Model Name: 965GM-S2

Revision 1.01

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02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	POWER MAP
05	P4_LGA775_A
06	P4_LGA775_B
07	P4_LGA775_C
08	P4_LGA775_D
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10	GMCH-BROADWATER_DDRII
11	GMCH-BROADWATER_PCI E, DMI
12	GMCH-BROADWATER_INT VGA
13	GMCH-BROADWATER_GND
14	GMCH-BROADWATER_PWR
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16	DDRII CHANNEL B 1,2
17	DDRII TERMINATION
18	PCI EXPRESS*16 SLOT
19	ICH8 PCI, USB, DMI, LAN
20	ICH8 GPIO, CTRL
21	ICH8 SATA, FAN PWM
22	ICH8 VCC, GND
23	CLOCK GEN CK505
24	PCI EXPRESS*1 ,PCI SLOT 1,2
25	ITE8718GB,RESET DRIVE
26	COM,LPT
27	BIOS,CI,HWM,KB/MS

SHEET	TITLE
28	AZALIA ALC883
29	AUDIO JACK
30	VCORE PWM ISL6312
31	DISCRETE POWER
32	ATX POWER
33	JMicron 2S1P ATA
34	1394 TI TSB43AB23
35	LAN MARVELL 88E8056
36	FAN CONTROL
37	FRONT PANEL,FUSB,FDD

Gigabyte Technology

Title	Cover Sheet	
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Model Name: 965GM-S2

Version: 1.01

Component value change history

2006/08/17

Data	Change Item	Reason
2006/03/21	1.MODIFY 5VDUAL CIRCUIT+HOLE_3-RH+XTAL-RH	
	2.VCC3_DAC+VCC1_5+INTEL NOTE	
2006/03/27	SWAP REF/NET	
2006/04/24	1.ADD ESD_PAD:USB,VGA,1394	
	2.MODIFY 2S1P from MARVELL to JM	
2006/04/25	DEL JM damping resistors	
2006/04/26	1394 ADD PWR/GND BEAD FOR ESD	
2006/04/27	INTEL SATAII ICH8:ONLYX4PORT:0/1/4/5	
2006/05/04	BOM:9M965GMS2R-00-01A	
2006/05/05	1.CPU_FAN/SYS_FAN resistors	
	2.-LPCPD PULL VCC1_25	
2006/06/02	REV 0.2 GERBER OUT	
2006/07/17	REV 1.0	
2006/07/25	改螺絲孔	
2006/08/17	REV 1.01	MODIFY JM363 PATA RESET

Circuit or PCB layout change for next version

DATE	Change Item	Reason

Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

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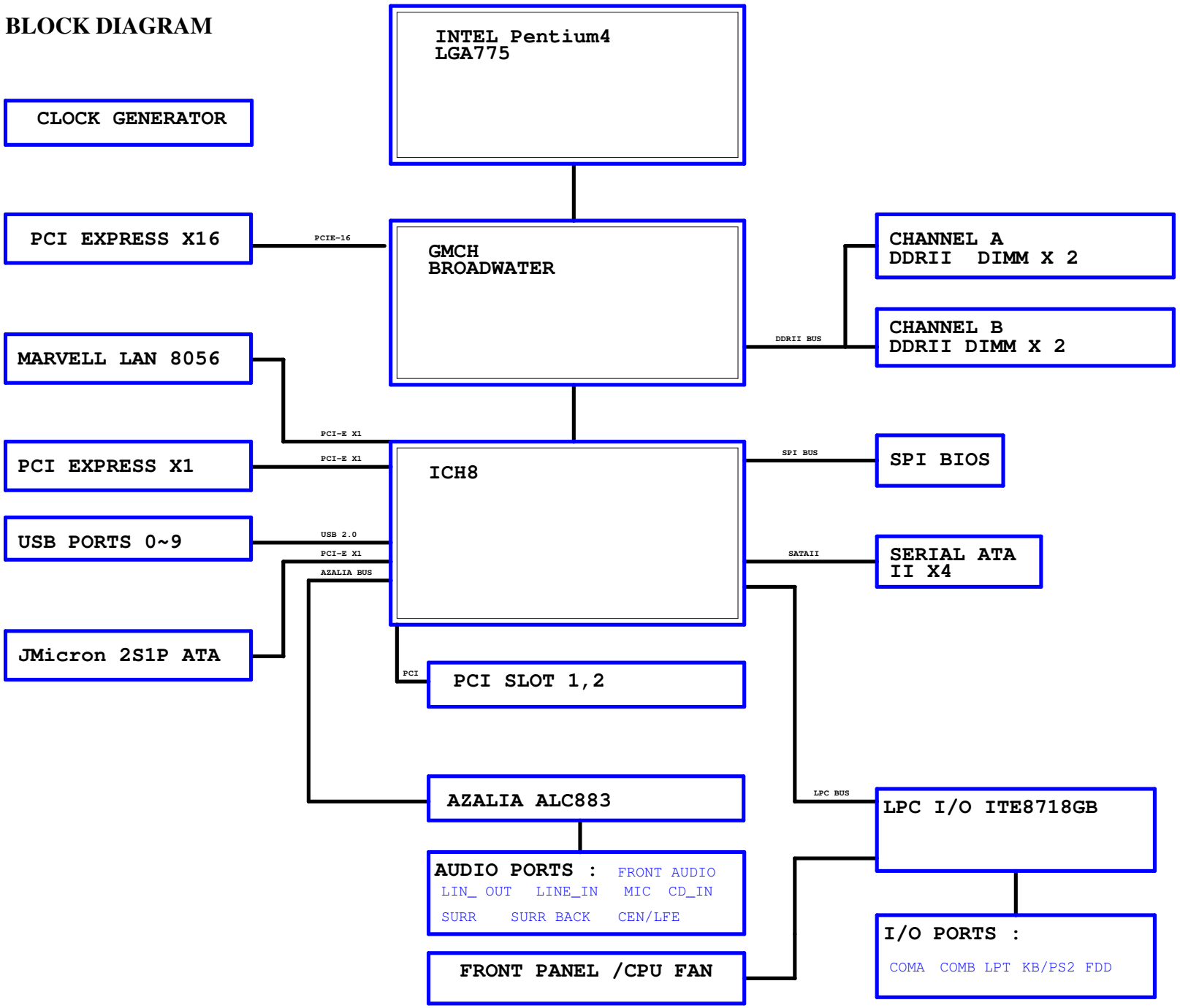
BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
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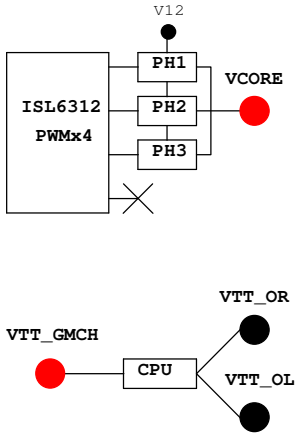
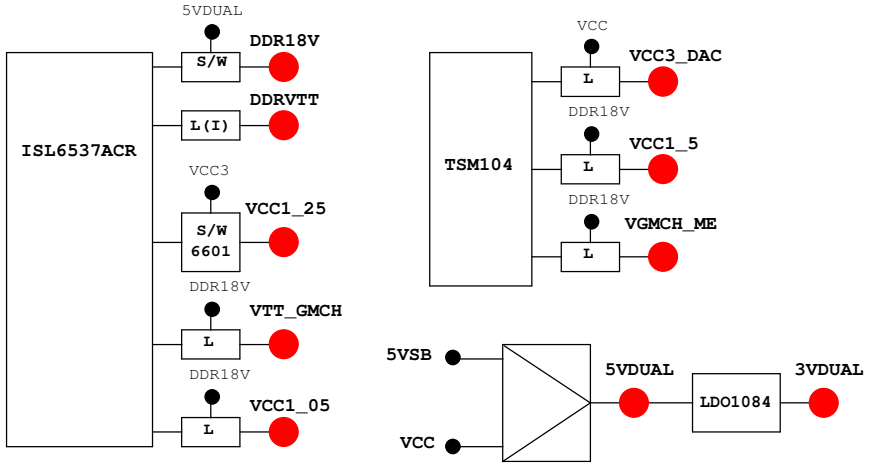
ICH8 GPIO LIST TABLE

PIN NAME	PWR WELL	AFTER/ PLTRST	USAGE	NOTE
GP0	MAIN	IN	-ACZ_DET	P/U 8.2K VCC3
GP1/TACH1	MAIN	IN	N/A	P/U 8.2K VCC3
GP2/PIRQE#	MAIN	IN	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN	IN	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN	IN	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN	IN	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN	IN	N/A	P/U 8.2K VCC3
GP7/TACH3	MAIN	IN	N/A	P/U 8.2K VCC3
GP8	STBY	IN	GPIO8	P/U 8.2K 3VDUAL
GP9	STBY	OUT	WOL_ONLY	P/D 100K GND
GP10	STBY	OUT	GPIO10	P/U 8.2K 3VDUAL
GP11/SMBALERT#	STBY	OUT	-SMBALRT	P/U 8.2K 3VDUAL
GP12	STBY	IN	MB_ID3	P/U 8.2K 3VDUAL
GP13	STBY	IN	-LPCPME	P/U 8.2K 3VDUAL
GP14	STBY	IN	GPIO14	P/U 8.2K 3VDUAL
GP15	STBY	OUT	GPIO15(TP)	N/A
GP16	MAIN	IN	MB_ID1	P/U 8.2K VCC3
GP17/TACH0	MAIN	IN	N/A(OPT-ITE)	P/U 8.2K VCC3
GP18	MAIN	IN	MB_ID2	P/U 8.2K VCC3
GP19	MAIN	IN	GPIO19	P/U 8.2K VCC3
GP20	MAIN	OUT	GPIO20	N/A
GP21	MAIN	IN	GPIO21	P/U 8.2K VCC3
GP22	MAIN	IN	GPIO22	P/U 8.2K VCC3
GP23	MAIN	OUT	-LDRQ1	P/U 8.2K VCC3
GP24	STBY	OUT	GPIO24(TP)	N/A
GP25	STBY	IN	MB_ID4	P/U 8.2K 3VDUAL
GP26/S4_STATE#	STBY	OUT	GPIO26	P/U 8.2K 3VDUAL
GP27	STBY	LOW	GPIO27	ENERGY-LAKE LED:GREEN
GP28	STBY	LOW	GPIO28	ENERGY-LAKE LED:YEL
GP29/OC5#	STBY	IN	-USBOC_F	P/U FUSEVCC1
GP30/OC6#	STBY	IN	-USBOC_F	P/U FUSEVCC1
GP31/OC7#	STBY	IN	-USBOC_F	P/U FUSEVCC1
GP32	MAIN	IN	MB_ID0	P/U 8.2K VCC3
GP33	MAIN	IN	GPIO33	P/U 8.2K VCC3
GP34	MAIN	IN	GPIO34	P/U 8.2K VCC3
GP35	MAIN	IN	N/A(TP)	N/A
GP36	MAIN	IN	GPIO36	P/U 8.2K VCC3
GP37	MAIN	IN	GPIO37	P/U 8.2K VCC3
GP38	MAIN	IN	GPIO38	P/U 8.2K VCC3
GP39	MAIN	IN	GPIO39	P/D 8.2K GND
GP48	MAIN	IN	GPIO48	P/U 8.2K VCC3
GP49	MAIN	IN	CPUPWROK	P/U 100 VTT_OL

VCORE:3 PHASE PWM--ISL6312





Gigabyte Technology		
Title: TABLE LIST		
Size: B	Document Number: 965GM-S2	Rev: 1.01
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VCORE

BC37 10u/12/X7R/6.3V/K
BC36 10u/12/X7R/6.3V/K
BC53 10u/12/X7R/6.3V/K
BC54 10u/12/X7R/6.3V/K/X

VCORE

EC12 100u/2V/SPCAP/X
EC9 100u/2V/SPCAP/X
EC13 100u/2V/SPCAP/X
EC10 100u/2V/SPCAP/X

VCORE

BC57 10u/12/X7R/6.3V/K
BC55 10u/12/X7R/6.3V/K
BC35 10u/12/X7R/6.3V/K
BC33 10u/12/X7R/6.3V/K/X

VTT_OR R141 124/6/1 GTLREF1
R10B R129 270/6/1 C77 1u/6/Y5V/10V/Z

VTT_OR R142 124/6/1 GTLREF0
R10B R116 270/6/1 C87 1u/6/Y5V/10V/Z

VTT_OR R124 62/6 -IERR

VTT_OL R99 62/6 -BR0

VTT_OR R134 62/6 -CPURST

RN11
VTT_OL
7 8 TESTHI10
5 6 TESTHI8
3 4 TESTHI9
1 2
62/8P4R/6

CR
CPU RETAINTION/X

LGA775-D:FOOTPRINT

LGA775A

[9] HA[3..16] HA[3..16]
HA3 L5 A<3>*
HA4 P6 A<4>*
HA5 M5 A<5>*
HA6 L4 A<6>*
HA7 M4 A<7>*
HA8 R4 A<8>*
HA9 T5 A<9>*
HA10 U6 A<10>*
HA11 T4 A<11>*
HA12 U5 A<12>*
HA13 U4 A<13>*
HA14 V5 A<14>*
HA15 V4 A<15>*
HA16 W5 A<16>*
N4 RSVD_3
P5 RSVD_4

[9] -HREQ0 -HREQ0 K4 REQ<0>*
[9] -HREQ1 -HREQ1 J5 REQ<1>*
[9] -HREQ2 -HREQ2 M6 REQ<2>*
[9] -HREQ3 -HREQ3 K6 REQ<3>*
[9] -HREQ4 -HREQ4 J6 REQ<4>*
[9] -HADSTB0 -HADSTB0 R6 ADSTB<0>*

[9] HA[17..35] HA[17..35]
HA17 AB6 A<17>*
HA18 W6 A<18>*
HA19 Y6 A<19>*
HA20 Y4 A<20>*
HA21 AA4 A<21>*
HA22 AD6 A<22>*
HA23 AA5 A<23>*
HA24 AB5 A<24>*
HA25 AC5 A<25>*
HA26 AB4 A<26>*
HA27 AF5 A<27>*
HA28 AF4 A<28>*
HA29 AG6 A<29>*
HA30 AG4 A<30>*
HA31 AG5 A<31>*
HA32 AH4 A<32>*
HA33 AH5 A<33>*
HA34 AJ5 A<34>*
HA35 AJ6 A<35>*
AC4 RSVD_1
AE4 RSVD_2

[9] -HADSTB1 -HADSTB1 AD5 ADSTB<1>*

LGA775 (1/8)

ADS* D2 -HADS -HADS [9]
BNR* C2 -BNR -BNR [9]
HIT* D4 -HIT -HIT [9]
RSP* H4
BPRI* G8 -BPRI -BPRI [9]
DBSY* B2 -DBSY -DBSY [9]
DRDY* C1 -DRDY -DRDY [9]
HITM* E4 -HITM -HITM [9]
IERR* AB2 -IERR
INIT* P3 -HINIT -HINIT [21]
LOCK* C3 -HLOCK -HLOCK [9]
TRDY* E3 -HTRDY -HTRDY [9]
BINIT* AD3
DEFER* G7 -DEFER -DEFER [9]

MCERR* AB3

AP<0>* U2
AP<1>* U3

BR<0>* F3 -BR0 -BR0 [9]
TESTHI_8 G3 TESTHI8
TESTHI_9 G4 TESTHI9
TESTHI_10 H5 TESTHI10

DP<0>* J16
DP<1>* H15
DP<2>* H16
DP<3>* J17

GTLREF0 H1 GTLREF0
GTLREF1 H2 GTLREF1
GTLREF2 E24 GTLREF_MCH GTLREF_MCH [9]
GTLREF_SEL H29

RESET* G23 -CPURST -CPURST [9]

RS<0>* B3 -RS0 -RS0 [9]
RS<1>* F5 -RS1 -RS1 [9]
RS<2>* A3 -RS2 -RS2 [9]

CPU-SK/775/D/GF

Gigabyte Technology		
Title: P4_LGA775-A		
Size: B	Document Number: 965GM-S2	Rev: 1.01
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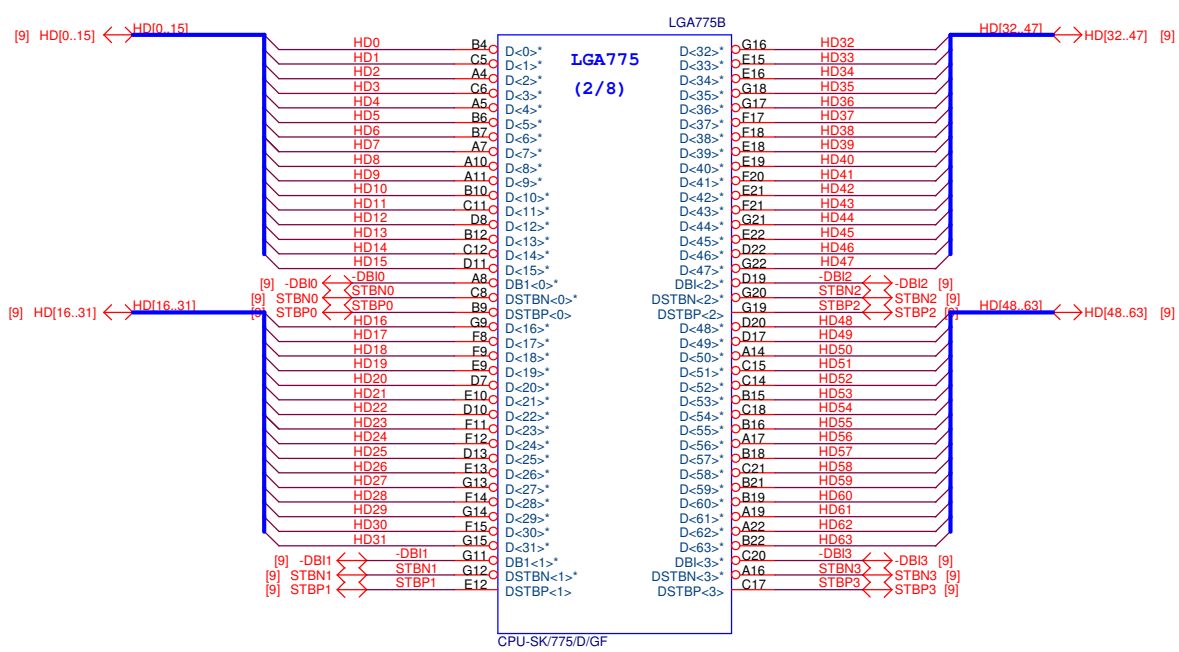
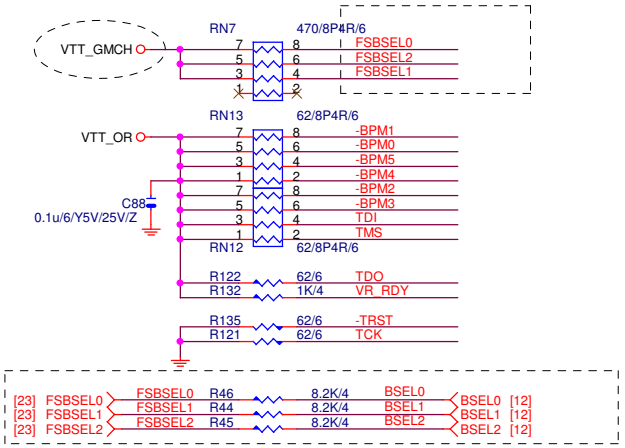
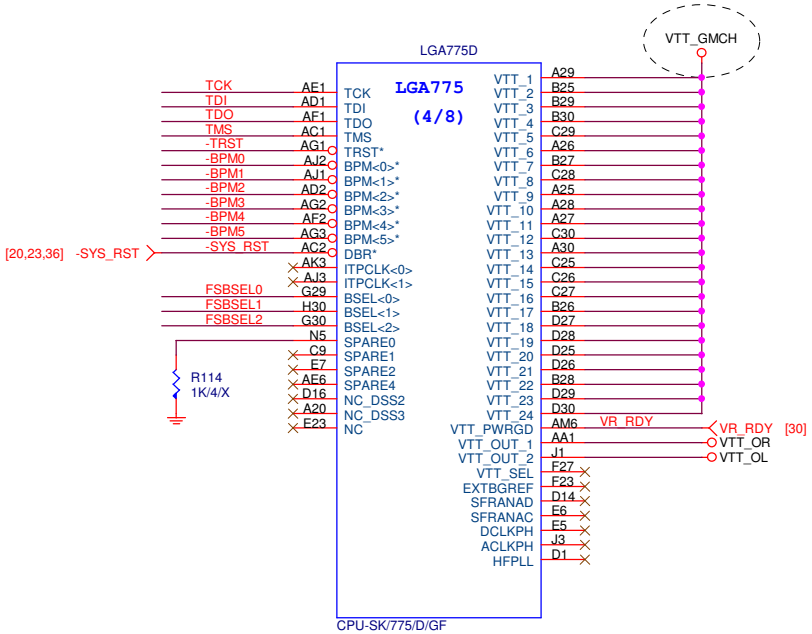
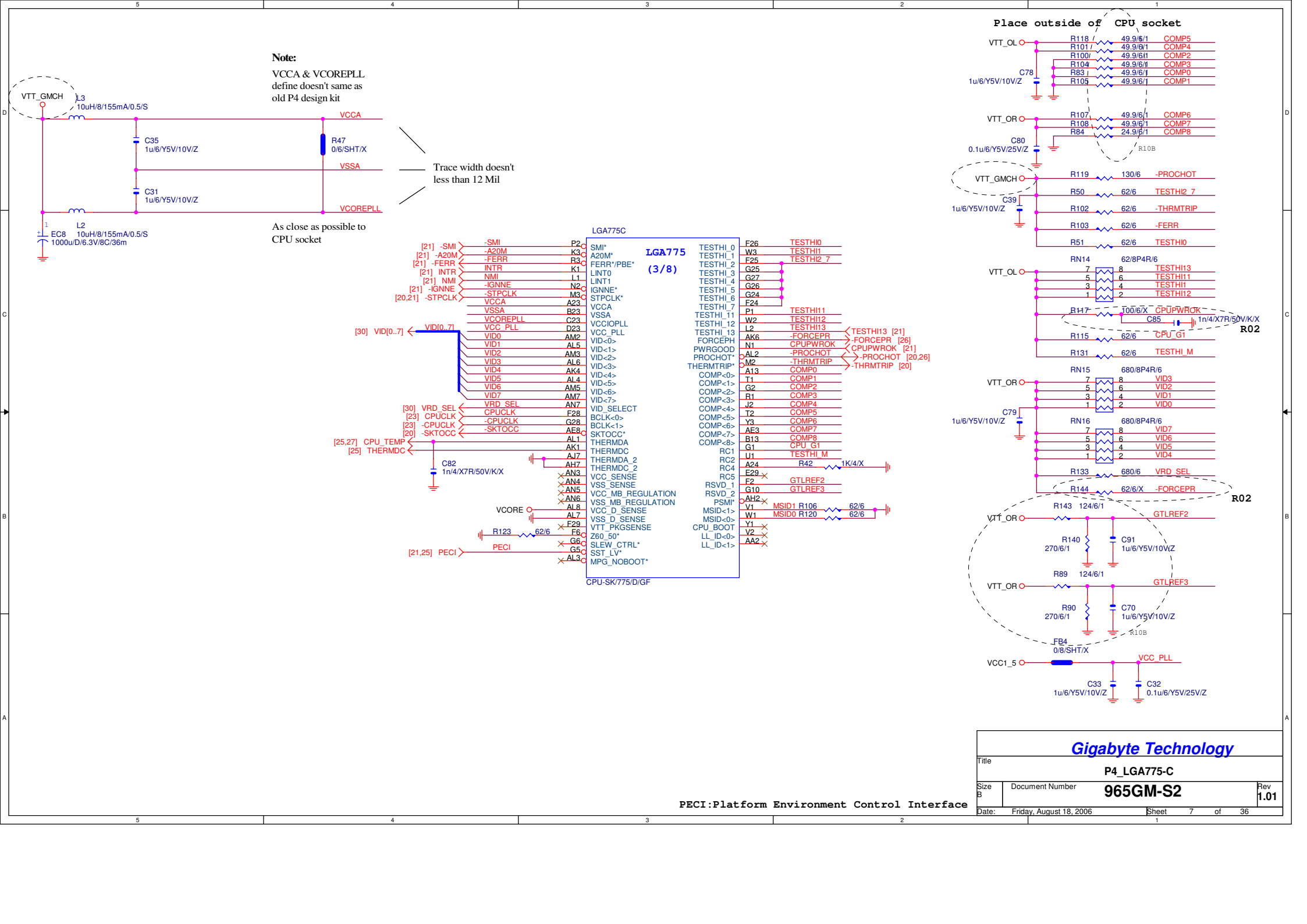






Gigabyte Technology		
Title: P4_LGA775-B,D		
Size: B	Document Number: 965GM-S2	Rev: 1.01
Date: Friday, August 18, 2006	Sheet 6 of 36	


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
VTT_GMCH
L3 10uH/8/155mA/0.5/S
C35 1u/6/Y5V/10V/Z
C31 1u/6/Y5V/10V/Z
L2 10uH/8/155mA/0.5/S
EC8 1000u/D/6.3V/8C/36m
R47 0/6/SHT/X
VCCA
VSSA
VCOREPLL
LGA775C
LGA775 (3/8)
CPU-SK/775/D/GF
VID[0..7]
VRD_SEL
CPUCLK
-CPUCLK
-SKTOCC
CPU_TEMP
THERMDC
C82 1n/4/X7R/50V/K/X
VCORE
R123 62/6
PECI
R42 1K/4/X
MSID1 R106 62/6
MSID0 R120 62/6
Place outside of CPU socket
VTT_OL
VTT_OR
VTT_GMCH
C78 1u/6/Y5V/10V/Z
C80 0.1u/6/Y5V/25V/Z
C39 1u/6/Y5V/10V/Z
C79 1u/6/Y5V/10V/Z
R118 49.9/6/1 COMP5
R101 49.9/6/1 COMP4
R100 49.9/6/1 COMP2
R104 49.9/6/1 COMP3
R83 49.9/6/1 COMP0
R105 49.9/6/1 COMP1
R107 49.9/6/1 COMP6
R108 49.9/6/1 COMP7
R84 24.9/6/1 COMP8
R10B
R119 130/6 -PROCHOT
R50 62/6 TESTHI2_7
R102 62/6 -THRMTRIP
R103 62/6 -FERR
R51 62/6 TESTHI0
RN14 62/8P4R/6 TESTHI13 TESTHI11 TESTHI1 TESTHI12
R117 100/6/X CPUPWROK
C85 1n/4/X7R/50V/K/X
R02
R115 62/6 CPU_G1
R131 62/6 TESTHI_M
RN15 680/8P4R/6 VID3 VID2 VID1 VID0
RN16 680/8P4R/6 VID7 VID6 VID5 VID4
R133 680/6 VRD_SEL
R144 62/6/X -FORCEPR
R143 124/6/1 GTLREF2
R140 270/6/1 C91 1u/6/Y5V/10V/Z
R89 124/6/1 GTLREF3
R90 270/6/1 C70 1u/6/Y5V/10V/Z
FB4 0/8/SHT/X
VCC1_5
VCC_PLL
C33 1u/6/Y5V/10V/Z
C32 0.1u/6/Y5V/25V/Z
PECI:Platform Environment Control Interface
Gigabyte Technology
Title
P4_LGA775-C
Size B
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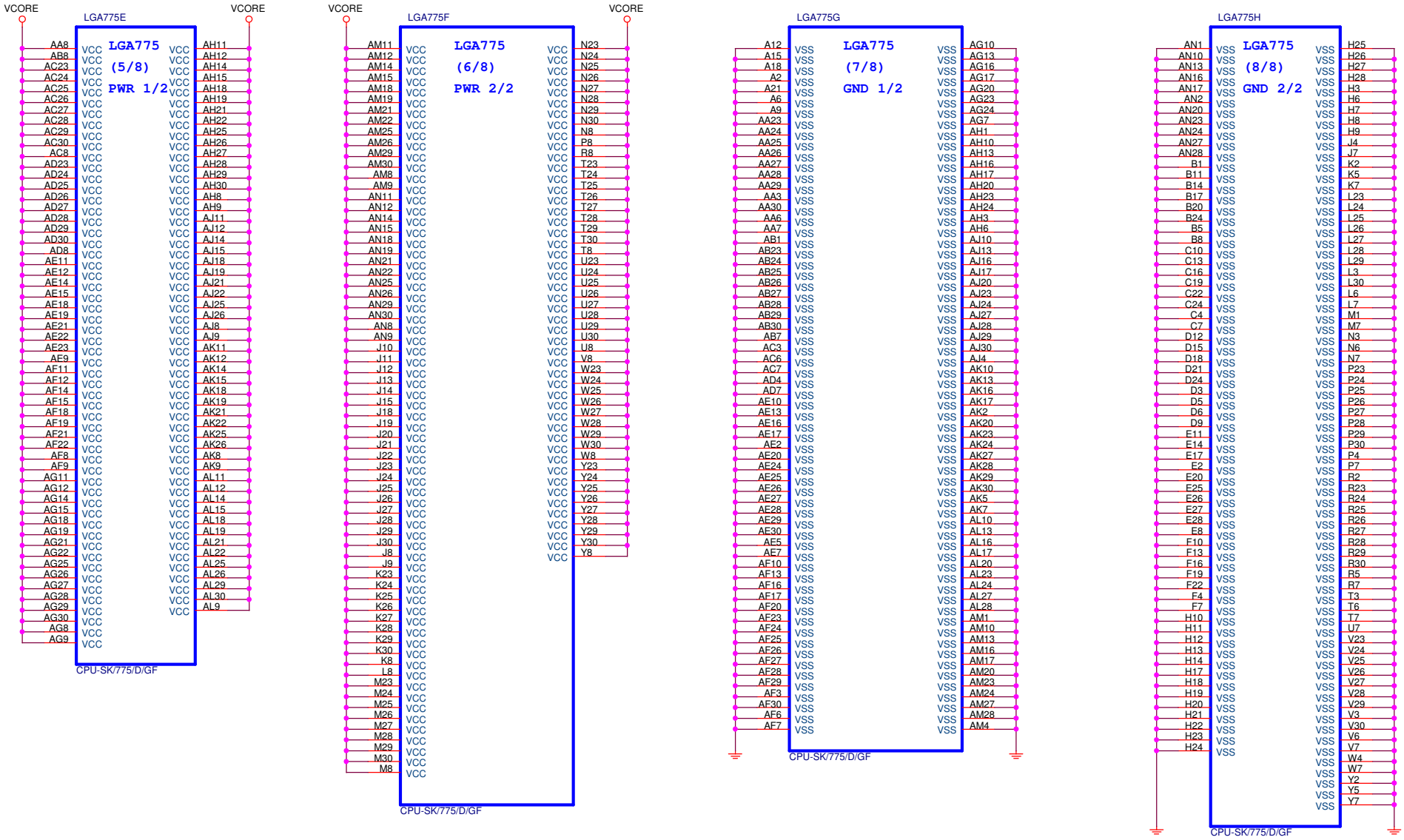

Gigabyte Technology			
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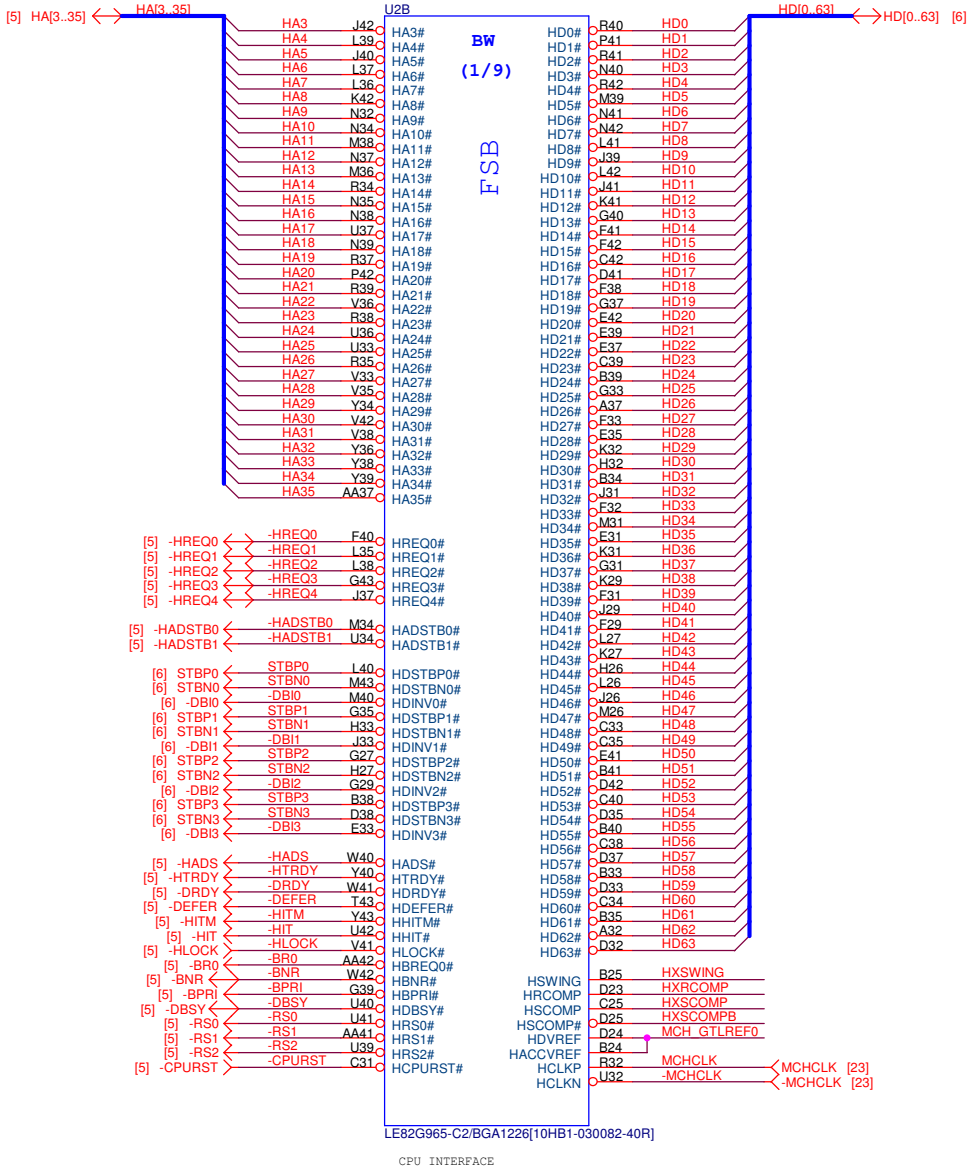
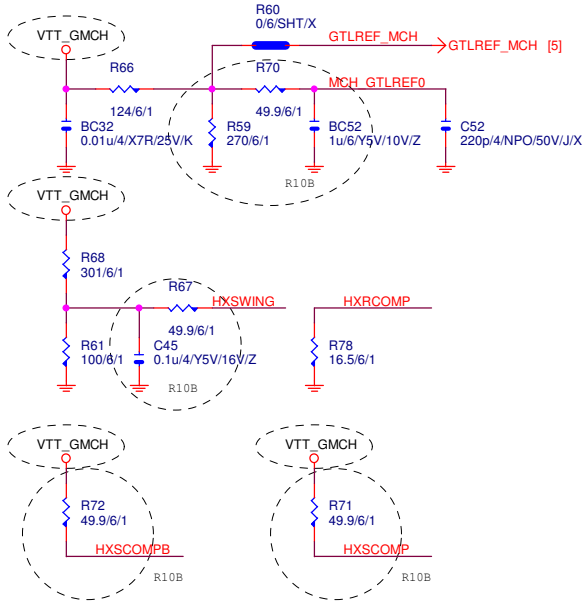
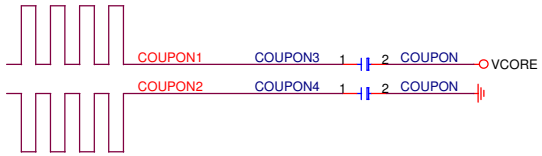
Size B	Document Number 965GM-S2		Rev 1.01
Date: Friday, August 18, 2006	Sheet 8 of 36		

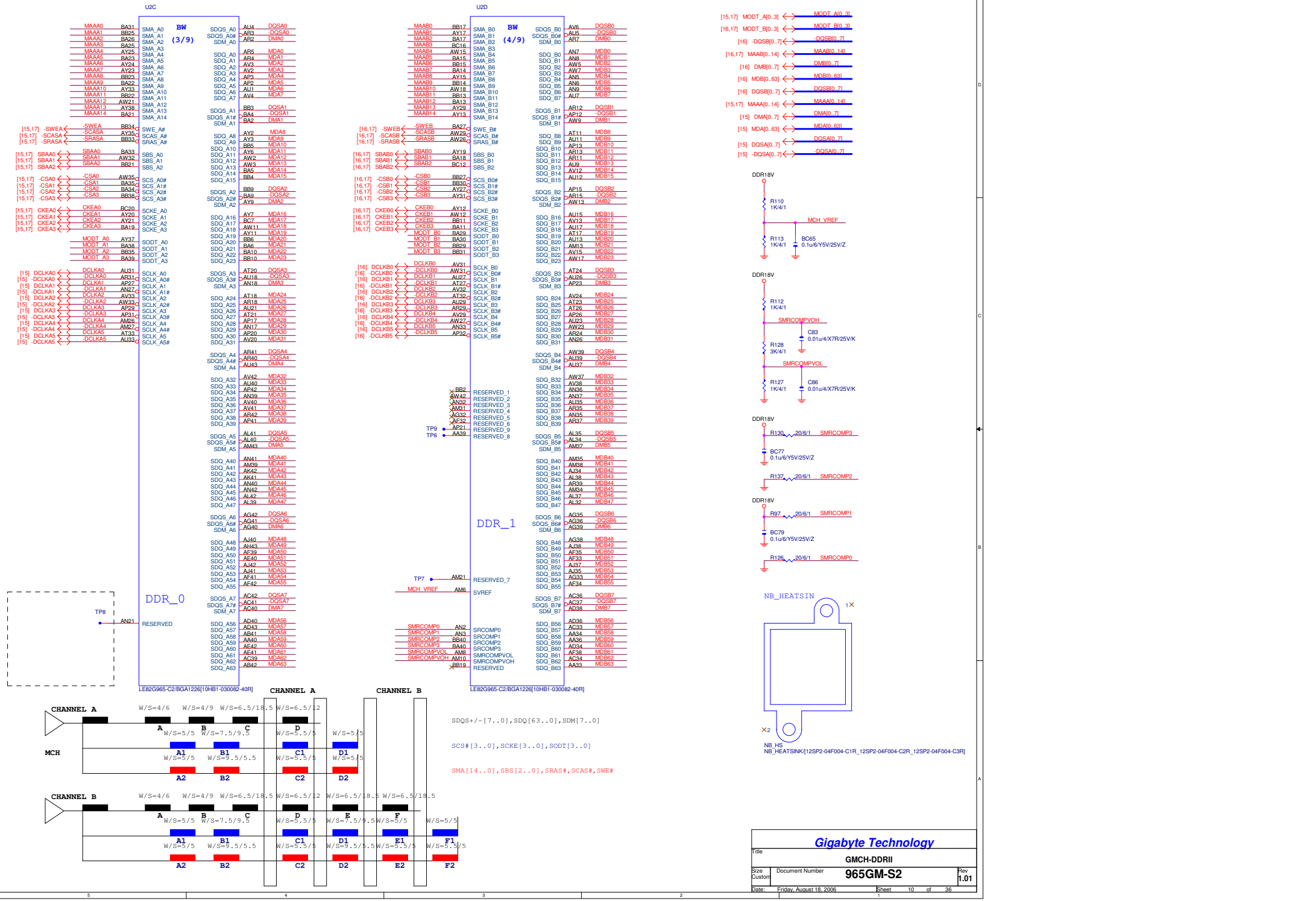




COMP量測有CURRENT SENSE,不可上電容



Gigabyte Technology		
Title: GMCH-HOST		
Size: B	Document Number: 965GM-S2	Rev: 1.01
Date: Friday, August 18, 2006	Sheet 9 of 36	



Gigabyte Technology	
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Size: Custom	Document Number: 965GM-S2
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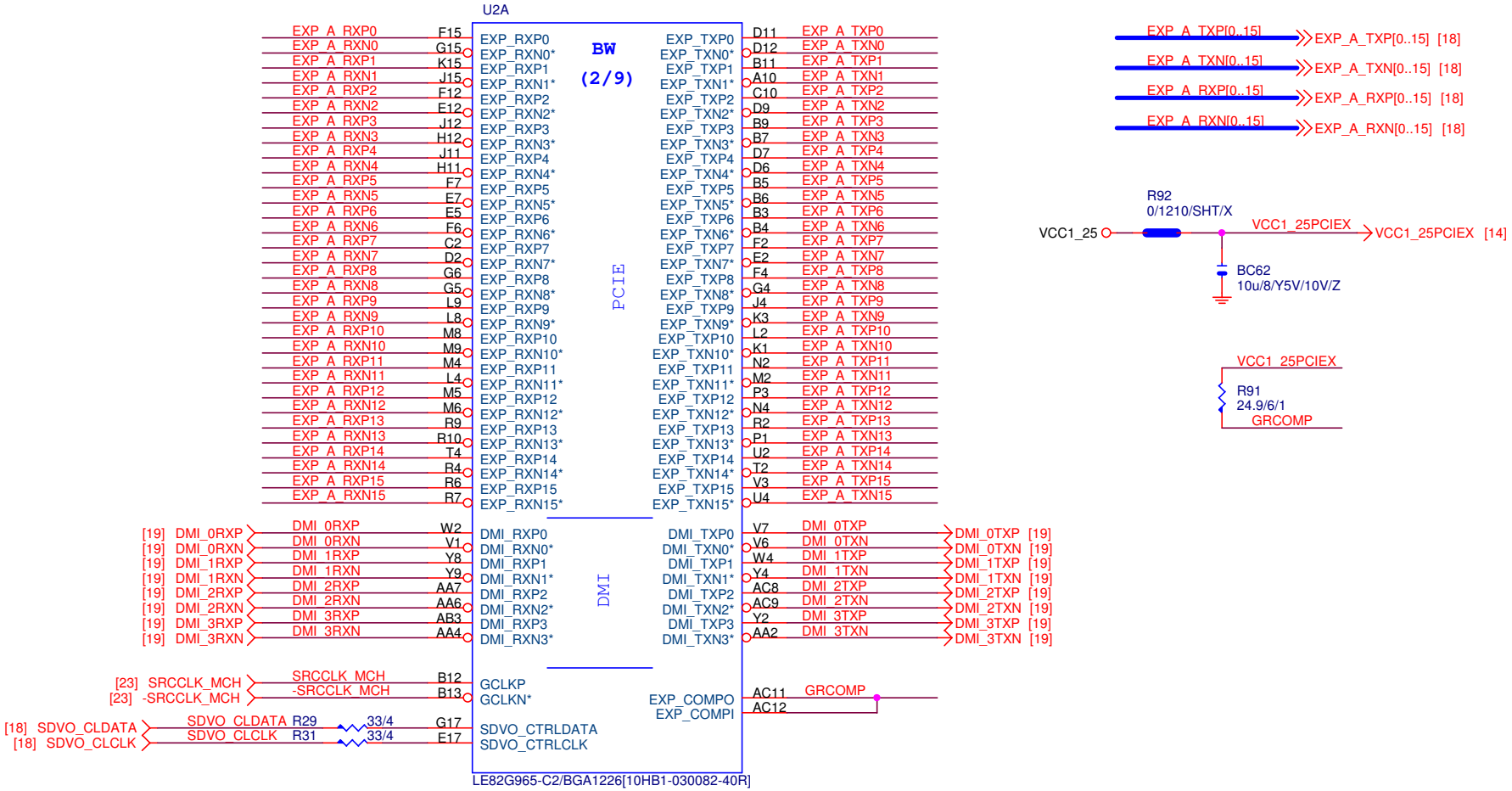
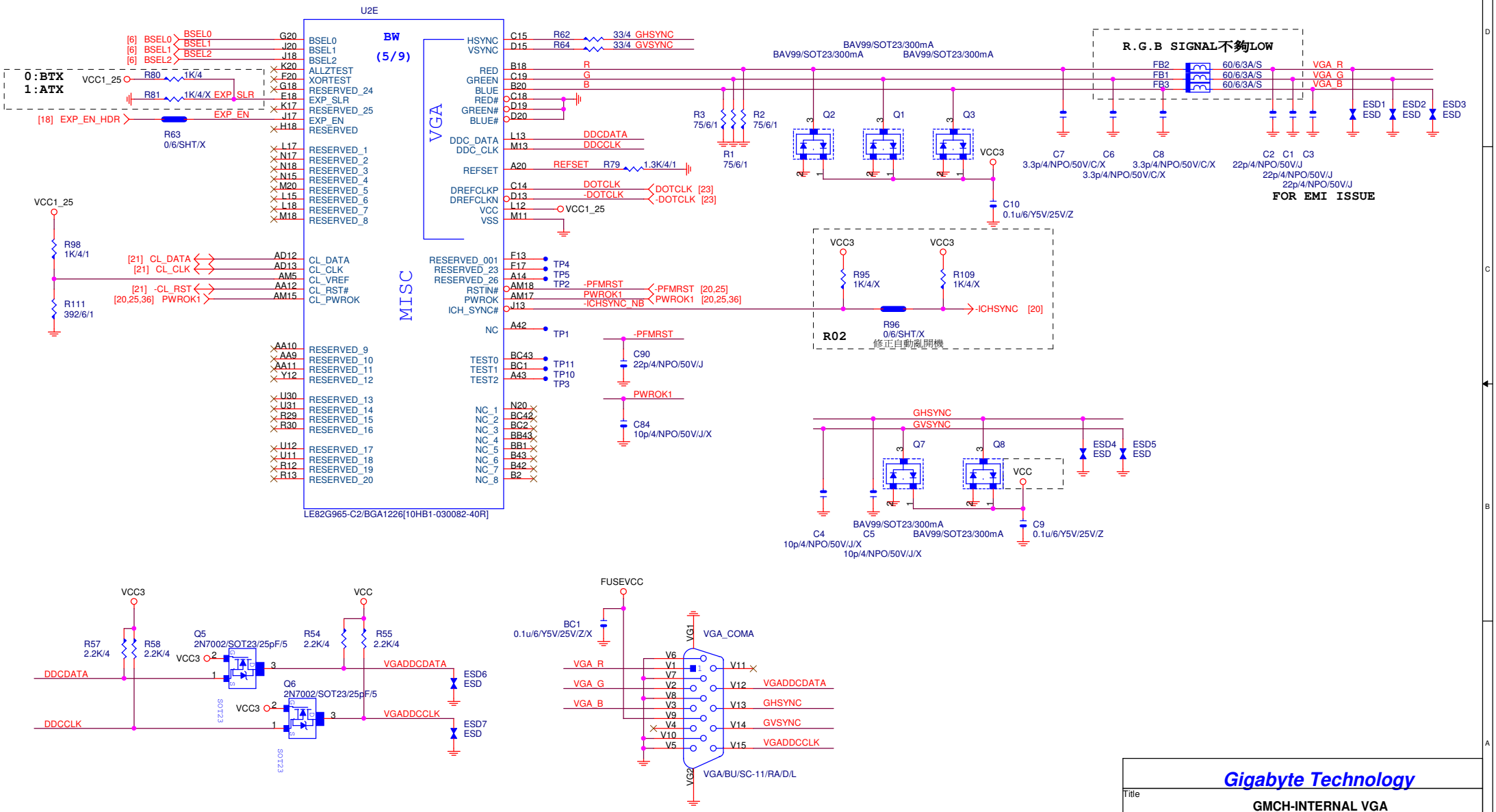
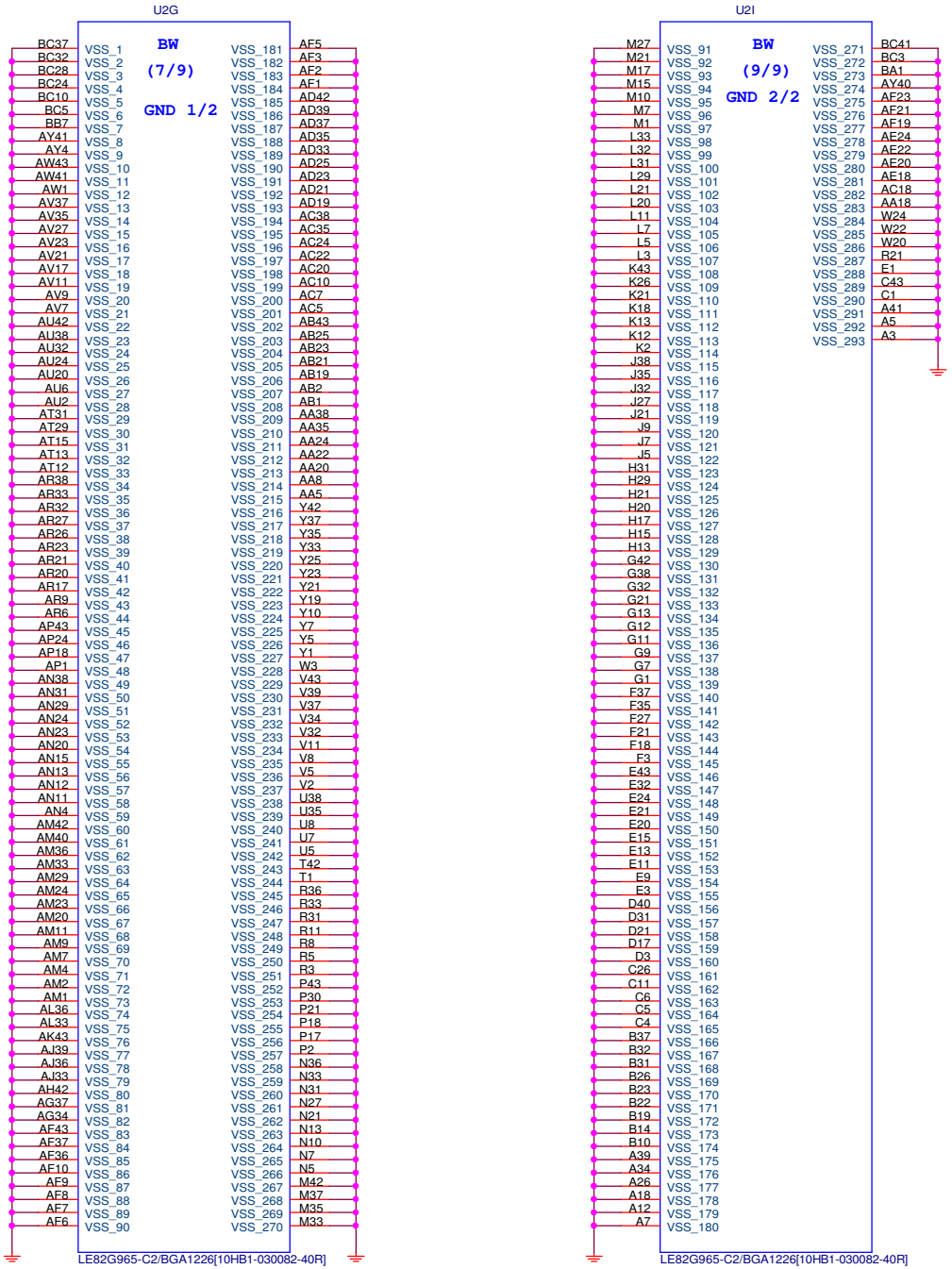


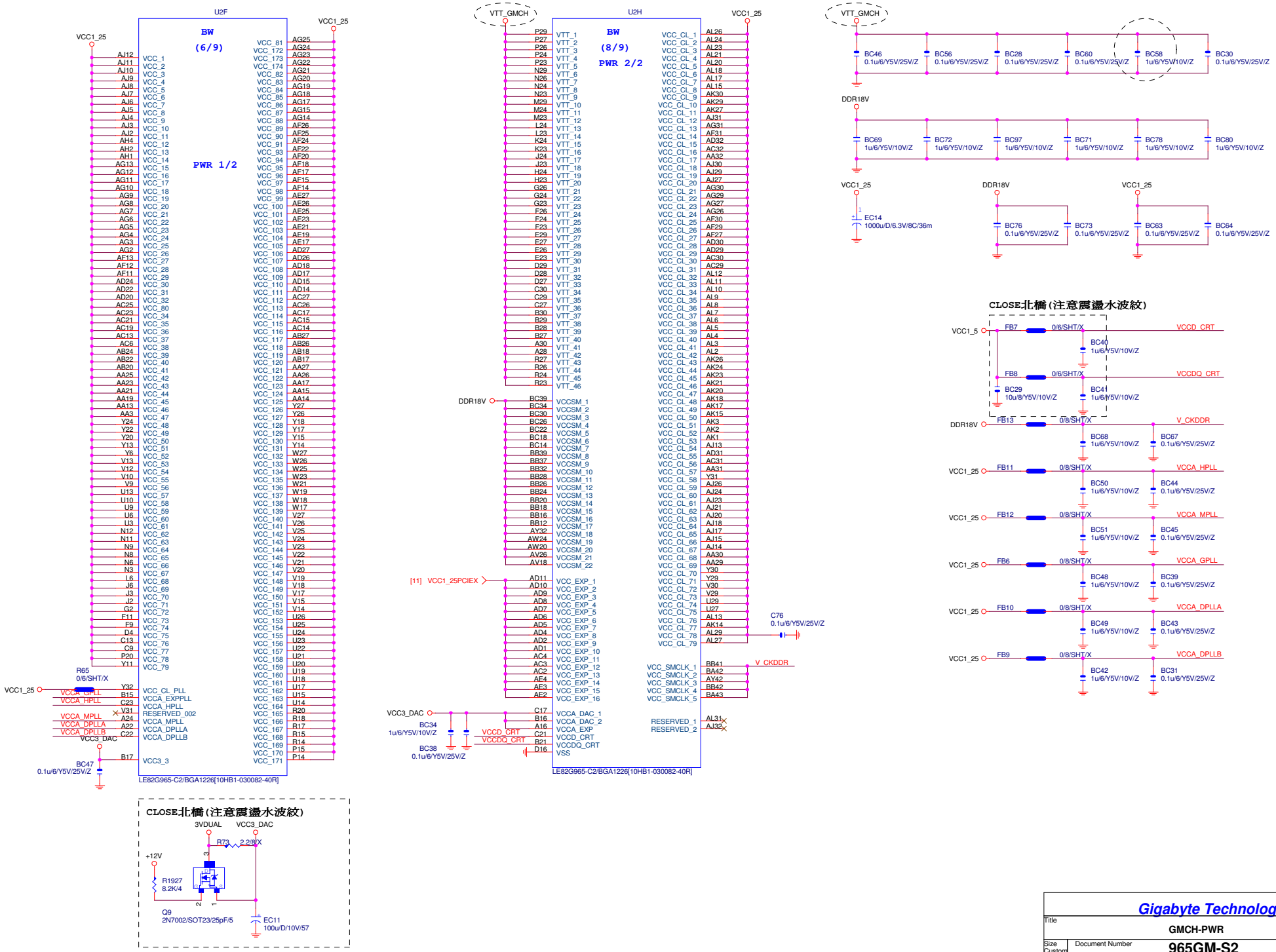
Gigabyte Technology		
Title: GMCH-PCI E & DMI		
Size: Custom	Document Number: 965GM-S2	Rev: 1.01
Date: Friday, August 18, 2006	Sheet 11 of 36	



Gigabyte Technology			
Title	GMCH-INTERNAL VGA		
Size B	Document Number 965GM-S2		Rev 1.01
Date: Friday, August 18, 2006	Sheet 12 of 36		



Gigabyte Technology			
Title: GMCH-GND			
Size: Custom	Document Number: 965GM-S2		Rev: 1.01
Date: Friday, August 18, 2006	Sheet 13 of 36		



Gigabyte Technology	
Title	GMCH-PWR
Size: Custom	Document Number: 965GM-S2
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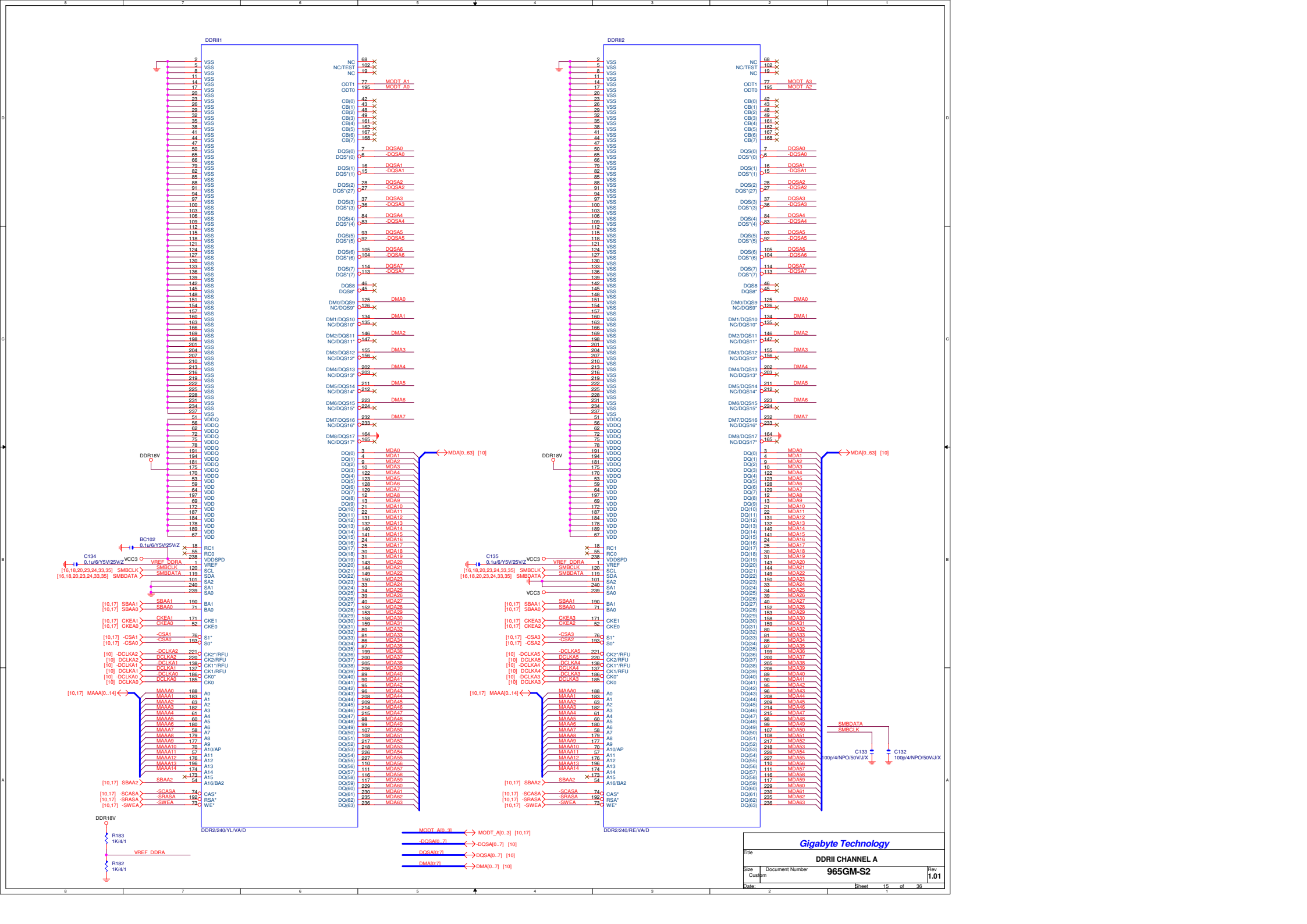
DDRII1
DDRII2
DDR18V
VCC3
VREF_DDRA
VREF_DDRB
SMBCLK
SMBDATA
BC102
0.1u/6/Y5V/25V/Z
C134
C135
C133
C132
100p/4/NPO/50V/J/X
R183
1K/4/1
R182
1K/4/1
MDA[0..63] [10]
MODT_A[0..3] [10,17]
DQSA[0..7] [10]
DQSA[0..7] [10]
DMA[0..7] [10]
DDR2/240/YL/VA/D
DDR2/240/RE/VA/D
Gigabyte Technology
DDRII CHANNEL A
965GM-S2
1.01
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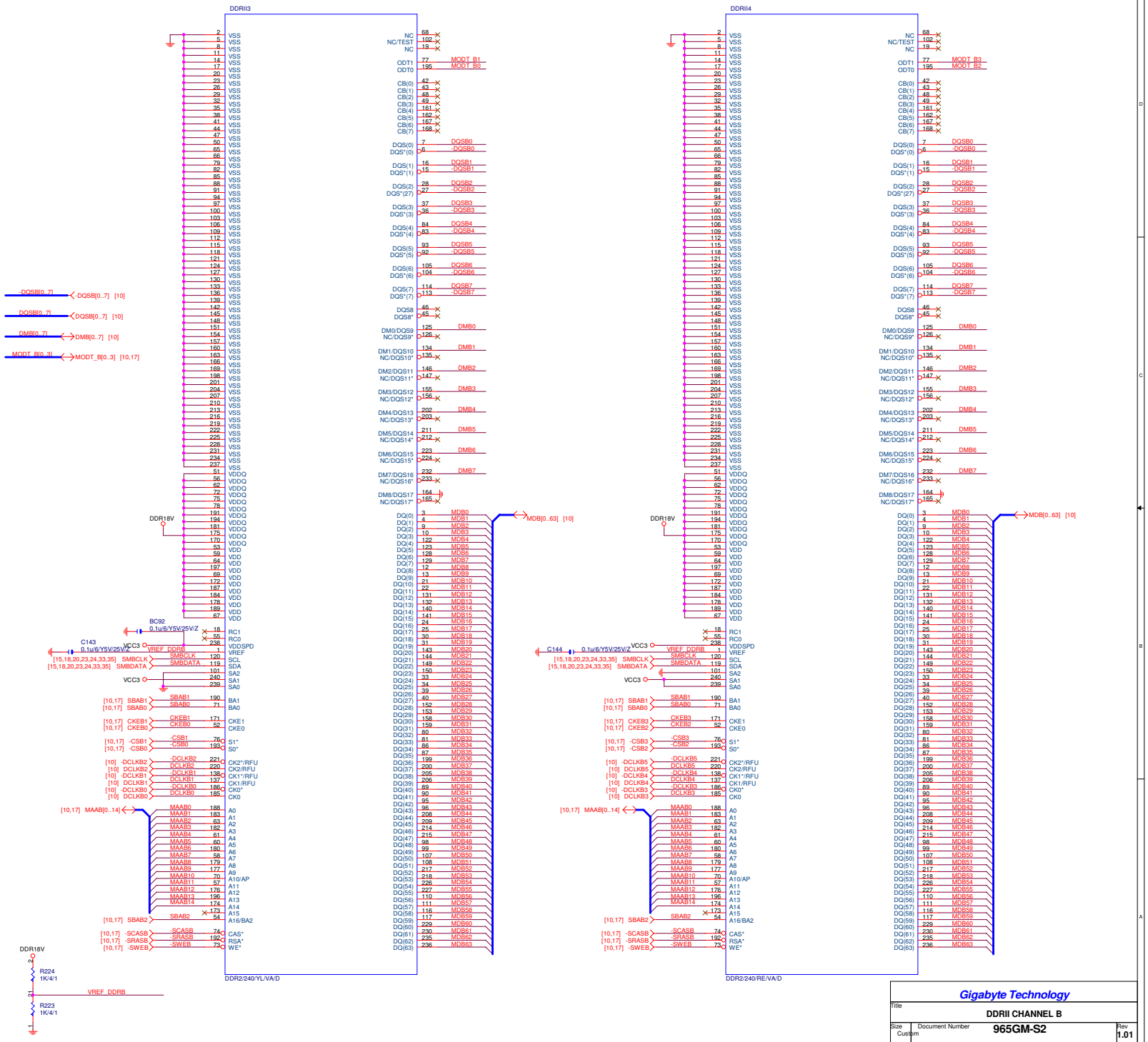

Gigabyte Technology		
Title	DDRII CHANNEL B	
Size: Custom	Document Number: 965GM-S2	Rev: 1.01
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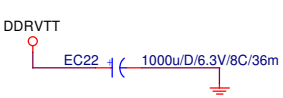
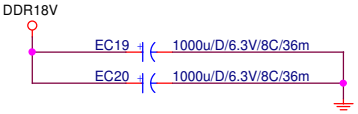
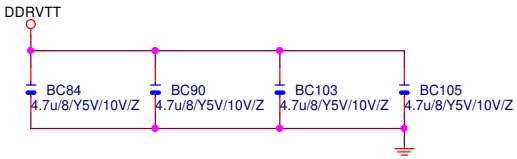
DDR TERMINATION CHANNEL A

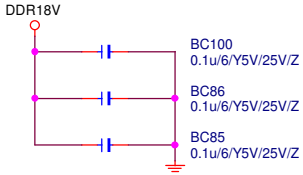
DDRVTT Decouple



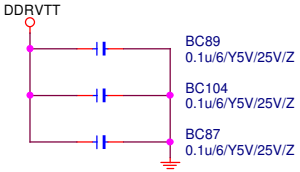


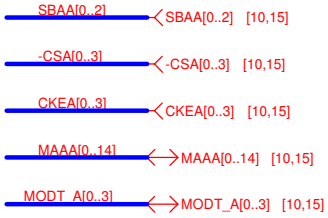


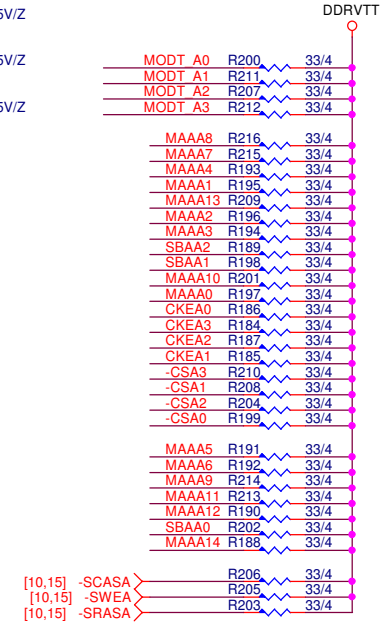
DDR18V Decouple



DDRVTT Decouple

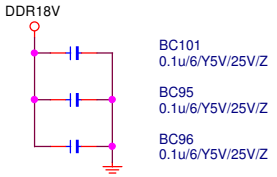




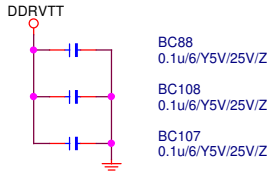


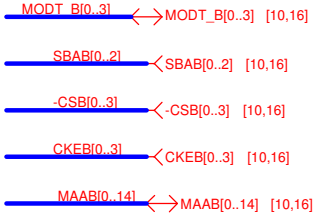
DDR TERMINATION CHANNEL B

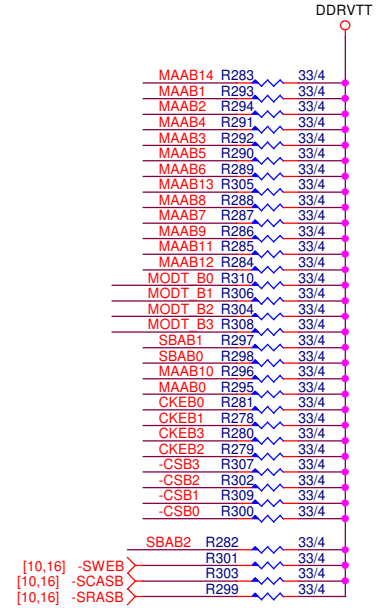
DDR18V Decouple



DDRVTT Decouple

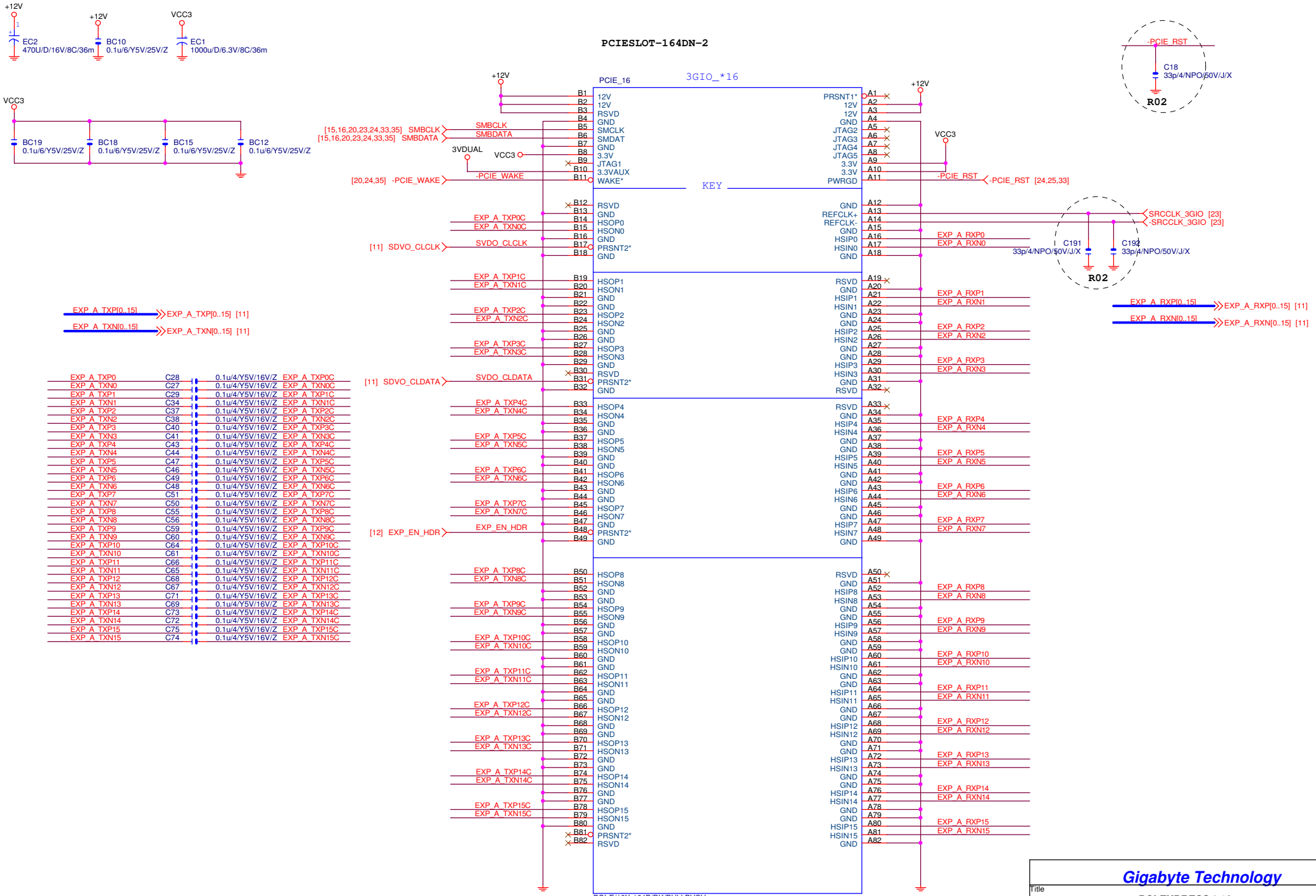






Gigabyte Technology

Title	DDRII TERMINATOR	
Size: Custom	Document Number: 965GM-S2	Rev: 1.01
Date: Friday, August 18, 2006	Sheet 17 of 36	



EXP_A_TXP0	C28	0.1u/4/Y5V/16V/Z EXP_A_TXP0C
EXP_A_TXN0	C27	0.1u/4/Y5V/16V/Z EXP_A_TXN0C
EXP_A_TXP1	C29	0.1u/4/Y5V/16V/Z EXP_A_TXP1C
EXP_A_TXN1	C34	0.1u/4/Y5V/16V/Z EXP_A_TXN1C
EXP_A_TXP2	C37	0.1u/4/Y5V/16V/Z EXP_A_TXP2C
EXP_A_TXN2	C38	0.1u/4/Y5V/16V/Z EXP_A_TXN2C
EXP_A_TXP3	C40	0.1u/4/Y5V/16V/Z EXP_A_TXP3C
EXP_A_TXN3	C41	0.1u/4/Y5V/16V/Z EXP_A_TXN3C
EXP_A_TXP4	C43	0.1u/4/Y5V/16V/Z EXP_A_TXP4C
EXP_A_TXN4	C44	0.1u/4/Y5V/16V/Z EXP_A_TXN4C
EXP_A_TXP5	C47	0.1u/4/Y5V/16V/Z EXP_A_TXP5C
EXP_A_TXN5	C46	0.1u/4/Y5V/16V/Z EXP_A_TXN5C
EXP_A_TXP6	C49	0.1u/4/Y5V/16V/Z EXP_A_TXP6C
EXP_A_TXN6	C48	0.1u/4/Y5V/16V/Z EXP_A_TXN6C
EXP_A_TXP7	C51	0.1u/4/Y5V/16V/Z EXP_A_TXP7C
EXP_A_TXN7	C50	0.1u/4/Y5V/16V/Z EXP_A_TXN7C
EXP_A_TXP8	C55	0.1u/4/Y5V/16V/Z EXP_A_TXP8C
EXP_A_TXN8	C56	0.1u/4/Y5V/16V/Z EXP_A_TXN8C
EXP_A_TXP9	C59	0.1u/4/Y5V/16V/Z EXP_A_TXP9C
EXP_A_TXN9	C60	0.1u/4/Y5V/16V/Z EXP_A_TXN9C
EXP_A_TXP10	C64	0.1u/4/Y5V/16V/Z EXP_A_TXP10C
EXP_A_TXN10	C61	0.1u/4/Y5V/16V/Z EXP_A_TXN10C
EXP_A_TXP11	C66	0.1u/4/Y5V/16V/Z EXP_A_TXP11C
EXP_A_TXN11	C65	0.1u/4/Y5V/16V/Z EXP_A_TXN11C
EXP_A_TXP12	C68	0.1u/4/Y5V/16V/Z EXP_A_TXP12C
EXP_A_TXN12	C67	0.1u/4/Y5V/16V/Z EXP_A_TXN12C
EXP_A_TXP13	C71	0.1u/4/Y5V/16V/Z EXP_A_TXP13C
EXP_A_TXN13	C69	0.1u/4/Y5V/16V/Z EXP_A_TXN13C
EXP_A_TXP14	C73	0.1u/4/Y5V/16V/Z EXP_A_TXP14C
EXP_A_TXN14	C72	0.1u/4/Y5V/16V/Z EXP_A_TXN14C
EXP_A_TXP15	C75	0.1u/4/Y5V/16V/Z EXP_A_TXP15C
EXP_A_TXN15	C74	0.1u/4/Y5V/16V/Z EXP_A_TXN15C

Gigabyte Technology		
Title: PCI EXPRESS * 16		
Size: Custom	Document Number: 965GM-S2	Rev: 1.01
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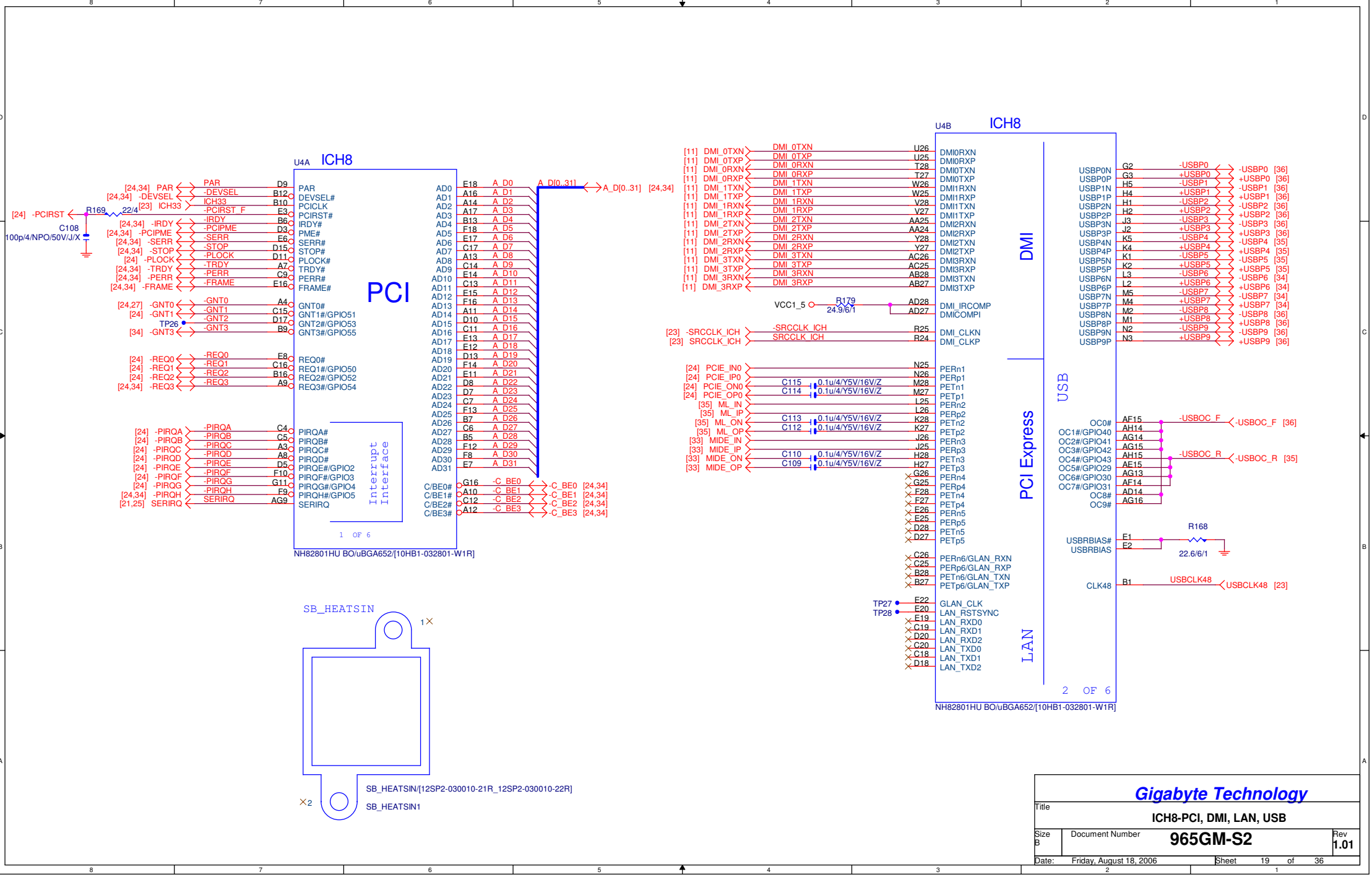
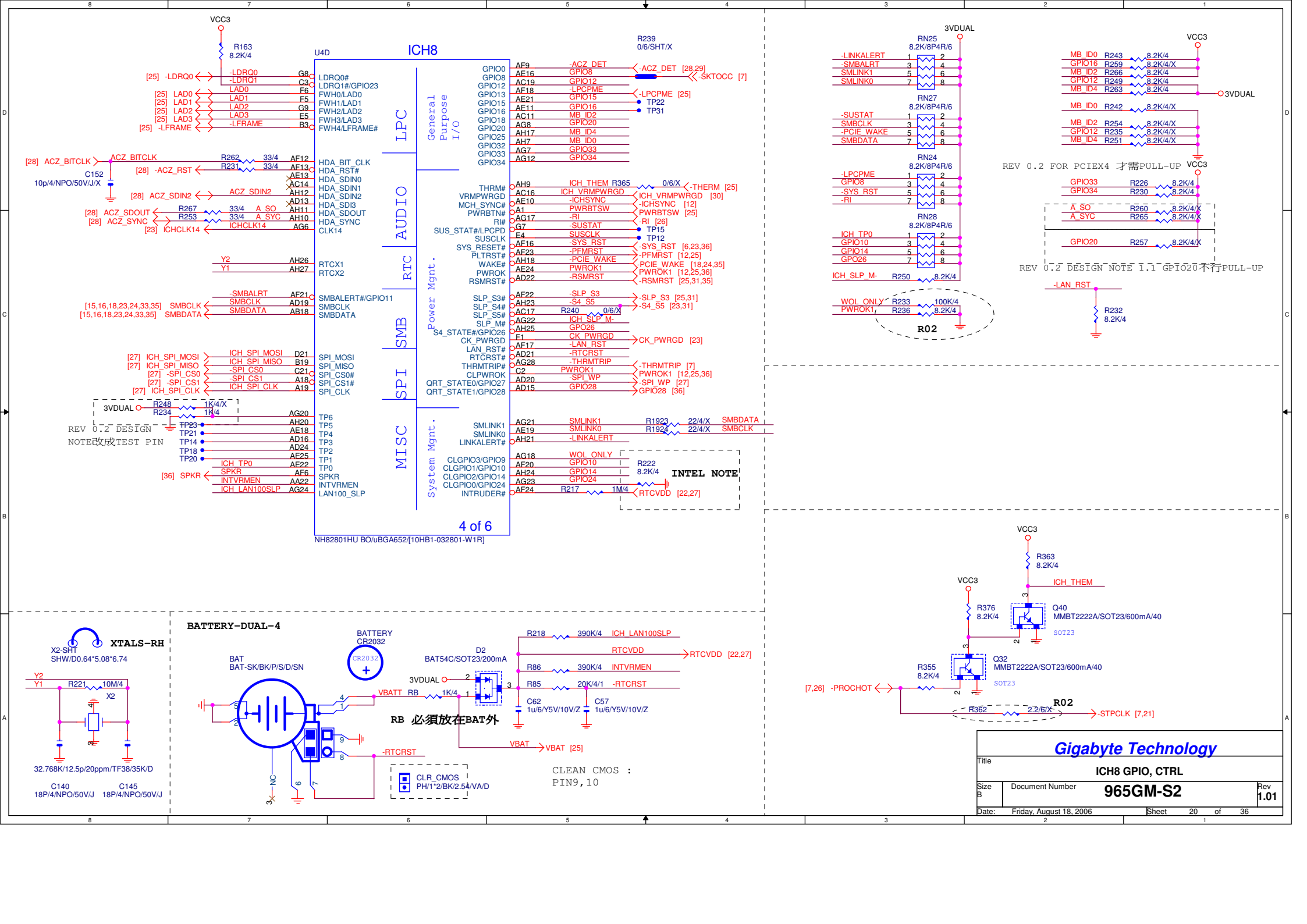


Gigabyte Technology		
Title	ICH8-PCI, DMI, LAN, USB	
Size B	Document Number 965GM-S2	Rev 1.01
Date: Friday, August 18, 2006	Sheet 19 of 36	


ICH8
U4D
4 of 6
NH82801HU BO/uBGA652/[10HB1-032801-W1R]
LPC
AUDIO
RTC
SMB
SPI
MISC
General Purpose I/O
Power Mgnt.
System Mgnt.
R163 8.2K/4
R239 0/6/SHT/X
-LDRQ0
-LDRQ1
LAD0
LAD1
LAD2
LAD3
-LFRAME
ACZ_BITCLK
-ACZ_RST
ACZ_SDIN2
ACZ_SDOUT
ACZ_SYNC
ICHCLK14
Y2
Y1
-SMBALRT
SMBCLK
SMBDATA
ICH_SPI_MOSI
ICH_SPI_MISO
-SPI_CS0
-SPI_CS1
ICH_SPI_CLK
SPKR
INTVRMEN
ICH_LAN100SLP
ICH_TP0
3VDUAL
REV 0.2 DESIGN NOTE改成TEST PIN
-ACZ_DET
-LPCPME
TP22
TP31
ICH_THEM
ICH_VRMPWRGD
-ICHSYNC
PWRBTSW
-RI
-SUSTAT
SUSCLK
-SYS_RST
-PFMRST
-PCIE_WAKE
PWROK1
-RSMRST
-SLP_S3
-S4_S5
ICH_SLP_M-
GPO26
CK_PWRGD
-LAN_RST
-RTCRST
-THRMTRIP
-SPI_WP
GPIO28
SMLINK1
SMLINK0
-LINKALERT
WOL_ONLY
GPIO10
GPIO14
GPIO24
RTCVDD
INTRUDER#
INTEL NOTE
-THERM
-SKTOCC
-PROCHOT
-STPCLK
VBAT
-SLP_S3 [25,31]
-S4_S5 [23,31]
-SYS_RST [6,23,36]
-PCIE_WAKE [18,24,35]
PWROK1 [12,25,36]
-RSMRST [25,31,35]
CK_PWRGD [23]
-THRMTRIP [7]
-SPI_WP [27]
GPIO28 [36]
RTCVDD [22,27]
VBAT [25]
SMBDATA
SMBCLK
RN25 8.2K/8P4R/6
RN27 8.2K/8P4R/6
RN24 8.2K/8P4R/6
RN28 8.2K/8P4R/6
R250 8.2K/4
R233 100K/4
R236 8.2K/4
R02
REV 0.2 FOR PCIEX4 才需PULL-UP
REV 0.2 DESIGN NOTE 1.1 GPIO20不行PULL-UP
R232 8.2K/4
R363 8.2K/4
R376 8.2K/4
R355 8.2K/4
R362 2.2/6/X
Q40 MMBT2222A/SOT23/600mA/40
Q32 MMBT2222A/SOT23/600mA/40
SOT23
XTALS-RH
X2-SHT
SHW/D0.64*5.08*6.74
R221 10M/4
X2
32.768K/12.5p/20ppm/TF38/35K/D
C140 18P/4/NPO/50V/J
C145 18P/4/NPO/50V/J
C152 10p/4/NPO/50V/J/X
BATTERY-DUAL-4
BAT
BAT-SK/BK/P/S/D/SN
BATTERY
CR2032
D2
BAT54C/SOT23/200mA
R218 390K/4
R86 390K/4
R85 20K/4/1
C62 1u/6/Y5V/10V/Z
C57 1u/6/Y5V/10V/Z
RB 必須放在BAT外
CLR_CMOS
PH/1*2/BK/2.54/VA/D
CLEAN CMOS : PIN9,10
Gigabyte Technology
ICH8 GPIO, CTRL
965GM-S2
Rev 1.01
Friday, August 18, 2006
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REV 0.2 修改成VCC3,
否則造成不開機
,-PCIRST/-PFMRST不會打

INTEL NOTE:SATAII PORT

ICH8: 4(0/1/4/5 PORT,2/3:N/A)
ICH8R: 6
ICH8DH: 6
ICH8DO: 6

VCC1_5
R158 24.9/6/1
U4C ICH8
GLAN_COMPO C24
GLAN_COMPI D24
GbE Controller
Controller Link
SATA
Fan Speed Control
HOST
3 OF 6
NH82801HU BO/uBGA652/[10HB1-032801-W1R]

VCC3
R156 3.24K/4/1
R157 453/6/1
C98 0.1u/6/Y5V/25V/Z

[12] CL_CLK — CL_CLK F21 — CL_CLK
[12] CL_DATA — CL_DATA G21 — CL_DATA
B21 — CL_VREF
[12] -CL_RST — -CL_RST AG19 — CL_RST#

[26] ICH_FAN_PWM0 — ICH_FAN_PWM0 AB6 — PWM0
[32] ICH_FAN_PWM1 — ICH_FAN_PWM1 AD6 — PWM1
[26] ICH_FAN_PWM2 — ICH_FAN_PWM2 AB8 — PWM2

[26] ICH_FAN_TACH0 — ICH_FAN_TACH0 AC7 — TACH0/GPIO17
[32] ICH_FAN_TACH1 — ICH_FAN_TACH1 AF5 — TACH1/GPIO1
AE6 — TACH2/GPIO6
AC8 — TACH3/GPIO7

TACH0~3:PU-20K-IN

[25] SSTCTL — R392 0/4/SHT/X — AD17 — SST
[7,25] PECI — R228 0/4/SHT/X — AF26 — PECI

R02

R181 0/6/SHT/X

[7] CPUPWROK — CPUPWROK AF25 — CPUPWRGD/GPIO49
[7,20] -STPCLK — -STPCLK AB23 — STPCLK#
[7] -SMI — -SMI AB20 — SMI#

[25] -KBRST — -KBRST AF10 — RCIN#
[7] NMI — NMI AC23 — NMI
[7] -FERR — -FERR AB22 — FERR#
[7] INTR — INTR AH28 — INTR
[5] -HINIT — -HINIT AB19 — INIT#
TP29 — -FWHINIT AC12 — INIT3_3V#
[7] -IGNNE — -IGNNE AC22 — IGNNE#
R220 0/6/X — -A20M AC24 — CPUSLP#
[7] -A20M — -A20M AD23 — A20M#
[25] A20GATE — A20GATE AG10 — A20GATE

INTEL NOTE
[7] TESTHI13

SATA0RXN AC5 — SATA0RXN
SATA0RXP AC4 — SATA0RXP
SATA0TXN AE4 — SATA0TXN
SATA0TXP AE3 — SATA0TXP
SATA1RXN AF1 — SATA1RXN
SATA1RXP AF2 — SATA1RXP
SATA1TXN AH2 — SATA1TXN
SATA1TXP AH1 — SATA1TXP
SATA2RXN W5
SATA2RXP W4
SATA2TXN AA3
SATA2TXP AA4
SATA3RXN AB1
SATA3RXP AB2
SATA3TXN AD2
SATA3TXP AD1
SATA4RXN Y1 — SATA4RXN
SATA4RXP Y2 — SATA4RXP
SATA4TXN U3 — SATA4TXN
SATA4TXP U4 — SATA4TXP
SATA5RXN T1 — SATA5RXN
SATA5RXP T2 — SATA5RXP
SATA5TXN V2 — SATA5TXN
SATA5TXP V1 — SATA5TXP
SATA_CLKN AG3 — -SRCCLK_SATA — -SRCCLK_SATA [23]
SATA_CLKP AG4 — SRCCLK_SATA — SRCCLK_SATA [23]

SATALED# AB10 — -SATALED — R176 24.9/6/1 — -SATALED [36]
SATARBIAS# R2
SATARBIAS R1

SATA0GP/GPIO21 AB11 — GPIO21
SATA1GP/GPIO19 AD8 — GPIO19
SATA2GP/GPIO36 AF8 — GPIO36
SATA3GP/GPIO37 AD9 — GPIO37
SATA4GP AD10 — SATA4GP
SATA5GP AE9 — SATA5GP

SATACLKREQ#/GPIO35 AD12 — TP19
SDATAOUT1/GPIO48 AF7 — GPIO48 — R241 8.2K/4
SDATAOUT0/GPIO39 AC10 — GPIO39 — R227 8.2K/4
SLOAD/GPIO38 AH6 — GPIO38 — R225 8.2K/4
SCLOCK/GPIO22 AE7 — GPIO22 — R238 8.2K/4
VCC3

The ICH8 integrated GbE LAN test mode is activated any time the ICH8 GPIO39 signal is not at a low logic level.

Workaround
Under investigation. Possible workaround is to use a weak pulldown resistor on GPIO39 to ensure signal is always low

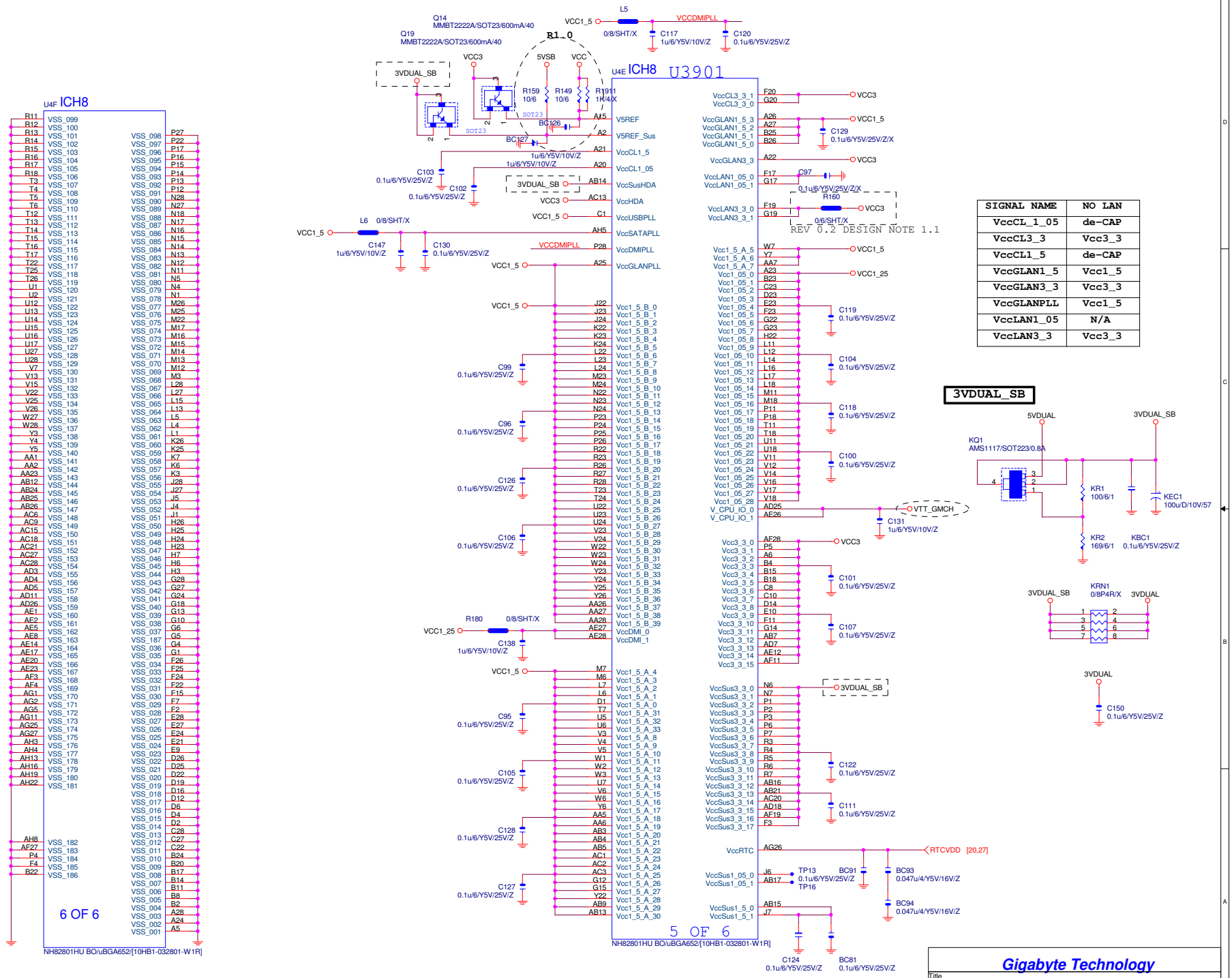
VCC3
RN23 8.2K/8P4R/6
-KBRST 3
A20GATE 5
SERIRQ 7
[19,25] SERIRQ
RN22 8.2K/8P4R/6
GPIO21 1
GPIO37 3
GPIO19 5
GPIO36 7
SATA4GP R261 8.2K/4
SATA5GP R258 8.2K/4

SATAII01
SATA0TXP 0.01u/4/X7R/25V/K C163 — SATA0TXPC
SATA0TXN 0.01u/4/X7R/25V/K C161 — SATA0TXNC
SATA0RXN 0.01u/4/X7R/25V/K C156 — SATA0RXNC
SATA0RXP 0.01u/4/X7R/25V/K C154 — SATA0RXPC
SATA1RXP C165 — 0.01u/4/X7R/25V/K SATA1RXP
SATA1RXN C164 — 0.01u/4/X7R/25V/K SATA1RXN
SATA1TXN C159 — 0.01u/4/X7R/25V/K SATA1TXN
SATA1TXP C158 — 0.01u/4/X7R/25V/K SATA1TXP
SATA2/7/YL/H/P/VA/D/2/B/GBT

SATAII23
SATA4TXP 0.01u/4/X7R/25V/K C149 — SATA4TXPC
SATA4TXN 0.01u/4/X7R/25V/K C148 — SATA4TXNC
SATA4RXN 0.01u/4/X7R/25V/K C141 — SATA4RXNC
SATA4RXP 0.01u/4/X7R/25V/K C139 — SATA4RXPC
SATA5RXP C146 — 0.01u/4/X7R/25V/K SATA5RXP
SATA5RXN C142 — 0.01u/4/X7R/25V/K SATA5RXN
SATA5TXN C137 — 0.01u/4/X7R/25V/K SATA5TXN
SATA5TXP C136 — 0.01u/4/X7R/25V/K SATA5TXP
SATA2/7/YL/H/P/VA/D/2/B/GBT

Gigabyte Technology

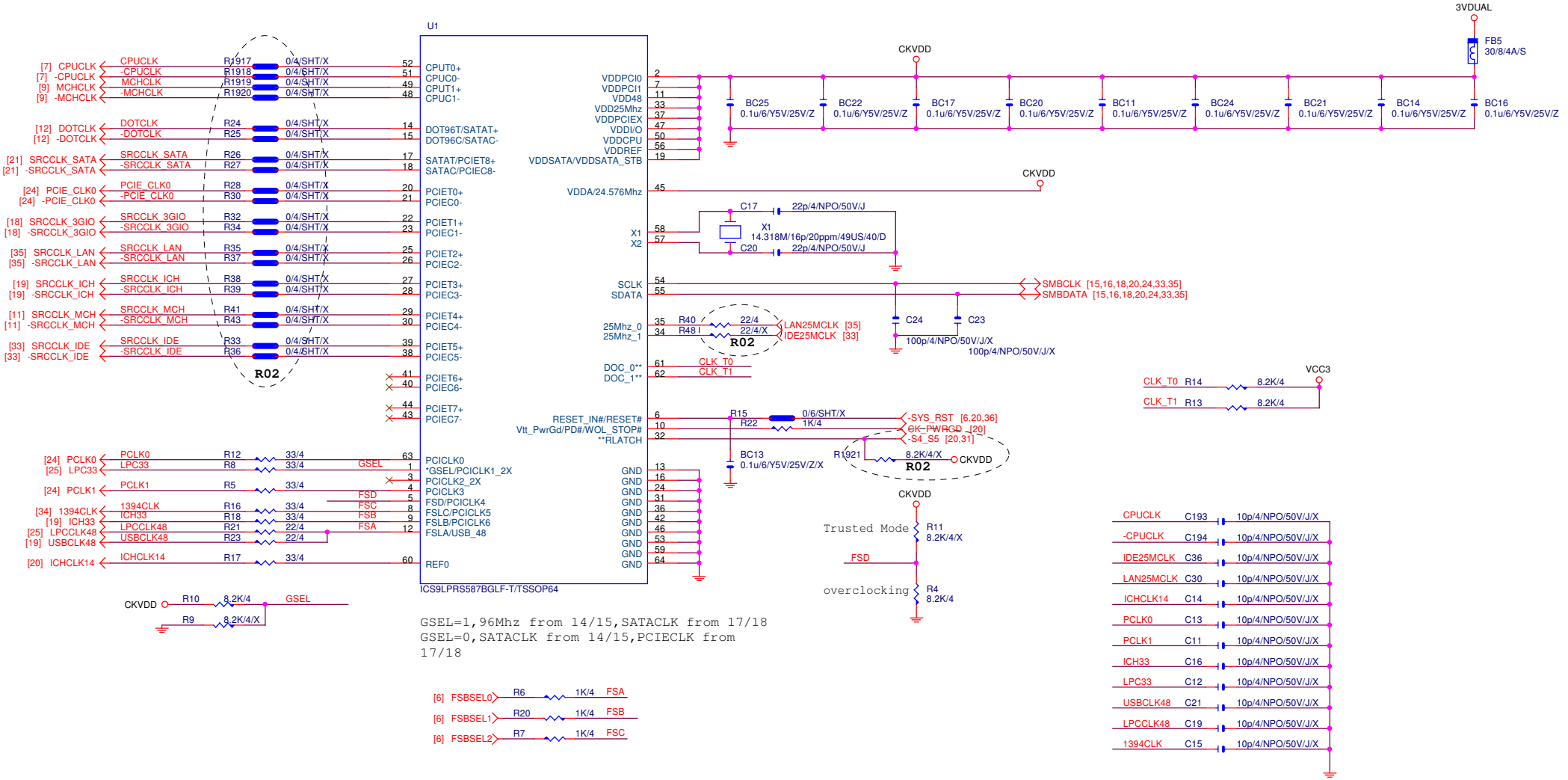
Title	ICH8- SATA, FAN CTRL		
Size Custom	Document Number 965GM-S2		Rev 1.01
Date: Friday, August 18, 2006		Sheet 21 of 36	



SIGNAL NAME	NO LAN
VccCL_1_05	de-CAP
VccCL3_3	Vcc3_3
VccCL1_5	de-CAP
VccGLAN1_5	Vcc1_5
VccGLAN3_3	Vcc3_3
VccGLANPLL	Vcc1_5
VccLAN1_05	N/A
VccLAN3_3	Vcc3_3

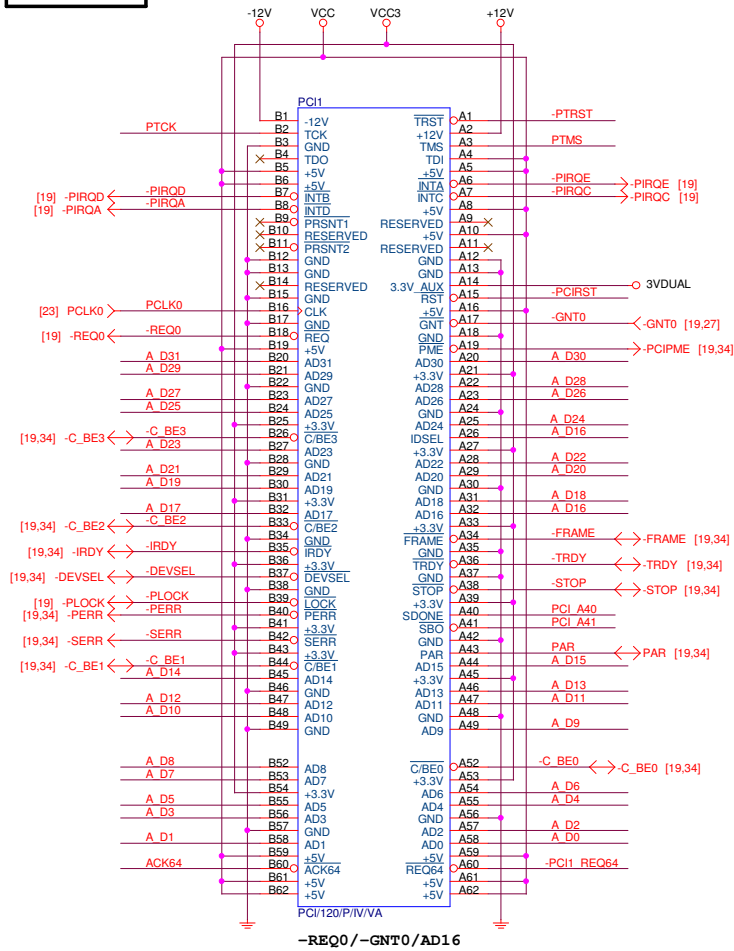
Gigabyte Technology		
Title: ICH6-PWR & GND		
Size: Custom	Document Number: 965GM-S2	Rev: 1.01
Date: Friday, August 18, 2006	Sheet 22 of 36	

CLK GEN CK505

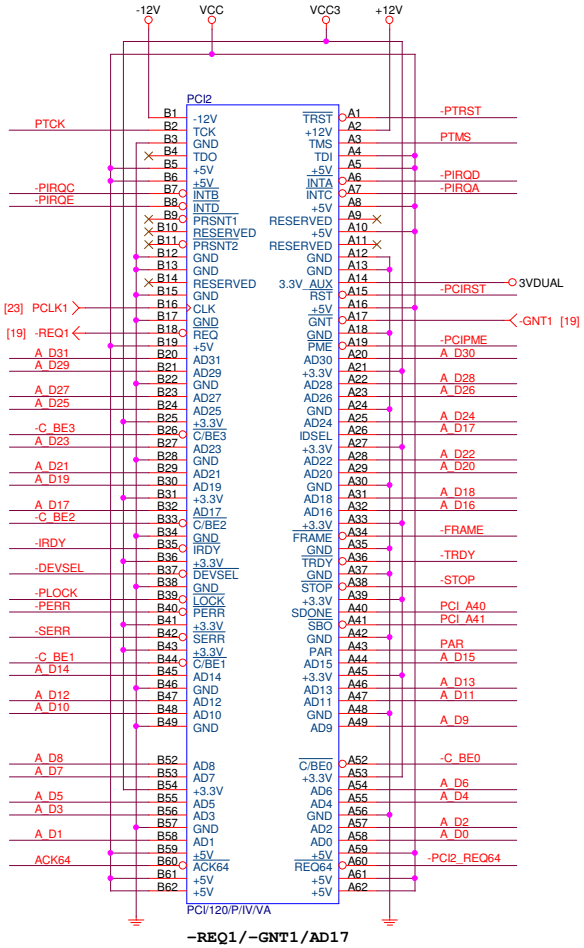


Gigabyte Technology		
Title	CK505 CLK GEN	
Size: Custom	Document Number: 965GM-S2	Rev: 1.01
Date: Friday, August 18, 2006	Sheet 23 of 36	

PCI1,2 SLOT

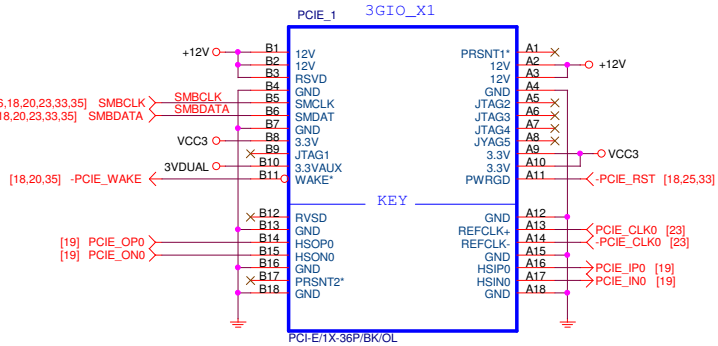


-REQ0/-GNT0/AD16



-REQ1/-GNT1/AD17

PCIE*1



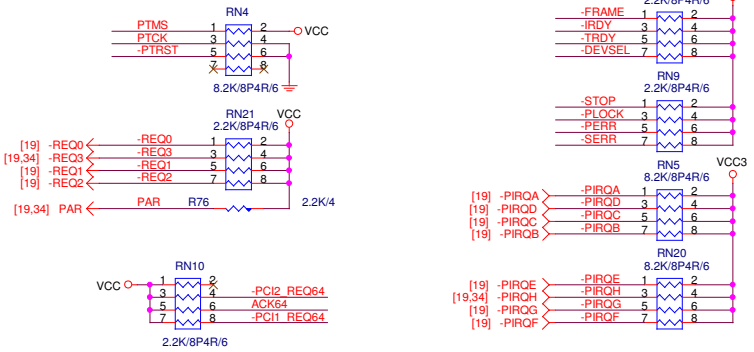
[19,34] A_D[0..31] — A_D[0..31]

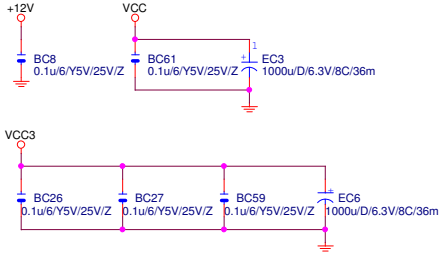
-PCIRST — -PCIRST [19]

C25
33p/4/NPO/50V/J

Place close to PCI1

[15,16,18,20,23,33,35] SMBCLK — R74 0/6/SHT/X PCI_A40
[15,16,18,20,23,33,35] SMBDATA — R77 0/6/SHT/X PCI_A41





Gigabyte Technology

Title: **PCI SLOT 1, 2/PCIEX1**

Size	Document Number	Rev
Custom	**965GM-S2**	1.01

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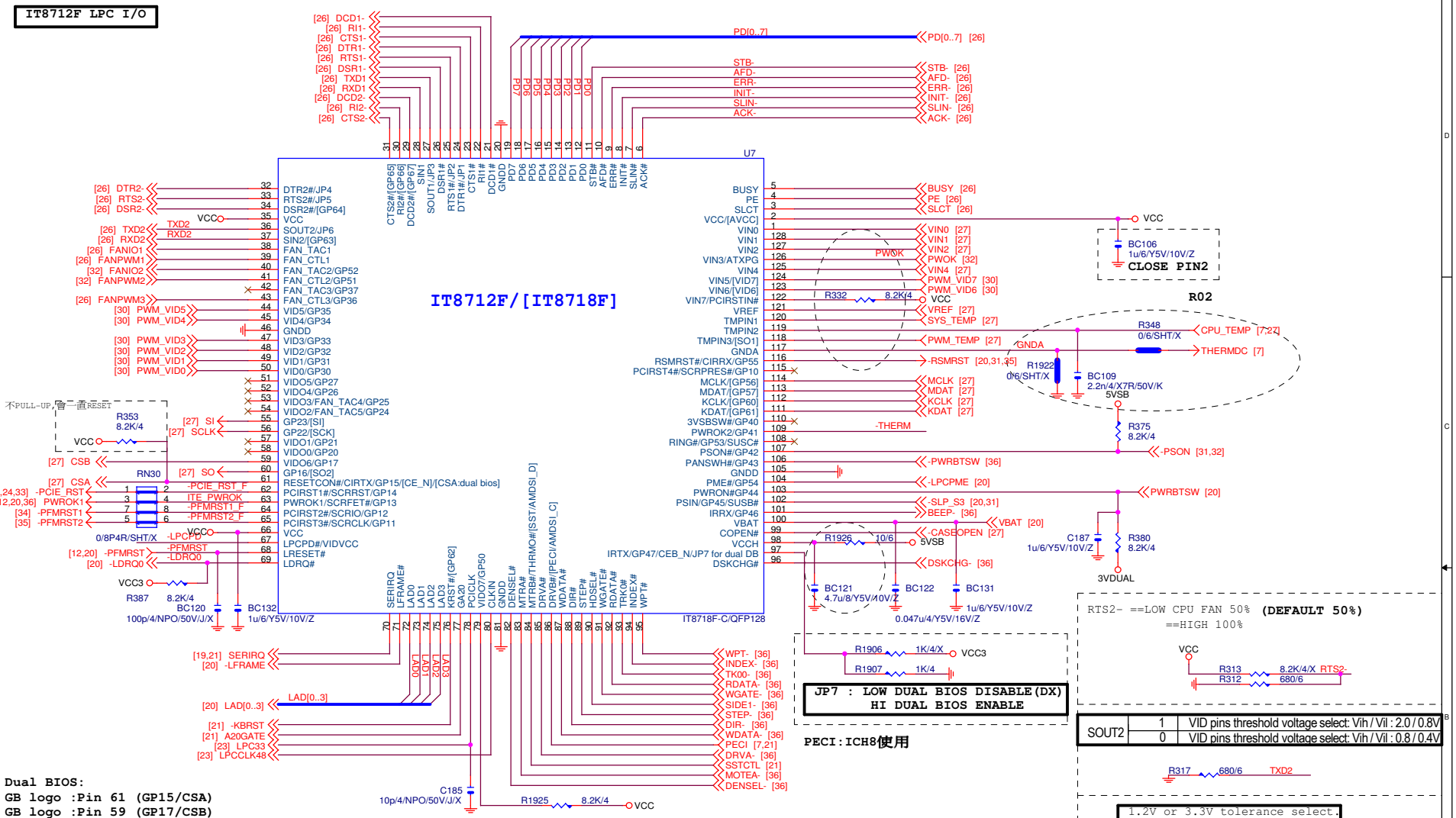
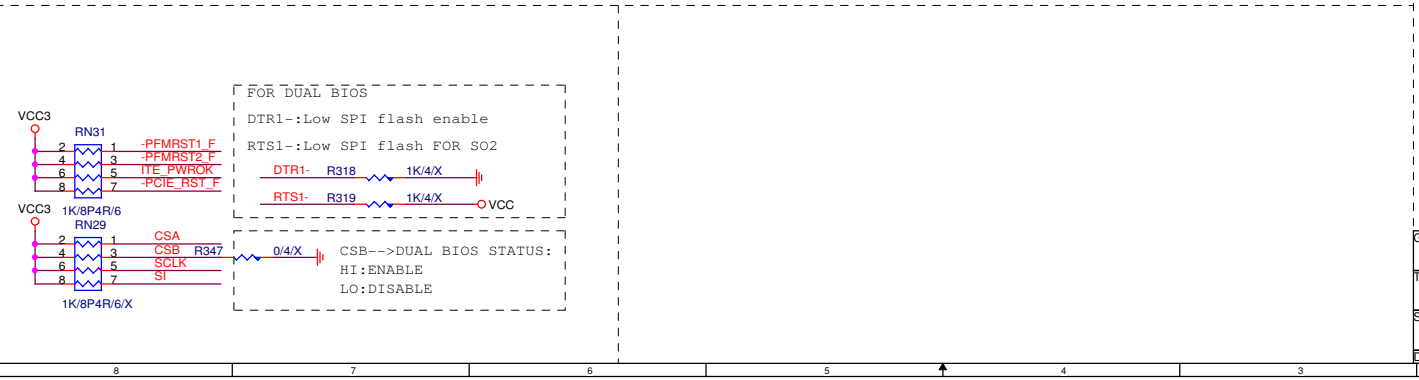
IT8712F LPC I/O



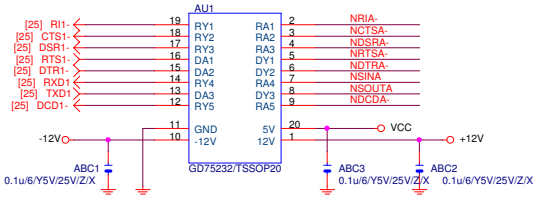
Dual BIOS:
GB logo :Pin 61 (GP15/CSA)
GB logo :Pin 59 (GP17/CSB)

Pin 59 Dual BIOS ,Power On Strapping:
H ==>Dual BIOS function Enable
L ==>Dual BIOS function Disable

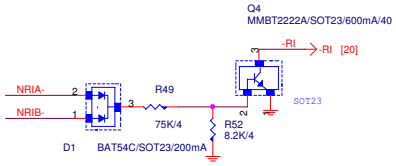


Gigabyte Technology		
Title	ITE 8712 LPC IO	
Size: Custom	Document Number: 965GM-S2	Rev: 1.01
Date: Friday, August 18, 2006	Sheet 25 of 36	

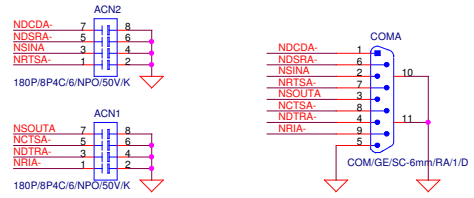
COMA



COM RI

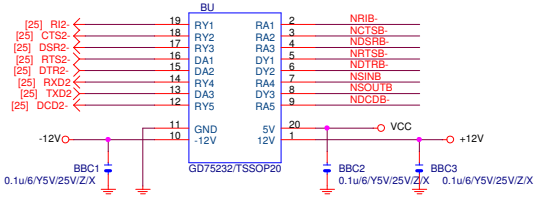


EXTERNAL COMA

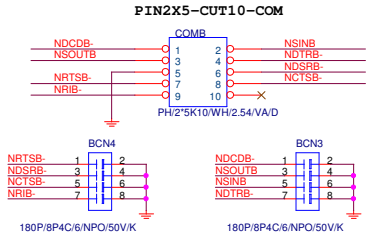


PLACE NEAR COM CONNECTOR

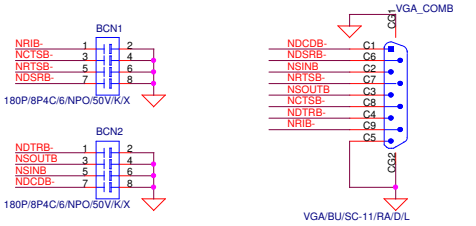
COMB



INTERNAL COMB

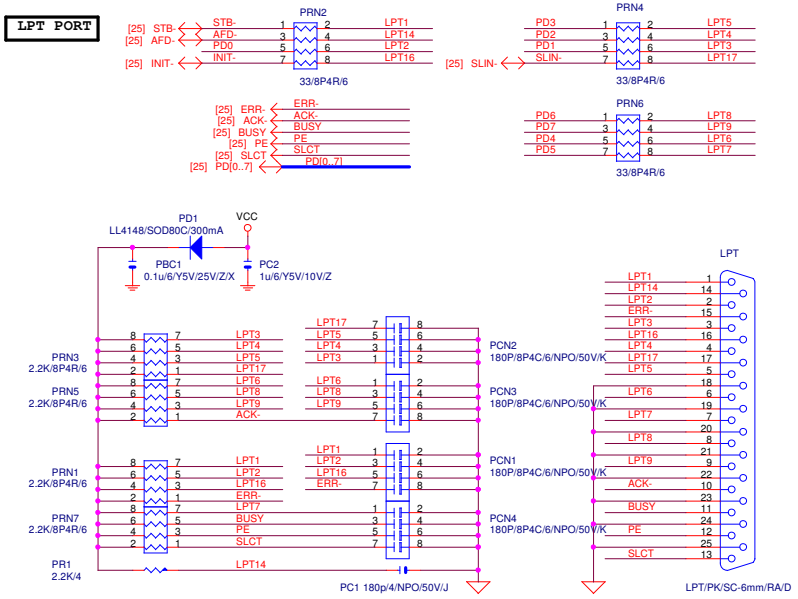


EXTERNAL COMB

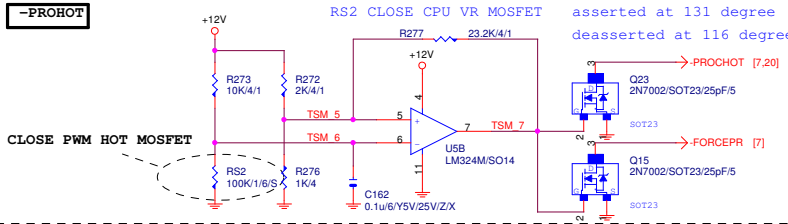


PLACE NEAR VGA_COM CONNECTOR

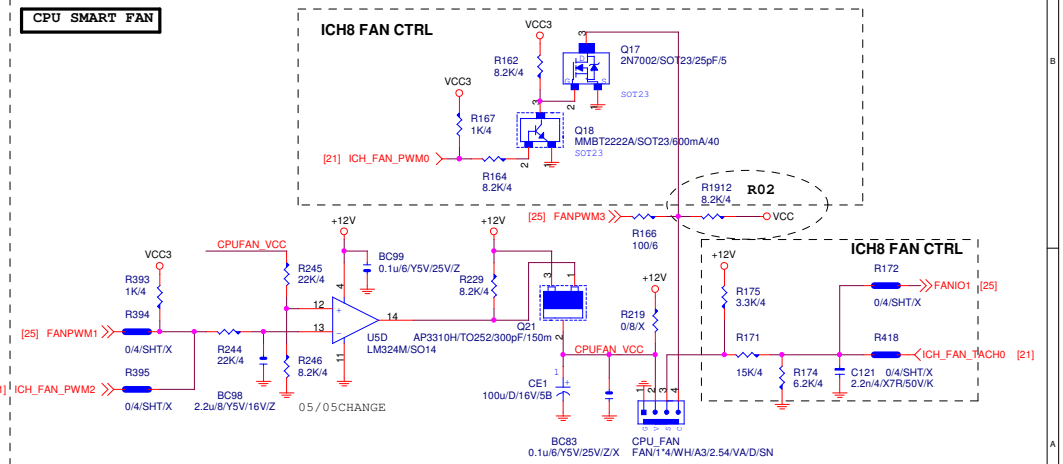
LPT PORT



-PROHOT



CPU SMART FAN



Gigabyte Technology		
Title: COM & LPT PORT		
Size: Custom	Document Number: 965GM-S2	Rev: 1.01
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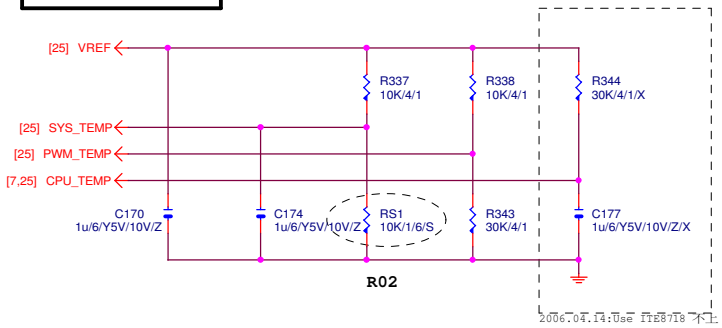
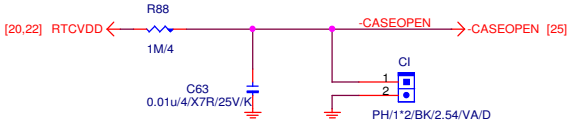
TEMP H/W MONITOR

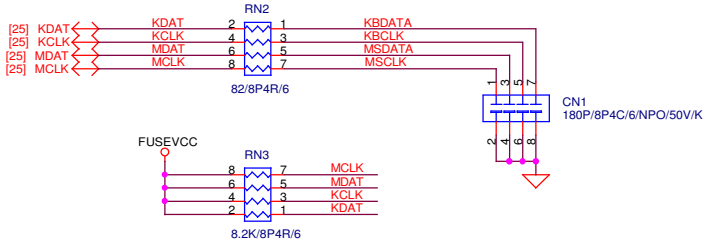


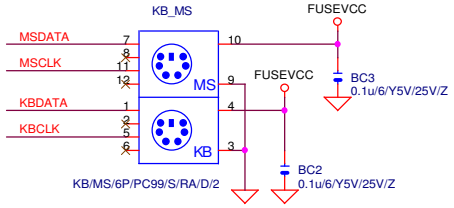
CASE OPEN



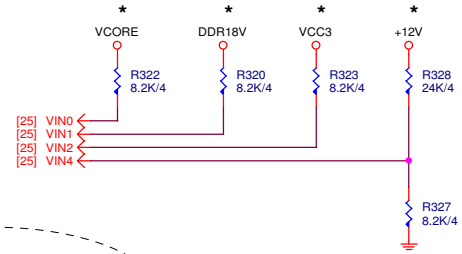
Case Open Circuits

KB/MS

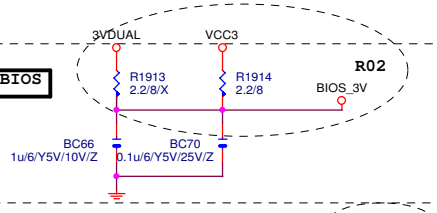


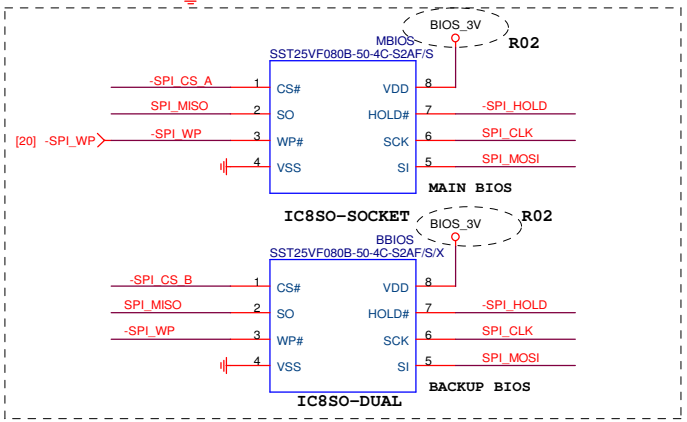


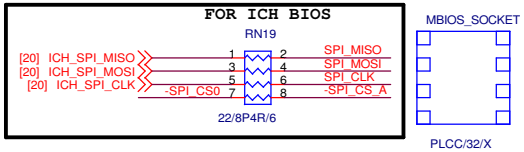
VOLTAGE-- H/W MONITOR

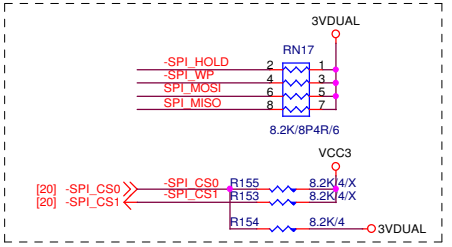


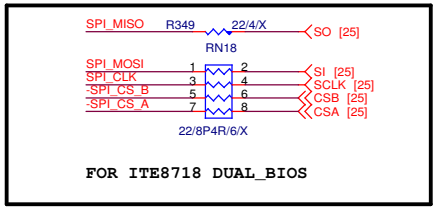
SPI BIOS

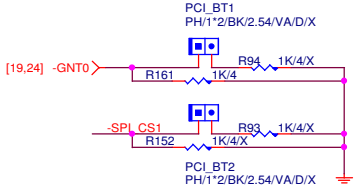












BOOT DEVICE	GNT0	CS1
SPI	0	X
PCI	1	0
FWH	1	1

Gigabyte Technology		
Title: BIOS/HW-MONITOR/CI/KB/MS		
Size: B	Document Number: 965GM-S2	Rev: 1.01
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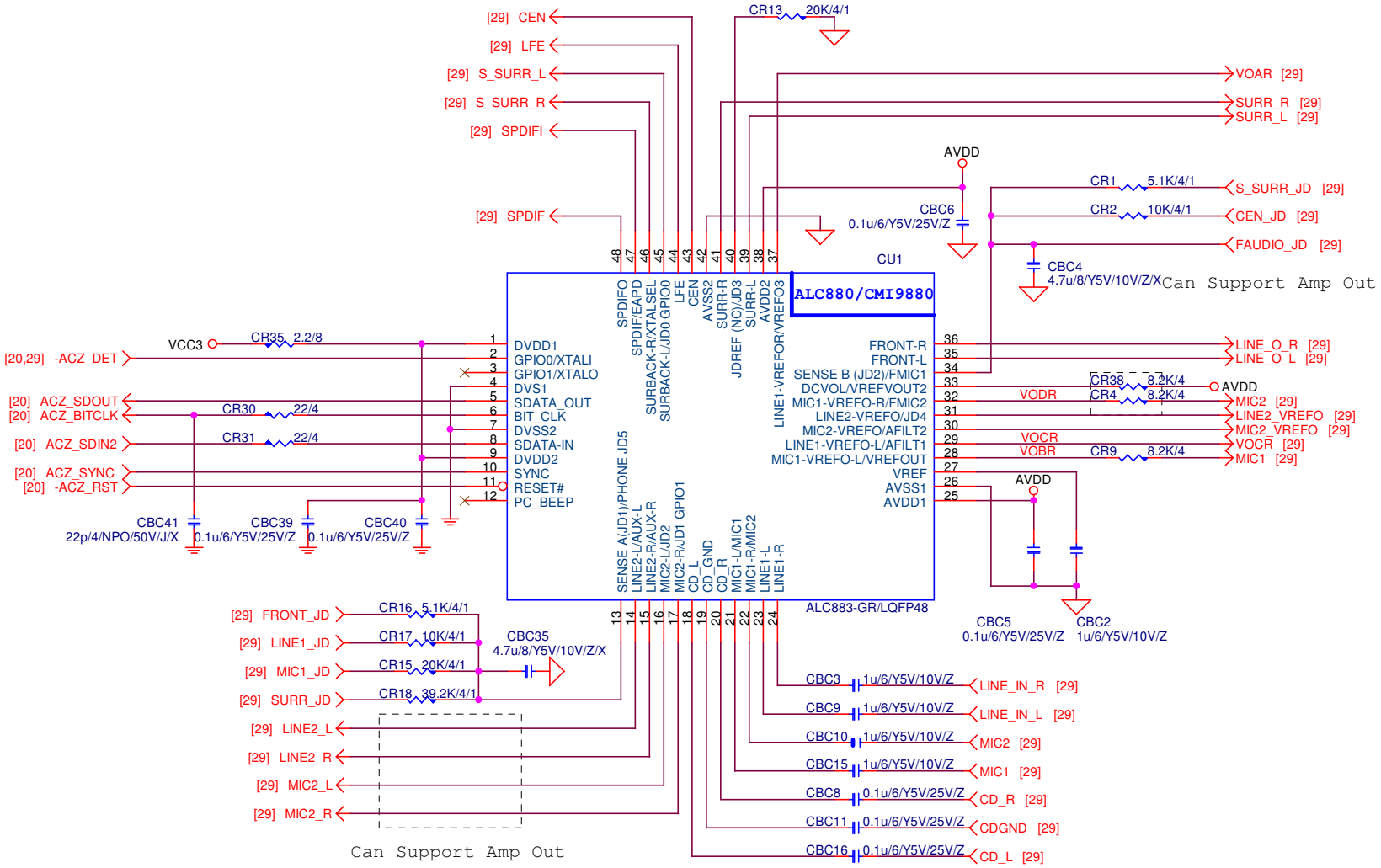
AZALIA CODEC



Gigabyte Technology		
Title: AZALIA ALC883		
Size: Custom	Document Number: 965GM-S2	Rev: 1.01
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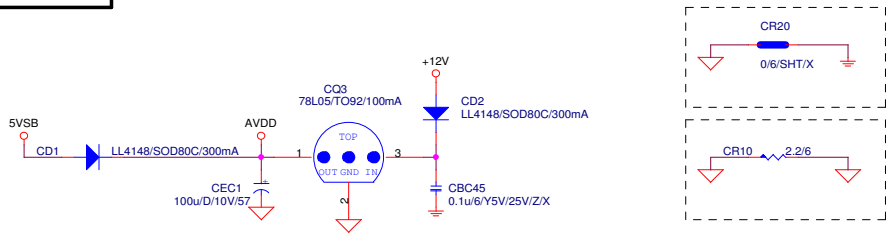
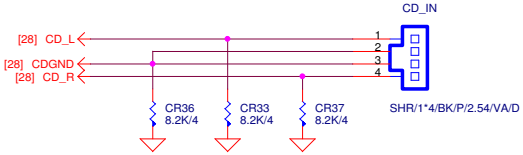
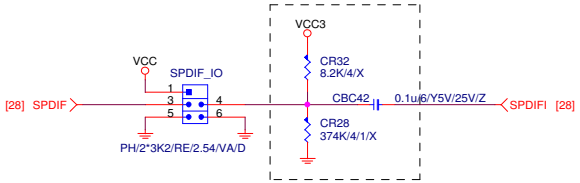
CODEC POWER/EMI PAD



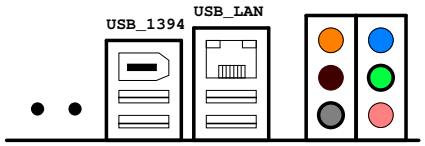
CD IN



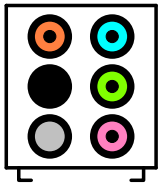
SPDIF



AZALIA JACK

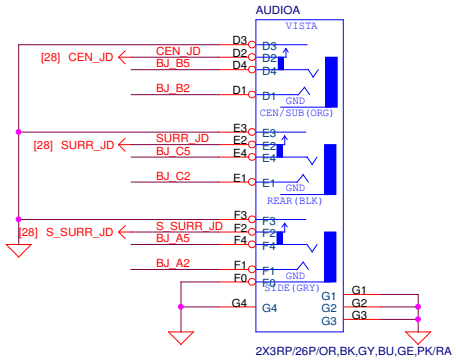


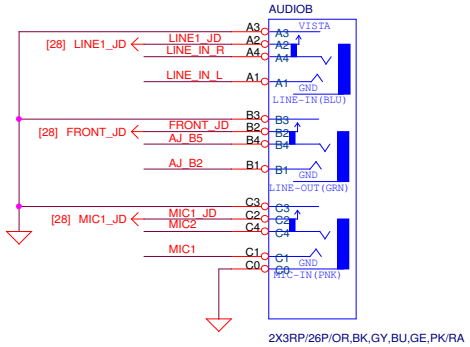
BTX AZALIA CONNECTOR



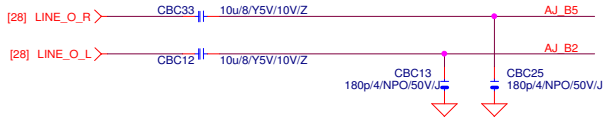
3RP/26P/OR,BK,GY,BU,GE,PK/RA/D/1/B

VISTA規範:REAR-->BLK,CEN/SUB-->ORG

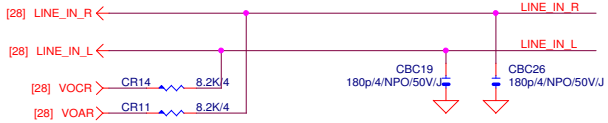




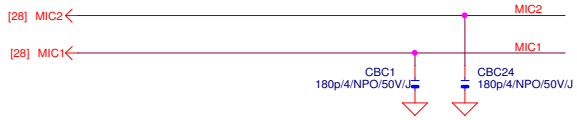
LINE-OUT



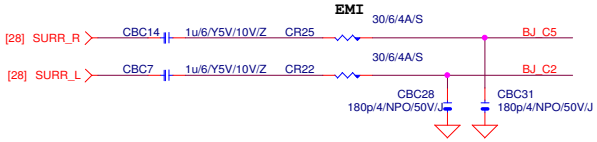
LINE-IN



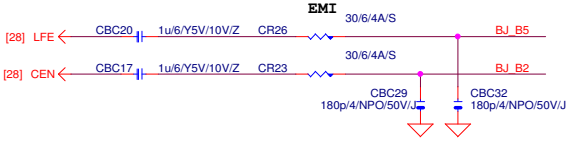
MIC-IN



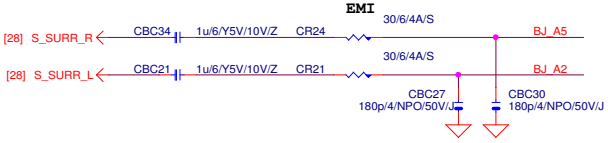
SURROUND



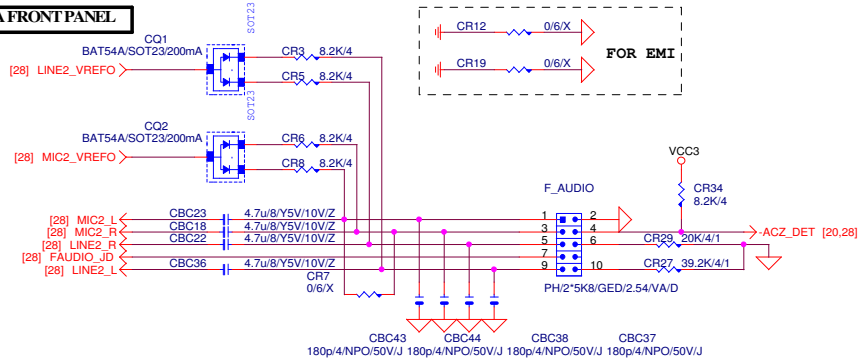
CEN/LFE



SURR BACK



AZALIA FRONT PANEL



Gigabyte Technology

Title: AUDIO JACK

Size: Custom | Document Number: 965GM-S2 | Rev: 1.01

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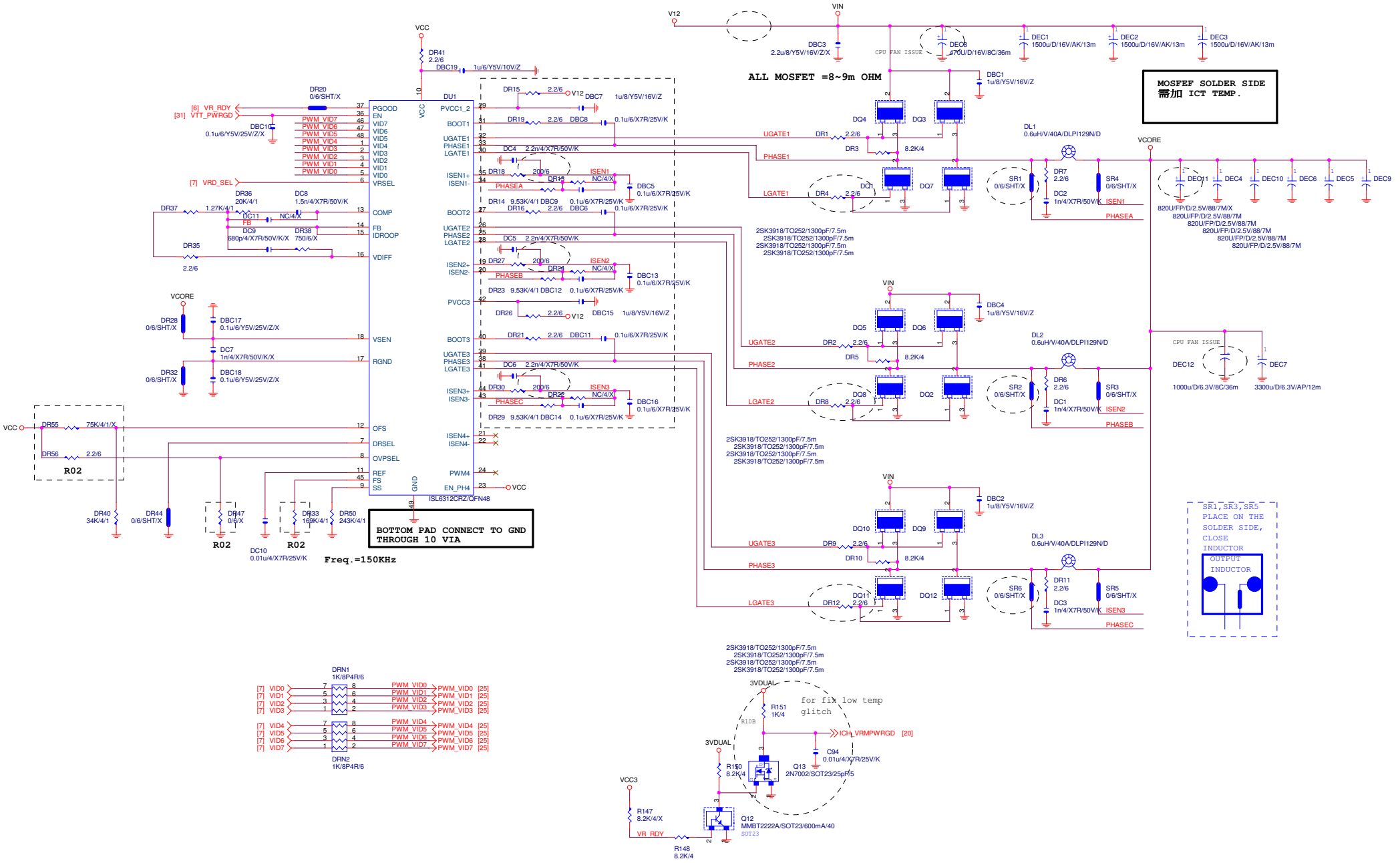

Gigabyte Technology		
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Size: Custom	Document Number: 965GM-S2	Rev: 1.01
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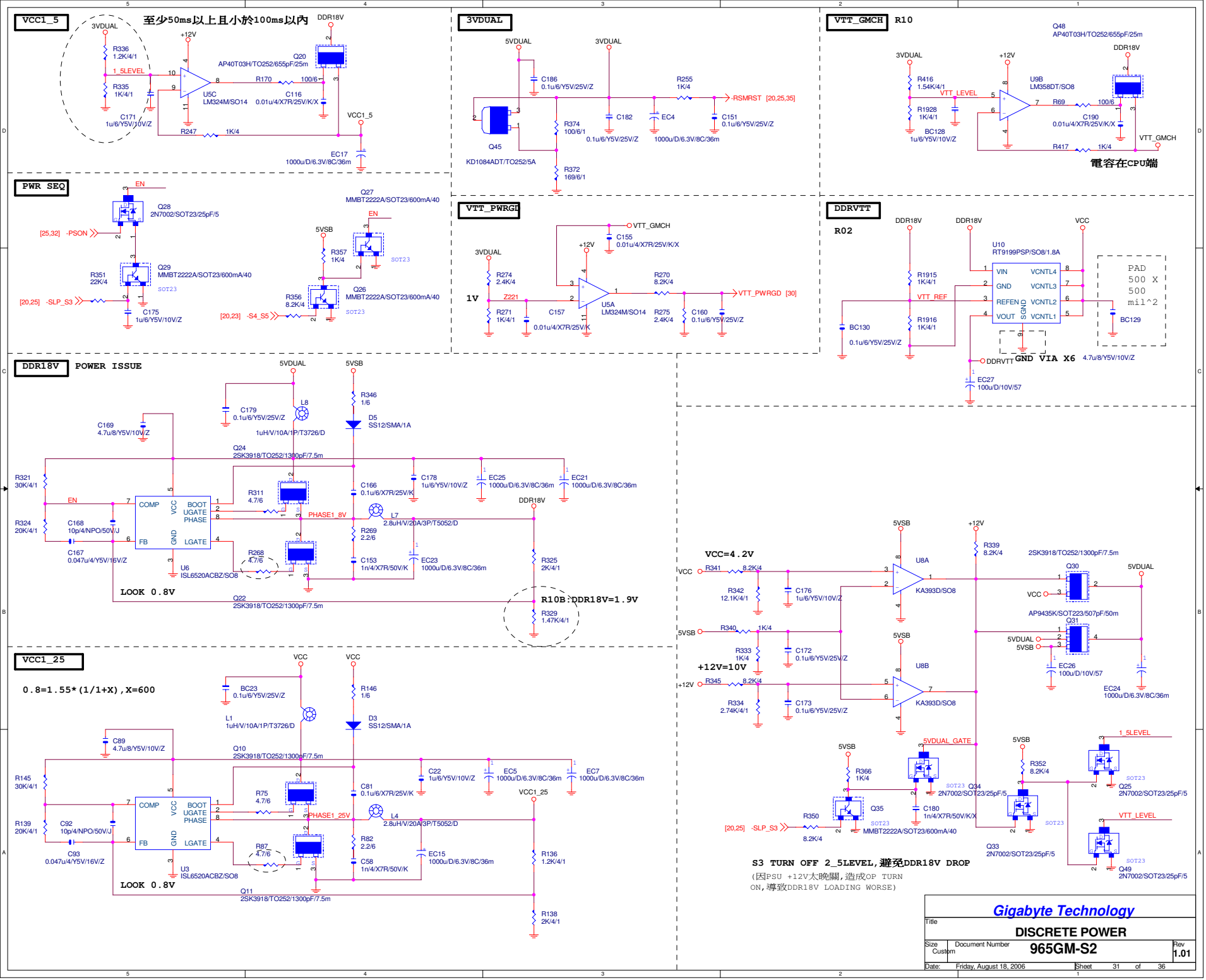

Gigabyte Technology

Title: DISCRETE POWER

Size	Document Number	Rev
Custom	965GM-S2	1.01

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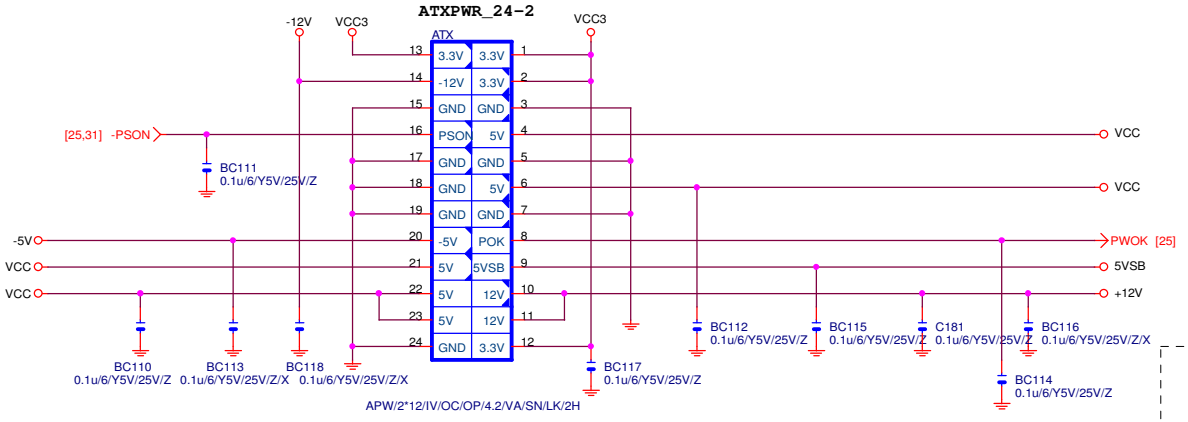
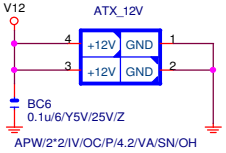
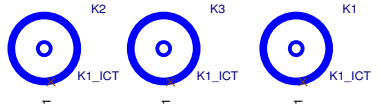
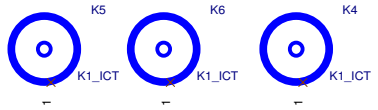
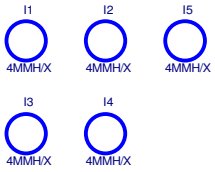
ATX POWER CONNECTOR

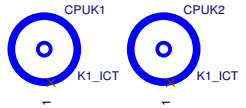


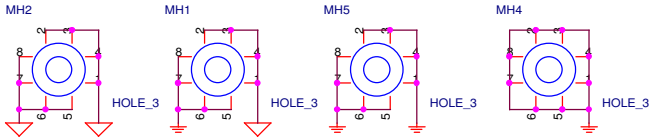


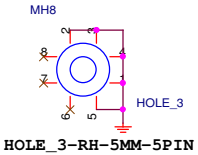


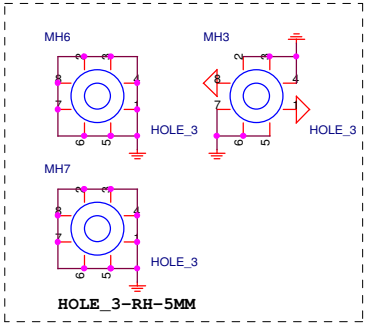




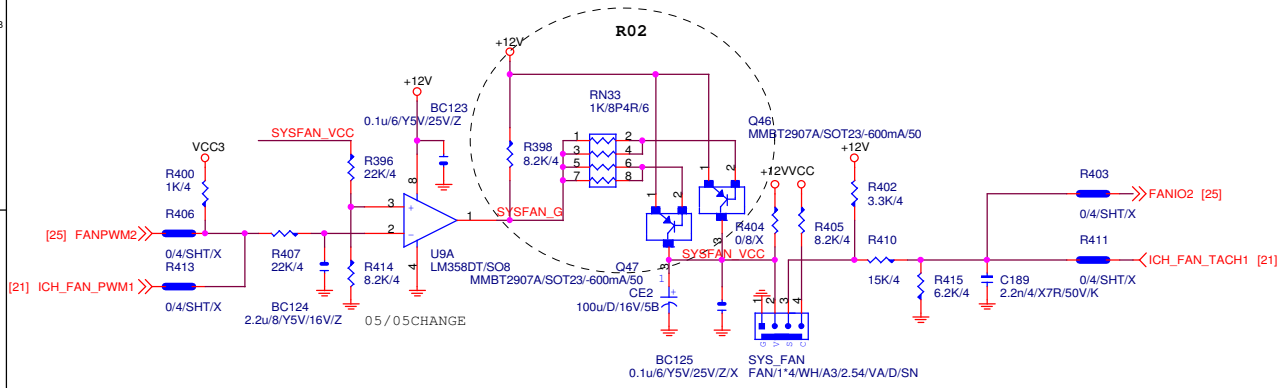








SYS SMART FAN



Gigabyte Technology		
Title: ATX PWR/SYS FAN		
Size: B	Document Number: 965GM-S2	Rev: 1.01
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JMicron 2S1P ATA

JMB363

LQFP 100 14x14

3.3V to 1.8V Voltage Regulator

RQ1 AMS1117/SOT223/0.8A

RR5 100/6/1

RR6 44.2/6/1

REC1 100U/D/10V/57

RBC9 0.1u/6/Y5V/25V/Z

JMicron suggest to change 1.8V to 2.1V

Active LED

RD2 BAT54A/SOT23/200mA

RR7 1K/4

RQ2 MMBT2222A/SOT23/600mA/40

-IDEACTP

ACT0

-HDLED [36]

Near to PIN

RR8 12K/4/1

RR9 12K/4/1

RR10 12K/4/1

IDE Connector

R1.01

BH/2*20K20/GEL/SHN/2.54/VA/D/G

(#20 key-pin)

(#28 CSEL)

(#32 IOCS16)

GSATAII01

SATA2/7/PU/H/P/VA/D/2/B/GBT

R02

VCC3 BYPASS CAP平均四邊各一顆

RBC1,2,3,4,10,11靠近每邊兩顆VDD21

RBC12靠近PIN87

會漏電

RX1 25M/20p/30ppm/49US/20/D

RR4 10/6/X

IDE25MCLK [23]

SMBCLK [15,16,18,20,23,24,35]

SMBDATA [15,16,18,20,23,24,35]

MIDE_IP [19]

MIDE_IN [19]

MIDE_ON [19]

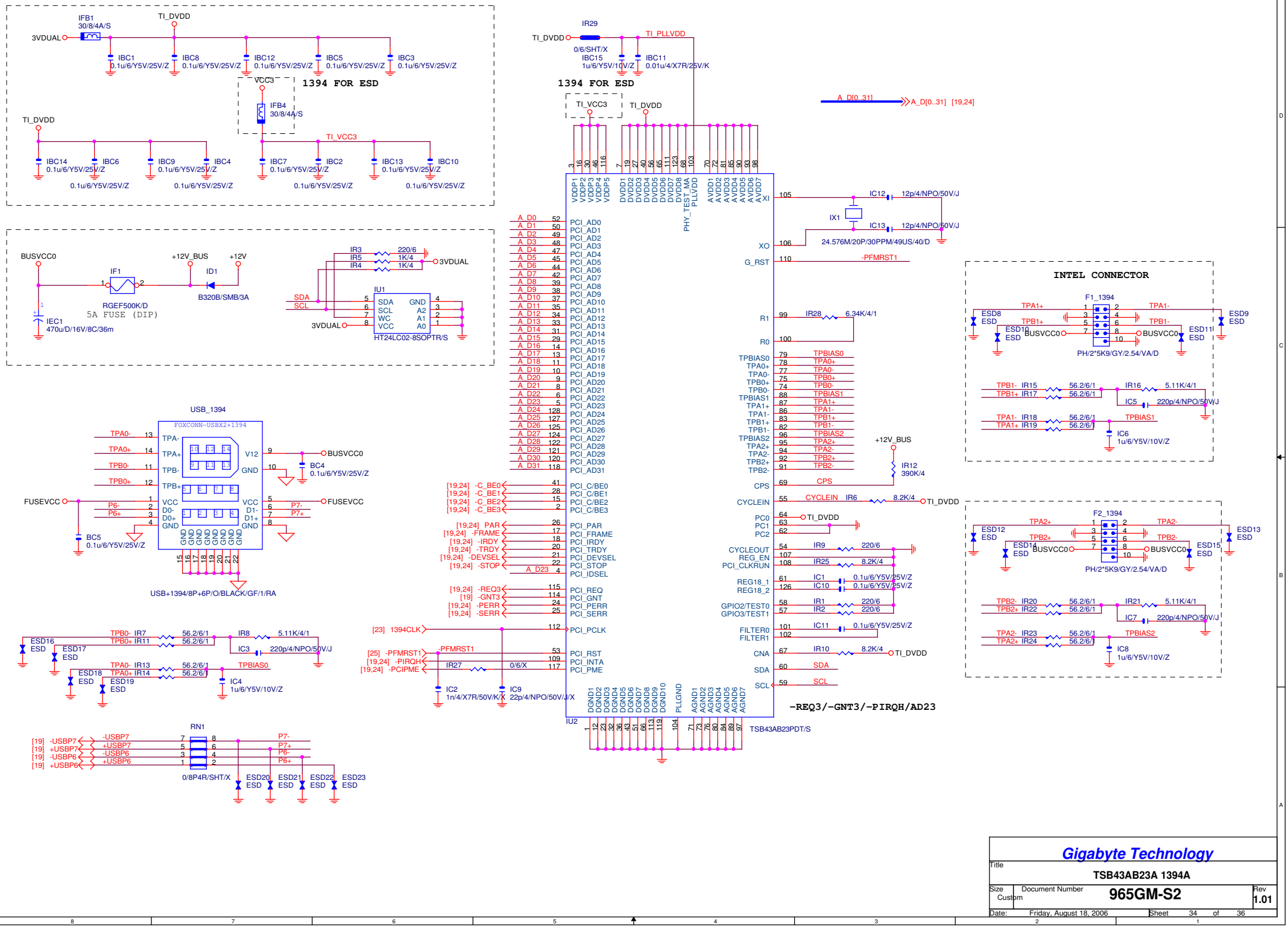
MIDE_OP [19]

SRCCLK_IDE [23]

-SRCCLK_IDE [23]

Title	JMicron 2S1P ATA
Size	Document Number 965GM-S2 Rev 1.01
Date:	Friday, August 18, 2006 Sheet 33 of 36

Gigabyte Technology


1394 FOR ESD
1394 FOR ESD
INTEL CONNECTOR
USB_1394
FOXCONN-USBX2+1394
USB+1394/8P+6P/O/BLACK/GF/1/RA
RGEF500K/D
5A FUSE (DIP)
B320B/SMB/3A
HT24LC02-8SOPTR/S
0/8P4R/SHT/X
24.576M/20P/30PPM/49US/40/D
PH/2*5K9/GY/2.54/VA/D
TSB43AB23PDT/S
-REQ3/-GNT3/-PIRQH/AD23
Gigabyte Technology
TSB43AB23A 1394A
965GM-S2
Friday, August 18, 2006

PCIE-1G LAN

 # Layout Check 注意事項

1. LU1 PIN65 需下內層GND,打 I2 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

88E8056 NO POP,I2C FAIL

[15,16,18,20,23,24,33] SMBCLK — LR4 0/6/X
[15,16,18,20,23,24,33] SMBDATA — LR3 0/6/X

LU2 — 88E8050 (88E8056-A2-NNC/QFN64)

[19] ML_IP	LC1 0.1u/4/Y5V/16V/Z	49	TX_P
[19] ML_IN	LC2 0.1u/4/Y5V/16V/Z	50	TX_N
AVDD25L		51	AVDDL
AVDD25L		52	AVDDL
[19] ML_ON		53	RX_N
[19] ML_OP		54	RX_P
[23] SRCCLK_LAN		55	REFCLKP
[23] -SRCCLK_LAN		56	REFCLKN
AVDD25L		57	AVDDL
VDD12		58	VDD
LED_ACT_P		59	LED_ACTn
LED_100_P		60	LED_10/100n
3VDUAL		61	VDDO_TTL
LED_1000_P		62	LED_1000n
		63	LED_LINKn
AVDD25		64	VDD_25
		65	GND

		32	AVDDL — AVDD25L
		31	MDIN[3] — P_MDI3-
		30	MDIP[3] — P_MDI3+
		29	TSTPT — TSTPT — TP25
		28	AVDDL — AVDD25L
		27	MDIN[2] — P_MDI2-
		26	MDIP[2] — P_MDI2+
		25	HSDACN
		24	HSDACP
		23	AVDD — AVDD25
		22	AVDDL — AVDD25L
		21	MDIN[1] — P_MDI1-
		20	MDIP[1] — P_MDI1+
		19	AVDDL — AVDD25L
		18	MDIN[0] — P_MDI0-
		17	MDIP[0] — P_MDI0+

3VDUAL		1	VDDO_TTL
VDD12		2	VDD
CTRL12		3	CTRL12
CTRL25_P		4	CTRL25
		5	PERSTn
VDD12		6	WAKEn
		7	VDD
3VDUAL		8	VDDO_TTL_MAIN
		9	SWITCH_VAUX
		10	LOM_DISABLEn
3VDUAL		11	SWITCH_VCC
VDD12		12	VAUX_AVLBL
XTALO_P		13	VDD
XTALI_P		14	XTALO
RSET		15	XTALI
LR13 4.75K/4/1		16	RSET

[25] -PFMRST2
[18,20,24] -PCIE_WAKE
-PFMRST2 — LBC22 100p/4/NPO/50V/J/X
-RSMRST [20,25,31]

CLOSE LX1

LR15 2.2/6 — LAN25MCLK [22]
XTALI_P
LX1 — XTALO_P
25M/20P/30PPM/49US/20/D/X
LC4 33p/4/NPO/50V/J/X
LC3 33p/4/NPO/50V/J/X

3VDUAL

3VDUAL — LEC2 100u/D/10V/57
LBC4 0.1u/6/Y5V/25V/Z — LBC2 0.1u/6/Y5V/25V/Z
LBC14 0.1u/6/Y5V/25V/Z — LBC30 0.1u/6/Y5V/25V/Z
LBC17 0.1u/6/Y5V/25V/Z

2.5V

3VDUAL — LBC23 0.1u/6/Y5V/25V/Z — LR22 8.2K/4 — VDD25 — LQ1 PBSS5350X/SOT89/-3A/80
CTRL25_P
AVDD25L — LFB1 0/8/SHT/X — VDD25 — LBC19 0.1u/6/Y5V/25V/Z
LBC7 0.1u/6/Y5V/25V/Z — LBC9 0.1u/6/Y5V/25V/Z — LBC8 0.1u/6/Y5V/25V/Z — LBC16 0.1u/6/Y5V/25V/Z — LBC13 0.1u/6/Y5V/25V/Z
AVDD25 — AVDD25_LFB2 0/8/SHT/X
LBC15 0.1u/6/Y5V/25V/Z — LEC3 100u/D/10V/57

1.2V

3VDUAL — LFB3 0/8/SHT/X — LBC24 0.1u/6/Y5V/25V/Z — LBC31 0.1u/6/Y5V/25V/Z — LR23 8.2K/4 — VDD12 — LQ2 PBSS5350X/SOT89/-3A/80
CTRL12
VDD12
LEC1 100u/D/10V/57 — LBC11 0.1u/6/Y5V/25V/Z — LBC1 0.1u/6/Y5V/25V/Z — LBC25 0.1u/6/Y5V/25V/Z — LBC5 0.1u/6/Y5V/25V/Z — LBC3 0.1u/6/Y5V/25V/Z — LBC18 4.7u/8/Y5V/10V/Z/X — LBC21 0.1u/6/Y5V/25V/Z

USB_LAN

LR6 0/6/X

URN1 — 0/8P4R/SHT/X

P4+	7 8	+USBP4 [19]
P4-	5 6	-USBP4 [19]
P5+	3 4	+USBP5 [19]
P5-	1 2	-USBP5 [19]

ESD24 ESD — ESD25 ESD — ESD26 ESD — ESD27 ESD

FUSEVCC — LR21 150K/4 — USBOC_R — -USBOC_R [19]
LEC4 1000u/D/6.3V/8C/36m — LR20 270K/4
06.04.07 For EMI

USB_LAN CONNECTOR

VDD25 — LR16 0/6/SHT/X — USB_LAN
3VDUAL — LFB4 0/8/SHT/X

P_MDI0+		L1	
P_MDI0-	LBC28 0.1u/6/Y5V/25V/Z/X	L2	
P_MDI1+		L3	
P_MDI1-		L4	
P_MDI2+		L5	
P_MDI2-		L6	
P_MDI3+		L7	
P_MDI3-		L8	
		L9	
		L10	
		D1	LED_ACT_P
		D2	LR17 150/6
		D3	LED_100_P — LR18 150/6
		D4	LED_1000_P — LR19 150/6
		U1	FUSEVCC
		U2	P4-
		U3	P4+
		U4	
		U5	
		U6	P5-
		U7	P5+
		U8	

LBC27 0.1u/6/Y5V/25V/Z
LBC29 0.1u/6/Y5V/25V/Z/X
LBC26 0/6/SHT/X
UP
DOWN
06.04.07 For EMI

LR14 49.9/6/1 — LR12 49.9/6/1 — LR11 49.9/6/1 — LR10 49.9/6/1 — LR9 49.9/6/1 — LR8 49.9/6/1 — LR7 49.9/6/1 — LR5 49.9/6/1
LBC20 1n/4/X7R/50V/K — LBC12 1n/4/X7R/50V/K — LBC10 1n/4/X7R/50V/K — LBC6 1n/4/X7R/50V/K

USB+LAN/1G/GO,Y/OS/RA/D/1

EEPROM

3VDUAL
LR1 8.2K/4 — LR2 8.2K/4
LU1 AT24C08AN-10SI-2.7/S
VPD_CLK_P — SCL
VPD_DATA_P — SDA
EEPROM
VCC — A0 — A1 — A2 — WP — GND

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Title	MARVELL 88E8056		
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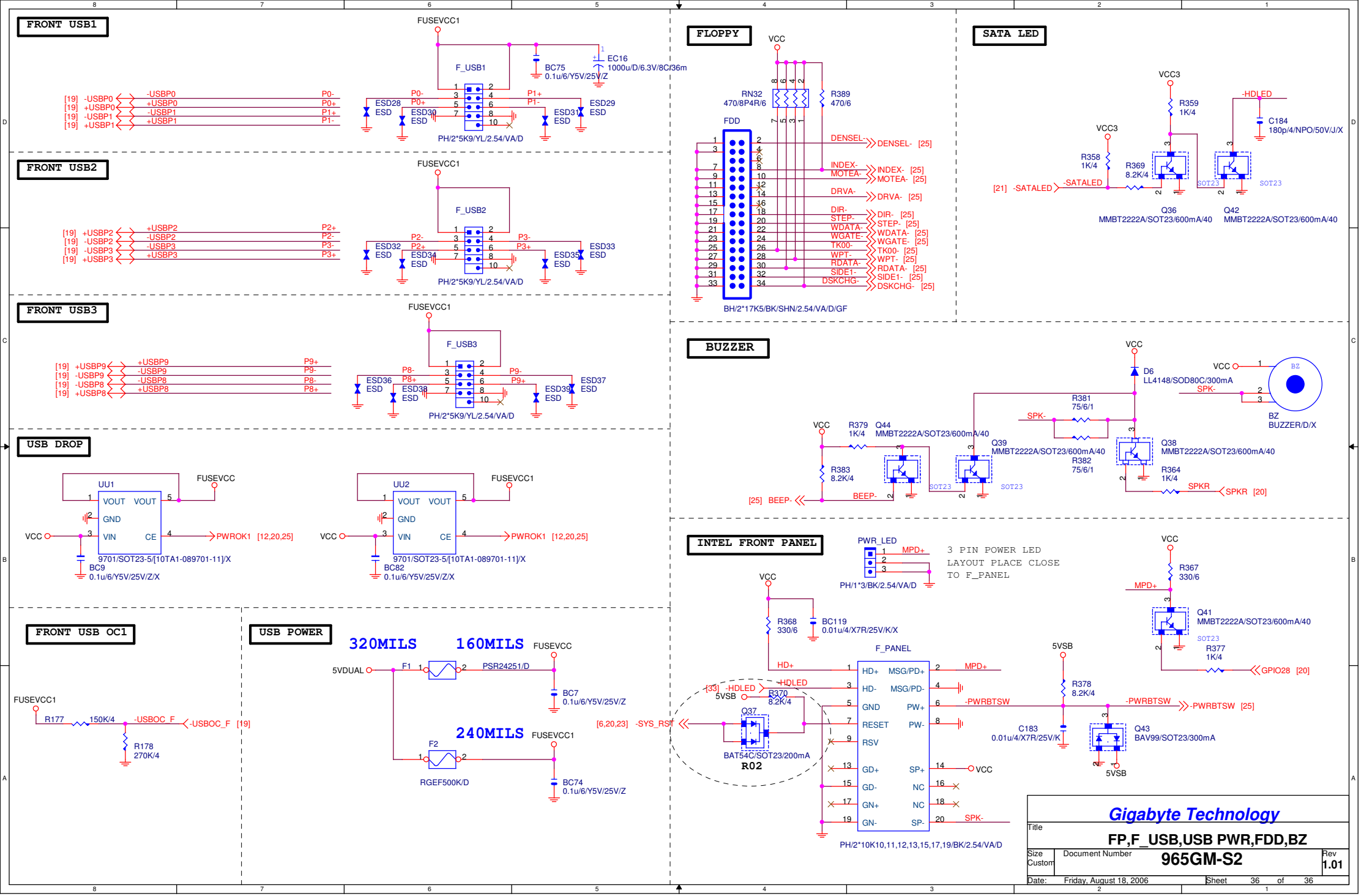
FRONT USB1
FUSEVCC1
F_USB1
BC75
0.1u/6/Y5V/25V/Z
EC16
1000u/D/6.3V/8Cr36m
[19] -USBP0
[19] +USBP0
[19] -USBP1
[19] +USBP1
-USBP0
+USBP0
-USBP1
+USBP1
P0-
P0+
P1+
P1-
ESD28
ESD30
ESD31
ESD29
ESD
PH/2*5K9/YL/2.54/VA/D
FRONT USB2
FUSEVCC1
F_USB2
[19] +USBP2
[19] -USBP2
[19] -USBP3
[19] +USBP3
+USBP2
-USBP2
-USBP3
+USBP3
P2+
P2-
P3-
P3+
ESD32
ESD34
ESD35
ESD33
ESD
PH/2*5K9/YL/2.54/VA/D
FRONT USB3
FUSEVCC1
F_USB3
[19] +USBP9
[19] -USBP9
[19] -USBP8
[19] +USBP8
+USBP9
-USBP9
-USBP8
+USBP8
P9+
P9-
P8-
P8+
ESD36
ESD38
ESD39
ESD37
ESD
PH/2*5K9/YL/2.54/VA/D
USB DROP
UU1
FUSEVCC
VOUT
GND
VIN
CE
VCC
PWROK1 [12,20,25]
9701/SOT23-5/[10TA1-089701-11]/X
BC9
0.1u/6/Y5V/25V/Z/X
UU2
FUSEVCC1
VOUT
GND
VIN
CE
VCC
PWROK1 [12,20,25]
9701/SOT23-5/[10TA1-089701-11]/X
BC82
0.1u/6/Y5V/25V/Z/X
FRONT USB OC1
FUSEVCC1
R177
150K/4
-USBOC_F
-USBOC_F [19]
R178
270K/4
USB POWER
320MILS
160MILS
240MILS
5VDUAL
F1
PSR24251/D
FUSEVCC
BC7
0.1u/6/Y5V/25V/Z
F2
RGEF500K/D
FUSEVCC1
BC74
0.1u/6/Y5V/25V/Z
[6,20,23] -SYS_RST
FLOPPY
VCC
RN32
470/8P4R/6
R389
470/6
FDD
DENSEL-
DENSEL- [25]
INDEX-
MOTEA-
INDEX- [25]
MOTEA- [25]
DRVA-
DRVA- [25]
DIR-
STEP-
WDATA-
WGATE-
TK00-
WPT-
RDATA-
SIDE1-
DSKCHG-
DIR- [25]
STEP- [25]
WDATA- [25]
WGATE- [25]
TK00- [25]
WPT- [25]
RDATA- [25]
SIDE1- [25]
DSKCHG- [25]
BH/2*17K5/BK/SHN/2.54/VA/D/GF
SATA LED
VCC3
R359
1K/4
-HDLED
C184
180p/4/NPO/50V/J/X
R358
1K/4
R369
8.2K/4
[21] -SATALED
-SATALED
SOT23
Q36
MMBT2222A/SOT23/600mA/40
Q42
MMBT2222A/SOT23/600mA/40
BUZZER
VCC
D6
LL4148/SOD80C/300mA
VCC
BZ
SPK-
BZ
BUZZER/D/X
R381
75/6/1
SPK-
VCC
R379
1K/4
Q44
MMBT2222A/SOT23/600mA/40
Q39
MMBT2222A/SOT23/600mA/40
R382
75/6/1
Q38
MMBT2222A/SOT23/600mA/40
R383
8.2K/4
R364
1K/4
SPKR
SPKR [20]
[25] BEEP-
BEEP-
SOT23
INTEL FRONT PANEL
PWR_LED
MPD+
3 PIN POWER LED
LAYOUT PLACE CLOSE
TO F_PANEL
PH/1*3/BK/2.54/VA/D
VCC
R368
330/6
BC119
0.01u/4/X7R/25V/K/X
F_PANEL
HD+
HD-
GND
RESET
RSV
GD+
GD-
GN+
GN-
MSG/PD+
MSG/PD-
PW+
PW-
SP+
NC
NC
SP-
MPD+
-PWRBTSW
VCC
SPK-
PH/2*10K10,11,12,13,15,17,19/BK/2.54/VA/D
[33] -HDLED
5VSB
R370
8.2K/4
Q37
BAT54C/SOT23/200mA
R02
5VSB
R378
8.2K/4
C183
0.01u/4/X7R/25V/K
Q43
BAV99/SOT23/300mA
-PWRBTSW [25]
VCC
R367
330/6
MPD+
Q41
MMBT2222A/SOT23/600mA/40
R377
1K/4
GPIO28 [20]
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