Model Name:GA-G41M-Combo

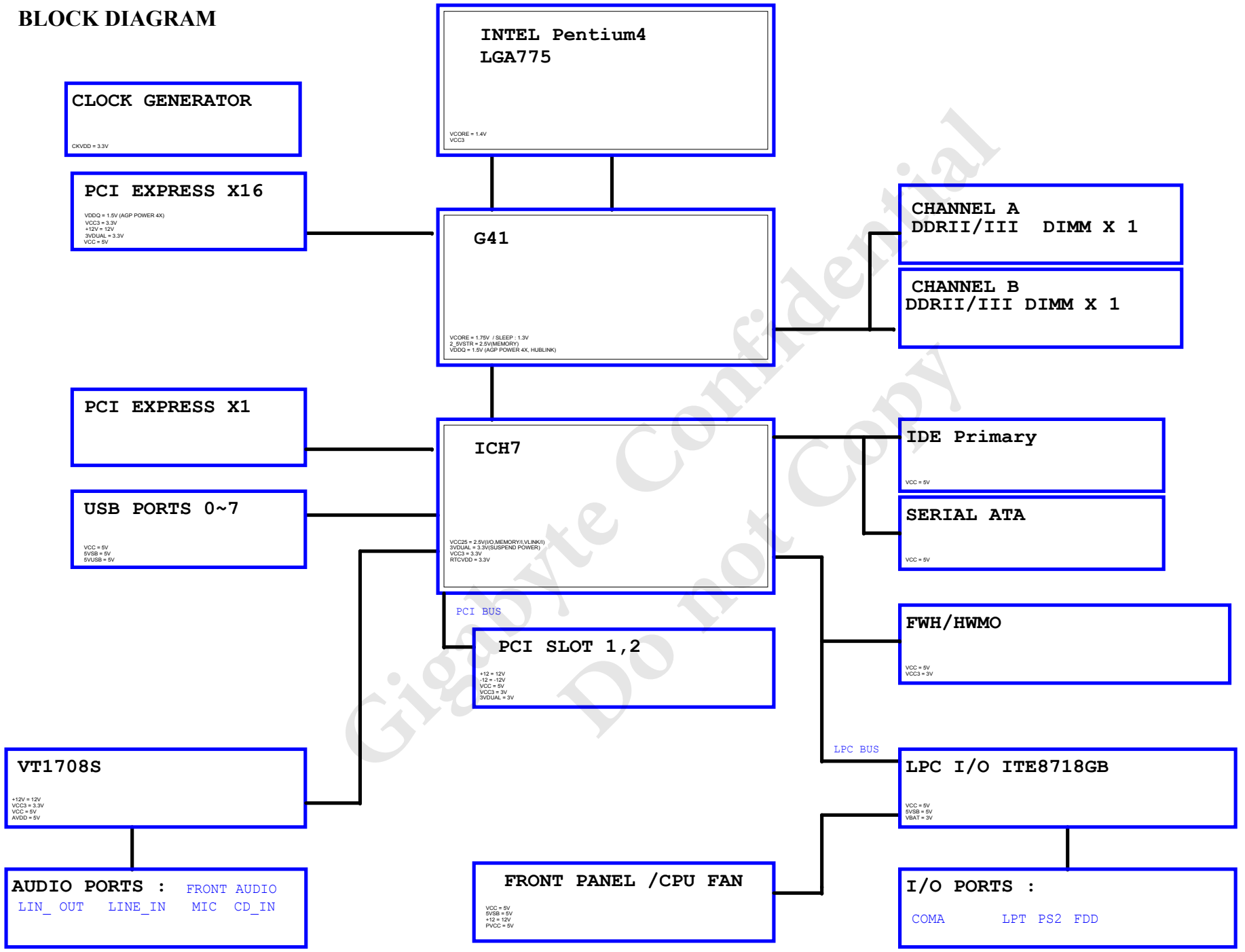
Revision 1.3

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/DDRIII
10	G41_PCI E, DMI
11	G41_VGA
12	G41_GND
13	G41_PWR
14	PCI EXPRESS*16 SLOT
15	DDR2/3 CHANNEL A
16	DDR2/3 CHANNEL B
17	DDR2/3 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
25	COM_LPT
26	CI,HWM,KB/MS,DUALBIOS
27	VT1708S

SHEET	TITLE
28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM_ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	ATHEROS AR8151/8152

Gigabyte Technology		
Title: Cover Sheet		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Wednesday, May 12, 2010	Sheet 1 of 33	

BLOCK DIAGRAM



Gigabyte Technology		
Title: BOM & PCB MODIFY HISTORY		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Monday, May 10, 2010	Sheet 2 of 33	

Model Name:GA-G41M-Combo

Version: 1.3

Component value change history

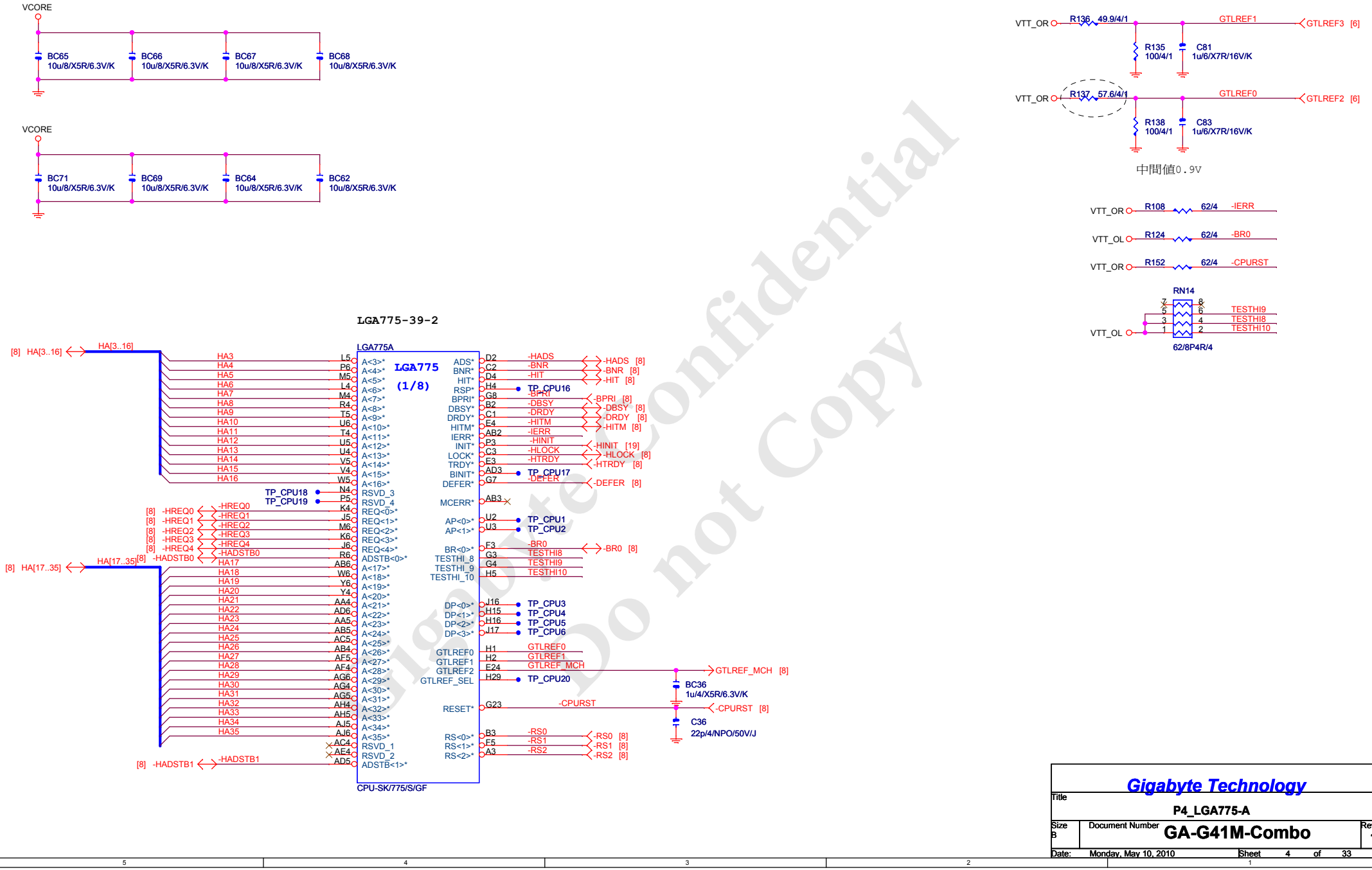
2010/05/11

Data	Change Item	Reason
2010/05/10	R1.3 Rename from HG41M .ADD 3X POWER.	

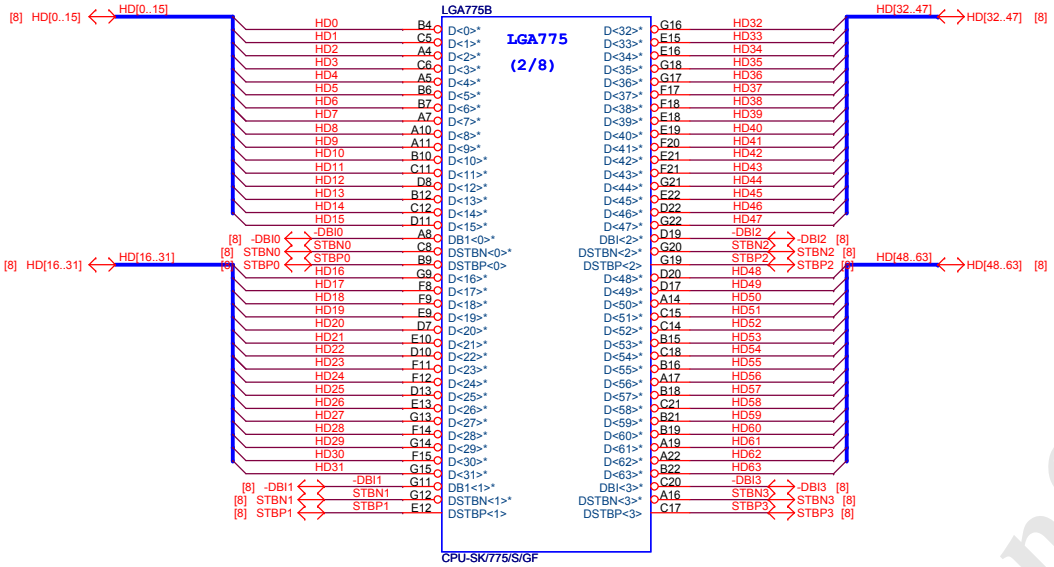
Circuit or PCB layout change for next version

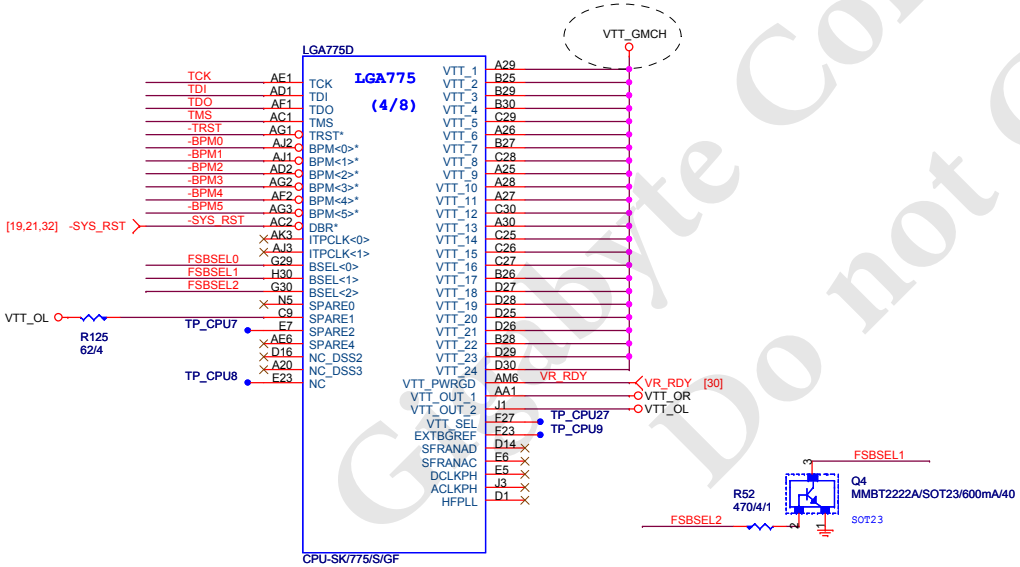
DATE	Change Item	Reason

Gigabyte Technology		
Title: BOM & PCB MODIFY HISTORY		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Tuesday, May 11, 2010	Sheet 3 of 33	

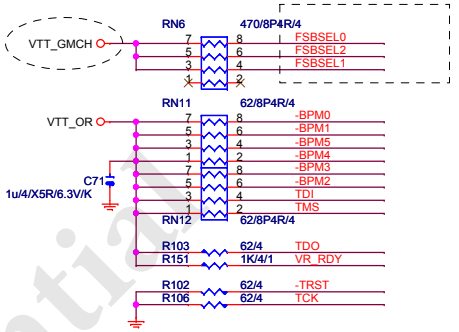


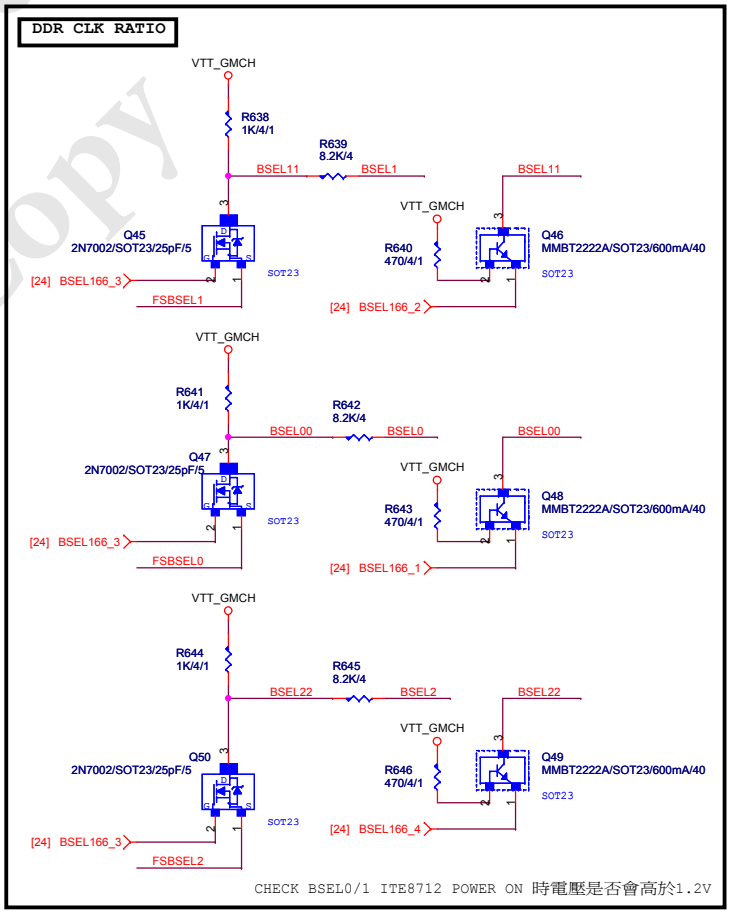
Gigabyte Technology		
Title: P4_LGA775-A		
Size: B	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Monday, May 10, 2010	Sheet 4 of 33	





FIX FSB1600 LATCH FAIL





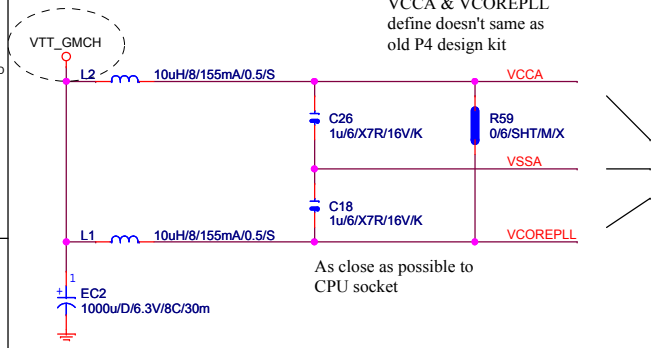
	FSA	FSB	FSC		
	FSBSEL0	FSBSEL1	FSBSEL2	Clock	
?	1	0	1	100MHz	
?	1	0	0	133MHz	3/4
G33	0	1	0	200MHz	2/2.66/3.33/4+
G33	0	0	0	266MHz	2/2.5/3/4~
G33	0	0	1	333MHz	2/2.4/3.2/4#

400/533
400/533/667/800
533/667/800/1066
667/800/1066/1333

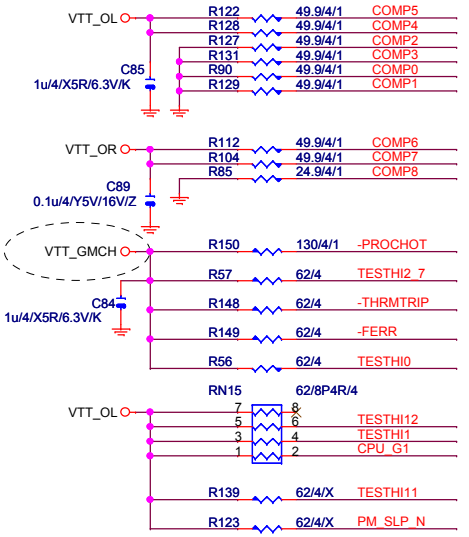
Gigabyte Technology		
Title	P4_LGA775-B,D	
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Monday, May 10, 2010	Sheet 5 of 33	

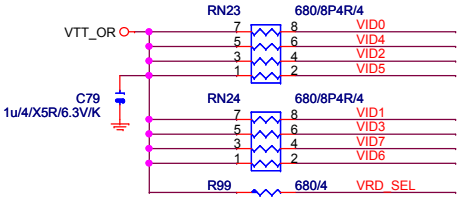
Note:

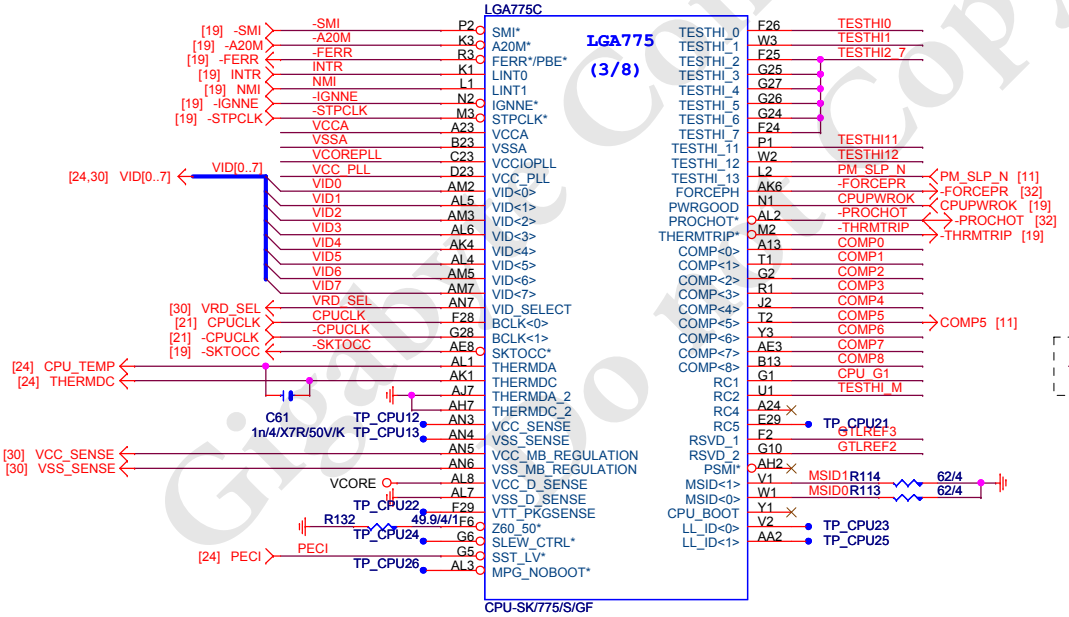
VCCA & VCOREPLL define doesn't same as old P4 design kit

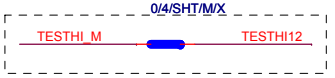


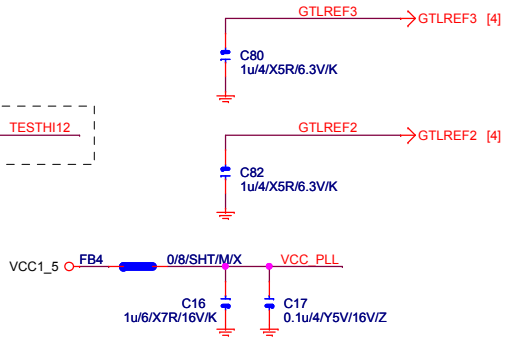
Place outside of CPU socket





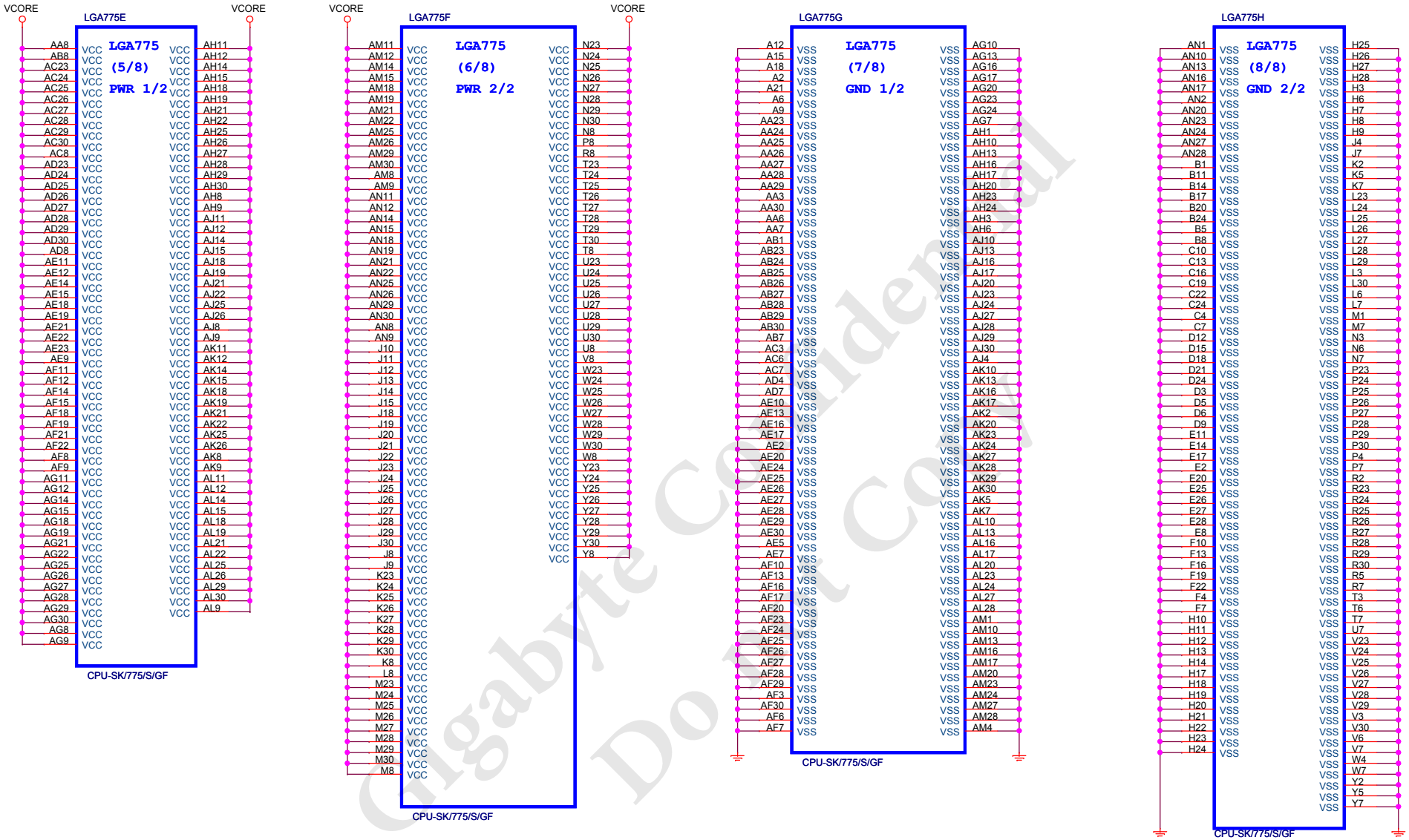




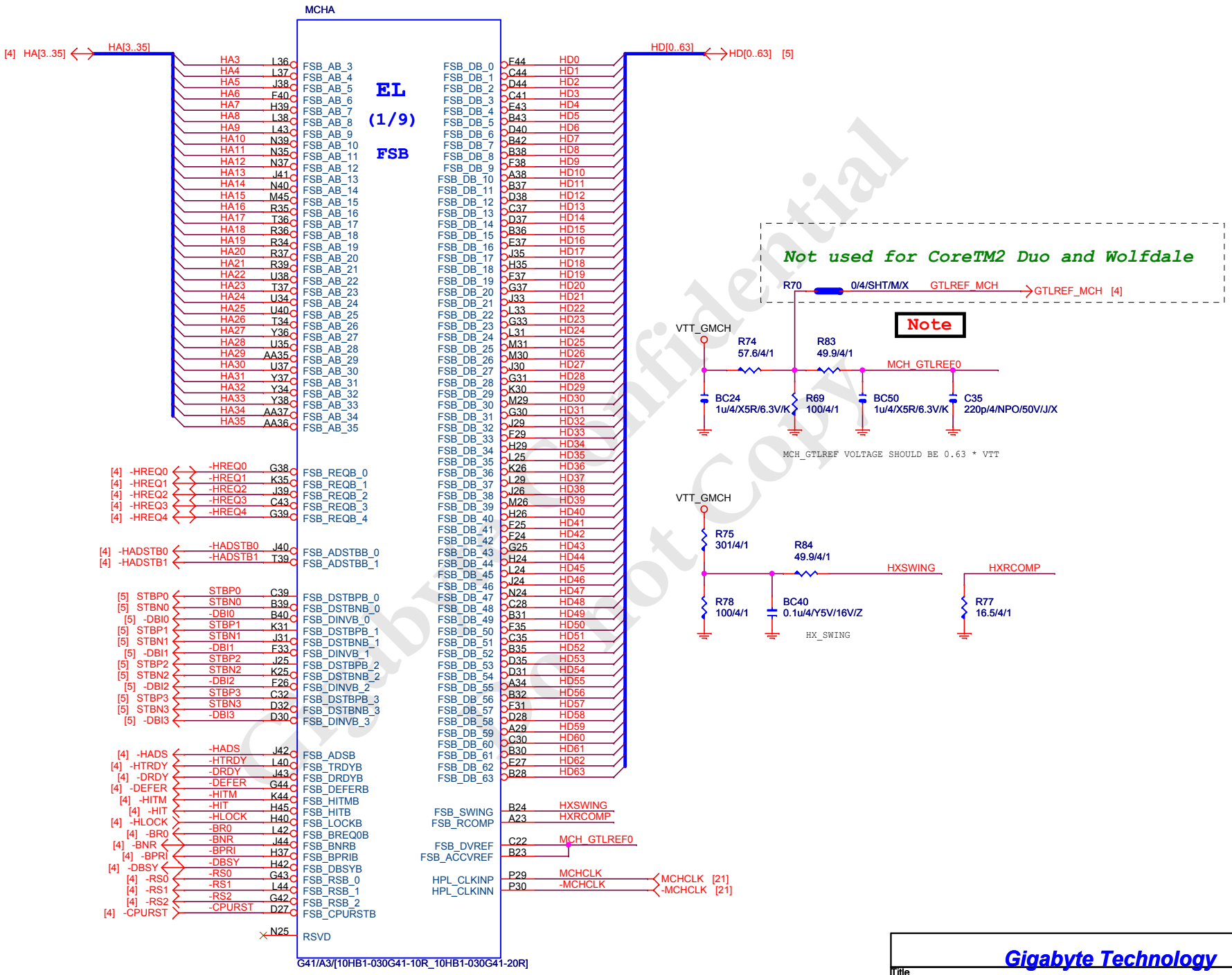


PECI:Platform Environment Control Interface

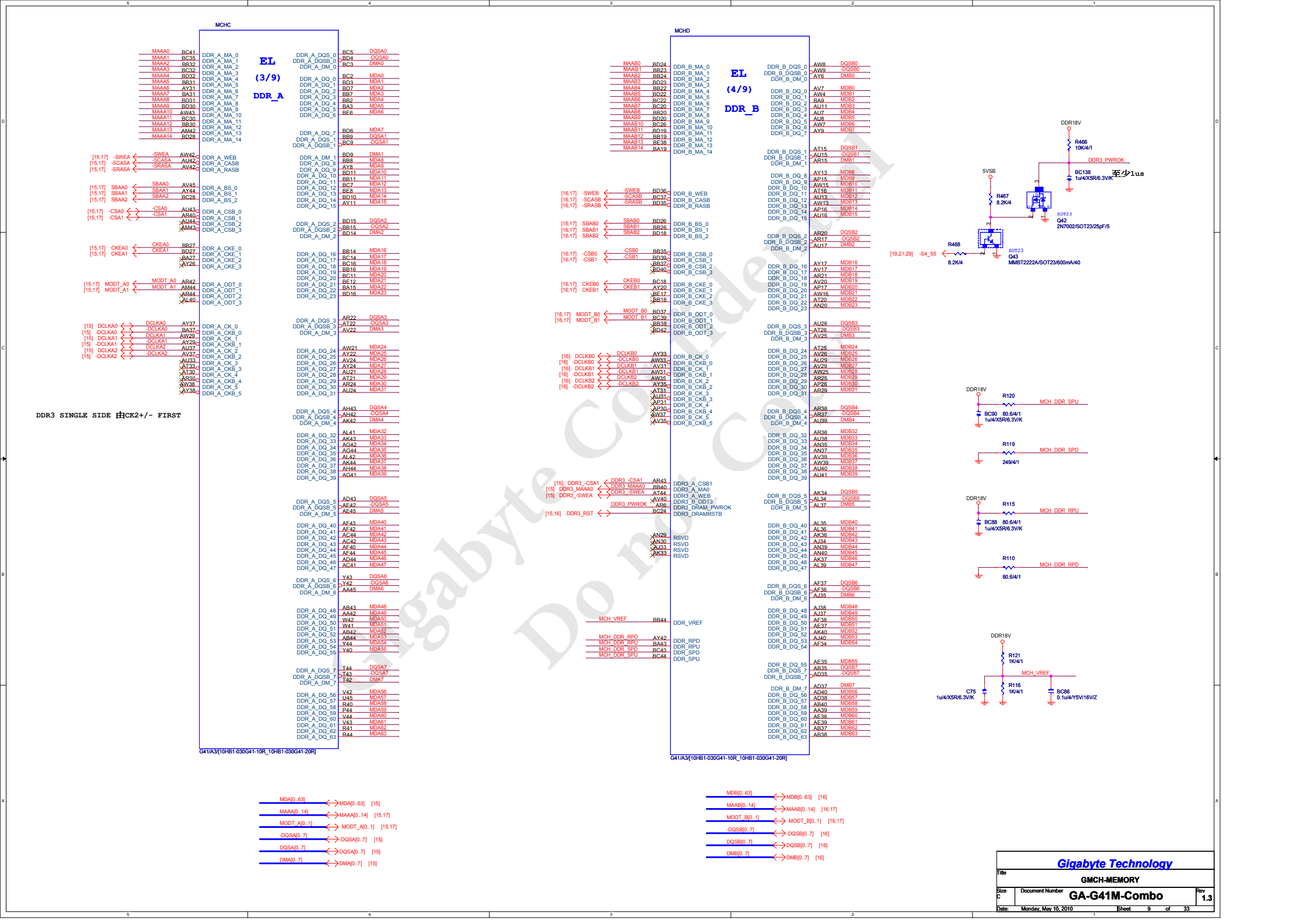
Gigabyte Technology		
Title: P4_LGA775-C		
Size: B	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Wednesday, May 12, 2010	Sheet 6 of 33	



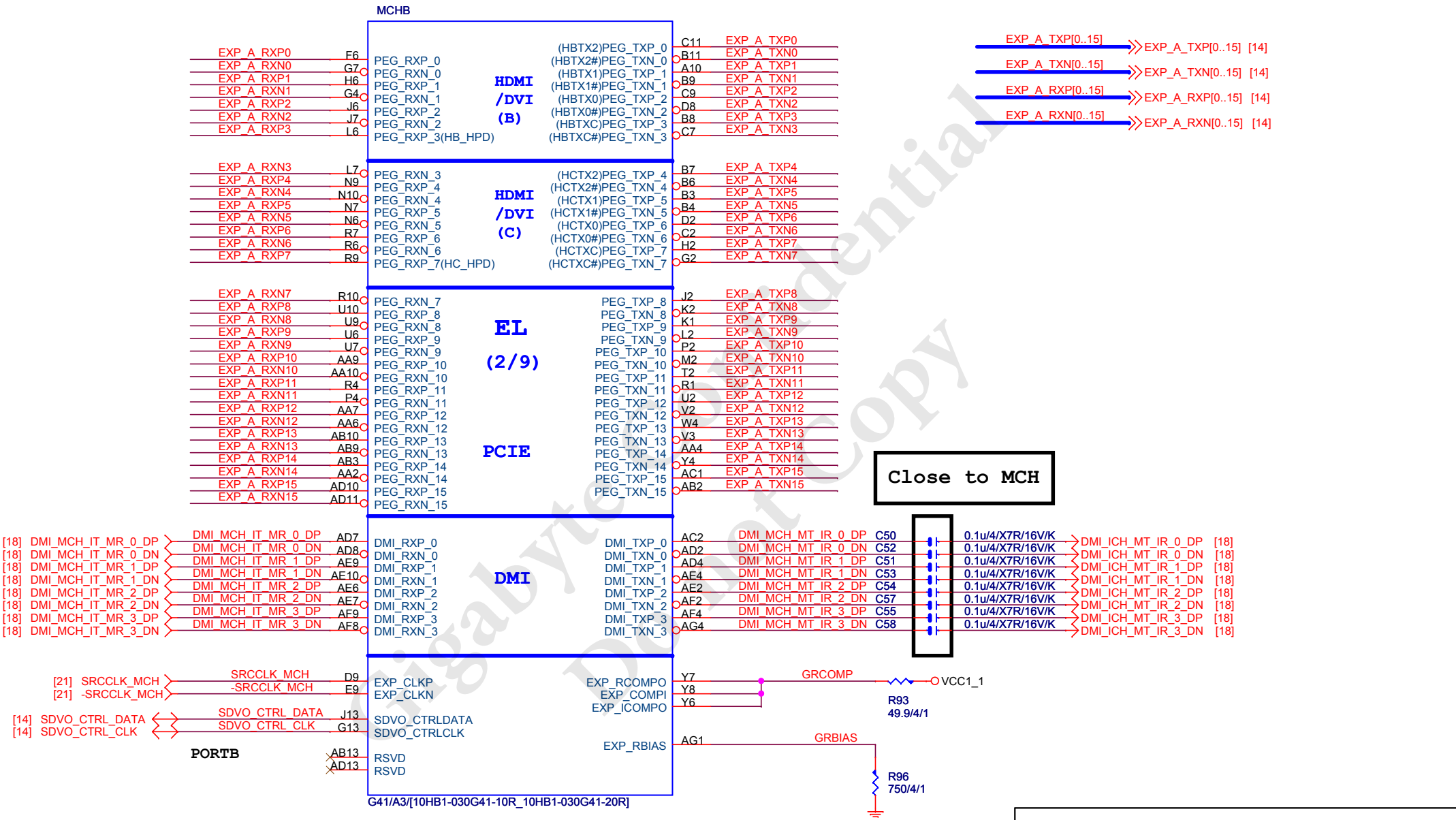
Gigabyte Technology			
Title: P4_LGA775-E,F,G,H			
Size: B	Document Number: GA-G41M-Combo		Rev: 1.3
Date: Monday, May 10, 2010		Sheet 7 of 33	



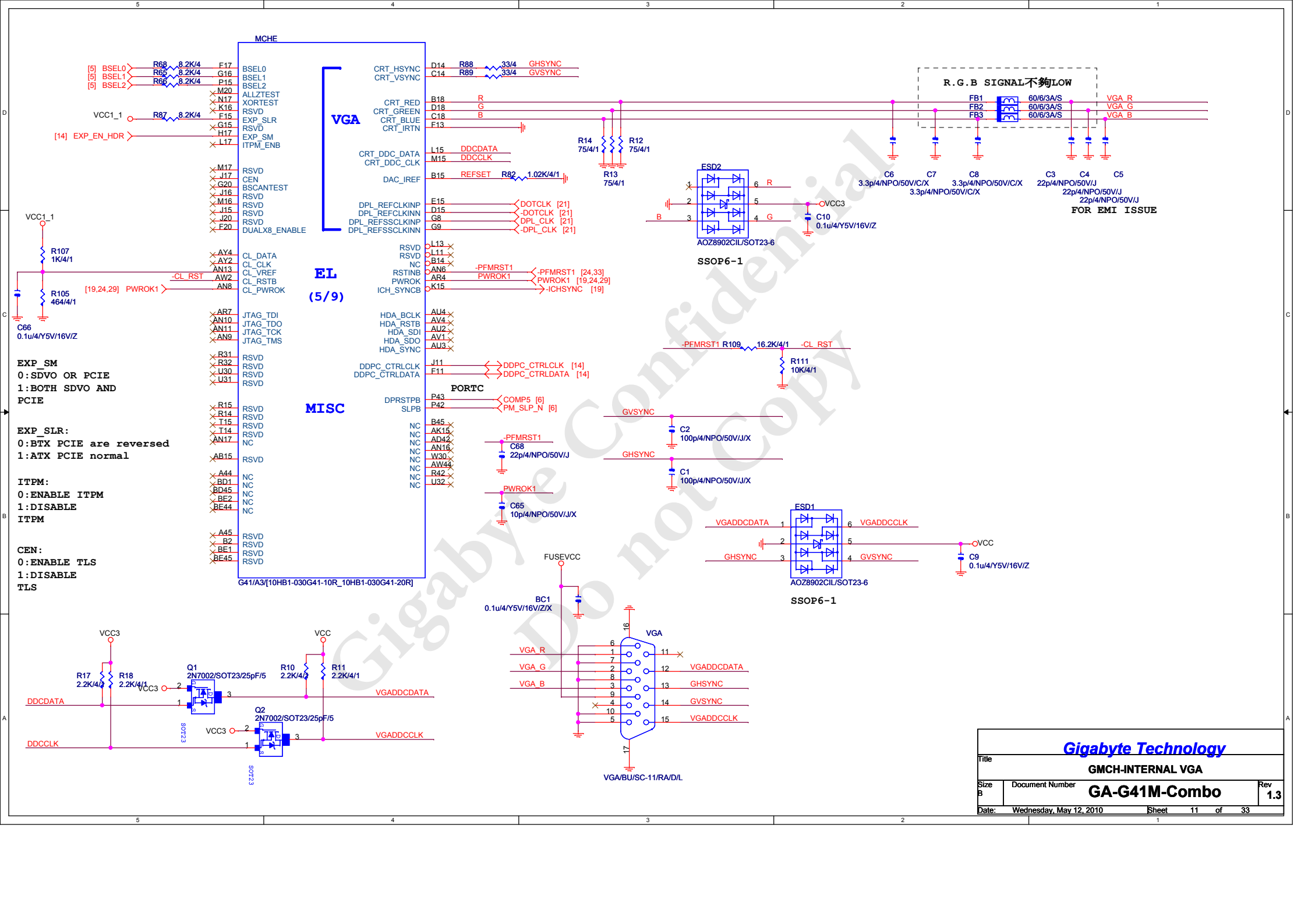
Gigabyte Technology		
Title: GMCH-HOST		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Monday, May 10, 2010	Sheet 8 of 33	



Gigabyte Technology			
Title	GMCH-MEMORY		
Size C	Document Number GA-G41M-Combo		Rev 1.3
Date: Monday, May 10, 2010	Sheet 9 of 33		

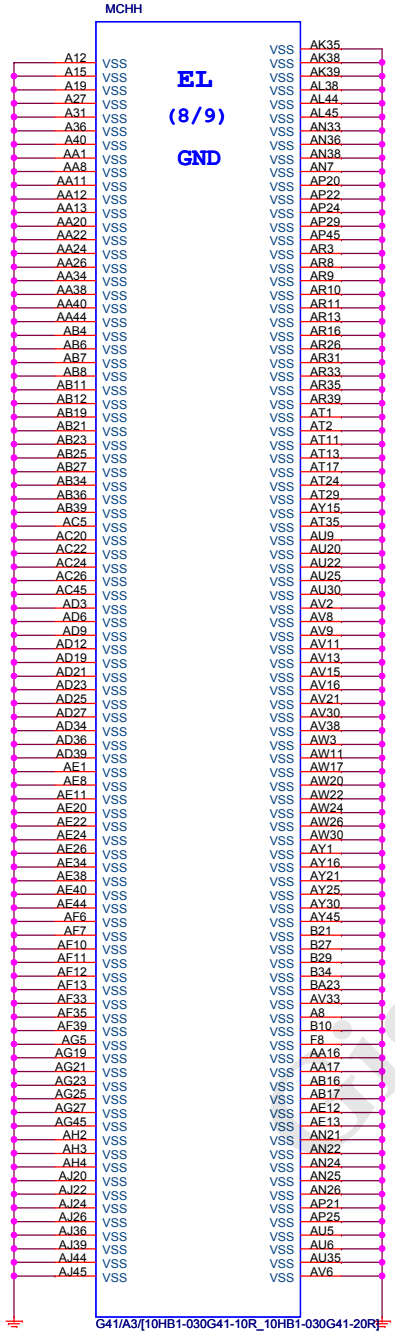


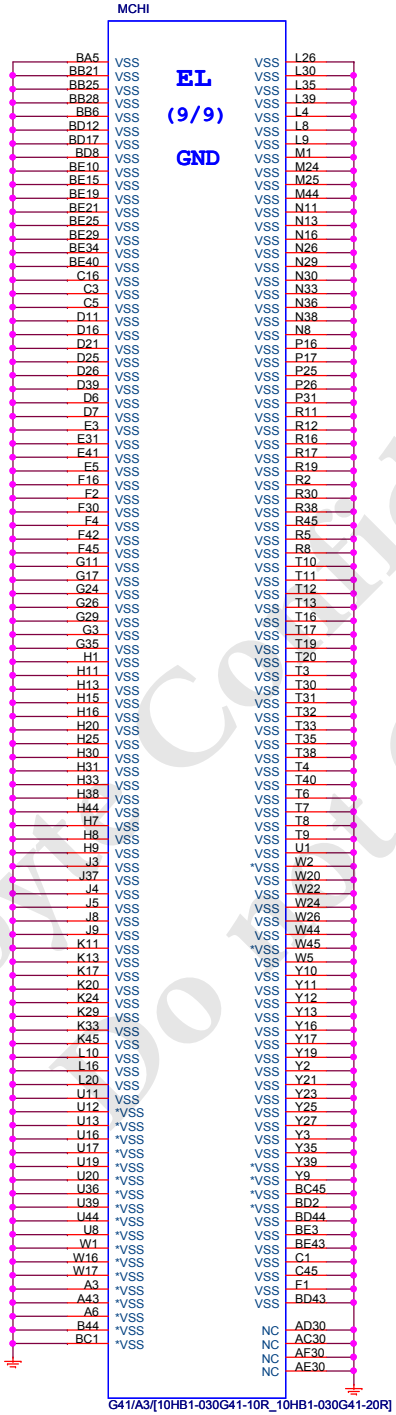
Gigabyte Technology		
Title: GMCH-PCI E & DMI		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Monday, May 10, 2010	Sheet 10 of 33	

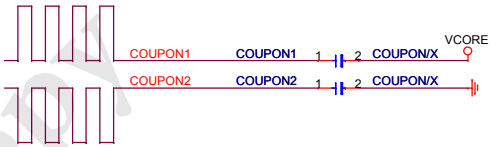


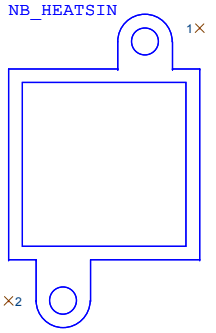
Title	GMCH-INTERNAL VGA		
Size B	Document Number GA-G41M-Combo		Rev 1.3
Date: Wednesday, May 12, 2010	Sheet 11 of 33		

Gigabyte Technology

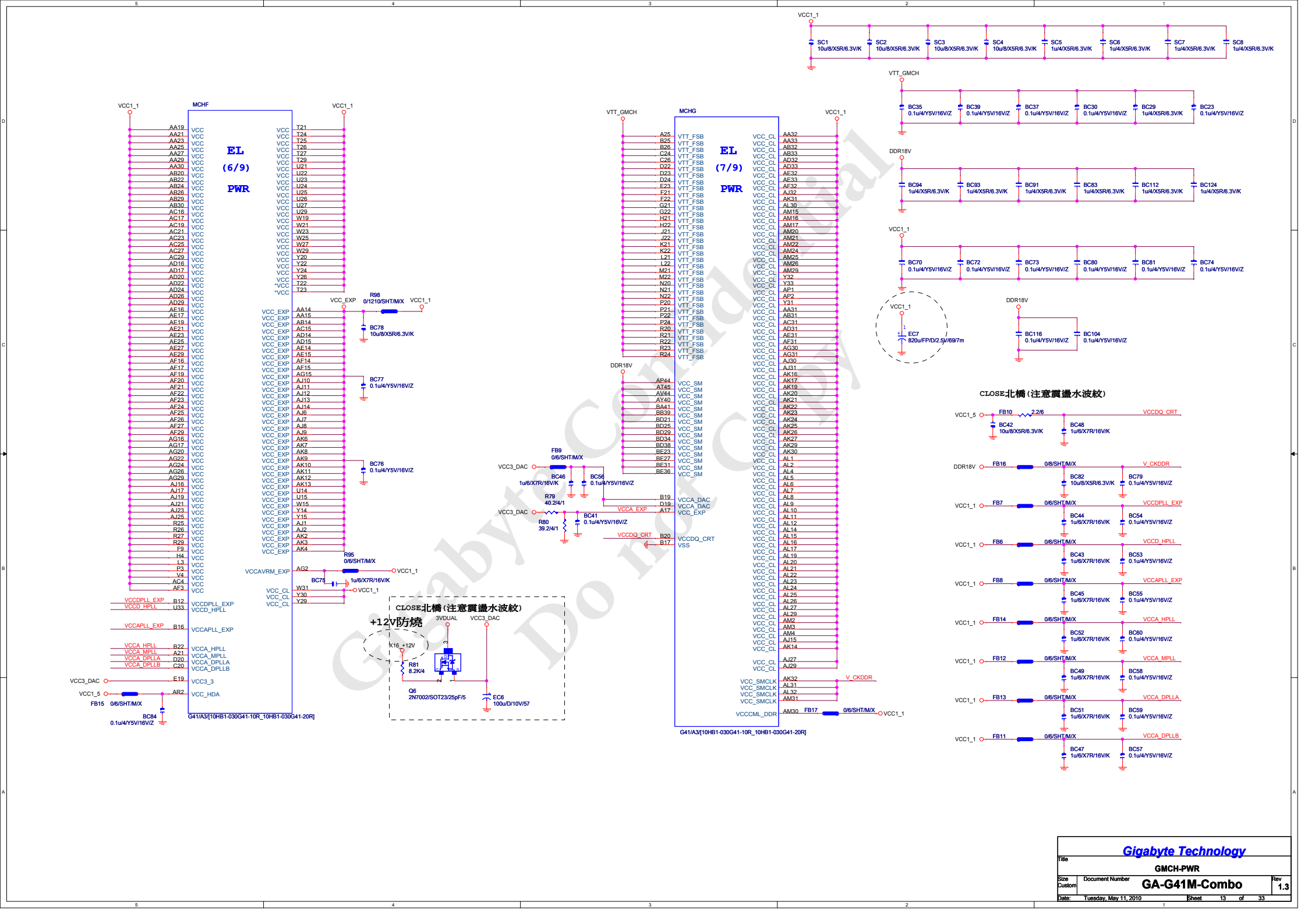




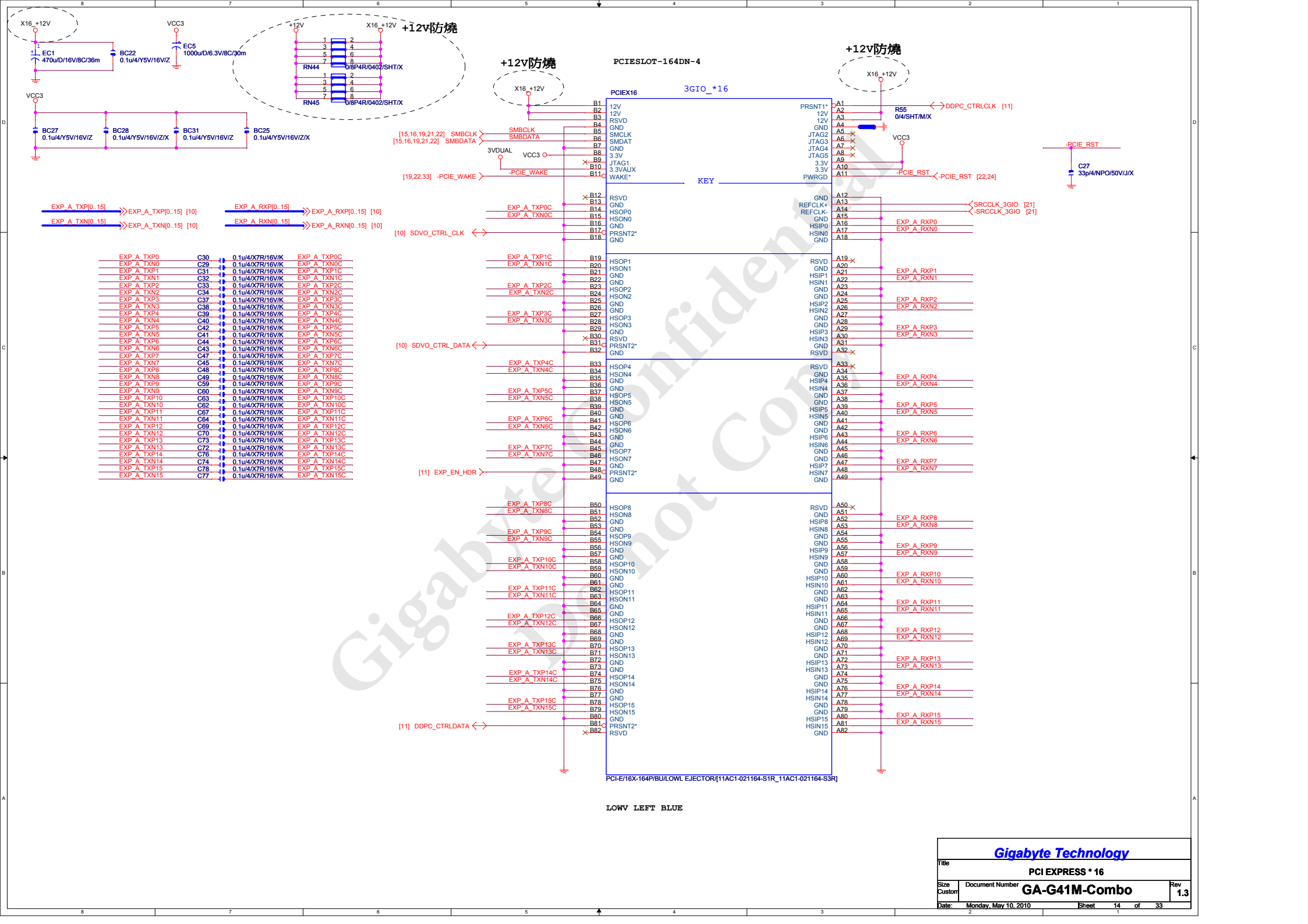




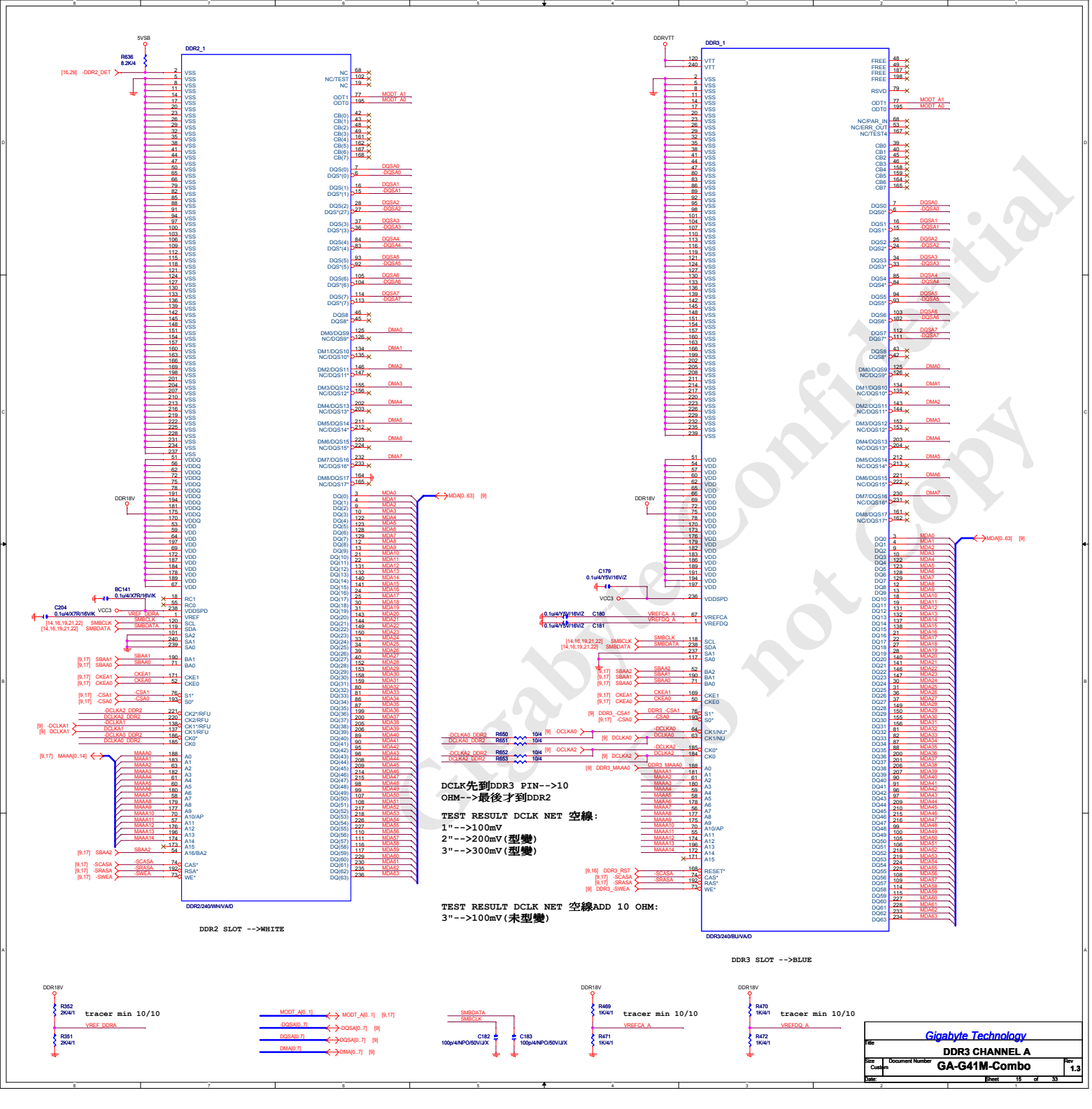
Gigabyte Technology		
Title: GMCH-GND		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Tuesday, May 11, 2010	Sheet 12 of 33	



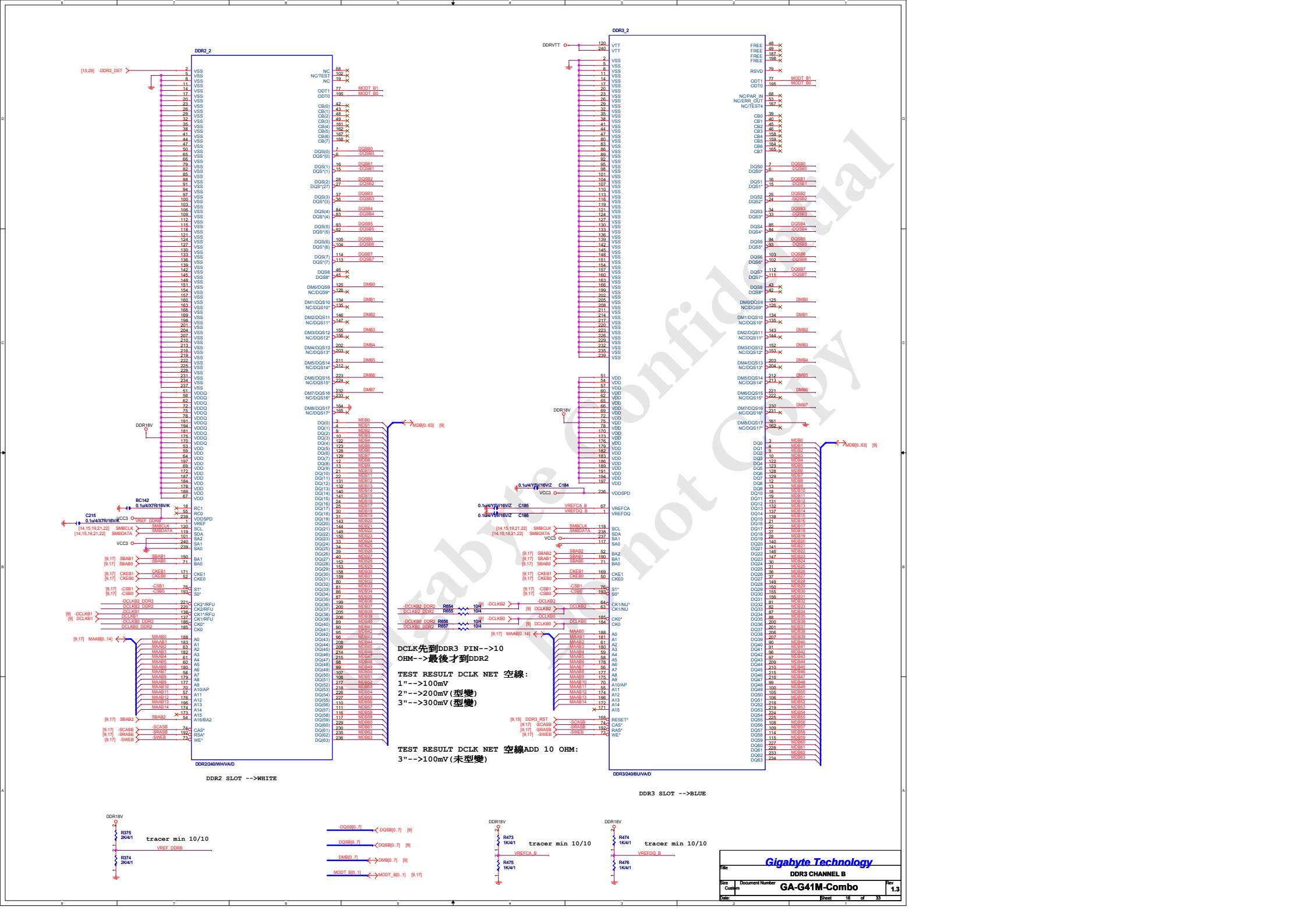
Gigabyte Technology			
Title	GMCH-PWR		
Size: Custom	Document Number: GA-G41M-Combo		Rev: 1.3
Date: Tuesday, May 11, 2010	Sheet 13 of 33		



Gigabyte Technology	
Title	PCI EXPRESS * 16
Size: Custom	Document Number: GA-G41M-Combo
Rev	1.3
Date: Monday, May 10, 2010	Sheet 14 of 33



Title	DDR3 CHANNEL A
Size	Custom
Document Number	GA-G41M-Combo
Rev	1.3
Date:	Sheet 15 of 33


DDR2_2
DDR2/240/WH/VA/D
DDR2 SLOT -->WHITE
DDR3_2
DDR3/240/BU/VA/D
DDR3 SLOT -->BLUE
DCLK先到DDR3 PIN-->10 OHM-->最後才到DDR2
TEST RESULT DCLK NET 空線:
1"-->100mV
2"-->200mV(型變)
3"-->300mV(型變)
TEST RESULT DCLK NET 空線ADD 10 OHM:
3"-->100mV(未型變)
tracer min 10/10
tracer min 10/10
tracer min 10/10
Gigabyte Technology
DDR3 CHANNEL B
GA-G41M-Combo
1.3
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Do not Copy

DDR TERMINATION CHANNEL A

DDR18V Decouple

DDR18V

EC11 100u/D/10V/57

EC8 1000u/D/6.3V/8C/30m

DDRVTT Decouple

DDRVTT

BC108 4.7u/8/Y5V/10V/Z

BC110 4.7u/8/Y5V/10V/Z

BC117 4.7u/8/Y5V/10V/Z

BC119 4.7u/8/Y5V/10V/Z

BC143 4.7u/8/Y5V/10V/Z

BC144 4.7u/8/Y5V/10V/Z

DDR18V Decouple

DDR18V

BC98 0.1u/4/Y5V/16V/Z

BC102 0.1u/4/Y5V/16V/Z

BC106 0.1u/4/Y5V/16V/Z

DDRVTT Decouple

DDRVTT

BC120 0.1u/4/Y5V/16V/Z

BC121 0.1u/4/Y5V/16V/Z

BC123 0.1u/4/Y5V/16V/Z

SBAA[0..2] SBAA[0..2] [9,15]

-CSA[0..1] -CSA[0..1] [9,15]

CKEA[0..1] CKEA[0..1] [9,15]

MAAA[0..14] MAAA[0..14] [9,15]

MODT_A[0..1] MODT_A[0..1] [9,15]

MODT_B[0..1] MODT_B[0..1] [9,16]

SBAB[0..2] SBAB[0..2] [9,16]

-CSB[0..1] -CSB[0..1] [9,16]

CKEB[0..1] CKEB[0..1] [9,16]

MAAB[0..14] MAAB[0..14] [9,16]

DDR TERMINATION CHANNEL B

DDR18V Decouple

DDR18V

BC100 0.1u/4/Y5V/16V/Z

BC99 0.1u/4/Y5V/16V/Z

BC101 0.1u/4/Y5V/16V/Z

DDRVTT Decouple

DDRVTT

BC109 0.1u/4/Y5V/16V/Z

BC107 0.1u/4/Y5V/16V/Z

BC118 0.1u/4/Y5V/16V/Z

DDRVTT

-CSA1 MODT_A1 MAAA13 MODT_A0 RN27 33/8P4R/4

MAAA4 MAAA6 MAAA5 MAAA8 RN30 33/8P4R/4

MAAA1 MAAA2 MAAA3 RN31 33/8P4R/4

SBAA0 MAAA10 SBAA1 MAAA0 MAAA14 SBAA2 CKEA1 CKEA0 RN25 33/8P4R/4

RN28 33/8P4R/4

[9,15] -SCASA -CSA0 RN26 33/8P4R/4

[9,15] -SWEA [9,15] -SRASA MAAA9 MAAA7 MAAA11 MAAA12 RN29 33/8P4R/4

DDRVTT

MAAB2 MAAB1 MAAB3 RN35 33/8P4R/4

MAAB4 MAAB5 MAAB6 MAAB8 RN34 33/8P4R/4

MAAB7 MAAB9 MAAB11 MAAB12 RN33 33/8P4R/4

[9,16] -SCASB -CSB0 RN37 33/8P4R/4

[9,16] -SWEB [9,16] -SRASB SBAB0 MAAB10 SBAB1 MAAB0 MAAB14 SBAB2 CKEB1 CKEB0 RN36 33/8P4R/4

RN32 33/8P4R/4

MODT_B1 -CSB1 MODT_B0 MAAB13 RN38 33/8P4R/4

Gigabyte Technology

Title: DDRII TERMINATOR

Size: Custom | Document Number: GA-G41M-Combo | Rev: 1.3

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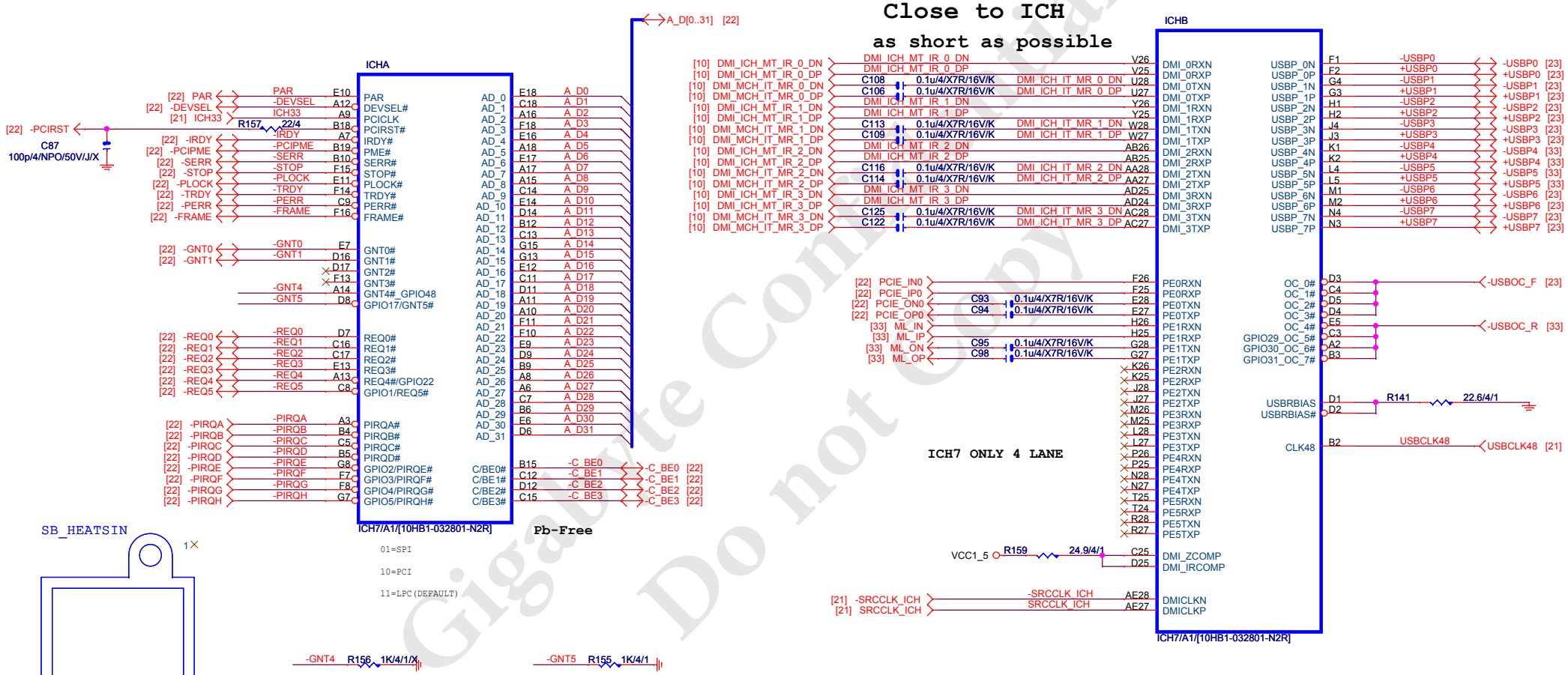
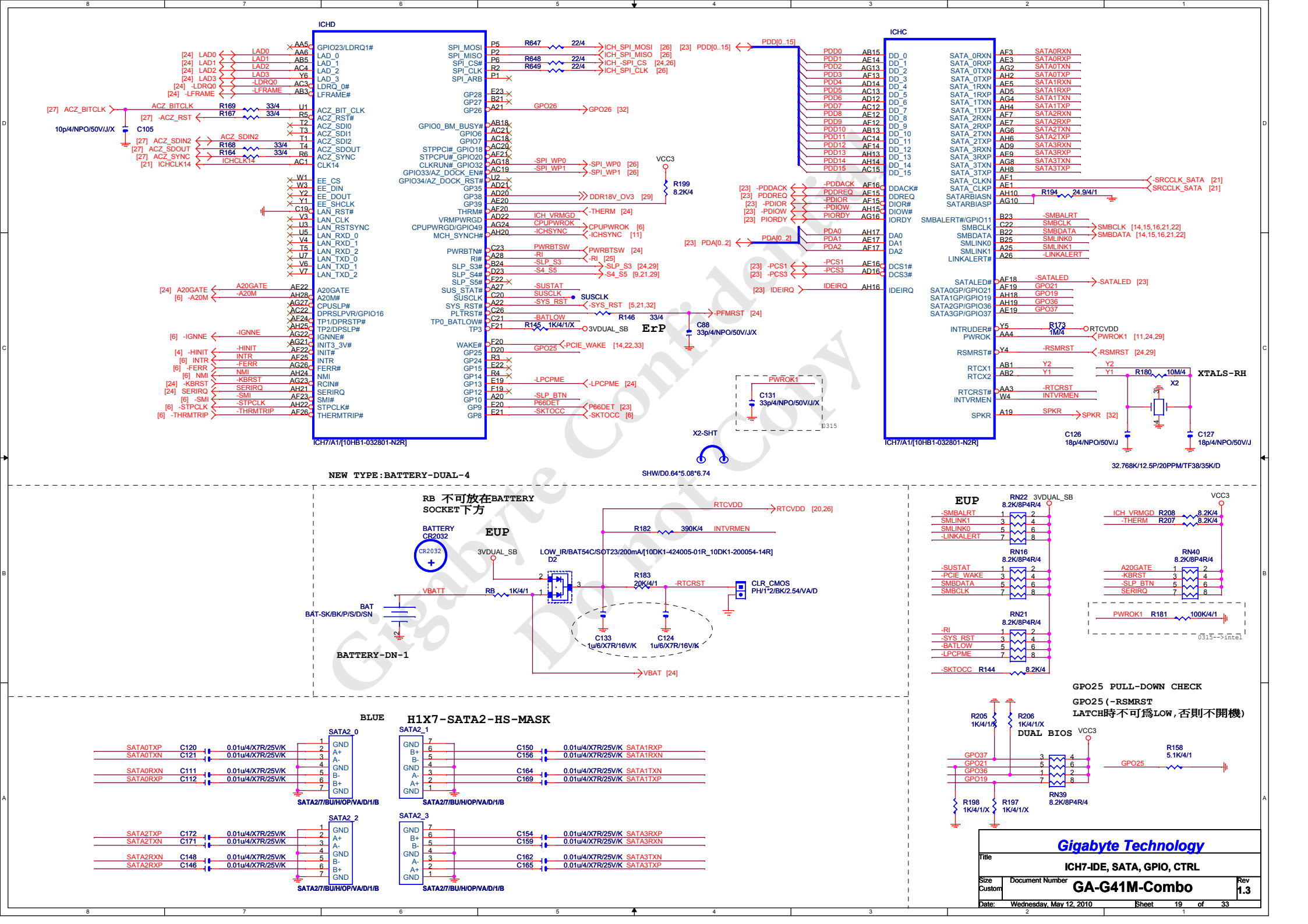


Gigabyte Technology		
Title: ICH7-PCI, DMI, LAN, USB		
Size: B	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Tuesday, May 11, 2010	Sheet 18 of 33	


ICHD
ICHC
ICH7/A1/[10HB1-032801-N2R]
NEW TYPE:BATTERY-DUAL-4
RB 不可放在BATTERY SOCKET下方
BATTERY CR2032
EUP
BATTERY-DN-1
BLUE
H1X7-SATA2-HS-MASK
SATA2_0
SATA2_1
SATA2_2
SATA2_3
SATA2/7/BU/H/OP/VA/D/1/B
EUP
GPO25 PULL-DOWN CHECK
GPO25(-RSMRST
LATCH時不可爲LOW,否則不開機)
DUAL BIOS
Gigabyte Technology
ICH7-IDE, SATA, GPIO, CTRL
GA-G41M-Combo
Rev 1.3
Wednesday, May 12, 2010
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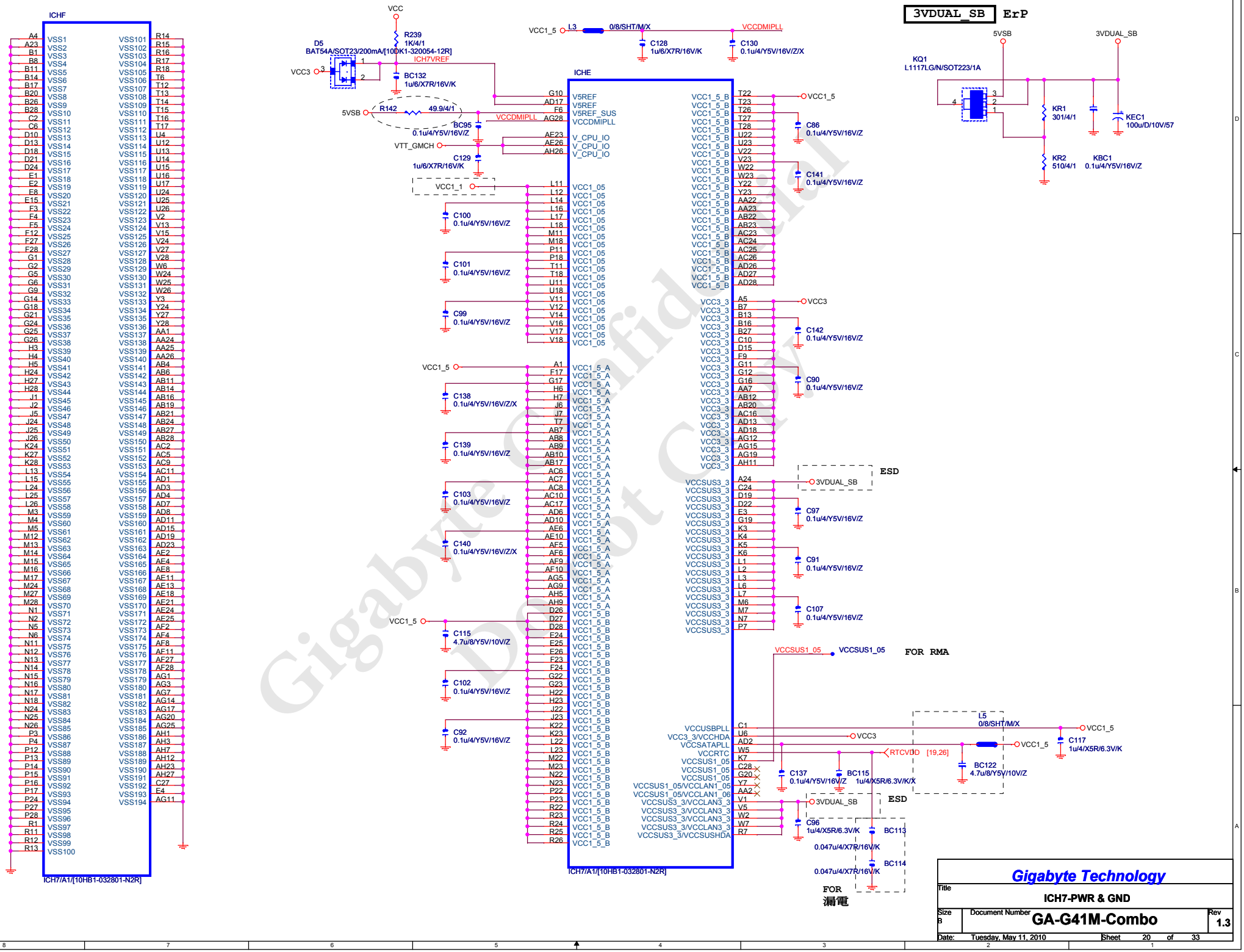
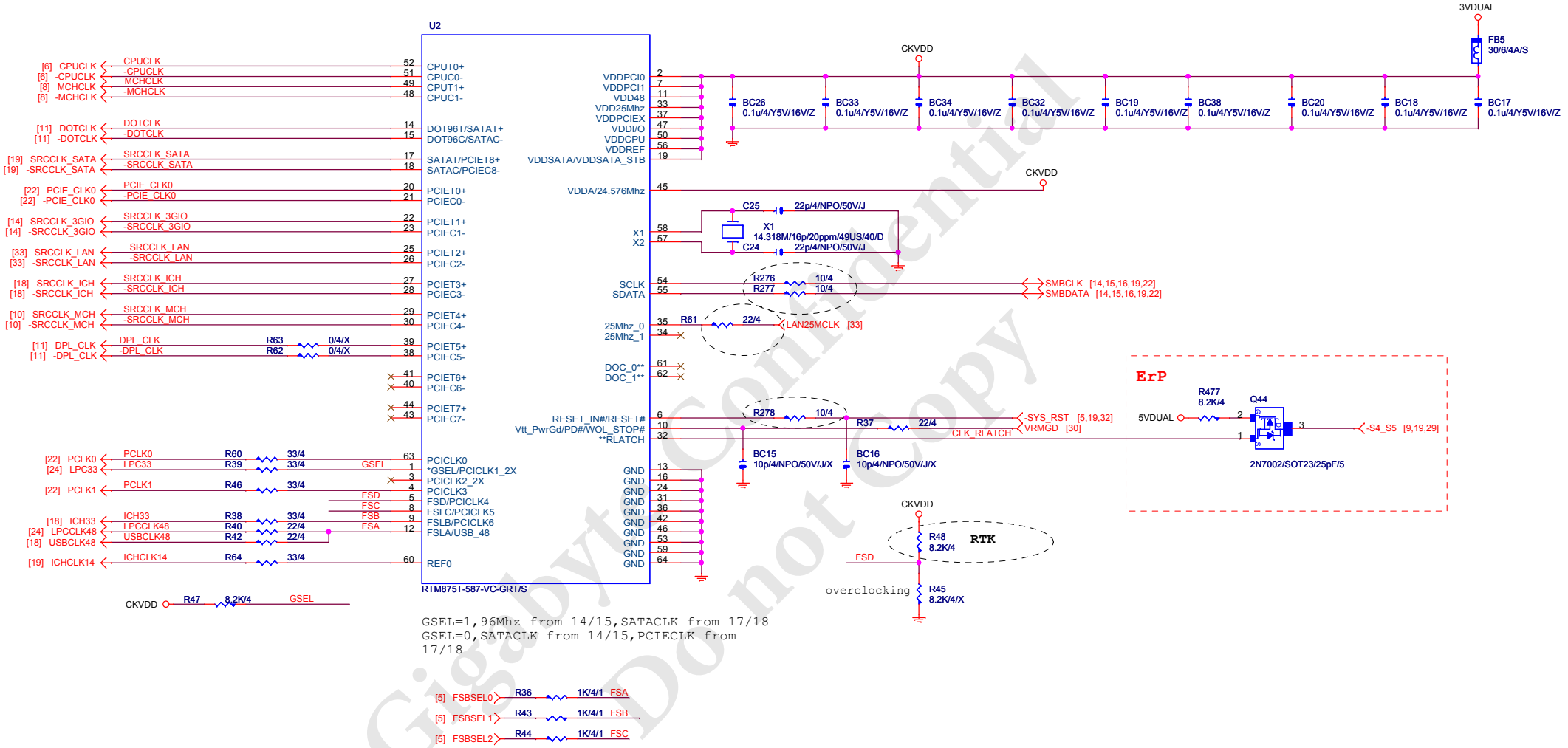


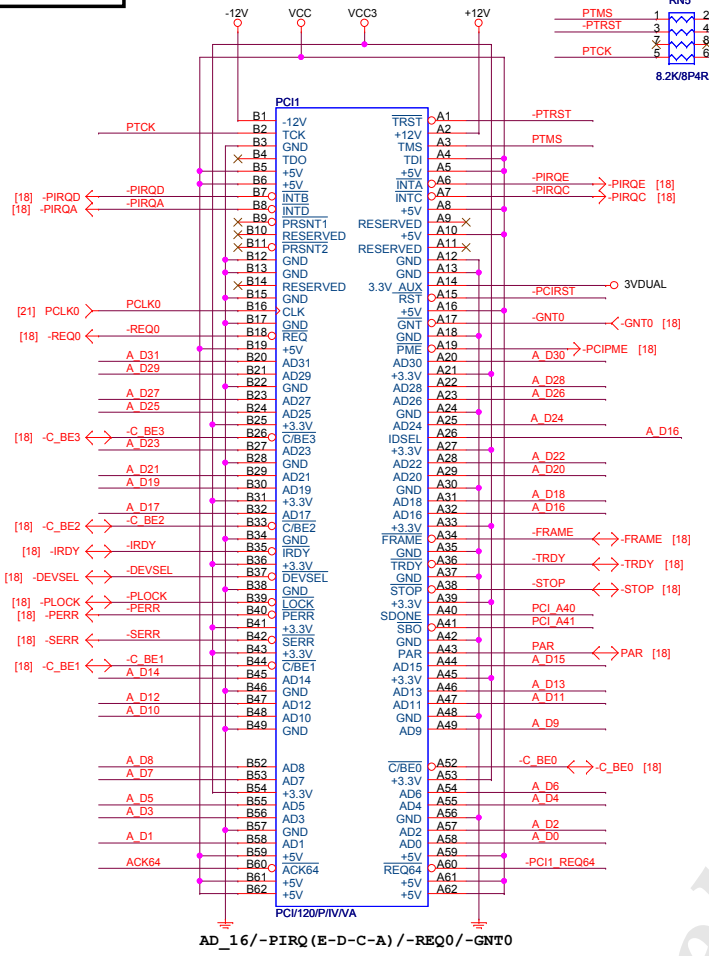
CLK GEN CK505



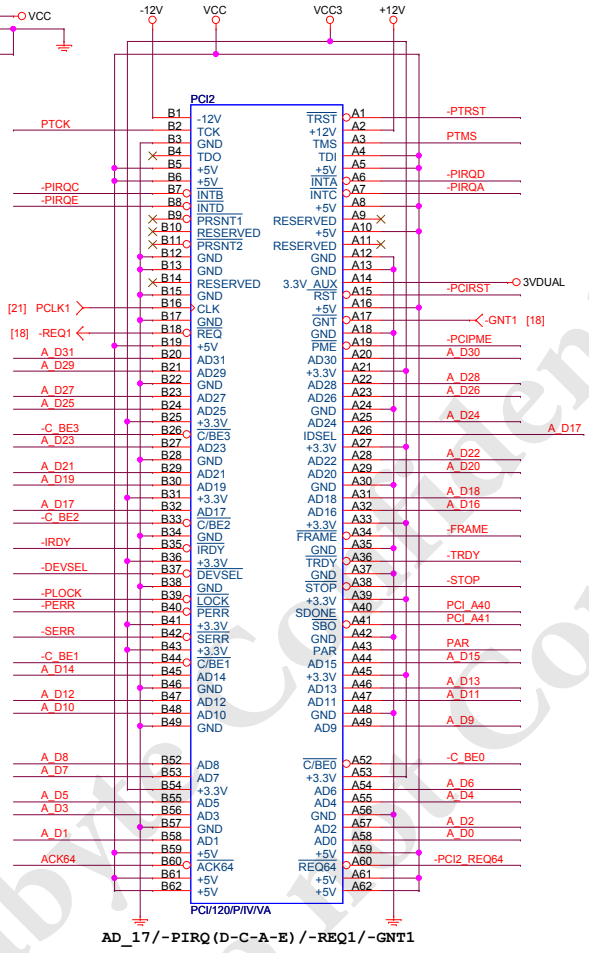
GSEL=1,96Mhz from 14/15,SATACLK from 17/18
GSEL=0,SATACLK from 14/15,PCIECLK from 17/18

Gigabyte Technology		
Title: CK505 CLK GEN		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
Date: Tuesday, May 11, 2010	Sheet 21 of 33	

PCI1,2 SLOT

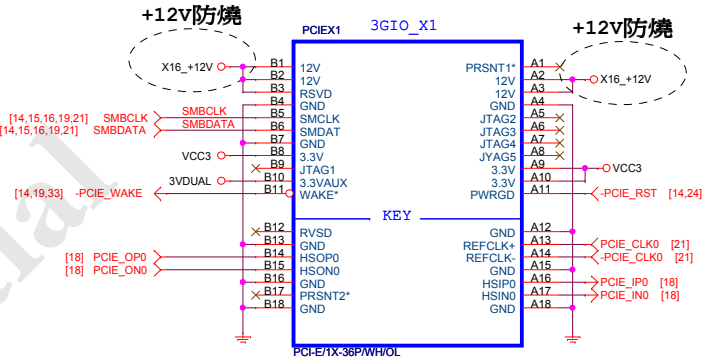


AD_16/-PIRQ(E-D-C-A)/-REQ0/-GNT0



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

PCIE*1



[18] A_D[0..31]

-PCIRST

C28
33p/4/NPO/50V/J/X

Place close to PCI1

[14,15,16,19,21] SMBCLK
[14,15,16,19,21] SMBDATA

RN20 2.2K/8P4R/4
RN10 8.2K/8P4R/4
RN13 2.2K/8P4R/4
RN8 2.2K/8P4R/4
RN9 2.2K/8P4R/4
RN7 8.2K/8P4R/4
RN19 8.2K/8P4R/4

BC21 0.1u/4/Y5V/16V/Z

BC89 0.1u/4/Y5V/16V/Z
EC3 1000u/D/6.3V/8C/30m

BC61 0.1u/4/Y5V/16V/Z
BC63 0.1u/4/Y5V/16V/Z
BC85 0.1u/4/Y5V/16V/Z
EC4 1000u/D/6.3V/8C/30m

Gigabyte Technology		
Title: PCI SLOT 1, 2/PCIEX1		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
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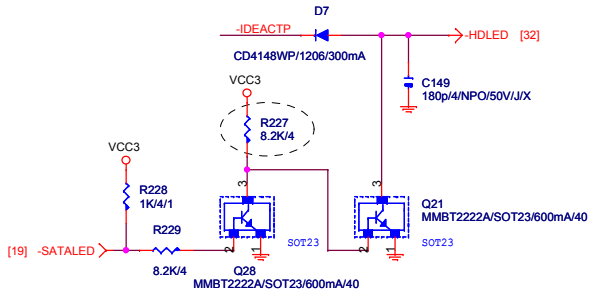
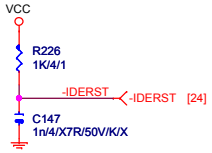
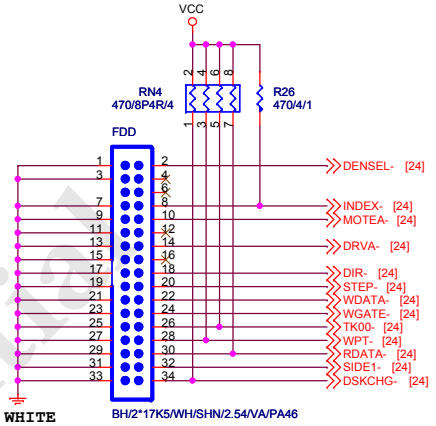
IDE/SATA LED



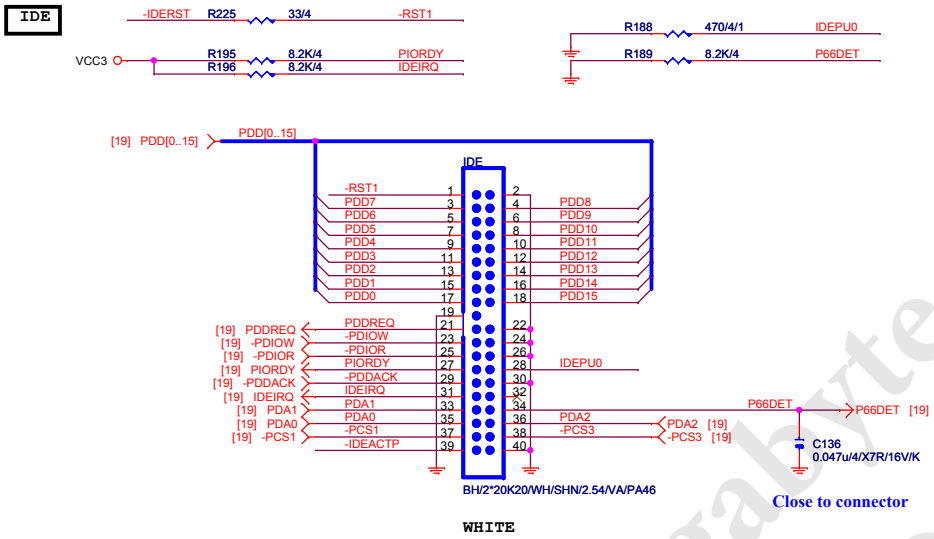
IDE RESET



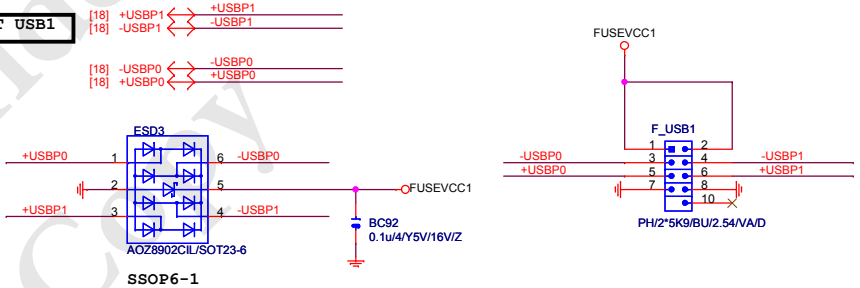
FLOPPY



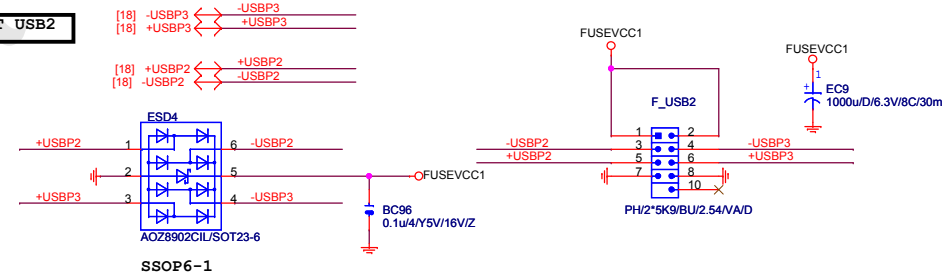
IDE

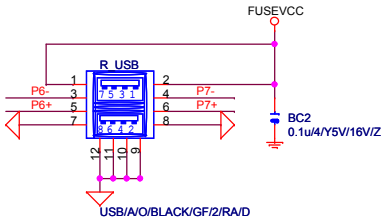


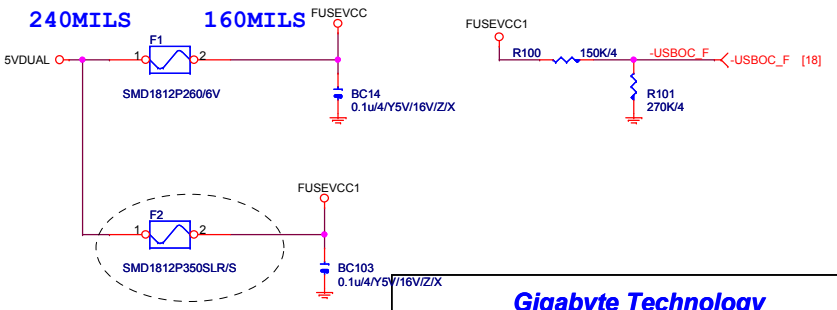
FRONT USB1



FRONT USB2







Gigabyte Technology		
Title: IDE,FDD,F_USB,R_USB		
Size: B	Document Number: GA-G41M-Combo	Rev: 1.3
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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

MAC ADRESS-->N/A ISSUE

ErP

R1 220/4 VCC [19,26] ICH_-SPI_CS

R15 8.2K/4 VCC3

BC11 1u/4/X5R/6.3V/K

IT8712F/[IT8718F]

U1

IT8718F-S/LX(GB)/S

[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]

[25] DTR2- [25] RTS2- [25] DSR2- [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 [29] EUP_N [5] BSEL166_4 [5] BSEL166_3 [29] DDR18V_OV1 [29] VTT_GMCH_OV2 [29] VTT_GMCH_OV1 [30] IO_VIDO6 [14,22] -PCIE_RST [11,19,29] PWROK1 [11,33] -PFMRST1 -PFMRST2_F [19] -PFMRST [19] -LDRQ0

DTR2- RTS2- VCC TXD2 RXD2 VCC VCC3

DTR2#/JP4 RTS2#/JP5 DSR2#/[GP64] VCC SOUT2/JP6 SIN2/[GP63] FAN_TAC1 FAN_CTL1 FAN_TAC2/GP52 FAN_CTL2/GP51 FAN_TAC3/GP37 FAN_CTL3/GP36 VID5/GP35 VID4/GP34 GNDD VID3/GP33 VID2/GP32 VID1/GP31 VID0/GP30 VIDO5/GP27 VIDO4/GP26 VIDO3/FAN_TAC4/GP25 VIDO2/FAN_TAC5/GP24 GP23/[SI] GP22/[SCK] VIDO1/GP21 VIDO0/GP20 VIDO6/GP17 GP16/[SO2] RESETCON#/CIRTX/GP15/[CE_N]/[CSA:dual bios] PCIRST1#/SCRRST/GP14 PWROK1/SCRFET#/GP13 PCIRST2#/SCRIO/GP12 PCIRST3#/SCRCLK/GP11 VCC LPCPD#/VIDVCC LRESET# LDRQ#

CTS2#/[GP65] RI2#/[GP66] DCD2#/[GP67] SIN1 SOUT1/[JP3] DSR1# RTS1#/JP2 DTR1#/JP1 CTS1# RI1# DCD1# GNDD PD7 PD6 PD5 PD4 PD3 PD2 PD1 PD0 STB# AFD# ERR# INIT# SLIN# ACK#

SERIRQ LFRAME# LAD0 LAD1 LAD2 LAD3 KRST#/[GP62] GA20 PCICLK VIDO7/GP50 CLKIN GNDD DENSEL# MTRA# MTRB#/THRMO#/[SST/AMDSI_D] DRVA# DRVB#/[PECI/AMDSI_C] WDATA# DIR# STEP# HDSEL# WGATE# RDATA# TRK0# INDEX# WPT#

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] -IDERST [23] 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] VBAT [19] -CASEOPEN [26,32] 5VSB -DSKCHG- [23]

PWOK

R27 33/4 R28 10/4 R21 33/4

BC12 1u/4/X5R/6.3V/K FIX TEMP RANDOM

C14 1n/4/X7R/50V/K/X

CPU_TEMP [6] THERMDC [6]

R25 0/6/SHT/M/X BC9 2.2n/4/X7R/50V/K 5VSB

R22 8.2K/4 -PSON [29,31]

PWRBTSW [19]

C15 1u/4/X5R/6.3V/K R49 8.2K/4 3VDUAL_SB

BC13 4.7u/8/Y5V/10V/Z BC6 0.047u/4/X7R/16V/K BC7 1u/4/X5R/6.3V/K

ErP

R20 1K/4/1/X

CEB_N R118 220/4 VCC3

JP7 : HIGH DUAL BIOS ENABLE
LOW DUAL BIOS DISABLE

5VSB RN43 8.2K/8P4R/4
1 BSEL166_3
3 BSEL166_2
5 BSEL166_1
7 BSEL166_4

[19] SERIRQ [19] -LFRAME

LAD[0..3] [19] LAD[0..3]

[19] -KBRST [19] A20GATE [21] LPC33 [21] LPCCLK48

WPT- [23] INDEX- [23] TK00- [23] RDATA- [23] WGATE- [23] SIDE1- [23] STEP- [23] DIR- [23] WDATA- [23] PECI [6] DRVA- [23] MOTEA- [23] DENSEL- [23] IO_VIDO7 [30]

C11 10p/4/NPO/50V/J/X

VCC3 RN1
2 -PFMRST2_F
4 -PCIE_RST
6 PWROK1
8 -PFMRST1
1K/8P4R/4

-PFMRST -PFMRST [19]

BC3 100p/4/NPO/50V/J/X

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

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

Gigabyte Technology		
Title: ITE 8712/18 LPC IO		
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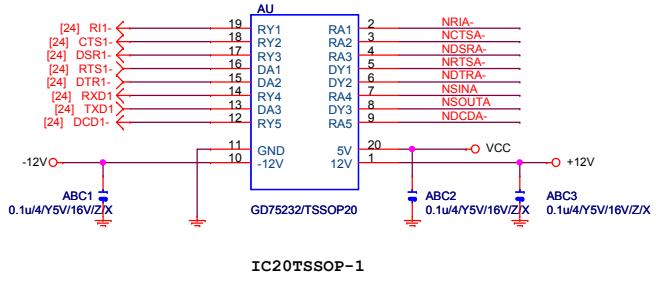
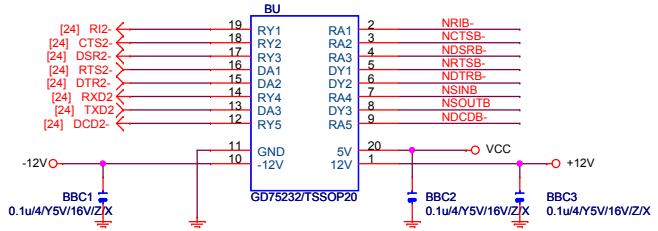
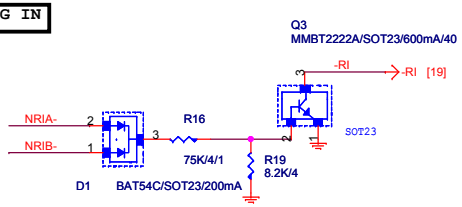
COMA



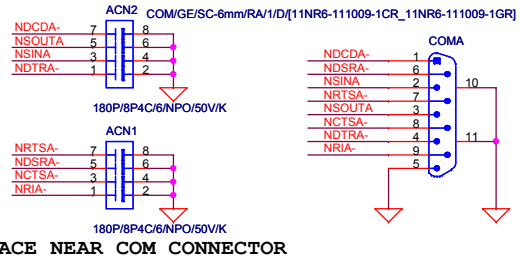
IC20TSSOP-1



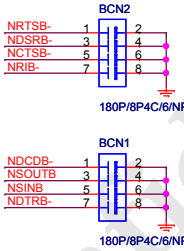
RING IN

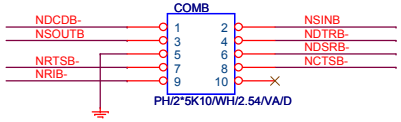


EXTERNAL COMA

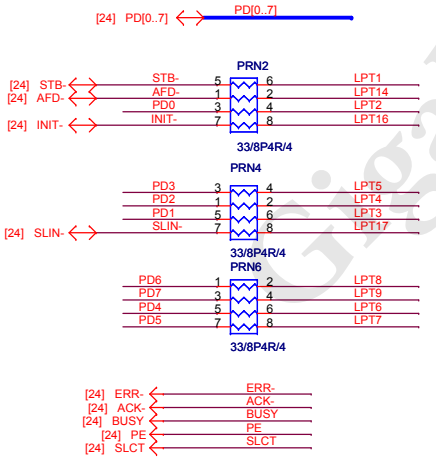


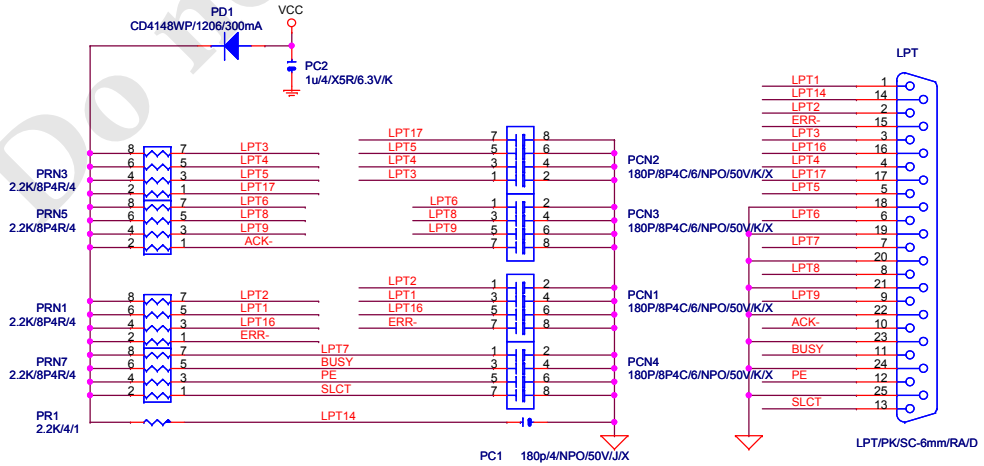
PLACE NEAR COM CONNECTOR





LPT PORT





Gigabyte Technology		
Title: COM & LPT PORT		
Size: B	Document Number: GA-G41M-Combo	Rev: 1.3
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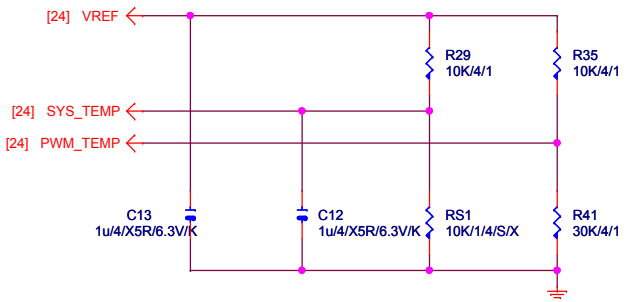
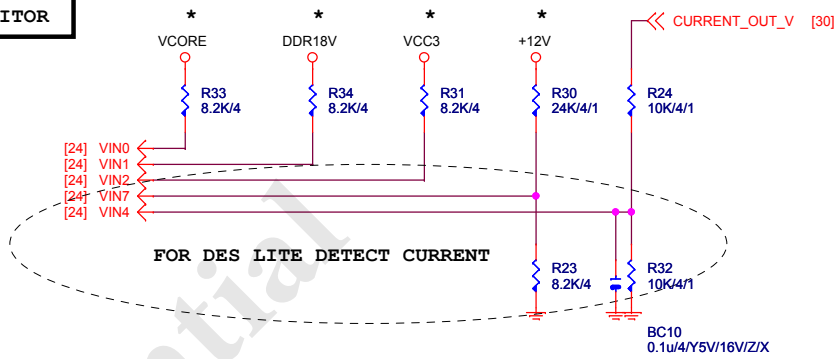
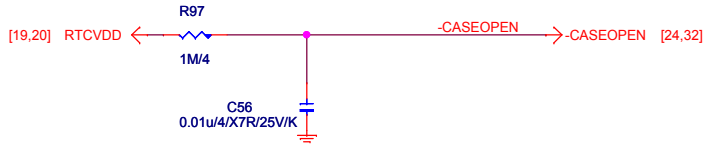
TEMP H/W MONITOR



VOLTAGE-- H/W MONITOR

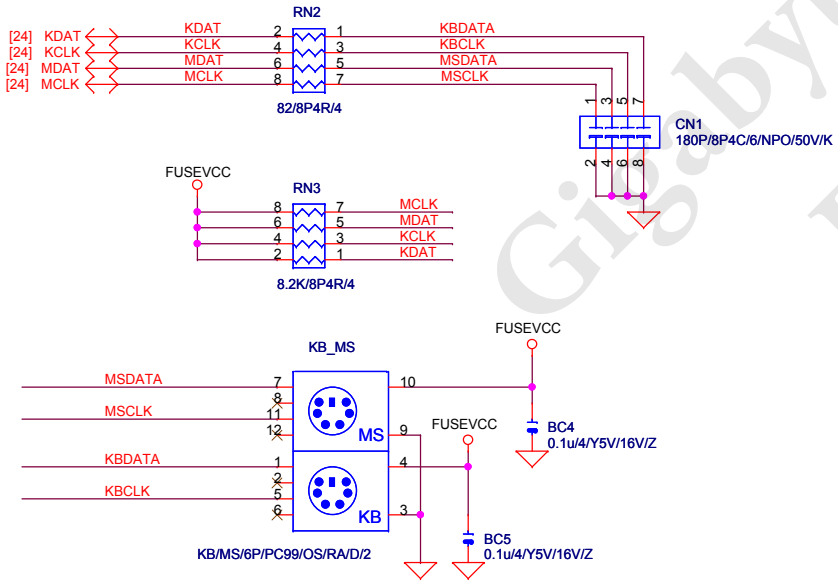


CASE OPEN

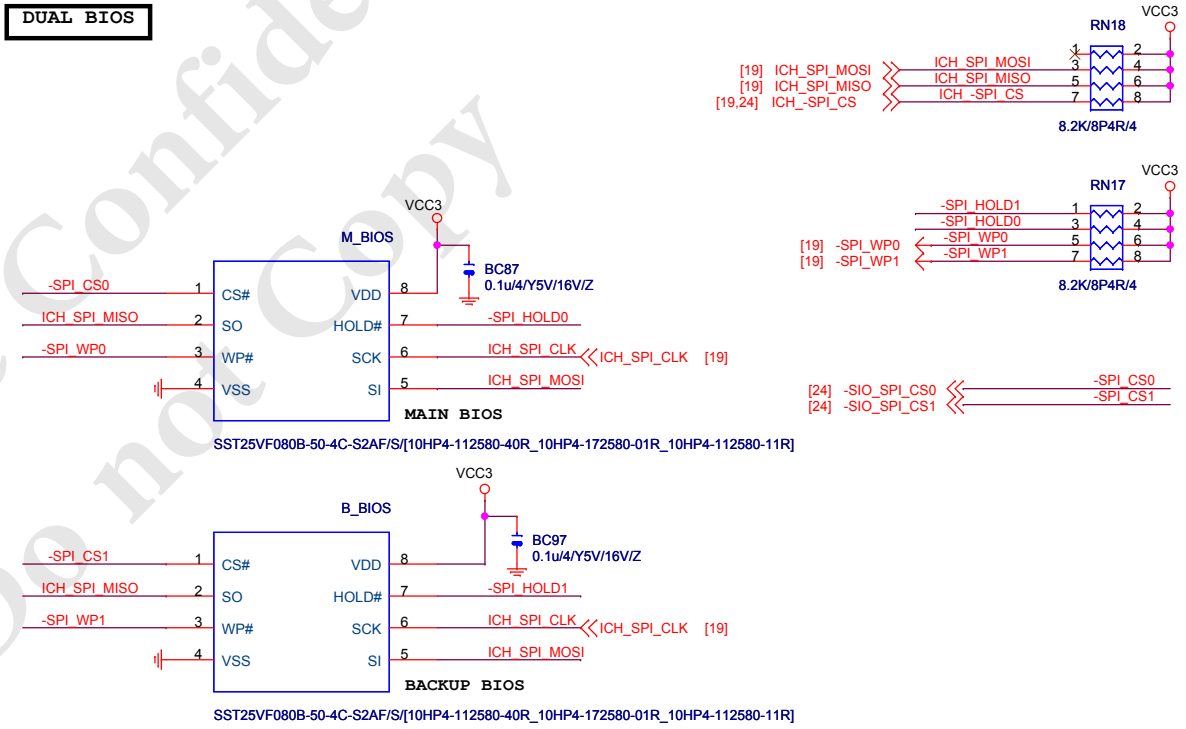


Case Open Circuits

KB/MS



DUAL BIOS



Gigabyte Technology		
Title: HW-MONITOR/CI/KB/MS/BIOS		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
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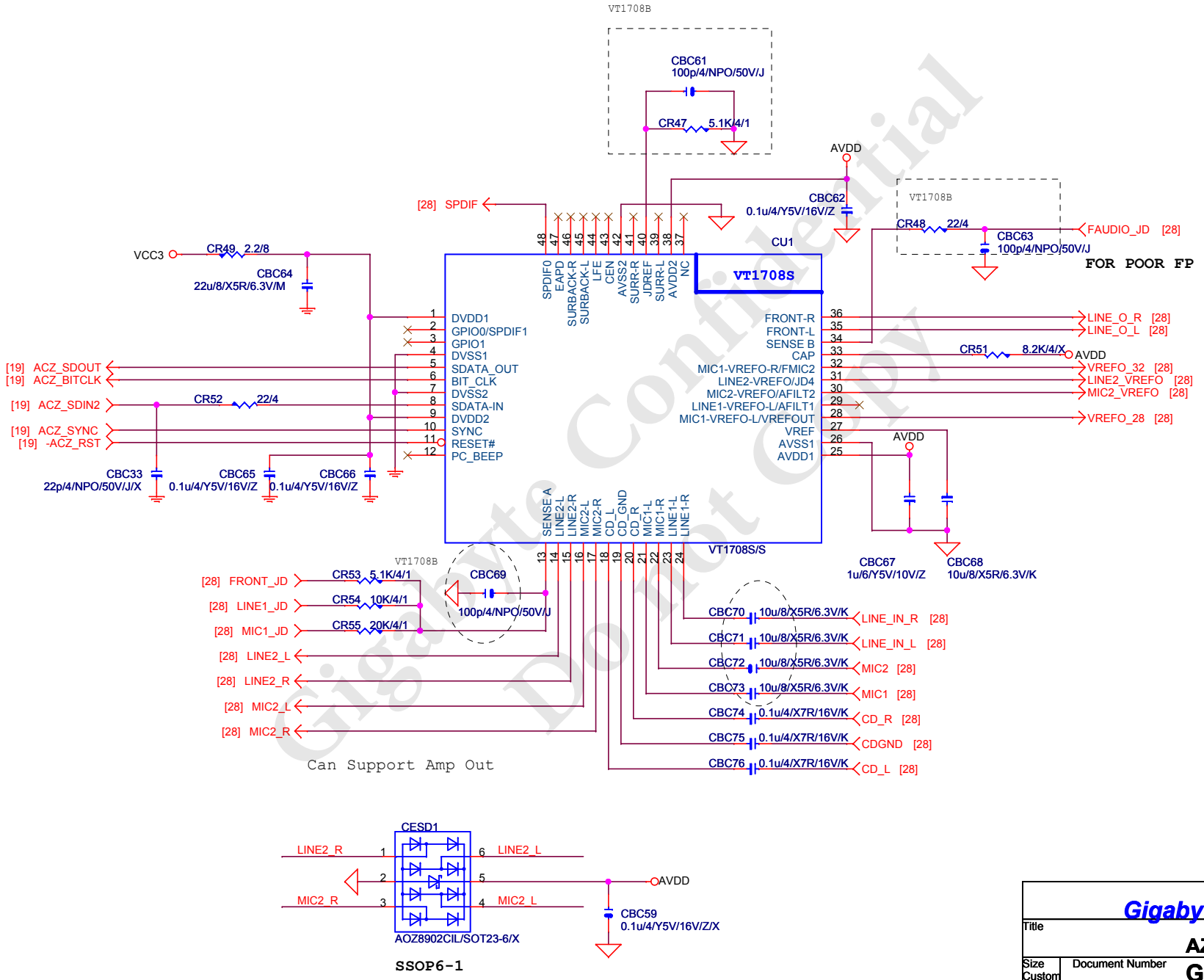
AZALIA CODEC



Gigabyte Technology		
Title: AZALIA VT1708S		
Size: Custom	Document Number: GA-G41M-Combo	Rev: 1.3
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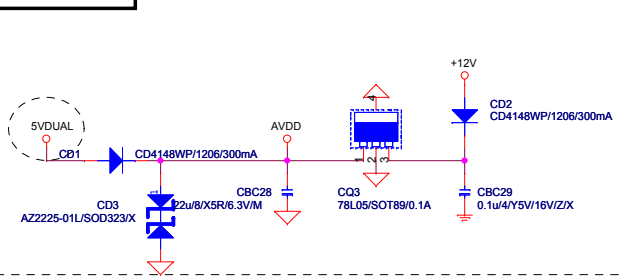
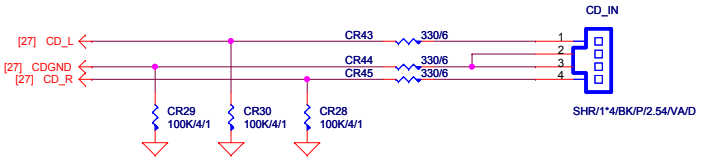
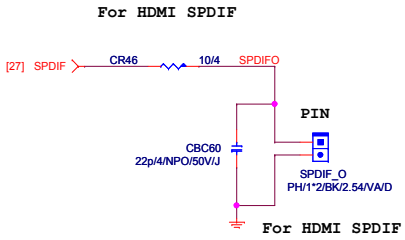
CODEC POWER/EMI PAD



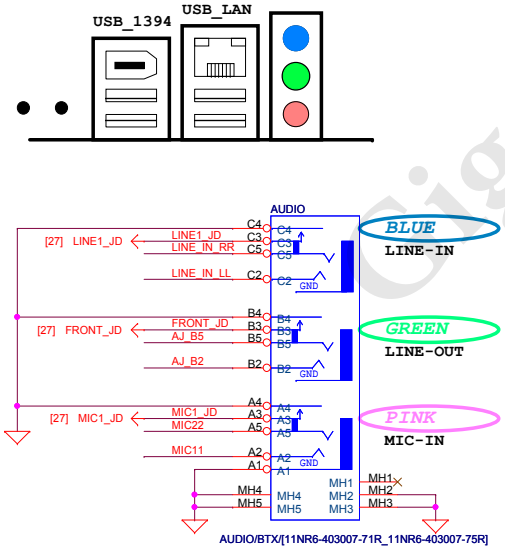
CD IN



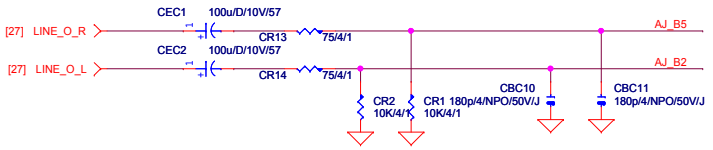
SPDIF OUT



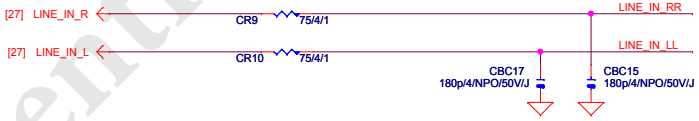
AZALIA JACK



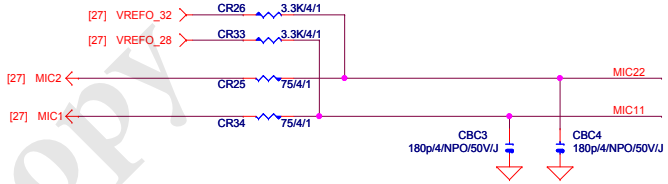
LINE-OUT



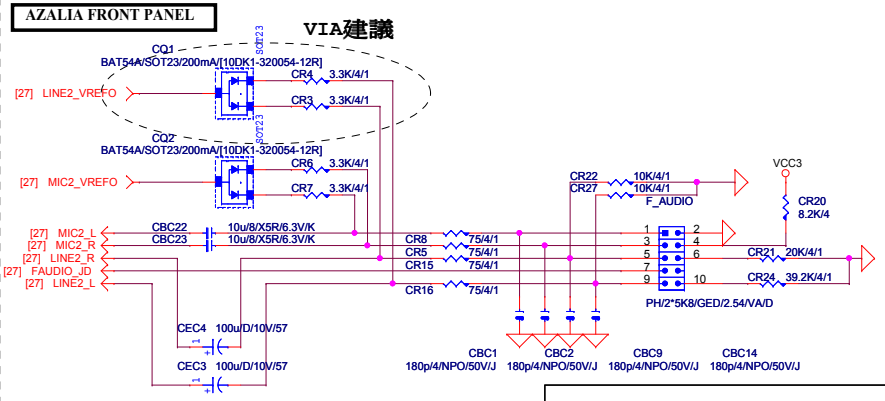
LINE-IN



MIC-IN



AZALIA FRONT PANEL



Gigabyte Technology		
Title: AUDIO JACK		
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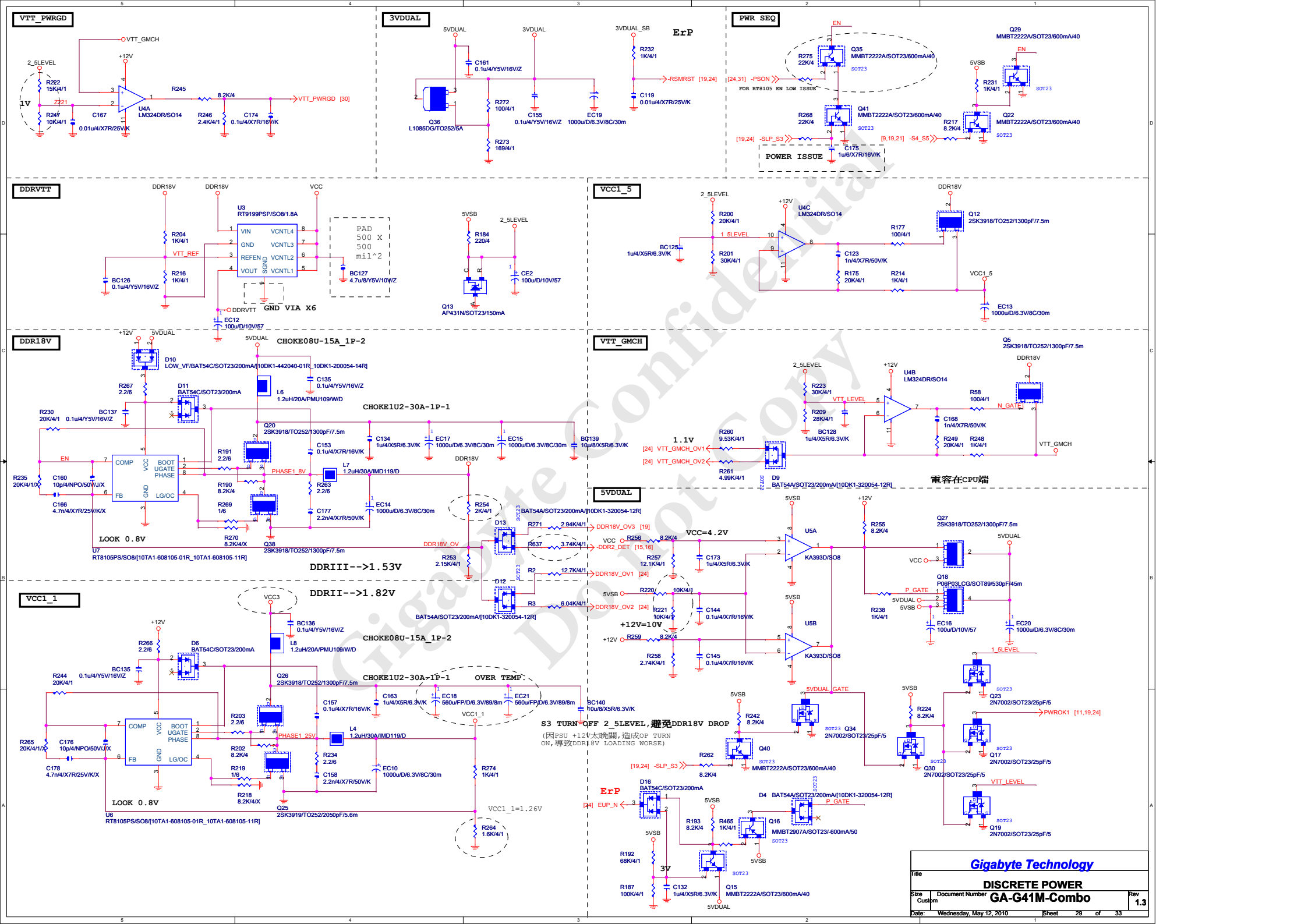
VTT_PWRGD
3VDUAL
PWR SEQ
DDRVTT
VCC1_5
DDR18V
VTT_GMCH
5VDUAL
VCC1_1
ErP
POWER ISSUE
CHOKE08U-15A_1P-2
CHOKE1U2-30A-1P-1
DDRIII-->1.53V
DDRII-->1.82V
VCC=4.2V
+12V=10V
S3 TURN OFF 2_5LEVEL,避免DDR18V DROP
(因PSU +12V太晚關,造成OP TURN ON,導致DDR18V LOADING WORSE)
電容在CPU端
GND VIA X6
Gigabyte Technology
DISCRETE POWER
GA-G41M-Combo
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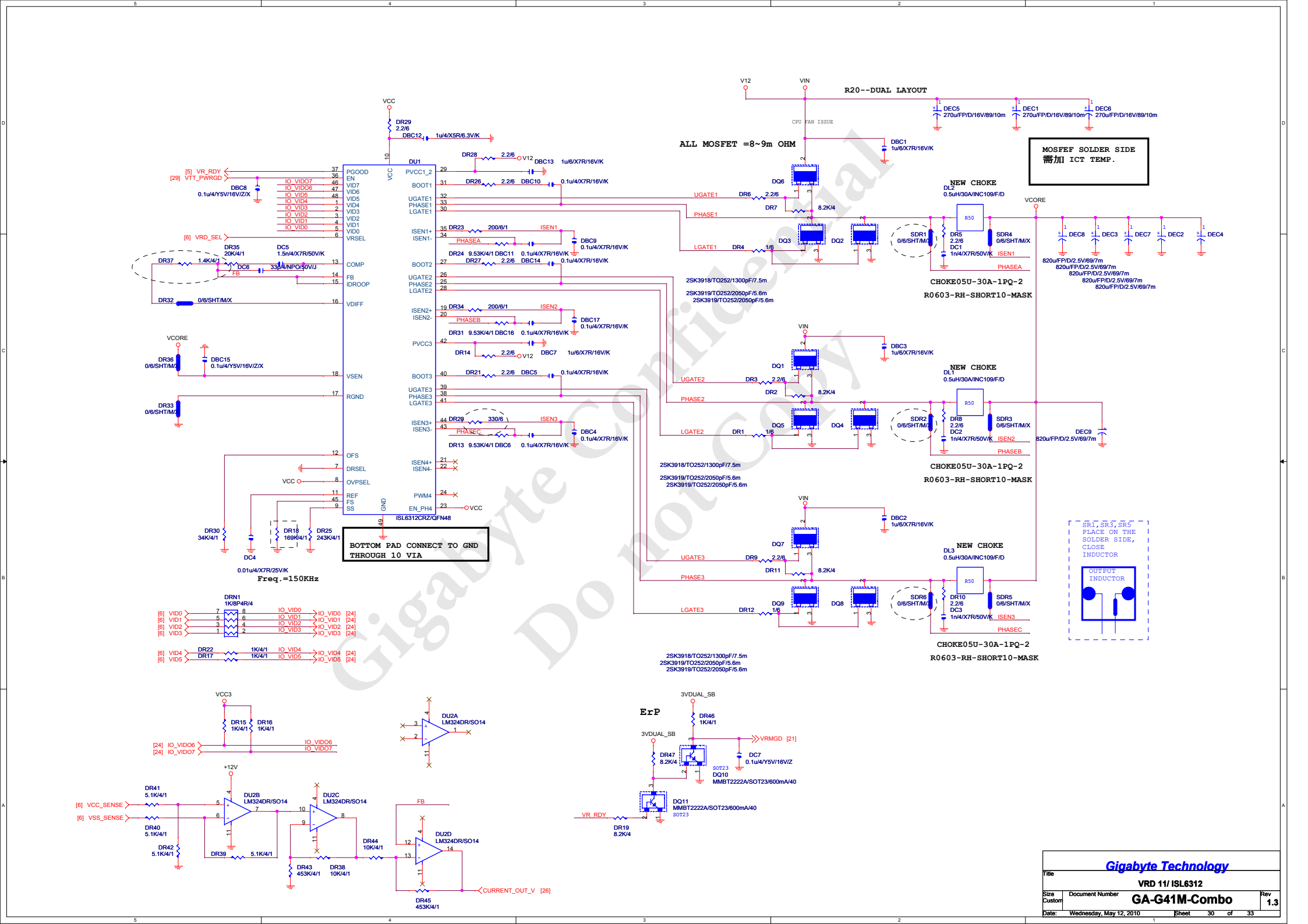
R20--DUAL LAYOUT
ALL MOSFET =8~9m OHM
MOSFEF SOLDER SIDE
需加 ICT TEMP.
CPU FAN ISSUE
NEW CHOKE
CHOKE05U-30A-1PQ-2
R0603-RH-SHORT10-MASK
2SK3918/TO252/1300pF/7.5m
2SK3919/TO252/2050pF/5.6m
ISL6312CRZ/QFN48
BOTTOM PAD CONNECT TO GND
THROUGH 10 VIA
Freq.=150KHz
SR1,SR3,SR5
PLACE ON THE
SOLDER SIDE,
CLOSE
INDUCTOR
OUTPUT
INDUCTOR
ErP
Gigabyte Technology
VRD 11/ ISL6312
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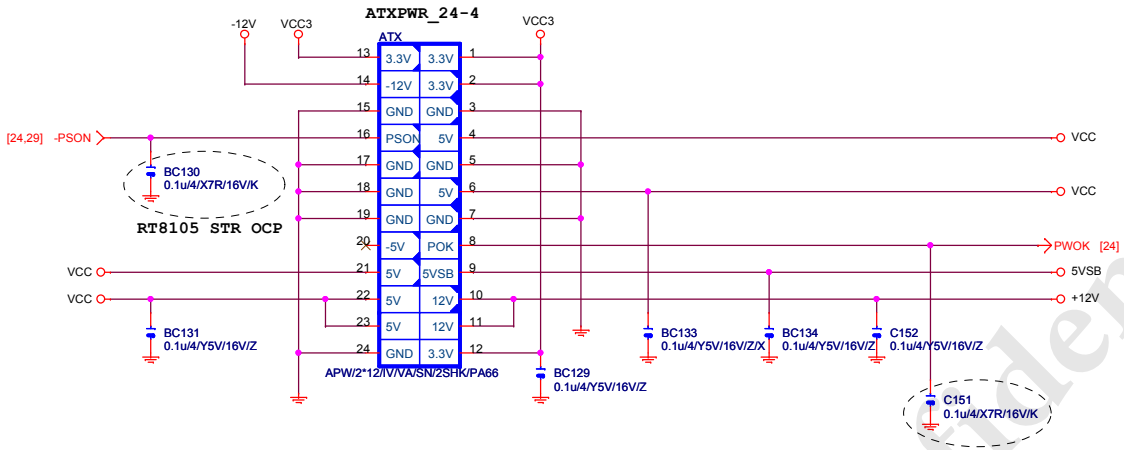
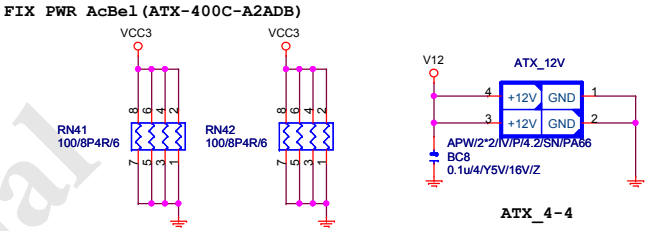
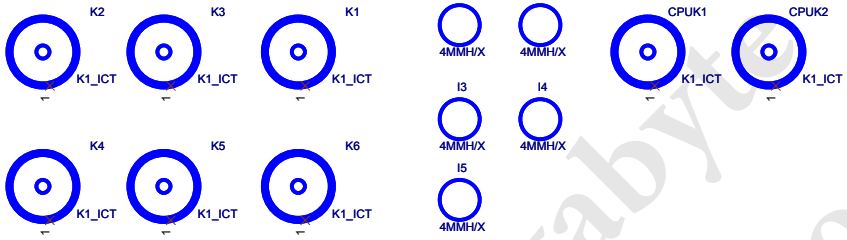
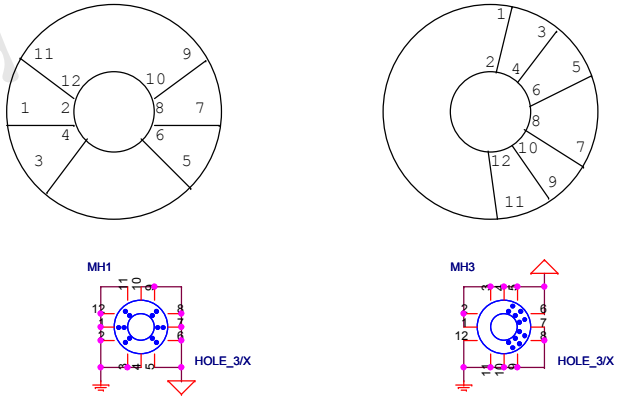
Do not Copy

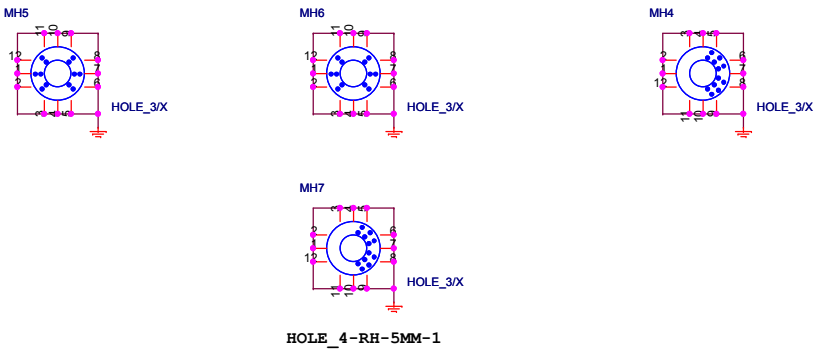
ATX POWER CONNECTOR

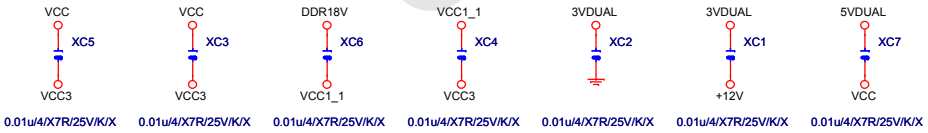












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Title: ATX POWER CONNECTOR		
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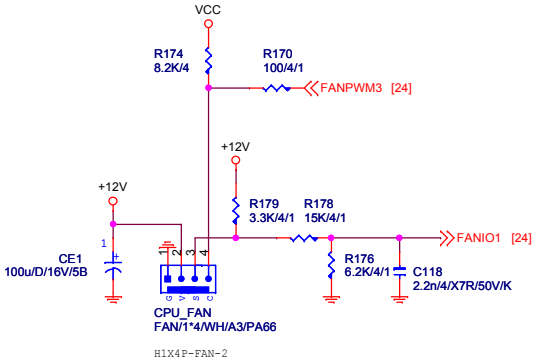
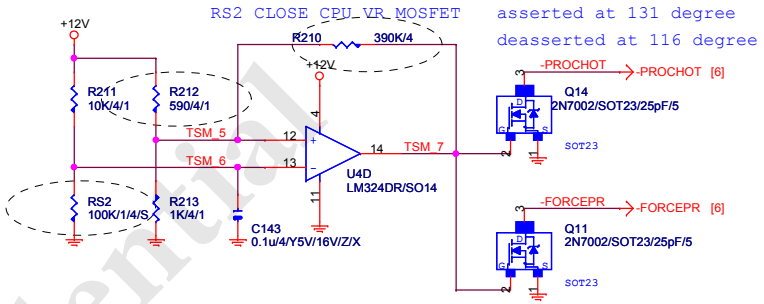
CPU SMART FAN

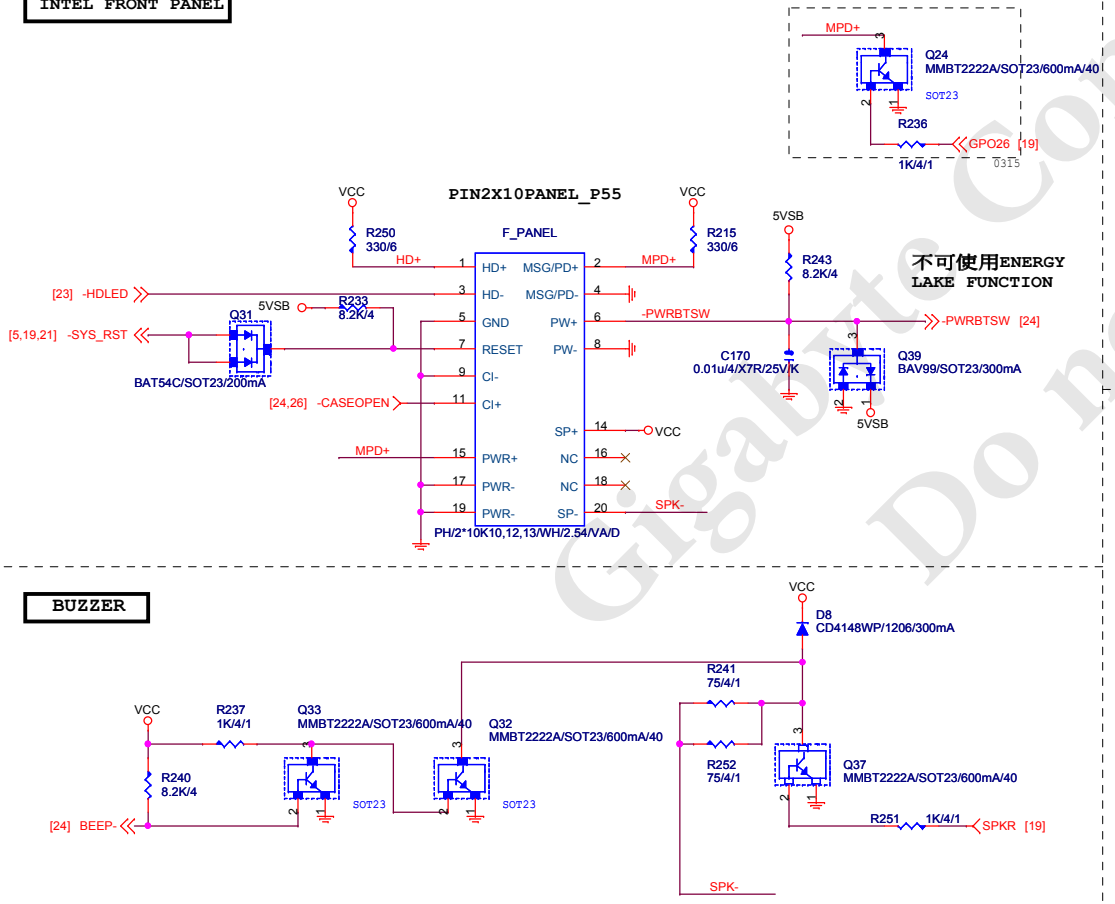
SMART FAN



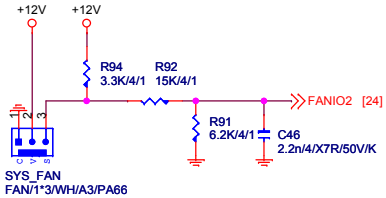
PROCESSOR HOT



INTEL FRONT PANEL



SYS_FAN



BUZZER

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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(O)

CHOKE4U7-500MA-1

LL1
4.7uH/1A/[10LC3-5A470B-01R]
CLOSE PIN40
LBC27 10u/8/X5R/6.3V/K
LBC16 1u/4/X5R/6.3V/K
VDDCT — LR29 0/6/SHT/M/X — AVDD_CEN

Dual Color LED
D4 D3 Green
D4 D3 Orange

Single Color LED
D2 D1 Yellow

P35-152-19W9
U4 U3 U2 U1
U8 U7 U6 U5
L1 L3 L5 L7 L9
L2 L4 L6 L8 L10
D1 D2 D3 D4
YELLOW ORANGE GREEN (+,-) (-,+)

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

LU1 Atheros AR8151/AR8152 AR8151-AL1A-R/QFN40
EGND LX LED1 LED0 DVDDL_REG RX_N RX_P AVDDL REFCLKP REFCLKN AVDDL
1 VDD3V
2 PERST# [11,24] -PFMRST1
3 WAKE# [14,19,22] -PCIE_WAKE
4 CLKREQ#/VDDCT_REG
5 VDDCT
6 AVDDL_REG
7 XTLO
8 XTLI
9 AVDDH_REG
10 RBIAS
30 TX_P — LC2 0.1u/4/X7R/16V/K — ML_IP [18]
29 TX_N — LC1 0.1u/4/X7R/16V/K — ML_IN [18]
28 NC
27 TEST-MODE
26 SMDATA
25 SMCLK
24 DVDDL — LBC5 1u/4/X5R/6.3V/K
23 LED2/CLKREQ# — LED_LINK1000 — LR32 8.2K/4/X — 3VDUAL
22 AVDDH
21 TRXN3/NC — P_MDI3- — LBC6 1u/4/X5R/6.3V/K
11 TRXP0 P_MDI0+
12 TRXN0 P_MDI0-
13 AVDDL/NC
14 TRXP1 P_MDI1+
15 TRXN1 P_MDI1-
16 AVDDH
17 AVDDH/NC P_MDI2+
18 TRXP2/NC P_MDI2-
19 TRXN2/NC AVDDL
20 AVDDL/NC TRXP3/NC P_MDI3+

LR30 VDDCT — VDDCT_REG 0/6/X
LBC13 1u/4/X5R/6.3V/K
LBC12 1u/4/X5R/6.3V/K
LBC9 1u/4/X5R/6.3V/K
LBC1 1u/4/X5R/6.3V/K
[21] -SRCCLK_LAN
[21] SRCCLK_LAN
[18] ML_OP
[18] ML_ON
3VDUAL
LBC24 10u/8/X5R/6.3V/K
LBC26 1u/4/X5R/6.3V/K
LBC19 1u/4/X5R/6.3V/K
LR31 8.2K/4
LBC17 1u/4/X5R/6.3V/K
LBC29 0.1u/4/Y5V/16V/Z
LBC30 1u/4/X5R/6.3V/K/X
LBC31 1u/4/X5R/6.3V/K
LBC32 1u/4/X5R/6.3V/K
LBC23 1u/4/X5R/6.3V/K
LBC21 1u/4/X5R/6.3V/K
LR15 2.37K/4/1
XTALI_P
AVDDH
VDDCT_REG
AVDDL

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

AR8152-->N/A
P_MDI0+ P_MDI0- — LR16 49.9/4/1 LR14 49.9/4/1 — LC6 0.1u/4/X7R/16V/K
P_MDI1+ P_MDI1- — LR13 49.9/4/1 LR11 49.9/4/1 — LC5 0.1u/4/X7R/16V/K
P_MDI2+ P_MDI2- — LR10 49.9/4/1 LR9 49.9/4/1 — LC4 0.1u/4/X7R/16V/K
P_MDI3+ P_MDI3- — LR6 49.9/4/1 LR5 49.9/4/1 — LC3 0.1u/4/X7R/16V/K
CLOSE LAN CHIP

LC9 10p/4/NPO/50V/J
XTALI_P — LAN25MCLK [21]
LBC8 1u/4/X5R/6.3V/K
LBC11 1u/4/X5R/6.3V/K
LBC10 1u/4/X5R/6.3V/K
AR8152-->N/A

USB_LAN CONNECTOR

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

LBC22 0.1u/4/X7R/16V/K
AVDD_CEN
USB_LAN
P_MDI0+ L1
P_MDI0- L2
P_MDI1+ L3
P_MDI1- L4
P_MDI2+ L5
P_MDI2- L6
P_MDI3+ L7
P_MDI3- L8
L9
L10
LC10 0.01u/4/X7R/25V/K
AVDD_CEN — LR25 0/4/X
UP
DOWN
USB+LAN/1G/GO,Y/OS/RA/D/8C
D1 LED_ACT
D2 LR20 150/6
D3 LED_GREEN LR21 150/6
D4 LED_LINK1000 LR22 150/6
LR21:AR8151(O),AR8152(X)
U1 U2 U3 U4 U5 U6 U7 U8
P4- P4+ P5- P5+
FUSEVCC
3VDUAL
LFB1 0/6/SHT/M/X
LBC25 0.1u/4/Y5V/16V/Z/X
LBC15 0.1u/4/Y5V/16V/Z/X

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

USB_LAN
EMI LR27 0/6/SHT/M/X

FUSEVCC
ErP
LR26 150K/4
-USBOC_R [18]
LEC1 1000u/D/6.3V/8C/30m
LR28 270K/4
P4+ +USBP4 [18]
P4- -USBP4 [18]
P5+ +USBP5 [18]
P5- -USBP5 [18]

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