

# GIGABYTE GA-8ILFT Schematics

Revision 1.01



SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	SYSTEM BLOCK DIAGRAM
04	P4_478A
05	P4_478B
06	P4_478C
07	GMCH-A(845GL)CPU,DDR INTERFACE U1
08	GMCH-A(845GL)DDR,VGA INTERFACE
09	GMCH-A(845GL)POWER INTERFACE
10	DDR SERIAL TERMINATION
11	DDR1,2
12	VTT_DDR TERMMINATOR
13	ICH4-1 (HUB,PCI,CNR,AC97,USB) U12
14	ICH4-2
15	FWH (FLASH ROM)
16	CLOCK GENERATOR(ICS950211AF) U13
17	PCI1 & PCI2 SLOT
18	PCI3 SLOT
19	LPC I/O (ITE 8712 VER:G) U14
20	IDE1, 2 CONNECTOR
21	PS/2 KB & MOUSE & F_USB
22	FLOPPY, COM & LPT CONNECTOR
23	FAN & H/W MONITOR ,CASE OPEN

SHEET	TITLE
24	FRONT PANEL,LED
25	AC97 CODEC <small>ALC201A(2 CH)</small>
26	LINE OUT & FRONT AUDIO CONN
27	LINE IN,MIC,CDIN,AUX(CD-IN2) GAME PORT
28	MISC. PWR & ATX POWER ( <small>3VDUAL, VDDQ</small> )
29	VCORE PWM( <small>SC243X/SC1205H</small> )
30	DDR POWER ( <small>5VDUAL,2_5VSTR,VTT_DDR</small> )
31	RTL8100BL + Transformer
32	GPIO PIN LIST
33	PCI ROUNTING

		COMPONENT SIDE (1 oz. Copper) VCC SIDE (2 oz. Copper) GND SIDE (1 oz. Copper) SOLDER SIDE (1 oz. Copper)
<b>GIGABYTE</b>		
Title <b>COVER SHEET</b>		
Size Custom	Document Number <b>GA-8ILFT-C</b>	Rev <b>1.01</b>
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Model Name: GA-8ILFT

Revision 1.01

229mm X 191mm, 60+/-15%, C Type

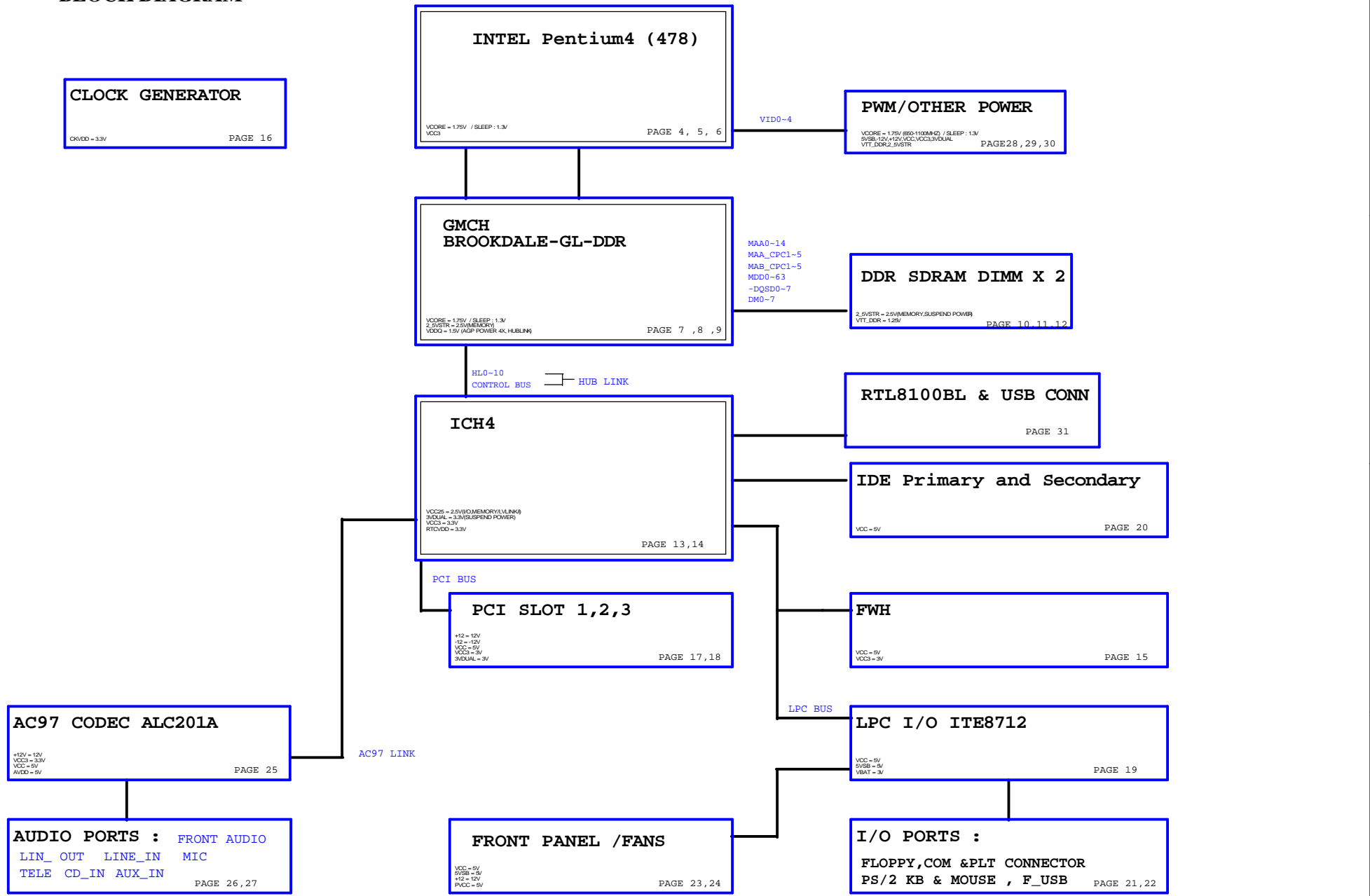
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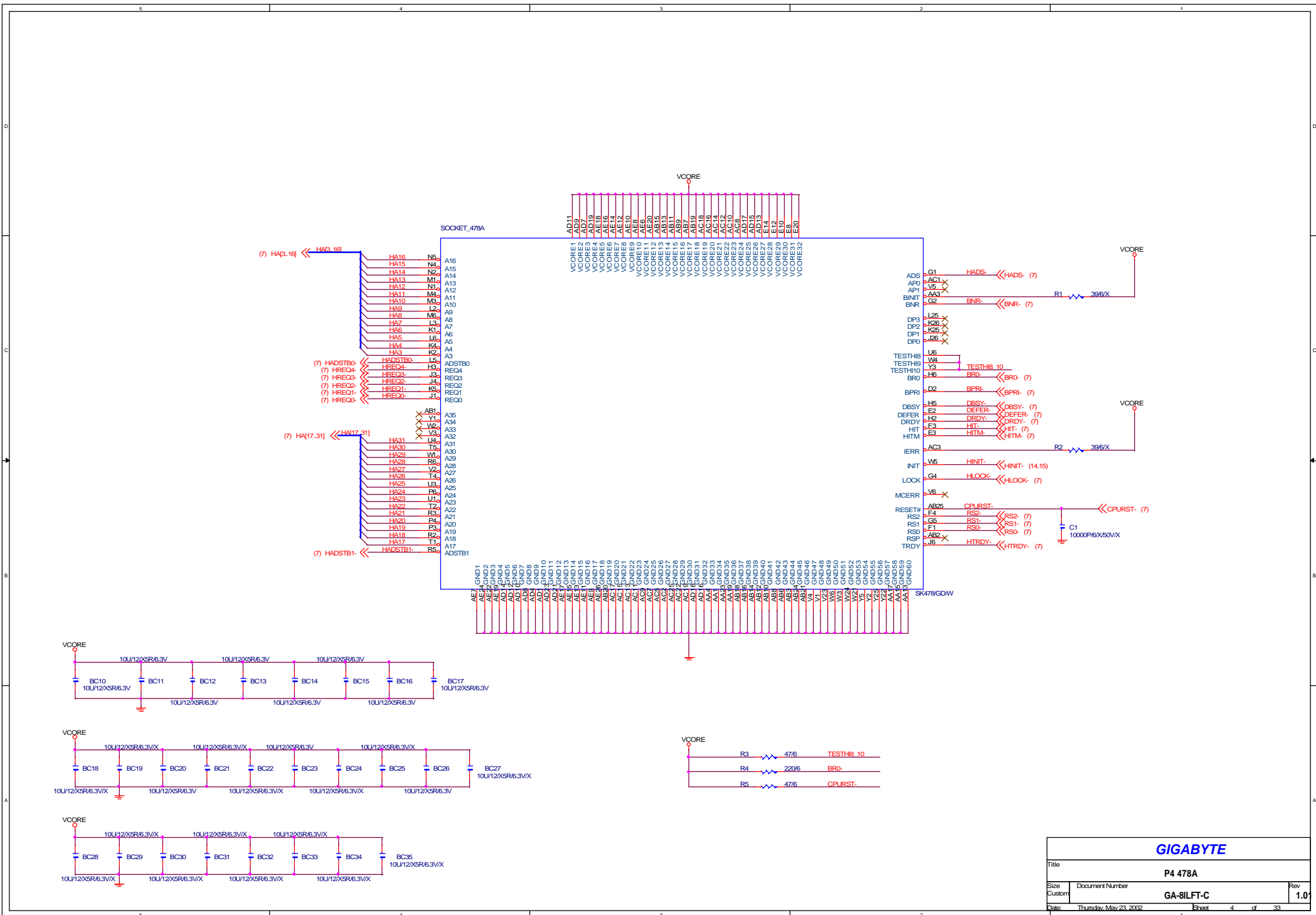
PAGE	Change Item	Reason

Circuit or PCB layout change for next version

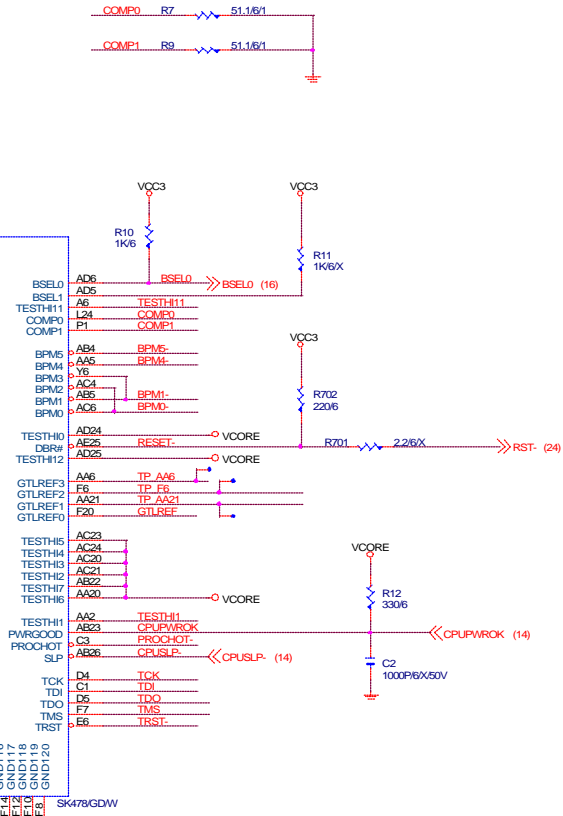
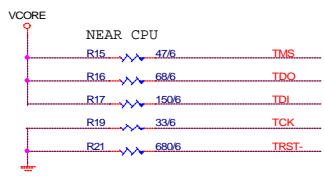
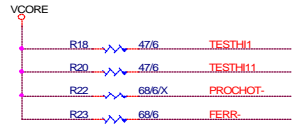
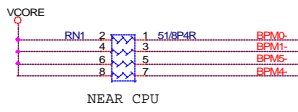
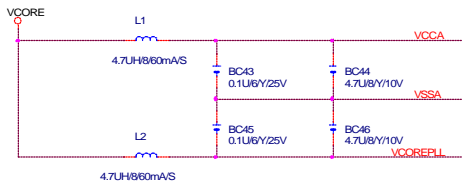
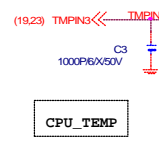
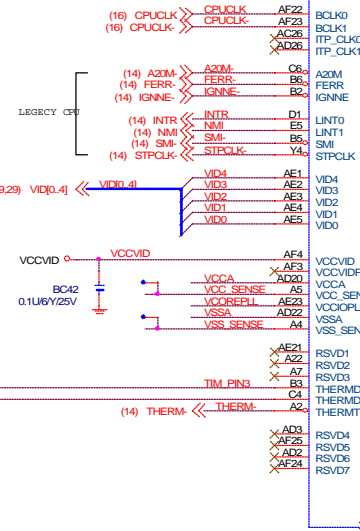
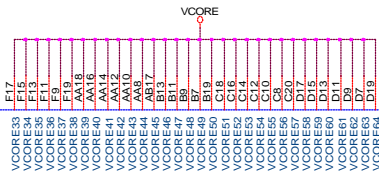
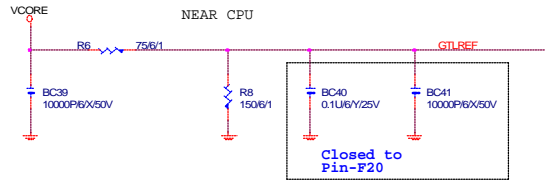
PAGE	Change Item	Reason

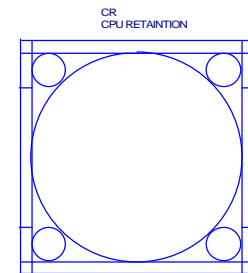
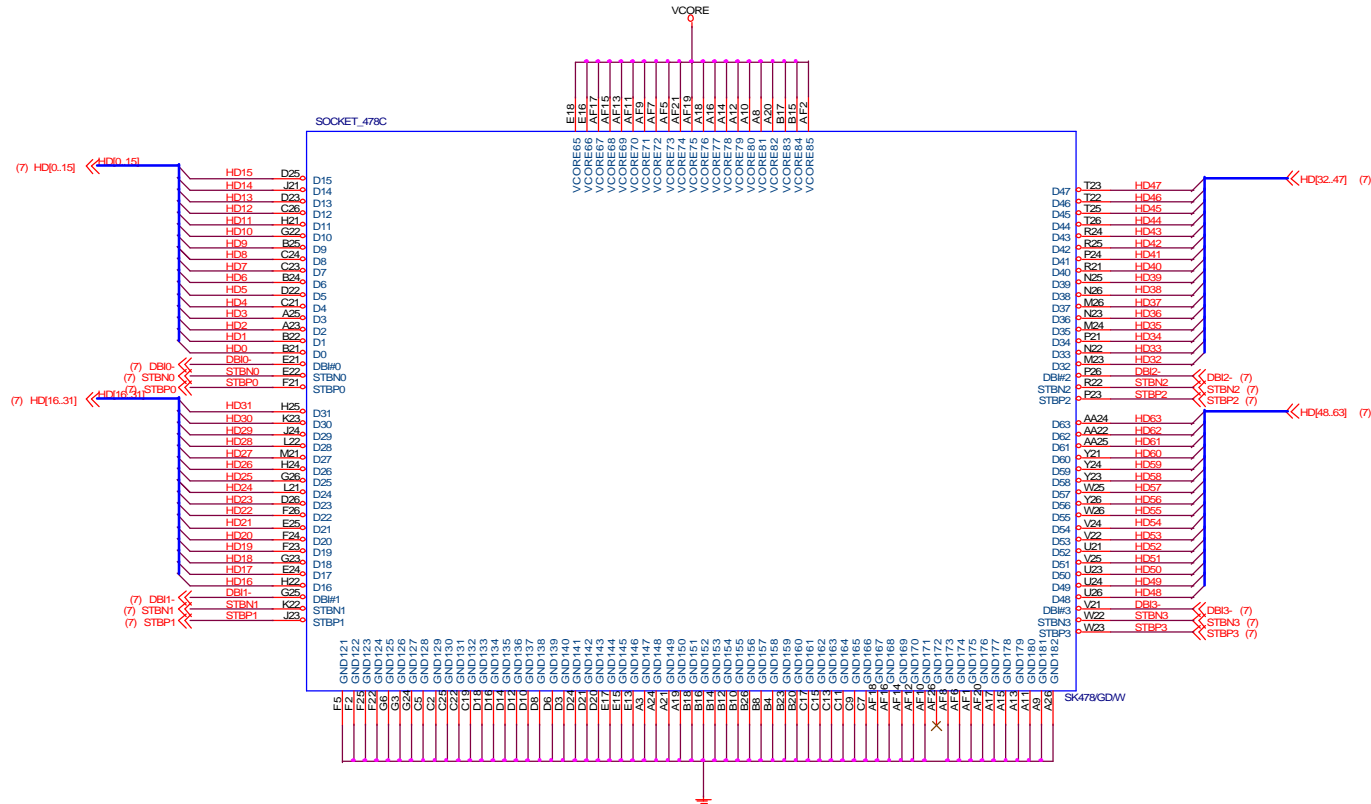
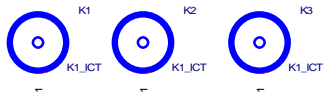
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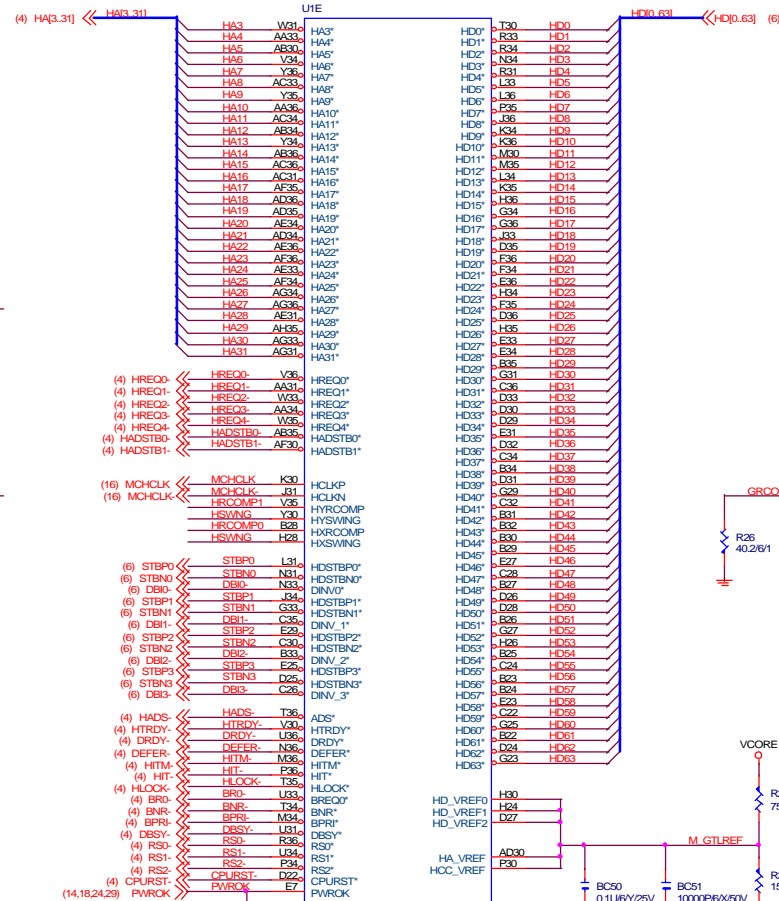


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Title <b>P4 478A</b>		
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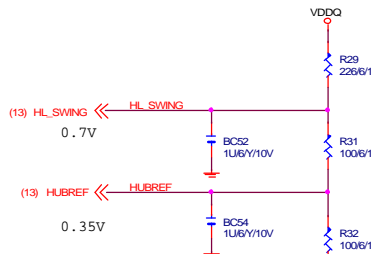
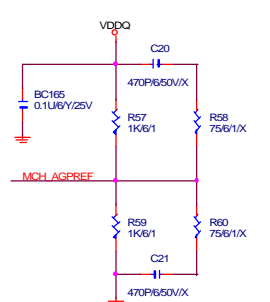
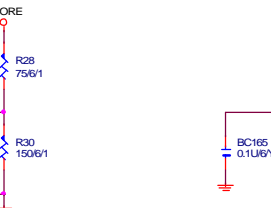
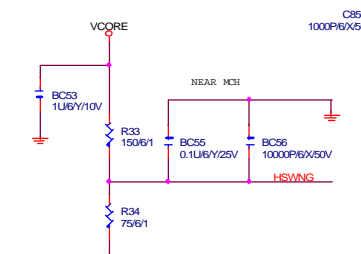
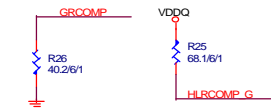
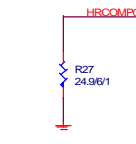
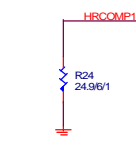
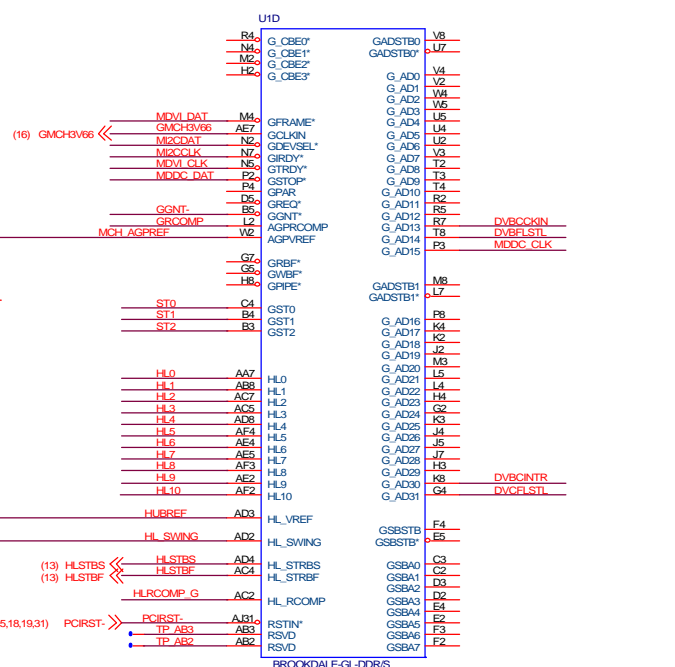
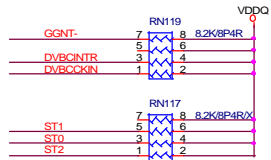
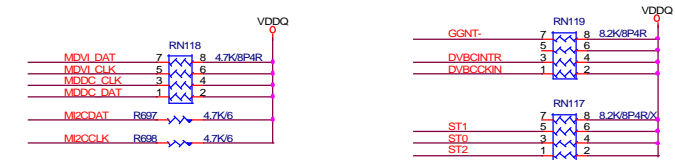




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Title <b>P4 478C</b>		
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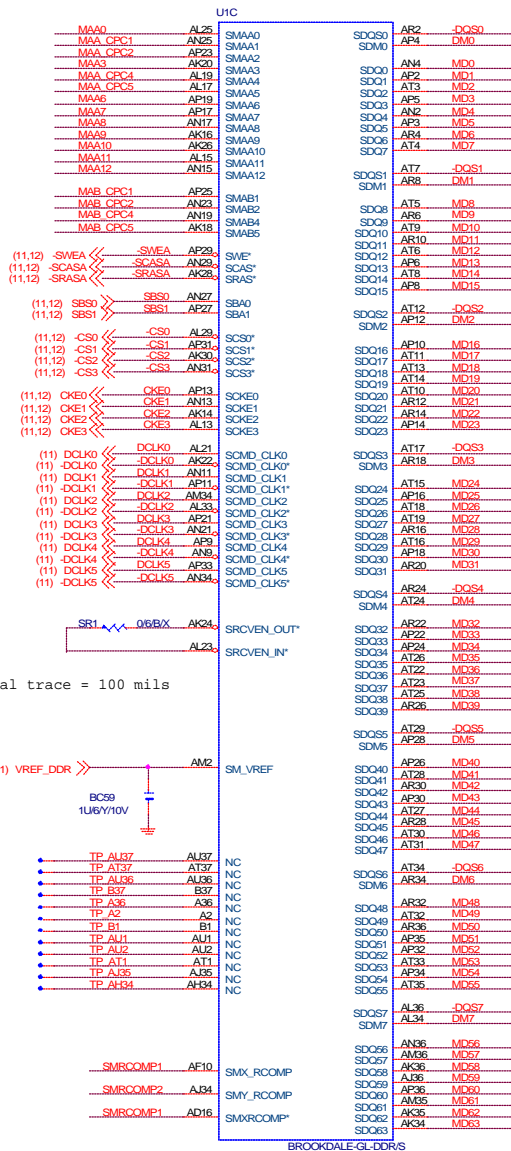


(13) HLP.10



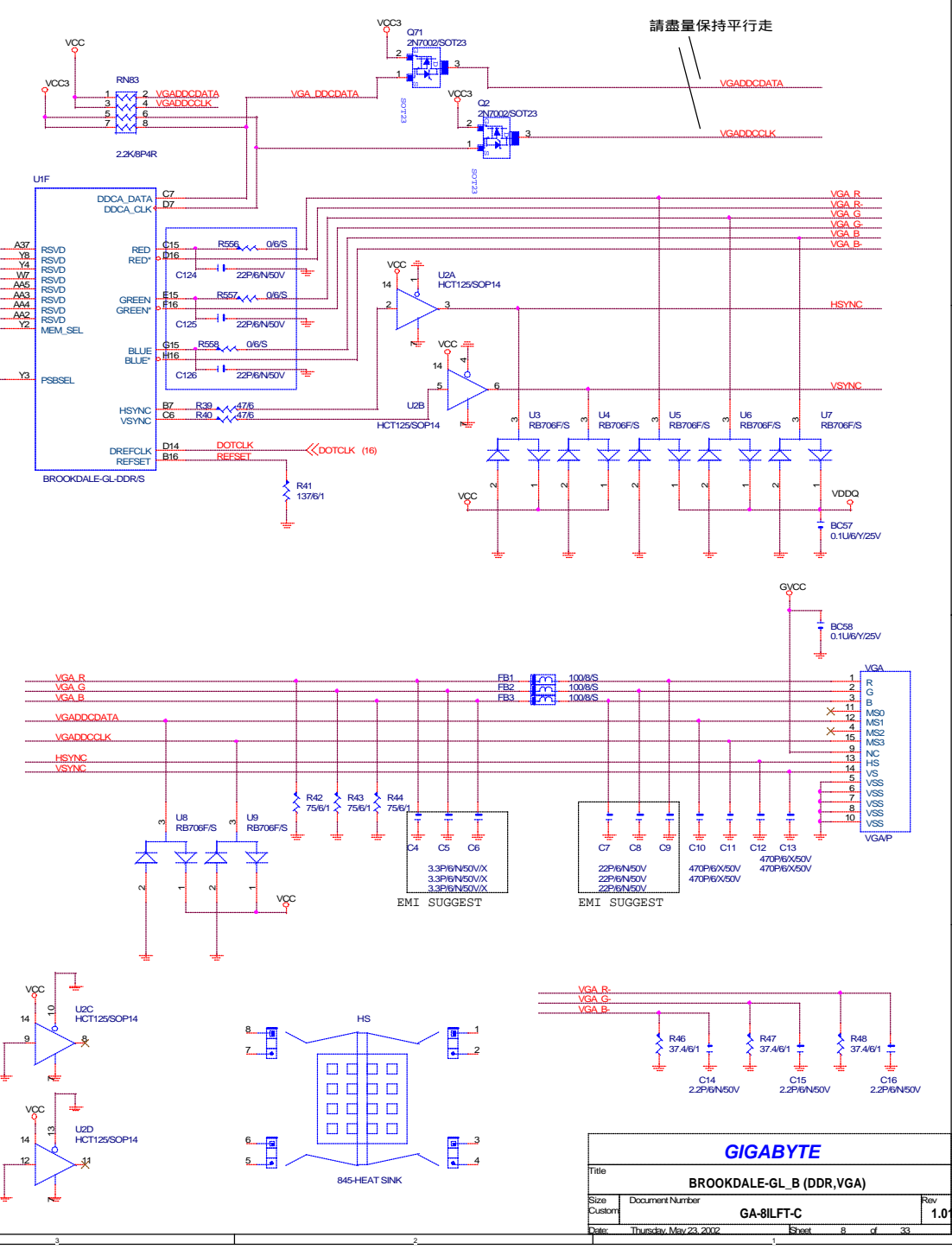
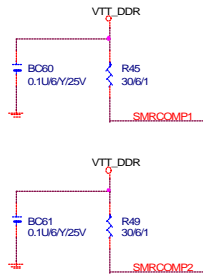
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Title <b>BROOKDALE-GL_A (CPU,AGP)</b>		
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- (11,12) MAA0.12 >> MAAD\_12
- (11,12) MAA\_CPC1.5 >> MAA\_CPC1\_5
- (11,12) MAB\_CPC1.5 >> MAB\_CPC1\_5
- (10) DM0.7 >> DM0\_7
- (10) MD0.63 >> MD0\_63
- (10) DQS0.7 >> DQS0\_7



Total trace = 100 mils

(11) VREF\_DDR >> AM2



Title			BROOKDALE-GL-B (DDR,VGA)		
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(11,12) MD\_[0..63] << MD[0..63] (8)

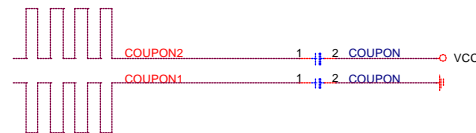
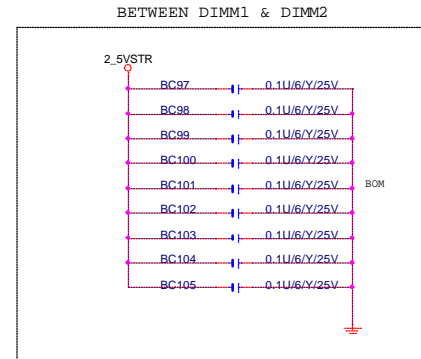
(11,12) DM\_[0..7] >> DM[0..7] (8)

(11,12) -DQS\_[0..7] << -DQS[0..7] (8)

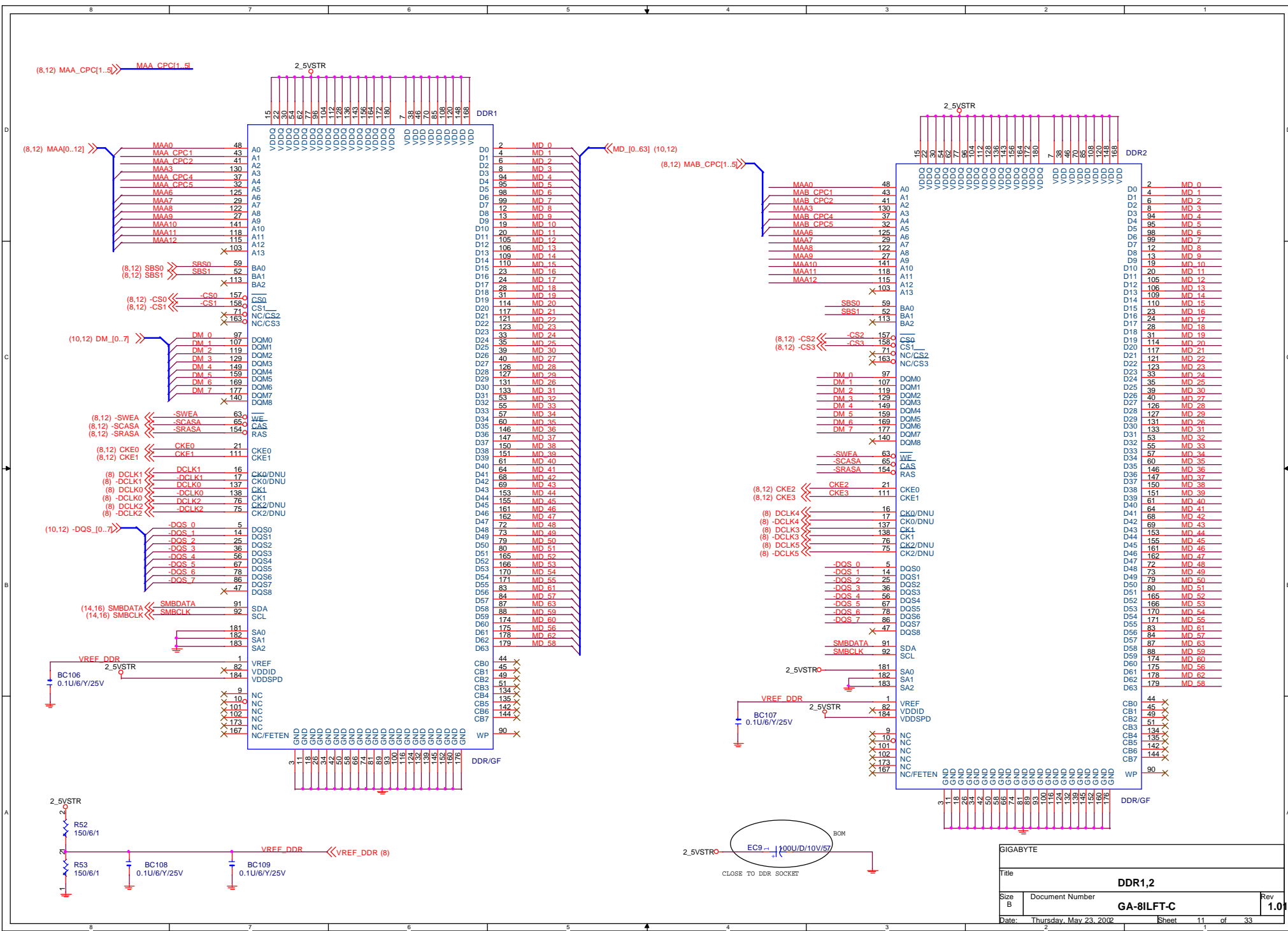
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-DQS_0		3	4	-DQS0
MD_2		5	6	MD2
MD_6		7	8	MD6
MD_0	RN5	1	20/8P4R/X	MD0
MD_4		3	4	MD4
MD_5		5	6	MD5
MD_1		7	8	MD1
MD_12	RN6	1	20/8P4R/X	MD12
MD_13		3	4	MD13
-DQS_1		5	6	-DQS1
DM_1		7	8	DM1
MD_14	RN7	1	20/8P4R/X	MD14
MD_15		3	4	MD15
MD_10		5	6	MD10
MD_11		7	8	MD11
-DQS_2	RN9	1	20/8P4R/X	-DQS2
DM_2		3	4	DM2
MD_18		5	6	MD18
MD_22		7	8	MD22
MD_29	RN11	1	20/8P4R/X	MD29
MD_25		3	4	MD25
-DQS_3		5	6	-DQS3
DM_3		7	8	DM3
MD_26	RN12	1	20/8P4R/X	MD26
MD_30		3	4	MD30
MD_27		5	6	MD27
MD_31		7	8	MD31
MD_32	RN13	1	20/8P4R/X	MD32
MD_36		3	4	MD36
MD_33		5	6	MD33
MD_37		7	8	MD37
MD_39	RN14	1	20/8P4R/X	MD39
MD_35		3	4	MD35
MD_40		5	6	MD40
MD_44		7	8	MD44
-DQS_4	RN15	1	20/8P4R/X	-DQS4
DM_4		3	4	DM4
MD_34		5	6	MD34
MD_38		7	8	MD38
MD_45	RN16	1	20/8P4R/X	MD45
DM_5		3	4	DM5
-DQS_5		5	6	-DQS5
MD_48	RN17	1	20/8P4R/X	MD48
MD_49		3	4	MD49
MD_52		5	6	MD52
MD_53		7	8	MD53
MD_50	RN18	1	20/8P4R/X	MD50
MD_51		3	4	MD51
MD_60		5	6	MD60
MD_61		7	8	MD61
DM_6	RN19	1	20/8P4R/X	DM6
-DQS_6		3	4	-DQS6
MD_54		5	6	MD54
MD_55		7	8	MD55
MD_56	RN20	1	20/8P4R/X	MD56
MD_57		3	4	MD57
DM_7		5	6	DM7
-DQS_7		7	8	-DQS7
MD_62	RN21	1	20/8P4R/X	MD62
MD_58		3	4	MD58
MD_63		5	6	MD63
MD_59		7	8	MD59

MD_20	RN2	1	20/8P4R/X	MD20
MD_16		3	4	MD16
MD_17		5	6	MD17
MD_21		7	8	MD21
MD_42	RN4	1	20/8P4R/X	MD42
MD_46		3	4	MD46
MD_43		5	6	MD43
MD_47		7	8	MD47

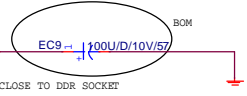
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MD_8		5	6	MD8
MD_9		7	8	MD9
MD_19	RN10	1	20/8P4R/X	MD19
MD_23		3	4	MD23
MD_24		5	6	MD24
MD_28		7	8	MD28

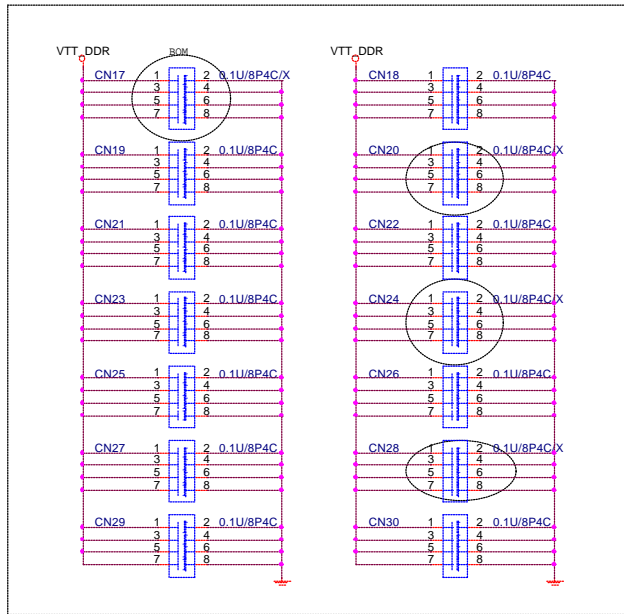


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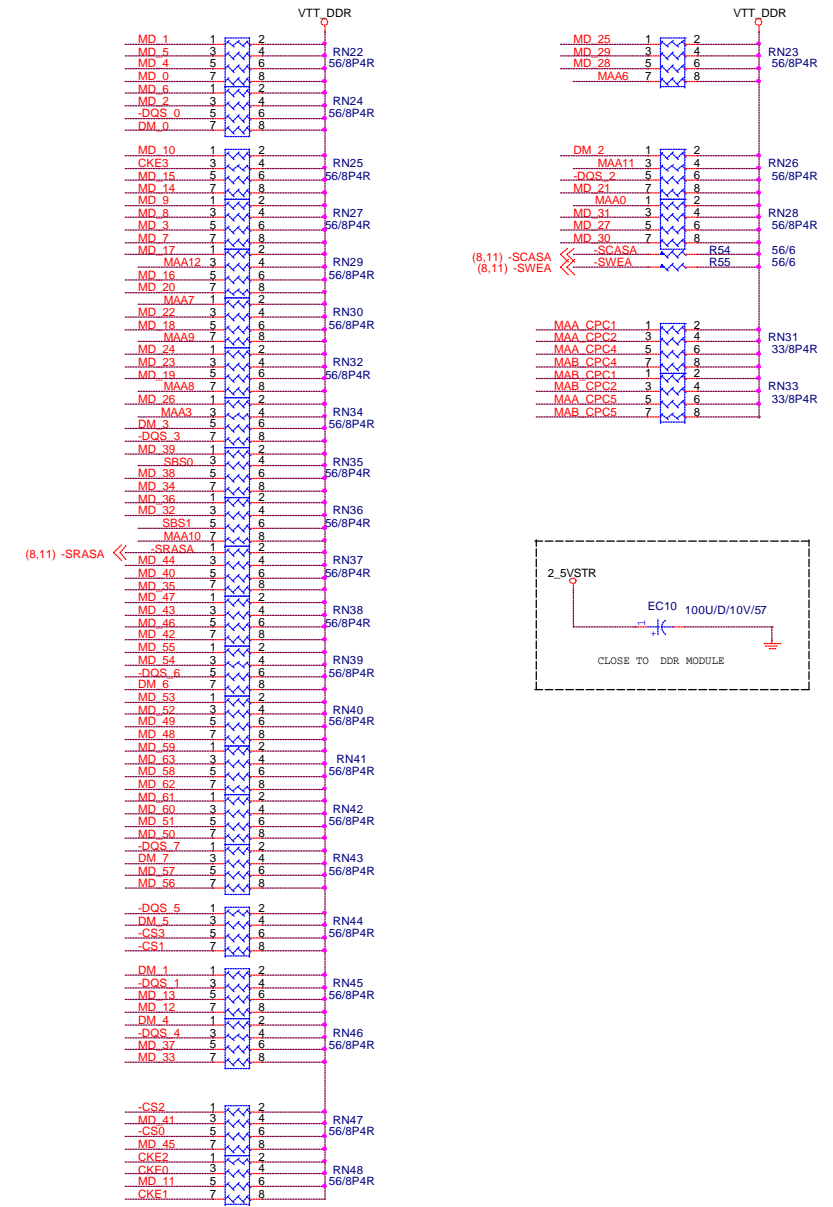
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Title	DDR1,2
Size B	Document Number GA-81LFT-C
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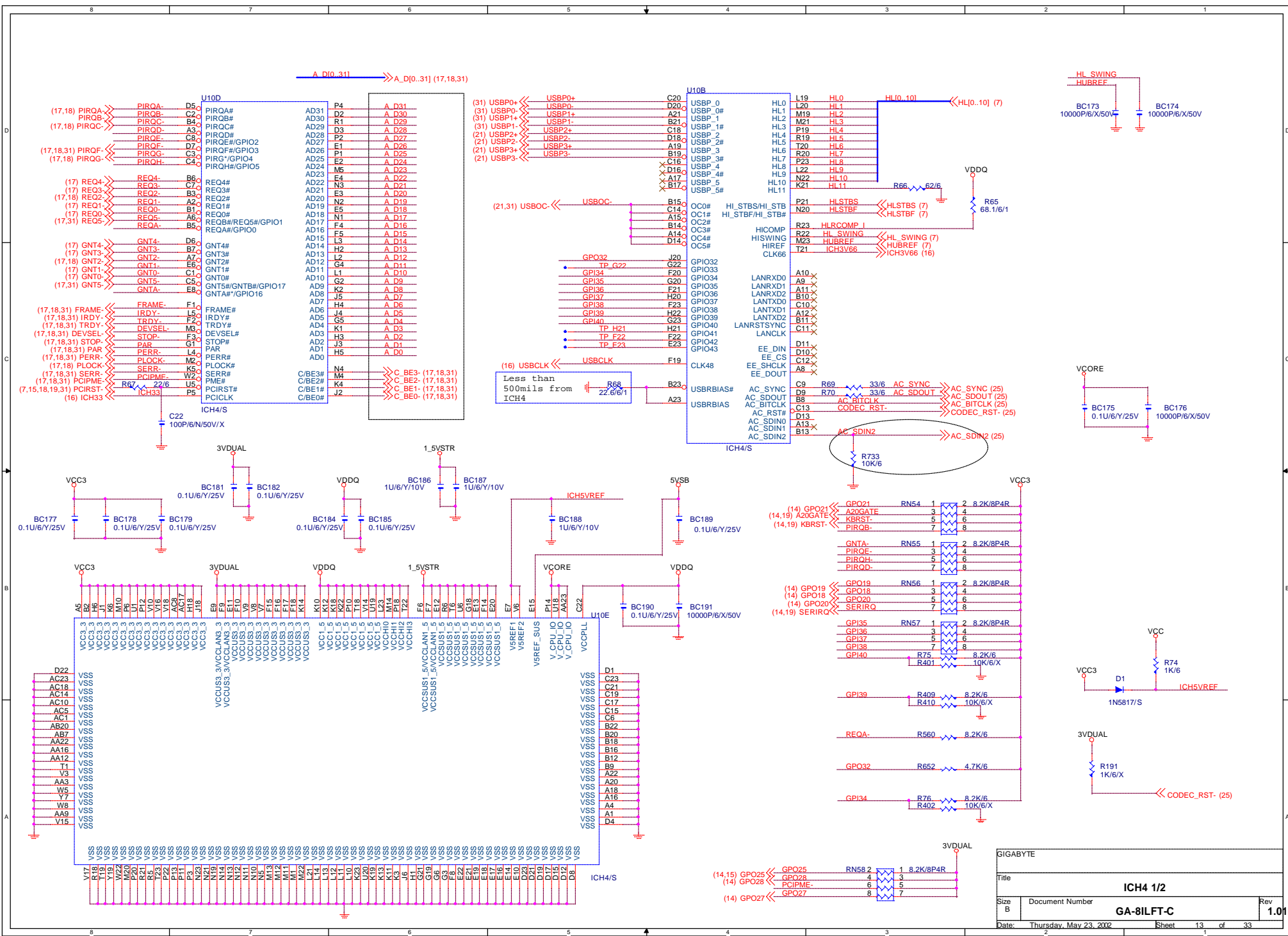


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- (10,11) DM\_[0..7] << MD\_[0..7]
- (10,11) -DQS\_[0..7] << -DQS\_[0..7]
- (8,11) MAA[0..12] << MAA[0..12]
- (8,11) -CS[0..3] << -CS[0..3]
- (8,11) CKE[0..3] << CKE[0..3]
- (8,11) SBS[0..1] << SBS[0..1]
- (8,11) MAA\_CPC[1..5] << MAA\_CPC[1..5]
- (8,11) MAB\_CPC[1..5] << MAB\_CPC[1..5]

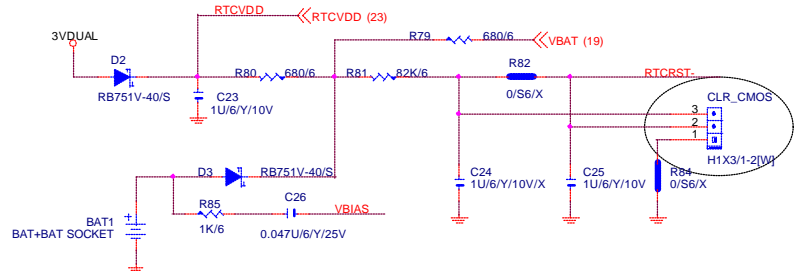
CLOSE TO DDR TERMINATOR(1 CAP. FOR 2 R-PACKS)



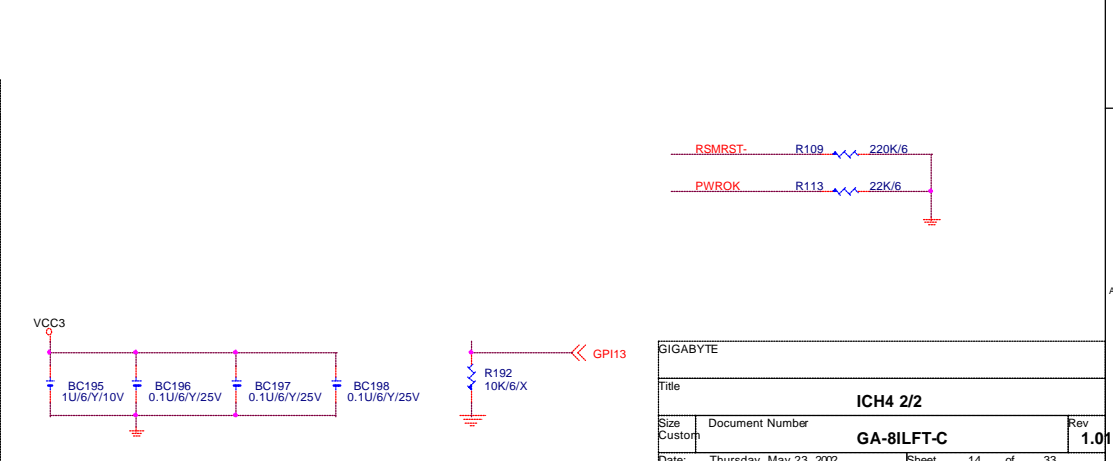
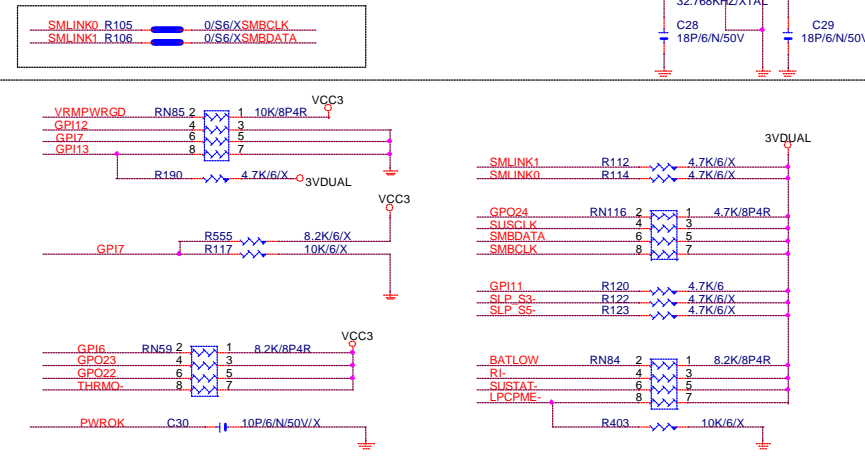
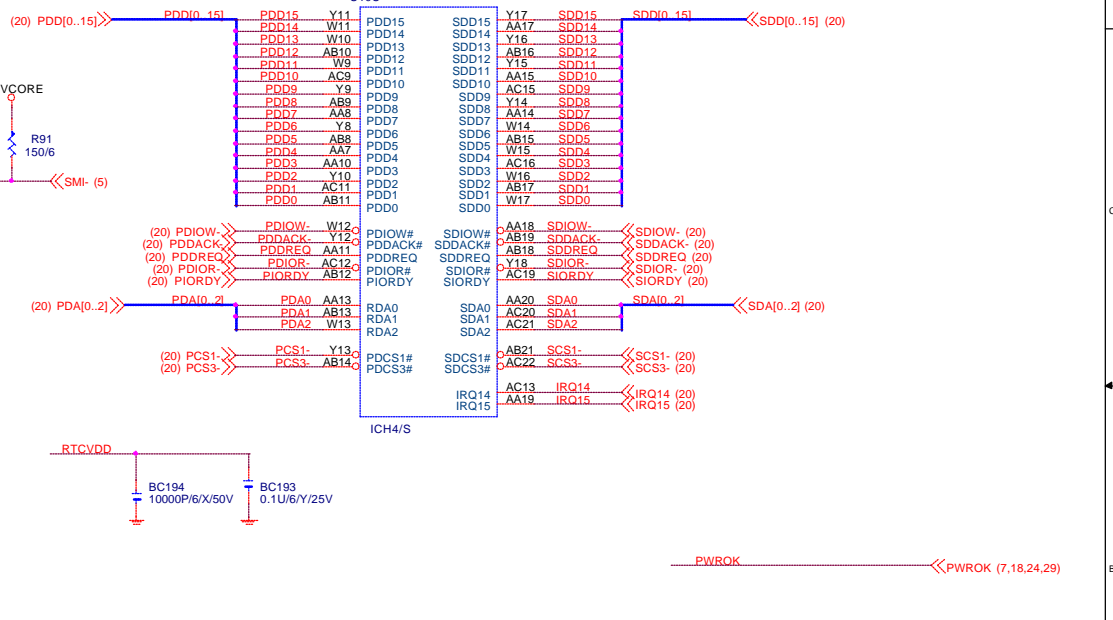
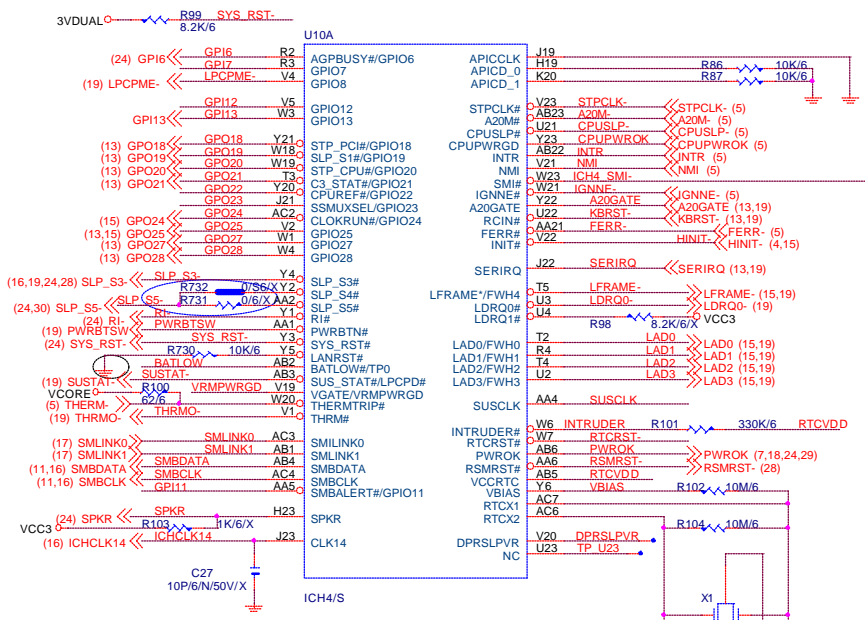
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Title	DDR TERM.
Size B	Document Number GA-8ILFT-C
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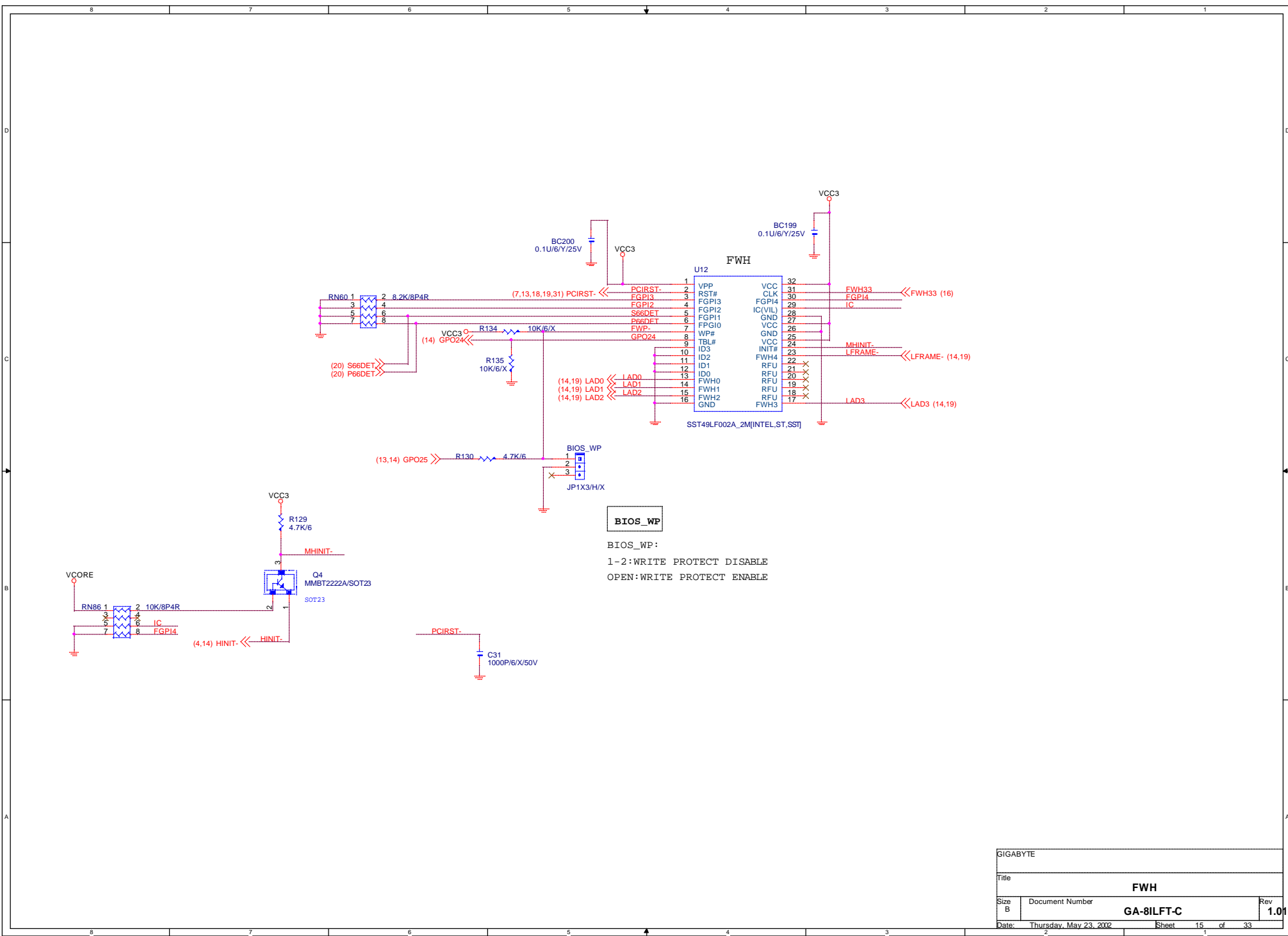
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Title	
<b>ICH4 1/2</b>	
Size B	Document Number
<b>GA-8LFT-C</b>	
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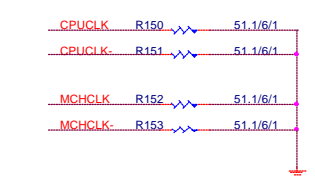
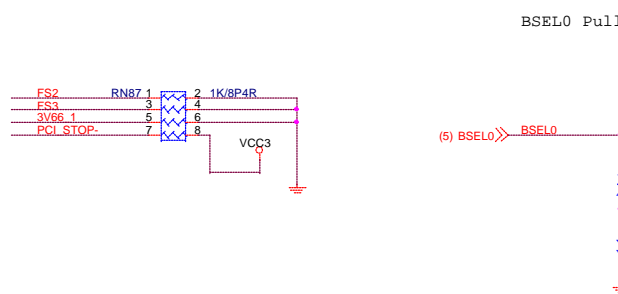
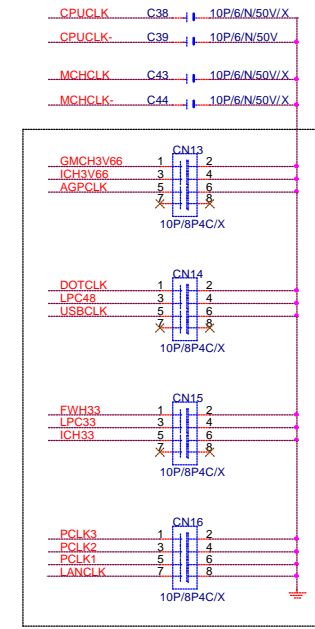
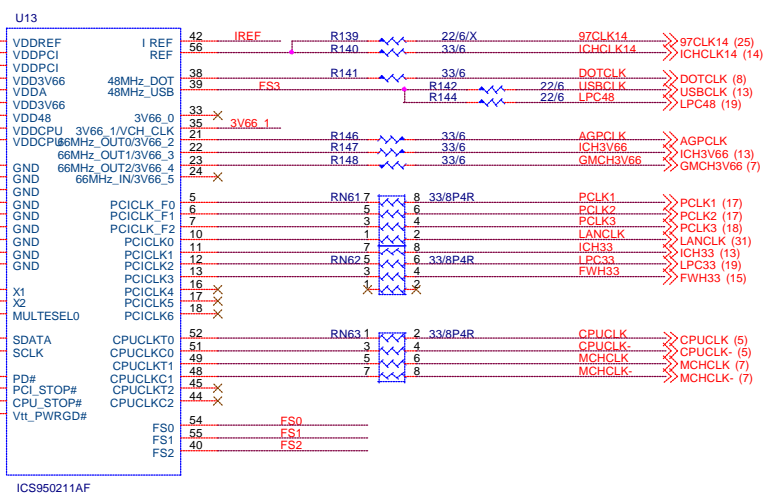
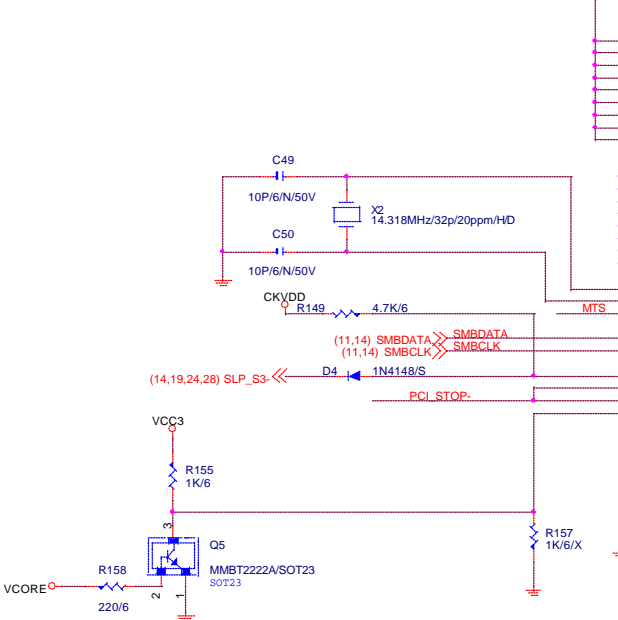
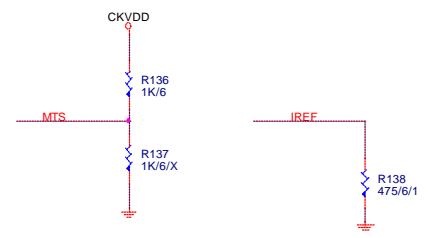
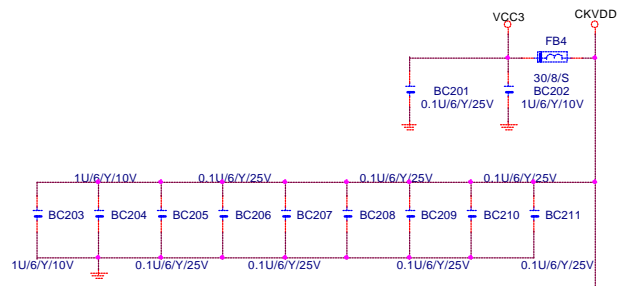
	CLR_CMOS
1-2	ENABLE (CLEAR CMOS)
2-3	NORMAL



GIGABYTE	
Title	ICH4 2/2
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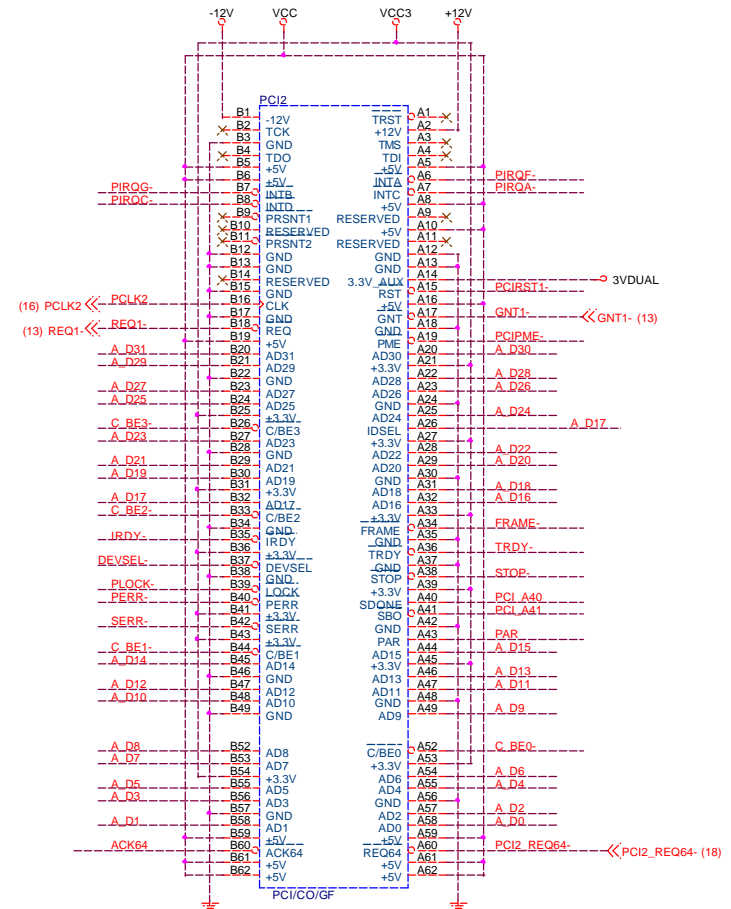
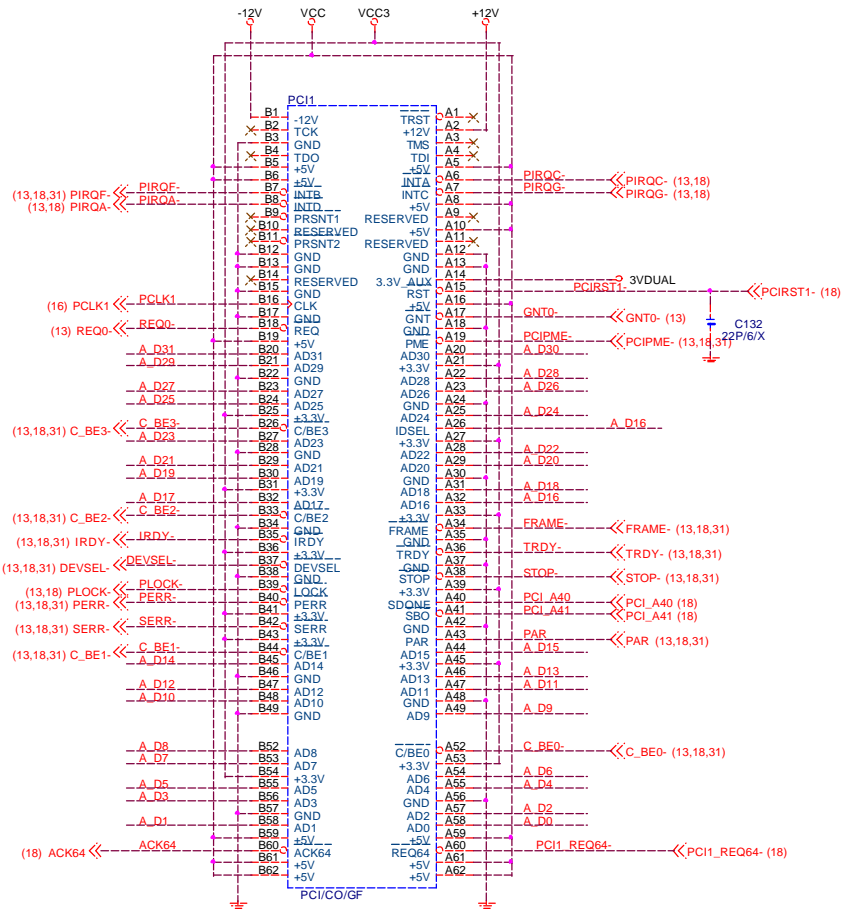
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Title			
<b>FWH</b>			
Size	Document Number	<b>GA-8LFT-C</b>	Rev
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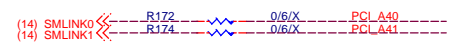
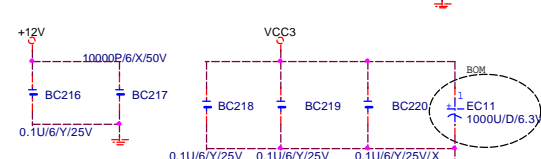
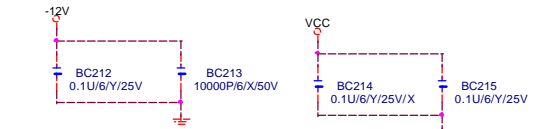
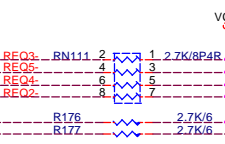
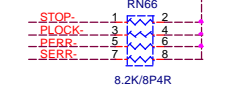
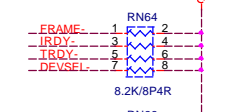
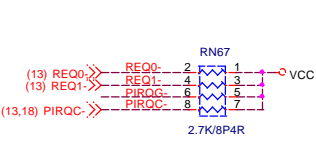
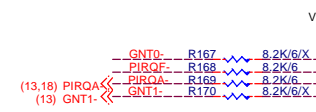
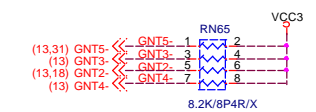
BSEL0 Pull-up at another page.

GIGABYTE			
Title			
<b>CLOCK GENERATOR</b>			
Size	Document Number	Rev	
Custom	GA-8ILFT-C	1.0	
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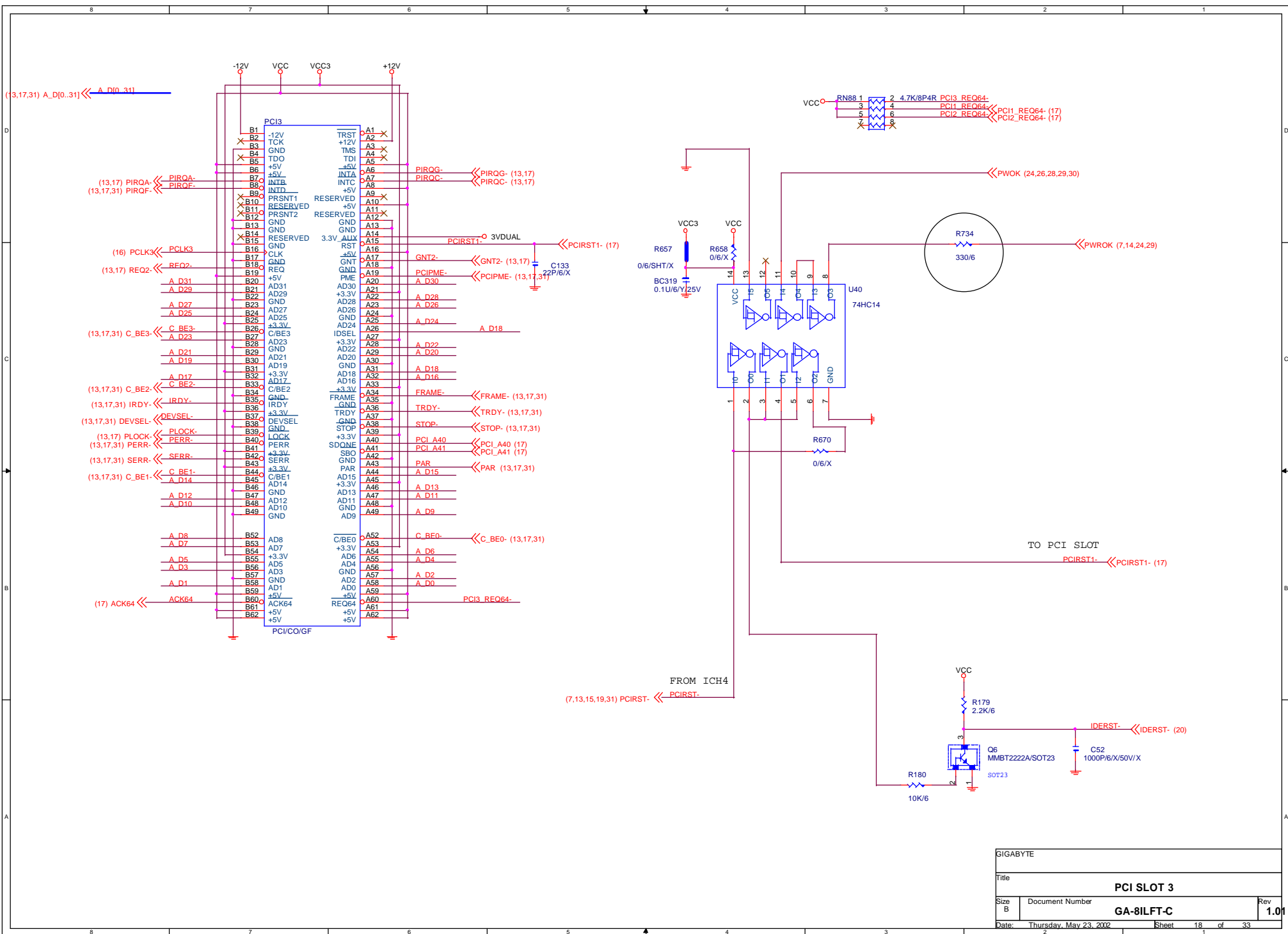




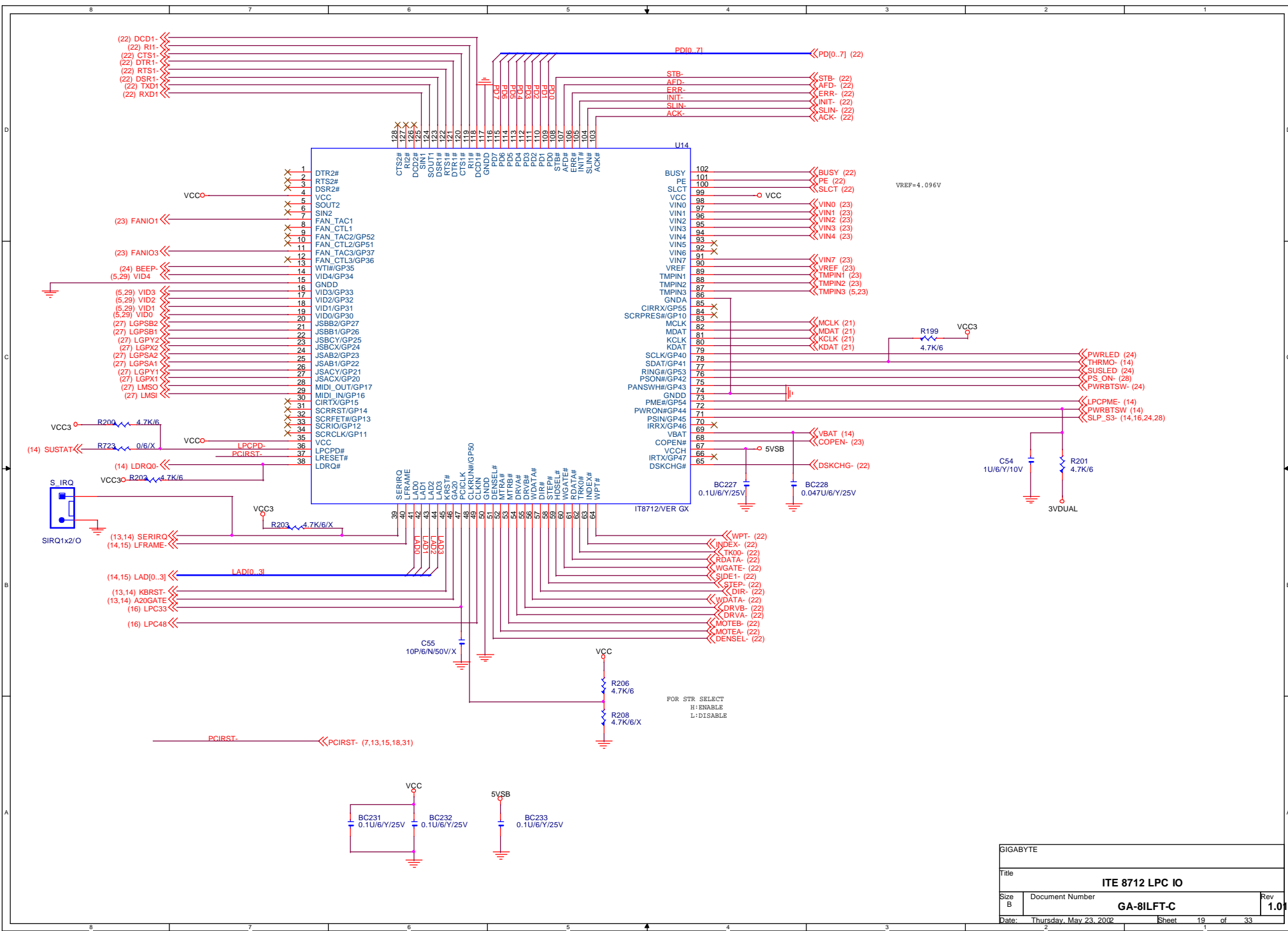
(13,18,31) A\_D[0..31] << A\_D[0..31]



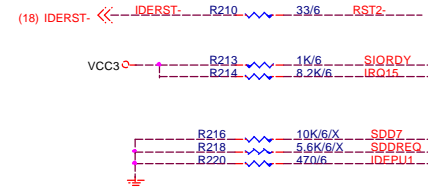
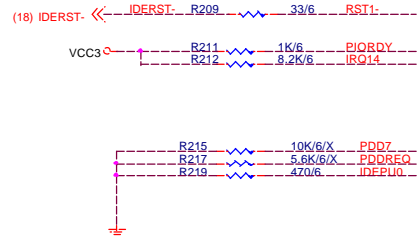
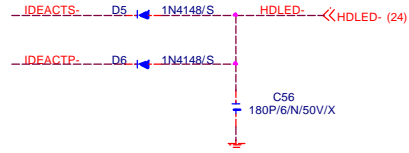
GIGABYTE	
Title	PCI SLOT 1/2
Size B	Document Number
Date: Thursday, May 23, 2002	GA-81LFT-C
Sheet 17	of 33
Rev	1.01



GIGABYTE			
Title			
<b>PCI SLOT 3</b>			
Size B	Document Number	Rev	
	<b>GA-8LFT-C</b>	<b>1.01</b>	
Date:	Thursday, May 23, 2002	Sheet	18 of 33

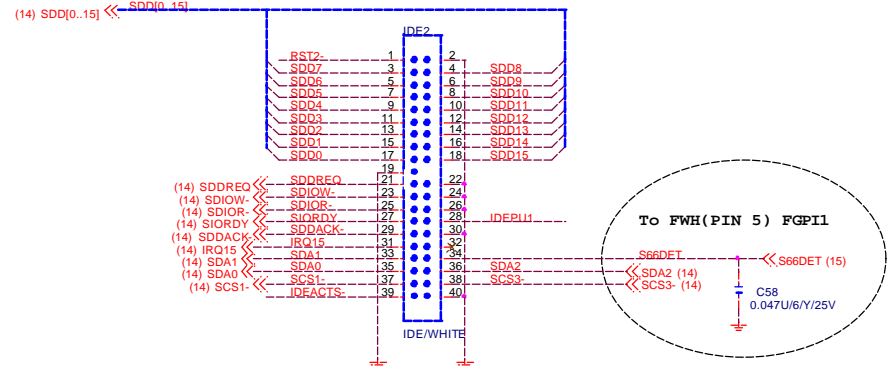
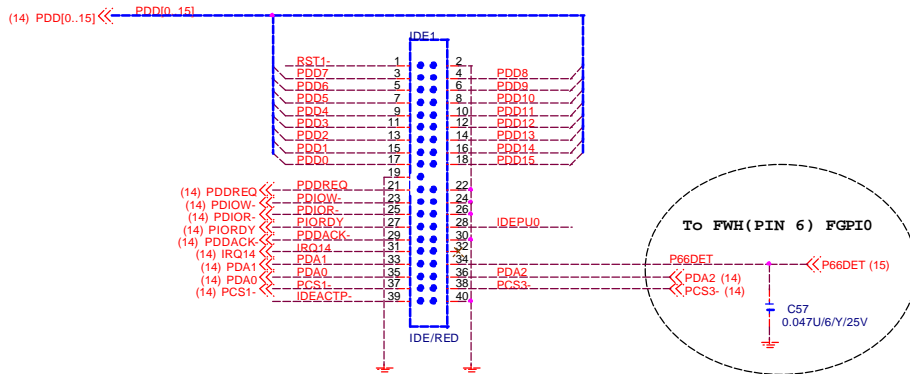


GIGABYTE	
Title <b>ITE 8712 LPC IO</b>	
Size B	Document Number <b>GA-81LFT-C</b>
Date: Thursday, May 23, 2002	Rev <b>1.0</b>
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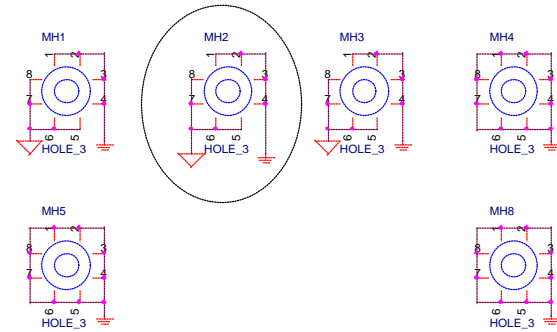
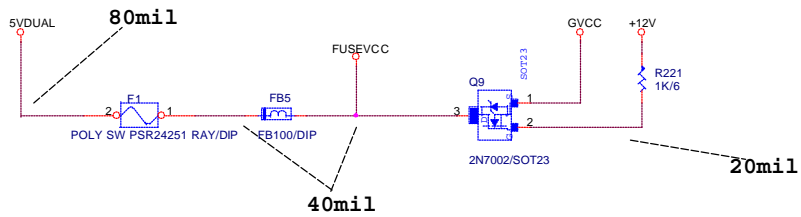


PRIMARY IDE CONNECTOR

SECONDARY IDE CONNECTOR

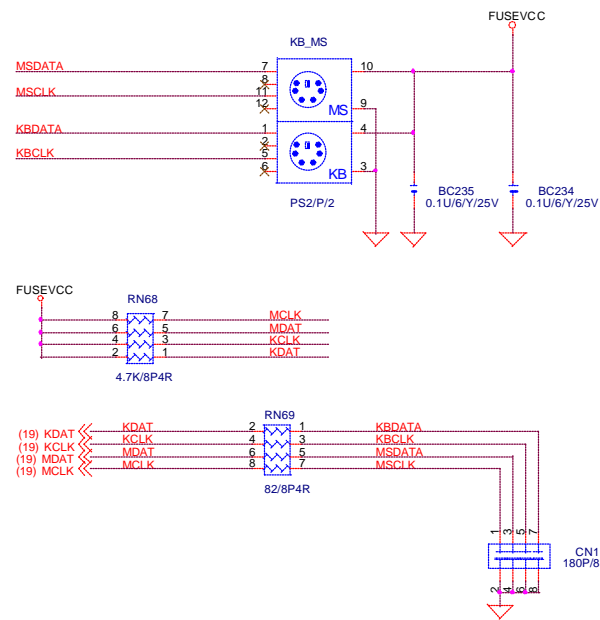
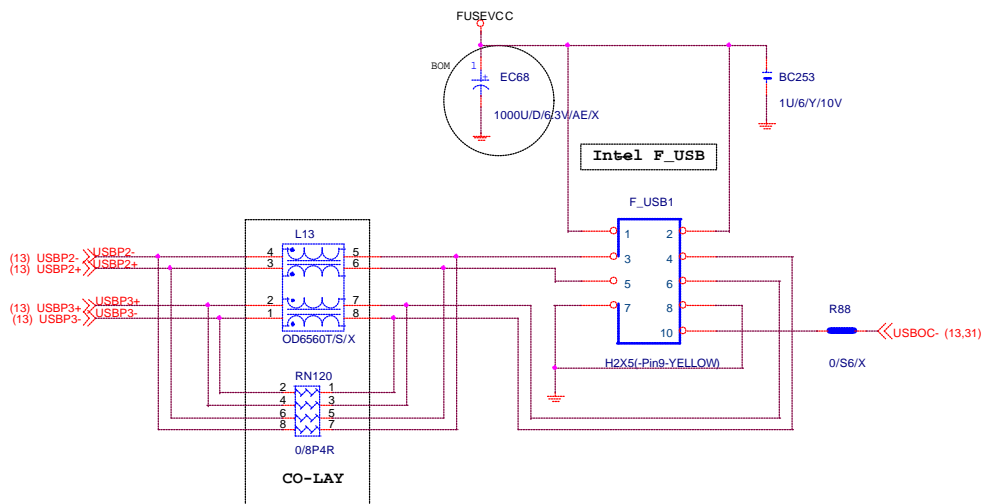


GIGABYTE			
Title			
IDE CONNECTOR			
Size B	Document Number	GA-8LFT-C	Rev 1.01
Date:	Thursday, May 23, 2002	Sheet	20 of 33



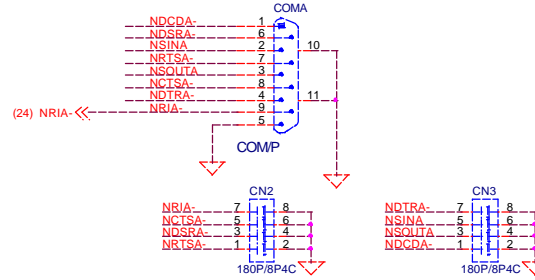
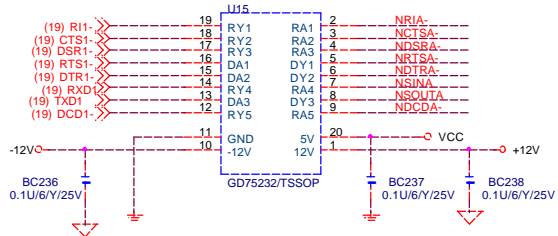
**FRONT USB CONN**

**ICH4 USB2.0**

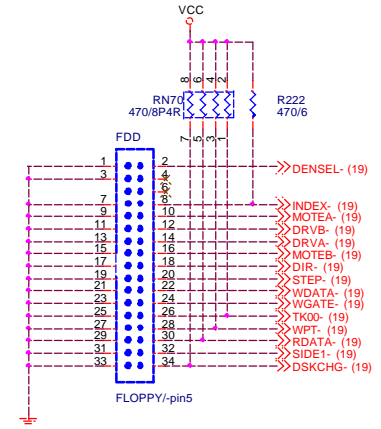


GIGABYTE			
Title			
<b>KB &amp; PS2 MOUSE &amp; IR</b>			
Size B	Document Number	<b>GA-8ILFT-C</b>	Rev <b>1.01</b>
Date:	Thursday, May 23, 2002	Sheet	21 of 33

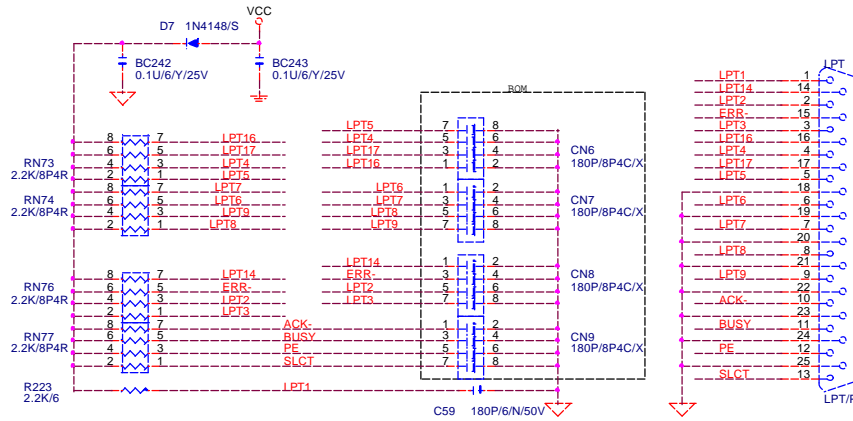
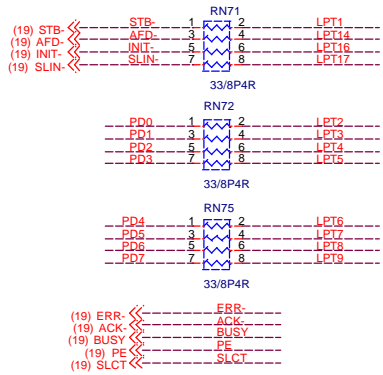
# COMA



# FLOPPY

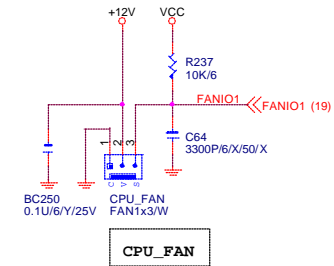
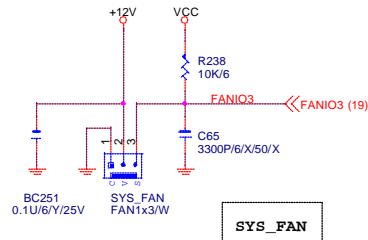
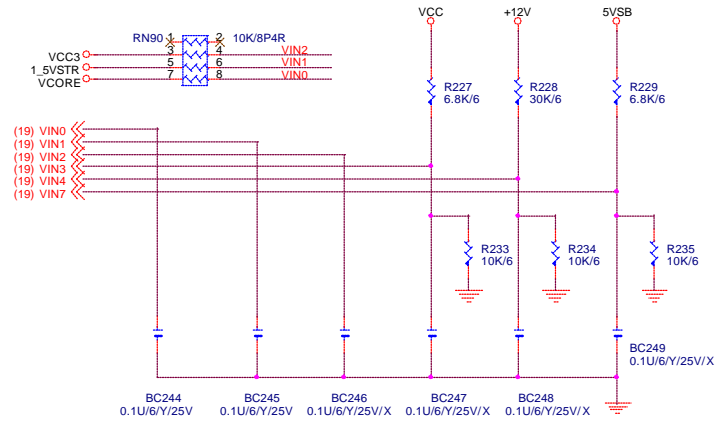
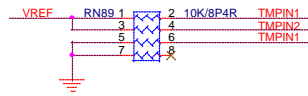
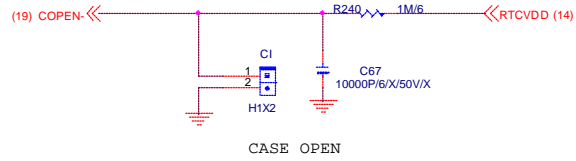
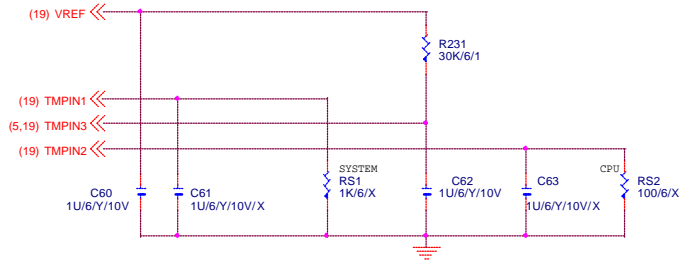


(19) PD[0..7] << PD[0..7]

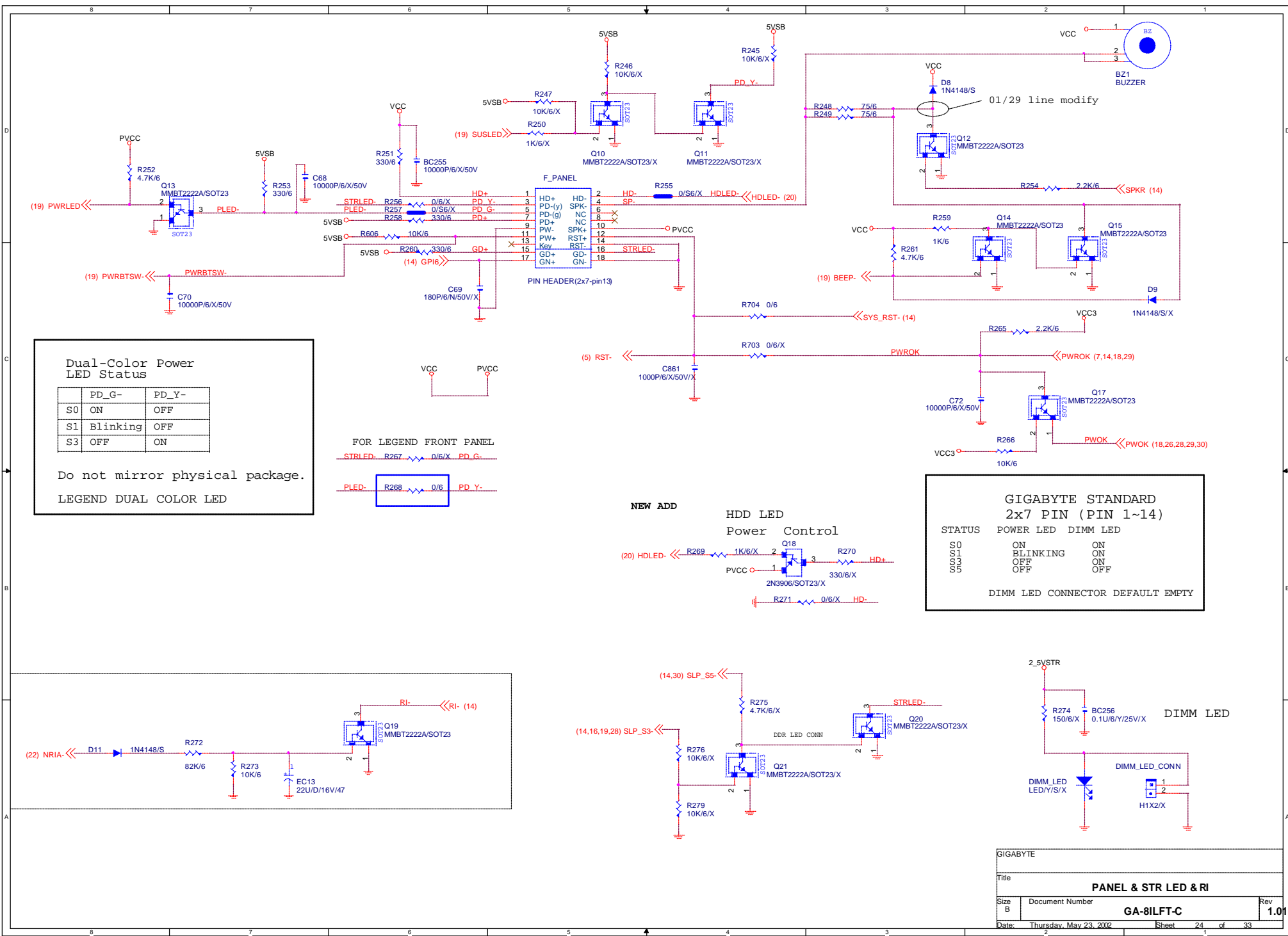


GIGABYTE			
Title			
<b>COM &amp; IR &amp; LPT PORT &amp; FLOOPY</b>			
Size B	Document Number	<b>GA-81LFT-C</b>	Rev <b>1.01</b>
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# Hardware Monitor circuits



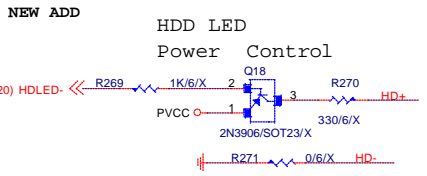
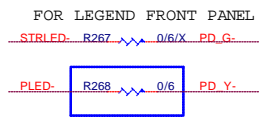
GIGABYTE		
Title		
<b>FAN/ HW MONITOR</b>		
Size B	Document Number	Rev 1.0
<b>GA-8ILFT-C</b>		
Date: Thursday, May 23, 2002	Sheet 23	of 33



**Dual-Color Power LED Status**

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

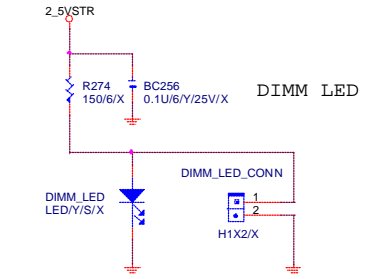
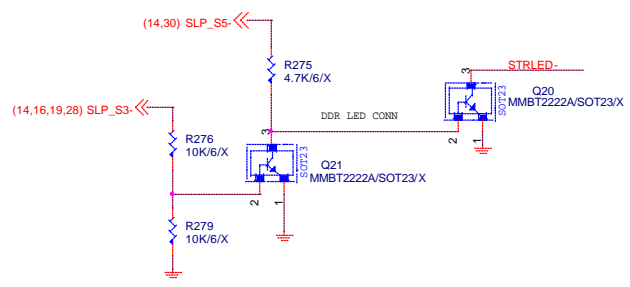
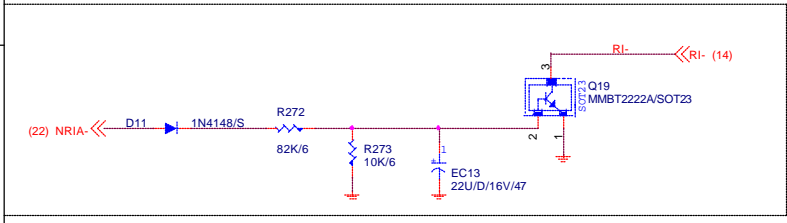
Do not mirror physical package.  
LEGEND DUAL COLOR LED



**GIGABYTE STANDARD 2x7 PIN (PIN 1~14)**

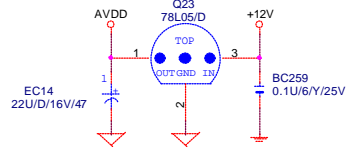
STATUS	POWER LED	DIMM LED
S0	ON	ON
S1	BLINKING	ON
S3	OFF	ON
S5	OFF	OFF

DIMM LED CONNECTOR DEFAULT EMPTY





AVDD



FOR ALC201A, 650

If 14.318MHZ external CLK is used  
INSTALL R283

RD For AD1881  
RD R280 0/6/X

RA, RB, RC For AD1885  
RA R281 4.7K/6/X  
RB R282 0/6/X  
RC R285 0/6/X

RE For AD1881, ALCxxx  
STAC97xx, YMPxxx  
R284 0/6

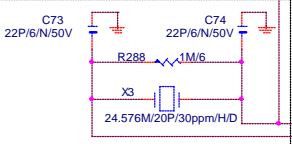
FOR ALC650  
center out/low freq. effect out  
GPO0 CONTROL\_6\_CHANNEL SWITCH

FOR ALC650  
surround out left/right  
channel

FOR 650 DESIGN DEFAULT 由  
CLOCK GEN 来

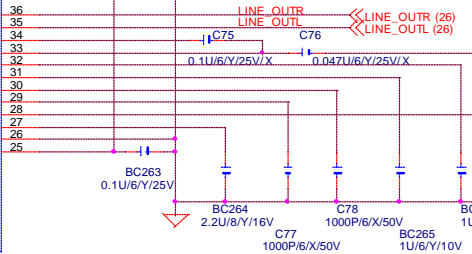
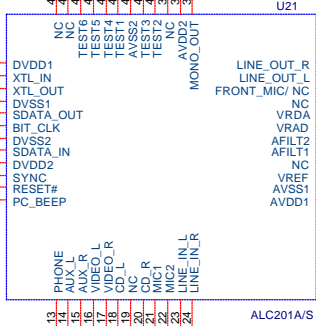
(16) 97CLK14

FOR 650 DESIGN DEFAULT  
不上 CRYSTAL



(13) AC\_SDOUT  
(13) AC\_BITCLK

(13) AC\_SDINZ  
(13) AC\_SYNC  
(13) CODEC\_RST



(27) AUXIN\_L  
(27) AUXIN\_R

C84 2.2U/8/Y/16V  
C86 2.2U/8/Y/16V

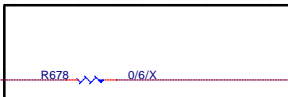
C87 1U/6/Y/10V  
C88 0.1U/6/Y/25V  
C89 0.1U/6/Y/25V  
C90 0.1U/6/Y/25V

FOR ALC650 C850要上, C851不上

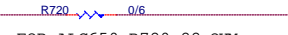
GIGABYTE			
Title			
AC97 CODEC			
Size B	Document Number	GA-8ILFT-C	Rev 1.01
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FOR ALC650  $\uparrow$ EC15,R679

(25) QUAD\_OUT\_R  $\leftarrow$  EC15  
100U/D/10V/57/X

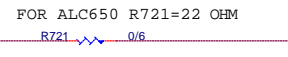


(25) LINE\_OUTR  $\leftarrow$  EC16  
100U/D/10V/57



FOR ALC650 R720=22 OHM

(25) LINE\_OUTL  $\leftarrow$  EC17  
100U/D/10V/57

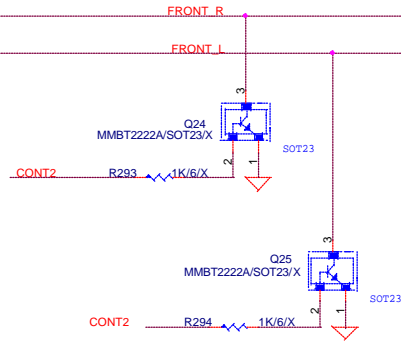


FOR ALC650 R721=22 OHM

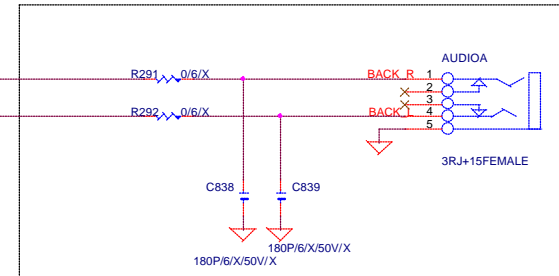
(25) QUAD\_OUT\_L  $\leftarrow$  EC18  
100U/D/10V/57/X



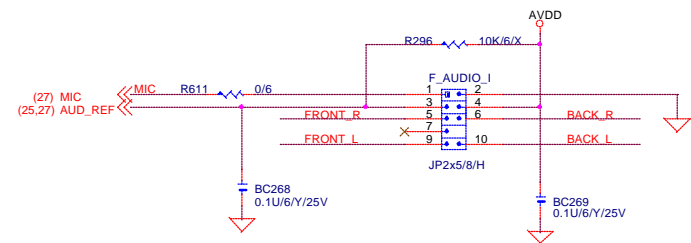
FOR ALC650  $\uparrow$ EC18,R681



### LINE-OUT

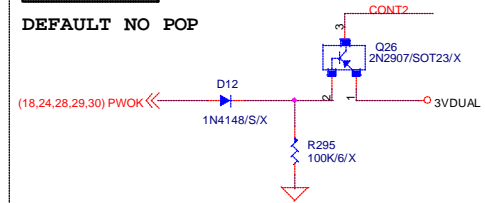


### INTEL FRONT AUDIO



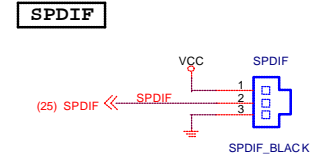
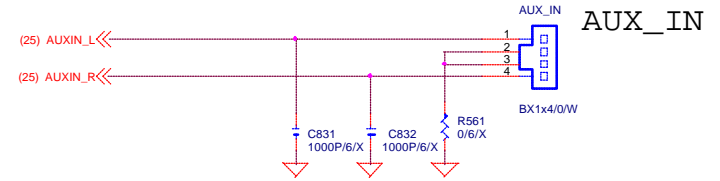
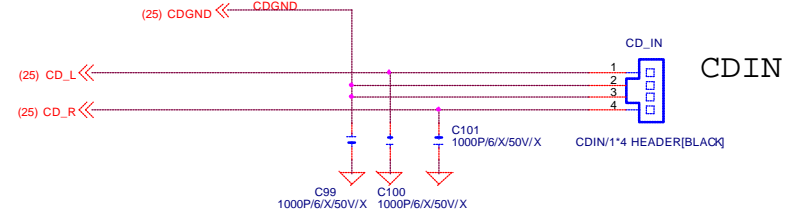
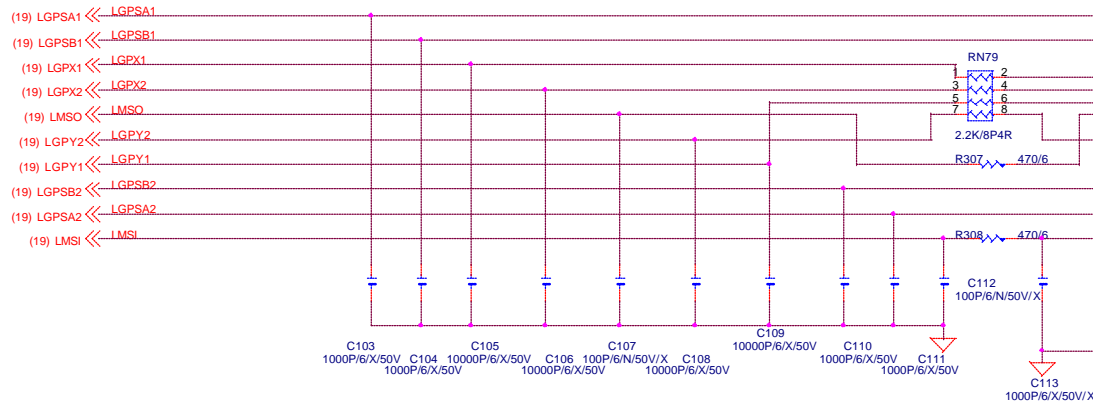
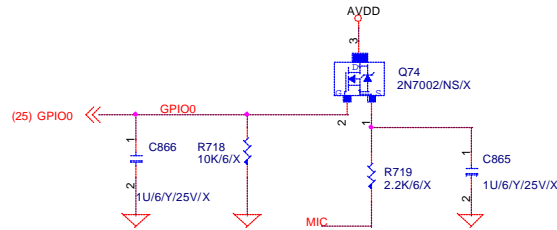
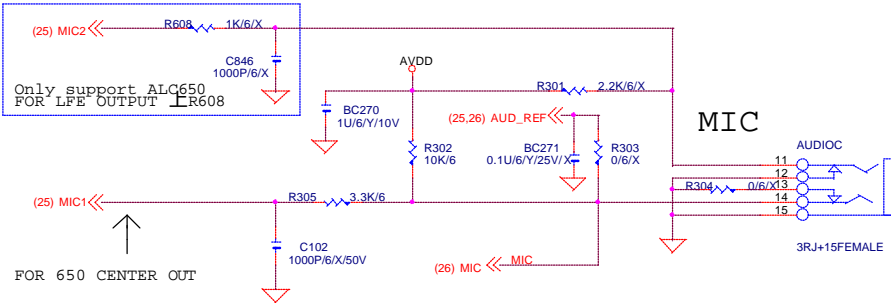
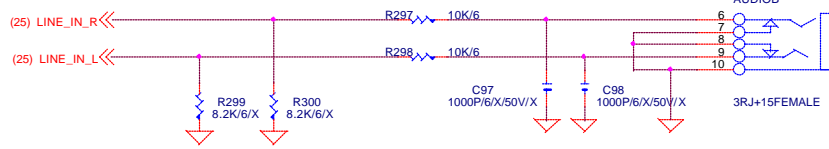
### ANTI-POP

DEFAULT NO POP



GIGABYTE			
Title			
<b>LJACK LINE OUT</b>			
Size B	Document Number	<b>GA-8ILFT-C</b>	Rev <b>1.01</b>
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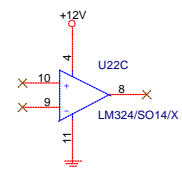
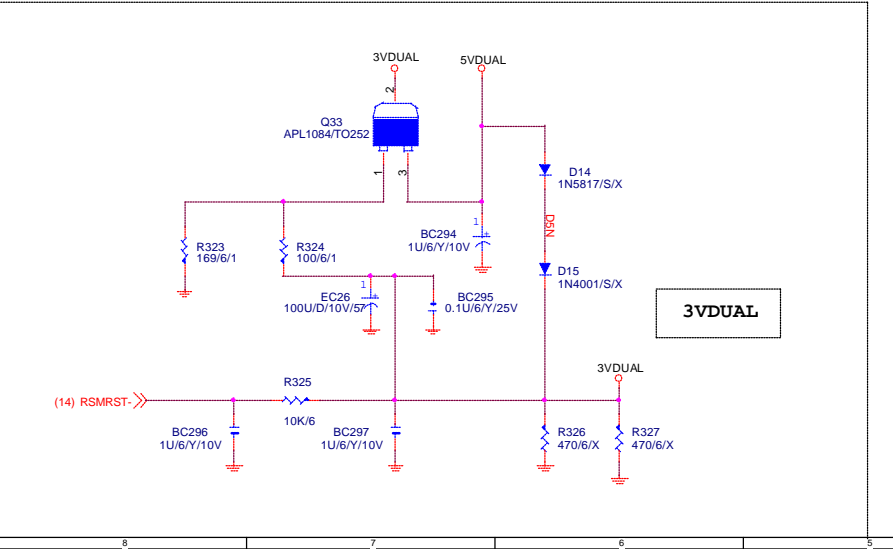
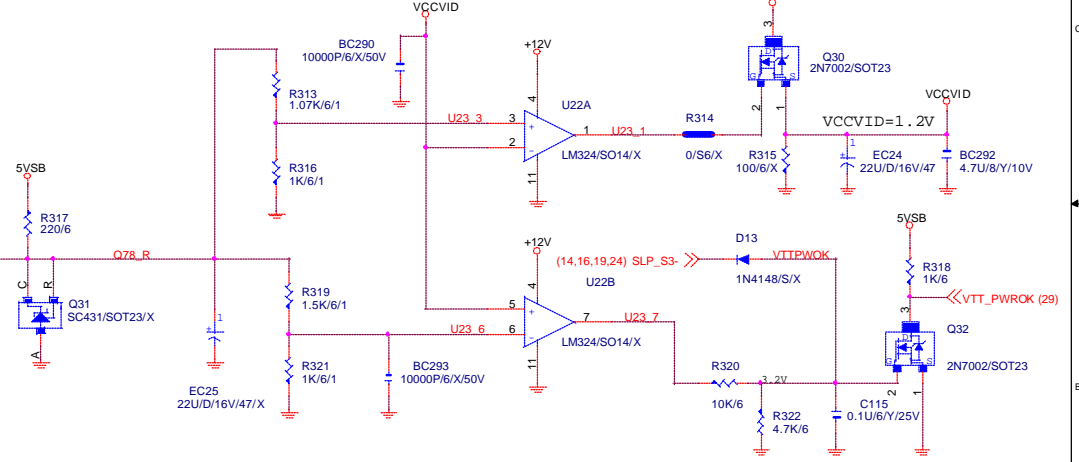
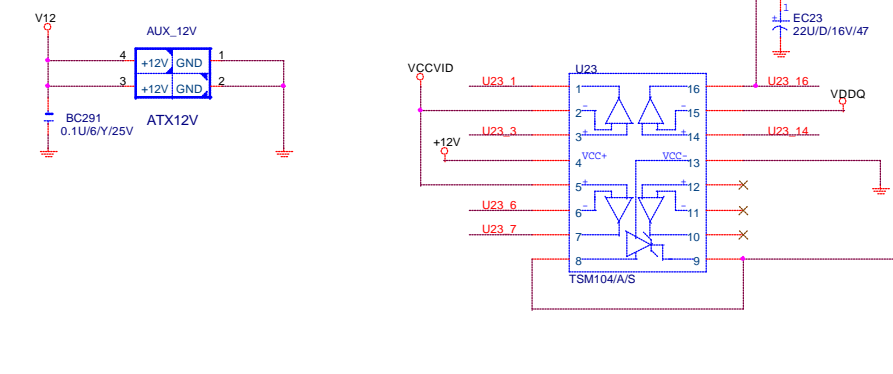
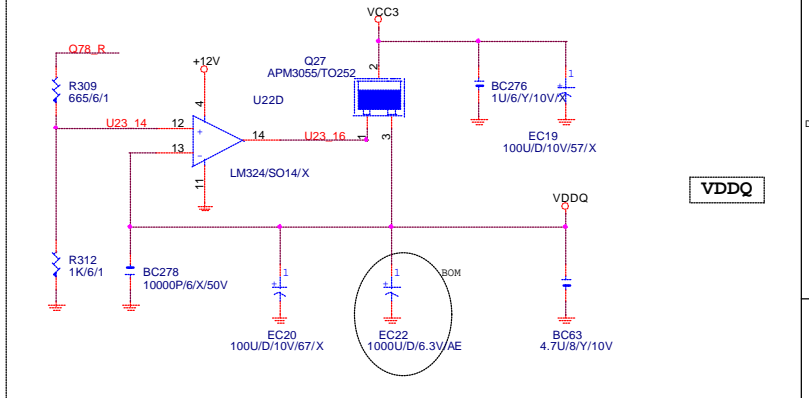
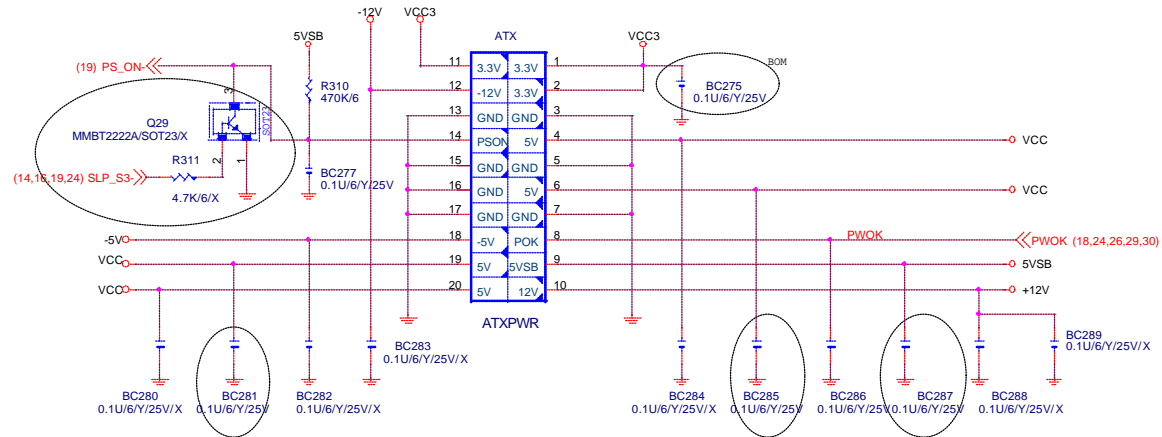
### LINE-IN



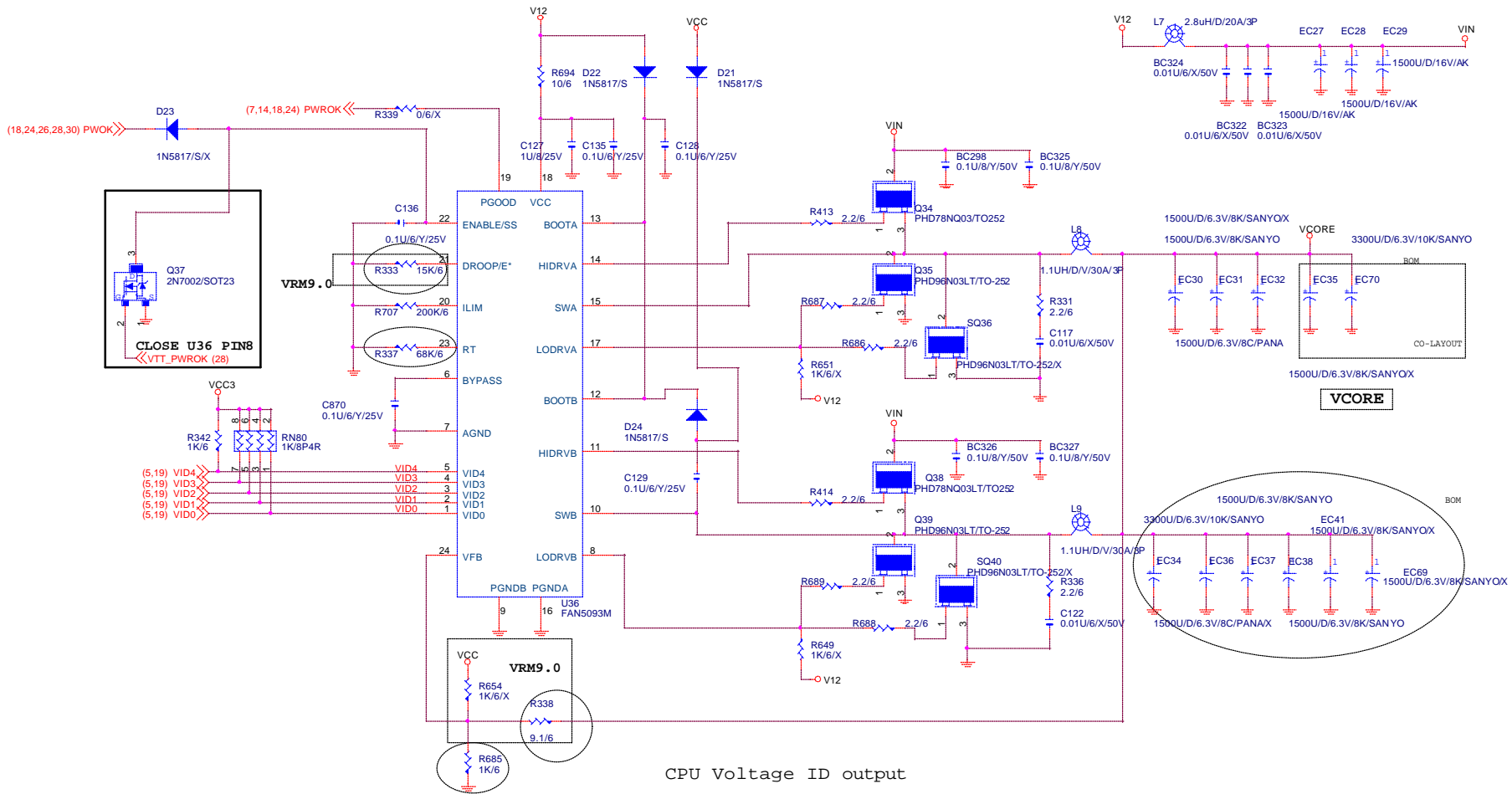
### ITE GAME\_PORT

GIGABYTE			
Title			
<b>PHONE JACK, GAME PORT</b>			
Size	Document Number	Rev	
B	<b>GA-8ILFT-C</b>	1.01	
Date:	Thursday, May 23, 2002	Sheet	27 of 33

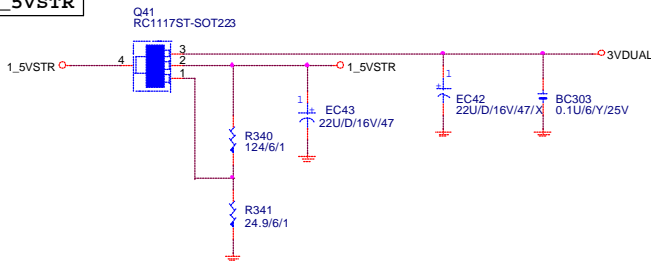
### ATX POWER CONNECTOR



GIGABYTE			
Title			
<b>Misc. PWR &amp; ATX CONN.</b>			
Size B	Document Number	<b>GA-8ILFT-C</b>	Rev <b>1.01</b>
Date:	Thursday, May 23, 2002	Sheet	28 of 33

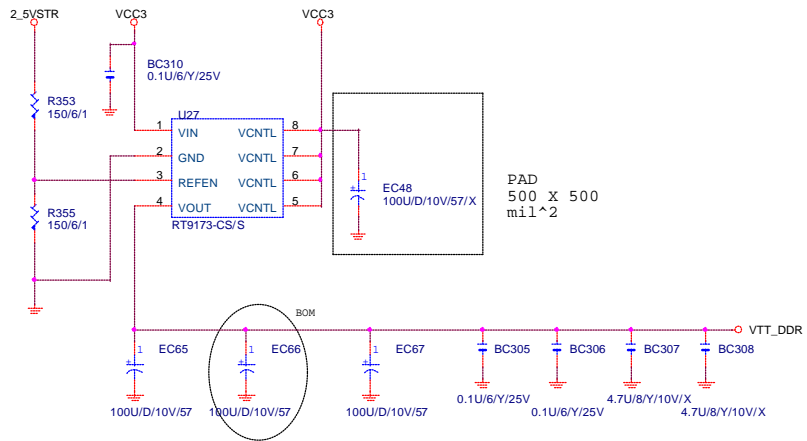


**1\_5VSTR**



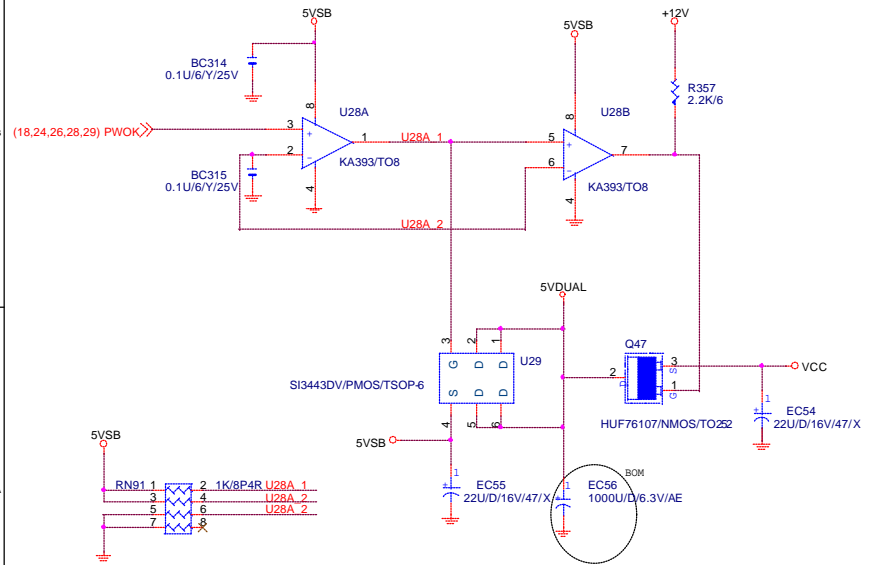
GIGABYTE	
Title <b>Vcore PWM FAN5093M</b>	
Size Custom	Document Number <b>GA-8ILFT-C</b>
Date: Thursday, May 23, 2002	Rev <b>1.0</b>
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1.25V VTT\_DDR LINEAR SOLUTION

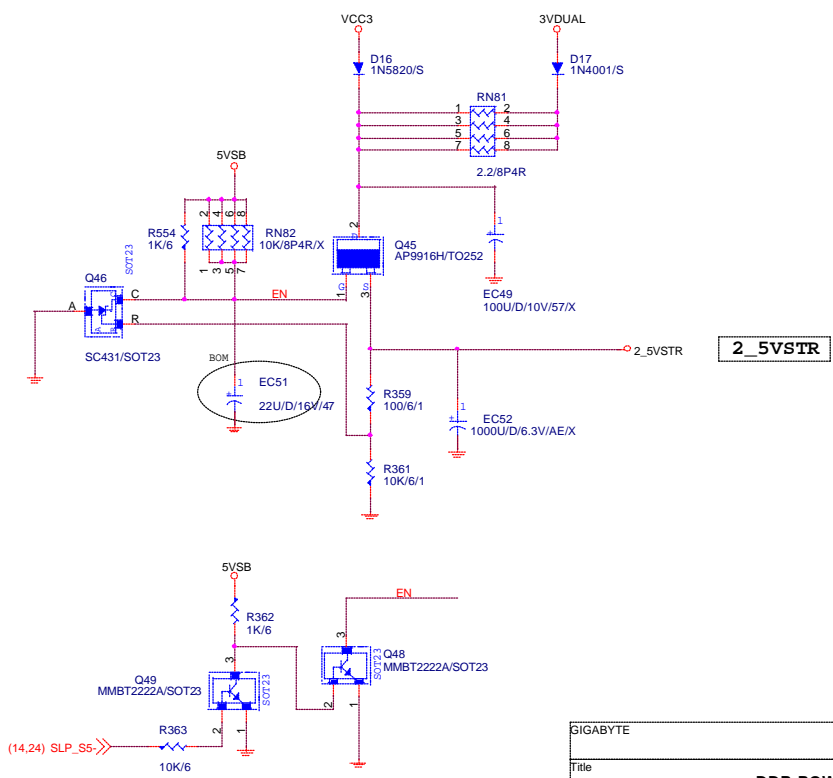


VTT\_DDR

5VDUAL



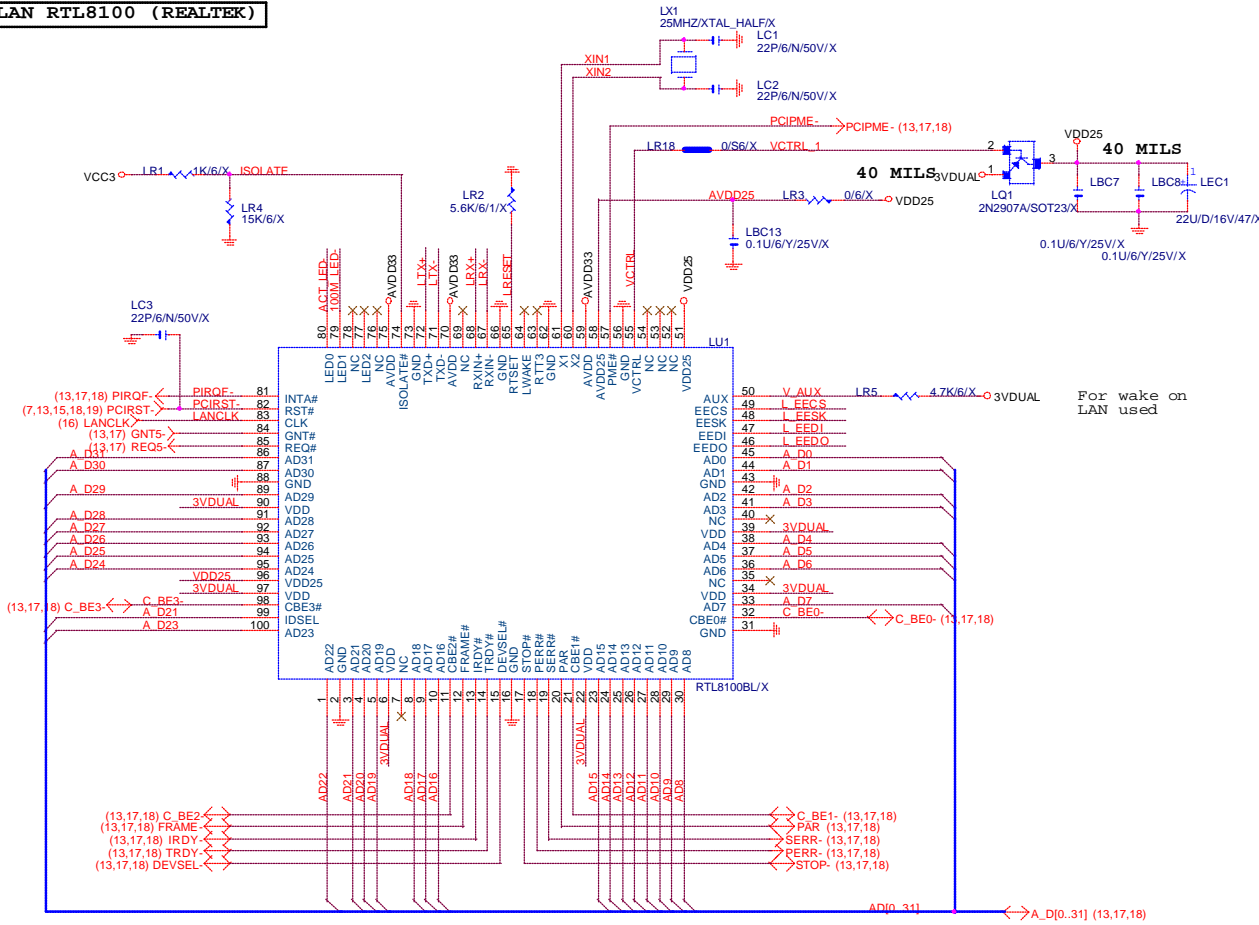
5VDUAL CIRCUIT



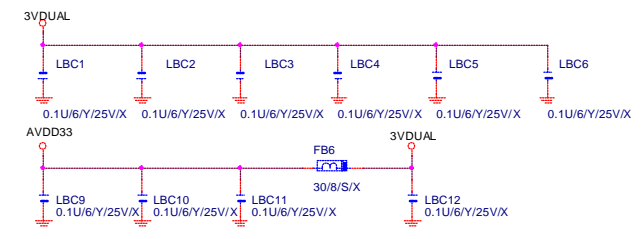
2\_5VSTR

GIGABYTE		
Title		
<b>DDR POWER</b>		
Size B	Document Number	Rev
	<b>GA-8ILFT-C</b>	<b>1.0</b>
Date:	Thursday, May 23, 2002	Sheet 30 of 33

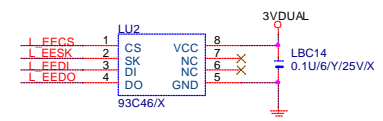
**LAN RTL8100 (REALTEK)**



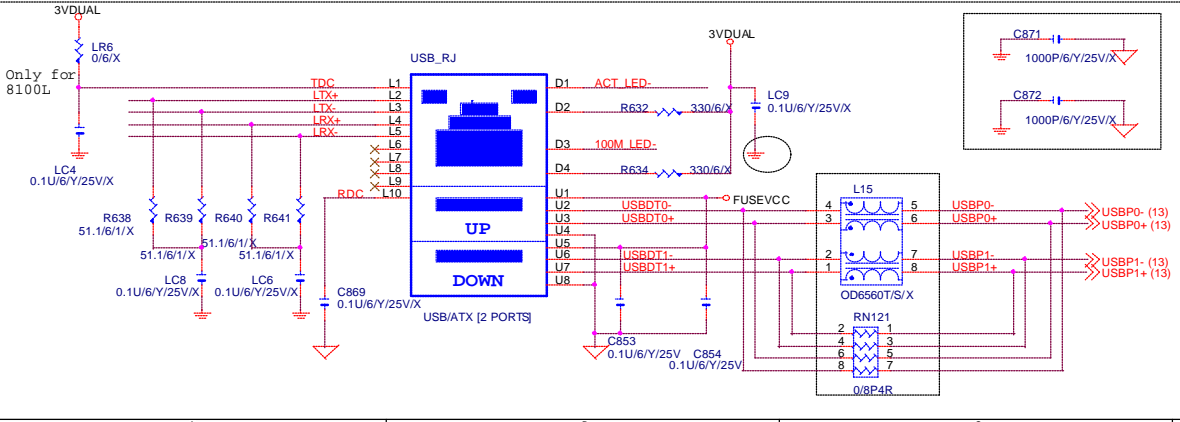
**POWER DECOUPLING CAP.**



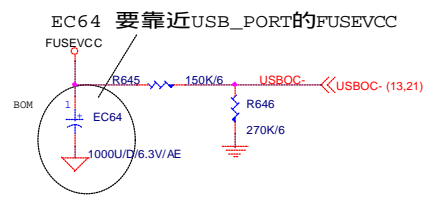
**LAN EEPROM**



**8100/8100B NOTE:**  
 Pin 65 pull-down (5.6K 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)



**模組化線路**



# GIGABYTE GA-8ILFT GPIO LIST

Revision 1.01

SHEET

TITLE

GPI		
PIRQB-		PULL 8.2K TO VCC3
PIRQD-		PULL 8.2K TO VCC3
PIRQE-		PULL 8.2K TO VCC3
PIRQH-		PULL 8.2K TO VCC3
GPI6		PULL 8.2K TO VCC3 (GREEN_BUTTON)
GPI7		NOT IMPLEMENTED
GPI8		PULL 8.2K TO 3VDUAL, LPC PME.
GPI9	NA	NOT IMPLEMENTED
GPI10	NA	NOT IMPLEMENTED
GPI11		PULL 4.7K TO 3VDUAL (SMBALERT)
GPI12		PULL DOWN 10K.
GPI13		PULL DOWN 10K, CNR_PRIMARY
GPI14	NA	NOT IMPLEMENTED
GPI15	NA	NOT IMPLEMENTED

SHEET

TITLE

GPO		
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, BIOS WRITE PROTECT.
GPO26		NOT IMPLEMENTED
GPO27		PULL 8.2K TO 3VDUAL, LAN 100/10 DETECT.
GPO28		PULL 8.2K TO 3VDUAL

<b>GIGABYTE</b>			
Title			
<b>GPIO LIST</b>			
Size	Document Number	Rev	
Custom	<b>GA-8ILFT-C</b>	<b>1.01</b>	
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# GIGABYTE GA-8ILFL-T PCI ROUNTING LIST

Revision 1.01

PCI DEVICE	IDSEL	INT	CLOCK	REQ	GNT
PCI SLOT1	16	C,F,G,A	PCLK1	REQ0-	GNT0-
PCI SLOT2	17	F,G,A,C	PCLK2	REQ1-	GNT1-
PCI SLOT3	18	G,A,C,F	PCLK3	REQ2-	GNT2-
	19				
	20				
	21				
	26				
	28				
	23				
	NA				

<b>GIGABYTE</b>		
Title		
PCI ROUNT LIST		
Size	Document Number	Rev
Custom	<b>GA-8ILFT-C</b>	<b>1.01</b>
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