

Model Name: GA-P61A-D3

www.xinxunwei.com 400-800-9990

3.0



SHEET

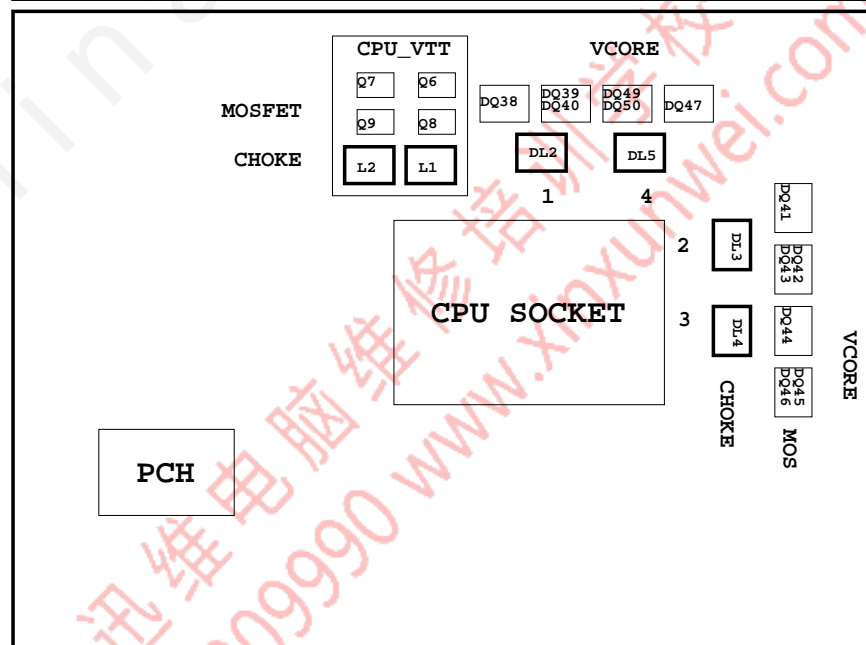
TITLE

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*4 SLOT
16	PCI EXPRESS*1 SLOTS X2
17	PCI SLOT 1&2&3
18	I/O ITE8728
19	COM, -PROHOT, ESATA CONNECT
20	Dual BIOS
21	ALC892
22	REAR AUDIO JACK
23	VCORE PWM_ISL6364CRZ-1
24	VCORE PWM_ISL6364CRZ-2
25	DISCRETE POWER
26	DDR_15V & VCC1_05_PCH PWM_ISL6545CBZ
27	CPU_VTT PWM_ISL6322G

SHEET

TITLE

28	VCCSA POWER
29	F_PANEL , F_USB
30	ATX POWER, CLOCK GEN
31	HWM,KB/MS , FAN CTRL
32	REALTEK RTL8111E
33	NEC USB3.0
34	TABLE LIST
35	
36	
37	
38	
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40	



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Title			
Cover Sheet			
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GA-P61A-D3

Component value change history

Data	Change Item	Reason
2011/05/11 BOM:01	1. E-BOM	
2011/05/19 BOM:10A	1. 修改load-line & proshot	
	2. load-line DR345 8.2K --> 20K ,DR347 24.9K--> 62K	
	3. PROCHOT DR418 1.6k--> 845	
2011/06/27 BOM:10B	1. Load-line change DR303 1.27K/4/1 --> 4.3K/4/1 , DR294 12.7K/4/1 --> 52.3K/4/1	
	2. MB_ID Change Remove R40=8.2K/4, Add R41=8.2K/4	
H61-S3		
2011/07/18 BOM:01	1.EVT BOM	
2011/06/27 BOM:10A	1. Add R28 For FANPWM2 P.UP	
P61-S3P		
2011/08/17 BOM:01	1.EVT BOM	
	2. LAN AR8151 --> RTL8111E-VL	
2011/09/16 BOM:10A	1. P-BOM	
	2. PCB只能先下"精成"	
P61-U3S6	1. P-BOM	
	2. PCIEX16 SLOT CHANGE COST DOWN	
P61A-D3-01	1. CHECK MOSFET用料	
P61A-D3-2.0	1. U13 RT9173 --> RT9199	
	2. 確認MOSFET用料 30A-1212	1. E-BOM
	3. PCIEX16 & COM & PCI 料號確認 30B	1. 確認Thermistor上件位置(兩邊都要上)
	4. PCB改Rev2.0	2. Remove DRI26/184/185/DQ18
20B-1219	1. F_AUDIO Change 料號	3. EC36/UCCE3/UCCE4 560uF --> 100uF
20C-1221	1. ITE8728 Rev.D --> E	
2012		
20D-0627	1. 1uH/0.6uH 亮面-->霧面	
	2. PWOK 0.1u-->1u For China PSU issue	
21A-0831	1. E-BOM Release	
21A-1004	1. P-BOM Release	
21B-0103	1. USB_LAN "11NR6-702009-0ER" --> "11NR6-702009-96R" 2. Remove LAESD1	
21B-0918	1. Add SE9172 Rev.A2 替料	

Circuit or PCB layout change

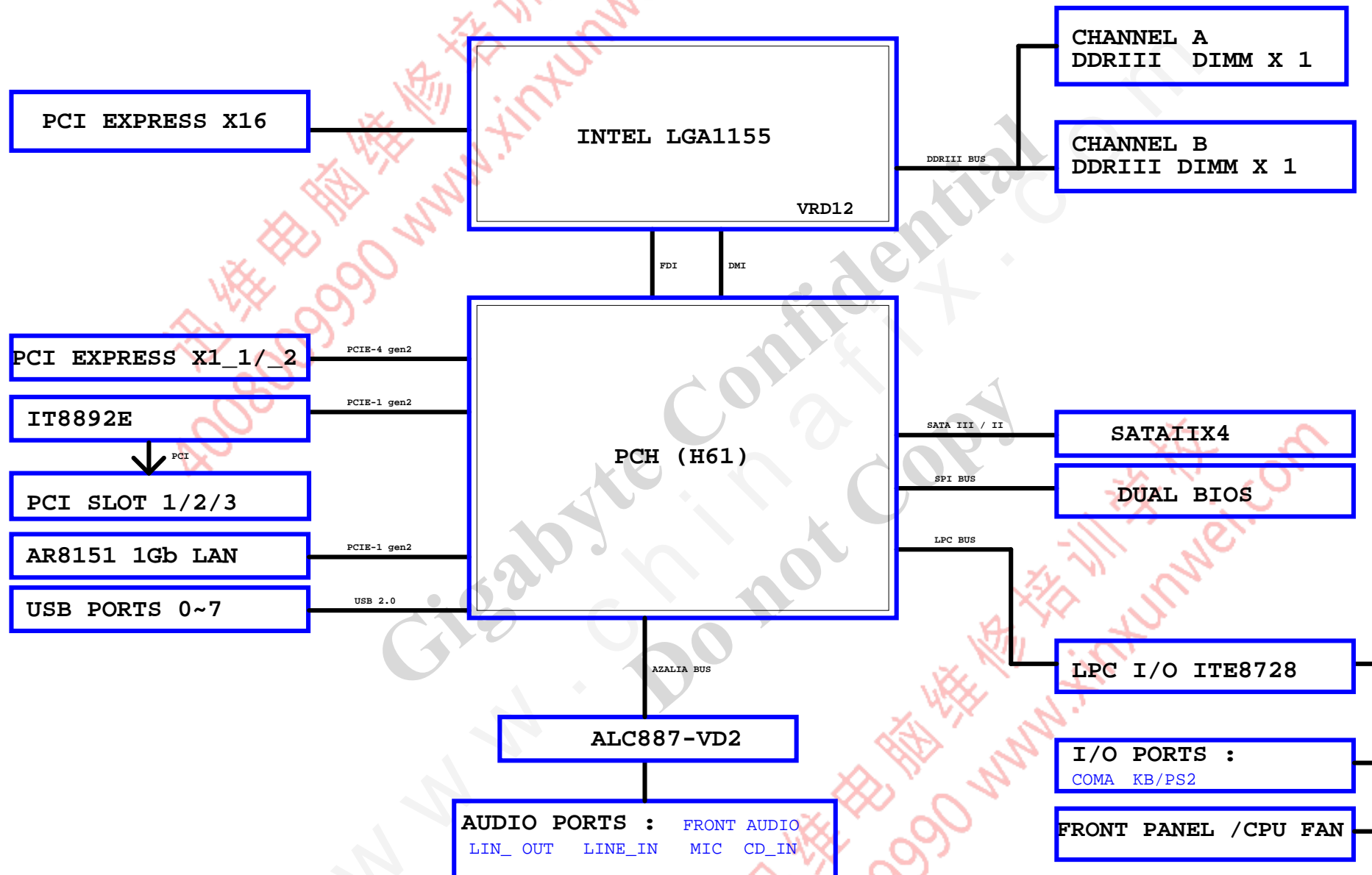
DATE	Change Item	Reason
P61-S3-B3	從P61-DS3-B3修改	
2011/05/11 PCB:0.1	1. Rear panel remove LPT , SPDIF 2. Remove CLK-Buffer for non over clocking 3. Remove 3x power 4. Vcore power 4 phase ' 3 phase (Iron choke) 5. Audio ALC889 ' VIA VT1/US8 6. LAN RTL8111E-VL ' Atheros AR8151 7. Over voltage (Vcore , DDR_VTT ,DDRISV)	
2011/05/19 PCB:1.0	1. 修改文字面: P61-S3-B3 REV0.1 --> P61-S3-B3 REV1.0	
P61-S3P		
2011/08/17 PCB:0.2	1. Add MOS_HS Co-lay 2. LAN AR8151 --> RTL8111E-VL	
2011/09/15 PCB:1.0	1. 文字面增加: Dynamic energy saver 2. MOS_HS1/2文字面要對應	
2011/09/27 P61-S3-B3 1.2	1. 文字面移除: Dynamic energy saver 2. Remove ITE8275 3. SLOT & CHIP多餘電容移除 4. Remove背板電容	
P61-U3S6 Rev 0.1	1. EVT	
P61A-D3 Rev 0.2	1. CPU FAN 100uF移除 2. PCIEX16 270uF移除,改上22uF 3. CPU SOCKET內圈電容LAYOUT? 4. M_BIOS/B_BIOS 文字面要加	
P61A-D3 Rev 1.0	1. R348 NET加粗 2. PCI/PCIEX1 SLOT電容移除 3. PBC39過電容 4. TR56 0-SHORT 5. CODEC 2.2/6 --> SHORT PAD	
P61A-D3 Rev 2.1(0831)	1. ATX_12V_2X2 change to ATX_12V_2X4 2. Atheros LAN AR8151 --> AR8161B 3. F.B "FB0603-RH" change to "FB0402-RH" 4. ATX footprint update to "ATXPWR 24-6" 5. Add R200,BC12 for PWOK放在ATX 端 6. ERP R650 change to "R0402-2"	
P61A-D3 Rev 3.0	1. PWM ON 6132 + ON 5911 --> ISL95836 2. USB3.0 EJ168 --> VL805 3. IT8728F --> ITE8620CX 4. D-PAK --> POWER-PAK	

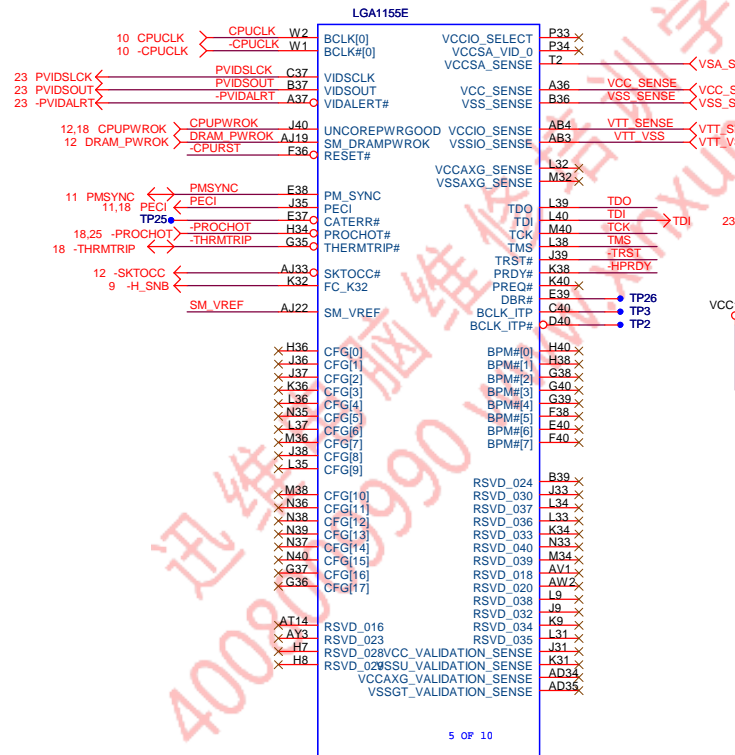
Gigabyte Technology

BOM & PCB MODIFY HISTORY

Title	Document Number	Rev
GA-P61A-D3	GA-P61A-D3	3.0
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BLOCK DIAGRAM



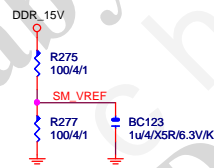


CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	RSVD	Reverse	LANE REVERSAL[0], x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD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

CFG6	CFG5	PCIE CONFIG
1	1	1x16, Default
1	0	2x8
0	1	RSVD
0	0	8x, X4, X4

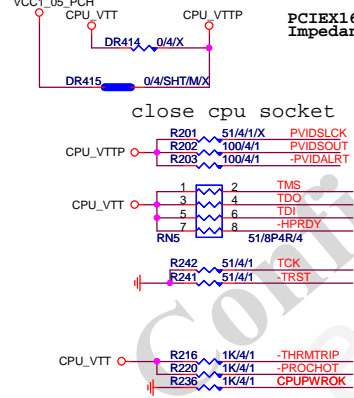
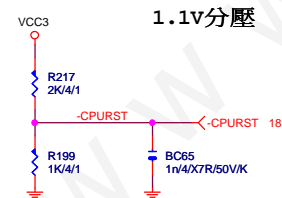
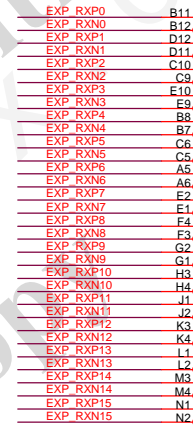
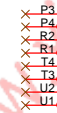
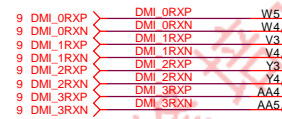
CFG 0-17 all internal PULL-UP

LGA1155[10SC1-F01155-21R_10SC1-F01155-22R]



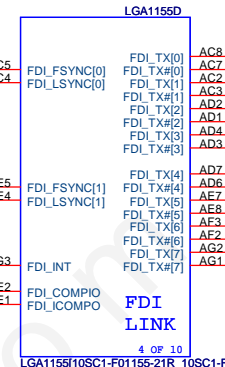
-CPURST

FOR IT8620 Ctrl1

PCIEX16:16/5/5/5/16(breakout min 10/4/4/4/10)
Impedance=80 +- 17.5%DMI:12/4/5/4/12(breakout min 8/4/4/4/8)
Impedance=85 +- 17.5%

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LGA1155[10SC1-F01155-21R_10SC1-F01155-22R]



LGA1155D

FDI LINK

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LGA1155[10SC1-F01155-21R_10SC1-F01155-22R]

EXP_TXP[0..15] >>> EXP_TXP[0..15] 14
EXP_TXN[0..15] >>> EXP_TXN[0..15] 14
EXP_RXP[0..15] >>> EXP_RXP[0..15] 14
EXP_RXN[0..15] >>> EXP_RXN[0..15] 14

LGA1155C

PEG

PEG_RX[0] < PEG_RX[0] C13
PEG_RX#0 < PEG_RX#0 C14
PEG_TX#0 < PEG_TX#0 E14
PEG_TX#1 < PEG_TX#1 E13
PEG_TX#2 < PEG_TX#2 G14
PEG_TX#3 < PEG_TX#3 G13
PEG_TX#4 < PEG_TX#4 J14
PEG_TX#5 < PEG_TX#5 J13
PEG_TX#6 < PEG_TX#6 D8
PEG_TX#7 < PEG_TX#7 D7
PEG_TX#8 < PEG_TX#8 D3
PEG_TX#9 < PEG_TX#9 C3
PEG_TX#10 < PEG_TX#10 E6
PEG_TX#11 < PEG_TX#11 E5
PEG_TX#12 < PEG_TX#12 F8
PEG_TX#13 < PEG_TX#13 F7
PEG_TX#14 < PEG_TX#14 G10
PEG_TX#15 < PEG_TX#15 G9
PEG_TX#16 < PEG_TX#16 G5
PEG_TX#17 < PEG_TX#17 G6
PEG_TX#18 < PEG_TX#18 K7
PEG_TX#19 < PEG_TX#19 K8
PEG_TX#20 < PEG_TX#20 J5
PEG_TX#21 < PEG_TX#21 J6
PEG_TX#22 < PEG_TX#22 M8
PEG_TX#23 < PEG_TX#23 M7
PEG_TX#24 < PEG_TX#24 L6
PEG_TX#25 < PEG_TX#25 L5
PEG_TX#26 < PEG_TX#26 N5
PEG_TX#27 < PEG_TX#27 N6EXP_TXP0 < EXP_TXP0 C13
EXP_TXN0 < EXP_TXN0 C14
EXP_TXP1 < EXP_TXP1 E14
EXP_TXN1 < EXP_TXN1 E13
EXP_TXP2 < EXP_TXP2 G14
EXP_TXN2 < EXP_TXN2 G13
EXP_TXP3 < EXP_TXP3 J14
EXP_TXN3 < EXP_TXN3 J13
EXP_TXP4 < EXP_TXP4 D8
EXP_TXN4 < EXP_TXN4 D7
EXP_TXP5 < EXP_TXP5 D3
EXP_TXN5 < EXP_TXN5 C3
EXP_TXP6 < EXP_TXP6 E6
EXP_TXN6 < EXP_TXN6 E5
EXP_TXP7 < EXP_TXP7 F8
EXP_TXN7 < EXP_TXN7 F7
EXP_TXP8 < EXP_TXP8 G10
EXP_TXN8 < EXP_TXN8 G9
EXP_TXP9 < EXP_TXP9 G5
EXP_TXN9 < EXP_TXN9 G6
EXP_TXP10 < EXP_TXP10 K7
EXP_TXN10 < EXP_TXN10 K8
EXP_TXP11 < EXP_TXP11 J5
EXP_TXN11 < EXP_TXN11 J6
EXP_TXP12 < EXP_TXP12 M8
EXP_TXN12 < EXP_TXN12 M7
EXP_TXP13 < EXP_TXP13 L6
EXP_TXN13 < EXP_TXN13 L5
EXP_TXP14 < EXP_TXP14 N5
EXP_TXN14 < EXP_TXN14 N6
EXP_TXP15 < EXP_TXP15 N6
EXP_TXN15 < EXP_TXN15 N5

DMI

DMI_RX[0] < DMI_RX[0] V7
DMI_RX#0 < DMI_RX#0 V6
DMI_TX#0 < DMI_TX#0 W7
DMI_TX#1 < DMI_TX#1 W8
DMI_TX#2 < DMI_TX#2 Y6
DMI_TX#3 < DMI_TX#3 Y7
DMI_TX#4 < DMI_TX#4 AA7
DMI_TX#5 < DMI_TX#5 AA8
DMI_TX#6 < DMI_TX#6 V7
DMI_TX#7 < DMI_TX#7 V6
DMI_TX#8 < DMI_TX#8 W7
DMI_TX#9 < DMI_TX#9 W8
DMI_TX#10 < DMI_TX#10 Y6
DMI_TX#11 < DMI_TX#11 Y7
DMI_TX#12 < DMI_TX#12 AA7
DMI_TX#13 < DMI_TX#13 AA8
DMI_TX#14 < DMI_TX#14 V7
DMI_TX#15 < DMI_TX#15 V6EXP_TXP0 < EXP_TXP0 C13
EXP_TXN0 < EXP_TXN0 C14
EXP_TXP1 < EXP_TXP1 E14
EXP_TXN1 < EXP_TXN1 E13
EXP_TXP2 < EXP_TXP2 G14
EXP_TXN2 < EXP_TXN2 G13
EXP_TXP3 < EXP_TXP3 J14
EXP_TXN3 < EXP_TXN3 J13
EXP_TXP4 < EXP_TXP4 D8
EXP_TXN4 < EXP_TXN4 D7
EXP_TXP5 < EXP_TXP5 D3
EXP_TXN5 < EXP_TXN5 C3
EXP_TXP6 < EXP_TXP6 E6
EXP_TXN6 < EXP_TXN6 E5
EXP_TXP7 < EXP_TXP7 F8
EXP_TXN7 < EXP_TXN7 F7
EXP_TXP8 < EXP_TXP8 G10
EXP_TXN8 < EXP_TXN8 G9
EXP_TXP9 < EXP_TXP9 G5
EXP_TXN9 < EXP_TXN9 G6
EXP_TXP10 < EXP_TXP10 K7
EXP_TXN10 < EXP_TXN10 K8
EXP_TXP11 < EXP_TXP11 J5
EXP_TXN11 < EXP_TXN11 J6
EXP_TXP12 < EXP_TXP12 M8
EXP_TXN12 < EXP_TXN12 M7
EXP_TXP13 < EXP_TXP13 L6
EXP_TXN13 < EXP_TXN13 L5
EXP_TXP14 < EXP_TXP14 N5
EXP_TXN14 < EXP_TXN14 N6
EXP_TXP15 < EXP_TXP15 N6
EXP_TXN15 < EXP_TXN15 N5

GEN

PEG_ICOMPO < PEG_ICOMPO B5
PEG_ICOMPI < PEG_ICOMPI C4
PEG_ICOMPI < PEG_ICOMPI B4

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LGA1155[10SC1-F01155-21R_10SC1-F01155-22R]

Gigabyte Technology			
Title			
CPU LGA1156-A			
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LGA1155A

MAAA0	AV27	SA_MA[0]	SA_DQS[0]	AK3	DQSA0
MAAA1	AY24	SA_MA[1]	SA_DQS[0]	AK2	-DQSA0
MAAA2	AW24	SA_MA[2]			
MAAA3	AW23	SA_MA[3]			
MAAA4	AV23	SA_MA[3]			
MAAA5	AT24	SA_MA[4]	SA_DQ[0]	AJ3	MDA0
MAAA6	AT23	SA_MA[5]	SA_DQ[1]	AJ4	MDA1
MAAA7	AU22	SA_MA[6]	SA_DQ[2]	AL3	MDA2
MAAA8	AV22	SA_MA[7]	SA_DQ[3]	AL4	MDA3
MAAA9	AT22	SA_MA[8]	SA_DQ[4]	AJ2	MDA4
MAAA10	AV28	SA_MA[9]	SA_DQ[5]	AJ1	MDA5
MAAA11	AU21	SA_MA[10]	SA_DQ[6]	AL2	MDA6
MAAA12	AT21	SA_MA[11]	SA_DQ[7]	AL1	MDA7
MAAA13	AW32	SA_MA[12]		AP3	DQSA1
MAAA14	AU20	SA_MA[13]	SA_DQS[1]	AP2	-DQSA1
MAAA15	AT20	SA_MA[14]			
7 -SWEA	AW29	SA_WE#	SA_DQ[8]	AN1	MDA8
7 -SCASA	AV30	SA_CAS#	SA_DQ[9]	AN4	MDA9
7 -SRASA	AU28	SA_RAS#	SA_DQ[10]	AR3	MDA10
			SA_DQ[11]	AR4	MDA11
7 SBAA0	AY29	SA_BS[0]	SA_DQ[12]	AN2	MDA12
7 SBAA1	AW28	SA_BS[1]	SA_DQ[13]	AN3	MDA13
7 SBAA2	AV20	SA_BS[2]	SA_DQ[14]	AR2	MDA14
			SA_DQ[15]	AR1	MDA15
7 -CSA0	AV29	SA_CS#			
7 -CSA1	AV32	SA_CS#	SA_DQS[2]	AW4	DQSA2
7 -CSA2	AW30	SA_CS#	SA_DQS[2]	AV4	-DQSA2
7 -CSA3	AW33	SA_CS#			
7 CKEA0	AV19	SA_CKE[0]	SA_DQ[16]	AW2	MDA16
7 CKEA1	AT19	SA_CKE[1]	SA_DQ[17]	AW3	MDA17
	AV18	SA_CKE[2]	SA_DQ[18]	AV5	MDA18
	AV18	SA_CKE[3]	SA_DQ[19]	AW5	MDA19
			SA_DQ[20]	AU2	MDA20
MODT_A0	AV31	SA_ODT[0]	SA_DQ[21]	AU3	MDA21
MODT_A1	AU32	SA_ODT[1]	SA_DQ[22]	AU5	MDA22
	AW30	SA_ODT[2]	SA_DQ[23]	AY5	MDA23
	AW33	SA_ODT[3]			
			SA_DQS[3]	AW8	DQSA3
			SA_DQS[3]	AW8	-DQSA3
7 DCLKA0	AY25	SA_CLK[0]		AY7	MDA24
7 -DCLKA0	AW25	SA_CLK[0]			
7 DCLKA1	AU24	SA_CLK[1]	SA_DQ[24]	AU7	MDA25
7 -DCLKA1	AU25	SA_CLK[1]	SA_DQ[25]	AV9	MDA26
	AW27	SA_CLK[2]	SA_DQ[26]	AU9	MDA27
	AY27	SA_CLK[2]	SA_DQ[27]	AV7	MDA28
	AV26	SA_CLK[3]	SA_DQ[28]	AW7	MDA29
	AW26	SA_CLK[3]	SA_DQ[29]	AW9	MDA30
			SA_DQ[30]	AY9	MDA31
			SA_DQ[31]		
			SA_DQS[4]	AV37	DQSA4
			SA_DQS[4]	AV36	-DQSA4
			SA_DQ[32]	AU35	MDA32
			SA_DQ[33]	AW37	MDA33
			SA_DQ[34]	AU39	MDA34
			SA_DQ[35]	AU36	MDA35
			SA_DQ[36]	AW35	MDA36
			SA_DQ[37]	AY36	MDA37
			SA_DQ[38]	AU38	MDA38
			SA_DQ[39]	AU37	MDA39
			SA_DQS[5]	AP38	DQSA5
			SA_DQS[5]	AP39	-DQSA5
			SA_DQ[40]	AR40	MDA40
			SA_DQ[41]	AR37	MDA41
			SA_DQ[42]	AN38	MDA42
			SA_DQ[43]	AN37	MDA43
			SA_DQ[44]	AR39	MDA44
			SA_DQ[45]	AR38	MDA45
			SA_DQ[46]	AN39	MDA46
			SA_DQ[47]	AN40	MDA47
			SA_DQS[6]	AK38	DQSA6
			SA_DQS[6]	AK39	-DQSA6
			SA_DQ[48]	AL40	MDA48
			SA_DQ[49]	AL37	MDA49
			SA_DQ[50]	AJ38	MDA50
			SA_DQ[51]	AJ37	MDA51
			SA_DQ[52]	AL39	MDA52
			SA_DQ[53]	AL38	MDA53
			SA_DQ[54]	AJ39	MDA54
			SA_DQ[55]	AJ40	MDA55
			SA_DQS[7]	AF38	DQSA7
			SA_DQS[7]	AF39	-DQSA7
			SA_DQ[56]	AG40	MDA56
			SA_DQ[57]	AG37	MDA57
			SA_DQ[58]	AE38	MDA58
			SA_DQ[59]	AE37	MDA59
			SA_DQ[60]	AG39	MDA60
			SA_DQ[61]	AG38	MDA61
			SA_DQ[62]	AE39	MDA62
			SA_DQ[63]	AE40	MDA63

DDR_0

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LGA1155[10SC1-F01155-21R_10SC1-F01155-22R]

LGA1155B

MAAB0	AK24	SB_MA[0]	SB_DQS[0]	AH7	DQSB0
MAAB1	AM20	SB_MA[1]	SB_DQS[0]	AH6	-DQSB0
MAAB2	AM19	SB_MA[2]			
MAAB3	AK18	SB_MA[3]			
MAAB4	AP19	SB_MA[4]	SB_DQ[0]	AG7	MDB0
MAAB5	AP18	SB_MA[5]	SB_DQ[1]	AG8	MDB1
MAAB6	AM18	SB_MA[6]	SB_DQ[2]	AJ9	MDB2
MAAB7	AL18	SB_MA[7]	SB_DQ[3]	AJ8	MDB3
MAAB8	AY17	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	AU17	SB_MA[11]	SB_DQ[7]	AJ7	MDB7
MAAB12	AR26	SB_MA[12]			
MAAB13	AR26	SB_MA[13]	SB_DQS[1]	AM8	DQSB1
MAAB14	AV16	SB_MA[14]	SB_DQS[1]	AL8	-DQSB1
MAAB15	AV16	SB_MA[15]			
8 -SWEB	AR25	SB_WE#	SB_DQ[8]	AM7	MDB8
8 -SCASB	AK25	SB_CAS#	SB_DQ[9]	AM10	MDB10
8 -SRASB	AP24	SB_RAS#	SB_DQ[10]	AL10	MDB11
			SB_DQ[11]	AL6	MDB12
8 SBAB0	AP23	SB_BS[0]	SB_DQ[12]	AM6	MDB13
8 SBAB1	AM24	SB_BS[1]	SB_DQ[13]	AL9	MDB14
8 SBAB2	AW17	SB_BS[2]	SB_DQ[14]	AM9	MDB15
			SB_DQ[15]		
8 -CSB0	AN25	SB_CS#			
8 -CSB1	AN25	SB_CS#	SB_DQS[2]	AR8	DQSB2
	AL26	SB_CS#	SB_DQS[2]	AP8	-DQSB2
	AT26	SB_CS#			
8 CKEB0	AU16	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
			SB_DQ[20]	AP6	MDB20
MODT_B0	AL26	SB_ODT[0]	SB_DQ[21]	AR6	MDB21
MODT_B1	AP26	SB_ODT[1]	SB_DQ[22]	AP9	MDB22
	AM26	SB_ODT[2]	SB_DQ[23]	AR9	MDB23
	AK26	SB_ODT[3]			
			SB_DQS[3]	AN13	DQSB3
			SB_DQS[3]	AN12	-DQSB3
8 DCLKB0	AL21	SB_CLK[0]	SB_DQ[24]	AM12	MDB24
8 -DCLKB0	AL22	SB_CLK[0]	SB_DQ[25]	AM13	MDB25
8 DCLKB1	AL20	SB_CLK[1]	SB_DQ[26]	AR13	MDB26
8 -DCLKB1	AK20	SB_CLK[1]	SB_DQ[27]	AP13	MDB27
	AL23	SB_CLK[2]	SB_DQ[28]	AL12	MDB28
	AM22	SB_CLK[2]	SB_DQ[29]	AL13	MDB29
	AP21	SB_CLK[3]	SB_DQ[30]	AR12	MDB30
	AN21	SB_CLK[3]	SB_DQ[31]	AP12	MDB31
			SB_DQS[4]	AN29	DQSB4
			SB_DQS[4]	AN28	-DQSB4
			SB_DQ[32]	AR28	MDB32
			SB_DQ[33]	AR29	MDB33
			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	DQSB5
			SB_DQS[5]	AR33	-DQSB5
			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	DQSB6
			SB_DQS[6]	AM33	-DQSB6
			SB_DQ[48]	AM32	MDB48
			SB_DQ[49]	AM31	MDB49
			SB_DQ[50]	AL35	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	DQSB7
			SB_DQS[7]	AG34	-DQSB7
			SB_DQ[56]	AH35	MDB56
			SB_DQ[57]	AH34	MDB57
			SB_DQ[58]	AE34	MDB58
			SB_DQ[59]	AE35	MDB59
			SB_DQ[60]	AJ35	MDB60
			SB_DQ[61]	AJ34	MDB61
			SB_DQ[62]	AF33	MDB62
			SB_DQ[63]	AF35	MDB63

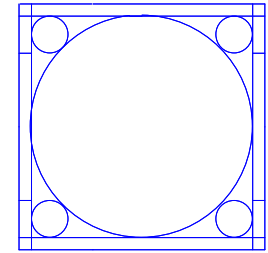
DDR_1

2 OF 10

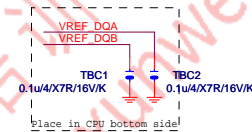
LGA1155[10SC1-F01155-21R_10SC1-F01155-22R]

LGA1155

ILM_BP/1156/CSP/12KRC-OF0001-05R_12KRC-OF0001-31R]



Need check the new CPU ME



Gigabyte Technology

CPU LGA1156-B

Title	Document Number	Rev
Size	GA-P61A-D3	3.0
Custom		
Date:	Wednesday, December 04, 2013	Sheet 5 of 34

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

PCHB

DMI

PCI-E

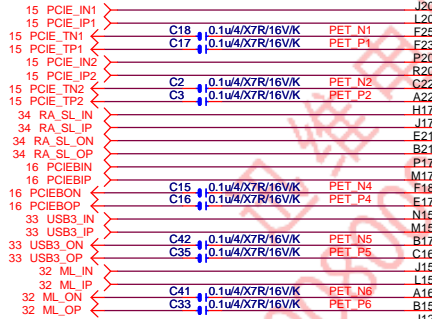
BD82H61/B3/S

2 OF 11

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

VCC1_05_PCH
R350 49.9/4/1

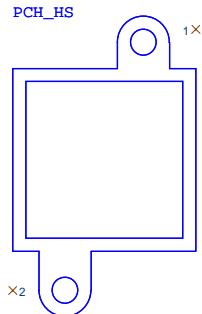
SRCLK_PCH P33
SRCLK_PCH R33



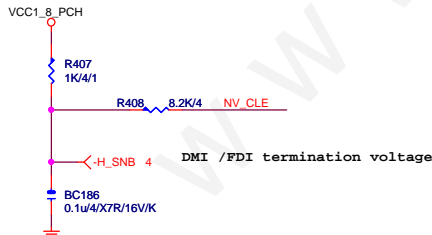
H61 CHIP PCIE PORT 7/8
are Disable

放靠近 Device & PCI-E Slot

PCIE1:16/5/5/5/16 (breakout min 8/4/4/4/8)
Impedance=80 +/- 17.5%



SB_HS[12SP2-030005-42R_12SP2-030005-43R]



DMI / FDI termination voltage



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

CLKIN_DOT_96N
CLKIN_DOT_96P

DMI2RBIAS

OC0#/GPIO59
OC1#/GPIO40
OC2#/GPIO41
OC3#/GPIO42
OC4#/GPIO43
OC5#/GPIO44
OC6#/GPIO10
OC7#/GPIO14

USBRBIAS#
USBRBIAS

BP25 USBRBIAS R341 22.6/4/1
BM25

BD38 -DOTCLK
BF38 DOTCLK

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

GPIO14

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

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

H61 CHIP USB PORT 6/7
are Disable

H61 CHIP USB PORT 12/13
are Disable

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

VCC1_05_PCH R244 8.2K/4/X DOTCLK
Mount for non-graphics skus

DOTCLK R246 8.2K/4
DOTCLK R251 8.2K/4
R102 short to GND in non
graphic SKU
SRCLK_PCH R267 8.2K/4
SRCLK_PCH R268 8.2K/4

PCHG

FDILINK

BD82H61/B3/S

PCHB

BD82H61/B3/S

5 OF 11

NVRAM

BD82H61/B3/S

2 OF 11

NVRAM

BD82H61/B3/S

5 OF 11

NVRAM

BD82H61/B3/S

5 OF 11

NVRAM

BD82H61/B3/S

5 OF 11

NVRAM

BD82H61/B3/S

5 OF 11

NVRAM

BD82H61/B3/S

5 OF 11

NVRAM

BD82H61/B3/S

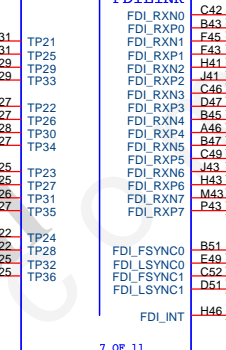
5 OF 11

NVRAM

BD82H61/B3/S

5 OF 11

NVRAM



BD82H61/B3/S

BD82H61/B3/S

BD82H61/B3/S

BD82H61/B3/S

BD82H61/B3/S

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BD82H61/B3/S

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

www.xinrunwei.com 400-800-9990



PCHC

CL_CLK1
CL_DATA1
CL_RST1#

APWROK

PWM0

PWM1

PWM2

PWM3

TACH0/GPIO17

TACH1/GPIO1

TACH2/GPIO6

TACH3/GPIO7

TACH4/GPIO68

TACH5/GPIO69

TACH6/GPIO70

TACH7/GPIO71

SST

SCLOCK/GPIO22

SLOAD/GPIO38

SDATAOUT0/GPIO39

SDATAOUT1/GPIO48

NC_5

GPIO22

GPIO38

GPIO39

GPIO48

GPIO17

GPIO1

GPIO6

GPIO7

GPIO68

GPIO69

GPIO70

GPIO71

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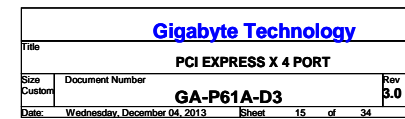
GPIO1

GPIO6

GPIO7

GPIO68

GPIO69



MOSI For DMI RX Termination Voltage

12 ICH_SPI_MOSI >> ICH_SPI_MOSI R619 8.2K/4/X
12 -ICH_SPI_CS >> -ICH_SPI_CS R590 8.2K/4/X
-SPI_HOLD0 R613 1K/4/1
-SPI_HOLD1 R602 1K/4/1

12 -SPI_WP1 >> -SPI_WP1 R683 8.2K/4/X
12 -SPI_WP0 >> -SPI_WP0 R684 8.2K/4/X
12 ICH_SPI_MISO >> ICH_SPI_MISO R685 8.2K/4/X

11 -GNT0 >> R290 1K/4/1/X
11 -GNT1 >> R289 1K/4/1/X

Default int pull up

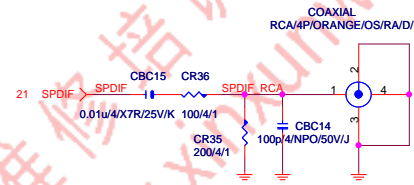
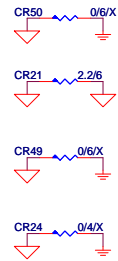
-SPI_MISO R615 22/4 << ICH_SPI_MISO 12

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

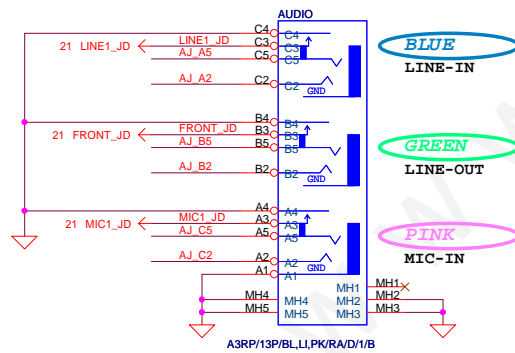
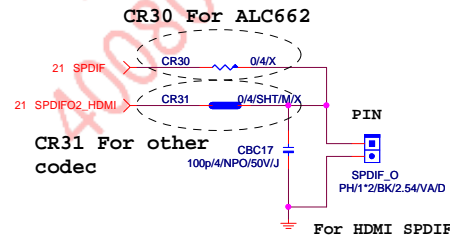
1 means floating
0 means PD 1K

Gigabyte Technology

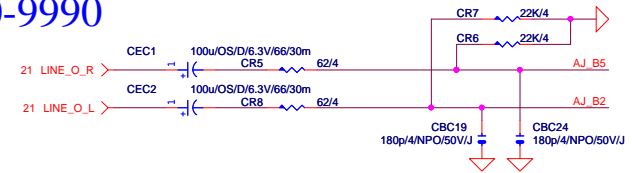
Title			BIOS
Size	Document Number	GA-P61A-D3	
Custom		Rev 3.0	
Date:	Wednesday, December 04, 2013	Sheet 20	of 34



SPDIF_OUT



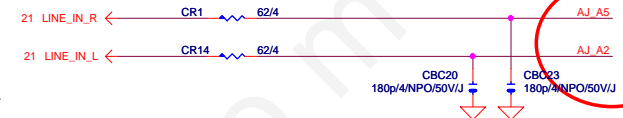
LINE-OUT



LINE-IN

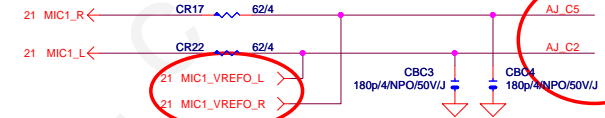
Verify MIC function
in LINE-in

Only reserved for ALC888

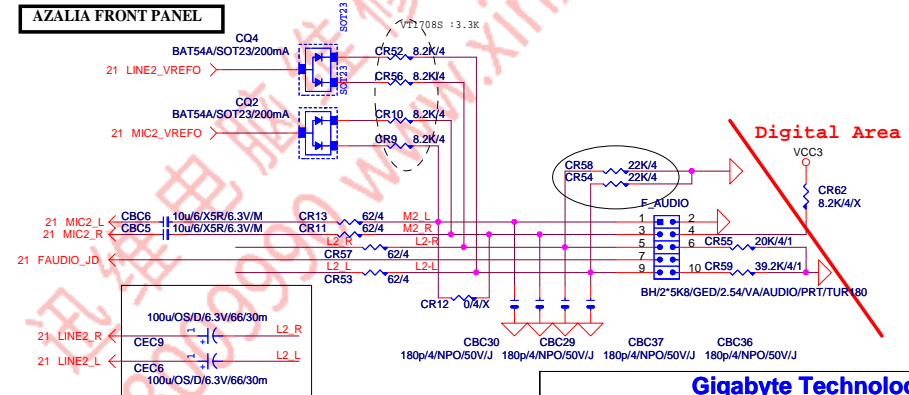


For 889A/888

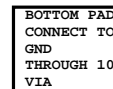
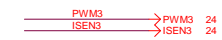
MIC-IN

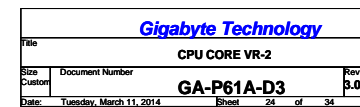


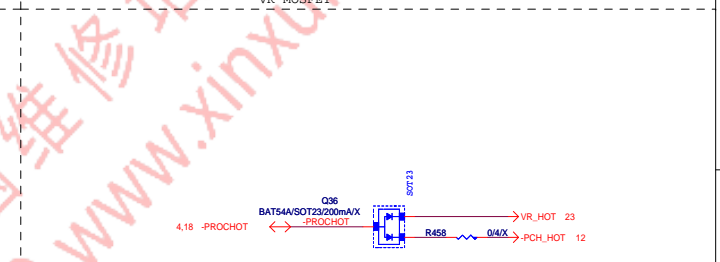
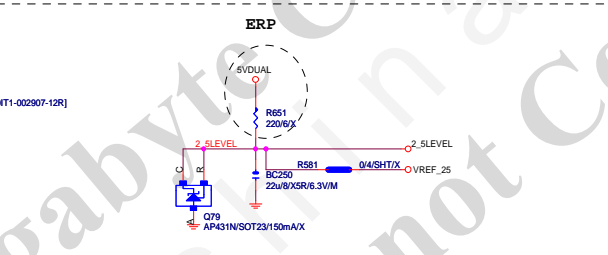
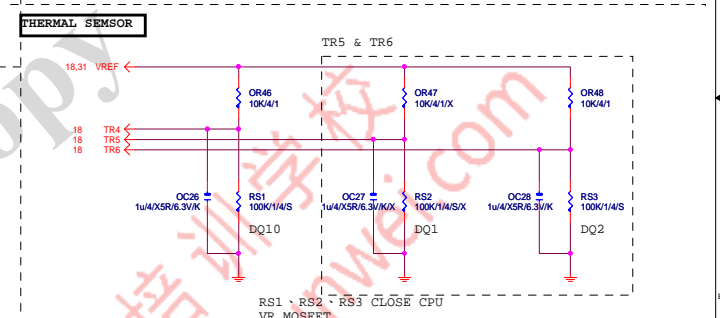
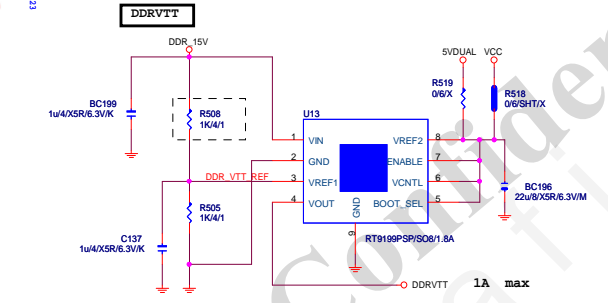
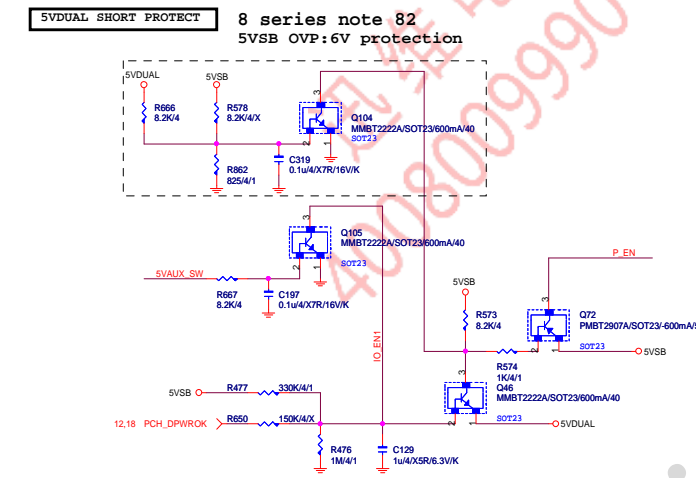
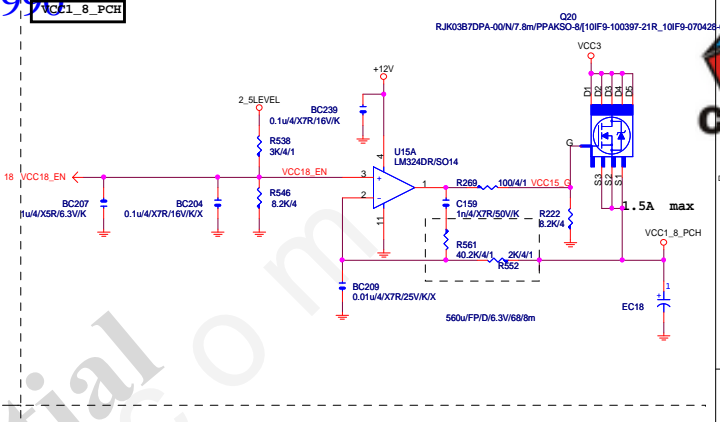
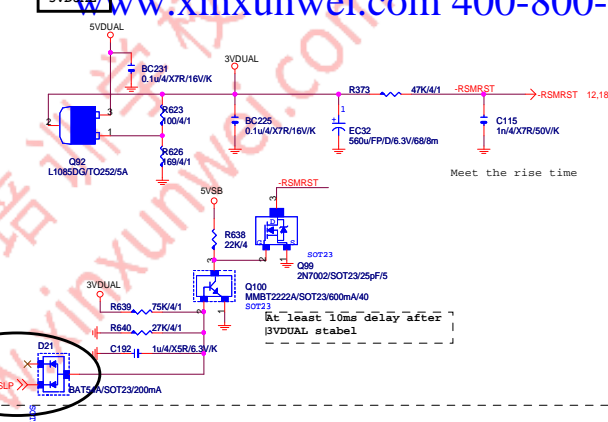
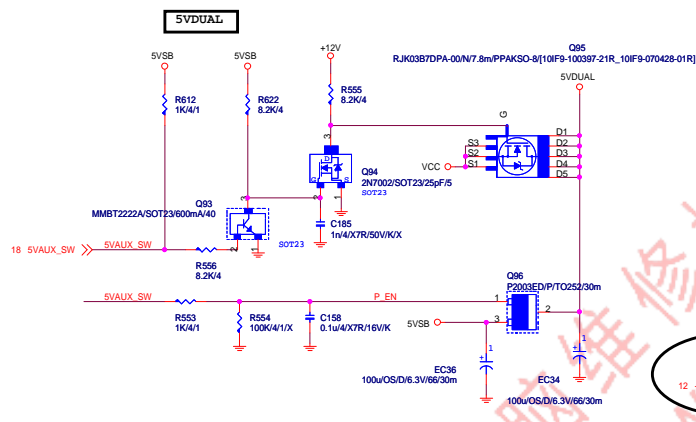
AZALIA FRONT PANEL



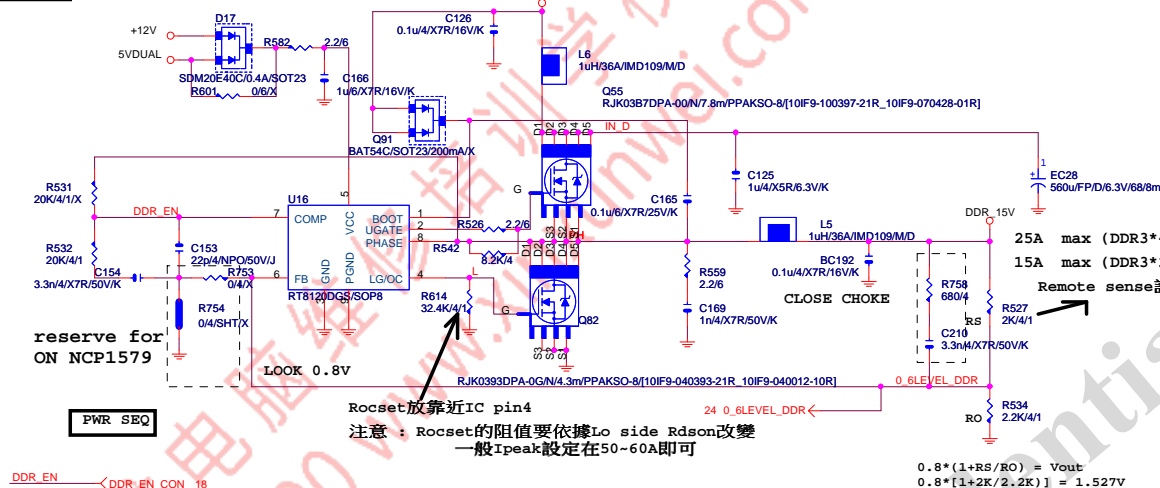
Gigabyte Technology			
Title			
AUDIO JACK			
GA-P61A-D3			
Size	Document Number	Rev	3.0
Custom			
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DDR18V



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

OCF : Ipeak=(IocsetxRocset)/Rds(on)

typ Iocset=10uA, Rocset=33k

OCF : 40A=(10uAx47k)/(7.8m)/1.5

UVP : 75%*Vout

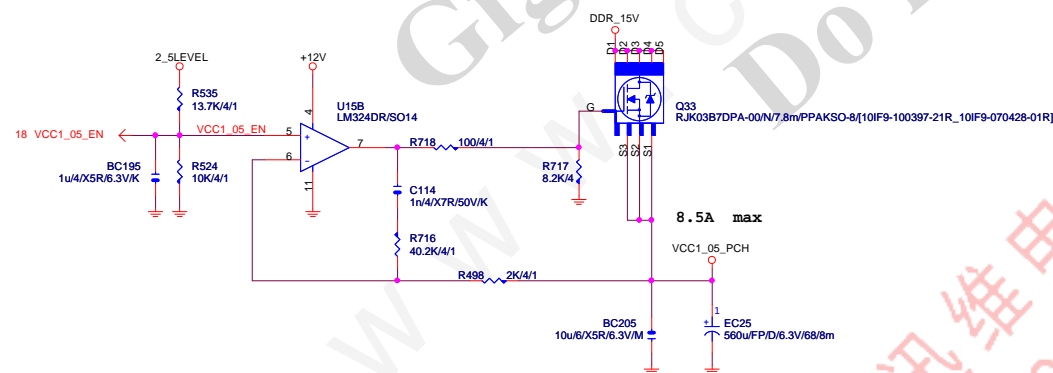
Fsw = 300KHz

25A max (DDR3*4-DIMM)

15A max (DDR3*2-DIMM)

Remote sense請從最重的負載端點拉回

VCC1_05_PCH



VIN=3.3V, VOUT=1.05V, IOUT=7.5A, PHASE=1

IRMS=3.4875A

1000u/D/6.3V/8C/30m RIPPLE CURRENT=1.14A

Coefficient=1.7(85°C), 1(105°C)

VIN Ripple current=1.14X1.7=1.938A(85°C)

-->故電解電容須2X1.938=3.876>3.4875A

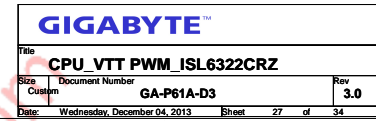
OCF : Ipeak=(2xIocsetxRocset)/Rds(on)

typ Iocset=20uA, Rocset=8.2k

OCF : 58.57A=(2x20uAx8.2k)/5.6m

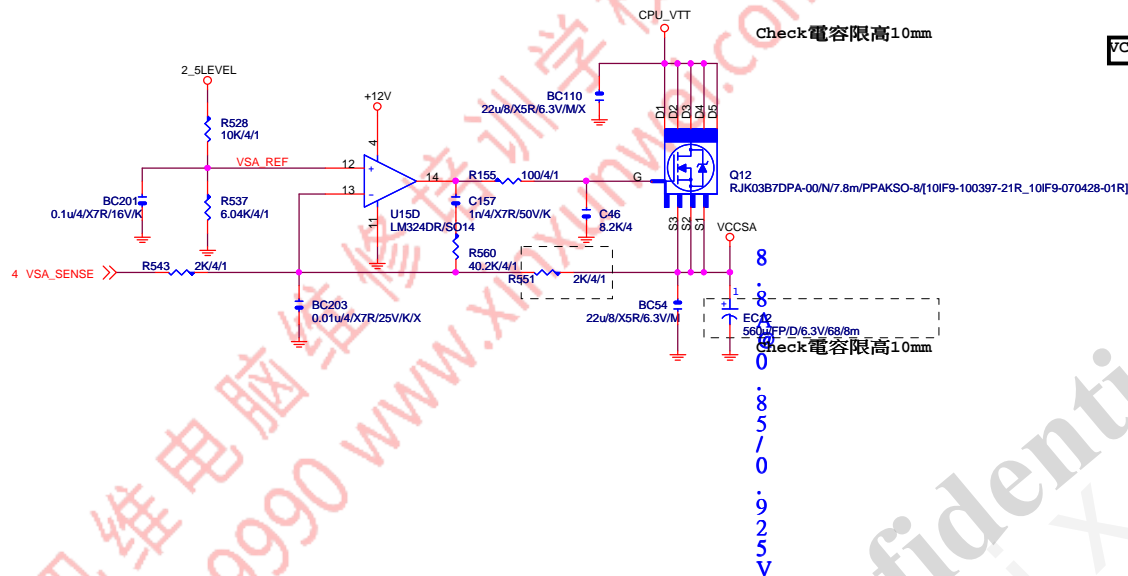
Gigabyte Technology

Title		
DDR 15V		
Size	Document Number	Rev
Custom	GA-P61A-D3	3.0
Date:	Thursday, January 23, 2014	Sheet 26 of 34

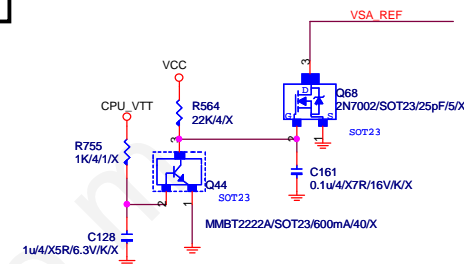


VCC_SA

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VCCSA PWR SEQ



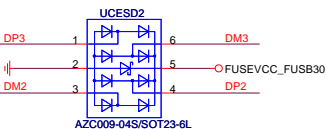
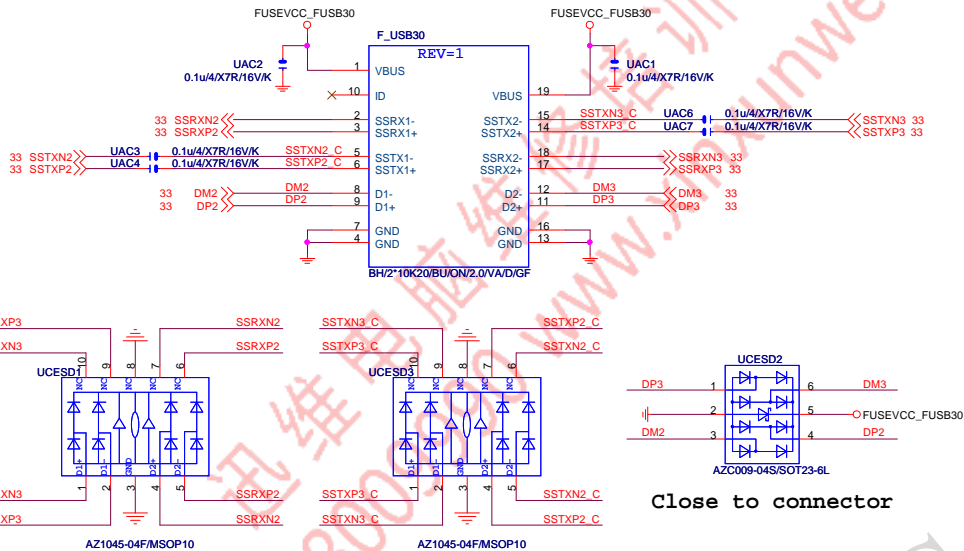
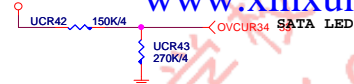
Gigabyte Technology

Title		
CPU VTT PWM_ISL6312		
Size	Document Number	Rev
Custom	GA-P61A-D3	3.0
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F_USB30

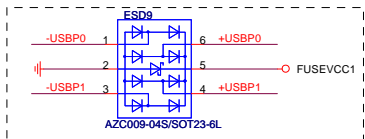
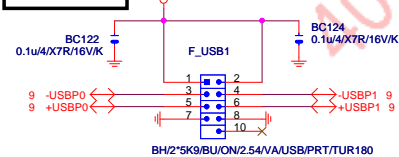


FUSEVCC_FUSB30



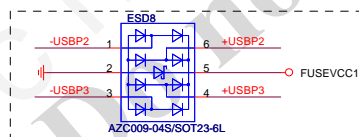
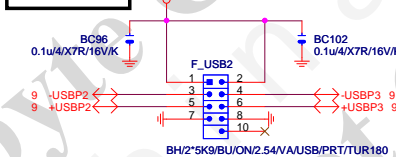
Close to connector

FRONT USB1



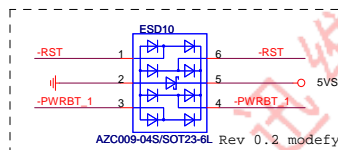
Close to connector

FRONT USB2



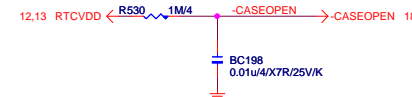
Close to connector

INTEL FRONT PANEL

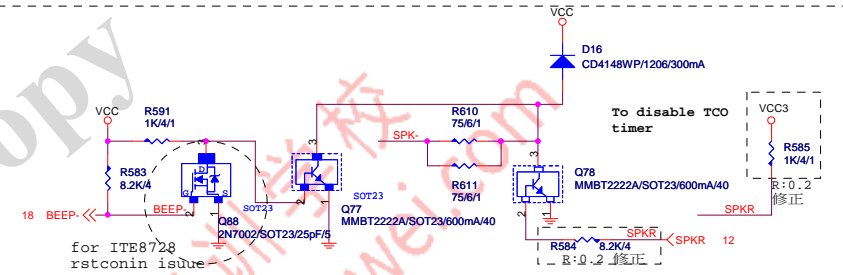
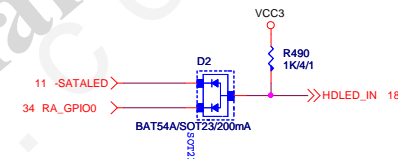


AZC009-04S/SOT23-6L Rev 0.2 modify

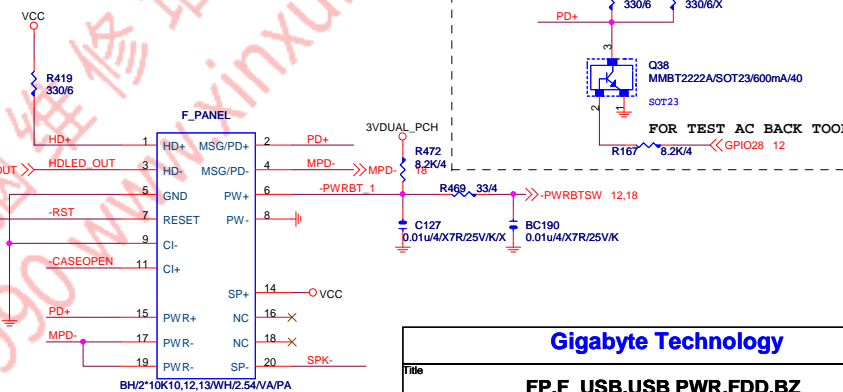
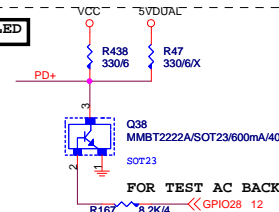
CASE OPEN



SATA LED



PWR LED



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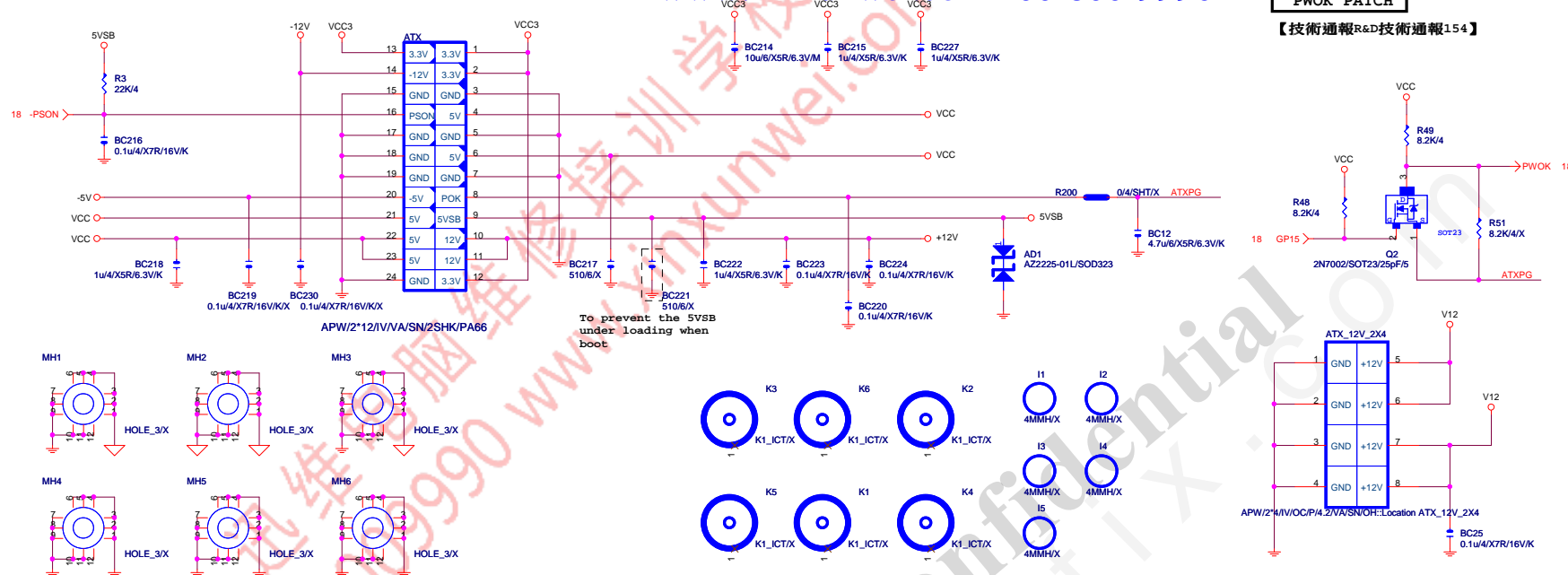
Title			FP_F_USB,USB PWR,FDD,BZ
Document Number			GA-P61A-D3
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ATX POWER CONNECTOR

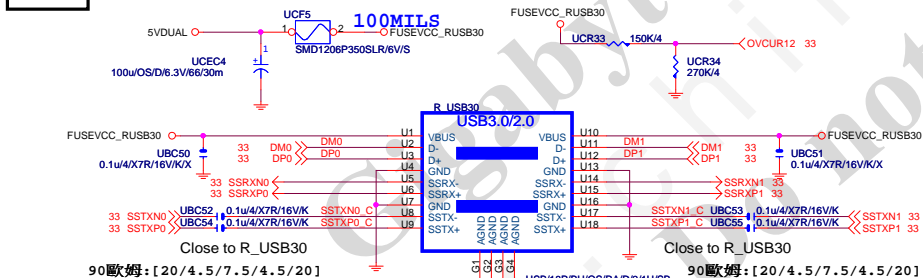
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PWOK PATCH

【技術通報R&D技術通報154】

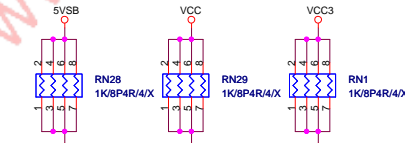
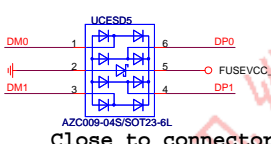
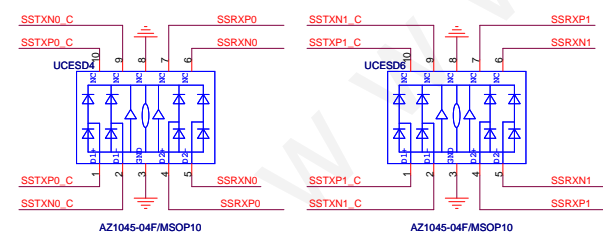
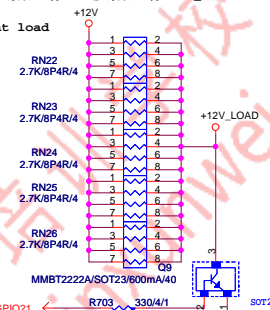


R_USB30



【技術通報R&D技術通報153】

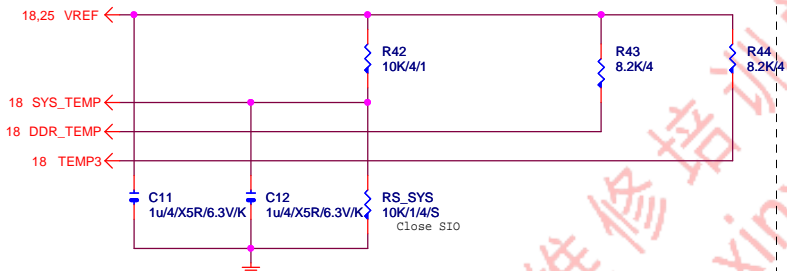
To fix 12V light load abnormal issue



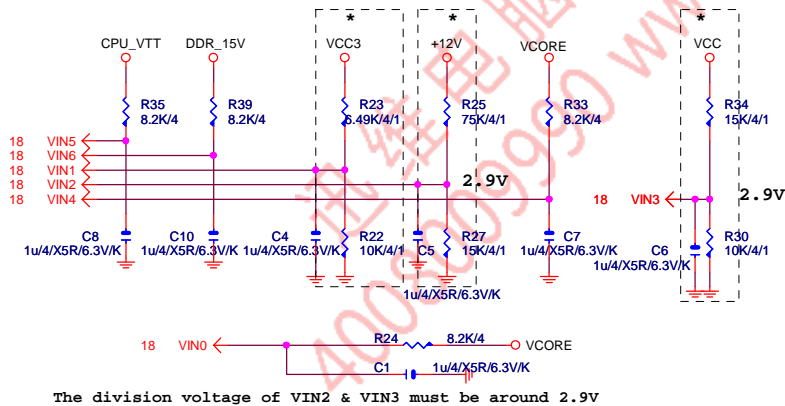
Gigabyte Technology

Title	ATX POWER CONNECTOR
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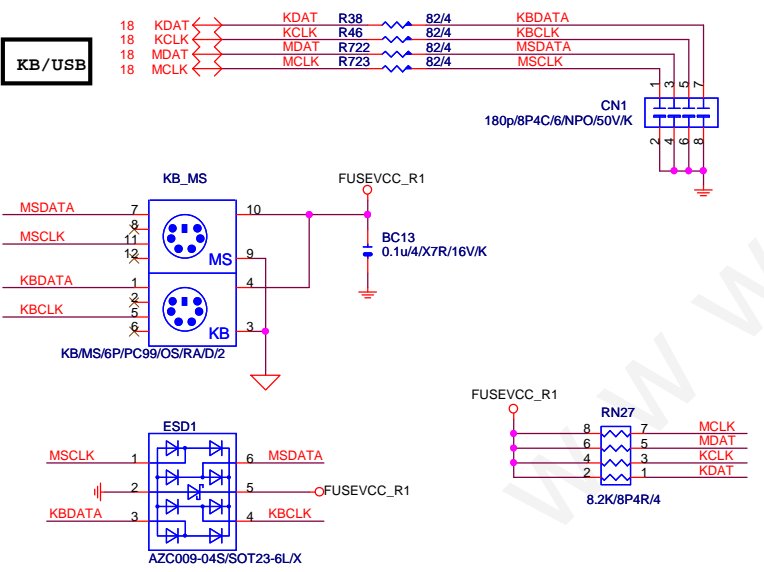
TEMP H/W MONITOR



VOLTAGE-- H/W MONITOR

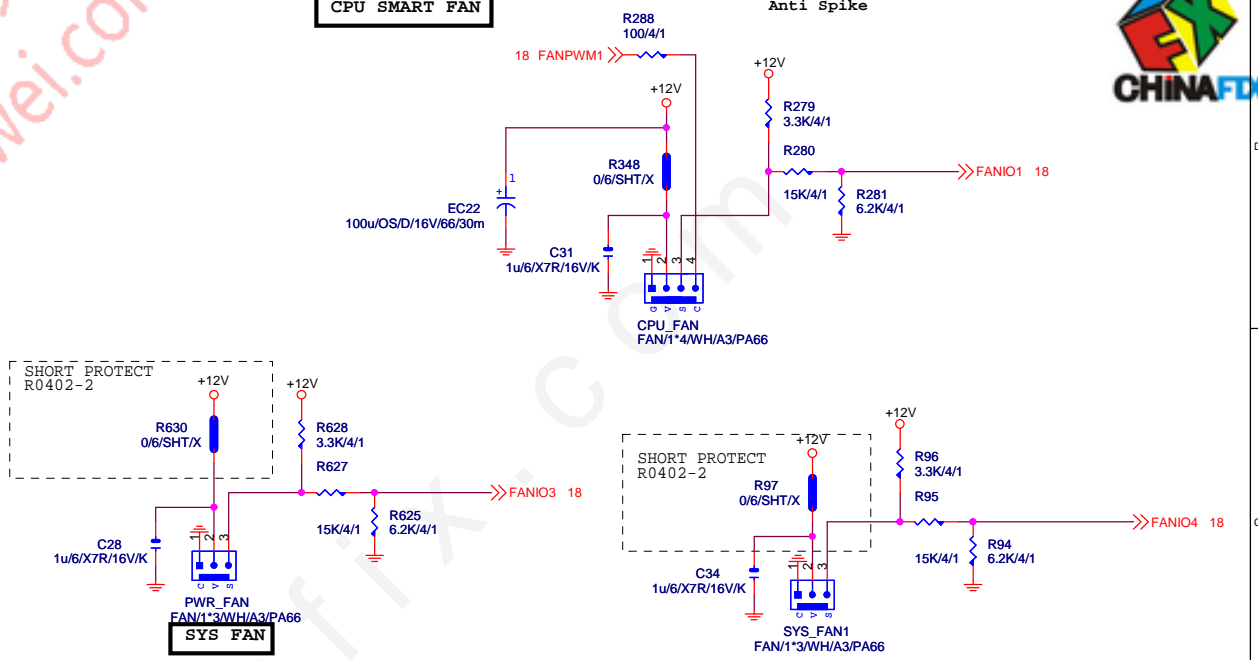


KB/USB



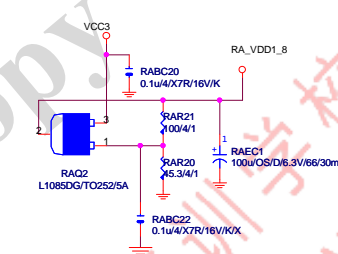
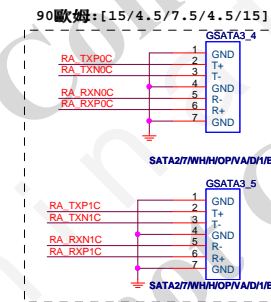
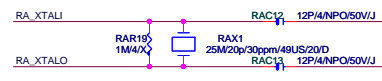
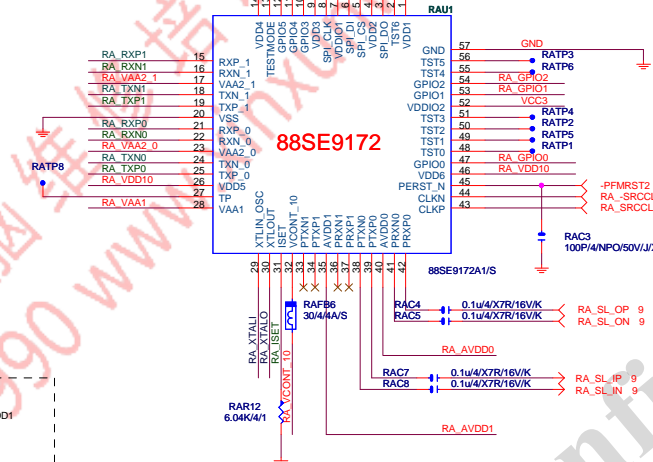
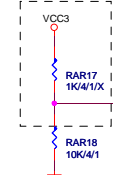
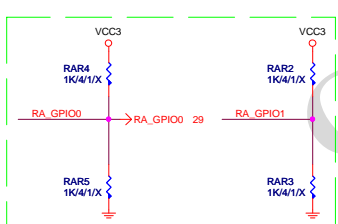
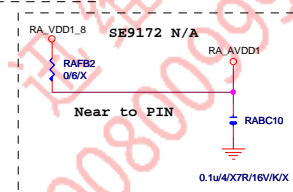
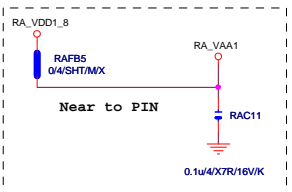
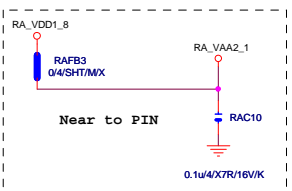
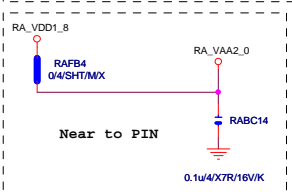
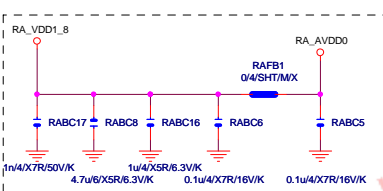
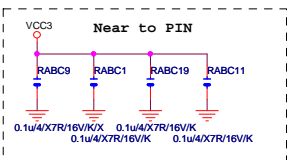
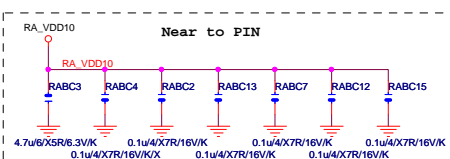
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CPU SMART FAN



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HWM,KB/MS, FAN CTRL			
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White connector for SATA3

