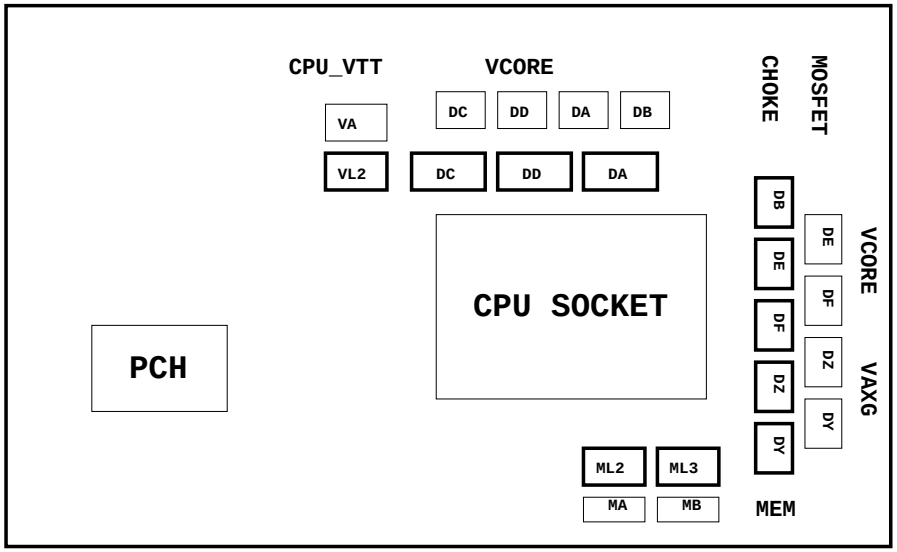
Model Name: GA-Z77X-UD3H

1.1

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
10	PCH_DP_HDMI_DVI_DAC,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*8 SLOT
16	PCI EXPRESS*16/*8 SWITCH
17	PCI EXPRESS*1 SLOTs X3
18	PCI EXPRESS*4 SLOT / SWITCH
19	IT8892 PCIE to PCI BRIDGE
20	PCI SLOT
21	DP / HDMI / DVI Connector
22	mSATA Connector
23	Dual BIOS , TPM
24	VT2021
25	REAR AUDIO JACK
26	VCORE PWM_IR3567-1
27	VCORE PWM_IR3567-2

SHEET	TITLE
28	DDR_15V & CPUVTT PWM_IR3570-1
29	DDR_15V & CPUVTT PWM_IR3570-2
30	DISCRETE POWER 1
31	DISCRETE POWER 2
32	I/O IT8728F
33	USB3_ESATA , KB/USB3, -PHOT
34	F_PANEL , F_USB , F_USB3
35	ATX POWER, CLOCK GEN
36	HWM, FAN CTRL
37	Atheros 8151
38	ESATA SE9172
39	80PORT / PWR SW / OV NCT3933
40	VIA VL800
41	TABLE LIST



Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-Z77X-UD3H | Rev: 1.1

Date: Thursday, July 26, 2012 | Sheet 1 of 41

GA-Z77X-UD3H

Component value change history

Data	Change Item	Reason
2011/11/24	0.1A-EBOM	
2011/12/07	Add VIA VL800 USB3 and PCIE gen2 switch	
2012/01/08	Add VR_HOT PROTECT SCH	
2012/01/31	VCORE SOLUTION CHANGE FROM PWRPAK TO PWRSTAGE	
	VCORE PWR change to 0.36uH choke	
2012/02/10	Remove UCU1 VIL USB3 flash	
	PATCH VLI ISSUE (10K/1U)	
2012/03/14	REMOVE VLI U3 EEPROM	
	M/B ID3 HIGH PATCH REMOVE VIL U3 EEPROM	
2012/04/20	M/B ID2 HIGH PATCH FOR DDR LAYOUT RULE CHANGE	
2012/04/27	3567A/3570A IR PWM	
2012/05/28	MiniPCIe co-layout Foxconn及華龍	
	F.B. 60 Ohm 0603 change to 0402	
	LAN change to 8161	

Circuit or PCB layout change

DATE	Change Item	Reason
2011/12/12	Add VIA VL800 USB3 PCIE X1_1 switch from PCIE X4 KB_USB3 , USB3_ESATA	Spec Change
2012/01/08	Add VR_HOT SCH MODIFY DDR15V POWER PLANE MODIFY IR8550 SCH	
2012/01/19	MODIFY FAN WORD RHU2 / CEC11 MASK MODIFY SW4 FOOTPRINT	
2012/02/10	0.36uH choke footprint CHOKE1U-30A-1P MAC61 footprint change from 0805 to 0603	
2012/03/14	DDR LAYOUT RULE CHANGE TO T	
2012/04/20	DDR LAYOUT RULE CHANGE SLOT GAP ADD DBC36 FOR CPUPWROK BY EMI	

Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-Z77X-UD3H | Rev: 1.1

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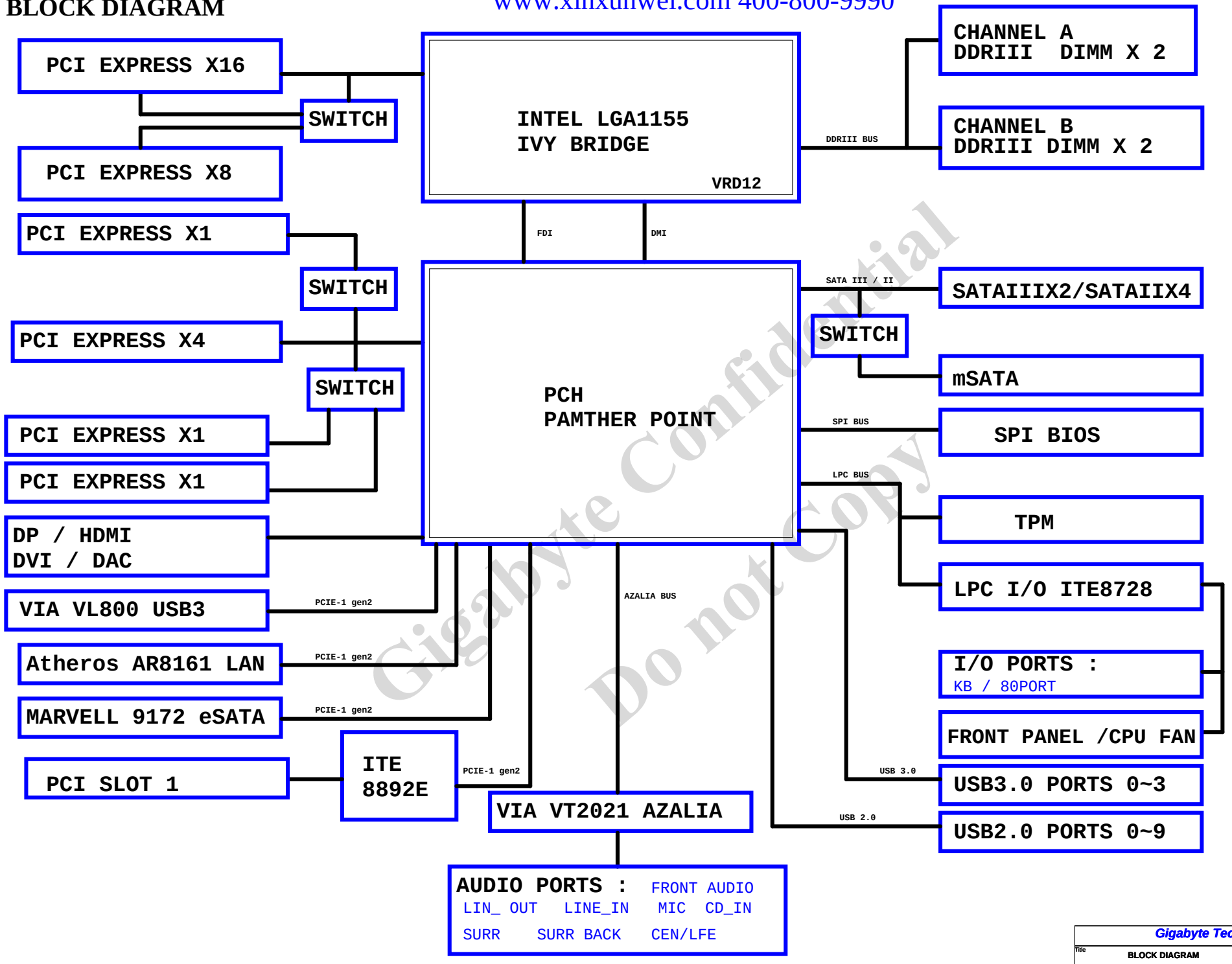
BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-Z77X-UD3H	Rev: 1.1
Date: Thursday, July 26, 2012	Sheet 3 of 41	

CFG5:1: 1X16 PEG
CFG5=0: 2X8 PEG

LGA1155E

LGA1155[10SC1-F01155-01R]

LGA1155D

LGA1155[10SC1-F01155-01R]

PCIEX16:16/5/5/5/16(breakout min 10/4/4/4/10)
Impedance=80 +- 17.5%

LGA1155C

LGA1155[10SC1-F01155-01R]

DMI:12/5/4/5/12
Impedance=85 +- 17.5%

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

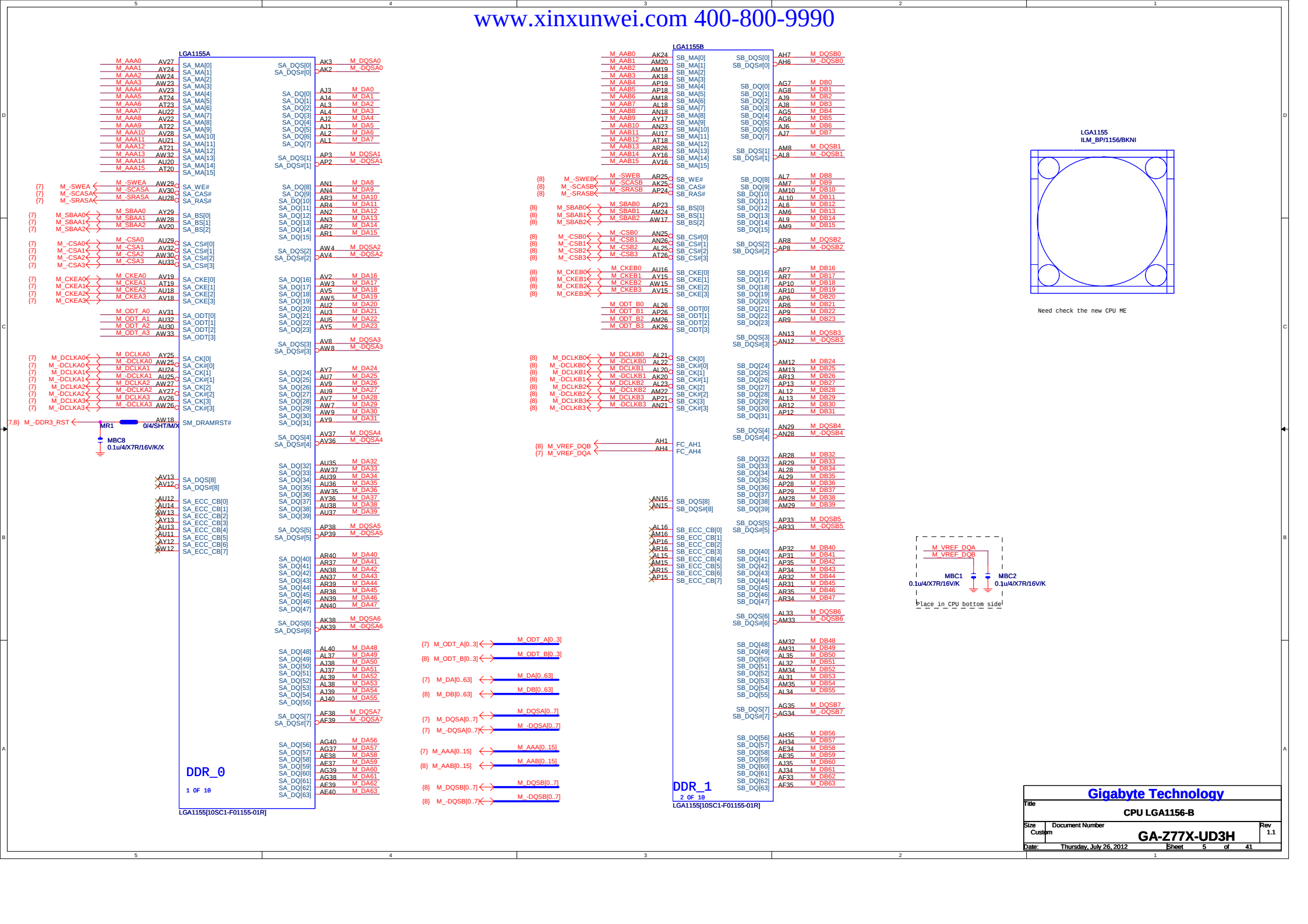
CFG 0-17 all internal PULL-UP

1.1V分壓

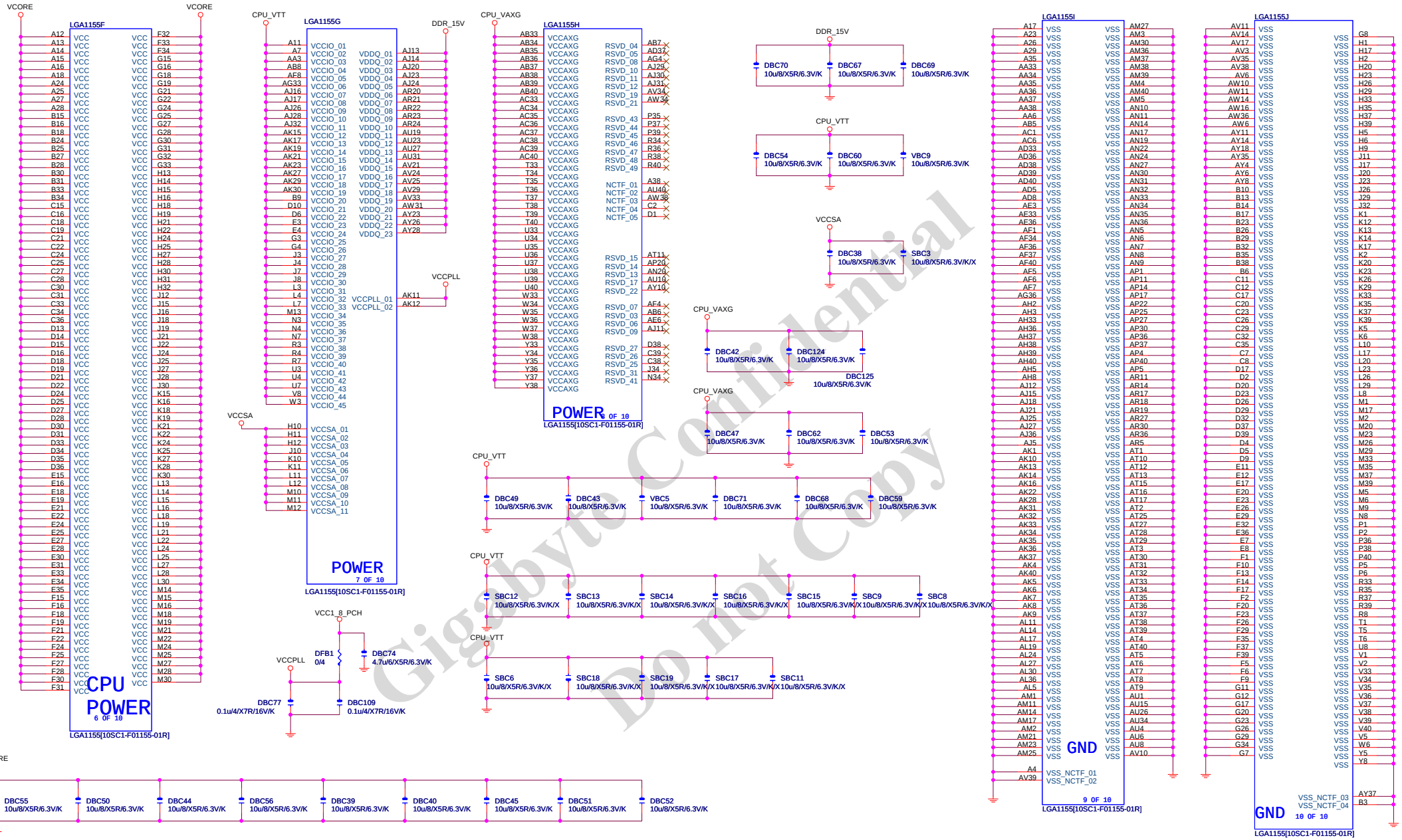
Stitching caps for PCIE,DMI bus

Stitching caps for PCIE,DMI bus

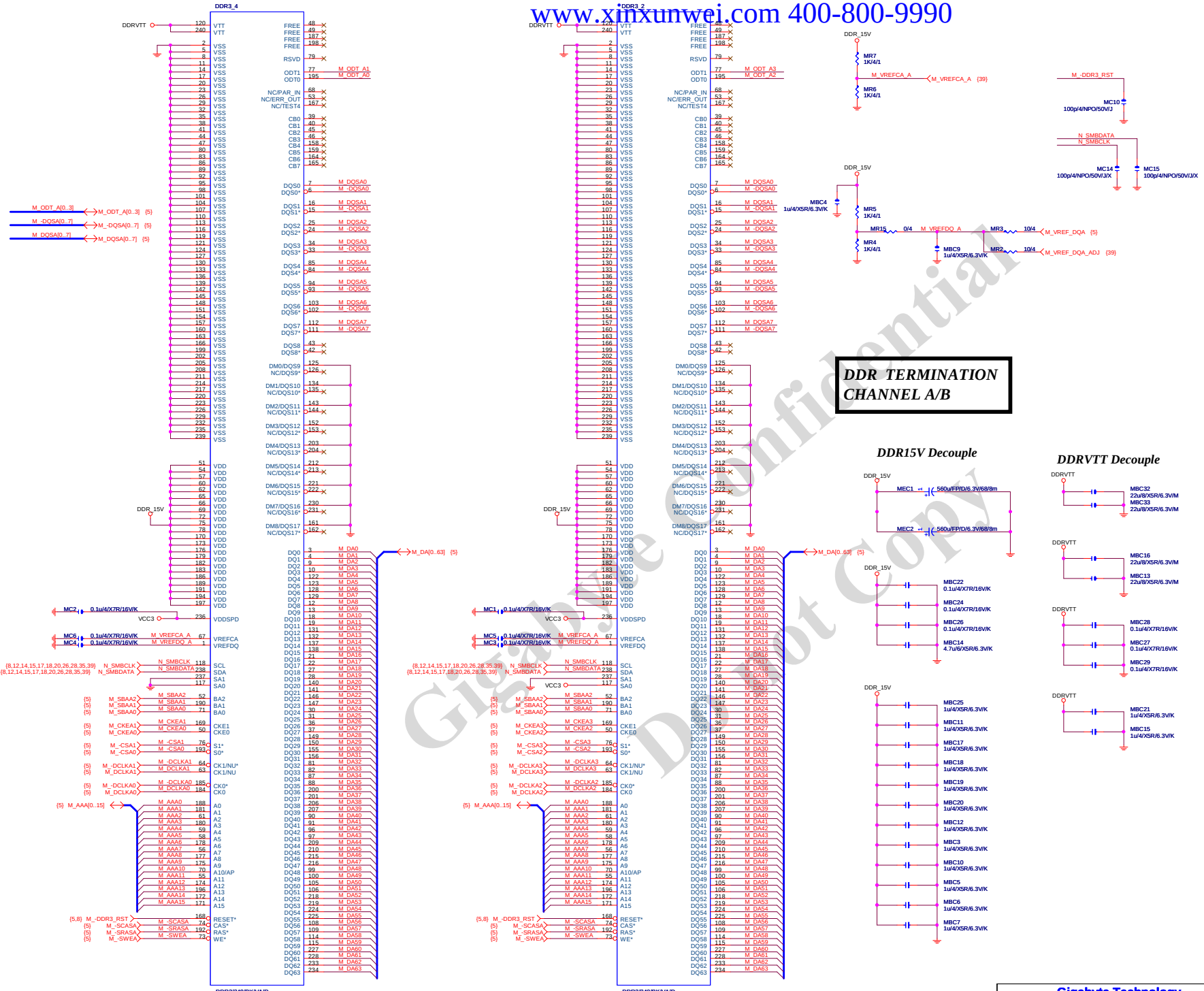
Gigabyte Technology	
Title	CPU LGA1155-A
Size: Custom	Document Number: GA-Z77X-UD3H
Rev: 1.1	
Date: Thursday, July 26, 2012	Sheet 4 of 41



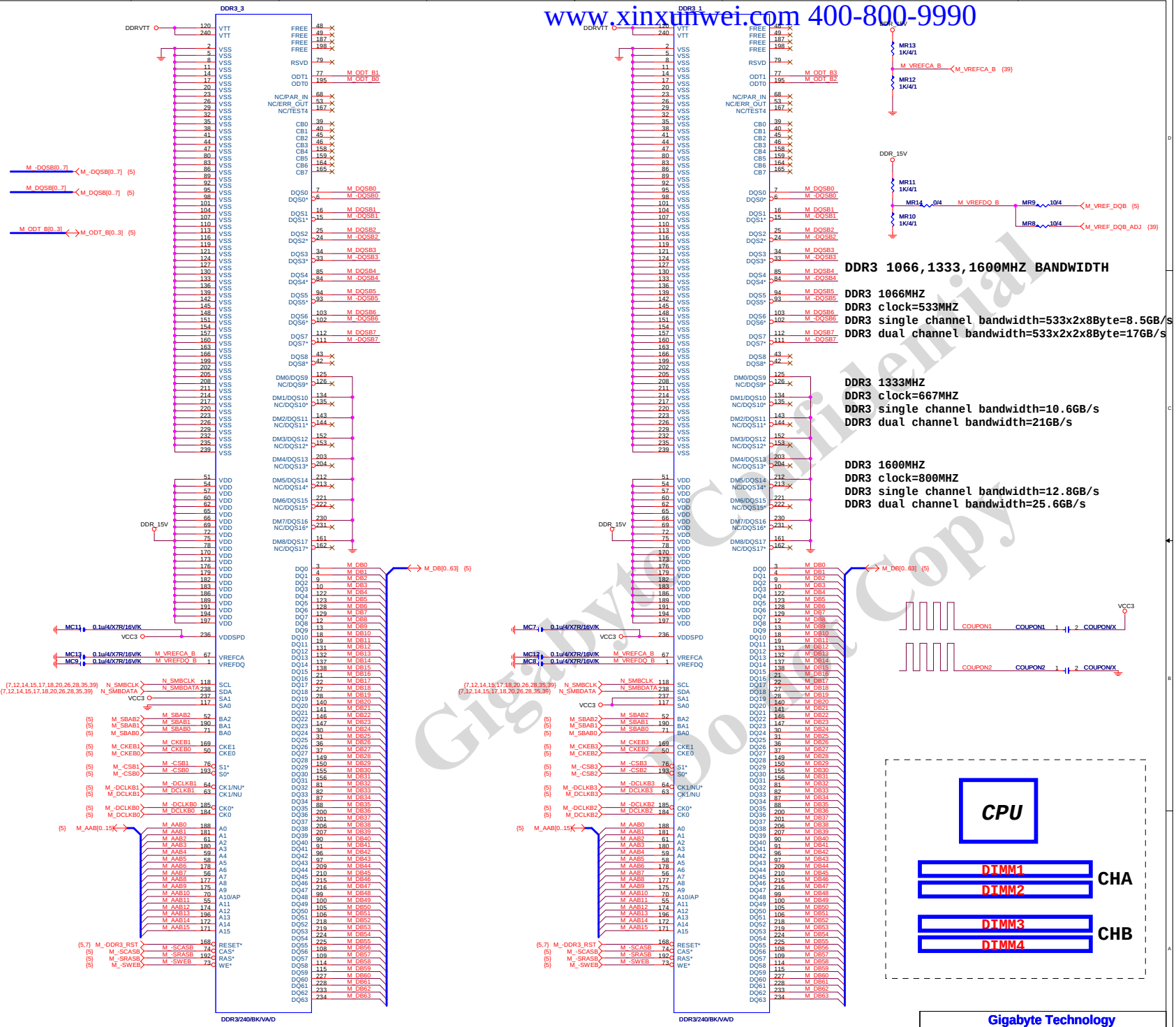
Gigabyte Technology		
Title: CPU LGA1156-B		
Size: Custom	Document Number: GA-Z77X-UD3H	Rev: 1.1
Date: Thursday, July 26, 2012	Sheet 5 of 41	



Gigabyte Technology	
Title	CPU LGA1156-C
Size: Custom	Document Number: GA-Z77X-UD3H
Rev	1.1
Date: Thursday, July 26, 2012	Sheet 6 of 41



Gigabyte Technology			
Title: DDRIII CHANNEL A			
Size: Custom	Document Number: GA-Z77X-UD3H		Rev: 1.1
Date:	Sheet 7 of 41		



DDR3 1066,1333,1600MHZ BANDWIDTH

DDR3 1066MHZ
DDR3 clock=533MHZ
DDR3 single channel bandwidth=533x2x8Byte=8.5GB/s
DDR3 dual channel bandwidth=533x2x2x8Byte=17GB/s

DDR3 1333MHZ
DDR3 clock=667MHZ
DDR3 single channel bandwidth=10.6GB/s
DDR3 dual channel bandwidth=21GB/s

DDR3 1600MHZ
DDR3 clock=800MHZ
DDR3 single channel bandwidth=12.8GB/s
DDR3 dual channel bandwidth=25.6GB/s

Gigabyte Technology		
Title: DDRIII CHANNEL B		
Size: Custom	Document Number: GA-Z77X-UD3H	Rev: 1.1
Date:	Sheet 8 of 41	

USB:12/7.5/4.5/7.5/12 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%

PCHB

DMI

PCI-E

USB

2 OF 11

BD82Z77/S

PCHG

FDILINK

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BD82Z77/S

OC[3:0]# for Device 29 (ports 0-7)

OC[7:4]# for Device 26 (ports 8-13)

USB OC# Configure	
OC0#	USB0,1
OC1#	USB2,3
OC2#	USB4,5
OC3#	USB6,7
OC4#	USB8,9
OC5#	USB10,11
OC6#	USB12,13
OC7#	Not Use

PCIEX1:16/5/5/5/16 (breakout min 8/4/4/4/8)
Impedance=80 +- 17.5%

PCHE

NVRAM

5 OF 11

BD82Z77/S

PCH_HS

PCH_HS/[12SP2-S05511-01R_12SP2-S05511-02R_12SP2-S05511-03R]

DMI /FDI termination voltage

Mount for integrated clock Generation Mode

R102 short to GND in non graphic SKU

Gigabyte Technology			
Title: PCH FDI,DMI,USB ,PCIE			
Size: Custom	Document Number: GA-Z77X-UD3H		Rev: 1.1
Date: Thursday, July 26, 2012		Sheet 9 of 41	

PCHF

{21} DVI_HDP_F
{21} DP_HDP
{21} HDMI_HDP_F
T1 N2 M1
DDPB_HPD DDPC_HPD DDPD_HPD

{21} DP_AUX
{21} DP_AUX-
R8 R9 U14 U12 N6 R6
DDPB_AUXP DDPB_AUXN DDPC_AUXP DDPC_AUXN DDPD_AUXP DDPD_AUXN

{21} DVI_TX2
{21} DVI_TX2-
{21} DVI_TX1
{21} DVI_TX1-
{21} DVI_TX0
{21} DVI_TX0-
{21} DVI_TXC
{21} DVI_TXC-
R14 R12 M11 M12 H8 K8 L5 M3 L2
DDPB_0P DDPB_0N DDPB_1P DDPB_1N DDPB_2P DDPB_2N DDPB_3P DDPB_3N

{21} DP_TX0
{21} DP_TX0-
{21} DP_TX1
{21} DP_TX1-
{21} DP_TX2
{21} DP_TX2-
{21} DP_TX3
{21} DP_TX3-
J3 G2 G4 F3 F5 E4 E2 D5
DDPC_0P DDPC_0N DDPC_1P DDPC_1N DDPC_2P DDPC_2N DDPC_3P DDPC_3N

{21} HDMI_TX2
{21} HDMI_TX2-
{21} HDMI_TX1
{21} HDMI_TX1-
{21} HDMI_TX0
{21} HDMI_TXC
{21} HDMI_TXC-
B5 C6 D7 B7 C9 E11 B11
DDPD_0P DDPD_0N DDPD_1P DDPD_1N DDPD_2P DDPD_2N DDPD_3P DDPD_3N

U2 T3
SDVO_INTP SDVO_INTN

W3 U5
SDVO_STALLP SDVO_STALLN

U8 U9
SDVO_TVCLKINP SDVO_TVCLKINN

CRT_HSYNC CRT_VSYNC
AR4 H_SYNC NR210 33/4 N_GHSYNC
AR2 V_SYNC NR211 33/4 N_GVSYNC

CRT_RED CRT_GREEN CRT_BLUE
AN6 N_R
AN2 N_G
AM1 N_B

CRT_IRTN
AM6

CRT_DDC_DATA
AW1 N_DDCDATA
CRT_DDC_CLK
AW3 N_DDCCLK

DAC_IREF
AT3 N_VGA_RSET NR50 1K/4/1
Pop 0/4 for non graphic skus

TP6 Y18
TP7 Y17
TP8 AB18
TP9 AB17

DDPC_CTRLCLK AL12 N_DDPC_CTRLCLK
DDPC_CTRLDATA AL14 N_DDPC_CTRLDATA

DDPD_CTRLCLK AL9 N_DDPD_CTRLCLK {21} N_DDPD_CTRLCLK {21}
DDPD_CTRLDATA AL8 N_DDPD_CTRLDATA {21} N_DDPD_CTRLDATA {21}

SDVO_TVCLKIN AL15 N_DDPB_CTRLCLK {21} N_DDPB_CTRLCLK {21}
SDVO_CTRLDATA AL17 N_DDPB_CTRLDATA {21} N_DDPB_CTRLDATA {21}

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BD82Z77/S

Flex0,2 : 33MHZ
Flex1,3 : 27/14/24/48/25MHZ

{32} N_LPC33 NR18 33/4 AT11 CLKOUT_PCI0
{11} N_PCH33 NR47 33/4 AN14 CLKOUT_PCI1
{23} T_TPMCLK NR29 33/4 AT12 CLKOUT_PCI2
AT17 CLKOUT_PCI3
AT14 CLKOUT_PCI4

{32} O_LPCCLK48 NR48 33/4 NTP2 AT9 CLKOUTFLEX0/GPIO64
NTP1 BA5 CLKOUTFLEX1/GPIO65
NTP1 AW5 CLKOUTFLEX2/GPIO66
N_PCH_48M BA2 CLKOUTFLEX3/GPIO67

VCC1_05_PCH NR51 90.9/4/1 N_CLK_RCOMP AL2 XCLK_RCOMP
{35} N_PCHCLK14 N_PCHCLK14 AN8 REFCLK14IN

N_XTALO_PCH AJ5 XTAL25_OUT
N_XTALI_PCH AJ3 XTAL25_IN

N_XTALI_PCH
NX1
NR16 1M/4
N_XTALO_PCH
25M/20p/30ppm/49US/20/D
NC6 27p/4/NPO/50V/J
NC4 27p/4/NPO/50V/J

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BD82Z77/S

PCHH

CLKIN_GND1_N R27 N_PCHCLK N_PCHCLK {35}
CLKIN_GND1_P P27 N_PCHCLK N_PCHCLK {35}
CLKIN_GND0_N W53 N_CLK_GND
CLKIN_GND0_P V52 N_CLK_GND
CLKOUT_ITPXDP_N R52
CLKOUT_ITPXDP_P N52

N_CLK_GND NR125 8.2K/4
N_CLK_GND NR126 8.2K/4
N_PCHCLK NR75 8.2K/4
N_PCHCLK NR76 8.2K/4

CLKOUT_PCIE7N AE2 NR81 0/4/SHT/M/X UC_PCIECLK {40}
CLKOUT_PCIE7P AE1 NR80 0/4/SHT/M/X UC_PCIECLK {40}
CLKOUT_DMI_N P31 N_CLK_CPU NR78 0/4/SHT/M/X N_CPUCLK {4}
CLKOUT_DMI_P R31 N_CLK_CPU NR77 0/4/SHT/M/X N_CPUCLK {4}
CLKOUT_DP_N N56
CLKOUT_DP_P M55
120Mhz for DP
CLKOUT_PCIE0N AE6 NR54 0/4/SHT/M/X PJ_PCIE_CLK {17}
CLKOUT_PCIE0P AC6 NR55 0/4/SHT/M/X PJ_PCIE_CLK {17}
CLKOUT_PCIE1N AA5 NR58 0/4/SHT/M/X PK_PCIE_CLK {17}
CLKOUT_PCIE1P W5 NR59 0/4/SHT/M/X PK_PCIE_CLK {17}
CLKOUT_PCIE2N AB12 NR60 0/4/SHT/M/X LA_SRCCLK_LAN {37}
CLKOUT_PCIE2P AB14 NR61 0/4/SHT/M/X LA_SRCCLK_LAN {37}
CLKOUT_PCIE3N AB9 NR42 0/4/SHT/M/X PI_PCIE_CLK {17}
CLKOUT_PCIE3P AB8 NR41 0/4/SHT/M/X PI_PCIE_CLK {17}
CLKOUT_PCIE4N Y9 NR44 0/4/SHT/M/X PP_PCIE_CLK {18}
CLKOUT_PCIE4P Y8 NR43 0/4/SHT/M/X PP_PCIE_CLK {18}
CLKOUT_PCIE5N AF3 NR53 0/4/SHT/M/X RH_SRCCLK {38}
CLKOUT_PCIE5P AG2 NR52 0/4/SHT/M/X RH_SRCCLK {38}
CLKOUT_PCIE6N AB3 NR56 0/4/SHT/M/X G_PBCLK {19}
CLKOUT_PCIE6P AA2 NR57 0/4/SHT/M/X G_PBCLK {19}
CLKOUT_PEG_A_N AG8 N_SRCCLK1 NR39 0/4/SHT/M/X PA_SRCCLK_3GIO {14}
CLKOUT_PEG_A_P AG9 N_SRCCLK1 NR40 0/4/SHT/M/X PA_SRCCLK_3GIO {14}
CLKOUT_PEG_B_N AE12 N_SRCCLK5 NR21 0/4/SHT/M/X PE_SRCCLK_3GIO1 {15}
CLKOUT_PEG_B_P AE11 N_SRCCLK5 NR20 0/4/SHT/M/X PE_SRCCLK_3GIO1 {15}

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BD82Z77/S

Differential Clock:18/6/4/6/18
Impedance=90 +- 15%

N_PCHCLK14 NR33 8.2K/4
Mount for integrated clock Generation Mode

5VDUAL F19 FUSEVCC_R1
SMD1812P160/8V

VCC3
NR208 2.2K/4/1 NR209 2.2K/4/1
N_DDPC_CTRLCLK
N_DDPC_CTRLDATA

ESD5
N_GVSYNC 1
VGADDCCLK 6
2 5
VGADDCDATA 3
4 N_GHSYNC
AOZ8902CIL/SOT23-6
VCC
C219 0.1u/4/X7R/16V/K
SS0P6_ESD

N_GVSYNC
C210 100p/4/NPO/50V/J/X
N_GHSYNC
C211 100p/4/NPO/50V/J/X

VCC3
R902 2.2K/4/1 R903 2.2K/4/1
N_DDCDATA
VCC VCC3 R5404 1K/4/1 R5405 0/4/X
Q350 2N7002/SOT23/25pF/5
VCC
R900 2.2K/4/1 R901 2.2K/4/1
VGADDCDATA
N_DDCCLK
VCC VCC3 R5406 1K/4/1 R5407 0/4/X
Q351 2N7002/SOT23/25pF/5
VGADDCCLK
SOT23

FUSEVCC_R1
BC330 0.1u/4/X7R/16V/K/X
VGA
VGA_R
VGA_G
VGA_B
VGADDCDATA
N_GHSYNC
N_GVSYNC
VGADDCCLK
VGA/BU/SC/RA/D/2/HR

ESD12
N_R 1
2
N_B 3
6 N_R
5
4 N_G
AOZ8902CIL/SOT23-6
VCC3
C220 0.1u/4/X7R/16V/K

N_R
N_G
N_B
R68 150/4/1/X
R70 150/4/1/X
R69 150/4/1/X
Close to PCH

FB2 FB3 FB4
60/4/3A/S
R556 75/4/1 R558 75/4/1 R557 75/4/1
C52 C2064 10p/4/NPO/50V/J C53 10p/4/NPO/50V/J 10p/4/NPO/50V/J
C54 22p/4/NPO/50V/J C55 22p/4/NPO/50V/J C56 22p/4/NPO/50V/J
Close to Filter

Gigabyte Technology

Title	PCH DISPLAY ,CLK BUFFER	
Size: Custom	Document Number: GA-Z77X-UD3H	Rev: 1.1
Date: Thursday, July 26, 2012	Sheet 10 of 41	

SATA:20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%

PCHC

3 0F 11

PCHA

PCI

1 0F 11

BD82Z77/S

SATA3_0_1

SATA/14/WH/H/OP/RA/D/2

SATA2_4_5

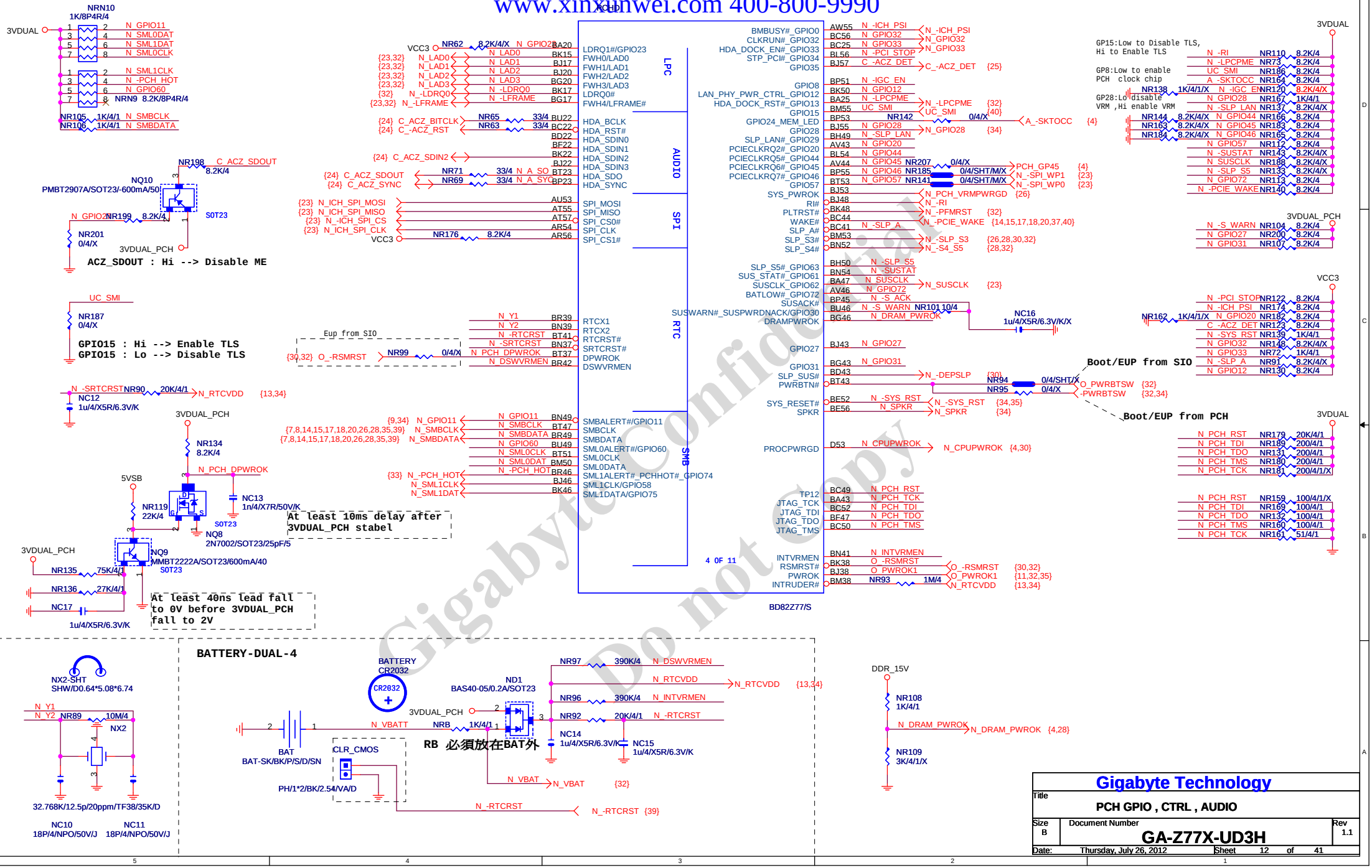
SATA/14/BK/H/OP/RA/D/2

SATA2_2_3

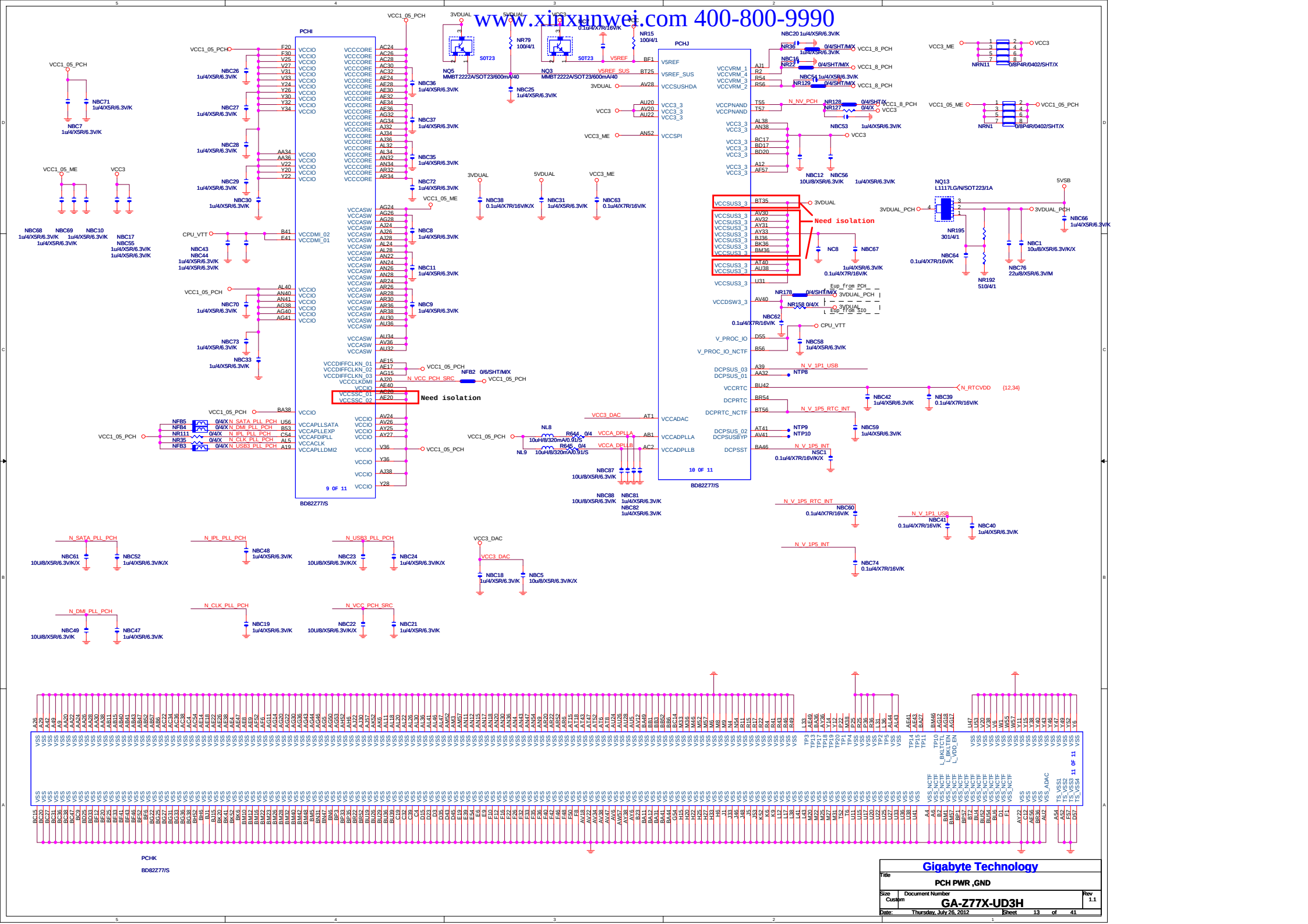
SATA/14/BK/H/OP/RA/D/2

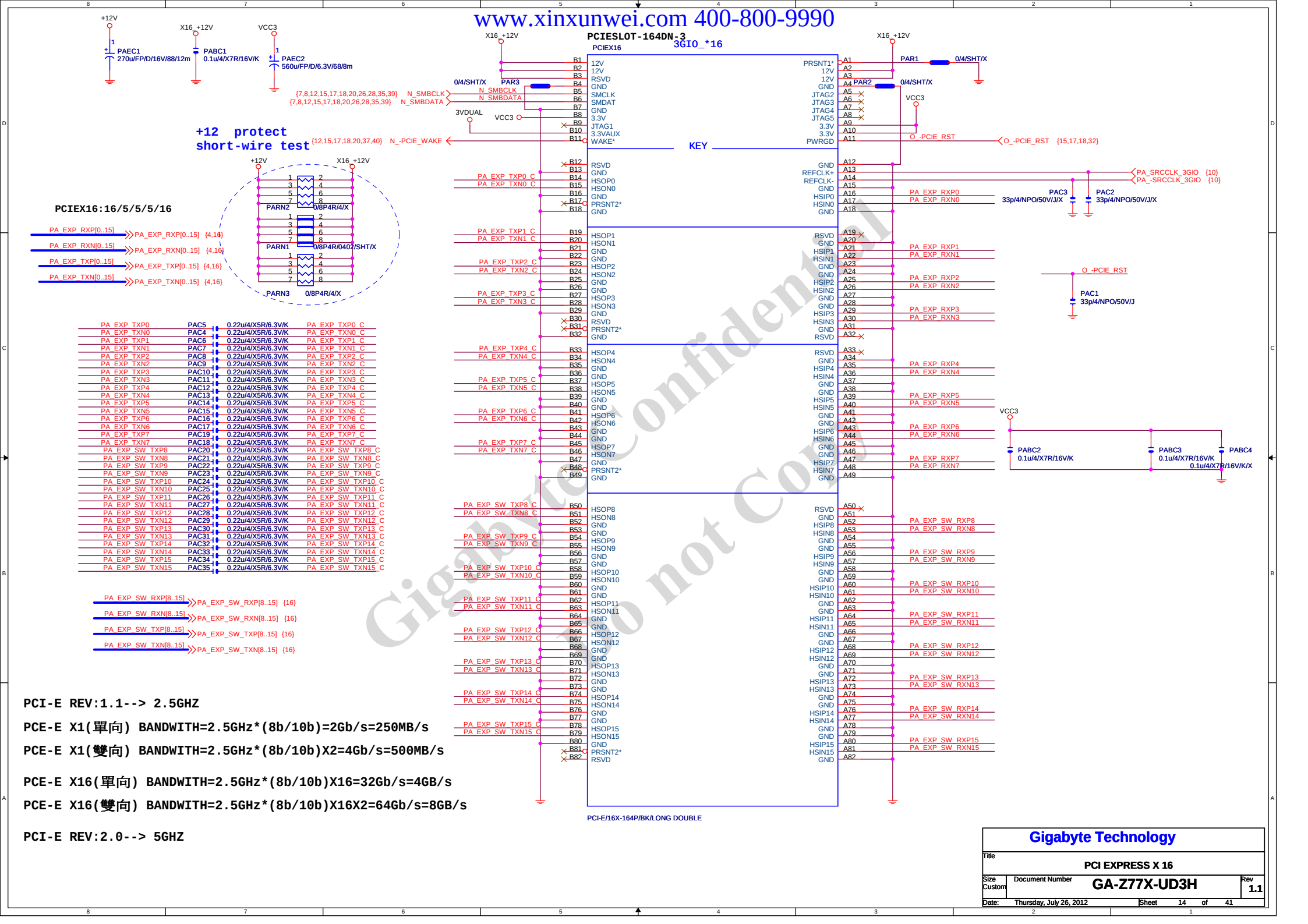
Mount for integrated clock Generation Mode

Gigabyte Technology	
Title	PCH HOST , SATA, PCI
Size B	Document Number GA-Z77X-UD3H Rev 1.1
Date: Thursday, July 26, 2012	Sheet 11 of 41



Gigabyte Technology		
Title	PCH GPIO , CTRL , AUDIO	
Size B	Document Number GA-Z77X-UD3H	Rev 1.1
Date: Thursday, July 26, 2012	Sheet 12 of 41	





PCI-E REV:1.1--> 2.5GHZ

PCE-E X1(單向) BANDWITH=2.5GHz*(8b/10b)=2Gb/s=250MB/s

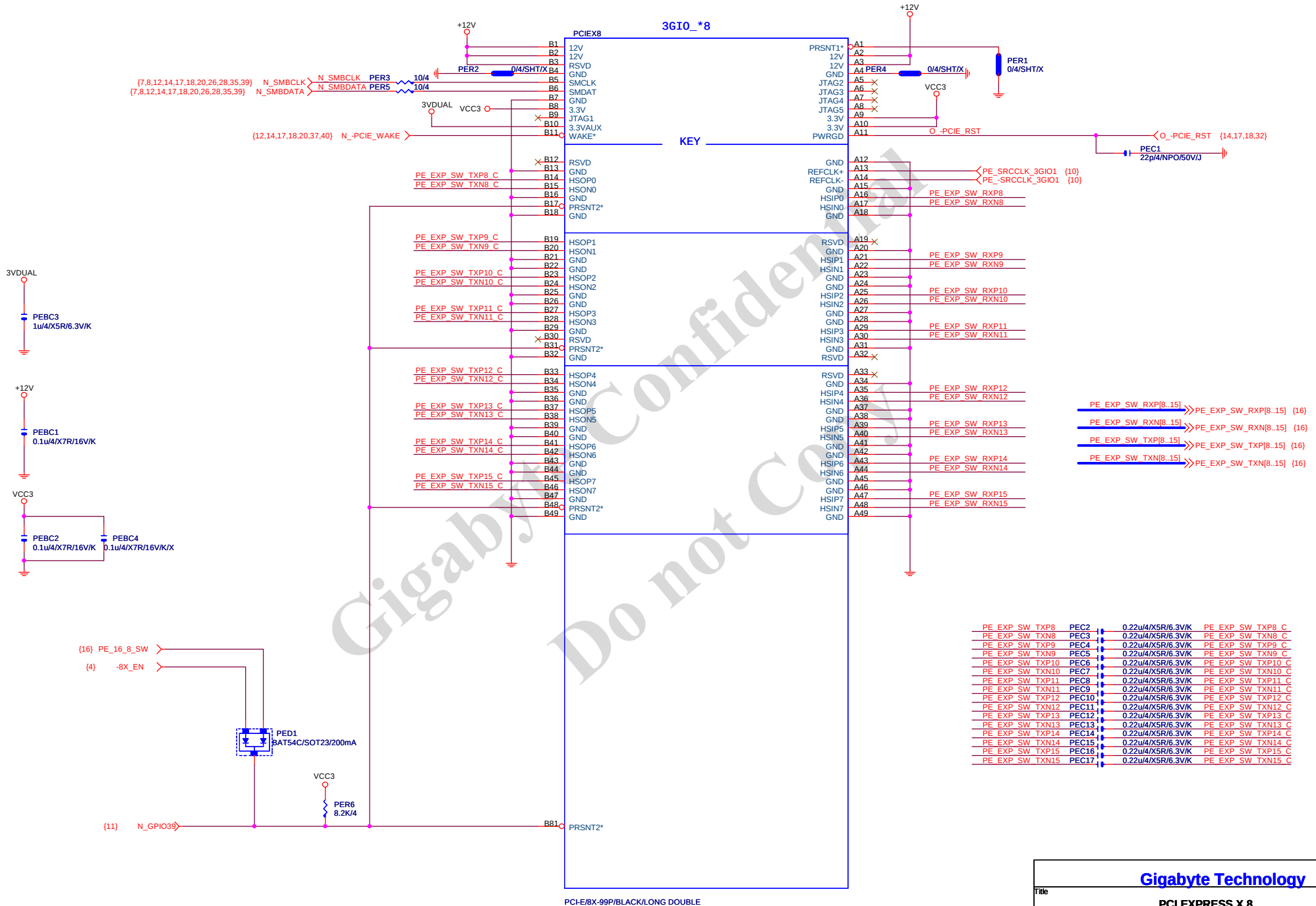
PCE-E X1(雙向) BANDWITH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s

PCE-E X16(單向) BANDWITH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s

PCE-E X16(雙向) BANDWITH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--> 5GHZ

Gigabyte Technology	
Title	PCI EXPRESS X 16
Size: Custom	Document Number: GA-Z77X-UD3H
Rev: 1.1	
Date: Thursday, July 26, 2012	Sheet 14 of 41



PE_EXP_SW_TXP8	PEC2	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP8_C
PE_EXP_SW_TXN8	PEC3	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN8_C
PE_EXP_SW_TXP9	PEC4	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP9_C
PE_EXP_SW_TXN9	PEC5	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN9_C
PE_EXP_SW_TXP10	PEC6	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP10_C
PE_EXP_SW_TXN10	PEC7	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN10_C
PE_EXP_SW_TXP11	PEC8	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP11_C
PE_EXP_SW_TXN11	PEC9	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN11_C
PE_EXP_SW_TXP12	PEC10	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP12_C
PE_EXP_SW_TXN12	PEC11	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN12_C
PE_EXP_SW_TXP13	PEC12	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP13_C
PE_EXP_SW_TXN13	PEC13	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN13_C
PE_EXP_SW_TXP14	PEC14	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP14_C
PE_EXP_SW_TXN14	PEC15	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN14_C
PE_EXP_SW_TXP15	PEC16	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXP15_C
PE_EXP_SW_TXN15	PEC17	0.22u/4/X5R/6.3V/K	PE_EXP_SW_TXN15_C

Gigabyte Technology

Title: PCI EXPRESS X 8

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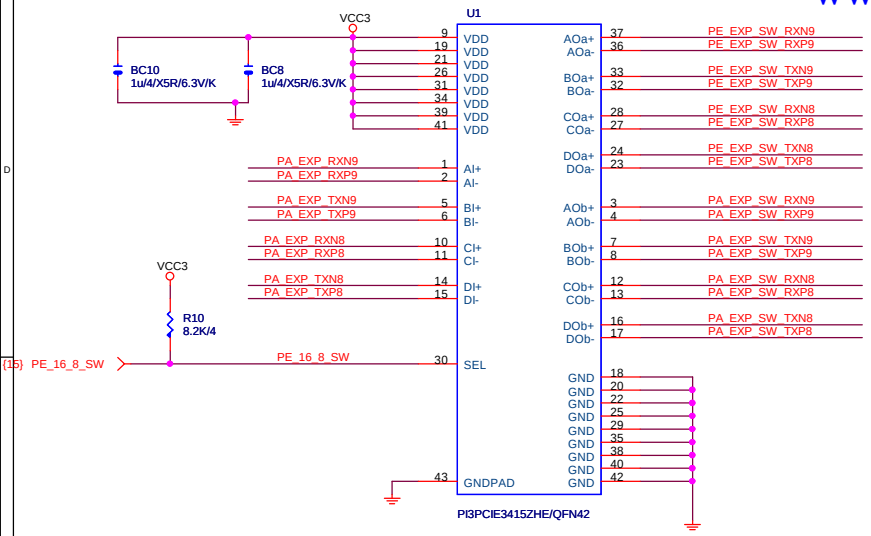
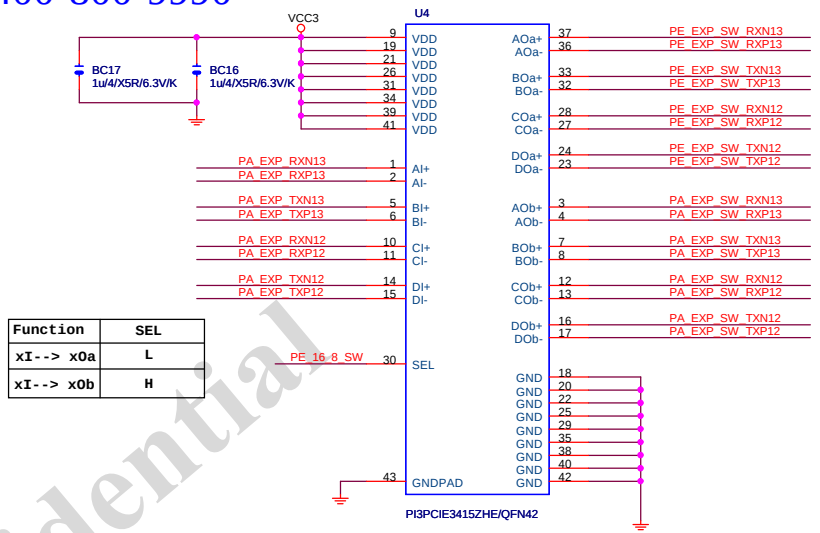
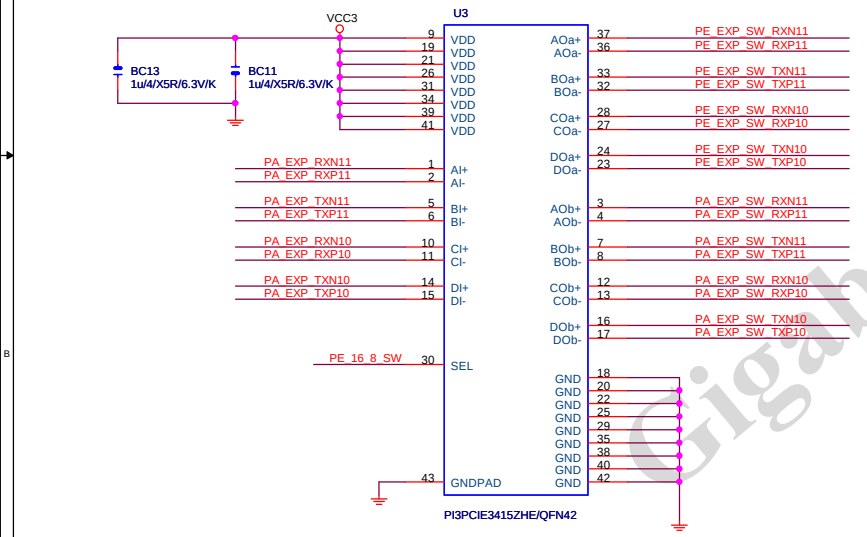
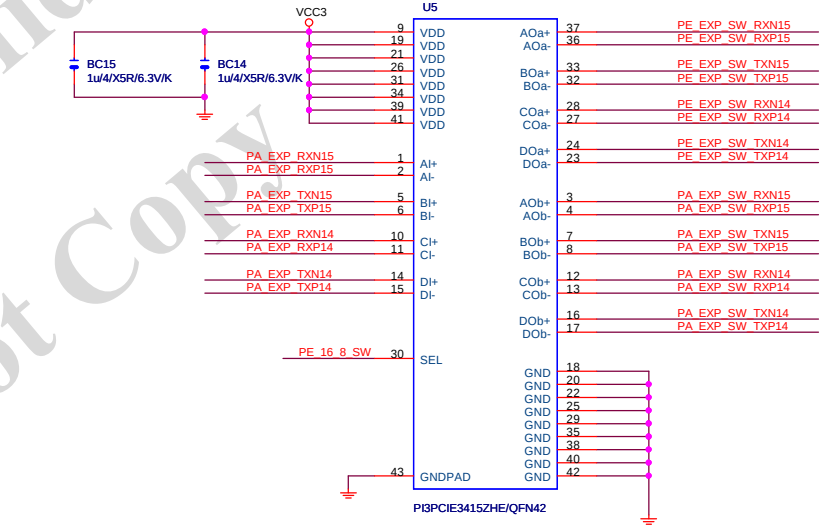




Function	SEL
xI--> x0a	L
xI--> x0b	H





PA_EXP_SW_RXP[8..15] >>> PA_EXP_SW_RXP[8..15] {14}
PA_EXP_SW_RXN[8..15] >>> PA_EXP_SW_RXN[8..15] {14}
PA_EXP_SW_TXP[8..15] >>> PA_EXP_SW_TXP[8..15] {14}
PA_EXP_SW_TXN[8..15] >>> PA_EXP_SW_TXN[8..15] {14}
PE_EXP_SW_RXP[8..15] >>> PE_EXP_SW_RXP[8..15] {15}
PE_EXP_SW_RXN[8..15] >>> PE_EXP_SW_RXN[8..15] {15}
PE_EXP_SW_TXP[8..15] >>> PE_EXP_SW_TXP[8..15] {15}
PE_EXP_SW_TXN[8..15] >>> PE_EXP_SW_TXN[8..15] {15}
PA_EXP_RXP[0..15] >>> PA_EXP_RXP[0..15] {4,14}
PA_EXP_RXN[0..15] >>> PA_EXP_RXN[0..15] {4,14}
PA_EXP_TXP[0..15] >>> PA_EXP_TXP[0..15] {4,14}
PA_EXP_TXN[0..15] >>> PA_EXP_TXN[0..15] {4,14}

Gigabyte Technology			
Title: PCI EXPRESS X16 SWITCH			
Size: Custom	Document Number: GA-Z77X-UD3H		Rev: 1.1
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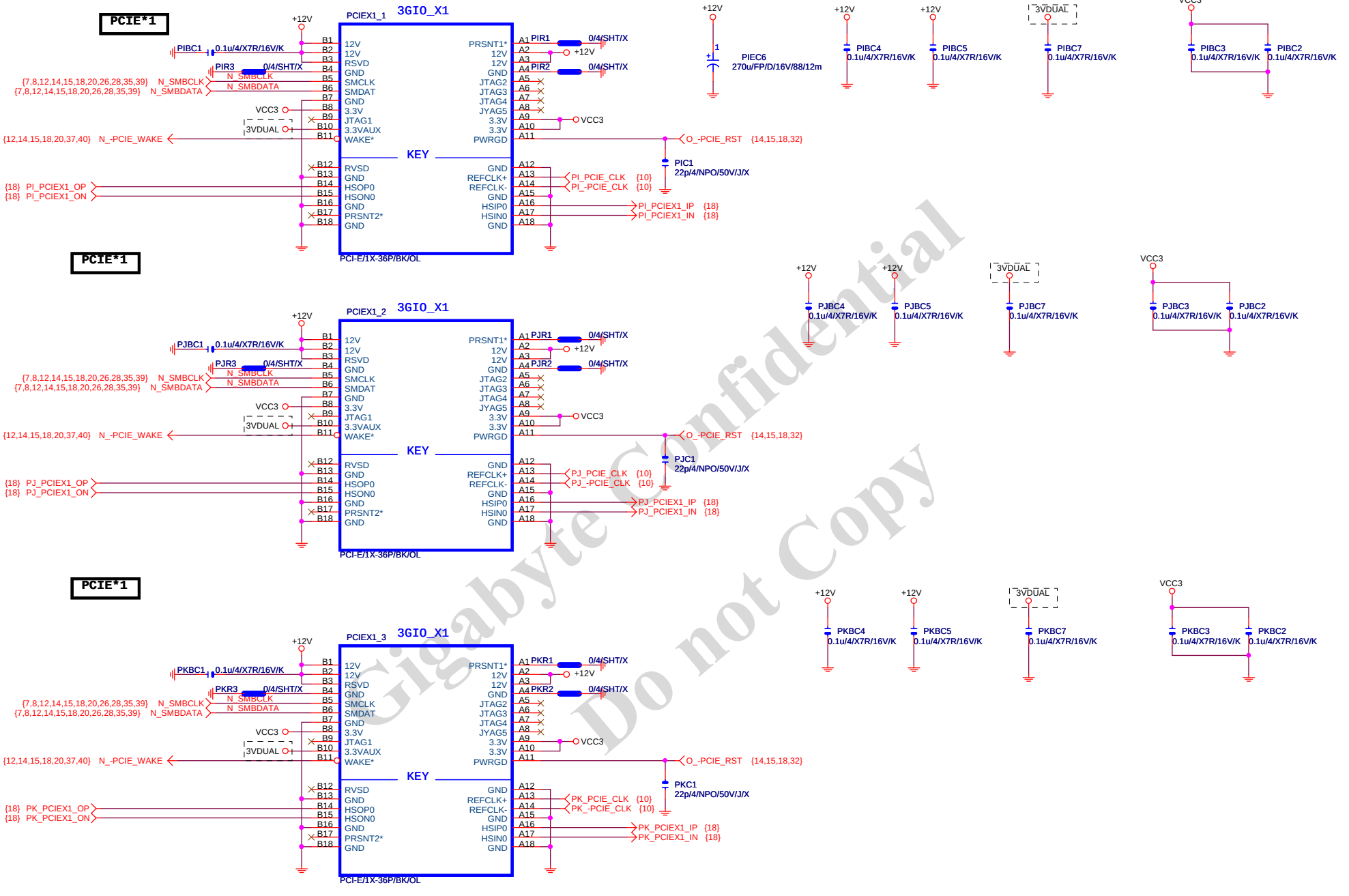

Gigabyte Technology		
Title: PCIE_X1 1,2,3		
Size: Custom	Document Number: GA-Z77X-UD3H	Rev: 1.1
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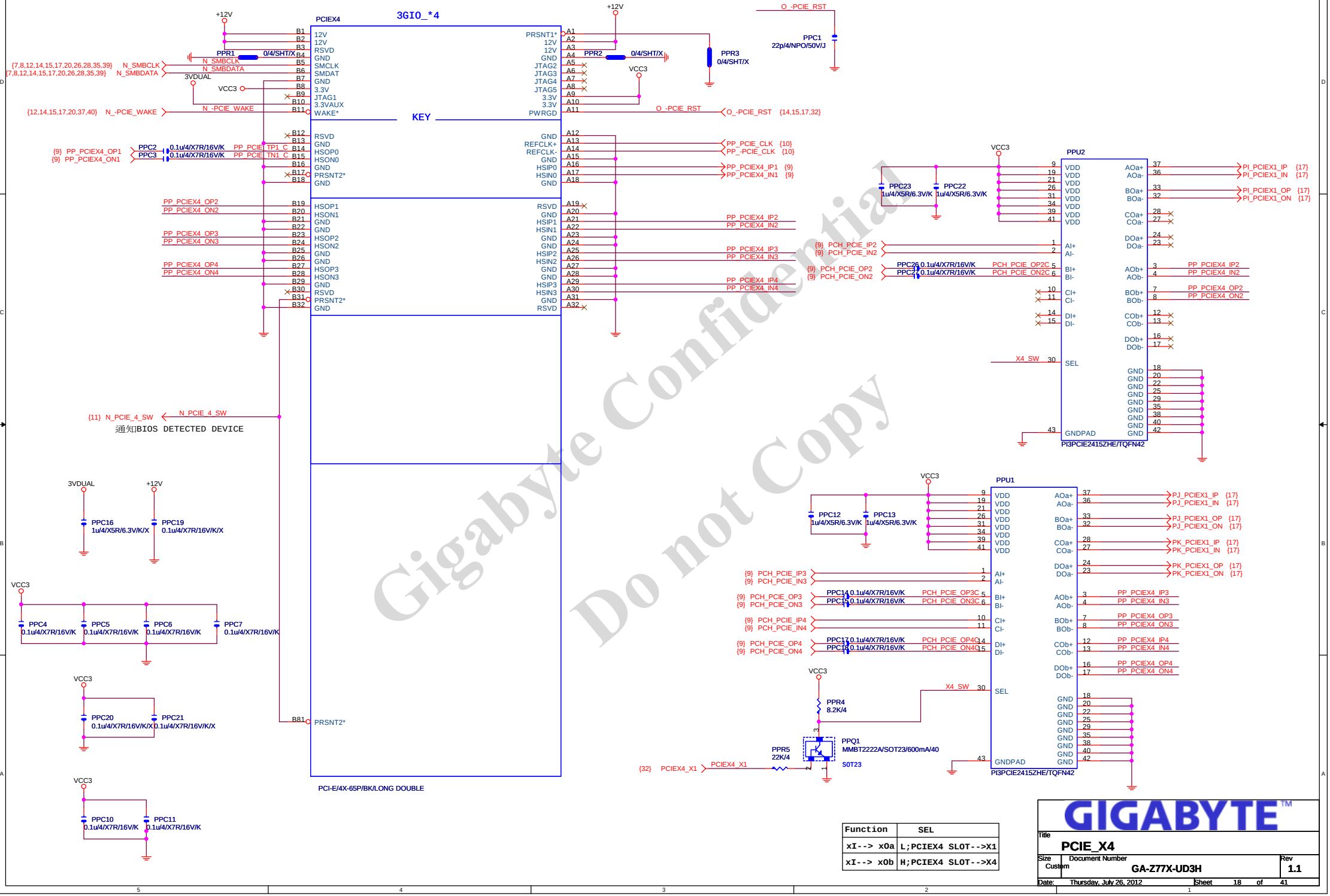
PCIE*4



Function	SEL
xI--> xOa	L;PCIEX4 SLOT-->X1
xI--> xOb	H;PCIEX4 SLOT-->X4

GIGABYTE

Title	PCIE_X4	
Size: Custom	Document Number: GA-Z77X-UD3H	Rev: 1.1
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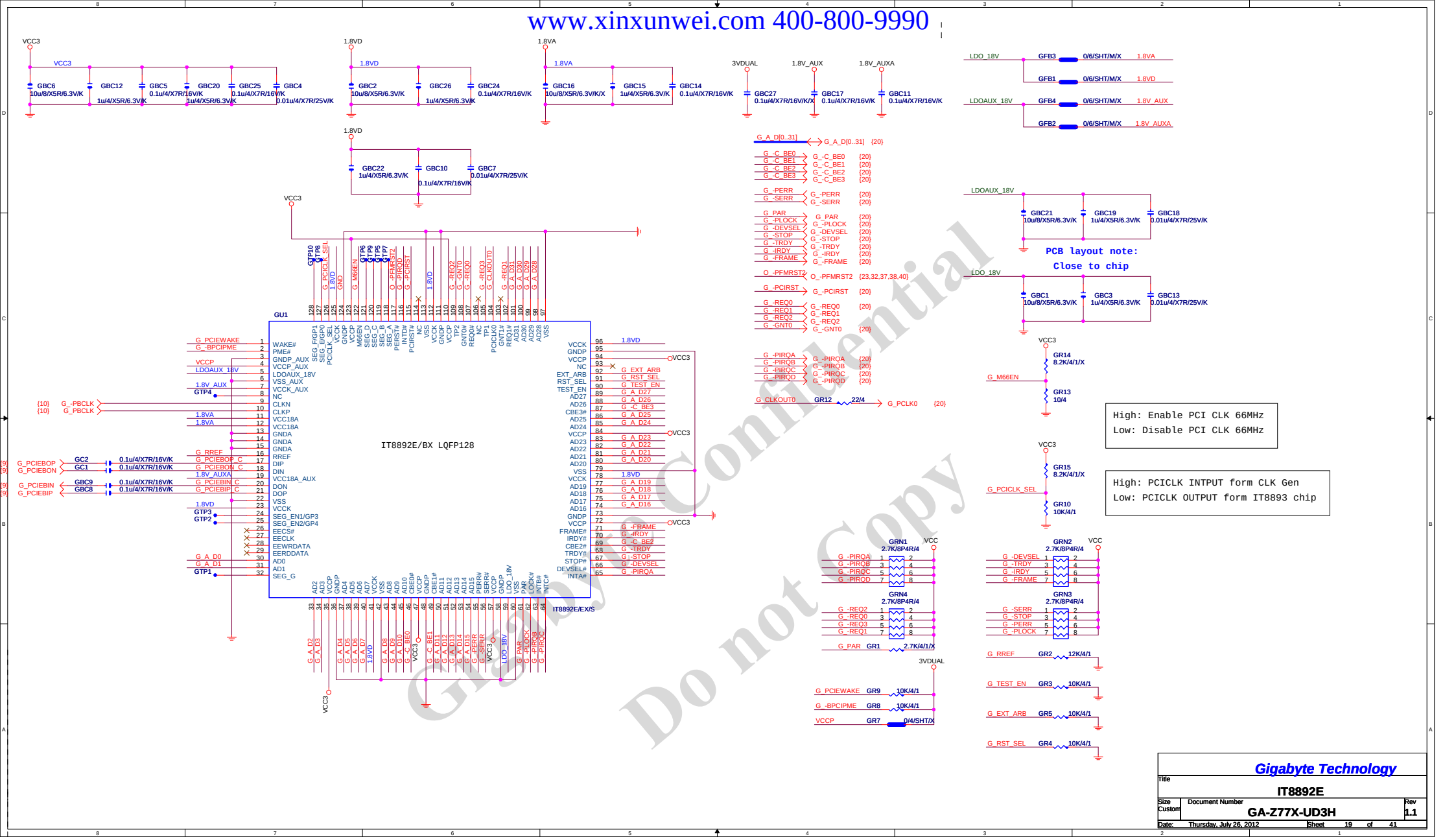

Gigabyte Technology			
Title: IT8892E			
Size: Custom	Document Number: GA-Z77X-UD3H		Rev: 1.1
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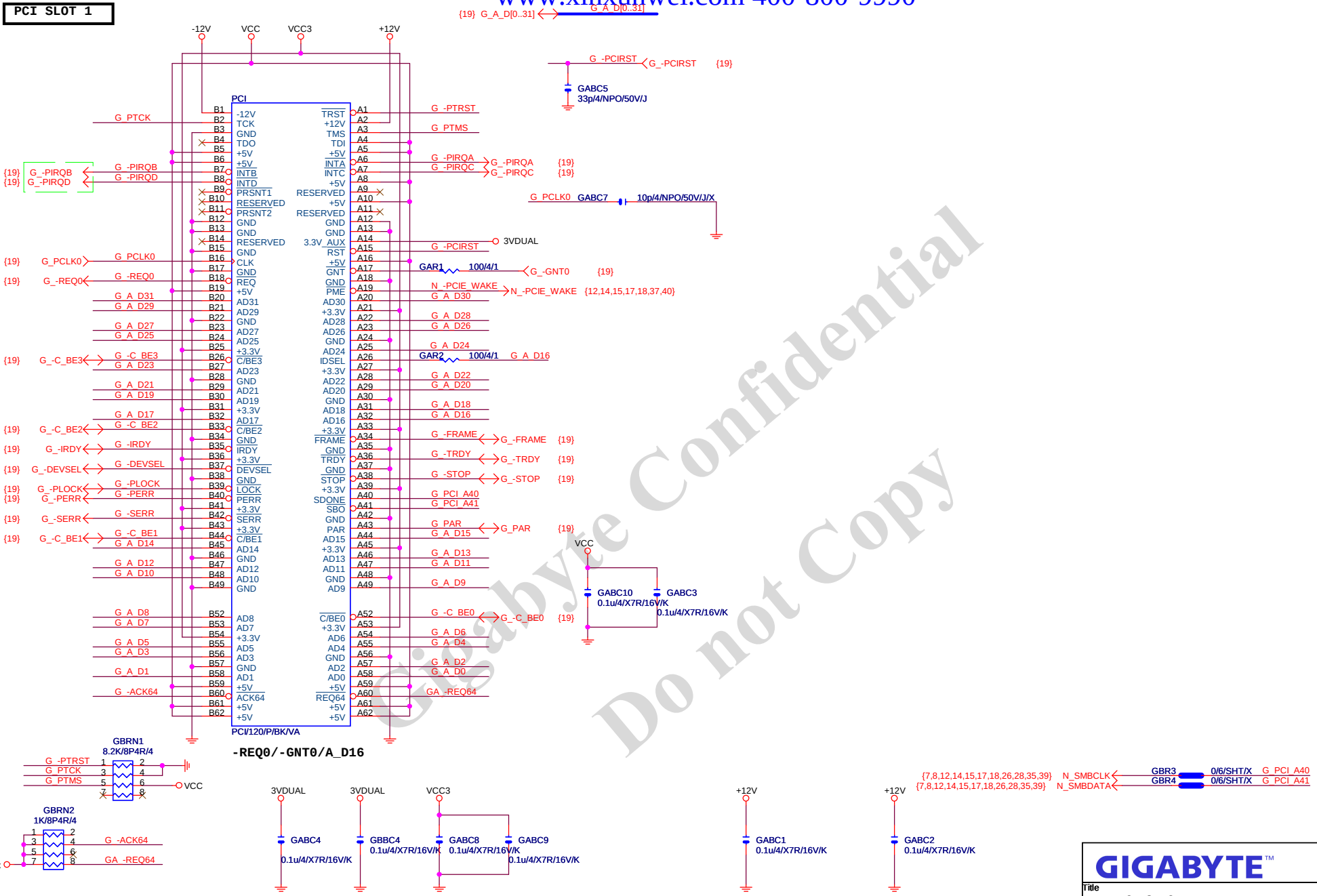
PCI SLOT 1



GIGABYTE		
Title: PCI SLOT 1		
Size: Custom	Document Number: GA-Z77X-UD3H	Rev: 1.1
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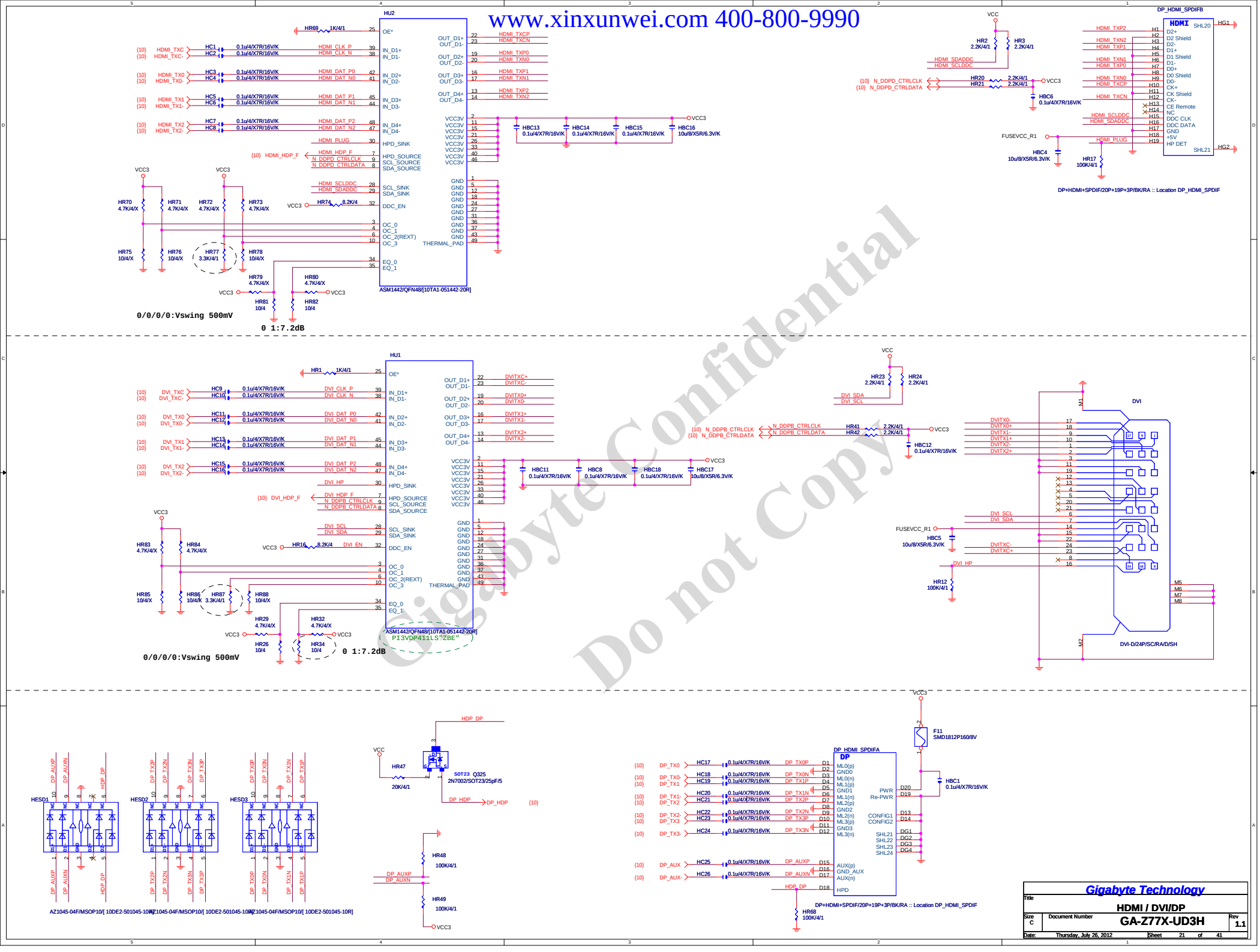

Gigabyte Technology		
Title	HDMI / DVI/DP	
Size C	Document Number GA-Z77X-UD3H	Rev 1.1
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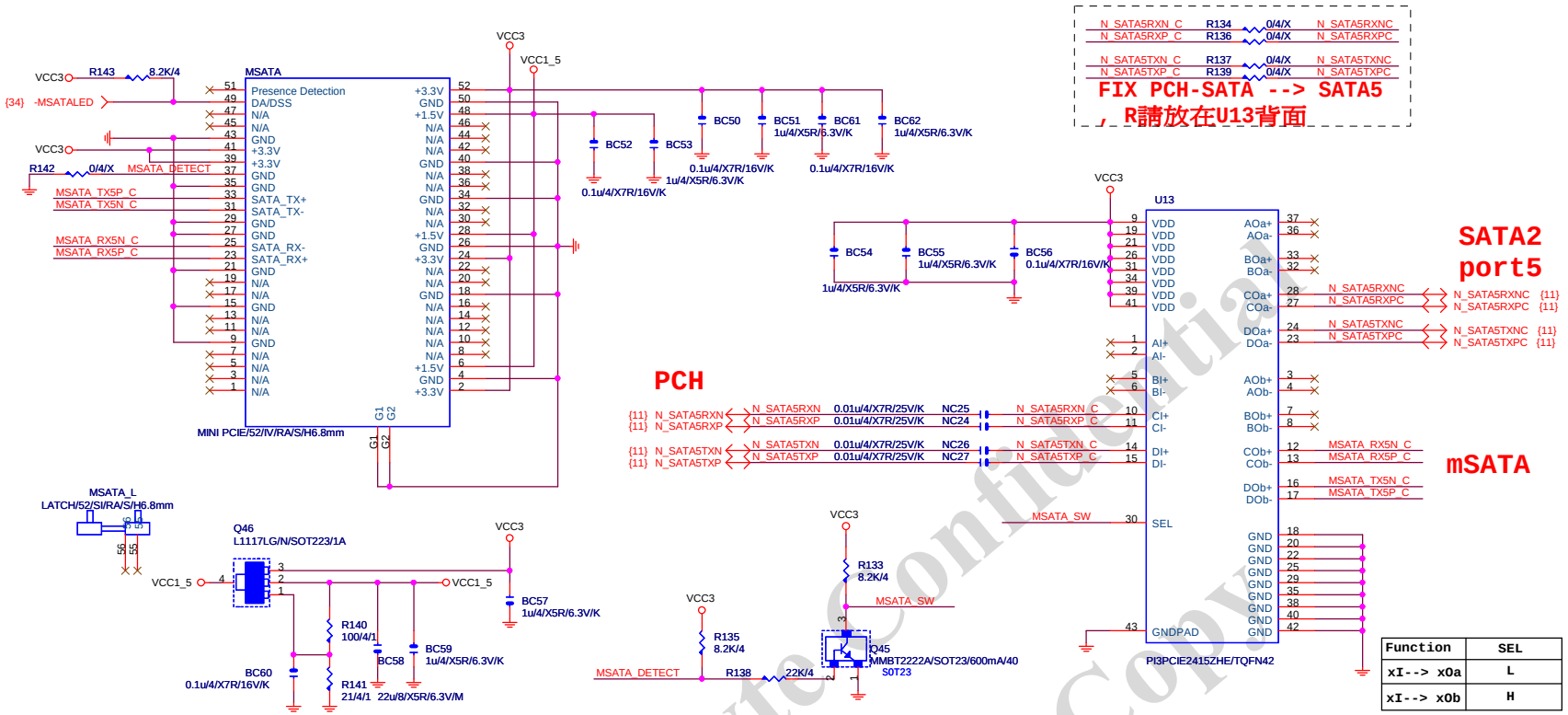

GIGABYTE™

Title	mSATA Conn	
Size: Custom	Document Number: GA-Z77X-UD3H	Rev: 1.1
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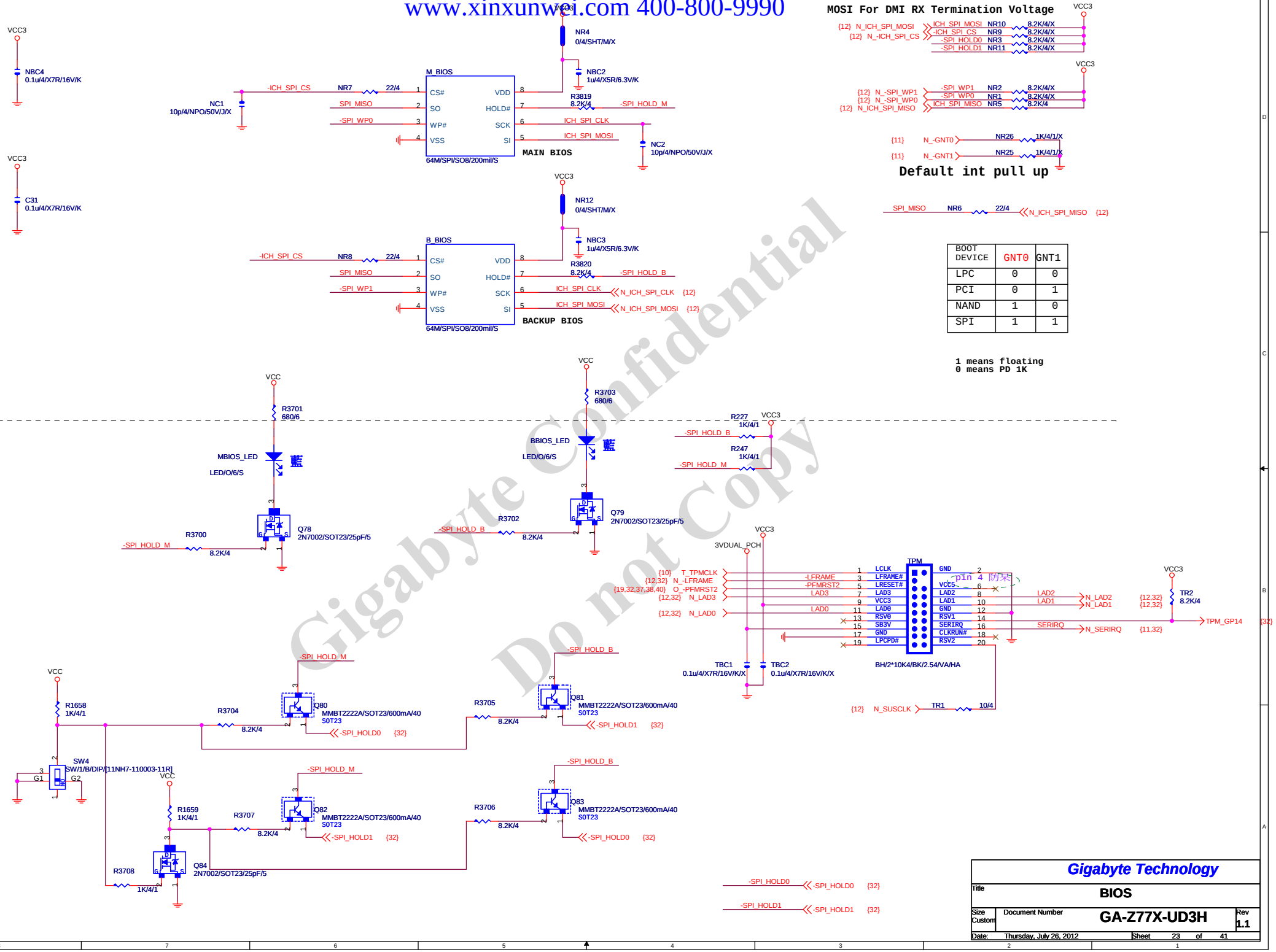
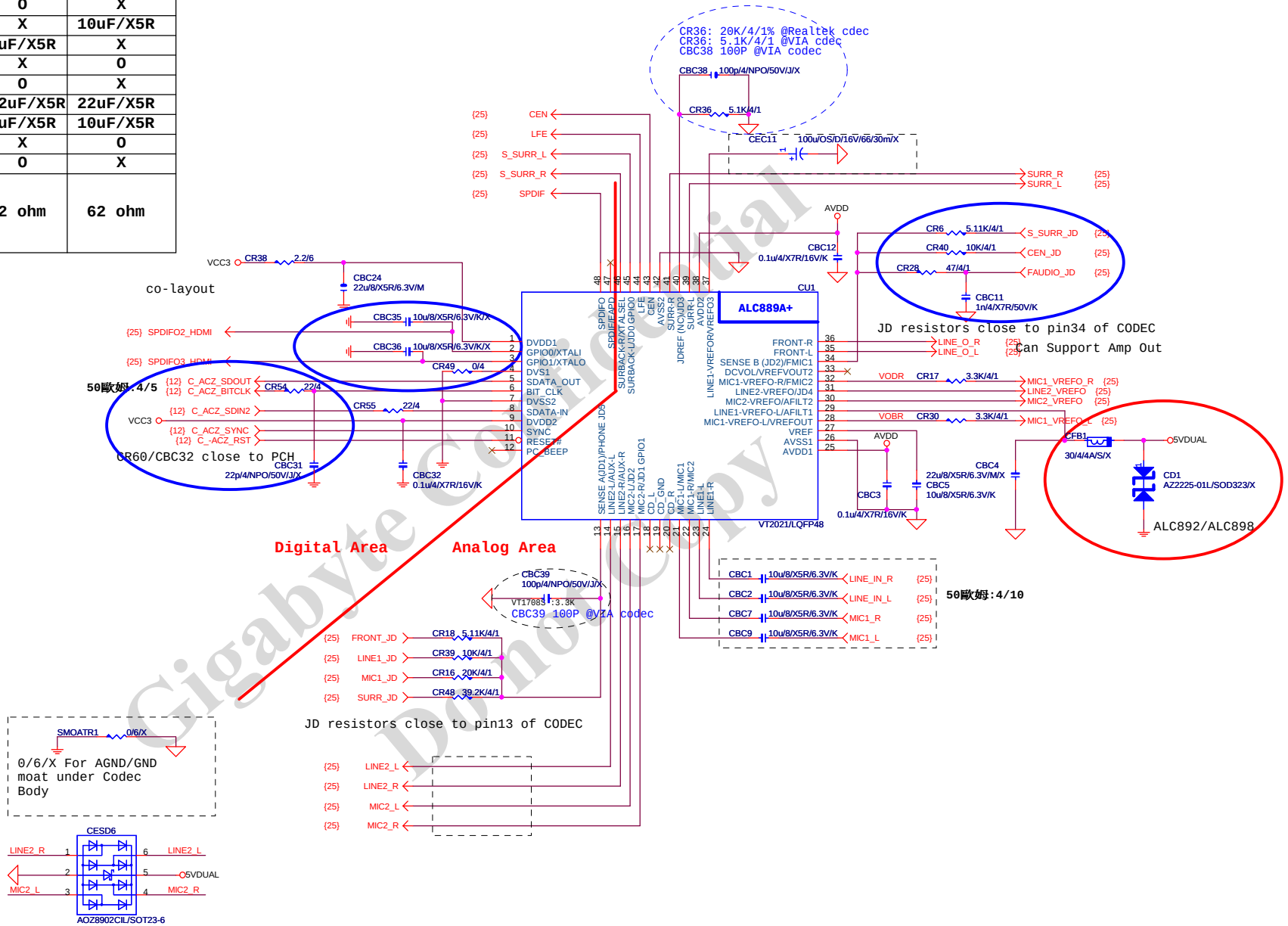


AZALIA CODEC *ALC889/ALC889B/ALC892/ALC898 Colay*

	ALC889	ALC889B	ALC898/ALC892
CR49	0	0	X
CBC36	X	X	10uF/X5R
CBC35	X	10uF/X5R	X
CR52	0	X	0
CR53	X	0	X
CBC1/CBC2	22uF/X5R	22uF/X5R	22uF/X5R
CBC7/CBC9/CBC20/CBC15	10uF/X5R	10uF/X5R	10uF/X5R
CFB1/CD1/CBC4	X	X	0
CD2/CD3/CQ3/CQ4	0	0	X
CR7/CR9/CR5/CR13/ CR29/CR32/CR46/CR19/ CR50/CR41/CR21/CR47/ CR2/CR11/CR14/CR24	62 ohm	62 ohm	62 ohm



Gigabyte Technology	
Title	HD AUDIO VT2021
Size: Custom	Document Number: GA-Z77X-UD3H
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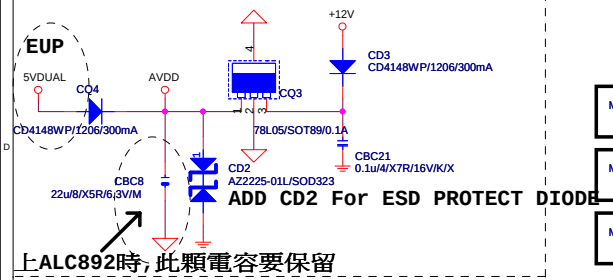
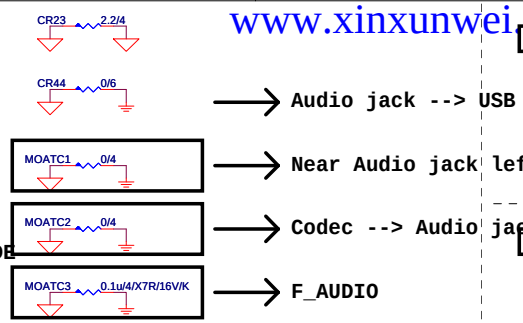
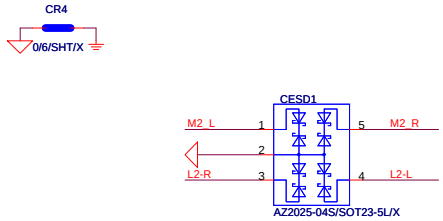
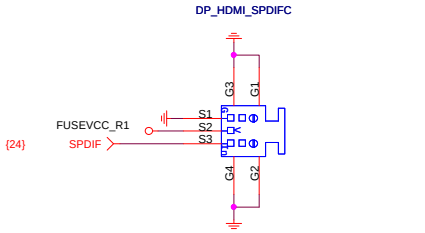
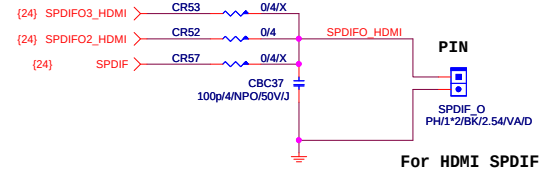
CODEC POWER/EMI PAD

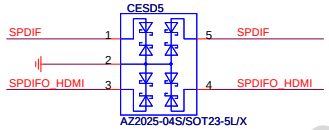






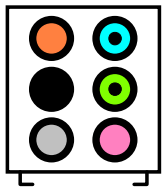




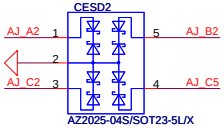


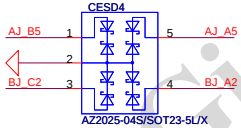
AZALIA JACK

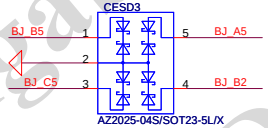
BTX AZALIA CONNECTOR

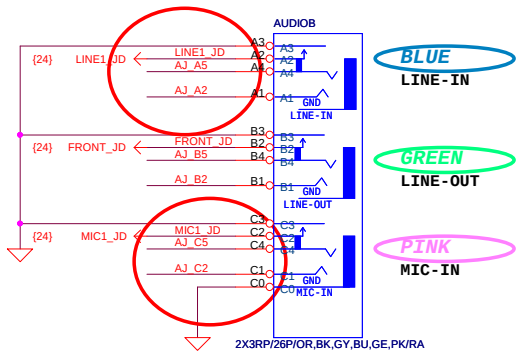


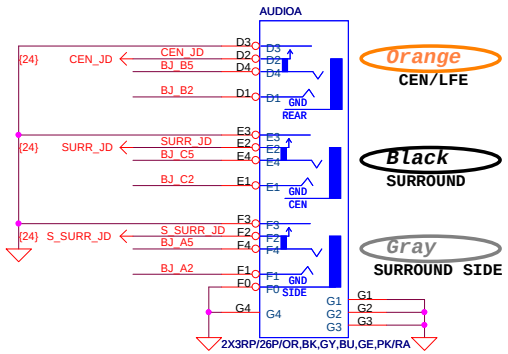
11NR6-403007-21R



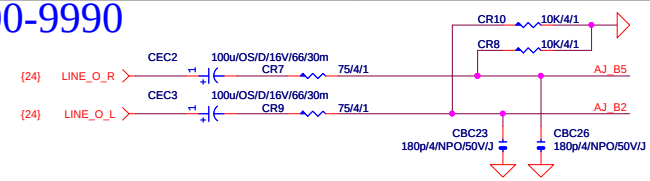




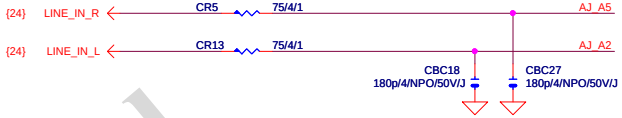




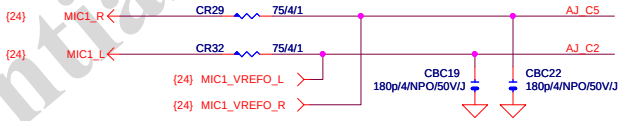
LINE-OUT



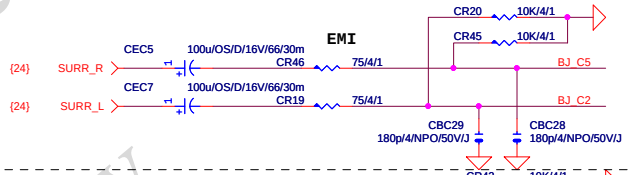
LINE-IN



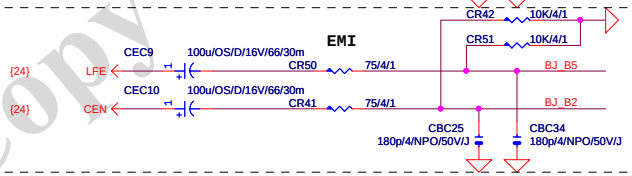
MIC-IN



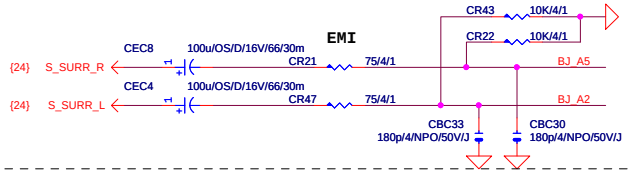
SURROUND



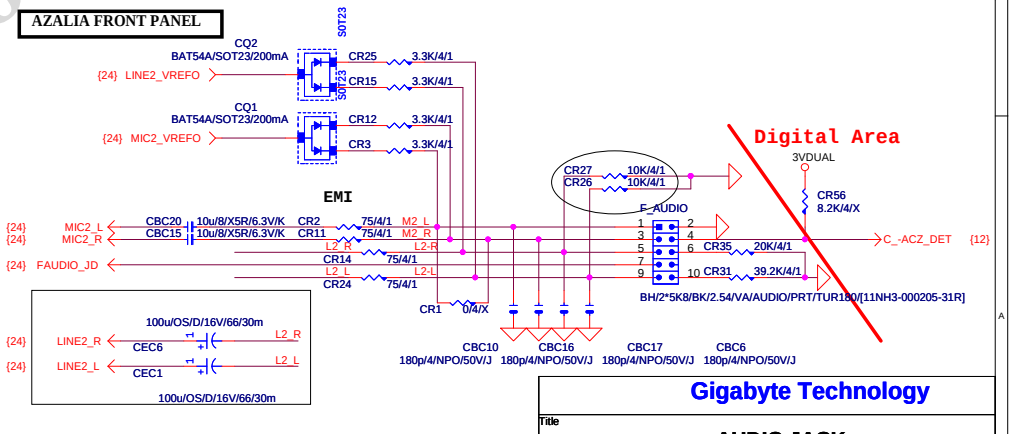
CEN/LFE



SURR BACK



AZALIA FRONT PANEL



Gigabyte Technology

Title: AUDIO JACK

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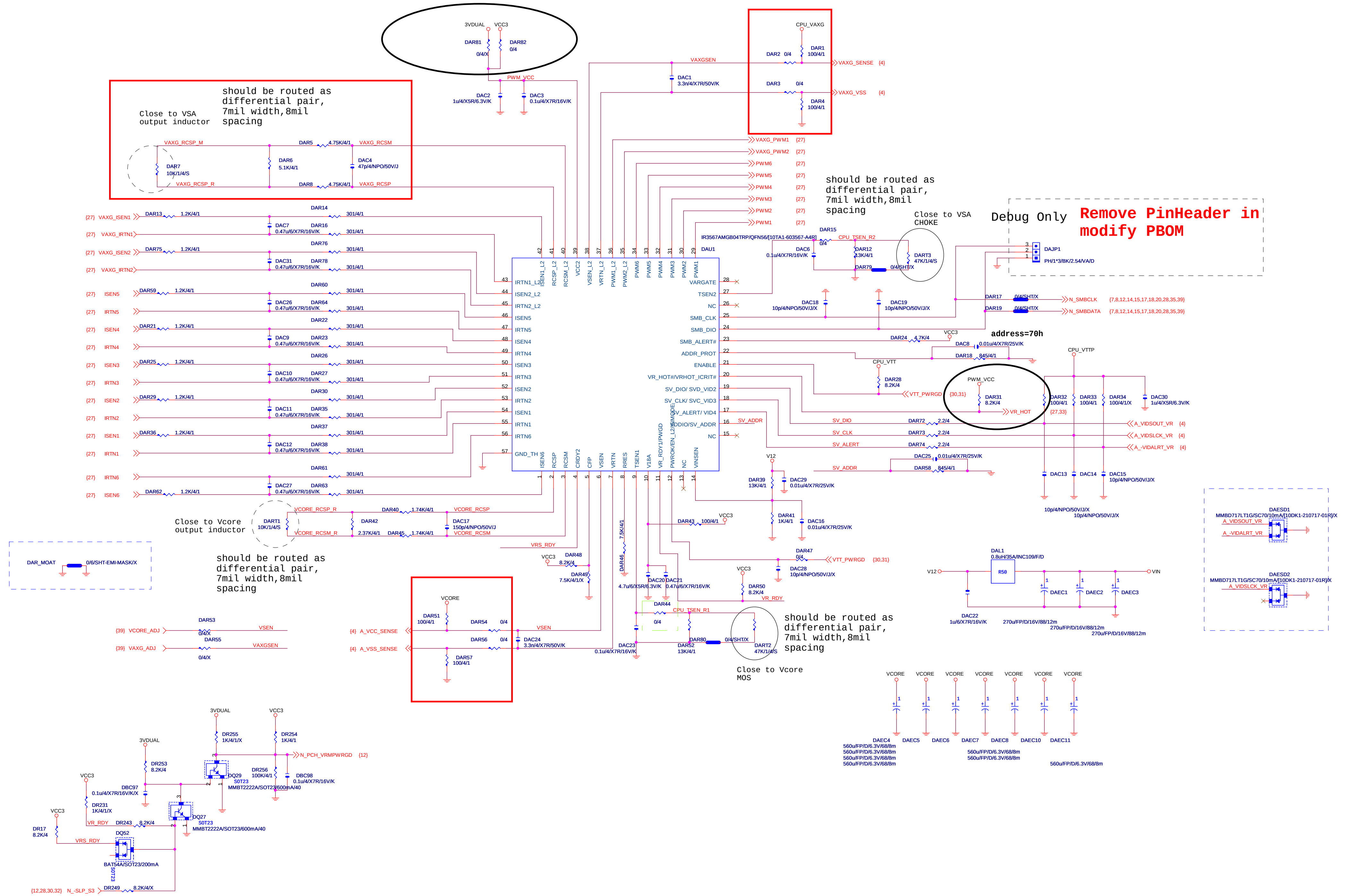
IR3567-06R FOR PWRPAK 6+2 SOLUTION



	Gigabyte Technology
Title	CPU & VAXG IR3567
Size Custom	Document Number GA-Z77X-UD3H
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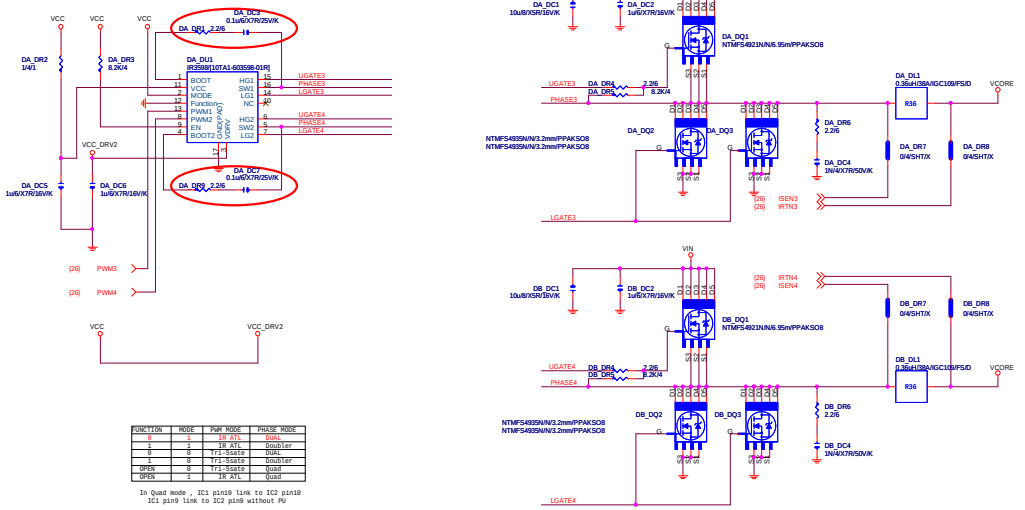
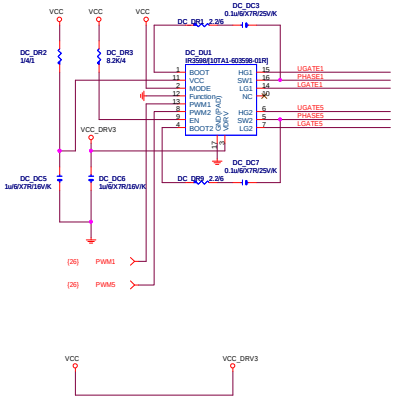
VCORE Phase 3,6



FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	IR ATL	DUAL
1	1	IR ATL	Doubler
0	0	Tri-State	DUAL
1	0	Tri-State	Doubler
OPEN	0	Tri-State	Quad
OPEN	1	IR ATL	Quad

In Quad mode , IC1 pin10 link to IC2 pin10
IC1 pin9 link to IC2 pin9 without PU

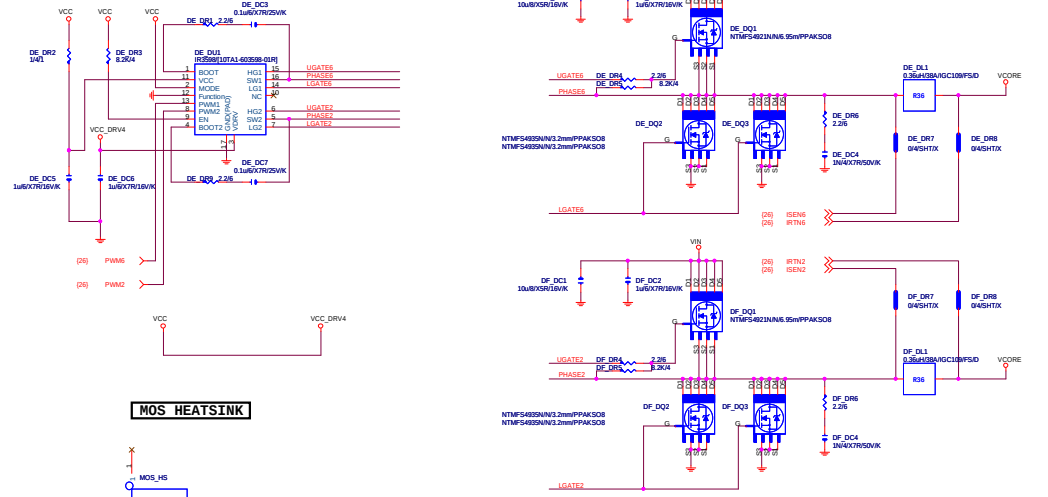
VCORE Phase 1,4



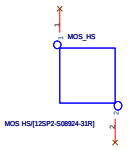
FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	IR ATL	DUAL
1	1	IR ATL	Doubler
0	0	Tri-State	DUAL
1	0	Tri-State	Doubler
OPEN	0	Tri-State	Quad
OPEN	1	IR ATL	Quad

In Quad mode , IC1 pin10 link to IC2 pin10
IC1 pin9 link to IC2 pin9 without PU

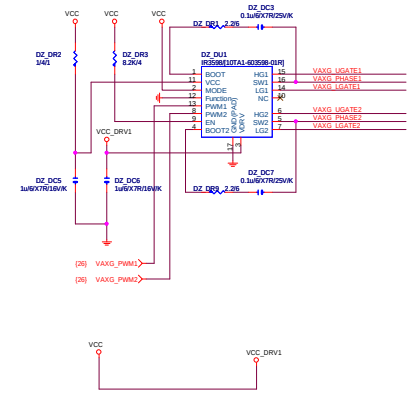
VCORE Phase 5,2

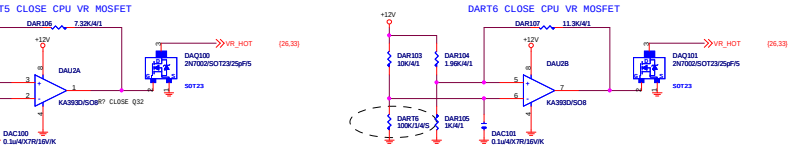


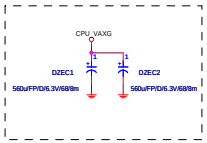
MOS HEATSINK



VAXG Phase







Gigabyte Technology

Title: CPU & VAXG MOS

Size: Custom | Document Number: GA-Z77X-UD3H | Rev: 1.1

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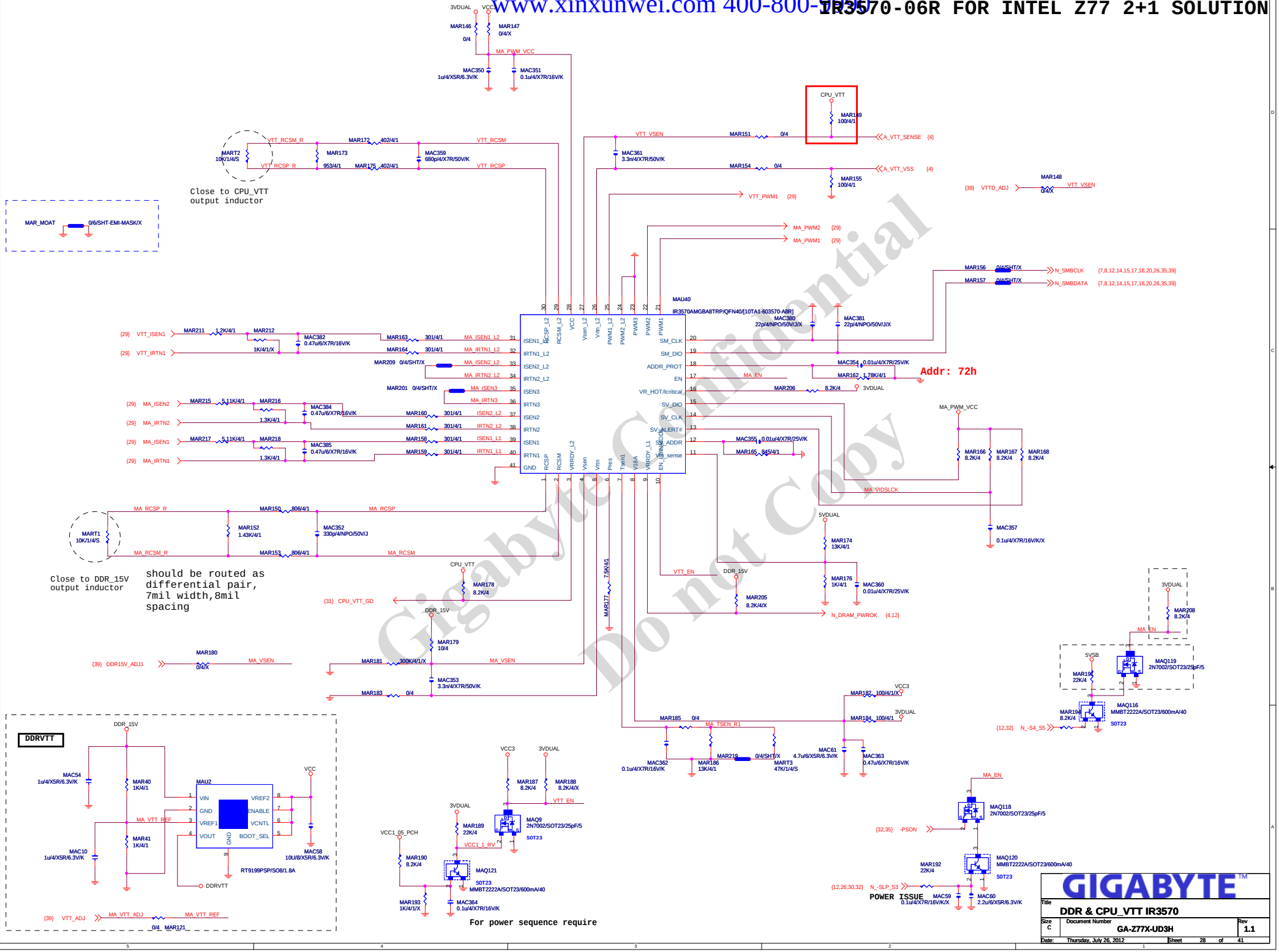
IR3570-06R FOR INTEL Z77 2+1 SOLUTION



GIGABYTE™

Title	DDR & CPU_VTT IR3570	
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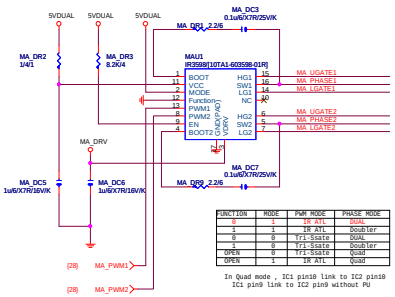
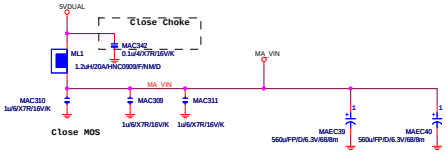
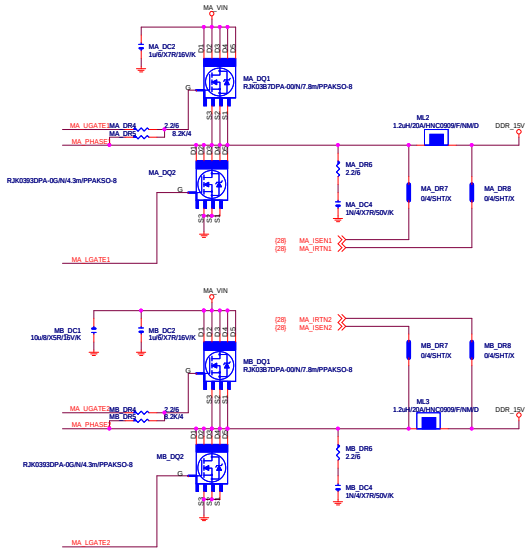
DDR_15V

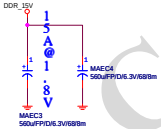


FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	IR ATL	DUAL
1	1	IR ATL	Doubler
0	0	Tri-State	DUAL
1	0	Tri-State	Doubler
OPEN	0	Tri-State	Quad
OPEN	1	IR ATL	Quad

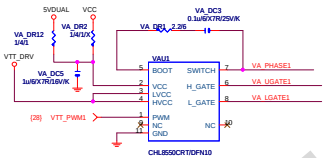
In Quad mode , IC1 pin10 link to IC2 pin10
IC1 pin9 link to IC2 pin9 without PU

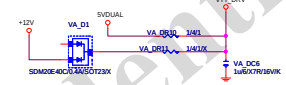


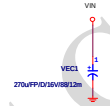


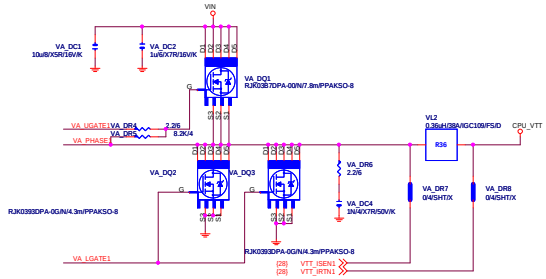


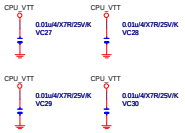
CPU_VTT

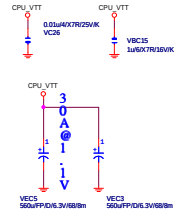












Gigabyte Technology			
Title: DDR & CPU_VTT MOS			
Size: Custom	Document Number: GA-Z77X-UD3H		Rev: 1.1
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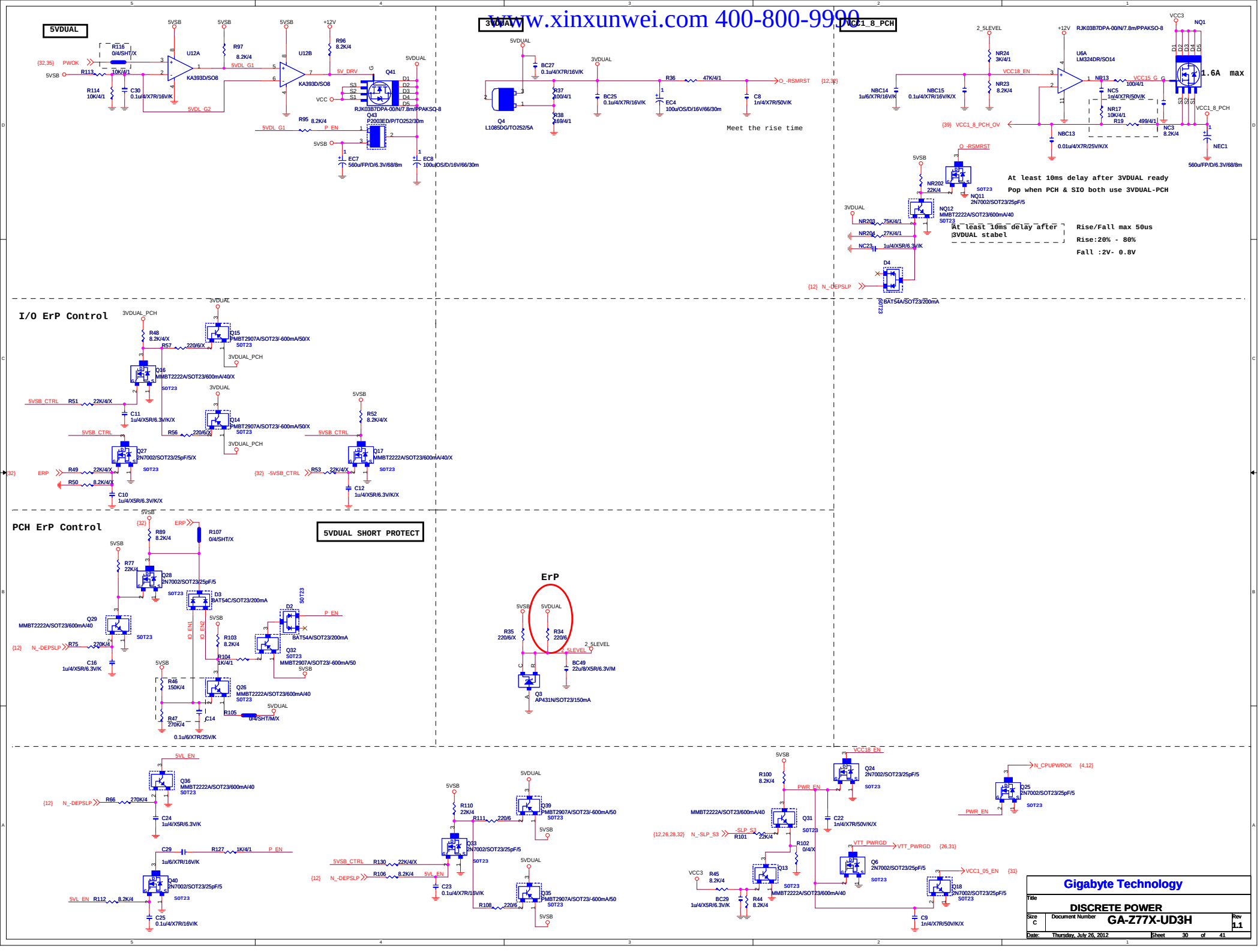
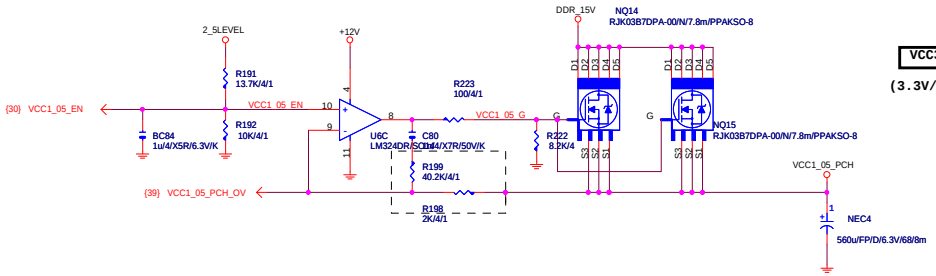
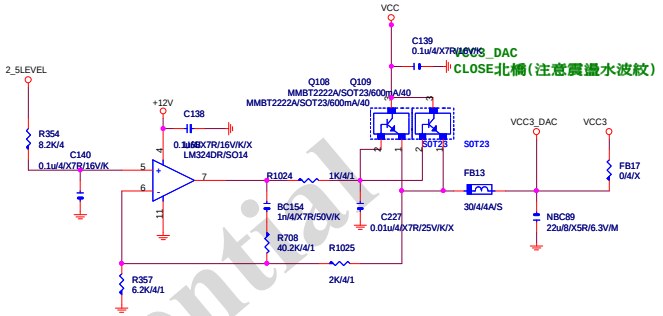


VCC1_05_PCH

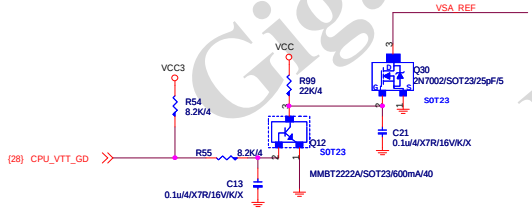


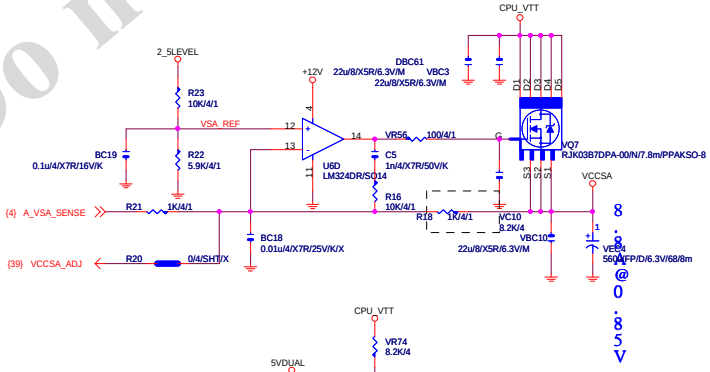
VCC3_DAC

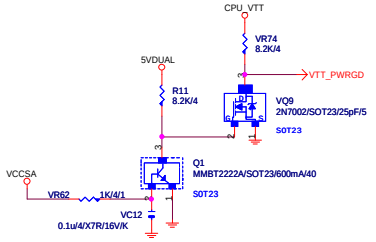
(3.3V/70mA+360uA)



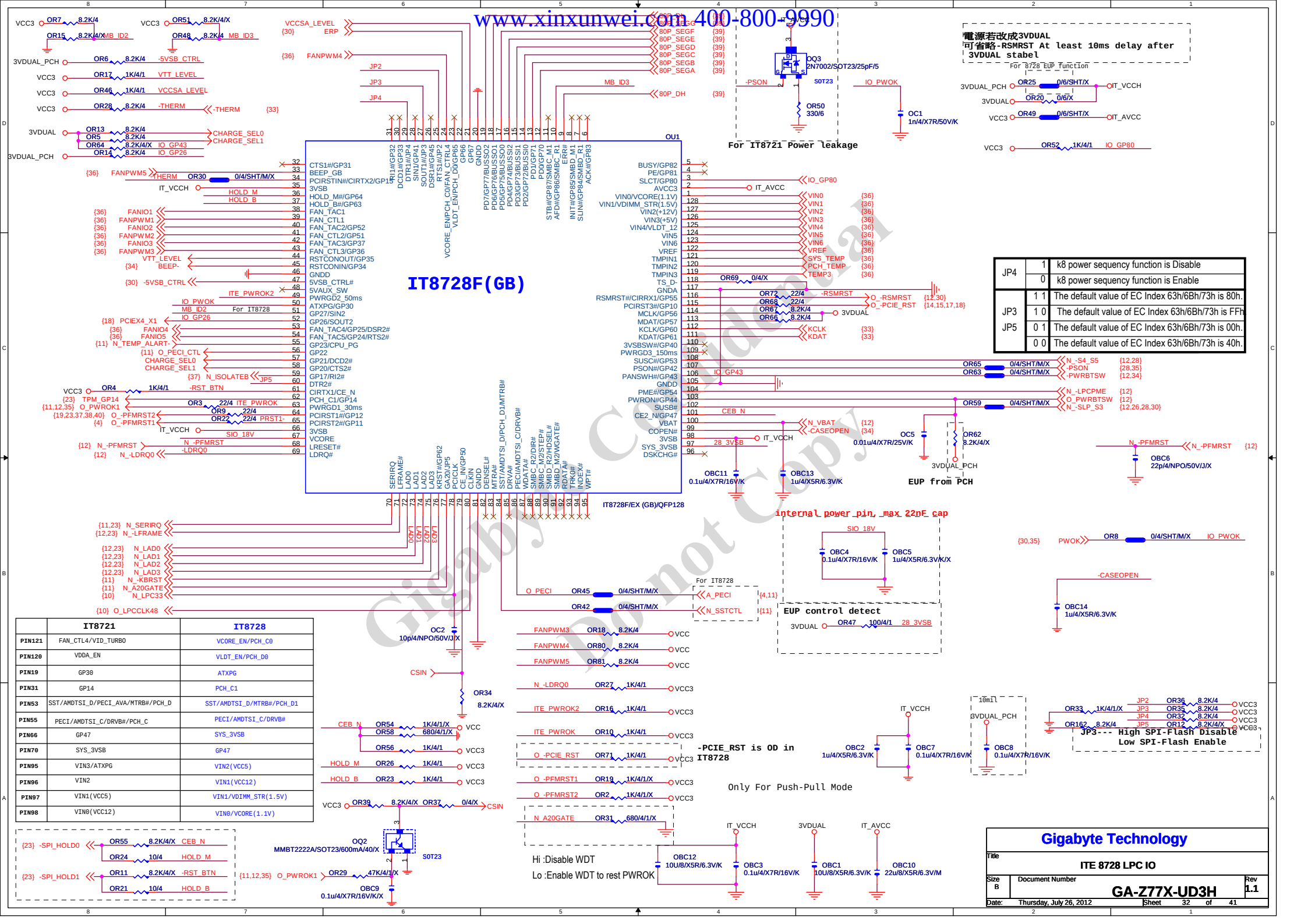
VCC_SA







Gigabyte Technology		
Title: DISCRETE POWER		
Size: C	Document Number: GA-Z77X-UD3H	Rev: 1.1
Date: Thursday, July 26, 2012	Sheet 31 of 41	



JP4	1	k8 power sequency function is Disable
	0	k8 power sequency function is Enable
JP3 JP5	1 1	The default value of EC Index 63h/6Bh/73h is 80h.
	1 0	The default value of EC Index 63h/6Bh/73h is FFh
	0 1	The default value of EC Index 63h/6Bh/73h is 00h.
	0 0	The default value of EC Index 63h/6Bh/73h is 40h.

	IT8721	IT8728
PIN121	FAN_CTL4/VID_TURBO	VCORE_EN/PCH_C0
PIN120	VDDA_EN	VLDT_EN/PCH_D0
PIN19	GP30	ATXPG
PIN31	GP14	PCH_C1
PIN53	SST/AMDTSI_D/PECI_AVA/MTRB#/PCH_D	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRVB#/PCH_C	PECI/AMDTSI_C/DRVB#
PIN66	GP47	SYS_3VSB
PIN70	SYS_3VSB	GP47
PIN95	VIN3/ATXPG	VIN2(VCC5)
PIN96	VIN2	VIN1(VCC12)
PIN97	VIN1(VCC5)	VIN1/VDIMM_STR(1.5V)
PIN98	VIN0(VCC12)	VIN0/VCORE(1.1V)

Gigabyte Technology		
Title	ITE 8728 LPC IO	
Size B	Document Number GA-Z77X-UD3H	Rev 1.1
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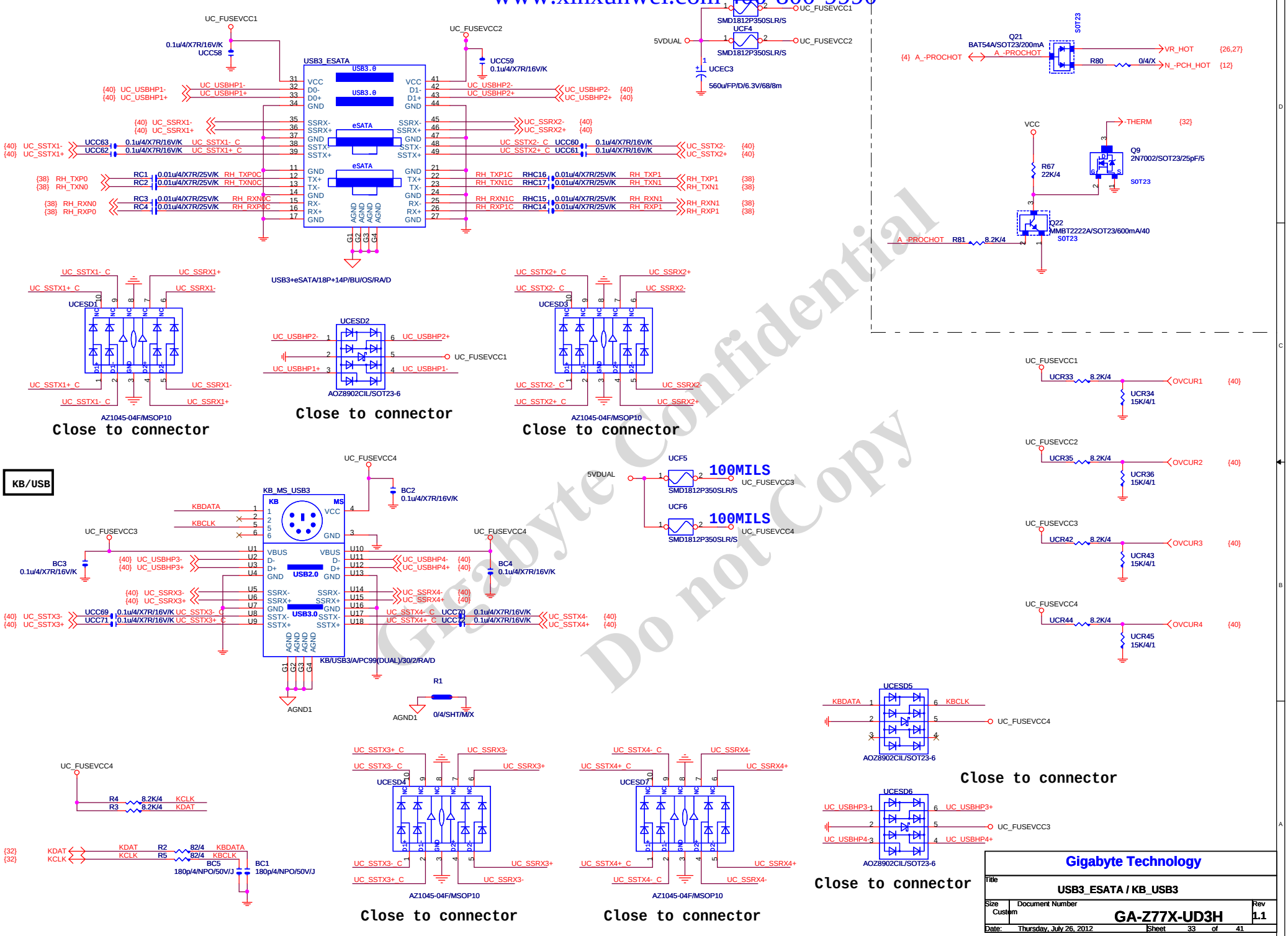
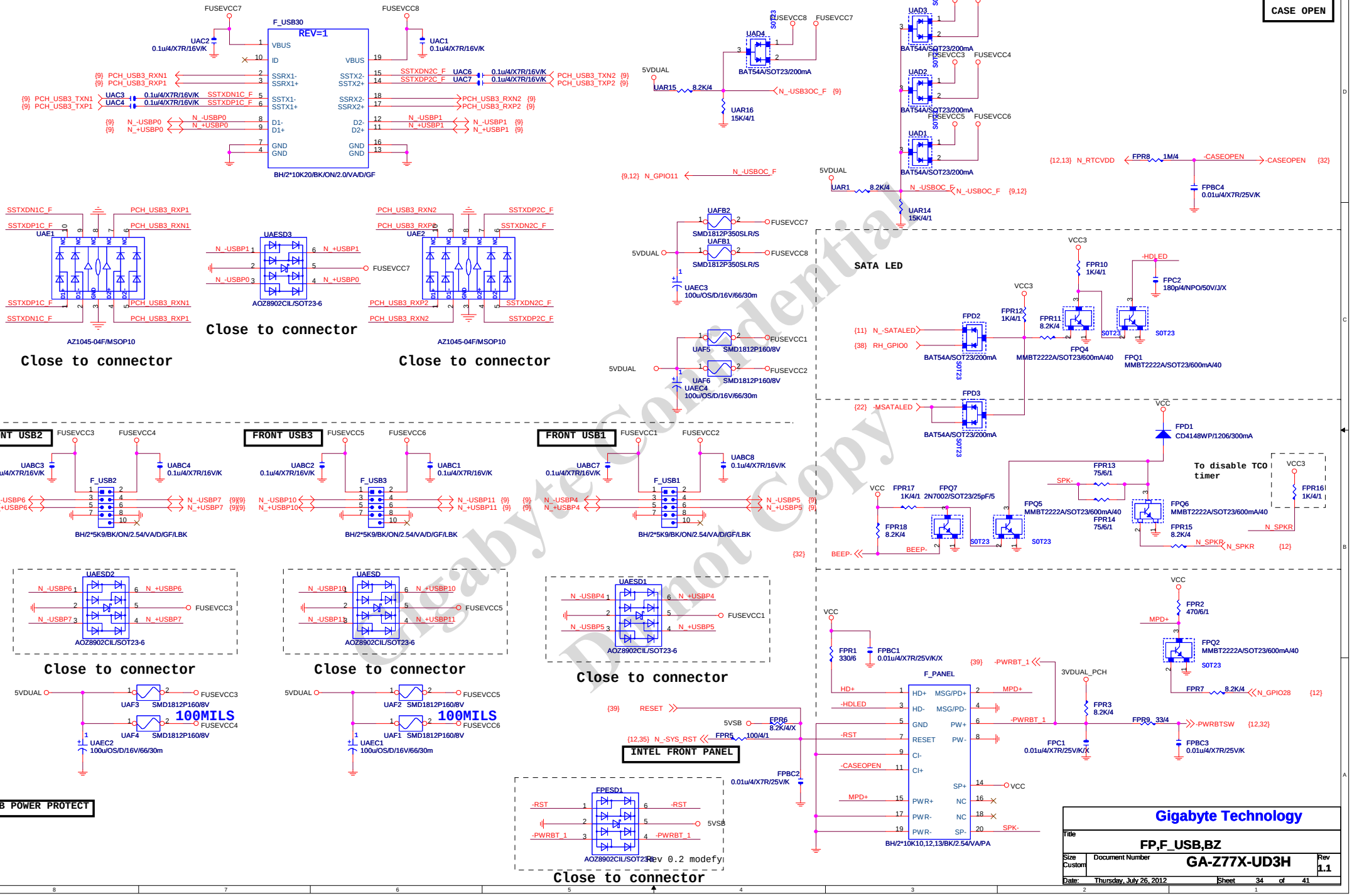
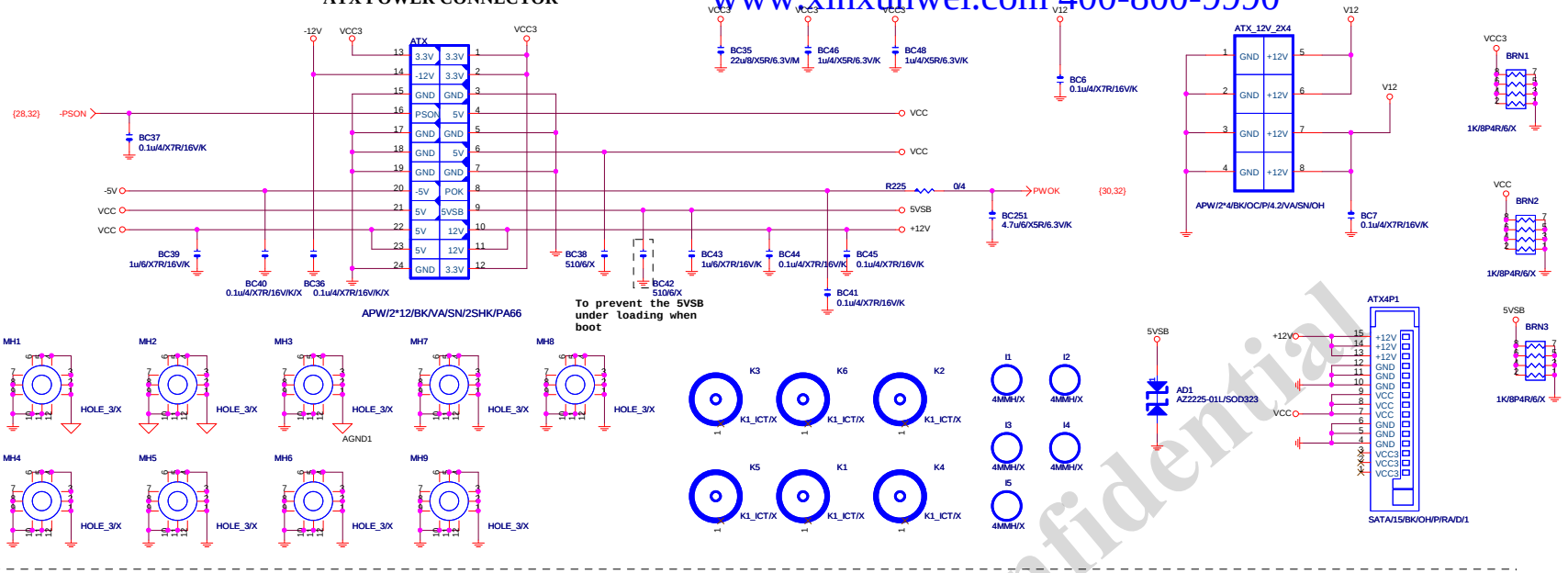




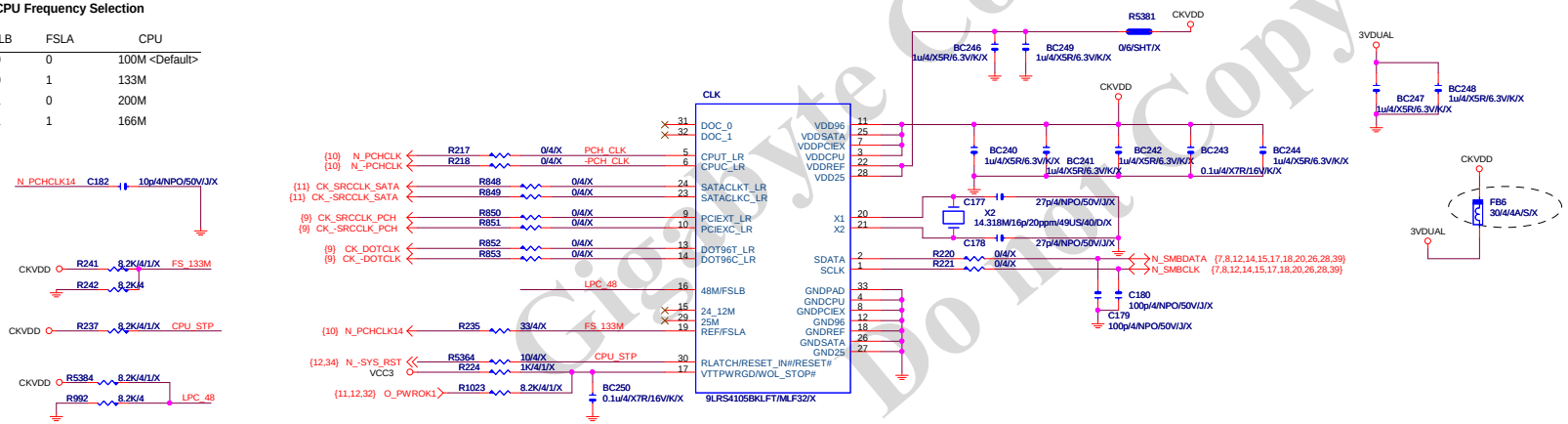
ATX POWER CONNECTOR



CLK GEN CK505

CPU Frequency Selection

FSLB	FSLA	CPU
0	0	100M <Default>
0	1	133M
1	0	200M
1	1	166M



Gigabyte Technology			
Title: ATX POWER CONNECTOR			
Size: Custom	Document Number: GA-Z77X-UD3H		Rev: 1.1
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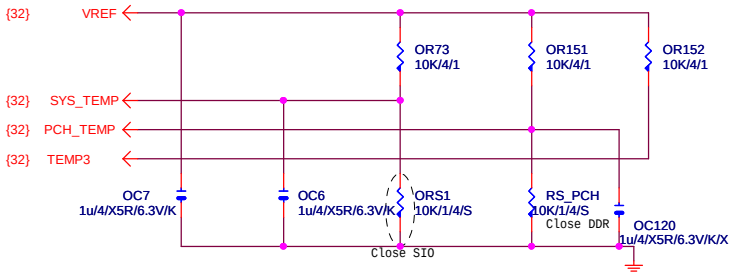
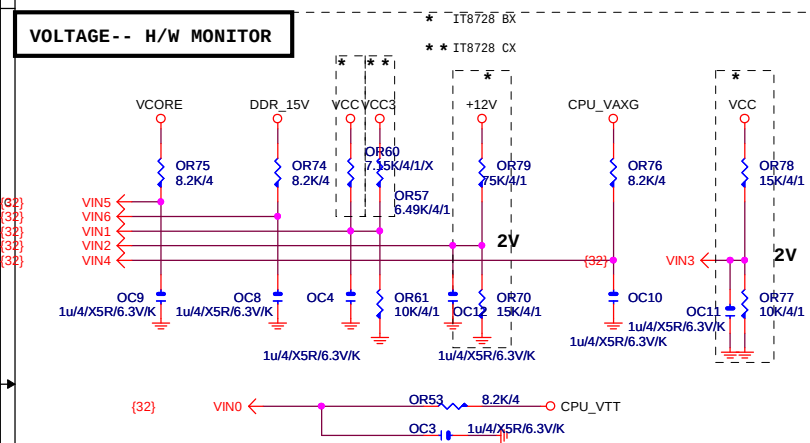
TEMP H/W MONITOR

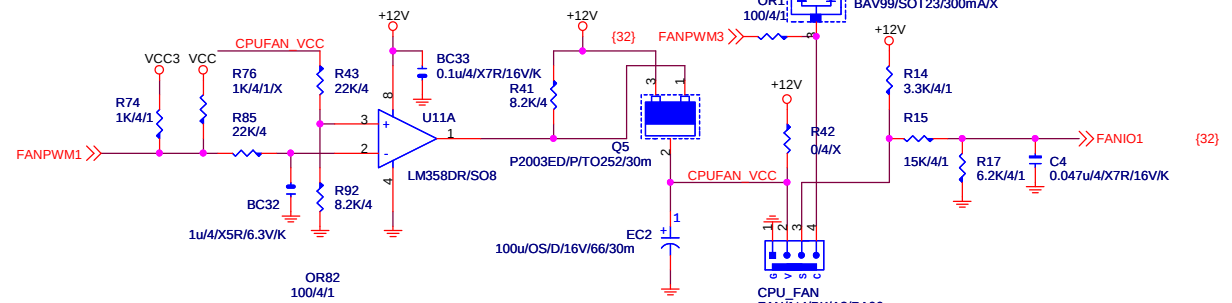


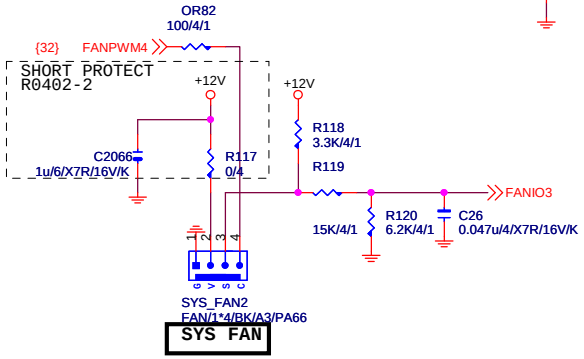
VOLTAGE-- H/W MONITOR

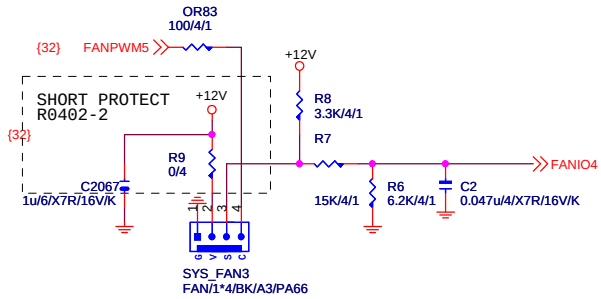


The division voltage of VIN2 & VIN3 must be around 2.9V

CPU SMART FAN

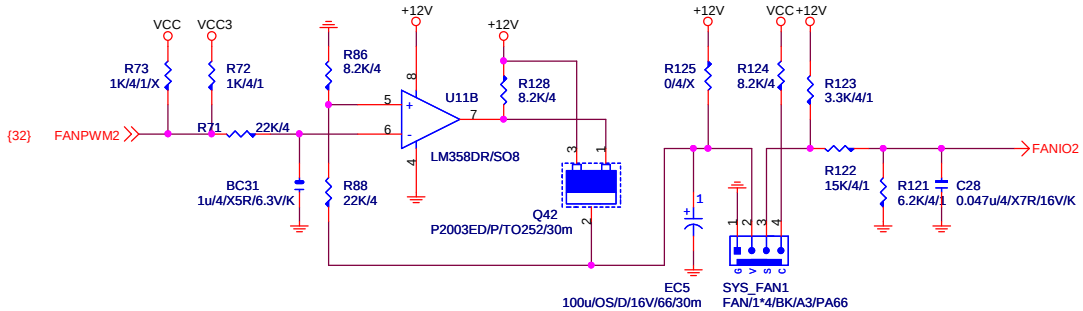


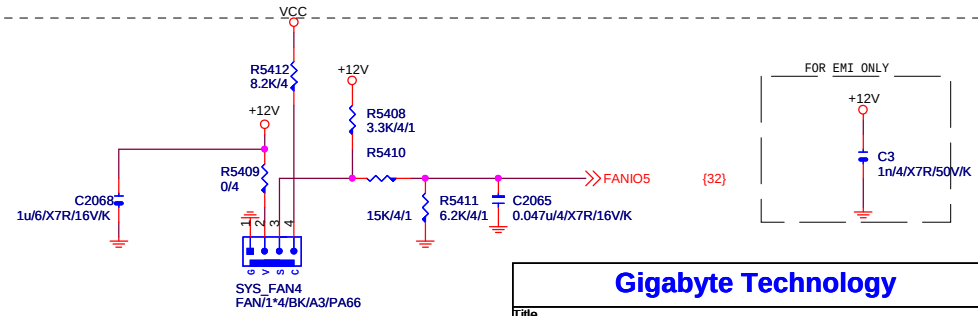




SYS FAN

Linear SYS_FAN





Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
Size: Custom	Document Number: GA-Z77X-UD3H	Rev: 1.1
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LAN:AR8151/AR8161

離IC近越好

LAC1 0.1u/4/X7R/16V/K
LAC2 0.1u/4/X7R/16V/K

{10} LA_-SRCCLK_LAN
{10} LA_SRCCLK_LAN

{9} LA_ML_OP
{9} LA_ML_ON

LA_ML_OP_C
LA_ML_ON_C

LA_ ML-->80歐姆:[15/5/5/5/15]

SRCCLK-->50歐姆:[18/4/10/4/18]

LABC5 0.1u/4/X7R/16V/K

LABC4 1u/4/X5R/6.3V/K
LABC3 0.1u/4/X7R/16V/K

LABC6 0.1u/4/X7R/16V/K/X
AR8161-->N/A
(LABC6)

LA_AVDDVCO
LABC7 0.1u/4/X7R/16V/K/X
LABC8 4.7u/6/X5R/6.3V/K/X
AR8161-->(O)

3VDUAL
LABC9 10u/8/X5R/6.3V/K
LABC10 1u/4/X5R/6.3V/K
LABC11 0.1u/4/X7R/16V/K

LAU1
Atheros
AR8151/AR8161
AR8161-BL1A-R/S

LA_ML-->80歐姆:[15/5/5/5/15]

離IC近越好

LAC12 0.1u/4/X7R/16V/K
LAC13 0.1u/4/X7R/16V/K

LA_ML_IP_C
LA_ML_IN_C
LA_ML_IP {9}
LA_ML_IN {9}

3VDUAL
LAC33 100p/4/NPO/50V/J/X
LAR6 8.2K/4

LA_VDD33
{12,14,15,17,18,26,46} N_PCIE_WAKE
{19,23,32,38,40} O_-PFMRST2

AR8161-->N/A
(LABC12)

LABC12 1u/4/X5R/6.3V/K/X
LABC15 1u/4/X5R/6.3V/K
LABC16 0.1u/4/X7R/16V/K

LA_-CLKREQ
LA_VDDCT
LA_AVDDL
LA_XTALO
LA_XTALI
LA_AVDDH

LABC18 1u/4/X5R/6.3V/K
LABC19 0.1u/4/X7R/16V/K

LA_RBIAS
LAR10 2.37K/4/1

LA_PPS
LA_LED_LINK1000
LA_AVDDH
LA_MDI3-

LAR9 0/4/X
LABC14 0.1u/4/X7R/16V/K/X
LA_DVDDL

AR8161-->N/A
(LAR9,LAC18)

LABC17 0.1u/4/X7R/16V/K

LAX1
25M/20p/30ppm/49US/20/D
LA_XTALI
LA_XTALO
LAC31 27p/4/NPO/50V/J
LAC32 27p/4/NPO/50V/J

LABC20 0.1u/4/X7R/16V/K/X
AR8161-->N/A
(LABC20)

LABC21 0.1u/4/X7R/16V/K

LAR19 0/4
LAR20 0/4/X
3VDUAL
LA_AVDDH

AR8151:LA_AVDDH(LAR20)
AR8161:3VDUAL(LAR19)

LABC22 1u/4/X5R/6.3V/K

SCH BOM OPT:(二擇一使用)
-->(LAC30):M/B有CLK GEN 25M
-->(LAX1,LAC31,LAC32):M/B無CLK GEN 25M

LAN POWER

NEW DESIGN ONLY FOR INTERNAL SWR
AR8151:LAR3(O),LAR5(X)
AR8161:LAR5(O),LAR3/LAR4(X)

LAL1
4.7uH/1A/[10LC4-5A470B-01R]
LA_LX_OUT
LA_LX
CLOSE
LA_LX 200mil
LABC1 10u/8/X5R/6.3V/K
LABC2 0.1u/4/X7R/16V/K

LA_VDDCT
LAR3 0/4/X
AR8161-->N/A
(LAR3,LAR4)
AR8151 POWER
LA_AVDD_CEN
LAR4 0/4/X

LA_DVDDL
LA_AVDDL
LA_AVDDVCO
LAR5 0/6
AR8161-->(O)
LAFB2 0/4
AR8161-->BEAD
AR8151-->N/A
LAFB3 0/4
AR8161-->BEAD
AR8151-->0/6
AR8161 POWER

AR8161-->(O)
LA_AVDDH
LA7 8.2K/4
LA_LED_ACT_TXRX
LA_LED_LINK100
LA8 8.2K/4

AR8161-->(O)
VCC3
LAR1 30K/4/1
LAR2 0/4
LA_VDDCT
N_ISOLATEB {32}

Power domain chart

	AR8151	AR8161
AVDD33	N/A	3.3V
VDD33	3.3V	3.3V
AVDDH	2.7V	2.7V
AVDDL/DVDDL	1.1V	1.1V
VDDCT	1.7V	

MDI : AR8161-->N/A

LA_MDI0+ LA_MDI0-
LAR11 49.9/4/1/X
LAR12 49.9/4/1/X
LA_MDI_RC0
LAC26 0.1u/4/X7R/16V/K/X

LA_MDI1+ LA_MDI1-
LAR13 49.9/4/1/X
LAR14 49.9/4/1/X
LA_MDI_RC1
LAC27 0.1u/4/X7R/16V/K/X

LA_MDI2+ LA_MDI2-
LAR15 49.9/4/1/X
LAR16 49.9/4/1/X
LA_MDI_RC2
LAC28 0.1u/4/X7R/16V/K/X

LA_MDI3+ LA_MDI3-
LAR17 49.9/4/1/X
LAR18 49.9/4/1/X
LA_MDI_RC3
LAC29 0.1u/4/X7R/16V/K/X

CLOSE LAN CHIP

USB_LAN CONNECTOR

RMA ESD PROTECT

UBESD1
N_+USBP2
N_+USBP3
N_-USBP2
N_-USBP3
FUSEVCC_R13
AOZ8902CIL/SOT23-6

LAESD1
LA_LED_LINK100
LA_LED_LINK1000
LA_LED_ACT_TXRX
LAN_3VDUAL_LED
LA_LED_D2
AOZ8902CIL/SOT23-6

USB X3 POWER

5VDUAL
LAFB4 SMD1812P350SLR/S
LAFB5 SMD1812P350SLR/S
FUSEVCC_R13
FUSEVCC_R14
UEC4 100u/OS/D/16V/66/30m
Close to connector

SOT23
5VDUAL
FUSEVCC_R13
FUSEVCC_R14
UBD1 BAT54A/SOT23/200mA
LAR25 8.2K/4
LAR26 15K/4/1
N_-USB3OC_R {9}

EMI SHORT PAD
PS:視EMI需求
LAR24
0/6/SHT/M/X

LA_MDI-->100歐姆:[20/4/8/4/20]

USB30_LAN
USB3.0
USB3+LAN/1G/GO,Y/OS/RA/D/G30
NEC USB2

LABC23 0.1u/4/X7R/16V/K
LA_AVDD_CEN
LA_MDI0+ LA_MDI0-
LA_MDI1+ LA_MDI1-
LA_MDI2+ LA_MDI2-
LA_MDI3+ LA_MDI3-
GND_L10

LA_LED_ACT_TXRX
LA_LED_D2
LA_LED_LINK100
LA_LED_LINK1000
LAR21 150/6
LAR22 150/6
LAR23 150/6
LAN_3VDUAL_LED
-LAN1_PLUG

3VDUAL
LAFB1 0/6/SHT/M/X
LABC24 0.1u/4/Y5V/16V/Z/X

FUSEVCC_R13
LABC25 0/4/SHT/M/X
N_-USBP2
N_+USBP2
BC233 0.1u/4/X7R/16V/K

FUSEVCC_R14
LBC26 0.1u/4/X7R/16V/K/X
N_-USBP3
N_+USBP3

PCH_USB3_RXN3
PCH_USB3_RXP3
PCH_USB3_RXN4
PCH_USB3_RXP4
PCH_USB3_TXN3
PCH_USB3_TXP3
PCH_USB3_TXN4
PCH_USB3_TXP4

LAC34 0.1u/4/X7R/16V/K
LAC36 0.1u/4/X7R/16V/K
LAC35 0.1u/4/X7R/16V/K
LAC37 0.1u/4/X7R/16V/K

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

PCH_USB3_RXN4
PCH_USB3_RXP4
PCH_USB3_TXN4C
PCH_USB3_TXP4C
LAE1
AZ1045-04F/MSOP10

PCH_USB3_RXN3
PCH_USB3_RXP3
PCH_USB3_TXN3C
PCH_USB3_TXP3C
LAE2
AZ1045-04F/MSOP10

Gigabyte Technology

Title: ARTHEROS AR8151/AR8161
Size: Custom
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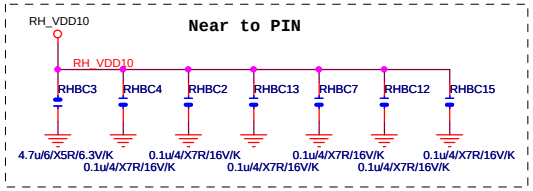

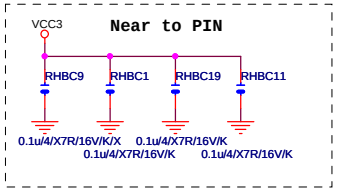

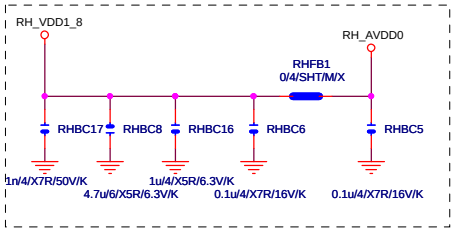

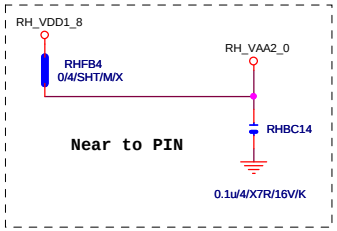

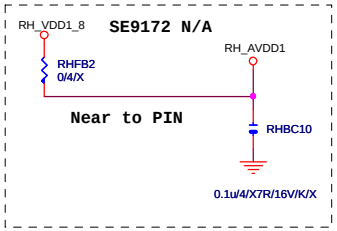

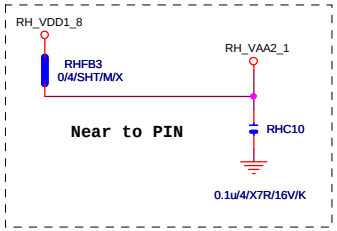

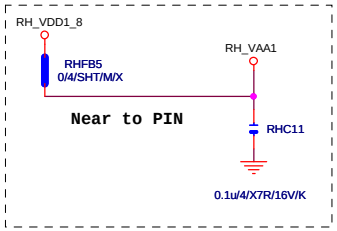

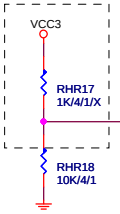

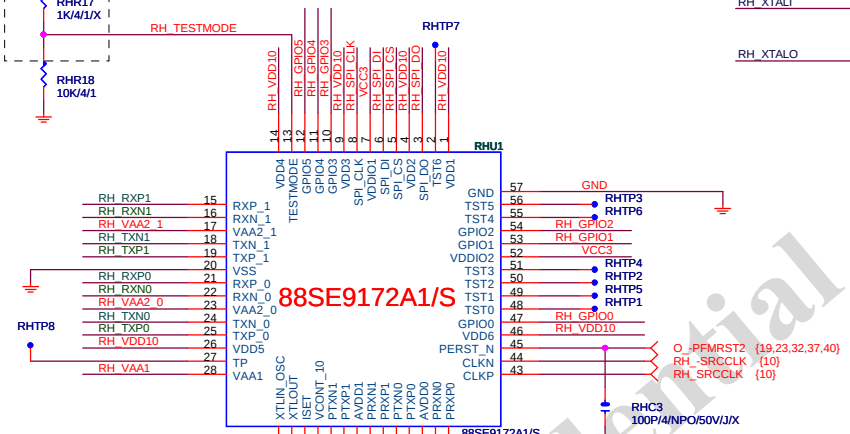

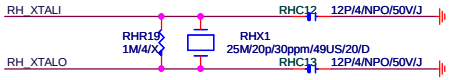

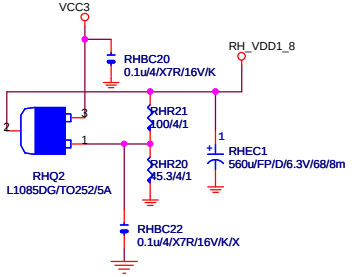

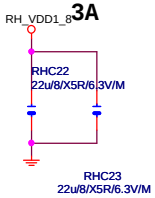

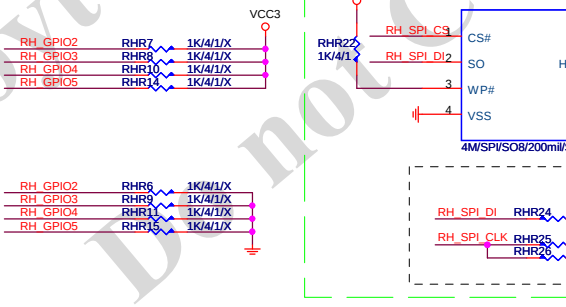

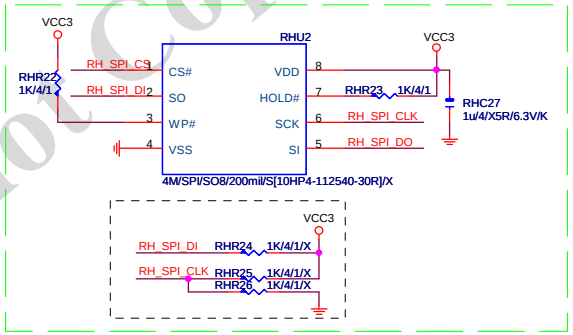

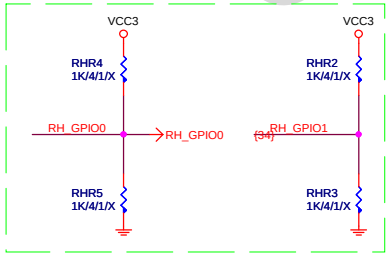

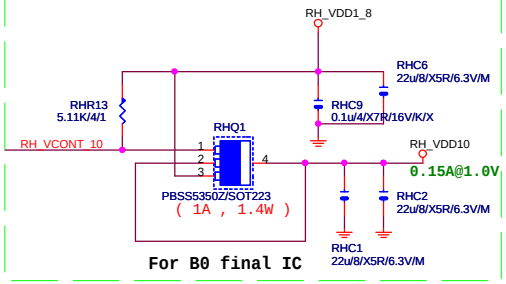

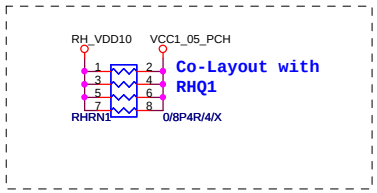

Marvell 9172 Power Requirements
Analog 1.8V 230mA
Core 1.0V 900mA
I/O 3.3V 50mA

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Title: Marvell 9172 SATA 3.0		
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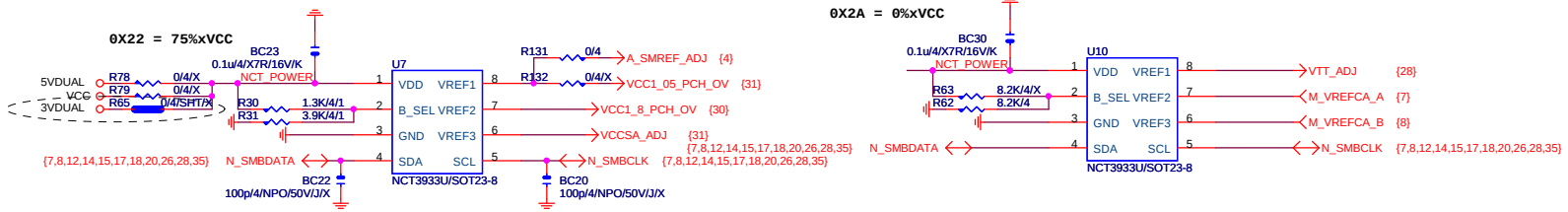
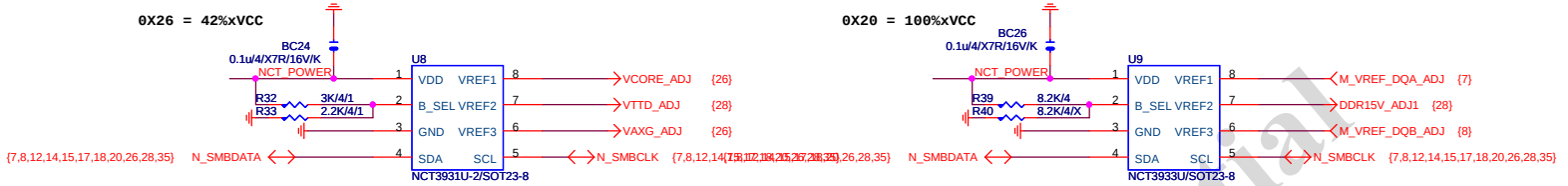
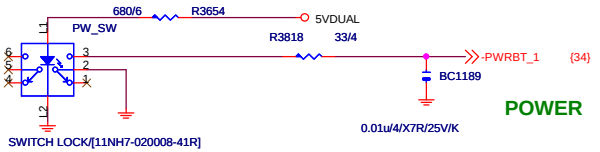
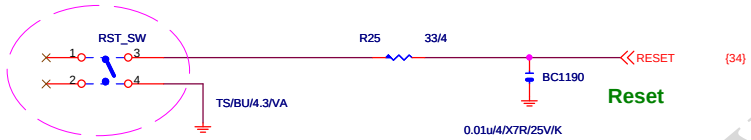
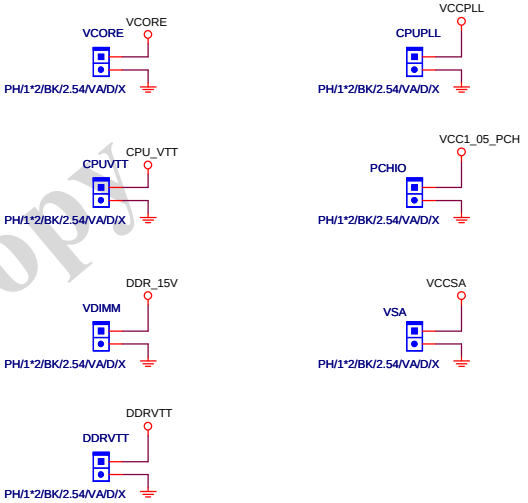


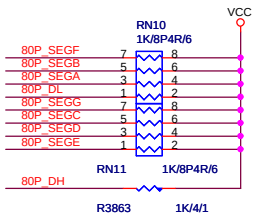


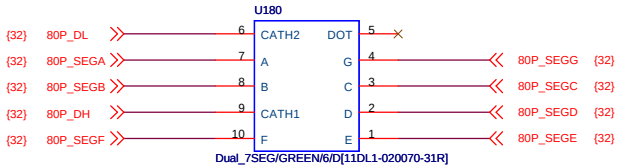




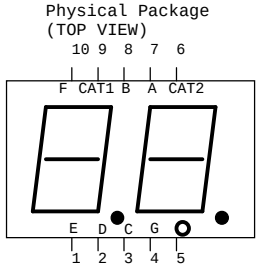


80 PORT





COMMON CATHODE



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Title: OV, PWR LED, 80 PORT		
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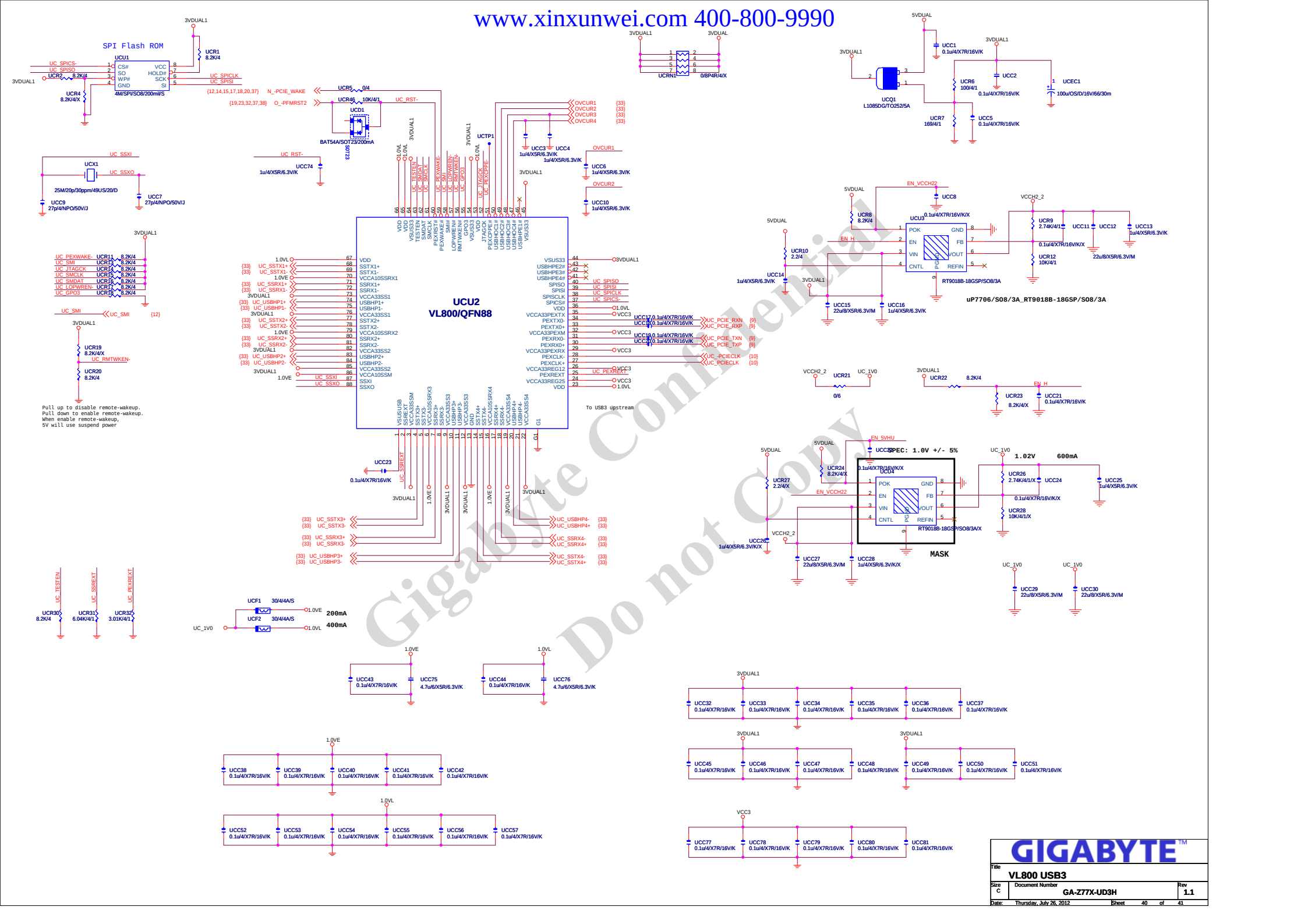

Title	VL800 USB3	
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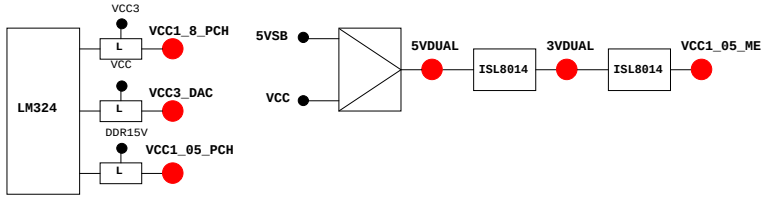
PCH GPIO LIST TABLE

PIN NAME	PWR	AFTER/PLTRST	Default	USAGE	NOTE
GP0	MAIN	H-Z	GPI	-PECI_REQ	N/A
GP1/TACH1	MAIN		GPI	ICH_FAN_TACH1	N/A
GP2/PIRQE#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN		GPI	ICH_FAN_TACH2	N/A
GP7/TACH3	MAIN		GPI	ICH_FAN_TACH3	N/A
GP8	STBY	H	GPO	GPIO8	P/U 8.2K 3VDUAL
GP9/OC5#	STBY		NATIVE	OC5#	N/A
GP10/OC6#	STBY		NATIVE	OC6#	N/A
GP11/SMBALERT#	STBY		NATIVE	-SMBALERT	P/U 8.2K 3VDUAL
GP12	STBY	L	GPI	LAN_PHY_PWR_CTRL	P/U 8.2K 3VDUAL
GP13	STBY	L	GPI	GPIO13	P/U 8.2K 3VDUAL
GP14/OC7#	STBY		NATIVE	OC7#	N/A
GP15	STBY	L	GPO	GPIO15	N/A
GP16	MAIN		GPI	-SKTOCC	P/U 8.2K VCC3
GP17/TACH0	MAIN		GPI	ICH_FAN_TACH0	N/A
GP18	MAIN		NATIVE	MB_ID0	P/D 8.2K GND
GP19	MAIN		GPI	-LAN1_ISO	P/U 8.2K VCC3
GP20	MAIN		NATIVE	LED_CTL	P/U 1K VCC3
GP21	MAIN		GPI	VCC18_PCH_OV2	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI	VCORE_OV3	P/U 8.2K VCC3
GP23	MAIN		NATIVE	-LDRQ1	P/U 8.2K VCC3
GP24	STBY	L	GPO	TLS	P/U 8.2K 3VDUAL
GP25	STBY		NATIVE	-CPU_STOP	P/U 8.2K 3VDUAL
GP26	STBY		NATIVE	-ACZ_DET	P/U 8.2K 3VDUAL
GP27	STBY	H	GPO	GPIO27	P/U 8.2K 3VDUAL
GP28	STBY	H	GPO	GPIO28	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI	GPIO29	N/A
GP30	STBY	H-Z	GPI	S_PWR_ACK	P/U 100K 3VDUAL
GP31	STBY	H-Z	GPI	N/A(Reverse)	P/U 8.2K VCC3
GP32	MAIN	H	GPO	MB_ID1	P/D 8.2K GND
GP33	MAIN	H	GPO	LOAD-LINE	P/U 1K VCC3
GP34	MAIN	H-Z	GPI	-PCI_STOP	P/U 8.2K VCC3
GP35	MAIN	L	GPO	GPIO35	P/U 8.2K VCC3
GP36	MAIN		GPI	-LAN1_DSM	P/U 8.2K VCC3
GP37	MAIN		GPI	N/A	P/U 8.2K VCC3
GP38	MAIN	H-Z	GPI	VCORE_OV2	P/U 8.2K VCC3
GP39	MAIN	H-Z	GPI	-LAN_DSM	P/U 8.2K VCC3
GP40	STBY		NATIVE	OC1#	N/A
GP41	STBY		NATIVE	OC2#	N/A
GP42	STBY		NATIVE	OC3#	N/A
GP43	STBY		NATIVE	OC4#	N/A
GP44	STBY	L	NATIVE	N/A	P/U 8.2K 3VDUAL
GP45	STBY		NATIVE	-LPCPME	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	PWR_LED	P/U 8.2K 3VDUAL
GP47	STBY		NATIVE	PSI LED	P/U 8.2K 3VDUAL
GP48	MAIN	H-Z	IN	EN_PWM	P/U 8.2K VCC3
GP49	MAIN	H-Z	IN	VCC18_OV1	P/U 8.2K VCC3
GP50	MAIN		NATIVE	-REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	-GNT1	N/A
GP52	MAIN		NATIVE	-REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	-GNT2	N/A
GP54	MAIN		NATIVE	-REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	-GNT3	N/A
GP56	STBY		NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL
GP57	STBY	H-Z	IN	VCORE_OV1	P/U 8.2K 3VDUAL
GP58	STBY	H-Z	NATIVE	F_USB_OC	P/U 8.2K 3VDUAL
GP59	STBY		NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL
GP61	STBY	L	NATIVE	-SUSTAT	N/A
GP62	STBY	L	NATIVE	SUSCLK	N/A
GP63	STBY	L	NATIVE	GPIO63	N/A
GP64	MAIN	L	NATIVE	CLKOUTFLEX0	N/A
GP65	MAIN	L	NATIVE	CLKOUTFLEX1	N/A
GP66	MAIN	L	NATIVE	CLKOUTFLEX2	N/A
GP67	MAIN	L	NATIVE	CLKOUTFLEX3	N/A
GP72	STBY	H-Z	NATIVE	VCORE_OV4	P/U 8.2K 3VDUAL
GP73	STBY		NATIVE	1_05V_OV1	P/U 8.2K 3VDUAL
GP74	STBY	H-Z	NATIVE	1_05V_OV2	P/U 8.2K 3VDUAL
GP75	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL

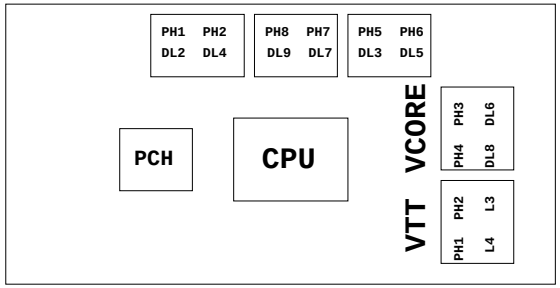
Super I/O ITE8720 GPIO Table

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-KBRST	
SO/GP50	-ICH_SPI_CS	
IRTX/GP47/CE2_N/JP7	CEB_N	
GP46/IRRX	-LAN2_DSM	
PSION#/GP42	-PSON	
PWROK2#/GP41	PECI_CTL	
PCIRST3#/GP10/VDIMM_STR_EN	-PCIE_RST	
RSMRST#CIRRX1/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSSO0	N/A	

PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSSI1	SB_LED1_C	
PD4/GP74/BUSSI2	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSSI0	NB_LED3_C	
GP22/SCK	LOW_PWR_1	
VIDO5/GP27/SIN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VSBSW#/GP40	CSI_F0	BSEL166_1
SUSC#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VIDO0/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSSO1	MB_ID3	
PD7/GP77/BUSSO2	MB_ID4	
AFD#/GP86/SMBC_R	空 PIN	FST_2X8
INIT#/GP85/SMBD_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VIDO1/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMBC_M	DDR_LED3_C	
PWRON#GP44	VCORE_OV1	
PANSWH#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRTX/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/SMBD_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRX2/GP16	-THERM	
VIDO4/GP26/SOUT2	DDR18V_PH2_EN	
VIDO2/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VIDO6/GP17/RI2#	1_1V_PH_EN	
VIDO7/JP6/DTR2#	JP6	
PD5/GP75/BUSSO0	SB_LED3_C	



PWM各相位的擺法如下：



BIOS超電壓對應表：

線路圖名稱	BIOS選項
Vcore	CPU Vcore
CPU_VTT	CPU Termination
CPU_VAXG	CPU Graphic Core
VCC1_8_PCH	CPU PLL
VCC1_05_PCH	PCH core
3VDUAL	3VDUAL
DDR15V	DRAM voltage
DDRVTT	DRAM Terminatio
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

散熱模組料號：

8IBP:
1.12SP2-01A001-Y1R/Y2R
2.12SP2-01A001-Z1R/Z2R
(HIBRID模組)包材階

	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	FANPWM3	FANIO1	IT8720
	ICH_FAN_PWM2	ICH_FAN_PWM0	ICH_FAN_TACH0	PCH
SYS FAN	FANPWM2	N/A	FANIO2	IT8720
	ICH_FAN_PWM1	N/A	ICH_FAN_TACH1	PCH
PWR FAN	N/A	N/A	FANIO3	IT8720
			ICH_FAN_TACH2	PCH

Gigabyte Technology

Title: TABLE LIST

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