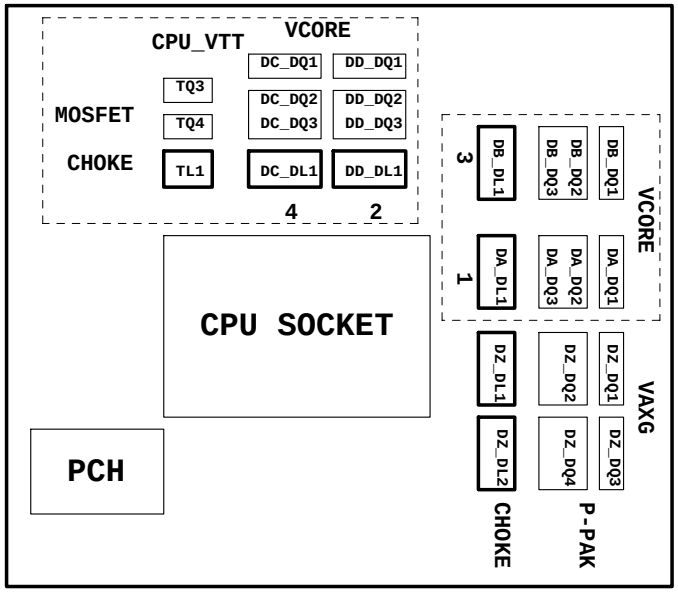
Model Name: GA-Z77-D3H

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	PCIEX1*3 , PCIEX4 SLOT
16	ITE8892 PCI BRIDGE
17	PCI SLOT 1&2
18	I/O ITE8728
19	COM, -PROHOT, R_USB
20	Dual BIOS , TPM SLB9635TT
21	VT2021 CODEC
22	REAR AUDIO JACK
23	VCORE PWM_IR3564
24	VCORE PWM DRIVER IR3598
25	NCP3933 OVER VOLTAGE
26	DISCRETE POWER
27	DDR_15V & CPU_VTT PWM IR3570

SHEET	TITLE
28	DDR_15V & CPU_VTT PWM DRIVER CHL8550
29	VCCSA POWER
30	F_PANEL , F_USB2.0/3.0
31	ATX POWER, CLOCK GEN
32	HWM , KB/MS , FAN CTRL
33	LAN ATHEROS AR8151
34	N/A
35	M-SATA
36	DVI
37	HDMI , R_USB30
38	TABLE LIST
39	
40	



Gigabyte Technology

Title	Cover Sheet	
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Date: Wednesday, May 09, 2012	Sheet 1 of 38	

GA-Z77-D3H

Component value change history

Data	Change Item	Reason
0.1-1124	E-BOM	
02-1216	1. ADD PCH_HS & MOS_HS料號	
	2. PCIE gen2 switch PI3PCIE2415ZHE --> ASM1440	
	3. load-line DAR5=12K , DAR40=1.78K	
10A-0105	1. Z77料號更新	
	2. PWM Driver power vcc or +12v?	
	3. DART2 --> 47K/1/4/S , DAR44 --> 0 ohm	
10B-0113	1. Vcore & VAXG VSEN modify , DAR1,DAR51=100/4/1,DAR2,DAR54=0/4,DAC1,DAC24=3.3nF	
	2. 1.54K加替料:10RC4-001541-22R TA-I	
	1. Remove IR PWM 1X3 pin	
10C-0117	1. DA_DR11,DC_DR11,DZ_DR18 1ohm --> 0ohm	
10D-0119	1. Prochot R65 : 1.65K/4/1 --> 2.74K/4/1	
10E-EVT-0201	1. Modify choke=0.36uH , DRIVER=5V	
10F	1. IR3564要改用新料號03R	
	2. poochot change 100K	
10T	1. 0 OHM Short-pad	
	2. DDR3 FOR OC 2400MHz UP	
10G	0. PCB Rev1.0 --> ReV1.01	
	1. RS_PWM相關線路移除 (若有上prochot pull up改100 ohm)	
	2. Add M/B ID for DDR3 OC	
	3. 固態電容區分100uF/6.3V & 100uF/16V	
10I-0430	1. PWM IR3564 --> IR3564A	
	2. Remove DAESD1	
	3. RJK0393DPA 10IF9-040393-01R --> 10IF9-040393-11R	

Circuit or PCB layout change

DATE	Change Item	Reason
P67X-UD3-B3		
2011/02/18-0.1	1. 移除LAR11 ,LAR14 , NR28 ,新增NTP11	
2011/02/18-1.0	2. 新增DR388,DR389,DR391 ; Remove DQ49,DR347,DR371 3. CR44改成R0603-RH 4. R1,LAR3,RBR20,LABC25 -->R0402-2-SHORT 5. RAQ1 --> Q_TO223-MASK 6. RARN1 --> R8P4R-0402-SHORT 7. CESD1~5 --> SSOP5 8. RAQ2,RAEC1一起往下移40mil 9. CESD2文字面要標pin1	
2011/03/8-1.01	1. Add "Dolby" logo	
2011/03/8-1.02	1. UAFB1,UAFB2,UBF1,UBF2 Footprint update 1206-->1812 2. Add "AD1" FOR 5VSB	
Z68XP-D3		
1.0	1. update MINI_PCIE footprint 2. 文字面 : SLOT部分全對齊	
Z77-D3H-0.1	EVT	
0.2-1216	1. Remove SE9172 , Add VCC3 內層(注意其他內層power,跨切割) 2. SPDIF AGND --> GND 3. PCI SLOT & PCIEX1/X4 CAP COST DOWN 4. 0 ohm --> SHORT PAD 5. REMOVE SMBUS FROM COMP TO SOLDER SIDE IN DR POWER 6. SATA3 connect Change to 90 degree (記得SATA3訊號部分要做挖空) 7. Add "108dB"文字面 8. Remove VCC1_05_PCH & VCC1_8_PCH gate net 9. Add EJ168 R_USB30_1 & F_USB3 10. UAE1/UAE2 NET SWAP 11. 內層+12V要打VIA在COMA處 12. SPDIFO_HDMI走12mil	
1.0	1. SATA2~SATA3文字面要隱藏 2. DART2 移至 DC_DQ1左上方 3. Q7 & DAR31 NET Change	
1.01	1. 0 OHM SHORT PAD (LAN & AUDIO) 2. DDR3 2400MHz OC modify	

Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

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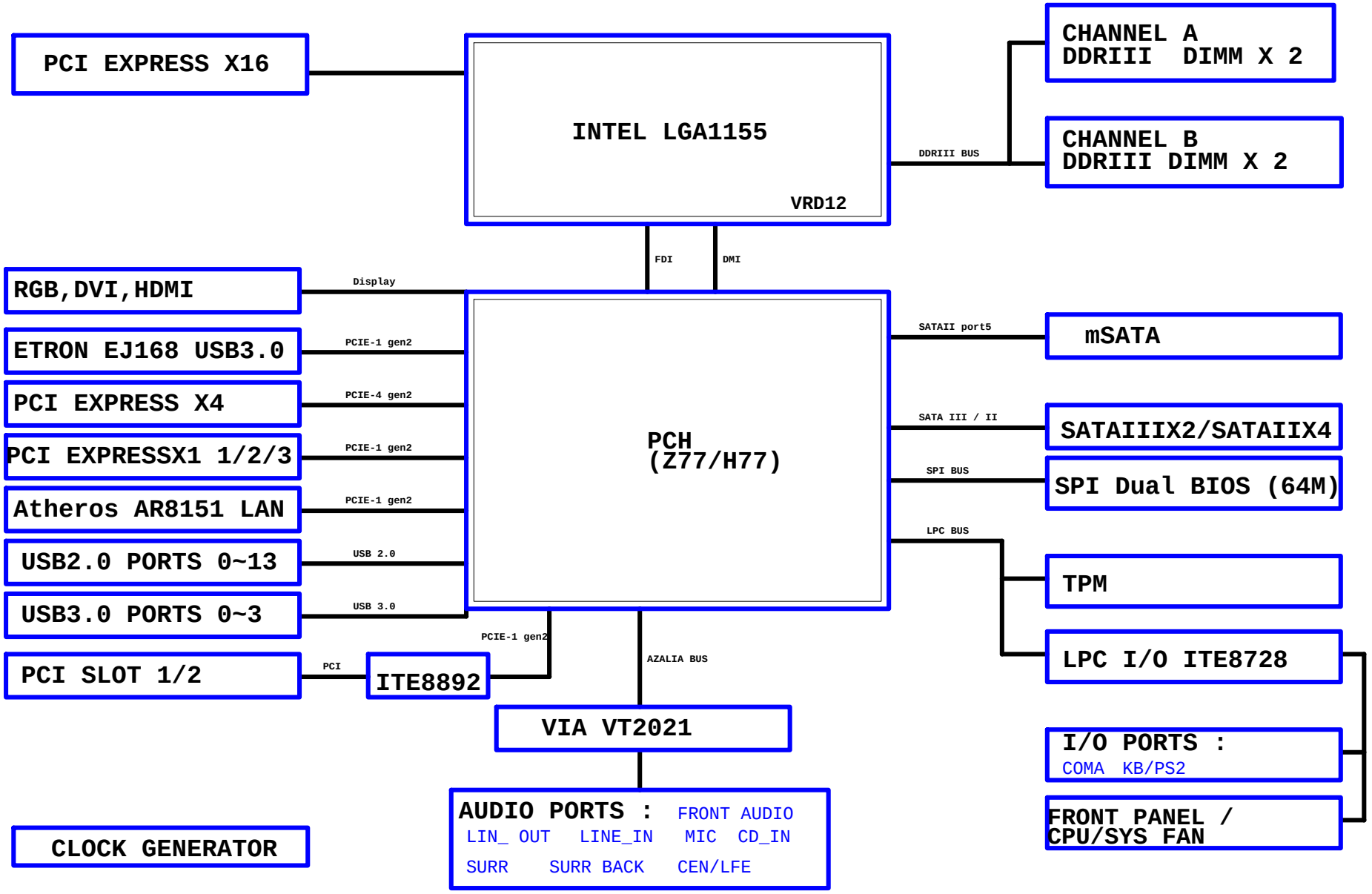
BLOCK DIAGRAM



Gigabyte Technology			
Title: BLOCK DIAGRAM			
Size: C	Document Number: GA-Z77-D3H		Rev: 1.01
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LGA1155E

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

LGA1155[10SC1-F01155-01R]

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

LGA1155D

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

LGA1155[10SC1-F01155-01R]

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

LGA1155C

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

LGA1155[10SC1-F01155-01R]

1.1V分壓

Stitching caps for PCIE,DMI bus

Stitching caps for PCIE,DMI bus

Title	CPU LGA1155-A
Size	Custom
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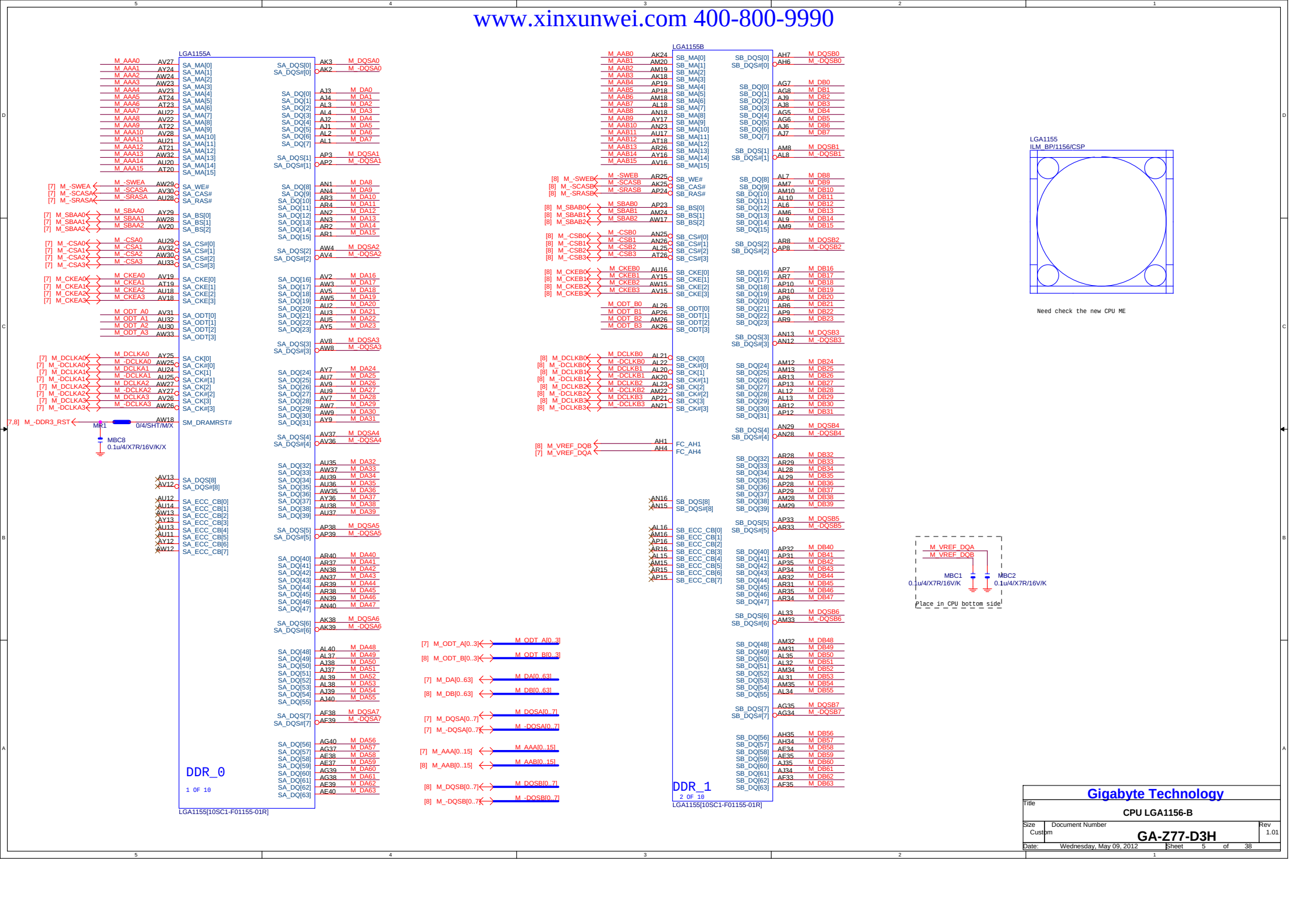
Gigabyte Technology



Gigabyte Technology		
Title	CPU LGA1156-B	
Size: Custom	Document Number: GA-Z77-D3H	Rev: 1.01
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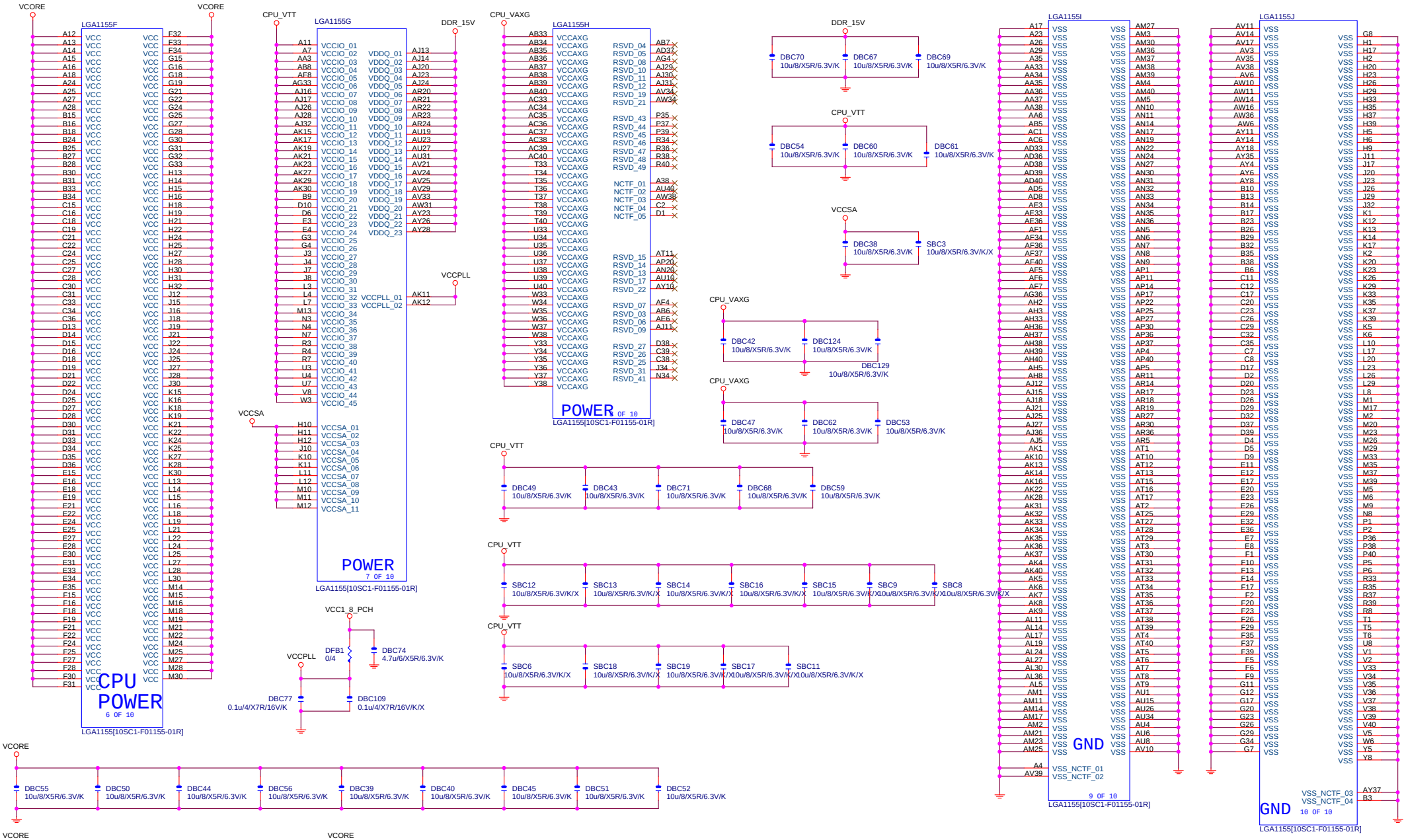

Gigabyte Technology		
Title: CPU LGA1156-C		
Size: Custom	Document Number: GA-Z77-D3H	Rev: 1.01
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DDR TERMINATION CHANNEL A/B

Gigabyte Technology		
Title: DDRIII CHANNEL A		
Size: Custom	Document Number: GA-Z77-D3H	Rev: 1.01
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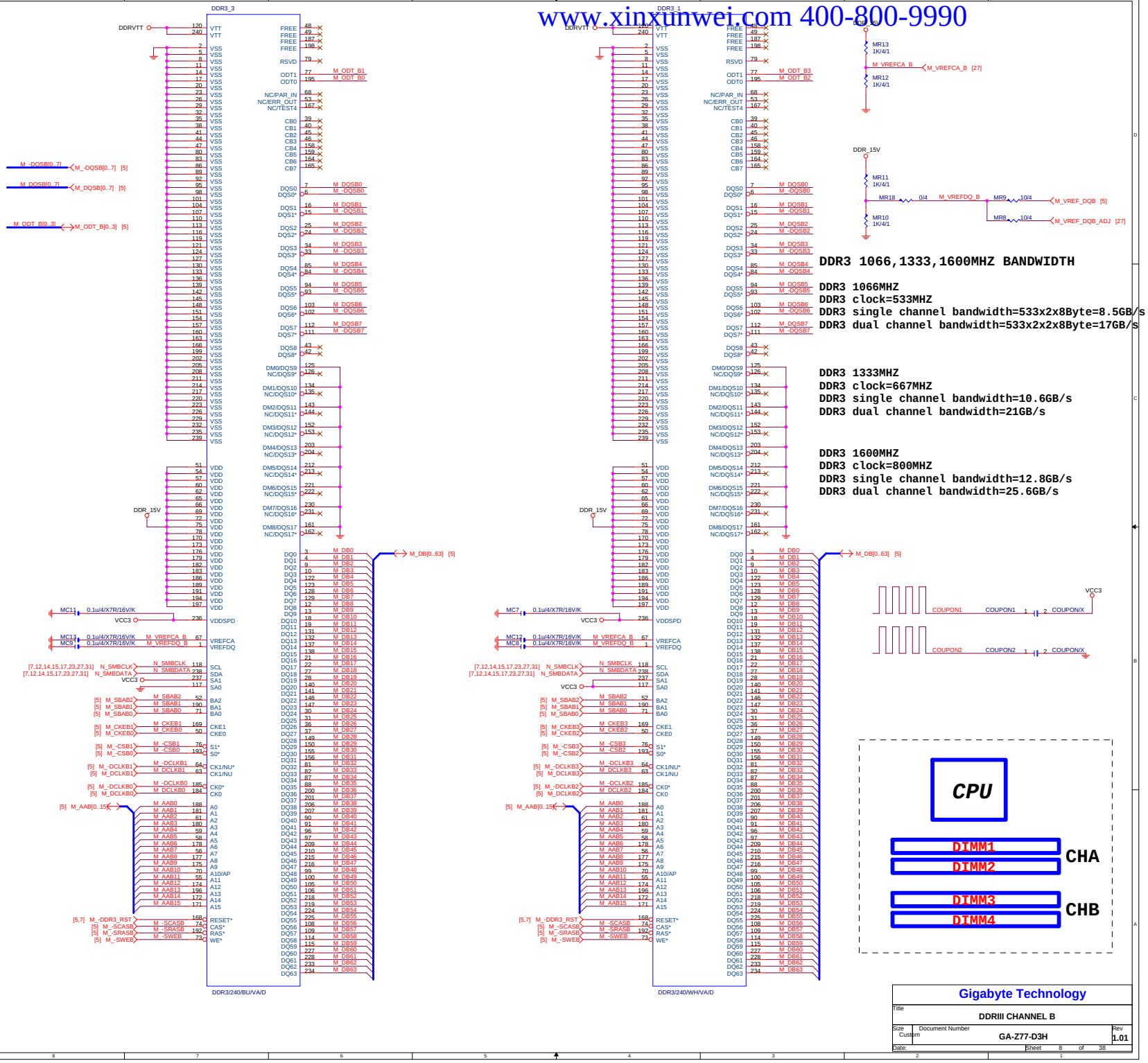

Gigabyte Technology	
Title	DDRIII CHANNEL B
Size: Custom	Document Number: GA-Z77-D3H
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USB3.0:10/5/7/5/20 (breakout min 8/4/4/4/8) ; ONLY 3 VIAS
Impedance=85 +- 17.5%
Back Panel < 10000 MILS
Front Panel < 6000 MILS

USB2.0 : 12/4.5/7.5/4.5/12 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%

PCHB

DMI

USB

PCI-E

2 OF 11

BD82Z77/S

放靠近 Device & PCI-E Slot

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

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

PCHG

FDILINK

7 OF 11

BD82Z77/S

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

PCHE

NVRAM

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BD82Z77/S

PCH_HS

NPCH_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
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PCHF

DDPB_HPD
DDPC_HPD
DDPD_HPD
DDPB_AUXP
DDPB_AUXN
DDPC_AUXP
DDPC_AUXN
DDPD_AUXP
DDPD_AUXN
DDPB_0P
DDPB_0N
DDPB_1P
DDPB_1N
DDPB_2P
DDPB_2N
DDPB_3P
DDPB_3N
DDPC_0P
DDPC_0N
DDPC_1P
DDPC_1N
DDPC_2P
DDPC_2N
DDPC_3P
DDPC_3N
DDPD_0P
DDPD_0N
DDPD_1P
DDPD_1N
DDPD_2P
DDPD_2N
DDPD_3P
DDPD_3N
SDVO_INTP
SDVO_INTN
SDVO_STALLP
SDVO_STALLN
SDVO_TVCLKINP
SDVO_TVCLKINN

CRT_HSYNC
CRT_VSYNC
CRT_RED
CRT_GREEN
CRT_BLUE
CRT_IRTN
CRT_DDC_DATA
CRT_DDC_CLK
DAC_IREF
DDPC_CTRLCLK
DDPC_CTRLDATA
DDPD_CTRLCLK
DDPD_CTRLDATA
SDVO_CTRLCLK
SDVO_CTRLDATA

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BD82Z77/S

Flex0,2 : 33MHZ

Flex1,3 : 27/14/24/48/25MHZ

PCHH

CLKOUT_PCI0
CLKOUT_PCI1
CLKOUT_PCI2
CLKOUT_PCI3
CLKOUT_PCI4
CLKOUTFLEX0/GPIO64
CLKOUTFLEX1/GPIO65
CLKOUTFLEX2/GPIO66
CLKOUTFLEX3/GPIO67
XCLK_RCOMP
REFCLK14IN
XTAL25_OUT
XTAL25_IN

CLKIN_GND1_N
CLKIN_GND1_P
CLKIN_GND0_N
CLKIN_GND0_P
CLKOUT_ITPXDP_N
CLKOUT_ITPXDP_P
CLKOUT_PCIE7N
CLKOUT_PCIE7P
CLKOUT_DMI_N
CLKOUT_DMI_P
CLKOUT_DP_N
CLKOUT_DP_P
CLKOUT_PCIE0N
CLKOUT_PCIE0P
CLKOUT_PCIE1N
CLKOUT_PCIE1P
CLKOUT_PCIE2N
CLKOUT_PCIE2P
CLKOUT_PCIE3N
CLKOUT_PCIE3P
CLKOUT_PCIE4N
CLKOUT_PCIE4P
CLKOUT_PCIE5N
CLKOUT_PCIE5P
CLKOUT_PCIE6N
CLKOUT_PCIE6P
CLKOUT_PEG_A_N
CLKOUT_PEG_A_P
CLKOUT_PEG_B_N
CLKOUT_PEG_B_P

120Mhz for DP

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BD82Z77/S

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

Mount for integrated clock Generation Mode

Check if NC for P67 non graphic chip

SSOP6_ESD

AZC009-04S/SOT23-6L

Close to PCH

Close to Filter

VGA

VGA/BU/SC/RA/D/2/HR

Title	PCH DISPLAY ,CLK BUFFER
Size	Custom
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Gigabyte Technology

SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%

SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%

PCHC

For WIFI

CLINK: CL_CLK1, CL_DATA1, CL_RST1#

SATA3: SATA0RXN/SATA0RXP/SATA0TXN/SATA0TXP, SATA1RXN/SATA1RXP/SATA1TXN/SATA1TXP

SATA2: SATA2RXN/SATA2RXP/SATA2TXN/SATA2TXP, SATA3RXN/SATA3RXP/SATA3TXN/SATA3TXP, SATA4RXN/SATA4RXP/SATA4TXN/SATA4TXP, SATA5RXN/SATA5RXP/SATA5TXN/SATA5TXP

FAN: APWROK, PWM0, PWM1, PWM2, PWM3, TACH0/GPIO17, TACH1/GPIO1, TACH2/GPIO6, TACH3/GPIO7, TACH4_GPIO68, TACH5_GPIO69, TACH6_GPIO70, TACH7_GPIO71, SST

GPIO: SCLOCK/GPIO22, SLOAD/GPIO38, SDATAOUT0/GPIO39, SDATAOUT1/GPIO48, SATA0GP/GPIO21, SATA1GP/GPIO19, SATA2GP/GPIO36, SATA3GP/GPIO37, SATA4GP/GPIO16, SATA5GP/GPIO49, SATA3COMPI, SATA3RCOMPO, TP16, SATA3RBIAS

HOST: A20GATE, INIT3_3V#, RCIN#, SERIRQ, THRMTRIP#, PECI, PMSYNCH

NC_5

3 0F 11

BD82Z77/S

NR177 0/4/SHT/M/X

[12,18,31] O_PWROK1

N_ME_PWROK

NC19 0.01u/4/X7R/25V/K/X

[18] N_SSTCTL

[15] N_PCIE_1_SW

[19] N_-PCH_HOT

[15] N_PCIE_4_SW

NRN8 8.2K/8P4R/4

NRN7 8.2K/8P4R/4

N_GPIO1 NR206 0/4/X UB_SMIB [34]

MB-1D

NR64 8.2K/4/X N_GPIO17

NR173 8.2K/4/X N_GPIO19

FDI RX

[18] N_TEMP_ALART-

NR150 1K/4/1/X

NRN13 8.2K/8P4R/4

NRN14 8.2K/8P4R/4

NRN15 8.2K/8P4R/4

[12] N_GPIO0

[12] N_GPIO20

N_-KBRST NR124 1K/4/1

VCC3

PCHA

PCI

1 0F 11

BD82Z77/S

[10] N_PCH33

NTP3

[20] N_-GNT0

[20] N_-GNT1

NRN5 8.2K/8P4R/4

NRN6 8.2K/8P4R/4

NRN4 8.2K/8P4R/4

NRN3 8.2K/8P4R/4

NRN2 8.2K/8P4R/4

CK_SRCCLK_SATA NR157 8.2K/4

CK_-SRCCLK_SATA NR156 8.2K/4

Mount for integrated clock Generation Mode

VCC1_05_PCH

W=4 mil out of PCH
S=15 mil out of PCH

SATA2_2, SATA2_3, SATA2_4, SATA2_5

SATA2/7/BU/H/OP/VA/D/1/B/PA66

SATA3_0_1

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

Gigabyte Technology	
Title	PCH HOST , SATA, PCI
Size B	Document Number GA-Z77-D3H Rev 1.01
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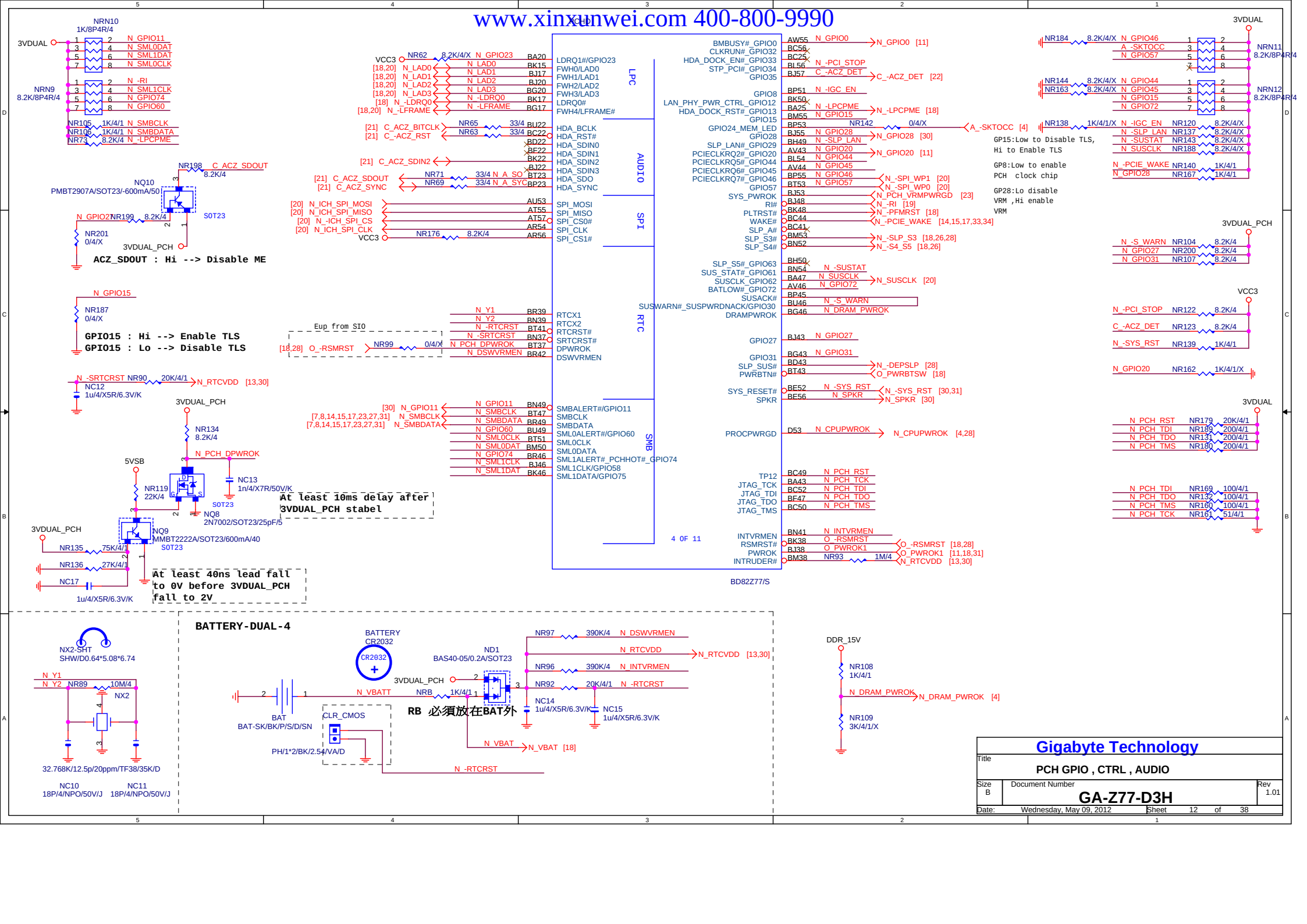

Gigabyte Technology			
Title: PCH GPIO , CTRL , AUDIO			
Size: B	Document Number: GA-Z77-D3H		Rev: 1.01
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PCHI

BD82Z77/S

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PCHJ

BD82Z77/S

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PCHK

BD82Z77/S

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Need isolation

Need isolation

CLOSE北橋(注意震盪水波紋)

(3.3V/70mA+360uA)

Gigabyte Technology	
Title	PCH PWR ,GND
Size: Custom	Document Number: GA-Z77-D3H
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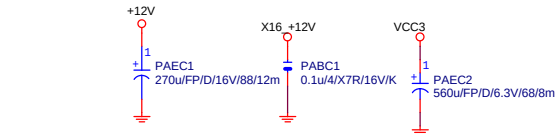
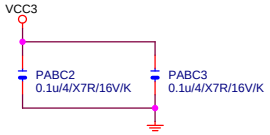
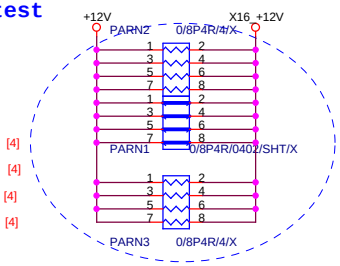




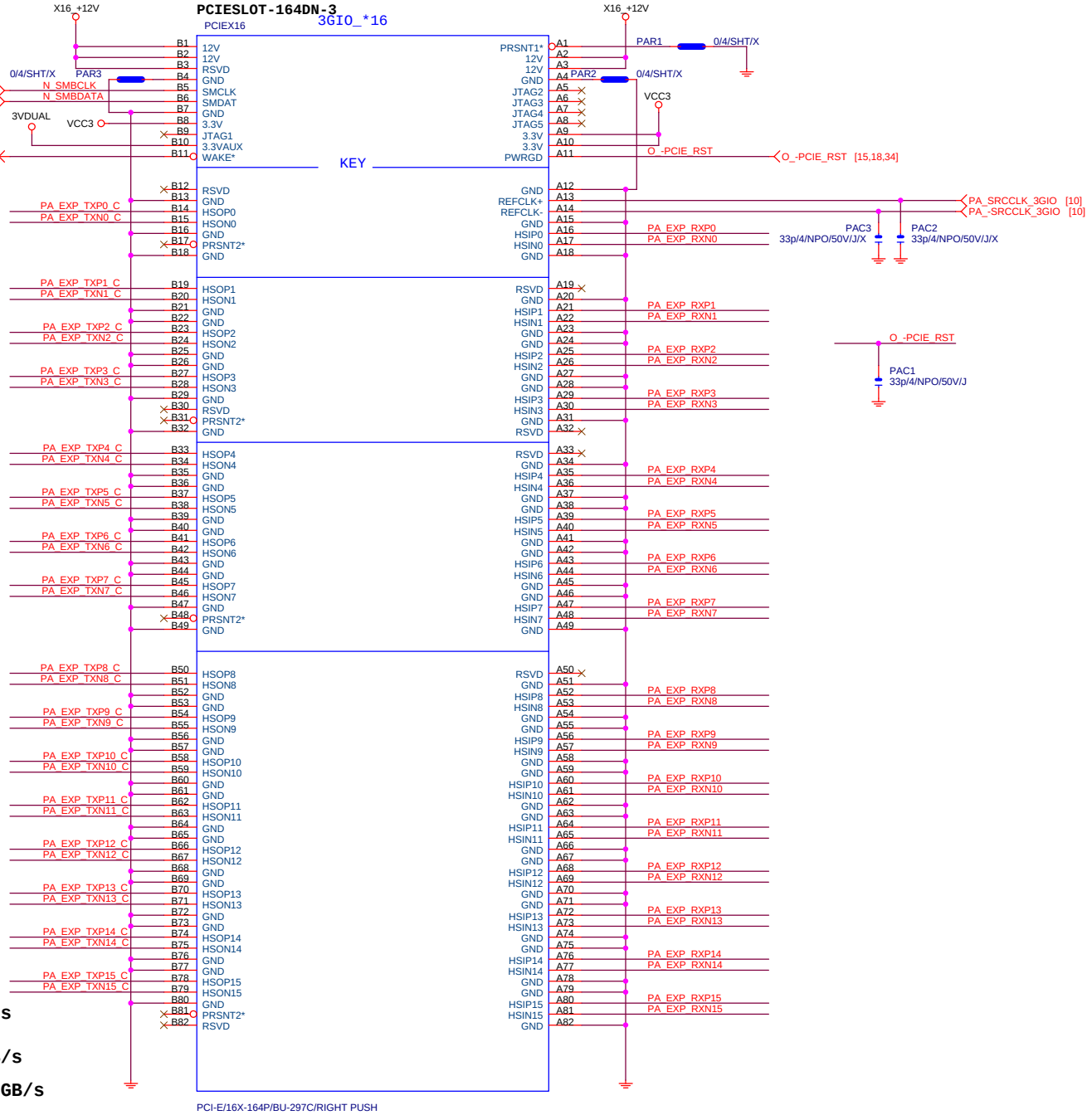
+12 protect short-wire test



PCIEX16:16/5/5/5/16

PA_EXP_RXP[0..15] PA_EXP_RXP[0..15] [4]
PA_EXP_RXN[0..15] PA_EXP_RXN[0..15] [4]
PA_EXP_TXP[0..15] PA_EXP_TXP[0..15] [4]
PA_EXP_TXN[0..15] PA_EXP_TXN[0..15] [4]

PA_EXP_TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA_EXP_TXP0_C
PA_EXP_TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA_EXP_TXN0_C
PA_EXP_TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA_EXP_TXP1_C
PA_EXP_TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA_EXP_TXN1_C
PA_EXP_TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA_EXP_TXP2_C
PA_EXP_TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA_EXP_TXN2_C
PA_EXP_TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA_EXP_TXP3_C
PA_EXP_TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA_EXP_TXN3_C
PA_EXP_TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA_EXP_TXP4_C
PA_EXP_TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA_EXP_TXN4_C
PA_EXP_TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA_EXP_TXP5_C
PA_EXP_TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA_EXP_TXN5_C
PA_EXP_TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA_EXP_TXP6_C
PA_EXP_TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA_EXP_TXN6_C
PA_EXP_TXP7	PAC19	0.22u/4/X5R/6.3V/K	PA_EXP_TXP7_C
PA_EXP_TXN7	PAC18	0.22u/4/X5R/6.3V/K	PA_EXP_TXN7_C
PA_EXP_TXP8	PAC20	0.22u/4/X5R/6.3V/K	PA_EXP_TXP8_C
PA_EXP_TXN8	PAC21	0.22u/4/X5R/6.3V/K	PA_EXP_TXN8_C
PA_EXP_TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA_EXP_TXP9_C
PA_EXP_TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA_EXP_TXN9_C
PA_EXP_TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA_EXP_TXP10_C
PA_EXP_TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA_EXP_TXN10_C
PA_EXP_TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA_EXP_TXP11_C
PA_EXP_TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA_EXP_TXN11_C
PA_EXP_TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA_EXP_TXP12_C
PA_EXP_TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA_EXP_TXN12_C
PA_EXP_TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA_EXP_TXP13_C
PA_EXP_TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA_EXP_TXN13_C
PA_EXP_TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA_EXP_TXP14_C
PA_EXP_TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA_EXP_TXN14_C
PA_EXP_TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA_EXP_TXP15_C
PA_EXP_TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA_EXP_TXN15_C



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

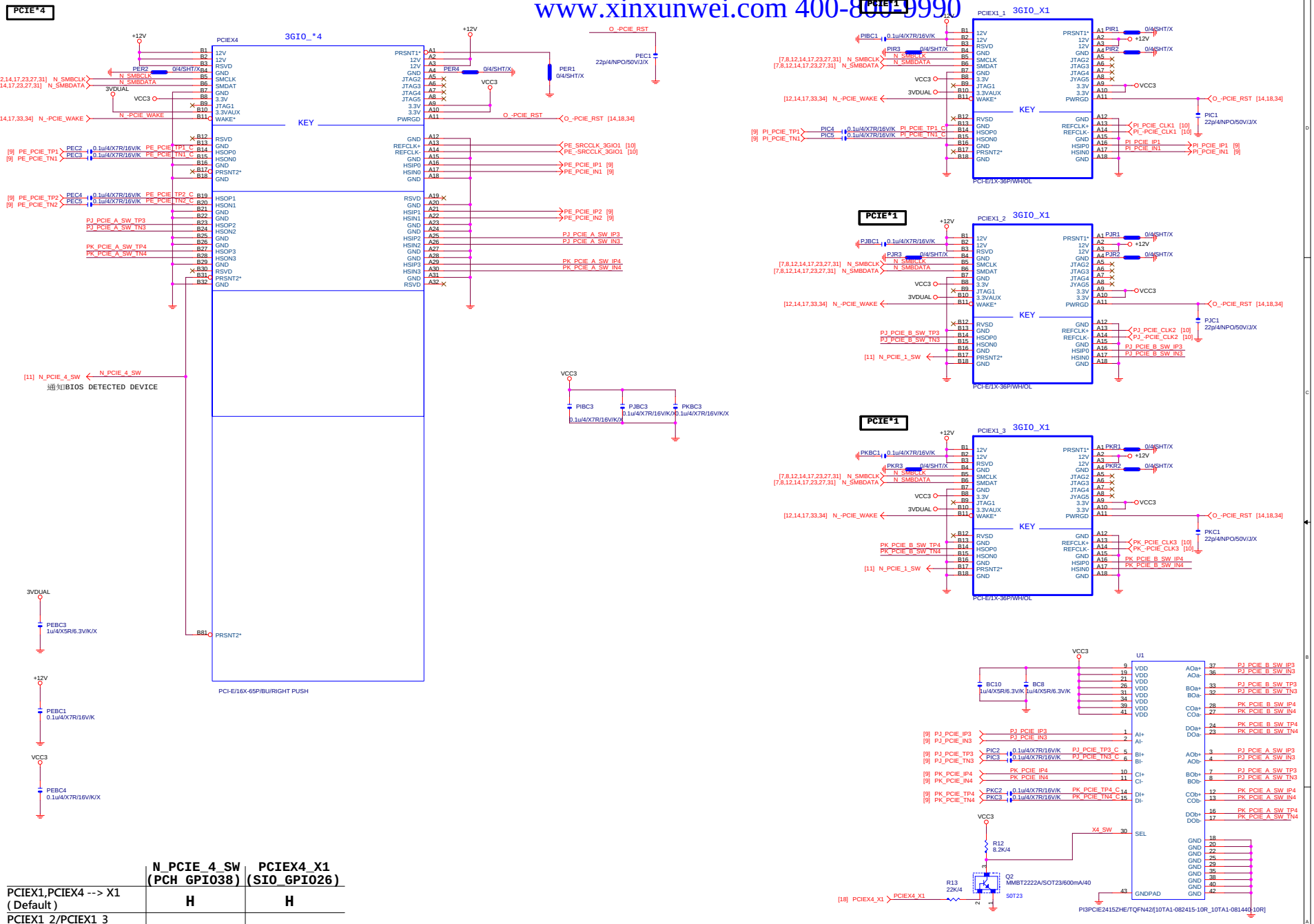
PCE-E X16(單向) BANDWITH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s

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 * 16		
Size: Custom	Document Number: GA-Z77-D3H		Rev: 1.01
Date: Wednesday, May 09, 2012	Sheet 14 of 38		



	N_PCIE_4_SW (PCH GPIO38)	PCIEX4_X1 (SIO_GPIO26)
PCIEX1,PCIEX4 --> X1 (Default)	H	H
PCIEX1_2/PCIEX1_3 Have devices PCIEX4 -> X1	H	H
PCIEX1_2/PCIEX1_3 No devices PCIEX4 Have devices PCIEX4 -> X4	L	L

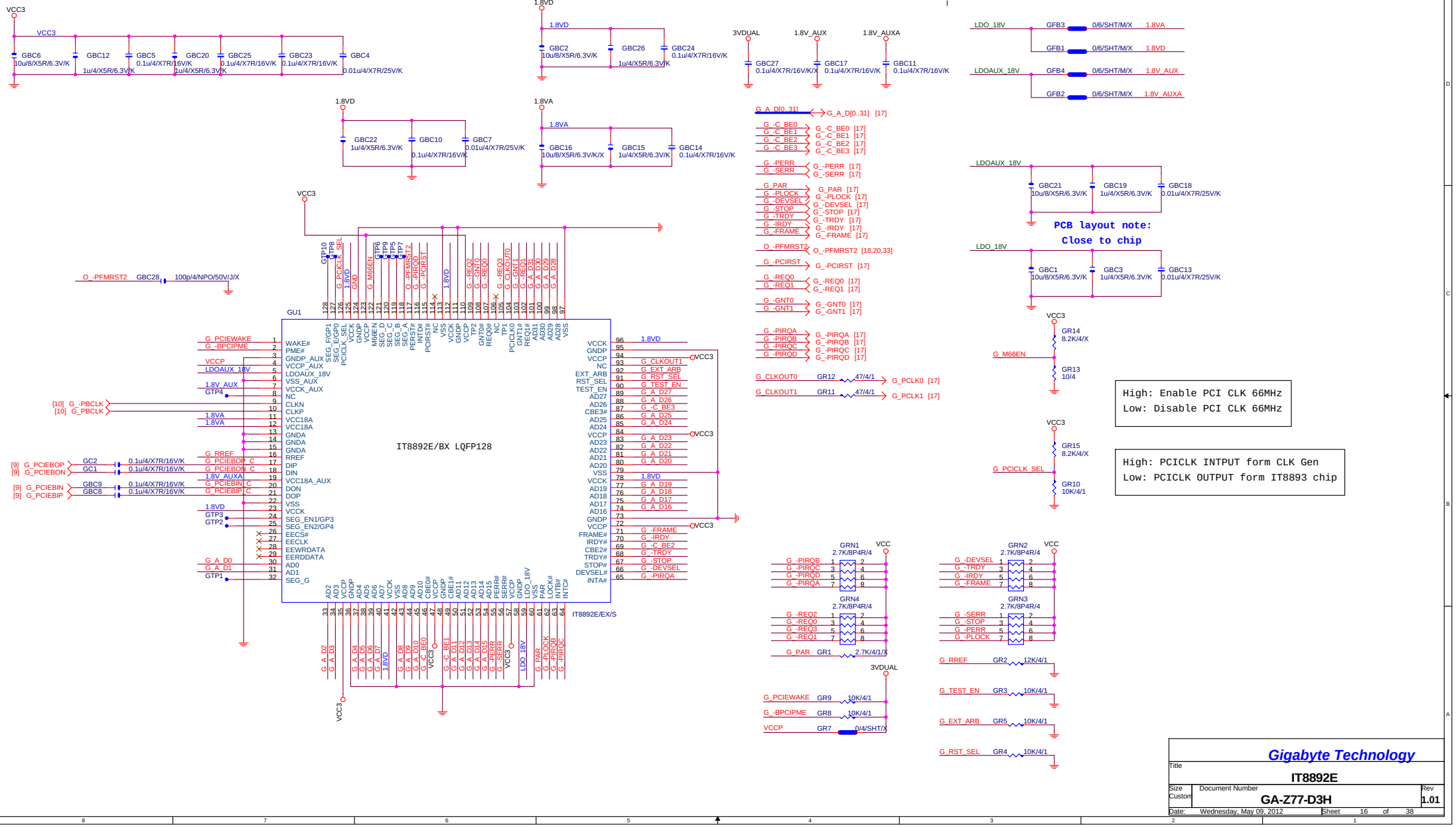
Function	SEL
xI--> xOa	L;PCIEX4 SLOT-->X1
xI--> xOb	H;PCIEX4 SLOT-->X4

Gigabyte Technology

Title: PCIE_X1 1,2

Size: Custom | Document Number: GA-Z77-D3H | Rev: 1.01

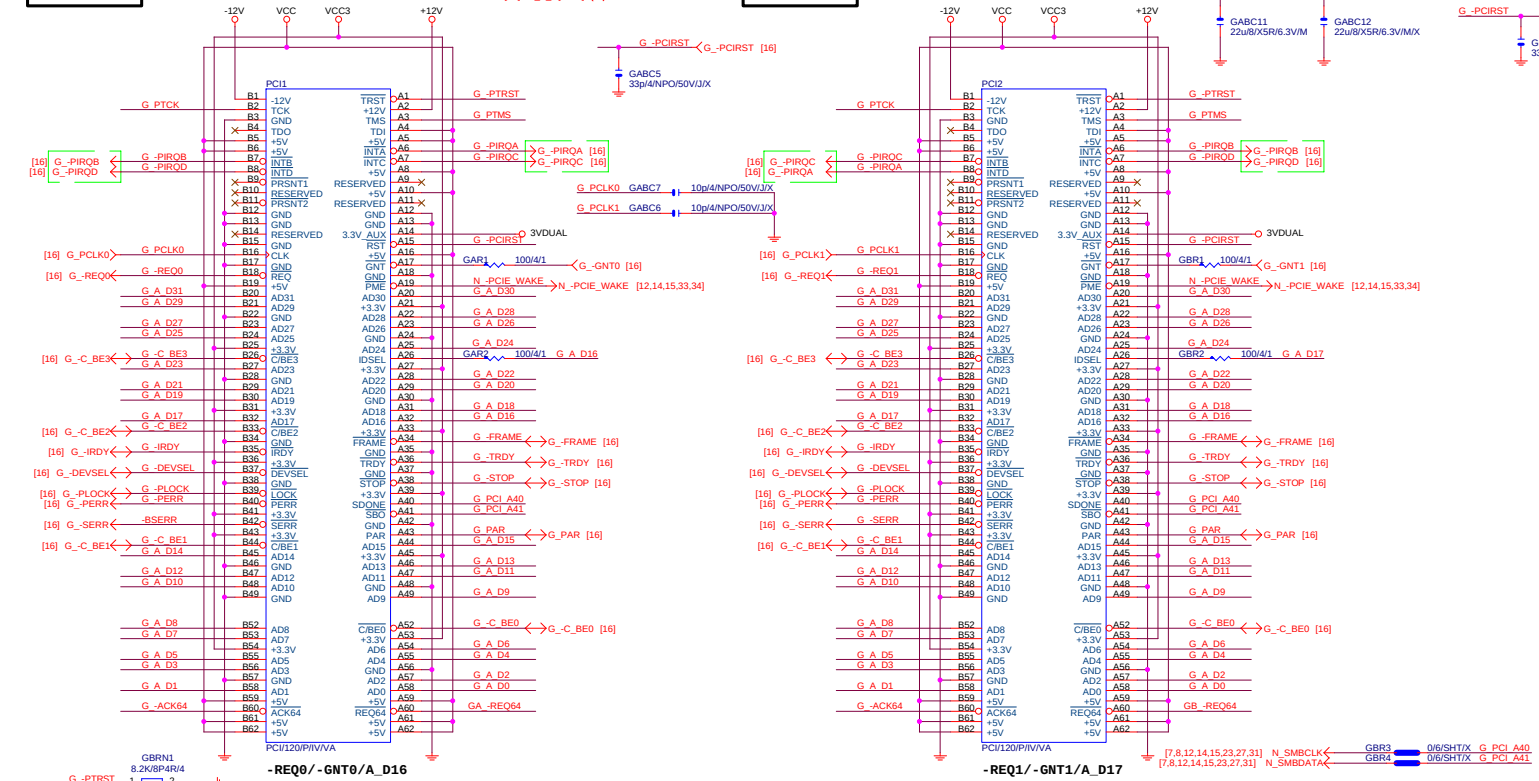
Date: Wednesday, May 09, 2012 | Sheet 15 of 38



Gigabyte Technology			
Title: IT8892E			
Size: Custom	Document Number: GA-Z77-D3H		Rev: 1.01
Date: Wednesday, May 09, 2012	Sheet 16 of 38		

PCI SLOT 1

PCI SLOT 2



Title	PCI SLOT 1&2
Size	Custom
Document Number	GA-Z77-D3H
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Date:	Wednesday, May 09, 2012
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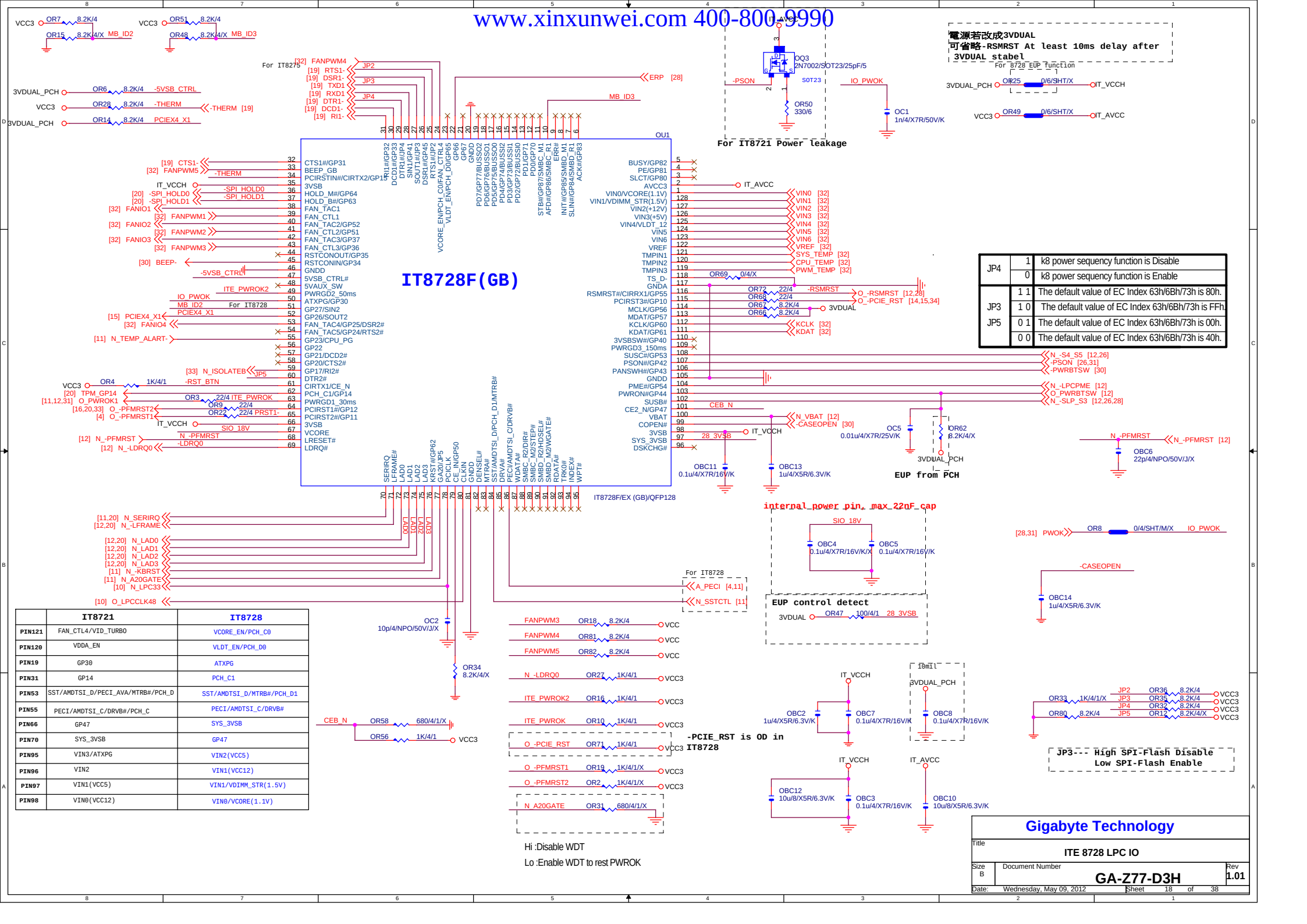


JP4	1	k8 power sequency function is Disable
	0	k8 power sequency function is Enable
JP3 JP5	1 1	The default value of EC Index 63h/6Bh/73h is 80h.
	1 0	The default value of EC Index 63h/6Bh/73h is FFh.
	0 1	The default value of EC Index 63h/6Bh/73h is 00h.
	0 0	The default value of EC Index 63h/6Bh/73h 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-Z77-D3H Rev 1.01
Date: Wednesday, May 09, 2012	Sheet 18 of 38

COMA

OAU1
GD75232/TSSOP20
OABC1 0.1u/4/X7R/16V/K/X
OABC3 0.1u/4/X7R/16V/K/X
OABC2 0.1u/4/X7R/16V/K/X
-12V
+12V
VCC

COM R1

OAQ1
MMBT2222A/SOT23/600mA/40
OAD1
CD4148WP/1206/300mA
OAR1 75K/4/1
OAR2 8.2K/4
S0T23

COMA
BH/2*5K10/IV/2.54/VA/COM/PRT/TUR180
11NH3-000205-Y1R/Y2R
OACN1
OACN2
180P/8P4C/6/NPO/50V/K
180P/8P4C/6/NPO/50V/K

UBF5 SMD1812P350SLR/S
UBF6 SMD1812P350SLR/S
5VDUAL
UBEC3 100u/OS/D/6.3V/66/30m

UBR4 8.2K/4
UBR8 15K/4/1
UBR2 8.2K/4
UBR1 15K/4/1
-USBOC_R1 [34]
-USBOC_R2 [34]

Q21
BAT54A/SOT23/200mA
S0T23
R80 0/4/X
A_-PROCHOT
-PROHOT

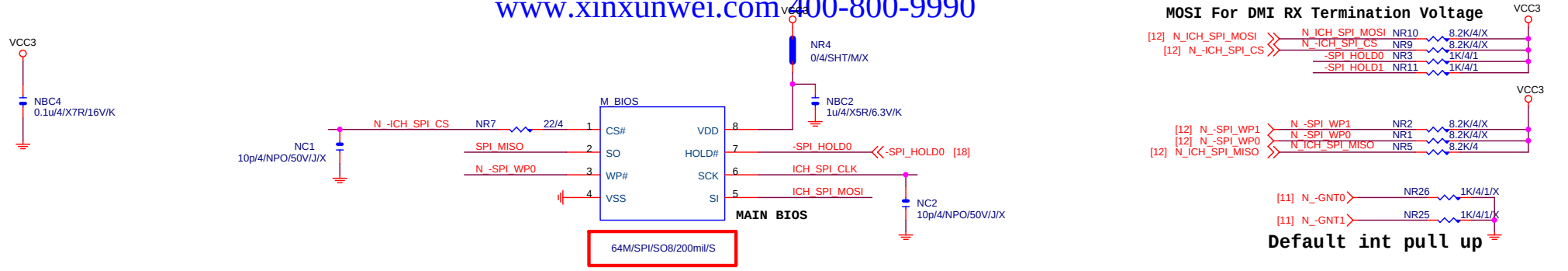
UBESD2
AZC009-04S/SOT23-6L

R_USB30_1
USB3.0/2.0
USB/18P/BU/OS/RA/D/2/1U/SB
UBBC3 0.1u/4/X7R/16V/K
UBBC4 0.1u/4/X7R/16V/K
UBC45 0.1u/4/X7R/16V/K
UBC46 0.1u/4/X7R/16V/K
UBC47 0.1u/4/X7R/16V/K
UBC48 0.1u/4/X7R/16V/K
Close to R_USB30
90歐姆:[20/4.5/7.5/4.5/20]
Close to R_USB30
90歐姆:[20/4.5/7.5/4.5/20]

UBE4
UBE3
AZ1045-04F/MSOP10
AZ1045-04F/MSOP10

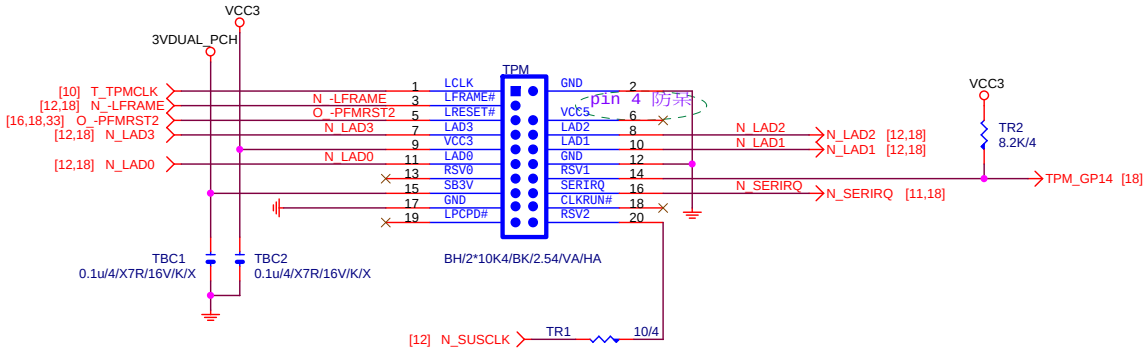
R29 10K/4/1
R65 1.5K/4/1
R59 100K/4/1
RS1 100K/1/4/S
R61 1K/4/1
C6 0.1u/4/X7R/16V/K
U6B LM324DR/SO14
112~126 degree
Q7 2N7002/SOT23/25pF/5
Q8 2N7002/SOT23/25pF/5/X
-THERM
RS1 CLOSE CPU VR MOSFET
CLOSE PWM HOT MOSFET

Gigabyte Technology		
Title: COM & PROHOT/Dynamic O.C.		
Size: Custom	Document Number: GA-Z77-D3H	Rev: 1.01
Date: Wednesday, May 09, 2012	Sheet 19 of 38	



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

1 means floating
0 means PD 1K



Gigabyte Technology

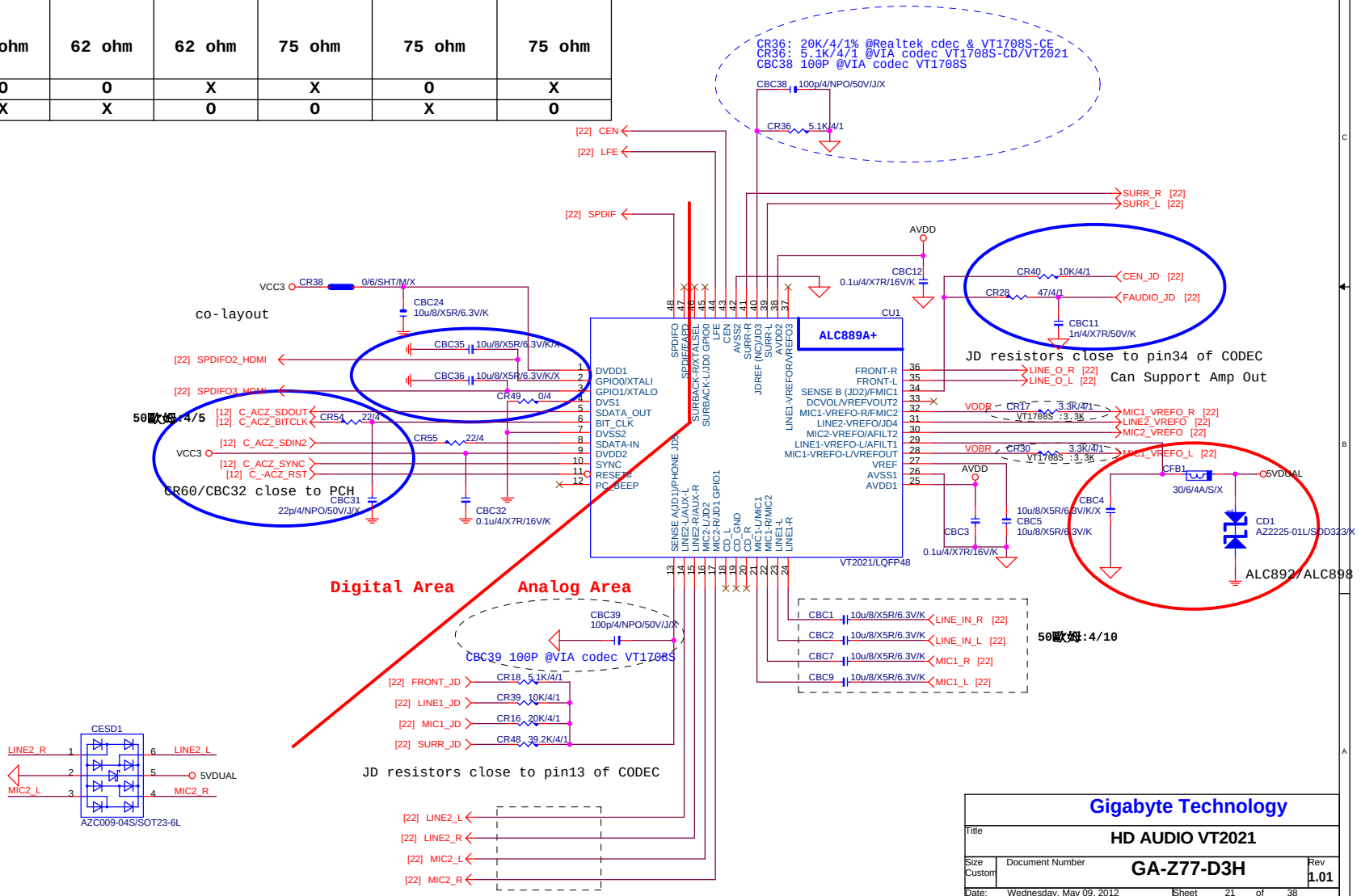
Title: BIOS

Size: Custom | Document Number: GA-Z77-D3H | Rev: 1.01

Date: Wednesday, May 09, 2012 | Sheet 20 of 38

AZALIA CODEC *ALC662-VD0/ALC887-VD2/ALC889/VT1708S-CD/VT1708S-CE/VT2021 Only*

	ALC662	ALC887-VD2	ALC889	VT1708S-CD	VT1708S-CE/ VT1705CF	VT2021
CR49	X	X	O	O	X	O
CBC36	O	O	X	X	O	X
CR28/CBC11	47ohm+1nF	47ohm+1nF	47ohm+1nF	22ohm+100P	22ohm+100P	47ohm+1nF
CR52	X	O	O	O	O	O
CR57	O	X	X	X	X	X
CBC1/CBC2	10uF/X5R	10uF/X5R	22uF/X5R	10uF/X5R	10uF/X5R	10uF/X5R
CR36	20K/4/1	20K/4/1	20K/4/1	5.1K/4/1	20K/4/1	5.1K/4/1
CR17/CR30/ CR25/CR15/CR12/CR3/	8.2K/4	8.2K/4	8.2K/4	3.3K/4/1	3.3K/4/1	3.3K/4/1
CBC38/CBC39	X	X	X	100P/4	100P/4	X
CR10/CR8/CR20/CR45/ CR42/CR51/CR27/CR26	22K/4	22K/4	22K/4	10K/4/1	10K/4/1	10K/4/1
CR7/CR9/CR5/CR13/ CR29/CR32/CR46/CR19/ CR50/CR41/CR2/CR11/ CR14/CR24	62 ohm	62 ohm	62 ohm	75 ohm	75 ohm	75 ohm
CFB1/CD1/CBC4/CBC8	O	O	X	X	O	X
CD2/CD3/CQ3/CQ4	X	X	O	O	X	O



CODEC POWER/EMI PAD

EUP

5VDUAL CD4 AVDD

CD4148WP/1206/300mA

CQ3 78L05/SOT89/0.1A

+12V CD3 CD4148WP/1206/300mA

CR44 0/6/X

CR23 2.2/6

CBC21 0.1u/4/X7R/16V/K/X

CBC8 22u/8/X5R/6.3V/M

CD2 AZ2225-01L/SOD323

ADD CD2 For ESD PROTECT DIODE

CR37 0/4/X

上ALC892時,此顆電容要保留

CR4 0/6/SHT/X

LINE-OUT

CEC2 100u/OS/D/6.3V/66/30m CR7 75/4/1 [21] LINE_O_R AJ_B5

CEC3 100u/OS/D/6.3V/66/30m CR9 75/4/1 [21] LINE_O_L AJ_B2

CR10 10K/4/1 CR8 10K/4/1 VT2021 : 10K

CBC23 180p/4/NPO/50V/J CBC26 180p/4/NPO/50V/J

LINE-IN

[21] LINE_IN_R CR5 75/4/1 AJ_A5

[21] LINE_IN_L CR13 75/4/1 AJ_A2

CBC18 180p/4/NPO/50V/J CBC27 180p/4/NPO/50V/J

MIC-IN

[21] MIC1_R CR29 75/4/1 AJ_C5

[21] MIC1_L CR32 75/4/1 AJ_C2

[21] MIC1_VREFO_L

[21] MIC1_VREFO_R

CBC19 180p/4/NPO/50V/J CBC22 180p/4/NPO/50V/J

SURROUND

EMI

CEC5 100u/OS/D/6.3V/66/30m CR46 75/4/1 [21] SURR_R BJ_C5

CEC7 100u/OS/D/6.3V/66/30m CR19 75/4/1 [21] SURR_L BJ_C2

CR20 10K/4/1 CR45 10K/4/1 VT2021 : 10K

CBC29 180p/4/NPO/50V/J CBC28 180p/4/NPO/50V/J

CEN/LFE

EMI

CEC9 100u/OS/D/6.3V/66/30m CR50 75/4/1 [21] LFE BJ_B5

CEC10 100u/OS/D/6.3V/66/30m CR41 75/4/1 [21] CEN BJ_B2

CR42 10K/4/1 CR51 10K/4/1 VT2021 : 10K

CBC25 180p/4/NPO/50V/J CBC34 180p/4/NPO/50V/J

[21] SPDIF CR57 0/4/X

[21] SPDIFO2_HDMI CR52 0/4/SHT/M/X SPDIFO_HDMI

[21] SPDIFO3_HDMI CR53 0/4/X

CBC37 100p/4/NPO/50V/J

PIN

SPDIF_O PH/1*2/BK/2.54/VA/D

For HDMI SPDIF

AZALIA JACK

BTX AZALIA CONNECTOR

11NR6-403007-21R

AZALIA JACK

AUDIOB

[21] LINE1_JD LINE1_JD AJ_A5 AJ_A2 GND REAR

[21] FRONT_JD FRONT_JD AJ_B5 AJ_B2 GND CEN/LFE

[21] MIC1_JD MIC1_JD AJ_C5 AJ_C2 GND SIDE

2X3RP/25P/BU,GE,OR,BK,GY/RA/[11NR6-403025-61R]

BLUE LINE-IN

GREEN LINE-OUT

PINK MIC-IN

AUDIOA

[21] CEN_JD CEN_JD BJ_B5 BJ_B2 GND LINE-IN

[21] SURR_JD SURR_JD BJ_C5 BJ_C2 GND LINE-OUT

[21] SPDIF FUSEVCC_R4 SPDIFI VCC GND OPTICAL

2X3RP/25P/BU,GE,OR,BK,GY/RA/[11NR6-403025-61R]

Orange CEN/LFE

Black SURROUND

SPDIF

AZALIA FRONT PANEL

CQ2 BAT54A/SOT23/200mA SOT23

[21] LINE2_VREFO CR25 3.3K/4/1 CR15 3.3K/4/1

CQ1 BAT54A/SOT23/200mA

[21] MIC2_VREFO CR12 3.3K/4/1 CR3 3.3K/4/1

VT2021 :3.3K

EMI

[21] MIC2_L CBC20 10u/8/X5R/6.3V/K CR2 75/4/1 M2_L

[21] MIC2_R CBC15 10u/8/X5R/6.3V/K CR11 75/4/1 M2_R

[21] FAUDIO_JD CR14 75/4/1 L2_R L2-R CR24 75/4/1 L2_L L2-L

CR1 0/4/X

F_AUDIO

CR27 10K/4/1 CR26 10K/4/1 VT2021 : 10K

CR56 8.2K/4/X

CR35 20K/4/1 CR31 39.2K/4/1

BH/2*5K8/GED/2.54/VA/AUDIO/PRT/TUR180

C_-ACZ_DET [12]

Digital Area

3VDUAL

100u/OS/D/6.3V/66/30m

[21] LINE2_R CEC6 L2_R

[21] LINE2_L CEC1 L2_L

100u/OS/D/6.3V/66/30m

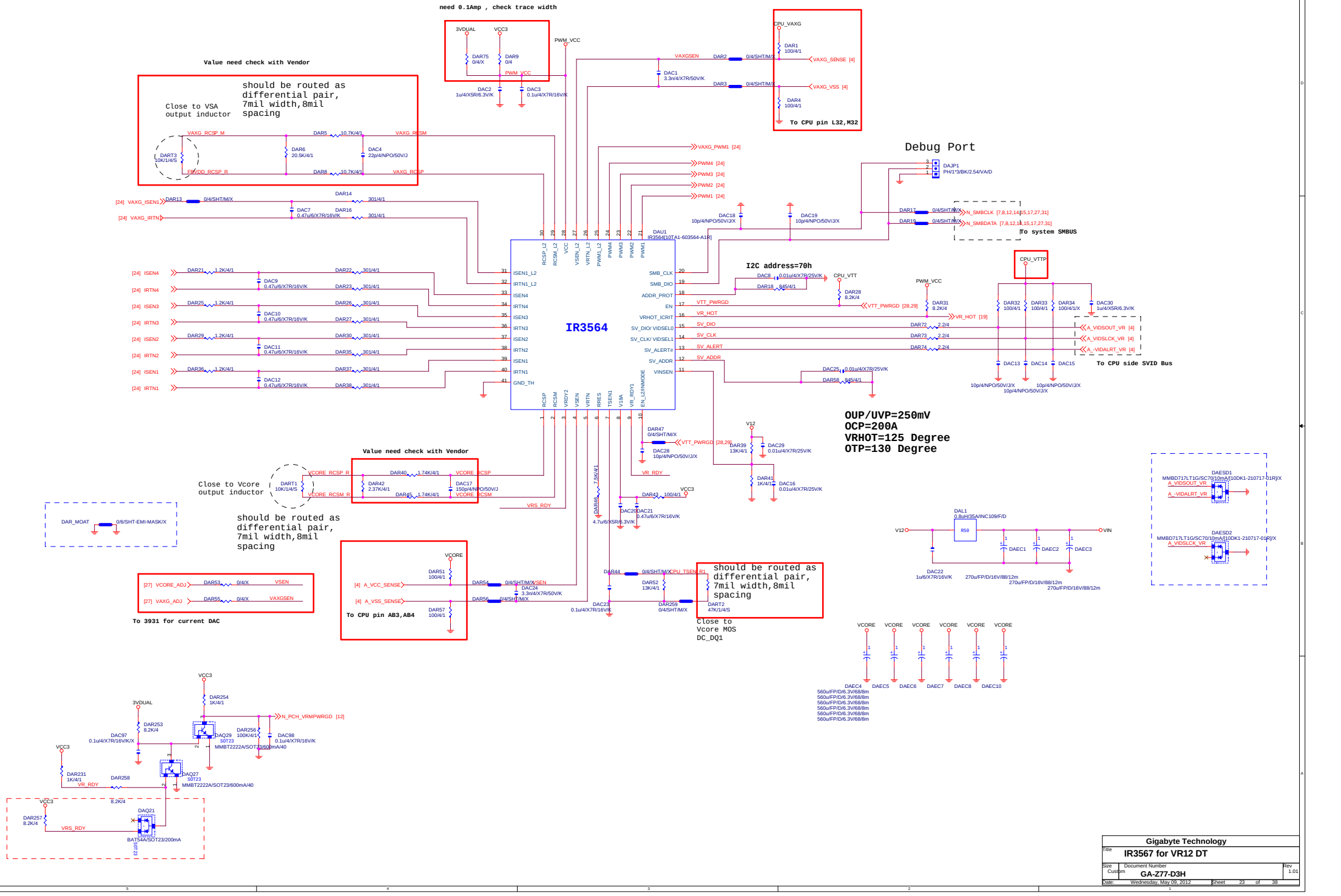
CBC10 180p/4/NPO/50V/J CBC16 180p/4/NPO/50V/J CBC17 180p/4/NPO/50V/J CBC6 180p/4/NPO/50V/J

Gigabyte Technology

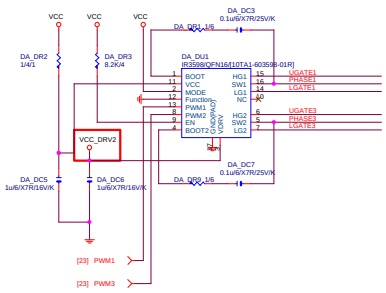
Title: AUDIO JACK

Size: Custom | Document Number: GA-Z77-D3H | Rev: 1.01

Date: Wednesday, May 09, 2012 | Sheet 22 of 38

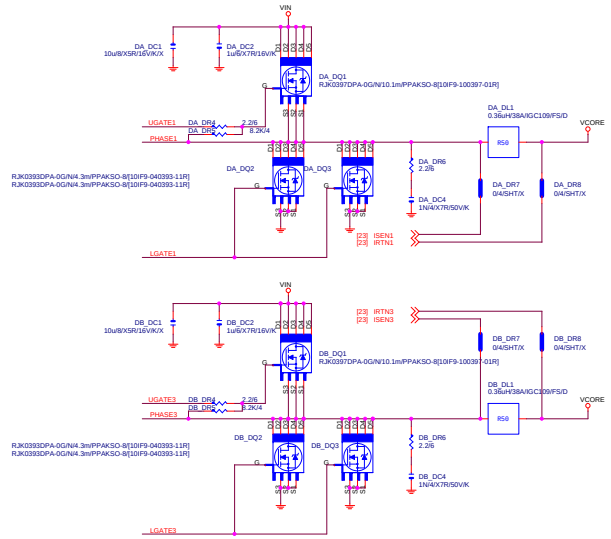


VCORE Phase 1,3

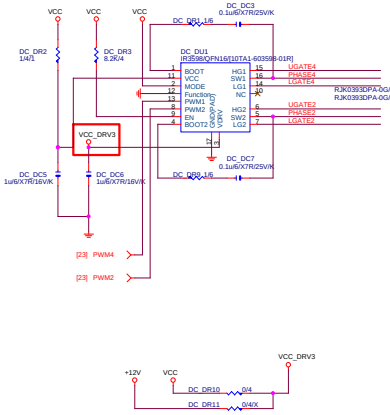


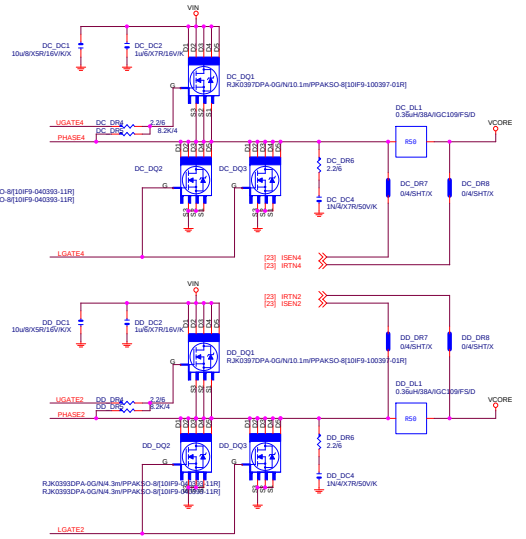
FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	IR ATL	DUAL
1	1	IR ATL	Doubler
0	0	Tri-State	DUAL
1	0	Tri-State	Doubler
OPEN	0	Tri-State	Quad
OPEN	1	IR ATL	Quad

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

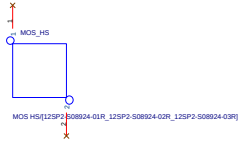


VCORE Phase 4,2

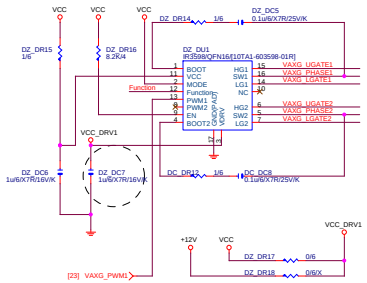


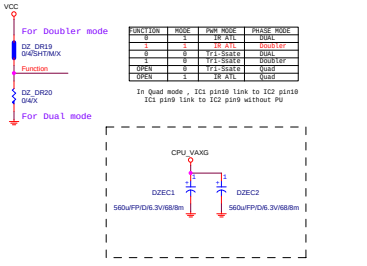


MOS HEATSINK



VAXG PHASE 1,2

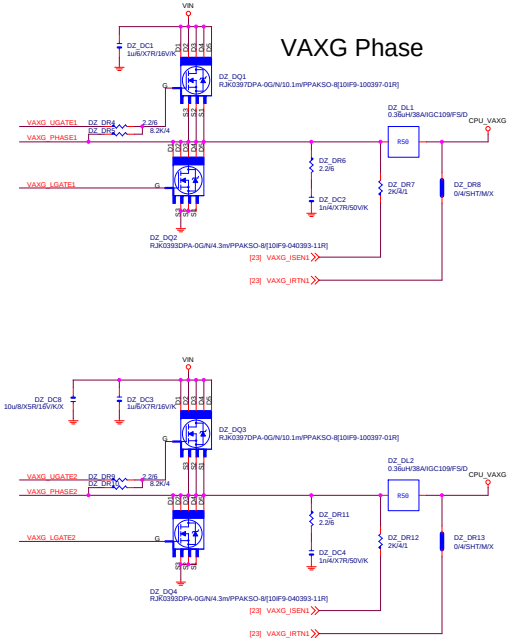




FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	IR ATL	DUAL
1	1	IR ATL	Doubler
0	0	Tri-State	DUAL
1	0	Tri-State	Doubler
OPEN	0	Tri-State	Quad
OPEN	1	IR ATL	Quad

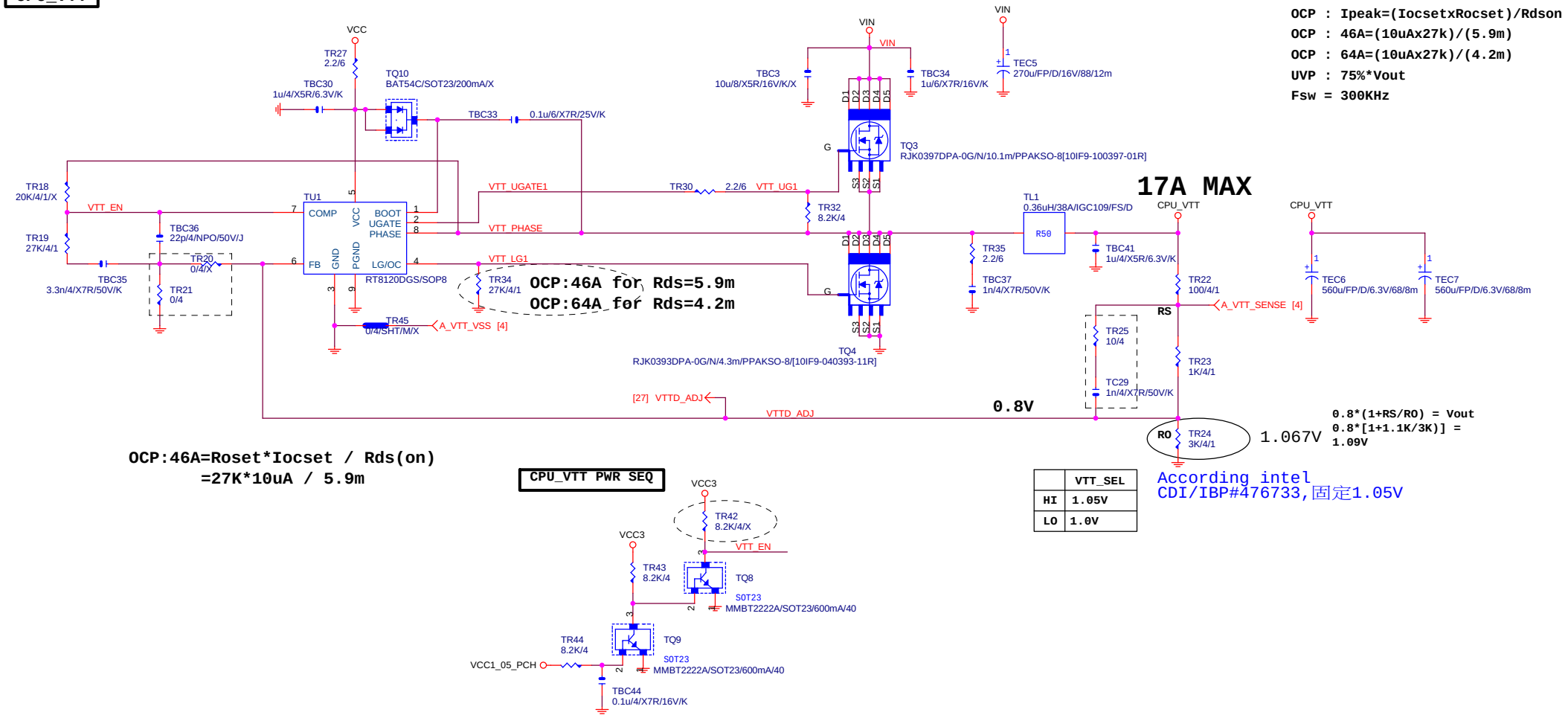
In Quad mode , IC1 pin10 link to IC2 pin10
IC1 pin9 link to IC2 pin9 without PU

VAXG Phase



Gigabyte Technology			
Title: CPU CORE VR			
Size: Custom	Document Number: GA-Z77-D3H		Rev: 1.01
Date: Wednesday, May 09, 2012	Sheet 24 of 38		

CPU_VTT



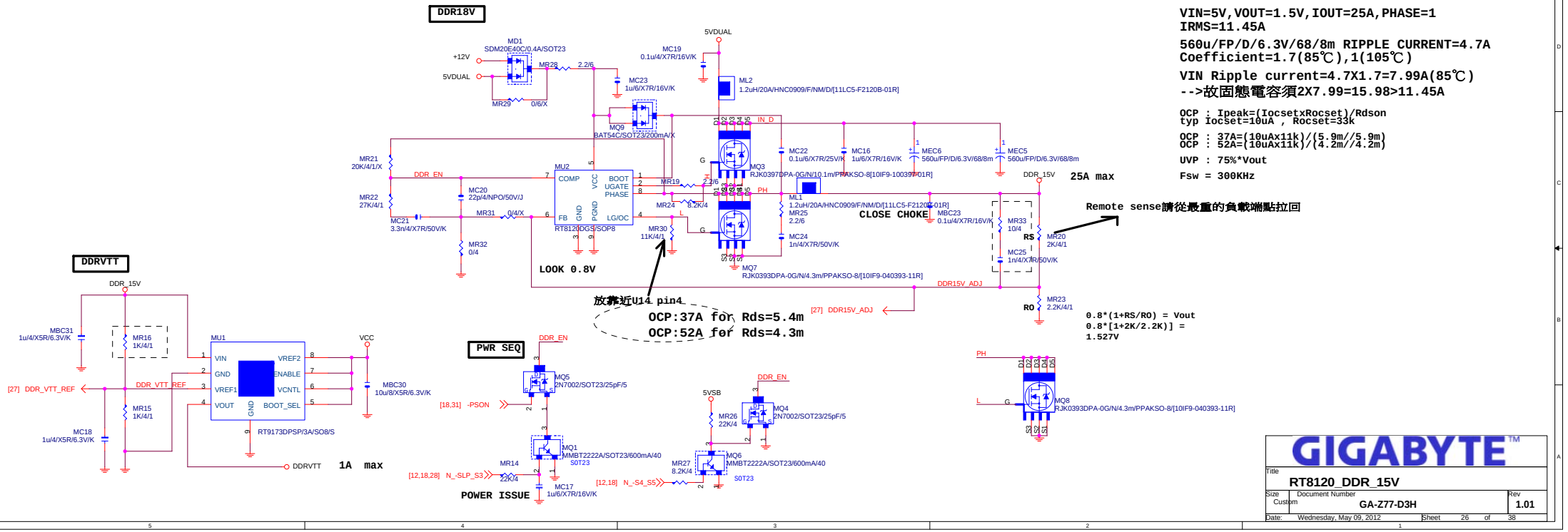
OCP:46A=Roset*Iocset / Rds(on)
=27K*10uA / 5.9m

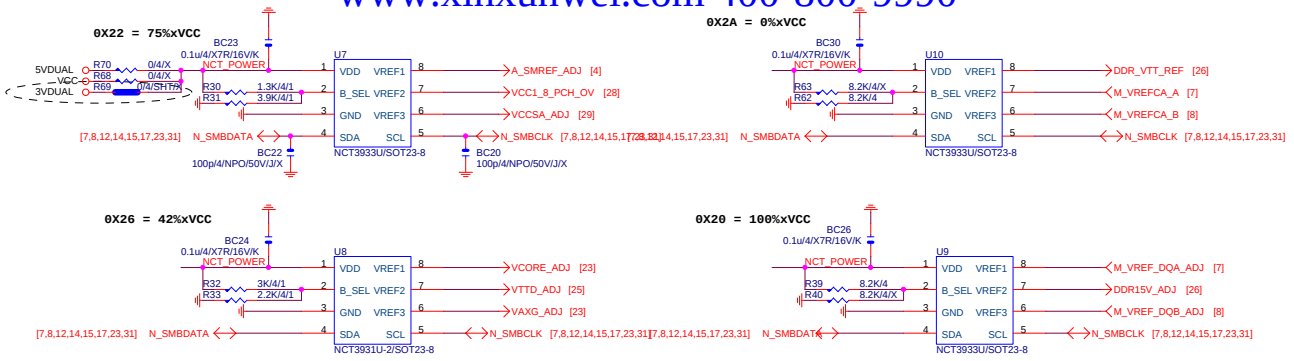
	VTT_SEL
HI	1.05V
LO	1.0V

According intel CDI/IBP#476733,固定1.05V

CPU_VTT PWR SEQ

Title	RT8120_CPU_VTT
Size: Custom	Document Number: GA-Z77-D3H
Rev	1.01
Date: Wednesday, May 09, 2012	Sheet 25 of 38





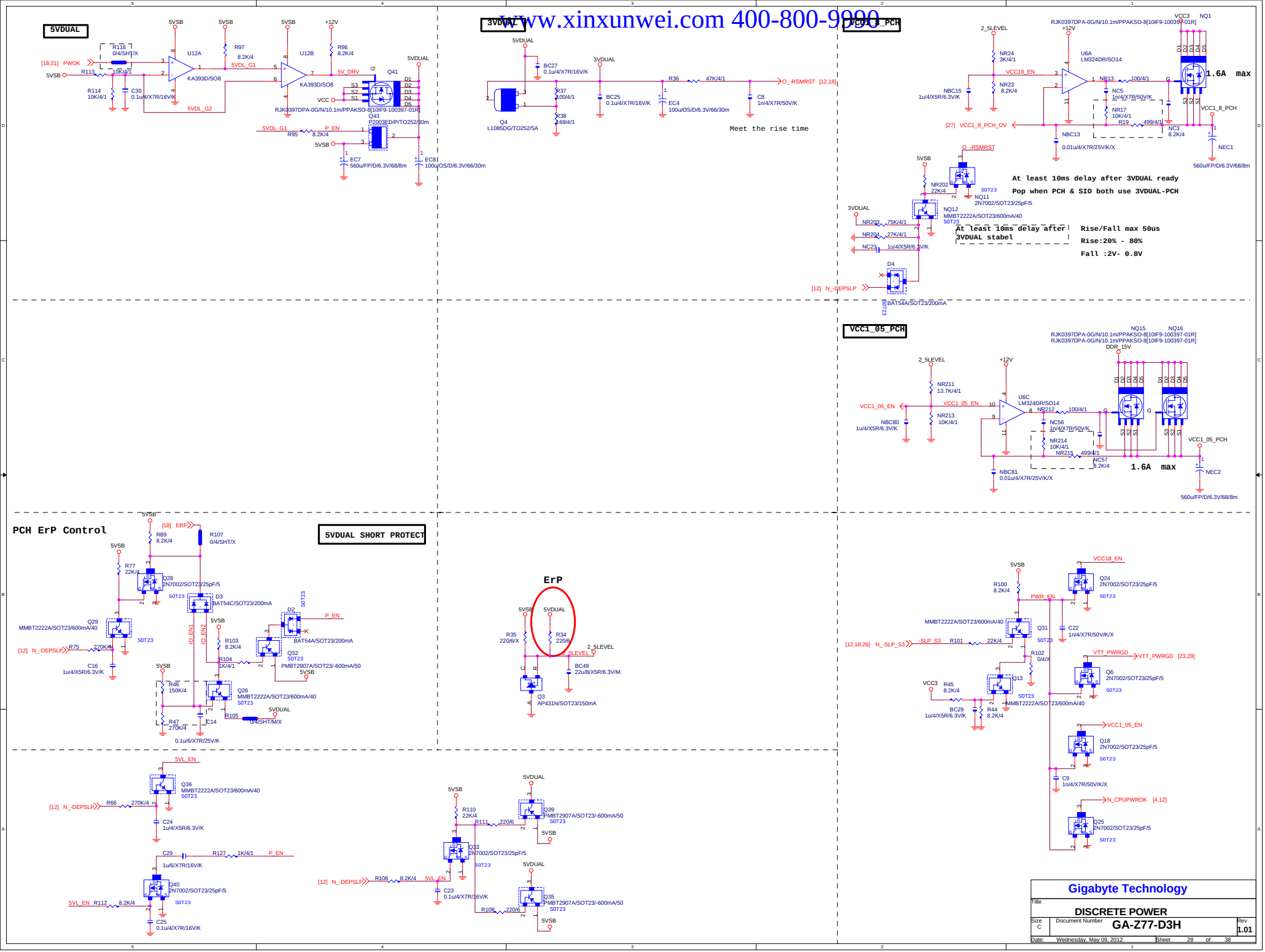
NCT3933	0X2A	0X20	0X22	0X26
VREF1	DDRVTT	VREF_DDRA_DQ	SMREF	VCORE
VREF2	VREF_DDRA_CA	DDR15V	VCC1_8_PCH	CPU_VTT
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	VCCSA	VAXG

Gigabyte Technology

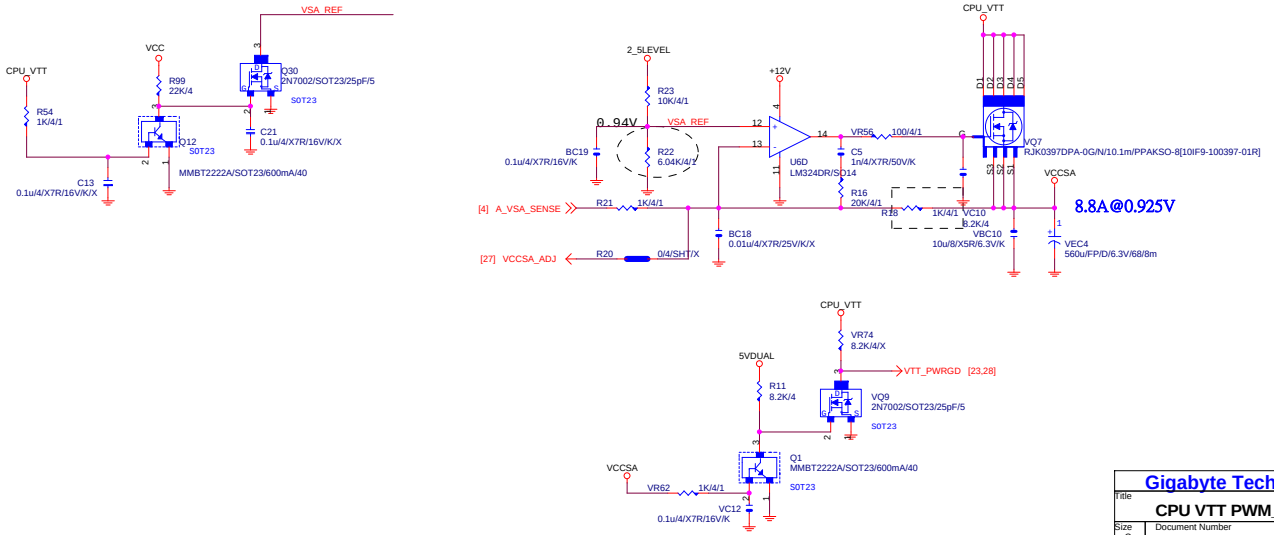
Title: CPU CORE VR-2

Size: Custom | Document Number: GA-Z77-D3H | Rev: 1.01

Date: Wednesday, May 09, 2012 | Sheet 27 of 38



VCC_SA



Gigabyte Technology		
Title: CPU VTT PWM_ISL6312		
Size: C	Document Number: GA-Z77-D3H	Rev: 1.01
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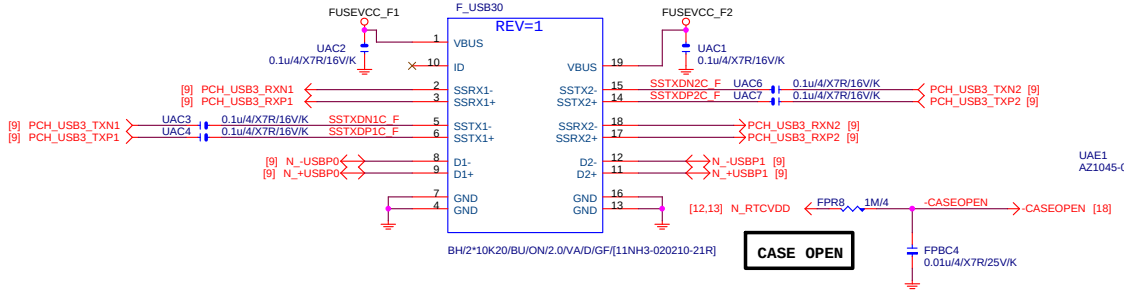
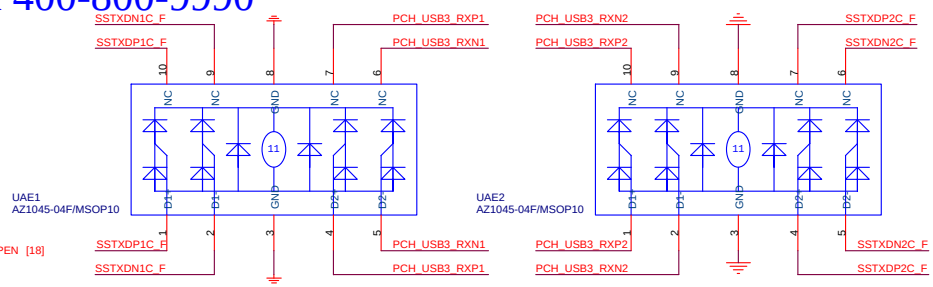
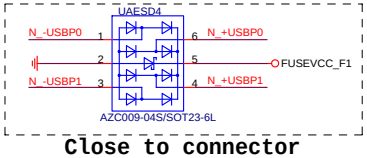
Front USB3.0



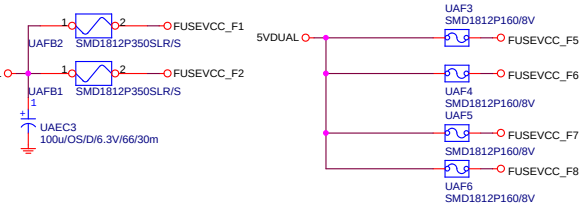
CASE OPEN



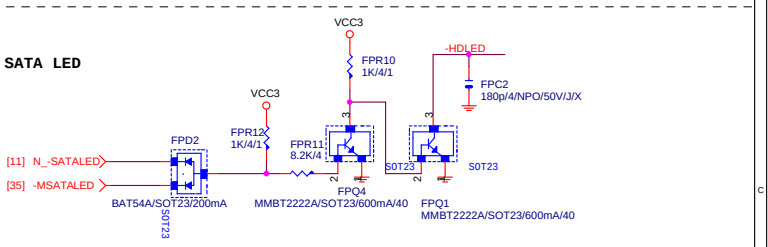
BLUE



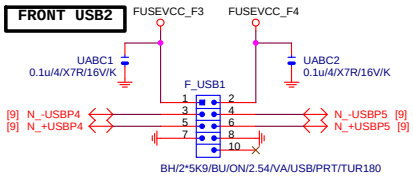
Close to connector



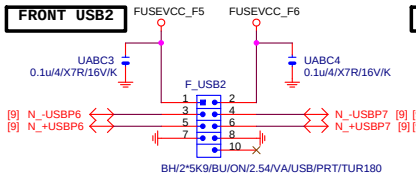
SATA LED



FRONT USB2



FRONT USB2



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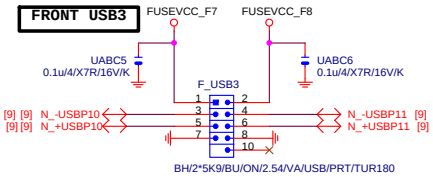

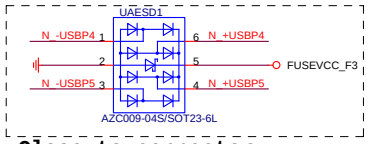

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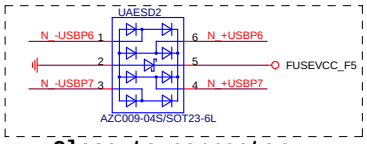

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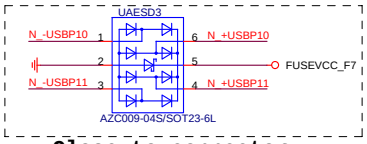
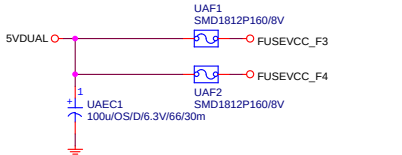
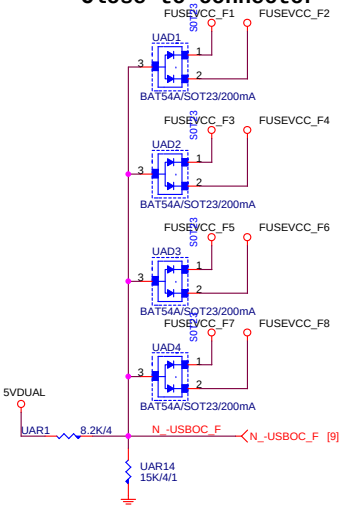
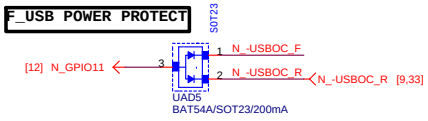


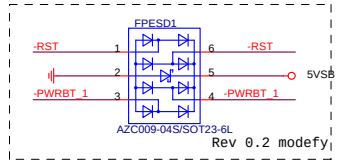
Close to connector



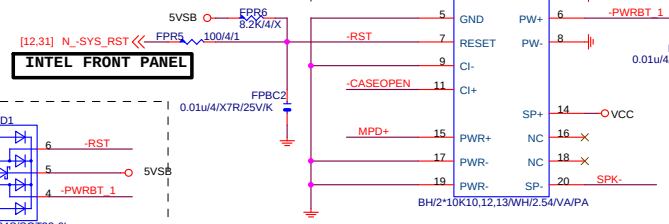


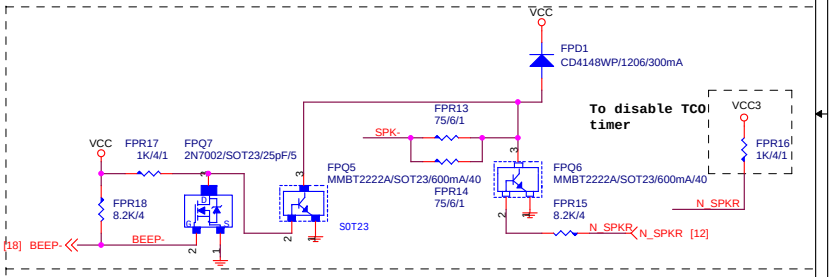
F_USB POWER PROTECT

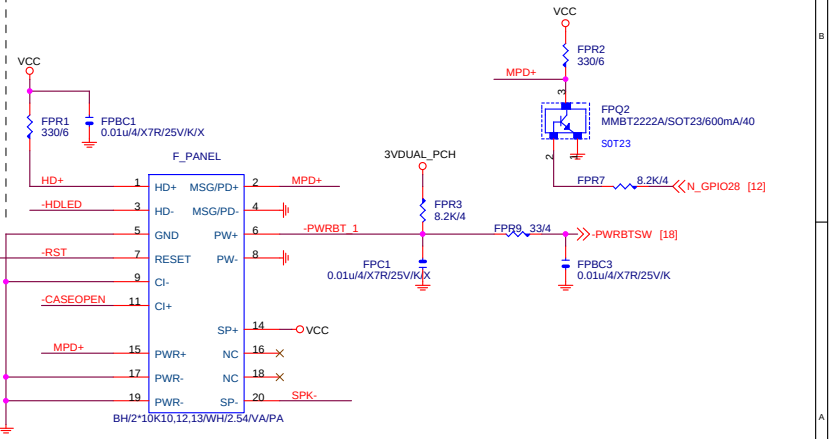




INTEL FRONT PANEL







Gigabyte Technology			
Title: FP,F_USB,USB PWR,FDD,BZ			
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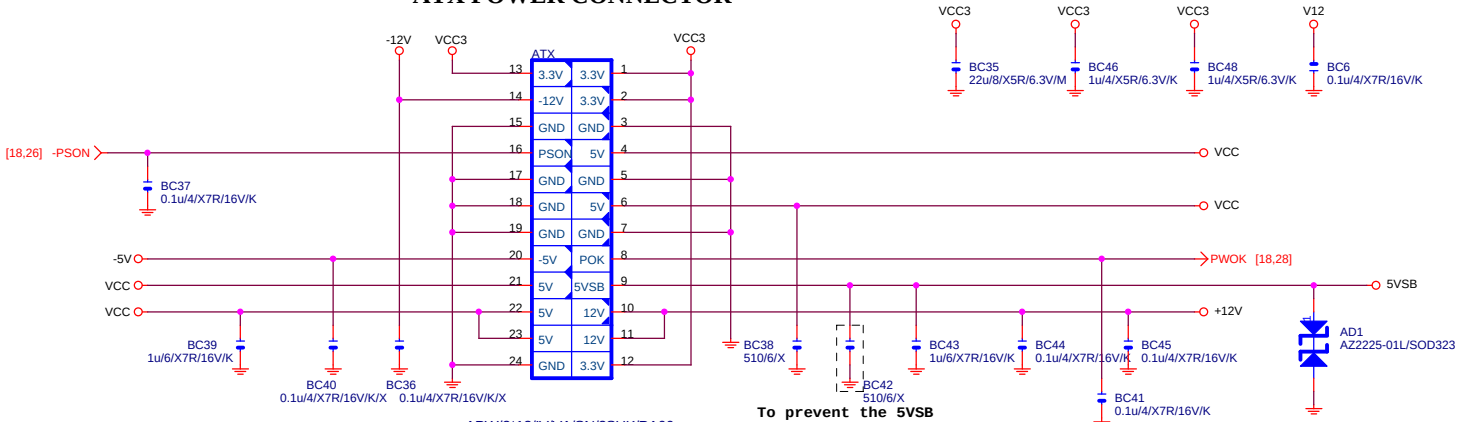
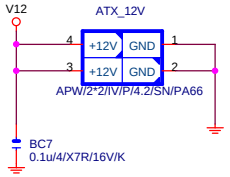
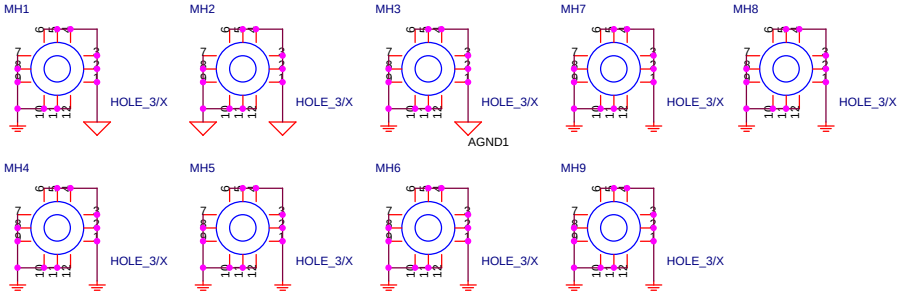
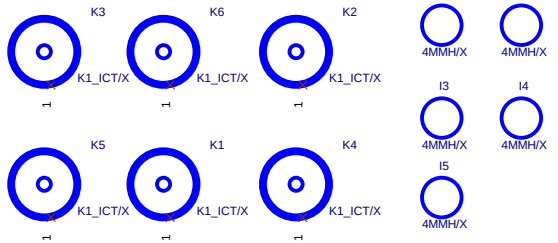
ATX POWER CONNECTOR



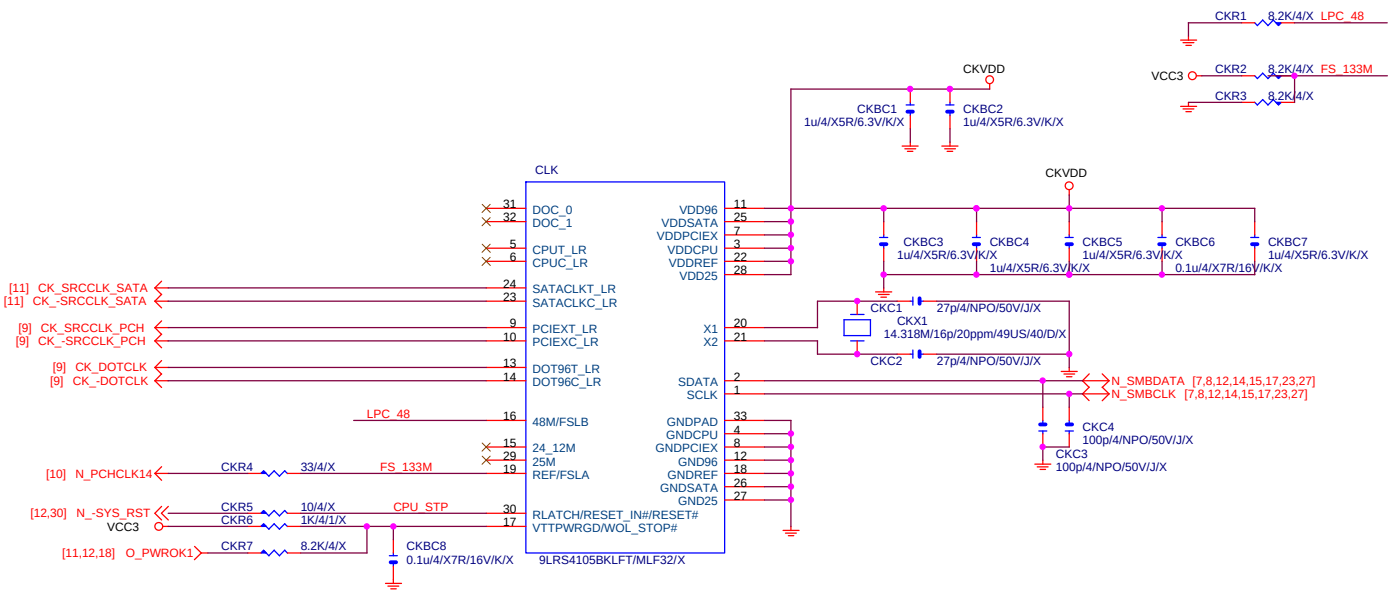
To prevent the 5VSB under loading when boot







CLK GEN



CPU Frequency Selection

FS	CPU
0	100M <Default>
1	133M

Gigabyte Technology			
Title: ATX POWER CONNECTOR			
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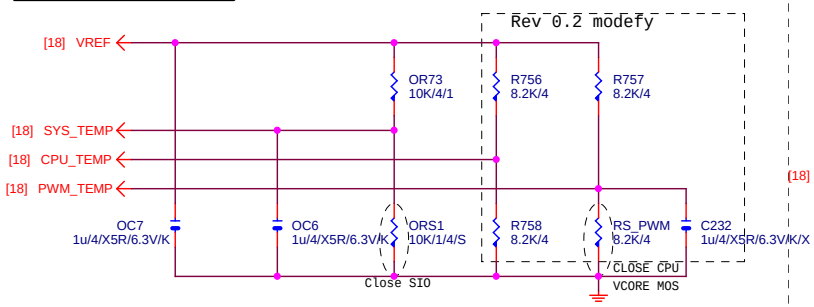
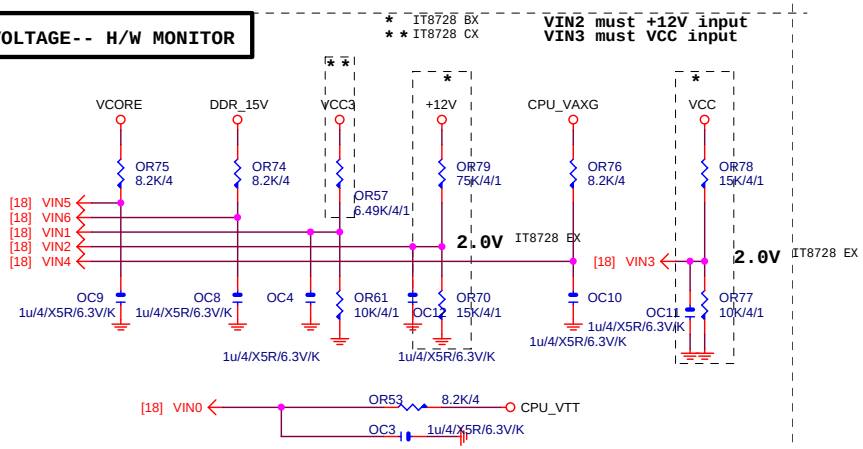
TEMP H/W MONITOR

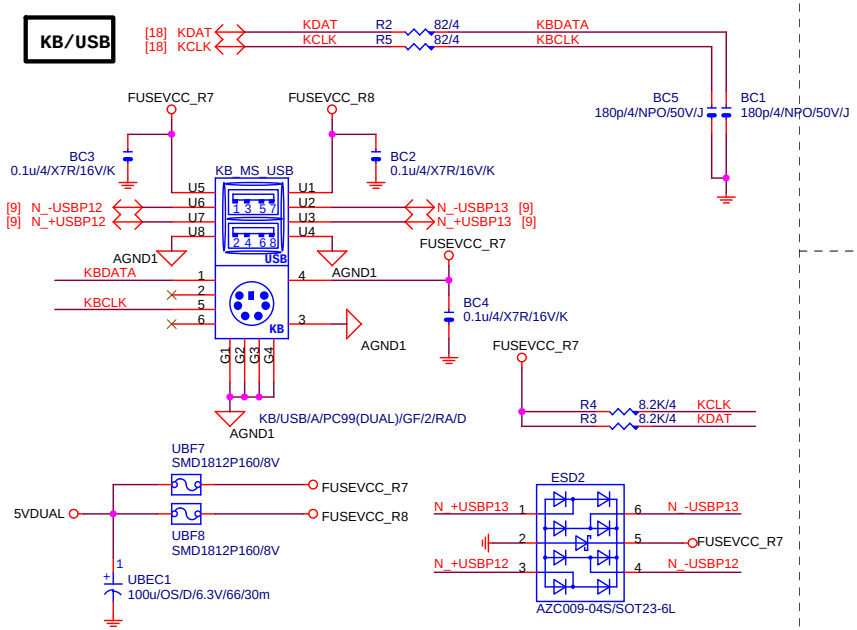


VOLTAGE-- H/W MONITOR

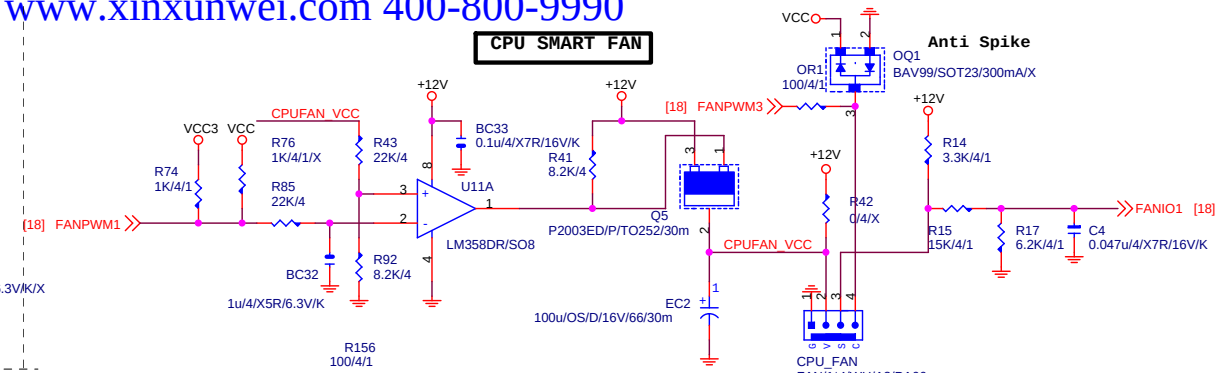


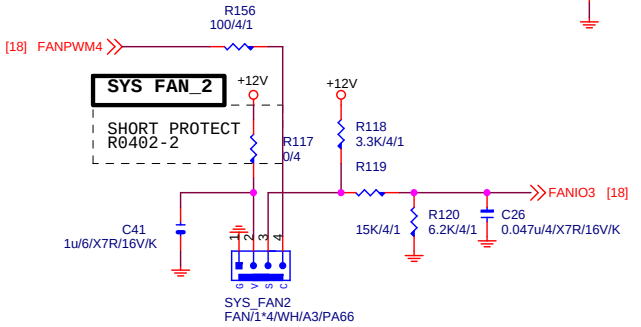
The division voltage of VIN2 & VIN3 must be around 2.9V

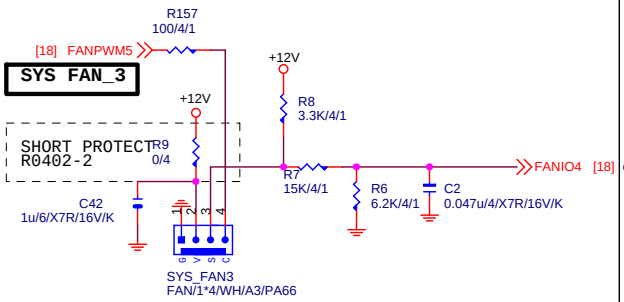
KB/USB



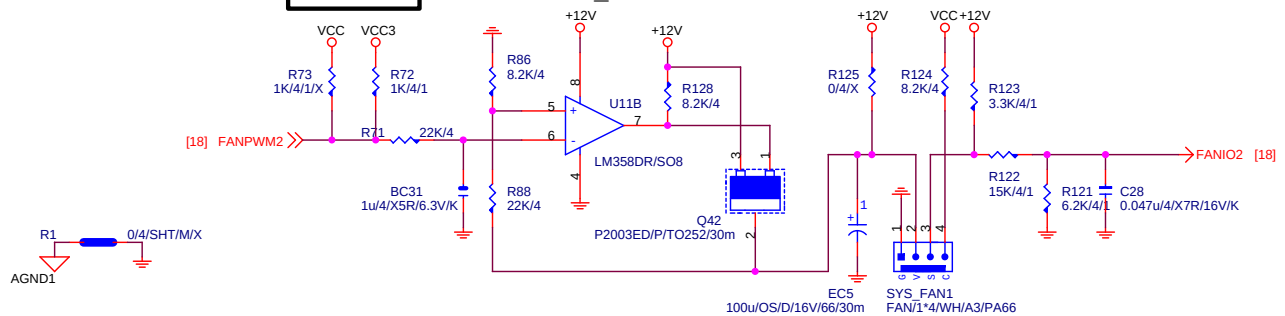
CPU SMART FAN

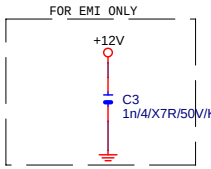






SYS FAN_1 Linear SYS_FAN





Gigabyte Technology		
Title: **HWM,KB/MS, FAN CTRL**		
Size: Custom	Document Number: **GA-Z77-D3H**	Rev: **1.01**
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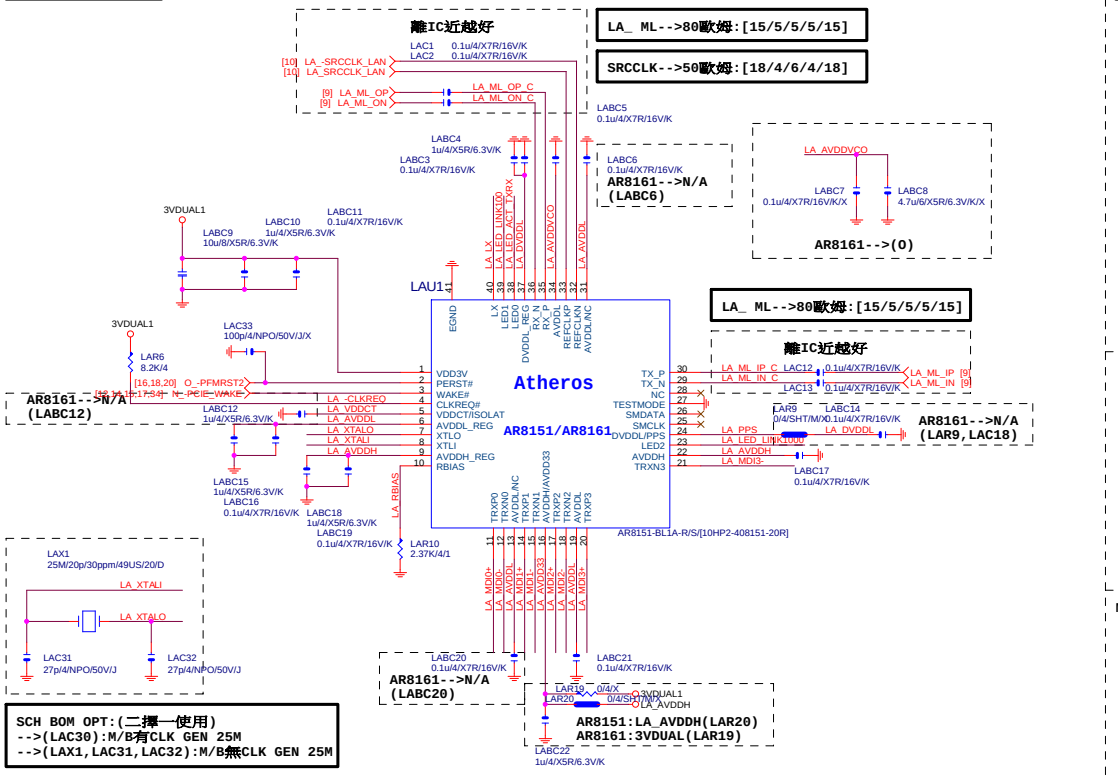
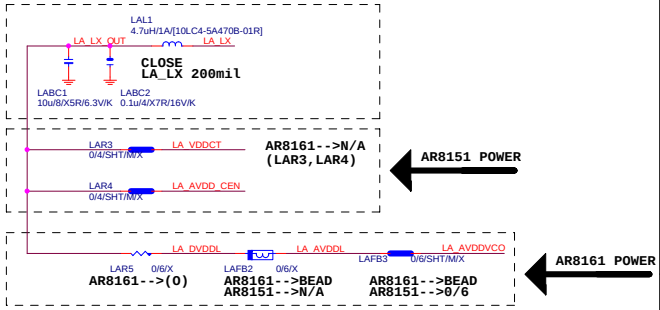
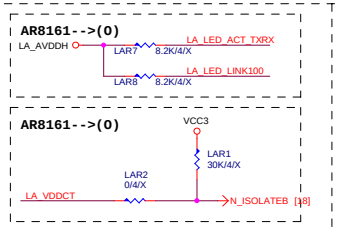
LAN:AR8151/AR8161



LAN POWER

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

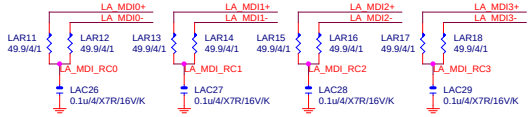




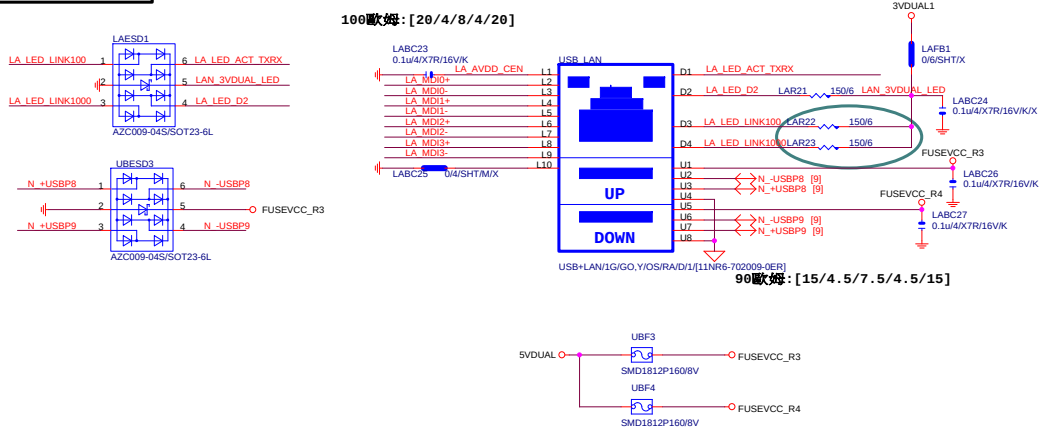
Power domain chart

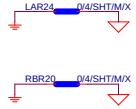
	AR8151	AR8161
AVDD33	N/A	3.3V
VDD33	3.3V	3.3V
AVDDH	2.7V	2.7V
AVDDL/DVDDL	1.1V	1.1V
VDDCT	1.7V	

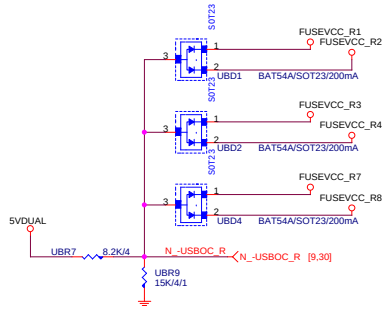
MDI : AR8161-->N/A



USB30_LAN CONNECTOR







Title	Gigabyte Technology		
	REALTEK RTL8111E_1		
Size: Custom	Document Number: GA-Z77-D3H		Rev: 1.01
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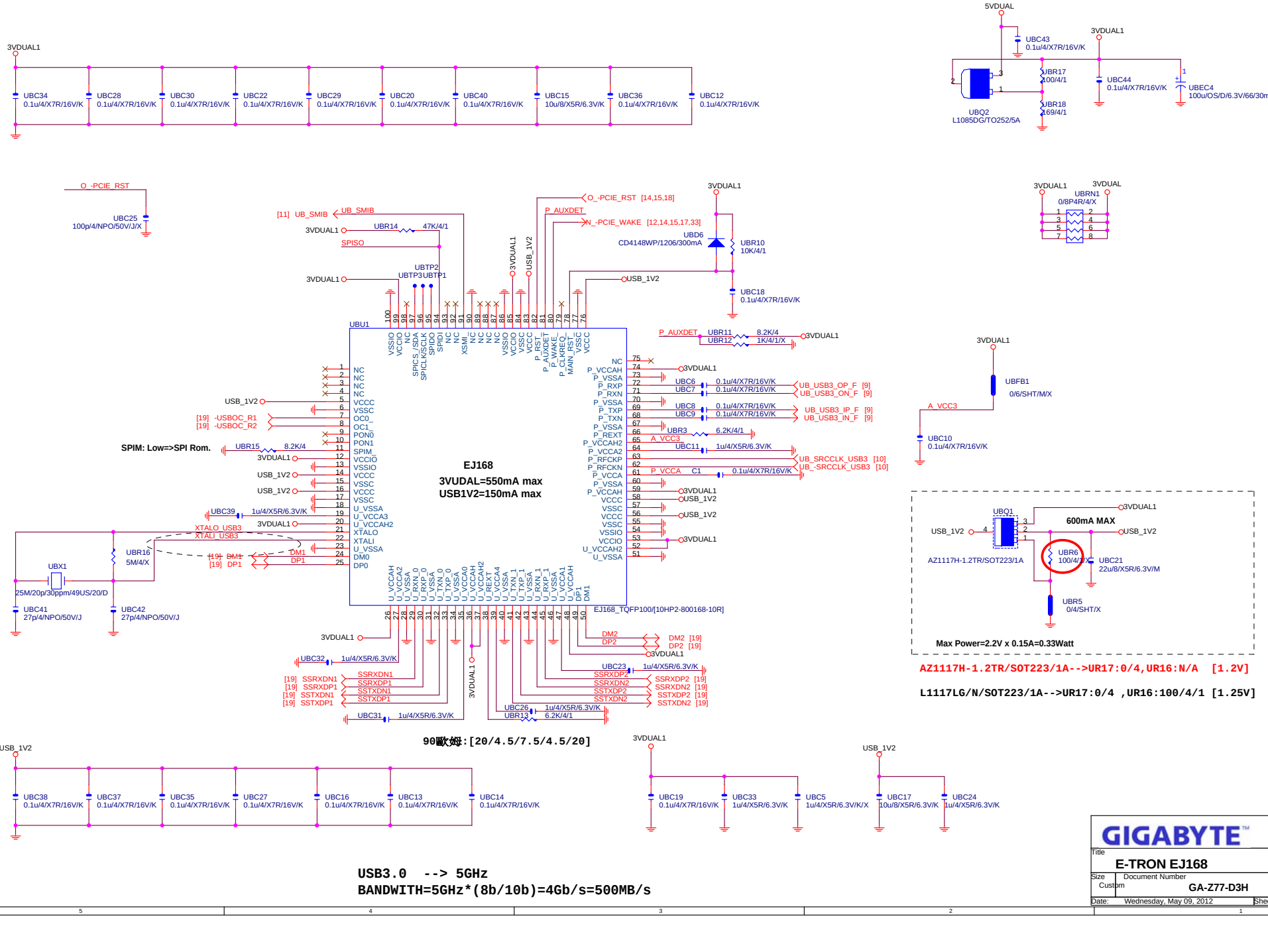

GIGABYTE™

Title	E-TRON EJ168	
Size: Custom	Document Number: GA-Z77-D3H	Rev: 1.01
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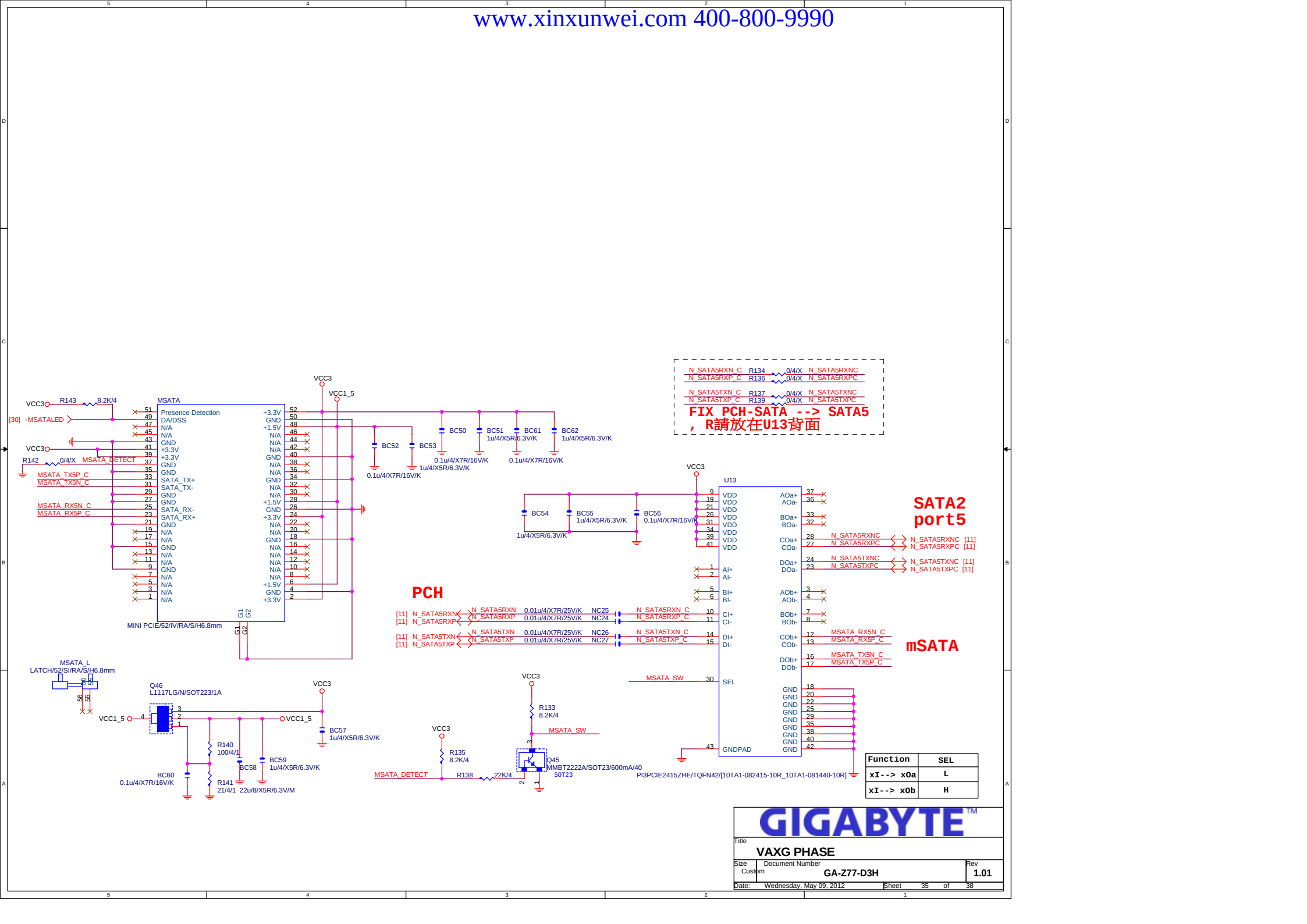
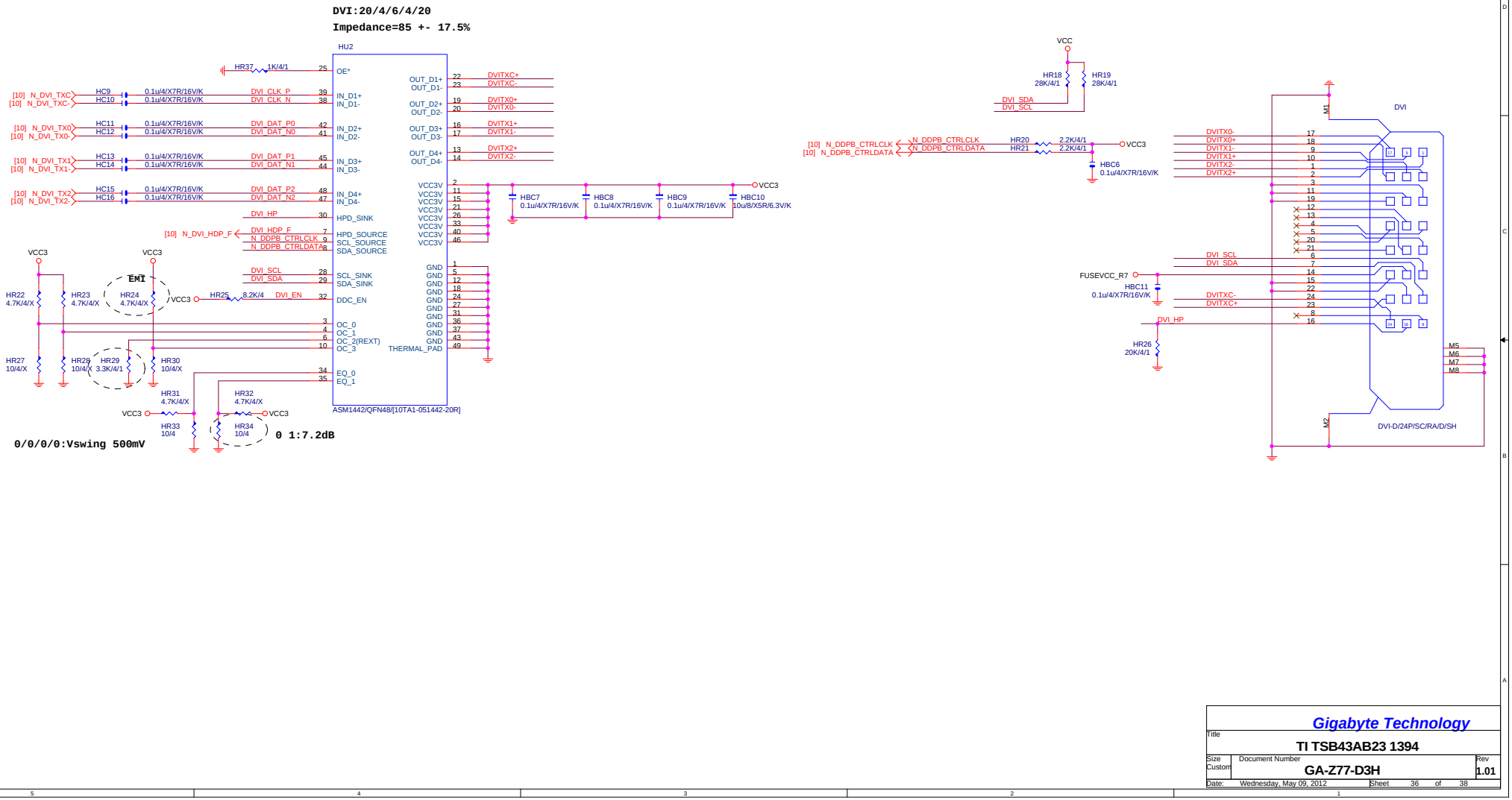
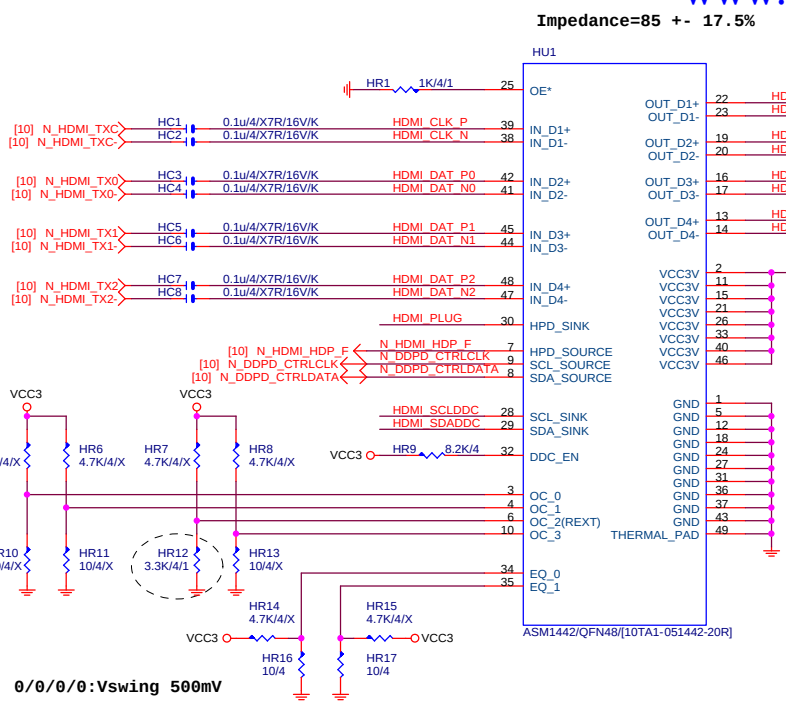
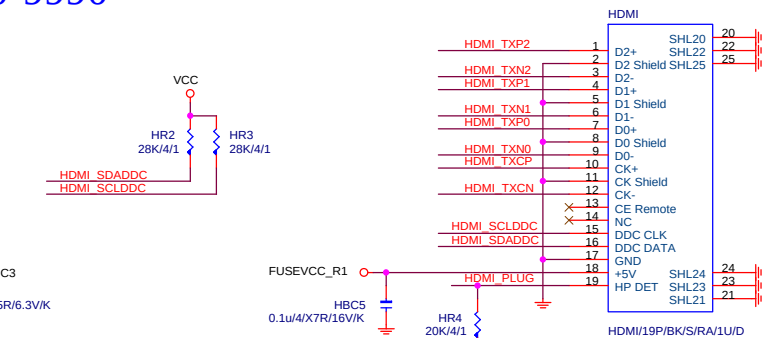


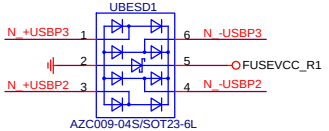


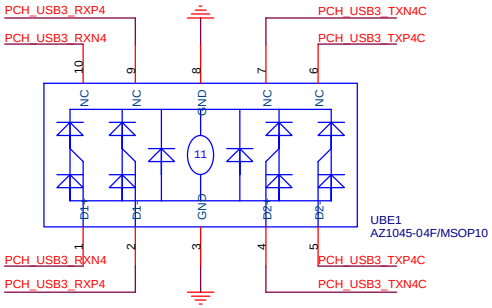
HDMI:20/4/6/4/20

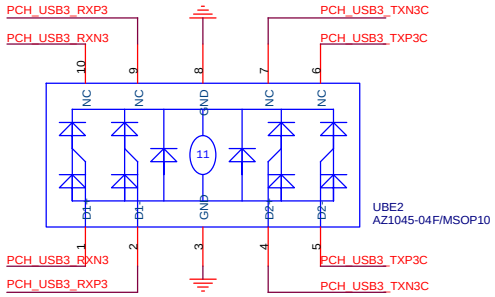
Impedance=85 +- 17.5%



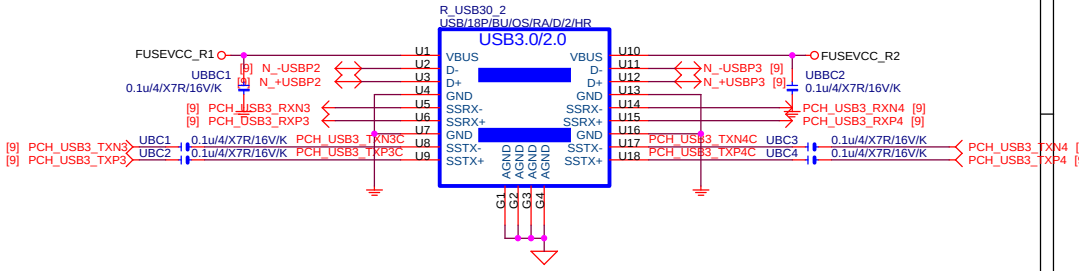


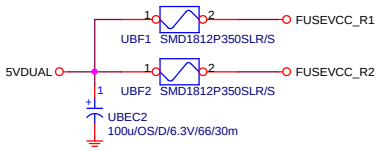






USB30_20





GIGABYTE™

Title: **HDMI & USB**		
Size: Custom	Document Number: **GA-Z77-D3H**	Rev: **1.01**
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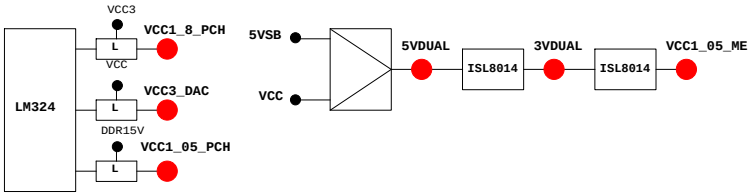
PCH GPIO LIST TABLE

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

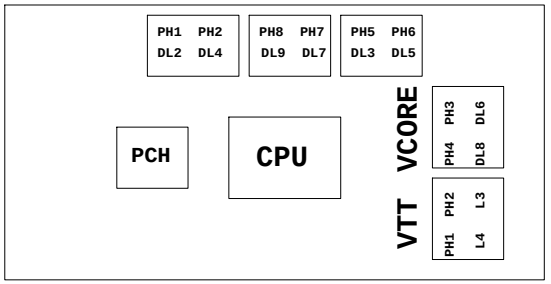
Super I/O ITE8720 GPIO Table

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

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Title: TABLE LIST

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