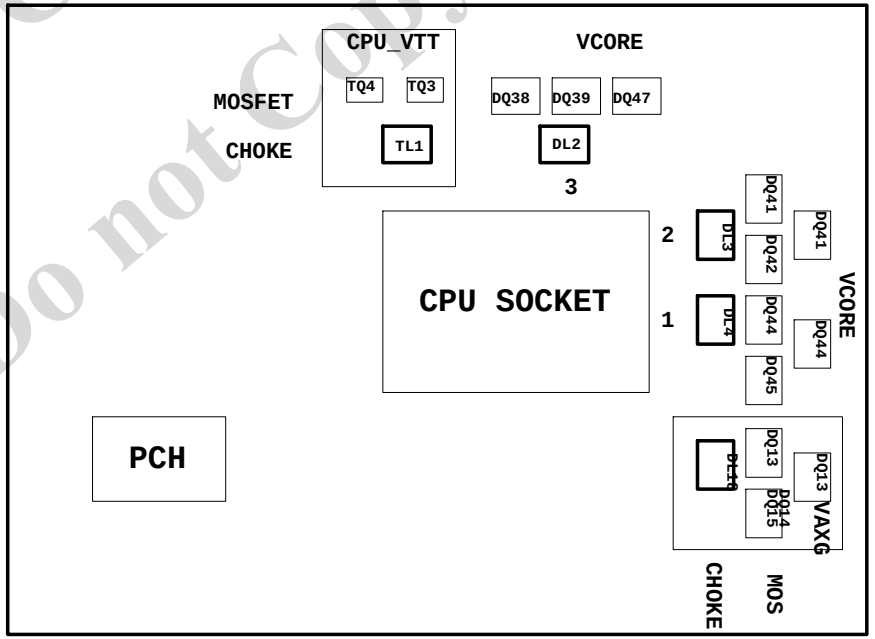
Model Name: GA-H77-DS3H 1.2

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESSX4 SLOT / PCIE X1 SLOT
16	PCI SLOT 1~2
17	I/O ITE8728
18	COM, LPT, TPM
19	Dual BIOS
20	VIA2021
21	REAR AUDIO JACK
22	ISL95836_VCORE_1
23	ISL95836_VCORE_2
24	DISCRETE POWER
25	PCH CORE / VOLTAGE CONSOLE
26	RT8120_CPU_VTT
27	VCCSA POWER

SHEET	TITLE
28	F_PANEL , F_USB
29	ATX POWER, CLOCK GEN
30	HWM,KB/MS , FAN CTRL
31	ARTHEROS AR8161/AR8151
32	mSATA
33	RT8120_DDR POWER
34	DVI
35	
36	
37	
38	
39	
40	



Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-H77-DS3H | Rev: 1.2

Date: Thursday, August 22, 2013 | Sheet 1 of 35

GA-H77-DS3H
Component value change history

Data	Change Item	Reason
2011/12/15 EBOM:01	1.FOR B75-D3V	
2011/12/15 EBOM:01	1.FOR Z77-DS3H	
02-0125	1.ADD R756,R757,R758,C232,RS_PWM. RS_PWM請放到DQ12附近.	
	2. DRT1,DR59請放到DRT3右邊	
Z77-DS3H-10A	1. P-BOM	
Z77-DS3H-10B	4. RS_PWM相關線路移除	
Z77-DS3H-10C	0. PCB Rev1.0 --> Rev1.01	
	1. DDR3 OC 2400MHz LAYOUT	
	2. CHOKE 0.6UH指定用:11LC5-R4600C-01R	
	3. Add M/B ID for DDR3 OC	
Z77-DS3H-10D	1. PCB Rev1.01 --> Rev1.02	
	2. Updrage DDR3 OC	
	3. Add M/B ID for DDR3 OC	
10E-0427	1. Patch PWM ISL95836 vcc_sense issue	
11A	1. AR8151 --> AR8161	
	2. ATX_12V_2X2 --> ATX_12V_2X4	
	3. Add pwrok 4.7uF	
11A-0629	1. VCC1_05_PCH 1.05 --> 1.1V	
11A-0815	1. Remove PANJT MMBT2222A (95836 CPU TURBO FUNCTION DISABLE)	
11B-0824	1. U11 NCT3931 --> NCT3933	
	2. DR474 510/4 --> 301/4/1	
	3. M/B ID R40,R43 --> R41,R44 8.2K/4	
11C-1219	1. USB_LAN "11NR6-702009-0ER" --> "11NR6-702009-96R"	
	2. Remove LAESD2	
12A	1. Remove IDT4105 clk buffer	

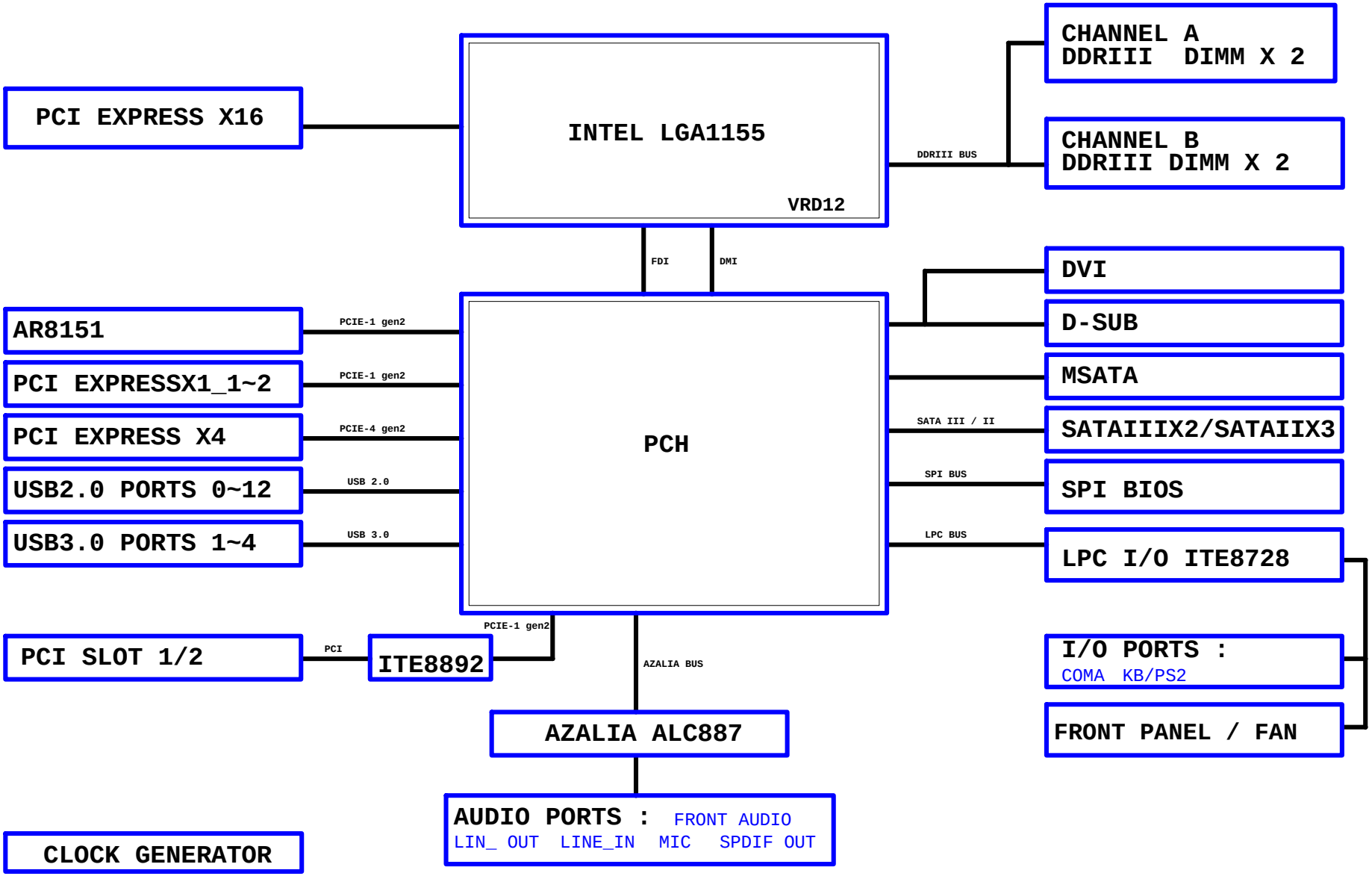
Circuit or PCB layout change

DATE	Change Item	Reason
2011/12/14 PCB:0.1	1.由P75-D3-0.1 修改 成B75-D3V	
2011/12/14 PCB:0.1	1.由B75-D3V-0.1 修改成Z77-DS3H	
0.2	1. DDR DIP 560uF電容移除 2. SATA0RXP第二層REF挖空位置 3. DDR3_1~4文字面對齊 4. 修改CPU_VAXG 包含PHASE部份,以及VIN Bottom增加鋪銅散熱 5.ADD R756,R757,R758,C232,RS_PWM. RS_PWM請放到DQ12附近.	
1.0	1. 0 ohm ahort pad (audio , lan , rt8120)	
1.01	1. DDR3 2400MHz OC modify (DDR3 DQ 走T型)	
1.02	1. DDR3 2400MHz OC modify (縮小DDR3間距)	
1.1	1. F.B "FB0603-RH" change to "FB0402-RH" 2. ATX_12V_2X2 change to ATX_12V_2X4 3. Atheros LAN AR8161 co-layout 4. Add pwok R200,BC10 放在ATX 端 5. mSATA LAYOUT 龍華& FOXCONN CO-LAY(變更FOOTPRINT) 6. add VCC1_05_PCH over voltage control	
1.11	1. Remove ITE8728 GP66 For Erp Function	
1.2	1. Remove IDT4105 clk buffer	

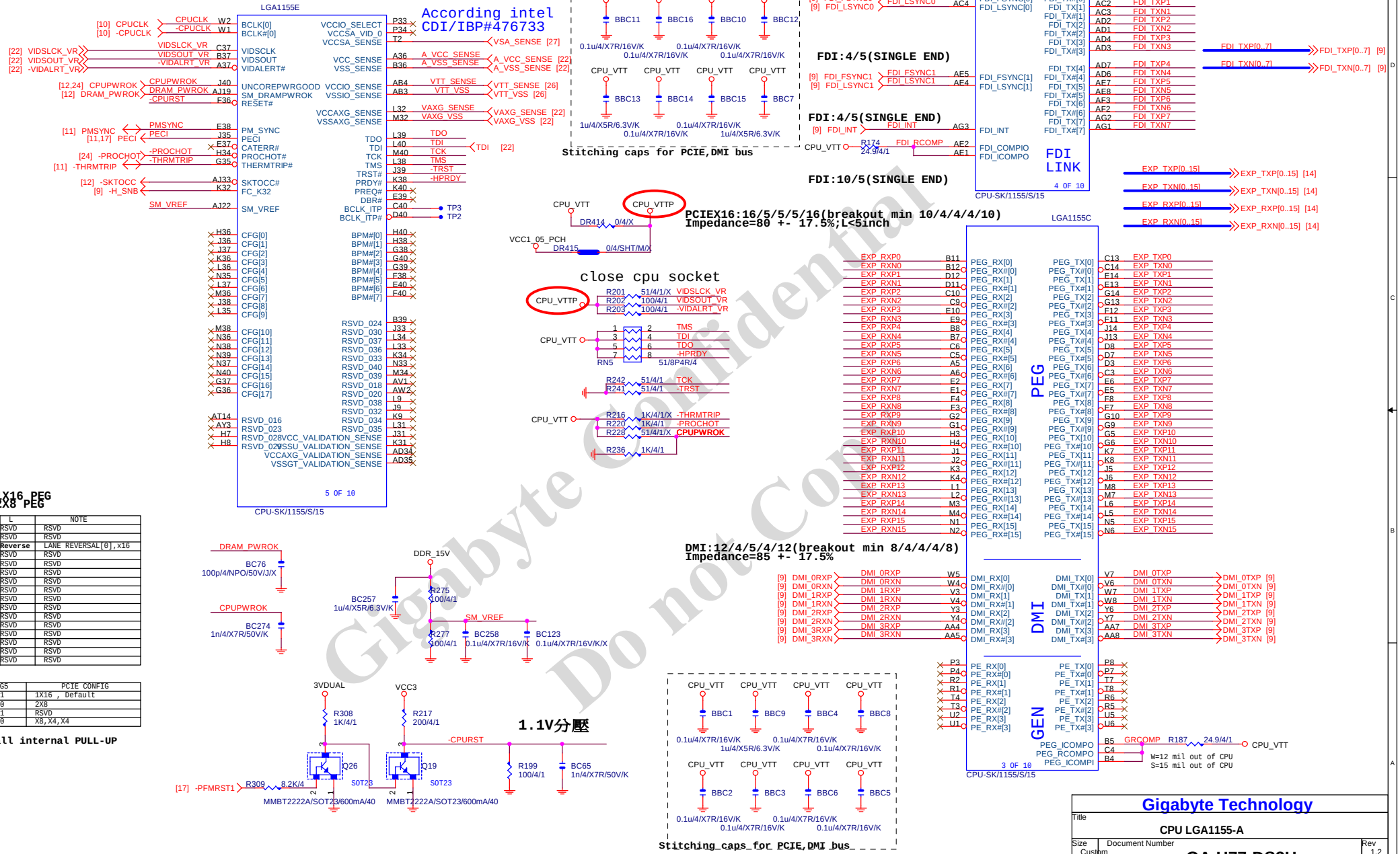
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY			
Size: Custom	Document Number: GA-H77-DS3H		Rev: 1.2
Date: Thursday, August 22, 2013		Sheet 2 of 35	

BLOCK DIAGRAM



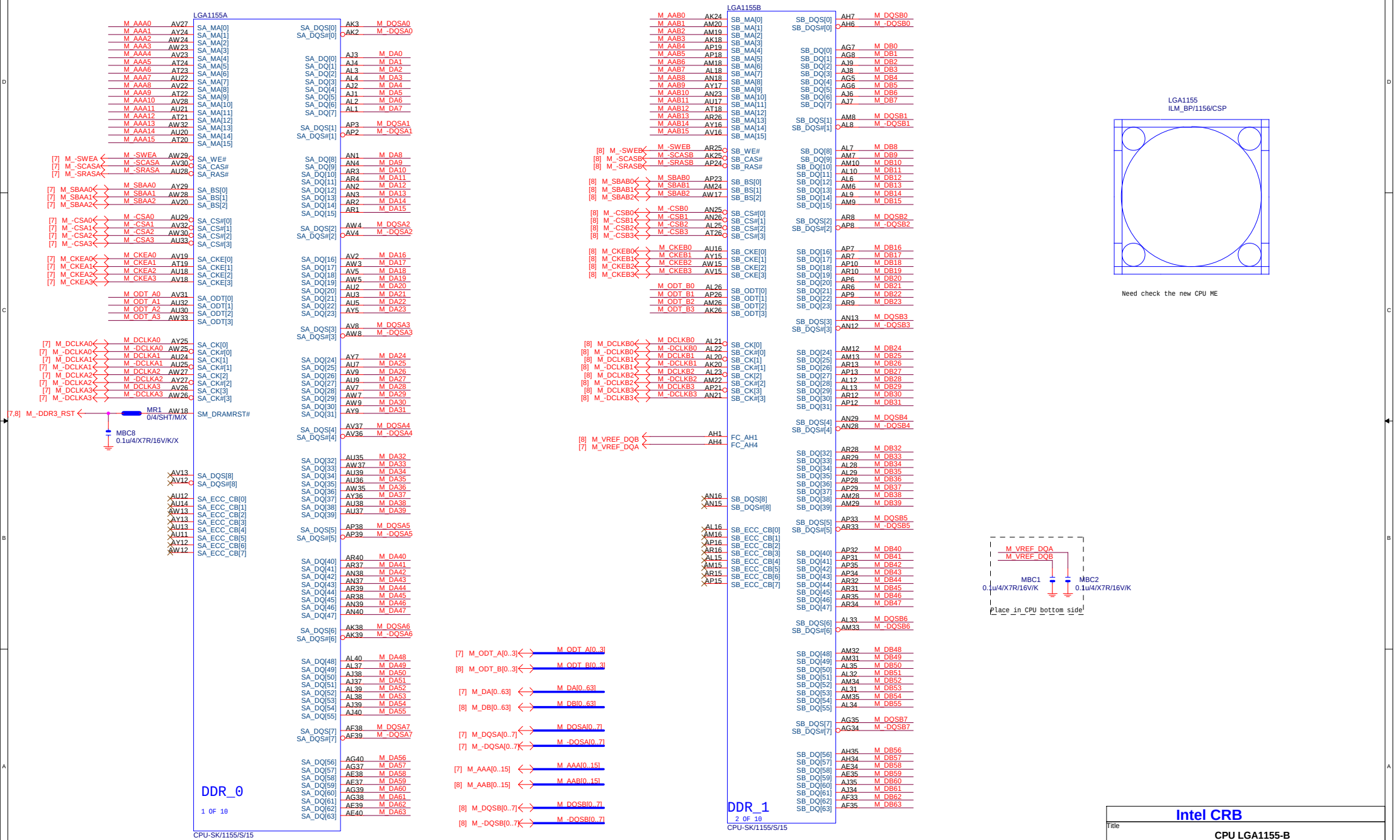
Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-H77-DS3H	Rev: 1.2
Date: Thursday, August 22, 2013	Sheet 3 of 35	



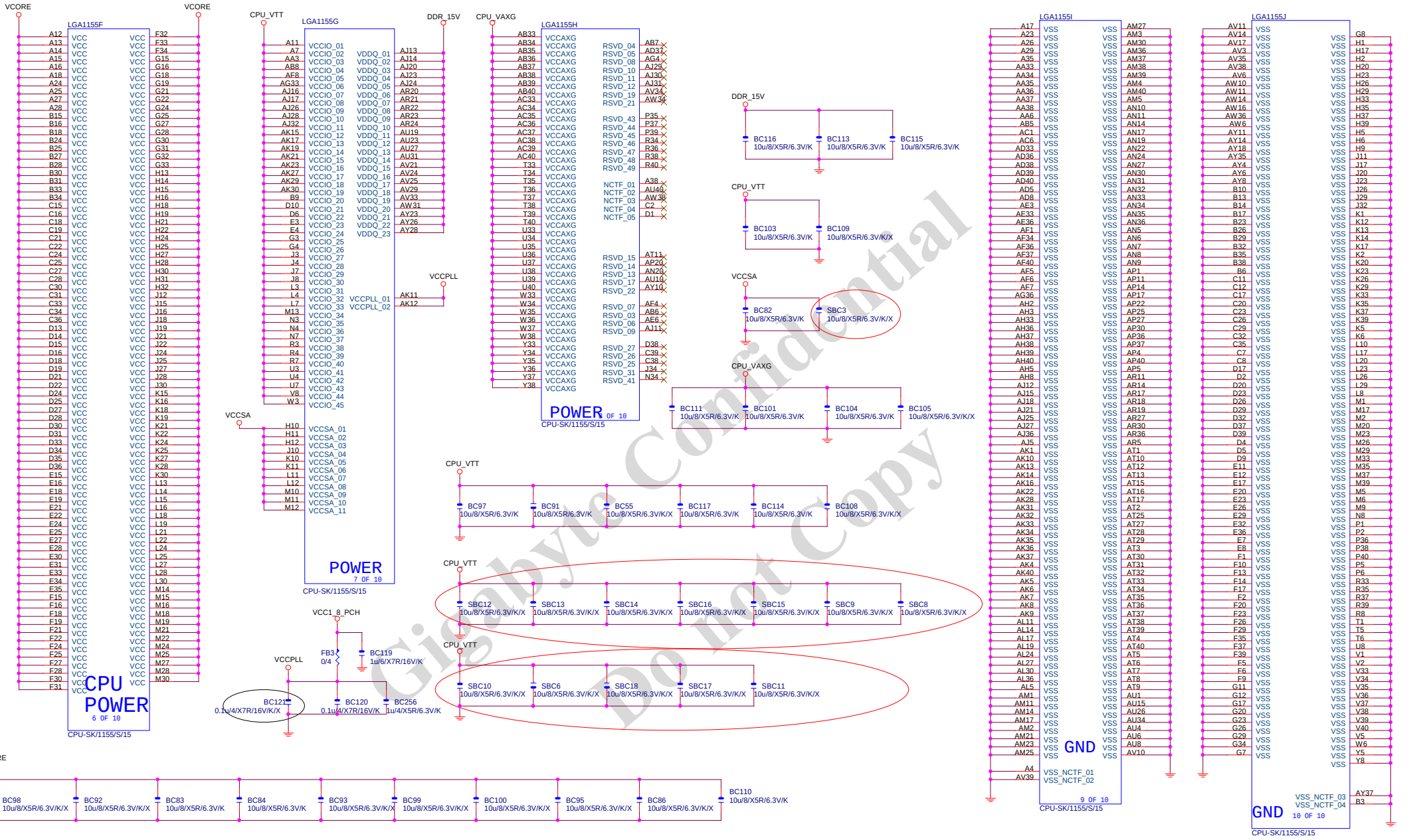
CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	**NORM**	**Reverse**	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD	RSVD	RSVD

CFG6	CFG5	PCIE CONFIG
1	1	1X16 , Default
1	0	2X8
0	1	RSVD
0	0	X8,X4,X4

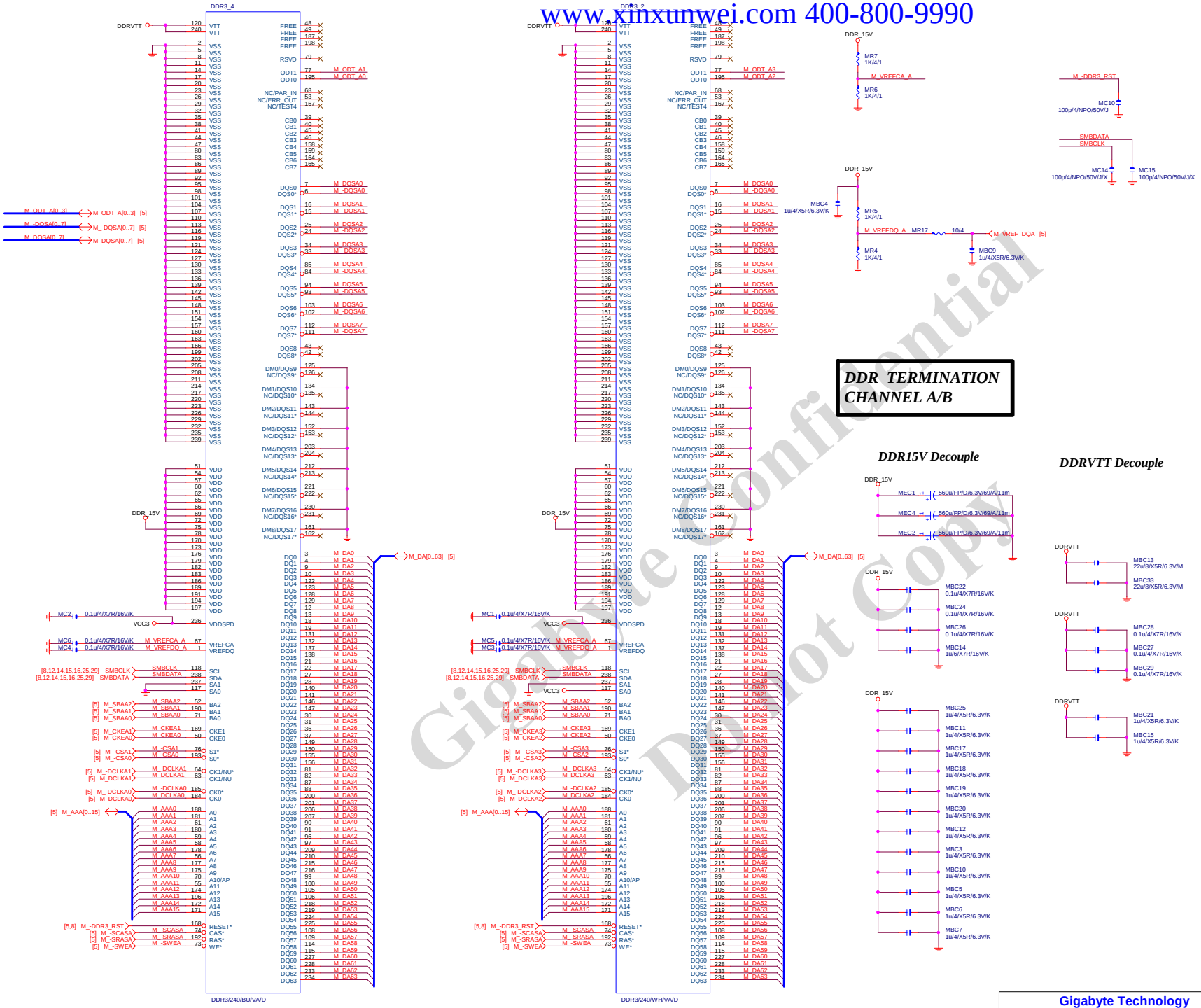
Gigabyte Technology	
Title	CPU LGA1155-A
Size: Custom	Document Number: GA-H77-DS3H
Rev	1.2
Date: Thursday, August 22, 2013	Sheet 4 of 35



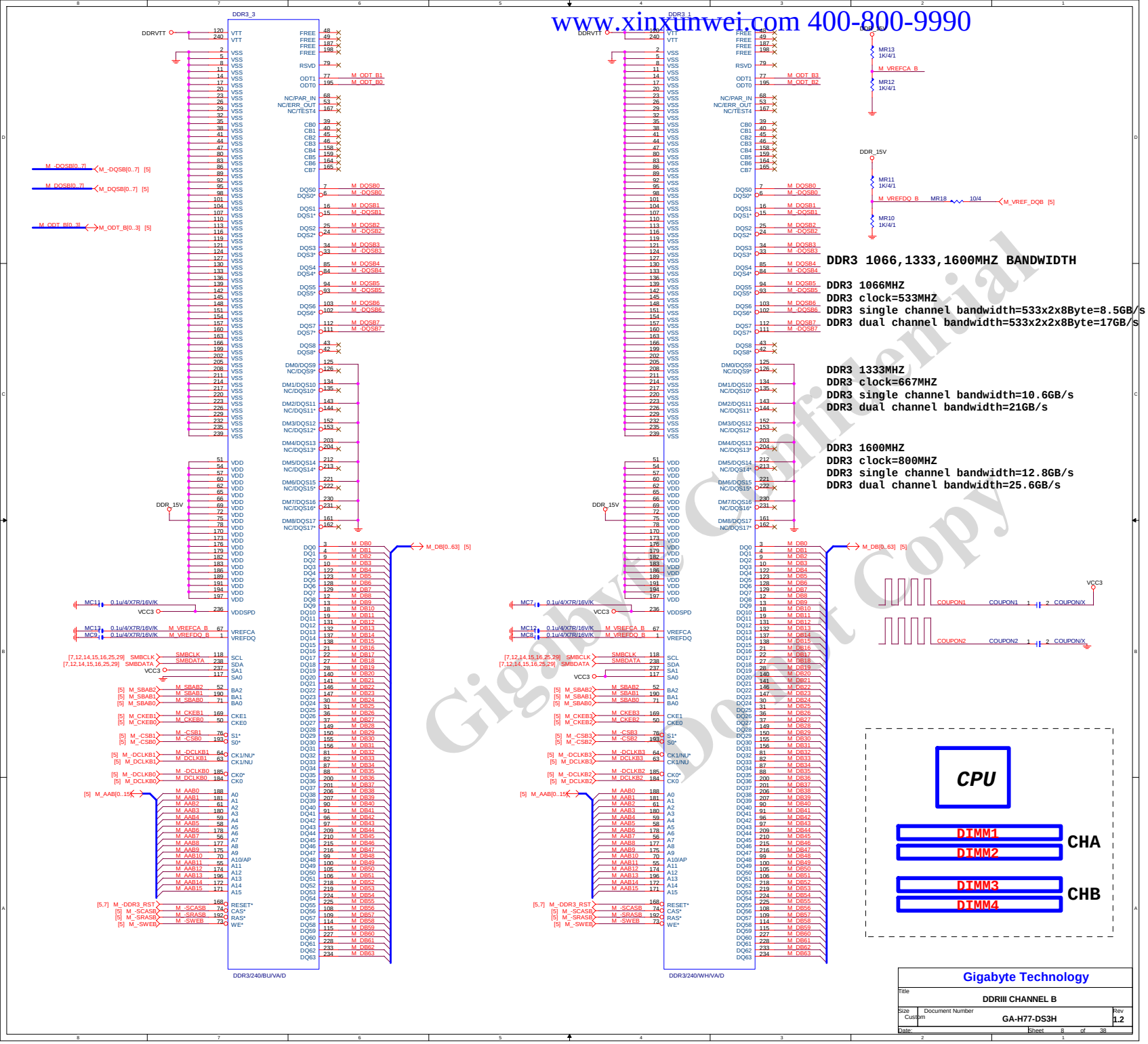
Intel CRB		
Title	CPU LGA1155-B	
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
Date: Thursday, August 22, 2013	Sheet 5 of 35	



Intel CRB	
Title	CPU LGA1155-C
Size: Custom	Document Number: GA-H77-DS3H
Rev	1.2
Date: Thursday, August 22, 2013	Sheet 6 of 35



Gigabyte Technology	
Title	DDRIII CHANNEL A
Size: Custom	Document Number: GA-H77-DS3H
Rev	1.2
Date:	Sheet 7 of 38



DDR3 1066,1333,1600MHZ BANDWIDTH

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

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

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

Gigabyte Technology		
Title: DDRIII CHANNEL B		
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
Date:	Sheet 8 of 38	

PCHB

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

USB3.0:20/5/7/5/20 (breakout min 8/4/4/4/8) ; ONLY 3 VIAS
Impedance=85 +- 17.5%
Back Panel < 10000 MILS
Front Panel < 6000 MILS

B75 CHIP USB PORT 6/7 are Disable

DMI0RXN DMI0RXP DMI0TXN DMI0TXP DMI1RXN DMI1RXP DMI1TXN DMI1TXP DMI2RXN DMI2RXP DMI2TXN DMI2TXP DMI3RXN DMI3RXP DMI3TXN DMI3TXP DMI_IRCOMP DMI_ZCOMP CLKIN_DMI_N CLKIN_DMI_P PERN1 PERP1 PETN1 PETP1 PERN2 PERP2 PETN2 PETP2 PERN3 PERP3 PETN3 PETP3 PERN4 PERP4 PETN4 PETP4 PERN5 PERP5 PETN5 PETP5 PERN6 PERP6 PETN6 PETP6 PERN7 PERP7 PETN7 PETP7 PERN8 PERP8 PETN8 PETP8

DMI

PCI-E

USB

USBP0N USBP0P USBP1N USBP1P USBP2N USBP2P USBP3N USBP3P USBP4N USBP4P USBP5N USBP5P USBP6N USBP6P USBP7N USBP7P USBP8N USBP8P USBP9N USBP9P USBP10N USBP10P USBP11N USBP11P USBP12N USBP12P USBP13N USBP13P

OC0#/GPIO59 OC1#/GPIO40 OC2#/GPIO41 OC3#/GPIO42 OC4#/GPIO43 OC5#/GPIO9 OC6#/GPIO10 OC7#/GPIO14

USBRBIAS# USBRBIAS

CLKIN_DOT_96N CLKIN_DOT_96P

DMI2RBIAS

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BD82H77/S

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

R350 49.9/4/1 VCC1_05_PCH

[29] -SRCCLK_PCH
[29] SRCCLK_PCH

[15] PCIE_IN1 [15] PCIE_IP1
[15] PCIE_TN1 [15] PCIE_TP1
[15] PCIE_IN2 [15] PCIE_IP2
[15] PCIE_TN2 [15] PCIE_TP2
[31] LA_ML_IN [31] LA_ML_IP [31] LA_ML_ON [31] LA_ML_OP
[35] G_PCIEBIN [35] G_PCIEBIP [35] G_PCIEBON [35] G_PCIEBOP
[15] PCIE_IN5 [15] PCIE_IP5
[15] PCIE_TN5 [15] PCIE_TP5
[15] PCIE_IN6 [15] PCIE_IP6
[15] PCIE_TN6 [15] PCIE_TP6
[15] PCIE_IN7 [15] PCIE_IP7
[15] PCIE_TN7 [15] PCIE_TP7
[15] PCIE_IN8 [15] PCIE_IP8
[15] PCIE_TN8 [15] PCIE_TP8

C18 C17 C2 C3 C42 C35 C41 C33 C204 C205 C202 C203 0.1u/4/X7R/16V/K

PET_N1 PET_P1 PET_N2 PET_P2 PET_N5 PET_P5 PET_N6 PET_P6 PET_N7 PET_P7 PET_N8 PET_P8

放靠近 Device & PCI-E Slot

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

[4] DMI_0TXN [4] DMI_0TXP [4] DMI_0RXN [4] DMI_0RXP [4] DMI_1TXN [4] DMI_1TXP [4] DMI_1RXN [4] DMI_1RXP [4] DMI_2TXN [4] DMI_2TXP [4] DMI_2RXN [4] DMI_2RXP [4] DMI_3TXN [4] DMI_3TXP [4] DMI_3RXN [4] DMI_3RXP DMI_COMP

BM43 -USBOC_F
BD41
BG41
BK43 GPIO42
BP43
BJ41
BT45
BM45 GPIO14

-USBOC_F [28]
-USBOC_R [28,31]

BP25 USBRBIAS R341 22.6/4/1
BM25

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

BD38 -DOTCLK
BE38 DOTCLK

-DOTCLK [29]
DOTCLK [29]

A32 R351 750/4/1

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

3VDUAL 3VDUAL
R732 8.2K/4
R371 8.2K/4
GPIO42
GPIO14

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

VCC3
BC178 1u/4/X5R/6.3V/K

-USBOC_F BC168 0.1u/4/X7R/16V/K
-USBOC_R BC170 0.1u/4/X7R/16V/K

SRCCLK_PCH R267 8.2K/4
-SRCCLK_PCH R268 8.2K/4
DOTCLK R246 8.2K/4
-DOTCLK R251 8.2K/4

R102 short to GND in non graphic SKU

PCH_HS

NEW 7 MODEL
Footprint: BGAHSINK-75;
3mm孔徑

HEAT SINK/N-BG/GBT MK/Z77/KWOG/[12SP2-S04208-01R_12SP2-S04208-02R_12SP2-S04208-03R]

VCC1_8_PCH
R407 2.2K/4/1
R408 4.7K/4 NV_CLE
-H_SNB [4]
BC186 0.1u/4/X7R/16V/K

DMI /FDI termination voltage

PCHG

FDILINK

USB3_RXN1 USB3_RXP1 USB3_TXN1 USB3_TXP1 USB3_RXN2 USB3_RXP2 USB3_TXN2 USB3_TXP2 USB3_RXN3 USB3_RXP3 USB3_TXN3 USB3_TXP3 USB3_RXN4 USB3_RXP4 USB3_TXN4 USB3_TXP4

[28] PCH_USB3_RXN1 [28] PCH_USB3_RXP1 [28] PCH_USB3_TXN1 [28] PCH_USB3_TXP1
PCH_USB3_TXN1 PCH_USB3_TXP1
[28] PCH_USB3_RXN2 [28] PCH_USB3_RXP2 [28] PCH_USB3_TXN2 [28] PCH_USB3_TXP2
PCH_USB3_TXN2 PCH_USB3_TXP2
[31] PCH_USB3_RXN3 [31] PCH_USB3_RXP3 [31] PCH_USB3_TXN3 [31] PCH_USB3_TXP3
PCH_USB3_TXN3 PCH_USB3_TXP3
[31] PCH_USB3_RXN4 [31] PCH_USB3_RXP4 [31] PCH_USB3_TXN4 [31] PCH_USB3_TXP4
PCH_USB3_TXN4 PCH_USB3_TXP4

FDI_RXN0 FDI_RXP0 FDI_RXN1 FDI_RXP1 FDI_RXN2 FDI_RXP2 FDI_RXN3 FDI_RXP3 FDI_RXN4 FDI_RXP4 FDI_RXN5 FDI_RXP5 FDI_RXN6 FDI_RXP6 FDI_RXN7 FDI_RXP7

FDI_TXN0 FDI_TXP0 FDI_TXN1 FDI_TXP1 FDI_TXN2 FDI_TXP2 FDI_TXN3 FDI_TXP3 FDI_TXN4 FDI_TXP4 FDI_TXN5 FDI_TXP5 FDI_TXN6 FDI_TXP6 FDI_TXN7 FDI_TXP7

FDI_FSYNC0 FDI_LSYNC0 FDI_FSYNC1 FDI_LSYNC1 FDI_INT

FDI_FSYNC0 [4] FDI_LSYNC0 [4] FDI_FSYNC1 [4] FDI_LSYNC1 [4] FDI_INT [4]

FDI_TXP[0..7] [4]
FDI_TXN[0..7] [4]

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BD82H77/S

PCHE

NVRAM

RESERVED_1 RESERVED_2 RESERVED_3 RESERVED_4 RESERVED_6 DF_TVS RESERVED_29 RESERVED_5 RESERVED_7 RESERVED_8 RESERVED_9 RESERVED_10 RESERVED_11 RESERVED_12 RESERVED_13 RESERVED_14 RESERVED_15 RESERVED_16 RESERVED_17 RESERVED_18 RESERVED_19 RESERVED_20 RESERVED_21 RESERVED_22 RESERVED_23 RESERVED_24 RESERVED_25 RESERVED_26 RESERVED_27 RESERVED_28

NV_CLE
NV_RCOMP R422 33/4

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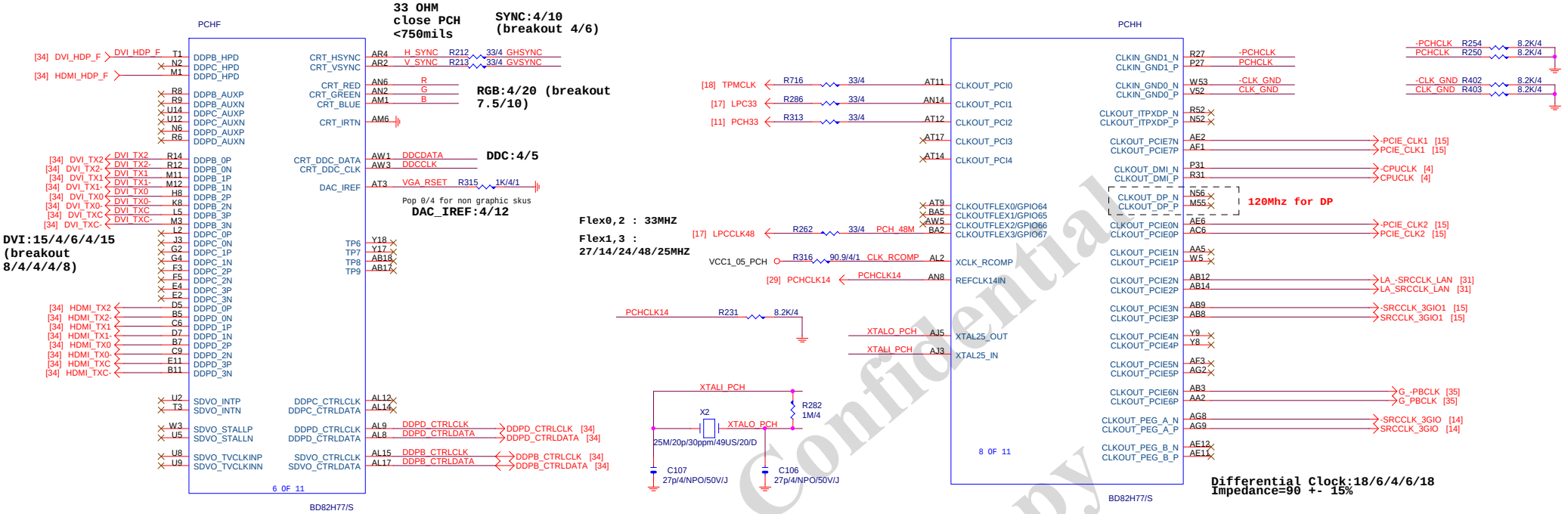
BD82H77/S

Gigabyte Technology

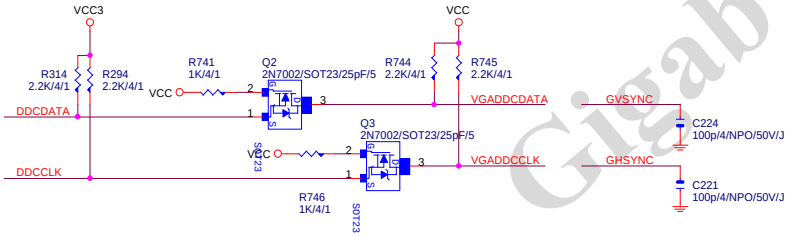
Title: PCH FDI,DMI,USB ,PCIE

Size: Custom | Document Number: GA-H77-DS3H | Rev: 1.2

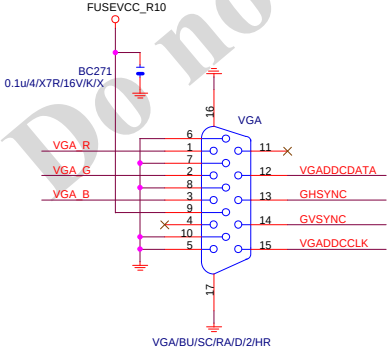
Date: Thursday, August 22, 2013 | Sheet 9 of 35



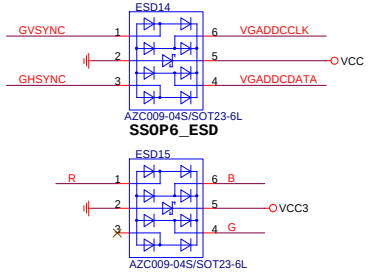
VGA DDC



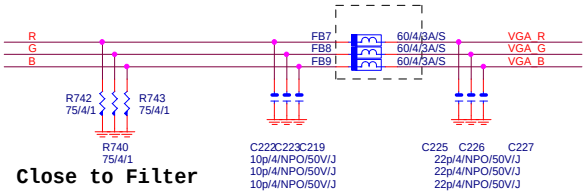
VGA CONNECTOR



VGA ESD



VGA DDC



Gigabyte Technology		
Title: PCH DISPLAY ,CLK BUFFER		
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
Date: Thursday, August 22, 2013	Sheet 10 of 35	

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#

APWROK [12,17,29] PWROK1

FAN: PWM0, PWM1, PWM2, PWM3; TACH0/GPIO17, TACH1/GPIO1, TACH2/GPIO6, TACH3/GPIO7, TACH4_GPIO68, TACH5_GPIO69, TACH6_GPIO70, TACH7_GPIO71; SST [17] SSTCTL

GPIO: SCLOCK/GPIO22, SLOAD/GPIO38, SDATAOUT0/GPIO39, SDATAOUT1/GPIO48; NC_5

SATA3: SATA0RXN/RXP, SATA0TXN/TXP, SATA1RXN/RXP, SATA1TXN/TXP

SATA2: SATA2RXN/RXP, SATA2TXN/TXP, SATA3RXN/RXP, SATA3TXN/TXP, SATA4RXN/RXP, SATA4TXN/TXP, SATA5RXN/RXP, SATA5TXN/TXP

CLKIN_SATA_N/P; SATALED# [28]; SATAICOMPI; SATAICOMPO; SATA0GP/GPIO21, SATA1GP/GPIO19, SATA2GP/GPIO36, SATA3GP/GPIO37, SATA4GP/GPIO16, SATA5GP/GPIO49; TP16; SATA3RBIAS

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

3 0F 11

BD82H77/S

MB-ID: R331 8.2K/4/X GPIO17; R468 8.2K/4/X GPIO19; GPIO22; R436 1K/4/1/X

-SRCCLK_SATA R265 8.2K/4; -SRCCLK_SATA R266 8.2K/4

-KBRST R401 1K/4/1

VCC3

RN16 8.2K/8P4R/4: GPIO19, TEMP_ALART- [17] TEMP_ALART-, GPIO22, A20GATE

RN17 8.2K/8P4R/4: GPIO16, SERIRQ, GPIO48, GPIO0 [12] GPIO0

RN18 8.2K/8P4R/4: GPIO21, GPIO38, GPIO39, GPIO20 [12] GPIO20

R447 1K/4/1/X GPIO20

SATA5RXN [32], SATA5RXP [32], SATA5TXN [32], SATA5TXP [32]

-SRCCLK_SATA [29], SRCCLK_SATA [29]

SATACOMP R390 37.4/4/1; W=4 mil out of PCH S=15 mil out of PCH

SATA3COMP R391 49.9/4/1; W=4 mil out of PCH S=15 mil out of PCH

SATA3BIAS R392 750/4/1

A20GATE [17]; -KBRST [17]; SERIRQ [17,18]; -THRMTRIP [4]; SB_PECI R377 0/4/X PECI [4,17]; PMSYNC [4]

VCC1_05_PCH

RN12 8.2K/8P4R/4: GPIO70, GPIO6, GPIO17, GPIO1, -PIRQG, GPIO71, GPIO68, -CPU_HOT; -CPU_HOT [24]

RN13 8.2K/8P4R/4

PCHA

PCI: PAR, DEVSEL#, CLKIN_PCILOOPBACK, PCIRST#, IRDY#, PME#, SERR#, STOP#, PLOCK#, TRDY#, PERR#, FRAME#; AD0–AD31; C/BE0#–C/BE3#

GNT0#/GPIO51, GNT2#/GPIO53, GNT3#/GPIO55; REQ0#, REQ1#/GPIO50, REQ2#/GPIO52, REQ3#/GPIO54; PIRQA#, PIRQB#, PIRQC#, PIRQD#, PIRQE#/GPIO2, PIRQF#/GPIO3, PIRQG#/GPIO4, PIRQH#/GPIO5

1 0F 11

BD82H77/S

RN21 8.2K/8P4R/4: -DEVSEL, -IRDY, -FRAME, -STOP

RN22 8.2K/8P4R/4: -PERR, -PIRQB, -REQ0

RN23 8.2K/8P4R/4: -SERR, -REQ1, -PIRQD, -PIRQH

RN24 8.2K/8P4R/4: -PIRQC, -PIRQA, -PIRQE, -REQ2

RN25 8.2K/8P4R/4: -PIRQF, -REQ3, -TRDY, -PLOCK

White connector for SATA3

SATA3_0: SATA0TXP/N 0.01u/4/X7R/25V/K C148/C145; SATA0RXP/N C140/C136; GND, T+, T-, GND, R-, R+, GND

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

SATA2_3: SATA3TXP C178, SATA3TXN C177, SATA3RXP C171, SATA3RXN C174; GND, T+, T-, GND, R-, R+, GND

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

SATA3_1: SATA1TXP/N C228/C229; SATA1RXP/N C231/C230; GND, T+, T-, GND, R-, R+, GND

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

SATA2_2: SATA2TXP C147, SATA2TXN C144, SATA2RXP C135, SATA2RXN C139; GND, T+, T-, GND, R-, R+, GND

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

SATA2_4: SATA4TXP C146, SATA4TXN C143, SATA4RXP C134, SATA4RXN C138; GND, T+, T-, GND, R-, R+, GND

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

Gigabyte Technology		
Title: PCH HOST , SATA, PCI		
Size: B	Document Number: GA-H77-DS3H	Rev: 1.2
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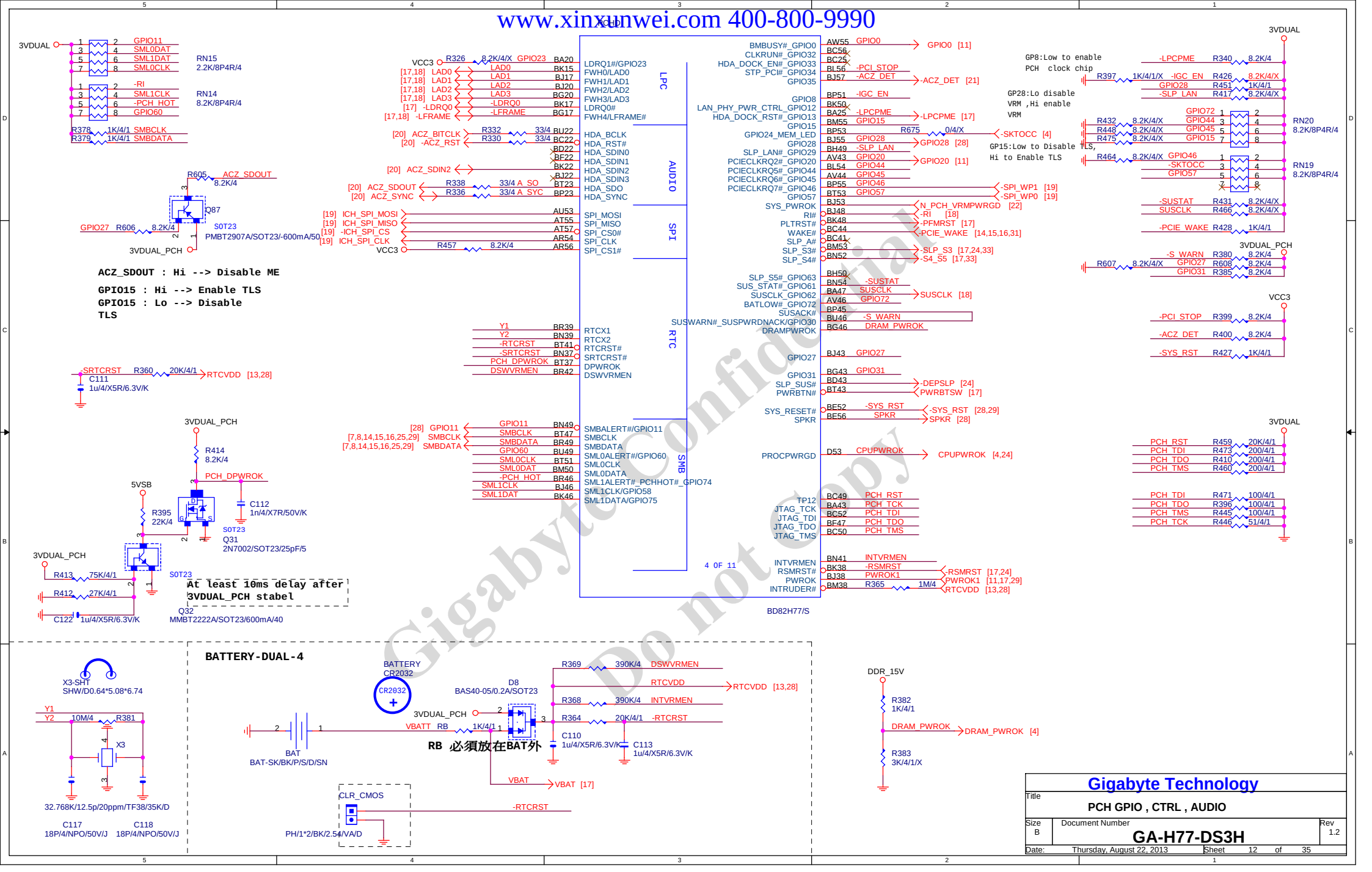
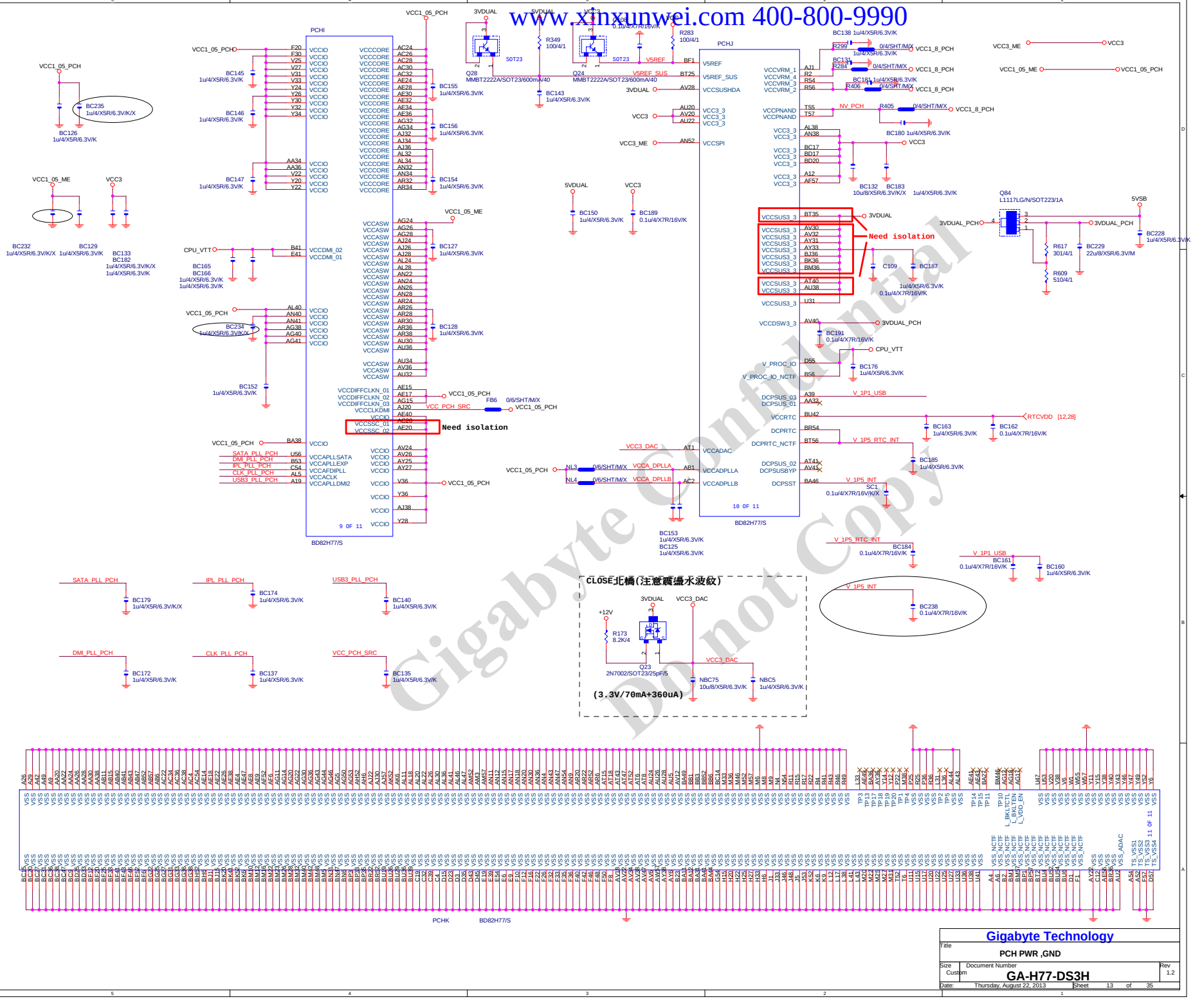
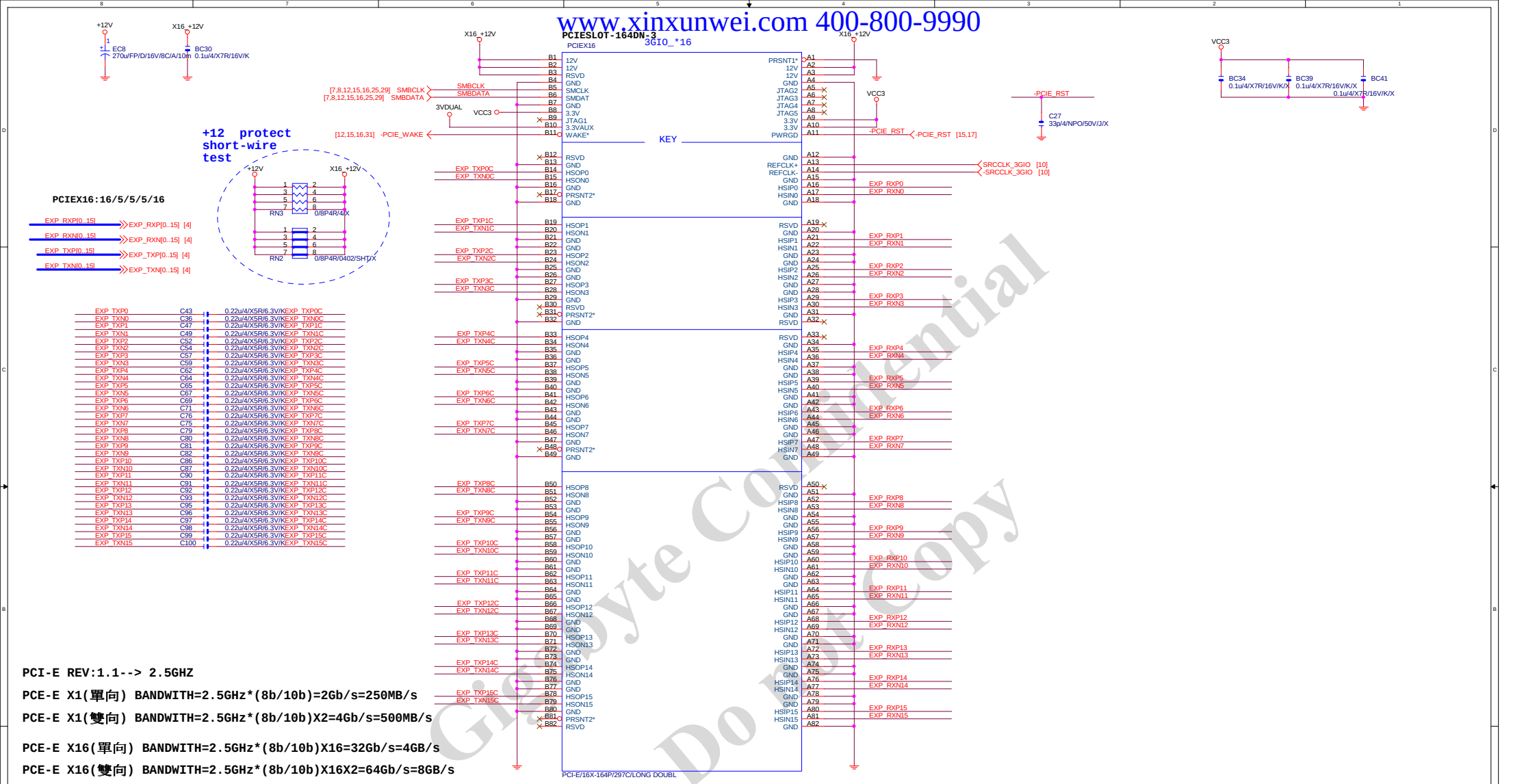


Gigabyte Technology		
Title: PCH GPIO , CTRL , AUDIO		
Size: B	Document Number: GA-H77-DS3H	Rev: 1.2
Date: Thursday, August 22, 2013	Sheet 12 of 35	



Gigabyte Technology			
Title: PCH PWR ,GND			
Size: Custom	Document Number: GA-H77-DS3H		Rev: 1.2
Date: Thursday, August 22, 2013		Sheet 13 of 35	



Gigabyte Technology	
Title	PCI EXPRESS * 16
Size: Custom	Document Number: GA-H77-DS3H
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PCIE*4

PCIEX4 3GIO_*4

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

PCIE*1

PCIEX1_1 3GIO_X1

PCIEX1_2 3GIO_X1

PCI-E/1X-36P/WH/OL

Title	PCI EXPRESS X 4 PORT
Size	Custom
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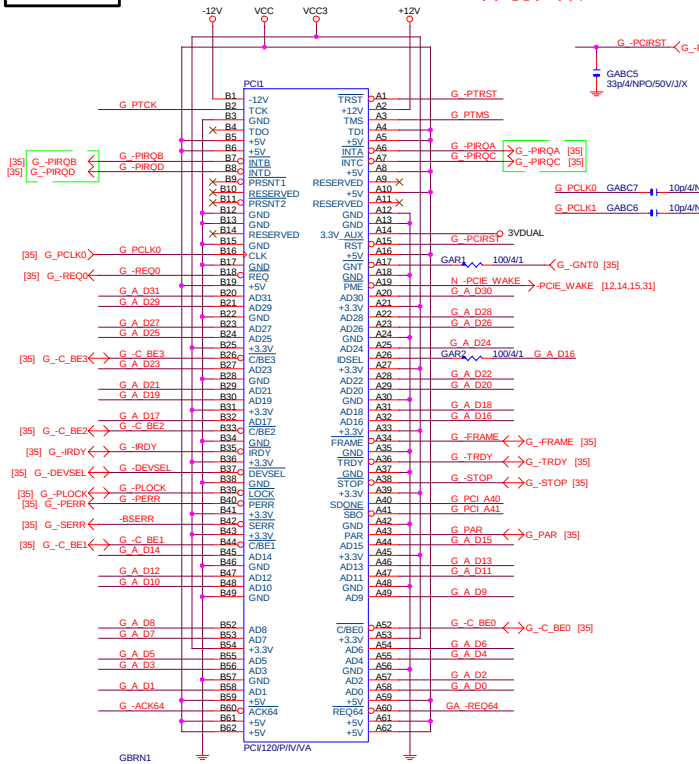
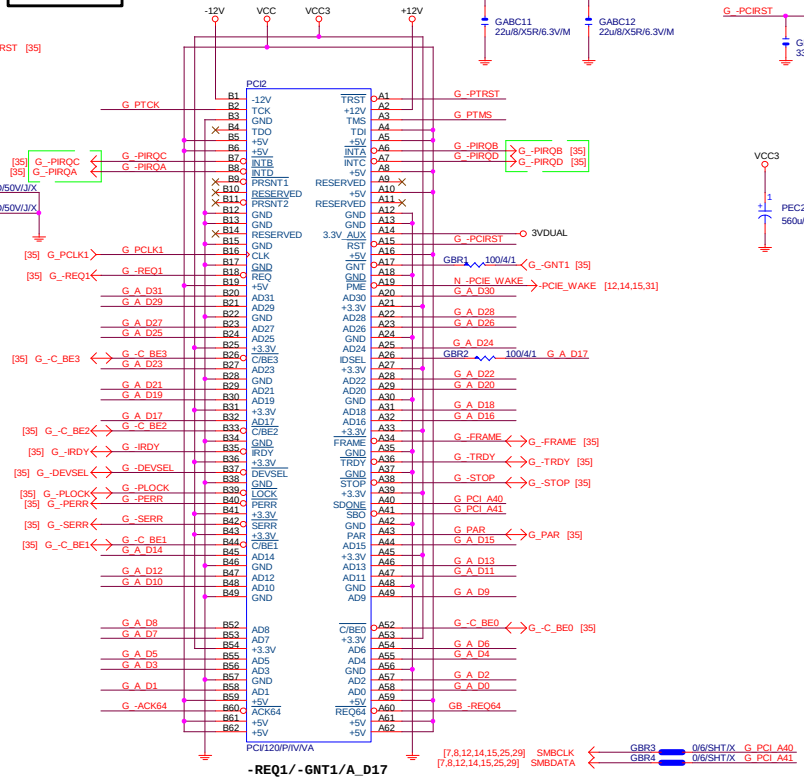
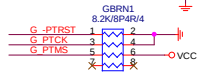
Gigabyte Technology

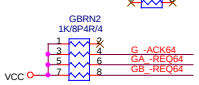
PCI SLOT 1

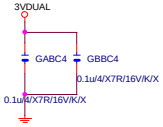


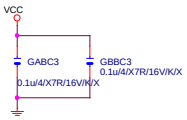
PCI SLOT 2

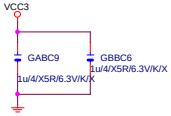


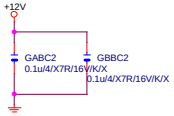


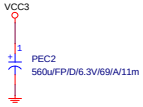












GIGABYTE™

Title: PCI SLOT 1&2		
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HI FOR Rev1.1
LO FOR Rev1.02

IT8728F(GB)

IT8728F/EX (GB)/QFP128

DUAL BIOS OPT STRAP

EUP FROM PCH

For 8728 EUP function

For IT8721 Power leakage

internal power pin, max 22nF cap---->2uf for 8728 低溫相容性

EUP control detect

Only For Push-Pull Mode

JP3--- High SPI-Flash Disable
Low SPI-Flash Enable

JP5:N\A FOR 8728 DX
JP5:PULL DOWN FOR 8728 EX
anti-surge enable

	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)

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.

Hi :Disable WDT
Lo :Enable WDT to rest PWROK

Gigabyte Technology			
Title: ITE 8728 LPC IO			
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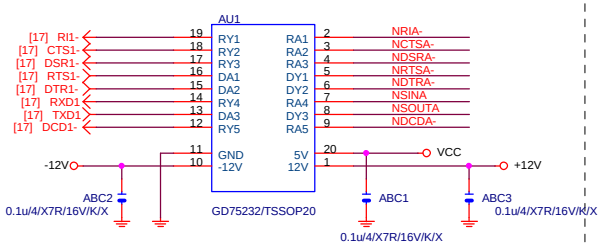
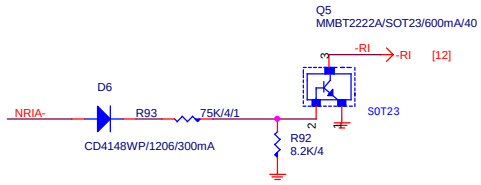
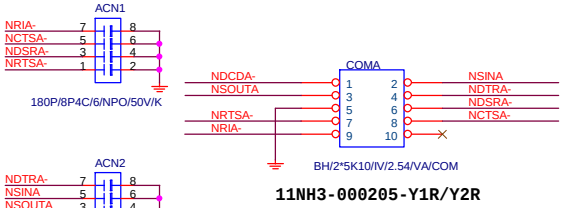
COMA



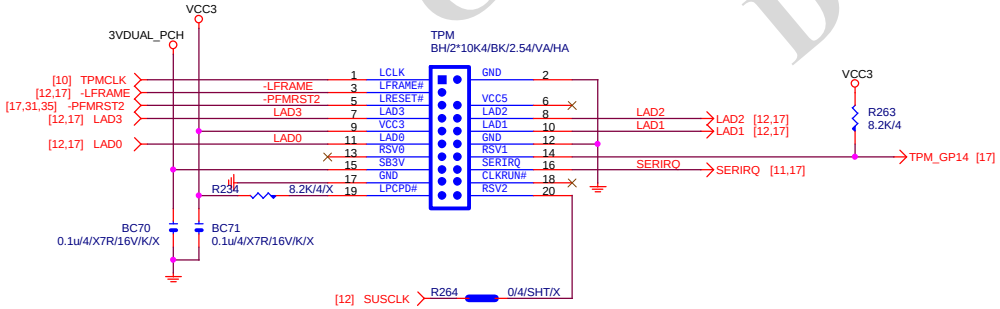
COM RI





LPT PORT

TPM



Gigabyte Technology		
Title: COM & Print		
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
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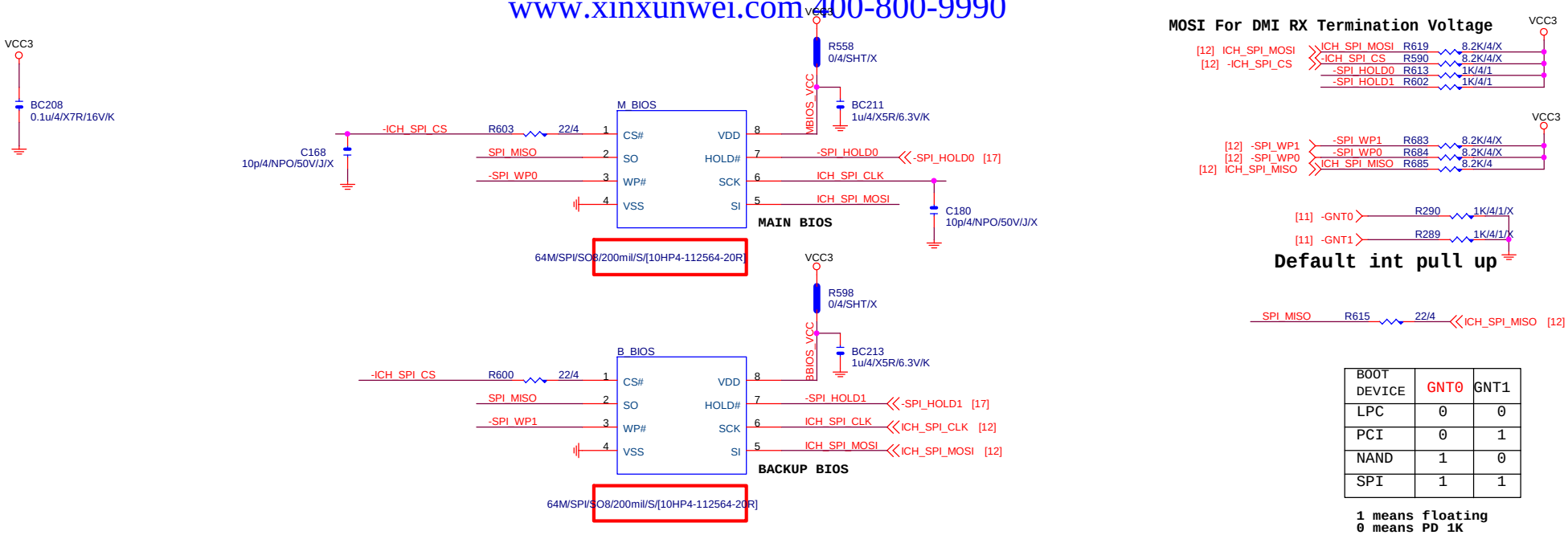

MOSI For DMI RX Termination Voltage

Default int pull up

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		
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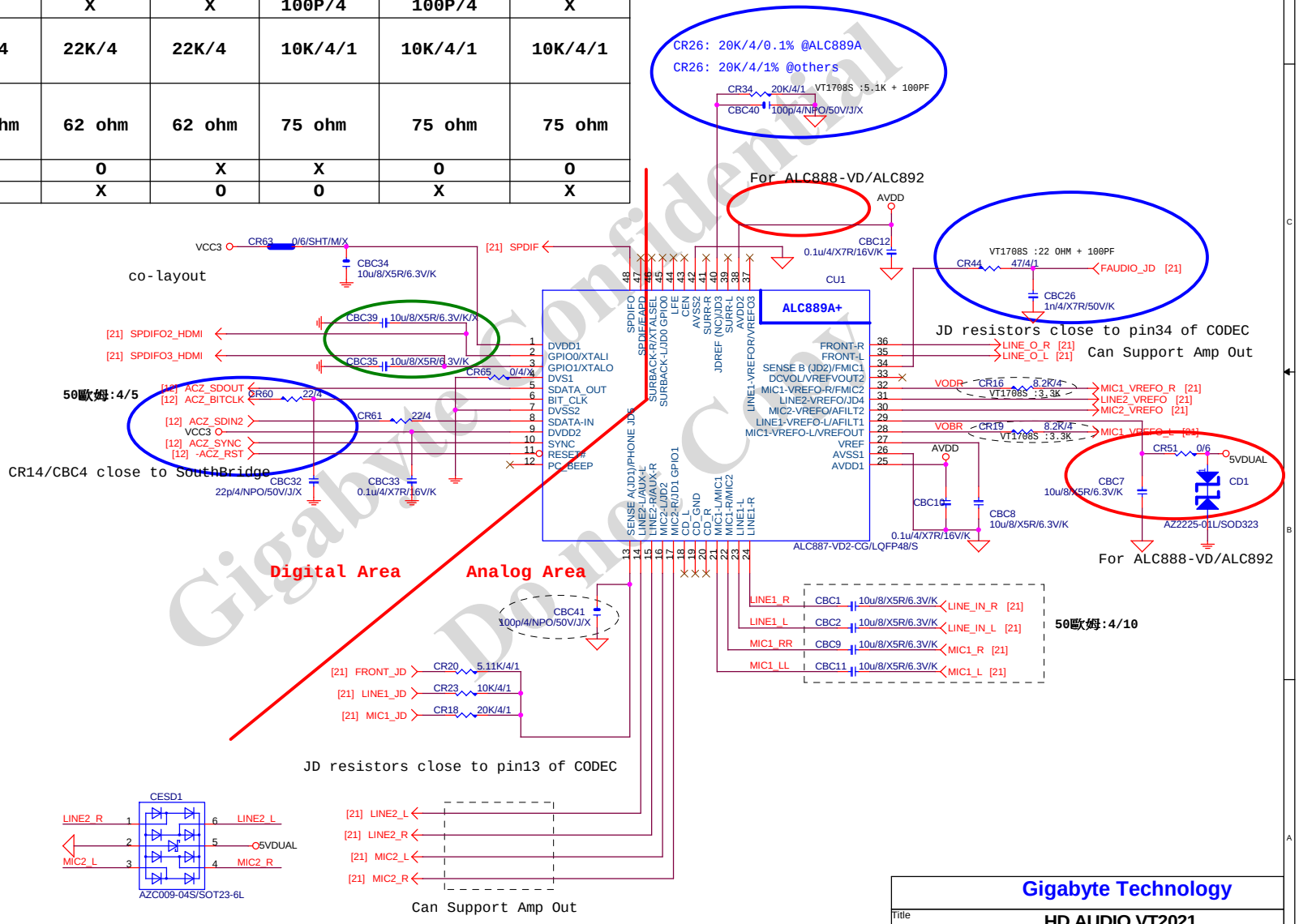
AZALIA CODEC *ALC887-VD2/ALC889/VT1708S/VT1708SCE/VT2021 Codec*

	ALC662	ALC887-VD2	ALC889	VT1708S-CD	VT1708S-CE	VT2021
CR65	X	X	0	0	X	0
CBC35	0	0	X	X	0	X
CR44/CBC26	47ohm+1nF	47ohm+1nF	47ohm+1nF	22ohm+100P	22ohm+100P	47ohm+1nF
CR31	X	0	0	0	0	0
CR30	0	X	X	X	X	X
CBC1/CBC2	10uF/X5R	10uF/X5R	22uF/X5R	10uF/X5R	10uF/X5R	10uF/X5R
CR20	5.11K/4/1	5.11K/4/1	5.11K/4/1	5.1K/4/1	5.1K/4/1	5.1K/4/1
CR34	20K/4/1	20K/4/1	20K/4/1	5.1K/4/1	20K/4/1	5.1K/4/1
CBC40/CBC41	X	X	X	100P/4	100P/4	X
CR6/CR7/CR58/CR54	22K/4	22K/4	22K/4	10K/4/1	10K/4/1	10K/4/1
CR5/CR8/CR1/CR14/CR17/CR22/CR13/CR11/CR57/CR53	62 ohm	62 ohm	62 ohm	75 ohm	75 ohm	75 ohm
CR51/CD1/CBC7	0	0	X	X	0	0
CD2/CD3/CQ5/CQ5	X	X	0	0	X	X



Gigabyte Technology		
Title	HD AUDIO VT2021	
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
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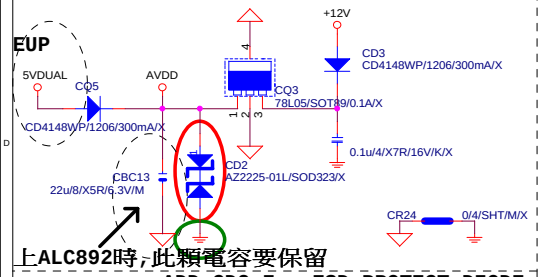
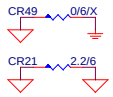
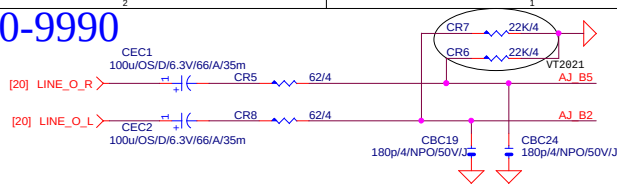
CODEC POWER/EMI PAD



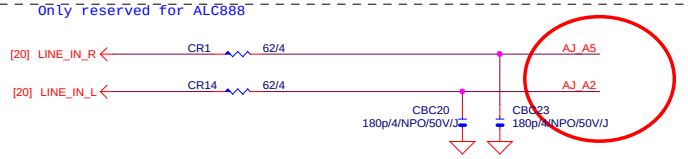


LINE-OUT



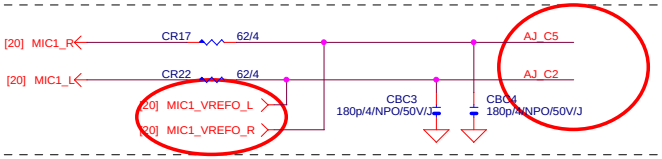
Only reserved for ALC888

LINE-IN

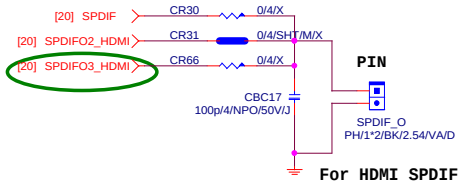


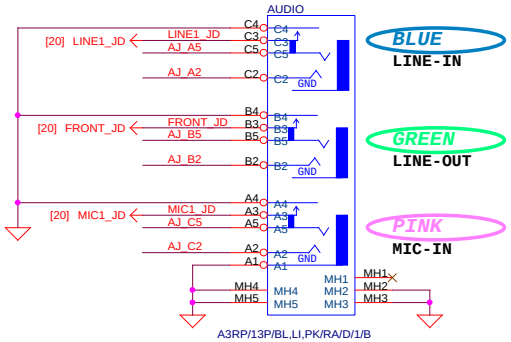
Verify MIC function in LINE-in

MIC-IN

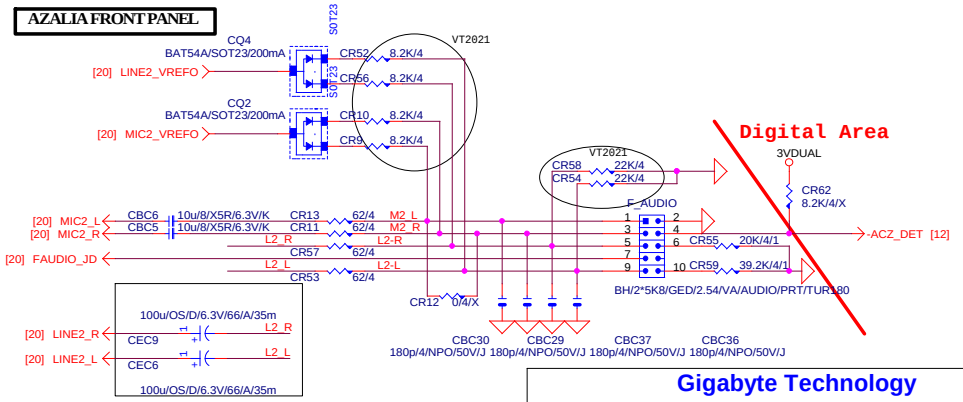


SPDIF_OUT





AZALIA FRONT PANEL



Gigabyte Technology		
Title: AUDIO JACK		
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
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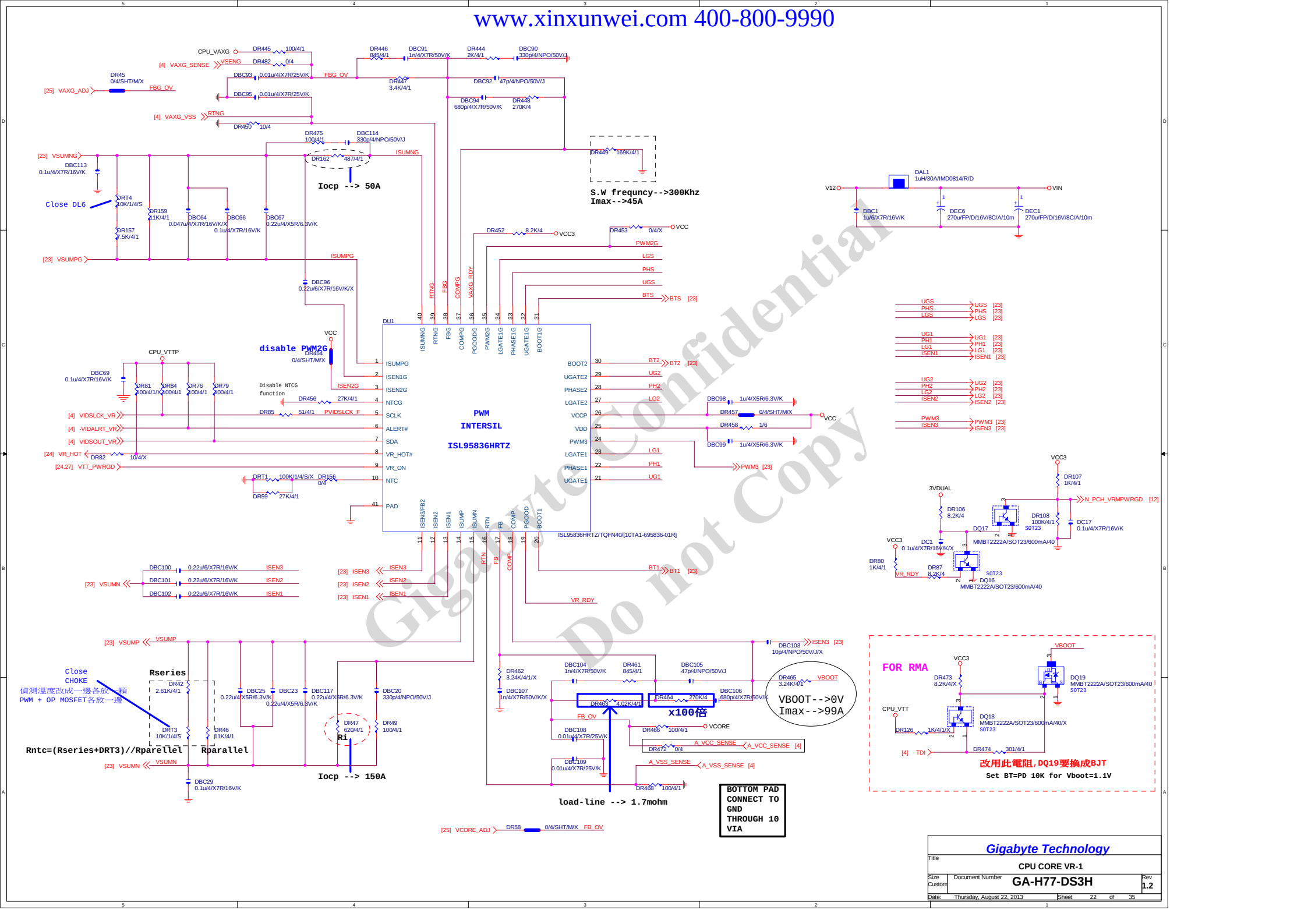

Gigabyte Technology		
Title	CPU CORE VR-1	
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
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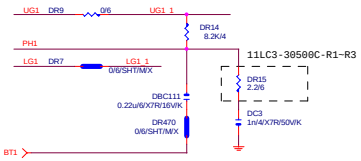

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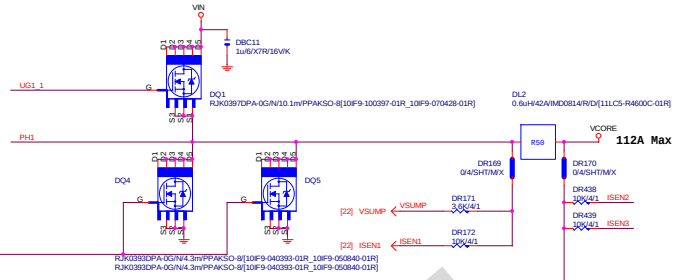
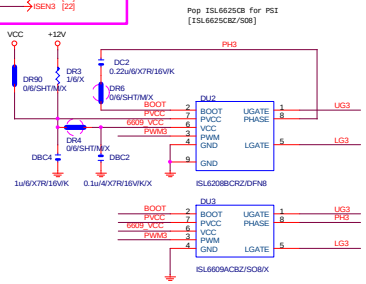
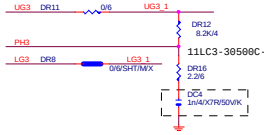
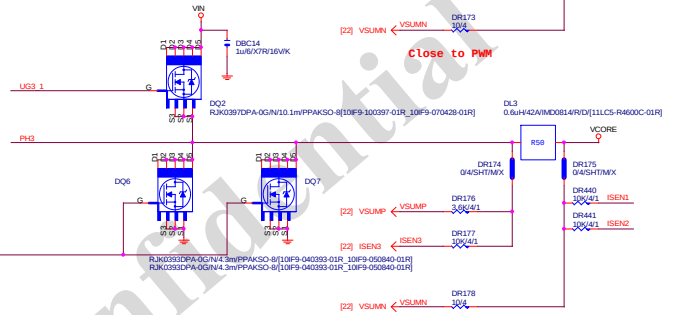


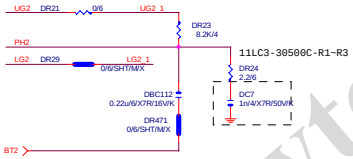


6609 colay with 6208

[3]







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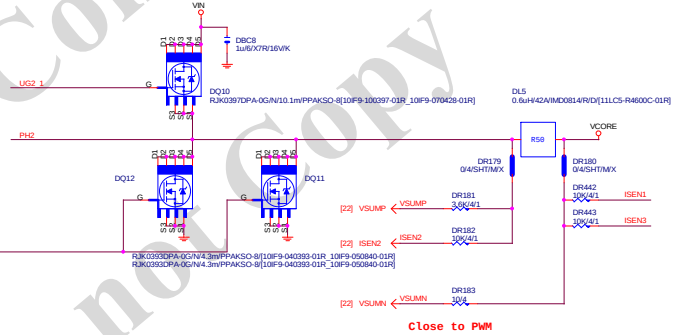
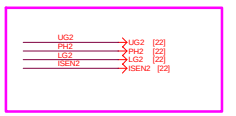
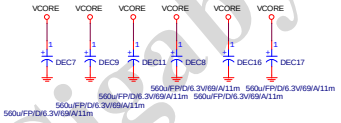
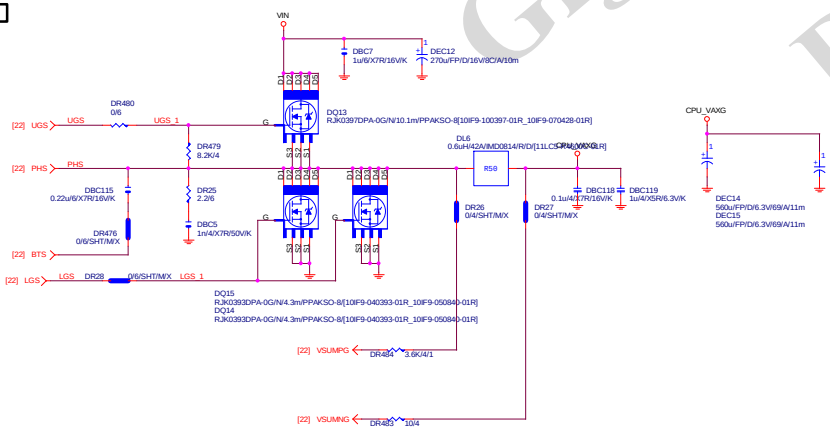


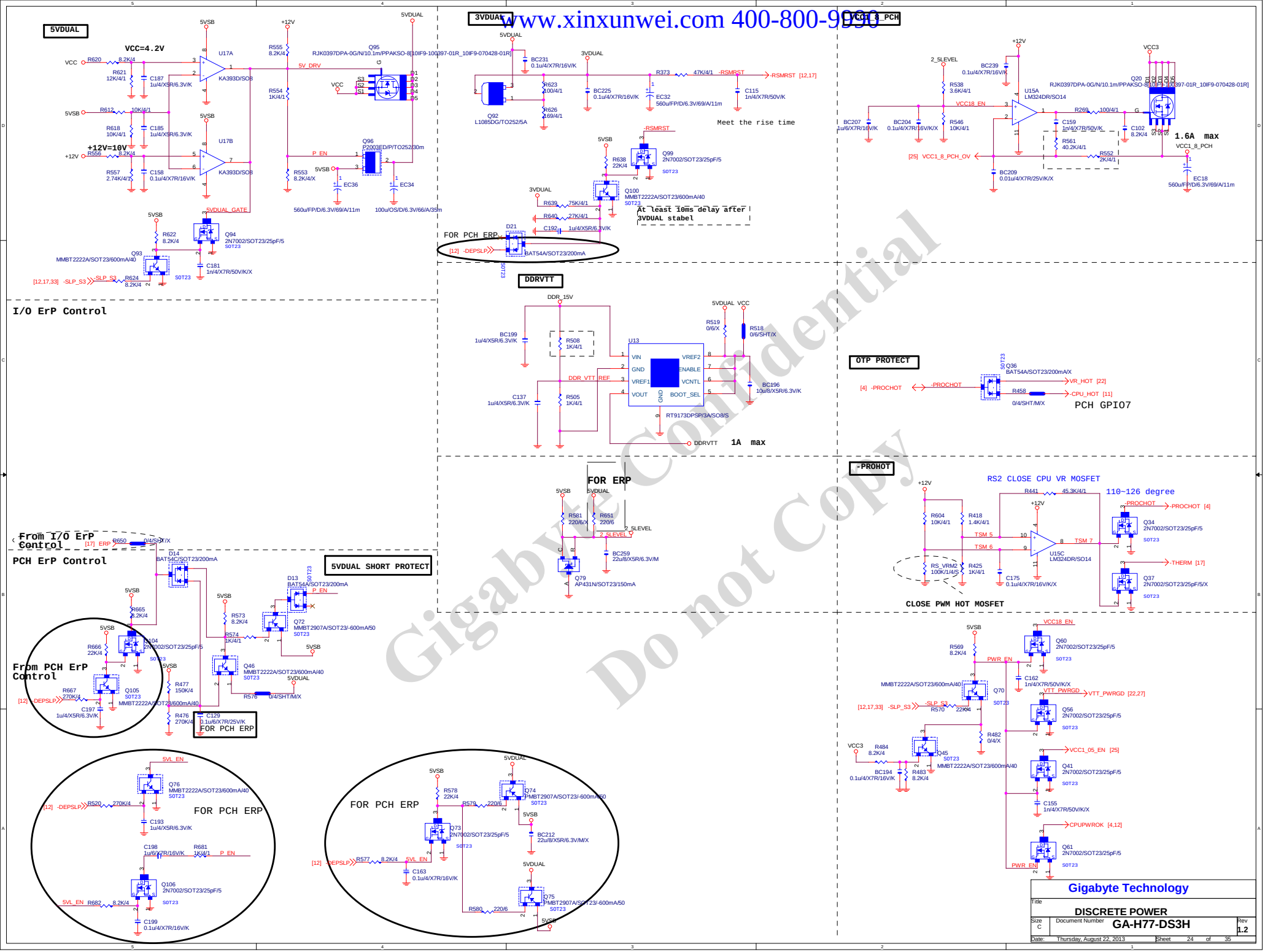




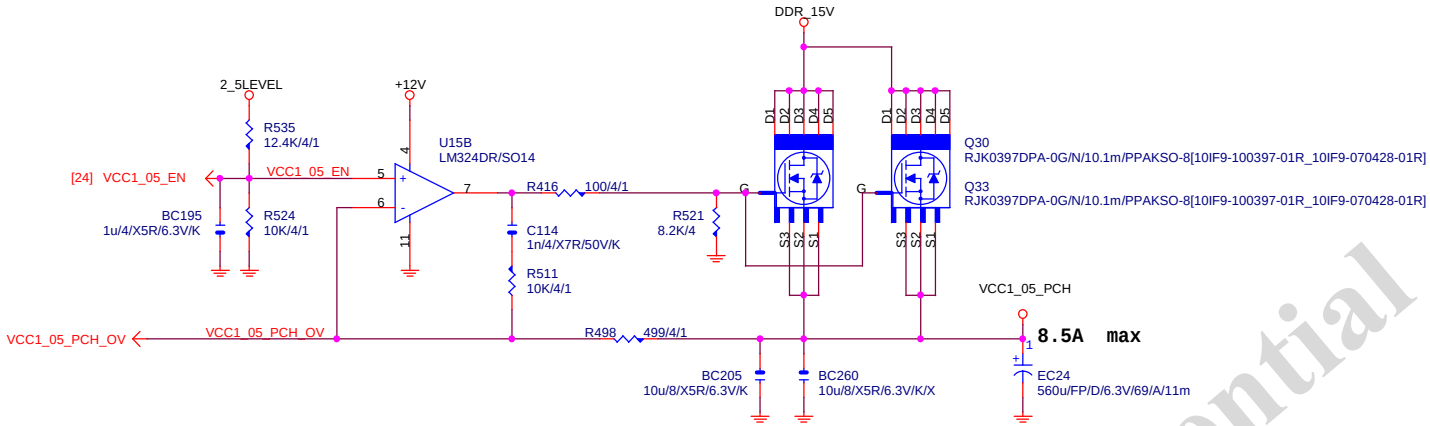
VAX6



Gigabyte Technology		
Title: CPU CORE VR-3		
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
Date: Thursday, August 22, 2013	Sheet 23 of	



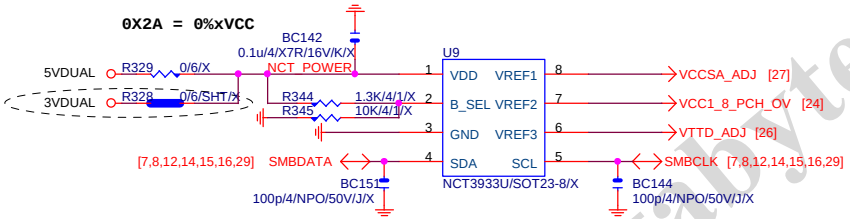
VCC1_05_PCH



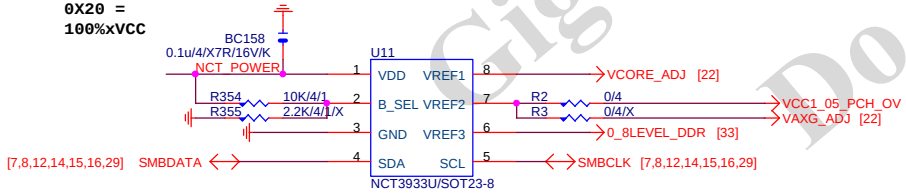
Voltage console

ADDRESS	0X2A	0X20	0X22	0X26
R1(K)	OPEN	10	1.3	3
R2(K)	10	OPEN	3.9	2.2
%VCC	0	100	75	42

0X2A = 0%xVCC



0X20 = 100%xVCC



up6262	0X2A	0X20
VREF1	VCC1_05_PCH	VCORE
VREF2	VCC1_8_PCH	VCCSA
VREF3	CPU_VTT	DDR

H77-DS3H	ITE8728 MB_ID2 (GP27)	ITE8728 MB_ID3 (GP67)
1.0 3931	1	0
1.01 3931	1	1
1.02 3931	0	1
1.1 3931	1	1
1.1 3933	0	0

Gigabyte Technology

Title: PCH CORE / VOLTAGE CONSOLE

Size: B | Document Number: GA-H77-DS3H | Rev: 1.2

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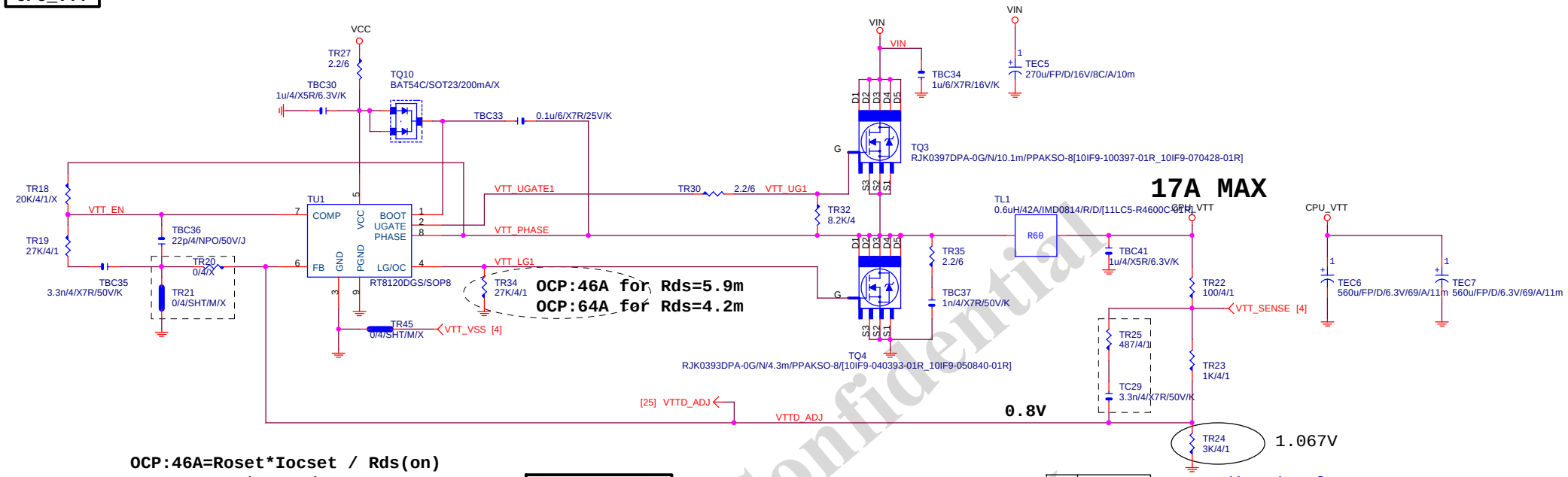
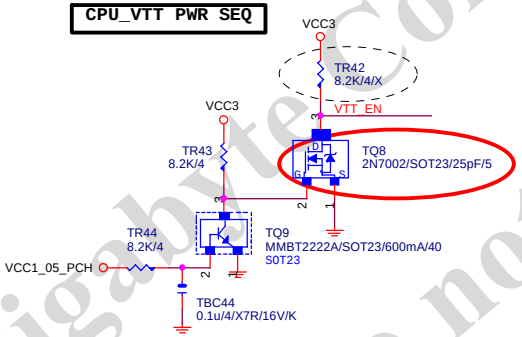
CPU_VTT



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

CPU_VTT PWR SEQ



	VTT_SEL
HI	1.05V
LO	1.0V

According intel
CDI/IBP#476733,固定1.05V

GIGABYTE™

Title: RT8120_CPU_VTT		
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
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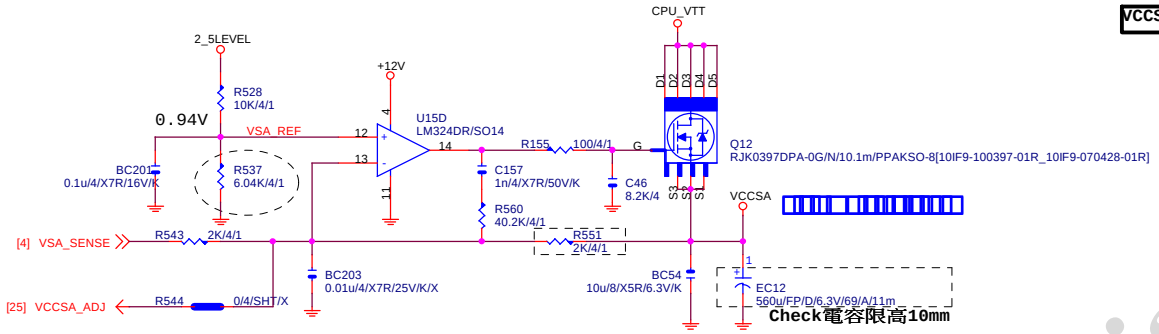
VCC_SA

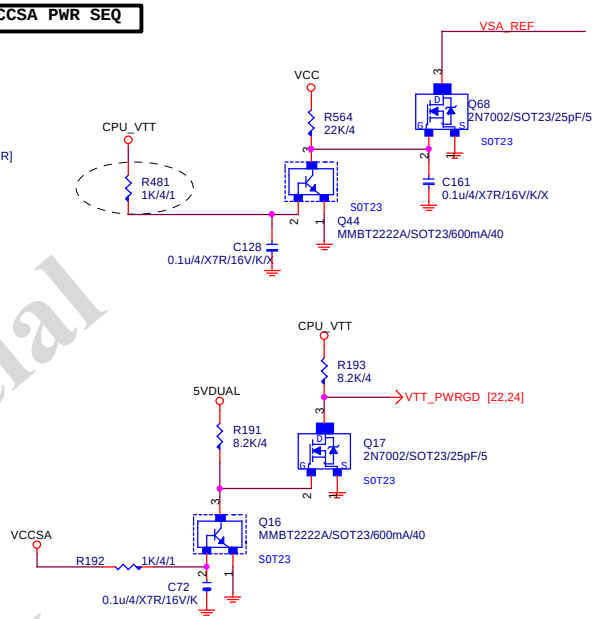


PDG 1.01

	VSA_SEL
HI	0.85V
LO	0.925V

According intel
CDI/IBP#476733,固定0.925V

VCCSA PWR SEQ



Gigabyte Technology

Title: VCCSA POWER

Size: Custom | Document Number: GA-H77-DS3H | Rev: 1.2

Date: Thursday, August 22, 2013 | Sheet 27 of 35

FRONT USB1

FUSEVCC_F1 — BC122 0.1u/4/X7R/16V/K

F_USB30 REV=1

1	VBUS	VBUS	19
10	ID		
2	SSRX1-	SSTX2-	15
3	SSRX1+	SSTX2+	14
5	SSTX1-	SSRX2-	18
6	SSTX1+	SSRX2+	17
8	D1-	D2-	12
9	D1+	D2+	11
7	GND	GND	16
4	GND	GND	13

FUSEVCC_F2 — BC124 0.1u/4/X7R/16V/K

[9] PCH_USB3_RXN1 / [9] PCH_USB3_RXP1 — 0.1u/4/X7R/16V/K — USB3_TXN1 / USB3_TXP1 — C215 / C216 — [9] PCH_USB3_TXN1 / [9] PCH_USB3_TXP1

USB3_TXN2 C213 0.1u/4/X7R/16V/K — USB3_TXP2 C214 0.1u/4/X7R/16V/K — PCH_USB3_TXN2 [9] / PCH_USB3_TXP2 [9]

PCH_USB3_RXN2 [9] / PCH_USB3_RXP2 [9]

[9] -USBP0 / [9] +USBP0 — -USBP1 [9] / +USBP1 [9]

BH/2*10K20/BU/ON/2.0/VA/D/GF/[11NH3-020210-21R]

F_USB POWER PROTECT

D11 SOT23 — BAT54A/SOT23/200mA

[12] GPIO11 — -USBOC_F — -USBOC_R — -USBOC_R [9,31]

CASE OPEN

[12,13] RTCVDD — R530 1M/4 — -CASEOPEN — -CASEOPEN [17]

BC198 0.01u/4/X7R/25V/K

USB3_TXP1 / USB3_TXN1 — RUE3 — USB3_TXN2 / USB3_TXP2 — AZ1045-04F/MSOP10

PCH_USB3_RXP1 / PCH_USB3_RXN1 — RUE4 — PCH_USB3_RXN2 / PCH_USB3_RXP2 — AZ1045-04F/MSOP10

ESD Close to connector

ESD Close to connector

ESD12 — -USBP1 / +USBP0 — +USBP1 / -USBP0 / 5VDUAL — AZC009-04S/SOT23-6L

5VDUAL — F17 SMD1812P350SLR/S/[10FP1-06350B-20R] — FUSEVCC_F1

F18 SMD1812P350SLR/S/[10FP1-06350B-20R] — FUSEVCC_F2

EC23 100u/OS/D/6.3V/66/A/35m

SATA LED

VCC3 — R489 1K/4/1 — -HDLED — C124 180p/4/NPO/50V/J/X

VCC3 — R490 1K/4/1 — R491 8.2K/4

[32] -MSATALED / [11] -SATALED — FPD3 — BAT54A/SOT23/200mA

Q53 MMBT2222A/SOT23/600mA/40 — Q39 MMBT2222A/SOT23/600mA/40

FRONT USB1

FUSEVCC_F4 — BC267 0.1u/4/X7R/16V/K — FUSEVCC_F5 — BC269 0.1u/4/X7R/16V/K

F_USB1

[9] -USBP4 / [9] +USBP4 — -USBP5 [9] / +USBP5 [9]

BH/2*5K9/BU/ON/2.54/VA/D/GF/[11NH3-001205-41R_11NH3-001205-42R]

ESD11 — -USBP4 / -USBP5 — +USBP4 / FUSEVCC_F4 / +USBP5 — AZC009-04S/SOT23-6L

ESD Close to connector

FRONT USB2

FUSEVCC_F8 — BC250 0.1u/4/X7R/16V/K — FUSEVCC_F9 — BC270 0.1u/4/X7R/16V/K

F_USB2

[9] -USBP8 / [9] +USBP8 — -USBP9 [9] / +USBP9 [9]

BH/2*5K9/BU/ON/2.54/VA/D/GF/[11NH3-001205-41R_11NH3-001205-42R]

ESD13 — -USBP8 / -USBP9 — +USBP8 / FUSEVCC_F8 / +USBP9 — AZC009-04S/SOT23-6L

ESD Close to connector

VCC — D16 CD4148WP/1206/300mA

VCC — R591 1K/4/1 — R583 8.2K/4 — Q88 2N7002/SOT23/25pF/5 — [17] BEEP-

R610 75/6/1 — SPK- — R611 75/6/1 — Q78 MMBT2222A/SOT23/600mA/40 — SPKR — R584 8.2K/4 — SPKR [12]

Q77 MMBT2222A/SOT23/600mA/40

To disable TCO timer

VCC3 — R585 1K/4/1

R.0.2 修正

for ITE8728 rstconin issue

R.0.2 修正

VCC — R438 330/6 — MPD+ — Q38 MMBT2222A/SOT23/600mA/40 — R470 8.2K/4 — GPIO28 [12]

VCC — R419 330/6 — BC206 0.01u/4/X7R/25V/K/X

F_PANEL

HD+	1	MSG/PD+	2 — MPD+
-HDLED	3	MSG/PD-	4
GND	5	PW+	6 — -PWRBT_1
-RST	7	PW-	8
	9	CI-	
-CASEOPEN	11	CI+	
		SP+	14 — VCC
MPD+	15	PWR+	NC 16
	17	PWR-	NC 18
	19	PWR-	SP- 20 — SPK-

BH/2*10K10,12,13/WH/2.54/VA/PA

3VDUAL_PCH — R472 8.2K/4 — C127 0.01u/4/X7R/25V/K/X

R469 33/4 — -PWRBTSW [17] — BC190 0.01u/4/X7R/25V/K

5VDUAL — F15 / F20 / F21 / F22 — SMD1812P160/8V — FUSEVCC_F4 / FUSEVCC_F5 / FUSEVCC_F8 / FUSEVCC_F9

EC19 100u/OS/D/6.3V/66/A/35m

FUSEVCC_F1 — FUSEVCC_F2 — D23 BAT54A/SOT23/200mA — FUSEVCC_F4 — FUSEVCC_F5 — D25 BAT54A/SOT23/200mA — FUSEVCC_F8 — FUSEVCC_F9 — D26 BAT54A/SOT23/200mA

5VDUAL — R274 8.2K/4 — -USBOC_F — -USBOC_F [9]

R276 15K/4/1

INTEL FRONT PANEL

5VSB — R495 8.2K/4/X

[12,29] -SYS_RST — R497 100/4/1 — BC197 0.01u/4/X7R/25V/K

ESD10 — -RST / -PWRBT_1 — -RST / 5VSB / -PWRBT_1 — AZC009-04S/SOT23-6L

Rev 0.2 modefy

Title	FP,F_USB,USB PWR,FDD,BZ
Size	Custom
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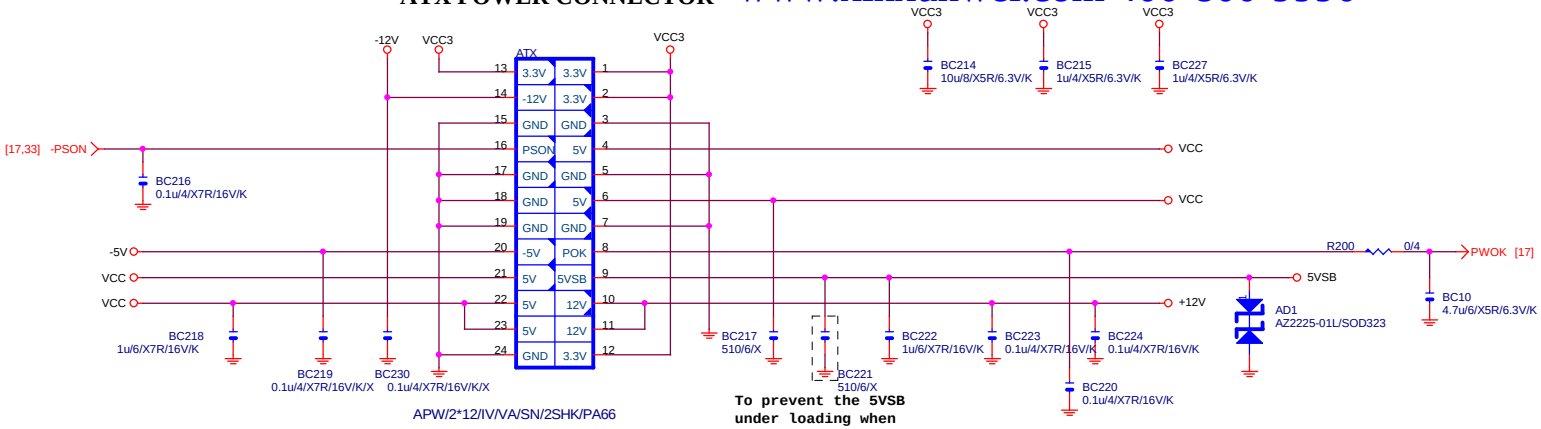
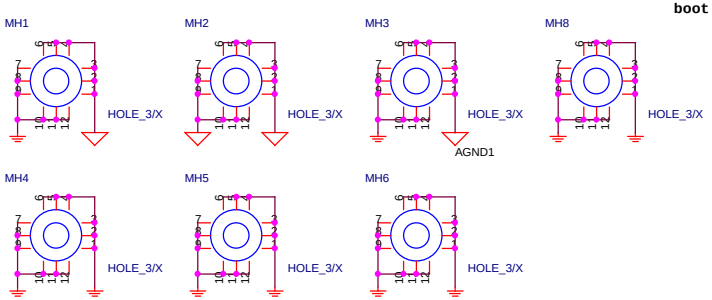
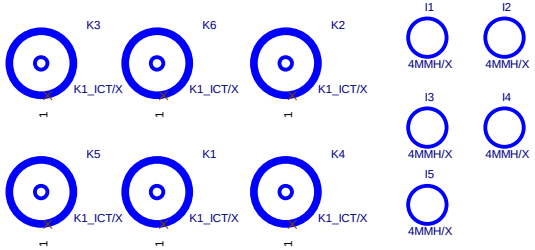
Gigabyte Technology

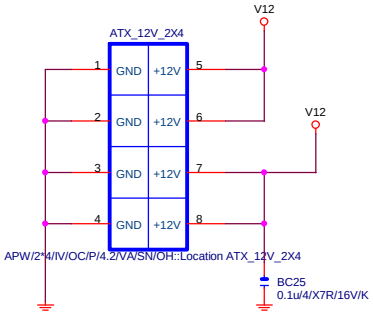
ATX POWER CONNECTOR



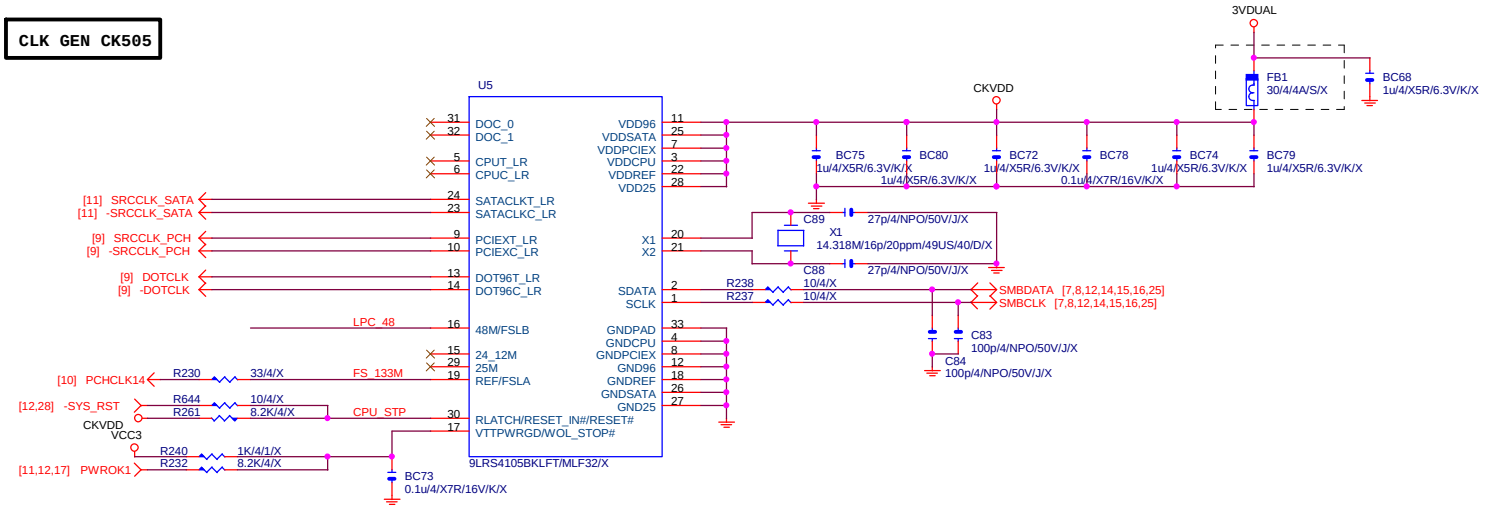
To prevent the 5VSB under loading when boot

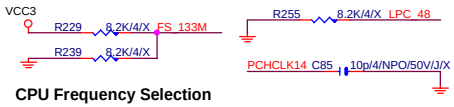






CLK GEN CK505





CPU Frequency Selection

FS	CPU
0	100M <Default>
1	133M

Gigabyte Technology

Title: ATX POWER CONNECTOR

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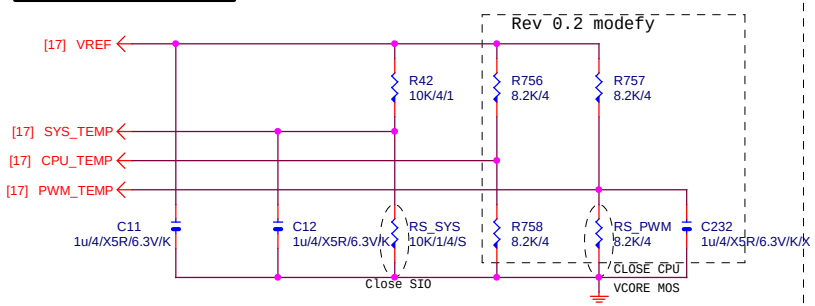
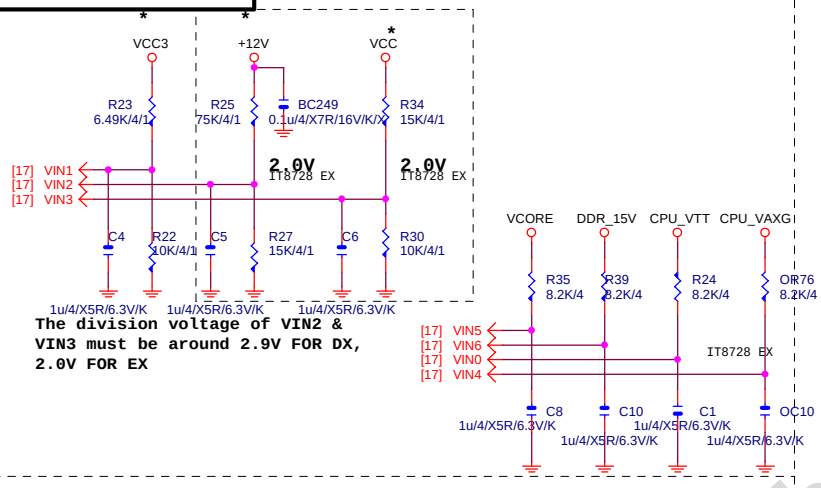
TEMP H/W MONITOR

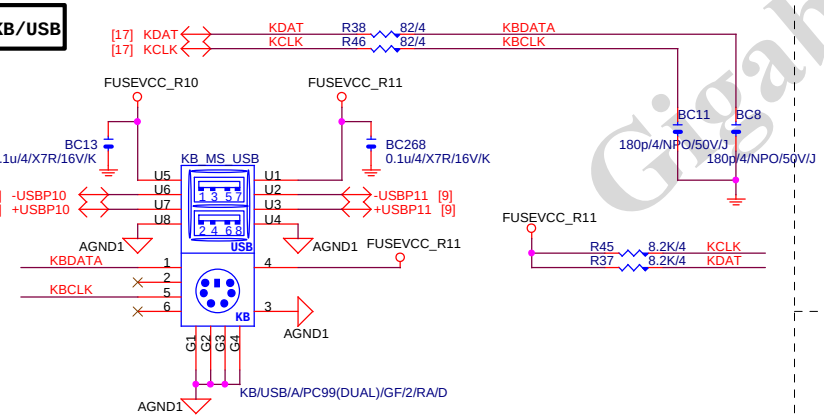


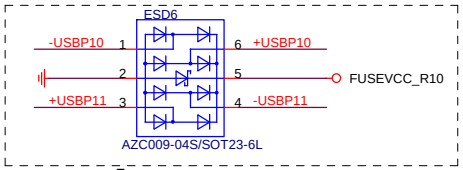
VOLTAGE-- H/W MONITOR



The division voltage of VIN2 & VIN3 must be around 2.9V FOR DX, 2.0V FOR EX

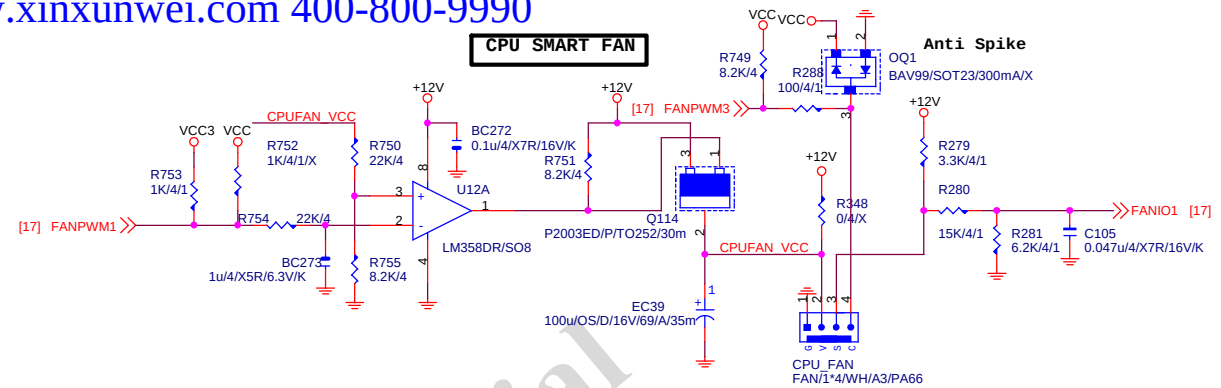
KB/USB

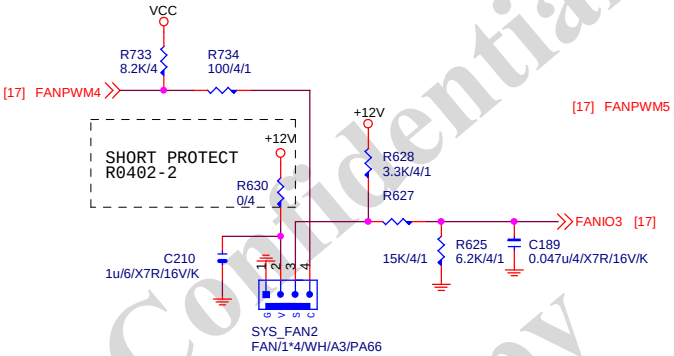


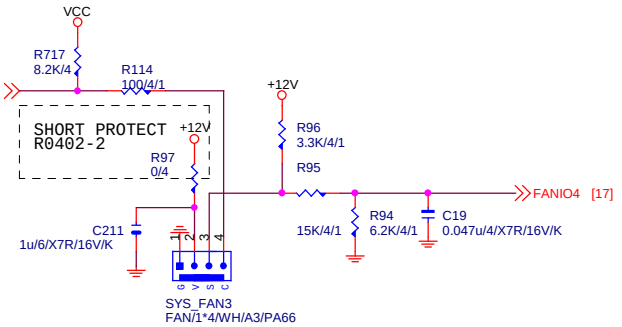


ESD Close to connector

CPU SMART FAN

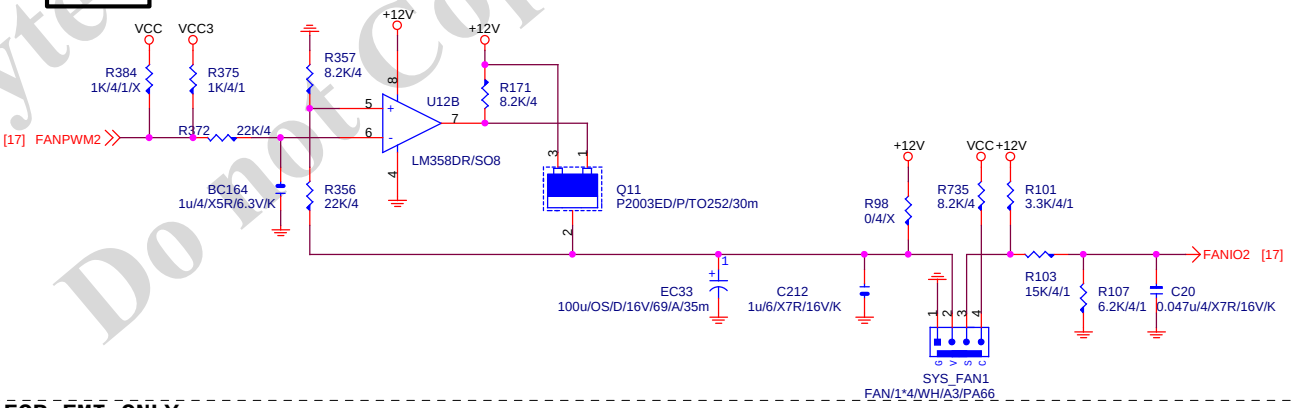




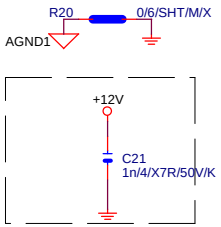


SYS FAN

Linear SYS_FAN



FOR EMI ONLY



Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
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PCIE-1G LAN

離IC近越好

LA_ ML-->80歐姆:[15/5/5/5/15]

SRCCLK-->50歐姆:[18/4/10/4/18]

LAN POWER

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

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

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

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

LAU1 Atheros AR8151/AR8161 AR8161-BL3A-R/QFN40

3VDUAL
LABC9 10u/8/X5R/6.3V/K
LABC10 1u/4/X5R/6.3V/K
LABC11 0.1u/4/X7R/16V/K
LABC3 0.1u/4/X7R/16V/K
LABC4 1u/4/X5R/6.3V/K
LABC5 0.1u/4/X7R/16V/K
LABC6 0.1u/4/X7R/16V/K/X
AR8161-->N/A (LABC6)
LA_AVDDVCO
LABC7 0.1u/4/X7R/16V/K
LABC8 4.7u/6/X5R/6.3V/K
AR8161-->(O)

LA_ ML-->80歐姆:[15/5/5/5/15]
離IC近越好
LAC33 100p/4/NPO/50V/J/X
LAR6 8.2K/4
[17,18,35] -PFMRST2
[12,14,15,16] -PCIE_WAKE
LA_ML_IP_C LAC12 0.1u/4/X7R/16V/K LA_ML_IP [9]
LA_ML_IN_C LAC13 0.1u/4/X7R/16V/K LA_ML_IN [9]
LA_ -CLKREQ
LA_VDDCT
LA_AVDDL
LA_XTALO
LA_XTALI
LA_AVDDH
LA_RBIAS
LABC12 1u/4/X5R/6.3V/K
AR8161-->N/A (LABC12)
LABC14 0.1u/4/X7R/16V/K/X
LA_PPS LAR9 0/4/XLA_DVDDL
LA_LED_LINK1000
LA_MDI3-
AR8161-->N/A (LAR9,LAC18)
LABC15 1u/4/X5R/6.3V/K
LABC16 0.1u/4/X7R/16V/K
LABC17 0.1u/4/X7R/16V/K
LABC18 1u/4/X5R/6.3V/K
LABC19 0.1u/4/X7R/16V/K
LAR10 2.37K/4/1
LAX1 25M/20p/30ppm/49US/20/D
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

LABC20 0.1u/4/X7R/16V/K/X
AR8161-->N/A (LABC20)
LAR19 0/4/SHT/M/X
LAR20 0/4/X
3VDUAL
LA_AVDDH
AR8151:LA_AVDDH(LAR20)
AR8161:3VDUAL(LAR19)
LABC21 0.1u/4/X7R/16V/K
LABC22 1u/4/X5R/6.3V/K

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

AR8161-->(O)
VCC3
LAR1 30K/4/1
LA_VDDCT LAR2 0/4/SHT/M/X ISOLATEB [17]

Power domain chart

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

MDI : AR8161-->N/A

LA_MDI0+ LA_MDI0- LAR11 49.9/4/1/X LAR12 49.9/4/1/X LA_MDI_RC0 LAC26 0.1u/4/X7R/16V/K/X
LA_MDI1+ LA_MDI1- LAR13 49.9/4/1/X LAR14 49.9/4/1/X LA_MDI_RC1 LAC27 0.1u/4/X7R/16V/K/X
LA_MDI2+ LA_MDI2- LAR15 49.9/4/1/X LAR16 49.9/4/1/X LA_MDI_RC2 LAC28 0.1u/4/X7R/16V/K/X
LA_MDI3+ LA_MDI3- LAR17 49.9/4/1/X LAR18 49.9/4/1/X LA_MDI_RC3 LAC29 0.1u/4/X7R/16V/K/X
CLOSE LAN CHIP

USB30_LAN CONNECTOR

100歐姆:[20/4/8/4/20]

USB_LAN USB+LAN/1G/GO,Y/OS/RA/D/1/[11NR6-702009-96R]
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
UP DOWN
LA_LED_ACT_TXRX LA_LED_D2 LA_LED_LINK100 LA_LED_LINK1000
LAR21 LAR22 LAR23 150/6 LAN_3VDUAL_LED
3VDUAL
LAFB1 0/6/SHT/M/X
LABC24 0.1u/4/X7R/16V/K/X
FUSEVCC_R12
LBC6 0.1u/4/X7R/16V/K
FUSEVCC_R13
LBC27 0.1u/4/X7R/16V/K
-USBP12 [9] +USBP12 [9]
-USBP13 [9] +USBP13 [9]
90歐姆:[15/4.5/7.5/4.5/15]

ESD7 AZC009-04S/SOT23-6L
-USBP13 +USBP13 +USBP12 -USBP12 FUSEVCC_R13
LASED1 AZC009-04S/SOT23-6L/X
LA_LED_LINK100 LA_LED_ACT_TXRX LAN_3VDUAL_LED LA_LED_LINK1000 LA_LED_D2

R_USB30 USB/18P/BU/OS/RA/D/2/1U/SB
USB3.0/2.0
FUSEVCC_R3 BC5 0.1u/4/X7R/16V/K
FUSEVCC_R4 BC9 0.1u/4/X7R/16V/K
-USBP2 +USBP2 -USBP3 +USBP3
[9] PCH_USB3_RXN3 [9] PCH_USB3_RXP3
[9] PCH_USB3_RXN4 [9] PCH_USB3_RXP4
[9] PCH_USB3_TXN3 [9] PCH_USB3_TXP3
UC3 0.1u/4/X7R/16V/K USB3_TXN3
UC4 0.1u/4/X7R/16V/K USB3_TXP3
USB3_TXN4 UC2 0.1u/4/X7R/16V/K [9] PCH_USB3_TXN4
USB3_TXP4 UC1 0.1u/4/X7R/16V/K [9] PCH_USB3_TXP4
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]

RUE2 AZ1045-04F/MSOP10
USB3_TXN4 USB3_TXP4 USB3_TXP3 USB3_TXN3
RUE1 AZ1045-04F/MSOP10
PCH_USB3_RXP4 PCH_USB3_RXN4 PCH_USB3_RXN3 PCH_USB3_RXP3

ESD3 AZC009-04S/SOT23-6L
-USBP2 +USBP2 -USBP3 +USBP3 FUSEVCC_R4
Close to connector

5VDUAL
R60 8.2K/4 USBOC_R -USBOC_R [9,28]
R72 15K/4/1
EC38 100u/OS/D/6.3V/66A/35m
F23 F24 F5 F19 SMD1812P160/8V FUSEVCC_R10 FUSEVCC_R11 FUSEVCC_R12 FUSEVCC_R13
F1 F16 SMD1812P350SLR/S/[10FP1-06350B-20R] FUSEVCC_R3 FUSEVCC_R4
EC3 100u/OS/D/6.3V/66/A/35m
Close to connector

SOT23 D27 BAT54A/SOT23/200mA FUSEVCC_R10 FUSEVCC_R11
SOT23 D24 BAT54A/SOT23/200mA FUSEVCC_R13 FUSEVCC_R12
D1 BAT54A/SOT23/200mA FUSEVCC_R4 FUSEVCC_R3

CR50 0/6/X LR15 0/6/SHT/M/X
LR3 0/6/SHT/M/X

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Title: ARTHEROS AR8161/AR8151
Size: Custom
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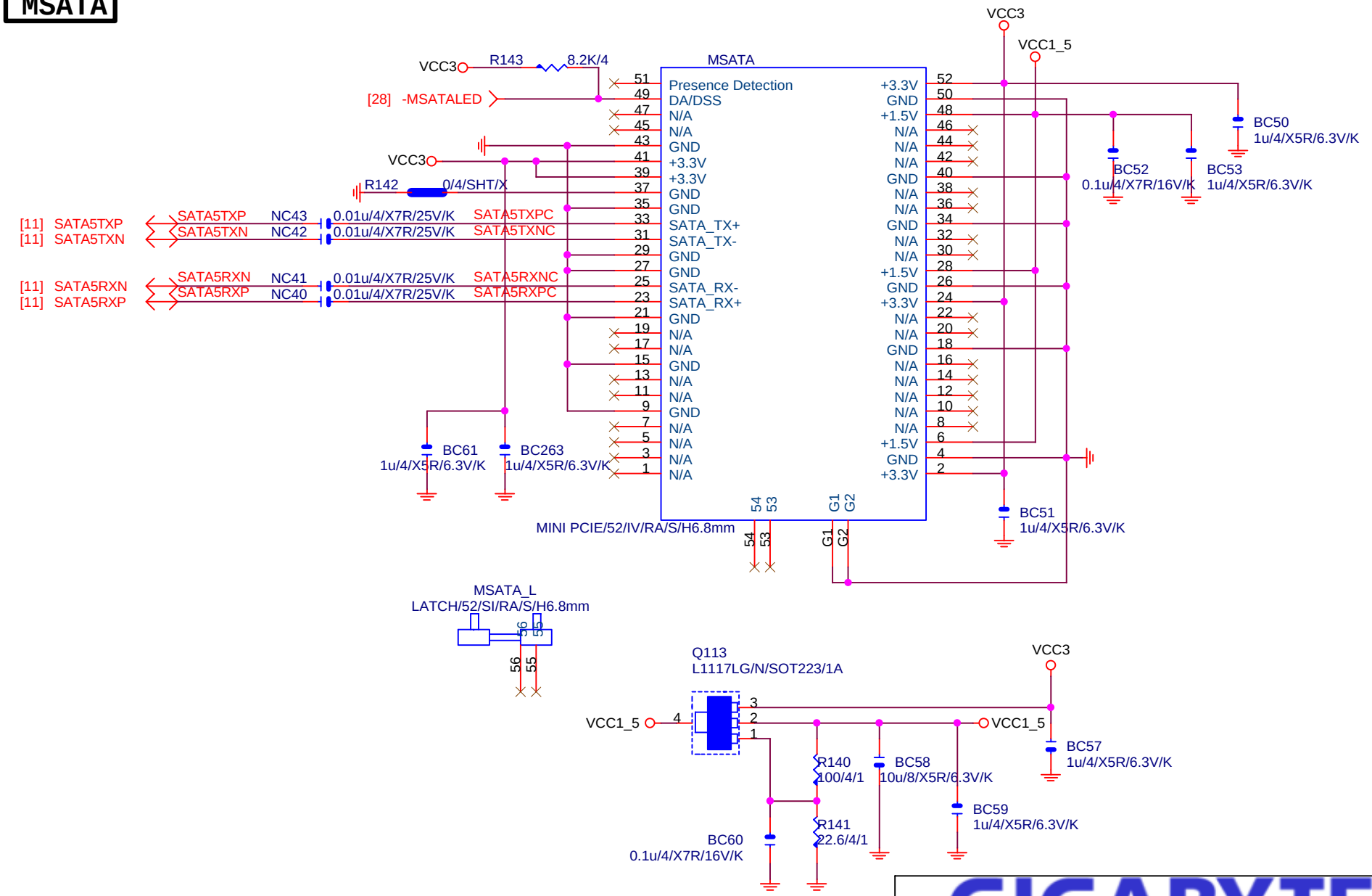
MSATA



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Title	MSATA	
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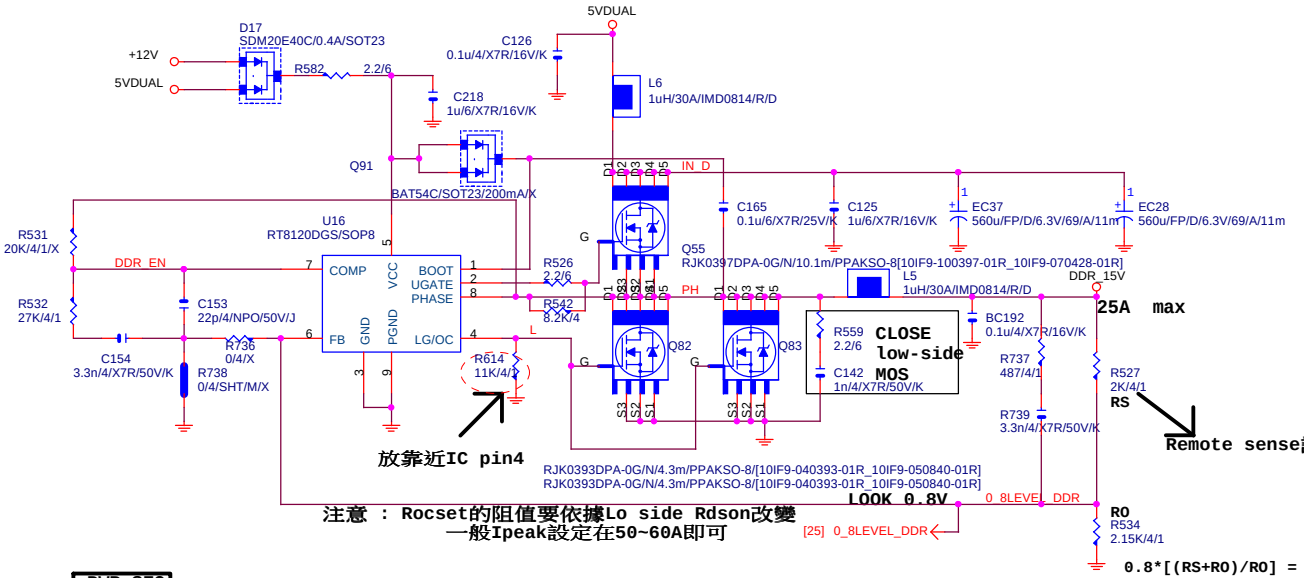
DDR18V



注意 ： Rocset的阻值要依據Lo side Rdson改變
一般Ipeak設定在50~60A即可

VIN=5V,VOUT=1.5V,IOUT=25A,PHASE=1
IRMS=11.45A

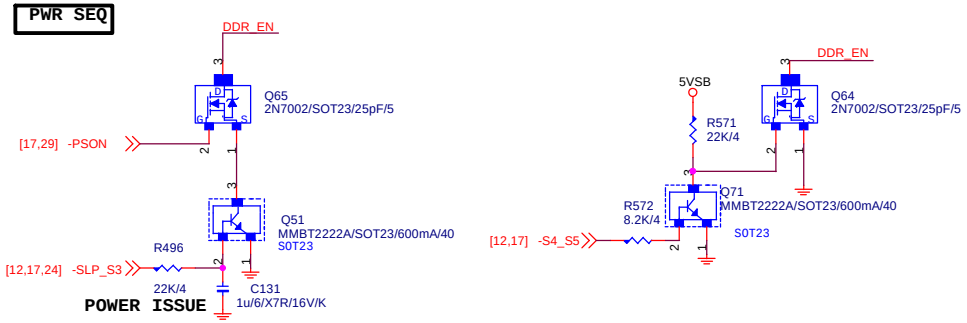
560u/FP/D/6.3V/68/8m RIPPLE CURRENT=4.7A
Coefficient=1.7(85℃),1(105℃)

VIN Ripple current=4.7X1.7=7.99A(85℃)
-->故固態電容須2X7.99=15.98>11.45A

OCP : Ipeak=(2xIocsetxRocset)/Rdson

OCP:38.31A for Rds=6.7m for vishay@4.5V
OCP:78.78A for Rds=3.3m for renesas@10V
OCP:57A=Roset*Iocset / Rds(on)
=11K*10uA / [5//5]

PWR SEQ



POWER ISSUE

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Title: RT8120		
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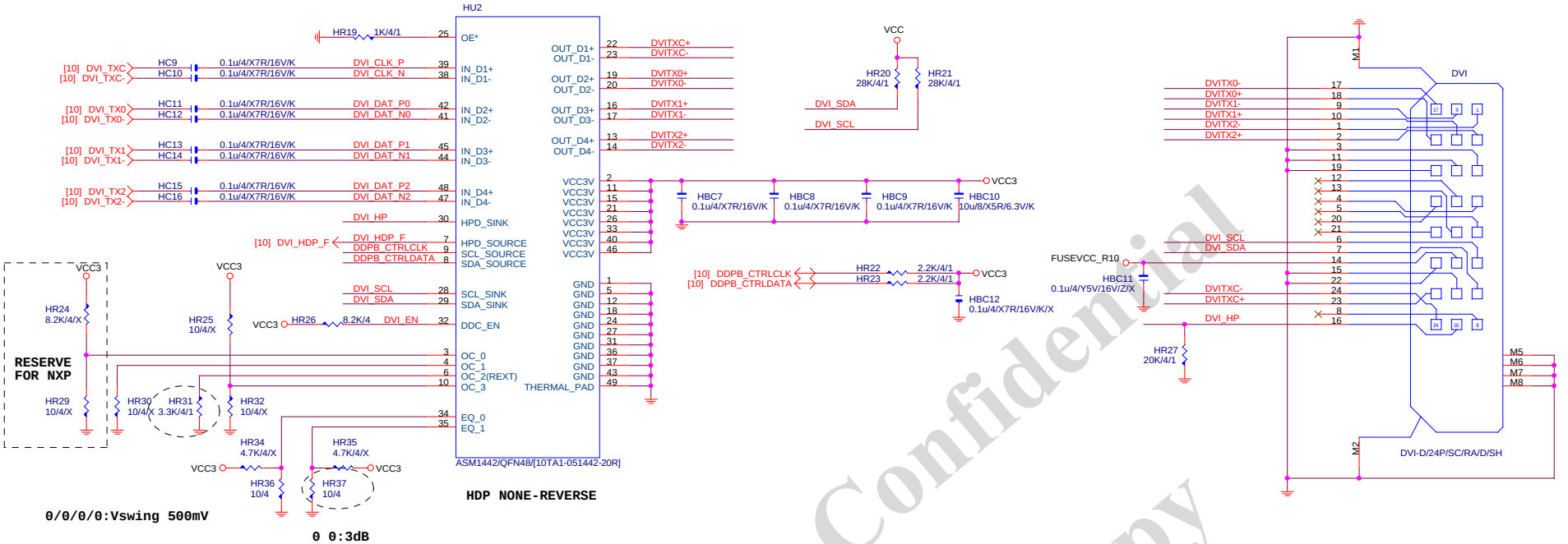
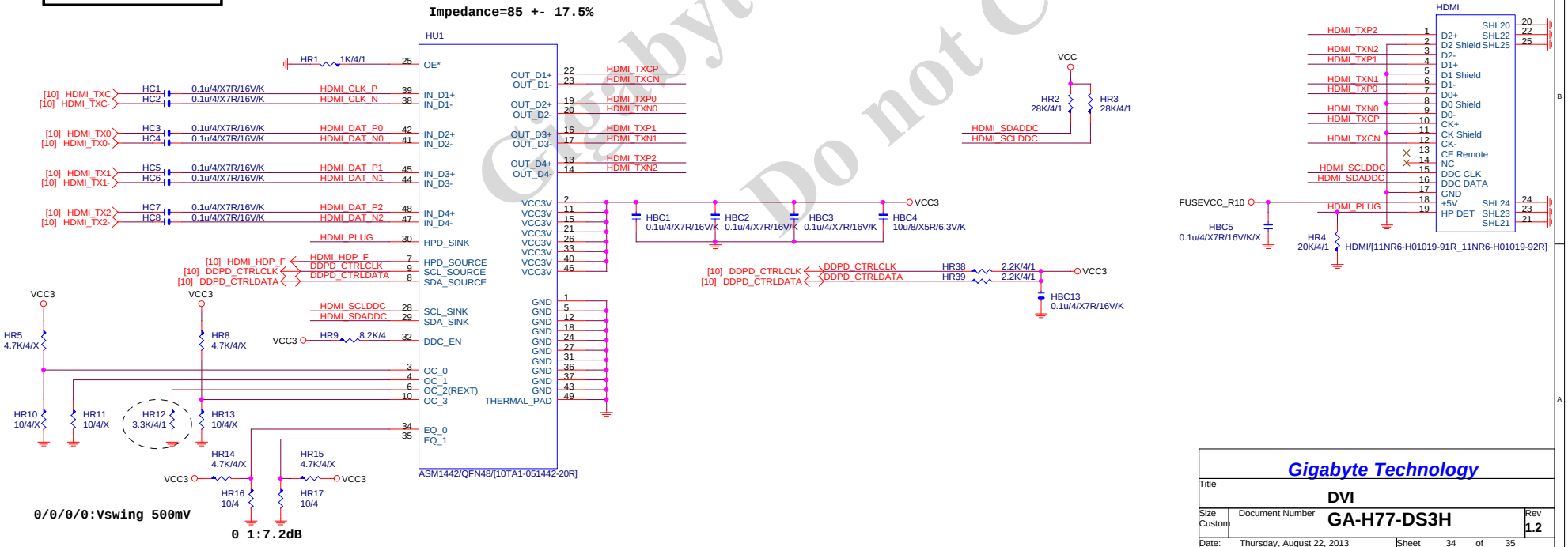
DVI LEVEL SHIFT



HDMI LEVEL SHIFT

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



Gigabyte Technology			
Title: DVI			
Size: Custom	Document Number: GA-H77-DS3H		Rev: 1.2
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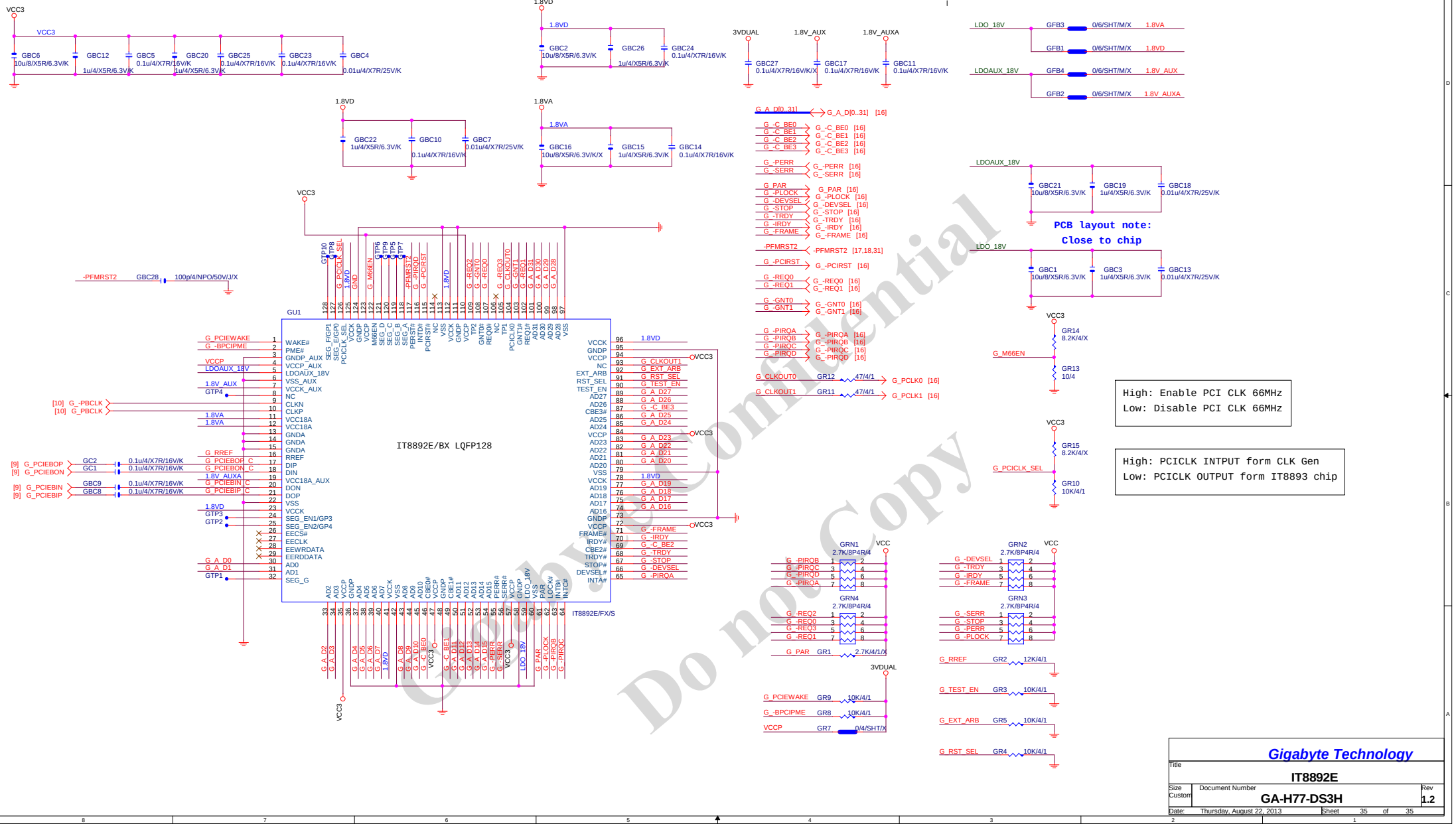

Gigabyte Technology		
Title: IT8892E		
Size: Custom	Document Number: GA-H77-DS3H	Rev: 1.2
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