Model Name: GA-H61M-S1 Rev: 3.01

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 8620 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: 3.01

Date: Friday, July 26, 2013 | Sheet 1 of 29

Model Name: GA-H61M-S1

Component value change history

Data	Change Item	Reason
2013/06/21	1. IT8728 change to IT8620	9MH61MS1-00-30A

Circuit or PCB layout change

DATE	Change Item	Reason
2013/06/21	1. 由H61M-S1 Rev 2.2來修改 2. IT8728 change to IT8620	Rev 3.0
2013/07/25	1.LAR13,LR2,LR1改為0402 2.Add -RSMRST delay circuit	Rev 3.01

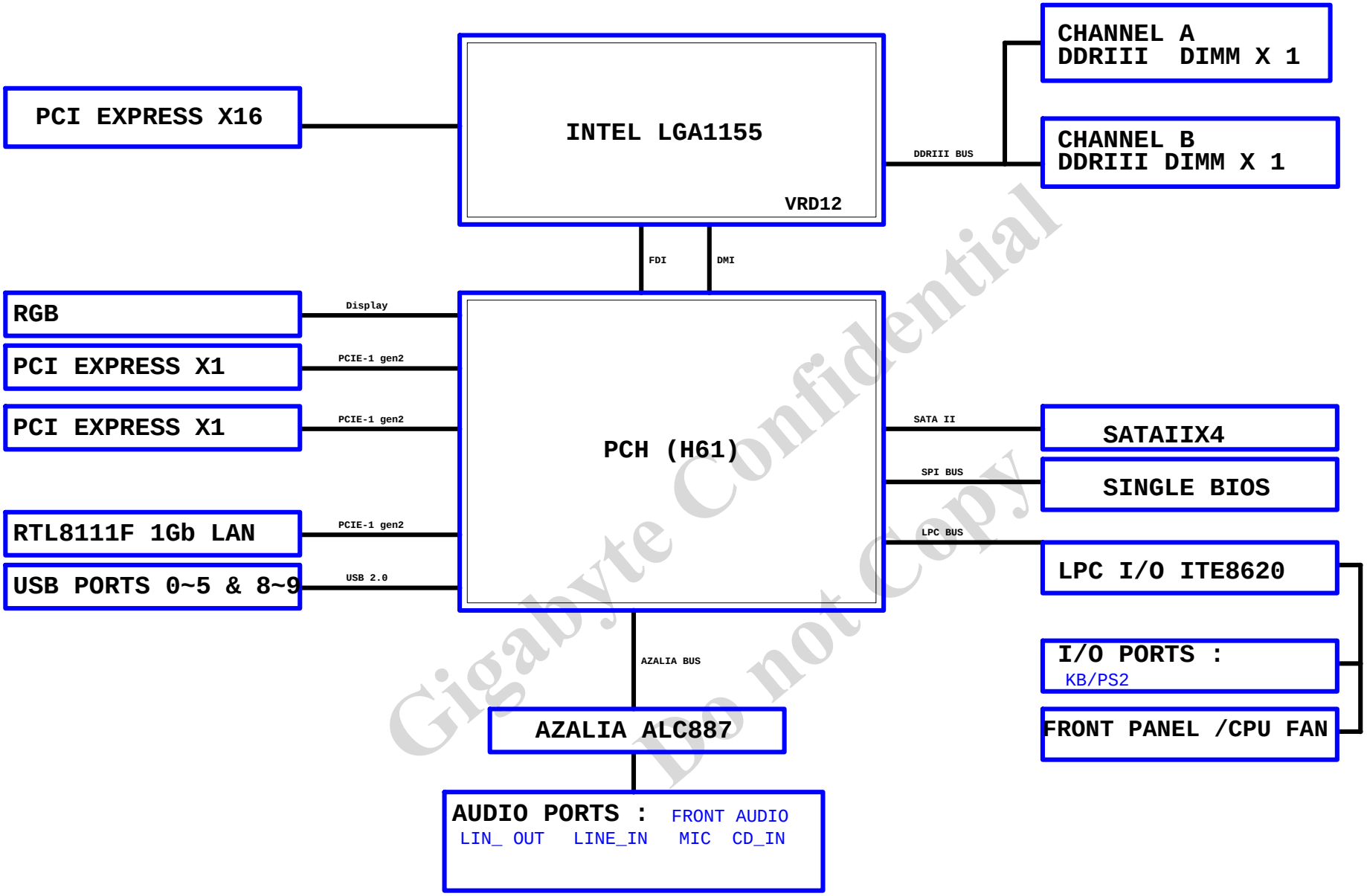
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

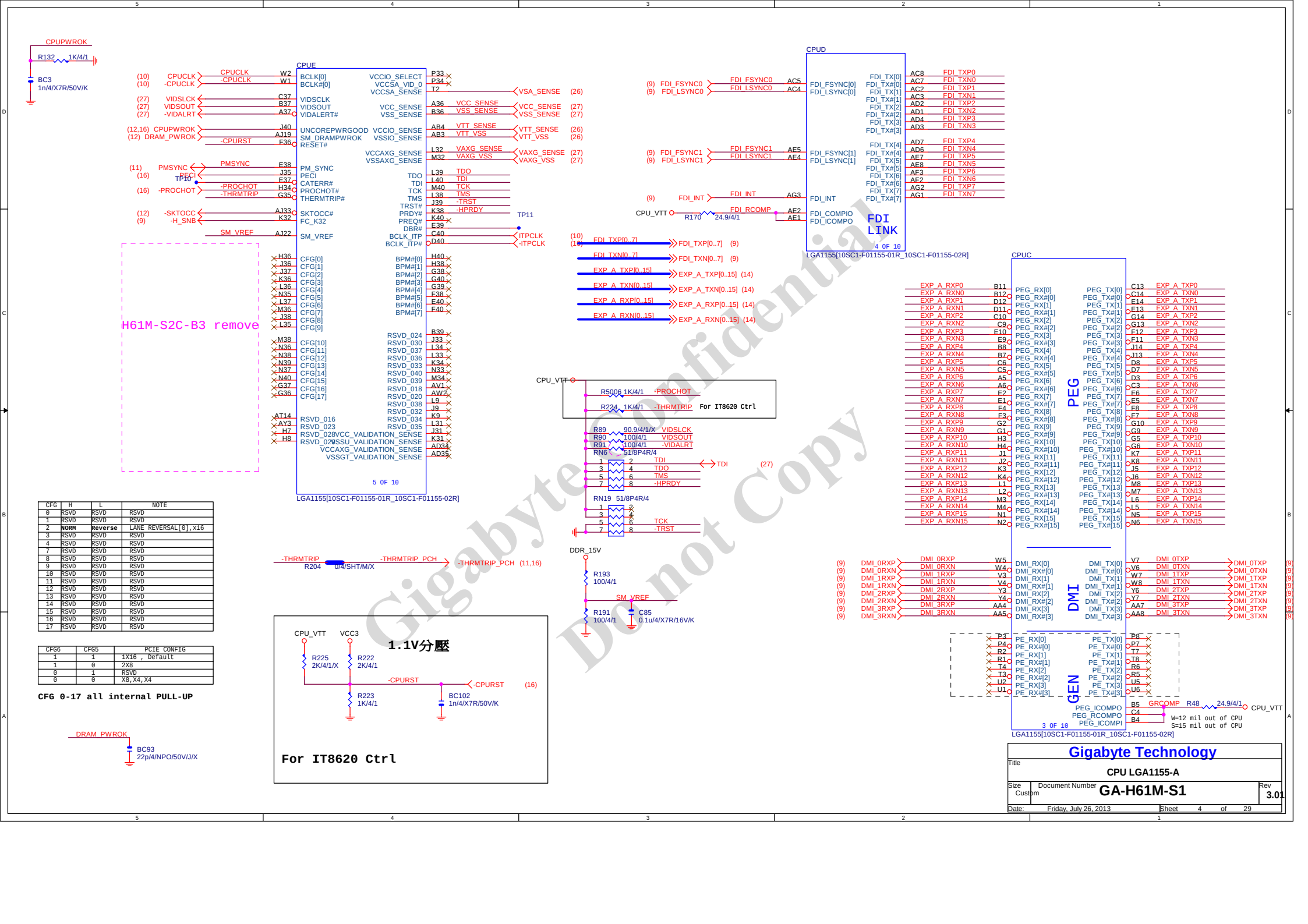
Size: Custom | Document Number: GA-H61M-S1 | Rev: 3.01

Date: Friday, July 26, 2013 | Sheet 2 of 29

BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-H61M-S1	Rev: 3.01
Date: Friday, July 26, 2013	Sheet 3 of 29	



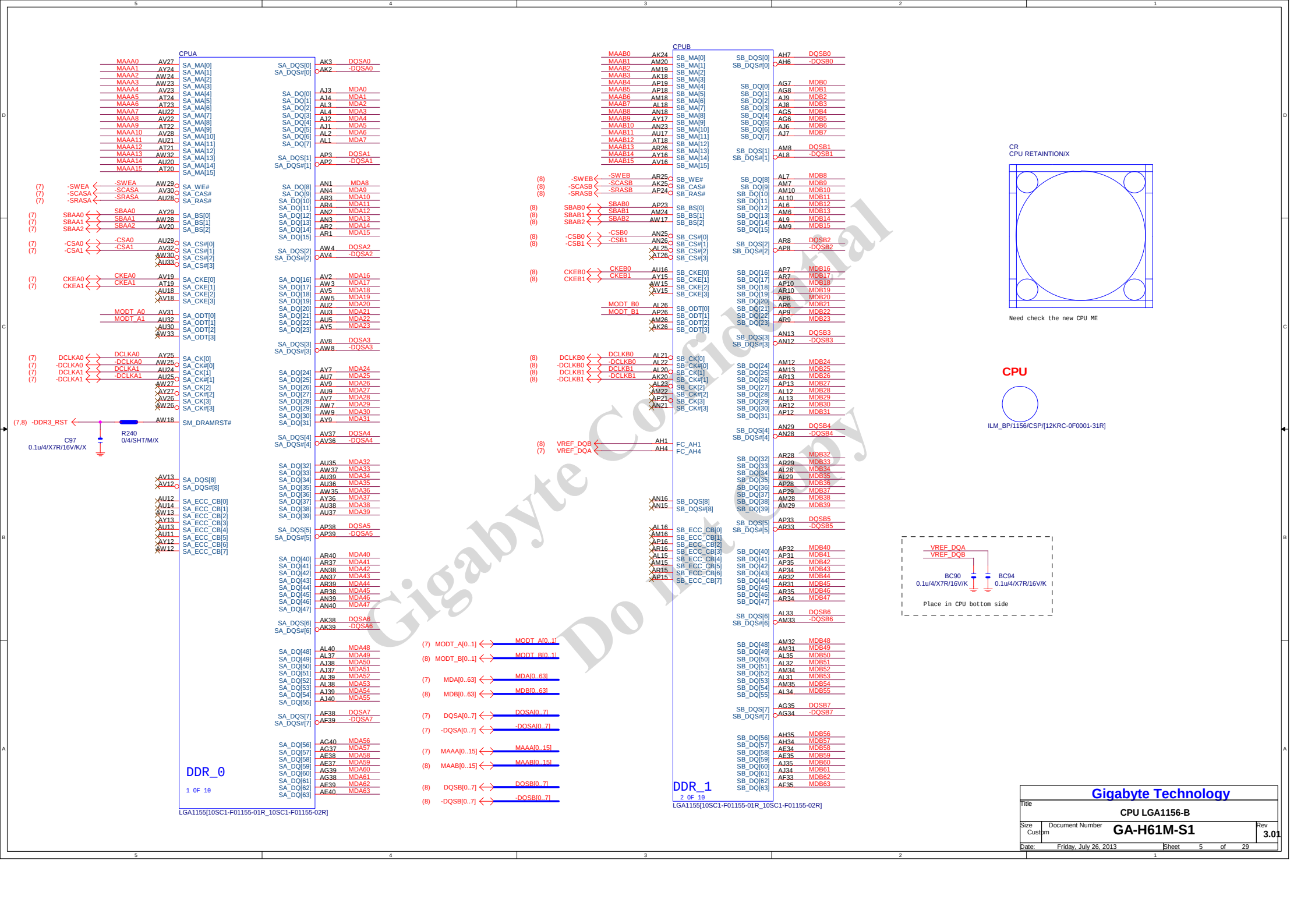
CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	**NORM**	**Reverse**	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD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

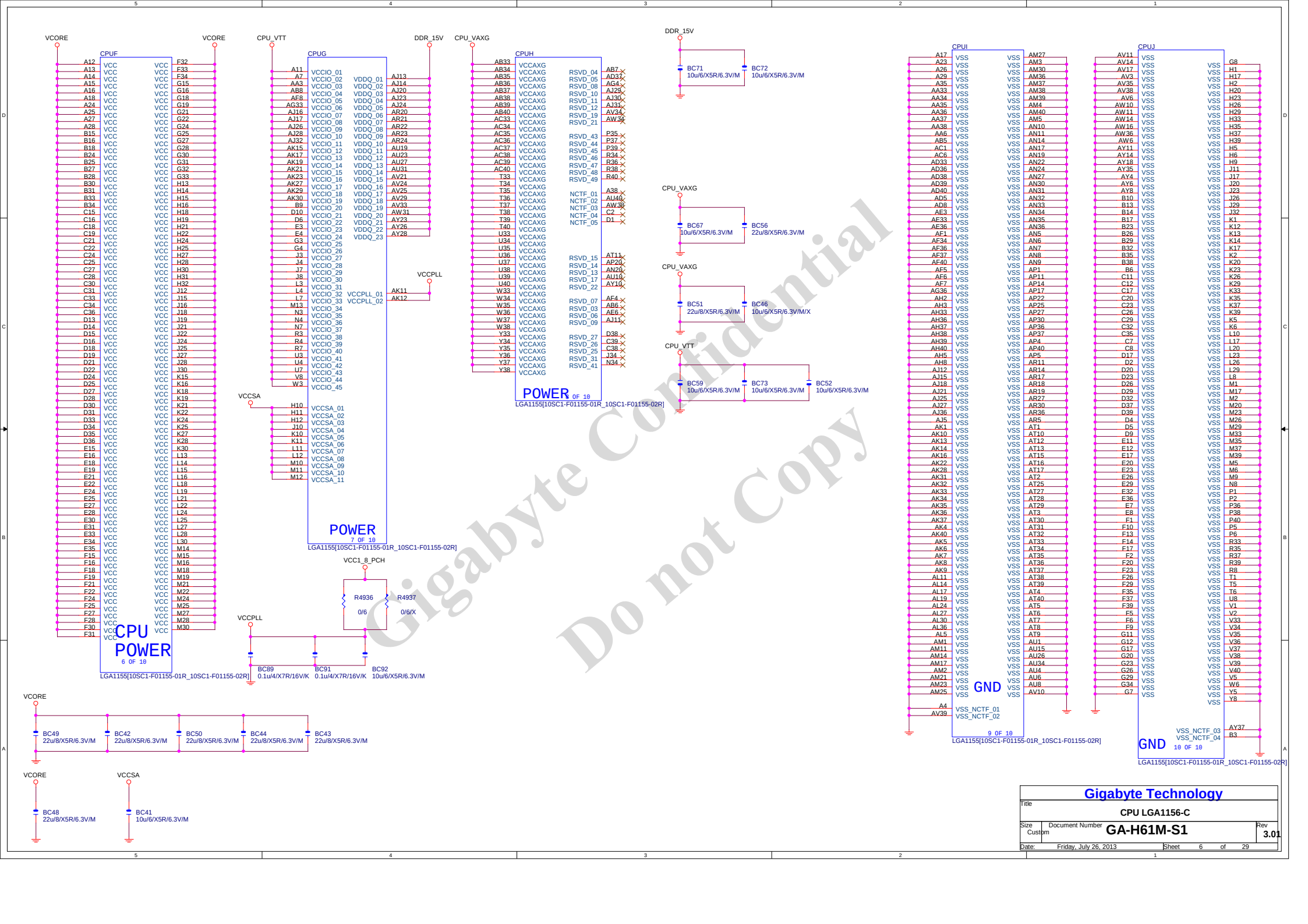
CFG6	CFG5	PCIE CONFIG
1	1	1X16 , Default
1	0	2X8
0	1	RSVD
0	0	X8,X4,X4

CFG 0-17 all internal PULL-UP

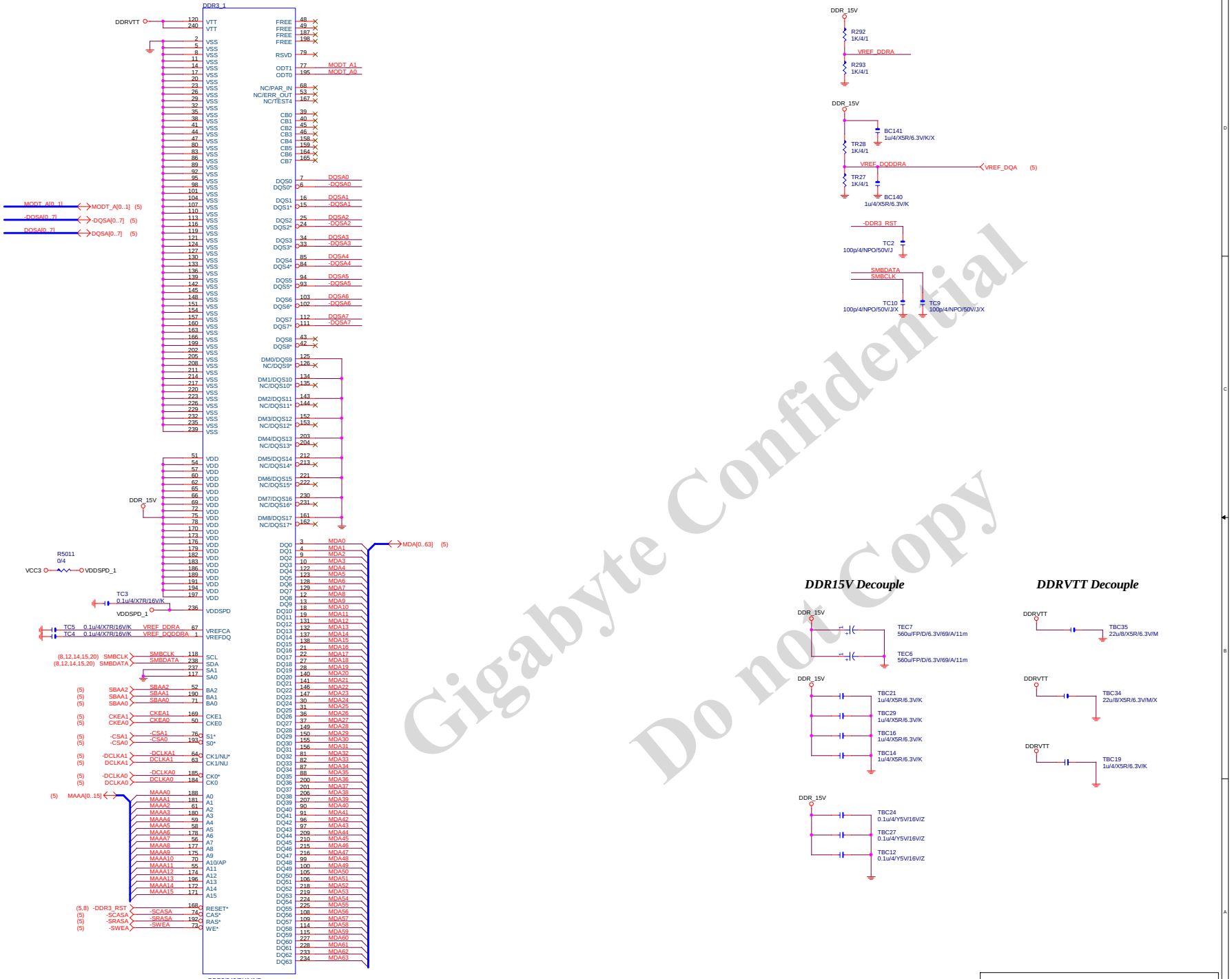
Title	CPU LGA1155-A
Size	Custom
Document Number	GA-H61M-S1
Rev	3.01
Date:	Friday, July 26, 2013
Sheet	4 of 29

Gigabyte Technology

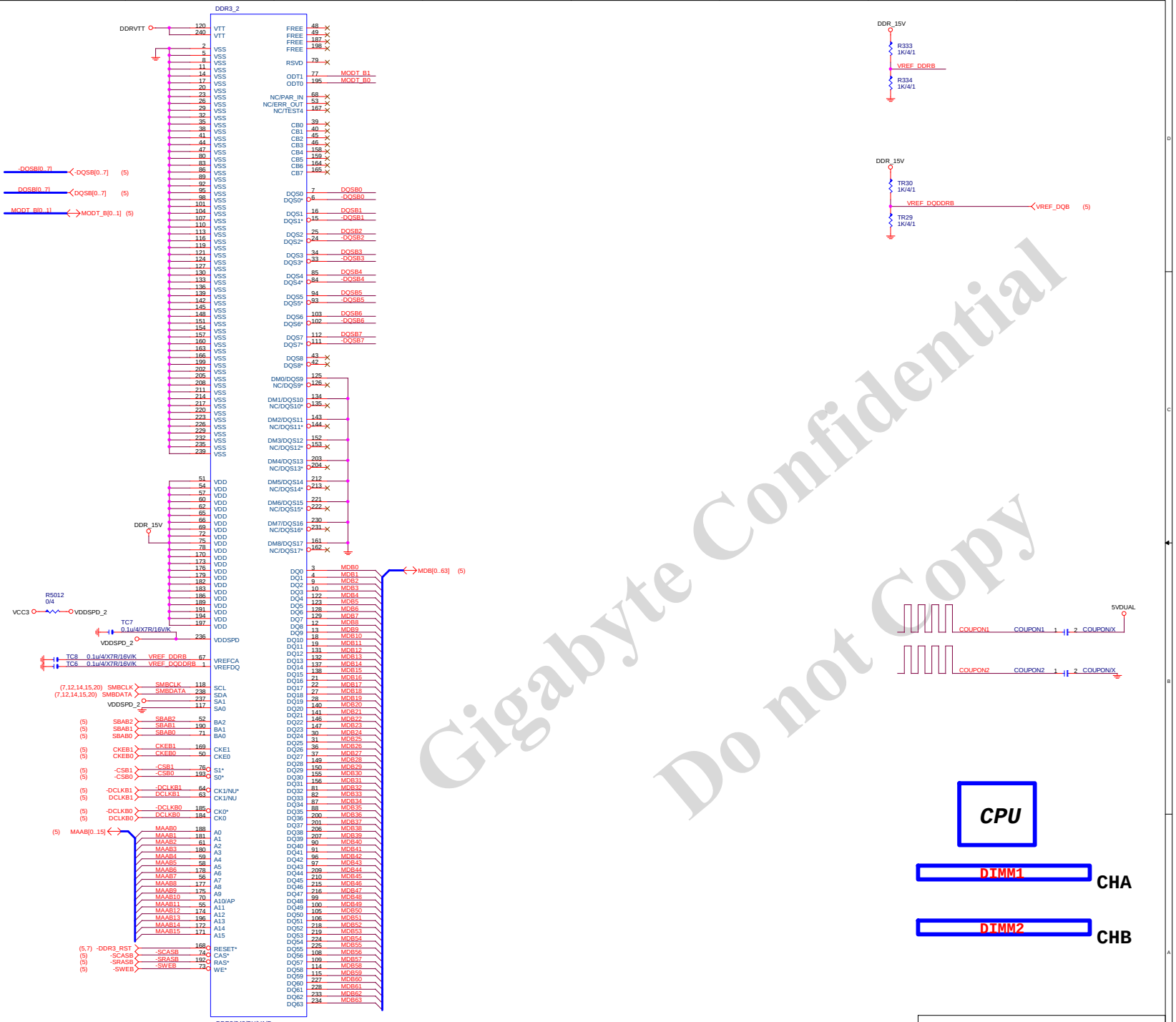




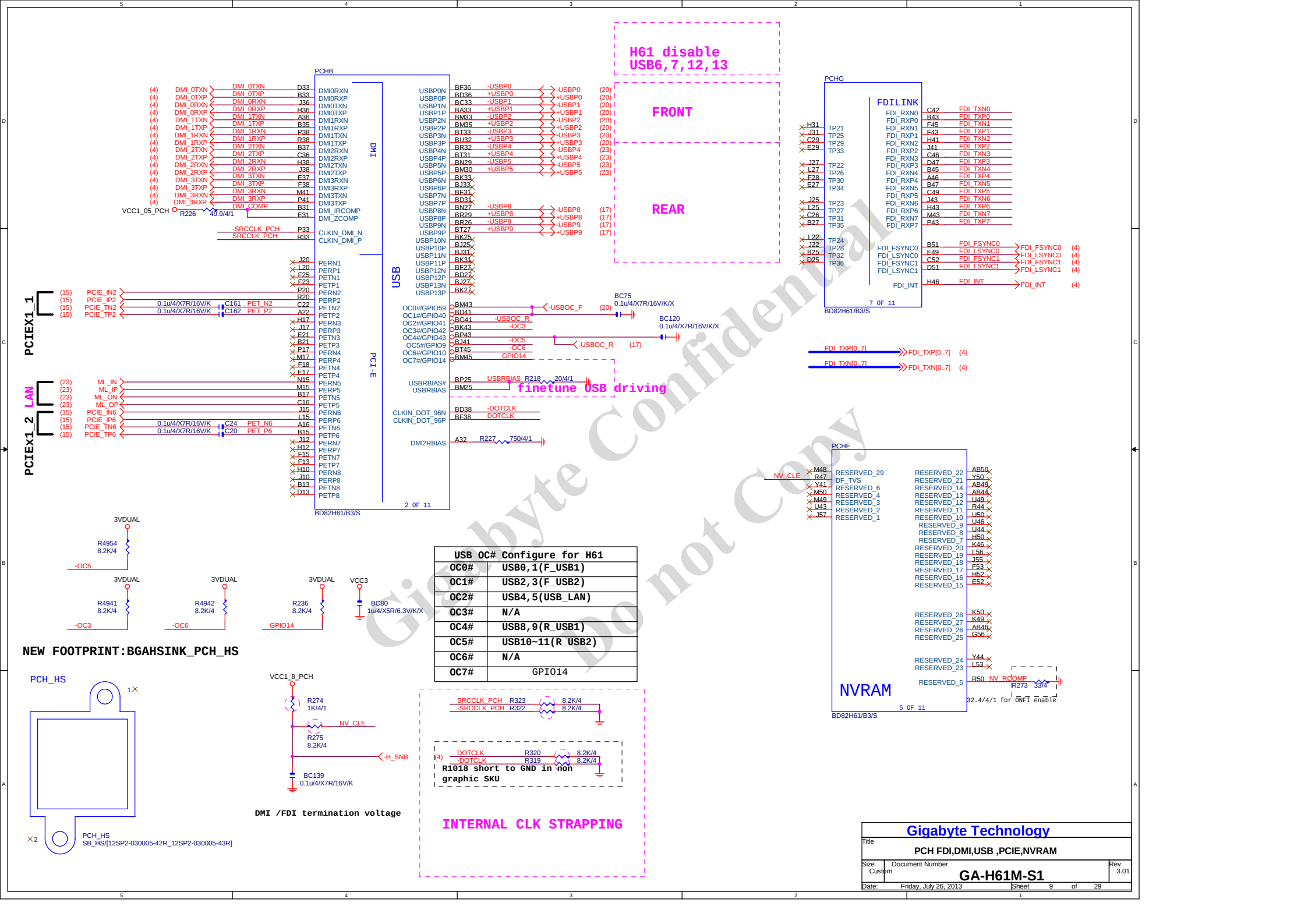
Gigabyte Technology	
Title	CPU LGA1156-C
Size: Custom	Document Number: GA-H61M-S1
Rev	3.01
Date: Friday, July 26, 2013	Sheet 6 of 29



Gigabyte Technology		
Title: DDRIII CHANNEL A		
Size: Custom	Document Number: GA-H61M-S1	Rev: 3.01
Date:	Sheet 7 of 29	

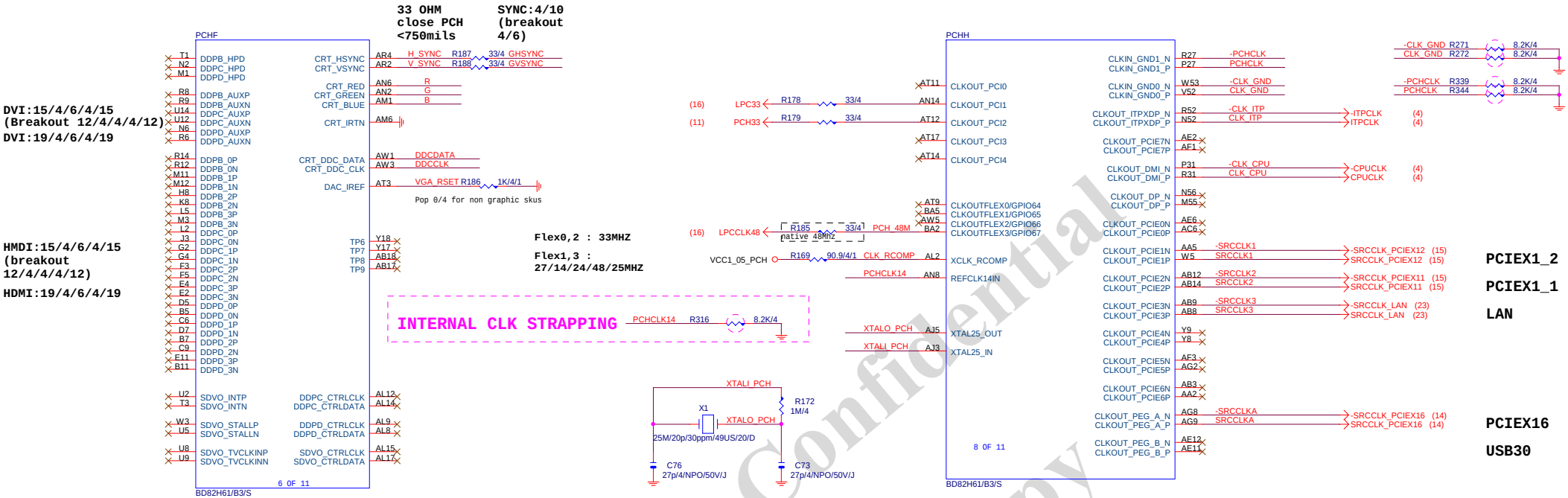


Gigabyte Technology		
Title: DDRIII CHANNEL B		
Size: Custom	Document Number: GA-H61M-S1	Rev: 3.01
Date:	Sheet 8 of 29	



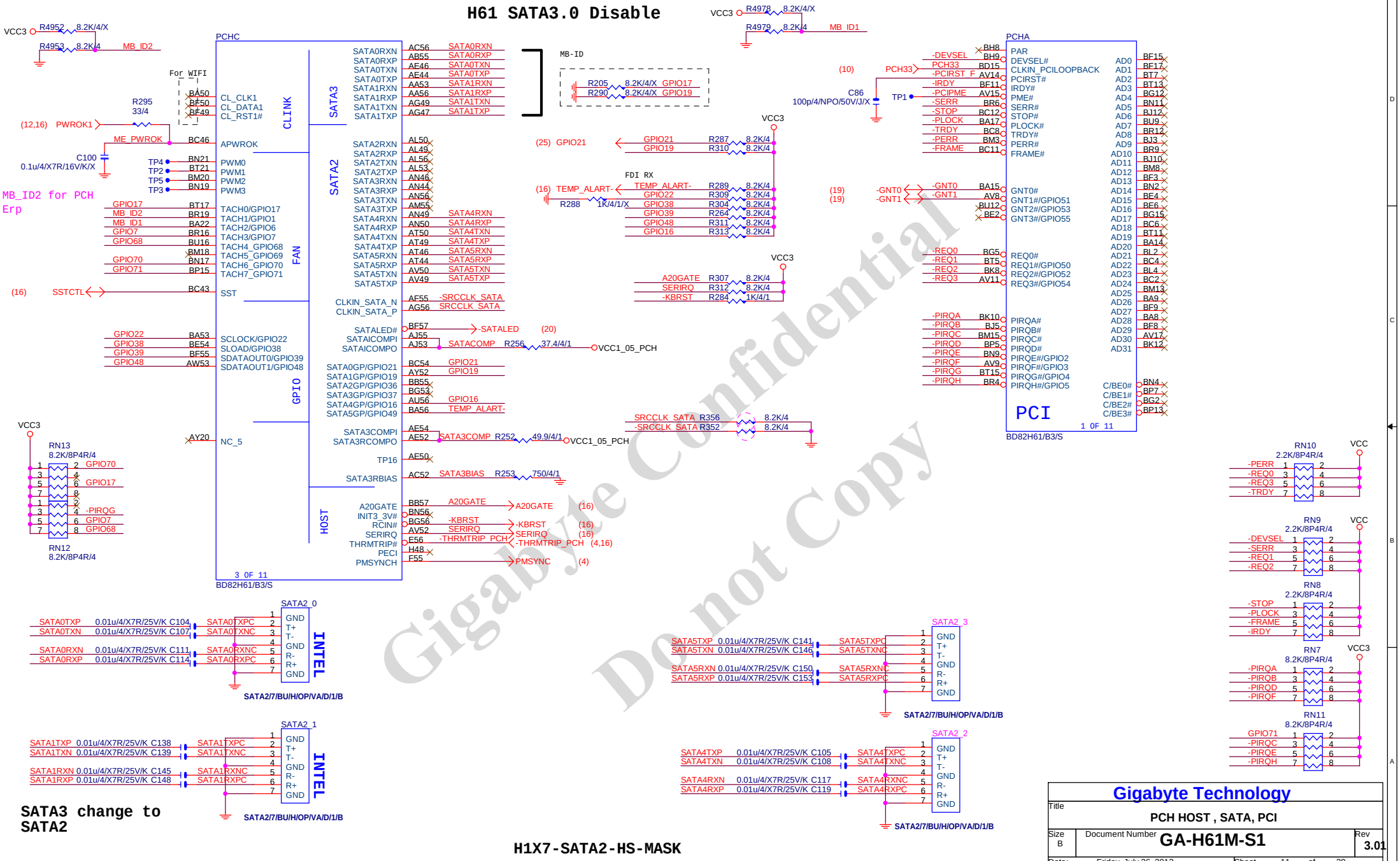
USB OC#	Configure for H61
OC0#	USB0,1(F_USB1)
OC1#	USB2,3(F_USB2)
OC2#	USB4,5(USB_LAN)
OC3#	N/A
OC4#	USB8,9(R_USB1)
OC5#	USB10~11(R_USB2)
OC6#	N/A
OC7#	GPIO14

Gigabyte Technology			
Title: PCH FDI,DMI,USB ,PCIE,NVRAM			
Size: Custom	Document Number: GA-H61M-S1		Rev: 3.01
Date: Friday, July 26, 2013		Sheet 9 of 29	



Gigabyte Technology			
Title: PCH DISPLAY ,CLK BUFFER			
Size: Custom	Document Number: GA-H61M-S1		Rev: 3.01
Date: Friday, July 26, 2013	Sheet 10 of 29		

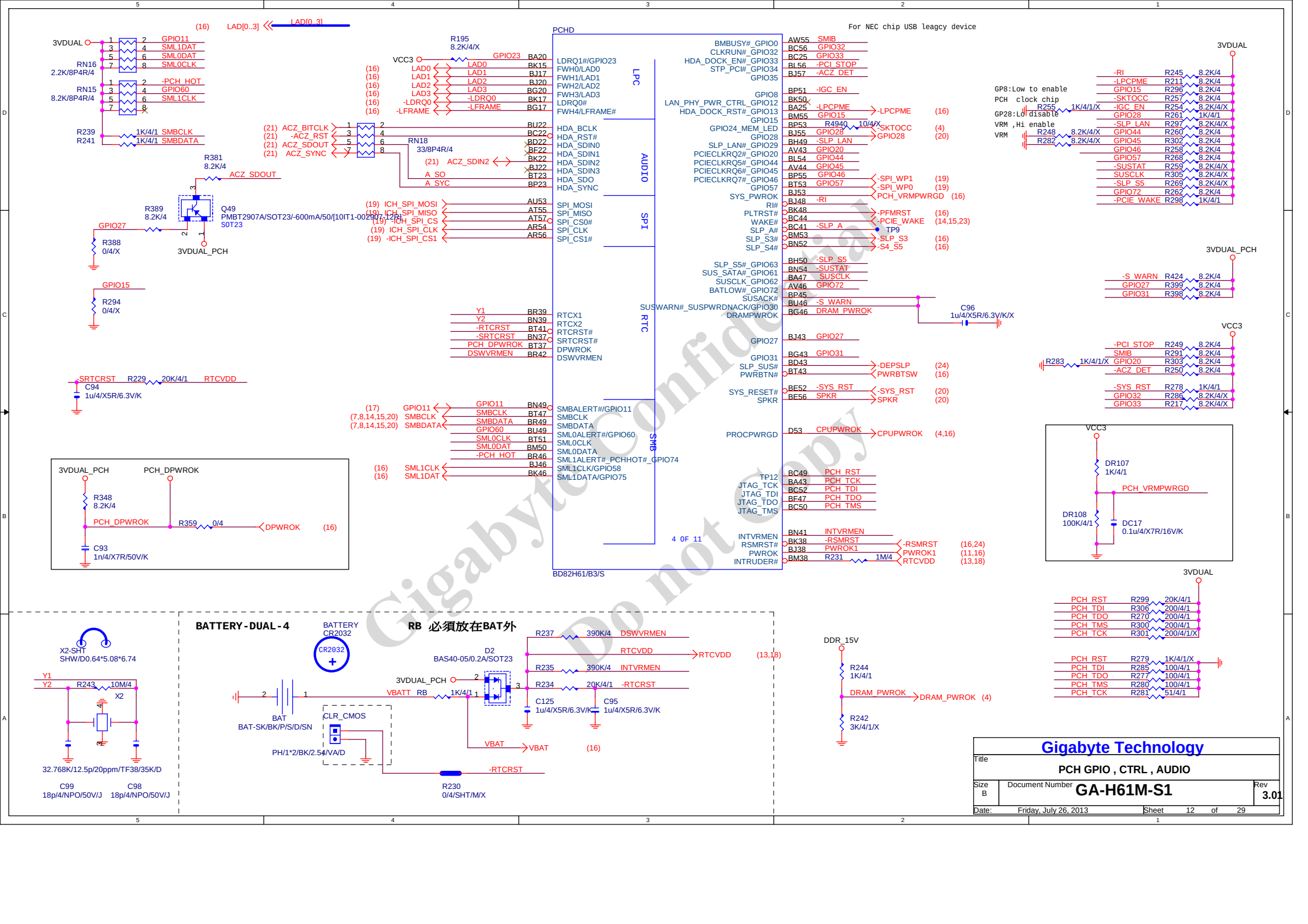
H61 SATA3.0 Disable

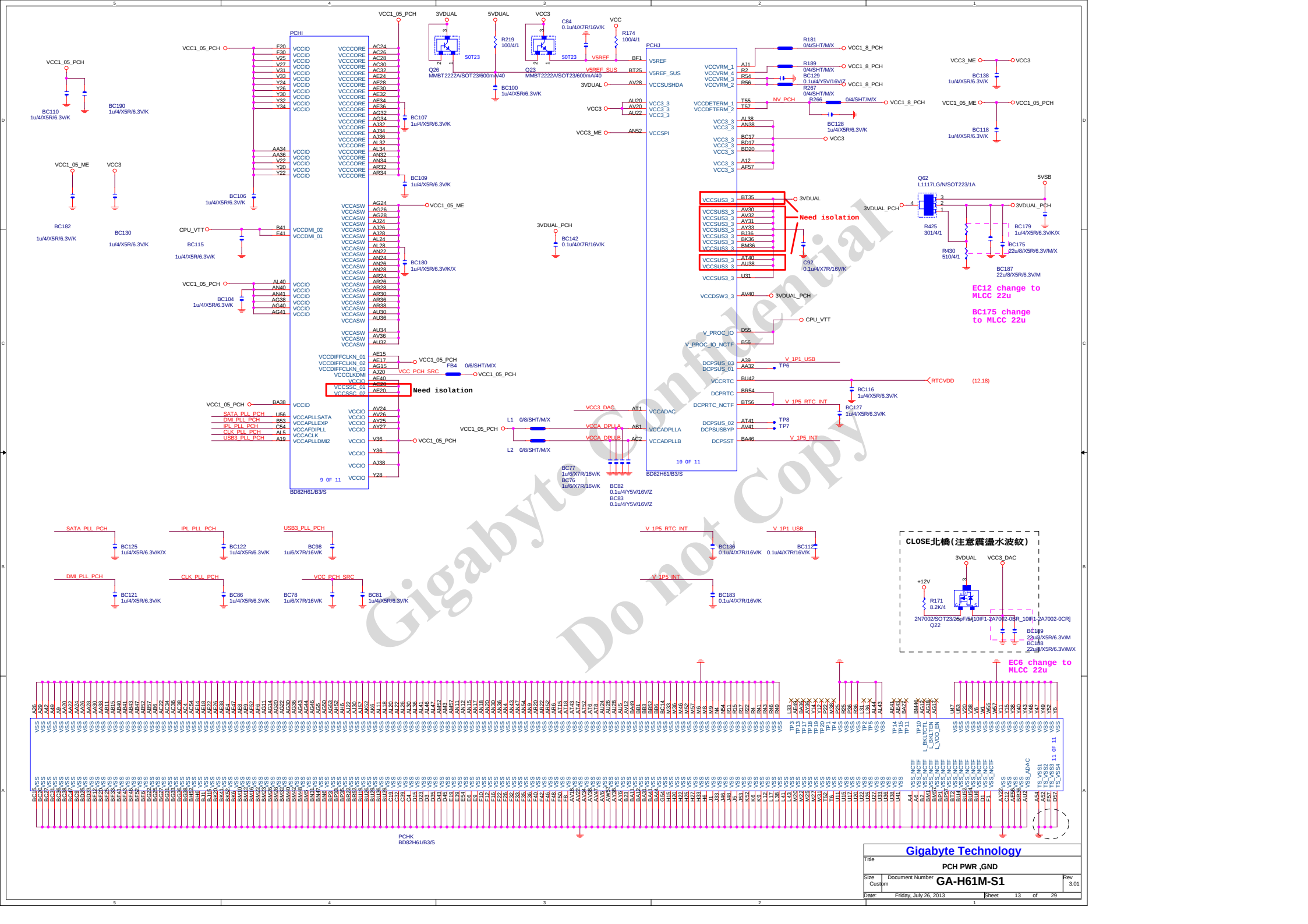


Gigabyte Technology

Title	PCH HOST , SATA, PCI	
Size B	Document Number GA-H61M-S1	Rev 3.01
Date: Friday, July 26, 2013	Sheet 11 of 29	

H1X7-SATA2-HS-MASK


PCHD
BD82H61/B3/S
LPC
AUDIO
SPI
RTC
SMB
4 OF 11
For NEC chip USB leagcy device
BATTERY-DUAL-4
RB 必须放在BAT外
BATTERY
CR2032
Gigabyte Technology
PCH GPIO , CTRL , AUDIO
GA-H61M-S1
Rev 3.01
Date: Friday, July 26, 2013
Sheet 12 of 29
Size B
Title
Document Number
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 3.01
Friday, July 26, 2013
Sheet 13 of 29

EC6D_8D10MM-RH

PCIESLOT-164DN-P

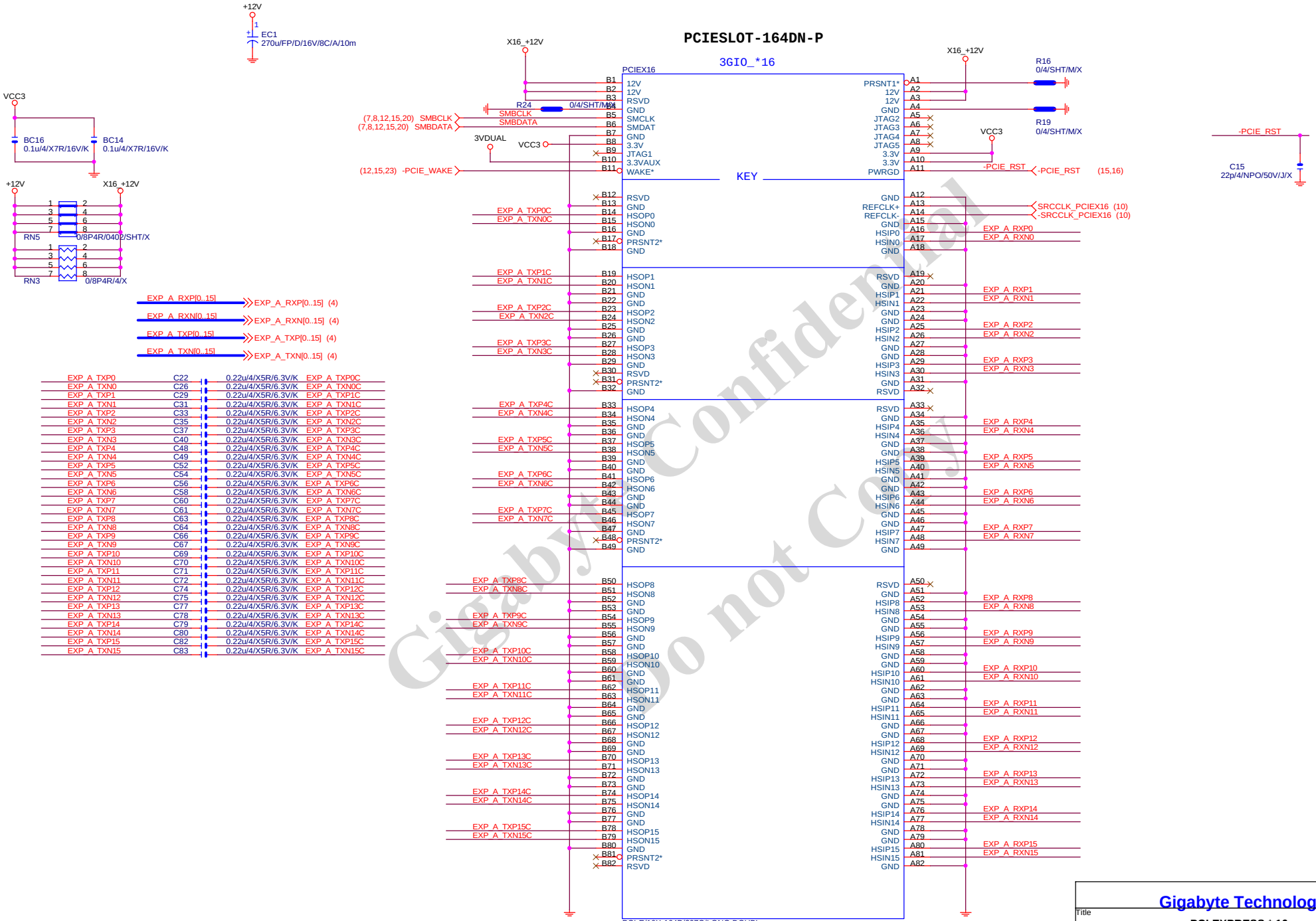
3GIO_*16

PCIEX16

KEY

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

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



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

Gigabyte Technology			
Title	PCI EXPRESS * 16		
Size: Custom	Document Number: GA-H61M-S1		Rev: 3.01
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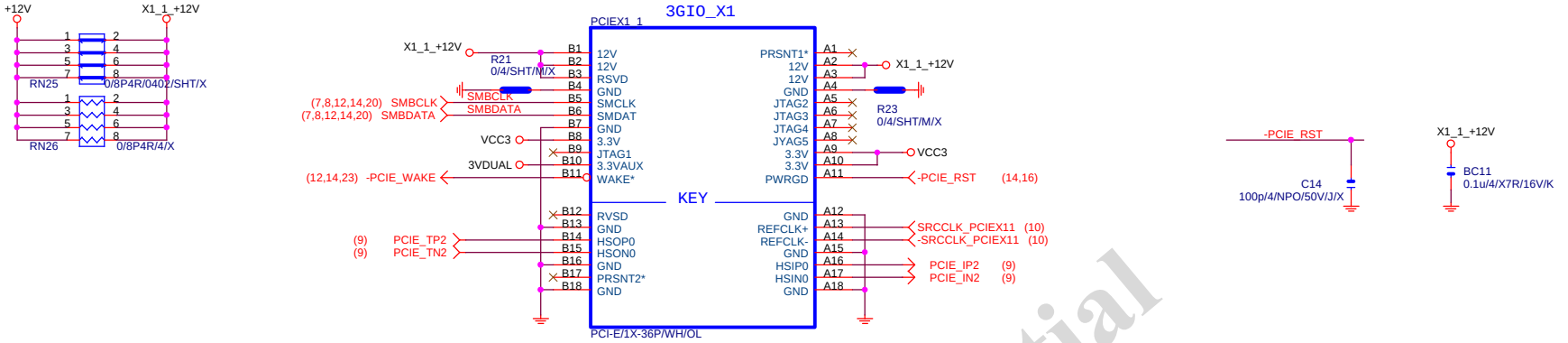
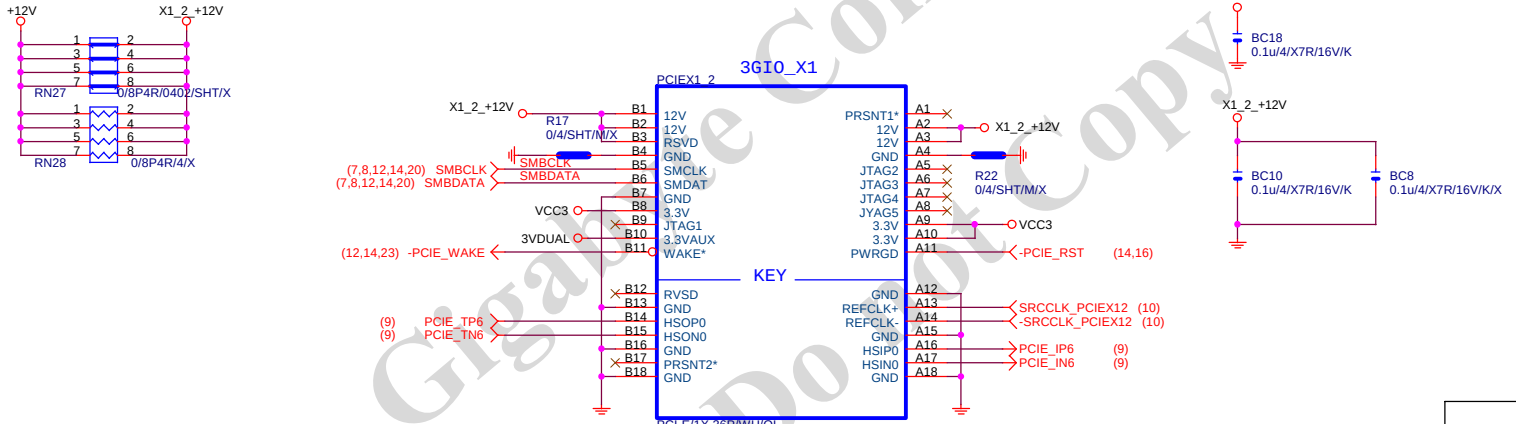
PCIE*1





Gigabyte Technology		
Title: PCIEX1,X2/CLK GEN		
Size: Custom	Document Number: GA-H61M-S1	Rev: 3.01
Date: Friday, July 26, 2013	Sheet 15 of 29	

GP22 Default GP22 DIOD8
GP23 Default CPU_PG DOD8

IT8620E_BX

-PRCOHOT

-THRMTRIP

For IT8721 Power leakage

H61M-S2 1.1 JP6 stuff pull down

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

EUP from PCH
EUP control by PCH

H61M-DS2_R0.2

internal power pin, max 22nF cap

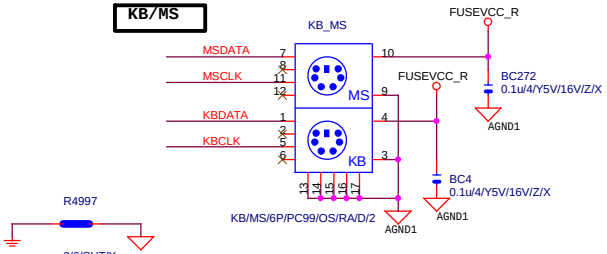
IT8728	
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRVB#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2(VCC5)
PIN96	VIN1(VCC12)
PIN97	VIN1/VDIMM_STR(1.5V)
PIN98	VIN0/VCORE(1.1V)/NC

Gigabyte Technology			
Title	PCH GPIO , CTRL , AUDIO		
Size C	Document Number GA-H61M-S1		Rev 3.01
Date: Friday, July 26, 2013	Sheet 16 of 29		

COM

COM RI

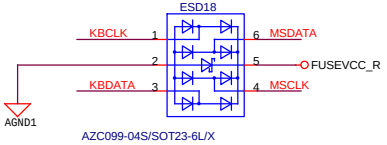
KB/MS



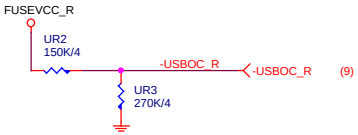
R4997

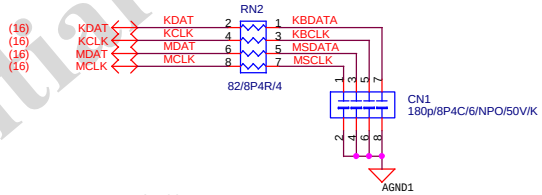
0/6/SHT/X

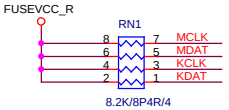
H61M-DS2 R0.2



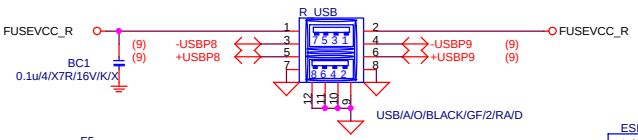
R_USB1

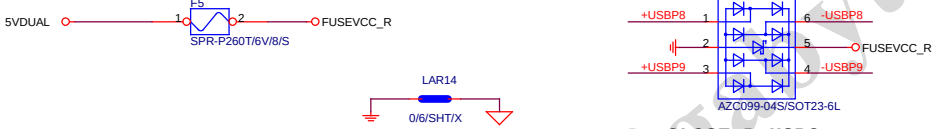




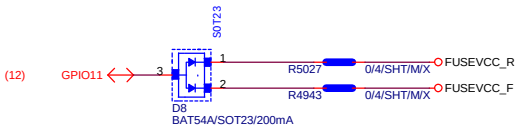


R_USB1





CLOSE R_USB2



FOR FUSE SHORT GPIO

Gigabyte Technology

Title: -RI,KB_USB,USB_ESATA,-PROCHOT

Size: Custom | Document Number: GA-H61M-S1 | Rev: 3.01

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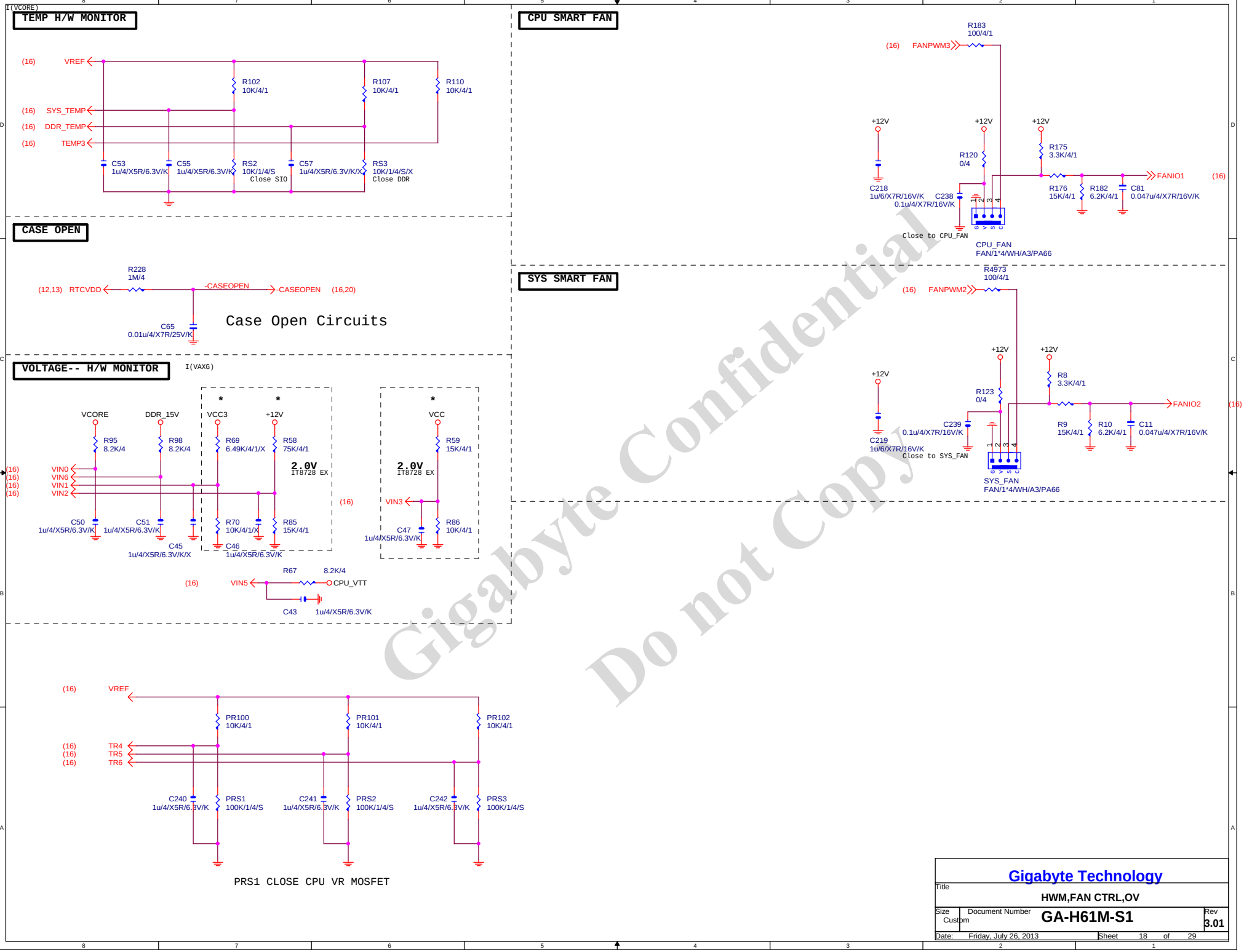
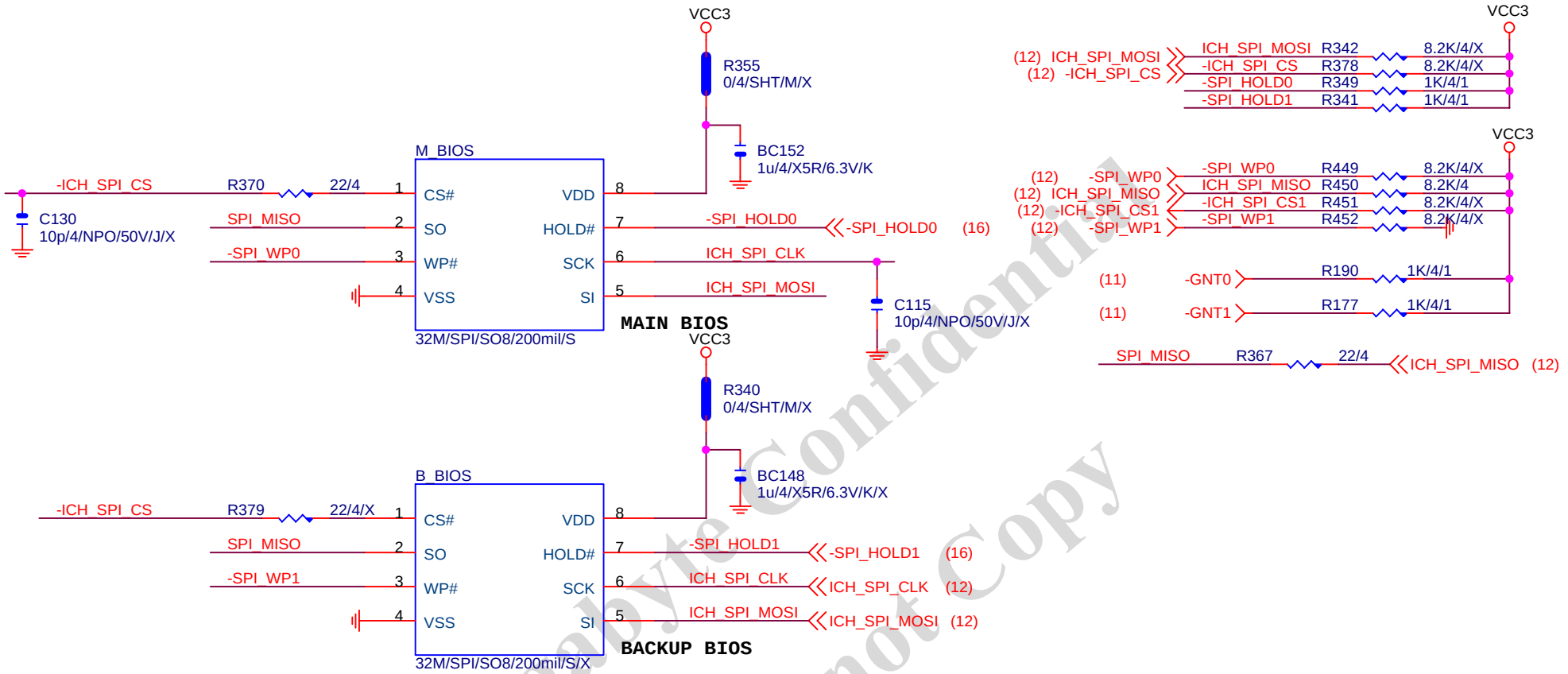


Gigabyte Technology		
Title: HWM,FAN CTRL,OV		
Size: Custom	Document Number: GA-H61M-S1	Rev: 3.01
Date: Friday, July 26, 2013	Sheet 18 of 29	

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	Document Number	Rev
A	GA-H61M-S1	3.01

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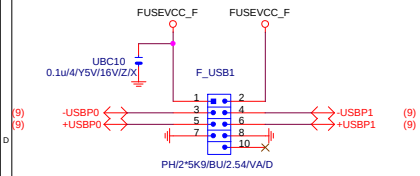
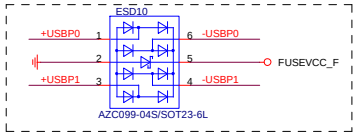
FRONT USB1

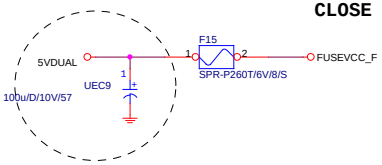


change to BLUE COLOR



Close to connector

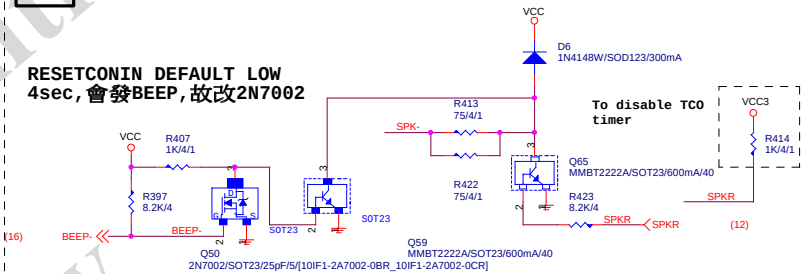
CLOSE F_USB1



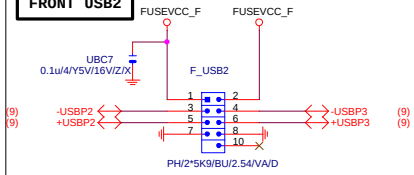
SATA LED

SPKR

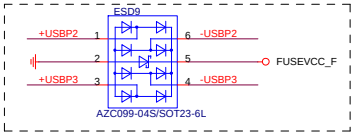
RESETCONIN DEFAULT LOW
4sec,會發BEEP,故改2N7002



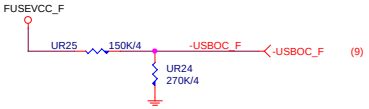
FRONT USB2



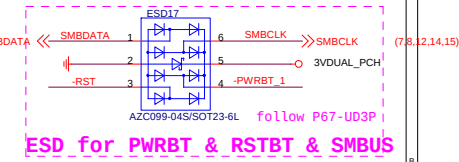
FRONT USB3



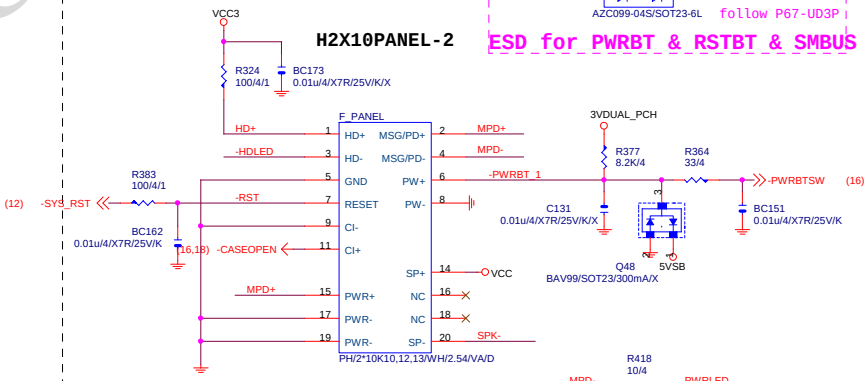
Close to connector

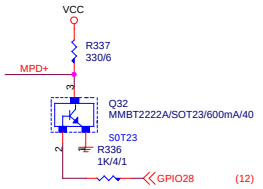


INTEL FRONT PANEL



H2X10PANEL-2



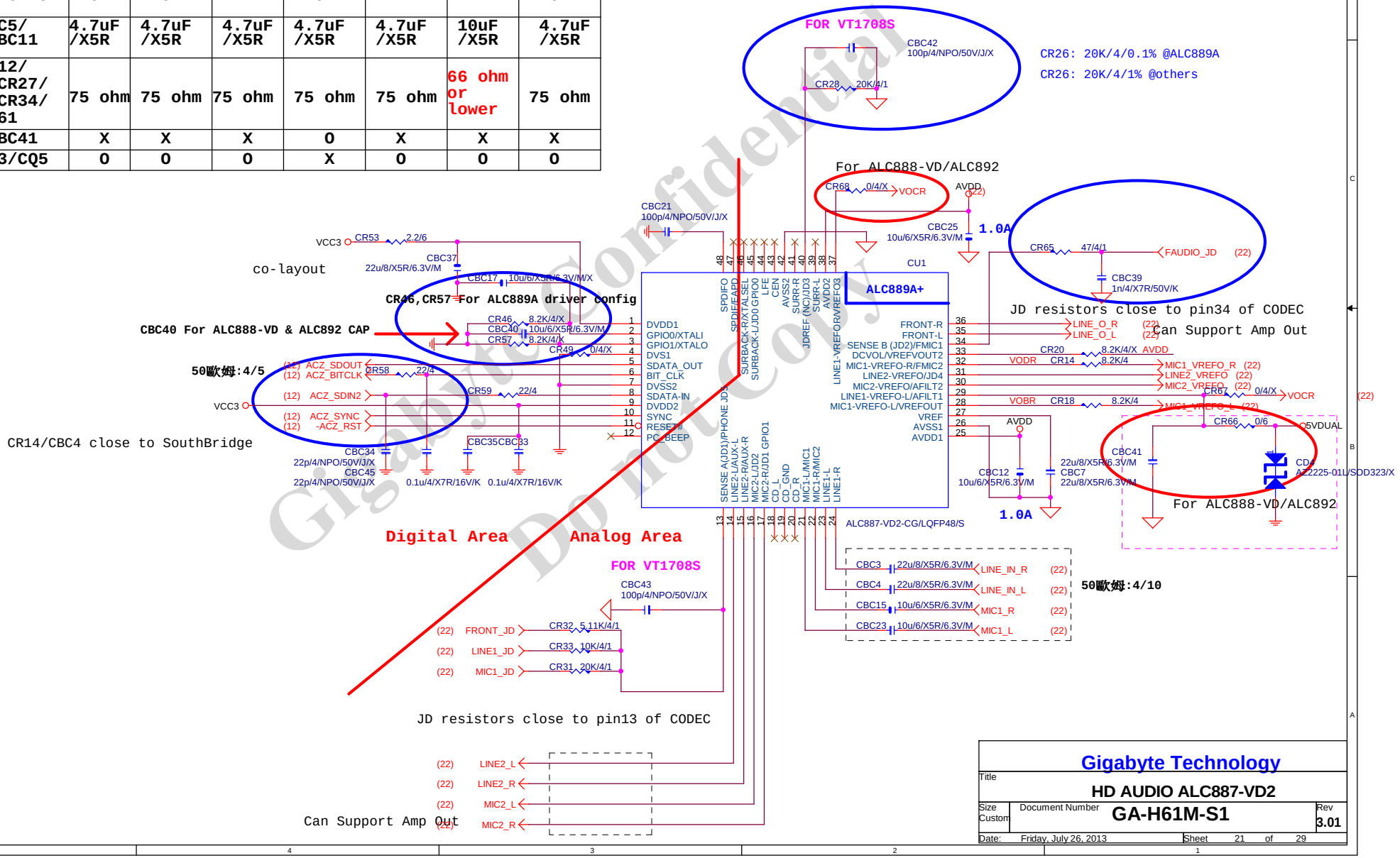


Gigabyte Technology		
Title: FP,F_USB,USB PWR,SPKR,SATA LED		
Size: Custom	Document Number: GA-H61M-S1	Rev: 3.01
Date: Friday, July 26, 2013	Sheet 20 of 29	

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: 3.01
Date: Friday, July 26, 2013	Sheet 21 of 29	

CODEC POWER/EMI PAD

CR25 0/6/SHT/M/X
CR8 2.2/4
+12V
CD3 CD4148WP/1206/300mA/X
CD3 CD4148WP/1206/300mA/X
5VDUAL
AVDD
CQ1 78L05/SOT89/0.1A/X
CBC20 0.1u/4/Y5V/16V/Z/X
CBC16 22u/8/X5R/6.3V/M
CD2 AZ2225-01L/SOD323/X

CR4 0/6/SHT/M/X

MOATC3 0.1u/4/X7R/16V/K
MOATC2 0.1u/4/X7R/16V/K
MOATC1 0.1u/4/X7R/16V/K
SMOATR1 0/6/SHT/M/X

LINE-OUT

(21) LINE_O_R
(21) LINE_O_L
CEC4 100u/D/10V/57
CEC3 100u/D/10V/57
CR5 62/4
CR10 62/4
CR9 22K/4
CR6 22K/4
AJ_B5
AJ_B2
CBC9 180p/4/NPO/50V/J
CBC8 180p/4/NPO/50V/J

Only reserved for ALC888

LINE-IN

Verify MIC function in LINE-in

(21) LINE_IN_R
(21) LINE_IN_L
(21) VOCR
CR1 62/4
CR2 62/4
CQ5 SOT23
CR11 8.2K/4/X
CR22 8.2K/4/X
CBC10 180p/4/NPO/50V/J
CBC11 180p/4/NPO/50V/J
AJ_A5
AJ_A2
For 889A/888
BAT54A/SOT23/200mA/X

MIC-IN

(21) MIC1_R
(21) MIC1_L
(21) MIC1_VREFO_L
(21) MIC1_VREFO_R
CR19 62/4
CR21 62/4
CBC1 180p/4/NPO/50V/J
CBC2 180p/4/NPO/50V/J
AJ_C5
AJ_C2

AZALIA JACK

ESD4
LINE2_R
MIC2_R
LINE2_L
MIC2_L
AVDD
CBC44 0.1u/4/Y5V/16V/Z
AZC099-04S/SOT23-6L

AUDIO
(21) LINE1_JD
(21) FRONT_JD
(21) MIC1_JD
LINE1_JD
FRONT_JD
MIC1_JD
AJ_A5
AJ_A2
AJ_B5
AJ_B2
AJ_C5
AJ_C2
GND
MH1 MH2 MH3 MH4 MH5
BLUE LINE-IN
GREEN LINE-OUT
PINK MIC-IN
AUDIO/BTX/[11NR6-403007-71R_11NR6-403007-76R]

AZALIA FRONT PANEL

CQ2 BAT54A/SOT23/200mA
CQ4 BAT54A/SOT23/200mA
SOT23
(21) LINE2_VREFO
(21) MIC2_VREFO
CR17 8.2K/4
CR23 8.2K/4
CR29 8.2K/4
CR36 8.2K/4

F_AUDIO_H
Digital Area
3VDUAL
CR24 10K/4/1
CR15 10K/4/1
CR37 8.2K/4/X
F_AUDIO
CR12 20K/4/1
CR13 39.2K/4/1
FOR VT1708S
PH/2*5K8/GED/2.54/VA/D/[11NH2-000205-K1R]

(21) MIC2_L
(21) MIC2_R
(21) FAUDIO_JD
CBC19 10u/6/X5R/6.3V/M
CBC18 10u/6/X5R/6.3V/M
CR38 62/4
CR27 62/4
CR26 62/4
CR16 62/4
M2_L
M2_R
L2_R
L2-R
L2_L
L2-L

(21) LINE2_R
(21) LINE2_L
CEC1 100u/D/10V/57
CEC2 100u/D/10V/57
L2_R
L2_L

CBC28 180p/4/NPO/50V/J
CBC24 180p/4/NPO/50V/J
CBC22 180p/4/NPO/50V/J
CBC13 180p/4/NPO/50V/J

Gigabyte Technology

Title	AUDIO JACK	
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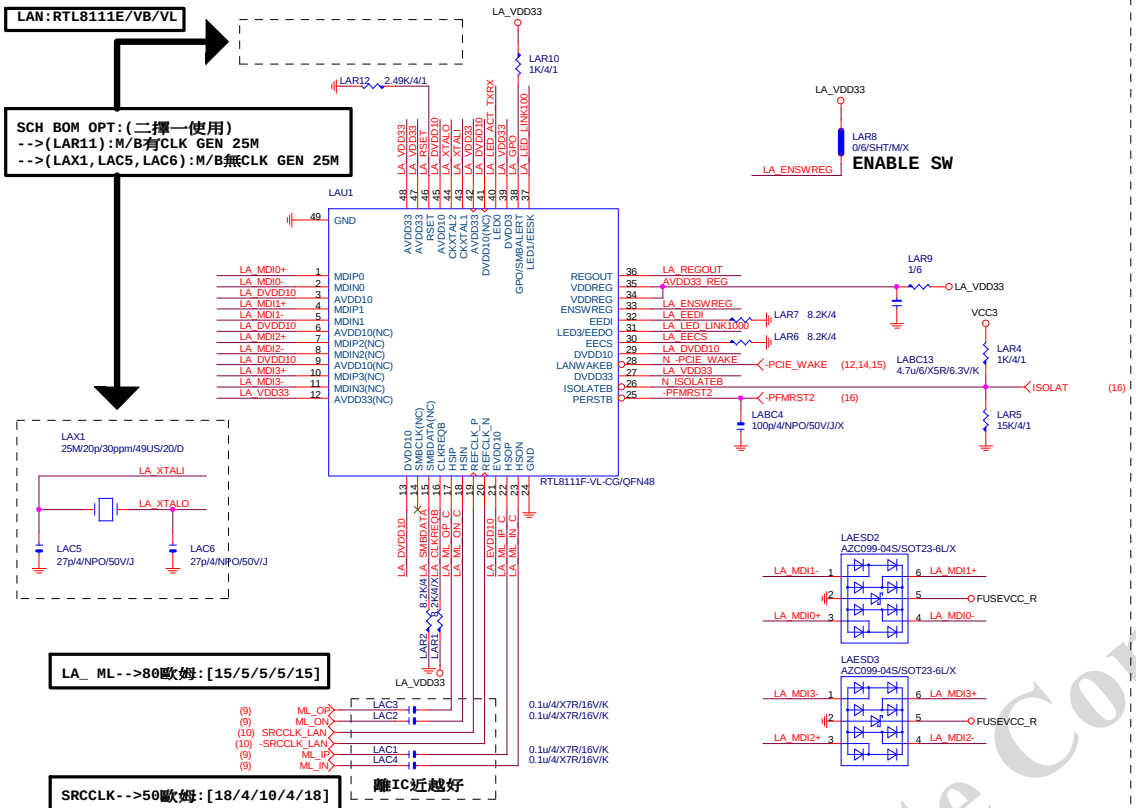
LAN:RTL8111E/VB/VL

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



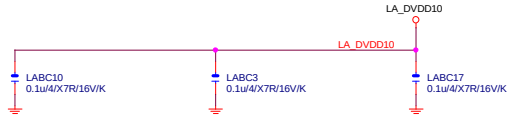
LA_ ML-->80歐姆:[15/5/5/5/15]

SRCCLK-->50歐姆:[18/4/10/4/18]

離IC近越好

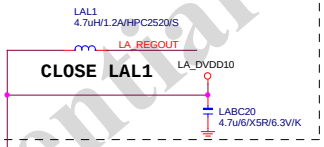
LAN POWER

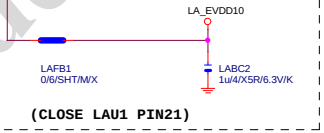
(CLOSE LAU1 PIN:12,27,39,42,47,48)



(CLOSE LAU1 PIN3,6,9,13,29,41,45)

(CLOSE LAU1 PIN36)





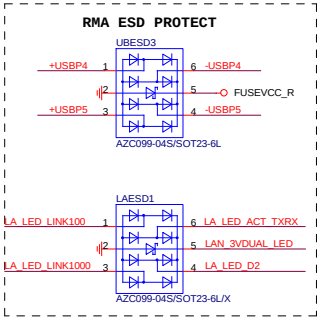
(CLOSE LAU1 PIN21)

Power domain chart

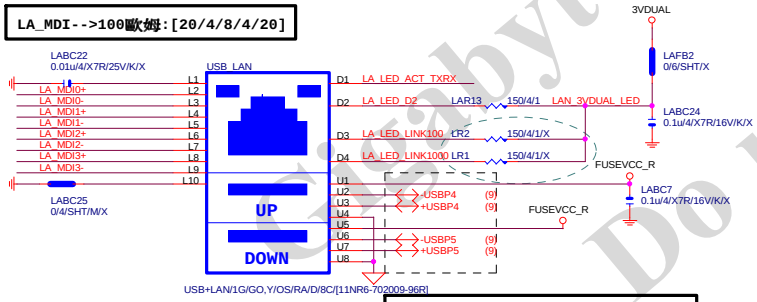
	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V

USB_LAN CONNECTOR

RMA ESD PROTECT



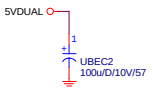
LA_MDI-->100歐姆:[20/4/8/4/20]



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



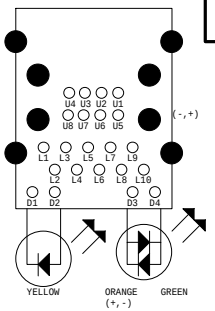
Close to connector

EMI SHORT PAD

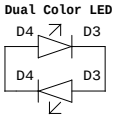
PS:視EMI需求

USB OC/FUSE PROTECT

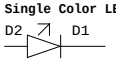
注意:LAN LED PROTECT:(CO-LAYOUT)
1.ESD(6PIN):AOZ8902CIL/SOT23-6(DEFAULT)
2.SURGE(5PIN):AZ2025-04S/SOT23-5L



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

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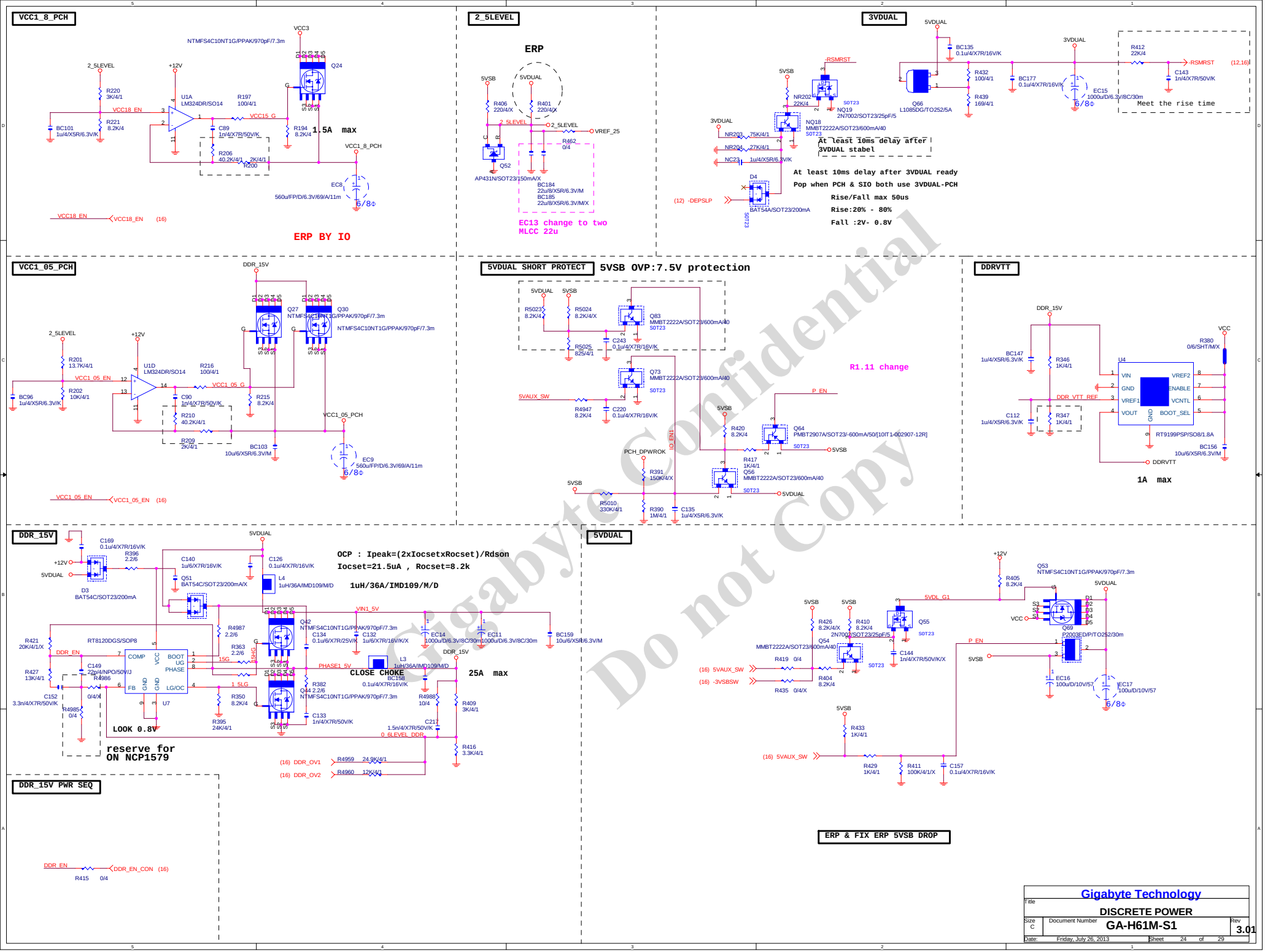
VCC1_8_PCH
NTMFS4C10NT1G/PPAK/970pF/7.3m
1.5A max
ERP BY IO
2_5LEVEL
ERP
EC13 change to two MLCC 22u
3VDUAL
At least 10ms delay after 3VDUAL ready
Pop when PCH & SIO both use 3VDUAL-PCH
Rise/Fall max 50us
Rise:20% - 80%
Fall :2V- 0.8V
Meet the rise time
VCC1_05_PCH
5VDUAL SHORT PROTECT
5VSB OVP:7.5V protection
R1.11 change
DDRVTT
1A max
DDR_15V
OCP : Ipeak=(2xIocsetxRocset)/Rdson
Iocset=21.5uA , Rocset=8.2k
1uH/36A/IMD109/M/D
CLOSE CHOKE
25A max
LOOK 0.8V
reserve for ON NCP1579
5VDUAL
ERP & FIX ERP 5VSB DROP
DDR_15V PWR SEQ
Gigabyte Confidential
Do not Copy
Gigabyte Technology
DISCRETE POWER
GA-H61M-S1
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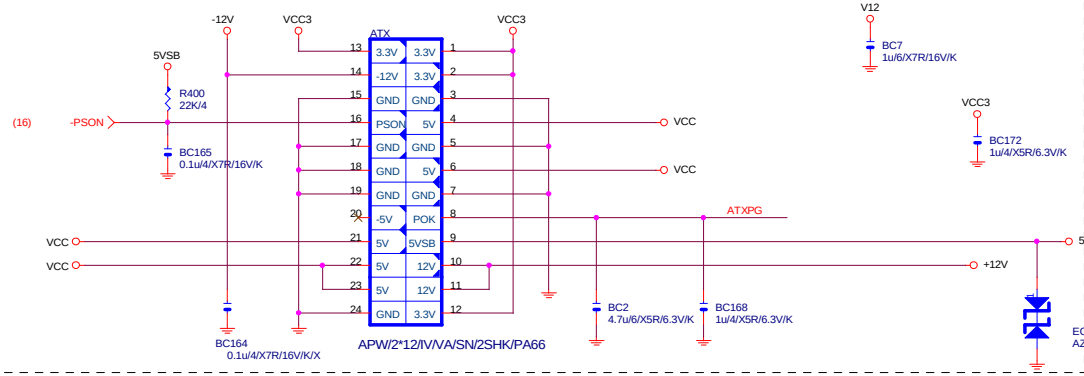
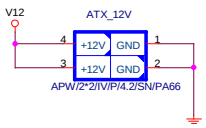
AGND1

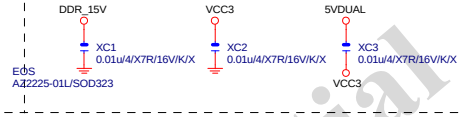
ATXX24 POWER CONNECTOR

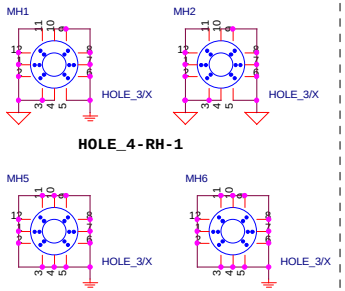


ATXX4 POWER CONNECTOR

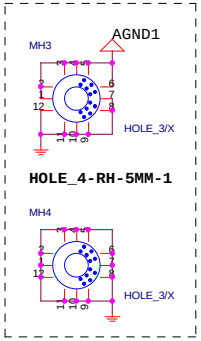


ATX_4-4



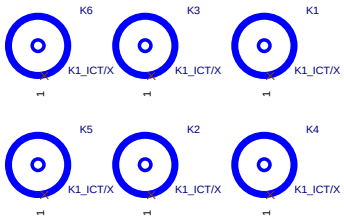


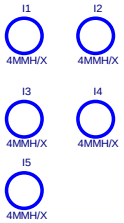
HOLE_4-RH-1



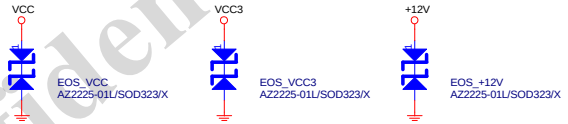
HOLE_4-RH-5MM-1

HOLE_4-RH-5MM-1



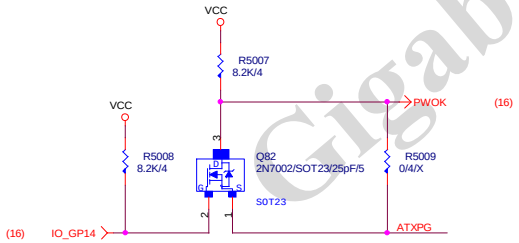


To prevent the 5VSB under loading when boot



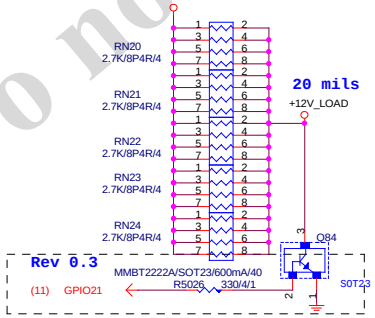
5VDUAL1(USB PORT/DDRIII POWER)
5VDUAL(3VDUAL/OTHER)

-S_WARN-->5VDUAL1-->-S_ACK(PCH)-->-DEPSLP/-RSMRST-->5VDUAL-->3VDUAL



【技術通報R&D技術通報153】

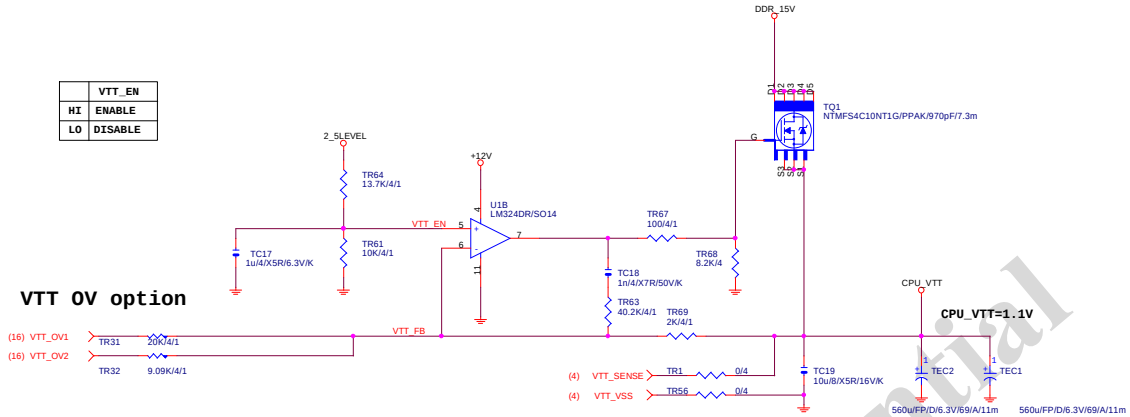
To fix 12V light load abnromal issue



Gigabyte Technology			
Title: ATX CONNECTOR			
Size: Custom	Document Number: GA-H61M-S1		Rev: 3.01
Date: Friday, July 26, 2013	Sheet 25 of 29		

CPU_VTT

	VTT_EN
HI	ENABLE
LO	DISABLE

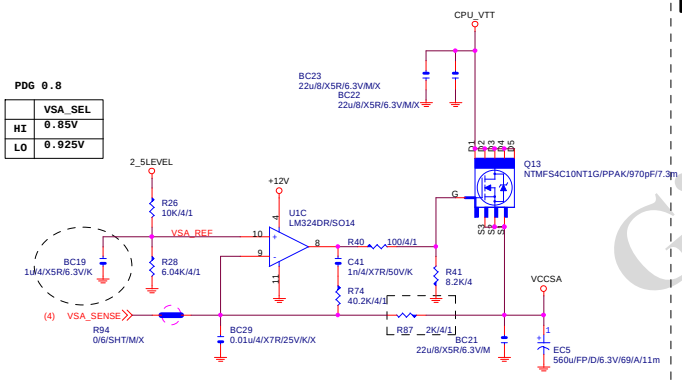


VTT OV option

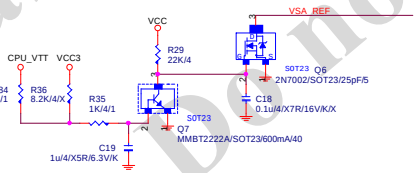
VCCSA

PDG 0.8

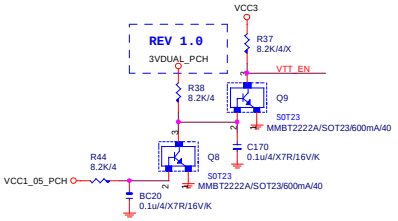
	VSA_SEL
HI	0.85V
LO	0.925V



VCCSA PWR SEQ

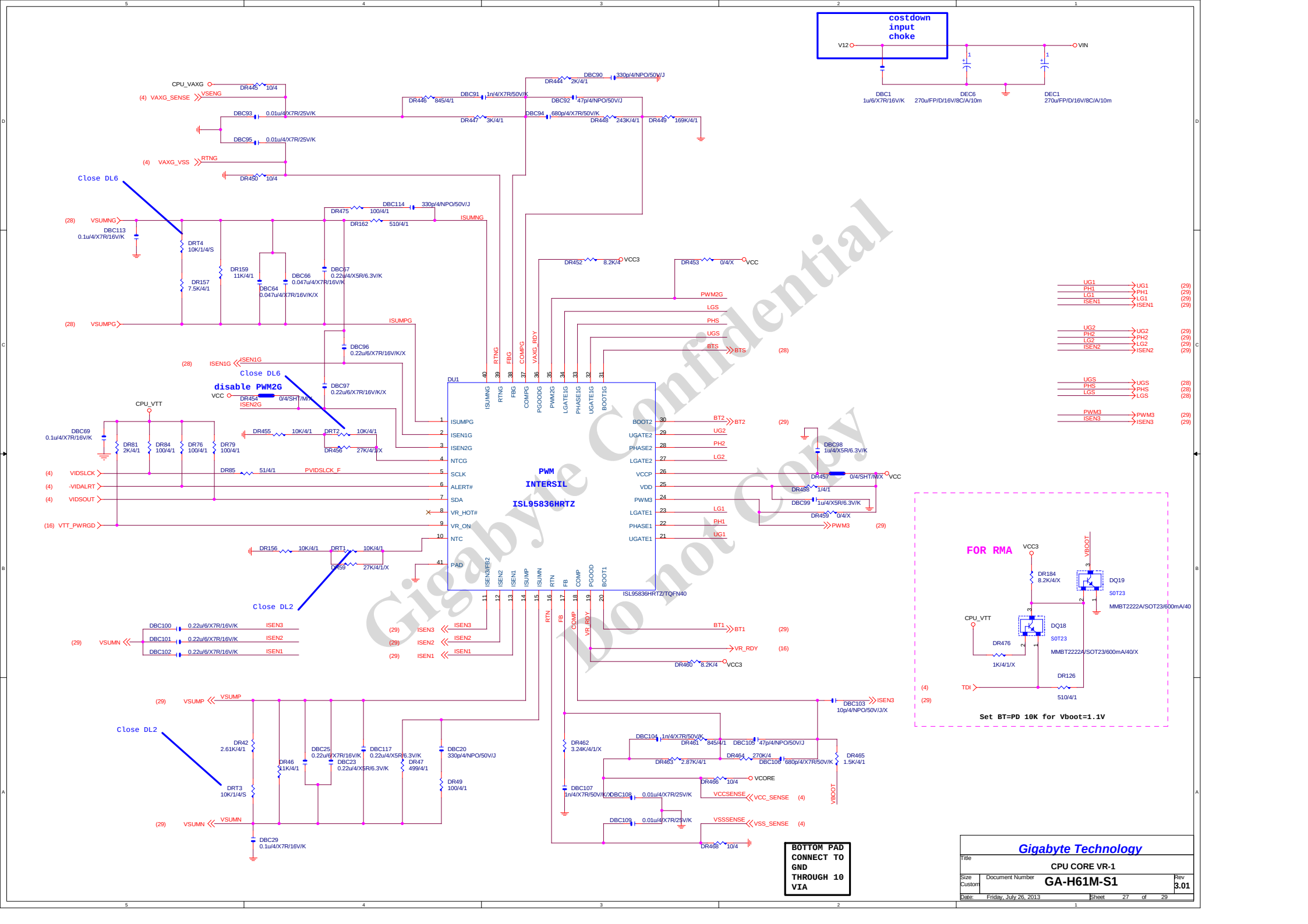


CPU_VTT PWR SEQ



GIGABYTE™

Title	CPU_VTT PWM_ISL95870CRZ	
Size: Custom	Document Number: GA-H61M-S1	Rev: 3.01
Date: Friday, July 26, 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: 3.01
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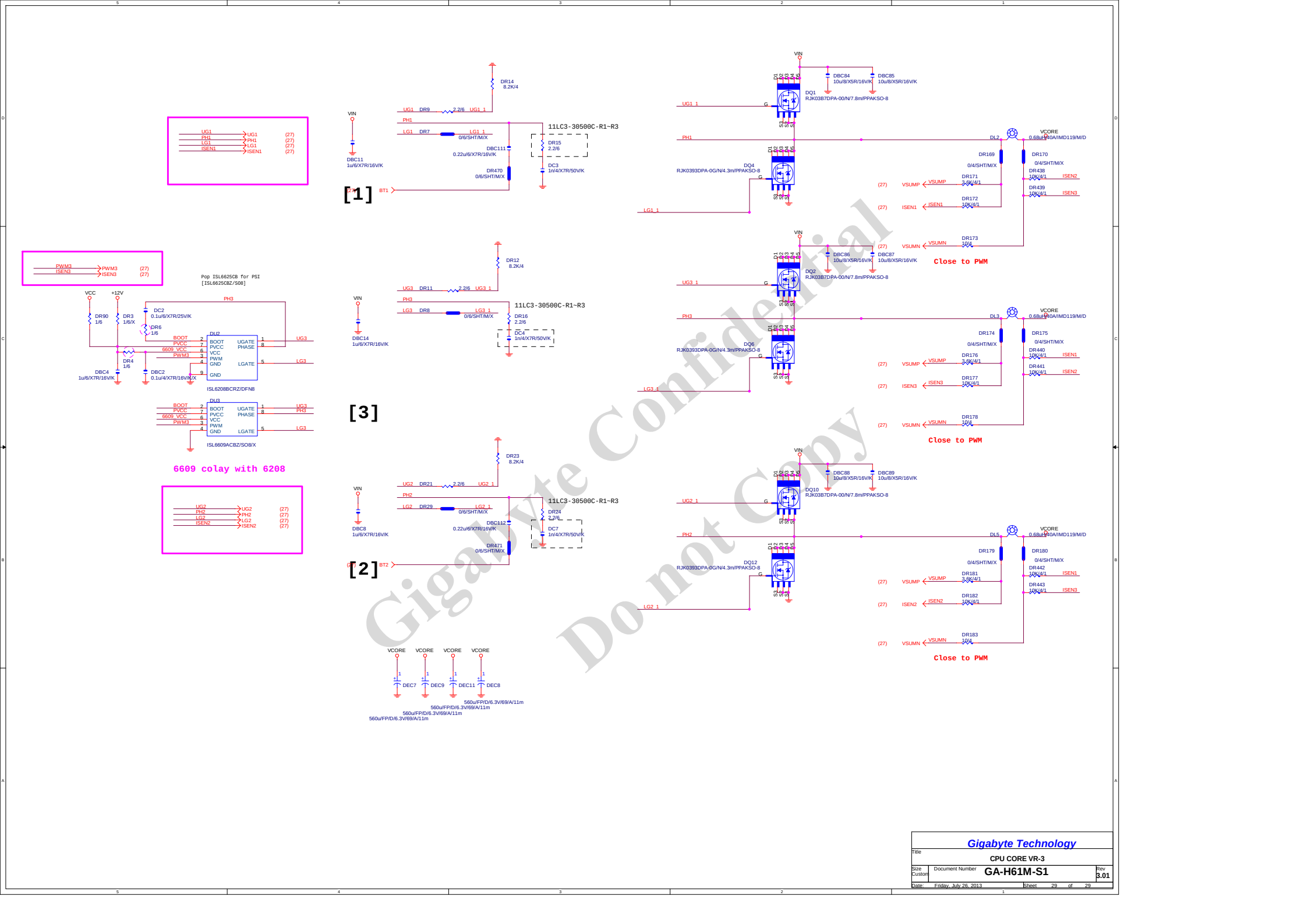
UG1
PH1
LG1
ISEN1
UG1 (27)
PH1 (27)
LG1 (27)
ISEN1 (27)
[1]
DR14 8.2K/4
VIN
DBC11 1u/6/X7R/16V/K
UG1_DR9 2.2/6 UG1_1
PH1
LG1_DR7 LG1_1 0/6/SHT/M/X
DBC111 0.22u/6/X7R/16V/K
DR470 0/6/SHT/M/X
11LC3-30500C-R1~R3
DR15 2.2/6
DC3 1n/4/X7R/50V/K
BT1
DQ1 RJK03B7DPA-00/N/7.8m/PPAKSO-8
DBC84 10u/8/X5R/16V/K
DBC85 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 VSUMP
DR172 10K/4/1 ISEN1
DR173 10/4 VSUMN
(27) VSUMP
(27) ISEN1
(27) VSUMN
Close to PWM
PWM3
ISEN3
PWM3 (27)
ISEN3 (27)
Pop ISL6625CB for PSI
[ISL6625CBZ/SO8]
VCC
+12V
DR90 1/6
DR3 1/6/X
DR6 1/6
DR4 1/6
DC2 0.1u/6/X7R/25V/K
DBC4 1u/6/X7R/16V/K
DBC2 0.1u/4/X7R/16V/M/X
PH3
DU2
BOOT
PVCC
6609_VCC
PWM3
BOOT UGATE PVCC PHASE VCC PWM GND LGATE
UG3
LG3
ISL6208BCRZ/DFN8
DU3
ISL6609ACBZ/SO8/X
6609 colay with 6208
UG2
PH2
LG2
ISEN2
UG2 (27)
PH2 (27)
LG2 (27)
ISEN2 (27)
[3]
DR12 8.2K/4
VIN
DBC14 1u/6/X7R/16V/K
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
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 VSUMP
DR177 10K/4/1 ISEN3
DR178 10/4 VSUMN
(27) VSUMP
(27) ISEN3
(27) VSUMN
Close to PWM
[2]
DR23 8.2K/4
VIN
DBC8 1u/6/X7R/16V/K
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
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 VSUMP
DR182 10K/4/1 ISEN2
DR183 10/4 VSUMN
(27) VSUMP
(27) ISEN2
(27) VSUMN
Close to PWM
VCORE
DEC7
DEC9
DEC11
DEC8
560u/FP/D/6.3V/69/A/11m
560u/FP/D/6.3V/69/A/11m
560u/FP/D/6.3V/69/A/11m
560u/FP/D/6.3V/69/A/11m
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