

Model Name: GA-H61M-S2P

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*1 SLOT
16	IT8892E
17	PCI SLOT1&2
18	ITE 8728 LPC IO
19	COM,KB_USB,USB_ESATA,-PROCHOT
20	HWM,FAN CTRL,OV,
21	DUAL BIOS
22	FP,FUSB,SPK,SATALED
23	Realtek ALC887-VD2
24	REAR AUDIO JACK
25	REALTEK RTL8111F-VL
26	DISCRETE POWER
27	ATX

SHEET TITLE

28	RT8120_CPU_VTT
29	VCORE ISL95836_1
30	VCORE ISL95836_2
31	VCORE ISL95836_3
32	LPT

## Revision 2.1

## Component value change history

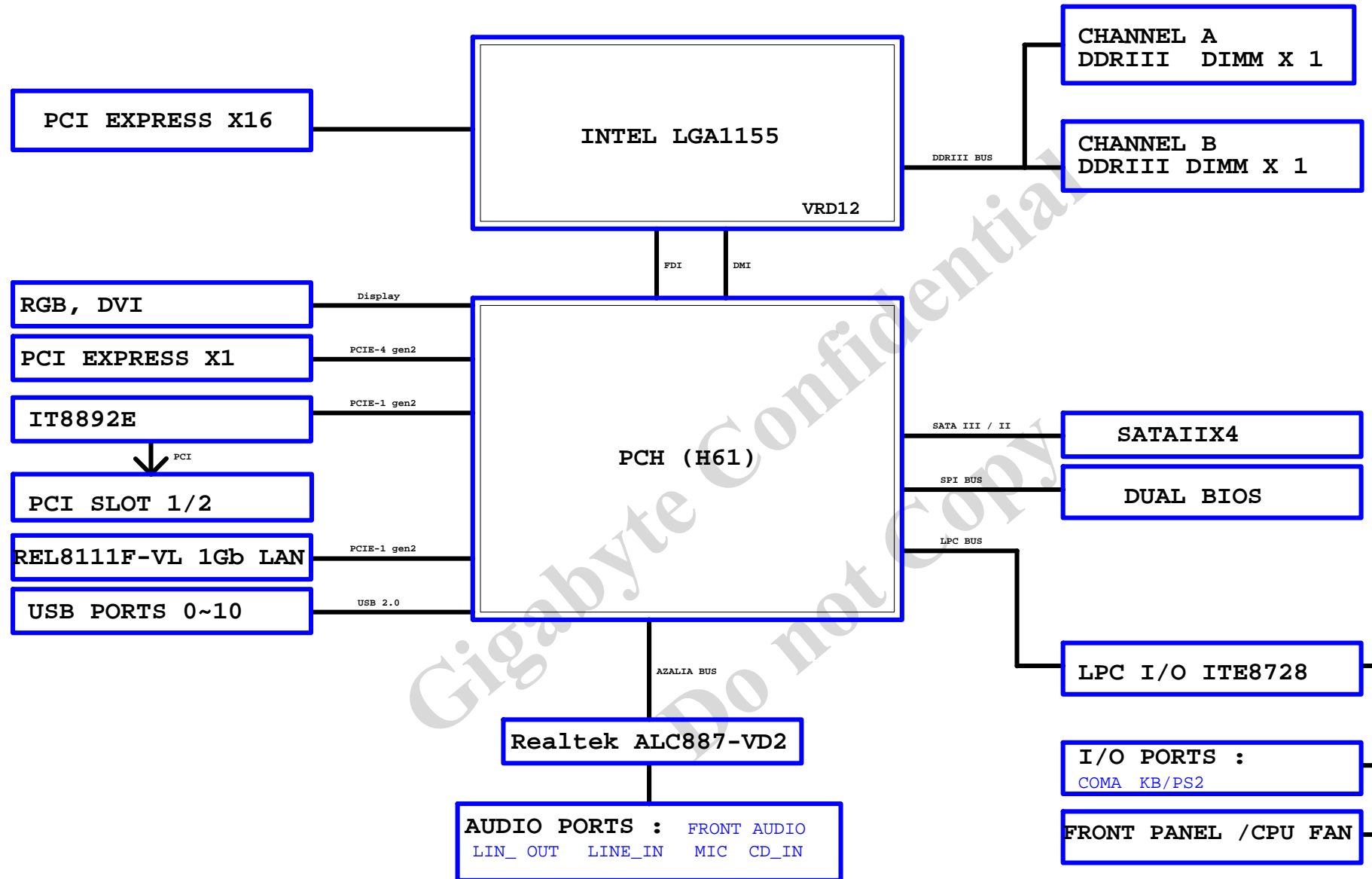
2012/06/19

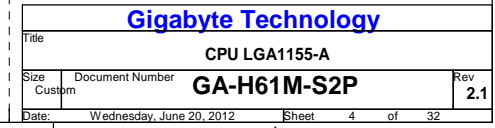
[illegible]

## Circuit or PCB layout change

[illegible]

## BLOCK DIAGRAM





## CPUA

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MAAA1	AY24	SA_MA[1]	SA_DQS[0]	AK2	-DQSA0
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MAAA3	AW23	SA_MA[3]			
MAAA4	AV23	SA_MA[4]	SA_DQ[0]	AJ3	MDA0
MAAA5	AT24	SA_MA[5]	SA_DQ[1]	AJ4	MDA1
MAAA6	AT23	SA_MA[6]	SA_DQ[2]	AL3	MDA2
MAAA7	AU22	SA_MA[7]	SA_DQ[3]	AL4	MDA3
MAAA8	AV22	SA_MA[8]	SA_DQ[4]	AJ2	MDA4
MAAA9	AT22	SA_MA[9]	SA_DQ[5]	AJ1	MDA5
MAAA10	AV28	SA_MA[10]	SA_DQ[6]	AL2	MDA6
MAAA11	AU21	SA_MA[11]	SA_DQ[7]	AL1	MDA7
MAAA12	AT21	SA_MA[12]			
MAAA13	AW32	SA_MA[13]	SA_DQS[1]	AP3	DQSA1
MAAA14	AU20	SA_MA[14]	SA_DQS[1]	AP2	-DQSA1
MAAA15	AT20	SA_MA[15]			
[7] -SWEA	AW29	SA_WE#	SA_DQ[8]	AN1	MDA8
[7] -SCASA	AV30	SA_CAS#	SA_DQ[9]	AN4	MDA9
[7] -SRASA	AU28	SA_RAS#	SA_DQ[10]	AR3	MDA10
			SA_DQ[11]	AR4	MDA12
[7] SBAA0	AY29	SA_BS[0]	SA_DQ[12]	AN2	MDA11
[7] SBAA1	AW28	SA_BS[1]	SA_DQ[13]	AN3	MDA13
[7] SBAA2	AV20	SA_BS[2]	SA_DQ[14]	AR2	MDA14
			SA_DQ[15]	AR1	MDA15
[7] -CSA0	AU29	SA_CS#	SA_DQS[2]	AW4	DQSA2
[7] -CSA1	AV32	SA_CS#	SA_DQS[2]	AW4	-DQSA2
			SA_DQS[2]	AW4	-DQSA2
[7] CKEA0	AV19	SA_CKE[0]	SA_DQ[16]	AV2	MDA16
[7] CKEA1	AT19	SA_CKE[1]	SA_DQ[17]	AW3	MDA17
			SA_DQ[18]	AV5	MDA18
			SA_DQ[19]	AW5	MDA19
			SA_DQ[20]	AU2	MDA20
			SA_DQ[21]	AU3	MDA21
			SA_DQ[22]	AU5	MDA22
			SA_DQ[23]	AU5	MDA23
			SA_DQ[24]	AW8	DQSA3
			SA_DQS[3]	AW8	-DQSA3
[7] DCLKA0	AY25	SA_CLK[0]	SA_DQ[25]	AY7	MDA24
[7] -DCLKA0	AW25	SA_CLK[0]	SA_DQ[26]	AU7	MDA25
[7] DCLKA1	AU24	SA_CLK[1]	SA_DQ[27]	AV9	MDA26
[7] -DCLKA1	AU25	SA_CLK[1]	SA_DQ[28]	AU9	MDA27
			SA_DQ[29]	AV7	MDA28
			SA_DQ[30]	AW7	MDA29
			SA_DQ[31]	AW9	MDA30
			SA_DQ[32]	AY9	MDA31
			SA_DQS[4]	AV37	DQSA4
			SA_DQS[4]	AV36	-DQSA4
			SA_DQ[32]	AU35	MDA32
			SA_DQ[33]	AW37	MDA33
			SA_DQ[34]	AU33	MDA34
			SA_DQ[35]	AU36	MDA35
			SA_DQ[36]	AW35	MDA36
			SA_DQ[37]	AY36	MDA37
			SA_DQ[38]	AU38	MDA38
			SA_DQ[39]	AU37	MDA39
			SA_DQS[5]	AP38	DQSA5
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			SA_DQ[40]	AR40	MDA40
			SA_DQ[41]	AR37	MDA41
			SA_DQ[42]	AN38	MDA42
			SA_DQ[43]	AN37	MDA43
			SA_DQ[44]	AR39	MDA44
			SA_DQ[45]	AR38	MDA45
			SA_DQ[46]	AN39	MDA46
			SA_DQ[47]	AN40	MDA47
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			SA_DQ[61]	AE39	MDA61
			SA_DQ[62]	AE40	MDA62
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DDR\_0

1 OF 10

LGA1155[10SC1-F01155-21R\_10SC1-F01155-22R]

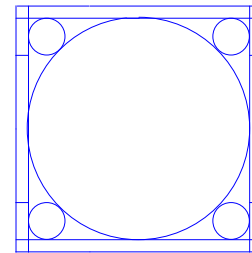
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MAAB2	AM19	SB_MA[2]			
MAAB3	AK18	SB_MA[3]			
MAAB4	AP19	SB_MA[4]	SB_DQ[0]	AG7	MDB0
MAAB5	AP18	SB_MA[5]	SB_DQ[1]	AG8	MDB1
MAAB6	AM18	SB_MA[6]	SB_DQ[2]	AJ9	MDB2
MAAB7	AL18	SB_MA[7]	SB_DQ[3]	AJ8	MDB3
MAAB8	AY17	SB_MA[8]	SB_DQ[4]	AG5	MDB4
MAAB9	AN23	SB_MA[9]	SB_DQ[5]	AG6	MDB5
MAAB10	AN17	SB_MA[10]	SB_DQ[6]	AJ6	MDB6
MAAB11	AT18	SB_MA[11]	SB_DQ[7]	AJ7	MDB7
MAAB12	AR26	SB_MA[12]			
MAAB13	AY16	SB_MA[13]	SB_DQS[1]	AM8	DQSB1
MAAB14	AY16	SB_MA[14]	SB_DQS[1]	AL8	-DQSB1
MAAB15	AY16	SB_MA[15]			
[8] -SWEB	AR25	SB_WE#	SB_DQ[8]	AL7	MDB8
[8] -SCASB	AK25	SB_CAS#	SB_DQ[9]	AM7	MDB9
[8] -SRASB	AP24	SB_RAS#	SB_DQ[10]	AM10	MDB10
			SB_DQ[11]	AL10	MDB11
			SB_DQ[12]	AL9	MDB12
			SB_DQ[13]	AM6	MDB13
			SB_DQ[14]	AL9	MDB14
			SB_DQ[15]	AM9	MDB15
[8] -CSB0	AN25	SB_CS#	SB_DQS[2]	AR8	DQSB2
[8] -CSB1	AN26	SB_CS#	SB_DQS[2]	AP8	-DQSB2
			SB_DQS[2]	AP8	-DQSB2
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[8] CKEB0	AU16	SB_CKE[0]	SB_DQ[16]	AP7	MDB16
[8] CKEB1	AY15	SB_CKE[1]	SB_DQ[17]	AR7	MDB17
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			SB_DQ[20]	AP6	MDB20
			SB_DQ[21]	AR6	MDB21
			SB_DQ[22]	AP9	MDB22
			SB_DQ[23]	AR9	MDB23
			SB_DQ[24]	AN13	DQSB3
			SB_DQS[3]	AN12	-DQSB3
[8] DCLKB0	AL21	SB_CLK[0]	SB_DQ[24]	AM12	MDB24
[8] -DCLKB0	AL22	SB_CLK[0]	SB_DQ[25]	AM13	MDB25
[8] DCLKB1	AK20	SB_CLK[1]	SB_DQ[26]	AR13	MDB26
[8] -DCLKB1	AK20	SB_CLK[1]	SB_DQ[27]	AP13	MDB27
			SB_DQ[28]	AL12	MDB28
			SB_DQ[29]	AL13	MDB29
			SB_DQ[30]	AR12	MDB30
			SB_DQ[31]	AP12	MDB31
			SB_DQS[4]	AN29	DQSB4
			SB_DQS[4]	AN28	-DQSB4
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			SB_DQ[46]	AR35	MDB46
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			SB_DQS[6]	AL33	DQSB6
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			SB_DQ[52]	AM34	MDB52
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			SB_DQ[61]	AJ34	MDB61
			SB_DQ[62]	AF33	MDB62
			SB_DQ[63]	AF35	MDB63

DDR\_1

2 OF 10

LGA1155[10SC1-F01155-21R\_10SC1-F01155-22R]

CR  
CPU RETENTION/X

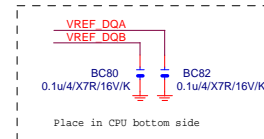
Need check the new CPU ME

CPU\_P



ILM\_BP/1156/CSP/ILM\_BP/1156/CSP/12KRC-0F0001-05R\_12KRC-0F0001-31R]

DDR SIGNAL



[7] MODT\_A[0..1] &lt;-- MODT\_A10..11

[8] MODT\_B[0..1] &lt;-- MODT\_B10..11

[7] MDA[0..63] &lt;-- MDA[0..63]

[8] MDB[0..63] &lt;-- MDB[0..63]

[7] DQSA[0..7] &lt;-- DQSA[0..7]

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[7] MAA[0..15] &lt;-- MAA[0..15]

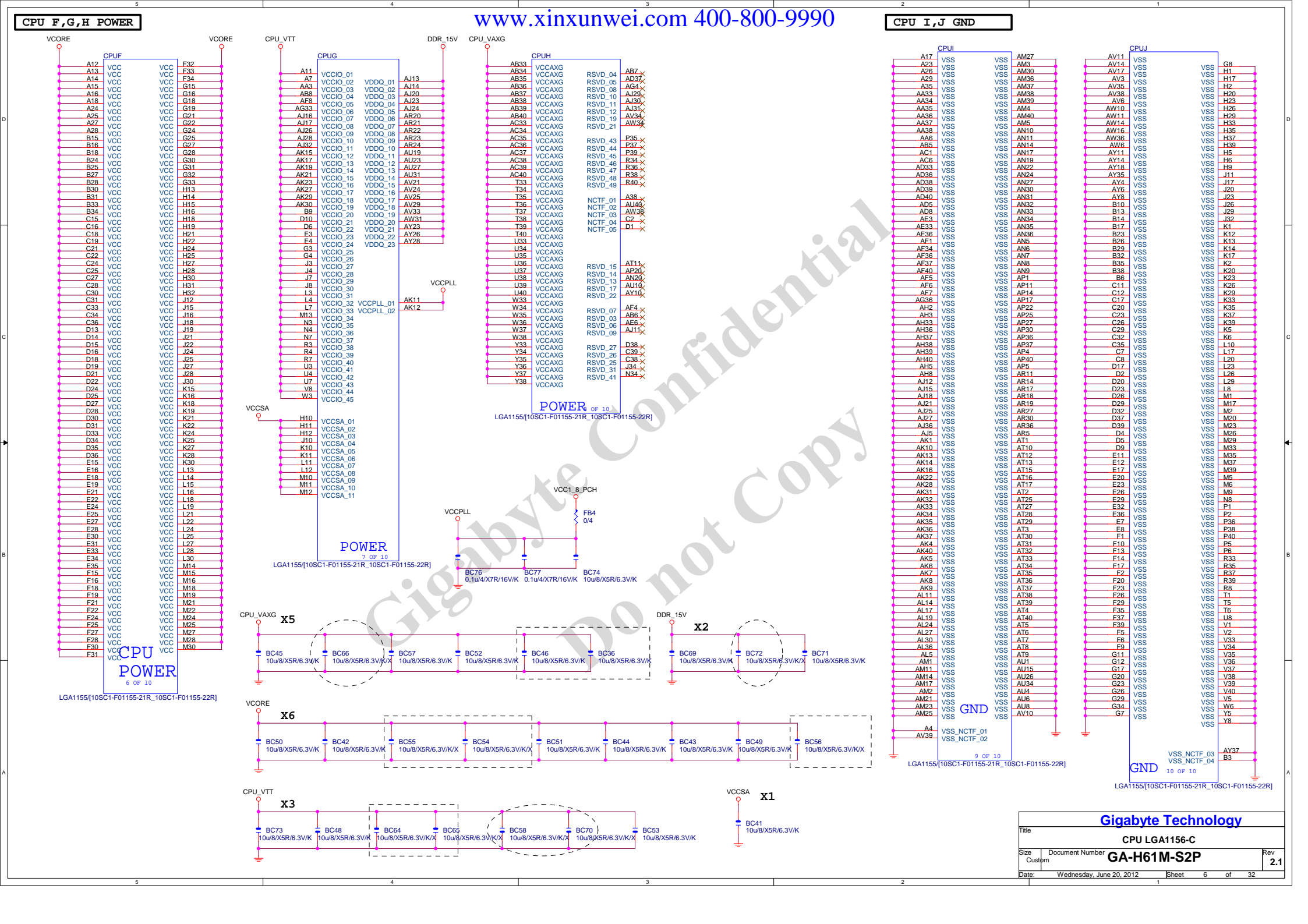
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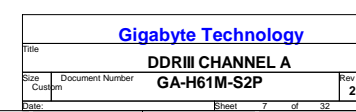
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[8] -DQSB[0..7] &lt;-- -DQSB[0..7]

Gigabyte Technology

Title			
CPU LGA1156-B			
Size			
Custom			
Document Number			
GA-H61M-S2P			
Date:			
Wednesday, June 20, 2012			
Sheet			
5			
of			
32			
Rev			
2.1			



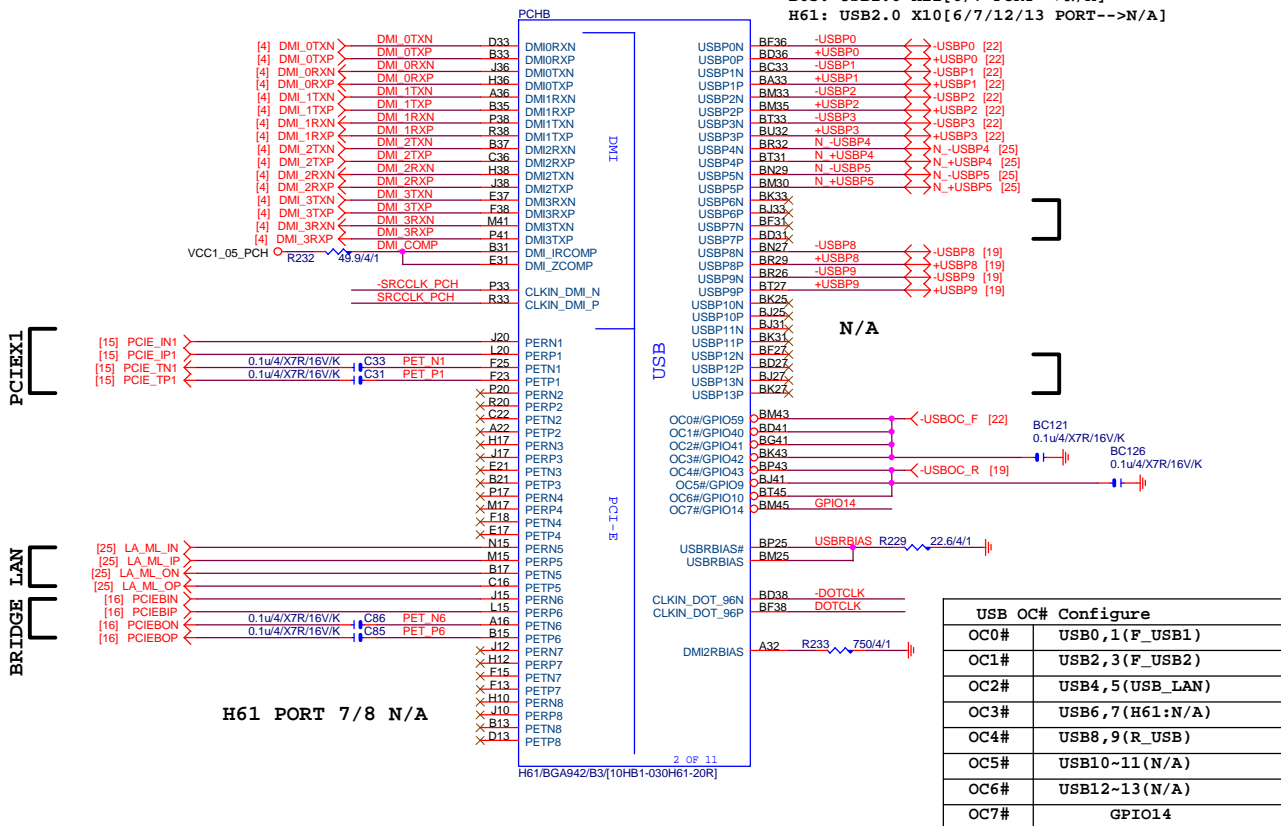




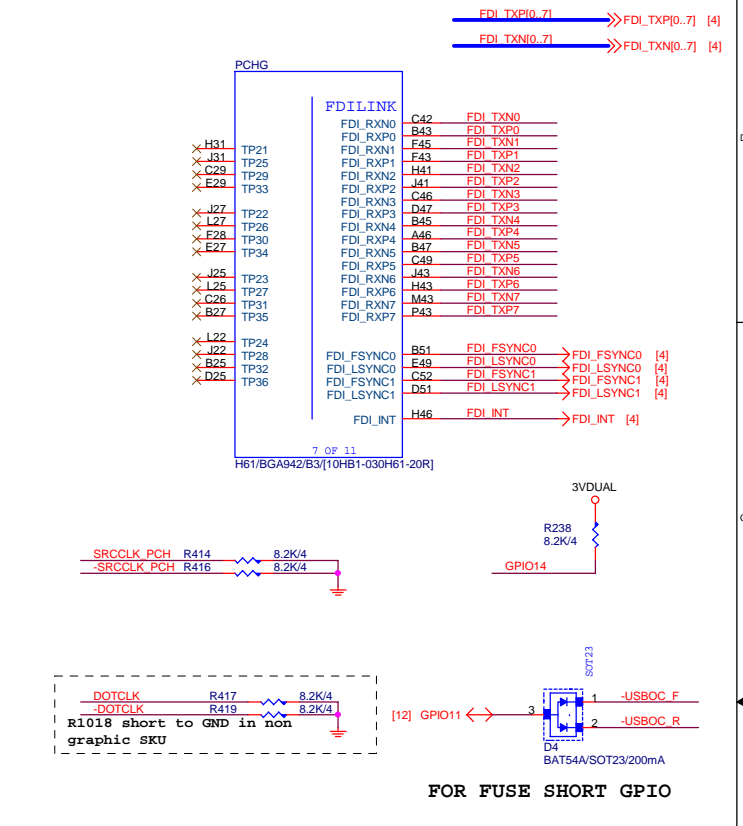




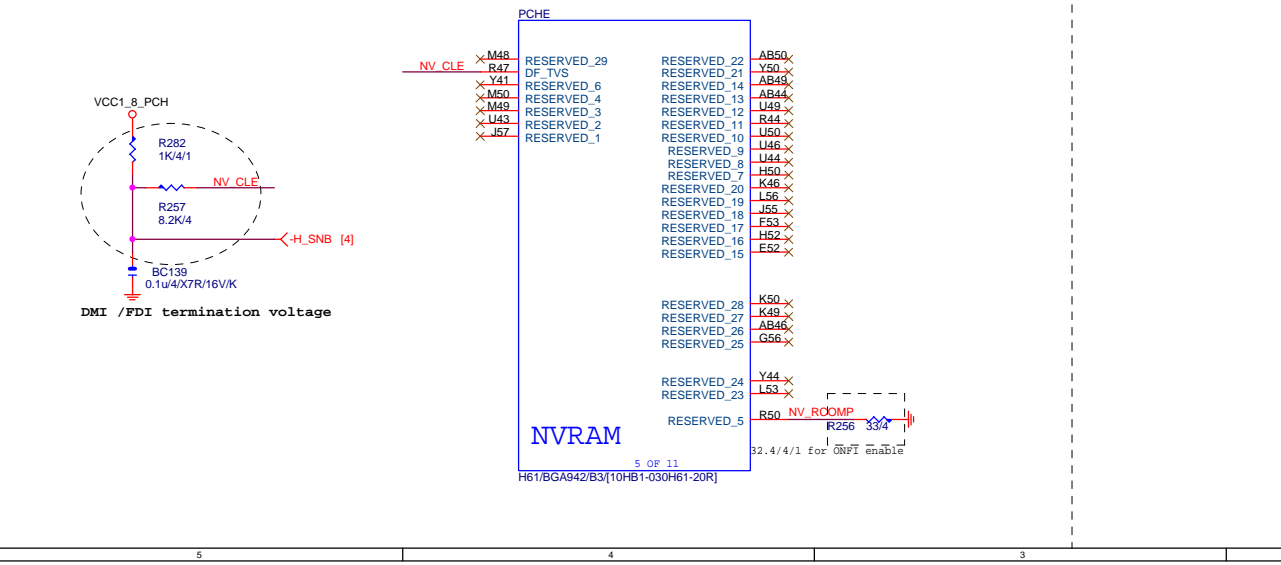
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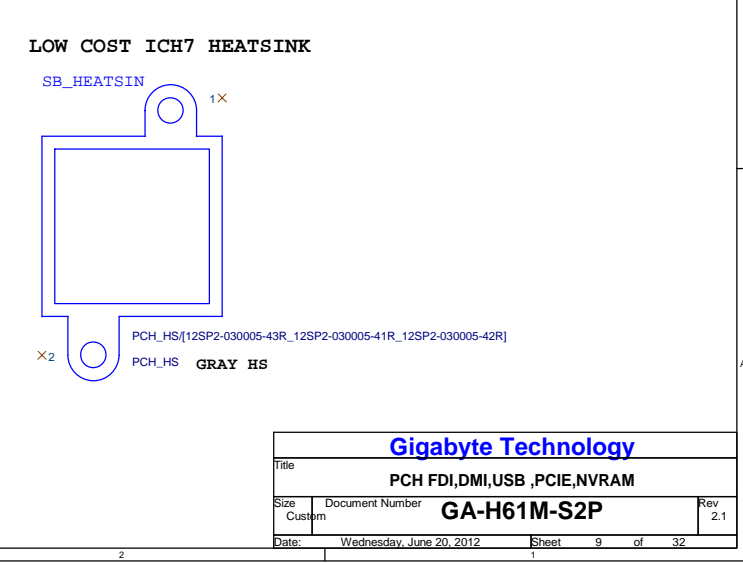
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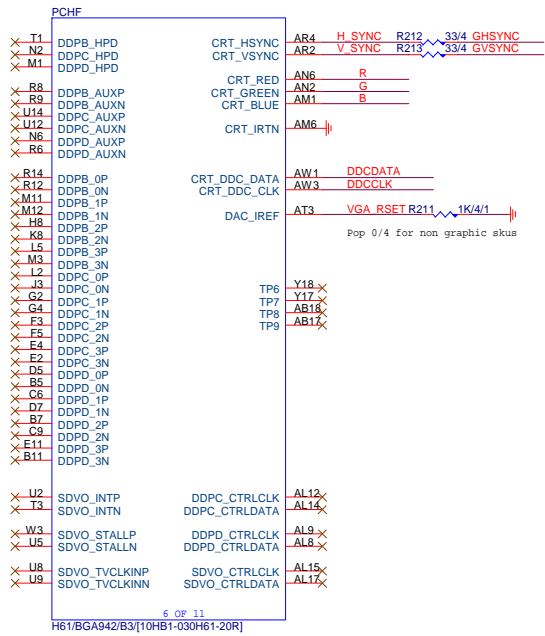
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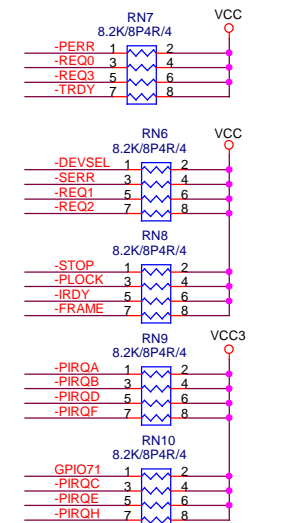
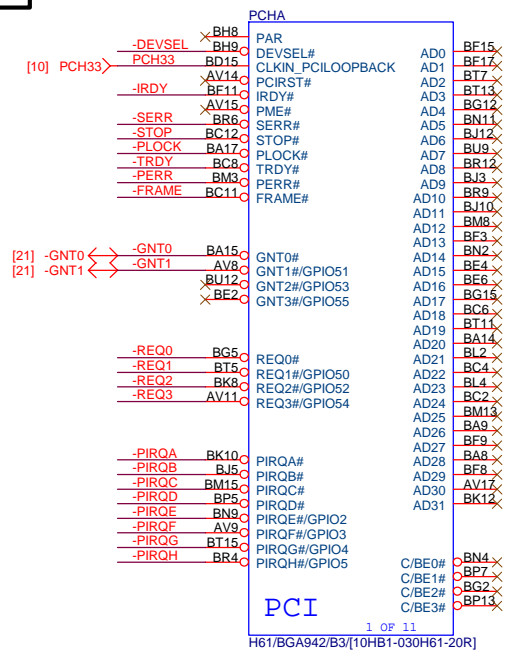


PCH HS



# PCH F DISPLAY





**SATA2\_2**

Signal	Board Pin	SATA Pin
SATA4TXP	0.01u/4/X7R/25V/K C112	1
SATA4TXN	0.01u/4/X7R/25V/K C116	2
SATA4RXN	0.01u/4/X7R/25V/K C123	4
SATA4RXP	0.01u/4/X7R/25V/K C127	5

**SATA2\_3**

Signal	Board Pin	SATA Pin
SATA5TXP	0.01u/4/X7R/25V/K C111	1
SATA5TXN	0.01u/4/X7R/25V/K C115	2
SATA5RXN	0.01u/4/X7R/25V/K C122	4
SATA5RXP	0.01u/4/X7R/25V/K C126	5

Legend: 1+ GND, 2+ T+, 3- T-, 4+ GND, 5- R-, 6+ R+, 7- GND.

**N/A**

VCC

R265  
8.2K/4/X

[18] PECL\_CTL

R283  
1K/41/X

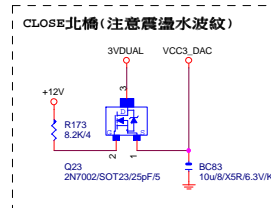
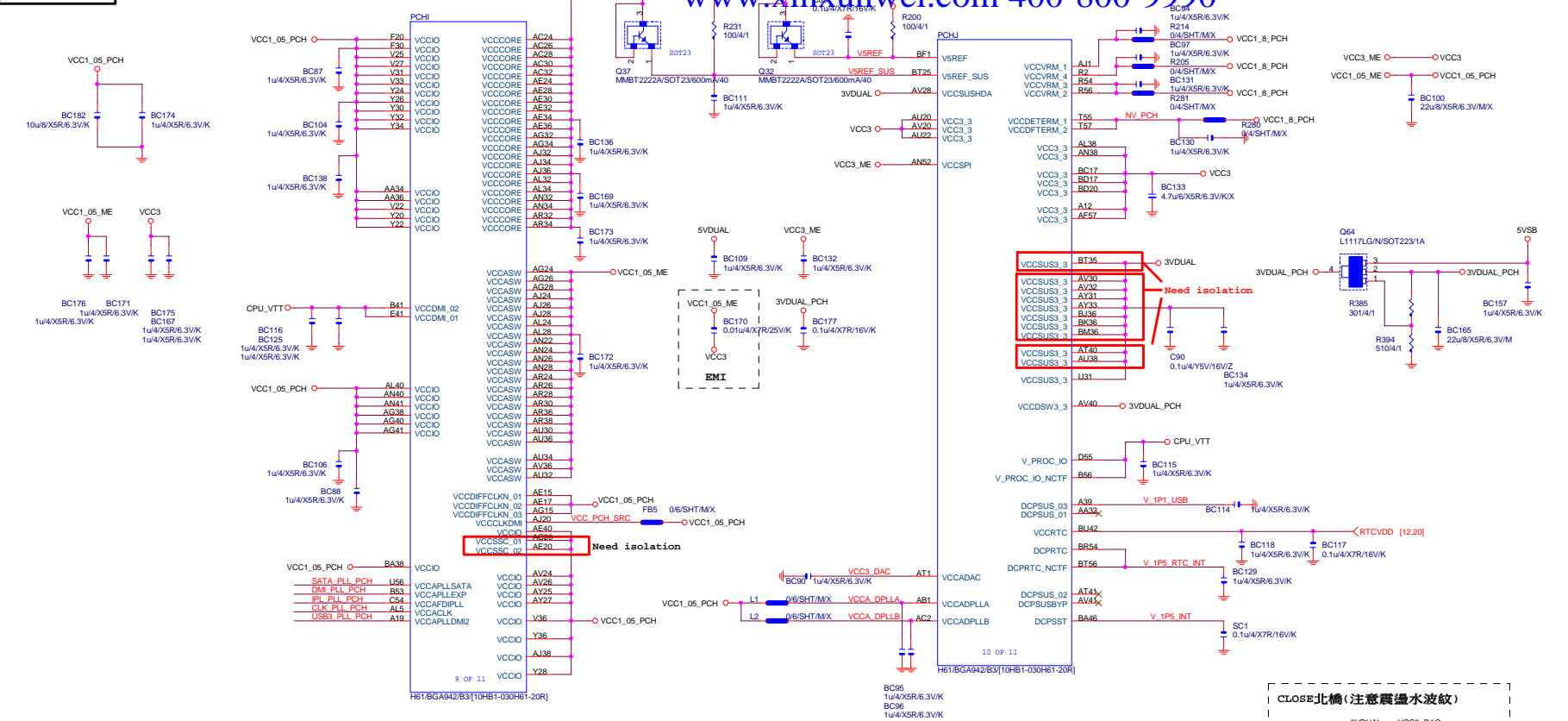
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PECL [4,18]

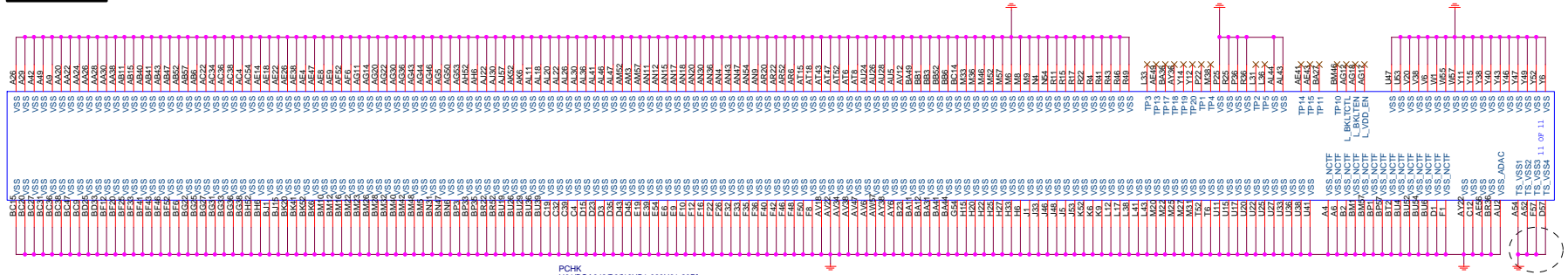
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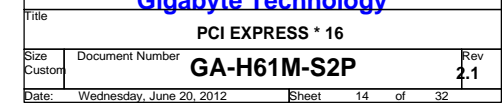


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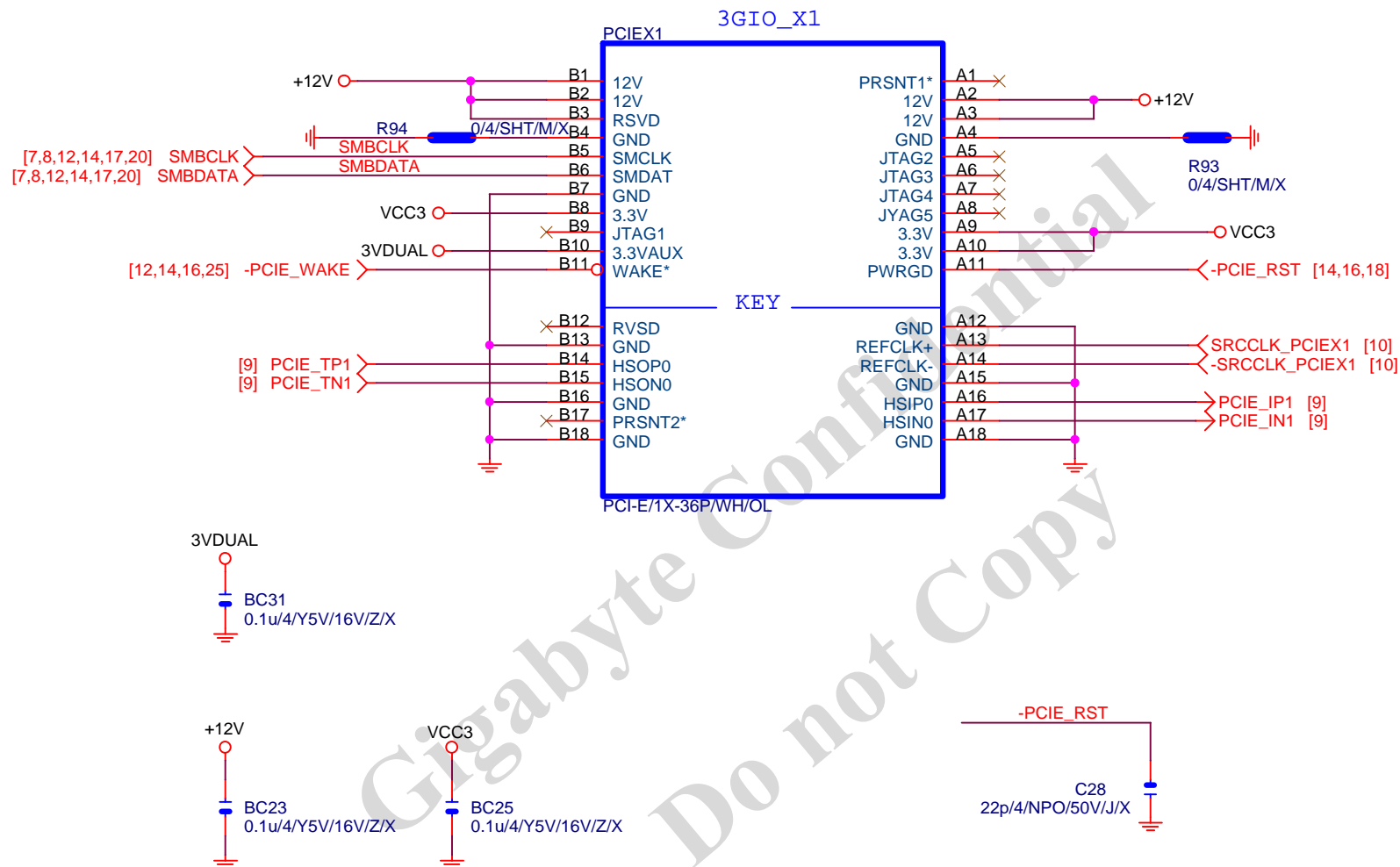


PCH K GND







**Gigabyte Technology**

Title

**PCI EXPRESS X 1 PORT**Size  
A

Document Number

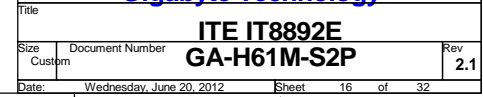
**GA-H61M-S2P**Rev  
**2.1**

Date: Wednesday, June 20, 2012

Sheet 15 of 32

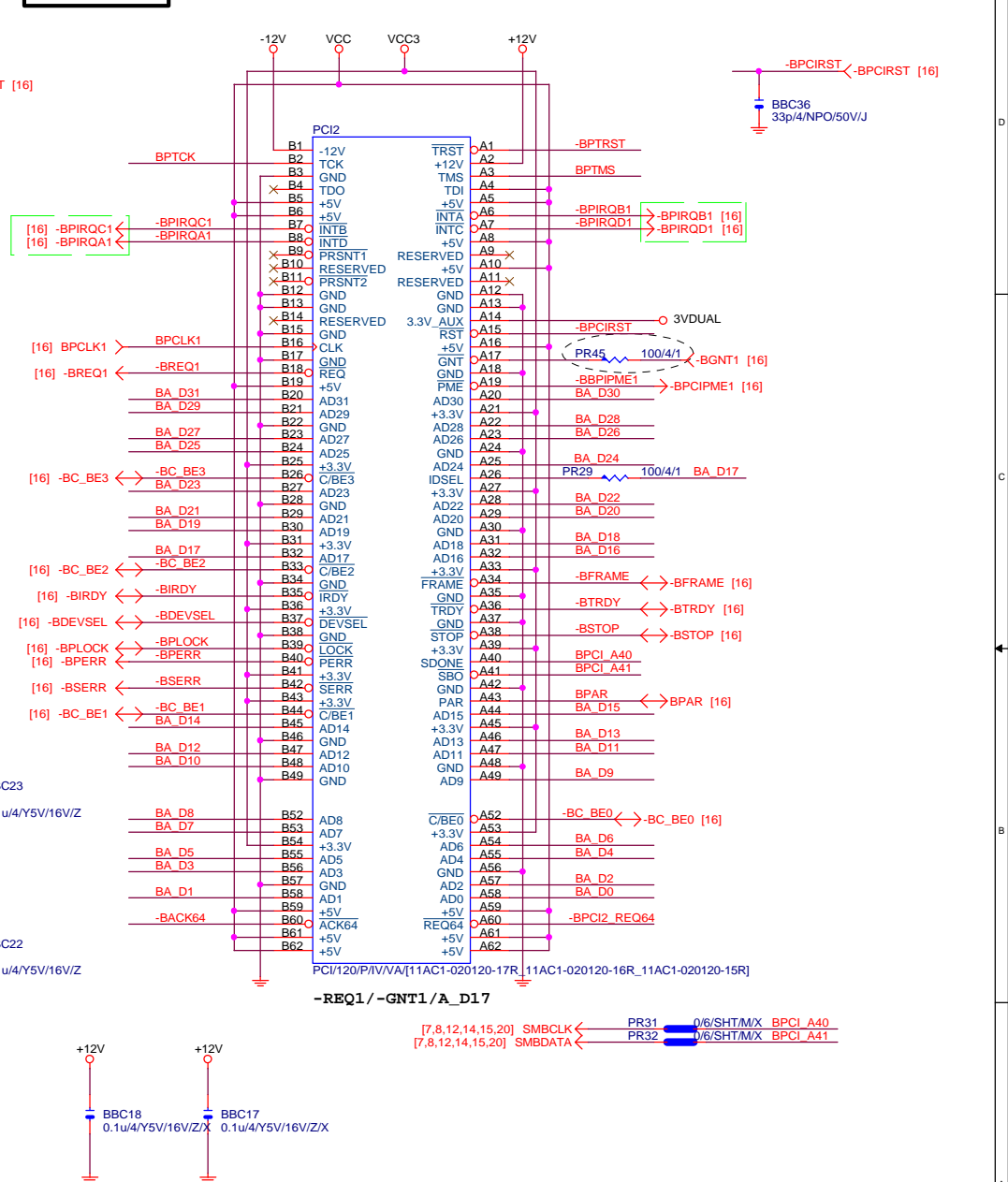
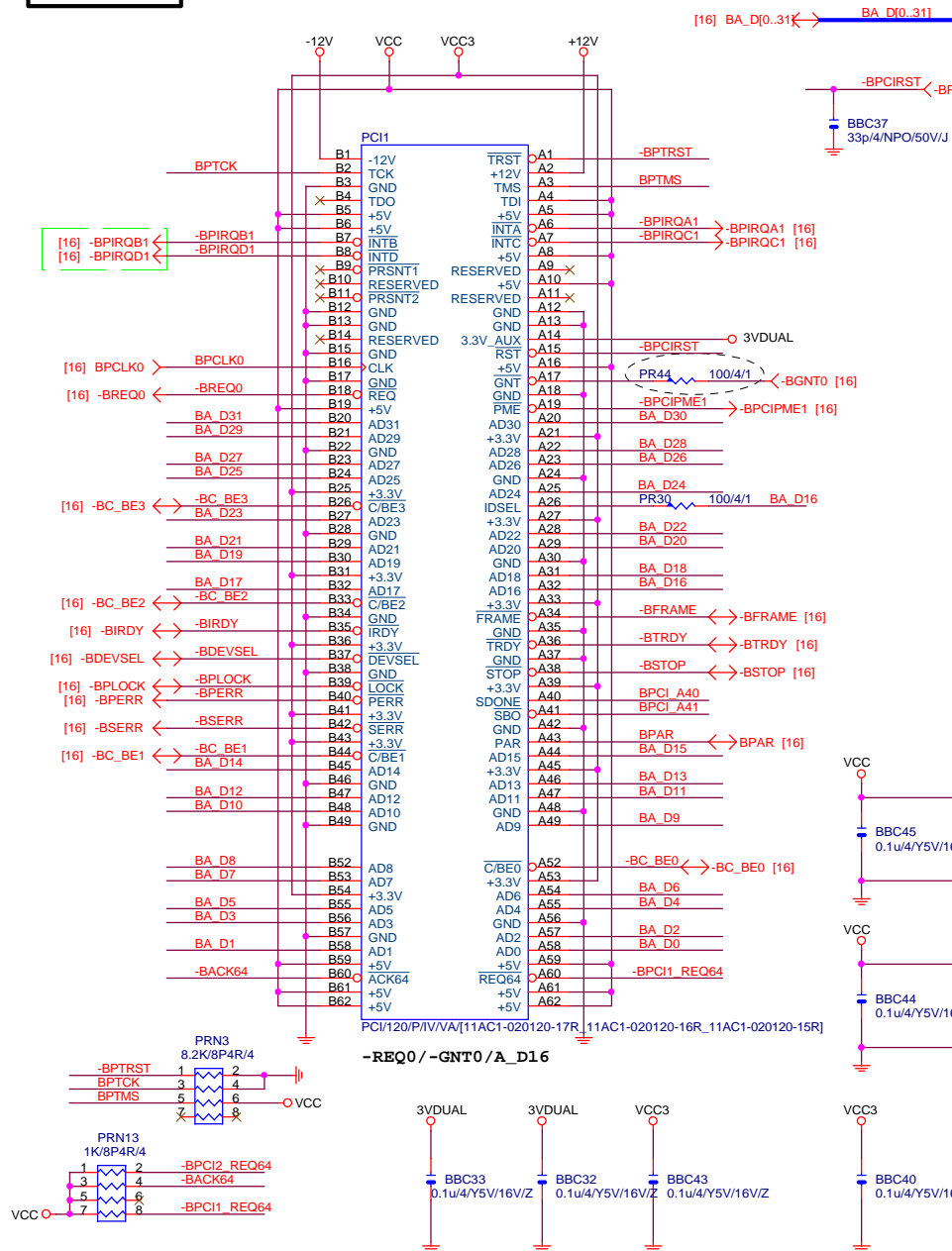


Co-Lay IT8893 (IT8893 CLKOUT1 N/A)



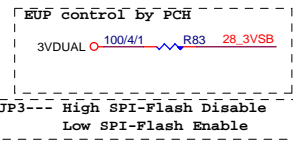
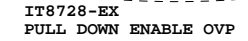
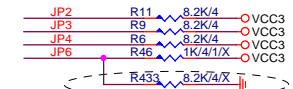
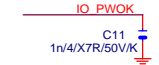
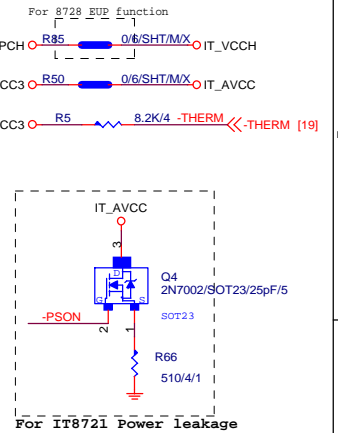
PCI SLOT 1

PCI SLOT 2

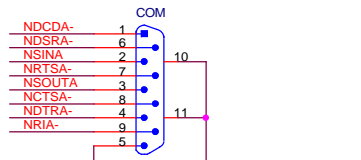
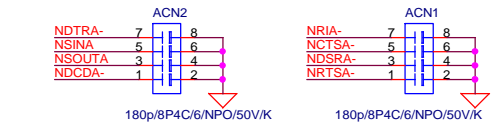
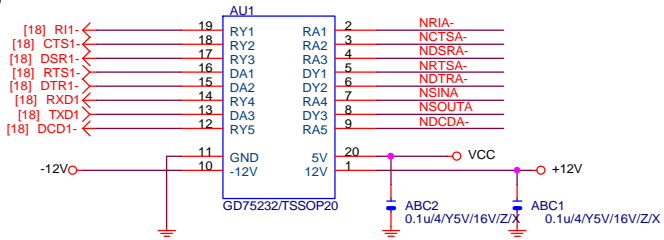


Gigabyte Technology

Title		
PCI SLOT 1&2		
Size	Document Number	Rev
Custom	GA-H61M-S2P	2.1
Date: Wednesday, June 20, 2012		
Sheet 17 of 32		



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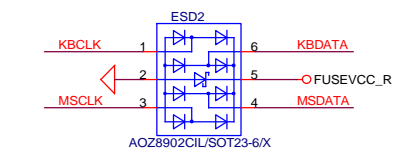
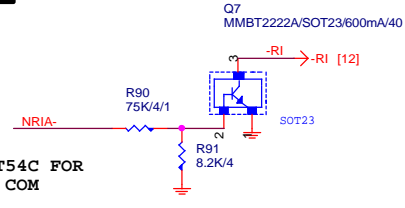


COM/GE/SC-6mm/RA/1/D/[11NR6-111009-1QR\_11NR6-111009-1JR]

VITE -1QR

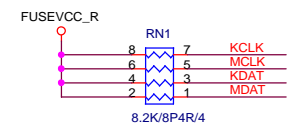
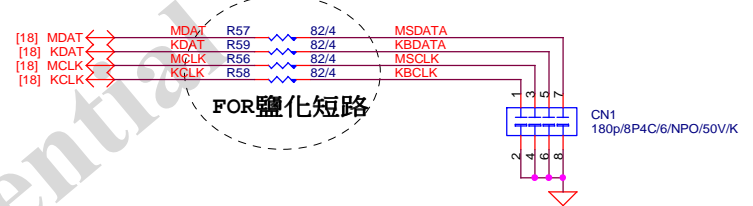
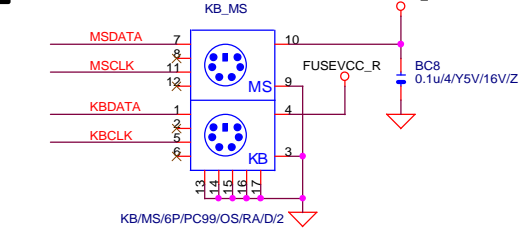
COM/RI

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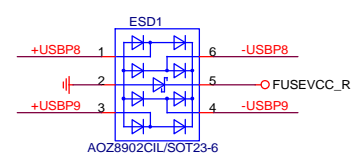
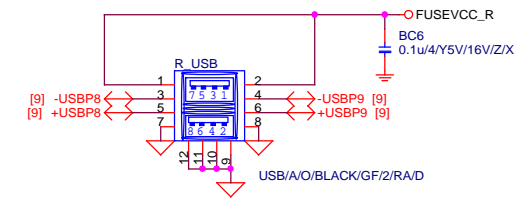
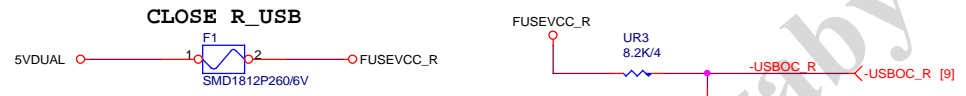


CLOSE KB\_MS

KB/MS

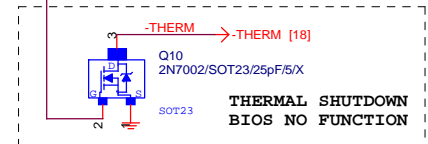
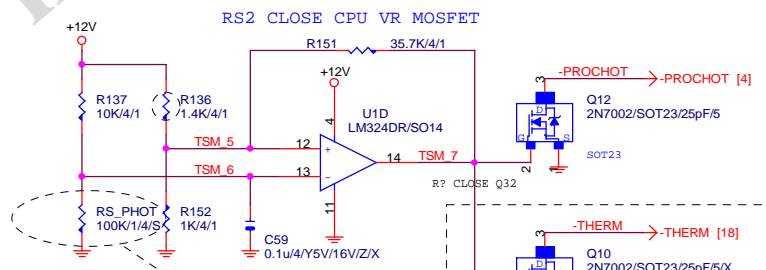
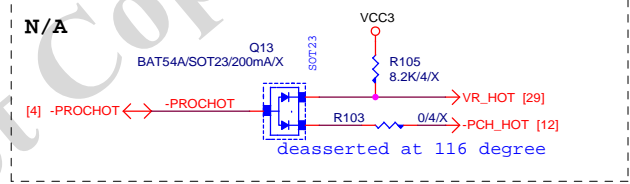


R\_USB1



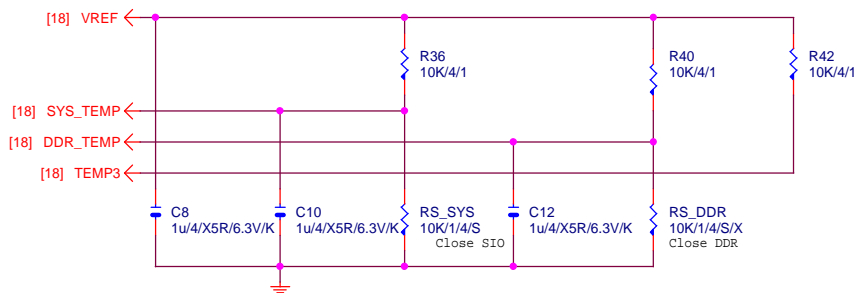
CLOSE R\_USB1

-PROHOT

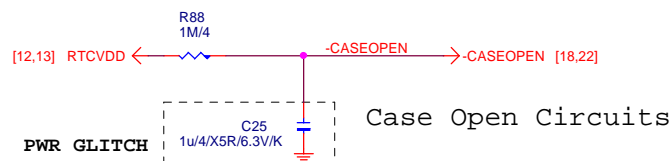


Gigabyte Technology			
Title			
COM,-RI,KB_USB,USB_ESATA,-PROHOT			
Size	Document Number	GA-H61M-S2P	
Custom		Rev 2.1	
Date:	Wednesday, June 20, 2012	Sheet	19 of 32

# TEMP H/W MONITOR

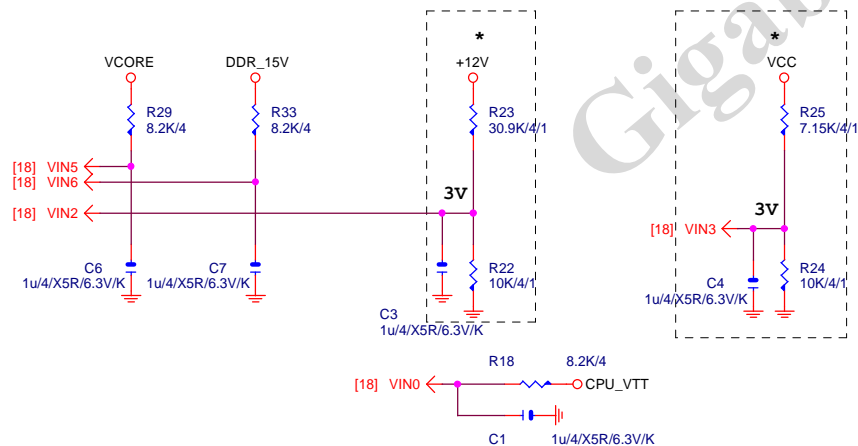


# CASE OPEN

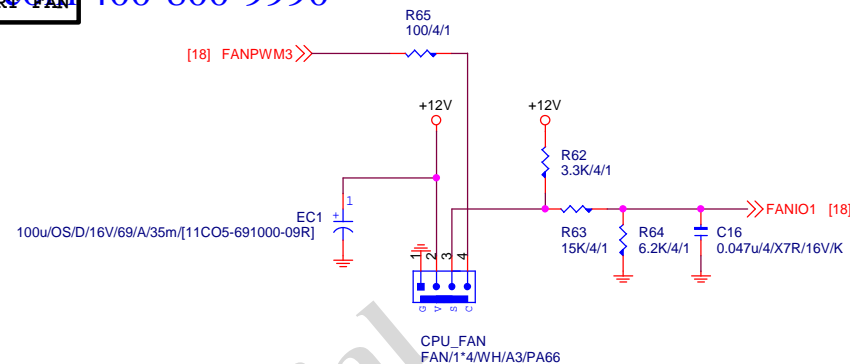


# VOLTAGE-- H/W MONITOR

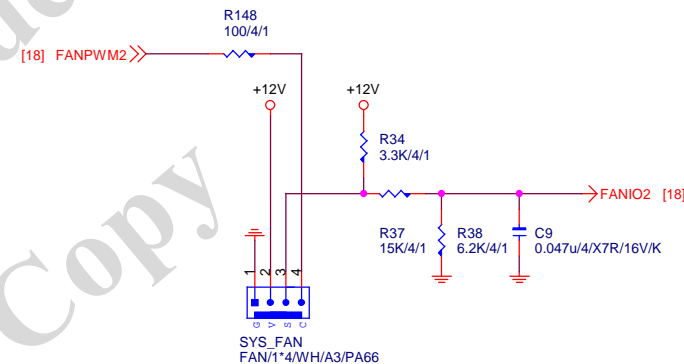
IT8728/EX VIN2/VIN3-->2V



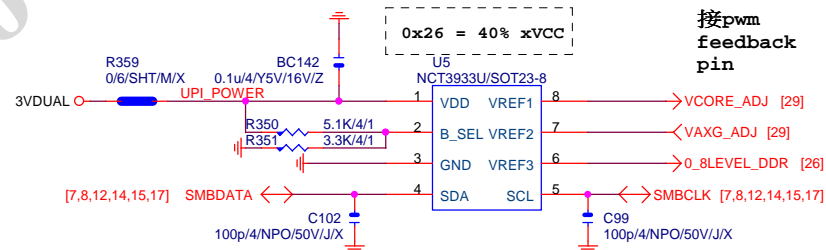
# CPU SMART FAN



# SYS SMART FAN



# O.V.

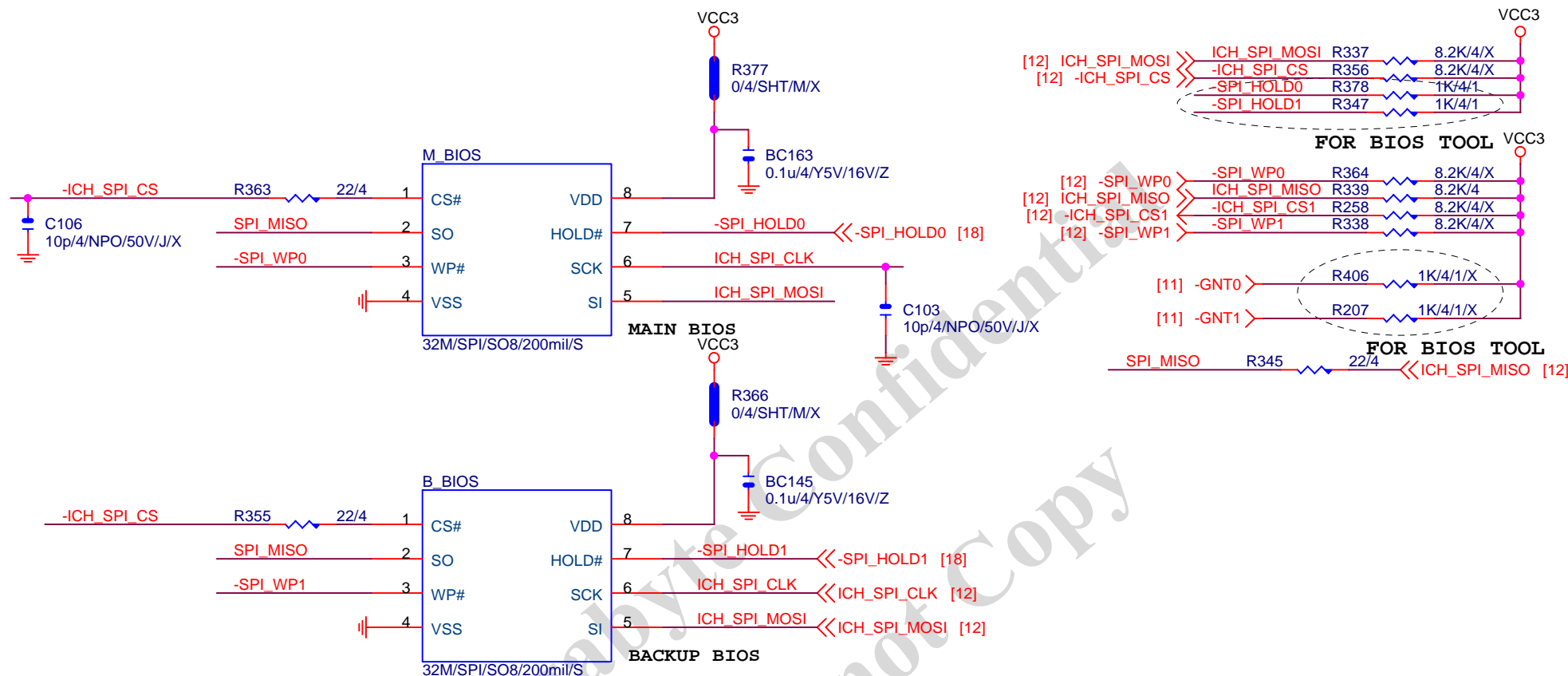


Gigabyte Technology

Title			HWM,FAN CTRL,OV
Size	Document Number	GA-H61M-S2P	
Custom			Rev 2.1
Date:	Wednesday, June 20, 2012	Sheet	20 of 32

# DUAL BIOS

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B65使用64M BIOS

使用H67暫用32M

H61使用32M BIOS

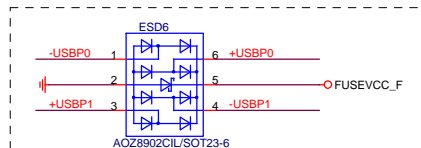
BOOT DEVICE	GNT1	GNT0
LPC	0	0
PCI	0	1
SPI	1	1

1 means floating  
0 means PD 1K

**Gigabyte Technology**

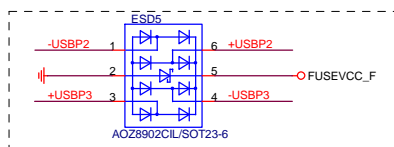
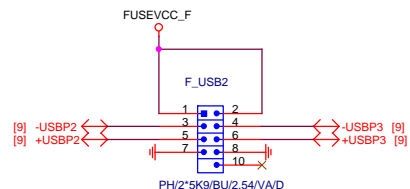
Title		
DUAL BIOS		
Size A	Document Number <b>GA-H61M-S2P</b>	Rev <b>2.1</b>
Date:	Wednesday, June 20, 2012	Sheet 21 of 32

# FRONT USB1



Close to connector

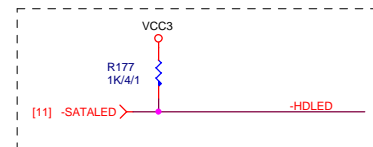
# FRONT USB2



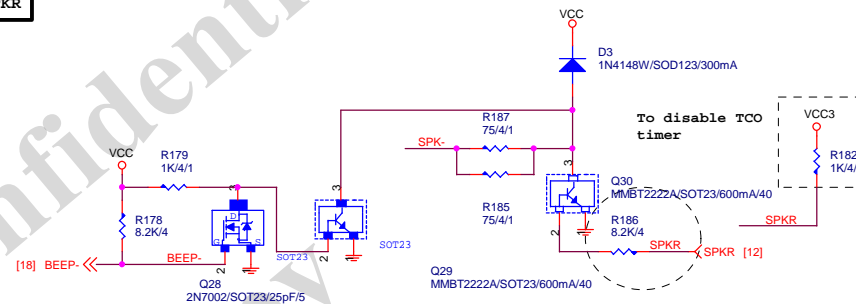
Close to connector

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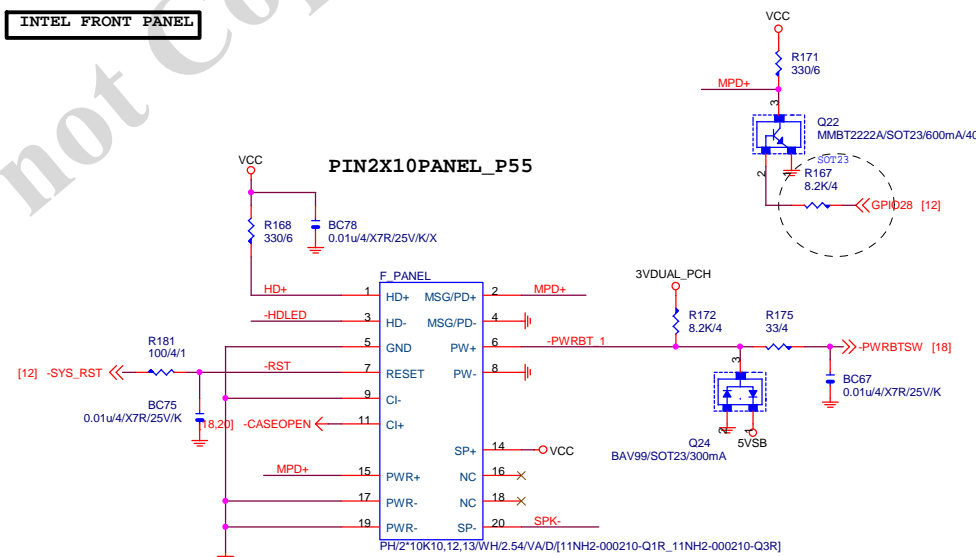
# SATA LED



# SPKR



# INTEL FRONT PANEL



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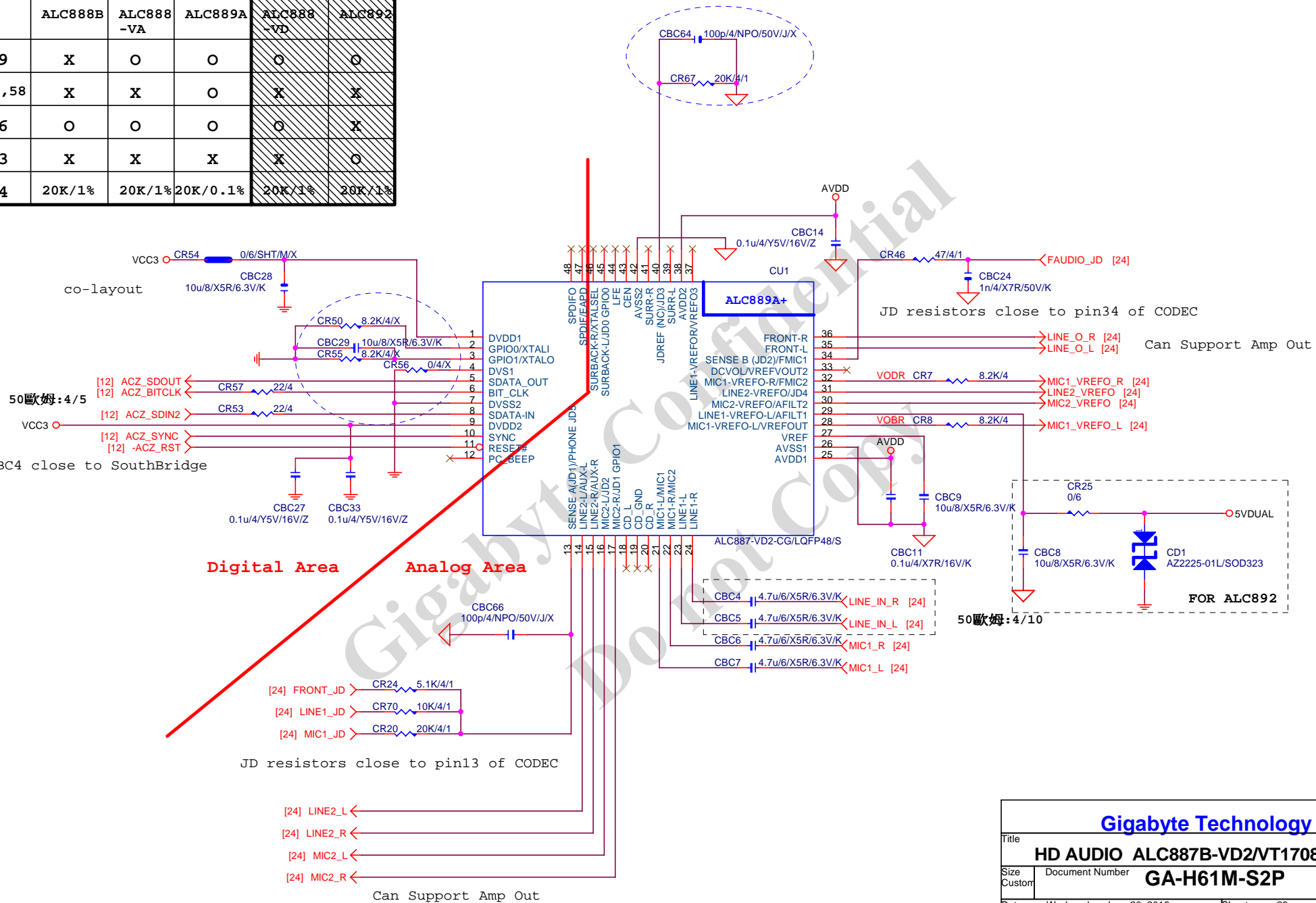
Title			FP,F_USB,USB PWR,SPKR,SATA LED
Size			GA-H61M-S2P
Date:			Wednesday, June 20, 2012
Sheet			22 of 32
Rev			2.1



## AZALIA CODEC

ALC892/ALC889A/ALC889/ALC888B Colay

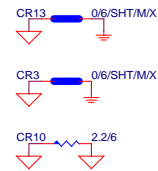
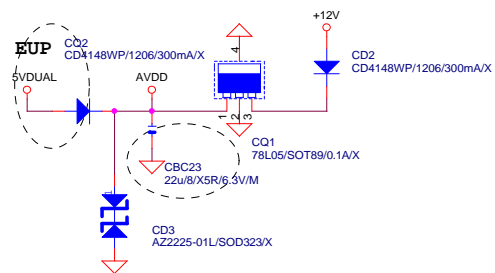
	ALC888B	ALC888-VA	ALC889A	ALC888-VD	ALC892
CR59	X	O	O	O	O
CR53,58	X	X	O	X	X
CR56	O	O	O	O	X
CR63	X	X	X	X	O
CR34	20K/1%	20K/1%	20K/0.1%	20K/1%	20K/1%



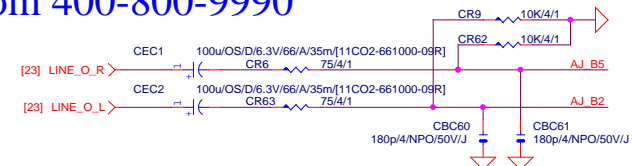
Gigabyte Technology

Title	HD AUDIO ALC887B-VD2/VT1708S/VT2021		
Size	Document Number	GA-H61M-S2P	Rev
Custom			2.1
Date:	Wednesday, June 20, 2012	Sheet	23 of 32

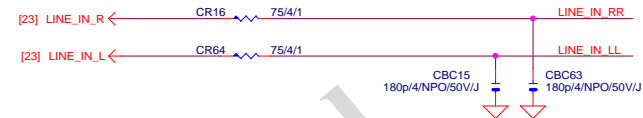
## CODEC POWER/EMI PAD



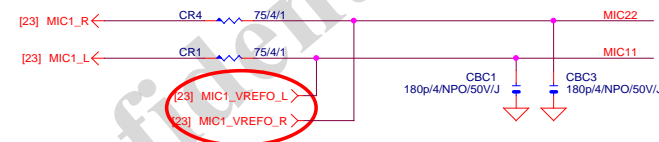
## LINE-OUT



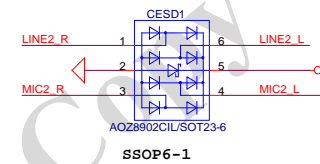
## LINE-IN



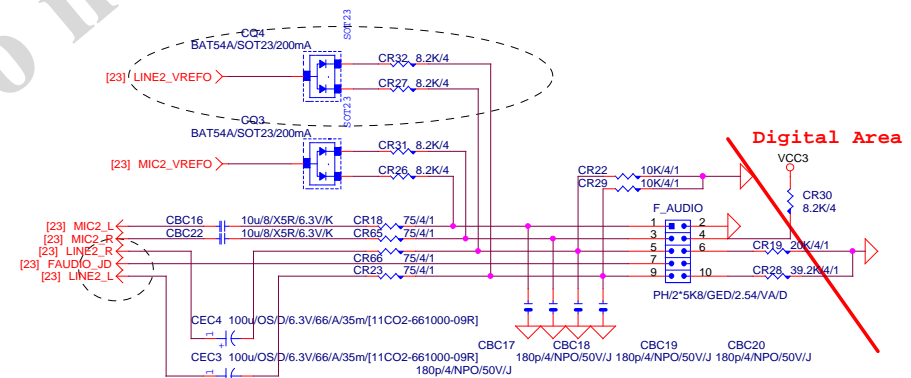
## MIC-IN



## F\_AUDIOESD



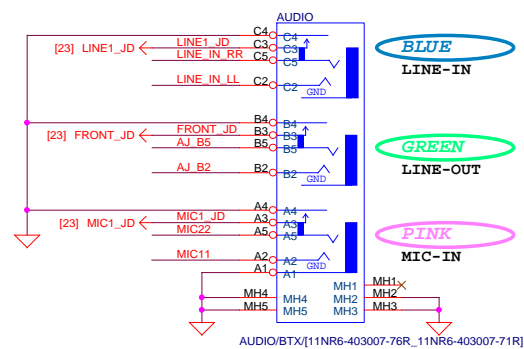
## AZALIA FRONT PANEL



## SPDIF

N/A

## AZALIA JACK



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AUDIO JACK

GA-H61M-S2P

Rev 2.1

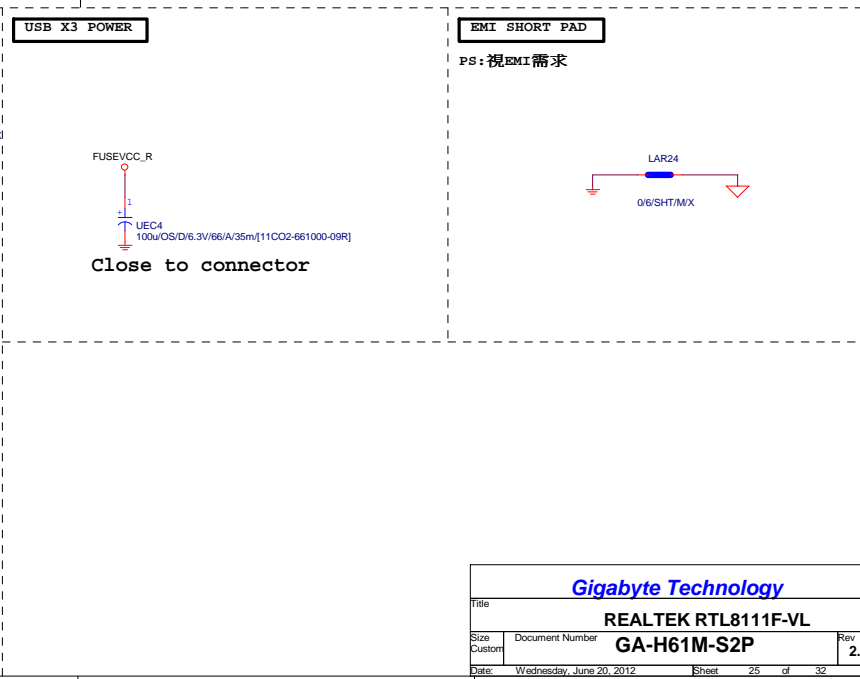
Date: Wednesday, June 20, 2012 Sheet 24 of 32

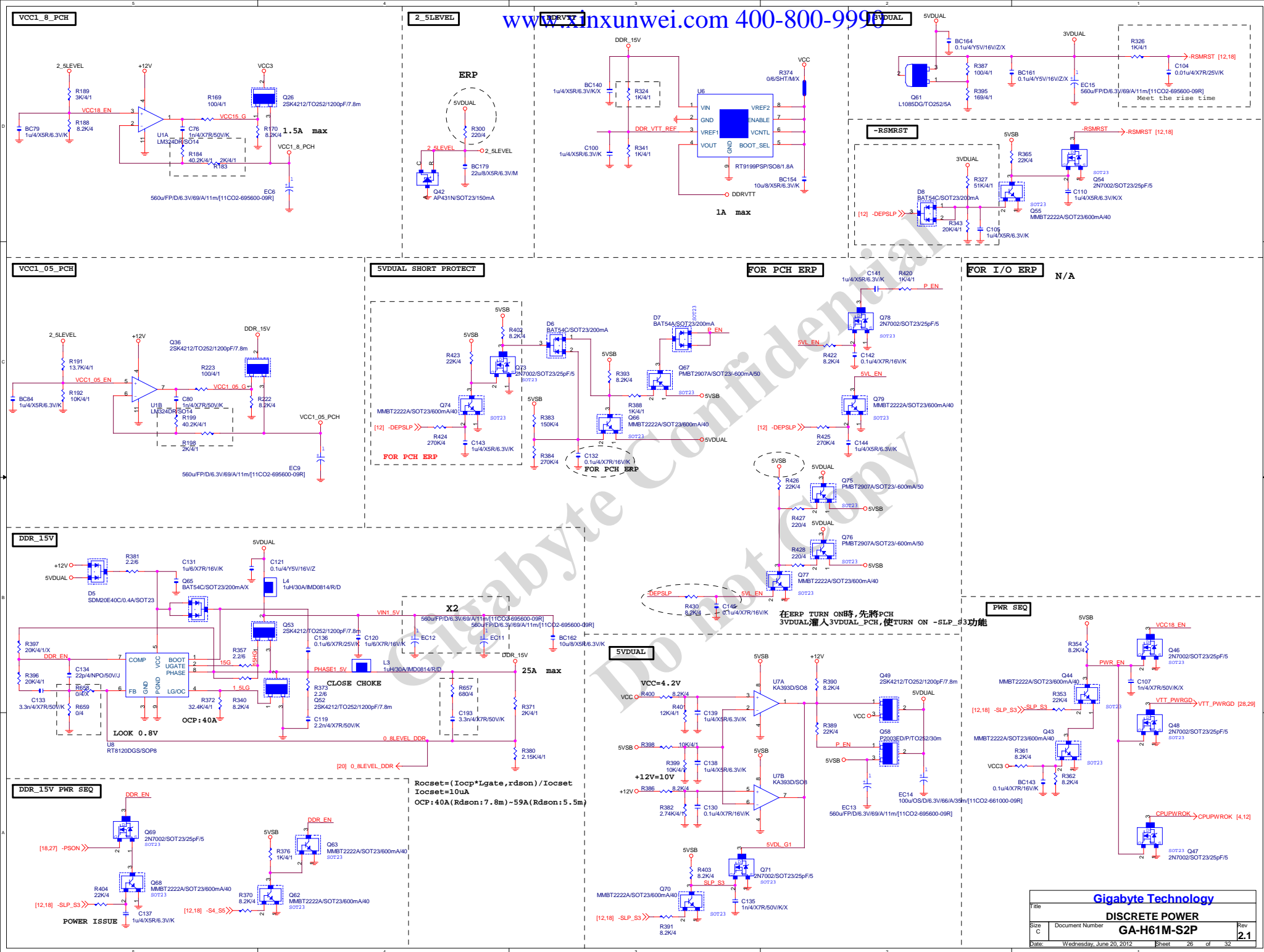


SRCCLK-->50歐姆:[18/4/10/4/18



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

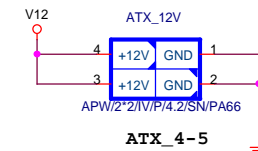
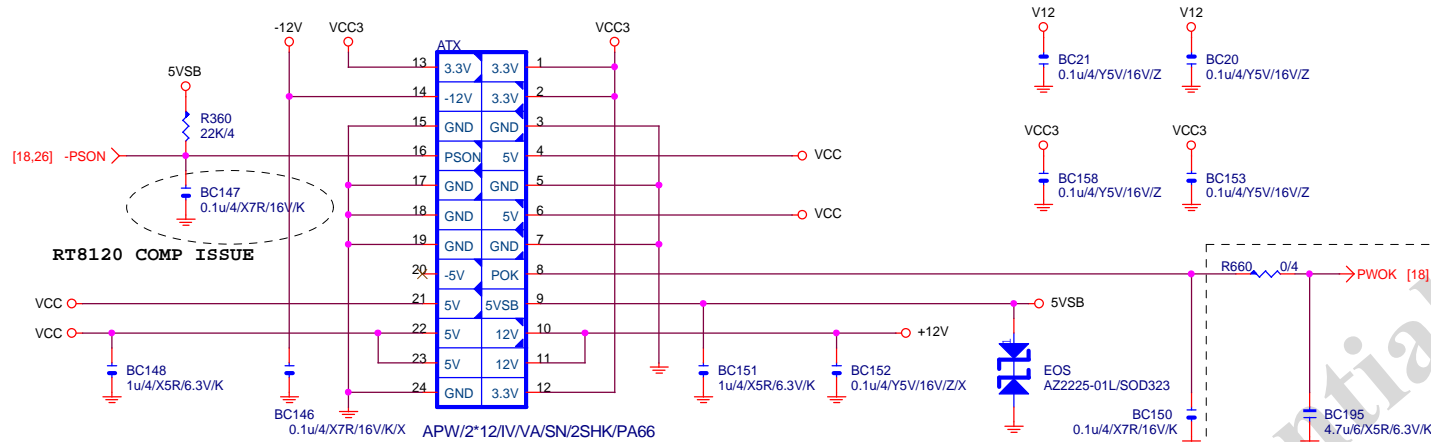




# ATXX24 POWER CONNECTOR

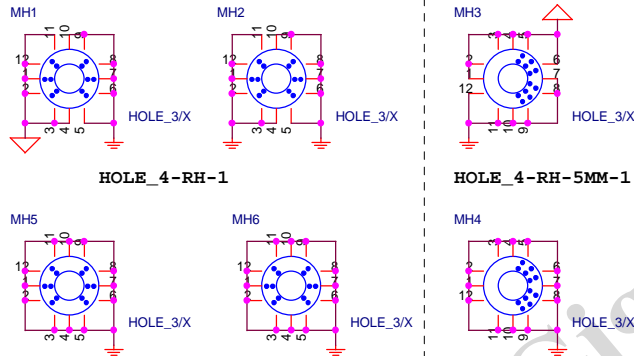
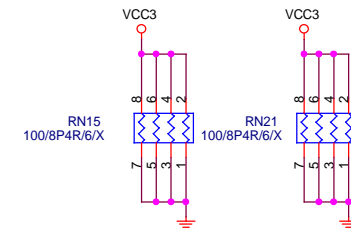
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# ATXX4 POWER CONNECTOR



## MIN. LOAD

### FIX PWR MINMUN LOAD



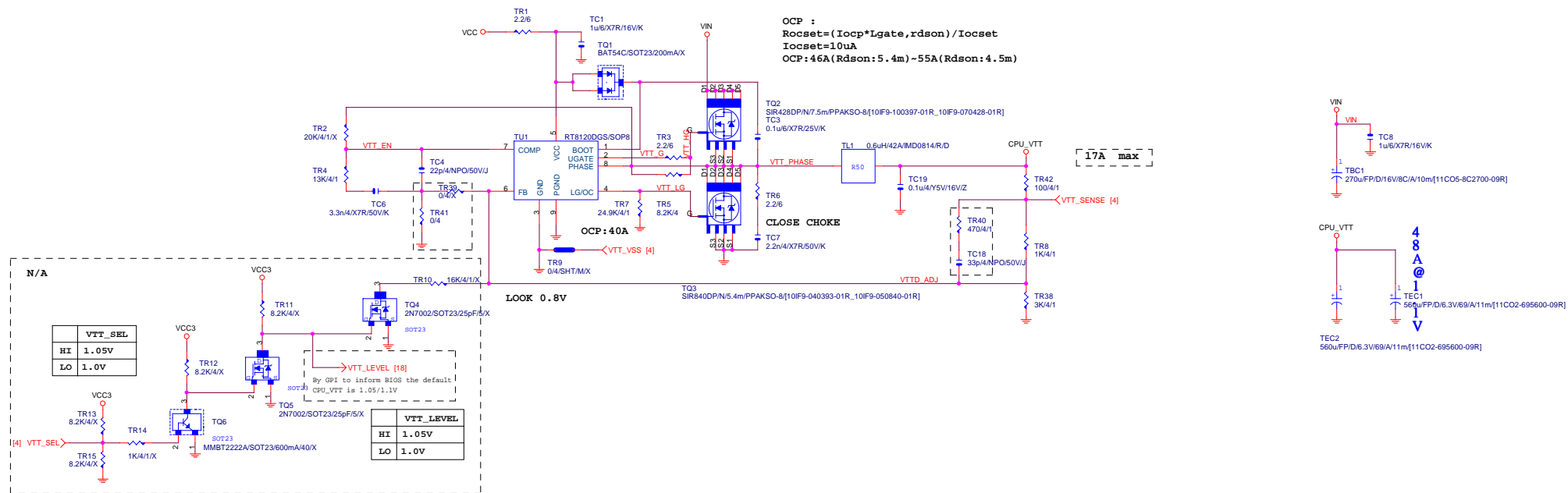
To prevent the 5VSB under loading when boot

Gigabyte Technology

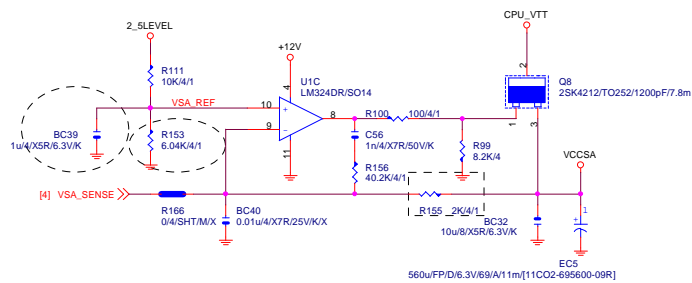
ATX CONNECTOR

Title	Document Number	Rev
Size Custom	GA-H61M-S2P	2.1
Date: Wednesday, June 20, 2012	Sheet 27 of 32	

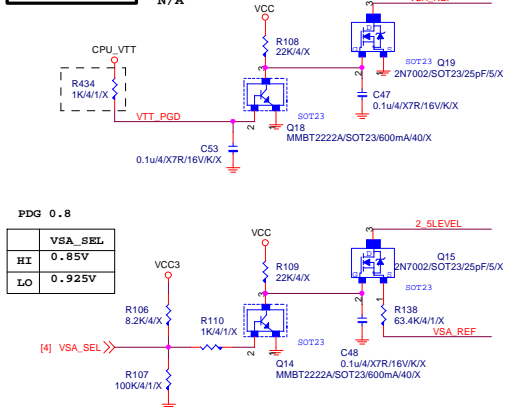
## CPU\_VTT



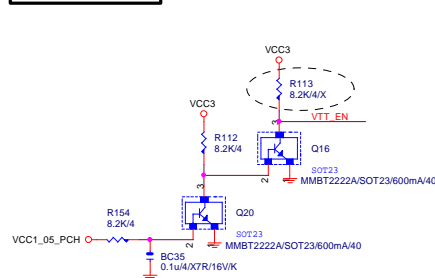
## VCCSA



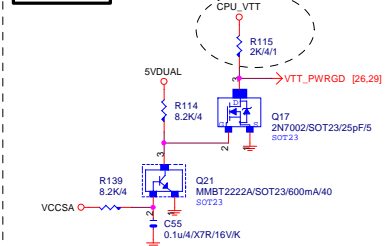
## VCCSA\_PWR\_SEQ



## CPU\_VTT\_PWR\_SEQ

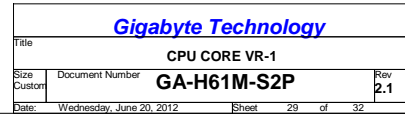


## VTT\_PWRGD



GIGABYTE

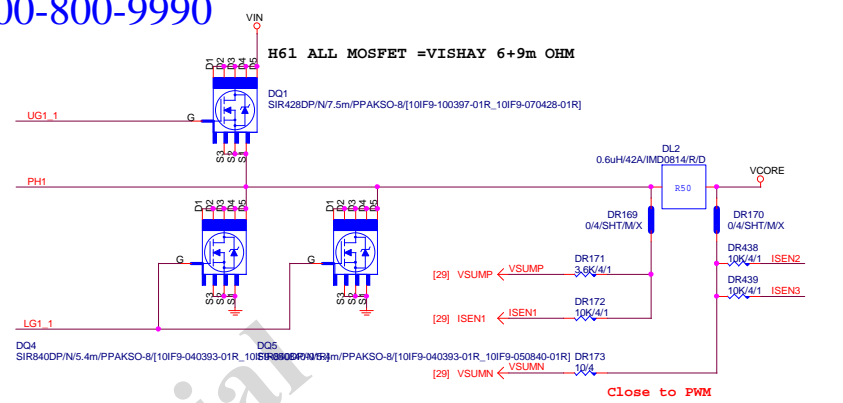
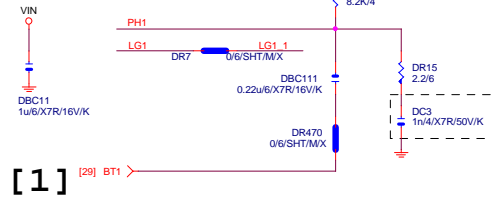
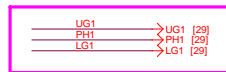
Title		
CPU_VTT PWM_RT8120		
Size	Document Number	Rev
Cuspm	GA-H61M-S2P	2.1
Date	Wednesday, June 20, 2012	Sheet 28 of 32





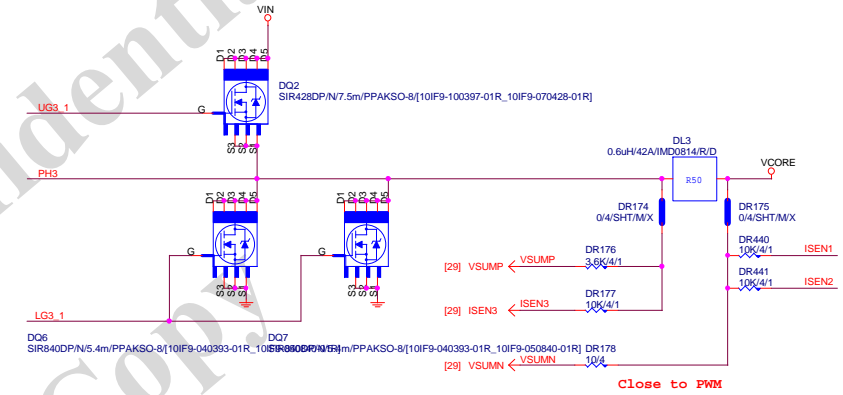
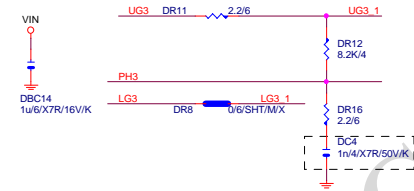
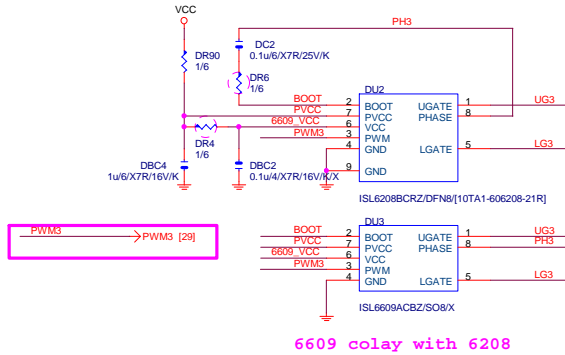


## PHASE 1

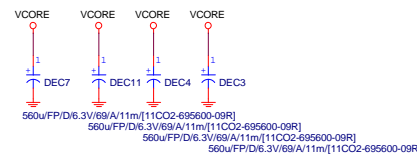
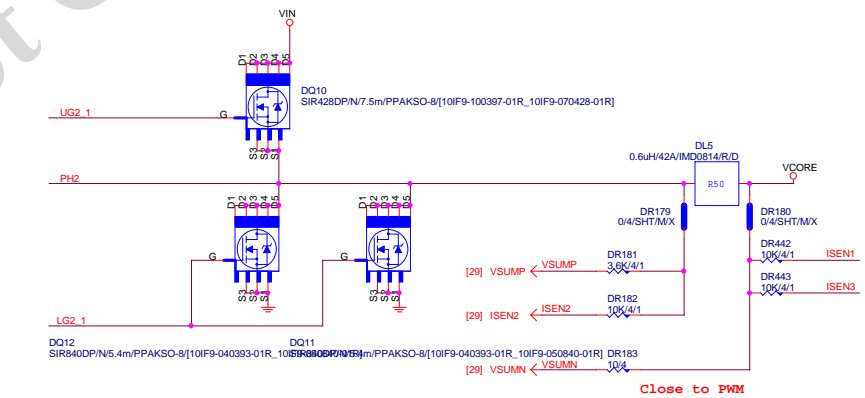
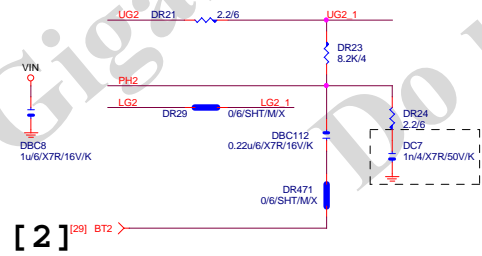
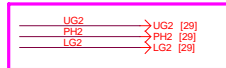


## PHASE 3

Pop ISL6625CB for PS1  
[ISL6625CB2/S08]

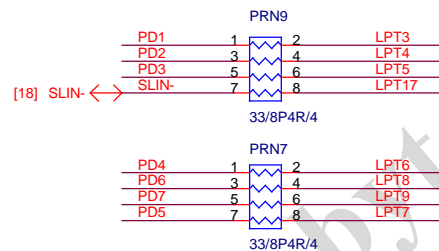
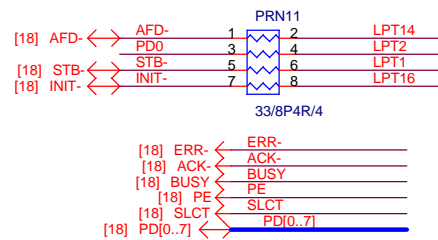


## PHASE 2



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LPT PORT



COMB N/A

