Model Name: GA-P55M-UD2 *1.0*

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1156-A
05	CPU_LGA1156-B
06	CPU_LGA1156-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	DDR III POWER CAP
10	PCI EXPRESS*16 SLOT
11	PCH_FDI,DMI,USB,PCIE,NVRAM
12	PCH DP,CLK BUFFER
13	PCH_HOST,SATA,PCI
14	PCH_GPIO,CTRL,AUDIO
15	PCH_PWR,GND
16	PCI EXPRESS*4 SLOT
17	PCI EXPRESS*1 SLOTs X3
18	PCI SLOT X2
19	ITE 8720 LPC IO
20	COM, -PROHOT , DYNAMIC OC , LPT
21	Dual BIOS
22	ALC888/889A
23	REAR AUDIO JACK
24	CLOCK GEN ICS9LPRS914
25	VCORE PWM ISL6334CR-1
26	VCORE PWM ISL6334CR-2
27	DISCRETE POWER I

SHEET	TITLE
28	DDR 15V & VCC1 05 PCH PWM ISL6545CBZ
29	CPU_VAXG PWM_ISL6314CRZ
30	CPU_VTT PWM_ISL6322G
31	F_PANEL , F_USB , FDD
32	ATX POWER
33	Marvell 88SE9123
34	REALTEK RTL8111DL
35	REALTEK RTL8111DL_1
36	TI TSB43AB23 1394
37	HWM,KB/MS , FAN CTRL
38	TPM SLB9635TT
39	ESATA JMB362
40	TABLE LIST
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Title: Cover Sheet

Size: Custom | Document Number: GA-P55M-UD2 | Rev: 1.0

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GA-P55M-UD2 Version: 1.0

Component value change history

Data	Change Item	Reason
0.1	1. 9ME55QD3R-00-01	
EP55A-UD3P 0.1	1. Add R687,BC241 For ISL8014 VDD PIN	
	2. IDE Conn. change 直立式	
	3. ADD CPU RM	
	4. CPU_VAXG R153 --> R151 68K/4/1 , R127 20K/4/1 --> 42K/4/1 , BC60 0.1u --> 1n/4	
	5. DIMM & LPT COLOR --> BLUE	
	6. REMOVE 7474 , CHANGE TO ITE8720/JX	
	7. CLK阻值調整	
	8. PCIEX16 CHANGE TO RIGHT EJECTOR	
	9. 0.5uH --> 1.0uH 含阻值修改	
EP55A-UD3P 0.2	1. CHECK +12V SHORT PAD FOR 10mil	
	2. F1_1394加蓋(包材階)	
	3. ADD DR86=124K/4/1 , DR88=249K/4/1	
	4. U12~U15 upi6262M --> upi6267M	
	5. DRAM_PWROK R490=1K/4/1 , R491=3K/4/1	
	6. REMOVE DR138=0/4 , ADD DR139,DR141=0/4	
	7. RU2指定料號:10HP4-112540-11R	
	8. 排阻指定廠牌用WALSIN	
	9. LU1,LU4 RTL8111D --> RTL8111C	
	10. PCB "育富"移除	
	11. ONFI指定用11SM1-600078-02R	
	12. R376 2.26K/4/1 --> 2.55K/4/1	
	13. 確認上哪種upi6262 10%/upi6267?	
	14. FB7~FB10 REMOVE	
	15. PCH BUFFER 25MHz REMOVE "X2,C93,C94,R420"	
	16. BIOS 16M --> 32M (FOR ONFI ONBOARD)	
		10B 1. ADD R190 1K/4/1 FOR PCI-E OVER-CLK
P55M-UD4	1. RTL8111C --> RTC8111D (是否上新板VB?)	
P55M-UD2 0.2	1. ADD PACKAGE F1_1394 2. P55 REV.B1 --> REV.B2 3. VCC1_05_PCH --> OP+MOS	
P55M-UD2 1.0	1. CHECK POWER SEQUENCY FOR VCC1_05_PCH 3. REMOVE PLL, 22U 2. PROCHOT阻值修改 4. Q73,Q74 UPA2724 --> UPA2726	

Circuit or PCB layout change for next version

DATE	Change Item	Reason
EP55-UD3R 0.1	1. 9ME55QD3R-00-01	
EP55A-UD3P 0.1	1. PWR_LED GPIO46 --> GPIO20	
	2. CHECK DDR3 LAYER RULE UPDATE (DDR3 LIBRARY UPDATE)	
	3. ADD F_PANEL RESET & BOTTOM ESD PROTECT	
	4. CPU ISENSE & IOUT ADD CONTROL CIRCUIT	
	5. RESET 7474 COST DOWN CHECK	
	6. SRCCLK_CKG TRACE CHANGE TO TOP	
	7. USBP12 , USBP13 +- SWAP NET	
	8. +12V PROTECT Q91 ADD Damping Resistor "R748"	
	9. 零件位置BAT移出至BAT外框	
	10. X3與CLR_CMOS距離不足5mm	
	11. Remove 0 ohm	
	12. CPU_VTT ADD背面電容SBC9,SBC10	
	13. CPU_VTT ADD VTT_SENSE , VTT_VSS	
	14. MODIFY PCIEX4 & PCIEX1 SELECT "-4X_EN"	
	15. ADD ESATA JMB362	
	16. ITE8275 PATCH -SYS_RST 漏電	
	17. DRAM_PWROK 留Damping 電阻	
	18. DRIVER的PIN5 GND走線與GATE同粗	
	19. LAN CTRL18爲PHASE須在第二層做隔離	
EP55A-UD3P 0.2	1. REMOVE AUDIO ESD	
	2. REMOVE CPU_VAXG	
	3. PCH_CLK 改 SHORT PAD (0 ohm維持10pcs以下)	
	4. ITE8275 GPIO11,GPIO13 TO TURBO0/TURBO1	
	5. F_PANEL UPDATE H2X10PANEL-1	
	6. ONFI 改 ON BOARD	
	7. 1394 "IEC1" NET SWAP & SHORT PROTECT	
	8. PIN HEATER CHECK	
	9. ITE8275 SYS_RST PATCH	
	10. BC118,BC119 --> TBC29,TBC30	
	11. BC5靠近M_BIOS PIN8 , BC6靠近M_BIOS PIN8	
	12. U2 7474 REMOVE	

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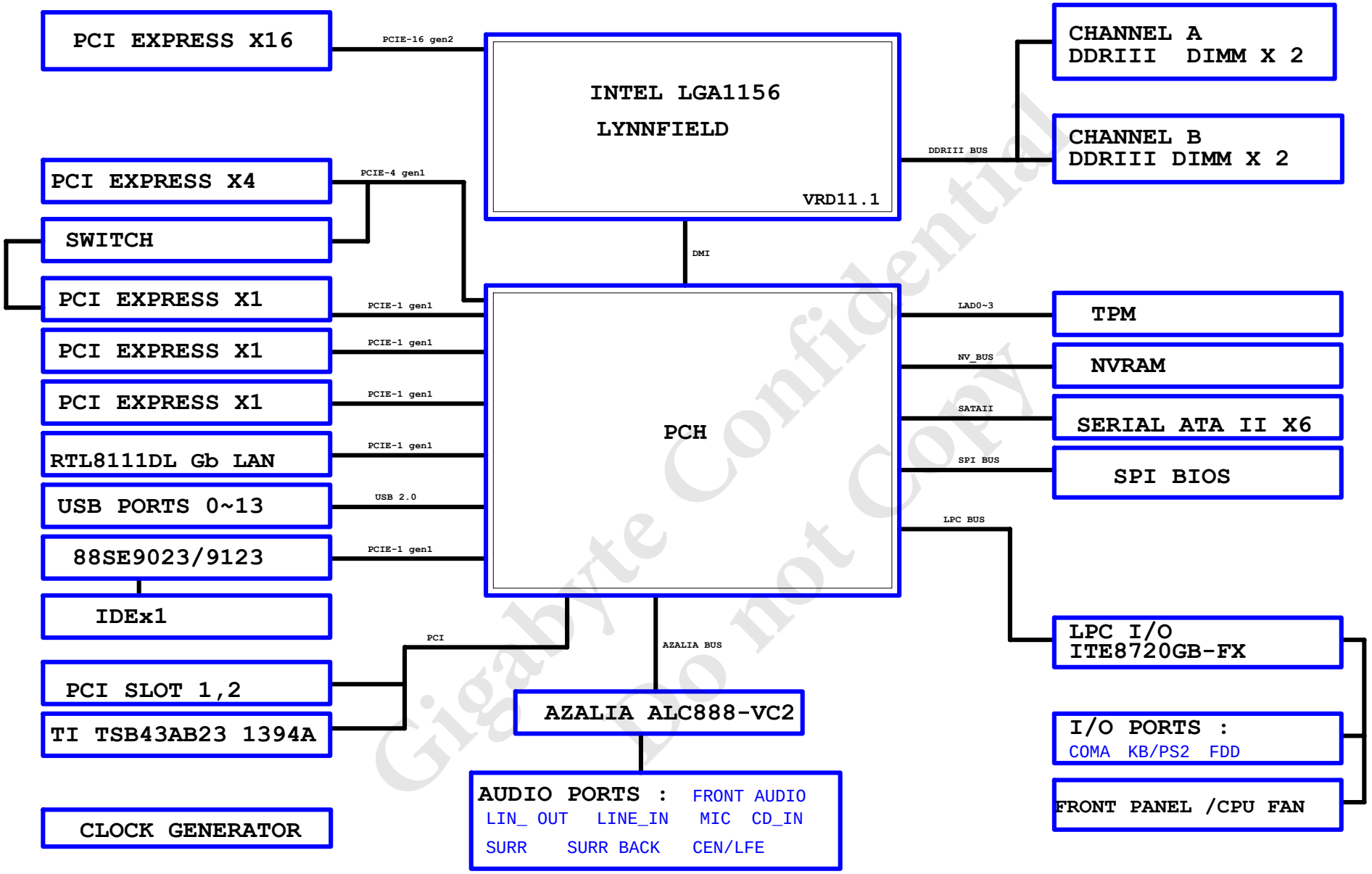
Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-P55M-UD2 | Rev: 1.0

Date: Monday, July 27, 2009 | Sheet 2 of 33

BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-P55M-UD2	Rev: 1.0
Date: Thursday, July 09, 2009	Sheet 3 of 33	

FDI : 16/5/5/5/16(breakout min 8/4/5/4/8)
Impedance=80 +- 17.5%

PCIEX16:16/5/5/5/16(breakout min 8/4/5/4/8)
Impedance=80 +- 17.5%

DMI:12/5/5/5/12
Impedance=80 +- 17.5%

CFG0=1: 1X16 PEG
CFG0=0: 2X8 PEG

For PCIE2.0 issue
Must remove after
fixed issue

CFG 0-5 all internal PULL-UP

CFG	H	L	NOTE
0			H:1X16 , L:2X8
1	RSVD		
2	RSVD		
3	NORM	RSVD	LANE REVERSAL
4	DISABLE	ENABLE	DP PRESENCE
5	RSVD		
6	RSVD		
7	RSVD		ENGINEERING EXPERIMENT
15	RSVD		ENGINEERING EXPERIMENT

Rev 0.2 modefy

Rev 0.2 modefy

Rev 0.2 modefy

Check Trace length/ width

POWER ON CONFIG TABLE (Default=1.2250V)

	FUNCTION	DEFAULT
VID0	MSI0	0
VID1	MSI1	1
VID2	MSI2	1
VID3	IMON CFG0	1
VID4	IMON CFG1	1
VID5	IMON CFG2	1
VID6	RSVD	
VID7	VRD SEL	LOW
PSI#	RSVD	LOW

Title	CPU LGA1156-A
Size	Custom
Document Number	GA-P55M-UD2
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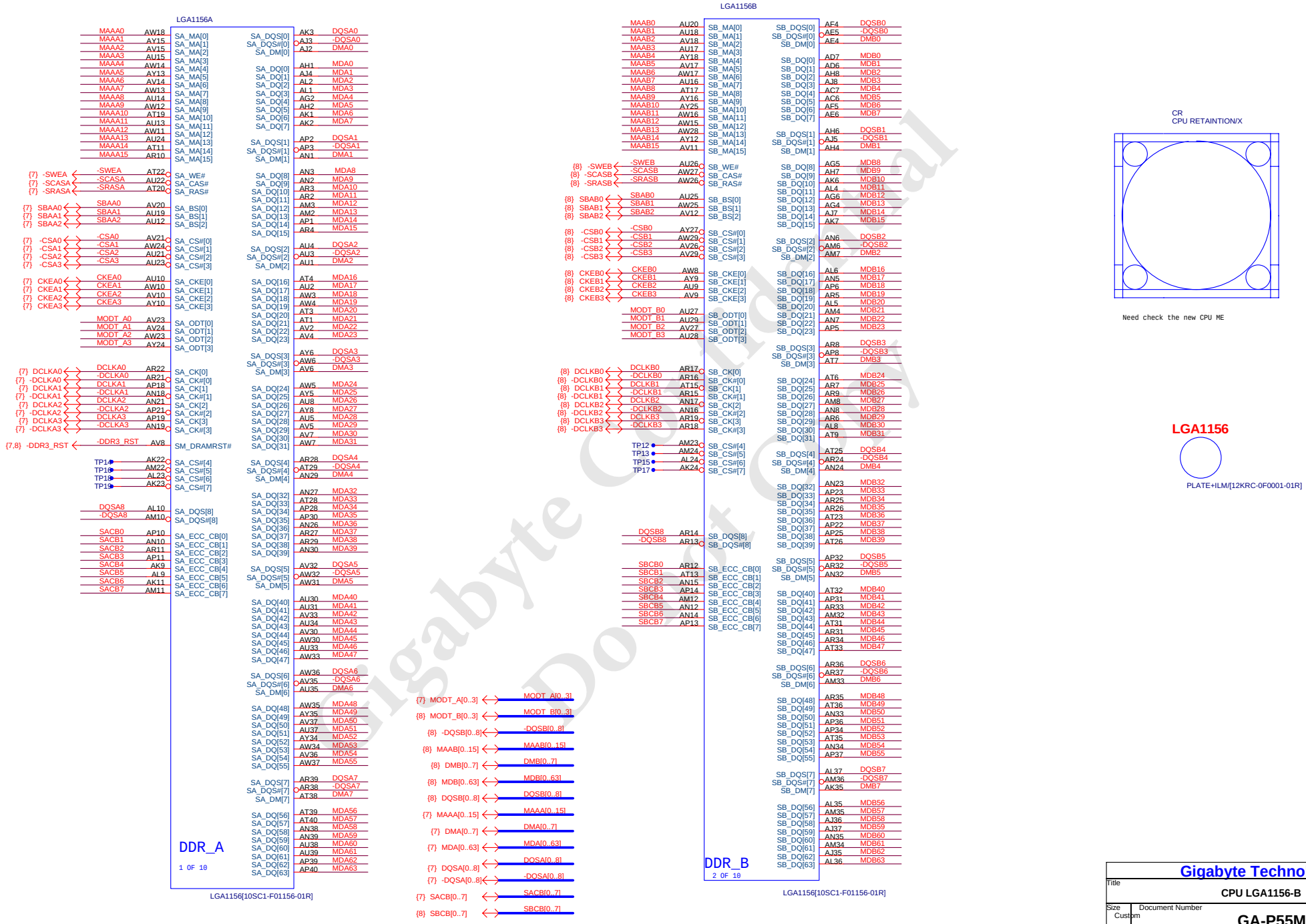
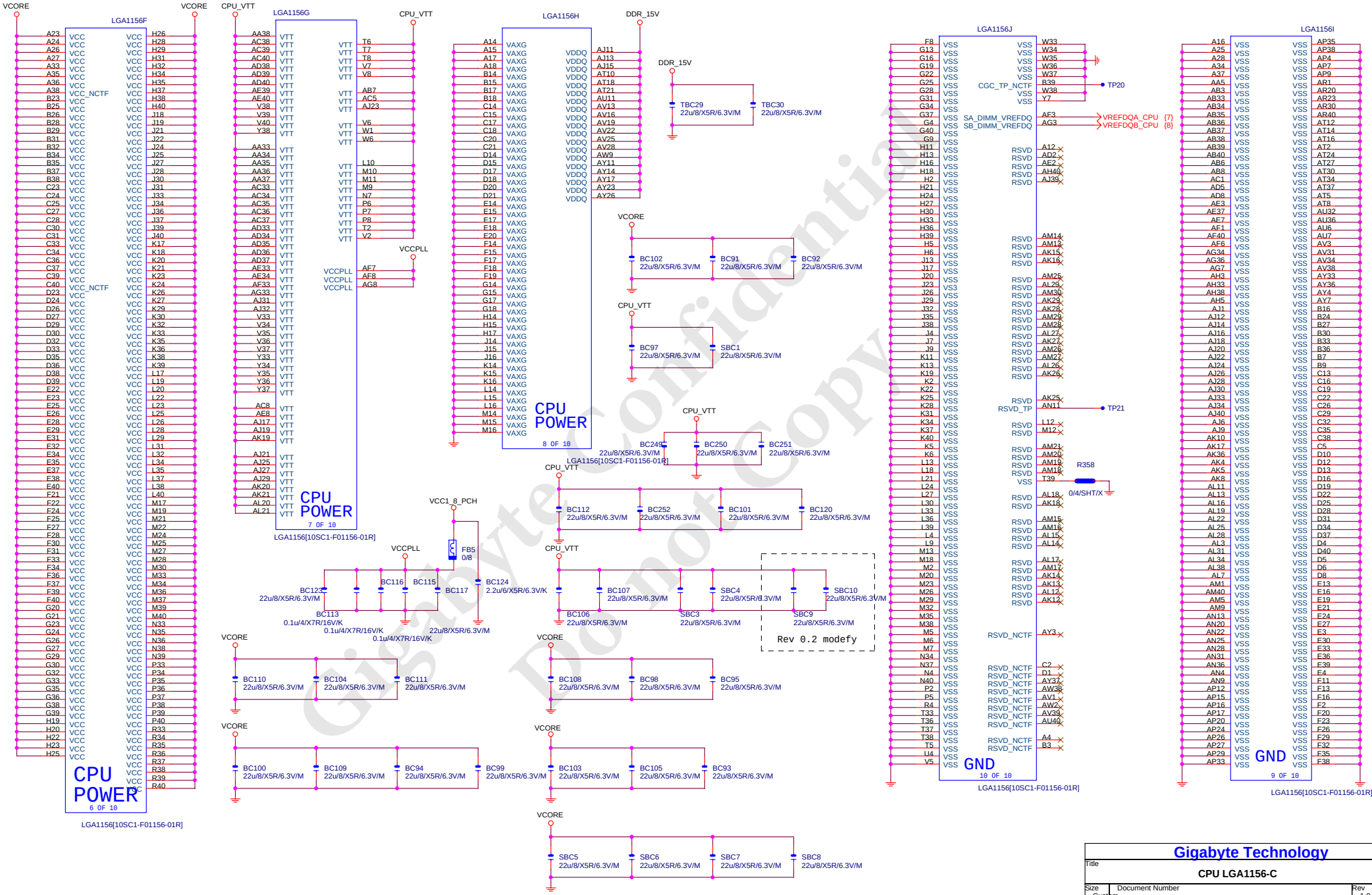
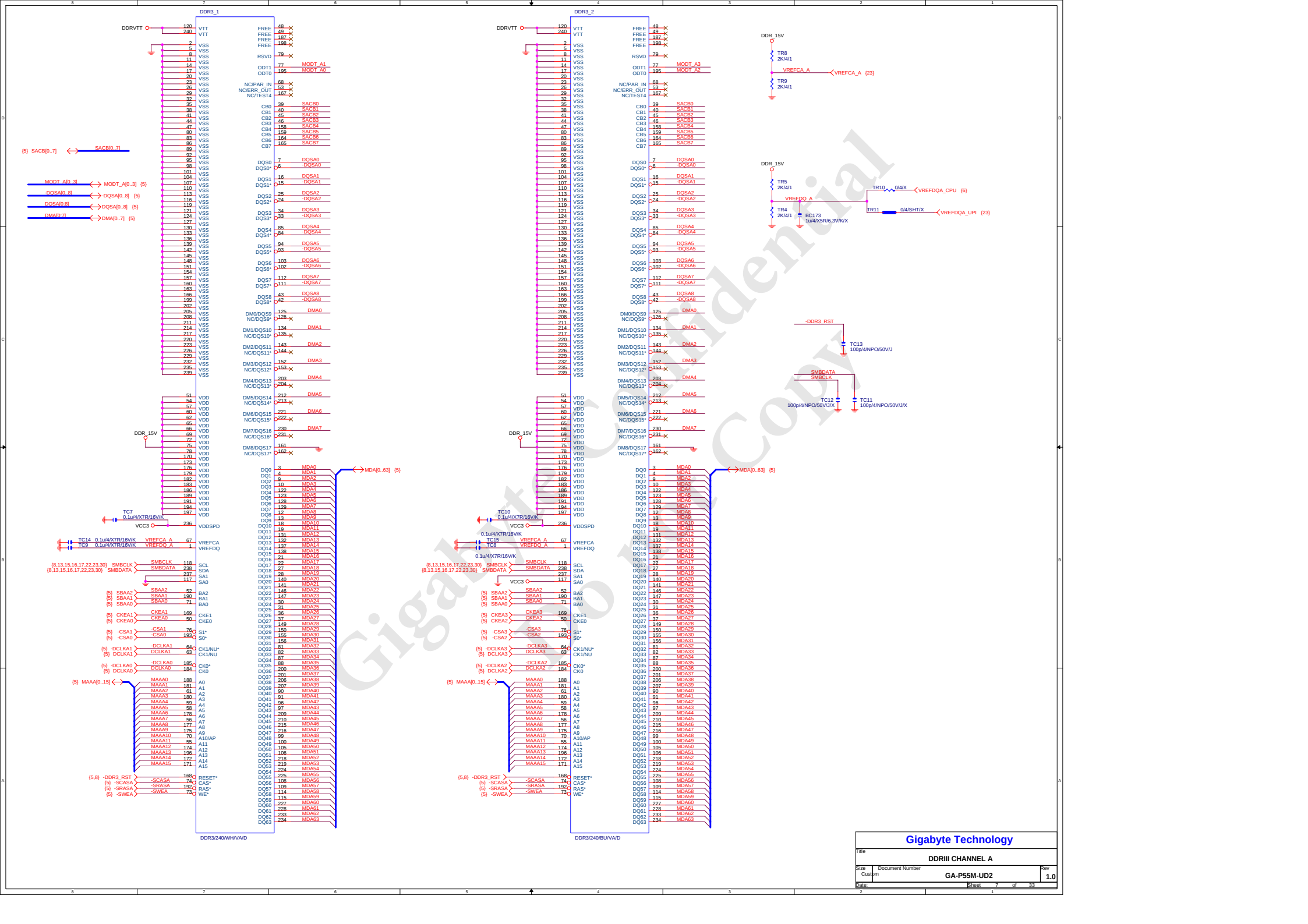


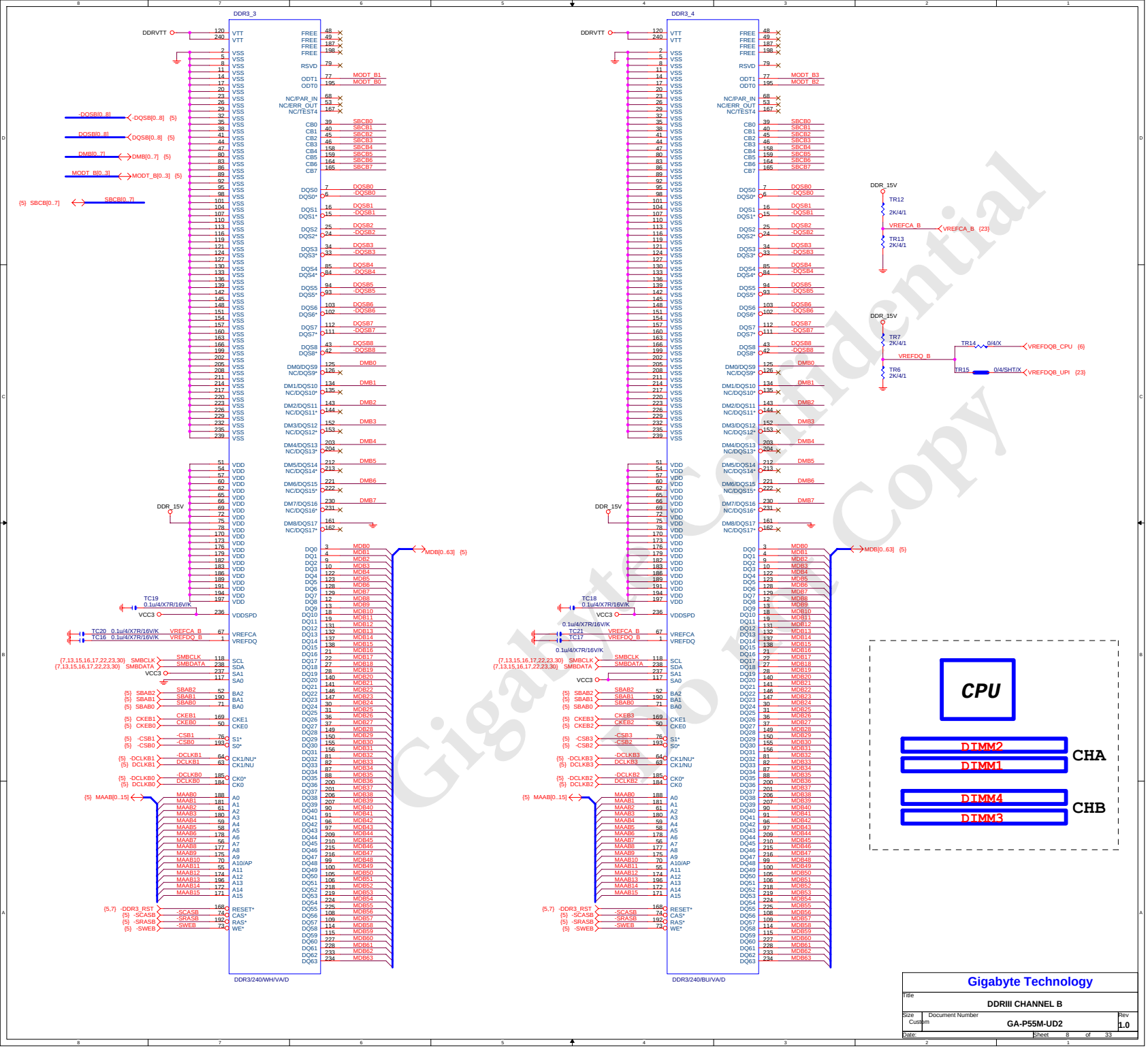
Gigabyte Technology		
Title: CPU LGA1156-B		
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
Date: Thursday, July 09, 2009	Sheet 5 of 33	



Gigabyte Technology		
Title: CPU LGA1156-C		
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
Date: Thursday, July 09, 2009	Sheet 6 of 33	



Gigabyte Technology			
Title: DDRIII CHANNEL A			
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0	
Date:	Sheet 7 of 33		



Gigabyte Technology		
Title: DDRIII CHANNEL B		
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
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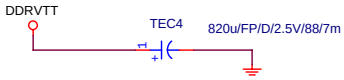
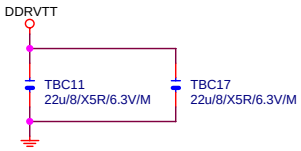
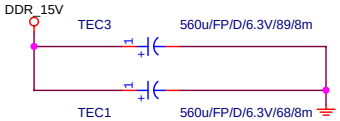
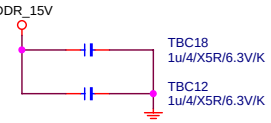
DDR TERMINATION CHANNEL A/B

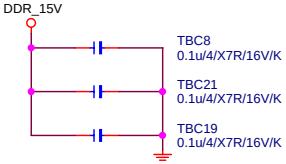




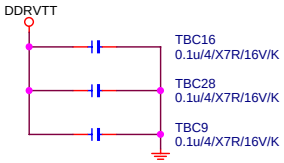


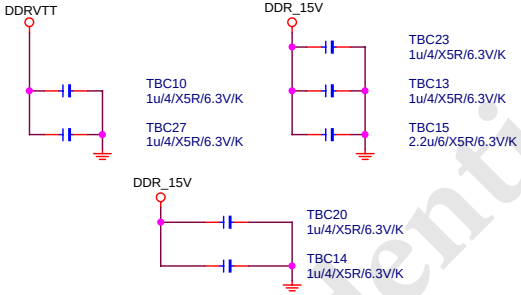


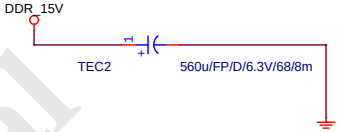
DDR15V Decouple

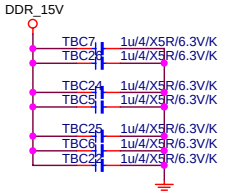


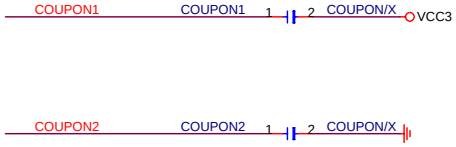
DDRVTT Decouple











Gigabyte Technology		
Title: DDRIII POWER CAP		
Size: B	Document Number: GA-P55M-UD2	Rev: 1.0
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DMI:12/5/5/5/12
Impedance=80 +- 17.5%

PCHB

USB:15/4.5/7.5/4.5/15
Impedance=90+- 15%

{4} DMI_0TXN → DMI_0TXN → A19 DMI0RXN
{4} DMI_0TXP → DMI_0TXP → B18 DMI0RXP
{4} DMI_0RXN → DMI_0RXN → J22 DMI0TXN
{4} DMI_0RXP → DMI_0RXP → H22 DMI0TXP
{4} DMI_1TXN → DMI_1TXN → B20 DMI1RXN
{4} DMI_1TXP → DMI_1TXP → C19 DMI1RXP
{4} DMI_1RXN → DMI_1RXN → G22 DMI1TXN
{4} DMI_1RXP → DMI_1RXP → F22 DMI1TXP
{4} DMI_2TXN → DMI_2TXN → E20 DMI2RXN
{4} DMI_2TXP → DMI_2TXP → D20 DMI2RXP
{4} DMI_2RXN → DMI_2RXN → H24 DMI2TXN
{4} DMI_2RXP → DMI_2RXP → G24 DMI2TXP
{4} DMI_3TXN → DMI_3TXN → G18 DMI3RXN
{4} DMI_3TXP → DMI_3TXP → H18 DMI3RXP
{4} DMI_3RXN → DMI_3RXN → L24 DMI3TXN
{4} DMI_3RXP → DMI_3RXP → K24 DMI3TXP
VCC1_05_PCH — R451 49.9/4/1 — DMI_COMP → D21 DMI_IRCOMP
C21 DMI_ZCOMP

{22} -SRCCLK_PCH → H20 CLKIN_DMI_N
{22} SRCCLK_PCH → G20 CLKIN_DMI_P

DMI

USBP0N AW25 -USBP0 → -USBP0 {27}
USBP0P AY25 +USBP0 → +USBP0 {27}
USBP1N BA23 -USBP1 → -USBP1 {27}
USBP1P AY24 +USBP1 → +USBP1 {27}
USBP2N AW23 -USBP2 → -USBP2 {27}
USBP2P AY22 +USBP2 → +USBP2 {27}
USBP3N AR22 -USBP3 → -USBP3 {27}
USBP3P AP22 +USBP3 → +USBP3 {27}
USBP4N AV21 -USBP4 → -USBP4 {32}
USBP4P AV22 +USBP4 → +USBP4 {32}
USBP5N AY20 -USBP5 → -USBP5 {32}
USBP5P AW21 +USBP5 → +USBP5 {32}
USBP6N AK20 -USBP6 → -USBP6 {29}
USBP6P AL20 +USBP6 → +USBP6 {29}
USBP7N AV20 -USBP7 → -USBP7 {29}
USBP7P AW19 +USBP7 → +USBP7 {29}
USBP8N BA19 -USBP8 → -USBP8 {27}
USBP8P AY18 +USBP8 → +USBP8 {27}
USBP9N AM20 -USBP9 → -USBP9 {27}
USBP9P AN20 +USBP9 → +USBP9 {27}
USBP10N AV17 -USBP10 → -USBP10 {27}
USBP10P AV18 +USBP10 → +USBP10 {27}
USBP11N AR20 -USBP11 → -USBP11 {27}
USBP11P AT20 +USBP11 → +USBP11 {27}
USBP12N AK18 -USBP12 → -USBP12 {31}
USBP12P AL18 +USBP12 → +USBP12 {31}
USBP13N AY17 -USBP13 → -USBP13 {31}
USBP13P BA16 +USBP13 → +USBP13 {31}

USB

NV_PCH
R563 8.2K/4/X
NV_CLE
R564 4.75K/4/1/X

DMI Terminator voltage
HI : AC COUP : TX/RX TO VCC
LO : DC COUP : HALF SWING

Rev 0.2 modefy

PCIE X1 :15/5/5/5/15
Impedance=80 +- 17.5%

{16} PCIE_IN1 → D15 PERN1
{16} PCIE_IP1 → C16 PERP1
{16} PCIE_TN1 — 0.1u/4/X7R/16V/K — C111 PET_N1 → D18 PETN1
{16} PCIE_TP1 — 0.1u/4/X7R/16V/K — C109 PET_P1 → D17 PETP1
{16} PCIE_IN2 → B17 PERN2
{16} PCIE_IP2 → A16 PERP2
{16} PCIE_TN2 — 0.1u/4/X7R/16V/K — C110 PET_N2 → H16 PETN2
{16} PCIE_TP2 — 0.1u/4/X7R/16V/K — C108 PET_P2 → G16 PETP2
{16} PCIE_IN3 → B15 PERN3
{16} PCIE_IP3 → C14 PERP3
{16} PCIE_TN3 — 0.1u/4/X7R/16V/K — C107 PET_N3 → H14 PETN3
{16} PCIE_TP3 — 0.1u/4/X7R/16V/K — C106 PET_P3 → G14 PETP3
{16} PCIE_IN4 → D14 PERN4
{16} PCIE_IP4 → D13 PERP4
{16} PCIE_TN4 — 0.1u/4/X7R/16V/K — C132 PET_N4 → K14 PETN4
{16} PCIE_TP4 — 0.1u/4/X7R/16V/K — C119 PET_P4 → L14 PETP4
{30} SL_IN → C12 PERN5
{30} SL_IP → B13 PERP5
{30} SL_ON — 0.1u/4/X7R/16V/K — C98 PET_N5 → H12 PETN5
{30} SL_OP — 0.1u/4/X7R/16V/K — C97 PET_P5 → G12 PETP5
{29} ML_IN → D8 PERN6
{29} ML_IP → C9 PERP6
{29} ML_ON — 0.1u/4/X7R/16V/K — C103 PET_N6 → G11 PETN6
{29} ML_OP — 0.1u/4/X7R/16V/K — C102 PET_P6 → H11 PETP6
A12 PERN7
B11 PERP7
D11 PETN7
D10 PETP7
C7 PERN8
B8 PERP8
K12 PETN8
J12 PETP8

PCI-E

2 0F 11
BD82P55-B2/S

OC0#/GPIO59 AT31
OC1#/GPIO40 AT30 -USBOC_F → -USBOC_F {27}
OC2#/GPIO41 AK28
OC3#/GPIO42 AP30
OC4#/GPIO43 AP31
OC5#/GPIO9 AL28 → -USBOC_R {29}
OC6#/GPIO10 AL30
OC7#/GPIO14 AM30 GPIO14

OC[3:0]# for
Device 29
(ports 0-7)
OC[7:4]# for
Device 26
(ports 8-13)

USBRBIAS# AY15 — USBRBIAS R448 22.6/4/1
USBRBIAS AV15

CLKIN_DOT_96N AM22 -DOTCLK → -DOTCLK {22}
CLKIN_DOT_96P AL22 DOTCLK → DOTCLK {22}

3VDUAL_ICH
R461 8.2K/4/X
GPIO14

NV_PCH
R562 8.2K/4
NV_ALE
R565 8.2K/4/X

Impedance=50+- 15%
ONFI: NV_DQ 4/5
NV_DQS 4/10
NV_CTRL 4/10
NV_CK 4/15

PCHE

NV_ALE J34 → NV_ALE
NV_CLE L35 → NV_CLE
M32 → NV_RB#
J36 → NV_WR#0_RE#
J35 → NV_WR#1_RE#
M31 → NV_WE#_CK0
F38 → NV_WE#_CK1

NV_DQ0/NV_IO0 T33
NV_DQ1/NV_IO1 P35
NV_DQ2/NV_IO2 T31
NV_DQ3/NV_IO3 P33
NV_DQ4/NV_IO4 M35
NV_DQ5/NV_IO5 L33
NV_DQ6/NV_IO6 M36
NV_DQ7/NV_IO7 M34
NV_DQ8/NV_IO8 M30
NV_DQ9/NV_IO9 F36
NV_DQ10/NV_IO10 H33
NV_DQ11/NV_IO11 F37
NV_DQ12/NV_IO12 E39
NV_DQ13/NV_IO13 G33
NV_DQ14/NV_IO14 D40
NV_DQ15/NV_IO15 F33

NV_CE#0 H36
NV_CE#1 H35
NV_CE#2 P32
NV_CE#3 E41

NV_DQS0 P36
NV_DQS1 F40

NV_RCOMP L36 — NV_RCOMP R495 33/4

NVRAM

5 0F 11
BD82P55-B2/S

電容要靠近 slot 端

PCH_HS
1
2
PCH_HS[12SP2-030030-C1R]

USB OC#	Configure
OC0#	USB0,1
OC1#	USB2,3
OC2#	USB4,5
OC3#	USB6,7
OC4#	USB8,9
OC5_6#	USB10~13
OC7#	

NV_ALE	
Hi	Enable Danbury
Lo	Disable Danbury

Intel anti theft techonlogy

Gigabyte Technology
Title: PCH FDI,DMI,USB ,PCIE,NVRAM
Size: B
Document Number: GA-P55M-UD2
Rev: 1.0
Date: Thursday, July 09, 2009
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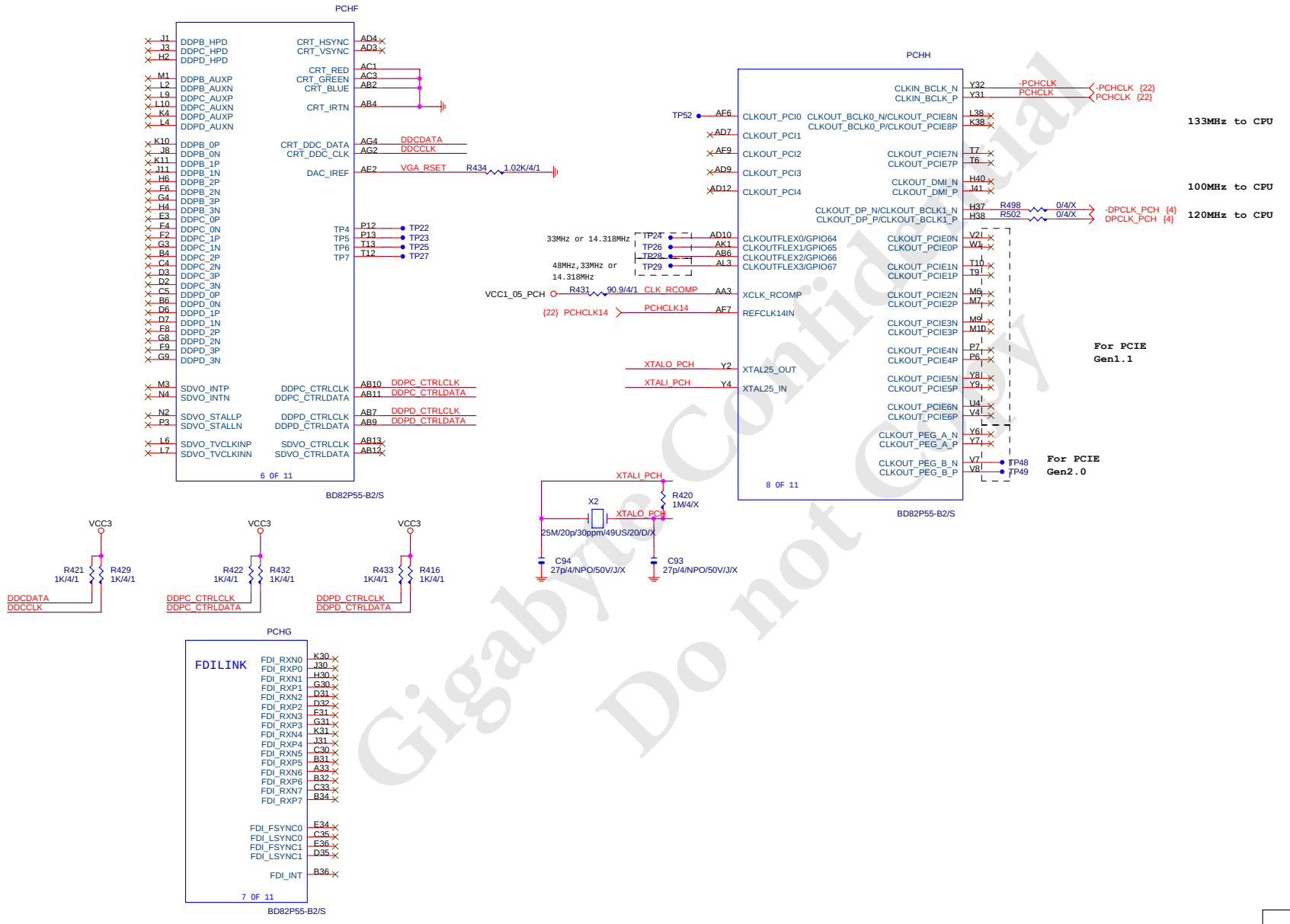
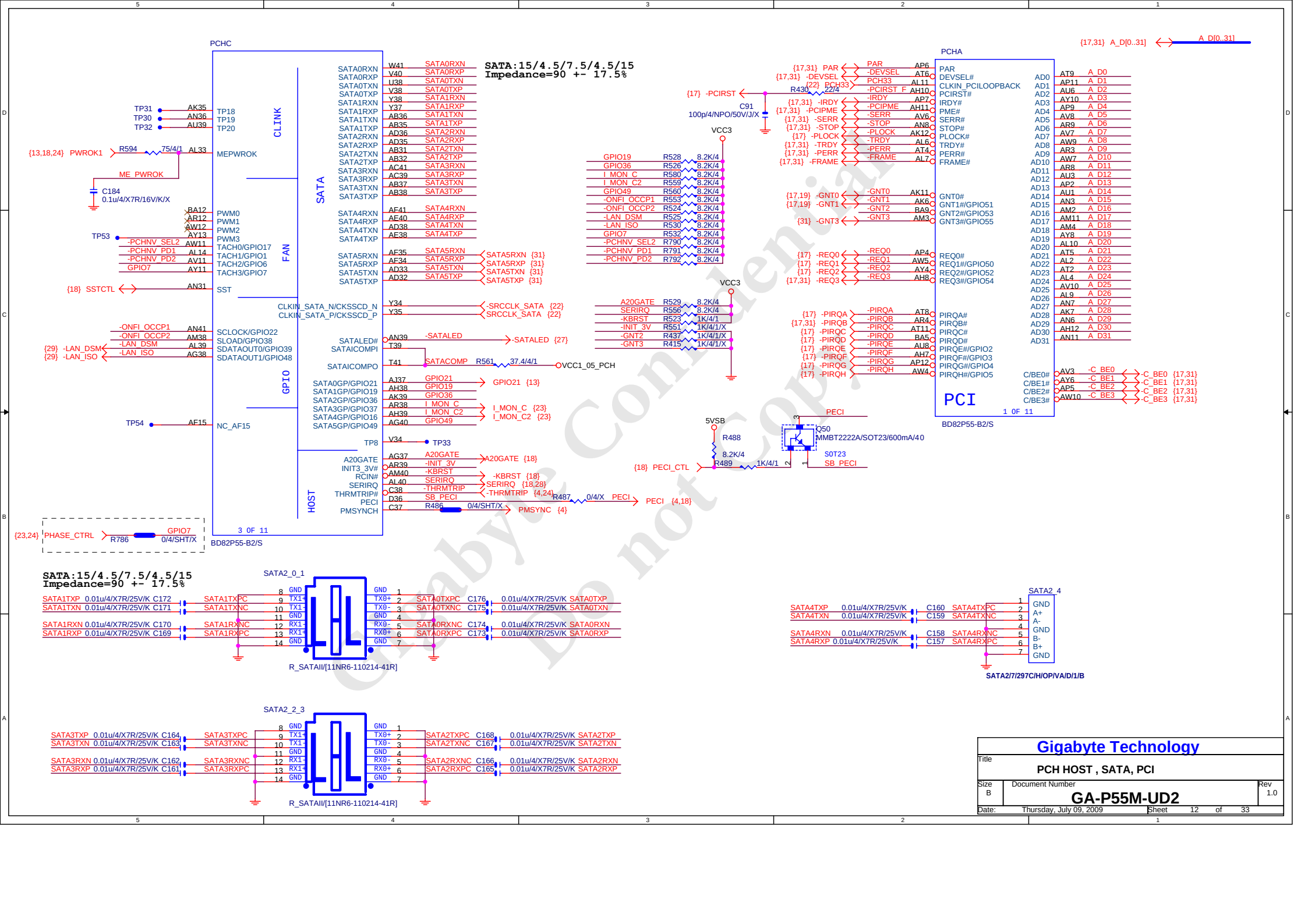


Gigabyte Technology			
Title: PCH DISPLAY ,CLK BUFFER			
Size: Custom	Document Number: GA-P55M-UD2		Rev: 1.0
Date: Thursday, July 09, 2009	Sheet 11 of 33		



Title	PCH HOST , SATA, PCI
Size	B
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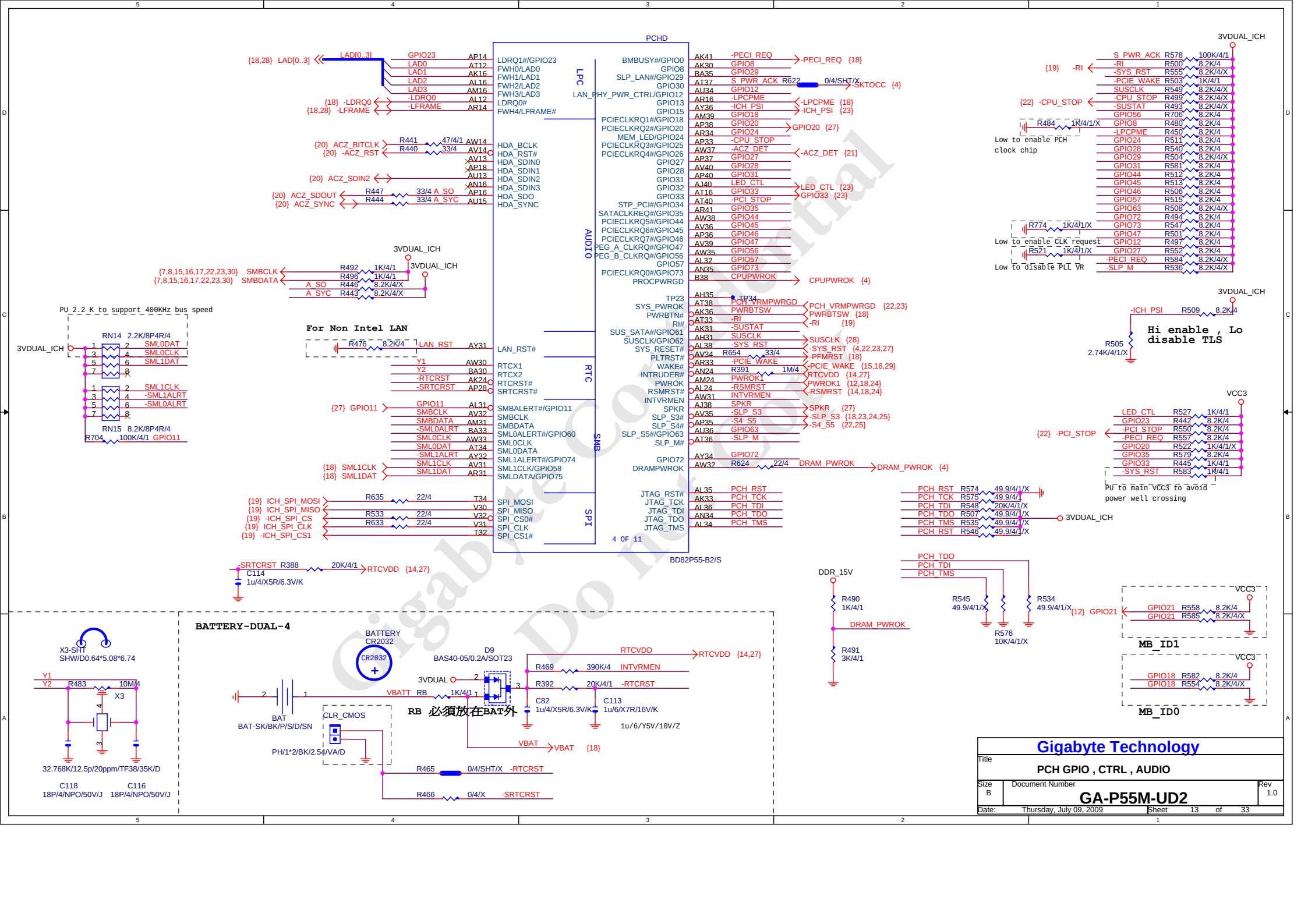
Gigabyte Technology


PCHD
LPC
AUDIO
RTC
SMB
SPI
LAD[0..3]
GPIO23
LDRQ1#/GPIO23
LDRQ0#
FWH4/LFRAME#
HDA_BCLK
HDA_RST#
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDO
HDA_SYNC
LAN_RST#
RTCX1
RTCX2
RTCRST#
SRTCRST#
SMBALERT#/GPIO11
SMBCLK
SMBDATA
SML0ALERT#/GPIO60
SML0CLK
SML0DATA
SML1ALERT#/GPIO74
SML1CLK/GPIO58
SMLDATA/GPIO75
SPI_MOSI
SPI_MISO
SPI_CS0#
SPI_CLK
SPI_CS1#
BMBUSY#/GPIO0
GPIO8
SLP_LAN#/GPIO29
GPIO30
LAN_PHY_PWR_CTRL/GPIO12
GPIO13
GPIO15
PCIECLKRQ1#/GPIO18
PCIECLKRQ2#/GPIO20
MEM_LED/GPIO24
PCIECLKRQ3#/GPIO25
PCIECLKRQ4#/GPIO26
GPIO27
GPIO28
GPIO31
GPIO32
GPIO33
STP_PCI#/GPIO34
SATACLKREQ#/GPIO35
PCIECLKRQ5#/GPIO44
PCIECLKRQ6#/GPIO45
PCIECLKRQ7#/GPIO46
PEG_A_CLKRQ#/GPIO47
PEG_B_CLKRQ#/GPIO56
GPIO57
PCIECLKRQ0#/GPIO73
PROCPWRGD
TP23
SYS_PWROK
PWRBTN#
RI#
SUS_STAT#/GPIO61
SUSCLK/GPIO62
SYS_RESET#
PLTRST#
WAKE#
INTRUDER#
PWROK
RSMRST#
INTVRMEN
SPKR
SLP_S3#
SLP_S4#
SLP_S5#/GPIO63
SLP_M#
GPIO72
DRAMPWROK
JTAG_RST#
JTAG_TCK
JTAG_TDI
JTAG_TDO
JTAG_TMS
4 OF 11
BD82P55-B2/S
-PECI_REQ
GPIO8
GPIO29
S_PWR_ACK_R622
0/4/SHT/X
-SKTOCC
-LPCPME
-ICH_PSI
GPIO20
-ACZ_DET
GPIO27
GPIO28
GPIO31
LED_CTL
GPIO33
-PCI_STOP
GPIO35
GPIO44
GPIO45
GPIO46
GPIO47
GPIO56
GPIO57
GPIO73
CPUPWROK
PCH_VRMPWRGD
PWRBTSW
-RI
-SUSTAT
SUSCLK
-SYS_RST
-PFMRST
-PCIE_WAKE
RTCVDD
PWROK1
-RSMRST
INTVRMEN
SPKR
-SLP_S3
-S4_S5
GPIO63
-SLP_M
GPIO72
DRAM_PWROK
PCH_RST
PCH_TCK
PCH_TDI
PCH_TDO
PCH_TMS
LAD[0..3]
-LDRQ0
-LFRAME
ACZ_BITCLK
-ACZ_RST
ACZ_SDIN2
ACZ_SDOUT
ACZ_SYNC
A_SO
A_SYC
SMBCLK
SMBDATA
SML1CLK
SML1DAT
ICH_SPI_MOSI
ICH_SPI_MISO
-ICH_SPI_CS
ICH_SPI_CLK
-ICH_SPI_CS1
-RTCRST
-SRTCRST
LAN_RST
GPIO11
3VDUAL_ICH
PU 2.2_K to support 400KHz bus speed
RN14 2.2K/8P4R/4
SML0DAT
SML0CLK
SML1DAT
SML1CLK
-SML1ALRT
-SML0ALRT
RN15 8.2K/8P4R/4
R704 100K/4/1 GPIO11
For Non Intel LAN
SRTCRST R388 20K/4/1
C114 1u/4/X5R/6.3V/K
RTCVDD {14,27}
S_PWR_ACK R578 100K/4/1
-RI R500 8.2K/4
-SYS_RST R555 8.2K/4/X
-PCIE_WAKE R503 1K/4/1
SUSCLK R549 8.2K/4/X
-CPU_STOP R499 8.2K/4/X
-SUSTAT R493 8.2K/4/X
GPIO56 R706 8.2K/4
GPIO8 R480 8.2K/4
-LPCPME R450 8.2K/4
GPIO24 R511 8.2K/4
GPIO28 R540 8.2K/4
GPIO29 R504 8.2K/4/X
GPIO31 R581 8.2K/4
GPIO44 R512 8.2K/4
GPIO45 R513 8.2K/4
GPIO46 R506 8.2K/4
GPIO57 R515 8.2K/4
GPIO63 R508 8.2K/4/X
GPIO72 R494 8.2K/4
GPIO73 R547 8.2K/4
GPIO47 R501 8.2K/4
GPIO12 R497 8.2K/4
GPIO27 R552 8.2K/4
-PECI_REQ R584 8.2K/4/X
-SLP_M R536 8.2K/4/X
R484 1K/4/1/X
Low to enable PCH clock chip
R774 1K/4/1/X
Low to enable CLK request
R521 1K/4/1/X
Low to disable PLL VR
-ICH_PSI R509 8.2K/4
R505 2.74K/4/1/X
Hi enable , Lo disable TLS
LED_CTL R527 1K/4/1
GPIO23 R442 8.2K/4
-PCI_STOP R550 8.2K/4
-PECI_REQ R557 8.2K/4
GPIO20 R522 1K/4/1/X
GPIO35 R579 8.2K/4
GPIO33 R445 1K/4/1
-SYS_RST R583 1K/4/1
PU to main VCC3 to avoid power well crossing
PCH_RST R574 49.9/4/1/X
PCH_TCK R575 49.9/4/1
PCH_TDI R548 20K/4/1/X
PCH_TDO R507 49.9/4/1/X
PCH_TMS R535 49.9/4/1/X
PCH_RST R546 49.9/4/1/X
DDR_15V
R490 1K/4/1
DRAM_PWROK
R491 3K/4/1
R545 49.9/4/1/X
R534 49.9/4/1/X
R576 10K/4/1/X
GPIO21 R558 8.2K/4
GPIO21 R585 8.2K/4/X
MB_ID1
GPIO18 R582 8.2K/4
GPIO18 R554 8.2K/4/X
MB_ID0
BATTERY-DUAL-4
X3-SHT
SHW/D0.64*5.08*6.74
Y1
Y2
R483 10M/4
X3
32.768K/12.5p/20ppm/TF38/35K/D
C118 18P/4/NPO/50V/J
C116 18P/4/NPO/50V/J
BATTERY
CR2032
D9
BAS40-05/0.2A/SOT23
R469 390K/4 INTVRMEN
R392 20K/4/1 -RTCRST
C82 1u/4/X5R/6.3V/K
C113 1u/6/X7R/16V/K
1u/6/Y5V/10V/Z
VBATT
RB
1K/4/1
RB 必須放在BAT外
BAT
BAT-SK/BK/P/S/D/SN
CLR_CMOS
PH/1*2/BK/2.54/VA/D
R465 0/4/SHT/X -RTCRST
R466 0/4/X -SRTCRST
Gigabyte Technology
PCH GPIO , CTRL , AUDIO
GA-P55M-UD2
Rev 1.0
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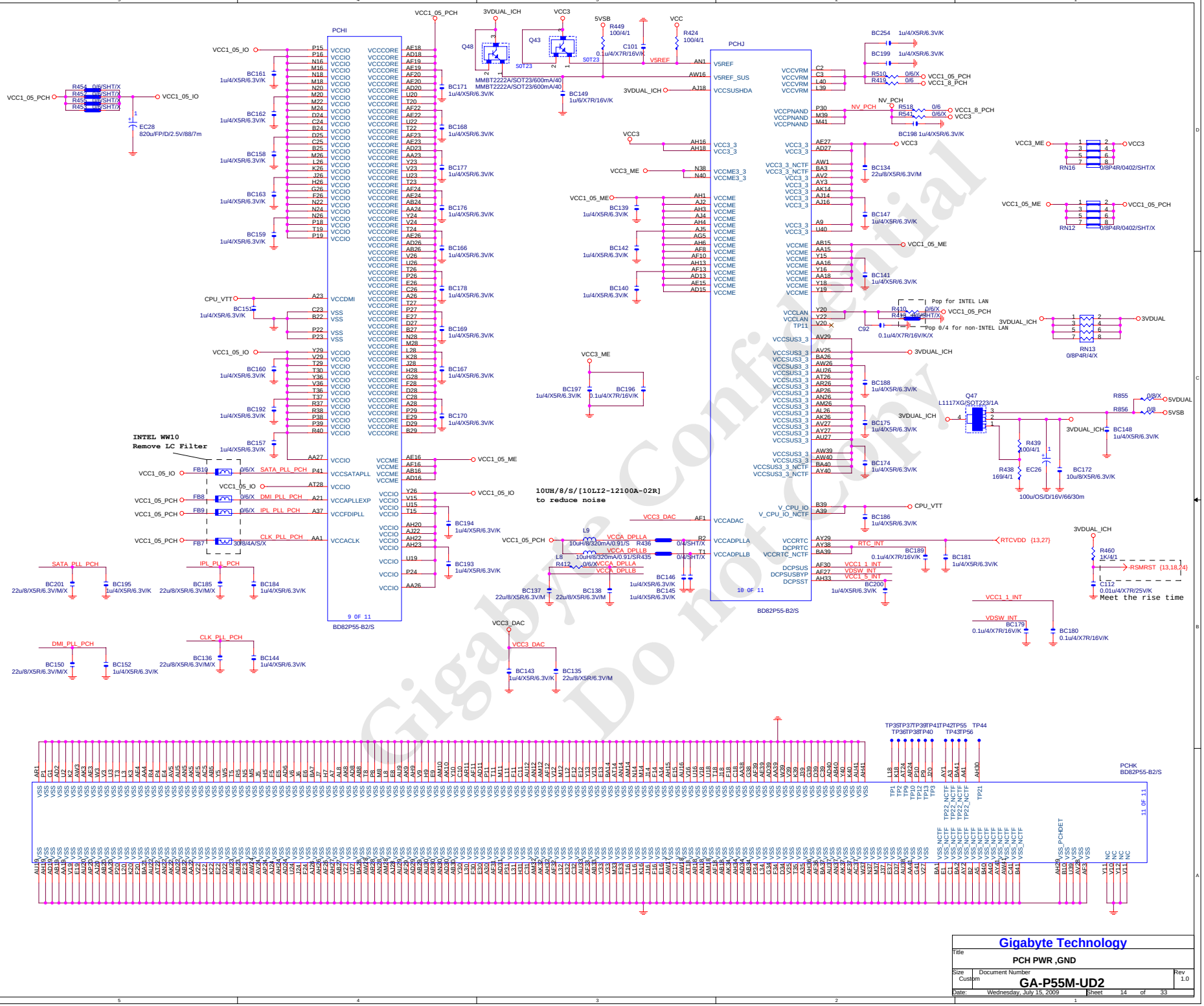
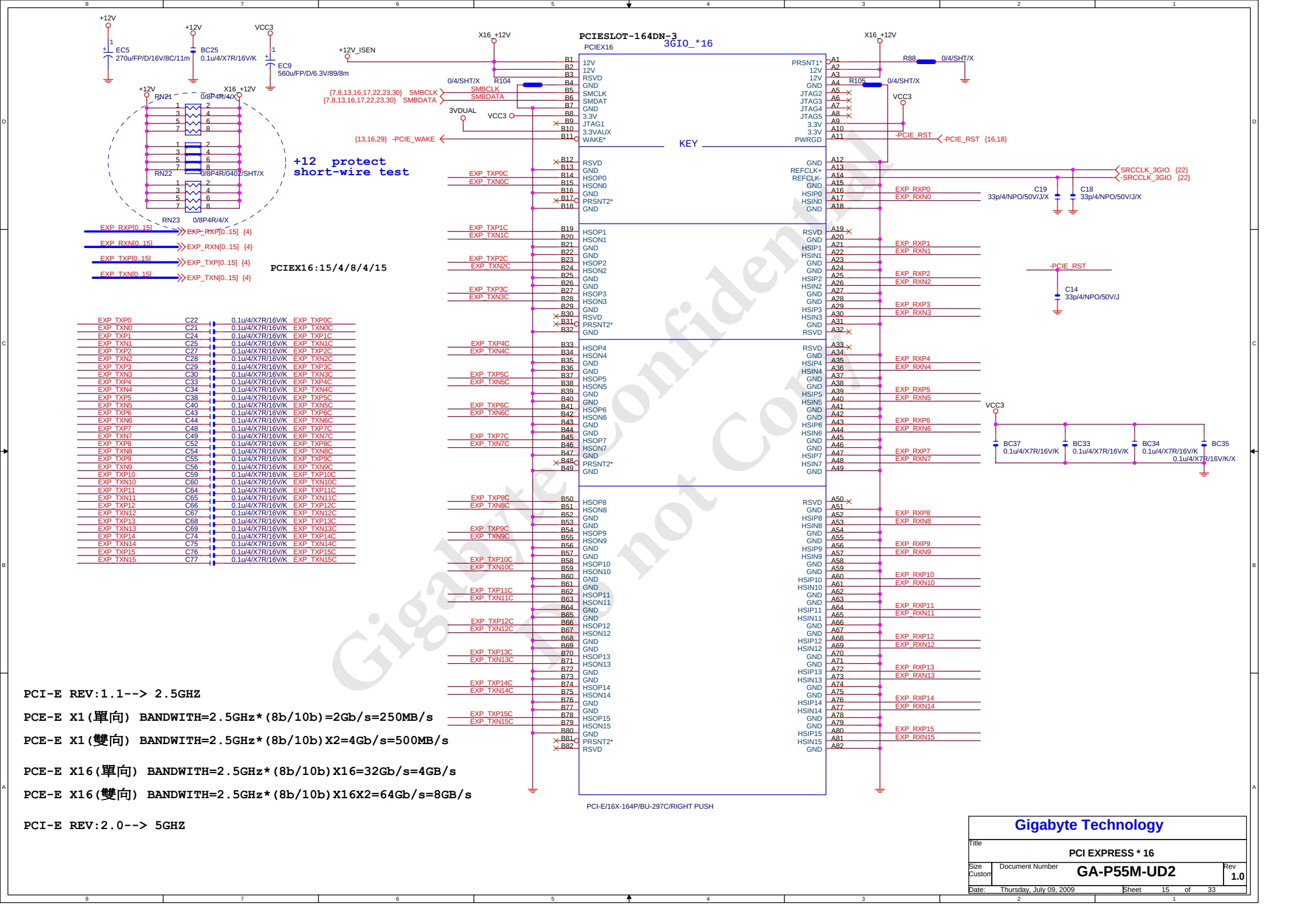
Gigabyte Confidential
Do not copy




PCIESLOT-164DN-3
PCIEX16
3GIO_*16
KEY
+12 protect
short-wire test
PCIEX16:15/4/8/4/15
PCI-E/16X-164P/BU-297C/RIGHT PUSH
PCI-E REV:1.1--> 2.5GHZ
PCE-E X1(單向) BANDWITH=2.5GHz*(8b/10b)=2Gb/s=250MB/s
PCE-E X1(雙向) BANDWITH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s
PCE-E X16(單向) BANDWITH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s
PCE-E X16(雙向) BANDWITH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s
PCI-E REV:2.0--> 5GHZ
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PCI EXPRESS * 16
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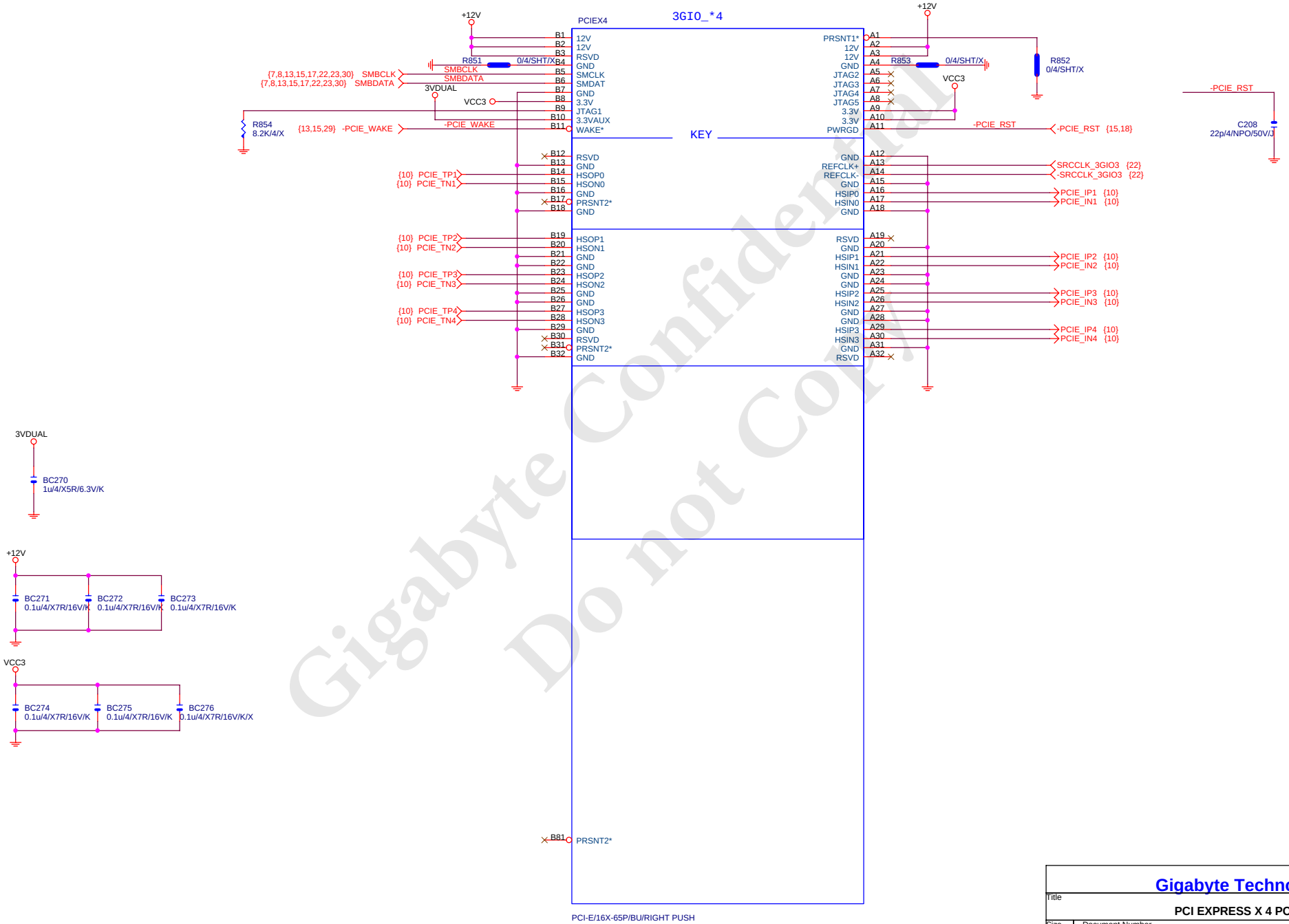

Gigabyte Technology		
Title: PCI EXPRESS X 4 PORT		
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
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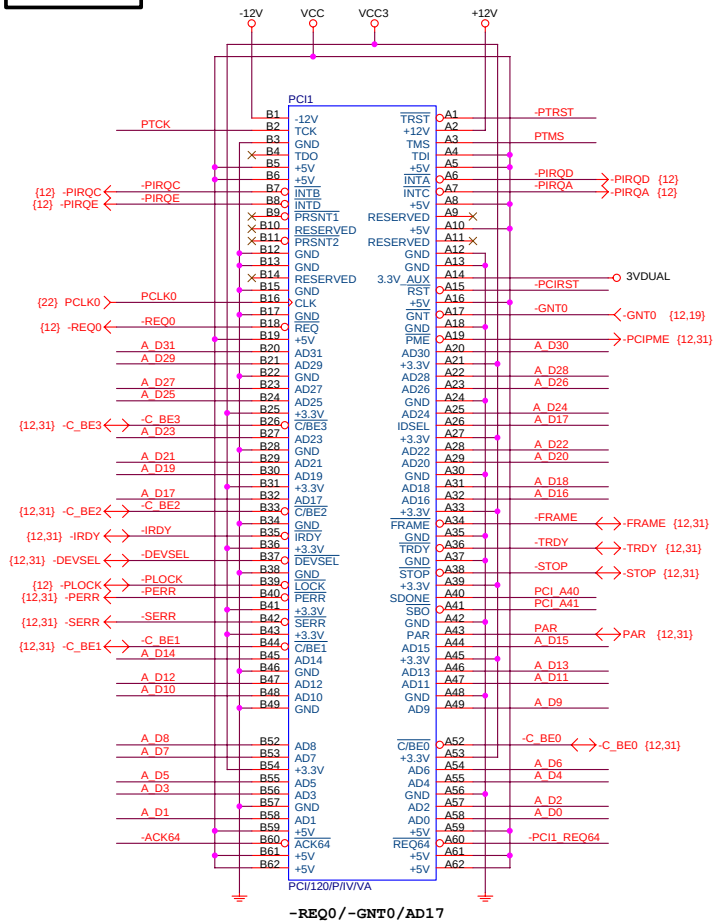
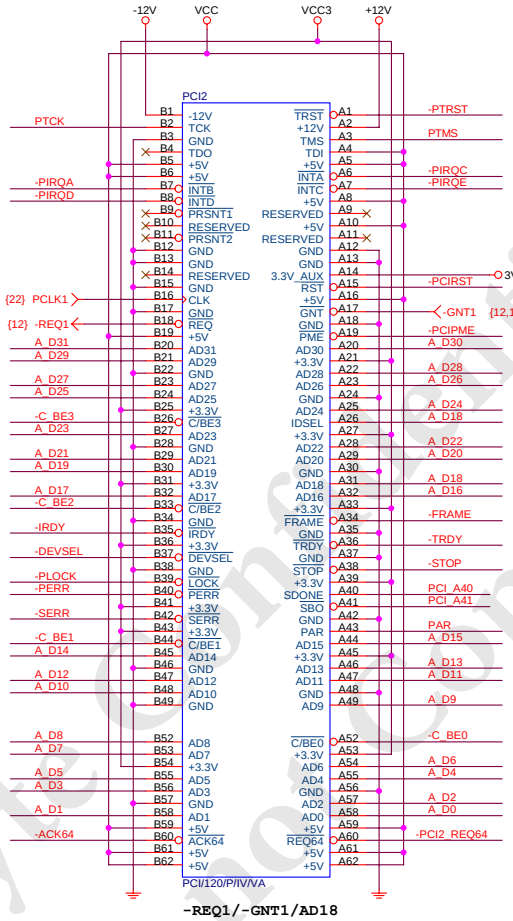
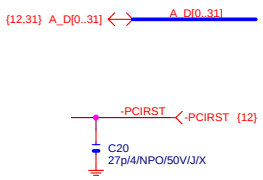
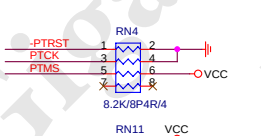
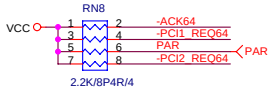
PCI1,2 SLOT

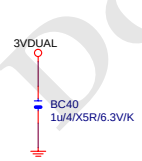


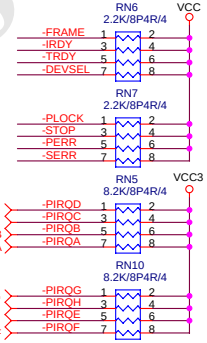


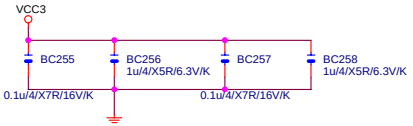


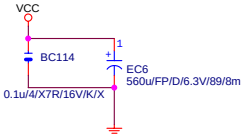


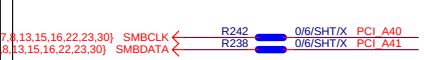












Gigabyte Technology			
Title: PCI SLOT 1, 2			
Size: Custom	Document Number: GA-P55M-UD2		Rev: 1.0
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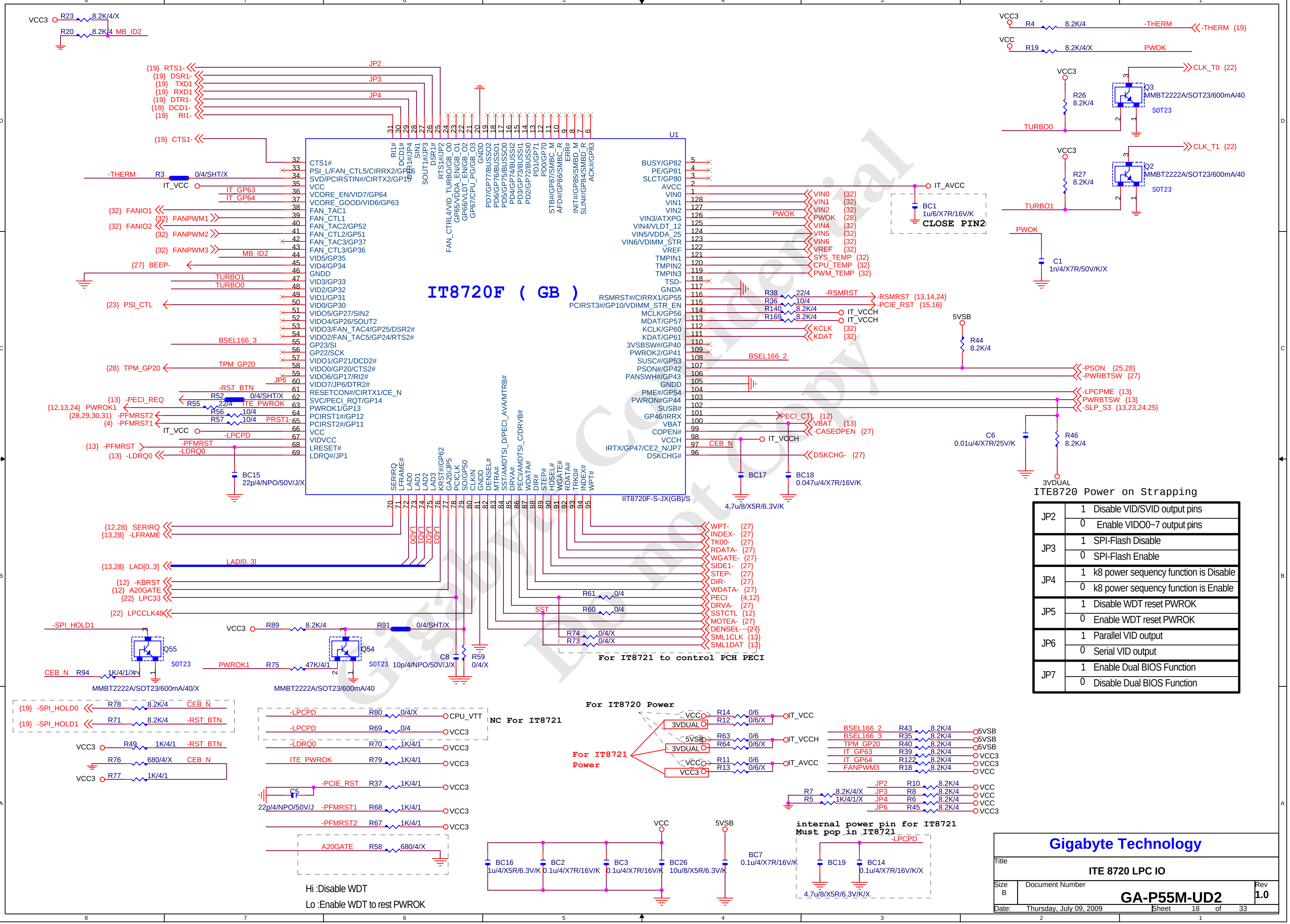

ITE8720 Power on Strapping

JP2	1	Disable VID/SVID output pins
	0	Enable VIDO0~7 output pins
JP3	1	SPI-Flash Disable
	0	SPI-Flash Enable
JP4	1	k8 power sequency function is Disable
	0	k8 power sequency function is Enable
JP5	1	Disable WDT reset PWROK
	0	Enable WDT reset PWROK
JP6	1	Parallel VID output
	0	Serial VID output
JP7	1	Enable Dual BIOS Function
	0	Disable Dual BIOS Function

Gigabyte Technology

Title: ITE 8720 LPC IO

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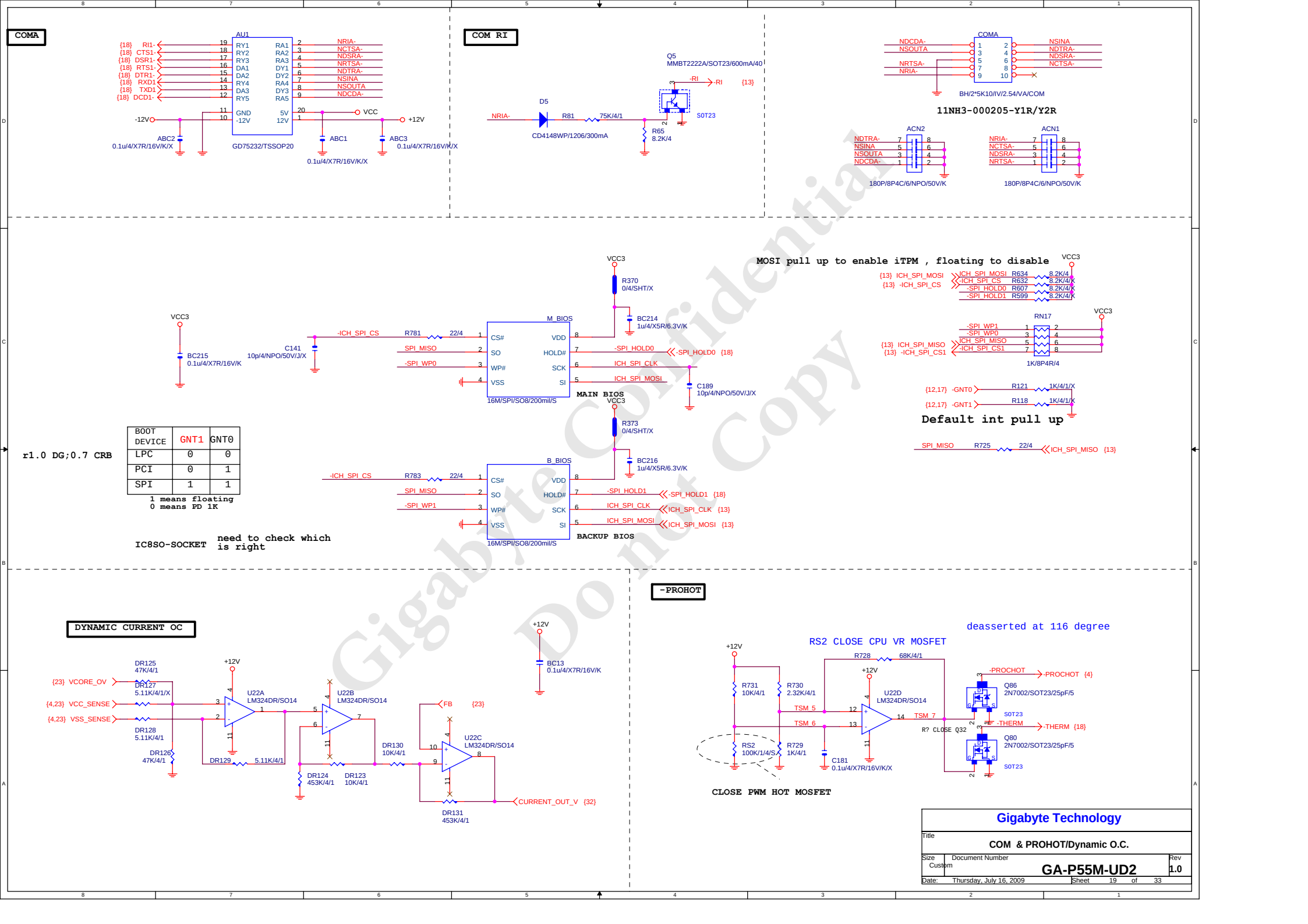
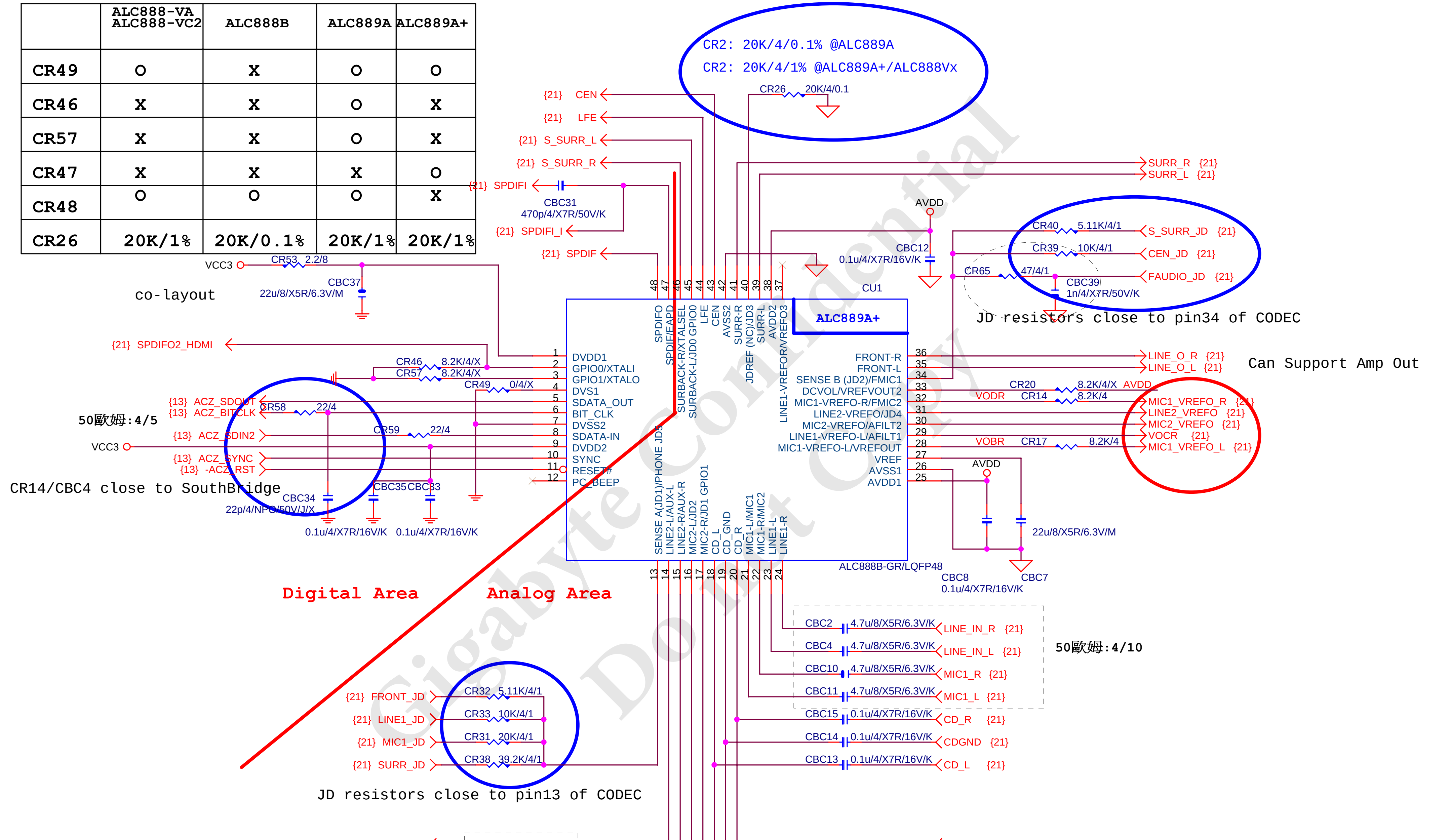


AZALIA CODEC

ALC889A+/ALC889A/ALC888Vx Colay

	ALC888-VA ALC888-VC2	ALC888B	ALC889A	ALC889A+
CR49	O	X	O	O
CR46	X	X	O	X
CR57	X	X	O	X
CR47	X	X	X	O
CR48	O	O	O	X
CR26	20K/1%	20K/0.1%	20K/1%	20K/1%



CR2: 20K/4/0.1% @ALC889A
CR2: 20K/4/1% @ALC889A+/ALC888Vx
CR26 20K/4/0.1
{21} CEN
{21} LFE
{21} S_SURR_L
{21} S_SURR_R
{21} SPDIFI
CBC31 470p/4/X7R/50V/K
{21} SPDIFI_I
{21} SPDIF
SURR_R {21}
SURR_L {21}
AVDD
CBC12 0.1u/4/X7R/16V/K
CR40 5.11K/4/1
S_SURR_JD {21}
CR39 10K/4/1
CEN_JD {21}
CR65 47/4/1
FAUDIO_JD {21}
CBC39 1n/4/X7R/50V/K
JD resistors close to pin34 of CODEC
VCC3
CR53 2.2/8
CBC37 22u/8/X5R/6.3V/M
co-layout
CU1
ALC889A+
{21} SPDIFO2_HDMI
CR46 8.2K/4/X
CR57 8.2K/4/X
CR49 0/4/X
{13} ACZ_SDOUT
{13} ACZ_BITCLK
CR58 22/4
50歐姆:4/5
{13} ACZ_SDIN2
CR59 22/4
VCC3
{13} ACZ_SYNC
{13} -ACZ_RST
CR14/CBC4 close to SouthBridge
CBC34 22p/4/NPO/50V/J/X
CBC35 CBC33
0.1u/4/X7R/16V/K 0.1u/4/X7R/16V/K
DVDD1 GPIO0/XTALI GPIO1/XTALO DVS1 SDATA_OUT BIT_CLK DVSS2 SDATA-IN DVDD2 SYNC RESET# PC_BEEP
SPDIFO SPDIF/EAPD SURBACK-R/XTALSEL SURBACK-L/JDO GPIO0 LFE CEN AVSS2 SURR-R SURR (NC)/JD3 SURR-L JDREF AVDD2 LINE1-VREFOR/VREFO3
FRONT-R FRONT-L SENSE B (JD2)/FMIC1 DCVOL/VREFVOUT2 MIC1-VREFO-R/FMIC2 LINE2-VREFO/JD4 MIC2-VREFO/AFILT2 LINE1-VREFO-L/AFILT1 MIC1-VREFO-L/VREFOUT VREF AVSS1 AVDD1
SENSE A(JD1)/PHONE JD3 LINE2-L/AUX-L LINE2-R/AUX-R MIC2-L/JD2 MIC2-R/JD1 GPIO1 CD_L CD_GND CD_R MIC1-L/MIC1 MIC1-R/MIC2 LINE1-L LINE1-R
ALC888B-GR/LQFP48
LINE_O_R {21}
LINE_O_L {21}
Can Support Amp Out
CR20 8.2K/4/X AVDD
VODR CR14 8.2K/4
MIC1_VREFO_R {21}
LINE2_VREFO {21}
MIC2_VREFO {21}
VOCR {21}
VOBR CR17 8.2K/4
MIC1_VREFO_L {21}
AVDD
22u/8/X5R/6.3V/M
CBC8 0.1u/4/X7R/16V/K
CBC7
Digital Area
Analog Area
CBC2 4.7u/8/X5R/6.3V/K LINE_IN_R {21}
CBC4 4.7u/8/X5R/6.3V/K LINE_IN_L {21}
CBC10 4.7u/8/X5R/6.3V/K MIC1_R {21}
CBC11 4.7u/8/X5R/6.3V/K MIC1_L {21}
50歐姆:4/10
CBC15 0.1u/4/X7R/16V/K CD_R {21}
CBC14 0.1u/4/X7R/16V/K CDGND {21}
CBC13 0.1u/4/X7R/16V/K CD_L {21}
{21} FRONT_JD
CR32 5.11K/4/1
{21} LINE1_JD
CR33 10K/4/1
{21} MIC1_JD
CR31 20K/4/1
{21} SURR_JD
CR38 39.2K/4/1
JD resistors close to pin13 of CODEC
{21} LINE2_L
{21} LINE2_R
{21} MIC2_L
{21} MIC2_R
CD_RR {21}
CDGND_G {21}
CD_LL {21}
Can Support Amp Out

Gigabyte Technology	
Title	**HD AUDIO ALC889A**
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CODEC POWER/EMI PAD

CR45 0/6/SHT/X
CR16 2.2/6
+12V
CD1 CD4148WP/1206/300mA
5VSB
CQ5
AVDD
CQ3
CD4148WP/1206/300mA
78L05/SOT89/0.1A
0.1u/4/X7R/16V/K/X
CBC16 22u/8/X5R/6.3V/M
CR18 0/4/X

CR44 0/6/SHT/X

{20} SPDIF
SPDIF
CBC17 0.01u/4/X7R/25V/K
CR29 100/4/1
SPDIF_RCA
CR30 220/4
CBC18 100p/4/NPO/50V/J
R_SPDIF
OPT RCA
FUSEVCC_R2
VCC
G1
G2
RCA/OPTI/SPDIFOUT/SHELL

NEW
"RCA_SPDIF-JST"

CD IN

CD_IN
{20} CD_L
{20} CDGND
{20} CD_R
CR24 8.2K/4
CR23 8.2K/4
CR25 8.2K/4
SHR/1*4/BK/P/2.54/VA/D

ESD20
{20} CDGND_G
CDGND_G
CD_RR
CD_RR {20}
VCC
CD_LL
CD_LL {20}
CM1293A-04SO/S/X

SPDIF_IN

VCC
CR64 0/4
{20} SPDIFI
SPDIF_I
SHR/1*3/RE/P/2.54/VA/D/[11NH5-010103-W1R]

Rev 0.2 modify
R0402-2-SHORT10

{20} SPDIF
CR48 0/4
SPDIFO
{20} SPDIFO2_HDMI
CR47 0/4/X
CBC32 100p/4/NPO/50V/J
PIN
SPDIF_O
PH/1*2/BK/2.54/VA/D
For HDMI SPDIF

ESD21
{20} SPDIFI_I
SPDIFI_I
SPDIFO
VCC
CM1293A-04SO/S/X

AZALIA JACK

BTX AZALIA CONNECTOR

11NR6-403007-21R

ESD10
LINE2_R
LINE2_L
AVDD
CM1293A-04SO/S/X

ESD11
MIC2_R
MIC2_L
AVDD
CM1293A-04SO/S/X

AUDIOB
{20} LINE1_JD
LINE1_JD
AJ_A5
AJ_A2
GND
LINE-IN
BLUE
LINE-IN
{20} FRONT_JD
FRONT_JD
AJ_B5
AJ_B2
GND
LINE-OUT
GREEN
LINE-OUT
{20} MIC1_JD
MIC1_JD
AJ_C5
AJ_C2
GND
MIC-IN
PINK
MIC-IN
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

AUDIOA
{20} CEN_JD
CEN_JD
BJ_B5
BJ_B2
GND
REAR
Orange
CEN/LFE
{20} SURR_JD
SURR_JD
BJ_C5
BJ_C2
GND
CEN
Black
SURROUND
{20} S_SURR_JD
S_SURR_JD
BJ_A5
BJ_A2
GND
SIDE
Gray
SURROUND SIDE
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

LINE-OUT

{20} LINE_O_R
CEC1 100u/OS/D/16V/66/30m
CR1 75/4/1
{20} LINE_O_L
CEC2 100u/OS/D/16V/66/30m
CR3 75/4/1
CR4 22K/4
CR2 22K/4
AJ_B5
AJ_B2
CBC9 180p/4/NPO/50V/J
CBC21 180p/4/NPO/50V/J

Only reserved for ALC888

LINE-IN

Verify MIC function in LINE-in

{20} LINE_IN_R
CR10 75/4/1
{20} LINE_IN_L
CR12 75/4/1
CQ1
{20} VOCR
CR11 8.2K/4
CR13 8.2K/4
For 889A/888
BAT54A/SOT23/200mA
AJ_A5
AJ_A2
CBC20 180p/4/NPO/50V/J
CBC23 180p/4/NPO/50V/J

MIC-IN

{20} MIC1_R
CR15 75/4/1
{20} MIC1_L
CR19 75/4/1
{20} MIC1_VREFO_L
{20} MIC1_VREFO_R
AJ_C5
AJ_C2
CBC3 180p/4/NPO/50V/J
CBC1 180p/4/NPO/50V/J

SURROUND

{20} SURR_R
CEC6 100u/OS/D/16V/66/30m
CR56 75/4/1
{20} SURR_L
CEC3 100u/OS/D/16V/66/30m
CR27 75/4/1
EMI
CR21 22K/4
CR43 22K/4
BJ_C5
BJ_C2
CBC24 180p/4/NPO/50V/J
CBC29 180p/4/NPO/50V/J

CEN/LFE

{20} LFE
CEC8 100u/OS/D/16V/66/30m
CR55 75/4/1
{20} CEN
CEC9 100u/OS/D/16V/66/30m
CR37 75/4/1
EMI
CR36 22K/4
CR42 22K/4
BJ_B5
BJ_B2
CBC25 180p/4/NPO/50V/J
CBC30 180p/4/NPO/50V/J

SURR BACK

{20} S_SURR_R
CEC4 100u/OS/D/16V/66/30m
CR28 75/4/1
{20} S_SURR_L
CEC5 100u/OS/D/16V/66/30m
CR34 75/4/1
EMI
CR35 22K/4
CR22 22K/4
BJ_A5
BJ_A2
CBC22 180p/4/NPO/50V/J
CBC28 180p/4/NPO/50V/J

AZALIA FRONT PANEL

CQ4
BAT54A/SOT23/200mA
SOT23
{20} LINE2_VREFO
CR50 8.2K/4
CR60 8.2K/4
CQ2
BAT54A/SOT23/200mA
{20} MIC2_VREFO
CR8 8.2K/4
CR5 8.2K/4

{20} MIC2_L
{20} MIC2_R
CBC5 4.7u/8/X5R/6.3V/K
CBC6 4.7u/8/X5R/6.3V/K
CR6 75/4/1 M2_L
CR9 75/4/1 M2_R
{20} FAUDIO_JD
L2_R
L2_L
CR61 75/4/1
CR51 75/4/1
CR7 0/4/X

{20} LINE2_R
{20} LINE2_L
CEC10 100u/OS/D/16V/66/30m
CEC7 100u/OS/D/16V/66/30m

Digital Area
3VDUAL
CR62 22K/4
CR52 22K/4
CR54 8.2K/4
F_AUDIO
CR41 20K/4/1
CR63 39.2K/4/1
PH/2*5K8/GED/2.54/VA/D
ACZ_DET {13}

CBC27 180p/4/NPO/50V/J
CBC26 180p/4/NPO/50V/J
CBC38 180p/4/NPO/50V/J
CBC36 180p/4/NPO/50V/J

Gigabyte Technology

Title	AUDIO JACK	
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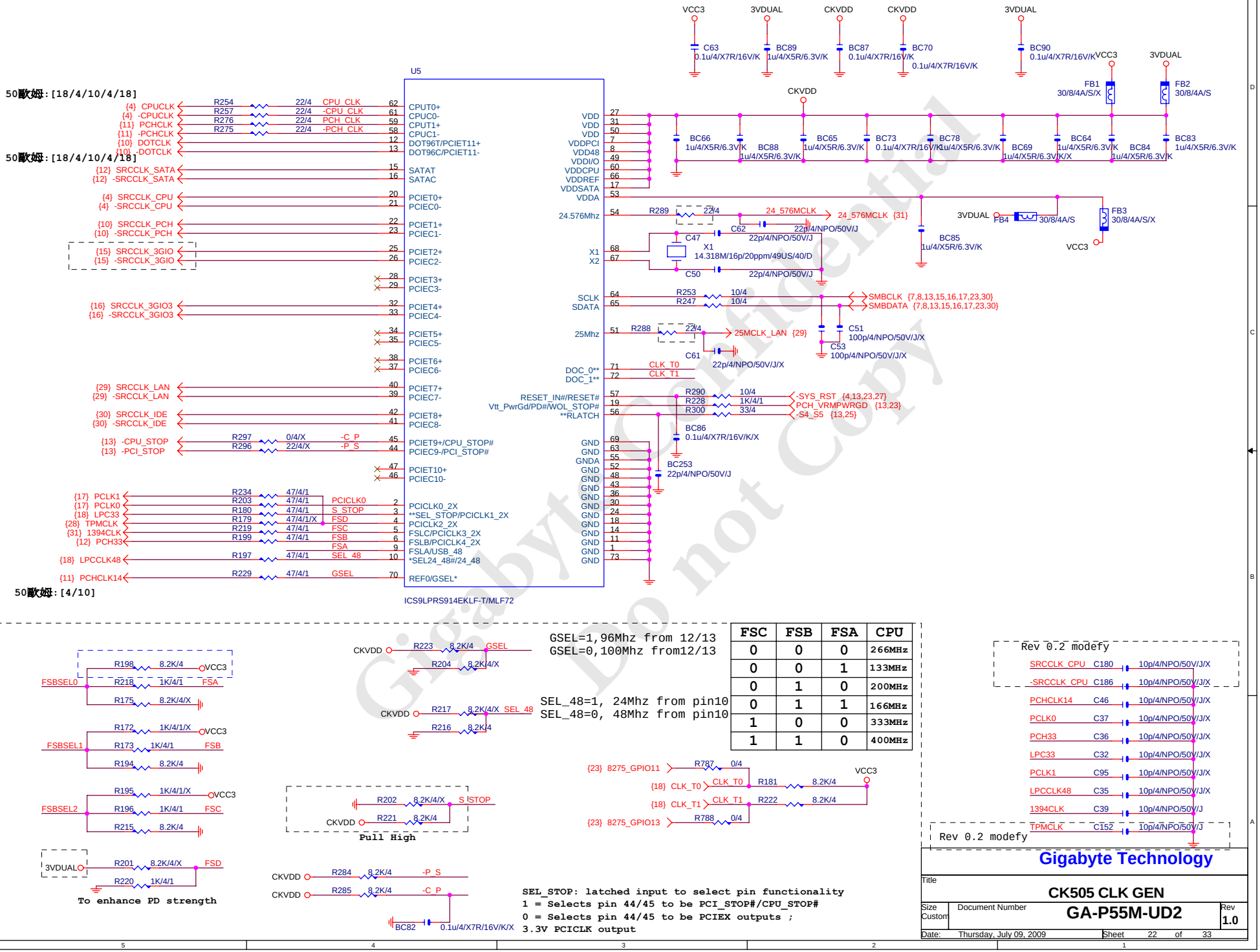
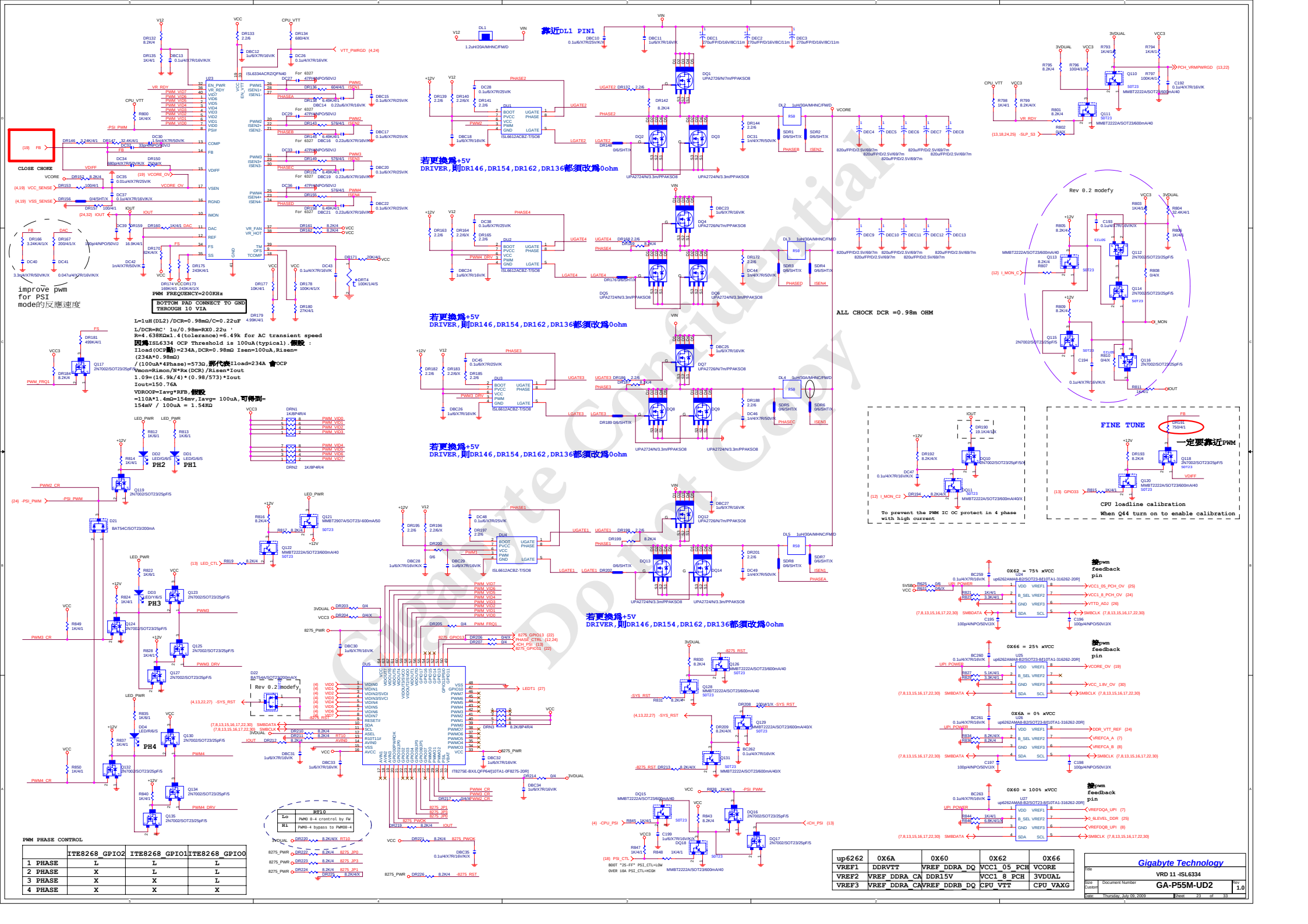
CLK GEN CK505



FSC	FSB	FSA	CPU
0	0	0	266MHz
0	0	1	133MHz
0	1	0	200MHz
0	1	1	166MHz
1	0	0	333MHz
1	1	0	400MHz

Gigabyte Technology

Title	CK505 CLK GEN	
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
Date: Thursday, July 09, 2009	Sheet 22 of 33	


靠近DL1 PIN1
若更換爲+5V DRIVER,則DR146,DR154,DR162,DR136都須改爲0ohm
若更換爲+5V DRIVER,則DR146,DR154,DR162,DR136都須改爲0ohm
若更換爲+5V DRIVER,則DR146,DR154,DR162,DR136都須改爲0ohm
若更換爲+5V DRIVER,則DR146,DR154,DR162,DR136都須改爲0ohm
ALL CHOCK DCR =0.98m OHM
CLOSE CHOKE
improve pwm for PSI mode的反應速度
PWM FREQUENCY=200KHz
BOTTOM PAD CONNECT TO GND THROUGH 10 VIA
L=1uH(DL2)/DCR=0.98mΩ/C=0.22uF
L/DCR=RC' 1u/0.98m=RX0.22u '
R=4.638KΩx1.4(tolerance)=6.49k for AC transient speed
因爲ISL6334 OCP Threshold is 100uA(typical).假設 :
Iload(OCP點)=234A,DCR=0.98mΩ Isen=100uA,Risen=
(234A*0.98mΩ)
/(100uA*4Phase)=573Ω,那代表Iload=234A 會OCP
Vmon=Rimon/N*Rx(DCR)/Risen*Iout
1.09=(16.9k/4)*(0.98/573)*Iout
Iout=150.76A
VDROOP=Iavg*RFB,假設
=110A*1.4mΩ=154mv,Iavg= 100uA,可得到=
154mV / 100uA = 1.54KΩ
Rev 0.2 modefy
Rev 0.2 modefy
FINE TUNE
一定要靠近PWM
CPU loadline calibration
When Q44 turn on to enable calibration
To prevent the PWM IC OC protect in 4 phase with high current
0X62 = 75% xVCC
0X66 = 25% xVCC
0X6A = 0% xVCC
0X60 = 100% xVCC
接pwm feedback pin
PH2
PH1
PH3
PH4
RT10
Lo PWM0 0-4 crontrol by FW
Hi PWM0-4 bypass to PWM09-4
PWM PHASE CONTROL
ITE8268_GPIO2 ITE8268_GPIO1 ITE8268_GPIO0
1 PHASE L L L
2 PHASE X L L
3 PHASE X X L
4 PHASE X X X
up6262 0X6A 0X60 0X62 0X66
VREF1 DDRVTT VREF_DDRA_DQ VCC1_05_PCH VCORE
VREF2 VREF_DDRA_CA DDR15V VCC1_8_PCH 3VDUAL
VREF3 VREF_DDRA_CA VREF_DDRB_DQ CPU_VTT CPU_VAXG
Gigabyte Technology
VRD 11 -ISL6334
GA-P55M-UD2
Rev 1.0
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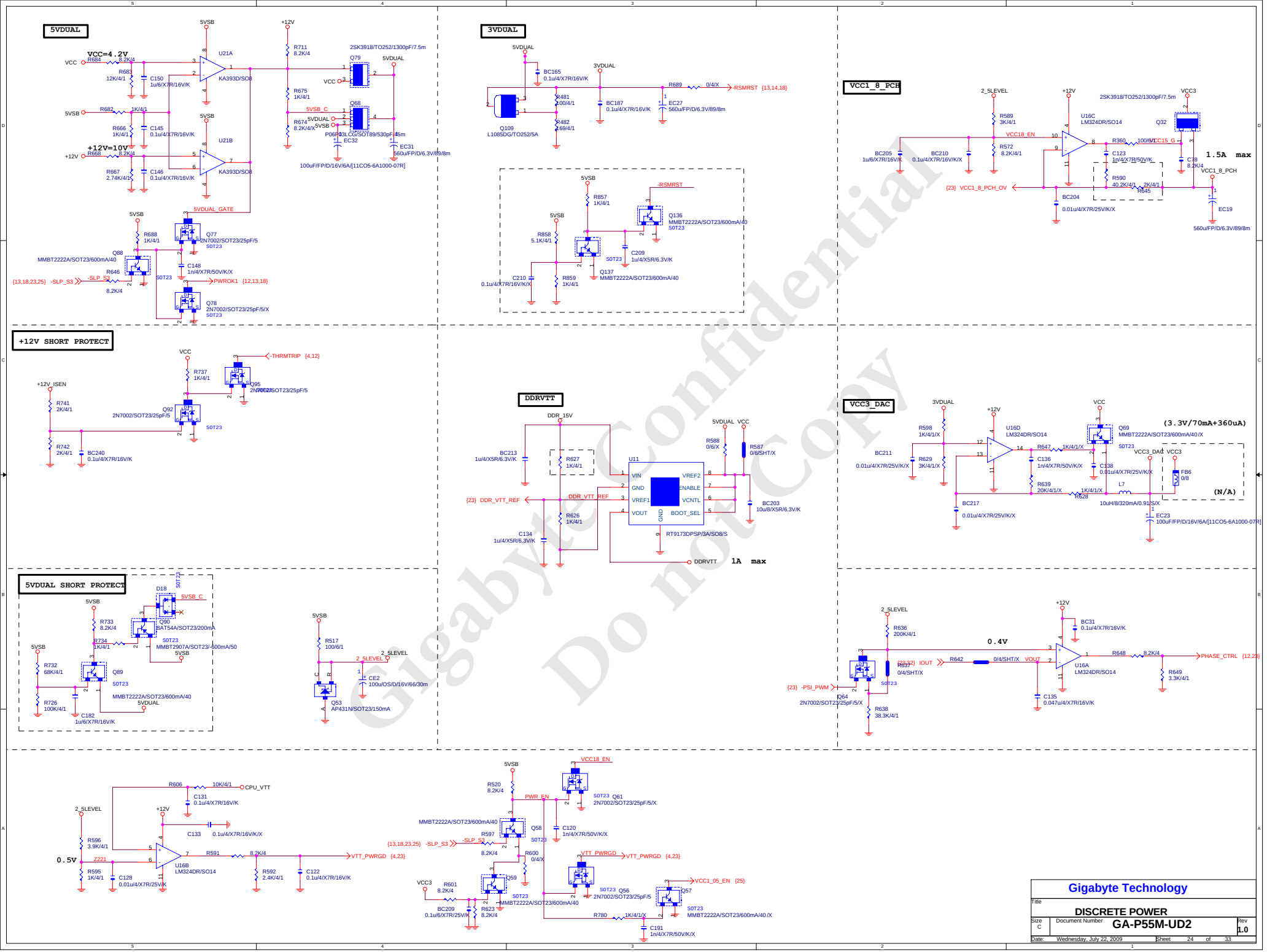
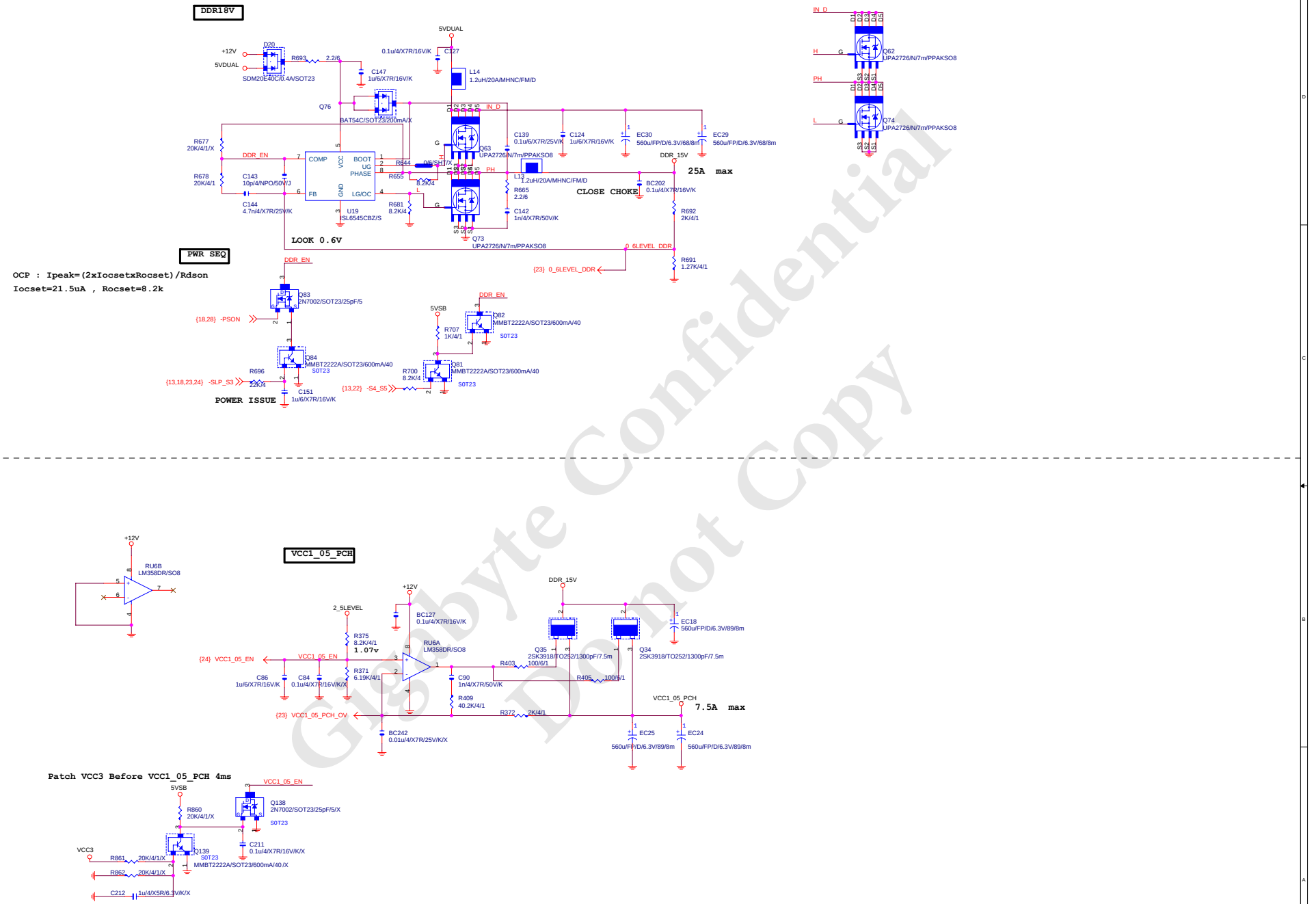
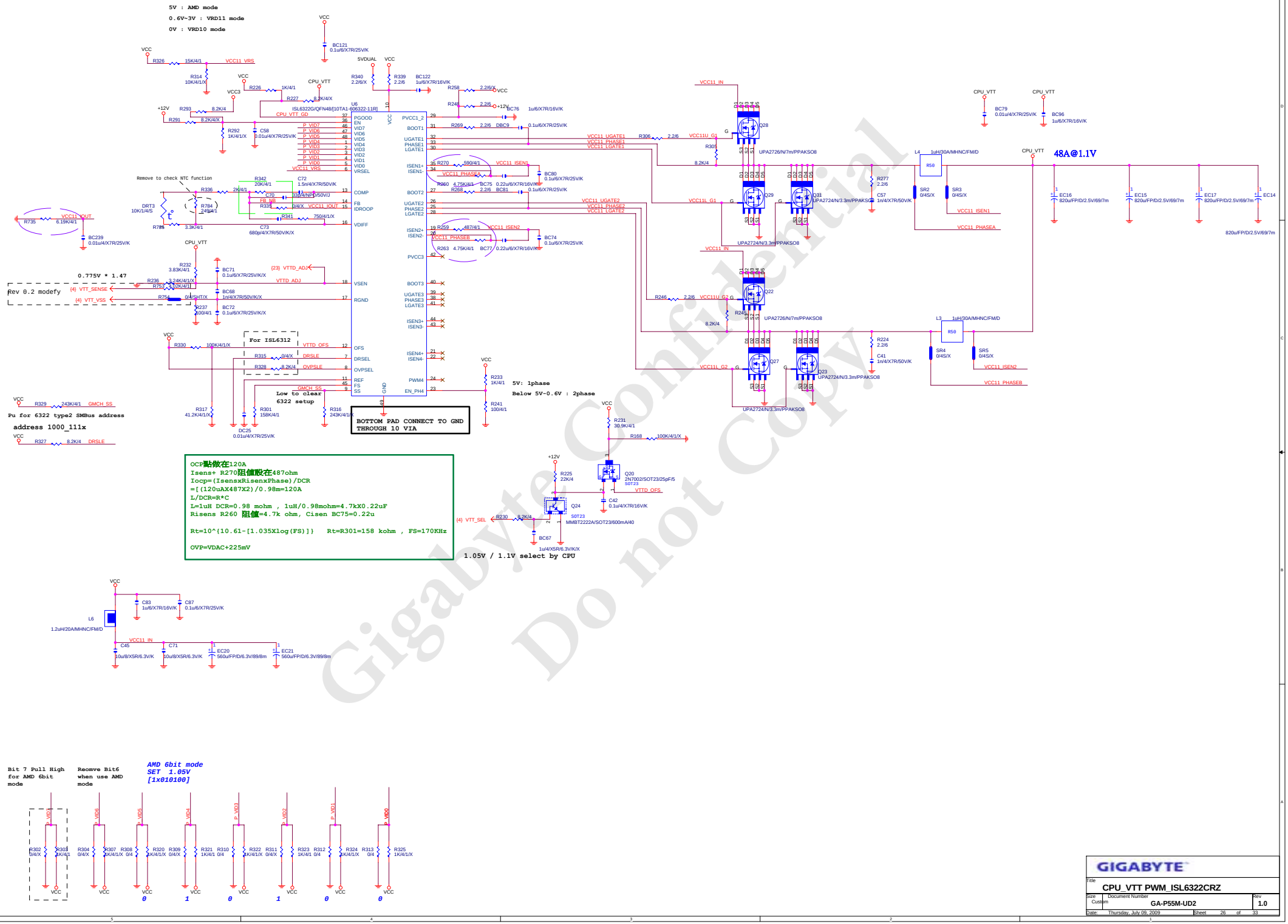


Gigabyte Technology	
Title	DISCRETE POWER
Size C	Document Number GA-P55M-UD2 Rev 1.0
Date: Wednesday, July 22, 2009	Sheet 24 of 33



Gigabyte Technology		
Title: DDR_15V		
Size: C	Document Number: GA-P55M-UD2	Rev: 1.0
Date: Thursday, July 16, 2009	Sheet 25 of 33	



Title	CPU_VTT PWM_ISL6322CRZ
Size	Custom
Document Number	GA-P55M-UD2
Rev	1.0
Date	Thursday, July 09, 2009
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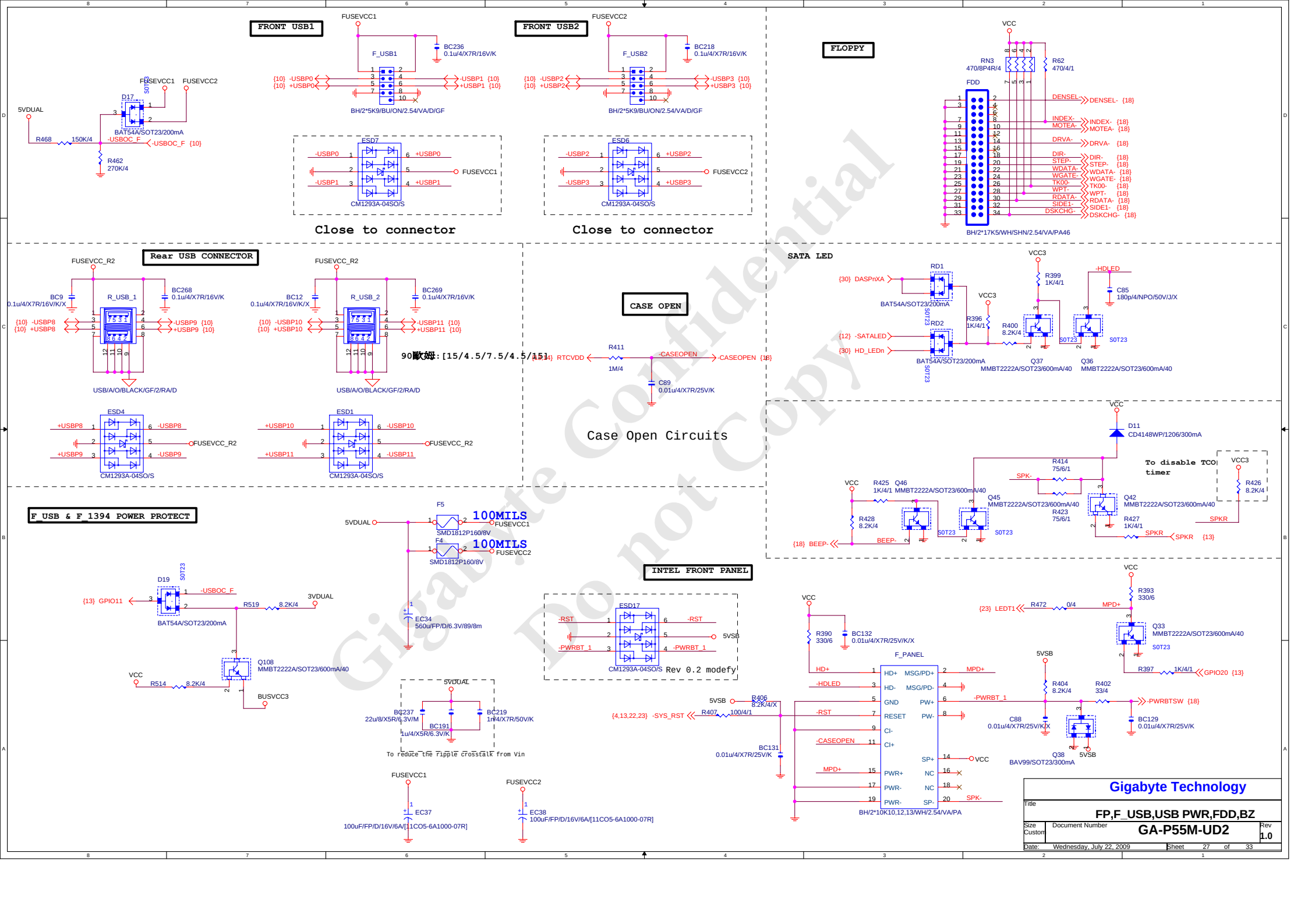
FRONT USB1
FRONT USB2
FLOPPY
Close to connector
Close to connector
Rear USB CONNECTOR
CASE OPEN
SATA LED
F_USB & F_1394 POWER PROTECT
INTEL FRONT PANEL
Case Open Circuits
To disable TCO timer
Rev 0.2 modefy
Gigabyte Technology
FP,F_USB,USB PWR,FDD,BZ
GA-P55M-UD2
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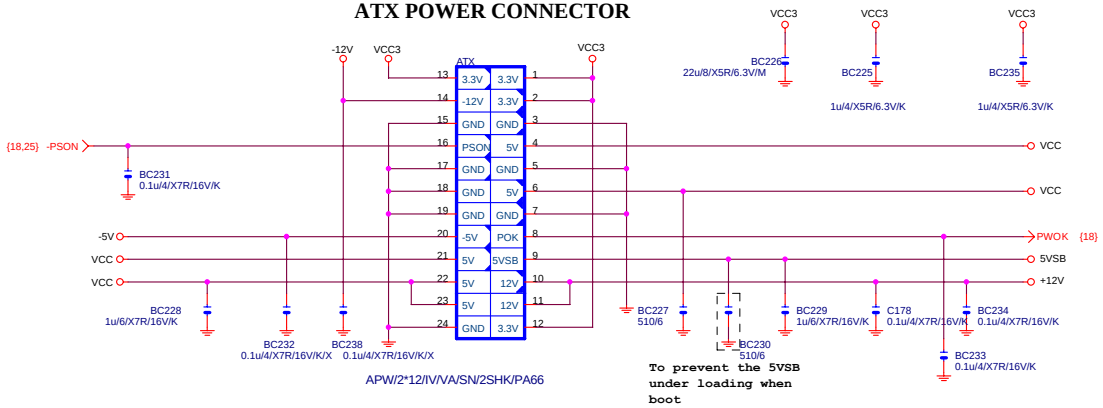
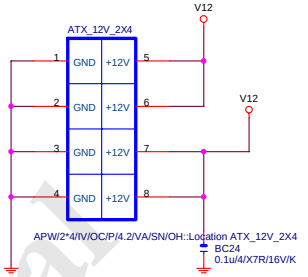
ATX POWER CONNECTOR

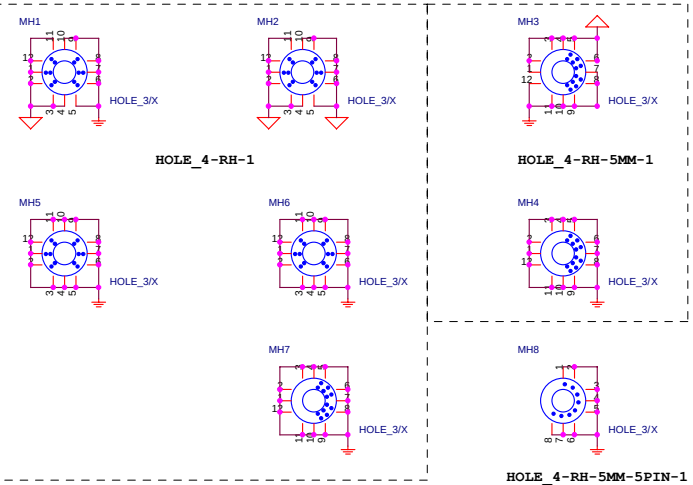


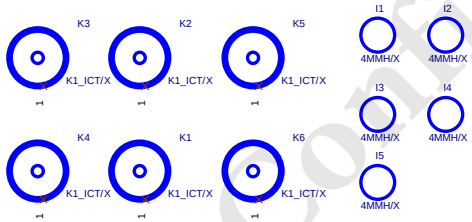
APW/2*12/IV/VA/SN/2SHK/PA66

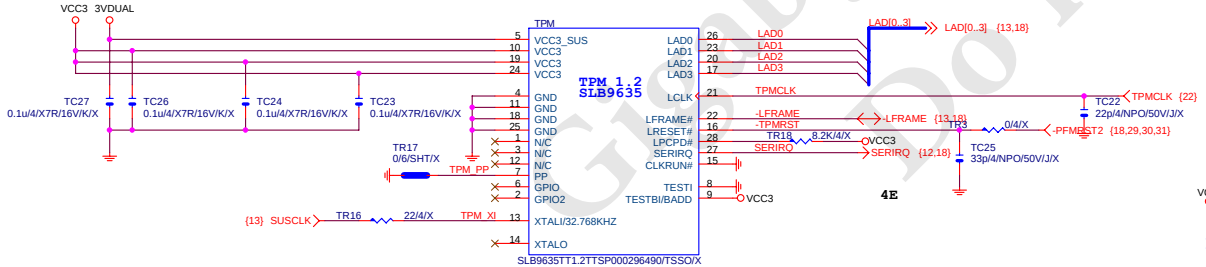
To prevent the 5VSB under loading when boot



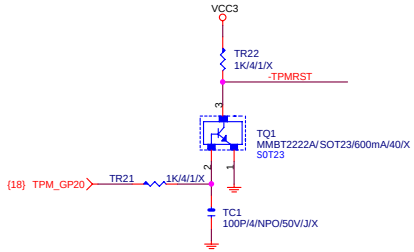
APW/2*4/IV/OC/P/4.2/VA/SN/OH::Location ATX_12V_2X4







4E



Gigabyte Technology		
Title: ATX POWER CONNECTOR		
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
Date: Thursday, July 09, 2009	Sheet 28 of 33	

PCIE-1G LAN

Power domain chart

	RTL8111B / RTL8101E	RTL8111C
AVDD33	3.3V	3.3V
AVDD18	1.8V	1.2V
EVDD18	1.8V	1.2V
VDD15	1.5V	1.2V

for RT8111B N/C
for RT8111C 0 ohm
(Internal Regulator)
for RT8111C N/C
(external Regulator)

離 PIN63 0.5cm以內
For RT8111C
LR16離IC越近越好
RTL8111D-GR/QFN64/[10HP2-408111-70R]
For RTL8111C
80歐姆:[15/5/5/5/15]
SRCCLK 50歐姆:[18/4/10/4/18]
離IC近越好

Dual Color LED
Green
Orange

Single Color LED
Yellow

P35-152-19W9

for RT8111C Mount
FOR CLOSE PIN1,29,37,40
距離pin1 在0.5cm以內
距離LL2 在0.5cm以內

USB_LAN CONNECTOR
Close to connector
FOR EMI
USB_LAN
UP
DOWN
USB+LAN/1G/GO,Y/OS/RA/D/1
90歐姆:[20/4/8/4/20]
90歐姆:[15/4.5/7.5/4.5/15]

400MILS
240MILS

Gigabyte Technology
Title: REALTEK RTL8111C
Size: Custom
Document Number: GA-P55M-UD2
Rev: 1.0
Date: Thursday, July 09, 2009
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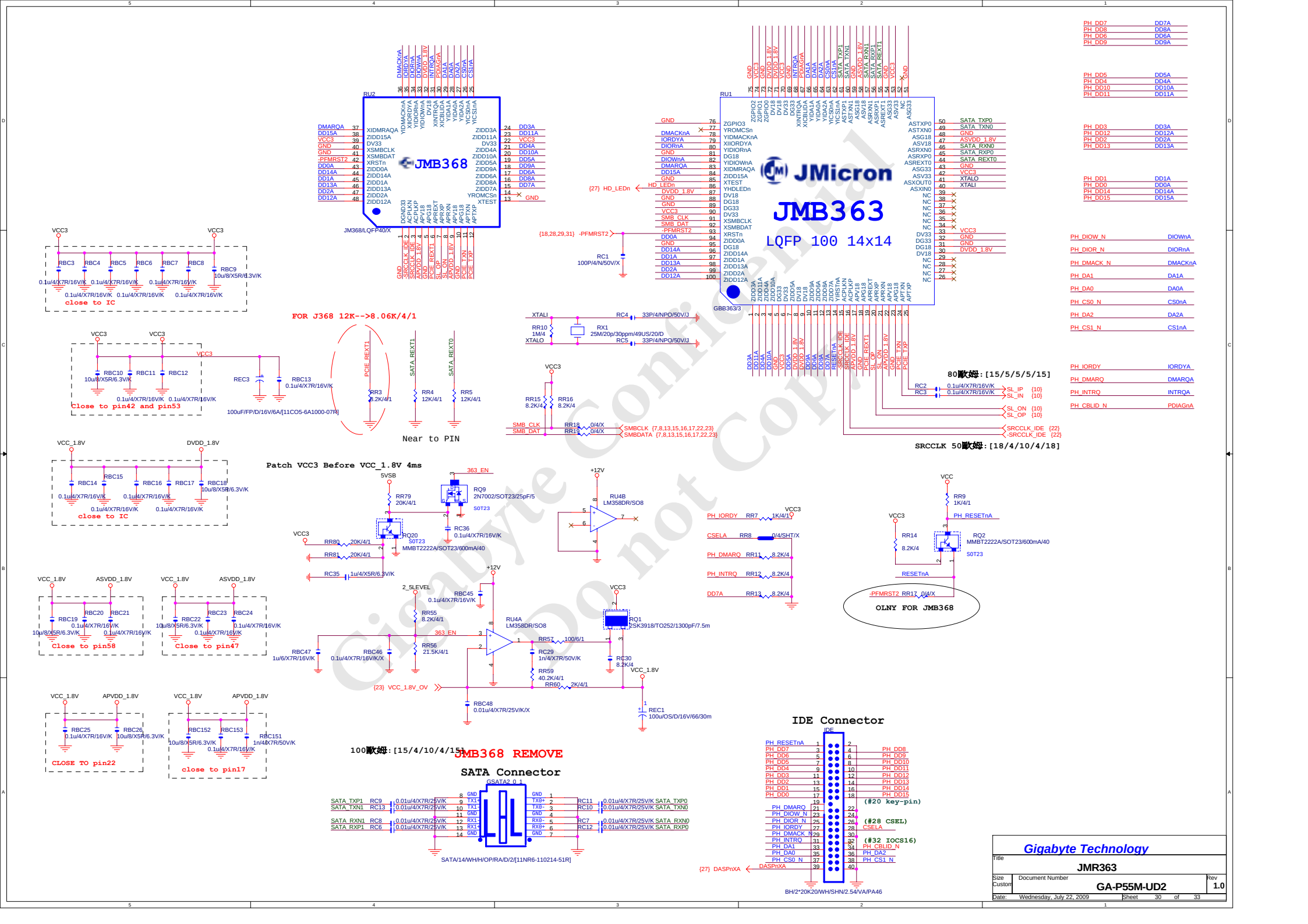
JMB368
JM368/LQFP40/X
JMicron
JMB363
LQFP 100 14x14
GBB363/3
close to IC
Close to pin42 and pin53
FOR J368 12K-->8.06K/4/1
Near to PIN
Patch VCC3 Before VCC_1.8V 4ms
Close to pin58
Close to pin47
CLOSE TO pin22
close to pin17
100歐姆:[15/4/10/4/15]
80歐姆:[15/5/5/5/15]
SRCCLK 50歐姆:[18/4/10/4/18]
JMB368 REMOVE
SATA Connector
IDE Connector
OLNY FOR JMB368
Gigabyte Technology
JMR363
GA-P55M-UD2
Wednesday, July 22, 2009
Sheet 30 of 33
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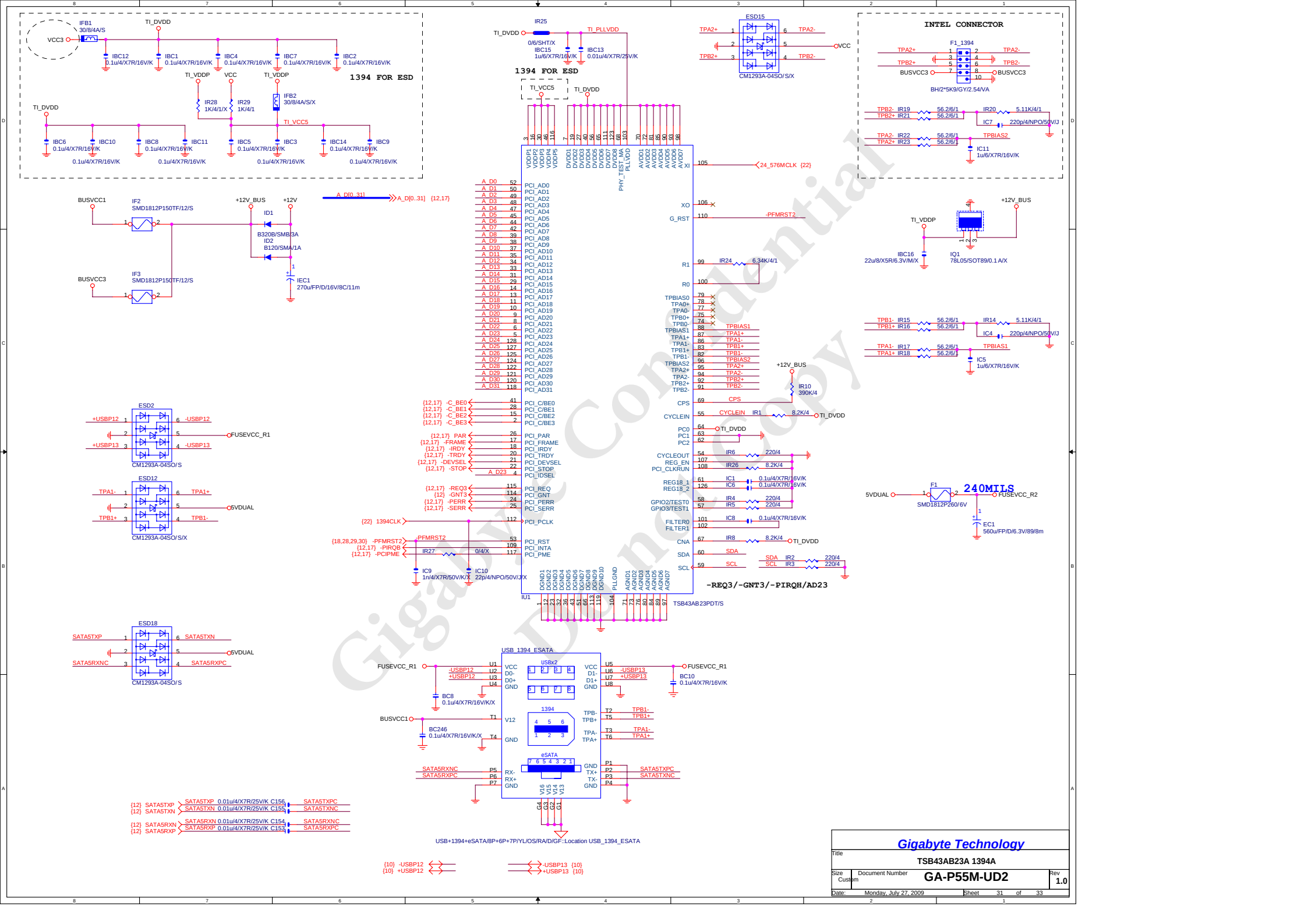
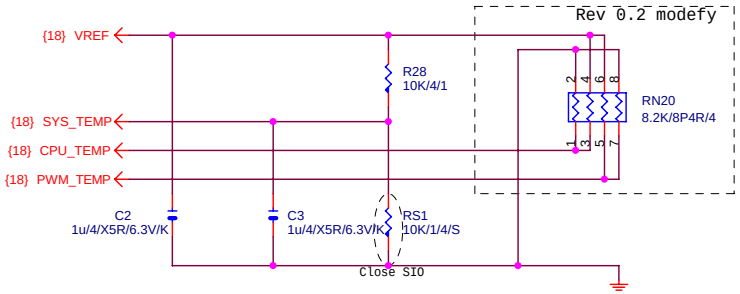
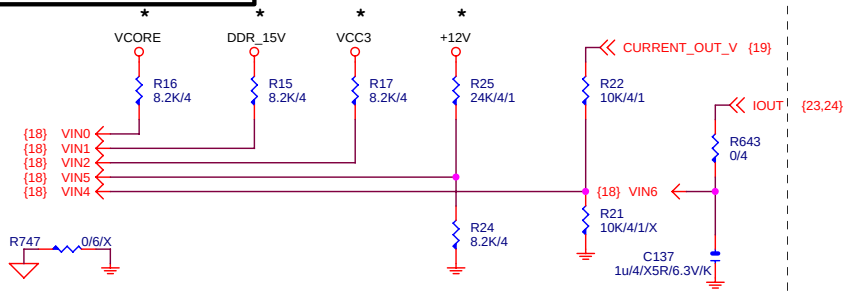


Gigabyte Technology			
Title	TSB43AB23A 1394A		
Size: Custom	Document Number: GA-P55M-UD2		Rev: 1.0
Date: Monday, July 27, 2009	Sheet 31 of 33		

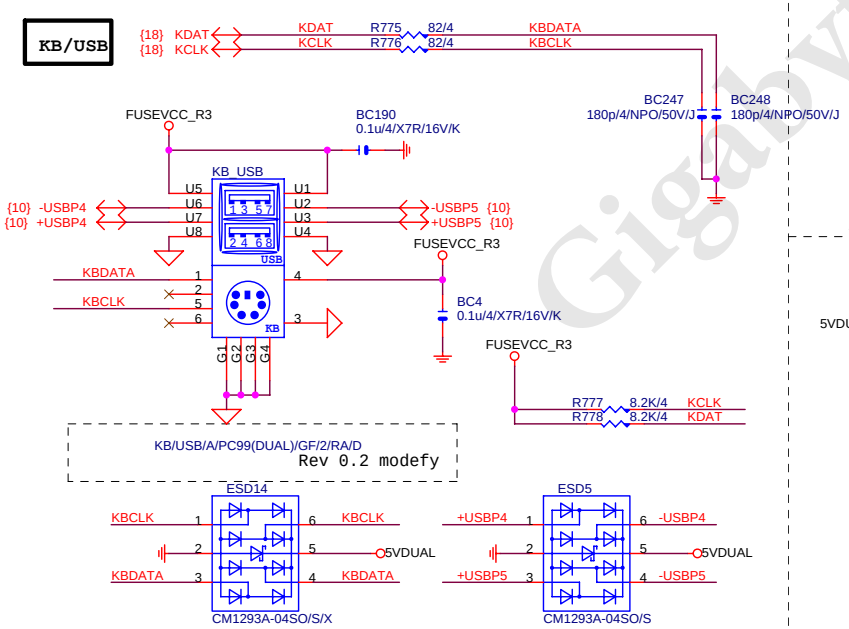
TEMP H/W MONITOR



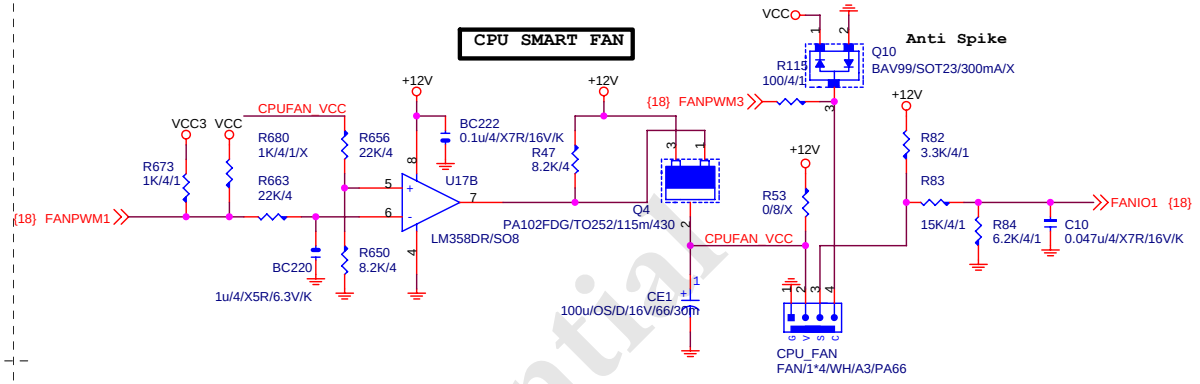
VOLTAGE-- H/W MONITOR



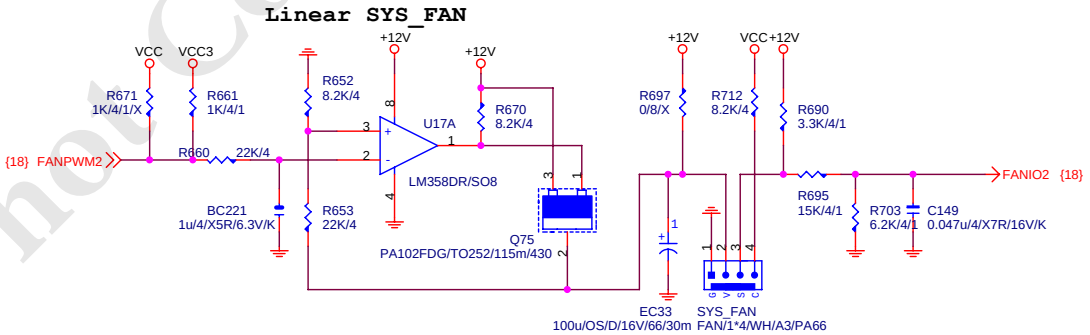
KB/USB

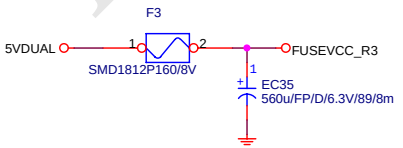


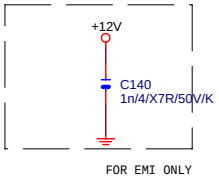
CPU SMART FAN



SYS FAN







Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
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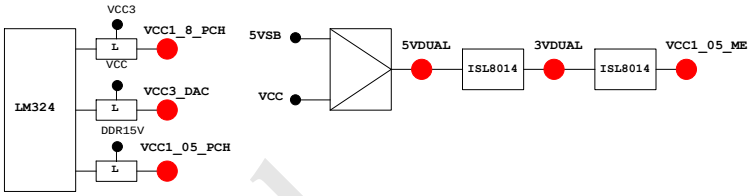
PCH GPIO LIST TABLE

PIN NAME	PWR	AFTER/ PLTRST	Default	USAGE	NOTE
GP0	MAIN	H-Z	GPI	-PECI_REQ	N/A
GP1/TACH1	MAIN		GPI	ICH_FAN_TACH1	N/A
GP2/PIRQE#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN		GPI	ICH_FAN_TACH2	N/A
GP7/TACH3	MAIN		GPI	ICH_FAN_TACH3	N/A
GP8	STBY	H	GPO	GPIO8	P/U 8.2K 3VDUAL
GP9/OC5#	STBY		NATIVE	OC5#	N/A
GP10/OC6#	STBY		NATIVE	OC6#	N/A
GP11/SMBALERT#	STBY		NATIVE	-SMBALERT	P/U 8.2K 3VDUAL
GP12	STBY	L	GPI	LAN_PHY_PWR_CTRL	P/U 8.2K 3VDUAL
GP13	STBY	L	GPI	GPIO13	P/U 8.2K 3VDUAL
GP14/OC7#	STBY		NATIVE	OC7#	N/A
GP15	STBY	L	GPO	GPIO15	N/A
GP16	MAIN		GPI	-SKTOCC	P/U 8.2K VCC3
GP17/TACH0	MAIN		GPI	ICH_FAN_TACH0	N/A
GP18	MAIN		NATIVE	MB_ID0	P/D 8.2K GND
GP19	MAIN		GPI	-LAN1_ISO	P/U 8.2K VCC3
GP20	MAIN		NATIVE	LED_CTL	P/U 1K VCC3
GP21	MAIN		GPI	VCC18_PCH_OV2	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI	VCORE_OV3	P/U 8.2K VCC3
GP23	MAIN		NATIVE	-LDRQ1	P/U 8.2K VCC3
GP24	STBY	L	GPO	TLS	P/U 8.2K 3VDUAL
GP25	STBY		NATIVE	-CPU_STOP	P/U 8.2K 3VDUAL
GP26	STBY		NATIVE	-ACZ_DET	P/U 8.2K 3VDUAL
GP27	STBY	H	GPO	GPIO27	P/U 8.2K 3VDUAL
GP28	STBY	H	GPO	GPIO28	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI	GPIO29	N/A
GP30	STBY	H-Z	GPI	S_PWR_ACK	P/U 100K 3VDUAL
GP31	STBY	H-Z	GPI	N/A(Reverse)	P/U 8.2K VCC3
GP32	MAIN	H	GPO	MB_ID1	P/D 8.2K GND
GP33	MAIN	H	GPO	LOAD-LINE	P/U 1K VCC3
GP34	MAIN	H-Z	GPI	-PCI_STOP	P/U 8.2K VCC3
GP35	MAIN	L	GPO	GPIO35	P/U 8.2K VCC3
GP36	MAIN		GPI	-LAN1_DSM	P/U 8.2K VCC3
GP37	MAIN		GPI	N/A	P/U 8.2K VCC3
GP38	MAIN	H-Z	GPI	VCORE_OV2	P/U 8.2K VCC3
GP39	MAIN	H-Z	GPI	-LAN_DSM	P/U 8.2K VCC3
GP40	STBY		NATIVE	OC1#	N/A
GP41	STBY		NATIVE	OC2#	N/A
GP42	STBY		NATIVE	OC3#	N/A
GP43	STBY		NATIVE	OC4#	N/A
GP44	STBY	L	NATIVE	N/A	P/U 8.2K 3VDUAL
GP45	STBY		NATIVE	-LPCPME	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	PWR_LED	P/U 8.2K 3VDUAL
GP47	STBY		NATIVE	PSI LED	P/U 8.2K 3VDUAL
GP48	MAIN	H-Z	IN	EN_PWM	P/U 8.2K VCC3
GP49	MAIN	H-Z	IN	VCC18_OV1	P/U 8.2K VCC3
GP50	MAIN		NATIVE	-REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	-GNT1	N/A
GP52	MAIN		NATIVE	-REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	-GNT2	N/A
GP54	MAIN		NATIVE	-REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	-GNT3	N/A
GP56	STBY		NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL
GP57	STBY	H-Z	IN	VCORE_OV1	P/U 8.2K 3VDUAL
GP58	STBY	H-Z	NATIVE	F_USB_OC	P/U 8.2K 3VDUAL
GP59	STBY		NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL
GP61	STBY	L	NATIVE	-SUSTAT	N/A
GP62	STBY	L	NATIVE	SUSCLK	N/A
GP63	STBY	L	NATIVE	GPIO63	N/A
GP64	MAIN	L	NATIVE	CLKOUTFLEX0	N/A
GP65	MAIN	L	NATIVE	CLKOUTFLEX1	N/A
GP66	MAIN	L	NATIVE	CLKOUTFLEX2	N/A
GP67	MAIN	L	NATIVE	CLKOUTFLEX3	N/A
GP72	STBY	H-Z	NATIVE	VCORE_OV4	P/U 8.2K 3VDUAL
GP73	STBY		NATIVE	1_05V_OV1	P/U 8.2K 3VDUAL
GP74	STBY	H-Z	NATIVE	1_05V_OV2	P/U 8.2K 3VDUAL
GP75	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL

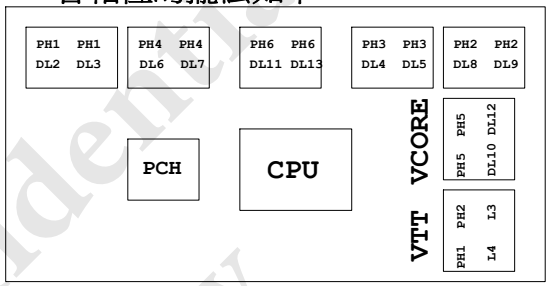
Super I/O ITE8720 GPIO Table

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-KBRST	
SO/GP50	-ICH_SPI_CS	
IRTX/GP47/CE2_N/JP7	CEB_N	
GP46/IRRX	-LAN2_DSM	
PSION#/GP42	-PSON	
PWROK2#/GP41	PECI_CTL	
PCIRST3#/GP10/VDIMM_STR_EN	-PCIE_RST	
RSMRST#CIRRX1/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSSO0	N/A	

PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSSI1	SB_LED1_C	
PD4/GP74/BUSSI2	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSSI0	NB_LED3_C	
GP22/SCK	LOW_PWR_1	
VIDO5/GP27/SIN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VSBSW#/GP40	CSI_F0	BSEL166_1
SUSC#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VIDO0/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSSO1	MB_ID3	
PD7/GP77/BUSSO2	MB_ID4	
AFD#/GP86/SMBC_R	空 PIN	FST_2X8
INIT#/GP85/SMBD_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VIDO1/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMBC_M	DDR_LED3_C	
PWRON#GP44	VCORE_OV1	
PANSWH#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRTX/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/SMBD_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRX2/GP16	-THERM	
VIDO4/GP26/SOUT2	DDR18V_PH2_EN	
VIDO2/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VIDO6/GP17/RI2#	1_1V_PH_EN	
VIDO7/JP6/DTR2#	JP6	
PD5/GP75/BUSSO0	SB_LED3_C	



PWM各相位的擺法如下：



BIOS超電壓對應表：

線路圖名稱	BIOS選項
Vcore	CPU Vcore
CPU_VTT	CPU Termination
CPU_VAXG	CPU Graphic Core
VCC1_8_PCH	CPU PLL
VCC1_05_PCH	PCH core
3VDUAL	3VDUAL
DDR15V	DRAM voltage
DDRVTT	DRAM Terminatio
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

散熱模組料號：

8IBP:
1.12SP2-01A001-Y1R/Y2R
2.12SP2-01A001-Z1R/Z2R
(HIBRID模組)包材階

	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	FANPWM3	FANIO1	IT8720
	ICH_FAN_PWM2	ICH_FAN_PWM0	ICH_FAN_TACH0	PCH
SYS FAN	FANPWM2	N/A	FANIO2	IT8720
	ICH_FAN_PWM1	N/A	ICH_FAN_TACH1	PCH
PWR FAN	N/A	N/A	FANIO3	IT8720
			ICH_FAN_TACH2	PCH

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