

Model Name: GA-Z97P-D3

1.0

SHEET

TITLE

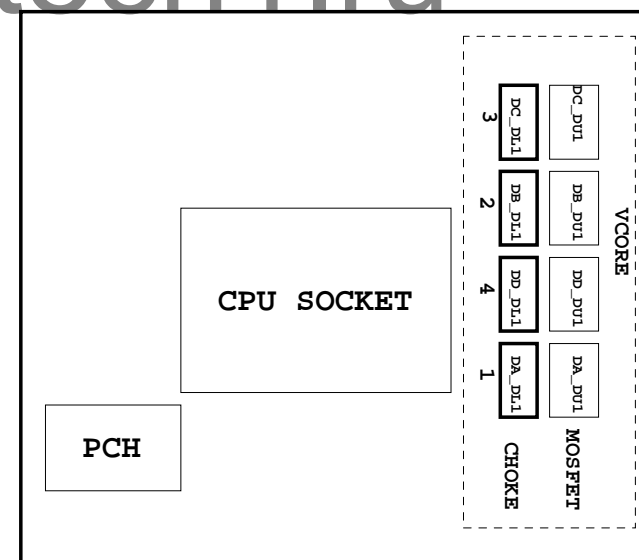
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1150-A
05	CPU_LGA1150-B
06	CPU_LGA1150-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE
10	PCH_RGB,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCIEX4 /PCIEX1 SLOT
16	ITE8892 PCI BRIDGE
17	PCI SLOT 1~2
18	I/O ITE8620
19	COM, -PROHOT, R_USB
20	Dual BIOS / LPT
21	ALC887 CODEC
22	REAR AUDIO JACK
23	VCORE_ ISL95820_1
24	VCORE_ ISL95820_2
25	DDR15V / M3 POWER
26	NCP3933 OVER VOLTAGE
27	DISCRETE POWER

SHEET

TITLE

28	F_PANEL , F_USB2.0/3.0
29	ATX POWER, CLOCK GEN
30	HWM , KB/MS , FAN CTRL
31	Realtek 8111F-VL
32	HDMI
33	TABLE LIST
34	
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Gigabyte Technology

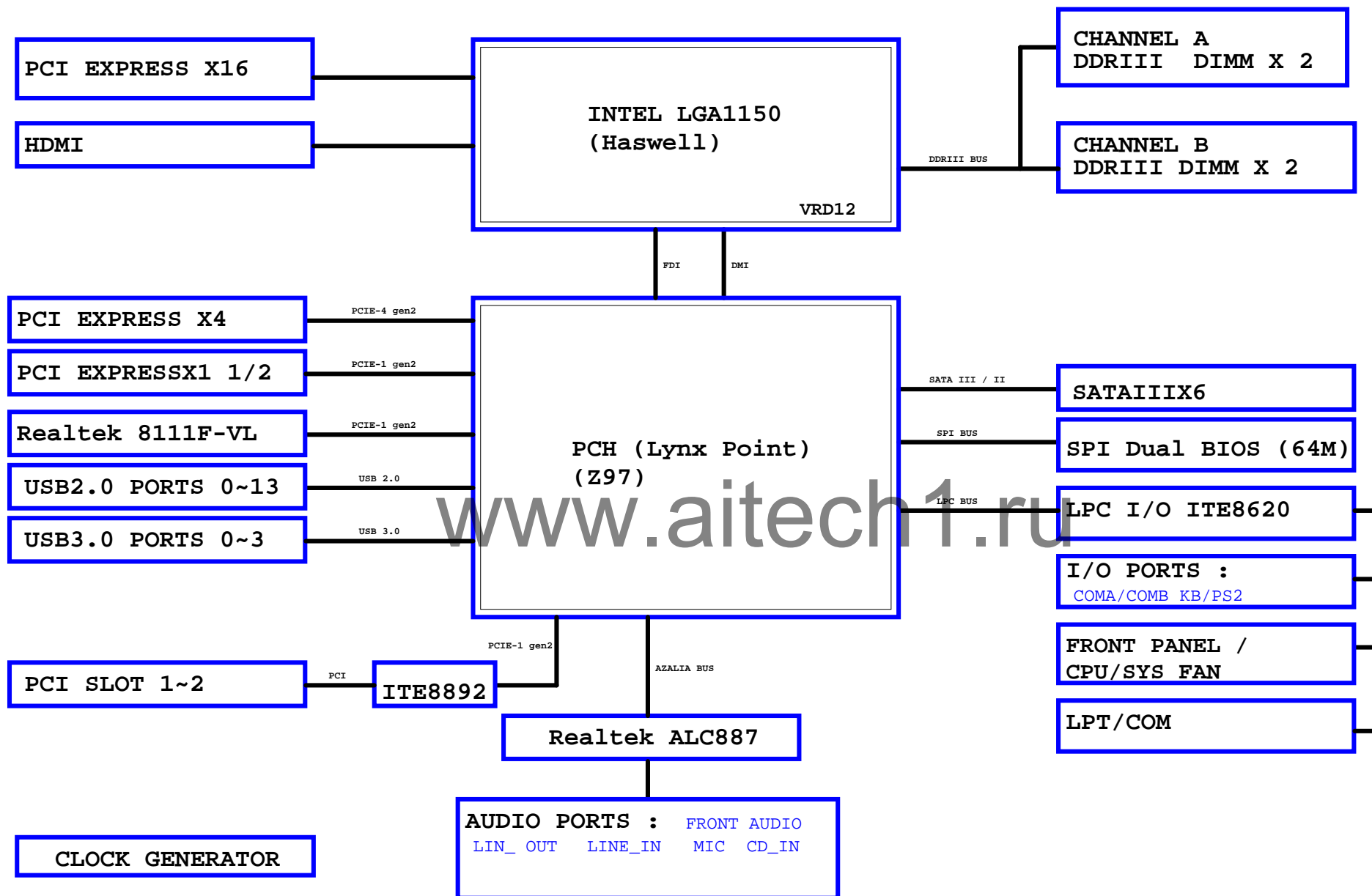
Title			
Cover Sheet			
Size	Document Number	GA-Z97P-D3	Rev
Custom			1.0
Date	Thursday, February 27, 2014	Sheet	1 of 33

Component value change history

Circuit or PCB layout change

<i>Gigabyte Technology</i>			
BOM & PCB MODIFY HISTORY			
Title			
Size Custom	Document Number	GA-Z97P-D3	Rev 1.0
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BLOCK DIAGRAM



LGA1150 (A)

LGA1150A									
		MAAA0	AU13	DDR0_MA0	DDR0_D00	AD38	MDA0		
		MAAA1	AV16	DDR0_MA1	DDR0_D01	AD39	MDA1		
		MAAA2	AU16	DDR0_MA2	DDR0_D02	AF38	MDA2		
		MAAA3	AW17	DDR0_MA3	DDR0_D03	AF39	MDA3		
		MAAA4	AU17	DDR0_MA4	DDR0_D04	AD37	MDA4		
		MAAA5	AW18	DDR0_MA5	DDR0_D05	AD40	MDA5		
		MAAA6	AV17	DDR0_MA6	DDR0_D06	AF37	MDA6		
		MAAA7	AU18	DDR0_MA7	DDR0_D07	AF40	MDA7		
		MAAA8	AV19	DDR0_MA8	DDR0_D08	AD39	MDA13		
		MAAA9	AU18	DDR0_MA9	DDR0_D09	AD40	MDA9		
		MAAA10	AW11	DDR0_MA10	DDR0_D10	AD38	MDA11		
		MAAA11	AV19	DDR0_MA11	DDR0_D11	AD39	MDA12		
		MAAA12	AY10	DDR0_MA12	DDR0_D12	AD38	MDA8		
		MAAA13	AY19	DDR0_MA13	DDR0_D13	AD37	MDA14		
		MAAA14	AT20	DDR0_MA14	DDR0_D14	AK40	MDA15		
		MAAA15	AW21	DDR0_MA15	DDR0_D15	MDA17			
				DDR0_D16	AM38	MDA21			
		MODT_A0	AW10	DDR0_ODT0	DDR0_D17	PM39	MDA18		
		MODT_A1	AY8	DDR0_ODT1	DDR0_D18	AP39	MDA19		
		MODT_A2	AW9	DDR0_ODT2	DDR0_D19	AM37	MDA20		
		MODT_A3	AU8	DDR0_ODT3	DDR0_D20	AM38	MDA16		
					DDR0_D21	AP37	MDA22		
					DDR0_D22	PM37	MDA25		
			AW33	DDR0_ECC0	DDR0_D23	AV35	MDA29		
			UJ31	DDR0_ECC1	DDR0_D24	AW37	MDA29		
			UJ31	DDR0_ECC2	DDR0_D25	AV35	MDA26		
			UJ31	DDR0_ECC3	DDR0_D26	AV37	MDA27		
			UJ33	DDR0_ECC4	DDR0_D27	AV35	MDA27		
			AT33	DDR0_ECC5	DDR0_D28	AV37	MDA28		
			AT31	DDR0_ECC6	DDR0_D29	AT35	MDA30		
			QW31	DDR0_ECC7	DDR0_D30	AW35	MDA31		
					DDR0_D31	AY6	MDA33		
		SBA0	AY12	DDR0_BA0	DDR0_D32	AY6	MDA37		
7		SBA01	AT11	DDR0_BA1	DDR0_D33	AY8	MDA37		
7		SBA02	AT21	DDR0_BA2	DDR0_D34	AN4	MDA35		
					DDR0_D35	AW6	MDA36		
		KEA0	KEA0	DDR0_KE0	DDR0_D36	AN2	MDA32		
7		KEA1	KEA1	DDR0_KE1	DDR0_D37	AW4	MDA38		
7		KEA2	KEA2	DDR0_KE2	DDR0_D38	AW4	MDA39		
7		KEA3	KEA3	DDR0_KE3	DDR0_D39	AN1	MDA41		
					DDR0_D40	AN4	MDA42		
		-CSA0	-CSA1	DDR0_CS_N0	DDR0_D41	AN2	MDA42		
7		-CSA1	AY9	DDR0_CS_N1	DDR0_D42	AN4	MDA43		
7		-CSA2	AW10	DDR0_CS_N2	DDR0_D43	AN2	MDA44		
7		-CSA3	-CSA3	DDR0_CS_N3	DDR0_D44	AN2	MDA45		
					DDR0_D45	AN2	MDA46		
7		DCLKA0	DCLKA0	DDR0_CLK_P0	DDR0_D46	AN1	MDA47		
7		-DCLKA0	-DCLKA0	DDR0_CLK_N0	DDR0_D47	AL1	MDA49		
7		DCLKA1	DCLKA1	DDR0_CLK_P1	DDR0_D48	AL3	MDA50		
7		-DCLKA1	-DCLKA1	DDR0_CLK_N1	DDR0_D49	AL3	MDA50		
7		DCLKA2	DCLKA2	DDR0_CLK_P2	DDR0_D50	AL4	MDA51		
7		-DCLKA2	-DCLKA2	DDR0_CLK_N2	DDR0_D51	AL2	MDA52		
7		DCLKA3	DCLKA3	DDR0_CLK_P3	DDR0_D52	AL3	MDA53		
7		-DCLKA3	-DCLKA3	DDR0_CLK_N3	DDR0_D53	AL2	MDA54		
			AW12	RSVD	DDR0_D54	AL2	MDA55		
					DDR0_D55	AG1	MDA57		
					DDR0_D56	AG4	MDA61		
					DDR0_D57	AE3	MDA58		
					DDR0_D58	AE4	MDA59		
					DDR0_D59	AE2	MDA60		
					DDR0_D60	AE3	MDA56		
					DDR0_D61	AE3	MDA62		
					DDR0_D62	AE1	MDA63		
7		-SRASA	-SRASA	DDR0_RAS*	DDR0_D63	AE39	DSQA0		
7		-SWEA	-SWEA	DDR0_WE*	DDR0_D64	AN39	DSQA2		
					DDR0_D65	AV36	DSQA3		
			AW20	RSVD	DDR0_D66	AE3	DSQA4		
			AW27C	RSVD	DDR0_D67	AP3	DSQA5		
					DDR0_D68	AP3	DSQA6		
7		-SCASA	-SCASA	DDR0_CAS*	DDR0_D69	AE3	DSQA7		
					DDR0_D70	AE2			
7.8		-DDR3_RST	WR61 D4/SH/TMX	AKK22	DDR0_RESET*	AV32	DSQA0		
					DDR0_D71	AE38	DSQA1		
					DDR0_D72	AN38	DSQA2		
			WC4		DDR0_D73	AN36	DSQA3		
					DDR0_D74	AW5	DSQA4		
					DDR0_D75	AE2	DSQA5		
					DDR0_D76	AE2	DSQA6		
					DDR0_D77	AE2	DSQA7		
					DDR0_D78	AE2			
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					DDR0_D197	AE2			
					DDR0_D198	AE2			
					DDR0_D199	AE2			
					DDR0_D200	AE2			

HASWELL/10SC1-F01150-01R 10SC1-F01150-03R]

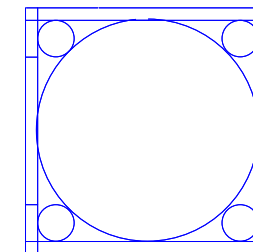
LGA1150 (B)

LGA1150B					
MAA80	AL19	DDR1_MA0	DDR1_DQ0	AE34	MD80
MAA81	AK23	DDR1_MA1	DDR1_DQ1	AE35	MD81
MAA82	AM22	DDR1_MA2	DDR1_DQ2	AE36	MD82
MAA83	AM23	DDR1_MA3	DDR1_DQ3	AH35	MD83
MAA84	AF23	DDR1_MA4	DDR1_DQ4	AD34	MD84
MAA85	AL23	DDR1_MA5	DDR1_DQ5	AD35	MD85
MAA86	AY24	DDR1_MA6	DDR1_DQ6	AG34	MD86
MAA87	AV25	DDR1_MA7	DDR1_DQ7	AH34	MD87
MAA88	AL26	DDR1_MA8	DDR1_DQ8	AH35	MD88
MAA89	AP25	DDR1_MA9	DDR1_DQ9	AK35	MD89
MAA90	AW18	DDR1_MA10	DDR1_DQ10	AK31	MD810
MAA91	AY25	DDR1_MA11	DDR1_DQ11	AL31	MD811
MAA92	AV26	DDR1_MA12	DDR1_DQ12	AL32	MD812
MAA93	AL15	DDR1_MA13	DDR1_DQ13	AK32	MD813
MAA94	AY27	DDR1_MA14	DDR1_DQ14	AL32	MD814
MAA95	AV28	DDR1_MA15	DDR1_DQ15	AK31	MD815
			DDR1_DQ16	AK34	MD821
MODT_B0	AM17	DDR1_ODT0	DDR1_DQ17	AE34	MD819
MODT_B1	AL16	DDR1_ODT1	DDR1_DQ18	AP31	MD823
MODT_B2	AM16	DDR1_ODT2	DDR1_DQ19	AP35	MD820
MODT_B3	AK15	DDR1_ODT3	DDR1_DQ20	AK35	MD816
			DDR1_DQ21	AK32	MD818
	AM26	DDR1_EC00	DDR1_DQ22	AP32	MD822
	AM25	DDR1_EC01	DDR1_DQ23	AM29	MD825
	AE25	DDR1_EC02	DDR1_DQ24	AM29	MD828
	AF26	DDR1_EC03	DDR1_DQ25	AM28	MD827
	AR26	DDR1_EC04	DDR1_DQ26	AR28	MD830
	AR25	DDR1_EC05	DDR1_DQ27	AL28	MD829
	AR26	DDR1_EC06	DDR1_DQ28	AP29	MD826
	AR25	DDR1_EC07	DDR1_DQ29	AP28	MD831
			DDR1_DQ30	AP12	MD832
SBA80	AK17	DDR1_BA0	DDR1_DQ31	AL13	MD834
SBA81	AW18	DDR1_BA1	DDR1_DQ32	AL12	MD835
SBA82	AL28	DDR1_BA2	DDR1_DQ33	AL13	MD836
			DDR1_DQ34	AL12	MD838
CKE80	AW29	DDR1_CKE0	DDR1_DQ35	AM13	MD838
CKE81	AY29	DDR1_CKE1	DDR1_DQ36	AM12	MD838
CKE82	AL29	DDR1_CKE2	DDR1_DQ37	AR9	MD845
CKE83	AL29	DDR1_CKE3	DDR1_DQ38	AP6	MD847
			DDR1_DQ39	AP6	MD844
CS80	AP17	DDR1_CS_N0	DDR1_DQ40	AR10	MD843
CS81	AN15	DDR1_CS_N1	DDR1_DQ41	AR7	MD846
CS82	AN17	DDR1_CS_N2	DDR1_DQ42	AP7	MD842
CS83	AL15	DDR1_CS_N3	DDR1_DQ43	AP7	MD852
			DDR1_DQ44	AM6	MD850
			DDR1_DQ45	AM10	MD848
			DDR1_DQ46	AL10	MD854
DCLK80	AM20	DDR1_CLK_P0	DDR1_DQ47	AM7	MD851
DCLK81	AP21	DDR1_CLK_Q0	DDR1_DQ48	AH6	MD861
DCLK82	AN20	DDR1_CLK_P1	DDR1_DQ49	AH7	MD859
DCLK83	AP21	DDR1_CLK_Q1	DDR1_DQ50	AH7	MD863
DCLK84	AN21	DDR1_CLK_P2	DDR1_DQ51	AJ6	MD856
DCLK85	AP21	DDR1_CLK_Q2	DDR1_DQ52	AJ7	MD859
DCLK86	AN19	DDR1_CLK_P3	DDR1_DQ53	AJ6	MD862
DCLK87	AP20	DDR1_CLK_Q3	DDR1_DQ54	AF35	QDS80
			DDR1_CLK_N3	AF33	QDS81
SCASB	AP16C	DDR1_CAS*	DDR1_DQ55	AN28	QDS83
	AL20	DDR1_CAS*	DDR1_DQ56	AN12	QDS84
SRASB	AM18C	DDR1_RAS*	DDR1_DQ57	AP8	QDS85
SWEB	AK16C	DDR1_WE*	DDR1_DQ58	AL8	QDS86
			DDR1_DQ59	AG7	QDS87
			DDR1_DQ60	AN2X	QDS80
	AB39	DDR_VREF_DQ0	DDR1_DQ61	AF34	QDS80
	AB40	DDR_VREF_DQ1	DDR1_DQ62	AF33	QDS81
			DDR1_DQ63	AN28	QDS83
			DDR1_DQ64	AN12	QDS84
			DDR1_DQ65	AP8	QDS85
			DDR1_DQ66	AL8	QDS86
			DDR1_DQ67	AG7	QDS87
			DDR1_DQ68	AN2X	QDS80
			DDR1_DQ69	AF34	QDS80
			DDR1_DQ70	AF33	QDS81
			DDR1_DQ71	AN28	QDS83
			DDR1_DQ72	AN12	QDS84
			DDR1_DQ73	AP8	QDS85
			DDR1_DQ74	AL8	QDS86
			DDR1_DQ75	AG7	QDS87
			DDR1_DQ76	AN2X	QDS80
			DDR1_DQ77	AF34	QDS80
			DDR1_DQ78	AF33	QDS81
			DDR1_DQ79	AN28	QDS83
			DDR1_DQ80	AN12	QDS84
			DDR1_DQ81	AP8	QDS85
			DDR1_DQ82	AL8	QDS86
			DDR1_DQ83	AG7	QDS87
			DDR1_DQ84	AN2X	QDS80
			DDR1_DQ85	AF34	QDS80
			DDR1_DQ86	AF33	QDS81
			DDR1_DQ87	AN28	QDS83
			DDR1_DQ88	AN12	QDS84
			DDR1_DQ89	AP8	QDS85
			DDR1_DQ90	AL8	QDS86
			DDR1_DQ91	AG7	QDS87
			DDR1_DQ92	AN2X	QDS80
			DDR1_DQ93	AF34	QDS80
			DDR1_DQ94	AF33	QDS81
			DDR1_DQ95	AN28	QDS83
			DDR1_DQ96	AN12	QDS84
			DDR1_DQ97	AP8	QDS85
			DDR1_DQ98	AL8	QDS86
			DDR1_DQ99	AG7	QDS87
			DDR1_DQ100	AN2X	QDS80

HASWELL/10SC1-F01150-01R 10SC1-F01150-03R

LGA1150 (CR)

LGA1150
ILM_BP/1156/CSP/12KRC-0F0001-52R_12KRC-0F0001-51R]



DDR BUS

7 MODT_A[0..3] ↔ MODT_A[0..3]
8 MODT_B[0..3] ↔ MODT_B[0..3]
7 MDA[0..63] ↔ MDA[0..63]
8 MDB[0..63] ↔ MDB[0..63]
7 DQSA[0..7] ↔ DQSA[0..7]
7 -DQSA[0..7] ↔ -DQSA[0..7]
7 MAAB[0..15] ↔ MAAB[0..15]
8 MAAB[0..15] ↔ MAAB[0..15]
8 DQSB[0..7] ↔ DQSB[0..7]
8 -DQSB[0..7] ↔ -DQSB[0..7]

(F, J)



LGA1150 (G,H,I)



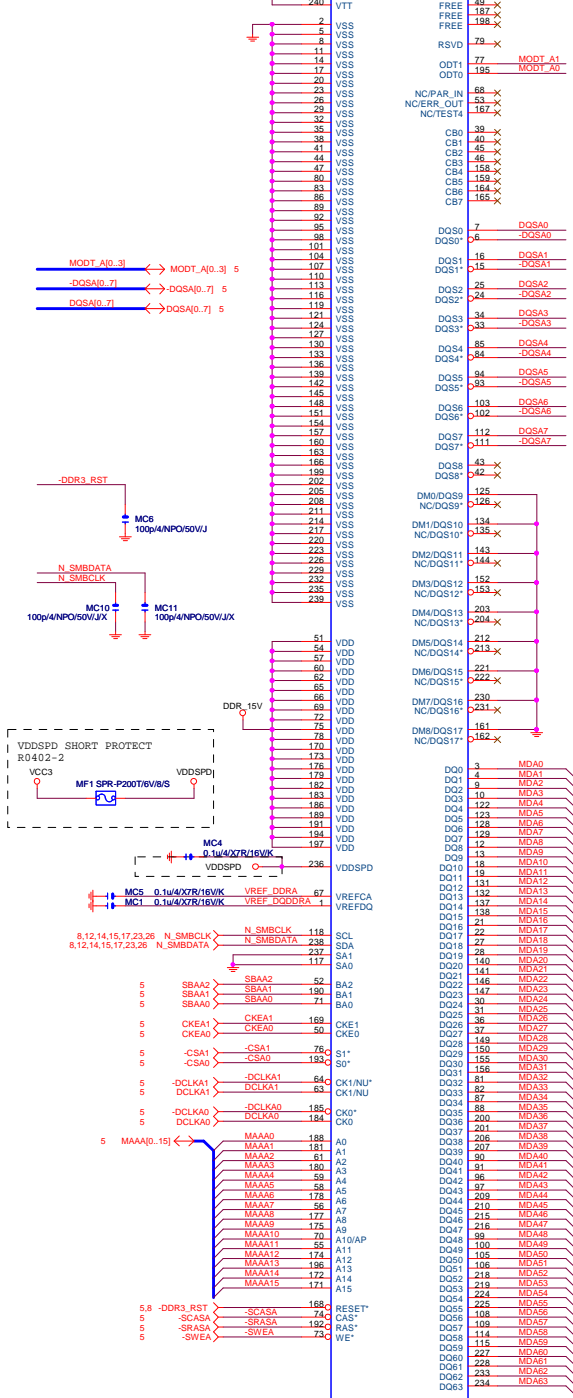
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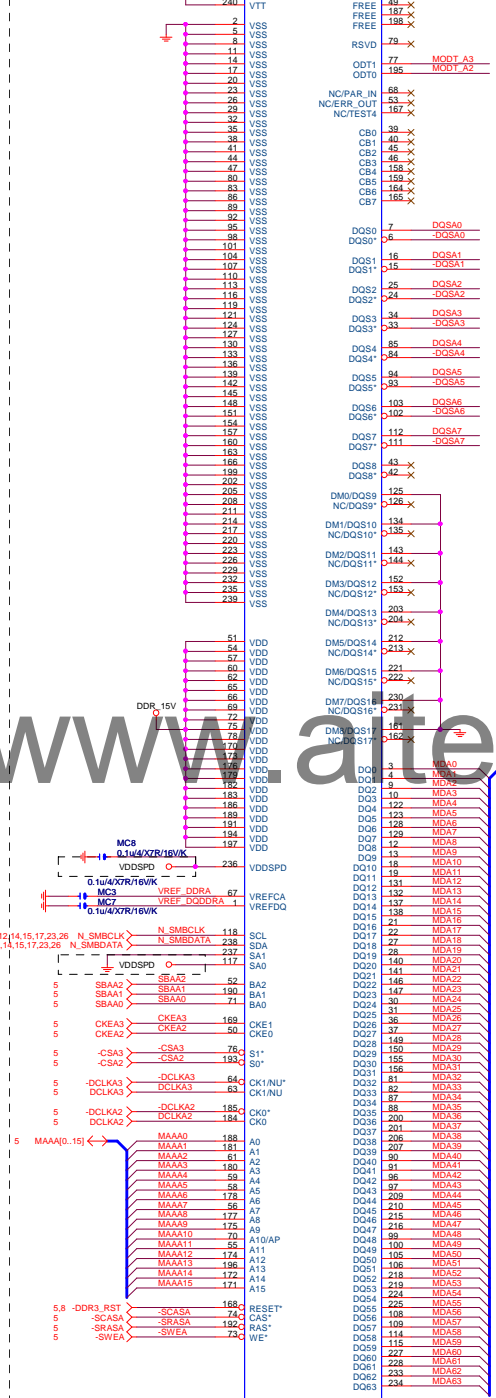
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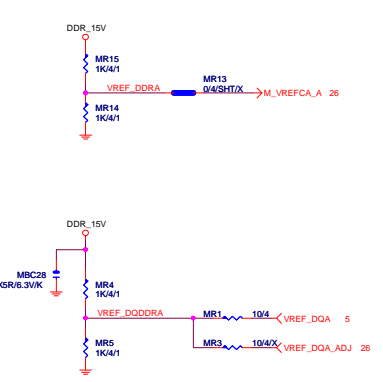
DDR3 (A)



DDR3

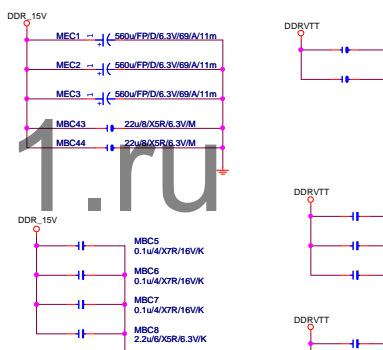


DDR3 VREF

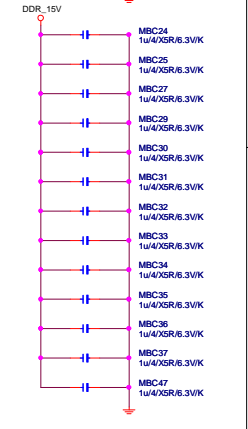
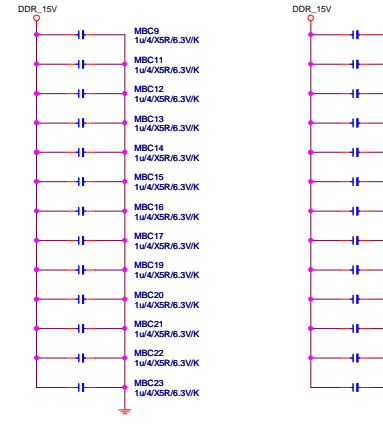
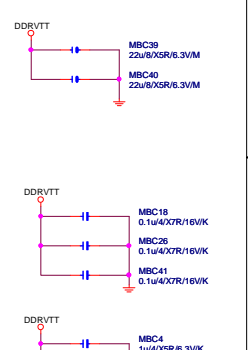


DDR TERMINATION CHANNEL A/B

DDR15V Decouple

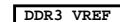
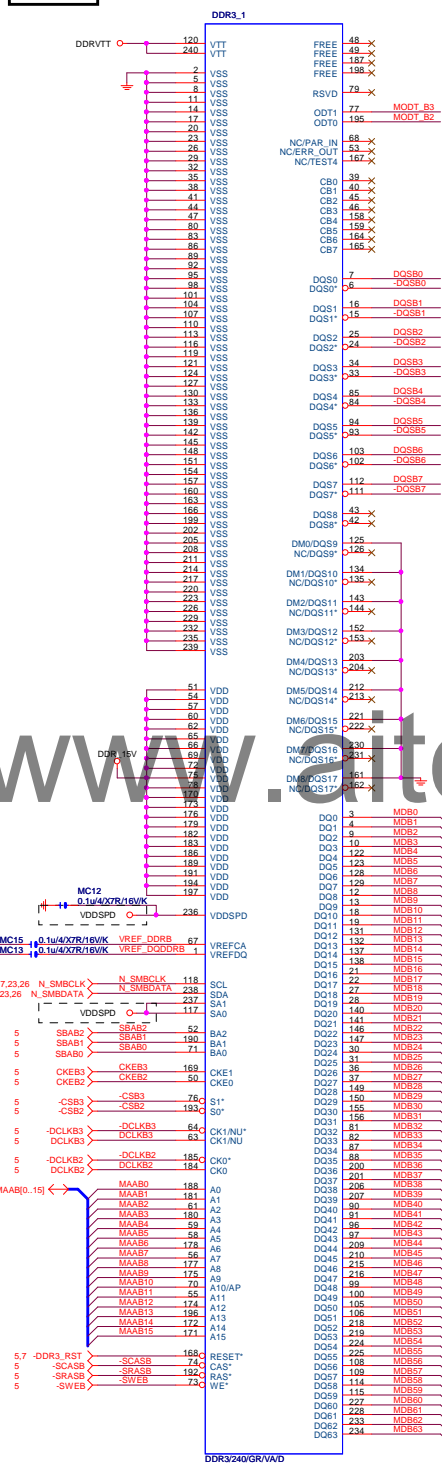
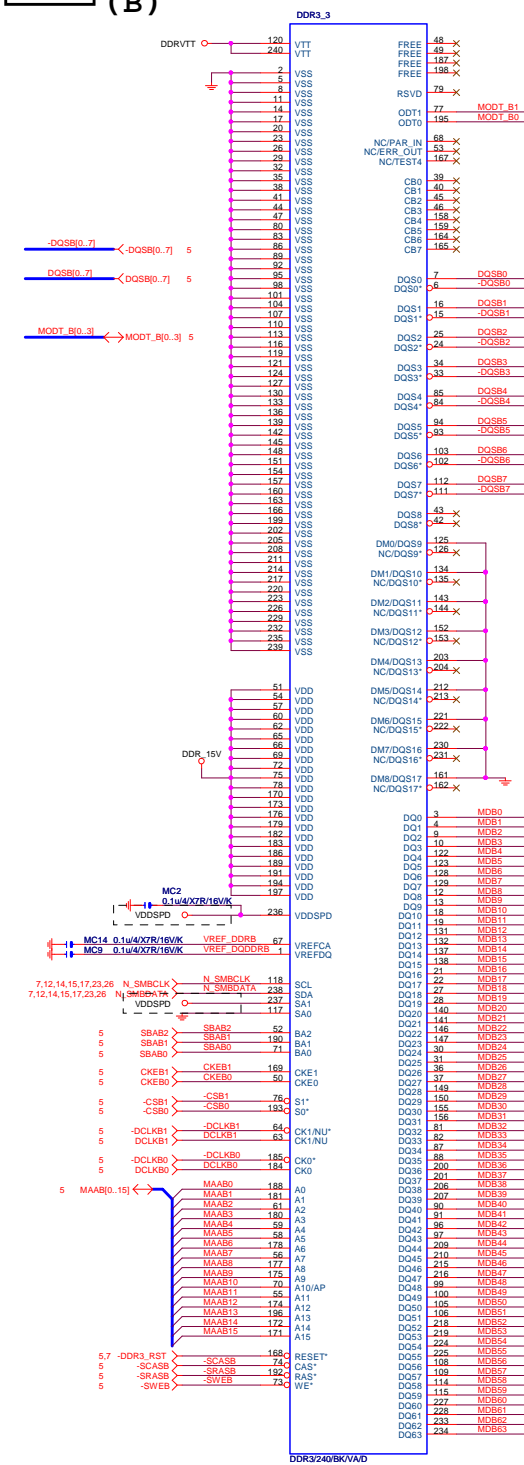


DDRVT Decouple





(B)



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

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

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

COUPON



CPU

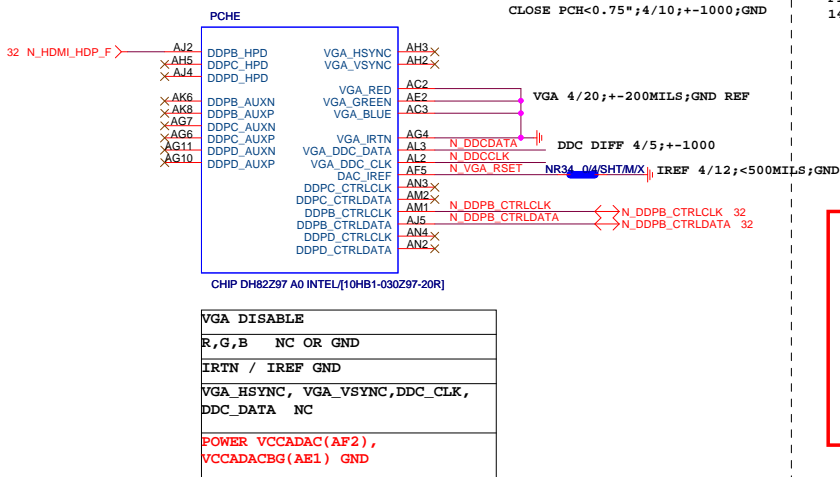
CHA

4111

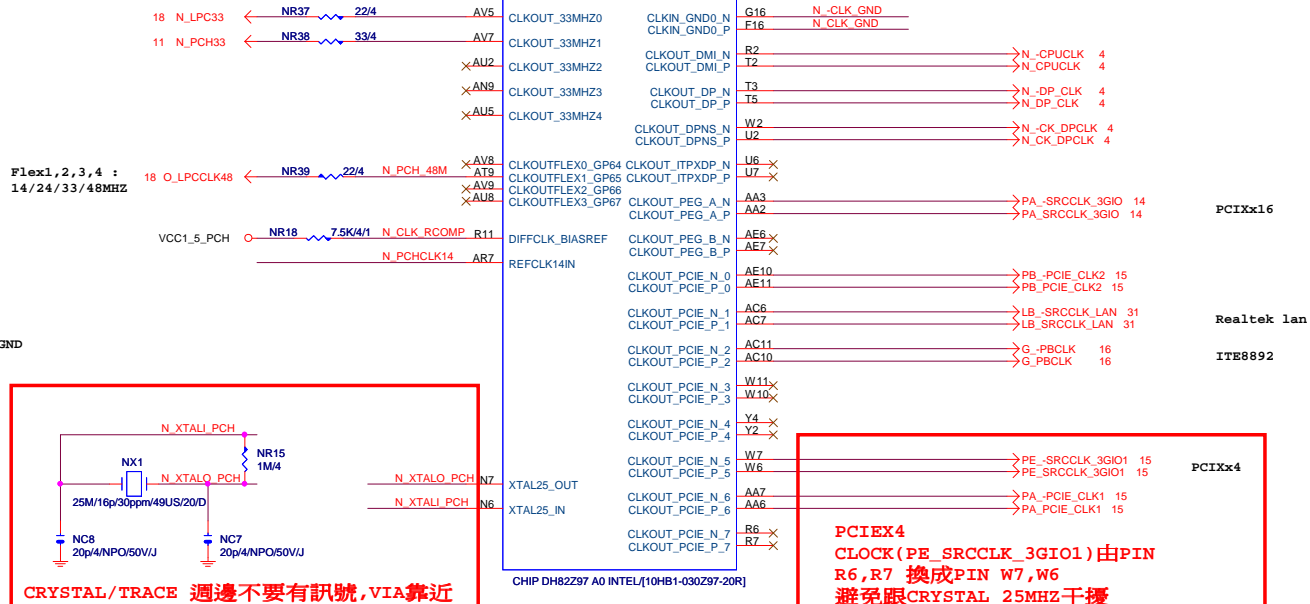
Gigabyte Technology

Title			
DDRIII CHANNEL B			
Size	Document Number		Rev
Custom	GA-Z97P-D3		1.0
Date:	Sheet	8	of 33

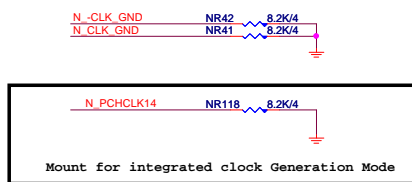
PCH (E)



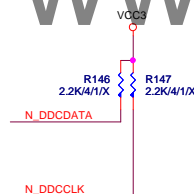
PCH (G)



PCH CLK PD



VGA DDC

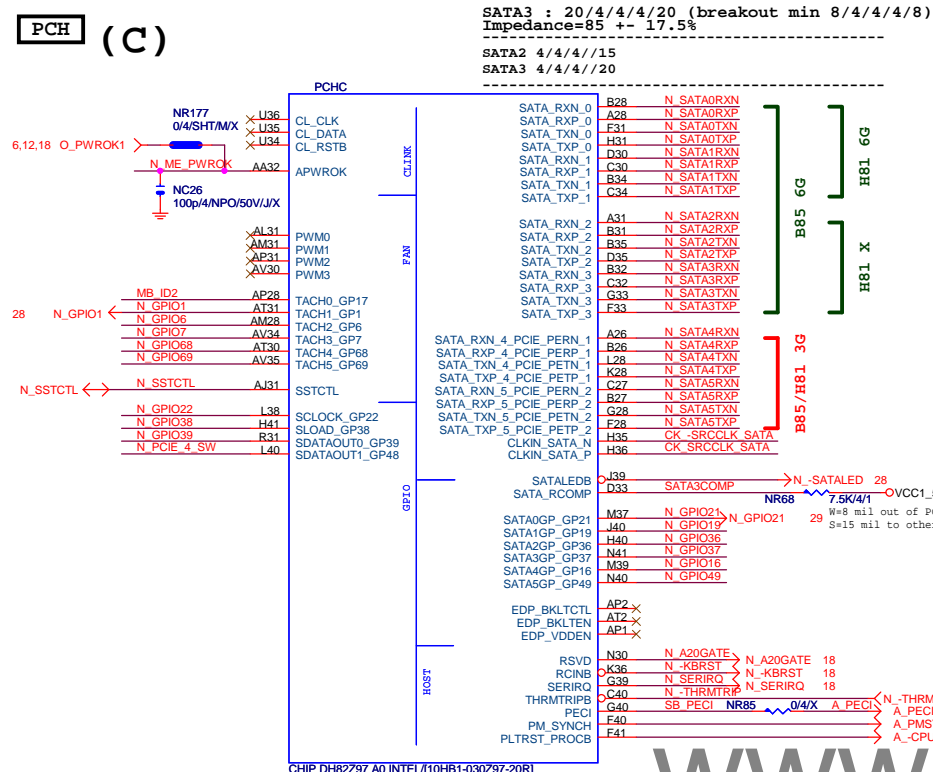


VGA DDC

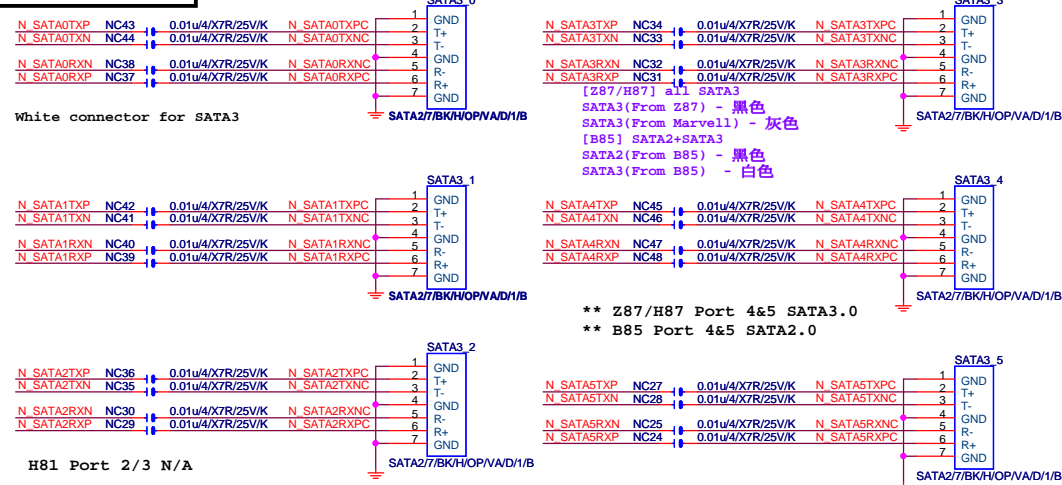
VGA CONNECTOR

Gigabyte Technology			
Title	PCH DISPLAY ,CLK BUFFER		
Size	Custom	Document Number	GA-Z97P-D3
Date:	Tuesday, April 15, 2014	Sheet	10 of 33
Rev	1.0		

PCH (C)

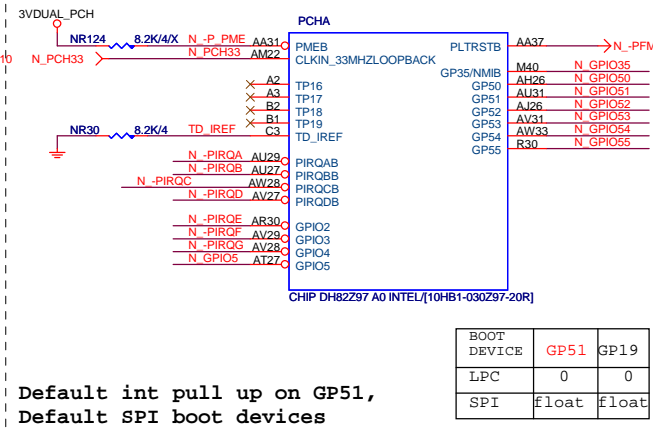


SATA CONNECTOR



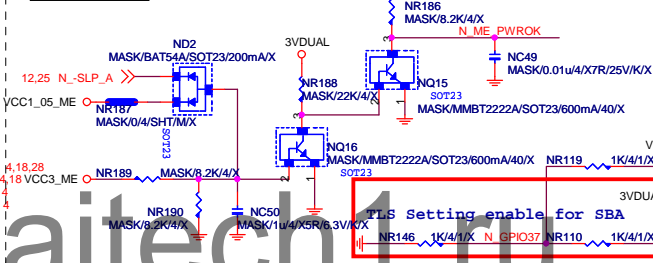
H81 Port 2/3 N/A

PCH (A)

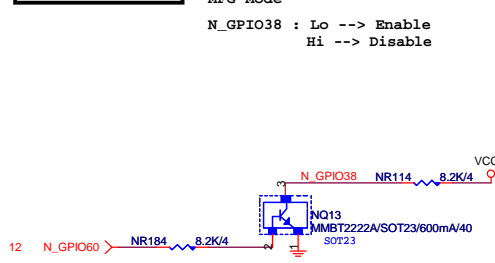


Default int pull up on GP51,
Default SPI boot devices

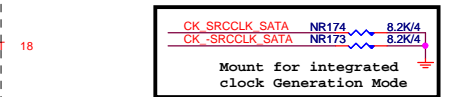
ME PWROK



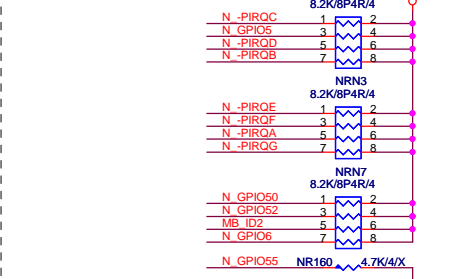
GPIO38 Ctrl



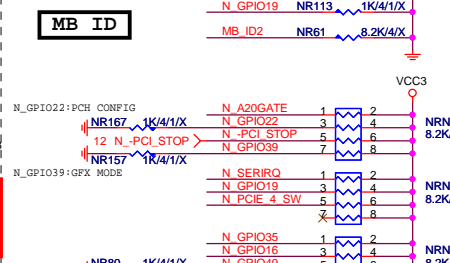
PCH CLK PD



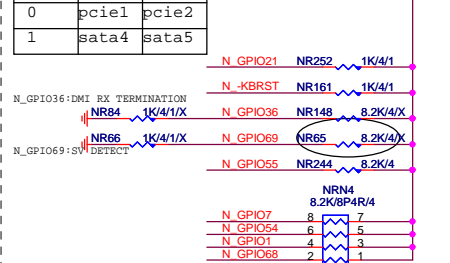
PCH PU/PD



MB ID



GPIO38 Ctrl



Gigabyte Technology

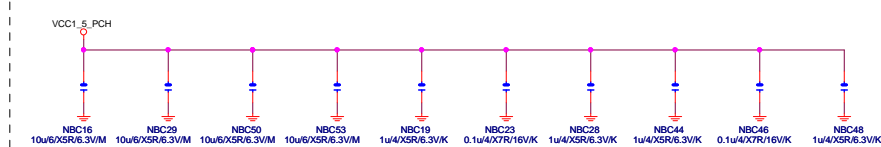
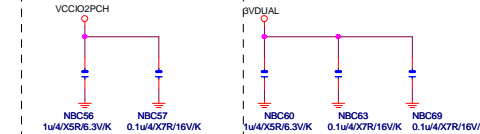
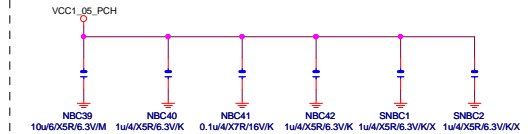
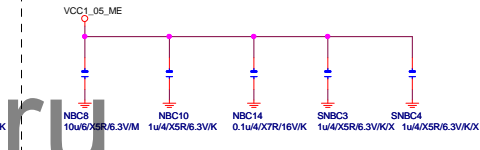
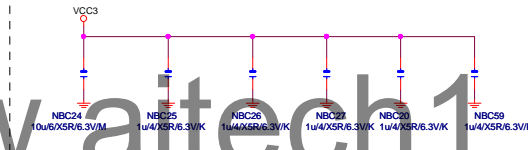
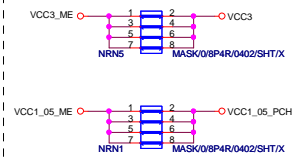
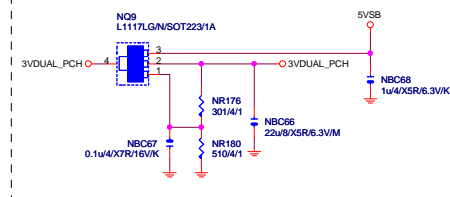
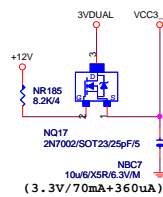
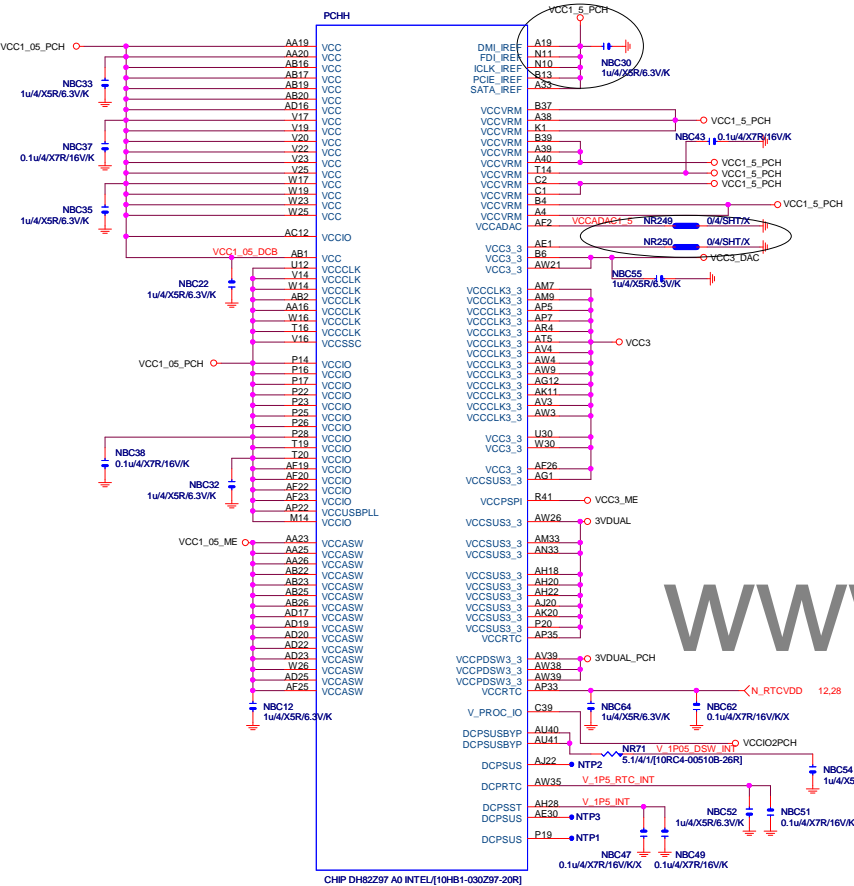
Title: PCH HOST , SATA, PCI

Size: Custom

Document Number: GA-Z97P-D3

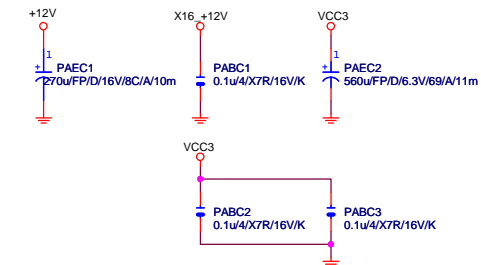
Date: Tuesday, April 15, 2014

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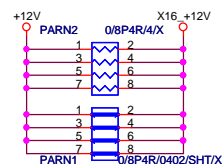
PCH1
CHIP DH82Z97 A0 INTEL/10HB1-030Z97-20R

PCIEX16 CAP



PCIEX16 PROTECT SHT

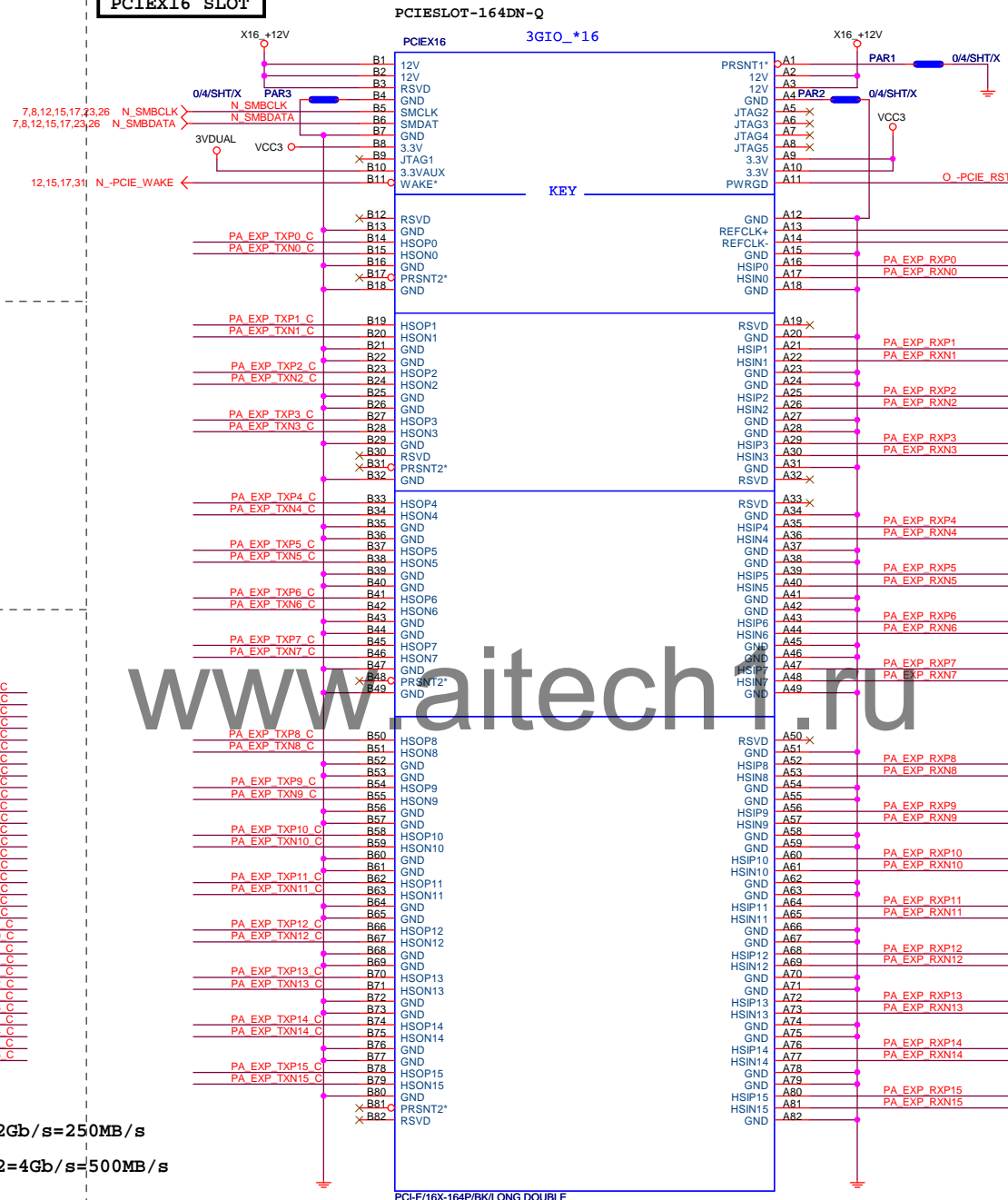
+12 protect short-wire test



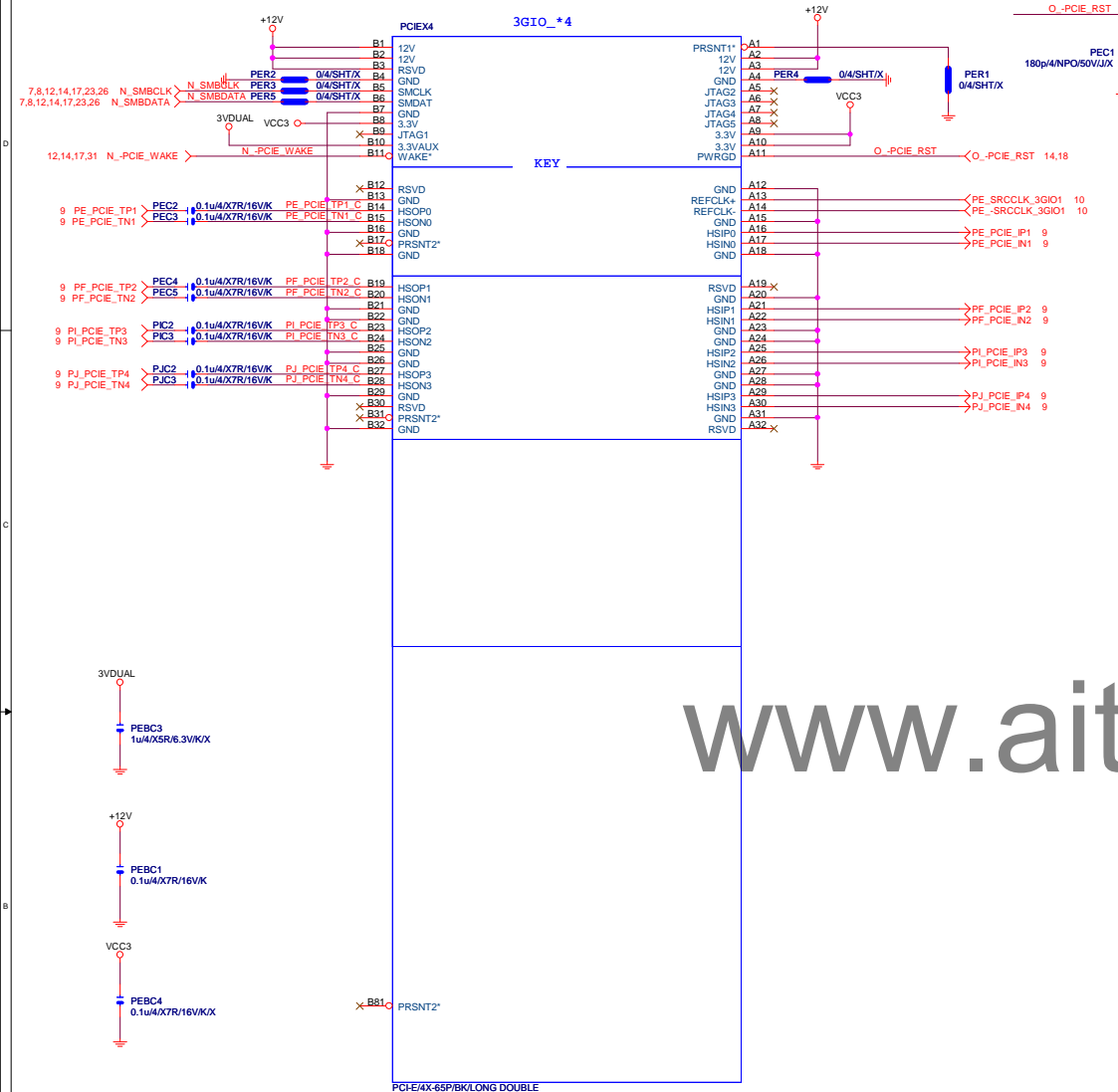
PCIEX16 AC CAP

PA EXP TXP0 C	PAC5	0.22u/4/X5R/6.3V/K	PA EXP TXP0 C
PA EXP TXN0 C	PAC4	0.22u/4/X5R/6.3V/K	PA EXP TXN0 C
PA EXP TXP1 C	PAC6	0.22u/4/X5R/6.3V/K	PA EXP TXP1 C
PA EXP TXN1 C	PAC7	0.22u/4/X5R/6.3V/K	PA EXP TXN1 C
PA EXP TXP2 C	PAC8	0.22u/4/X5R/6.3V/K	PA EXP TXP2 C
PA EXP TXN2 C	PAC9	0.22u/4/X5R/6.3V/K	PA EXP TXN2 C
PA EXP TXP3 C	PAC10	0.22u/4/X5R/6.3V/K	PA EXP TXP3 C
PA EXP TXN3 C	PAC11	0.22u/4/X5R/6.3V/K	PA EXP TXN3 C
PA EXP TXP4 C	PAC12	0.22u/4/X5R/6.3V/K	PA EXP TXP4 C
PA EXP TXN4 C	PAC13	0.22u/4/X5R/6.3V/K	PA EXP TXN4 C
PA EXP TXP5 C	PAC14	0.22u/4/X5R/6.3V/K	PA EXP TXP5 C
PA EXP TXN5 C	PAC15	0.22u/4/X5R/6.3V/K	PA EXP TXN5 C
PA EXP TXP6 C	PAC16	0.22u/4/X5R/6.3V/K	PA EXP TXP6 C
PA EXP TXN6 C	PAC17	0.22u/4/X5R/6.3V/K	PA EXP TXN6 C
PA EXP TXP7 C	PAC19	0.22u/4/X5R/6.3V/K	PA EXP TXP7 C
PA EXP TXN7 C	PAC18	0.22u/4/X5R/6.3V/K	PA EXP TXN7 C
PA EXP TXP8 C	PAC20	0.22u/4/X5R/6.3V/K	PA EXP TXP8 C
PA EXP TXN8 C	PAC21	0.22u/4/X5R/6.3V/K	PA EXP TXN8 C
PA EXP TXP9 C	PAC22	0.22u/4/X5R/6.3V/K	PA EXP TXP9 C
PA EXP TXN9 C	PAC23	0.22u/4/X5R/6.3V/K	PA EXP TXN9 C
PA EXP TXP10 C	PAC24	0.22u/4/X5R/6.3V/K	PA EXP TXP10 C
PA EXP TXN10 C	PAC25	0.22u/4/X5R/6.3V/K	PA EXP TXN10 C
PA EXP TXP11 C	PAC26	0.22u/4/X5R/6.3V/K	PA EXP TXP11 C
PA EXP TXN11 C	PAC27	0.22u/4/X5R/6.3V/K	PA EXP TXN11 C
PA EXP TXP12 C	PAC28	0.22u/4/X5R/6.3V/K	PA EXP TXP12 C
PA EXP TXN12 C	PAC29	0.22u/4/X5R/6.3V/K	PA EXP TXN12 C
PA EXP TXP13 C	PAC30	0.22u/4/X5R/6.3V/K	PA EXP TXP13 C
PA EXP TXN13 C	PAC31	0.22u/4/X5R/6.3V/K	PA EXP TXN13 C
PA EXP TXP14 C	PAC32	0.22u/4/X5R/6.3V/K	PA EXP TXP14 C
PA EXP TXN14 C	PAC33	0.22u/4/X5R/6.3V/K	PA EXP TXN14 C
PA EXP TXP15 C	PAC34	0.22u/4/X5R/6.3V/K	PA EXP TXP15 C
PA EXP TXN15 C	PAC35	0.22u/4/X5R/6.3V/K	PA EXP TXN15 C

PCIEX16 SLOT



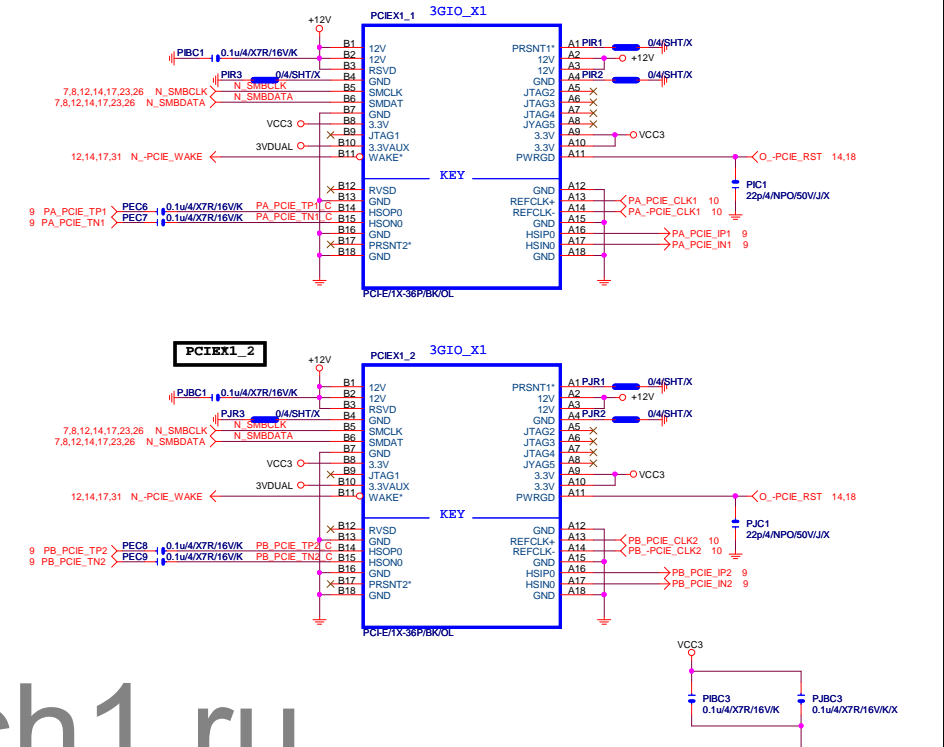
PCIEX4 SLOT



	N_PCIE_4_SW (PCH GPIO48)	PCIEX4_X1 (SIO_GPIO26)
PCIEX4 No devices	H	H
PCIEX4 -> X1	H	H
PCIEX4 Have devices	L	L
PCIEX4 -> X4	L	L
PCIEX1_1/2 --> N/A		

PCIEX1 SLOT

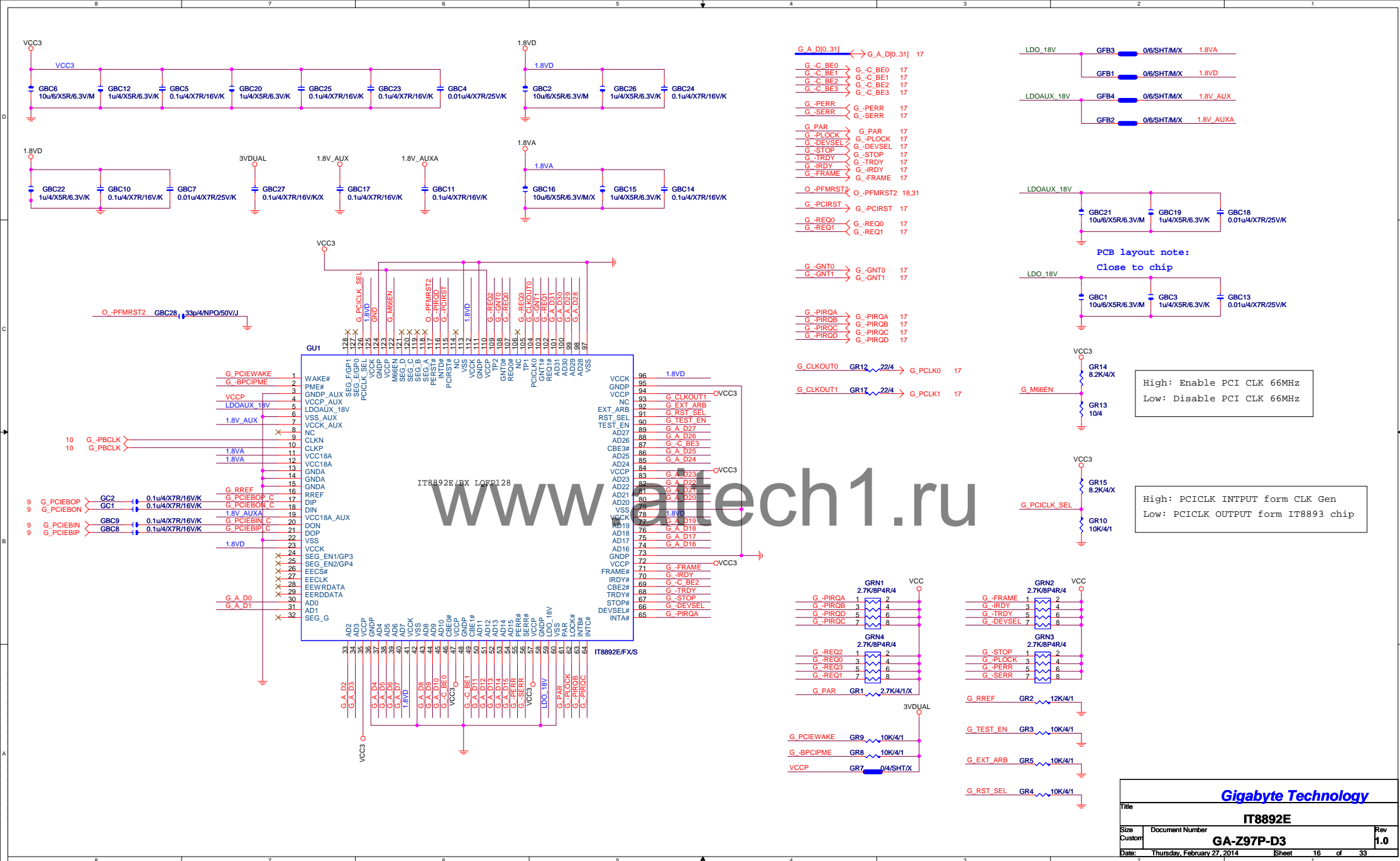
PCIEX1_1

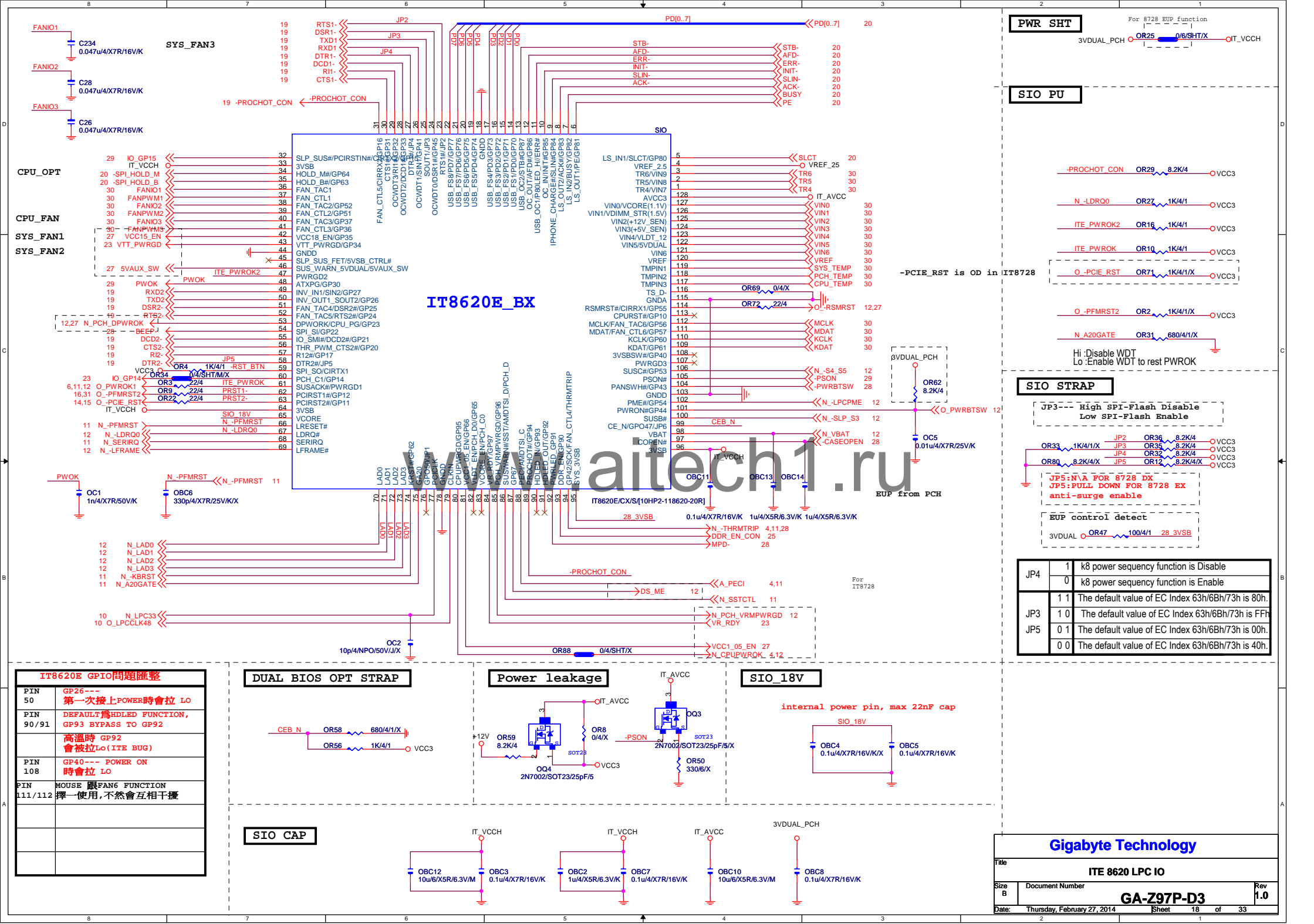


PCIEX4/X1 SWITCH

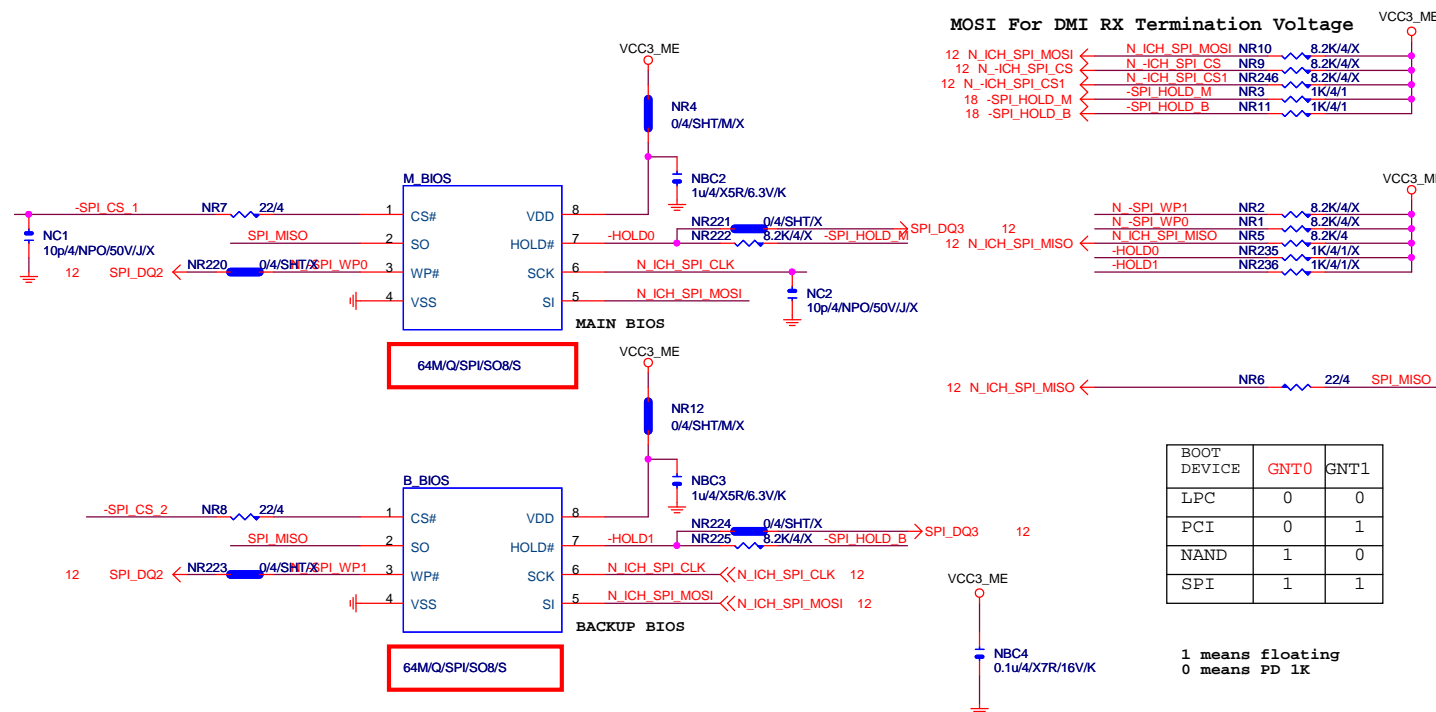
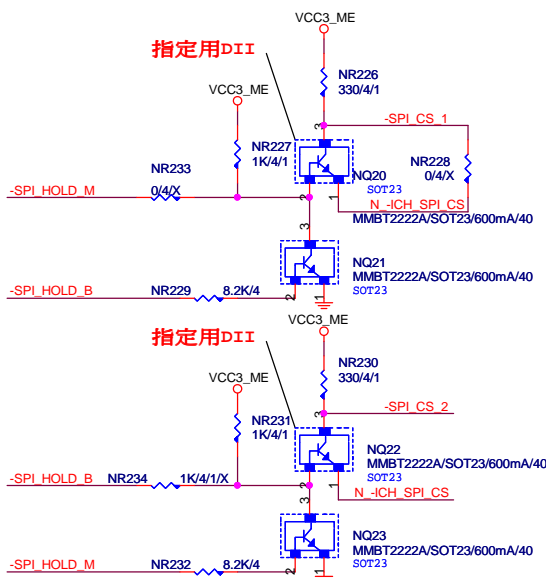
Function	SEL
xI--> x0a	L;PCIEX4 SLOT-->X1
xI--> x0b	H;PCIEX4 SLOT-->X4

Gigabyte Technology			
Title	PCIEX1 X1 1,2		
Size	Document Number	Rev	
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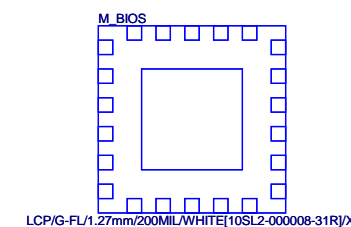
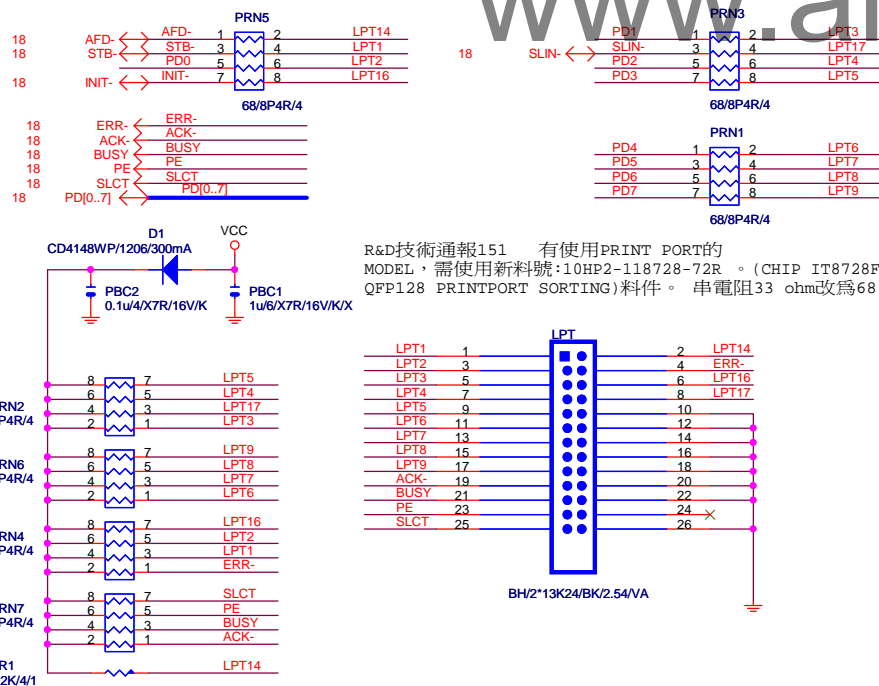
DUAL BIOS



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

1 means floating
0 means PD 1K

LPT PORT

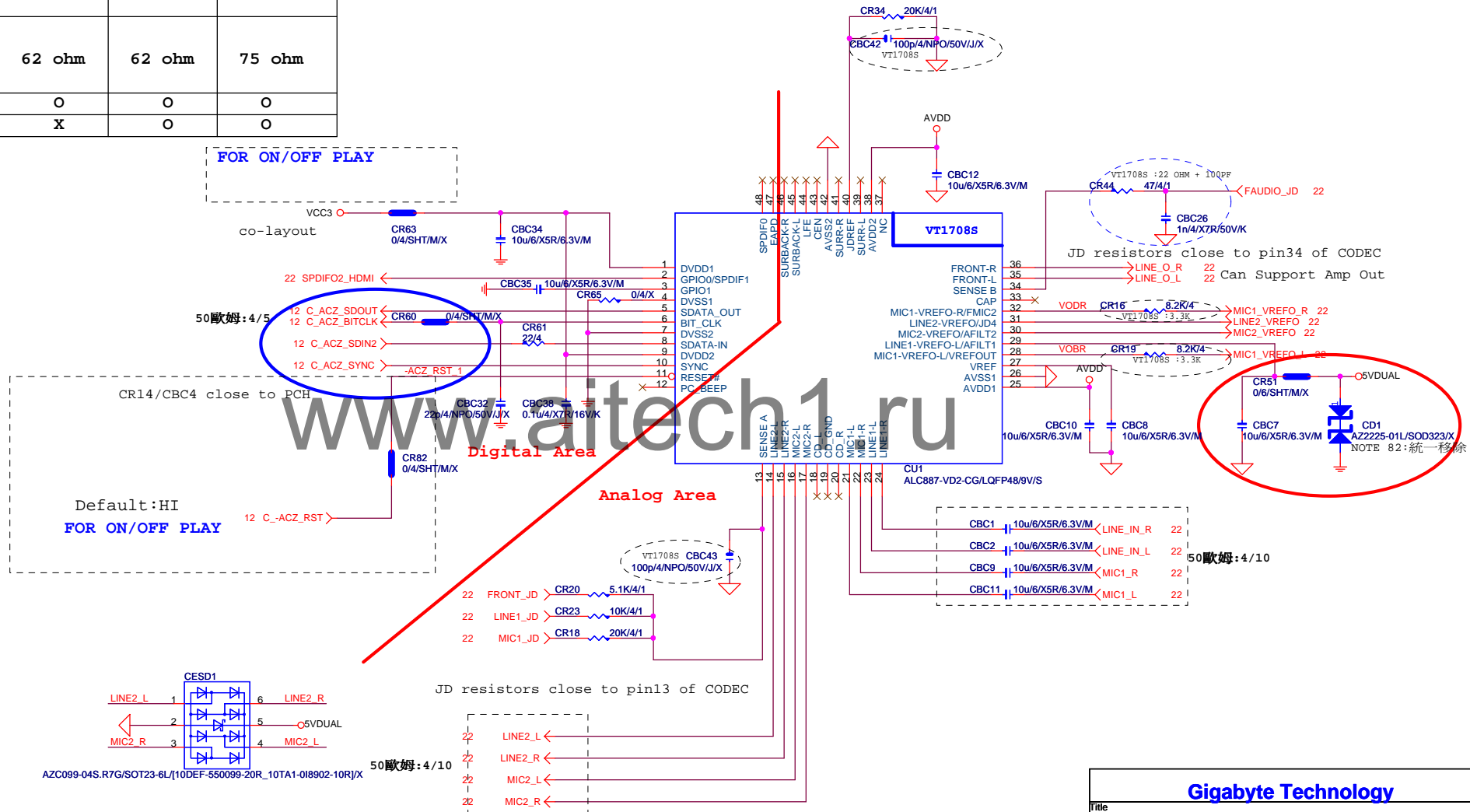


R&D技術通報151 有使用PRINT PORT的
MODEL，需使用新料號：10HP2-118728-72R。(CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。

www.aitech1.ru

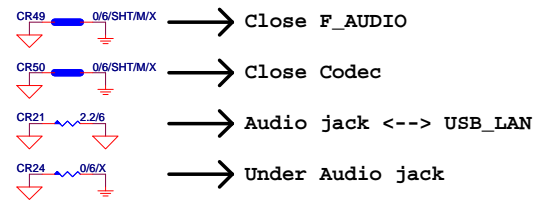
	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR16/CR19 CR52/CR56/CR10/CR9	8.2K/4	8.2K/4	3.3K/4/1
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7	O	O	O
CESD1	X	O	O

FOR ON/OFF PLAY

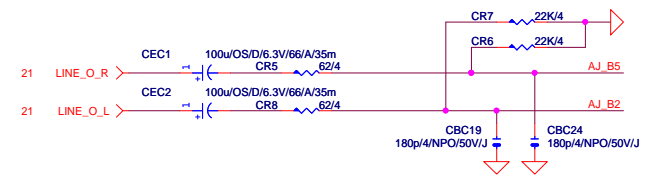


Gigabyte Technology

Title		
HD AUDIO ALC887		
Size	Document Number	Rev
Custom	GA-Z97P-D3	1.0
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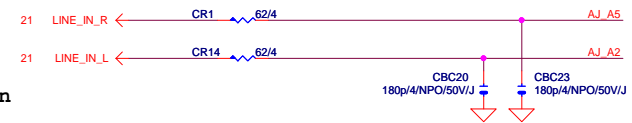
LINE-OUT



LINE-IN

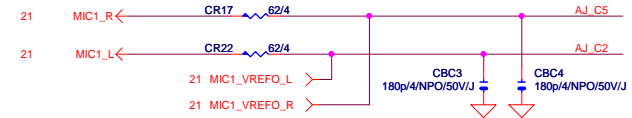
Verify MIC function
 in LINE-in

Only reserved for ALC888



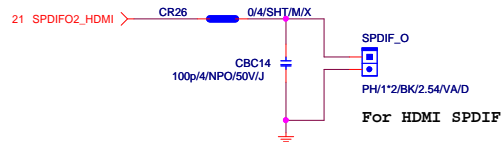
For 889A/888

MIC-IN



SURROUND

SPDIF_OUT

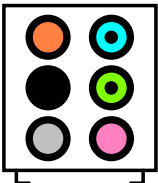


SPDIF_IN

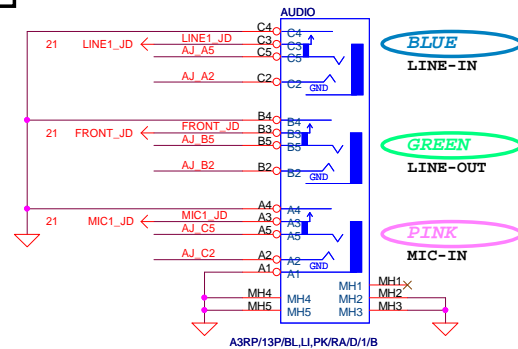
CEN/LFE

SURR BACK

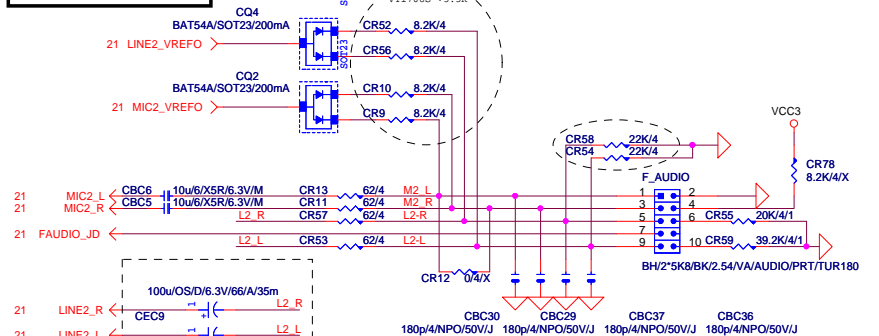
AZALIA JACK



AZALIA JACK



AZALIA FRONT PANEL



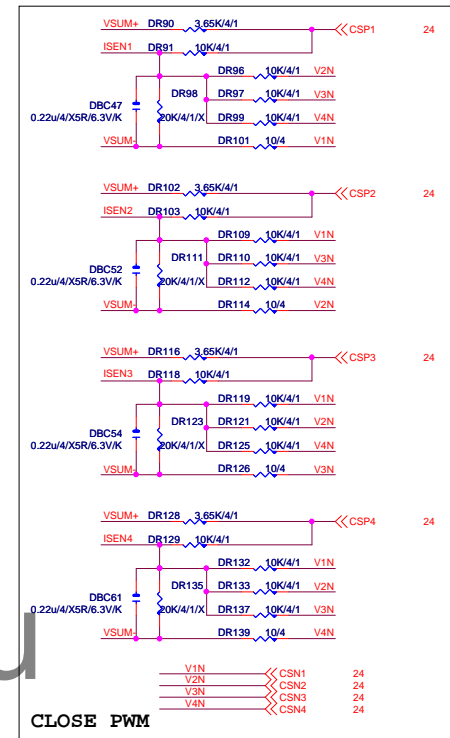
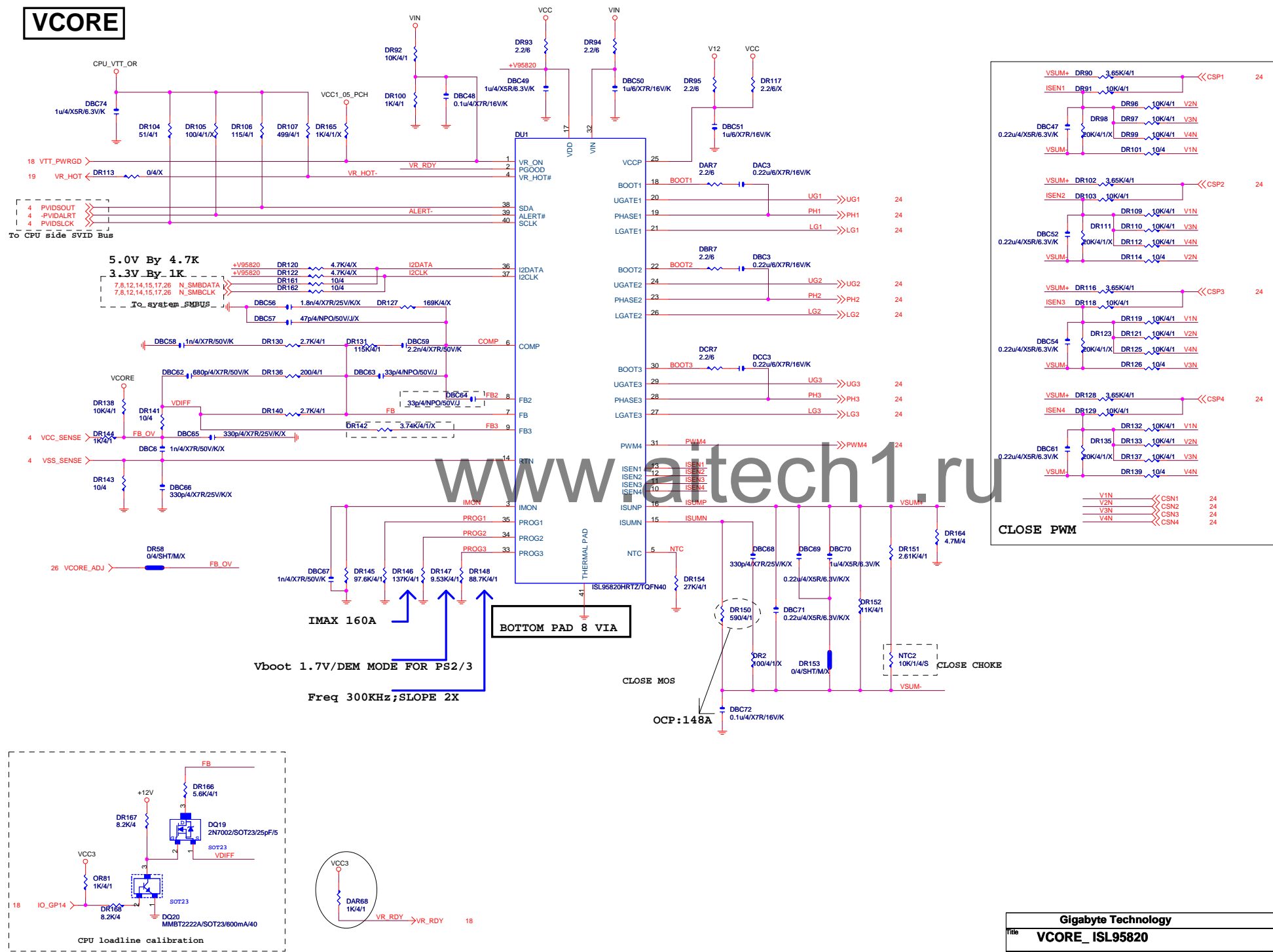
Gigabyte Technology

AUDIO JACK

GA-Z97P-D3

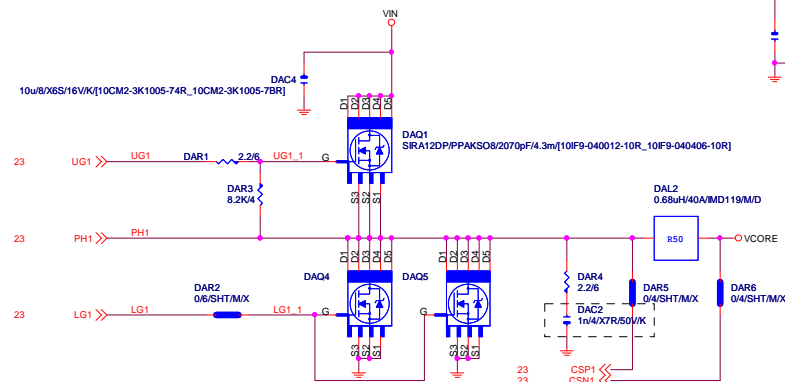
Title	Document Number	Rev
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VCORE



VCORE

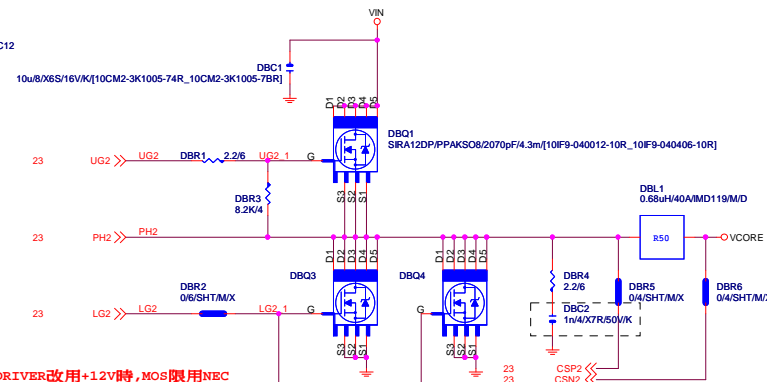
[1]



DRIVER改用+12V時, MOS限用NEC

SIRA12DP/PPAKS08/2070pF4.3m[10IF9-040012-10R_10IF9-040406-10R]
SIRA12DP/PPAKS08/2070pF4.3m[10IF9-040012-10R_10IF9-040406-10R]

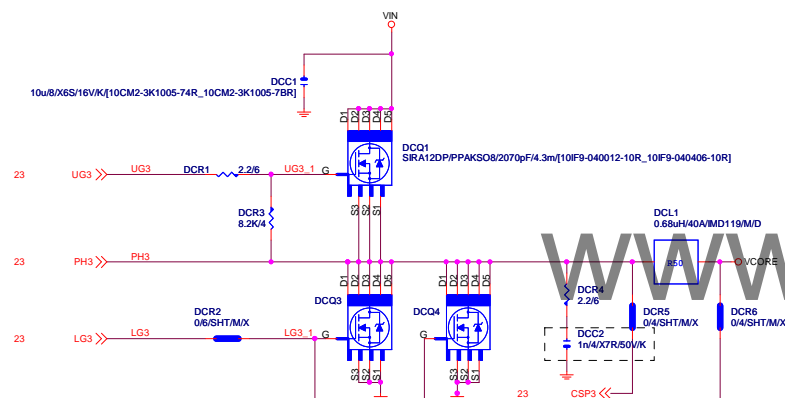
[2]



DRIVER改用+12V時, MOS限用NEC

SIRA12DP/PPAKS08/2070pF4.3m[10IF9-040012-10R_10IF9-040406-10R]
SIRA12DP/PPAKS08/2070pF4.3m[10IF9-040012-10R_10IF9-040406-10R]

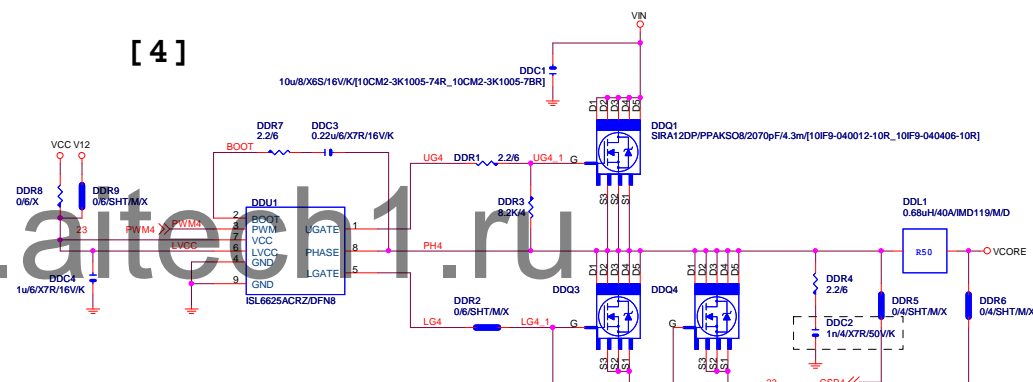
[3]



DRIVER改用+12V時, MOS限用NEC

SIRA12DP/PPAKS08/2070pF4.3m[10IF9-040012-10R_10IF9-040406-10R]
SIRA12DP/PPAKS08/2070pF4.3m[10IF9-040012-10R_10IF9-040406-10R]

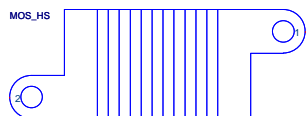
[4]



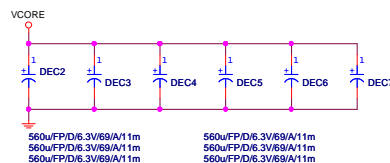
DRIVER改用+12V時, MOS限用NEC

SIRA12DP/PPAKS08/2070pF4.3m[10IF9-040012-10R_10IF9-040406-10R]
SIRA12DP/PPAKS08/2070pF4.3m[10IF9-040012-10R_10IF9-040406-10R]

MOSFET HEATSINK

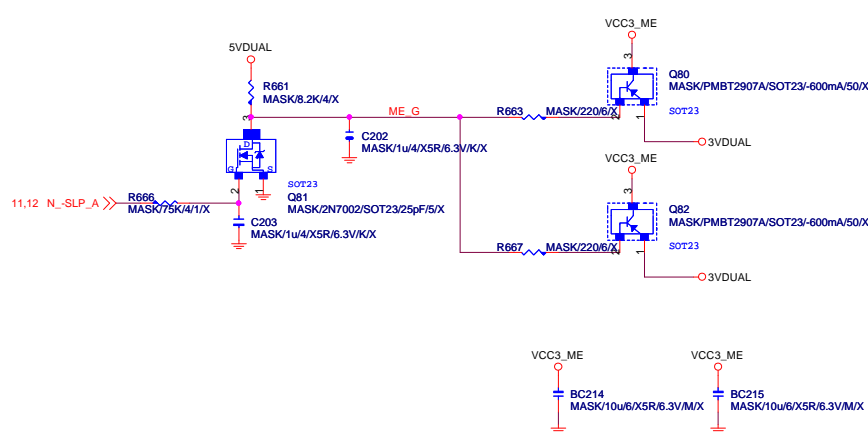


MOS_HeatSink[112SP2-S07517-11R_12SP2-S07517-12R_12SP2-S07517-13R]

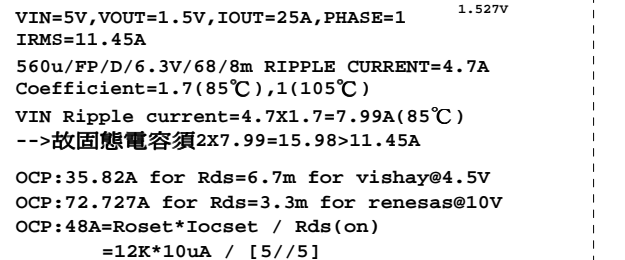



Gigabyte Technology			
Title		ISL95820_2	
Size		Document Number	
Custom		GA-Z97P-D3	
Date		Wednesday, March 05, 2014	
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		Rev 1.0	

VCC3_ME

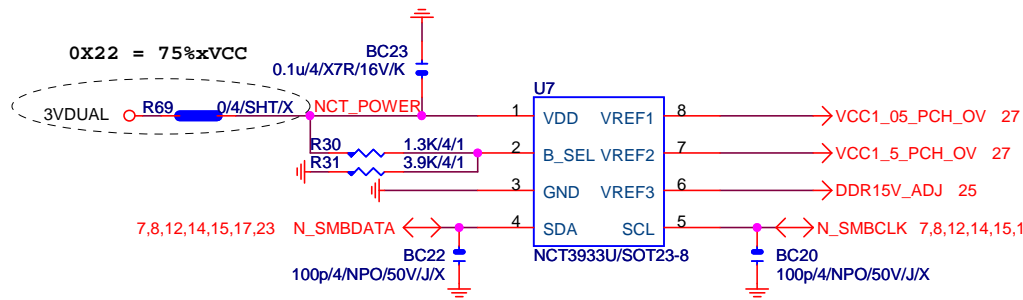


DDRVTT

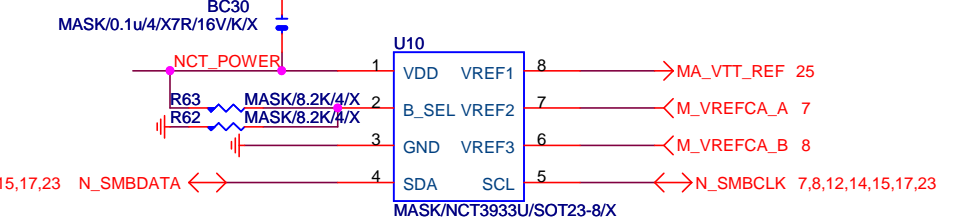


			
Title			
DDR15V / M3 POWER			
Size	Document Number		Rev
Custom	GA-Z97P-D3		1.0
Date:	Thursday, May 08, 2014	Sheet	25 of 33

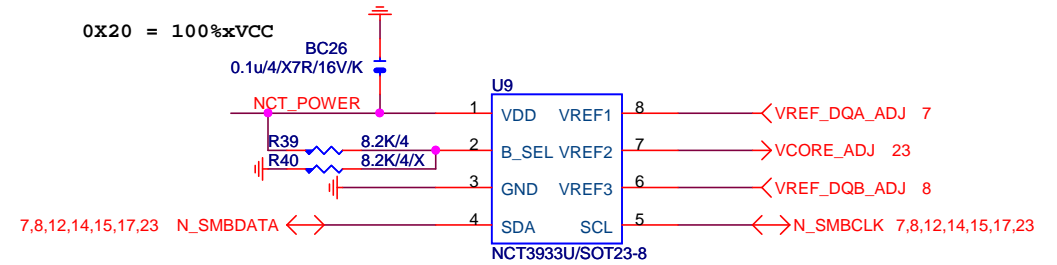
OVER VOLTAGE



0X2A = 0%xVCC



0X20 = 100%xVCC

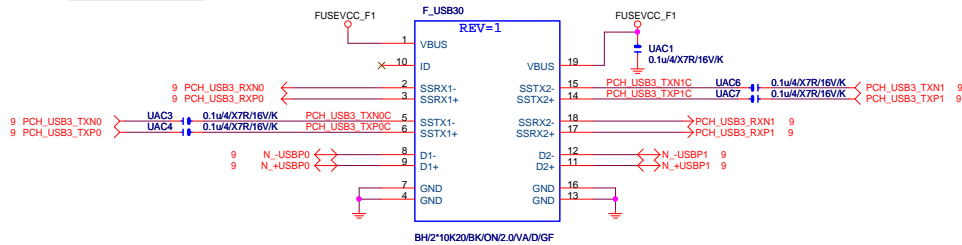


NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

Gigabyte Technology

Title		
CPU CORE VR-2		
Size	Document Number	Rev
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Front USB3.0

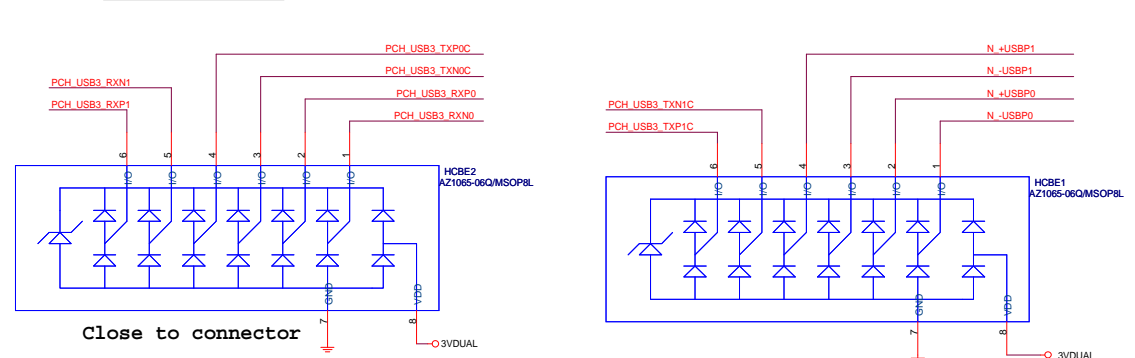


F_USB30 PWR



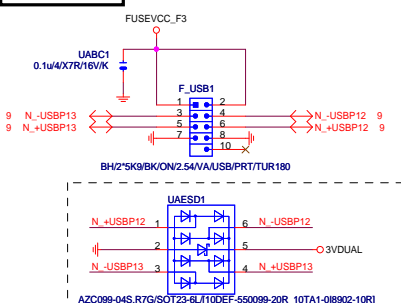
Close to connector

F_USB30 ESD PROTECT



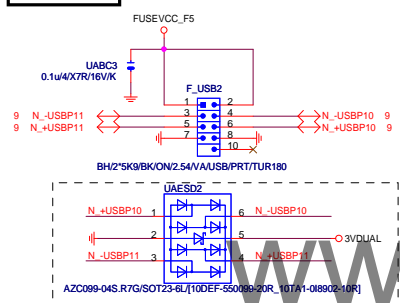
Close to connector

FRONT USB1



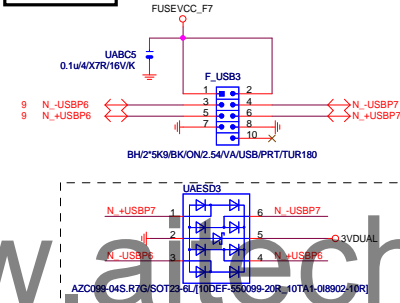
Close to connector

FRONT USB2



Close to connector

FRONT USB3

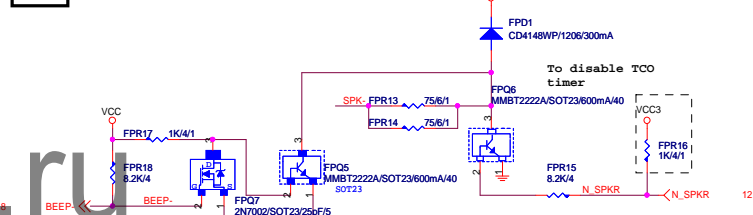


Close to connector

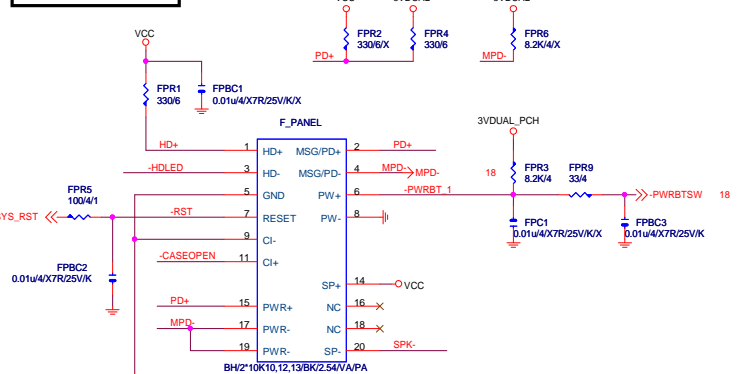
SATA LED



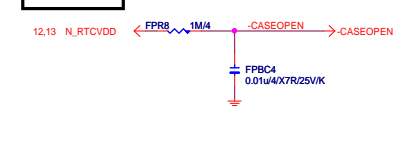
SPKR



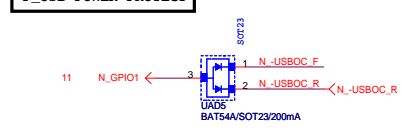
INTEL FRONT PANEL



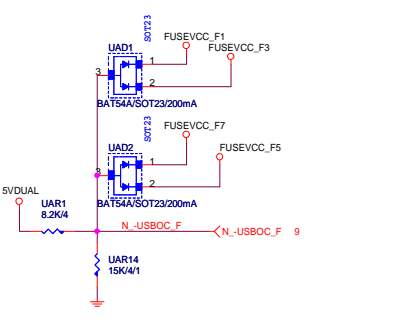
CASE OPEN



F_USB POWER PROTECT

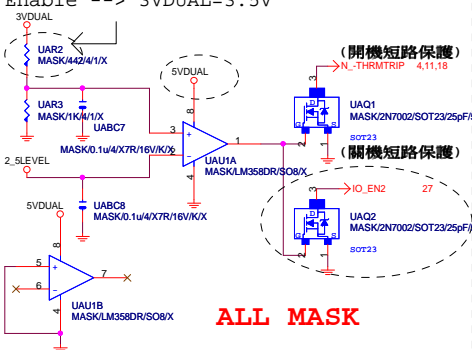


-USBOC_F



USB2.0/3.0 Signal & power short protection

USB2.0 Signal > 4.85V
Enable --> 3VDUAL=3.5V



ALL MASK

Gigabyte Technology			
FP,F_USB,USB PWR,FDD,BZ			
GA-Z97P-D3			
Rev	1.0		
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Patch some PSU no internal
pull up resistor



```

To prevent the 5VSB
under loading when
- boot - - - - -

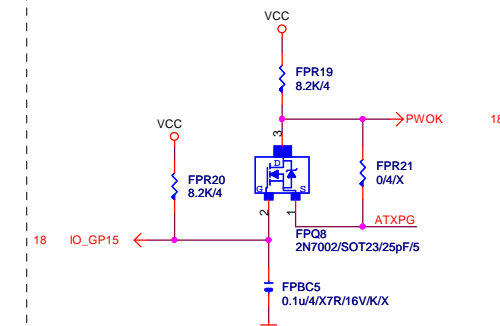
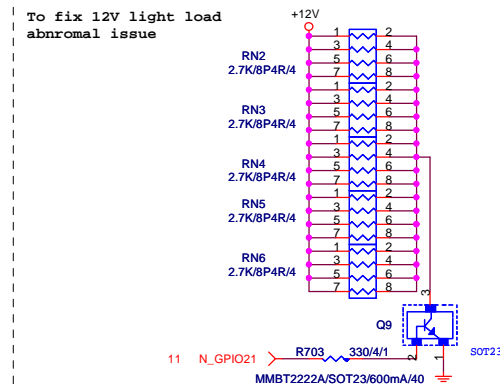
```



CPU Frequency Selection

FSLB	FSLA	CPU
0	0	100M <Default>
0	1	133M
1	0	200M
1	1	166M

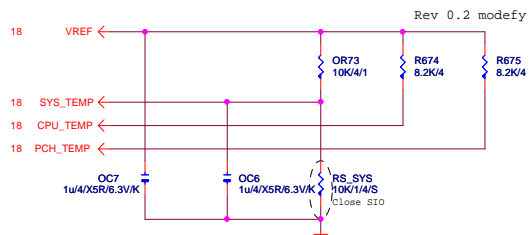
【技術通報R&D技術通報154】



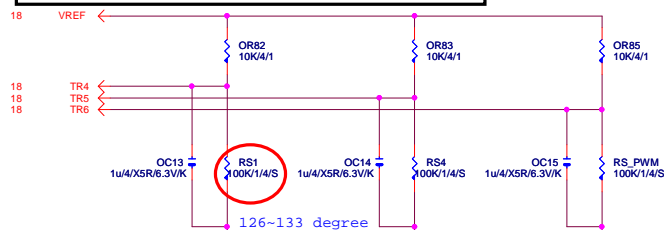
Gigabyte Technology

Title			
ATX POWER CONNECTOR			
Size Custom	Document Number		Rev
	GA-Z97P-D3		1.0
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TEMP H/W MONITOR

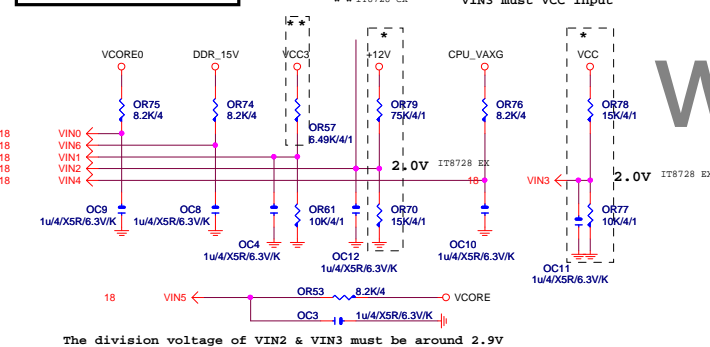


-PROCHOT:有mos heatsink不用prochot function

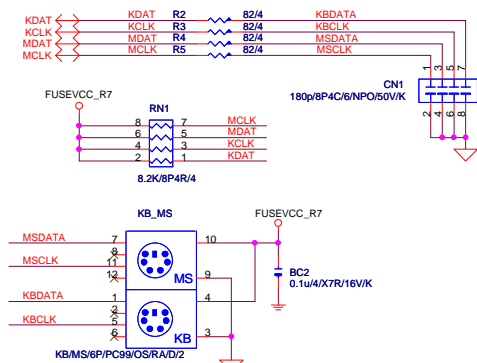


RS1、RS2、RS3 CLOSE CPU VR MOSFET

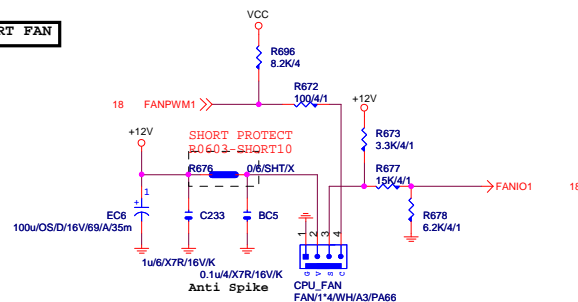
VOLTAGE-- H/W MONITOR



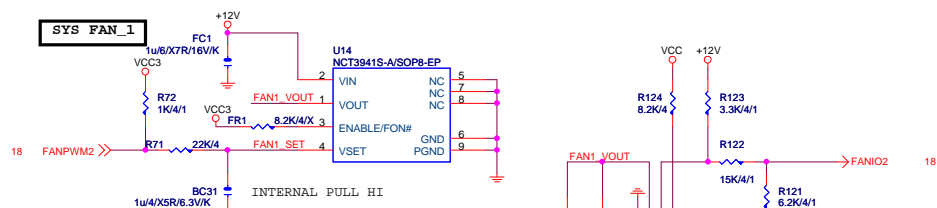
KB/USB



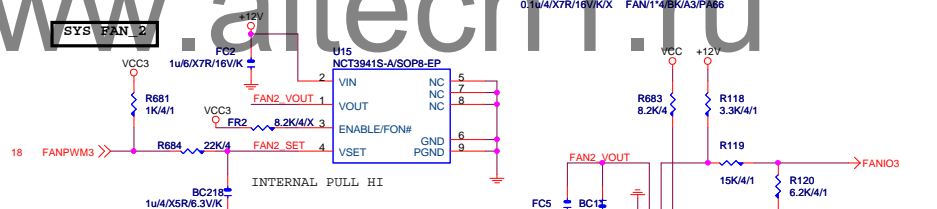
CPU SMART FAN



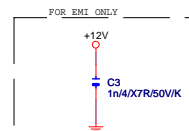
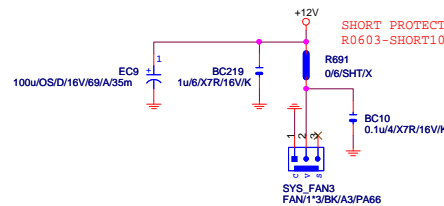
SYS_FAN_1



SYS_FAN_2



SYS_FAN_3 Linear SYS_FAN

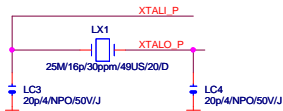


Gigabyte Technology

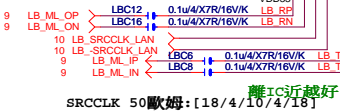
Title		HWM,KB/MS, FAN CTRL	
Size	Document Number	GA-Z97P-D3	
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LAN:INTEL I217

100歐姆:[20/4/8/4/20]

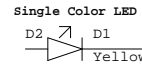
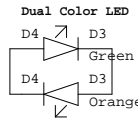
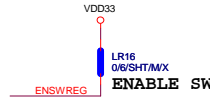


80歐姆:[15/5/5/5/15]

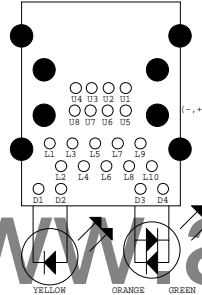


SRCLK 50歐姆:[18/4/10/4/18]

FOR DSM MODE
(DEEP SLEEP MODE)

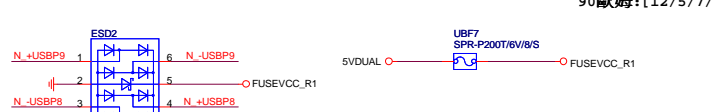
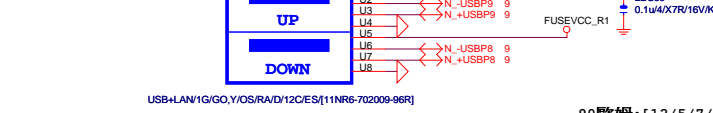
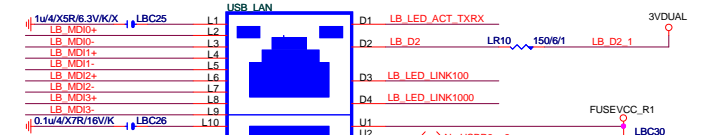
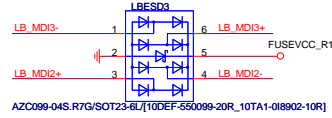
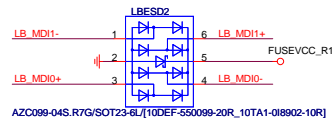
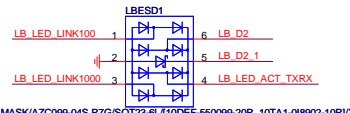


P35-152-19W9



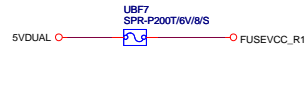
USB30_LAN CONNECTOR

100歐姆:[20/4/8/4/20]

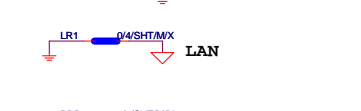
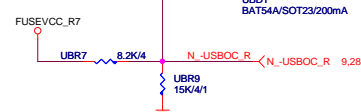
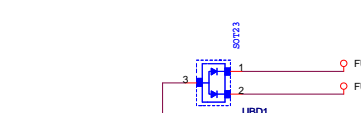


AMC099加强版

90歐姆:[12/5/7/5/12]



-USB0C_R

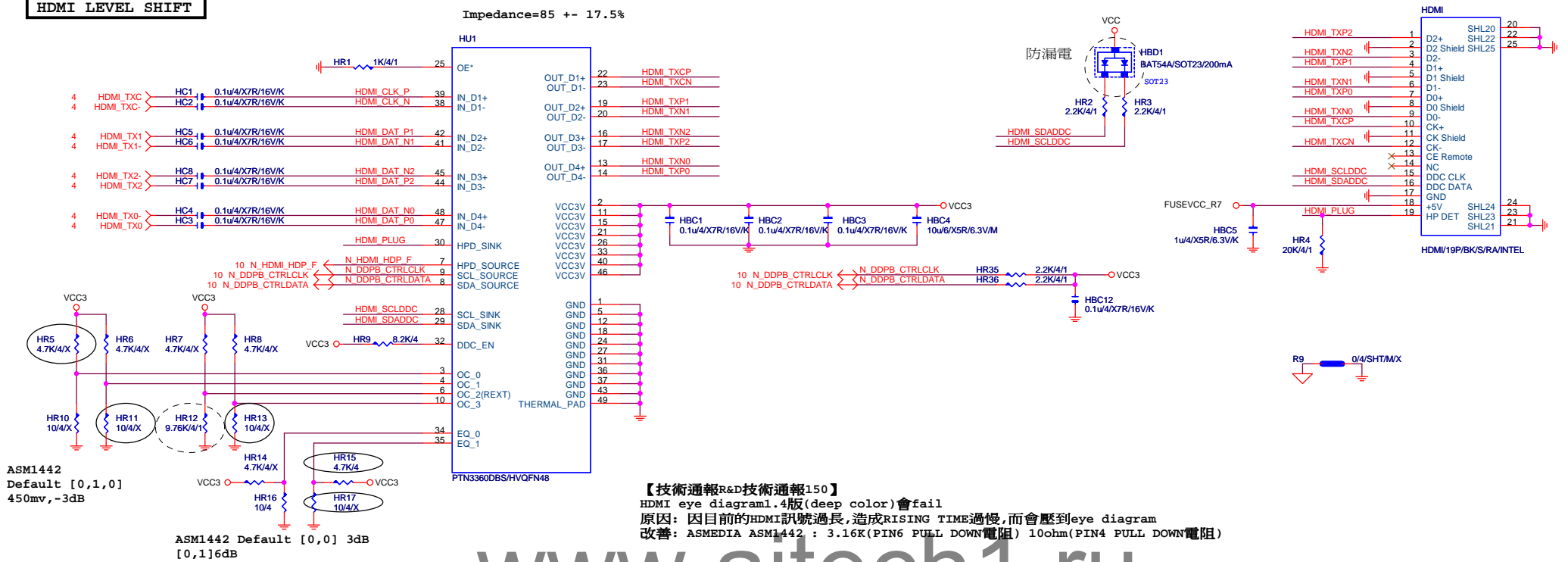


Gigabyte Technology

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HDMI LEVEL SHIFT

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



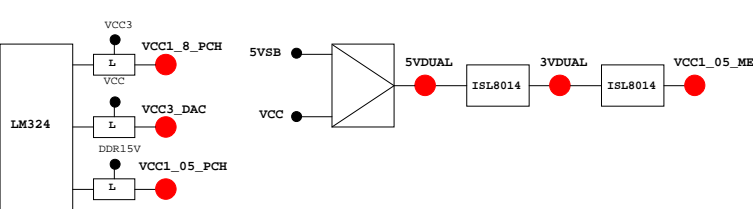
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL UP電阻)

GIGABYTE™

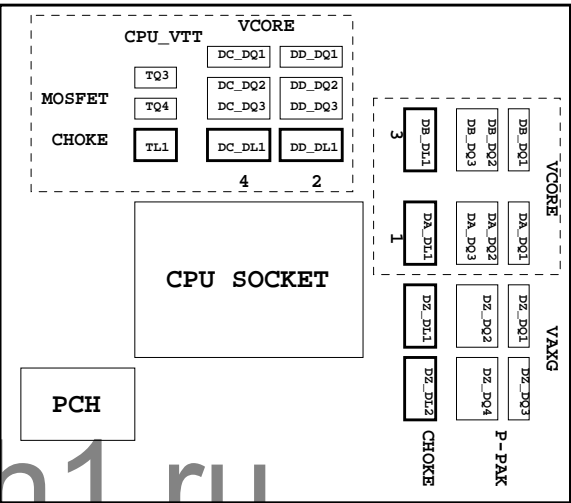
Title			
HDMI			
Size	Document Number	Rev	
Custom	GA-Z97P-D3	1.0	
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PIN NAME	PWR	AFTER PLT35	Default	USAGE	NOTE
GP0	MAIN	H-Z	GPI	GPIO0	N/A
GP1/TACH1	MAIN		GPI	GPIO1	N/A
GP2/PIRQE#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN		GPI	PCIEX1 Detect	P/U 8.2K VCC3
GP7/TACH3	MAIN		GPI	GPIO7	P/U 8.2K VCC3
GP8	STBY	H	GPI	GPIO8	N/A
GP9/OC5#	STBY		NATIVE	USB OC5#	N/A
GP10/OC6#	STBY		NATIVE	USB OC6#	N/A
GP11/SMBALERT#	STBY		NATIVE	USB PWR protect	P/U 8.2K 3VDUAL
GP12	STBY	L	GPI	GPIO12	N/A
GP13	STBY	L	GPI	LPCPME#	P/U 8.2K 3VDUAL
GP14/OC7#	STBY		NATIVE	USB OC7#	N/A
GP15	STBY	L	GPI	GPIO15(TLS Enable)	P/U 8.2K 3VDUAL
GP16	MAIN		GPI	GPIO16	P/U 8.2K VCC3
GP17/TACH0	MAIN		GPI	GPIO17	P/U 8.2K VCC3
GP18	MAIN		GPI	Mobile Only	N/A
GP19	MAIN		GPI	GPIO19	P/U 8.2K VCC3
GP20	MAIN		GPI	GPIO20	P/U 8.2K VCC3
GP21	MAIN		GPI	GPIO21	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI	GPIO22	P/U 8.2K VCC3
GP23	MAIN		GPI	GPIO23	N/A
GP24	STBY	L	GPI	SKTOCC#	N/A
GP25	STBY			Mobile Only	N/A
GP26	STBY			Mobile Only	N/A
GP27	STBY	H	GPO	GPIO27	P/U 8.2K 3VDUAL
GP28	STBY	H	GPO	PWR LED	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI	GPIO29	N/A
GP30	STBY	H-Z	GPI	Mobile Only	N/A
GP31	STBY	H-Z	GPI	Mobile Only	N/A
GP32	MAIN	H	GPO	N/A	N/A
GP33	MAIN	H	GPO	N/A	N/A
GP34	MAIN	H-Z	GPI	-PCI_STOP	P/U 8.2K VCC3
GP35	MAIN	L	GPO	-ACZ_DET	P/U 8.2K VCC3
GP36	MAIN		GPI	N/A	N/A
GP37	MAIN		GPI	N/A	N/A
GP38	MAIN	H-Z	GPI	PCIEX4 Detect	P/U 8.2K VCC3
GP39	MAIN	H-Z	GPI	GPIO39	P/U 8.2K VCC3
GP40	STBY		NATIVE	USB OC1#	N/A
GP41	STBY		NATIVE	USB OC2#	N/A
GP42	STBY		NATIVE	USB OC3#	N/A
GP43	STBY		NATIVE	USB OC4#	N/A
GP44	STBY	L	NATIVE	GPIO44	P/U 8.2K 3VDUAL
GP45	STBY		NATIVE	GPIO45	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	GPIO46	P/U 8.2K 3VDUAL
GP47	STBY			Mobile Only	N/A
GP48	MAIN	H-Z	IN	GPIO48	P/U 8.2K 3VDUAL
GP49	MAIN	H-Z	IN	GPIO49	P/U 8.2K 3VDUAL
GP50	MAIN		NATIVE	-REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	-GNT1	N/A
GP52	MAIN		NATIVE	-REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	-GNT2	N/A
GP54	MAIN		NATIVE	-REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	-GNT3	N/A
GP56	STBY		NATIVE	Mobile Only	N/A
GP57	STBY	H-Z	IN	VCORE_OV1	P/U 8.2K 3VDUAL
GP58	STBY	H-Z	NATIVE	F_USB_OC#	P/U 8.2K 3VDUAL
GP59	STBY		NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL
GP61	STBY	L	NATIVE	-SUSTAT	N/A
GP62	STBY	L	NATIVE	SUSCLK	N/A
GP63	STBY	L	NATIVE	GPIO63	N/A
GP64	MAIN	L	NATIVE	CLKOUTFLEX0	N/A
GP65	MAIN	L	NATIVE	CLKOUTFLEX1	N/A
GP66	MAIN	L	NATIVE	CLKOUTFLEX2	N/A
GP67	MAIN	L	NATIVE	CLKOUTFLEX3	N/A
GP72	STBY	H-Z	NATIVE	VCORE_OV4	P/U 8.2K 3VDUAL
GP73	STBY			Mobile Only	N/A
GP74	STBY	H-Z	NATIVE	1_05V_OV2	P/U 8.2K 3VDUAL
GP75	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-KBRST	
SO/GP50	-ICH_SPI_CS	
IRTX/GP47/CE2_N/JP7	CEB_N	
GP46/IRRX	-LAN2_DSM	
PSION#/GP42	-PSON	
PWROK2#/GP41	PECI_CTL	
PCIRST3#/GP10/VDIMM_STR_EN	-PCIE_RST	
RSMRST#CIRRXX1/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSS00	N/A	
PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSSI1	SB_LED1_C	
PD4/GP74/BUSSI2	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSSI0	NB_LED3_C	
GP22/SCK	LOW_PWR_1	
VIDO5/GP27/SIN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VBSBW#/GP40	CSI_F0	BSEL166_1
SUSC#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VIDO0/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSS01	MB_ID3	
PD7/GP77/BUSS02	MB_ID4	
AFD#/GP86/SMBC_R	2X PIN	FST_2X8
INIT#/GP85/SMBD_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VIDO1/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMBC_M	DDR_LED3_C	
PWRON#GP44	VCORE_OV1	
PANSWH#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRTX/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/SMBD_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRXX2/GP16	-THERM	
VIDO4/GP26/SOUT2	DDR18V_PH2_EN	
VIDO2/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VIDO6/GP17/RI2#	1_IV_PH_EN	
VIDO7/JP6/DTR2#	JP6	
PD5/GP75/BUSS00	SB_LED3_C	



PWM各相位的擺法如下：



BIOS超電壓對應表：

線路圖名稱	BIOS選項
Vcore	CPU Vcore
CPU_VTT	CPU Termination
CPU_VAXG	CPU Graphic Core
VCC1_8_PCH	CPU PLL
VCC1_05_PCH	PCH core
3VDUAL	3VDUAL
DDR15V	DRAM voltage
DDRVTT	DRAM Termination
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

散熱模組料號:

Z77-D3H :
PCH :
12SP2-S05511-01R/02R/03R
MOSFET :
12SP2-S08924-01R/02R/03R

	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	FANPWM3	FANIO1	IT8720
	ICH_FAN_PWM2	ICH_FAN_PWM0	ICH_FAN_TACH0	PCH
SYS FAN	FANPWM2	N/A	FANIO2	IT8720
	ICH_FAN_PWM1	N/A	ICH_FAN_TACH1	PCH
PWR FAN	N/A	N/A	FANIO3	IT8720
			ICH_FAN_TACH2	PCH

Gigabyte Technology				
Title				
TABLE LIST				
Size C	Document Number			Rev
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