

Model Name: GA-H61M-S

Revision
1.01

SHEET

TITLE

SHEET

TITLE

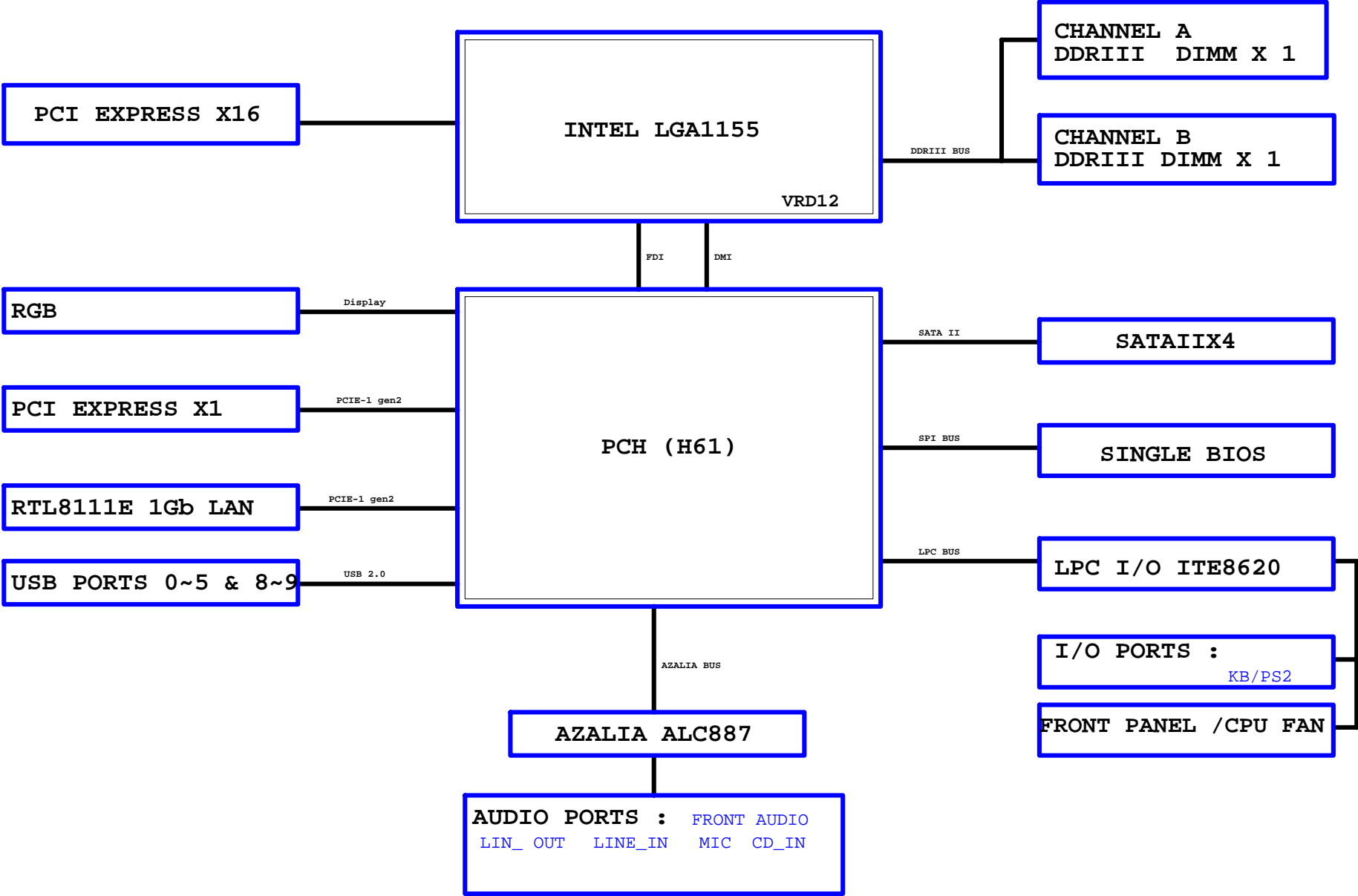
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*1x2 SLOT
16	ITE 8620 LPC IO
17	COMA,KB_MS,R_USB,-PROCHOT
18	HWM,FAN CTRL,OV
19	SINGLE BIOS
20	FP,FUSB,SPK,SATALED
21	ALC887
22	REAR AUDIO JACK
23	REALTEK 8111E/USB_LAN
24	DISCRETE POWER
25	ATX,-S_WARN,-S_ACK,5VDUAL
26	Richtek_RT8120_CPU_VTT
27	VCORE INTERSIL_95836_1

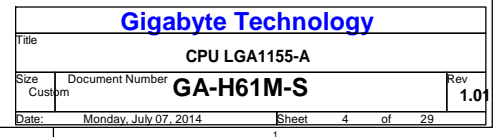
28	VCORE INTERSIL_95836_2
29	VCORE INTERSIL_95836_3
30	
31	
32	
33	

Gigabyte Technology

Cover Sheet		
Size	Document Number	Rev
Custom	GA-H61M-S	1.01
Date:	Monday, July 07, 2014	Sheet 1 of 29

BLOCK DIAGRAM





CPUA

MAAA0	AV27	SA_MA[0]	SA_DQS[0]	AK3	DQSA0
MAAA1	AY24	SA_MA[1]	SA_DQS[0]	AK2	-DQSA0
MAAA2	AW24	SA_MA[2]			
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

(7)	SBA00	AY29	SA_BS[0]	SA_DQ[11]	AR4	MDA12
(7)	SBA01	AW28	SA_BS[1]	SA_DQ[12]	AN2	MDA11
(7)	SBA02	AV20	SA_BS[2]	SA_DQ[13]	AN3	MDA13

(7)	-CSA0	AY29	SA_CS#	SA_DQ[14]	AR2	MDA14
(7)	-CSA1	AV32	SA_CS#	SA_DQ[15]	AR1	MDA15

(7)	CKEA0	AV19	SA_CKE[0]	SA_DQ[16]	AV2	MDA16
(7)	CKEA1	AT19	SA_CKE[1]	SA_DQ[17]	AW3	MDA17

(7)	MODT_A0	AV31	SA_ODT[0]	SA_DQ[18]	AV5	MDA18
(7)	MODT_A1	AU32	SA_ODT[1]	SA_DQ[19]	AW5	MDA19

(7)	DCLKA0	AY25	SA_CK[0]	SA_DQ[20]	AU2	MDA20
(7)	-DCLKA0	AW25	SA_CK[0]	SA_DQ[21]	AJ3	MDA21

(7)	-DCLKA1	AU24	SA_CK[1]	SA_DQ[22]	AJ5	MDA22
(7)	-DCLKA2	AW27	SA_CK[2]	SA_DQ[23]	AY5	MDA23

(7)	-DCLKA3	AY26	SA_CK[3]	SA_DQ[24]	AY7	MDA24
(7)	-DCLKA4	AW26	SA_CK[3]	SA_DQ[25]	AU7	MDA25

(7)	-DCLKA5	AY27	SA_CK[4]	SA_DQ[26]	AW7	MDA26
(7)	-DCLKA6	AW28	SA_CK[5]	SA_DQ[27]	AJ9	MDA27

(7)	-DCLKA7	AY28	SA_CK[6]	SA_DQ[28]	AW7	MDA28
(7)	-DCLKA8	AW29	SA_CK[7]	SA_DQ[29]	AW9	MDA30

(7)	-DCLKA9	AY30	SA_CK[8]	SA_DQ[30]	AY9	MDA31
(7)	-DCLKA10	AW31	SA_CK[9]	SA_DQ[31]		

(7)	-DCLKA11	AY32	SA_CK[10]	SA_DQ[32]	AU35	MDA32
(7)	-DCLKA12	AW33	SA_CK[11]	SA_DQ[33]	AW37	MDA33

(7)	-DCLKA13	AY34	SA_CK[12]	SA_DQ[34]	AU39	MDA34
(7)	-DCLKA14	AW35	SA_CK[13]	SA_DQ[35]	AU36	MDA35

(7)	-DCLKA15	AY36	SA_CK[14]	SA_DQ[36]	AW35	MDA36
(7)	-DCLKA16	AW37	SA_CK[15]	SA_DQ[37]	AY36	MDA37

(7)	-DCLKA17	AY38	SA_CK[16]	SA_DQ[38]	AU38	MDA38
(7)	-DCLKA18	AW39	SA_CK[17]	SA_DQ[39]	AU37	MDA39

(7)	-DCLKA19	AY40	SA_CK[18]	SA_DQ[40]	AP38	DQSA5
(7)	-DCLKA20	AW41	SA_CK[19]	SA_DQ[41]	AP39	-DQSA5

(7)	-DCLKA21	AY42	SA_CK[20]	SA_DQ[42]	AR40	MDA40
(7)	-DCLKA22	AW43	SA_CK[21]	SA_DQ[43]	AR37	MDA41

(7)	-DCLKA23	AY44	SA_CK[22]	SA_DQ[44]	AN38	MDA42
(7)	-DCLKA24	AW45	SA_CK[23]	SA_DQ[45]	AN37	MDA43

(7)	-DCLKA25	AY46	SA_CK[24]	SA_DQ[46]	AR39	MDA44
(7)	-DCLKA26	AW47	SA_CK[25]	SA_DQ[47]	AR38	MDA45

(7)	-DCLKA27	AY48	SA_CK[26]	SA_DQ[48]	AN39	MDA46
(7)	-DCLKA28	AW49	SA_CK[27]	SA_DQ[49]	AN40	MDA47

(7)	-DCLKA29	AY50	SA_CK[28]	SA_DQ[50]	AK38	DQSA6
(7)	-DCLKA30	AW51	SA_CK[29]	SA_DQ[51]	AK39	-DQSA6

(7)	-DCLKA31	AY52	SA_CK[30]	SA_DQ[52]	AL40	MDA48
(7)	-DCLKA32	AW53	SA_CK[31]	SA_DQ[53]	AL37	MDA49

(7)	-DCLKA33	AY54	SA_CK[32]	SA_DQ[54]	AJ38	MDA50
(7)	-DCLKA34	AW55	SA_CK[33]	SA_DQ[55]	AJ37	MDA51

(7)	-DCLKA35	AY56	SA_CK[34]	SA_DQ[56]	AL39	MDA52
(7)	-DCLKA36	AW57	SA_CK[35]	SA_DQ[57]	AL38	MDA53

(7)	-DCLKA37	AY58	SA_CK[36]	SA_DQ[58]	AJ39	MDA54
(7)	-DCLKA38	AW59	SA_CK[37]	SA_DQ[59]	AE38	MDA55

(7)	-DCLKA39	AY60	SA_CK[38]	SA_DQ[60]	AG38	DQSA7
(7)	-DCLKA40	AW61	SA_CK[39]	SA_DQ[61]	AF39	-DQSA7

(7)	-DCLKA41	AY62	SA_CK[40]	SA_DQ[62]	AG40	MDA56
(7)	-DCLKA42	AW63	SA_CK[41]	SA_DQ[63]	AG37	MDA57

DDR_0

1 OF 10

LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]

CPUB

MAAB0	AK24	SB_MA[0]	SB_DQS[0]	AH7	DQSB0
MAAB1	AM20	SB_MA[1]	SB_DQS[0]	AH6	-DQSB0
MAAB2	AM19	SB_MA[2]			
MAAB3	AK18	SB_MA[3]	SB_DQ[0]	AG7	MDB0
MAAB4	AP19	SB_MA[4]	SB_DQ[1]	AG8	MDB1
MAAB5	AP18	SB_MA[5]	SB_DQ[2]	AJ9	MDB2
MAAB6	AM18	SB_MA[6]	SB_DQ[3]	AJ8	MDB3
MAAB7	AL18	SB_MA[7]	SB_DQ[4]	AG8	MDB4
MAAB8	AN18	SB_MA[8]	SB_DQ[5]	AJ6	MDB5
MAAB9	AY17	SB_MA[9]	SB_DQ[6]	AJ7	MDB7
MAAB10	AN23	SB_MA[10]			
MAAB11	AU17	SB_MA[11]	SB_DQ[7]	AM8	DQSB1
MAAB12	AT18	SB_MA[12]	SB_DQ[8]	AL8	-DQSB1
MAAB13	AR26	SB_MA[13]	SB_DQ[9]		
MAAB14	AY16	SB_MA[14]	SB_DQ[10]		
MAAB15	AV16	SB_MA[15]	SB_DQ[11]		

(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

(8)	SBAB0	AP23	SB_BS[0]	SB_DQ[11]	AL6	MDB12
(8)	SBAB1	AM24	SB_BS[1]	SB_DQ[12]	AL9	MDB14
(8)	SBAB2	AW17	SB_BS[2]	SB_DQ[13]	AM9	MDB15

(8)	-CSB0	AN25	SB_CS#	SB_DQ[14]	AR8	DQSB2
(8)	-CSB1	AN26	SB_CS#	SB_DQ[15]	AP8	-DQSB2

(8)	CKEB0	AU16	SB_CKE[0]	SB_DQ[16]	AP7	MDB16
(8)	CKEB1	AY15	SB_CKE[1]	SB_DQ[17]	AR7	MDB17

(8)	MODT_B0	AL26	SB_ODT[0]	SB_DQ[18]	AP10	MDB18
(8)	MODT_B1	AP26	SB_ODT[1]	SB_DQ[19]	AR10	MDB19

(8)	-DCLKB0	AL21	SB_CK[0]	SB_DQ[20]	AP6	MDB20
(8)	-DCLKB1	AL22	SB_CK[1]	SB_DQ[21]	AR6	MDB21

(8)	-DCLKB2	AK20	SB_CK[2]	SB_DQ[22]	AP9	MDB22
(8)	-DCLKB3	AK21	SB_CK[3]	SB_DQ[23]	AR9	MDB23

(8)	-DCLKB4	AL23	SB_CK[4]	SB_DQ[24]	AM12	MDB24
(8)	-DCLKB5	AL24	SB_CK[5]	SB_DQ[25]	AM13	MDB25

(8)	-DCLKB6	AK20	SB_CK[6]	SB_DQ[26]	AP13	MDB26
(8)	-DCLKB7	AK21	SB_CK[7]	SB_DQ[27]	AP13	MDB27

(8)	-DCLKB8	AK22	SB_CK[8]	SB_DQ[28]	AL12	MDB28
(8)	-DCLKB9	AK23	SB_CK[9]	SB_DQ[29]	AL13	MDB29

(8)	-DCLKB10	AK24	SB_CK[10]	SB_DQ[30]	AR12	MDB30
(8)	-DCLKB11	AK25	SB_CK[11]	SB_DQ[31]	AP12	MDB31

(8)	-DCLKB12	AK26	SB_CK[12]	SB_DQ[32]	AN29	DQSB4
(8)	-DCLKB13	AK27	SB_CK[13]	SB_DQ[33]	AN28	-DQSB4

(8)	-DCLKB14	AK28	SB_CK[14]	SB_DQ[34]	AR28	MDB32
(8)	-DCLKB15	AK29	SB_CK[15]	SB_DQ[35]	AR29	MDB33

(8)	-DCLKB16	AK30	SB_CK[16]	SB_DQ[36]	AL28	MDB34
(8)	-DCLKB17	AK31	SB_CK[17]	SB_DQ[37]	AL29	MDB35

(8)	-DCLKB18	AK32	SB_CK[18]	SB_DQ[38]	AP28	MDB36
(8)	-DCLKB19	AK33	SB_CK[19]	SB_DQ[39]	AP29	MDB37

(8)	-DCLKB20	AK34	SB_CK[20]	SB_DQ[40]	AM28	MDB38
(8)	-DCLKB21	AK35	SB_CK[21]	SB_DQ[41]	AM29	MDB39

(8)	-DCLKB22	AK36	SB_CK[22]	SB_DQ[42]	AP33	DQSB5
(8)	-DCLKB23	AK37	SB_CK[23]	SB_DQ[43]	AP33	-DQSB5

(8)	-DCLKB24	AK38	SB_CK[24]	SB_DQ[44]	AP32	MDB40
(8)	-DCLKB25	AK39	SB_CK[25]	SB_DQ[45]	AP33	MDB41

(8)	-DCLKB26	AK40	SB_CK[26]	SB_DQ[46]	AP35	MDB42
(8)	-DCLKB27	AK41	SB_CK[27]	SB_DQ[47]	AP34	MDB43

(8)	-DCLKB28	AK42	SB_CK[28]	SB_DQ[48]	AR32	MDB44
(8)	-DCLKB29	AK43	SB_CK[29]	SB_DQ[49]	AR31	MDB45

(8)	-DCLKB30	AK44	SB_CK[30]	SB_DQ[50]	AR35	MDB46
(8)	-DCLKB31	AK45	SB_CK[31]	SB_DQ[51]	AR34	MDB47

(8)	-DCLKB32	AK46	SB_CK[32]	SB_DQ[52]	AL33	DQSB6
(8)	-DCLKB33	AK47	SB_CK[33]	SB_DQ[53]	AM33	-DQSB6

(8)	-DCLKB34	AK48	SB_CK[34]	SB_DQ[54]	AM32	MDB48
(8)	-DCLKB35	AK49	SB_CK[35]	SB_DQ[55]	AM31	MDB49

(8)	-DCLKB36	AK50	SB_CK[36]	SB_DQ[56]	AL35	MDB50
(8)	-DCLKB37	AK51	SB_CK[37]	SB_DQ[57]	AL32	MDB51

(8)	-DCLKB38	AK52	SB_CK[38]	SB_DQ[58]	AM34	MDB52
(8)	-DCLKB39	AK53	SB_CK[39]	SB_DQ[59]	AL31	MDB53

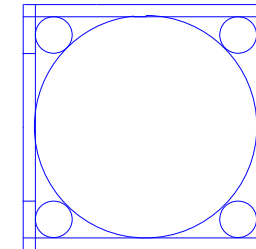
(8)	-DCLKB40	AK54	SB_CK[40]	SB_DQ[60]	AM35	MDB54
(8)	-DCLKB41	AK55	SB_CK[41]	SB_DQ[61]	AL34	MDB55

(8)	-DCLKB42	AK56	SB_CK[42]	SB_DQ[62]	AG35	DQSB7
(8)	-DCLKB43	AK57	SB_CK[43]	SB_DQ[63]	AG34	-DQSB7

DDR_1

2 OF 10

LGA1155[10SC1-F01155-01R_10SC1-F01155-02R]

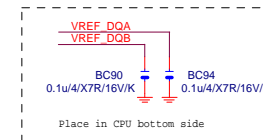
CR
CPU RETENTION/X

Need check the new CPU ME

CPU



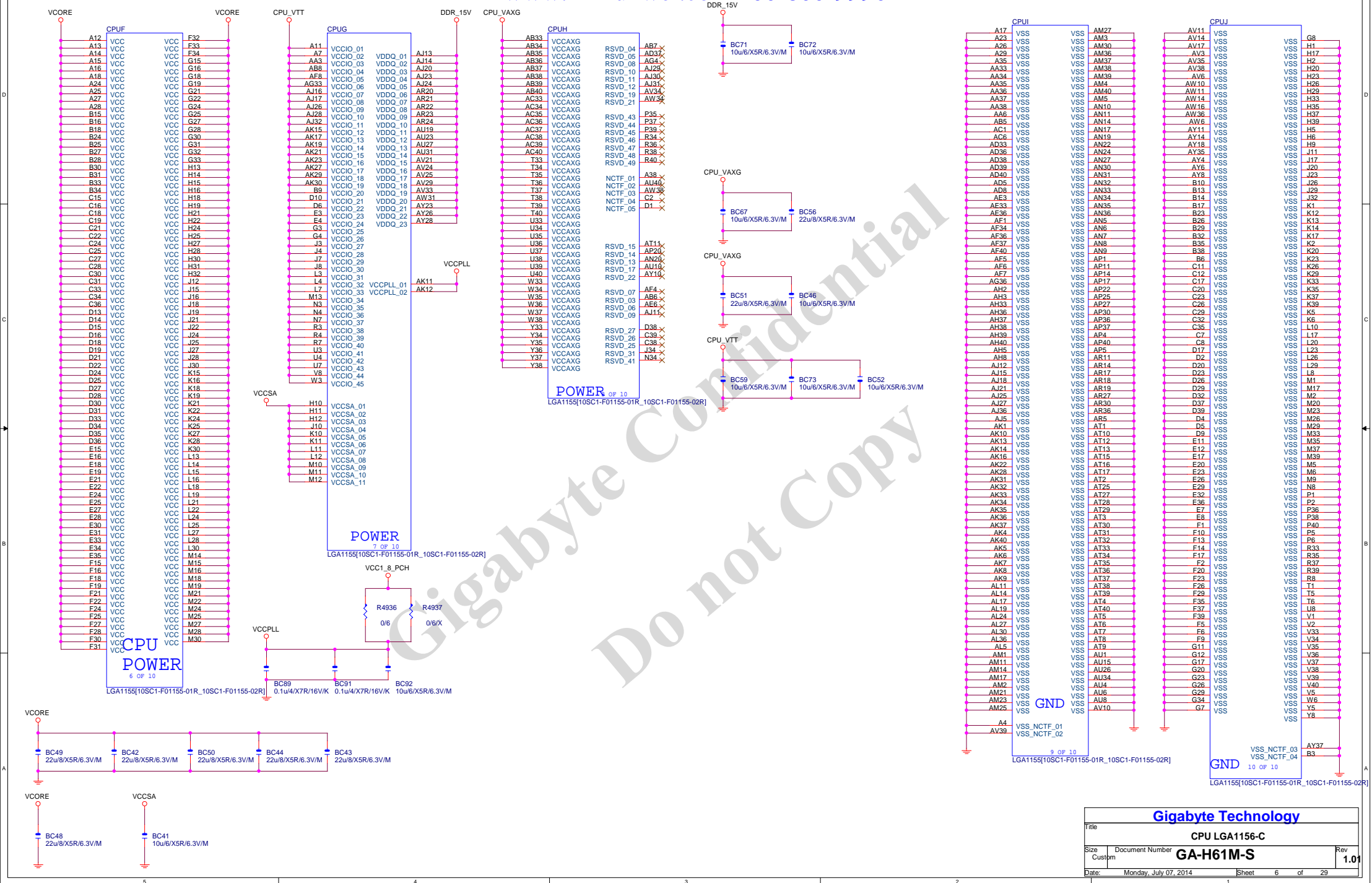
ILM_BP/1156/BKNI

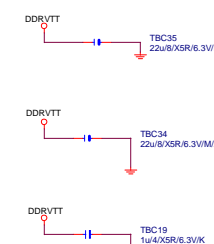
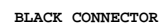


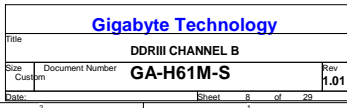
Gigabyte Technology

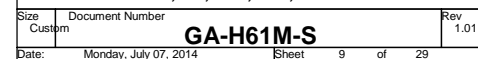
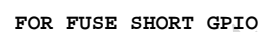
Title			CPU LGA1156-B		
Size			GA-H61M-S		
Date:			Monday, July 07, 2014		
Sheet			5 of 29		

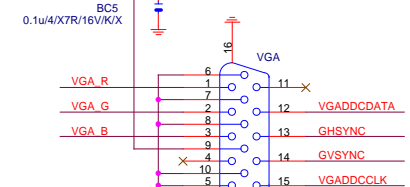
Rev
1.01



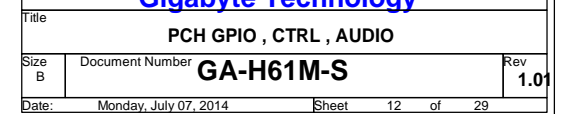
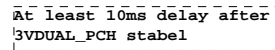


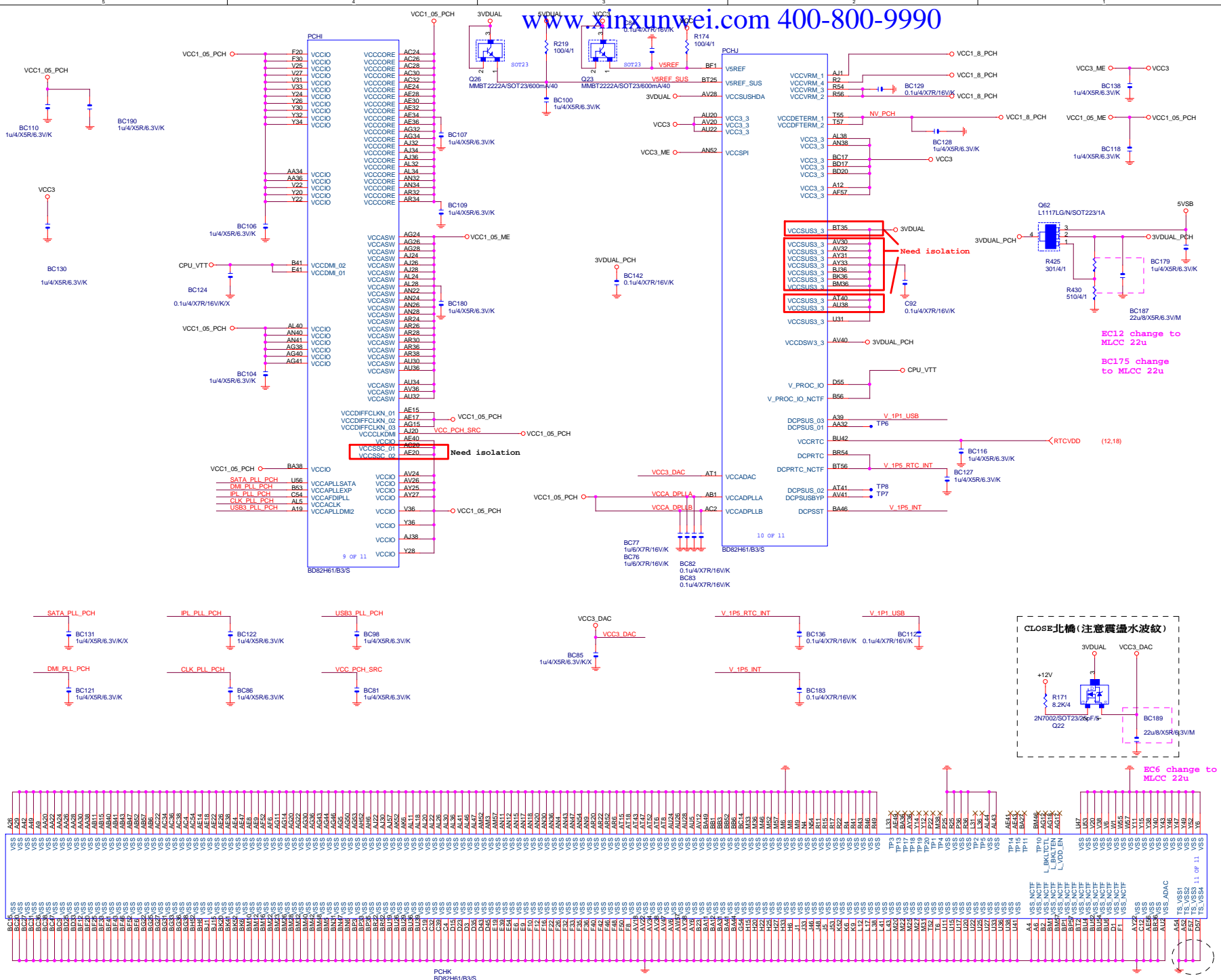


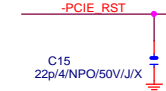




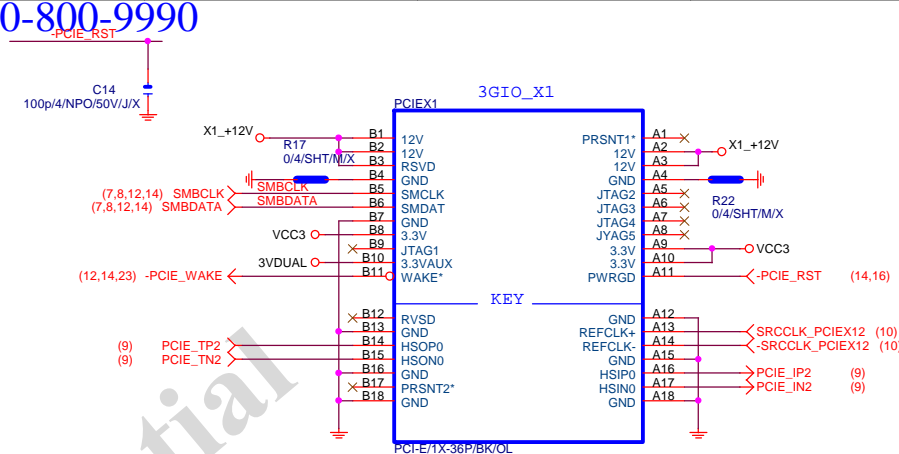
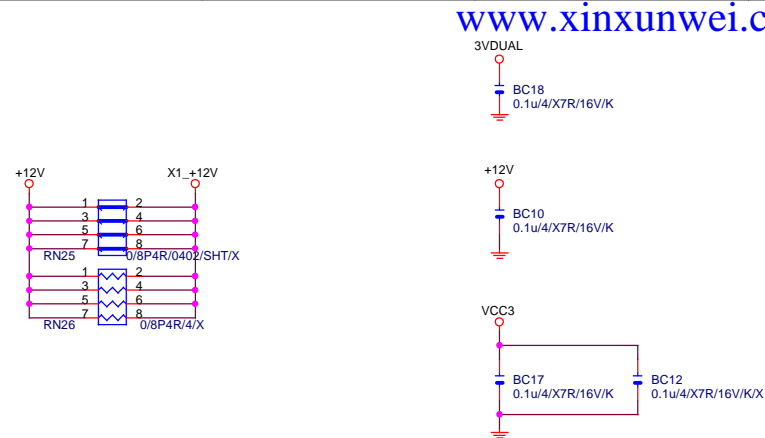
Title			
PCH DISPLAY ,CLK BUFFER			
Size	Document Number		Rev
Custom	GA-H61M-S		1.0
Date:	Monday, July 07, 2014	Sheet	10 of 29







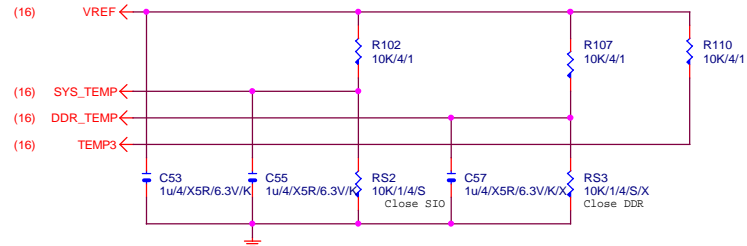
PCIE*1



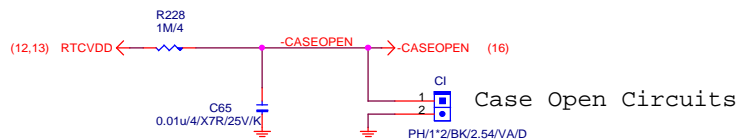
CLK GEN

Gigabyte Technology			
Title			
PCIEX1,X2/CLK GEN			
Size	Document Number	Rev	
Custom	GA-H61M-S	1.01	
Date:	Monday, July 07, 2014	Sheet	15 of 29

TEMP H/W MONITOR

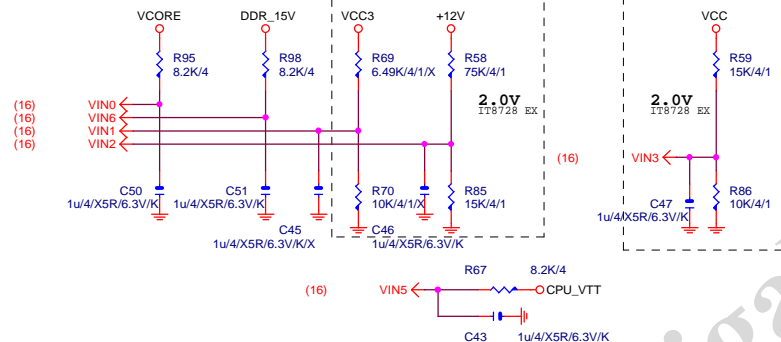


CASE OPEN

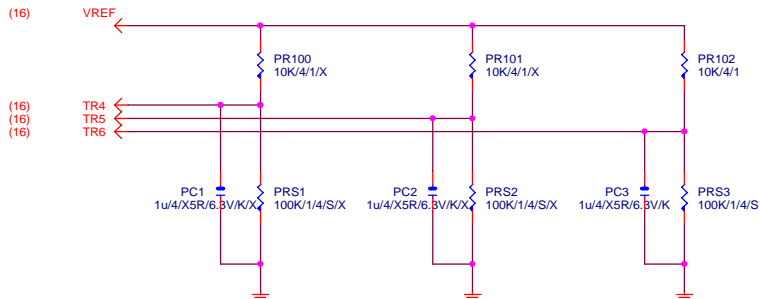


VOLTAGE-- H/W MONITOR

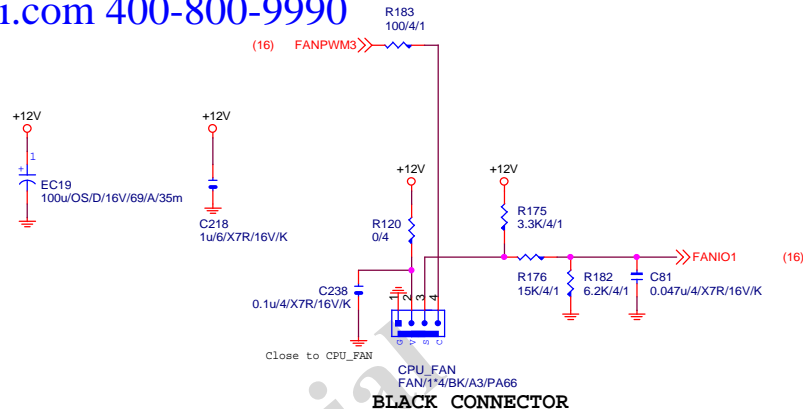
I (VAXG)



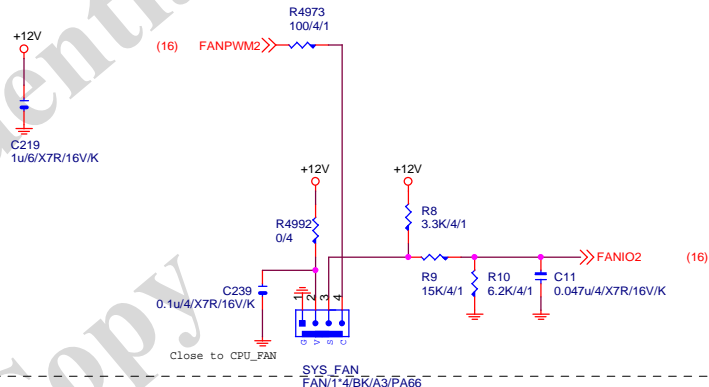
PRS1 CLOSE CPU VR MOSFET



CPU SMART FAN

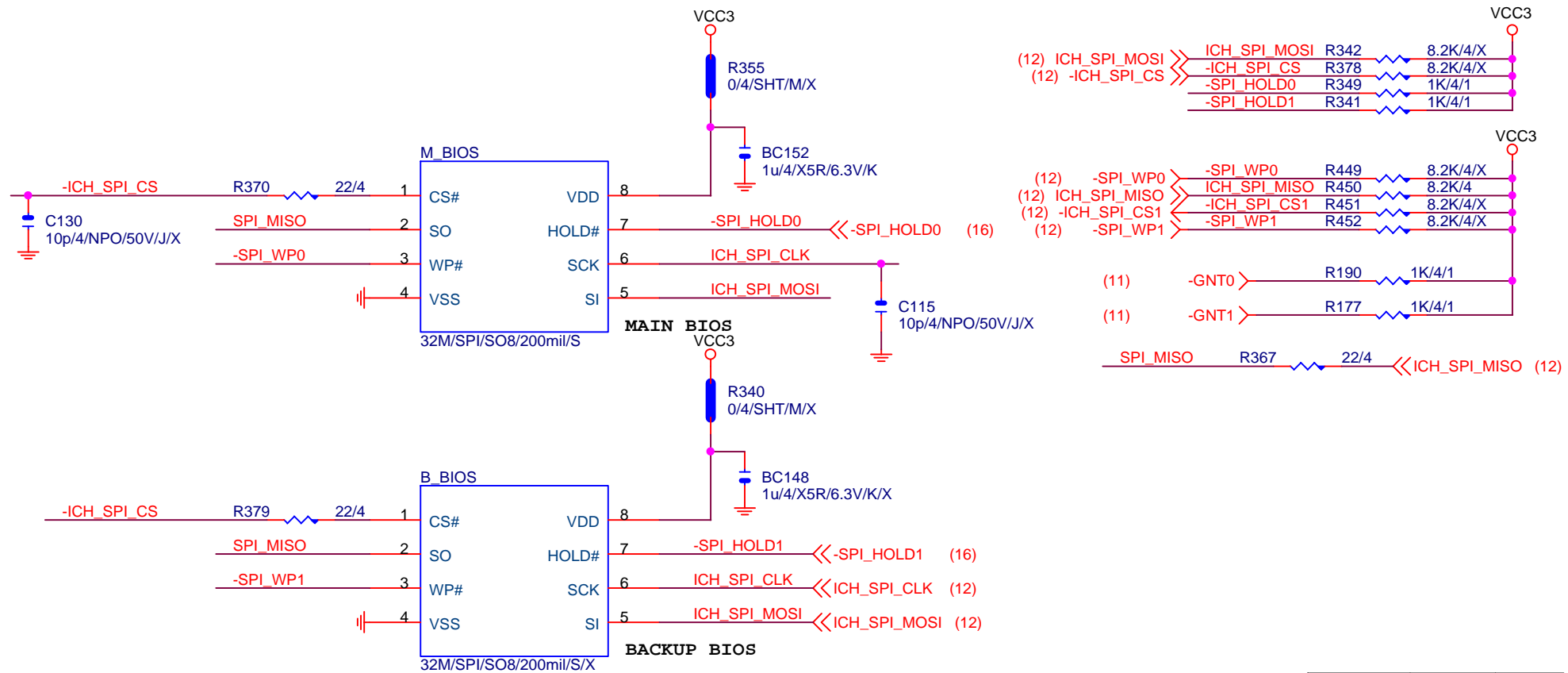


SYS SMART FAN



BLACK CONNECTOR

Gigabyte Technology			
Title			
HWM,FAN CTRL,OV			
Size	Document Number	Rev	
Custom	GA-H61M-S	1.01	
Date:	Monday, July 07, 2014	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

DUAL BIOSSize
A

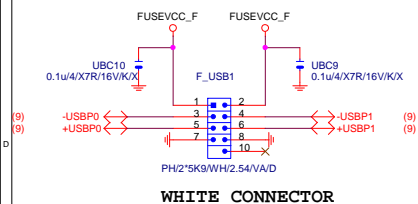
Document Number

GA-H61M-SRev
1.01

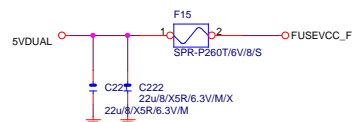
Date: Monday, July 07, 2014

Sheet 19 of 29

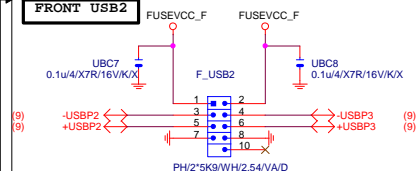
FRONT USB1



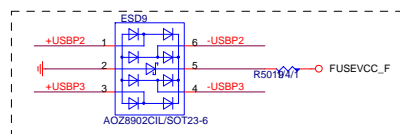
CLOSE F_USB1



FRONT USB2

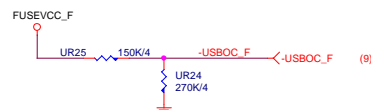


FRONT USB3



Close to connector

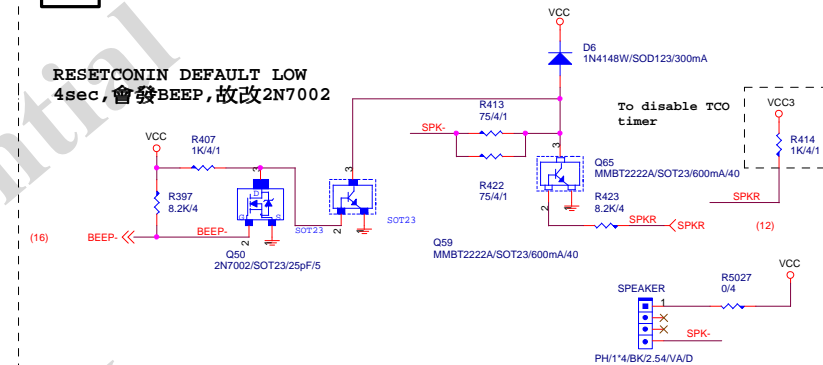
WHITE CONNECTOR



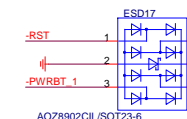
SATA LED

(11) -SATALED > -H0LED

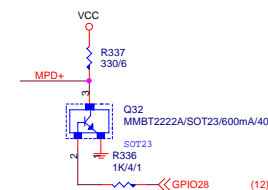
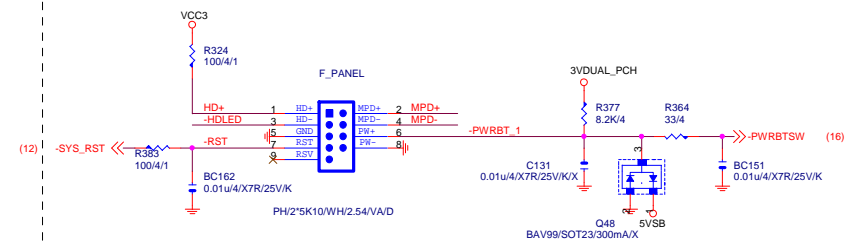
SPKR

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

INTEL FRONT PANEL



ESD for PWRBT & RSTBT follow P67-UD3P



Gigabyte Technology

Title	FP,F, USB,USB PWR,SPKR,SATA LED		
Size	Document Number	GA-H61M-S	
Custom			Rev 1.01
Date:	Monday, July 07, 2014	Sheet 20	of 29

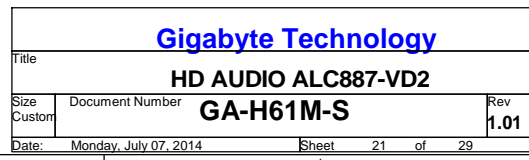
FOR VT1708S

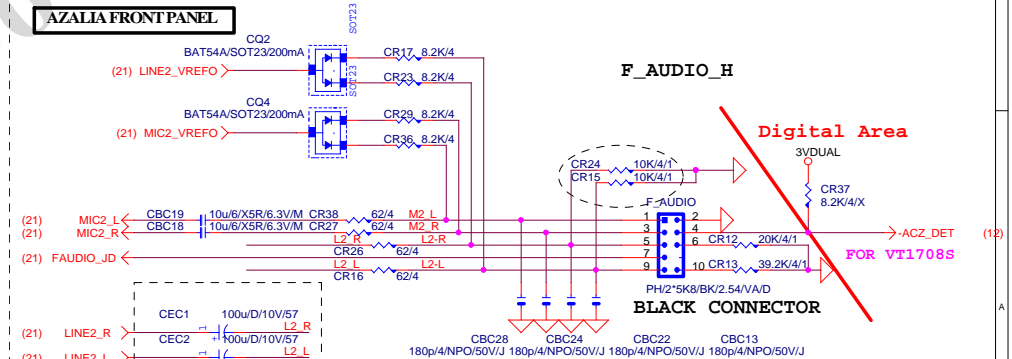
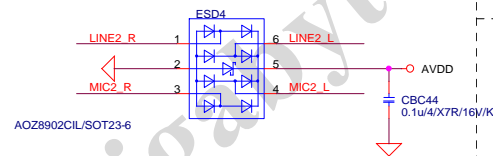
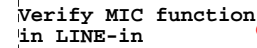
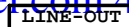
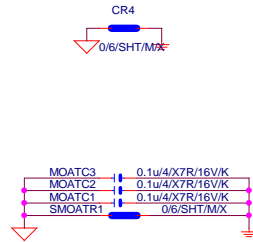
CBC42
100p4/NPO/50V/J/X

CR28 20K/4/1

CR26: 20K/4/0.1% @ALC889A

CR26: 20K/4/1% @others

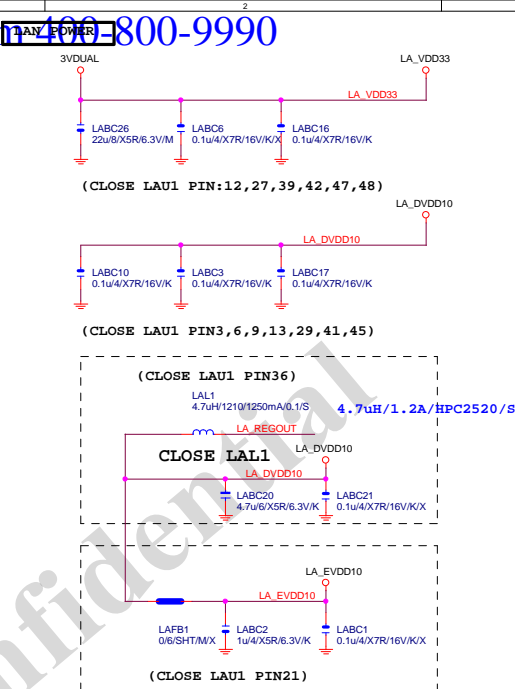
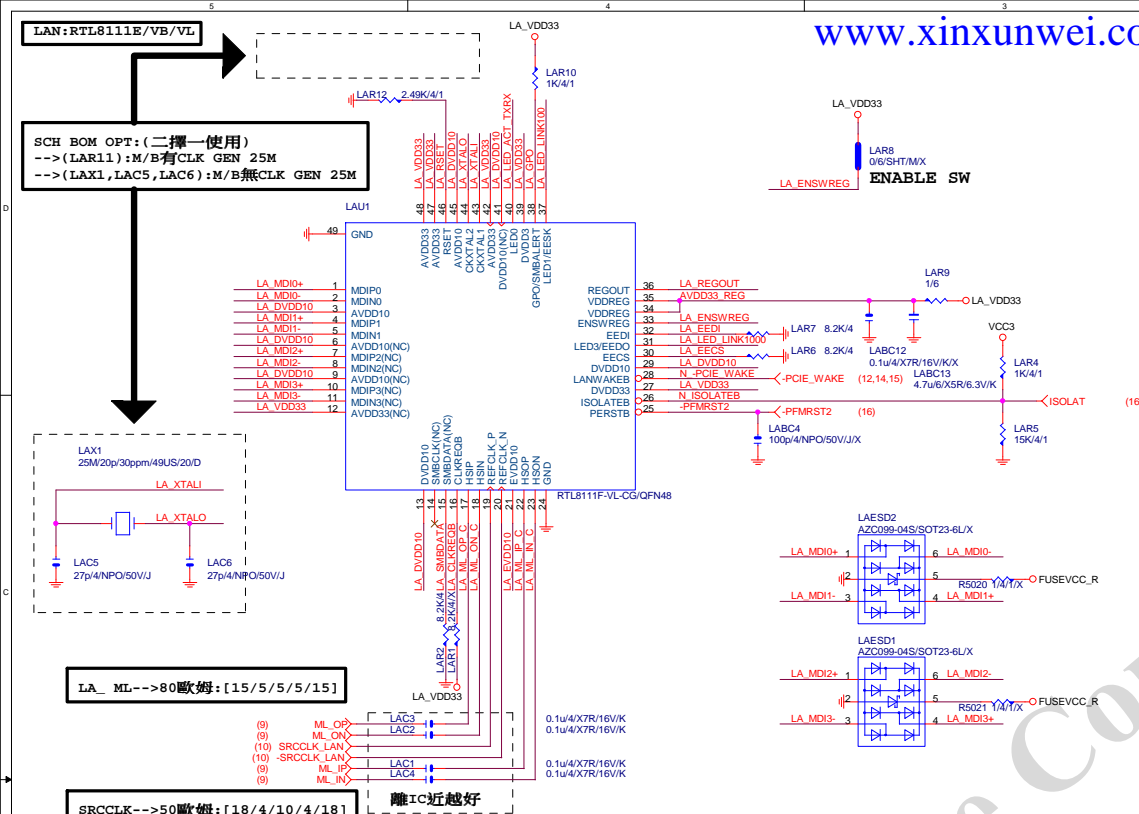




Gigabyte Technology

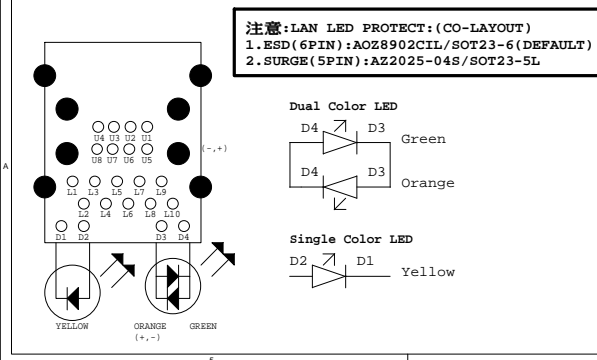
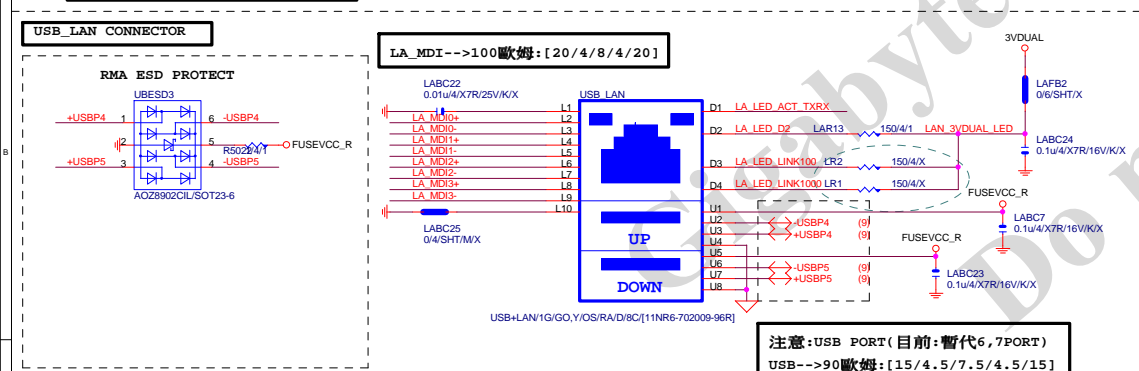
AUDIO JACK

Size Custom	Document Number GA-H61M-S	Rev 1.01
Date:	Monday, July 07, 2014	Sheet 22 of 29



Power domain chart

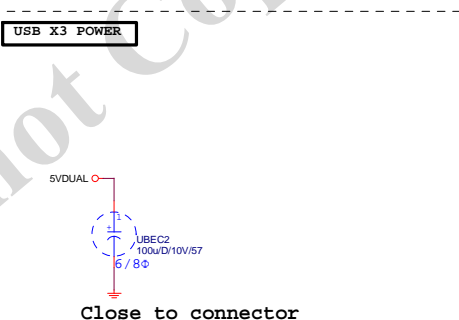
	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V



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

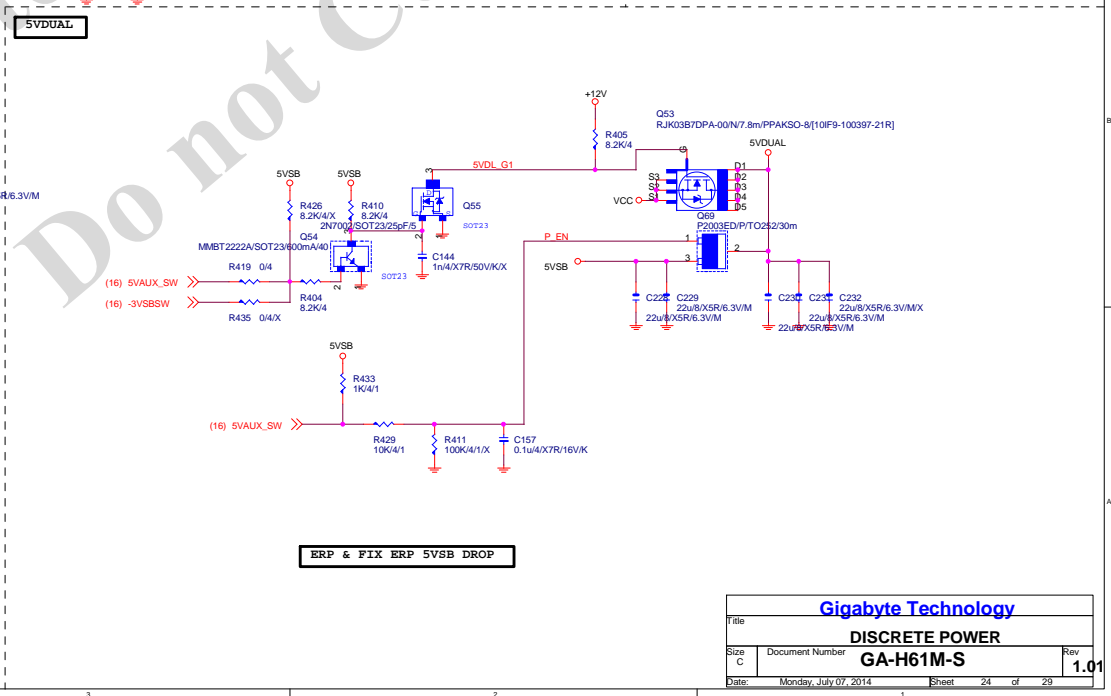
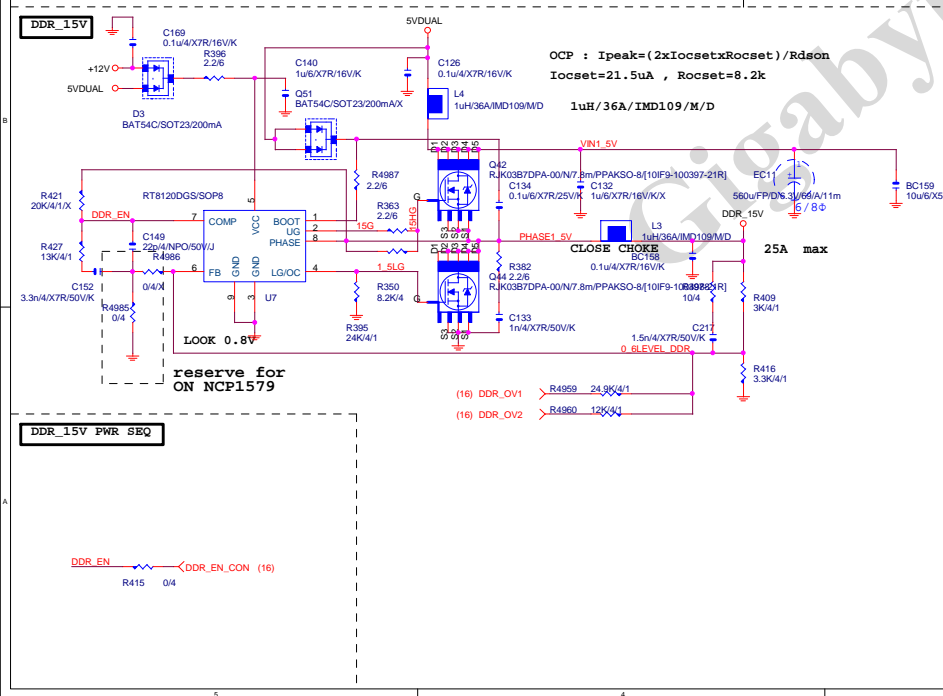
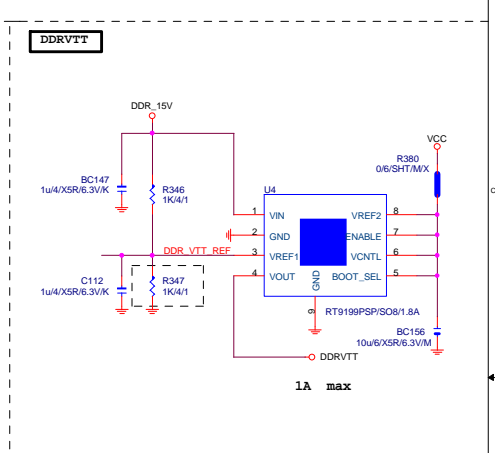
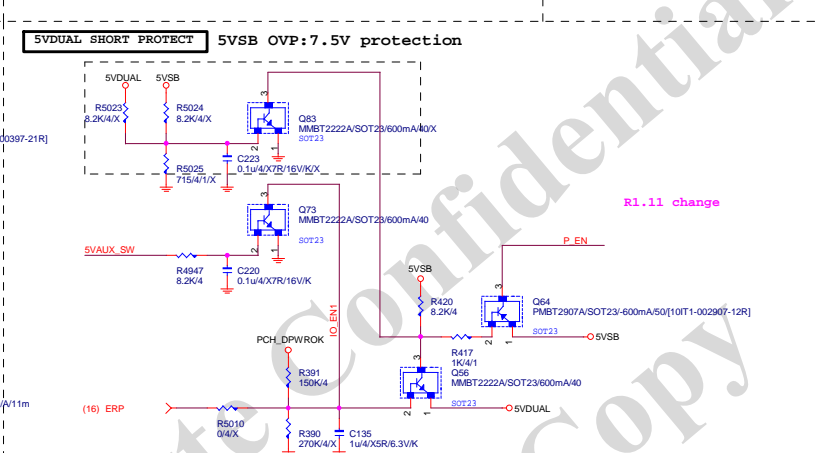
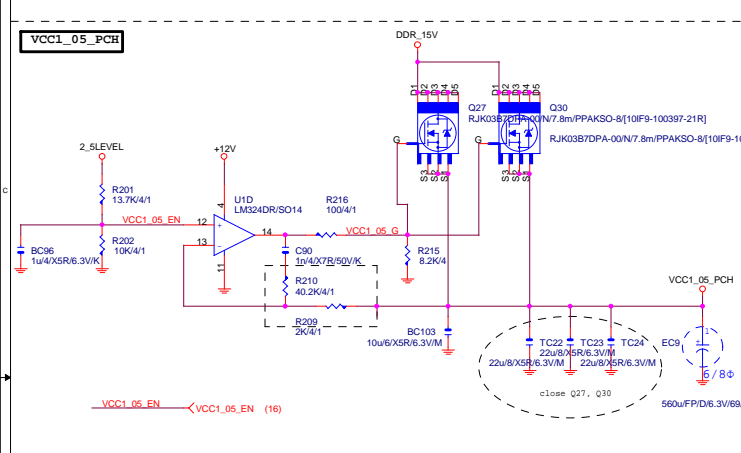
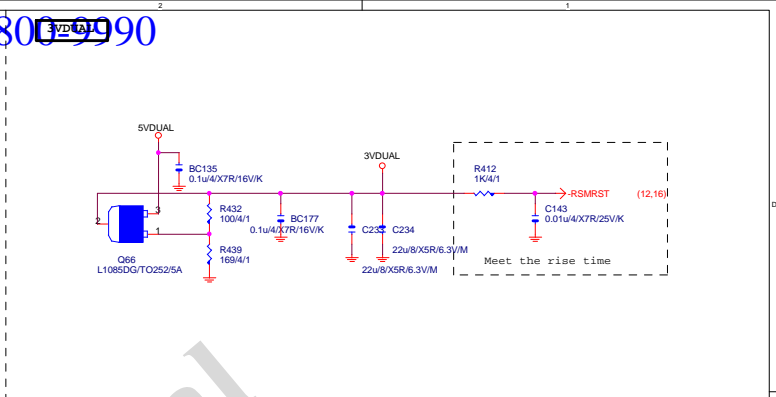
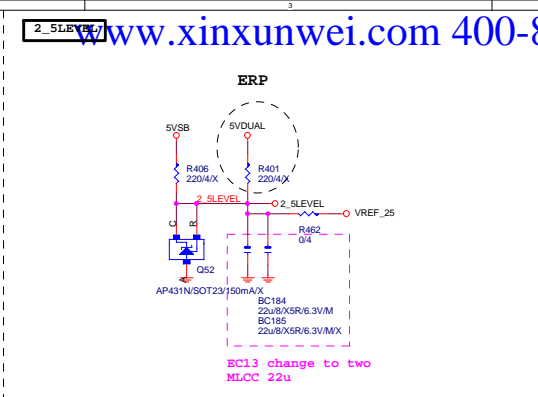
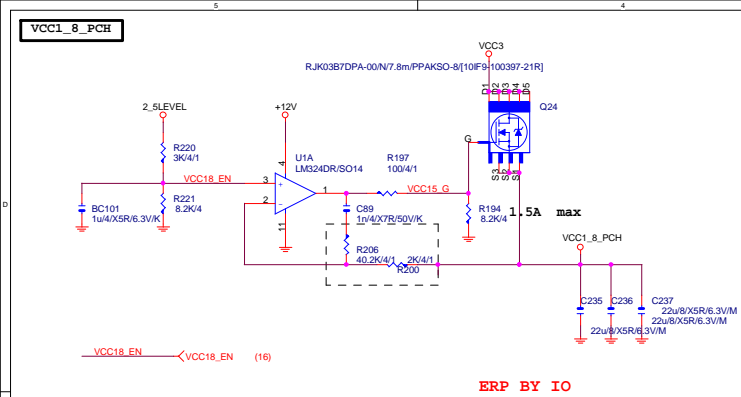
USB_LAN BOM區分:

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



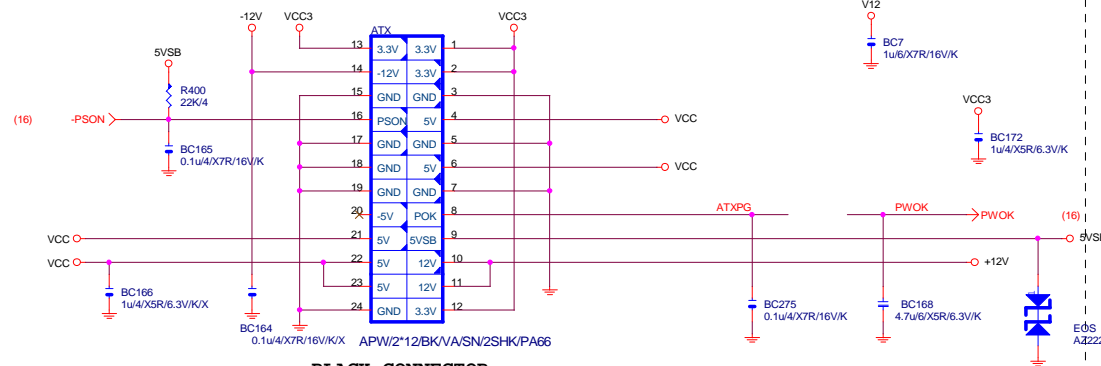
Close to connector

USB OC/FUSE PROTECT

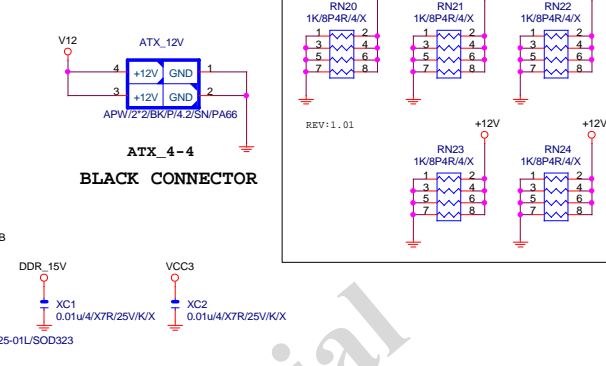


ATXX24 POWER CONNECTOR

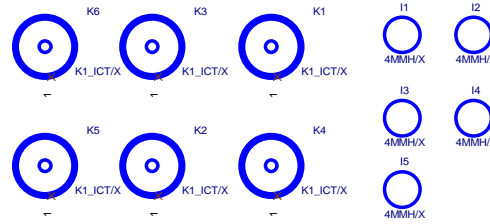
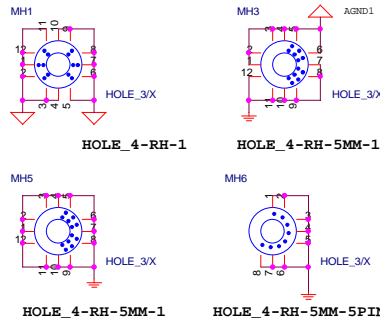
www.xinxunwei.com 400-800-0990



ATXX4 POWER CONNECTOR



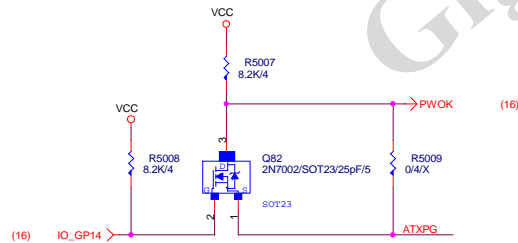
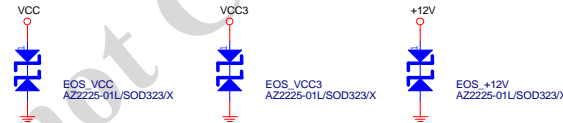
BLACK-CONNECTOR



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



Gigabyte Technology

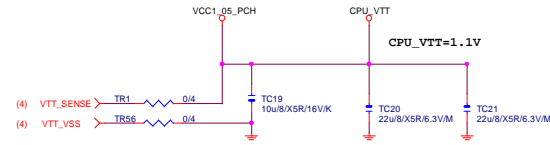
ATX CONNECTOR

GA-H61M-S

Rev 1.01

Date: Monday, July 07, 2014 Sheet 25 of 29

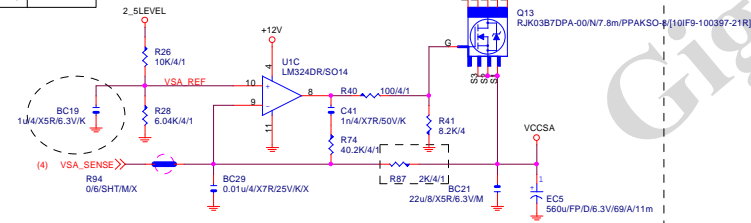
CPU_VTT



VCCSA

PD3 0.8

VSA_SEL	
HI	0.85V
LO	0.925V

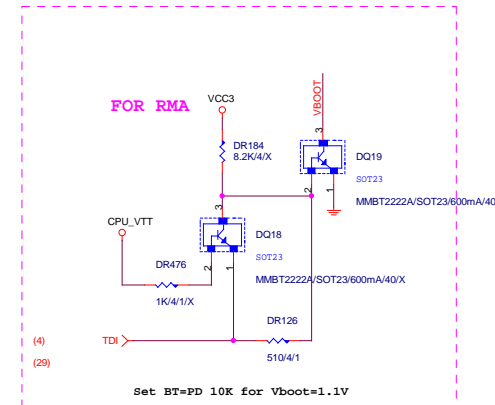
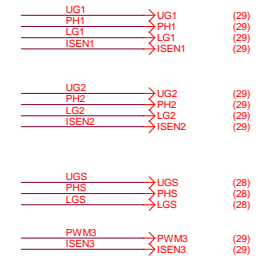


VCCSA_PWR_SEQ

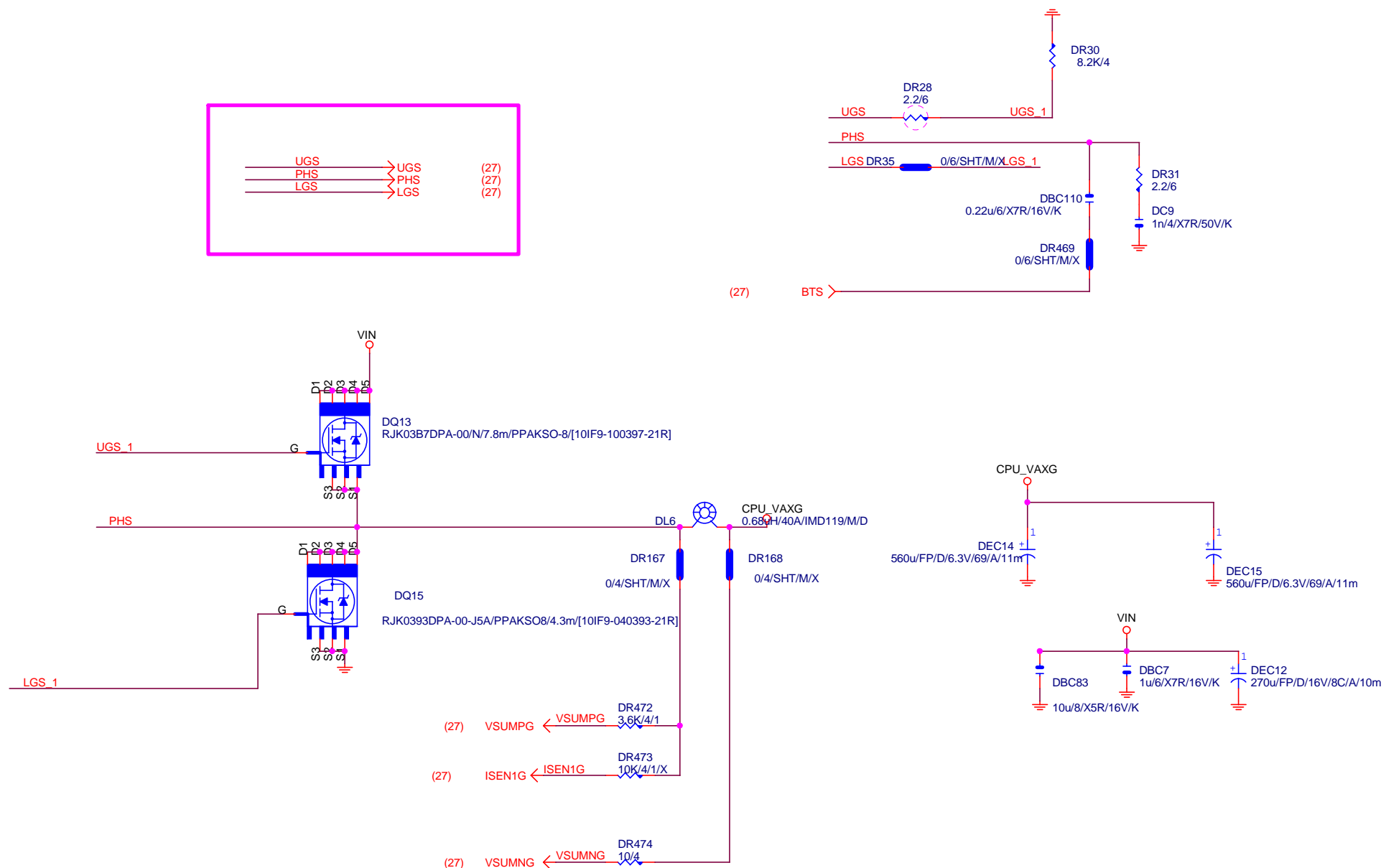
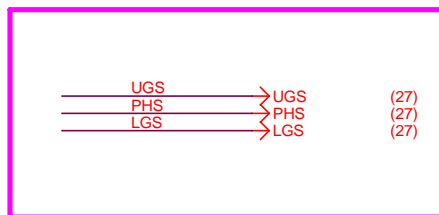
CPU_VTT_PWR_SEQ

GIGABYTE™

Title			CPU_VTT PWM_ISL95870CRZ	
Size			Document Number	GA-H61M-S
Date			Monday, July 07, 2014	Rev 1.01
			Sheet 26	of 29



BOTTOM PAD
CONNECT TO
GND
THROUGH 10
VIA

**Gigabyte Technology**

Title			CPU CORE VR-2
Size	Document Number	Rev	
Custom	GA-H61M-S	1.01	
Date:	Monday, July 07, 2014	Sheet	28 of 29

