Model Name: GA-H55M-USB3P-TO

REV: 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	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*1 SLOT
17	PCI SLOT 1,2
18	ITE 8720 LPC IO
19	Dual BIOS,PHOT,D-OC
20	ALC888B
21	REAR AUDIO JACK
22	CLOCK GEN RTM885N-914
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	HDMI,DVI
33	HWM,KB/MS , FAN CTRL
34	USB3.0 UP720200
35	TABLE LIST

Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-H55M-USB3P-TO | Rev: 1.0

Date: Wednesday, January 27, 2010 | Sheet 1 of 35

GA-H55M-USB3P-TO Version: 1.0

Component value change history

2010/01/27

Data	Change Item	Reason
2010/01/05	RENAME FORM H55M-S2P.MODIFY CHOKE 1uH/1.2uH (-S1R)FOR BRAZIL.	
2010/01/27	PBOM FOR CKD:TO	PBOM:9MDH5MUB3P-TO-10A.

Circuit or PCB layout change for next version

DATE	Change Item	Reason

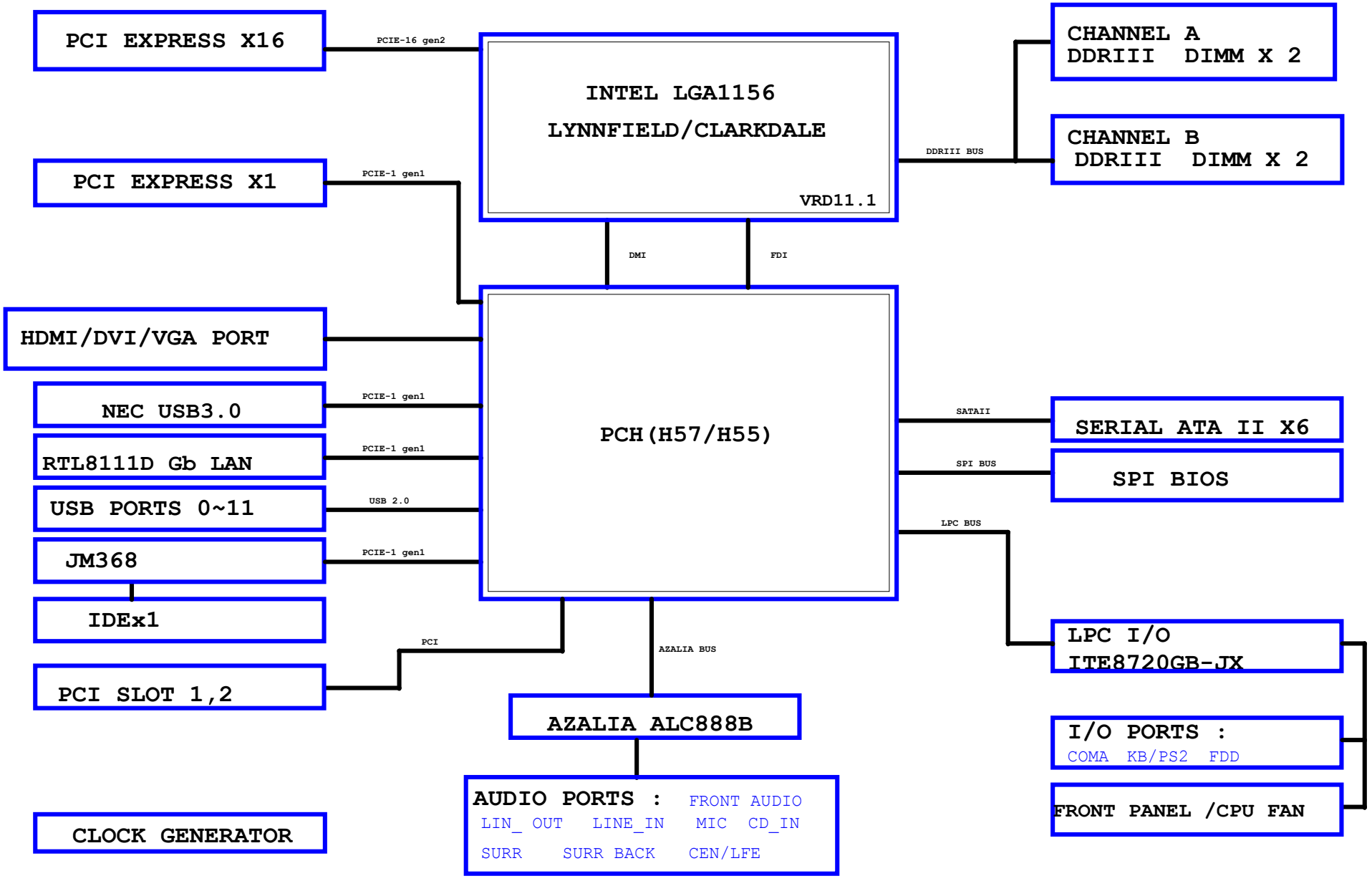
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-H55M-USB3P-TO | Rev: 1.0

Date: Tuesday, February 02, 2010 | Sheet 2 of 35

BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-H55M-USB3P-TO	Rev: 1.0
Date: Tuesday, February 02, 2010	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

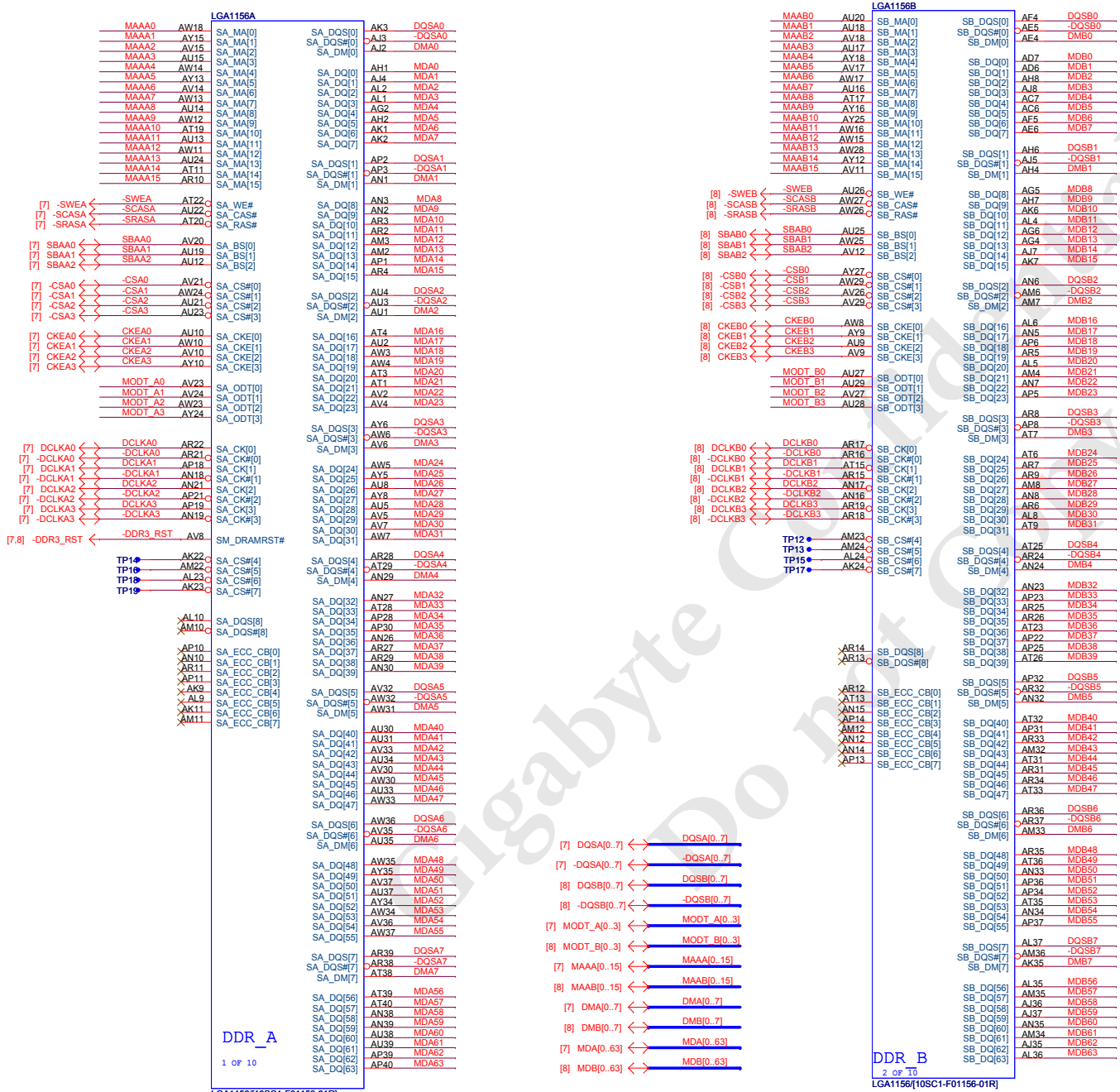
CFG	H	L	NOTE
0			H:1X16 , L:2X8
1	RSVD		
2	RSVD		
3	NORM	RSVD	LANE REVERSAL
4	DISABLE	ENABLE	DP PRESENCE
5	RSVD		
6	RSVD		
7	RSVD		ENGINEERING EXPERIMENT
15	RSVD		ENGINEERING EXPERIMENT

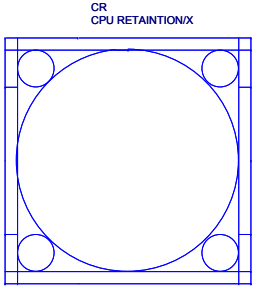
	FUNCTION	DEFAULT
VID0	MSI0	0
VID1	MSI1	1
VID2	MSI2	1
VID3	IMON CFG0	1
VID4	IMON CFG1	1
VID5	IMON CFG2	1
VID6	RSVD	0
VID7	VRD SEL	0
PSI#	RSVD	

POWER ON CONFIG TABLE (Default=1.2250V)

Check Trace length/ width

Title	CPU LGA1156-A
Size	Custom
Document Number	GA-H55M-USB3P-TO
Rev	1.0
Date:	Wednesday, January 27, 2010
Sheet	4 of 35

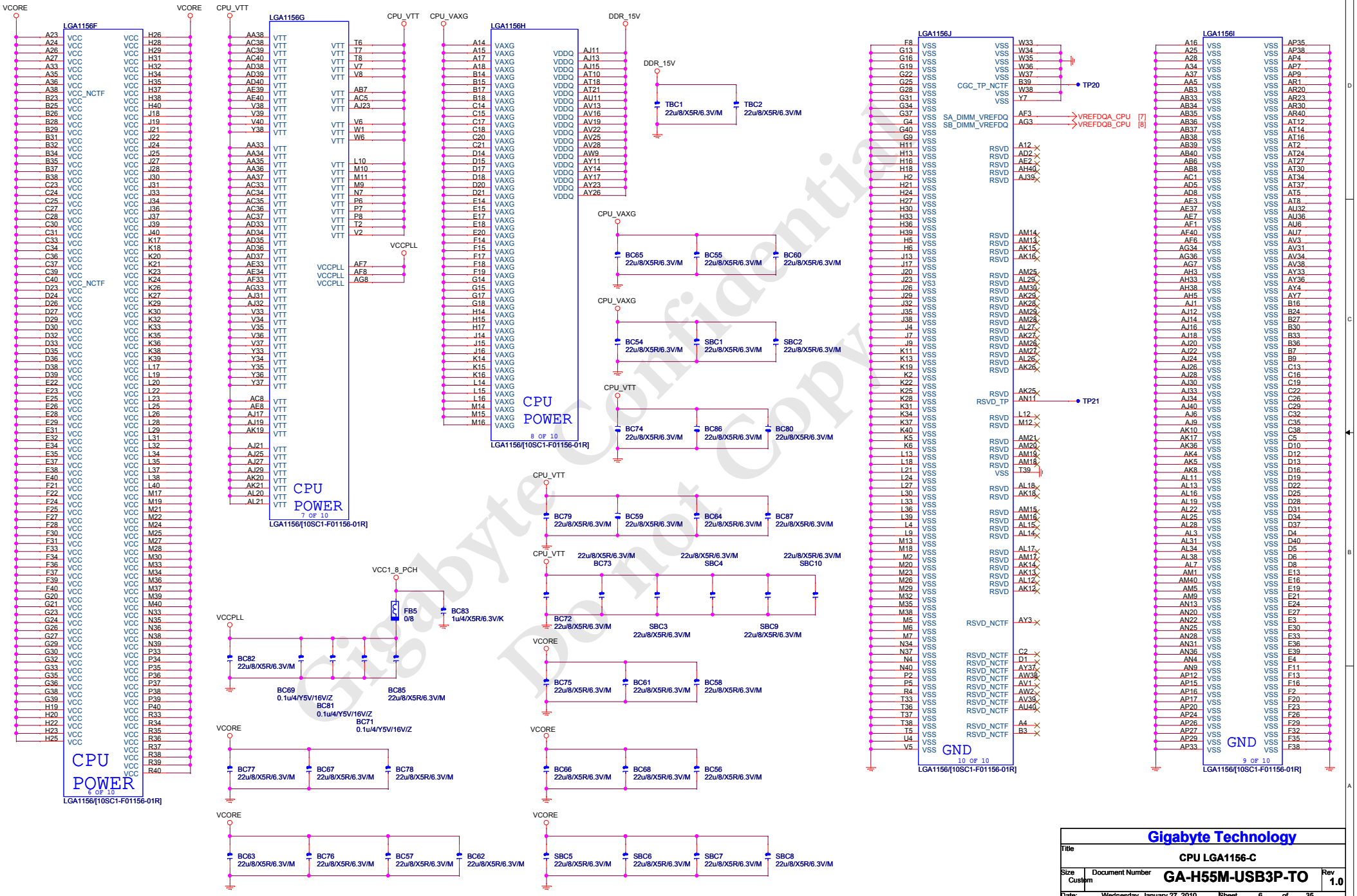




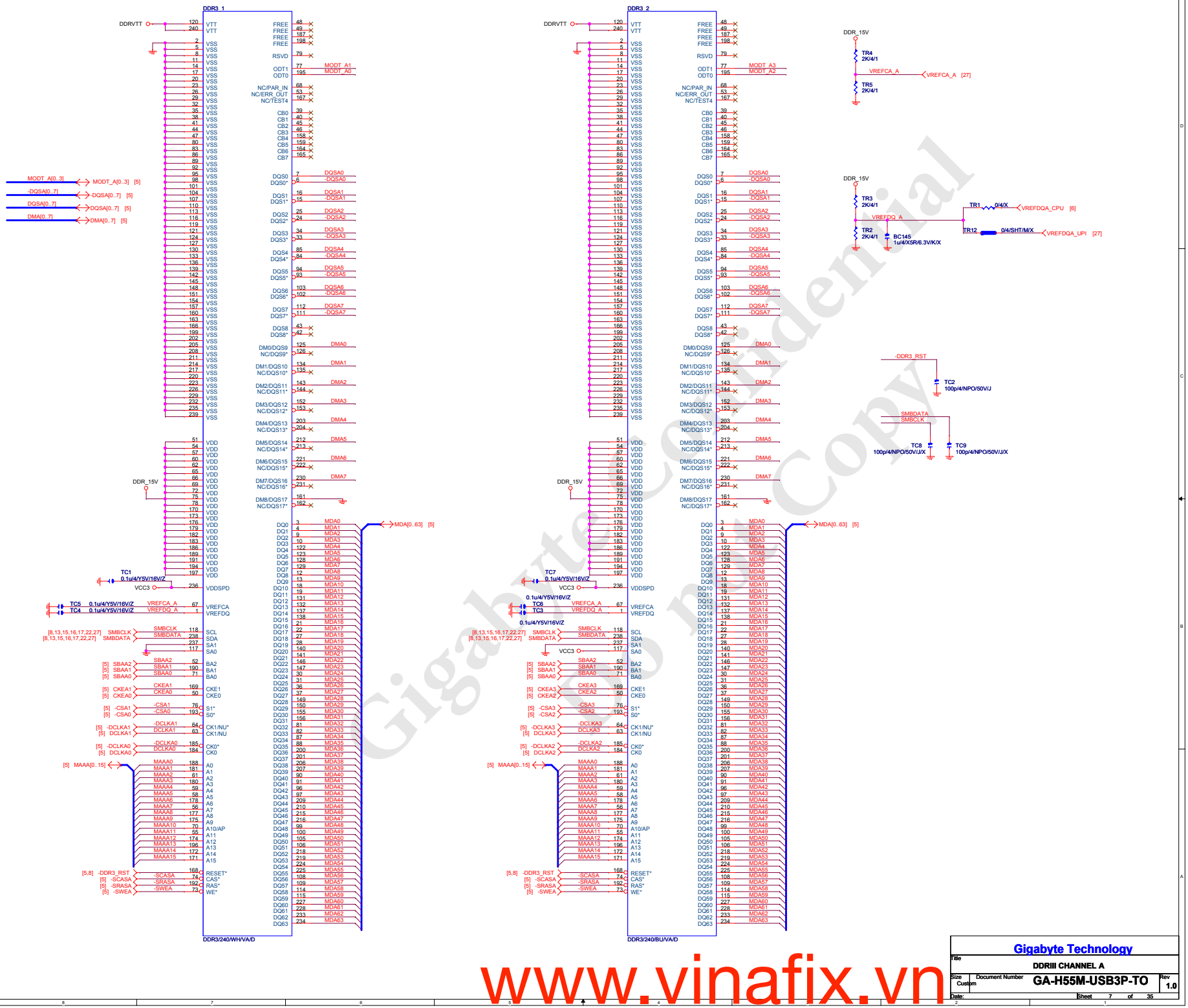
LGA1156_P

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

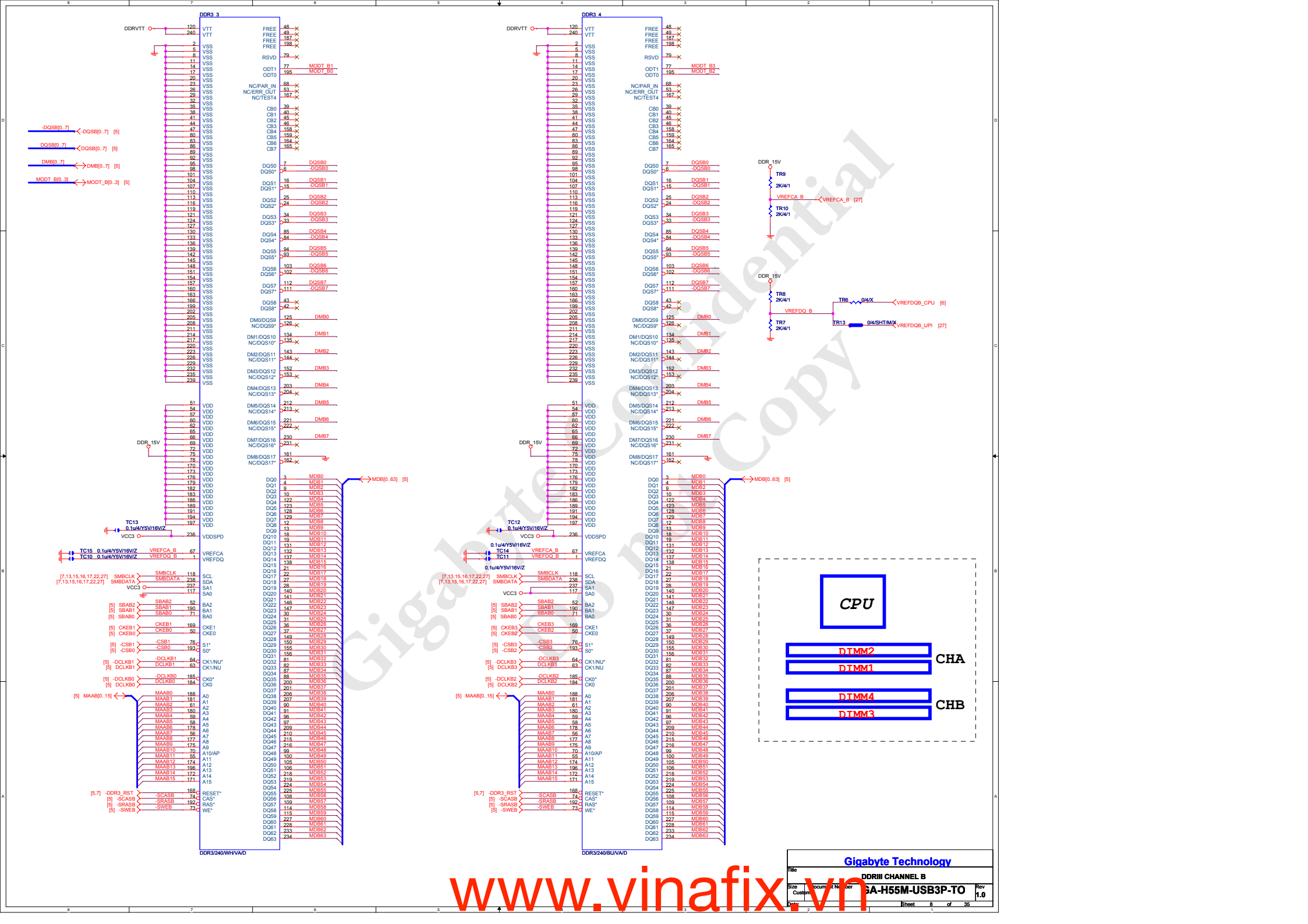
Gigabyte Technology			
Title: CPU LGA1156-B			
Size: Custom	Document Number: GA-H55M-USB3P-TO		Rev: 1.0
Date: Wednesday, January 27, 2010	Sheet 5 of 35		



Gigabyte Technology	
Title	CPU LGA1156-C
Size: Custom	Document Number: GA-H55M-USB3P-TO
Rev	1.0
Date: Wednesday, January 27, 2010	Sheet 6 of 35



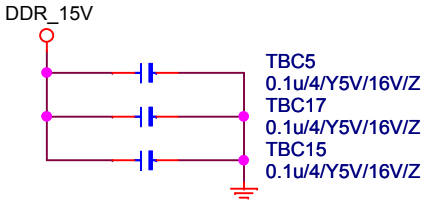
Gigabyte Technology			
Title: DDRIII CHANNEL A			
Size: Custom	Document Number: GA-H55M-USB3P-TO		Rev: 1.0
Date:	Sheet 7 of 35		

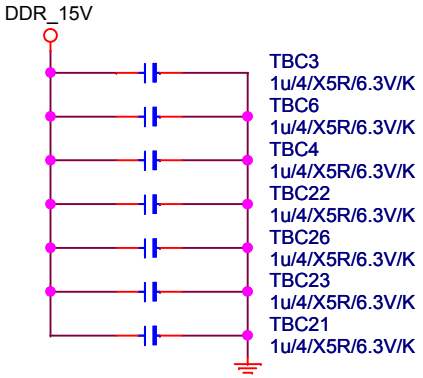


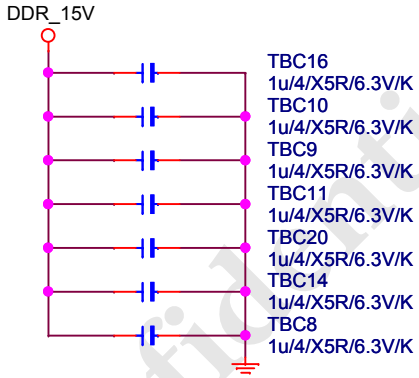
Company	Gigabyte Technology
Title	DDRIII CHANNEL B
Size / Custom	Document Number: GA-H55M-USB3P-TO
Rev	1.0
Date	Sheet 8 of 35

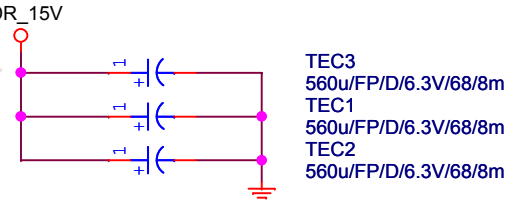
DDR TERMINATION CHANNEL A/B

DDR15V Decouple

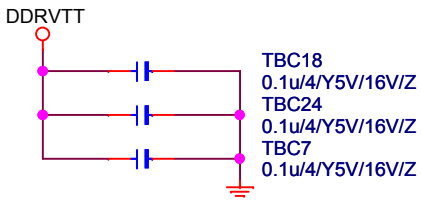


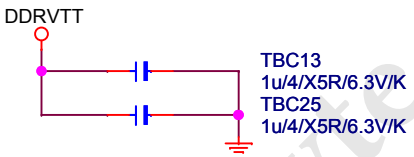


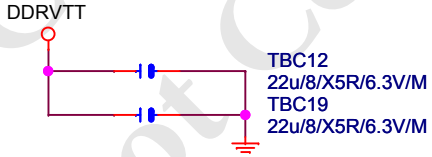


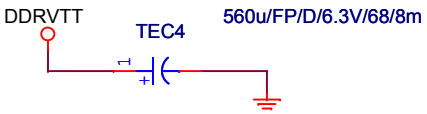


DDRVTT Decouple









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-USB3P-TO	Rev: 1.0
Date: Wednesday, January 27, 2010	Sheet 9 of 35	

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

Impedance=80 +- 17.5%

PCIE X1 :15/5/5/5/15

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

H55-->PORT6,7:N/A

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

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

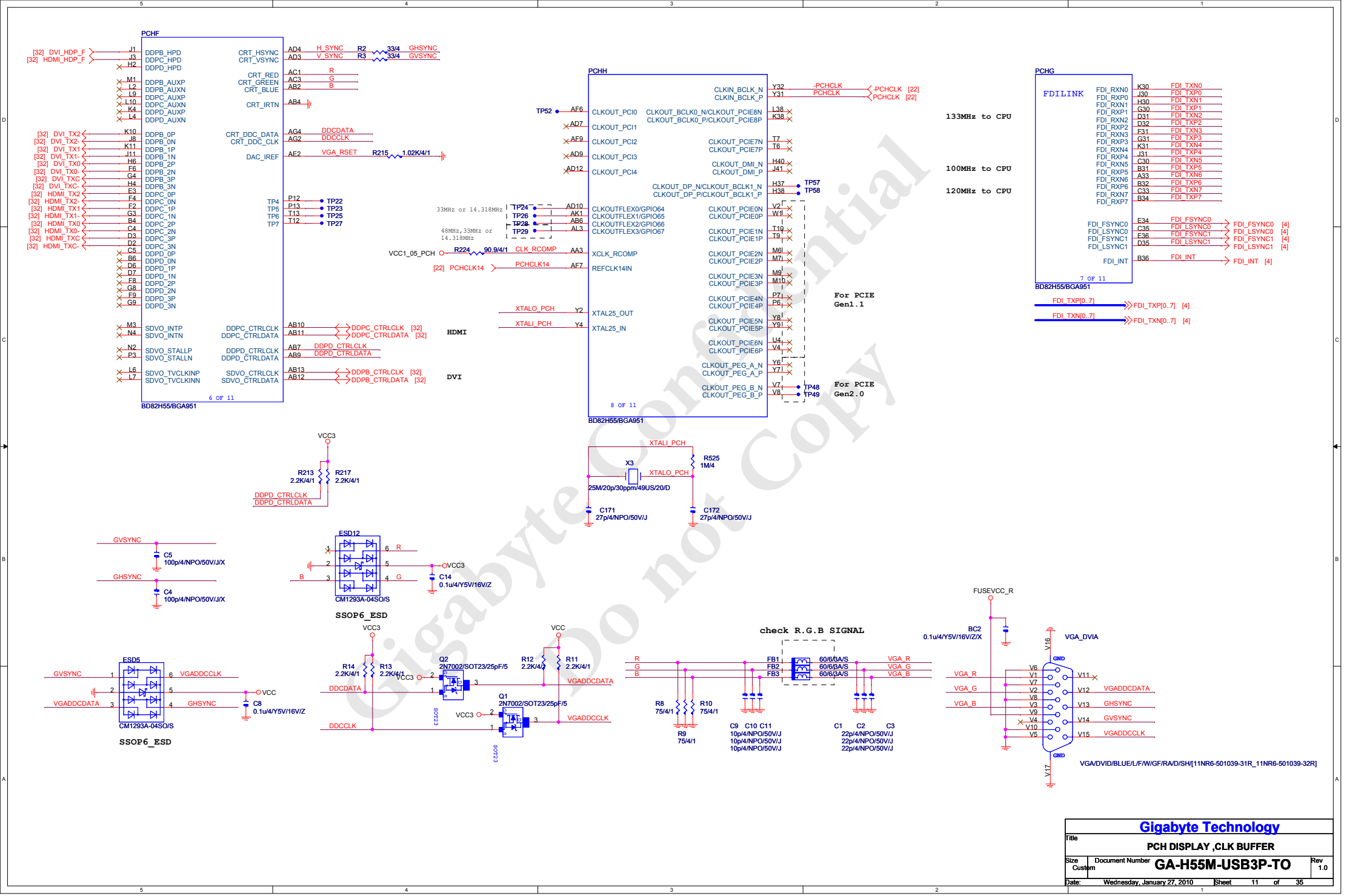
NV_ALE	
Hi	Enable Danbury
Lo	Disable Danbury

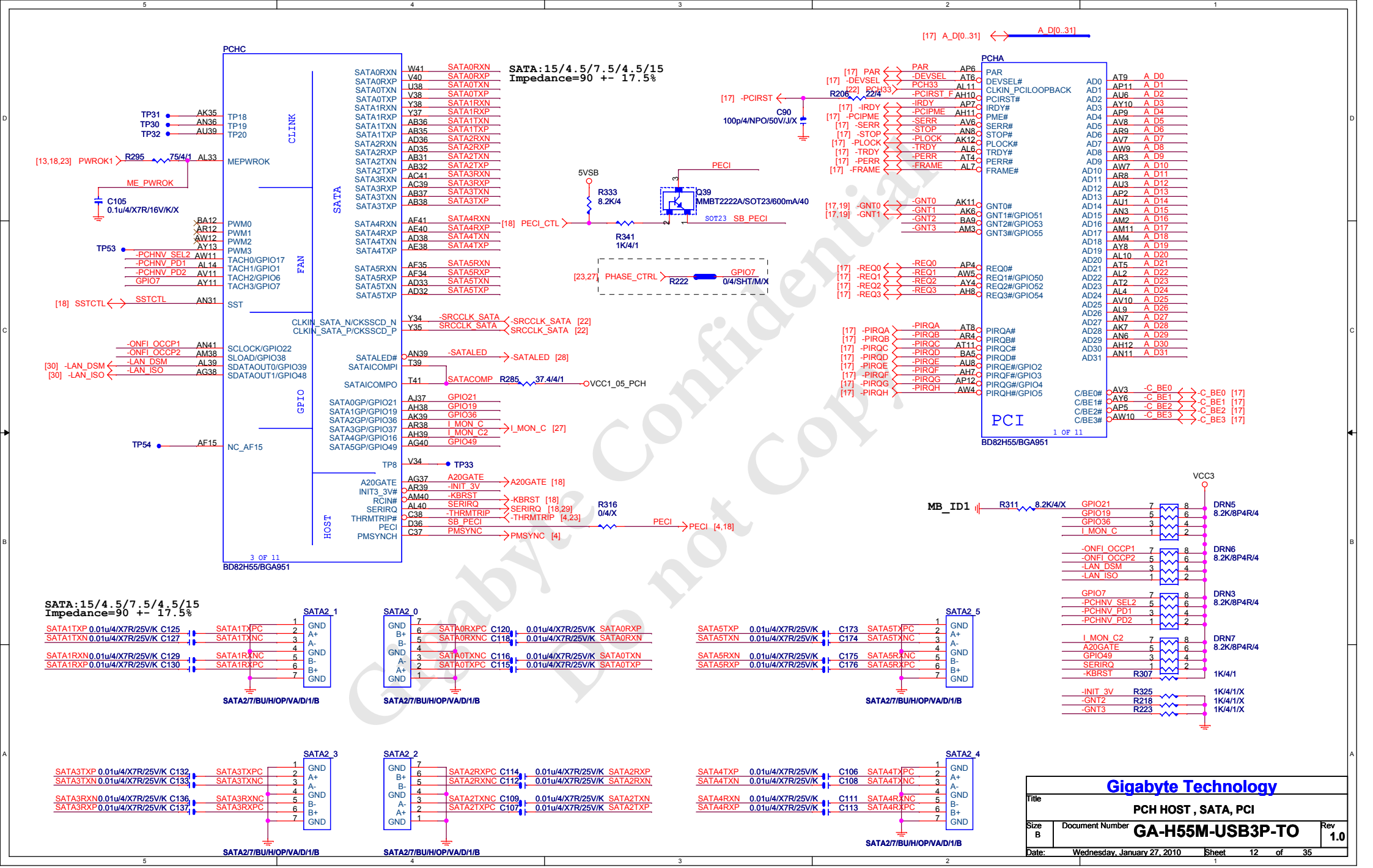
DMI Terminator voltage
HI : AC COUP : TX/RX TO VCC
LO : DC COUP : HALF SWING

Intel anti theft techonlogy

PCH_HS[12SP2-030030-C1R]

Title	PCH FDI,DMI,USB ,PCIE,NVRAM
Size	B
Document Number	GA-H55M-USB3P-TO
Rev	1.0
Date:	Wednesday, January 27, 2010
Sheet	10 of 35




PCHC
SATA:15/4.5/7.5/4.5/15
Impedance=90 +- 17.5%
BD82H55/BGA951
PCHA
PCI
BD82H55/BGA951
SATA2_1
SATA2_0
SATA2_5
SATA2_3
SATA2_2
SATA2_4
SATA2/7/BU/H/OP/VA/D/1/B
MB_ID1
Gigabyte Technology
PCH HOST , SATA, PCI
GA-H55M-USB3P-TO
Rev 1.0
Wednesday, January 27, 2010
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Do not Copy!
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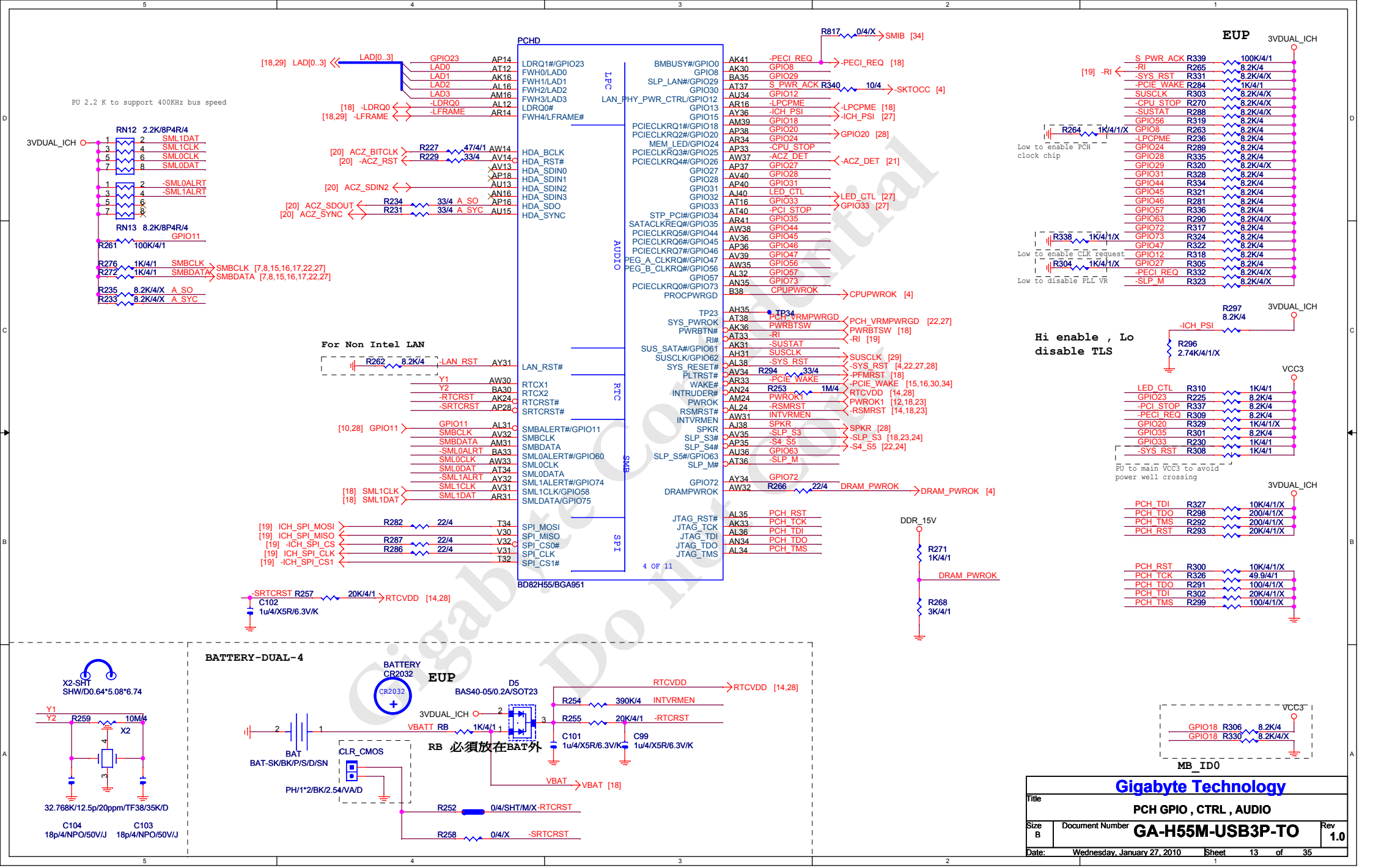
PCHD
BD82H55/BGA951
4 OF 11
LPC
AUDIO
SMB
RTC
SPI
PU 2.2 K to support 400KHz bus speed
RN12 2.2K/8P4R/4
RN13 8.2K/8P4R/4
For Non Intel LAN
Hi enable , Lo disable TLS
EUP
BATTERY-DUAL-4
RB 必須放在BAT外
Low to enable PCH clock chip
Low to enable CLK request
Low to disable PLL VR
PU to main VCC3 to avoid power well crossing
Gigabyte Technology
PCH GPIO , CTRL , AUDIO
GA-H55M-USB3P-TO
Rev 1.0
Wednesday, January 27, 2010
Sheet 13 of 35
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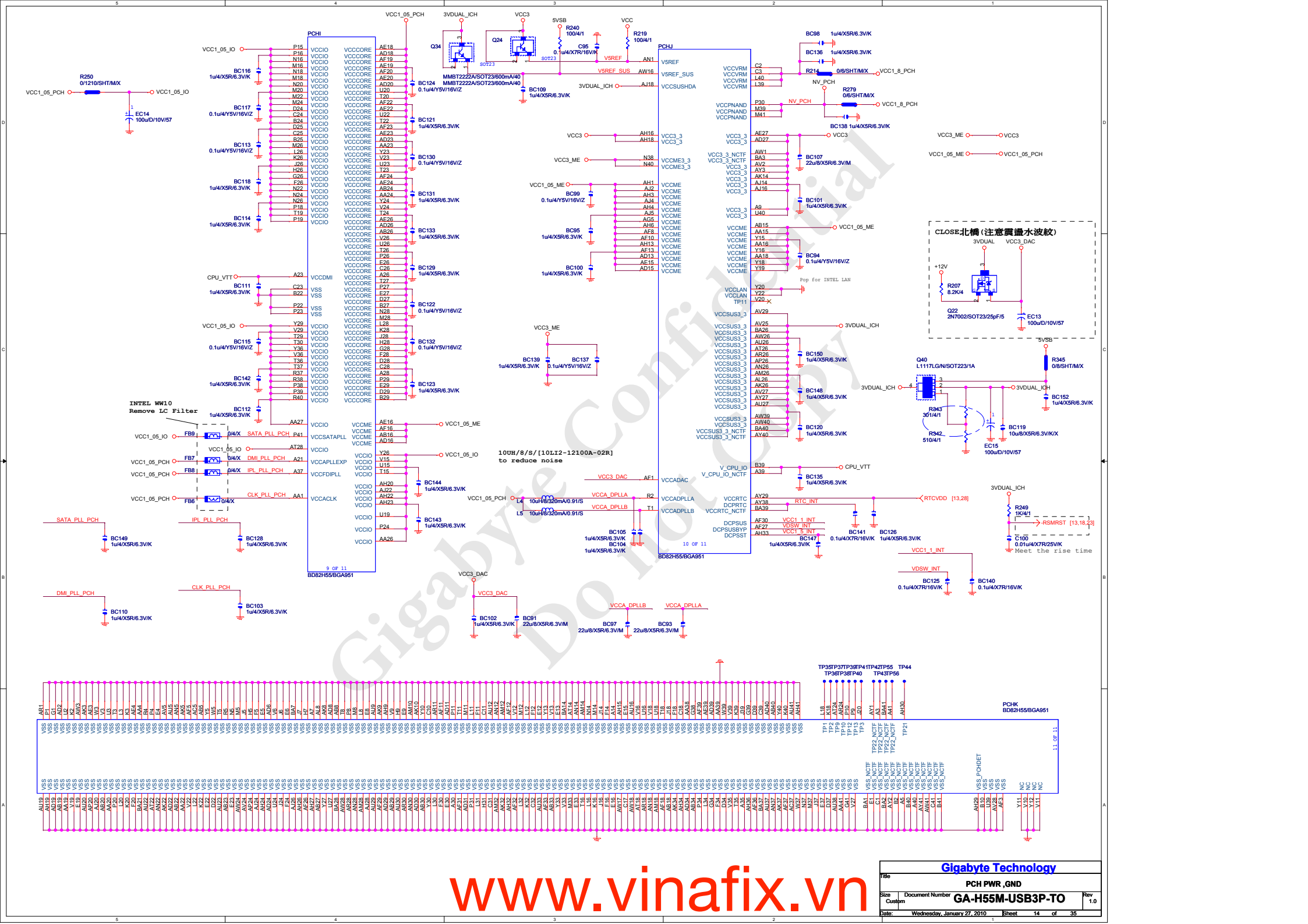
PCHI
PCHJ
PCHK
BD82H55/BGA951
INTEL WW10
Remove LC Filter
10UH/8/S/[10LI2-12100A-02R]
to reduce noise
CLOSE北橋(注意震盪水波紋)
Pop for INTEL LAN
Meet the rise time
Gigabyte Confidential
Do not Copy
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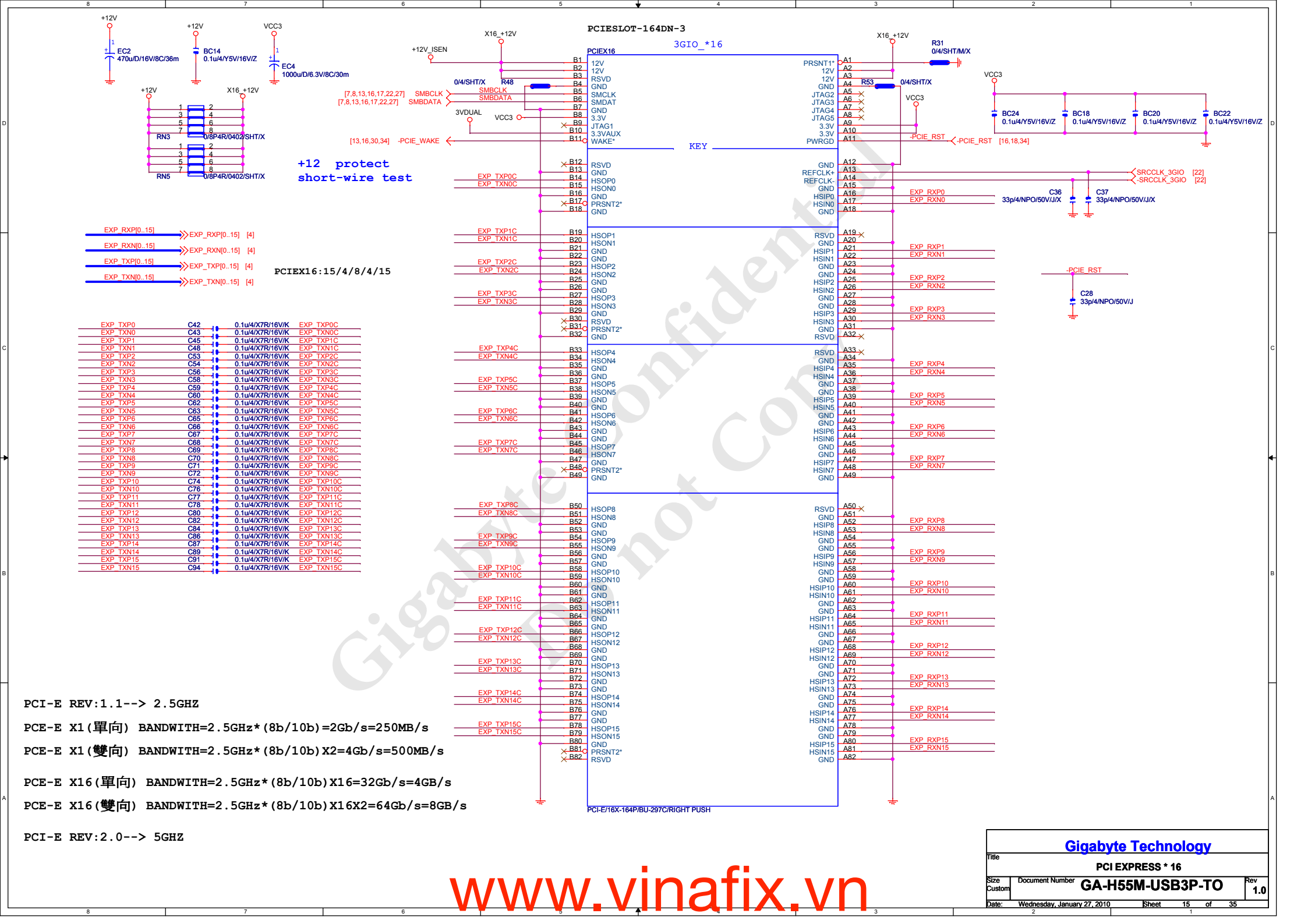
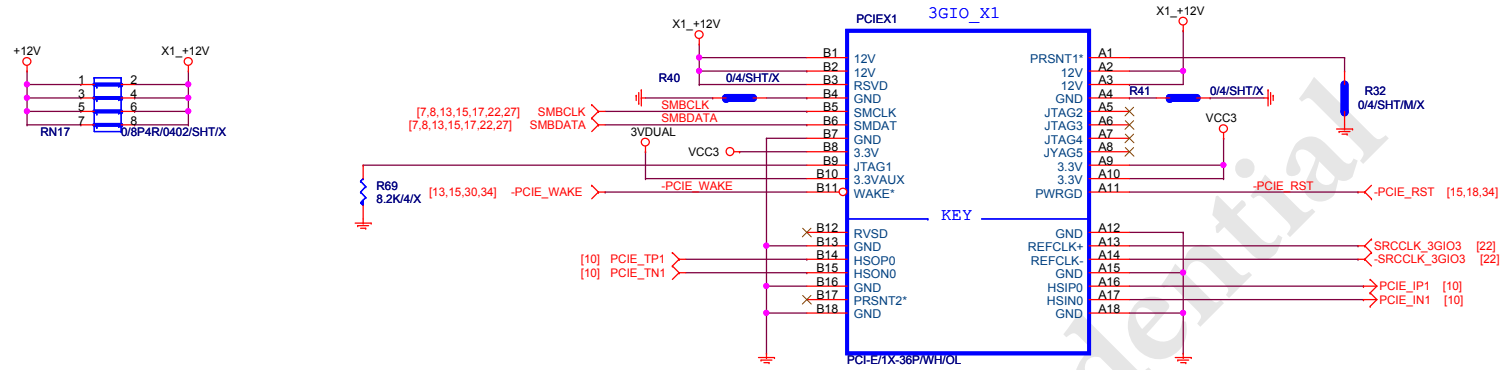
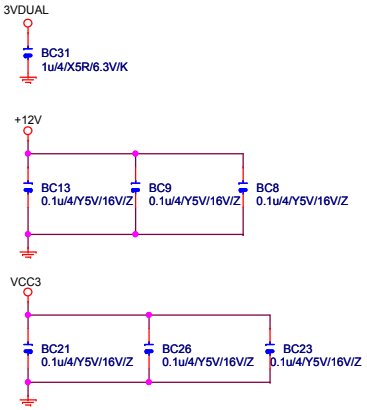
Gigabyte Technology
PCH PWR ,GND
GA-H55M-USB3P-TO
Wednesday, January 27, 2010



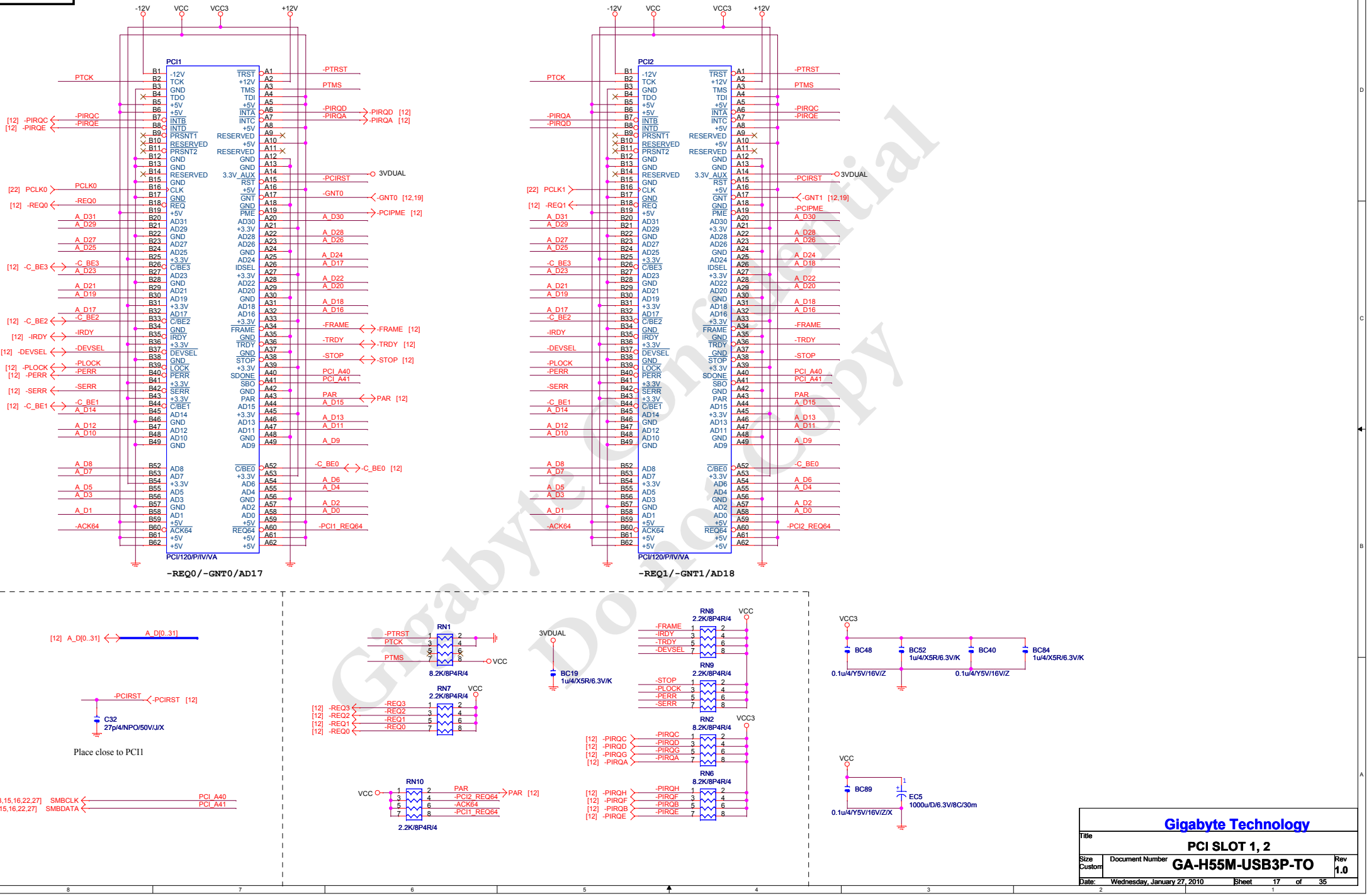
Gigabyte Technology		
Title	PCI EXPRESS * 16	
Size: Custom	Document Number: GA-H55M-USB3P-TO	Rev: 1.0
Date: Wednesday, January 27, 2010	Sheet 15 of 35	



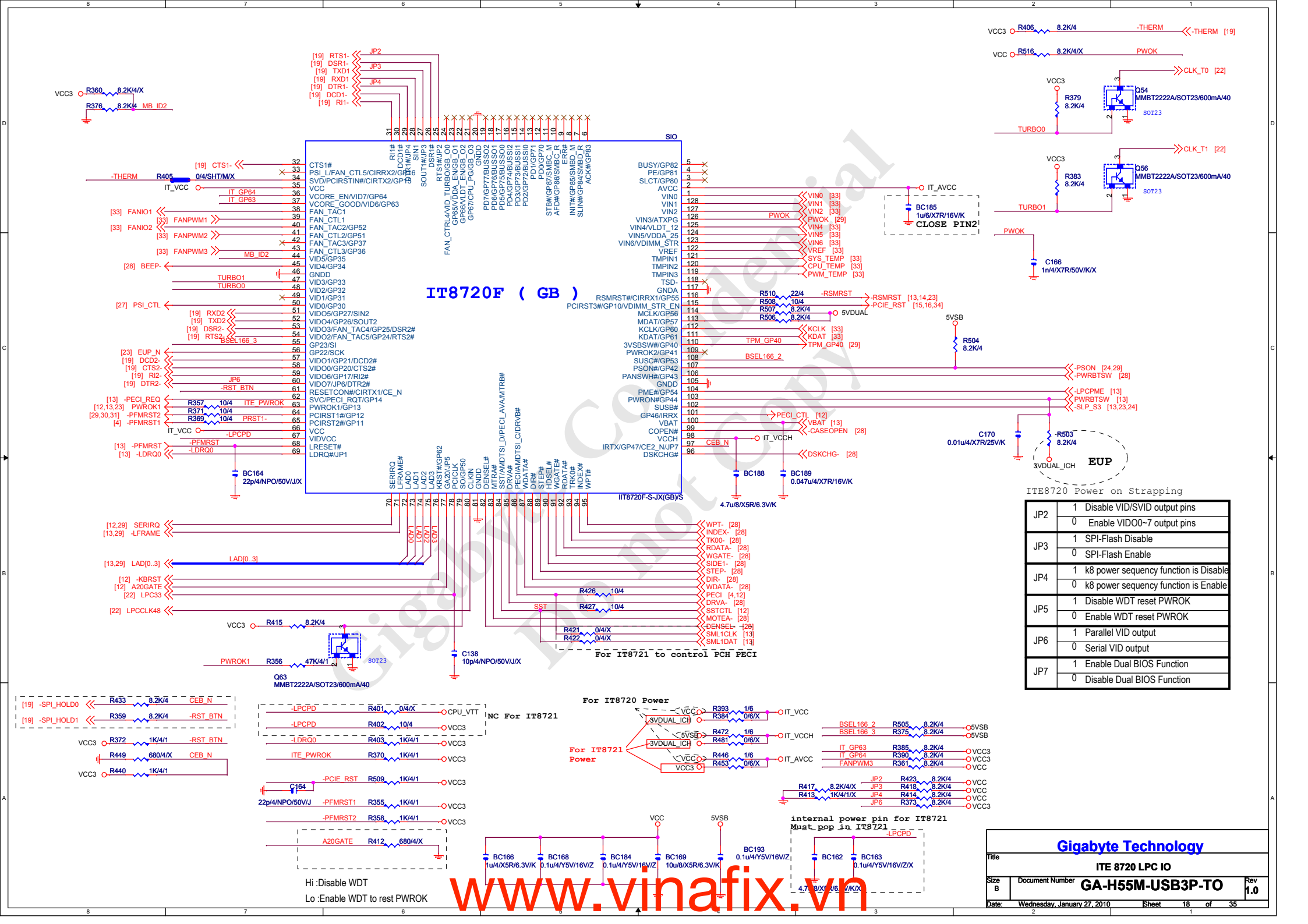


Gigabyte Technology		
Title	PCI EXPRESS X 4 PORT	
Size: Custom	Document Number: GA-H55M-USB3P-TO	Rev: 1.0
Date: Wednesday, January 27, 2010	Sheet 16 of 35	

PCI1,2 SLOT



Gigabyte Technology		
Title: PCI SLOT 1, 2		
Size: Custom	Document Number: GA-H55M-USB3P-TO	Rev: 1.0
Date: Wednesday, January 27, 2010	Sheet 17 of 35	


IT8720F (GB)
IIT8720F-S-JX(GB)/S
SIO
ITE8720 Power on Strapping
JP2 0 Enable VIDO0~7 output pins
JP3 0 SPI-Flash Enable
JP4 0 k8 power sequency function is Enable
JP5 0 Enable WDT reset PWROK
JP6 0 Serial VID output
JP7 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-USB3P-TO
Rev 1.0
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COMA

BU1 GD75232/TSSOP20

[18] RI1- [18] CTS1- [18] DSR1- [18] RTS1- [18] DTR1- [18] RXD1 [18] TXD1 [18] DCD1-

RY1 RY2 RY3 DA1 DA2 RY4 DA3 RY5 GND -12V RA1 RA2 RA3 DY1 DY2 RA4 DY3 RA5 5V 12V

NRIA- NCTSA- NDSRA- NRTSA- NDTRA- NSINA NSOUTA NDCDA-

-12V +12V VCC

BBC1 0.1u/4/Y5V/16V/Z/X BBC3 0.1u/4/Y5V/16V/Z/X BBC2 0.1u/4/Y5V/16V/Z/X

RING IN

Q7 MMBT2222A/SOT23/600mA/40

-RI [13] SOT23

NRIA- NRIB-

R100 75K/4/1 R98 8.2K/4

D1 BAT54C/SOT23/200mA

DUAL BIOS

MOSI pull up to enable iTPM , floating to disable

VCC3

R498 0/4/SHT/M/X BC192 1u/4/X5R/6.3V/K

M_BIOS 64M/SPI/SO8/200mil/S MAIN BIOS

-ICH_SPI_CS R495 22/4 C161 10p/4/NPO/50V/J/X

SPI_MISO -SPI_WP0

CS# SO WP# VSS VDD HOLD# SCK SI

-SPI_HOLD0 -SPI_HOLD0 [18] ICH_SPI_CLK ICH_SPI_MOSI C144 10p/4/NPO/50V/J/X

[13] ICH_SPI_MOSI [13] -ICH_SPI_CS

ICH_SPI_MOSI R454 8.2K/4/X -ICH_SPI_CS R496 8.2K/4/X -SPI_HOLD0 R457 8.2K/4/X -SPI_HOLD1 R455 8.2K/4/X

RN15 1K/8P4R/4

-SPI_WP1 -SPI_WP0 ICH_SPI_MISO -ICH_SPI_CS1

[13] ICH_SPI_MISO [13] -ICH_SPI_CS1

[12,17] -GNT0 [12,17] -GNT1 R78 1K/4/1/X R76 1K/4/1/X

Default int pull up

VCC3 BC183 0.1u/4/Y5V/16V/Z

SPI_MISO R456 22/4 ICH_SPI_MISO [13]

R494 0/4/SHT/M/X BC191 1u/4/X5R/6.3V/K

B_BIOS 64M/SPI/SO8/200mil/S BACKUP BIOS

-ICH_SPI_CS R497 22/4

SPI_MISO -SPI_WP1

-SPI_HOLD1 -SPI_HOLD1 [18] ICH_SPI_CLK ICH_SPI_CLK [13] ICH_SPI_MOSI ICH_SPI_MOSI [13]

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

COMB

BCN2 180p/8P4C/6/NPO/50V/K

NRIA- NCTSA- NDSRA- NRTSA-

BCN1 180p/8P4C/6/NPO/50V/K

NDTRA- NSINA NSOUTA NDCDA-

F_COM-HS

COMA BH/2*5K10/IV/2.54/VA/COM

NDCDA- NSOUTA NRTSA- NRIA- NSINA NDTRA- NDSRA- NCTSA-

PLACE NEAR COM CONNECTOR

BU2 GD75232/TSSOP20

[18] RI2- [18] CTS2- [18] DSR2- [18] RTS2- [18] DTR2- [18] RXD2 [18] TXD2 [18] DCD2-

-12V +12V VCC

BBC4 0.1u/6/Y5V/25V/Z/X BBC5 0.1u/6/Y5V/25V/Z/X BBC6 0.1u/6/Y5V/25V/Z/X

INTERNAL COMB

COMB BH/2*5K10/IV/2.54/VA/COM

NDCDB- NSOUTB NRTSB- NRIB- NSINB NDTRB- NDSRB- NCTSB-

BCN3 180P/8P4C/6/NPO/50V/K

NRTSB- NDSRB- NCTSB- NRIB-

BCN4 180P/8P4C/6/NPO/50V/K

NDCDB- NSOUTB NSINB NDTRB-

DYNAMIC CURRENT OC

[27] VCORE_OV [4,27] VCC_SENSE [4,27] VSS_SENSE

DR53 47K/4/1 DR54 5.11K/4/1/X DR47 5.11K/4/1 DR55 47K/4/1 DR48 5.11K/4/1

+12V

U3A U3B U3C LM324DR/SO14

DR74 10K/4/1 DR76 453K/4/1 DR73 10K/4/1 DR75 453K/4/1

FB [27] CURRENT_OUT_V [33]

+12V BC92 0.1u/4/Y5V/16V/Z

-PROHOT

deasserted at 116 degree

RS2 CLOSE CPU VR MOSFET

+12V R208 35.7K/4/1 R205 10K/4/1 R212 2.32K/4/1

U3D LM324DR/SO14

TSM_5 TSM_6 TSM_7

-PROCHOT -PROCHOT [4] Q19 2N7002/SOT23/25pF/5

-THERM -THERM [18] Q18 2N7002/SOT23/25pF/5

R? CLOSE Q32

RS1 100K/1/4/S R216 1K/4/1 C88 0.1u/4/X7R/16V/K/X

CLOSE PWM HOT MOSFET

Gigabyte Technology

Title: COM & PROHOT/Dynamic O.C.

Size: Custom Document Number: GA-H55M-USB3P-TO Rev: 1.0

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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/X

[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+
ALC888B-GR/LQFP48

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

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 10u/8/X5R/6.3V/K
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

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

CBC4 4.7u/8/X5R/6.3V/K LINE_IN_R [21]
CBC5 4.7u/8/X5R/6.3V/K LINE_IN_L [21]
CBC6 4.7u/8/X5R/6.3V/K MIC1_R [21]
CBC10 4.7u/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]

Digital Area
Analog Area

[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 ALC888B

Size: Custom | Document Number: GA-H55M-USB3P-TO | Rev: 1.0

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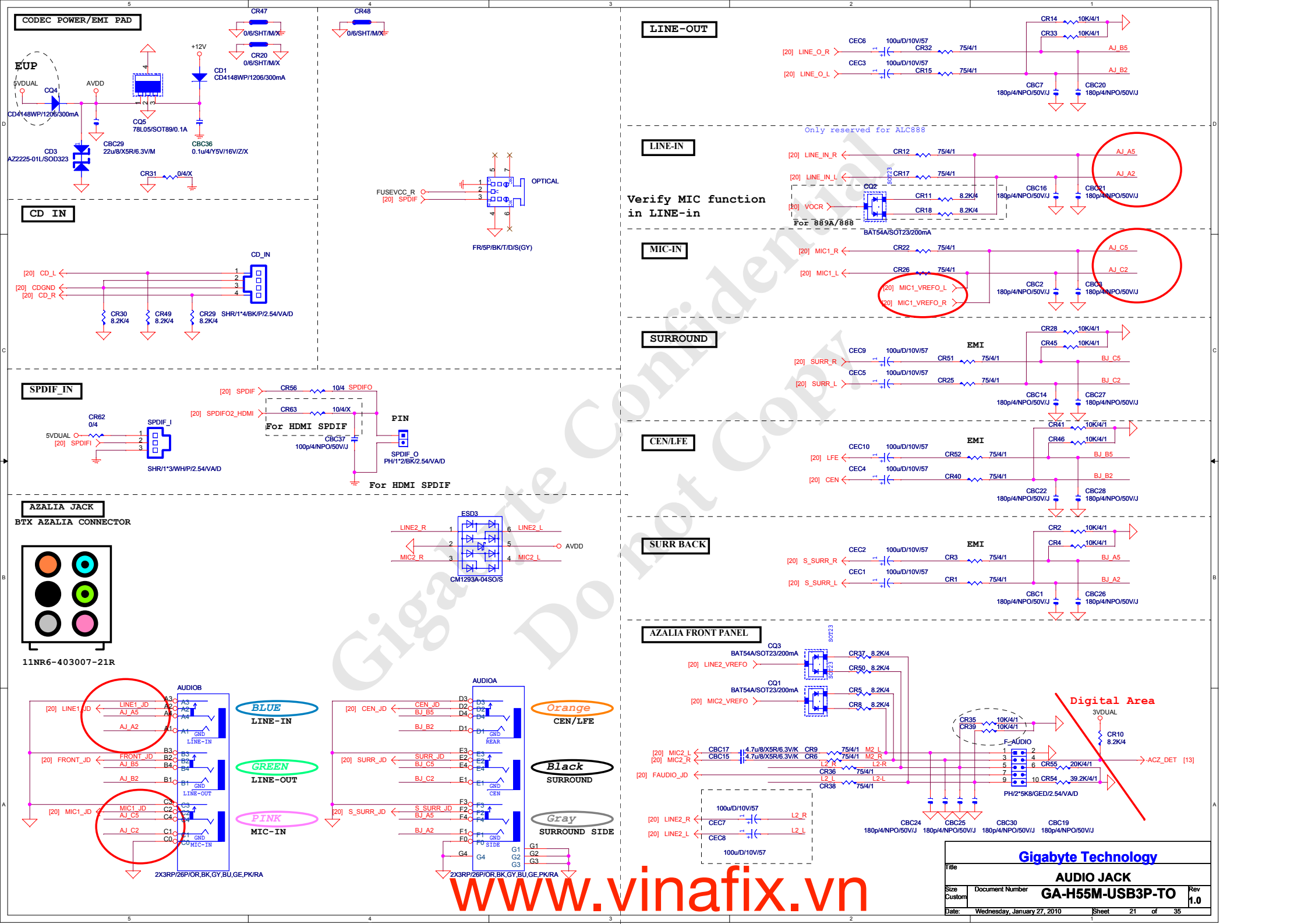
CODEC POWER/EMI PAD
EUP
5VDUAL
AVDD
CQ4
CD4148WP/1206/300mA
CQ5
78L05/SOT89/0.1A
+12V
CD1
CD4148WP/1206/300mA
CR47
0/6/SHT/M/X
CR20
0/6/SHT/M/X
CR48
0/6/SHT/M/X
CD3
AZ2225-01L/SOD323
CBC29
22u/8/X5R/6.3V/M
CBC36
0.1u/4/Y5V/16V/Z/X
CR31
0/4/X
CD_IN
[20] CD_L
[20] CDGND
[20] CD_R
CR30
8.2K/4
CR49
8.2K/4
CR29
8.2K/4
SHR/1*4/BK/P/2.54/VA/D
FUSEVCC_R
[20] SPDIF
OPTICAL
FR/5P/BK/T/D/S(GY)
SPDIF_IN
CR62
0/4
5VDUAL
[20] SPDIFI
SPDIF_I
SHR/1*3/WH/P/2.54/VA/D
[20] SPDIF
CR56
10/4 SPDIFO
[20] SPDIFO2_HDMI
CR63
10/4/X
For HDMI SPDIF
CBC37
100p/4/NPO/50V/J
PIN
SPDIF_O
PH/1*2/BK/2.54/VA/D
For HDMI SPDIF
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
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
CEC6
100u/D/10V/57
[20] LINE_O_R
CR32
75/4/1
CEC3
[20] LINE_O_L
CR15
CR14
10K/4/1
CR33
AJ_B5
AJ_B2
CBC7
180p/4/NPO/50V/J
CBC20
LINE-IN
Only reserved for ALC888
[20] LINE_IN_R
CR12
[20] LINE_IN_L
CR17
AJ_A5
AJ_A2
CBC16
CBC21
Verify MIC function
in LINE-in
CQ2
[20] VOCR
CR11
8.2K/4
CR18
For 889A/888
BAT54A/SOT23/200mA
MIC-IN
[20] MIC1_R
CR22
[20] MIC1_L
CR26
[20] MIC1_VREFO_L
[20] MIC1_VREFO_R
AJ_C5
AJ_C2
CBC2
CBC3
SURROUND
EMI
[20] SURR_R
CEC9
CR51
BJ_C5
[20] SURR_L
CEC5
CR25
BJ_C2
CBC14
CBC27
CEN/LFE
[20] LFE
CEC10
CR52
BJ_B5
[20] CEN
CEC4
CR40
BJ_B2
CBC22
CBC28
SURR BACK
[20] S_SURR_R
CEC2
CR3
BJ_A5
[20] S_SURR_L
CEC1
CR1
BJ_A2
CBC1
CBC26
AZALIA FRONT PANEL
CQ3
BAT54A/SOT23/200mA
[20] LINE2_VREFO
CR37
8.2K/4
CR50
8.2K/4
CQ1
BAT54A/SOT23/200mA
[20] MIC2_VREFO
CR5
8.2K/4
CR8
8.2K/4
Digital Area
3VDUAL
CR10
8.2K/4
CR35
CR39
10K/4/1
F_AUDIO
[20] MIC2_L
[20] MIC2_R
CBC17
CBC15
4.7u/8/X5R/6.3V/K
CR9
CR6
M2_L
M2_R
[20] FAUDIO_JD
L2_R
L2_L
CR36
CR38
ACZ_DET [13]
CR55
20K/4/1
CR54
39.2K/4/1
PH/2*5K8/GED/2.54/VA/D
[20] LINE2_R
[20] LINE2_L
CEC7
CEC8
100u/D/10V/57
CBC24
CBC25
CBC30
CBC19
180p/4/NPO/50V/J
Gigabyte Technology
Title
AUDIO JACK
Size
Custom
Document Number
GA-H55M-USB3P-TO
Rev
1.0
Date:
Wednesday, January 27, 2010
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21
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35
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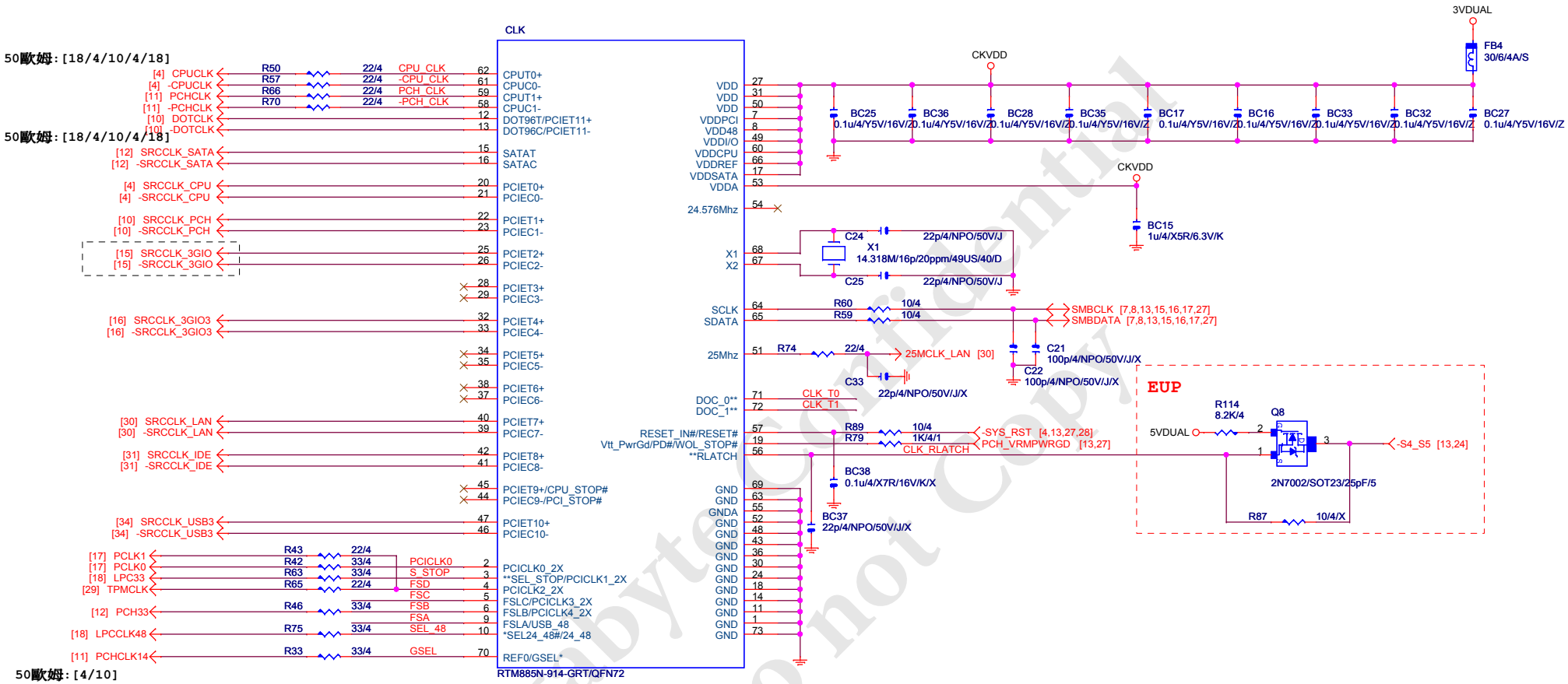
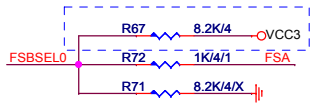
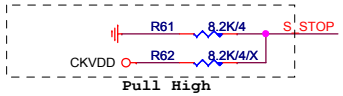
CLK GEN CK505



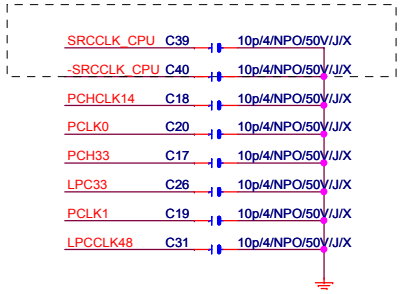
FSC	FSB	FSA	CPU
0	0	0	266MHz
0	0	1	133MHz
0	1	0	200MHz
0	1	1	166MHz
1	0	0	333MHz
1	1	0	400MHz



To enhance PD strength



Pull High



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/VCICLK output

Gigabyte Technology			
Title: CK505 CLK GEN			
Size: Custom	Document Number: GA-H55M-USB3P-TO		Rev: 1.0
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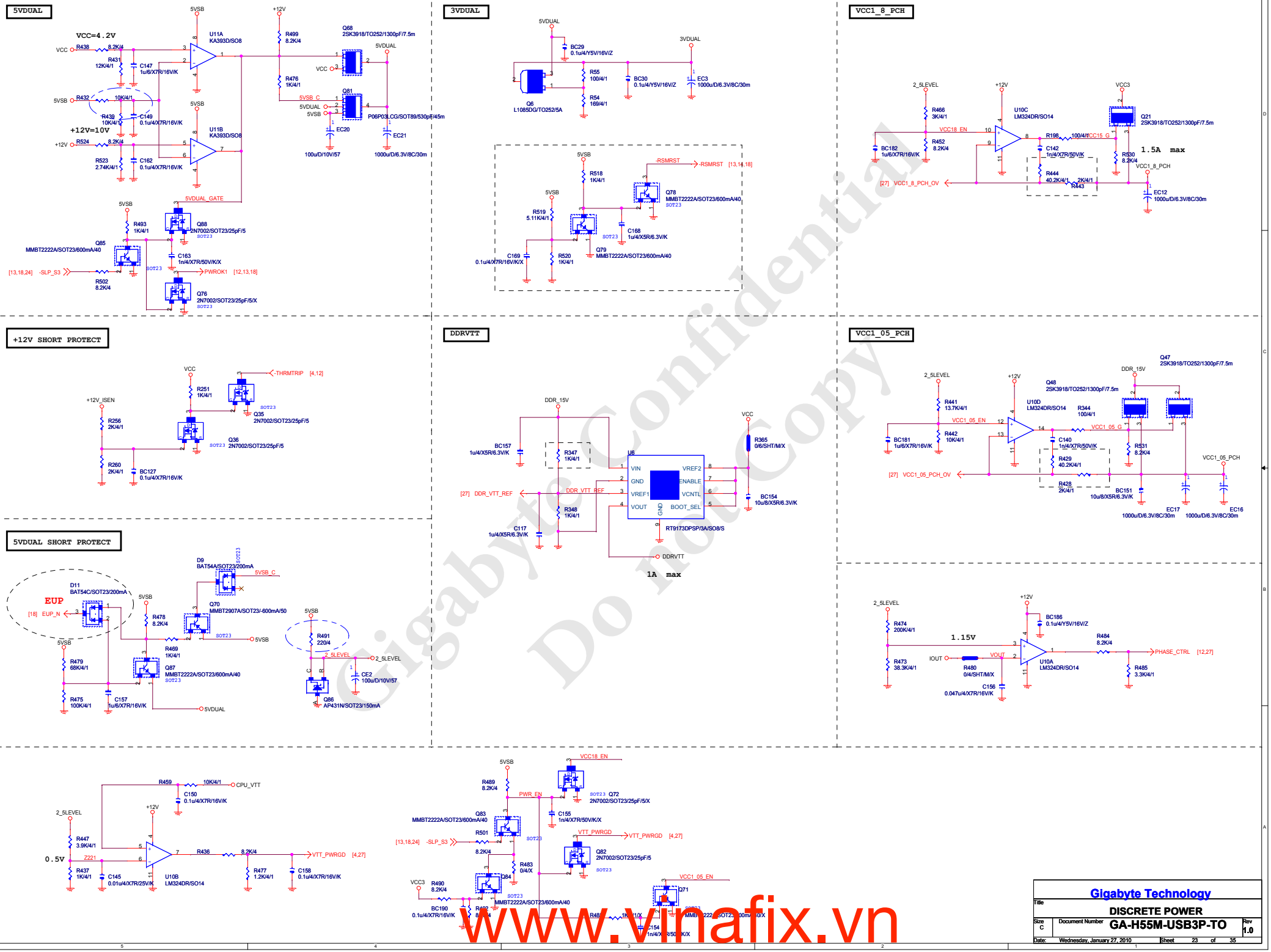
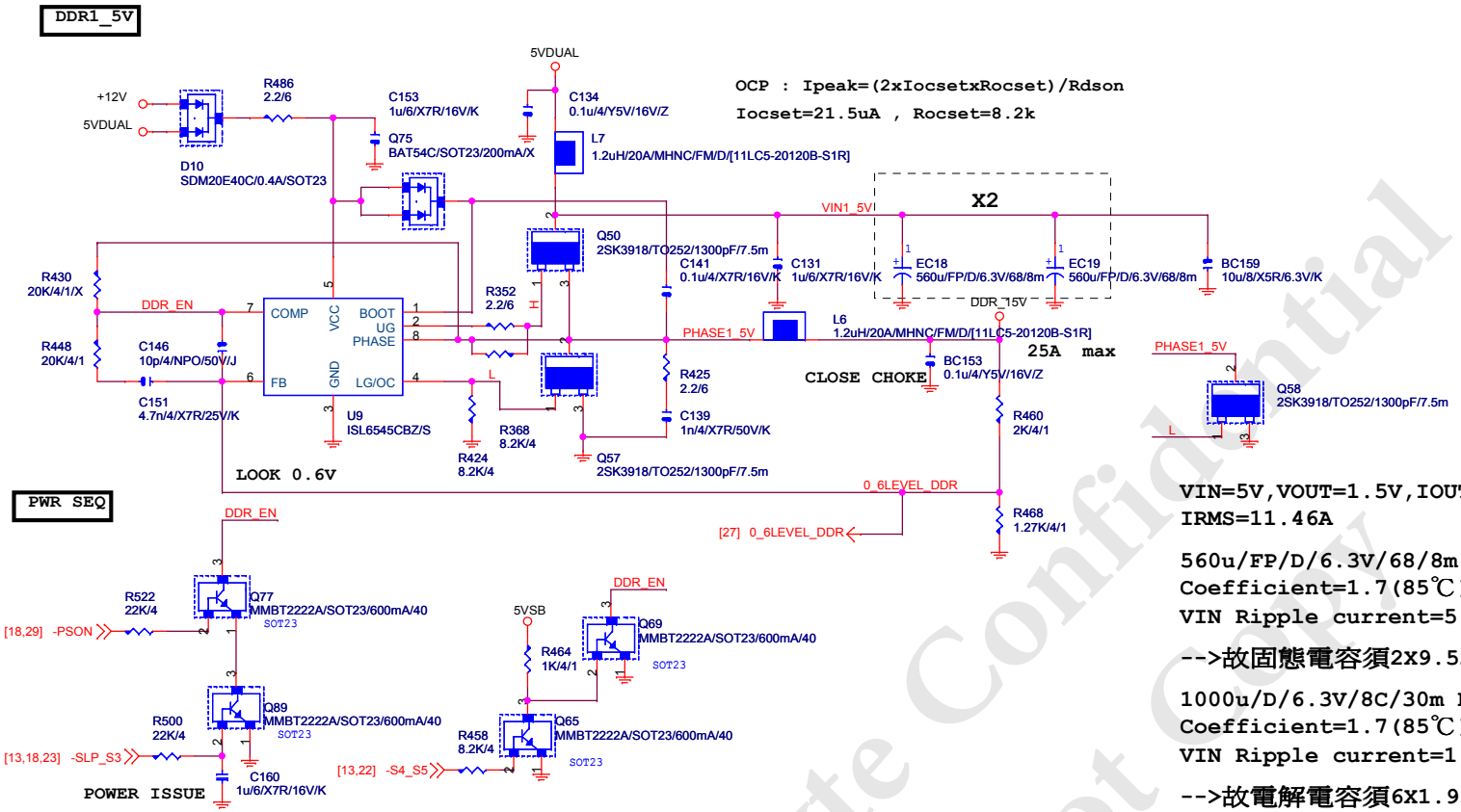




VIN=5V,VOUT=1.5V,IOUT=25A,PHASE=1
IRMS=11.46A

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℃)

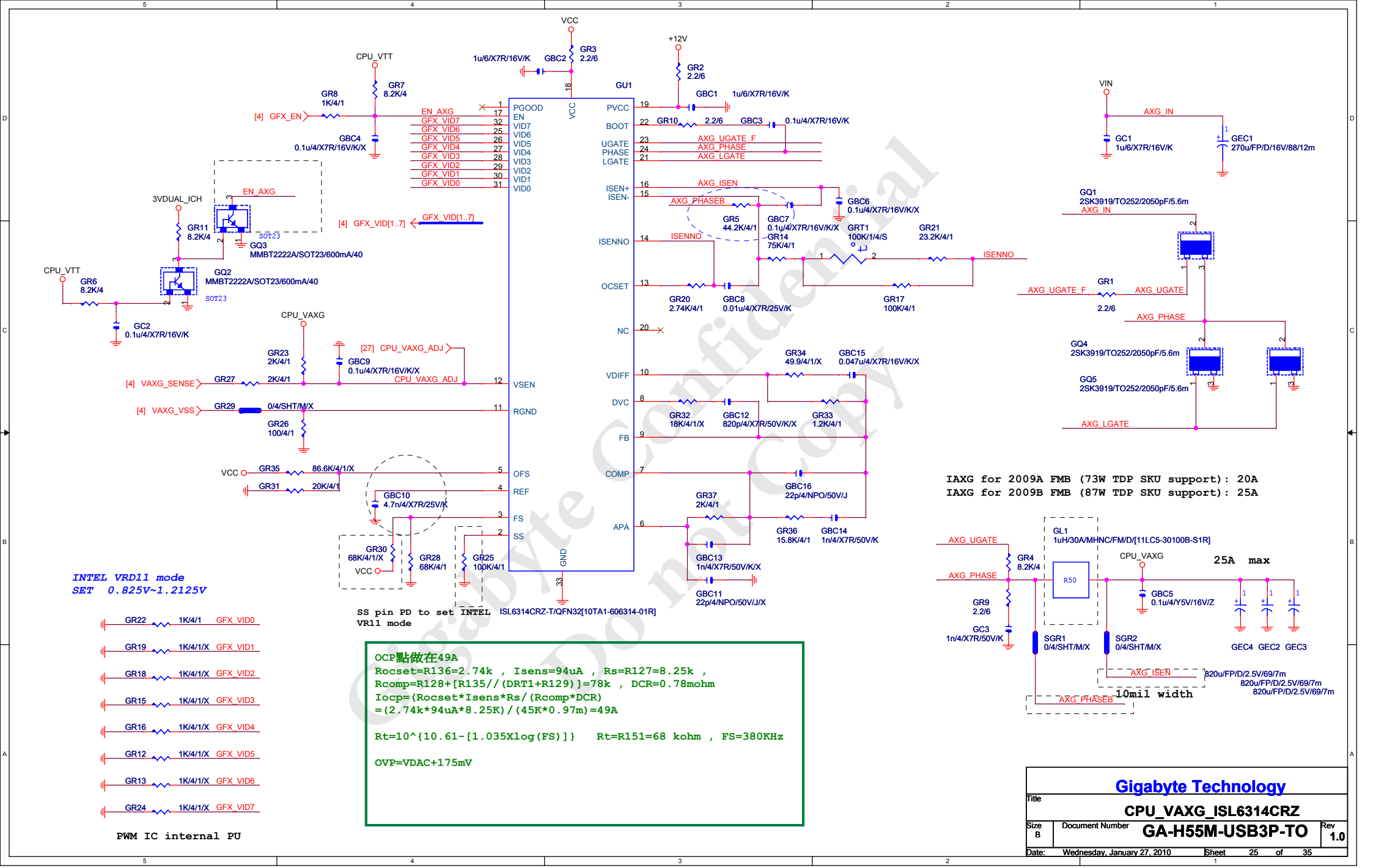
-->故電解電容須6X1.938=11.628>11.46A

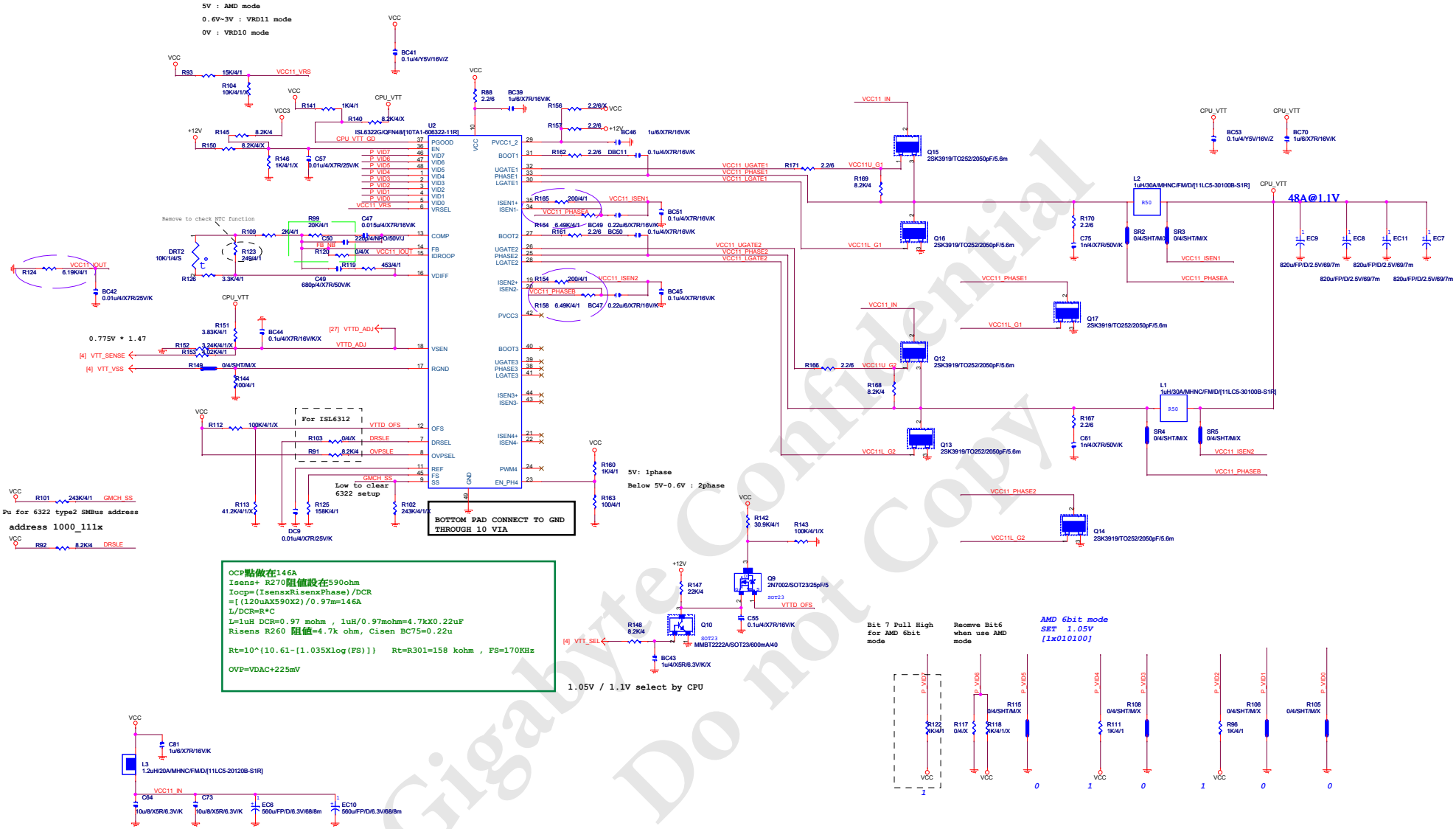
VIN=3V,VOUT=1.05V,IOUT=7.5A,PHASE=1
IRMS=3.5A

-->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-USB3P-TO	Rev: 1.0
Date: Wednesday, January 27, 2010	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-USB3P-TO	Rev: 1.0
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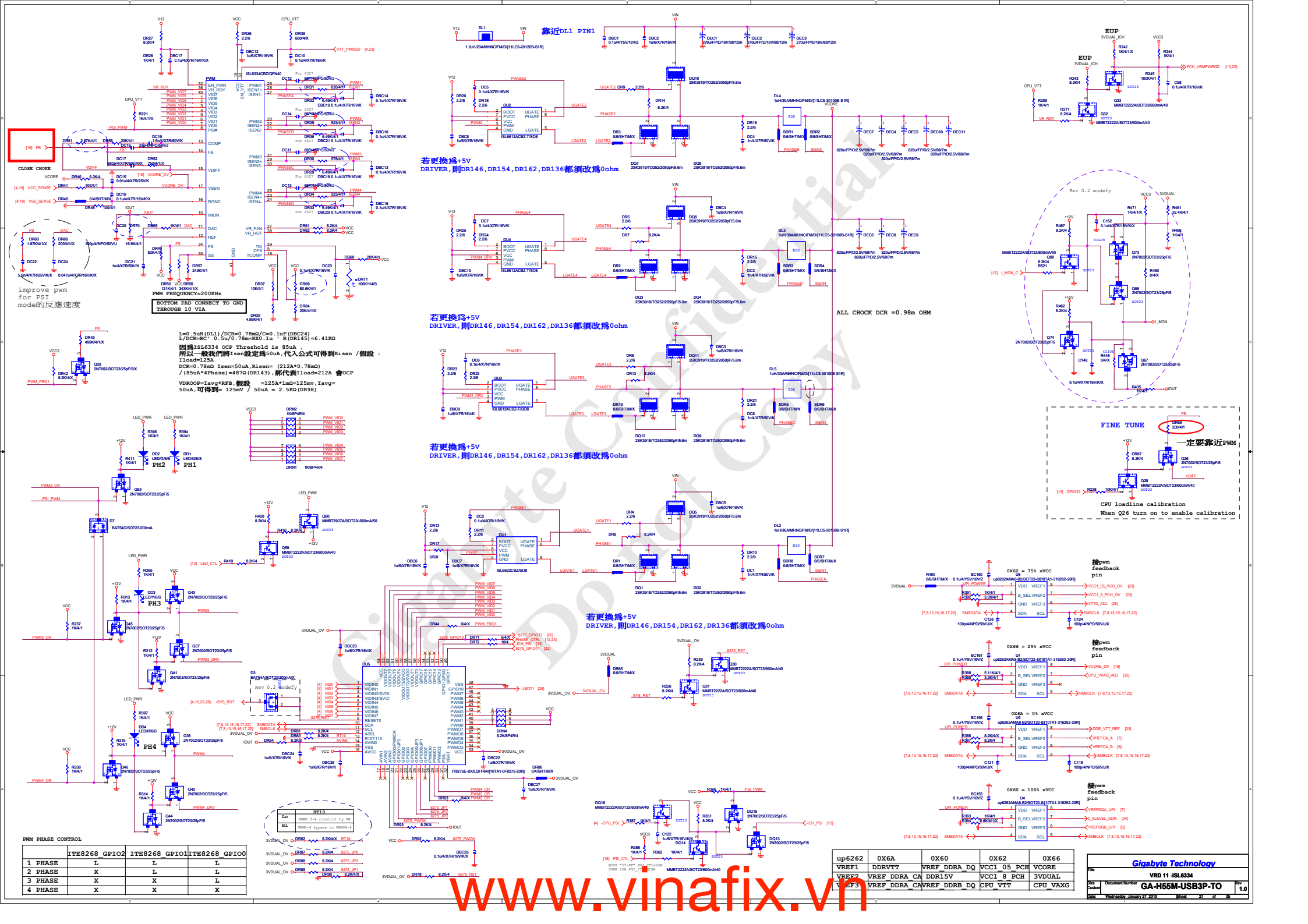
靠近DL1 PIN1
若更換爲+5V
DRIVER,則DR146,DR154,DR162,DR136都須改爲0ohm
若更換爲+5V
DRIVER,則DR146,DR154,DR162,DR136都須改爲0ohm
若更換爲+5V
DRIVER,則DR146,DR154,DR162,DR136都須改爲0ohm
若更換爲+5V
DRIVER,則DR146,DR154,DR162,DR136都須改爲0ohm
ALL CHOCK DCR =0.98m OHM
CLOSE CHOKE
improve pwm
for PSI
mode的反應速度
BOTTOM PAD CONNECT TO GND
THROUGH 10 VIA
PWM FREQUENCY=200KHz
L=0.5uH(DL1)/DCR=0.78mΩ/C=0.1uF(DBC24)
L/DCR=RC' 0.5u/0.78m=RX0.1u ' R(DR145)=6.41KΩ
因爲ISL6334 OCP Threshold is 85uA ,
所以一般我們將Isen設定爲50uA,代入公式可得到Risen /假設 :
Iload=125A
DCR=0.78mΩ Isen=50uA,Risen= (212A*0.78mΩ)
/(85uA*4Phase)=487Ω(DR143),那代表Iload=212A 會OCP
VDROOP=Iavg*RFB,假設 =125A*1mΩ=125mv,Iavg=
50uA,可得到= 125mV / 50uA = 2.5KΩ(DR98)
Rev 0.2 modefy
FINE TUNE
一定要靠近PWM
CPU loadline calibration
When Q26 turn on to enable calibration
0X62 = 75% xVCC
0X66 = 25% xVCC
0X6A = 0% xVCC
0X60 = 100% xVCC
接pwm feedback pin
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-H55M-USB3P-TO
Rev 1.0
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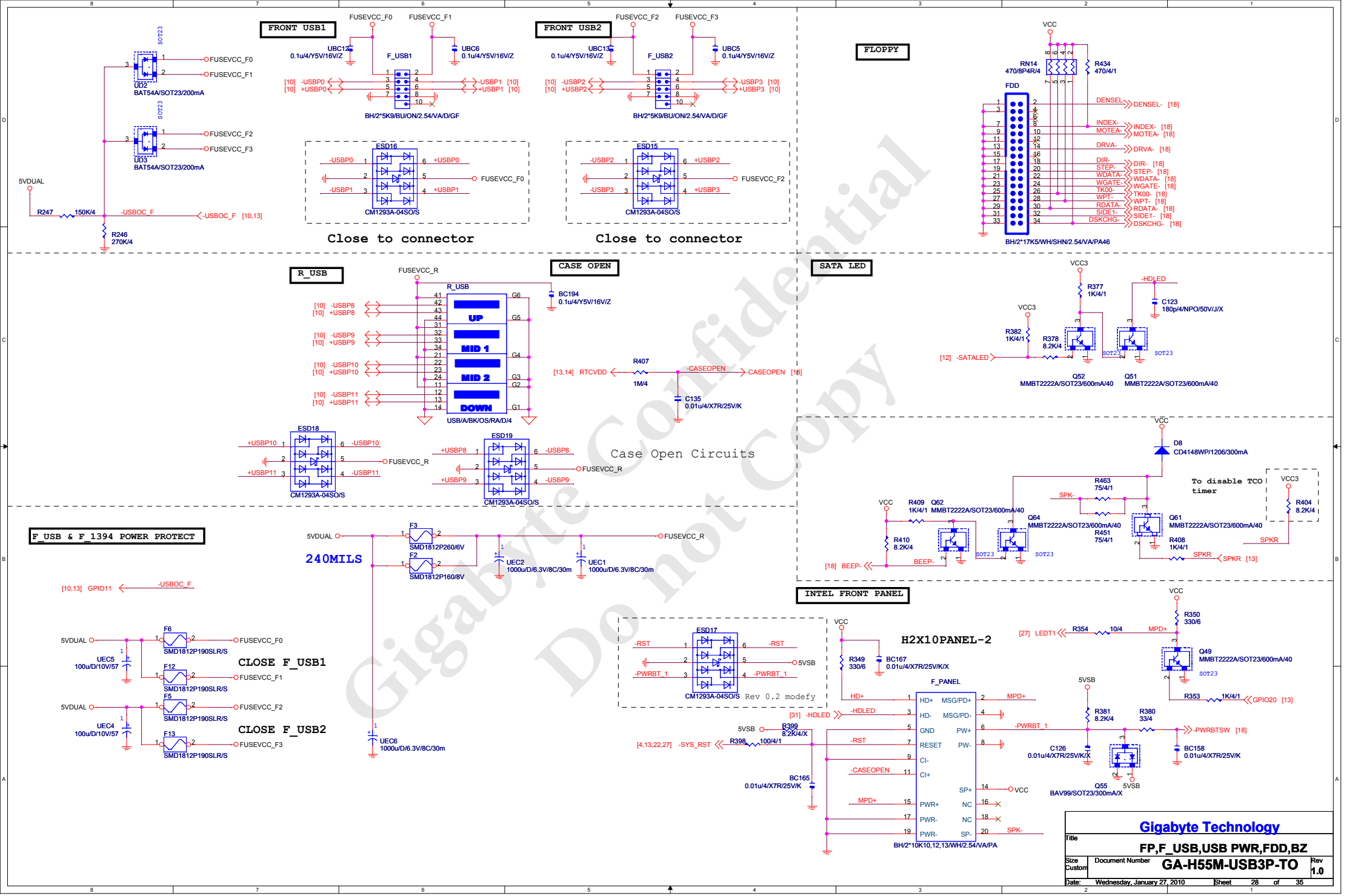
FRONT USB1
FRONT USB2
FLOPPY
R_USB
CASE OPEN
SATA LED
F_USB & F_1394 POWER PROTECT
INTEL FRONT PANEL
Close to connector
Close to connector
Case Open Circuits
CLOSE F_USB1
CLOSE F_USB2
240MILS
H2X10PANEL-2
To disable TCO timer
Rev 0.2 modefy
Gigabyte Technology
FP,F_USB,USB PWR,FDD,BZ
GA-H55M-USB3P-TO
Rev 1.0
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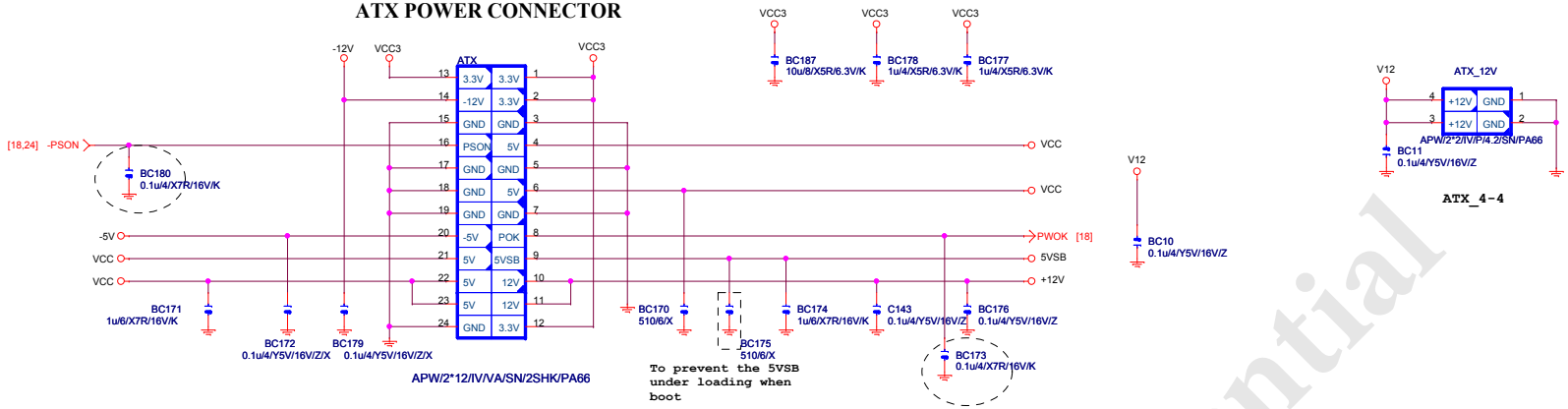
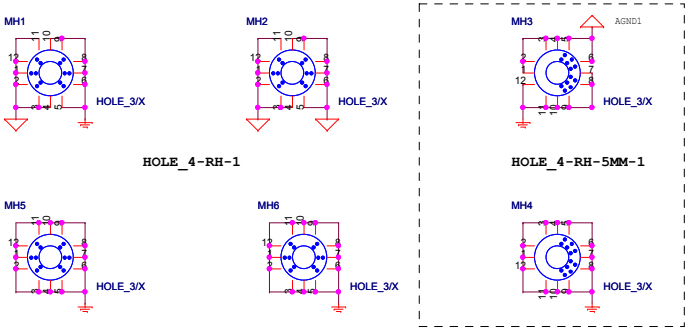
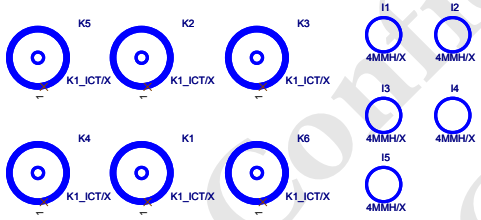
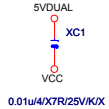
ATX POWER CONNECTOR

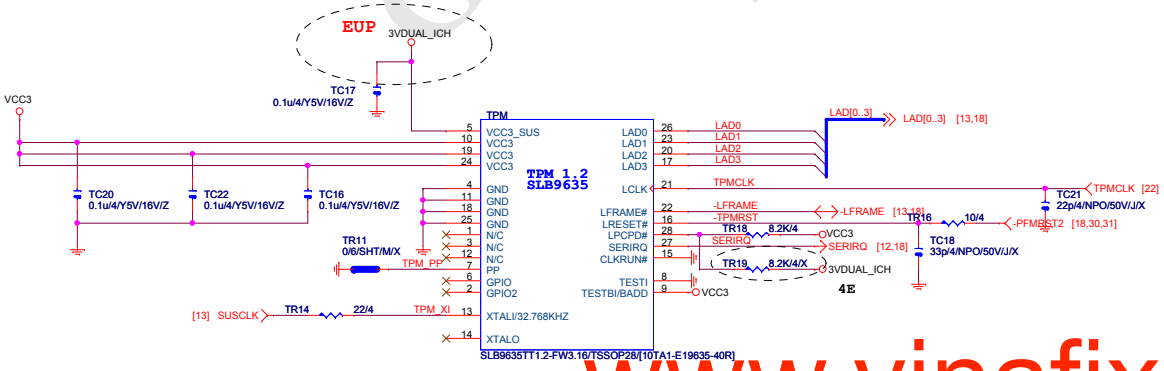


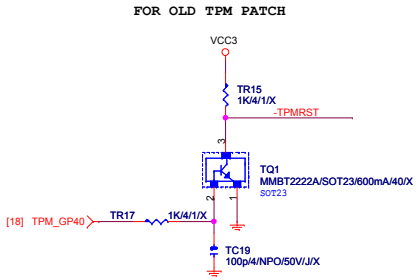






TPM





Title	ATX POWER CONNECTOR
Size / Custom	Document Number GA-H55M-USB3P-TO Rev 1.0
Date:	Wednesday, January 27, 2010 Sheet 29 of 35

Gigabyte Technology

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)

Dual Color LED

D4 D3 Green

D4 D3 Orange

Single Color LED

D2 D1 Yellow

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]

[13,15,16,34] -PCIE_WAKE

[18,29,31] -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

P35-152-19W9

YELLOW ORANGE GREEN

3VDUAL

LEC1 100u/D/10V/57

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 22u/8/X5R/6.3V/M

LBC19

AVDD12 EVDD12

LFB1 0/8/SHT/M/X

LFB2 0/8/SHT/M/X

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)

FUSEVCC_R

LR13 150K/4

-USBOC_R [10]

LR12 270K/4

USB_LAN CONNECTOR

90歐姆:[20/4/8/4/20]

ESD11

-USBP5 +USBP5

FUSEVCC_R4

-USBP4 +USBP4

CM1293A-04SO/S

Close to connector

FOR EMI

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

USB30_LAN

90歐姆:[15/4.5/7.5/4.5/15]

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

LBC31 0/4/SHT/M/X

USB3.0

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_R4

LBC83 0.1u/4/Y5V/16V/Z

[10] -USBP4 [10] +USBP4

[34] SSRXDN1 [34] SSRXDP1

[34] SSTXDN1C [34] SSTXDP1C

FUSEVCC_R5

[10] -USBP5 [10] +USBP5

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

[34] SSRXDN2 [34] SSRXDP2

[34] SSTXDN2C [34] SSTXDP2C

USB3+RJ45/[11NR6-702009-K1R]

LR1 0/6/X

SSTXDN1C SSTXDP1C SSRXDN1 SSRXDP1

UESD1

AZ1045-04F/MSOP10

SSTXDN2C SSTXDP2C SSRXDN2 SSRXDP2

UESD2

AZ1045-04F/MSOP10

FUSEVCC_R4

LR22 150K/4

-USB30OC_R1 [34]

LR23 270K/4

FUSEVCC_R5

LR24 150K/4

-USB30OC_R2 [34]

LR25 270K/4

5VDUAL

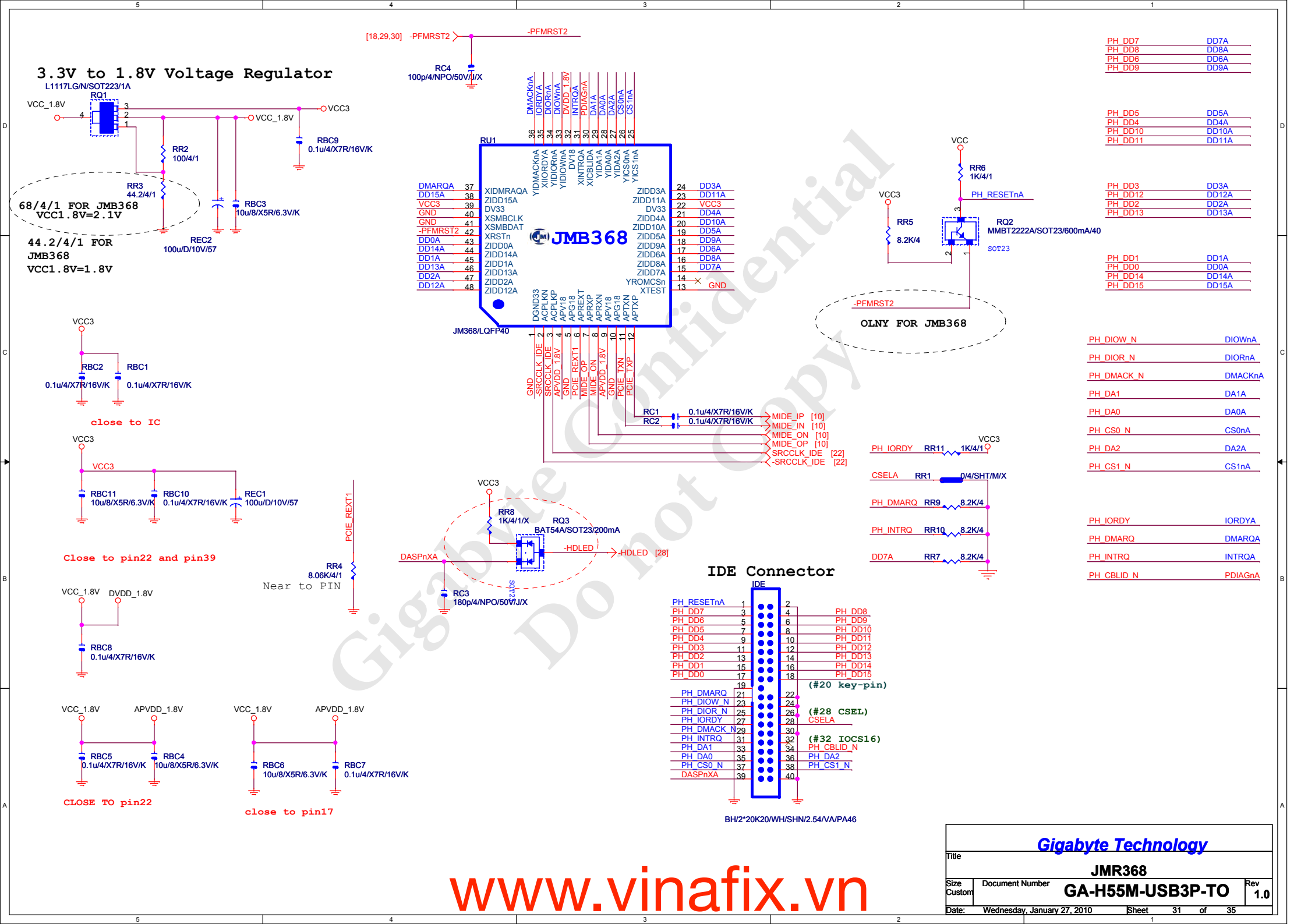
UEC12 1000u/D/6.3V/8C/30m

F10 SMD1812P350SLR/S

F11 SMD1812P350SLR/S

CLOSE USB30_LAN

Title	Gigabyte Technology		
	REALTEK RTL8111C		
Size	Document Number	GA-H55M-USB3P-TO	Rev 1.0
Custom			
Date:	Wednesday, January 27, 2010	Sheet 30 of 35	


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/D/10V/57
68/4/1 FOR JMB368
VCC1.8V=2.1V
44.2/4/1 FOR
JMB368
VCC1.8V=1.8V
[18,29,30] -PFMRST2
RC4 100p/4/NPO/50V/J/X
RU1
JMB368
JM368/LQFP40
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]
VCC
RR6 1K/4/1
PH_RESETnA
RR5 8.2K/4
RQ2 MMBT2222A/SOT23/600mA/40
SOT23
OLNY FOR JMB368
RBC2 0.1u/4/X7R/16V/K
RBC1 0.1u/4/X7R/16V/K
close to IC
RBC11 10u/8/X5R/6.3V/K
RBC10 0.1u/4/X7R/16V/K
REC1 100u/D/10V/57
Close to pin22 and pin39
RR4 8.06K/4/1
Near to PIN
RR8 1K/4/1/X
RQ3 BAT54A/SOT23/200mA
DASPnXA
-HDLED
-HDLED [28]
RC3 180p/4/NPO/50V/J/X
PH_IORDY RR11 1K/4/1
CSELA RR1 0/4/SHT/M/X
PH_DMARQ RR9 8.2K/4
PH_INTRQ RR10 8.2K/4
DD7A RR7 8.2K/4
RBC8 0.1u/4/X7R/16V/K
RBC5 0.1u/4/X7R/16V/K
RBC4 10u/8/X5R/6.3V/K
CLOSE TO pin22
RBC6 10u/8/X5R/6.3V/K
RBC7 0.1u/4/X7R/16V/K
close to pin17
IDE Connector
IDE
(#20 key-pin)
(#28 CSEL)
(#32 IOCS16)
BH/2*20K20/WH/SHN/2.54/VA/PA46
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
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
PH_IORDY IORDYA
PH_DMARQ DMARQA
PH_INTRQ INTRQA
PH_CBLID_N PDIAGnA
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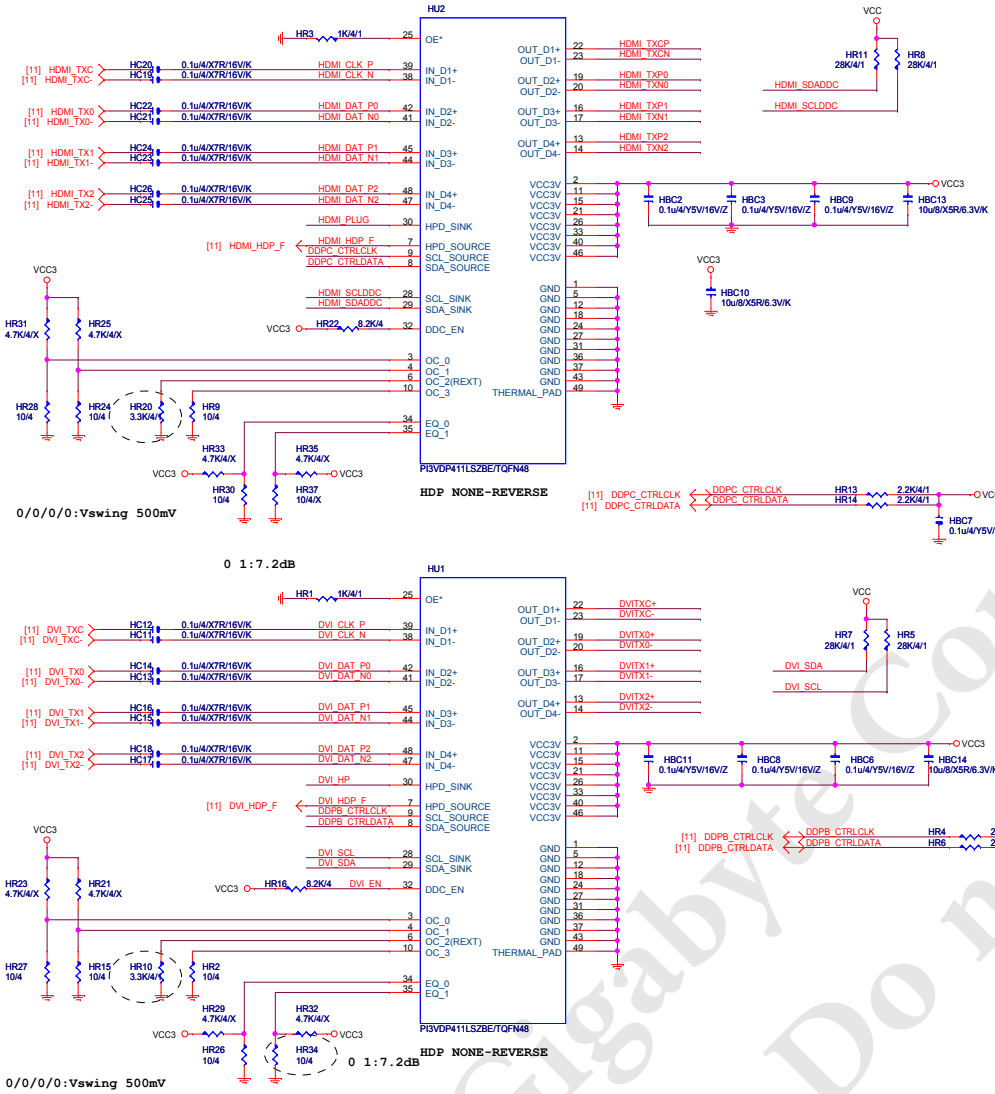
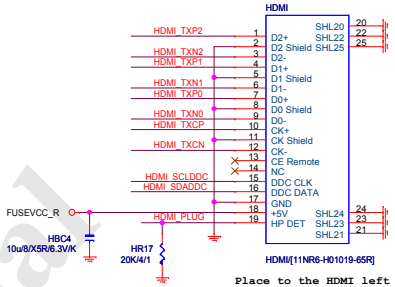
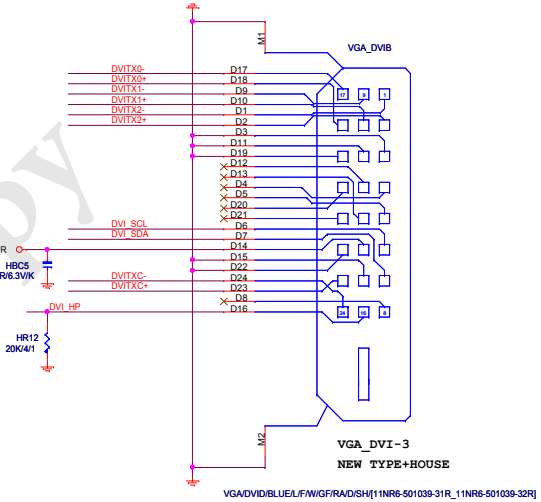
Gigabyte Technology
Title
JMR368
Size Custom
Document Number
GA-H55M-USB3P-TO
Rev 1.0
Date: Wednesday, January 27, 2010
Sheet 31 of 35







Gigabyte Technology		
Title: HDMI / DVI/DP		
Size: C	Document Number: GA-H55M-USB3P-TO	Rev: 1.0
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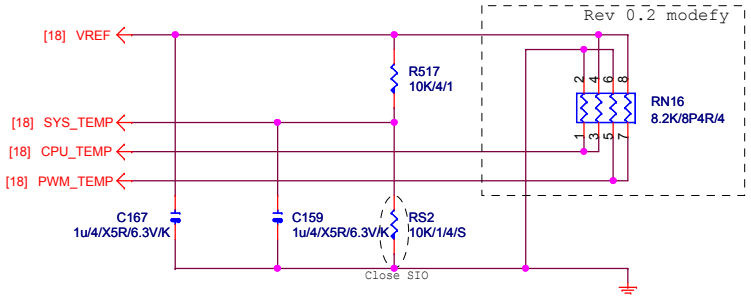
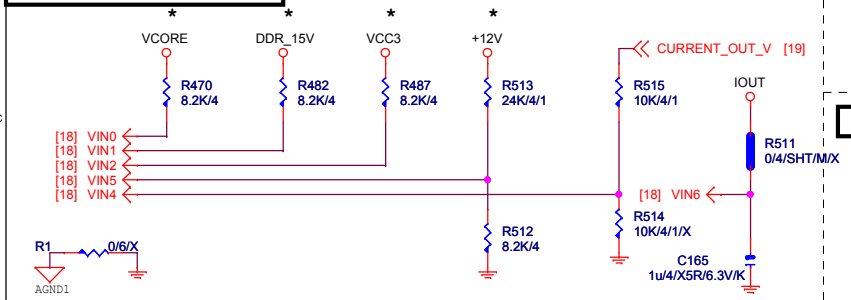
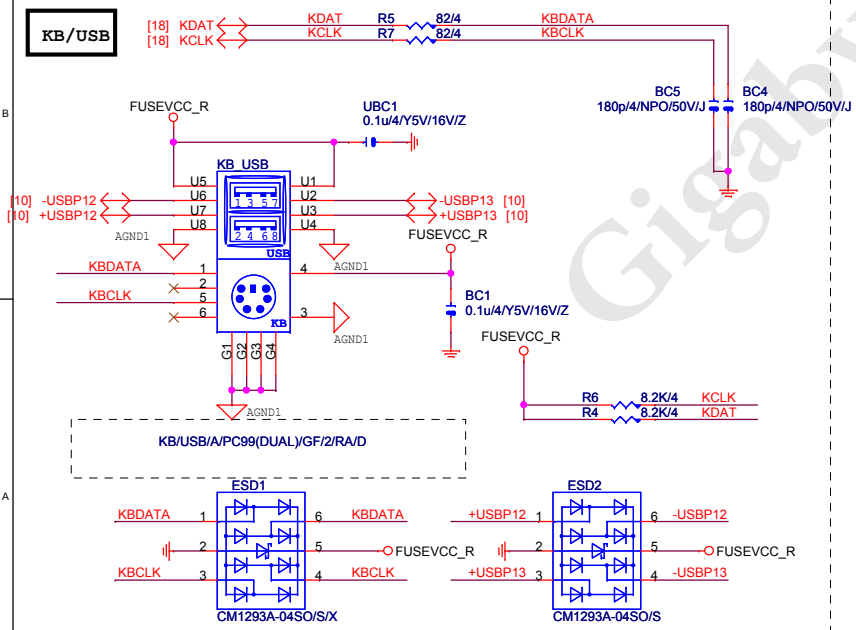
TEMP H/W MONITOR



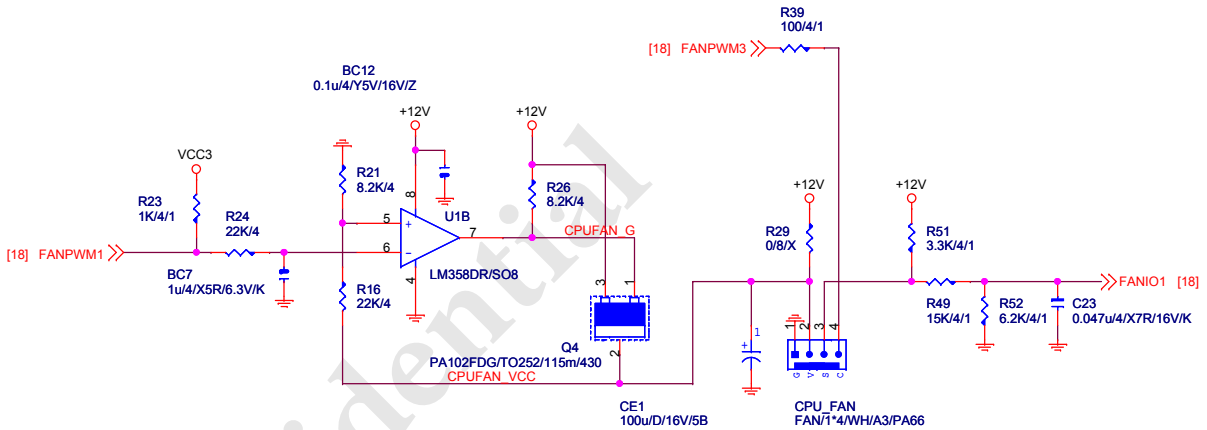
VOLTAGE-- H/W MONITOR



KB/USB

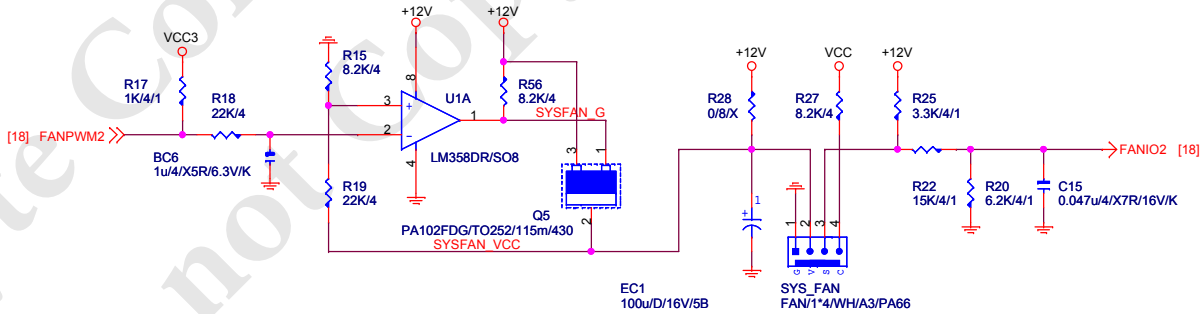


CPU SMART FAN



SYS SMART FAN

Linear SYS_FAN



Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
Size: Custom	Document Number: GA-H55M-USB3P-TO	Rev: 1.0
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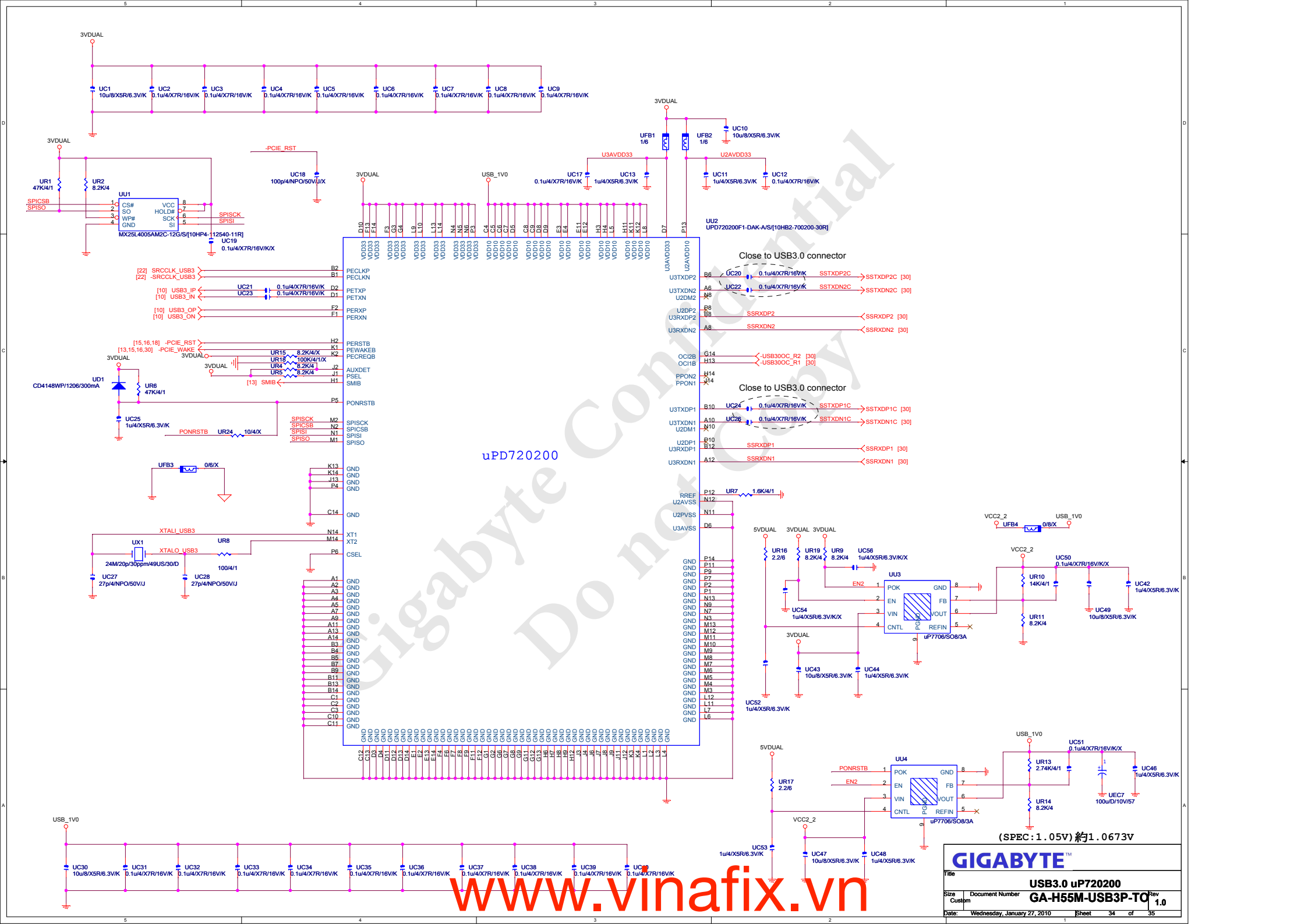
uPD720200
Close to USB3.0 connector
Close to USB3.0 connector
(SPEC:1.05V)約1.0673V
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Title
USB3.0 uP720200
Size
Custom
Document Number
GA-H55M-USB3P-TO
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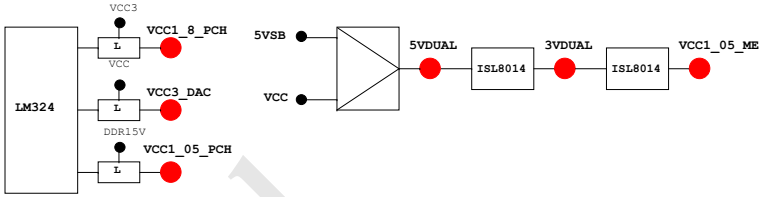
PCH GPIO LIST TABLE

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

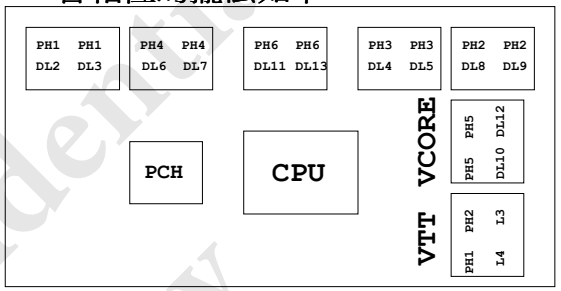
Super I/O ITE8720 GPIO Table

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	
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

Gigabyte Technology
Title: TABLE LIST
Size: C | Document Number: GA-H55M-USB3P-TO | Rev: 1.0
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