

Model Name: GA-H61M-USB3H Rev:1.01

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

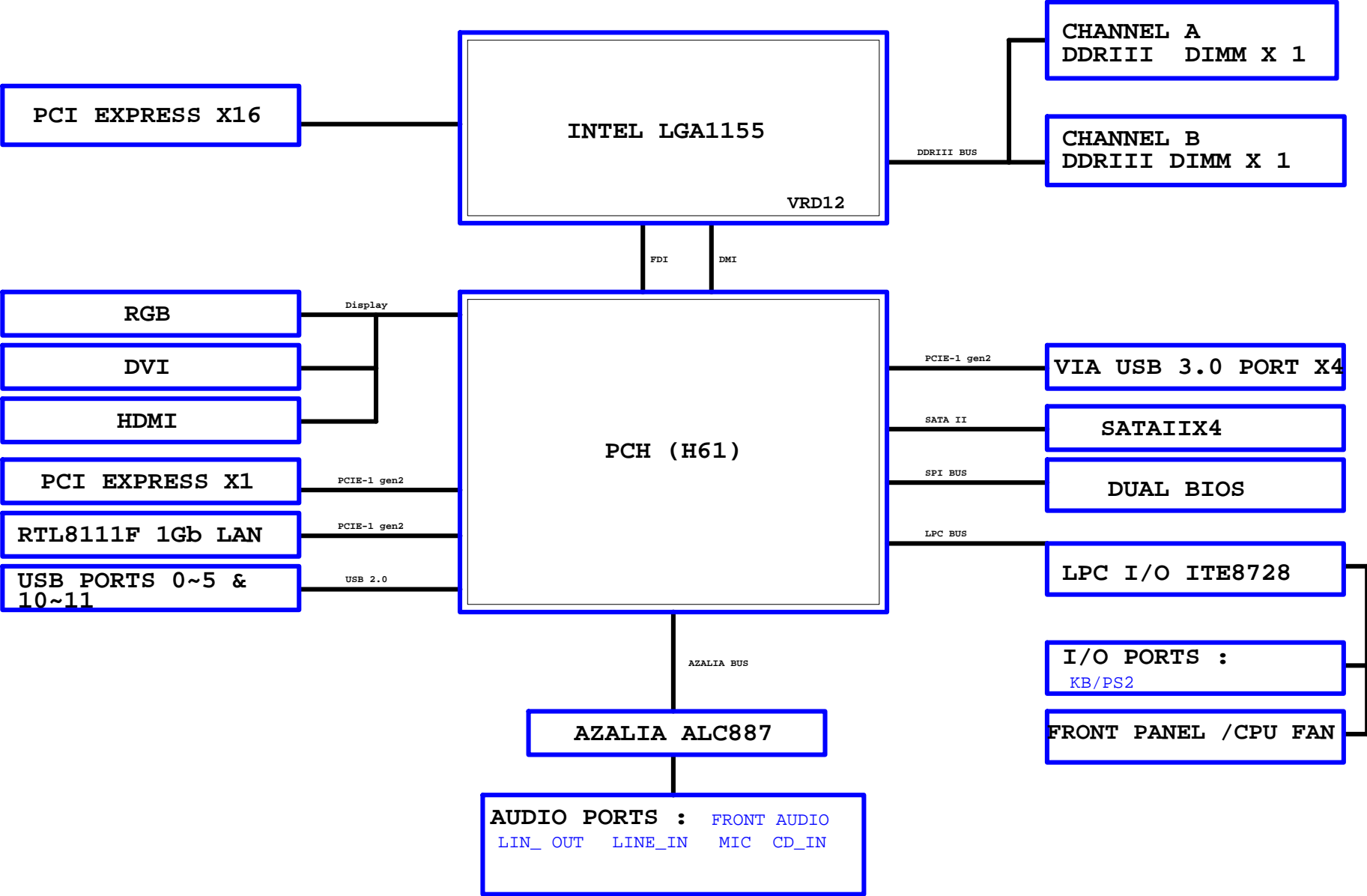
28	VCORE INTERSIL_95836_2
29	VCORE INTERSIL_95836_3
30	DVI,HDMI
31	USB3 VL805
32	R_USB3,F_USB3

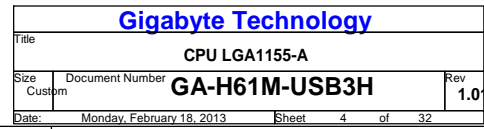
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Cover Sheet

Title	GA-H61M-USB3H		Rev
Size	Document Number	GA-H61M-USB3H	1.01
Custom	Date:	Monday, February 18, 2013	Sheet 1 of 32

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]			
-SWEA	AW29	SA_WE#	SA_DQ[8]	AN1	MDA8
-SCASA	AV30	SA_CAS#	SA_DQ[9]	AN4	MDA9
-SRASA	AU28	SA_RAS#	SA_DQ[10]	AR3	MDA10
SBA00	AY29	SA_BS[0]	SA_DQ[11]	AR4	MDA12
SBA01	AW28	SA_BS[1]	SA_DQ[12]	AN2	MDA11
SBA02	AV20	SA_BS[2]	SA_DQ[13]	AN3	MDA13
-CSA0	AU29	SA_CS#	SA_DQ[14]	AR2	MDA14
-CSA1	AV32	SA_CS#	SA_DQ[15]	AR1	MDA15
CKEA0	AV19	SA_CKE[0]	SA_DQ[16]	AW2	MDA16
CKEA1	AT19	SA_CKE[1]	SA_DQ[17]	AW3	MDA17
	AU18	SA_CKE[2]	SA_DQ[18]	AV5	MDA18
	AV18	SA_CKE[3]	SA_DQ[19]	AW5	MDA19
MODT_A0	AV31	SA_ODT[0]	SA_DQ[20]	AU2	MDA20
MODT_A1	AU32	SA_ODT[1]	SA_DQ[21]	AU3	MDA21
	AU30	SA_ODT[2]	SA_DQ[22]	AU5	MDA22
	AW33	SA_ODT[3]	SA_DQ[23]	AY5	MDA23
DCLKA0	AY25	SA_CK[0]	SA_DQS[3]	AV8	DQSA3
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-DCLKA1	AU24	SA_CK[1]			
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	AW27	SA_CK[2]	SA_DQ[25]	AV7	MDA25
	AY27	SA_CK[2]	SA_DQ[26]	AU7	MDA26
	AY26	SA_CK[2]	SA_DQ[27]	AW7	MDA27
	AW26	SA_CK[3]	SA_DQ[28]	AW7	MDA28
		SA_CK[3]	SA_DQ[29]	AW9	MDA29
			SA_DQ[30]	AY9	MDA30
			SA_DQ[31]	AW9	MDA31
R240	04/SHT/M/X		SA_DQS[4]	AV37	DQSA4
			SA_DQS[4]	AV36	-DQSA4
AV13	SA_DQS[8]		SA_DQ[32]	AU35	MDA32
AV12	SA_DQS#8[8]		SA_DQ[33]	AW37	MDA33
			SA_DQ[34]	AU39	MDA34
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			SA_DQ[37]	AY36	MDA37
			SA_DQ[38]	AU38	MDA38
			SA_DQ[39]	AU37	MDA39
AU12	SA_ECC_CB[0]			AP38	DQSA5
AU14	SA_ECC_CB[1]			AP39	-DQSA5
AW13	SA_ECC_CB[2]				
AY13	SA_ECC_CB[3]				
AU11	SA_ECC_CB[4]		SA_DQS[5]		
AW12	SA_ECC_CB[5]		SA_DQS[5]		
AW12	SA_ECC_CB[6]				
AW12	SA_ECC_CB[7]				
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			SA_DQ[41]	AR37	MDA41
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			SA_DQ[43]	AN37	MDA43
			SA_DQ[44]	AR39	MDA44
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1 OF 10

DDR_0

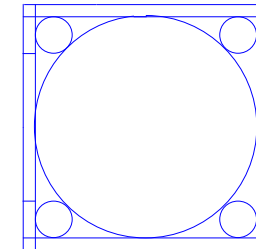
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CPU-SK/1155/S/15

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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	AN18	SB_MA[8]	SB_DQ[4]	AG5	MDB4
MAAB9	AY17	SB_MA[9]	SB_DQ[5]	AG6	MDB5
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MAAB12	AT18	SB_MA[12]			
MAAB13	AR26	SB_MA[13]	SB_DQS[1]	AM8	DQSB1
MAAB14	AY16	SB_MA[14]	SB_DQS[1]	AL8	-DQSB1
MAAB15	AV16	SB_MA[15]			
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SBA00	AP23	SB_BS[0]	SB_DQ[11]	AL6	MDB12
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AK26	SB_ODT[3]		SB_DQ[21]	AR10	MDB19
AL21	SB_CK[0]		SB_DQ[22]	AP6	MDB20
AL22	SB_CK[1]		SB_DQ[23]	AR6	MDB21
AK20	SB_CK[2]		SB_DQ[24]	AP9	MDB22
AK21	SB_CK[3]		SB_DQ[25]	AR9	MDB23
DCLKB0	AL21	SB_CK[0]	SB_DQ[26]	AN13	DQSB3
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-DCLKB1	AK21	SB_CK[1]	SB_DQ[29]	AM13	MDB25
FC_AH1			SB_DQ[30]	AP13	MDB26
FC_AH4			SB_DQ[31]	AR13	MDB27
AN16	SB_DQS[8]		SB_DQ[32]	AL28	MDB33
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AP32	MDB40		SB_DQ[41]	AP32	MDB40
AP33	MDB41		SB_DQ[42]	AP33	MDB41
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AL31	MDB52		SB_DQ[54]	AL31	MDB52
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AL34	MDB54				
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AG34	-DQSB7		SB_DQ[57]	AG34	-DQSB7
AH35	MDB56		SB_DQ[58]	AH35	MDB56
AH34	MDB57		SB_DQ[59]	AH34	MDB57
AE34	MDB58		SB_DQ[60]	AE34	MDB58
AE35	MDB59		SB_DQ[61]	AE35	MDB59
AJ35	MDB60		SB_DQ[62]	AJ35	MDB60
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AF35	MDB63				

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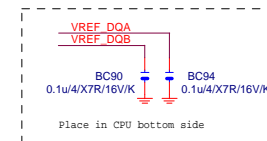
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CPU-SK/1155/S/15CR
CPU RETENTION/X

Need check the new CPU ME

CPU



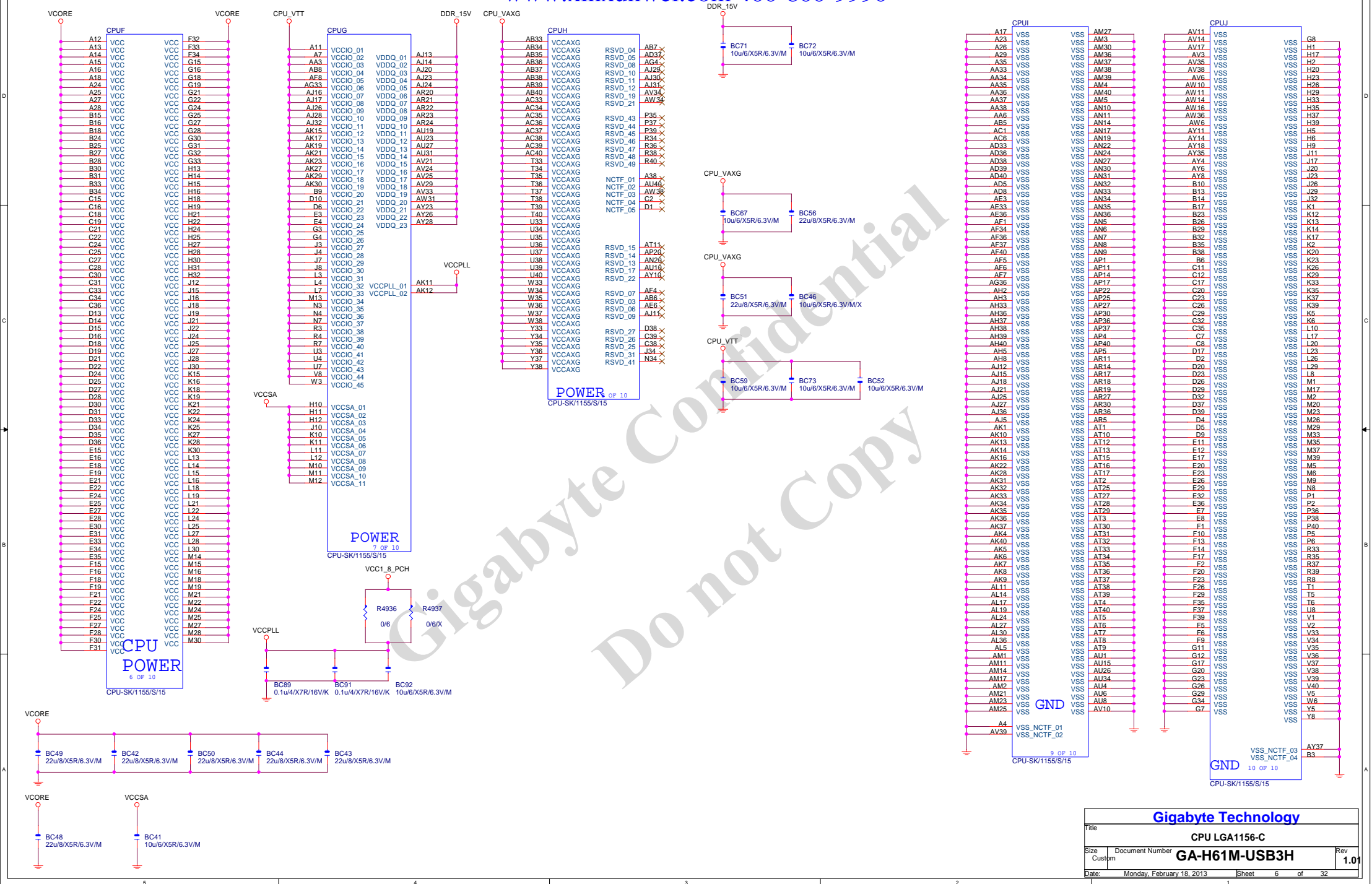
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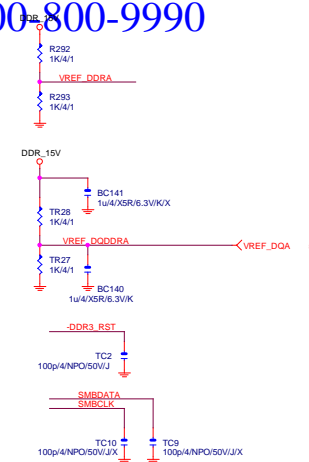
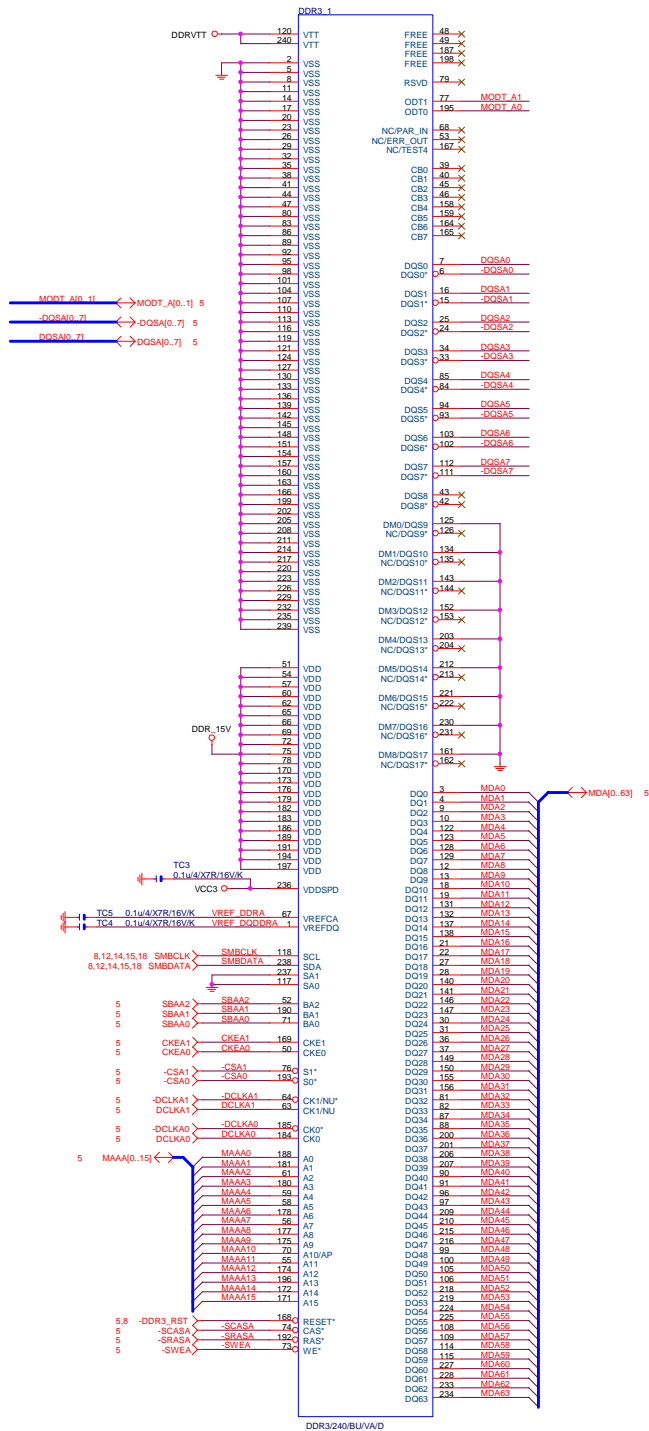


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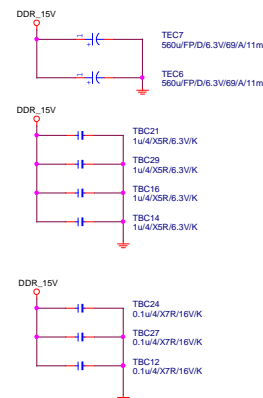
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Size		GA-H61M-USB3H	
Date:		Monday, February 18, 2013	Sheet 5 of 32

Rev
1.01

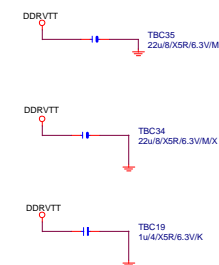


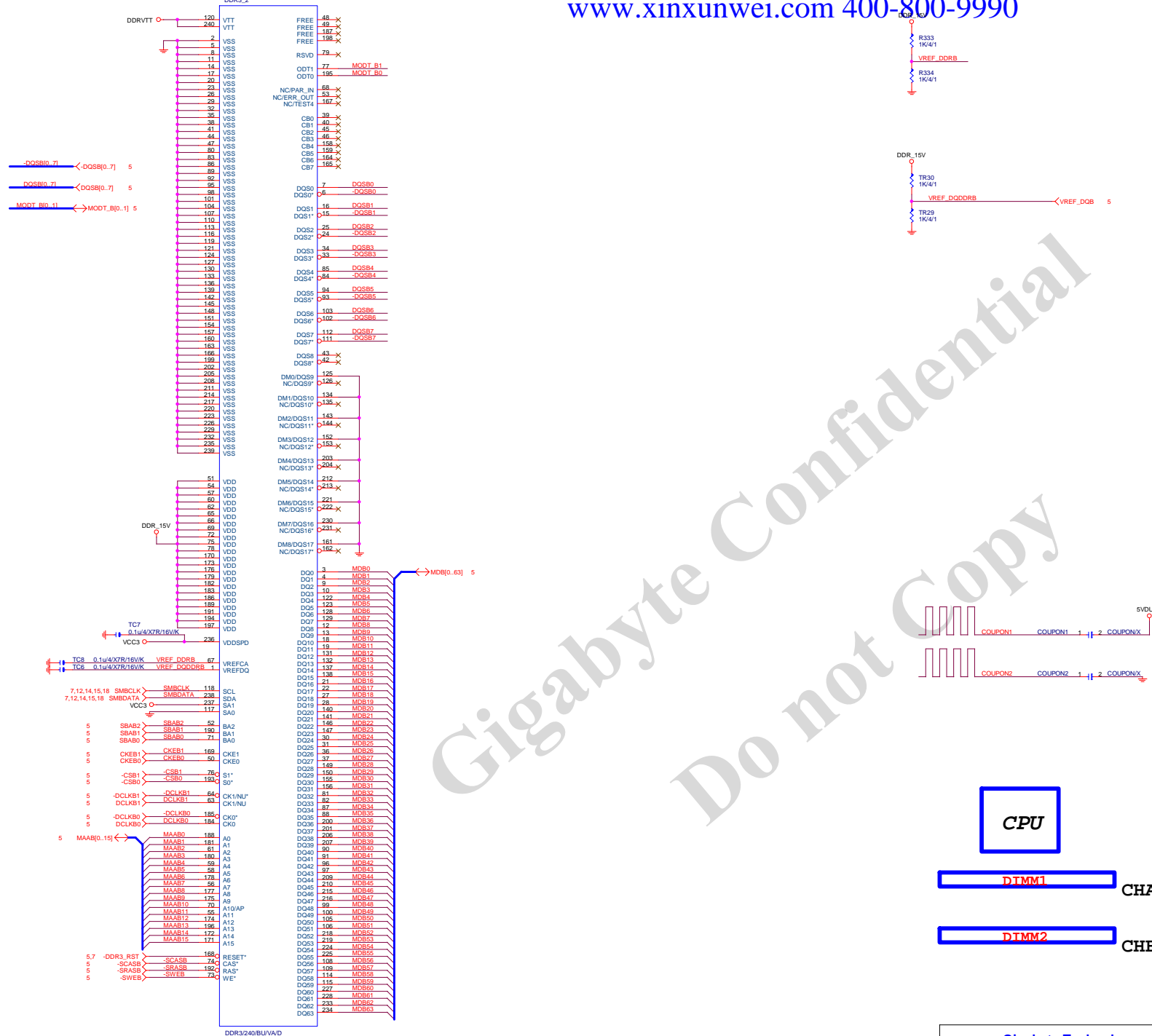


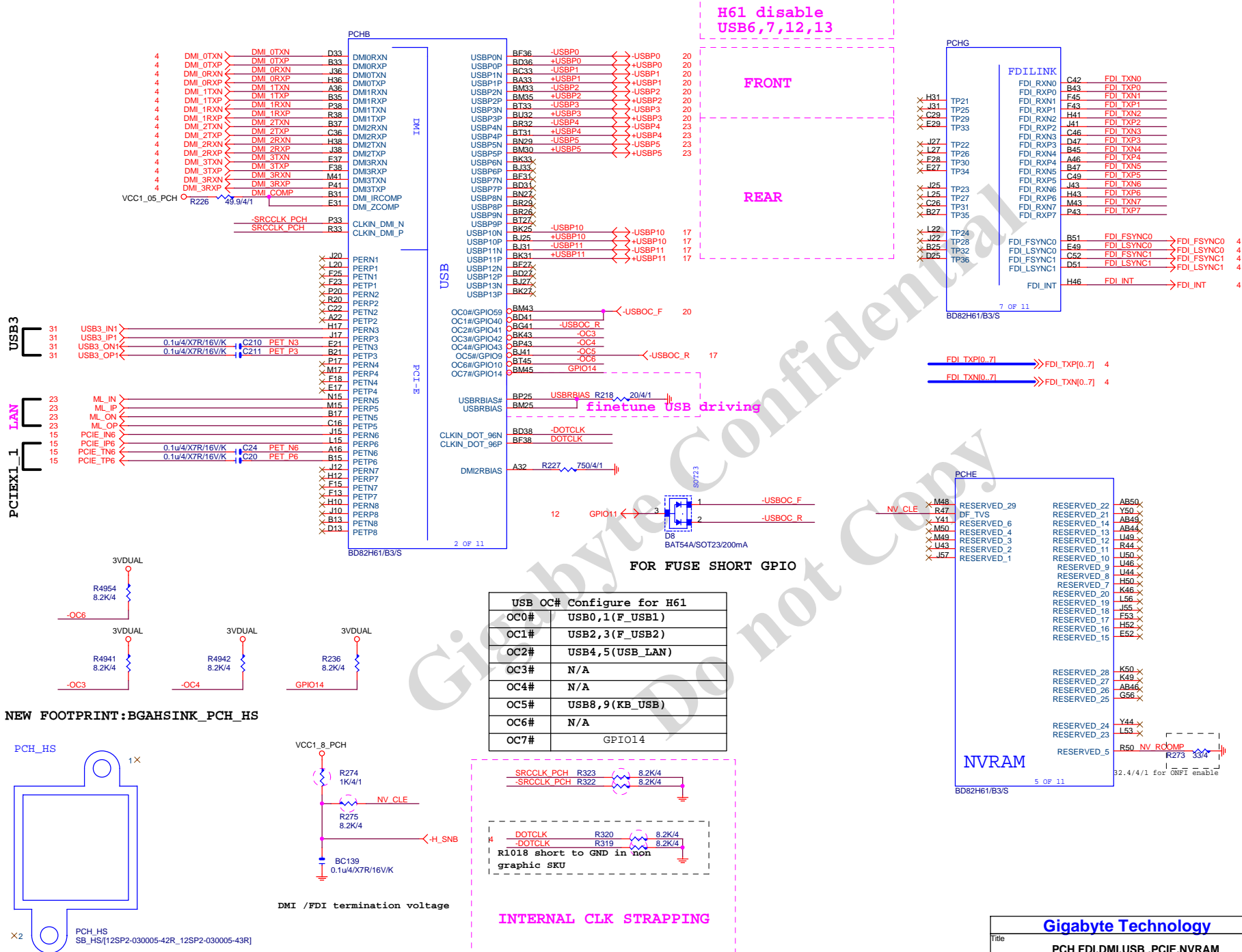
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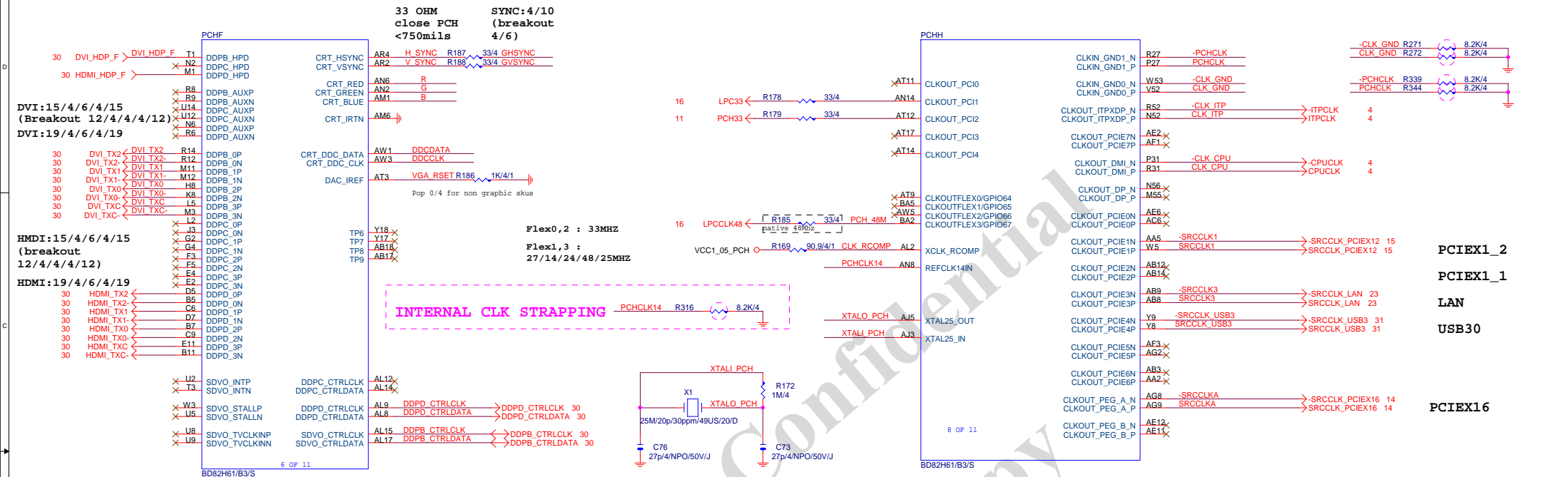


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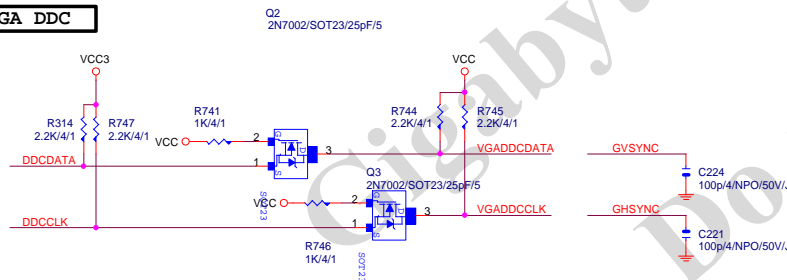




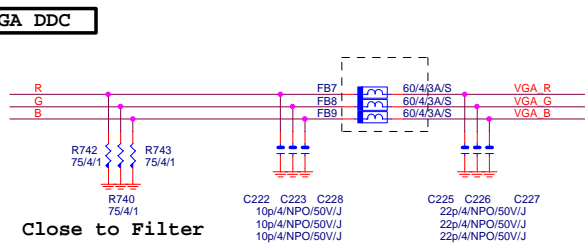




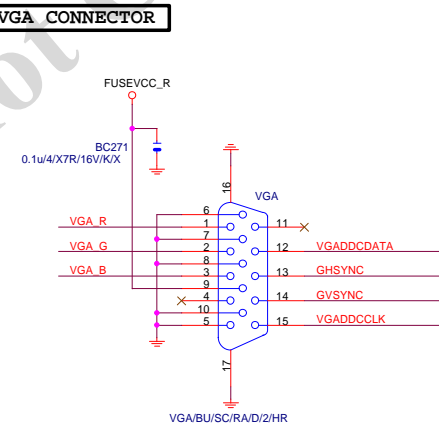
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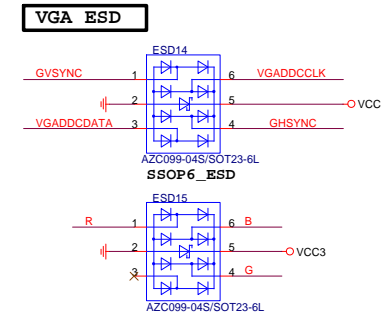
VGA DDC



VGA CONNECTOR

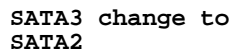


VGA ESD



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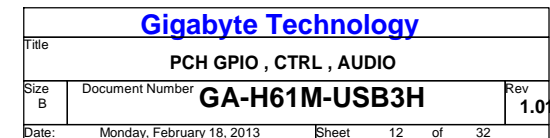
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Size	Document Number	GA-H61M-USB3H	
Custom		Rev 1.01	
Date:	Monday, February 18, 2013	Sheet	10 of 32

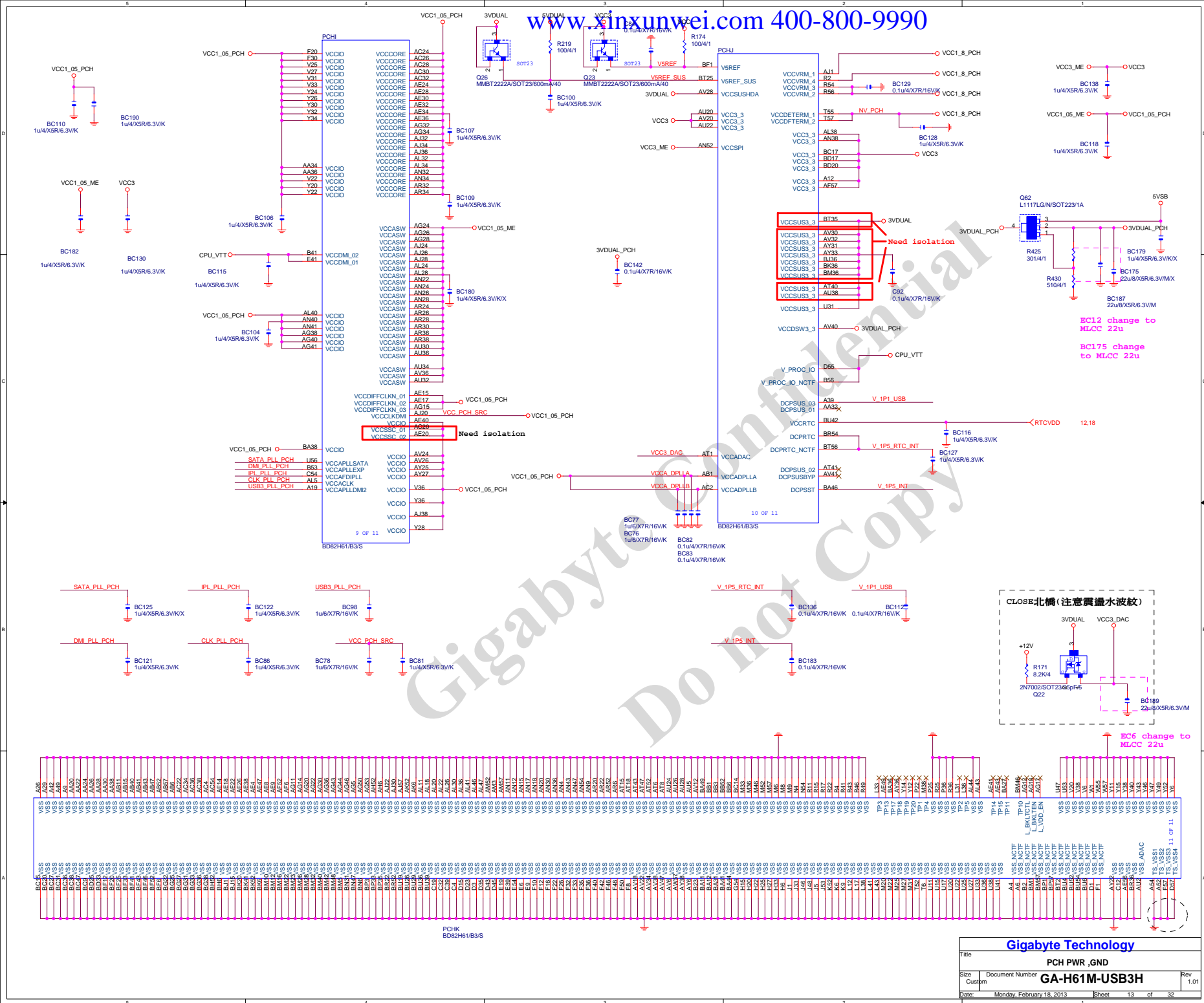


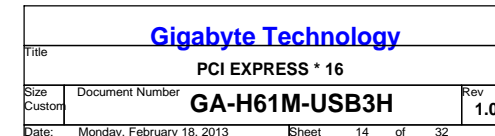
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PCH HOST , SATA, PCI

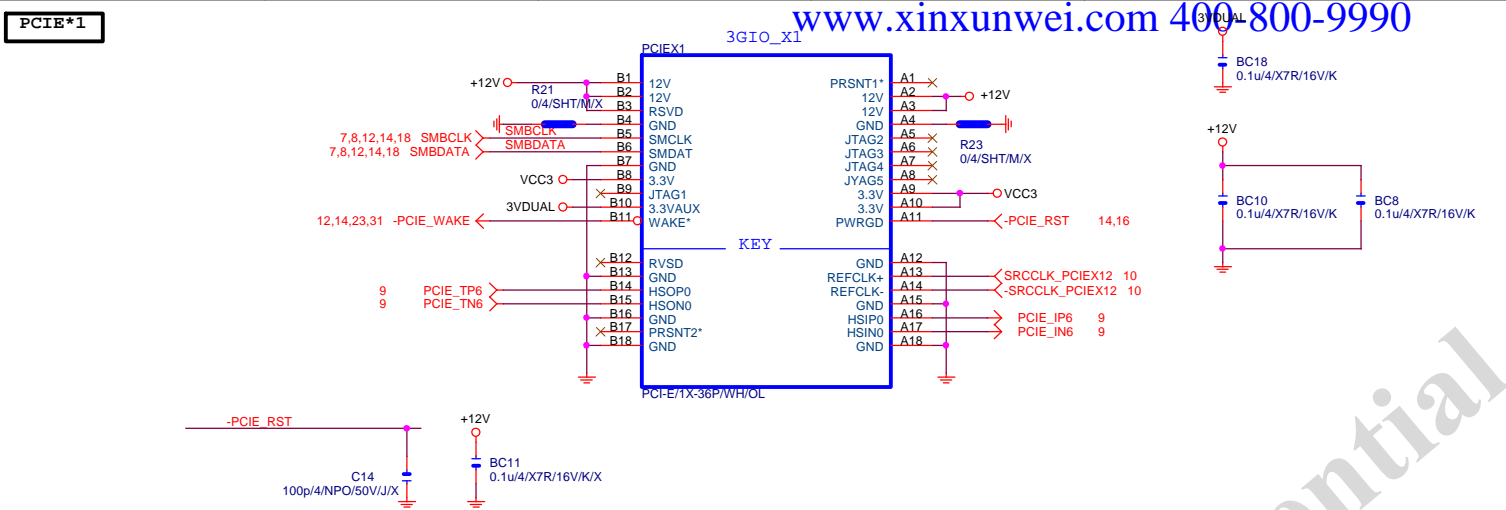
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Date:	Monday, February 18, 2013	Sheet 11 of 32







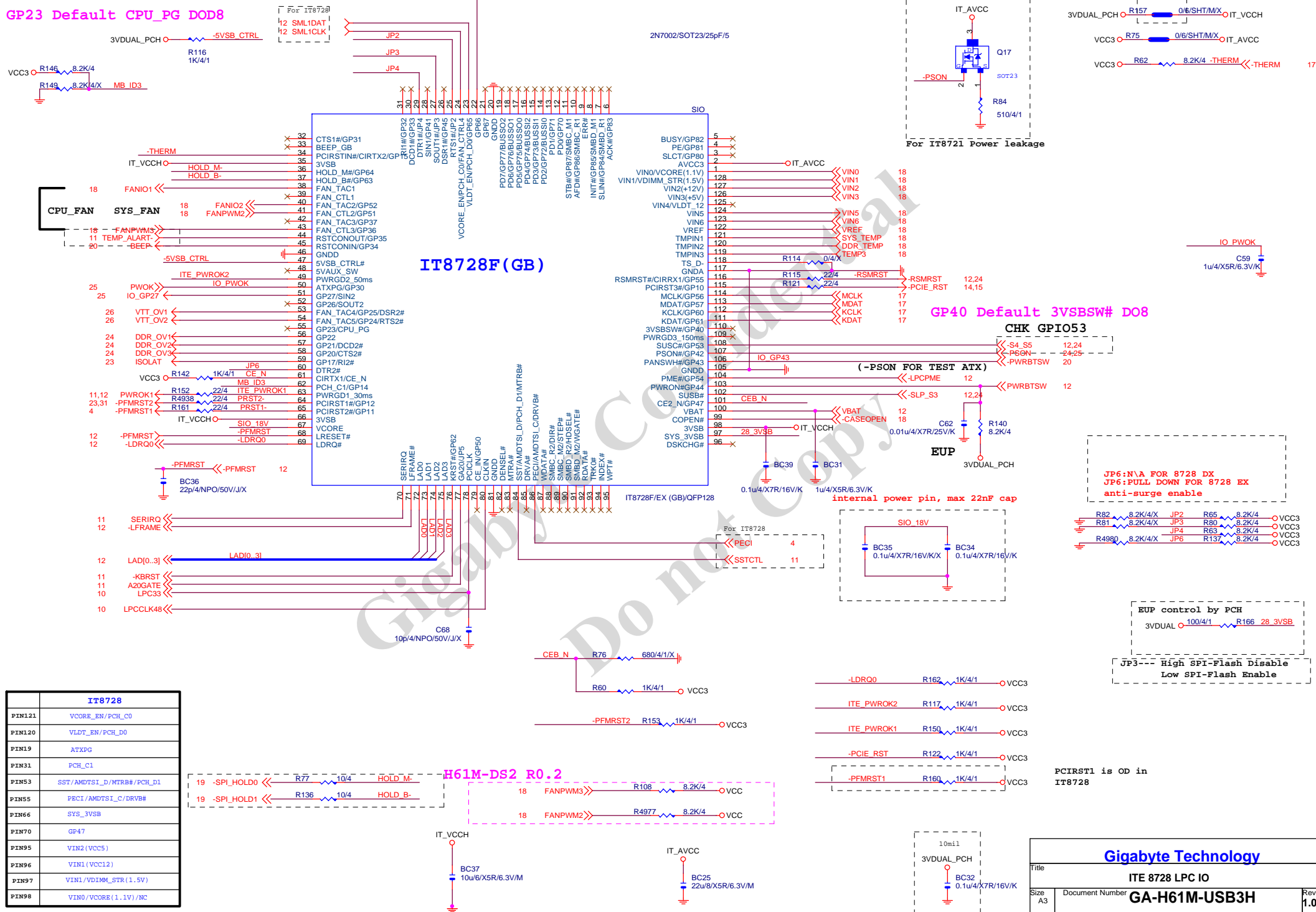
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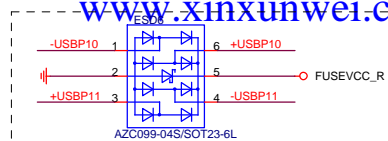
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PCIEX1,X2/CLK GEN			
Size	Document Number	Rev	
Custom	GA-H61M-USB3H	1.01	
Date:	Monday, February 18, 2013	Sheet	15 of 32

GP23 Default CPU PG DOD8

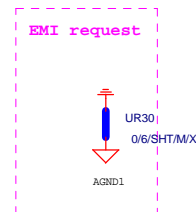
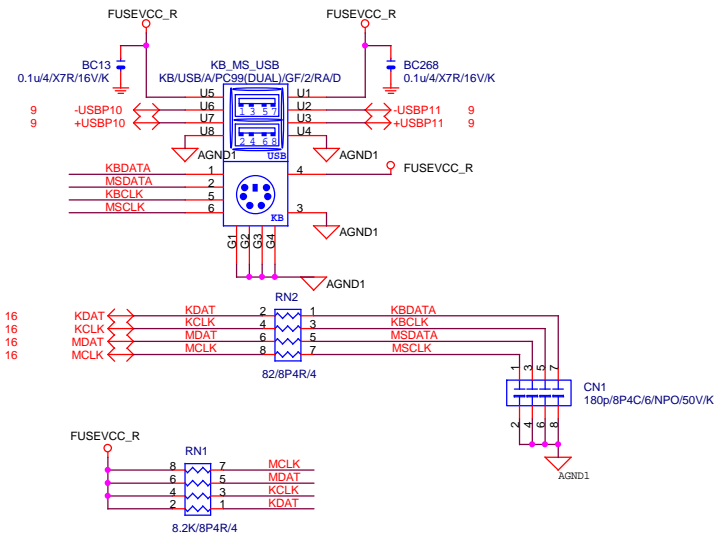
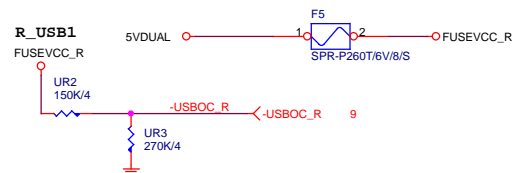
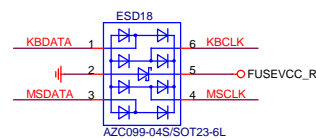


	IT8728
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRV#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2(VCC5)
PIN96	VIN1(VCC12)
PIN97	VIN1/VDIMM_STR(1.5V)
PIN98	VINO/VCORE(1.1V)/NC

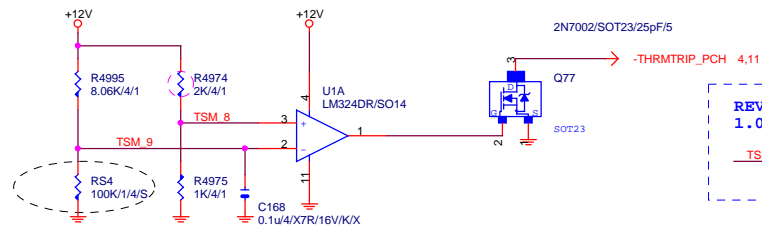
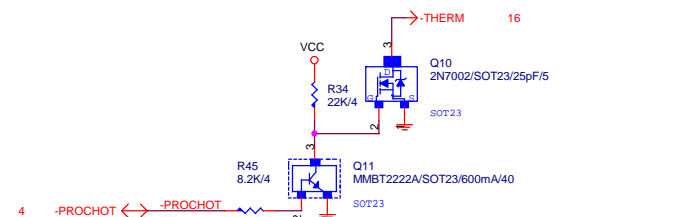


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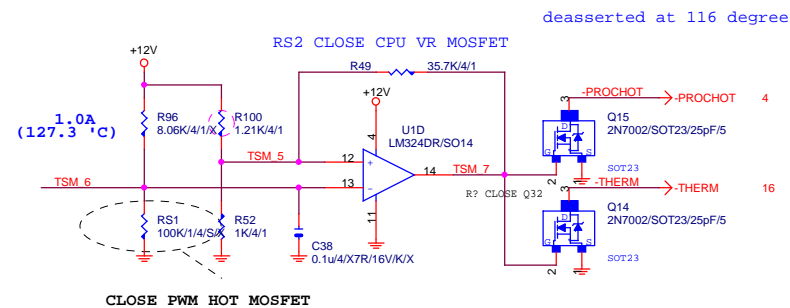
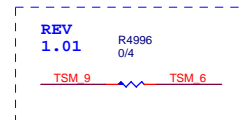
H61M-DS2 R0.2



-PROHOT



CLOSE PWM HOT MOSFET

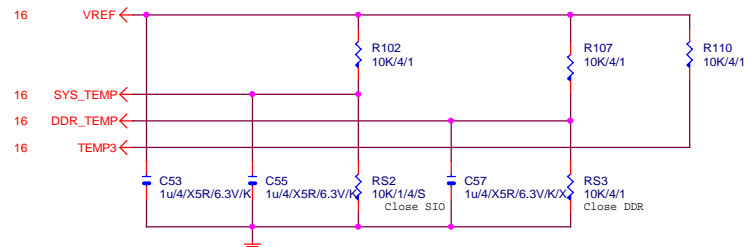


CLOSE PWM HOT MOSFET

deasserted at 116 degree

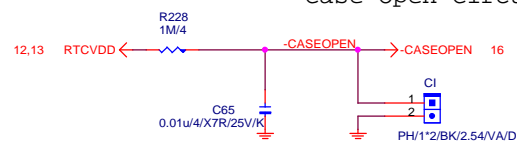
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Title			
-RI,KB_USB,USB_ESATA,-PROCHOT			
Size	Document Number	Rev	
Custom	GA-H61M-USB3H	1.01	
Date:	Monday, February 18, 2013	Sheet	17 of 32

TEMP H/W MONITOR



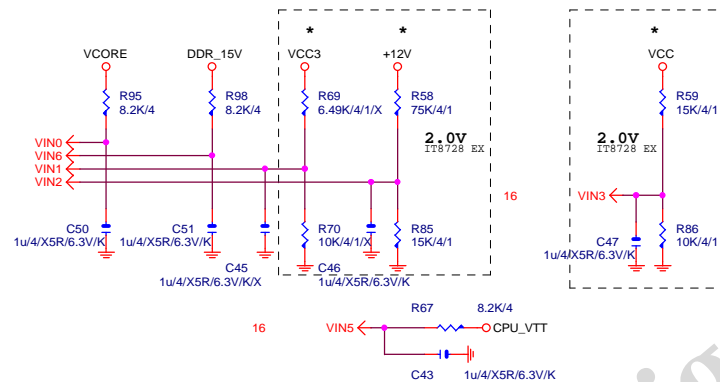
CASE OPEN

Case Open Circuits

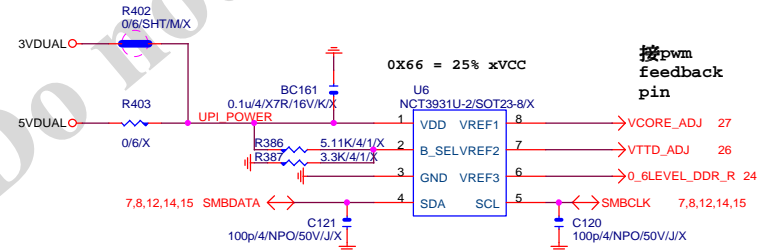
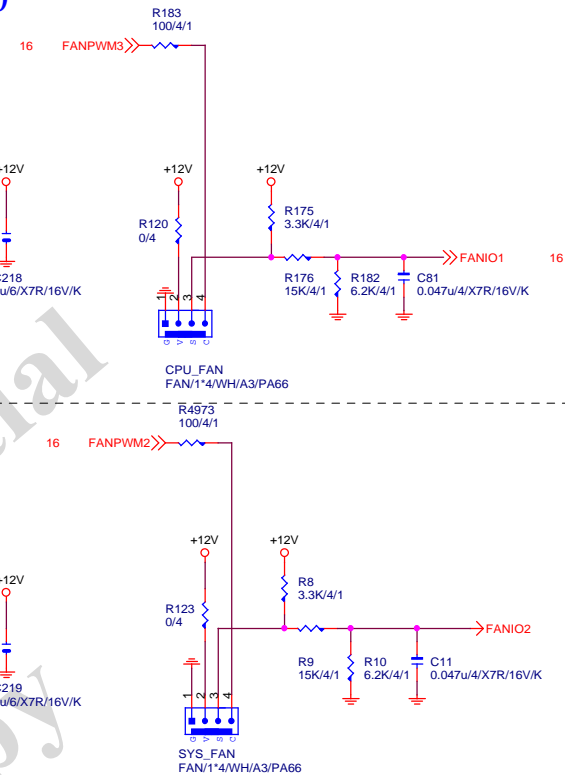


VOLTAGE-- H/W MONITOR

I (VAXG)



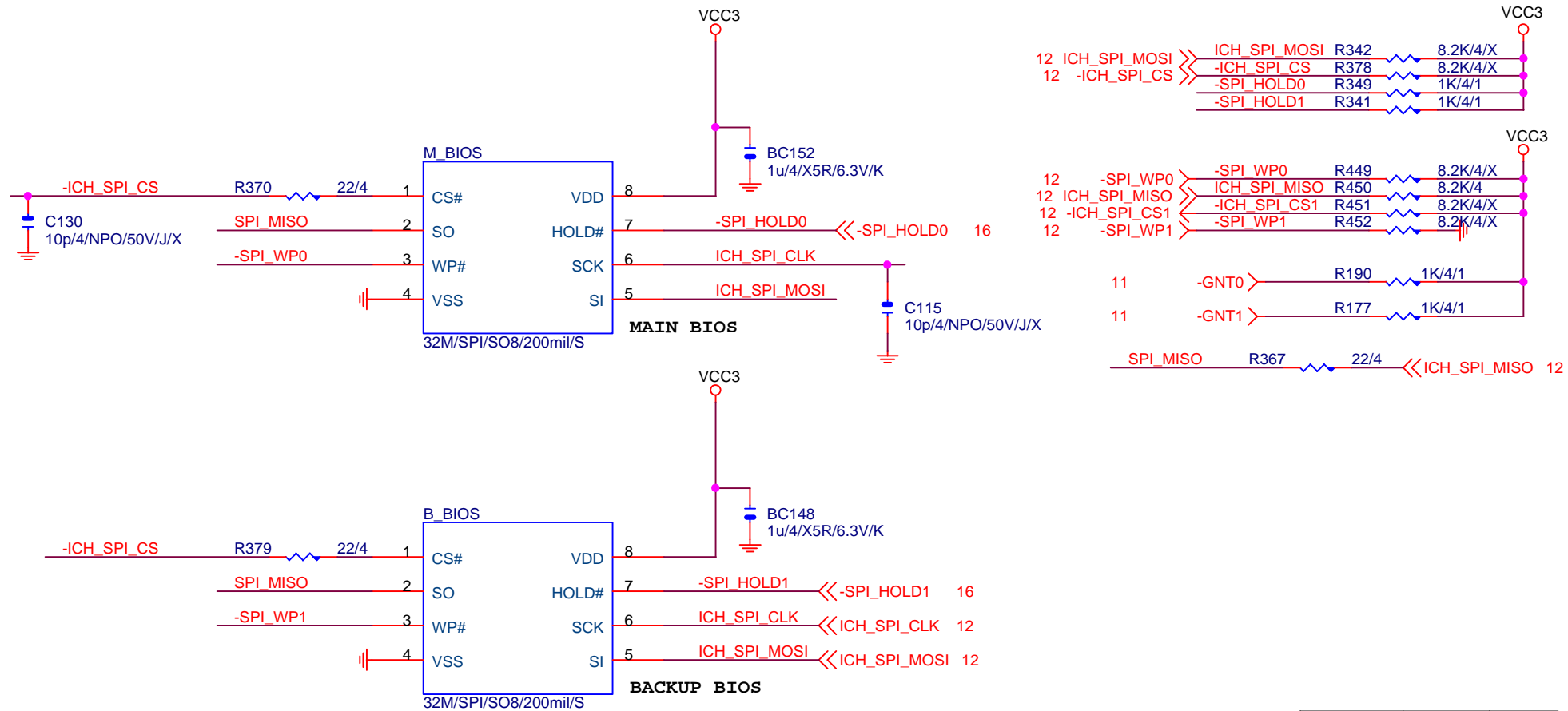
SYS SMART FAN



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Title			HWM,FAN CTRL,OV	
Size			GA-H61M-USB3H	
Date:			Monday, February 18, 2013	
Sheet			18 of 32	

Rev 1.01

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 BIOSSize
A

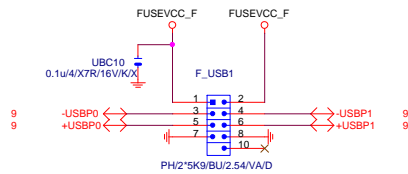
Document Number

GA-H61M-USB3HRev
1.01

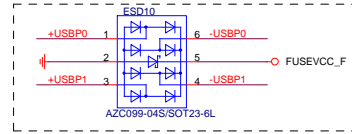
Date: Monday, February 18, 2013

Sheet 19 of 32

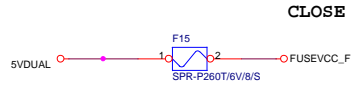
FRONT USB1



change to BLUE COLOR



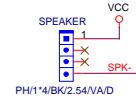
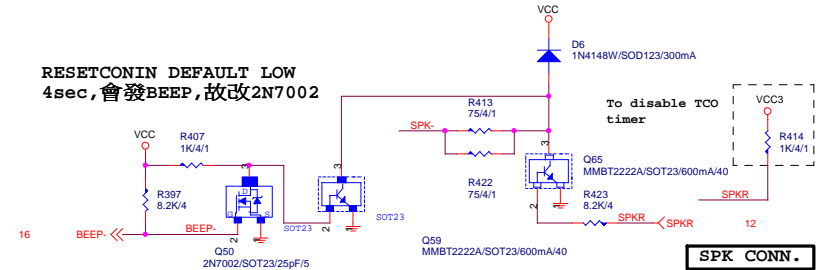
Close to connector



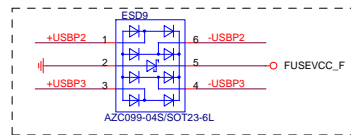
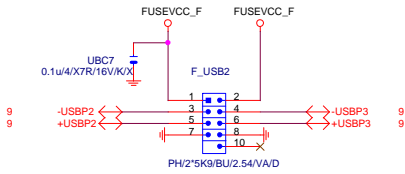
CLOSE F_USB1

SPKR

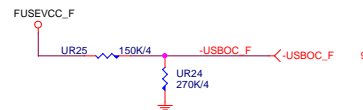
RESETCONIN DEFAULT LOW
4sec,會發BEEP,故改2N7002



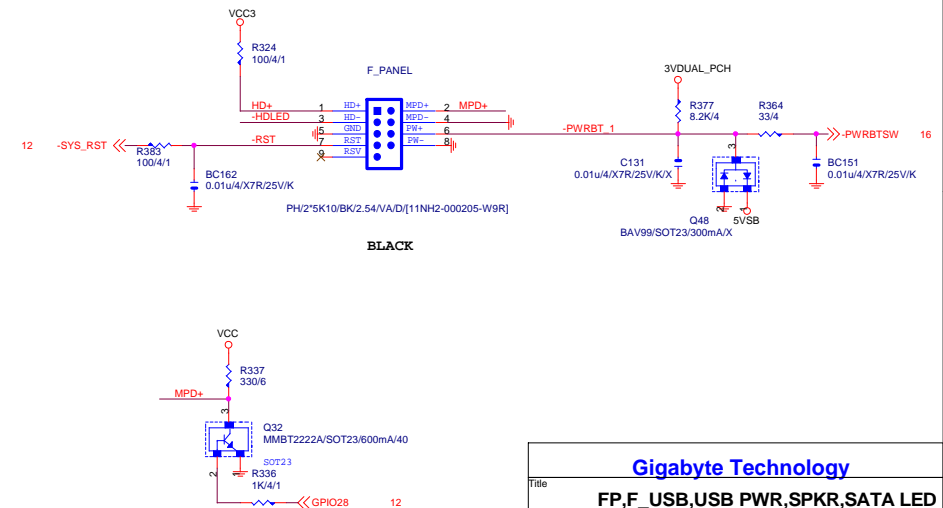
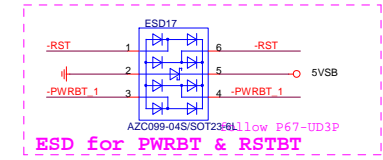
FRONT USB2



Close to connector



INTEL FRONT PANEL



Gigabyte Technology			
Title	FP,F_USB,USB PWR,SPKR,SATA LED		
Size	Document Number	GA-H61M-USB3H	
Custom			Rev 1.01
Date:	Monday, February 18, 2013	Sheet 20	of 32

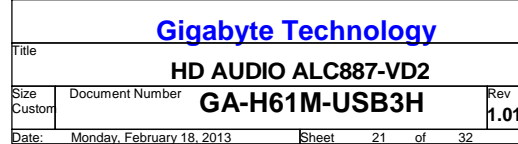
FOR VT1708S

CBC42
100p/4/NPO/50V/J/X

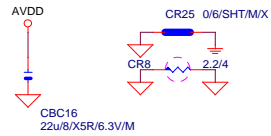
CR28: 20K/4/0.1% @ALC889A

CR26: 20K/4/1% @others

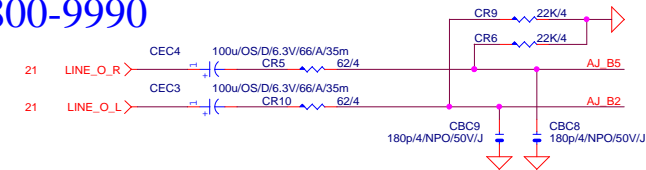
The diagram shows a feedback network for the VT1708S op-amp. It includes a feedback capacitor CBC42 (100pF, 4% tolerance, NPO, 50V, J, X) and a feedback resistor CR28 (20K, 4% tolerance, 0.1% ALC889A). The input resistor CR26 (20K, 4% tolerance, 1% @others) and the output resistor CR27 (20K, 4% tolerance, 1% @others) are also shown. The circuit is circled in blue.



CODEC POWER/EMI PAD

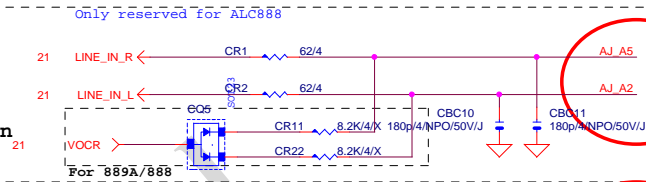


LINE-OUT

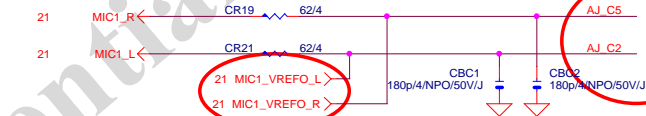


LINE-IN

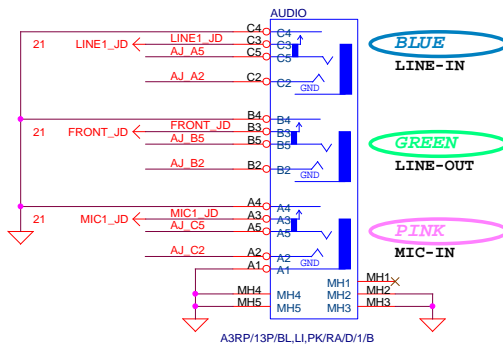
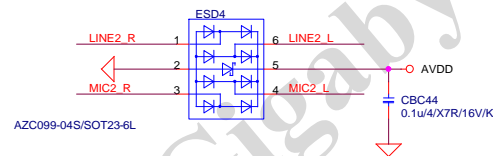
Verify MIC function
in LINE-in



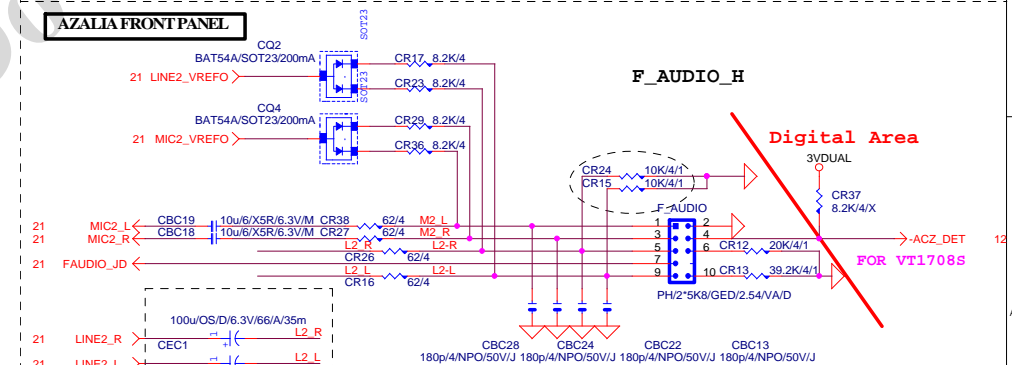
MIC-IN



AZALIA JACK



AZALIA FRONT PANEL

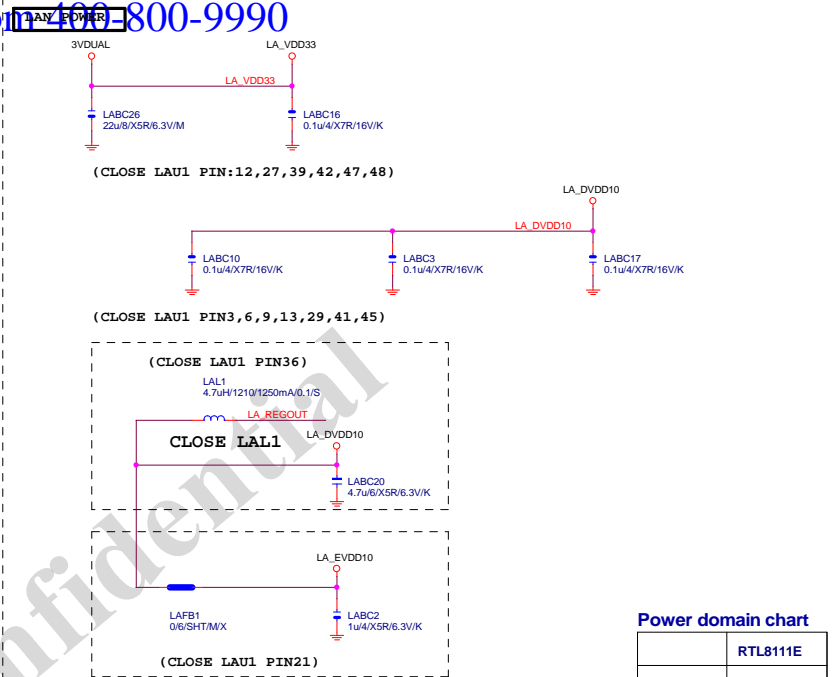
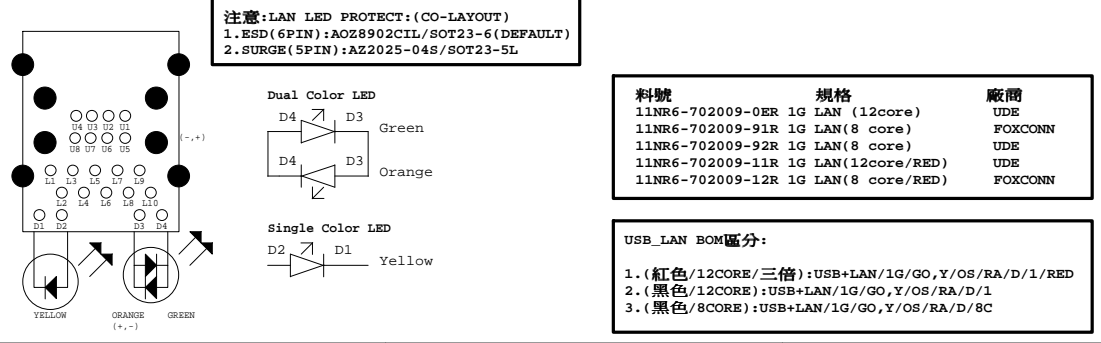
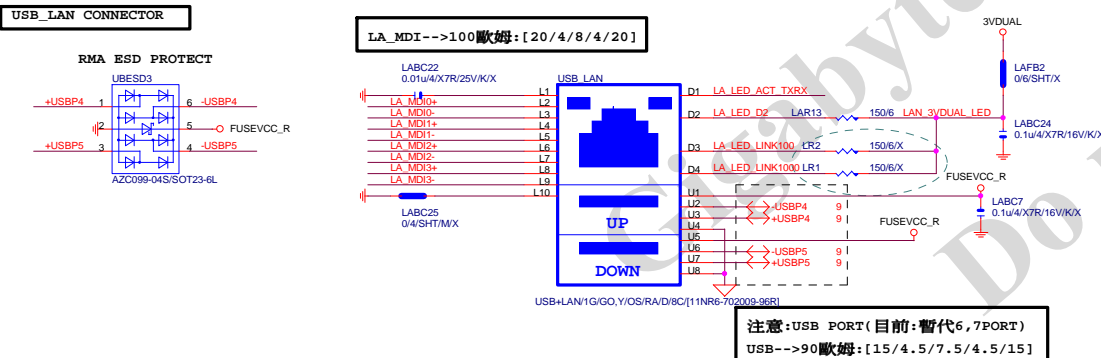
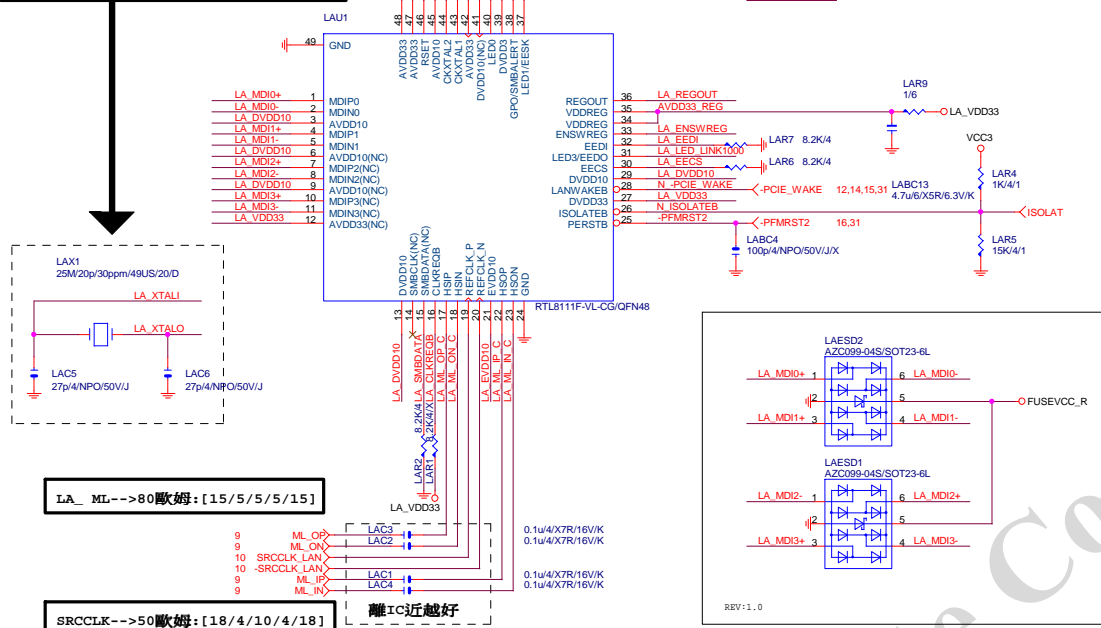


Gigabyte Technology

Title			
AUDIO JACK			
Size	Document Number	GA-H61M-USB3H	
Custom			Rev 1.01
Date:	Monday, February 18, 2013	Sheet 22	of 32

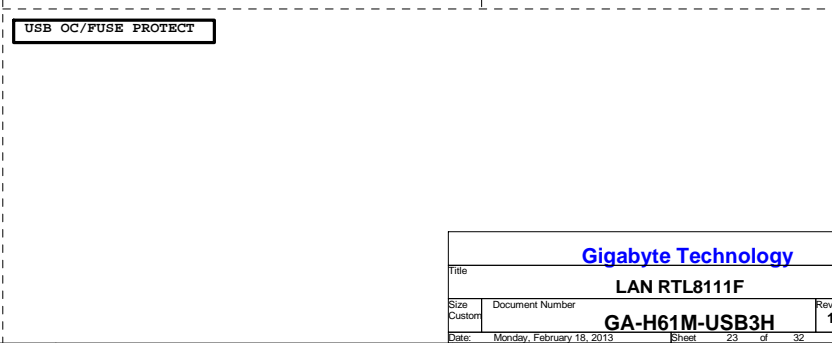
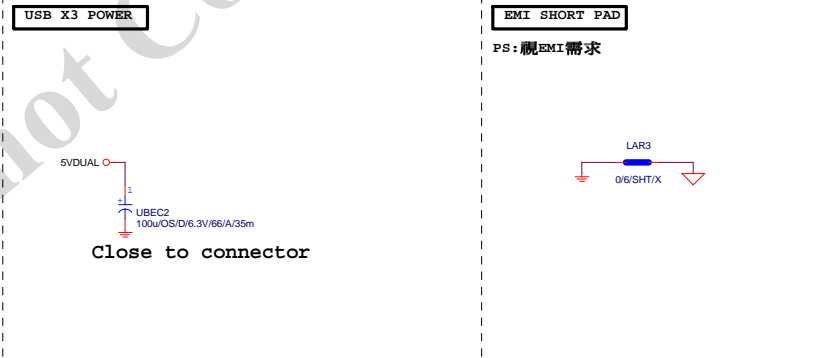
LAN:RTL8111E/VB/VL

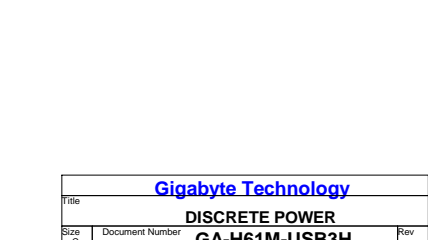
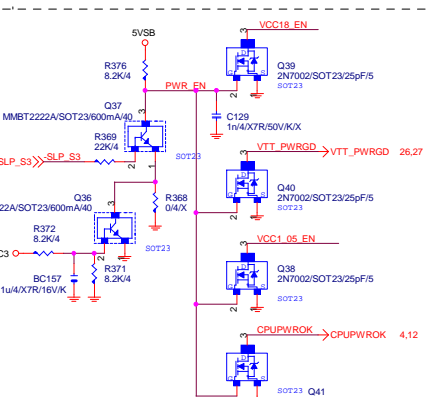
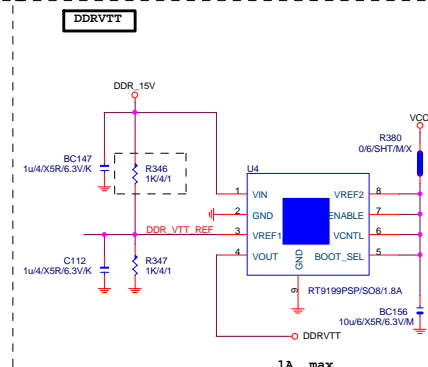
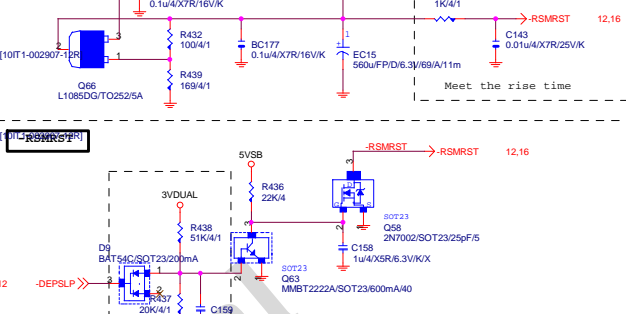
SCH BOM OPT:(二擇一使用)
 -->(LAR11):M/B有CLK GEN 25M
 -->(LAX1,LAC5,LAC6):M/B無CLK GEN 25M



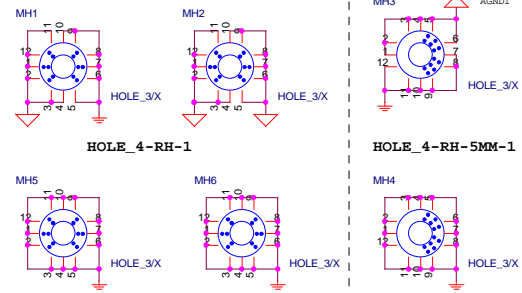
Power domain chart

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

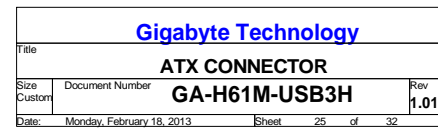




www.xinxunwei.com 400 800 9990



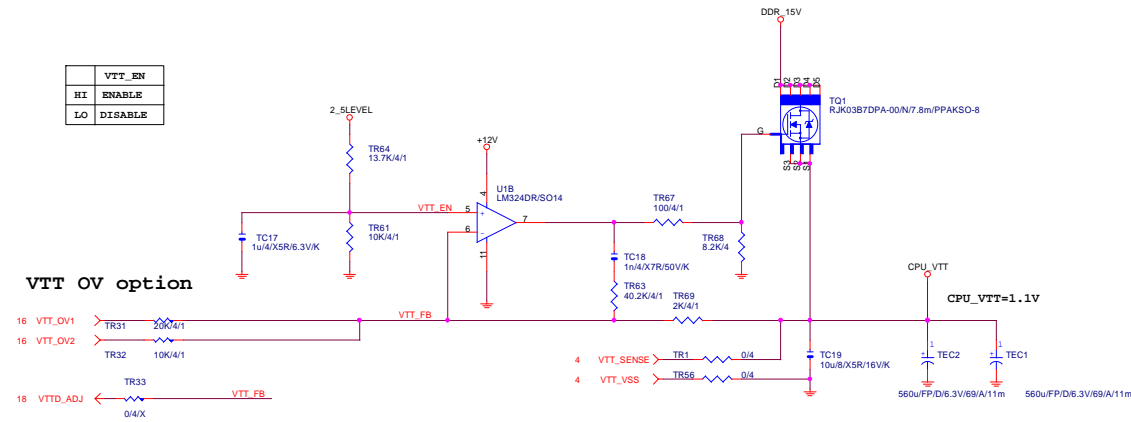
The diagrams illustrate the connection of three pins (EOS_VCC, EOS_VCC3, EOS_+12V) to their respective power sources (VCC, VCC3, +12V) using diodes (AZZ225-01L/SOD323/X). Each pin is connected to its power source through a diode oriented towards the pin, ensuring protection against reverse voltage.



CPU_VTT

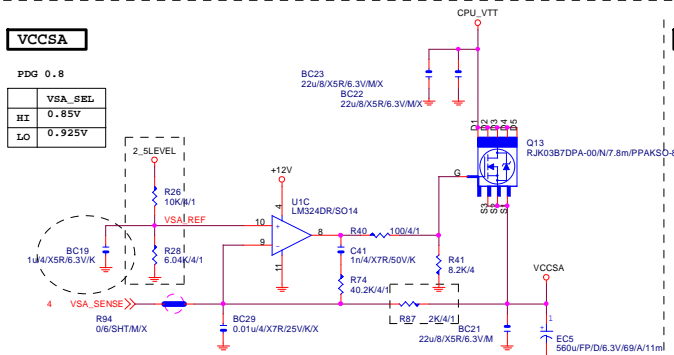
	VTT_EN
HI	ENABLE
LO	DISABLE

VTT OV option

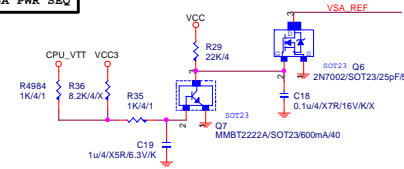


VCCSA

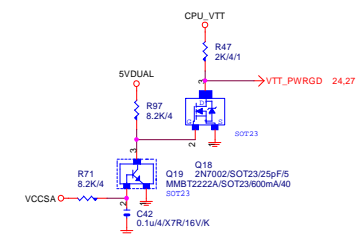
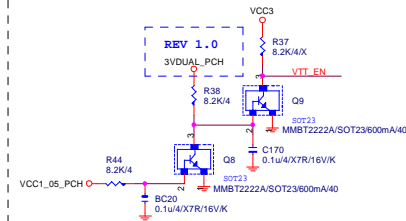
	VSA_SEL
HI	0.85V
LO	0.925V



VCCSA PWR SEQ

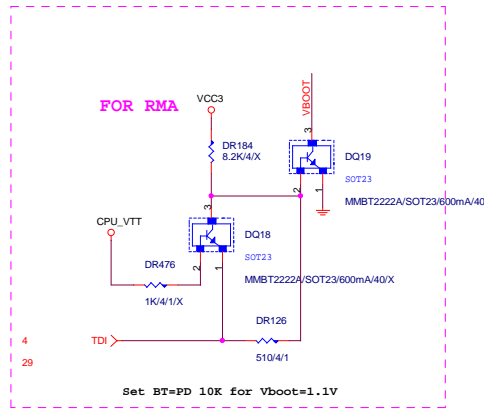


CPU_VTT PWR SEQ

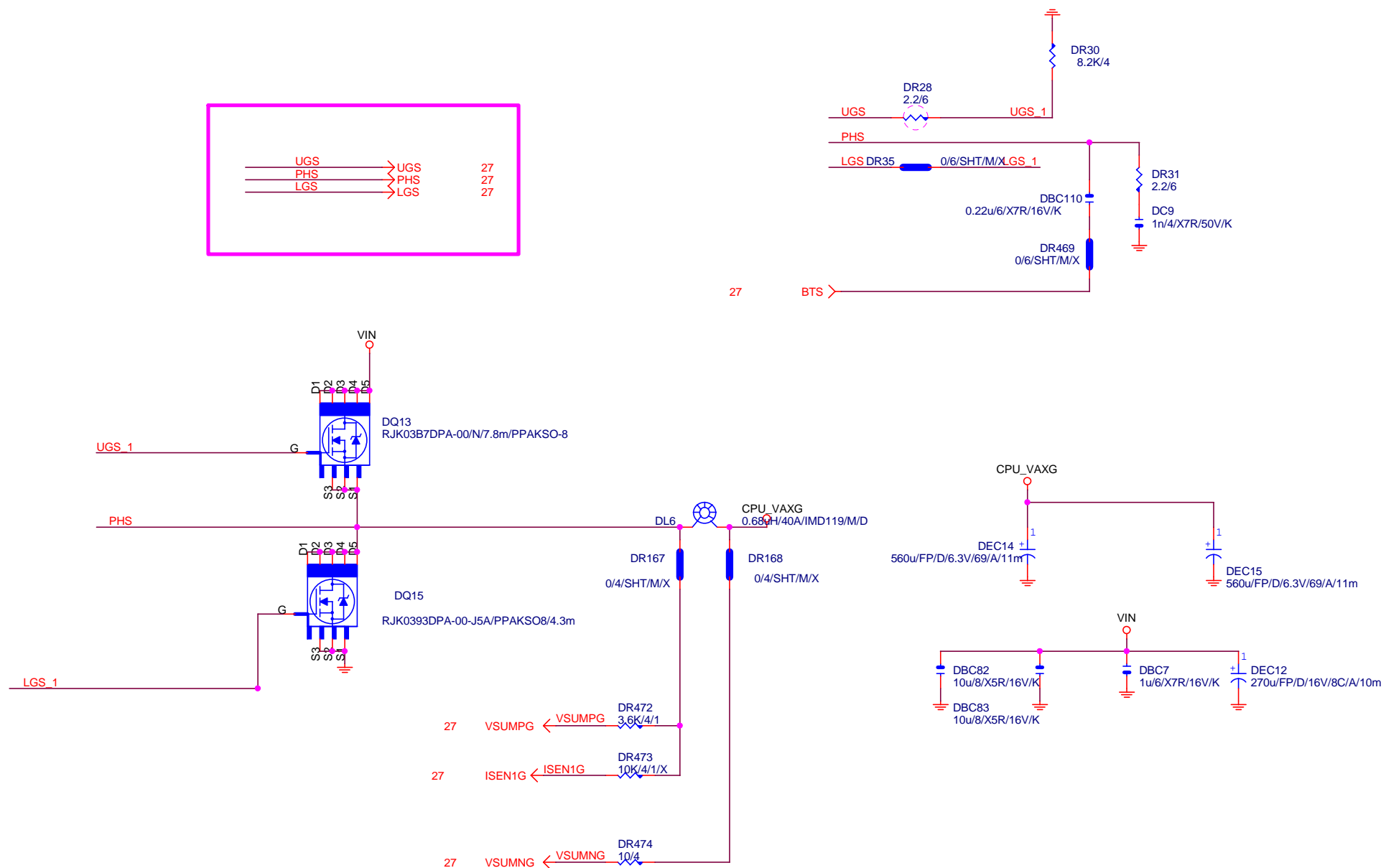
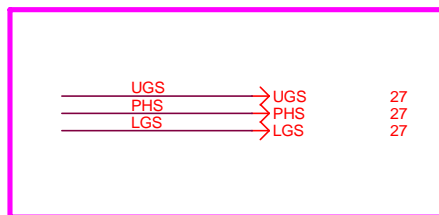


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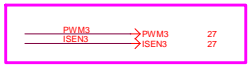
CPU_VTT PWM_ISL95870CRZ			
Title	Document Number	GA-H61M-USB3H	Rev
Size	Custom		1.01
Date	Monday, February 18, 2013	Sheet	26 of 32



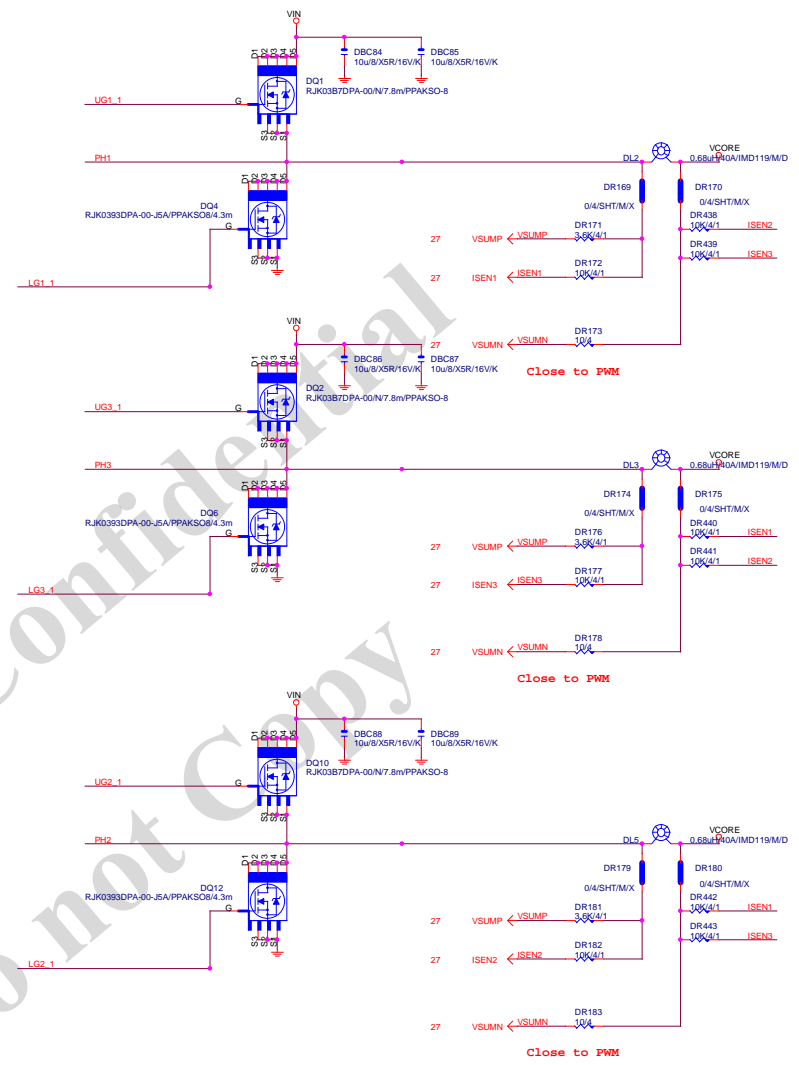
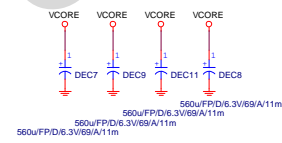
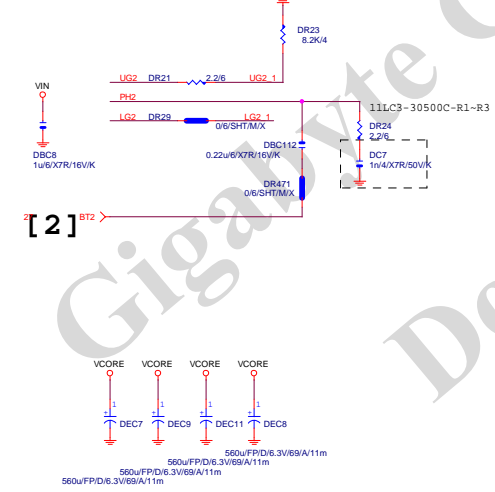
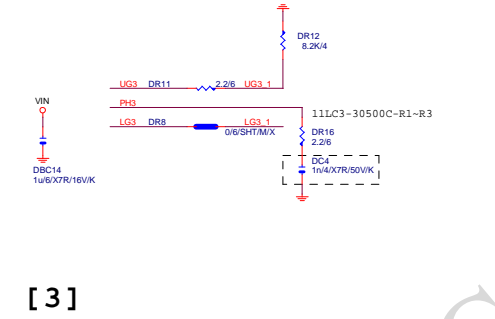
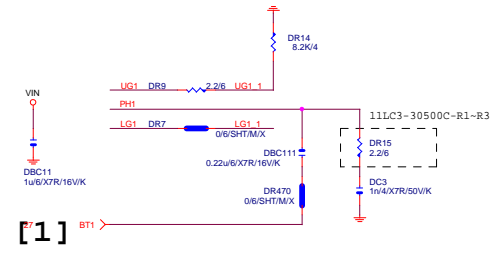
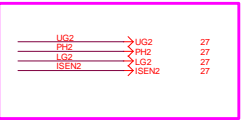
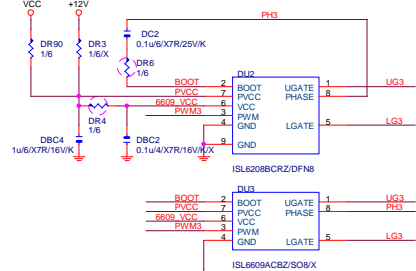
BOTTOM PAD
CONNECT TO
GND
THROUGH 10
VIA

**Gigabyte Technology**

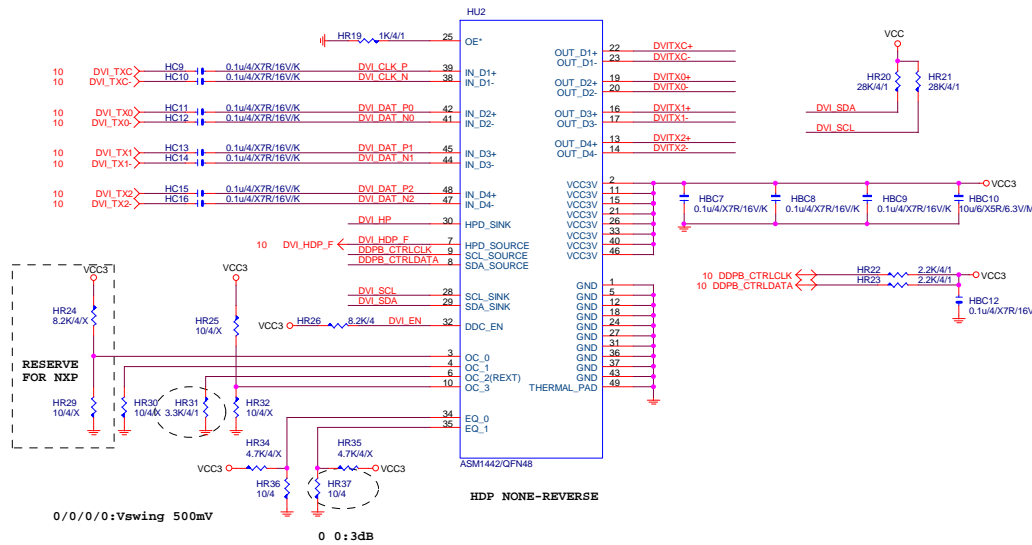
Title			
CPU CORE VR-2			
Size	Document Number	Rev	
Custom	GA-H61M-USB3H	1.01	
Date:	Monday, February 18, 2013	Sheet	28 of 32



Pop 18L6625CB for PB2
(18L6625CBZ/S08)

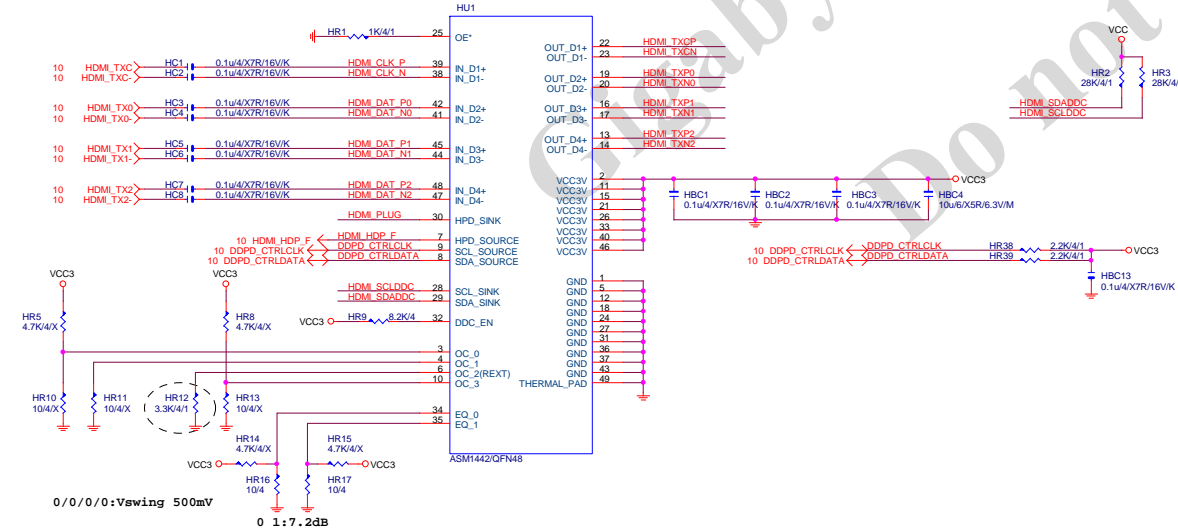


DVI LEVEL SHIFT

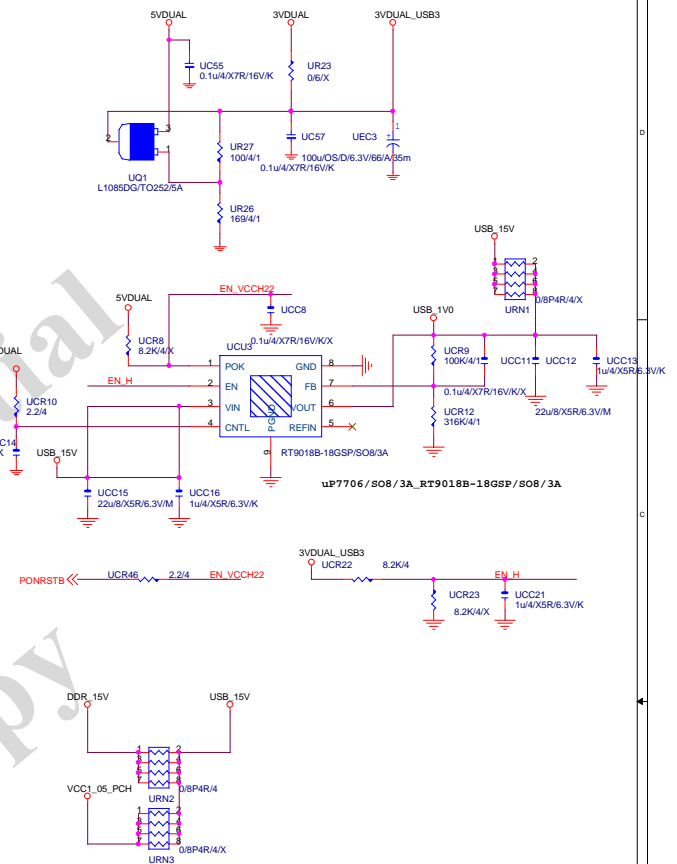


HDMI LEVEL SHIFT

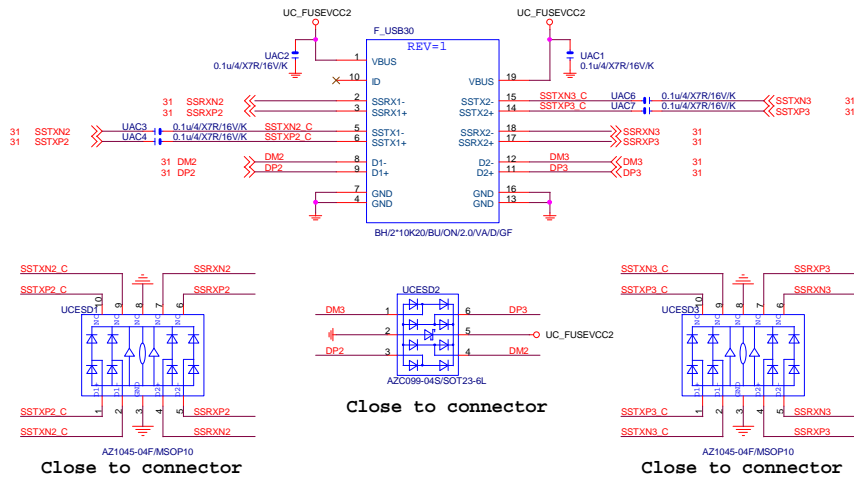
HDMI:20/4/6/4/20
Impedance=85 +- 17.5%



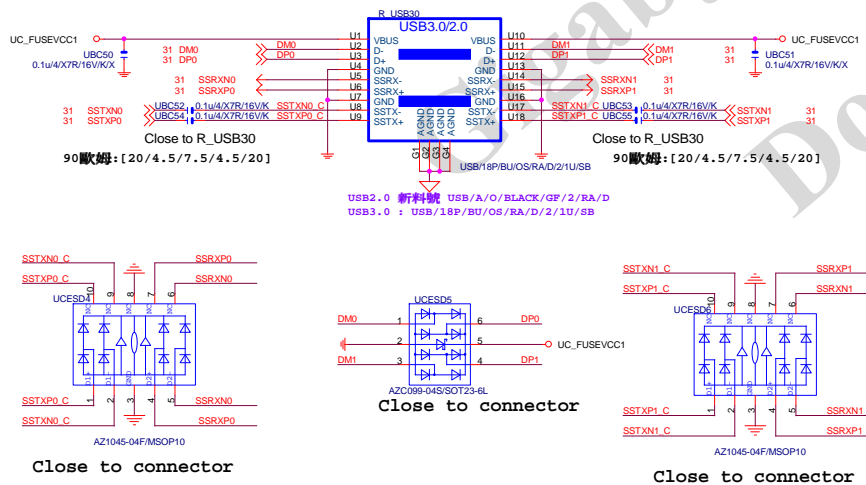
Gigabyte Technology			
Title			
DVI/HDMI			
Size			
Document Number			
GA-H61M-USB3H			
Date			
Monday, February 18, 2013			
Sheet			
30 of 32			
Rev			
1.01			



F_USB30



R_USB30



Gigabyte Technology			
Title			
R_USB3,F_USB3			
Size	Document Number	GA-H61M-USB3H	
C		Rev 1.01	
Date	Monday, February 18, 2013	Sheet	32 of 32