

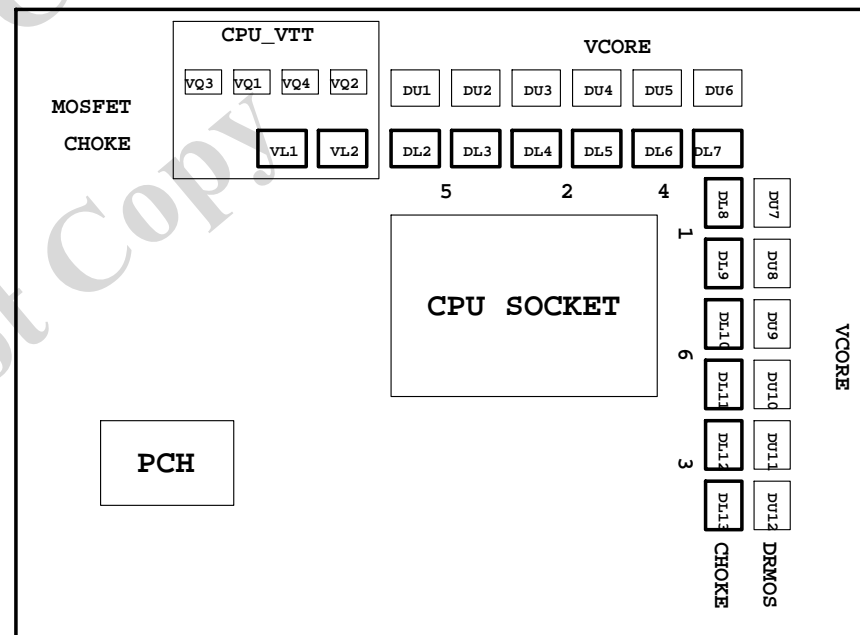
Model Name: GA-Z68XP-UD3P

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*8 SLOT
16	PCI EXPRESS*16/*8 SWITCH
17	PCI EXPRESS*1 SLOTS X3
18	IT8892
19	PCI SLOT 1&2
20	I/O ITE8728
21	COM, -PROHOT, ESATA CONNECT
22	Dual BIOS , TPM SLB9635TT
23	ALC899
24	REAR AUDIO JACK
25	VCORE PWM_ISL6366CRZ-1
26	VCORE PWM_ISL6366CRZ-2
27	VCORE PWM_ISL6366CRZ-3
28	N/A

29	DISCRETE POWER I
30	DDR_15V & VCC1_05_PCH PWM_ISL6545CBZ
31	CPU_VTT PWM_ISL6322G
32	VCCSA POWER
33	F_PANEL , F_USB , FDD
34	ATX POWER, CLOCK GEN
35	HWM,KB/MS , FAN CTRL
36	REALTEK RTL8111E
37	VT6308P 1394
38	REAR ET168A USB3.0
39	FRONT EJ168A USB3.0
40	MARVELL 9172
41	N/A
40	TABLE LIST



Gigabyte Technology

Title		Cover Sheet	
Size	Document Number	Rev	
Custom	GA-Z68XP-UD3P	1.01	
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Component value change history

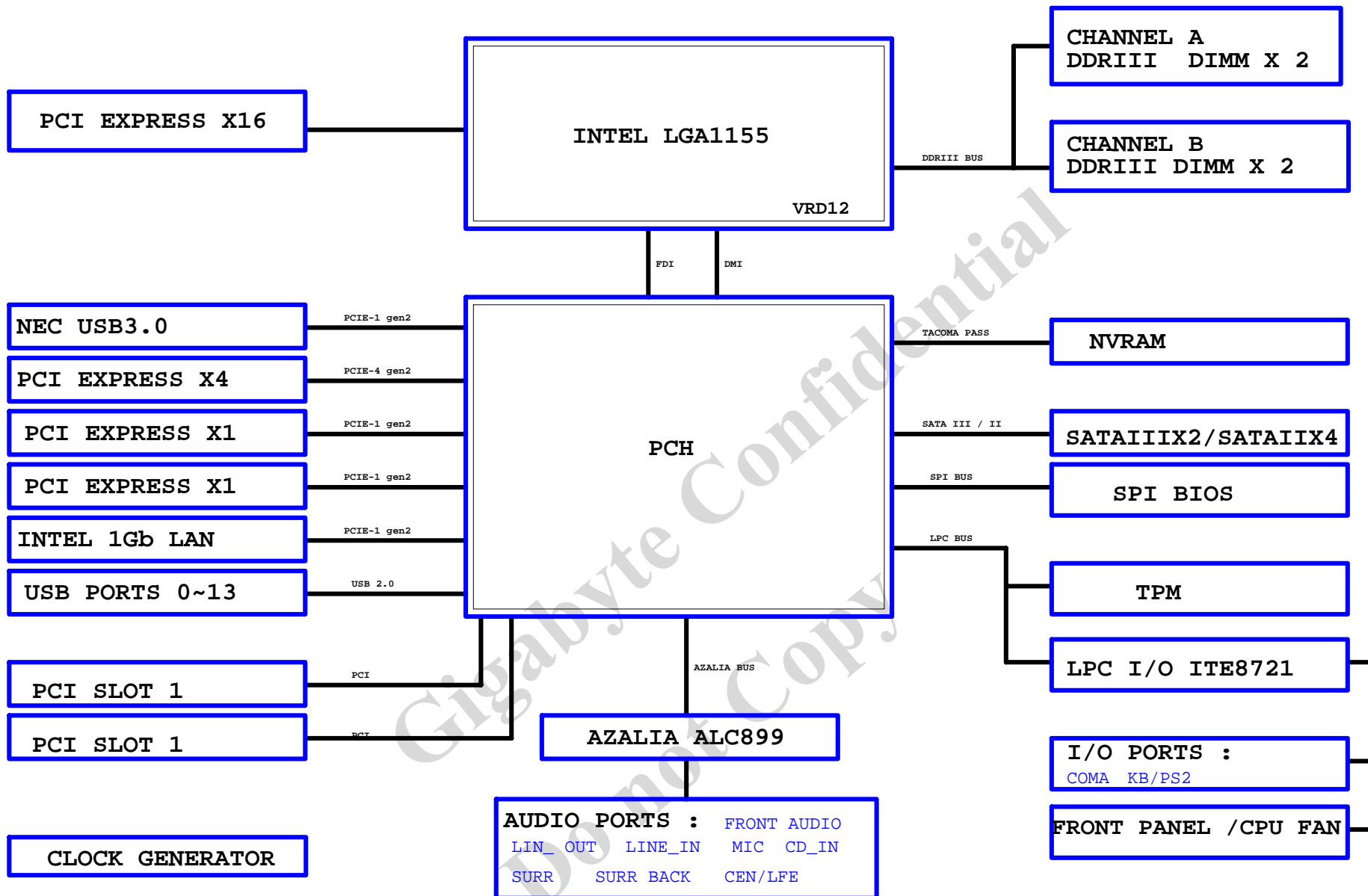
Data	Change Item	Reason
2011/02/21	9MP6XU3PB-00-01	P67X-UD3P-B3-01_20110221_1000_BOM.DSN
	EVT RELEASE	
2011/03/24	9MZ68XU3P-00-10A	
更換	MR23,316/4/1變更爲330/4/1	
	DR172,DR172,150K/4變更爲330K/4/1	
	DR168,VR52,1K/4/1變更爲499/4/1	
	DR220,25.5K/4/1變更爲40.2K/4/1	
	DR263,100K/4/1變更爲162K/4/1	
	DR259,200K/4/1變更爲324K/4/1	
	NR17,40.2K/4/1變更爲10K/4/1	
	R16,40.2K/4/1變更爲20K/4/1	
	MR22,NR197,20K/4/1變更爲4.99K/4/1	
	GSATA3_6_7,SATA/14/BK/H/OP/RA/D/2變更爲'SATA/14/GR/H/OP/RA/D/2	
	PCH,BD82P67/B3/S變更爲BD82Z68/B3/S	
	R24,12K/4/1變更爲8.2K/4/1	
	UAFB1,UAFB2,UBF1,UBF2,SMD1206P300SLR/S變更爲SMD1812P350SLR/S/[10FP1-06350B-20R]	
	DR199,54.9K/4/1變更爲110K/4/1	
	DR262,49.9K/4/1變更爲80.6K/4/1	
	DR182,165K/4/1變更爲330K/4/1	
	VU1,ISL6322G/QFN48/[10TA1-606322-21R]變更爲ISL6322G/QFN48/[10TA1-606322-21R_10TA1-606322-11R]	
	DR139,47K/4/1變更爲8.2K/4/1	
	MR10,MR11,MR12,MR13,MR15,MR16,MR4,MR5,MR6,MR7,499/4/1變更爲1K/4/1	
	UBC6,UBC7,1u/4/X5R/6.3V/K變更爲0.1u/4/X7R/16V/K	
	DR14,DR133,DR15,DR16,DR102,DR114,DR138,DR7,DR61,DR40,DR31,DR56,332/4/1變更爲475/4/1	
	DR202,DR196,5.49K/4/1變更爲10K/4/1	
增加	C16,1u/4/X5R/6.3V/K R66,R75,270K/4 OR7,R106,R112,8.2K/4 IBC14,C25,DC142,DC143,DC505,DC506,0.1u/4/X7R/16V/K R108,R111,220/6 Q28,Q33,Q40,2N7002/SOT23/25pF/5 DC504,22u/8/X5R/6.3V/M Q35,Q39,PMBT2907A/SOT23/-600mA/50 AD1,AZ2225-01L/SOD323 Q29,Q36,MMBT2222A/SOT23/600mA/40 R77,R110,2K/4 C29,DC501,DC502,1u/6/X7R/16V/K RAEC1,100u/OS/D/16V/66/30m NX2-SHT,SHW/D0.64*5.08*6.74 R127,1K/4/1	刪除 R1,LAR3,LABC25,RBR20,LAR14,0/4 DBC102,0.1u/4/X7R/16V/K R48,OR12,OR15,DR349,DR339,DR317,R52,8.2K/4 R56,R57,220/6 CESD1,CESD2,CESD3,CESD4,CESD5,AZ2025-04S/SOT23-5L/[10TA1-012025-10R] NR28,33/4 Q27,DQ46,2N7002/SOT23/25pF/5 RABC21,22u/8/X5R/6.3V/M RARN1,0/8P4R/4 Q15,DQ43,Q14,PMBT2907A/SOT23/-600mA/50 DQ48,Q16,Q17,MMBT2222A/SOT23/600mA/40 R49,R51,R53,22K/4 NX3-SHT,SHW/D0.64*5.08*6.74 DR343,DR295,75K/4/1 DR320,DR344,DR326,1K/4/1

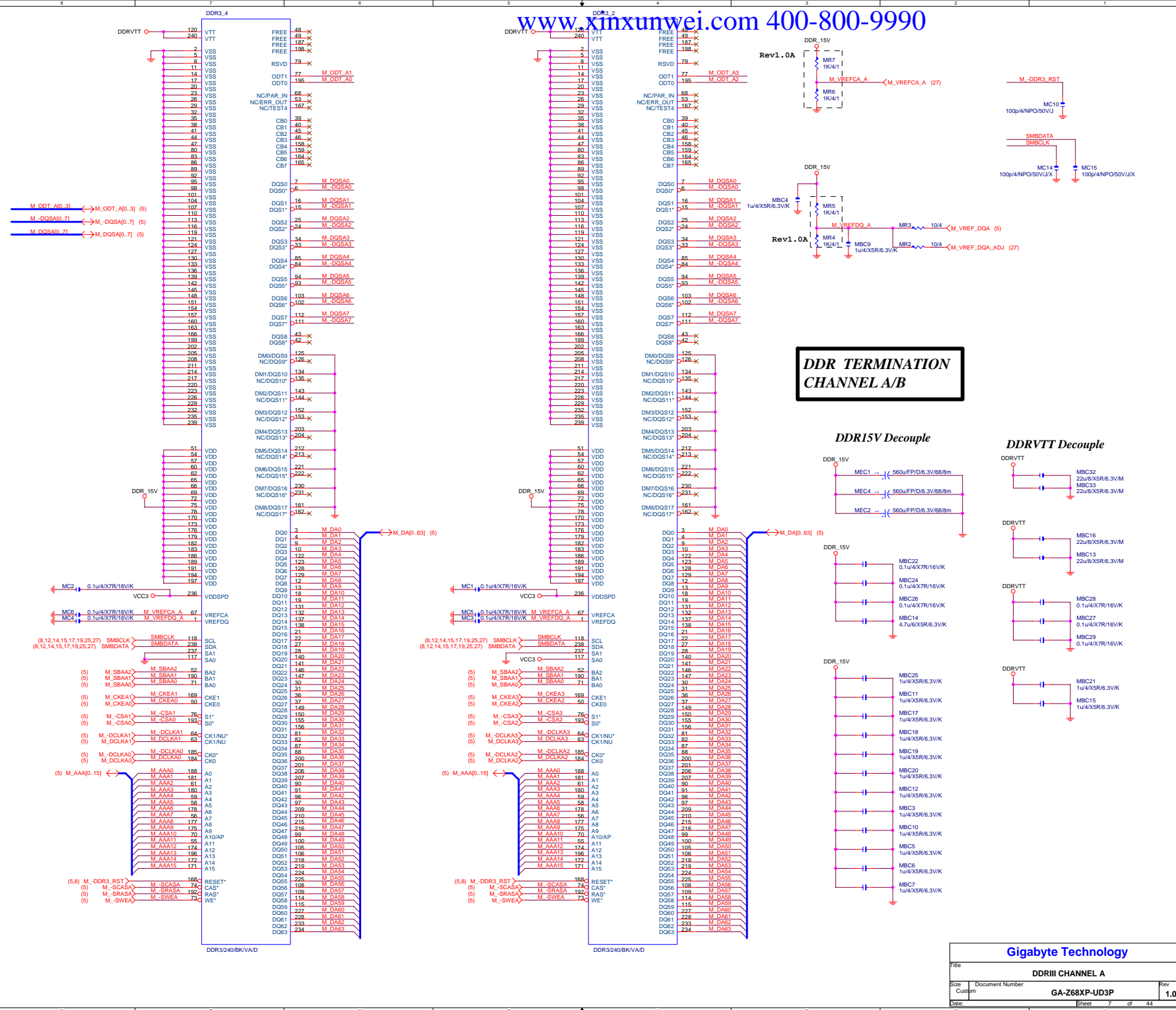
Circuit or PCB layout change

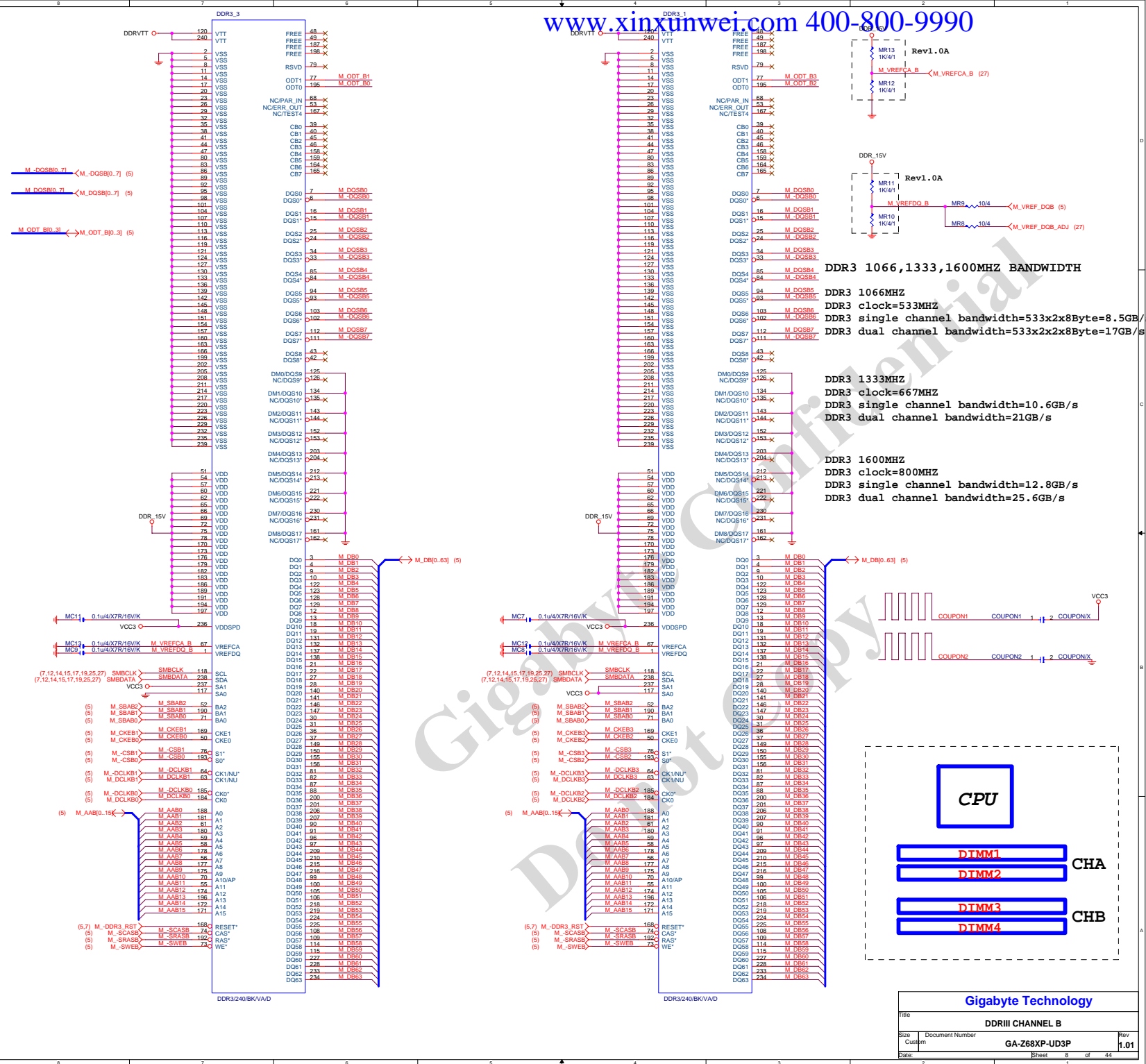
DATE	Change Item	Reason
2011/02/18	Change from P67X-UD4-B3 Rev0.1	P67X-UD3P-B3-01_20110218_1000.DSN
Rev:0.1		
2011/03/09	Remove LAR11,LAR14,NR28	P67X-UD3P-B3-10A_20110308_1800.DSN
REV1.0	NX3-SHT --> NX2-SHT	
	CR44 --> R0603-RH	
	CESD1,CESD2,CESD3,CESD4,CESD5 --> SSOP5	
	CESD2標示PIN1	
	Add DR388,DR389,DR391	
	Remove DR371,DQ49,DR347	
	R1,LABC25,LAR3,RBR20 --> R0402-2-SHORT10-MASK	
	Remove LAR11,LAR14	
	Remove IU2	
	RAQ1 --> Q_TO223-MASK	
	RARN1 --> R8P4R-0402-SHORT	
	RAQ2,RAEC1下移40MIL	
2011/03/21	Model name change to GA-Z68X-UD3P-B3	
REV1.0	USB3.0 Fuse change to 1812 3.5A	
	CEC1-CEC10;RAEC1;UBEC2 change to EC6D8MM-RH-1	
	Add DC500,DC501,DC502,DC504,DC505,DC506,DC142,DC143	
	Add R130	
2011/03/24	9MZ68XU3P-00-10B	2011/03/30 9MZ68XU3P-00-10C
	1.PCIE 36P 改爲11AC1-021036-B1R	1.Add C23,0.1u/4/X7R/16V/K
	2.MOS Heatsink改爲用料一	2.Add C24,1u/4/X5R/6.3V/K
	2011/03/24 9MZ68XU3P-00-10D	
	1.C14-->0.1u/6	
	2.R95-->22K/4	

BLOCK DIAGRAM

www.xinxunwei.com 400-800-9990

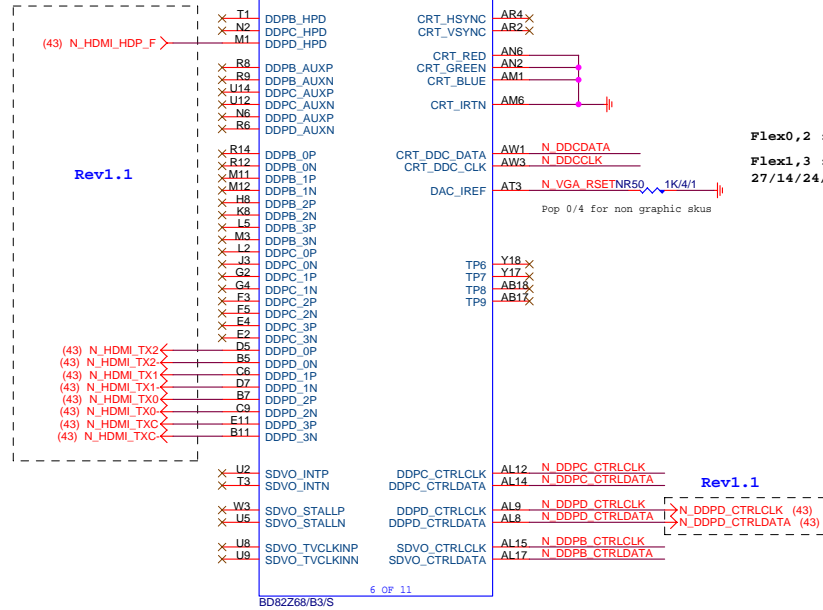






HDMI: 20/4/6/4/20

Impedance=90 ohm +- 15%



(20) N_LPC33 ← NR18 33/4

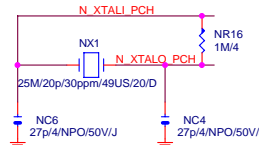
(11) N_PCH33 ← NR47 33/4

(22) T_TPMCLK ← NR29 33/4

Rev1.0A Remove

(20) O_LPCLK48 ← NR48 33/4

VCC1_05_PCH ← NR51 90.9/4/1



Strapping Signals

Name	Type	Recommendations	Reason/Impact
SPWR	I	Default Mode: Internal weak pull-down. No Reset Mode with TCO Disabled: Connect to Vcc3, 3 with 5.0k-10k Ohm weak pull-up resistor.	
INT13_V3P3	I	Do not pull low.	
INT14# / SP005#	I/O	Default Mode: Internal pull-up. Top Block Sleep Mode: Connect to ground with 4.7k Ohm weak pull-down resistor.	
SATA1GP/ / SP010# / INT1#	I/O	Default (NFI) Link built: SATA1GP/INT1# and INT1# floating. No pull-up required. Reset from PCI Connect SATA1GP/INT1# to ground with 1k Ohm pull-down resistor. Leave INT1# floating. Reset from LPC Connect both SATA1GP/INT1# and INT1# to ground with 1k Ohm pull-down resistor.	If LPC is selected BIOS may still be placed on LPC, but all platforms with PCH require SPI flash connected directly to the PCH's SPI bus with a valid decoder in order to boot. Resetting to PCI is intended for debug/testing only. Boot BIOS Configuration (direct to LPC/PCI) by functional strap or via Boot BIOS Destination bit will not affect SPI accesses initiated by Management Engine or Integrated BMC UEFI.
INT14# / SP005#	I/O	Do not pull low.	BIOS chip for server platform ONLY
HDA_S00	I/O	Default: Do not pull high. Disable HEC in Manufacturing Mode Connect to Vcc3/IOVDD with 1k Ohm pull-up resistor through a jumper.	Flash Descriptor Override
SPI_M0N0	I/O	Internal weak pull down. Do not pull high.	EMI R.F. Termination Voltage
SPI_T0N0	I/O	Internal weak pull up. Do not pull low.	EMI Termination Voltage
HDA_STN0	I/O	Internal weak pull down. Do not pull up.	On die Pk, Vb voltage selector
SP001S	I/O	Enable T1S: Pull up with 1k Ohm to Vcc3/IOVDD. Default (Disable T1S): Leave NC. Internal pull down.	Tx3 confidentiality
SP008	I/O	RTN Leave floating. Do not pull low. FECN Pull low with 1k Ohm to ground.	PCIE Can be override by softstrap through ME.
SP002R	I/O	Internal weak pull up. Do not pull low.	On die Pk, voltage regulator
SATA1GP/ / SP003#	I/O	Internal weak pull up. Do not pull high.	
SATA1GP/ / SP003#	I/O	Internal weak pull down. Do not pull high.	

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Title PCH DISPLAY ,CLK BUFFER		
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+12 protect
short-wire test

PCIEX16:16/5/5/5/16

PA_EXP_RXP0_15] >> PA_EXP_RXP0_15] (4,16)
PA_EXP_RXN0_15] >> PA_EXP_RXN0_15] (4,16)
PA_EXP_TXP0_15] >> PA_EXP_TXP0_15] (4,16)
PA_EXP_TXN0_15] >> PA_EXP_TXN0_15] (4,16)

PA_EXP_TXP0	PAC5	0.22u4/X5R/6.3V/K	PA_EXP_TXP0_C
PA_EXP_TXN0	PAC4	0.22u4/X5R/6.3V/K	PA_EXP_TXN0_C
PA_EXP_TXP1	PAC6	0.22u4/X5R/6.3V/K	PA_EXP_TXP1_C
PA_EXP_TXN1	PAC7	0.22u4/X5R/6.3V/K	PA_EXP_TXN1_C
PA_EXP_TXP2	PAC8	0.22u4/X5R/6.3V/K	PA_EXP_TXP2_C
PA_EXP_TXN2	PAC9	0.22u4/X5R/6.3V/K	PA_EXP_TXN2_C
PA_EXP_TXP3	PAC10	0.22u4/X5R/6.3V/K	PA_EXP_TXP3_C
PA_EXP_TXN3	PAC11	0.22u4/X5R/6.3V/K	PA_EXP_TXN3_C
PA_EXP_TXP4	PAC12	0.22u4/X5R/6.3V/K	PA_EXP_TXP4_C
PA_EXP_TXN4	PAC13	0.22u4/X5R/6.3V/K	PA_EXP_TXN4_C
PA_EXP_TXP5	PAC14	0.22u4/X5R/6.3V/K	PA_EXP_TXP5_C
PA_EXP_TXN5	PAC15	0.22u4/X5R/6.3V/K	PA_EXP_TXN5_C
PA_EXP_TXP6	PAC16	0.22u4/X5R/6.3V/K	PA_EXP_TXP6_C
PA_EXP_TXN6	PAC17	0.22u4/X5R/6.3V/K	PA_EXP_TXN6_C
PA_EXP_TXP7	PAC19	0.22u4/X5R/6.3V/K	PA_EXP_TXP7_C
PA_EXP_TXN7	PAC18	0.22u4/X5R/6.3V/K	PA_EXP_TXN7_C
PA_EXP_SW_TXP8	PAC20	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP8_C
PA_EXP_SW_TXN8	PAC21	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN8_C
PA_EXP_SW_TXP9	PAC22	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP9_C
PA_EXP_SW_TXN9	PAC23	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN9_C
PA_EXP_SW_TXP10	PAC24	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP10_C
PA_EXP_SW_TXN10	PAC25	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN10_C
PA_EXP_SW_TXP11	PAC26	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP11_C
PA_EXP_SW_TXN11	PAC27	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN11_C
PA_EXP_SW_TXP12	PAC28	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP12_C
PA_EXP_SW_TXN12	PAC29	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN12_C
PA_EXP_SW_TXP13	PAC30	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP13_C
PA_EXP_SW_TXN13	PAC31	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN13_C
PA_EXP_SW_TXP14	PAC32	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP14_C
PA_EXP_SW_TXN14	PAC33	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN14_C
PA_EXP_SW_TXP15	PAC34	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP15_C
PA_EXP_SW_TXN15	PAC35	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN15_C

PA_EXP_SW_RXP8_15] >> PA_EXP_SW_RXP8_15] (16)
PA_EXP_SW_RXN8_15] >> PA_EXP_SW_RXN8_15] (16)
PA_EXP_SW_TXP8_15] >> PA_EXP_SW_TXP8_15] (16)
PA_EXP_SW_TXN8_15] >> PA_EXP_SW_TXN8_15] (16)

PCI-E REV:1.1--> 2.5GHZ

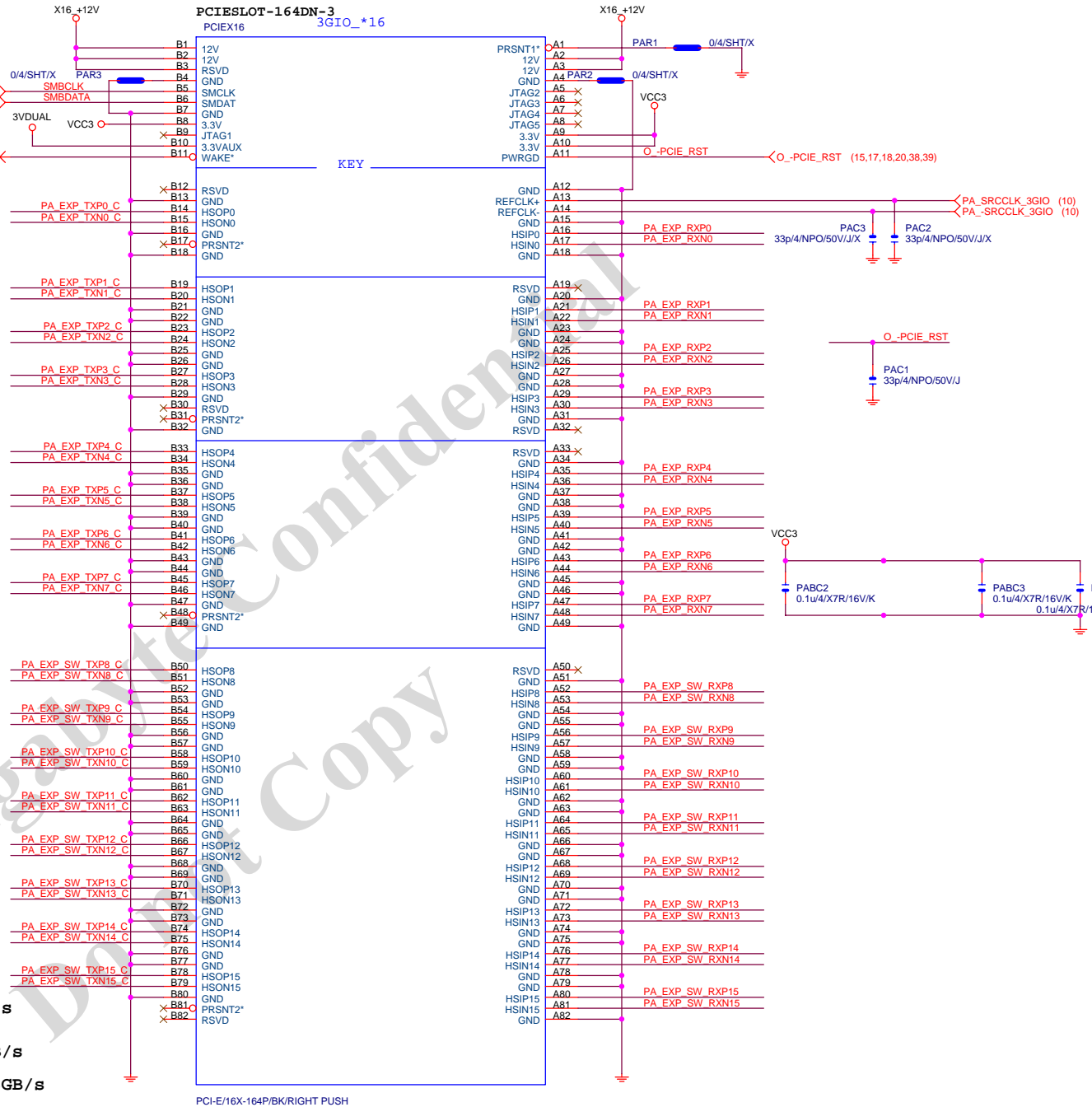
PCE-E X1(單向) BANDWITH=2.5GHz*(8b/10b)=2Gb/s=250MB/s

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

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

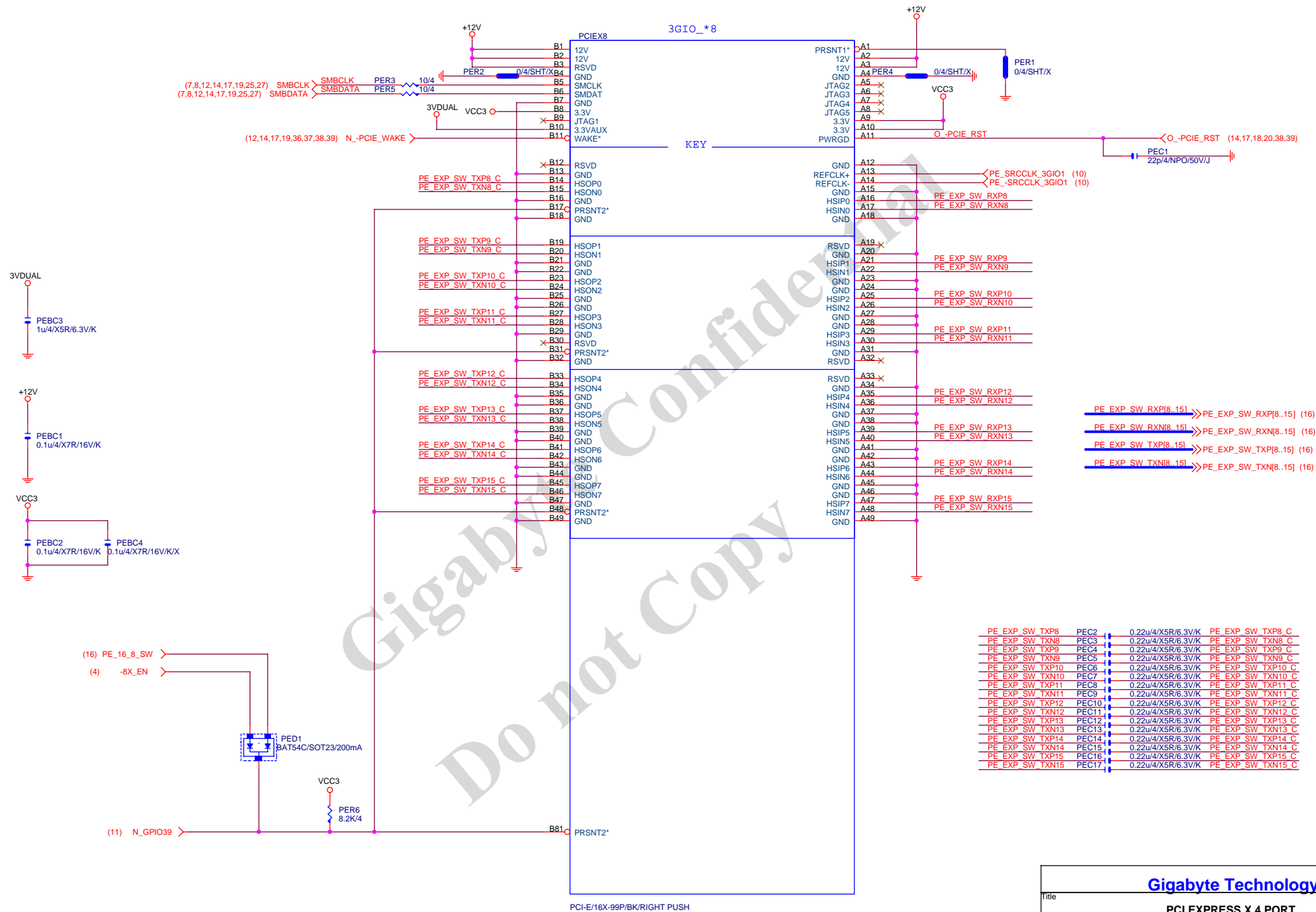
PCE-E X16(雙向) BANDWITH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--> 5GHZ



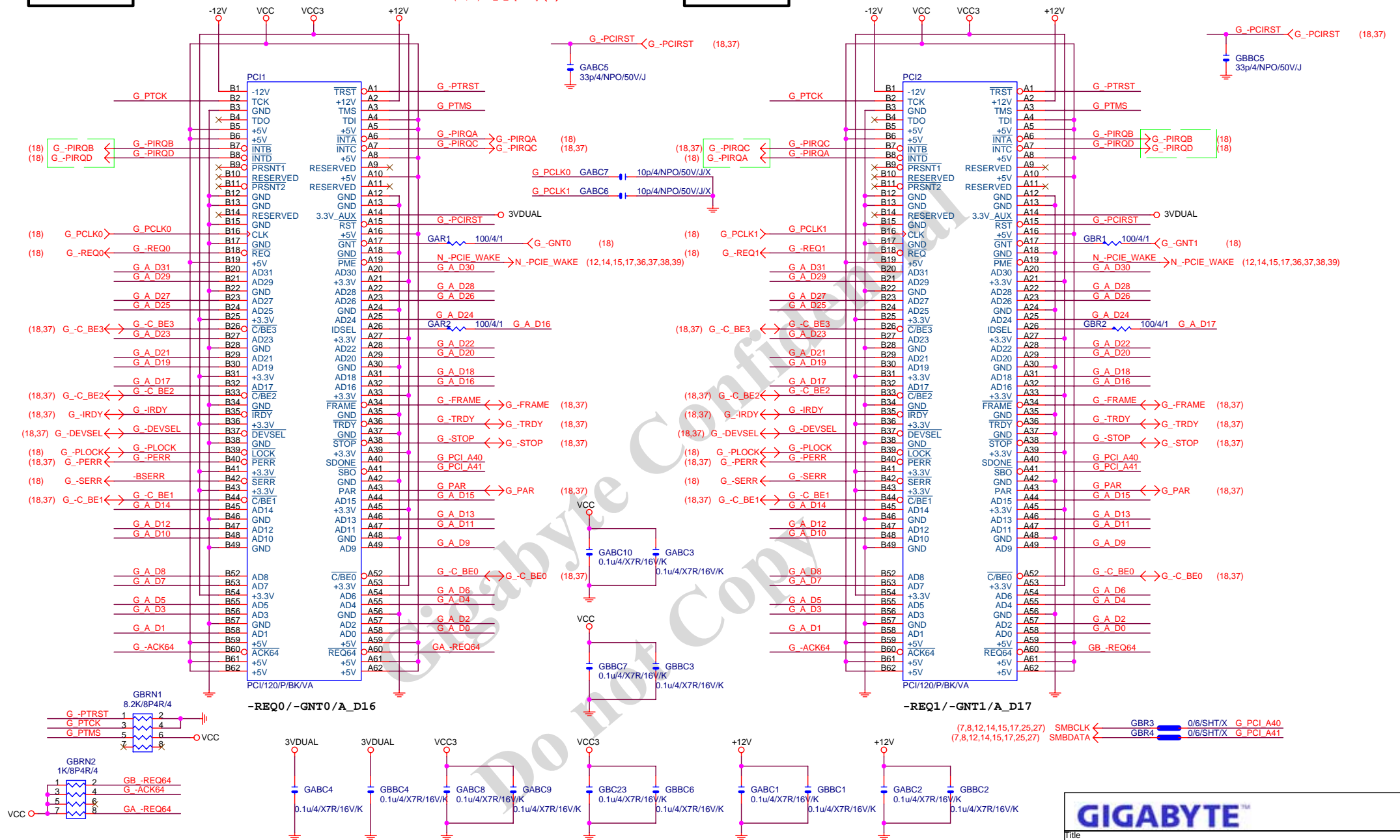
Gigabyte Technology

Title			
PCI EXPRESS * 16			
Size	Document Number	Rev	
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2		1	

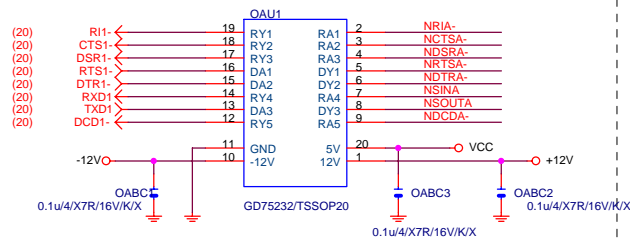


PCI SLOT 1

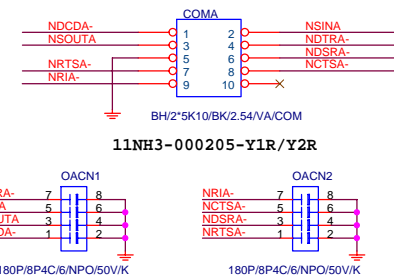
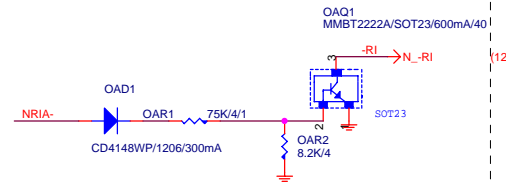
PCI SLOT 2



COMA

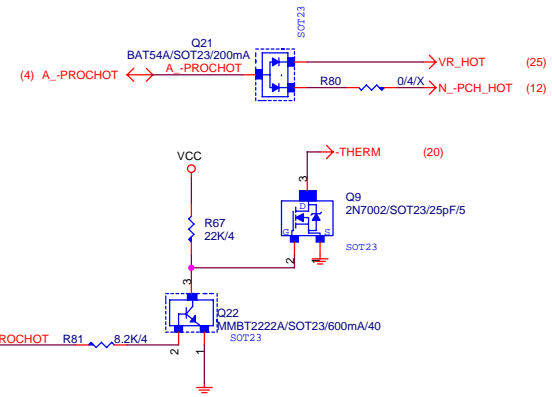


COM R1

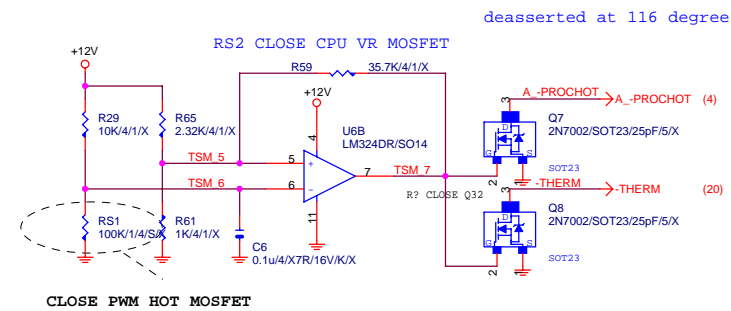


Rev1.1

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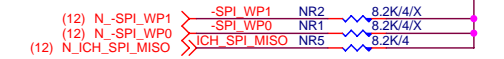
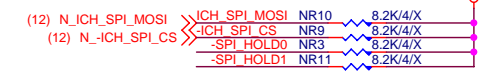


-PROHOT



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Title			
COM & PROHOT/Dynamic O.C.			
Size	Document Number	Rev	
Custom		1.01	
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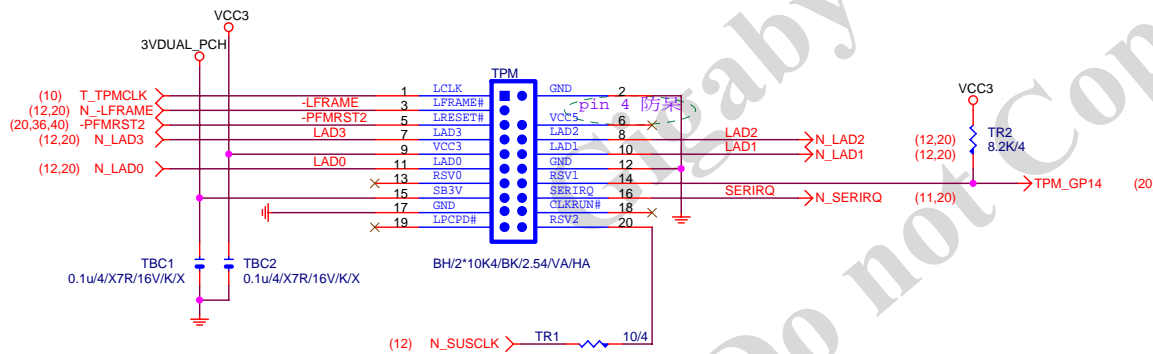
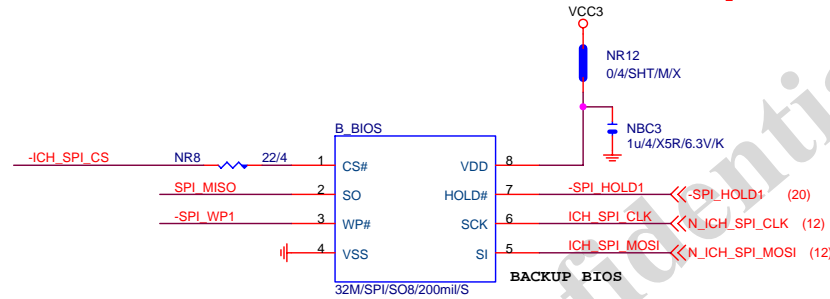
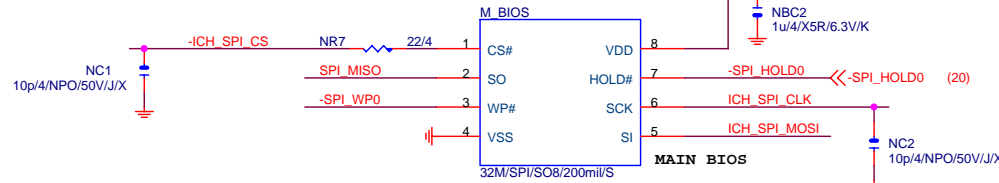
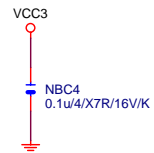
Default int pull up



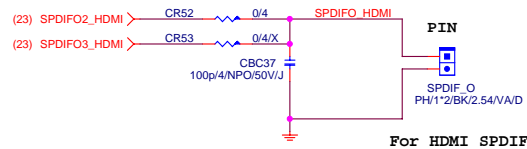
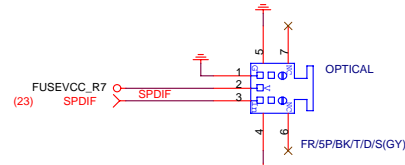
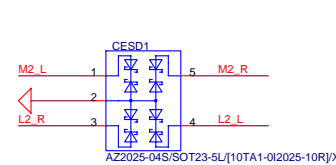
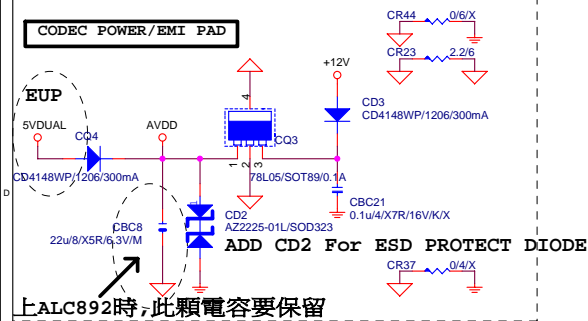
BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

1 means floating
0 means PD 1K

Gigabyte Technology			
Title		BIOS	
Size	Document Number	GA-Z68XP-UD3P	
Custom		Rev 1.01	
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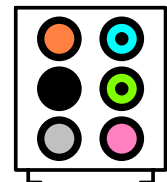


CODEC POWER/EMI PAD

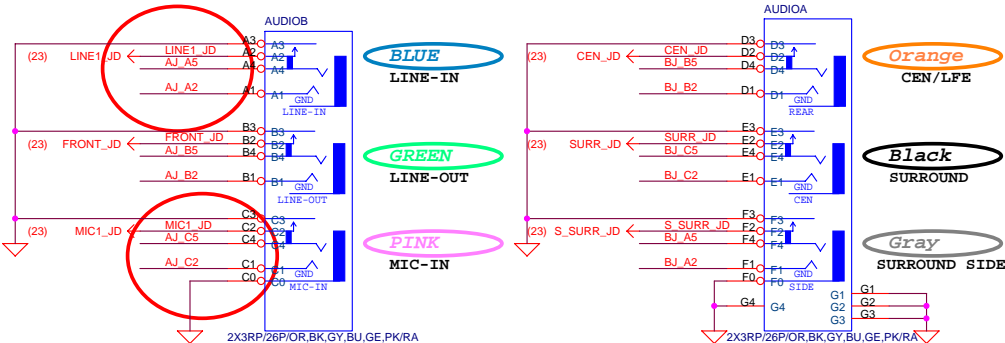
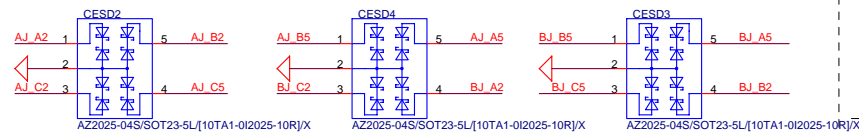


AZALIA JACK

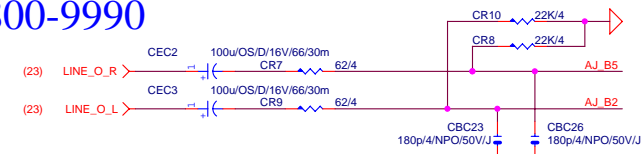
BTX AZALIA CONNECTOR



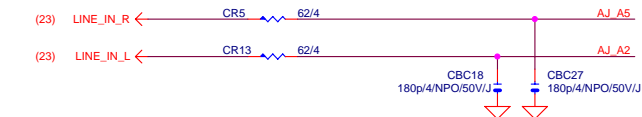
11NR6-403007-21R



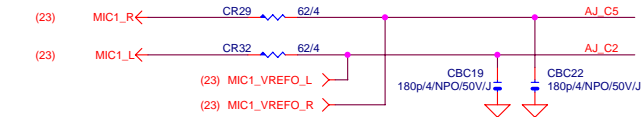
LINE-OUT



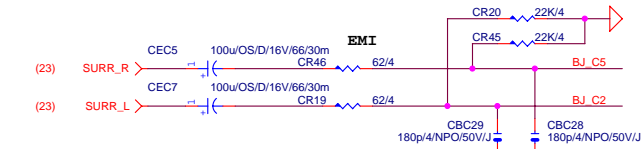
LINE-IN



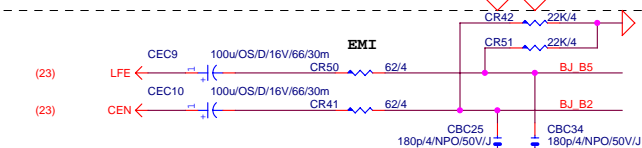
MIC-IN



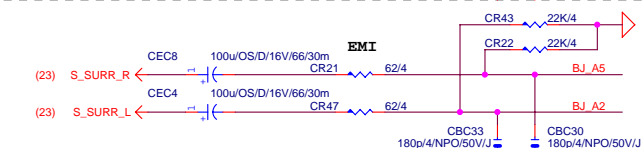
SURROUND



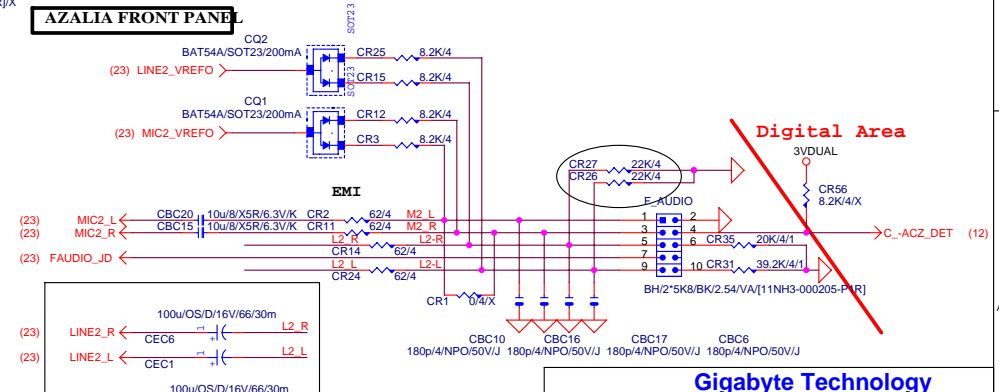
CEN/LFE



SURR BACK

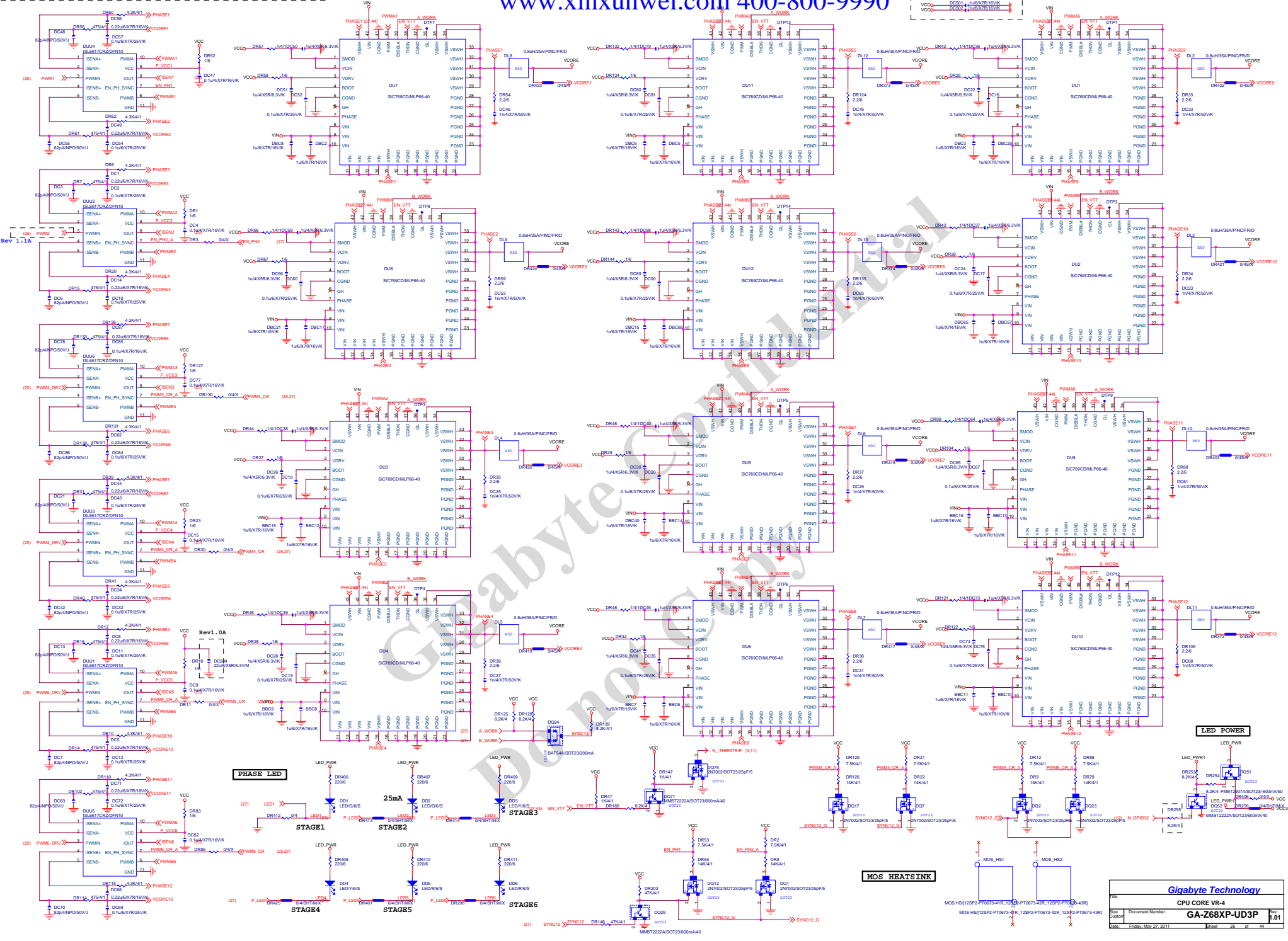


AZALIA FRONT PANEL



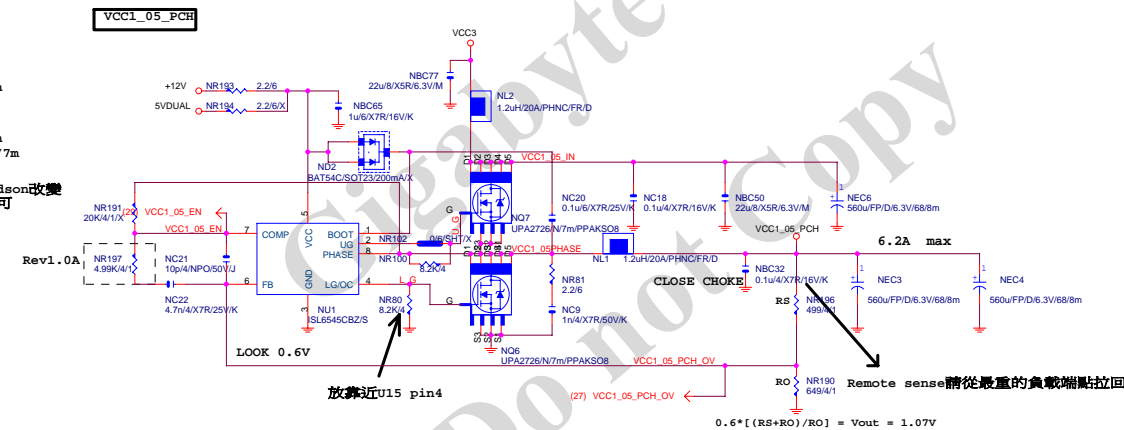
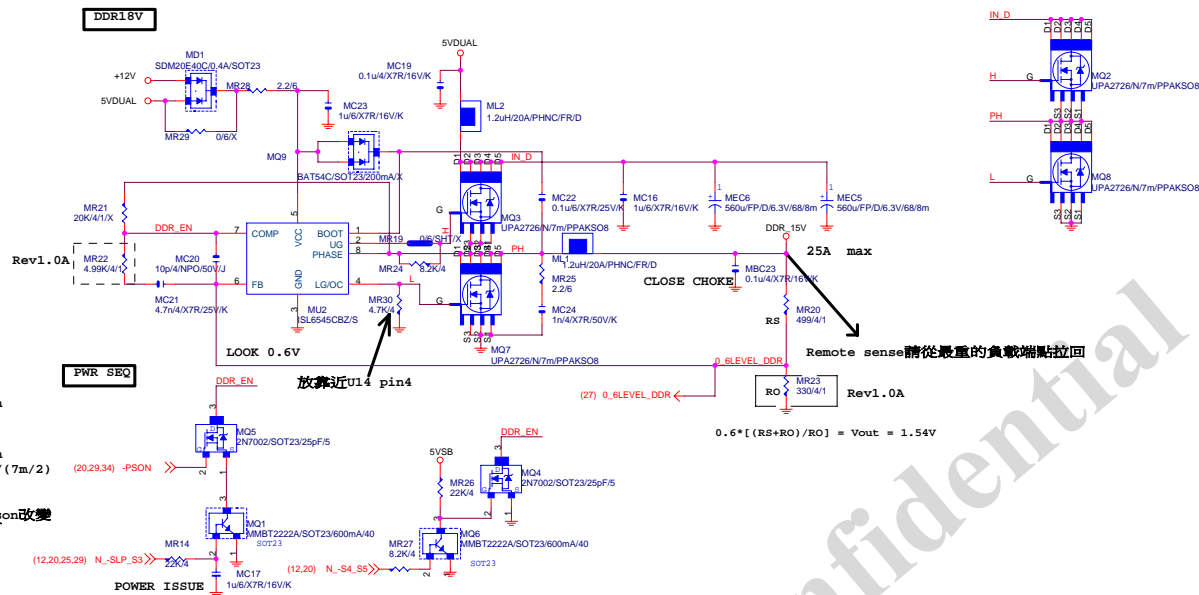
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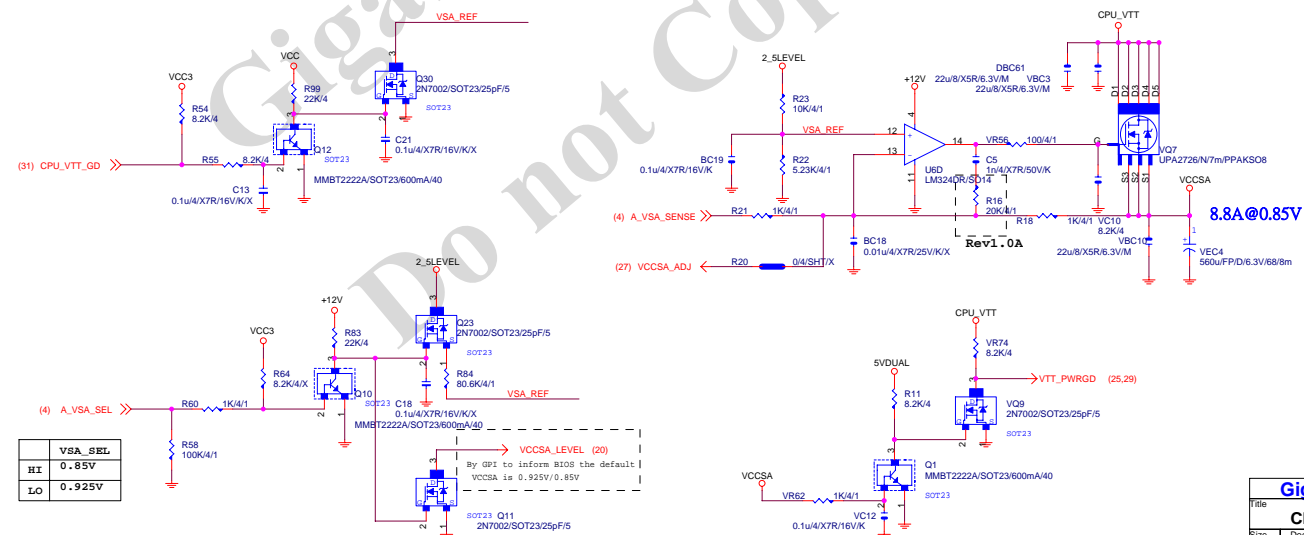


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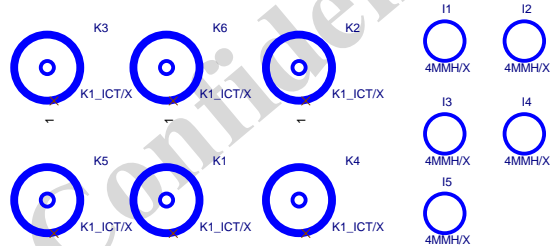
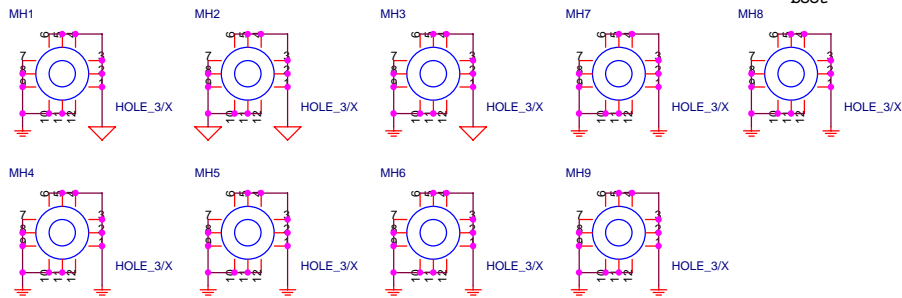
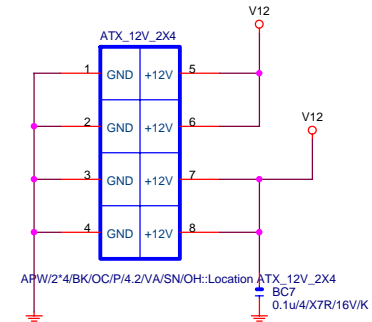
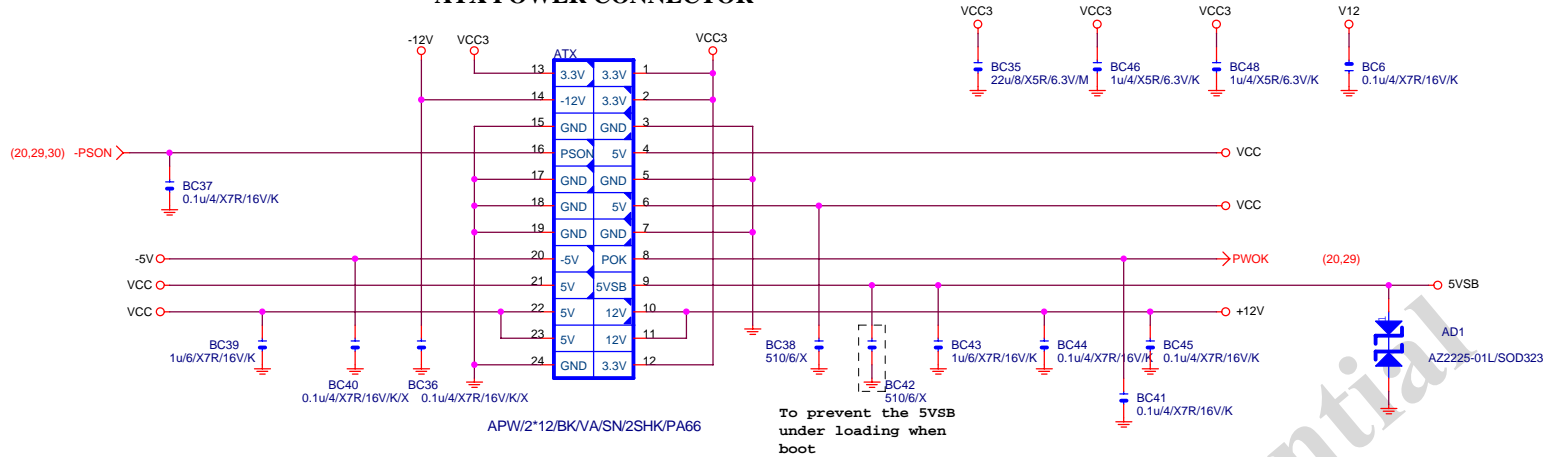


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ATX POWER CONNECTOR

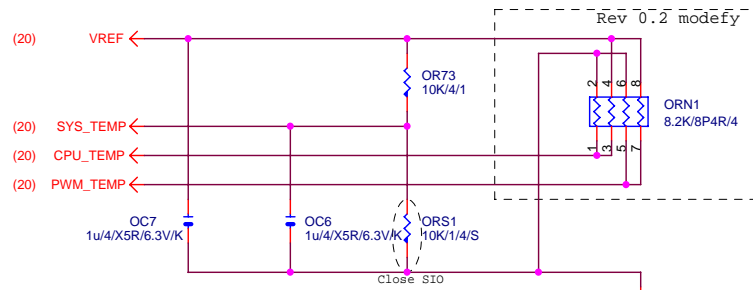
www.xinxunwei.com 400-800-9990



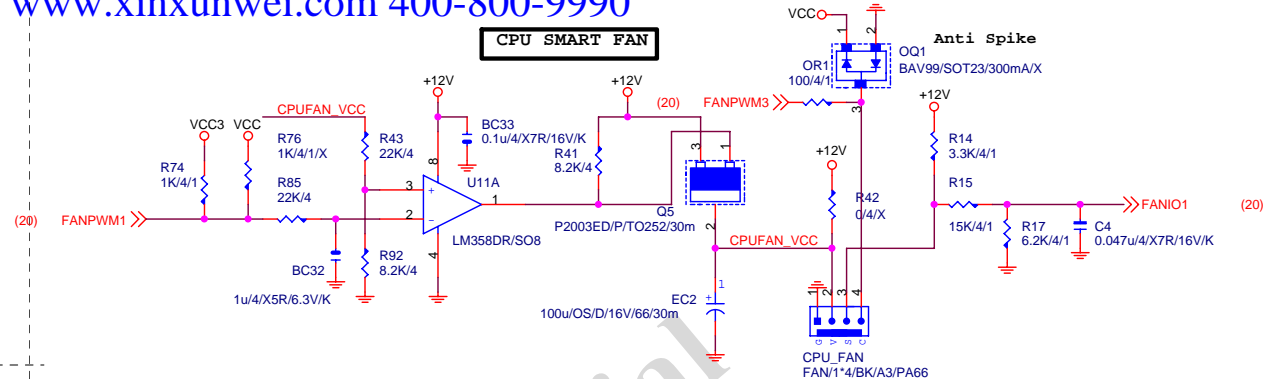
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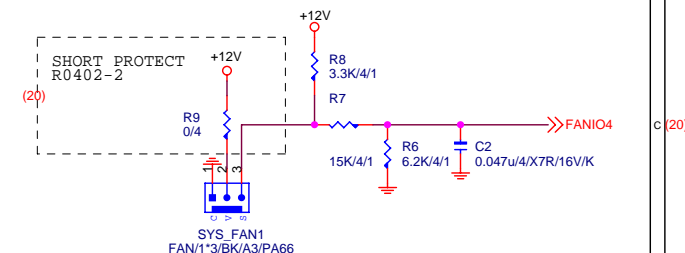
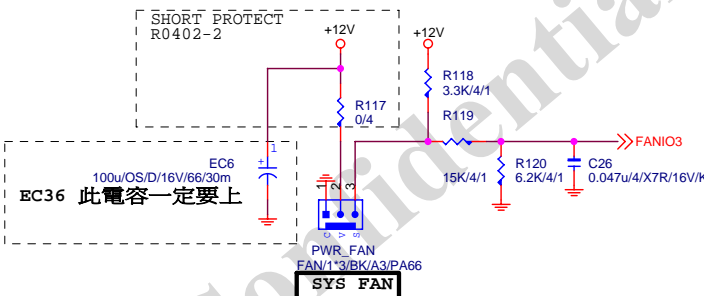
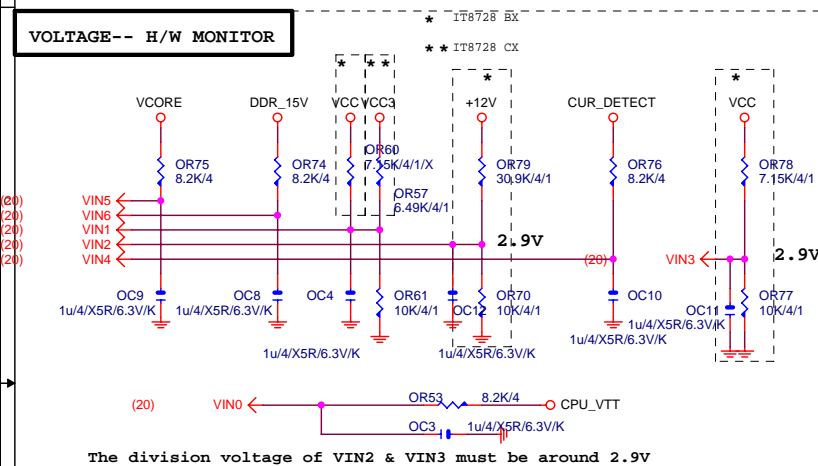
TEMP H/W MONITOR



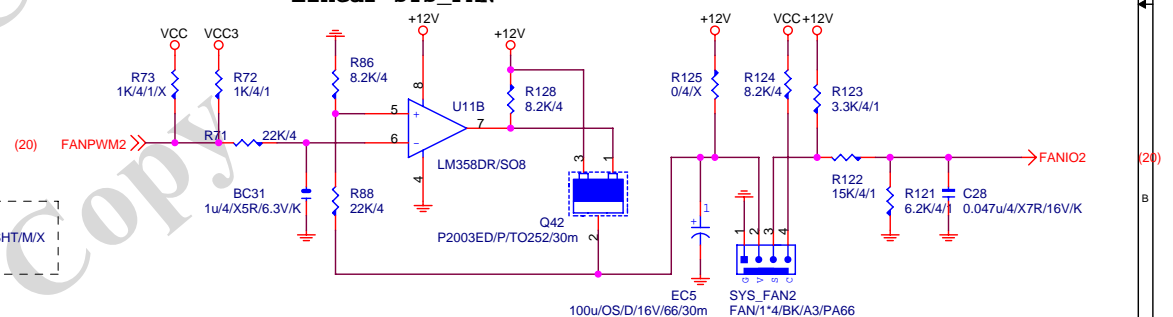
CPU SMART FAN



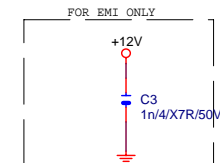
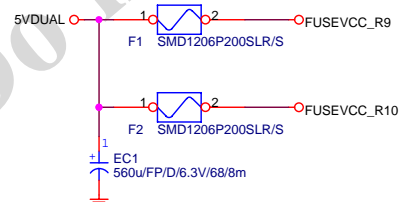
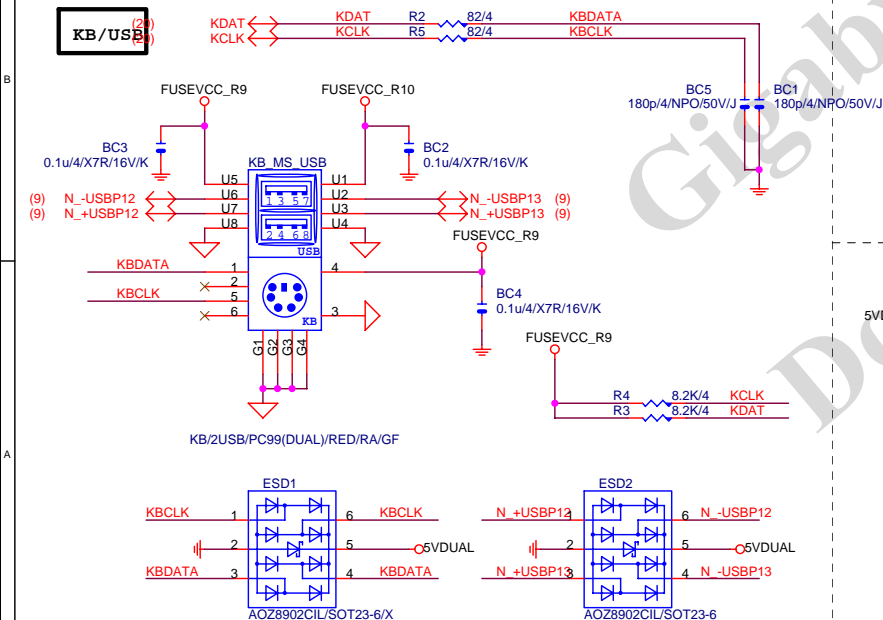
VOLTAGE-- H/W MONITOR



Linear SYS_FAN

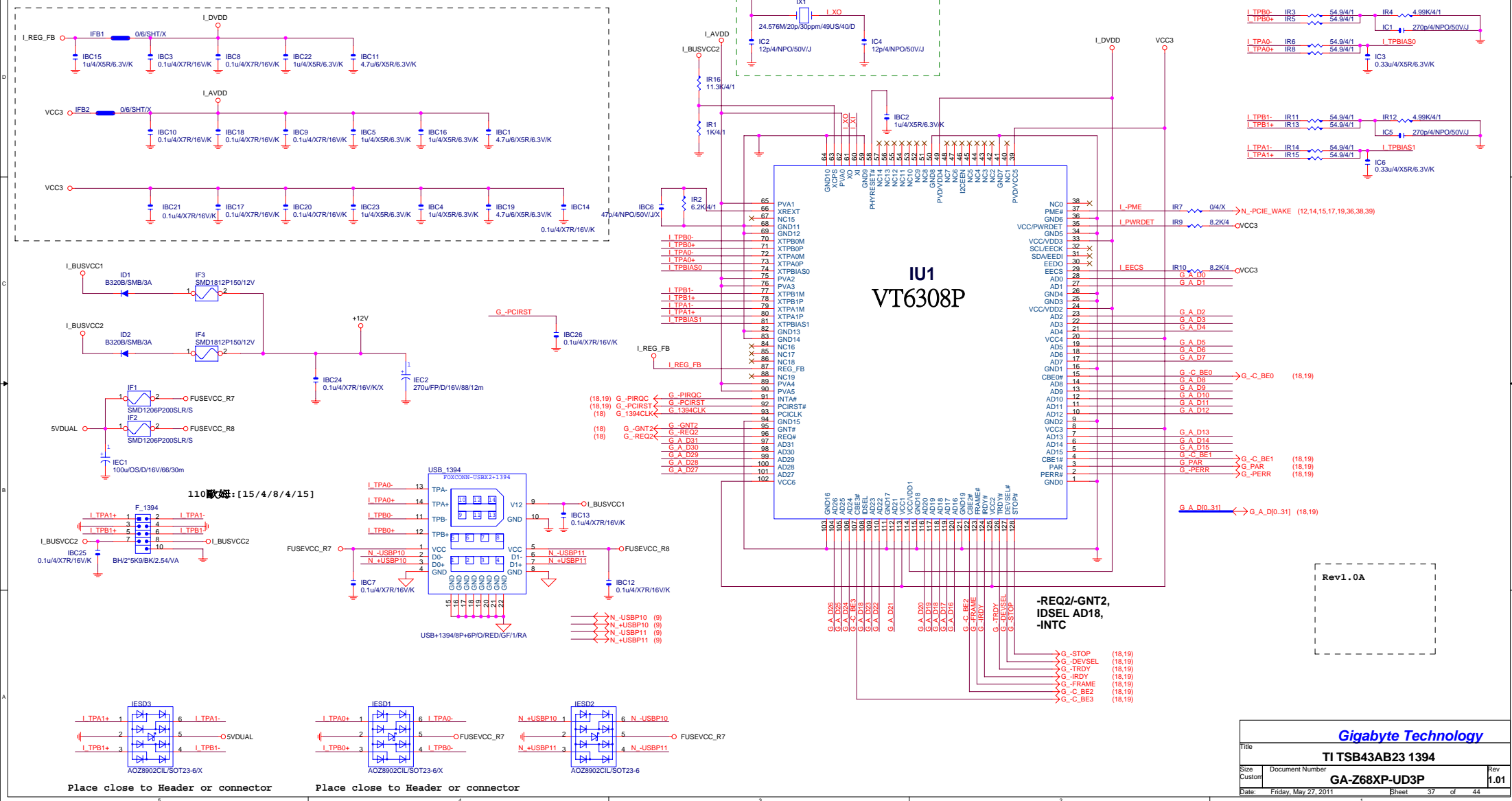


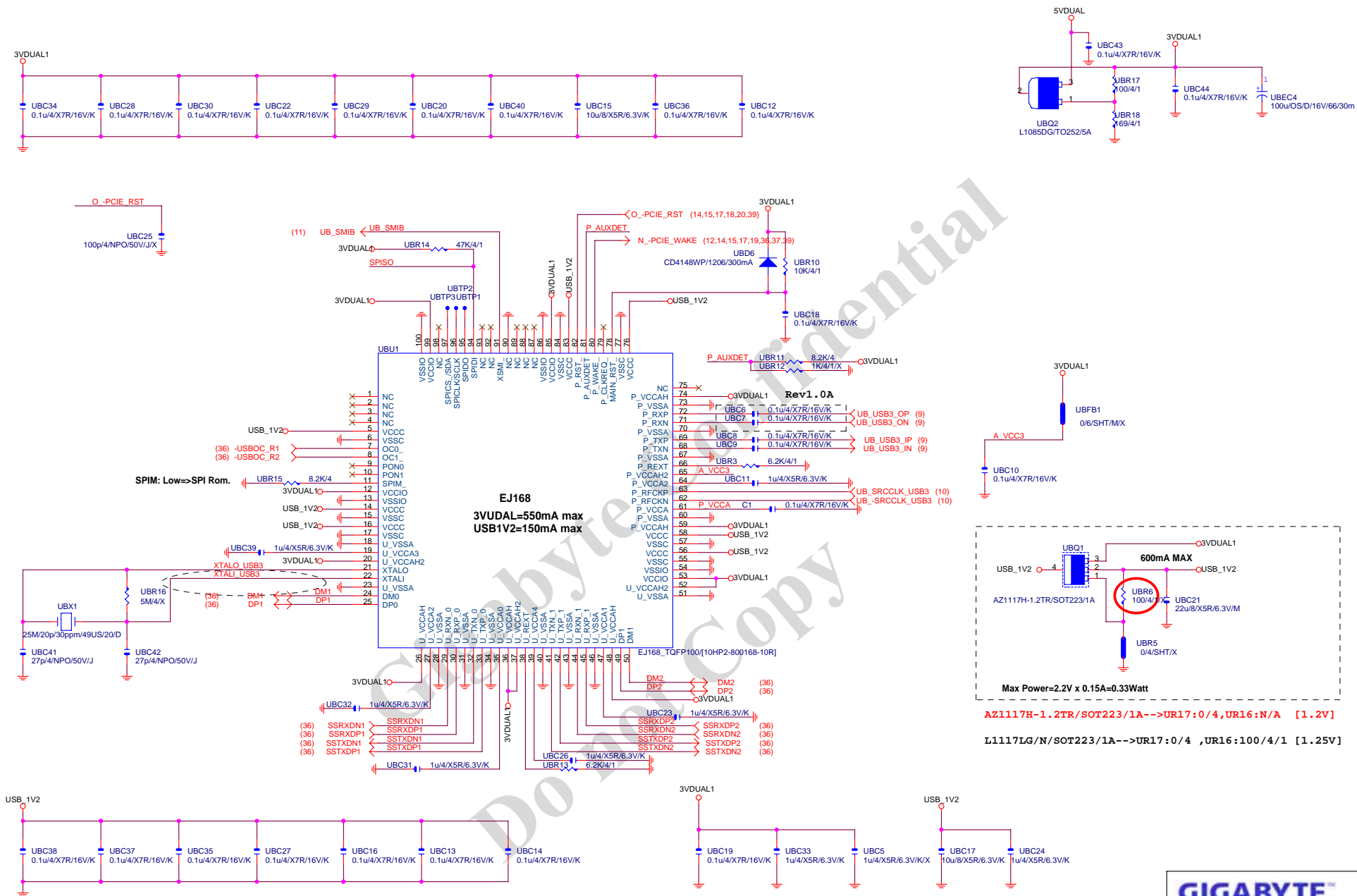
KB/USB



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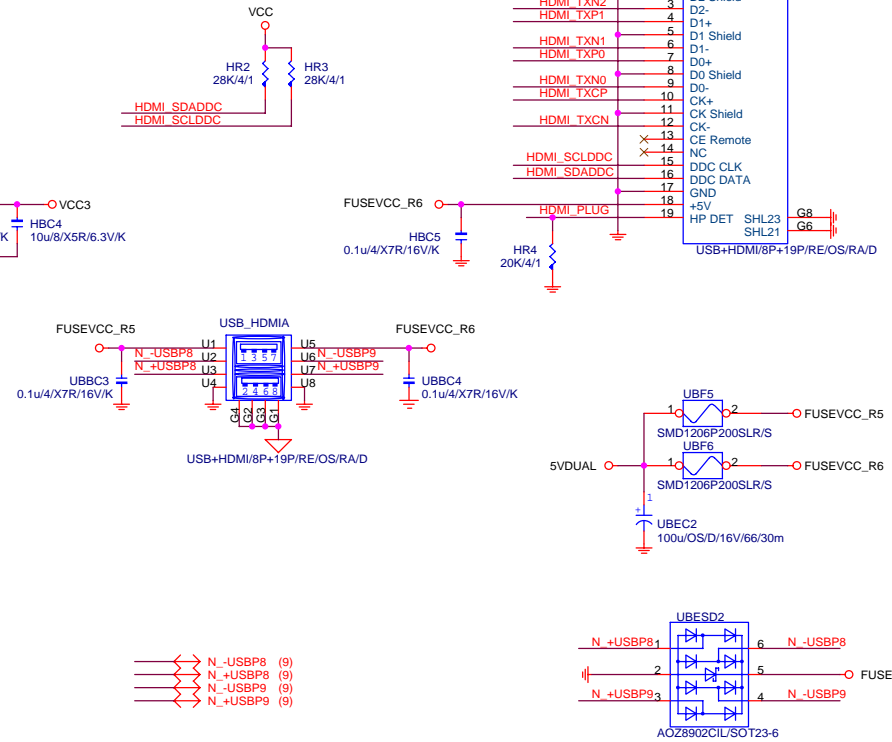
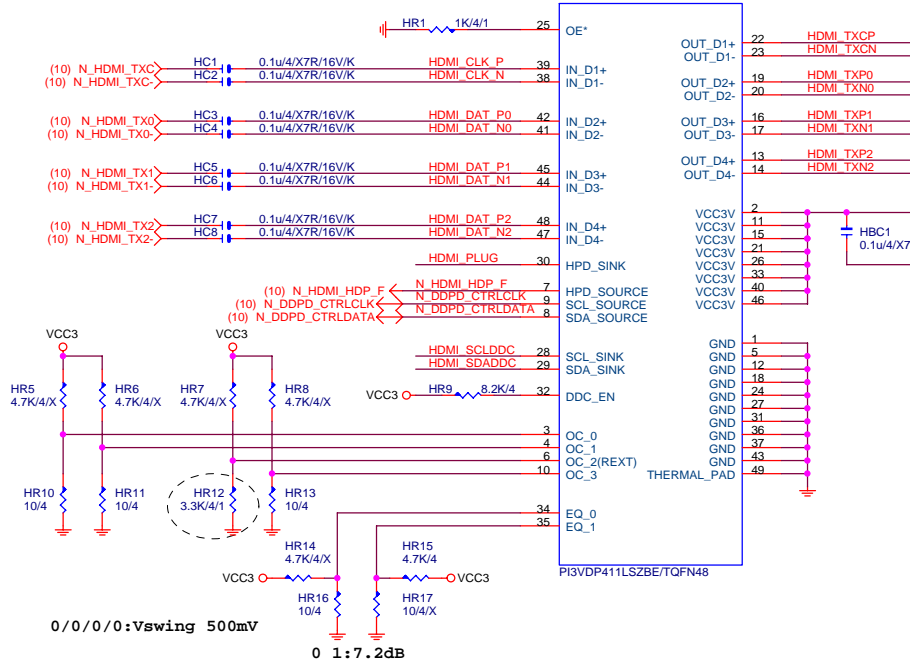


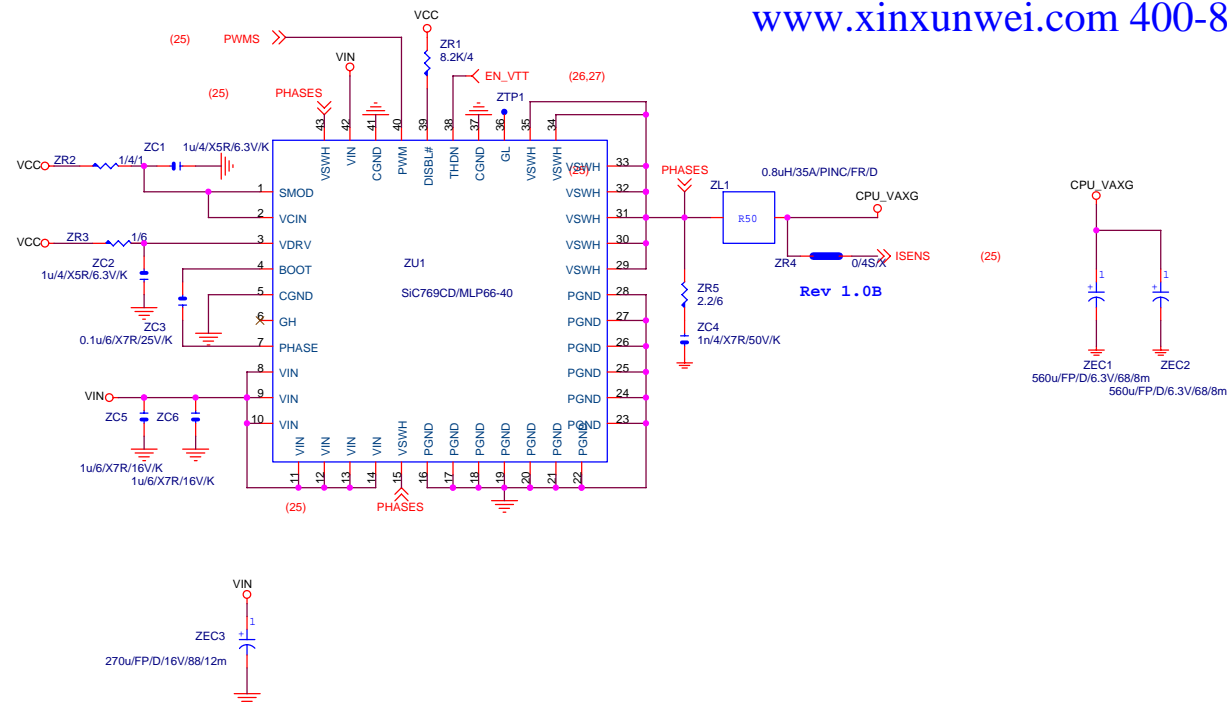
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Impedance=90 ohm +- 15%

HU1



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