

Model Name: GA-H77N-WIFI

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	ITE 8728 LPC IO
16	COM,KB_USB30
17	HWM,FAN CTRL,OV,-PROCHOT
18	DUAL BIOS
19	FP,FUSB,SPK,SATALED
20	Realtek ALC892
21	REAR AUDIO JACK
22	Realtek RT8111E / RT8111F (A)
23	Realtek RT8111E / RT8111F (B)
24	DISCRETE POWER
25	ATX,CLK GEN
26	RT8120_CPU_VTT
27	RT8120_DDR POWER

www.xinxunwei.com 400-800-9990

Revision 1.01

SHEET

TITLE

28	VCORE ISL95836_1
29	VCORE ISL95836_2
30	DVI-I
31	HDMI * 2
32	mini PCI-E

Gigabyte Technology			
Cover Sheet			
Size Custom	Document Number GA-H77N-WIFI	Rev 1.01	
Date:	Monday, November 05, 2012	Sheet	1 of 32

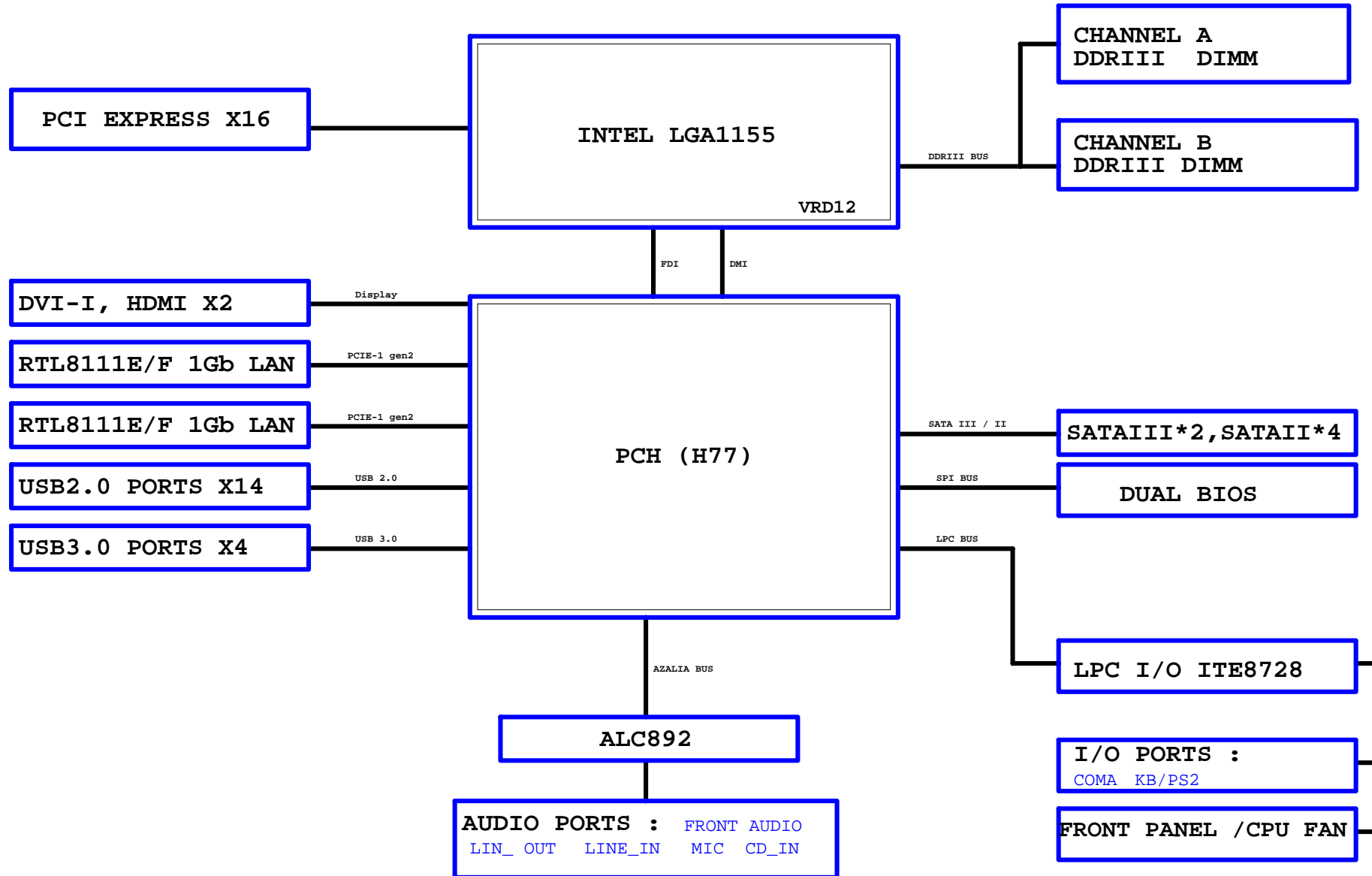
Revision 1.01

Circuit or PCB layout change

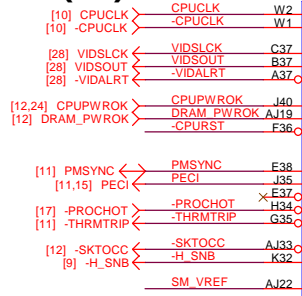
Component value change history

2012/10/23

[illegible][illegible]

BLOCK DIAGRAM

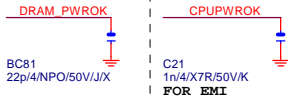
LGA1155 (E)



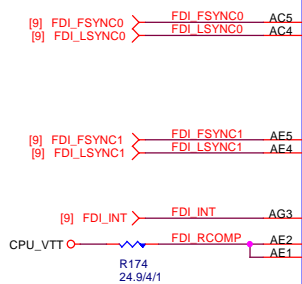
CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	NORM	Reverse	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD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

CFG6	CFG5	PCIE CONFIG
1	1	1x16, Default
1	0	2x8
0	1	RSVD
0	0	X8,X4,X4

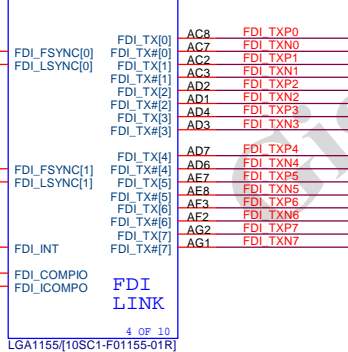
CFG 0-17 all internal PULL-UP



LGA1155 (D)



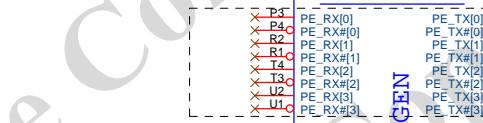
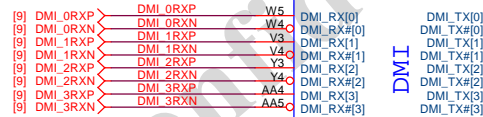
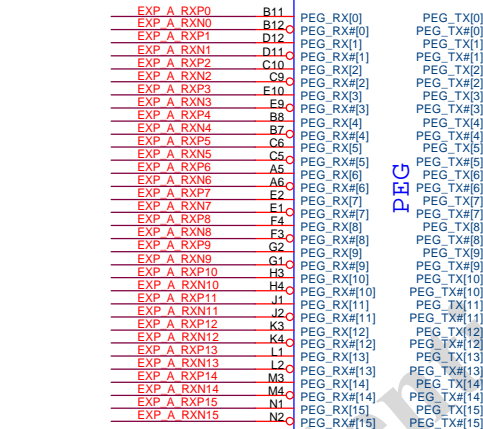
LGA1155D



LGA1155[10SC1-F01155-01R]

FDI_TXP0..7I >>> FDI_TXP[0..7] [9]
FDI_TXN0..7I >>> FDI_TXN[0..7] [9]

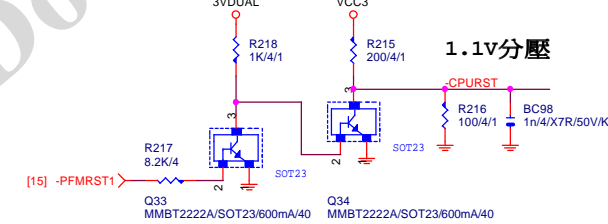
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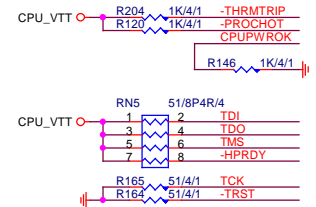
LGA1155[10SC1-F01155-01R]

EXP_A_TXP0..15I >>> EXP_A_TXP[0..15] [14]
EXP_A_TXN0..15I >>> EXP_A_TXN[0..15] [14]
EXP_A_RXP0..15I >>> EXP_A_RXP[0..15] [14]
EXP_A_RXN0..15I >>> EXP_A_RXN[0..15] [14]

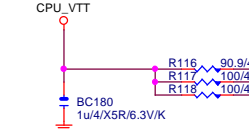
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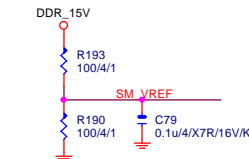
CPU PU/PD



CPU SVID



SM REF



Gigabyte Technology

Title			CPU LGA1155-A
Size	Document Number	GA-H77N-WIFI	Rev 1.01
Date	Monday, November 05, 2012	Sheet 4	of 32

LGA1155A		LGA1155A	
MAAA0	AV27	SA_MA[0]	SA_DQS[0]
MAAA1	AY24	SA_MA[1]	SA_DQS[0]
MAAA2	AW24	SA_MA[2]	SA_DQS[0]
MAAA3	AW23	SA_MA[3]	SA_DQS[0]
MAAA4	AV23	SA_MA[4]	SA_DQ[0]
MAAA5	AT24	SA_MA[5]	SA_DQ[1]
MAAA6	AT23	SA_MA[6]	SA_DQ[2]
MAAA7	AU22	SA_MA[7]	SA_DQ[3]
MAAA8	AV22	SA_MA[8]	SA_DQ[4]
MAAA9	AT22	SA_MA[9]	SA_DQ[5]
MAAA10	AU28	SA_MA[10]	SA_DQ[6]
MAAA11	AU21	SA_MA[11]	SA_DQ[7]
MAAA12	AT21	SA_MA[12]	SA_DQS[1]
MAAA13	AW32	SA_MA[13]	SA_DQS[1]
MAAA14	AU20	SA_MA[14]	SA_DQS[1]
MAAA15	AT20	SA_MA[15]	SA_DQS[1]
[7] -SWEA	AW29	SA_WE#	SA_DQ[8]
[7] -SCASA	AV30	SA_CAS#	SA_DQ[9]
[7] -SRASA	AU28	SA_RAS#	SA_DQ[10]
[7] SBAA0	SBAA0	SA_BS[0]	SA_DQ[11]
[7] SBAA1	SBAA1	SA_BS[1]	SA_DQ[12]
[7] SBAA2	SBAA2	SA_BS[2]	SA_DQ[13]
[7] -CSA0	AU29	SA_CS#	SA_DQ[14]
[7] -CSA1	AV30	SA_CS#	SA_DQ[15]
[7] CKEA0	CKEA0	SA_CKE[0]	SA_DQ[16]
[7] CKEA1	CKEA1	SA_CKE[1]	SA_DQ[17]
	AT18	SA_CKE[2]	SA_DQ[18]
	AV18	SA_CKE[3]	SA_DQ[19]
	MODT_A0	SA_ODT[0]	SA_DQ[20]
	MODT_A1	SA_ODT[1]	SA_DQ[21]
	AU32	SA_ODT[2]	SA_DQ[22]
	AU30	SA_ODT[3]	SA_DQ[23]
	AW33	SA_ODT[3]	SA_DQ[23]
[7] DCLKA0	DCLKA0	SA_CLK[0]	SA_DQS[3]
[7] -DCLKA0	AY25	SA_CLK#	SA_DQS[3]
[7] DCLKA1	AU24	SA_CLK[1]	SA_DQ[24]
[7] -DCLKA1	AU25	SA_CLK#	SA_DQ[25]
	AW27	SA_CLK[2]	SA_DQ[26]
	AY27	SA_CLK#	SA_DQ[27]
	AV26	SA_CLK[3]	SA_DQ[28]
	AW26	SA_CLK#	SA_DQ[29]
[7,8] -DDR3_RST	AW18	SM_DRAMRST#	SA_DQ[30]
			SA_DQ[31]
			SA_DQS[4]
			SA_DQS[4]
			SA_DQ[32]
			SA_DQ[33]
			SA_DQ[34]
			SA_DQ[35]
			SA_DQ[36]
			SA_DQ[37]
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			SA_DQ[59]
			SA_DQ[60]
			SA_DQ[61]
			SA_DQ[62]
			SA_DQ[63]
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[8] MODT_B[0..1]	MODT_B10..11		
[7] MDA[0..63]	MDA10..63		
[8] MDB[0..63]	MDB10..63		
[7] DQSA[0..7]	DQSA10..7		
[7] -DQSA[0..7]	-DQSA10..7		
[7] MAAA[0..15]	MAAA10..15		
[8] MAAB[0..15]	MAAB10..15		
[8] DQSB[0..7]	DQSB10..7		
[8] -DQSB[0..7]	-DQSB10..7		

DDR_0

1 OF 10

LGA1155(10SC1-F01155-01R)

		LGA1155B			
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	MAAB1	AM20	SB_MA[1]	SB_DQS#(0)	AH6 -DQS80
	MAAB2	AK18	SB_MA[2]		
	MAAB3	AM19	SB_MA[3]		
	MAAB4	AP18	SB_MA[4]		AG7 MDB0
	MAAB5	AP18	SB_MA[5]	SB_DQ[0]	AG8 MDB1
	MAAB6	AM18	SB_MA[6]	SB_DQ[2]	AJ9 MDB2
	MAAB7	AL18	SB_MA[7]	SB_DQ[3]	AJ8 MDB3
	MAAB8	AM18	SB_MA[8]	SB_DQ[4]	AG5 MDB4
	MAAB9	AY17	SB_MA[9]	SB_DQ[5]	AG6 MDB5
	MAAB10	AN23	SB_MA[10]	SB_DQ[6]	AJ6 MDB6
	MAAB11	AJ17	SB_MA[11]	SB_DQ[7]	AJ7 MDB7
	MAAB12	AT18	SB_MA[12]		AM8 DQS81
	MAAB13	AR26	SB_MA[13]	SB_DQS[1]	AL8 -DQS81
	MAAB14	AY16	SB_MA[14]		
	MAAB15	AV16	SB_MA[15]	SB_DQS#(1)	
[8]	-SWEB	AR25C	SB_WE#	SB_DQ[8]	AL7 MDB8
[8]	-SCASB	SCASB	SB_CAS#	SB_DQ[9]	AH7 MDB9
[8]	-SRASB	SRASB	SB_RAS#	SB_DQ[10]	AM10 MDB10
		AP24C		SB_DQ[11]	AL10 MDB11
[8]	SBAB0	AP23	SB_BS[0]	SB_DQ[12]	AL6 MDB12
[8]	SBAB1	AM24	SB_BS[1]	SB_DQ[13]	AM6 MDB13
[8]	SBAB2	AW17	SB_BS[2]	SB_DQ[14]	AL9 MDB14
			SB_BS[2]	SB_DQ[15]	AM9 MDB15
[8]	-CSB0	AN25C	SB_CS#(0)		
[8]	-CSB1	AN26C	SB_CS#(1)	SB_DQS[2]	AR8 DQS82
		AL25C	SB_CS#(2)	SB_DQS#(2)	APB -DQS82
		AL26C	SB_CS#(3)		
		AV16			
[8]	CKEB0	AL16	SB_CKE[0]	SB_DQ[16]	AP7 MDB16
[8]	CKEB1	AY15	SB_CKE[1]	SB_DQ[17]	AR7 MDB17
		AW15	SB_CKE[2]	SB_DQ[18]	AP10 MDB18
		AV15	SB_CKE[3]	SB_DQ[19]	AR10 MDB19
				APB	MDR20
	MODT_B0	AL26	SB_ODT[0]	SB_DQ[20]	AR6 MDB21
	MODT_B1	AP26	SB_ODT[1]	SB_DQ[21]	AP9 MDB22
		AM26	SB_ODT[2]	SB_DQ[22]	AR9 MDB23
		AK26	SB_ODT[3]	SB_DQ[23]	
				SB_DQS[3]	AN13 DQS83
				SB_DQS#(3)	AN12 -DQS83
[8]	DCLKB0	DCLKB0	SB_CLK[0]		AM12 MDB24
[8]	-DCLKB0	AL22	SB_CLK#(0)	SB_DQ[24]	AM13 MDB25
[8]	DCLKB1	DCLKB1	SB_CLK[1]	SB_DQ[25]	AR13 MDB26
[8]	-DCLKB1	AL20	SB_CLK#	SB_DQ[26]	AP13 MDB27
		AK20	SB_CLK#	SB_DQ[27]	AL12 MDB28
		AL23C	SB_CLK#	SB_DQ[28]	AL13 MDB29
		AM22	SB_CLK#	SB_DQ[29]	AR12 MDB30
		AP21C	SB_CLK#	SB_DQ[30]	AP12 MDB31
		AN21	SB_CLK#	SB_DQ[31]	
				SB_DQS(4)	AN29 DQS84
				SB_DQS#(4)	AN28 -DQS84
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				SB_DQ[34]	AL28 MDB34
				SB_DQ[35]	AL29 MDB35
				SB_DQ[36]	AP28 MDB36
				SB_DQ[37]	AP29 MDB37
				SB_DQ[38]	AM28 MDB38
				SB_DQ[39]	AM29 MDB39
				SB_DQS(5)	AP33 DQS85
				SB_DQS#(5)	AR33 -DQS85
				SB_DQ(40)	AP32 MDB40
				SB_DQ(41)	AP31 MDB41
				SB_DQ(42)	AP35 MDB42
				SB_DQ(43)	AP34 MDB43
				SB_DQ(44)	AR32 MDB44
				SB_DQ(45)	AR31 MDB45
				SB_DQ(46)	AR35 MDB46
				SB_DQ(47)	AR34 MDB47
				SB_DQS(6)	AL33 DQS86
				SB_DQS#(6)	AM33 -DQS86
				SB_DQ(48)	AM32 MDB48
				SB_DQ(49)	AM31 MDB49
				SB_DQ(50)	AL32 MDB50
				SB_DQ(51)	AL32 MDB51
				SB_DQ(52)	AM34 MDB52
				SB_DQ(53)	AL31 MDB53
				SB_DQ(54)	AM35 MDB54
				SB_DQ(55)	AL34 MDB55
				SB_DQS(7)	AG35 DQS87
				SB_DQS#(7)	AG34 -DQS87
				SB_DQ(56)	AH35 MDB56
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				SB_DQ(62)	AF33 MDB62
				SB_DQ(63)	AF35 MDB63

VREF_DQA

VREF_DQB

BC80

BC82

0.1u4/X7R/16V/K

DDR_1

2 OF 10

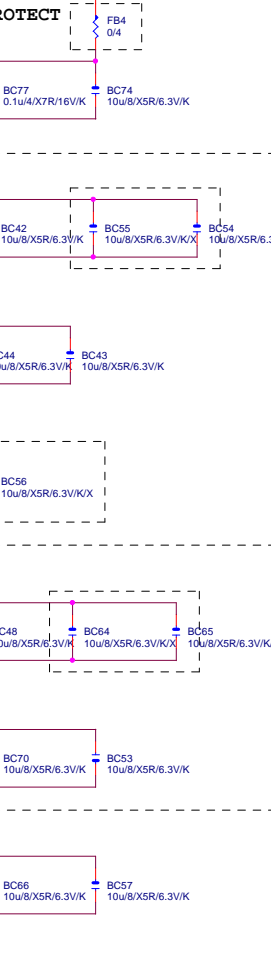
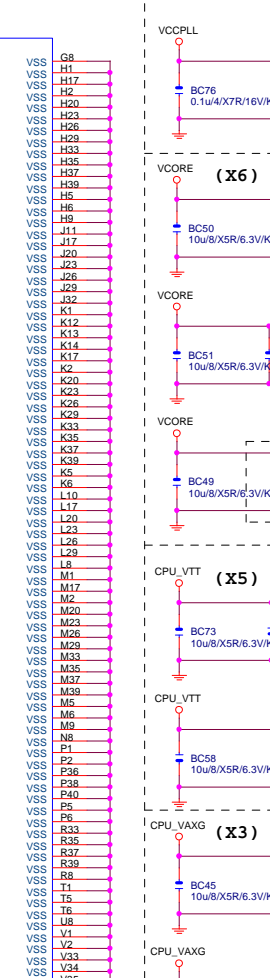
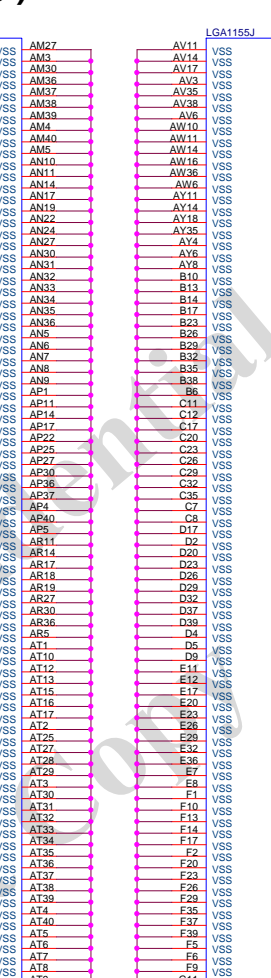
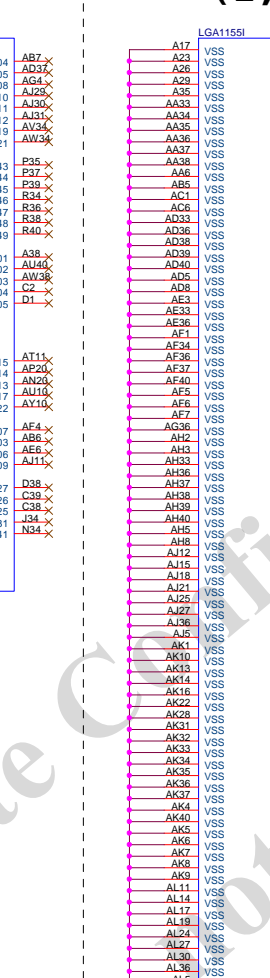
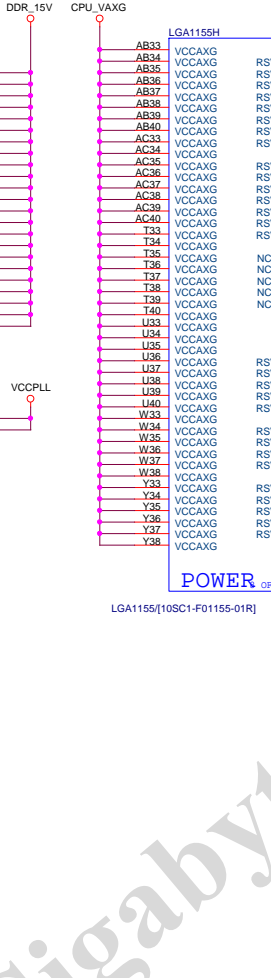
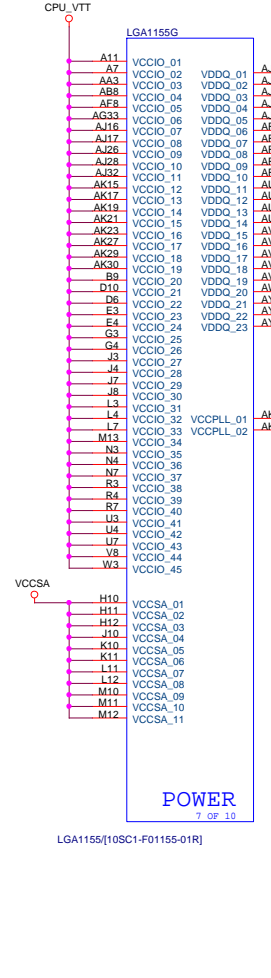
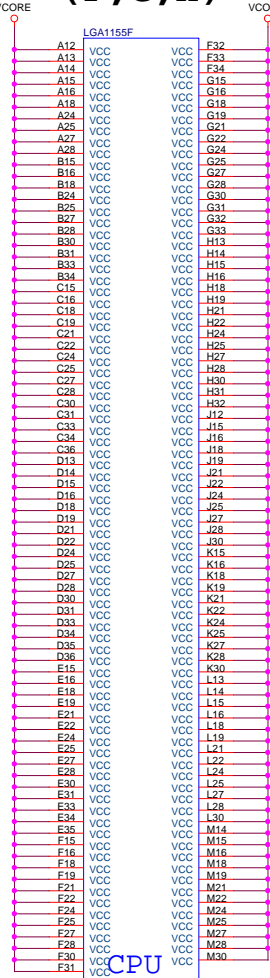
LGA1155(10SC1-F01155-01R)

LGA1155

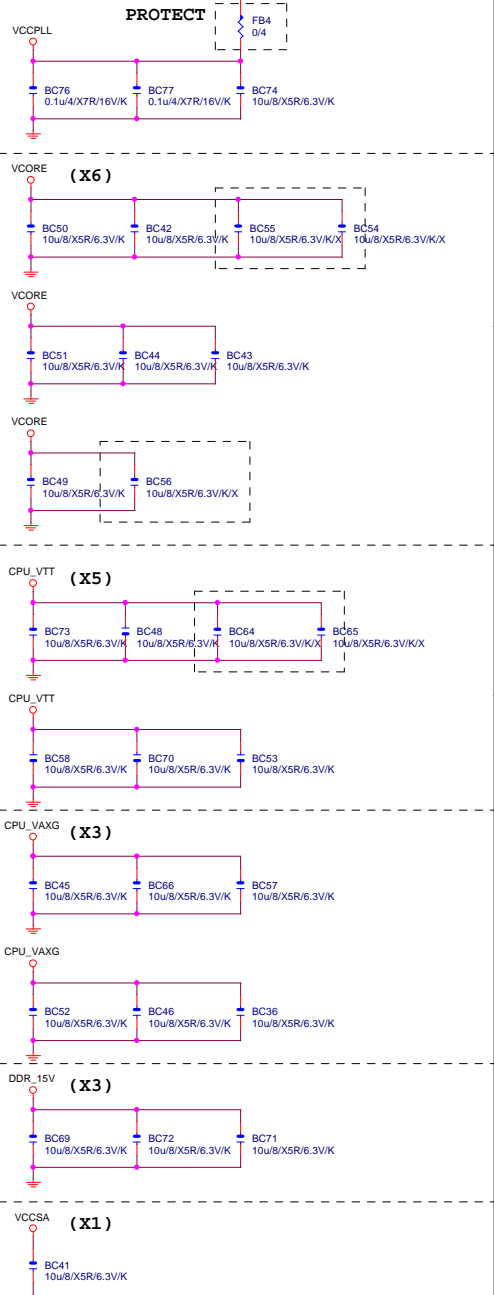
(F, G, H)

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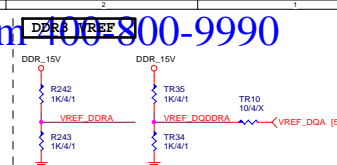
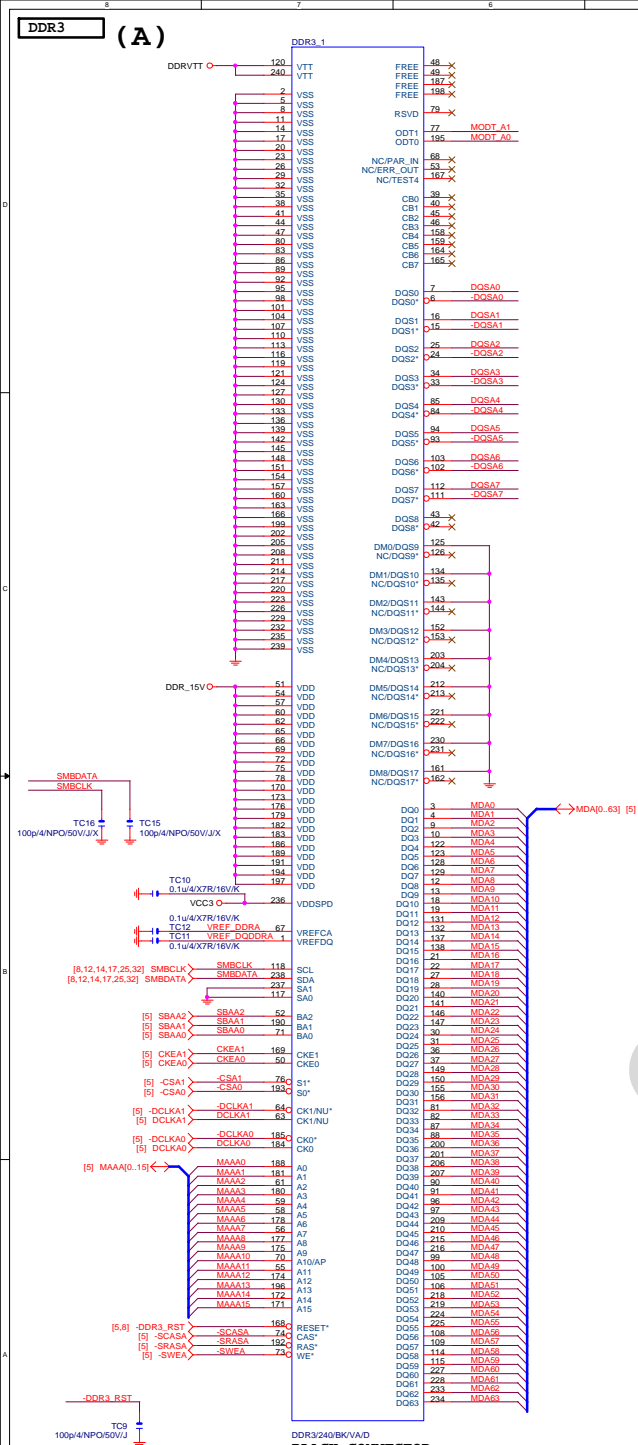
LGA1155 (F, G, H)



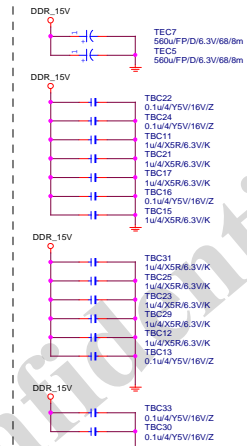
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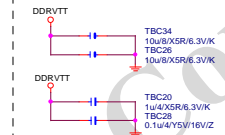
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CPU LGA1156-C			
Size			
Document Number			
GA-H77N-WIFI			
Rev			
1.01			
Date:			
Monday, November 05, 2012			
Sheet			
6 of 32			

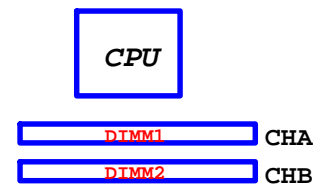
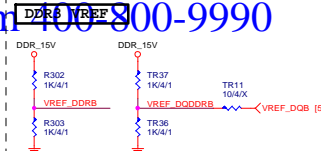
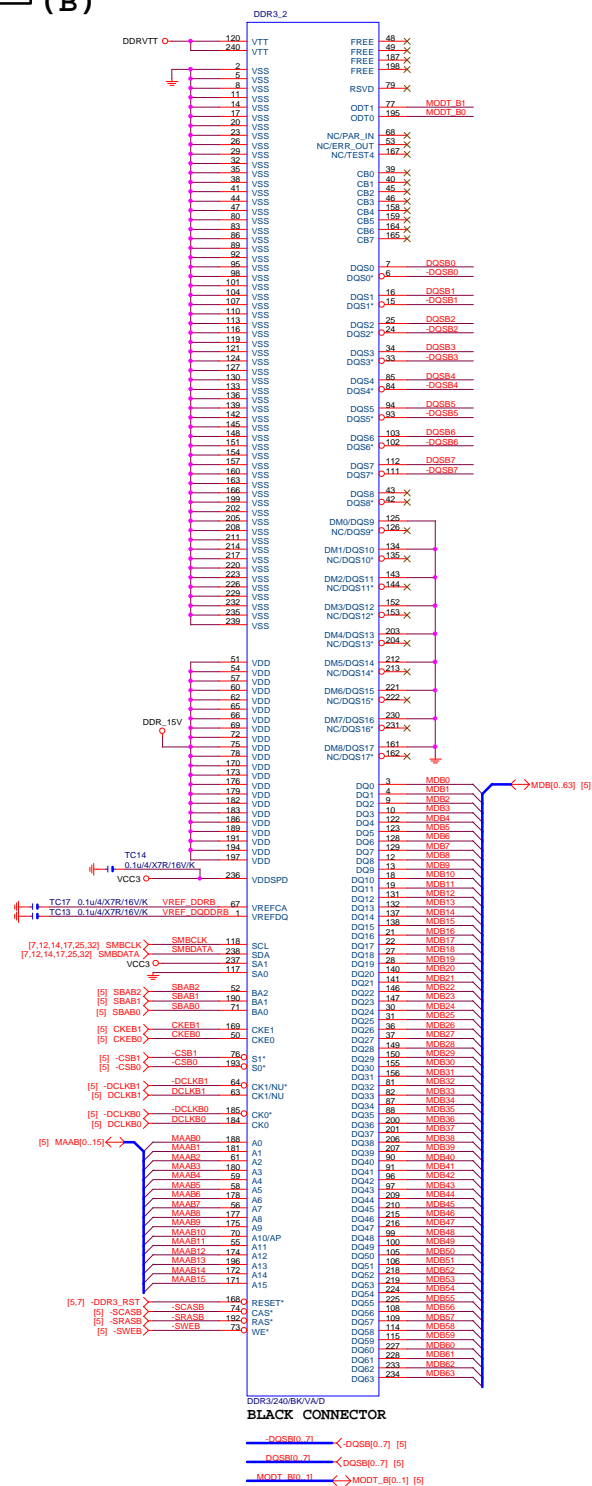


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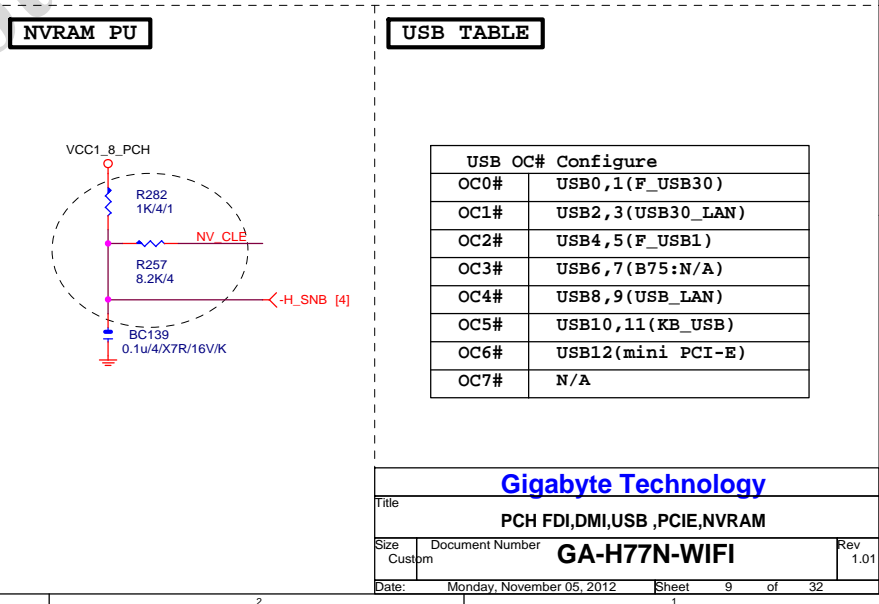
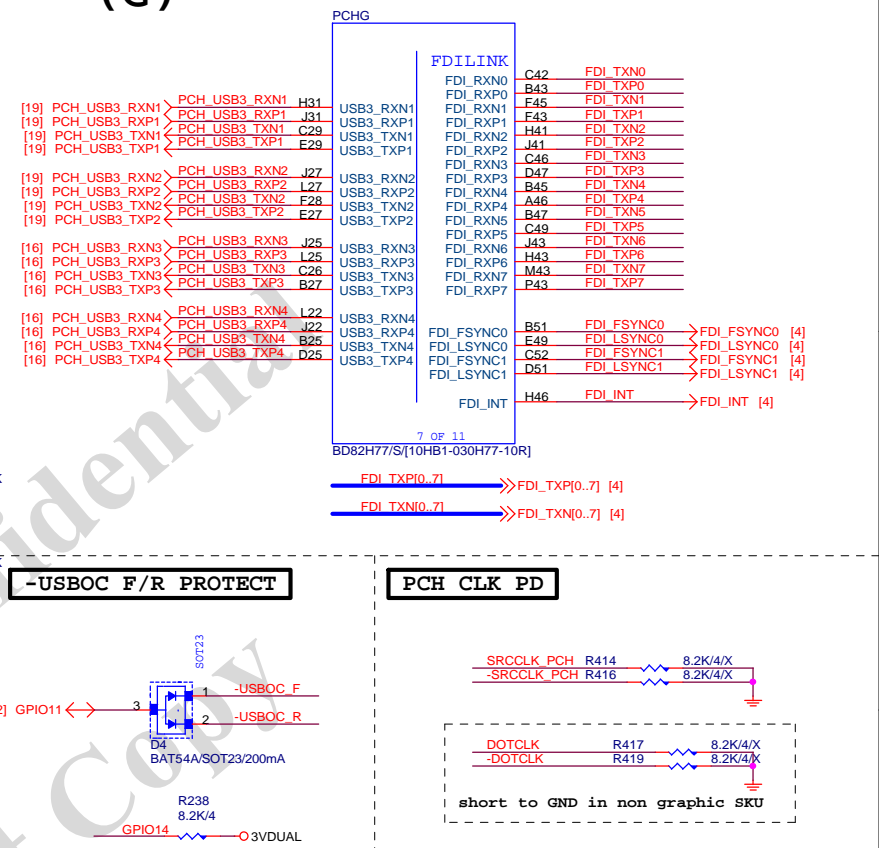


DDRVTT Decouple





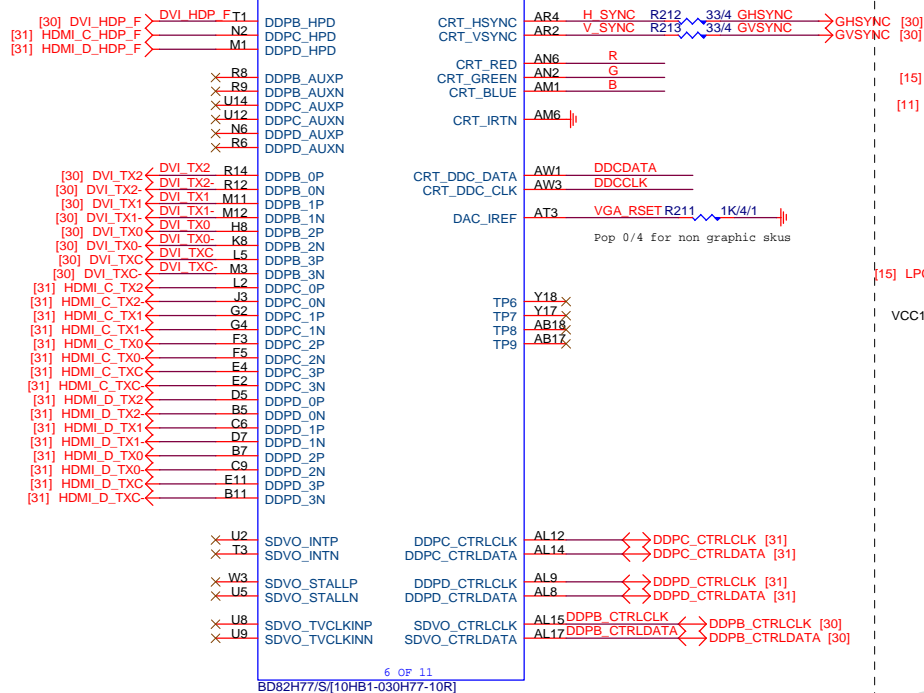
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Custom	GA-H77N-WIFI	1.0	
Date:	Sheet	8	of 32



PCH

(F)

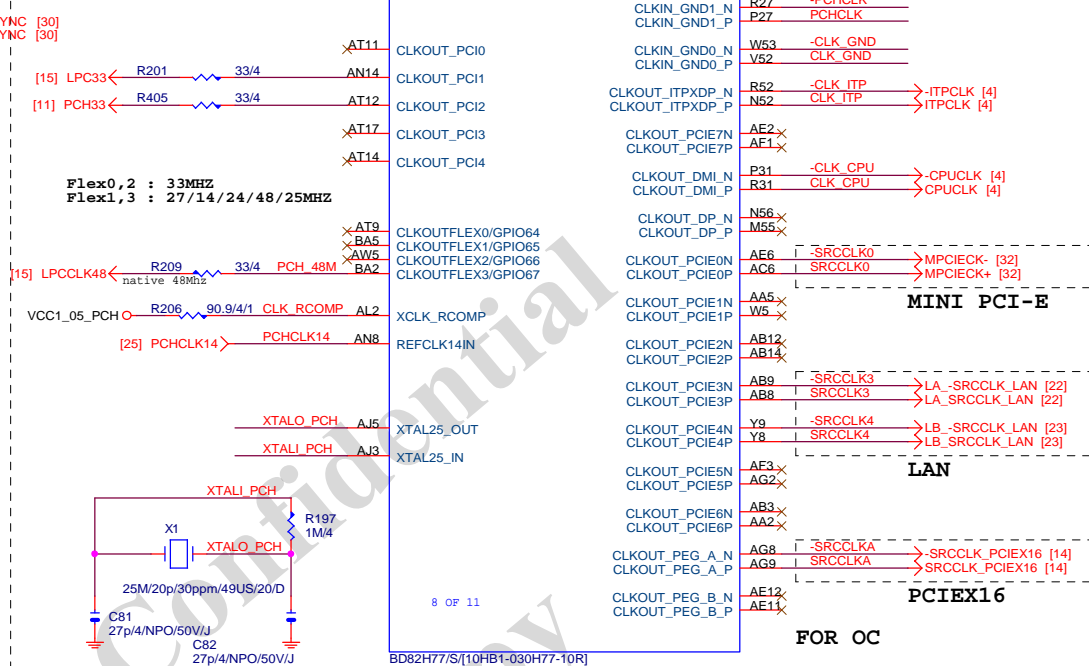
PCHF



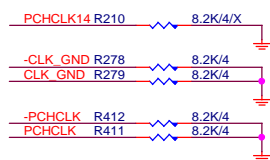
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(H)

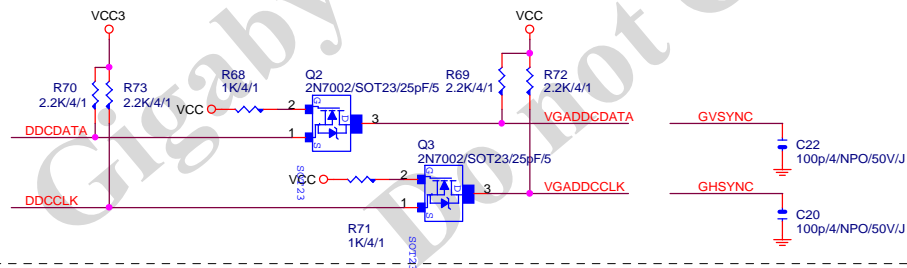
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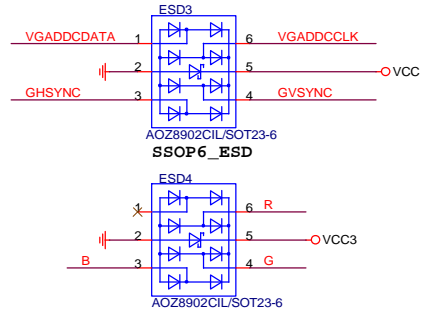
PCH CLK PD



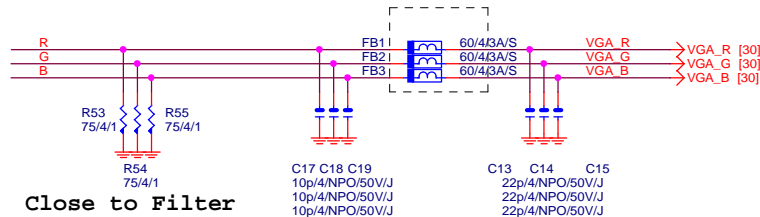
VGA DDC



VGA ESD



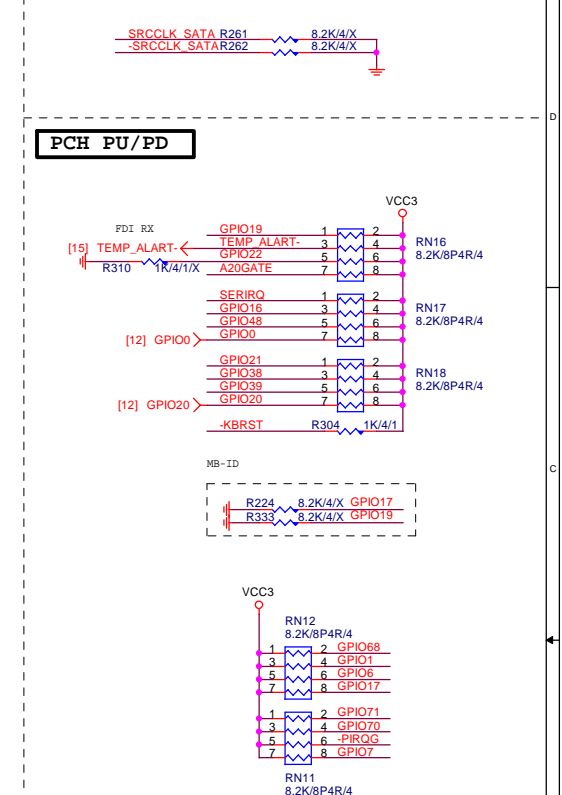
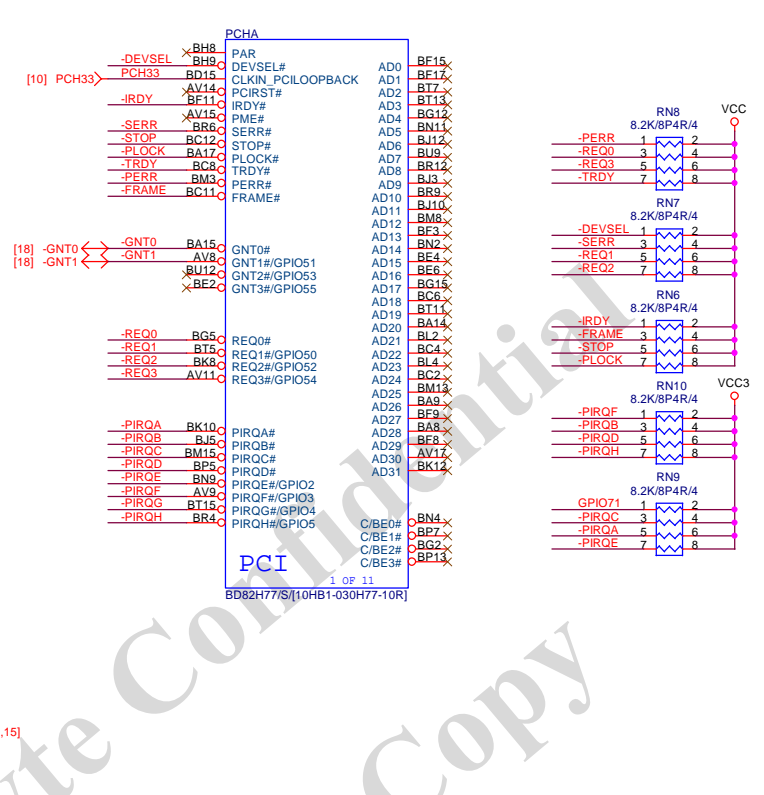
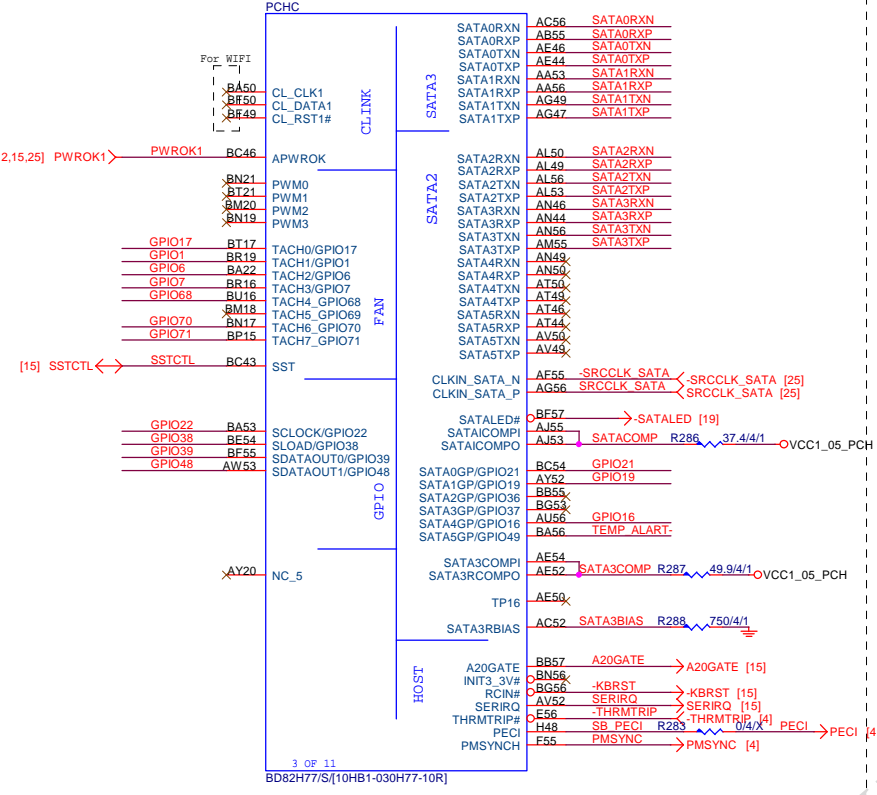
VGA DDC



Close to Filter

Gigabyte Technology

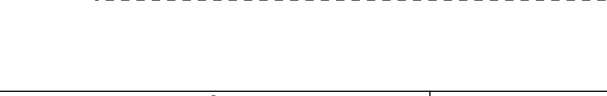
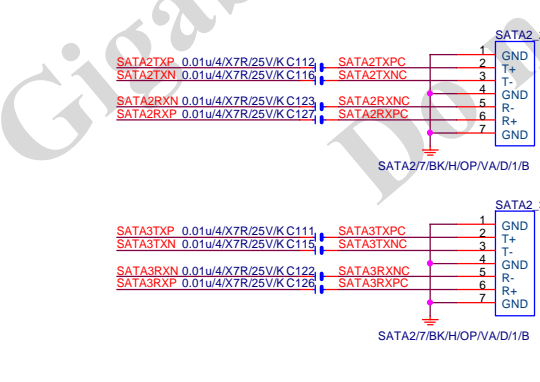
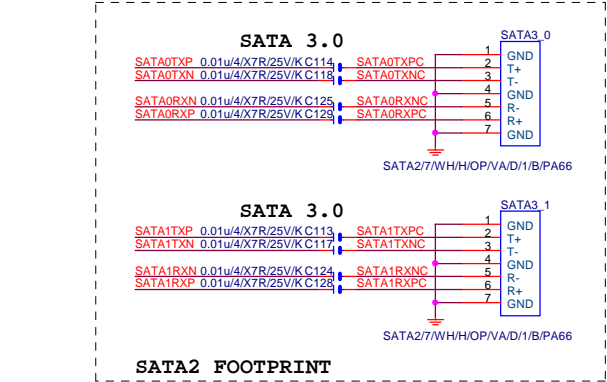
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Size	Document Number	GA-H77N-WIFI	
Custom			Rev 1.01
Date:	Monday, November 05, 2012	Sheet	10 of 32

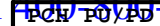


SATA CONNECTOR

WHITE CONNECTOR

BLACK CONNECTOR



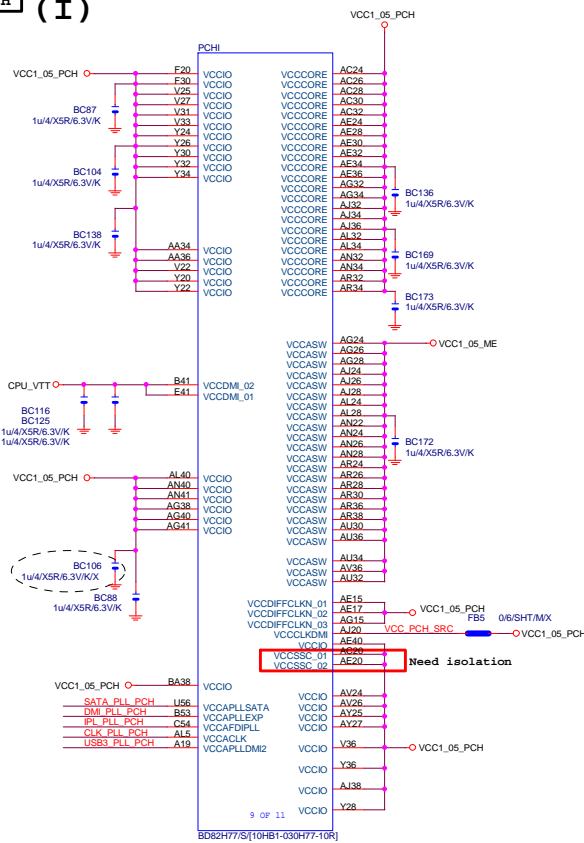


32.768KHZ

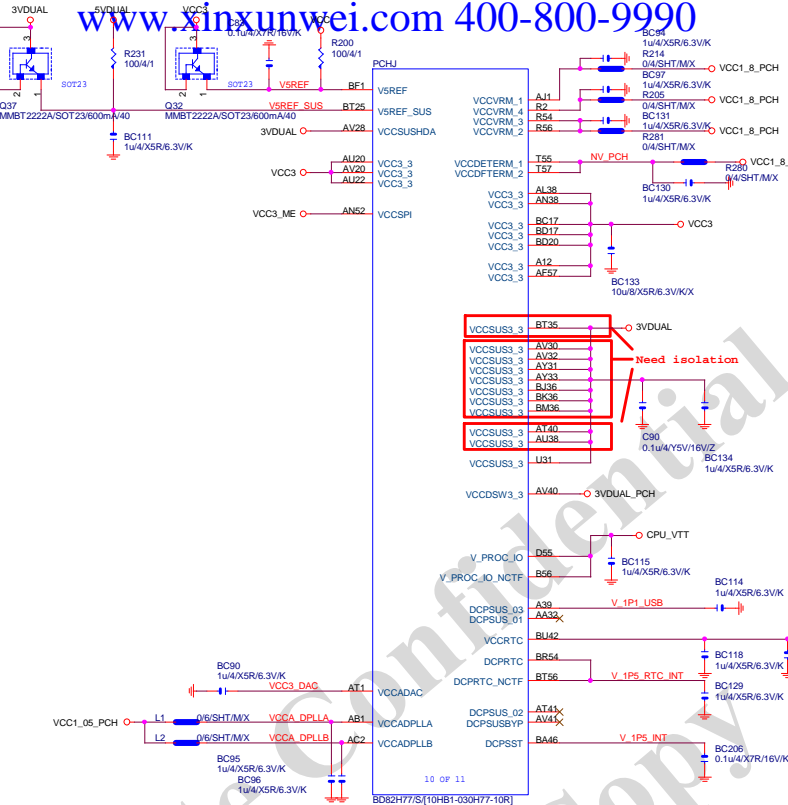


Title			
PCH GPIO , CTRL , AUDIO			
Size	Document Number		Rev
Custpm	GA-H77N-WIFI		1.0
Date:	Monday, November 05, 2012	Sheet	12 of 32

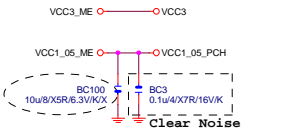
(I)



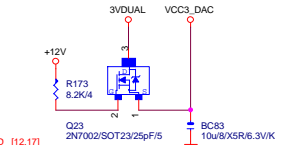
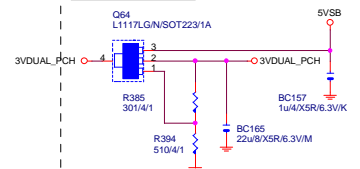
(J)



100

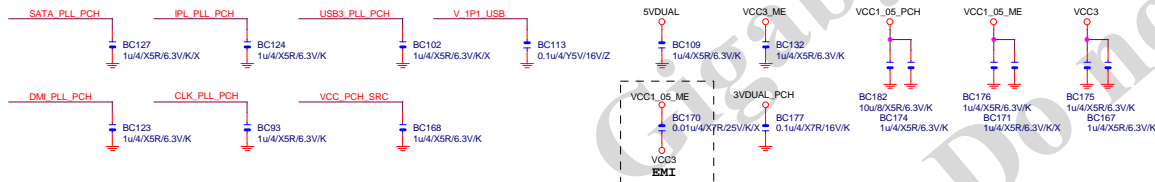


Q64
L1117LG/N/SOT223



CLOSE北橋(注意震盪水波紋)

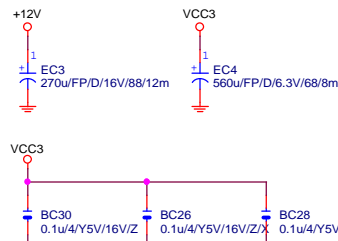
SA



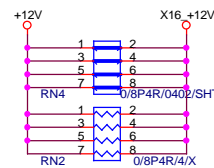
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PCIEX16 CAP



PCIEX16 PROTECT SHT



PCIEX16 AC CAP

EXP A TXP0	C32	0.22u/4X5R/6.3V/K	EXP A TXP0C
EXP A TXN0	C30	0.22u/4X5R/6.3V/K	EXP A TXN0C
EXP A TXP1	C35	0.22u/4X5R/6.3V/K	EXP A TXP1C
EXP A TXN1	C37	0.22u/4X5R/6.3V/K	EXP A TXN1C
EXP A TXP2	C39	0.22u/4X5R/6.3V/K	EXP A TXP2C
EXP A TXN2	C41	0.22u/4X5R/6.3V/K	EXP A TXN2C
EXP A TXP3	C43	0.22u/4X5R/6.3V/K	EXP A TXP3C
EXP A TXN3	C45	0.22u/4X5R/6.3V/K	EXP A TXN3C
EXP A TXP4	C46	0.22u/4X5R/6.3V/K	EXP A TXP4C
EXP A TXN4	C49	0.22u/4X5R/6.3V/K	EXP A TXN4C
EXP A TXP5	C50	0.22u/4X5R/6.3V/K	EXP A TXP5C
EXP A TXN5	C51	0.22u/4X5R/6.3V/K	EXP A TXN5C
EXP A TXP6	C52	0.22u/4X5R/6.3V/K	EXP A TXP6C
EXP A TXN6	C54	0.22u/4X5R/6.3V/K	EXP A TXN6C
EXP A TXP7	C57	0.22u/4X5R/6.3V/K	EXP A TXP7C
EXP A TXN7	C58	0.22u/4X5R/6.3V/K	EXP A TXN7C
EXP A TXP8	C60	0.22u/4X5R/6.3V/K	EXP A TXP8C
EXP A TXN8	C61	0.22u/4X5R/6.3V/K	EXP A TXN8C
EXP A TXP9	C62	0.22u/4X5R/6.3V/K	EXP A TXP9C
EXP A TXN9	C63	0.22u/4X5R/6.3V/K	EXP A TXN9C
EXP A TXP10	C64	0.22u/4X5R/6.3V/K	EXP A TXP10C
EXP A TXN10	C65	0.22u/4X5R/6.3V/K	EXP A TXN10C
EXP A TXP11	C66	0.22u/4X5R/6.3V/K	EXP A TXP11C
EXP A TXN11	C67	0.22u/4X5R/6.3V/K	EXP A TXN11C
EXP A TXP12	C68	0.22u/4X5R/6.3V/K	EXP A TXP12C
EXP A TXN12	C70	0.22u/4X5R/6.3V/K	EXP A TXN12C
EXP A TXP13	C72	0.22u/4X5R/6.3V/K	EXP A TXP13C
EXP A TXN13	C73	0.22u/4X5R/6.3V/K	EXP A TXN13C
EXP A TXP14	C74	0.22u/4X5R/6.3V/K	EXP A TXP14C
EXP A TXN14	C75	0.22u/4X5R/6.3V/K	EXP A TXN14C
EXP A TXP15	C77	0.22u/4X5R/6.3V/K	EXP A TXP15C
EXP A TXN15	C78	0.22u/4X5R/6.3V/K	EXP A TXN15C

EXP A RXP0.15] >> EXP_A_RXP0.15] [4]
EXP A RXN0.15] >> EXP_A_RXN0.15] [4]
EXP A TXP0.15] >> EXP_A_TXP0.15] [4]
EXP A TXN0.15] >> EXP_A_TXN0.15] [4]

PCIEX16 SLOT

[7,8,12,17,25,32] SMBCLK
[7,8,12,17,25,32] SMBDATA

[12,22,23,32] -PCIE_WAKE

EXP A TXP8C
EXP A TXN8C

EXP A TXP9C
EXP A TXN9C

EXP A TXP10C
EXP A TXN10C

EXP A TXP11C
EXP A TXN11C

EXP A TXP12C
EXP A TXN12C

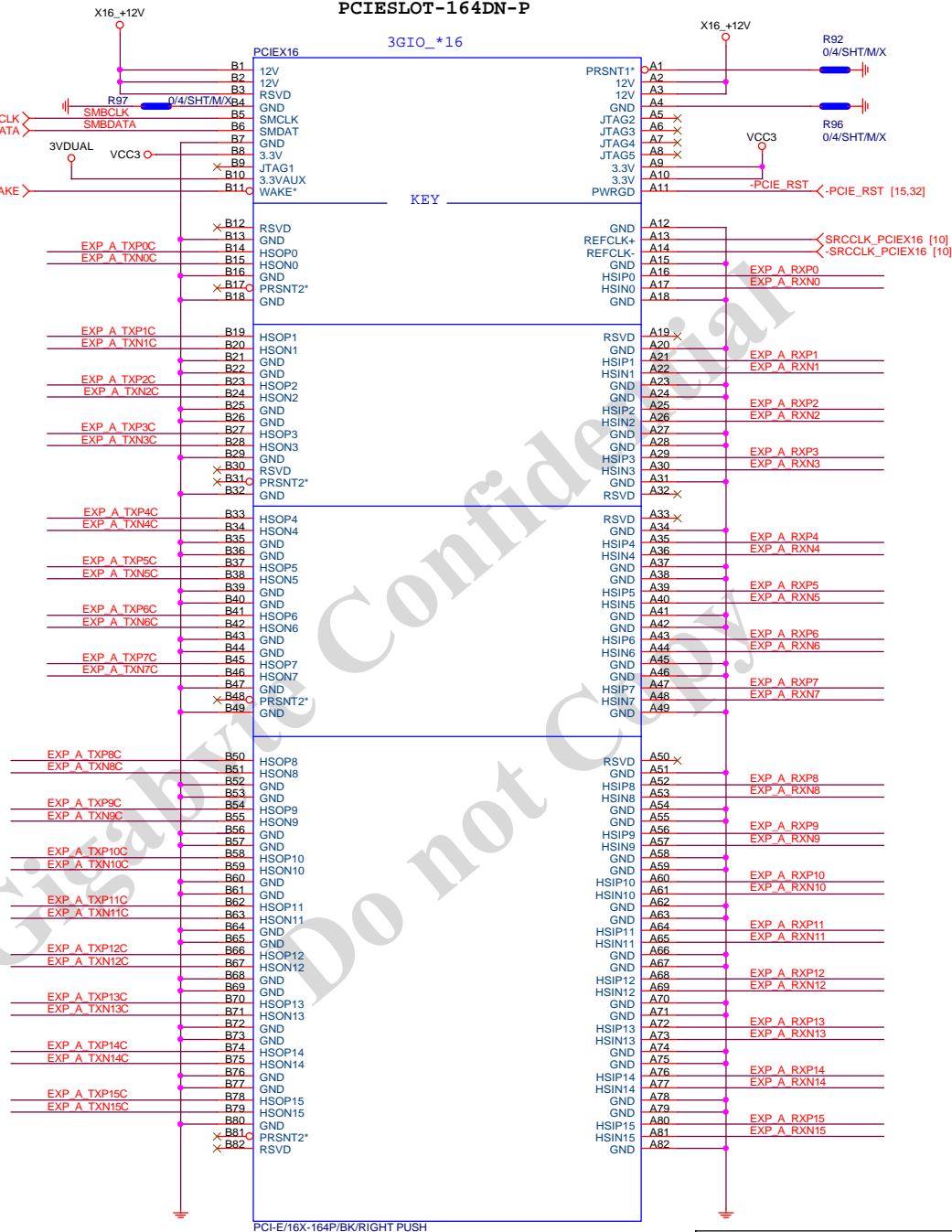
EXP A TXP13C
EXP A TXN13C

EXP A TXP14C
EXP A TXN14C

EXP A TXP15C
EXP A TXN15C

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PCIESLOT-164DN-P



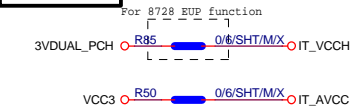
PCI-E16X-164P/BK/RIGHT PUSH

BLACK CONNECTOR

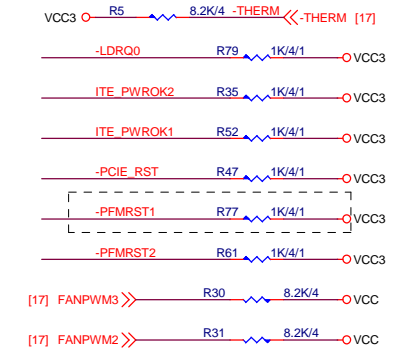
Gigabyte Technology

Title			PCI EXPRESS * 16	
Size			Document Number	
Custom			GA-H77N-WIFI	
Date:			Monday, November 05, 2012	Sheet 14 of 32
			2	1 of 32

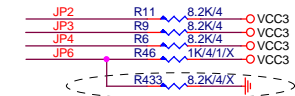
Rev 1.01



SIO PU



SIO STRAP



IT8728-EX
PULL DOWN ENABLE OVP

EUP control by PCH
3VDUAL \circ 100/4/1 $\frac{28_3VSB}{\text{---}}$ R83

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

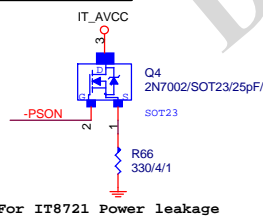
IT8728F NOTE

IT8728	
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRV#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2 (VCC5)
PIN96	VIN1 (VCC12)
PIN97	VIN1/VDIMM_STR(1.5V)
PIN98	VIN0/VCORE(1.1V)/NC

DUAL BIOS OPT STRAP

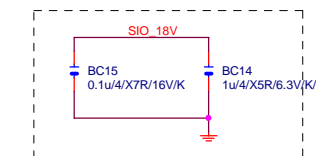


Power leakage



SIO_18V

internal power pin, max 22nF cap

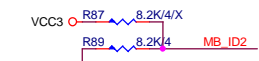


FOR LOW TEMP POWER ON INTO TEST MODE ISSUE

SIO CAP



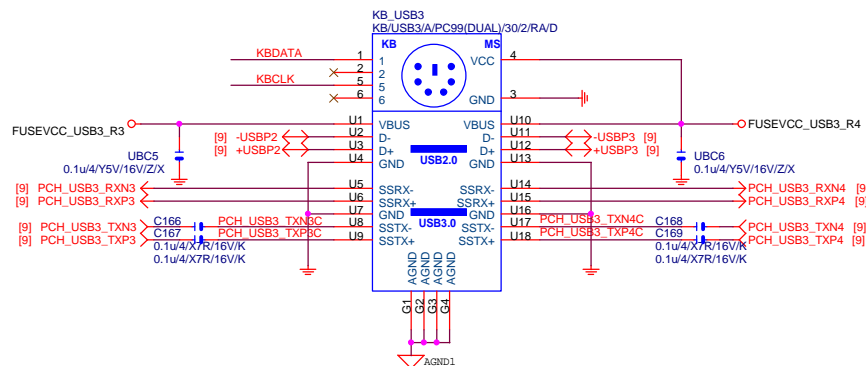
MB ID



Gigabyte Technology

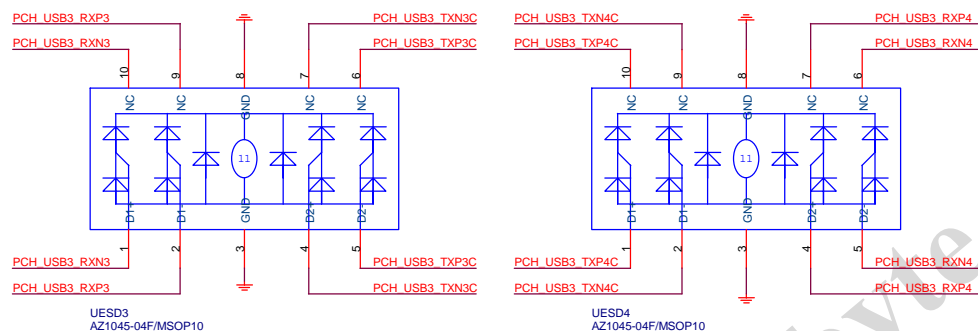
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Size		Document Number		GA-H77N-WIFI	
Custom				Rev 1.01	
Date:		Monday, November 05, 2012		Sheet 15 of 32	

KB/MS

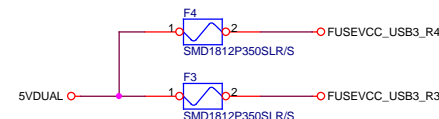


USB3.0 LAN ESD PROTECT

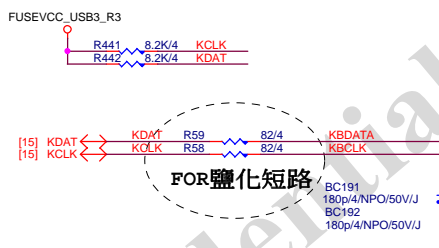
USB3.0 ESD



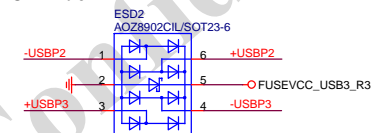
USB3.0 FWR



USB3.0 1Port - 1Fuse (3.5A)

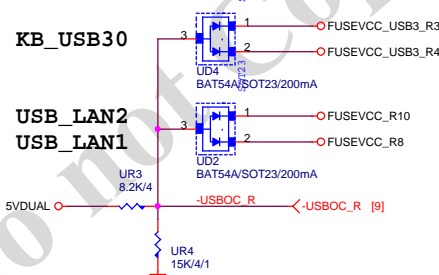


USB2.0 ESD

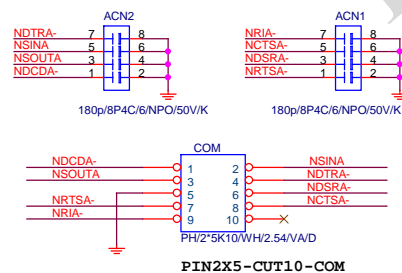
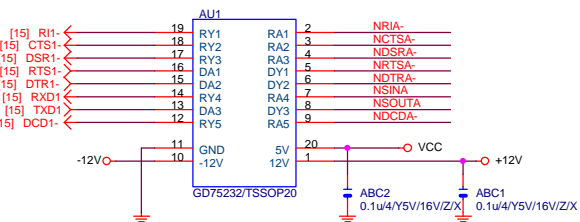


-USBOC_R

KB_USB30

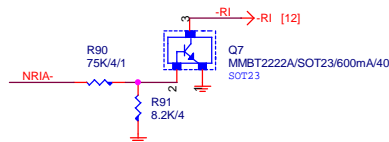
USB_LAN2
USB_LAN1

COM



PIN2X5-CUT10-COM

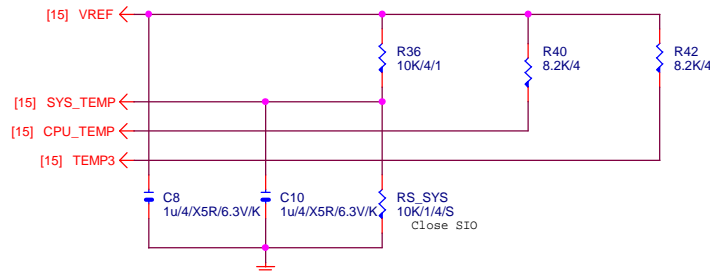
COM RI



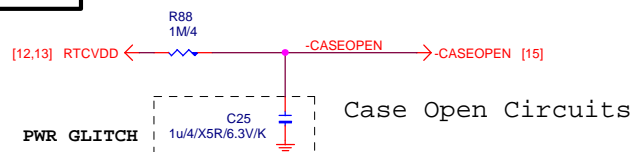
Gigabyte Technology

Title			COM,-RI,KB_USB,USB_ESATA,-PROCHOT		
Size	Document Number	GA-H77N-WIFI			Rev
Custom					1.01
Date:	Monday, November 05, 2012	Sheet	16	of	32

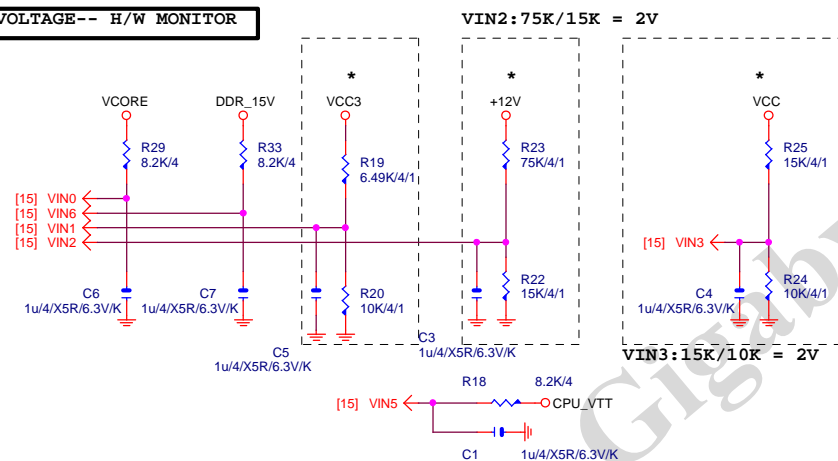
TEMP H/W MONITOR



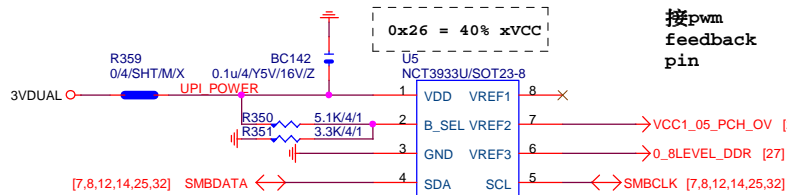
CASE OPEN



VOLTAGE-- H/W MONITOR

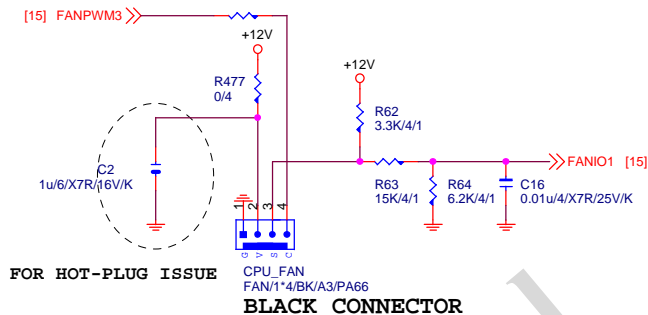


OV NCT3933

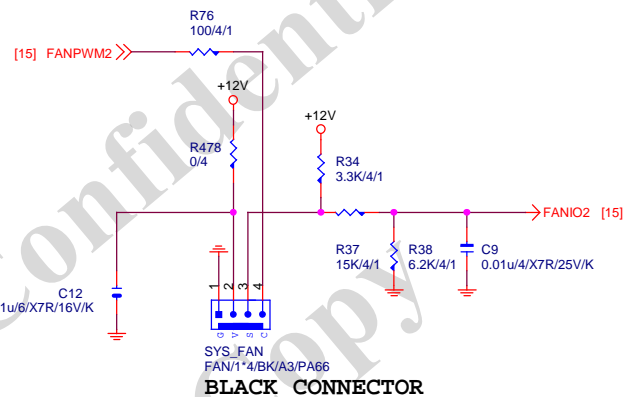


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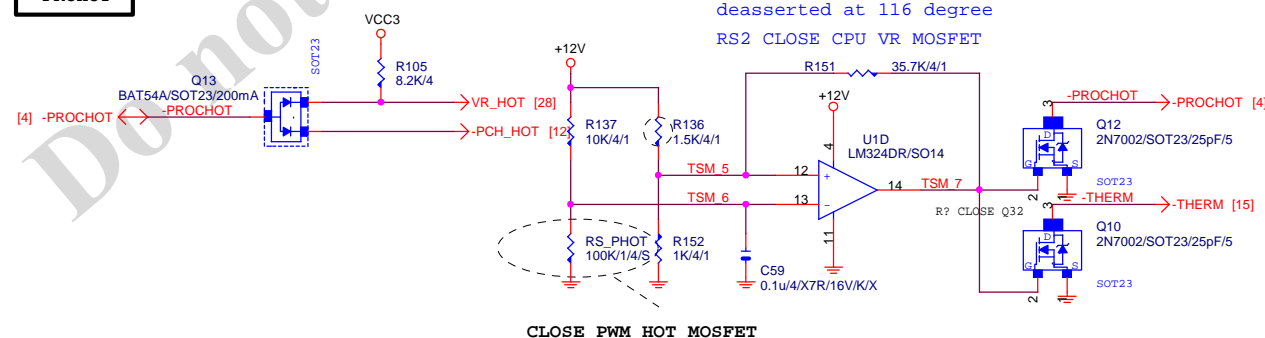
CPU SMART FAN



SYS SMART FAN



-PROHOT

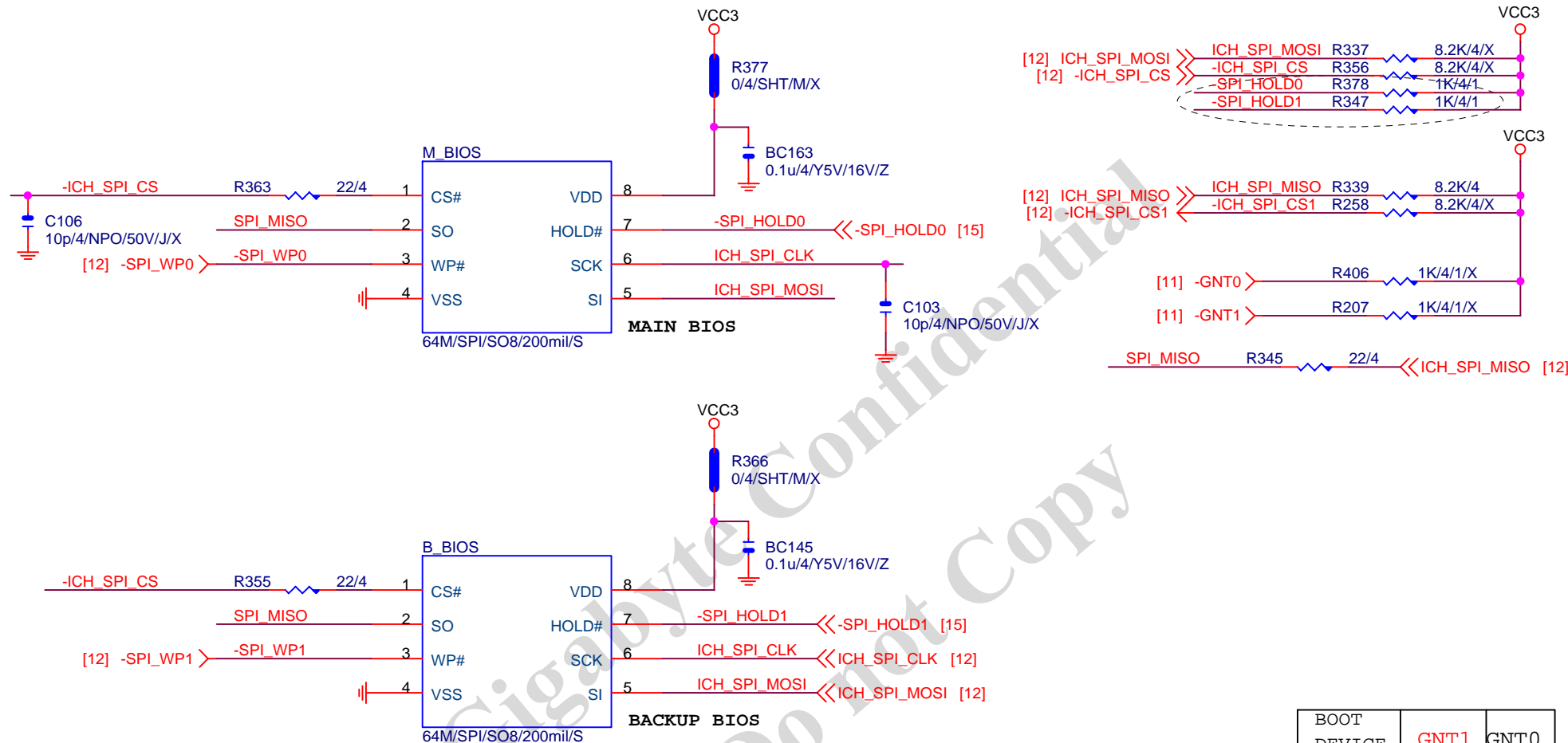


Gigabyte Technology

Title		
HWM,FAN CTRL,OV		
Size	Document Number	Rev
Custom	GA-H77N-WIFI	1.01
Date:	Monday, November 05, 2012	Sheet 17 of 32

DUAL BIOS

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B65使用64M BIOS

使用H67暫用32M

H61使用32M BIOS

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

1 means floating
0 means PD 1K

Gigabyte Technology

Title

DUAL BIOS

Size
A

Document Number

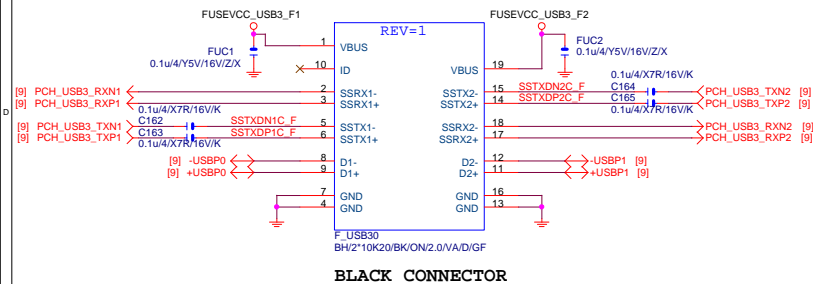
GA-H77N-WIFI

Rev
1.01

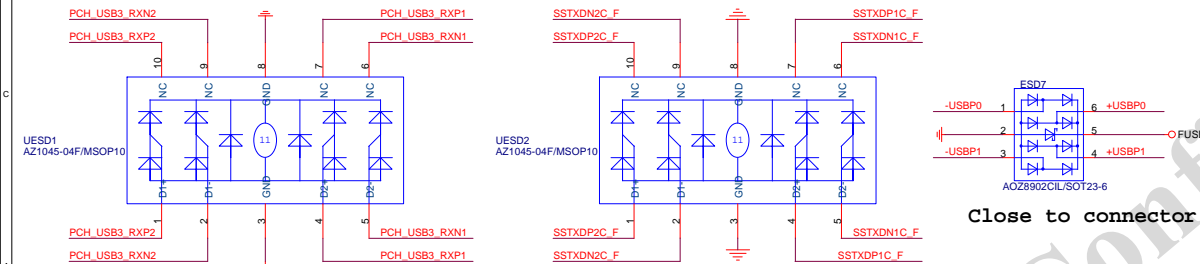
Date: Monday, November 05, 2012

Sheet 18 of 32

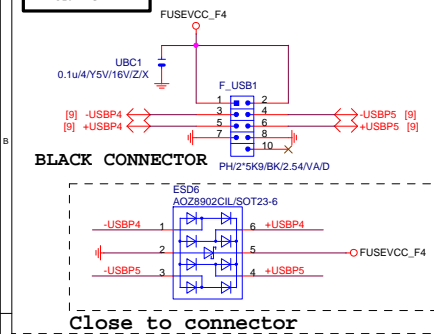
F_USB30



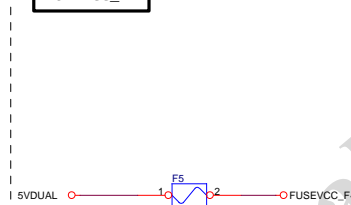
F_USB30 ESD PROTECT



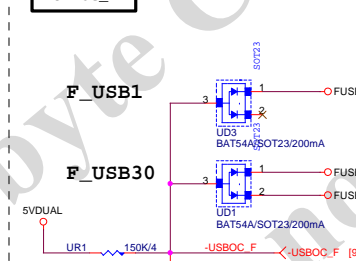
FRONT USB1



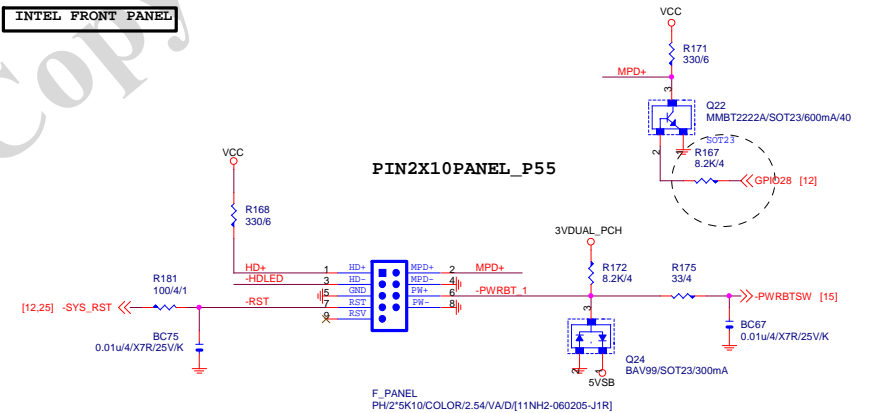
FUSEVCC_F



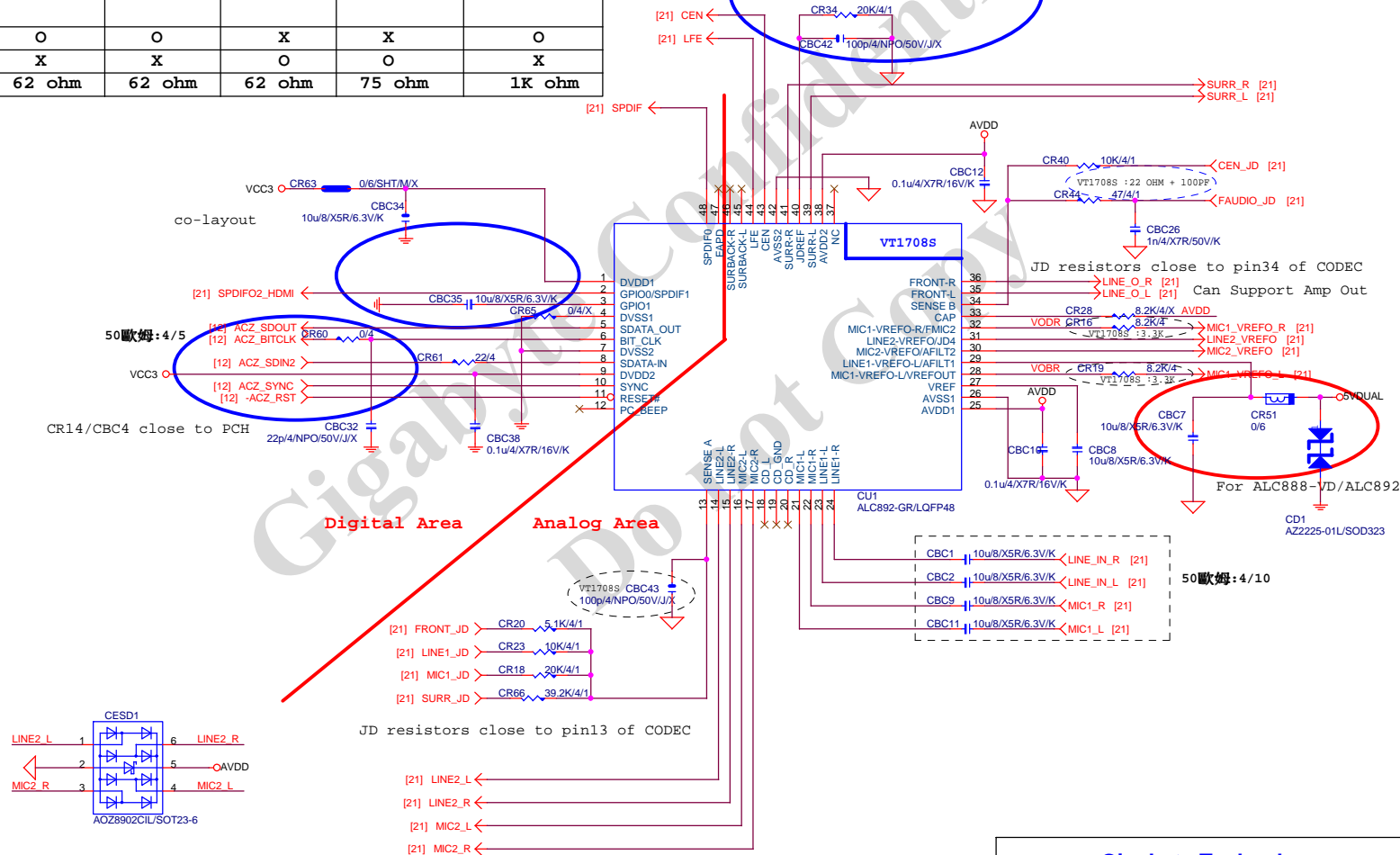
-USBOC_F



INTEL FRONT PANEL

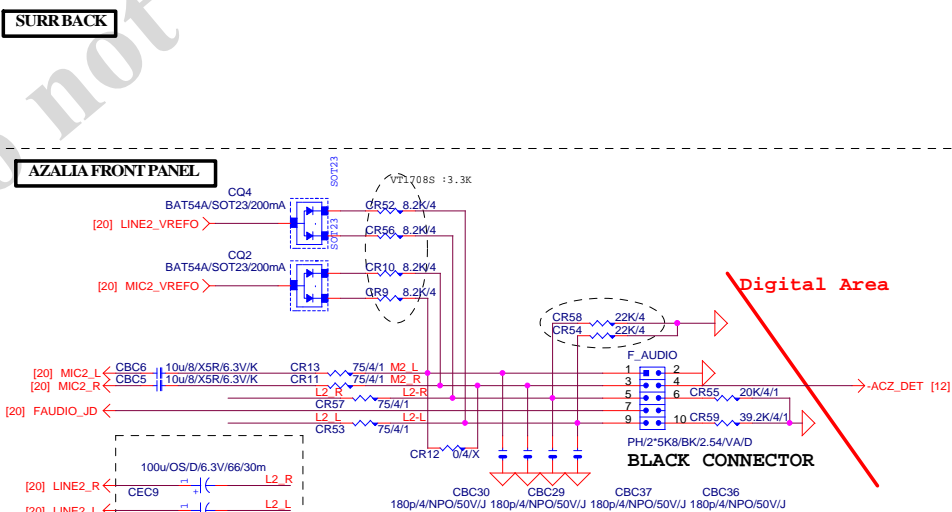
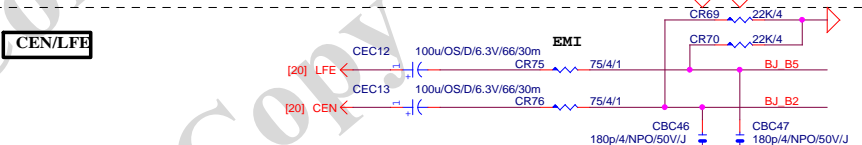
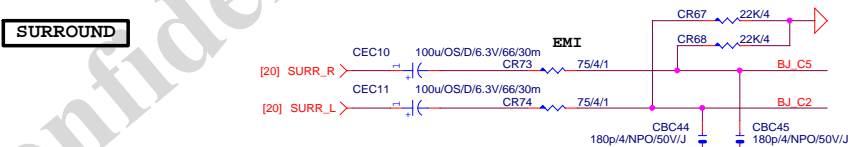
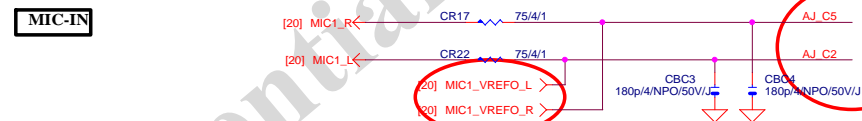
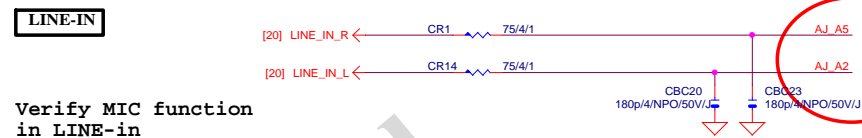
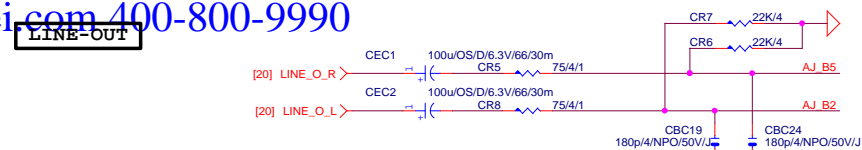
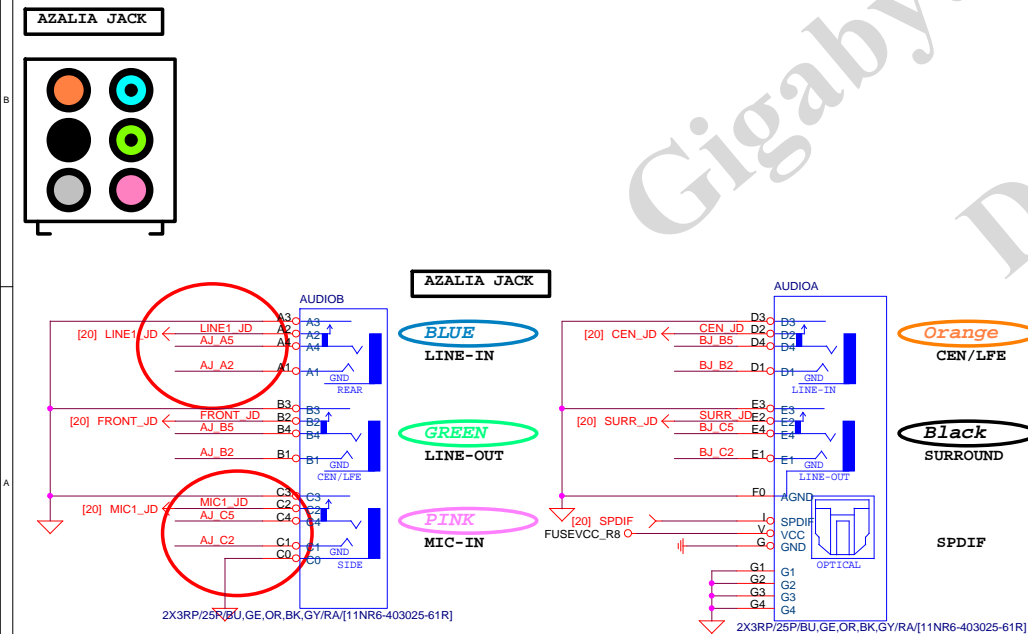
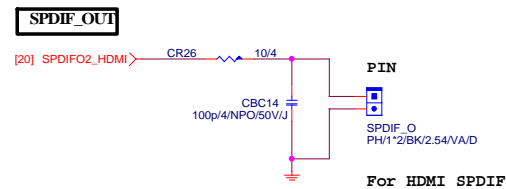
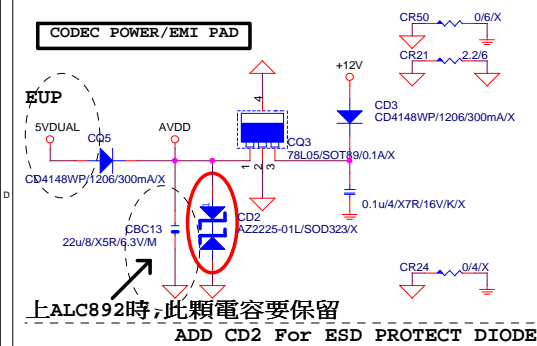


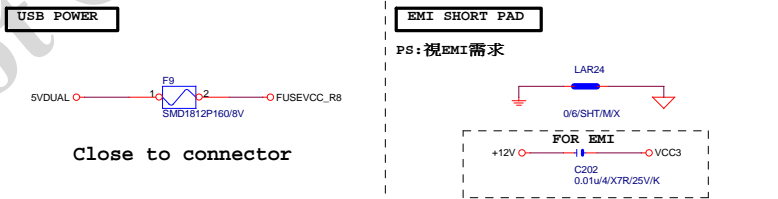
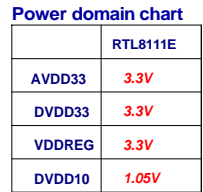
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CR65	X	X	O	O	X
CR64	X	X	X	X	0.1u/4
CBC35	O	O	X	X	O
CR44/CBC6	47ohm+1nF	47ohm+1nF	47ohm+1nF	22ohm+100P	22ohm+100P
CR31	X	O	O	O	O
CR30	O	X	X	X	X
CBC1/CBC2	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R
CR20	5.11K/4/1	5.11K/4/1	5.11K/4/1	5.1K/4/1	5.1K/4/1
CR34	20K/4/1	20K/4/1	20K/4/1	5.1K/4/1	20K/4/1
CBC39/CBC40	N/A	N/A	N/A	100P/4	100P/4
CR6/CR7/CR54/CR58	22K/4	22K/4	22K/4	10K/4	10K/4
CR5/CR8/CR11/CR4/ CR17/CR22/CR45/CR33/ CR47/CR40/CR26/CR37/ CR13/CR11/CR57/CR53	62 ohm	62 ohm	62 ohm	75 ohm	75 ohm
CR51/CD1/CBC7	O	O	X	X	O
CD2/CD3/CQ3/CQ5	X	X	O	O	X
CR1/CR14/CR17/CR22	62 ohm	62 ohm	62 ohm	75 ohm	1K ohm



Gigabyte Technology

Title	HD AUDIO ALC887B-VD2/VT1708S/VT2021		
Size	Document Number	GA-H77N-WIFI	Rev 1.01
Custom			
Date:	Monday, November 05, 2012	Sheet 20	of 32

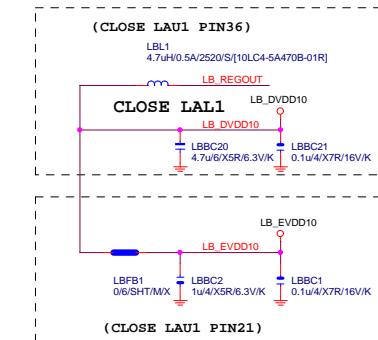
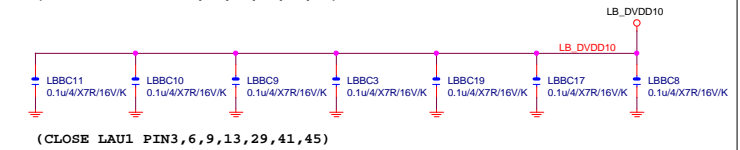
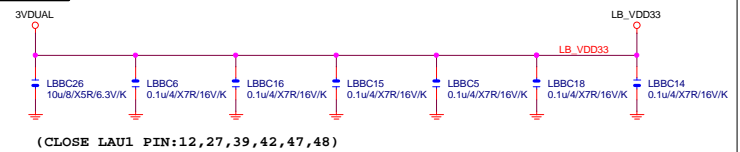
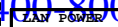
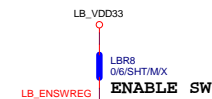
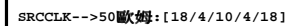
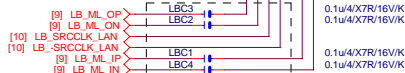
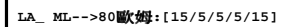
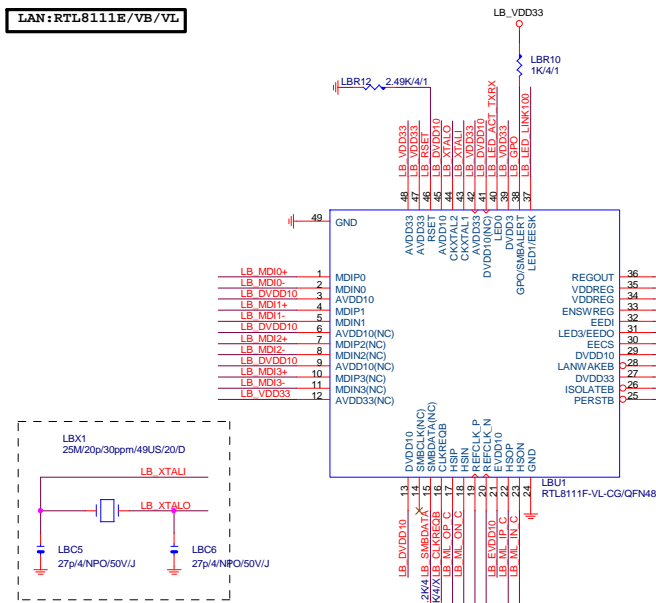
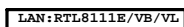




料號	規格	廠商
11NR6-702009-0ER	1G LAN (12core)	UDE
11NR6-702009-91R	1G LAN(8 core)	FOXCONN
11NR6-702009-92R	1G LAN(8 core)	UDE
11NR6-702009-11R	1G LAN(12core/RED)	UDE
11NR6-702009-12R	1G LAN(8 core/RED)	FOXCONN

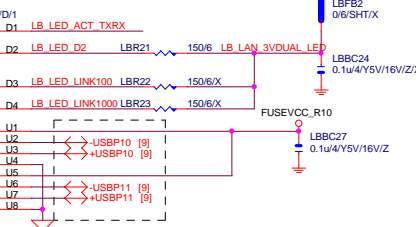
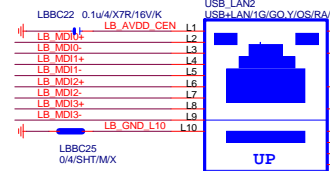
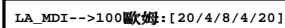
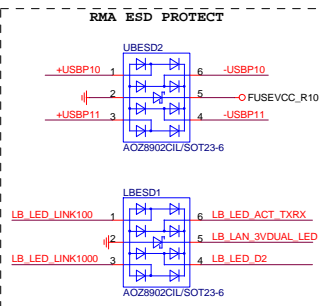
USB_LAN BOM區分:

1. (紅色/12CORE/三倍): USB+LAN/1G/GO, Y/OS/RA/D/1/RED
2. (黑色/12CORE): USB+LAN/1G/GO, Y/OS/RA/D/1
3. (黑色/8CORE): USB+LAN/1G/GO, Y/OS/RA/D/8C



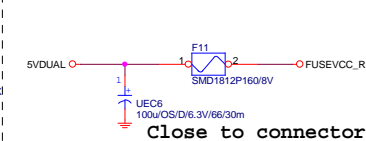
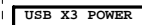
Power domain chart

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



注意:USB PORT(目前:暫代6,7PORT)

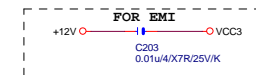
USB-->90歐姆:[15/4.5/7.5/4.5/15]



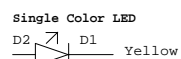
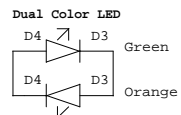
Close to connector



PS:視EMI需求



注意:LAN LED PROTECT:(CO-LAYOUT)
1.ESD(6PIN):AOZ8902CIL/SOT23-6(DEFAULT)
2.SURGE(5PIN):AZ2025-04S/SOT23-5L

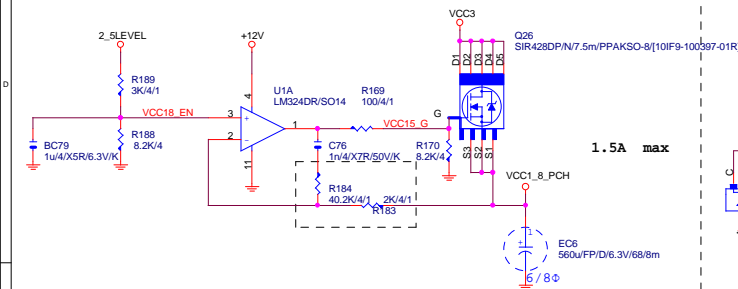


料號	規格	廠商
11NR6-702009-0ER	1G LAN (12core)	UDE
11NR6-702009-91R	1G LAN(8 core)	FOXCONN
11NR6-702009-92R	1G LAN(8 core)	UDE
11NR6-702009-11R	1G LAN(12core/RED)	UDE
11NR6-702009-12R	1G LAN(8 core/RED)	FOXCONN

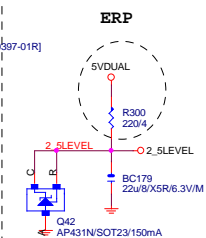
USB_LAN BOM區分:

1. (紅色/12CORE/三倍): USB+LAN/1G/GO, Y/OS/RA/D/1/RED
2. (黑色/12CORE): USB+LAN/1G/GO, Y/OS/RA/D/1
3. (黑色/8CORE): USB+LAN/1G/GO, Y/OS/RA/D/8C

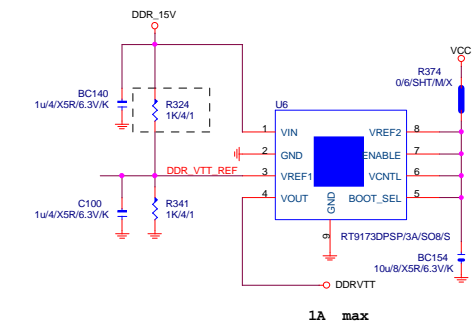
VCC1_8_PCH



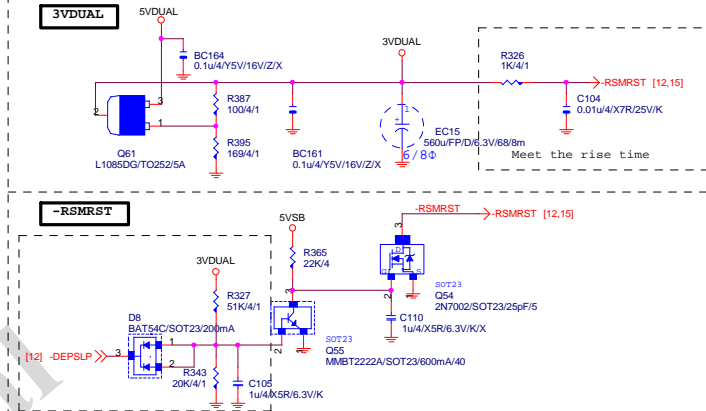
2_5LEVEL



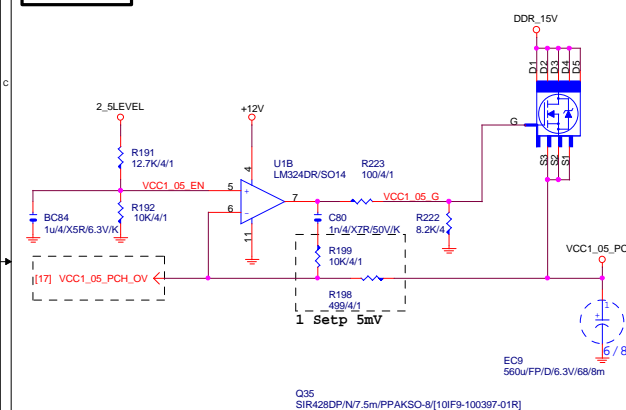
DDR_VTT



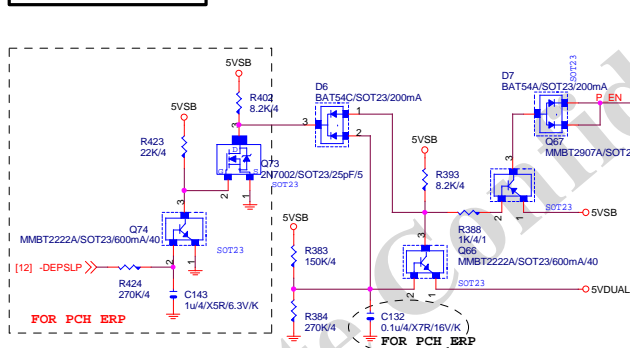
3VDUAL



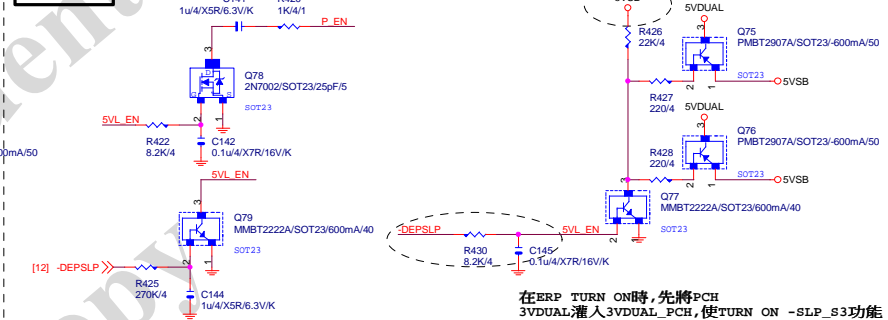
VCC1_05_PCH



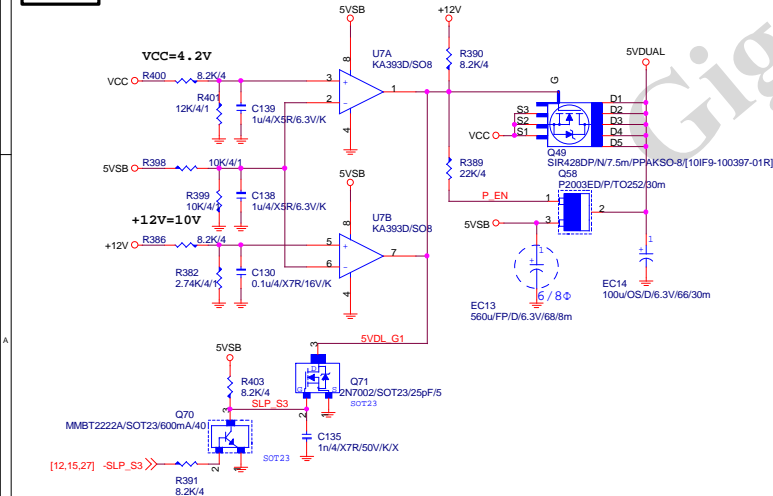
5VDUAL SHORT PROTECT



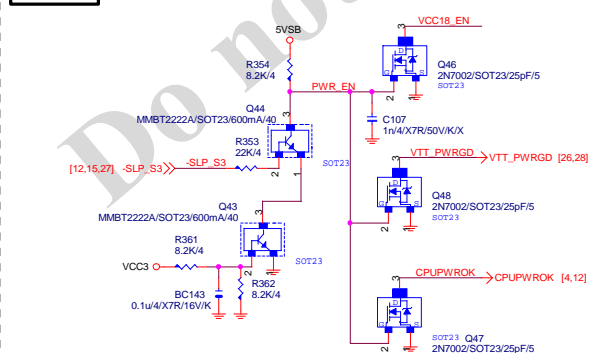
PCH ERP

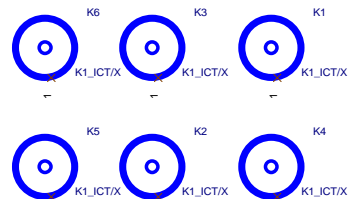
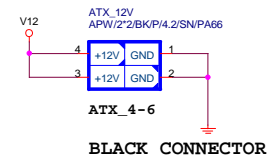


5VDUAL

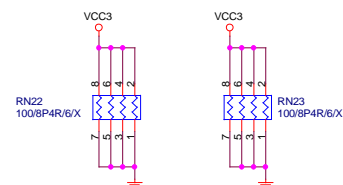


PWR SEQ



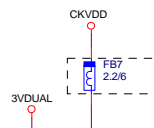
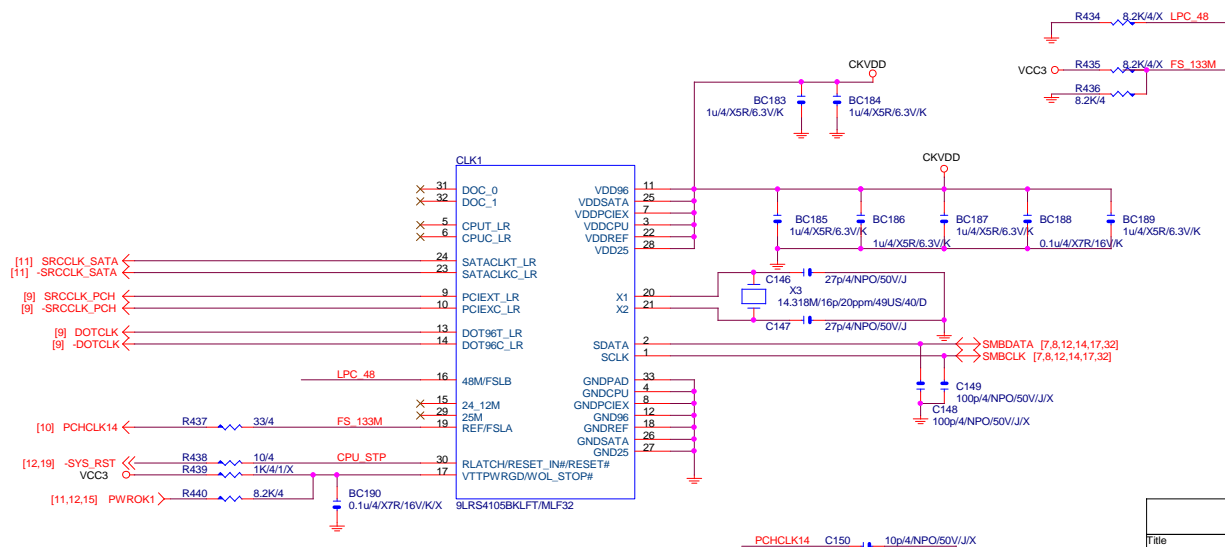


FIX PWR MINMUN LOAD



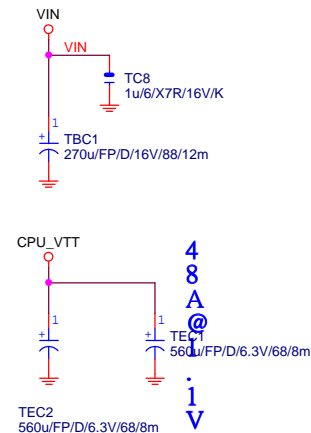
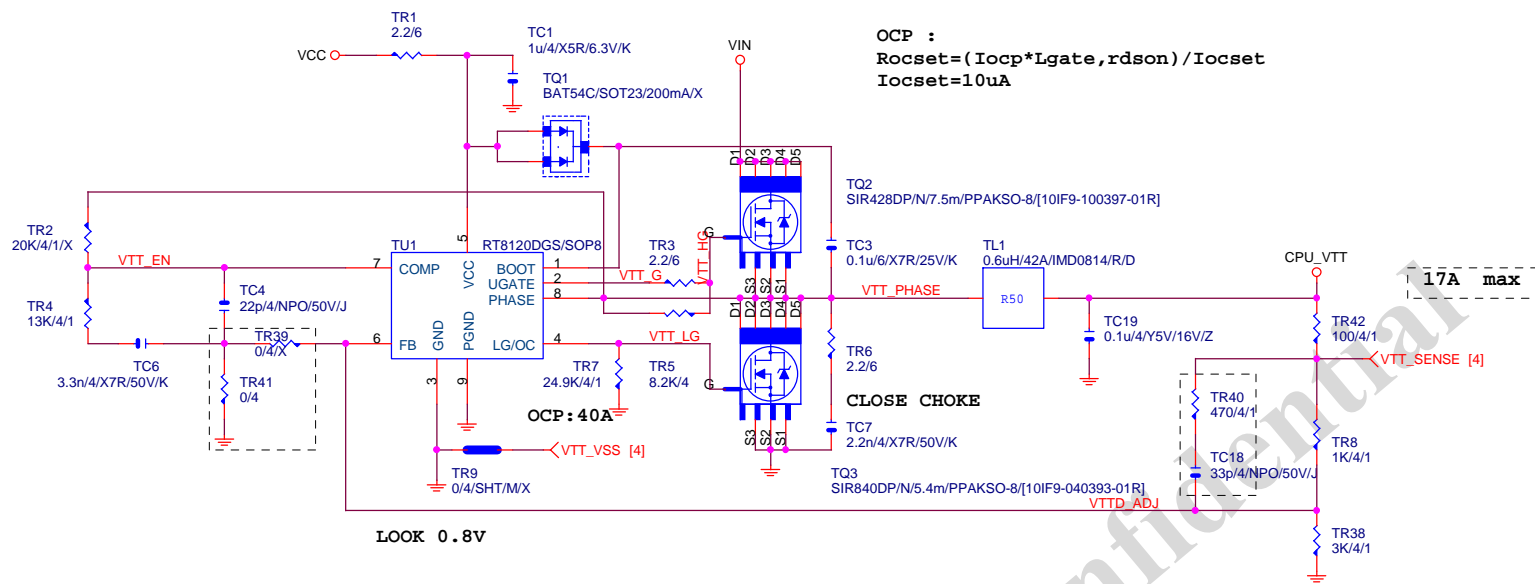
CPU Frequency Selection

FS	CPU
0	100M <Default>
1	133M



CPU_VTT

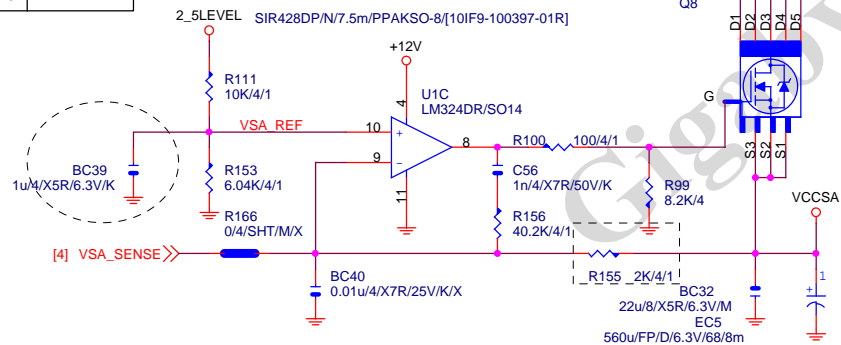
www.xinxunwei.com 400-800-9990



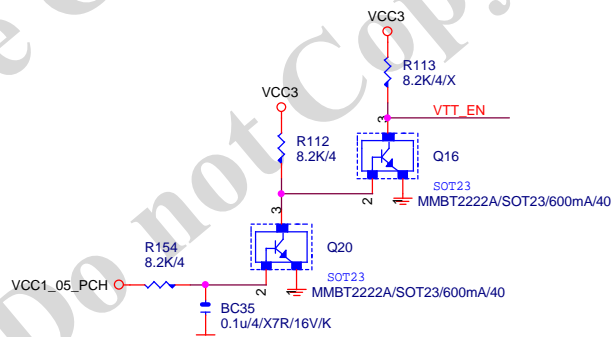
VCCSA

PDG 0.8

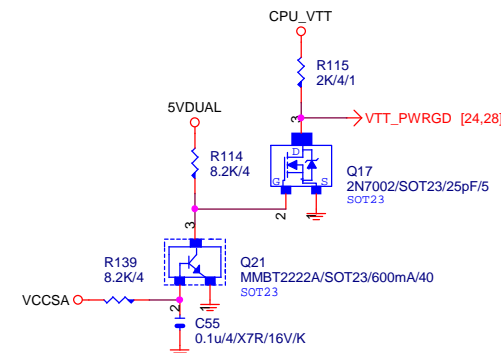
	VSA_SEL
HI	0.85V
LO	0.925V



CPU_VTT_PWR_SEQ



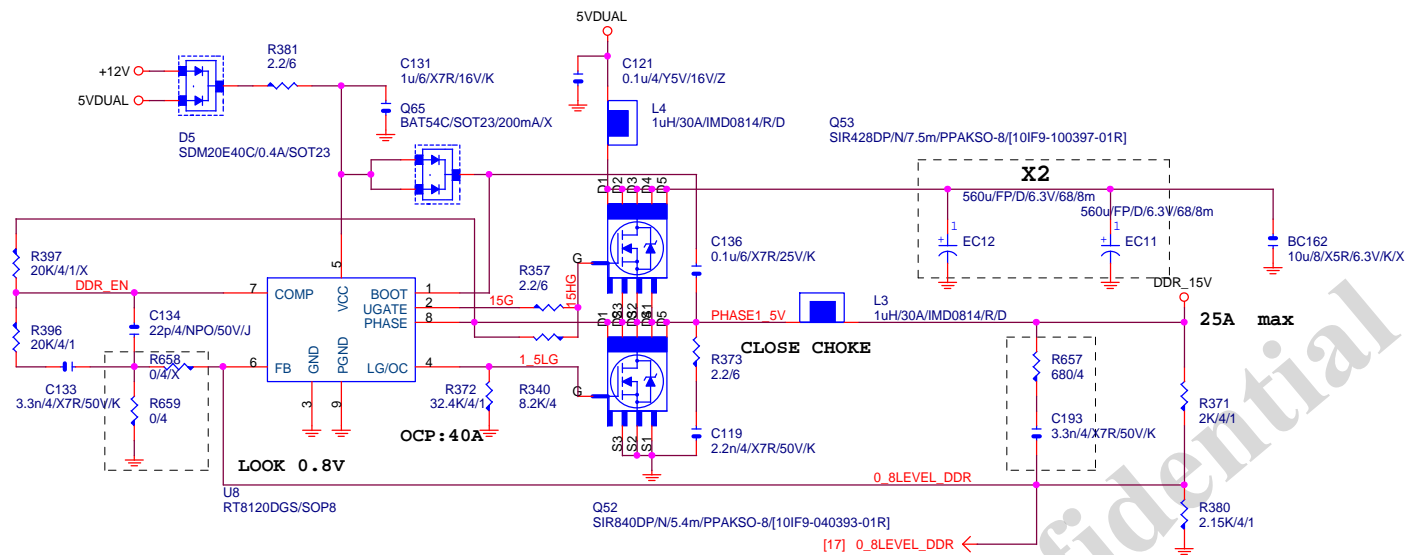
VTT_PWRGD



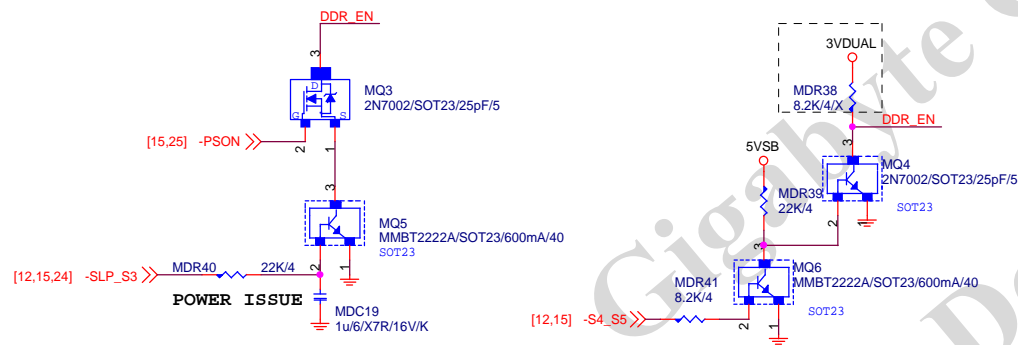
GIGABYTE™

Title			
CPU_VTT			
Size	Document Number	Rev	
Custpm	GA-H77N-WIFI	1.01	
Date:	Monday, November 05, 2012	Sheet	26 of 32

DDR1.5V



PWR_SEQ



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°C), 1(105°C)

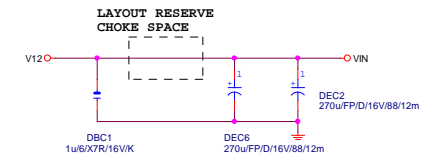
VIN Ripple current=4.7X1.7=7.99A(85°C)

-->故固態電容須2X7.99=15.98>11.45A

OCP : $I_{peak} = (2 \times I_{ocset} \times R_{ocset}) / R_{dson}$ typ $I_{ocset} = 20\mu A$, $R_{ocset} = 4.7k$ OCP : $53.71A = (2 \times 20\mu A \times 4.7k) / (7m / 7m)$

Gigabyte Technology

Title			
DDR POWER			
Size Custom	Document Number	GA-H77N-WIFI	
Date:	Monday, November 05, 2012	Sheet	27 of 32
		Rev	1.01

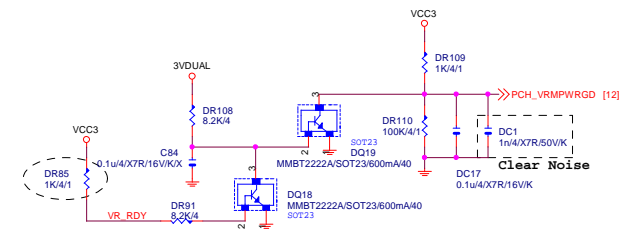


UG1 [29]
PH1 [29]
LG1 [29]
ISEN1 [29]

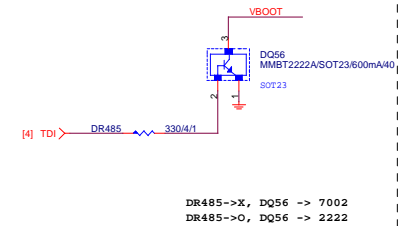
UG2 [29]
PH2 [29]
LG2 [29]
ISEN2 [29]

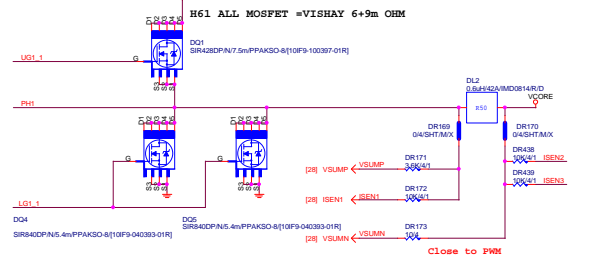
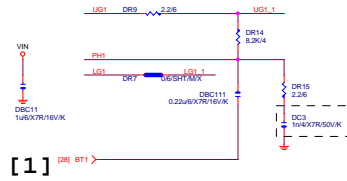
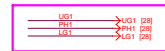
UGS [29]
PHS [29]
LGS [29]

PWM3 [29]
ISEN3 [29]

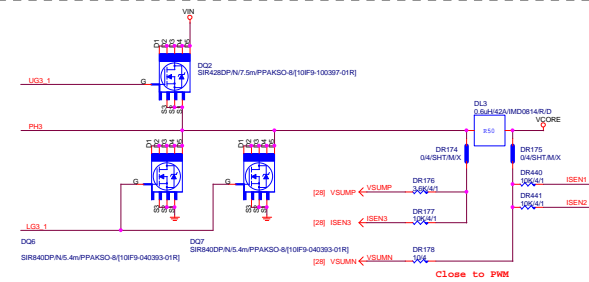
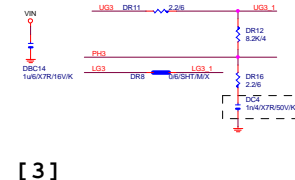
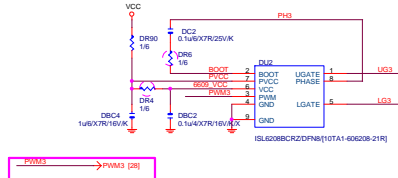


```
FOR RMA      Set VBOOT=GND  for Vboot=0V
              VBOOT=OPEN for
              Vboot=1.1V
```

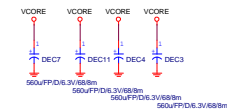
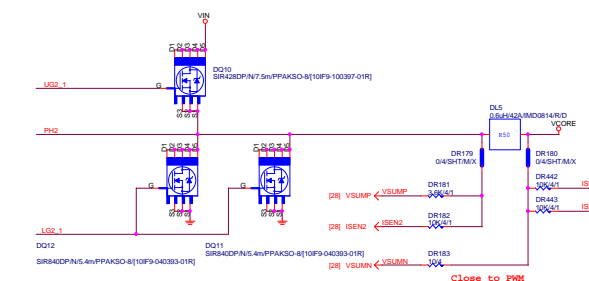
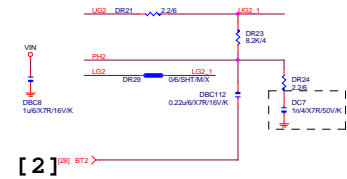




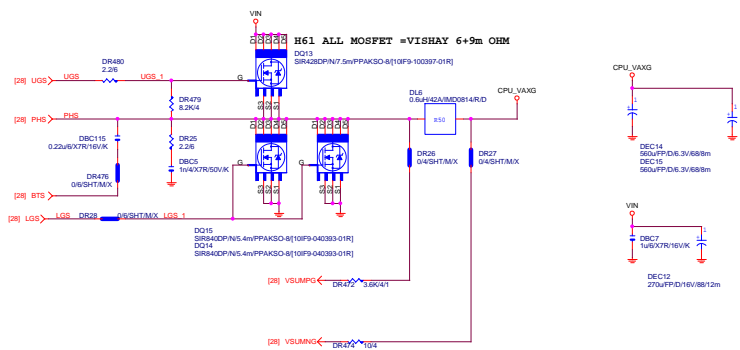
PHASE 3



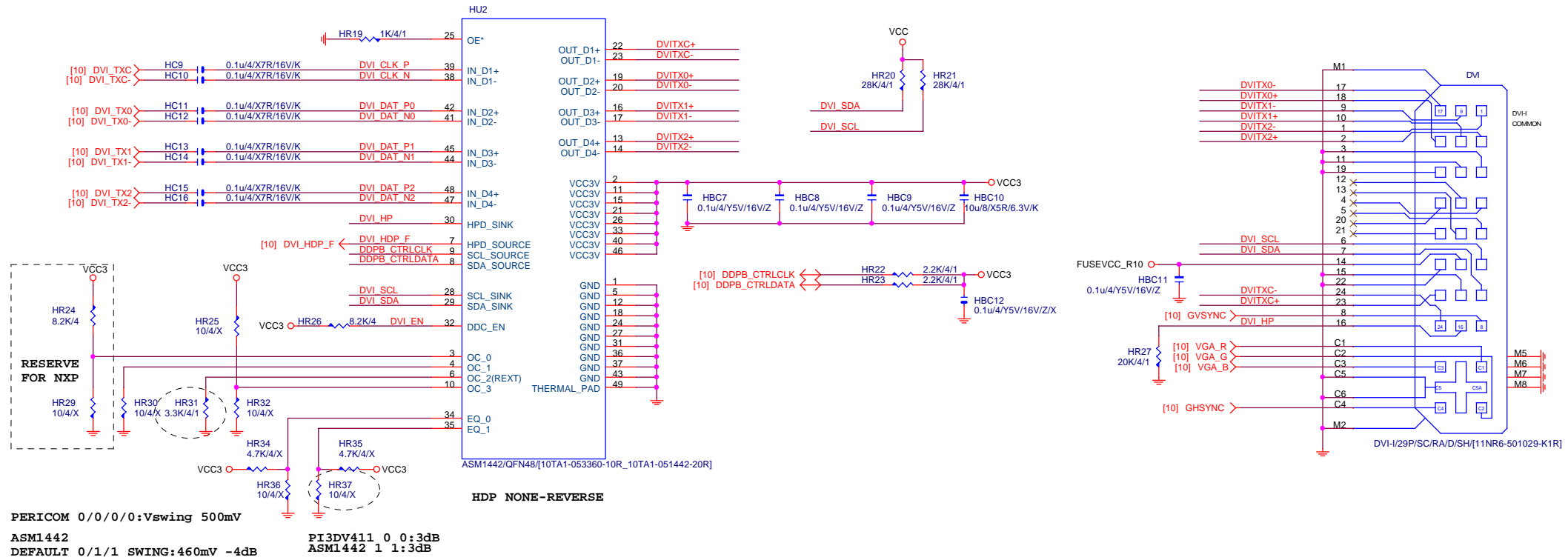
PHASE 2



VAXG

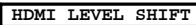


DVI LEVEL SHIFT

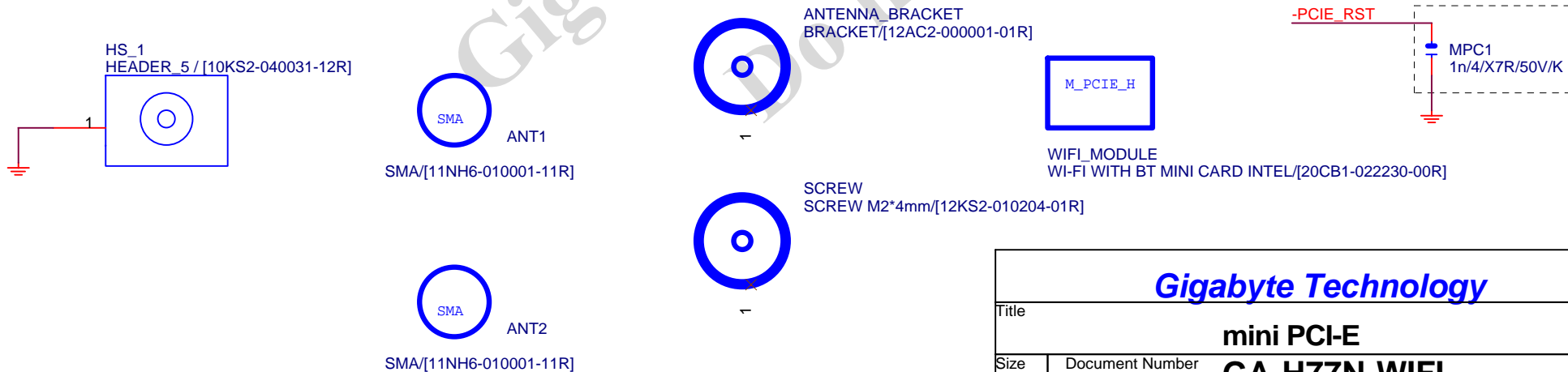
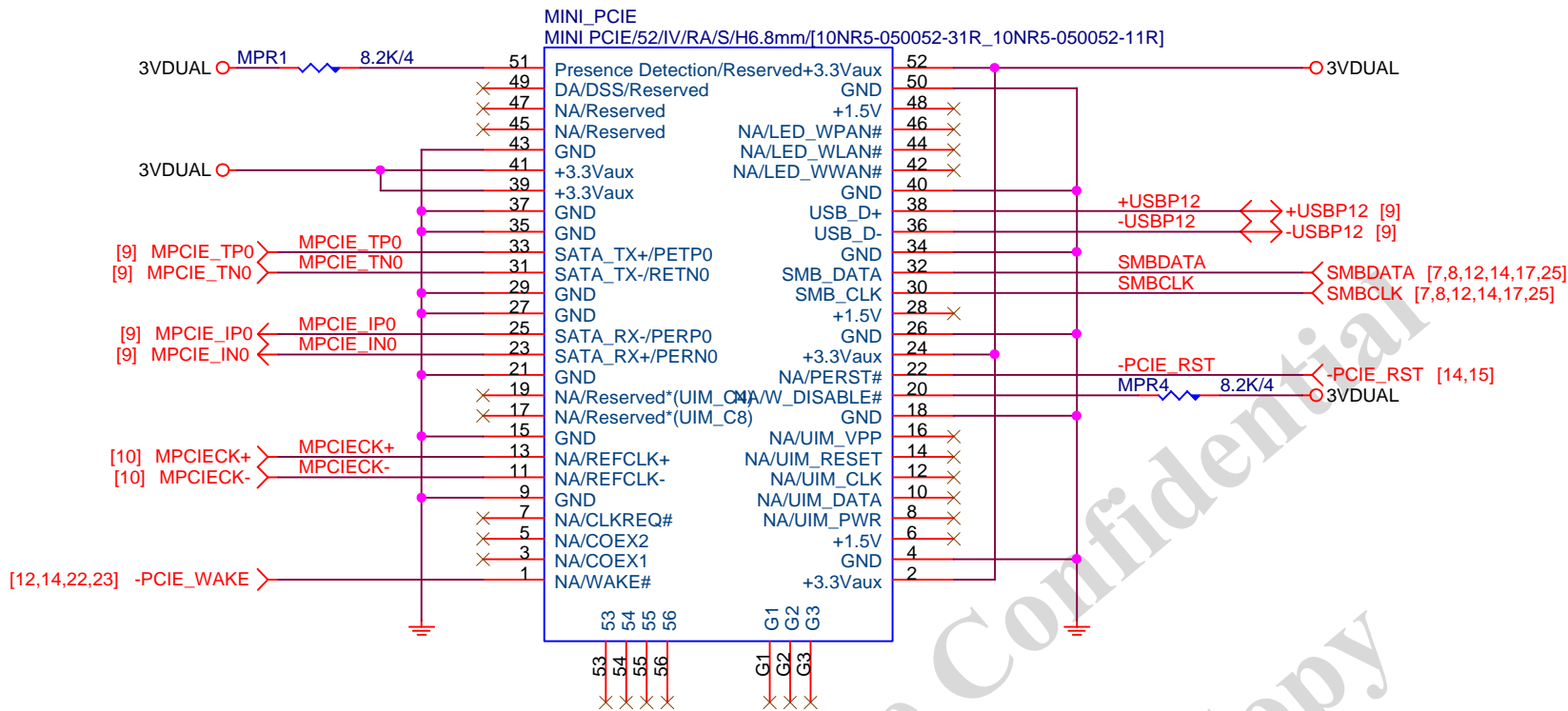


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Title		
DVI		
Size	Document Number	Rev
Custom	GA-H77N-WIFI	1.01
Date:	Monday, November 05, 2012	Sheet 30 of 32



Title			
HDMI * 2			
Size Custom	Document Number		Rev
	GA-H77N-WIFI		1.01
Date:	Monday, November 05, 2012	Sheet	31 of 32



Gigabyte Technology			
Title			
mini PCI-E			
Size A	Document Number	GA-H77N-WIFI	Rev 1.01
Date: Monday, November 05, 2012	Sheet 32	of 32	