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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42	
43	
44	
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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

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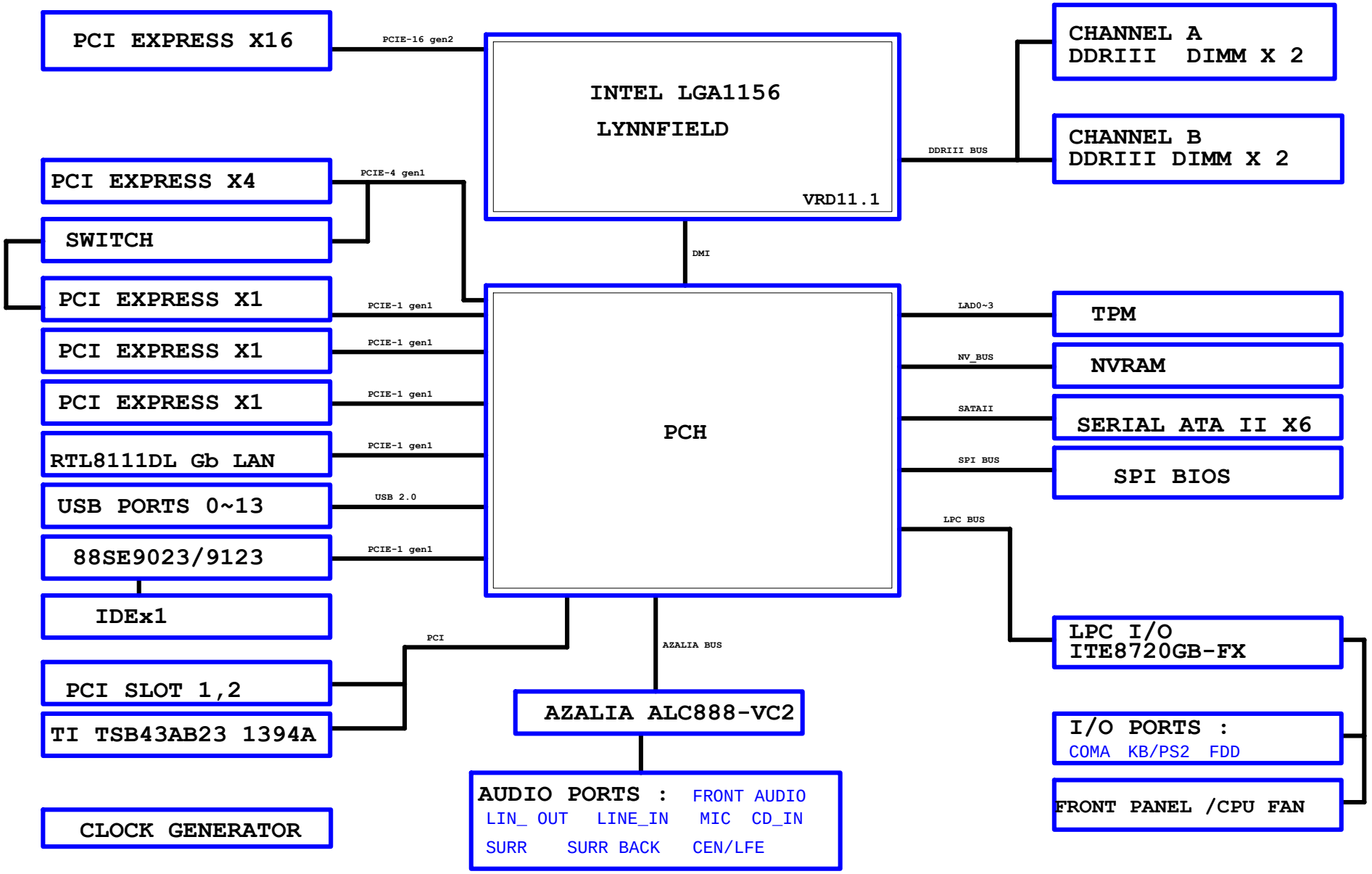
BLOCK DIAGRAM



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Title	BLOCK DIAGRAM		
Size C	Document Number	GA-P55M-UD2	Rev 1.0
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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

Rev 0.2 modefy

Check Trace length/ width

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

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
Rev	1.0
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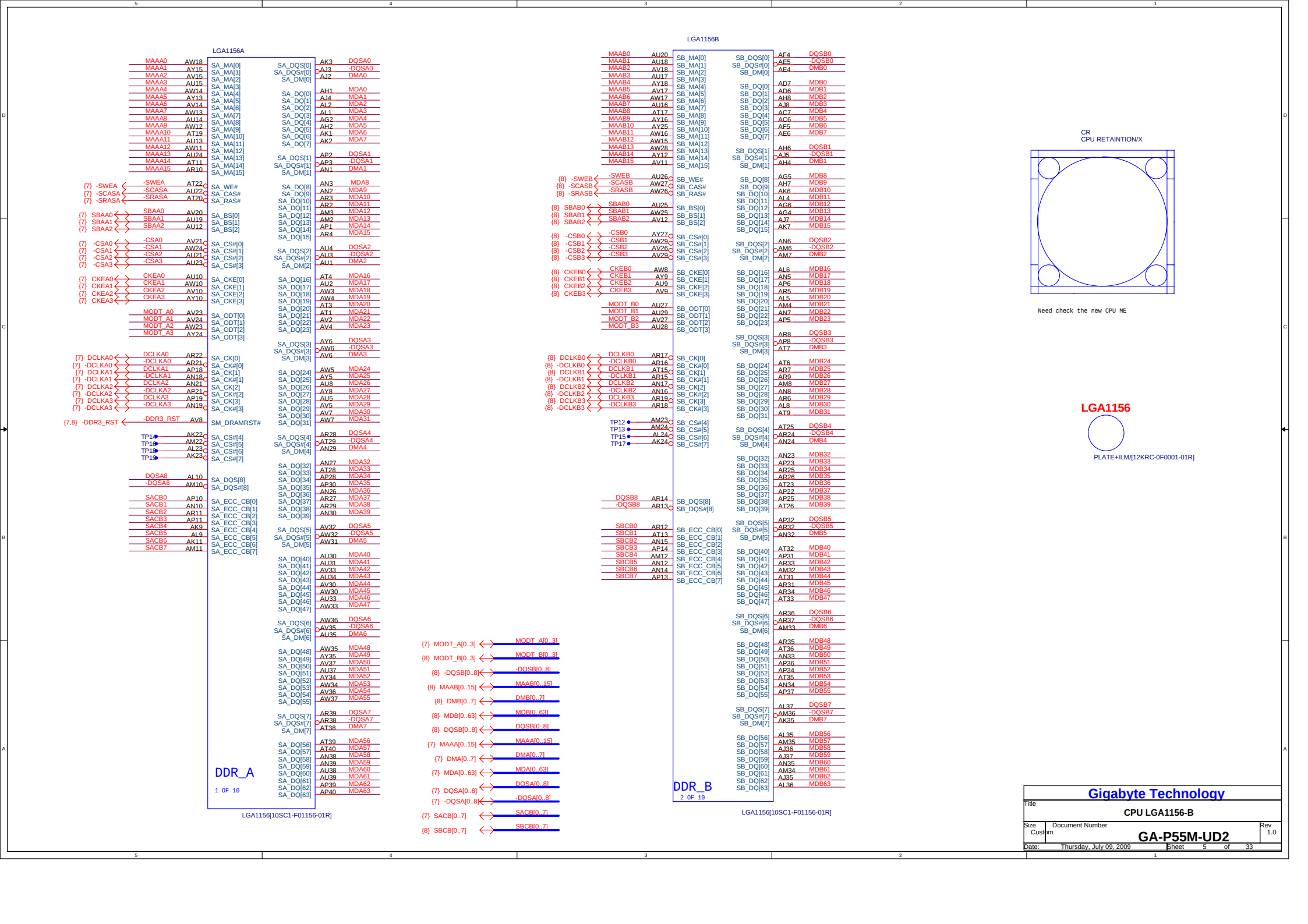
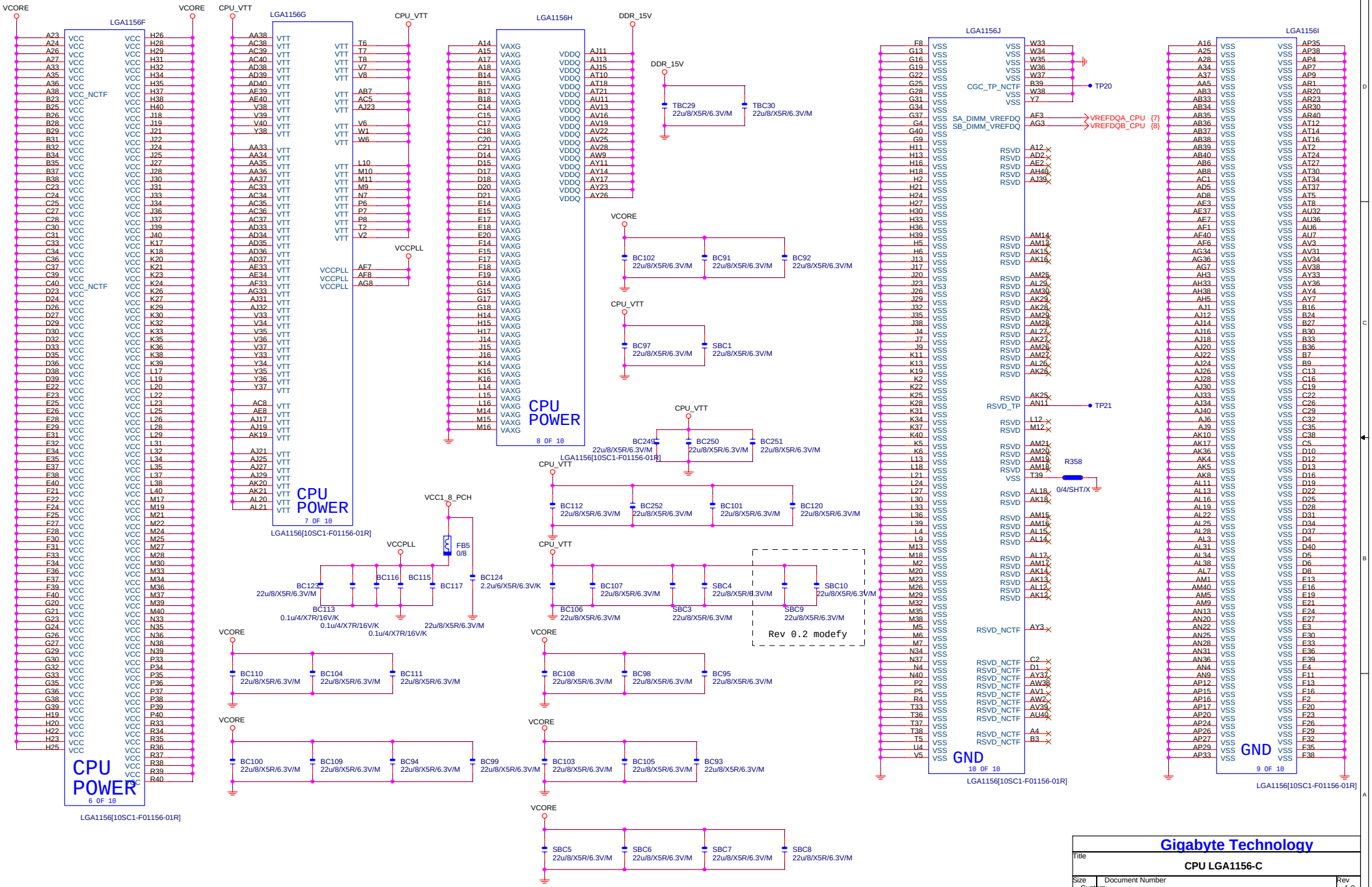
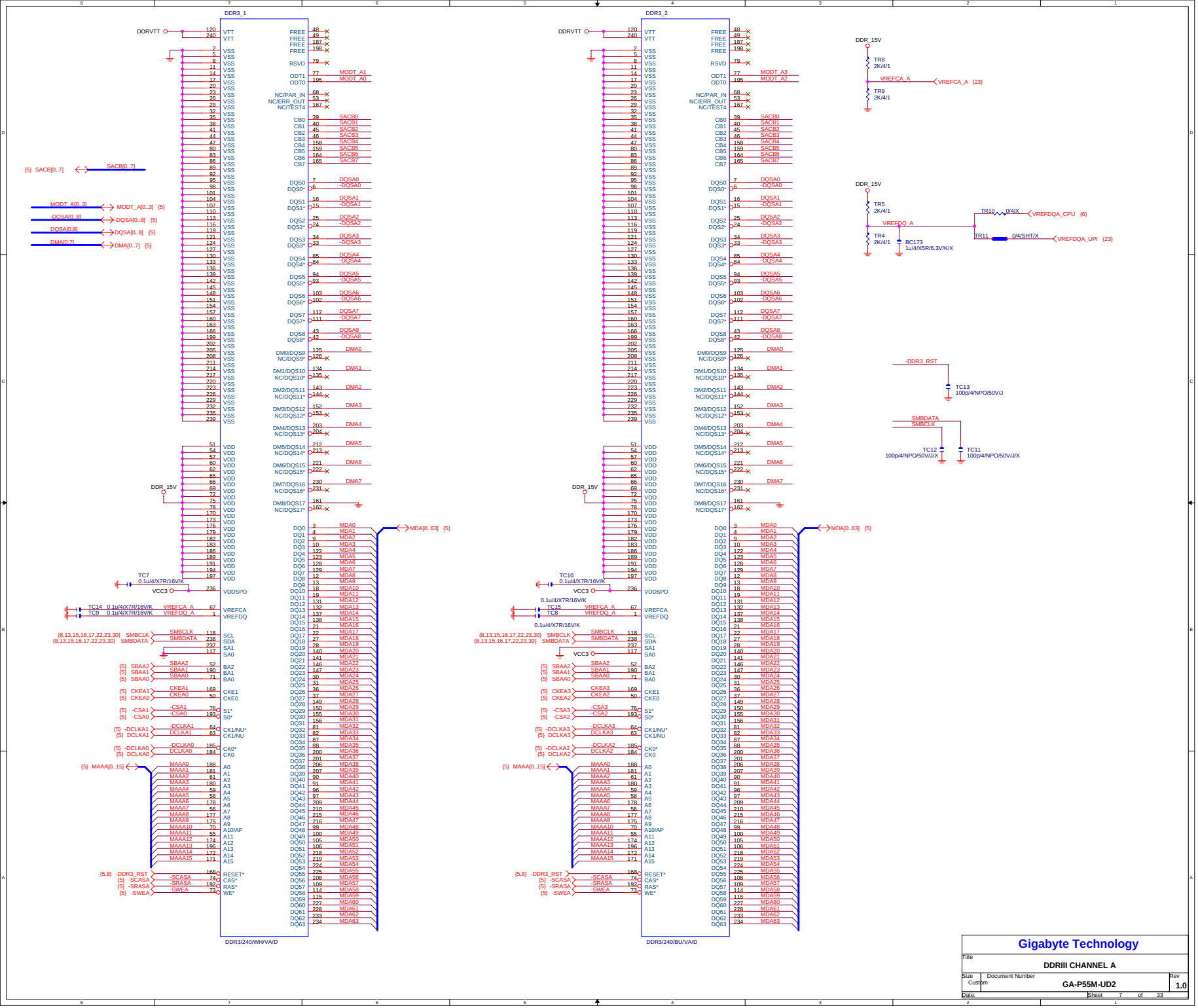


Gigabyte Technology	
Title	CPU LGA1156-B
Size: Custom	Document Number: GA-P55M-UD2
Rev	1.0
Date: Thursday, July 09, 2009	Sheet 5 of 33



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	



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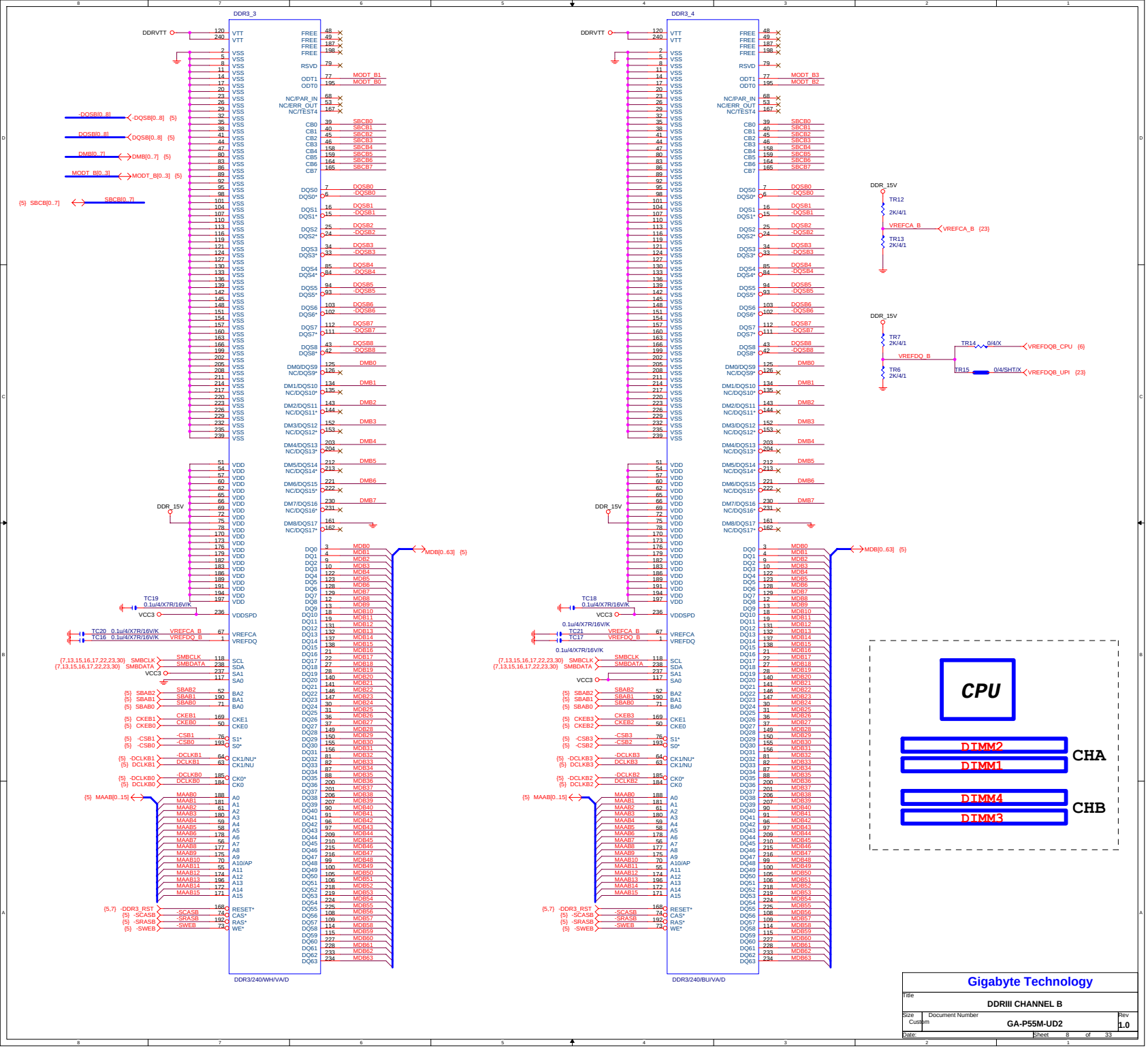
Title	DDRIII CHANNEL A	
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
Date:	Sheet 7 of 33	



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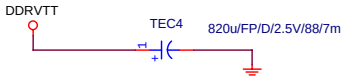
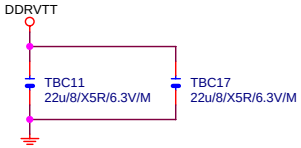
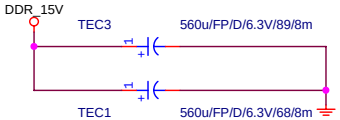
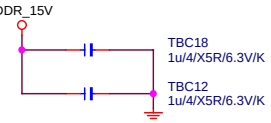
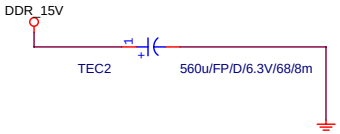
DDR TERMINATION CHANNEL A/B



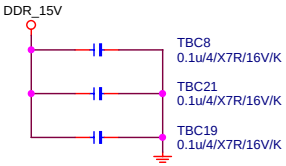




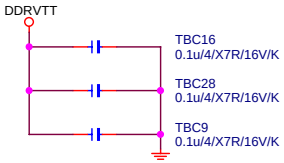


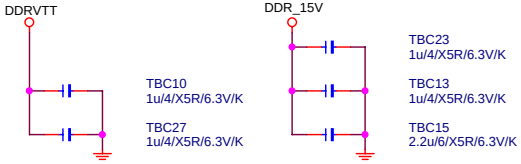


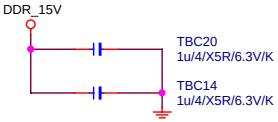
DDR15V Decouple

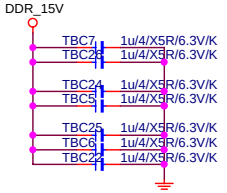


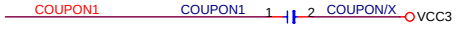
DDRVTT Decouple











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Title: DDRIII POWER CAP

Size	Document Number	Rev
B	GA-P55M-UD2	1.0

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

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

PCHB

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

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

Rev 0.2 modefy

OC[3:0]# for
Device 29
(ports 0-7)

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

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

電容要靠近 slot 端

PCH_HS

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

BD82P55-B2/S

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NVRAM

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Title	PCH FDI,DMI,USB ,PCIE,NVRAM	
Size B	Document Number GA-P55M-UD2	Rev 1.0
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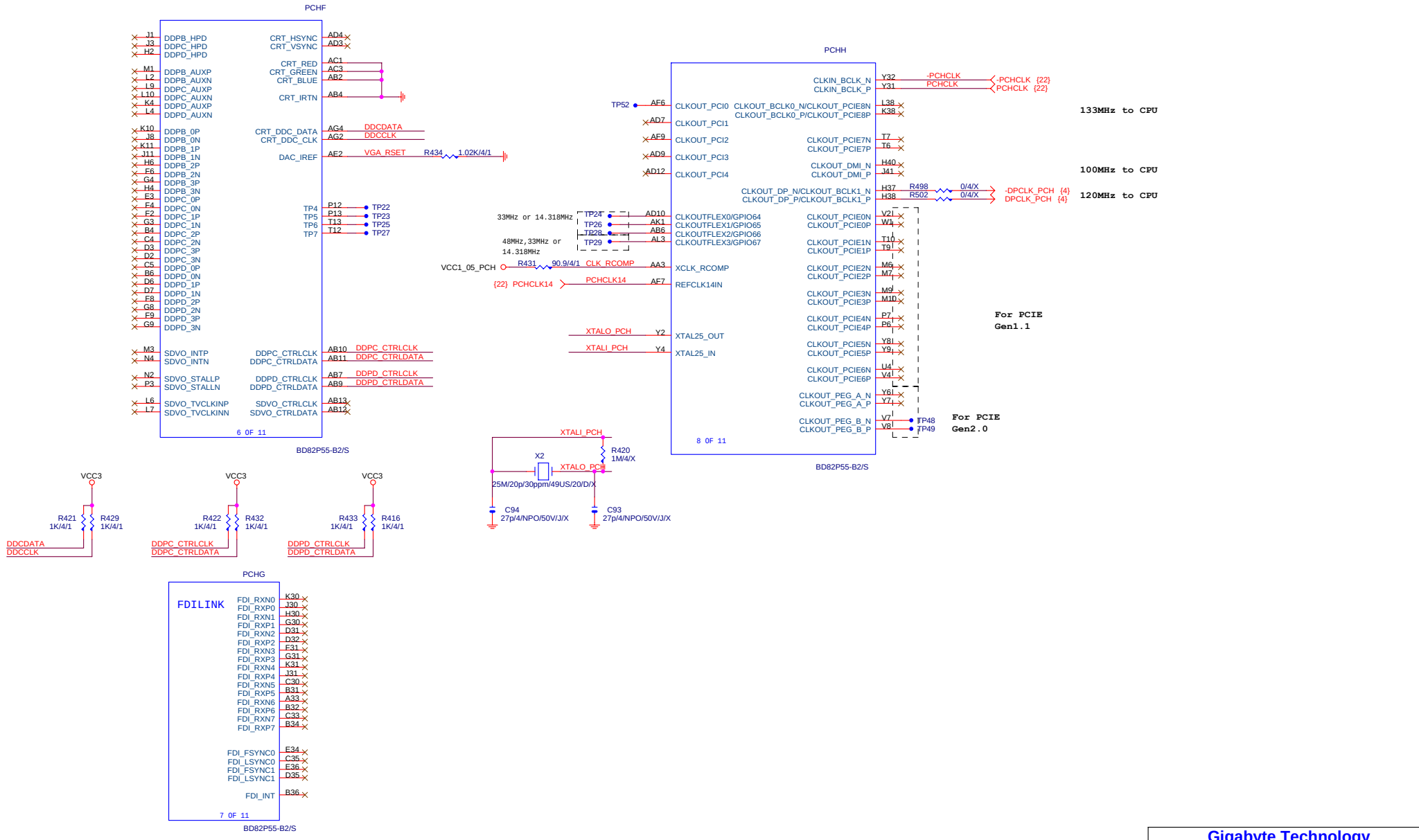

Gigabyte Technology			
Title: PCH DISPLAY ,CLK BUFFER			
Size: Custom	Document Number: GA-P55M-UD2		Rev: 1.0
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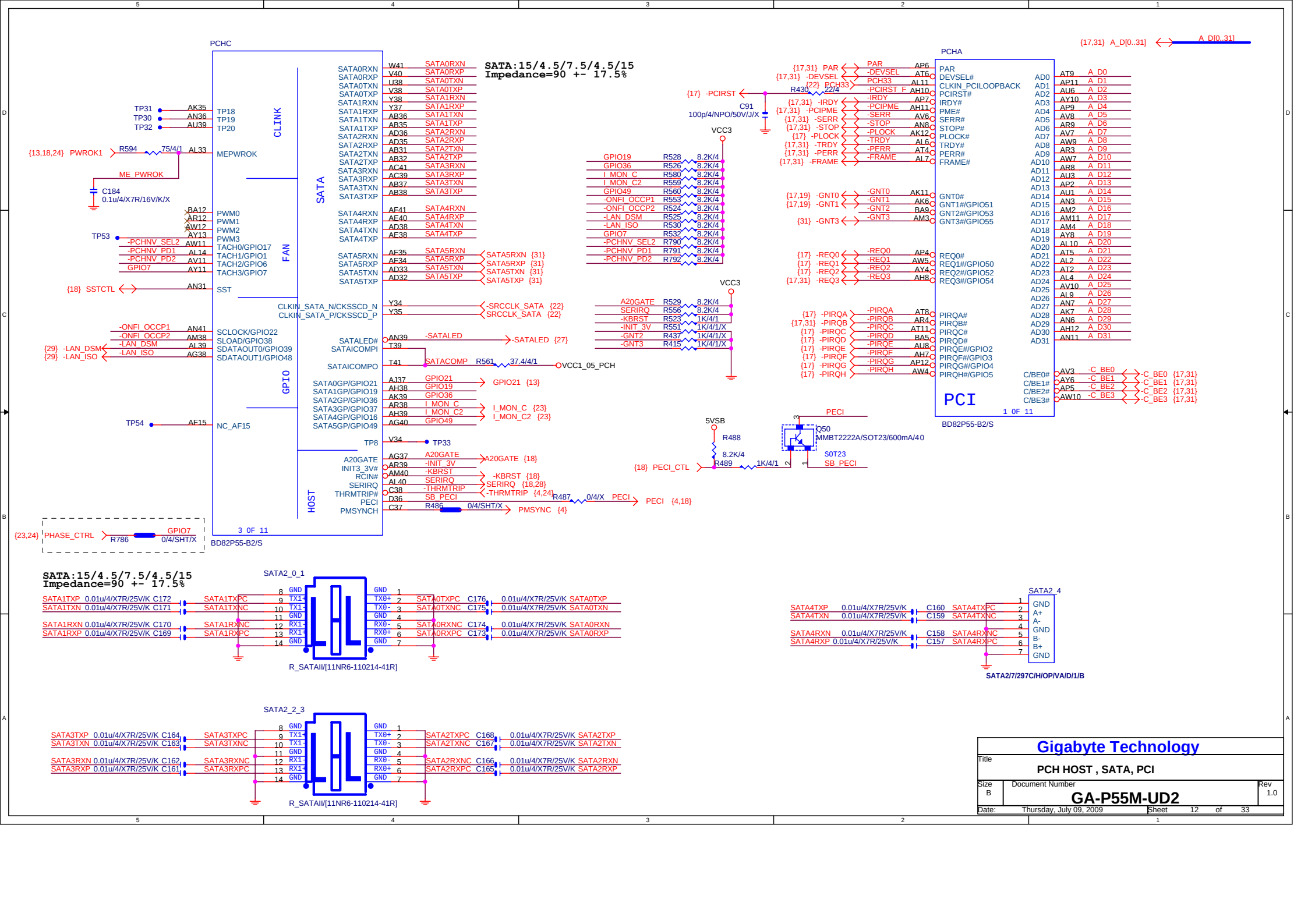
PCHC
PCHA
SATA:15/4.5/7.5/4.5/15
Impedance=90 +- 17.5%
CLINK
SATA
FAN
GPIO
HOST
MEPWROK
ME_PWROK
SST
NC_AF15
CLKIN_SATA_N/CKSSCD_N
CLKIN_SATA_P/CKSSCD_P
SATALED#
SATAICOMPI
SATAICOMPO
TP8
TP33
A20GATE
INIT3_3V#
RCIN#
SERIRQ
THRMTRIP#
PECI
PMSYNCH
3 OF 11
BD82P55-B2/S
PCI
1 OF 11
BD82P55-B2/S
PECI
5VSB
SATA2_0_1
SATA2_2_3
SATA2_4
R_SATAII/[11NR6-110214-41R]
SATA2/7/297C/H/OP/VA/D/1/B
Gigabyte Technology
PCH HOST , SATA, PCI
GA-P55M-UD2
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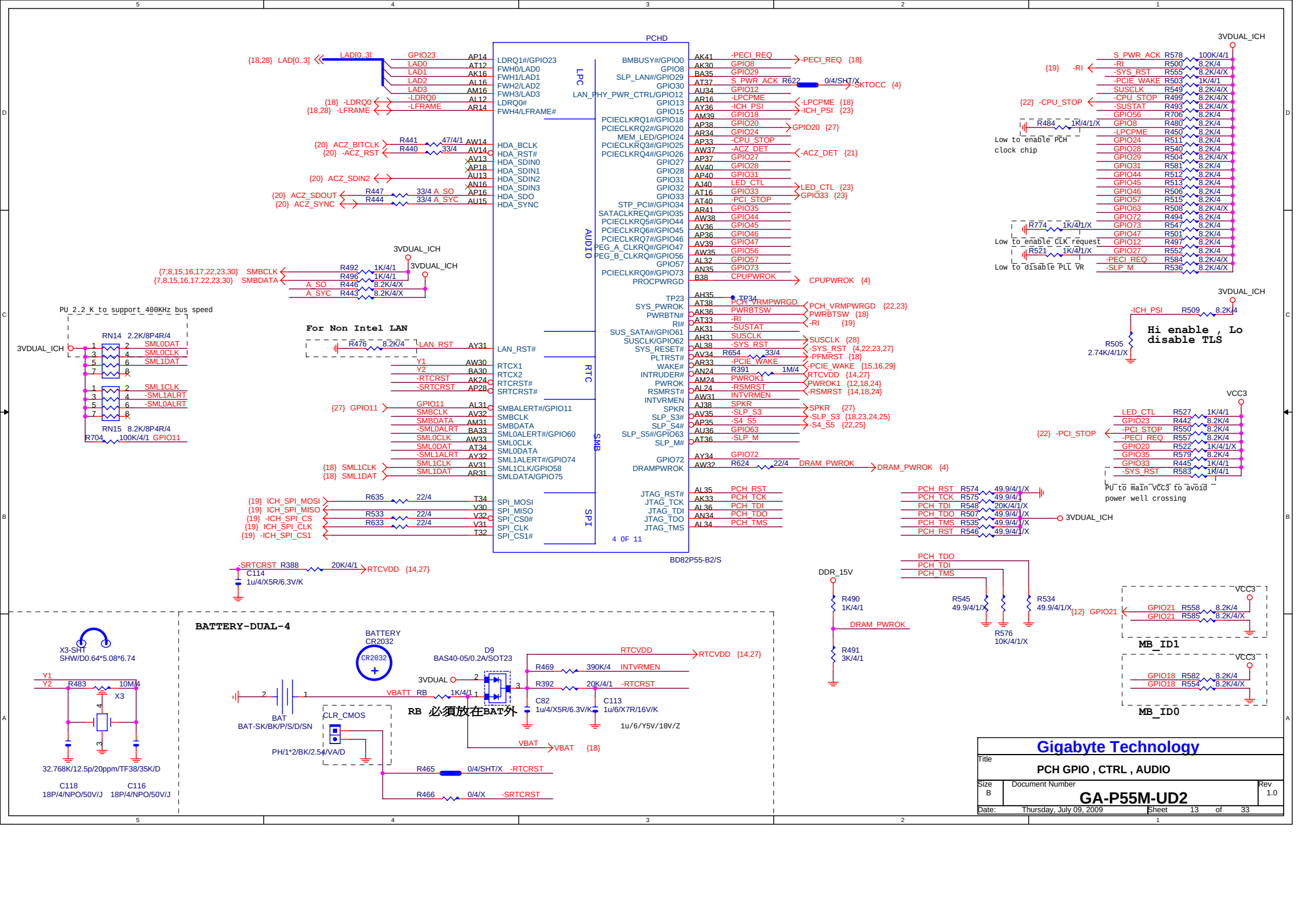
PCHD
LPC
AUDIO
RTC
SMB
SPI
LAD[0..3]
GPIO23
LDRQ1#/GPIO23
LDRQ0#
FWH4/LFRAME#
HDA_BCLK
HDA_RST#
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDO
HDA_SYNC
LAN_RST#
RTCX1
RTCX2
RTCRST#
SRTCRST#
SMBALERT#/GPIO11
SMBCLK
SMBDATA
SML0ALERT#/GPIO60
SML0CLK
SML0DATA
SML1ALERT#/GPIO74
SML1CLK/GPIO58
SMLDATA/GPIO75
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
GPIO12
-LPCPME
-ICH_PSI
GPIO18
GPIO20
GPIO24
-CPU_STOP
-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
PCH_RST
PCH_TCK
PCH_TDI
PCH_TDO
PCH_TMS
0/4/SHT/X
-SKTOCC {4}
-LFRAME {18,28}
-LDRQ0 {18}
ACZ_BITCLK {20}
ACZ_RST {20}
ACZ_SDIN2 {20}
ACZ_SDOUT {20}
ACZ_SYNC {20}
A_SO
A_SYC
SMBCLK {7,8,15,16,17,22,23,30}
SMBDATA {7,8,15,16,17,22,23,30}
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
R476 8.2K/4
LAN_RST
Y1
Y2
-RTCRST
-SRTCRST
GPIO11 {27}
SML1CLK {18}
SML1DAT {18}
ICH_SPI_MOSI {19}
ICH_SPI_MISO {19}
-ICH_SPI_CS {19}
ICH_SPI_CLK {19}
-ICH_SPI_CS1 {19}
SRTCRST R388 20K/4/1
RTCVDD {14,27}
C114 1u/4/X5R/6.3V/K
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
3VDUAL_ICH
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
PCH_TDO
PCH_TDI
PCH_TMS
{12} GPIO21
MB_ID1
MB_ID0
VCC3
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
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
3VDUAL
VBATT
RB 1K/4/1
BAT
BAT-SK/BK/P/S/D/SN
CLR_CMOS
PH/1*2/BK/2.54/VA/D
RB 必須放在BAT外
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
RTCVDD {14,27}
VBAT {18}
R465 0/4/SHT/X -RTCRST
R466 0/4/X -SRTCRST
Gigabyte Technology
Title
PCH GPIO , CTRL , AUDIO
Size B
Document Number
GA-P55M-UD2
Rev 1.0
Date: Thursday, July 09, 2009
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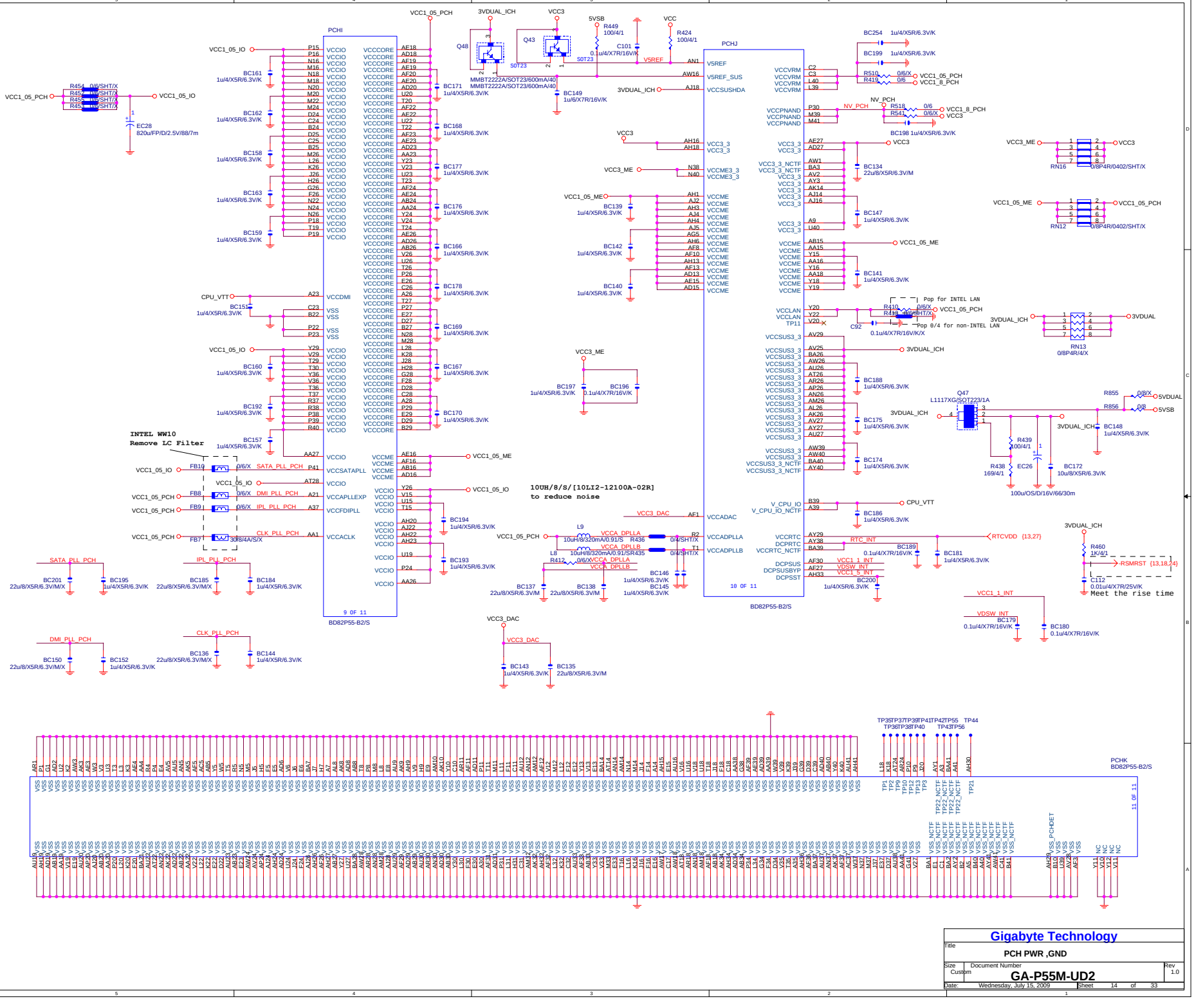
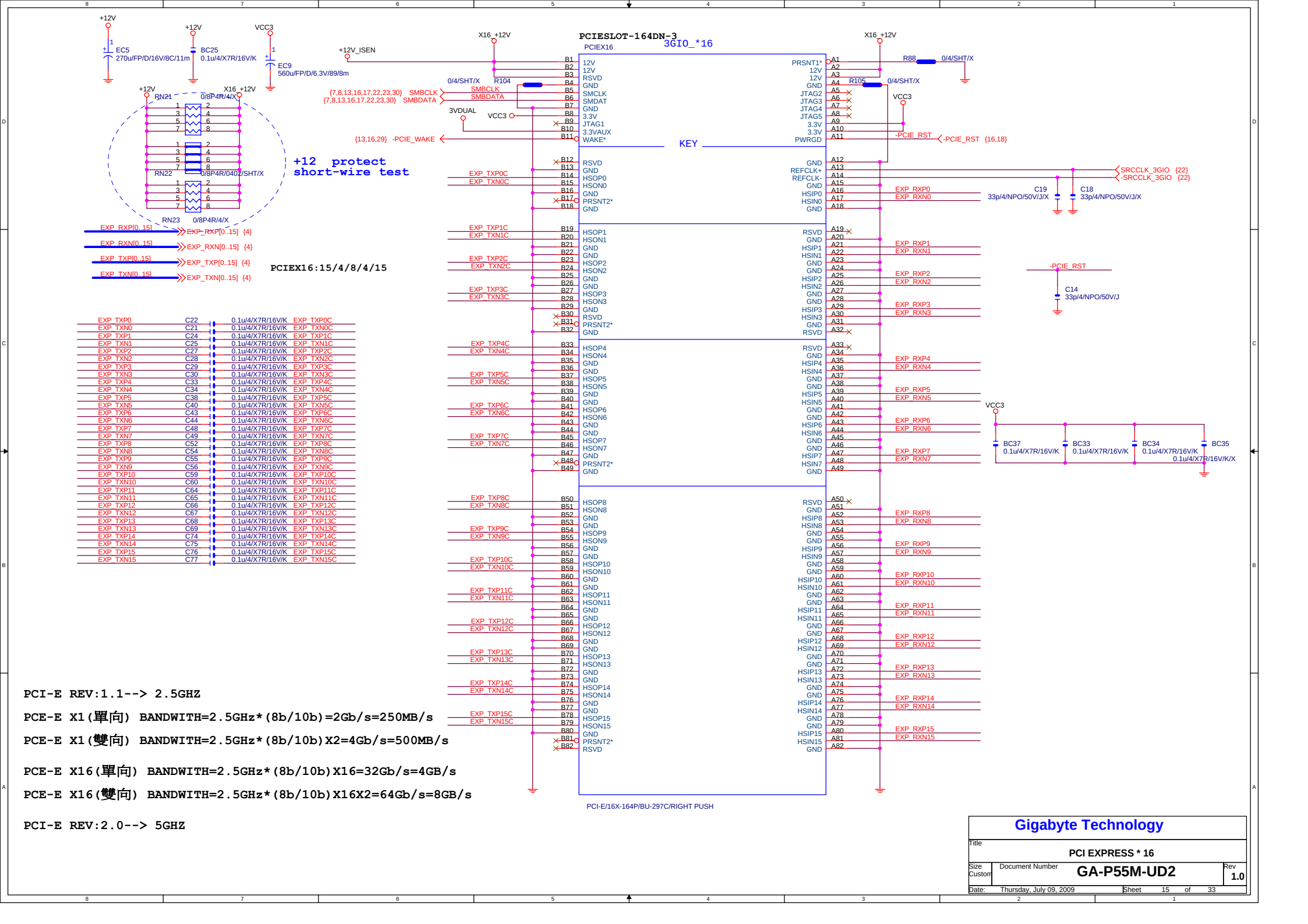

PCHI
PCHJ
PCHK
BD82P55-B2/S
9 OF 11
10 OF 11
11 OF 11
INTEL WW10
Remove LC Filter
10UH/8/S/[10LI2-12100A-02R]
to reduce noise
Pop for INTEL LAN
Pop 0/4 for non-INTEL LAN
Meet the rise time
Gigabyte Technology
PCH PWR ,GND
GA-P55M-UD2
Wednesday, July 15, 2009
Sheet 14 of 33
Rev 1.0


PCIESLOT-164DN-3
PCIEX16
3GIO_*16
KEY
+12 protect
short-wire test
PCIEX16:15/4/8/4/15
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
PCI-E/16X-164P/BU-297C/RIGHT PUSH
Gigabyte Technology
PCI EXPRESS * 16
GA-P55M-UD2
1.0
Thursday, July 09, 2009
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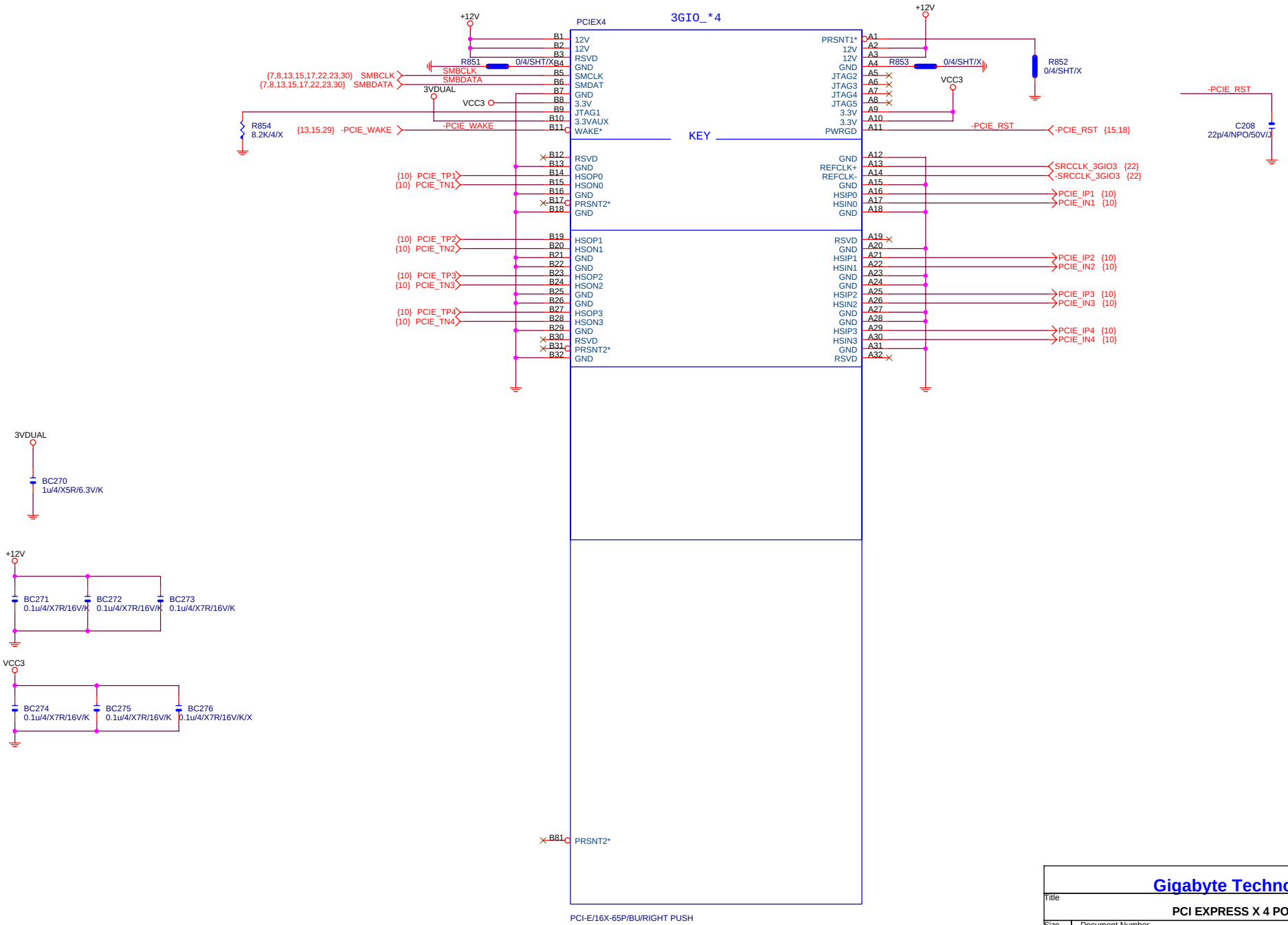

Gigabyte Technology

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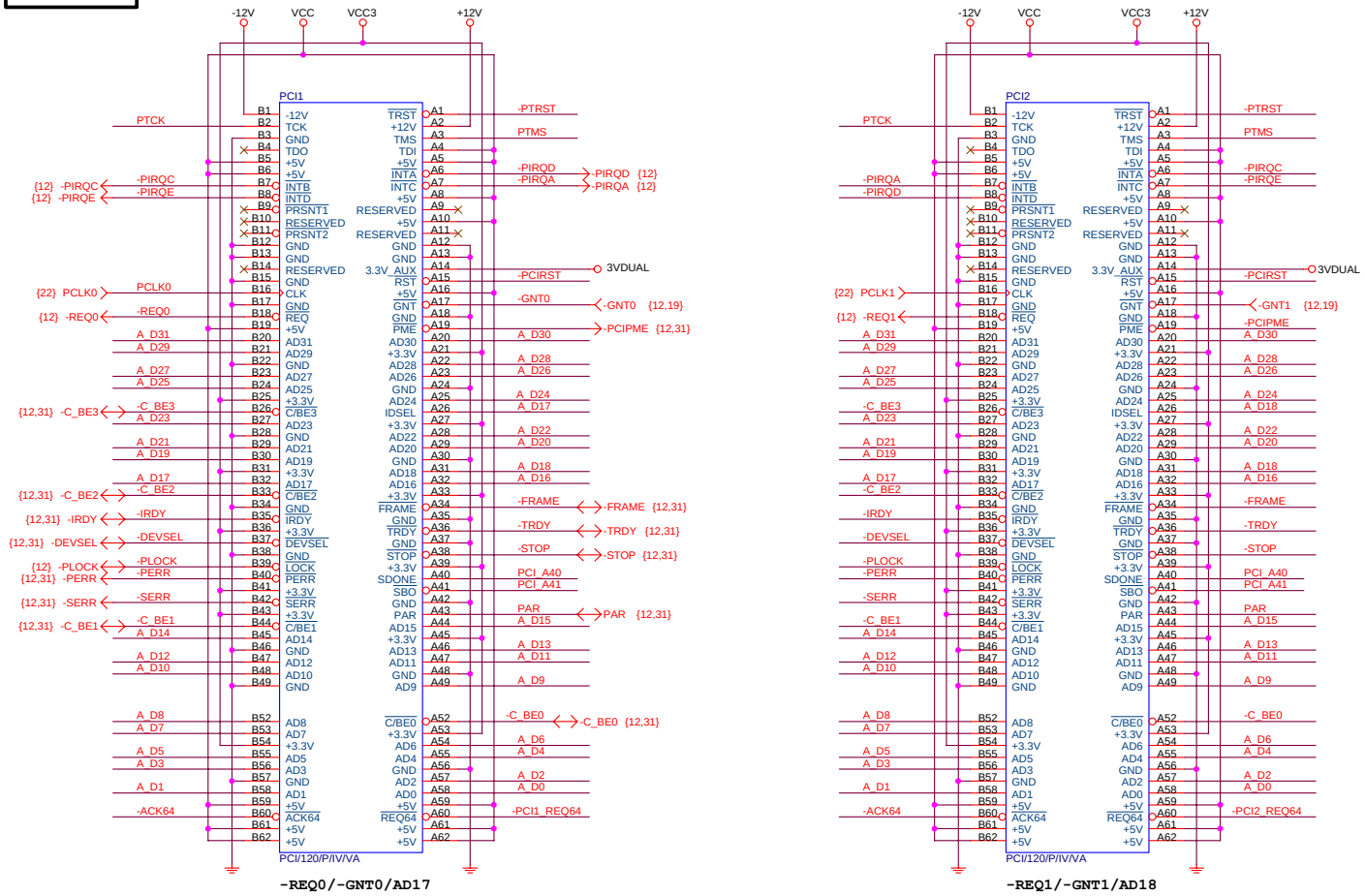
PCI1,2 SLOT



{12,31} A_D[0..31] — A_D[0..31]

-PCIRST — -PCIRST {12}

C20
27p/4/NPO/50V/J/X

Place close to PCI1

{7,8,13,15,16,22,23,30} SMBCLK — R242 0/6/SHT/X — PCI_A40
{8,13,15,16,22,23,30} SMBDATA — R238 0/6/SHT/X — PCI_A41

RN4
-PTRST
PTCK
PTMS
VCC
8.2K/8P4R/4

RN11
2.2K/8P4R/4
VCC
{12} -REQ1
{12} -REQ2
{12,31} -REQ3
{12} -REQ0
-REQ1
-REQ2
-REQ3
-REQ0

RN8
VCC
-ACK64
-PCI1_REQ64
PAR
-PCI2_REQ64
PAR {12,31}
2.2K/8P4R/4

3VDUAL
BC40
1u/4/X5R/6.3V/K

RN6
2.2K/8P4R/4
VCC
-FRAME
-IRDY
-TRDY
-DEVSEL

RN7
2.2K/8P4R/4
-PLOCK
-STOP
-PERR
-SERR

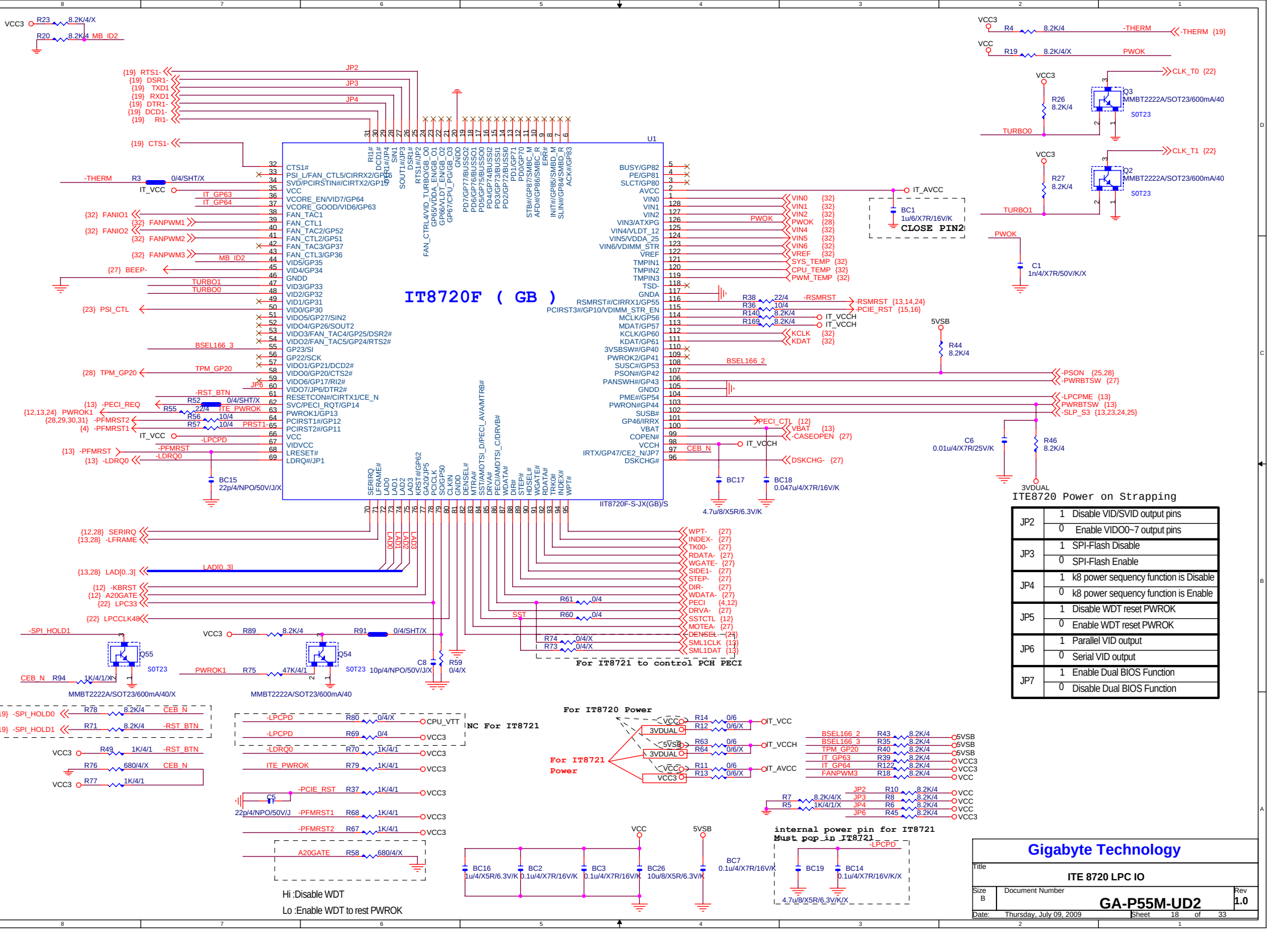
RN5
8.2K/8P4R/4
VCC3
{12} -PIRQD
{12} -PIRQC
{12,31} -PIRQB
{12} -PIRQA
-PIRQD
-PIRQC
-PIRQB
-PIRQA

RN10
8.2K/8P4R/4
{12} -PIRQG
{12} -PIRQH
{12} -PIRQE
{12} -PIRQF
-PIRQG
-PIRQH
-PIRQE
-PIRQF

VCC3
BC255 0.1u/4/X7R/16V/K
BC256 1u/4/X5R/6.3V/K
BC257 0.1u/4/X7R/16V/K
BC258 1u/4/X5R/6.3V/K

VCC
BC114 0.1u/4/X7R/16V/K/X
EC6 560u/FP/D/6.3V/89/8m

Gigabyte Technology		
Title: PCI SLOT 1, 2		
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
Date: Thursday, July 09, 2009	Sheet 17 of 33	


IT8720F (GB)
U1
IIT8720F-S-JX(GB)/S
JP2
JP3
JP4
JP6
Q2 MMBT2222A/SOT23/600mA/40
Q3 MMBT2222A/SOT23/600mA/40
Q54 MMBT2222A/SOT23/600mA/40
Q55 MMBT2222A/SOT23/600mA/40/X
S0T23
For IT8721 to control PCH PECI
For IT8720 Power
For IT8721 Power
NC For IT8721
internal power pin for IT8721
Must pop in IT8721
Hi :Disable WDT
Lo :Enable WDT to rest PWROK
CLOSE PIN2
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
Size B
Document Number
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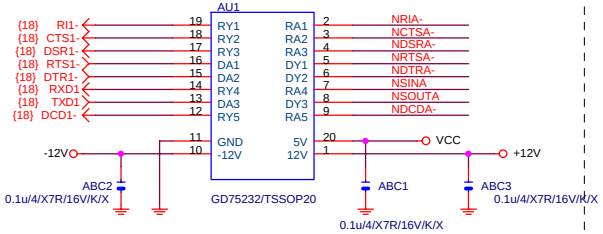
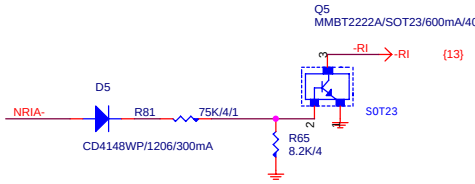
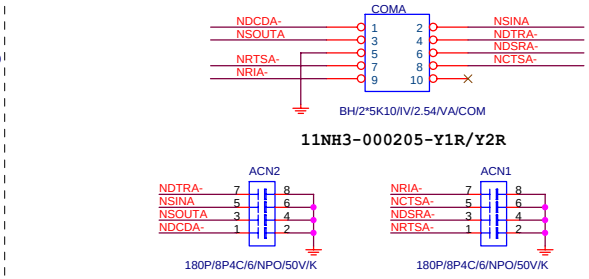
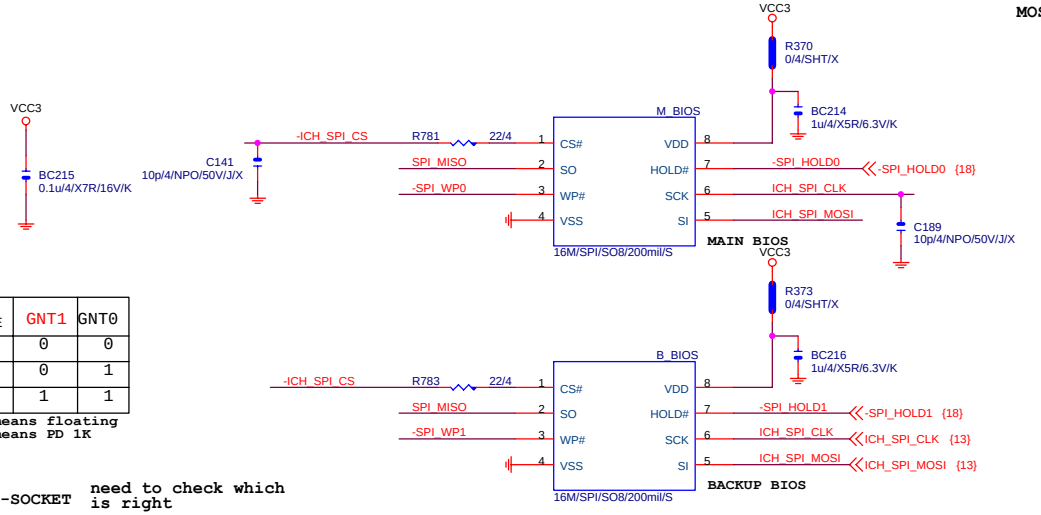
COMA



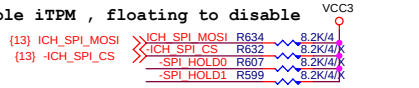
COM RI

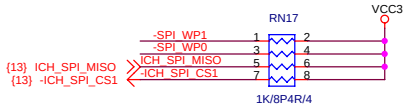


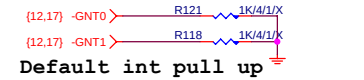




MOSI pull up to enable iTPM , floating to disable







Default int pull up

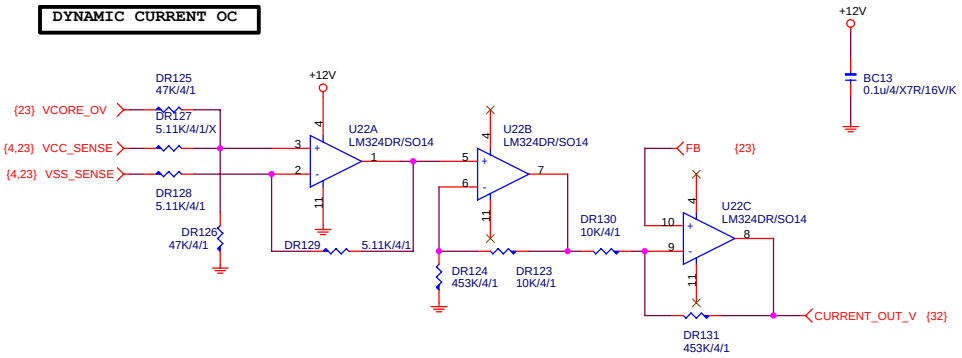
r1.0 DG;0.7 CRB

BOOT DEVICE	GNT1	GNT0
LPC	0	0
PCI	0	1
SPI	1	1

1 means floating
0 means PD 1K

IC8SO-SOCKET need to check which is right

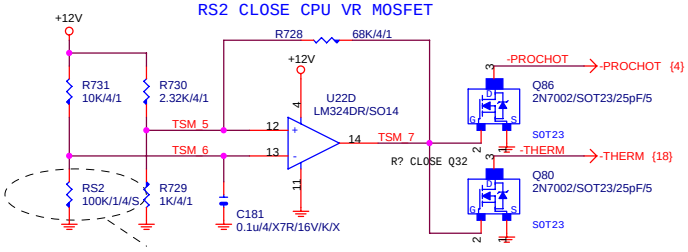
DYNAMIC CURRENT OC



-PROHOT

deasserted at 116 degree

RS2 CLOSE CPU VR MOSFET



CLOSE PWM HOT MOSFET

Gigabyte Technology

Title: COM & PROHOT/Dynamic O.C.

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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 CBC39 1n/4/X7R/50V/K FAUDIO_JD {21}

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
{13} ACZ_SDIN2
CR59 22/4
VCC3
{13} ACZ_SYNC
{13} -ACZ_RST

50歐姆:4/5

CR14/CBC4 close to SouthBridge

CBC34 22p/4/NPO/50V/J/X
CBC35 0.1u/4/X7R/16V/K
CBC33 0.1u/4/X7R/16V/K

1 DVDD1
2 GPIO0/XTALI
3 GPIO1/XTALO
4 DVS1
5 SDATA_OUT
6 BIT_CLK
7 DVSS2
8 SDATA-IN
9 DVDD2
10 SYNC
11 RESET#
12 PC_BEEP

SPDIFO SPDIF/EAPD SURBACK-R/XTALSEL SURBACK-L/JD0 GPIO0 LFE CEN AVSS2 SURR-R JDREF (NC)/JD3 SURR-L AVDD2 LINE1-VREFOR/VREFO3

36 FRONT-R
35 FRONT-L
34 SENSE B (JD2)/FMIC1
33 DCVOL/VREFVOUT2
32 MIC1-VREFO-R/FMIC2
31 LINE2-VREFO/JD4
30 MIC2-VREFO/AFILT2
29 LINE1-VREFO-L/AFILT1
28 MIC1-VREFO-L/VREFOUT
27 VREF
26 AVSS1
25 AVDD1

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

ALC888B-GR/LQFP48

SENSE A(JD1)/PHONE JD1 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

13 14 15 16 17 18 19 20 21 22 23 24

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

BLUE LINE-IN
GREEN LINE-OUT
PINK MIC-IN

AUDIOA
{20} CEN_JD
CEN_JD
BJ_B5
BJ_B2
GND REAR
{20} SURR_JD
SURR_JD
BJ_C5
BJ_C2
GND CEN
{20} S_SURR_JD
S_SURR_JD
BJ_A5
BJ_A2
GND SIDE
G1 G2 G3
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

Orange CEN/LFE
Black SURROUND
Gray SURROUND SIDE

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

LINE-IN

Only reserved for ALC888

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

Verify MIC function in LINE-in

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

EMI
{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
CR21 22K/4
CR43 22K/4
BJ_C5
BJ_C2
CBC24 180p/4/NPO/50V/J
CBC29 180p/4/NPO/50V/J

CEN/LFE

EMI
{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
CR36 22K/4
CR42 22K/4
BJ_B5
BJ_B2
CBC25 180p/4/NPO/50V/J
CBC30 180p/4/NPO/50V/J

SURR BACK

EMI
{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
CR35 22K/4
CR22 22K/4
BJ_A5
BJ_A2
CBC22 180p/4/NPO/50V/J
CBC28 180p/4/NPO/50V/J

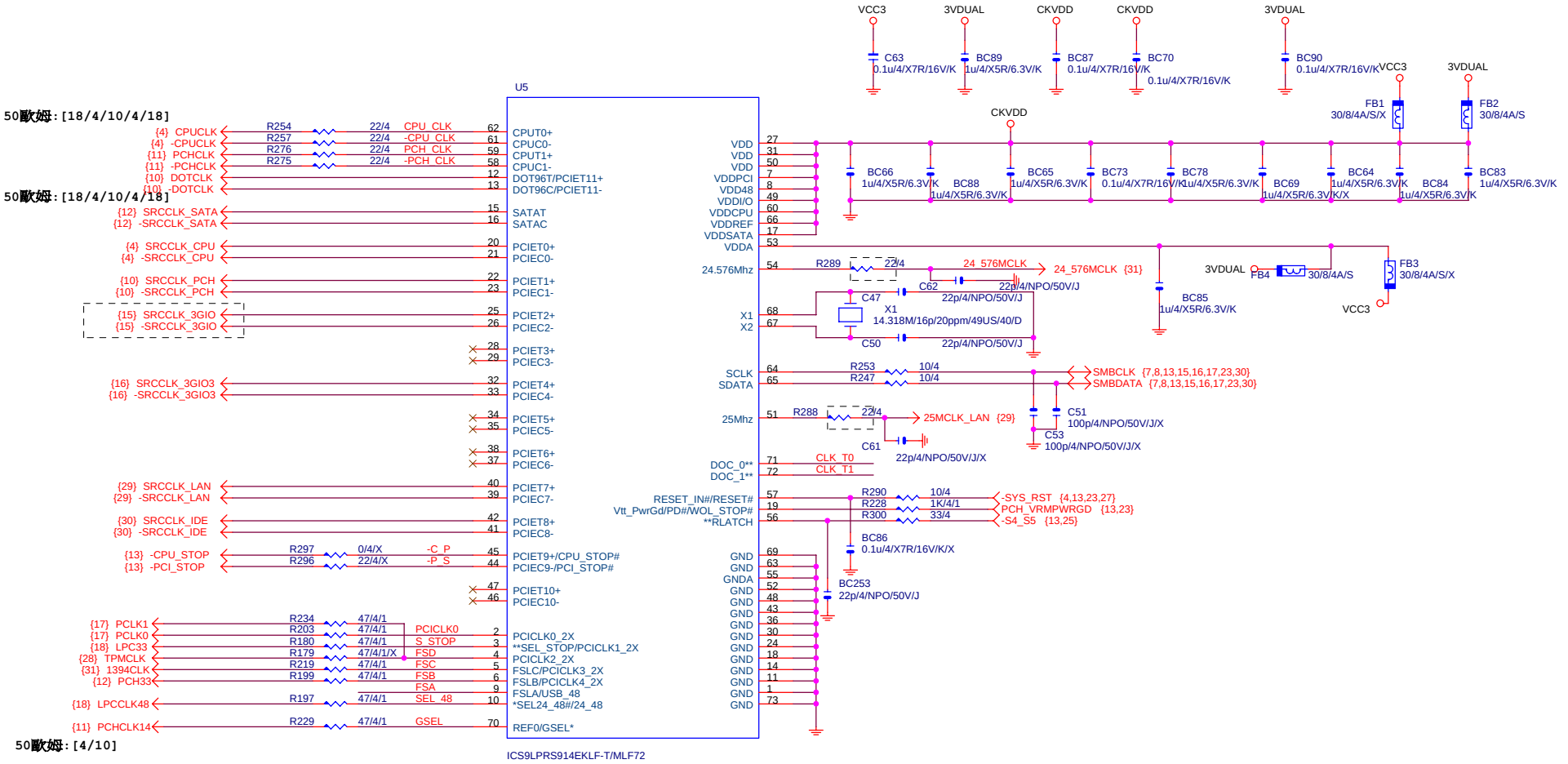
AZALIA FRONT PANEL

CQ4 BAT54A/SOT23/200mA
{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
F_AUDIO
PH/2*5K8/GED/2.54/VA/D
CR62 22K/4
CR52 22K/4
Digital Area
3VDUAL
CR54 8.2K/4
CR41 20K/4/1
CR63 39.2K/4/1
ACZ_DET {13}
{20} LINE2_R
{20} LINE2_L
CEC10 100u/OS/D/16V/66/30m
CEC7 100u/OS/D/16V/66/30m
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	
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
Date: Thursday, July 09, 2009	Sheet 21 of 33	

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

GSEL=1,96Mhz from 12/13
GSEL=0,100Mhz from12/13

SEL_48=1, 24Mhz from pin10
SEL_48=0, 48Mhz from pin10

Pull High

To enhance PD strength

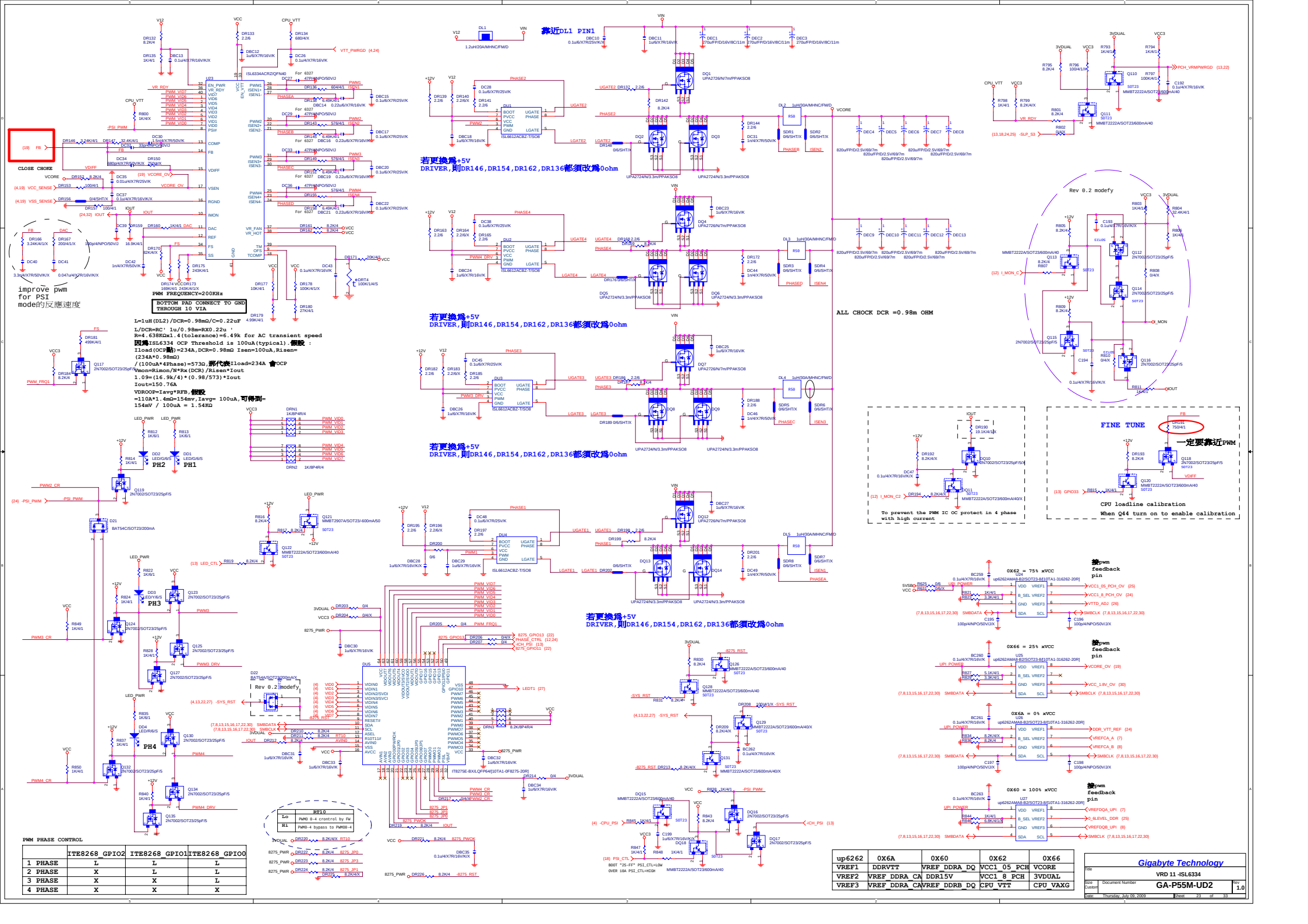
SEL_STOP: latched input to select pin functionality
1 = Selects pin 44/45 to be PCI_STOP#/CPU_STOP#
0 = Selects pin 44/45 to be PCIEX outputs ;
3.3V PCICLK output

Rev 0.2 modefy

Rev 0.2 modefy

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		



	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

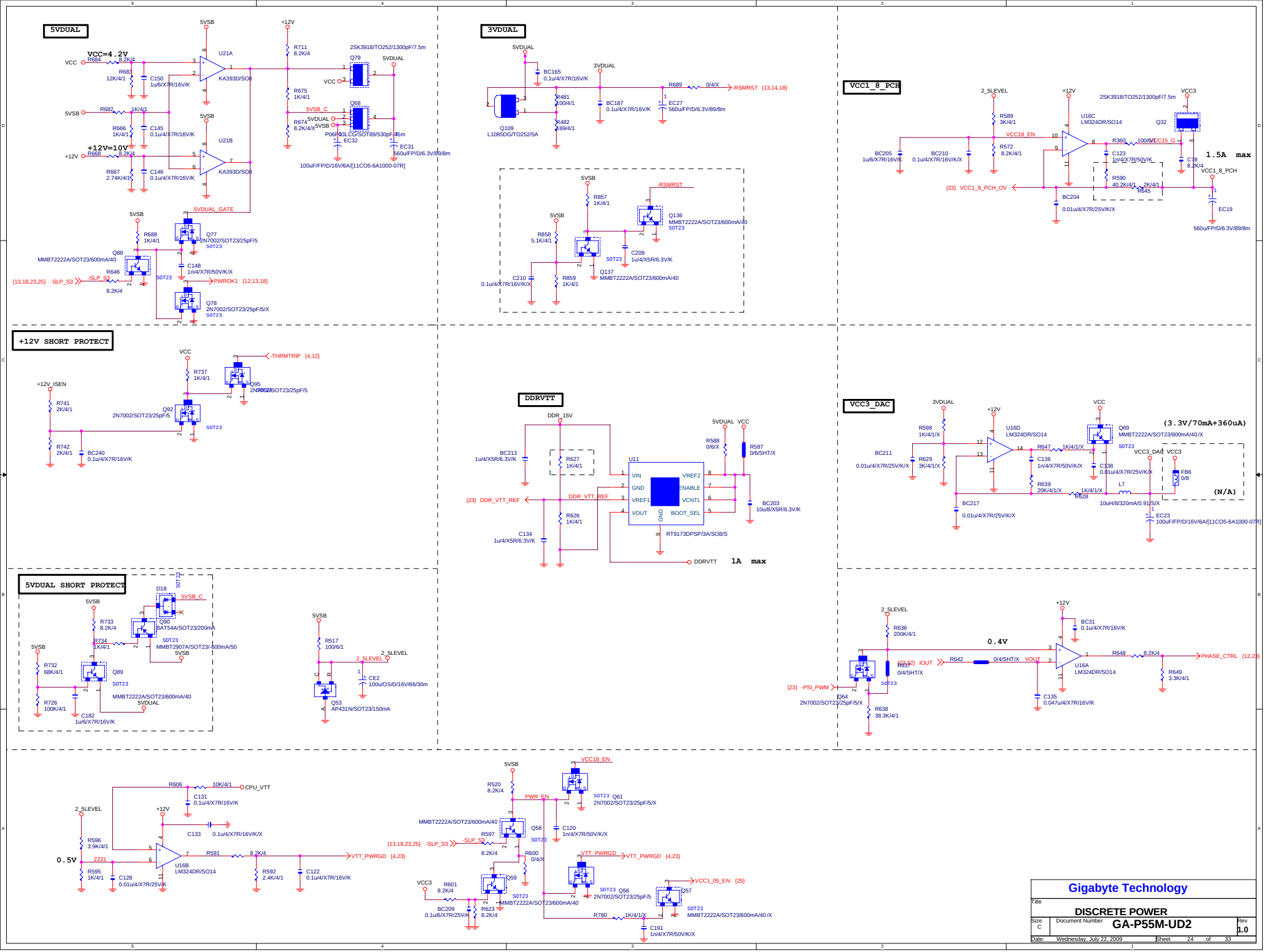
up6262	0X6A	0X60	0X62	0X66
VREF1	DDRVTT	VREF_DDRA_DQ	VCC1_05_PCH	VCORE
VREF2	VREF_DDRA_CA	DDR15V	VCC1_8_PCH	3VDUAL
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	CPU_VTT	CPU_VAXG

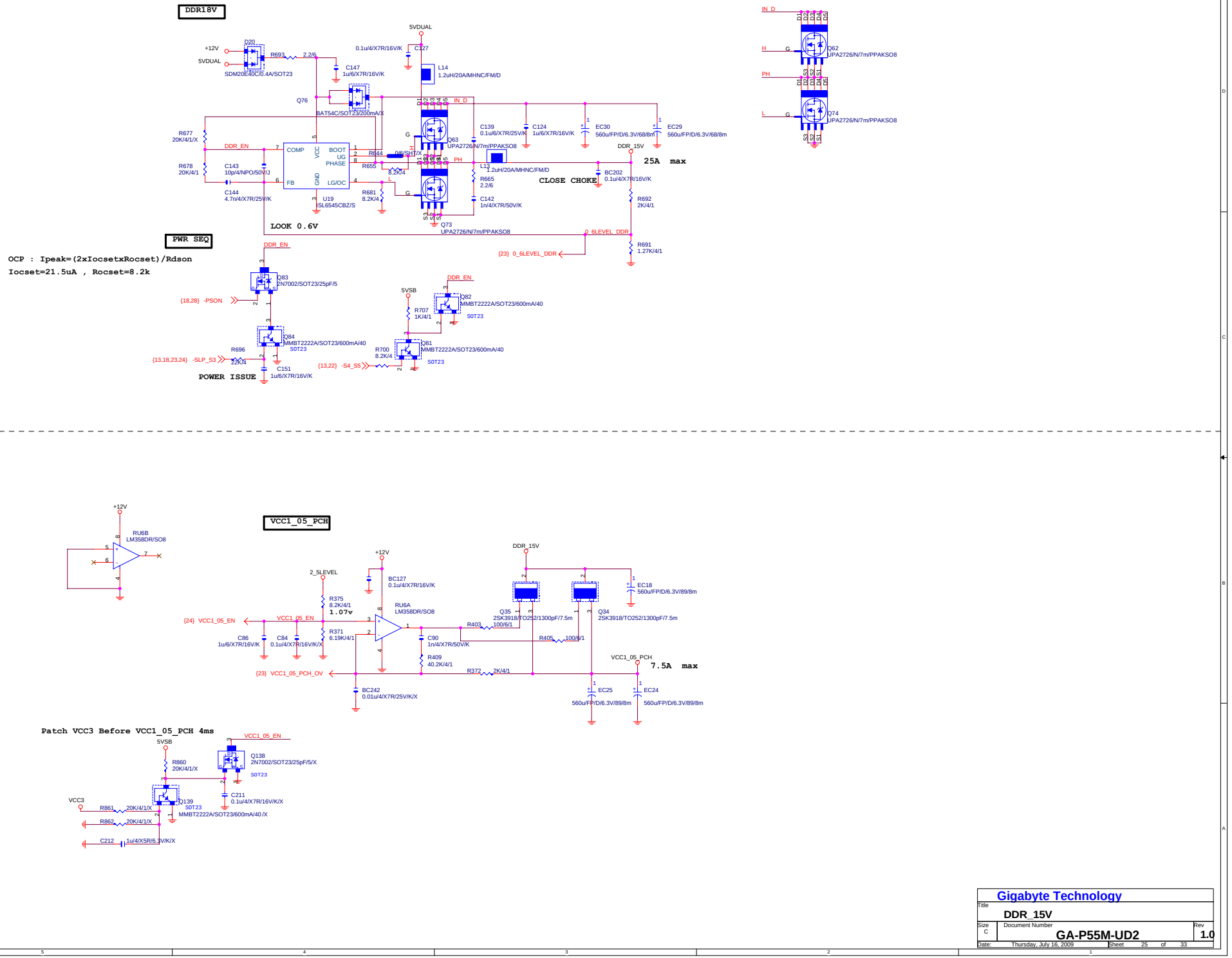
Gigabyte Technology

Title: VRD 11 -ISL6334

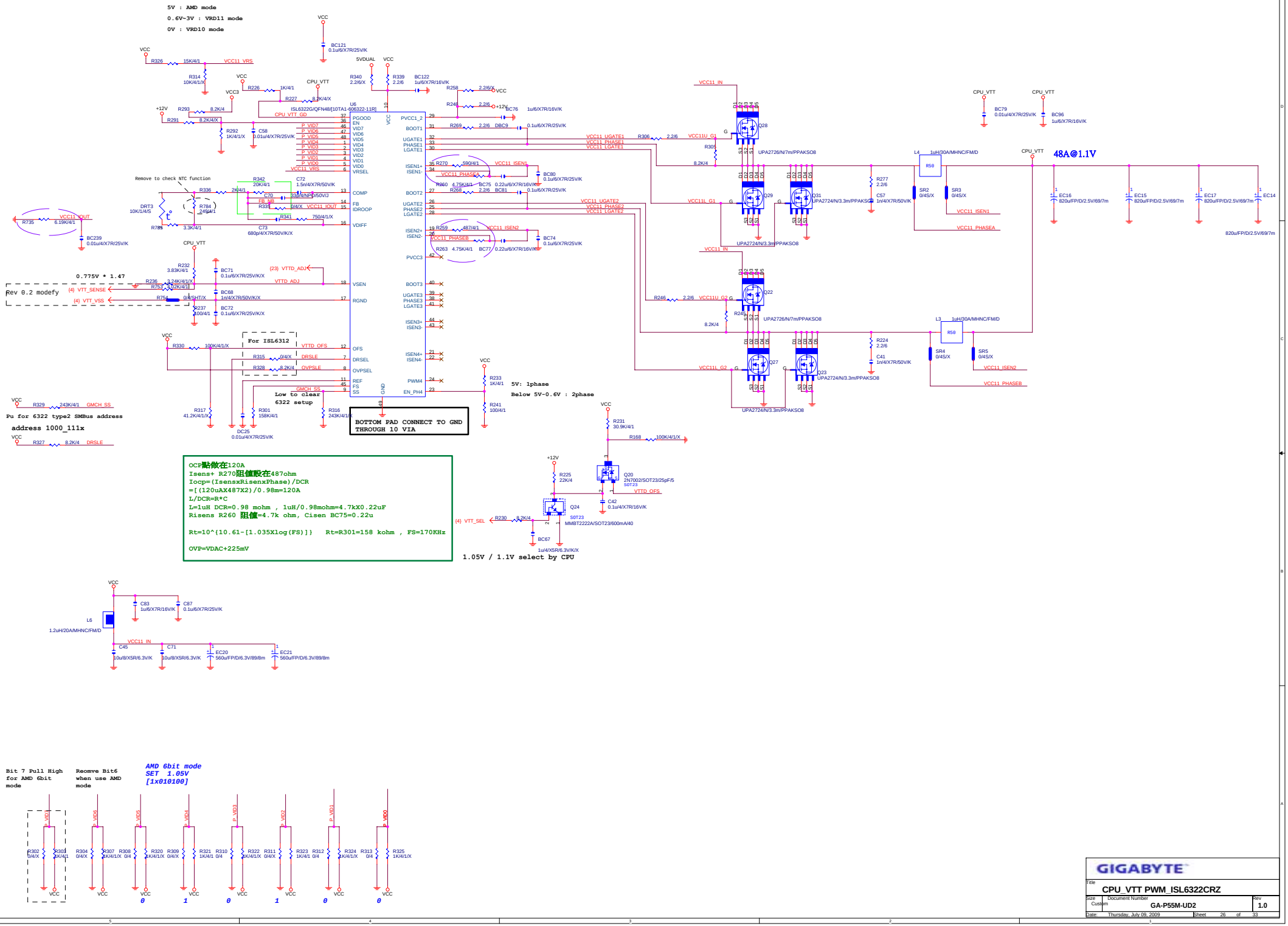
Size: Custom | Document Number: GA-P55M-UD2 | Rev: 1.0

Date: Thursday, July 09, 2009 | Sheet 23 of 33


5VDUAL
VCC=4.2V
+12V=10V
U21A
U21B
KA393D/SO8
R684 8.2K/4
R683 12K/4/1
C150 1u/6/X7R/16V/K
R682 1K/4/1
R666 1K/4/1
C145 0.1u/4/X7R/16V/K
R668 8.2K/4
R667 2.74K/4/1
C146 0.1u/4/X7R/16V/K
R711 8.2K/4
R675 1K/4/1
R674 8.2K/4/X
Q79
Q68
2SK3918/TO252/1300pF/7.5m
P06P03LCG/SOT89/530pF/45m
EC32
EC31
560uF/FP/D/6.3V/89/8m
100uF/FP/D/16V/6A/[11CO5-6A1000-07R]
5VDUAL_GATE
R688 1K/4/1
Q77
2N7002/SOT23/25pF/5
Q88
MMBT2222A/SOT23/600mA/40
C148 1n/4/X7R/50V/K/X
R646 8.2K/4
-SLP_S3
{13,18,23,25} -SLP_S3
PWROK1 {12,13,18}
Q78
2N7002/SOT23/25pF/5/X
3VDUAL
BC165 0.1u/4/X7R/16V/K
R689 0/4/X
-RSMRST {13,14,18}
R481 100/4/1
R482 69/4/1
BC187 0.1u/4/X7R/16V/K
EC27 560u/FP/D/6.3V/89/8m
Q109
L1085DG/TO252/5A
R857 1K/4/1
R858 5.1K/4/1
R859 1K/4/1
C209 1u/4/X5R/6.3V/K
C210 0.1u/4/X7R/16V/K/X
Q136
MMBT2222A/SOT23/600mA/40
Q137
VCC1_8_PCH
2_5LEVEL
R589 3K/4/1
R572 8.2K/4/1
VCC18_EN
BC205 1u/6/X7R/16V/K
BC210 0.1u/4/X7R/16V/K/X
U16C
LM324DR/SO14
R360 100/6/1
C123 1n/4/X7R/50V/K
C78 8.2K/4
Q32
R590 40.2K/4/1
R545 2K/4/1
BC204 0.01u/4/X7R/25V/K/X
{23} VCC1_8_PCH_OV
VCC1_8_PCH
EC19
560u/FP/D/6.3V/89/8m
1.5A max
+12V SHORT PROTECT
R737 1K/4/1
Q95
Q92
2N7002/SOT23/25pF/5
-THRMTRIP {4,12}
+12V_ISEN
R741 2K/4/1
R742 2K/4/1
BC240 0.1u/4/X7R/16V/K
DDRVTT
DDR_15V
BC213 1u/4/X5R/6.3V/K
R627 1K/4/1
R626 1K/4/1
C134 1u/4/X5R/6.3V/K
DDR_VTT_REF
{23} DDR_VTT_REF
U11
VIN
GND
VREF1
VOUT
VREF2
ENABLE
VCNTL
BOOT_SEL
RT9173DPSP/3A/SO8/S
R588 0/6/X
R587 0/6/SHT/X
BC203 10u/8/X5R/6.3V/K
DDRVTT
1A max
VCC3_DAC
R598 1K/4/1/X
BC211 0.01u/4/X7R/25V/K/X
R629 3K/4/1/X
BC217 0.01u/4/X7R/25V/K/X
Q69
MMBT2222A/SOT23/600mA/40/X
R647 1K/4/1/X
C136 1n/4/X7R/50V/K/X
R639 20K/4/1/X
R628 1K/4/1/X
C138 0.01u/4/X7R/25V/K/X
L7
10uH/8/320mA/0.91S/X
EC23 100uF/FP/D/16V/6A/[11CO5-6A1000-07R]
FB6 0/8
(3.3V/70mA+360uA)
(N/A)
5VDUAL SHORT PROTECT
D18
Q90
BAT54A/SOT23/200mA
R733 8.2K/4
R734 1K/4/1
MMBT2907A/SOT23/-600mA/50
R732 68K/4/1
R726 100K/4/1
Q89
MMBT2222A/SOT23/600mA/40
C182 1u/6/X7R/16V/K
R517 100/6/1
Q53
AP431N/SOT23/150mA
CE2 100u/OS/D/16V/66/30m
2_5LEVEL
0.4V
R636 200K/4/1
R637 0/4/SHT/X
R642 0/4/SHT/X
{23,32} IOUT
VOUT
Q64
2N7002/SOT23/25pF/5/X
{23} -PSI_PWM
R638 38.3K/4/1
U16A
LM324DR/SO14
BC31 0.1u/4/X7R/16V/K
R648 8.2K/4
R649 3.3K/4/1
C135 0.047u/4/X7R/16V/K
PHASE_CTRL {12,23}
R606 10K/4/1
CPU_VTT
C131 0.1u/4/X7R/16V/K
C133 0.1u/4/X7R/16V/K/X
0.5V
R596 3.9K/4/1
R595 1K/4/1
C128 0.01u/4/X7R/25V/K
Z221
U16B
LM324DR/SO14
R591 8.2K/4
R592 2.4K/4/1
C122 0.1u/4/X7R/16V/K
VTT_PWRGD {4,23}
VCC18_EN
R520 8.2K/4
PWR_EN
Q61
2N7002/SOT23/25pF/5/X
MMBT2222A/SOT23/600mA/40
Q58
C120 1n/4/X7R/50V/K/X
R597 8.2K/4
{13,18,23,25} -SLP_S3
R600 0/4/X
Q59
R601 8.2K/4
BC209 0.1u/6/X7R/25V/K
R623 8.2K/4
Q56
Q57
VCC1_05_EN {25}
R780 1K/4/1/X
C191 1n/4/X7R/50V/K/X
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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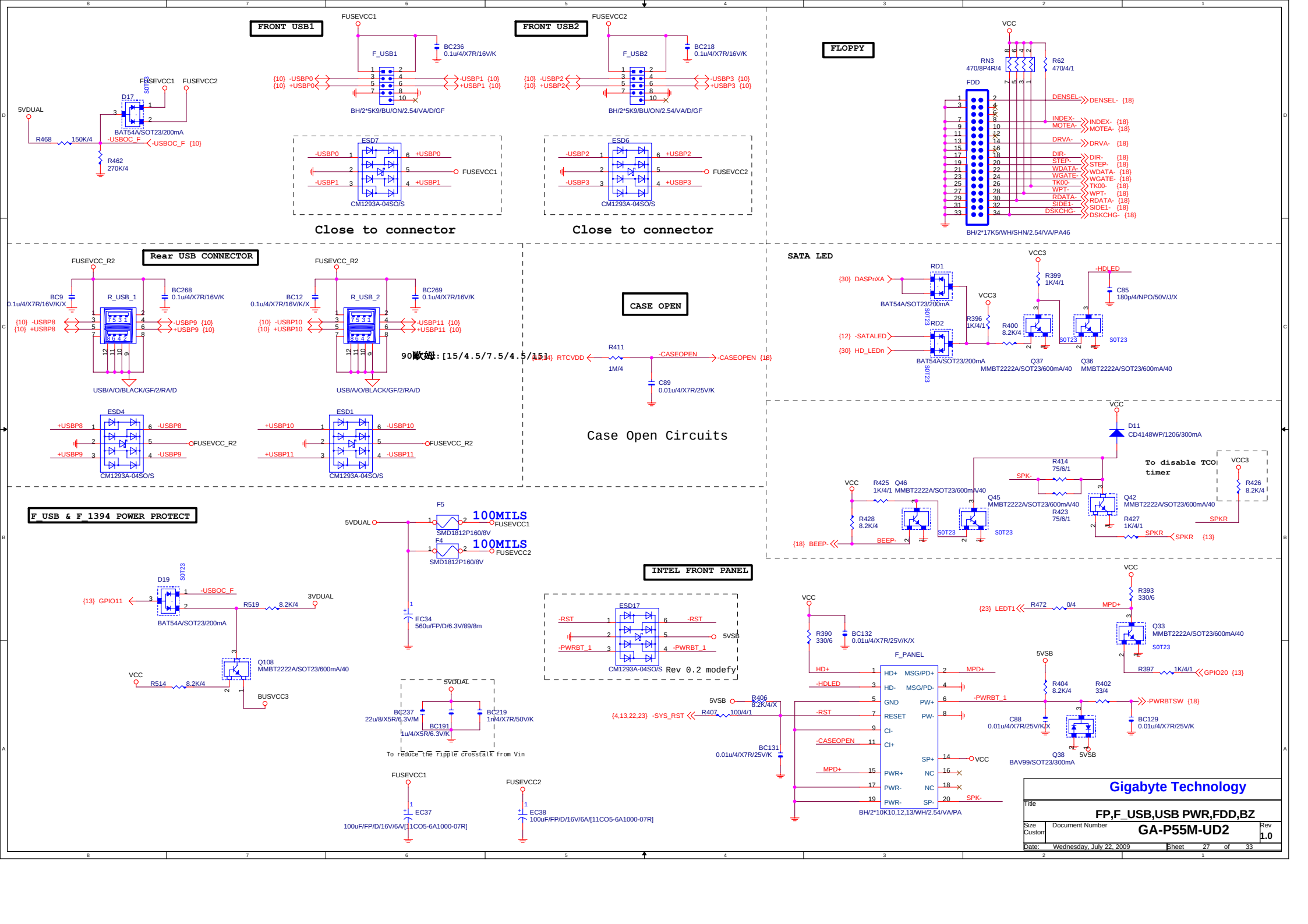
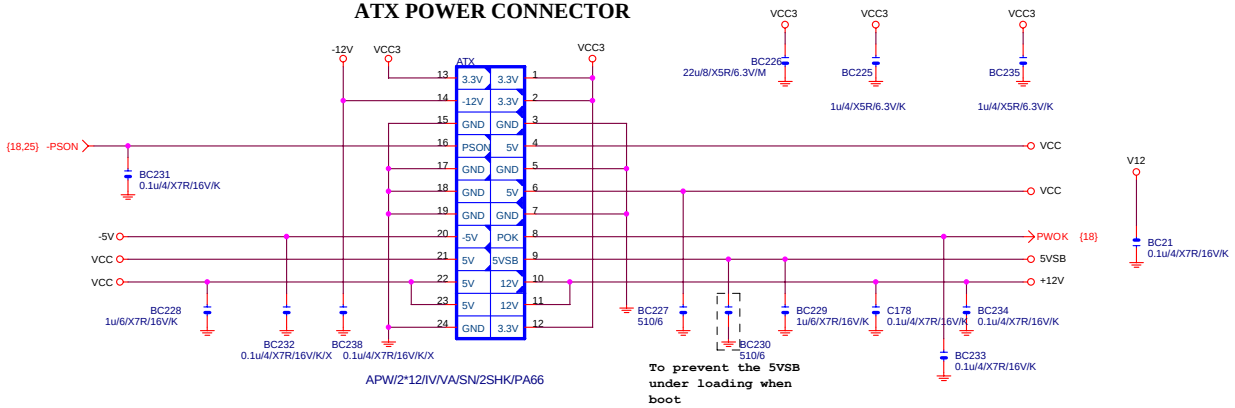
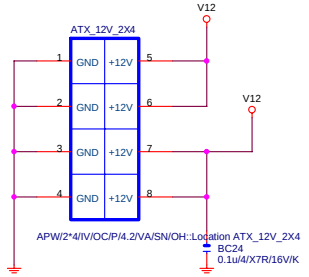

FRONT USB1
FRONT USB2
FLOPPY
Rear USB CONNECTOR
CASE OPEN
SATA LED
F_USB & F_1394 POWER PROTECT
INTEL FRONT PANEL
Close to connector
Close to connector
Case Open Circuits
To disable TCO timer
To reduce the ripple crosstalk from Vin
Rev 0.2 modefy
Gigabyte Technology
FP,F_USB,USB PWR,FDD,BZ
GA-P55M-UD2
Rev 1.0
Wednesday, July 22, 2009
Sheet 27 of 33

ATX POWER CONNECTOR

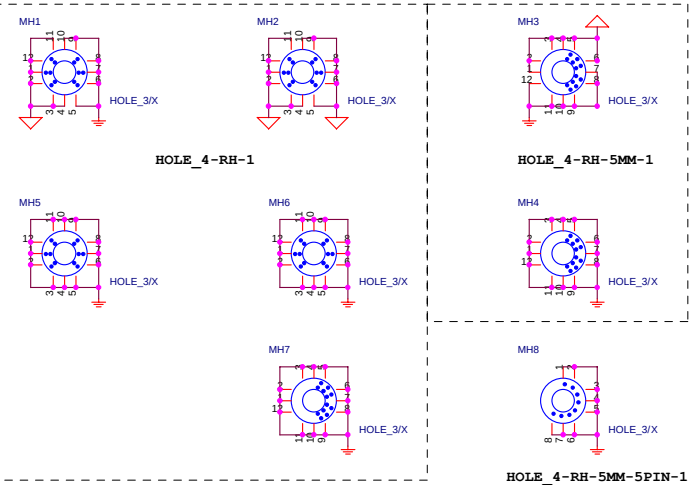


APW/2*12/IV/VA/SN/2SHK/PA66

To prevent the 5VSB under loading when boot



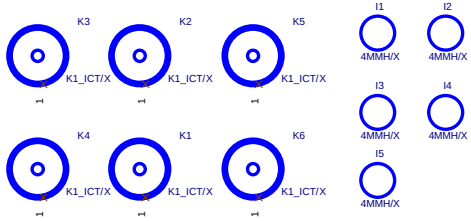
APW/2*4/IV/OC/P/4.2/VA/SN/OH::Location ATX_12V_2X4

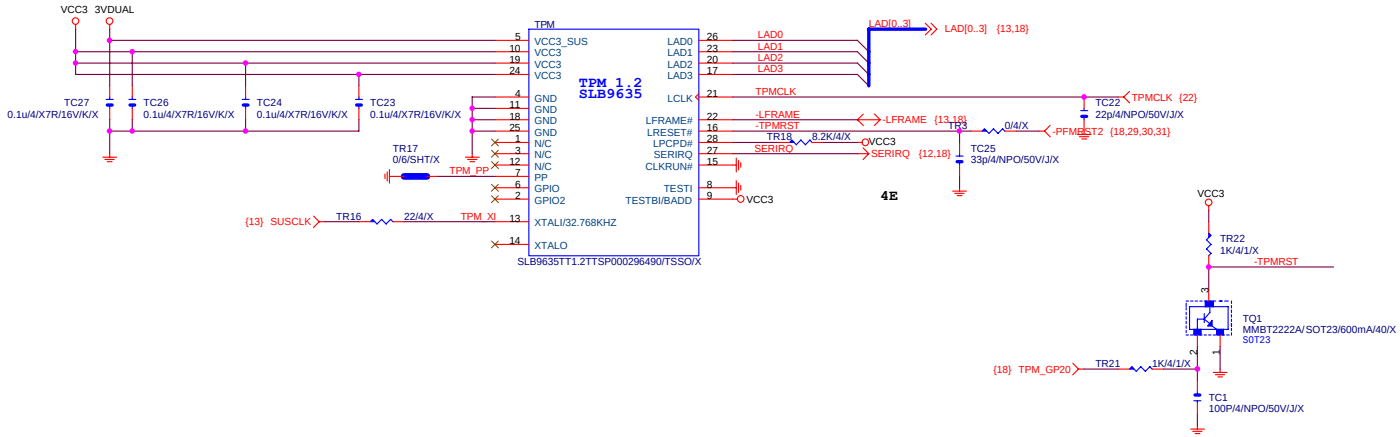


HOLE_4-RH-1

HOLE_4-RH-5MM-1

HOLE_4-RH-5MM-5PIN-1





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
80歐姆:[15/5/5/5/15]
SRCCLK 50歐姆:[18/4/10/4/18]
離IC近越好
For RTL8111C
RTL8111D-GR/QFN64/[10HP2-408111-70R]

Dual Color LED
Green
Orange

Single Color LED
Yellow

P35-152-19W9

for RT8111C Mount

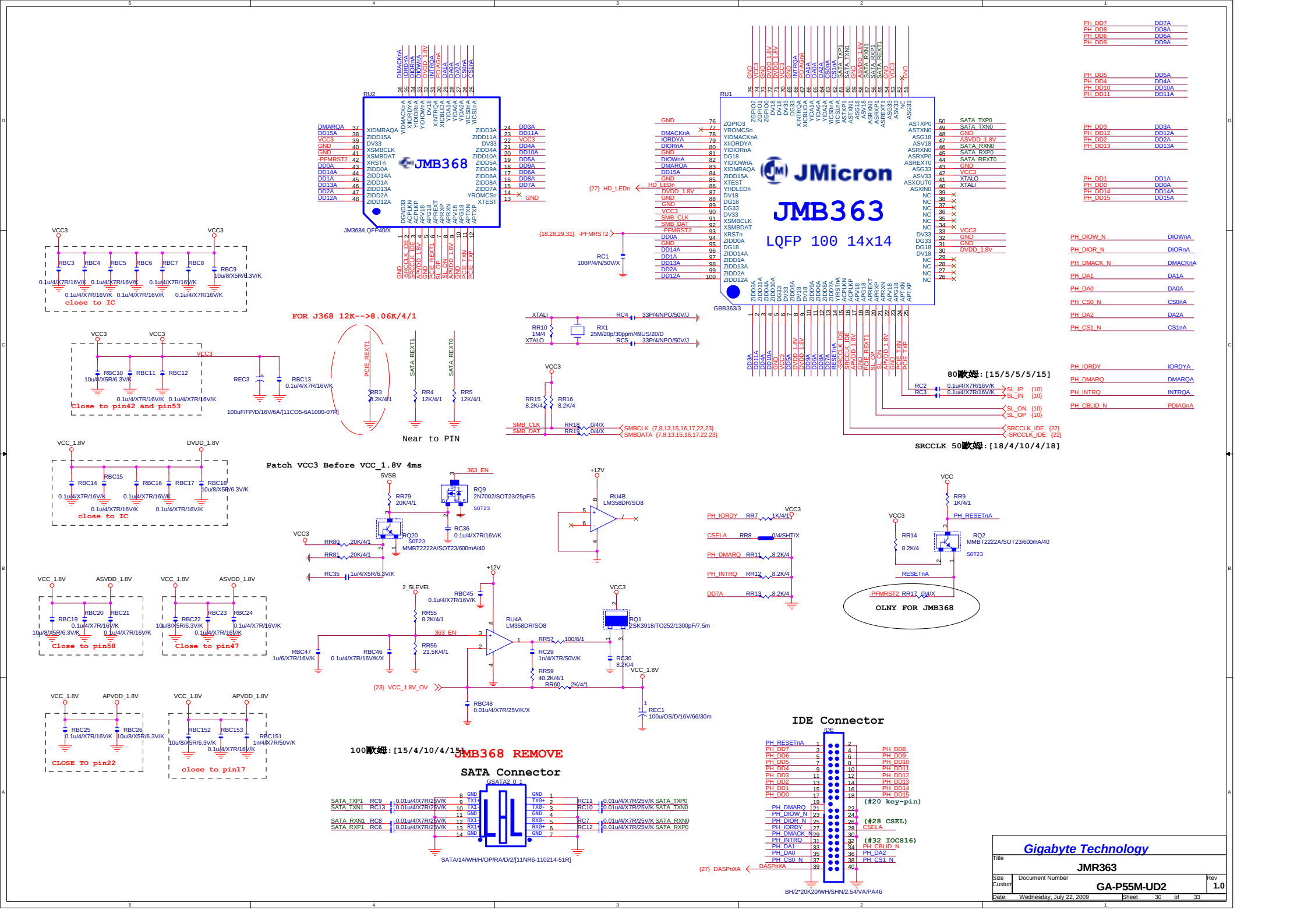
FOR CLOSE
PIN1,29,37,40

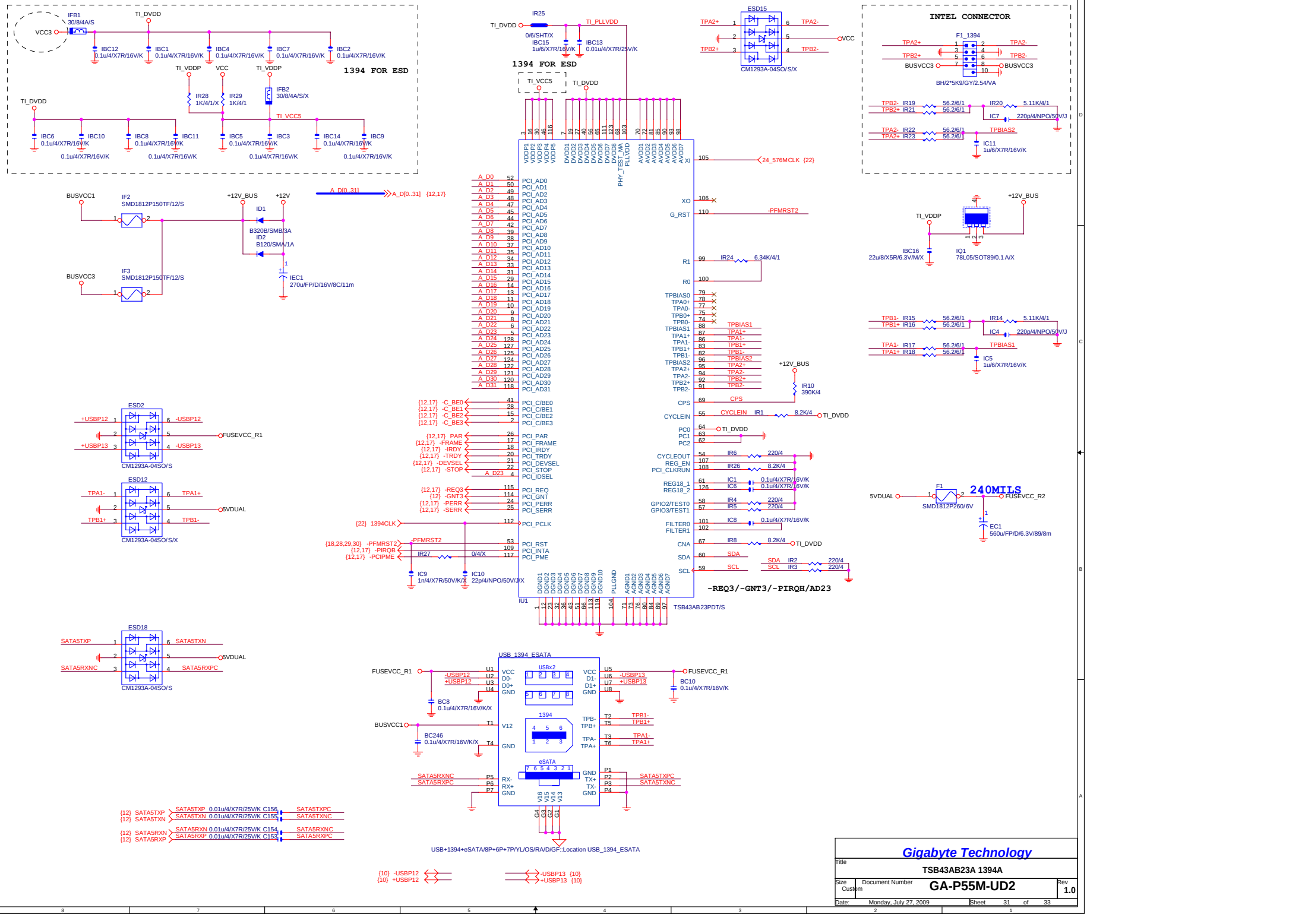
距離pin1 在0.5cm以內
距離LL2 在0.5cm以內

USB_LAN CONNECTOR
Close to connector
CM1293A-04SO/S
FOR EMI
USB_LAN
UP
DOWN
USB+LAN/1G/GO,Y/OS/RA/D/1
RTL8111DL -->N/A
90歐姆:[20/4/8/4/20]
90歐姆:[15/4.5/7.5/4.5/15]

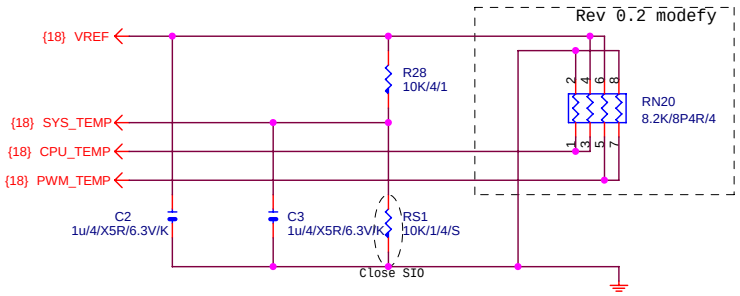
400MILS
240MILS
SMD1812P260/6V

Gigabyte Technology	
Title	REALTEK RTL8111C
Size: Custom	Document Number: GA-P55M-UD2
Rev	1.0
Date: Thursday, July 09, 2009	Sheet 29 of 33

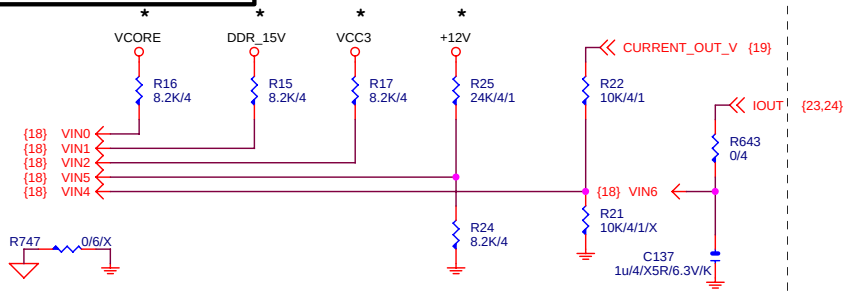

JMB368
JMB368/LQFP40/X
JMicron
JMB363
LQFP 100 14x14
GBB363/3
close to IC
Close to pin42 and pin53
FOR J368 12K-->8.06K/4/1
Near to PIN
80歐姆:[15/5/5/5/15]
SRCCLK 50歐姆:[18/4/10/4/18]
Patch VCC3 Before VCC_1.8V 4ms
close to IC
Close to pin58
Close to pin47
CLOSE TO pin22
close to pin17
100歐姆:[15/4/10/4/15]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


1394 FOR ESD
1394 FOR ESD
INTEL CONNECTOR
F1_1394
BH/2*5K9/GY/2.54/VA
CM1293A-04SO/S/X
TSB43AB23PDT/S
-REQ3/-GNT3/-PIRQH/AD23
USB_1394_ESATA
USB+1394+eSATA/8P+6P+7P/YL/OS/RA/D/GF::Location USB_1394_ESATA
Gigabyte Technology
TSB43AB23A 1394A
GA-P55M-UD2
1.0
Monday, July 27, 2009
Sheet 31 of 33

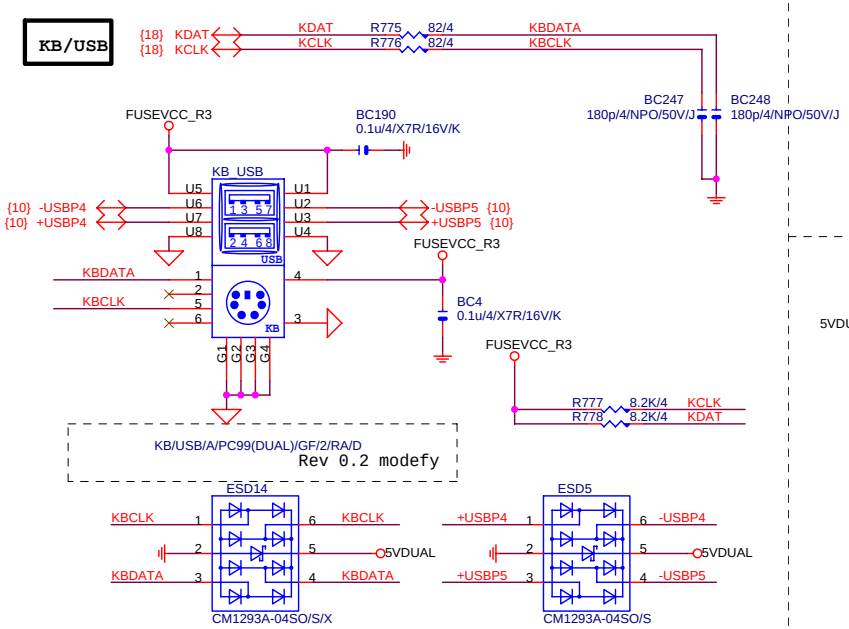
TEMP H/W MONITOR



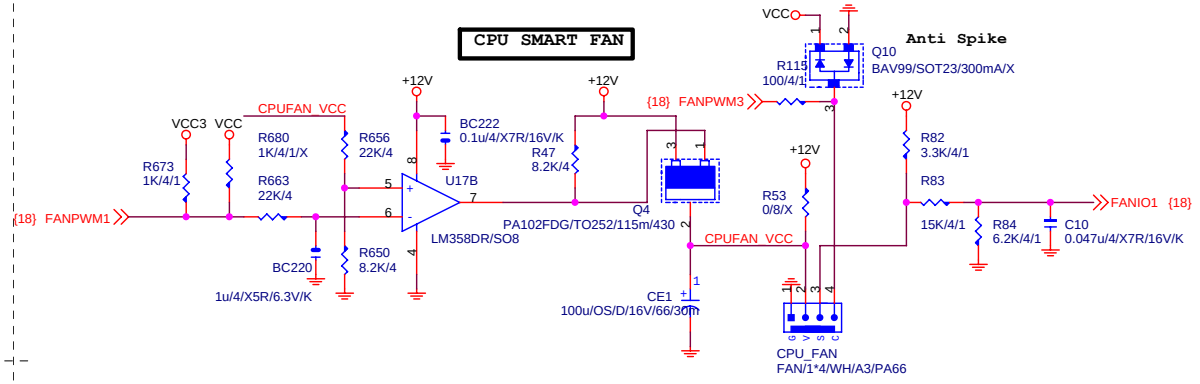
VOLTAGE-- H/W MONITOR



KB/USB

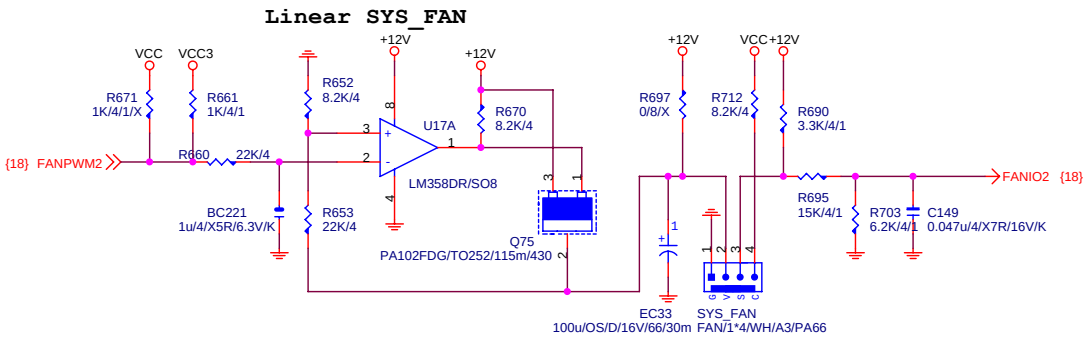


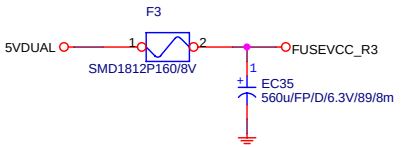
CPU SMART FAN

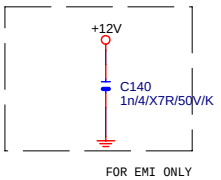


SYS FAN

Linear SYS_FAN







Gigabyte Technology

Title	HWM,KB/MS, FAN CTRL	
Size: Custom	Document Number: GA-P55M-UD2	Rev: 1.0
Date: Thursday, July 09, 2009	Sheet 32 of 33	

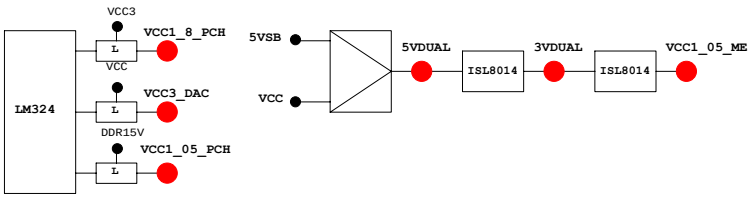
PCH GPIO LIST TABLE

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

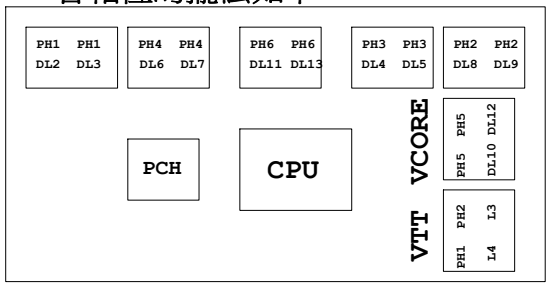
Super I/O ITE8720 GPIO Table

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	
VID03/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	
VID05/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	
VID00/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	
VID01/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	
VID04/GP26/SOUT2	DDR18V_PH2_EN	
VID02/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VID06/GP17/RI2#	1_1V_PH_EN	
VID07/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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Title: TABLE LIST

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