Model Name: GA-H61M-S1 Rev: 2.2

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*1x2 SLOT
16	ITE 8728 LPC IO
17	KB_MS,R_USB,-PROCHOT
18	HWM,FAN CTRL,OV
19	Dual BIOS
20	FP,FUSB,SPK,SATALED
21	ALC887
22	REAR AUDIO JACK
23	REALTEK 8111F/USB_LAN
24	DISCRETE POWER
25	ATX,-S_WARN,-S_ACK,5VDUAL
26	CPU_VTT
27	VCORE INTERSIL_95836_1

SHEET	TITLE
28	VCORE INTERSIL_95836_2
29	VCORE INTERSIL_95836_3

Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-H61M-S1 | Rev: 2.2

Date: Friday, January 04, 2013 | Sheet 1 of 29

Model Name: GA-H61M-S1

Component value change history

Data	Change Item	Reason
2013/01/04	1. Remove R70 2. Add R60	

Circuit or PCB layout change

DATE	Change Item	Reason
2012/12/14	1. Change from GA-H61M-DS2 Rev 3.0 2. Remove LPT , COM port 3. 改電解電容跟H61M-S1 Rev 2.11一樣	

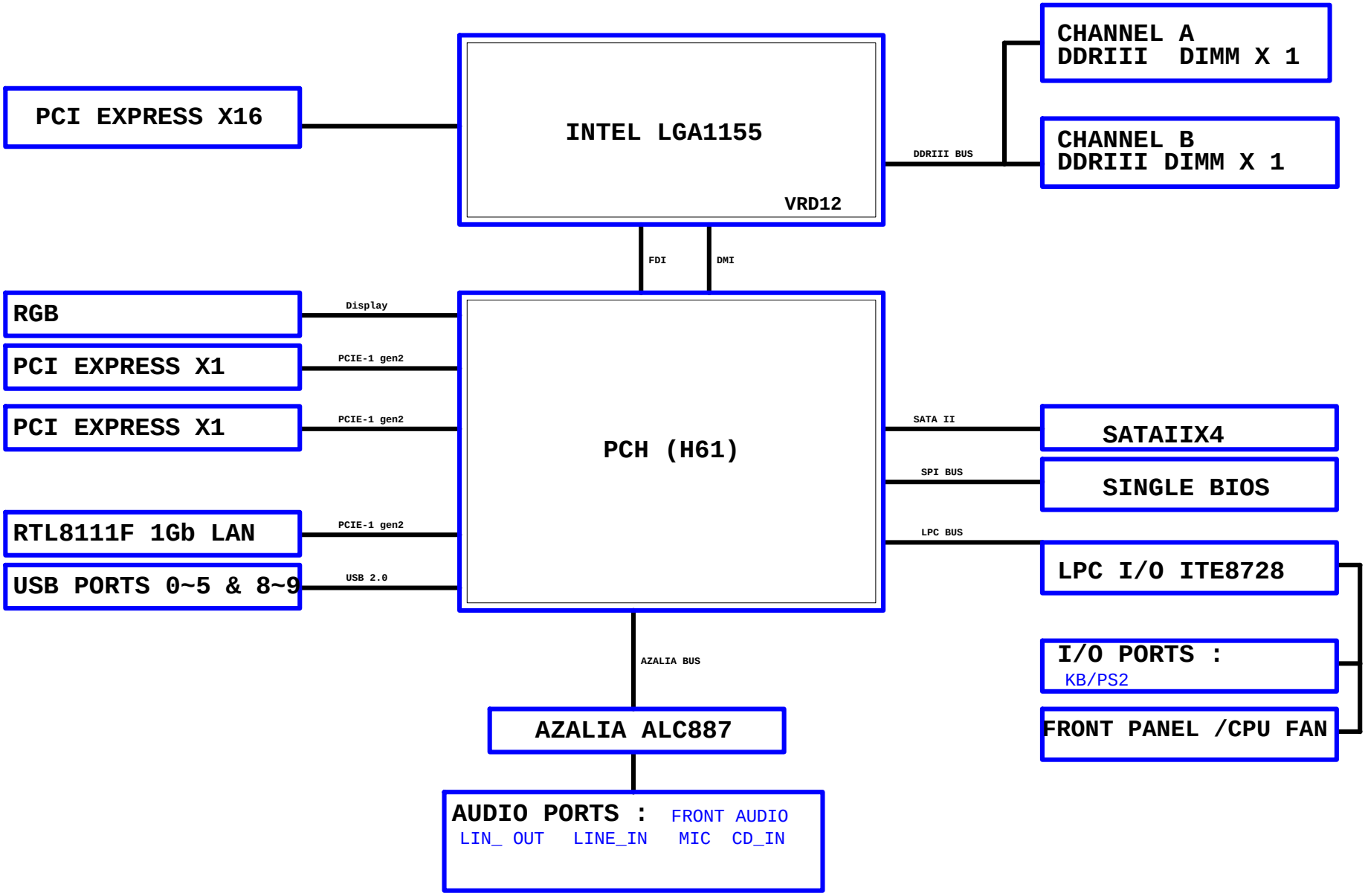
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

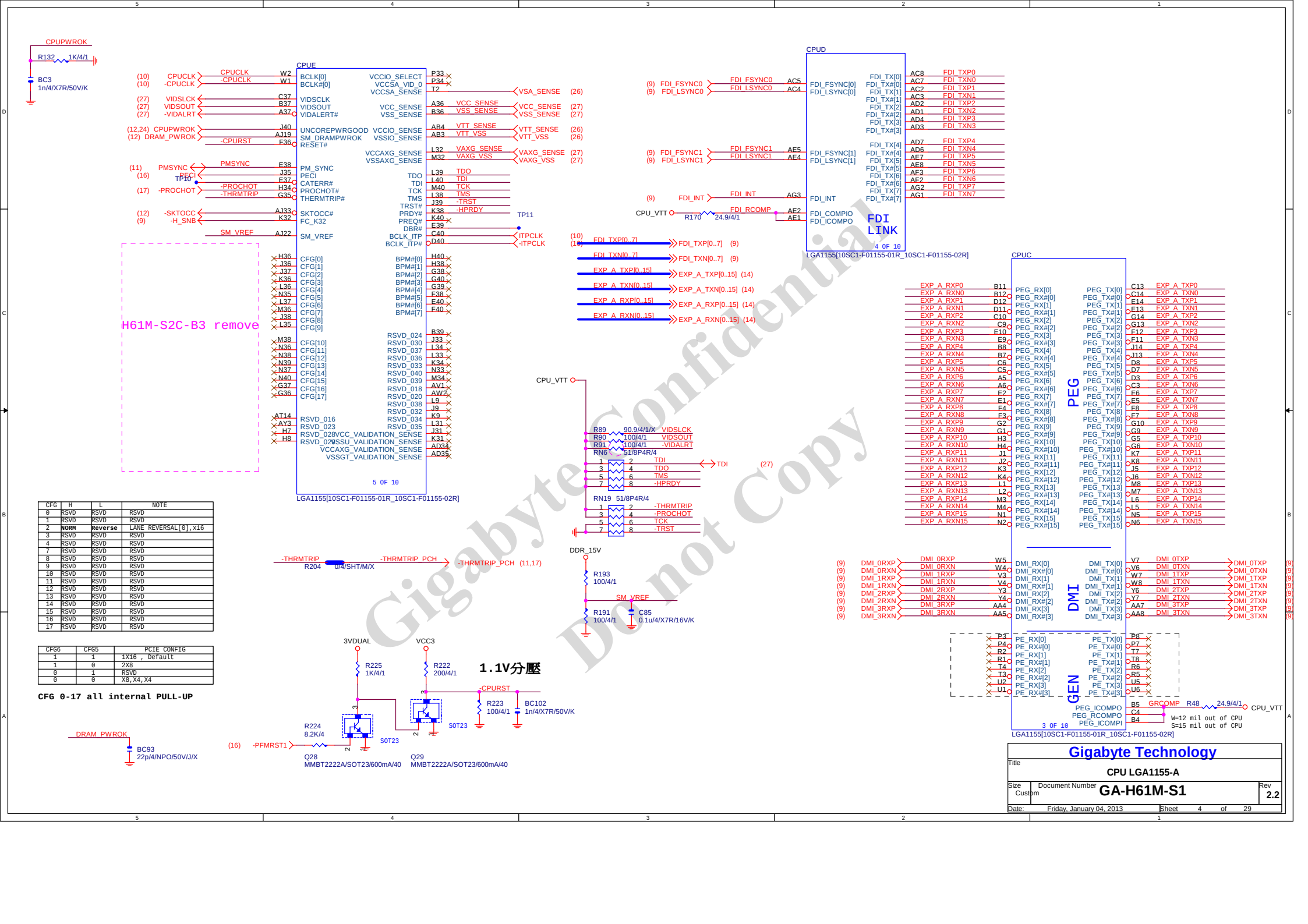
Size: Custom | Document Number: GA-H61M-S1 | Rev: 2.2

Date: Friday, January 04, 2013 | Sheet 2 of 29

BLOCK DIAGRAM



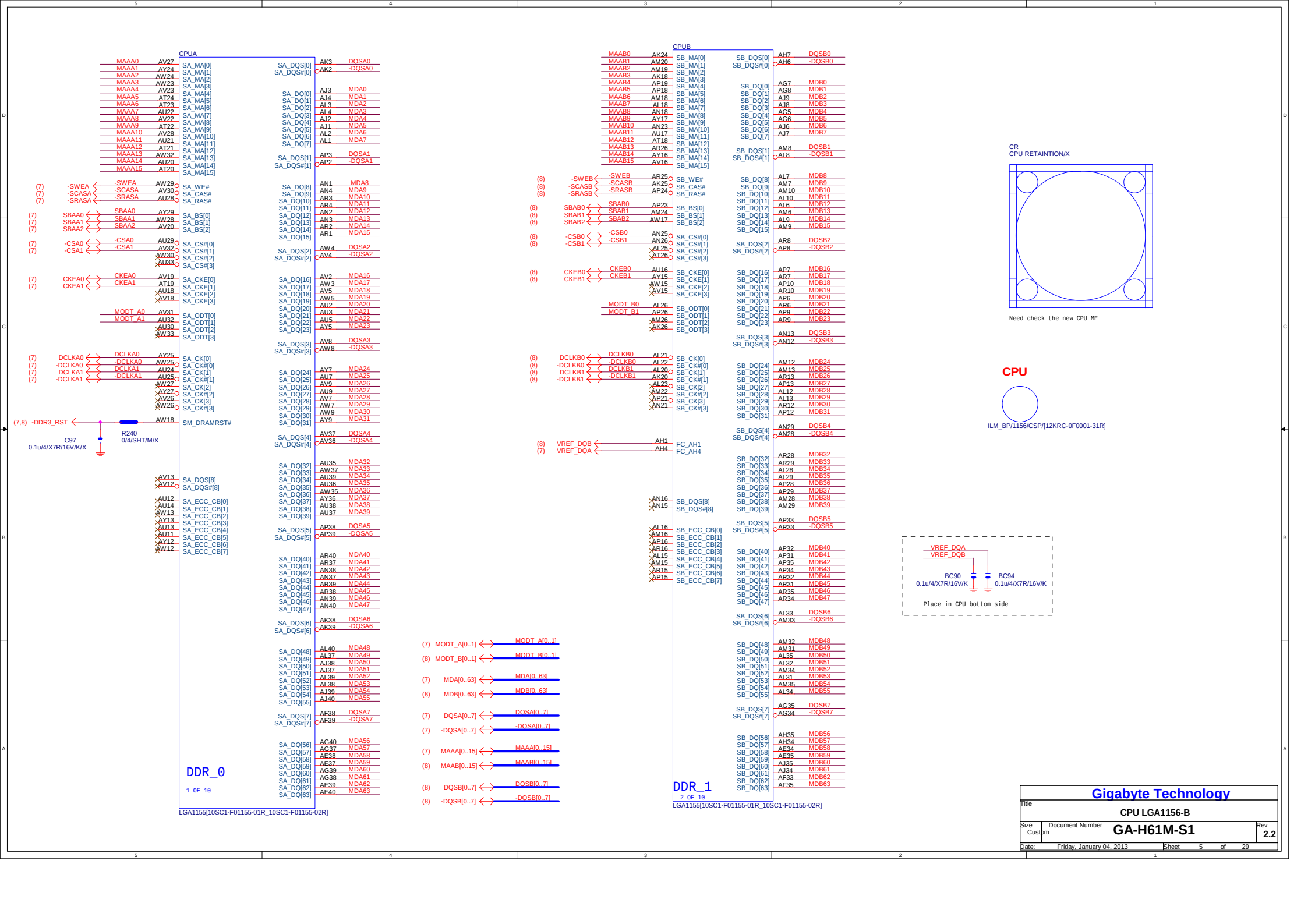
Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-H61M-S1	Rev: 2.2
Date: Friday, January 04, 2013	Sheet 3 of 29	

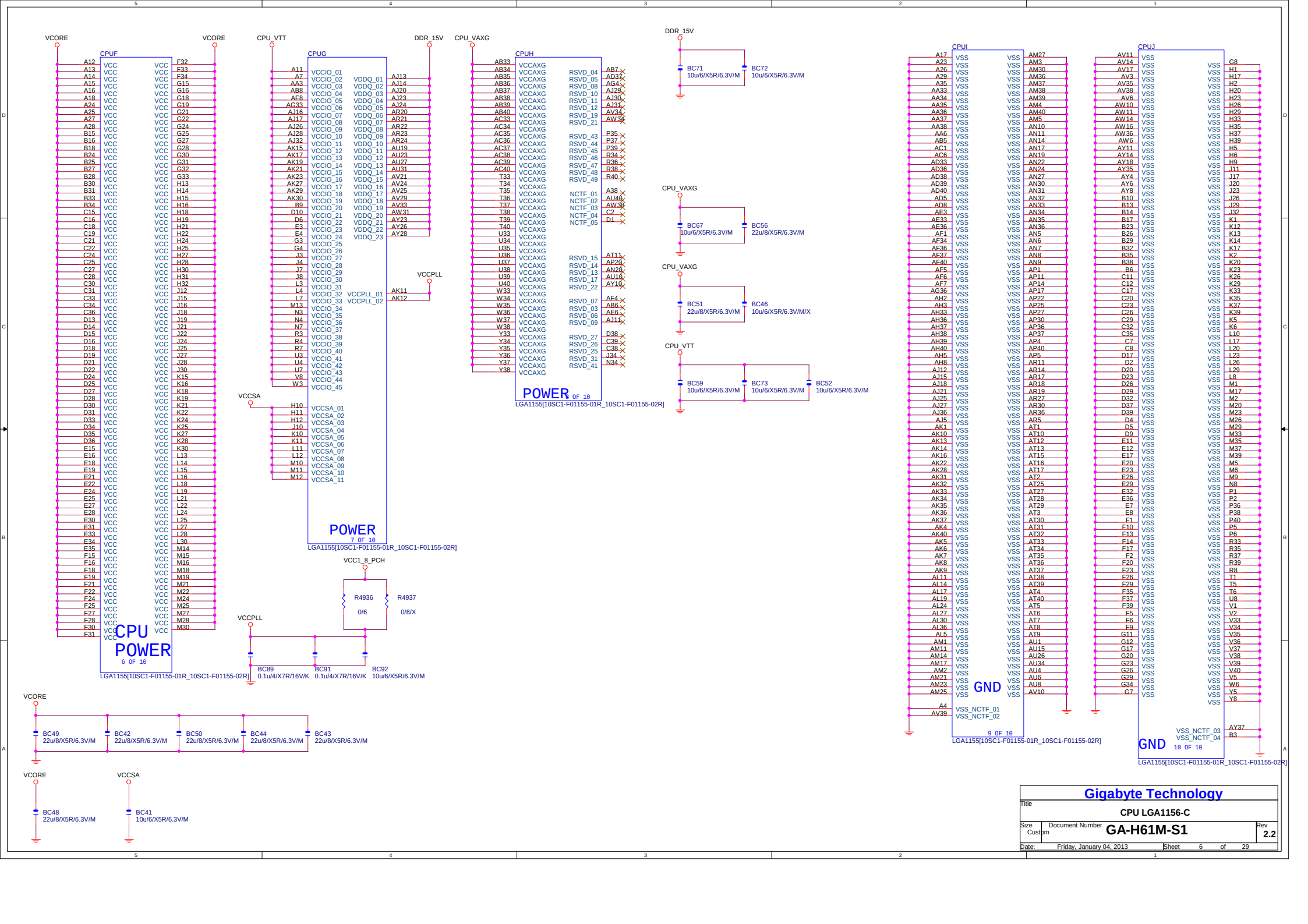


CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	**NORM**	**Reverse**	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD	RSVD	RSVD

CFG6	CFG5	PCIE CONFIG
1	1	1X16 , Default
1	0	2X8
0	1	RSVD
0	0	X8,X4,X4

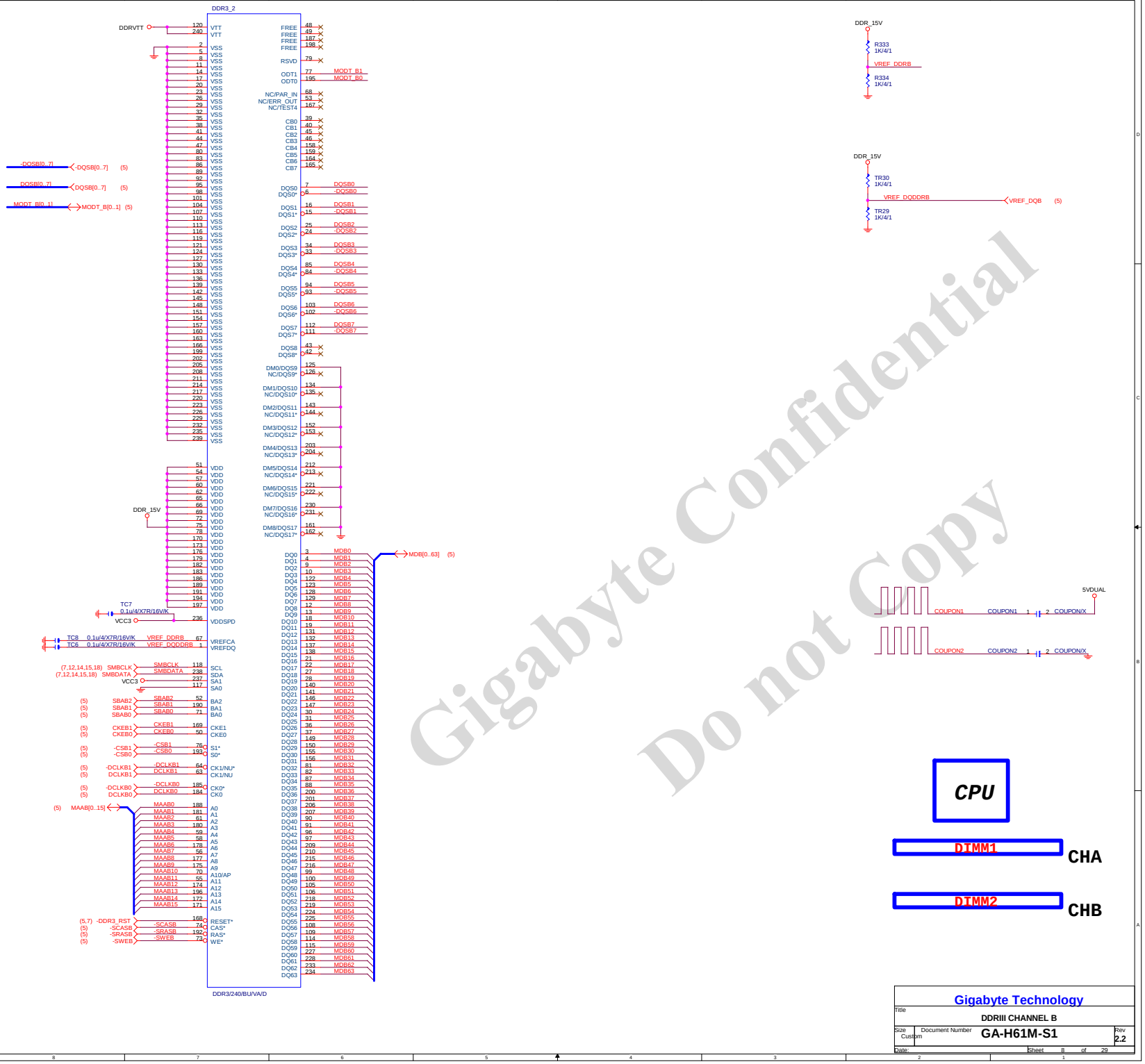
CFG 0-17 all internal PULL-UP


CPUA
DDR_0
1 OF 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]
CPUB
DDR_1
2 OF 10
LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]
CR
CPU RETAINTION/X
Need check the new CPU ME
CPU
ILM_BP/1156/CSP/[12KRC-0F0001-31R]
C97
0.1u/4/X7R/16V/K/X
R240
0/4/SHT/M/X
BC90
0.1u/4/X7R/16V/K
BC94
0.1u/4/X7R/16V/K
Place in CPU bottom side
Gigabyte Technology
CPU LGA1156-B
GA-H61M-S1
2.2
Friday, January 04, 2013
Sheet 5 of 29

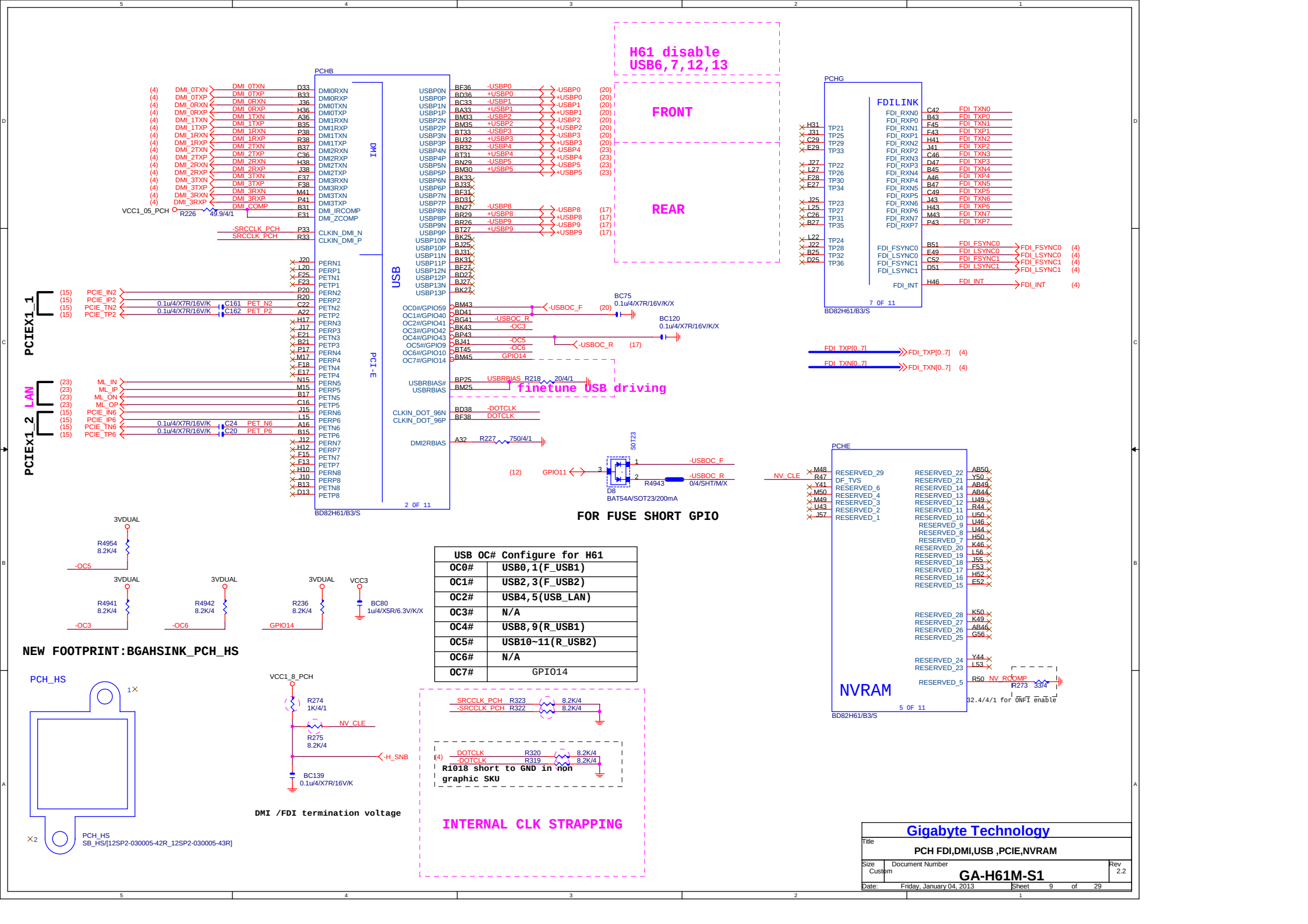


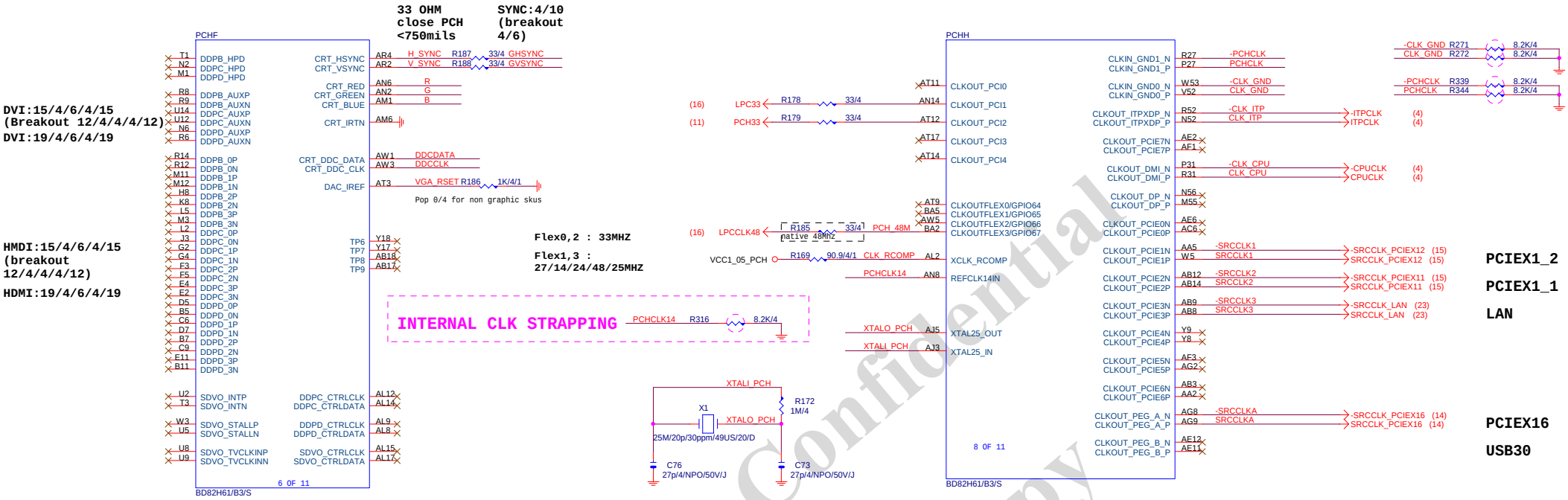
Gigabyte Technology			
Title	CPU LGA1156-C		
Size: Custom	Document Number: GA-H61M-S1		Rev: 2.2
Date: Friday, January 04, 2013	Sheet 6 of 29		

Gigabyte Technology			
Title: DDRIII CHANNEL A			
Size: Custom	Document Number: GA-H61M-S1		Rev: 2.2
Date:	Sheet 7 of 29		



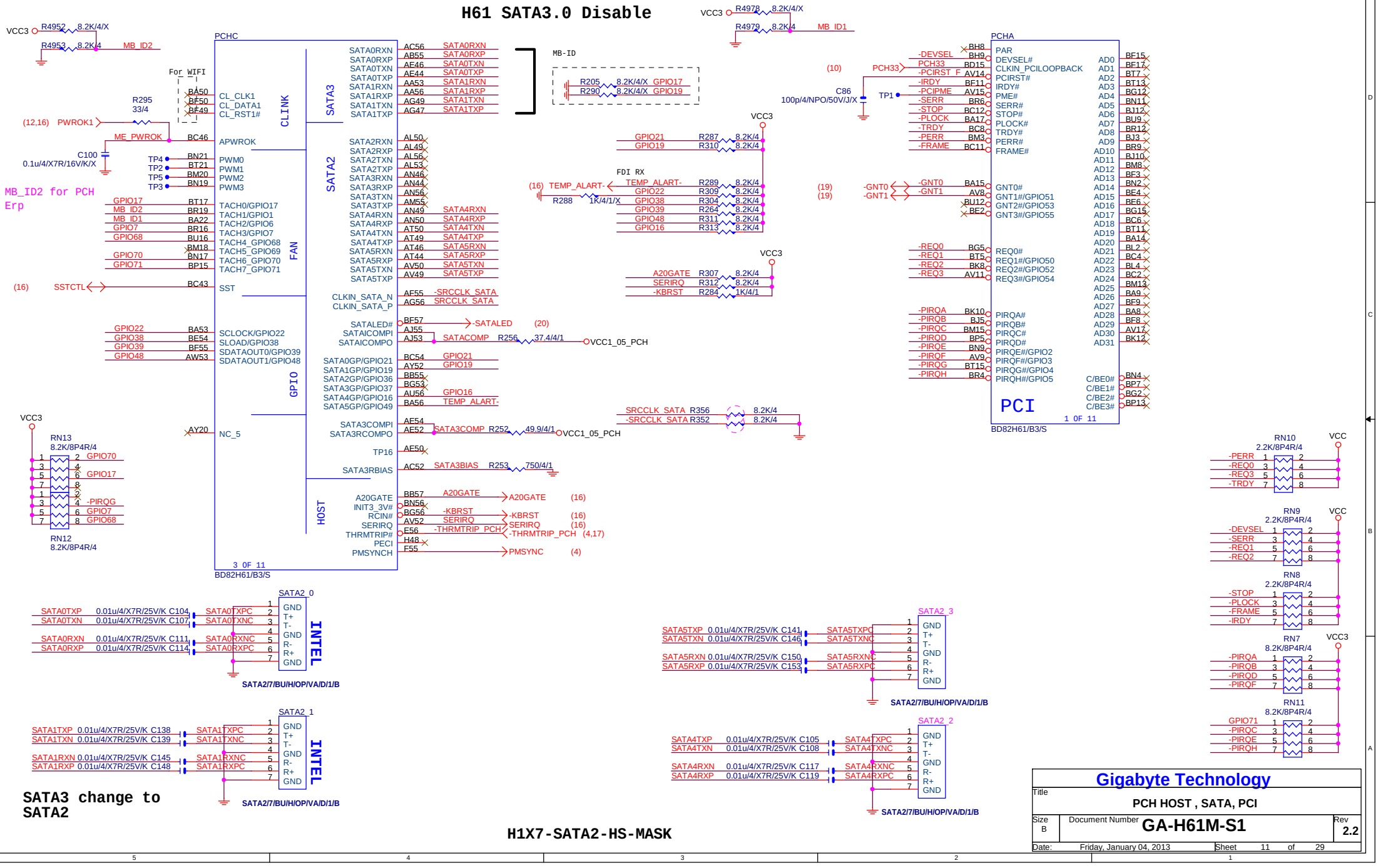
Gigabyte Technology			
Title: DDRIII CHANNEL B			
Size: Custom	Document Number: GA-H61M-S1	Rev: 2.2	
Date:	Sheet 8 of 29		

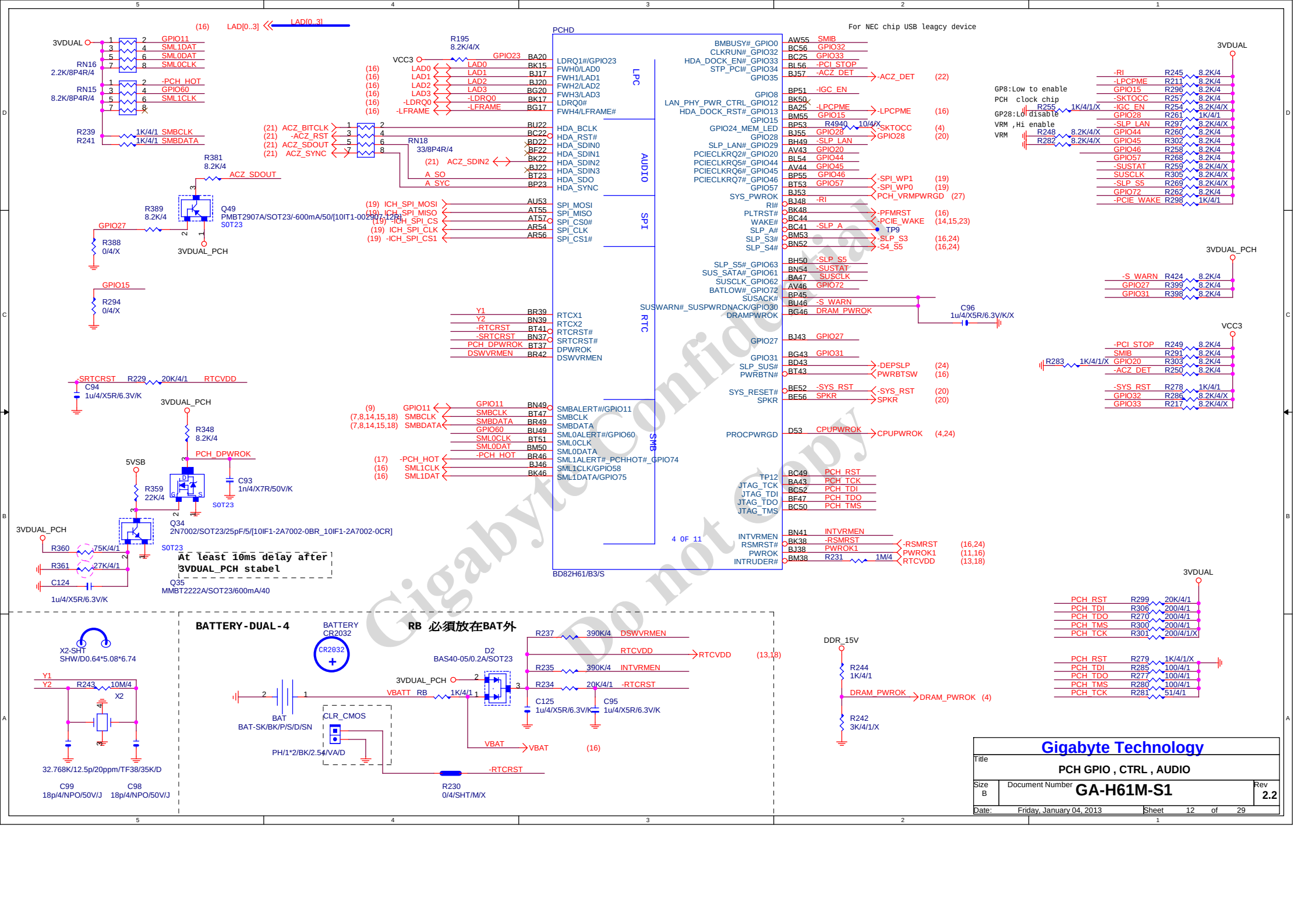

H61 disable USB6,7,12,13
FRONT
REAR
PCHB
DMI
USB
PCIE
PCIEX1_1
PCIEX1_2 LAN
finetune USB driving
FOR FUSE SHORT GPIO
PCHG
FDILINK
PCHE
NVRAM
NEW FOOTPRINT:BGAHSINK_PCH_HS
PCH_HS
DMI /FDI termination voltage
INTERNAL CLK STRAPPING
R1018 short to GND in non graphic SKU
USB OC# Configure for H61
OC0# USB0,1(F_USB1)
OC1# USB2,3(F_USB2)
OC2# USB4,5(USB_LAN)
OC3# N/A
OC4# USB8,9(R_USB1)
OC5# USB10~11(R_USB2)
OC6# N/A
OC7# GPIO14
Gigabyte Technology
PCH FDI,DMI,USB ,PCIE,NVRAM
GA-H61M-S1
Rev 2.2
Friday, January 04, 2013
Sheet 9 of 29

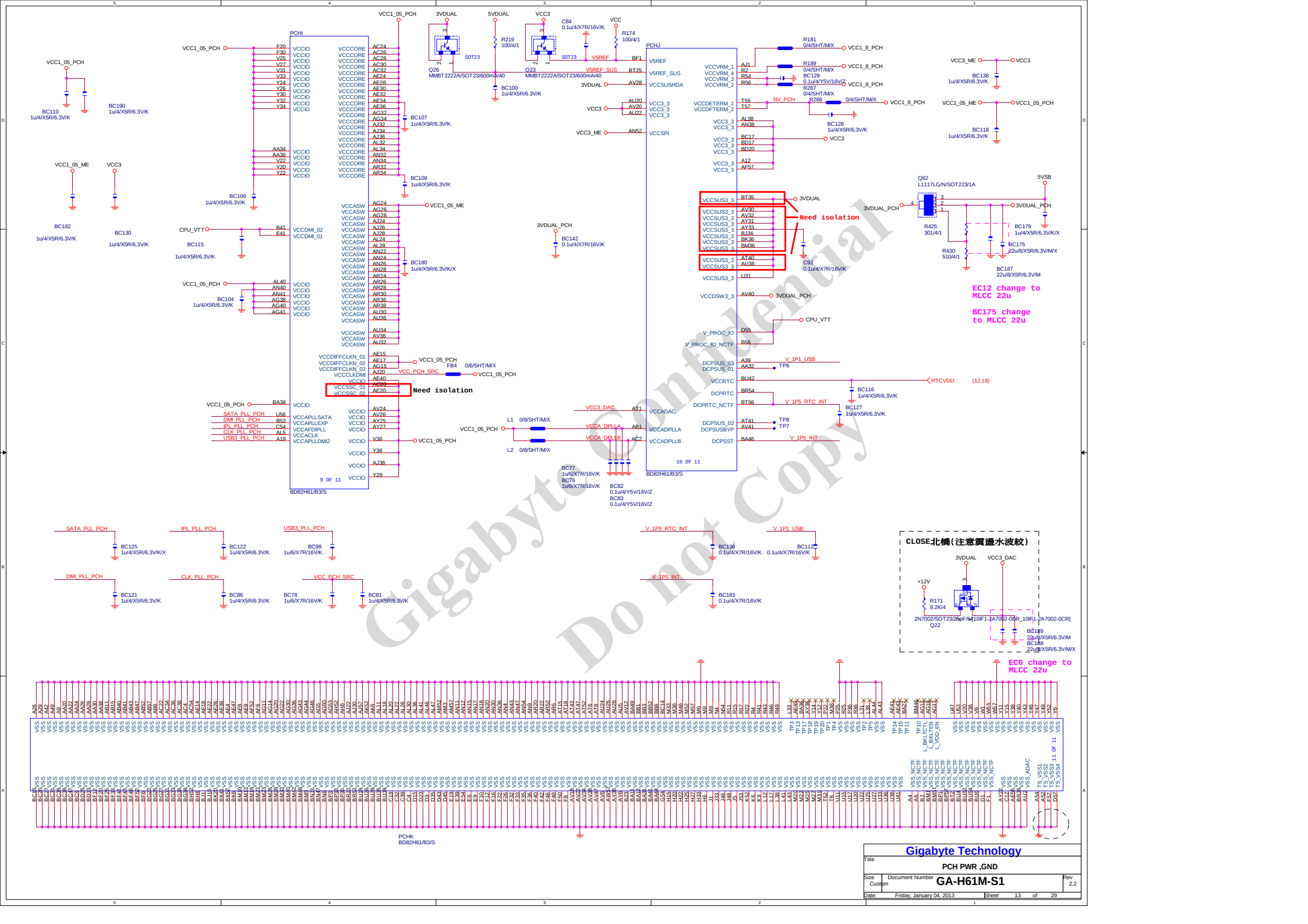


Company	Gigabyte Technology
Title	PCH DISPLAY ,CLK BUFFER
Size	Custom
Document Number	GA-H61M-S1
Rev	2.2
Date:	Friday, January 04, 2013
Sheet	10 of 29

H61 SATA3.0 Disable




PCHD
BD82H61/B3/S
LPC
AUDIO
SPI
RTC
SMB
4 OF 11
For NEC chip USB leagcy device
GP8:Low to enable PCH clock chip
GP28:Lo disable VRM ,Hi enable
At least 10ms delay after 3VDUAL_PCH stabel
BATTERY-DUAL-4
RB 必須放在BAT外
Gigabyte Technology
PCH GPIO , CTRL , AUDIO
GA-H61M-S1
Rev 2.2
Date: Friday, January 04, 2013
Sheet 12 of 29
Gigabyte Confidential
Do not copy


PCHI
PCHJ
PCHK
BD82H61/B3/S
9 OF 11
10 OF 11
11 OF 11
Need isolation
Need isolation
EC12 change to MLCC 22u
BC175 change to MLCC 22u
EC6 change to MLCC 22u
CLOSE北橋(注意震盪水波紋)
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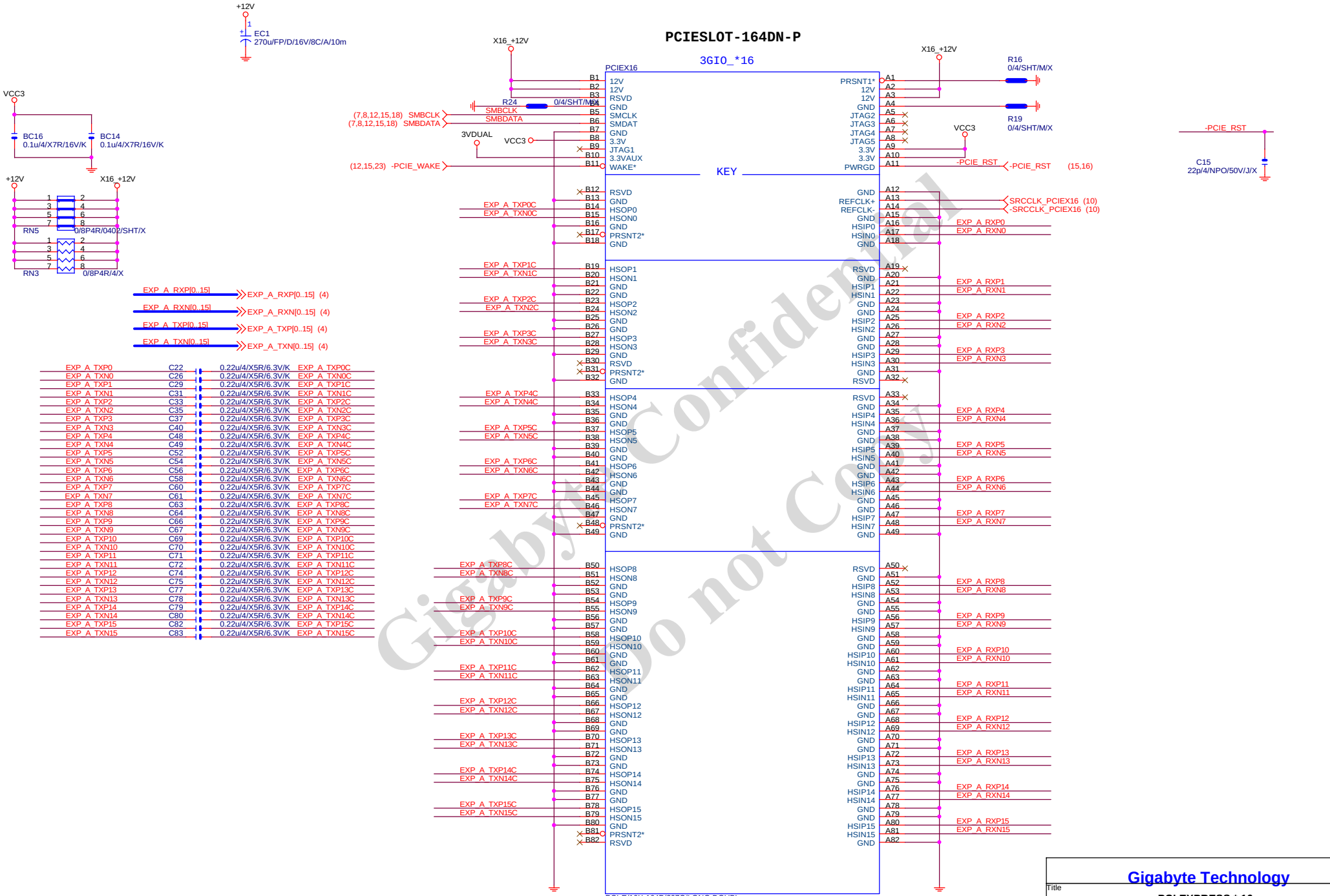
Do not Copy
Gigabyte Technology
PCH PWR ,GND
GA-H61M-S1
Rev 2.2
Friday, January 04, 2013
Sheet 13 of 29

EC6D_8D10MM-RH

PCIESLOT-164DN-P

3GIO_*16

PCIEX16

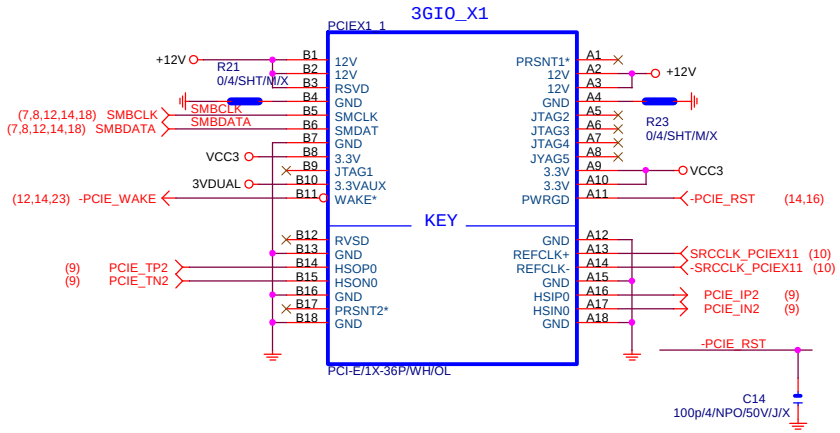


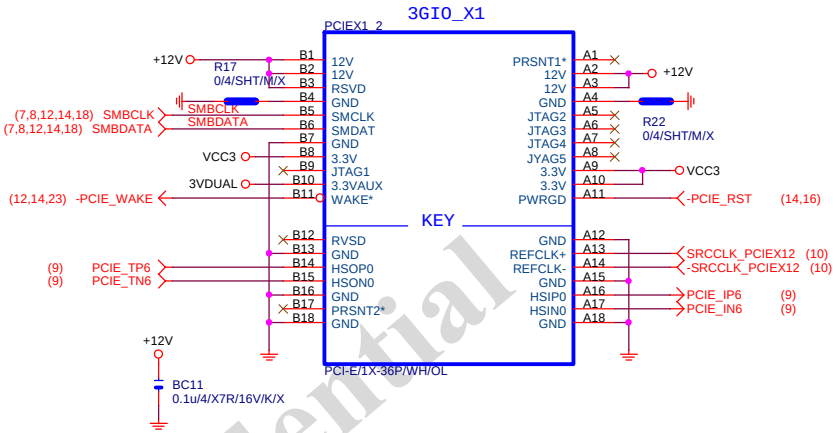
EXP_A_TXP0	C22	0.22u/4/X5R/6.3V/K EXP_A_TXP0C
EXP_A_TXN0	C26	0.22u/4/X5R/6.3V/K EXP_A_TXN0C
EXP_A_TXP1	C29	0.22u/4/X5R/6.3V/K EXP_A_TXP1C
EXP_A_TXN1	C31	0.22u/4/X5R/6.3V/K EXP_A_TXN1C
EXP_A_TXP2	C33	0.22u/4/X5R/6.3V/K EXP_A_TXP2C
EXP_A_TXN2	C35	0.22u/4/X5R/6.3V/K EXP_A_TXN2C
EXP_A_TXP3	C37	0.22u/4/X5R/6.3V/K EXP_A_TXP3C
EXP_A_TXN3	C40	0.22u/4/X5R/6.3V/K EXP_A_TXN3C
EXP_A_TXP4	C48	0.22u/4/X5R/6.3V/K EXP_A_TXP4C
EXP_A_TXN4	C49	0.22u/4/X5R/6.3V/K EXP_A_TXN4C
EXP_A_TXP5	C52	0.22u/4/X5R/6.3V/K EXP_A_TXP5C
EXP_A_TXN5	C54	0.22u/4/X5R/6.3V/K EXP_A_TXN5C
EXP_A_TXP6	C56	0.22u/4/X5R/6.3V/K EXP_A_TXP6C
EXP_A_TXN6	C58	0.22u/4/X5R/6.3V/K EXP_A_TXN6C
EXP_A_TXP7	C60	0.22u/4/X5R/6.3V/K EXP_A_TXP7C
EXP_A_TXN7	C61	0.22u/4/X5R/6.3V/K EXP_A_TXN7C
EXP_A_TXP8	C63	0.22u/4/X5R/6.3V/K EXP_A_TXP8C
EXP_A_TXN8	C64	0.22u/4/X5R/6.3V/K EXP_A_TXN8C
EXP_A_TXP9	C66	0.22u/4/X5R/6.3V/K EXP_A_TXP9C
EXP_A_TXN9	C67	0.22u/4/X5R/6.3V/K EXP_A_TXN9C
EXP_A_TXP10	C69	0.22u/4/X5R/6.3V/K EXP_A_TXP10C
EXP_A_TXN10	C70	0.22u/4/X5R/6.3V/K EXP_A_TXN10C
EXP_A_TXP11	C71	0.22u/4/X5R/6.3V/K EXP_A_TXP11C
EXP_A_TXN11	C72	0.22u/4/X5R/6.3V/K EXP_A_TXN11C
EXP_A_TXP12	C74	0.22u/4/X5R/6.3V/K EXP_A_TXP12C
EXP_A_TXN12	C75	0.22u/4/X5R/6.3V/K EXP_A_TXN12C
EXP_A_TXP13	C77	0.22u/4/X5R/6.3V/K EXP_A_TXP13C
EXP_A_TXN13	C78	0.22u/4/X5R/6.3V/K EXP_A_TXN13C
EXP_A_TXP14	C79	0.22u/4/X5R/6.3V/K EXP_A_TXP14C
EXP_A_TXN14	C80	0.22u/4/X5R/6.3V/K EXP_A_TXN14C
EXP_A_TXP15	C82	0.22u/4/X5R/6.3V/K EXP_A_TXP15C
EXP_A_TXN15	C83	0.22u/4/X5R/6.3V/K EXP_A_TXN15C

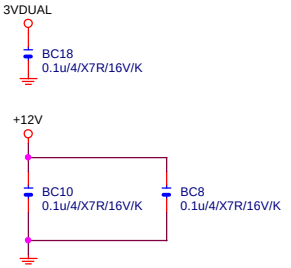
PCI-E/16X-164P/297C/LONG DOUBL

Gigabyte Technology	
Title	PCI EXPRESS * 16
Size: Custom	Document Number: GA-H61M-S1
Rev	2.2
Date: Friday, January 04, 2013	Sheet 14 of 29

PCIE*1







CLK GEN

Gigabyte Technology		
Title: PCIEX1,X2/CLK GEN		
Size: Custom	Document Number: GA-H61M-S1	Rev: 2.2
Date: Friday, January 04, 2013	Sheet 15 of 29	

GP22 Default GP22 DIOD8

GP23 Default CPU_PG DOD8

IT8728F(GB)

IT8728F/EX (GB)/QFP128

GP40 Default 3VSBSW# DO8

CHK GPIO53

(-PSON FOR TEST ATX)

EUP

internal power pin, max 22nF cap

For IT8721 Power leakage

For 8728 EUP function

JP6:N\A FOR 8728 DX
JP6:PULL DOWN FOR 8728 EX
anti-surge enable

EUP control by PCH

JP3--- High SPI-Flash Disable
Low SPI-Flash Enable

PCIRST1 is OD in IT8728

H61M-DS2_R0.2

	IT8728
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRVB#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2(VCC5)
PIN96	VIN1(VCC12)
PIN97	VIN1/VDIMM_STR(1.5V)
PIN98	VIN0/VCORE(1.1V)/NC

Gigabyte Technology

Title: ITE 8728 LPC IO

Size: B | Document Number: GA-H61M-S1 | Rev: 2.2

Date: Friday, January 04, 2013 | Sheet 16 of 29

COM

COM RI

KB/MS

KB_MS

MSDATA

MSCLK

KBDATA

KBCLK

MS

KB

FUSEVCC_R

BC272
0.1u/4/Y5V/16V/Z/X

AGND1

BC4
0.1u/4/Y5V/16V/Z/X

KB/MS/6P/PC99/OS/RA/D/2

R4997

0/6/SHT/X

H61M-DS2 R0.2

ESD18

KBCLK

MSDATA

FUSEVCC_R

KBDATA

MSCLK

AZC099-04S/SOT23-6L/X

RN2

KDAT

KCLK

MDAT

MCLK

KBDATA

KBCLK

MSDATA

MSCLK

82/8P4R/4

CN1
180p/8P4C/6/NPO/50V/K

R_USB1

FUSEVCC_R

UR2
150K/4

-USBOC_R

UR3
270K/4

RN1

8.2K/8P4R/4

R_USB1

R_USB

FUSEVCC_R

BC1
0.1u/4/X7R/16V/K/X

-USBP8

+USBP8

-USBP9

+USBP9

USB/A/O/BLACK/GF/2/RA/D

5VDUAL

F5

SMD1812P260/6V

ESD3

LAR14

0/6/SHT/X

AZC099-04S/SOT23-6L

CLOSE R_USB2

-PROHOT

VCC3

Q16
BAT54A/SOT23/200mA

R39
100K/4/1

VR_HOT

R46

0/4/X

-PCH_HOT

VCC

R34
22K/4

Q10
2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]

SOT23

R45
8.2K/4

Q11
MMBT2222A/SOT23/600mA/40

-THERM

deasserted at 116 degree

RS2 CLOSE CPU VR MOSFET

+12V

R49
35.7K/4/1

1.0A
(127.3 'C)

R96
8.06K/4/1/X

R100
1.21K/4/1

TSM_5

TSM_6

U1D
LM324DR/SO14

TSM_7

R? CLOSE Q32

Q15
2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]

Q14
2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]

RS1
100K/1/4/S/X

R52
1K/4/1

C38
0.1u/4/X7R/16V/K/X

CLOSE PWM HOT MOSFET

R4995
8.06K/4/1

R4974
2K/4/1

TSM_8

TSM_9

U1A
LM324DR/SO14

Q77

-THRMTRIP_PCH

RS4
100K/1/4/S/X

R4975
1K/4/1

C168
0.1u/4/X7R/16V/K/X

REV
1.01

R4996
0/4

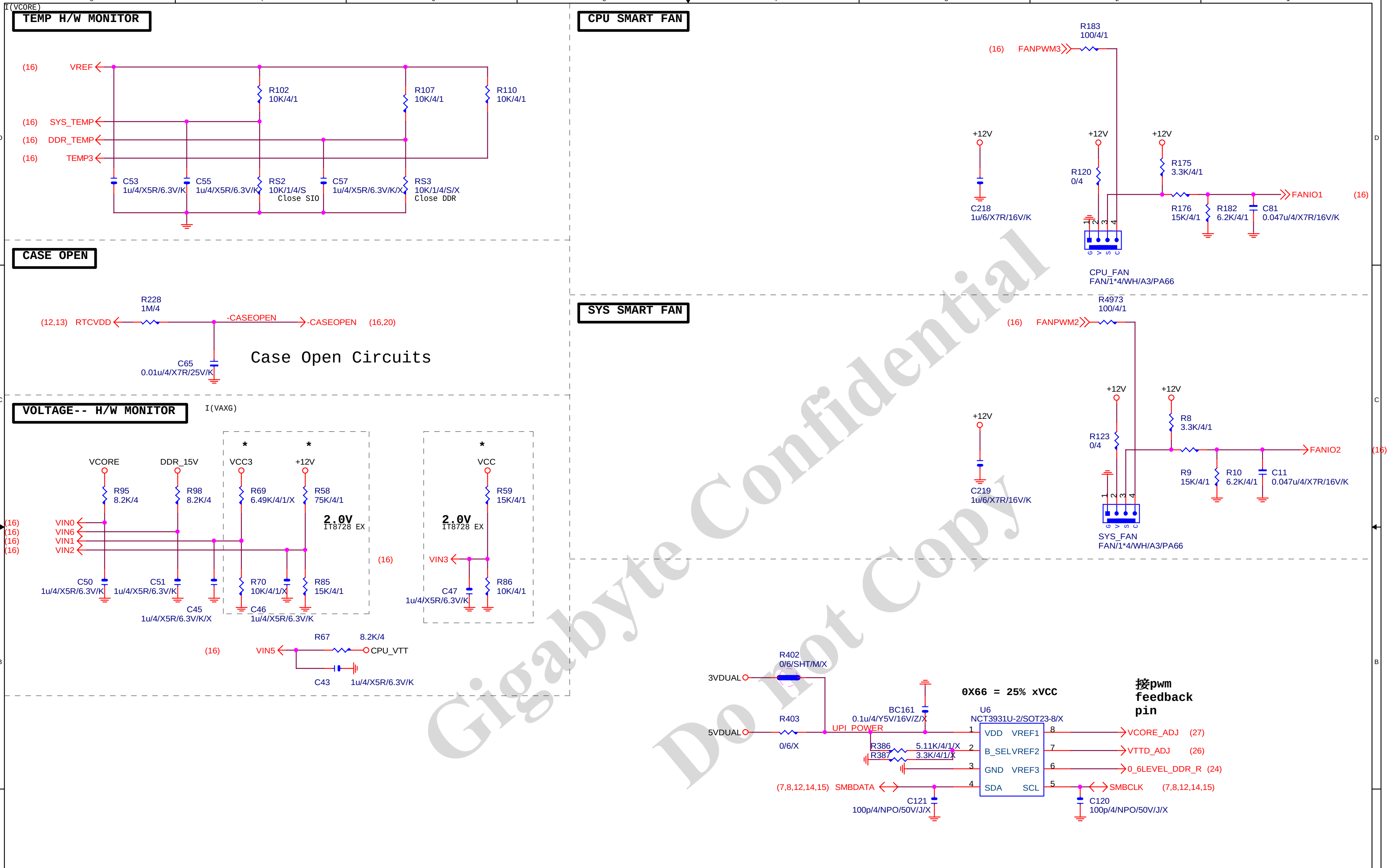
CLOSE PWM HOT MOSFET

Gigabyte Technology

Title: -RI,KB_USB,USB_ESATA,-PROCHOT

Size: Custom | Document Number: GA-H61M-S1 | Rev: 2.2

Date: Friday, January 04, 2013 | Sheet 17 of 29



TEMP H/W MONITOR
(16) VREF
(16) SYS_TEMP
(16) DDR_TEMP
(16) TEMP3
R102 10K/4/1
R107 10K/4/1
R110 10K/4/1
C53 1u/4/X5R/6.3V/K
C55 1u/4/X5R/6.3V/K
RS2 10K/1/4/S Close SIO
C57 1u/4/X5R/6.3V/K/X
RS3 10K/1/4/S/X Close DDR
CASE OPEN
R228 1M/4
(12,13) RTCVDD
-CASEOPEN
-CASEOPEN (16,20)
C65 0.01u/4/X7R/25V/K
Case Open Circuits
VOLTAGE-- H/W MONITOR
I(VAXG)
VCORE DDR_15V VCC3 +12V VCC
R95 8.2K/4
R98 8.2K/4
R69 6.49K/4/1/X
R58 75K/4/1
2.0V IT8728 EX
R59 15K/4/1
(16) VIN0
(16) VIN6
(16) VIN1
(16) VIN2
(16) VIN3
C50 1u/4/X5R/6.3V/K
C51 1u/4/X5R/6.3V/K
C45 1u/4/X5R/6.3V/K/X
R70 10K/4/1/X
C46 1u/4/X5R/6.3V/K
R85 15K/4/1
C47 1u/4/X5R/6.3V/K
R86 10K/4/1
R67 8.2K/4
(16) VIN5
CPU_VTT
C43 1u/4/X5R/6.3V/K
CPU SMART FAN
R183 100/4/1
(16) FANPWM3
+12V
C218 1u/6/X7R/16V/K
R120 0/4
R175 3.3K/4/1
R176 15K/4/1
R182 6.2K/4/1
C81 0.047u/4/X7R/16V/K
FANIO1 (16)
CPU_FAN FAN/1*4/WH/A3/PA66
SYS SMART FAN
R4973 100/4/1
(16) FANPWM2
C219 1u/6/X7R/16V/K
R123 0/4
R8 3.3K/4/1
R9 15K/4/1
R10 6.2K/4/1
C11 0.047u/4/X7R/16V/K
FANIO2 (16)
SYS_FAN FAN/1*4/WH/A3/PA66
3VDUAL
R402 0/6/SHT/M/X
5VDUAL
R403 0/6/X
UPI POWER
BC161 0.1u/4/Y5V/16V/Z/X
0X66 = 25% xVCC
U6 NCT3931U-2/SOT23-8/X
VDD VREF1
B_SELVREF2
GND VREF3
SDA SCL
R386 5.11K/4/1/X
R387 3.3K/4/1/X
VCORE_ADJ (27)
VTTD_ADJ (26)
0_6LEVEL_DDR_R (24)
(7,8,12,14,15) SMBDATA
SMBCLK (7,8,12,14,15)
C121 100p/4/NPO/50V/J/X
C120 100p/4/NPO/50V/J/X
接pwm feedback pin

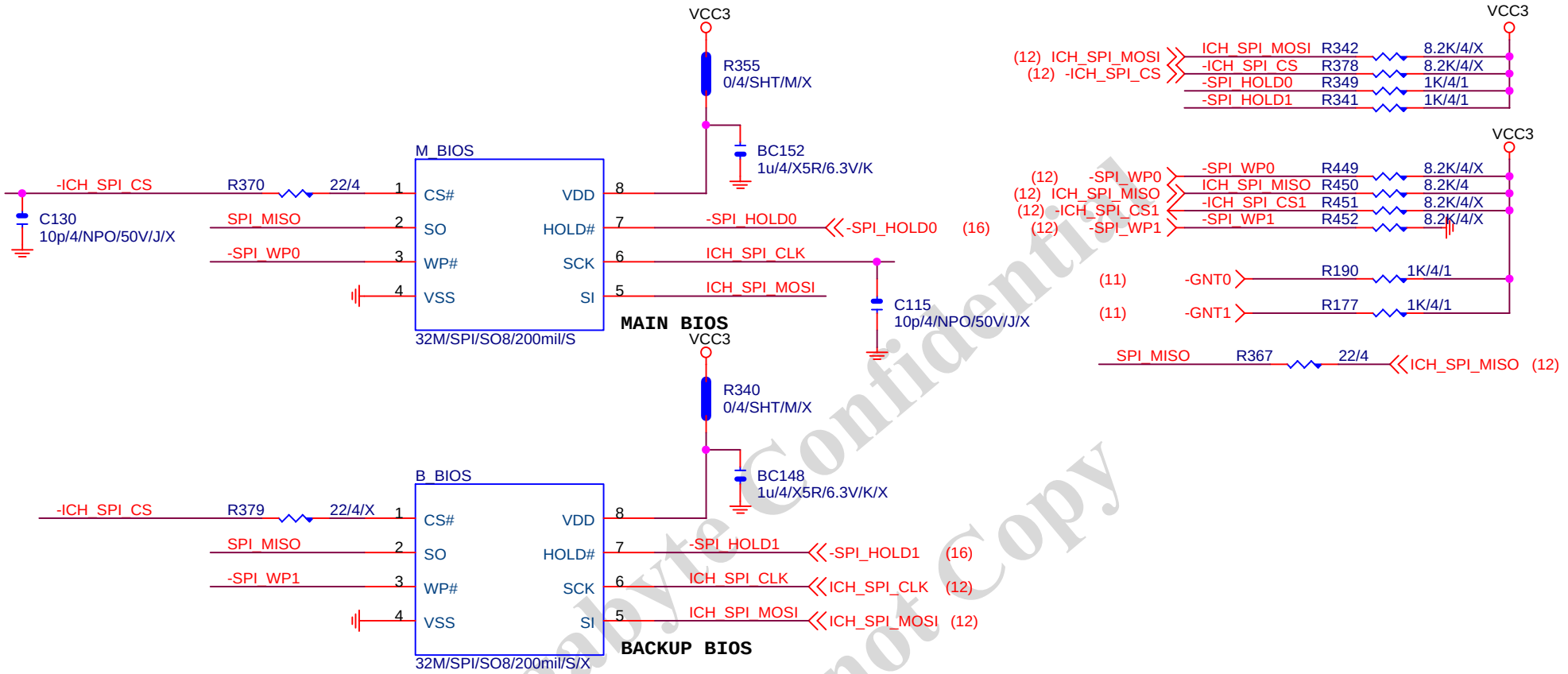
Gigabyte Technology

Title: HWM,FAN CTRL,OV

Size: Custom | Document Number: GA-H61M-S1 | Rev: 2.2

Date: Friday, January 04, 2013 | Sheet 18 of 29

DUAL BIOS

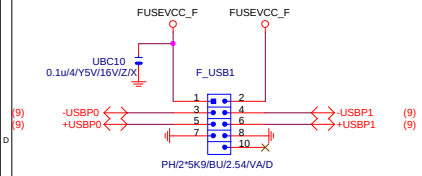


BOOT DEVICE	GNT1	GNT0
LPC	0	0
PCI	0	1
SPI	1	1

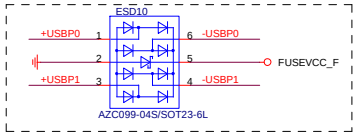
1 means floating
0 means PD 1K

Gigabyte Technology		
Title: SINGLE BIOS		
Size: A	Document Number: GA-H61M-S1	Rev: 2.2
Date: Friday, January 04, 2013	Sheet 19 of 29	

FRONT USB1

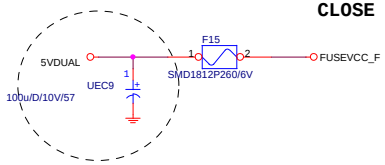


change to BLUE COLOR



Close to connector

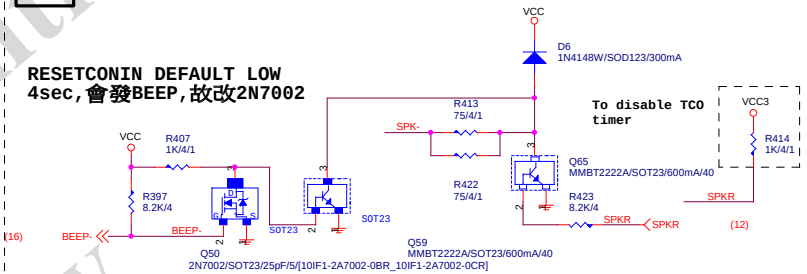
CLOSE F_USB1



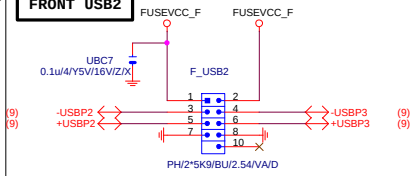
SATA LED

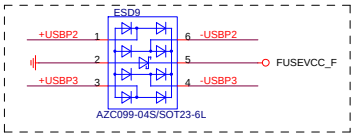
SPKR

RESETCONIN DEFAULT LOW
4sec,會發BEEP,故改2N7002



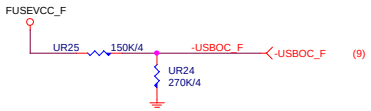
FRONT USB2



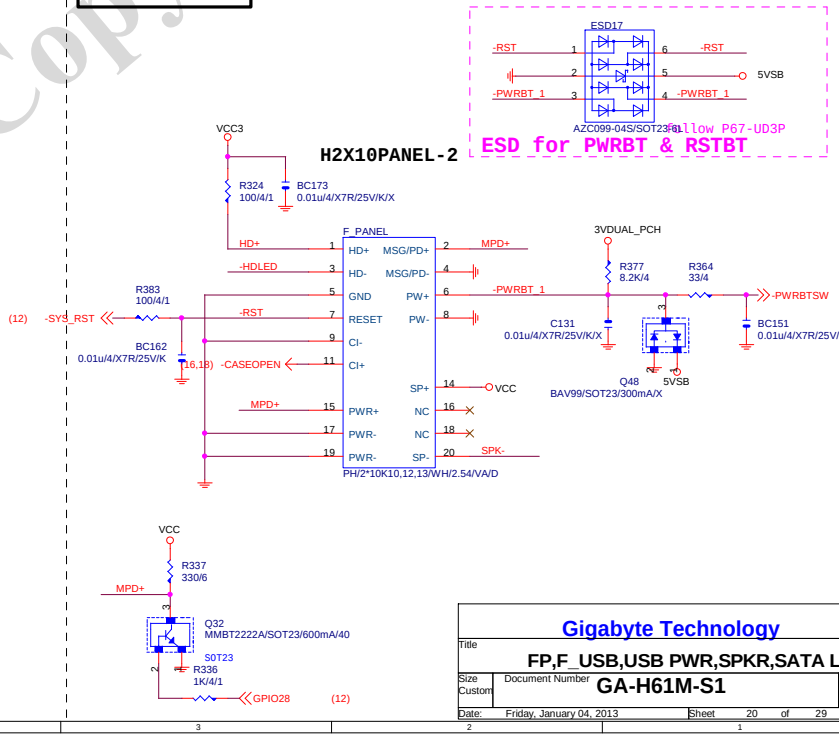


Close to connector

FRONT USB3



INTEL FRONT PANEL

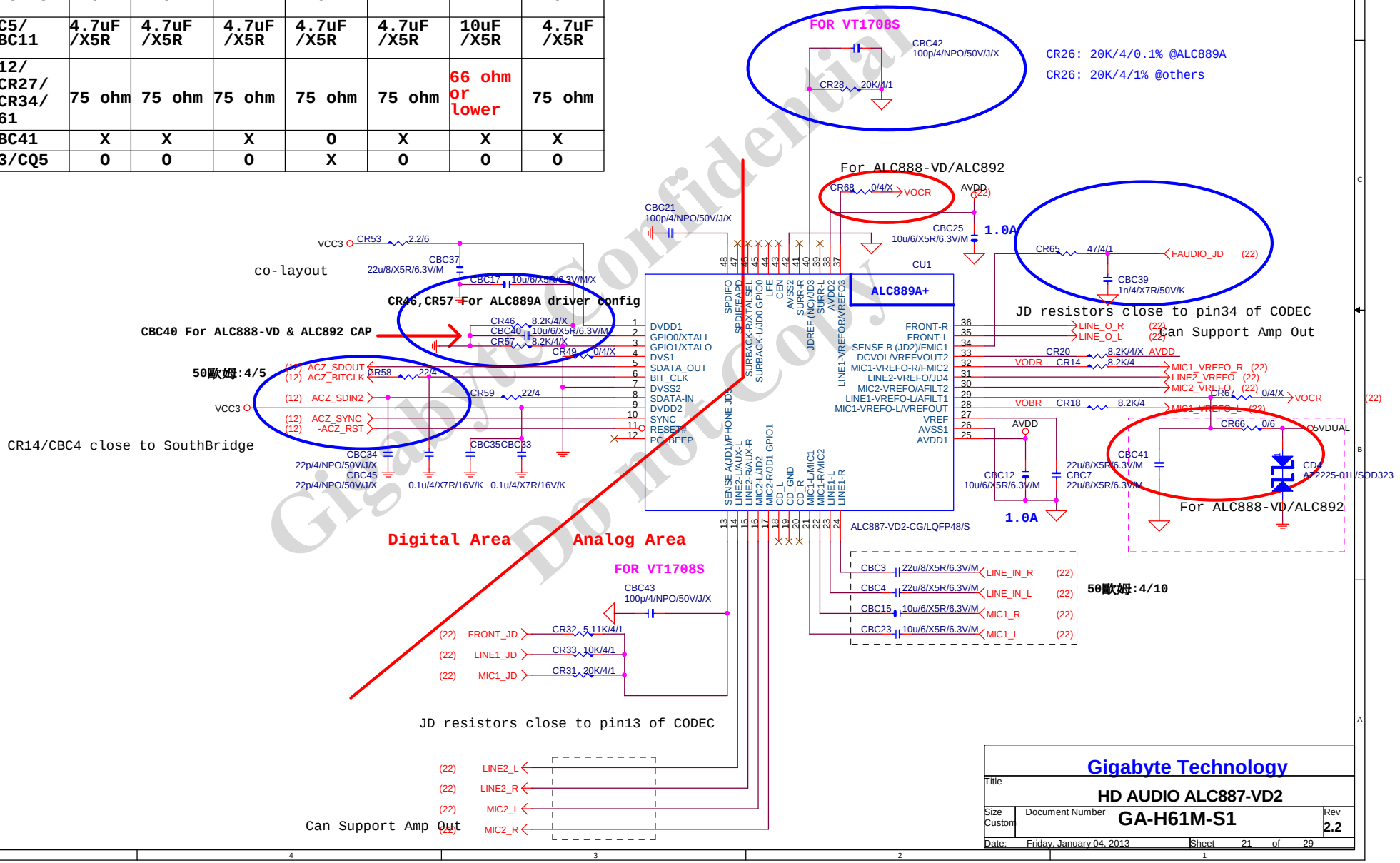


Gigabyte Technology		
Title: FP,F_USB,USB PWR,SPKR,SATA LED		
Size: Custom	Document Number: GA-H61M-S1	Rev: 2.2
Date: Friday, January 04, 2013	Sheet 20 of 29	

AZALIA CODEC

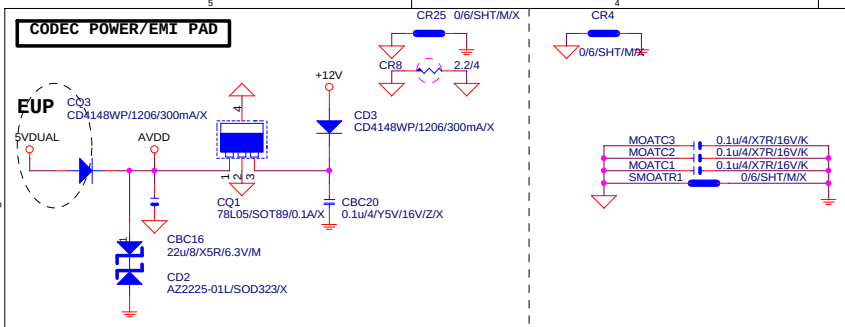
ALC883/ALC888-A/ALC888B/ALC888-VD/ALC892R/ALC889/ALC889A Colay

	ALC883	ALC888-VA	ALC888B	ALC888-VD	ALC892R	ALC889	ALC889A
CR46	X	X	X	X	X	X	O
CR57	X	X	X	X	X	X	O
CR49	O	O	X	X	X	O	O
CBC40	X	X	X	10uF/X5R	10uF/X5R	X	X
CR20	O	X	X	X	X	X	X
CR26	20K/1%	20K/1%	20K/1%	20K/1%	20K/1%	20K/1%	20K/0.1%
CR47	X	X	O	X	O	O	X
CR48	O	O	X	O	X	X	O
CBC2/CBC4/CBC5/ CBC6/CBC10/CBC11	4.7uF /X5R	4.7uF /X5R	4.7uF /X5R	4.7uF /X5R	4.7uF /X5R	10uF /X5R	4.7uF /X5R
CR1/CR3/CR10/CR12/ CR15/CR19/CR56/CR27/ CR55/CR37/CR28/CR34/ CR6/CR9/CR51/CR61	75 ohm	75 ohm	75 ohm	75 ohm	75 ohm	66 ohm or lower	75 ohm
CR66/CR68/CD3/CBC41	X	X	X	O	X	X	X
CR67/CD1/CD2/CQ3/CQ5	O	O	O	X	O	O	O

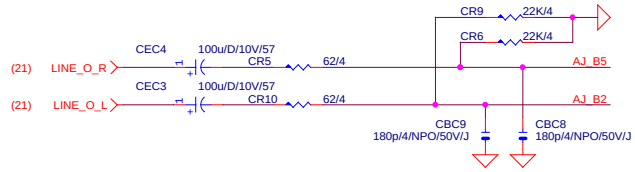


Gigabyte Technology		
Title	HD AUDIO ALC887-VD2	
Size: Custom	Document Number: GA-H61M-S1	Rev: 2.2
Date: Friday, January 04, 2013	Sheet 21 of 29	

CODEC POWER/EMI PAD

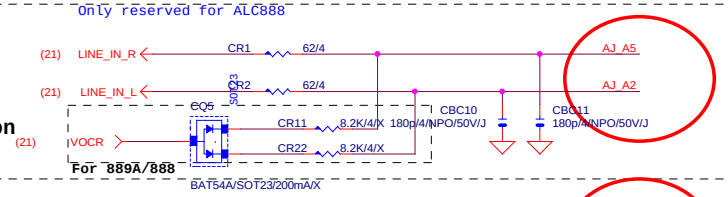


LINE-OUT



Only reserved for ALC888

LINE-IN

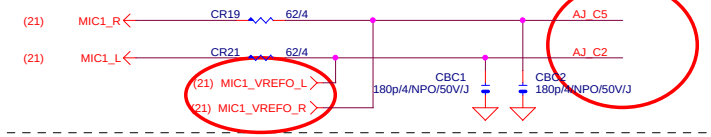


Verify MIC function in LINE-in

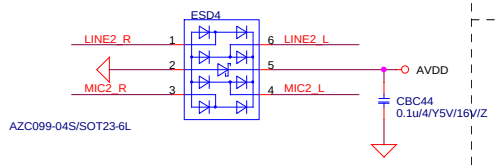
For 889A/888

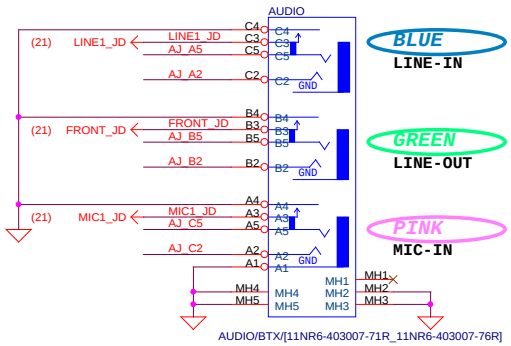
BAT54A/SOT23/200mA/X

MIC-IN



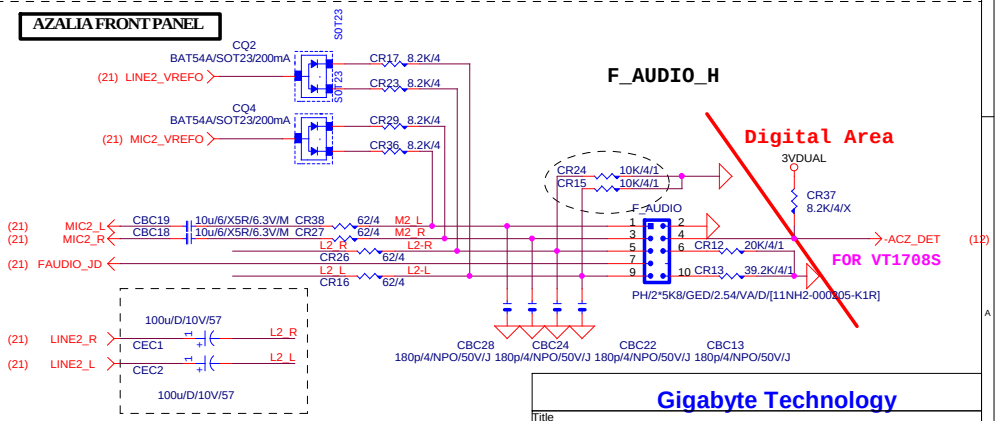
AZALIA JACK





AUDIO/BTX/[11NR6-403007-71R_11NR6-403007-76R]

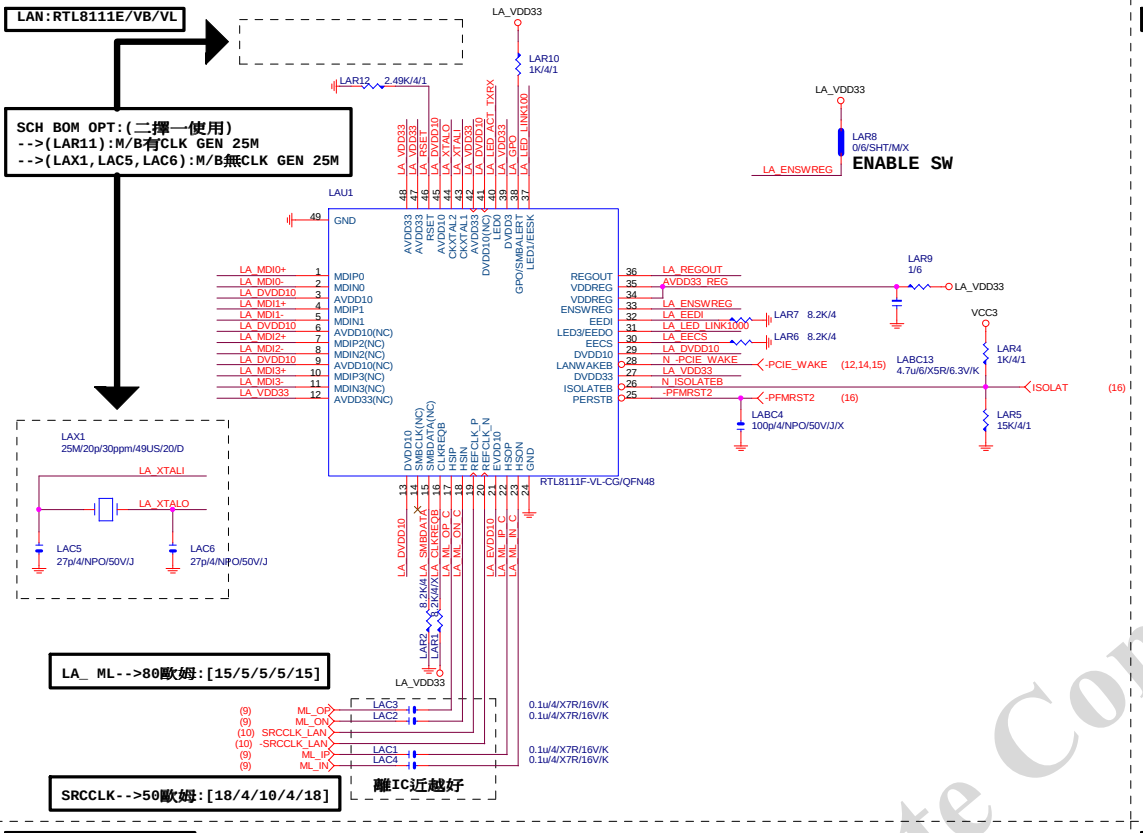
AZALIA FRONT PANEL



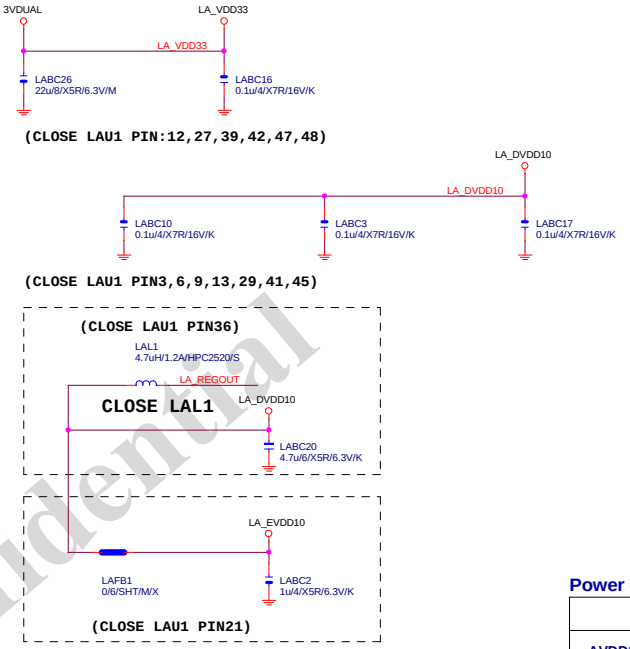
Gigabyte Technology			
Title: AUDIO JACK			
Size: Custom	Document Number: GA-H61M-S1		Rev: 2.2
Date: Friday, January 04, 2013		Sheet 22 of 29	

LAN:RTL8111E/VB/VL

SCH BOM OPT:(二擇一使用)
-->(LAR11):M/B有CLK GEN 25M
-->(LAX1,LAC5,LAC6):M/B無CLK GEN 25M



LAN POWER

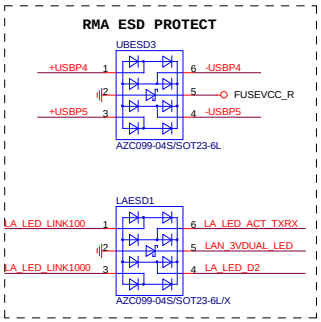


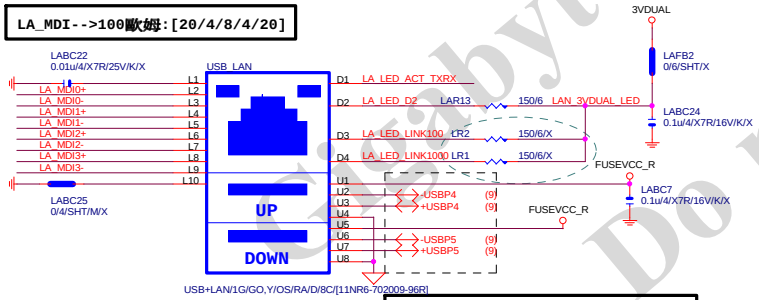
Power domain chart

	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V

USB_LAN CONNECTOR

RMA ESD PROTECT





11NR6-702009-96R

注意:USB PORT(目前:暫代6,7PORT)
USB-->90歐姆:[15/4.5/7.5/4.5/15]

USB X3 POWER

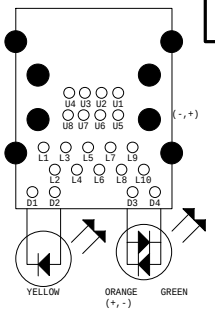
Close to connector

EMI SHORT PAD

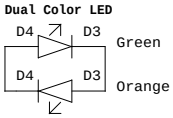
PS:視EMI需求

USB OC/FUSE PROTECT

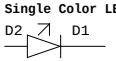
注意:LAN LED PROTECT:(CO-LAYOUT)
1.ESD(6PIN):AOZ8902CIL/SOT23-6(DEFAULT)
2.SURGE(5PIN):AZ2025-04S/SOT23-5L



Dual Color LED



Single Color LED



料號	規格	廠商
11NR6-702009-0ER 1G	LAN (12core)	UDE
11NR6-702009-91R 1G	LAN(8 core)	FOXCONN
11NR6-702009-92R 1G	LAN(8 core)	UDE
11NR6-702009-11R 1G	LAN(12core/RED)	UDE
11NR6-702009-12R 1G	LAN(8 core/RED)	FOXCONN

USB_LAN BOM區分:

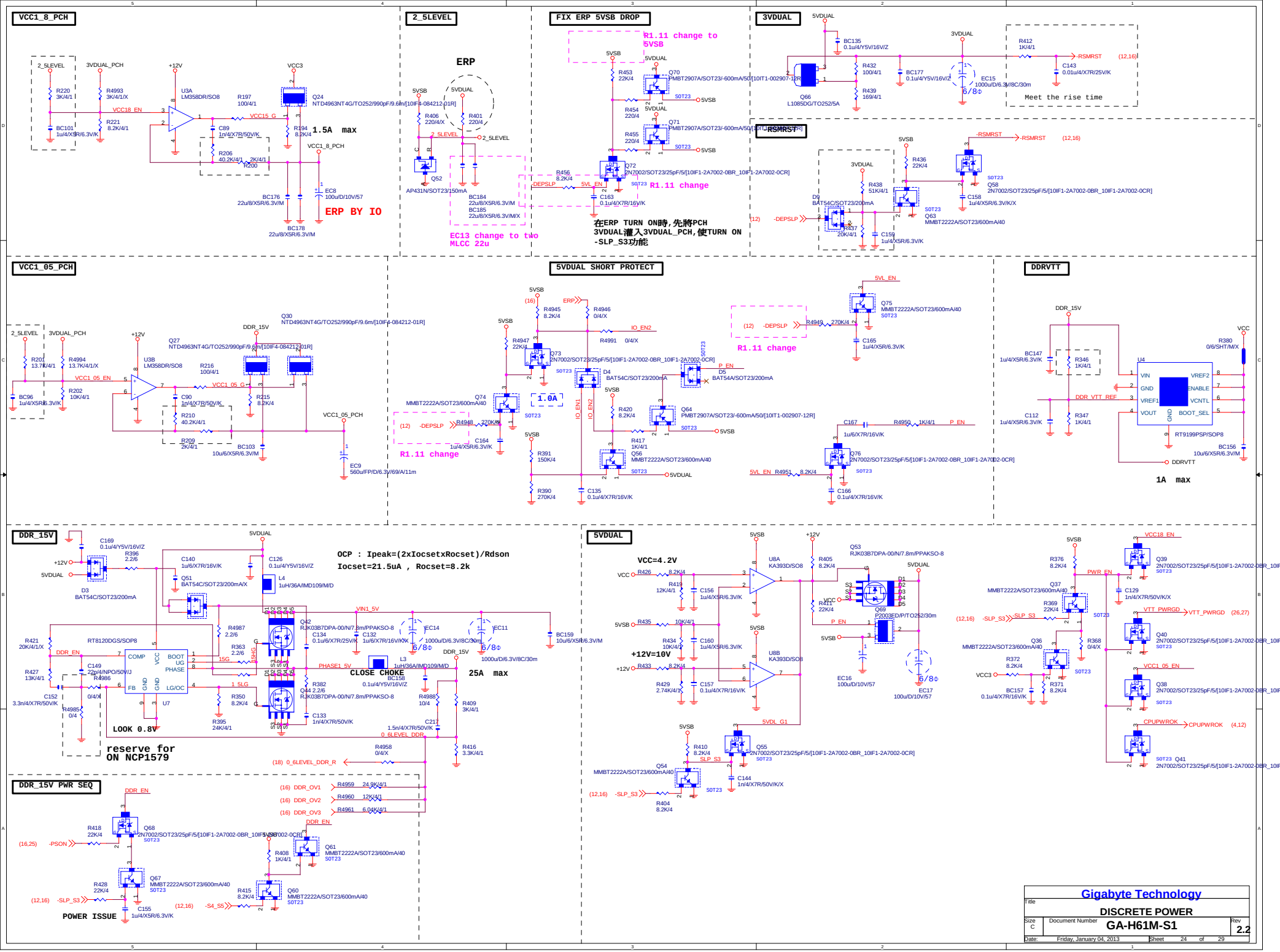
1.(紅色/12CORE/三倍):USB+LAN/1G/GO,Y/OS/RA/D/1/RED
2.(黑色/12CORE):USB+LAN/1G/GO,Y/OS/RA/D/1
3.(黑色/8CORE):USB+LAN/1G/GO,Y/OS/RA/D/8C

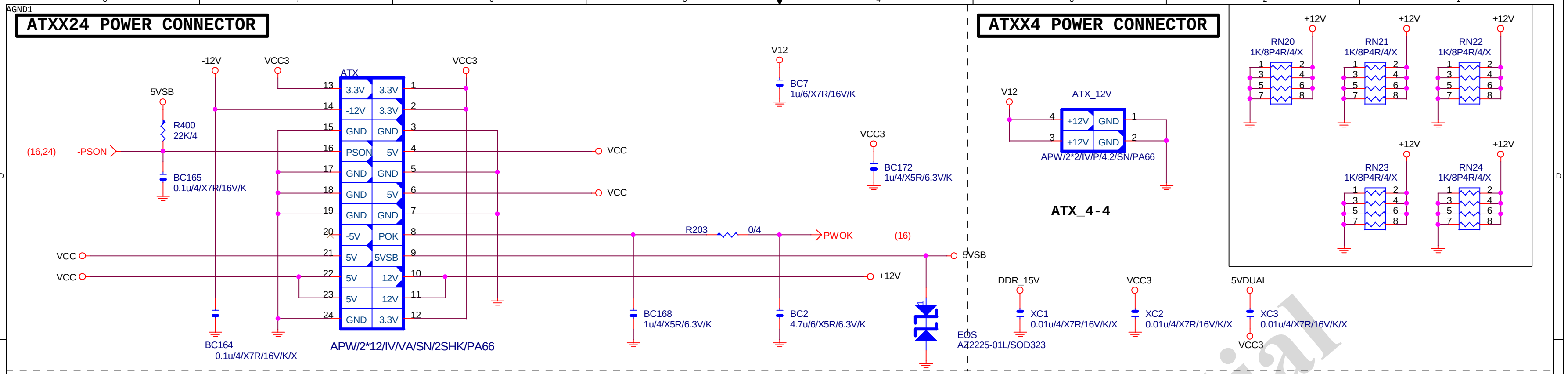
Gigabyte Technology

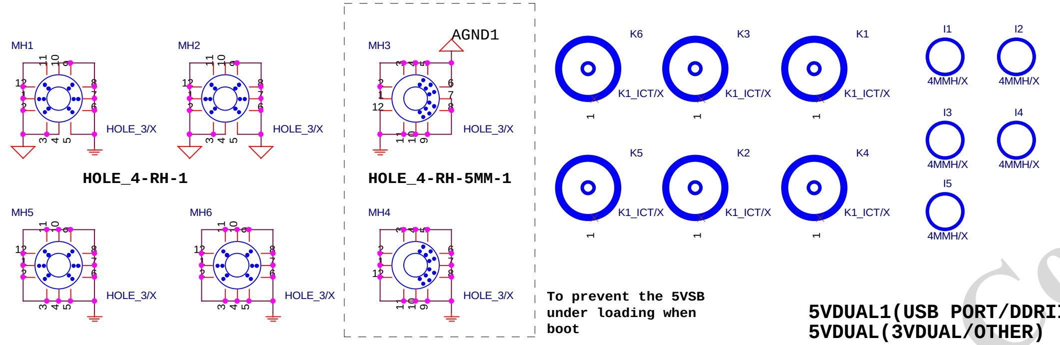
Title: LAN RTL8111F

Size: Custom | Document Number: GA-H61M-S1 | Rev: 2.2

Date: Friday, January 04, 2013 | Sheet 23 of 29


VCC1_8_PCH
2_5LEVEL
3VDUAL_PCH
+12V
VCC3
U3A LM358DR/SO8
R197 100/4/1
Q24 NTD4963NT4G/TO252/990pF/9.6m/[10IF4-084212-01R]
VCC18_EN
VCC15_G
1.5A max
VCC1_8_PCH
ERP BY IO
2_5LEVEL
ERP
5VSB
5VDUAL
Q52 AP431N/SOT23/150mA
EC13 change to two MLCC 22u
FIX ERP 5VSB DROP
R1.11 change to 5VSB
Q70 PMBT2907A/SOT23/-600mA/50/[10IT1-002907-12R]
Q71 PMBT2907A/SOT23/-600mA/50/[10IT1-002907-12R]
Q72 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
-DEPSLP
5VL_EN
R1.11 change
在ERP TURN ON時，先將PCH 3VDUAL灌入3VDUAL_PCH,使TURN ON -SLP_S3功能
3VDUAL
Q66 L1085DG/TO252/5A
Meet the rise time
-RSMRST
Q58 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
Q63 MMBT2222A/SOT23/600mA/40
VCC1_05_PCH
VCC1_05_EN
VCC1_05_G
Q30 NTD4963NT4G/TO252/990pF/9.6m/[10IF4-084212-01R]
Q27 NTD4963NT4G/TO252/990pF/9.6m/[10IF4-084212-01R]
U3B LM358DR/SO8
DDR_15V
EC9 560u/FP/D/6.3V/69/A/11m
5VDUAL SHORT PROTECT
Q74 MMBT2222A/SOT23/600mA/40
1.0A
R1.11 change
Q73 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
D4 BAT54C/SOT23/200mA
D5 BAT54A/SOT23/200mA
Q64 PMBT2907A/SOT23/-600mA/50/[10IT1-002907-12R]
Q56 MMBT2222A/SOT23/600mA/40
Q75 MMBT2222A/SOT23/600mA/40
Q76 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
DDRVTT
U4
RT9199PSP/SOP8
1A max
DDR_15V
RT8120DGS/SOP8
Q42 RJK03B7DPA-00/N/7.8m/PPAKSO-8
Q44 RJK03B7DPA-00/N/7.8m/PPAKSO-8
L3 1uH/36A/IMD109/M/D
CLOSE CHOKE
OCP : Ipeak=(2xIocsetxRocset)/Rdson
Iocset=21.5uA , Rocset=8.2k
25A max
LOOK 0.8V
reserve for ON NCP1579
5VDUAL
U8A KA393D/SO8
U8B KA393D/SO8
VCC=4.2V
+12V=10V
Q53 RJK03B7DPA-00/N/7.8m/PPAKSO-8
Q69 P2003ED/P/TO252/30m
Q55 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
Q54 MMBT2222A/SOT23/600mA/40
DDR_15V PWR SEQ
Q68 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
Q67 MMBT2222A/SOT23/600mA/40
Q61 MMBT2222A/SOT23/600mA/40
Q60 MMBT2222A/SOT23/600mA/40
POWER ISSUE
Q39 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
Q37 MMBT2222A/SOT23/600mA/40
Q36 MMBT2222A/SOT23/600mA/40
Q40 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
Q38 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
Q41 2N7002/SOT23/25pF/5/[10IF1-2A7002-0BR_10IF1-2A7002-0CR]
VTT_PWRGD
CPUPWROK
Gigabyte Technology
DISCRETE POWER
GA-H61M-S1
2.2
Friday, January 04, 2013
24 of 29

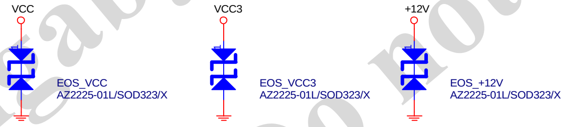




To prevent the 5VSB under loading when boot

5VDUAL1(USB PORT/DDRIII POWER)
5VDUAL(3VDUAL/OTHER)
-S_WARN-->5VDUAL1-->-S_ACK(PCH)-->-DEPSLP/-RSMRST-->5VDUAL-->3VDUAL

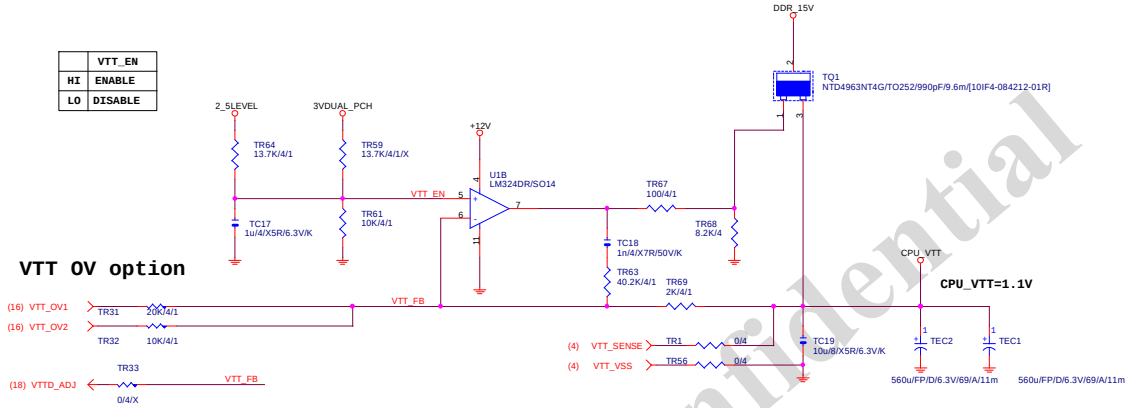
HOLE_4-RH-5MM-1



Gigabyte Technology	
Title	ATX CONNECTOR
Size Custom / Document Number	GA-H61M-S1
Rev	2.2
Date:	Friday, January 04, 2013
Sheet	25 of 29

CPU_VTT

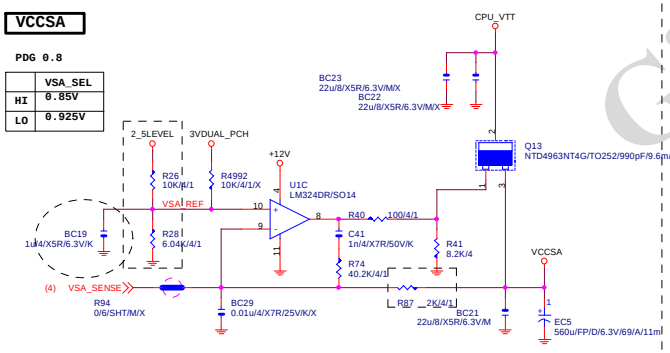
	VTT_EN
HI	ENABLE
LO	DISABLE



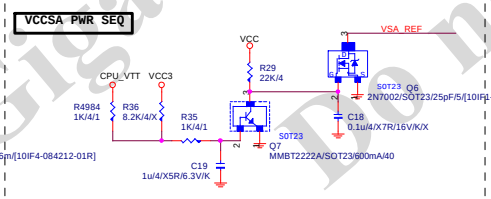
VCCSA

PDG 0.8

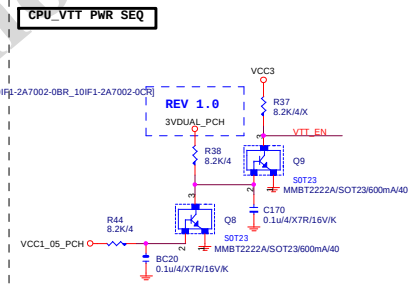
	VSA_SEL
HI	0.85V
LO	0.925V



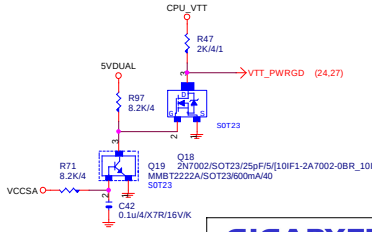
VCCSA_PWR_SEQ



CPU_VTT_PWR_SEQ



VTT_PWRGD

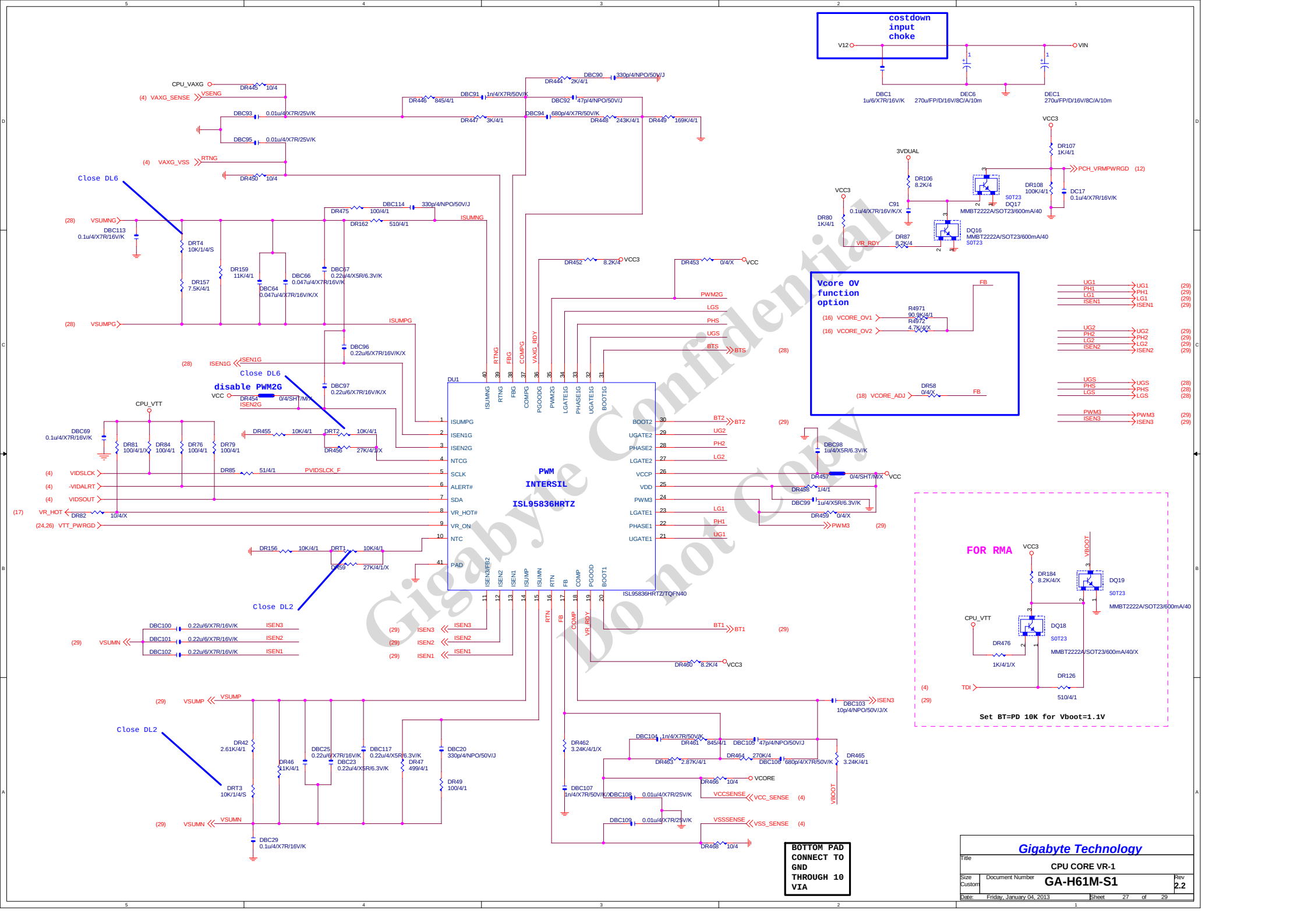


GIGABYTE™

Title: CPU_VTT PWM_ISL95870CRZ

Size: Custom | Document Number: GA-H61M-S1 | Rev: 2.2

Date: Friday, January 04, 2013 | Sheet 26 of 29



VAXG

UGS
PHS
LGS

UGS (27)
PHS (27)
LGS (27)

DR30
8.2K/4

DR28
2.2/6

UGS
UGS_1

PHS

LGS
DR35
0/6/SHT/M/X
LGS_1

DR31
2.2/6

DBC110
0.22u/6/X7R/16V/K

DC9
1n/4/X7R/50V/K

DR469
0/6/SHT/M/X

(27) BTS

VIN

DQ13
RJK03B7DPA-00/N/7.8m/PPAKSO-8

UGS_1
G
D1 D2 D3 D4 D5
S3 S2 S1

PHS

DL6

CPU_VAXG
0.68uH/40A/IMD119/M/D

DR167
0/4/SHT/M/X

DR168
0/4/SHT/M/X

DQ15
RJK0393DPA-0G/N/4.3m/PPAKSO-8

G
D1 D2 D3 D4 5
S3 S2 S1

LGS_1

CPU_VAXG

DEC14
560u/FP/D/6.3V/69/A/11m

DEC15
560u/FP/D/6.3V/69/A/11m

VIN

DBC82
10u/8/X5R/16V/K

DBC83
10u/8/X5R/16V/K

DBC7
1u/6/X7R/16V/K

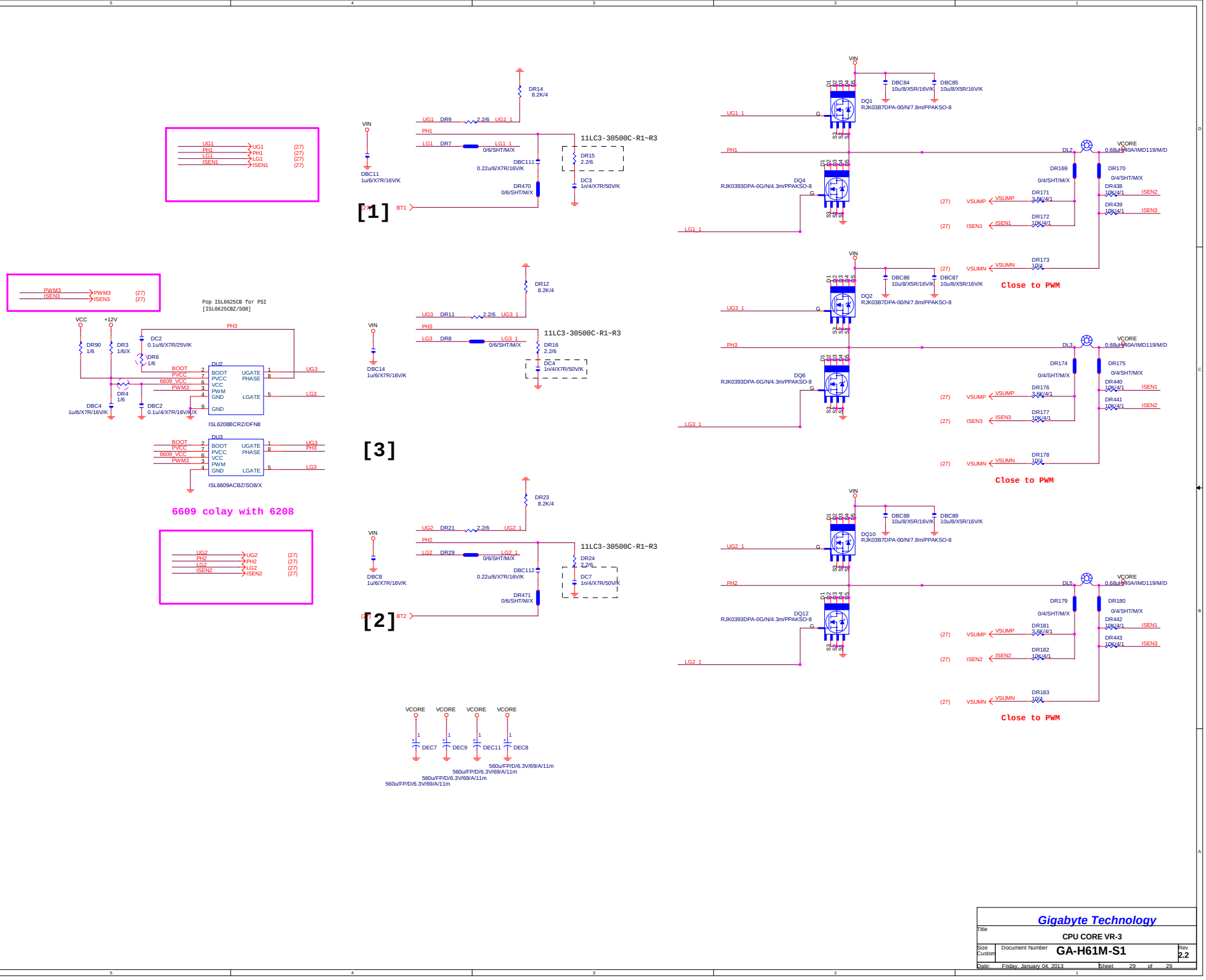
DEC12
270u/FP/D/16V/8C/A/10m

(27) VSUMPG VSUMPG DR472 3.6K/4/1

(27) ISEN1G ISEN1G DR473 10K/4/1/X

(27) VSUMNG VSUMNG DR474 10/4

Gigabyte Technology		
Title: CPU CORE VR-2		
Size: Custom	Document Number: GA-H61M-S1	Rev: 2.2
Date: Friday, January 04, 2013	Sheet 28 of 29	


UG1
PH1
LG1
ISEN1
(27)
DR14
8.2K/4
VIN
DBC11
1u/6/X7R/16V/K
UG1_DR9_2.2/6_UG1_1
PH1
LG1_DR7_LG1_1
0/6/SHT/M/X
DBC111
0.22u/6/X7R/16V/K
DR470
0/6/SHT/M/X
11LC3-30500C-R1~R3
DR15
2.2/6
DC3
1n/4/X7R/50V/K
BT1
[1]
DQ1
RJK03B7DPA-00/N/7.8m/PPAKSO-8
DBC84
10u/8/X5R/16V/K
DBC85
10u/8/X5R/16V/K
UG1_1
PH1
DQ4
RJK0393DPA-0G/N/4.3m/PPAKSO-8
LG1_1
DL2
VCORE
0.68uH/40A/IMD119/M/D
DR169
0/4/SHT/M/X
DR170
0/4/SHT/M/X
DR438
10K/4/1
ISEN2
DR439
10K/4/1
ISEN3
DR171
3.6K/4/1
DR172
10K/4/1
(27) VSUMP
(27) ISEN1
PWM3
ISEN3
(27)
Pop ISL6625CB for PSI
[ISL6625CBZ/SO8]
VCC
+12V
DR90
1/6
DR3
1/6/X
DR6
1/6
DR4
1/6
DBC4
1u/6/X7R/16V/K
DC2
0.1u/6/X7R/25V/K
DBC2
0.1u/4/X7R/16V/M/X
PH3
DU2
BOOT
PVCC
6609_VCC
PWM3
BOOT
UGATE
PVCC
PHASE
VCC
PWM
GND
LGATE
GND
UG3
LG3
ISL6208BCRZ/DFN8
DU3
ISL6609ACBZ/SO8/X
6609 colay with 6208
UG2
PH2
LG2
ISEN2
(27)
VIN
DBC14
1u/6/X7R/16V/K
DR12
8.2K/4
UG3_DR11_2.2/6_UG3_1
PH3
LG3_DR8_LG3_1
0/6/SHT/M/X
11LC3-30500C-R1~R3
DR16
2.2/6
DC4
1n/4/X7R/50V/K
[3]
DQ2
RJK03B7DPA-00/N/7.8m/PPAKSO-8
DBC86
10u/8/X5R/16V/K
DBC87
10u/8/X5R/16V/K
UG3_1
PH3
DQ6
RJK0393DPA-0G/N/4.3m/PPAKSO-8
LG3_1
DL3
VCORE
0.68uH/40A/IMD119/M/D
DR174
0/4/SHT/M/X
DR175
0/4/SHT/M/X
DR440
10K/4/1
ISEN1
DR441
10K/4/1
ISEN2
DR176
3.6K/4/1
DR177
10K/4/1
DR178
10/4
(27) VSUMN
Close to PWM
DR23
8.2K/4
UG2_DR21_2.2/6_UG2_1
PH2
LG2_DR29_LG2_1
0/6/SHT/M/X
DBC112
0.22u/6/X7R/16V/K
DR471
0/6/SHT/M/X
11LC3-30500C-R1~R3
DR24
2.2/6
DC7
1n/4/X7R/50V/K
BT2
[2]
DQ10
RJK03B7DPA-00/N/7.8m/PPAKSO-8
DBC88
10u/8/X5R/16V/K
DBC89
10u/8/X5R/16V/K
UG2_1
PH2
DQ12
RJK0393DPA-0G/N/4.3m/PPAKSO-8
LG2_1
DL5
VCORE
0.68uH/40A/IMD119/M/D
DR179
0/4/SHT/M/X
DR180
0/4/SHT/M/X
DR442
10K/4/1
ISEN1
DR443
10K/4/1
ISEN3
DR181
3.6K/4/1
DR182
10K/4/1
DR183
10/4
(27) VSUMP
(27) ISEN2
(27) VSUMN
Close to PWM
VCORE
DEC7
DEC9
DEC11
DEC8
560u/FP/D/6.3V/69/A/11m
Gigabyte Technology
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CPU CORE VR-3
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Custom
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Sheet 29 of 29