

Model Name: G31M-S2L

Revision 1.02

SHEET TITLE

01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4 LGA775 A
05	P4 LGA775 B,D
06	P4 LGA775 C
07	P4 LGA775 E,F,G,H
08	G31 HOST
09	G31 DDRII
10	G31 PCI E, DMI
11	G31 VGA
12	G31 GND
13	G31 PWR
14	PCI EXPRESS*16 SLOT
15	DDRII CHANNEL A
16	DDRII CHANNEL B
17	DDRII TERMINATION
18	ICH7 PCI, USB, DMI, LAN
19	ICH7 IDE, GPIO, SATA, CTRL
20	ICH7 VCC, GND
21	CK505 CLOCK.
22	PCI SLOT 1,2,PCIE*1
23	IDE/FLOPPY
24	ITE 8718 GB/GX
25	COM LPT
26	CI, HWM, KB/MS, BIOS
27	ALC662

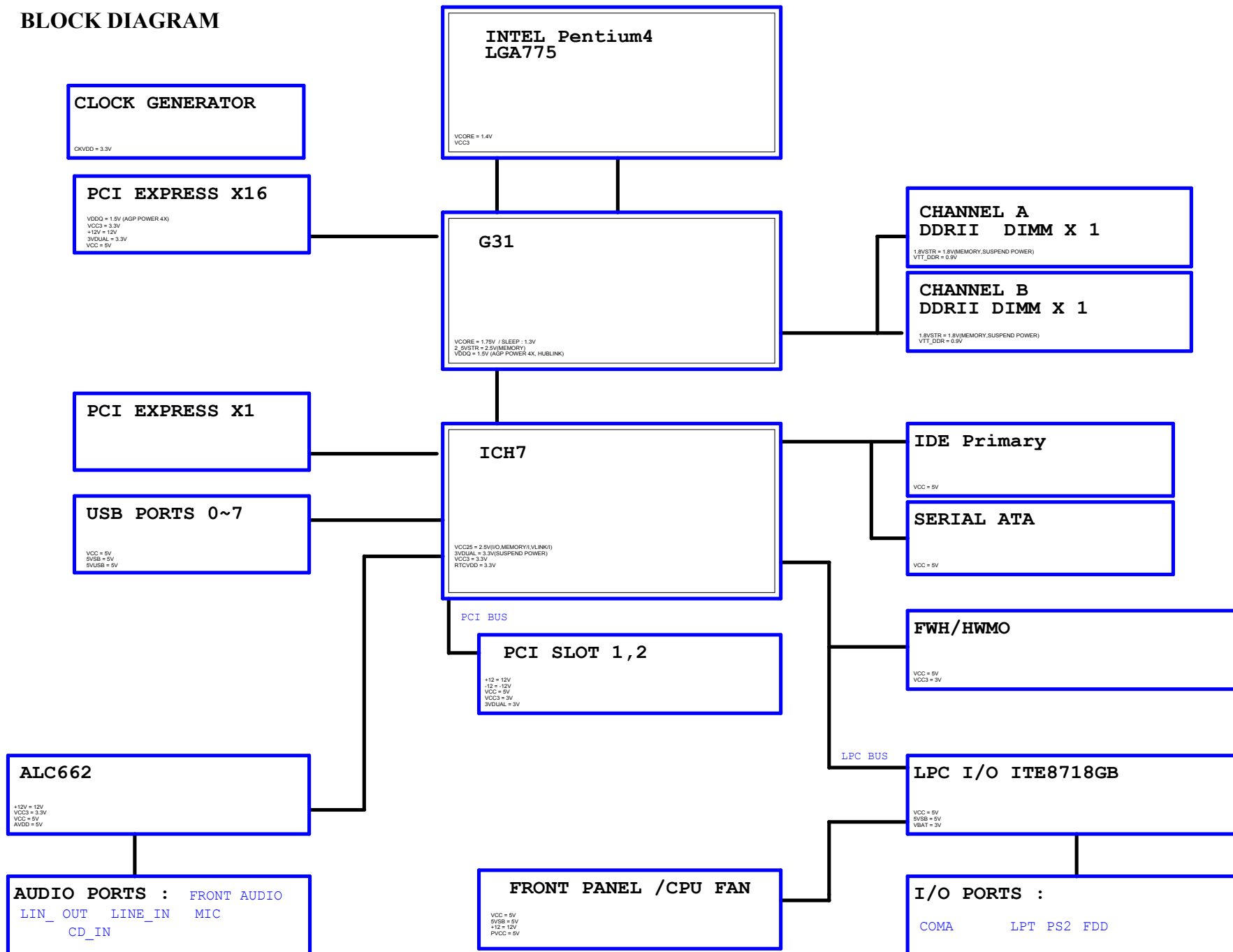
SHEET TITLE

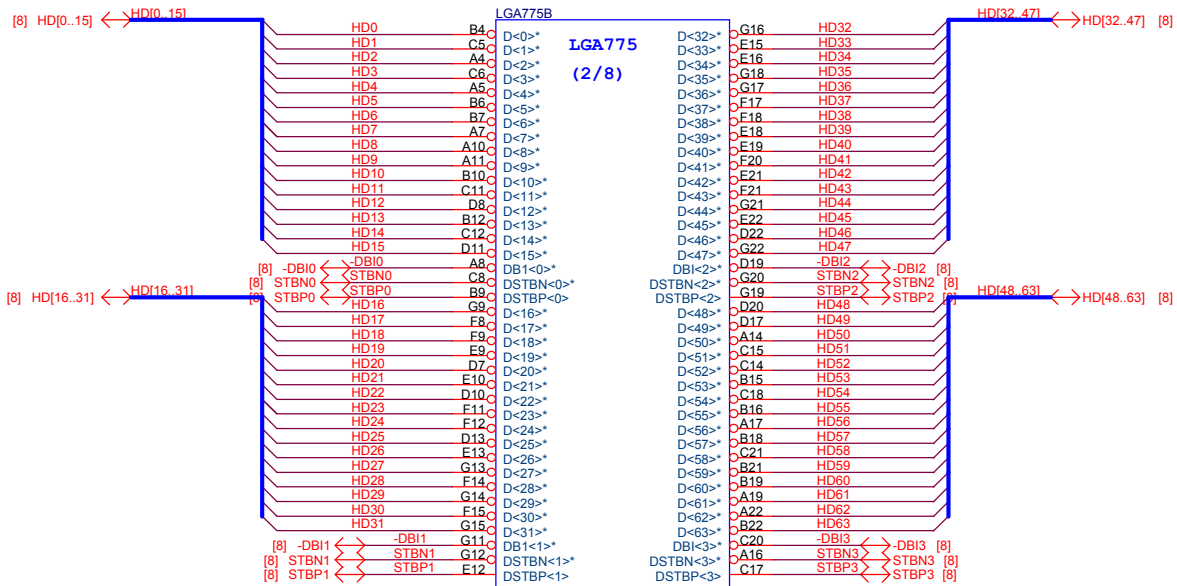
28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	REALTEK RTL8111C/8101E

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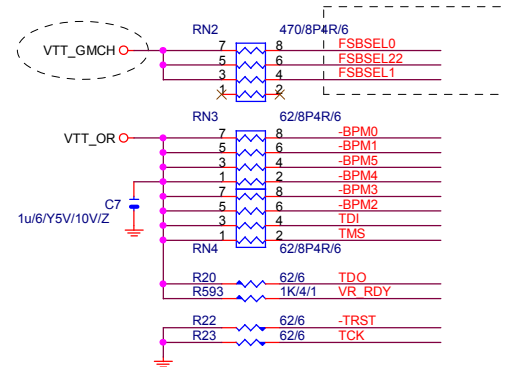
Title		
Cover Sheet		
Size	Document Number	Rev
Custom	G31M-S2L	1.02
Date:	Tuesday, August 21, 2007	Sheet 1 of 33

BLOCK DIAGRAM





CPU-SK775/S/GF

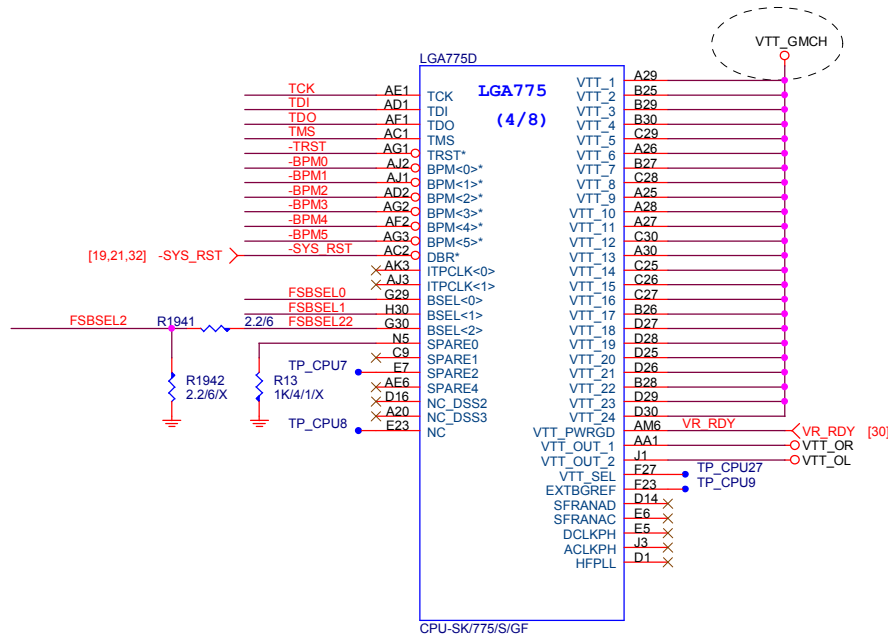


TO CLK GEN [21] FSBSEL0 FSBSEL1 FSBSEL2 TO NB

CPU

NA	FSB	FSA	Clock
FSBSEL3	FSBSEL1	FSBSEL0	Clock
1	0	1	100MHz
0	0	1	133MHz
0	1	1	166MHz
0	1	0	200MHz
0	0	0	266MHz

X



CPU-SK775/S/GF

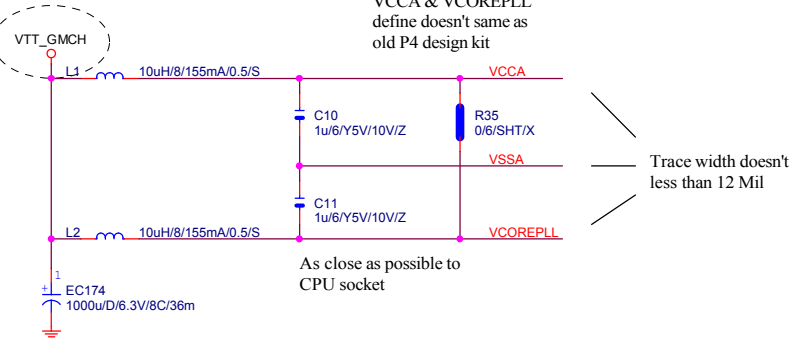
Gigabyte Technology

Title: **P4_LGA775-B,D**

Size: Document Number **G31M-S2L** Rev **1.02**

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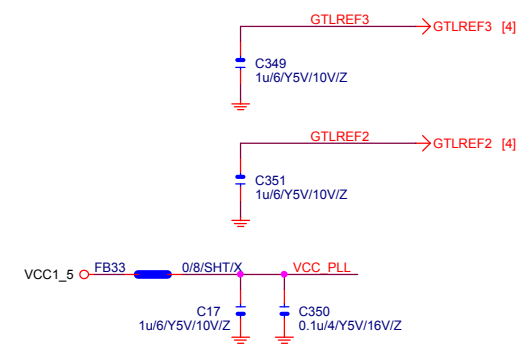
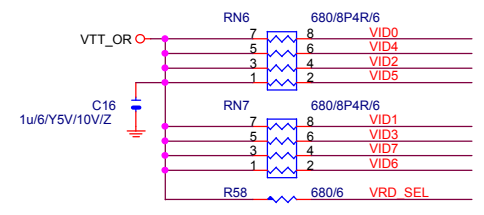
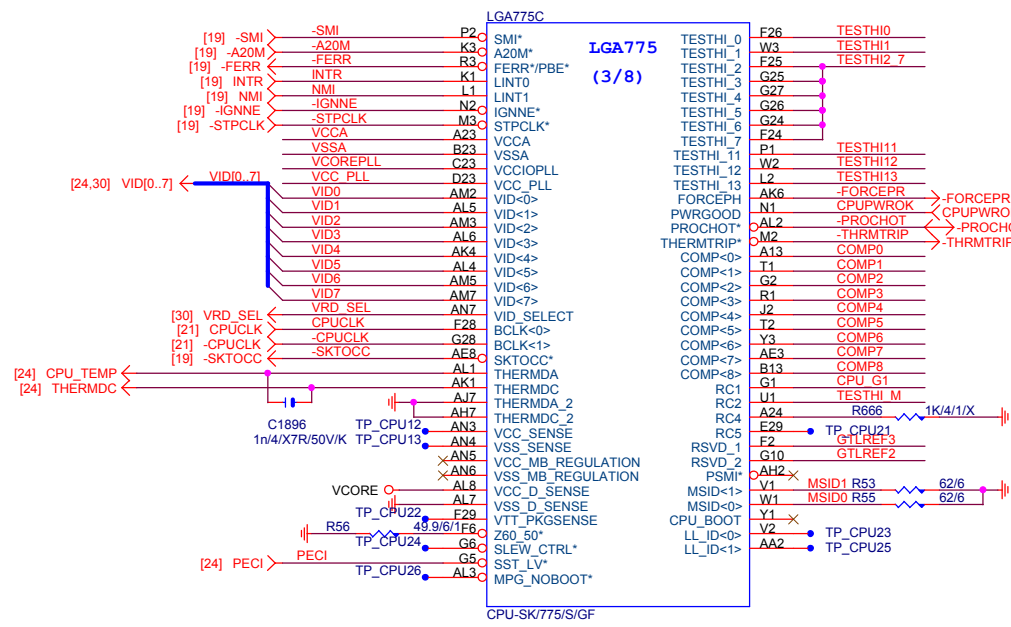
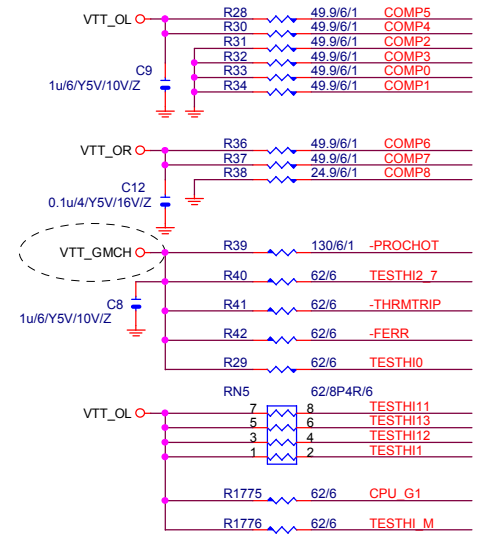
Note:
VCCA & VCOREPLL
define doesn't same as
old P4 design kit



As close as possible to
CPU socket

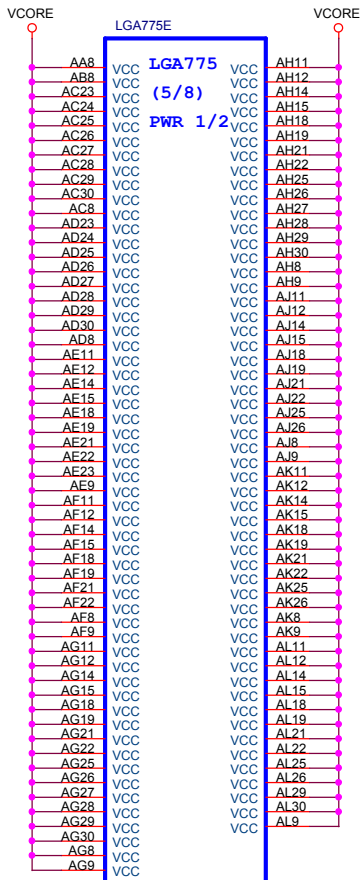
Trace width doesn't
less than 12 Mil

Place outside of CPU socket

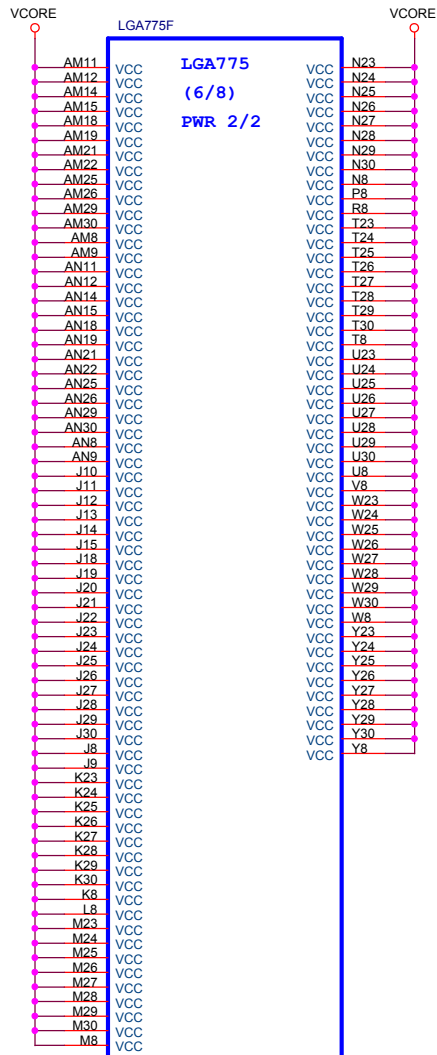


Gigabyte Technology		
P4_LGA775-C		
Size	Document Number	Rev
B	G31M-S2L	1.02
Date:	Tuesday, August 21, 2007	Sheet 6 of 33

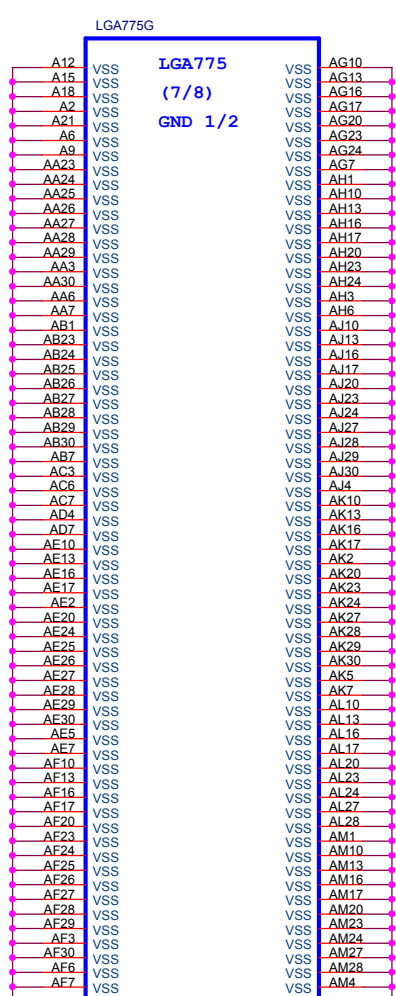
PECI: Platform Environment Control Interface



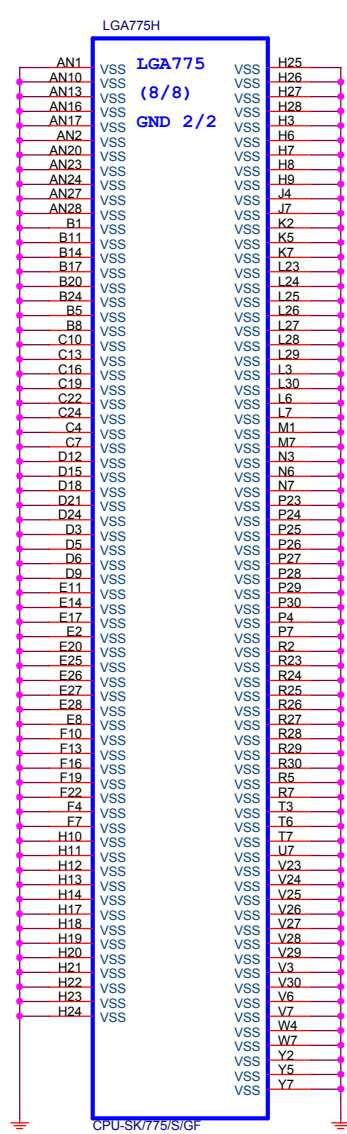
CPU-SK/775/S/GF



CPU-SK/775/S/GF



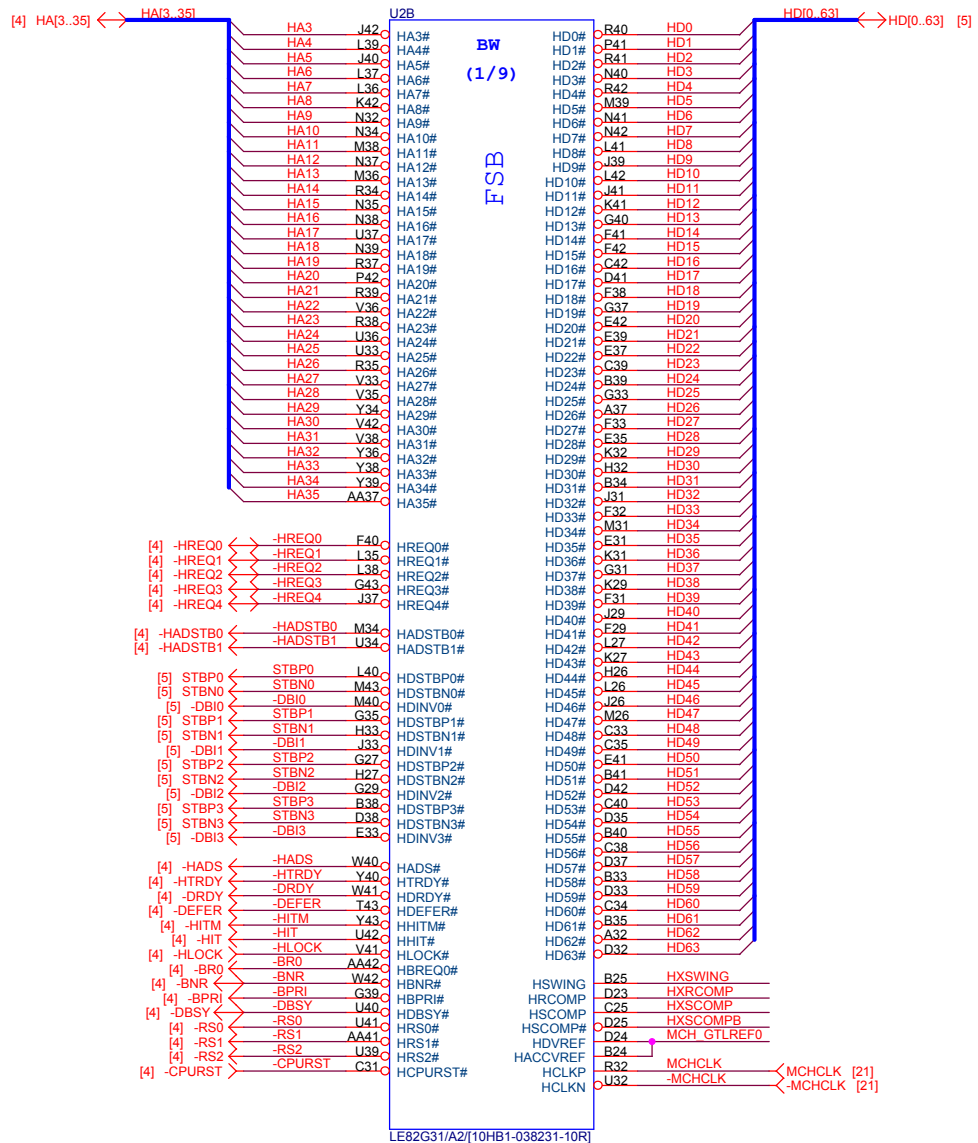
CPU-SK/775/S/GF



CPU-SK/775/S/GF

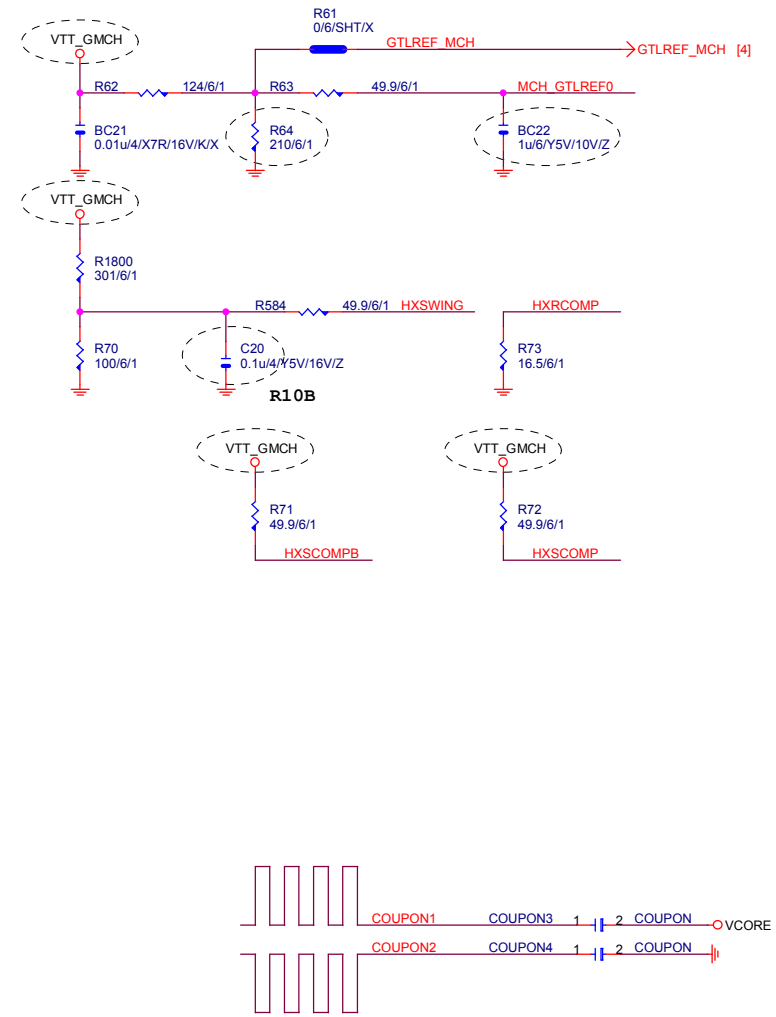
Gigabyte Technology

Title			P4_LGA775-E,F,G,H		
Size B	Document Number	G31M-S2L			Rev 1.02
Date:	Tuesday, August 21, 2007	Sheet	7	of	33



LE82G31/A2[10HB1-038231-10R]

CPU INTERFACE



Gigabyte Technology			
Title GMCH-HOST			
Size B	Document Number G31M-S2L	Rev 1.02	
Date: Tuesday, August 21, 2007	Sheet 8	of 33	

U2C

MAAA0	BA31	SMA_A0	BW	SDQS_A0	AU4	DOSA0
MAAA1	BA25	SMA_A1	(3/9)	SDQS_A0#	AR3	-DOSA0
MAAA2	BA26	SMA_A2		SDM_A0	AR2	DMA0
MAAA3	BA25	SMA_A3		SDQ_A0	AR6	MDA0
MAAA4	AY25	SMA_A4		SDQ_A1	AR4	MDA1
MAAA5	BA21	SMA_A5		SDQ_A2	AV3	MDA2
MAAA6	AY24	SMA_A6		SDQ_A3	AV2	MDA3
MAAA7	AY23	SMA_A7		SDQ_A4	AP3	MDA4
MAAA8	BA22	SMA_A8		SDQ_A5	AP2	MDA5
MAAA9	BA22	SMA_A9		SDQ_A6	AU1	MDA6
MAAA10	AY33	SMA_A10		SDQ_A7	AV4	MDA7
MAAA11	BA22	SMA_A11		SDQS_A1	BB3	DOSA1
MAAA12	AW21	SMA_A12		SDQS_A1#	BA4	-DOSA1
MAAA13	AW21	SMA_A13		SDM_A1	BA4	DMA1
MAAA14	BA21	SMA_A14		SDQ_A8	AY2	MDA8
[15.17] -SWEA	BB34	SWE_A#		SDQ_A9	AY3	MDA9
[15.17] -SCASA	SRAS4	SCAS_A#		SDQ_A10	BB8	MDA10
[15.17] -SRASA	SRAS4	SRAS_A#		SDQ_A11	AY8	MDA11
[15.17] SBAA0	BA33	SBS_A0		SDQ_A12	AW2	MDA12
[15.17] SBAA1	AW32	SBS_A1		SDQ_A13	AW3	MDA13
[15.17] SBAA2	BB21	SBS_A2		SDQ_A14	BA8	MDA14
[15.17] CSA0	AW35	SCS_A0#		SDQ_A15	BB4	MDA15
[15.17] CSA1	BA32	SCS_A1#		SDQS_A2	BB0	DOSA2
[15.17] CSA2	BA32	SCS_A2#		SDQS_A2#	BA9	-DOSA2
[17] CSA3	BB38	SCS_A3#		SDM_A2	AY9	DMA2
[15.17] CKEA0	RC20	SCKE_A0		SDQ_A16	AY7	MDA16
[15.17] CKEA1	AY20	SCKE_A1		SDQ_A17	BC7	MDA17
[17] CKEA2	AY21	SCKE_A2		SDQ_A18	AW11	MDA18
[17] CKEA3	BA19	SCKE_A3		SDQ_A19	AY11	MDA19
[15] MDDT_A0	AY37	SODT_A0		SDQ_A20	BB6	MDA20
[15] MDDT_A1	BA38	SODT_A1		SDQ_A21	BA6	MDA21
[15] MDDT_A2	BB35	SODT_A2		SDQ_A22	BA10	MDA22
[15] MDDT_A3	BA39	SODT_A3		SDQ_A23	BB10	MDA23
[15] DCLKA0	AU31	SCLK_A0		SDQS_A3	AT20	DOSA3
[15] DCLKA1	AR31	SCLK_A0#		SDQS_A3#	AU18	-DOSA3
[15] DCLKA2	AR31	SCLK_A1		SDM_A3	AN18	DMA3
[15] DCLKA3	AN27	SCLK_A1#		SDQ_A24	AT18	MDA24
[15] DCLKA4	AV33	SCLK_A2		SDQ_A25	AR18	MDA25
[15] DCLKA5	AV33	SCLK_A2#		SDQ_A26	AU21	MDA26
[15] DCLKA6	AV33	SCLK_A3		SDQ_A27	AT21	MDA27
[15] DCLKA7	AV33	SCLK_A3#		SDQ_A28	AP17	MDA28
[15] DCLKA8	AV33	SCLK_A4		SDQ_A29	AN17	MDA29
[15] DCLKA9	AV33	SCLK_A4#		SDQ_A30	AP20	MDA30
[15] DCLKA10	AV33	SCLK_A5		SDQ_A31	AV20	MDA31
[15] DCLKA11	AV33	SCLK_A5#		SDQS_A4	AR41	DOSA4
[15] DCLKA12	AV33	SCLK_A6		SDQS_A4#	AR40	-DOSA4
[15] DCLKA13	AV33	SCLK_A7		SDM_A4	AU43	DMA4
[15] DCLKA14	AV33	SCLK_A8		SDQ_A32	AV42	MDA32
[15] DCLKA15	AV33	SCLK_A9		SDQ_A33	AU40	MDA33
[15] DCLKA16	AV33	SCLK_A10		SDQ_A34	AR42	MDA34
[15] DCLKA17	AV33	SCLK_A11		SDQ_A35	AN39	MDA35
[15] DCLKA18	AV33	SCLK_A12		SDQ_A36	AV40	MDA36
[15] DCLKA19	AV33	SCLK_A13		SDQ_A37	AW11	MDA37
[15] DCLKA20	AV33	SCLK_A14		SDQ_A38	AG32	MDA38
[15] DCLKA21	AV33	SCLK_A15		SDQ_A39	AP41	MDA39
[15] DCLKA22	AV33	SCLK_A16		SDQS_A5	AL41	DOSA5
[15] DCLKA23	AV33	SCLK_A17		SDQS_A5#	AL40	-DOSA5
[15] DCLKA24	AV33	SCLK_A18		SDM_A5	AM43	DMA5
[15] DCLKA25	AV33	SCLK_A19		SDQ_A40	AM39	MDA40
[15] DCLKA26	AV33	SCLK_A20		SDQ_A41	AK42	MDA42
[15] DCLKA27	AV33	SCLK_A21		SDQ_A42	AK41	MDA43
[15] DCLKA28	AV33	SCLK_A22		SDQ_A43	AN40	MDA44
[15] DCLKA29	AV33	SCLK_A23		SDQ_A44	AM42	MDA45
[15] DCLKA30	AV33	SCLK_A24		SDQ_A45	AL42	MDA46
[15] DCLKA31	AV33	SCLK_A25		SDQ_A46	AL39	MDA47
[15] DCLKA32	AV33	SCLK_A26		SDQS_A6	AG42	DOSA6
[15] DCLKA33	AV33	SCLK_A27		SDQS_A6#	AG41	-DOSA6
[15] DCLKA34	AV33	SCLK_A28		SDM_A6	AG40	DMA6
[15] DCLKA35	AV33	SCLK_A29		SDQ_A48	AJ40	MDA48
[15] DCLKA36	AV33	SCLK_A30		SDQ_A49	AH43	MDA49
[15] DCLKA37	AV33	SCLK_A31		SDQ_A50	AE39	MDA50
[15] DCLKA38	AV33	SCLK_A32		SDQ_A51	AE40	MDA51
[15] DCLKA39	AV33	SCLK_A33		SDQ_A52	AJ42	MDA52
[15] DCLKA40	AV33	SCLK_A34		SDQ_A53	AK41	MDA53
[15] DCLKA41	AV33	SCLK_A35		SDQ_A54	AE41	MDA54
[15] DCLKA42	AV33	SCLK_A36		SDQ_A55	AE42	MDA55
[15] DCLKA43	AV33	SCLK_A37		SDQS_A7	AC42	DOSA7
[15] DCLKA44	AV33	SCLK_A38		SDQS_A7#	AC40	DMA7
[15] DCLKA45	AV33	SCLK_A39		SDM_A7	AD40	MDA56
[15] DCLKA46	AV33	SCLK_A40		SDQ_A56	AD43	MDA57
[15] DCLKA47	AV33	SCLK_A41		SDQ_A58	AB41	MDA58
[15] DCLKA48	AV33	SCLK_A42		SDQ_A59	AM40	MDA59
[15] DCLKA49	AV33	SCLK_A43		SDQ_A60	AE42	MDA60
[15] DCLKA50	AV33	SCLK_A44		SDQ_A61	AE41	MDA61
[15] DCLKA51	AV33	SCLK_A45		SDQ_A62	AC39	MDA62
[15] DCLKA52	AV33	SCLK_A46		SDQ_A63	AB42	MDA63
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LE82G31/A2/[10HB1-038231-10R]

CHANNEL A

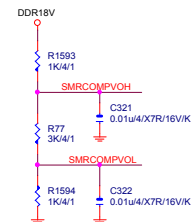
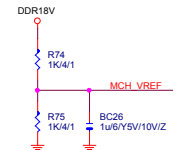
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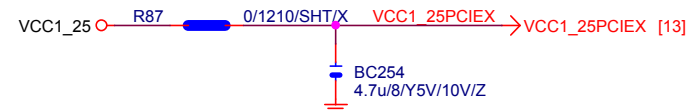
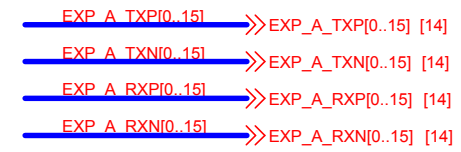
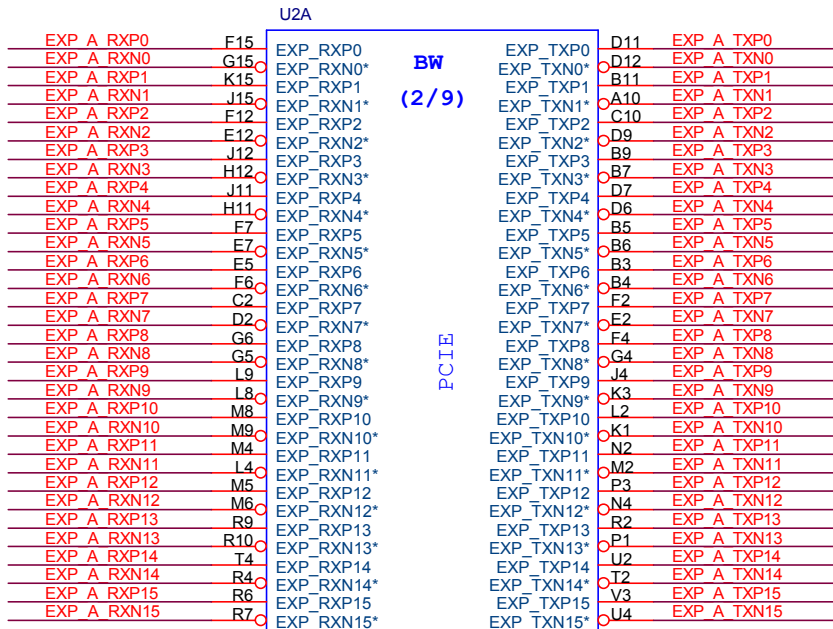
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MAAB2	BA17	SMA_B2		SDM_B0	AR7	DMB0
MAAB3	BC16	SMA_B3		SDQ_B0	AN7	MDB0
MAAB4	AW15	SMA_B4		SDQ_B1	AN8	MDB1
MAAB5	BA15	SMA_B5		SDQ_B2	AN9	MDB2
MAAB6	BE15	SMA_B6		SDQ_B3	AW5	MDB3
MAAB7	BA14	SMA_B7		SDQ_B4	AN6	MDB4
MAAB8	BE14	SMA_B8		SDQ_B5	AN6	MDB5
MAAB9	AY14	SMA_B9		SDQ_B6	AN9	MDB6
MAAB10	AW18	SMA_B10		SDQ_B7	AU7	MDB7
MAAB11	BA14	SMA_B11		SDQS_B1	AR12	DOSA1
MAAB12	BE13	SMA_B12		SDQS_B1#	AD12	-DOSA1
MAAB13	AY23	SMA_B13		SDM_B1	AD12	DMB1
MAAB14	AY13	SMA_B14		SDQ_B8	AT11	MDB8
[16.17] -SWEB	SWEB	SWE_B#		SDQ_B9	AP13	MDB9
[16.17] -SCASB	SCASB	SCAS_B#		SDQ_B10	AR11	MDB10
[16.17] -SRASB	SRASB	SRAS_B#		SDQ_B11	AR11	MDB11
[16.17] SBAB0	BA18	SBS_B0		SDQ_B12	AU8	MDB12
[16.17] SBAB1	BA18	SBS_B1		SDQ_B13	AV2	MDB13
[16.17] SBAB2	BC12	SBS_B2		SDQ_B14	AU12	MDB14
[16.17] CSB0	BB20	SCS_B0#		SDQ_B15	AU12	MDB15
[16.17] CSB1	BB30	SCS_B1#		SDQS_B2	AP15	DOSA2
[17] CSB2	AY27	SCS_B2#		SDQS_B2#	AR15	-DOSA2
[17] CSB3	AY13	SCS_B3#		SDM_B2	AW13	DMB2
[16.17] CKEB0	AY12	SCKE_B0		SDQ_B16	AU15	MDB16
[16.17] CKEB1	AW12	SCKE_B1		SDQ_B17	AV13	MDB17
[17] CKEB2	BE11	SCKE_B2		SDQ_B18	AU17	MDB18
[17] CKEB3	BE11	SCKE_B3		SDQ_B19	AT17	MDB19
[17] MDDT_B0	BA30	SODT_B0		SDQ_B20	AU13	MDB20
[17] MDDT_B1	BA30	SODT_B1		SDQ_B21	AM15	MDB21
[17] MDDT_B2	BE29	SODT_B2		SDQ_B22	AV15	MDB22
[17] MDDT_B3	BE31	SODT_B3		SDQ_B23	AW17	MDB23
[16] DCLKB0	AV31	SCLK_B0		SDQS_B3	AT24	DOSA3
[16] DCLKB1	AV31	SCLK_B0#		SDQS_B3#	AU24	-DOSA3
[16] DCLKB2	AT27	SCLK_B1		SDM_B3	AT24	DMB3
[16] DCLKB3	AT27	SCLK_B1#		SDQ_B24	AV24	MDB24
[16] DCLKB4	AV32	SCLK_B2		SDQ_B25	AT23	MDB25
[16] DCLKB5	AV32	SCLK_B2#		SDQ_B26	AT26	MDB26
[16] DCLKB6	AV32	SCLK_B3		SDQ_B27	AV26	MDB27
[16] DCLKB7	AV32	SCLK_B3#		SDQ_B28	AU23	MDB28
[16] DCLKB8	AV32	SCLK_B4		SDQ_B29	AV23	MDB29
[16] DCLKB9	AV32	SCLK_B4#		SDQ_B30	AV24	MDB30
[16] DCLKB10	AV32	SCLK_B5		SDQ_B31	AN26	MDB31
[16] DCLKB11	AV32	SCLK_B5#		SDQS_B4	AV39	DOSA4
[16] DCLKB12	AV32	SCLK_B6		SDQS_B4#	AU39	-DOSA4
[16] DCLKB13	AV32	SCLK_B7		SDM_B4	AU37	DMB4
[16] DCLKB14	AV32	SCLK_B8		SDQ_B32	AW37	MDB32
[16] DCLKB15	AV32	SCLK_B8#		SDQ_B33	AV38	MDB33
[16] DCLKB16	AV32	SCLK_B9		SDQ_B34	AN36	MDB34
[16] DCLKB17	AV32	SCLK_B9#		SDQ_B35	AN37	MDB35
[16] DCLKB18	AV32	SCLK_B10		SDQ_B36	AU35	MDB36
[16] DCLKB19	AV32	SCLK_B11		SDQ_B37	AP36	MDB37
[16] DCLKB20	AV32	SCLK_B12		SDQ_B38	AN35	MDB38
[16] DCLKB21	AV32	SCLK_B13		SDQ_B39	AR37	MDB39
[16] DCLKB22	AV32	SCLK_B14		SDQS_B5	AL35	DOSA5
[16] DCLKB23	AV32	SCLK_B15		SDQS_B5#	AL34	-DOSA5
[16] DCLKB24	AV32	SCLK_B16		SDM_B5	AM37	DMB5
[16] DCLKB25	AV32	SCLK_B17		SDQ_B40	AM35	MDB40
[16] DCLKB26	AV32	SCLK_B18		SDQ_B41	AM34	MDB41
[16] DCLKB27	AV32	SCLK_B19		SDQ_B42	AJ34	MDB42
[16] DCLKB28	AV32	SCLK_B20		SDQ_B43	AL38	MDB43
[16] DCLKB29	AV32	SCLK_B21		SDQ_B44	AR39	MDB44
[16] DCLKB30	AV32	SCLK_B22		SDQ_B45	AM34	MDB45
[16] DCLKB31	AV32	SCLK_B23		SDQ_B46	AL37	MDB46
[16] DCLKB32	AV32	SCLK_B24		SDQ_B47	AL32	MDB47
[16] DCLKB33	AV32	SCLK_B25		SDQS_B6	AG35	DOSA6
[16] DCLKB34	AV32	SCLK_B26		SDQS_B6#	AG36	-DOSA6
[16] DCLKB35	AV32	SCLK_B27		SDM_B6	AG39	DMB6
[16] DCLKB36	AV32	SCLK_B28		SDQ_B48	AG38	MDB48
[16] DCLKB37	AV32	SCLK_B29		SDQ_B49	AJ38	MDB49
[16] DCLKB38	AV32	SCLK_B30		SDQ_B50	AE36	MDB50
[16] DCLKB39	AV32	SCLK_B31		SDQ_B51	AE33	MDB51
[16] DCLKB40	AV32	SCLK_B32		SDQ_B52	AJ37	MDB52
[16] DCLKB41	AV32	SCLK_B33		SDQ_B53	AK36	MDB53
[16] DCLKB42	AV32	SCLK_B34		SDQ_B54	AG33	MDB54
[16] DCLKB43	AV32	SCLK_B35		SDQ_B55	AE34	MDB55
[16] DCLKB44	AV32	SCLK_B36		SDQS_B7	AC36	DOSA7
[16] DCLKB45	AV32	SCLK_B37		SDQS_B7#	AD38	DMB7
[16] DCLKB46	AV32	SCLK_B38		SDM_B7	AD36	DMB6
[16] DCLKB47	AV32	SCLK_B39		SDQ_B56	AC33	MDB56
[16] DCLKB48	AV32	SCLK_B40		SDQ_B57	AC33	MDB57
[16] DCLKB49	AV32	SCLK_B41		SDQ_B58	AA34	MDB58
[16] DCLKB50	AV32	SCLK_B42		SDQ_B59	AA36	MDB59
[16] DCLKB51	AV32	SCLK_B43		SDQ_B60	AD34	MDB60
[16] DCLKB52	AV32	SCLK_B44		SDQ_B61	AE38	MDB61
[16] DCLKB53	AV32	SCLK_B45		SDQ_B62	AC34	MDB62
[16] DCLKB54	AV32	SCLK_B46		SDQ_B63	AA33	MDB63
[16] DCLKB55	AV32	SCLK_B47		SDQ_B65	AA33	MDB63

LE82G31/A2/[10HB1-038231-10R]

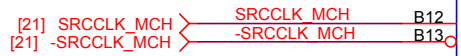
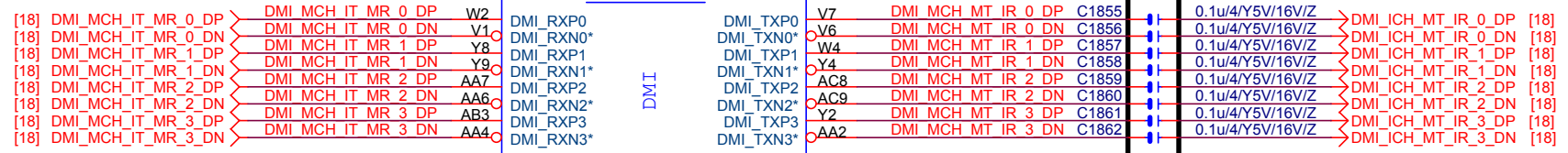
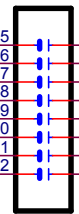
CHANNEL B

[15.17] MDDT_A0_1	MDT_A0_1
[16.17] MDDT_B0_1	MDT_B0_1
[16] -DQS0_0.7	-DQS0_0.7
[16.17] MAAB0.14	MAAB0.14
[16] DMB0.0.7	DMB0.0.7
[16] MDB0.63	MDB0.63
[16] DQS0.0.7	DQS0.0.7
[15.17] MAA0.14	MAA0.14
[15] DMA0.0.7	DMA0.0.7
[15] MDA0.63	MDA0.63
[15] DQA0.0.7	DQA0.0.7
[15] -DQA0.0.7	-DQA0.0.7

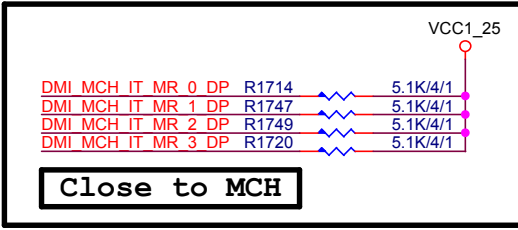




Close to MCH



LE82G31/A2/[10HB1-038231-10R]

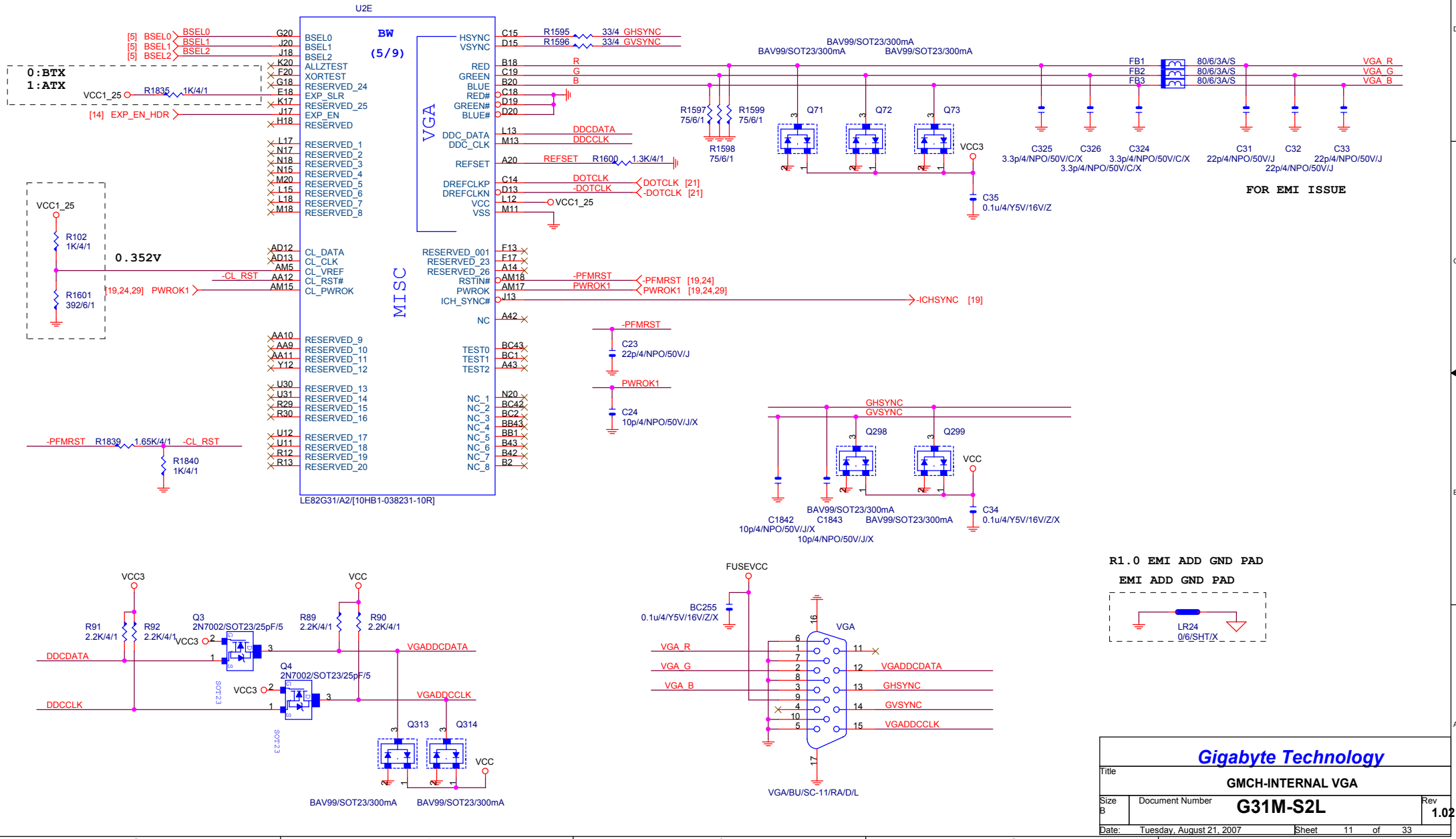


Gigabyte Technology

Title: **GMCH-PCI E & DMI**

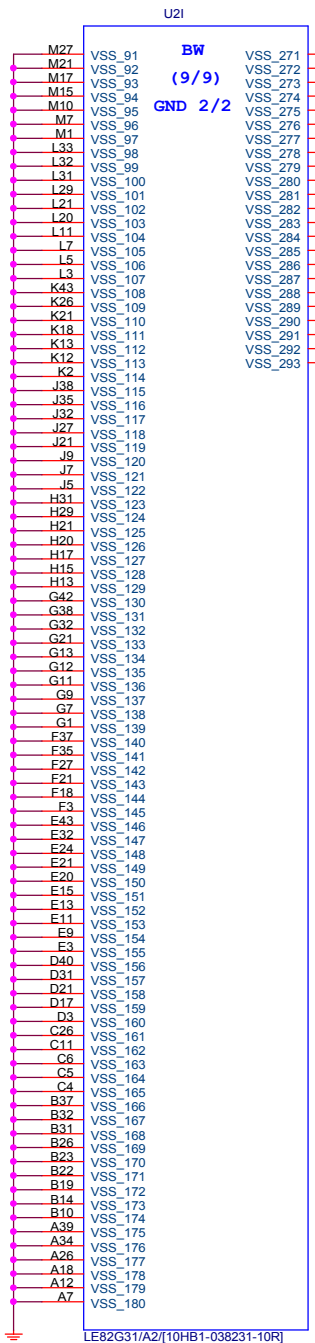
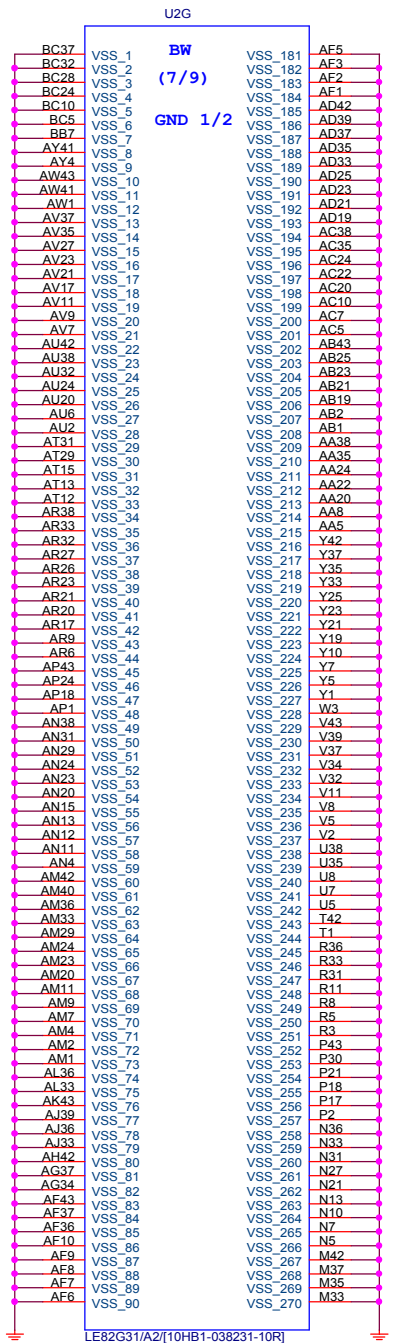
Size Custom: Document Number **G31M-S2L** Rev **1.02**

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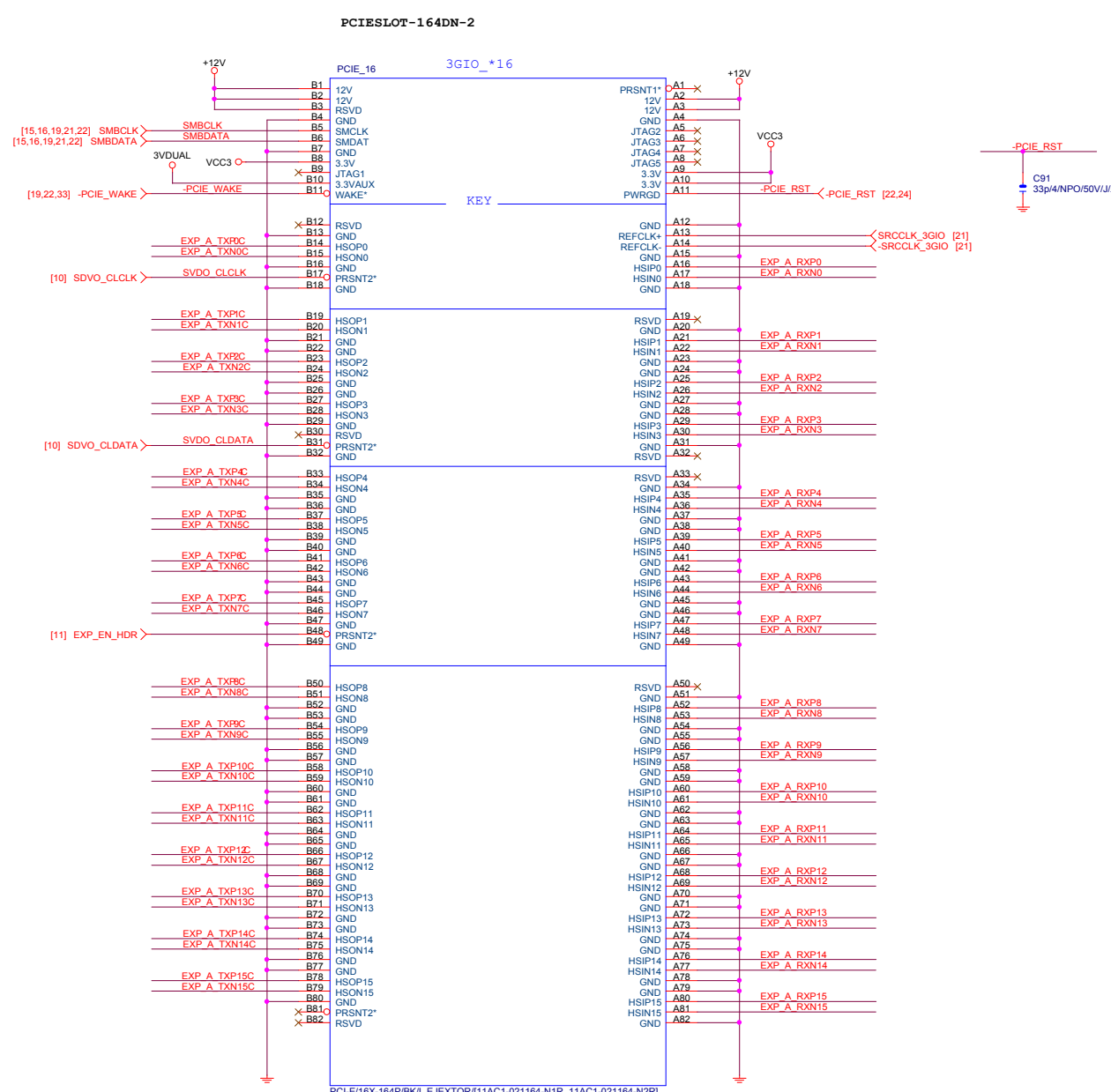
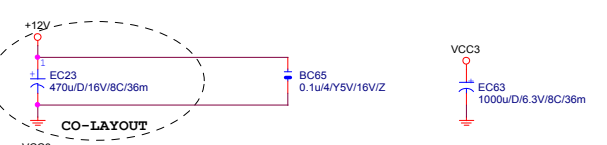
R1.0 EMI ADD GND PAD
EMI ADD GND PAD

Gigabyte Technology		
Title GMCH-INTERNAL VGA		
Size B	Document Number G31M-S2L	Rev 1.02
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Gigabyte Technology

Title		
GMCH-GND		
Size	Document Number	Rev
Custom	G31M-S2L	1.02
Date:	Tuesday, August 21, 2007	Sheet 12 of 33



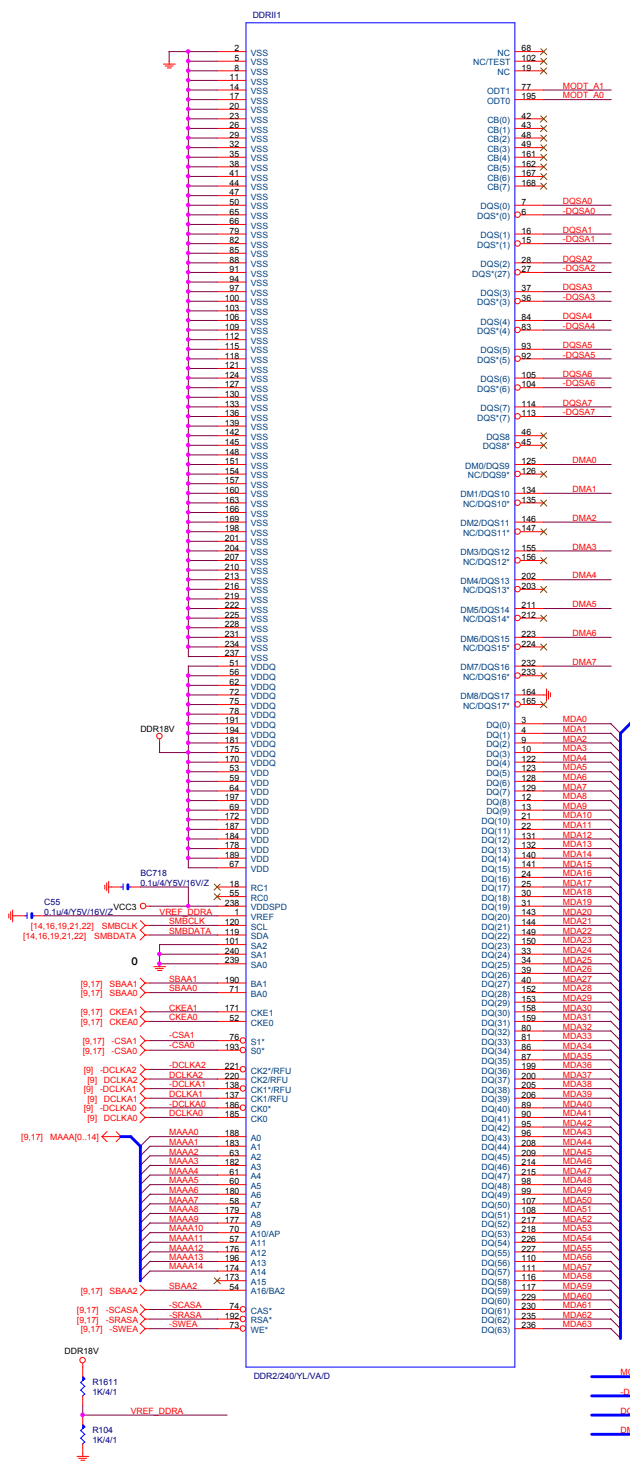
EXP A TXP0..15	>>>	EXP_A_TXP[0..15]	[10]	EXP A RXP0..15	>>>	EXP_A_RXP[0..15]	[10]
EXP A TXN0..15	>>>	EXP_A_TXN[0..15]	[10]	EXP A RXN0..15	>>>	EXP_A_RXN[0..15]	[10]

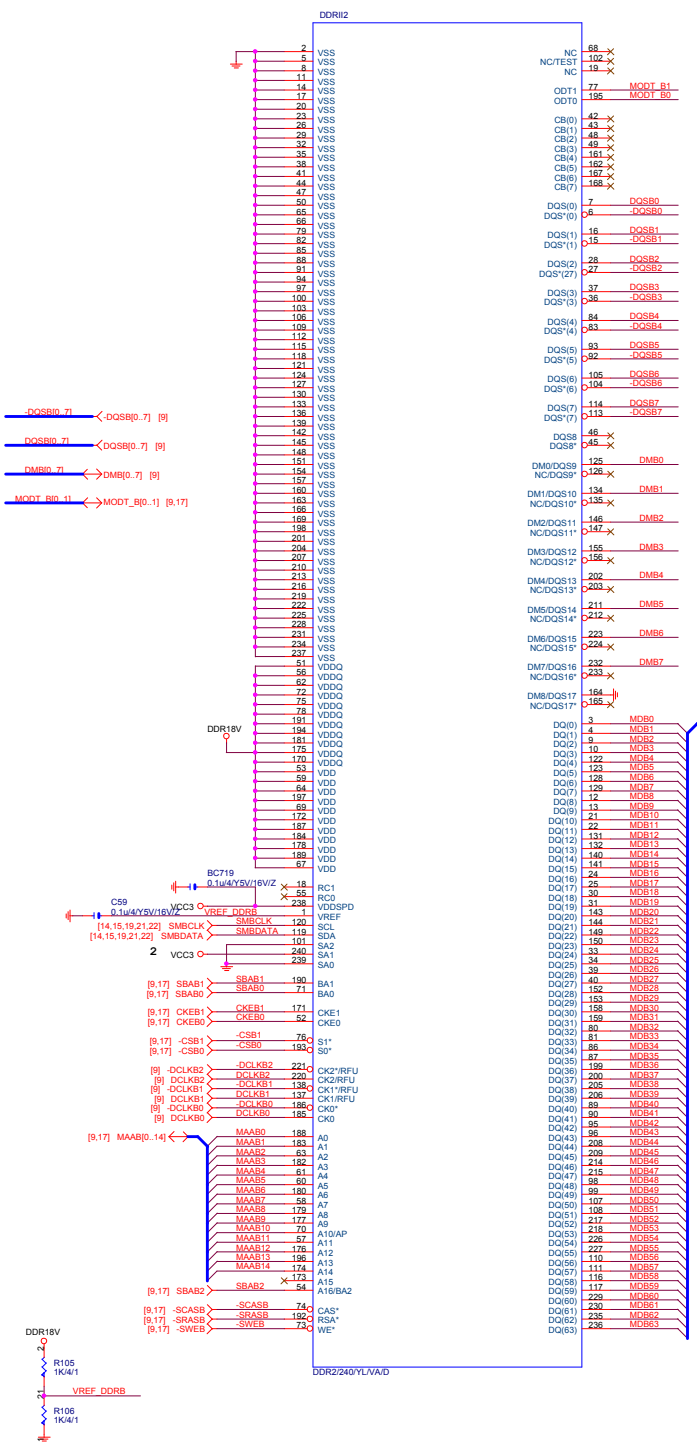
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EXP A TXN0	C93	0.1uF/4Y5V/16V/Z	EXP A TXN0C
EXP A TXP1	C94	0.1uF/4Y5V/16V/Z	EXP A TXP1C
EXP A TXN1	C95	0.1uF/4Y5V/16V/Z	EXP A TXN1C
EXP A TXP2	C96	0.1uF/4Y5V/16V/Z	EXP A TXP2C
EXP A TXN2	C97	0.1uF/4Y5V/16V/Z	EXP A TXN2C
EXP A TXP3	C98	0.1uF/4Y5V/16V/Z	EXP A TXP3C
EXP A TXN3	C99	0.1uF/4Y5V/16V/Z	EXP A TXN3C
EXP A TXP4	C100	0.1uF/4Y5V/16V/Z	EXP A TXP4C
EXP A TXN4	C101	0.1uF/4Y5V/16V/Z	EXP A TXN4C
EXP A TXP5	C102	0.1uF/4Y5V/16V/Z	EXP A TXP5C
EXP A TXN5	C103	0.1uF/4Y5V/16V/Z	EXP A TXN5C
EXP A TXP6	C104	0.1uF/4Y5V/16V/Z	EXP A TXP6C
EXP A TXN6	C105	0.1uF/4Y5V/16V/Z	EXP A TXN6C
EXP A TXP7	C106	0.1uF/4Y5V/16V/Z	EXP A TXP7C
EXP A TXN7	C107	0.1uF/4Y5V/16V/Z	EXP A TXN7C
EXP A TXP8	C108	0.1uF/4Y5V/16V/Z	EXP A TXP8C
EXP A TXN8	C109	0.1uF/4Y5V/16V/Z	EXP A TXN8C
EXP A TXP9	C110	0.1uF/4Y5V/16V/Z	EXP A TXP9C
EXP A TXN9	C111	0.1uF/4Y5V/16V/Z	EXP A TXN9C
EXP A TXP10	C112	0.1uF/4Y5V/16V/Z	EXP A TXP10C
EXP A TXN10	C113	0.1uF/4Y5V/16V/Z	EXP A TXN10C
EXP A TXP11	C114	0.1uF/4Y5V/16V/Z	EXP A TXP11C
EXP A TXN11	C115	0.1uF/4Y5V/16V/Z	EXP A TXN11C
EXP A TXP12	C116	0.1uF/4Y5V/16V/Z	EXP A TXP12C
EXP A TXN12	C117	0.1uF/4Y5V/16V/Z	EXP A TXN12C
EXP A TXP13	C118	0.1uF/4Y5V/16V/Z	EXP A TXP13C
EXP A TXN13	C119	0.1uF/4Y5V/16V/Z	EXP A TXN13C
EXP A TXP14	C120	0.1uF/4Y5V/16V/Z	EXP A TXP14C
EXP A TXN14	C121	0.1uF/4Y5V/16V/Z	EXP A TXN14C
EXP A TXP15	C122	0.1uF/4Y5V/16V/Z	EXP A TXP15C
EXP A TXN15	C123	0.1uF/4Y5V/16V/Z	EXP A TXN15C

PCI-E/16X-164P/BK/L EJECTOR[11AC1-021164-N1R_11AC1-021164-N2R]

LEFT BLUE

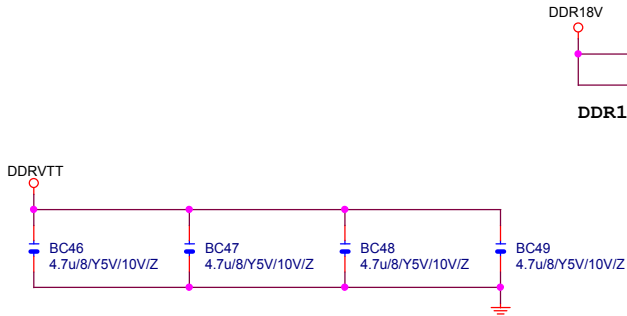
Gigabyte Technology		
PCI EXPRESS * 16		
Size Custom	Document Number G31M-S2L	Rev 1.02
Date: Tuesday, August 21, 2007	Sheet 14	of 33



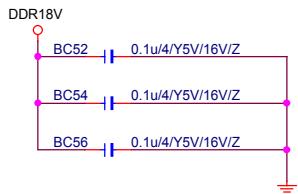


DDR TERMINATION CHANNEL A

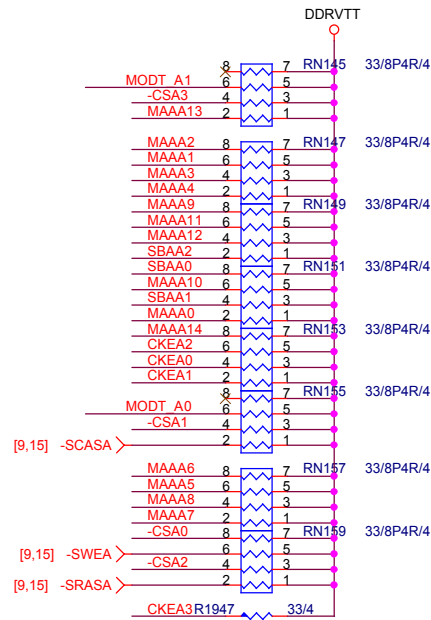
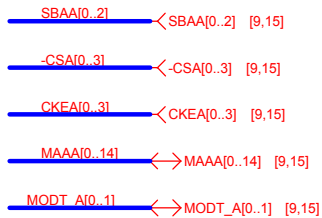
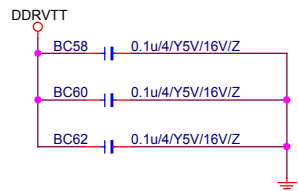
DDRVTT Decouple



DDR18V Decouple

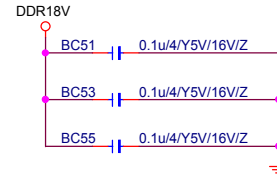


DDRVTT Decouple

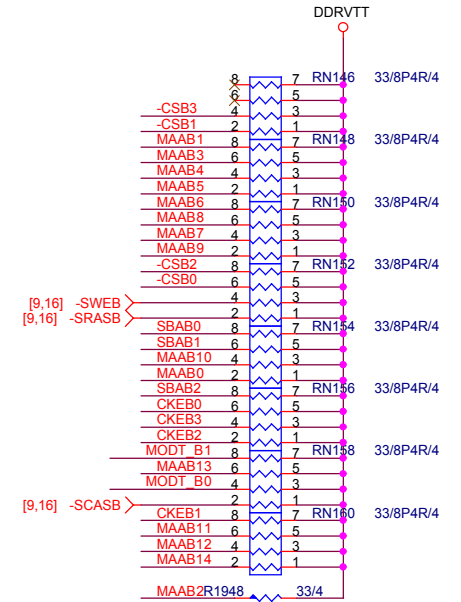
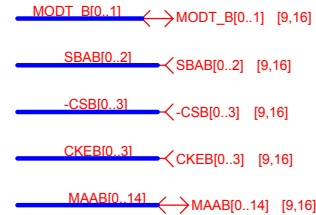
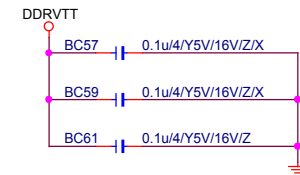


DDR TERMINATION CHANNEL B

DDR18V Decouple

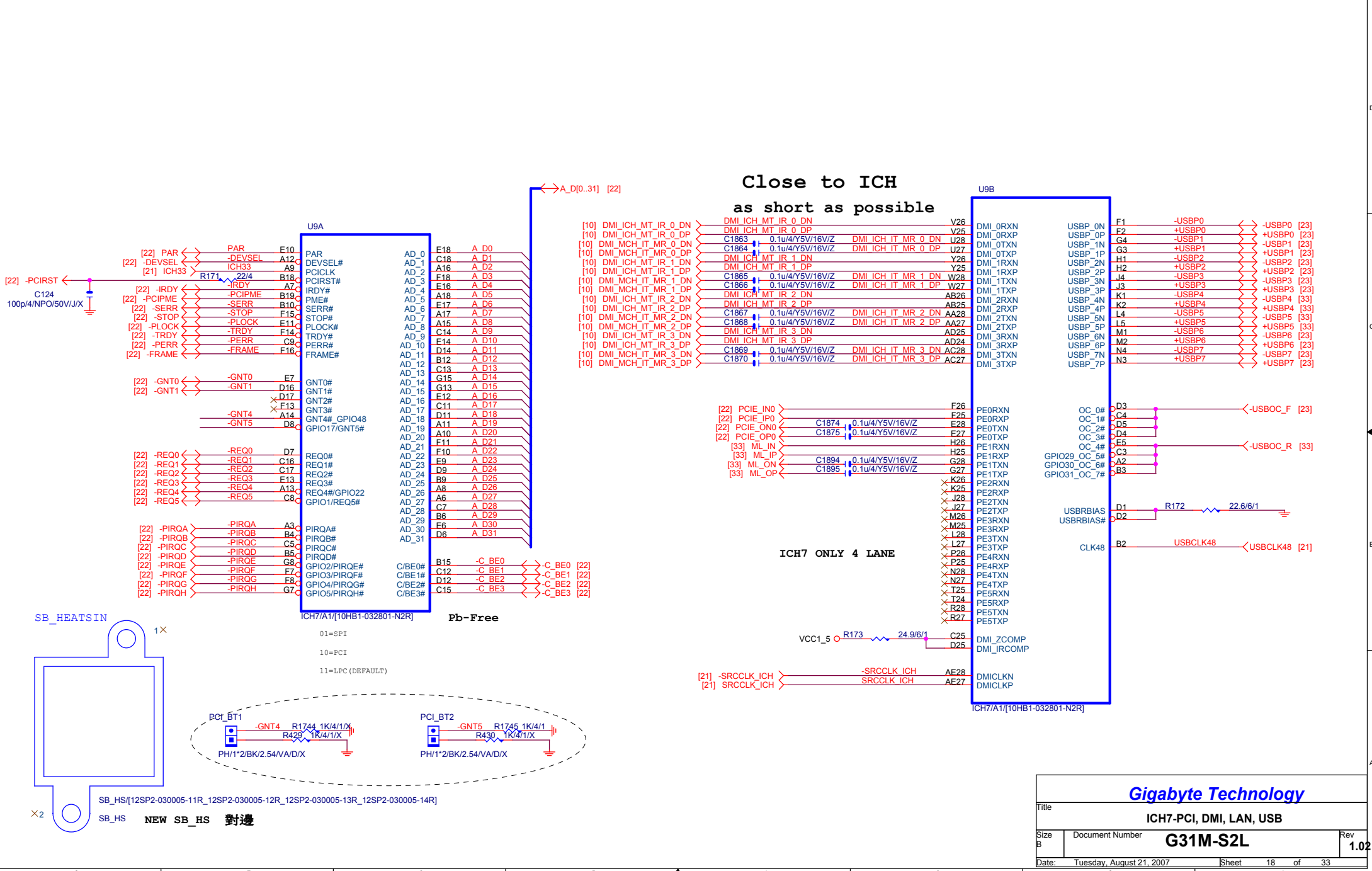


DDRVTT Decouple



Gigabyte Technology

Title		
DDRII TERMINATOR		
Size Custom	Document Number	Rev
	G31M-S2L	1.02
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**Close to ICH
as short as possible**

ICH7 ONLY 4 LANE

← A_D[0..31] [22]

U9B

[22] -PCIRST ←
C124
100p4/NPO/50V/JIX

- [22] PAR ← PAR E10
- [22] -DEVSEL ← -DEVSEL A12
- [21] ICH33 ← ICH33 A9
- [22] -IRDY ← -IRDY B18
- [22] -PCIPME ← -PCIPME B19
- [22] -SERR ← -SERR B10
- [22] -STOP ← -STOP E15
- [22] -PLOCK ← -PLOCK E11
- [22] -TRDY ← -TRDY F14
- [22] -PERR ← -PERR C9
- [22] -FRAME ← -FRAME E16
- [22] -GNT0 ← -GNT0 E7
- [22] -GNT1 ← -GNT1 D16
- [22] -GNT4 ← -GNT4 A14
- [22] -GNT5 ← -GNT5 D8
- [22] -REQ0 ← -REQ0 D7
- [22] -REQ1 ← -REQ1 C16
- [22] -REQ2 ← -REQ2 C17
- [22] -REQ3 ← -REQ3 E13
- [22] -REQ4 ← -REQ4 A13
- [22] -REQ5 ← -REQ5 C8
- [22] -PIROA ← -PIROA A3
- [22] -PIROB ← -PIROB B4
- [22] -PIROC ← -PIROC C5
- [22] -PIROD ← -PIROD B5
- [22] -PIROE ← -PIROE G8
- [22] -PIROF ← -PIROF F7
- [22] -PIROG ← -PIROG F8
- [22] -PIROH ← -PIROH G7

- U9A
- PAR E10
- DEVSEL# A12
- PCICLK A9
- PCIRST# B18
- IRDY# B19
- PME# B10
- SERR# E15
- STOP# E11
- TRDY# F14
- PERR# C9
- FRAME# E16
- GNT0# E7
- GNT1# D16
- GNT2# D17
- GNT3# A14
- GNT4# GPIO48
- GPIO17/GNT5# D8
- REQ0# D7
- REQ1# C16
- REQ2# C17
- REQ3# E13
- REQ4#/GPIO22 A13
- GPIO1/REQ5# C8
- PIRQA# A3
- PIRQB# B4
- PIROC# C5
- PIROD# B5
- PIROE# G8
- PIROF# F7
- PIROG# F8
- PIROH# G7
- GPIO2/PIROE#
- GPIO3/PIROF#
- GPIO4/PIROG#
- GPIO5/PIROH#
- E18 A D0
- C18 A D1
- A16 A D2
- F18 A D3
- E16 A D4
- A18 A D5
- E17 A D6
- A17 A D7
- A15 A D8
- C14 A D9
- E14 A D10
- D14 A D11
- B12 A D12
- C13 A D13
- G15 A D14
- G13 A D15
- E12 A D16
- C11 A D17
- D11 A D18
- A11 A D19
- A10 A D20
- F11 A D21
- E10 A D22
- E9 A D23
- D9 A D24
- B9 A D25
- A8 A D26
- A6 A D27
- C7 A D28
- B6 A D29
- E6 A D30
- AD_30 D6 A D31
- C/BE0# B15 -C BE0 [22]
- C/BE1# C12 -C BE1 [22]
- C/BE2# D12 -C BE2 [22]
- C/BE3# C15 -C BE3 [22]

- [10] DMI_ICH_MT_IR_0_DN DMI_ICH_MT_IR_0_DN V26
- [10] DMI_ICH_MT_IR_0_DP DMI_ICH_MT_IR_0_DP V25
- C1863 0.1u/4/Y5V/16V/Z DMI_ICH_IT_MR_0_DN U28
- C1864 0.1u/4/Y5V/16V/Z DMI_ICH_IT_MR_0_DP U27
- [10] DMI_ICH_MT_IR_1_DN DMI_ICH_MT_IR_1_DN Y26
- [10] DMI_ICH_MT_IR_1_DP DMI_ICH_MT_IR_1_DP Y25
- C1865 0.1u/4/Y5V/16V/Z DMI_ICH_IT_MR_1_DN W28
- C1866 0.1u/4/Y5V/16V/Z DMI_ICH_IT_MR_1_DP W27
- [10] DMI_ICH_MT_IR_2_DN DMI_ICH_MT_IR_2_DN AB26
- [10] DMI_ICH_MT_IR_2_DP DMI_ICH_MT_IR_2_DP AB25
- C1867 0.1u/4/Y5V/16V/Z DMI_ICH_IT_MR_2_DN AA28
- C1868 0.1u/4/Y5V/16V/Z DMI_ICH_IT_MR_2_DP AA27
- [10] DMI_ICH_MT_IR_3_DN DMI_ICH_MT_IR_3_DN AD25
- [10] DMI_ICH_MT_IR_3_DP DMI_ICH_MT_IR_3_DP AD24
- C1869 0.1u/4/Y5V/16V/Z DMI_ICH_IT_MR_3_DN AC28
- C1870 0.1u/4/Y5V/16V/Z DMI_ICH_IT_MR_3_DP AC27

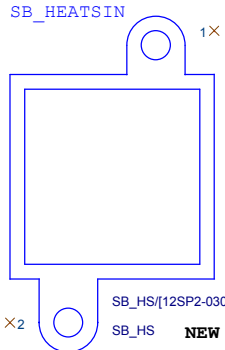
- [22] PCIE_IN0 → F26
- [22] PCIE_IP0 → F25
- [22] PCIE_ON0 → C1874 0.1u/4/Y5V/16V/Z E28
- [22] PCIE_OP0 → C1875 0.1u/4/Y5V/16V/Z E27
- [33] ML_IN → H26
- [33] ML_IP → C1894 0.1u/4/Y5V/16V/Z H25
- [33] ML_ON → C1895 0.1u/4/Y5V/16V/Z G27

- U9B
- DMI_0RXN
- DMI_0RXP
- DMI_0TXN
- DMI_0TXP
- DMI_1RXN
- DMI_1RXP
- DMI_1TXN
- DMI_1TXP
- DMI_2RXN
- DMI_2RXP
- DMI_2TXN
- DMI_2TXP
- DMI_3RXN
- DMI_3RXP
- DMI_3TXN
- DMI_3TXP
- USBP_0N F1 -USBP0 [23]
- USBP_0P F2 +USBP0 [23]
- USBP_1N G4 -USBP1 [23]
- USBP_1P G3 +USBP1 [23]
- USBP_2N H1 -USBP2 [23]
- USBP_2P H2 +USBP2 [23]
- USBP_3N J4 -USBP3 [23]
- USBP_3P J3 +USBP3 [23]
- USBP_4N K1 -USBP4 [23]
- USBP_4P K2 +USBP4 [23]
- USBP_5N L4 -USBP5 [23]
- USBP_5P L5 +USBP5 [23]
- USBP_6N M1 -USBP6 [23]
- USBP_6P M2 +USBP6 [23]
- USBP_7N N4 -USBP7 [23]
- USBP_7P N3 +USBP7 [23]

- OC_0# D3
- OC_1# C4
- OC_2# D5
- OC_3# D4
- OC_4# E5
- OC_5# C3
- GPIO29_OC_5# A2
- GPIO30_OC_6# A2
- GPIO31_OC_7# B3
- USBOC_F [23]
- USBOC_R [33]

- USBBIAS USBBIAS# D1
- USBBIAS# D2
- R172 22.6/6/1
- CLK48 B2 USBCLK48 [21]

- VCC1_5 → R173 24.9/6/1
- C25
- D25
- DMICLN DMICLN AE28
- DMICLK DMICLK AE27



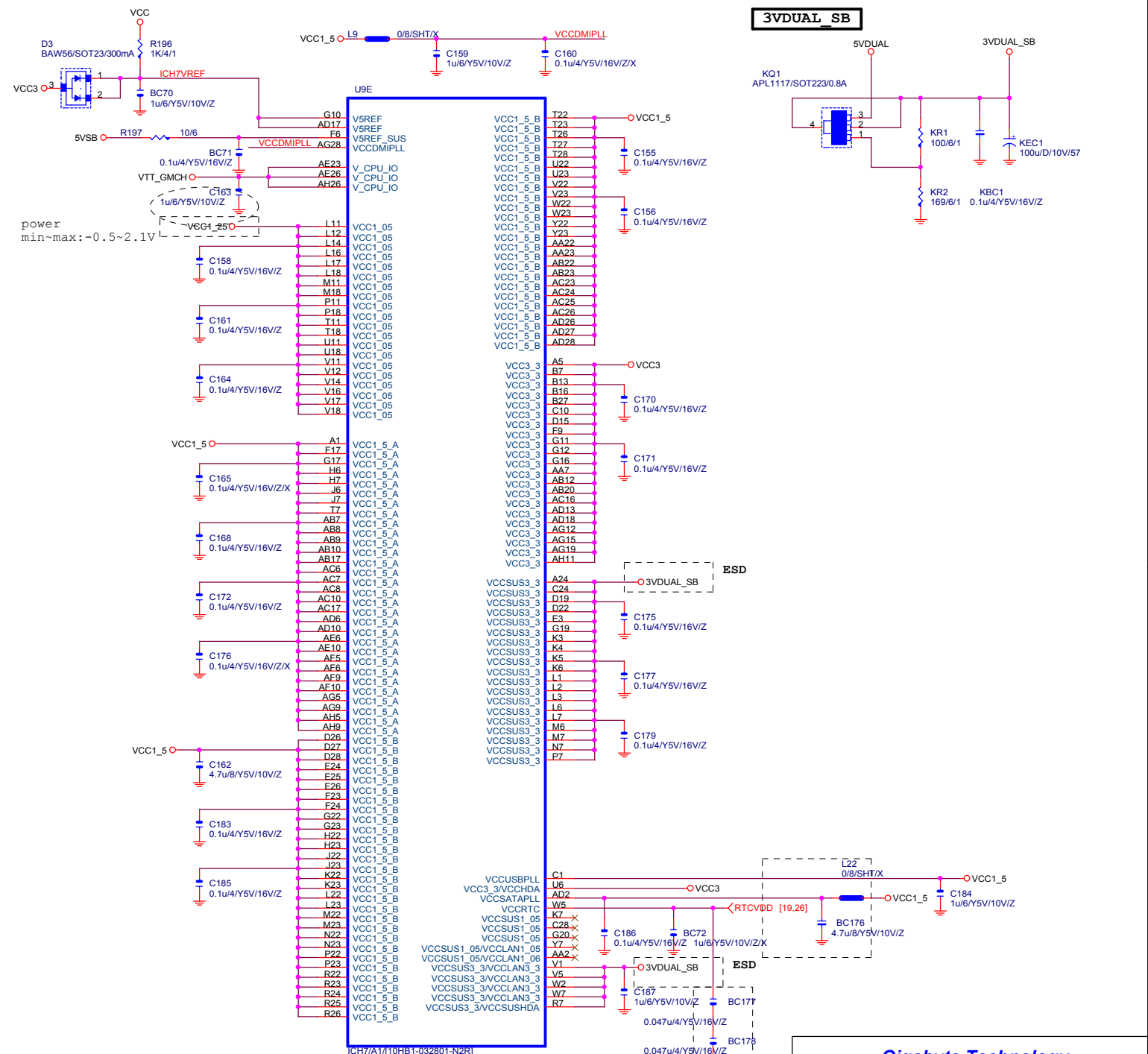
Gigabyte Technology

ICH7-PCI, DMI, LAN, USB

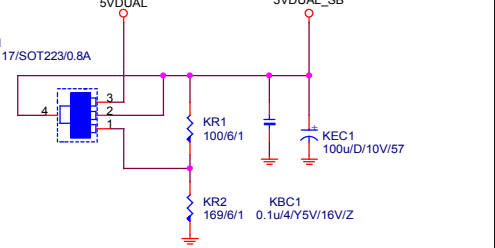
Size: Document Number **G31M-S2L** Rev **1.02**

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U9F		
A4	VSS1	VSS101
A23	VSS2	VSS102
B1	VSS3	VSS103
B8	VSS4	VSS104
B11	VSS5	VSS105
B14	VSS6	VSS106
B17	VSS7	VSS107
B20	VSS8	VSS108
B26	VSS9	VSS109
B28	VSS10	VSS110
C2	VSS11	VSS111
C6	VSS12	VSS112
D10	VSS13	VSS113
D13	VSS14	VSS114
D18	VSS15	VSS115
D21	VSS16	VSS116
D24	VSS17	VSS117
E1	VSS18	VSS118
E2	VSS19	VSS119
E8	VSS20	VSS120
F15	VSS21	VSS121
F3	VSS22	VSS122
F4	VSS23	VSS123
F12	VSS24	VSS124
F27	VSS25	VSS125
F28	VSS26	VSS126
G1	VSS27	VSS127
G1	VSS28	VSS128
G2	VSS29	VSS129
G5	VSS30	VSS130
G6	VSS31	VSS131
G9	VSS32	VSS132
G14	VSS33	VSS133
G18	VSS34	VSS134
G21	VSS35	VSS135
G24	VSS36	VSS136
G25	VSS37	VSS137
G26	VSS38	VSS138
H3	VSS39	VSS139
H4	VSS40	VSS140
H5	VSS41	VSS141
H24	VSS42	VSS142
H27	VSS43	VSS143
H28	VSS44	VSS144
J1	VSS45	VSS145
J2	VSS46	VSS146
J5	VSS47	VSS147
J25	VSS48	VSS148
J25	VSS49	VSS149
J26	VSS50	VSS150
K24	VSS51	VSS151
K27	VSS52	VSS152
K28	VSS53	VSS153
L13	VSS54	VSS154
L15	VSS55	VSS155
L24	VSS56	VSS156
L25	VSS57	VSS157
L26	VSS58	VSS158
M3	VSS59	VSS159
M4	VSS60	VSS160
M5	VSS61	VSS161
M12	VSS62	VSS162
M13	VSS63	VSS163
M14	VSS64	VSS164
M15	VSS65	VSS165
M16	VSS66	VSS166
M17	VSS67	VSS167
M24	VSS68	VSS168
M27	VSS69	VSS169
M28	VSS70	VSS170
N1	VSS71	VSS171
N2	VSS72	VSS172
N5	VSS73	VSS173
N6	VSS74	VSS174
N11	VSS75	VSS175
N12	VSS76	VSS176
N13	VSS77	VSS177
N14	VSS78	VSS178
N15	VSS79	VSS179
N16	VSS80	VSS180
N17	VSS81	VSS181
N18	VSS82	VSS182
N24	VSS83	VSS183
N26	VSS84	VSS184
P3	VSS85	VSS185
P4	VSS86	VSS186
P12	VSS88	VSS188
P13	VSS89	VSS189
P14	VSS90	VSS190
P15	VSS91	VSS191
P16	VSS92	VSS192
P17	VSS93	VSS193
P24	VSS94	VSS194
P27	VSS95	VSS195
P28	VSS96	VSS196
R1	VSS97	VSS197
R11	VSS98	VSS198
R12	VSS99	VSS199
R13	VSS100	VSS200



3VDUAL_SB



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ESD

ESD

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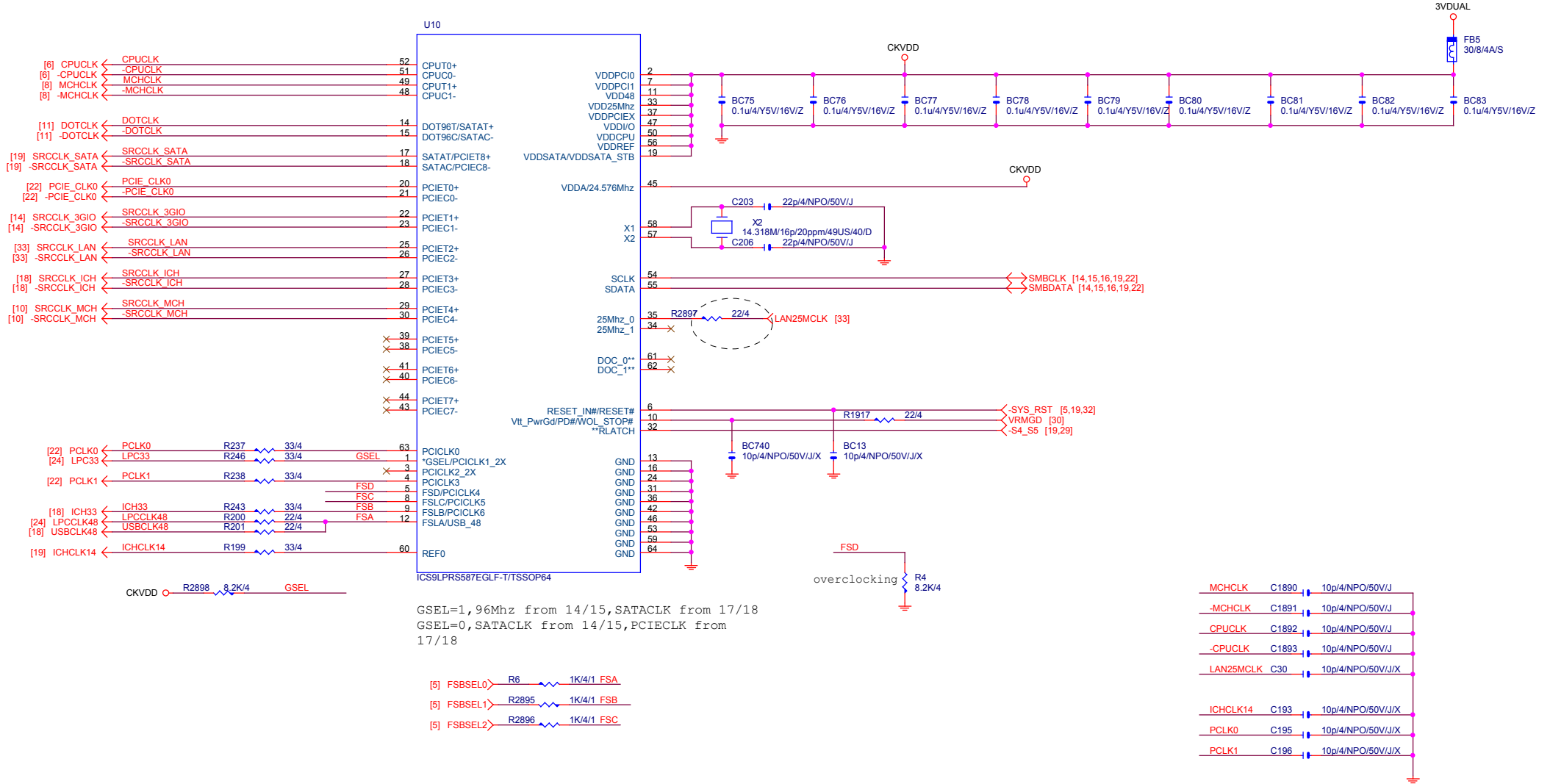
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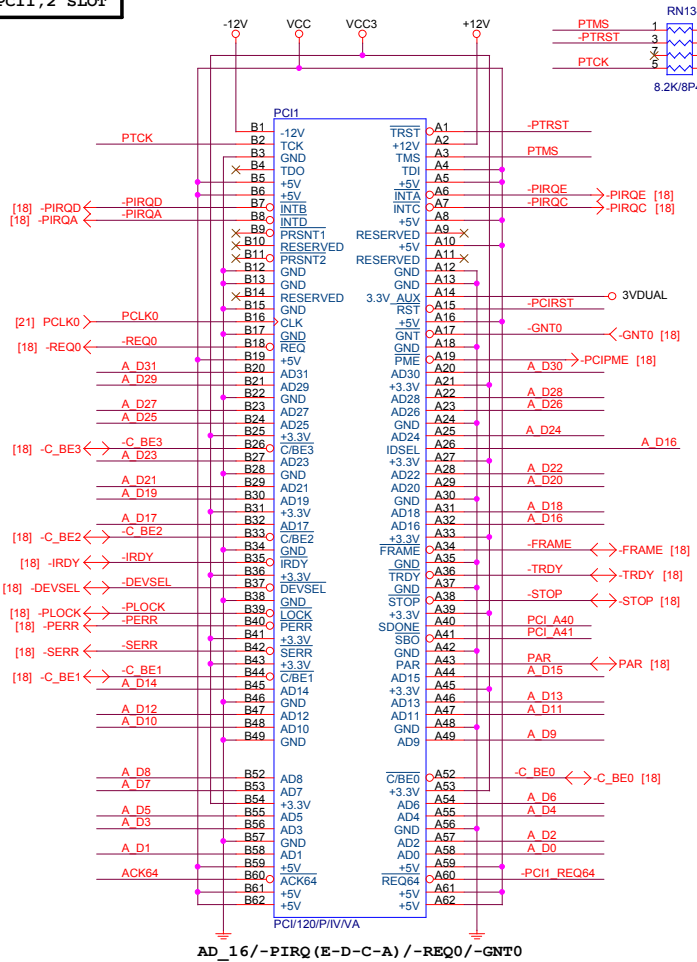
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ESD

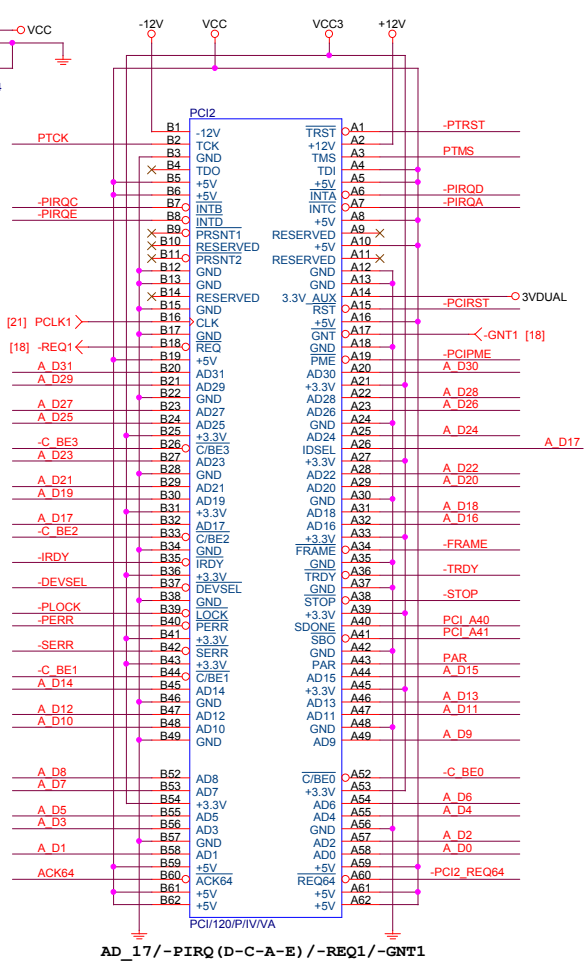
Gigabyte Technology		
ICH7-PWR & GND		
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PCI1, 2 SLOT

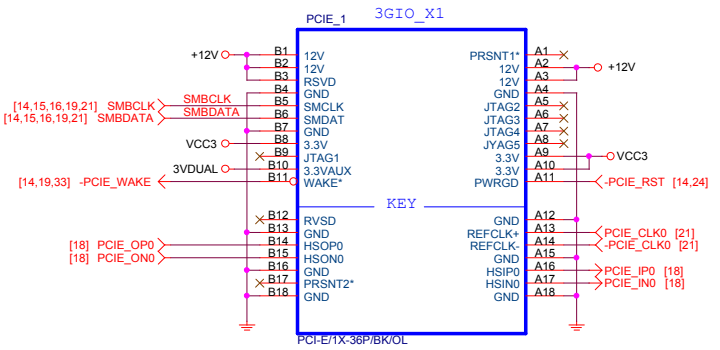


AD_16 / -PIRQ (E-D-C-A) / -REQ0 / -GNT0



AD_17 / -PIRQ (D-C-A-E) / -REQ1 / -GNT1

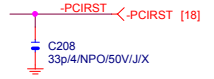
PCIe*1



PCIe_1 3GIO_X1

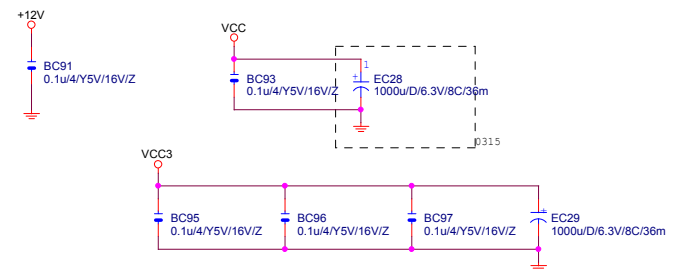
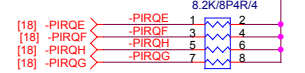
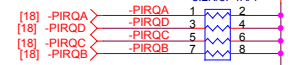
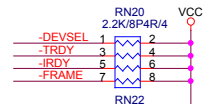
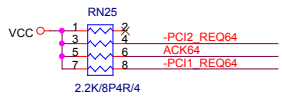
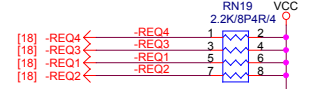
PCIe/1X-36P/BR/QOL

[18] A_D[0..31] ↔ A_D[0..31]



Place close to PC11

[14,15,16,19,21] SMBCLK ↔ PCI_A40
[14,15,16,19,21] SMBDATA ↔ PCI_A41

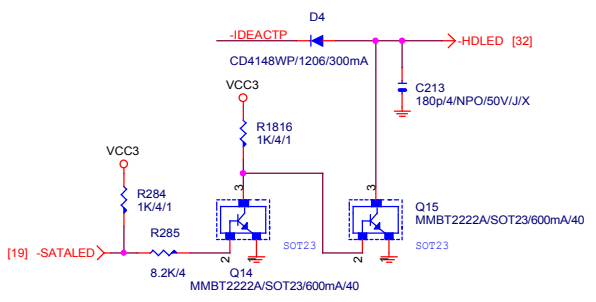


Gigabyte Technology

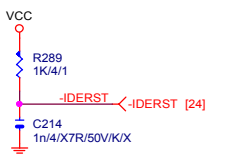
PCI SLOT 1, 2/PCIEX1
G31M-S2L

Title	PCI SLOT 1, 2/PCIEX1		Rev	1.02
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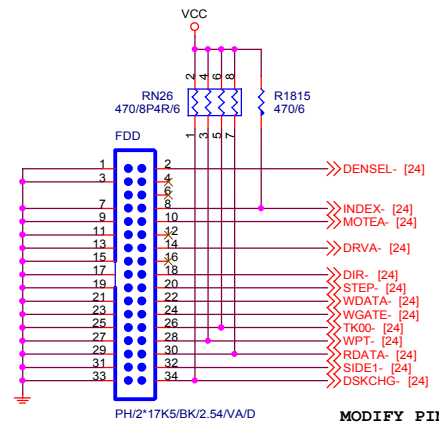
IDE/SATA LED



IDE RESET

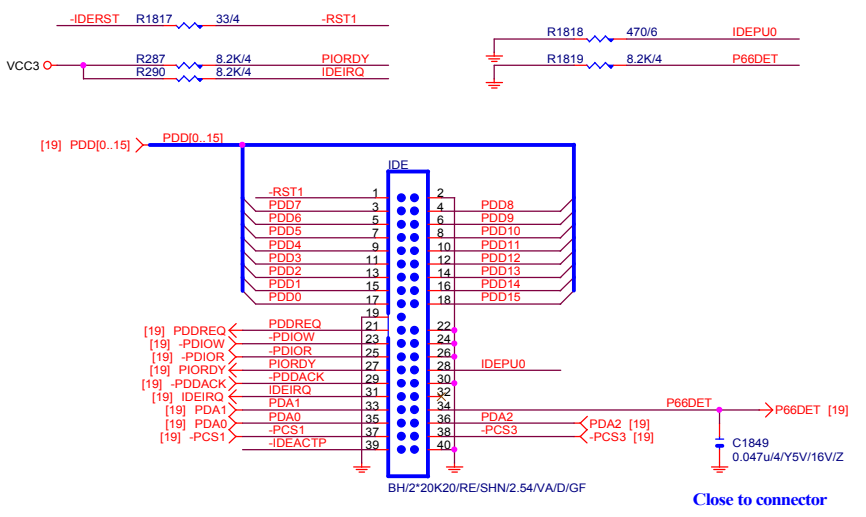


FLOPPY

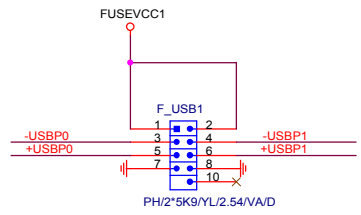
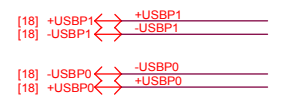


MODIFY PIN HEADER

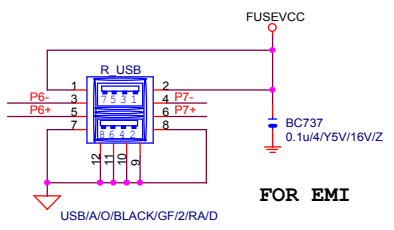
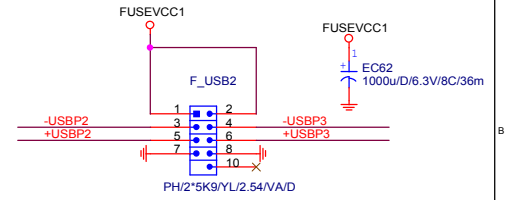
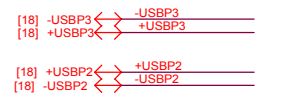
IDE



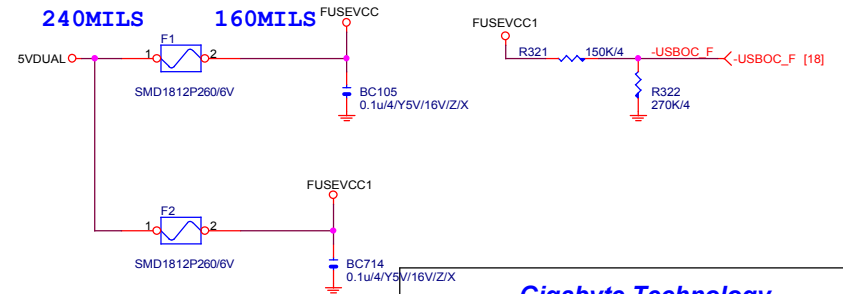
FRONT USB1



FRONT USB2



FOR EMI



Gigabyte Technology

Title		
IDE,FDD,F_USB		
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RTS2- ==LOW CPU FAN 50%
 ==HIGH 100%
DEFAULT 50%

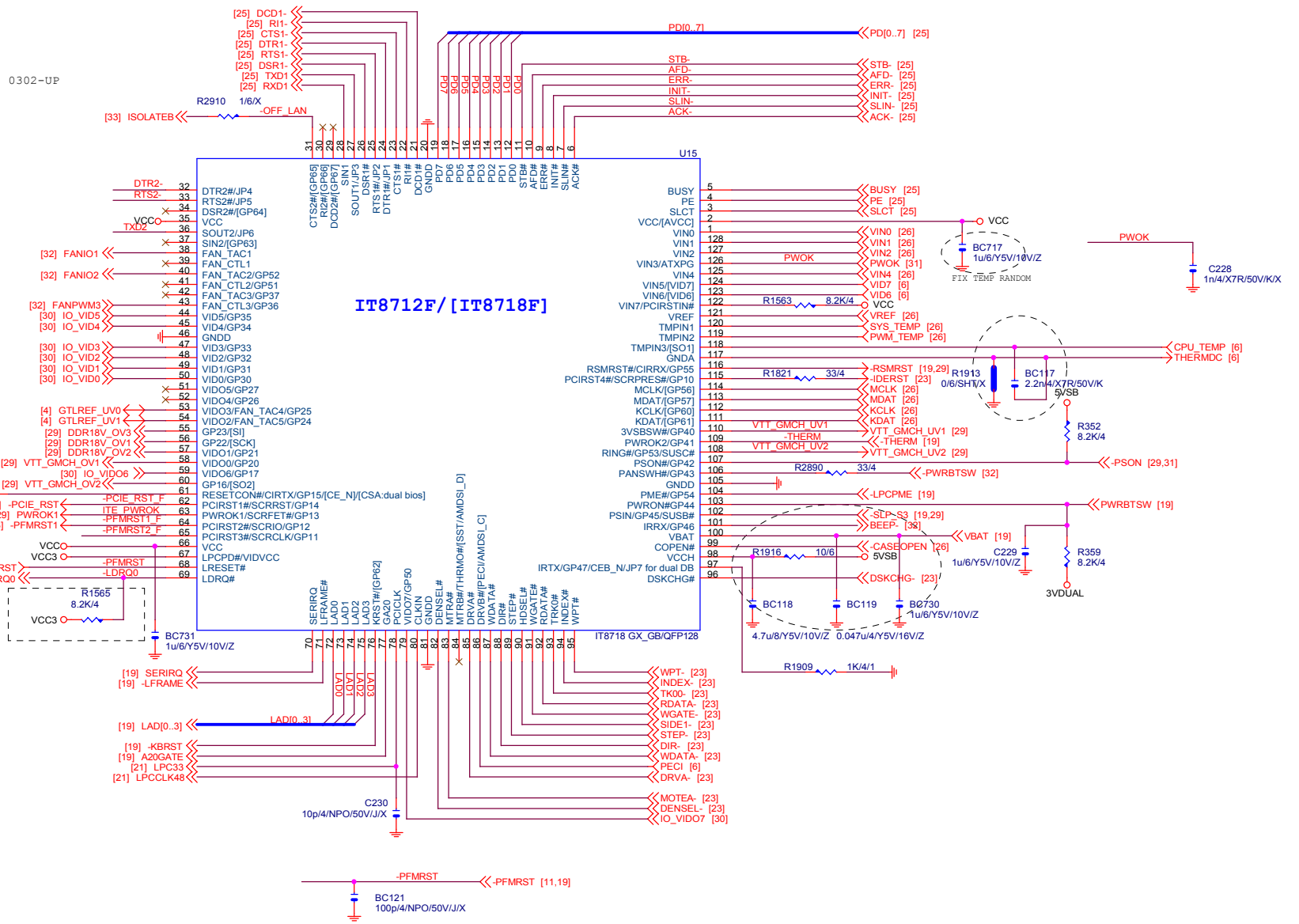
VCC
 R1561 8.2K/4/X DTR2-
 R1562 8.2K/4/X RTS2- 0302-UP
 R1587 680/6

PUSH-PULL
 R347 680/6 DTR2-
 R348 680/6 TXD2

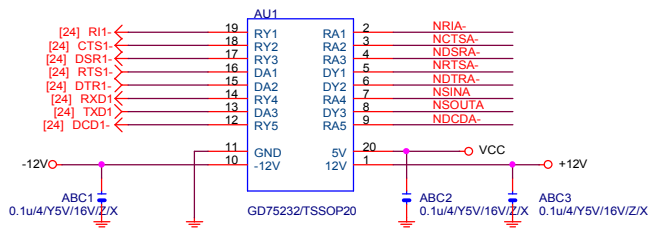
VCC3
 RN140
 2 -PFMRST2_F
 4 -PCIE_RST_F
 6 ITE_PWROK
 8 -PFMRST1_F
 1K/8P4R/4

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

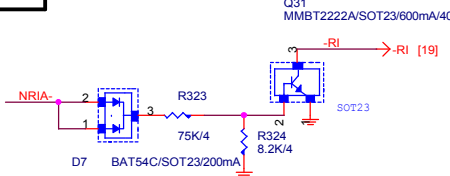
1.2V or 3.3V tolerance select.
 1.2V OUTPUT 接 VTT_GMCH
 3.3V OUTPUT 接3.3V
 LPCPD#=#VIDVCC



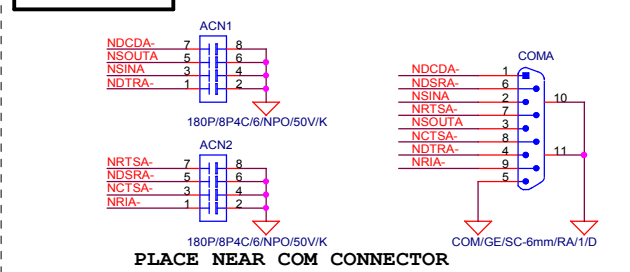
COMA



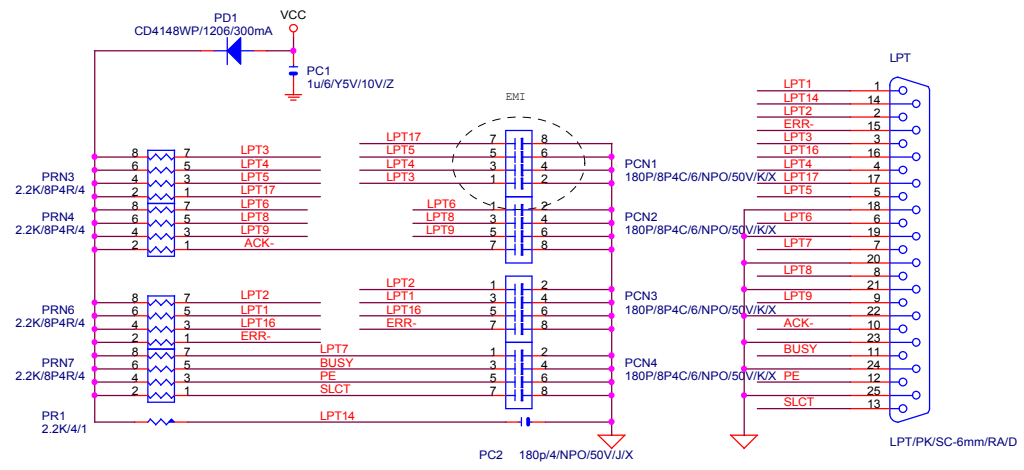
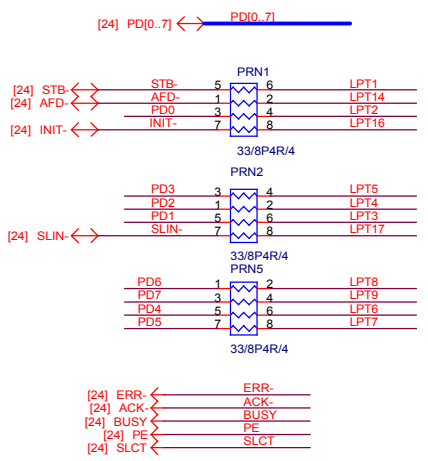
RING IN



EXTERNAL COMA

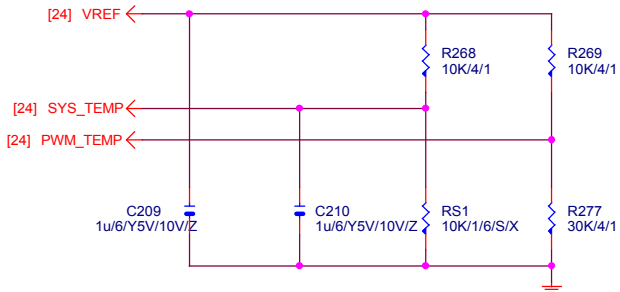


LPT PORT

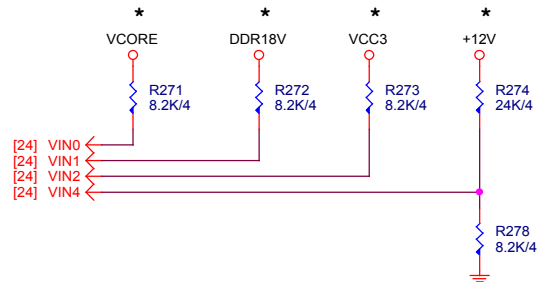


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COM & LPT PORT		
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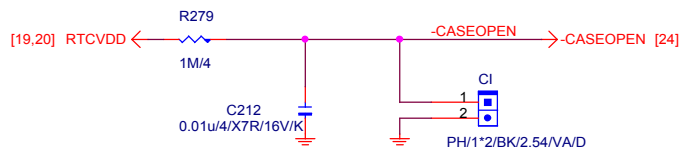
TEMP H/W MONITOR



VOLTAGE-- H/W MONITOR

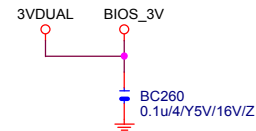


CASE OPEN

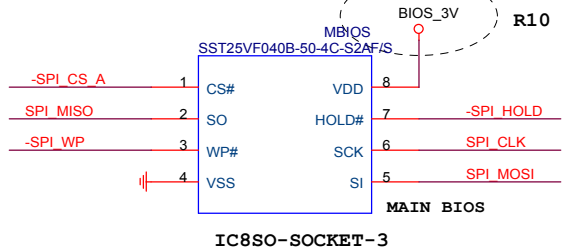
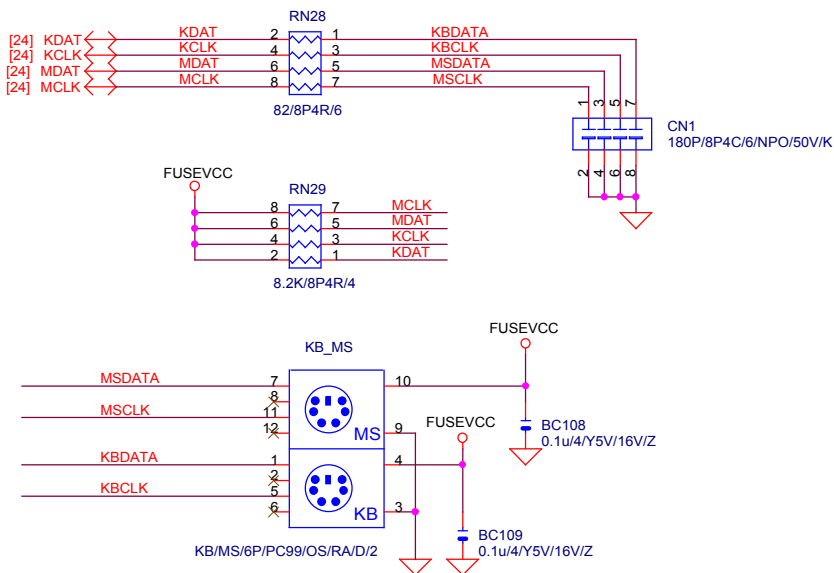


Case Open Circuits

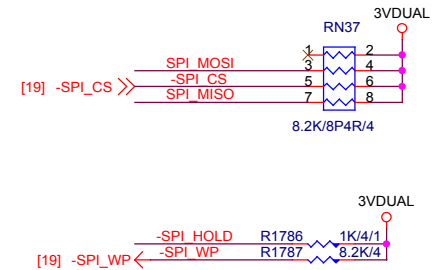
DUAL BIOS



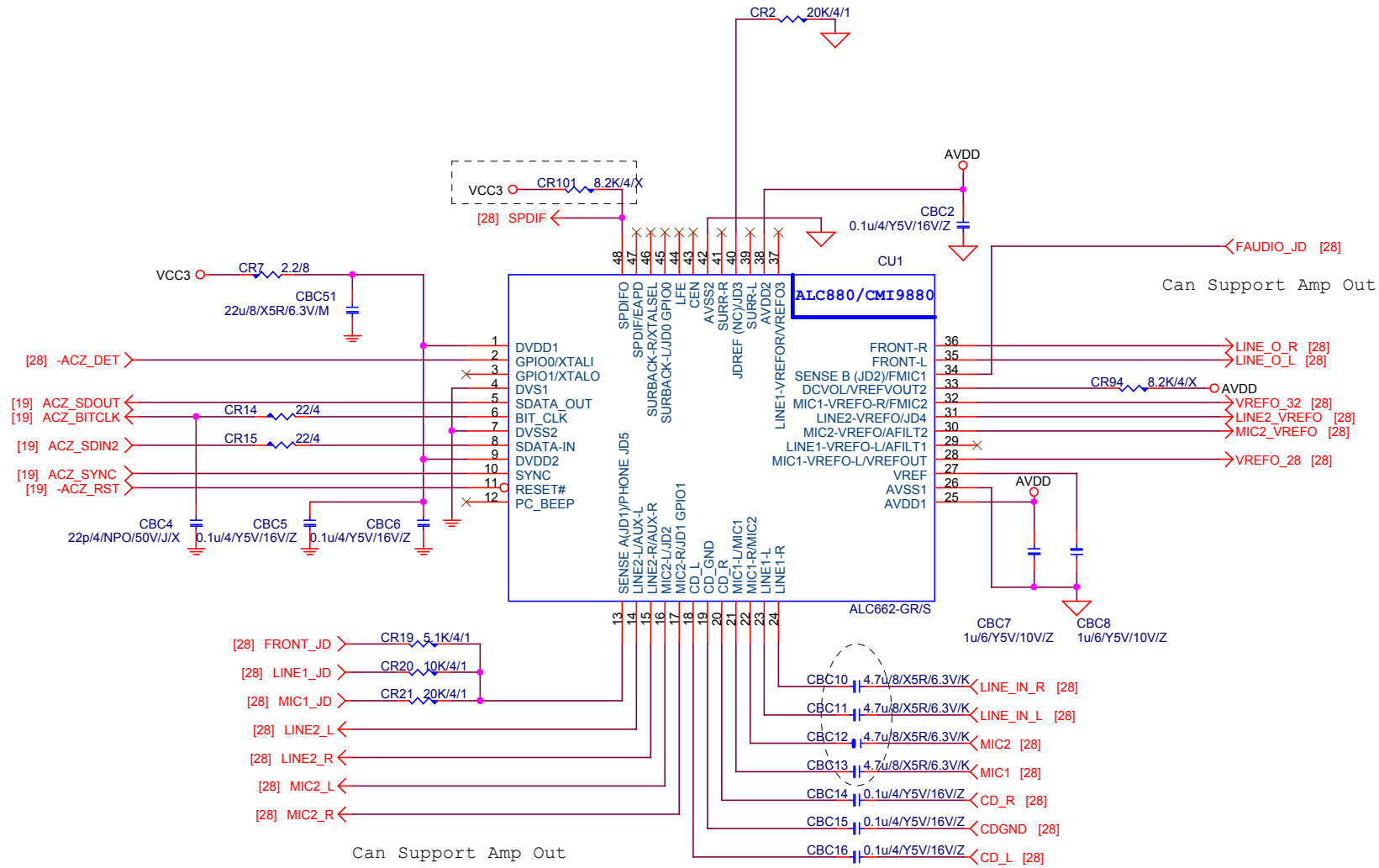
KB/MS



FOR ICH BIOS



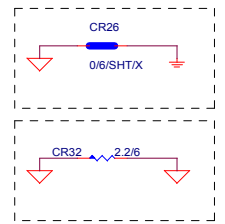
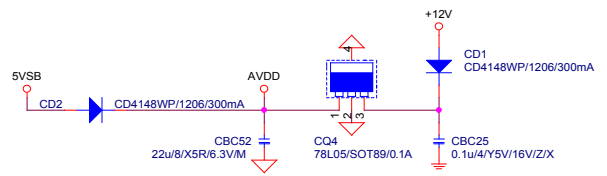
Gigabyte Technology			
HW-MONITOR/CI/KB/MS/BIOS			
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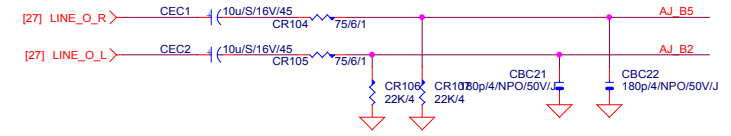
Gigabyte Technology

Title		
AZALIA ALC662		
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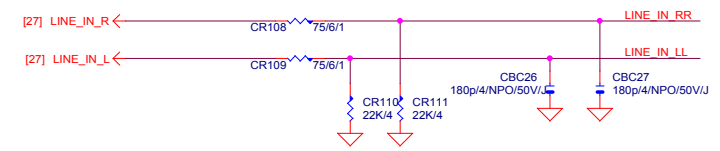
CODEC POWER/EMI PAD



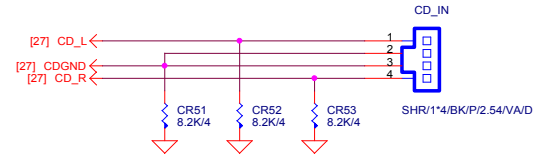
LINE-OUT



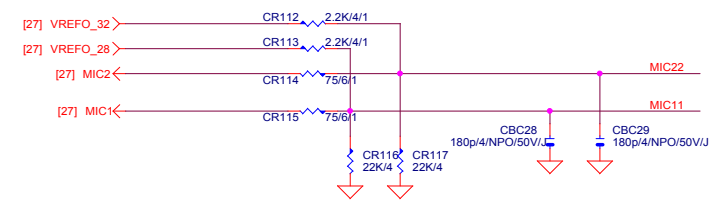
LINE-IN



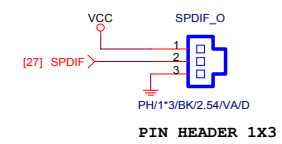
CD IN



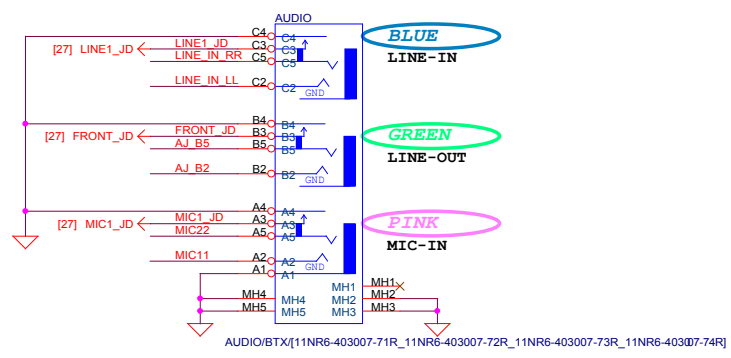
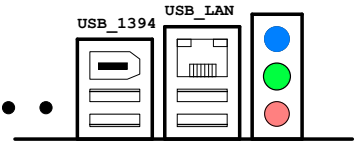
MIC-IN



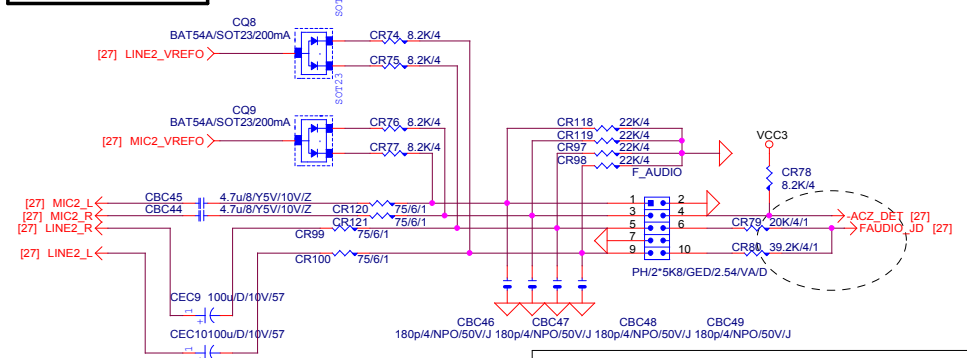
SPDIF



AZALIA JACK

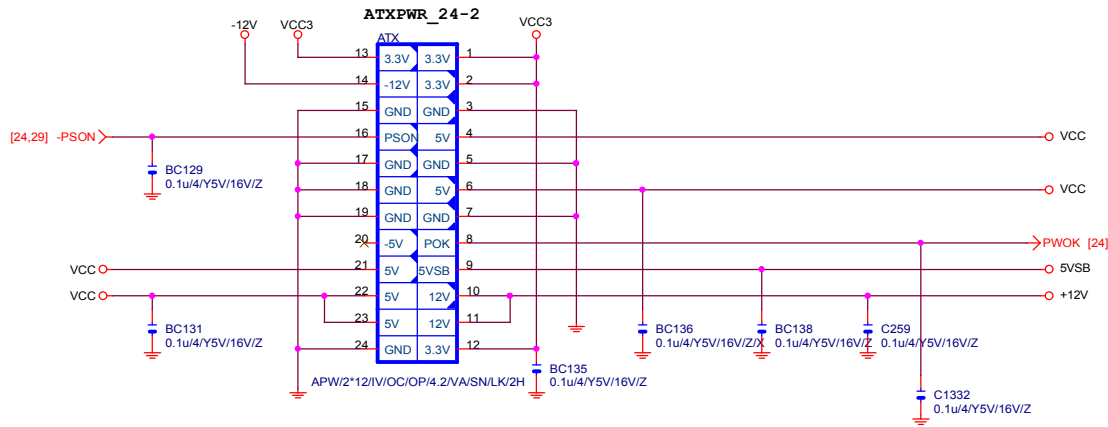


AZALIA FRONT PANEL

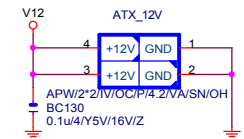
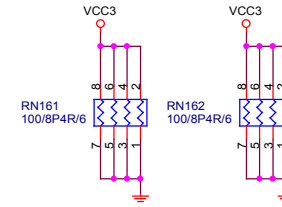


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AUDIO JACK			
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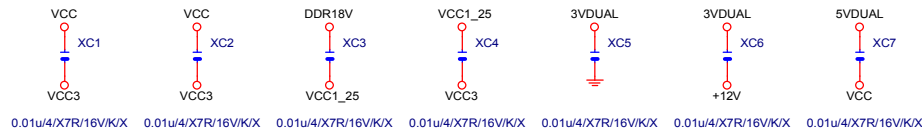
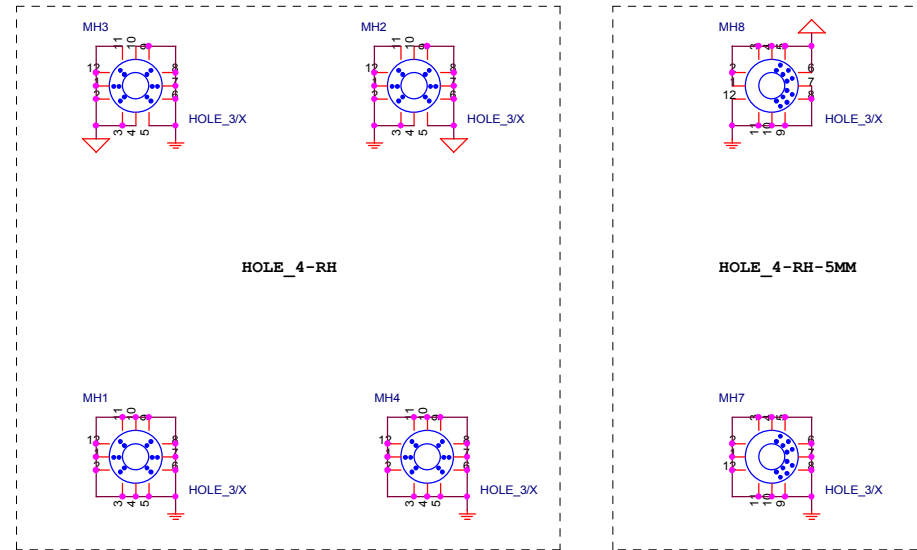
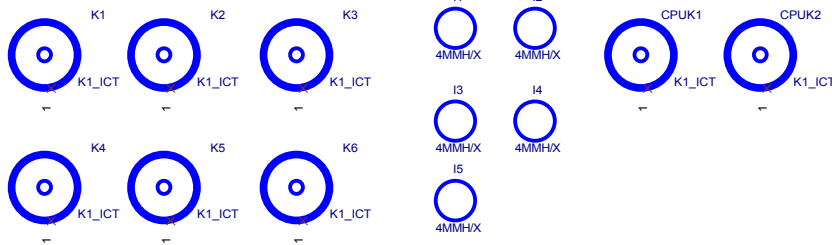
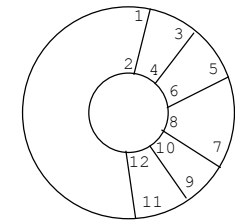
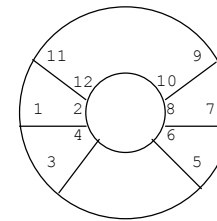
ATX POWER CONNECTOR



FIX PWR AcBel (ATX-400C-A2ADB)



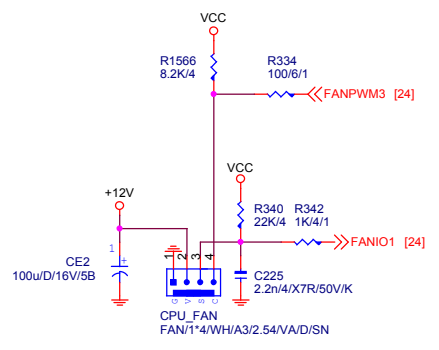
ATX_4-1



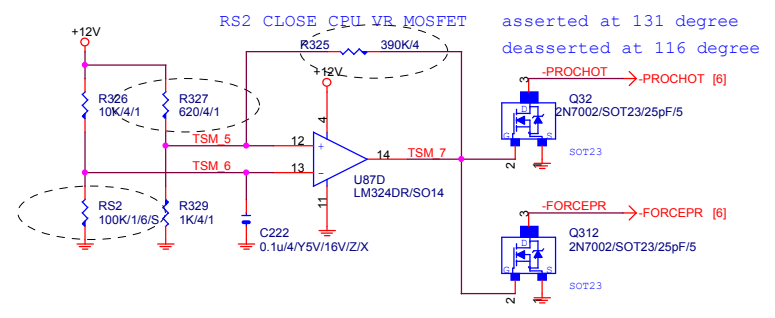
Gigabyte Technology

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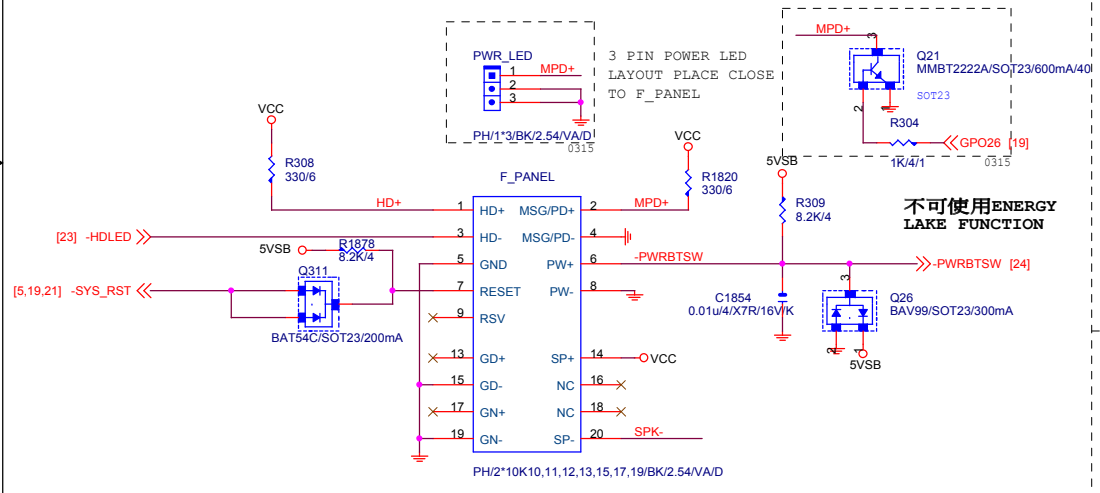
CPU SMART FAN SMART FAN



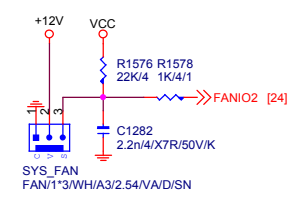
PROCESSOR HOT



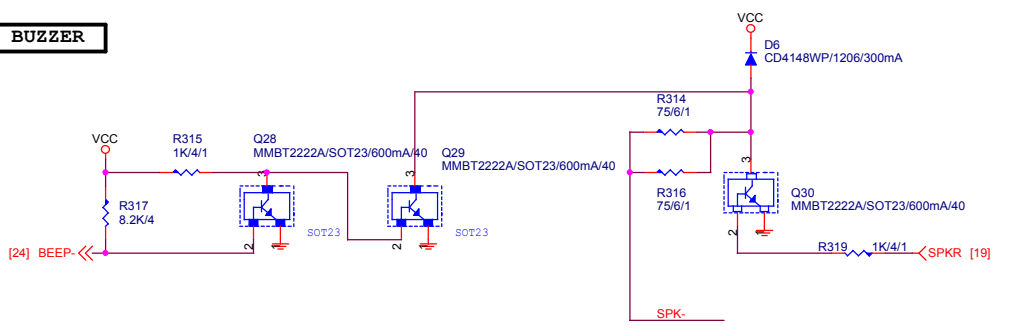
INTEL FRONT PANEL



SYS_FAN



BUZZER



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FRONT PANEL		
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