

# GIGABYTE GA-8I865PE775-G-RH

## Schematics

Revision 2.02

SHEET TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	LGA775 A
05	LGA775 C,D
06	LGA775 B
07	LGA775 E,F,G,H
08	SPRINGDALE HOST
09	SPRINGDALE DDR
10	SPRINGDALE AGP, HUB, CSA, VGA
11	SPRINGDALE PWR
12	DDR1,2 CHANNEL A
13	DDR3,4 CHANNEL B
14	DDR TERMINATION
15	AGP 8X SLOT
16	ICH5 PCI, USB, HUB, LAN
17	ICH5 IDE, GPIO, SATA, CTRL
18	ICH5 VCC, GND
19	FWH
20	ICS952635 CLOCK GEN
21	PCI1_2
22	PCI3_4
23	PCI5

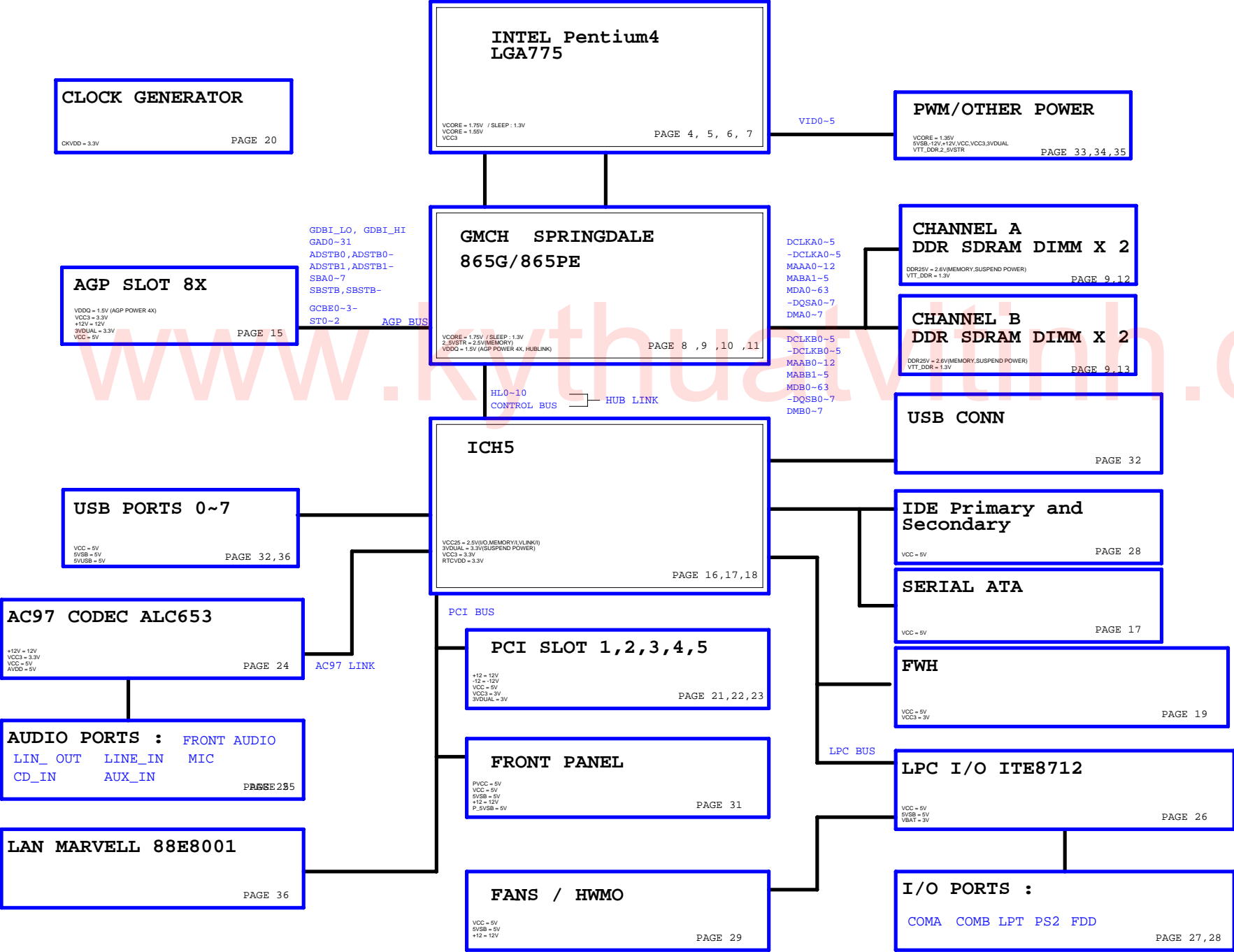
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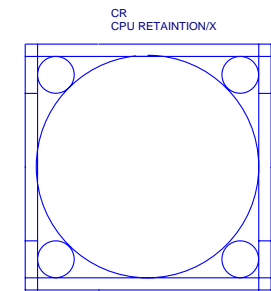
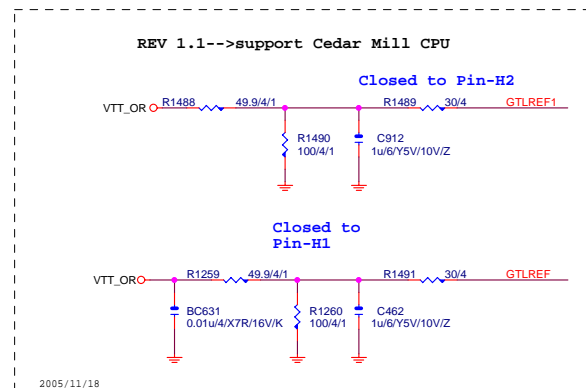
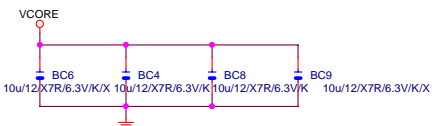
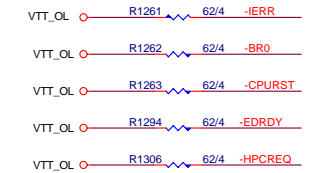
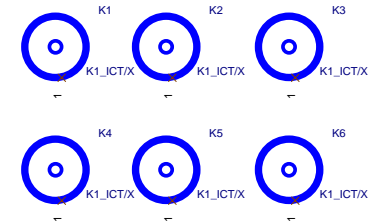
24	CODEC ALC653
25	AUDIO JACK, L_OUT, F_AUDIO
26	ITE 8712-KX
27	COM_LPT
28	IDE
29	FAN/HWMO
30	KB_PS2
31	FPANEL
32	USB CONN
33	DDR POWER
34	VCORE POWER
35	ATX, OTHERS POWER
36	MARVELL 88E8001
37	PCI ROUNTING
38	GPIO PIN LIST

		COMPONENT SIDE (1 oz. Copper) VCC SIDE (1 oz. Copper) GND SIDE (1 oz. Copper) SOLDER SIDE (1 oz. Copper)
<b>GIGABYTE CORP.</b>		
Title: COVER SHEET		
Size: Custom	Document Number: GA-8I865PE775-G-RH	Rev: 2.02
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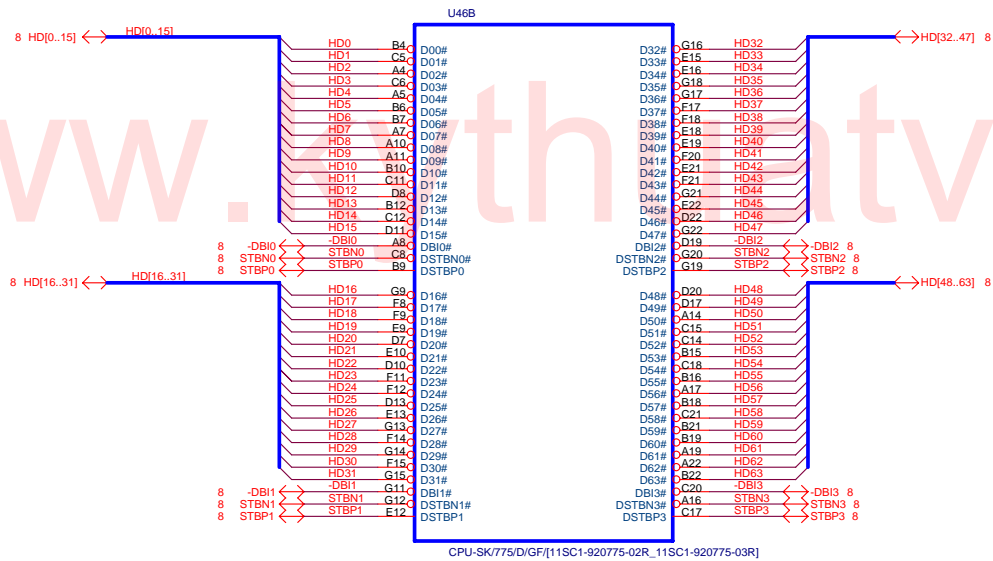
BLOCK DIAGRAM

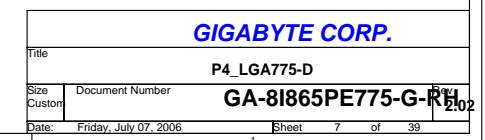
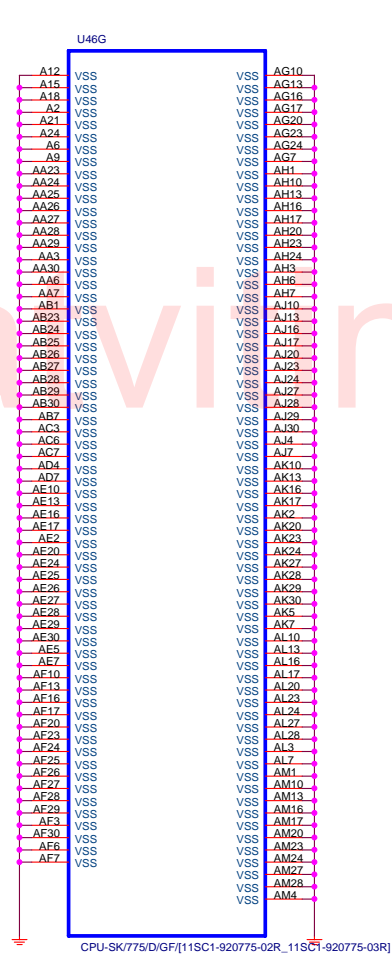


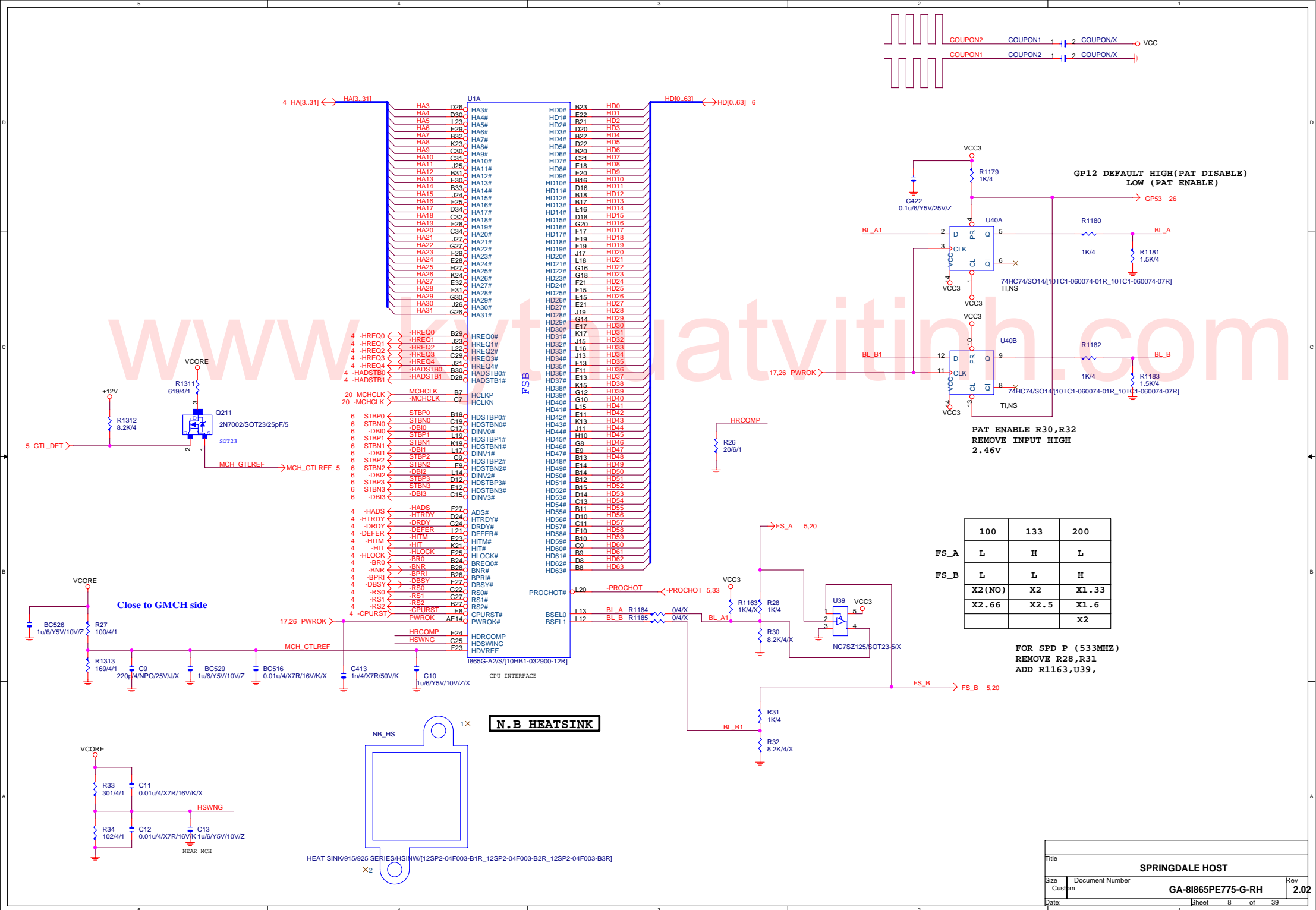




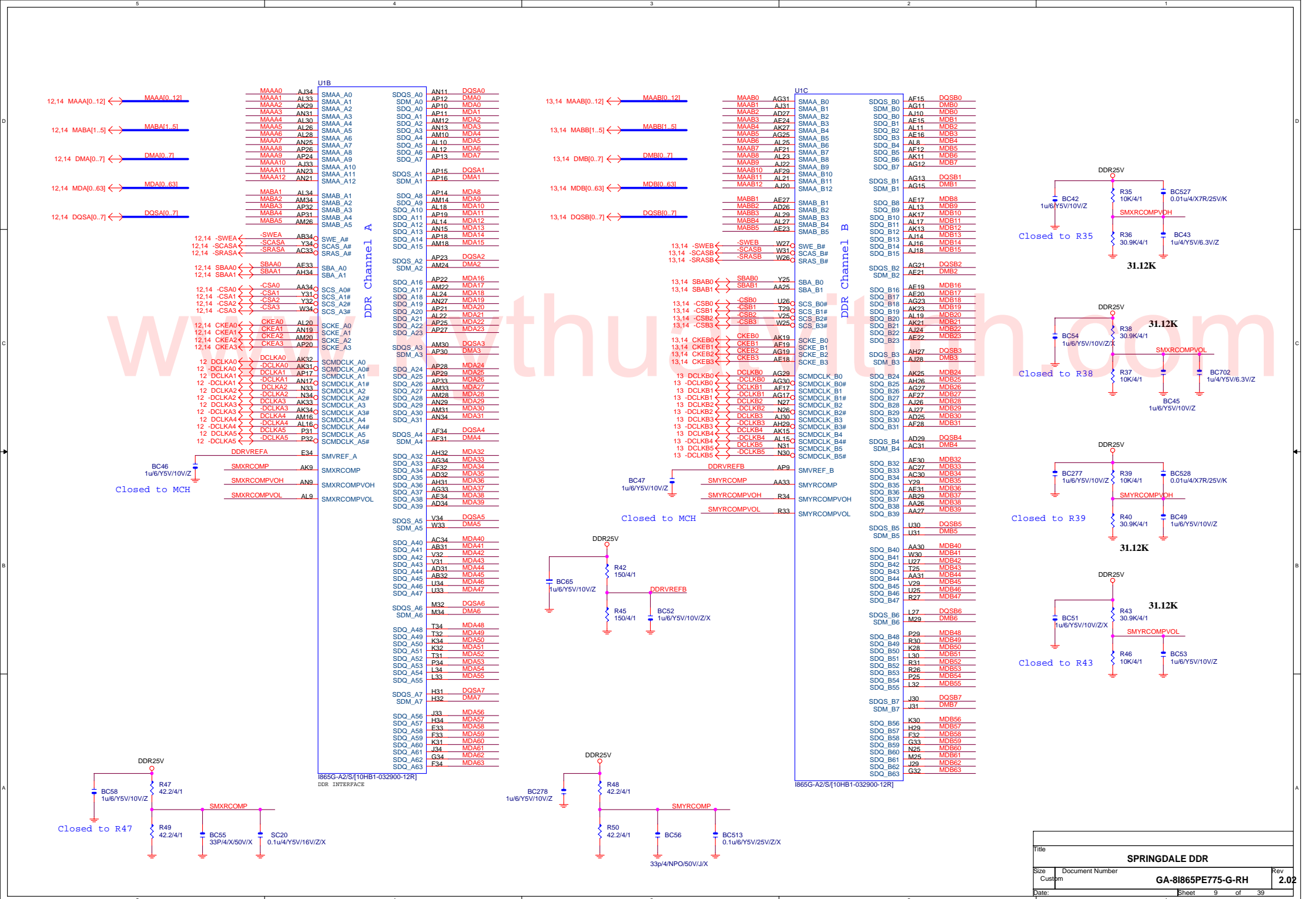
www.intvitetinh.com



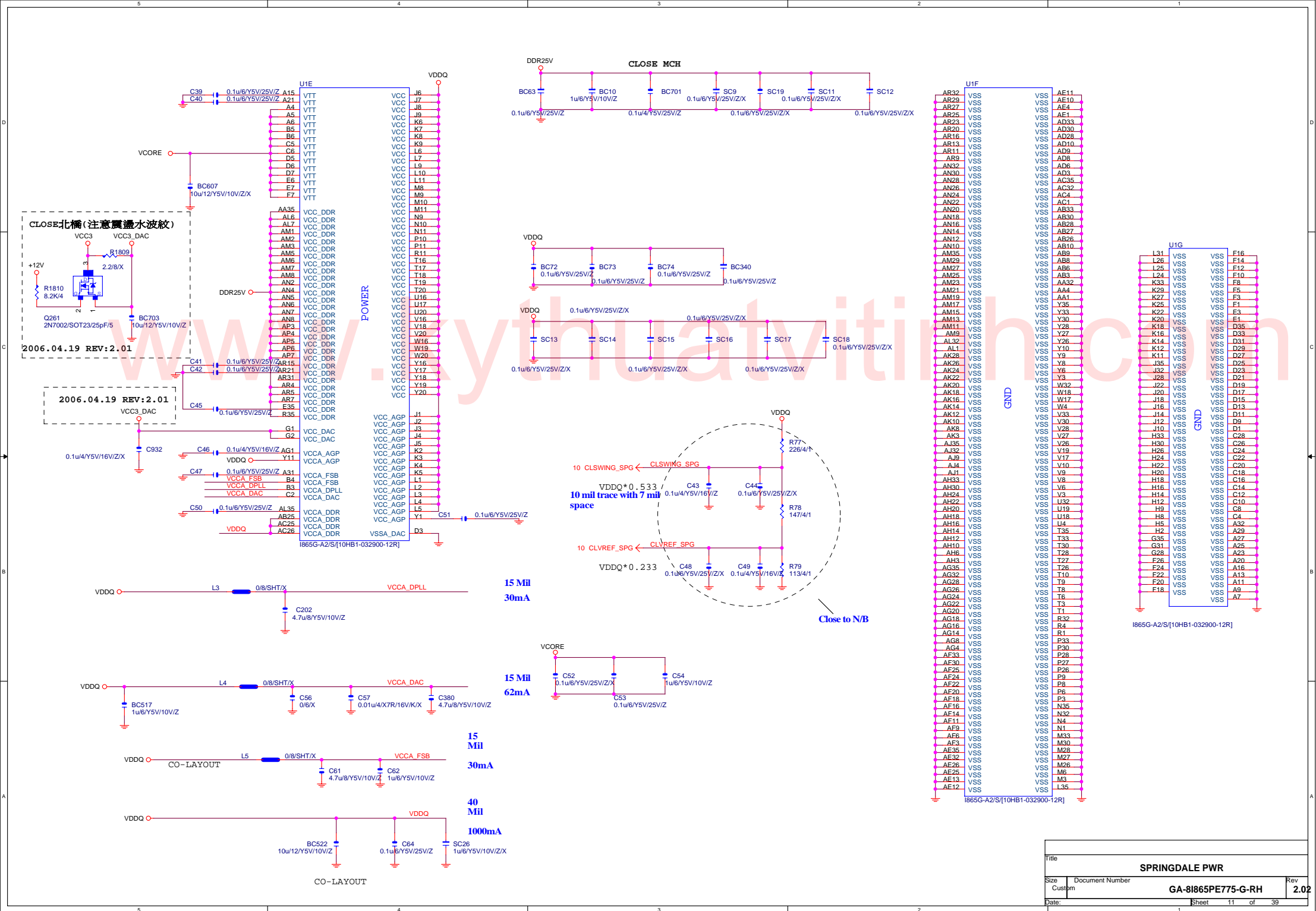


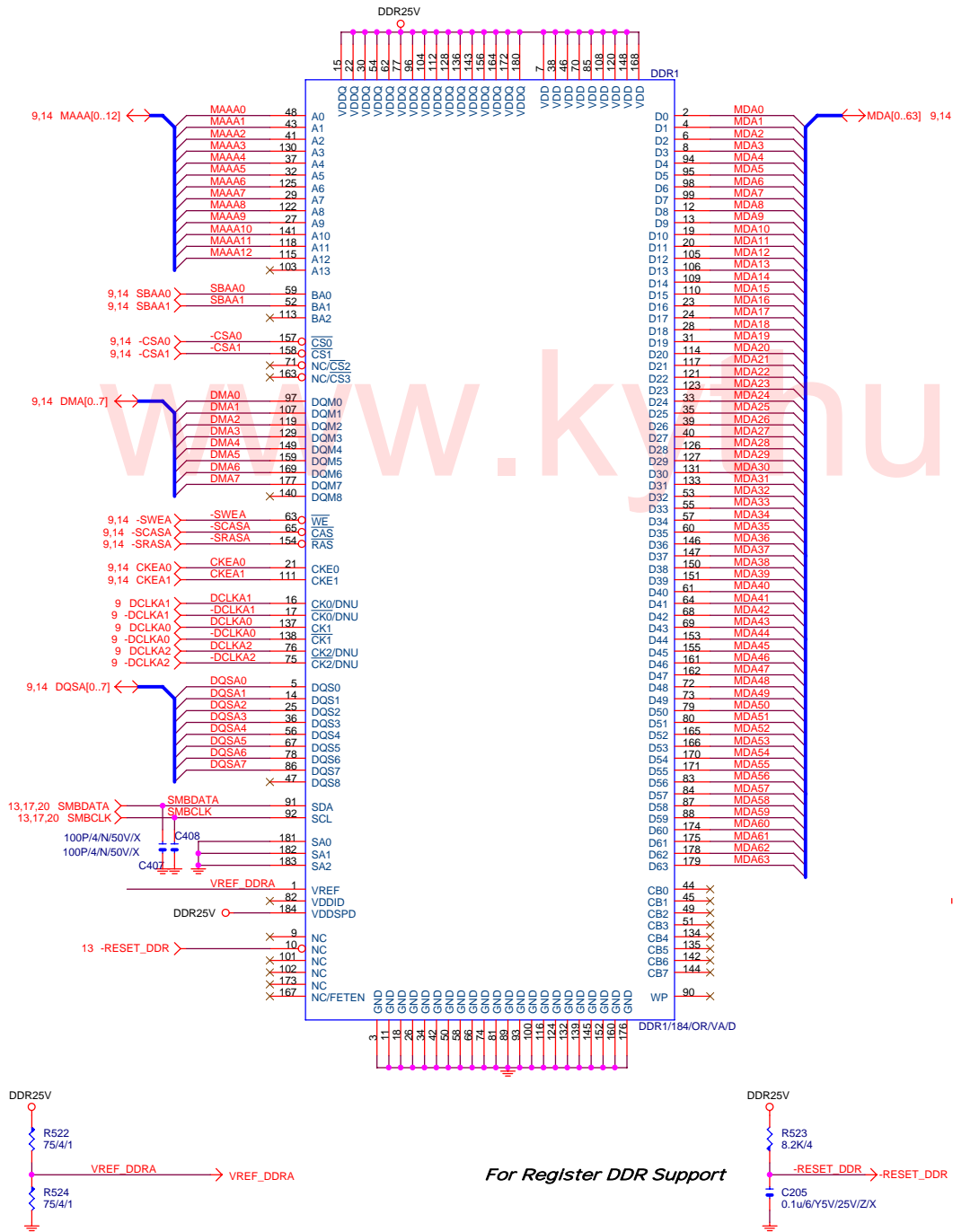






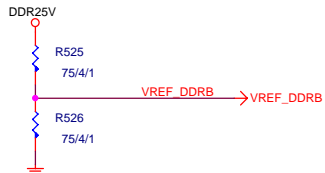
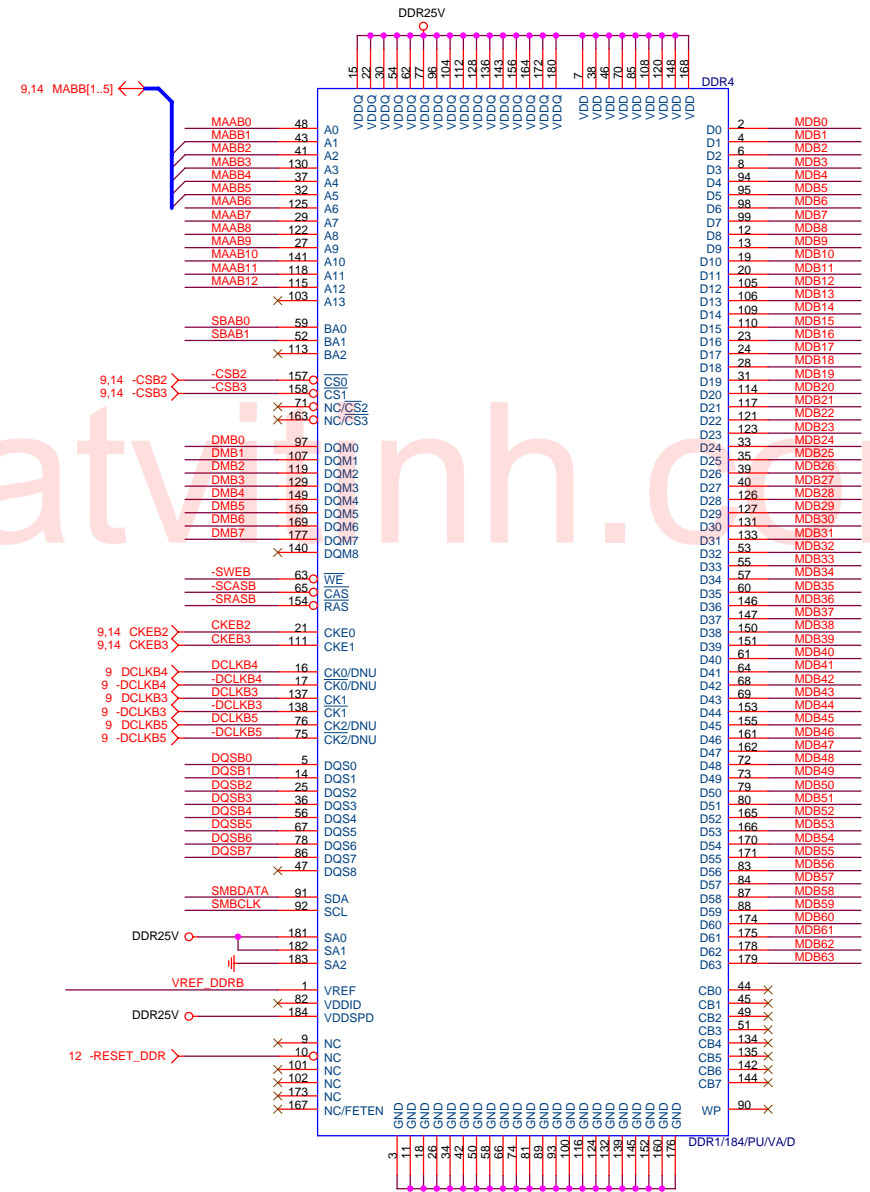
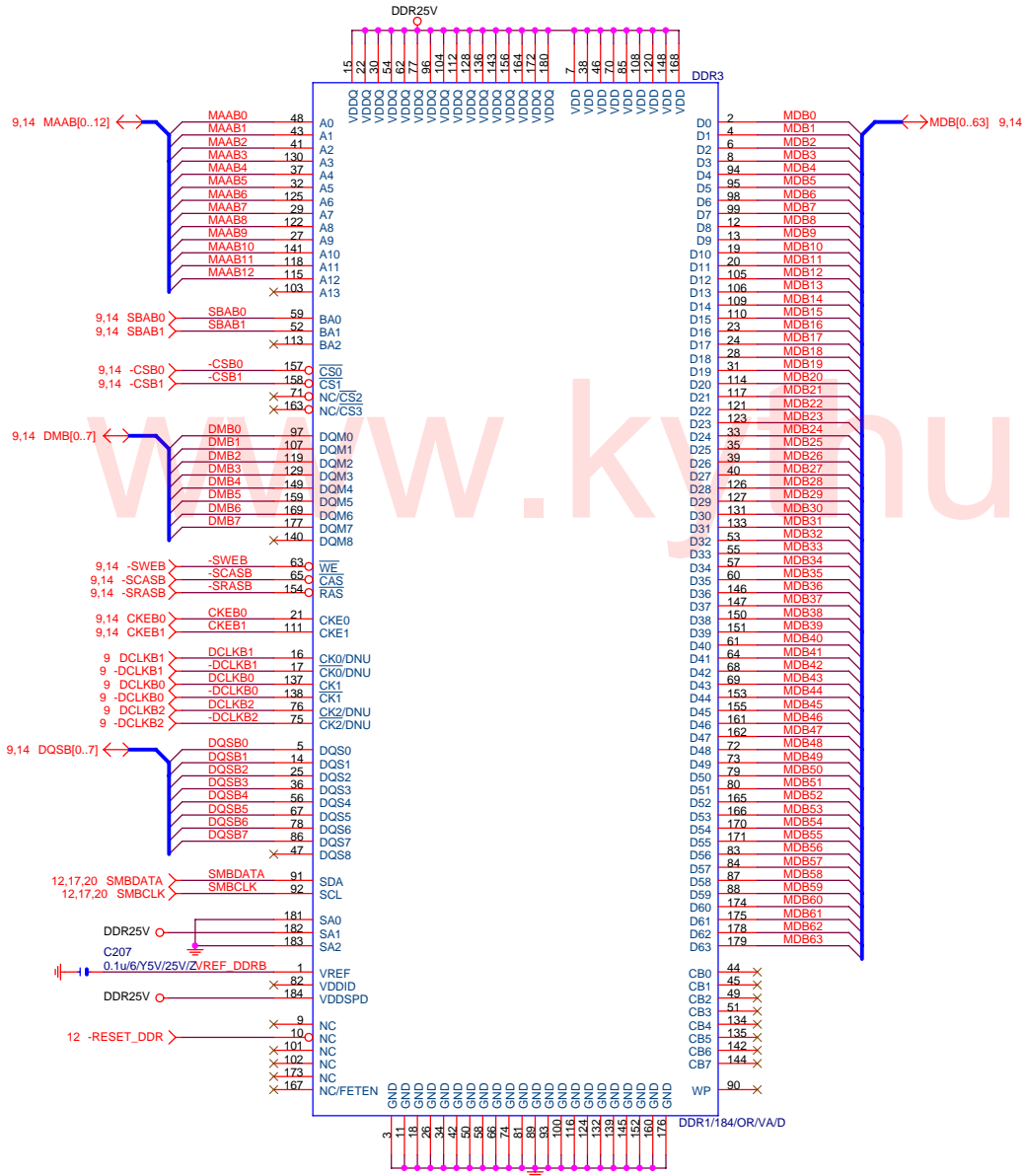






For Register DDR Support





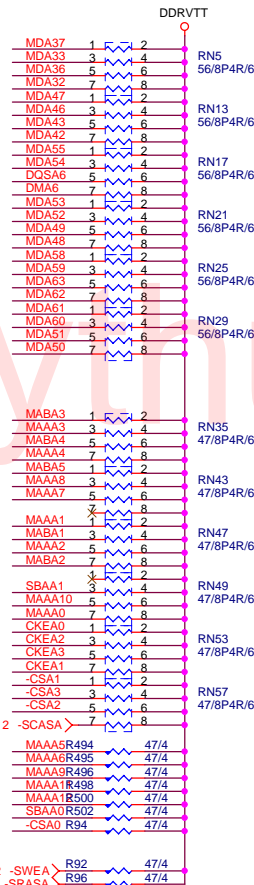
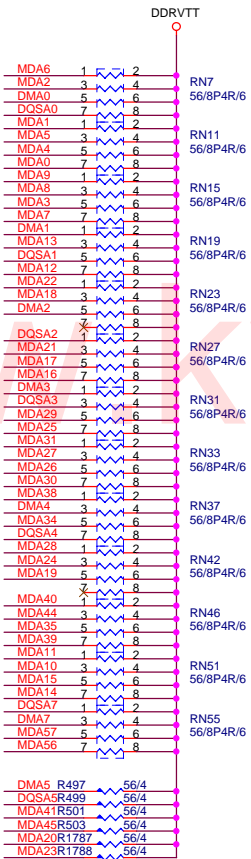
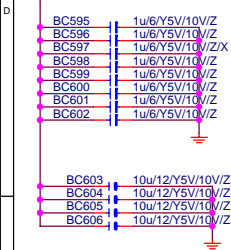


## DDR TERMINATION CHANNEL A

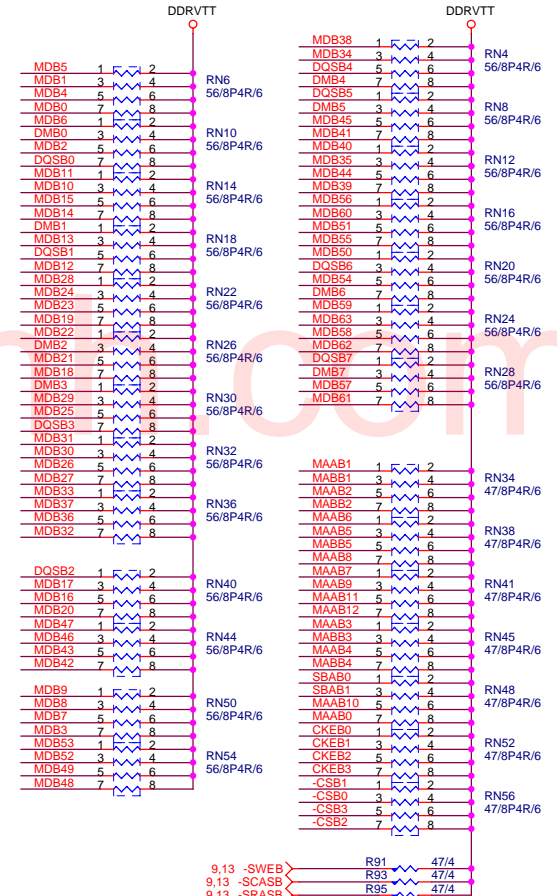
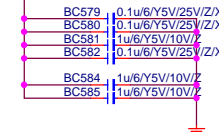
### *DDRVTT Decouple*

**CHANNEL B**

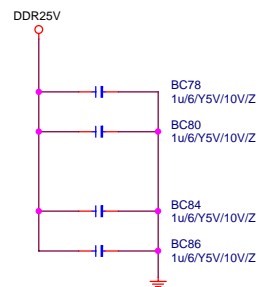
DDRVTT



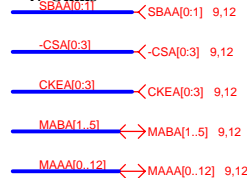
DDRVTT



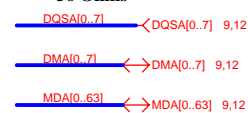
### DDR25V Decouple



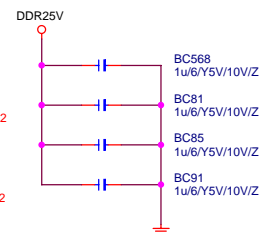
**47 Ohms**  
SRAA(0:1)



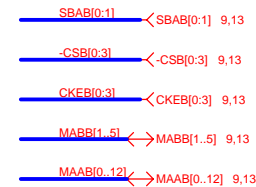
**56 Ohms**



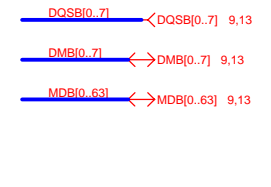
**DDR25V**  
**Decouple**

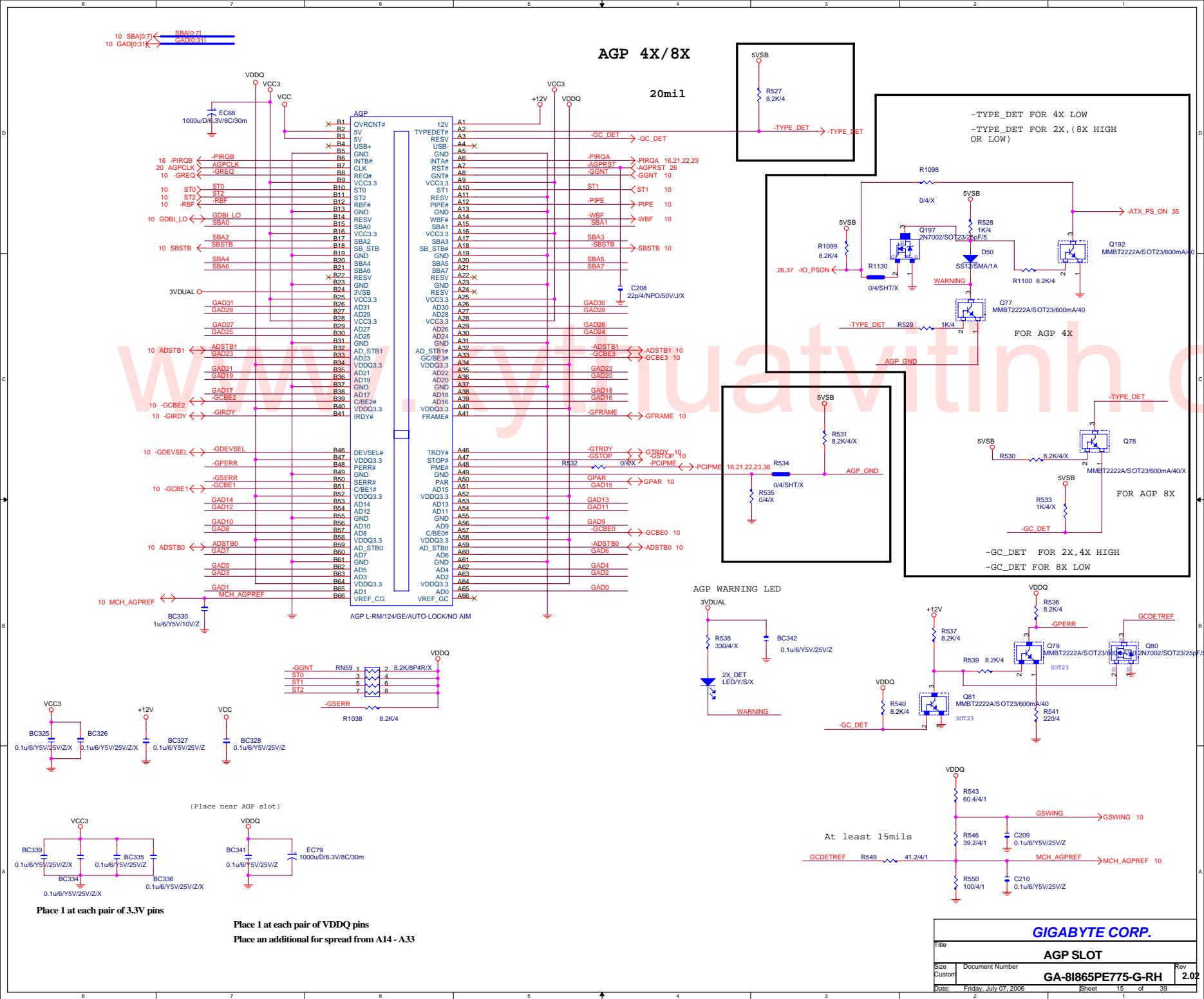


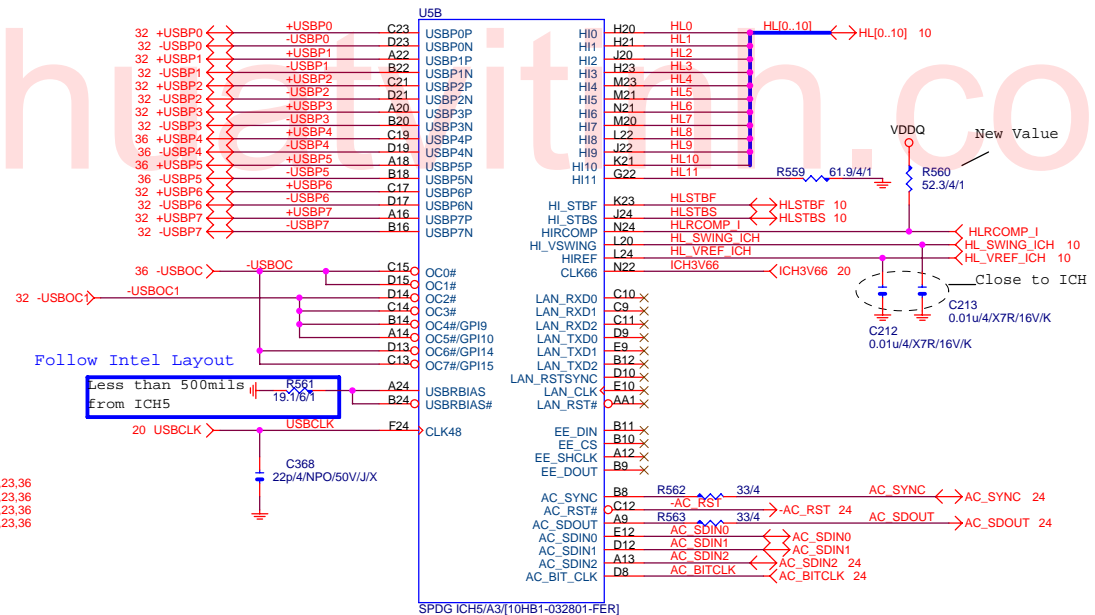
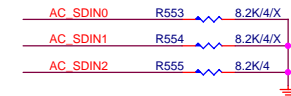
**47 Ohms**



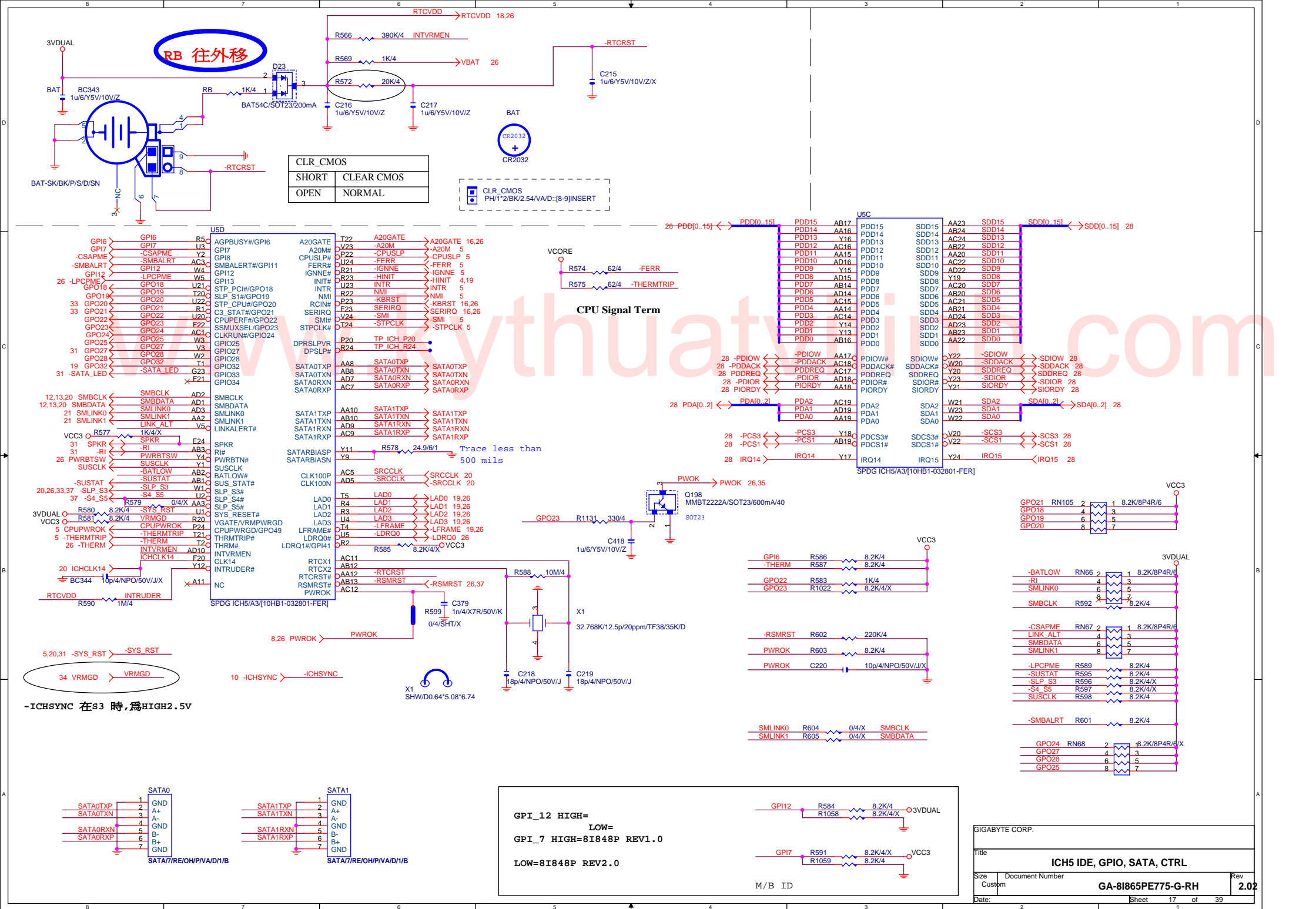
**56 Ohms**



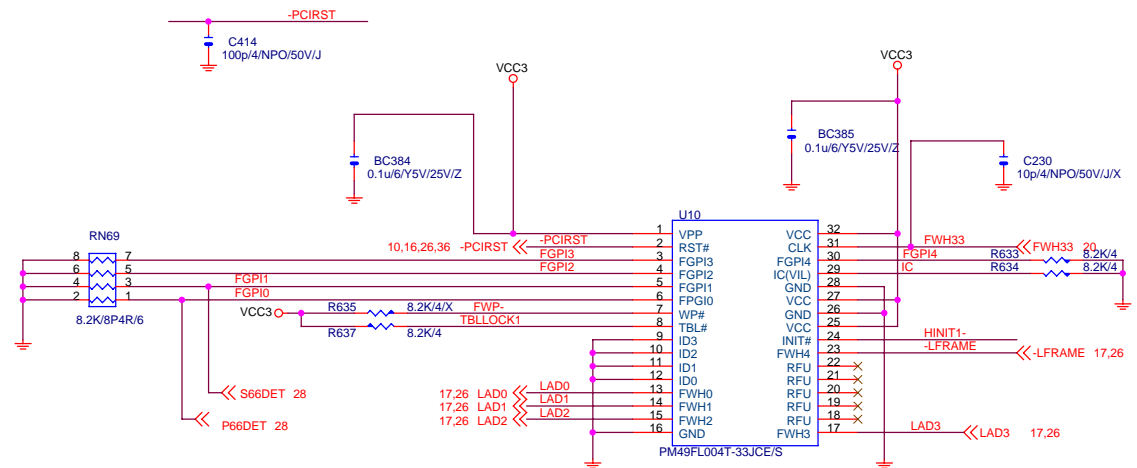












MAIN BIOS PLCC

GIGABYTE CORP.

Title
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FWH

Size  
B

Document Number
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GA-8I865PE775-G-RH

Rev  
2.02

Date: Friday, July 07, 2006

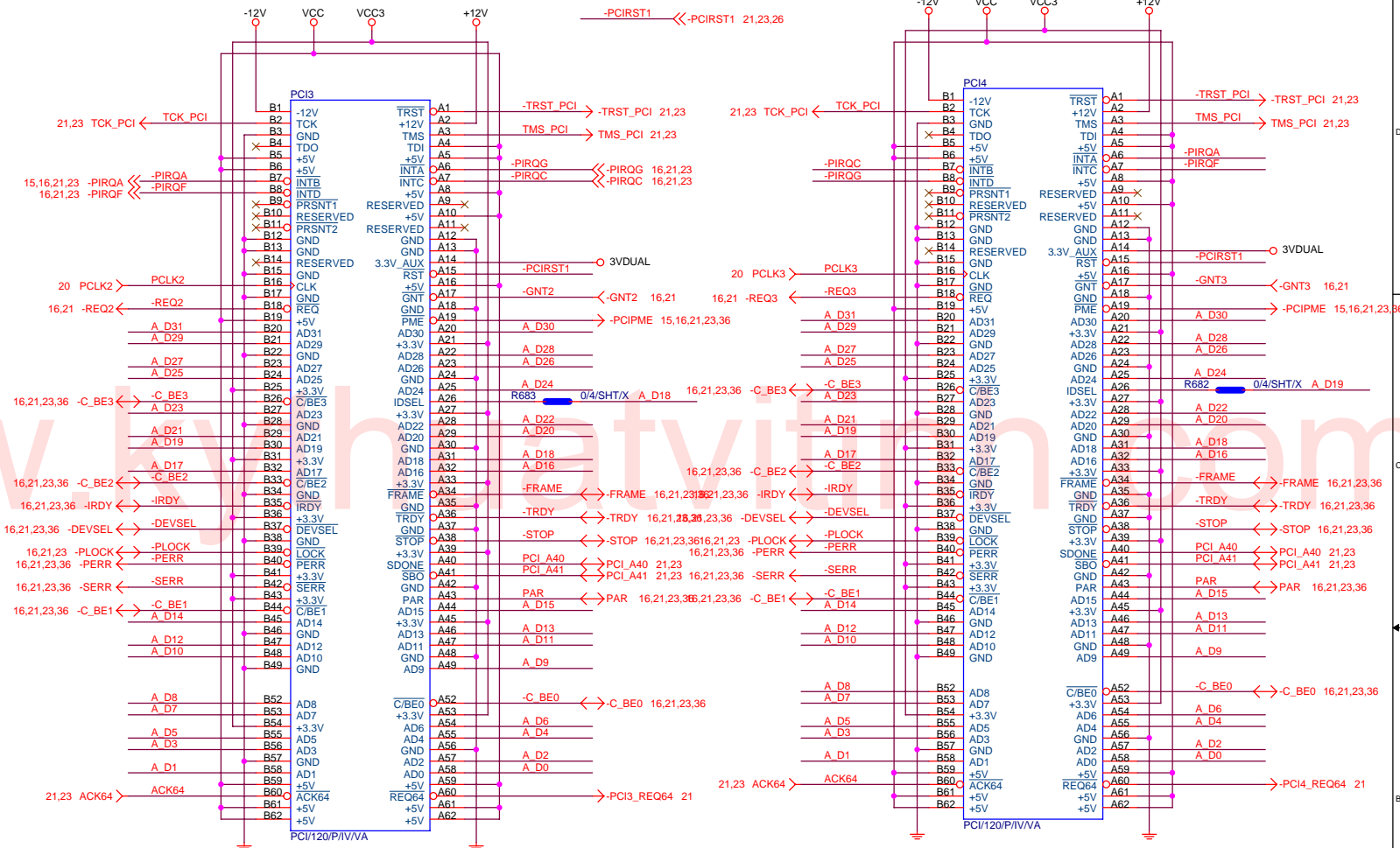
Sheet 19 of 39

ADD WINBOUD FWH SEC. SOURCE

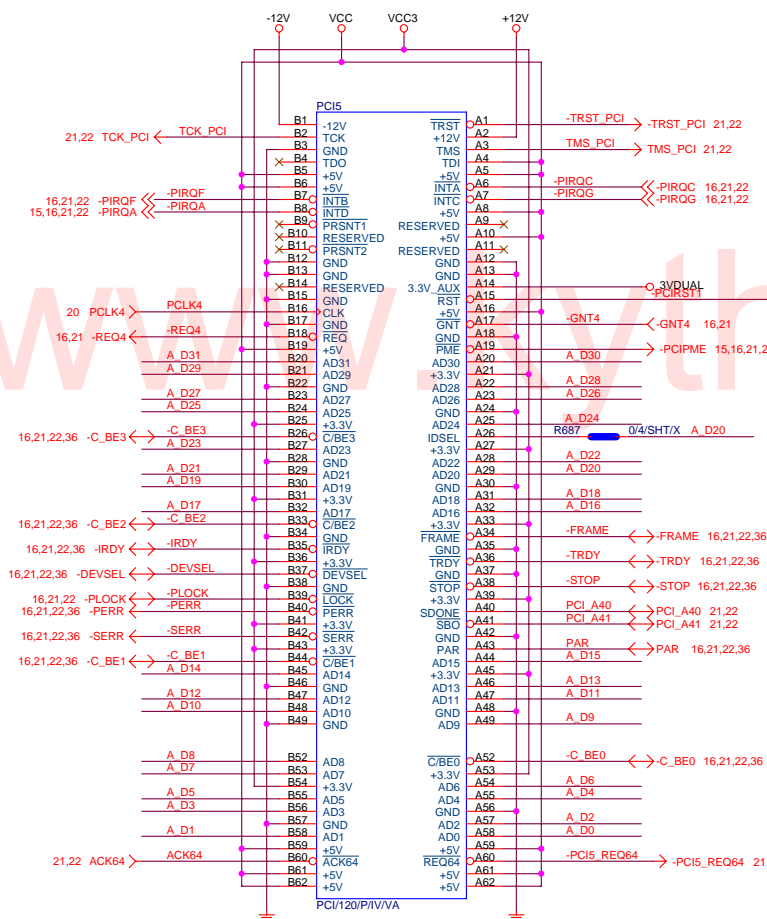




16,21,23,36 A\_D[0..31] << A\_D[0..31]

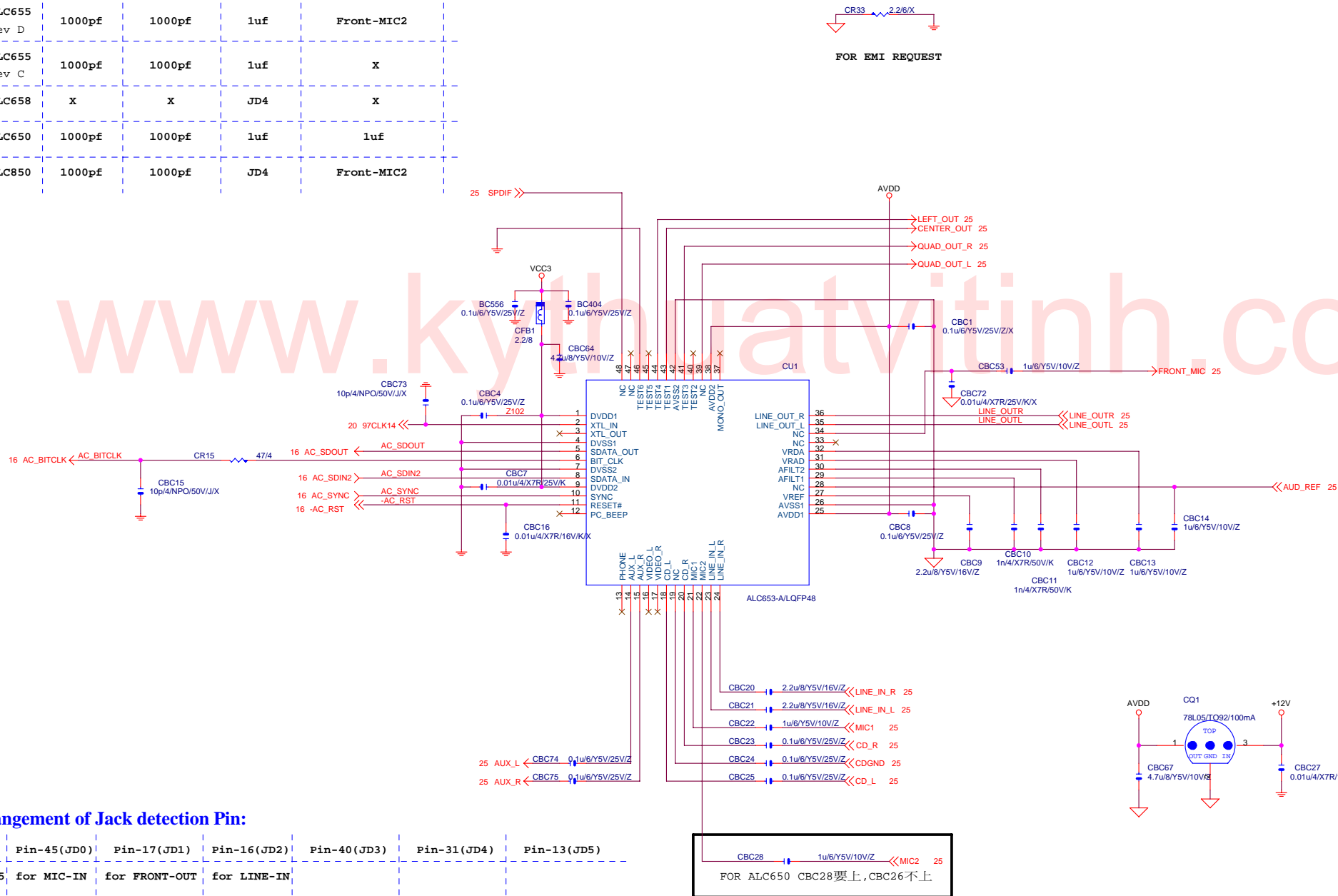


16,21,22,36 A\_D[0..31] << A\_D[0..31]




### 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
ALC850	1000pf	1000pf	JD4	Front-MIC2

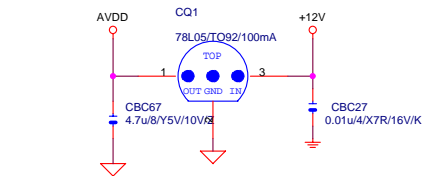


### Arrangement of Jack detection Pin:

	Pin-45(JD0)	Pin-17(JD1)	Pin-16(JD2)	Pin-40(JD3)	Pin-31(JD4)	Pin-13(JD5)
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	
ALC850	for MIC-IN	for Front Pannel OUT	for Front Pannel IN	for FRONT-OUT	for LINE-IN	for SurrBack Out

CBC28  1u/6V5V/10V/Z << MIC2 25

FOR ALC650 CBC28要上,CBC26不上

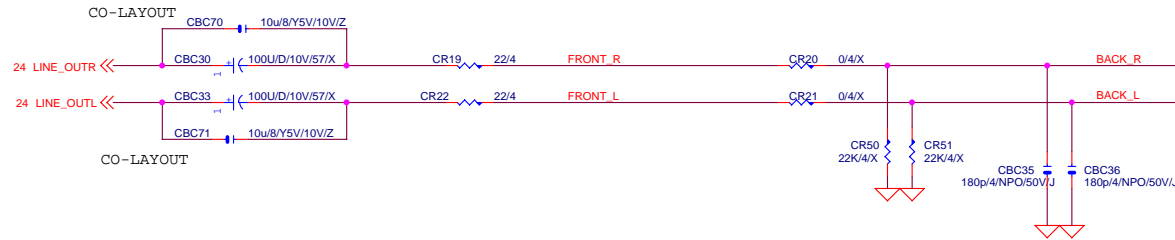




# LINE OUT

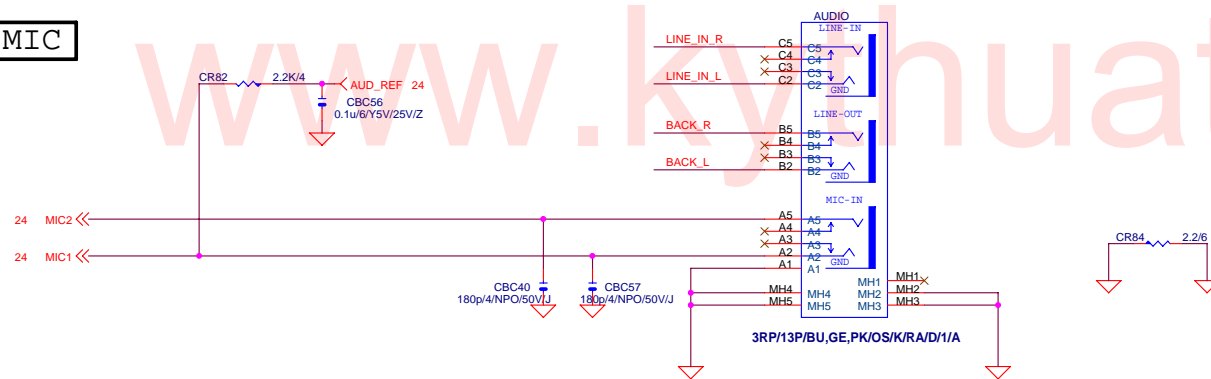
JDO,JD2,GPIO0 爲偵測DEVICE INPUT 時由LOW TO HIGH Edge trigger(pop manual)

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 )



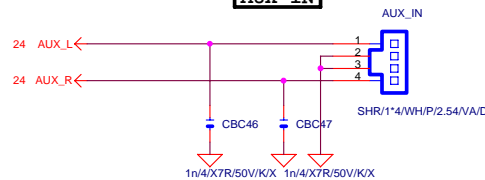
LINE OUT SENSING  
R>4K OHM=>POWER SPEAKER  
4K OHM>R>400 OHM=>MICROPHONE  
R<400 OHM=>HEADPHONE

# MIC

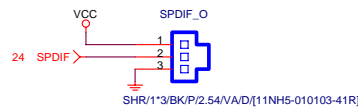


3RP/13P/BU,GE,PK/OS/K/RA/D/1/A

# AUX IN



# SPDIF\_O



SURR OUT

CEN/LFE OUT

SURR-BACK OUT

SURR KIT for 850

AUDIO PANEL

LINE IN(C)

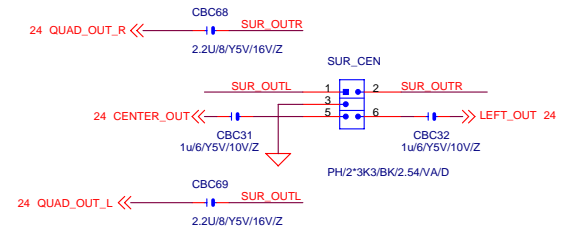
LINE OUT(B)

MIC IN(A)

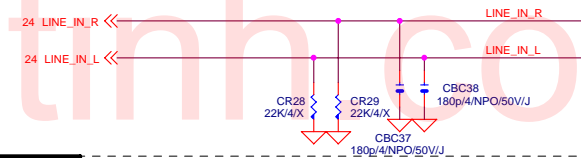
# SUR\_CEN

FOR SUPPORT 6 CHANNEL,  
SURROUND OUT

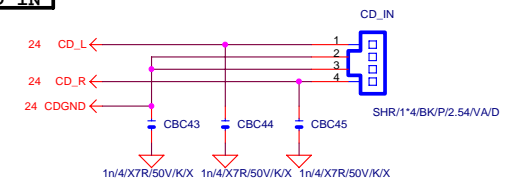
CENTER OUT, LOW FREQUENCY  
EFFECT OUT



# LINE-IN

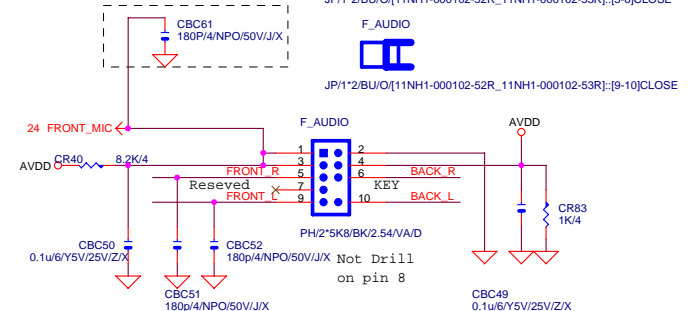


# CD IN



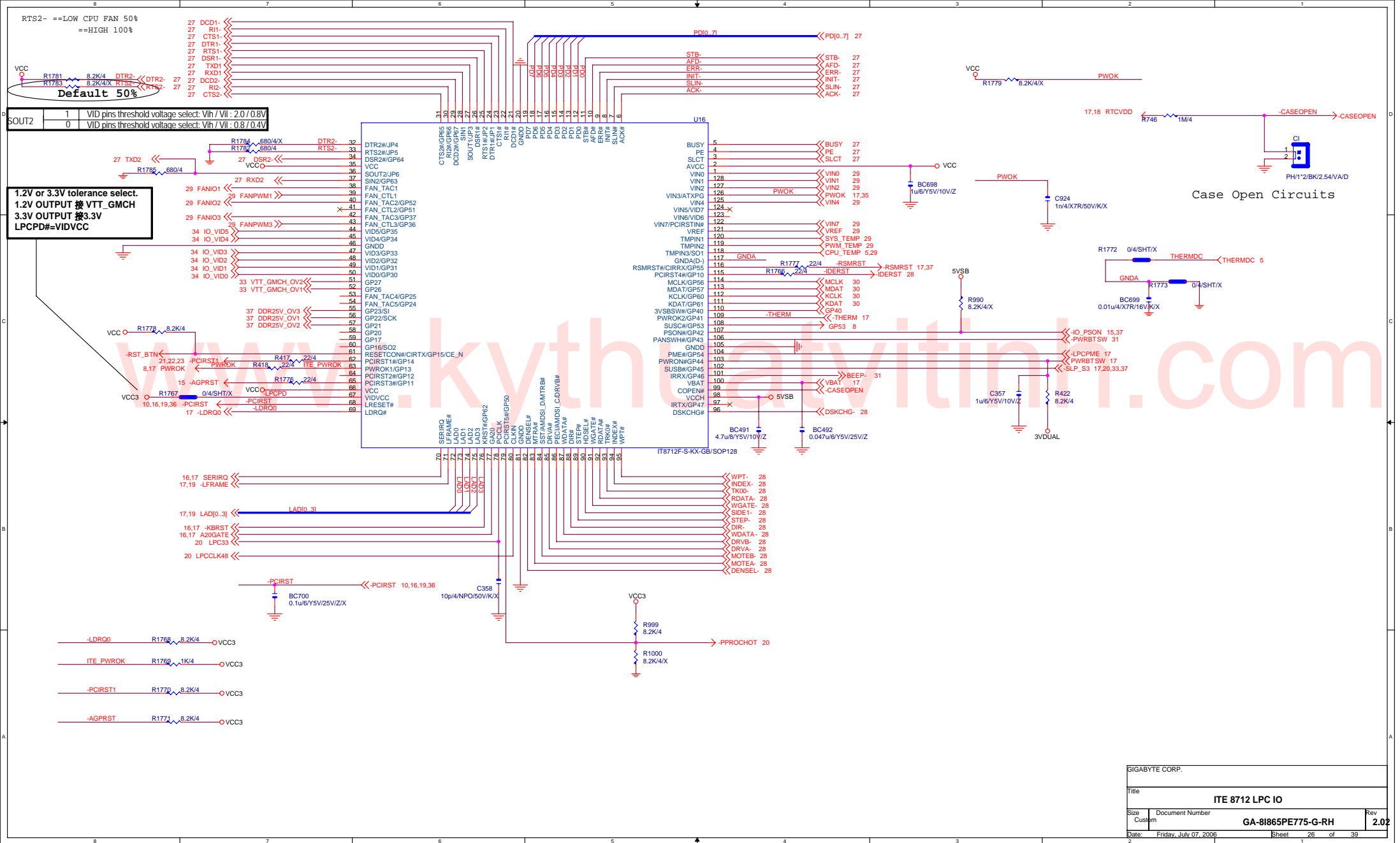
# INTEL FRONT AUDIO

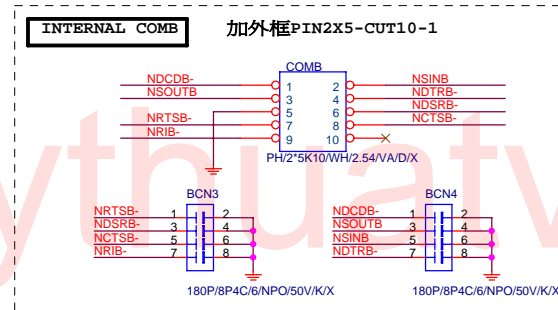
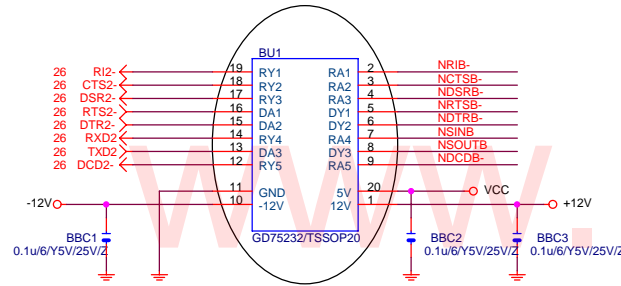
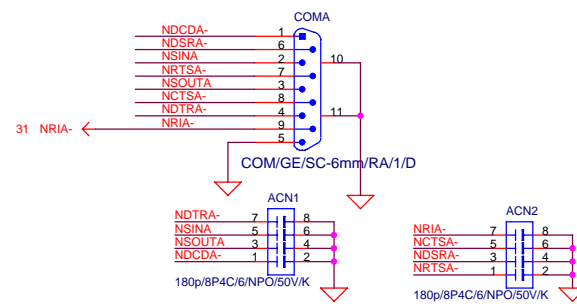
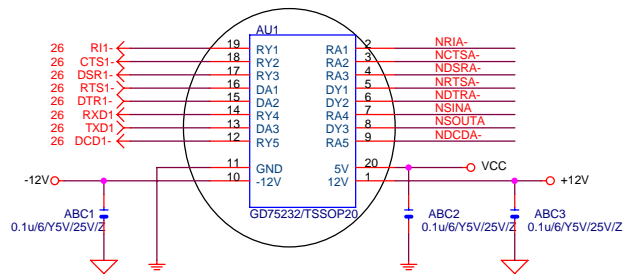
FOR EMI REQUEST



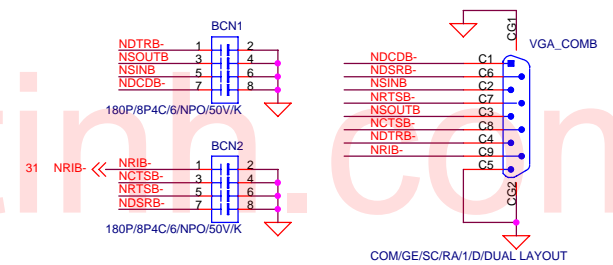
GIGABYTE CORP.

Title			
AUDIO OUTPUT, GAME PORT			
Size	Document Number	Rev	
Custom	GA-81865PE775-G-RH	2.02	
Date:	Friday, July 07, 2006	Sheet	25 of 39



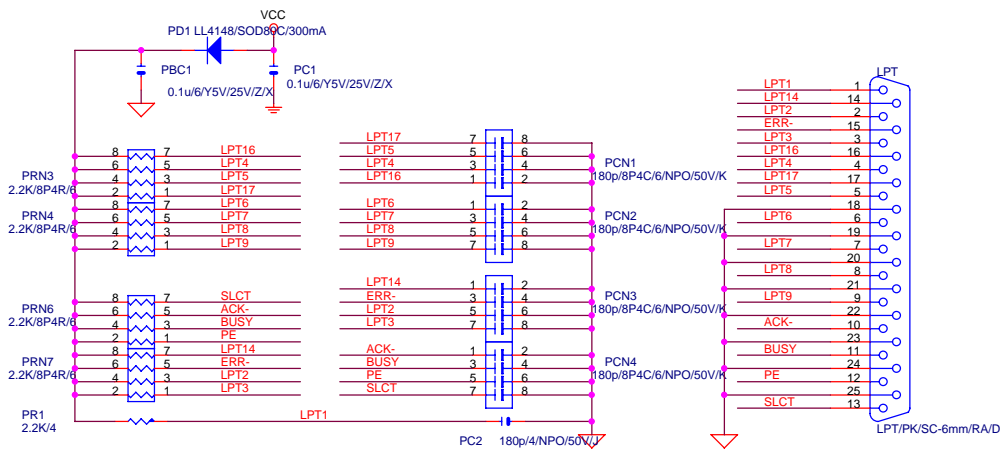
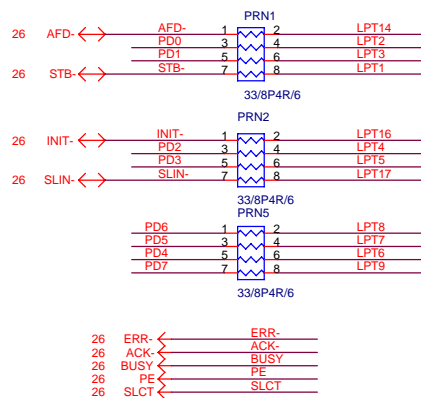


PLACE NEAR VGA\_COM CONNECTOR



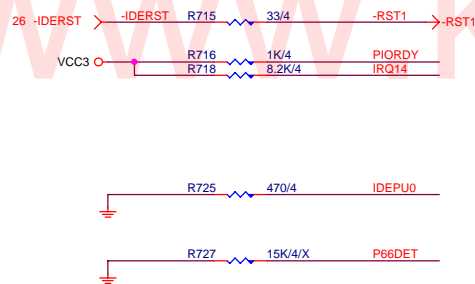
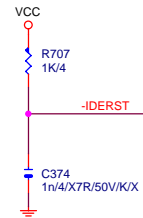
PLACE NEAR VGA\_COM CONNECTOR

26 PD[0..7] ↔ PD[0..7]

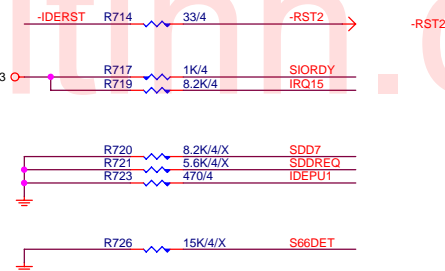
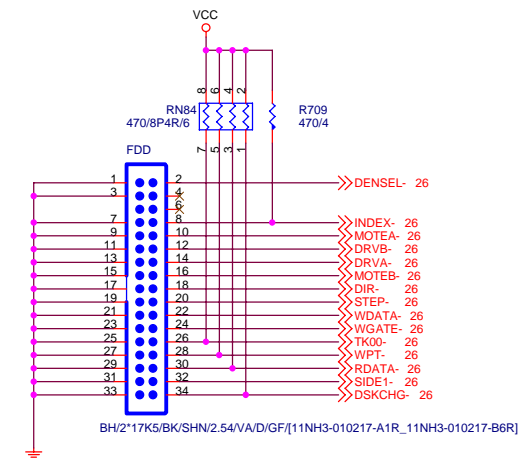
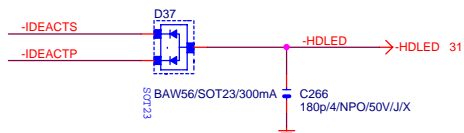
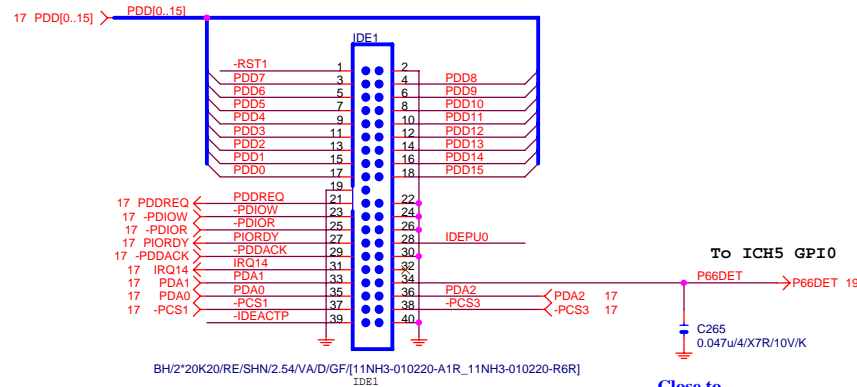


GIGABYTE CORP.

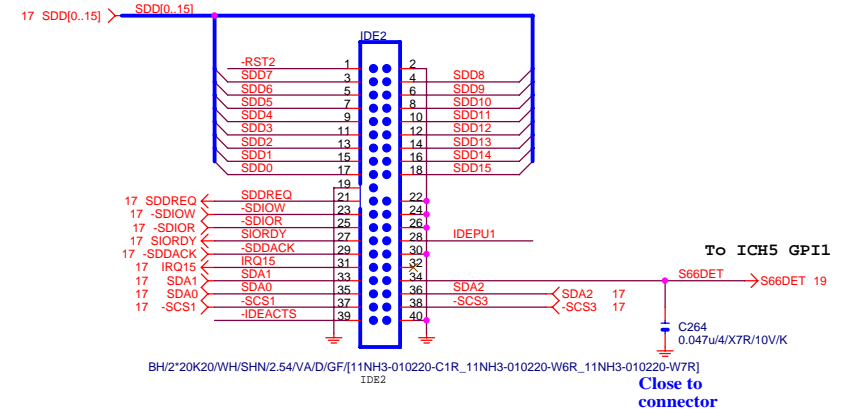
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COM & IR & LPT PORT & FLOOPY			
Size	Document Number	Rev	
B	GA-81865PE775-G-RH	2.02	
Date:	Friday, July 07, 2006	Sheet	27 of 39



PRIMARY IDE CONNECTOR



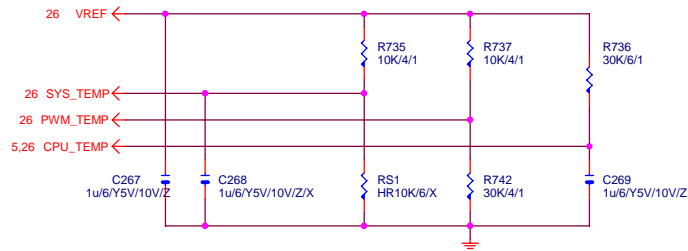
SECONDARY IDE CONNECTOR



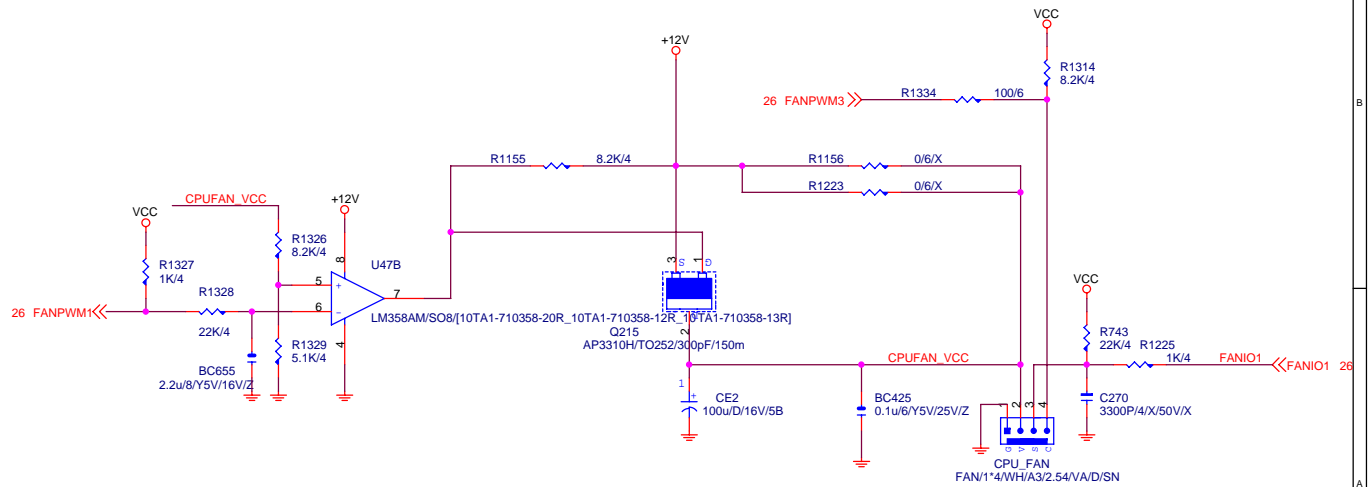
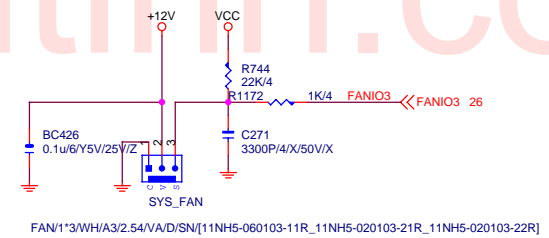
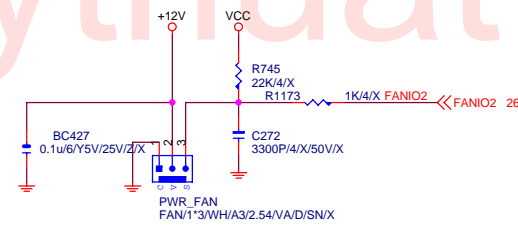
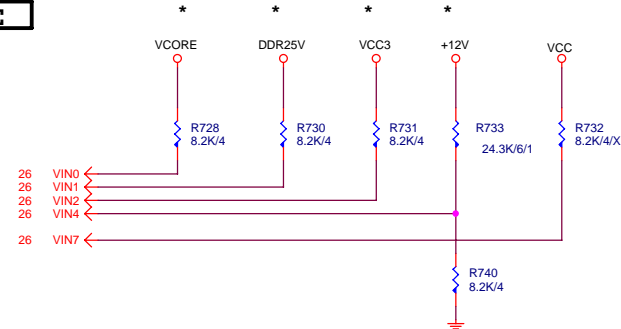
Close to connector

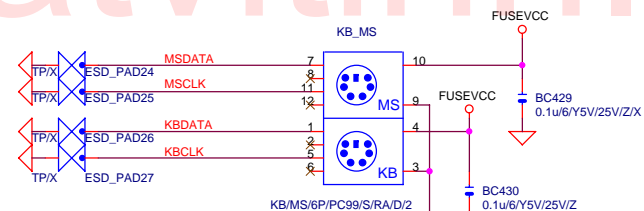
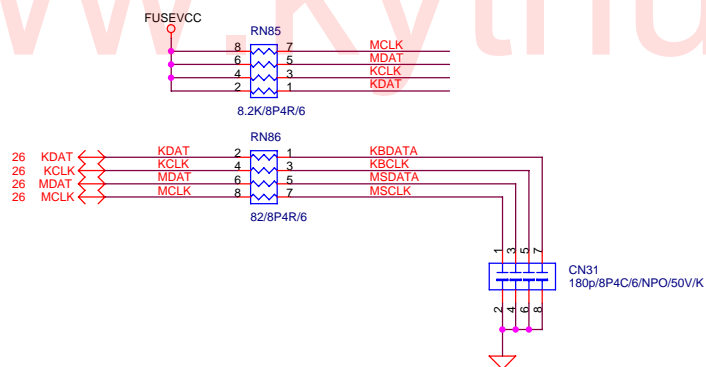
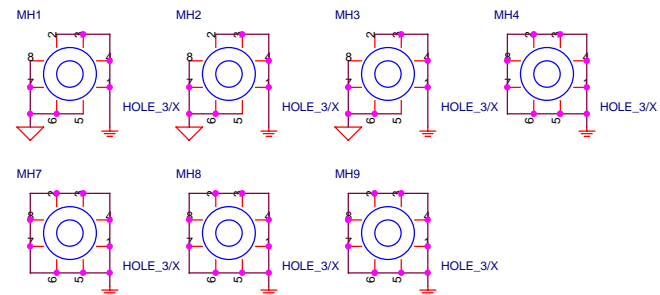
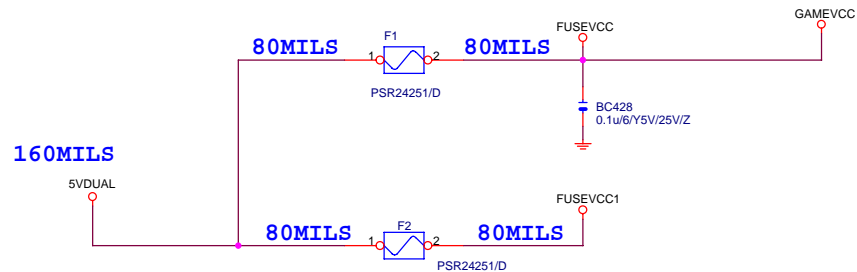
GIGABYTE CORP.			
Title			
IDE CONNECTOR			
Size	Document Number	Rev	
B	GA-81865PE775-G-RH	2.02	
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# TEMP. SENSE



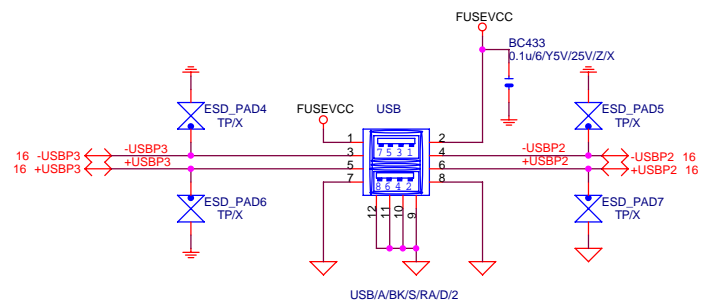
# VOLTAGE SENSE



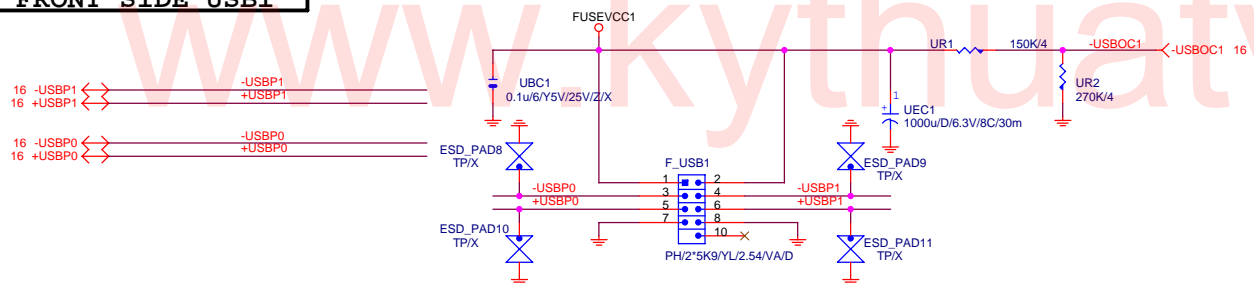




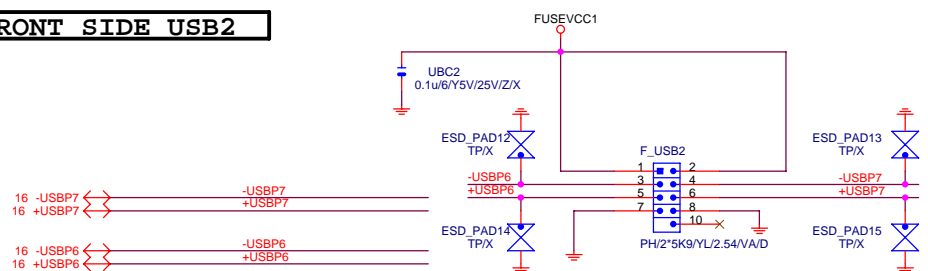
# REAR USB



## FRONT SIDE USB1



## FRONT SIDE USB2



GIGABYTE CORP.

Title

ICH USB PORT

Size

Document Number

GA-8I865PE775-G-RH

Rev

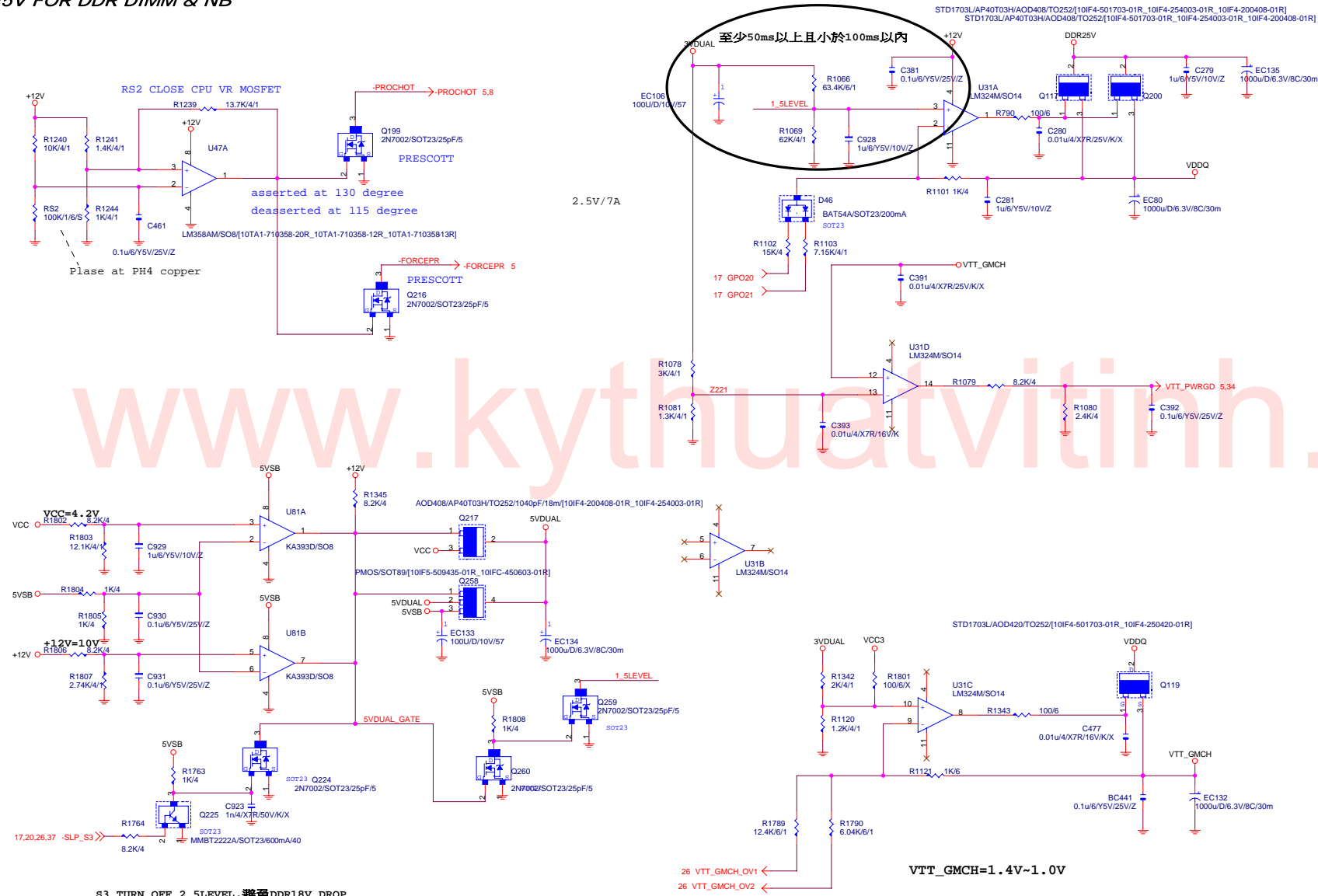
2.02

Date:

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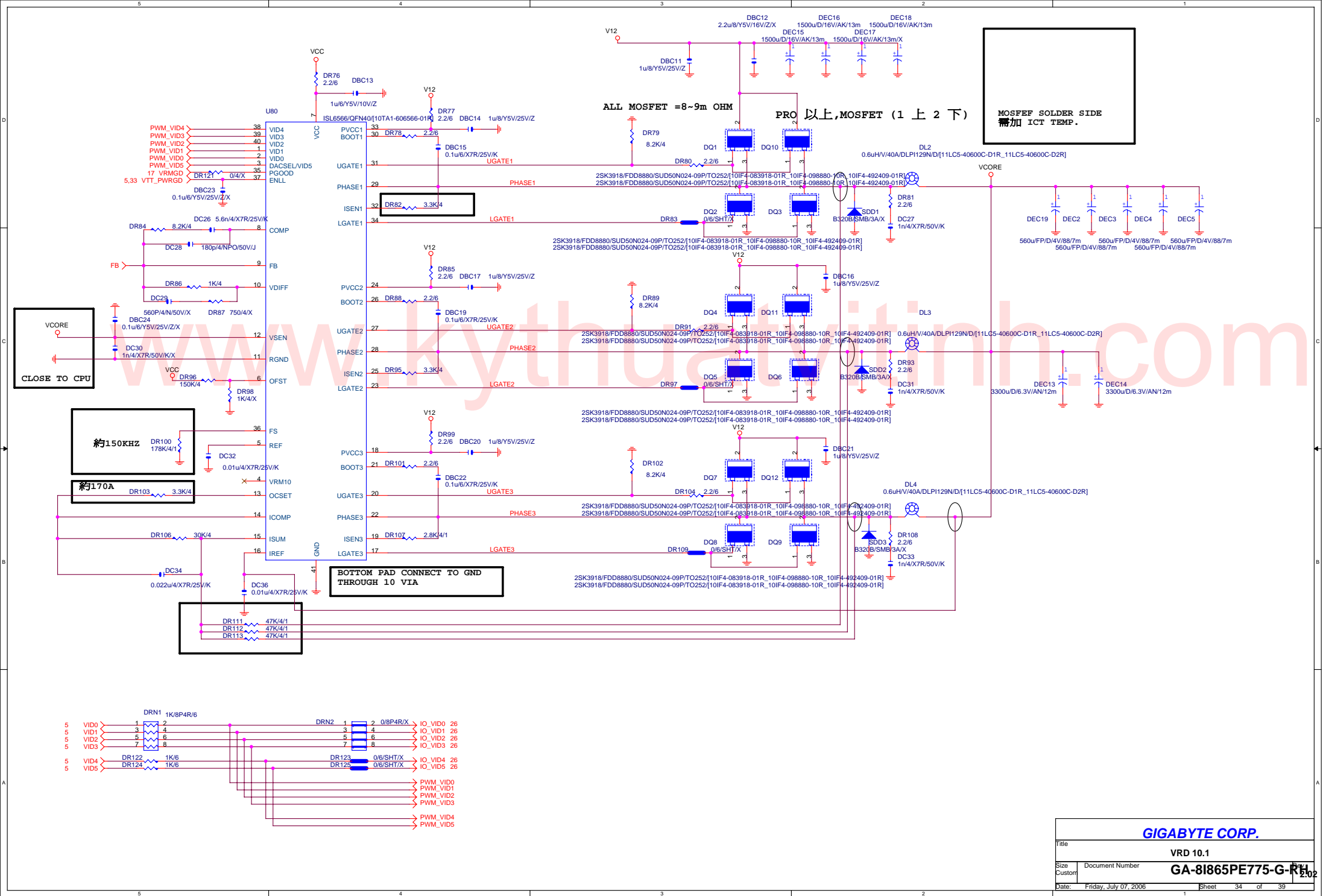


DDR25V FOR DDR DIMM & NB

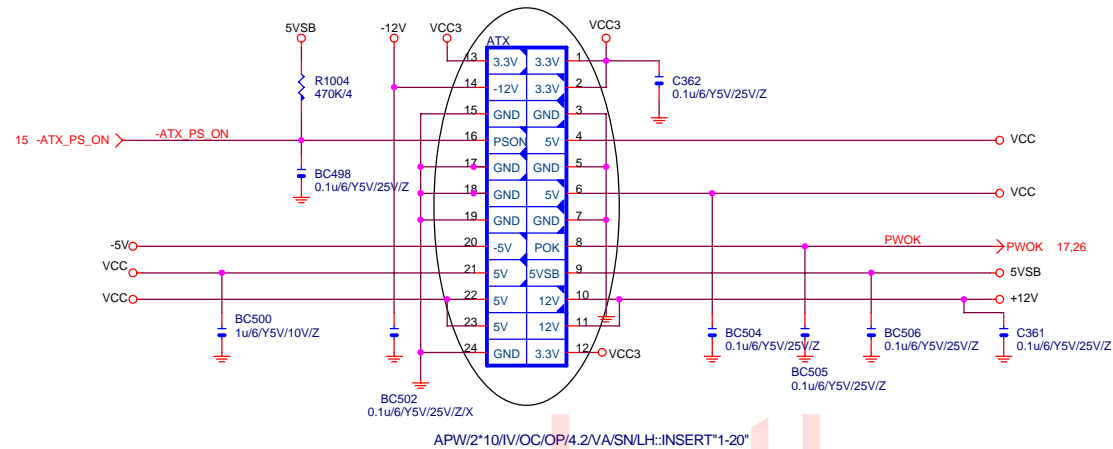


S3 TURN OFF 2\_5LEVEL, 避免DDR18V DROP  
(因PSU +12V太晚關, 造成OP TURN ON, 導致DDR18V LOADING WORSE)

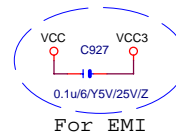
Title		
ISL6556B Springdale power ckt		
Size	Document Number GA-81865PE775-G-RH	Rev 2.02
Date:	Friday, July 07, 2006	Sheet 33 of 39



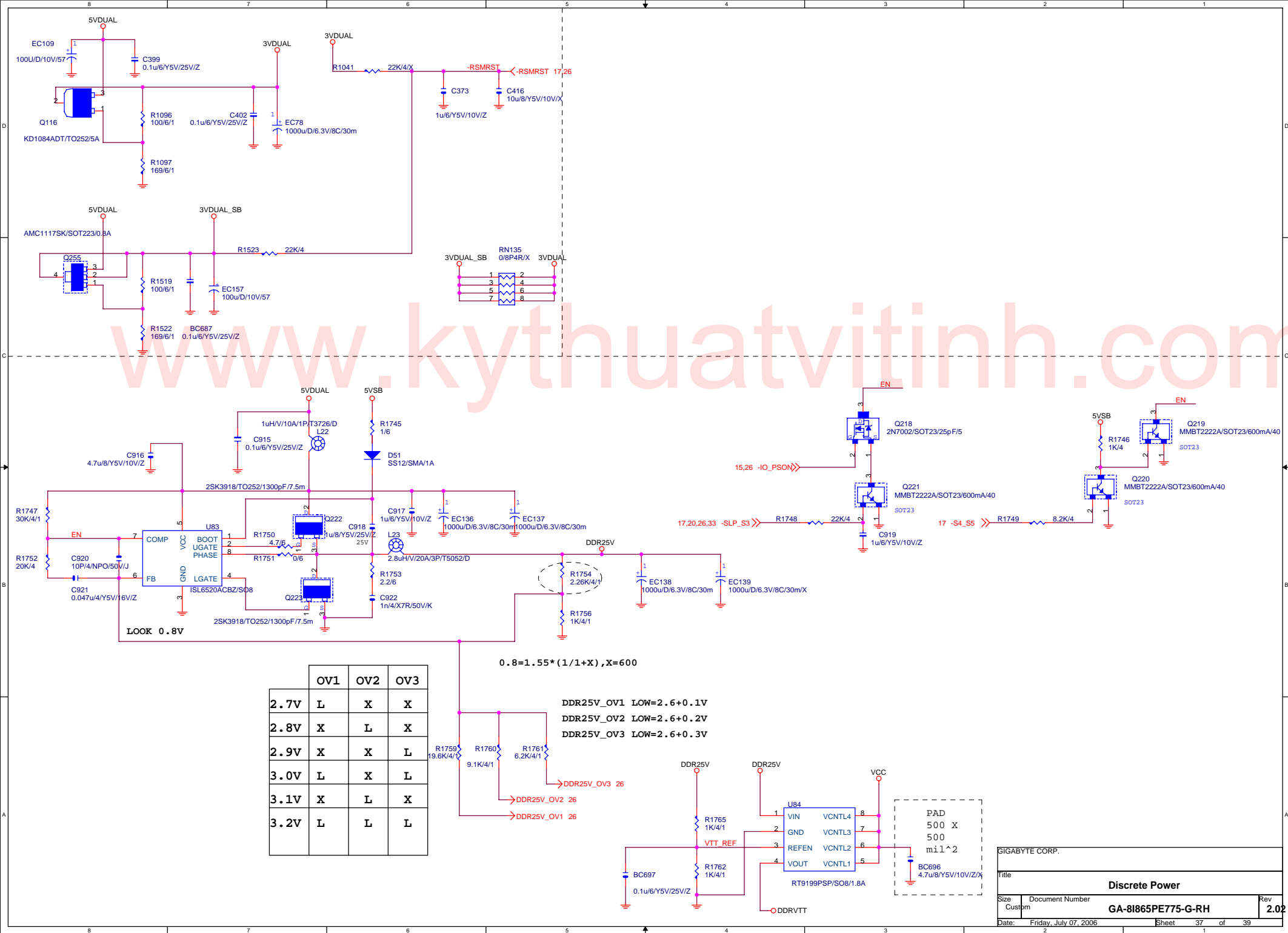
# ATX POWER CONNECTOR



4PIN  
乳白色, PIN不鍍金







# GIGABYTE GA-8I865PE775-G-RH

## GPIO LIST

SHEET

TITLE

GPIP	I/O	FUNCTION
GPI0/REQA-	I	PULL HIGH 8.2K to VCC3, SMB connector.
GPI1/REQ5-		PULL HIGH 8.2K to VCC, REQ5-.
GPI2/PIRQE-		PULL HIGH 8.2K to VCC3, PIRQE-.
GPI3/PIRQF-		PULL HIGH 8.2K to VCC3, PIRQF-.
GPI4/PIRQG-		PULL HIGH 8.2K to VCC, PIRQG-.
GPI5/PIRQH-	NA	PULL HIGH 8.2K to VCC
GPI6/AGPBUSY-	I	PULL 8.2K TO VCC3, PANEL GREEN_BUTTON
GPI7	I	DUAL BIOS FIRST BOOT SELECT.
GPI8	I	PULL 8.2K TO 3VDUAL, -CASPME.
GPI9/OC4-	NA	USB OC4-.
GPI10/OC5-	NA	USB OC5-.
GPI11/-SMBALRT	NA	PULL 8.2K TO 3VDUAL,-SMBALERT.
GPI12	I	PULL 8.2K TO VCC3,M/B REVERSION ID.
GPI13	I	LPC PME.
GPI14/OC6-	NA	USB OC6-.
GPI15/OC7-	NA	USB OC7-.
GPO16/GNTA-	NA	GPO16.
GPO17/GNT5-		GNT5-.
GPO18/STP_PCI-	NA	GPO18.
GPO19/SLP_S1-	O	DUAL BIOS.
GPO20/SLP_CPU-	O	DUAL BIOS.
GPO21/C3_SATA-	O	BLOCK TOP TABLE.
GPO22/CPUPERF-	O	PULL 8.2K TO VCC3,PANEL S3 POWER LED.

SHEET

TITLE

GPIP	I/O	FUNCTION
GPO16		PULL 8.2K TO VCC3
GPO17		PULL 8.2K TO VCC3 (GNT5-)
GPO18		PULL 8.2K TO VCC3
GPO19		PULL 8.2K TO VCC3
GPO20		PULL 8.2K TO VCC3
GPO21		PULL 8.2K TO VCC3
GPO22		PULL 8.2K TO VCC3
GPO23		PULL 8.2K TO VCC3
GPO24		PULL 1K TO 3VDUAL (TOP BLOCK)
GPO25		PULL 4.7K TO 3VDUAL, LAN 100/10 DETECT.
GPO26		NOT IMPLEMENTED
GPO27		PULL 8.2K TO 3VDUAL, BIOS WRITE PROTECT.
GPO28		PULL 8.2K TO 3VDUAL

**GIGABYTE CORP.**

Title			GPIO LIST		
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# GIGABYTE GA-8I865PE775-G-RH PCI ROUNTING LIST

PCI DEVICE	IDSEL	INT	CLOCK	REQ	GNT	
PCI SLOT1	16	C,F,G,A	PCLK0	REQ0-	GNT0-	
PCI SLOT2	17	F,G,A,C	PCLK1	REQ1-	GNT1-	
PCI SLOT3	18	G,A,C,F	PCLK2	REQ2-	GNT2-	
PCI SLOT4	19	A,C,F,G	PCLK3	REQ3-	GNT3-	
PCI SLOT5	20	C,F,G,A	PCLK4	REQ4-	GNT4-	
LAN (Marvell)	25	E	LANCLK33	-REQ5 (REQB#)	-GNT5 (GNTB#)	