Model Name: GA-H55M-D2H

REV: 1.41

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-VD2
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 RTL8111E
31	JMB368
32	HDMI,DVI
33	HWM,KB/MS , FAN CTRL
34	TABLE LIST

Gigabyte Technology

Title: Cover Sheet		
Size: Custom	Document Number: GA-H55M-D2H	Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 1 of 34	

GA-H55M-D2H Version: 1.41

Component value change history

2010/09/24

Data	Change Item	Reason
2009/08/24	ADD DISPLAY LED	
2009/11/03	REV1.0 MODIFY MH7	
2010/01/07	PBOM:10A CHANGE 10B , 改一般1.0uH/1.2uH CHOKE S1R	
2010/02/22	REV1.01 REMOVE DISPLAY_LED	
2010/03/17	R1.1 RENAME FORM R1.01	
2010/03/24	R1.2 MODIFY LAN RTL8111E/CODEC ALC892R.	
2010/03/25	ADD 4PHASE PWM MODE -PROCHOT .	
2010/03/26	MODIFY SATA FOOTPRINT.	
2010/04/15	R1.3 MODIFY F_USB1/F_USB2 FUSE 3.5A FOR 3X POWER.	
2010/07/01	RENAM H55M-D2H R1.4.	
	MODIFY SOLID CAPACITOR/CODEC ALC888B-VD2.	EBOM:9MH55MD2H-00-14A.
2010/07/05	Modify OV. IC ->NCT3931U-2	EBOM:9MH55MD2H-00-14B
2010/07/09	PBOM	PBOM:9MH55MD2H-00-14B
2010/09/24	MODIFY VIA TO VIA SPACE .	PBOM:9MH55MD2H-00-14C

Circuit or PCB layout change for next version

DATE	Change Item	Reason

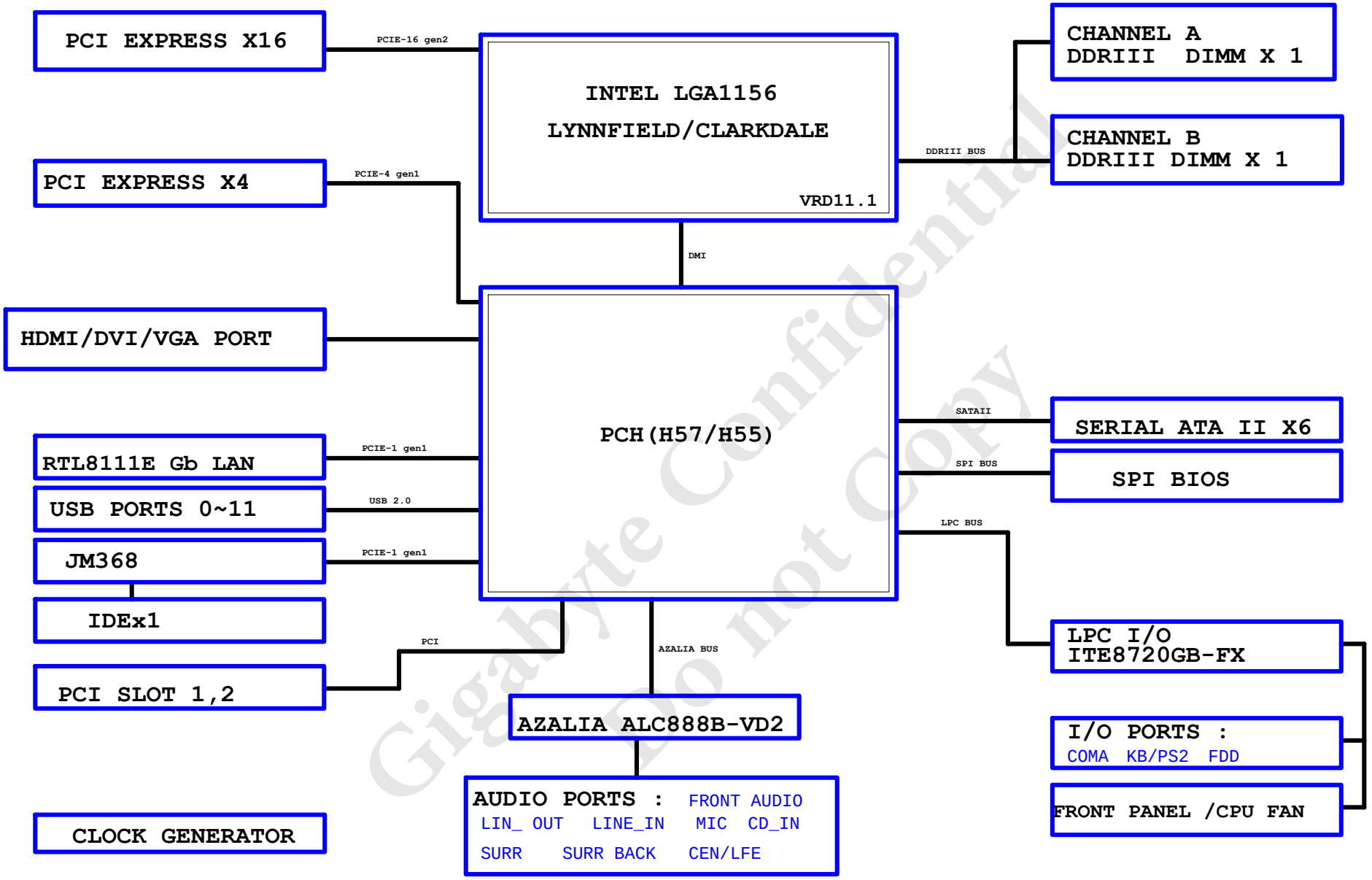
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-H55M-D2H | Rev: 1.41

Date: Tuesday, September 28, 2010 | Sheet 2 of 34

BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-H55M-D2H	Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 3 of 34	

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

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

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

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

For PCIE2.0 issue
Must remove after
fixed issue

CFG 0-5 all internal PULL-UP

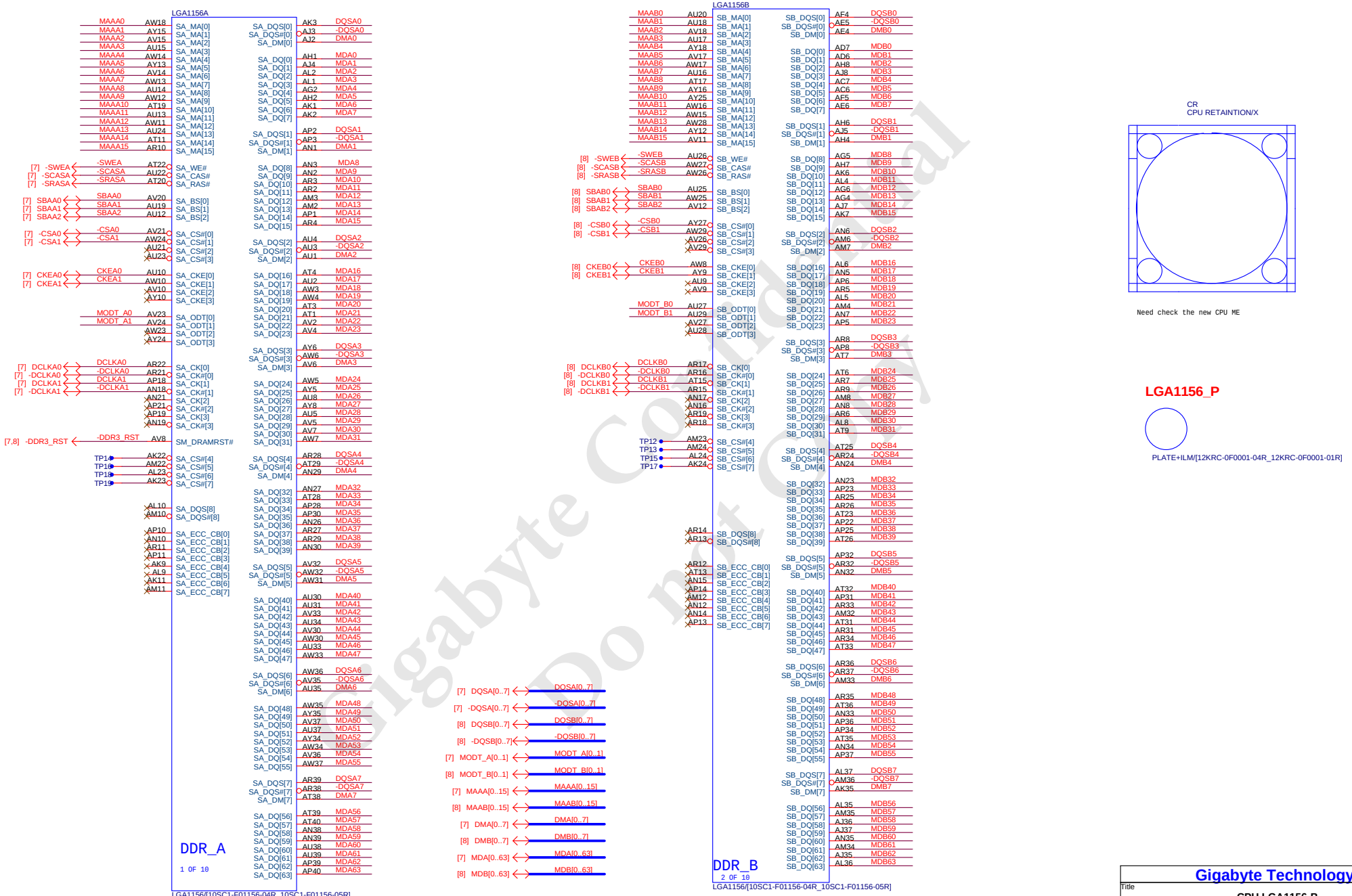
CFG	H	L	NOTE
0			H:1X16 , L:2X8
1	RSVD		
2	RSVD		
3	NORM	RSVD	LANE REVERSAL
4	DISABLE	ENABLE	DP PRESENCE
5	RSVD		
6	RSVD		
7	RSVD		ENGINEERING EXPERIMENT
15	RSVD		ENGINEERING EXPERIMENT

	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	

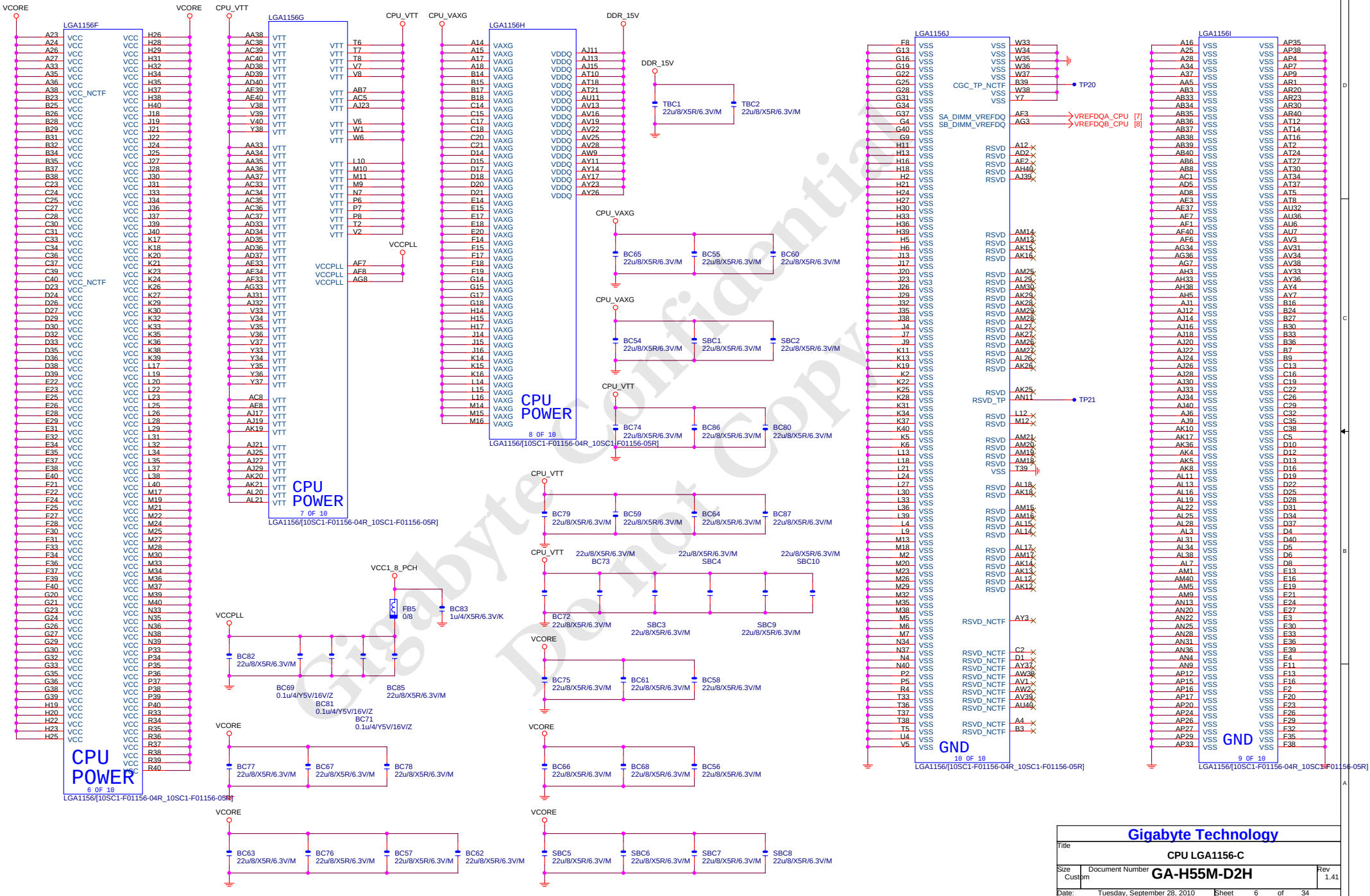
POWER ON CONFIG TABLE (Default=1.2250V)

Check Trace length/ width

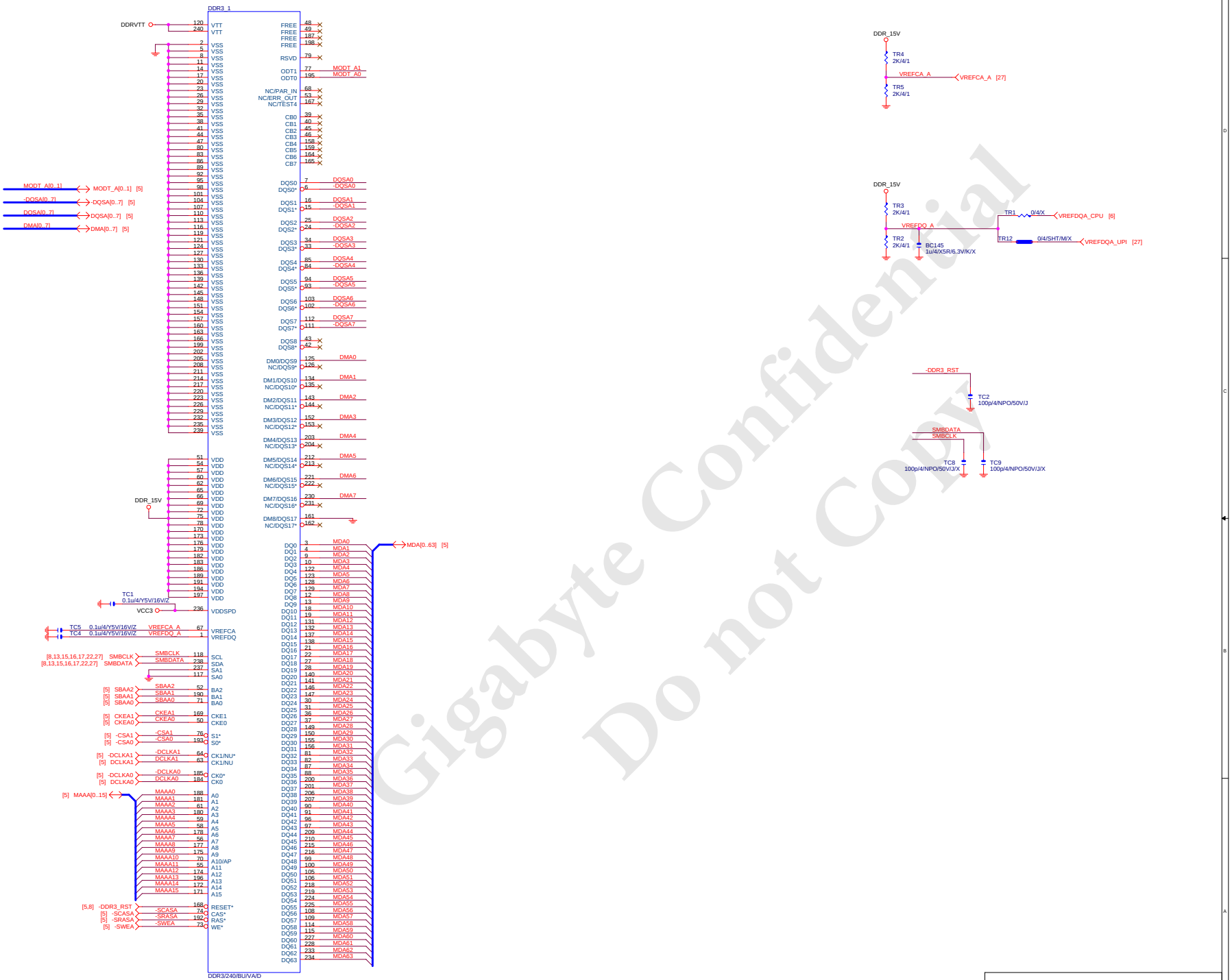
Gigabyte Technology
Title: CPU LGA1156-A
Size: Custom | Document Number: GA-H55M-D2H | Rev: 1.41
Date: Tuesday, September 28, 2010 | Sheet 4 of 34



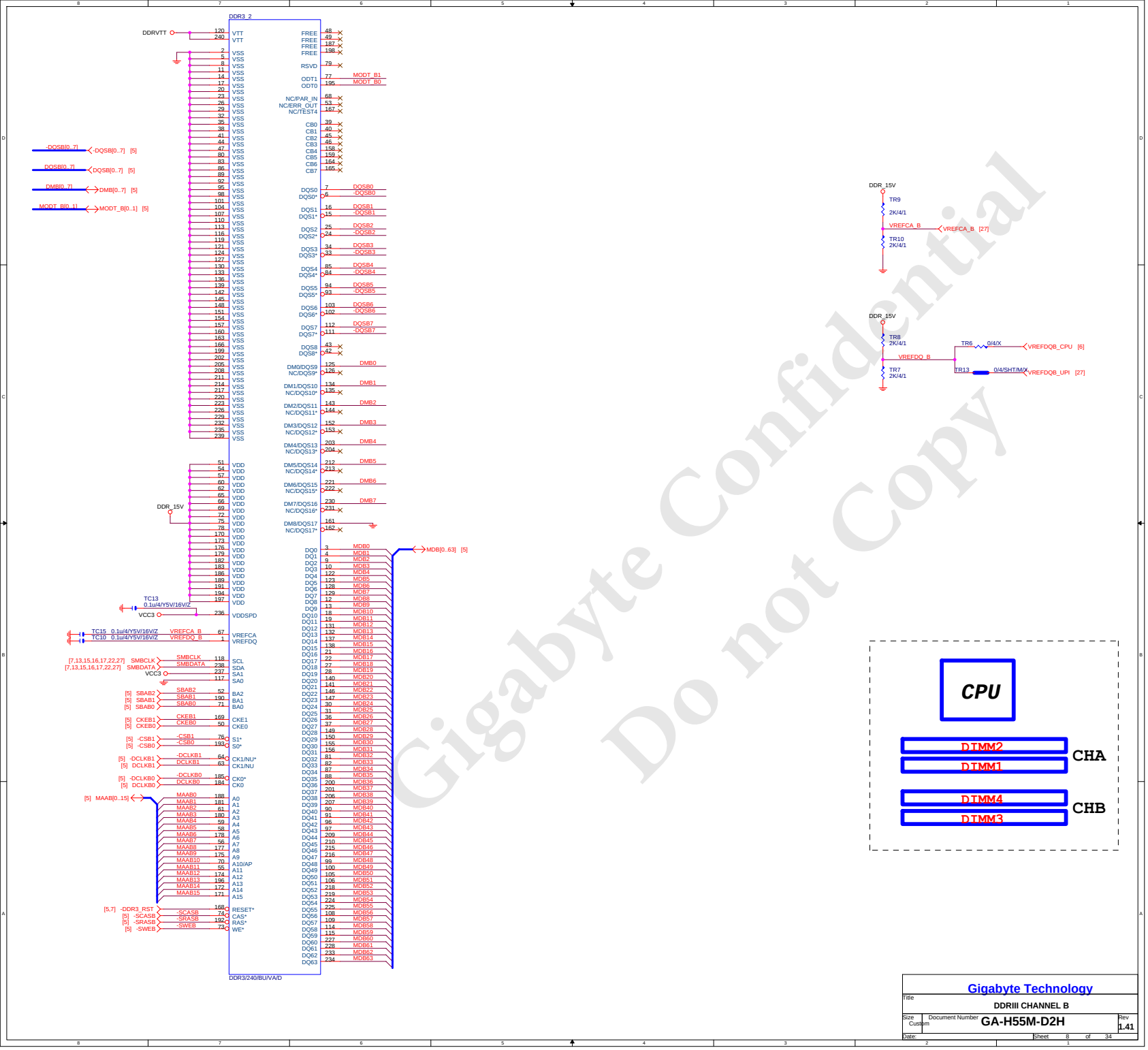
Gigabyte Technology			
Title	CPU LGA1156-B		
Size: Custom	Document Number: GA-H55M-D2H		Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 5 of 34		



Gigabyte Technology		
Title: CPU LGA1156-C		
Size: Custom	Document Number: GA-H55M-D2H	Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 6 of 34	



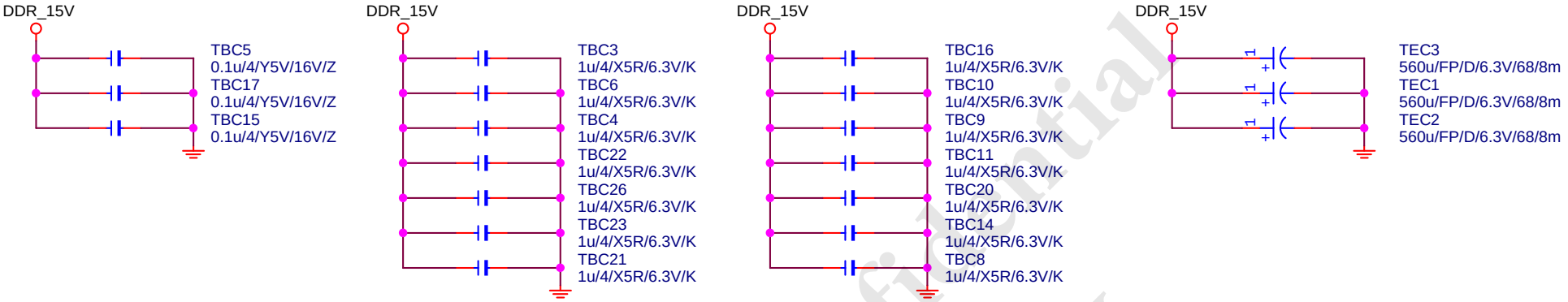
Gigabyte Technology		
Title: DDRIII CHANNEL A		
Size: Custom	Document Number: GA-H55M-D2H	Rev: 1.41
Date:	Sheet 7 of 34	



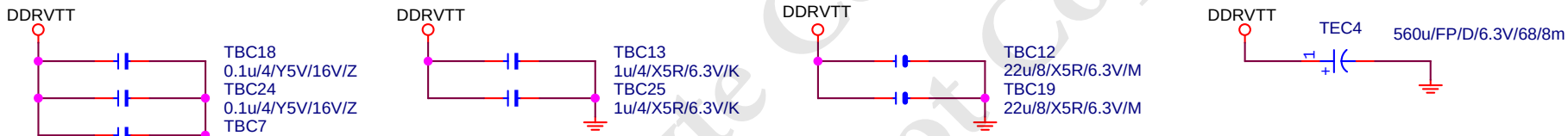
Gigabyte Technology	
Title	DDRIII CHANNEL B
Size: Custom	Document Number: GA-H55M-D2H
Rev	1.41
Date:	Sheet 8 of 34

DDR TERMINATION CHANNEL A/B

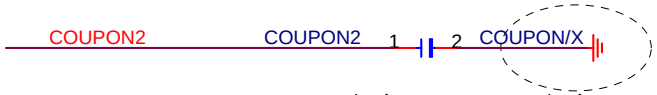
DDR15V Decouple



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-D2H	Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 9 of 34	

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

PCHB

DMI_0TXN DMI_0TXP DMI_0RXN DMI_0RXP DMI_1TXN DMI_1TXP DMI_1RXN DMI_1RXP DMI_2TXN DMI_2TXP DMI_2RXN DMI_2RXP DMI_3TXN DMI_3TXP DMI_3RXN DMI_3RXP DMI_COMP

VCC1_05_PCH R241 49.9/4/1

DMI_IRCOMP
DMI_ZCOMP

Impedance=80 +- 17.5%

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

-SRCCLK_PCH
SRCCLK_PCH

CLKIN_DMI_N
CLKIN_DMI_P

PCIEX4

PCIE_IN1 PCIE_IP1 PCIE_TN1 PCIE_TP1 PCIE_IN2 PCIE_IP2 PCIE_TN2 PCIE_TP2 PCIE_IN3 PCIE_IP3 PCIE_TN3 PCIE_TP3 PCIE_IN4 PCIE_IP4 PCIE_TN4 PCIE_TP4

0.1u/4/X7R/16V/K C35 PET_N1
0.1u/4/X7R/16V/K C34 PET_P1
0.1u/4/X7R/16V/K C41 PET_N2
0.1u/4/X7R/16V/K C38 PET_P2
0.1u/4/X7R/16V/K C46 PET_N3
0.1u/4/X7R/16V/K C44 PET_P3
0.1u/4/X7R/16V/K C52 PET_N4
0.1u/4/X7R/16V/K C51 PET_P4

PERN1 PERP1 PETN1 PETP1 PERN2 PERP2 PETN2 PETP2 PERN3 PERP3 PETN3 PETP3 PERN4 PERP4 PETN4 PETP4

JMB368

MIDE_IN MIDE_IP MIDE_ON MIDE_OP

0.1u/4/X7R/16V/K C96 PET_N5
0.1u/4/X7R/16V/K C97 PET_P5

PERN5 PERP5 PETN5 PETP5

LAN

ML_IN ML_IP ML_ON ML_OP

0.1u/4/X7R/16V/K C92 PET_N6
0.1u/4/X7R/16V/K C93 PET_P6

PERN6 PERP6 PETN6 PETP6 PERN7 PERP7 PETN7 PETP7 PERN8 PERP8 PETN8 PETP8

PCI-E

2 OF 11

BD82H55/BGA951

電容要靠近 slot 端

PCH_HS

1 2

PCH_HS[12SP2-030030-C1R_12SP2-030030-C2R]

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

USBP0N USBP0P USBP1N USBP1P USBP2N USBP2P USBP3N USBP3P USBP4N USBP4P USBP5N USBP5P USBP6N USBP6P USBP7N USBP7P USBP8N USBP8P USBP9N USBP9P USBP10N USBP10P USBP11N USBP11P USBP12N USBP12P USBP13N USBP13P

-USBP0 [28]
+USBP0 [28]
-USBP1 [28]
+USBP1 [28]
-USBP2 [28]
+USBP2 [28]
-USBP3 [28]
+USBP3 [28]
-USBP4 [30]
+USBP4 [30]
-USBP5 [30]
+USBP5 [30]
-USBP8 [28]
+USBP8 [28]
-USBP9 [28]
+USBP9 [28]
-USBP10 [28]
+USBP10 [28]
-USBP11 [28]
+USBP11 [28]
-USBP12 [33]
+USBP12 [33]
-USBP13 [33]
+USBP13 [33]

USB

OC0#/GPIO59 OC1#/GPIO40 OC2#/GPIO41 OC3#/GPIO42 OC4#/GPIO43 OC5#/GPIO9 OC6#/GPIO10 OC7#/GPIO14

-USBOC_F [13,28]
-USBOC_R [30]
GPIO14

USBRBIAS# USBRBIAS

USBRBIAS R232 22.6/4/1

CLKIN_DOT_96N CLKIN_DOT_96P

-DOTCLK
DOTCLK

-DOTCLK [22]
DOTCLK [22]

H55-->PORT6,7:N/A

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

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

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

Intel anti theft techonlogy

PCHE

NV_ALE NV_CLE NV_RB# NV_WR#0_RE# NV_WR#1_RE# NV_WE#_CK0 NV_WE#_CK1

NV_DQ0/NV_IO0 NV_DQ1/NV_IO1 NV_DQ2/NV_IO2 NV_DQ3/NV_IO3 NV_DQ4/NV_IO4 NV_DQ5/NV_IO5 NV_DQ6/NV_IO6 NV_DQ7/NV_IO7 NV_DQ8/NV_IO8 NV_DQ9/NV_IO9 NV_DQ10/NV_IO10 NV_DQ11/NV_IO11 NV_DQ12/NV_IO12 NV_DQ13/NV_IO13 NV_DQ14/NV_IO14 NV_DQ15/NV_IO15

NV_CE#0 NV_CE#1 NV_CE#2 NV_CE#3

NV_DQS0 NV_DQS1

NV_RCOMP L36 R283 33/4

NVRAM

5 OF 11

BD82H55/BGA951

3VDUAL_ICH R248 8.2K/4/X GPIO14

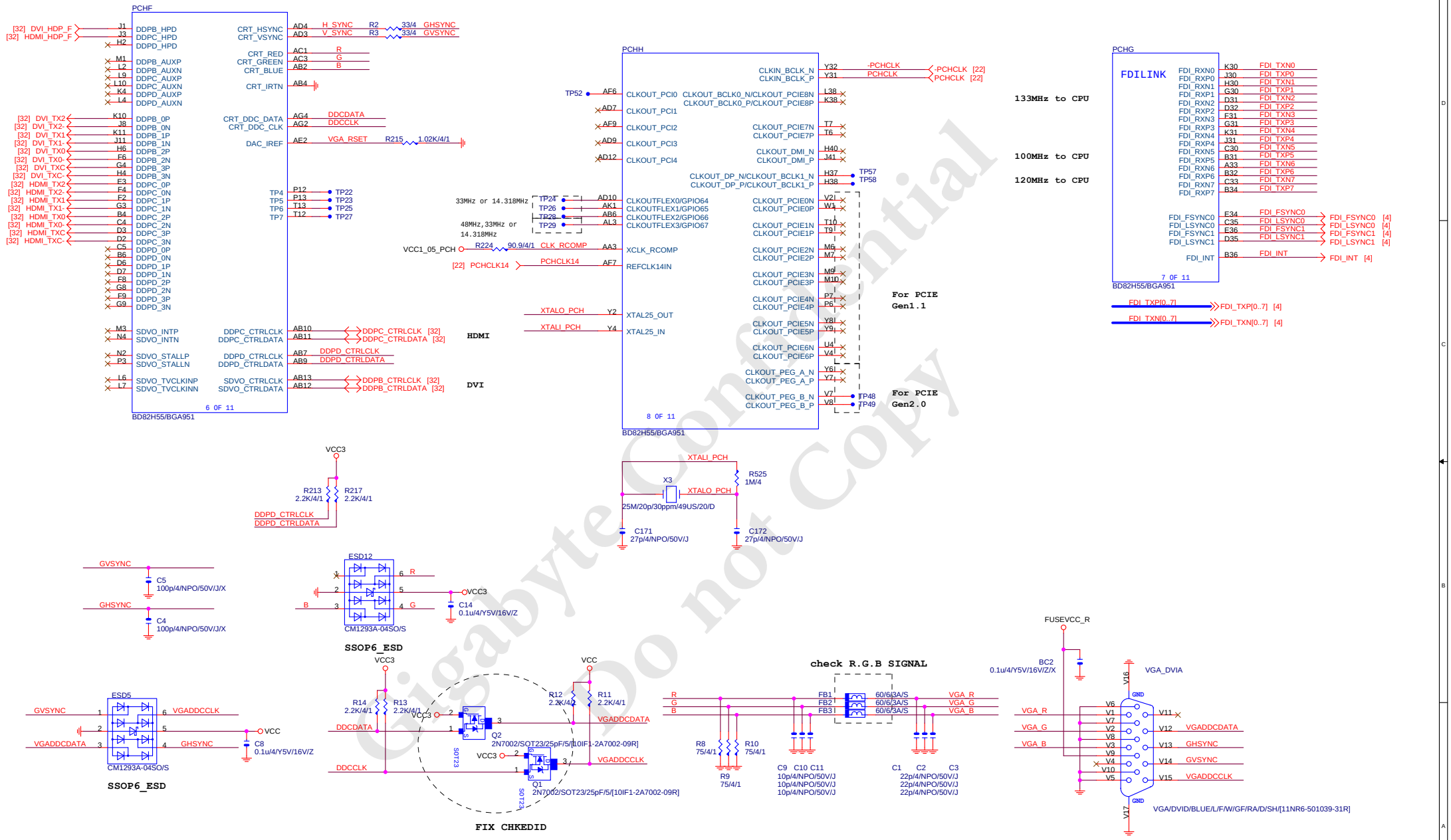
Impedance=50+- 15%
ONFI: NV_DQ 4/5
NV_DQS 4/10
NV_CTRL 4/10
NV_CK 4/15

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

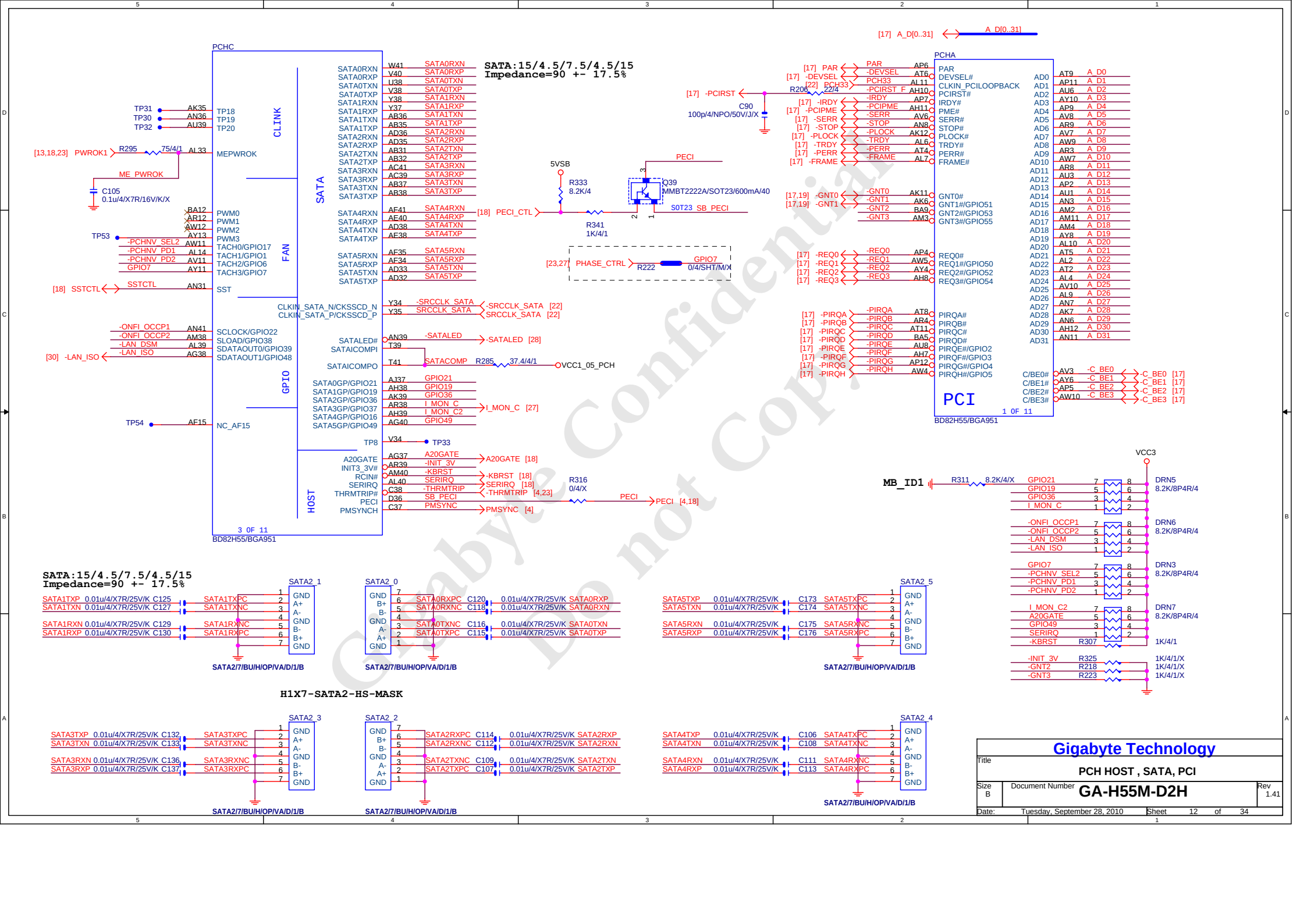
NV_PCH R280 8.2K/4/X NV_CLE R277 4.75K/4/1/X

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-D2H		Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 10 of 34		



Gigabyte Technology			
Title	PCH DISPLAY ,CLK BUFFER		
Size: Custom	Document Number: GA-H55M-D2H		Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 11 of 34		


PCHC
SATA:15/4.5/7.5/4.5/15
Impedance=90 +- 17.5%
CLINK
SATA
FAN
GPIO
HOST
MEPWROK
ME_PWROK
SST
NC_AF15
3 0F 11
BD82H55/BGA951
PCHA
PCI
1 0F 11
BD82H55/BGA951
[17] A_D[0..31]
A_D[0..31]
PECI
5VSB
R333 8.2K/4
Q39 MMBT2222A/SOT23/600mA/40
R341 1K/4/1
R316 0/4/X
PHASE_CTRL
R222
GPIO7 0/4/SHT/M/X
C90 100p/4/NPO/50V/J/X
R206 22/4
MB_ID1
R311 8.2K/4/X
VCC3
DRN5 8.2K/8P4R/4
DRN6 8.2K/8P4R/4
DRN3 8.2K/8P4R/4
DRN7 8.2K/8P4R/4
R307 1K/4/1
R325 1K/4/1/X
R218 1K/4/1/X
R223 1K/4/1/X
SATA:15/4.5/7.5/4.5/15
Impedance=90 +- 17.5%
SATA2_1
SATA2_0
SATA2_5
SATA2_3
SATA2_2
SATA2_4
SATA2/7/BU/H/OP/VA/D/1/B
H1X7-SATA2-HS-MASK
Gigabyte Technology
PCH HOST , SATA, PCI
GA-H55M-D2H
Rev 1.41
Date: Tuesday, September 28, 2010
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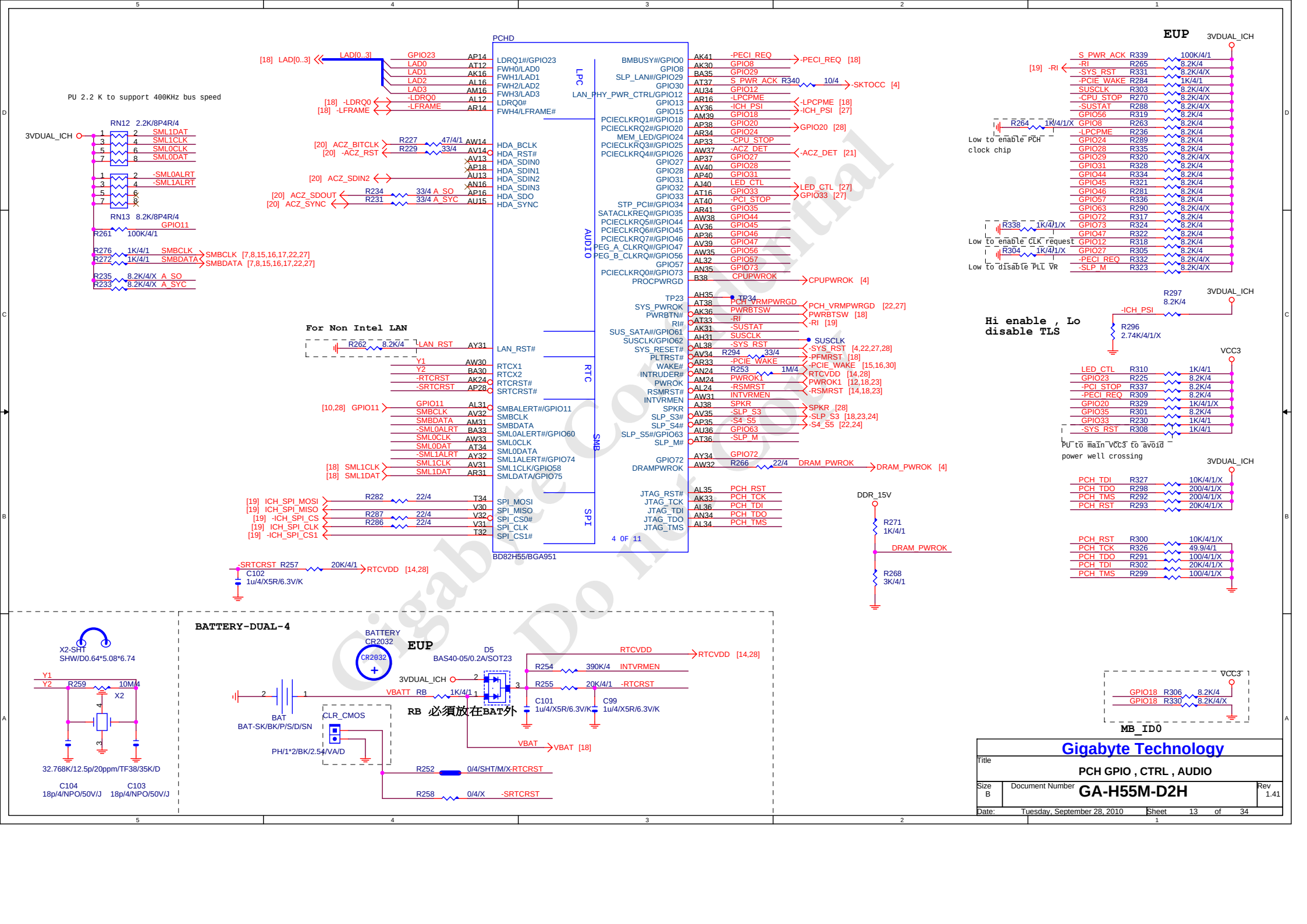
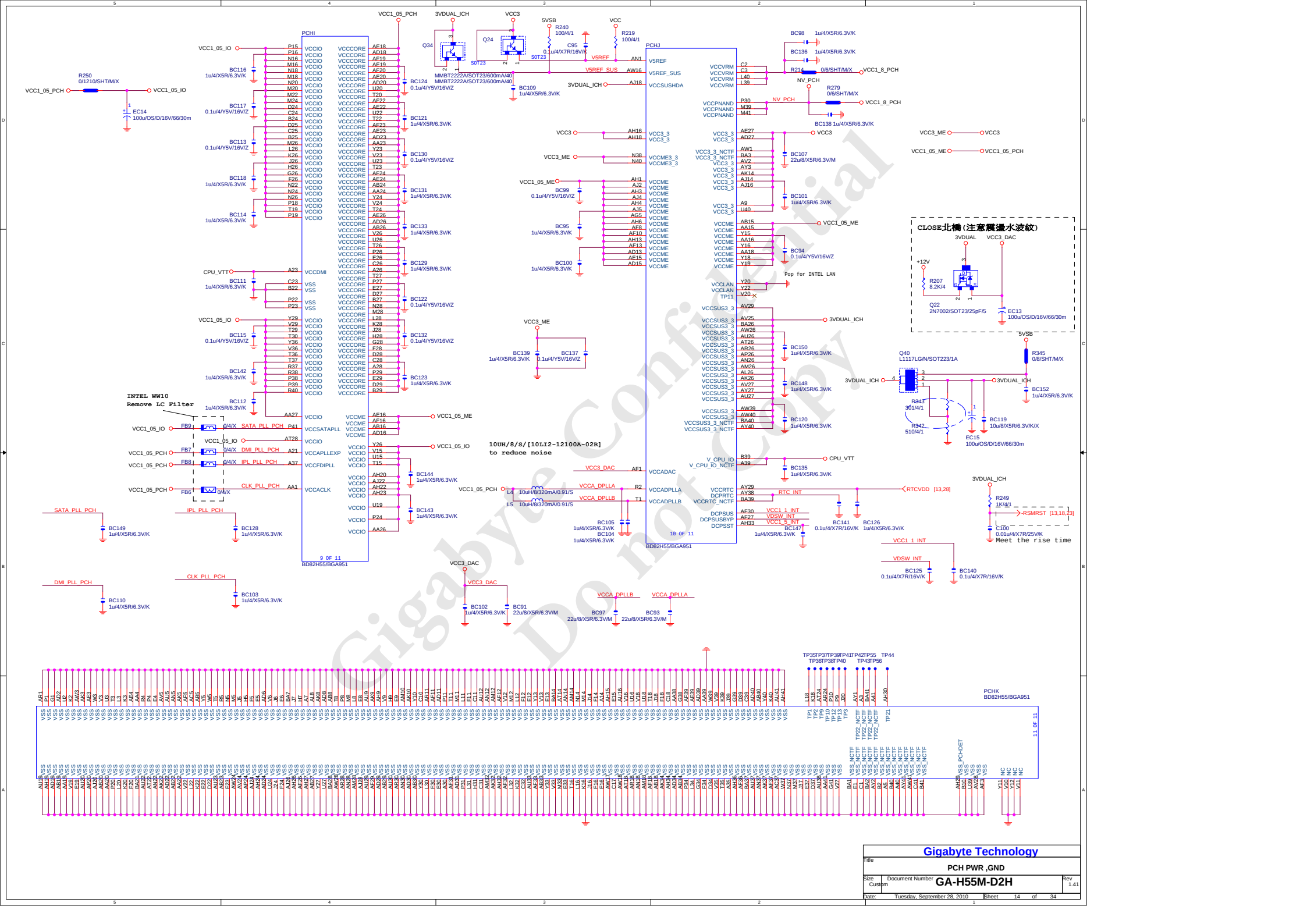
Gigabyte Confidential
Do not Copy


PCHD
LPC
AUDIO
RTC
SMB
SPI
BD82H55/BGA951
4 OF 11
PU 2.2 K to support 400KHz bus speed
For Non Intel LAN
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
Hi enable , Lo disable TLS
PU to main VCC3 to avoid power well crossing
Gigabyte Technology
PCH GPIO , CTRL , AUDIO
GA-H55M-D2H
Tuesday, September 28, 2010


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
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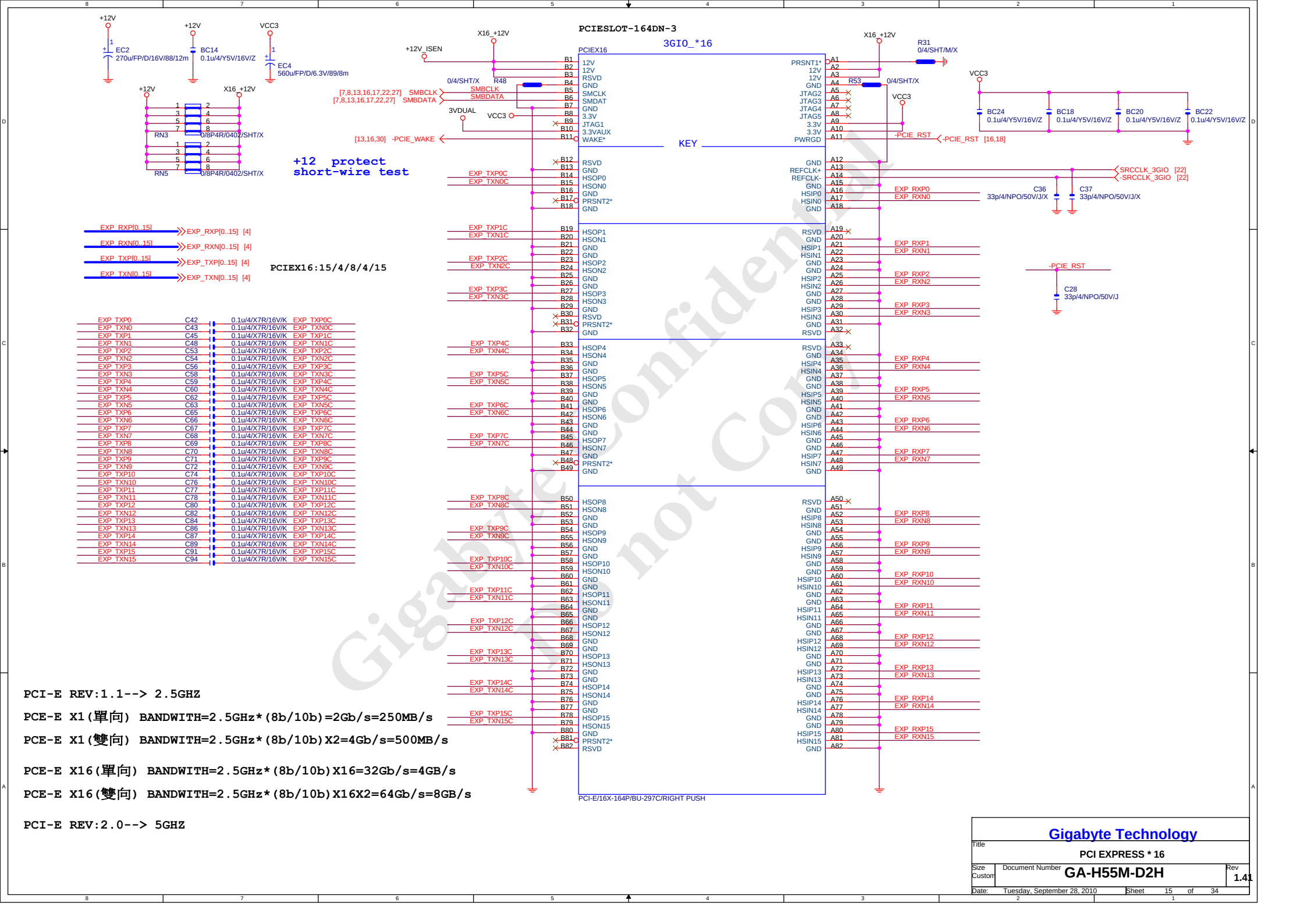
Do not copy
Gigabyte Technology
PCH PWR ,GND
GA-H55M-D2H
Rev 1.41
Tuesday, September 28, 2010
Sheet 14 of 34


PCIESLOT-164DN-3
3GIO_*16
PCIEX16
KEY
+12 protect
short-wire test
PCIEX16:15/4/8/4/15
PCI-E/16X-164P/BU-297C/RIGHT PUSH
PCI-E REV:1.1--> 2.5GHZ
PCE-E X1(單向) BANDWITH=2.5GHz*(8b/10b)=2Gb/s=250MB/s
PCE-E X1(雙向) BANDWITH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s
PCE-E X16(單向) BANDWITH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s
PCE-E X16(雙向) BANDWITH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s
PCI-E REV:2.0--> 5GHZ
Gigabyte Technology
PCI EXPRESS * 16
GA-H55M-D2H
1.41
Tuesday, September 28, 2010
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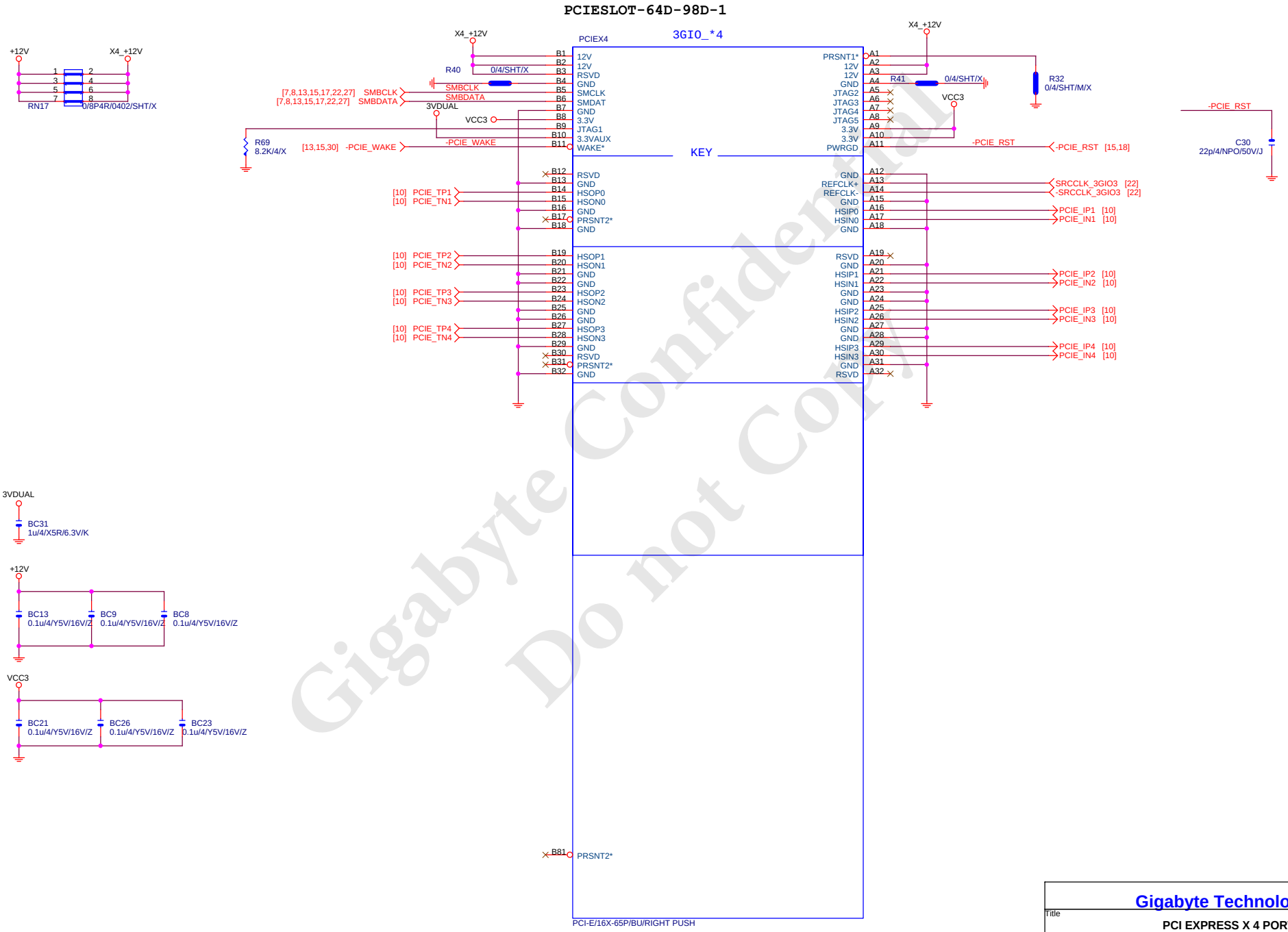
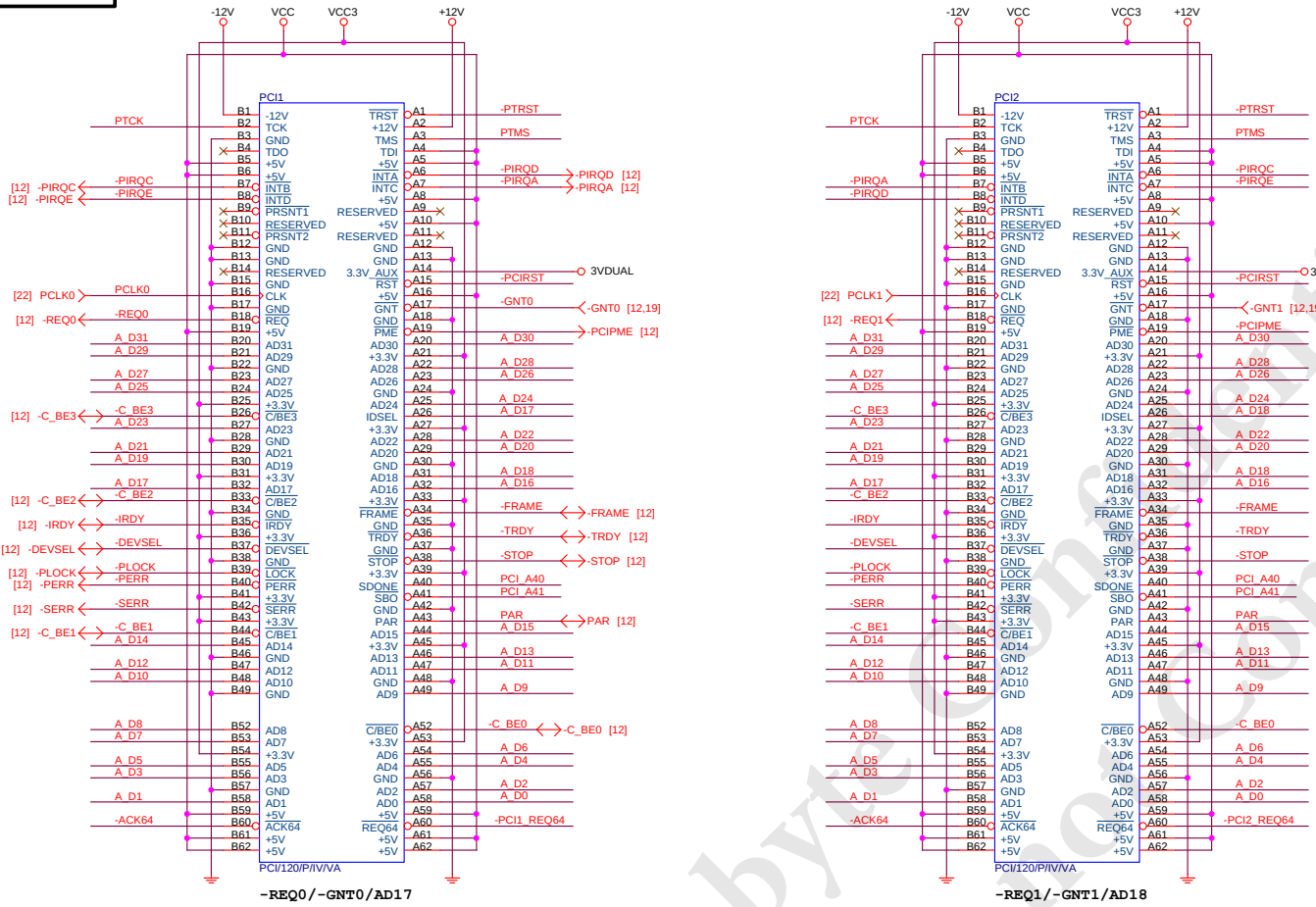
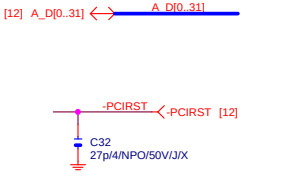
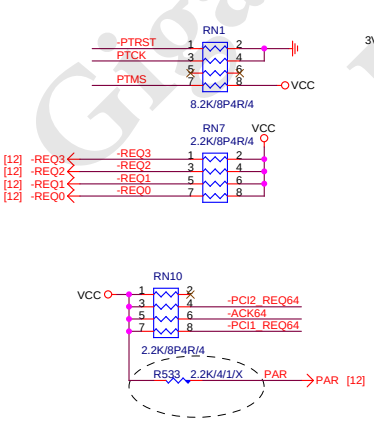


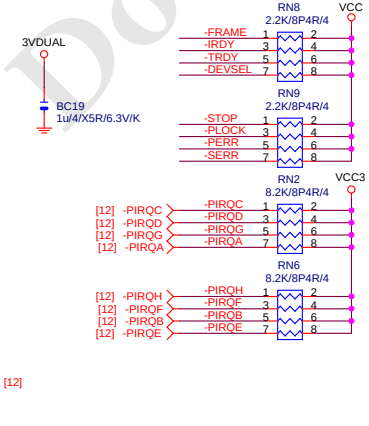
Gigabyte Technology		
Title: PCI EXPRESS X 4 PORT		
Size: Custom	Document Number: GA-H55M-D2H	Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 16 of 34	

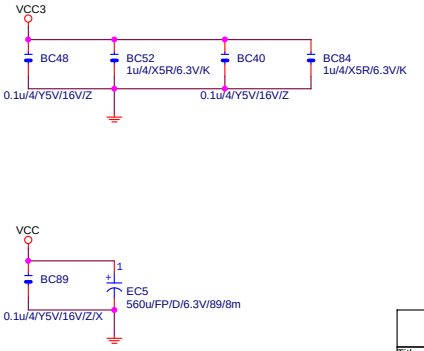
PCI1,2 SLOT



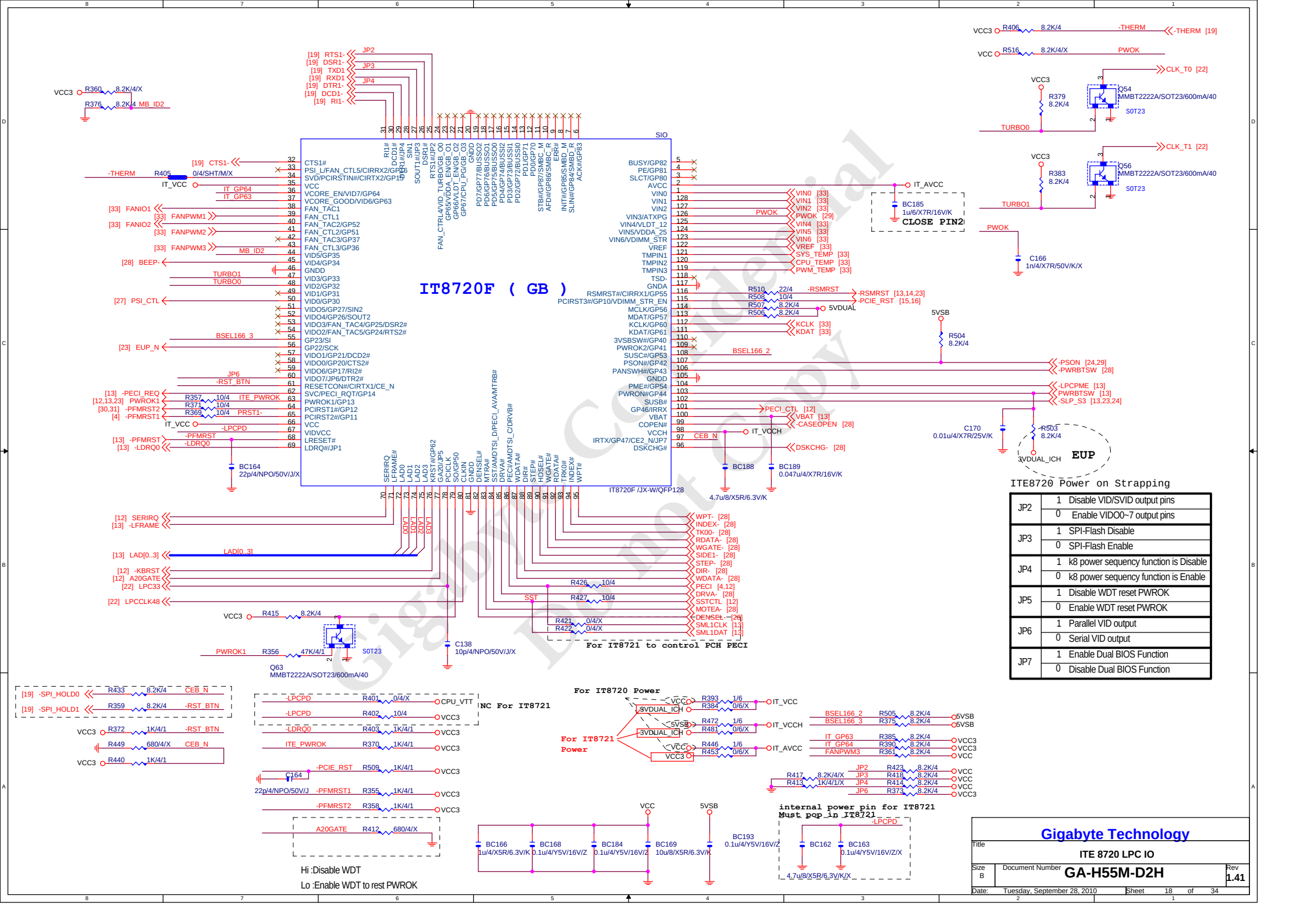




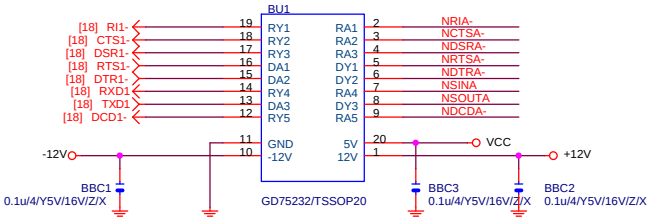




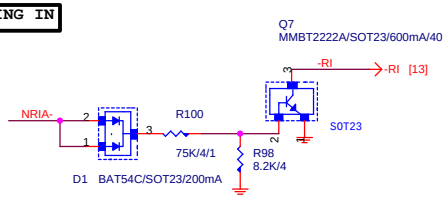
Gigabyte Technology			
Title: PCI SLOT 1, 2			
Size: Custom	Document Number: GA-H55M-D2H		Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 17 of 34		

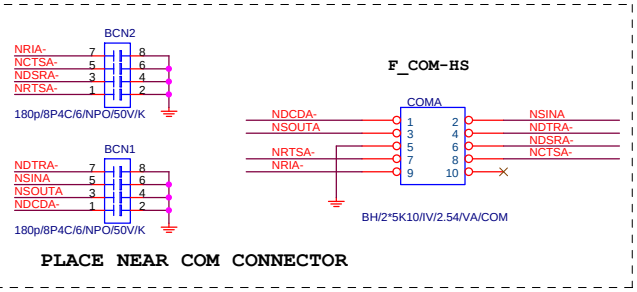


COMB

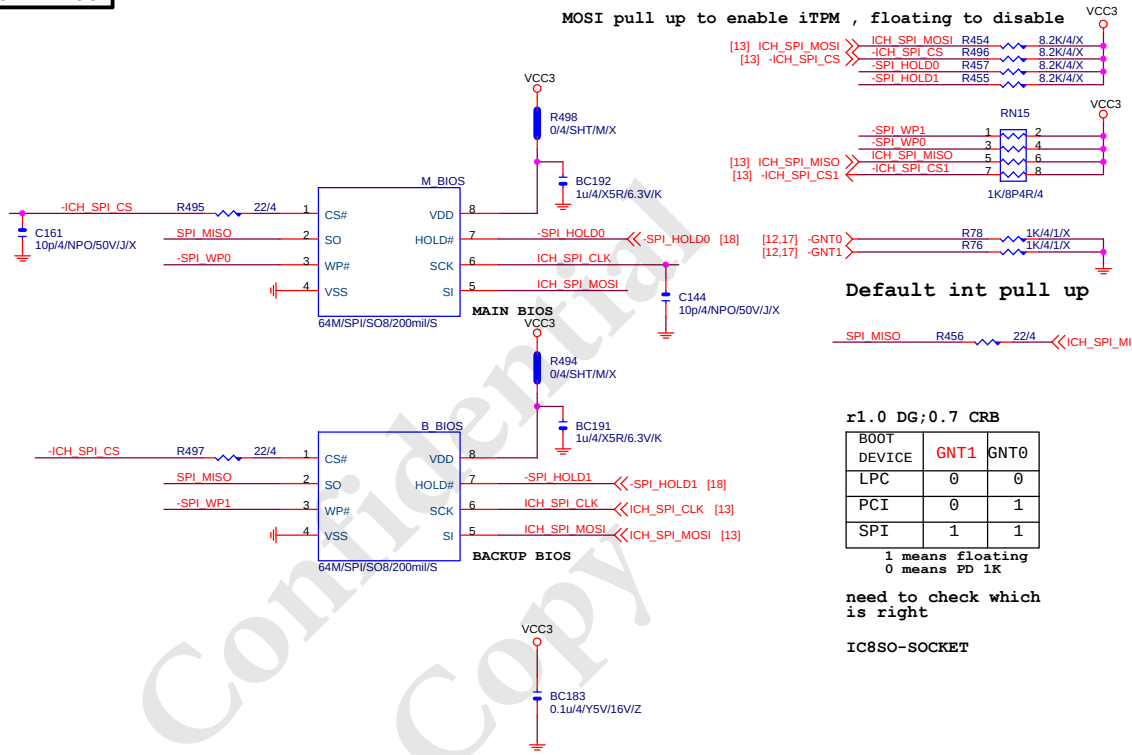


RING IN

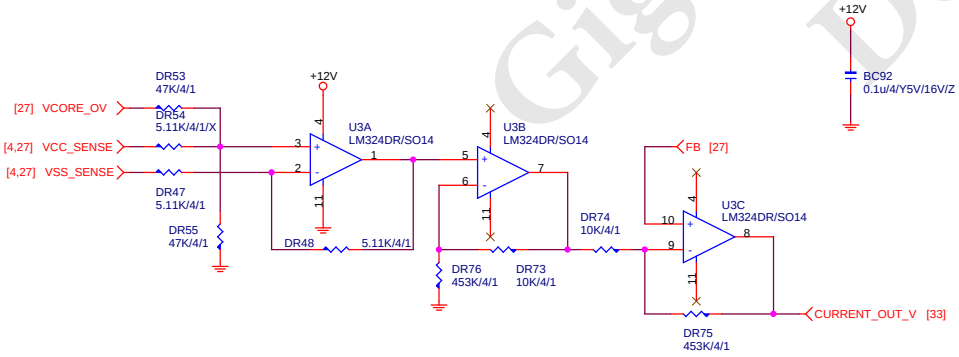




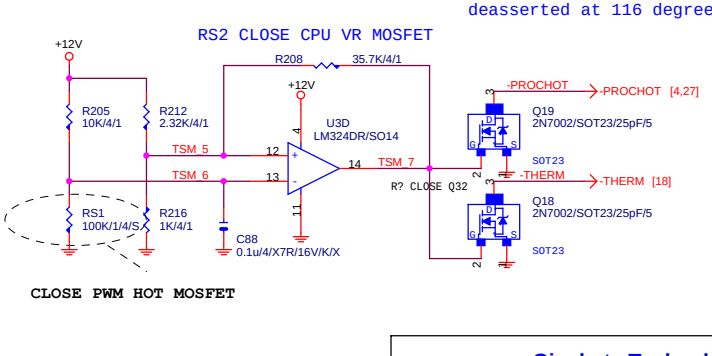
DUAL BIOS



DYNAMIC CURRENT OC



-PROHOT



Gigabyte Technology

Title: COM & PROHOT/Dynamic O.C.

Size: Custom | Document Number: GA-H55M-D2H | Rev: 1.41

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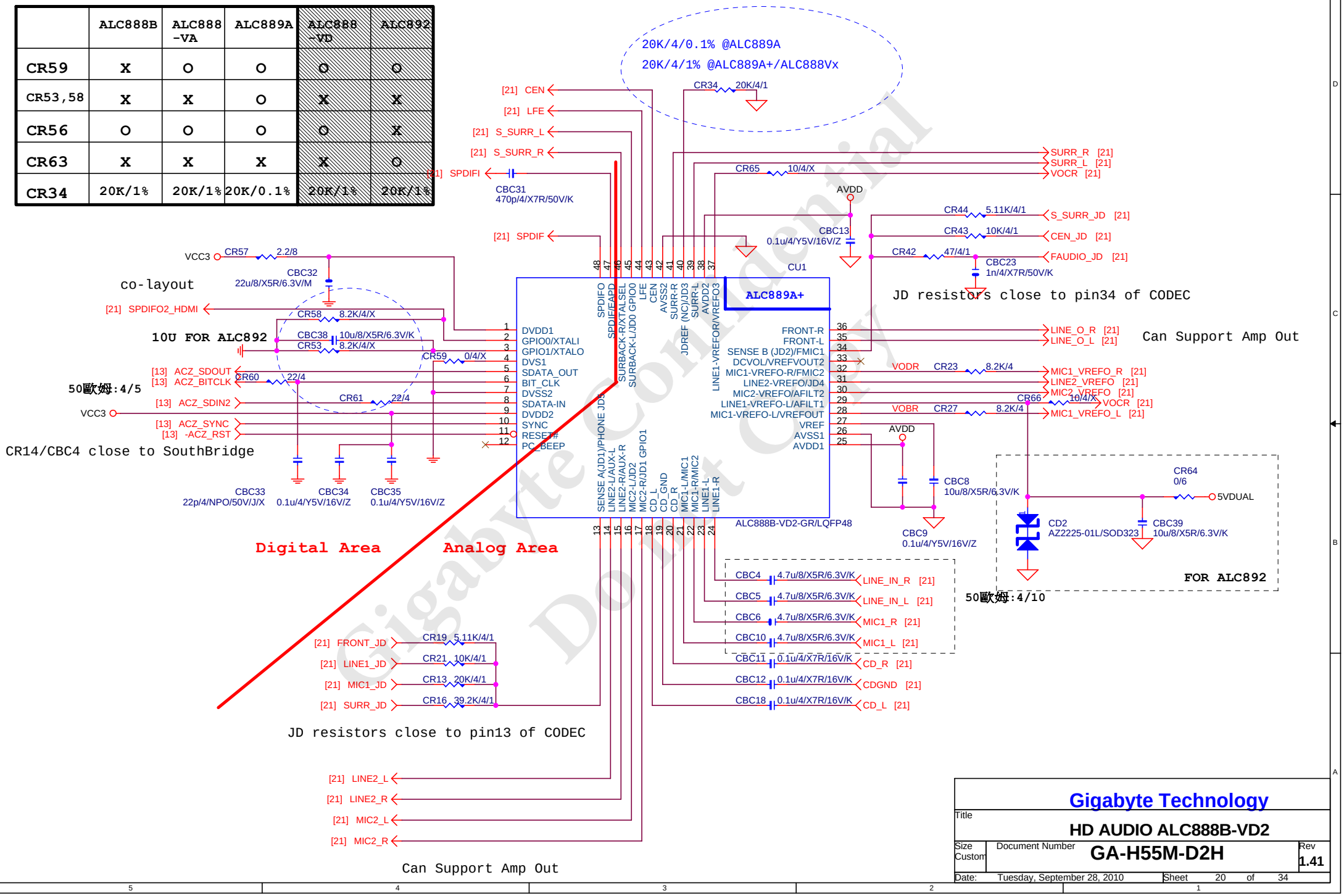
AZALIA CODEC

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%



Gigabyte Technology

Title: HD AUDIO ALC888B-VD2

Size: Custom | Document Number: GA-H55M-D2H | Rev: 1.41

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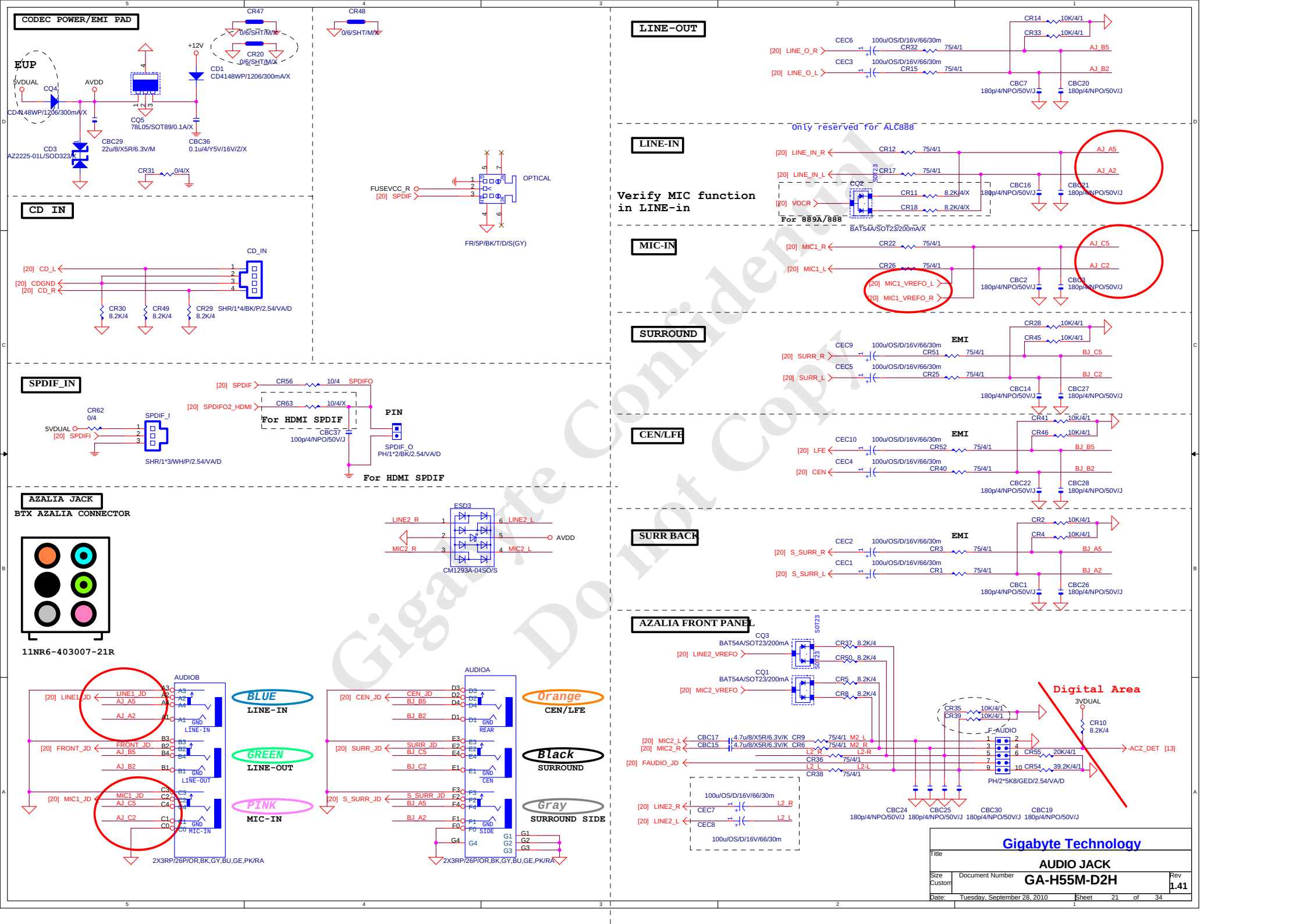
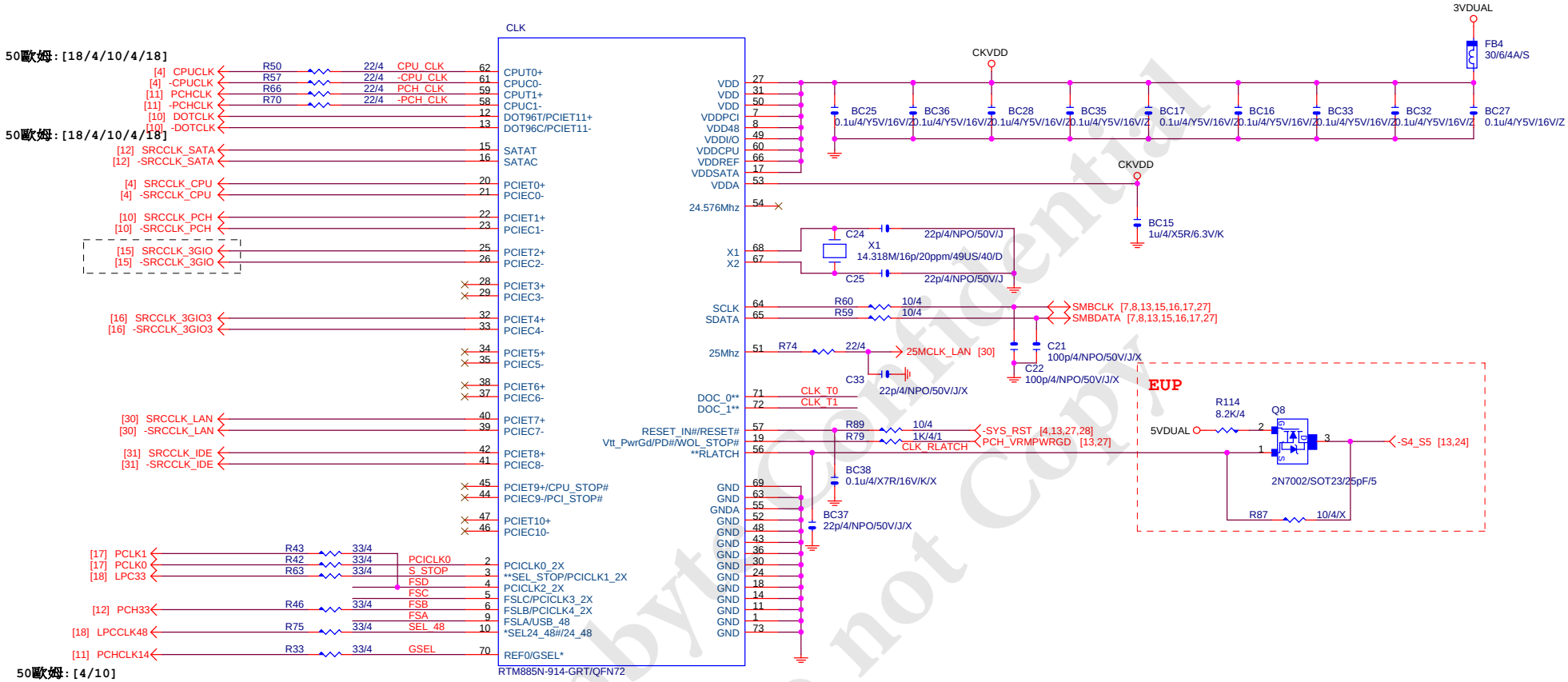
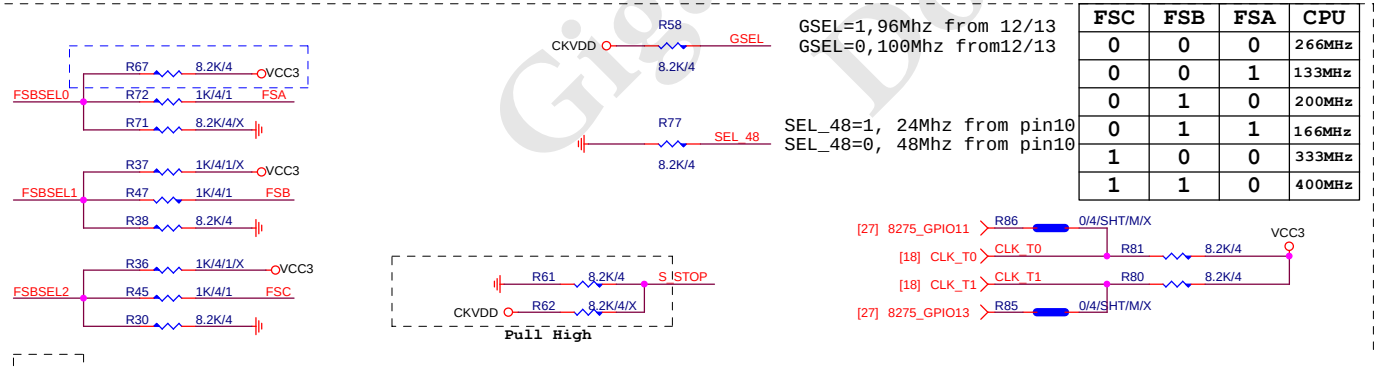
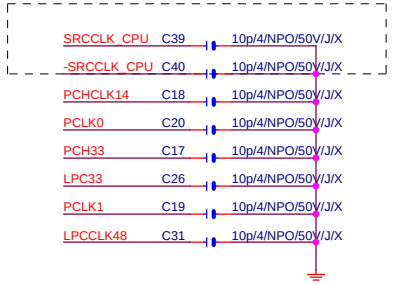


CLK GEN CK505



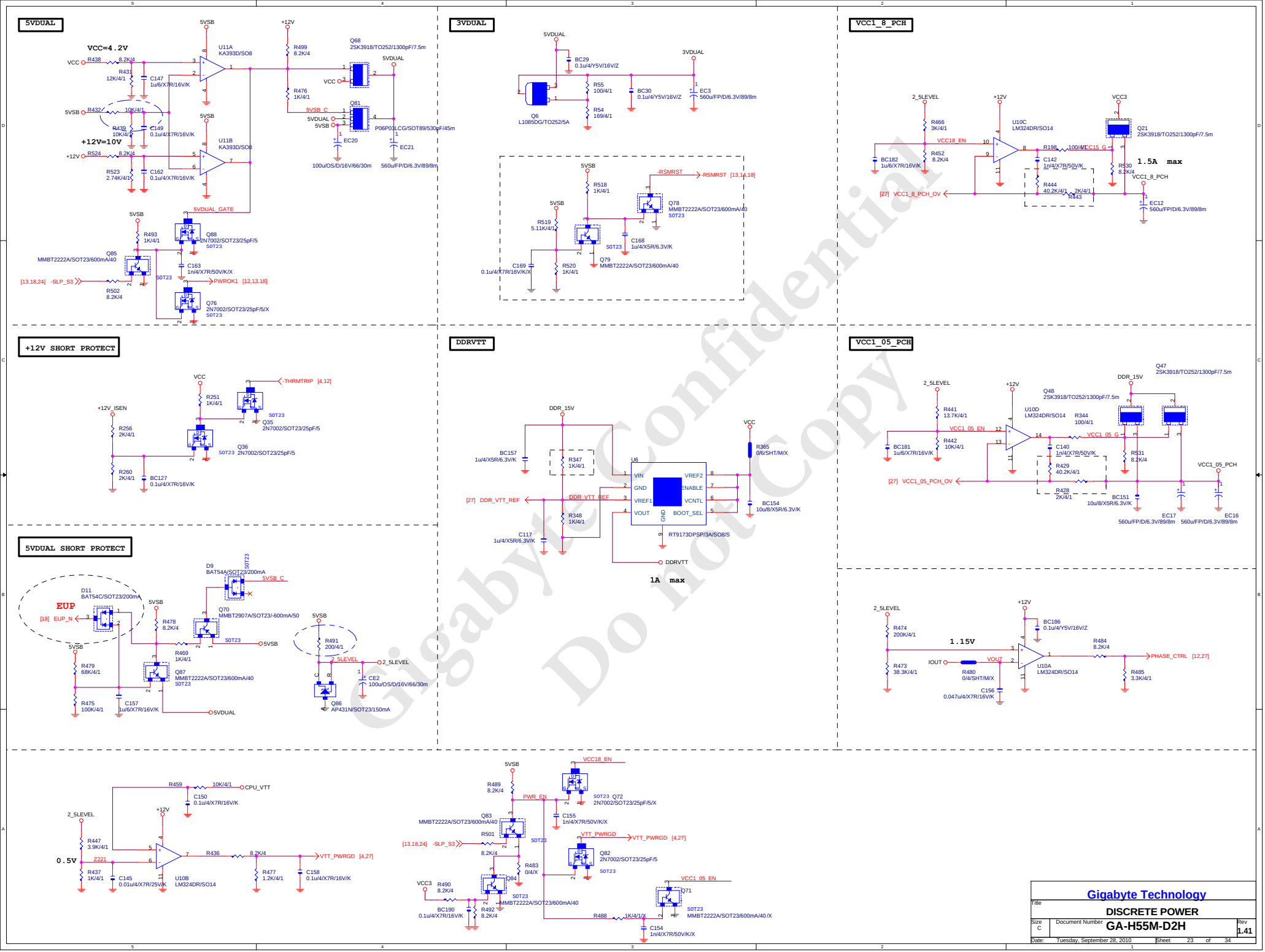


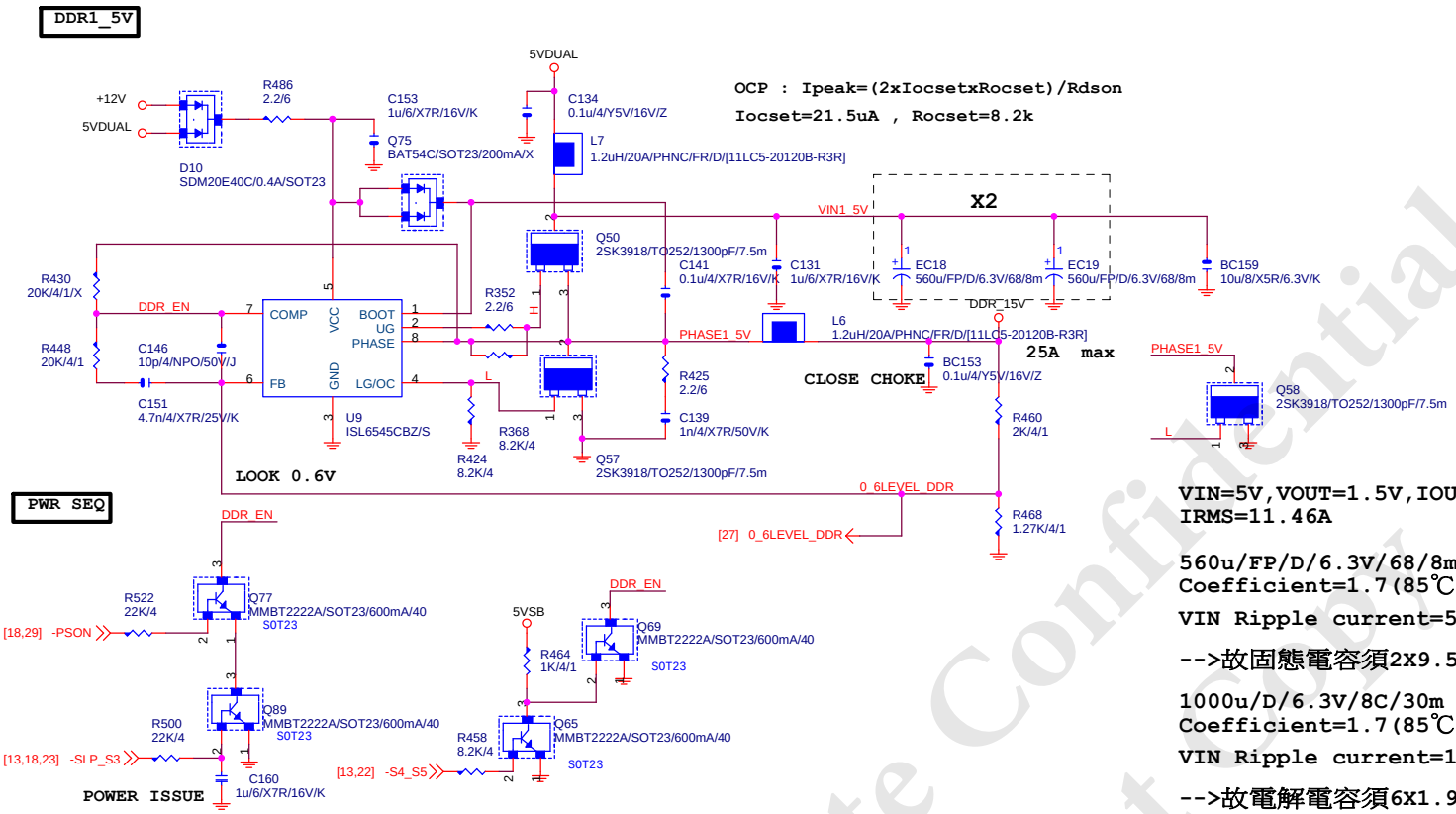
FSC	FSB	FSA	CPU
0	0	0	266MHz
0	0	1	133MHz
0	1	0	200MHz
0	1	1	166MHz
1	0	0	333MHz
1	1	0	400MHz



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

Gigabyte Technology		
Title	CK505 CLK GEN	
Size: Custom	Document Number: GA-H55M-D2H	Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 22 of 34	





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℃)

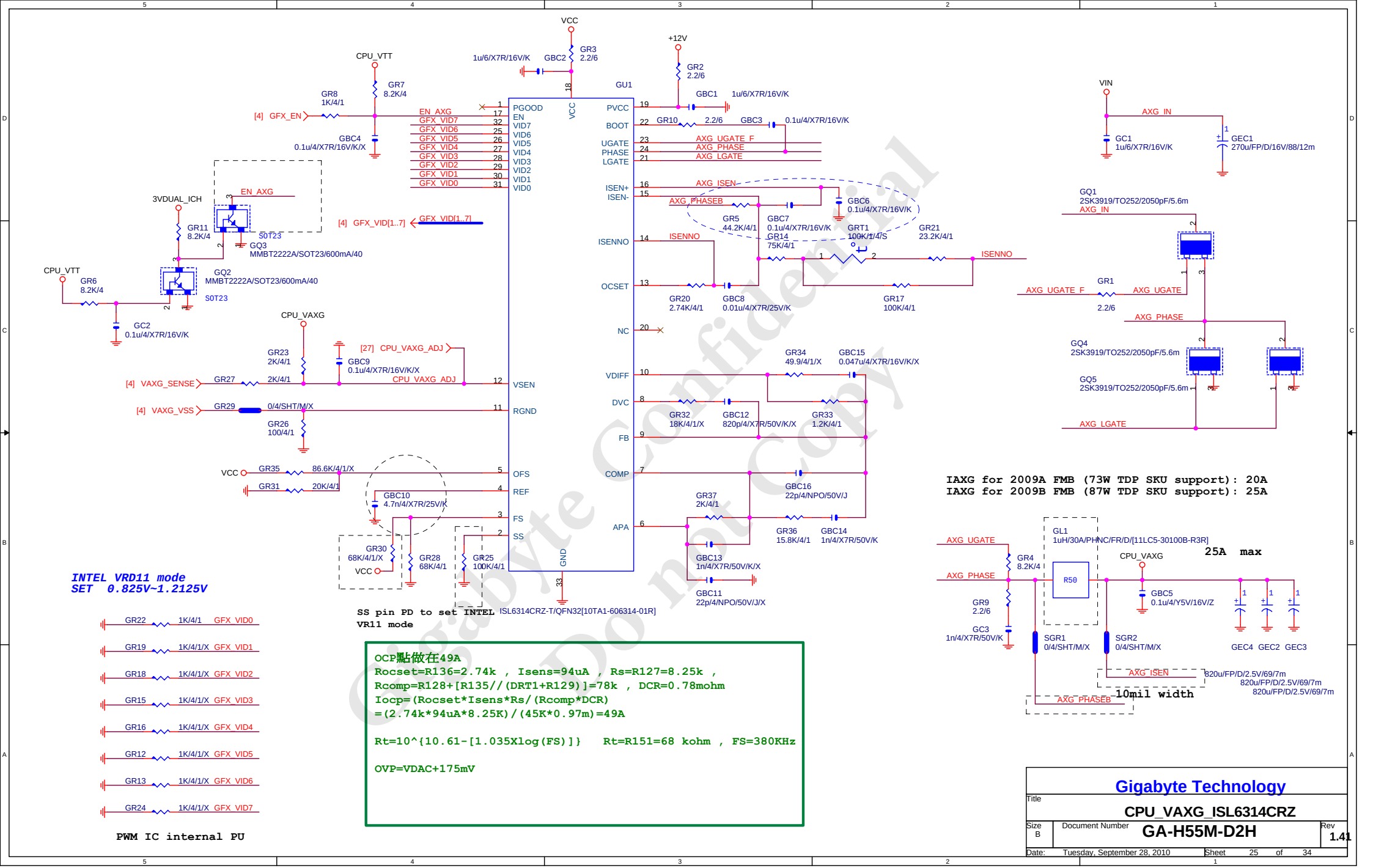
-->故電解電容須6X1.938=11.628>11.46A

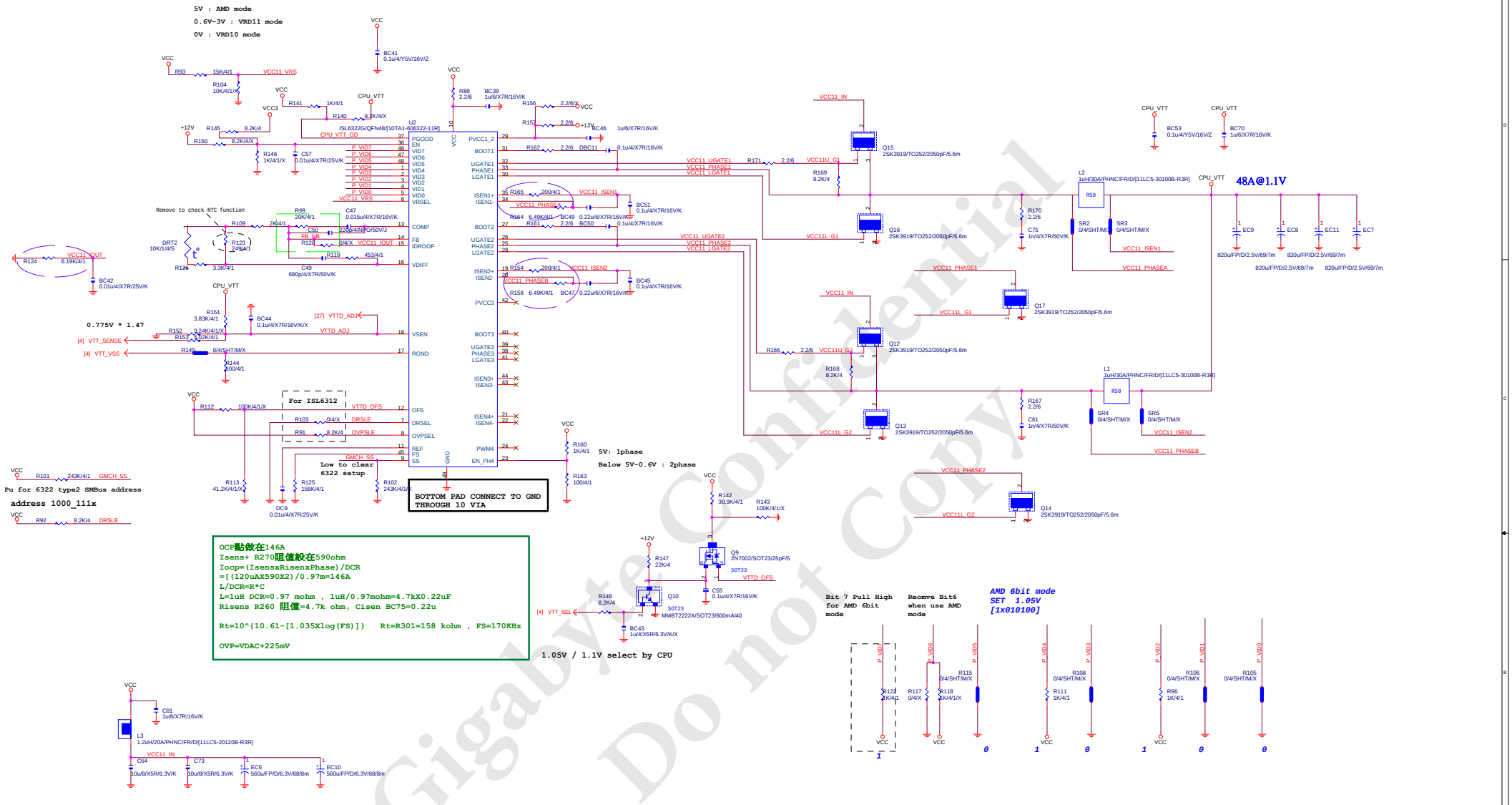
VIN=3V,VOUT=1.05V,IOUT=7.5A,PHASE=1
IRMS=3.5A

-->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-D2H	Rev: 1.41
Date: Tuesday, September 28, 2010	Sheet 24 of 34	





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-D2H		Rev: 1.41
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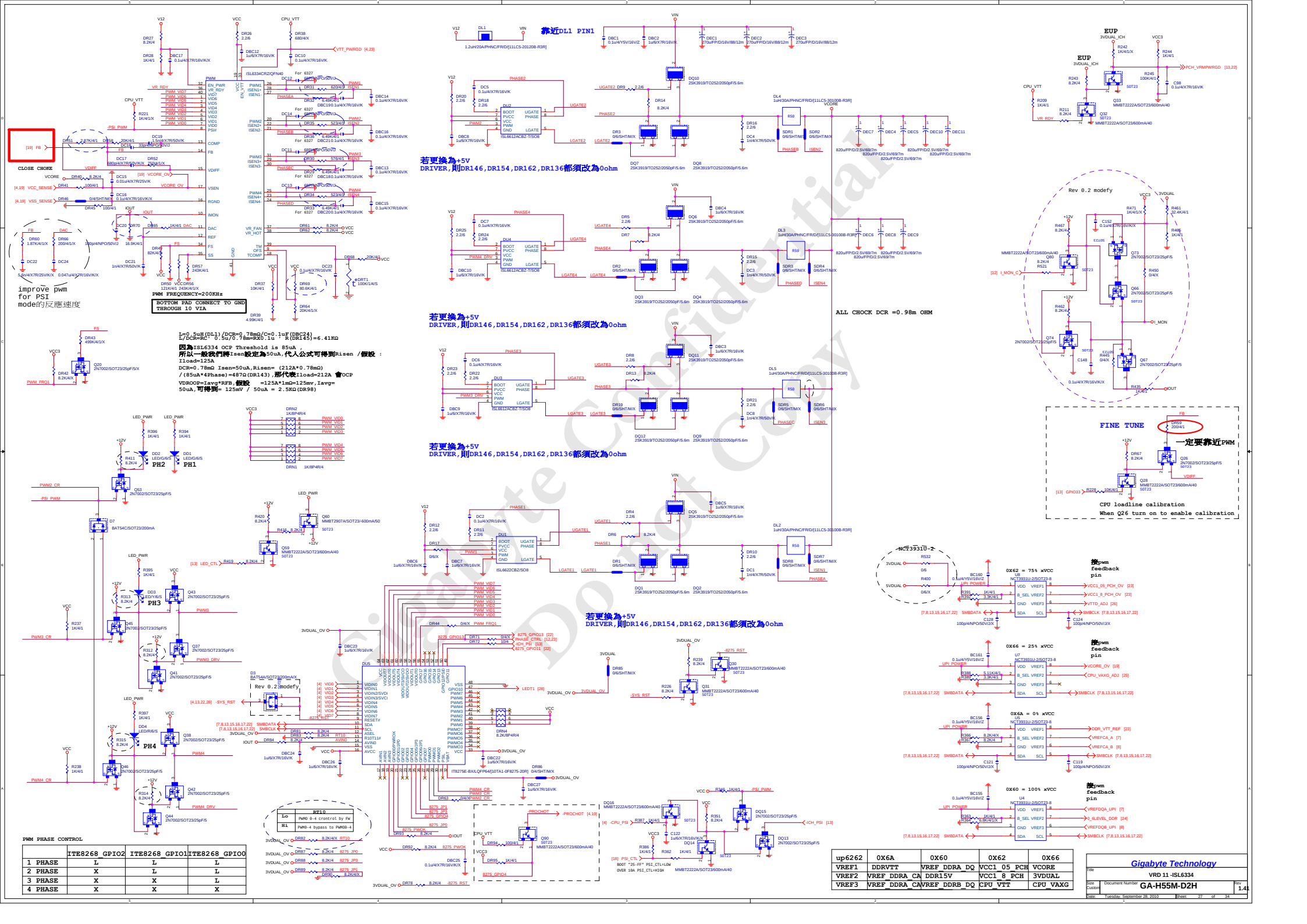

	ITE8268_GPIO2	ITE8268_GPIO1	ITE8268_GPIO0
1 PHASE	L	L	L
2 PHASE	X	L	L
3 PHASE	X	X	L
4 PHASE	X	X	X

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

Title	VRD 11 -ISL6334
Size / Custom	Document Number GA-H55M-D2H Rev 1.41
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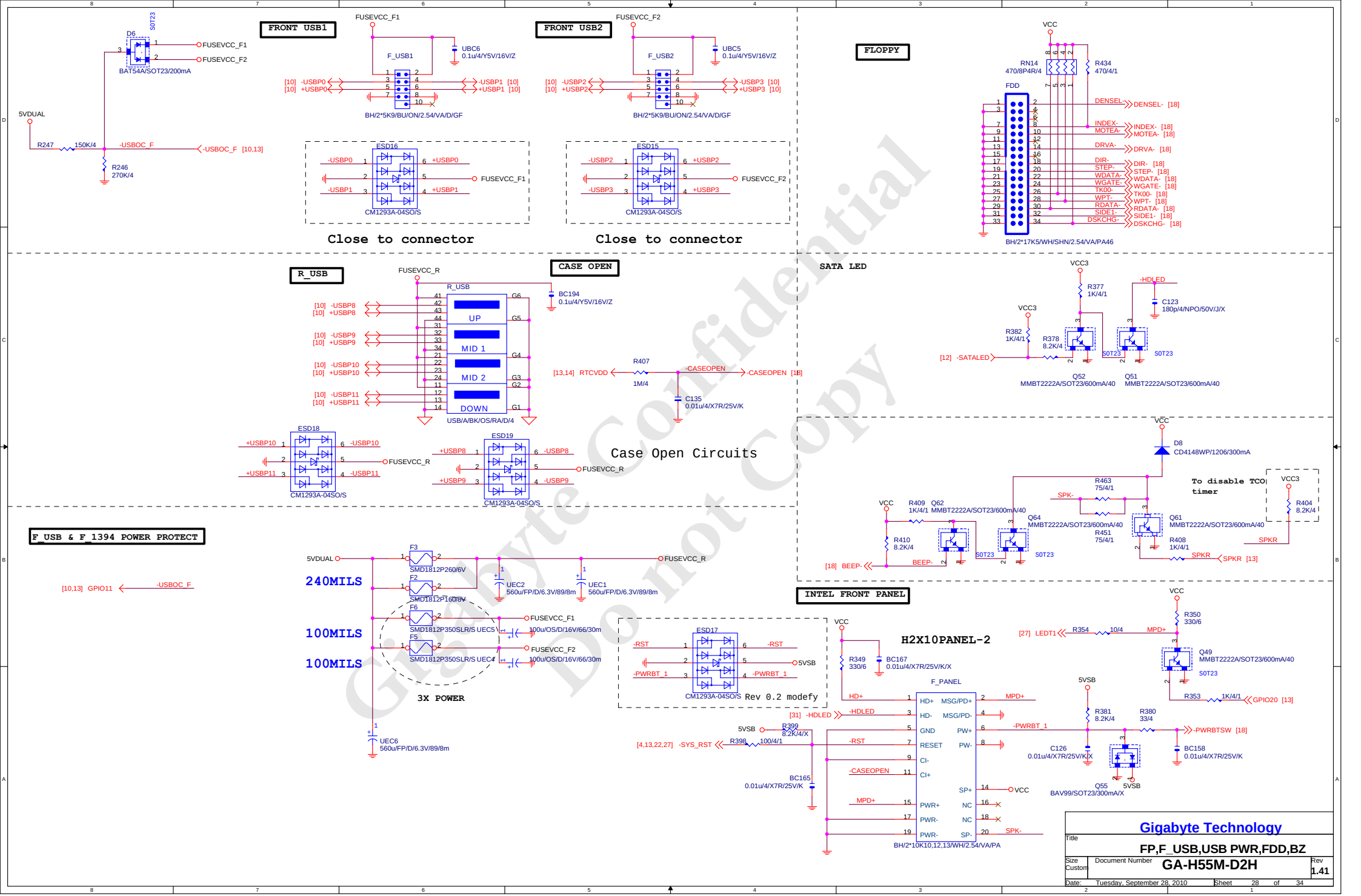
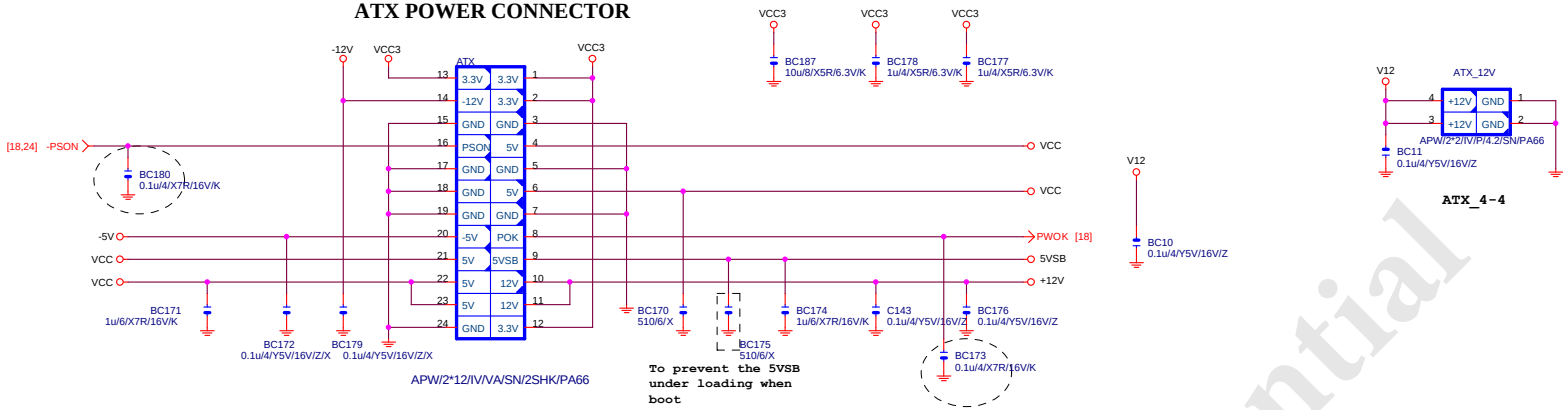
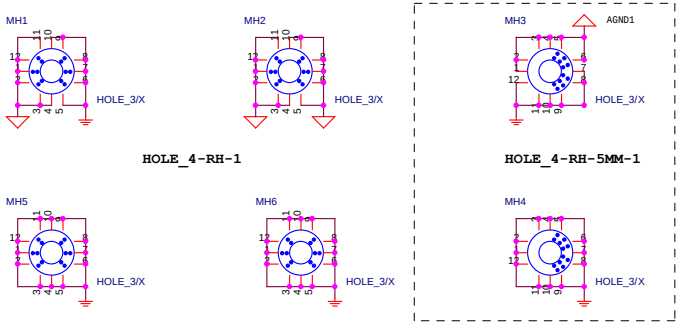
Gigabyte Technology



ATX POWER CONNECTOR

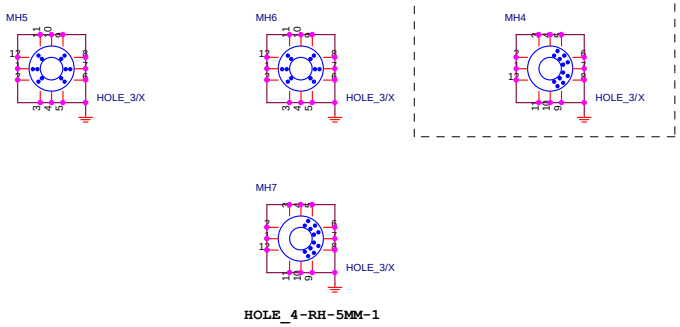


ATX_4-4

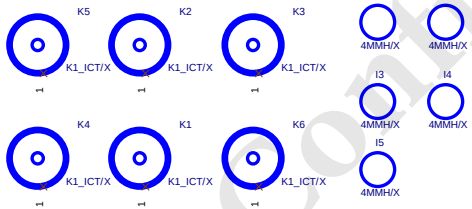


HOLE_4-RH-1

HOLE_4-RH-5MM-1



HOLE_4-RH-5MM-1



Gigabyte Technology			
Title: ATX POWER CONNECTOR			
Size: Custom	Document Number: GA-H55M-D2H		Rev: 1.41
Date: Tuesday, September 28, 2010		Sheet 29 of 34	

PCIE-1G LAN

XTAL2:外部CLK IN

[22] 25MCLK_LAN

LR16 2.49K/4/1

RSET需LAYOUT GND GUARD

VDD33

LR35 1K/4/1

LU1

RTL8111E-VB-GR/QFN48

FOR DSM MODE

(DEEP SLUMBER MODE)

LR39 0/6/SHT/M/X

ENSWREG

ENABLE SW

Dual Color LED

D4 D3 Green

D4 D3 Orange

Single Color LED

D2 D1 Yellow

LR43 1/6

LBC61 0.1u/4/Y5V/16V/Z

LBC62 4.7u/8/X5R/6.3V/K

LR40 8.2K/4

LR41 8.2K/4

LED_LINK1000

VCC3

LR33 1K/4/1

LR42 10/4/X

LR34 15K/4/1

-PCIE_WAKE [13,15,16]

-LAN_ISO [12]

-PFMRST2 [18,31]

LR37 8.2K/4

LR38 8.2K/4

[10] ML_OP

[10] ML_ON

[22] SRCCLK_LAN

[22] -SRCCLK_LAN

[10] ML_IP

[10] ML_IN

LC3 0.1u/4/X7R/16V/K

LC4 0.1u/4/X7R/16V/K

CLOSE LAN CHIP

-PFMRST2 LBC34 100p/4/NPO/50V/J/X

P35-152-19W9

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

3VDUAL

LEC7 100u/OS/D/16V/66/30m

LBC35 0.1u/4/Y5V/16V/Z

LBC36 0.1u/4/Y5V/16V/Z

LBC51 0.1u/4/Y5V/16V/Z

LBC66 0.1u/4/Y5V/16V/Z

LBC67 0.1u/4/Y5V/16V/Z

LBC70 0.1u/4/Y5V/16V/Z

(CLOSE LU1)

VDD10

LBC69 0.1u/4/Y5V/16V/Z

LBC44 0.1u/4/Y5V/16V/Z

LBC45 0.1u/4/Y5V/16V/Z

LBC65 0.1u/4/Y5V/16V/Z

LBC47 0.1u/4/Y5V/16V/Z

LBC48 0.1u/4/Y5V/16V/Z

LBC50 0.1u/4/Y5V/16V/Z

(PIN3,6,9,13,29,41,45)

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

CLOSE LL1

REGOUT

VDD10

LBC64 4.7u/8/X5R/6.3V/K

LBC71 0.1u/4/Y5V/16V/Z

LFB3 0/6/SHT/M/X

EVDD10

LBC59 1u/4/X5R/6.3V/K

LBC57 0.1u/4/Y5V/16V/Z

(PIN21)

USB_LAN CONNECTOR

ESD11

-USBP5 +USBP5

FUSEVCC_R

-USBP4 +USBP4

CM1293A-04SO/S

Close to connector

FOR EMI

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

USB_LANDUAL-N

USB_LAN

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

LBC31 0.01u/4/X7R/25V/K

UP

DOWN

90歐姆:[20/4/8/4/20]

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

3VDUAL

LFB4 0/6/SHT/M/X

LED_ACT_TXRX

LED_LINK100

LED_LINK1000

LR9 150/6

LR10 150/6/X

LR11 150/6/X

RTL8111DL -->N/A

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

FUSEVCC_R

-USBP4 +USBP4

-USBP4 [10] +USBP4 [10]

-USBP5 +USBP5

-USBP5 [10] +USBP5 [10]

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

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 RTL8111E

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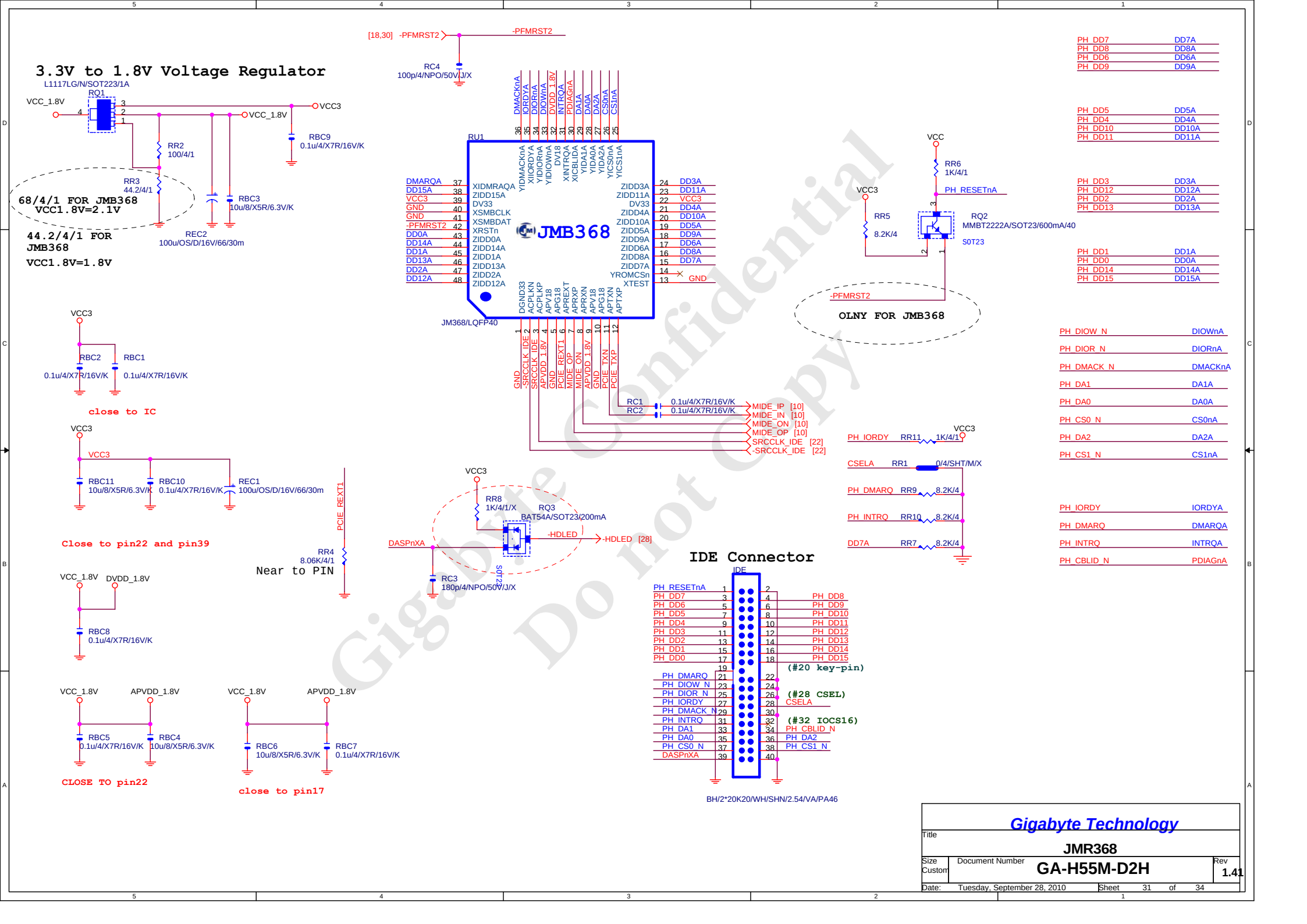
3.3V to 1.8V Voltage Regulator
L1117LG/N/SOT223/1A
RQ1
VCC_1.8V
VCC3
RR2 100/4/1
RR3 44.2/4/1
RBC9 0.1u/4/X7R/16V/K
RBC3 10u/8/X5R/6.3V/K
REC2 100u/OS/D/16V/66/30m
68/4/1 FOR JMB368
VCC1.8V=2.1V
44.2/4/1 FOR JMB368
VCC1.8V=1.8V
[18,30] -PFMRST2
-PFMRST2
RC4 100p/4/NPO/50V/J/X
RU1
JMB368
JM368/LQFP40
DMARQA
DD15A
VCC3
GND
GND
-PFMRST2
DD0A
DD14A
DD1A
DD13A
DD2A
DD12A
XIDMRAQA
ZIDD15A
DV33
XSMBCLK
XSMBDAT
XRSTn
ZIDD0A
ZIDD14A
ZIDD1A
ZIDD13A
ZIDD2A
ZIDD12A
ZIDD3A
ZIDD11A
DV33
ZIDD4A
ZIDD10A
ZIDD5A
ZIDD9A
ZIDD6A
ZIDD8A
ZIDD7A
YROMCSn
XTEST
GND
DD3A
DD11A
VCC3
DD4A
DD10A
DD5A
DD9A
DD6A
DD8A
DD7A
DMACKnA
IORDYA
DIORnA
DIOWnA
DVDD_1.8V
INTRQA
PDIAGnA
DA1A
DA0A
DA2A
CS0nA
CS1nA
YIDMACKnA
YIIORDYA
YIDIORnA
YIDIOWnA
DV18
XINTRQA
XICBLIDA
YIDA1A
YIDA0A
YIDA2A
YICS0nA
YICS1nA
GND
-SRCCLK_IDE
SRCCLK_IDE
APVDD_1.8V
GND
PCIE_REXT1
MIDE_OP
MIDE_ON
APVDD_1.8V
GND
PCIE_TXN
PCIE_TXP
DGND33
ACPLKN
ACPLKP
APV18
APG18
APREXT
APRXP
APRXN
APV18
APG18
APTXN
APTXP
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
VCC3
RR5 8.2K/4
RQ2 MMBT2222A/SOT23/600mA/40
S0T23
-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
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
VCC3
RBC2 0.1u/4/X7R/16V/K
RBC1 0.1u/4/X7R/16V/K
close to IC
VCC3
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]
S0T23
RC3 180p/4/NPO/50V/J/X
VCC_1.8V
DVDD_1.8V
RBC8 0.1u/4/X7R/16V/K
VCC3
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
IDE Connector
IDE
PH_RESETnA
PH_DD7
PH_DD6
PH_DD5
PH_DD4
PH_DD3
PH_DD2
PH_DD1
PH_DD0
PH_DD8
PH_DD9
PH_DD10
PH_DD11
PH_DD12
PH_DD13
PH_DD14
PH_DD15
(#20 key-pin)
PH_DMARQ
PH_DIOW_N
PH_DIOR_N
PH_IORDY
PH_DMACK_N
PH_INTRQ
PH_DA1
PH_DA0
PH_CS0_N
DASPnXA
(#28 CSEL)
CSELA
(#32 IOCS16)
PH_CBLID_N
PH_DA2
PH_CS1_N
BH/2*20K20/WH/SHN/2.54/VA/PA46
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
Gigabyte Confidential
Do not Copy
Gigabyte Technology
Title
JMR368
Size Custom
Document Number
GA-H55M-D2H
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Date: Tuesday, September 28, 2010
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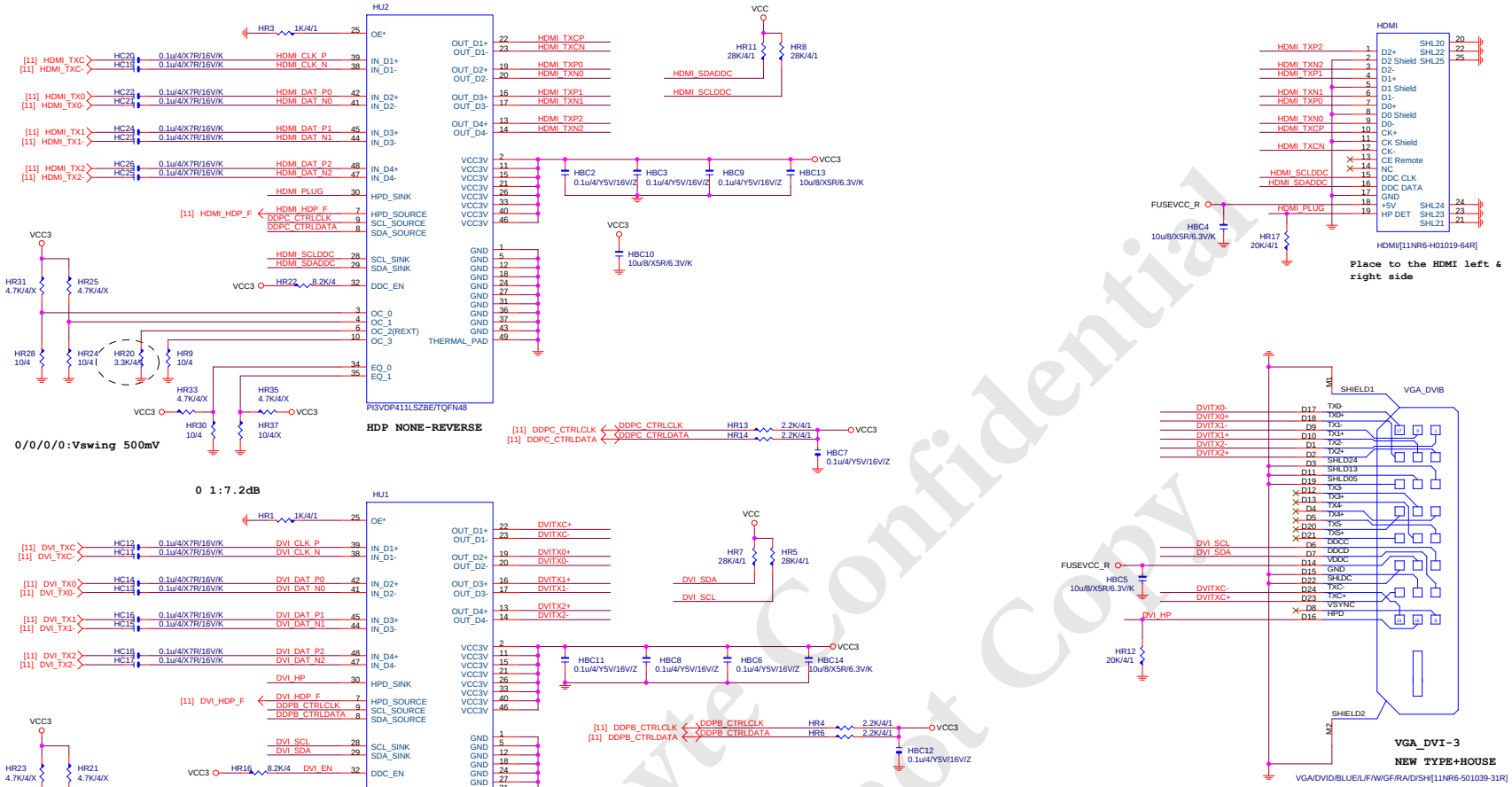

Gigabyte Technology			
Title: HDMI / DVI/DP			
Size: C	Document Number: GA-H55M-D2H	Rev: 1.41	
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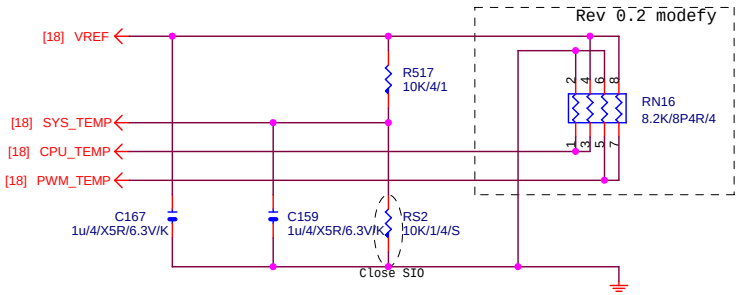
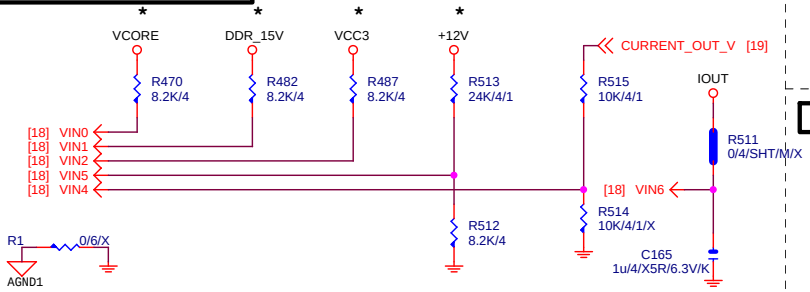
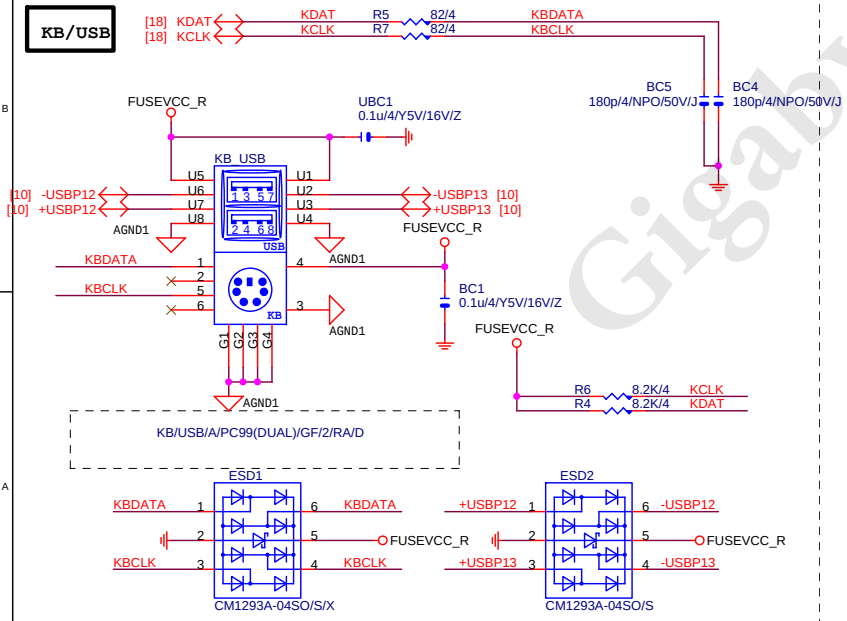
TEMP H/W MONITOR



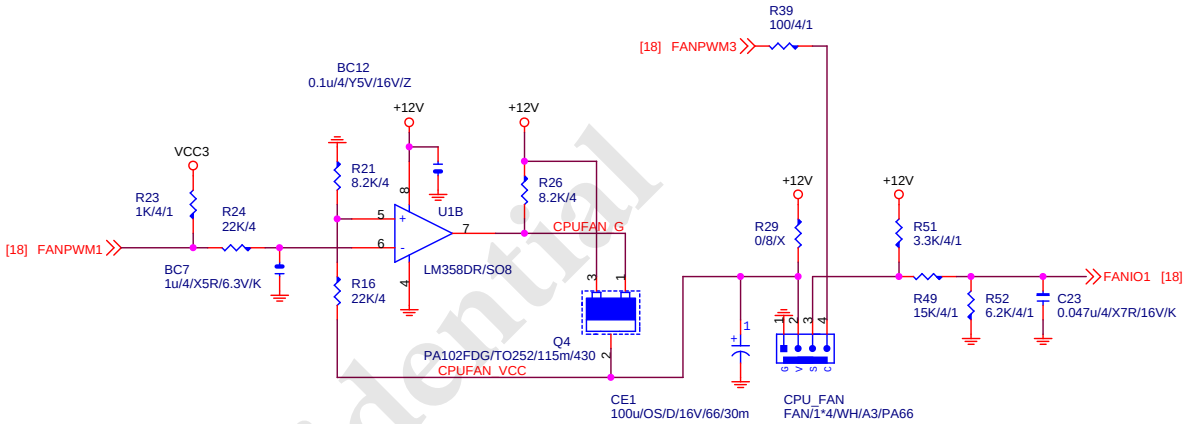
VOLTAGE-- H/W MONITOR



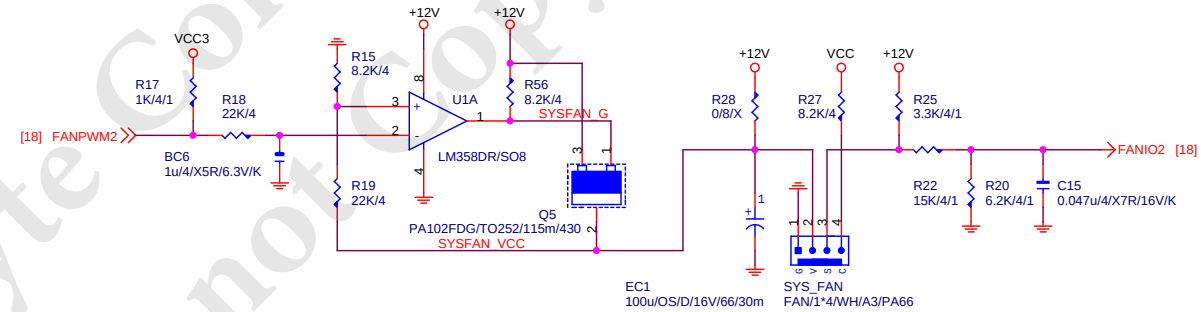
KB/USB



CPU SMART FAN



SYS SMART FAN Linear SYS_FAN



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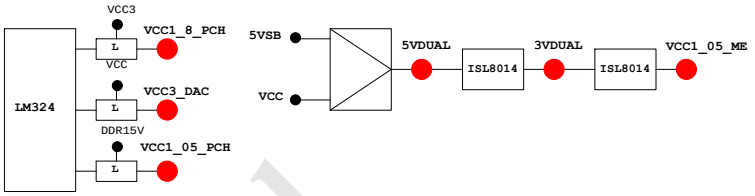
PCH GPIO LIST TABLE

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

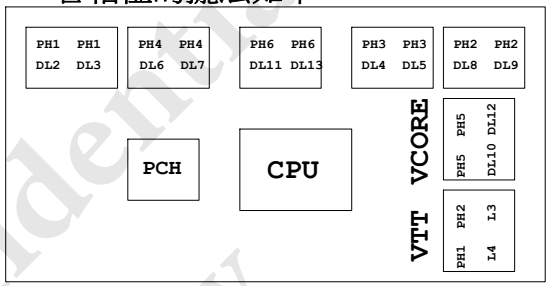
Super I/O ITE8720 GPIO Table

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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