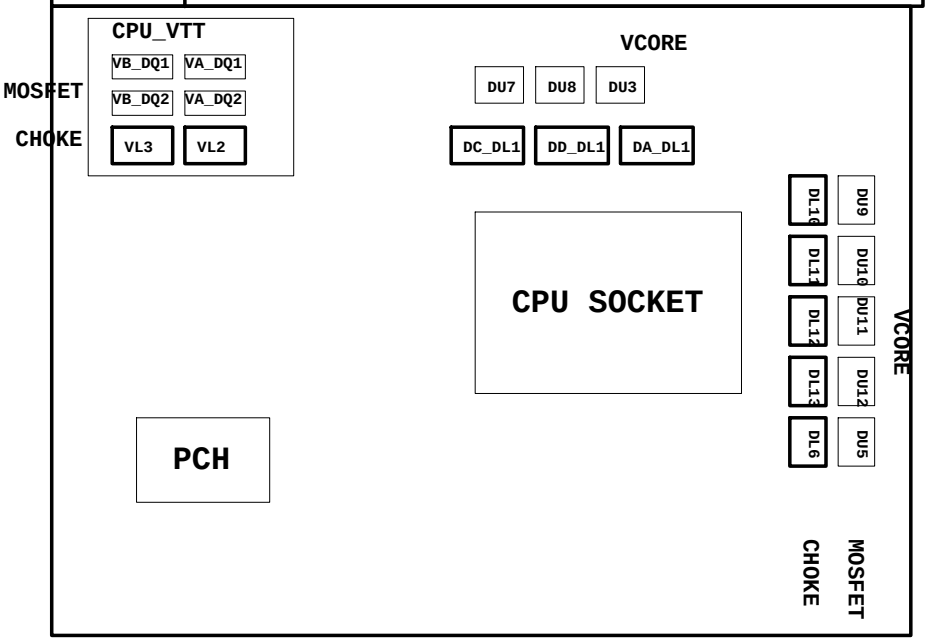
Model Name: GA-Z77X-D3H 1.01

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	PCI EXPRESS*8 SLOT
16	PCI EXPRESS*16/*8 SWITCH
17	PCI EXPRESS*1 SLOTs X3
18	PCI EXPRESS*4 SLOT
19	IT8892
20	PCI SLOT 1
21	HDMI/DVI/USB3.0
22	MSATA
23	Dual BIOS / TPM CONNECT
24	ALC889
25	REAR AUDIO JACK
26	VCORE PWM_IR3567
27	VCORE PWM_IR3567

SHEET	TITLE
28	VCORE PWM_IR3570
29	DDR / CPU_VTT MOS
30	DISCRETE POWER
31	VCCSA POWER
32	I/O ITE8728
33	COM,-PHOT,RUSB
34	FP,FUSB
35	ATX POWER, CLOCK GEN
36	HWM,KB/MS , FAN CTRL
37	ARTHEROS AR8161/AR8151
38	MARVELL 9172
39	NCT3933U
40	VIA VL800 USB3.0
41	TABLE LIST



Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-Z77X-D3H | Rev: 1.01

Date: Wednesday, February 15, 2012 | Sheet 1 of 41

GA-Z77X-D3H

Component value change history

Data	Change Item	Reason
2011/12/02	1.First BOM. (GA-Z77X-D3H-01_20111125_1000-BOM.DSN)	
2012/01/03 9MZ77XD3H-00-02	1.PCH==>10HB1-030Z77-10R 2.PCH_HS==>12SP2-S05511-01R 3.ADD NR100 4.EMI ADD BC330 5.ADD PI3PCIE2415 FOR PCIEX4 SW TO X1 6.REMOVE DUAL BIOS SW 7.AUDIO CONNECT CHANGE TO 11NR6-403025-61R 8.REMOVE SURR BACK 9.DRAT2,DART3,MART3==>47K/1/4/S 10.DAR44,DAR15,MAR185==>0 OHM 11.ADD VA_DR2 FOR漏電 12.REMOVE DA_Q2,DB_DQ2==>DA_DQ3,DB_DQ3 13.後窗USB/USB_LAN CONNECT CHANGE TO USB3.0	
2012/01/13 9MZ77XD3H-00-10A	Modify 1.MAR149,DAR51,DAR1,24.9/4/1變更爲'100/4/1 2.DART2,DART3,MART3,47K/1/4/S變更爲47K/1/4/S/[10RH3-004702-21R] 3.MAC361,DAC24,DAC1,1N/4/X7R/50V/K變更爲3.3n/4/X7R/50V/K 4.MAR151,DAR54,DAR2,24.9/4/1變更爲0/4 Add 5..R5409,R5413,10K/4/1 6.R5412,R5408,45.3K/4/1 7.DAR82,0/4 8.C2068,C2069,0.1u/4/X7R/16V/K 9.Q668,Q670,2N7002/SOT23/25pF/5 10.U219,LM358DR/SO8 11.R5414,R5410,1.65K/4/1 12.RS1,RS2,100K/1/4/S 13.R_USB30_1,USB/18P/BU/OS/RA/D/2/HR 14.DB_DQ2,DA_DQ2,DF_DQ3,DE_DQ3,DD_DQ3,DC_DQ3,RJK0393DPA-0G/N/4.3m/PPAKSO-8 15.R5411,R5415,1K/4/1 16.RHC3,GBC28,LAC33,47p/4/NPO/50V/J Delete 1.UCR29,'8.2K/4 2.UCR25,'6.04K/4/1 3.UCQ2,'2N7002/SOT23/25pF/5 4.R_USB30,'USB/18P/BU/OS/RA/D/2/HR 5.U8,'NCT3931U-2/SOT23-8	
2012/01/13 9MZ77XD3H-00-10B	1.DA_DR11,DC_DR11,DE_DR11,DZ_DR11,1/4 change to 0/4 2.FAN1/2/3 change to SYS_FAN1/2/3,V-A AMP WF 1*4P PINREX	
2012/01/31 9MZ77XD3H-00-10C	1.R5410,R5414,1.65K change to 3.65K	
2012/02/03 9MZ77XD3H-00-10D	Modify 1.R5410,'3.65K/4/1變更爲'1.65K/4/1 2.DAR6,'5.36K/4/1變更爲'5.1K/4/1 3.DY_DL1,DZ_DL1,VL2,DA_DL1,DB_DL1,DC_DL1,DD_DL1,DE_DL1,DF_DL1, '0.8uH/35A/INC109/F/D變更爲'0.36uH/38A/IGC109/FS/D 4.DAR45,DAR40,'1.54K/4/1變更爲'1.74K/4/1 5.DAR5,DAR8,'4.12K/4/1變更爲'4.75K/4/1 6.R5414,'3.65K/4/1變更爲'2.49K/4/1 7.DAR13,DAR36,DAR25,DAR59,DAR29,DAR62,DAR75,DAR21,2K/4/1變更爲1.2K/4/1 8.DAR42,'2.05K/4/1變更爲2.37K/4/1 Add 1.DZ_DR10,DE_DR10,DC_DR10,DA_DR10,'0/4 Delete 1.DE_DR11,DC_DR11,DA_DR11,DZ_DR11,'0/4	
2012/02/07 9MZ77XD3H-00-10E	Modify 1.DAR6,5.1K/4/1 change to 5.49K/4/1	

Circuit or PCB layout change

DATE	Change Item	Reason
2011/11/30	1.First SCH. (GA-Z77X-D3H-01_20111125_1000.DSN)	REV 0.1
	(Change from Z77X-UD3H-01A_1124_EBOM.DSN)	
2012/01/02	1.PARN2 change to 0/8P4R/4/X 2.ADD PI3PCIE2415 FOR PCIEX4 SW TO X1 3.REMOVE DUAL BIOS SW 4.AUDIO CONNECT CHANGE TO 11NR6-403025-61R(WITH SPDIF) 5.REMOVE SURR BACK 6.CPU_VTT ADD DUAL POWER 防漏電 7.VL2轉方向 8.ADD VIA VL800 USB3.0 9.後窗USB/USB_LAN CONNECT CHANGE TO USB3.0 10.ADD ATX POWER LOAD RESISTOR 11.SYS_FAN1/2/3 RENAME TO FAN1/2/3	REV 0.2
2012/01/13	1.Add PWM 3VDUAl input 2.Add GBC28 3.Add 2組 VR_HOT control線路 4.DAR53,DAR55,MAR148 CHANGE TO R0402-2 5.R_USB30 rename to R_USB30_1	REV 1.0
2012/01/19	1.FAN1/2/3 rename to SYS_FAN1/2/3	Rev 1.01

Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-Z77X-D3H | Rev: 1.01

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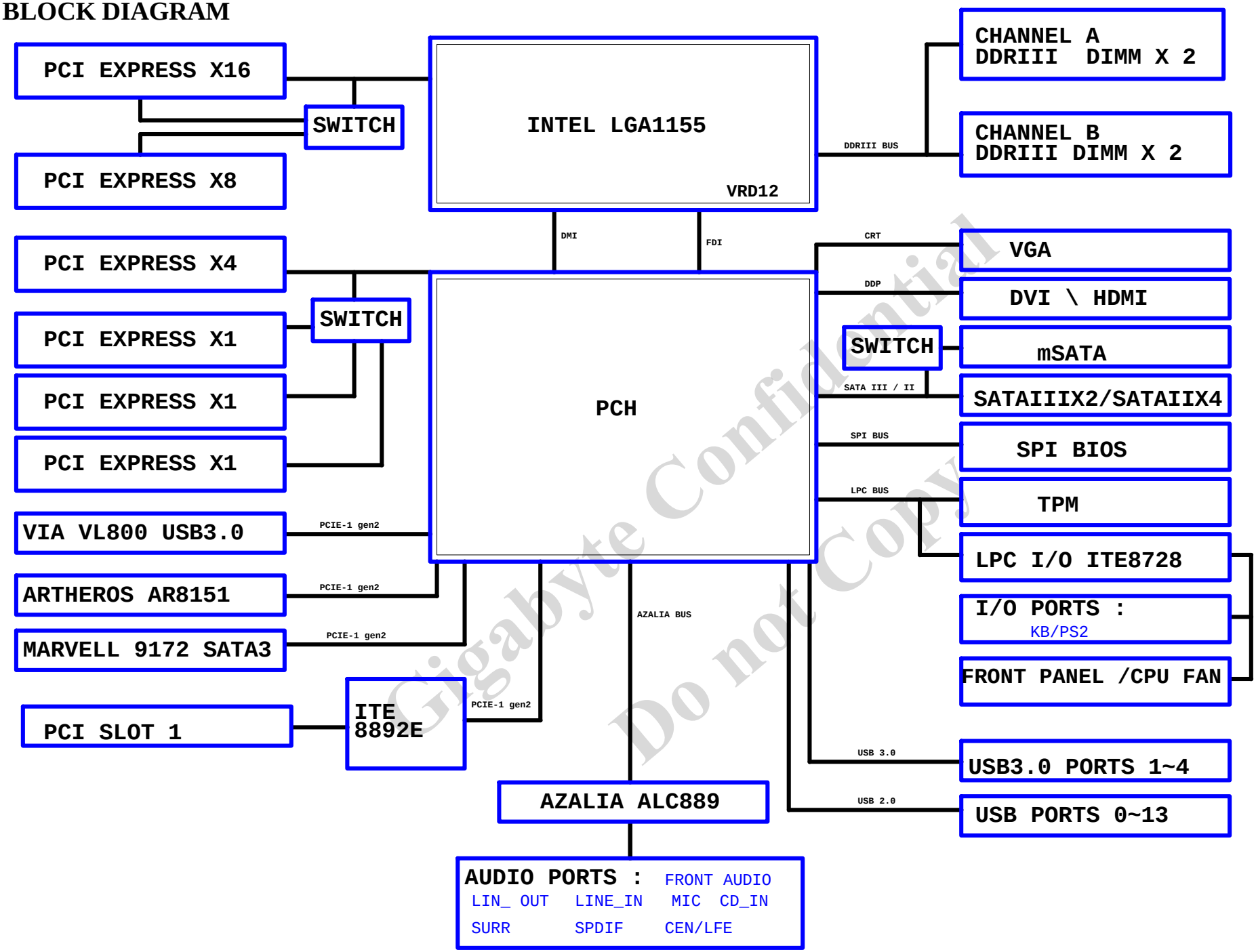
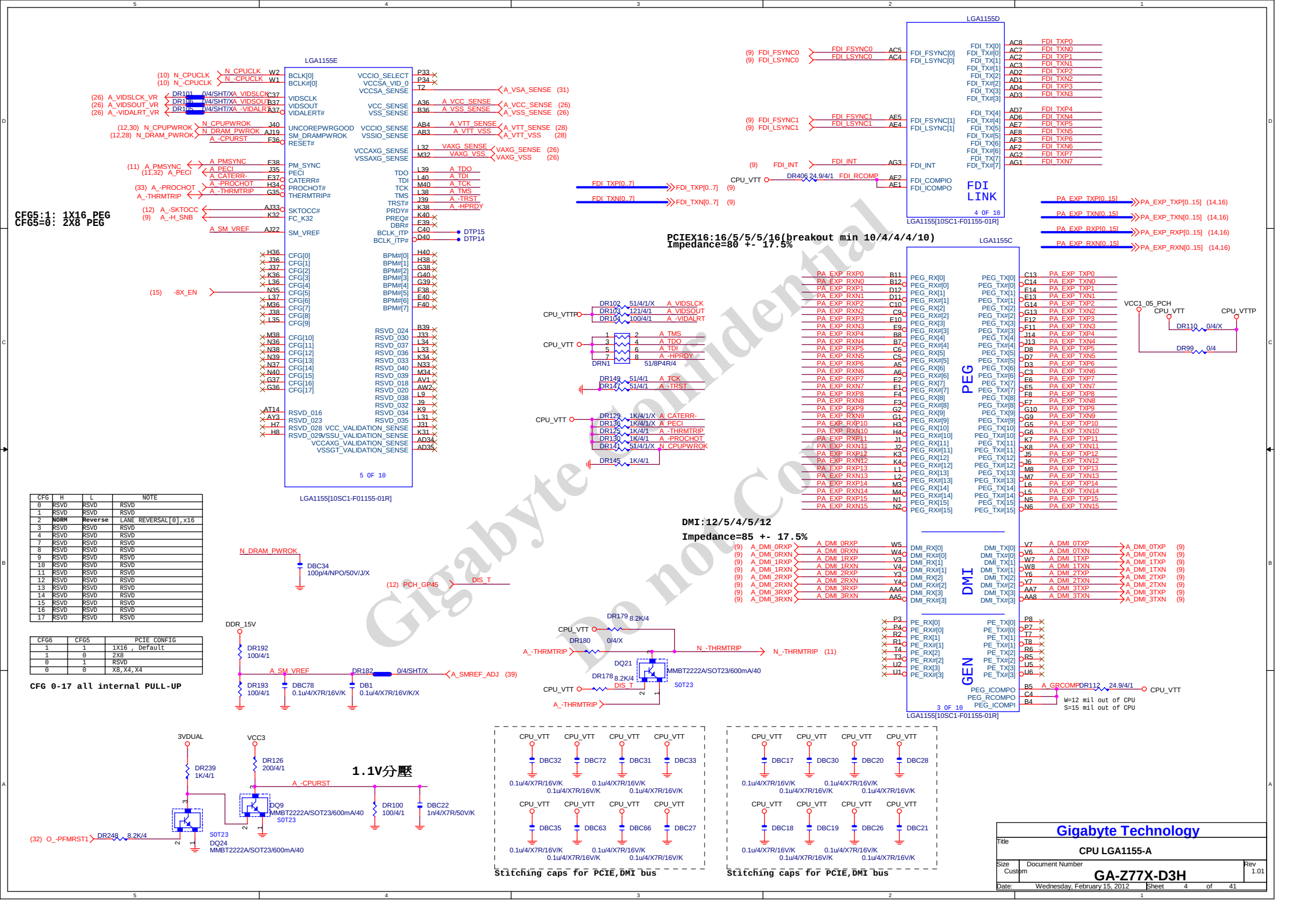
BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-Z77X-D3H	Rev: 1.01
Date: Wednesday, February 15, 2012	Sheet 3 of 41	



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

Gigabyte Technology	
Title	CPU LGA1155-A
Size: Custom	Document Number: GA-Z77X-D3H
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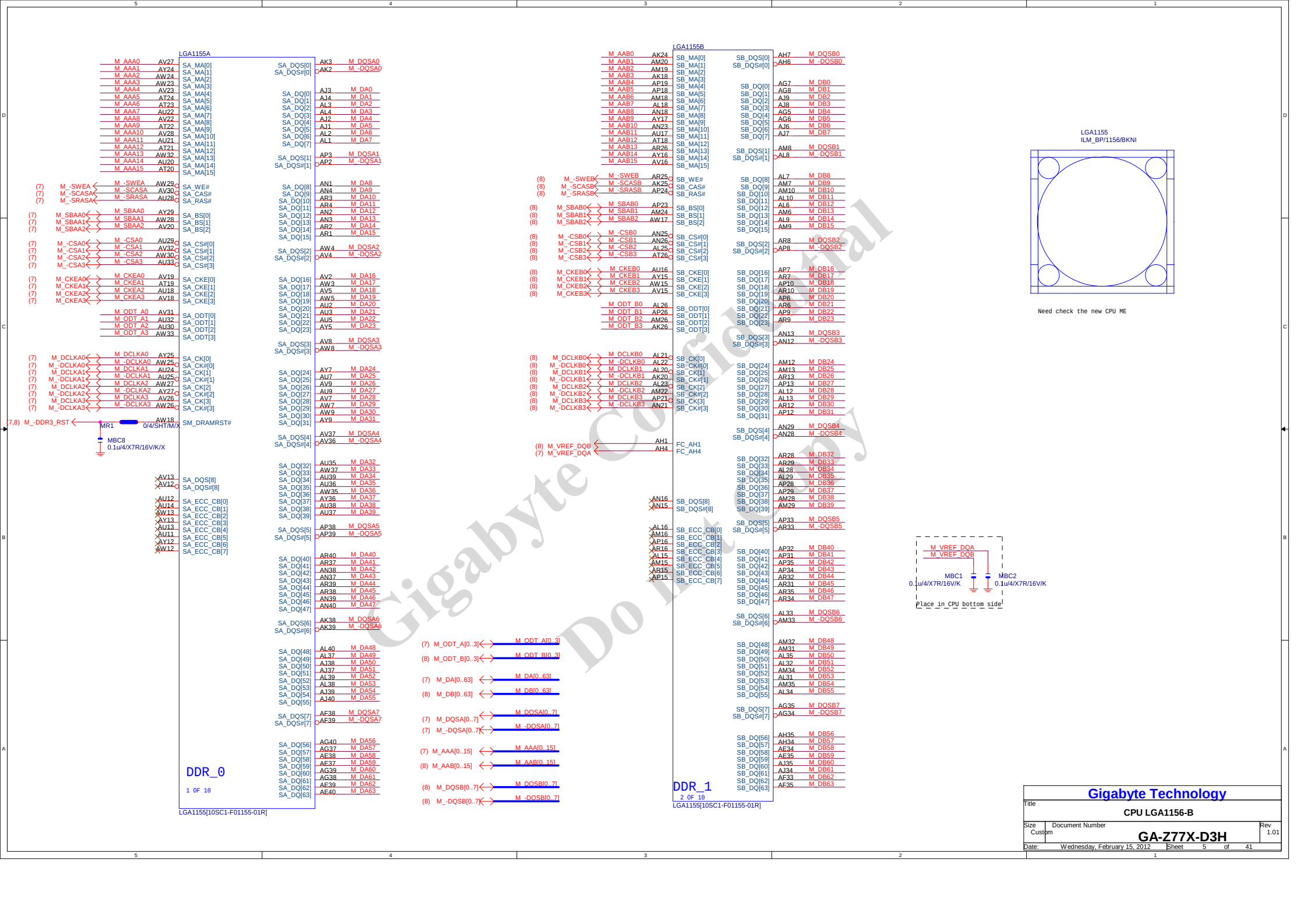

Title	CPU LGA1156-B
Company	Gigabyte Technology
Size	Custom
Document Number	GA-Z77X-D3H
Rev	1.01
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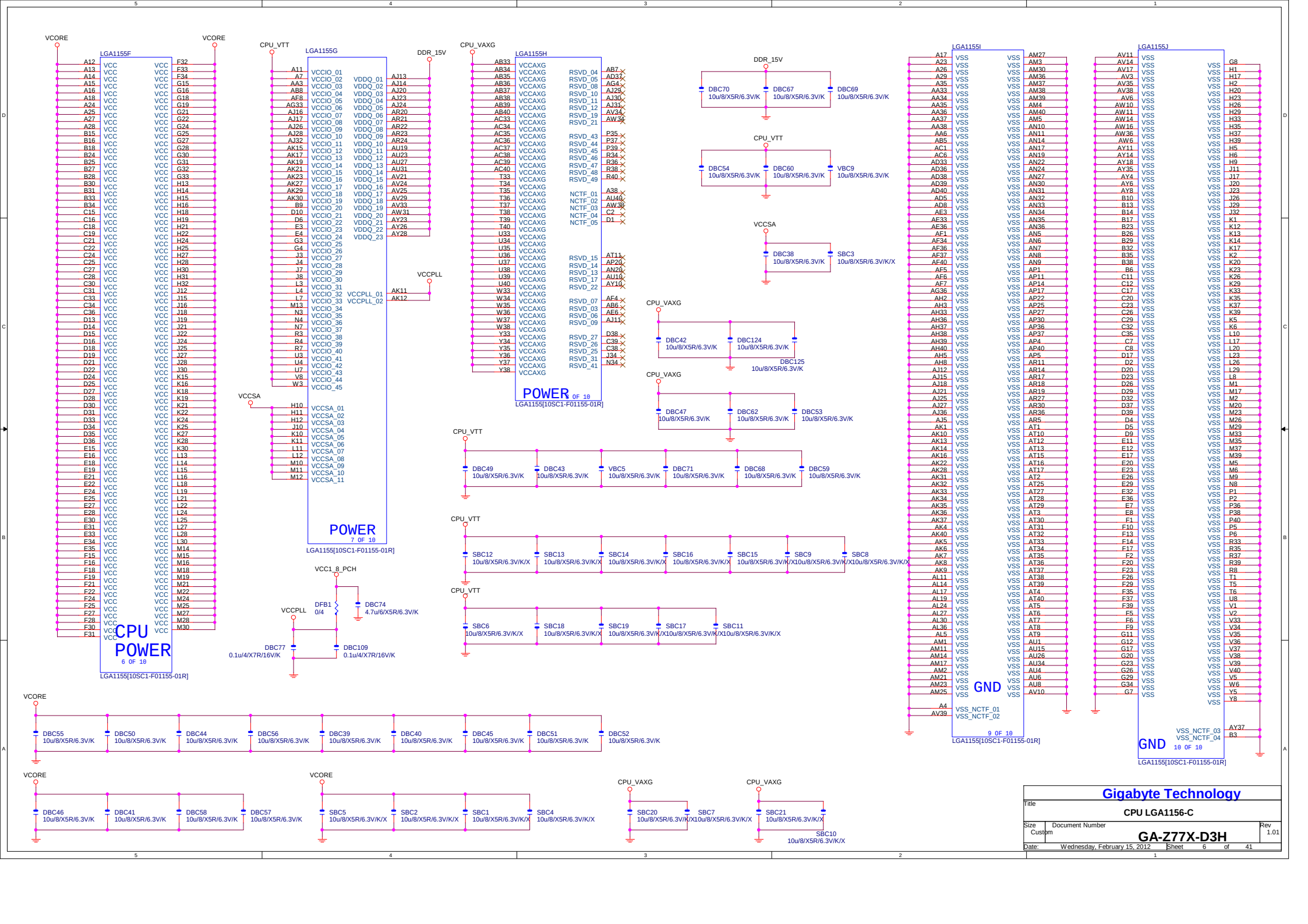
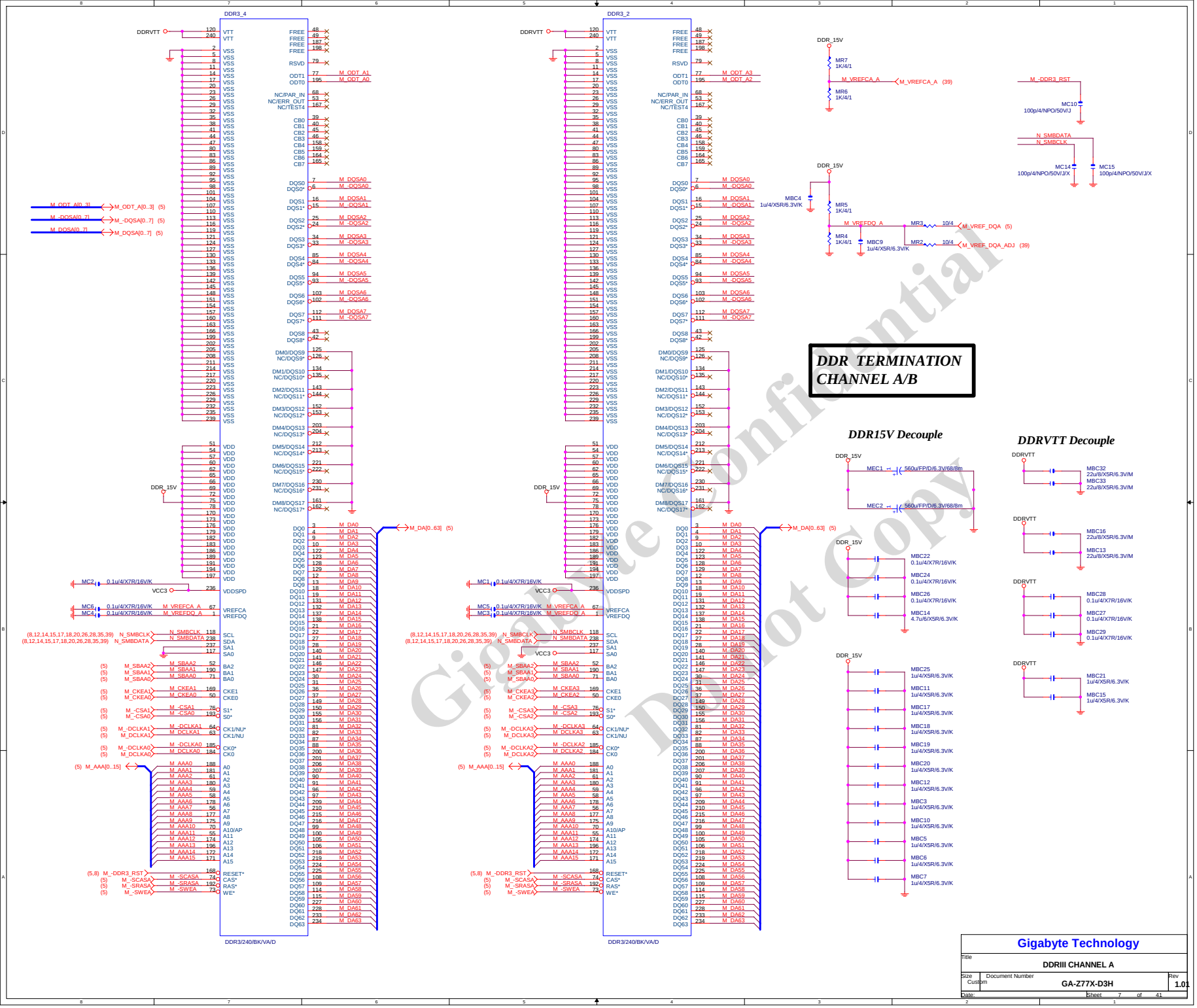
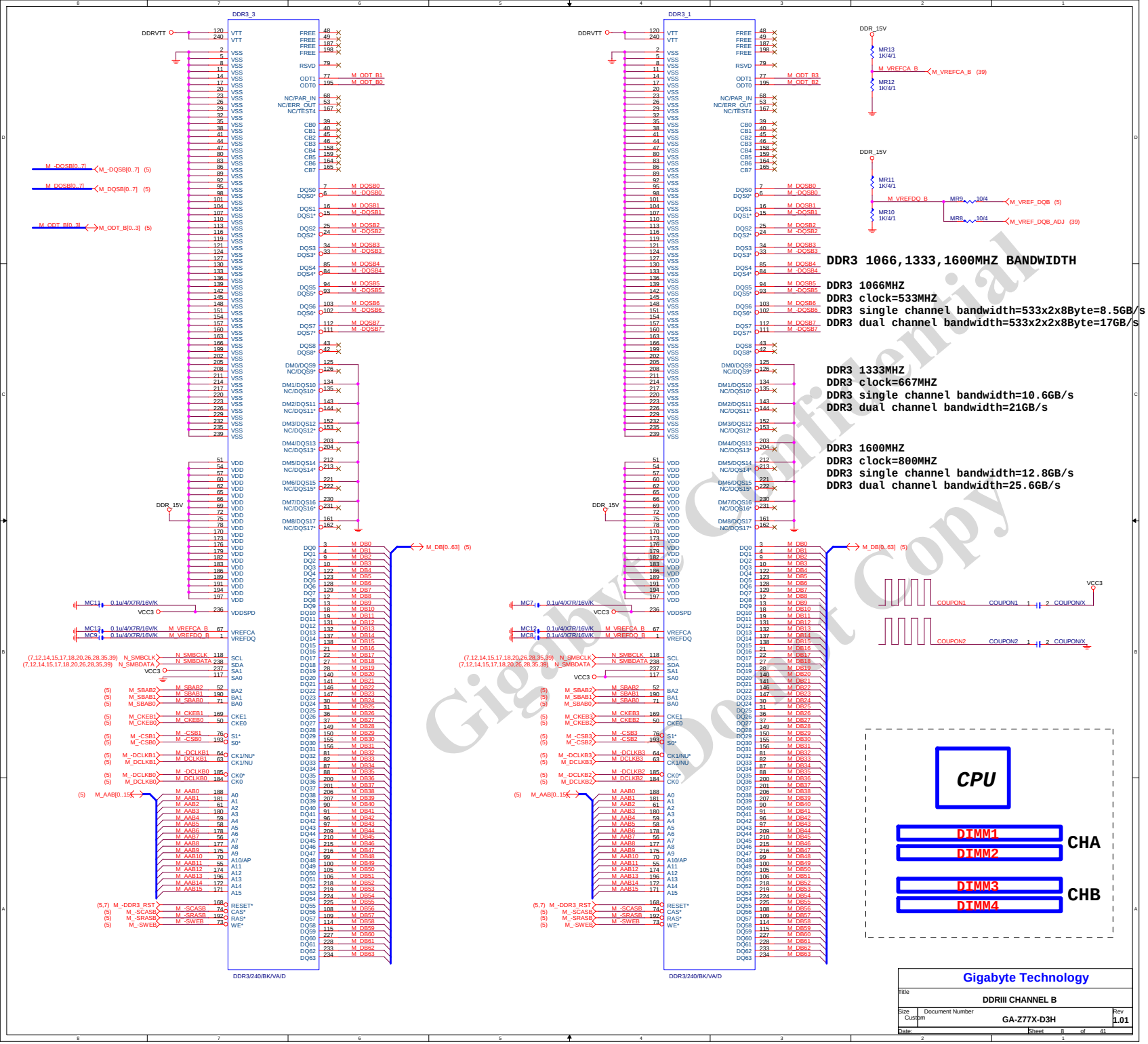


Gigabyte Technology			
Title: CPU LGA1156-C			
Size: Custom	Document Number: GA-Z77X-D3H		Rev: 1.01
Date: Wednesday, February 15, 2012	Sheet 6 of 41		





Gigabyte Technology			
Title: DDRIII CHANNEL B			
Size: Custom	Document Number: GA-Z77X-D3H		Rev: 1.01
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

USB

PCI-E

2 OF 11

BD82Z77/S

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

VCC1_05_PCH — NR82 49.9/4/1

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

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

Rev 0.2

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%

PCHG

FDILINK

7 OF 11

BD82Z77/S

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

Title	PCH FDI,DMI,USB ,PCIE
Size	Custom
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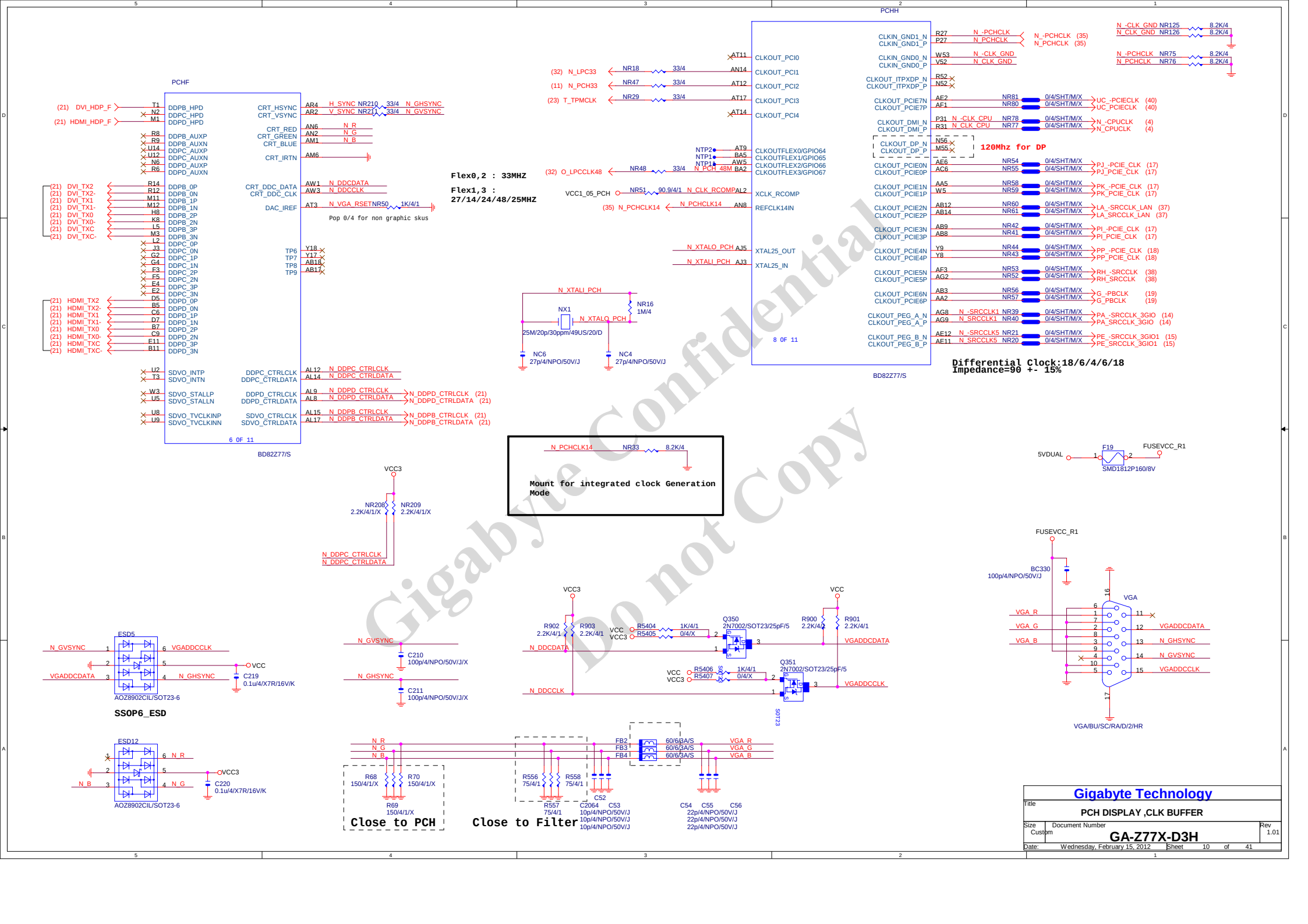
PCHF
PCHH
BD82Z77/S
6 OF 11
8 OF 11
Flex0,2 : 33MHZ
Flex1,3 : 27/14/24/48/25MHZ
Pop 0/4 for non graphic skus
120Mhz for DP
Differential Clock:18/6/4/6/18
Impedance=90 +- 15%
Mount for integrated clock Generation Mode
SSOP6_ESD
Close to PCH
Close to Filter
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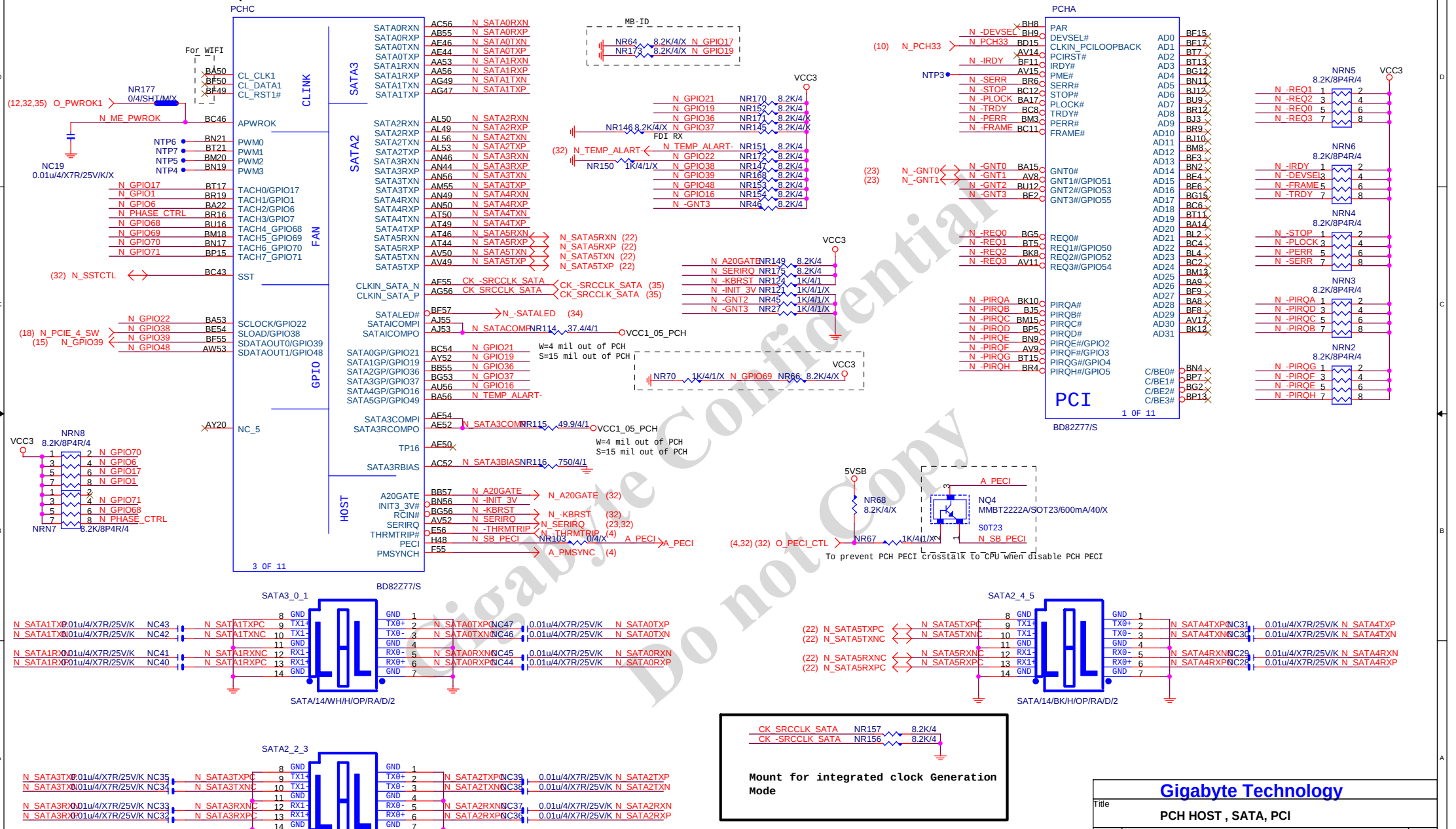
PCH DISPLAY ,CLK BUFFER
GA-Z77X-D3H
Date: Wednesday, February 15, 2012
Sheet 10 of 41

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



Title	PCH HOST , SATA, PCI
Size	B
Document Number	GA-Z77X-D3H
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Date:	Wednesday, February 15, 2012
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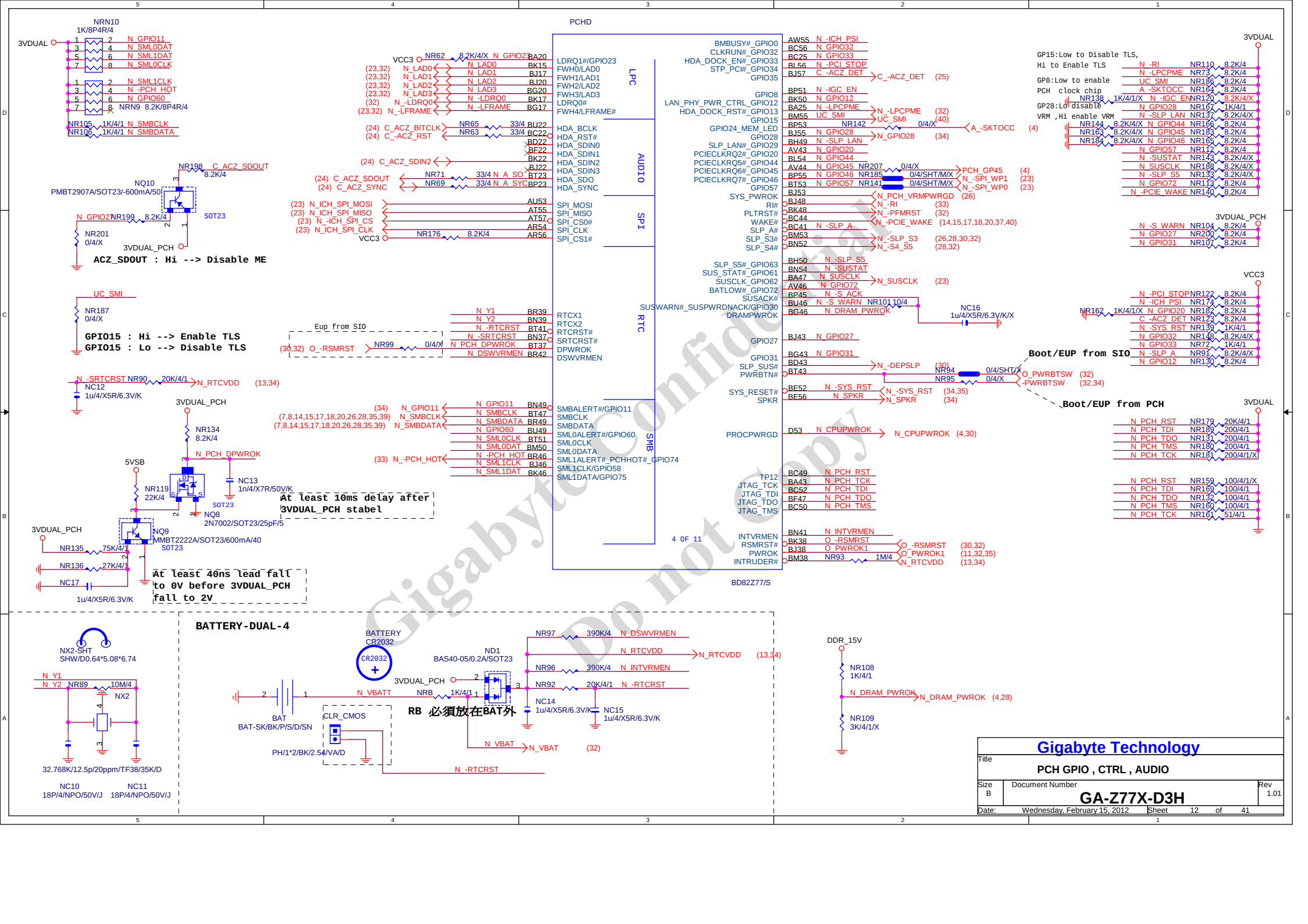
PCHD
LPC
AUDIO
SPI
RTC
SMB
BD82Z77/S
4 OF 11
ACZ_SDOUT : Hi --> Disable ME
GPIO15 : Hi --> Enable TLS
GPIO15 : Lo --> Disable TLS
At least 10ms delay after 3VDUAL_PCH stabel
At least 40ns lead fall to 0V before 3VDUAL_PCH fall to 2V
Boot/EUP from SIO
Boot/EUP from PCH
BATTERY-DUAL-4
RB 必須放在BAT外
GP15:Low to Disable TLS, Hi to Enable TLS
GP8:Low to enable PCH clock chip
GP28:Lo disable VRM ,Hi enable VRM
Gigabyte Technology
PCH GPIO , CTRL , AUDIO
GA-Z77X-D3H
Wednesday, February 15, 2012
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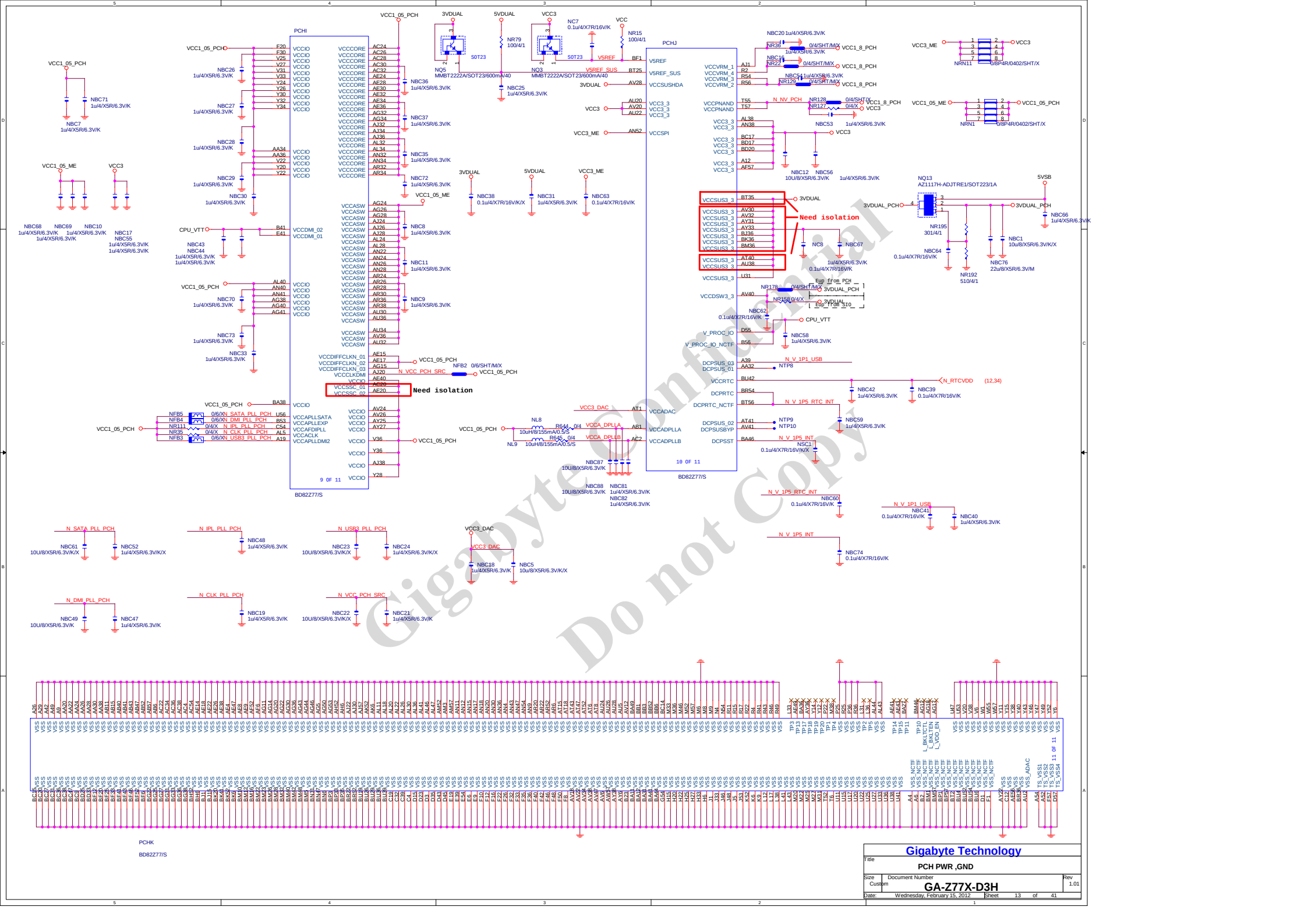
PCHI
BD82Z77/S
9 OF 11
PCHJ
10 OF 11
PCHK
Need isolation
Need isolation
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Gigabyte Technology
PCH PWR ,GND
GA-Z77X-D3H
Size Custom
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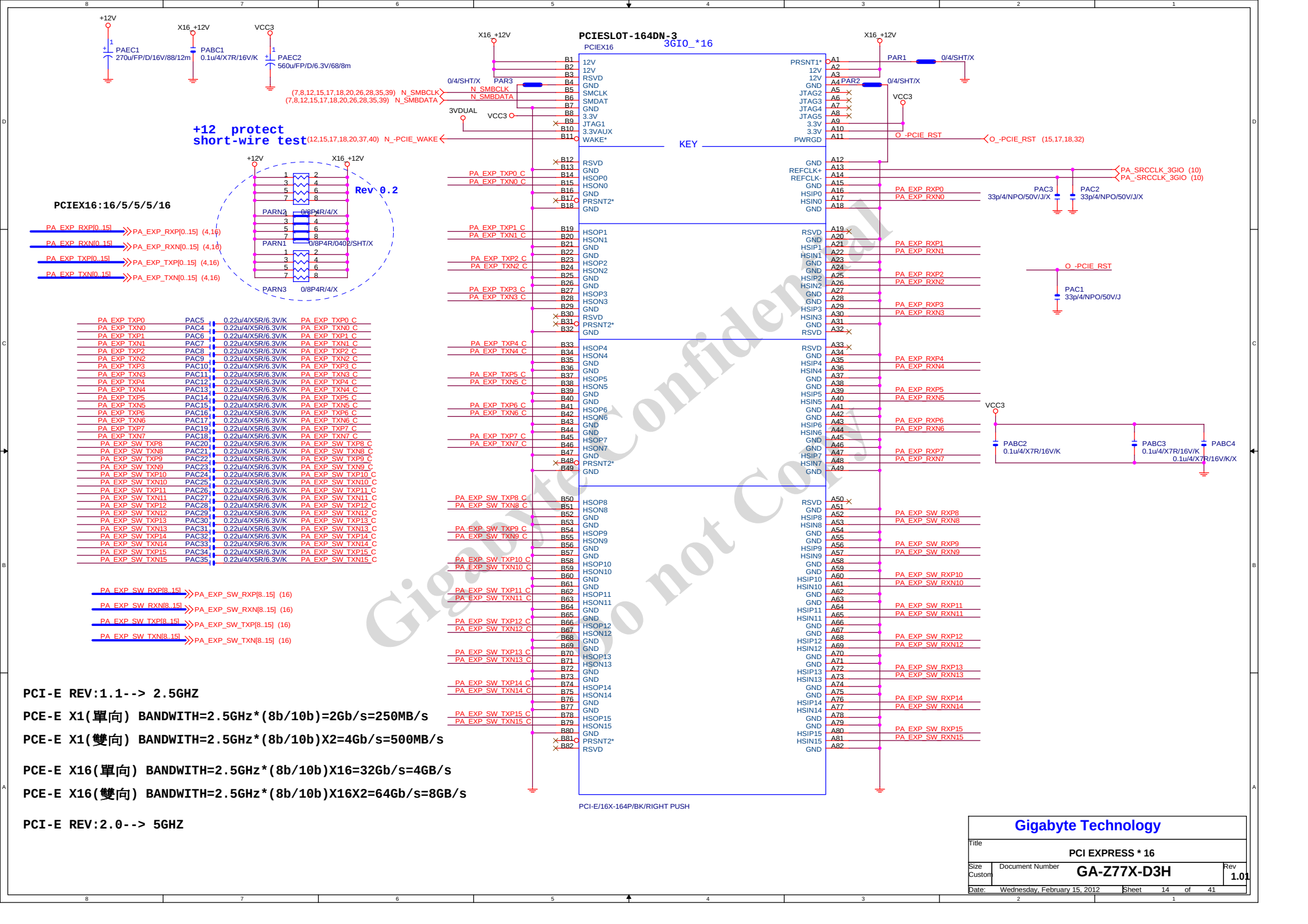
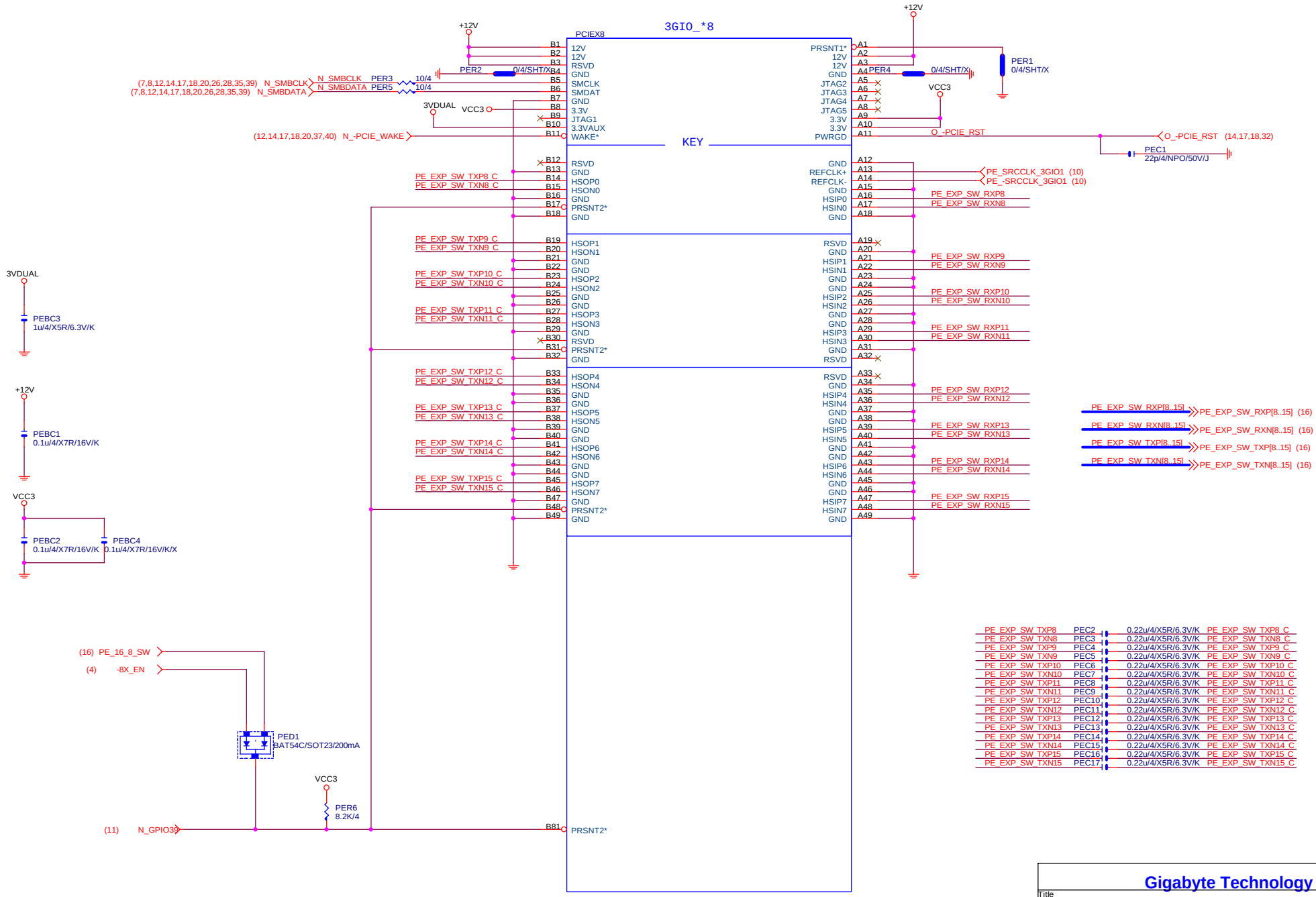


Gigabyte Technology	
Title	PCI EXPRESS * 16
Size: Custom	Document Number: GA-Z77X-D3H
Rev: 1.01	
Date: Wednesday, February 15, 2012	Sheet 14 of 41



Gigabyte Technology

Title: PCI EXPRESS X 4 PORT

Size: Custom | Document Number: GA-Z77X-D3H | Rev: 1.01

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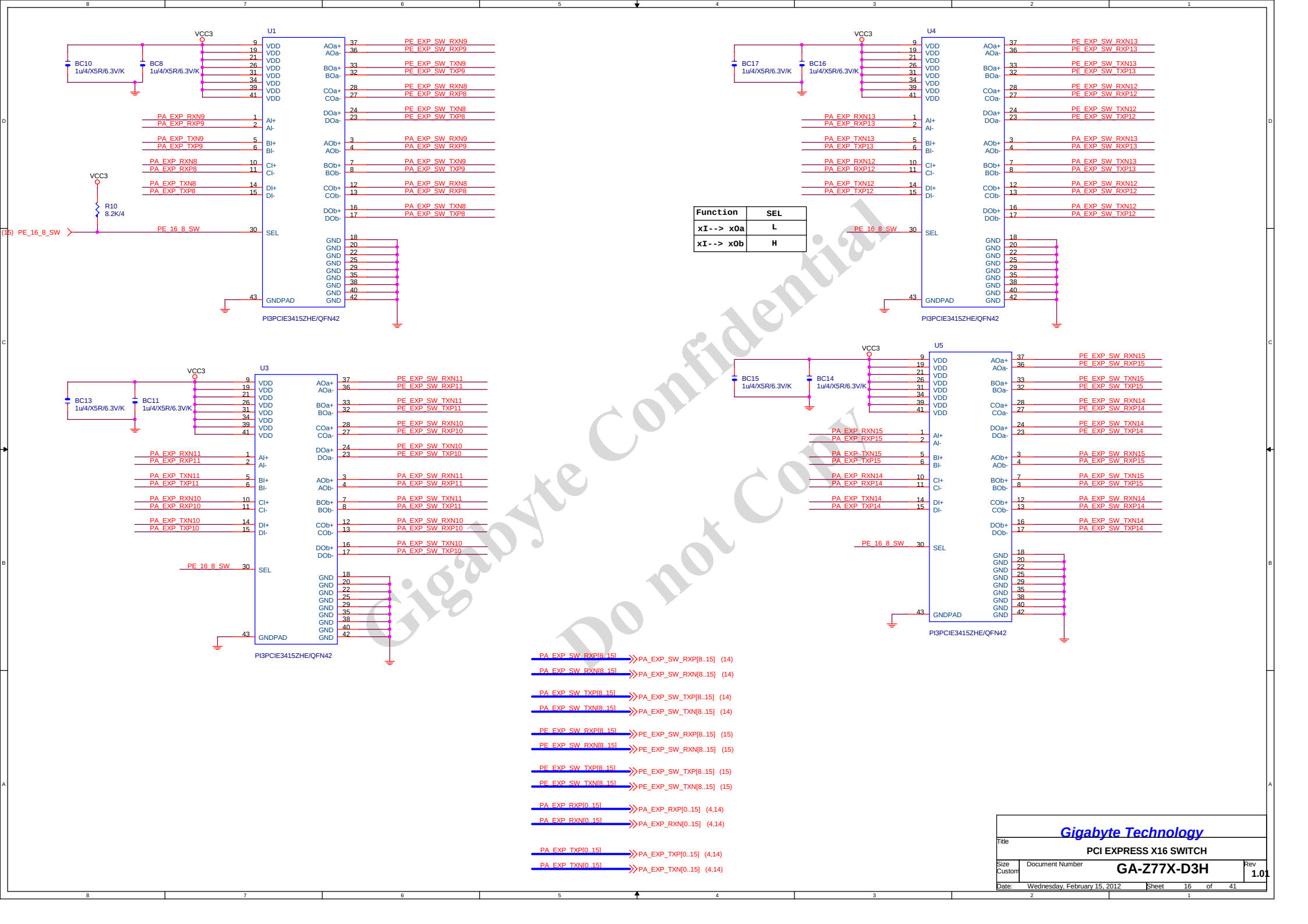
U1
VCC3
BC10 1u/4/X5R/6.3V/K
BC8 1u/4/X5R/6.3V/K
R10 8.2K/4
(15) PE_16_8_SW
PA_EXP_RXN9
PA_EXP_RXP9
PA_EXP_TXN9
PA_EXP_TXP9
PA_EXP_RXN8
PA_EXP_RXP8
PA_EXP_TXN8
PA_EXP_TXP8
PE_16_8_SW
VDD
AI+
AI-
BI+
BI-
CI+
CI-
DI+
DI-
SEL
GNDPAD
AOa+
AOa-
BOa+
BOa-
COa+
COa-
DOa+
DOa-
AOb+
AOb-
BOb+
BOb-
COb+
COb-
DOb+
DOb-
GND
PE_EXP_SW_RXN9
PE_EXP_SW_RXP9
PE_EXP_SW_TXN9
PE_EXP_SW_TXP9
PE_EXP_SW_RXN8
PE_EXP_SW_RXP8
PE_EXP_SW_TXN8
PE_EXP_SW_TXP8
PI3PCIE3415ZHE/QFN42
U4
BC17 1u/4/X5R/6.3V/K
BC16 1u/4/X5R/6.3V/K
PA_EXP_RXN13
PA_EXP_RXP13
PA_EXP_TXN13
PA_EXP_TXP13
PA_EXP_RXN12
PA_EXP_RXP12
PA_EXP_TXN12
PA_EXP_TXP12
PE_16_8_SW
PE_EXP_SW_RXN13
PE_EXP_SW_RXP13
PE_EXP_SW_TXN13
PE_EXP_SW_TXP13
PE_EXP_SW_RXN12
PE_EXP_SW_RXP12
PE_EXP_SW_TXN12
PE_EXP_SW_TXP12
PI3PCIE3415ZHE/QFN42
Function | SEL
xI--> xOa | L
xI--> xOb | H
U3
BC13 1u/4/X5R/6.3V/K
BC11 1u/4/X5R/6.3V/K
PA_EXP_RXN11
PA_EXP_RXP11
PA_EXP_TXN11
PA_EXP_TXP11
PA_EXP_RXN10
PA_EXP_RXP10
PA_EXP_TXN10
PA_EXP_TXP10
PE_16_8_SW
PE_EXP_SW_RXN11
PE_EXP_SW_RXP11
PE_EXP_SW_TXN11
PE_EXP_SW_TXP11
PE_EXP_SW_RXN10
PE_EXP_SW_RXP10
PE_EXP_SW_TXN10
PE_EXP_SW_TXP10
PI3PCIE3415ZHE/QFN42
U5
BC15 1u/4/X5R/6.3V/K
BC14 1u/4/X5R/6.3V/K
PA_EXP_RXN15
PA_EXP_RXP15
PA_EXP_TXN15
PA_EXP_TXP15
PA_EXP_RXN14
PA_EXP_RXP14
PA_EXP_TXN14
PA_EXP_TXP14
PE_16_8_SW
PE_EXP_SW_RXN15
PE_EXP_SW_RXP15
PE_EXP_SW_TXN15
PE_EXP_SW_TXP15
PE_EXP_SW_RXN14
PE_EXP_SW_RXP14
PE_EXP_SW_TXN14
PE_EXP_SW_TXP14
PI3PCIE3415ZHE/QFN42
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)
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Title
PCI EXPRESS X16 SWITCH
Size Custom
Document Number
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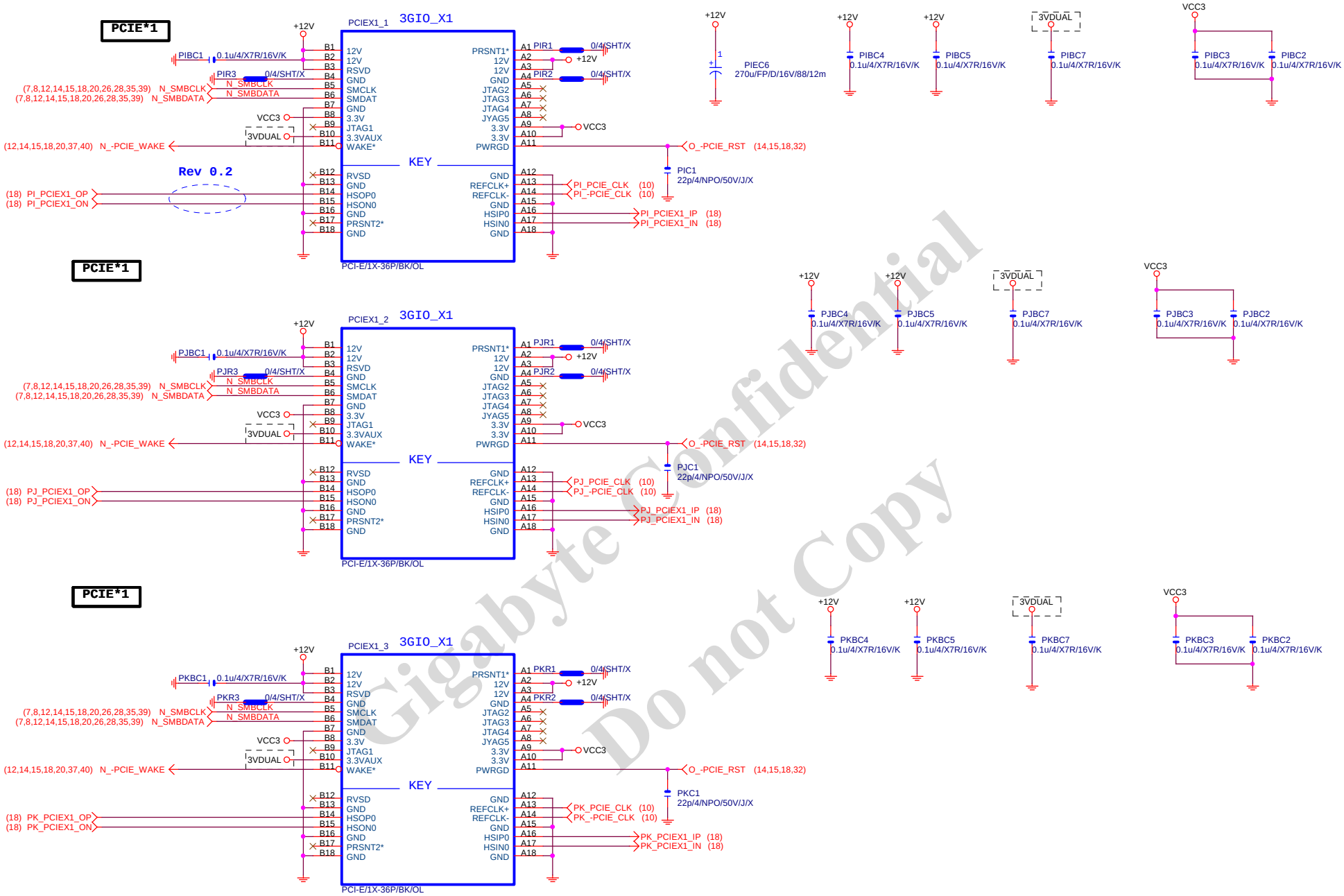

Gigabyte Technology		
Title: PCIE_X1 1,2,3		
Size: Custom	Document Number: GA-Z77X-D3H	Rev: 1.01
Date: Wednesday, February 15, 2012	Sheet 17 of 41	

PCIE*4

PCIEX4

3GIO_*4

KEY

PCI-E/16X-65P/BU/RIGHT PUSH

Rev 0.2

Rev 0.2

Rev 0.2

通知BIOS DETECTED DEVICE

PI3PCIE2415ZHE/TQFN42

PI3PCIE2415ZHE/TQFN42

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

GIGABYTE™

Title: PCIE_X4

Size: Custom | Document Number: GA-Z77X-D3H | Rev: 1.01

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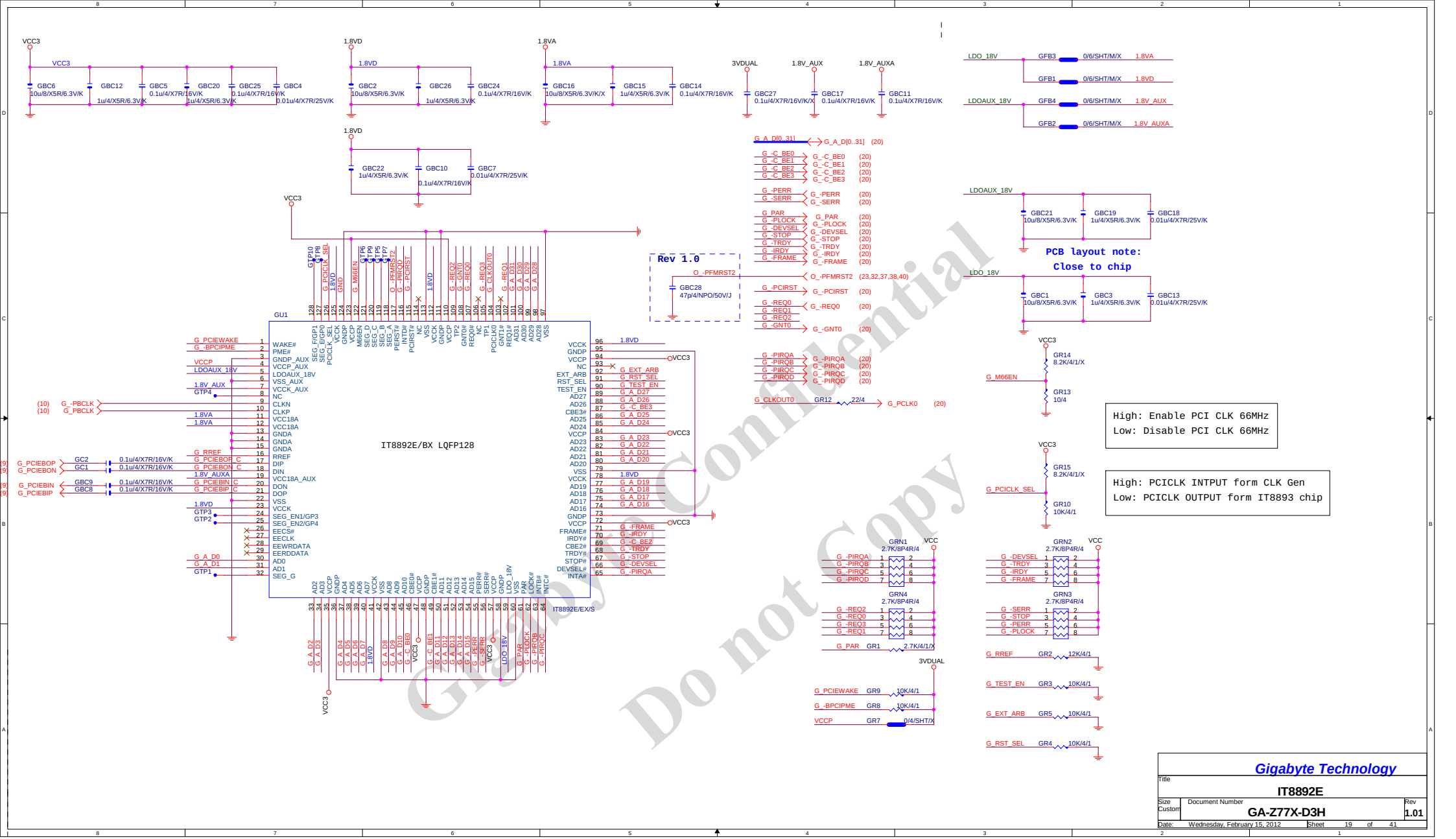
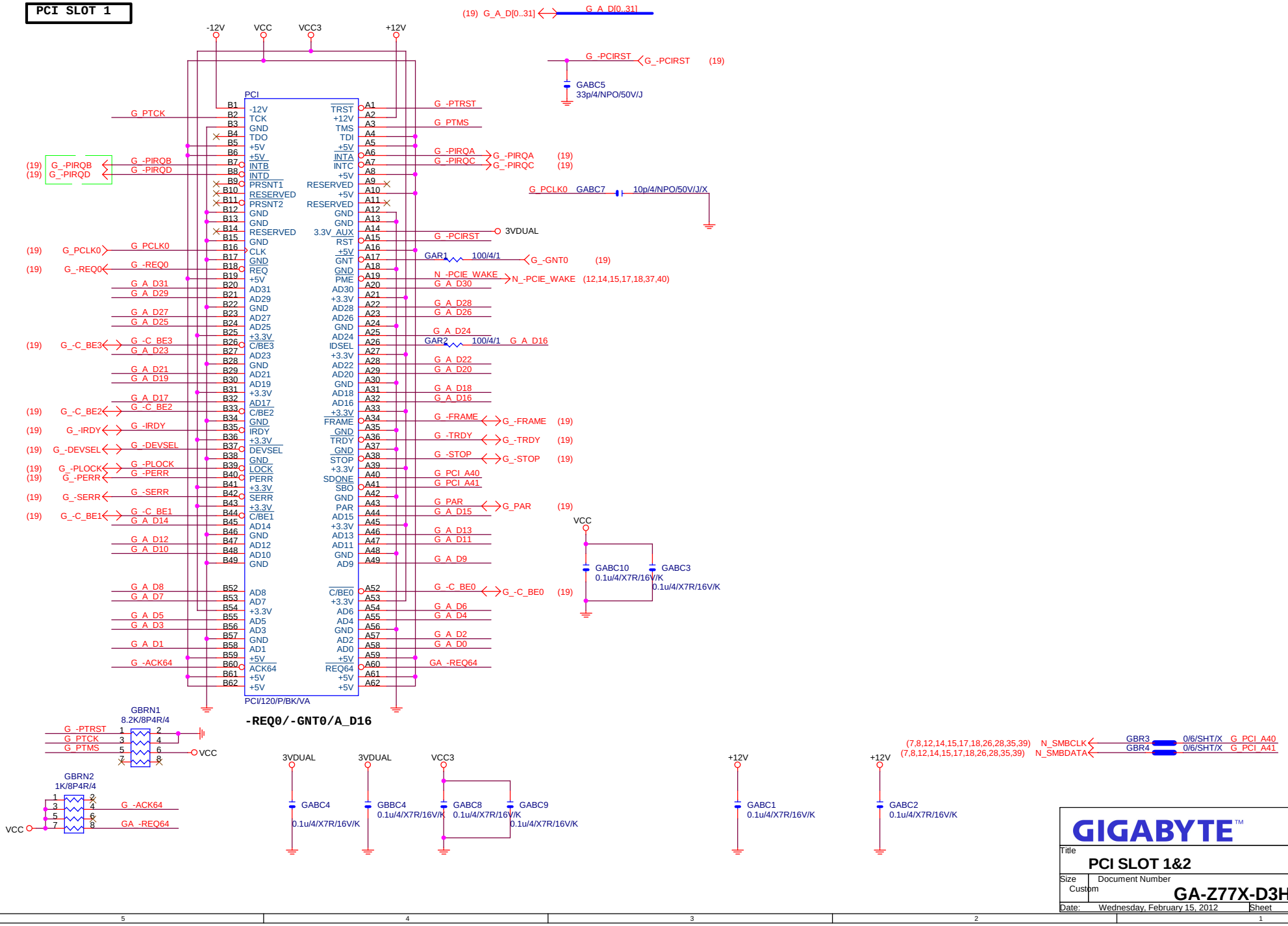
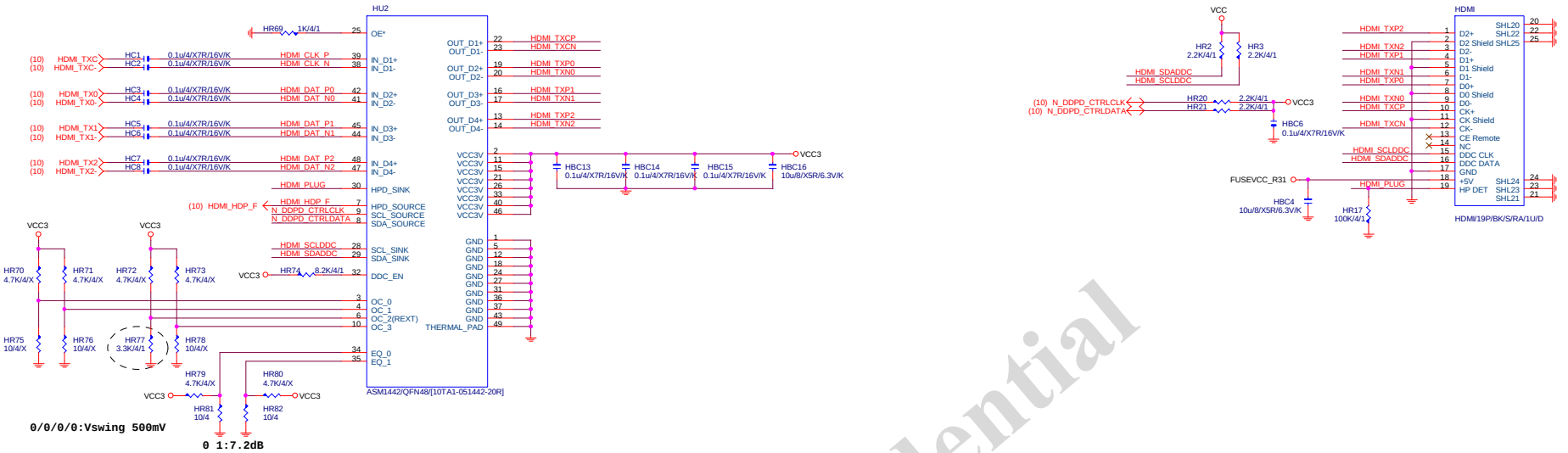


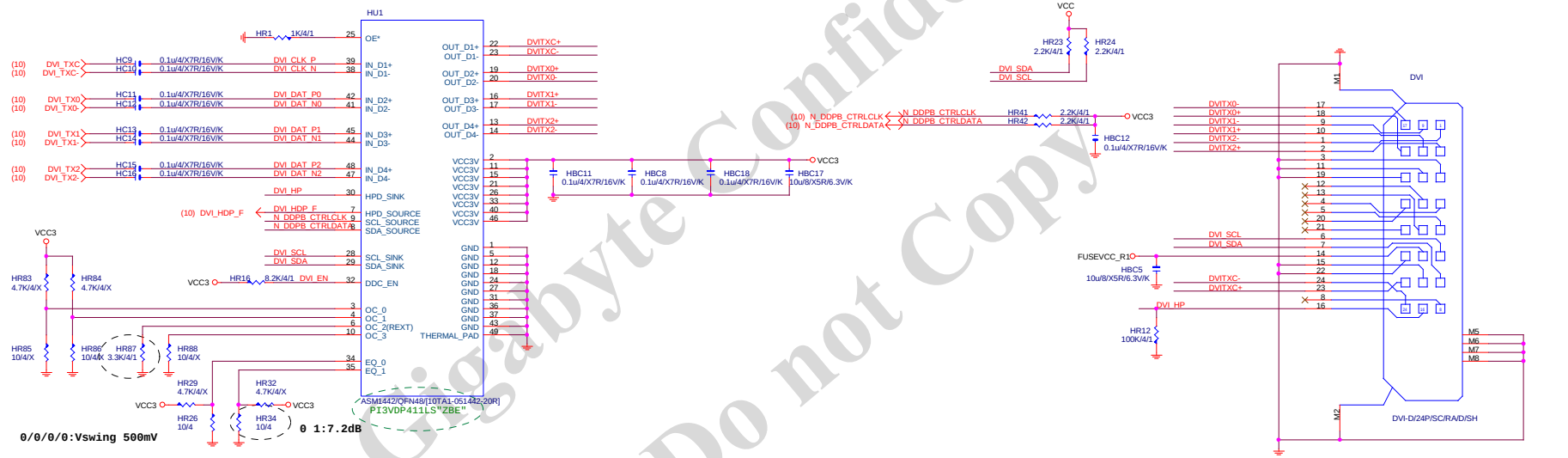
PCI SLOT 1



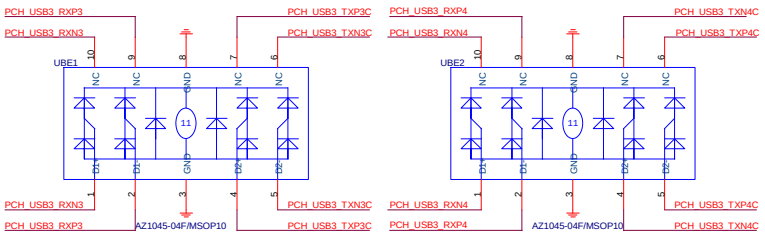
GIGABYTE™

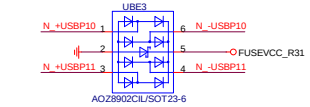
Title	PCI SLOT 1&2	
Size: Custom	Document Number: GA-Z77X-D3H	Rev: 1.01
Date: Wednesday, February 15, 2012	Sheet 20 of 41	



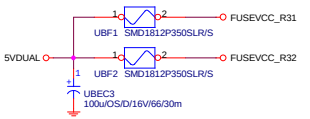


USB3.0

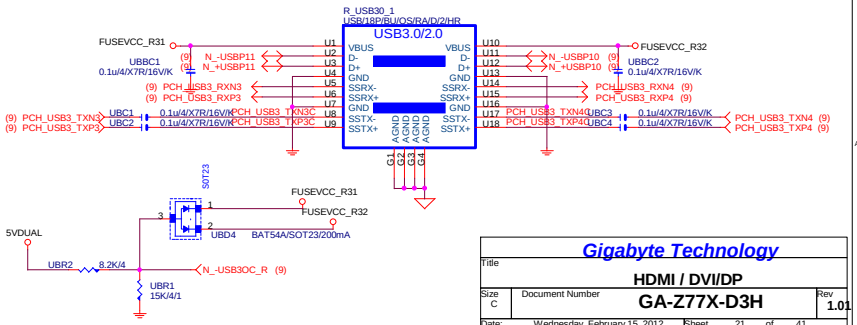




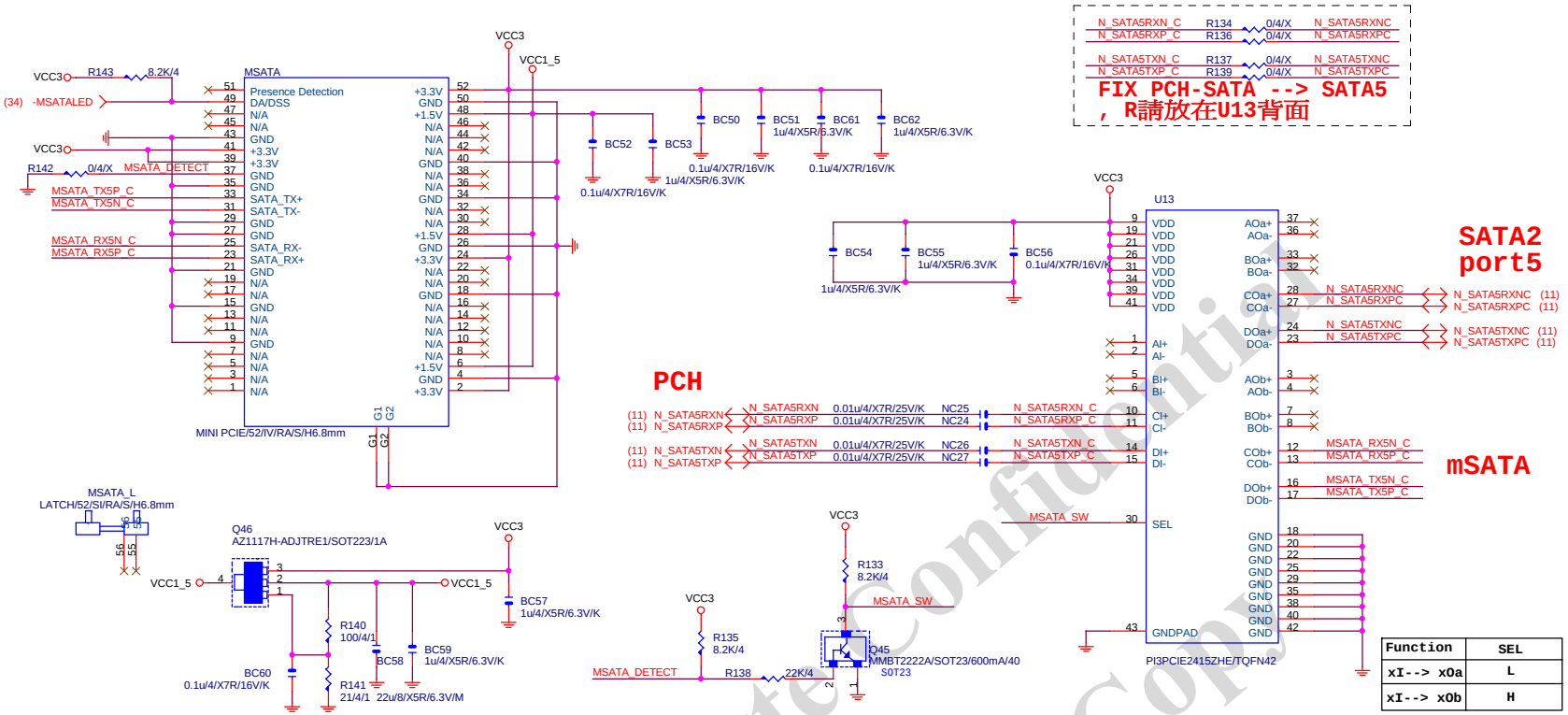
CLOSE R_USB1



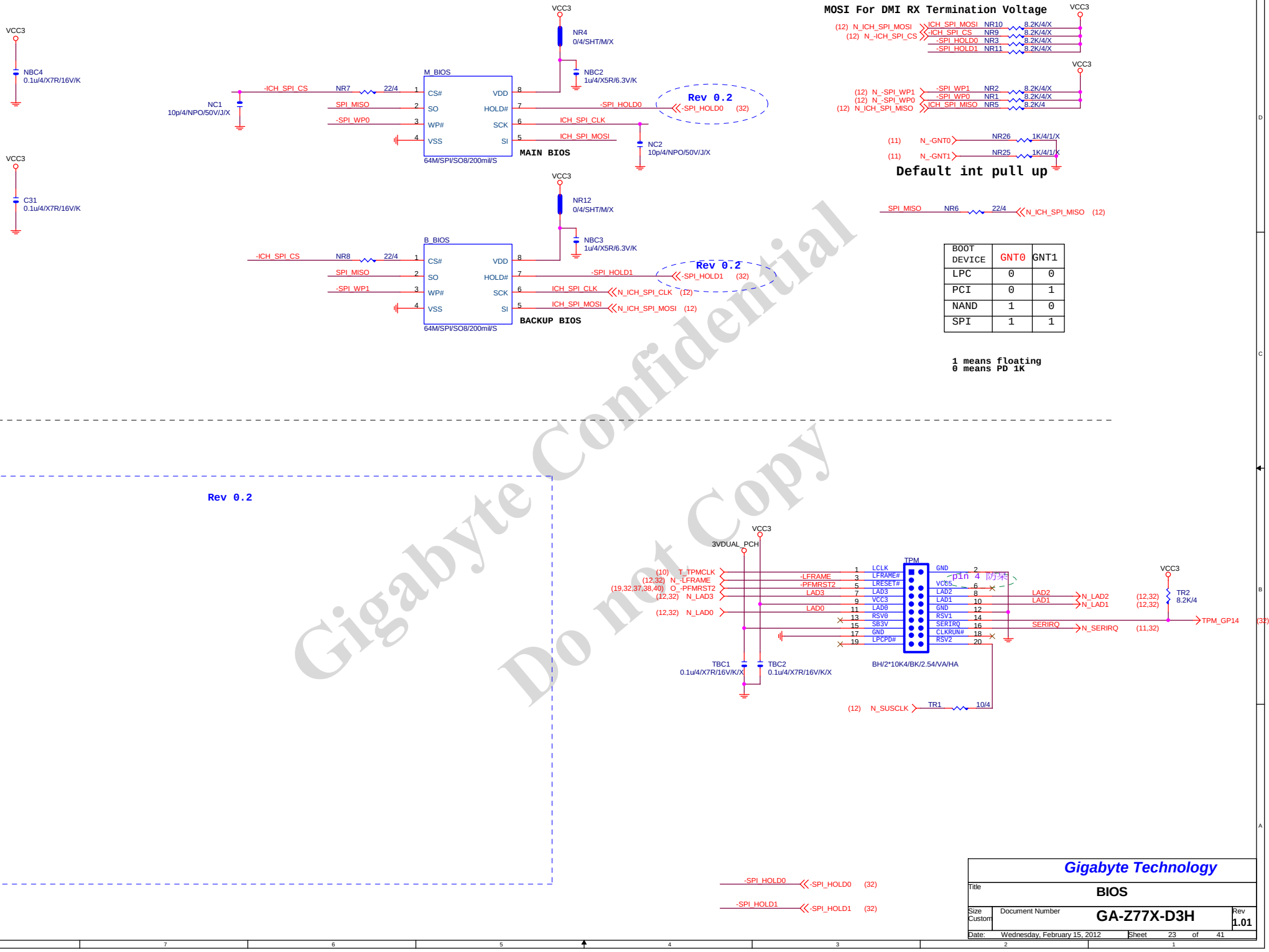
USB30_20



Gigabyte Technology		
Title: HDMI / DVI/DP		
Size: C	Document Number: GA-Z77X-D3H	Rev: 1.01
Date: Wednesday, February 15, 2012	Sheet 21 of 41	

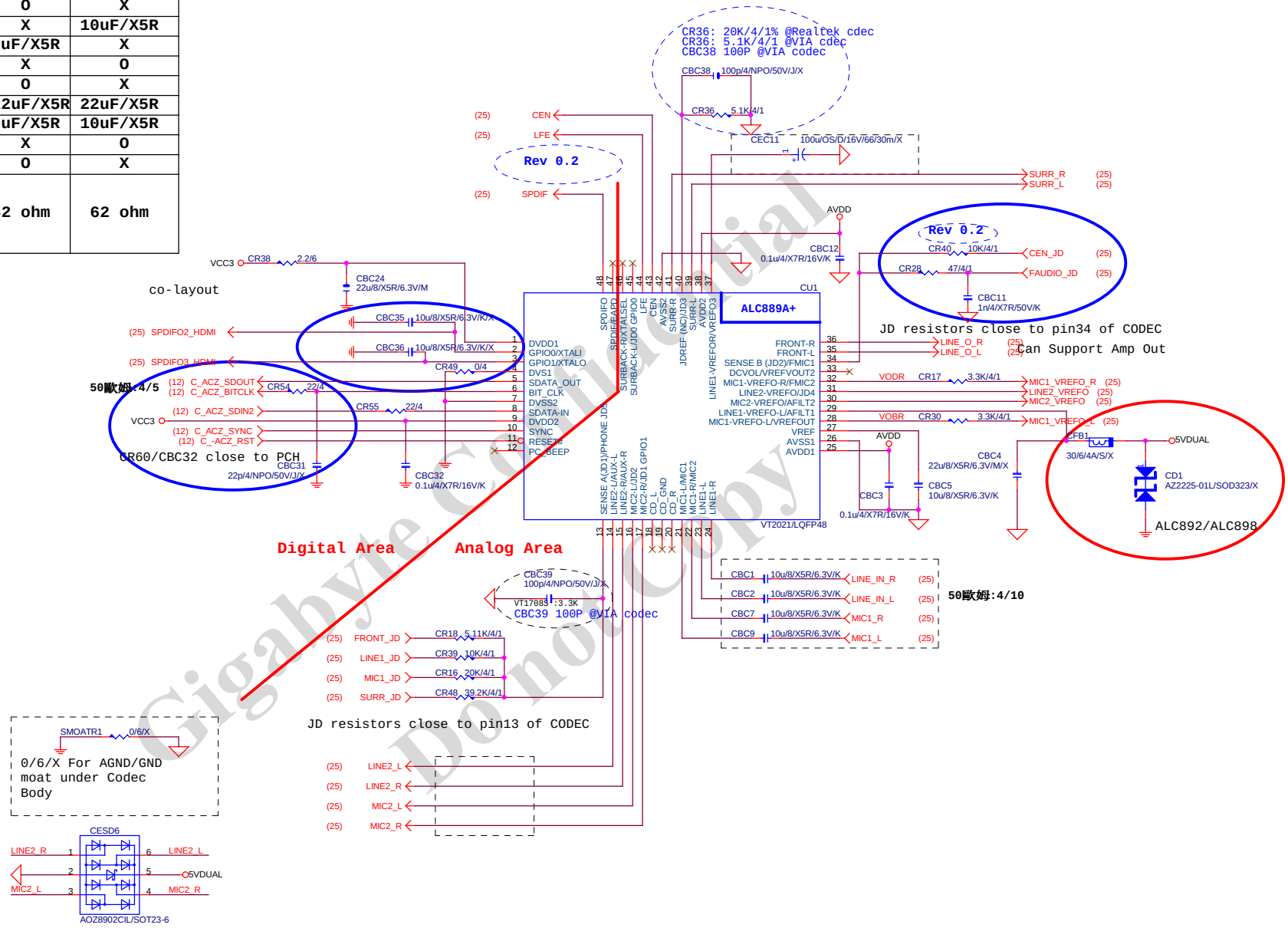


GIGABYTE		
Title	<Title>	
Size: Custom	Document Number: GA-Z77X-D3H	Rev: 1.01
Date: Wednesday, February 15, 2012	Sheet 22 of 41	



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 ALC889A
Size: Custom	Document Number: GA-Z77X-D3H
Rev	1.01
Date:	Wednesday, February 15, 2012
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CODEC POWER/EMI PAD

EUP

+12V

5VDUAL — CD4 — AVDD

CD3 CD4148WP/1206/300mA

CQ3

78L05/SOT89/0.1A

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

CD4148WP/1206/300mA

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

CD2 AZ2225-01L/SOD323

ADD CD2 For ESD PROTECT DIODE

上ALC892時,此顆電容要保留

CR4 0/6/SHT/X

CESD1 AZ2025-04S/SOT23-5L/X

M2_L — M2_R — L2-R — L2-L

Rev 0.2 Rev 0.2

CR23 0/4/X → Audio jack --> USB

CR44 0/6

MOATC1 0/4 → Near Audio jack left

MOATC2 0/4 → Codec --> Audio jack

MOATC3 0.1u/4/X7R/16V/K → F_AUDIO

(24) SPDIFO3_HDMI — CR53 0/4/X

(24) SPDIFO2_HDMI — CR52 0/4 — SPDIFO_HDMI

(24) SPDIF — CR57 0/4/X

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

PIN SPDIF_O PH1*2/BK/2.54/VA/D

For HDMI SPDIF

CESD5 AZ2025-04S/SOT23-5L/X

SPDIF — SPDIFO_HDMI

AZALIA JACK

BTX AZALIA CONNECTOR

11NR6-403007-21R

CESD2 AZ2025-04S/SOT23-5L/X — AJ_A2 — AJ_C2 — AJ_B2 — AJ_C5

CESD4 AZ2025-04S/SOT23-5L/X — AJ_B5 — BJ_C2 — AJ_A5

CESD3 AZ2025-04S/SOT23-5L/X — BJ_B5 — BJ_C5 — BJ_B2

AUDIOB

(24) LINE1_JD — LINE1_JD — AJ_A5 — AJ_A2 — GND REAR

BLUE LINE-IN

(24) FRONT_JD — FRONT_JD — AJ_B5 — AJ_B2 — GND CEN/LFE

GREEN LINE-OUT

(24) MIC1_JD — MIC1_JD — AJ_C5 — AJ_C2 — GND SIDE

PINK MIC-IN

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

AUDIOA

(24) CEN_JD — CEN_JD — BJ_B5 — BJ_B2 — GND LINE-IN

Orange CEN/LFE

(24) SURR_JD — SURR_JD — BJ_C5 — BJ_C2 — GND LINE-OUT

Black SURROUND

(24) SPDIF — UC_FUSEVCC3 — SPDIFO — VCC — GND — OPTICAL

SPDIF

Rev 0.2

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

LINE-OUT

(24) LINE_O_R — CEC2 100u/OS/D/16V/66/30m — CR7 75/4/1 — CR10 10K/4/1 — CR8 10K/4/1 — AJ_B5

(24) LINE_O_L — CEC3 100u/OS/D/16V/66/30m — CR9 75/4/1 — AJ_B2

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

LINE-IN

(24) LINE_IN_R — CR5 75/4/1 — AJ_A5

(24) LINE_IN_L — CR13 75/4/1 — AJ_A2

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

MIC-IN

(24) MIC1_R — CR29 75/4/1 — AJ_C5

(24) MIC1_L — CR32 75/4/1 — AJ_C2

(24) MIC1_VREFO_L

(24) MIC1_VREFO_R

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

SURROUND

EMI

(24) SURR_R — CEC5 100u/OS/D/16V/66/30m — CR46 75/4/1 — CR20 10K/4/1 — CR45 10K/4/1 — BJ_C5

(24) SURR_L — CEC7 100u/OS/D/16V/66/30m — CR19 75/4/1 — BJ_C2

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

CEN/LFE

EMI

(24) LFE — CEC9 100u/OS/D/16V/66/30m — CR50 75/4/1 — CR42 10K/4/1 — CR51 10K/4/1 — BJ_B5

(24) CEN — CEC10 100u/OS/D/16V/66/30m — CR41 75/4/1 — BJ_B2

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

SURR BACK

Rev 0.2

AZALIA FRONT PANEL

CQ2 BAT54A/SOT23/200mA — CR25 3.3K/4/1 — CR15 3.3K/4/1

(24) LINE2_VREFO

CQ1 BAT54A/SOT23/200mA — CR12 3.3K/4/1 — CR3 3.3K/4/1

(24) MIC2_VREFO

EMI

(24) MIC2_L — CBC20 10u/8/X5R/6.3V/K — CR2 75/4/1 — M2_L

(24) MIC2_R — CBC15 10u/8/X5R/6.3V/K — CR11 75/4/1 — M2_R

(24) FAUDIO_JD — L2_R — CR14 75/4/1 — L2-R

L2_L — CR24 75/4/1 — L2-L

CR1 0/4/X

F_AUDIO

CR27 10K/4/1 — CR26 10K/4/1

Digital Area

3VDUAL — CR56 8.2K/4/X

CR35 20K/4/1 — CR31 39.2K/4/1

C_-ACZ_DET (12)

bh/2*5k8/bk/2.54/va/[11nh3-000205-p1r]

(24) LINE2_R — CEC6 100u/OS/D/16V/66/30m — L2_R

(24) LINE2_L — CEC1 100u/OS/D/16V/66/30m — L2_L

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-Z77X-D3H	Rev: 1.01
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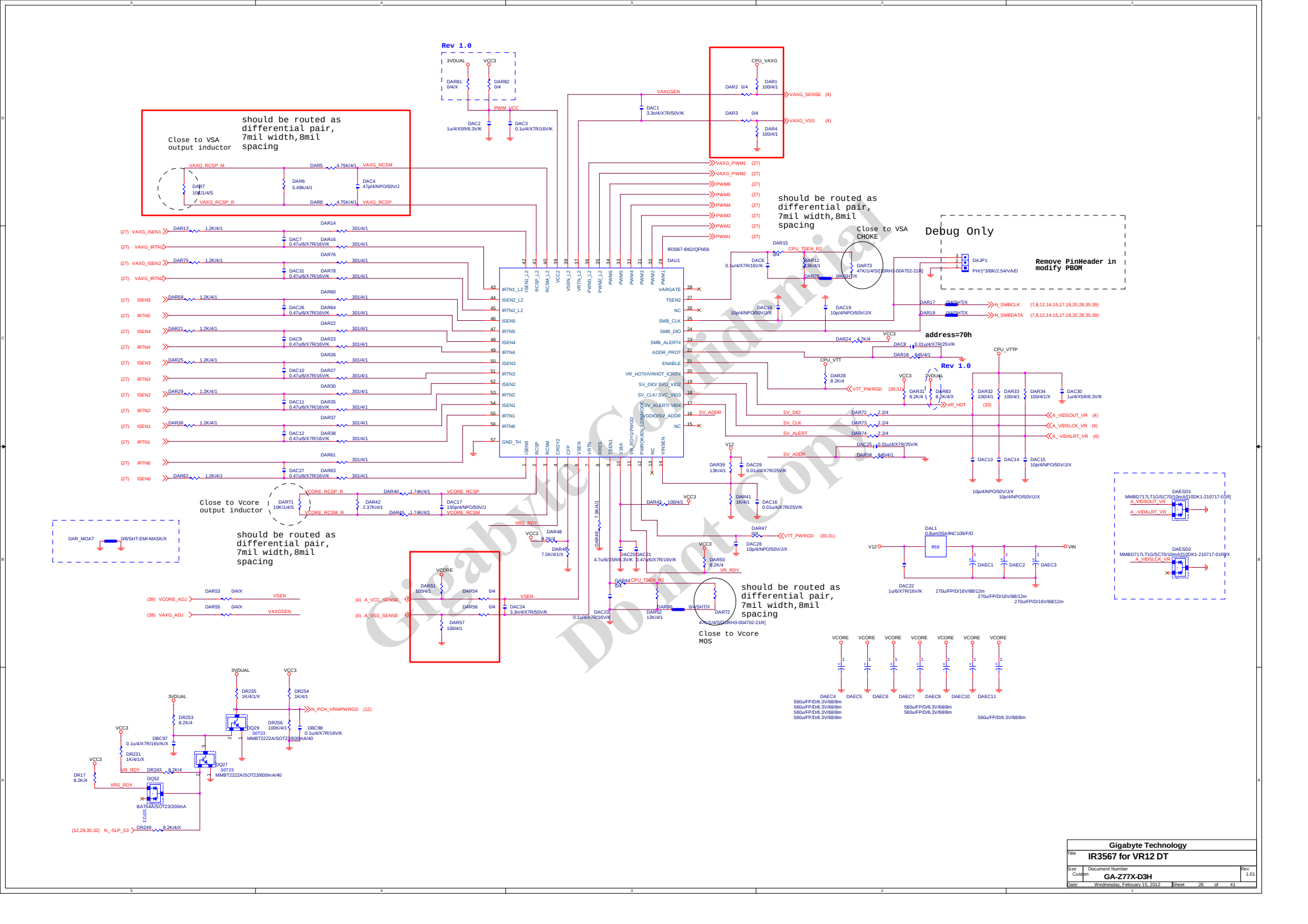
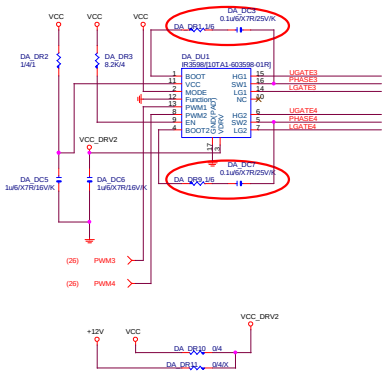


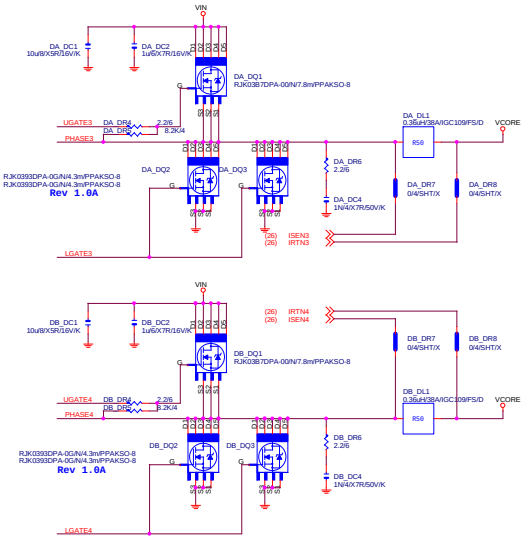
Gigabyte Technology	
Title	IR3567 for VR12 DT
Size: Custom	Document Number: GA-Z77X-D3H
Rev	1.01
Date: Wednesday, February 15, 2012	Sheet 26 of 41

VCORE Phase 3,6

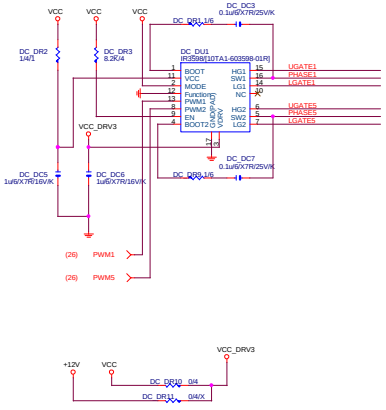


FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	1R ATL	Dual
1	1	1R ATL	Doubler
0	0	Tri-State	Dual
1	0	Tri-State	Doubler
OPEN	0	Tri-State	Quad
OPEN	1	1R ATL	Quad

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

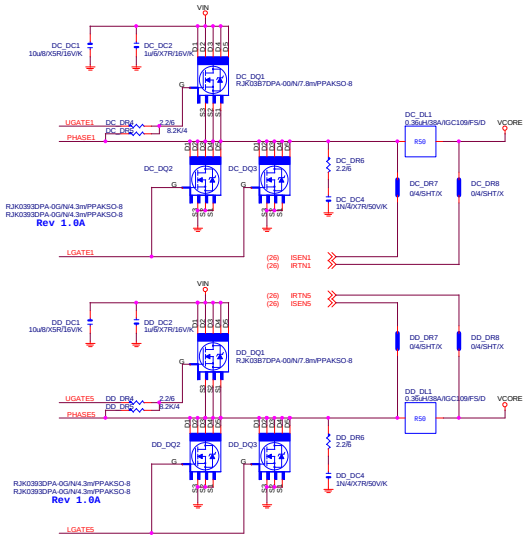


VCORE Phase 1,4

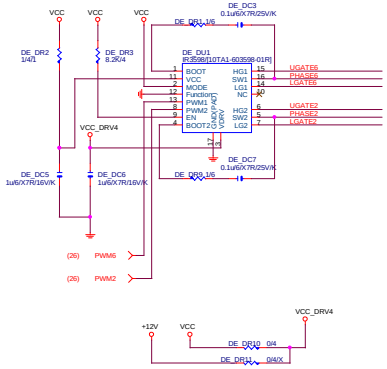


FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	1R ATL	Dual
1	1	1R ATL	Doubler
0	0	Tri-State	Dual
1	0	Tri-State	Doubler
OPEN	0	Tri-State	Quad
OPEN	1	1R ATL	Quad

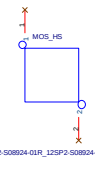
In Quad mode , IC1 pin10 link to IC2 pin10
IC1 pin9 link to IC2 pin9 without Pu



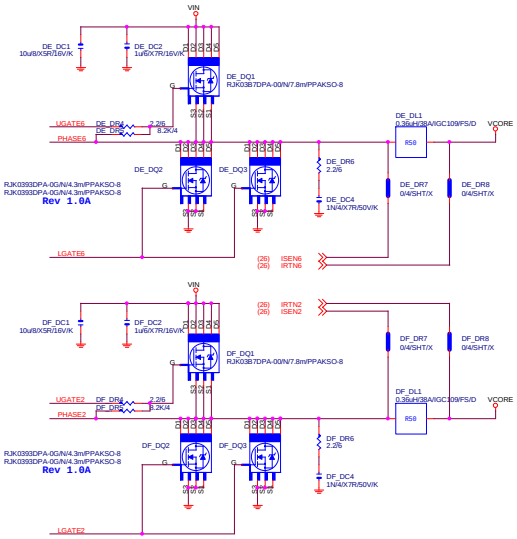
VCORE Phase 5,2



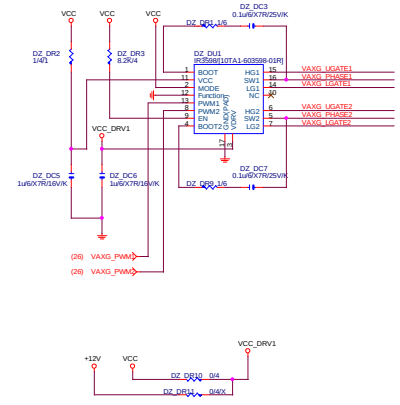
MOS HEATSINK

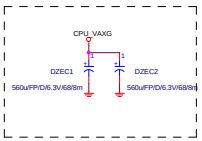


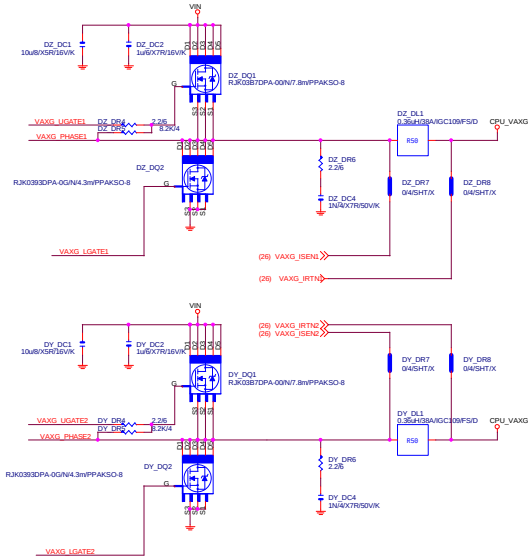
MOS HS/[12SP2-S08924-01R_12SP2-S08924-02R]_12SP2-S08924-03R]



VAXG Phase







Gigabyte Technology			
Title: CPU CORE VR			
Size: Custom	Document Number: GA-Z77X-D3H		Rev: 1.01
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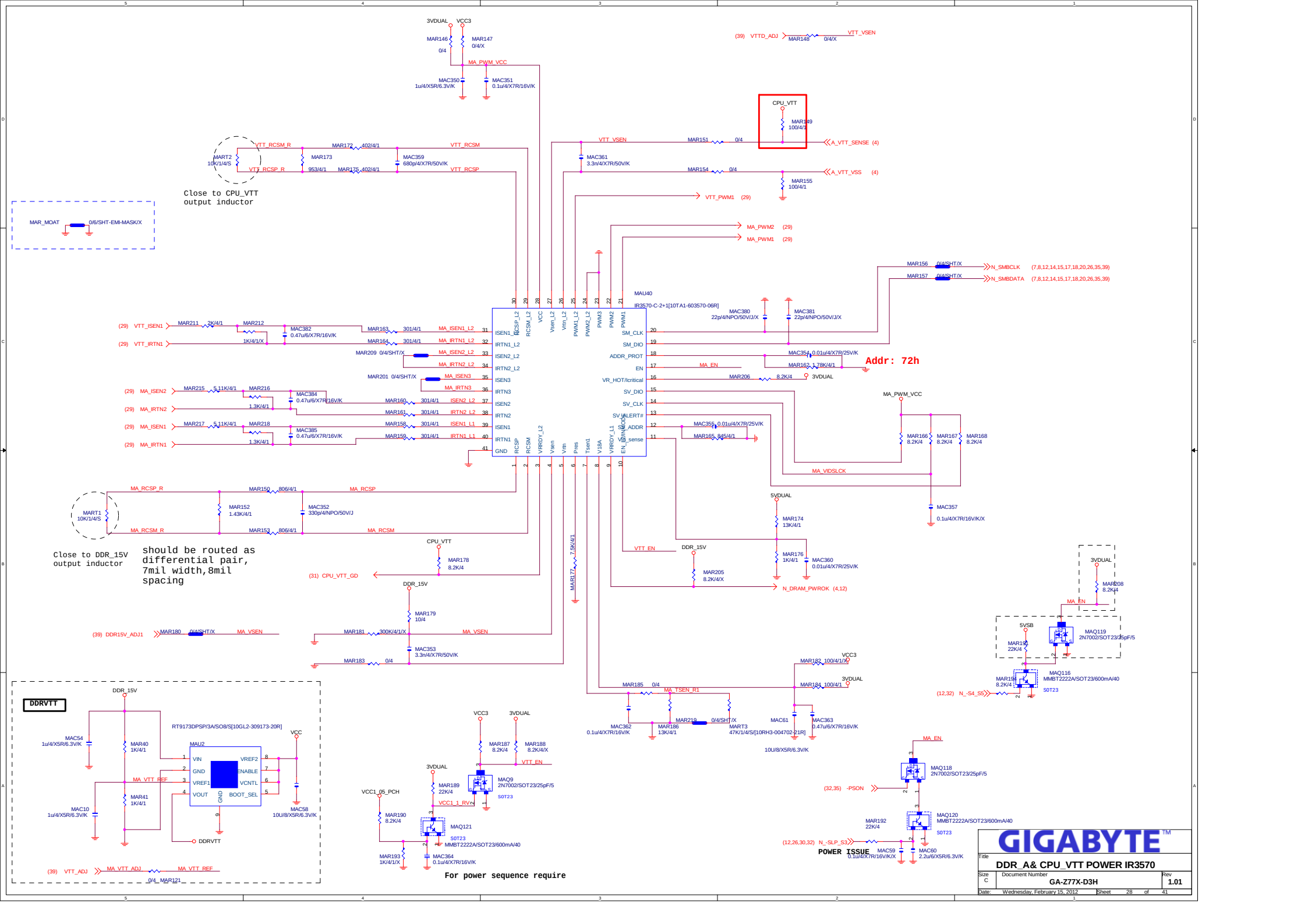
3VDUAL
VCC3
MAR146 0/4
MAR147 0/4/X
MA_PWM_VCC
MAC350 1u/4/X5R/6.3V/K
MAC351 0.1u/4/X7R/16V/K
(39) VTTD_ADJ
MAR148 0/4/X
VTT_VSEN
CPU_VTT
MAR149 100/4/1
VTT_VSEN
MAR151 0/4
A_VTT_SENSE (4)
MAC361 3.3n/4/X7R/50V/K
MAR154 0/4
A_VTT_VSS (4)
MAR155 100/4/1
VTT_PWM1 (29)
MA_PWM2 (29)
MA_PWM1 (29)
MAR156 0/4/SHT/X
MAR157 0/4/SHT/X
N_SMBCLK (7,8,12,14,15,17,18,20,26,35,39)
N_SMBDATA (7,8,12,14,15,17,18,20,26,35,39)
MAU40
IR3570-C-2+1[10TA1-603570-06R]
MAC380 22p/4/NPO/50V/J/X
MAC381 22p/4/NPO/50V/J/X
MAC354 0.01u/4/X7R/25V/K
MAR162 1.78K/4/1
Addr: 72h
MAR206 8.2K/4
3VDUAL
MA_EN
MA_PWM_VCC
MAR166 8.2K/4
MAR167 8.2K/4
MAR168 8.2K/4
MA_VIDSLCK
MAC357 0.1u/4/X7R/16V/K/X
MAC355 0.01u/4/X7R/25V/K
MAR165 845/4/1
5VDUAL
MAR174 13K/4/1
MAR176 1K/4/1
MAC360 0.01u/4/X7R/25V/K
VTT_EN
DDR_15V
MAR205 8.2K/4/X
N_DRAM_PWROK (4,12)
MAR177 7.5K/4/1
(29) VTT_ISEN1
(29) VTT_IRTN1
MAR211 2K/4/1
MAR212 1K/4/1/X
MAC382 0.47u/6/X7R/16V/K
MAR163 301/4/1
MAR164 301/4/1
MA_ISEN1_L2
MA_IRTN1_L2
MAR209 0/4/SHT/X
MA_ISEN2_L2
MA_IRTN2_L2
MAR201 0/4/SHT/X
MA_ISEN3
MA_IRTN3
(29) MA_ISEN2
(29) MA_IRTN2
(29) MA_ISEN1
(29) MA_IRTN1
MAR215 5.11K/4/1
MAR216 1.3K/4/1
MAC384 0.47u/6/X7R/16V/K
MAR217 5.11K/4/1
MAR218 1.3K/4/1
MAC385 0.47u/6/X7R/16V/K
MAR160 301/4/1
MAR161 301/4/1
MAR158 301/4/1
MAR159 301/4/1
ISEN2_L2
IRTN2_L2
ISEN1_L2
IRTN1_L2
MART1 10K/1/4/S
MA_RCSP_R
MA_RCSM_R
MAR150 806/4/1
MAR152 1.43K/4/1
MAR153 806/4/1
MAC352 330p/4/NPO/50V/J
MA_RCSP
MA_RCSM
Close to DDR_15V output inductor
should be routed as differential pair, 7mil width,8mil spacing
CPU_VTT
MAR178 8.2K/4
(31) CPU_VTT_GD
DDR_15V
MAR179 10/4
(39) DDR15V_ADJ1
MAR180 0/4/SHT/X
MA_VSEN
MAR181 300K/4/1/X
MAC353 3.3n/4/X7R/50V/K
MAR183 0/4
MART2 10K/1/4/S
VTT_RCSM_R
VTT_RCSP_R
MAR172 402/4/1
MAR173 953/4/1
MAR175 402/4/1
MAC359 680p/4/X7R/50V/K
VTT_RCSM
VTT_RCSP
Close to CPU_VTT output inductor
MAR_MOAT
0/6/SHT-EMI-MASK/X
DDRVTT
DDR_15V
RT9173DPSP/3A/SO8/S[10GL2-309173-20R]
MAU2
MAC54 1u/4/X5R/6.3V/K
MAR40 1K/4/1
MAR41 1K/4/1
MAC10 1u/4/X5R/6.3V/K
MAC58 10U/8/X5R/6.3V/K
VCC
DDRVTT
(39) VTT_ADJ
MA_VTT_ADJ
MA_VTT_REF
0/4 MAR121
VCC3
3VDUAL
MAR187 8.2K/4
MAR188 8.2K/4/X
VTT_EN
MAR189 22K/4
MAQ9 2N7002/SOT23/25pF/5
VCC1_05_PCH
VCC1_1_RV
MAR190 8.2K/4
MAQ121
MMBT2222A/SOT23/600mA/40
MAR193 1K/4/1/X
MAC364 0.1u/4/X7R/16V/K
For power sequence require
MAR185 0/4
MA_TSEN_R1
MAC362 0.1u/4/X7R/16V/K
MAR186 13K/4/1
MAR219 0/4/SHT/X
MART3 47K/1/4/S/[10RH3-004702-21R]
MAC61
MAC363 0.47u/6/X7R/16V/K
10U/8/X5R/6.3V/K
MAR182 100/4/1/X
MAR184 100/4/1
MA_EN
MAQ118 2N7002/SOT23/25pF/5
(32,35) -PSON
MAR192 22K/4
MAQ120 MMBT2222A/SOT23/600mA/40
(12,26,30,32) N_-SLP_S3
MAC59 0.1u/4/X7R/16V/K/X
MAC60 2.2u/6/X5R/6.3V/K
POWER ISSUE
3VDUAL
MAR208 8.2K/4
MA_EN
5VSB
MAR197 22K/4
MAQ119 2N7002/SOT23/25pF/5
MAR194 8.2K/4
MAQ116 MMBT2222A/SOT23/600mA/40
(12,32) N_-S4_S5
GIGABYTE
Title
DDR_A& CPU_VTT POWER IR3570
Size C
Document Number
GA-Z77X-D3H
Rev 1.01
Date: Wednesday, February 15, 2012
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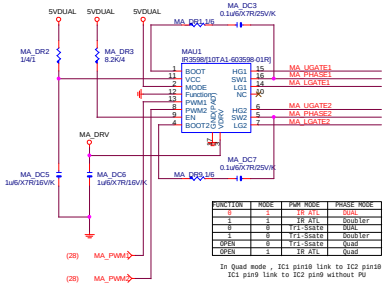
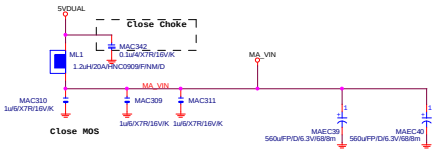
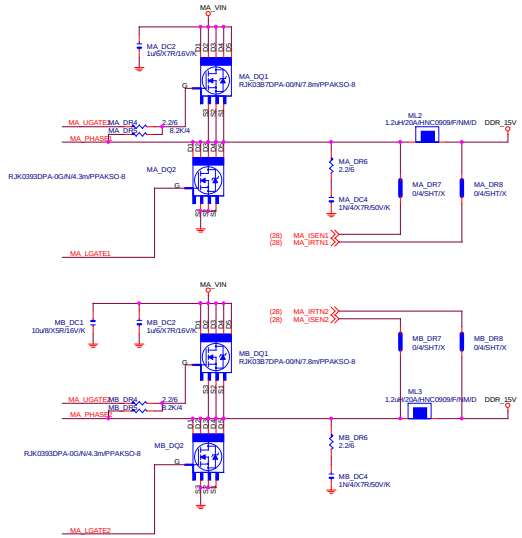
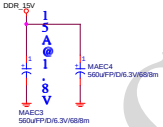
DDR_15V

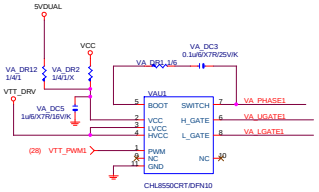


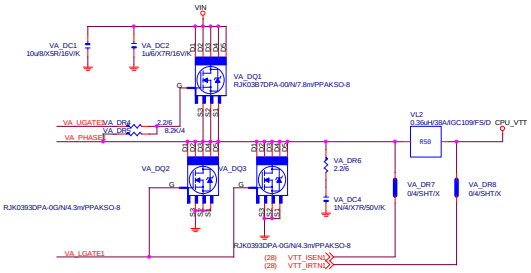


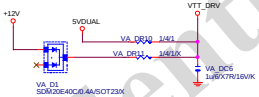


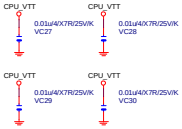


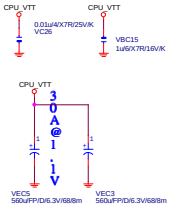
CPU_VTT











Gigabyte Technology		
Title: CPU CORE VR		
Size: Custom	Document Number: GA-Z77X-D3H	Rev: 1.01
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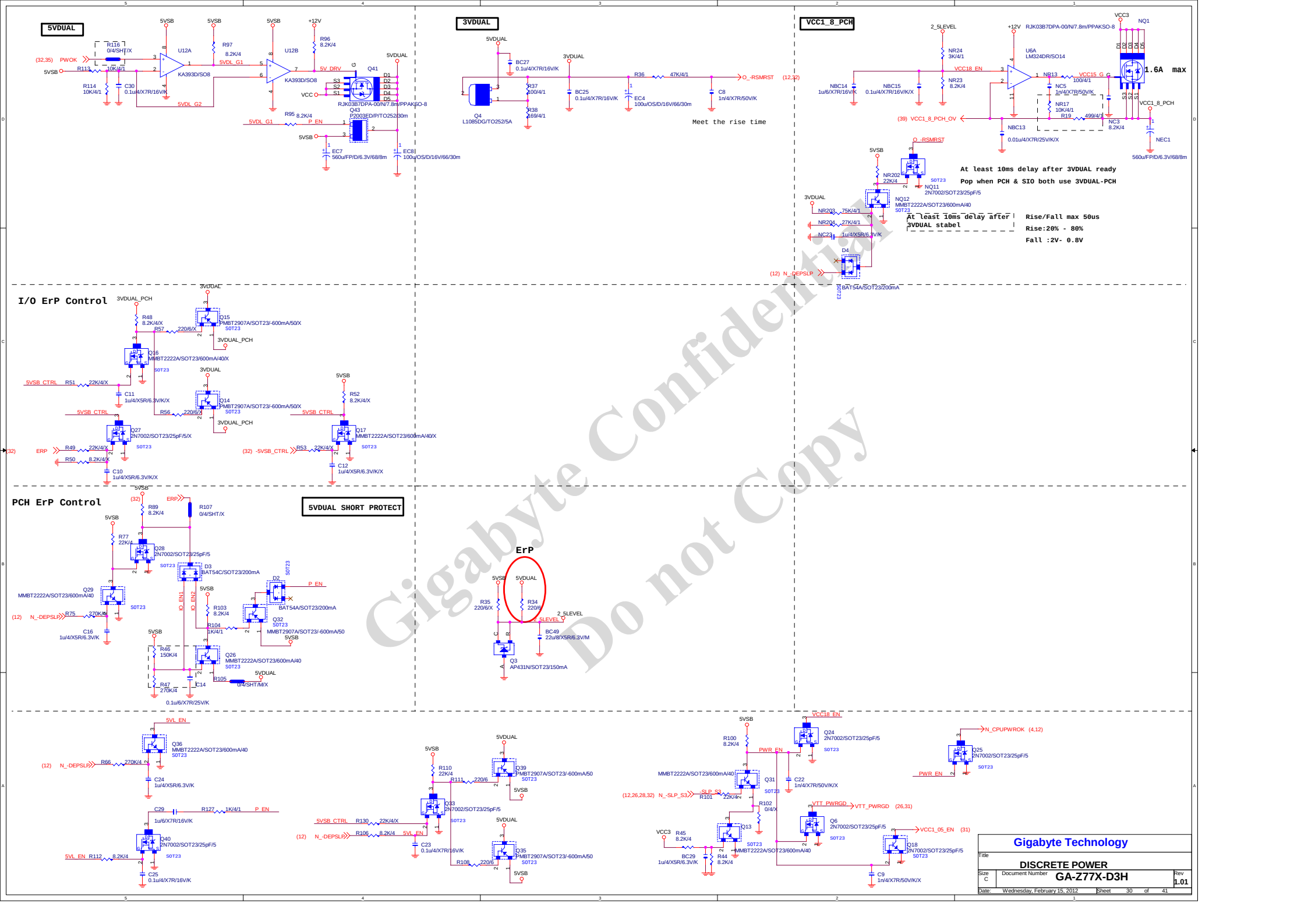
5VDUAL
3VDUAL
VCC1_8_PCH
I/O ErP Control
PCH ErP Control
5VDUAL SHORT PROTECT
ErP
Meet the rise time
1.6A max
At least 10ms delay after 3VDUAL ready
Pop when PCH & SIO both use 3VDUAL-PCH
At least 10ms delay after 3VDUAL stabel
Rise/Fall max 50us
Rise:20% - 80%
Fall :2V- 0.8V
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Gigabyte Technology
DISCRETE POWER
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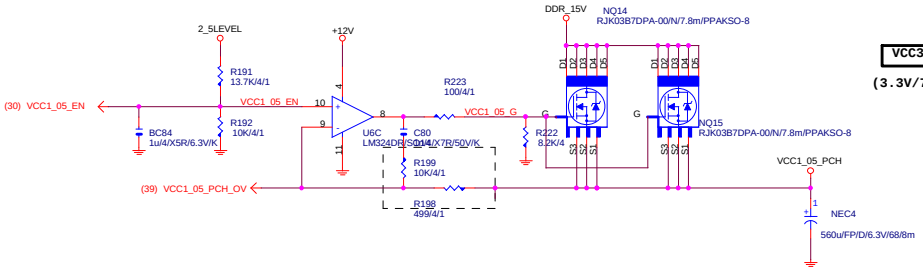
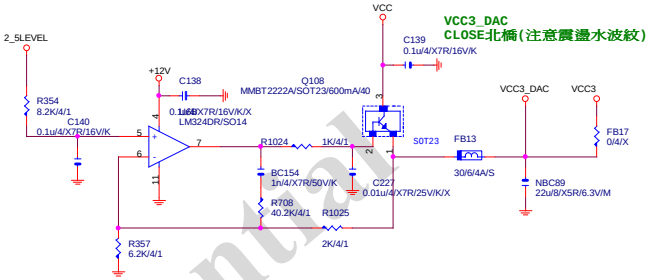
VCC1_05_PCH

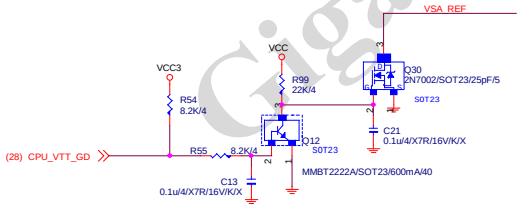


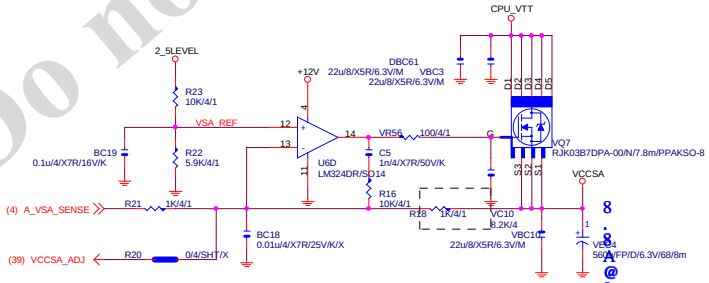
VCC3_DAC

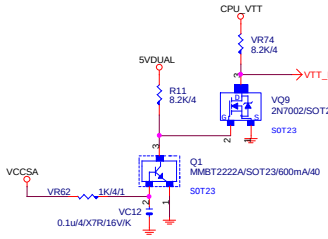
(3.3V/70mA+360uA)



VCC_SA







Gigabyte Technology		
Title: CPU VTT PWM_ISL6312		
Size: C	Document Number: GA-Z77X-D3H	Rev: 1.01
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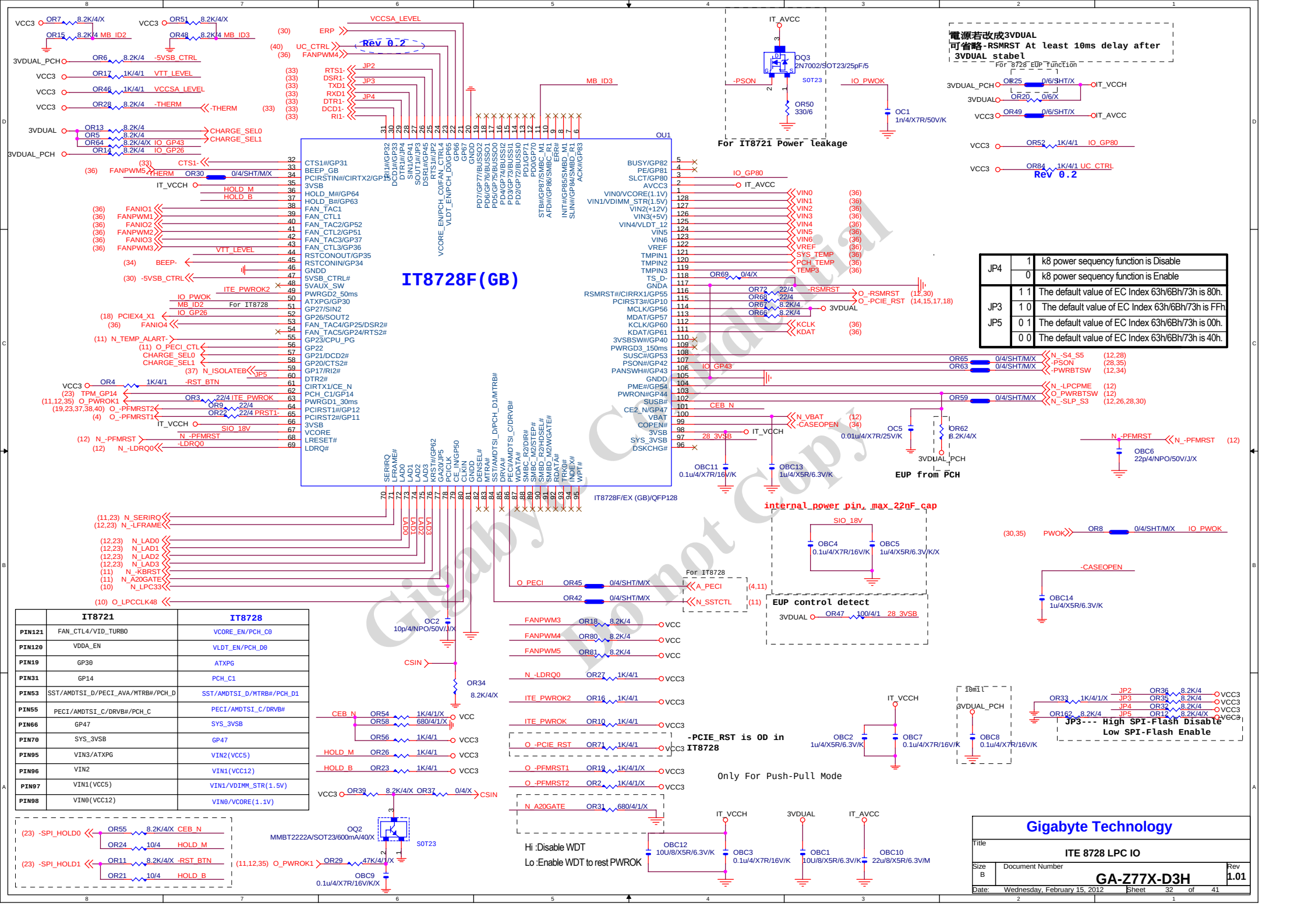
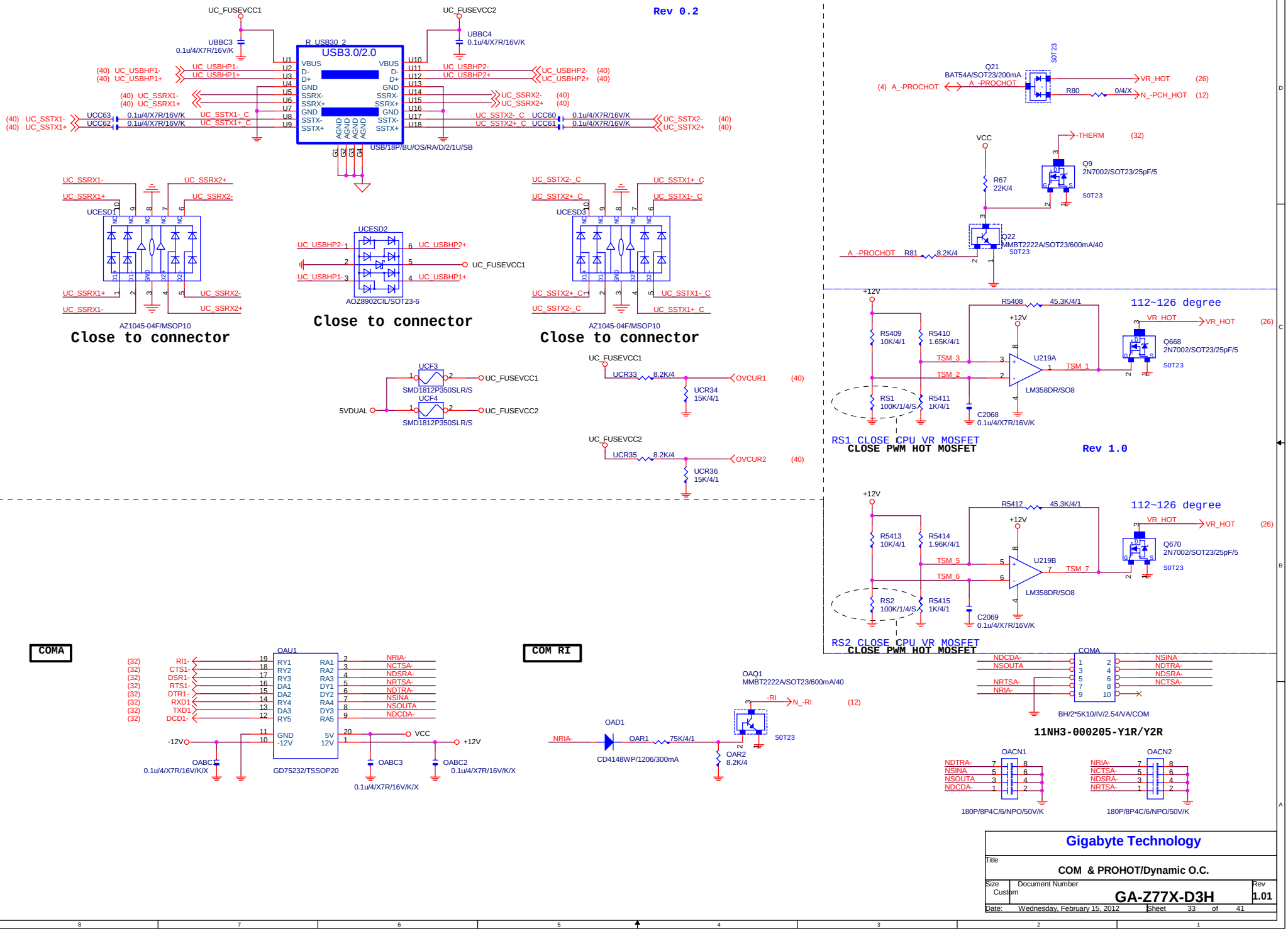


JP4	1	k8 power sequency function is Disable
	0	k8 power sequency function is Enable
JP3 JP5	1 1	The default value of EC Index 63h/6Bh/73h is 80h.
	1 0	The default value of EC Index 63h/6Bh/73h is FFh
	0 1	The default value of EC Index 63h/6Bh/73h is 00h.
	0 0	The default value of EC Index 63h/6Bh/73h 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	COM & PROHOT/Dynamic O.C.
Size: Custom	Document Number: GA-Z77X-D3H
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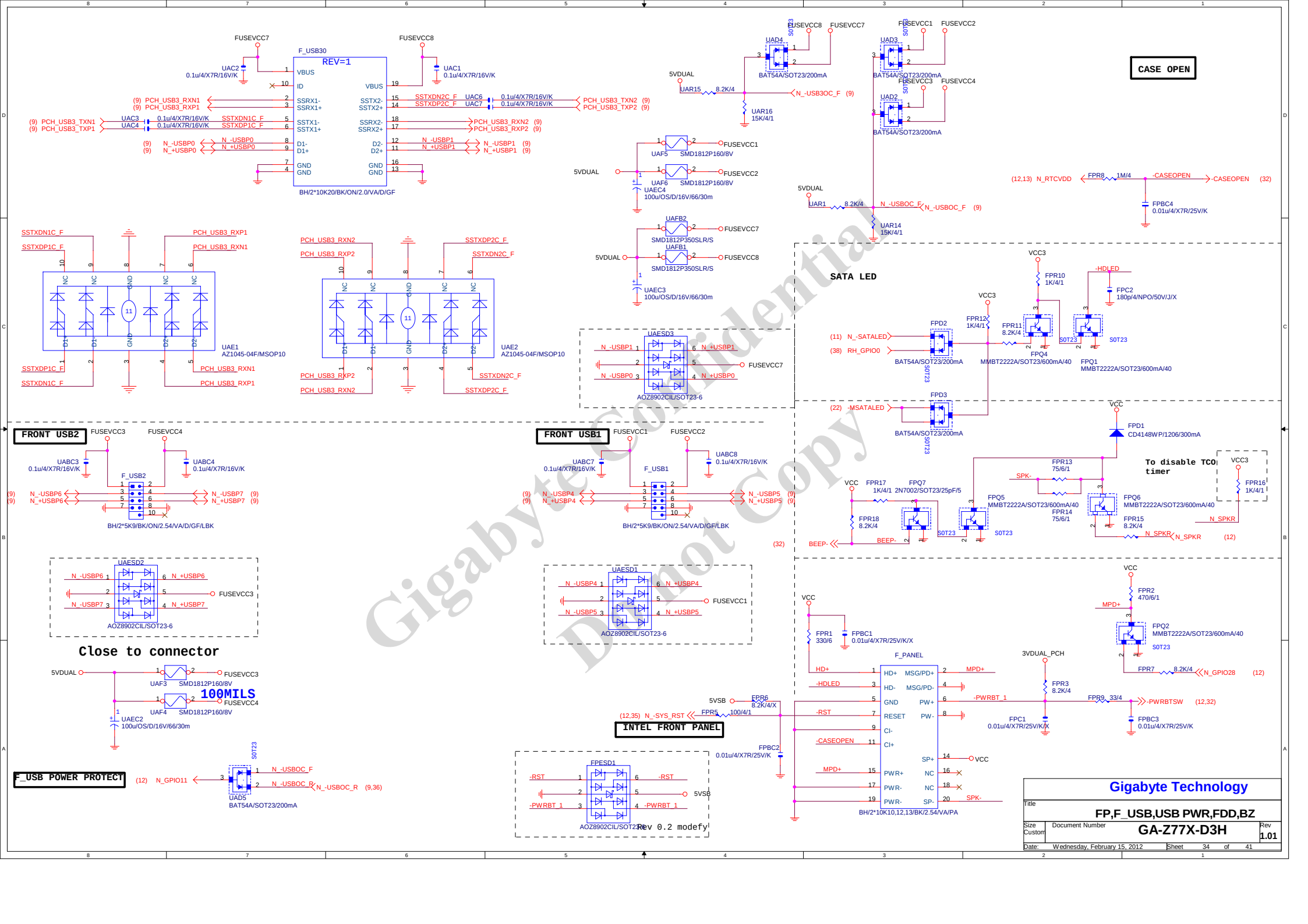
CASE OPEN
SATA LED
FRONT USB2
FRONT USB1
F_USB POWER PROTECT
INTEL FRONT PANEL
Close to connector
100MILS
To disable TCO timer
F_USB30
REV=1
BH/2*10K20/BK/ON/2.0/VA/D/GF
UAE1
AZ1045-04F/MSOP10
UAE2
AZ1045-04F/MSOP10
BH/2*5K9/BK/ON/2.54/VA/D/GF/LBK
AOZ8902CIL/SOT23-6
BAT54A/SOT23/200mA
SMD1812P160/8V
SMD1812P350SLR/S
MMBT2222A/SOT23/600mA/40
CD4148WP/1206/300mA
BH/2*10K10,12,13/BK/2.54/VA/PA
Rev 0.2 modefy
Gigabyte Technology
FP,F_USB,USB PWR,FDD,BZ
GA-Z77X-D3H
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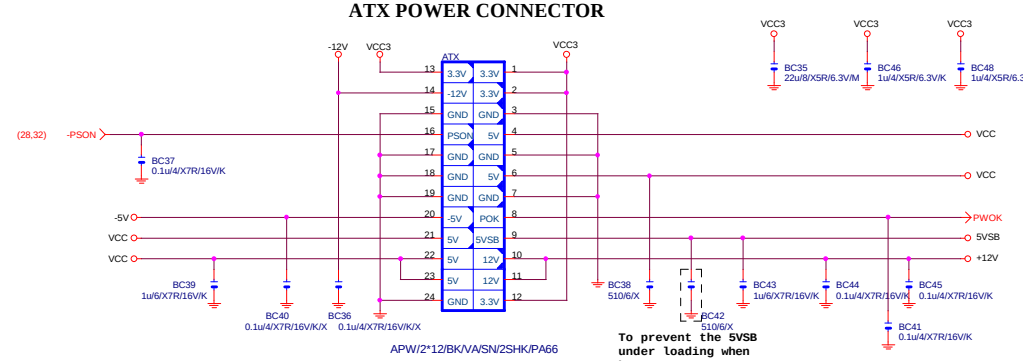
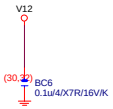
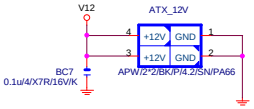
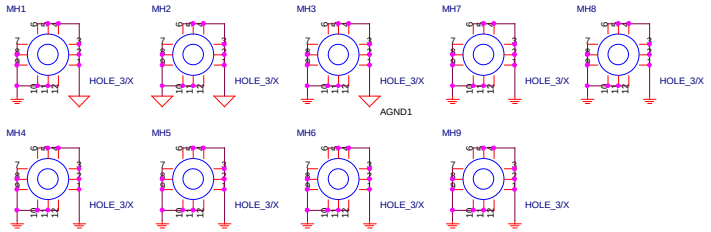
ATX POWER CONNECTOR

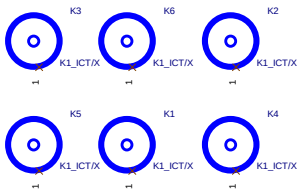


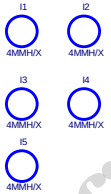
To prevent the 5VSB under loading when boot

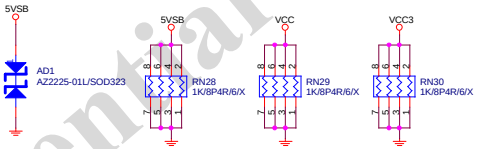








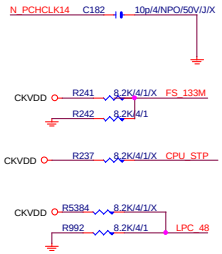


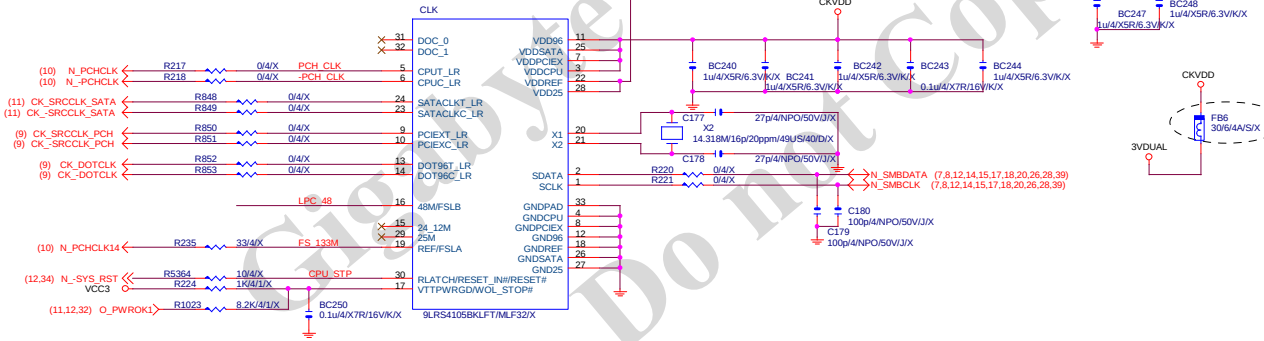


CLK GEN CK505

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			
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TEMP H/W MONITOR

(32) VREF — OR73 10K/4/1 — OR151 10K/4/1 — OR152 10K/4/1
(32) SYS_TEMP
(32) PCH_TEMP
(32) TEMP3
OC7 1u/4/X5R/6.3V/K — OC6 1u/4/X5R/6.3V/K — ORS1 10K/1/4/S (Close SIO) — RS_PCH 10K/1/4/S (Close DDR) — OC120 1u/4/X5R/6.3V/K/X

VOLTAGE-- H/W MONITOR

* IT8728 BX
* * IT8728 CX

VCORE — OR75 8.2K/4 — OC9 1u/4/X5R/6.3V/K
DDR_15V — OR74 8.2K/4 — OC8 1u/4/X5R/6.3V/K
VCC VCC3 — OR60 7.15K/4/1/X — OR57 6.49K/4/1 — OC4 1u/4/X5R/6.3V/K
+12V — OR79 75K/4/1 — OR61 10K/4/1 — OC12 1u/4/X5R/6.3V/K
CPU_VAXG — OR76 8.2K/4 — OC10 1u/4/X5R/6.3V/K
VCC — OR78 15K/4/1 — OC11 1u/4/X5R/6.3V/K — OR77 10K/4/1
(32) VIN5 (32) VIN6 (32) VIN1 (32) VIN2 (32) VIN4
2V
(32) VIN3 2V
(32) VIN0 — OR53 8.2K/4 — CPU_VTT
OC3 1u/4/X5R/6.3V/K

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

KB/USB

(32) KDAT (32) KCLK — KDAT KCLK — R2 82/4 R5 82/4 — KBDATA KBCLK
FUSEVCC_R9 — BC3 0.1u/4/X7R/16V/K
FUSEVCC_R10 — BC2 0.1u/4/X7R/16V/K
BC5 180p/4/NPO/50V/J — BC1 180p/4/NPO/50V/J
KB_MS_USB
(9) N_-USBP12 (9) N_+USBP12 — U5 U6 U7 U8 — U1 U2 U3 U4 — N_-USBP13 (9) N_+USBP13 (9)
KBDATA KBCLK — AGND1 — BC4 0.1u/4/X7R/16V/K
R4 8.2K/4 KCLK
R3 8.2K/4 KDAT
KB/USB/A/PC99(DUAL)/GF/2/RA/D

ESD1 — KBCLK KBDATA FUSEVCC_R10 — AOZ8902CIL/SOT23-6/X
ESD2 — N_+USBP12 N_+USBP13 FUSEVCC_R9 N_-USBP12 N_-USBP13 — AOZ8902CIL/SOT23-6

CPU SMART FAN

VCC3 VCC — CPUFAN_VCC — R76 1K/4/1/X — R43 22K/4 — R74 1K/4/1 — R85 22K/4 — BC32 1u/4/X5R/6.3V/K — R92 8.2K/4
(32) FANPWM1 — U11A LM358DR/SO8
+12V — BC33 0.1u/4/X7R/16V/K — R41 8.2K/4 — Q5 P2003ED/P/TO252/30m — EC2 100u/OS/D/16V/66/30m
(32) FANPWM3 — OR1 100/4/1 — OQ1 BAV99/SOT23/300mA/X (Anti Spike)
R14 3.3K/4/1 — R15 15K/4/1 — R17 6.2K/4/1 — C4 0.047u/4/X7R/16V/K — FANIO1 (32)
R42 0/4/X
CPUFAN_VCC — CPU_FAN FAN/1*4/BK/A3/PA66

OR82 100/4/1 — (32) FANPWM4
SHORT PROTECT R0402-2
C2066 1u/6/X7R/16V/K — R117 0/4 — R118 3.3K/4/1 — R119 — R120 15K/4/1 — C26 0.047u/4/X7R/16V/K — FANIO3
SYS_FAN2 FAN/1*4/BK/A3/PA66
Rev 0.2==>Rev 1.01

OR83 100/4/1 — (32) FANPWM5
SHORT PROTECT R0402-2
C2067 1u/6/X7R/16V/K — R9 0/4 — R8 3.3K/4/1 — R7 — R6 15K/4/1 — C2 0.047u/4/X7R/16V/K — FANIO4 (32)
SYS_FAN3 FAN/1*4/BK/A3/PA66
Rev 0.2==>Rev 1.01

SYS FAN

Linear SYS_FAN

VCC VCC3 — R73 1K/4/1/X — R72 1K/4/1 — R71 22K/4 — BC31 1u/4/X5R/6.3V/K
(32) FANPWM2 — U11B LM358DR/SO8
+12V — R86 8.2K/4 — R88 22K/4 — R128 8.2K/4 — Q42 P2003ED/P/TO252/30m
R1 — 0/4/SHT/M/X — AGND1
EC5 100u/OS/D/16V/66/30m
R125 0/4/X — R124 8.2K/4 — R123 3.3K/4/1 — R122 15K/4/1 — R121 6.2K/4/1 — C28 0.047u/4/X7R/16V/K — FANIO2 (32)
SYS_FAN1 FAN/1*4/BK/A3/PA66
Rev 0.2==>Rev 1.01

5VDUAL — F1 SMD1812P160/8V — FUSEVCC_R9
F2 SMD1812P160/8V — FUSEVCC_R10
EC1 100u/OS/D/16V/66/30m

5VDUAL — UBR7 8.2K/4 — N_-USBOC_R — N_-USBOC_R (9,34)
UBR9 15K/4/1
SOT23 — UBD2 BAT54A/SOT23/200mA — FUSEVCC_R9 FUSEVCC_R10

Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
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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
AR8161-->N/A (LABC6)

LA_AVDDVCO
LABC7 0.1u/4/X7R/16V/K/X
LABC8 4.7u/6/X5R/6.3V/K/X
AR8161-->(0)

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

LA_LX
LA_LED_LINK100
LA_LED_ACT_TXRX
LA_DVDDL
LA_AVDDVCO
LA_AVDDL

LAU1

Rev 1.0A

3VDUAL
LAC33 47p/4/NPO/50V/J
LAR6 8.2K/4

LA_VDD33
(19,23,32,38,40) O_-PFMRST2
(12,14,15,17,18,20,40) N_-PCIE_-WAKE

AR8161-->N/A (LABC12)

LA_-CLKREQ
LABC12 1u/4/X5R/6.3V/K
LA_VDDCT
LA_AVDDL
LA_XTALO
LA_XTALI
LA_AVDDH

LABC15 1u/4/X5R/6.3V/K
LABC16 0.1u/4/X7R/16V/K
LABC18 1u/4/X5R/6.3V/K
LABC19 0.1u/4/X7R/16V/K
LA_RBIAS
LAR10 2.37K/4/1

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

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

Atheros
AR8151/AR8161
AR8151-BL1A-R/S

VDD3V
PERST#
WAKE#
CLKREQ#
VDDCT/ISOLAT
AVDDL_REG
XTLO
XTLI
AVDDH_REG
RBIAS

TX_P
TX_N
NC
TESTMODE
SMDATA
SMCLK
DVDDL/PPS
LED2
AVDDH
TRXN3

LA_PPS
LA_LED_LINK1000
LA_AVDDH
LA_MDI3-

LA_ ML-->80歐姆:[15/5/5/5/15]

離IC近越好

LA_ML_IP_C
LA_ML_IN_C
LAC12 0.1u/4/X7R/16V/K
LAC13 0.1u/4/X7R/16V/K
LA_ML_IP (9)
LA_ML_IN (9)

LAR9 0/4
LABC14 0.1u/4/X7R/16V/K
LA_DVDDL
AR8161-->N/A (LAR9,LAC18)

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

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

LAR19 0/4/X
LAR20 0/4
3VDUAL
LA_AVDDH
AR8151:LA_AVDDH(LAR20)
AR8161:3VDUAL(LAR19)

LABC22 1u/4/X5R/6.3V/K
LABC21 0.1u/4/X7R/16V/K

LA_MDI0+
LA_MDI0-
LA_AVDDL
LA_MDI1+
LA_MDI1-
LA_AVDDH
LA_MDI2+
LA_MDI2-
LA_AVDDL
LA_MDI3+
LA_MDI3-

LAN POWER

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

LAL1 4.7uH/0.8A/3225/S/[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
AR8161-->N/A (LAR3,LAR4)
AR8151 POWER
LA_AVDD_CEN
LAR4 0/4

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

AR8161-->(0)
LA_AVDDH
LA_LED_ACT_TXRX
LAR7 8.2K/4/X
LA_LED_LINK100
LAR8 8.2K/4/X

AR8161-->(0)
VCC3
LAR1 30K/4/X
LAR2 0/4/X
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-
LA_MDI1+ LA_MDI1-
LA_MDI2+ LA_MDI2-
LA_MDI3+ LA_MDI3-
LAR11 49.9/4/1
LAR12 49.9/4/1
LAR13 49.9/4/1
LAR14 49.9/4/1
LAR15 49.9/4/1
LAR16 49.9/4/1
LAR17 49.9/4/1
LAR18 49.9/4/1
LA_MDI_RC0
LA_MDI_RC1
LA_MDI_RC2
LA_MDI_RC3
LAC26 0.1u/4/X7R/16V/K
LAC27 0.1u/4/X7R/16V/K
LAC28 0.1u/4/X7R/16V/K
LAC29 0.1u/4/X7R/16V/K

CLOSE LAN CHIP

USB_LAN CONNECTOR

RMA ESD PROTECT

UCESD6
UC_USBHP3-
UC_USBHP3+
UC_USBHP4-
UC_USBHP4+
UC_FUSEVCC3
AOZ8902CIL/SOT23-6

LAESD1
LA_LED_LINK100
LA_LED_ACT_TXRX
LA_LED_LINK1000
LAN_3VDUAL_LED
LA_LED_D2
AOZ8902CIL/SOT23-6

UC_FUSEVCC3
UCR42 8.2K/4
OVCUR3 (40)
UCR43 15K/4/1
UC_FUSEVCC4
UCR44 8.2K/4
OVCUR4 (40)
UCR45 15K/4/1

USB X3 POWER

5VDUAL
UCF5
100MILS
UC_FUSEVCC3
SMD1812P350SLR/S
UEC4 100u/OS/D/16V/6.6/30m
UCF6
100MILS
UC_FUSEVCC4
SMD1812P350SLR/S

Close to connector

Rev 0.2

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
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
LABC25 0/4/SHT/M/X

USB3.0
USB3.0

3VDUAL
LAFB1 0/6/SHT/M/X
LA_LED_ACT_TXRX
LA_LED_D2
LAR21 150/6
LAN_3VDUAL_LED
LA_LED_LINK100
LAR22 150/6
LA_LED_LINK1000
LAR23 150/6
LABC24 0.1u/4/Y5V/16V/Z/X

UC_FUSEVCC3
UCC82 0.1u/4/X7R/16V/K
UC_FUSEVCC4
UCC83 0.1u/4/X7R/16V/K

(40) UC_USBHP3-
(40) UC_USBHP3+
(40) UC_SSRX3-
(40) UC_SSRX3+
(40) UC_SSTX3-
(40) UC_SSTX3+
UCC69 0.1u/4/X7R/16V/K
UCC71 0.1u/4/X7R/16V/K
UC_SSTX3-_C
UC_SSTX3+_C
UC_USBHP4- (40)
UC_USBHP4+ (40)
UC_SSRX4- (40)
UC_SSRX4+ (40)
UC_SSTX4-_C
UC_SSTX4+_C
UCC70 0.1u/4/X7R/16V/K
UCC72 0.1u/4/X7R/16V/K
UC_SSTX4- (40)
UC_SSTX4+ (40)

USB3+LAN/1G/GO,Y/OS/RA/D/G30

UC_SSTX3+_C
UC_SSTX3-_C
UC_SSRX3-
UC_SSRX3+
UCESD4
AZ1045-04F/MSOP10

Close to connector

UC_SSTX4+_C
UC_SSTX4-_C
UC_SSRX4-
UC_SSRX4+
UCESD7
AZ1045-04F/MSOP10

Close to connector

Gigabyte Technology

Title: ARTHEROS AR8151/AR8161

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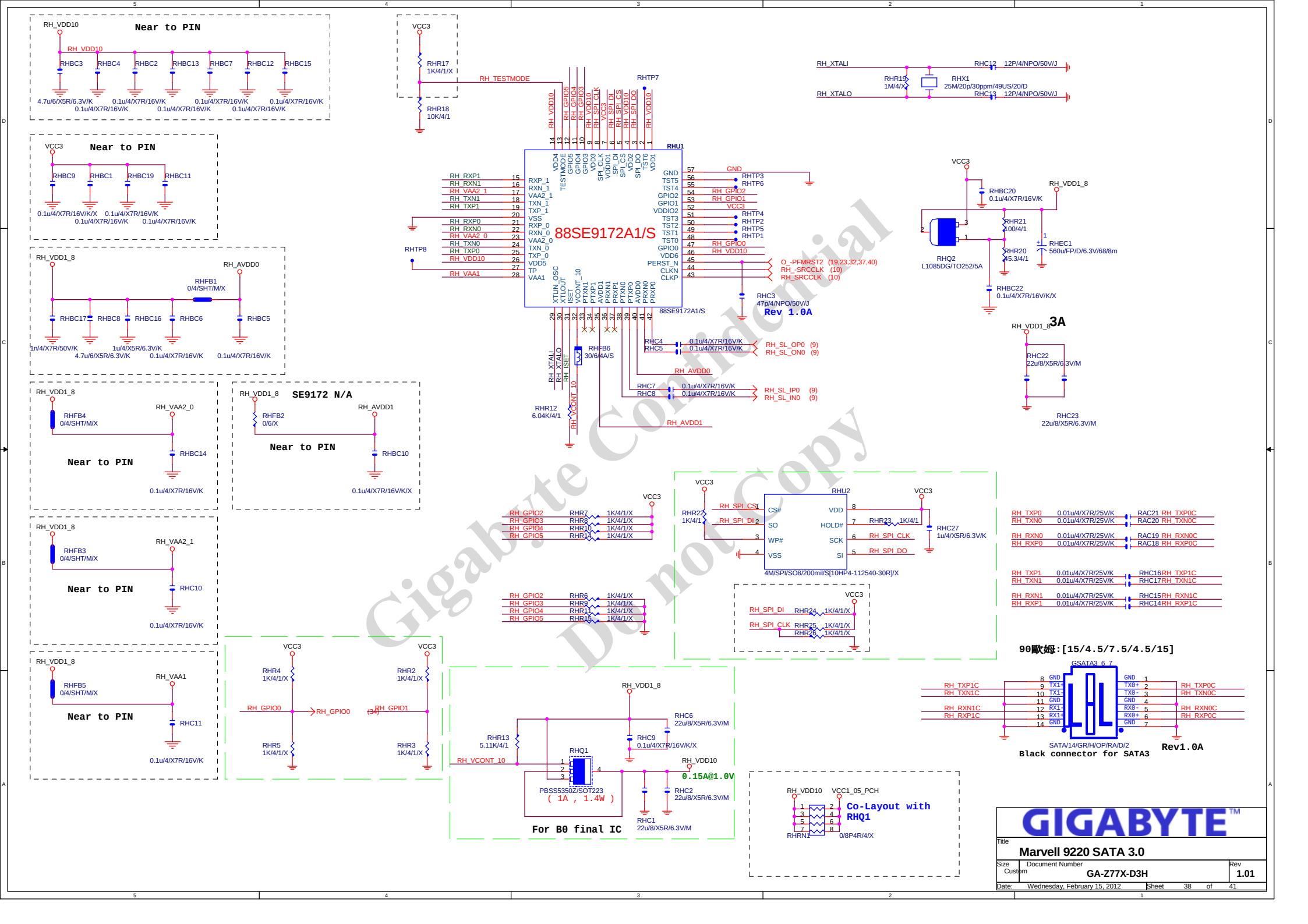
Near to PIN
RH_VDD10
RHBC3
RHBC4
RHBC2
RHBC13
RHBC7
RHBC12
RHBC15
4.7u/6/X5R/6.3V/K
0.1u/4/X7R/16V/K
VCC3
RHR17
1K/4/1/X
RHR18
10K/4/1
RH_TESTMODE
RHTP7
RHU1
88SE9172A1/S
RH_RXP1
RH_RXN1
RH_VAA2_1
RH_TXN1
RH_TXP1
RH_RXP0
RH_RXN0
RH_VAA2_0
RH_TXN0
RH_TXP0
RH_VDD10
RH_VAA1
RHTP8
GND
RHTP3
RHTP6
RH_GPIO2
RH_GPIO1
VCC3
RHTP4
RHTP2
RHTP5
RHTP1
RH_GPIO0
RH_VDD10
O_-PFMRST2 (19,23,32,37,40)
RH_-SRCCLK (10)
RH_SRCCLK (10)
RHC3
47p/4/NPO/50V/J
Rev 1.0A
RH_XTALI
RH_XTALO
RHR19
1M/4/X
RHX1
25M/20p/30ppm/49US/20/D
RHC12
12P/4/NPO/50V/J
RHC13
12P/4/NPO/50V/J
RHBC20
0.1u/4/X7R/16V/K
RH_VDD1_8
RHR21
100/4/1
RHR20
45.3/4/1
RHEC1
560u/FP/D/6.3V/68/8m
RHQ2
L1085DG/TO252/5A
RHBC22
0.1u/4/X7R/16V/K/X
3A
RHC22
22u/8/X5R/6.3V/M
RHC23
22u/8/X5R/6.3V/M
RHFB1
0/4/SHT/M/X
RH_AVDD0
RHBC17
RHBC8
RHBC16
RHBC6
RHBC5
1n/4/X7R/50V/K
1u/4/X5R/6.3V/K
4.7u/6/X5R/6.3V/K
RHFB6
30/6/4A/S
RHC4
RHC5
0.1u/4/X7R/16V/K
RH_SL_OP0 (9)
RH_SL_ON0 (9)
RHC7
RHC8
RH_SL_IP0 (9)
RH_SL_IN0 (9)
RH_AVDD1
RHR12
6.04K/4/1
RH_VCONT_10
RH_ISET
RHFB4
0/4/SHT/M/X
RH_VAA2_0
RHBC14
RHFB2
0/6/X
RH_AVDD1
RHBC10
SE9172 N/A
RHFB3
0/4/SHT/M/X
RH_VAA2_1
RHC10
RHFB5
0/4/SHT/M/X
RH_VAA1
RHC11
RHR7
RHR8
RHR10
RHR14
RHR6
RHR9
RHR11
RHR15
RHU2
4M/SPI/SO8/200mil/S[10HP4-112540-30R]/X
RH_SPI_CS1
RH_SPI_DI
RH_SPI_CLK
RH_SPI_DO
RHR22
RHR23
RHR24
RHR25
RHR26
RHC27
1u/4/X5R/6.3V/K
RH_TXP0
RH_TXN0
RH_RXN0
RH_RXP0
RH_TXP1
RH_TXN1
RH_RXN1
RH_RXP1
RAC21 RH_TXP0C
RAC20 RH_TXN0C
RAC19 RH_RXN0C
RAC18 RH_RXP0C
RHC16 RH_TXP1C
RHC17 RH_TXN1C
RHC15 RH_RXN1C
RHC14 RH_RXP1C
90歐姆:[15/4.5/7.5/4.5/15]
GSATA3_6_7
RH_TXP1C
RH_TXN1C
RH_RXN1C
RH_RXP1C
RH_TXP0C
RH_TXN0C
RH_RXN0C
RH_RXP0C
SATA/14/GR/H/OP/RA/D/2
Black connector for SATA3
Rev1.0A
RHR4
RHR5
RHR2
RHR3
RH_GPIO0
RH_GPIO1
(3d)
RHR13
5.11K/4/1
RHQ1
PBSS5350Z/SOT223
(1A , 1.4W)
RHC6
22u/8/X5R/6.3V/M
RHC9
0.1u/4/X7R/16V/K/X
RHC2
22u/8/X5R/6.3V/M
RHC1
22u/8/X5R/6.3V/M
0.15A@1.0V
For B0 final IC
VCC1_05_PCH
RHRN1
0/8P4R/4/X
Co-Layout with RHQ1
GIGABYTE
Marvell 9220 SATA 3.0
GA-Z77X-D3H
1.01
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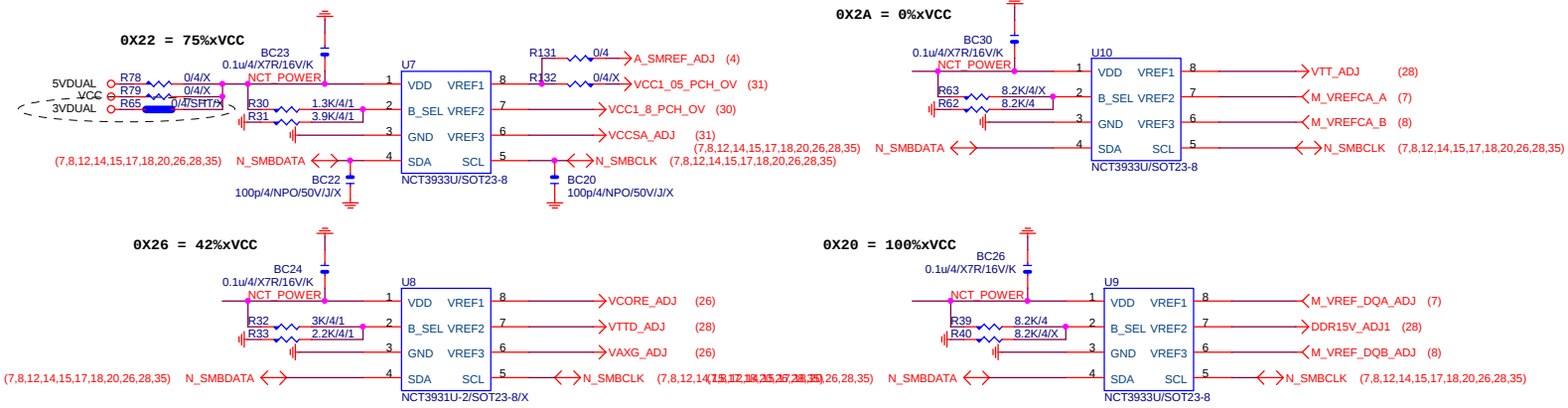

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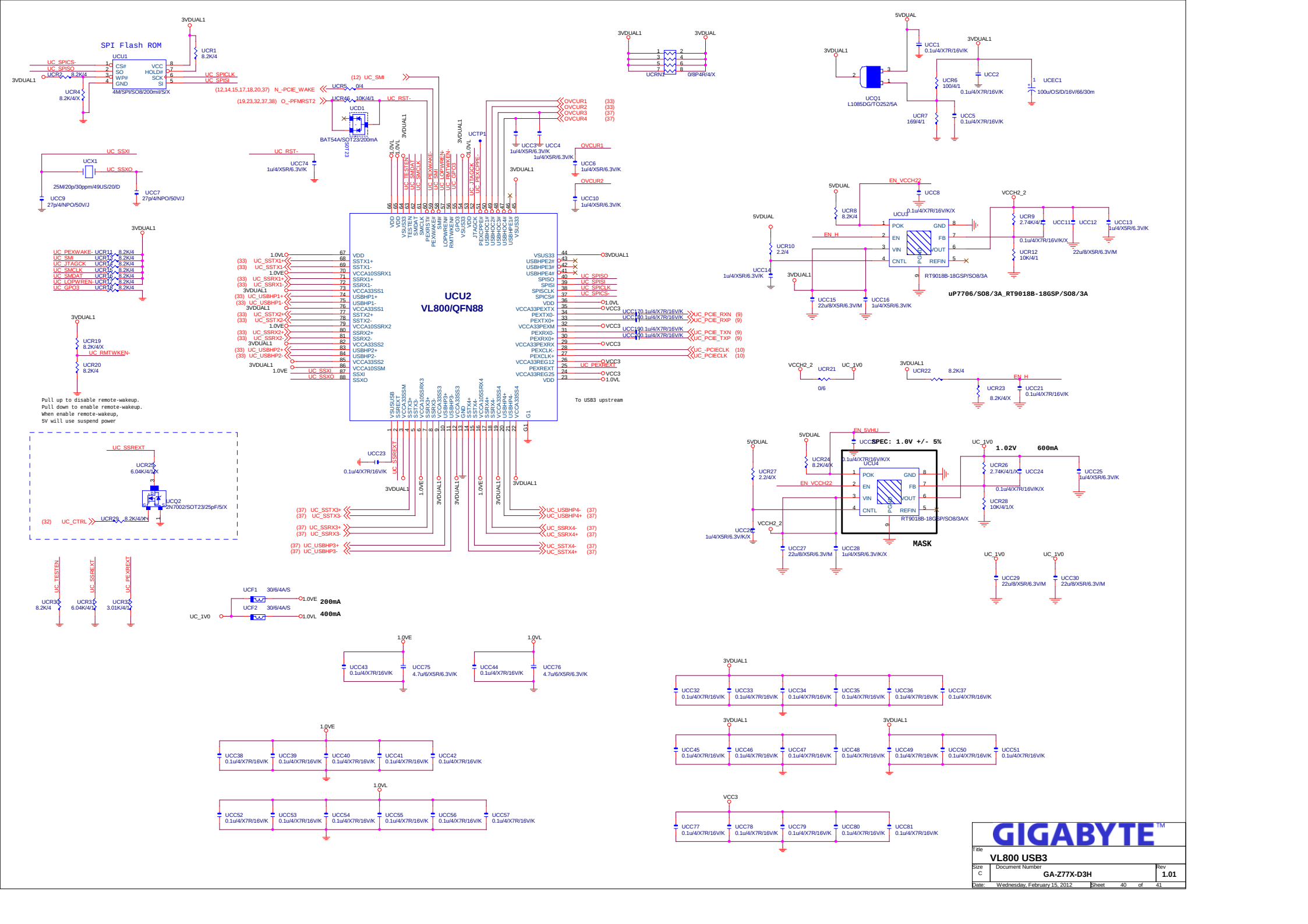
SPI Flash ROM
UCU1
4M/SPI/SO8/200mil/S/X
UCR1 8.2K/4
UCR2 8.2K/4
UCR4 8.2K/4/X
UC_SPICS-
UC_SPISO
UC_SPICLK
UC_SPISI
3VDUAL1
UCR5 0/4
UCR46 10K/4/1
UC_RST-
(12) UC_SMI
(12,14,15,17,18,20,37) N_-PCIE_WAKE
(19,23,32,37,38) O_-PFMRST2
UCD1
BAT54A/SOT23/200mA
UCX1
25M/20p/30ppm/49US/20/D
UC_SSXI
UC_SSXO
UCC7 27p/4/NPO/50V/J
UCC9 27p/4/NPO/50V/J
UC_RST-
UCC74 1u/4/X5R/6.3V/K
UCTP1
UCC3 1u/4/X5R/6.3V/K
UCC4 1u/4/X5R/6.3V/K
UCC6 1u/4/X5R/6.3V/K
UCC10 1u/4/X5R/6.3V/K
OVCUR1 (33)
OVCUR2 (33)
OVCUR3 (37)
OVCUR4 (37)
UCU2
VL800/QFN88
UC_PEXWAKE- UCR11 8.2K/4
UC_SMI UCR13 8.2K/4
UC_JTAGCK UCR14 8.2K/4
UC_SMCLK UCR15 8.2K/4
UC_SMDAT UCR16 8.2K/4
UC_LOPWREN- UCR17 8.2K/4
UC_GPO3 UCR18 8.2K/4
UCR19 8.2K/4/X
UC_RMTWKEN-
UCR20 8.2K/4
Pull up to disable remote-wakeup.
Pull down to enable remote-wakeup.
When enable remote-wakeup,
5V will use suspend power
To USB3 upstream
UC_SSREXT
UCR25 6.04K/4/1/X
UCQ2 2N7002/SOT23/25pF/5/X
(32) UC_CTRL
UCR29 8.2K/4/X
UCC23 0.1u/4/X7R/16V/K
UC_TESTEN
UC_SSREXT
UC_PEXREXT
UCR30 8.2K/4
UCR31 6.04K/4/1
UCR32 3.01K/4/1
UCF1 30/6/4A/S
UCF2 30/6/4A/S
UC_1V0
1.0VE 200mA
1.0VL 400mA
UCR3 0/8P4R/4/X
UCRN1
UCQ1 L1085DG/TO252/5A
UCC1 0.1u/4/X7R/16V/K
UCR6 100/4/1
UCC2 0.1u/4/X7R/16V/K
UCEC1 100u/OS/D/16V/66/30m
UCR7 169/4/1
UCC5 0.1u/4/X7R/16V/K
5VDUAL
EN_VCCH22
UCC8 0.1u/4/X7R/16V/K/X
UCR8 8.2K/4
UCU3
RT9018B-18GSP/SO8/3A
uP7706/SO8/3A_RT9018B-18GSP/SO8/3A
UCR10 2.2/4
UCC14 1u/4/X5R/6.3V/K
UCC15 22u/8/X5R/6.3V/M
UCC16 1u/4/X5R/6.3V/K
EN_H
VCCH2_2
UCR9 2.74K/4/1/X
UCR12 10K/4/1
UCC11 0.1u/4/X7R/16V/K/X
UCC12 22u/8/X5R/6.3V/M
UCC13 1u/4/X5R/6.3V/K
UCC21 0.1u/4/X7R/16V/K
UCR21 0/6
UCR22 8.2K/4
UCR23 8.2K/4/X
UC_1V0
EN_5VHU
SPEC: 1.0V +/- 5%
1.02V 600mA
MASK
UCU4
RT9018B-18GSP/SO8/3A
UCR24 8.2K/4/X
UCR27 2.2/4/X
UCR26 2.74K/4/1/X
UCR28 10K/4/1/X
UCC24 0.1u/4/X7R/16V/K/X
UCC25 1u/4/X5R/6.3V/K
UCC26 1u/4/X5R/6.3V/K/X
UCC27 22u/8/X5R/6.3V/M
UCC28 1u/4/X5R/6.3V/K/X
UCC29 22u/8/X5R/6.3V/M
UCC30 22u/8/X5R/6.3V/M
UCC43 0.1u/4/X7R/16V/K
UCC75 4.7u/6/X5R/6.3V/K
UCC44 0.1u/4/X7R/16V/K
UCC76 4.7u/6/X5R/6.3V/K
UCC32 UCC33 UCC34 UCC35 UCC36 UCC37 0.1u/4/X7R/16V/K
UCC45 UCC46 UCC47 UCC48 UCC49 UCC50 UCC51 0.1u/4/X7R/16V/K
UCC38 UCC39 UCC40 UCC41 UCC42 0.1u/4/X7R/16V/K
UCC52 UCC53 UCC54 UCC55 UCC56 UCC57 0.1u/4/X7R/16V/K
UCC77 UCC78 UCC79 UCC80 UCC81 0.1u/4/X7R/16V/K
GIGABYTE
Title
VL800 USB3
Size C
Document Number
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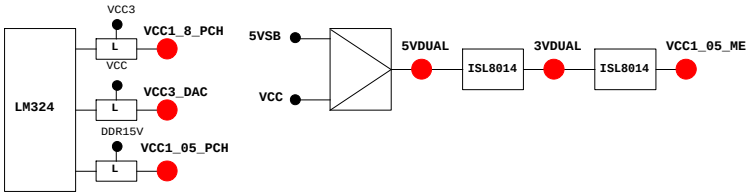
PCH GPIO LIST TABLE

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

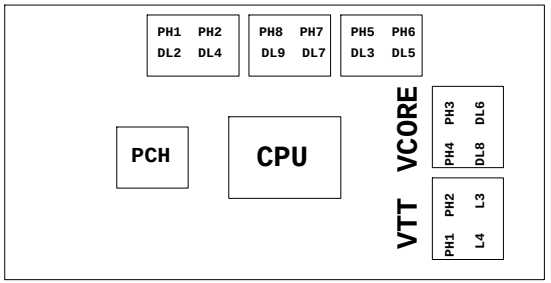
Super I/O ITE8720 GPIO Table

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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