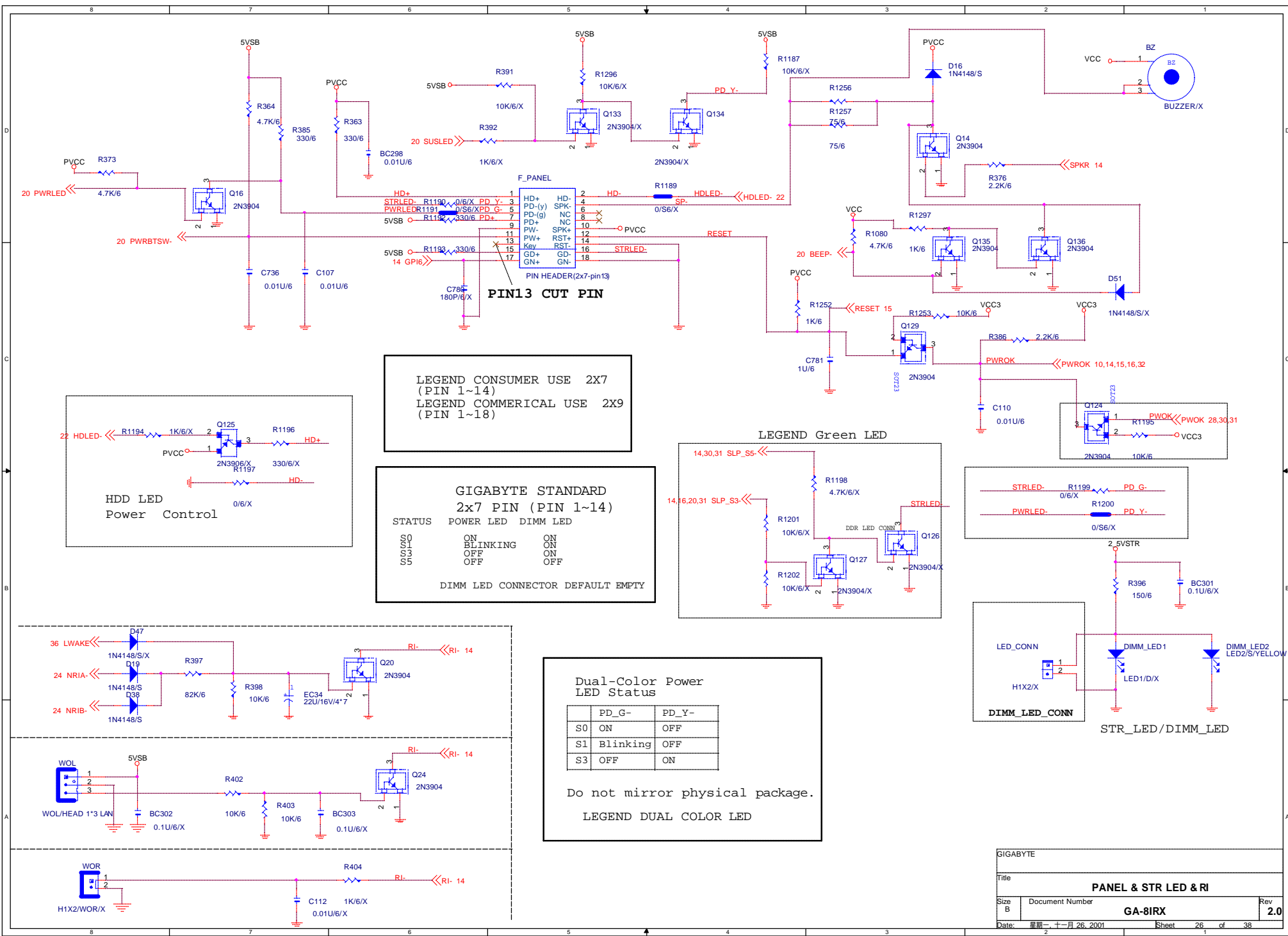


F_USB



FOR COMPAQ

GIGABYTE CORP.			
Title ICH USB+LAN PORT			
Size B	Document Number	GA-8IRX	Rev 2.0
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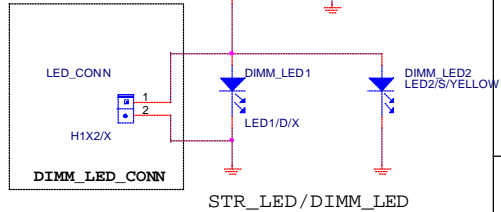
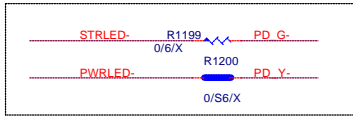
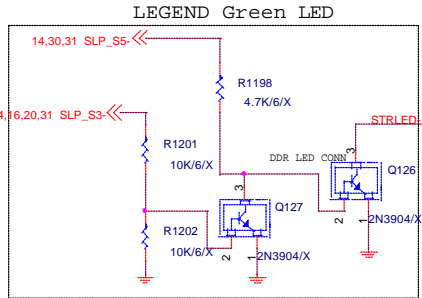
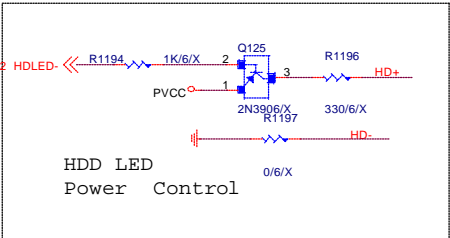


LEGEND CONSUMER USE 2X7
(PIN 1~14)
LEGEND COMMERCIAL USE 2X9
(PIN 1~18)

GIGABYTE STANDARD
2x7 PIN (PIN 1~14)
STATUS POWER LED DIMM LED

S0	ON	ON
S1	BLINKING	ON
S3	OFF	ON
S5	OFF	OFF

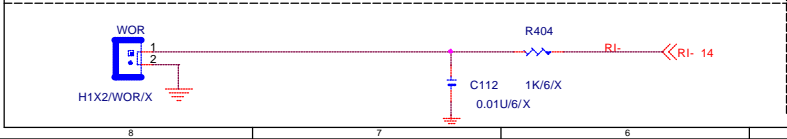
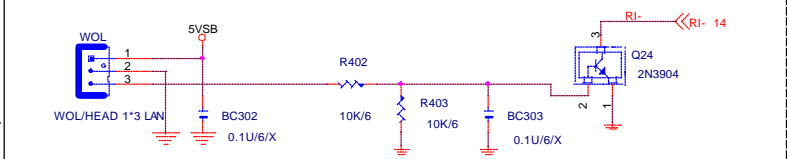
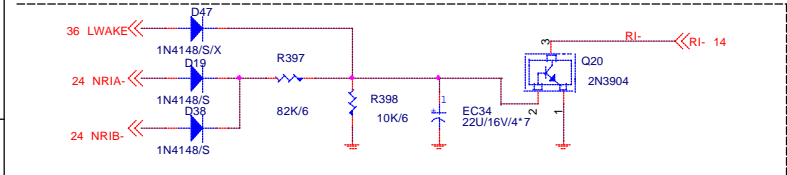
DIMM LED CONNECTOR DEFAULT EMPTY

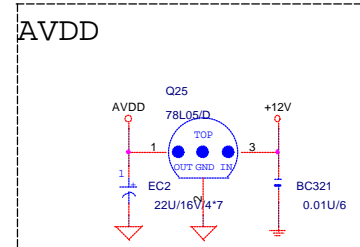
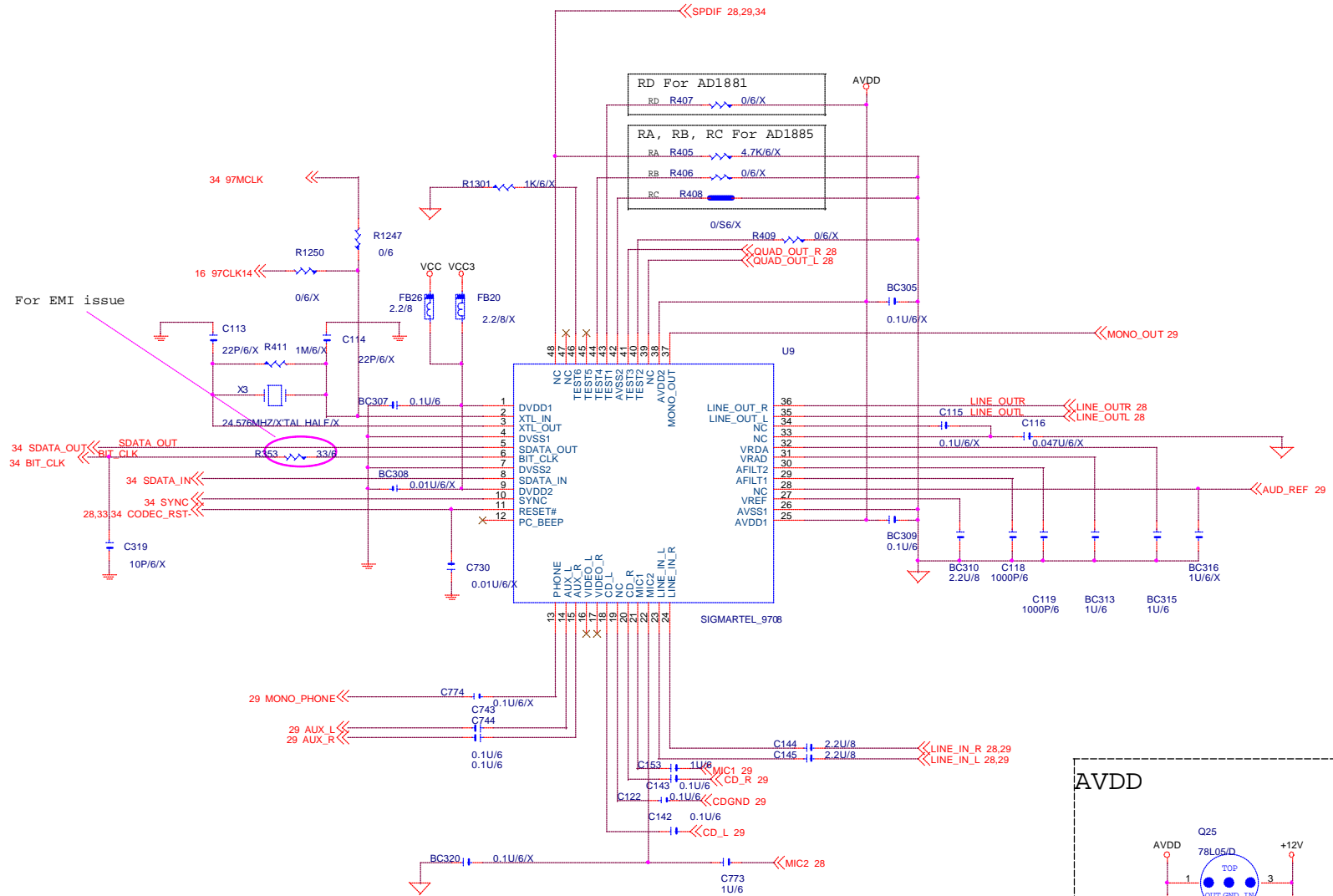


Dual-Color Power LED Status

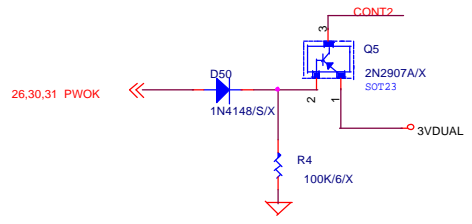
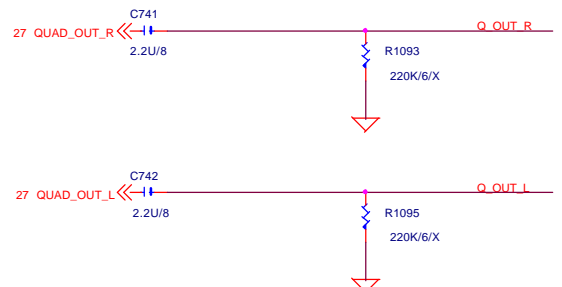
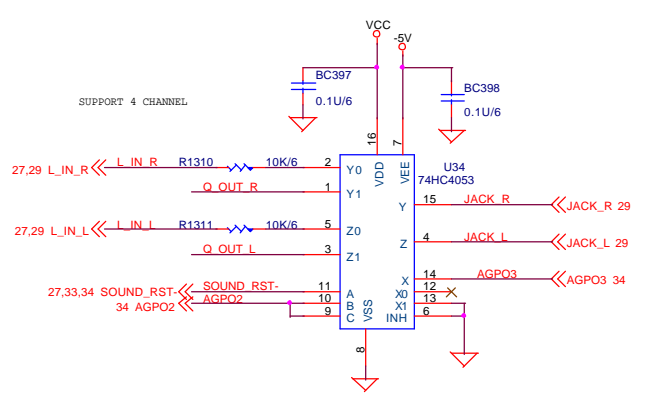
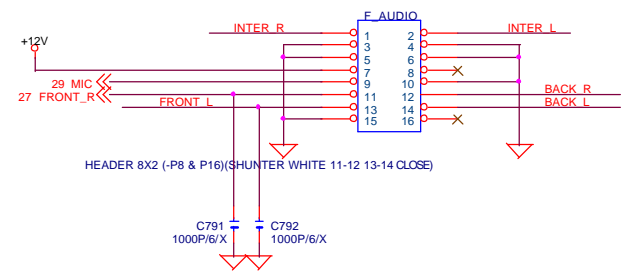
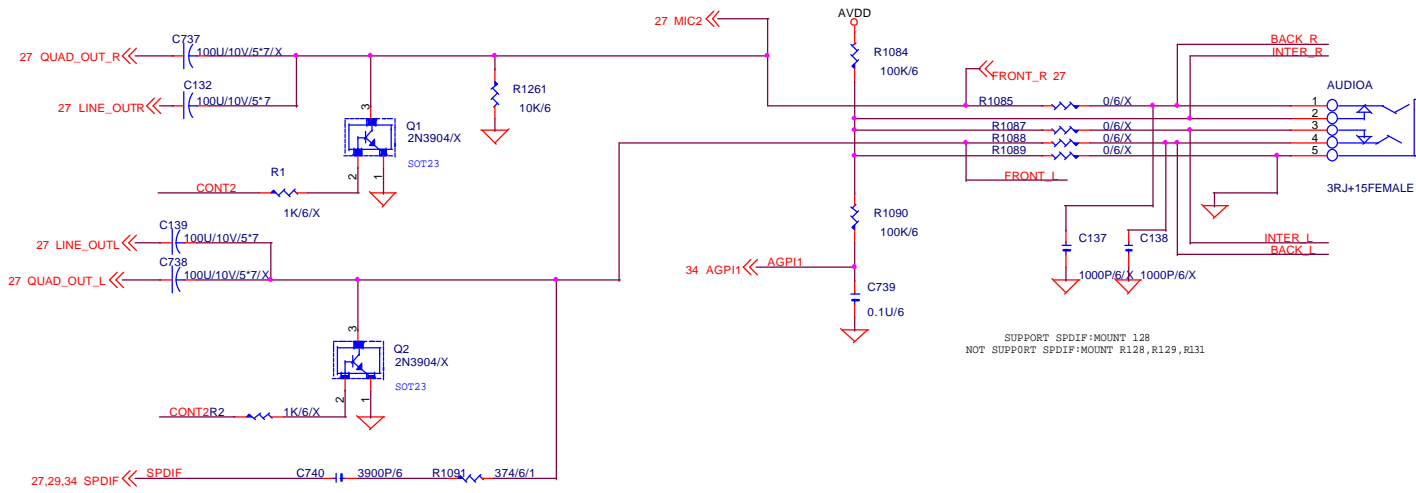
	PD_G-	PD_Y-
S0	ON	OFF
S1	Blinking	OFF
S3	OFF	ON

Do not mirror physical package.
LEGEND DUAL COLOR LED



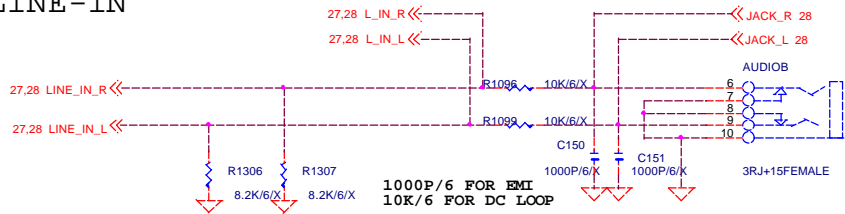


GIGABYTE CORP.			
Title AC97			
Size B	Document Number	GA-8IRX	Rev 2.0
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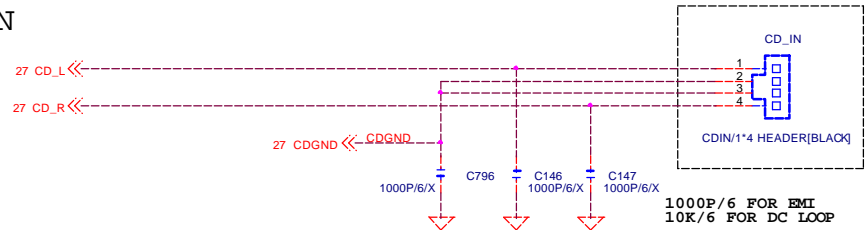


GIGABYTE CORP.			
Title			
LJACK LINE OUT			
Size	Document Number	GA-8IRX	Rev
B			2.0
Date:	星期一 十一月 26, 2001	Sheet	28 of 38

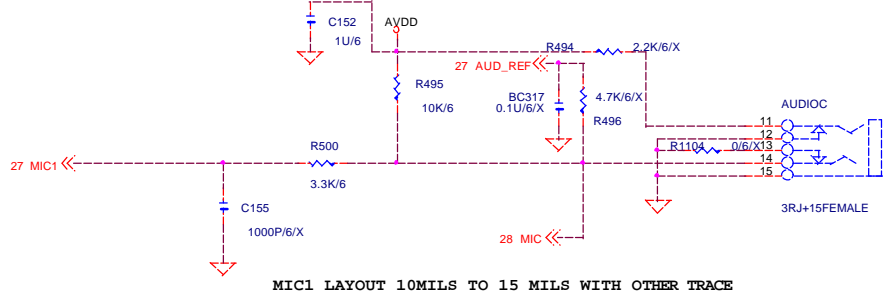
LINE-IN



CDIN

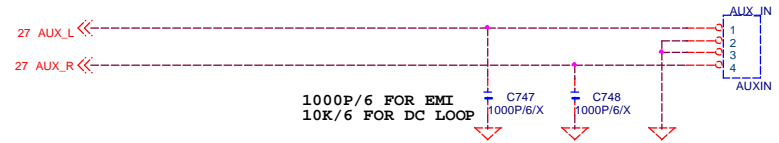


MIC

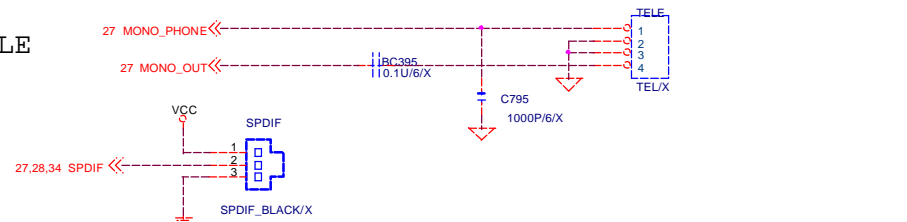


MIC1 LAYOUT 10MILS TO 15 MILS WITH OTHER TRACE

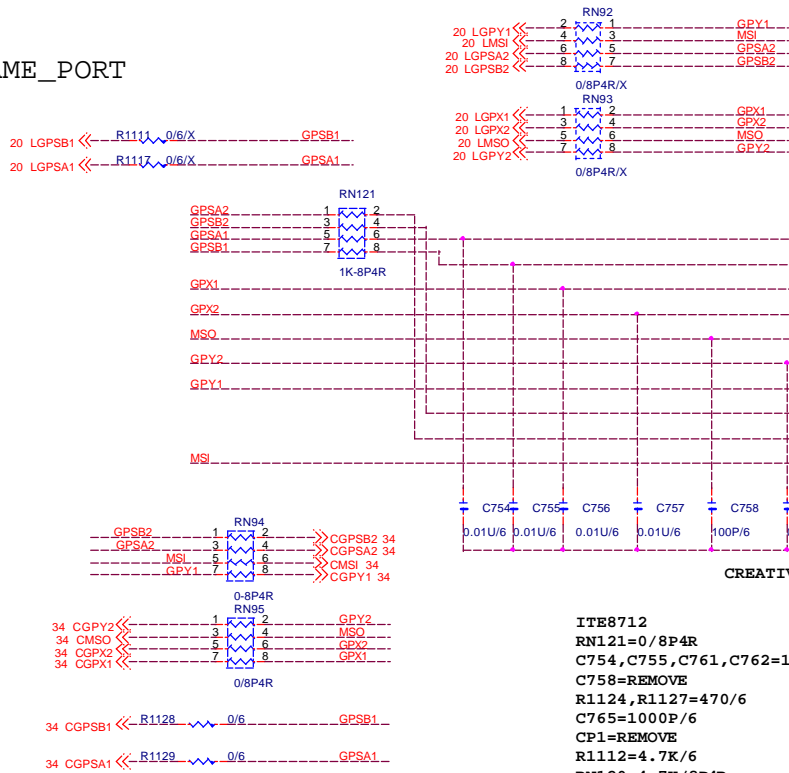
AUX_IN



TELE



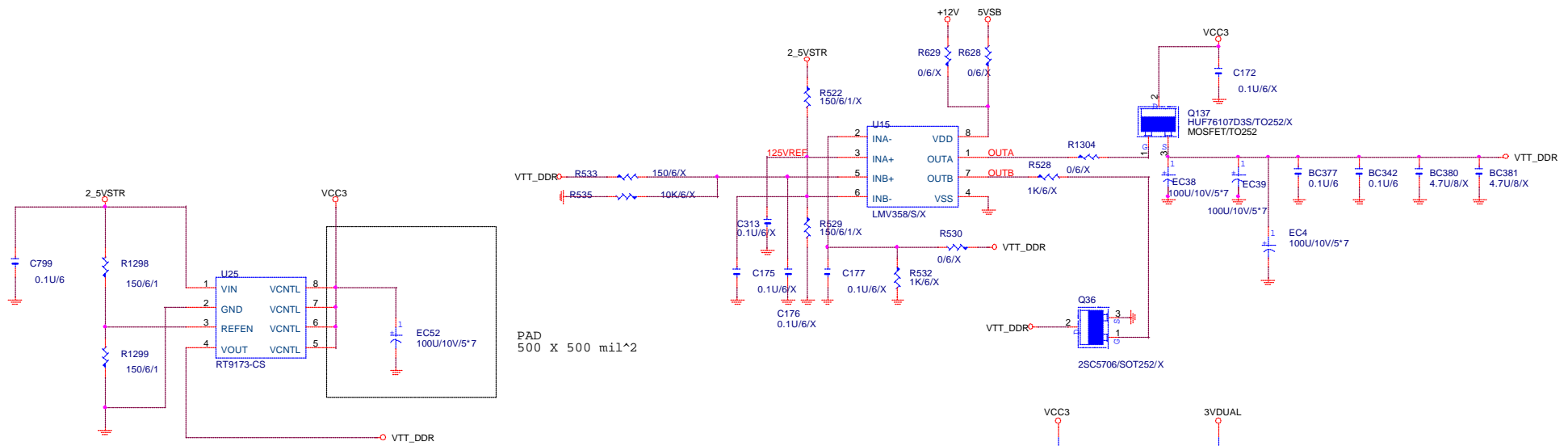
GAME_PORT



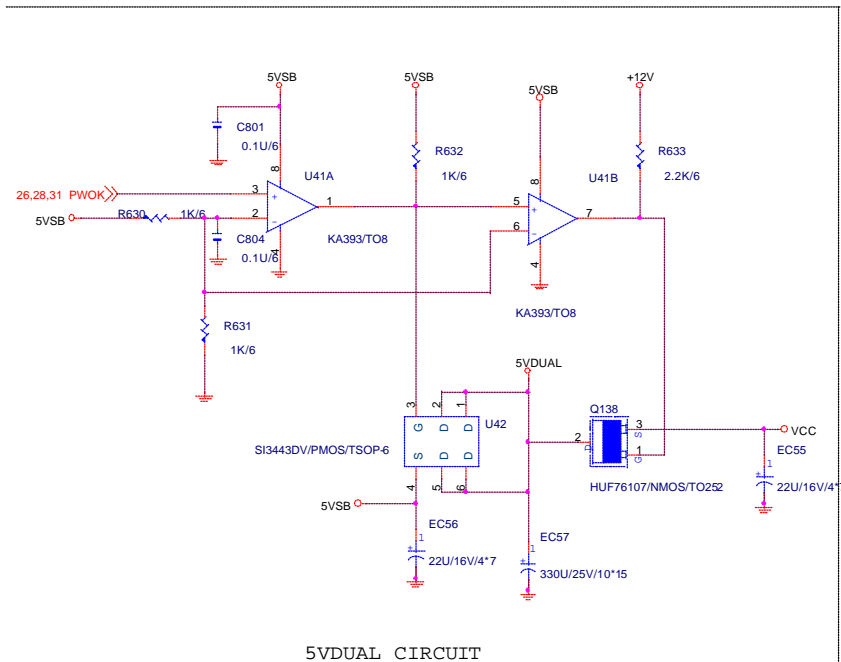
ITE8712
 RN121=0/8P4R
 C754,C755,C761,C762=1000P/6
 C758=REMOVE
 R1124,R1127=470/6
 C765=1000P/6
 CP1=REMOVE
 R1112=4.7K/6
 RN120=4.7K/8P4R

GIGABYTE CORP.		
Title PHONE JACK, GAME PORT		
Size B	Document Number GA-B1RX	Rev 2.0
Date: 星期一十一月26, 2001	Sheet 29	of 38

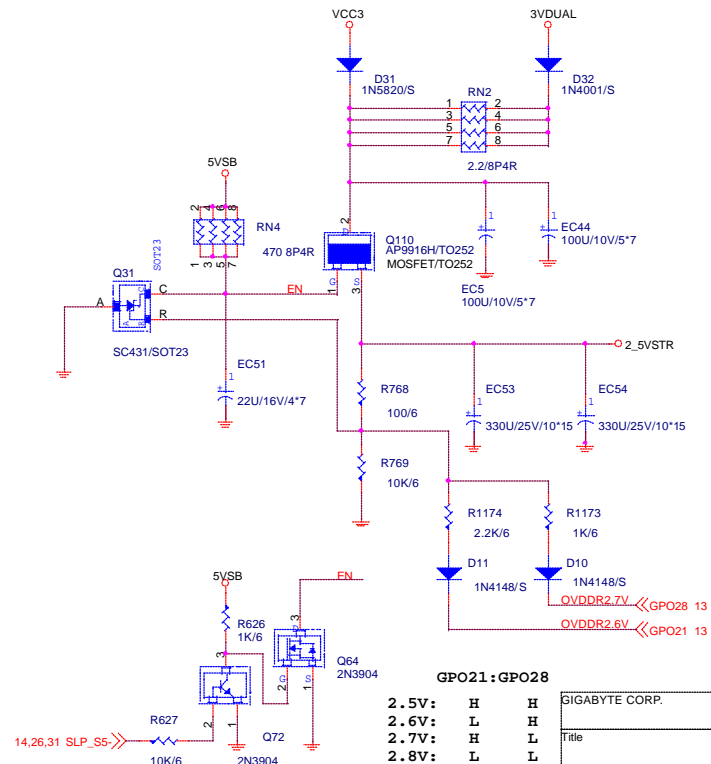
1. 2.5V VTT_DDR LINEAR SOLUTION



PAD
500 x 500 mil²



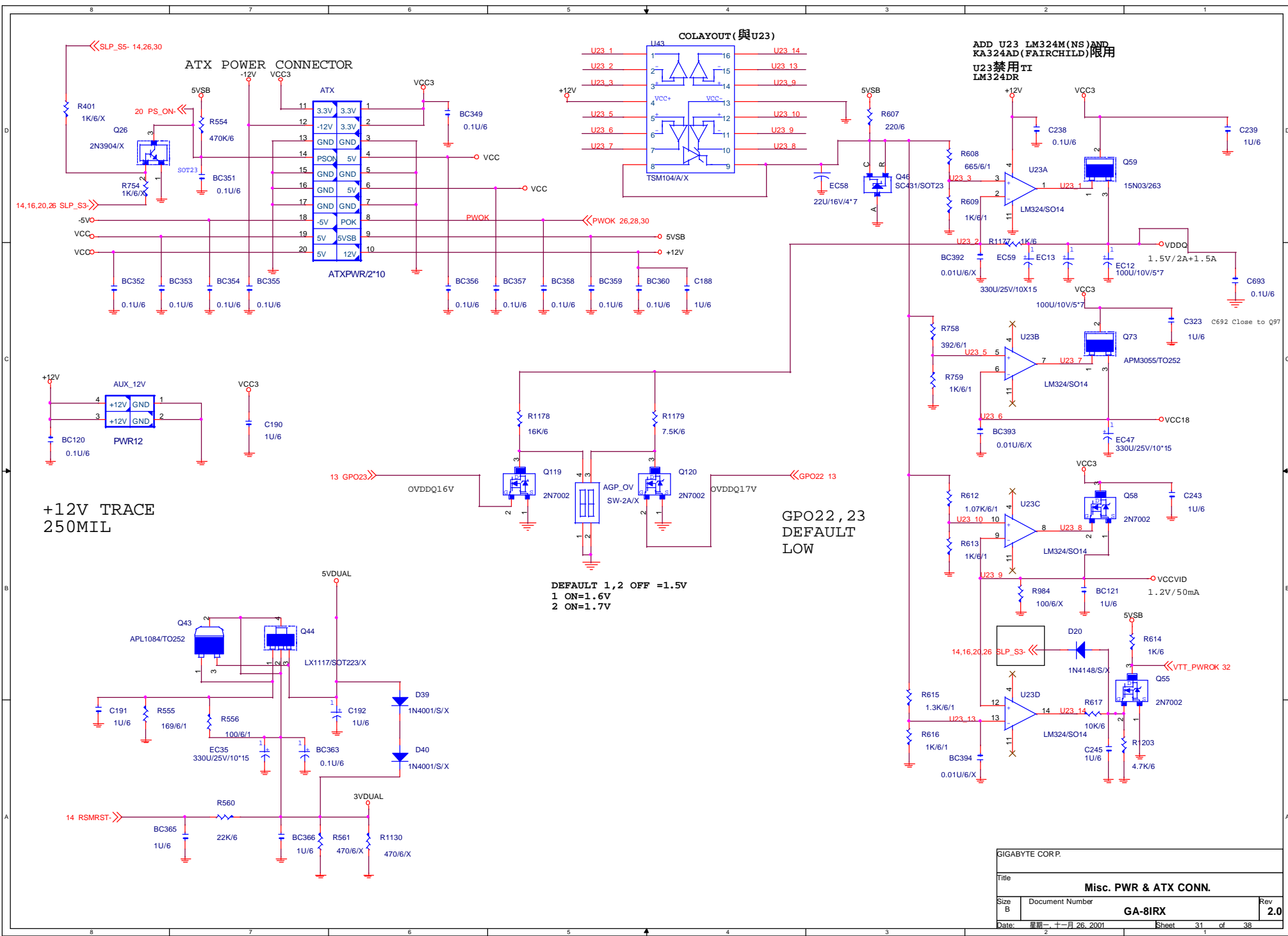
5VDUAL CIRCUIT



GPO21:GPO28

2.5V:	H	H
2.6V:	L	H
2.7V:	H	L
2.8V:	L	L

GIGABYTE CORP.	
Title: DDR POWER	
Size B	Document Number: GA-8IRX
Date: 星期一, 十一月 26, 2001	Rev: 2.0
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ATX POWER CONNECTOR

COLAYOUT (與U23)

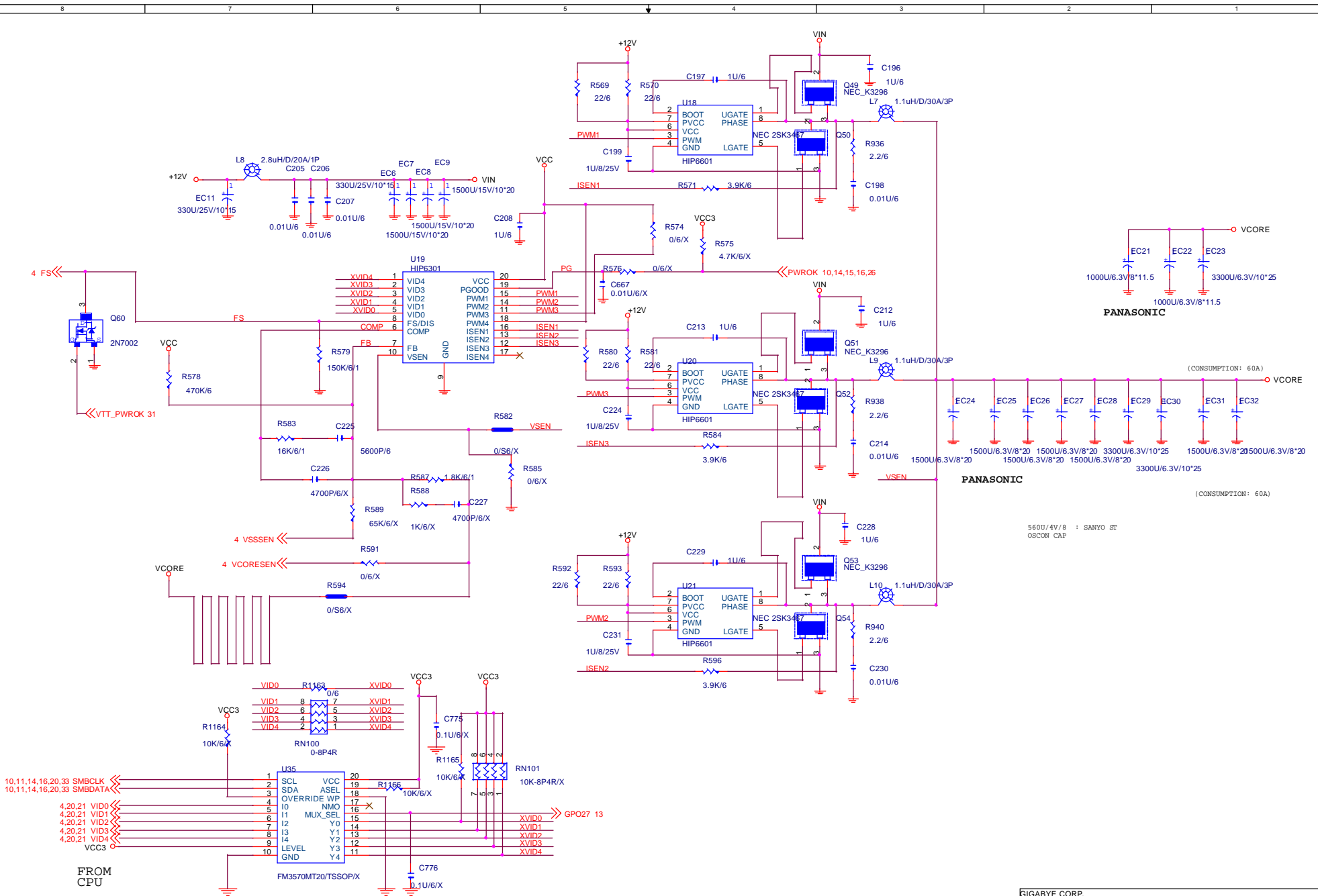
ADD U23 LM324M(NS) AND KA324AD (FAIRCHILD) 限用
U23 禁用 TI LM324DR

+12V TRACE
250MIL

GPO22, 23
DEFAULT
LOW

DEFAULT 1,2 OFF = 1.5V
1 ON = 1.6V
2 ON = 1.7V

GIGABYTE CORP.			
Title			
Misc. PWR & ATX CONN.			
Size B	Document Number	GA-8IRX	
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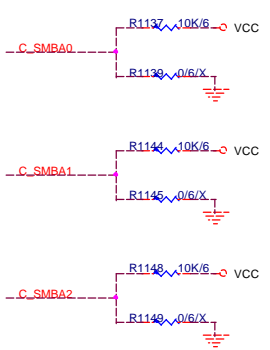
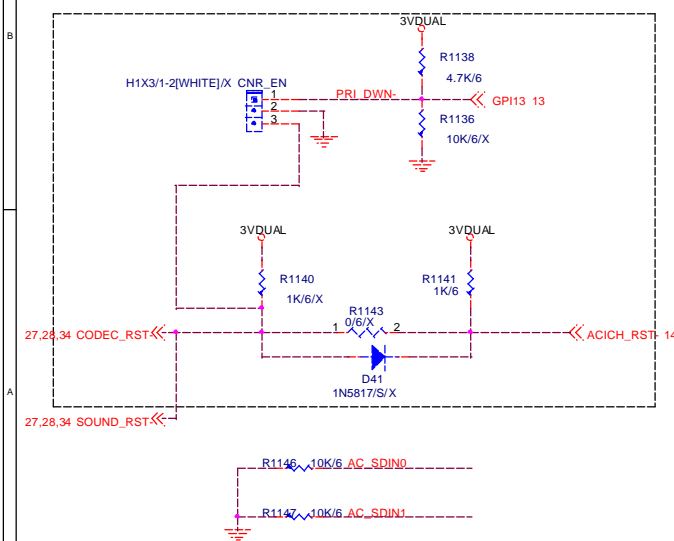
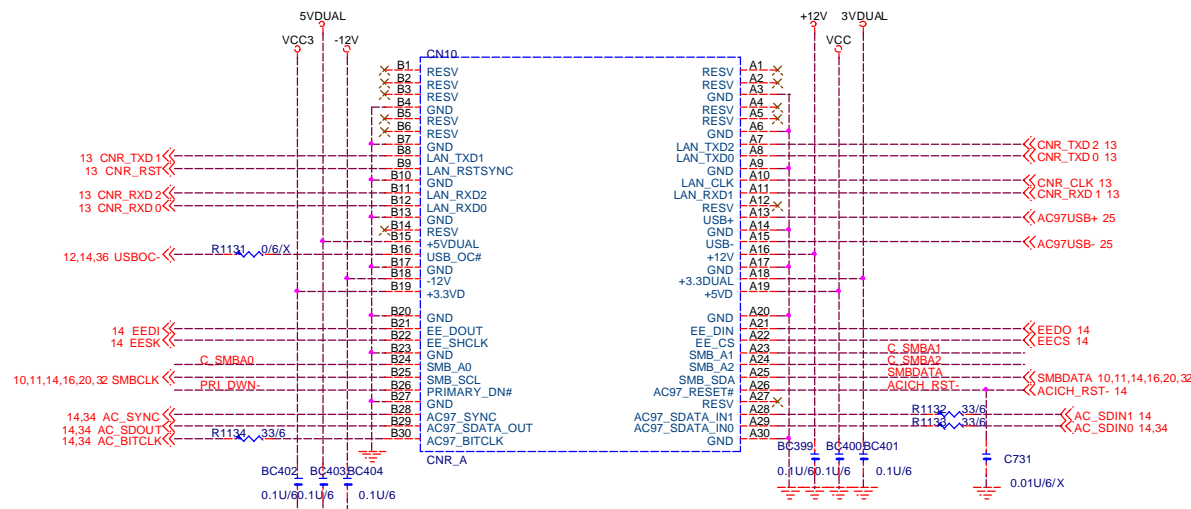


Option ckt:CPU 超電壓

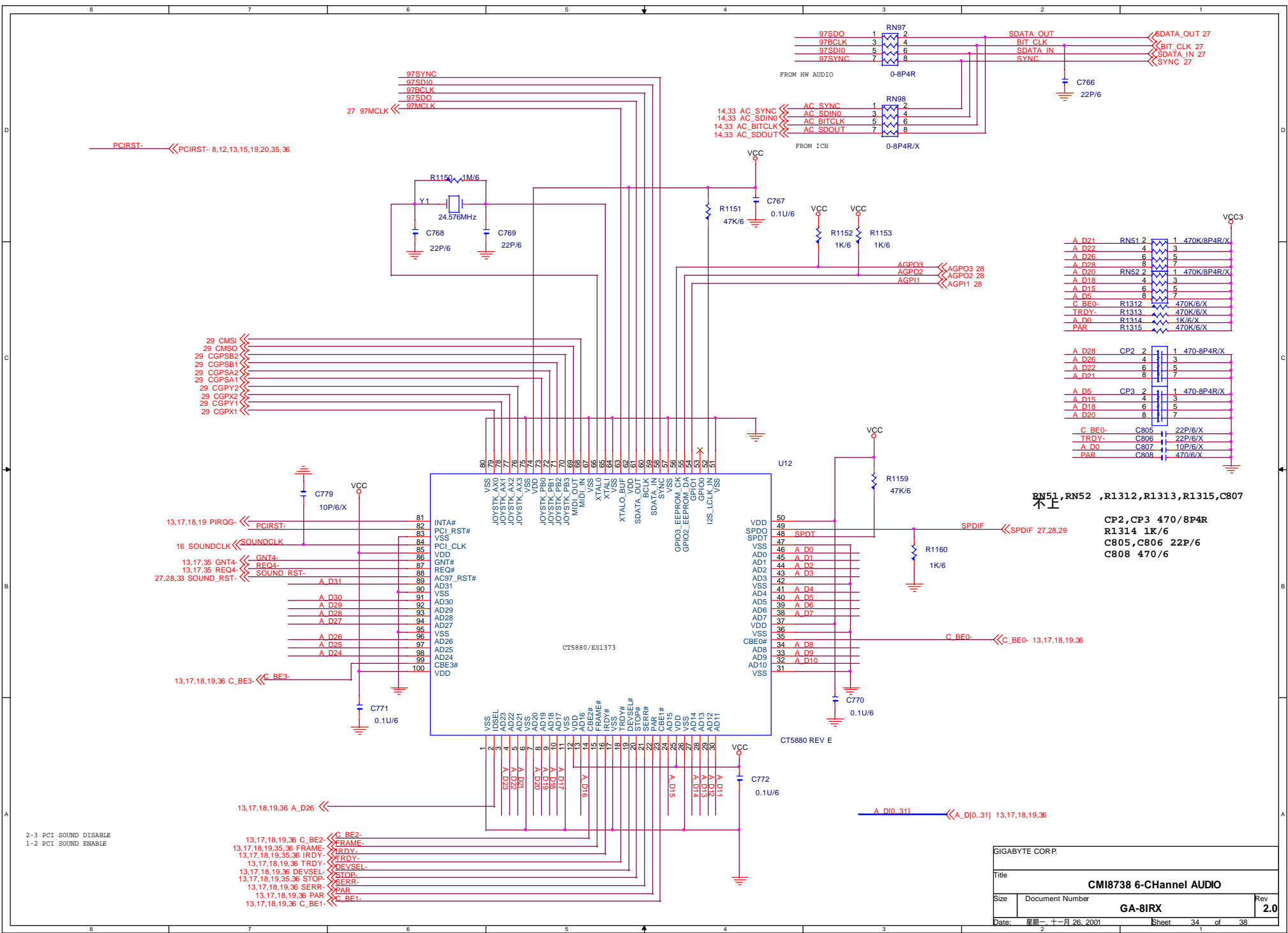
OPTION CKT:VCORE VOLTAGE ADJUST FOR CPU OVER SPEED
 GPIO High: Bypass input VID to output VID
 GPIO Low: Output VID switch to internal memory value
 PS: I2C address - 10011110

GIGABYTE CORP.			
Title			
Vcore PWM HIP6301+6601			
Size	Document Number	Rev	
Custom	GA-8IRX	2.0	
Date:	星期一, 十一月 26, 2001	Sheet	32 of 38

CNR



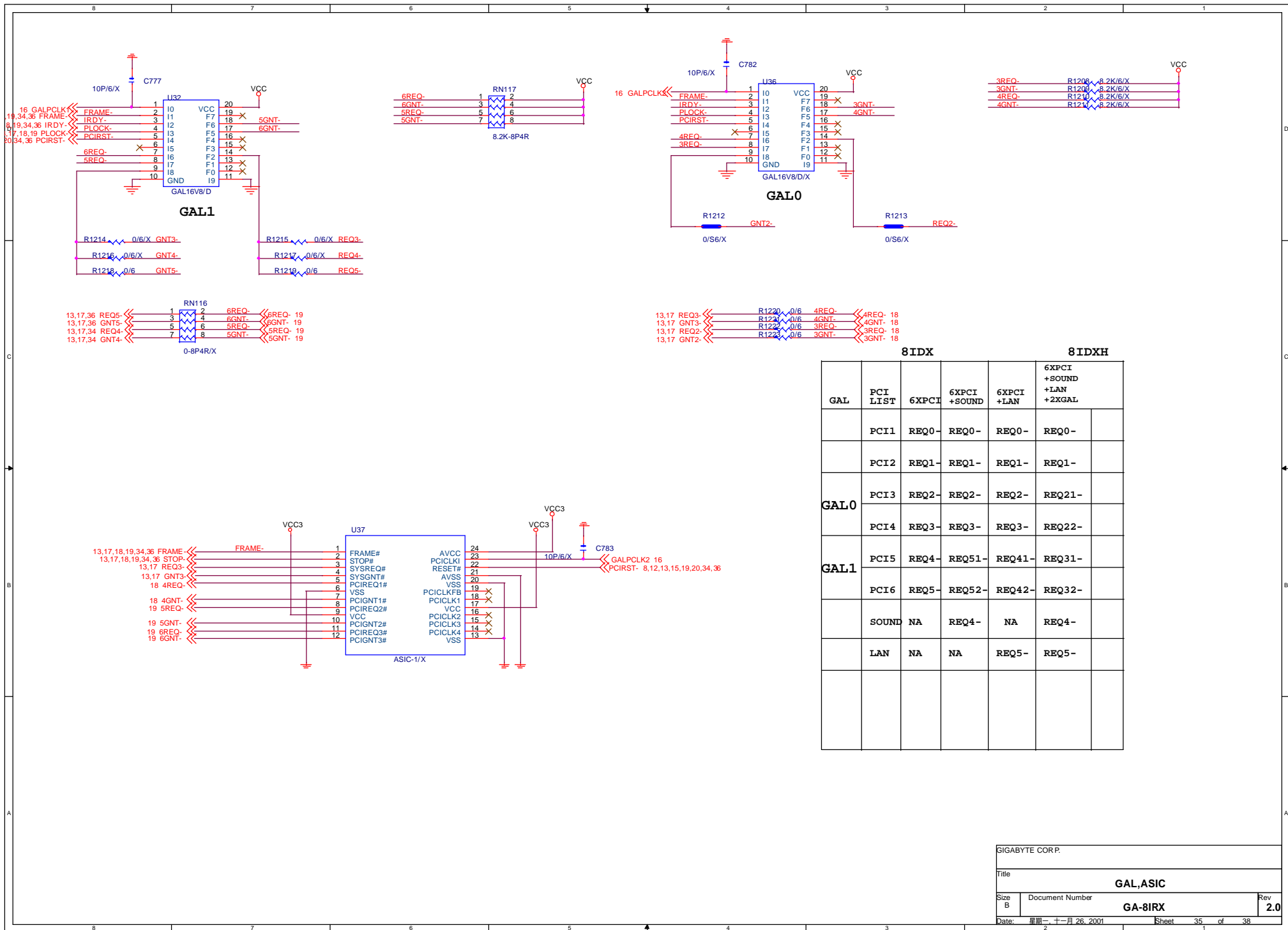
SIGABYTE CORP.			
Title: CNR			
Size B	Document Number	GA-8IRX	Rev 2.0
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2-3 PCI SOUND DISABLE
1-2 PCI SOUND ENABLE

13,17,18,19,36 C_BE2- <<C_BE2-
FRAME- <<FRAME-
13,17,18,19,35,36 TRDY- <<TRDY-
13,17,18,19,36 TRDY- <<TRDY-
13,17,18,19,36 DEVSEL- <<DEVSEL-
13,17,18,19,36 STOP- <<STOP-
13,17,18,19,36 SERR- <<SERR-
13,17,18,19,36 PAR- <<PAR-
13,17,18,19,36 C_BE1- <<C_BE1-

GIGABYTE CORP.			
Title CM18738 6-Channel AUDIO			
Size	Document Number GA-8IRX	Rev 2.0	
Date: 星期-十一月 26, 2001	Sheet	34	of 38



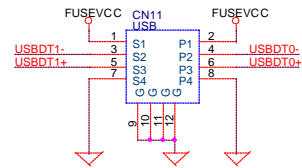
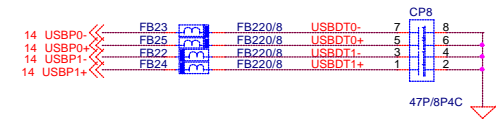
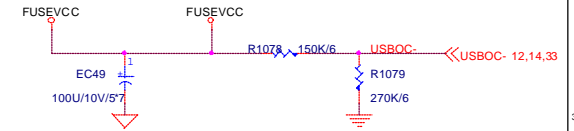
GAL	PCI LIST	8IDX			8IDXH	
		6XPCCI	6XPCCI +SOUND	6XPCCI +LAN	6XPCCI +SOUND +LAN +2XGAL	
	PCI1	REQ0-	REQ0-	REQ0-	REQ0-	
	PCI2	REQ1-	REQ1-	REQ1-	REQ1-	
	PCI3	REQ2-	REQ2-	REQ2-	REQ21-	
	PCI4	REQ3-	REQ3-	REQ3-	REQ22-	
GAL0	PCI5	REQ4-	REQ51-	REQ41-	REQ31-	
GAL1	PCI6	REQ5-	REQ52-	REQ42-	REQ32-	
	SOUND	NA	REQ4-	NA	REQ4-	
	LAN	NA	NA	REQ5-	REQ5-	

PCIRST- -> PCIRST- 8,12,13,15,19,20,34,35

8100/8100B NOTE:

Pin 65 pull-down (5.9K for 8100B)
 Pin 65 pull-down (1.8K for 8100)
 R502 remove pull-down (1.8K for 8100B)
 R502:0/6 pull-down (1.8K for 8100)

EC49要靠近USB_PORT的FUSEVCC



GIGABYTE GA-8IRX GPIO LIST

Revision 2.0

SHEET




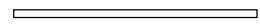
TITLE

GPI					
GPI0/REQA-	NA	PULL 8.2K TO VCC3			
GPI1/REQ5-		PULL 2.7K TO VCC3			
GPI2	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 (DETECT DUAL BIOS)			
GPI8	ID	PULL 8.2K TO VCC3 (default)			
GPI9	NA	NOT IMPLEMENTED			
GPI10	NA	NOT IMPLEMENTED			
GPI11		PULL 4.7K TO 3VDUAL (SMBALERT)			
GPI12		PULL 8.2K TO 3VDUAL (PME-)			
GPI13		CNR_PRIMARY			
GPI14	NA	NOT IMPLEMENTED			
GPI15	NA	NOT IMPLEMENTED			
MODEL		GPI2	GPI5	GPI8	
8IDX-H	ID	H	H	H	
8IDX	ID	H	H	L	
SOUND		ENABLE	PCI_F0	CLK_GEN	
LAN		ENABLE	PCI_F0	CLK_GEN	

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
GPO19		OK PULL 8.2K TO VCC3 (DUAL BIOS)
GPO20		PULL 8.2K TO VCC3 (DUAL BIOS)
GPO21		PULL 8.2K TO VCC3 (DIMM OVER VOLTAGE)
GPO22		PULL 8.2K TO VCC3 (AGP OVER VOLTAGE)
GPO23		PULL 8.2K TO VCC3 (AGP OVER VOLTAGE)
GPO24		PULL 1K TO 3VDUAL (TOP BLOCK)
GPO25		PULL 4.7K TO 3VDUAL (BIOS WRITE PROTECT)
GPO26		NOT IMPLEMENTED
GPO27		PULL 8.2K TO 3VDUAL (CPU OVER VOLTAGE)
GPO28		PULL 8.2K TO 3VDUAL (DIMM OVER VOLTAGE)

 COMPONENT SIDE (0.5 oz. Copper)	
 VCC SIDE (2 oz. Copper)	
 GND SIDE (1 oz. Copper)	
 SOLDER SIDE (0.5 oz. Copper)	
GIGABYTE	
Title: GPIO LIST	
Size: Custom	Document Number: GA-8IRX
Date: 星期一, 十一月 26, 2001	Rev: 2.0
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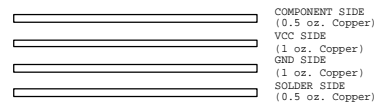
GIGABYTE GA-8IRX PCI ROUTING LIST

Revision 2.0

SHEET TITLE

PCI ROUTING	PIRQ-	REQ- /GNT-	IDSEL-	CLOCK
PCI1	PIRQC/F/G/A-	REQ0-	A_D16-	PCLK1
PCI2	PIRQF/G/A/C-	REQ1-	A_D17-	PCLK2
PCI3	PIRQG/A/C/F-	REQ2-	A_D18-	PCLK3
PCI4	PIRA/C/F/G-	REQ3-	A_D19-	PCLK4
PCI5	PIRQC/F/G/A-	5REQ-(REQ5-Share)	A_D20-	PCLK5
PCI6	PIRQF/G/A/C-	6REQ-(REQ5-Share)	A_D21-	PCLK6
CT5880	PIRQG-	REQ4-	A_D26-	SOUNDCLK
AGP	PIRQA/B-	GREQ-	NA	AGPCLK
LAN	PIRQF-	REQ5-	A_D25-	LAN

SHEET TITLE

	
GIGABYTE	
Title: PCI ROUT LIST	
Size Custom	Document Number: GA-8IRX
Date: 星期二, 十一月 26, 2001	Rev: 2.0
Sheet 38 of 38	