Model Name: GA-H55M-UD2H *REV: 1.01*

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	PCH_FDI,DMI,USB,PCIE,NVRAM
11	PCH_DP,CLK BUFFER
12	PCH_HOST,SATA,PCI
13	PCH_GPIO,CTRL,AUDIO
14	PCH_PWR,GND
15	PCI EXPRESS*16 SLOT
16	PCI EXPRESS*4 SLOT
17	PCI SLOT 1,2
18	ITE 8720 LPC IO
19	Dual BIOS,PHOT,D-OC
20	ALC888B/889A
21	REAR AUDIO JACK
22	CLOCK GEN ICS9LPRS914
23	DISCRETE POWER
24	DDR 15V,PWR SEQ
25	CPU_VAXG PWM_ISL6314CRZ
26	CPU_VTT PWM_ISL6322G
27	VCORE PWM_ISL6334CR

SHEET	TITLE
28	F_PANEL , F_USB , FDD
29	ATX POWER,TPM
30	REALTEK RTL8111D
31	JMB368
32	TI TSB43AB23 1394
33	HDMI,DVI,DP
34	HWM,KB/MS , FAN CTRL
35	TABLE LIST

Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-H55M-UD2H | Rev: 1.01

Date: Wednesday, November 04, 2009 | Sheet 1 of 35

GA-H55M-UD2H Version: 1.01

Component value change history

2009/12/08

Data	Change Item	Reason
2009/07/22	R0.11 DP ADD 25MHZ X'TAL FOR PCH 120MHZ	
2009/08/24	ADD DISPLAY LED	
2009/08/27	COUPON1 REF VCC層GND,GND層GND要塞孔	
2009/10/21	R1.01:BIOSX64M+LEVEL SHIFT(NON-REV)+DP PD-HR38+ADD EUP READY文字+PCIE/SPDIF防燒	
2009/11/04	機構卡ddr3:modify TEC4	
2009/12/08	R1.01 PBOM:10B ECN 改鏡面1.0uH/1.2uH CHOKE R1R	

Circuit or PCB layout change for next version

DATE	Change Item	Reason

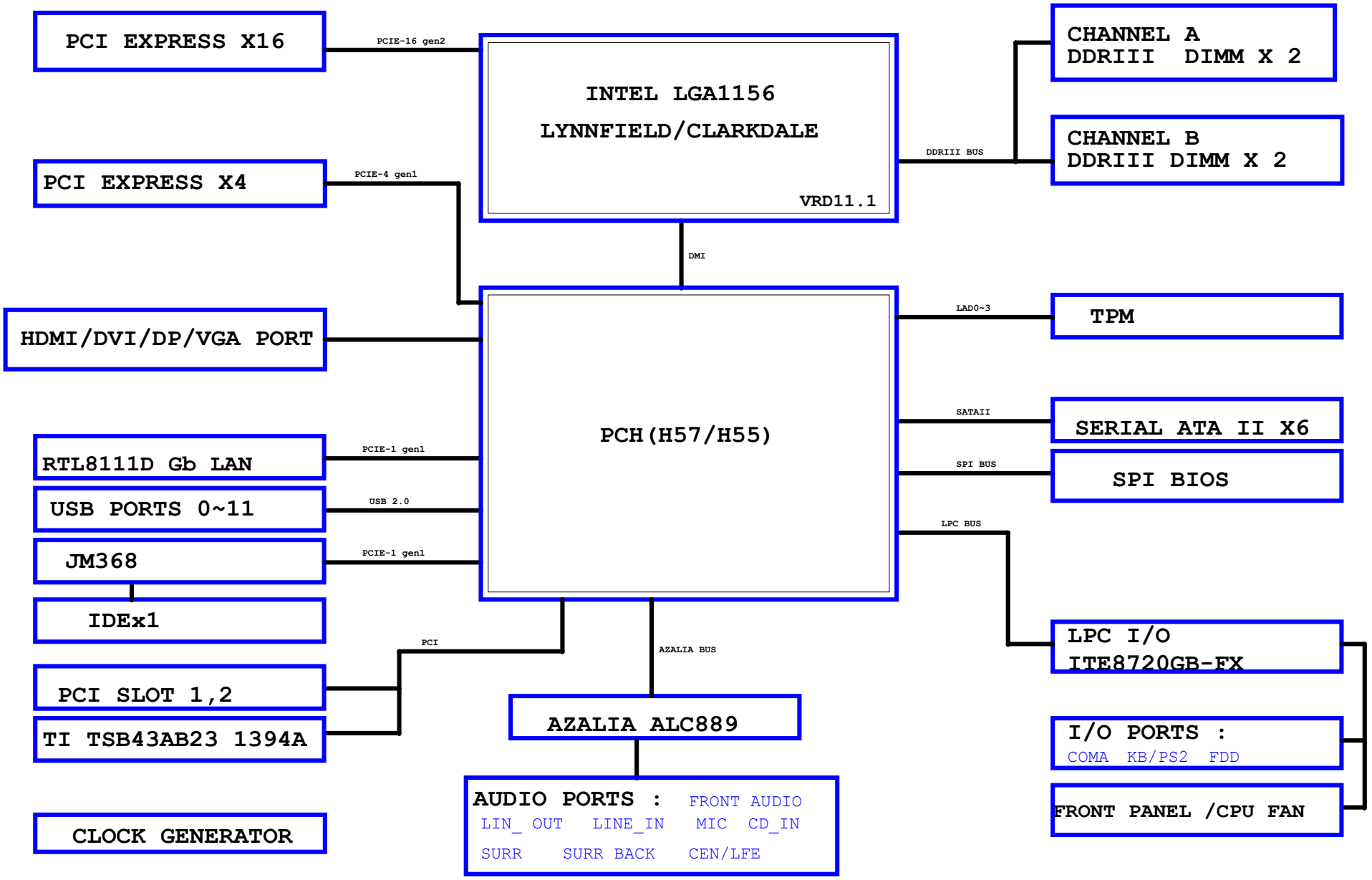
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-H55M-UD2H | Rev: 1.01

Date: Thursday, December 24, 2009 | Sheet 2 of 35

BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-H55M-UD2H	Rev: 1.01
Date: Thursday, November 05, 2009	Sheet 3 of 35	

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

OC PCIE CLK

For PCIE2.0 issue
Must remove after
fixed issue

CFG 0-5 all internal PULL-UP

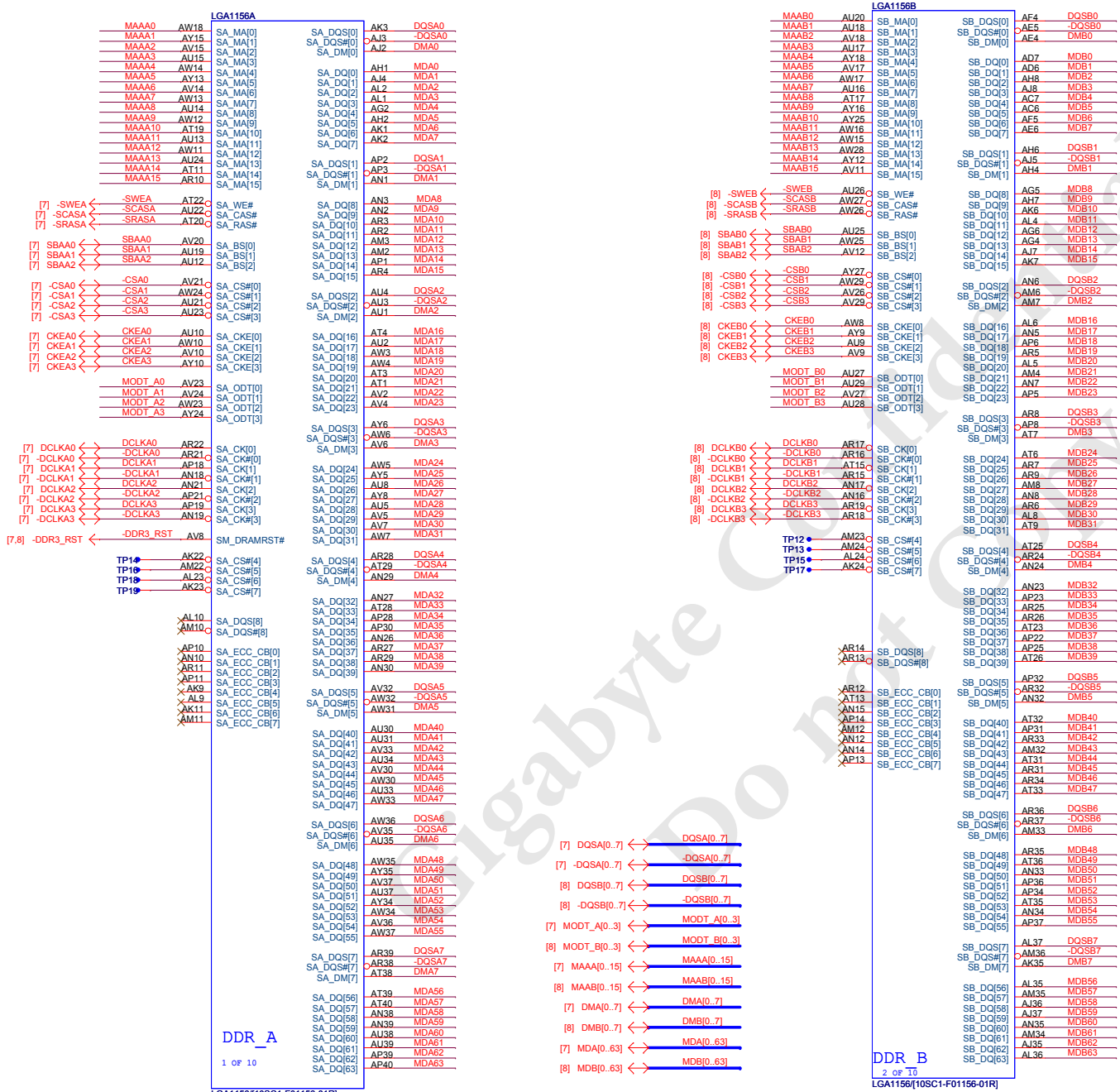
CFG	H	L	NOTE
0			H:1X16 , L:2X8
1	RSVD		
2	RSVD		
3	NORM	RSVD	LANE REVERSAL
4	DISABLE	ENABLE	DP PRESENCE
5	RSVD		
6	RSVD		
7	RSVD		ENGINEERING EXPERIMENT
15	RSVD		ENGINEERING EXPERIMENT

	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	0
VID7	VRD SEL	0
PSI#	RSVD	

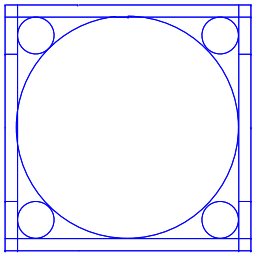
POWER ON CONFIG TABLE (Default=1.2250V)

Check Trace length/ width

Gigabyte Technology
Title: CPU LGA1156-A
Size: Custom
Document Number: GA-H55M-UD2H
Rev: 1.01
Date: Thursday, November 05, 2009
Sheet 4 of 35



CR
CPU RETAINTION/X

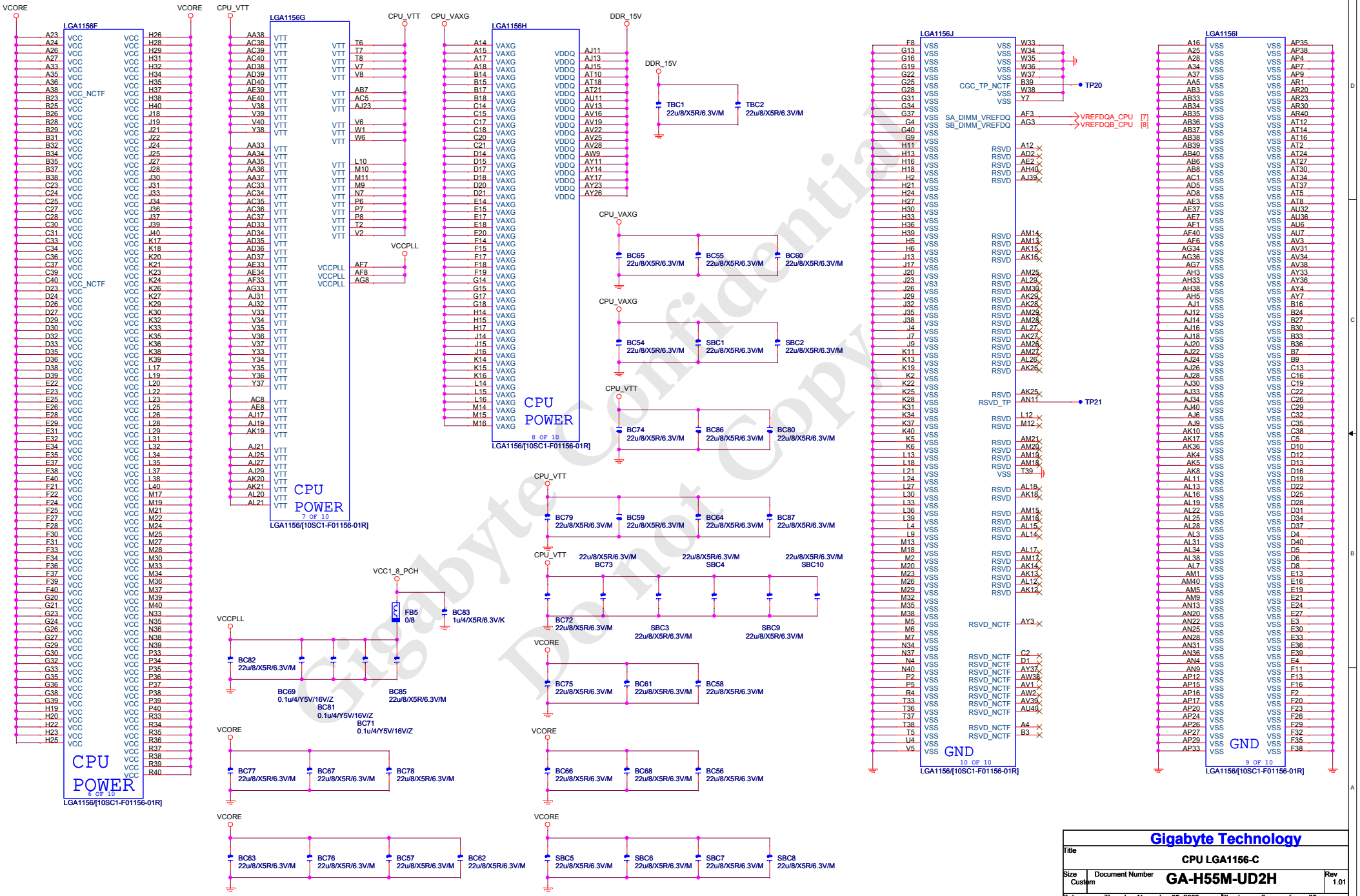


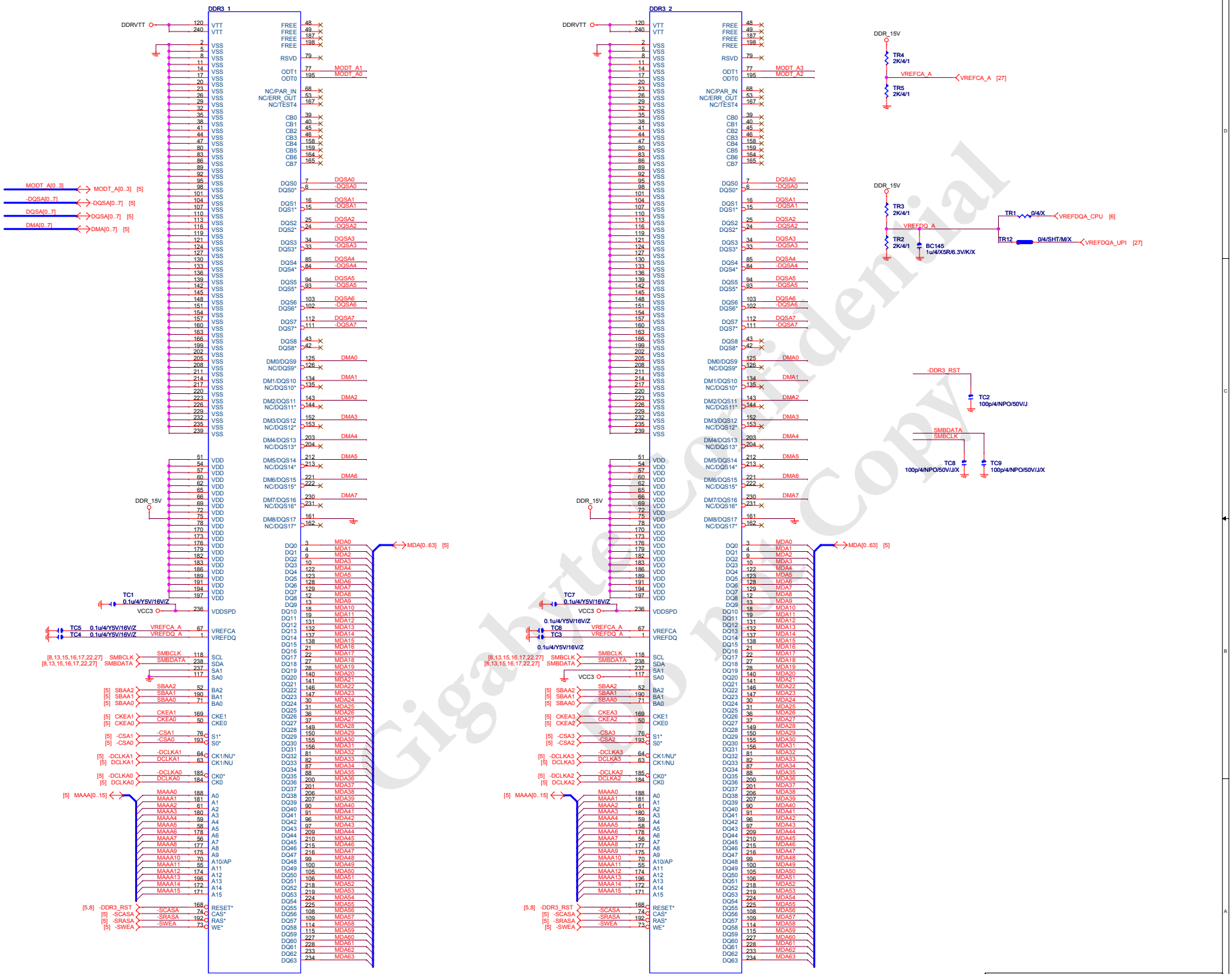
Need check the new CPU ME

LGA1156_P

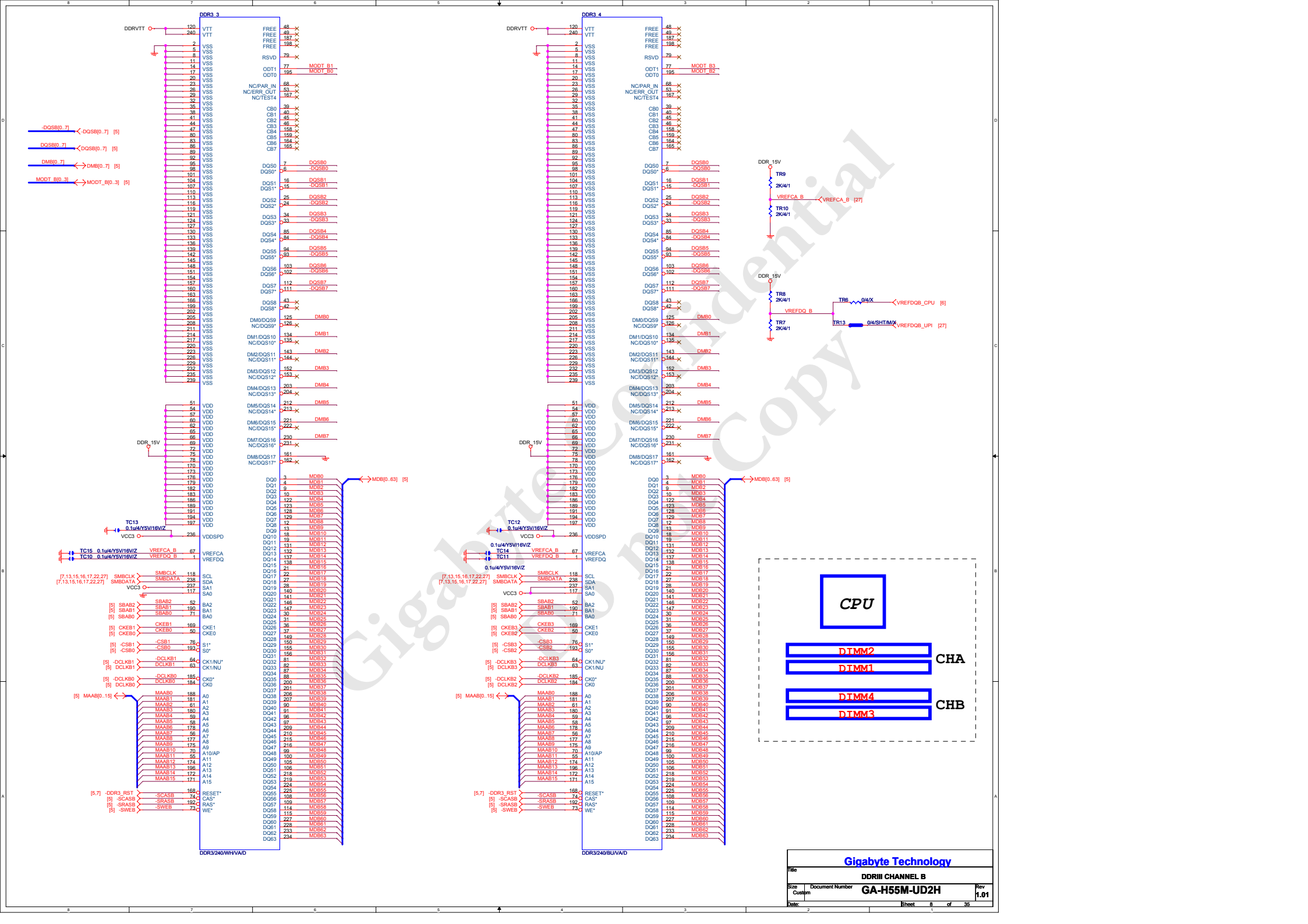
PLATE+ILM/[12KRC-0F0001-01R]

Gigabyte Technology			
Title: CPU LGA1156-B			
Size: Custom	Document Number: GA-H55M-UD2H		Rev: 1.01
Date: Thursday, November 05, 2009	Sheet 5 of 35		





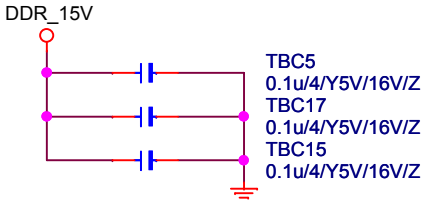
Gigabyte Technology			
Title: DDRIII CHANNEL A			
Size: Custom	Document Number: GA-H55M-UD2H		Rev: 1.01
Date:	Sheet 7 of 35		

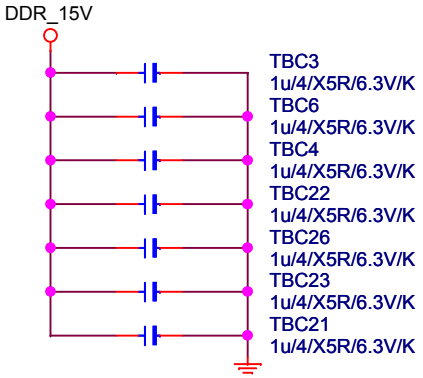


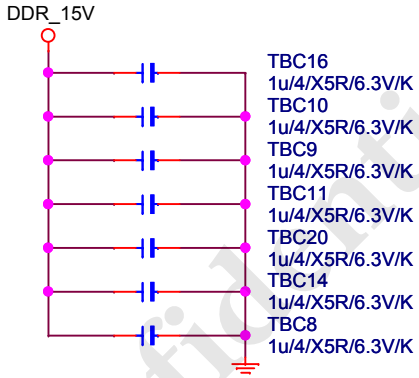
Gigabyte Technology			
Title: DDRIII CHANNEL B			
Size: Custom	Document Number: GA-H55M-UD2H		Rev: 1.01
Date:	Sheet 8 of 35		

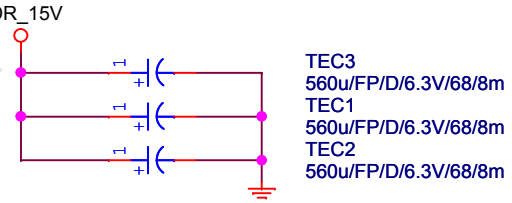
DDR TERMINATION CHANNEL A/B

DDR15V Decouple

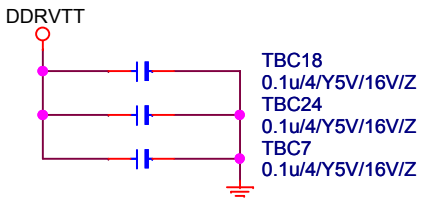


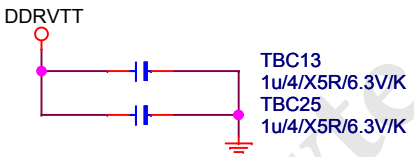


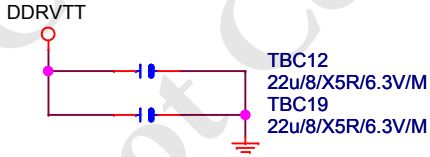


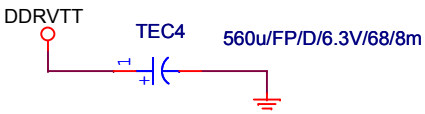


DDRVTT Decouple









REF VCC層GND,GND層GND要塞孔

REF GND層GND,VCC層GND要塞孔

Gigabyte Technology		
Title: DDRIII POWER CAP		
Size: A	Document Number: GA-H55M-UD2H	Rev: 1.01
Date: Thursday, November 05, 2009	Sheet 9 of 35	

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

PCHB

[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 → R241 49.9/4/1 → DMI_COMP D21 → DMI_IRCOMP C21 → DMI_ZCOMP

DMI

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

[22] -SRCCLK_PCH → CLKIN_DMI_N H20
[22] SRCCLK_PCH → CLKIN_DMI_P G20

PCIEX4
[16] PCIE_IN1 → D15 → PERN1
[16] PCIE_IP1 → C16 → PERP1
[16] PCIE_TN1 → 0.1u/4/X7R/16V/K C35 PET_N1 → D18 → PETN1
[16] PCIE_TP1 → 0.1u/4/X7R/16V/K C34 PET_P1 → D17 → PETP1
[16] PCIE_IN2 → B17 → PERN2
[16] PCIE_IP2 → A16 → PERP2
[16] PCIE_TN2 → 0.1u/4/X7R/16V/K C41 PET_N2 → H16 → PETN2
[16] PCIE_TP2 → 0.1u/4/X7R/16V/K C38 PET_P2 → G16 → PETP2
[16] PCIE_IN3 → B15 → PERN3
[16] PCIE_IP3 → C14 → PERP3
[16] PCIE_TN3 → 0.1u/4/X7R/16V/K C46 PET_N3 → H14 → PETN3
[16] PCIE_TP3 → 0.1u/4/X7R/16V/K C44 PET_P3 → G14 → PETP3
[16] PCIE_IN4 → D14 → PERN4
[16] PCIE_IP4 → D13 → PERP4
[16] PCIE_TN4 → 0.1u/4/X7R/16V/K C52 PET_N4 → K14 → PETN4
[16] PCIE_TP4 → 0.1u/4/X7R/16V/K C51 PET_P4 → L14 → PETP4

JMB368
[31] MIDE_IN → C12 → PERN5
[31] MIDE_IP → B13 → PERP5
[31] MIDE_ON → 0.1u/4/X7R/16V/K C96 PET_N5 → H12 → PETN5
[31] MIDE_OP → 0.1u/4/X7R/16V/K C97 PET_P5 → G12 → PETP5

LAN
[30] ML_IN → D8 → PERN6
[30] ML_IP → C9 → PERP6
[30] ML_ON → 0.1u/4/X7R/16V/K C92 PET_N6 → G11 → PETN6
[30] ML_OP → 0.1u/4/X7R/16V/K C93 PET_P6 → H11 → PETP6
A12 → PERN7
B11 → PERP7
D11 → PETN7
D10 → PETP7
C7 → PERN8
B8 → PERP8
K12 → PETN8
J12 → PETP8

PCIE

2 OF 11

BD82H55/BGA951

電容要靠近 slot 端

H55 PCIE(7,8)-->N/A

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

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

USB

USBP0N AW25 → -USBP0 → -USBP0 [28]
USBP0P AY25 → +USBP0 → +USBP0 [28]
USBP1N BA23 → -USBP1 → -USBP1 [28]
USBP1P AY24 → +USBP1 → +USBP1 [28]
USBP2N AW23 → -USBP2 → -USBP2 [28]
USBP2P AY22 → +USBP2 → +USBP2 [28]
USBP3N AR22 → -USBP3 → -USBP3 [28]
USBP3P AP22 → +USBP3 → +USBP3 [28]
USBP4N AV21 → -USBP4 → -USBP4 [28]
USBP4P AV22 → +USBP4 → +USBP4 [28]
USBP5N AY20 → -USBP5 → -USBP5 [28]
USBP5P AW21 → +USBP5 → +USBP5 [28]
USBP6N AK20
USBP6P AL20
USBP7N AV20
USBP7P AW19
USBP8N BA19 → -USBP8 → ~~-USBP8 [30]~~
USBP8P AY18 → +USBP8 → +USBP8 [30]
USBP9N AM20 → -USBP9 → -USBP9 [30]
USBP9P AN20 → +USBP9 → +USBP9 [30]
USBP10N AV17 → -USBP10 → -USBP10 [32]
USBP10P AV18 → +USBP10 → +USBP10 [32]
USBP11N AR20 → -USBP11 → -USBP11 [32]
USBP11P AT20 → +USBP11 → +USBP11 [32]
USBP12N AK18 → -USBP12 → -USBP12 [34]
USBP12P AL18 → +USBP12 → +USBP12 [34]
USBP13N AY17 → -USBP13 → -USBP13 [34]
USBP13P BA16 → +USBP13 → +USBP13 [34]

H55-->PORT6,7:N/A

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

OC0#/GPIO59 AT31 → -USBOC_F [28]
OC1#/GPIO40 AT30
OC2#/GPIO41 AK28
OC3#/GPIO42 AP30
OC4#/GPIO43 AP31 → -USBOC_R [30]
OC5#/GPIO9 AL28
OC6#/GPIO10 AL30
OC7#/GPIO14 AM30 GPIO14

USBRBIAS# AY15 USBRBIAS R232 22.6/4/1
USBRBIAS AV15

CLKIN_DOT_96N AM22 -DOTCLK → -DOTCLK [22]
CLKIN_DOT_96P AL22 DOTCLK → DOTCLK [22]

USB OC# Configure	
OC0#	USB0,1(F_USB1)
OC1#	USB2,3(F_USB2)
OC2#	USB4,5(F_USB3)
OC3#	USB6,7(F-USB4)H55-->N/A
OC4#	USB8,9(USB_LAN)
OC5#	USB10~11(USB_1394_ESATA)
OC6#	USB12~13(KB_USB)
OC7#	GPIO14

NV_ALE	
Hi	Enable Danbury
Lo	Disable Danbury

Intel anti theft techonlogy

PCHE

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

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 R283 33/4

NVRAM

5 OF 11

BD82H55/BGA951

3VDUAL_ICH
R248 8.2K/4/X
GPIO14

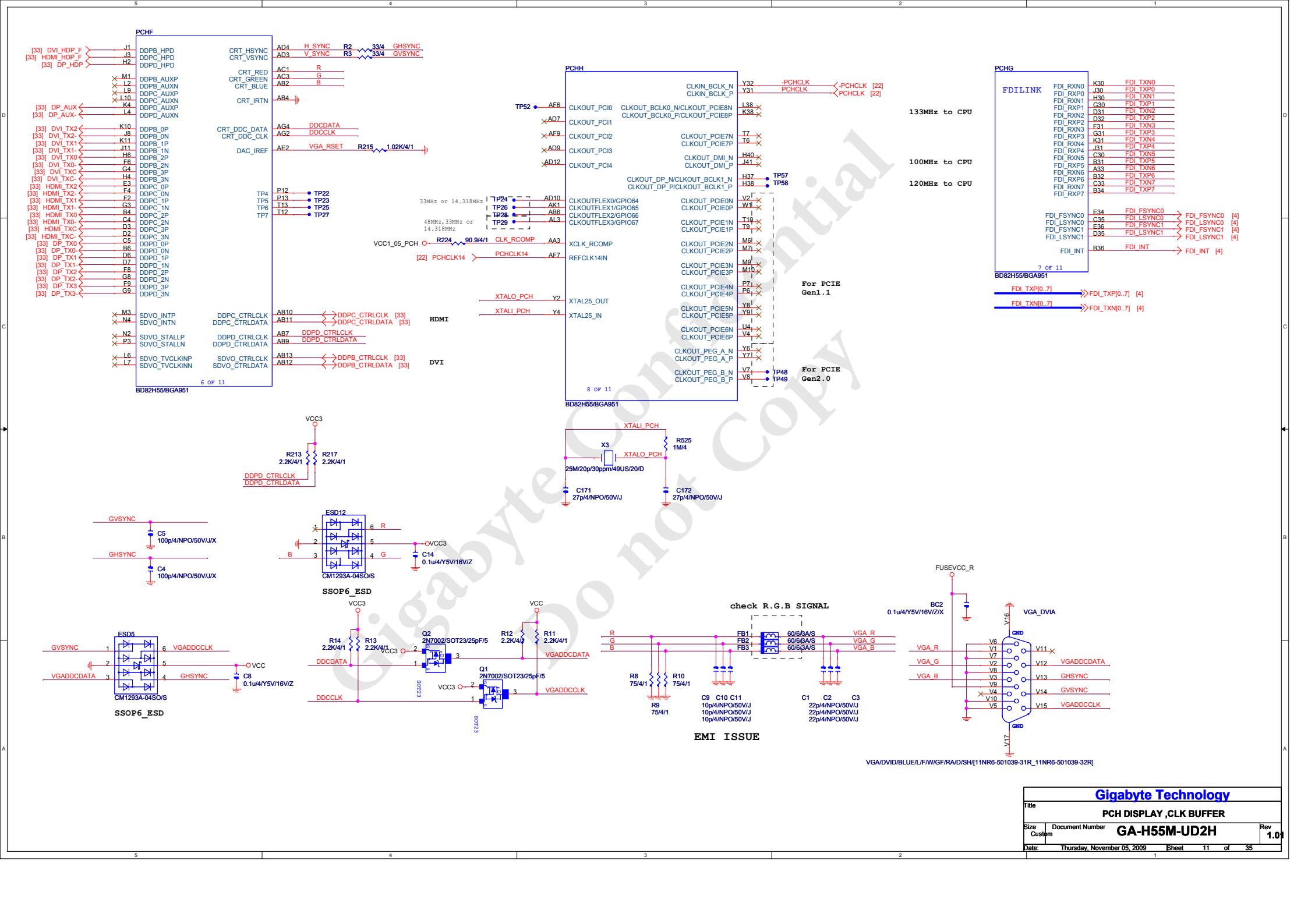
Impedance=50+- 15%
ONFI: NV_DQ 4/5
NV_DQS 4/10
NV_CTRL 4/10
NV_CK 4/15

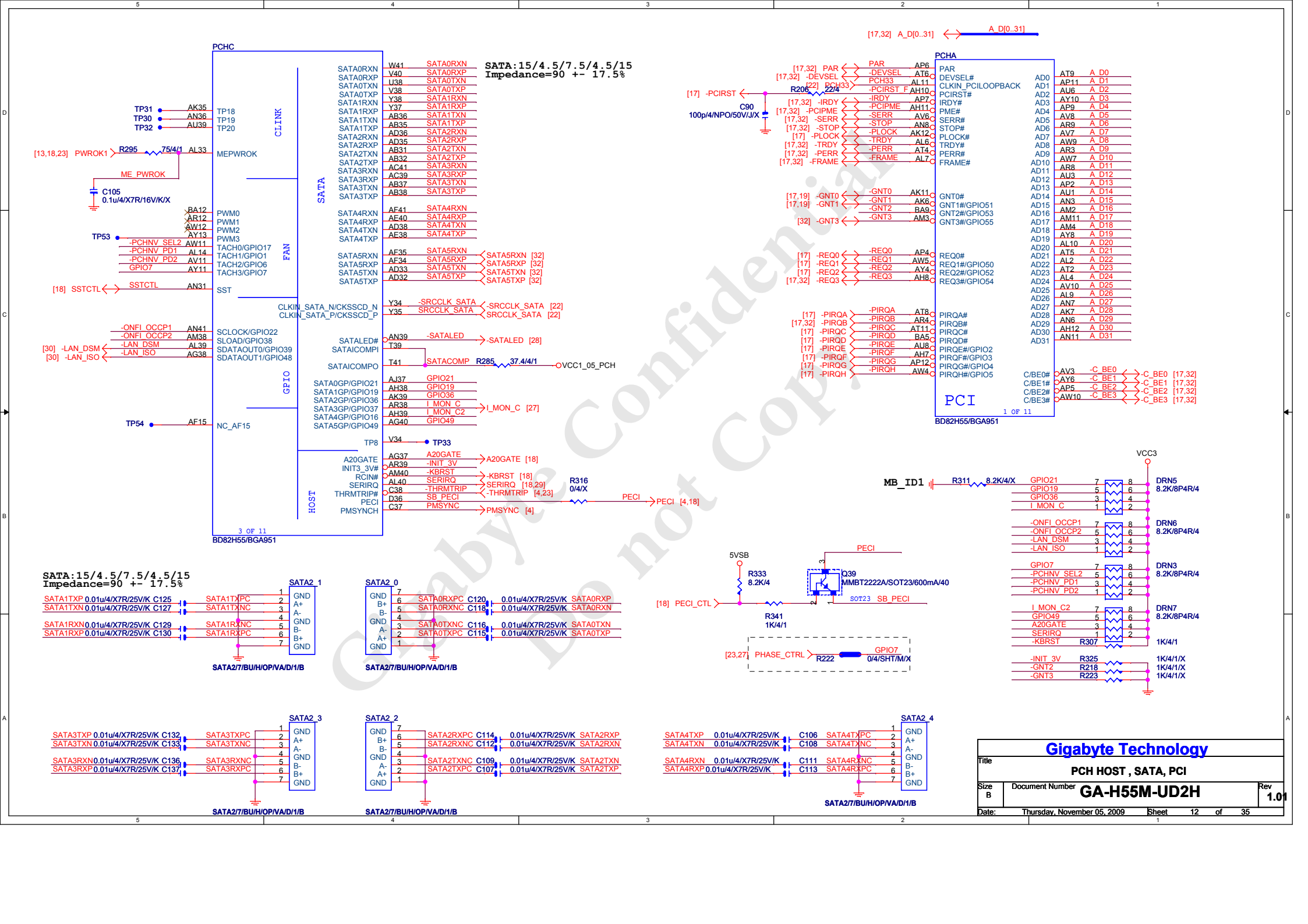
NV_PCH
R275 8.2K/4
NV_ALE
R273 8.2K/4/X

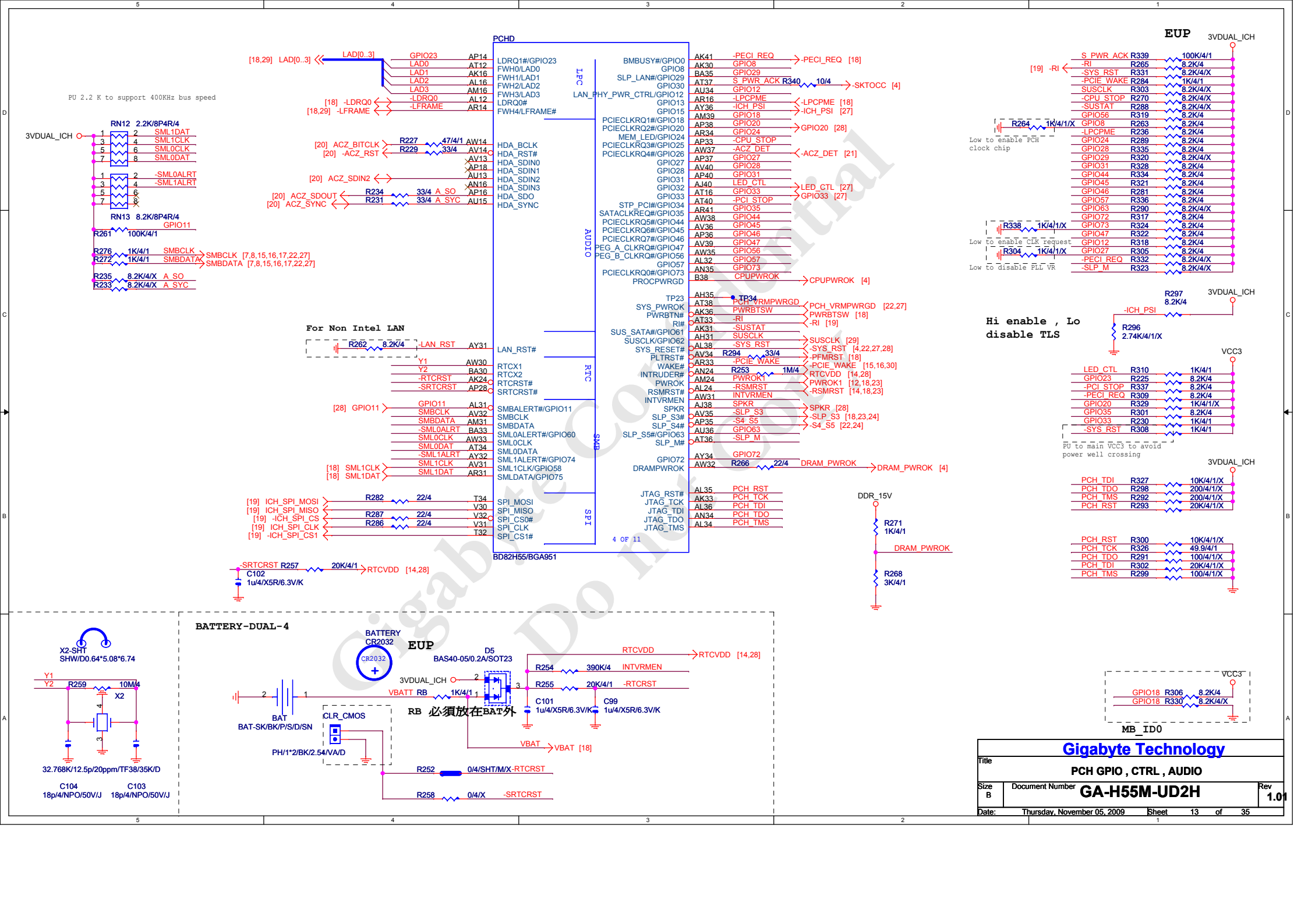
NV_PCH
R280 8.2K/4/X
NV_CLE
R277 4.75K/4/1/X

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

Gigabyte Technology			
Title: PCH FDI,DMI,USB ,PCIE,NVRAM			
Size: B	Document Number: GA-H55M-UD2H		Rev: 1.01
Date: Thursday, November 05, 2009	Sheet 10 of 35		


PCHF
BD82H55/BGA951
6 OF 11
PCHH
BD82H55/BGA951
8 OF 11
PCHG
FDILINK
BD82H55/BGA951
7 OF 11
133MHz to CPU
100MHz to CPU
120MHz to CPU
For PCIE Gen1.1
For PCIE Gen2.0
HDMI
DVI
SSOP6_ESD
SSOP6_ESD
EMI ISSUE
check R.G.B SIGNAL
VGA_DVIA
Gigabyte Technology
PCH DISPLAY ,CLK BUFFER
GA-H55M-UD2H
1.01
Thursday, November 05, 2009
Sheet 11 of 35
Gigabyte Confidential
Do not Copy





Title	PCH GPIO , CTRL , AUDIO
Size	B
Document Number	GA-H55M-UD2H
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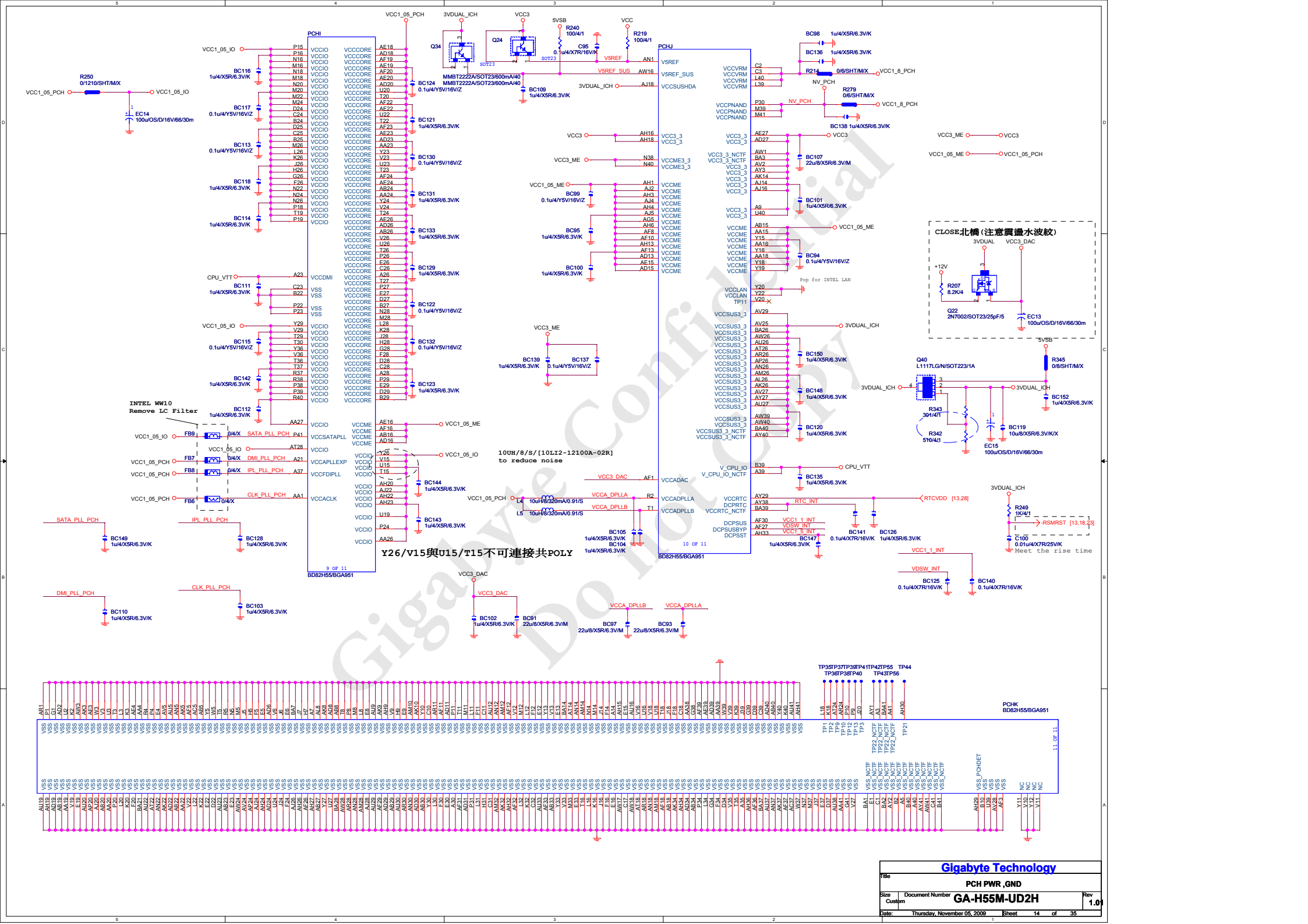
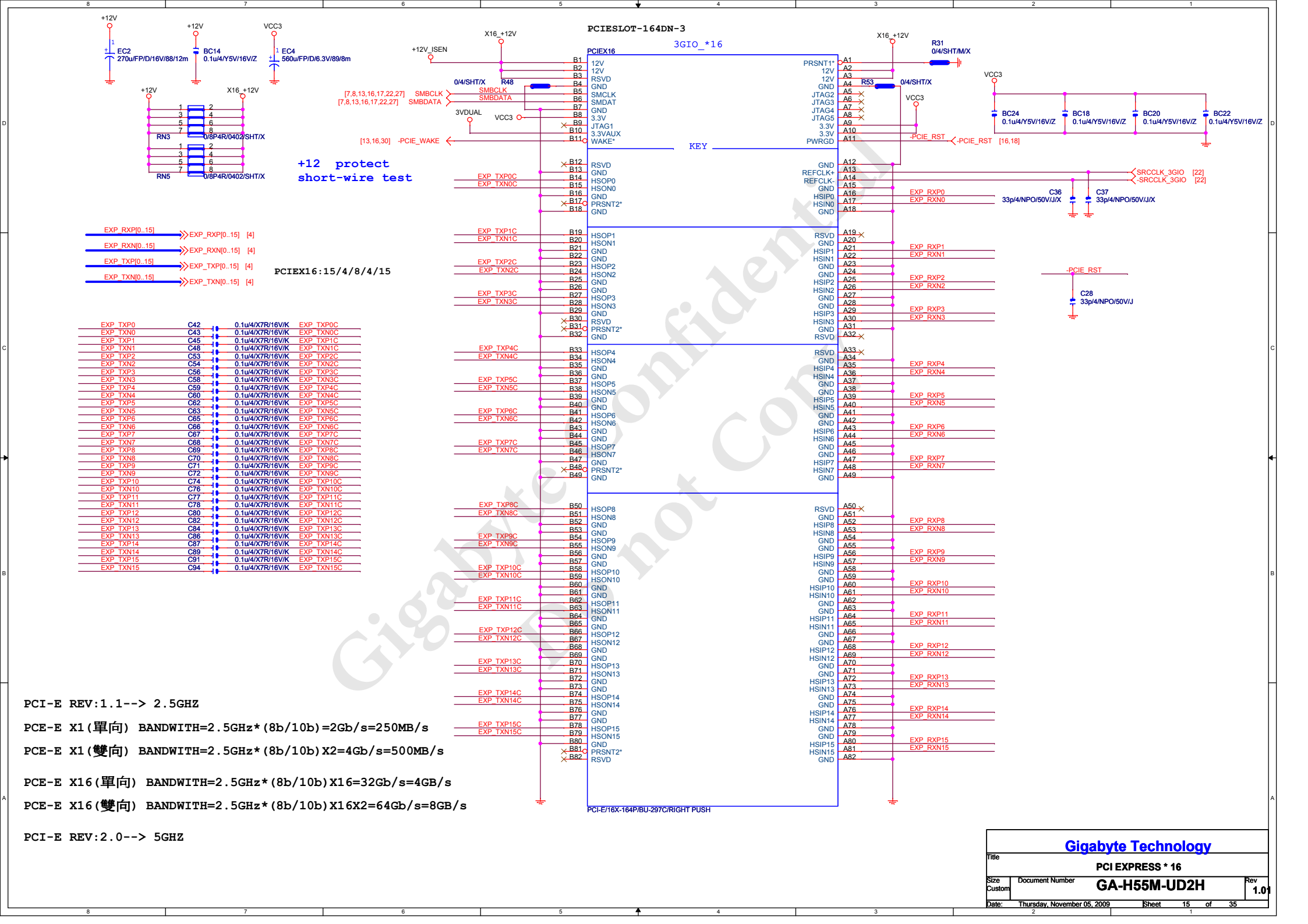
Gigabyte Technology



Gigabyte Technology	
Title	PCH PWR ,GND
Size: Custom	Document Number: GA-H55M-UD2H
Rev	1.01
Date: Thursday, November 05, 2009	Sheet 14 of 35


PCIESLOT-164DN-3
3GIO_*16
PCIEX16
KEY
PCI-E/16X-164P/BU-297C/RIGHT PUSH
+12V
VCC3
3VDUAL
+12V_ISEN
X16_+12V
EC2
270u/FP/D/16V/88/12m
BC14
0.1u/4/Y5V/16V/Z
EC4
560u/FP/D/6.3V/89/8m
RN3
RN5
0/8P4R/0402/SHT/X
R48
R53
R31
0/4/SHT/X
0/4/SHT/M/X
BC24
BC18
BC20
BC22
C36
C37
C28
33p/4/NPO/50V/J/X
33p/4/NPO/50V/J
+12 protect
short-wire test
PCIEX16:15/4/8/4/15
EXP_RXP[0..15]
EXP_RXN[0..15]
EXP_TXP[0..15]
EXP_TXN[0..15]
SMBCLK
SMBDATA
PCIE_WAKE
PCIE_RST
SRCCLK_3GIO
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
Gigabyte Technology
PCI EXPRESS * 16
GA-H55M-UD2H
1.01
Thursday, November 05, 2009
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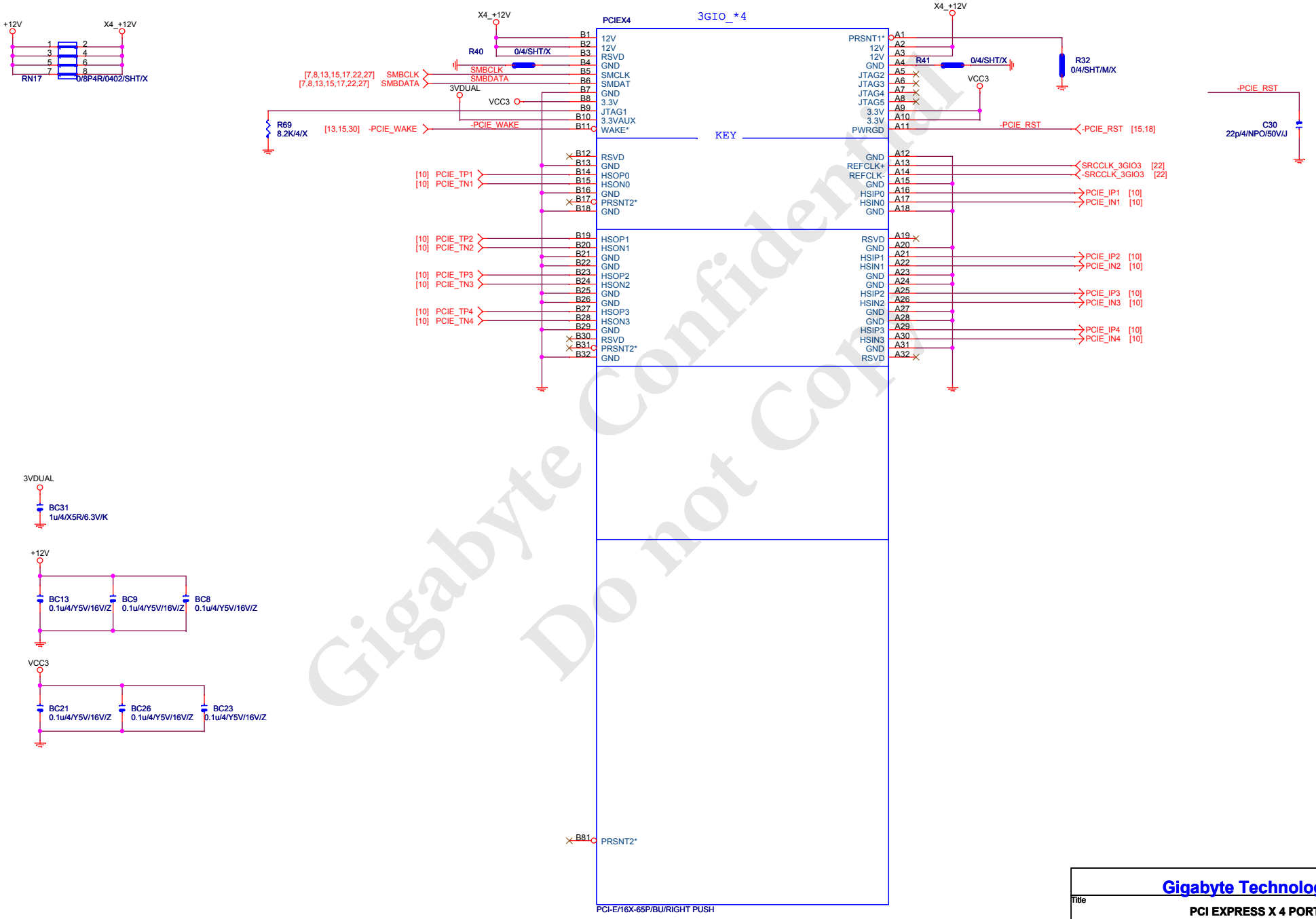
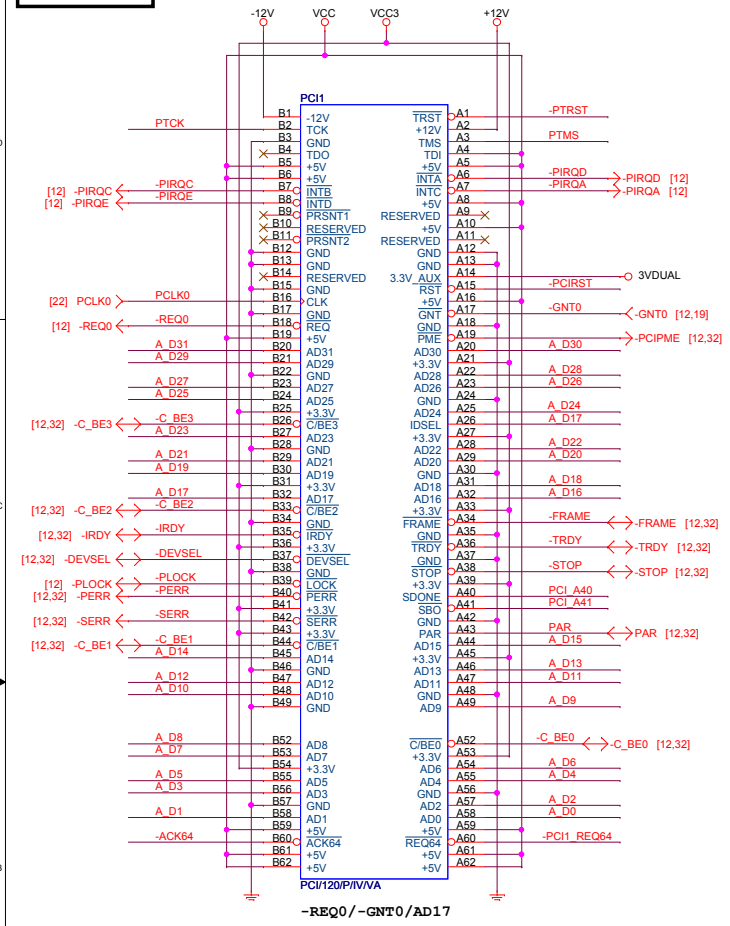
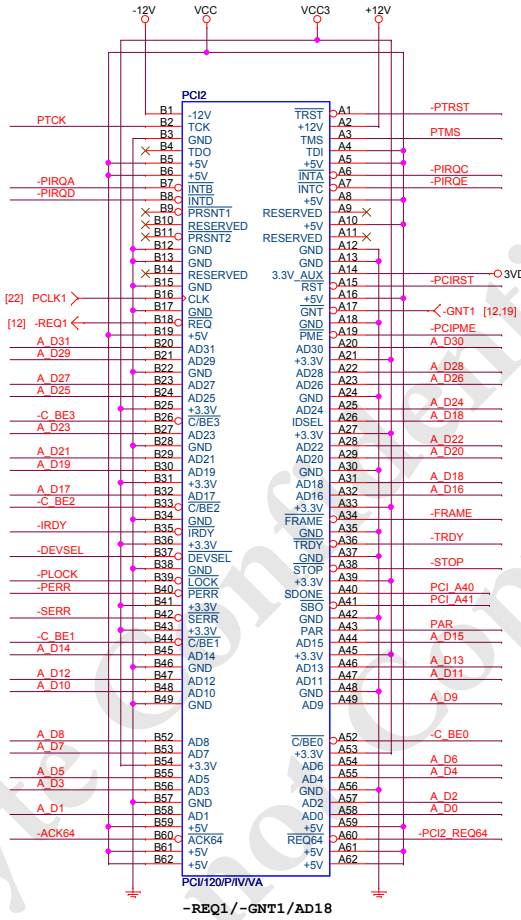
PCIESLOT-64D-98D-1



Gigabyte Technology			
Title	PCI EXPRESS X 4 PORT		
Size: Custom	Document Number: GA-H55M-UD2H		Rev: 1.01
Date: Thursday, November 05, 2009	Sheet 16 of 35		

PCI1,2 SLOT





[12,32] A_D[0..31] — A_D[0..31]

-PCIRST — -PCIRST [12]

C32
27p/4/NPO/50V/J/X

Place close to PCI1

[7,8,13,15,16,22,27] SMBCLK — PCI_A40
[7,8,13,15,16,22,27] SMBDATA — PCI_A41

RN1 8.2K/8P4R/4
-PTRST
PTCK
PTMS
VCC

RN7 2.2K/8P4R/4
VCC
[12,32] -REQ3
[12] -REQ2
[12] -REQ1
[12] -REQ0

RN10 2.2K/8P4R/4
VCC
PAR — PAR [12,32]
-PCI2_REQ64
-ACK64
-PCI1_REQ64

3VDUAL
BC19
1u/4/X5R/6.3V/K

RN8 2.2K/8P4R/4
VCC
-FRAME
-IRDY
-TRDY
-DEVSEL

RN9 2.2K/8P4R/4
-STOP
-PLOCK
-PERR
-SERR

RN2 8.2K/8P4R/4
VCC3
[12] -PIRQC
[12] -PIRQD
[12] -PIRQG
[12] -PIRQA

RN6 8.2K/8P4R/4
[12] -PIRQH
[12] -PIRQF
[12,32] -PIRQB
[12] -PIRQE

VCC3
BC48 0.1u/4/Y5V/16V/Z
BC52 1u/4/X5R/6.3V/K
BC40 0.1u/4/Y5V/16V/Z
BC84 1u/4/X5R/6.3V/K

VCC
BC89 0.1u/4/Y5V/16V/Z/X
EC5 560u/FP/D/6.3V/89/8m

Gigabyte Technology			
Title: PCI SLOT 1, 2			
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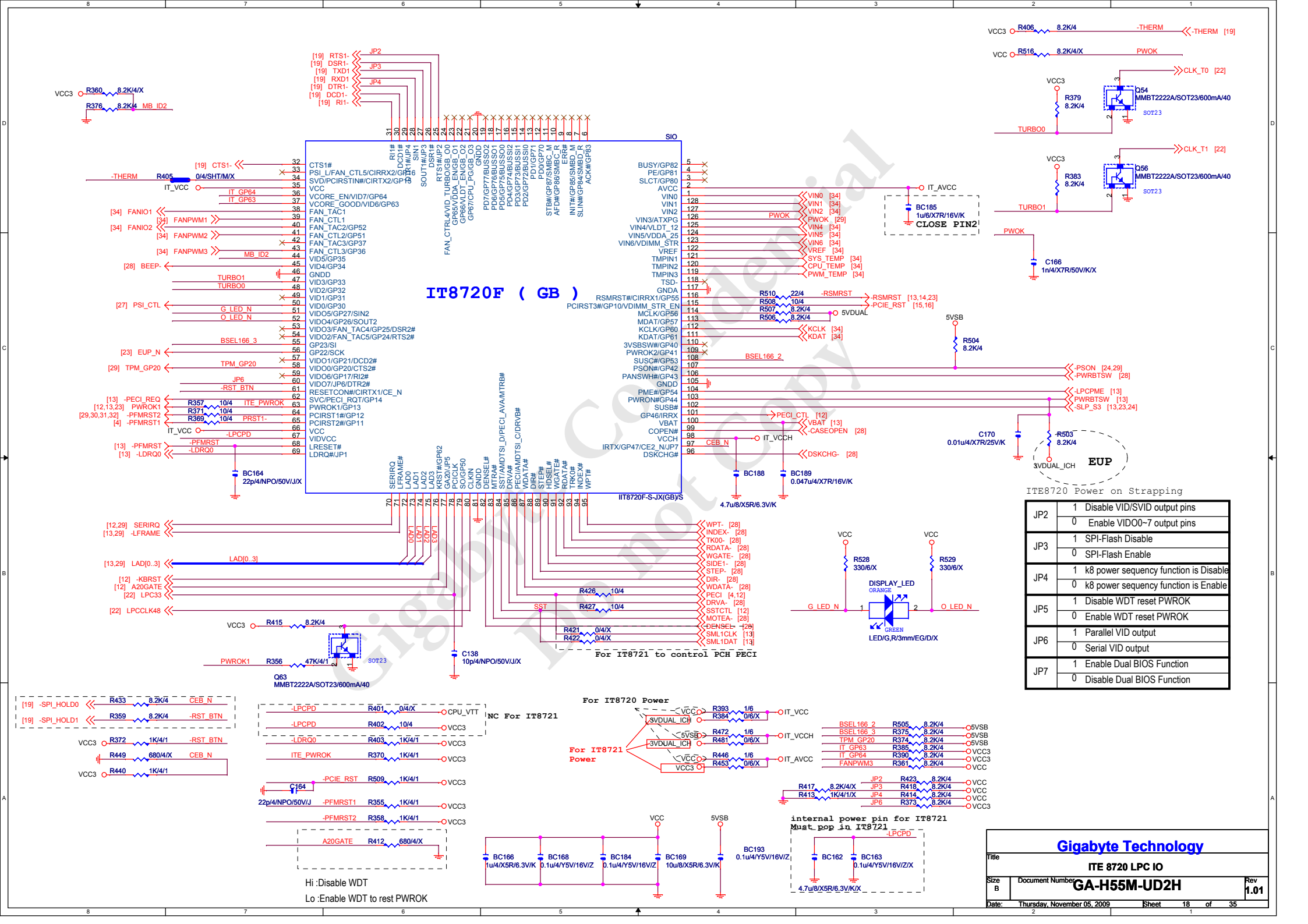
IT8720F (GB)
SIO
IIT8720F-S-JX(GB)/S
ITE8720 Power on Strapping
JP2 1 Disable VID/SVID output pins 0 Enable VIDO0~7 output pins
JP3 1 SPI-Flash Disable 0 SPI-Flash Enable
JP4 1 k8 power sequency function is Disable 0 k8 power sequency function is Enable
JP5 1 Disable WDT reset PWROK 0 Enable WDT reset PWROK
JP6 1 Parallel VID output 0 Serial VID output
JP7 1 Enable Dual BIOS Function 0 Disable Dual BIOS Function
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
EUP
Gigabyte Technology
ITE 8720 LPC IO
GA-H55M-UD2H
Rev 1.01
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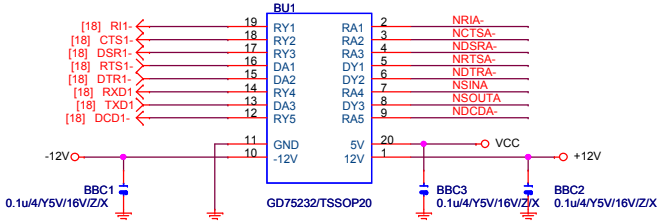
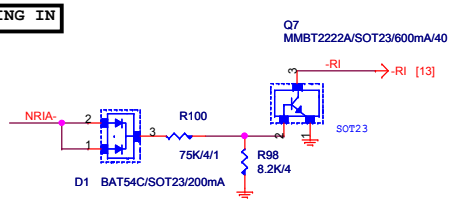
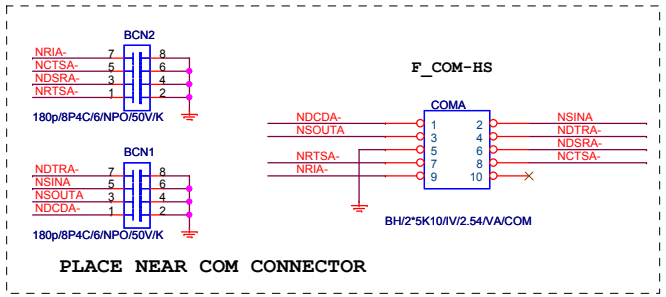
COMB

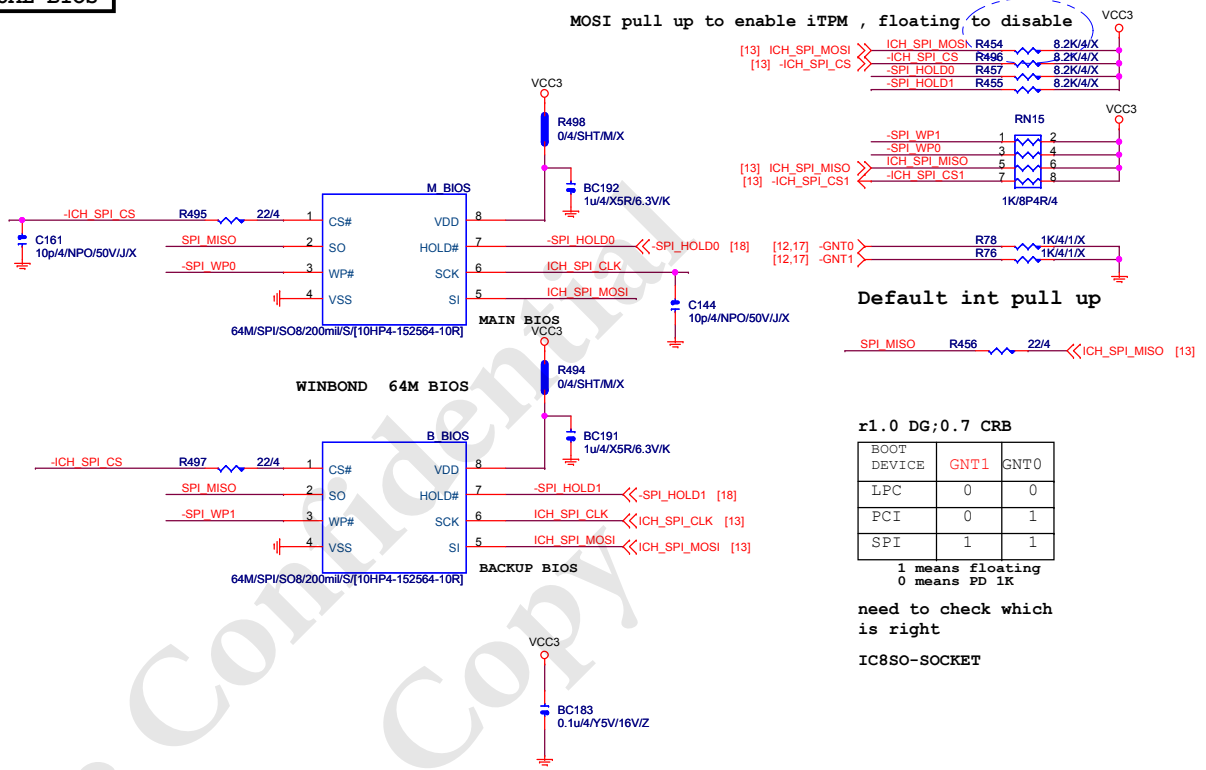


RING IN

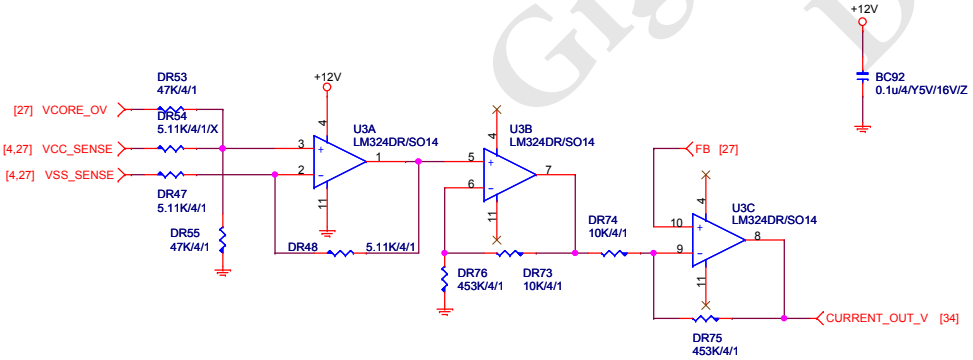




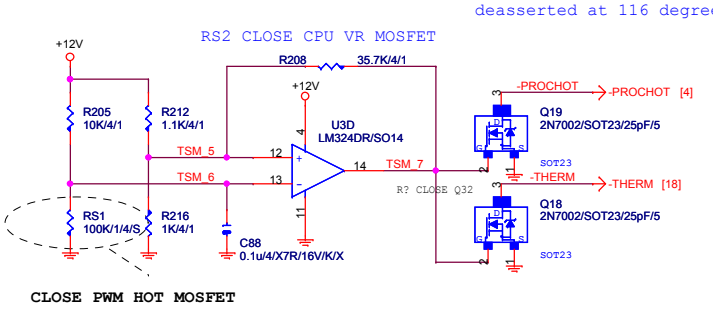
DUAL BIOS



DYNAMIC CURRENT OC



-PROHOT



Gigabyte Technology			
Title: COM & PROHOT/Dynamic O.C.			
Size: Custom	Document Number: GA-H55M-UD2H		Rev: 1.01
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AZALIA CODEC

ALC892/ALC889A/ALC888Vx/ALC888B Colay

	ALC888B	ALC888 -VA	ALC889A	ALC888 -VD	ALC892
CR59	X	O	O	O	O
CR53,58	X	X	O	X	X
CR56	O	O	O	O	X
CR63	X	X	X	X	O
CR34	20K/1%	20K/1%	20K/0.1%	20K/1%	20K/1%

20K/4/0.1% @ALC889A

20K/4/1% @ALC889A+/ALC888Vx

CR34 20K/4/1

[21] CEN
[21] LFE
[21] S_SURR_L
[21] S_SURR_R
[21] SPDIFI
CBC31 470p/4/X7R/50V/K
[21] SPDIF

CR65 10/4/X

SURR_R [21]
SURR_L [21]
VOCR [21]

AVDD
CBC13 0.1u/4/Y5V/16V/Z

CR44 5.11K/4/1 S_SURR_JD [21]
CR43 10K/4/1 CEN_JD [21]
CR42 47/4/1 FAUDIO_JD [21]
CBC23 1n/4/X7R/50V/K

JD resistors close to pin34 of CODEC

VCC3 CR57 2.2/8
CBC32 22u/8/X5R/6.3V/M
co-layout
[21] SPDIFO2_HDMI

CR58 8.2K/4/X
10U FOR ALC892
CBC38 10u/8/X5R/6.3V/K/X
CR53 8.2K/4/X
CR59 0/4

[13] ACZ_SDOUT
[13] ACZ_BITCLK
CR60 22/4
50歐姆:4/5
[13] ACZ_SDIN2
CR61 22/4
VCC3
[13] ACZ_SYNC
[13] -ACZ_RST
CR14/CBC4 close to SouthBridge

CBC33 22p/4/NPO/50V/J/X
CBC34 0.1u/4/Y5V/16V/Z
CBC35 0.1u/4/Y5V/16V/Z

CU1

ALC889A+

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

48 SPDIFO
47 SPDIF/EAPD
46 SURBACK-R/XTALSEL
45 SURBACK-L/JD0 GPIO0
44 LFE
43 CEN
42 AVSS2
41 SURR-R
40 JDREF (NC)/JD3
39 SURR-L
38 AVDD2
37 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

13 SENSE A(JD1)/PHONE JD5
14 LINE2-L/AUX-L
15 LINE2-R/AUX-R
16 MIC2-L/JD2
17 MIC2-R/JD1 GPIO1
18 CD_L
19 CD_GND
20 CD_R
21 MIC1-L/MIC1
22 MIC1-R/MIC2
23 LINE1-L
24 LINE1-R

ALC889/LQFP48/[10HP5-368890-30R]

LINE_O_R [21]
LINE_O_L [21]
Can Support Amp Out

VODR CR23 8.2K/4
MIC1_VREFO_R [21]
LINE2_VREFO [21]
MIC2_VREFO [21]
CR66 10/4
VOCR [21]
VOBR CR27 8.2K/4
MIC1_VREFO_L [21]

AVDD
CBC8 22u/8/X5R/6.3V/M
CBC9 0.1u/4/Y5V/16V/Z

CR64 0/6/X
5VDUAL
CD2 AZ2225-01L/SOD323/X
CBC39 10u/8/X5R/6.3V/K/X
FOR ALC892
50歐姆:4/10

Digital Area Analog Area

CBC4 10u/8/X5R/6.3V/K LINE_IN_R [21]
CBC5 10u/8/X5R/6.3V/K LINE_IN_L [21]
CBC6 10u/8/X5R/6.3V/K MIC1_R [21]
CBC10 10u/8/X5R/6.3V/K MIC1_L [21]
CBC11 0.1u/4/X7R/16V/K CD_R [21]
CBC12 0.1u/4/X7R/16V/K CDGND [21]
CBC18 0.1u/4/X7R/16V/K CD_L [21]

[21] FRONT_JD CR19 5.11K/4/1
[21] LINE1_JD CR21 10K/4/1
[21] MIC1_JD CR13 20K/4/1
[21] SURR_JD CR16 39.2K/4/1

JD resistors close to pin13 of CODEC

[21] LINE2_L
[21] LINE2_R
[21] MIC2_L
[21] MIC2_R

Can Support Amp Out

Gigabyte Technology

Title: HD AUDIO ALC889

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CODEC POWER/EMI PAD

CR47 0/6/SHT/M/X
CR20 0/6/SHT/M/X
CR48 0/6/SHT/M/X
+12V
CD1 CD4148WP/1206/300mA
EUP
5VDUAL
CQ4
AVDD
CD4148WP/1206/300mA
CQ5 78L05/SOT89/0.1A
CD3 AZ2225-01L/SOD323
CBC29 22u/8/X5R/6.3V/M
CBC36 0.1u/4/Y5V/16V/Z/X
CR31 0/4/X

CD IN

CD_IN
[20] CD_L
[20] CDGND
[20] CD_R
CR30 8.2K/4
CR49 8.2K/4
CR29 8.2K/4
SHR/1*4/BK/P/2.54/VA/D

SPDIF_IN

CR62 0/4
5VDUAL
[20] SPDIFI
SPDIF_I
SHR/1*3/WH/P/2.54/VA/D
[20] SPDIF
CR56 10/4/X SPDIFO
[20] SPDIFO2_HDMI
CR63 10/4
For HDMI SPDIF
CBC37 100p/4/NPO/50V/J
PIN
SPDIF_O PH/1*2/BK/2.54/VA/D
For HDMI SPDIF

DP_HDMI_SPDIFC
FUSEVCC_R
[20] SPDIF
SPDIF
S1 S2 S3 G1 G2 G3 G4
DP+HDMI+SPDIF/20P+19P+3P/BK/RA::Location DP_HDMI_SPDIFC

AZALIA JACK

BTX AZALIA CONNECTOR

11NR6-403007-21R

ESD3
LINE2_R
LINE2_L
AVDD
MIC2_R
MIC2_L
CM1293A-04SO/S

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

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

LINE-OUT

[20] LINE_O_R
[20] LINE_O_L
CEC6 100u/OS/D/16V/66/30m
CEC3 100u/OS/D/16V/66/30m
CR32 62/4
CR15 62/4
CR14 10K/4/1
CR33 10K/4/1
AJ_B5
AJ_B2
CBC7 180p/4/NPO/50V/J
CBC20 180p/4/NPO/50V/J

LINE-IN

Only reserved for ALC888

Verify MIC function in LINE-in

[20] LINE_IN_R
[20] LINE_IN_L
[20] VOCR
CR12 62/4
CR17 62/4
CQ2
CR11 8.2K/4
CR18 8.2K/4
For 889A/888
BAT54A/SOT23/200mA
AJ_A5
AJ_A2
CBC16 180p/4/NPO/50V/J
CBC21 180p/4/NPO/50V/J

MIC-IN

[20] MIC1_R
[20] MIC1_L
CR22 62/4
CR26 62/4
[20] MIC1_VREFO_L
[20] MIC1_VREFO_R
AJ_C5
AJ_C2
CBC2 180p/4/NPO/50V/J
CBC3 180p/4/NPO/50V/J

SURROUND

[20] SURR_R
[20] SURR_L
CEC9 100u/OS/D/16V/66/30m
CEC5 100u/OS/D/16V/66/30m
EMI
CR51 62/4
CR25 62/4
CR28 10K/4/1
CR45 10K/4/1
BJ_C5
BJ_C2
CBC14 180p/4/NPO/50V/J
CBC27 180p/4/NPO/50V/J

CEN/LFE

[20] LFE
[20] CEN
CEC10 100u/OS/D/16V/66/30m
CEC4 100u/OS/D/16V/66/30m
EMI
CR52 62/4
CR40 62/4
CR41 10K/4/1
CR46 10K/4/1
BJ_B5
BJ_B2
CBC22 180p/4/NPO/50V/J
CBC28 180p/4/NPO/50V/J

SURR BACK

[20] S_SURR_R
[20] S_SURR_L
CEC2 100u/OS/D/16V/66/30m
CEC1 100u/OS/D/16V/66/30m
EMI
CR3 62/4
CR1 62/4
CR2 10K/4/1
CR4 10K/4/1
BJ_A5
BJ_A2
CBC1 180p/4/NPO/50V/J
CBC26 180p/4/NPO/50V/J

AZALIA FRONT PANEL

CQ3 BAT54A/SOT23/200mA
[20] LINE2_VREFO
CQ1 BAT54A/SOT23/200mA
[20] MIC2_VREFO
CR37 8.2K/4
CR50 8.2K/4
CR5 8.2K/4
CR8 8.2K/4
Digital Area
3VDUAL
CR10 8.2K/4
CR35 10K/4/1
CR39 10K/4/1
F_AUDIO
[20] MIC2_L
[20] MIC2_R
CBC17 10u/8/X5R/6.3V/K
CBC15 10u/8/X5R/6.3V/K
CR9 62/4
CR6 62/4
M2_L
M2_R
L2_R
L2_L
[20] FAUDIO_JD
CR36 62/4
CR38 62/4
CR55 20K/4/1
CR54 39.2K/4/1
PH/2*5K8/GED/2.54/VA/D
ACZ_DET [13]
[20] LINE2_R
[20] LINE2_L
CEC7 100u/OS/D/16V/66/30m
CEC8 100u/OS/D/16V/66/30m
CBC24 180p/4/NPO/50V/J
CBC25 180p/4/NPO/50V/J
CBC30 180p/4/NPO/50V/J
CBC19 180p/4/NPO/50V/J

Gigabyte Technology
Title: AUDIO JACK
Size: Custom
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Date: Thursday, November 05, 2009
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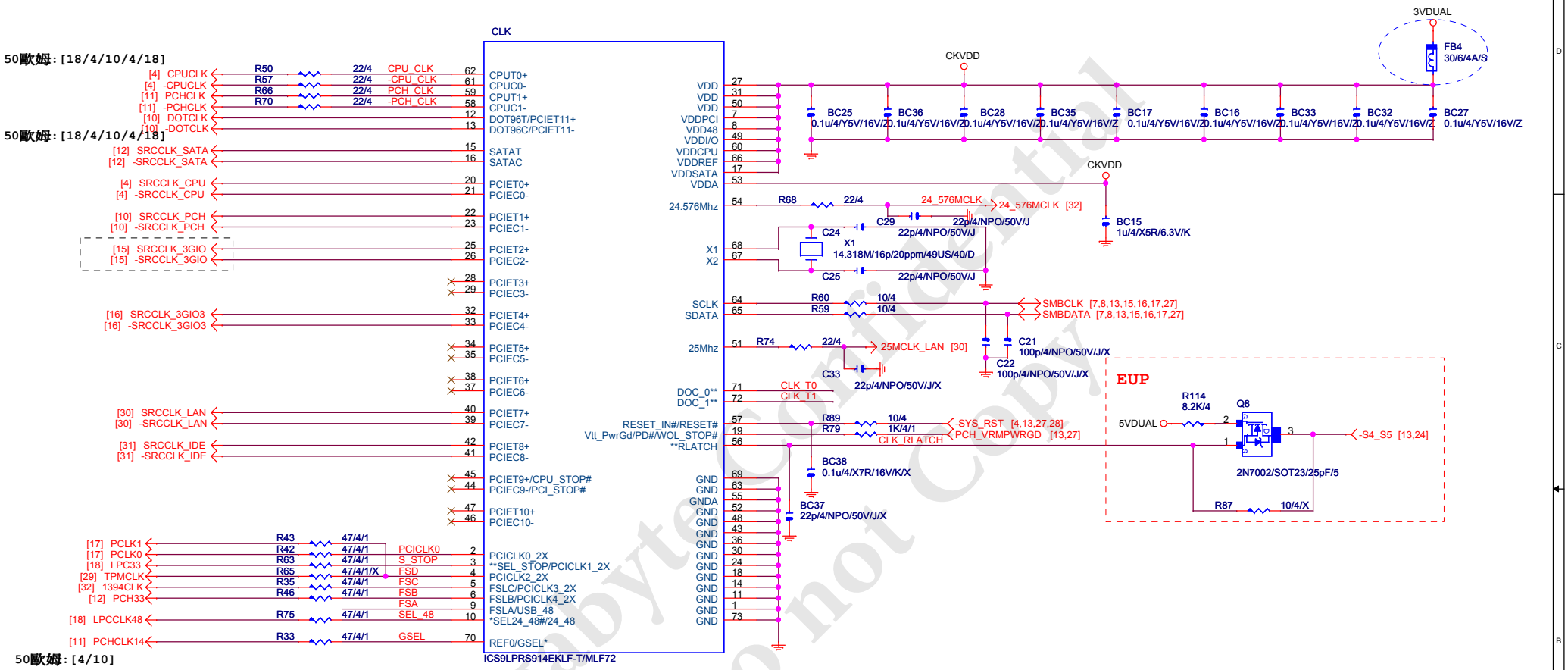
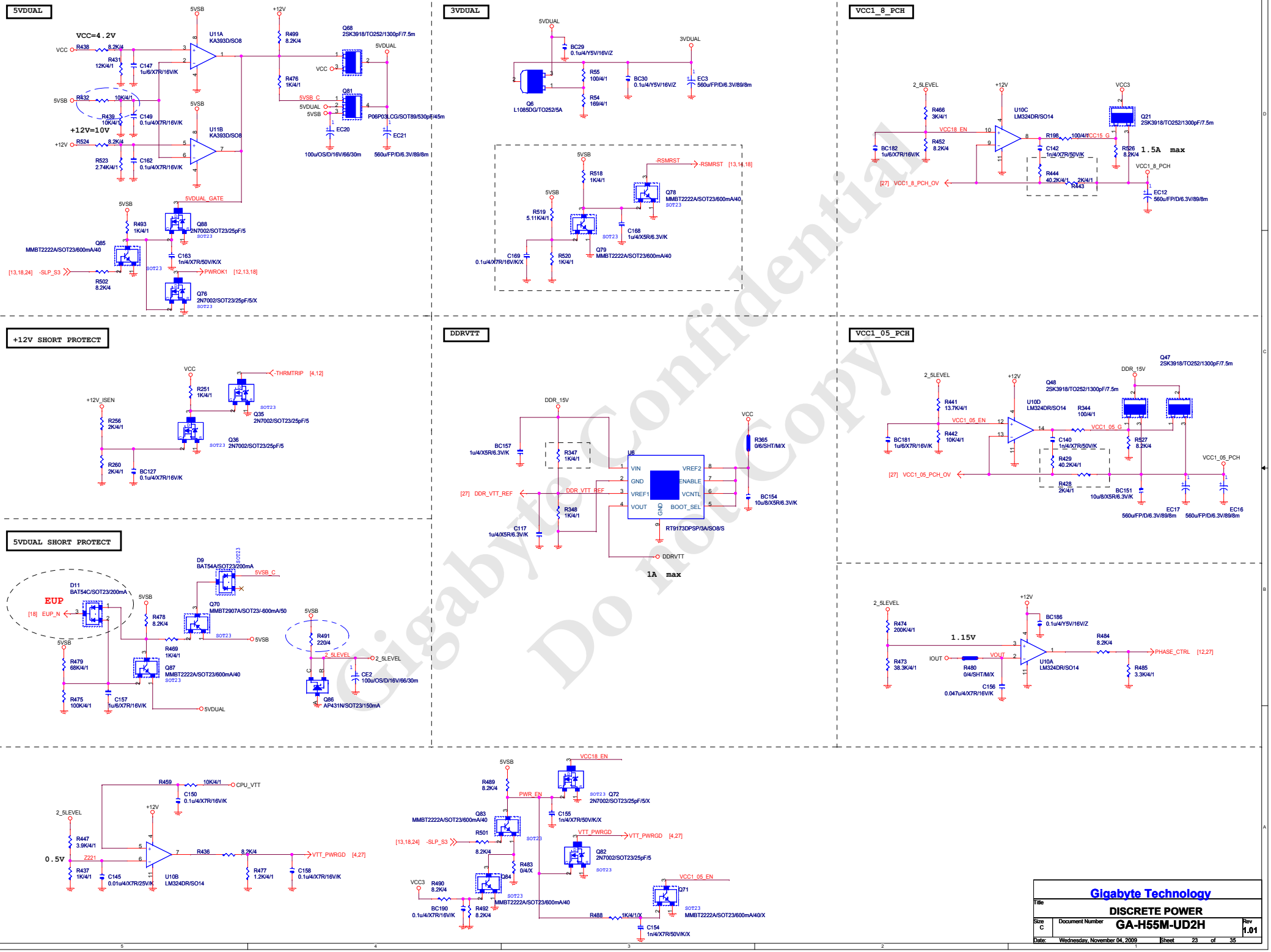
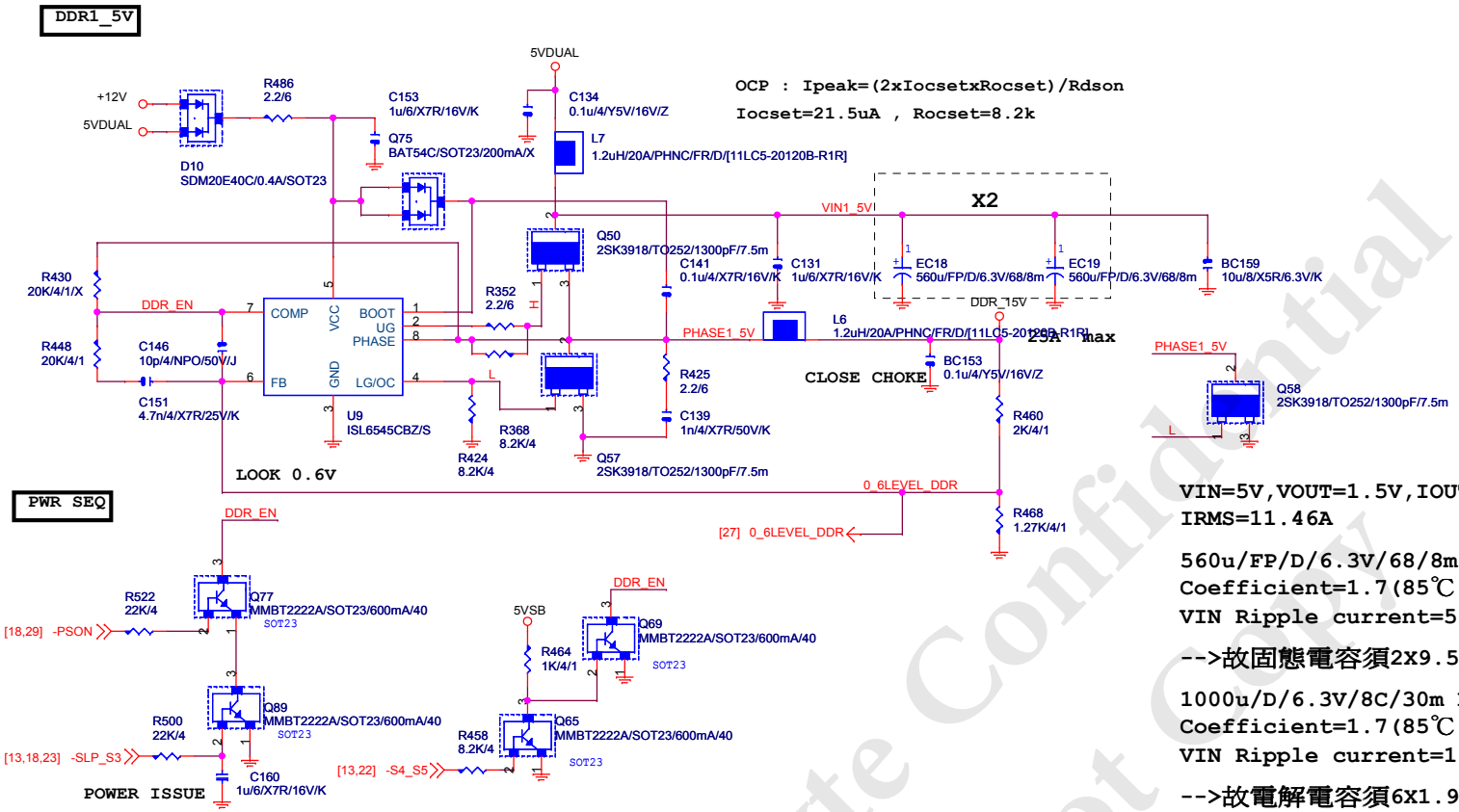
CLK GEN CK505



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-H55M-UD2H
Rev	1.01
Date: Thursday, November 19, 2009	Sheet 22 of 35





VIN=5V,VOUT=1.5V,IOUT=25A,PHASE=1
IRMS=11.46A

560u/FP/D/6.3V/68/8m RIPPLE CURRENT=5.6A
Coefficient=1.7(85℃),1(105℃)
VIN Ripple current=5.6X1.7=9.52A(85℃)

-->故固態電容須2X9.52=19.04>11.46A

1000u/D/6.3V/8C/30m RIPPLE CURRENT=1.14A
Coefficient=1.7(85℃),1(105℃)
VIN Ripple current=1.14X1.7=1.938A(85℃)

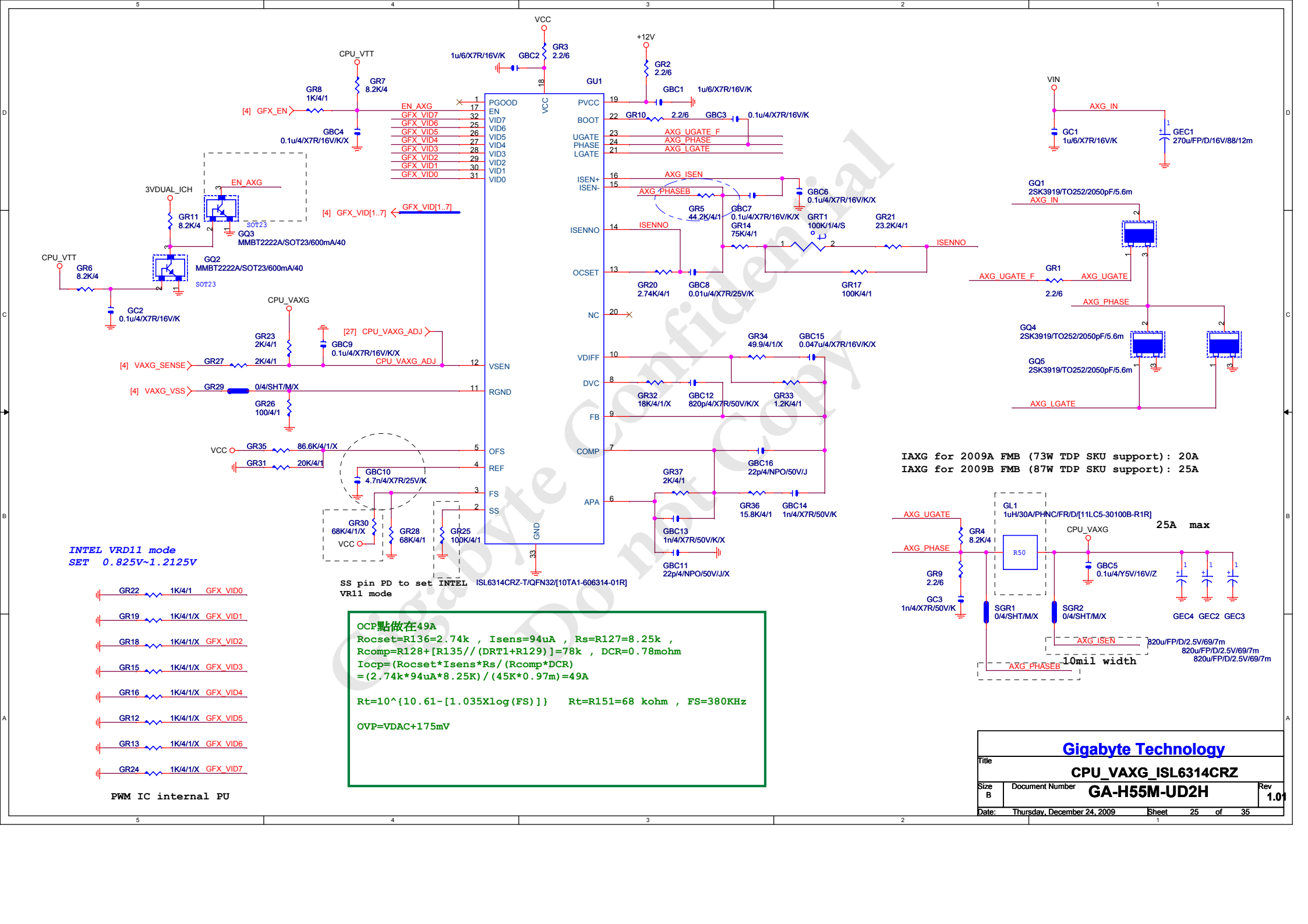
-->故電解電容須6X1.938=11.628>11.46A

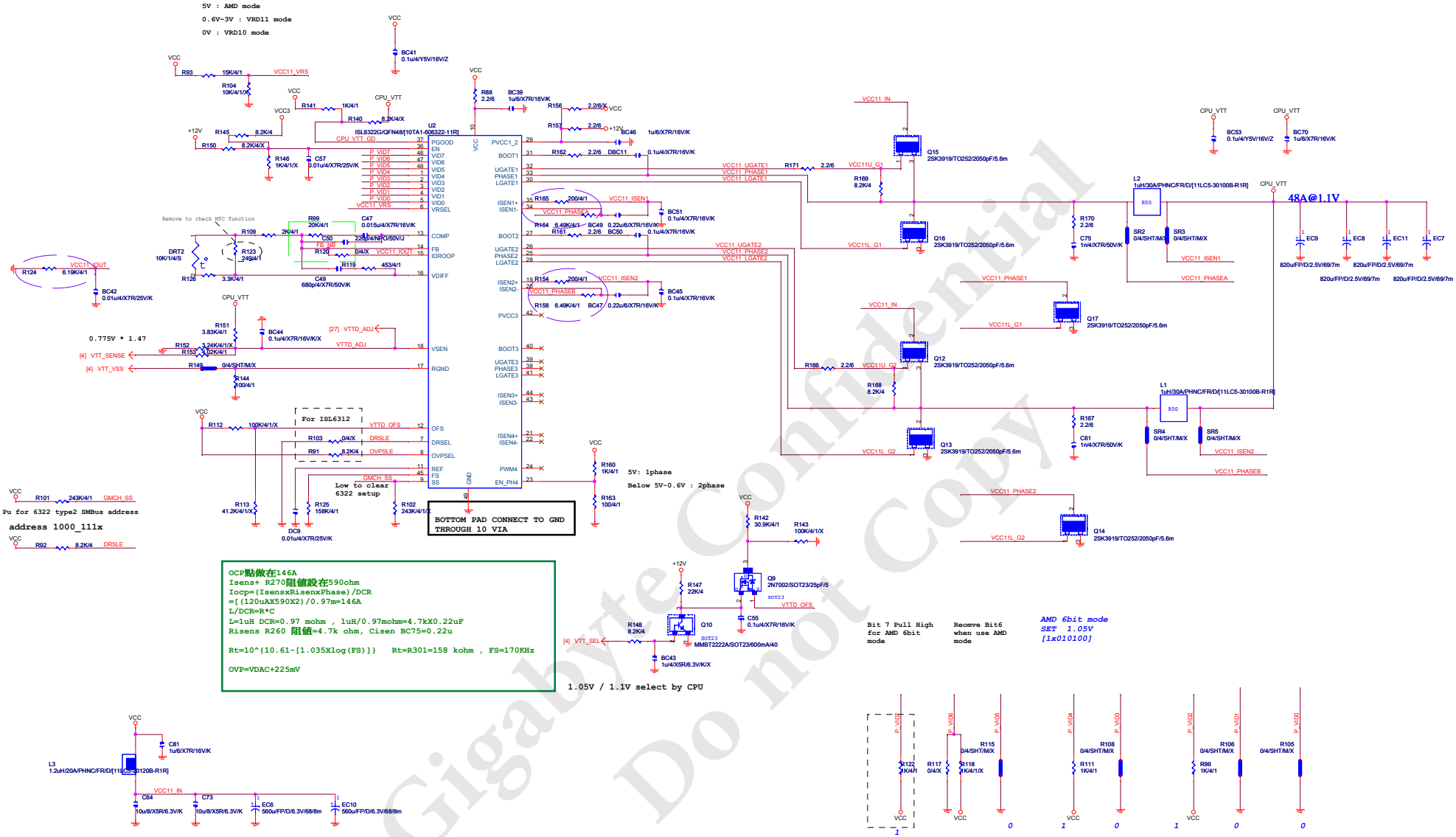
VIN=3V,VOUT=1.05V,IOUT=7.5A,PHASE=1
IRMS=3.5A

-->故固態電容須1X9.52=9.52>3.5A

-->故電解電容須2X1.938=3.876>3.5A

Gigabyte Technology		
Title: DDR_15V		
Size: Custom	Document Number: GA-H55M-UD2H	Rev: 1.01
Date: Thursday, December 24, 2009	Sheet 24 of 35	





VIN=5V,VOUT=1.1V,IOUT=48A,PHASE=2
IRMS=11.91A

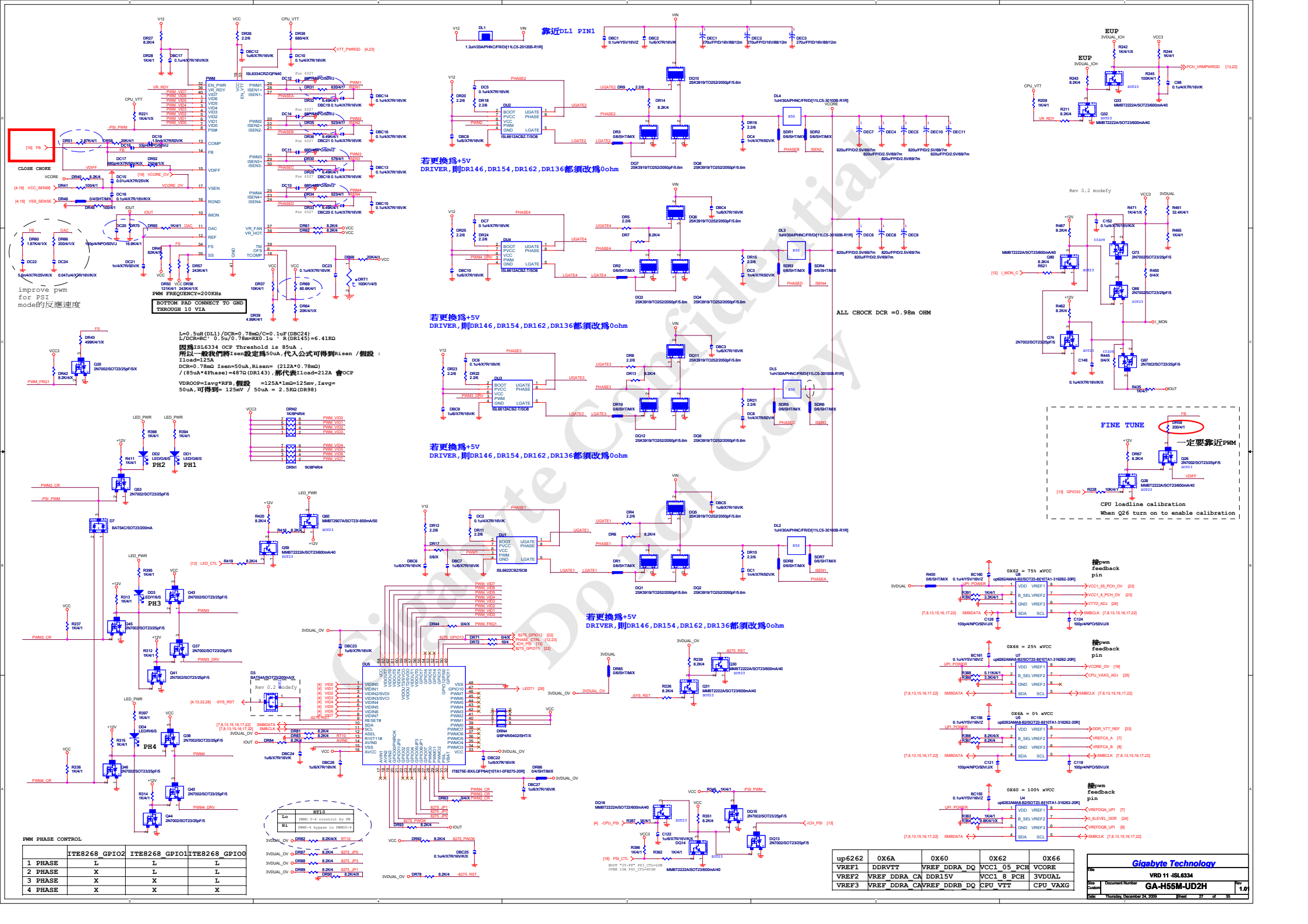
560u/FP/D/6.3V/68/8m RIPPLE CURRENT=5.6A
Coefficient=1.7(85℃),1(105℃)
VIN Ripple current=5.6X1.7=9.52A(85℃)

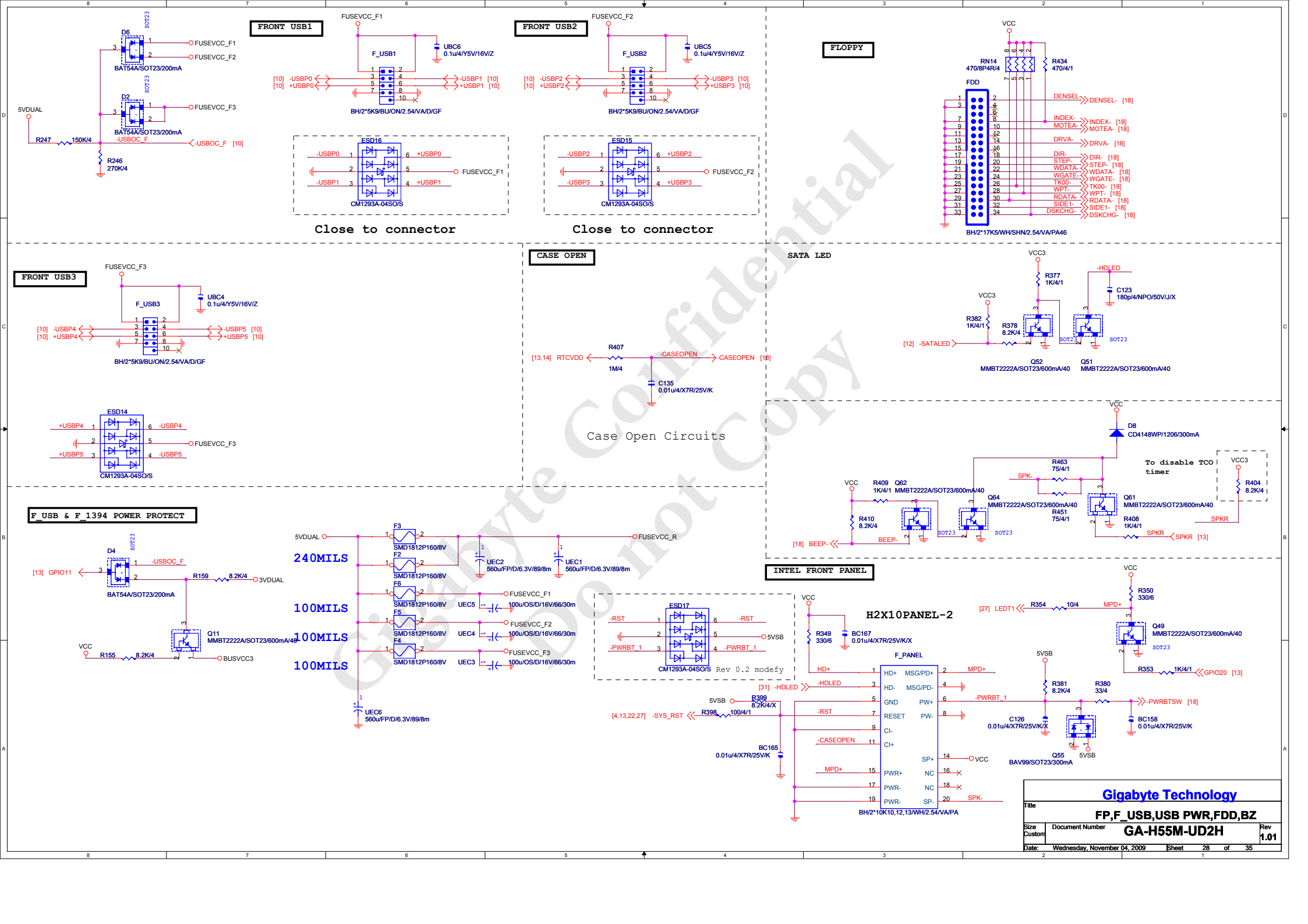
-->故固態電容須2X9.52=19.04>11.91A

1000u/D/6.3V/8C/30m RIPPLE CURRENT=1.14A
Coefficient=1.7(85℃),1(105℃)
VIN Ripple current=1.14X1.7=1.938A(85℃)

-->故電解電容須7X1.938=13.566>11.91A

GIGABYTE			
Title	CPU_VTT PWM_ISL6322CRZ		
Size: Custom	Document Number: GA-H55M-UD2H		Rev: 1.01
Date: Thursday, December 24, 2009	Sheet 26 of 36		




FRONT USB1
FRONT USB2
FLOPPY
FRONT USB3
CASE OPEN
SATA LED
F_USB & F_1394 POWER PROTECT
INTEL FRONT PANEL
Close to connector
Close to connector
Case Open Circuits
240MILS
100MILS
100MILS
100MILS
H2X10PANEL-2
Gigabyte Technology
FP,F_USB,USB PWR,FDD,BZ
GA-H55M-UD2H
Rev 1.01
Wednesday, November 04, 2009
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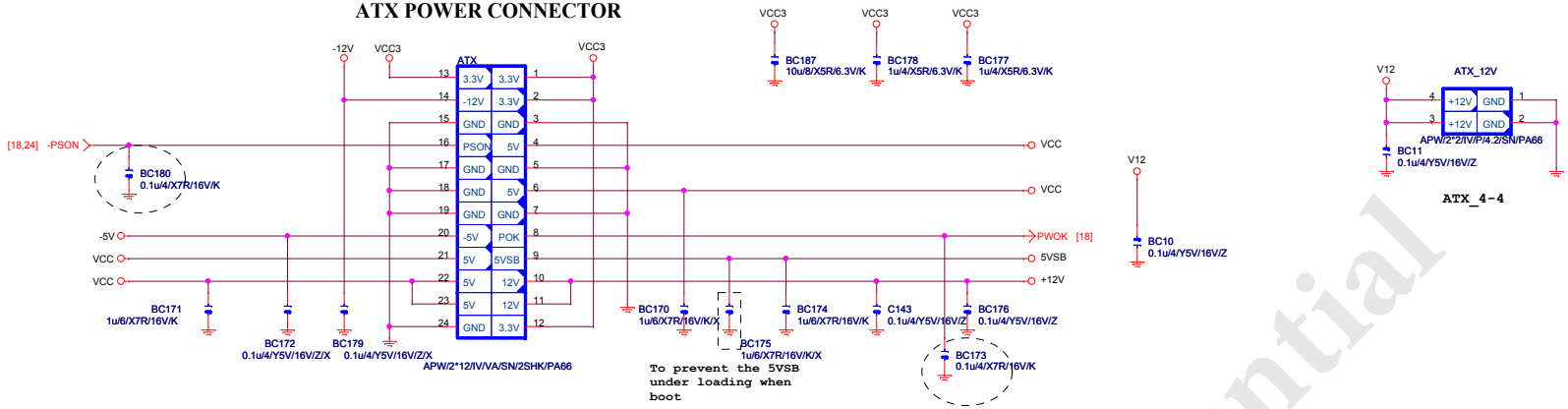
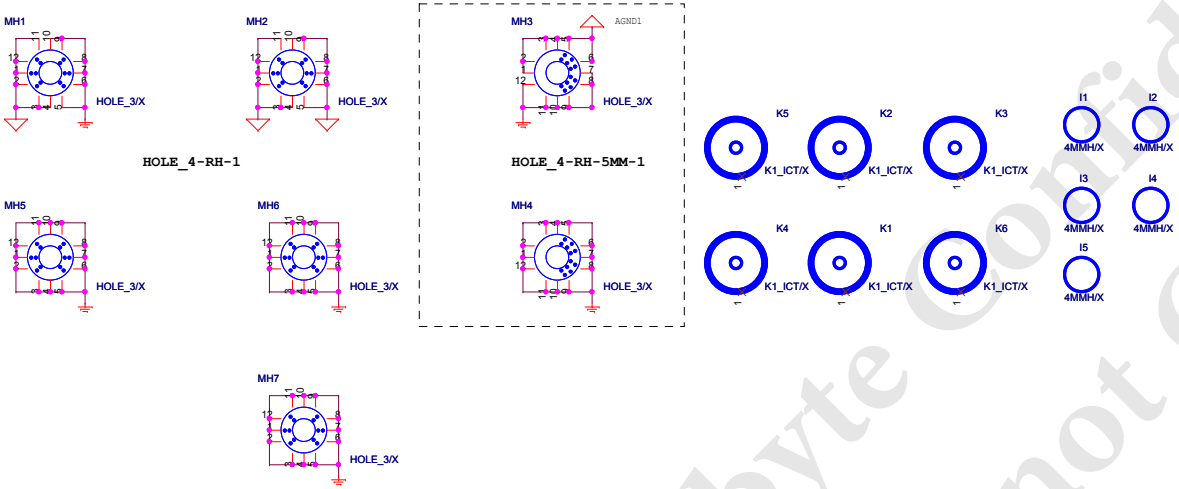
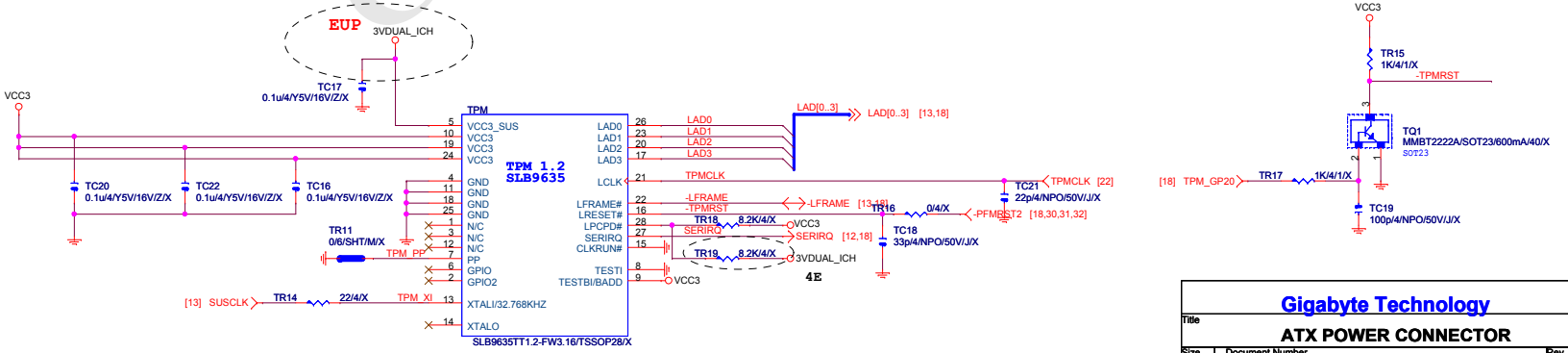
ATX POWER CONNECTOR





TPM



Gigabyte Technology			
Title: ATX POWER CONNECTOR			
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PCIE-1G LAN

RTL8111C

3VDUAL VDD12

LR7 1/6

LR8 0/6/SHT/M/X

LBC26 0.1u/4/Y5V/16V/Z

LBC27 22u/8/X5R/6.3V/M

LBC23 0.1u/4/Y5V/16V/Z

RSET需LAYOUT GND GUARD

[22] 25MCLK_LAN

LR6 2.49K/4/1

LED_ACT_TXRX

LED_LINK100

LED_LINK1000

-LAN_DSM

-LAN_DSM [12]

FOR DSM MODE

(DEEP SLUMBER MODE)

LU1

RTL8111D/8103E

RTL8111D-VB-GR/S

LC3 0.01u/4/X7R/25V/K/X

FOR EMI

EEDI_AUX

LR5 3.6K/4/1

3VDUAL

VCC3

LR3 1K/4/1

LR2 15K/4/1

VDD12

3VDUAL

ISOLATEB

LQ1 BAT54C/SOT23/200mA/X

-LAN_ISO [12]

[13,15,16] -PCIE_WAKE

[18,29,31,32] -PFMRST2

[10] ML_OP

[10] ML_ON

[22] SRCCLK_LAN

[22] -SRCCLK_LAN

[10] ML_IP

[10] ML_IN

LC1 0.1u/4/X7R/16V/K

LC2 0.1u/4/X7R/16V/K

CLOSE LAN CHIP

-PFMRST2 LBC3 100p/4/NPO/50V/J/X

Dual Color LED

D4 D3 Green

D4 D3 Orange

Single Color LED

D2 D1 Yellow

P35-152-19W9

YELLOW ORANGE (+,-) GREEN (-,+)

3VDUAL

LEC1 100u/OS/D/16V/66/3m

LBC17 0.1u/4/Y5V/16V/Z

LBC25 0.1u/4/Y5V/16V/Z

LBC8 0.1u/4/Y5V/16V/Z

LBC12 0.1u/4/Y5V/16V/Z

LBC22 0.1u/4/Y5V/16V/Z

(PIN16,37,46,53,62)

VDD12

AVDD12

LFB3 0/8/SHT/M/X

LBC10 4.7u/8/X5R/6.3V/K

LBC15 0.1u/4/Y5V/16V/Z

LBC18 0.1u/4/Y5V/16V/Z

LBC20 0.1u/4/Y5V/16V/Z

LBC2 0.1u/4/Y5V/16V/Z

LBC14 0.1u/4/Y5V/16V/Z

LBC7 0.1u/4/Y5V/16V/Z

LBC21 0.1u/4/Y5V/16V/Z

(PIN15,21,32,38,43,49,52)

3VDUAL

AVDD33

LFB5 0/8/SHT/M/X

LBC24 1u/4/X5R/6.3V/K

LL1 4.7uH/1A/[10LC3-5A470B-01R]

PHASE12

LR32 CLOSE LBC63/64

LR4 0/6/SHT/M/X

FB12

LL1/LBC64/LBC63 CLOSE LU1 PIN1

LBC4 0.1u/4/Y5V/16V/Z

LBC19 22u/8/X5R/6.3V/M

AVDD12

LFB1 0/8/SHT/M/X

LFB2 0/8/SHT/M/X

EVDD12

LBC11 0.1u/4/Y5V/16V/Z

LBC6 0.1u/4/Y5V/16V/Z

LBC13 0.1u/4/Y5V/16V/Z

LBC16 0.1u/4/Y5V/16V/Z

LBC9 0.1u/4/Y5V/16V/Z

LBC1 1u/4/X5R/6.3V/K

LBC5 4.7u/8/X5R/6.3V/K

(PIN8,11,14,58)

(PIN22,28)

USB_LAN CONNECTOR

ESD11 CM1293A-04SO/S

-USBP9 +USBP9

FUSEVCC_R

-USBP8 +USBP8

Close to connector

FOR EMI

100p/4/NPO/50V/J/X LBC28

USB_LAN

P_MDI0+ P_MDI0- P_MDI1+ P_MDI1- P_MDI2+ P_MDI2- P_MDI3+ P_MDI3-

LBC31 0/4/SHT/M/X

UP

DOWN

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

LED_ACT_TXRX

LED_LINK100

LED_LINK1000

LR9 150/6

LR10 150/6/X

LR11 150/6/X

RTL8111DL -->N/A

3VDUAL

LFB4 0/6/SHT/M/X

LBC30 0.1u/4/Y5V/16V/Z/X

FUSEVCC_R

LBC29 0.1u/4/Y5V/16V/Z

-USBP8 [10] +USBP8 [10]

-USBP9 [10] +USBP9 [10]

90歐姆:[20/4/8/4/20]

90歐姆:[15/4.5/7.5/4.5/15]

LR1 0/6/X

FUSEVCC_R

LR13 150K/4

-USBOC_R

-USBOC_R [10]

LR12 270K/4

Gigabyte Technology

Title: REALTEK RTL8111C

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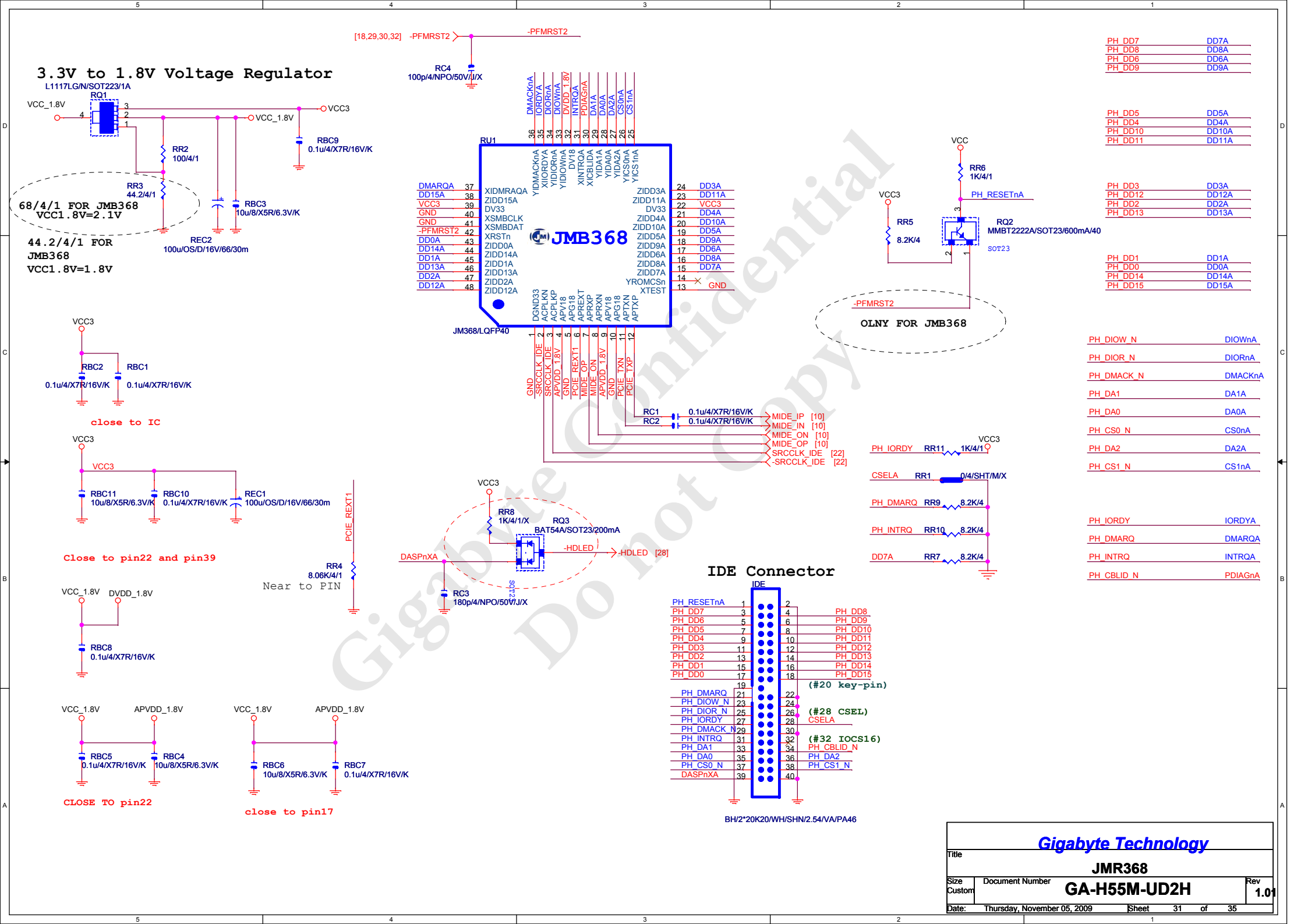
3.3V to 1.8V Voltage Regulator
L1117LG/N/SOT223/1A
RQ1
VCC_1.8V
VCC3
RR2 100/4/1
RR3 44.2/4/1
RBC9 0.1u/4/X7R/16V/K
RBC3 10u/8/X5R/6.3V/K
REC2 100u/OS/D/16V/66/30m
68/4/1 FOR JMB368
VCC1.8V=2.1V
44.2/4/1 FOR
JMB368
VCC1.8V=1.8V
[18,29,30,32] -PFMRST2
-PFMRST2
RC4 100p/4/NPO/50V/J/X
RU1
JMB368
JM368/LQFP40
DMARQA DD15A VCC3 GND GND -PFMRST2 DD0A DD14A DD1A DD13A DD2A DD12A
DD3A DD11A VCC3 DD4A DD10A DD5A DD9A DD6A DD8A DD7A GND
DMACKnA IORDYA DIORnA DIOWnA DVDD_1.8V INTRQA PDIAGnA DA1A DA0A DA2A CS0nA CS1nA
GND SRCCLK_IDE SRCCLK_IDE APVDD_1.8V GND PCIE_REXT1 MIDE_OP MIDE_ON APVDD_1.8V GND PCIE_TXN PCIE_TXP
VCC
RR6 1K/4/1
PH_RESETnA
VCC3
RR5 8.2K/4
RQ2 MMBT2222A/SOT23/600mA/40
SOT23
-PFMRST2
OLNY FOR JMB368
PH_DD7 DD7A
PH_DD8 DD8A
PH_DD6 DD6A
PH_DD9 DD9A
PH_DD5 DD5A
PH_DD4 DD4A
PH_DD10 DD10A
PH_DD11 DD11A
PH_DD3 DD3A
PH_DD12 DD12A
PH_DD2 DD2A
PH_DD13 DD13A
PH_DD1 DD1A
PH_DD0 DD0A
PH_DD14 DD14A
PH_DD15 DD15A
VCC3
RBC2 0.1u/4/X7R/16V/K
RBC1 0.1u/4/X7R/16V/K
close to IC
RC1 0.1u/4/X7R/16V/K
RC2 0.1u/4/X7R/16V/K
MIDE_IP [10]
MIDE_IN [10]
MIDE_ON [10]
MIDE_OP [10]
SRCCLK_IDE [22]
-SRCCLK_IDE [22]
PH_DIOW_N DIOWnA
PH_DIOR_N DIORnA
PH_DMACK_N DMACKnA
PH_DA1 DA1A
PH_DA0 DA0A
PH_CS0_N CS0nA
PH_DA2 DA2A
PH_CS1_N CS1nA
VCC3
RBC11 10u/8/X5R/6.3V/K
RBC10 0.1u/4/X7R/16V/K
REC1 100u/OS/D/16V/66/30m
Close to pin22 and pin39
PCIE_REXT1
RR4 8.06K/4/1
Near to PIN
VCC3
RR8 1K/4/1/X
RQ3 BAT54A/SOT23/200mA
DASPnXA
-HDLED
-HDLED [28]
RC3 180p/4/NPO/50V/J/X
SOT23
PH_IORDY RR11 1K/4/1
VCC3
CSELA RR1 0/4/SHT/M/X
PH_DMARQ RR9 8.2K/4
PH_INTRQ RR10 8.2K/4
DD7A RR7 8.2K/4
PH_IORDY IORDYA
PH_DMARQ DMARQA
PH_INTRQ INTRQA
PH_CBLID_N PDIAGnA
IDE Connector
IDE
PH_RESETnA 1
PH_DD7 3
PH_DD6 5
PH_DD5 7
PH_DD4 9
PH_DD3 11
PH_DD2 13
PH_DD1 15
PH_DD0 17
19
PH_DMARQ 21
PH_DIOW_N 23
PH_DIOR_N 25
PH_IORDY 27
PH_DMACK_N 29
PH_INTRQ 31
PH_DA1 33
PH_DA0 35
PH_CS0_N 37
DASPnXA 39
2
4 PH_DD8
6 PH_DD9
8 PH_DD10
10 PH_DD11
12 PH_DD12
14 PH_DD13
16 PH_DD14
18 PH_DD15
(#20 key-pin)
22
24
26 (#28 CSEL)
28 CSELA
30
32 (#32 IOCS16)
34 PH_CBLID_N
36 PH_DA2
38 PH_CS1_N
40
BH/2*20K20/WH/SHN/2.54/VA/PA46
VCC_1.8V DVDD_1.8V
RBC8 0.1u/4/X7R/16V/K
VCC_1.8V APVDD_1.8V
RBC5 0.1u/4/X7R/16V/K
RBC4 10u/8/X5R/6.3V/K
CLOSE TO pin22
VCC_1.8V APVDD_1.8V
RBC6 10u/8/X5R/6.3V/K
RBC7 0.1u/4/X7R/16V/K
close to pin17
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Gigabyte Technology
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JMR368
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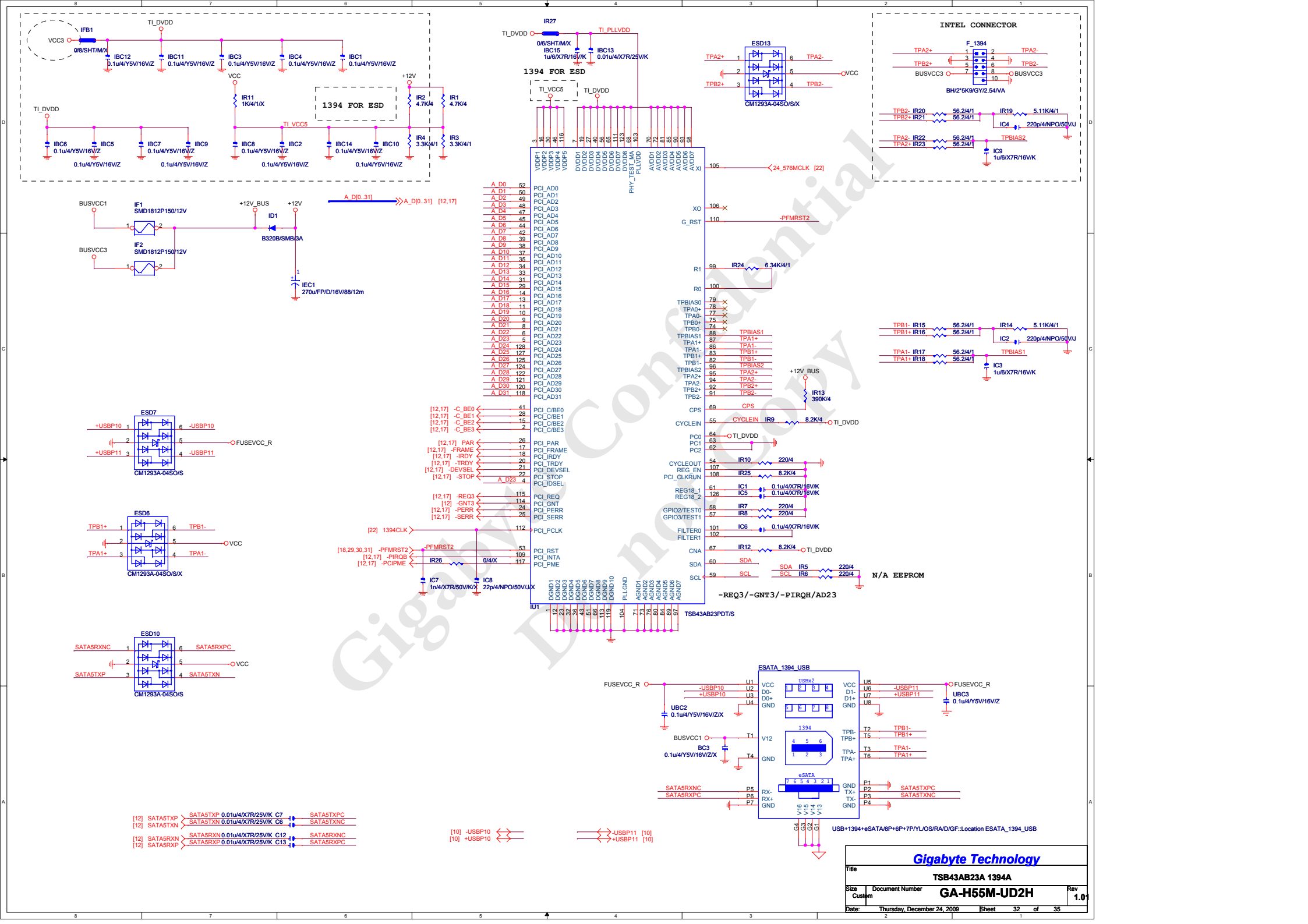
INTEL CONNECTOR
F_1394
BH/2*5K9/GY/2.54/VA
1394 FOR ESD
TSB43AB23PDT/S
-REQ3/-GNT3/-PIRQH/AD23
N/A EEPROM
ESATA_1394_USB
USB+1394+eSATA/8P+6P+7P/YL/OS/RA/D/GF::Location ESATA_1394_USB
Gigabyte Technology
TSB43AB23A 1394A
GA-H55M-UD2H
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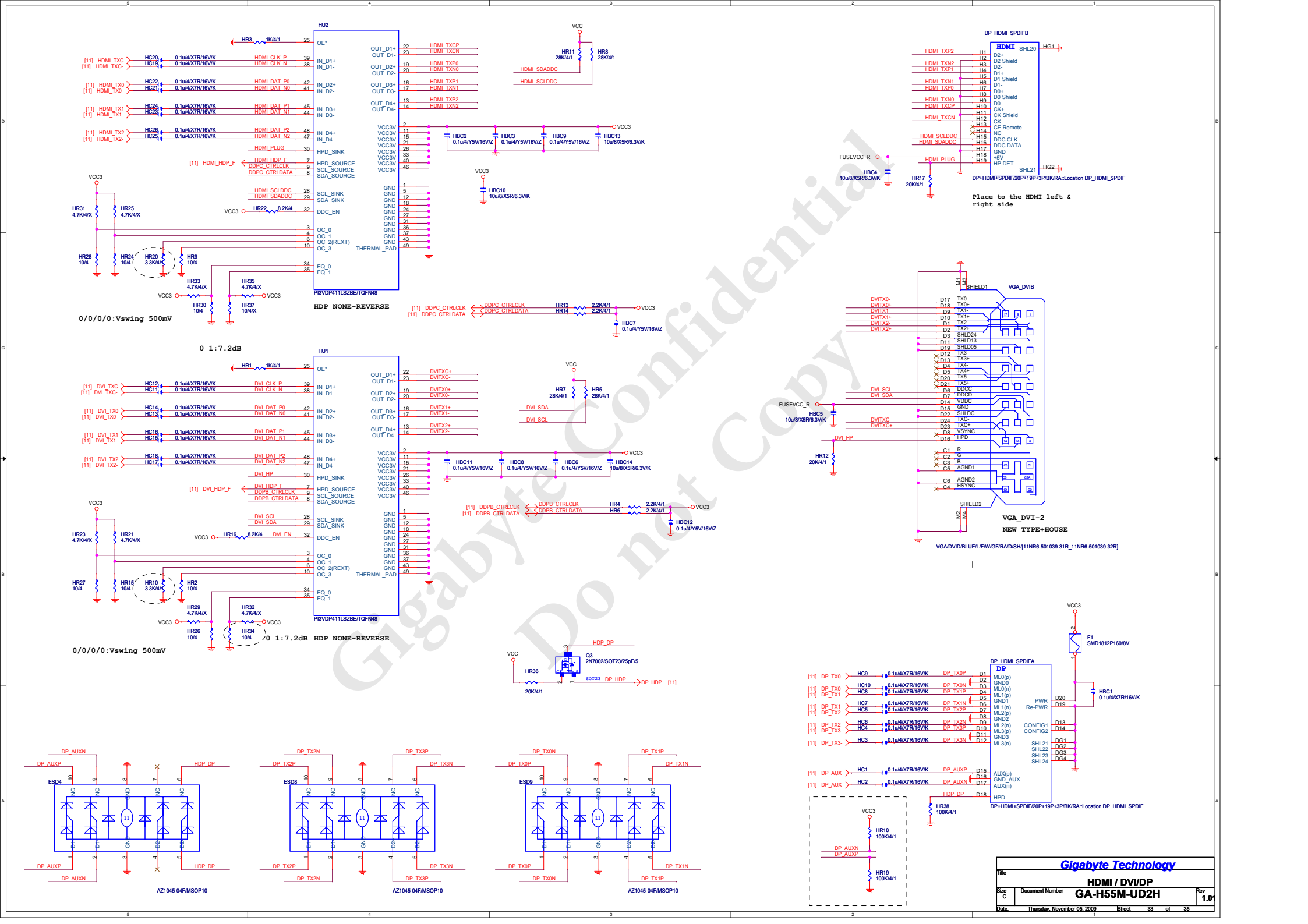
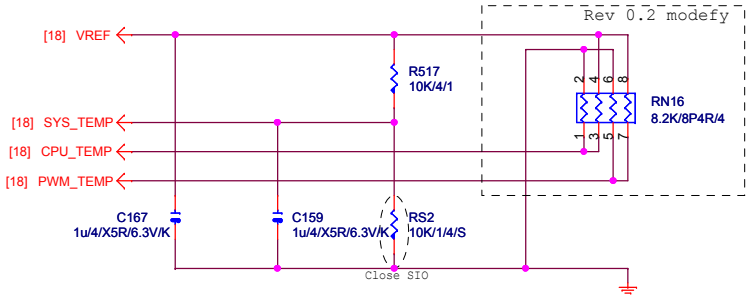
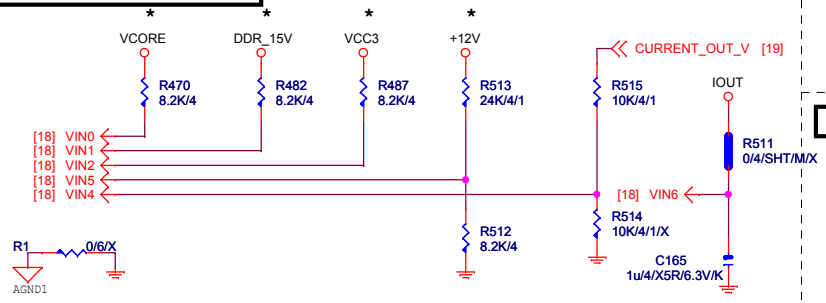


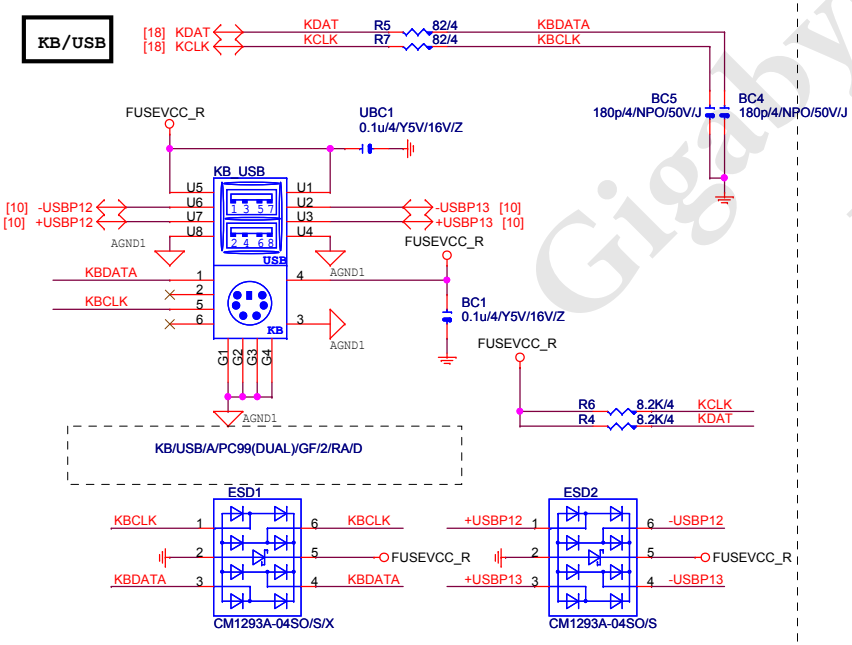
TEMP H/W MONITOR



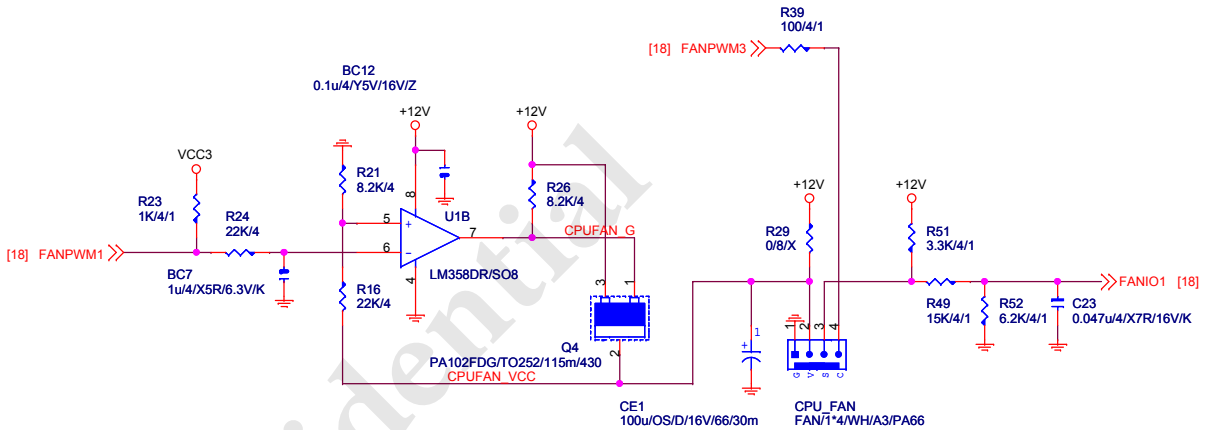
VOLTAGE-- H/W MONITOR



KB/USB

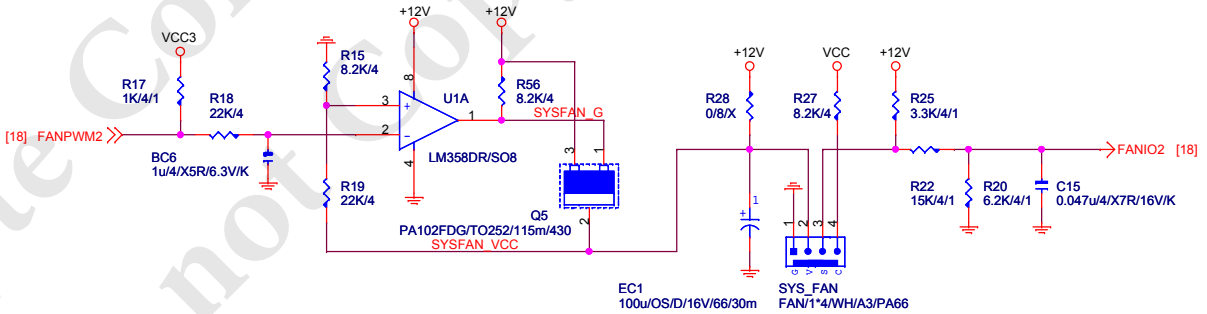


CPU SMART FAN



SYS SMART FAN

Linear SYS_FAN



Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
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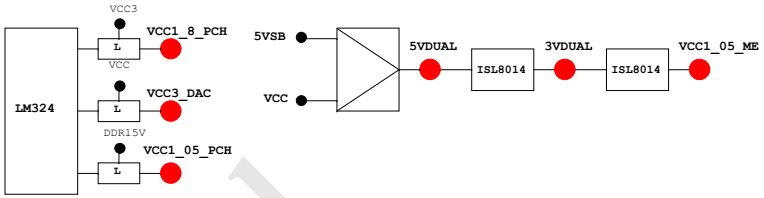
PCH GPIO LIST TABLE

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

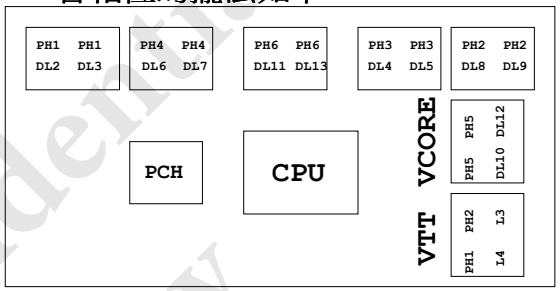
Super I/O ITE8720 GPIO Table

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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