

SHEET TITLE

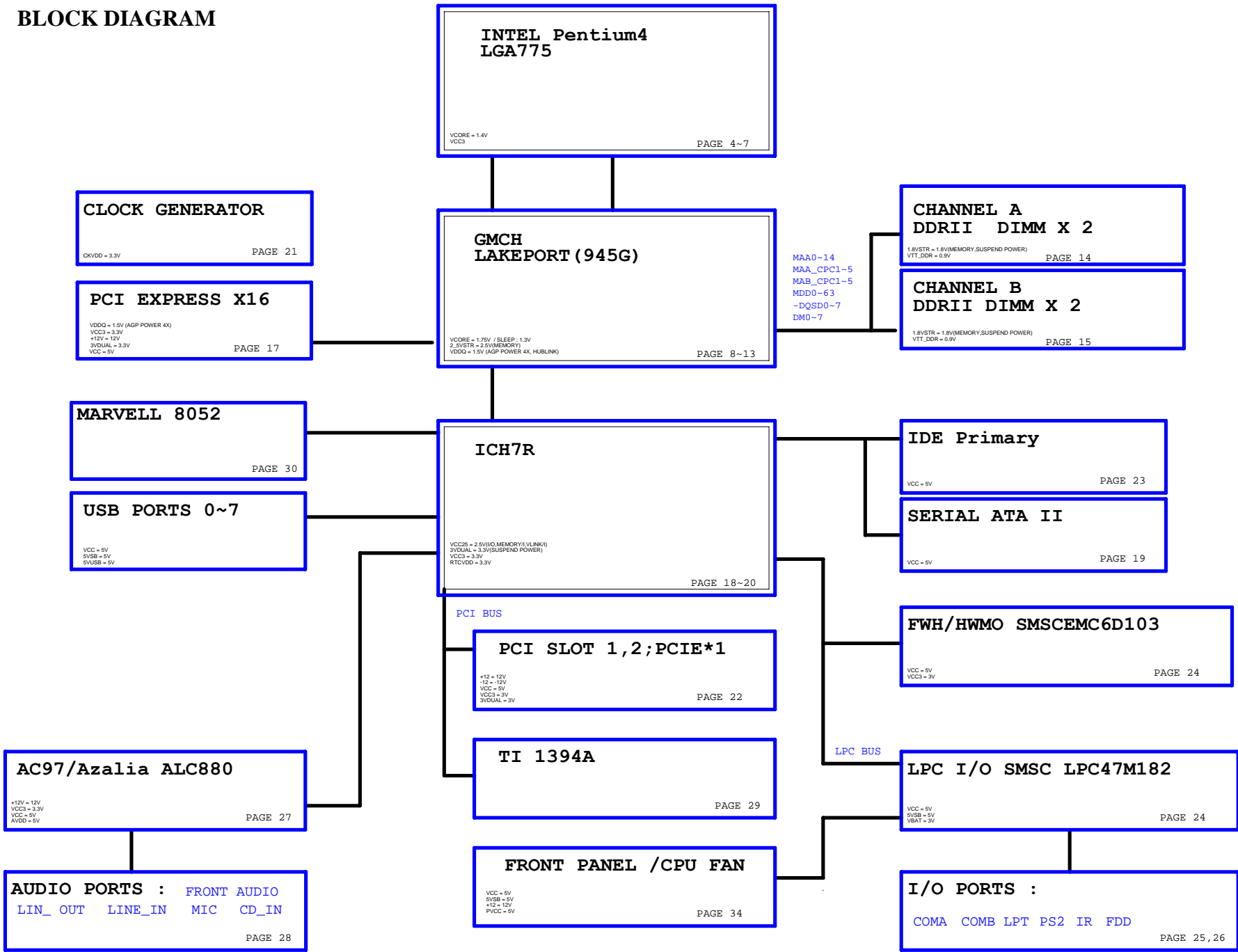
01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4 LGA775 A
05	P4 LGA775 B
06	P4 LGA775 C
07	P4 LGA775 D,E,F,G
08	GMCH-LAKEPORT HOST
09	GMCH-LAKEPORT DDRII
10	GMCH-LAKEPORT PCI E, DMI
11	GMCH-LAKEPORT INT VGA
12	GMCH-LAKEPORT GND
13	GMCH-LAKEPORT PWR
14	DDRII CHANNEL A 1,2
15	DDRII CHANNEL B 1,2
16	DDRII TERMINATION
17	PCI EXPRESS*16 SLOT
18	ICH7 PCI, USB, DMI, LAN
19	ICH7 IDE, GPIO, SATA, CTRL
20	ICH7 VCC, GND
21	GB/CK410M CLOCK.
22	PCI SLOT 1,2,PCIE*1
23	IDE/FLOPPY/USB
24	SMSC LPC IO
25	COM LPT
26	BIOS,CI,HWM,KB/MS
27	ALC880

SHEET TITLE

28	REAR AUDIO JACK
29	TI TSB43AB23 1394
30	MARVELL 88E8052
31	VCORE PWM ISL6556
32	DISCRETE POWER
33	ATX, OTHERS POWER
34	FRONT PANEL

Gigabyte Technology

BLOCK DIAGRAM



Model Name: 8I945AEF-AE

Version: 1.1

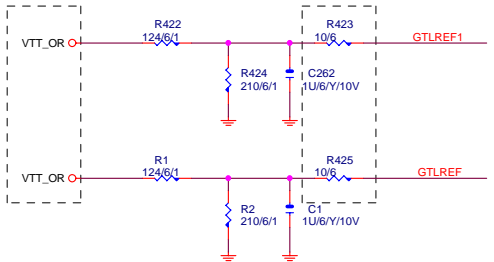
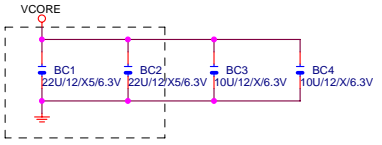
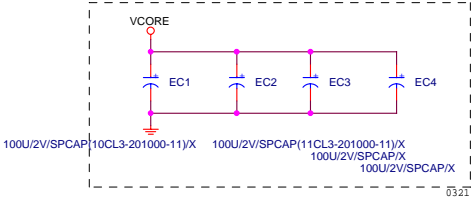
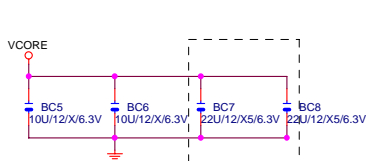
Component value change history

2005/06/30

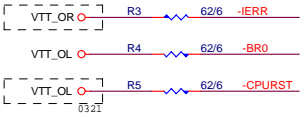
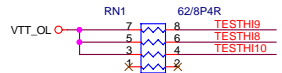
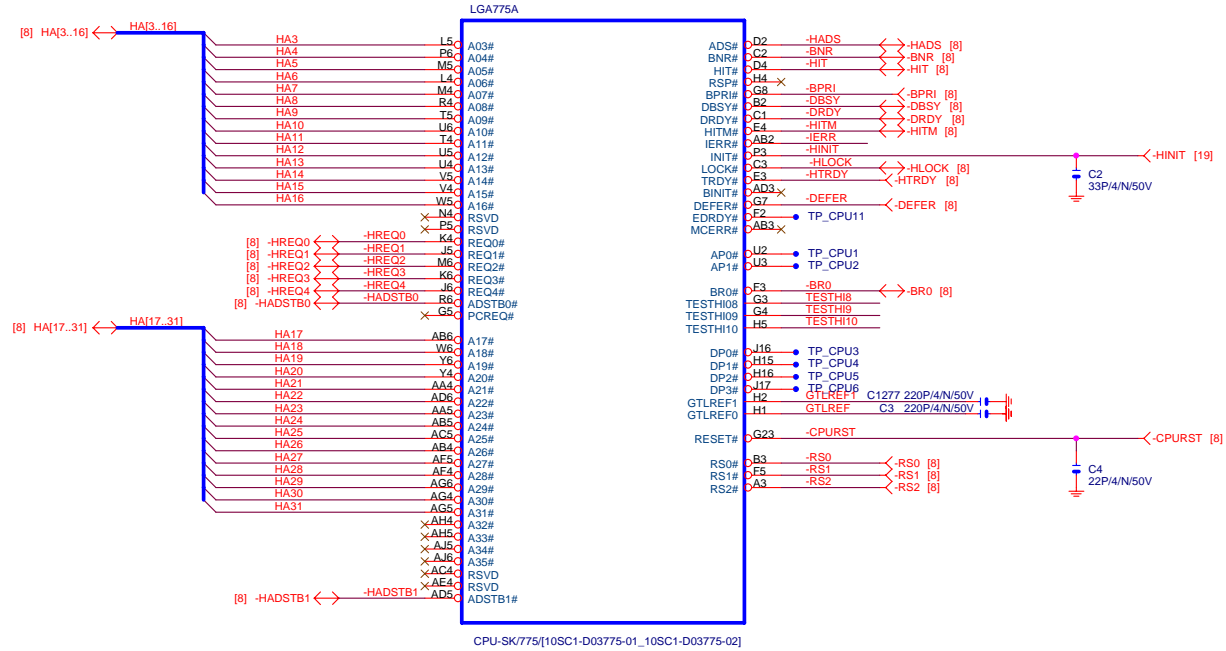
Data	Reason	Change Item
2005/02/01	PAGE 29:ACER modify USB_1394 for rear window	
	PAGE 24:add 5VDUAL LOCKER	
2005/03/21	PCB REV 0.2 MODIFY(ACER)	
	PAGE 31:LAYOUT CHANGED	1.VCORE PWM(NORTH:3 PHASE,EAST:1 PHASE)
		ADD MOSHSINK1,2
	PAGE 31:LAYOUT CHANGED	2.CPU_FAN,SYS_FAN USE OP+MOSFET
	PAGE 29:LAYOUT CHANGED	3.R USB/USB 1394 PORT 6/7 CO-LAYOUT on REAR SIDE
		4.Front 1394 connector only 1 keep
	PAGE 19:ACER ADD TPM FUNCTION	5.ADD TPM CONNECTOR
	PAGE 28:ACER MODIFY SPDIF CONNECTOR	6.SPDIF PH/1*4K2
	PAGE 26:ACER MODIFY CASEOPEN-->RTCVDD->3VDUAL	7.CACEOPEN- PULL-UP from RTCVDD-->3VDUAL
2005/03/29	9M8I945AEF-AE-02 E-BOM(ACER B2-C)	1.PAGE 4:ADD CPU RETAINTION/[12KRC-040005-21] & IO_SHIELD/[12AIO-AE0007-01]
	NB/SB CHIPSET MODIFY:945G/A2+ICH7/A1	2.NB/SB CHIPSET MODIFY:945G/A2/ACER/[10HB1-033000-23R]+ICH7/A1/ACER/[10HB1-032801-N3R]
	PAGE 11:LAYOUT BOM CHANGED(INTEL REQUEST)	3.SDVO CLDATA & SDVO_CLCLK add 220Ω(R1630,R1631)
	PAGE 24:LAYOUT BOM CHANGED-->FAN DESIGN	4.CPU FAN and SYS_FAN design OP+MOSFET circuit
	PAGE 28:LAYOUT BOM CHANGED-->F_AUDIO	5.ADD F AUDIO ACER CABLE AUDIO PRECISION(CEC6,CEC7-->100UF)
	PAGE 34:LAYOUT BOM CHANGED-->VCC1_5	6.EC37,EC38,EC64-->1500U/D/6.3V/AC/[11CL1-AD1501-02 11CL1-AD1501-03 11CL1-AD1501-04]
	PAGE 11:LAYOUT BOM CHANGED(INTEL REQUEST)-->SATAII PLL POWER ADD (LC) DECOUPLING	7.L22-->10UH/0806/S/[10LI2-12100A-02 10LI2-12100A-03];BC194-->10U/8/X/6.3V
	PAGE 34:BOM CHANGED-->PWRLD	8.USE GPO26(PWRLD S1/S3 BLINKING)
2005/04/15	PCB REV 0.3 MODIFY(ACER)	1.EMI ISSUE FOR COM PORT (VIN)
2005/04/28	BOM:9M8I945AEF-AE-10A PVT	1.更改PCB VER:1.0 2.CBC30,CBC31,CBC34,CBC35,CBC38,CBC39:1U-->2.2U 3.REMOVE U11<BIOS SK> 4.REMOVE PCIE_12V
2005/05/04	BOM:9M8I945AEF-AE-10A ECN	1.BZ加替料
2005/05/24	BOM:9M8I945AEF-AE-11A DVT	1.SB change ICH7R
2005/06/13	BOM:9M8I945AEF-AE-11B-DVT	1.C1288 ADD 10K/4 2.1394加替料
2005/06/13	BOM:9M8I945AEF-AE-11B PVT	1.轉P-BOM

Circuit or PCB layout change
for next version

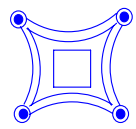
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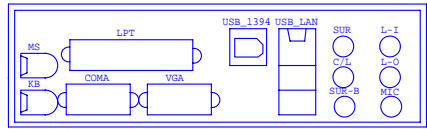
LGA775 FOOT PRINT FOR ACER:LGA775-ACER

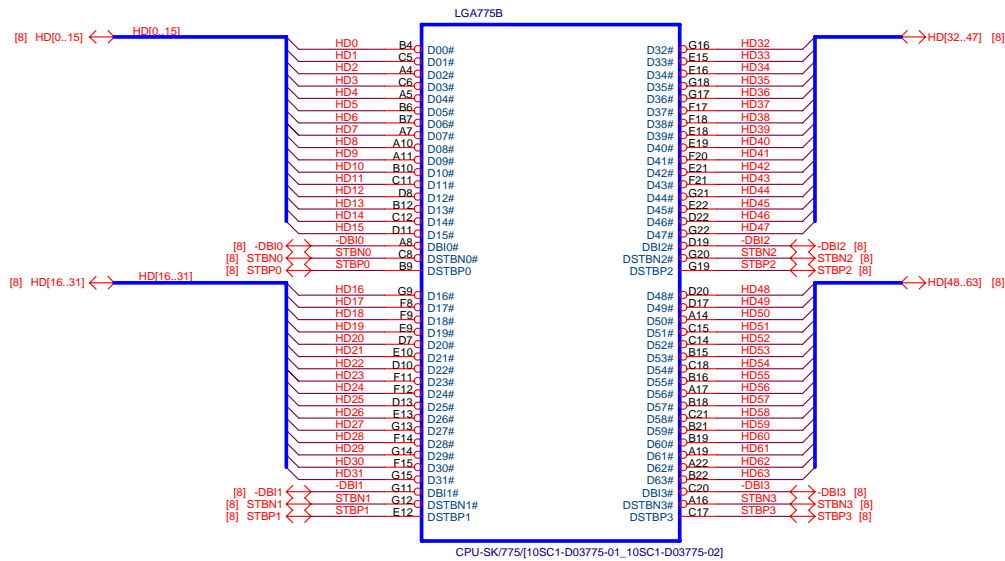


LGA775-CR
CPU_RETAINION[12KRC-040005-21]

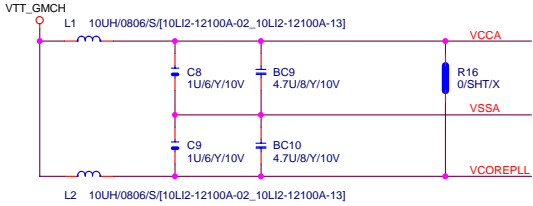


IO_SHIELD
IO_SHIELD[12AIO-AE0007-01]



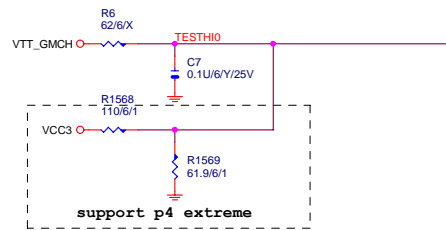
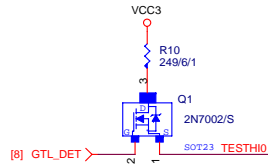
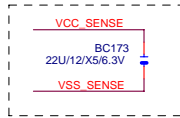
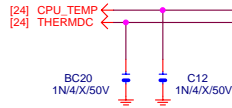
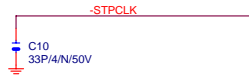


Note:
VCCA & VCOREPLL
define doesn't same as
old P4 design kit

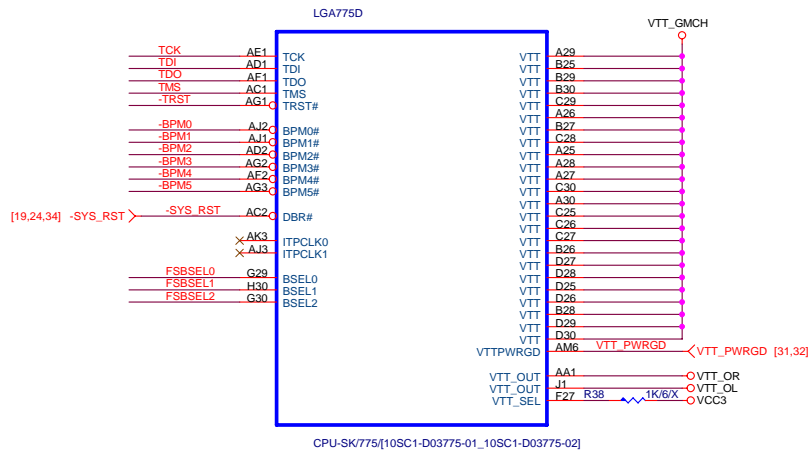
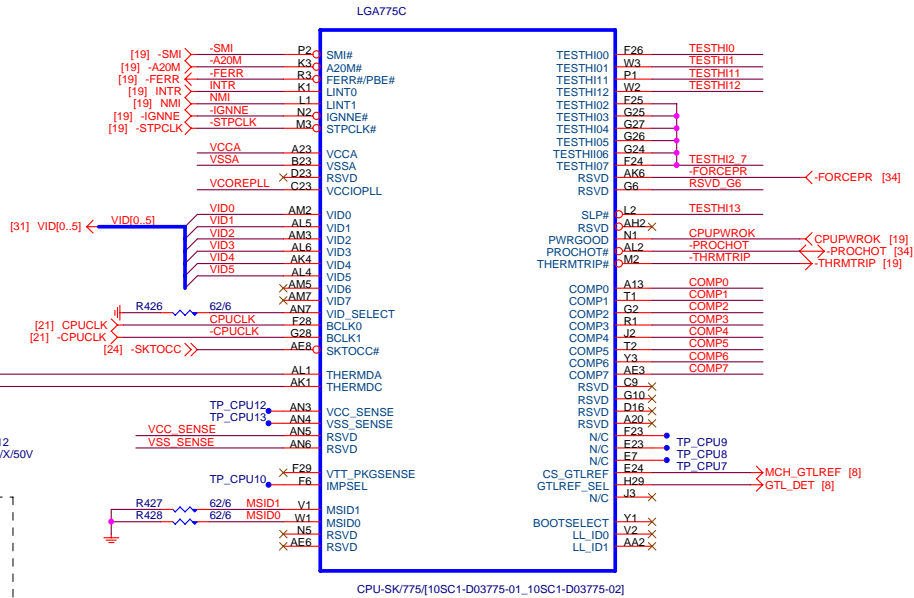


Trace width doesn't
less than 12 Mil

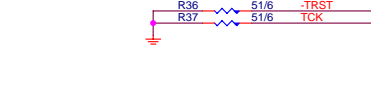
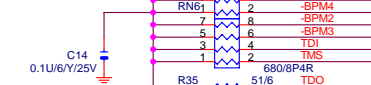
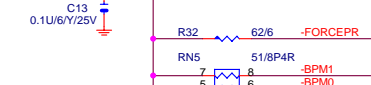
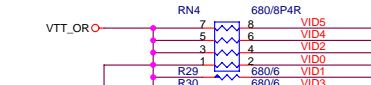
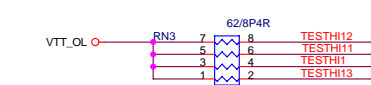
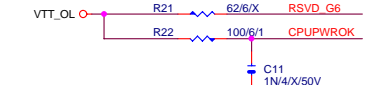
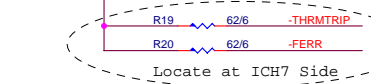
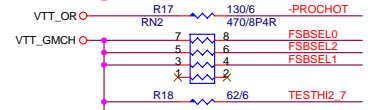
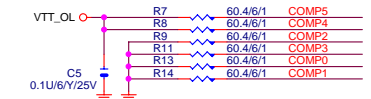
As close as possible to
CPU socket



support p4 extreme

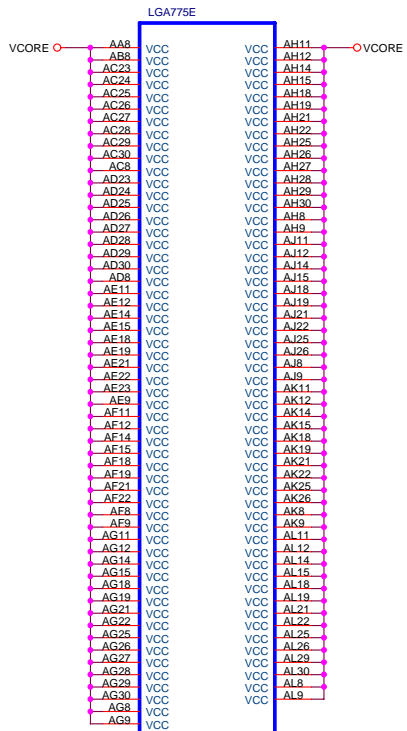


Place outside of CPU socket

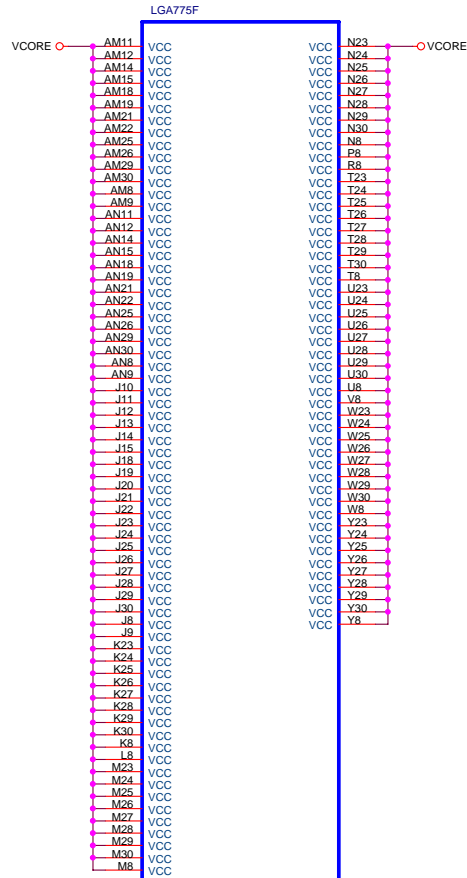


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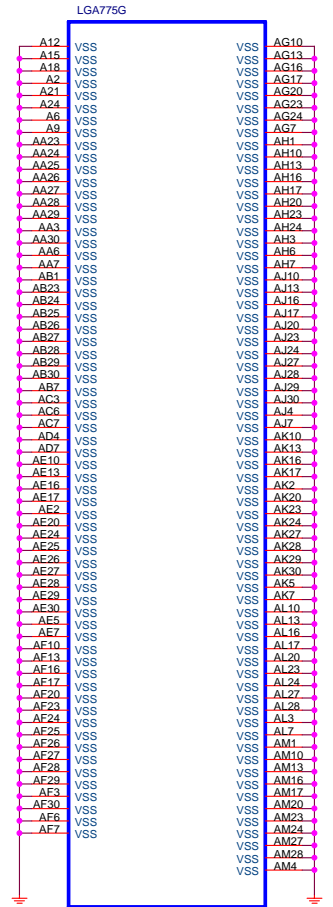
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Size			81945AEF-AE	
Date			Thursday, July 07, 2005	
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Rev			1.1	



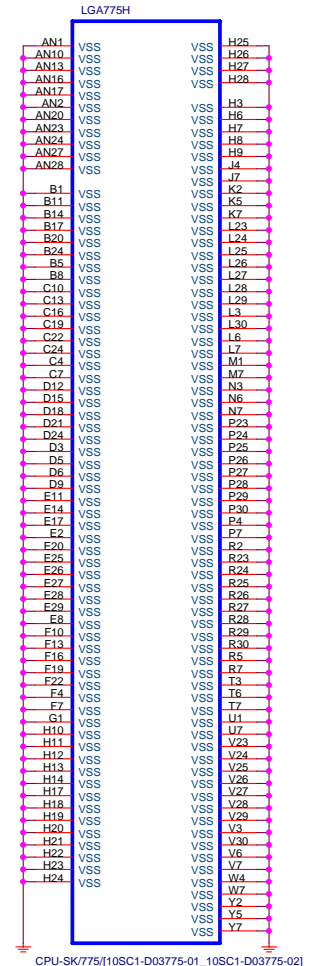
CPU-SK/775/[10SC1-D03775-01_10SC1-D03775-02]



CPU-SK/775/[10SC1-D03775-01_10SC1-D03775-02]



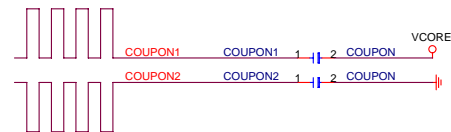
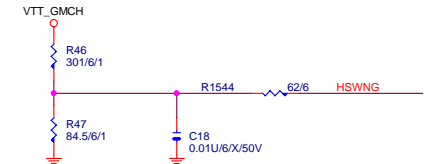
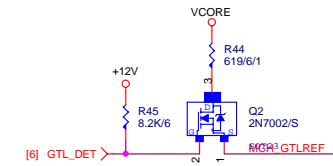
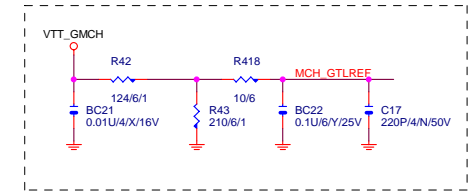
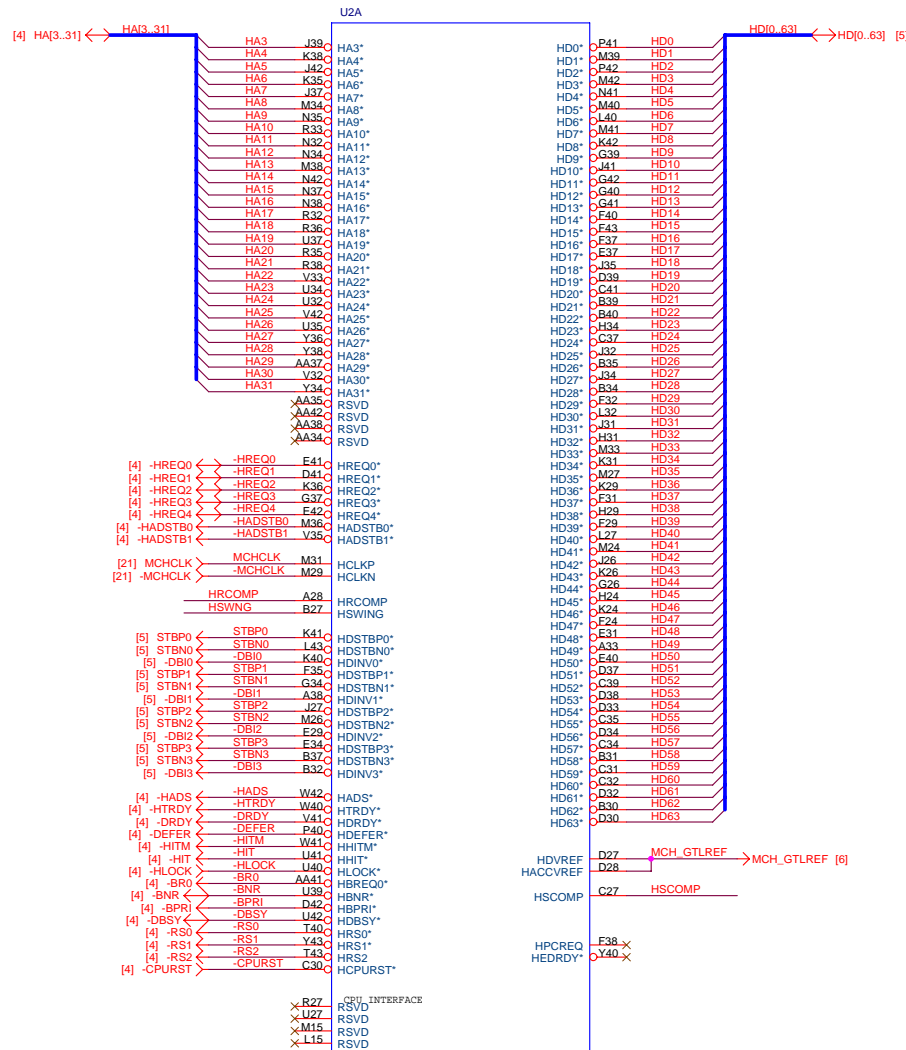
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CPU-SK/775/[10SC1-D03775-01_10SC1-D03775-02]

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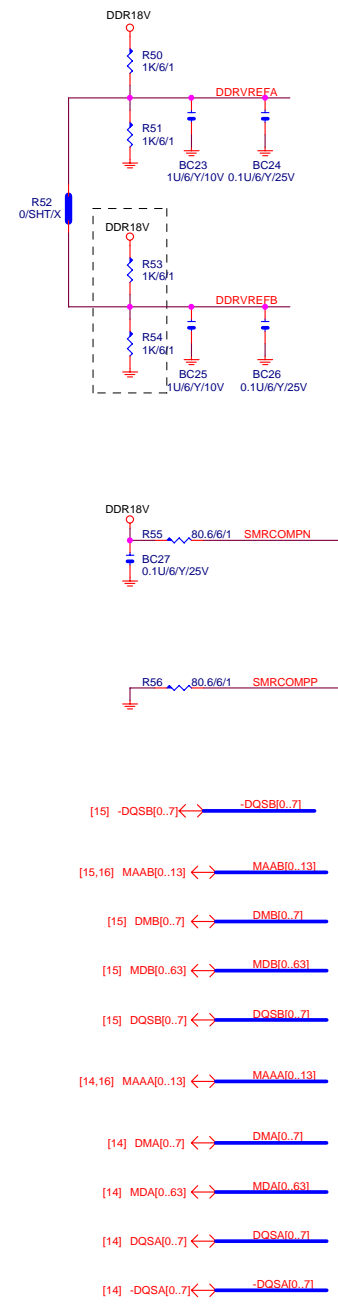
MODT_A[0..3] ↔ MODT_A[0..3] [14,16]



U2G

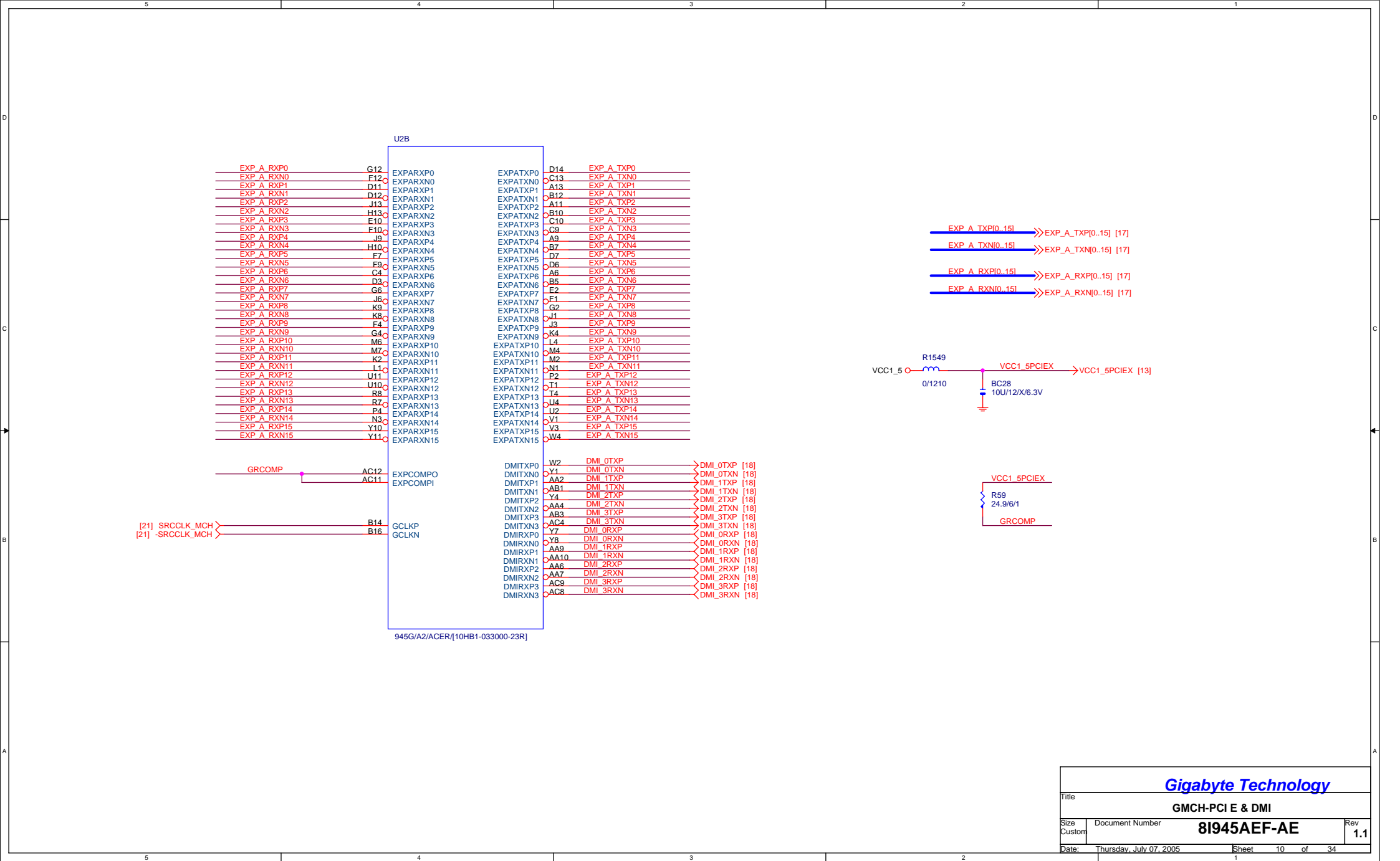


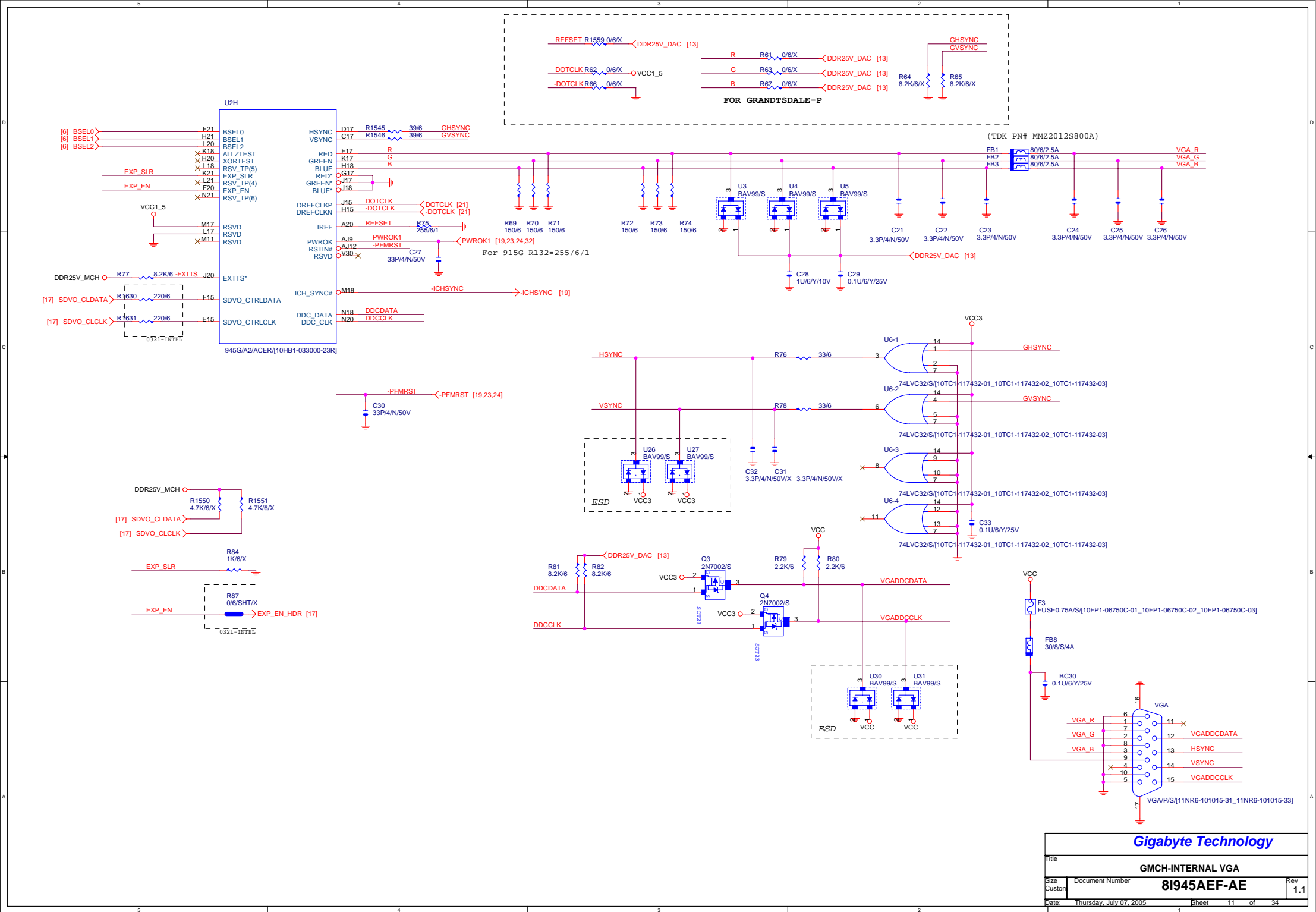
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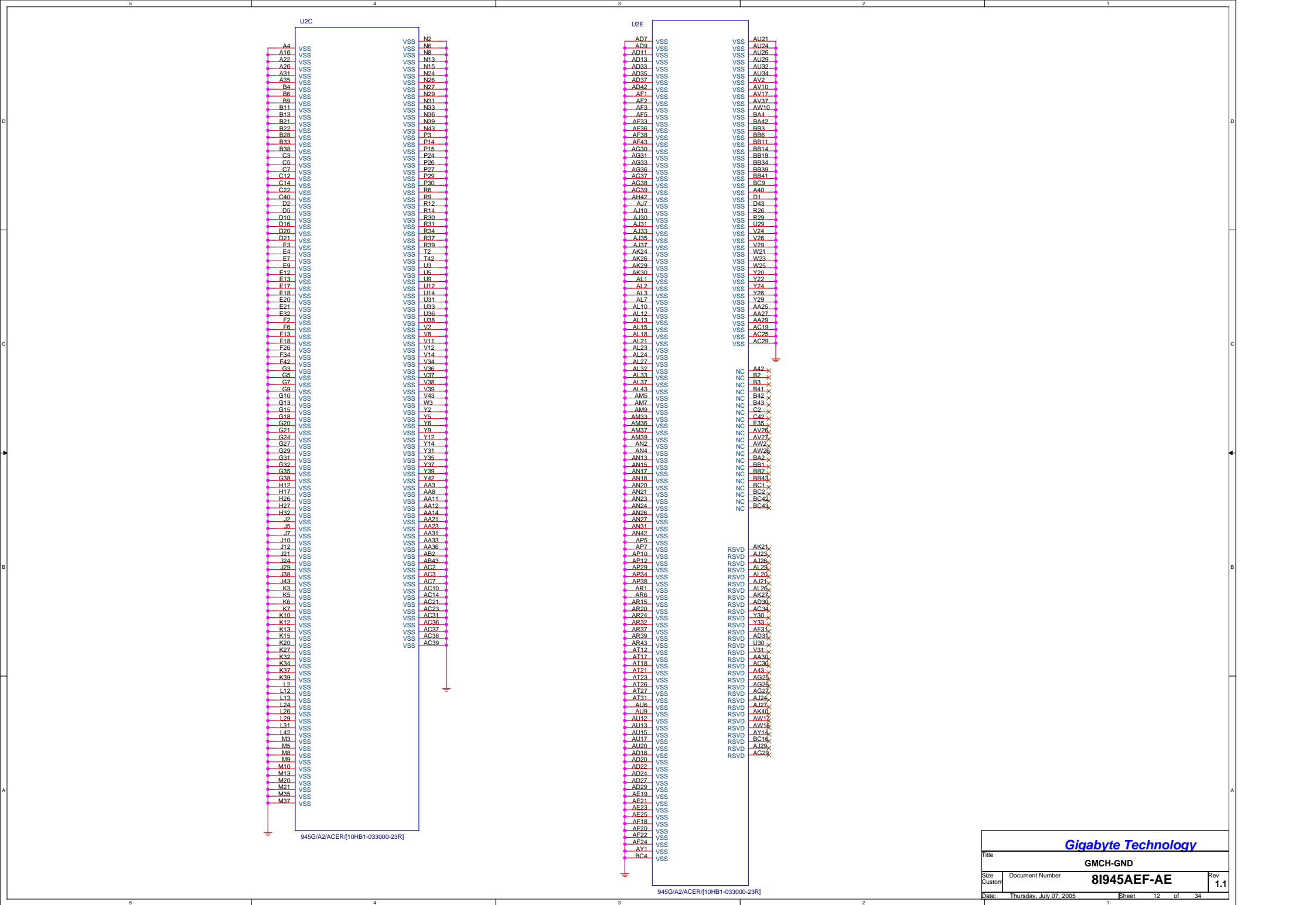


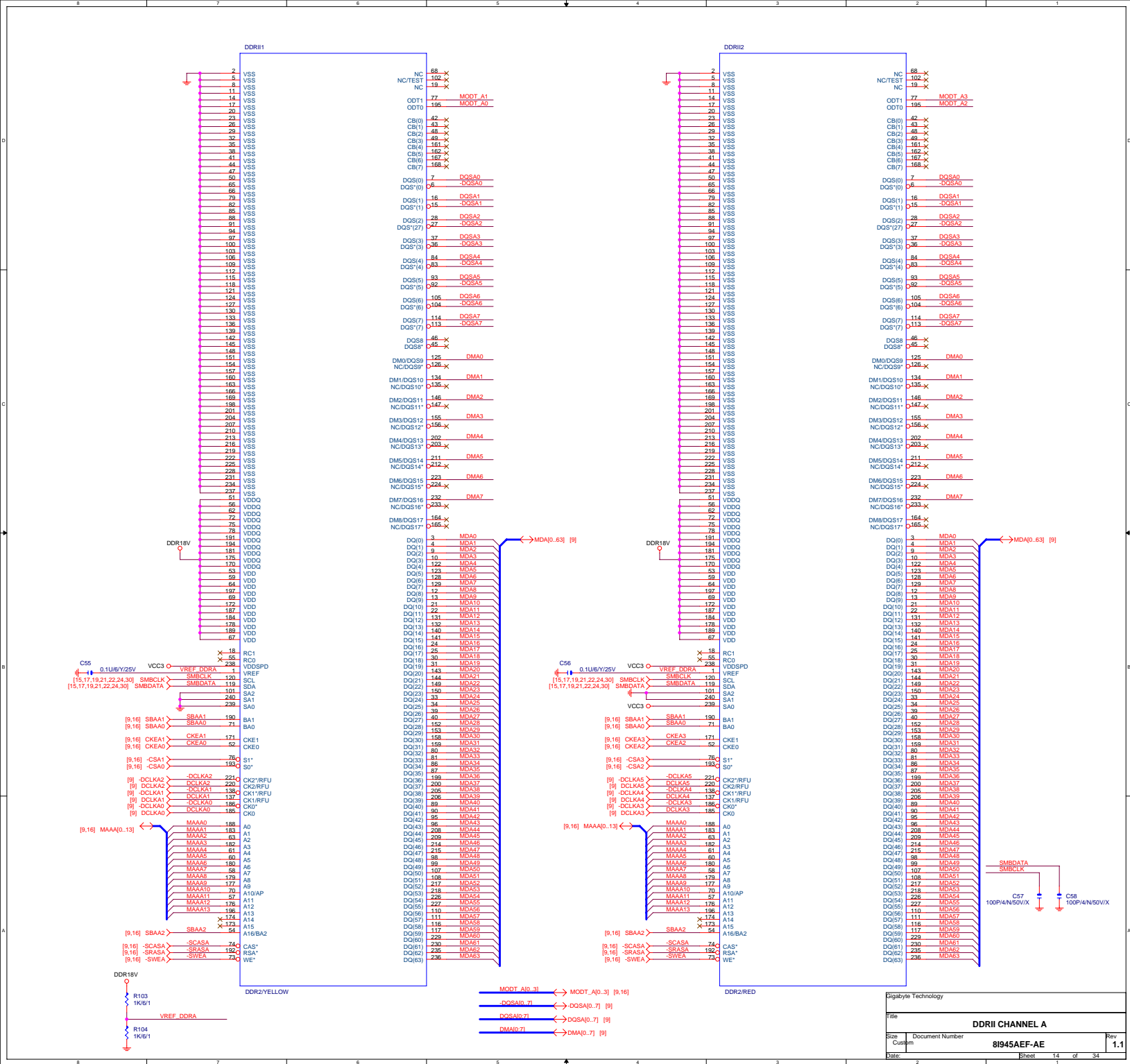
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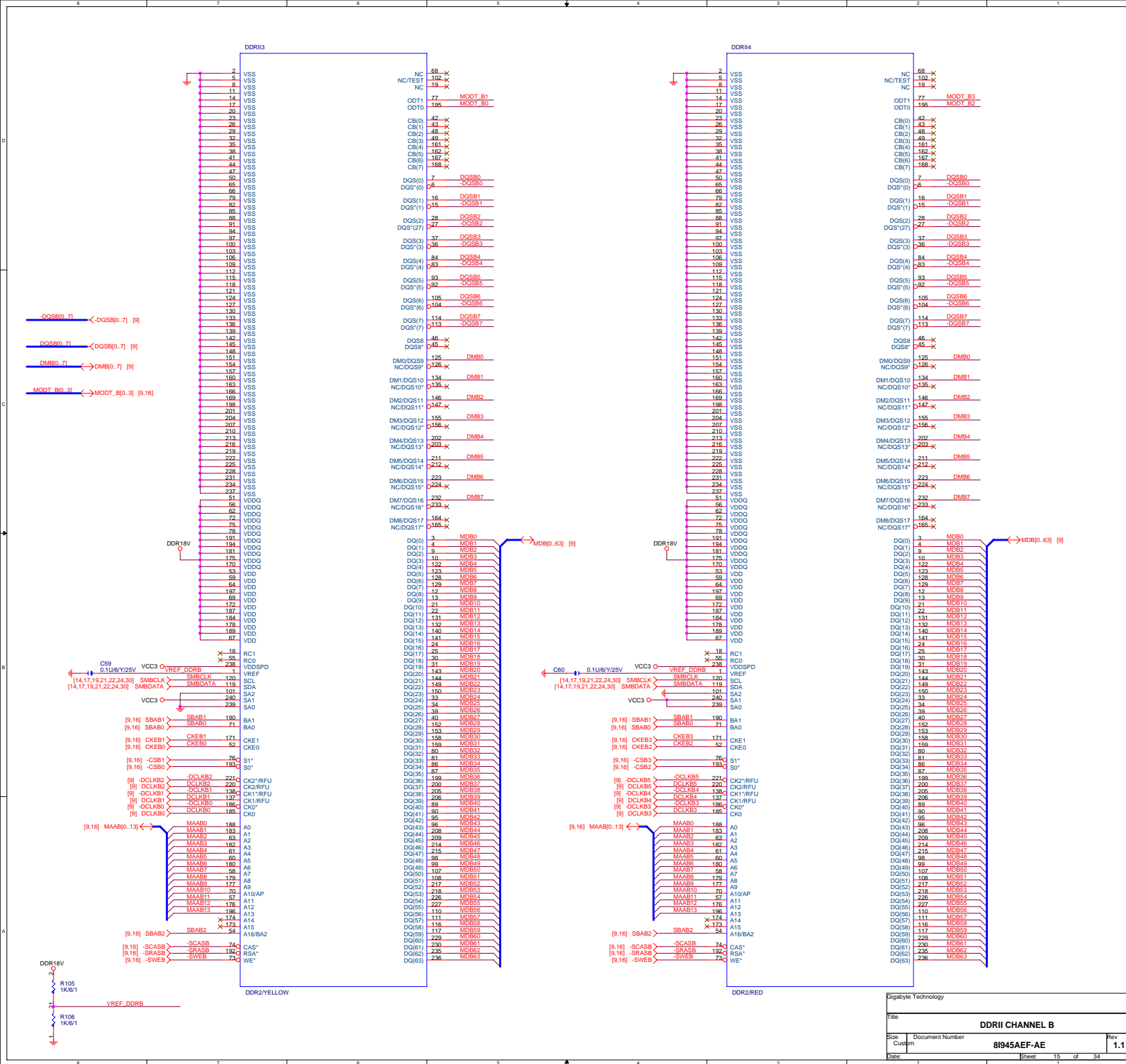
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Custom			Rev 1.1
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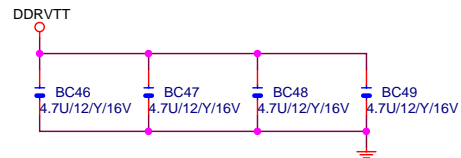






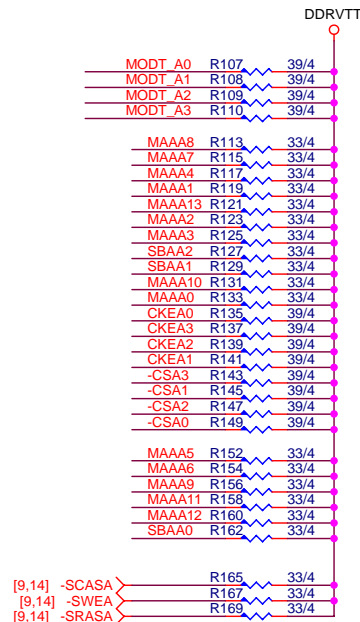
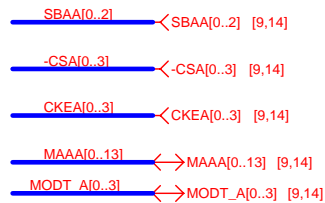
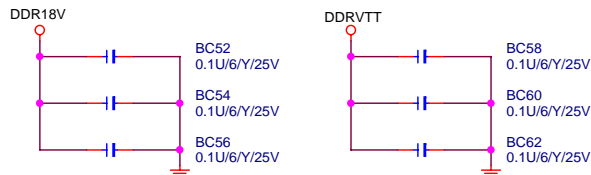
DDR TERMINATION CHANNEL A

DDRVTT Decouple



DDR18V Decouple

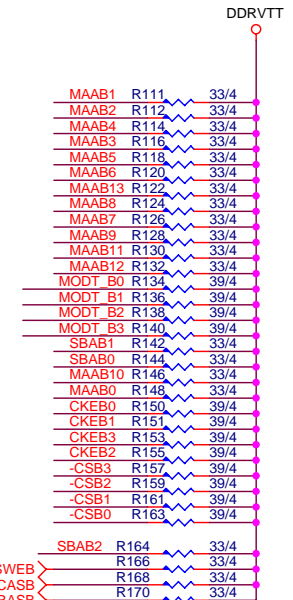
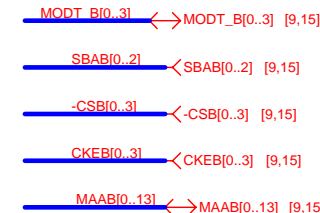
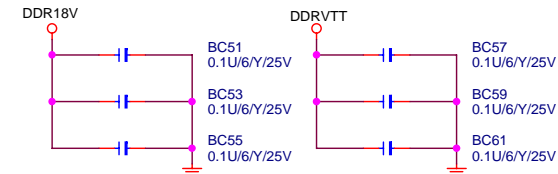
DDRVTT Decouple



DDR TERMINATION CHANNEL B

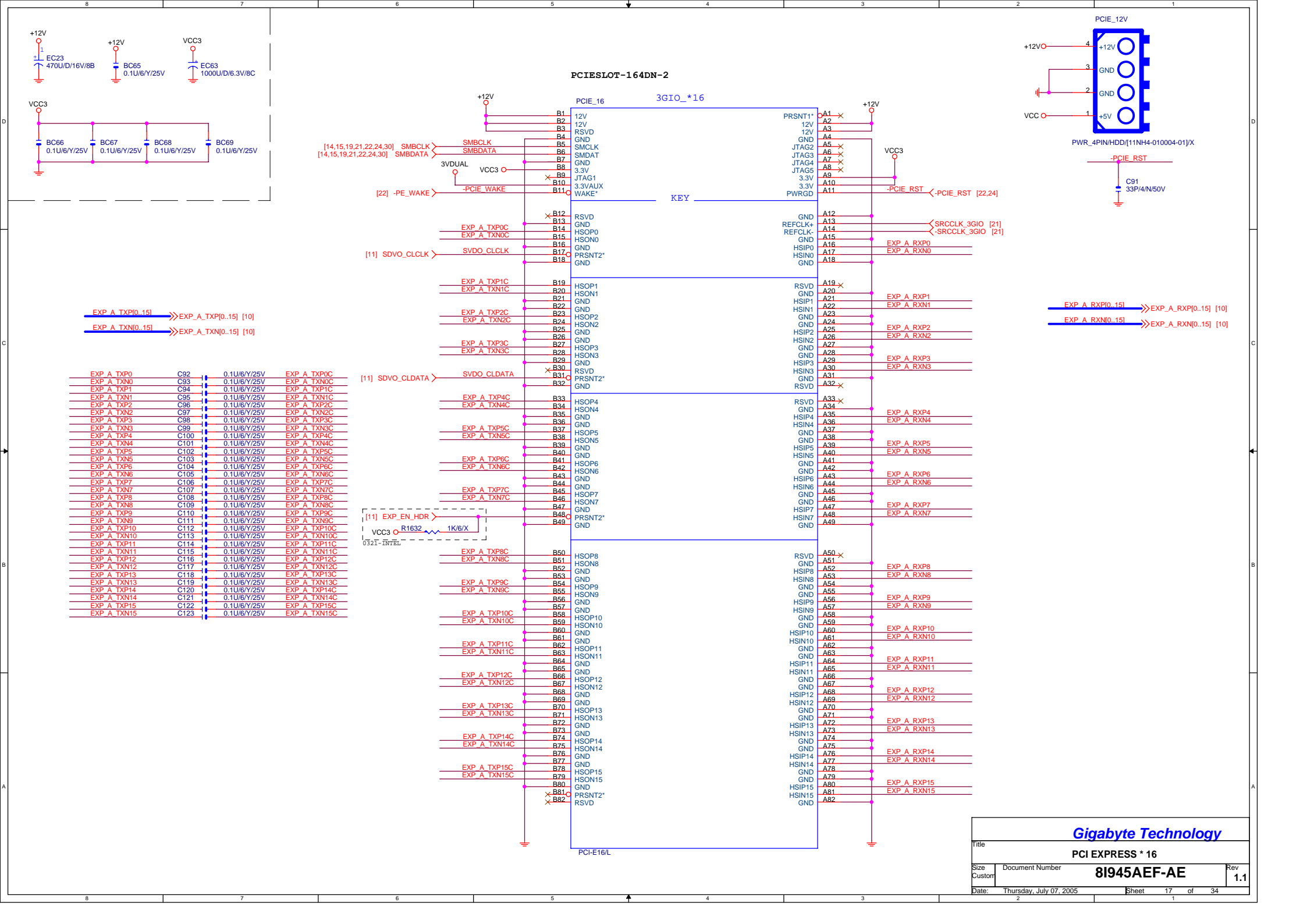
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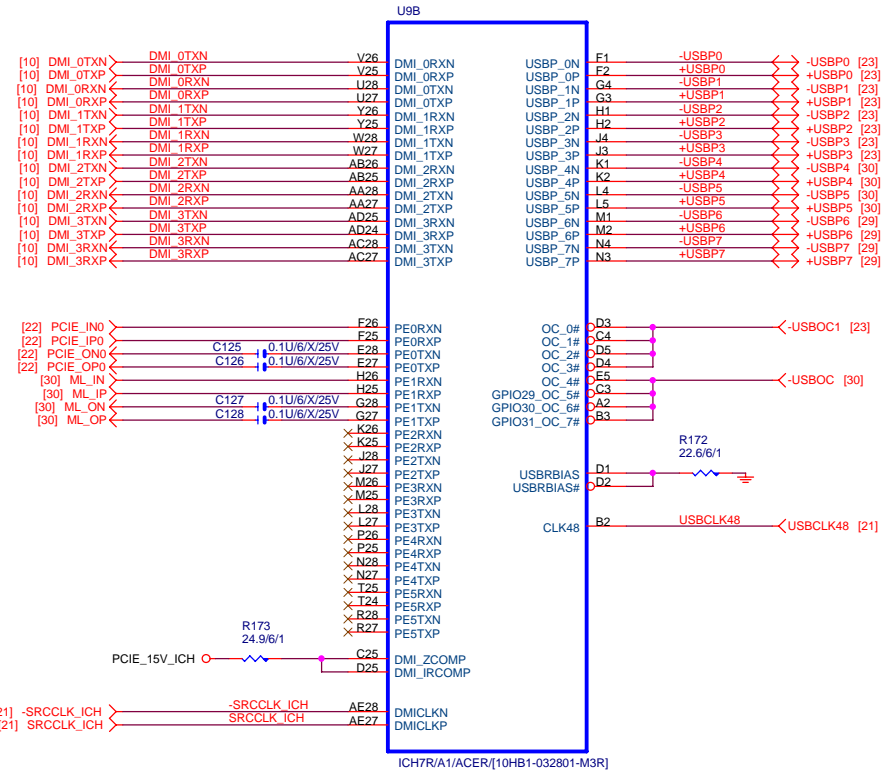
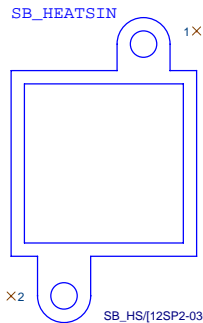
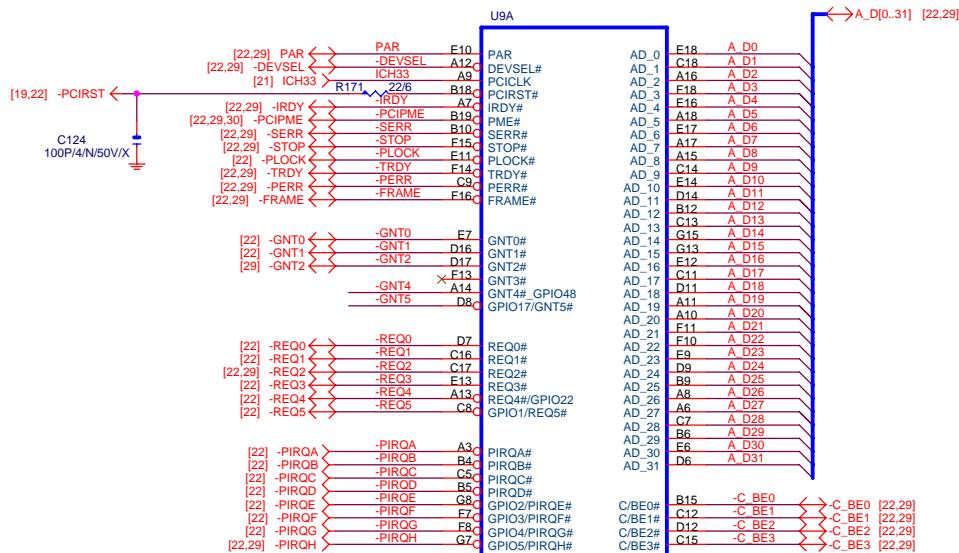
DDRVTT Decouple

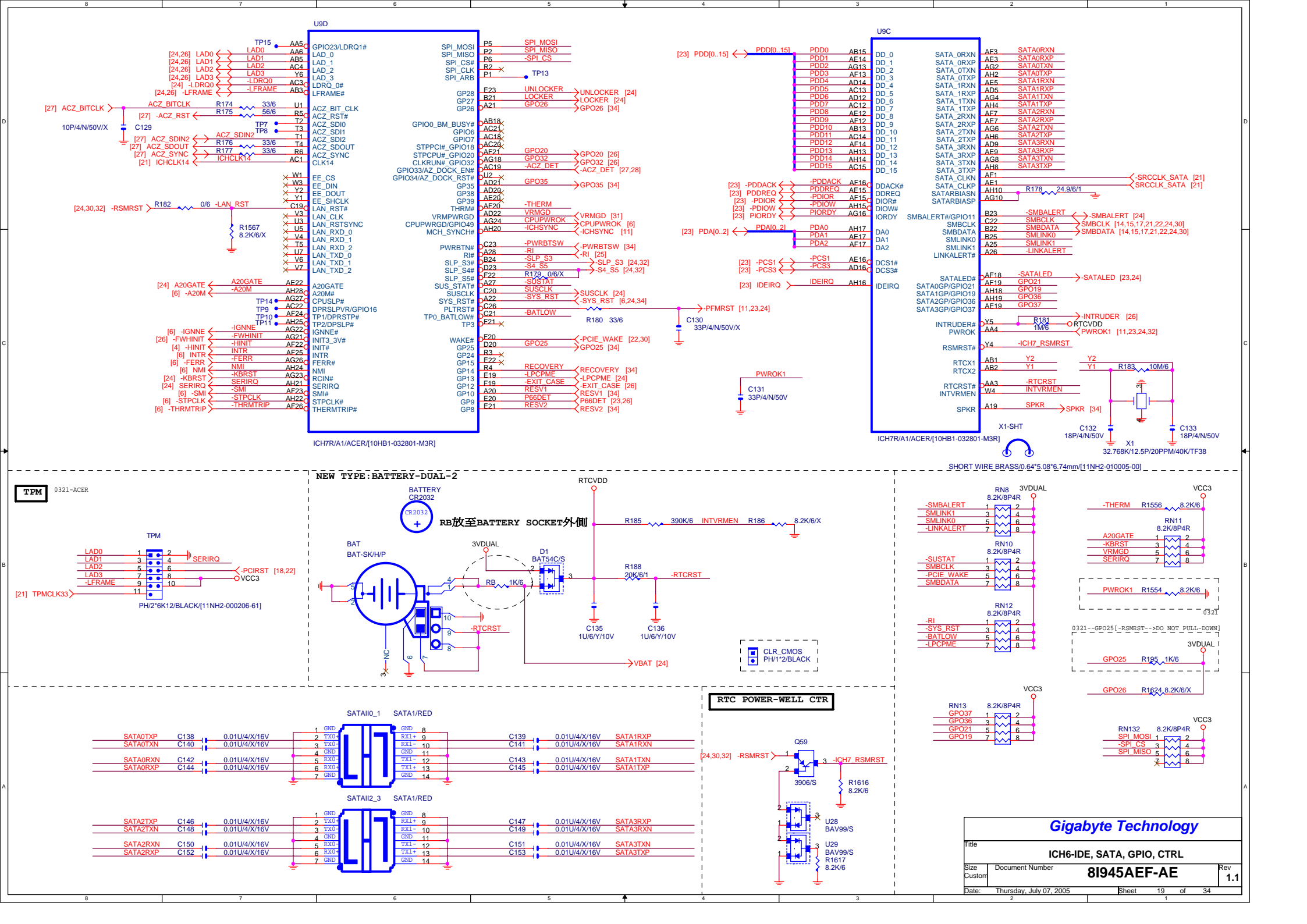


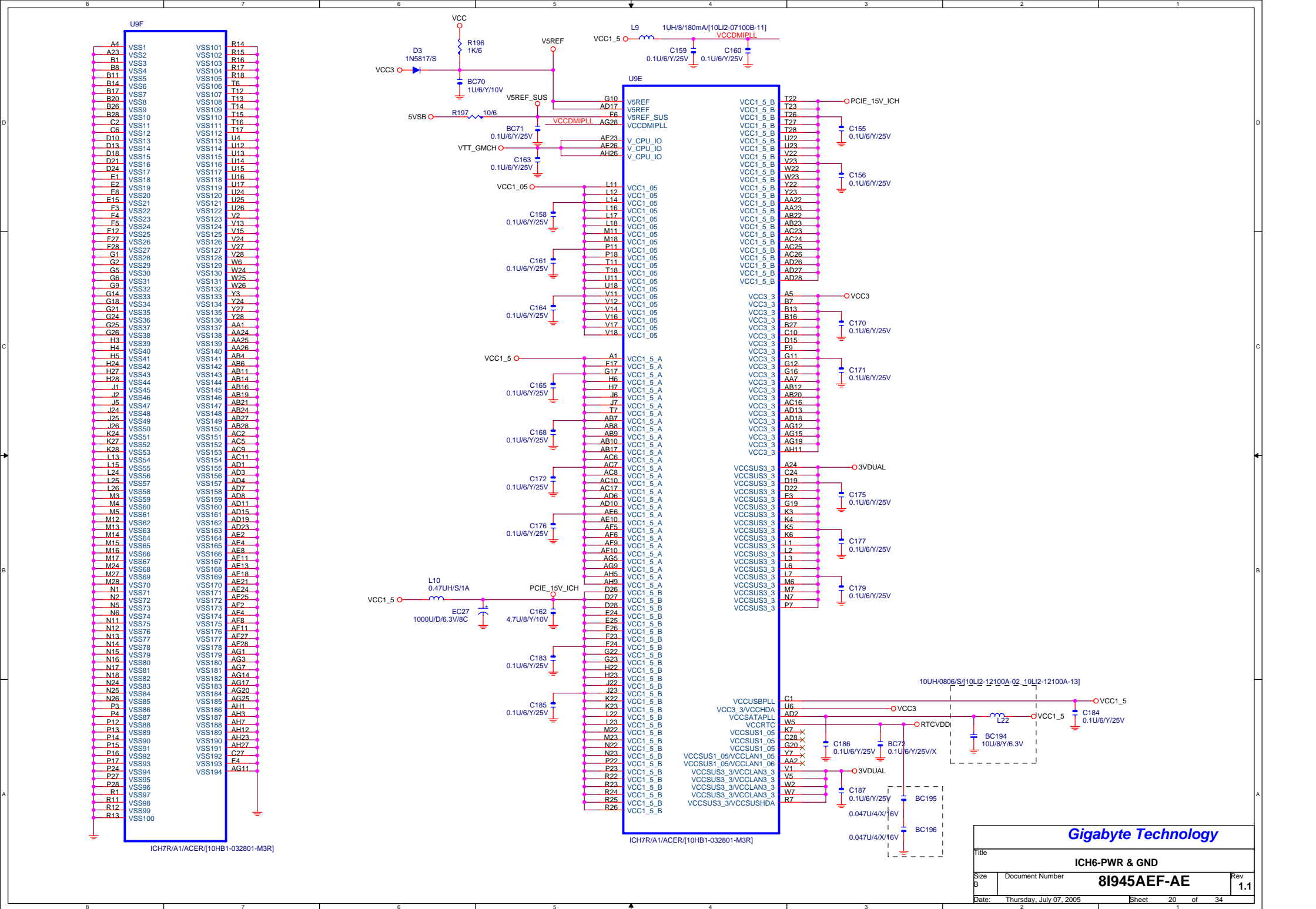
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Title			
DDRII TERMINATOR			
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Custom	8I945AEF-AE	1.1	
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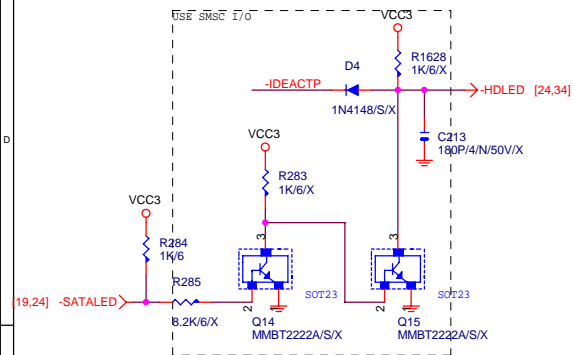




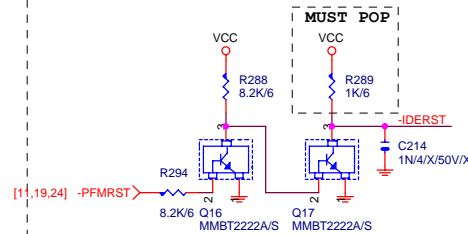


IDE/SATA LED

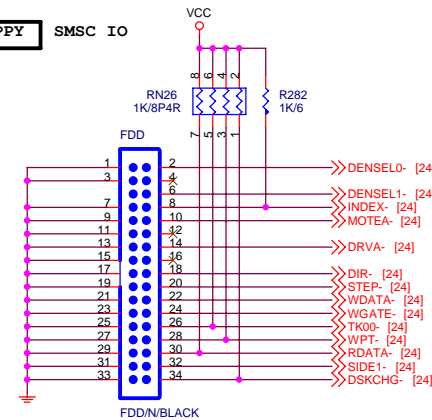
0321



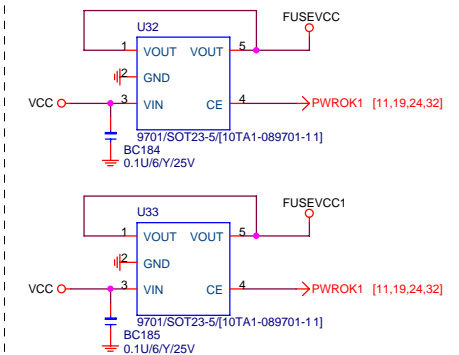
IDE RESET



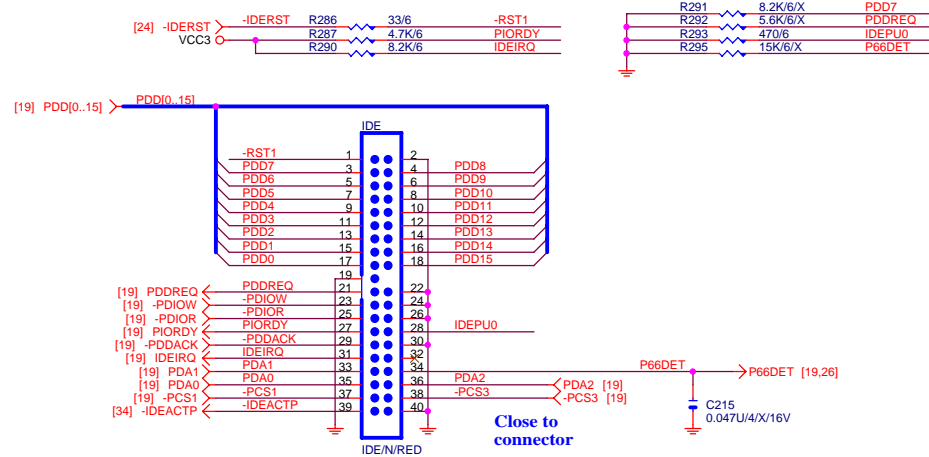
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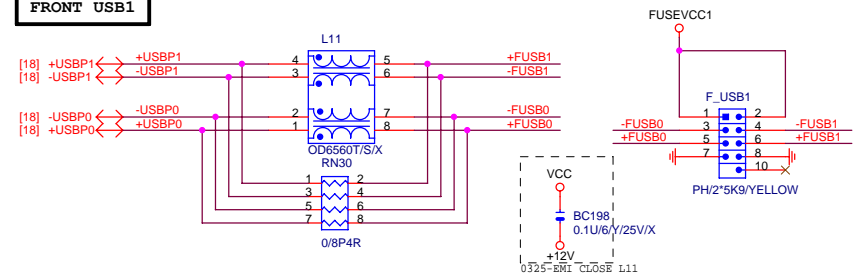
USB DROP



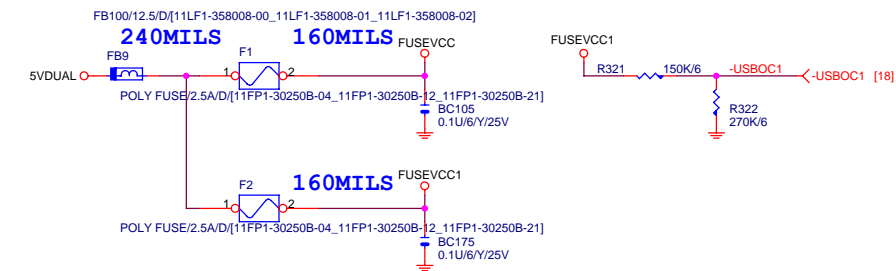
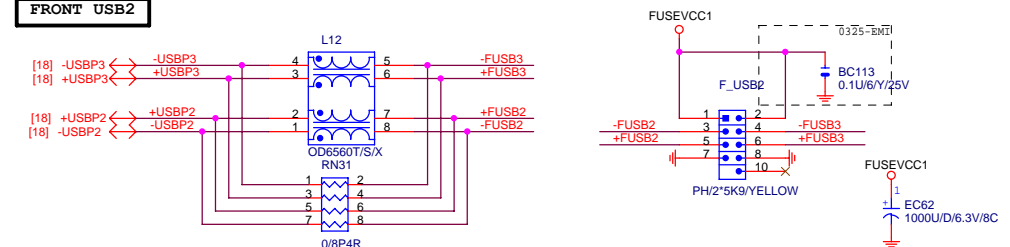
IDE



FRONT USB1



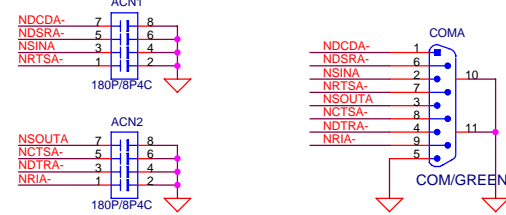
FRONT USB2



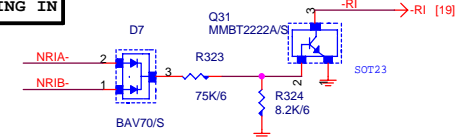
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IDE			
Size	Document Number	Rev	
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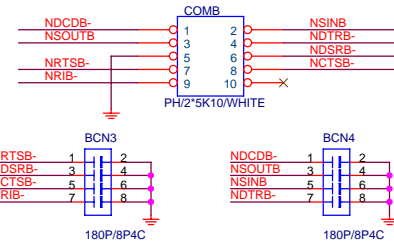
COMA



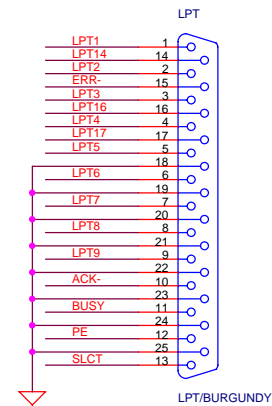
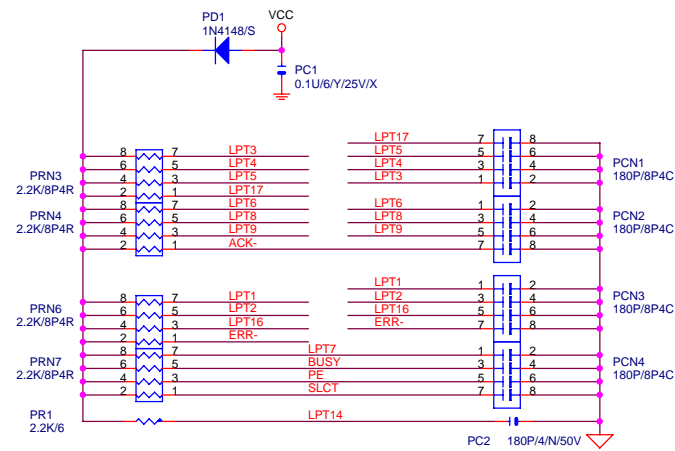
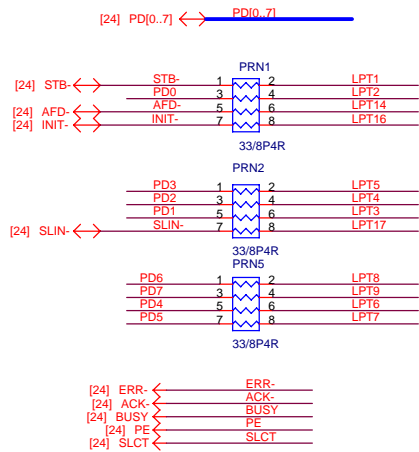
RING IN



COMB

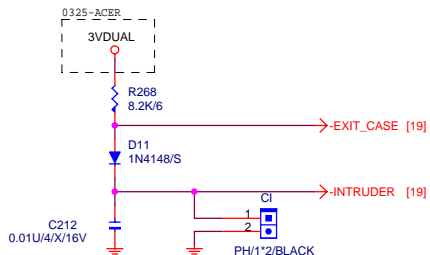


LPT PORT

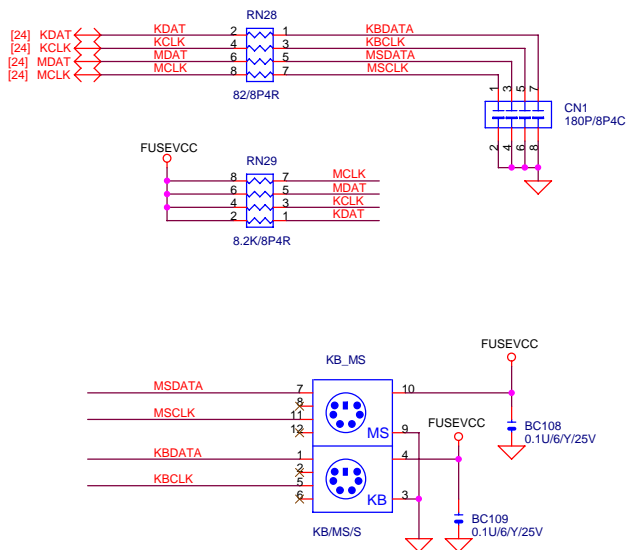


CASE OPEN

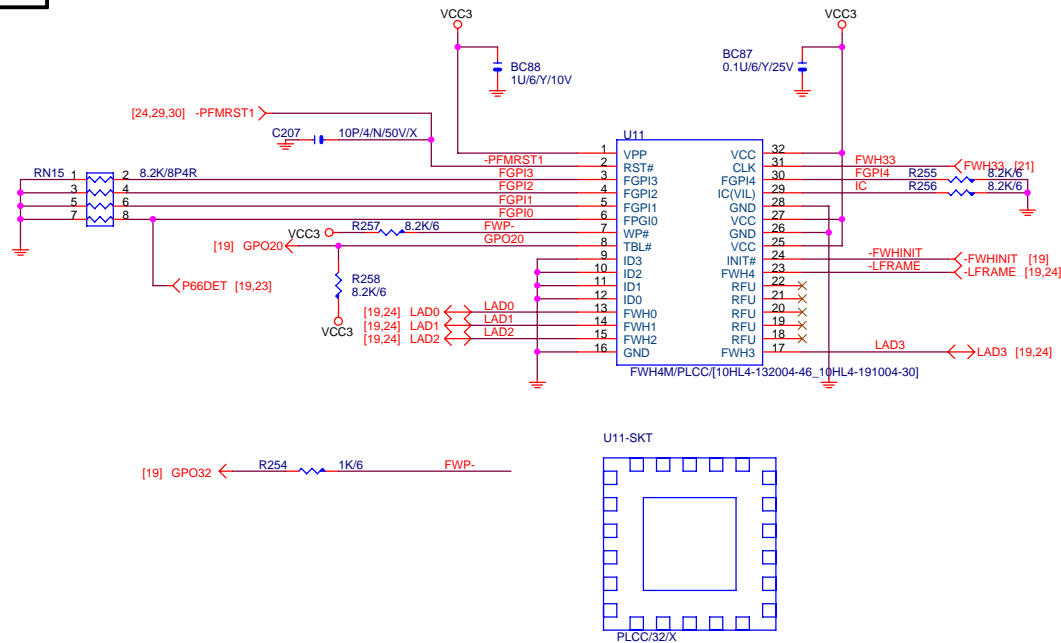
CASE_OPEN=LOW;
CASE_CLOSE=HI;



KB/MS



FWM BIOS



0419-->EMI

VCC3

CR7

CEC1
100U/D/10V/57/X

[28] CEN ←

[28] LFE ←

[28] S_SURR_L ←

[28] S_SURR_R ←

[28] SPDIF ←

[19,28] -ACZ_DET >

MUTE_POP

[19] ACZ_SDOUT <

[19] ACZ_BITCLK <

CR14 22/6

[19] ACZ_SDIN2 >

CR15 22/6

[19] ACZ_SYNC >

[19] -ACZ_RST >

CBC4
22P/4N/50V/X

CBC5
0.1U/6V/25V

CBC6
0.1U/6V/25V

[28] FRONT_JD >

CR19 51K/6/1

[28] LINE1_JD >

CR20 10K/6/1

[28] MIC1_JD >

CR21 20K/6/1

[28] SURR_JD >

CR22 39.2K/6/1

[28] LINE2_L <

[28] LINE2_R <

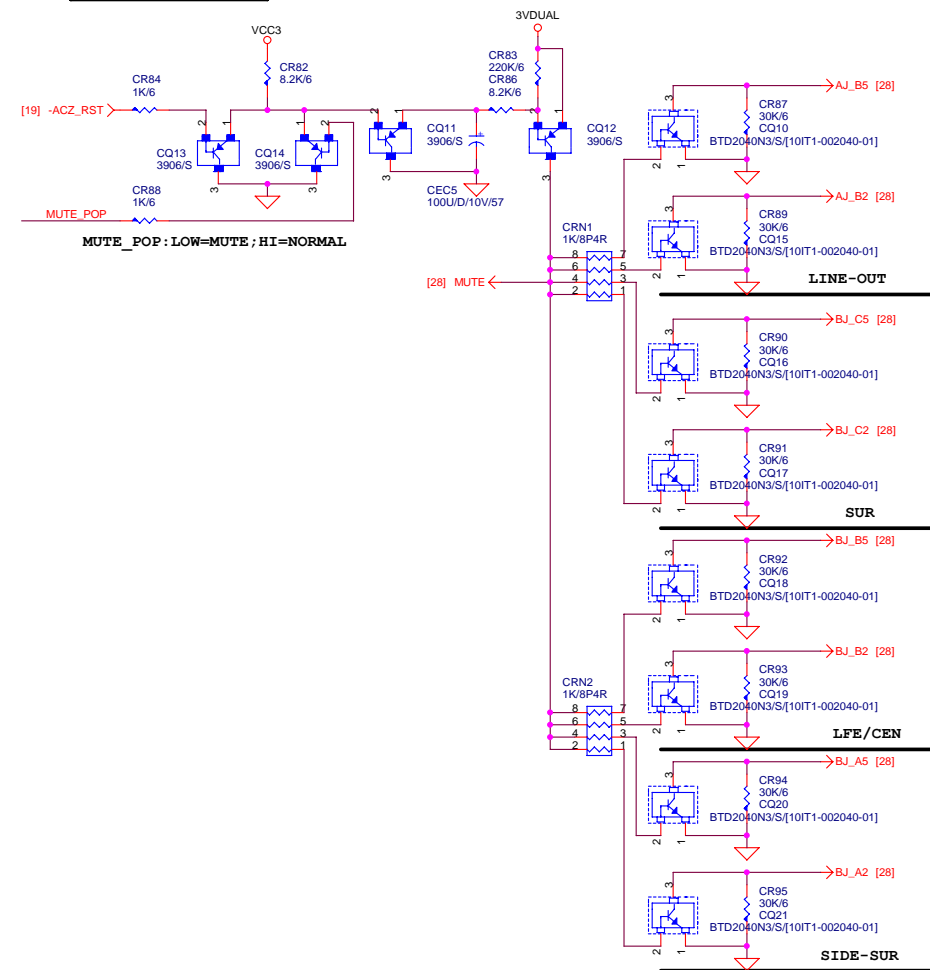
[28] MIC2_L <

[28] MIC2_R <

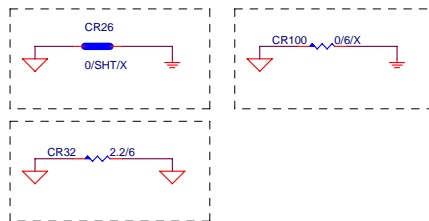
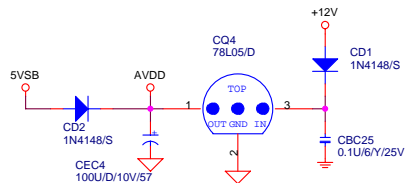
Can Support

CR101 0/6/X

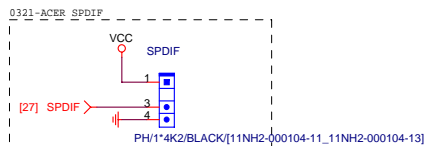
0325--EMI CLOSE CBC



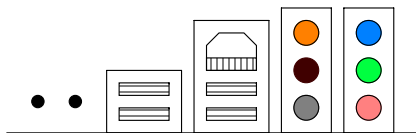
CD IN



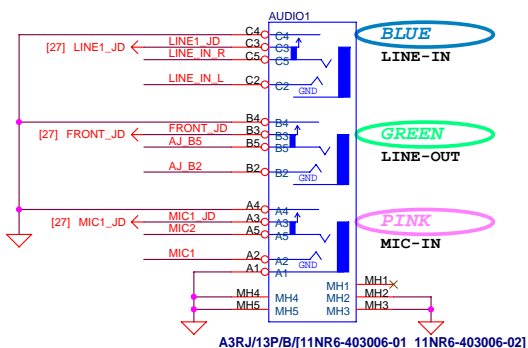
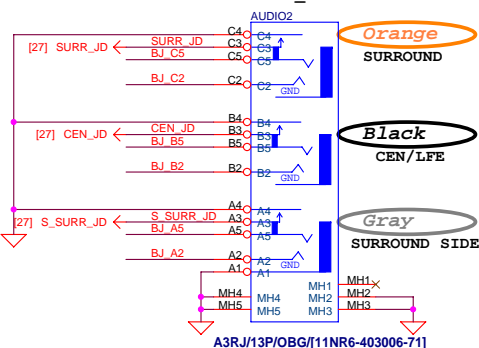
SPDIF



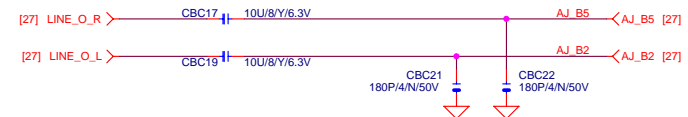
AZALIA JACK	ACER REQUEST CHANGE LOCTION
-------------	-----------------------------



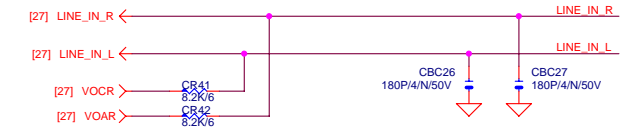
0321
NEW TYPE:IBM AUDIO-13P-1



LINE-OUT



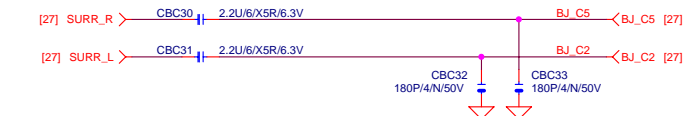
LINE-IN



MIC-IN



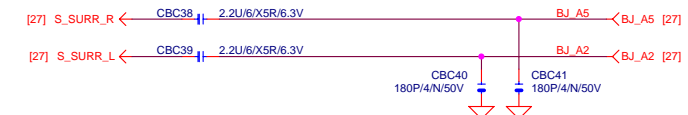
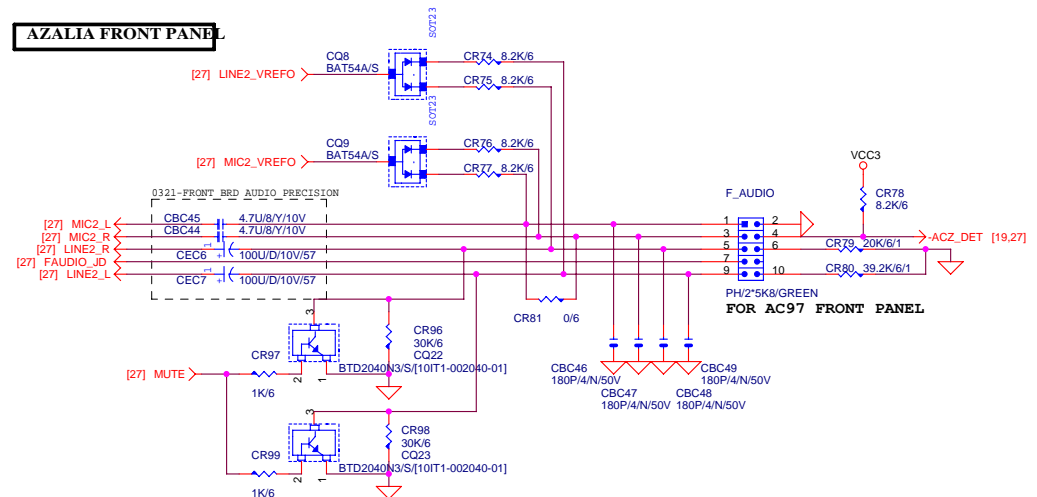
SURROUND

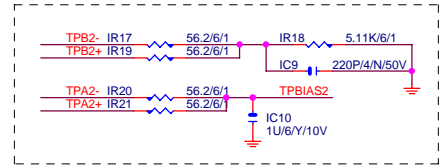
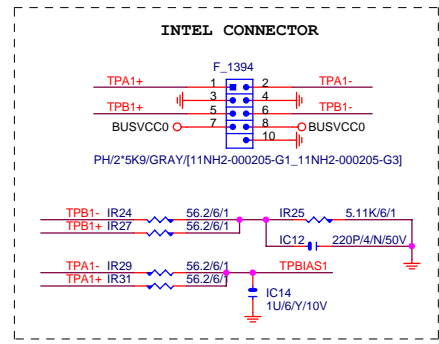
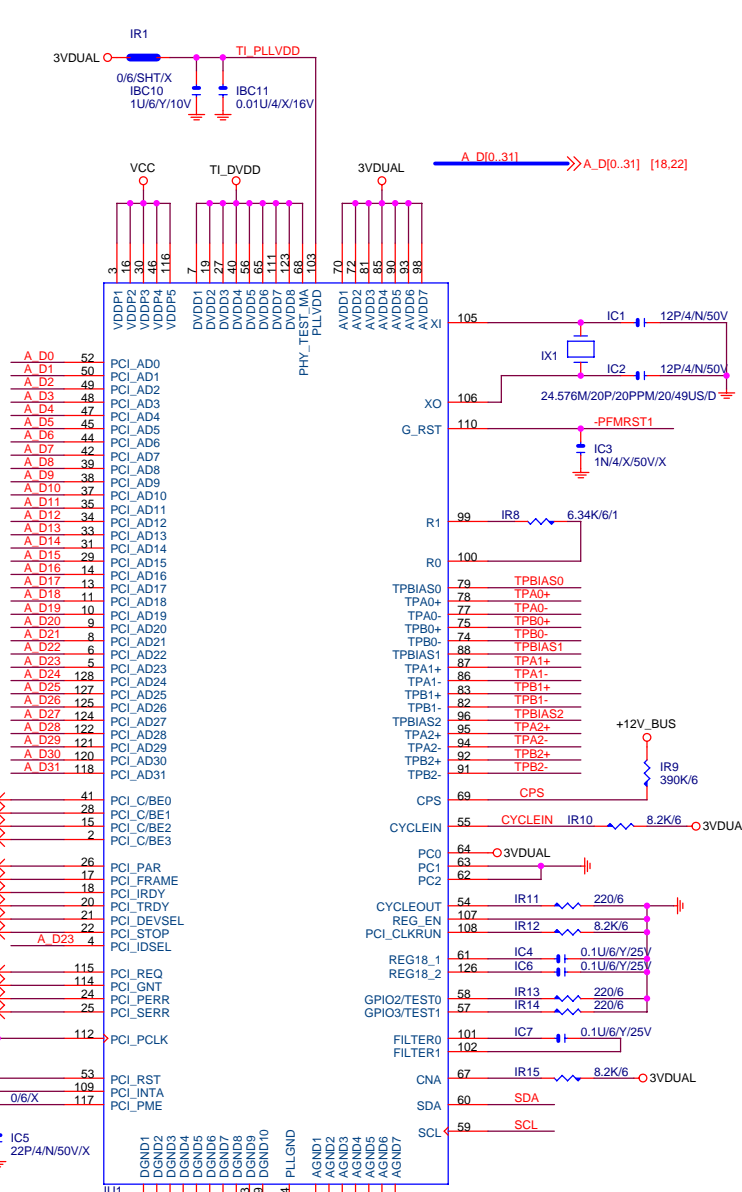
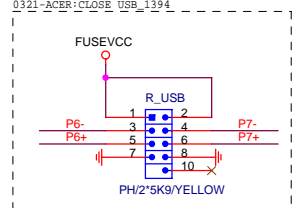
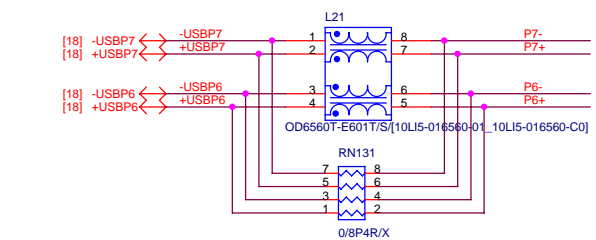
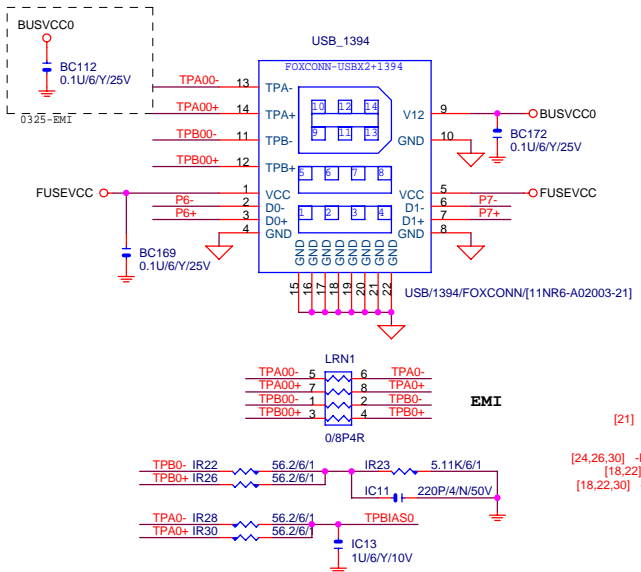
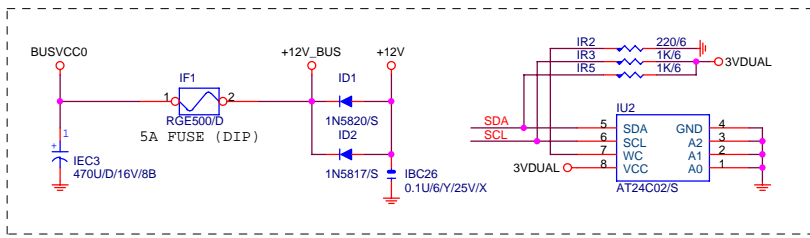
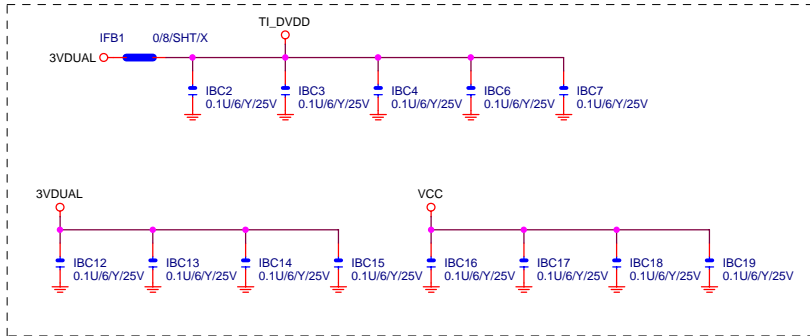


CEN/LFE

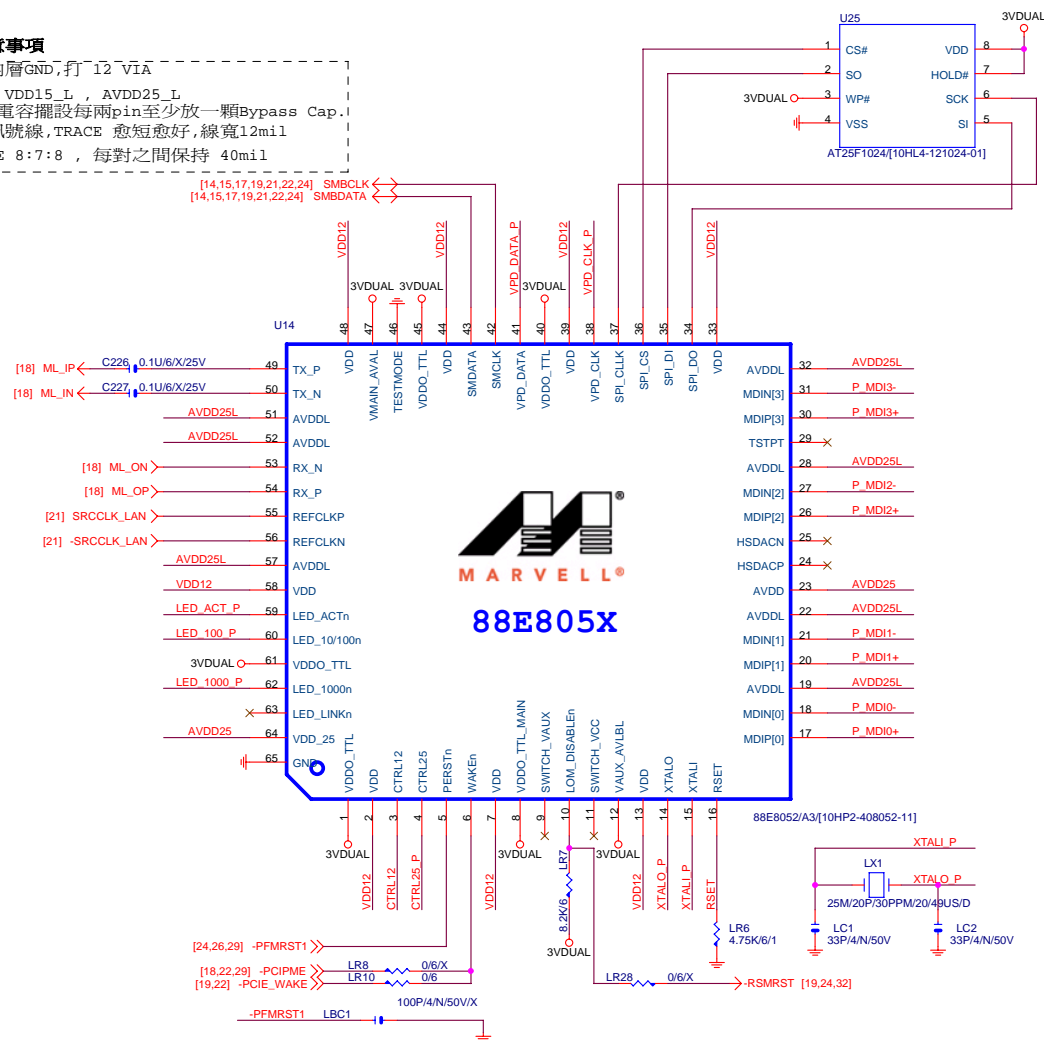


SURR BACK

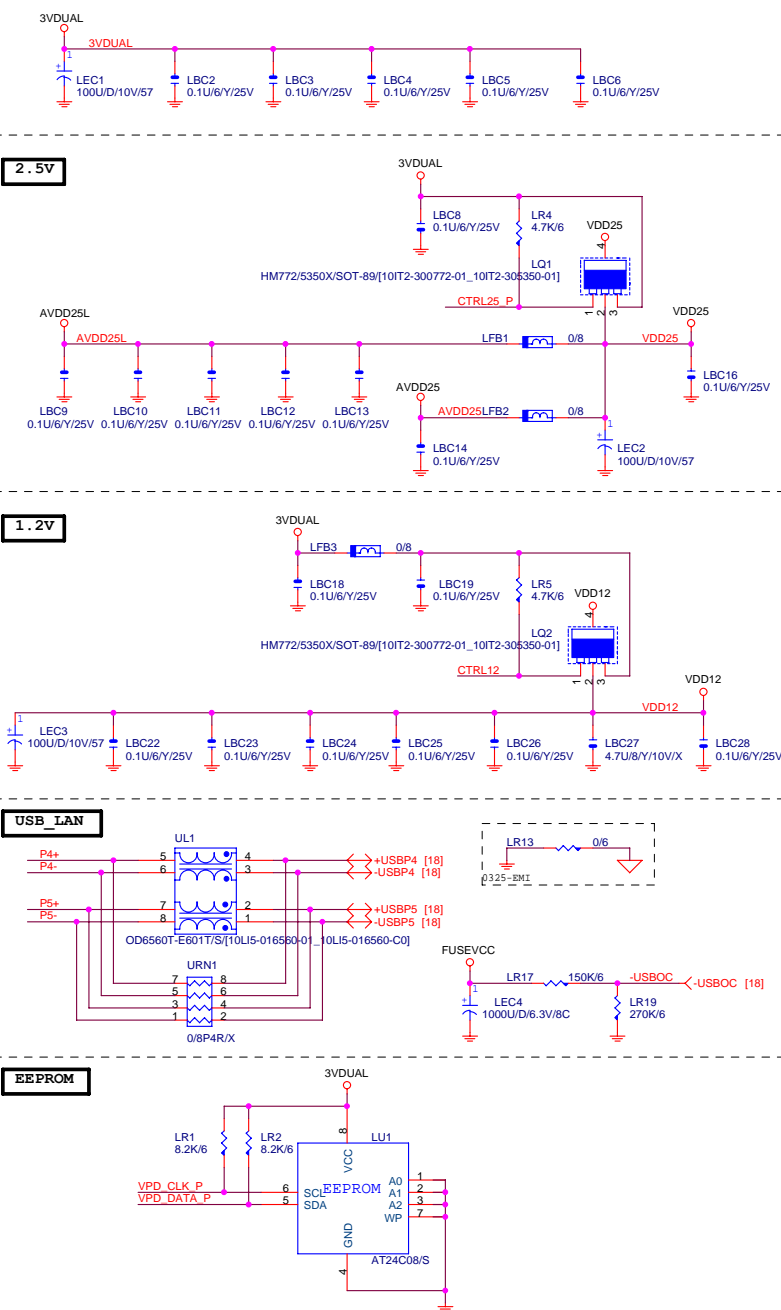
**AZALIA FRONT PANEL**

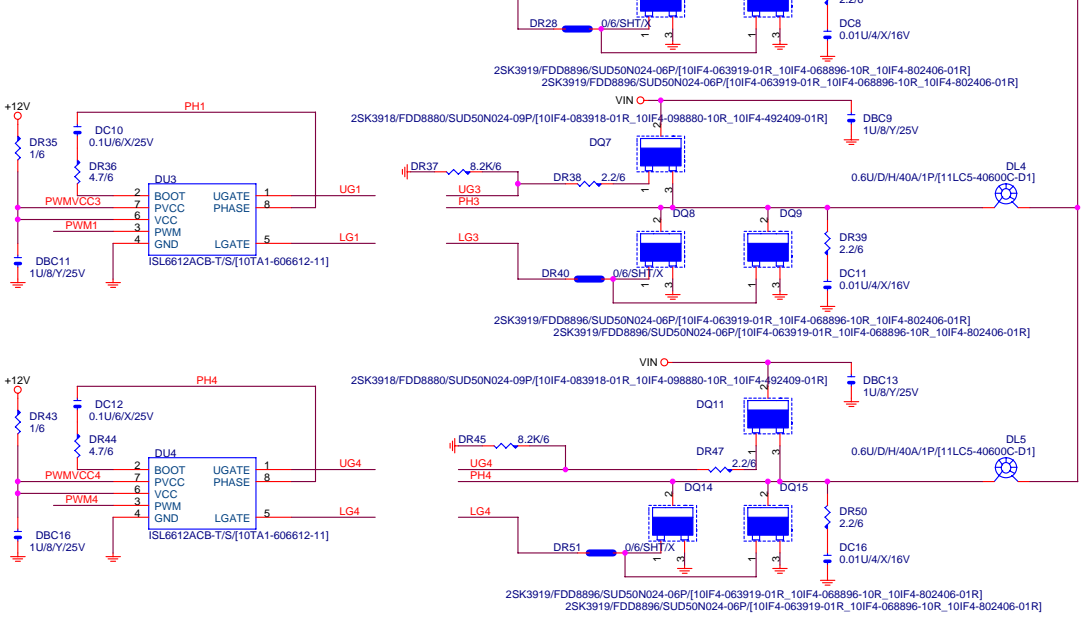
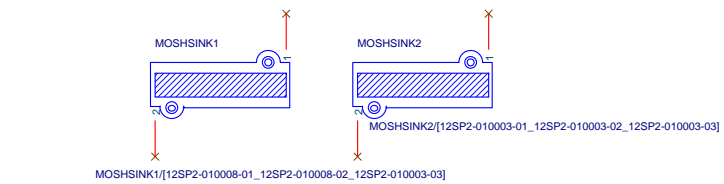
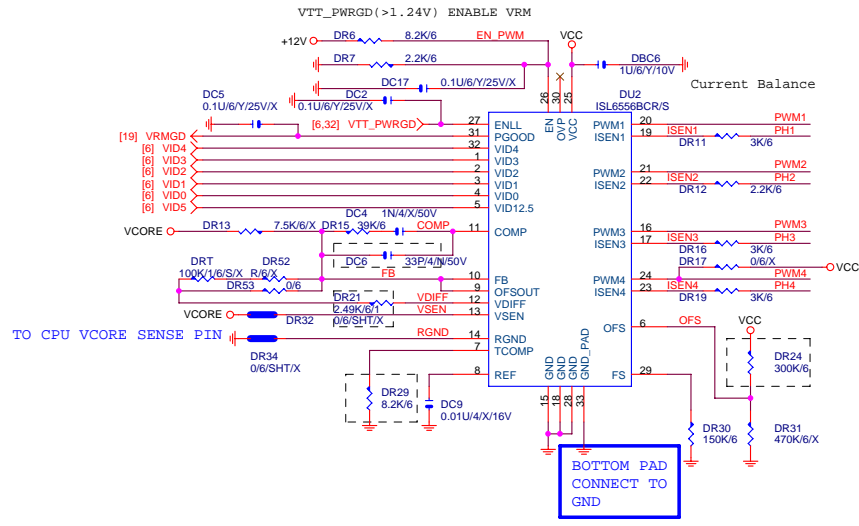
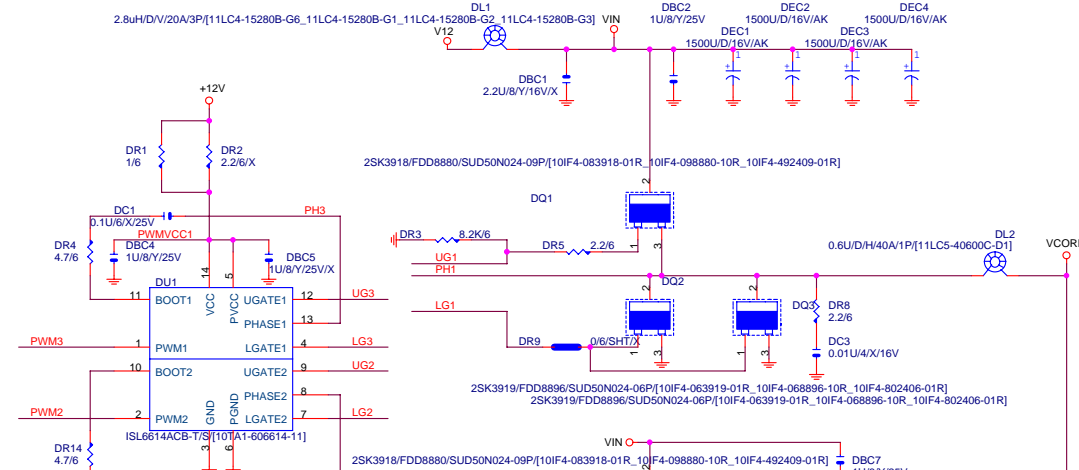
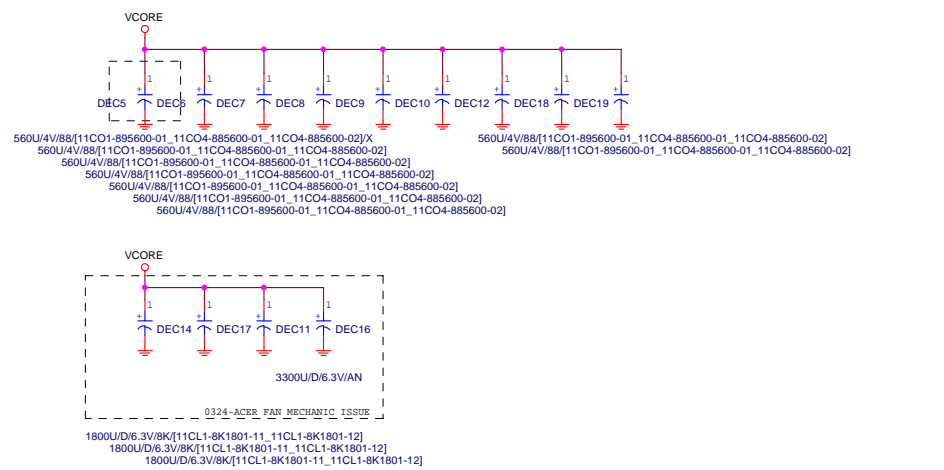


1. LUI PIN65 需下內層GND,打 12 VIA
2. 3VDUAL, VCC3, VDD15_L, AVDD25_L
至少走20mil寬,並且電容擺設每兩pin至少放一顆Bypass Cap.
3. X'TAL 25MHz 兩訊號線,TRACE 愈短愈好,線寬12mil
4. MDI 正負0~3,TRACE 8:7:8, 每對之間保持 40mil



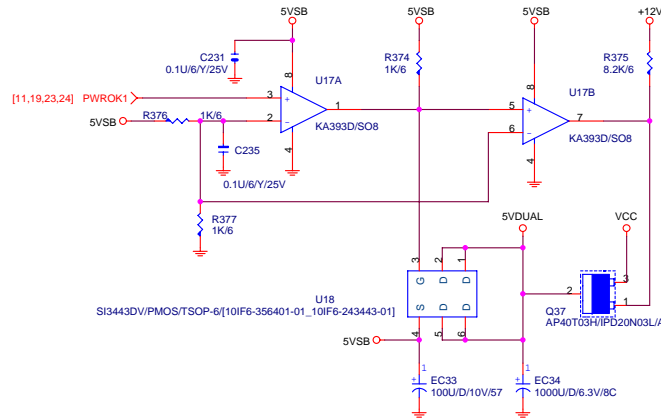
EEPROM



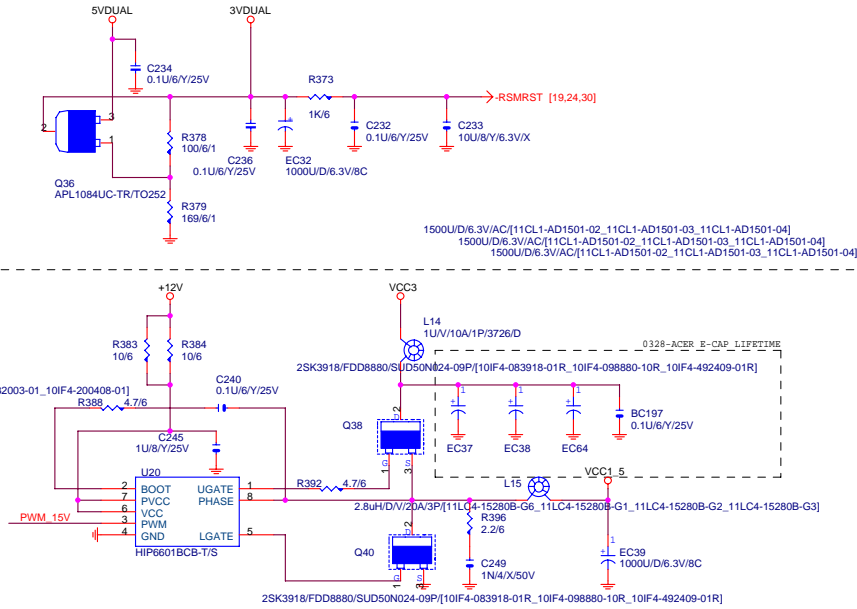


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Title	Vcore PWM_ISL6556		
Size	Custom	Document Number	81945AEF-AE
Date:	Thursday, July 07, 2005	Sheet	31 of 34

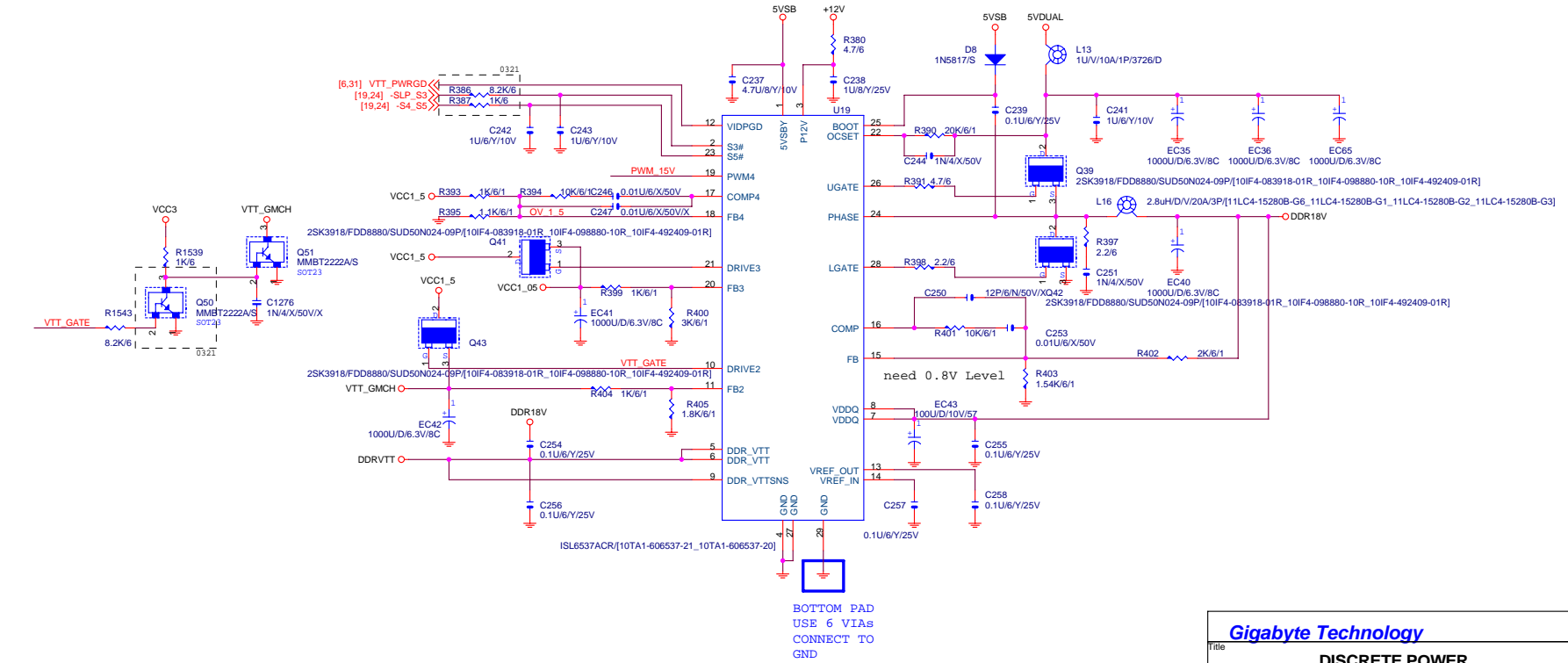
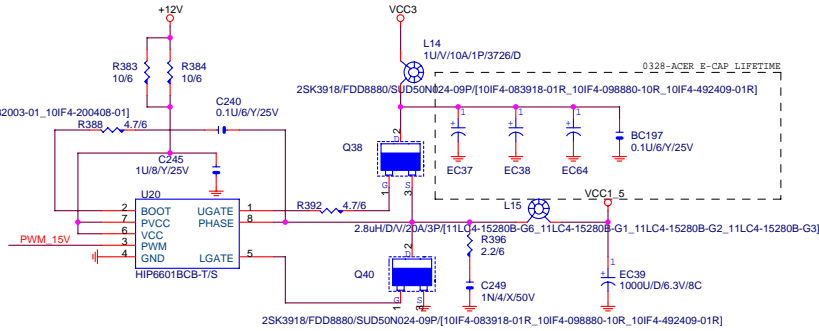
5VDUAL



3VDUAL



VCC1_5

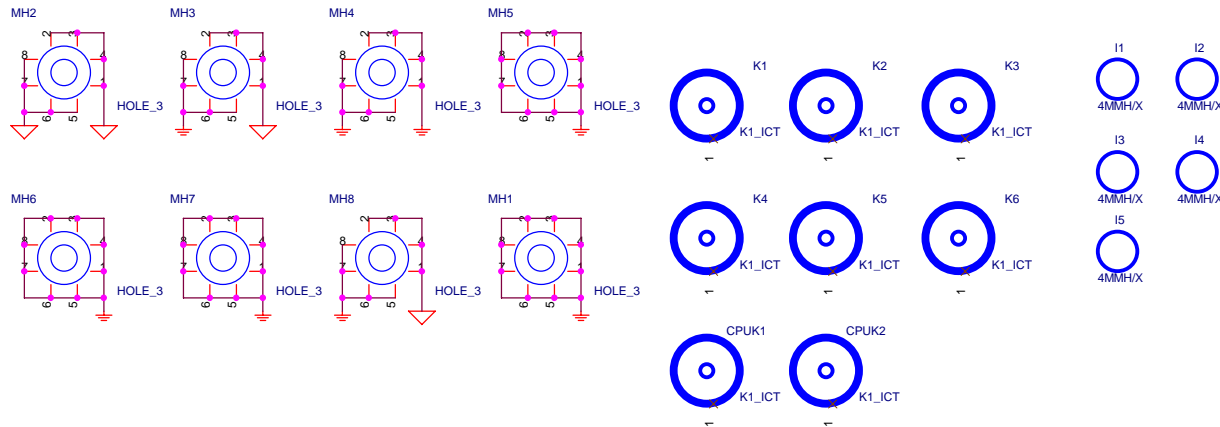
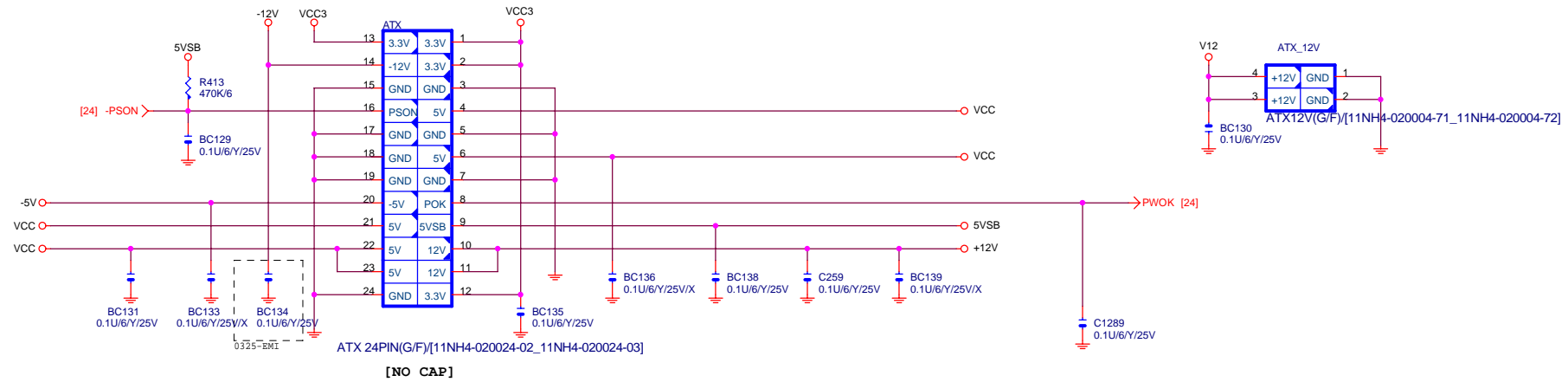


BOTTOM PAD
USE 6 VIAS
CONNECT TO
GND

Gigabyte Technology

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Custom		Rev	1.1
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ATX POWER CONNECTOR

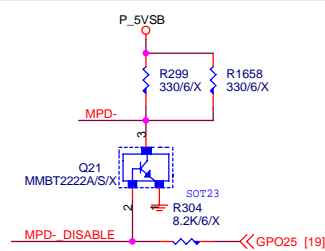
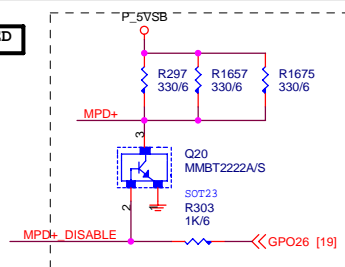


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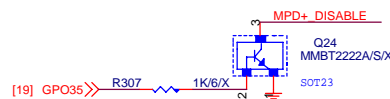
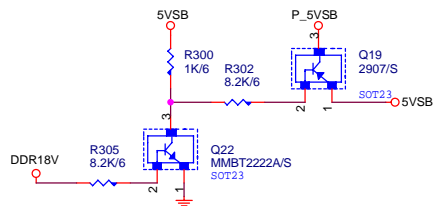
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ATX POWER CONNECTOR			
Size	Document Number	8I945AEF-AE	
B			Rev 1.1
Date:	Thursday, July 07, 2005	Sheet	33 of 34
	2	1	

DUAL COLOR LED

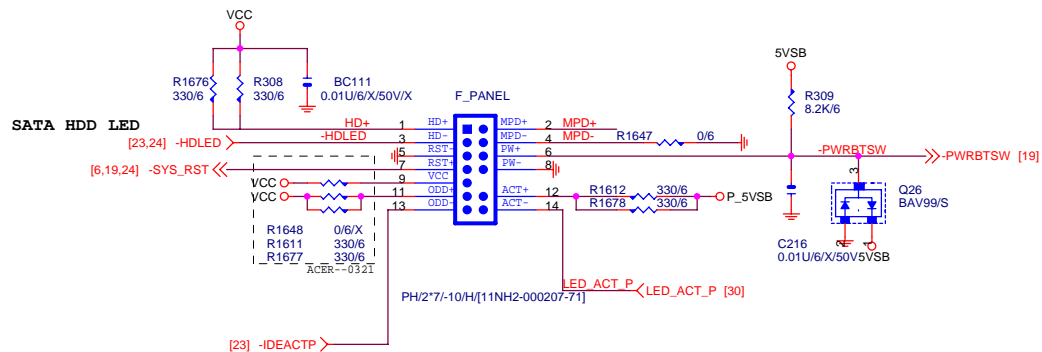
0321



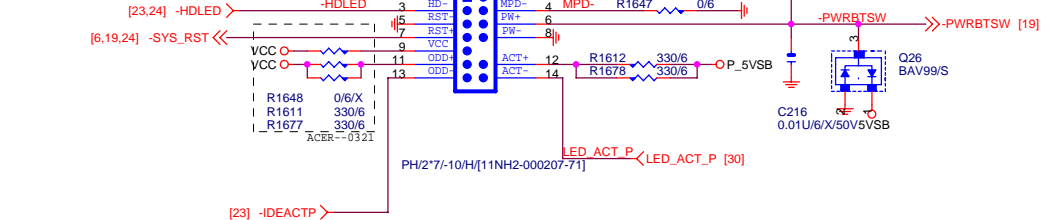
PREVENT SO W/O CPU, GREEN IS ON.



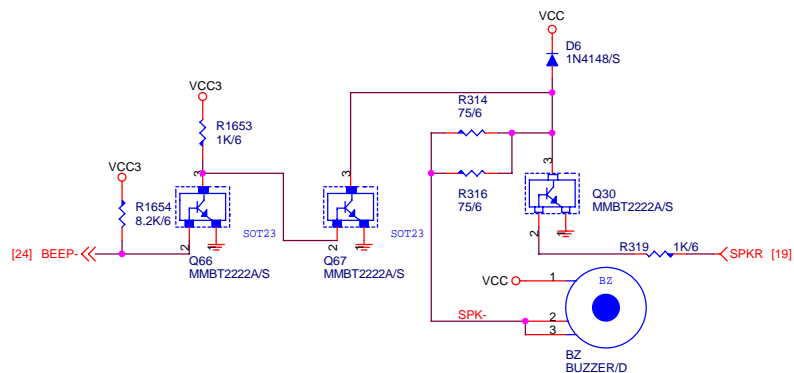
INTEL FRONT PANEL modify PIN2*7 cut 10pin for ACER



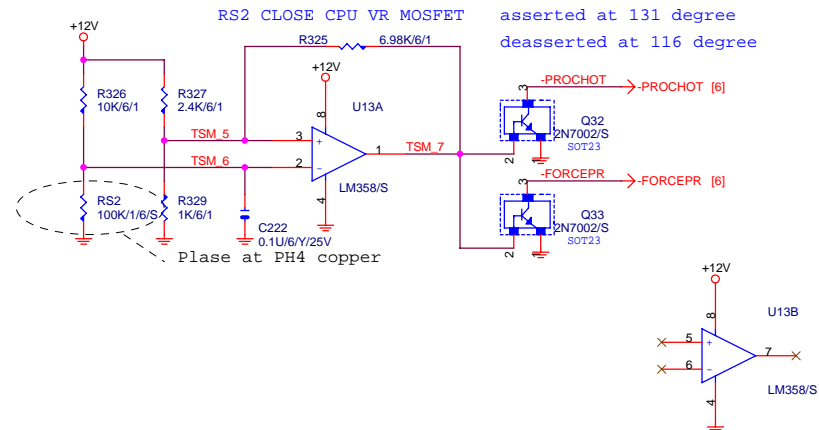
SATA HDD LED



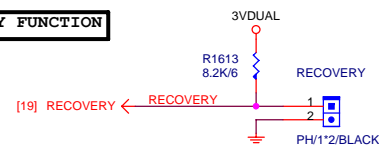
BUZZER



PROCESSOR HOT



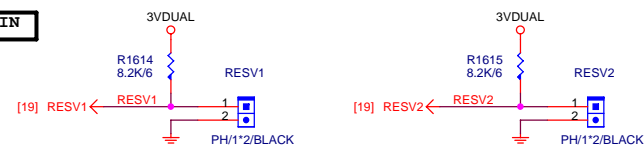
RECOVERY FUNCTION



RECOVERY

OPEN	NORMAL
SHORT	RECOVERY

RESERVE PIN



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FRONT PANEL			
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