Model Name:GA-G41MT-S2

Revision 1.3

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	G41_HOST
09	G41_DDRII
10	G41_PCI E, DMI
11	G41_VGA
12	G41_GND
13	G41_PWR
14	PCI EXPRESS*16 SLOT
15	DDR3 CHANNEL A
16	DDR3 CHANNEL B
17	DDR3 TERMINATION
18	ICH7 PCI, USB, DMI, LAN
19	ICH7 IDE, GPIO, SATA, CTRL
20	ICH7 VCC, GND
21	CK505 CLOCK.
22	PCI SLOT 1,PCIE*1,2
23	IDE/FLOPPY/F_USB/R_USB
24	ITE 8718 GB
25	COM_LPT
26	CI,HWM,KB/MS,DUALBIOS
27	VIA VT1708S/1705

SHEET	TITLE
28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM_ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	ARTHEROS AR8151/AR8152

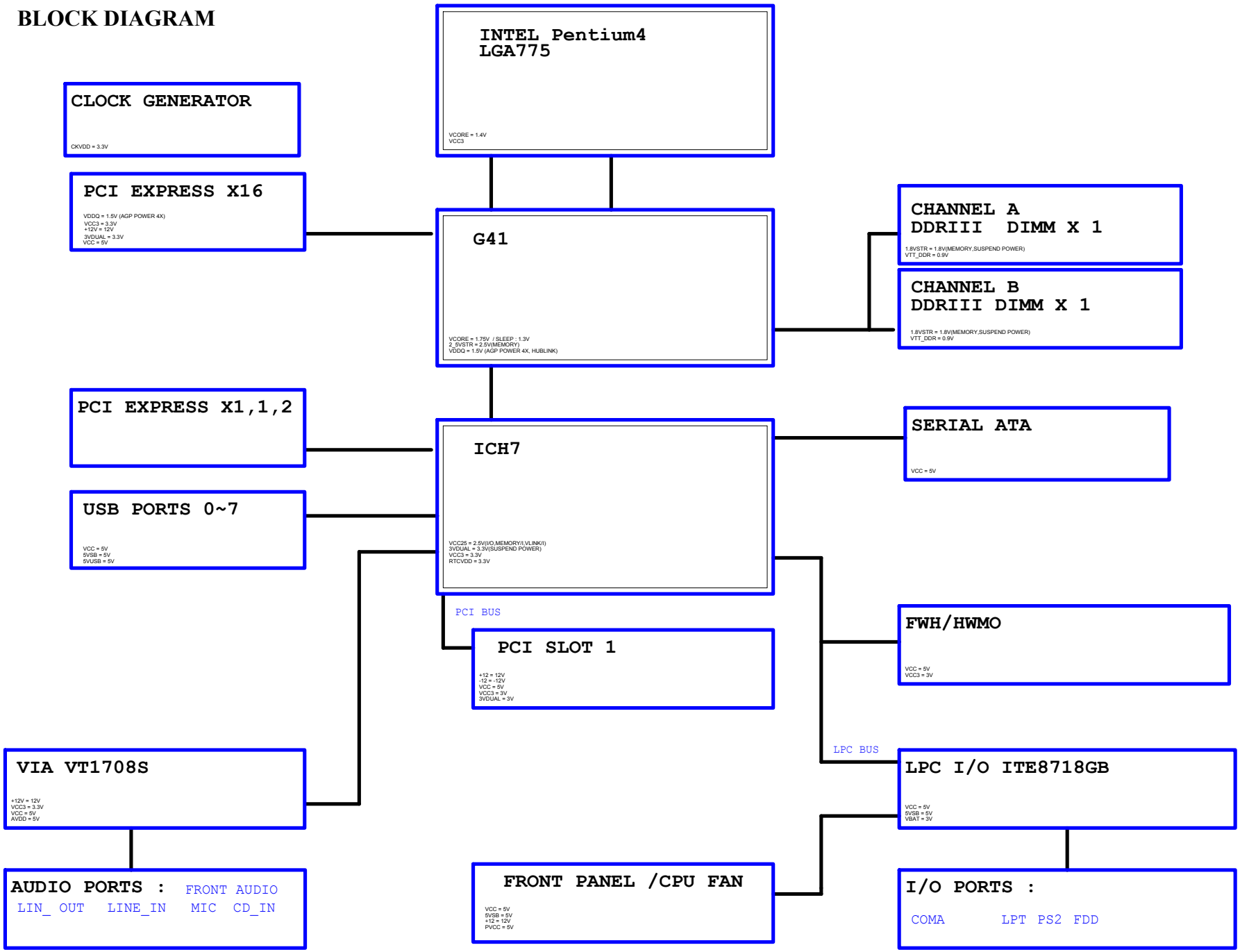
Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-G41MT-S2 | Rev: 1.3

Date: Tuesday, September 28, 2010 | Sheet 1 of 33

BLOCK DIAGRAM



Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-G41MT-S2 | Rev: 1.3

Date: Tuesday, September 28, 2010 | Sheet 2 of 33

www.vinafix.com

Model Name:GA-G41MT-S2

Version: 1.3

Component value change history

2010/09/28

Data	Change Item	Reason

Circuit or PCB layout change for next version

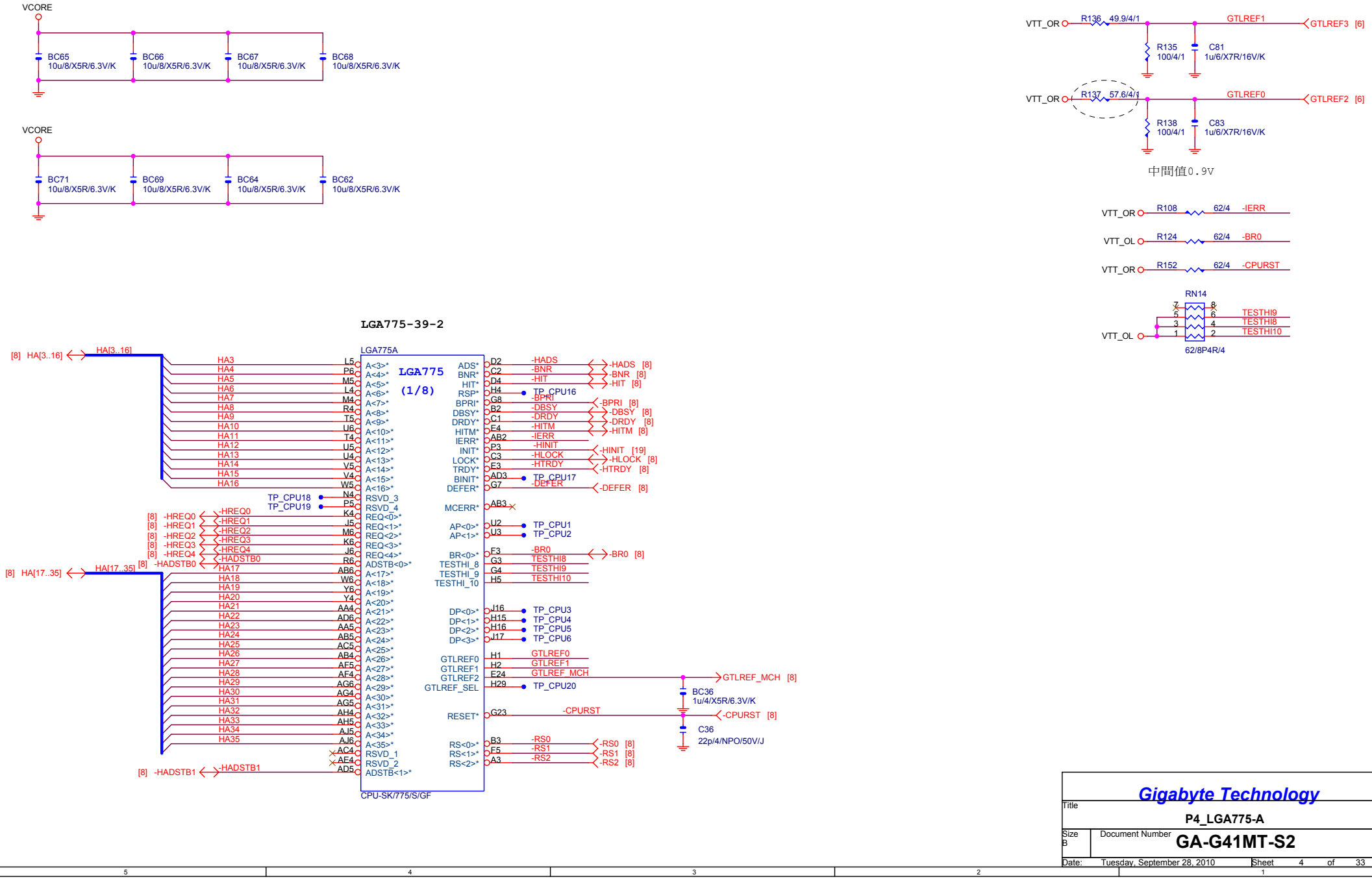
DATE	Change Item	Reason

Gigabyte Technology

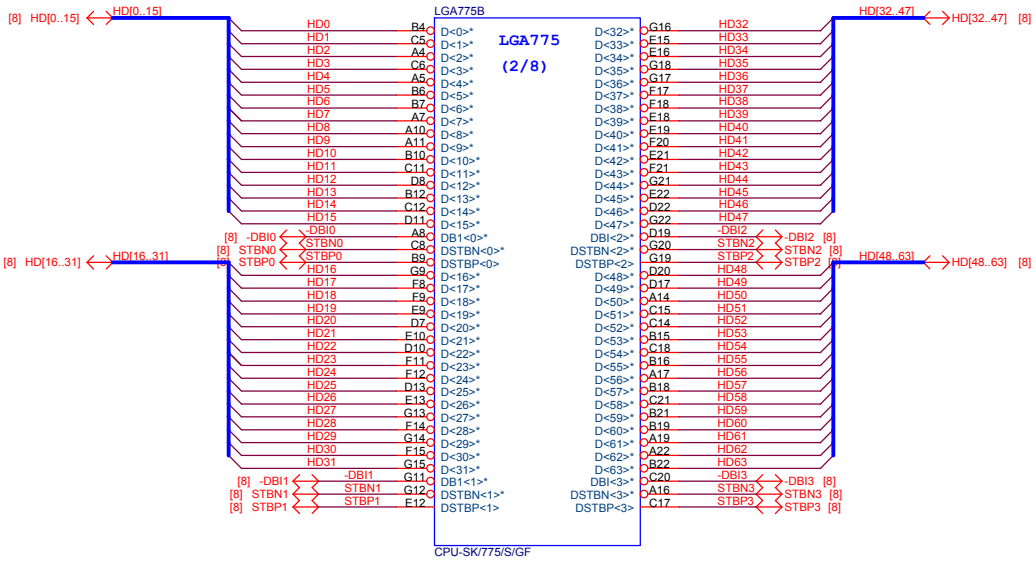
Title: BOM & PCB MODIFY HISTORY

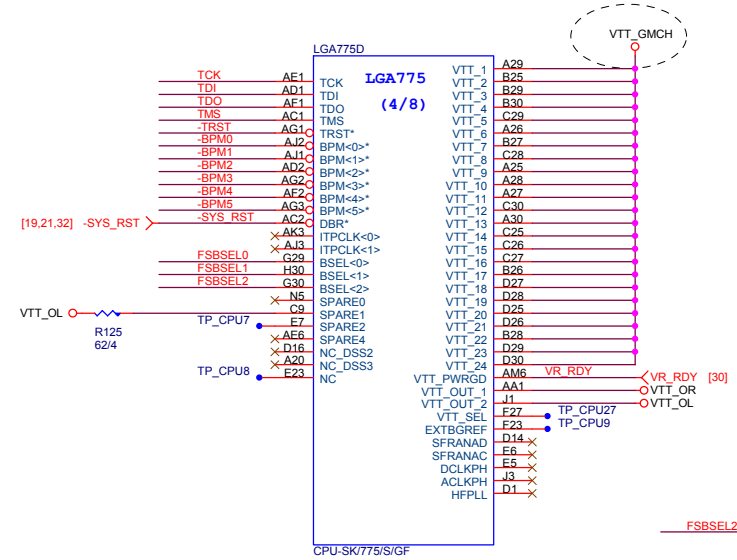
Size: Custom | Document Number: GA-G41MT-S2 | Rev: 1.3

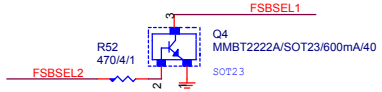
Date: Tuesday, September 28, 2010 | Sheet 3 of 33



Gigabyte Technology		
Title: P4_LGA775-A		
Size: B	Document Number: GA-G41MT-S2	Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 4 of 33	





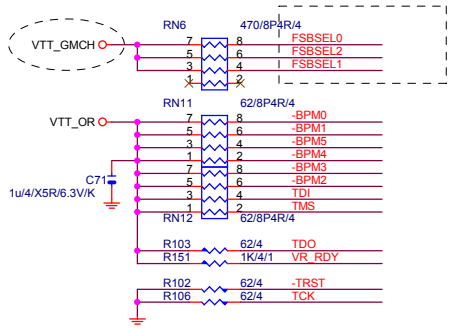


FIX FSB1600 LATCH FAIL

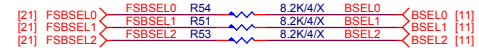
CPU

NA FSB FSA

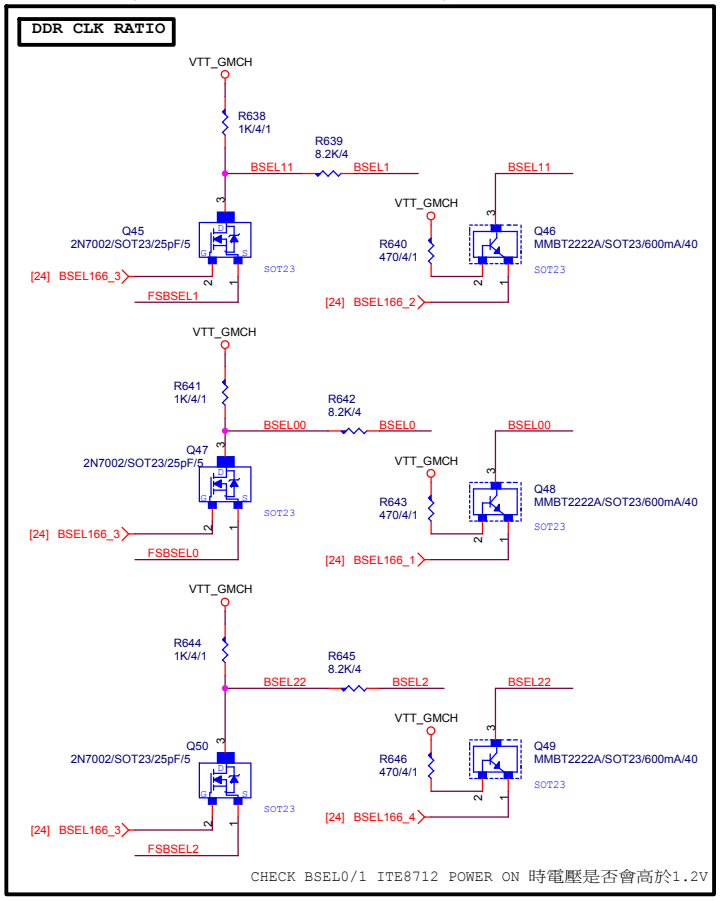
FSBSEL3	FSBSEL1	FSBSEL0	Clock	
1	0	1	100MHz	X
0	0	1	133MHz	
0	1	1	166MHz	
0	1	0	200MHz	
0	0	0	266MHz	



TO CLK GEN



TO NB

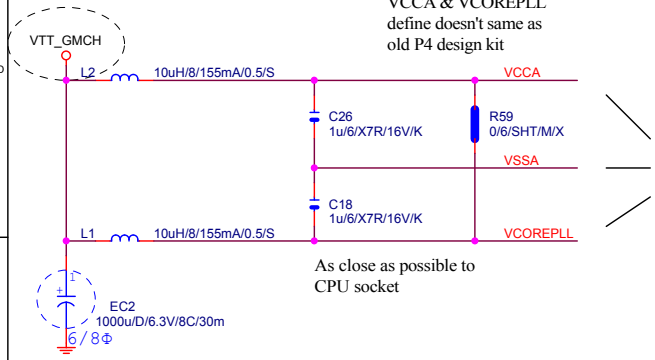


Gigabyte Technology

Title	P4_LGA775-B,D		
Size: Custom	Document Number: GA-G41MT-S2		Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 5 of 33		

Note:

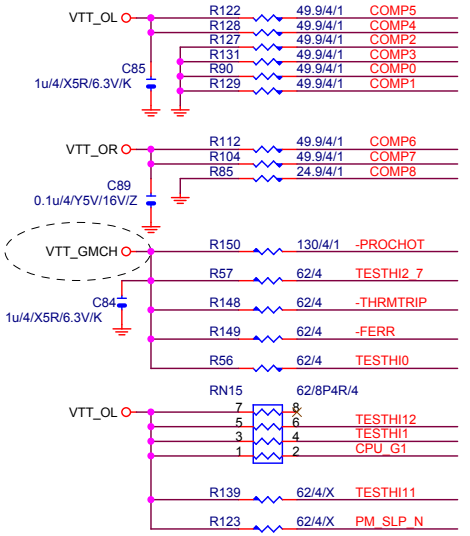
VCCA & VCOREPLL define doesn't same as old P4 design kit

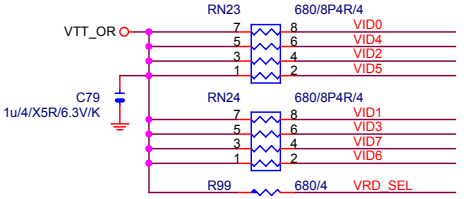


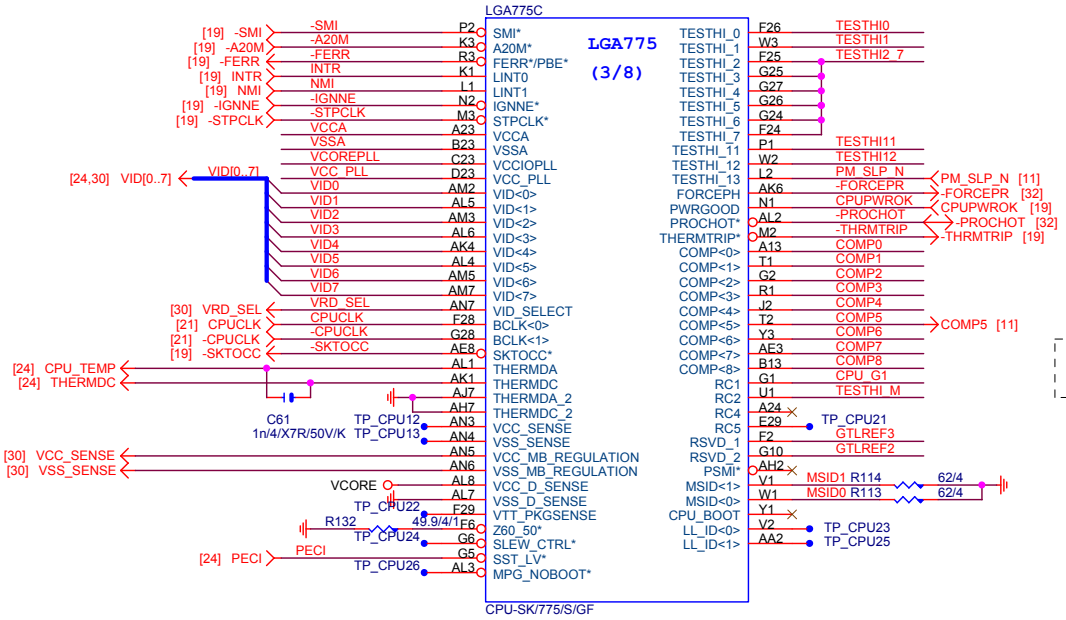
Trace width doesn't less than 12 Mil

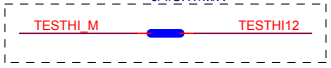
As close as possible to CPU socket

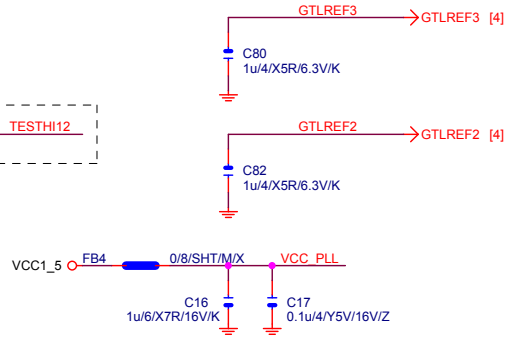
Place outside of CPU socket





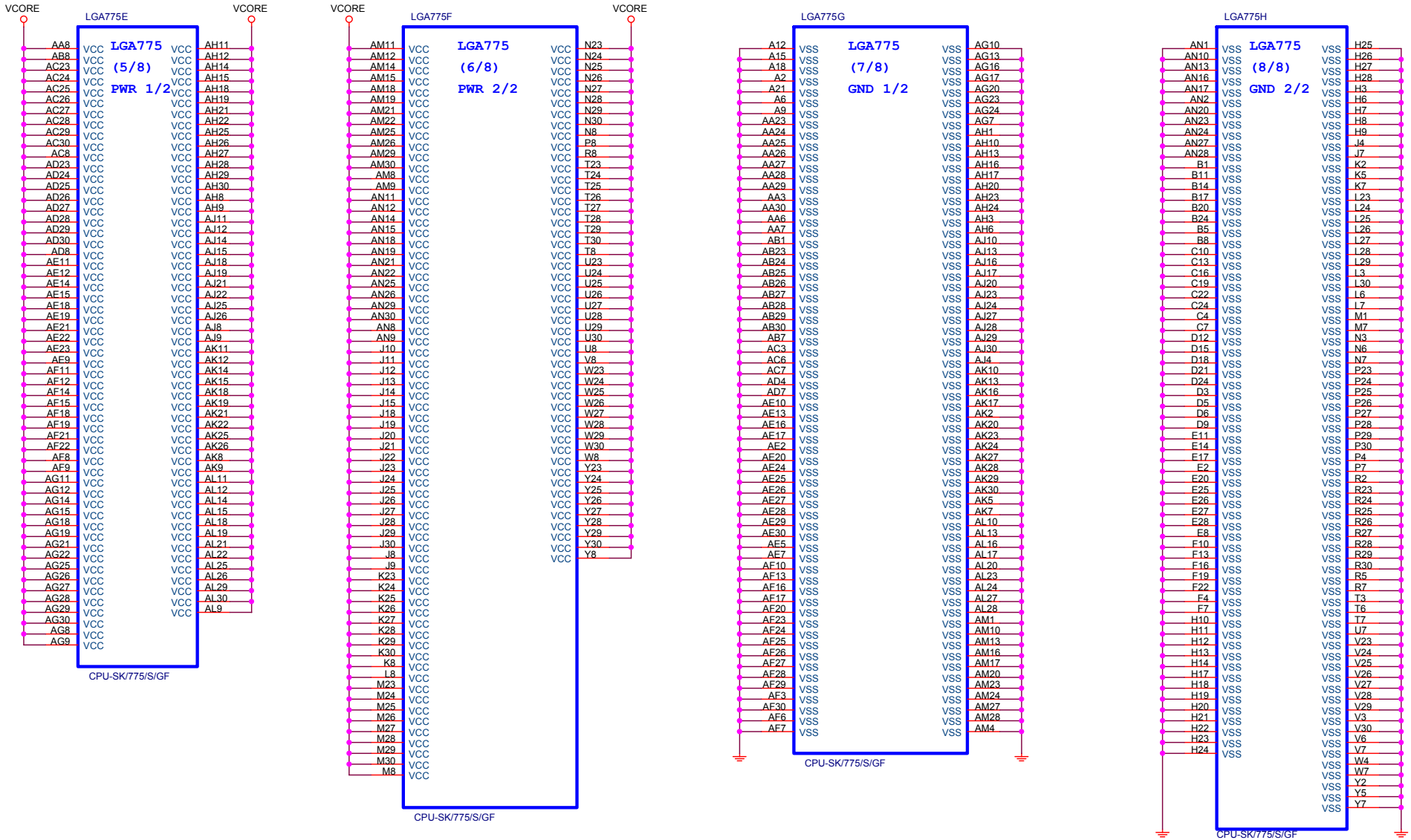




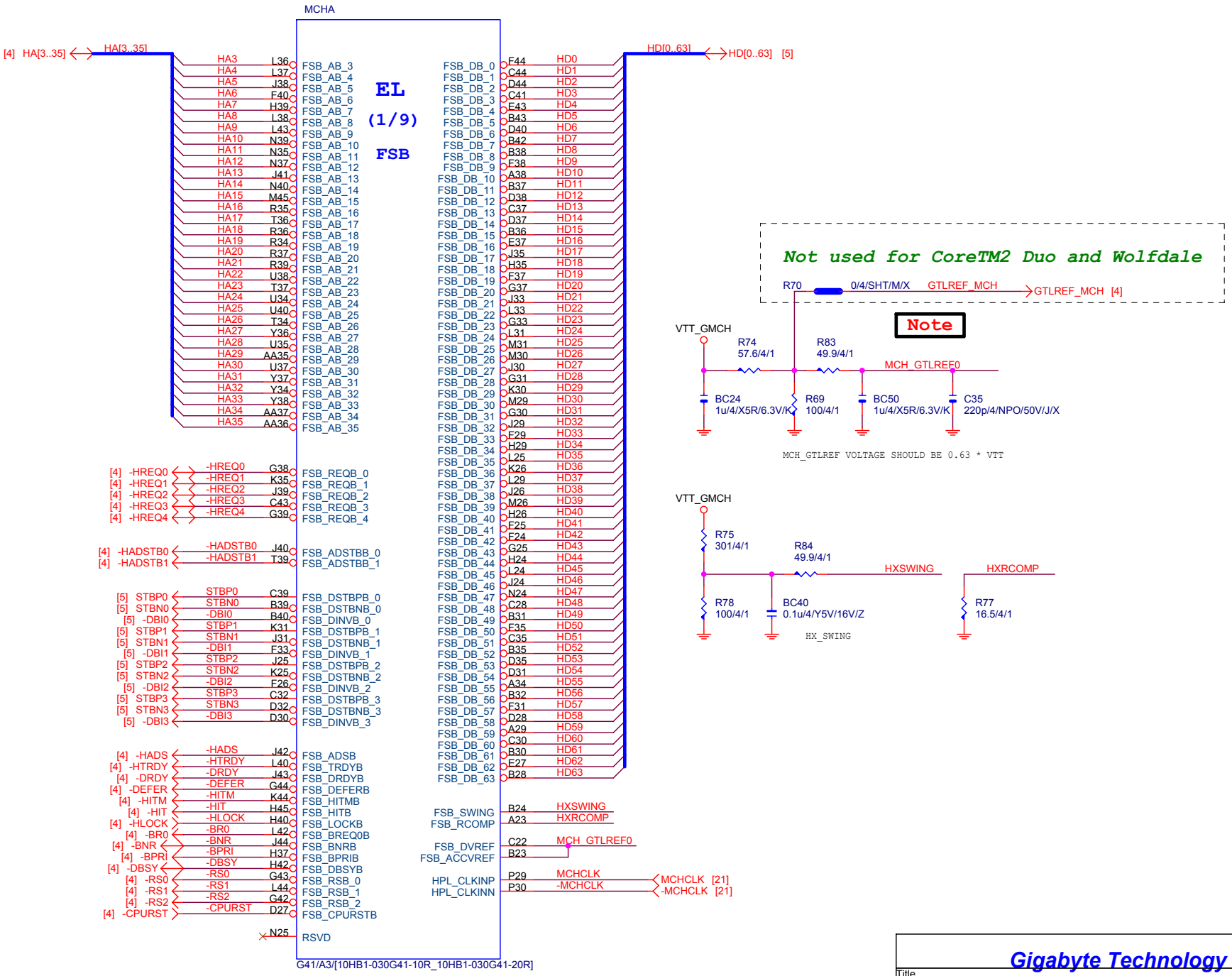


PECI:Platform Environment Control Interface

Gigabyte Technology			
Title: P4_LGA775-C			
Size: B	Document Number: GA-G41MT-S2		Rev: 1.3
Date: Tuesday, September 28, 2010		Sheet 6 of 33	



Gigabyte Technology		
Title: P4_LGA775-E,F,G,H		
Size: B	Document Number: GA-G41MT-S2	Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 7 of 33	



Title	GMCH-HOST
Size	Custom
Document Number	GA-G41MT-S2
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Date:	Tuesday, September 28, 2010
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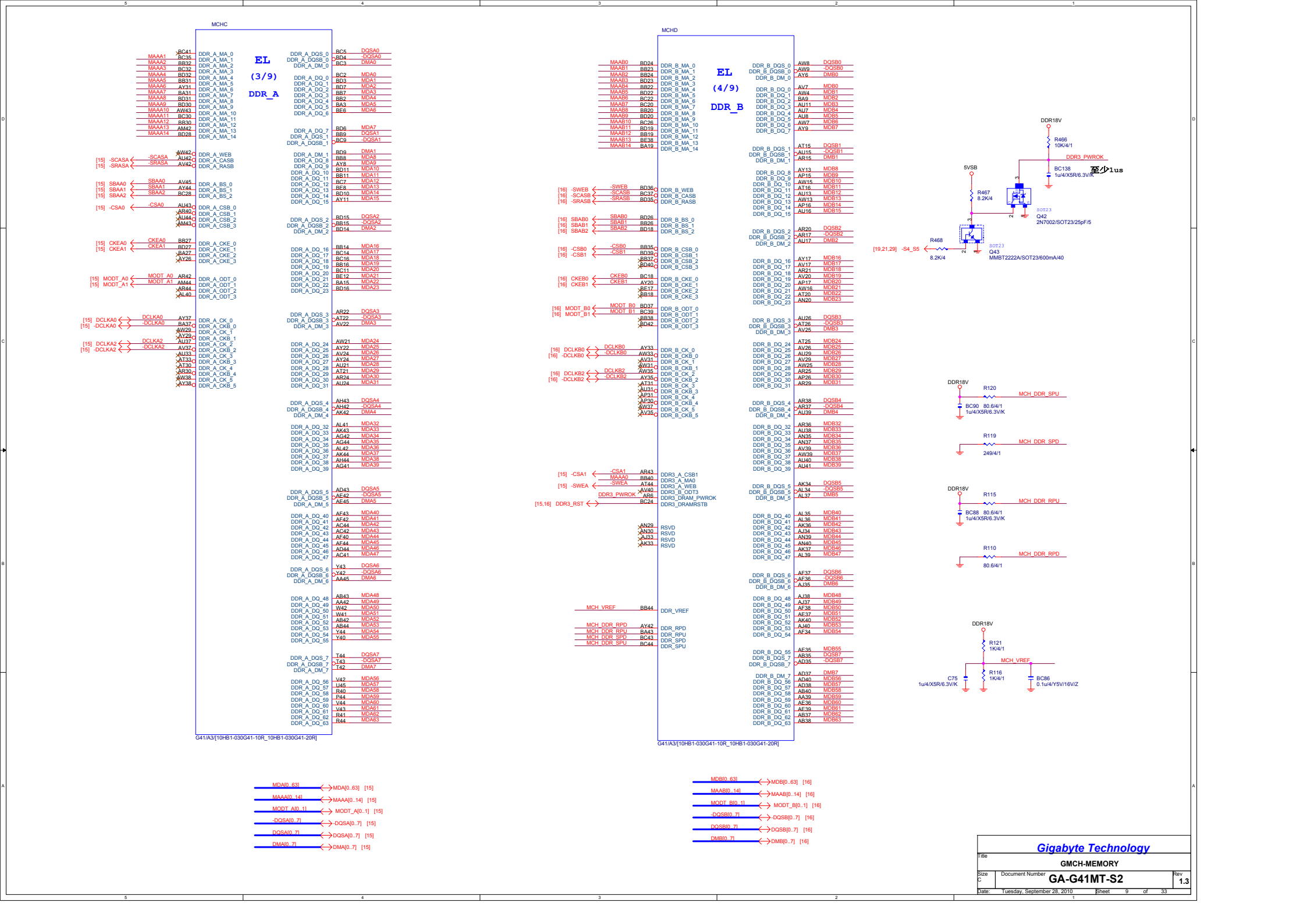
Gigabyte Technology


MCHC
EL
(3/9)
DDR_A
DDR_A_MA_0
DDR_A_MA_1
DDR_A_MA_2
DDR_A_MA_3
DDR_A_MA_4
DDR_A_MA_5
DDR_A_MA_6
DDR_A_MA_7
DDR_A_MA_8
DDR_A_MA_9
DDR_A_MA_10
DDR_A_MA_11
DDR_A_MA_12
DDR_A_MA_13
DDR_A_MA_14
DDR_A_WEB
DDR_A_CASB
DDR_A_RASB
DDR_A_BS_0
DDR_A_BS_1
DDR_A_BS_2
DDR_A_CSB_0
DDR_A_CSB_1
DDR_A_CSB_2
DDR_A_CSB_3
DDR_A_CKE_0
DDR_A_CKE_1
DDR_A_CKE_2
DDR_A_CKE_3
DDR_A_ODT_0
DDR_A_ODT_1
DDR_A_ODT_2
DDR_A_ODT_3
DDR_A_CK_0
DDR_A_CKB_0
DDR_A_CK_1
DDR_A_CKB_1
DDR_A_CK_2
DDR_A_CKB_2
DDR_A_CK_3
DDR_A_CKB_3
DDR_A_CK_4
DDR_A_CKB_4
DDR_A_CK_5
DDR_A_CKB_5
DDR_A_DQS_0
DDR_A_DQSB_0
DDR_A_DM_0
DDR_A_DQ_0
DDR_A_DQ_1
DDR_A_DQ_2
DDR_A_DQ_3
DDR_A_DQ_4
DDR_A_DQ_5
DDR_A_DQ_6
DDR_A_DQ_7
DDR_A_DQS_1
DDR_A_DQSB_1
DDR_A_DM_1
DDR_A_DQ_8
DDR_A_DQ_9
DDR_A_DQ_10
DDR_A_DQ_11
DDR_A_DQ_12
DDR_A_DQ_13
DDR_A_DQ_14
DDR_A_DQ_15
DDR_A_DQS_2
DDR_A_DQSB_2
DDR_A_DM_2
DDR_A_DQ_16
DDR_A_DQ_17
DDR_A_DQ_18
DDR_A_DQ_19
DDR_A_DQ_20
DDR_A_DQ_21
DDR_A_DQ_22
DDR_A_DQ_23
DDR_A_DQS_3
DDR_A_DQSB_3
DDR_A_DM_3
DDR_A_DQ_24
DDR_A_DQ_25
DDR_A_DQ_26
DDR_A_DQ_27
DDR_A_DQ_28
DDR_A_DQ_29
DDR_A_DQ_30
DDR_A_DQ_31
DDR_A_DQS_4
DDR_A_DQSB_4
DDR_A_DM_4
DDR_A_DQ_32
DDR_A_DQ_33
DDR_A_DQ_34
DDR_A_DQ_35
DDR_A_DQ_36
DDR_A_DQ_37
DDR_A_DQ_38
DDR_A_DQ_39
DDR_A_DQS_5
DDR_A_DQSB_5
DDR_A_DM_5
DDR_A_DQ_40
DDR_A_DQ_41
DDR_A_DQ_42
DDR_A_DQ_43
DDR_A_DQ_44
DDR_A_DQ_45
DDR_A_DQ_46
DDR_A_DQ_47
DDR_A_DQS_6
DDR_A_DQSB_6
DDR_A_DM_6
DDR_A_DQ_48
DDR_A_DQ_49
DDR_A_DQ_50
DDR_A_DQ_51
DDR_A_DQ_52
DDR_A_DQ_53
DDR_A_DQ_54
DDR_A_DQ_55
DDR_A_DQS_7
DDR_A_DQSB_7
DDR_A_DM_7
DDR_A_DQ_56
DDR_A_DQ_57
DDR_A_DQ_58
DDR_A_DQ_59
DDR_A_DQ_60
DDR_A_DQ_61
DDR_A_DQ_62
DDR_A_DQ_63
G41/A3/[10HB1-030G41-10R_10HB1-030G41-20R]
MCHD
EL
(4/9)
DDR_B
DDR_B_MA_0
DDR_B_MA_1
DDR_B_MA_2
DDR_B_MA_3
DDR_B_MA_4
DDR_B_MA_5
DDR_B_MA_6
DDR_B_MA_7
DDR_B_MA_8
DDR_B_MA_9
DDR_B_MA_10
DDR_B_MA_11
DDR_B_MA_12
DDR_B_MA_13
DDR_B_MA_14
DDR_B_WEB
DDR_B_CASB
DDR_B_RASB
DDR_B_BS_0
DDR_B_BS_1
DDR_B_BS_2
DDR_B_CSB_0
DDR_B_CSB_1
DDR_B_CSB_2
DDR_B_CSB_3
DDR_B_CKE_0
DDR_B_CKE_1
DDR_B_CKE_2
DDR_B_CKE_3
DDR_B_ODT_0
DDR_B_ODT_1
DDR_B_ODT_2
DDR_B_ODT_3
DDR_B_CK_0
DDR_B_CKB_0
DDR_B_CK_1
DDR_B_CKB_1
DDR_B_CK_2
DDR_B_CKB_2
DDR_B_CK_3
DDR_B_CKB_3
DDR_B_CK_4
DDR_B_CKB_4
DDR_B_CK_5
DDR_B_CKB_5
DDR3_A_CSB1
DDR3_A_MA0
DDR3_A_WEB
DDR3_B_ODT3
DDR3_DRAM_PWROK
DDR3_DRAMRSTB
RSVD
RSVD
RSVD
RSVD
DDR_VREF
DDR_RPD
DDR_RPU
DDR_SPD
DDR_SPU
DDR_B_DQS_0
DDR_B_DQSB_0
DDR_B_DM_0
DDR_B_DQ_0
DDR_B_DQ_1
DDR_B_DQ_2
DDR_B_DQ_3
DDR_B_DQ_4
DDR_B_DQ_5
DDR_B_DQ_6
DDR_B_DQ_7
DDR_B_DQS_1
DDR_B_DQSB_1
DDR_B_DM_1
DDR_B_DQ_8
DDR_B_DQ_9
DDR_B_DQ_10
DDR_B_DQ_11
DDR_B_DQ_12
DDR_B_DQ_13
DDR_B_DQ_14
DDR_B_DQ_15
DDR_B_DQS_2
DDR_B_DQSB_2
DDR_B_DM_2
DDR_B_DQ_16
DDR_B_DQ_17
DDR_B_DQ_18
DDR_B_DQ_19
DDR_B_DQ_20
DDR_B_DQ_21
DDR_B_DQ_22
DDR_B_DQ_23
DDR_B_DQS_3
DDR_B_DQSB_3
DDR_B_DM_3
DDR_B_DQ_24
DDR_B_DQ_25
DDR_B_DQ_26
DDR_B_DQ_27
DDR_B_DQ_28
DDR_B_DQ_29
DDR_B_DQ_30
DDR_B_DQ_31
DDR_B_DQS_4
DDR_B_DQSB_4
DDR_B_DM_4
DDR_B_DQ_32
DDR_B_DQ_33
DDR_B_DQ_34
DDR_B_DQ_35
DDR_B_DQ_36
DDR_B_DQ_37
DDR_B_DQ_38
DDR_B_DQ_39
DDR_B_DQS_5
DDR_B_DQSB_5
DDR_B_DM_5
DDR_B_DQ_40
DDR_B_DQ_41
DDR_B_DQ_42
DDR_B_DQ_43
DDR_B_DQ_44
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DDR_B_DQ_46
DDR_B_DQ_47
DDR_B_DQS_6
DDR_B_DQSB_6
DDR_B_DM_6
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DDR_B_DQ_51
DDR_B_DQ_52
DDR_B_DQ_53
DDR_B_DQ_54
DDR_B_DQ_55
DDR_B_DQS_7
DDR_B_DQSB_7
DDR_B_DM_7
DDR_B_DQ_56
DDR_B_DQ_57
DDR_B_DQ_58
DDR_B_DQ_59
DDR_B_DQ_60
DDR_B_DQ_61
DDR_B_DQ_62
DDR_B_DQ_63
G41/A3/[10HB1-030G41-10R_10HB1-030G41-20R]
DDR18V
R466
10K/4/1
DDR3_PWROK
BC138
1u/4/X5R/6.3V/K
至少1us
5VSB
R467
8.2K/4
SOT23
Q42
2N7002/SOT23/25pF/5
R468
8.2K/4
[19,21,29] -S4_S5
SOT23
Q43
MMBT2222A/SOT23/600mA/40
DDR18V
R120
MCH_DDR_SPU
BC90
80.6/4/1
1u/4/X5R/6.3V/K
R119
MCH_DDR_SPD
249/4/1
DDR18V
R115
MCH_DDR_RPU
BC88
80.6/4/1
1u/4/X5R/6.3V/K
R110
MCH_DDR_RPD
80.6/4/1
DDR18V
R121
1K/4/1
MCH_VREF
C75
1u/4/X5R/6.3V/K
R116
1K/4/1
BC86
0.1u/4/Y5V/16V/Z
MDA[0..63] MDA[0..63] [15]
MAAA[0..14] MAAA[0..14] [15]
MODT_A[0..1] MODT_A[0..1] [15]
-DQSA[0..7] -DQSA[0..7] [15]
DQSA[0..7] DQSA[0..7] [15]
DMA[0..7] DMA[0..7] [15]
MDB[0..63] MDB[0..63] [16]
MAAB[0..14] MAAB[0..14] [16]
MODT_B[0..1] MODT_B[0..1] [16]
-DQSB[0..7] -DQSB[0..7] [16]
DQSB[0..7] DQSB[0..7] [16]
DMB[0..7] DMB[0..7] [16]
Gigabyte Technology
Title
GMCH-MEMORY
Size C
Document Number GA-G41MT-S2
Rev 1.3
Date: Tuesday, September 28, 2010
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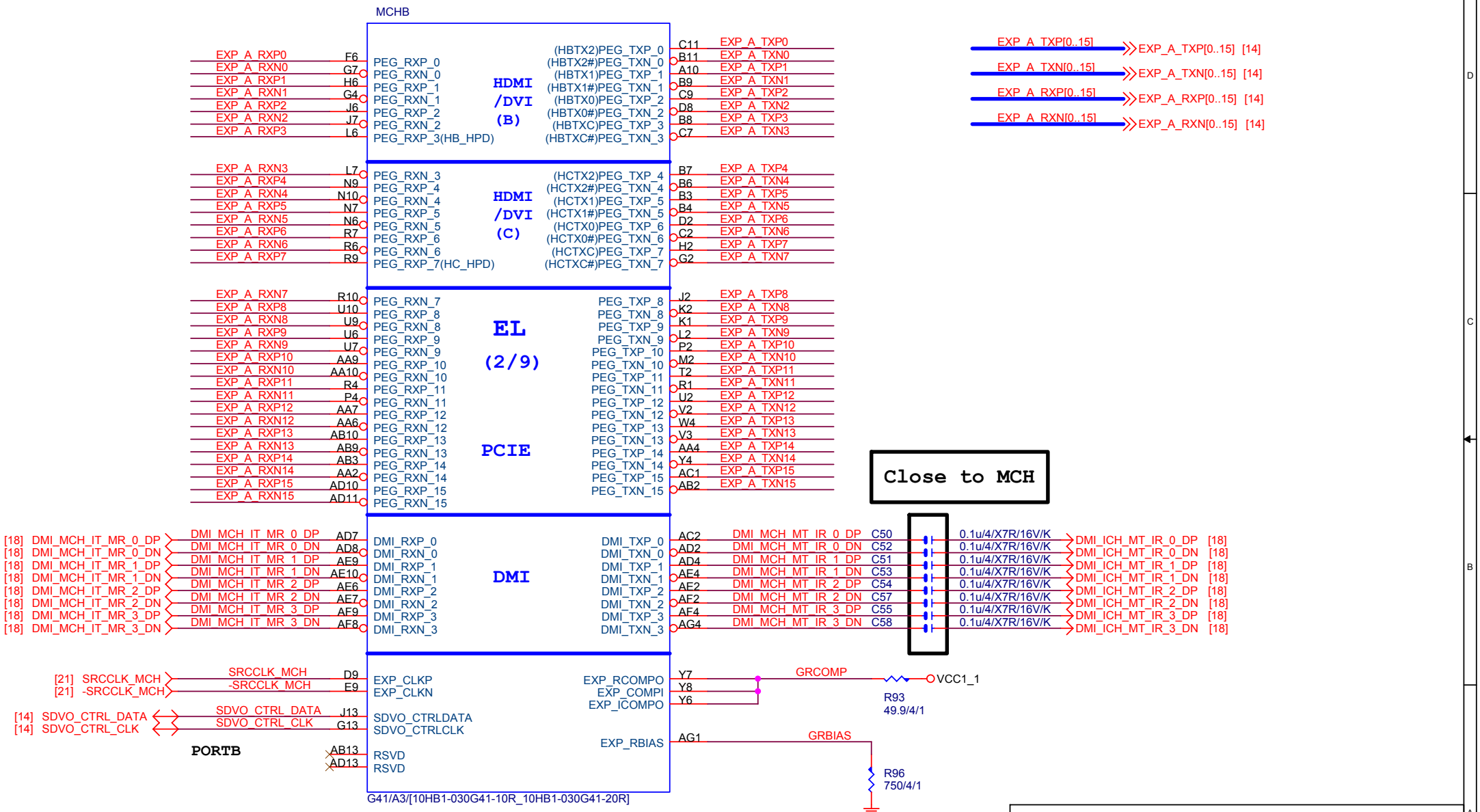
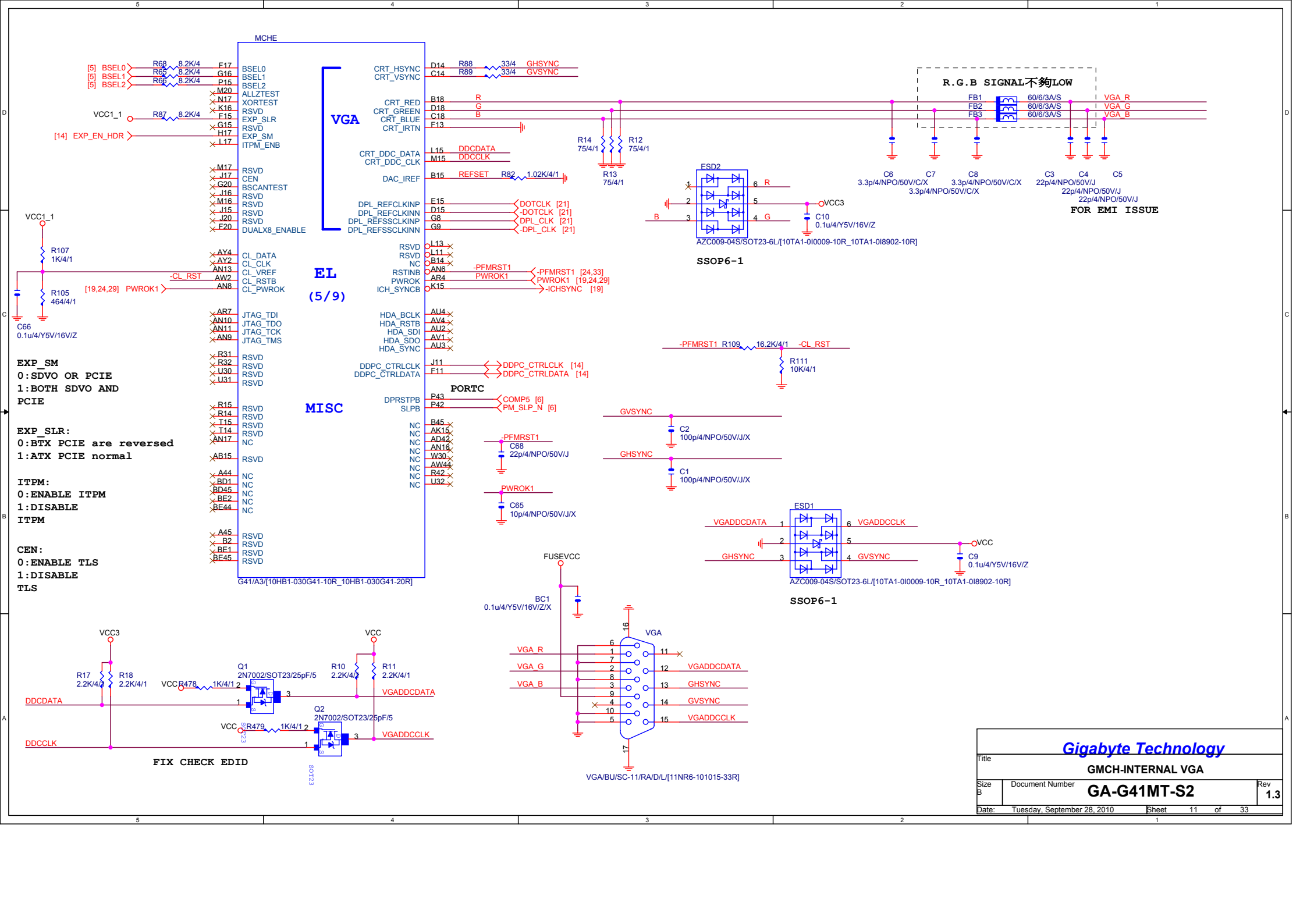
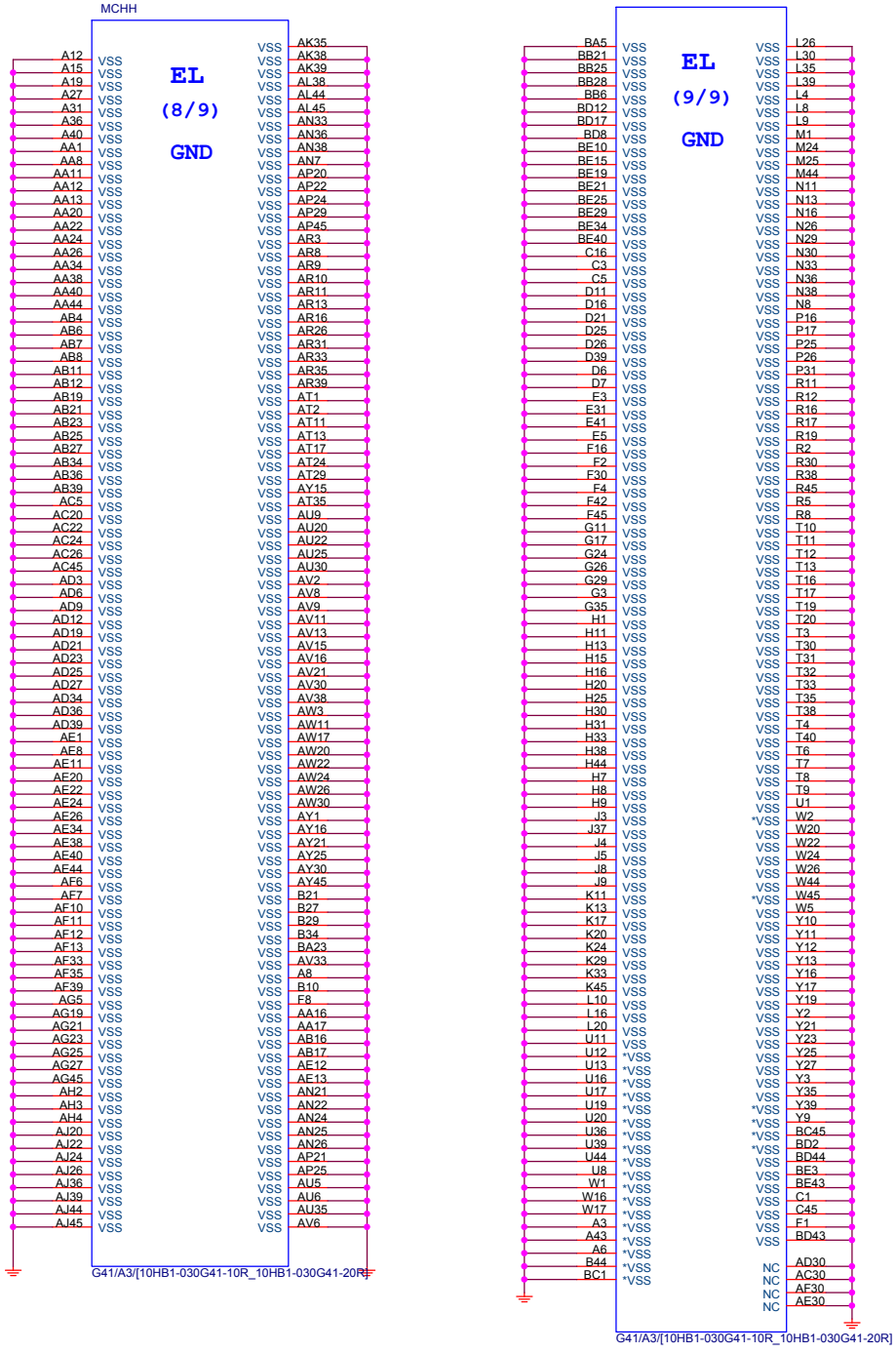
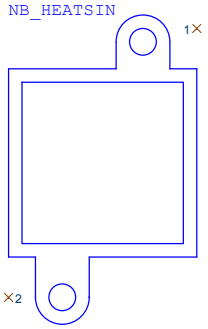


Gigabyte Technology		
Title: GMCH-PCI E & DMI		
Size: Custom	Document Number: GA-G41MT-S2	Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 10 of 33	


MCHE
VGA
EL
(5/9)
MISC
PORTC
[5] BSEL0
[5] BSEL1
[5] BSEL2
VCC1_1
[14] EXP_EN_HDR
-CL_RST
[19,24,29] PWROK1
R68 8.2K/4
R65 8.2K/4
R66 8.2K/4
R87 8.2K/4
R107 1K/4/1
R105 464/4/1
C66 0.1u/4/Y5V/16V/Z
BSEL0
BSEL1
BSEL2
ALLZTEST
XORTEST
RSVD
EXP_SLR
EXP_SM
ITPM_ENB
CEN
BSCANTEST
DUALX8_ENABLE
CL_DATA
CL_CLK
CL_VREF
CL_RSTB
CL_PWROK
JTAG_TDI
JTAG_TDO
JTAG_TCK
JTAG_TMS
NC
CRT_HSYNC
CRT_VSYNC
CRT_RED
CRT_GREEN
CRT_BLUE
CRT_IRTN
CRT_DDC_DATA
CRT_DDC_CLK
DAC_IREF
DPL_REFCLKINP
DPL_REFCLKINN
DPL_REFSSCLKINP
DPL_REFSSCLKINN
RSTINB
PWROK
ICH_SYNCB
HDA_BCLK
HDA_RSTB
HDA_SDI
HDA_SDO
HDA_SYNC
DDPC_CTRLCLK
DDPC_CTRLDATA
DPRSTPB
SLPB
G41/A3/[10HB1-030G41-10R_10HB1-030G41-20R]
D14 R88 33/4 GHSYNC
C14 R89 33/4 GVSYNC
B18 R
D18 G
C18 B
F13
L15 DDCDATA
M15 DDCCLK
B15 REFSET R82 1.02K/4/1
E15 DOTCLK [21]
D15 -DOTCLK [21]
G8 DPL_CLK [21]
G9 -DPL_CLK [21]
L13
L11
B14
AN6 -PFMRST1
AR4 PWROK1
K15
-PFMRST1 [24,33]
PWROK1 [19,24,29]
-ICHSYNC [19]
AU4
AV4
AU2
AV1
AU3
J11 DDPC_CTRLCLK [14]
F11 DDPC_CTRLDATA [14]
P43 COMP5 [6]
P42 PM_SLP_N [6]
B45
AK15
AD42
AN16
W30
AW44
R42
U32
R14 75/4/1
R12 75/4/1
R13 75/4/1
R.G.B SIGNAL不夠LOW
FB1 60/6/3A/S
FB2 60/6/3A/S
FB3 60/6/3A/S
VGA_R
VGA_G
VGA_B
C6 3.3p/4/NPO/50V/C/X
C7 3.3p/4/NPO/50V/C/X
C8 3.3p/4/NPO/50V/C/X
C3 22p/4/NPO/50V/J
C4 22p/4/NPO/50V/J
C5 22p/4/NPO/50V/J
FOR EMI ISSUE
ESD2
AZC009-04S/SOT23-6L/[10TA1-0I0009-10R_10TA1-0I8902-10R]
SSOP6-1
C10 0.1u/4/Y5V/16V/Z
-PFMRST1 R109 16.2K/4/1 -CL_RST
R111 10K/4/1
GVSYNC
GHSYNC
C2 100p/4/NPO/50V/J/X
C1 100p/4/NPO/50V/J/X
-PFMRST1
C68 22p/4/NPO/50V/J
PWROK1
C65 10p/4/NPO/50V/J/X
ESD1
VGADDCDATA
VGADDCCLK
AZC009-04S/SOT23-6L/[10TA1-0I0009-10R_10TA1-0I8902-10R]
SSOP6-1
C9 0.1u/4/Y5V/16V/Z
FUSEVCC
BC1 0.1u/4/Y5V/16V/Z/X
VGA
VGA/BU/SC-11/RA/D/L/[11NR6-101015-33R]
EXP_SM
0:SDVO OR PCIE
1:BOTH SDVO AND PCIE
EXP_SLR:
0:BTX PCIE are reversed
1:ATX PCIE normal
ITPM:
0:ENABLE ITPM
1:DISABLE ITPM
CEN:
0:ENABLE TLS
1:DISABLE TLS
VCC3
VCC
R17 2.2K/4/1
R18 2.2K/4/1
R10 2.2K/4/1
R11 2.2K/4/1
R478 1K/4/1
R479 1K/4/1
Q1 2N7002/SOT23/25pF/5
Q2 2N7002/SOT23/25pF/5
DDCDATA
DDCCLK
VGADDCDATA
VGADDCCLK
FIX CHECK EDID
Gigabyte Technology
Title
GMCH-INTERNAL VGA
Size B
Document Number
GA-G41MT-S2
Rev 1.3
Date: Tuesday, September 28, 2010
Sheet 11 of 33



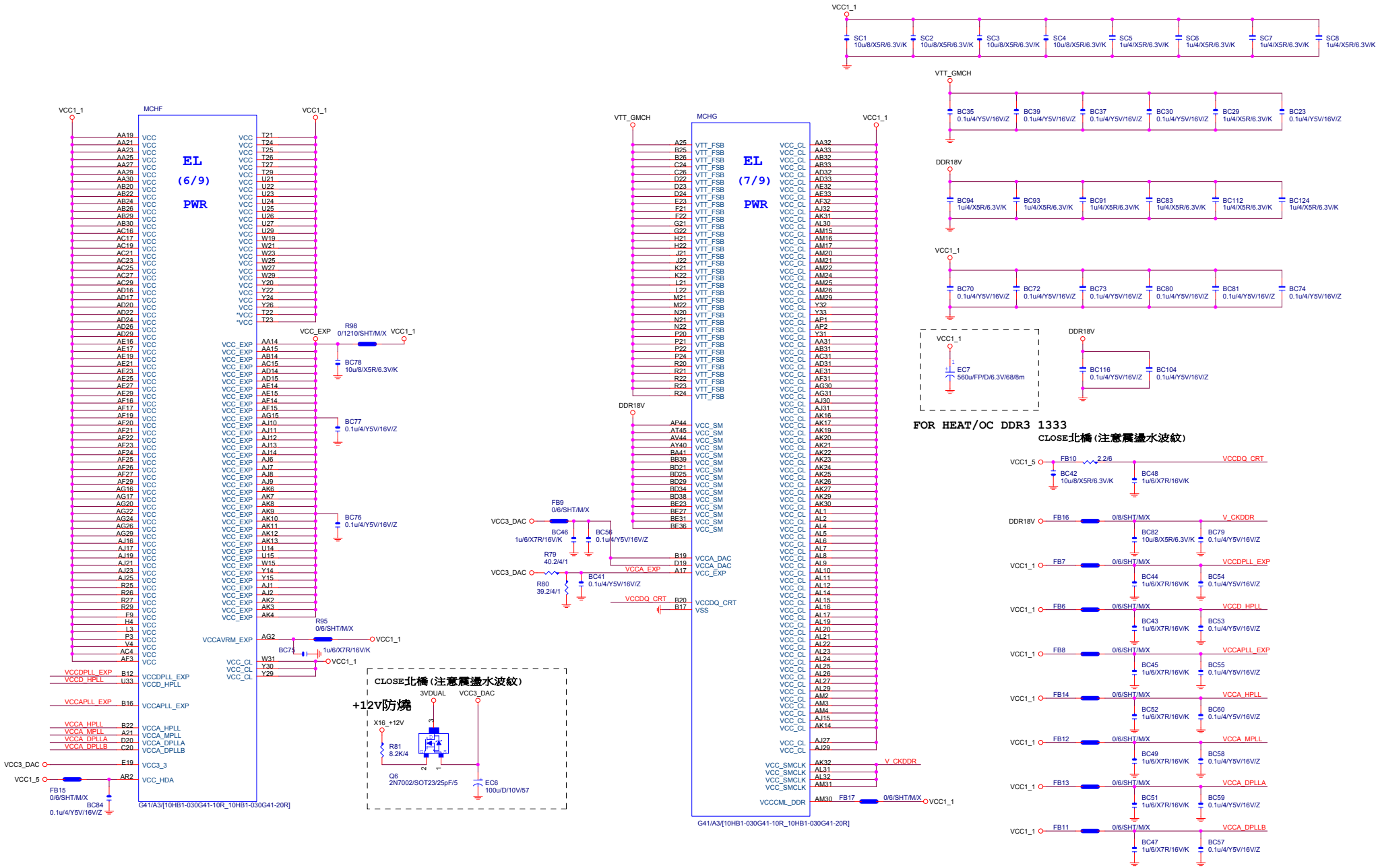


NB_HS

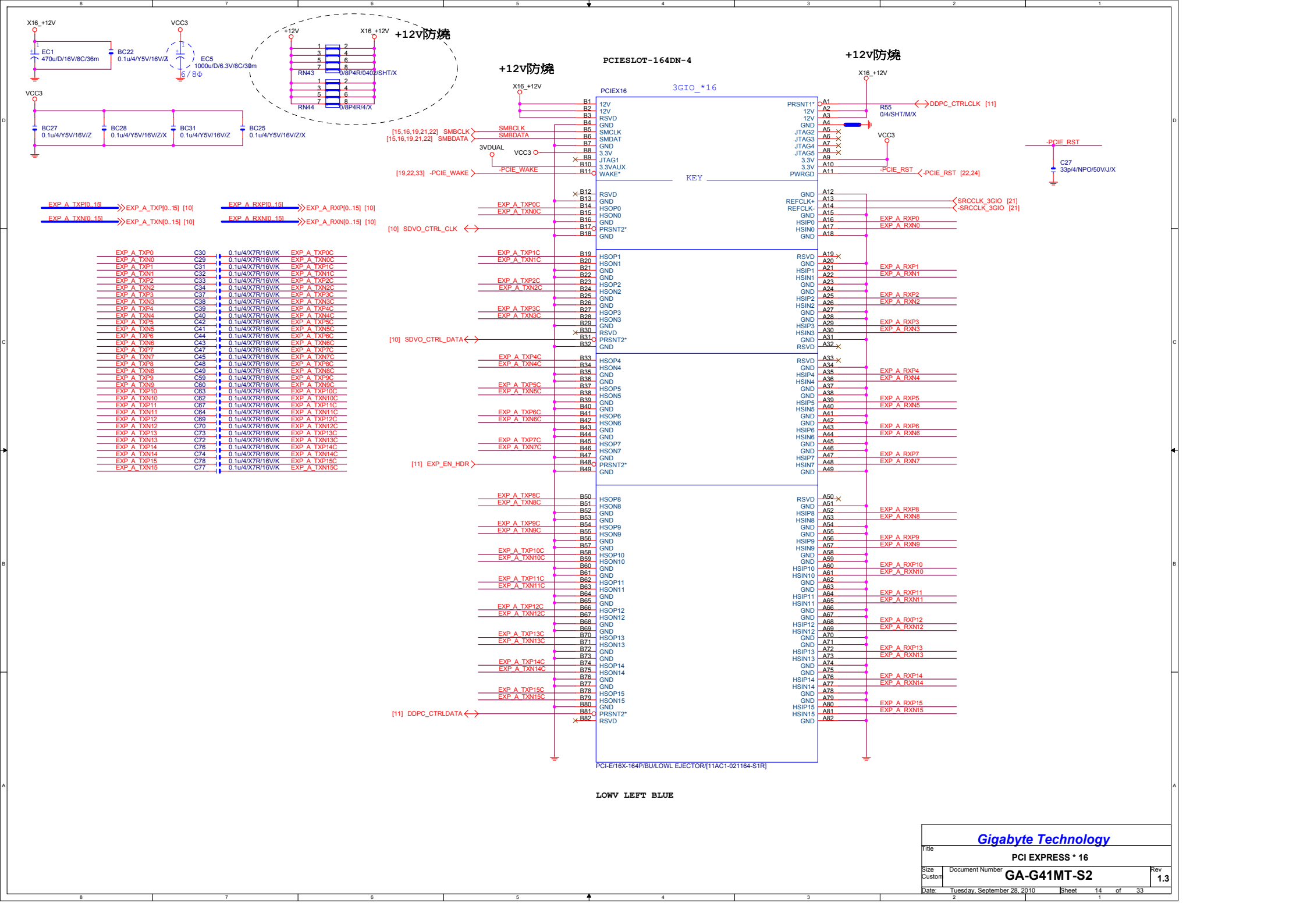
NB_HEATSINK/[12SP2-S04520-01R_12SP2-S04520-02R_12SP2-S04520-03R]

BGASINK445A-L **NEW COST DOWN**

Gigabyte Technology		
Title: GMCH-GND		
Size: Custom	Document Number: GA-G41MT-S2	Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 12 of 33	



Gigabyte Technology		
Title	GMCH-PWR	
Size: Custom	Document Number: GA-G41MT-S2	Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 13 of 33	


+12V防燒
PCIESLOT-164DN-4
PCIEX16
3GIO_*16
KEY
PCI-E/16X-164P/BU/LOWL EJECTOR/[11AC1-021164-S1R]
LOWV LEFT BLUE
Gigabyte Technology
PCI EXPRESS * 16
GA-G41MT-S2
Rev 1.3
Tuesday, September 28, 2010
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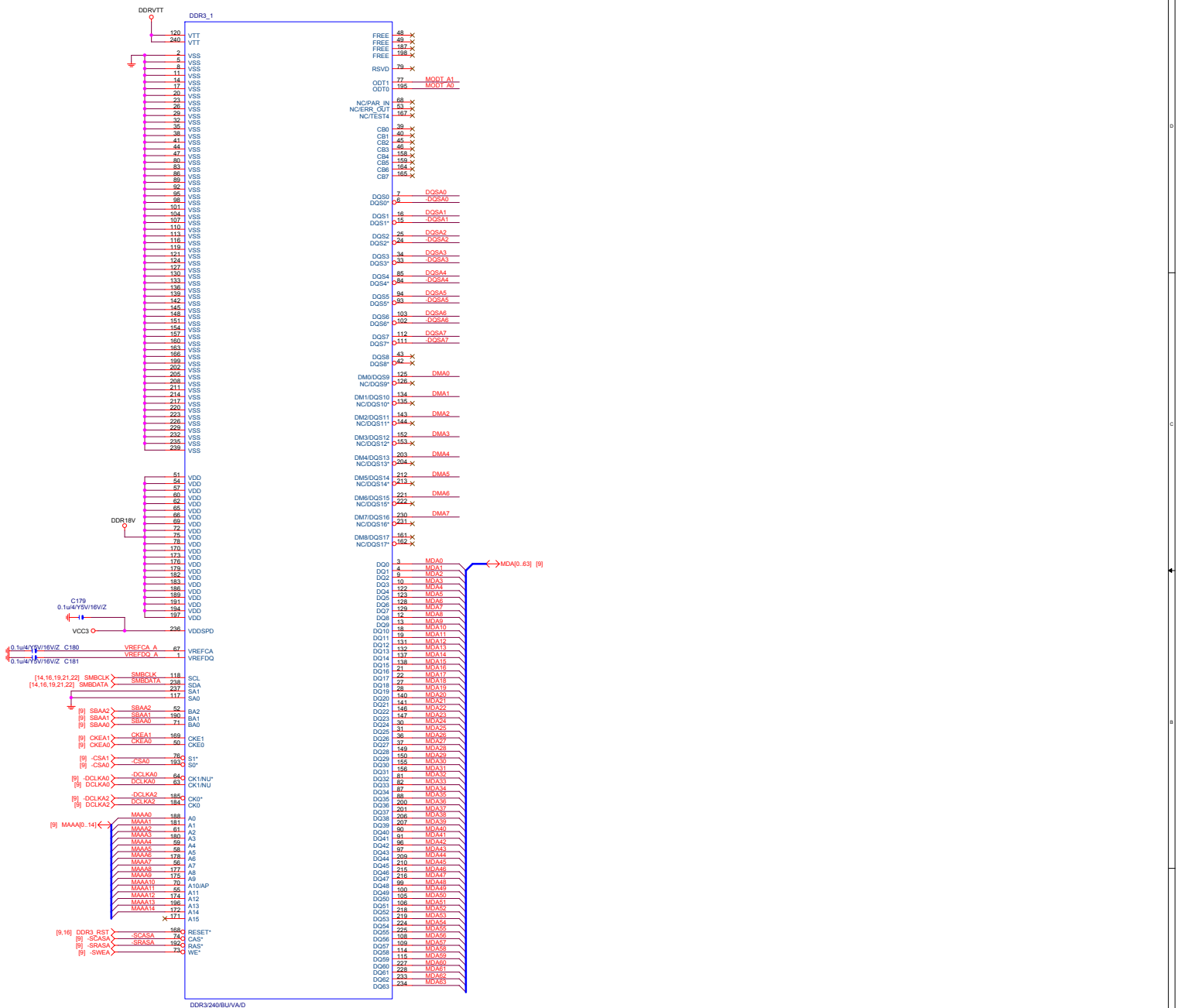
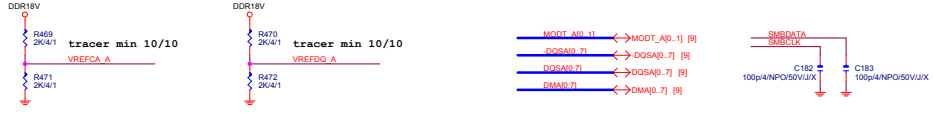
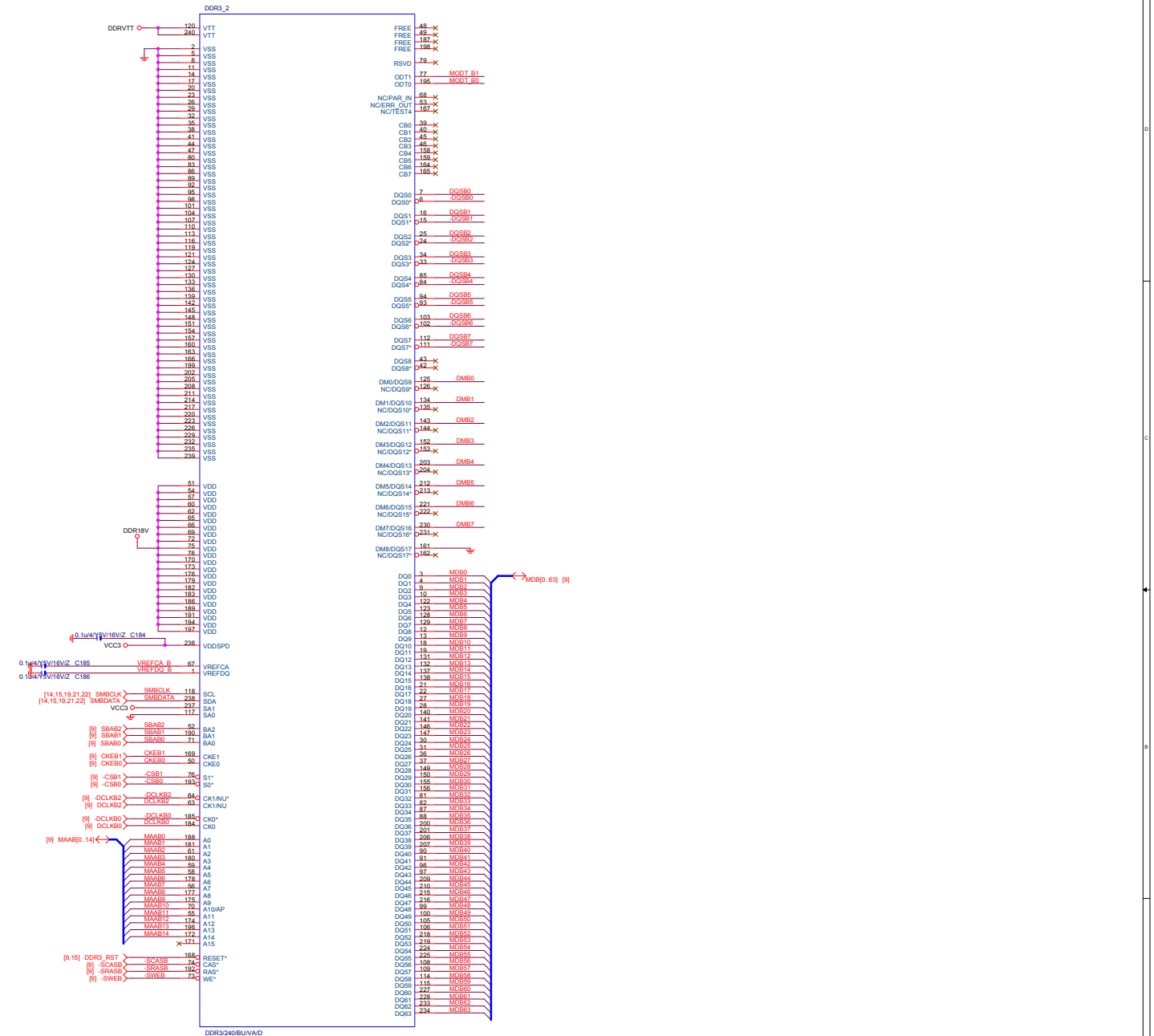




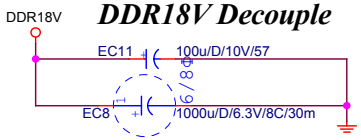
Gigabyte Technology		
Title: DDR3 CHANNEL A		
Size: Custom	Document Number: GA-G41MT-S2	Rev: 1.3
Date:	Sheet 15 of 33	



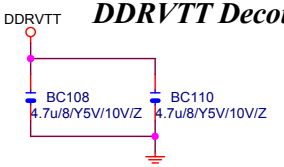
Gigabyte Technology		
Title: DDR3 CHANNEL B		
Size: Custom	Document Number: GA-G41MT-S2	Rev: 1.3
Date:	Sheet 16 of 33	

DDR TERMINATION CHANNEL A

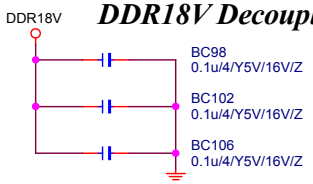
DDR18V Decouple



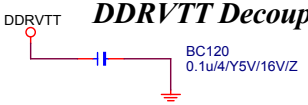
DDRVTT Decouple



DDR18V Decouple

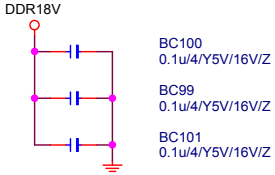


DDRVTT Decouple

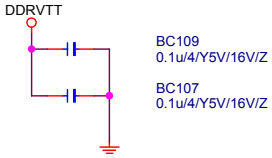


DDR TERMINATION CHANNEL B

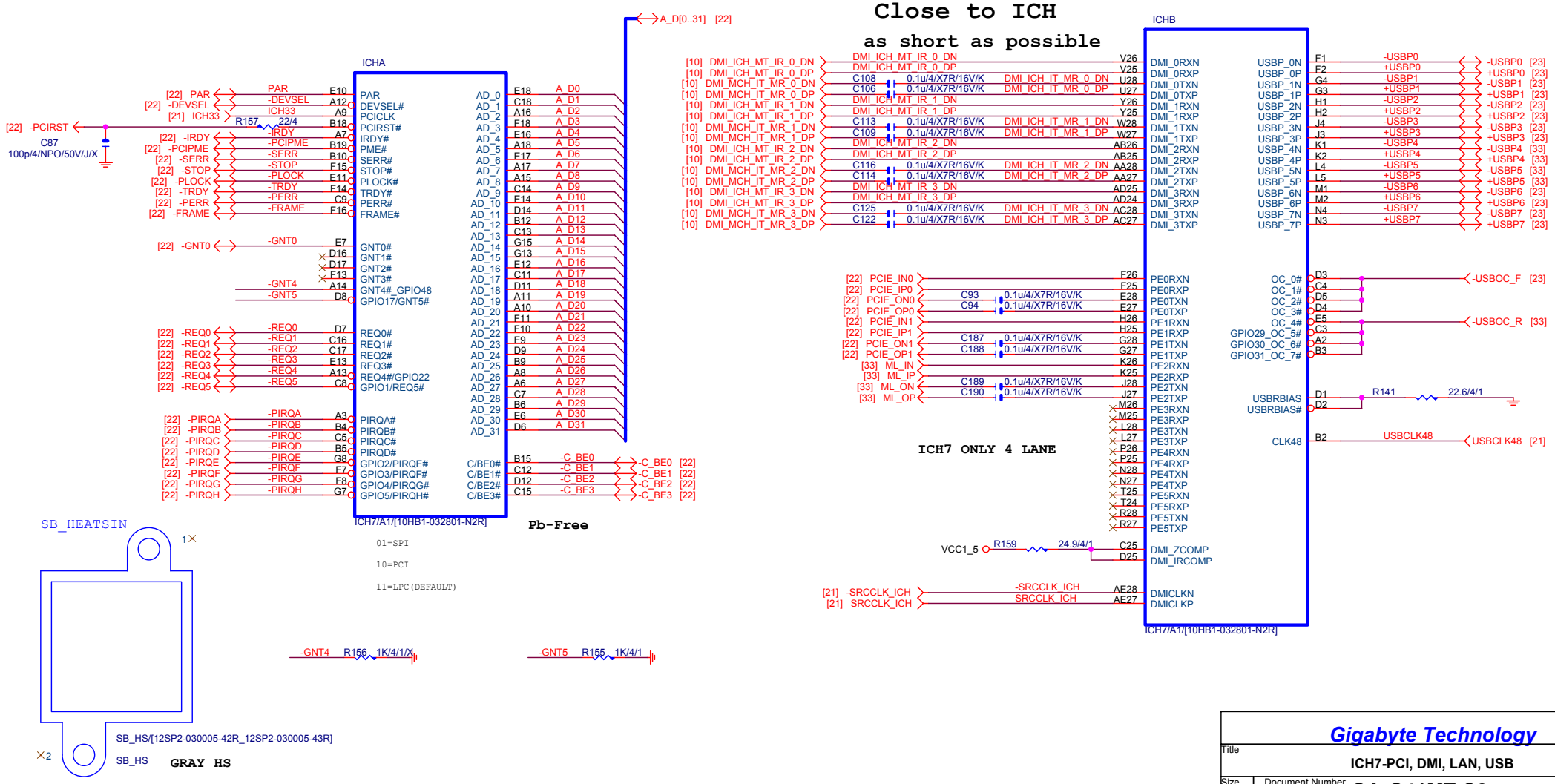
DDR18V Decouple



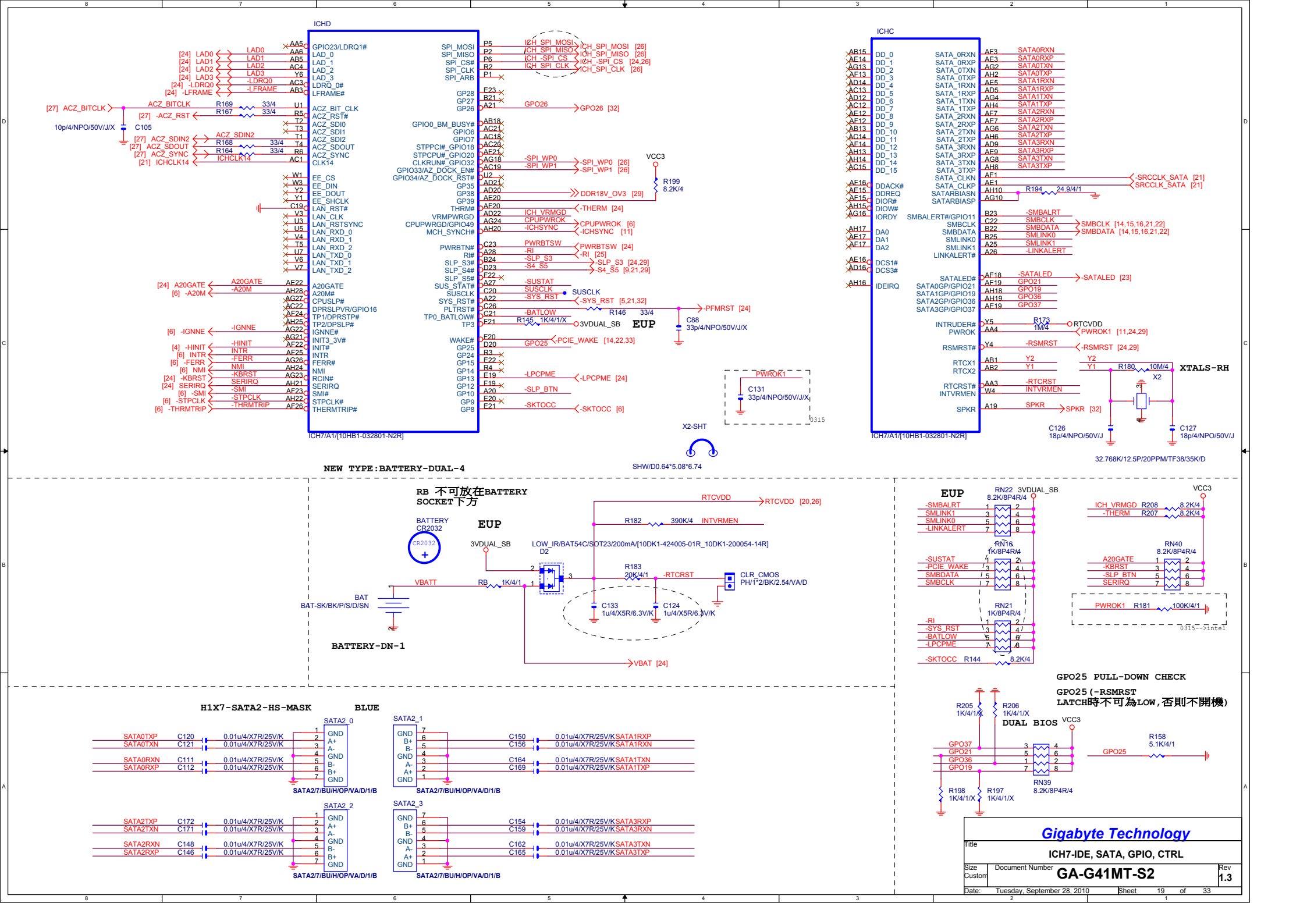
DDRVTT Decouple



Gigabyte Technology		
Title: DDRII TERMINATOR		
Size: Custom	Document Number: GA-G41MT-S2	Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 17 of 33	



Gigabyte Technology		
Title: ICH7-PCI, DMI, LAN, USB		
Size: B	Document Number: GA-G41MT-S2	Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 18 of 33	


ICHD
ICH7/A1/[10HB1-032801-N2R]
ICHC
ICH7/A1/[10HB1-032801-N2R]
NEW TYPE:BATTERY-DUAL-4
SHW/D0.64*5.08*6.74
X2-SHT
EUP
XTALS-RH
32.768K/12.5P/20PPM/TF38/35K/D
RB 不可放在BATTERY SOCKET下方
BATTERY
CR2032
BATTERY-DN-1
H1X7-SATA2-HS-MASK
BLUE
SATA2_0
SATA2_1
SATA2_2
SATA2_3
SATA2/7/BU/H/OP/VA/D/1/B
GPO25 PULL-DOWN CHECK
GPO25(-RSMRST LATCH時不可為LOW,否則不開機)
DUAL BIOS
Gigabyte Technology
Title
ICH7-IDE, SATA, GPIO, CTRL
Size
Custom
Document Number
GA-G41MT-S2
Rev
1.3
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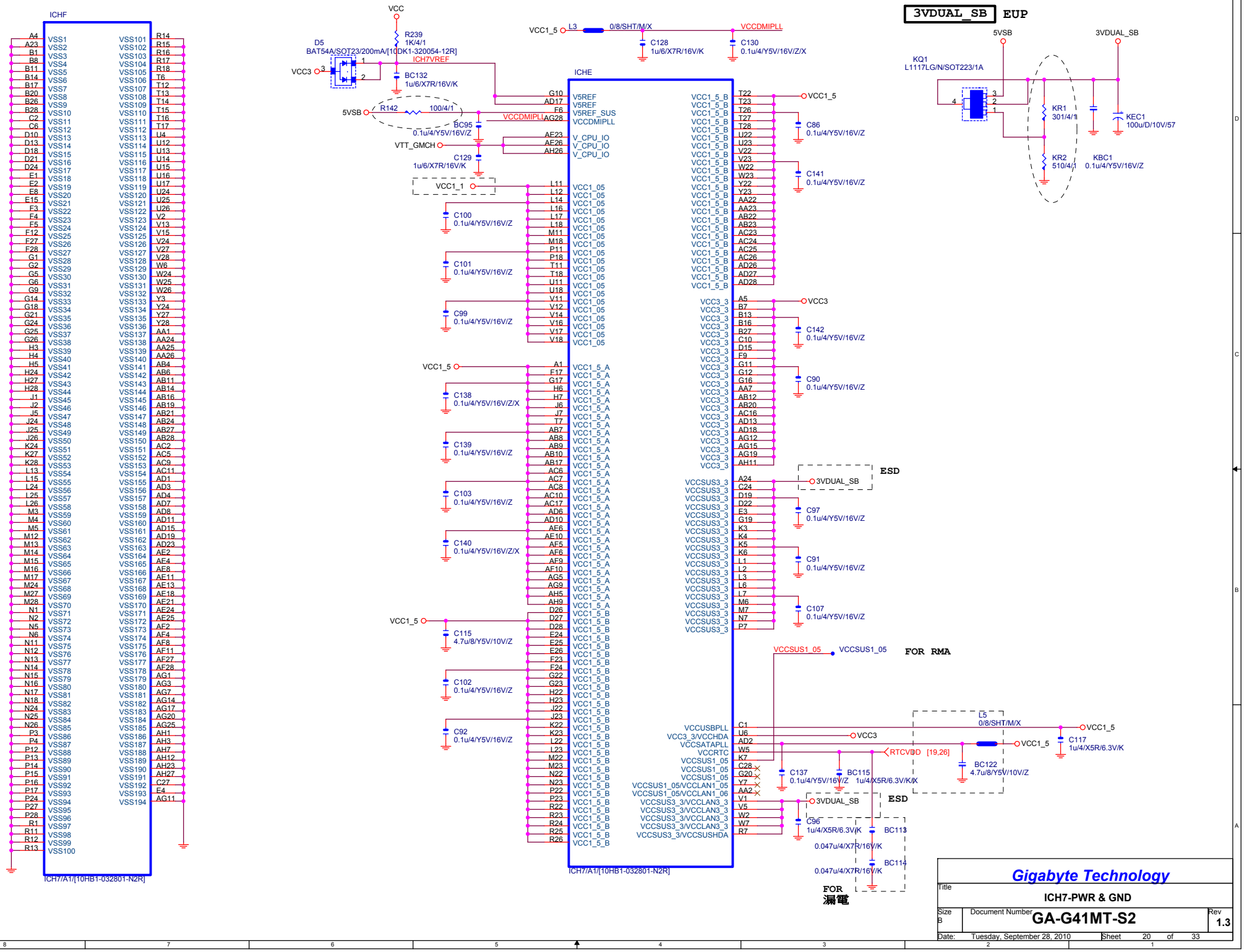
33


ICHF
ICH7/A1/[10HB1-032801-N2R]
ICHE
ICH7/A1/[10HB1-032801-N2R]
D5
BAT54A/SOT23/200mA/[10DK1-320054-12R]
ICH7VREF
VCC
VCC3
R239
1K/4/1
BC132
1u/6/X7R/16V/K
5VSB
R142
100/4/1
BC95
0.1u/4/Y5V/16V/Z
VTT_GMCH
C129
1u/6/X7R/16V/K
VCCDMIPLL
VCC1_5
L3
0/8/SHT/M/X
C128
1u/6/X7R/16V/K
VCCDMIPLL
C130
0.1u/4/Y5V/16V/Z/X
3VDUAL_SB EUP
5VSB
3VDUAL_SB
KQ1
L1117LG/N/SOT223/1A
KR1
301/4/1
KR2
510/4/1
KEC1
100u/D/10V/57
KBC1
0.1u/4/Y5V/16V/Z
C86
0.1u/4/Y5V/16V/Z
C141
0.1u/4/Y5V/16V/Z
C142
0.1u/4/Y5V/16V/Z
C90
0.1u/4/Y5V/16V/Z
C97
0.1u/4/Y5V/16V/Z
C91
0.1u/4/Y5V/16V/Z
C107
0.1u/4/Y5V/16V/Z
ESD
3VDUAL_SB
C100
0.1u/4/Y5V/16V/Z
C101
0.1u/4/Y5V/16V/Z
C99
0.1u/4/Y5V/16V/Z
C138
0.1u/4/Y5V/16V/Z/X
C139
0.1u/4/Y5V/16V/Z
C103
0.1u/4/Y5V/16V/Z
C140
0.1u/4/Y5V/16V/Z/X
C115
4.7u/8/Y5V/10V/Z
C102
0.1u/4/Y5V/16V/Z
C92
0.1u/4/Y5V/16V/Z
VCCSUS1_05
FOR RMA
L5
0/8/SHT/M/X
C117
1u/4/X5R/6.3V/K
RTCVDD [19,26]
BC122
4.7u/8/Y5V/10V/Z
C137
0.1u/4/Y5V/16V/Z
BC115
1u/4/X5R/6.3V/K
ESD
3VDUAL_SB
C96
1u/4/X5R/6.3V/K
BC113
0.047u/4/X7R/16V/K
BC114
0.047u/4/X7R/16V/K
FOR
漏電
Gigabyte Technology
Title
ICH7-PWR & GND
Size
B
Document Number
GA-G41MT-S2
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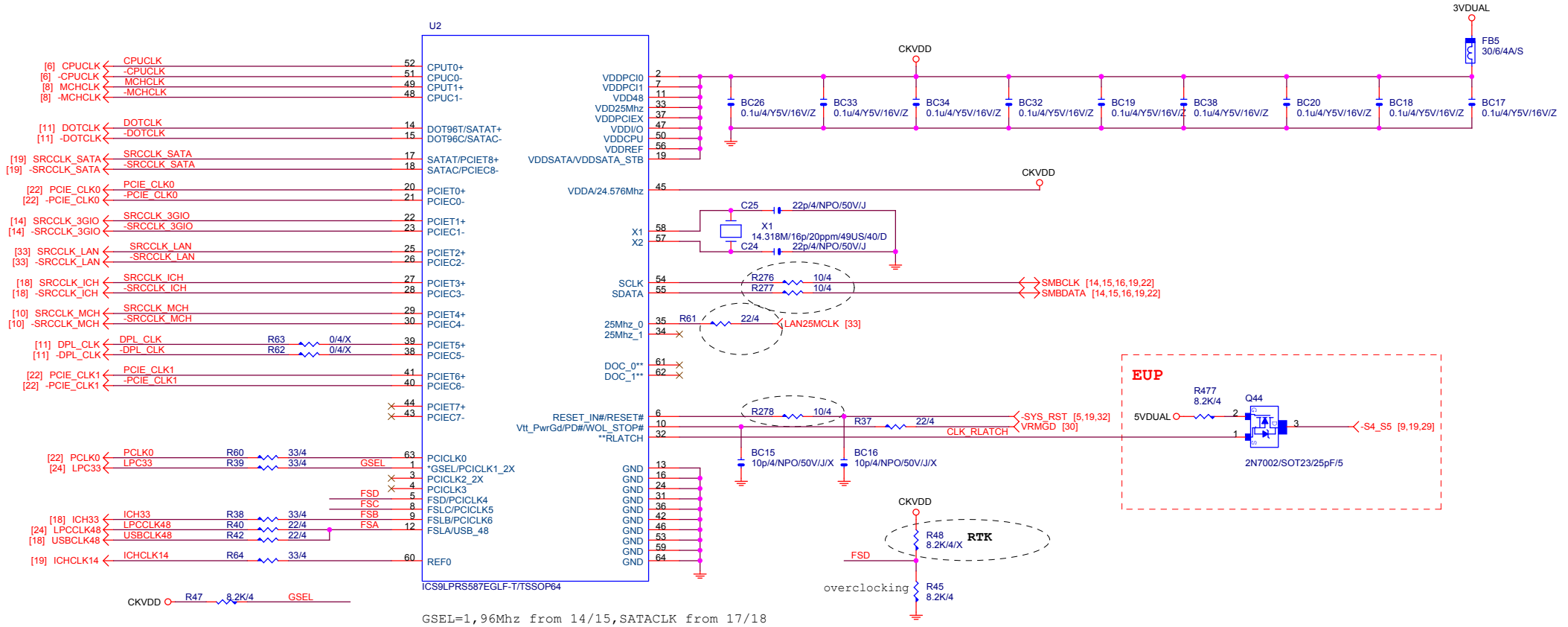
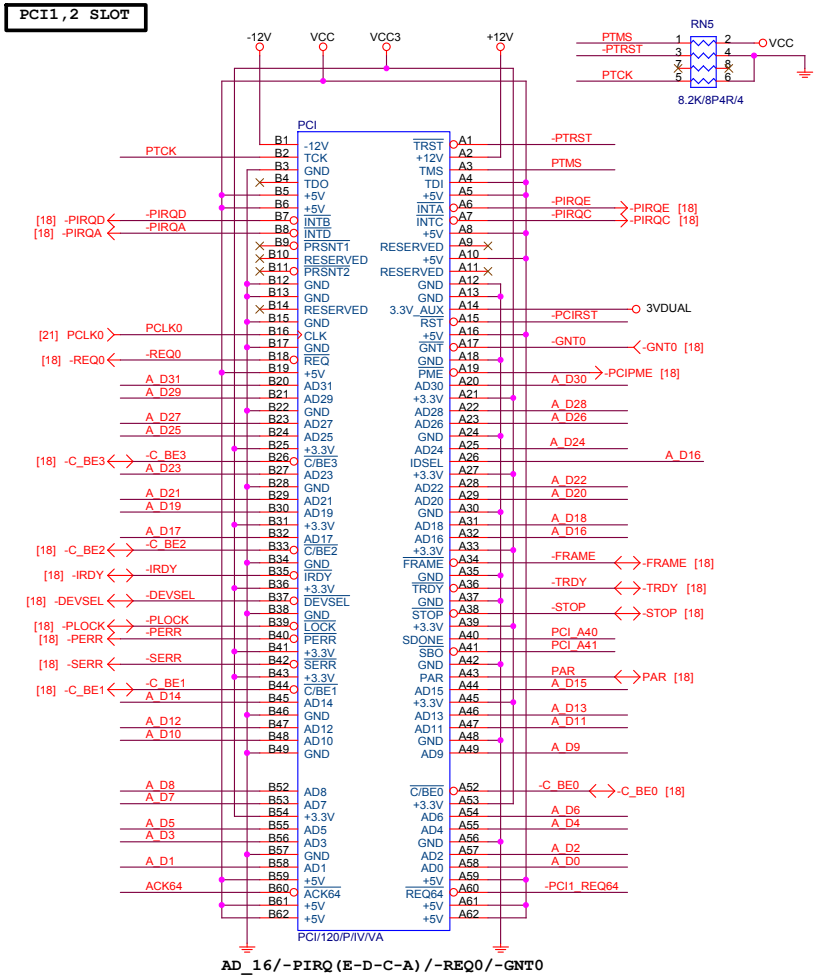
33

CLK GEN CK505



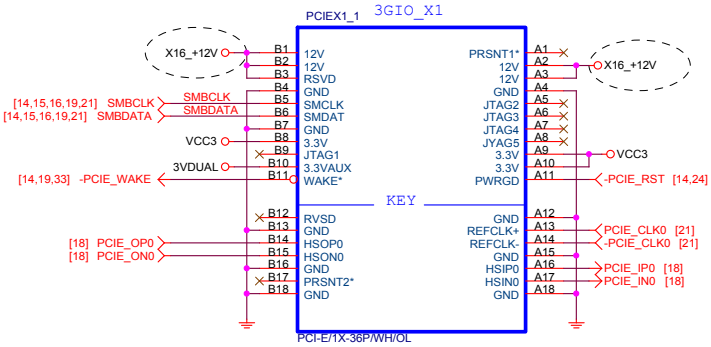
Gigabyte Technology			
Title: CK505 CLK GEN			
Size: Custom	Document Number: GA-G41MT-S2		Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 21 of 33		

PCI1,2 SLOT

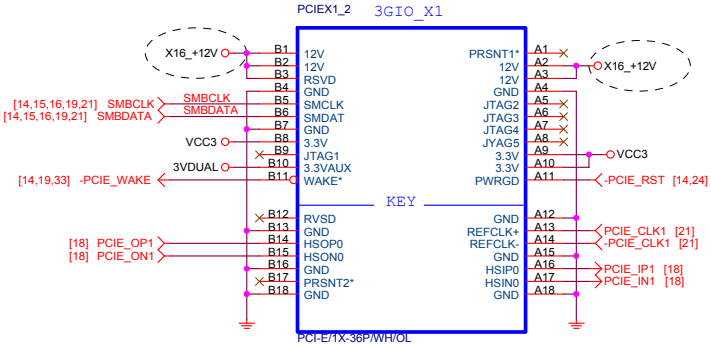


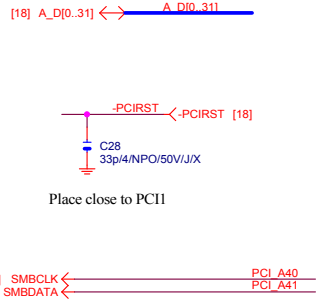
AD_16/-PIRQ(E-D-C-A)/-REQ0/-GNT0

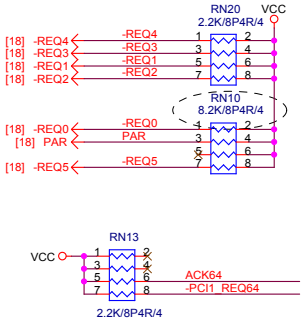
PCIE*1,2

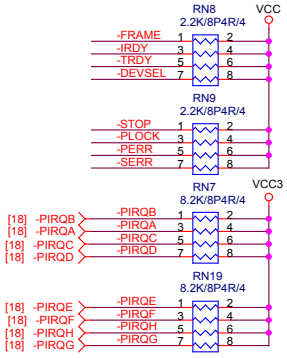


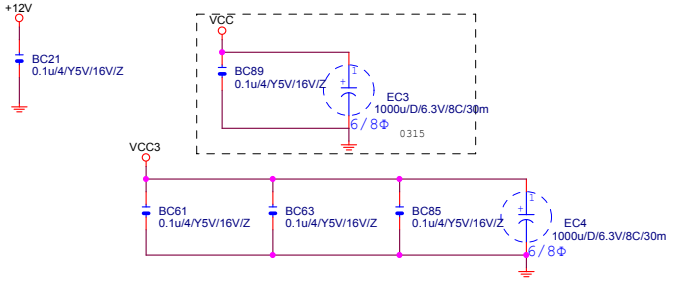
WHITE





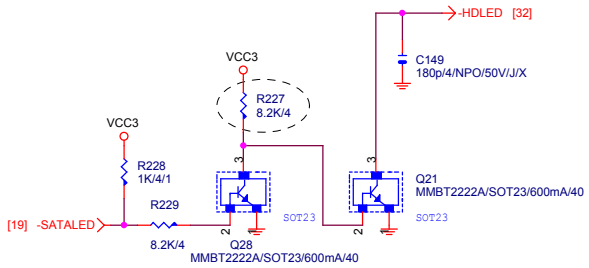






Gigabyte Technology		
Title: PCI SLOT 1, 2/PCIEX1		
Size: Custom	Document Number: GA-G41MT-S2	Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 22 of 33	

IDE/SATA LED



IDE RESET

N/A

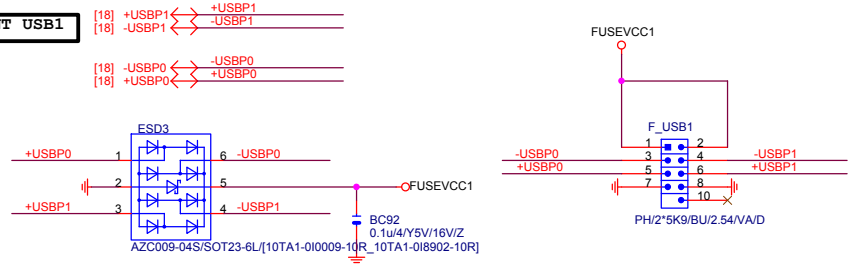
FLOPPY

N/A

IDE

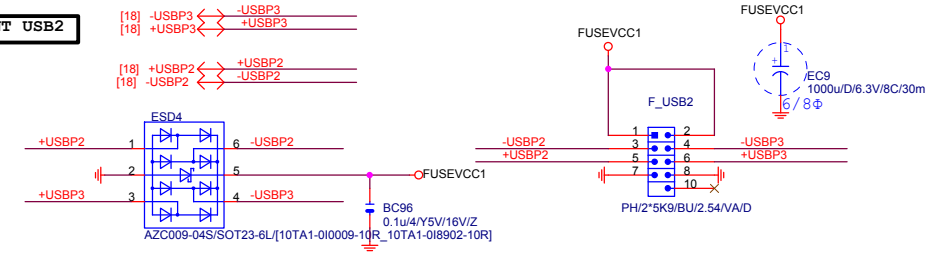
N/A

FRONT USB1

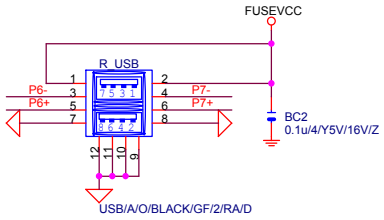


SSOP6-1

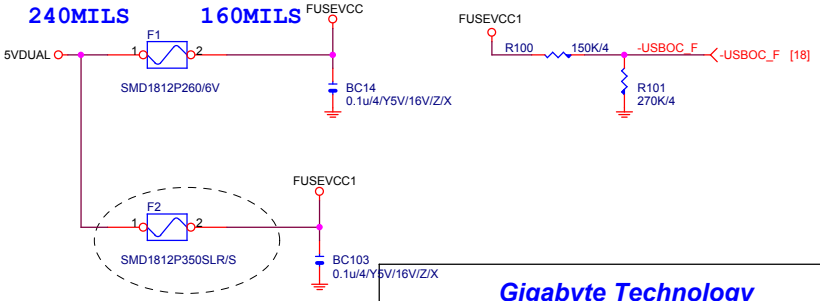
FRONT USB2



SSOP6-1



POP USBX2



3X POWER

Gigabyte Technology

Title	IDE,FDD,F_USB,R_USB	
Size B	Document Number GA-G41MT-S2	Rev 1.3
Date: Tuesday, September 28, 2010	Sheet 23 of 33	

RTS2- ==LOW CPU FAN 50%
==HIGH 100%
DEFAULT 50%

VCC
R5 8.2K/4/X DTR2-
R7 8.2K/4/X RTS2-
R8 680/4

PUSH-PULL
R6 680/4 DTR2-
R9 680/4 TXD2

[25] DCD1-
[25] RI1-
[25] CTS1-
[25] DTR1-
[25] RTS1-
[25] DSR1-
[25] TXD1
[25] RXD1
[25] DCD2-
[25] RI2-
[25] CTS2-

PD[0..7]
PD[0..7] [25]

STB-
AFD-
ERR-
INIT-
SLIN-
ACK-
STB- [25]
AFD- [25]
ERR- [25]
INIT- [25]
SLIN- [25]
ACK- [25]

U1

IT8712F/[IT8718F]

EUP

[25] DTR2-
[25] RTS2-
[25] DSR2-
[25] TXD2
[25] RXD2
[32] FANIO1
[32] FANIO2
[29] DDR18V_OV2
[32] FANPWM3
[30] IO_VID5
[30] IO_VID4
[30] IO_VID3
[30] IO_VID2
[30] IO_VID1
[30] IO_VID0
[5] BSEL166_4
[5] BSEL166_3
[29] EUP_N
[29] DDR18V_OV1
[29] VTT_GMCH_OV2
[29] VTT_GMCH_OV1
[30] IO_VIDO6
[19,26] ICH_-SPI_CS
-RST_BTN
-PCIE_RST_F
[14,22] -PCIE_RST
[11,19,29] PWROK1
[11,33] -PFMRST1
-PFMRST2_F
-PFMRST
[19] -PFMRST
[19] -LDRQ0
-LDRQ0

R1 220/4
R15 8.2K/4
VCC3
BC11 1u/4/X5R/6.3V/K

DTR2-
RTS2-
VCC
TXD2
RXD2
VCC
VCC3
VID5/GP27
VID4/GP26
VID3/FAN_TAC4/GP25
VID2/FAN_TAC5/GP24
GP23/[SI]
GP22/[SCK]
VID1/GP21
VID0/GP20
VID6/GP17
GP16/[SO2]
RESETCON#/CIRTX/GP15/[CE_N]/[CSA:dual bios]
PCIRST1#/SCRRST/GP14
PWROK1/SCRFET#/GP13
PCIRST2#/SCRIO/GP12
PCIRST3#/SCRCLK/GP11
LPCPD#/VIDVCC
LRESET#
LDRQ#

IT8718F-S/LX(GB)-W/QFP128

BUSY
PE
SLCT
VCC/[AVCC]
VIN0
VIN1
VIN2
VIN3/ATXPG
VIN4
VIN5/[VID7]
VIN6/[VID6]
VIN7/PCIRSTIN#
VREF
TMPIN1
TMPIN2
TMPIN3/[SO1]
GNDA
RSMRST#/CIRRX/GP55
PCIRST4#/SCRPRES#/GP10
MCLK/[GP56]
MDAT/[GP57]
KCLK/[GP60]
KDAT/[GP61]
3VSBSW#/GP40
PWROK2/GP41
RING#/GP53/SUSC#
PSON#/GP42
PANSWH#/GP43
GNDD
PME#/GP54
PWRON#GP44
PSIN/GP45/SUSB#
IRRX/GP46
VBAT
COPEN#
VCCH
IRTX/GP47/CEB_N/JP7 for dual DB
DSKCHG#

BUSY [25]
PE [25]
SLCT [25]
VCC
VIN0 [26]
VIN1 [26]
VIN2 [26]
PWOK [31]
VIN4 [26]
VID7 [6]
VID6 [6]
VIN7 [26]
VREF [26]
SYS_TEMP [26]
PWM_TEMP [26]
-RSMRST [19,29]
MCLK [26]
MDAT [26]
KCLK [26]
KDAT [26]
BSEL166_1 [5]
-THERM [19]
BSEL166_2 [5]
-PWRBTSW [32]
-LPCPME [19]
-SLP_S3 [19,29]
BEEP- [32]
-CASEOPEN [26,32]
5VSB

PWOK
-THERM

BC12 1u/4/X5R/6.3V/K
FIX TEMP RANDOM
C14 1n/4/X7R/50V/K/X
R25 0/6/SHTM/2
BC9 2.2n/4/X7R/50V/K
CPU_TEMP [6]
THERMDC [6]
R22 8.2K/4
-PSON [29,31]
R21 33/4
PWRBTSW [19]
VBAT [19]
C15 1u/4/X5R/6.3V/K
R49 8.2K/4
3VDUAL_SB
R28 10/4
BC13 4.7u/8/Y5V/10V/Z
BC6 0.047u/4/X7R/16V/K
BC7 1u/4/X5R/6.3V/K

EUP

R20 1K/4/1/X
CEB_N R118 220/4 VCC3

JP7 : HIGH DUAL BIOS ENABLE
LOW DUAL BIOS DISABLE

SERIRQ
LFRAME#
LAD0
LAD1
LAD2
LAD3
KRST#[GP62]
GA20
KBCCLK
KBCDAT/GP50
CLKIN
GNDD
DENSEL#
MTRA#
MTRB#/THRMO#/[SST/AMDSI_D]
DRVA#
DRVB#/[PECI/AMDSI_C]
WDATA#
DIR#
STEP#
HDSEL#
WGATE#
RDATA#
TRK0#
INDEX#
WPT#

[19] SERIRQ
[19] -LFRAME
LAD[0..3]
[19] LAD[0..3]
[19] -KBRST
[19] A20GATE
[21] LPC33
[21] LPCCLK48
PECI [6]
IO_VIDO7 [30]
C11 10p/4/NPO/50V/J/X

VCC3
RN1
-PFMRST2_F
-PCIE_RST_F
ITE_PWROK
-PFMRST1_F
1K/8P4R/4

-PFMRST
-PFMRST [19]
BC3 100p/4/NPO/50V/J/X

5VSB
RN45 8.2K/8P4R/4
BSEL166_3
BSEL166_2
BSEL166_1
BSEL166_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

Pop to disable Dual BIOS
-SIO_SPI_CS0 R154 0/4/X ICH_-SPI_CS
[26] -SIO_SPI_CS1 0/4 R117 CEB_N
[26] -SIO_SPI_CS0 0/4 R153 -RST_BTN

Gigabyte Technology

Title: ITE 8712/18 LPC IO
Size: B
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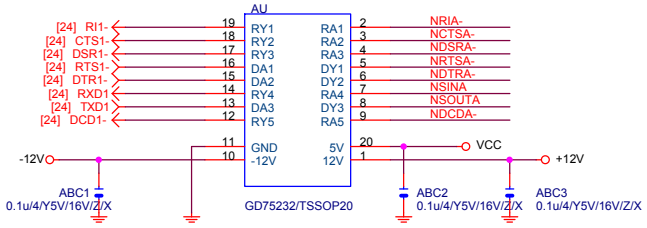
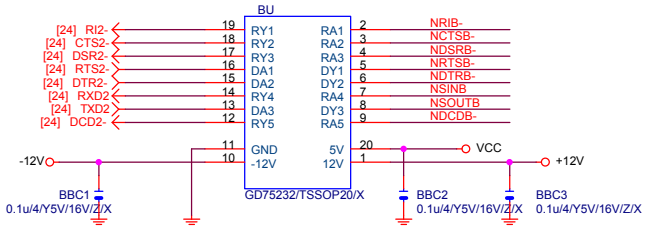
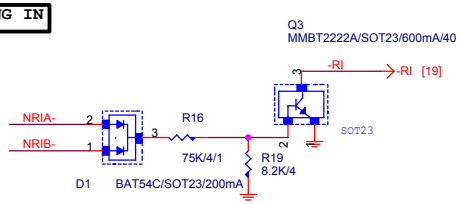
COMA

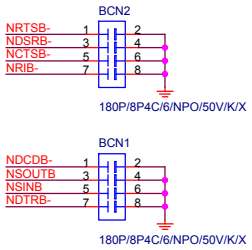


IC20TSSOP-1

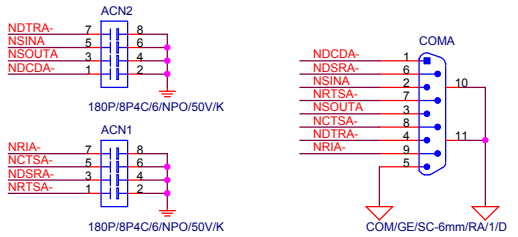


RING IN

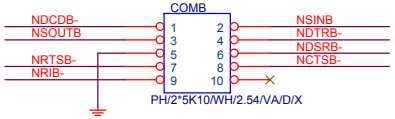




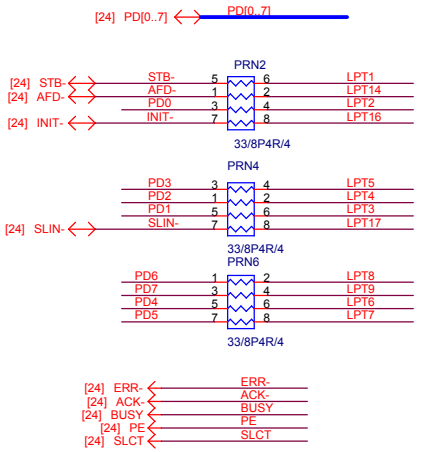
EXTERNAL COMA

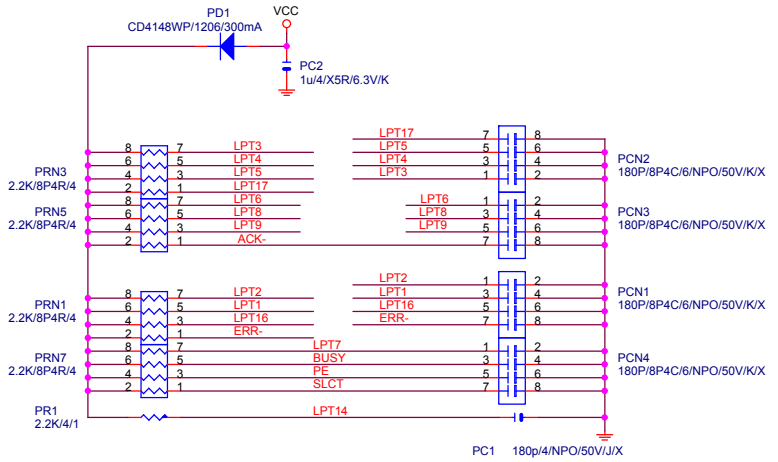


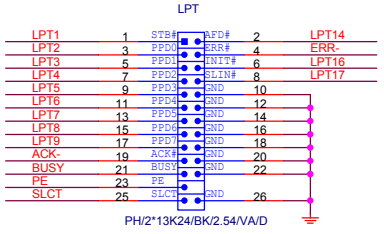
PLACE NEAR COM CONNECTOR



LPT PORT



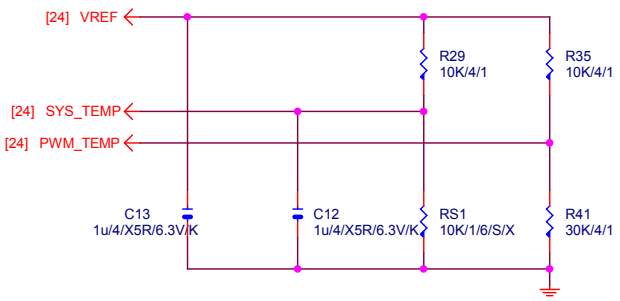




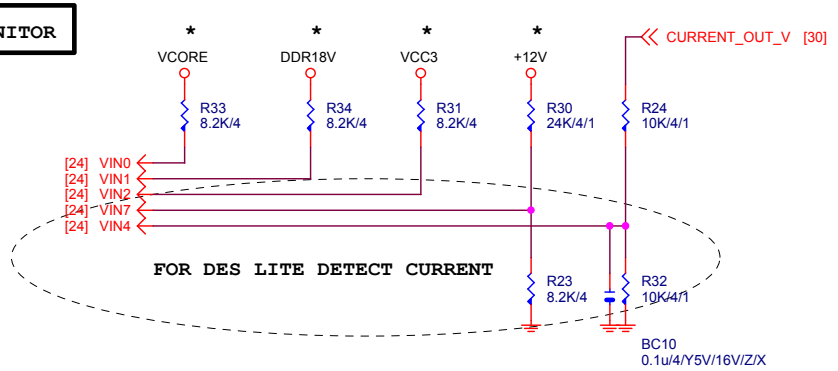
PIN2X13_LPT-CUT24

Gigabyte Technology			
Title: COM & LPT PORT			
Size: B	Document Number: GA-G41MT-S2		Rev: 1.3
Date: Tuesday, September 28, 2010	Sheet 25 of 33		

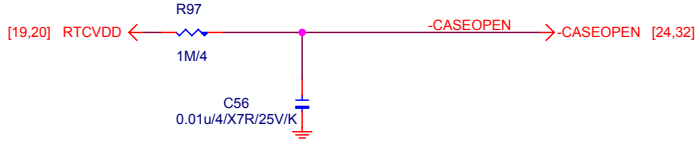
TEMP H/W MONITOR



VOLTAGE-- H/W MONITOR

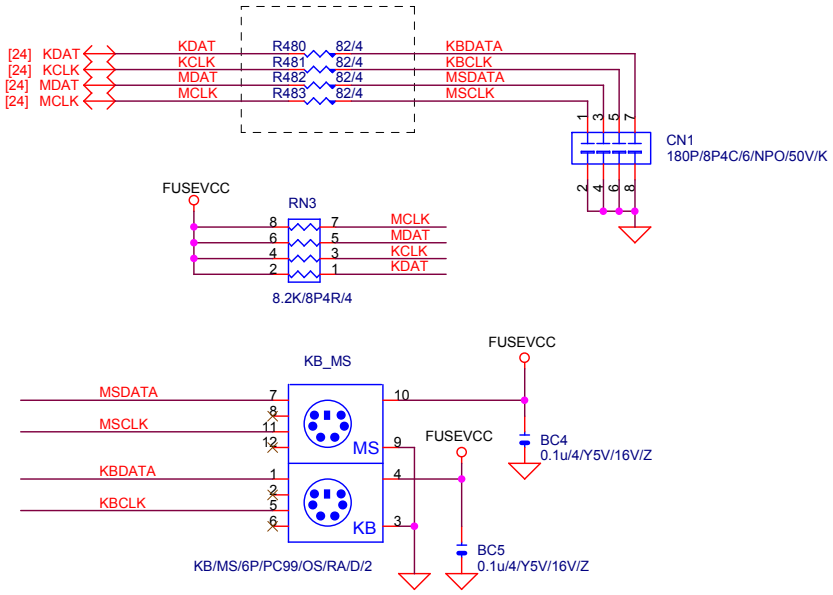


CASE OPEN

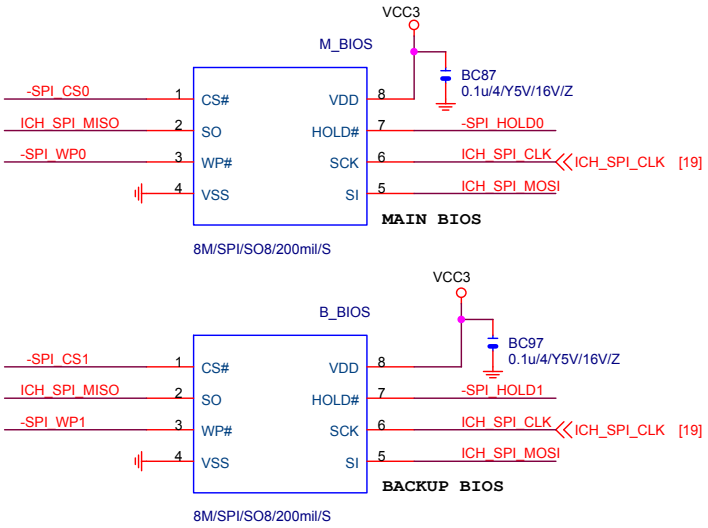


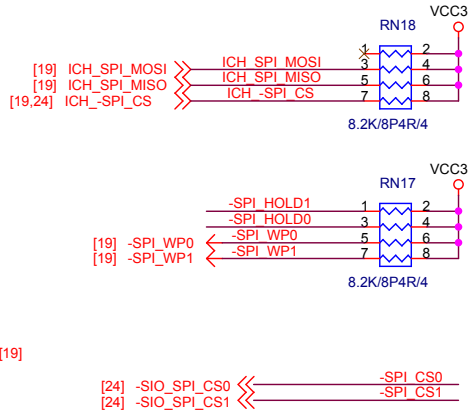
Case Open Circuits

KB/MS



DUAL BIOS





Gigabyte Technology		
Title: HW-MONITOR/CI/KB/MS/BIOS		
Size: Custom	Document Number: GA-G41MT-S2	Rev: 1.3
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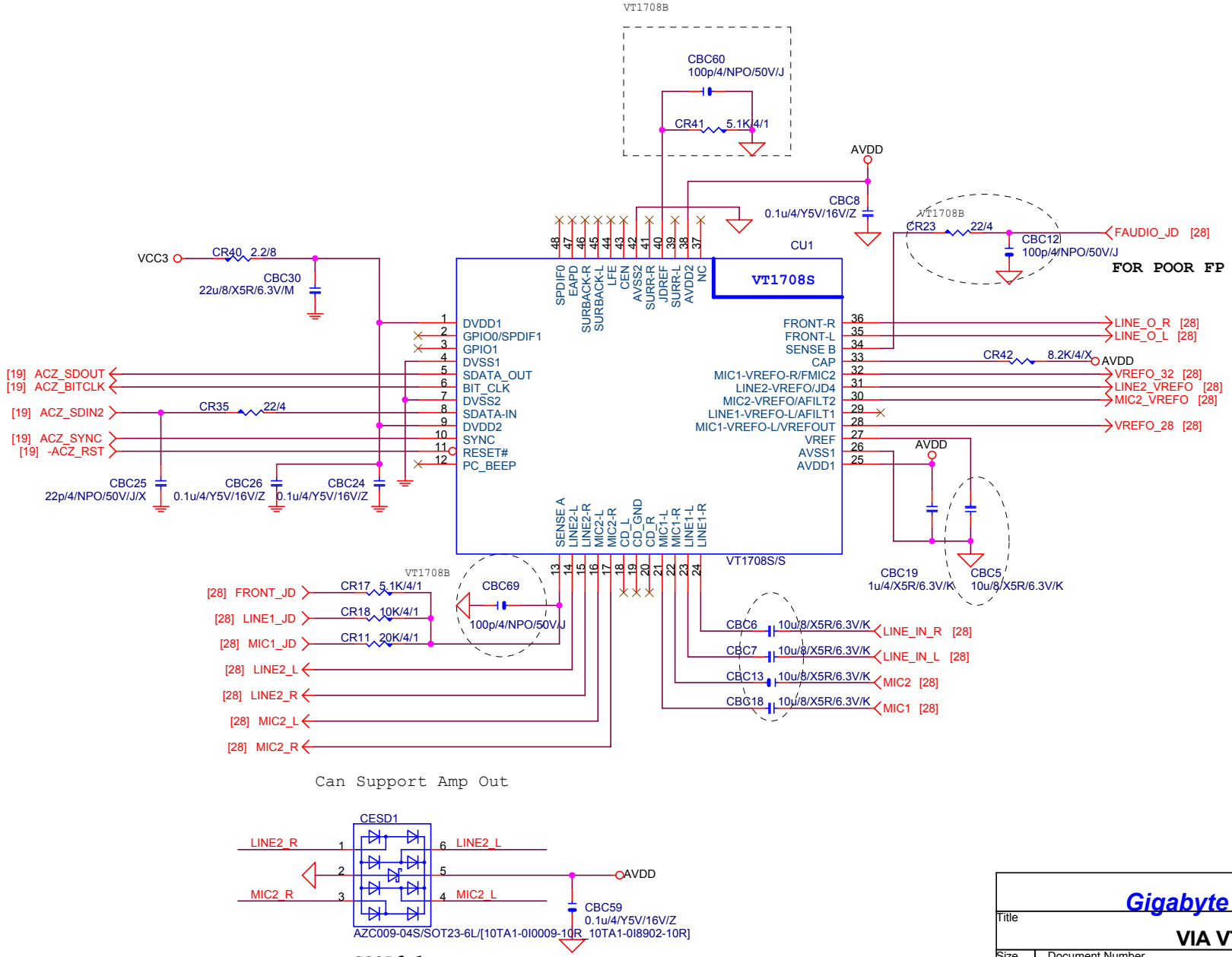
AZALIA CODEC



Gigabyte Technology			
Title: VIA VT1708S			
Size: Custom	Document Number: GA-G41MT-S2		Rev: 1.3
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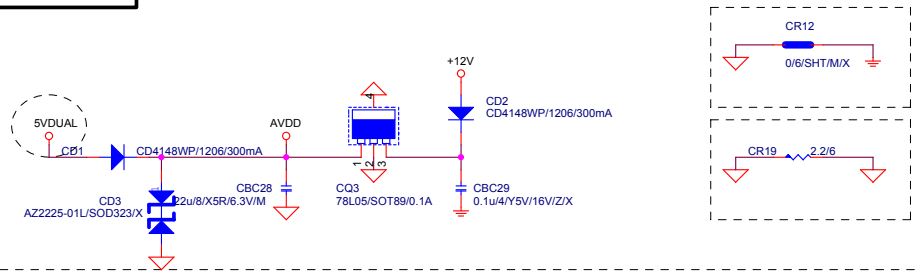
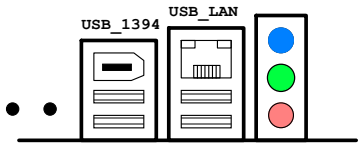
CODEC POWER/EMI PAD

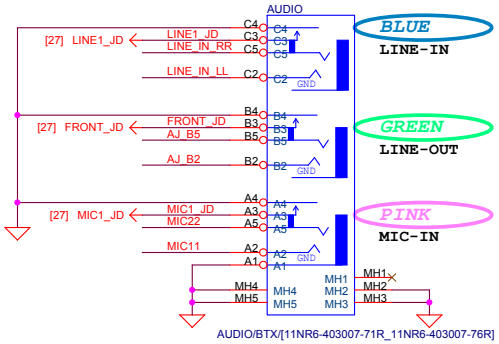


CD IN N/A

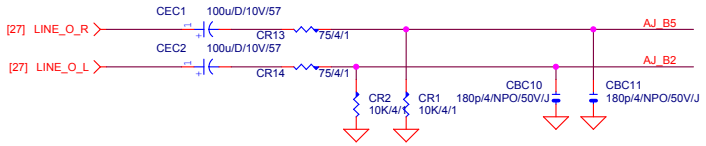
SPDIF IN N/A

AZALIA JACK

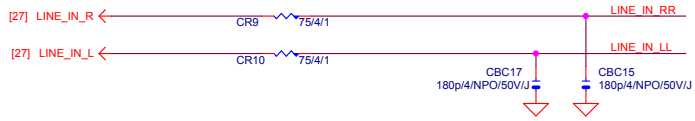




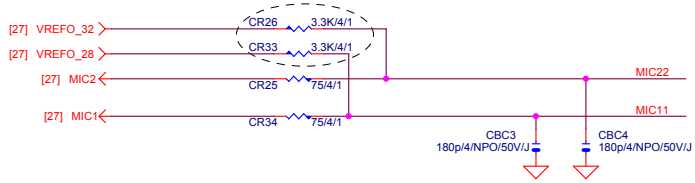
LINE-OUT



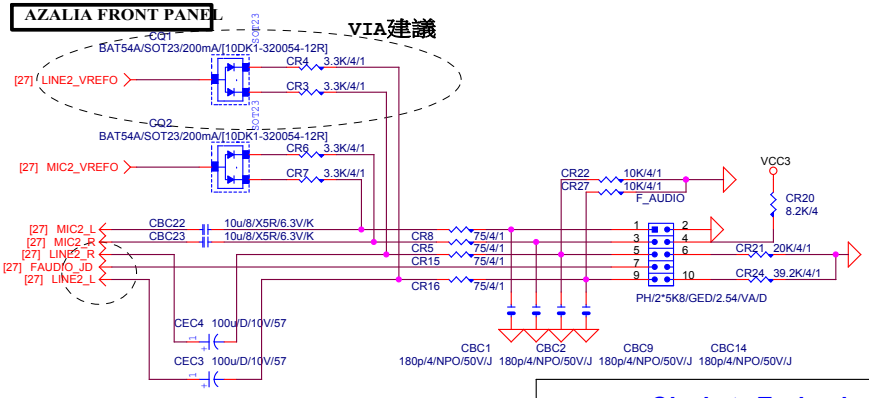
LINE-IN



MIC-IN



AZALIA FRONT PANEL



Gigabyte Technology

Title	AUDIO JACK	
Size: Custom	Document Number: GA-G41MT-S2	Rev: 1.3
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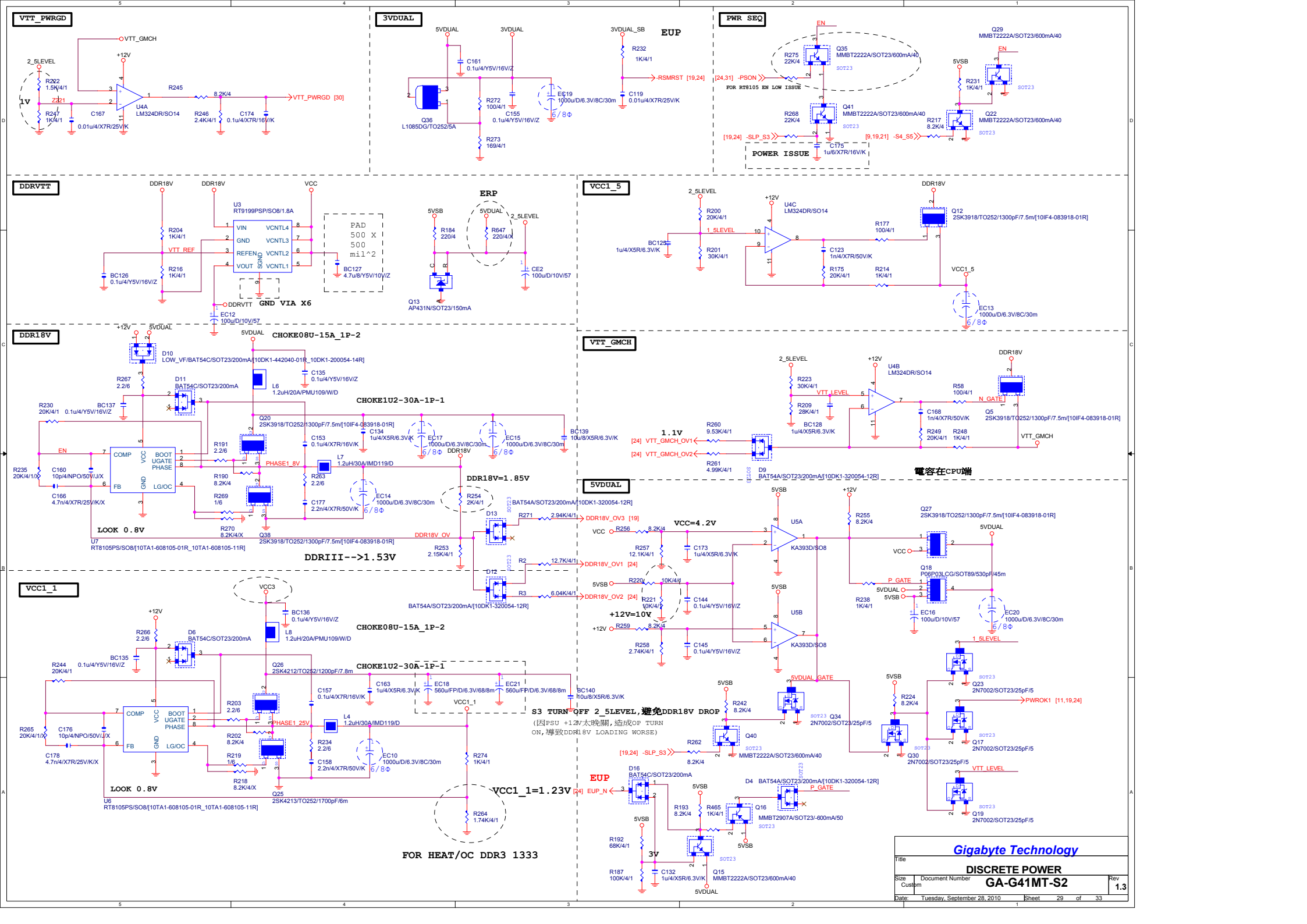
VTT_PWRGD
3VDUAL
PWR SEQ
EUP
DDRVTT
VCC1_5
DDR18V
VTT_GMCH
5VDUAL
VCC1_1
POWER ISSUE
ERP
GND VIA X6
CHOKE08U-15A_1P-2
CHOKE1U2-30A-1P-1
LOOK 0.8V
DDRIII-->1.53V
DDR18V=1.85V
VCC=4.2V
+12V=10V
1.1V
電容在CPU端
S3 TURN OFF 2_5LEVEL,避免DDR18V DROP
(因PSU +12V太晚關,造成OP TURN ON,導致DDR18V LOADING WORSE)
VCC1_1=1.23V
FOR HEAT/OC DDR3 1333
Gigabyte Technology
DISCRETE POWER
GA-G41MT-S2
Rev 1.3
Tuesday, September 28, 2010
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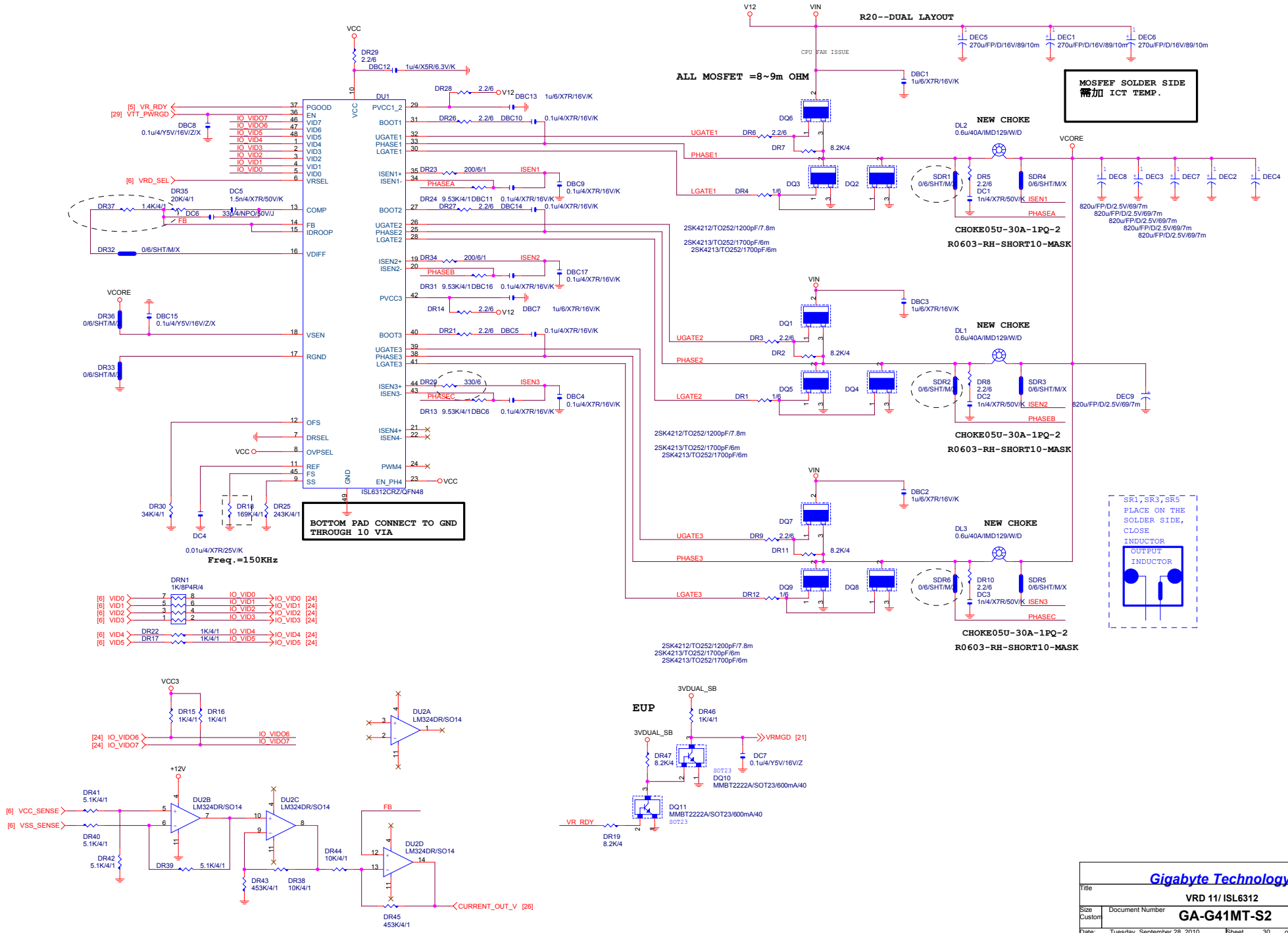
R20--DUAL LAYOUT
ALL MOSFET =8~9m OHM
MOSFEF SOLDER SIDE
需加 ICT TEMP.
NEW CHOKE
CHOKE05U-30A-1PQ-2
R0603-RH-SHORT10-MASK
Freq.=150KHz
BOTTOM PAD CONNECT TO GND THROUGH 10 VIA
ISL6312CRZ/QFN48
SR1,SR3,SR5 PLACE ON THE SOLDER SIDE, CLOSE INDUCTOR
OUTPUT INDUCTOR
EUP
Gigabyte Technology
VRD 11/ ISL6312
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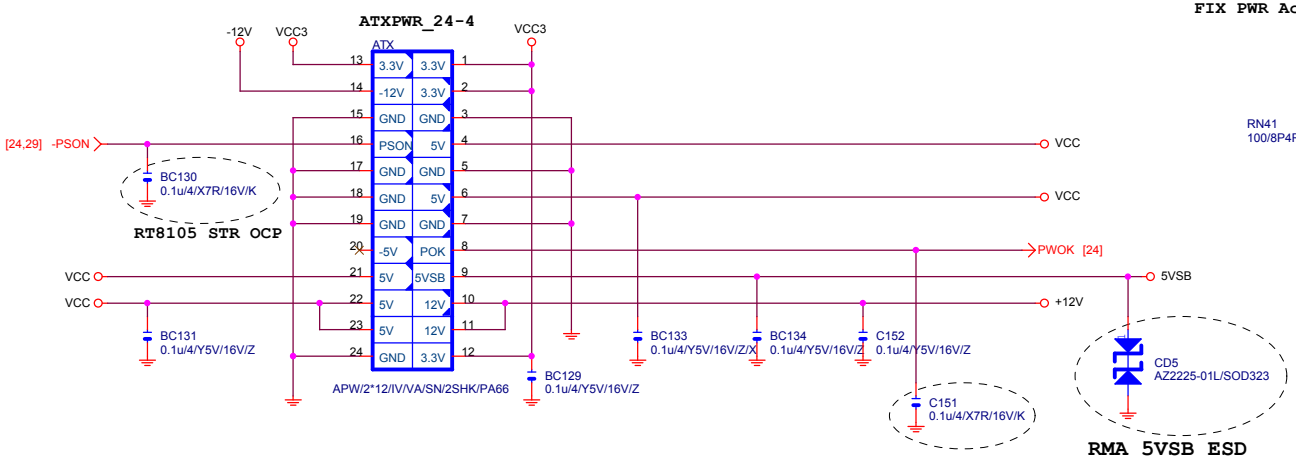
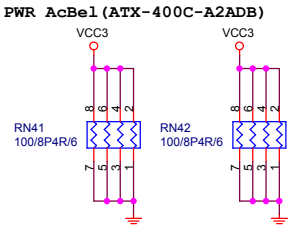
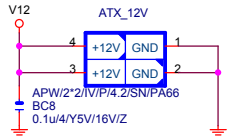
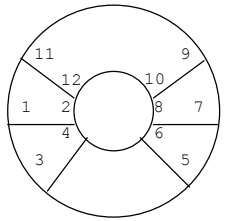
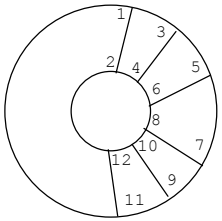
ATX POWER CONNECTOR

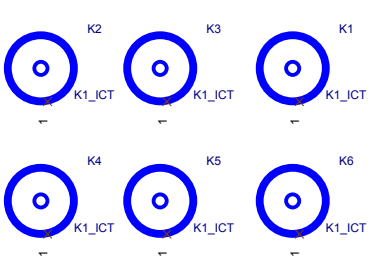


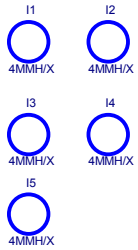


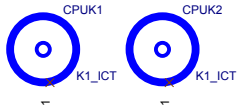


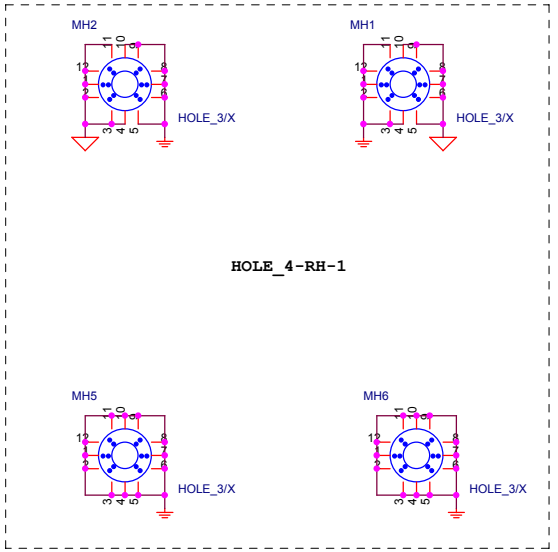


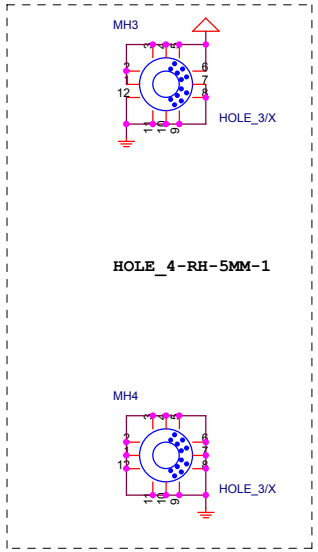


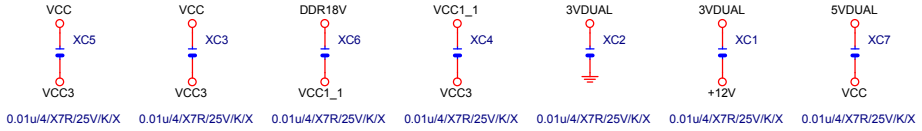












Gigabyte Technology			
Title: ATX POWER CONNECTOR			
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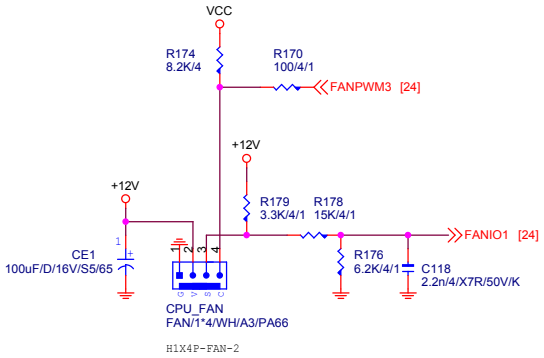
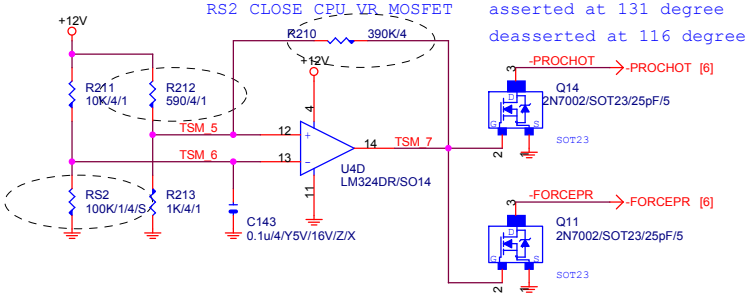
CPU SMART FAN

SMART FAN

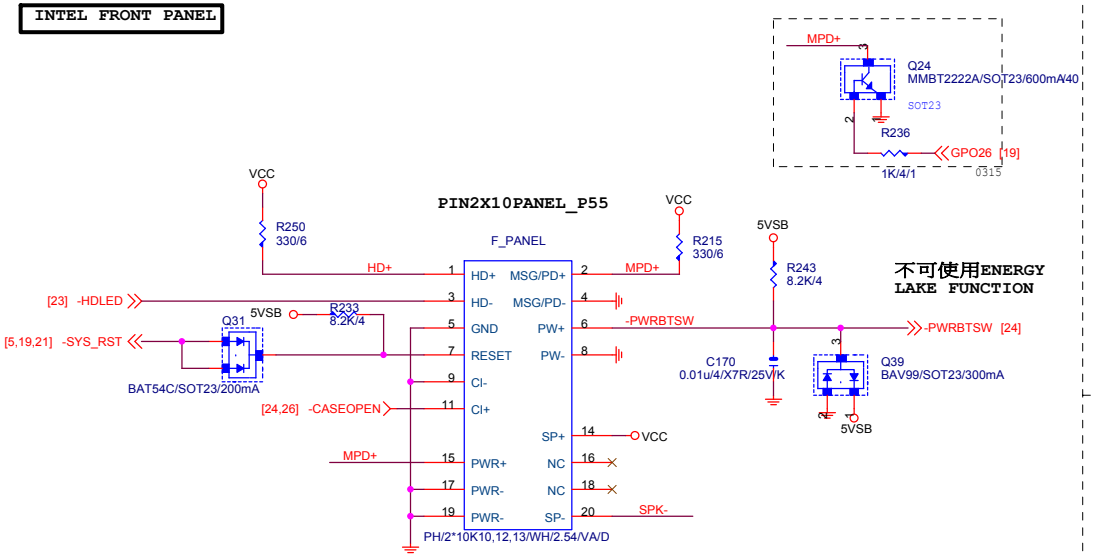


PROCESSOR HOT

RS2 CLOSE CPU_VR_MOSFET asserted at 131 degree
deasserted at 116 degree

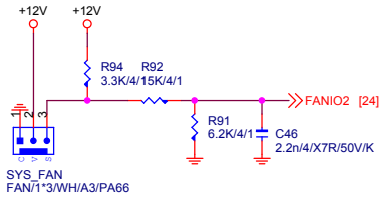


INTEL FRONT PANEL

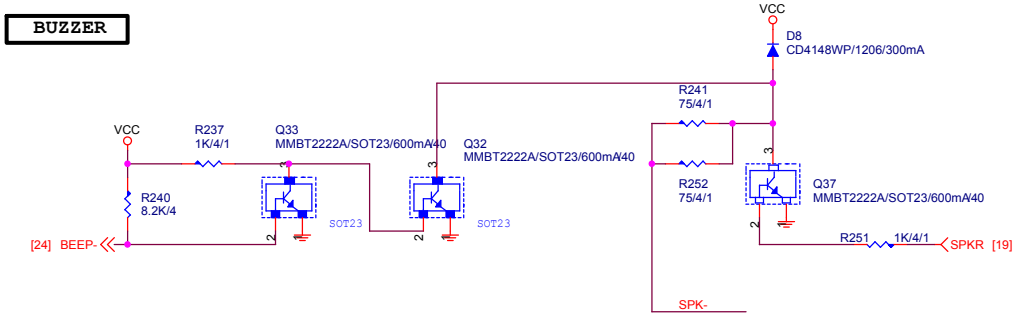


不可使用ENERGY LAKE FUNCTION

SYS_FAN



BUZZER



Gigabyte Technology

Title: FRONT PANEL

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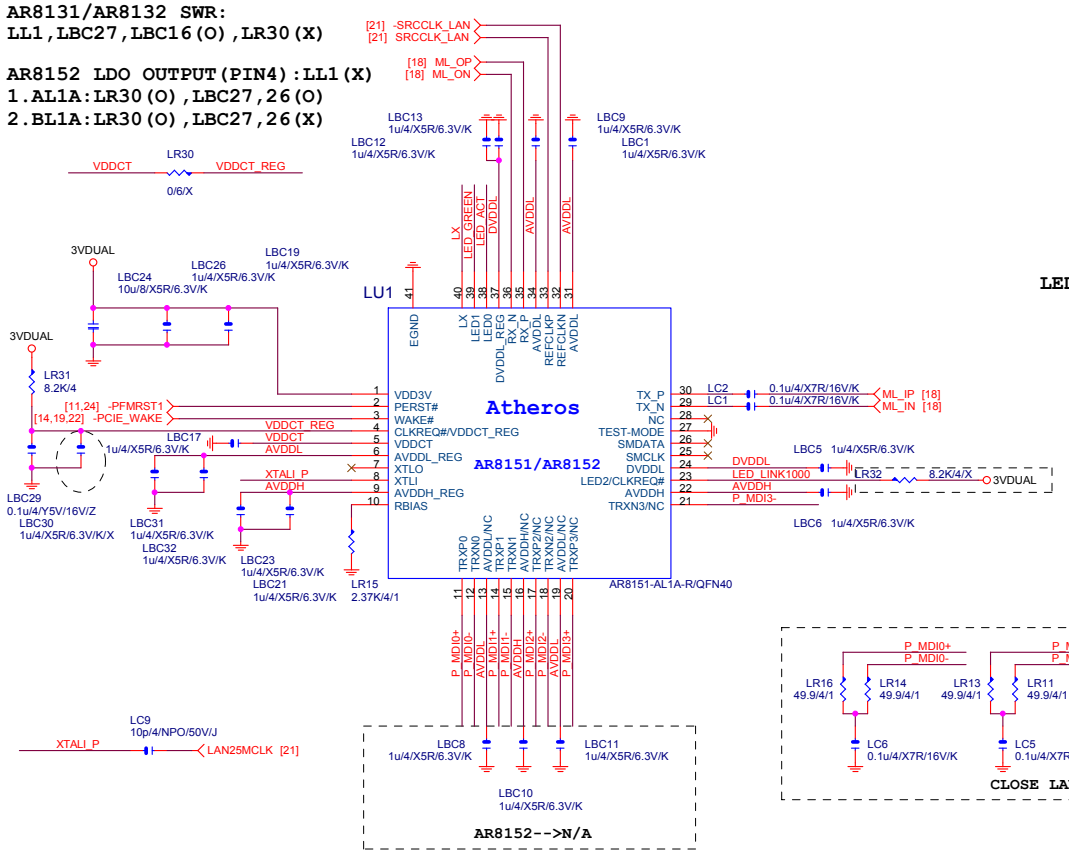
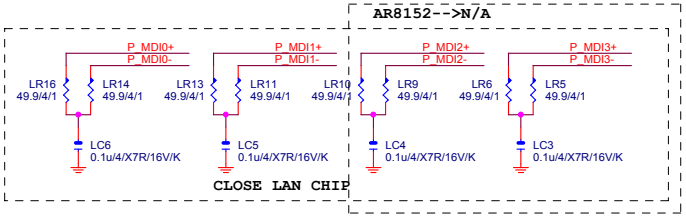
PCIE-1G LAN

AR8131/AR8132 SWR:
LL1,LBC27,LBC16(O),LR30(X)

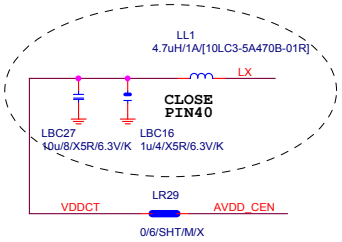
AR8152 LDO OUTPUT(PIN4):LL1(X)
1.AL1A:LR30(O),LBC27,26(O)
2.BL1A:LR30(O),LBC27,26(X)



CLKREQ# PULL-UP FOR EFUSE:
1.AR8151:LR31(O),LR32(X)
2.AR8152:LR31(X),LR32(O)

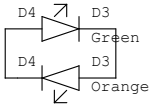


CHOKE4U7-500MA-1

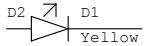


LED0(ACT) LED1(LINK) LED2(LINK1G)

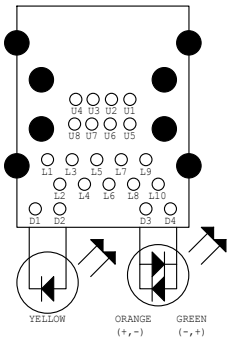
Dual Color LED



Single Color LED

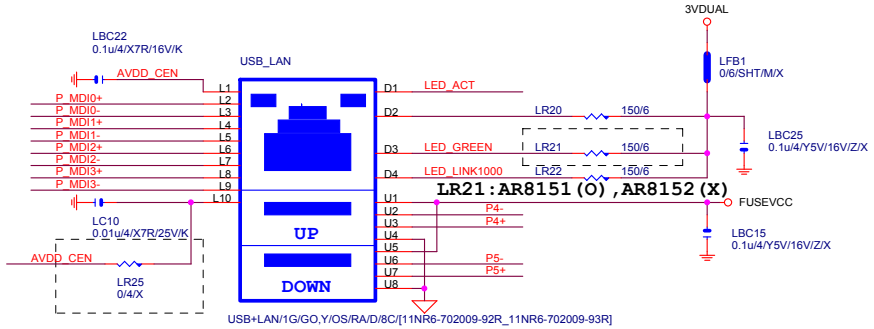


P35-152-19W9



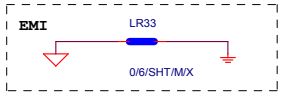
USB_LAN CONNECTOR

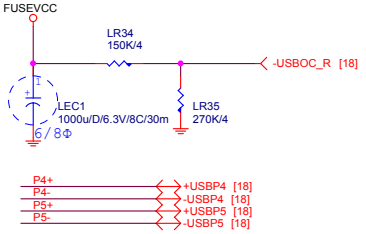
1G :USB+LAN/1G/GO,Y/OS/RA/D/1
100M:USB+LAN/100/GO,Y/OS/RA/D/1



LR25:AR8151(X),AR8152(O)
因100M LAN
CONNECTOR差異

USB_LAN





Gigabyte Technology		
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