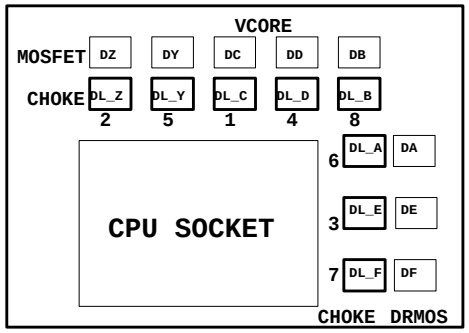
Model Name: GA-Z97X-Gaming GT *Rev 1.0*

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
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	DVI / DP
15	HDMI / SPDIF
16	PCI EXPRESS*1 SLOTs X3
17	Dual BIOS
18	Realtek ALC1150
19	REAR AUDIO JACK
20	IR3580 PWM
21	IR3598-VCORE
22	IR3570_DDR PWM
23	IR3598-DDR
24	DISCRETE POWER I
25	DISCRETE POWER II
26	I/O ITE8620
27	FP,F_USB,USB PWR,FDD,BZ,TB_C, COMA
28	USB DAC-UP , PS2
29	ATX POWER
30	RST, PWR, CLR_CMOS, 80 PORT
31	LAN E2201
32	R_USB30
33	RENESAS USB3 HUB-1
34	RENESAS USB3 HUB-1

SHEET	TITLE
35	F_USB3.0 , SATA EXPRESS
36	IT8790
37	FAN CTRL
38	PCIEx16(x8) REFCLK
39	PCI EXPRESS*16_2 SLOT
40	PCI EXPRESS X16 SWITCH_2
41	PCI EXPRESS*8_2 SLOT
42	PCI EXPRESS*16_1 SLOT
43	PCI EXPRESS X16 SWITCH_1
44	PCI EXPRESS*8_1 SLOT
45	PEX8747S UPSTREAM & MISC
46	PEX8747S DOWNSTREAM SLOTS
47	PEX8747S STRAP & CPLD INTF
48	PEX8747S POWER
49	PEX8747 POWER DESIGN
50	Marvell 9172 1
51	TABLE LIST



Gigabyte Technology

Title	Cover Sheet		
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GA-Z97X-Gaming GT

Component value change history

Data	Change Item	Reason
2014/03/14		First Release
2014/04/07		BOM IOB: PCH料號 10HB1-030Z97-20R

Data	Change Item	Reason
2014/03/14		First Release

Circuit or PCB layout change

DATE	Change Item	Reason
2014/01/15	REV0.1	

Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

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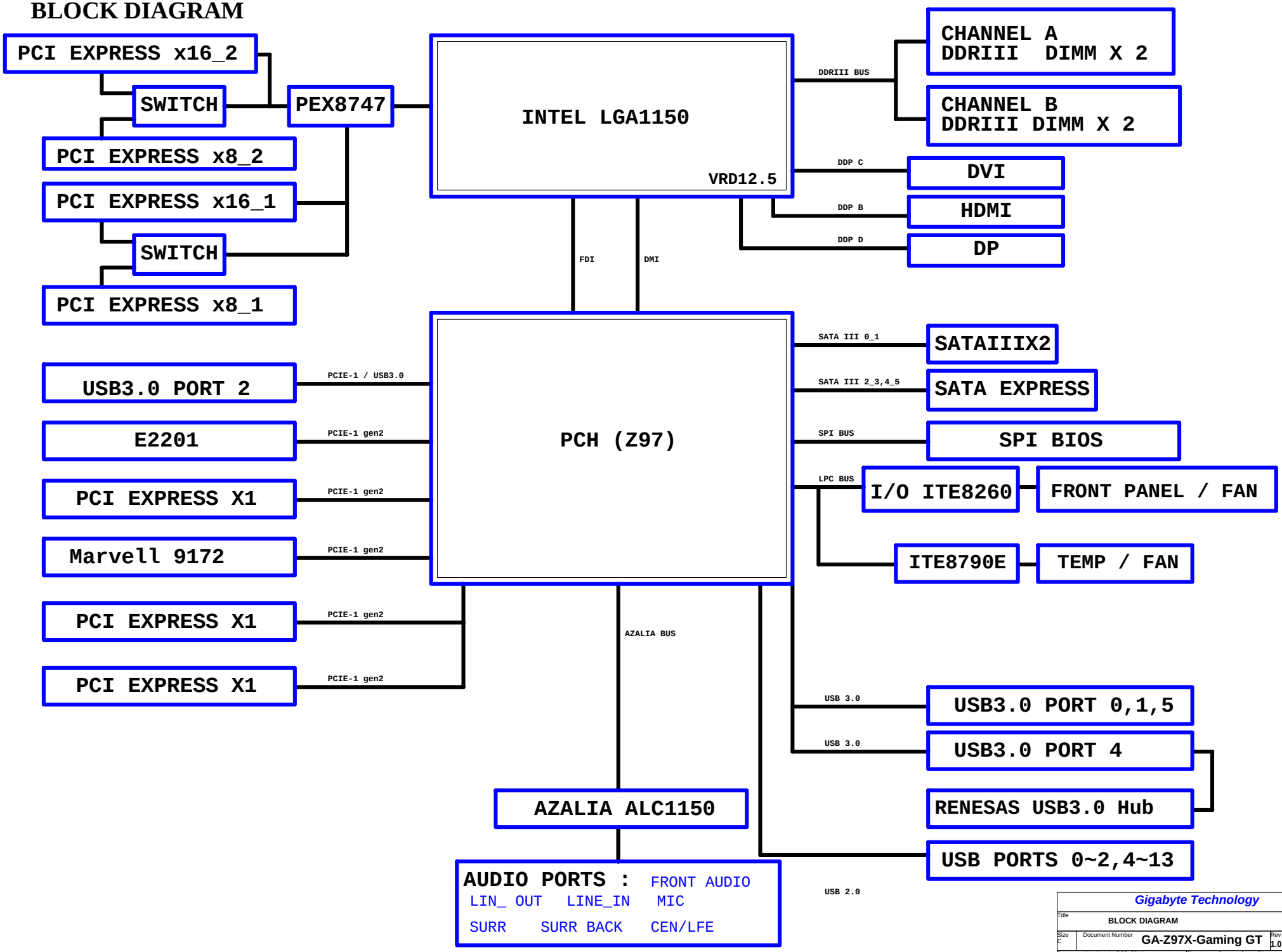
BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
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LGA1150 (E)

LGA1150E

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

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

CFG 0-17 all internal PULL-UP

HASWELL/[10SC1-F01150-01R]

LGA1150 (C)

LGA1150C

HASWELL/[10SC1-F01150-01R]

W=12 mil out of CPU
S=15 mil out of CPU

CPU SVID

CPU PU / PD

TDI EMPTY?

SM REF

LGA1150 (D)

LGA1150D

HASWELL/[10SC1-F01150-01R]

[B]

[C]

[D]

DDI B : HDMI
DDI C : DVI
DDI D : DP

THRMTRIP DISABLE

-CPURST

Title	CPU LGA1150-A
Size	Custom
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Gigabyte Technology

LGA1150 (A)

LGA1150A

MAAA0	AU13	DDR0_MA0	DDR0_DQ0	AD38	MDA0
MAAA1	AV16	DDR0_MA1	DDR0_DQ1	AD39	MDA1
MAAA2	AU16	DDR0_MA2	DDR0_DQ2	AF38	MDA2
MAAA3	AW17	DDR0_MA3	DDR0_DQ3	AF39	MDA3
MAAA4	AU17	DDR0_MA4	DDR0_DQ4	AD37	MDA4
MAAA5	AW18	DDR0_MA5	DDR0_DQ5	AD40	MDA5
MAAA6	AV17	DDR0_MA6	DDR0_DQ6	AF37	MDA6
MAAA7	AT18	DDR0_MA7	DDR0_DQ7	AF40	MDA7
MAAA8	AU18	DDR0_MA8	DDR0_DQ8	AH40	MDA9
MAAA9	AT19	DDR0_MA9	DDR0_DQ9	AH39	MDA13
MAAA10	AW11	DDR0_MA10	DDR0_DQ10	AK38	MDA10
MAAA11	AV19	DDR0_MA11	DDR0_DQ11	AK39	MDA11
MAAA12	AU19	DDR0_MA12	DDR0_DQ12	AH37	MDA12
MAAA13	AY10	DDR0_MA13	DDR0_DQ13	AH38	MDA8
MAAA14	AT20	DDR0_MA14	DDR0_DQ14	AK37	MDA14
MAAA15	AU21	DDR0_MA15	DDR0_DQ15	AK40	MDA15
			DDR0_DQ16	AM40	MDA17
MODT_A0	AW10	DDR0_ODT0	DDR0_DQ17	AM39	MDA21
MODT_A1	AY8	DDR0_ODT1	DDR0_DQ18	AP38	MDA18
MODT_A2	AW9	DDR0_ODT2	DDR0_DQ19	AP39	MDA19
MODT_A3	AU8	DDR0_ODT3	DDR0_DQ20	AM37	MDA20
			DDR0_DQ21	AM38	MDA16
	AW33	DDR0_ECC0	DDR0_DQ22	AP37	MDA22
	AV33	DDR0_ECC1	DDR0_DQ23	AP40	MDA23
	AU31	DDR0_ECC2	DDR0_DQ24	AV37	MDA25
	AV31	DDR0_ECC3	DDR0_DQ25	AW37	MDA29
	AT33	DDR0_ECC4	DDR0_DQ26	AU35	MDA26
	AU33	DDR0_ECC5	DDR0_DQ27	AV35	MDA27
	AT31	DDR0_ECC6	DDR0_DQ28	AT37	MDA28
	AW31	DDR0_ECC7	DDR0_DQ29	AU37	MDA24
			DDR0_DQ30	AT35	MDA30
			DDR0_DQ31	AW35	MDA31
[7] SBAA0	SBAA0	AV12	DDR0_BA0	AY6	MDA33
[7] SBAA1	SBAA1	AY11	DDR0_BA1	AU6	MDA37
[7] SBAA2	SBAA2	AT21	DDR0_BA2	AV4	MDA34
			DDR0_DQ32	AU4	MDA35
			DDR0_DQ33	AW6	MDA36
[7] CKEA0	CKEA0	AV22	DDR0_CKE0	AV6	MDA32
[7] CKEA1	CKEA1	AT23	DDR0_CKE1	AW4	MDA38
[7] CKEA2	CKEA2	AU22	DDR0_CKE2	AY4	MDA39
[7] CKEA3	CKEA3	AU23	DDR0_CKE3	AR1	MDA41
			DDR0_DQ34	AR4	MDA45
[7] -CSA0	-CSA0	AU14	DDR0_CS_N0	AN3	MDA42
[7] -CSA1	-CSA1	AV9	DDR0_CS_N1	AN4	MDA43
[7] -CSA2	-CSA2	AU10	DDR0_CS_N2	AR2	MDA44
[7] -CSA3	-CSA3	AW8	DDR0_CS_N3	AR3	MDA40
			DDR0_DQ35	AN2	MDA46
[7] DCLKA0	DCLKA0	AY15	DDR0_CLK_P0	AN1	MDA47
[7] -DCLKA0	-DCLKA0	AY16	DDR0_CLK_N0	AL1	MDA49
[7] DCLKA1	DCLKA1	AW15	DDR0_CLK_P1	AL4	MDA53
[7] -DCLKA1	-DCLKA1	AV15	DDR0_CLK_N1	AJ3	MDA50
[7] DCLKA2	DCLKA2	AV14	DDR0_CLK_P2	AJ4	MDA51
[7] -DCLKA2	-DCLKA2	AW14	DDR0_CLK_N2	AL2	MDA52
[7] DCLKA3	DCLKA3	AW13	DDR0_CLK_P3	AL3	MDA48
[7] -DCLKA3	-DCLKA3	AY13	DDR0_CLK_N3	AJ2	MDA54
			DDR0_DQ36	AJ1	MDA55
	AW12	RSVD	DDR0_DQ37	AG1	MDA57
			DDR0_DQ38	AG4	MDA61
			DDR0_DQ39	AE3	MDA58
			DDR0_DQ40	AE4	MDA59
			DDR0_DQ41	AG2	MDA60
			DDR0_DQ42	AG3	MDA56
			DDR0_DQ43	AE2	MDA62
[7] -SRASA	-SRASA	AU12	DDR0_RAS*	AE1	MDA63
[7] -SWEA	-SWEA	AU11	DDR0_WE*	AE39	DQSA0
				AJ39	DQSA1
	AV20	RSVD	DDR0_DQS_P1	AN39	DQSA2
	AW27	RSVD	DDR0_DQS_P2	AV36	DQSA3
			DDR0_DQS_P3	AV5	DQSA4
[7] -SCASA	-SCASA	AU9	DDR0_CAS*	AP3	DQSA5
			DDR0_DQS_P4	AK3	DQSA6
			DDR0_DQS_P5	AF3	DQSA7
			DDR0_DQS_P6	AV32	
			DDR0_DQS_P7	AE38	-DQSA0
			DDR0_DQS_P8	AJ38	-DQSA1
			DDR0_DQS_N0	AN38	-DQSA2
			DDR0_DQS_N1	AU36	-DQSA3
			DDR0_DQS_N2	AW5	-DQSA4
			DDR0_DQS_N3	AP2	-DQSA5
			DDR0_DQS_N4	AK2	-DQSA6
			DDR0_DQS_N5	AF2	-DQSA7
			DDR0_DQS_N6	AU32	
			DDR0_DQS_N7		
			DDR0_DQS_N8		

[7,8] -DDR3_RST — WR61 0/4/SHT/M/X — AK22 DDR_RESET*

WC4 0.1u/4/X7R/16V/K/X

HASWELL/[10SC1-F01150-01R]

LGA1150 (B)

LGA1150B

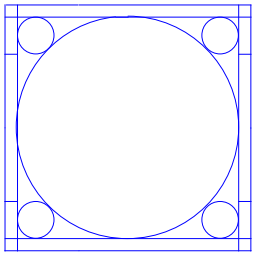
MAAB0	AL19	DDR1_MA0	DDR1_DQ0	AE34	MDB0
MAAB1	AK23	DDR1_MA1	DDR1_DQ1	AE35	MDB1
MAAB2	AM22	DDR1_MA2	DDR1_DQ2	AG35	MDB2
MAAB3	AM23	DDR1_MA3	DDR1_DQ3	AH35	MDB3
MAAB4	AP23	DDR1_MA4	DDR1_DQ4	AD34	MDB4
MAAB5	AL23	DDR1_MA5	DDR1_DQ5	AD35	MDB5
MAAB6	AY24	DDR1_MA6	DDR1_DQ6	AG34	MDB6
MAAB7	AV25	DDR1_MA7	DDR1_DQ7	AH34	MDB7
MAAB8	AU26	DDR1_MA8	DDR1_DQ8	AL34	MDB8
MAAB9	AW25	DDR1_MA9	DDR1_DQ9	AL35	MDB9
MAAB10	AP18	DDR1_MA10	DDR1_DQ10	AK31	MDB10
MAAB11	AY25	DDR1_MA11	DDR1_DQ11	AL31	MDB11
MAAB12	AV26	DDR1_MA12	DDR1_DQ12	AK34	MDB12
MAAB13	AR15	DDR1_MA13	DDR1_DQ13	AK35	MDB13
MAAB14	AV27	DDR1_MA14	DDR1_DQ14	AK32	MDB14
MAAB15	AY28	DDR1_MA15	DDR1_DQ15	AL32	MDB15
			DDR1_DQ16	AN34	MDB17
MODT_B0	AM17	DDR1_ODT0	DDR1_DQ17	AP34	MDB21
MODT_B1	AL16	DDR1_ODT1	DDR1_DQ18	AN31	MDB19
MODT_B2	AM16	DDR1_ODT2	DDR1_DQ19	AP31	MDB23
MODT_B3	AK15	DDR1_ODT3	DDR1_DQ20	AN35	MDB20
			DDR1_DQ21	AP35	MDB16
	AM26	DDR1_ECC0	DDR1_DQ22	AN32	MDB18
	AM25	DDR1_ECC1	DDR1_DQ23	AP32	MDB22
	AP25	DDR1_ECC2	DDR1_DQ24	AM29	MDB25
	AP26	DDR1_ECC3	DDR1_DQ25	AM28	MDB28
	AL26	DDR1_ECC4	DDR1_DQ26	AR29	MDB27
	AL25	DDR1_ECC5	DDR1_DQ27	AR28	MDB30
	AR26	DDR1_ECC6	DDR1_DQ28	AL29	MDB24
	AR25	DDR1_ECC7	DDR1_DQ29	AL28	MDB29
			DDR1_DQ30	AP29	MDB26
[8] SBAB0	SBAB0	AK17	DDR1_BA0	AP28	MDB31
[8] SBAB1	SBAB1	AL18	DDR1_BA1	AR12	MDB32
[8] SBAB2	SBAB2	AW28	DDR1_BA2	AP12	MDB33
			DDR1_DQ31	AL13	MDB34
			DDR1_DQ32	AL12	MDB35
[8] CKEB0	CKEB0	AW29	DDR1_CKE0	AR13	MDB36
[8] CKEB1	CKEB1	AY29	DDR1_CKE1	AP13	MDB37
[8] CKEB2	CKEB2	AU28	DDR1_CKE2	AM13	MDB38
[8] CKEB3	CKEB3	AU29	DDR1_CKE3	AM12	MDB39
			DDR1_DQ33	AR9	MDB45
[8] -CSB0	-CSB0	AP17	DDR1_CS_N0	AP9	MDB41
[8] -CSB1	-CSB1	AN15	DDR1_CS_N1	AR6	MDB47
[8] -CSB2	-CSB2	AN17	DDR1_CS_N2	AP6	MDB43
[8] -CSB3	-CSB3	AL15	DDR1_CS_N3	AR10	MDB44
			DDR1_DQ34	AP10	MDB40
			DDR1_DQ35	AR7	MDB46
			DDR1_DQ36	AP7	MDB42
[8] DCLKB0	DCLKB0	AM20	DDR1_CLK_P0	AM9	MDB52
[8] -DCLKB0	-DCLKB0	AM21	DDR1_CLK_N0	AL9	MDB53
[8] DCLKB1	DCLKB1	AP22	DDR1_CLK_P1	AL6	MDB50
[8] -DCLKB1	-DCLKB1	AP21	DDR1_CLK_N1	AL7	MDB55
			DDR1_DQ37	AM10	MDB48
[8] DCLKB2	DCLKB2	AN20	DDR1_CLK_P2	AL10	MDB49
[8] -DCLKB2	-DCLKB2	AN21	DDR1_CLK_N2	AM6	MDB54
[8] DCLKB3	DCLKB3	AP19	DDR1_CLK_P3	AM7	MDB51
[8] -DCLKB3	-DCLKB3	AP20	DDR1_CLK_N3	AH6	MDB61
			DDR1_DQ38	AH7	MDB60
[8] -SCASB	-SCASB	AP16	DDR1_CAS*	AE6	MDB59
		AL20	RSVD	AE7	MDB63
[8] -SRASB	-SRASB	AM18	DDR1_RAS*	AJ6	MDB56
[8] -SWEB	-SWEB	AK16	DDR1_WE*	AJ7	MDB57
			DDR1_DQ39	AF6	MDB58
			DDR1_DQ40	AF7	MDB62
[7] VREF_DQA		AB39	DDR_VREF_DQ0	AF35	DQSB0
[8] VREF_DQB		AB40	DDR_VREF_DQ1	AL33	DQSB1
				AP33	DQSB2
			DDR1_DQS_P0	AN28	DQSB3
			DDR1_DQS_P1	AN12	DQSB4
			DDR1_DQS_P2	AP8	DQSB5
			DDR1_DQS_P3	AL8	DQSB6
			DDR1_DQS_P4	AG7	DQSB7
			DDR1_DQS_P5	AN25	
			DDR1_DQS_P6	AF34	-DQSB0
			DDR1_DQS_P7	AK33	-DQSB1
			DDR1_DQS_P8	AN33	-DQSB2
			DDR1_DQS_N0	AN29	-DQSB3
			DDR1_DQS_N1	AN13	-DQSB4
			DDR1_DQS_N2	AR8	-DQSB5
			DDR1_DQS_N3	AM8	-DQSB6
			DDR1_DQS_N4	AG6	-DQSB7
			DDR1_DQS_N5	AN26	
			DDR1_DQS_N6		
			DDR1_DQS_N7		
			DDR1_DQS_N8		

VREF_DQA
VREF_DQB
WBC34 0.1u/4/X7R/16V/K
WBC33 0.1u/4/X7R/16V/K
Place in CPU bottom side

HASWELL/[10SC1-F01150-01R]

LGA1150 (CR)

LGA1150
ILM_BP/1156/BKNI/[12KRC-0F0001-61R]



Need check the new CPU ME

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] MAAA[0..15] — MAAA[0..15]
[8] MAAB[0..15] — MAAB[0..15]
[8] DQSB[0..7] — DQSB[0..7]
[8] -DQSB[0..7] — -DQSB[0..7]

Gigabyte Technology		
Title: CPU LGA1150-B		
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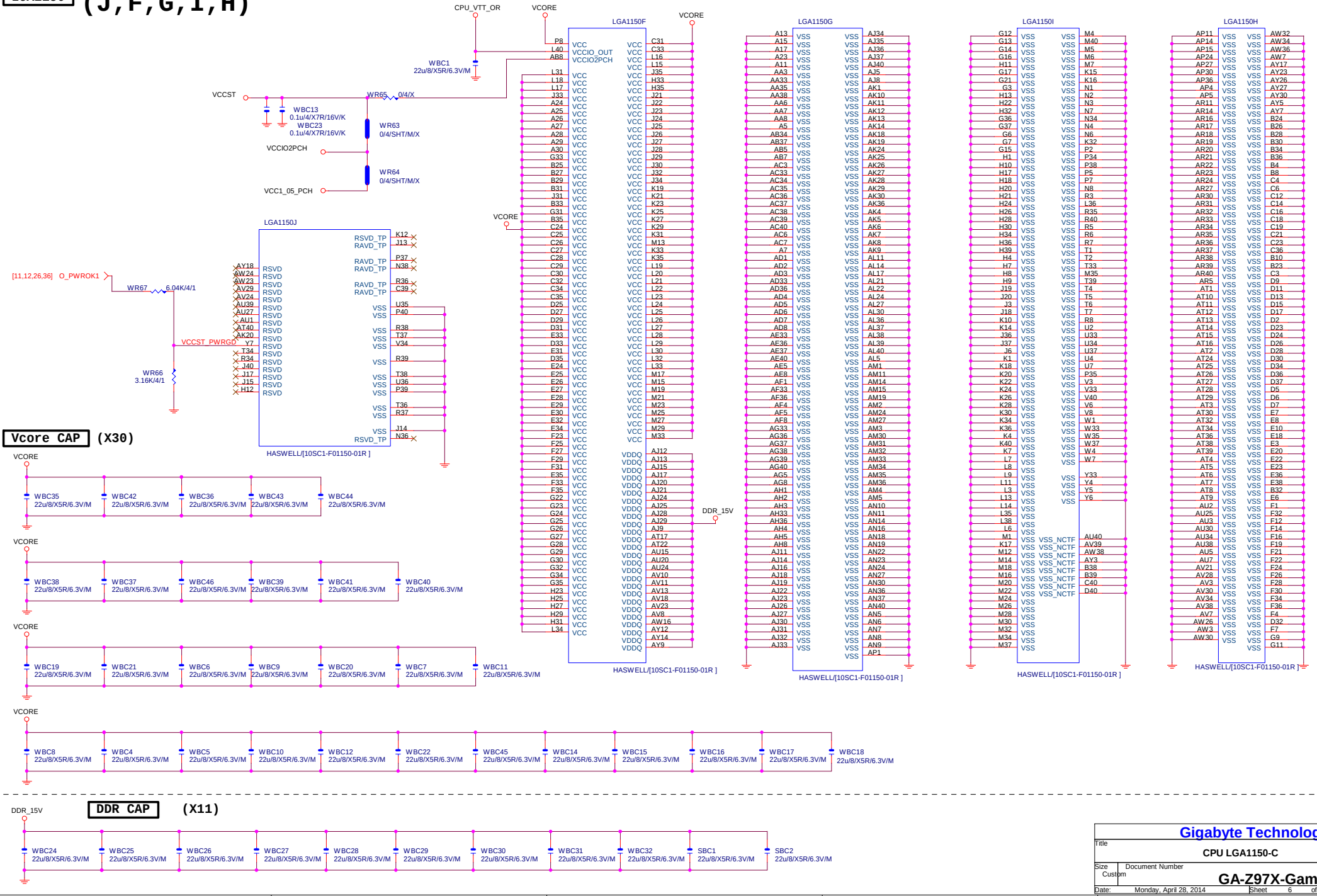
LGA1150 (J,F,G,I,H)



Title	CPU LGA1150-C
Size	Custom
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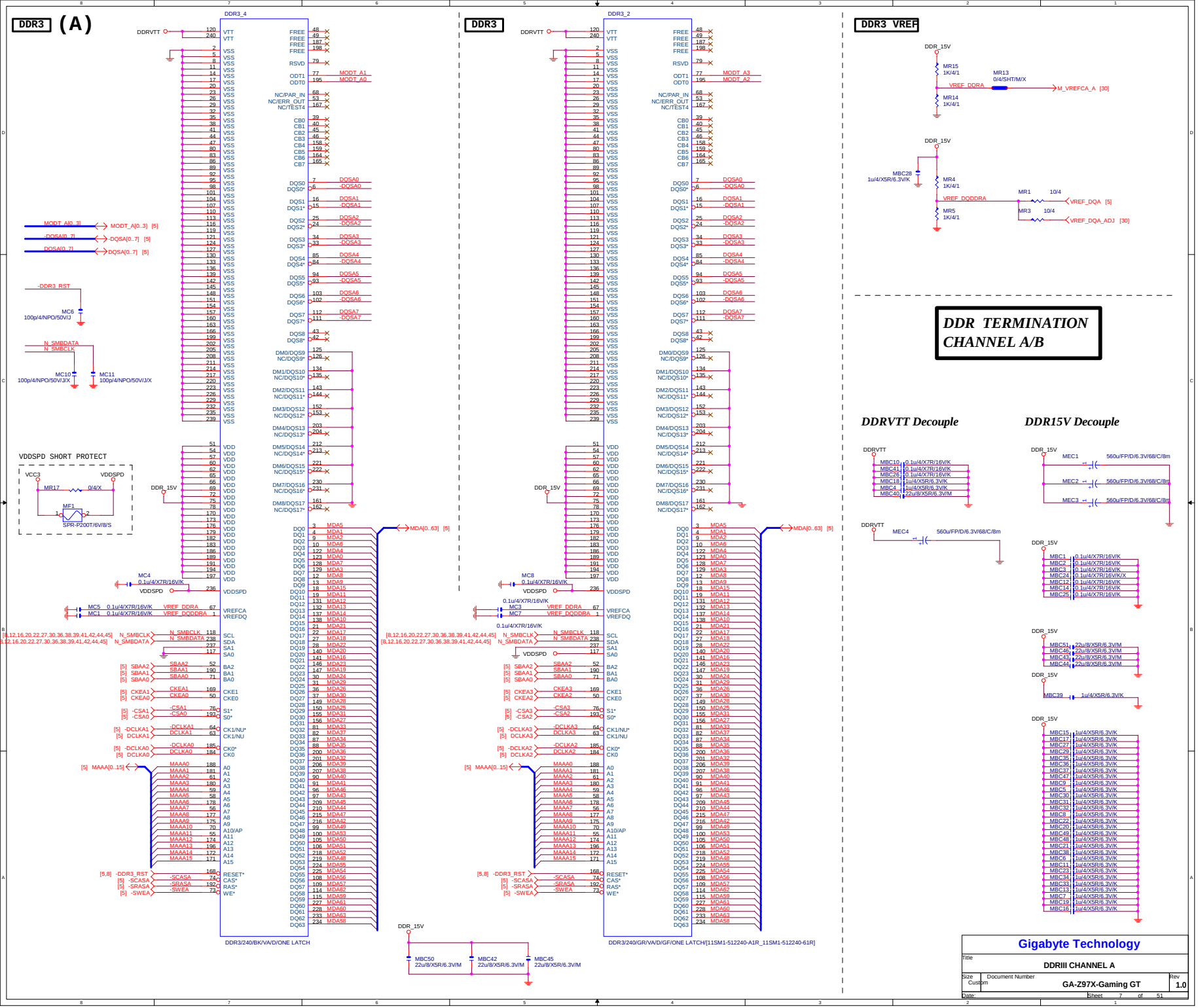
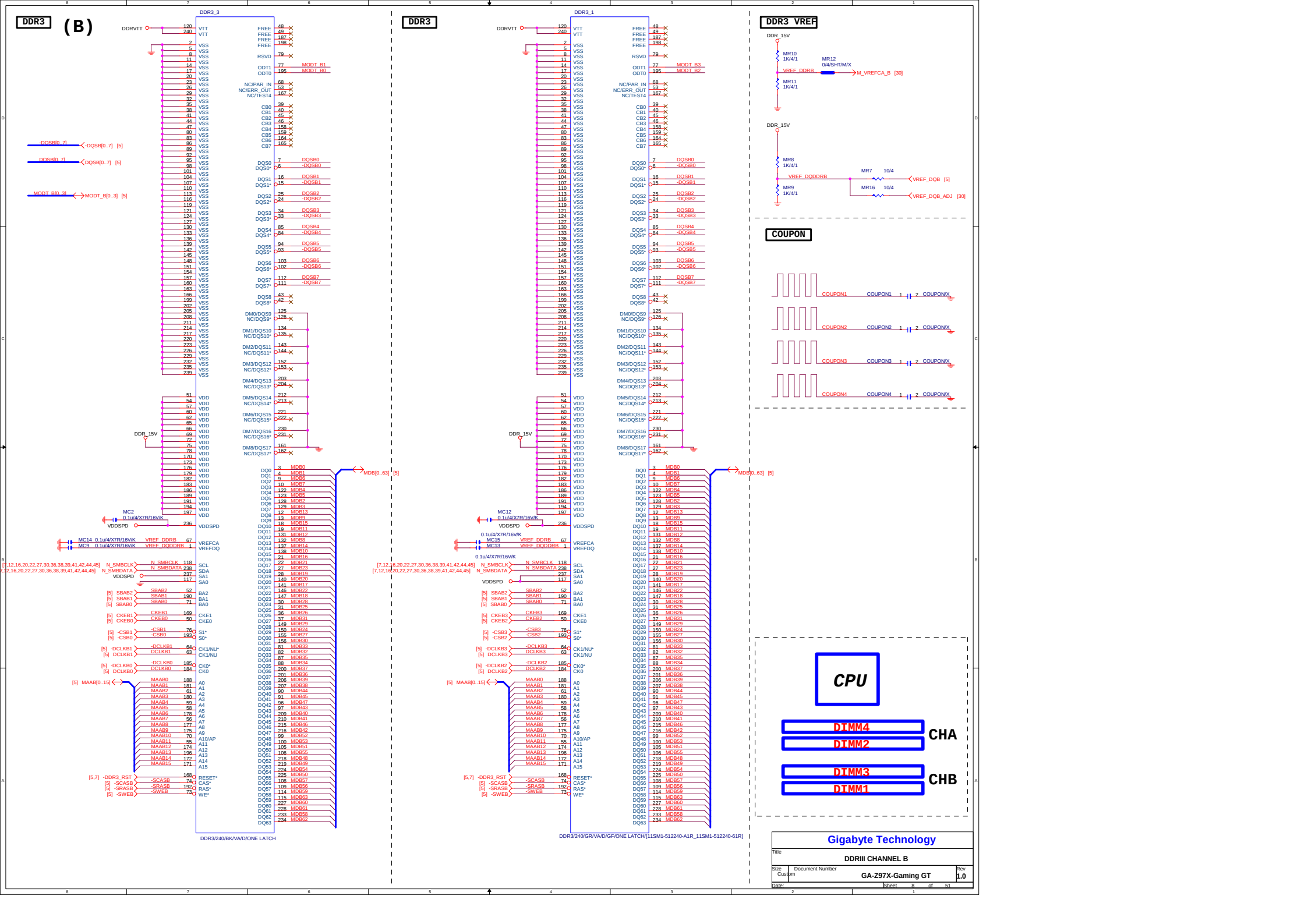
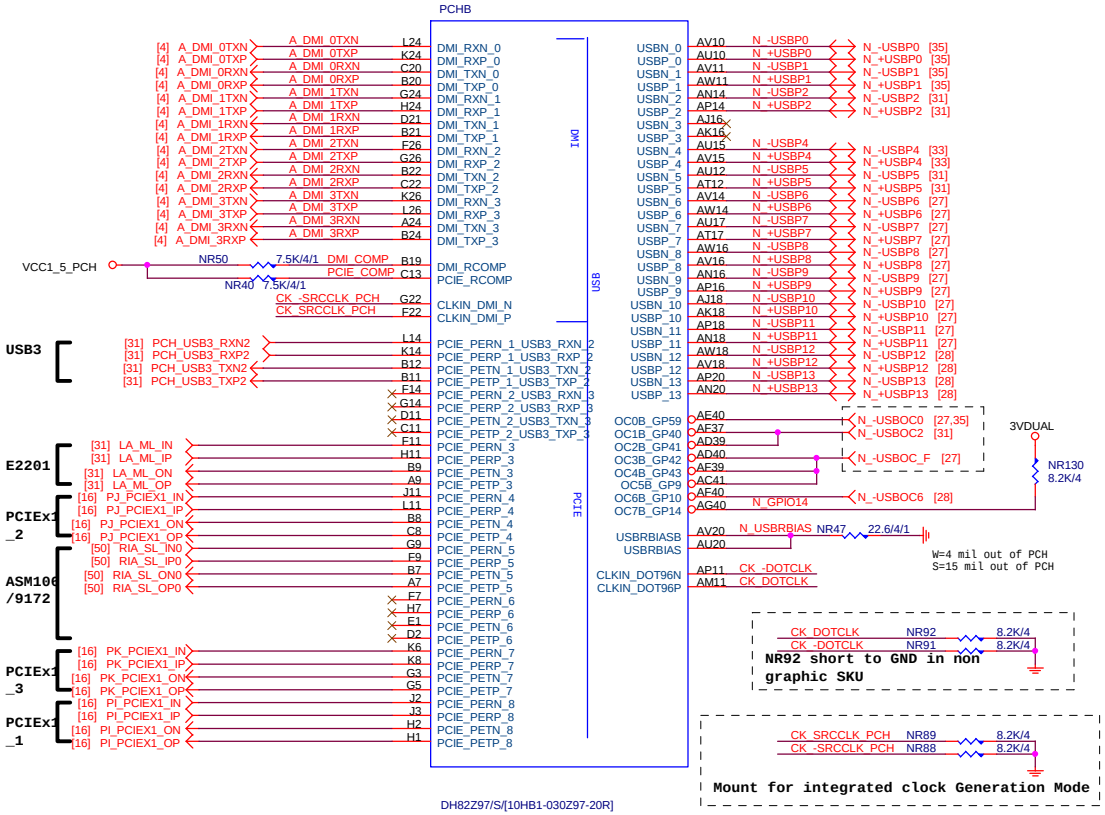

DDR3 (A)
DDR3_4
DDRVTT
MODT_A[0..3] [5]
-DQSA[0..7] [5]
DQSA[0..7] [5]
-DDR3_RST
MC6
100p/4/NPO/50V/J
N_SMBDATA
N_SMBCLK
MC10
100p/4/NPO/50V/J/X
MC11
100p/4/NPO/50V/J/X
VDDSPD SHORT PROTECT
VCC3
VDDSPD
MR17
0/4/X
MF1
SPR-P200T/6V/8/S
DDR_15V
MC4
0.1u/4/X7R/16V/K
VDDSPD
MC5 0.1u/4/X7R/16V/K VREF_DDRA 67
MC1 0.1u/4/X7R/16V/K VREF_DQDDRA 1
VREFCA
VREFDQ
N_SMBCLK 118
N_SMBDATA 238
SCL
SDA
SA1
SA0
[8,12,16,20,22,27,30,36,38,39,41,42,44,45] N_SMBCLK
[8,12,16,20,22,27,30,36,38,39,41,42,44,45] N_SMBDATA
SBAA2 52
SBAA1 190
SBAA0 71
BA2
BA1
BA0
[5] SBAA2
[5] SBAA1
[5] SBAA0
CKEA1 169
CKEA0 50
CKE1
CKE0
[5] CKEA1
[5] CKEA0
-CSA1 76
-CSA0 193
S1*
S0*
[5] -CSA1
[5] -CSA0
-DCLKA1 64
DCLKA1 63
CK1/NU*
CK1/NU
[5] -DCLKA1
[5] DCLKA1
-DCLKA0 185
DCLKA0 184
CK0*
CK0
[5] -DCLKA0
[5] DCLKA0
[5] MAAA[0..15]
MAAA0 188
MAAA1 181
MAAA2 61
MAAA3 180
MAAA4 59
MAAA5 58
MAAA6 178
MAAA7 56
MAAA8 177
MAAA9 175
MAAA10 70
MAAA11 55
MAAA12 174
MAAA13 196
MAAA14 172
MAAA15 171
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10/AP
A11
A12
A13
A14
A15
[5,8] -DDR3_RST
-SCASA 74
-SRASA 192
-SWEA 73
RESET*
CAS*
RAS*
WE*
[5] -SCASA
[5] -SRASA
[5] -SWEA
FREE 48
FREE 49
FREE 187
FREE 198
RSVD 79
ODT1 77
ODT0 195
MODT_A1
MODT_A0
NC/PAR_IN 68
NC/ERR_OUT 53
NC/TEST4 167
CB0 39
CB1 40
CB2 45
CB3 46
CB4 158
CB5 159
CB6 164
CB7 165
DQS0 7
DQS0* 6
DQSA0
-DQSA0
DQS1 16
DQS1* 15
DQSA1
-DQSA1
DQS2 25
DQS2* 24
DQSA2
-DQSA2
DQS3 34
DQS3* 33
DQSA3
-DQSA3
DQS4 85
DQS4* 84
DQSA4
-DQSA4
DQS5 94
DQS5* 93
DQSA5
-DQSA5
DQS6 103
DQS6* 102
DQSA6
-DQSA6
DQS7 112
DQS7* 111
DQSA7
-DQSA7
DQS8 43
DQS8* 42
DM0/DQS9 125
NC/DQS9* 126
DM1/DQS10 134
NC/DQS10* 135
DM2/DQS11 143
NC/DQS11* 144
DM3/DQS12 152
NC/DQS12* 153
DM4/DQS13 203
NC/DQS13* 204
DM5/DQS14 212
NC/DQS14* 213
DM6/DQS15 221
NC/DQS15* 222
DM7/DQS16 230
NC/DQS16* 231
DM8/DQS17 161
NC/DQS17* 162
DQ0 3
DQ1 4
DQ2 9
DQ3 10
DQ4 122
DQ5 123
DQ6 128
DQ7 129
DQ8 12
DQ9 13
DQ10 18
DQ11 19
DQ12 131
DQ13 132
DQ14 137
DQ15 138
DQ16 21
DQ17 22
DQ18 27
DQ19 28
DQ20 140
DQ21 141
DQ22 146
DQ23 147
DQ24 30
DQ25 31
DQ26 36
DQ27 37
DQ28 149
DQ29 150
DQ30 155
DQ31 156
DQ32 81
DQ33 82
DQ34 87
DQ35 88
DQ36 200
DQ37 201
DQ38 206
DQ39 207
DQ40 90
DQ41 91
DQ42 96
DQ43 97
DQ44 209
DQ45 210
DQ46 215
DQ47 216
DQ48 99
DQ49 100
DQ50 105
DQ51 106
DQ52 218
DQ53 219
DQ54 224
DQ55 225
DQ56 108
DQ57 109
DQ58 114
DQ59 115
DQ60 227
DQ61 228
DQ62 233
DQ63 234
MDA0
MDA1
MDA2
MDA6
MDA4
MDA0
MDA7
MDA3
MDA8
MDA9
MDA15
MDA11
MDA12
MDA13
MDA14
MDA10
MDA21
MDA17
MDA18
MDA22
MDA20
MDA16
MDA23
MDA19
MDA24
MDA29
MDA26
MDA30
MDA28
MDA25
MDA31
MDA27
MDA33
MDA37
MDA34
MDA35
MDA36
MDA32
MDA39
MDA38
MDA40
MDA41
MDA46
MDA43
MDA45
MDA44
MDA47
MDA42
MDA49
MDA53
MDA50
MDA51
MDA52
MDA48
MDA55
MDA54
MDA56
MDA57
MDA62
MDA59
MDA61
MDA60
MDA63
MDA58
MDA[0..63] [5]
DDR3/240/BK/VA/D/ONE LATCH
DDR3_2
DDR3/240/GR/VA/D/GF/ONE LATCH/[11SM1-512240-A1R_11SM1-512240-61R]
MC8
0.1u/4/X7R/16V/K
MC3 VREF_DDRA 67
MC7 VREF_DQDDRA 1
MBC50 22u/8/X5R/6.3V/M
MBC42 22u/8/X5R/6.3V/M
MBC45 22u/8/X5R/6.3V/M
DDR3 VREF
MR15 1K/4/1
MR13 0/4/SHT/M/X
MR14 1K/4/1
VREF_DDRA
M_VREFCA_A [30]
MBC28 1u/4/X5R/6.3V/K
MR4 1K/4/1
MR5 1K/4/1
VREF_DQDDRA
MR1 10/4
MR3 10/4
VREF_DQA [5]
VREF_DQA_ADJ [30]
DDR TERMINATION CHANNEL A/B
DDRVTT Decouple
MBC10 0.1u/4/X7R/16V/K
MBC41 0.1u/4/X7R/16V/K
MBC26 0.1u/4/X7R/16V/K
MBC18 1u/4/X5R/6.3V/K
MBC4 1u/4/X5R/6.3V/K
MBC40 22u/8/X5R/6.3V/M
MEC4 560u/FP/D/6.3V/68/C/8m
DDR15V Decouple
MEC1 560u/FP/D/6.3V/68/C/8m
MEC2 560u/FP/D/6.3V/68/C/8m
MEC3 560u/FP/D/6.3V/68/C/8m
MBC1 0.1u/4/X7R/16V/K
MBC2 0.1u/4/X7R/16V/K
MBC3 0.1u/4/X7R/16V/K
MBC24 0.1u/4/X7R/16V/K
MBC12 0.1u/4/X7R/16V/K
MBC14 0.1u/4/X7R/16V/K
MBC25 0.1u/4/X7R/16V/K
MBC51 22u/8/X5R/6.3V/M
MBC46 22u/8/X5R/6.3V/M
MBC43 22u/8/X5R/6.3V/M
MBC44 22u/8/X5R/6.3V/M
MBC39 1u/4/X5R/6.3V/K
MBC15 1u/4/X5R/6.3V/K
MBC17 1u/4/X5R/6.3V/K
MBC27 1u/4/X5R/6.3V/K
MBC29 1u/4/X5R/6.3V/K
MBC35 1u/4/X5R/6.3V/K
MBC36 1u/4/X5R/6.3V/K
MBC37 1u/4/X5R/6.3V/K
MBC47 1u/4/X5R/6.3V/K
MBC9 1u/4/X5R/6.3V/K
MBC5 1u/4/X5R/6.3V/K
MBC30 1u/4/X5R/6.3V/K
MBC31 1u/4/X5R/6.3V/K
MBC32 1u/4/X5R/6.3V/K
MBC8 1u/4/X5R/6.3V/K
MBC22 1u/4/X5R/6.3V/K
MBC20 1u/4/X5R/6.3V/K
MBC49 1u/4/X5R/6.3V/K
MBC48 1u/4/X5R/6.3V/K
MBC21 1u/4/X5R/6.3V/K
MBC38 1u/4/X5R/6.3V/K
MBC6 1u/4/X5R/6.3V/K
MBC11 1u/4/X5R/6.3V/K
MBC23 1u/4/X5R/6.3V/K
MBC34 1u/4/X5R/6.3V/K
MBC33 1u/4/X5R/6.3V/K
MBC13 1u/4/X5R/6.3V/K
MBC7 1u/4/X5R/6.3V/K
MBC19 1u/4/X5R/6.3V/K
MBC16 1u/4/X5R/6.3V/K
Gigabyte Technology
Title
DDRIII CHANNEL A
Size Custom
Document Number
GA-Z97X-Gaming GT
Rev 1.0
Date:
Sheet 7 of 51

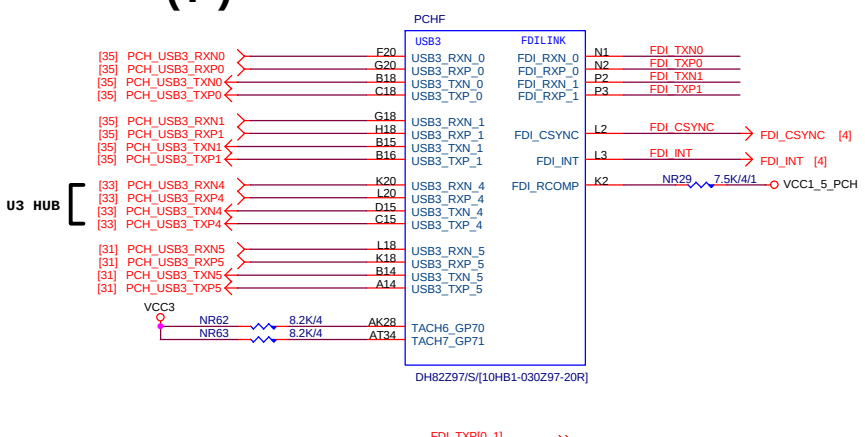

DDR3 (B)
DDR3_3
DDRVTT
DDR_15V
MC2
0.1u/4/X7R/16V/K
MC14 0.1u/4/X7R/16V/K
MC9 0.1u/4/X7R/16V/K
VDDSPD
VREF_DDRB
VREF_DQDDRB
-DQSB[0..7]
DQSB[0..7]
MODT_B[0..3]
DDR3_240/BK/VA/D/ONE LATCH
DDR3
DDR3_1
MC12
0.1u/4/X7R/16V/K
MC15
MC13
0.1u/4/X7R/16V/K
DDR3/240/GR/VA/D/GF/ONE LATCH/[11SM1-512240-A1R_11SM1-512240-61R]
DDR3 VREF
DDR_15V
MR10 1K/4/1
MR11 1K/4/1
MR12 0/4/SHT/M/X
VREF_DDRB
M_VREFCA_B [30]
MR8 1K/4/1
MR9 1K/4/1
VREF_DQDDRB
MR7 10/4
MR16 10/4
VREF_DQB [5]
VREF_DQB_ADJ [30]
COUPON
COUPON1
COUPON2
COUPON3
COUPON4
COUPON/X
CPU
DIMM4
DIMM2
DIMM3
DIMM1
CHA
CHB
Gigabyte Technology
DDRIII CHANNEL B
GA-Z97X-Gaming GT
Rev 1.0
Sheet 8 of 51

PCH (B)



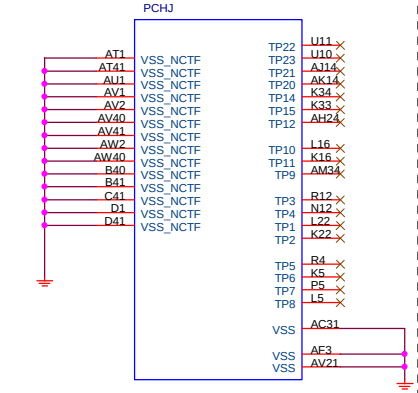
DH82Z97/S/[10HB1-030Z97-20R]

PCH (F)



DH82Z97/S/[10HB1-030Z97-20R]

PCH (J)



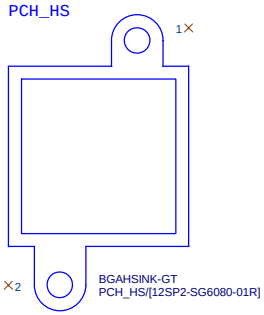
DH82Z97/S/[10HB1-030Z97-20R]

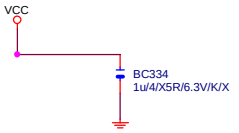
USB TABLE

OC[3:0]# for Device 29 (ports 0-7)
OC[7:4]# for Device 26 (ports 8-13)

USB3	00	01	02	05											04	
USB2	00	01	02	05	06	07	08	09	10	11	12	13			04	
OCB0	OC0 (N_-USBOC0)		OC1,2 (N_-USBOC2)		OC3,4,5 (N_-USBOC_F)						OC6 (N_-USBOC6)				NA(Hub)	
Location	F_USB30		USB30_LAN		F_USB1		F_USB2		F_USB3		KB_USB				R_USB30	
Front/Rear	Front		Rear		Front						Rear				Rear	

PCH Heatsink





Gigabyte Technology

Title	PCH FDI,DMI,USB ,PCIE,NVRAM	
Size: Custom	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
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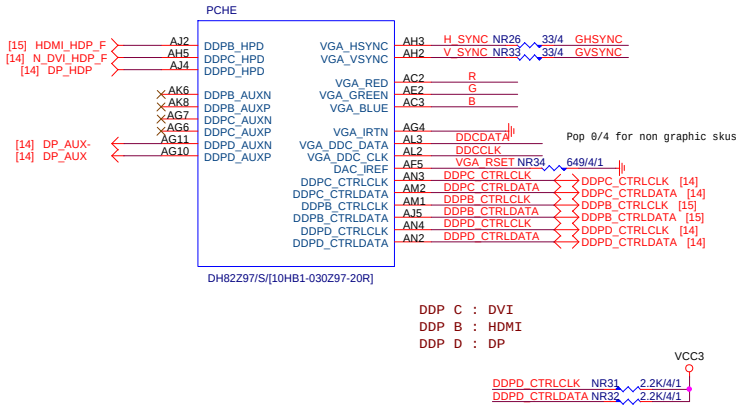
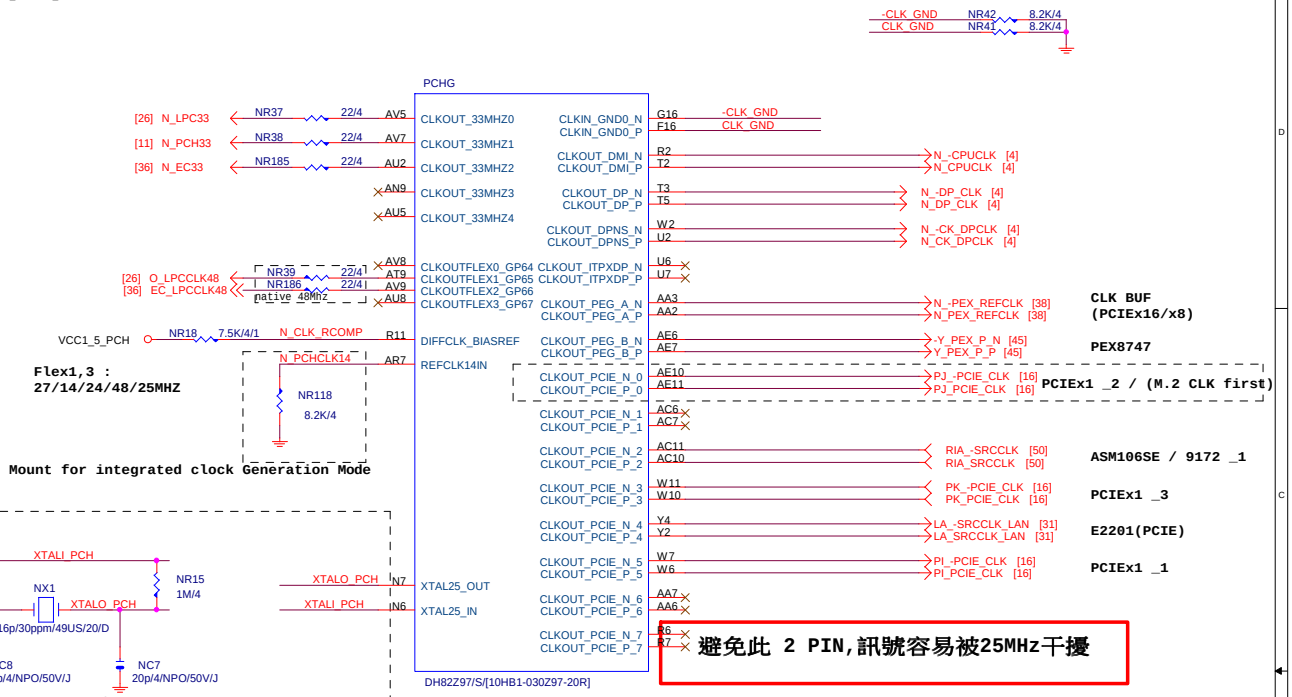
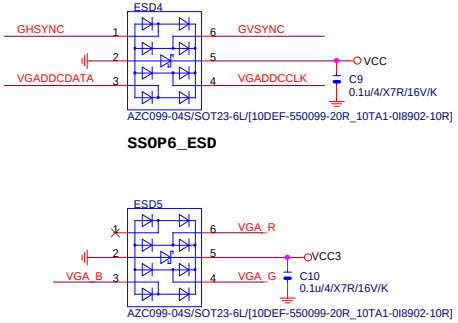
PCH (E)



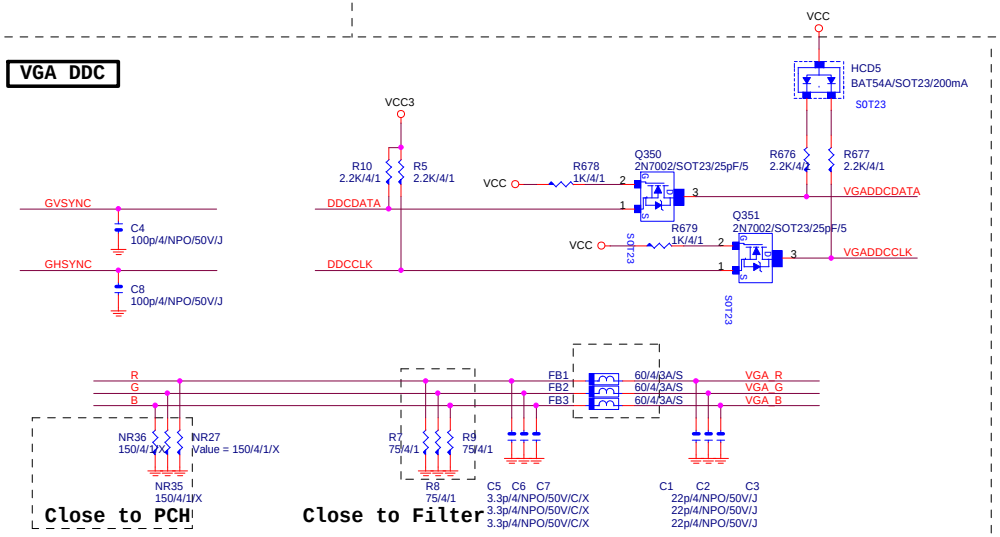
PCH (G)



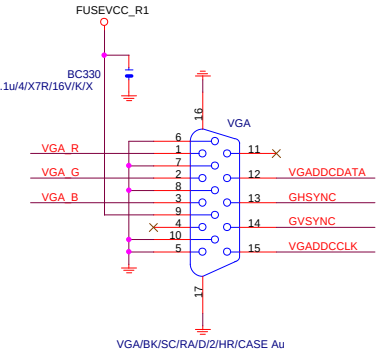
VGA ESD



VGA DDC



VGA CONNECTOR



Gigabyte Technology		
Title: PCH DISPLAY ,CLK BUFFER		
Size: Custom	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
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PCH (C)

PCHC

DH82Z97/S/[10HB1-030Z97-20R]

PCH (A)

PCHA

DH82Z97/S/[10HB1-030Z97-20R]

PCH PU / PD

PCH CLK PD

Mount for integrated clock Generation Mode

GPIO38 Ctrl

N_GPIO38 : Lo --> Enable
Hi --> Disable

GPIO37 PU VCC3 ENABLE SBA
For H87&B85

SATA3 CONNECTOR

SATA3_0_1

SATA/14/BK/H/OP/RA/D/2

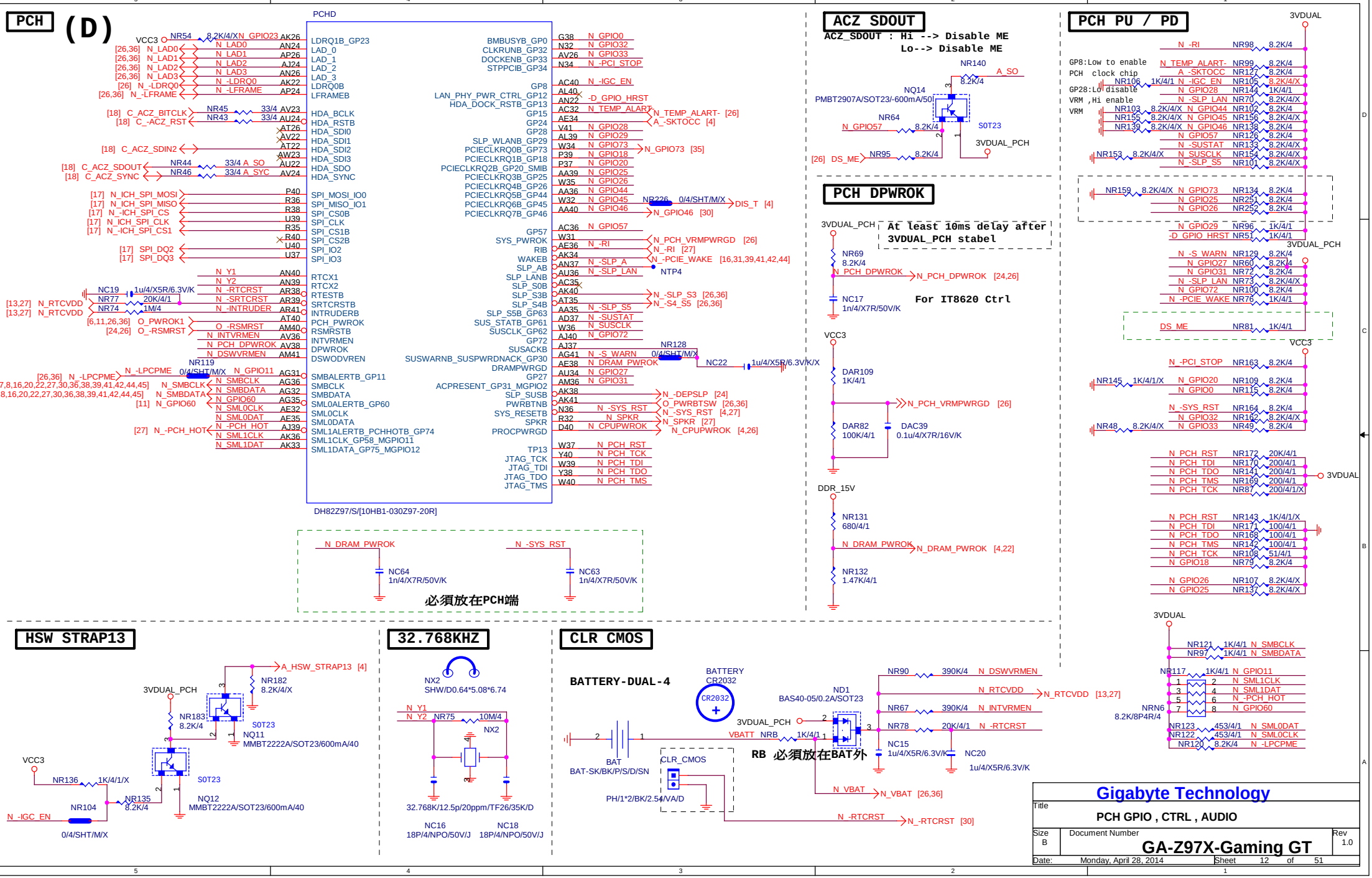
BOOT DEVICE	GP51	GP19
LPC	0	0
SPI	1	1

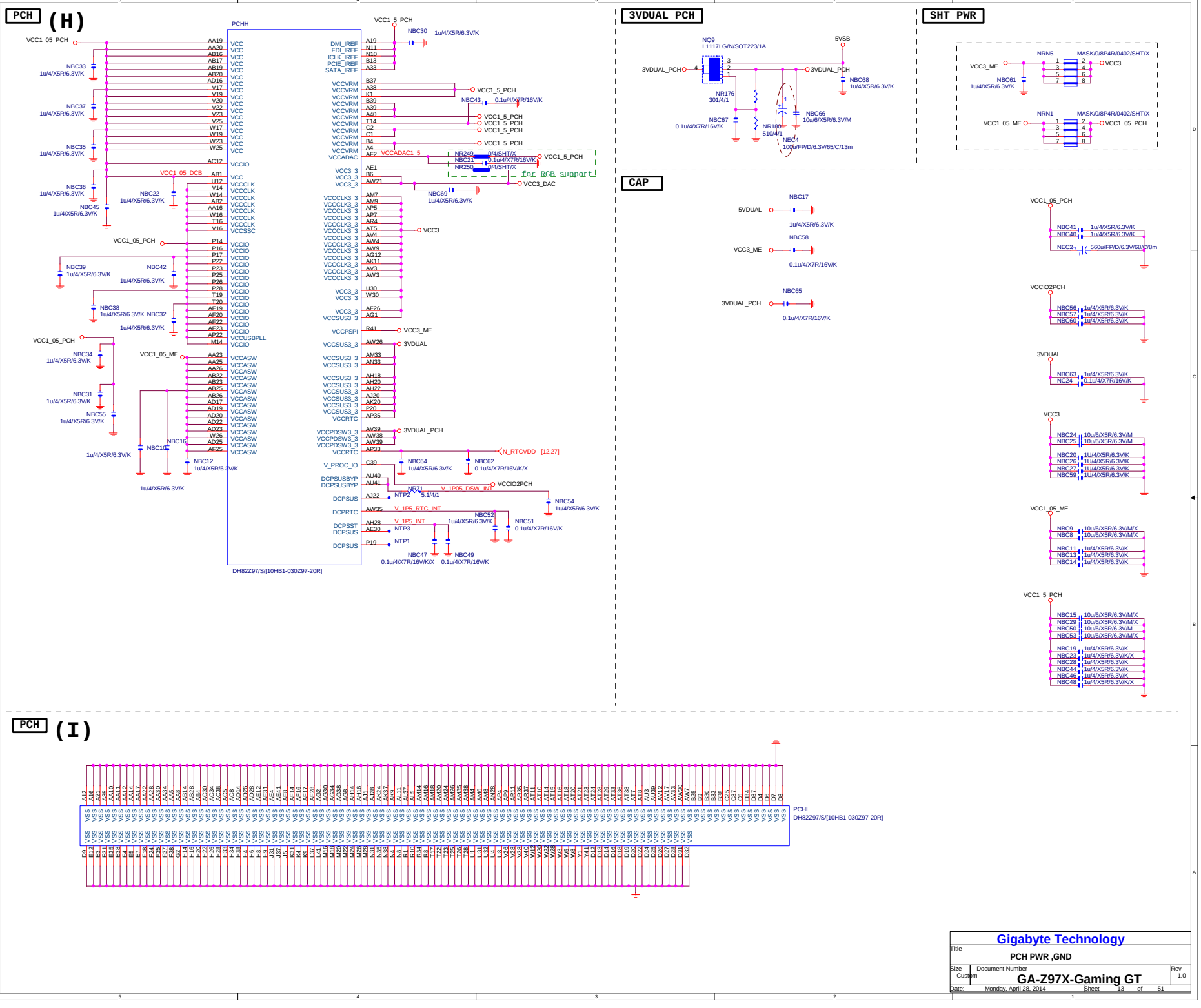
Default int pull up on GP51,
Default SPI boot devices

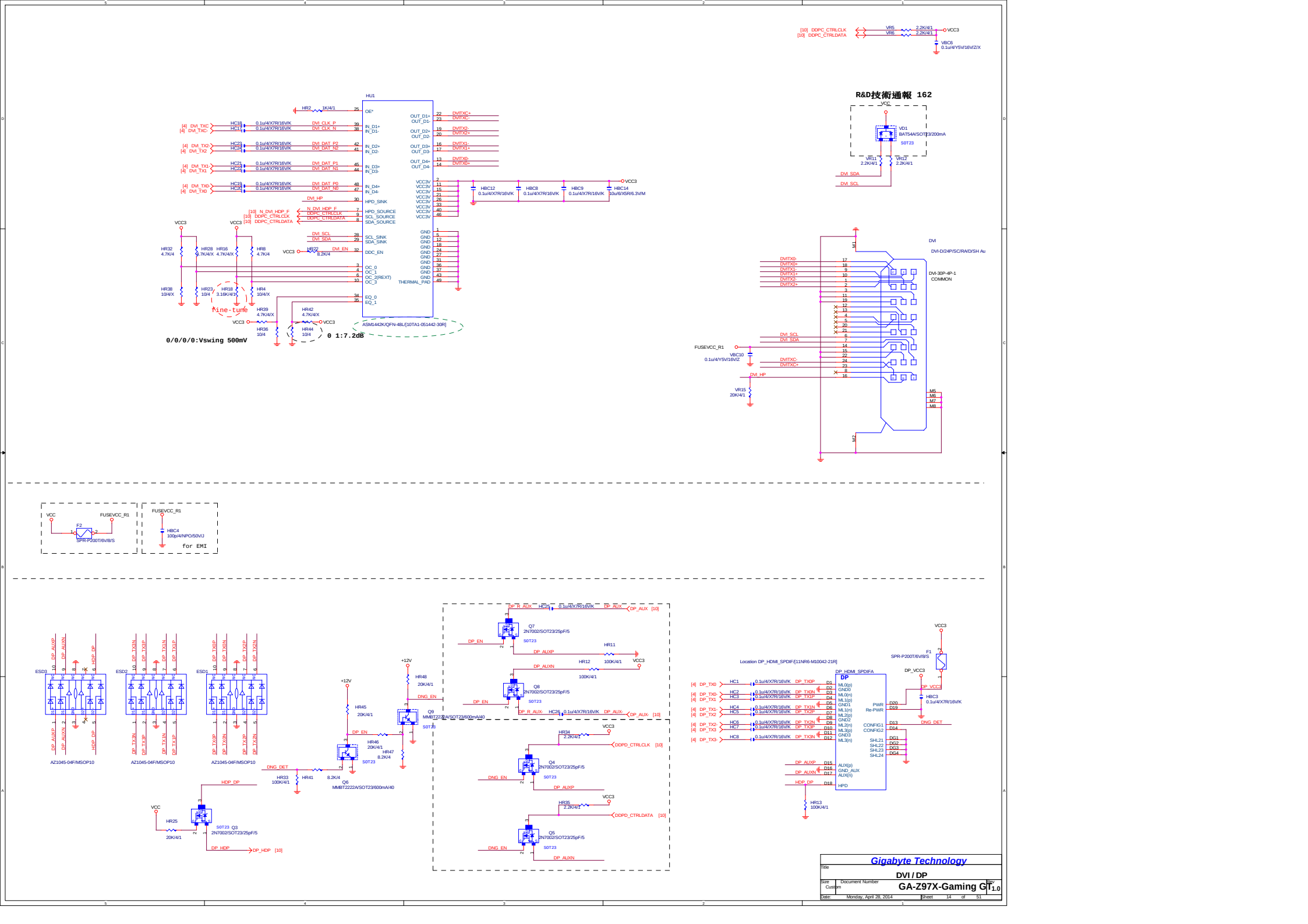
soft strap	GP16	GP49
0	pcie1	pcie2
1	sata4	sata5

Close PCH

Gigabyte Technology	
Title	PCH HOST , SATA, PCI
Size: Custom	Document Number: GA-Z97X-Gaming GT
Rev: 1.0	
Date: Monday, April 28, 2014	Sheet 11 of 51


PCH (D)
PCHD
DH82Z97/S/[10HB1-030Z97-20R]
ACZ_SDOUT
ACZ_SDOUT : Hi --> Disable ME
Lo--> Disable ME
PCH DPWROK
At least 10ms delay after
3VDUAL_PCH stabel
For IT8620 Ctrl
PCH PU / PD
GP8:Low to enable
PCH clock chip
GP28:Lo disable
VRM ,Hi enable
VRM
必須放在PCH端
HSW STRAP13
32.768KHZ
CLR CMOS
BATTERY-DUAL-4
RB 必須放在BAT外
32.768K/12.5p/20ppm/TF26/35K/D
Gigabyte Technology
PCH GPIO , CTRL , AUDIO
GA-Z97X-Gaming GT
Monday, April 28, 2014


PCH (H)
PCHH
DH82Z97/S/[10HB1-030Z97-20R]
3VDUAL PCH
SHT PWR
CAP
for RGB support
PCH (I)
PCHI
DH82Z97/S/[10HB1-030Z97-20R]
Gigabyte Technology
PCH PWR ,GND
GA-Z97X-Gaming GT
Monday, April 28, 2014


R&D技術通報 162
HU1
ASM1442K/QFN-48L/[10TA1-051442-30R]
0/0/0/0:Vswing 500mV
0 1:7.2dB
fine-tune
DVI
DVI-D/24P/SC/RA/D/SH Au
DVI-30P-4P-1
COMMON
for EMI
SPR-P200T/6V/8/S
AZ1045-04F/MSOP10
Location DP_HDMI_SPDIF/[11NR6-M10042-21R]
DP_HDMI_SPDIFA
Gigabyte Technology
DVI / DP
GA-Z97X-Gaming G1
1.0
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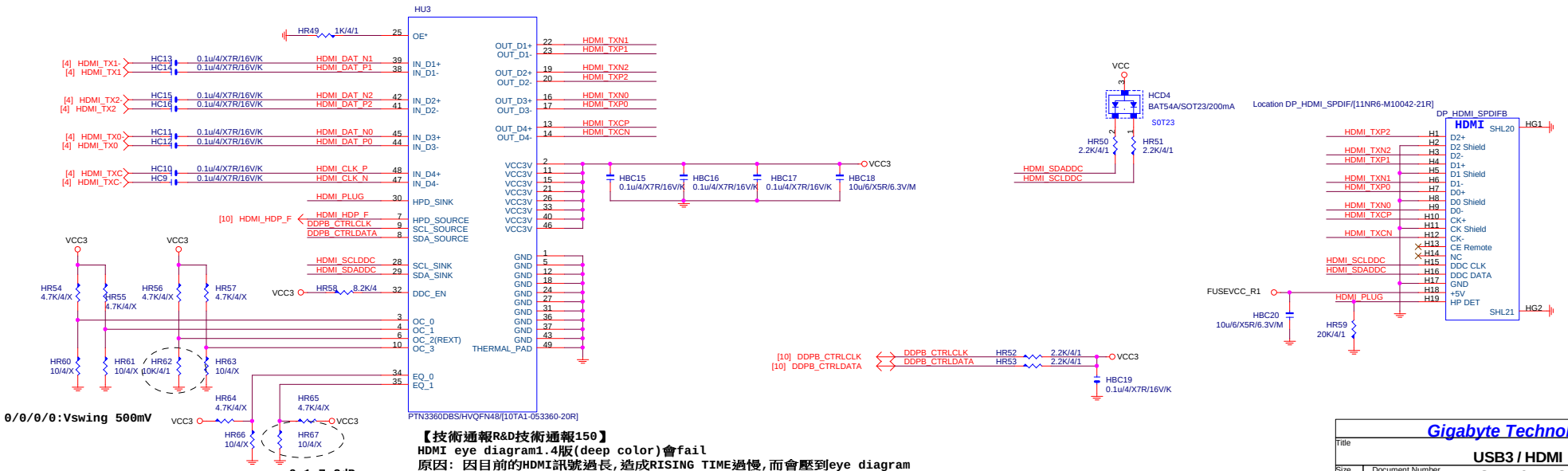
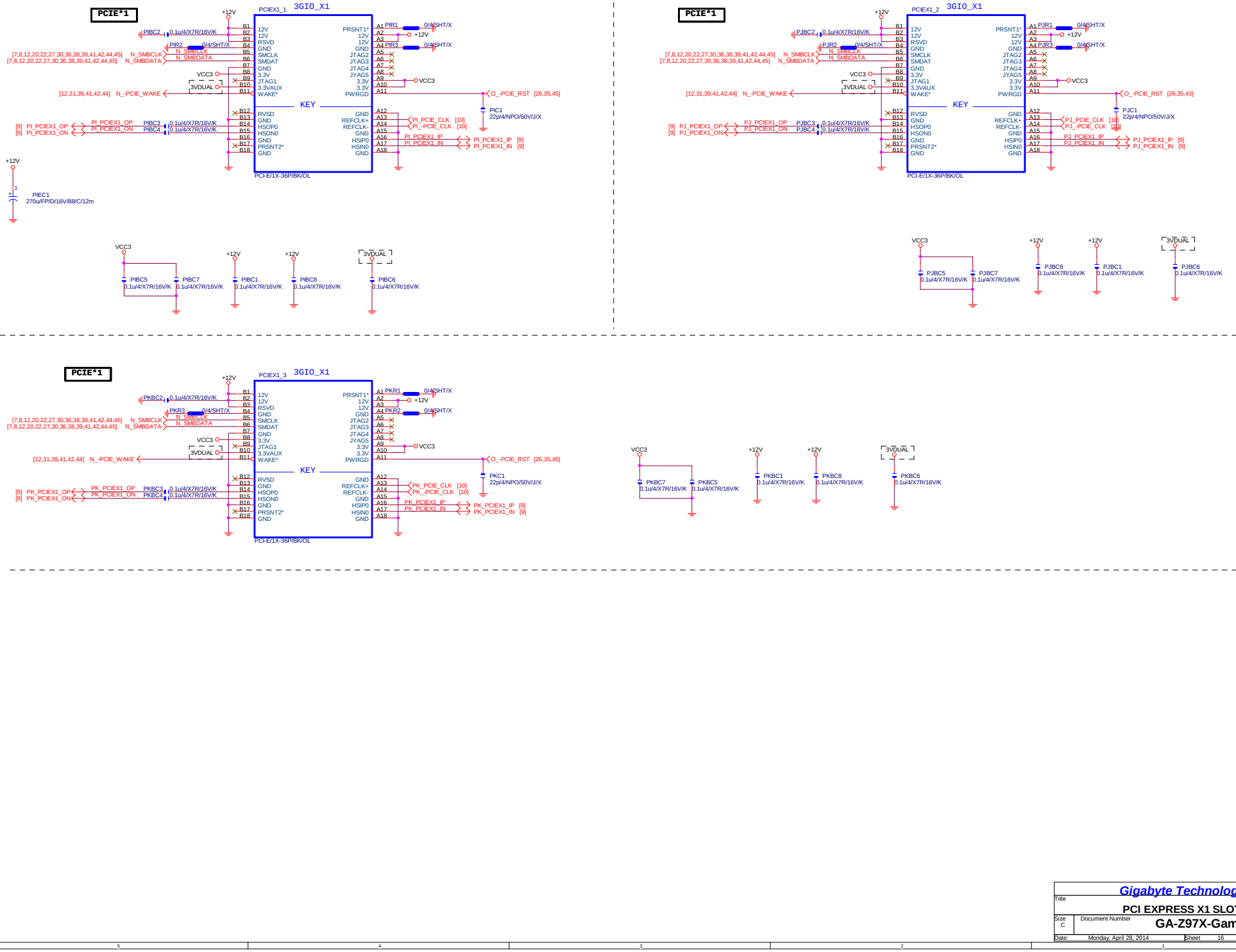
51

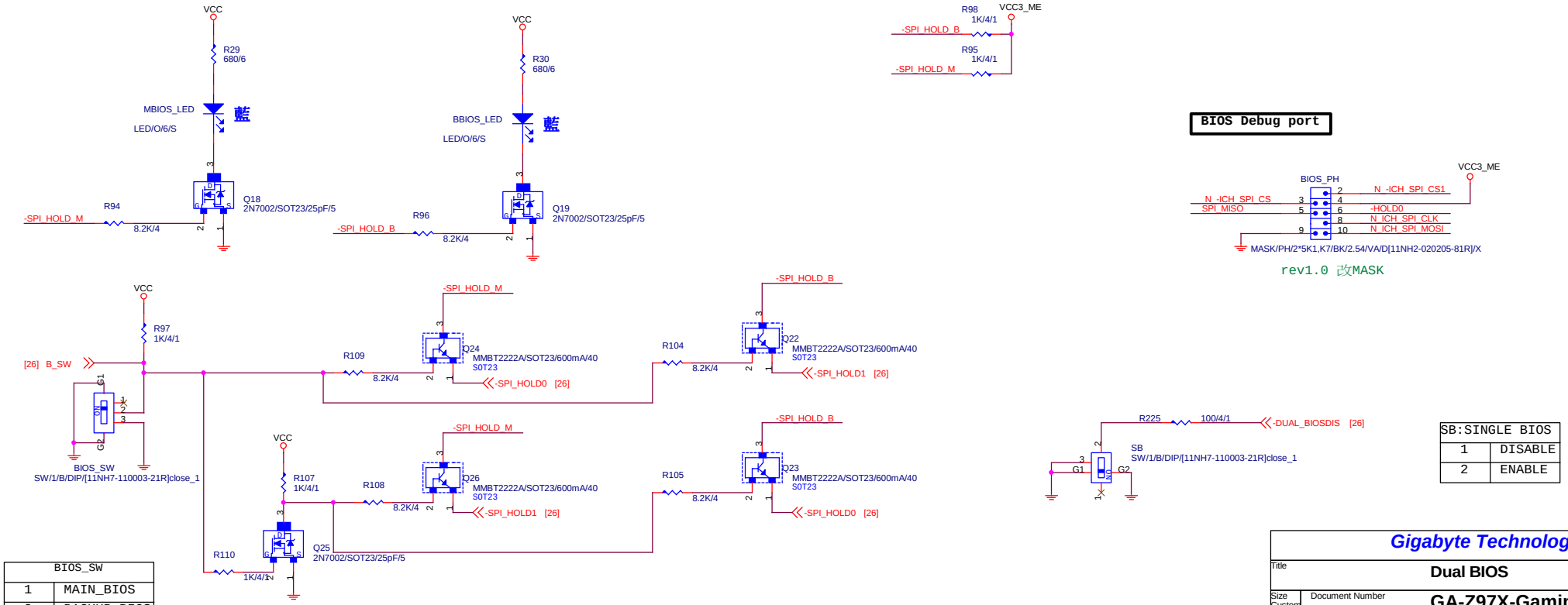


【技術通報R&D技術通報150】
HDMI eye diagram1.4版(deep color)會fail
原因: 因目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

Gigabyte Technology			
Title: USB3 / HDMI			
Size: Custom	Document Number: GA-Z97X-Gaming GT		Rev: 1.0
Date: Monday, April 28, 2014	Sheet 15 of 51		



Gigabyte Technology			
Title	PCI EXPRESS X1 SLOT		
Size C	Document Number	GA-Z97X-Gaming G1	Rev 1.0
Date: Monday, April 28, 2014	Sheet 16 of 51		



BIOS_SW	
1	MAIN_BIOS
2	BACKUP_BIOS

SB:SINGLE BIOS	
1	DISABLE
2	ENABLE

Gigabyte Technology

Title: **Dual BIOS**

Size: Custom | Document Number: **GA-Z97X-Gaming G1** | Rev: 1.0

Date: Monday, April 28, 2014 | Sheet 17 of 51

AZALIA CODEC

Thermal pad is DGND

Thermal pad is DGND

Digital Area

Analog Area

CU1 ALC1150-CG/QFN48

0/6/X For AGND/GND moat under Codec Body

ALC1150/ALC887-VD2 default不上
ESD protection diode :
Without : 6~7KV , With : 8.5~9.5KV

JD resistors close CODEC

EAPD: Default L
H : ON
L : OFF

Close to ALC1150

(IT8620 GP26)

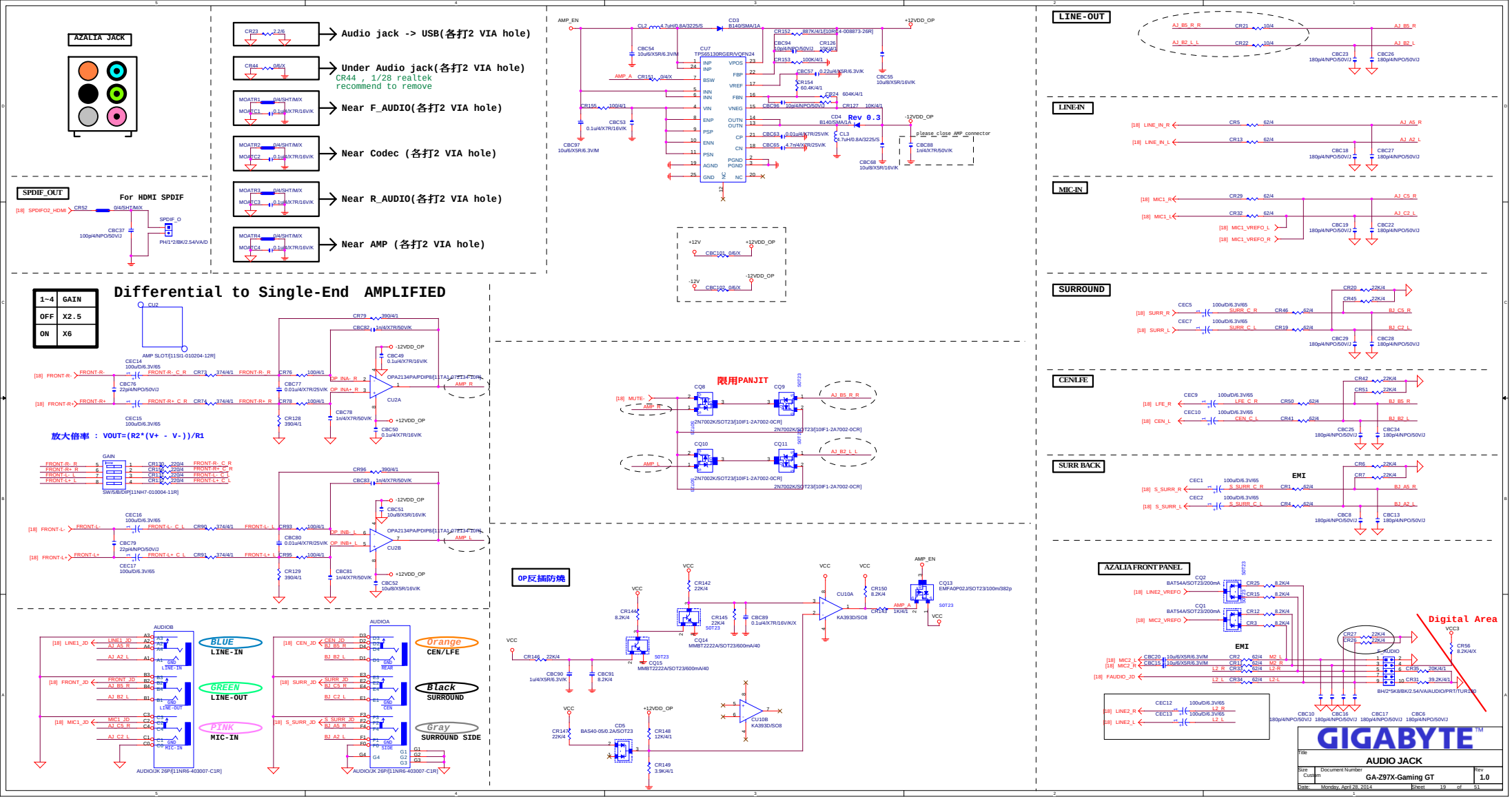
有LED機種,請上CR98

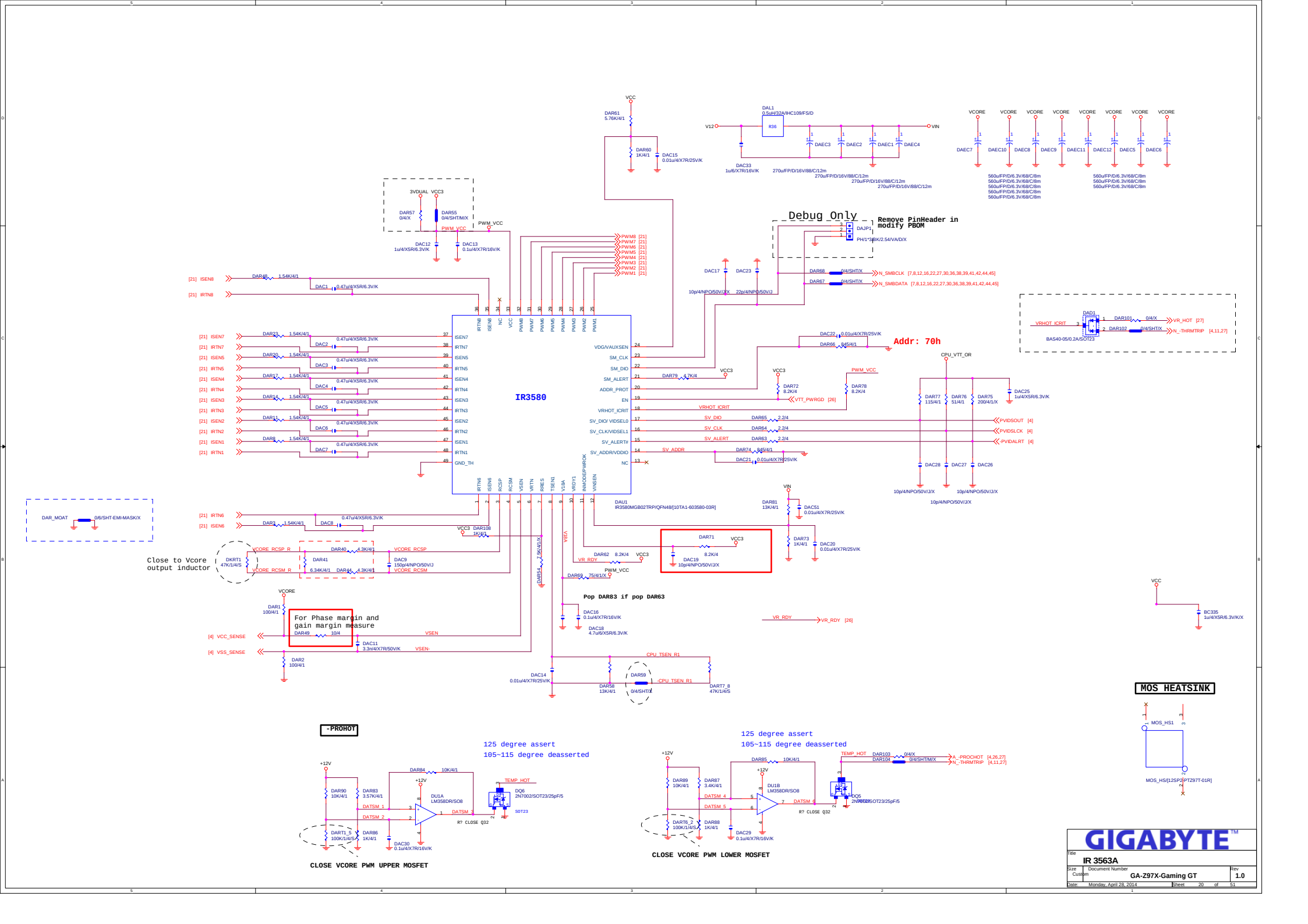
BOM OPTION : 1. 台固/日固/日黑固/MUSE MW音效電容
2. 金屬外罩 Reserve
3. LED Reserve (若LED有上,G_PLED p-up請上CR98)

ALC1150 "CD1" 惠謀指定default要上

金屬外罩+GND切割

Title	HD AUDIO ALC1150	
Size: Custom	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
Date: Monday, April 28, 2014	Sheet 18 of 51	


AZALIA JACK
SPDIF_OUT
For HDMI SPDIF
Audio jack -> USB(各打2 VIA hole)
Under Audio jack(各打2 VIA hole)
CR44 , 1/28 realtek
recommend to remove
Near F_AUDIO(各打2 VIA hole)
Near Codec (各打2 VIA hole)
Near R_AUDIO(各打2 VIA hole)
Near AMP (各打2 VIA hole)
Differential to Single-End AMPLIFIED
1~4 GAIN
OFF X2.5
ON X6
放大倍率 : VOUT=(R2*(V+ - V-))/R1
限用PANJIT
OP反插防烧
LINE-OUT
LINE-IN
MIC-IN
SURROUND
CEN/LFE
SURR BACK
AZALIA FRONT PANEL
EMI
BLUE
GREEN
PINK
Orange
Black
Gray
SURROUND SIDE
Digital Area
GIGABYTE
AUDIO JACK
GA-Z97X-Gaming GT
Rev 1.0
Monday, April 28, 2014


IR3580
DAU1
IR3580MGB02TRP/QFN48[10TA1-603580-03R]
Debug Only
Remove PinHeader in modify PBOM
Addr: 70h
Close to Vcore output inductor
For Phase margin and gain margin measure
Pop DAR83 if pop DAR63
-PROHOT
125 degree assert
105~115 degree deasserted
CLOSE VCORE PWM UPPER MOSFET
CLOSE VCORE PWM LOWER MOSFET
MOS HEATSINK
GIGABYTE
IR 3563A
GA-Z97X-Gaming GT
1.0
Monday, April 28, 2014
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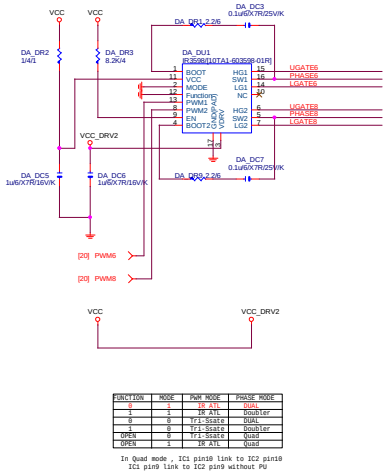
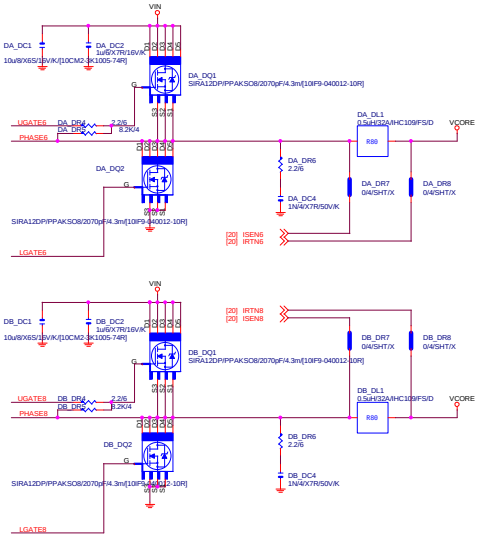
VCORE Phase 6,8

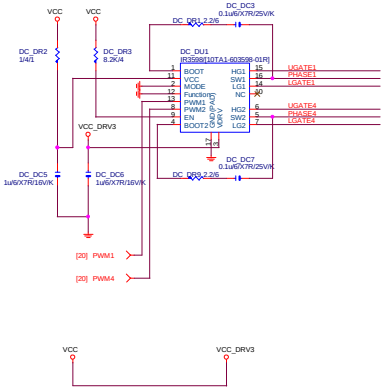


FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	IR ATL	DUAL
1	1	IR ATL	Doubler
0	0	Tri-State	DUAL
1	0	Tri-State	Doubler
OPEN	0	Tri-State	Quad
OPEN	1	IR ATL	Quad

In Quad mode , IC1 pin10 link to IC2 pin10
IC1 pin9 link to IC2 pin9 without PU

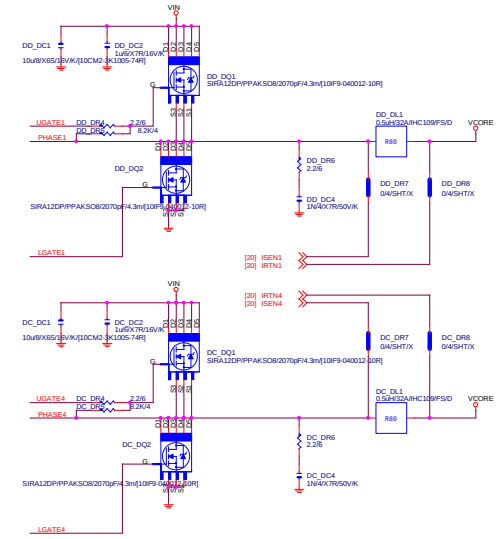


VCORE Phase 1,4

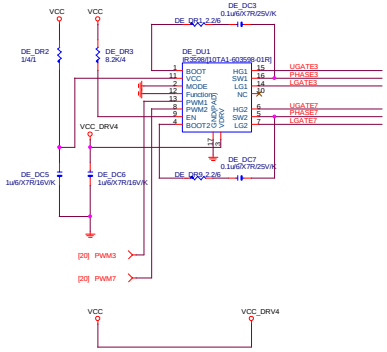


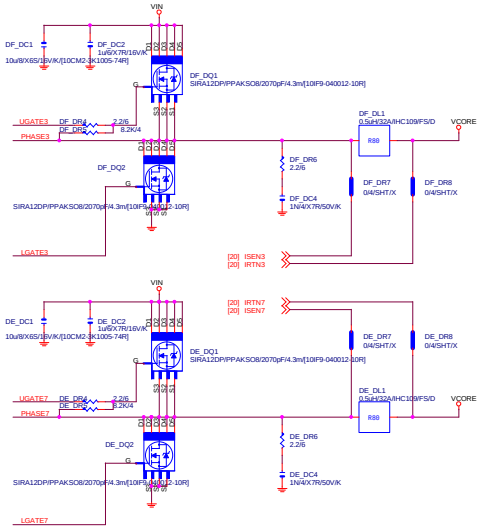
FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	IR ATL	DUAL
1	1	IR ATL	Doubler
0	0	Tri-State	DUAL
1	0	Tri-State	Doubler
OPEN	0	Tri-State	Quad
OPEN	1	IR ATL	Quad

In Quad mode , IC1 pin10 link to IC2 pin10
IC1 pin9 link to IC2 pin9 without PU

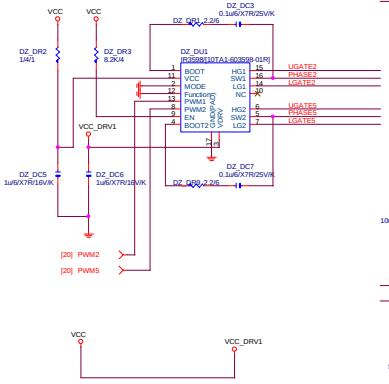


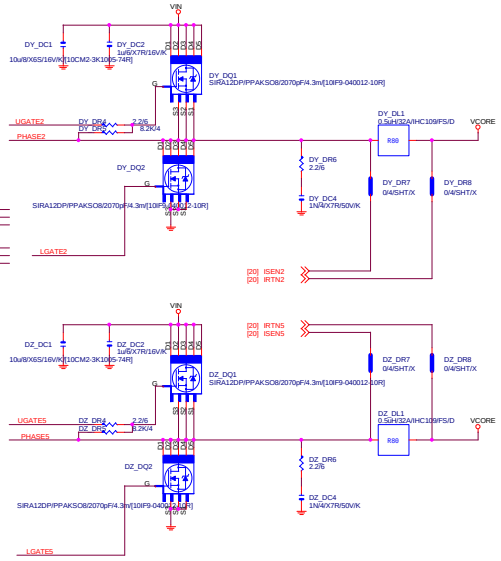
VCORE Phase 3,7





VCORE Phase 2,5





GIGABYTE™

Title	CPU CORE VR
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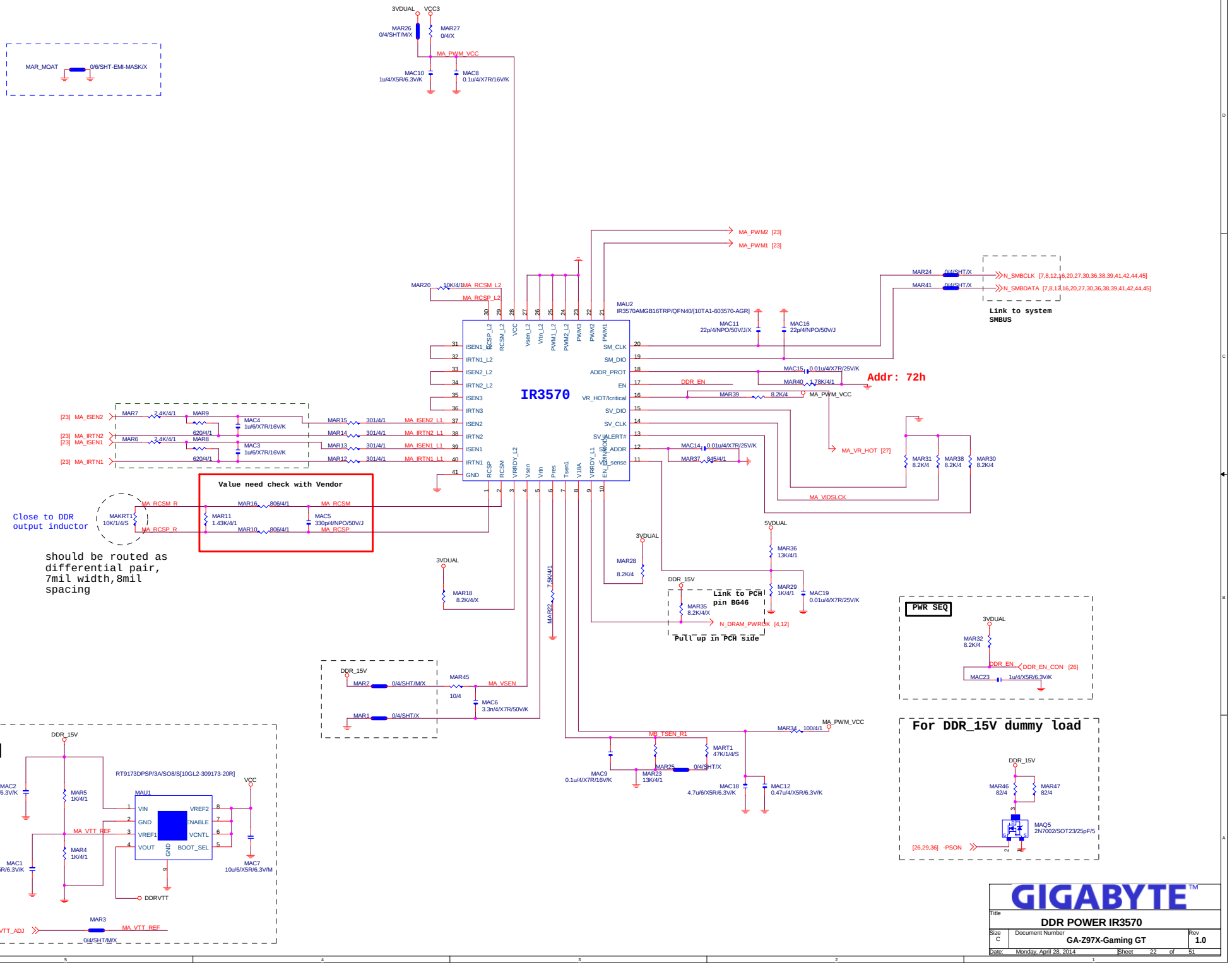
MAR_MOAT
0/6/SHT-EMI-MASK/X
3VDUAL
VCC3
MAR26
0/4/SHT/M/X
MAR27
0/4/X
MA_PWM_VCC
MAC10
1u/4/X5R/6.3V/K
MAC8
0.1u/4/X7R/16V/K
MA_PWM2 [23]
MA_PWM1 [23]
MAR20
10K/4/1
MA_RCSM_L2
MA_RCSP_L2
MAU2
IR3570AMGB16TRP/QFN40/[10TA1-603570-AGR]
IR3570
MAC11
22p/4/NPO/50V/J/X
MAC16
22p/4/NPO/50V/J
MAR24
0/4/SHT/X
MAR41
0/4/SHT/X
N_SMBCLK [7,8,12,16,20,27,30,36,38,39,41,42,44,45]
N_SMBDATA [7,8,12,16,20,27,30,36,38,39,41,42,44,45]
Link to system SMBUS
MAC15
0.01u/4/X7R/25V/K
MAR40
1.78K/4/1
Addr: 72h
DDR_EN
MAR39
8.2K/4
MA_PWM_VCC
MA_VR_HOT [27]
MAR31
8.2K/4
MAR38
8.2K/4
MAR30
8.2K/4
MA_VIDSLCK
MAC14
0.01u/4/X7R/25V/K
MAR37
845/4/1
[23] MA_ISEN2
[23] MA_IRTN2
[23] MA_ISEN1
[23] MA_IRTN1
MAR7
2.4K/4/1
MAR9
620/4/1
MAC4
1u/6/X7R/16V/K
MAR6
2.4K/4/1
MAR8
620/4/1
MAC3
1u/6/X7R/16V/K
MAR15
301/4/1
MAR14
301/4/1
MAR13
301/4/1
MAR12
301/4/1
MA_ISEN2_L1
MA_IRTN2_L1
MA_ISEN1_L1
MA_IRTN1_L1
Value need check with Vendor
Close to DDR output inductor
MAKRT1
10K/1/4/S
MA_RCSM_R
MA_RCSP_R
MAR16
806/4/1
MAR11
1.43K/4/1
MAR10
806/4/1
MA_RCSM
MAC5
330p/4/NPO/50V/J
MA_RCSP
should be routed as differential pair, 7mil width,8mil spacing
3VDUAL
MAR18
8.2K/4/X
MAR22
7.5K/4/1
5VDUAL
MAR36
13K/4/1
MAR28
8.2K/4
DDR_15V
MAR29
1K/4/1
MAC19
0.01u/4/X7R/25V/K
MAR35
8.2K/4/X
Link to PCH pin BG46
N_DRAM_PWROK [4,12]
Pull up in PCH side
PWR SEQ
MAR32
8.2K/4
DDR_EN
DDR_EN_CON [26]
MAC23
1u/4/X5R/6.3V/K
DDR_15V
MAR2
0/4/SHT/M/X
MAR45
10/4
MA_VSEN
MAC6
3.3n/4/X7R/50V/K
MAR1
0/4/SHT/X
MA_TSEN_R1
MART1
47K/1/4/S
MAR23
13K/4/1
MAR25
0/4/SHT/X
MAC9
0.1u/4/X7R/16V/K
MAC18
4.7u/6/X5R/6.3V/K
MAC12
0.47u/4/X5R/6.3V/K
MA_PWM_VCC
MAR34
100/4/1
For DDR_15V dummy load
MAR46
82/4
MAR47
82/4
MAQ5
2N7002/SOT23/25pF/5
[26,29,36] -PSON
DDRVTT
DDR_15V
RT9173DPSP/3A/SO8/S[10GL2-309173-20R]
MAU1
VIN
GND
VREF1
VOUT
VREF2
ENABLE
VCNTL
BOOT_SEL
VCC
MAC2
1u/4/X5R/6.3V/K
MAR5
1K/4/1
MA_VTT_REF
MAR4
1K/4/1
MAC1
1u/4/X5R/6.3V/K
MAC7
10u/6/X5R/6.3V/M
DDRVTT
[30] VTT_ADJ
MAR3
0/4/SHT/M/X
MA_VTT_REF
GIGABYTE
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DDR POWER IR3570
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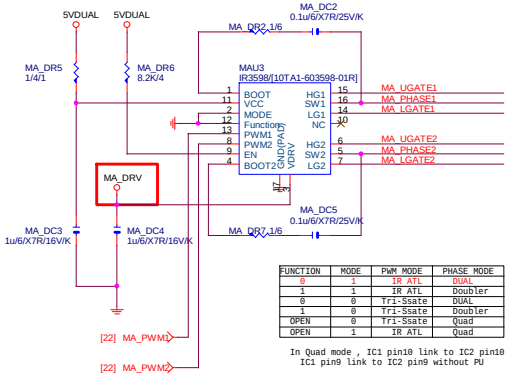
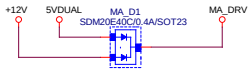
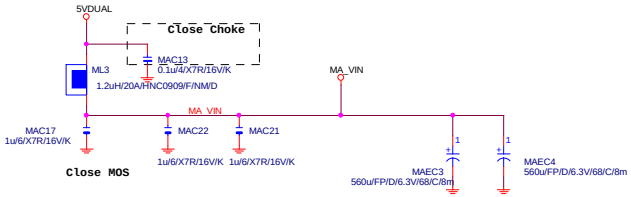
DDR_15V

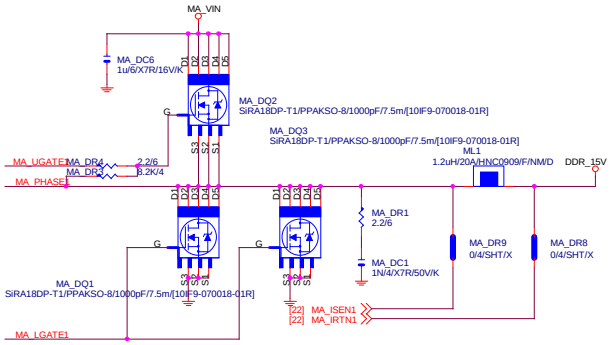


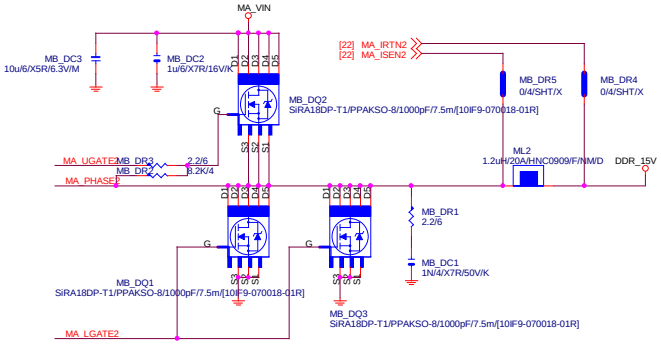
FUNCTION	MODE	PWM MODE	PHASE MODE
0	1	IR ATL	DUAL
1	1	IR ATL	Doubler
0	0	Tri-Ssate	DUAL
1	0	Tri-Ssate	Doubler
OPEN	0	Tri-Ssate	Quad
OPEN	1	IR ATL	Quad

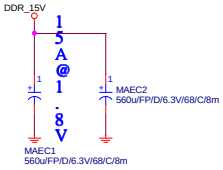
In Quad mode , IC1 pin10 link to IC2 pin10
IC1 pin9 link to IC2 pin9 without PU











Gigabyte Technology			
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5VDUAL

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Gigabyte Technology			
Title: DISCRETE POWER 2			
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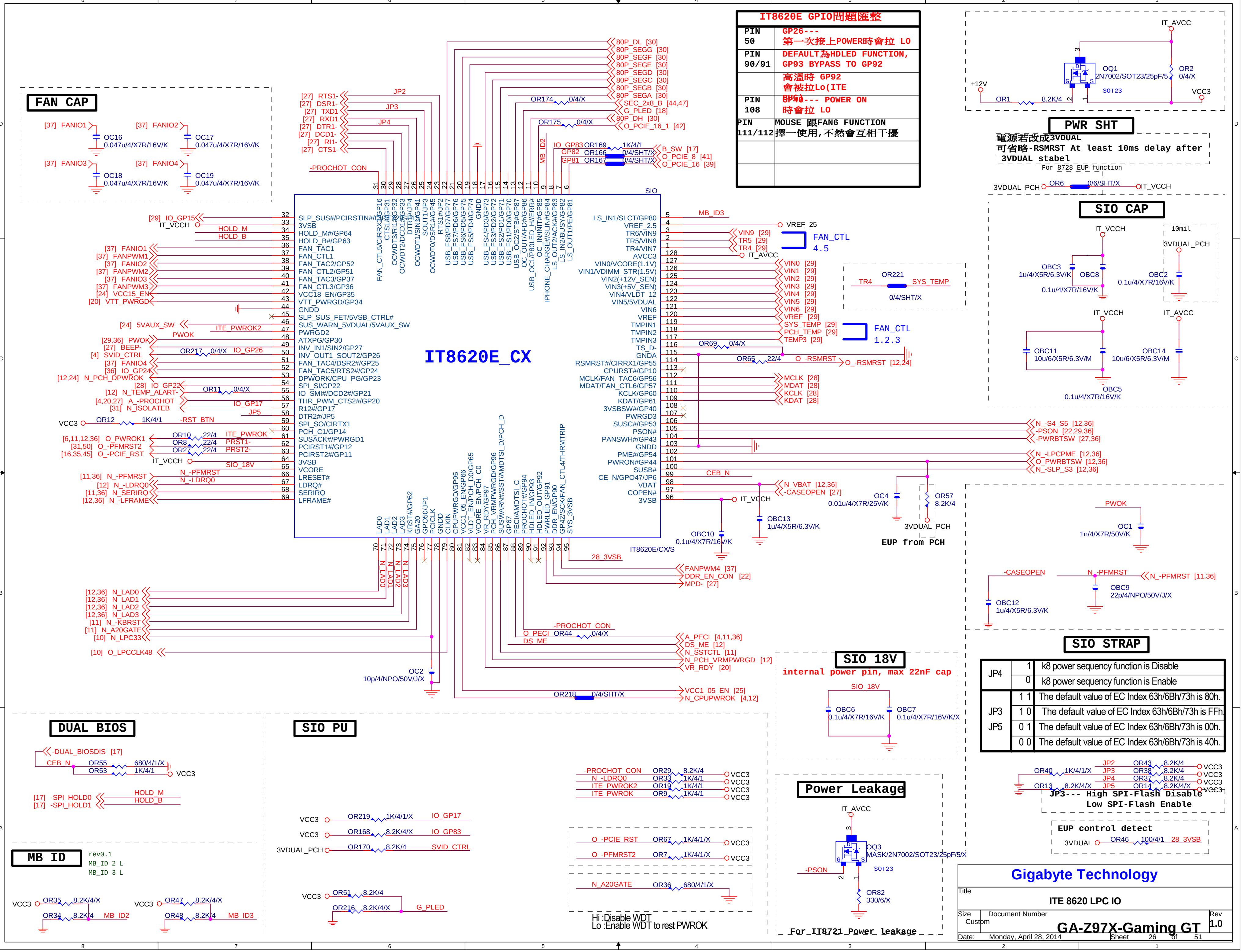

IT8620E GPIO問題匯整

PIN	
PIN 50	GP26--- 第一次接上POWER時會拉 LO
PIN 90/91	DEFAULT為HDLED FUNCTION, GP93 BYPASS TO GP92
	高溫時 GP92 會被拉Lo(ITE BUG)
PIN 108	GP40--- POWER ON 時會拉 LO
PIN 111/112	MOUSE 跟FAN6 FUNCTION 擇一使用,不然會互相干擾

SIO STRAP

JP4	1	k8 power sequency function is Disable
JP4	0	k8 power sequency function is Enable
JP3 JP5	1 1	The default value of EC Index 63h/6Bh/73h is 80h.
JP3 JP5	1 0	The default value of EC Index 63h/6Bh/73h is FFh.
JP3 JP5	0 1	The default value of EC Index 63h/6Bh/73h is 00h.
JP3 JP5	0 0	The default value of EC Index 63h/6Bh/73h is 40h.

Gigabyte Technology

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COMA

COM RI

CASE OPEN

SATA LED

SPEAKER

FRONT USB2

FRONT USB1

FRONT USB3

INTEL FRONT PANEL

USB2.0 Signal & power short protection

USB2.0 Signal > 4.85V

Enable -->

3VDUAL=3.5V

（開機短路保護）

（開機短路保護）

Close to connector

Close to connector

Close to connector

To disable TCO timer

先過ESD再進PCH

Gigabyte Technology	
Title	FP,F_USB,USB PWR,FDD,BZ,TB_C, COMA
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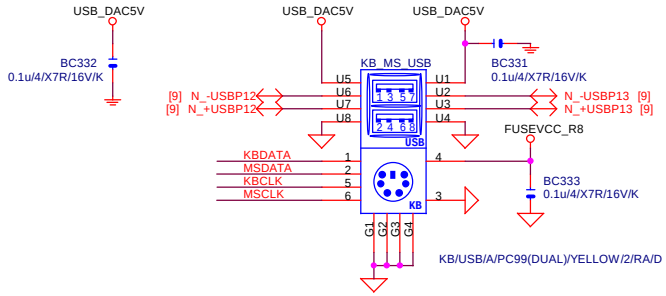

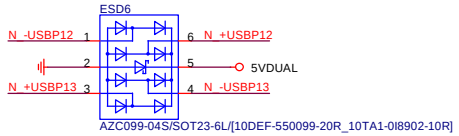

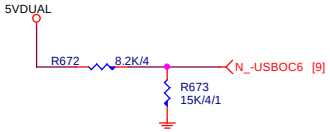

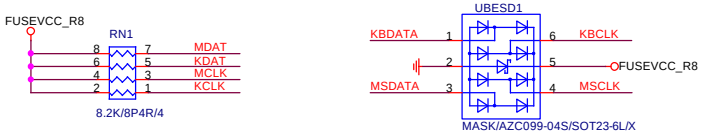

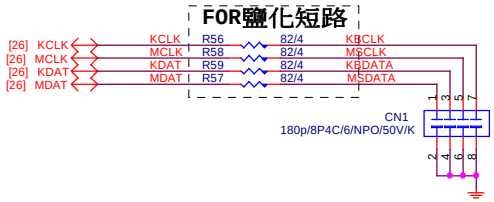

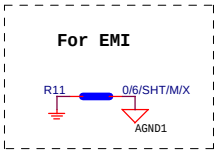

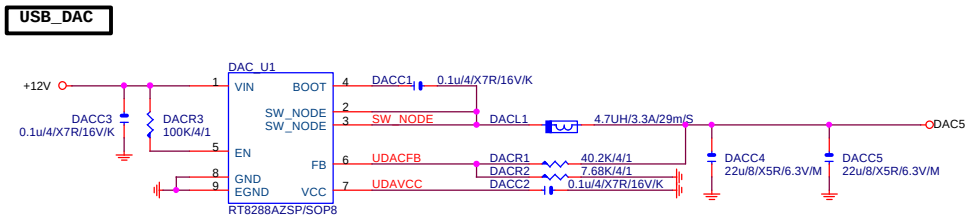

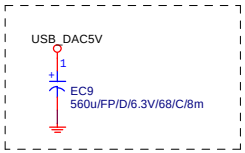

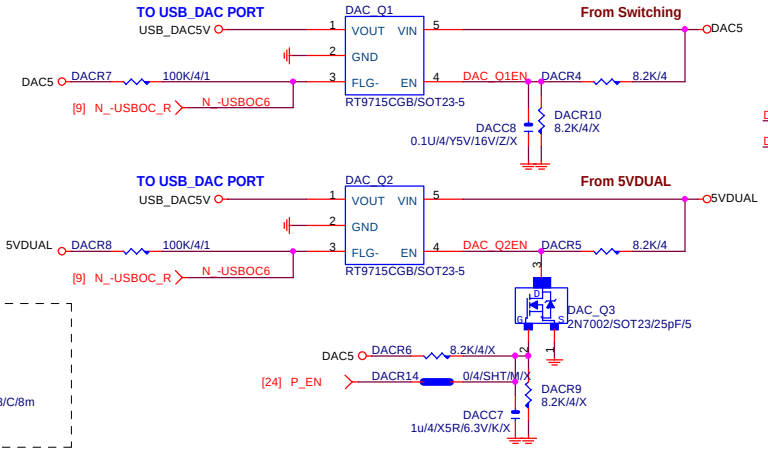

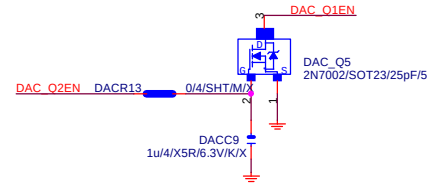

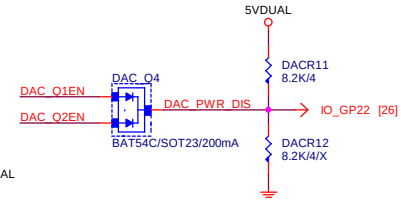

Gigabyte Technology		
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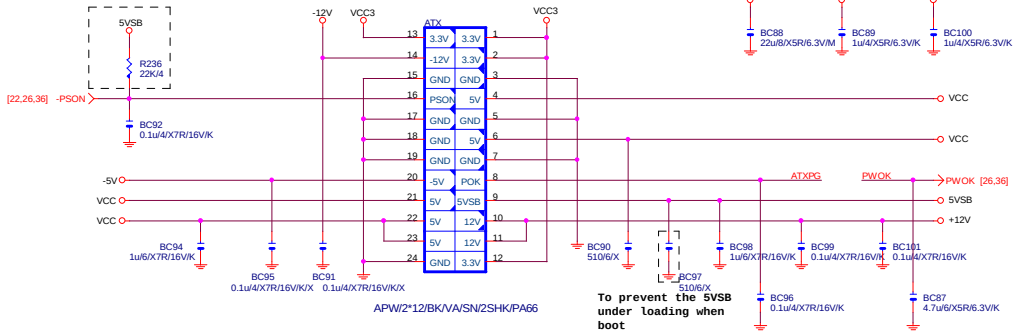
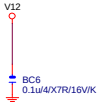
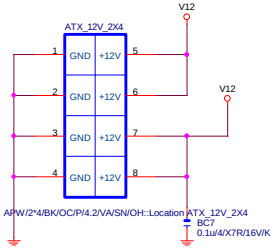
ATX POWER CONNECTOR

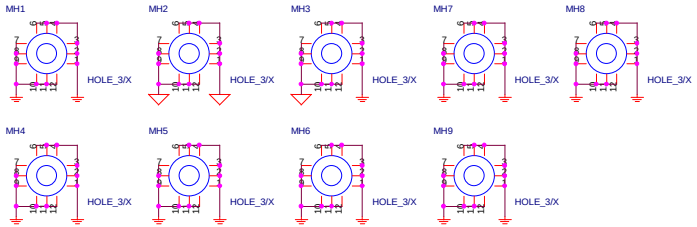
Title R&D 155

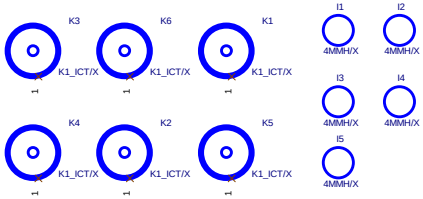


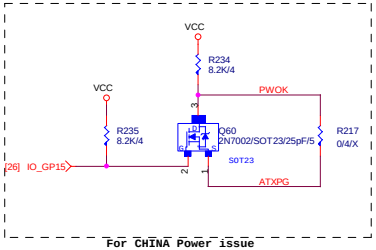
To prevent the 5VSB under loading when boot





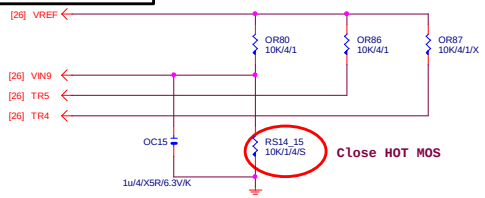




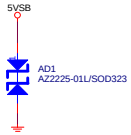


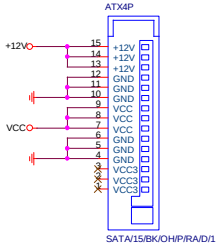
For CHINA Power issue

HOT MOS H/W MONITOR

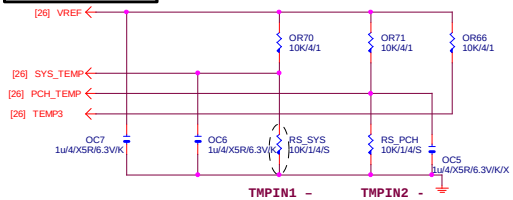


Close HOT MOS





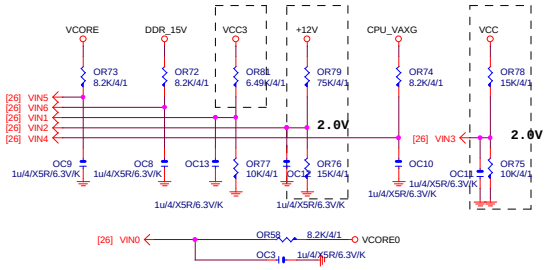
TEMP H/W MONITOR



TMPIN1 – System 2

TMPIN2 - Chipset

VOLTAGE-- H/W MONITOR



The division voltage of VIN2 & VIN3 must be around 2.9V

Gigabyte Technology		
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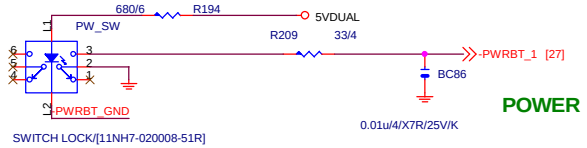
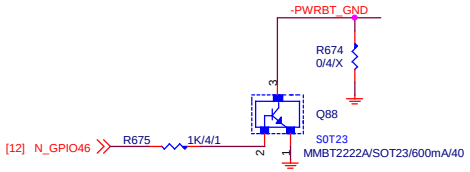
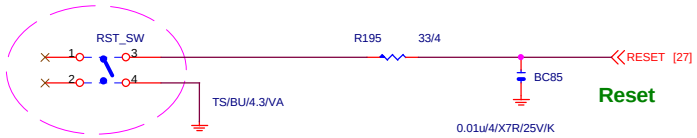
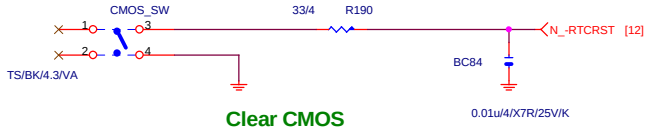


POWER

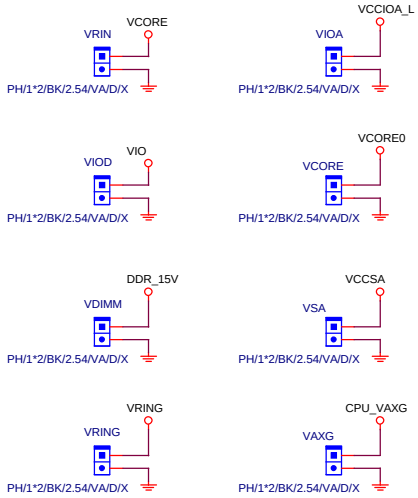




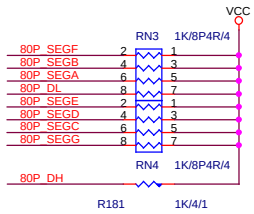
Reset

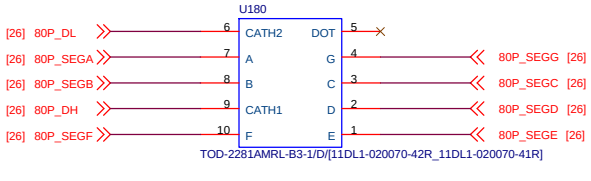


Clear CMOS

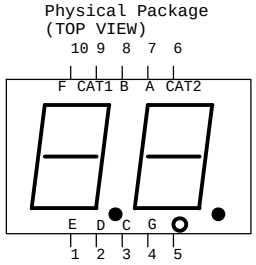


80 PORT





COMMON CATHODE



GIGABYTE™

Title: RST, PWR, CLR_CMOS		
Size: Custom	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
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LAN:AR8151/AR8161

離IC近越好

LA_ ML-->80歐姆:[15/5/5/5/15]

SRCCLK-->50歐姆:[18/4/10/4/18]

AR8161-->N/A (LABC6)

AR8161-->(0)

LA_ ML-->80歐姆:[15/5/5/5/15]

離IC近越好

AR8161-->N/A (LABC12)

AR8161-->N/A (LAR9,LABC14)

AR8161-->N/A (LABC20)

AR8151:LA_AVDDH(LAR20)
AR8161:3VDUAL(LAR19)

SCH BOM OPT:(二擇一使用)
-->(LAC30):M/B有CLK GEN 25M
-->(LAX1,LAC31,LAC32):M/B無CLK GEN 25M

LA_MDI-->100歐姆:[20/4/8/4/20]

注意:USB PORT(目前:暫代6,7PORT)
USB-->90歐姆:[15/4.5/7.5/4.5/15]

LAN POWER

NEW DESIGN ONLY FOR INTERNAL SWR
AR8151:LAR3(0),LAR5(X)
AR8161:LAR5(0),LAR3/LAR4(X)

CLOSE
LA_LX 200mil

AR8161-->N/A (LAR3,LAR4)

AR8151 POWER

AR8161 POWER

AR8161-->(0)
AR8161-->BEAD
AR8151-->N/A

AR8161-->(0)
AR8161-->BEAD
AR8151-->0/6

AR8161-->(0)

AR8161-->(0)

Power domain chart

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

MDI : AR8161-->N/A

CLOSE LAN CHIP

EMI SHORT PAD

PS:視EMI需求

USB X3 POWER

Close to connector

Gigabyte Technology

Title: INTEL LAN - i210

Size: Custom | Document Number: GA-Z97X-Gaming GT | Rev: 1.0

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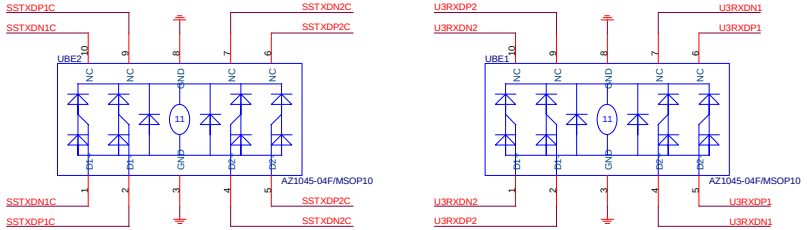
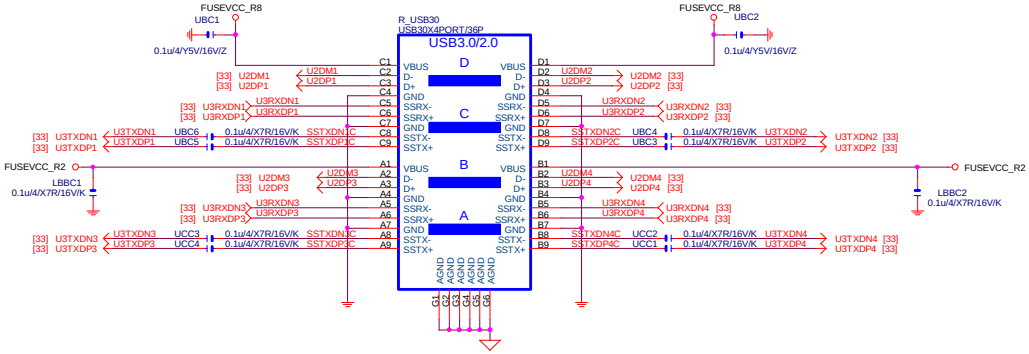
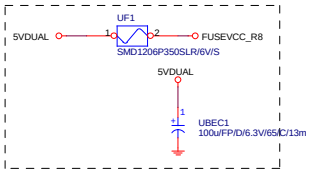
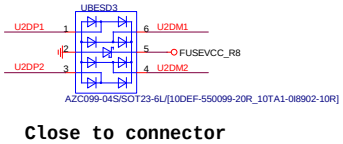
R_USB30 PORT

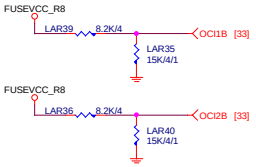


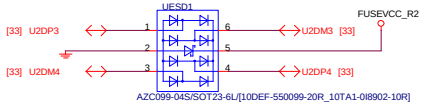




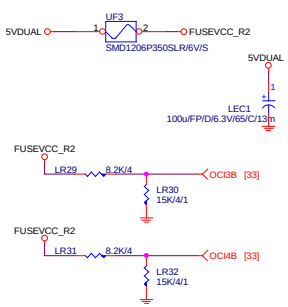


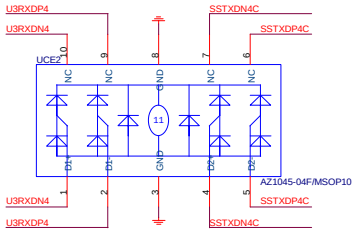
Close to connector

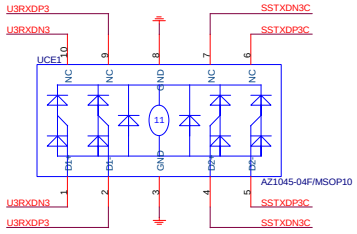




Close to connector

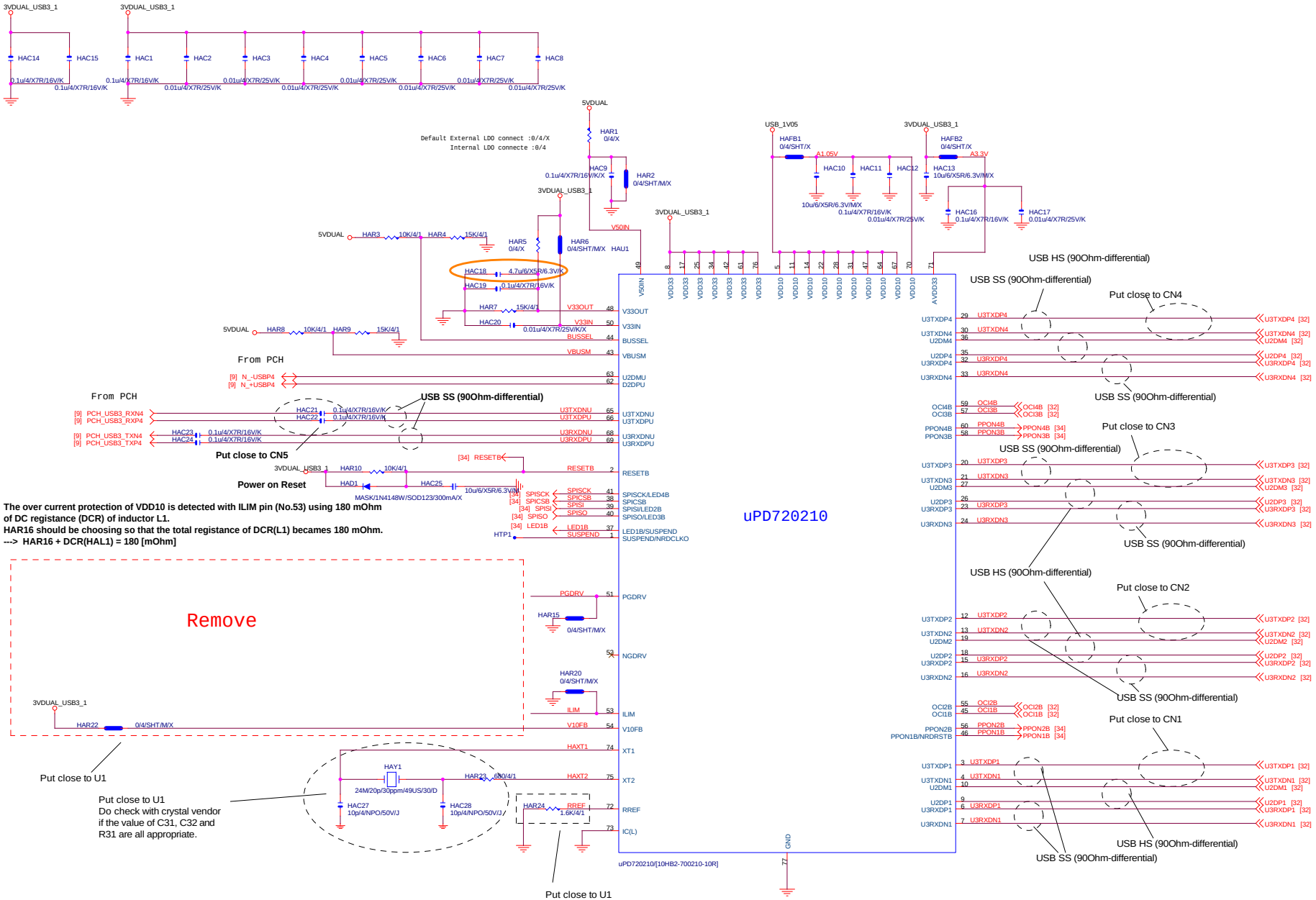




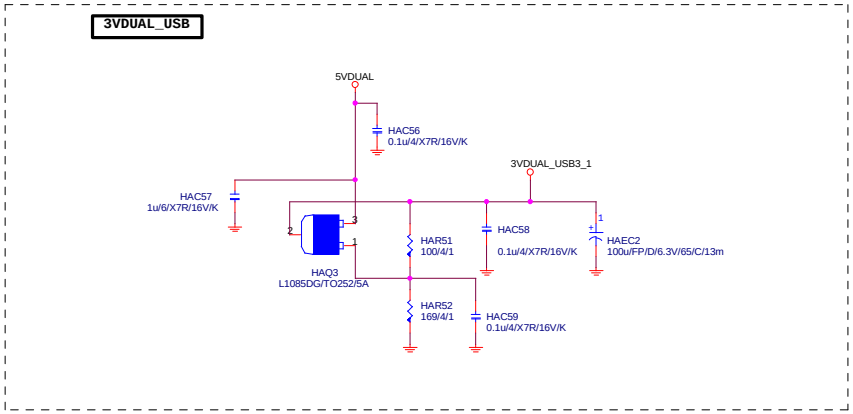


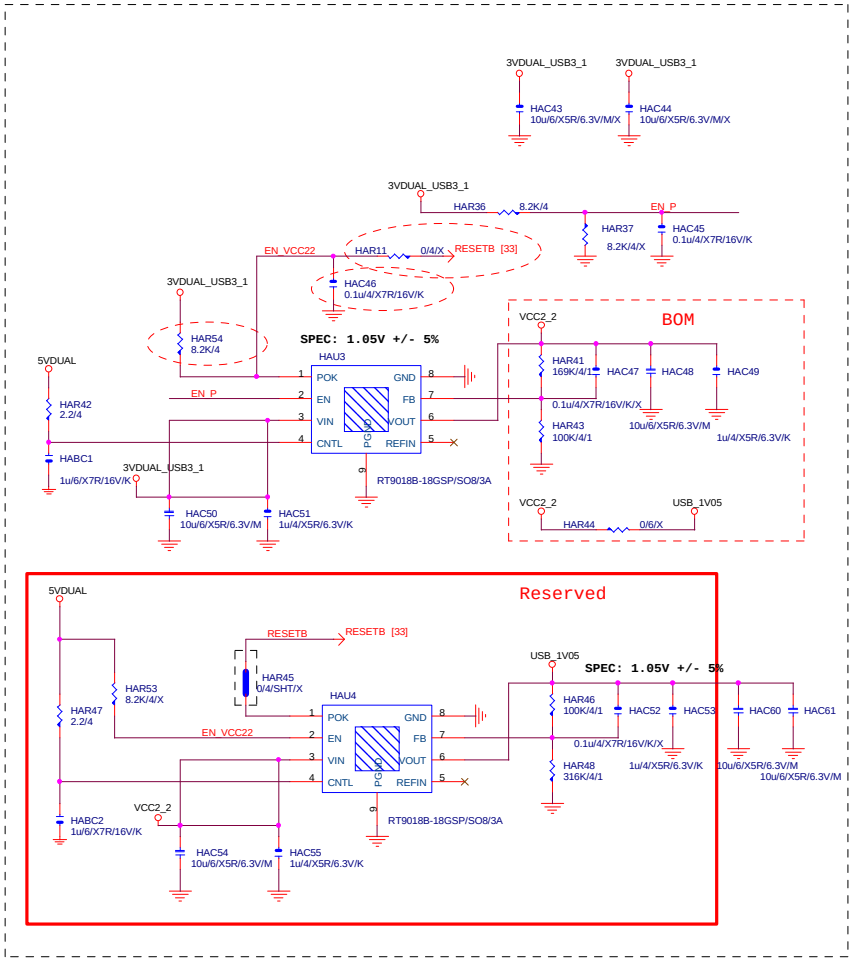
Gigabyte Technology

Title	R_USB30	
Size: C	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
Date: Monday, April 28, 2014	Sheet 32 of 51	

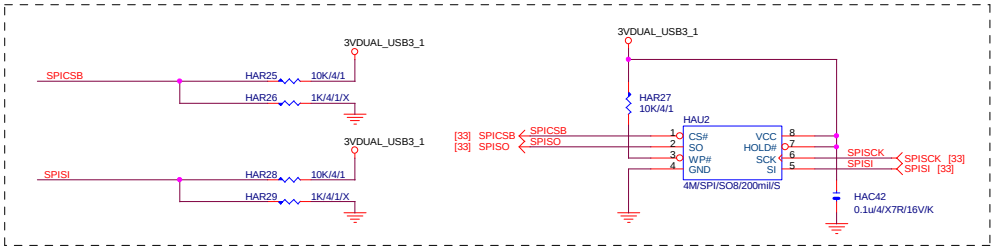


Title	D720210 4port_Hub		
Size C	Document Number GA-Z97X-Gaming F1		Rev 1.0
Date: Monday, April 28, 2014	Sheet 33 of 51		

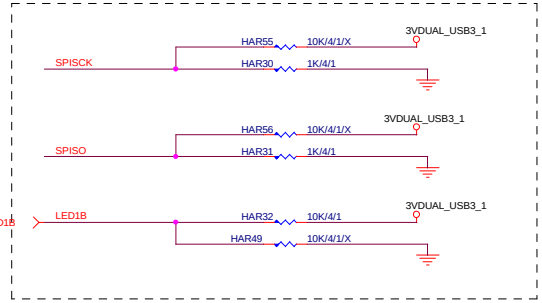




 # External SPI ROM ; SPI ROM attached mode

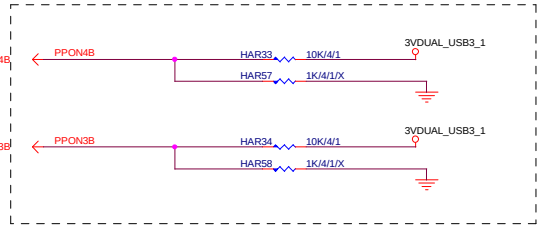


 # Battery Charging

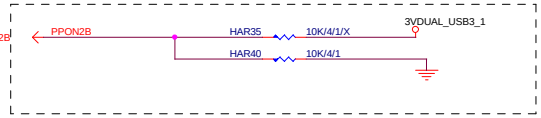


 # Number of Ports ; 4Ports mode

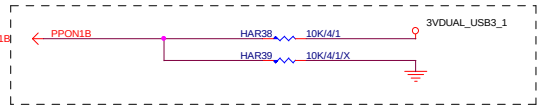
PPON3B / PPON4B : H / H (4 port)
PPON3B / PPON4B : L / L (2 port)



#5 VBUS Power Control ; Individual mode



 # PPON1B Pin Function ; Port1 PPONB mode



GIGABYTE™

Title: D720210 4port_Hub		
Size: Custom	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
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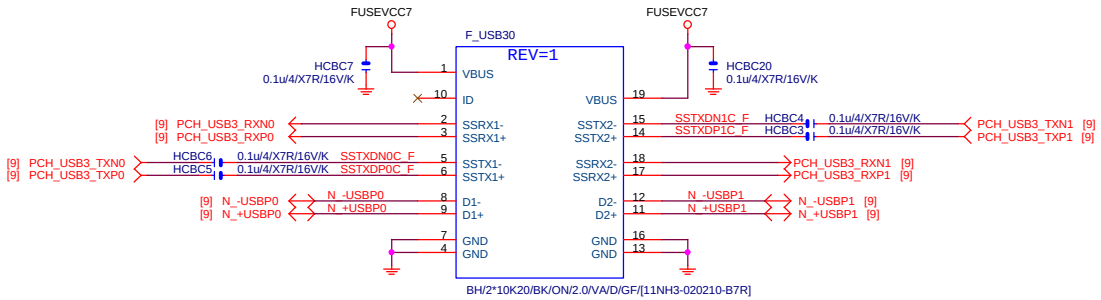

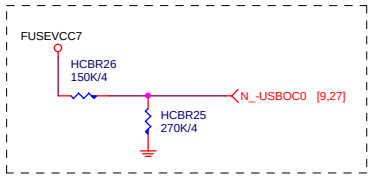

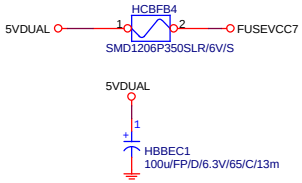

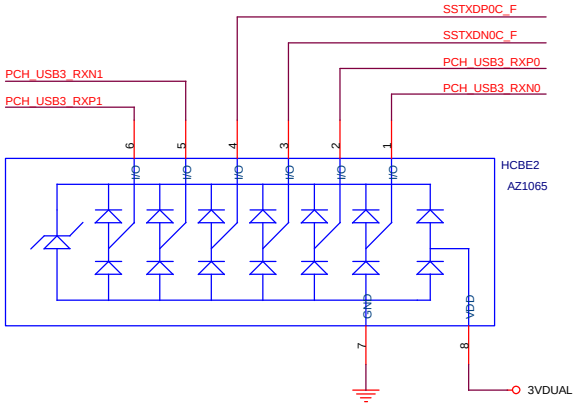

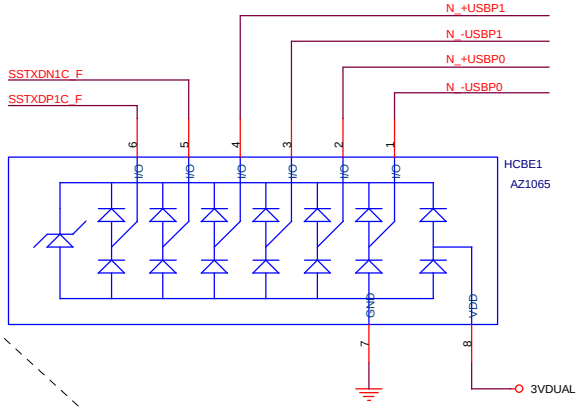

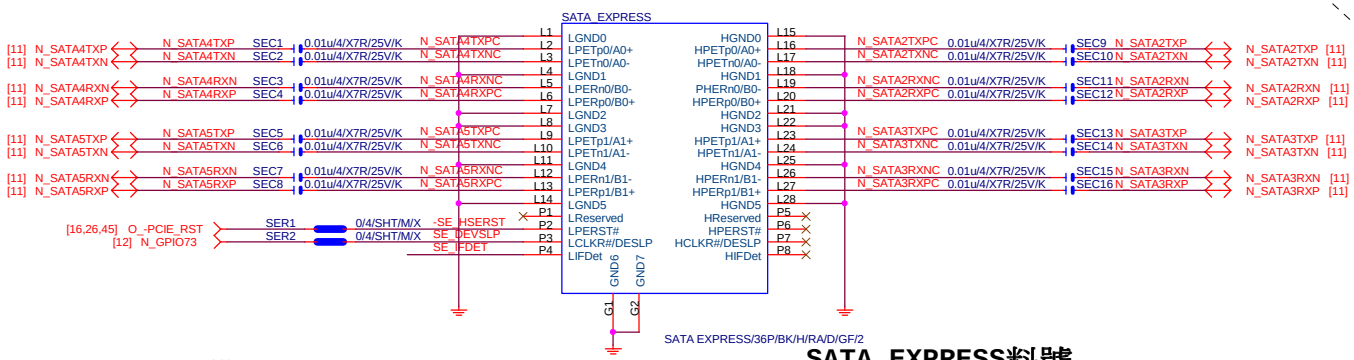

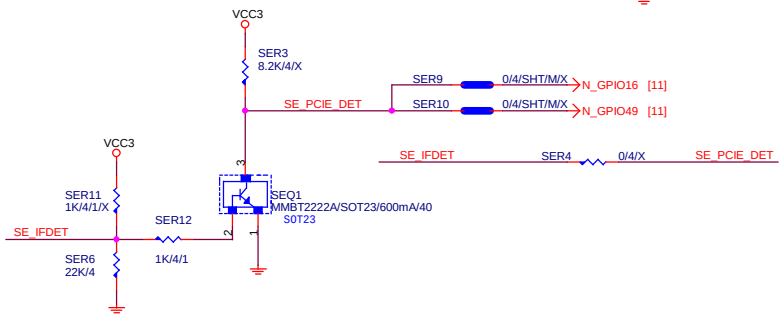

SATA EXPRESS料號

雙層:11NR6-C10236-03R
單層:11NR6-C10118-01R

GIGABYTE™

Title	Front USB3 CONN_B	
Size: Custom	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
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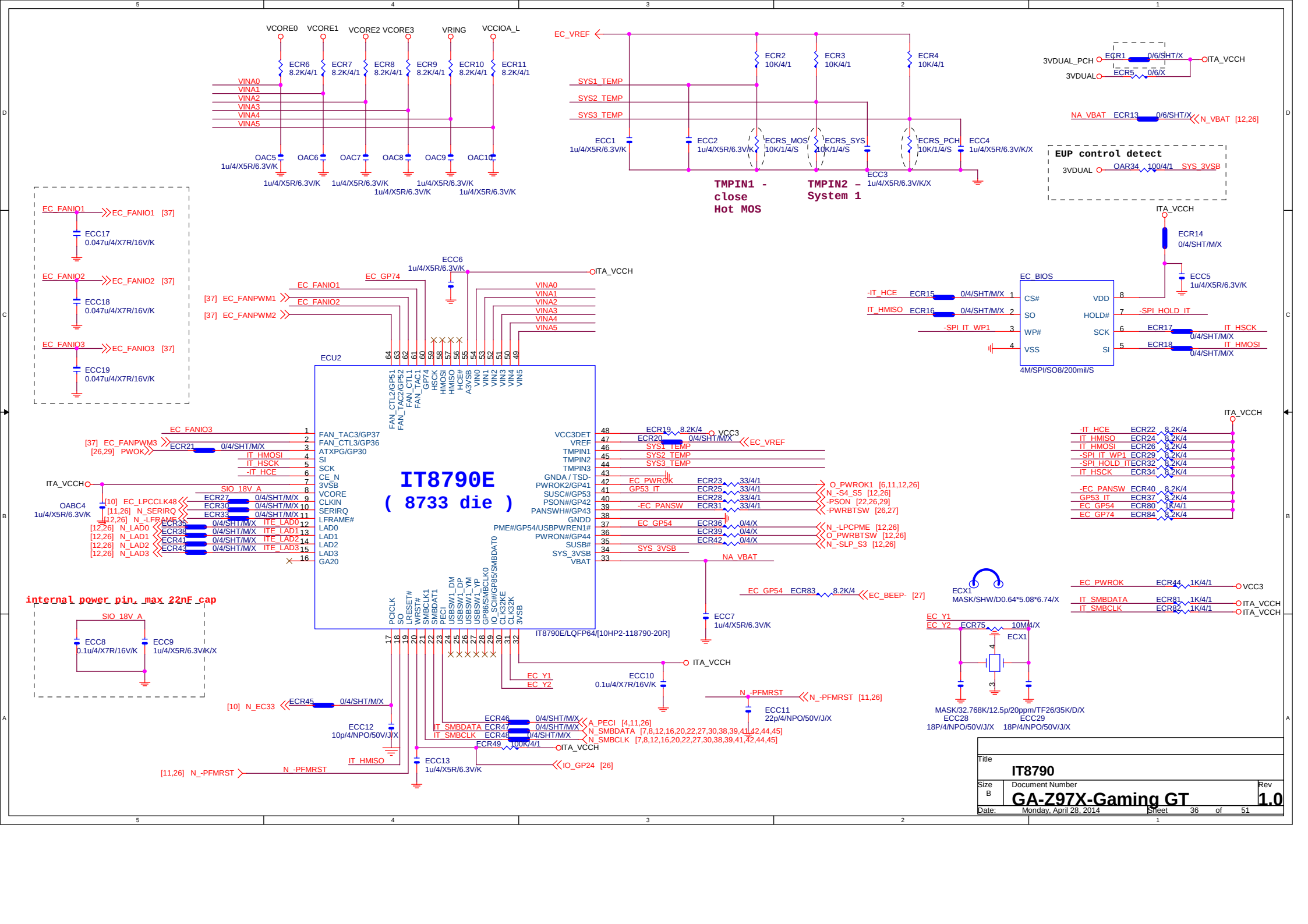
VCORE0 VCORE1 VCORE2 VCORE3 VRING VCCIOA_L
ECR6 8.2K/4/1
ECR7 8.2K/4/1
ECR8 8.2K/4/1
ECR9 8.2K/4/1
ECR10 8.2K/4/1
ECR11 8.2K/4/1
VINA0
VINA1
VINA2
VINA3
VINA4
VINA5
OAC5 1u/4/X5R/6.3V/K
OAC6 1u/4/X5R/6.3V/K
OAC7 1u/4/X5R/6.3V/K
OAC8 1u/4/X5R/6.3V/K
OAC9 1u/4/X5R/6.3V/K
OAC10 1u/4/X5R/6.3V/K
EC_VREF
SYS1_TEMP
SYS2_TEMP
SYS3_TEMP
ECR2 10K/4/1
ECR3 10K/4/1
ECR4 10K/4/1
ECC1 1u/4/X5R/6.3V/K
ECC2 1u/4/X5R/6.3V/K
ECRS_MOS 10K/1/4/S
ECRS_SYS 10K/1/4/S
ECRS_PCH 10K/1/4/S
ECC4 1u/4/X5R/6.3V/K/X
ECC3 1u/4/X5R/6.3V/K/X
TMPIN1 - close Hot MOS
TMPIN2 – System 1
3VDUAL_PCH
3VDUAL
ECR1 0/6/SHT/X
ECR5 0/6/X
ITA_VCCH
NA_VBAT ECR13 0/6/SHT/X N_VBAT [12,26]
EUP control detect
3VDUAL OAR34 100/4/1 SYS_3VSB
EC_FANIO1 EC_FANIO1 [37]
ECC17 0.047u/4/X7R/16V/K
EC_FANIO2 EC_FANIO2 [37]
ECC18 0.047u/4/X7R/16V/K
EC_FANIO3 EC_FANIO3 [37]
ECC19 0.047u/4/X7R/16V/K
ECC6 1u/4/X5R/6.3V/K
EC_GP74
[37] EC_FANPWM1
[37] EC_FANPWM2
ECU2
FAN_CTL2/GP51
FAN_TAC2/GP52
FAN_CTL1
FAN_TAC1
GP74
HSCK
HMOSI
HMISO
HCE#
A3VSB
VIN0
VIN1
VIN2
VIN3
VIN4
VIN5
ITA_VCCH
ECR14 0/4/SHT/M/X
ECC5 1u/4/X5R/6.3V/K
EC_BIOS
-IT_HCE ECR15 0/4/SHT/M/X
IT_HMISO ECR16 0/4/SHT/M/X
-SPI_IT_WP1
CS#
SO
WP#
VSS
VDD
HOLD#
SCK
SI
-SPI_HOLD_IT
ECR17 IT_HSCK 0/4/SHT/M/X
ECR18 IT_HMISO 0/4/SHT/M/X
4M/SPI/SO8/200mil/S
EC_FANIO3
[37] EC_FANPWM3
[26,29] PWOK
ECR21 0/4/SHT/M/X
IT_HMOSI
IT_HSCK
-IT_HCE
FAN_TAC3/GP37
FAN_CTL3/GP36
ATXPG/GP30
SI
SCK
CE_N
3VSB
VCORE
CLKIN
SERIRQ
LFRAME#
LAD0
LAD1
LAD2
LAD3
GA20
IT8790E
(8733 die)
SIO_18V_A
OABC4 1u/4/X5R/6.3V/K
[10] EC_LPCCLK48
[11,26] N_SERIRQ
[12,26] N_-LFRAME
ECR27 0/4/SHT/M/X
ECR30 0/4/SHT/M/X
ECR33 0/4/SHT/M/X
[12,26] N_LAD0
[12,26] N_LAD1
[12,26] N_LAD2
[12,26] N_LAD3
ECR35 0/4/SHT/M/X ITE_LAD0
ECR38 0/4/SHT/M/X ITE_LAD1
ECR41 0/4/SHT/M/X ITE_LAD2
ECR43 0/4/SHT/M/X ITE_LAD3
VCC3DET
VREF
TMPIN1
TMPIN2
TMPIN3
GNDA / TSD-
PWROK2/GP41
SUSC#/GP53
PSON#/GP42
PANSWH#/GP43
GNDD
PME#/GP54/USBPWREN1#
PWRON#/GP44
SUSB#
SYS_3VSB
VBAT
ECR19 8.2K/4
ECR20 0/4/SHT/M/X
VCC3
EC_VREF
SYS1_TEMP
SYS2_TEMP
SYS3_TEMP
EC_PWROK
GP53_IT
-EC_PANSW
EC_GP54
SYS_3VSB
NA_VBAT
ECR23 33/4/1
ECR25 33/4/1
ECR28 33/4/1
ECR31 33/4/1
ECR36 0/4/X
ECR39 0/4/X
ECR42 0/4/X
O_PWROK1 [6,11,12,26]
N_-S4_S5 [12,26]
-PSON [22,26,29]
-PWRBTSW [26,27]
N_-LPCPME [12,26]
O_PWRBTSW [12,26]
N_-SLP_S3 [12,26]
-IT_HCE ECR22 8.2K/4
IT_HMISO ECR24 8.2K/4
IT_HMOSI ECR26 8.2K/4
-SPI_IT_WP1 ECR29 8.2K/4
-SPI_HOLD_IT ECR32 8.2K/4
IT_HSCK ECR34 8.2K/4
-EC_PANSW ECR40 8.2K/4
GP53_IT ECR37 8.2K/4
EC_GP54 ECR80 1K/4/1
EC_GP74 ECR84 8.2K/4
EC_GP54 ECR83 8.2K/4 EC_BEEP- [27]
ECC7 1u/4/X5R/6.3V/K
internal power pin, max 22nF cap
SIO_18V_A
ECC8 0.1u/4/X7R/16V/K
ECC9 1u/4/X5R/6.3V/K/X
PCICLK
SO
LRESET#
WRST#
SMBCLK1
SMBDAT1
PECI
USBSW1_DM
USBSW1_DP
USBSW1_YM
USBSW1_YP
GP86/SMBCLK0
IO_SCI#/GP85/SMBDAT0
CLK32KE
CLK32K
3VSB
IT8790E/LQFP64/[10HP2-118790-20R]
EC_Y1
EC_Y2
ECC10 0.1u/4/X7R/16V/K
ITA_VCCH
[10] N_EC33
ECR45 0/4/SHT/M/X
ECC12 10p/4/NPO/50V/J/X
IT_HMISO
[11,26] N_-PFMRST
N_-PFMRST
ECR46 0/4/SHT/M/X
ECR47 0/4/SHT/M/X
ECR48 0/4/SHT/M/X
IT_SMBDATA
IT_SMBCLK
A_PECI [4,11,26]
N_SMBDATA [7,8,12,16,20,22,27,30,38,39,41,42,44,45]
N_SMBCLK [7,8,12,16,20,22,27,30,38,39,41,42,44,45]
ECR49 100K/4/1
IO_GP24 [26]
ECC13 1u/4/X5R/6.3V/K
N_-PFMRST [11,26]
ECC11 22p/4/NPO/50V/J/X
ECX1 MASK/SHW/D0.64*5.08*6.74/X
EC_Y1
EC_Y2
ECR75 10M/4/X
MASK/32.768K/12.5p/20ppm/TF26/35K/D/X
ECC28 18P/4/NPO/50V/J/X
ECC29 18P/4/NPO/50V/J/X
EC_PWROK ECR44 1K/4/1 VCC3
IT_SMBDATA ECR81 1K/4/1 ITA_VCCH
IT_SMBCLK ECR82 1K/4/1 ITA_VCCH
Title
IT8790
Size B
Document Number
GA-Z97X-Gaming GT
Rev 1.0
Date: Monday, April 28, 2014
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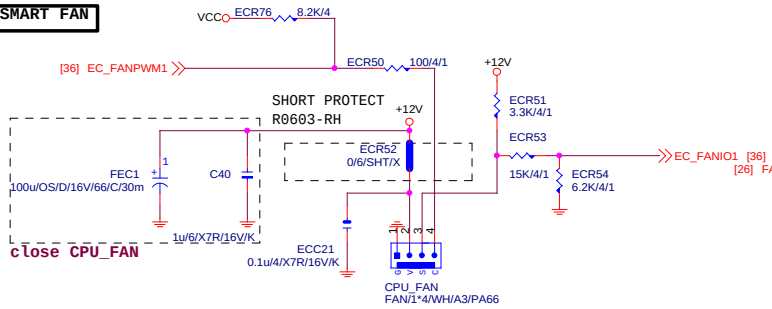
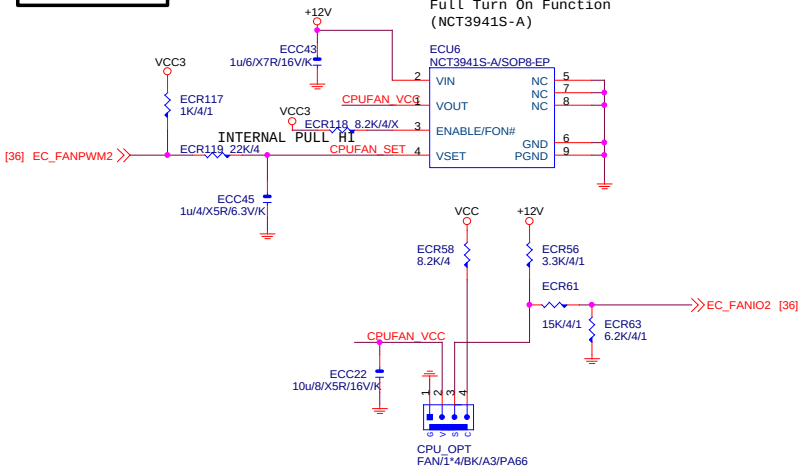
CPU SMART FAN



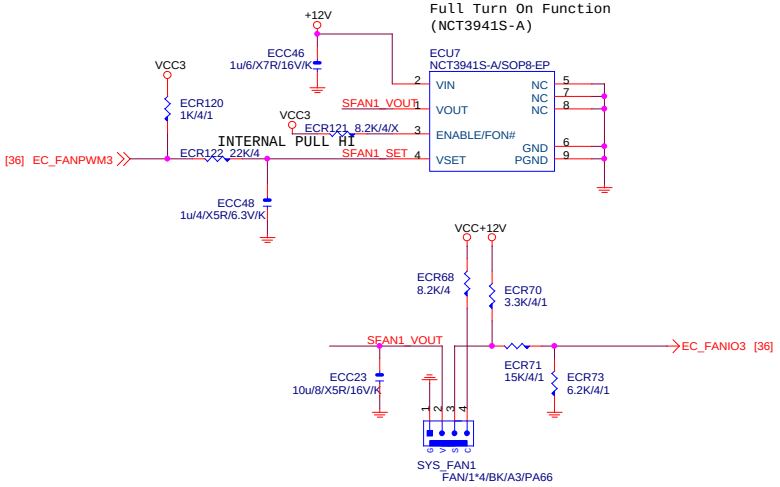
CPUOPT FAN

Enable Function (NCT3941S)
Full Turn On Function
(NCT3941S-A)



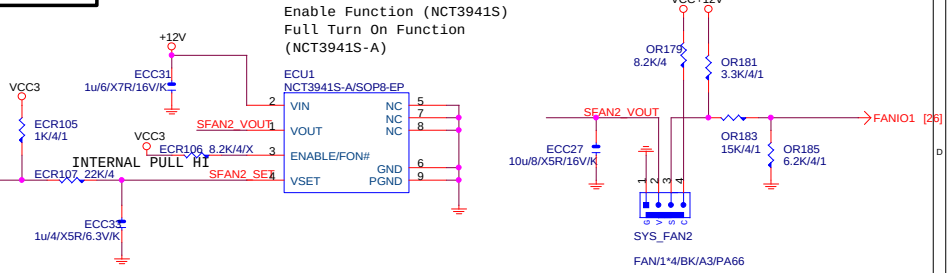
SYS FAN1

Enable Function (NCT3941S)
Full Turn On Function
(NCT3941S-A)



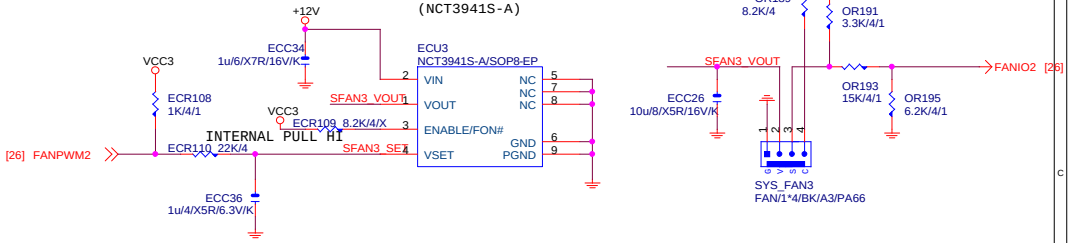
SYS FAN2

Enable Function (NCT3941S)
Full Turn On Function
(NCT3941S-A)



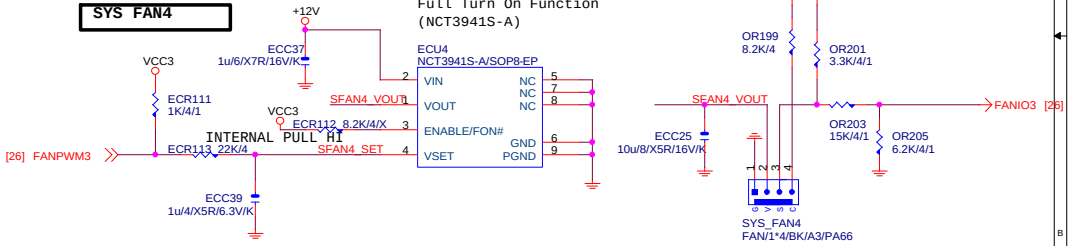
SYS FAN3

Enable Function (NCT3941S)
Full Turn On Function
(NCT3941S-A)



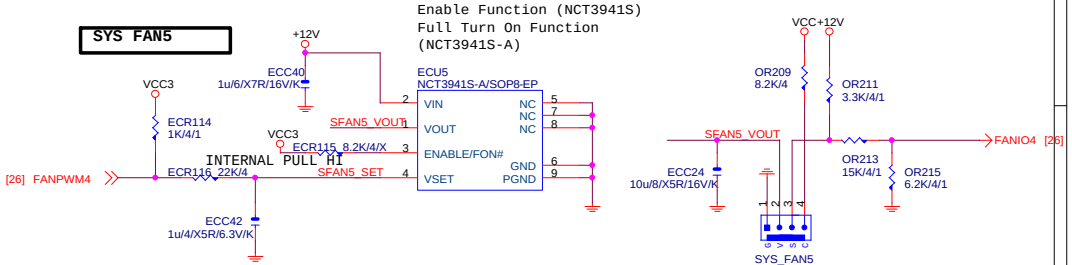
SYS FAN4

Enable Function (NCT3941S)
Full Turn On Function
(NCT3941S-A)



SYS FAN5

Enable Function (NCT3941S)
Full Turn On Function
(NCT3941S-A)



Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
Size: Custom	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
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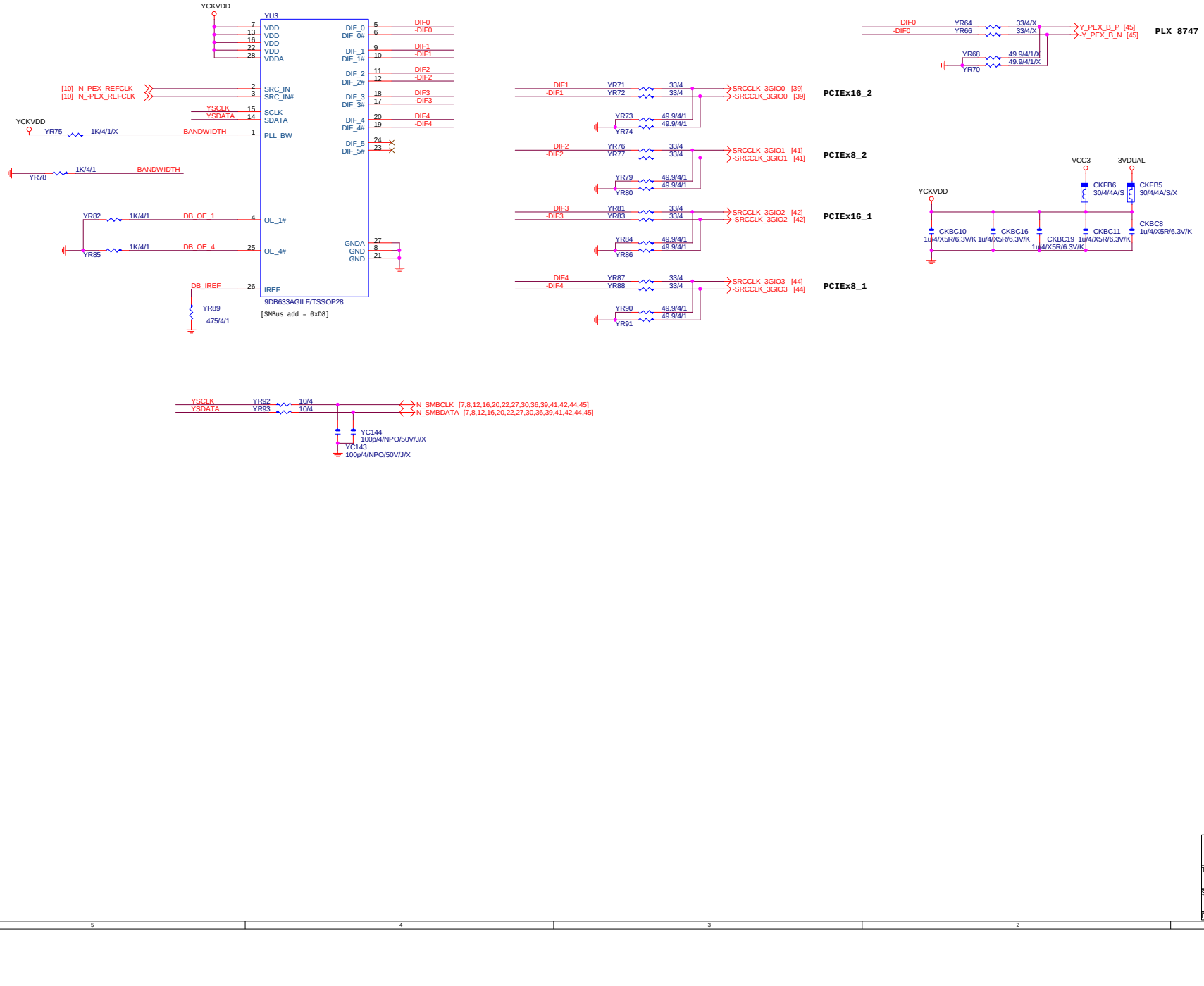

GIGABYTE™

Title: REFCLK		
Size: Custom	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
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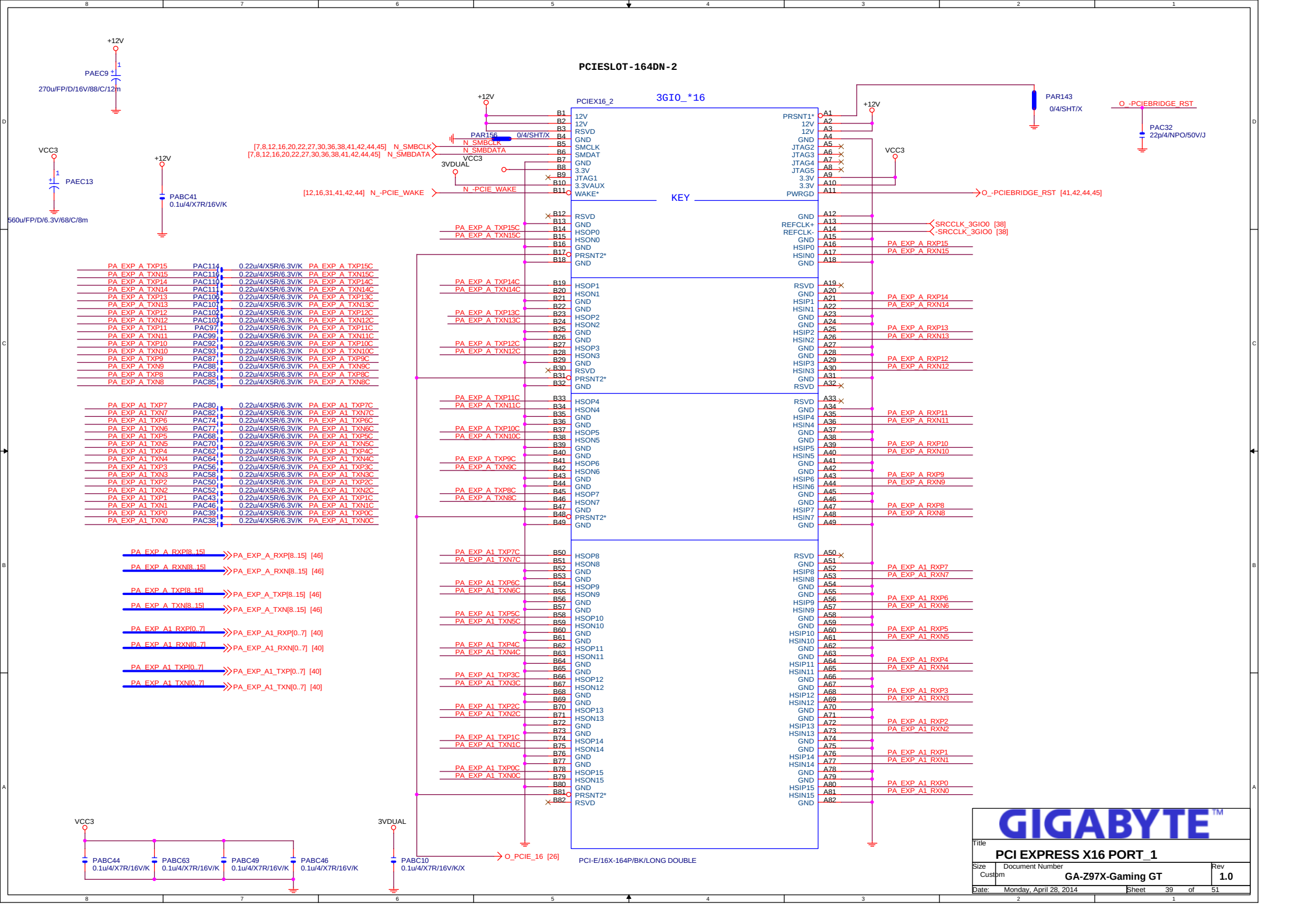
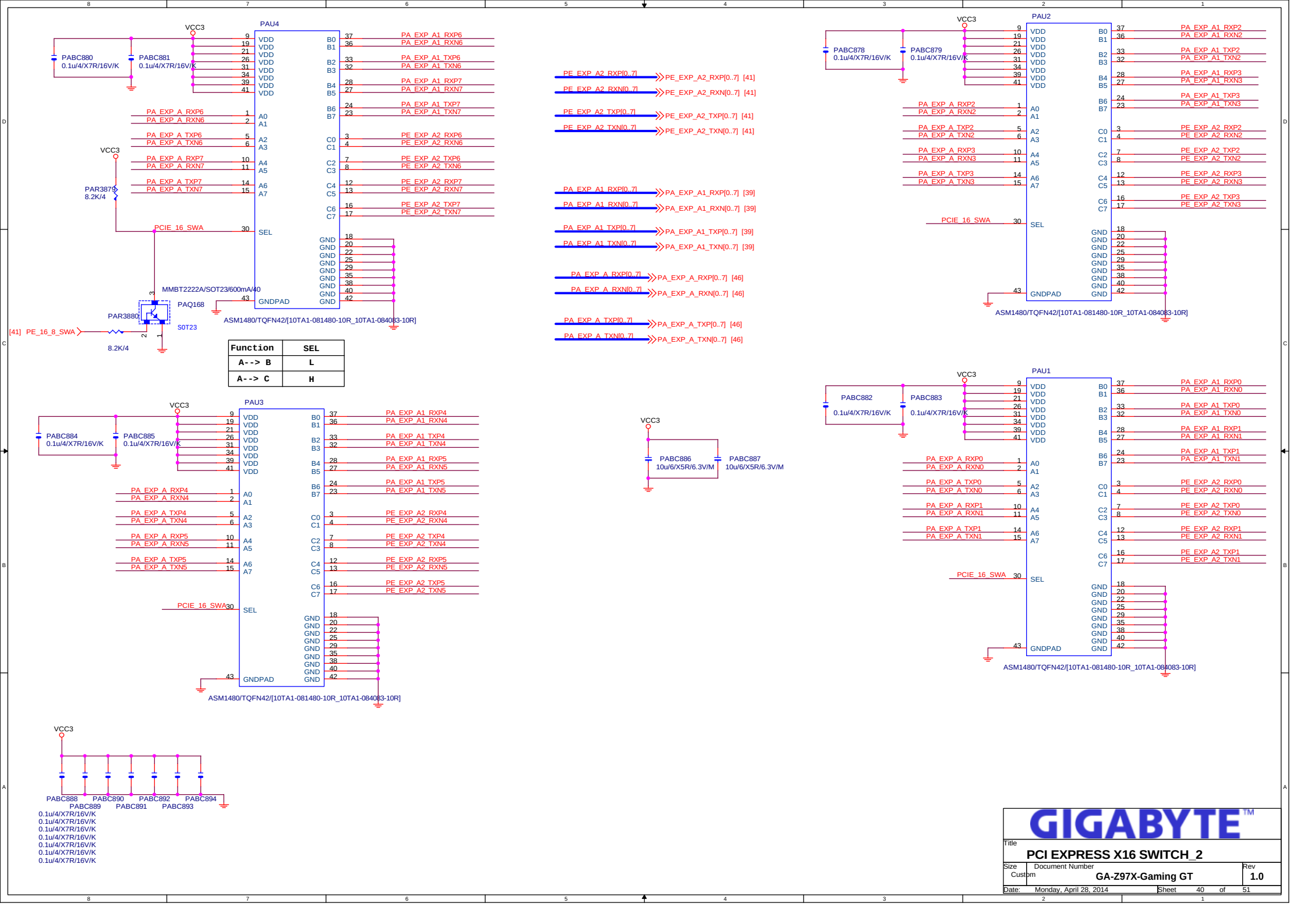
PCIESLOT-164DN-2



Title	PCI EXPRESS X16 PORT_1	
Size: Custom	Document Number: GA-Z97X-Gaming GT	Rev: 1.0
Date: Monday, April 28, 2014	Sheet 39 of 51	


PAU4
VCC3
PABC880 0.1u/4/X7R/16V/K
PABC881 0.1u/4/X7R/16V/K
PAR3879 8.2K/4
PAR3880
PAQ168
MMBT2222A/SOT23/600mA/40
S0T23
[41] PE_16_8_SWA
8.2K/4
PCIE_16_SWA
SEL
GNDPAD
ASM1480/TQFN42/[10TA1-081480-10R_10TA1-084083-10R]
PA_EXP_A_RXP6
PA_EXP_A_RXN6
PA_EXP_A_TXP6
PA_EXP_A_TXN6
PA_EXP_A_RXP7
PA_EXP_A_RXN7
PA_EXP_A_TXP7
PA_EXP_A_TXN7
PA_EXP_A1_RXP6
PA_EXP_A1_RXN6
PA_EXP_A1_TXP6
PA_EXP_A1_TXN6
PA_EXP_A1_RXP7
PA_EXP_A1_RXN7
PA_EXP_A1_TXP7
PA_EXP_A1_TXN7
PE_EXP_A2_RXP6
PE_EXP_A2_RXN6
PE_EXP_A2_TXP6
PE_EXP_A2_TXN6
PE_EXP_A2_RXP7
PE_EXP_A2_RXN7
PE_EXP_A2_TXP7
PE_EXP_A2_TXN7
Function | SEL
A--> B | L
A--> C | H
PAU3
PABC884 0.1u/4/X7R/16V/K
PABC885 0.1u/4/X7R/16V/K
PA_EXP_A_RXP4
PA_EXP_A_RXN4
PA_EXP_A_TXP4
PA_EXP_A_TXN4
PA_EXP_A_RXP5
PA_EXP_A_RXN5
PA_EXP_A_TXP5
PA_EXP_A_TXN5
PA_EXP_A1_RXP4
PA_EXP_A1_RXN4
PA_EXP_A1_TXP4
PA_EXP_A1_TXN4
PA_EXP_A1_RXP5
PA_EXP_A1_RXN5
PA_EXP_A1_TXP5
PA_EXP_A1_TXN5
PE_EXP_A2_RXP4
PE_EXP_A2_RXN4
PE_EXP_A2_TXP4
PE_EXP_A2_TXN4
PE_EXP_A2_RXP5
PE_EXP_A2_RXN5
PE_EXP_A2_TXP5
PE_EXP_A2_TXN5
PABC888 PABC889 PABC890 PABC891 PABC892 PABC893 PABC894
0.1u/4/X7R/16V/K
PE_EXP_A2_RXP[0..7]
PE_EXP_A2_RXN[0..7]
PE_EXP_A2_TXP[0..7]
PE_EXP_A2_TXN[0..7]
PA_EXP_A1_RXP[0..7]
PA_EXP_A1_RXN[0..7]
PA_EXP_A1_TXP[0..7]
PA_EXP_A1_TXN[0..7]
PA_EXP_A_RXP[0..7]
PA_EXP_A_RXN[0..7]
PA_EXP_A_TXP[0..7]
PA_EXP_A_TXN[0..7]
PABC886 10u/6/X5R/6.3V/M
PABC887 10u/6/X5R/6.3V/M
PAU2
PABC878 0.1u/4/X7R/16V/K
PABC879 0.1u/4/X7R/16V/K
PA_EXP_A_RXP2
PA_EXP_A_RXN2
PA_EXP_A_TXP2
PA_EXP_A_TXN2
PA_EXP_A_RXP3
PA_EXP_A_RXN3
PA_EXP_A_TXP3
PA_EXP_A_TXN3
PA_EXP_A1_RXP2
PA_EXP_A1_RXN2
PA_EXP_A1_TXP2
PA_EXP_A1_TXN2
PA_EXP_A1_RXP3
PA_EXP_A1_RXN3
PA_EXP_A1_TXP3
PA_EXP_A1_TXN3
PE_EXP_A2_RXP2
PE_EXP_A2_RXN2
PE_EXP_A2_TXP2
PE_EXP_A2_TXN2
PE_EXP_A2_RXP3
PE_EXP_A2_RXN3
PE_EXP_A2_TXP3
PE_EXP_A2_TXN3
PAU1
PABC882 0.1u/4/X7R/16V/K
PABC883 0.1u/4/X7R/16V/K
PA_EXP_A_RXP0
PA_EXP_A_RXN0
PA_EXP_A_TXP0
PA_EXP_A_TXN0
PA_EXP_A_RXP1
PA_EXP_A_RXN1
PA_EXP_A_TXP1
PA_EXP_A_TXN1
PA_EXP_A1_RXP0
PA_EXP_A1_RXN0
PA_EXP_A1_TXP0
PA_EXP_A1_TXN0
PA_EXP_A1_RXP1
PA_EXP_A1_RXN1
PA_EXP_A1_TXP1
PA_EXP_A1_TXN1
PE_EXP_A2_RXP0
PE_EXP_A2_RXN0
PE_EXP_A2_TXP0
PE_EXP_A2_TXN0
PE_EXP_A2_RXP1
PE_EXP_A2_RXN1
PE_EXP_A2_TXP1
PE_EXP_A2_TXN1
GIGABYTE™
Title
PCI EXPRESS X16 SWITCH_2
Size Custom
Document Number
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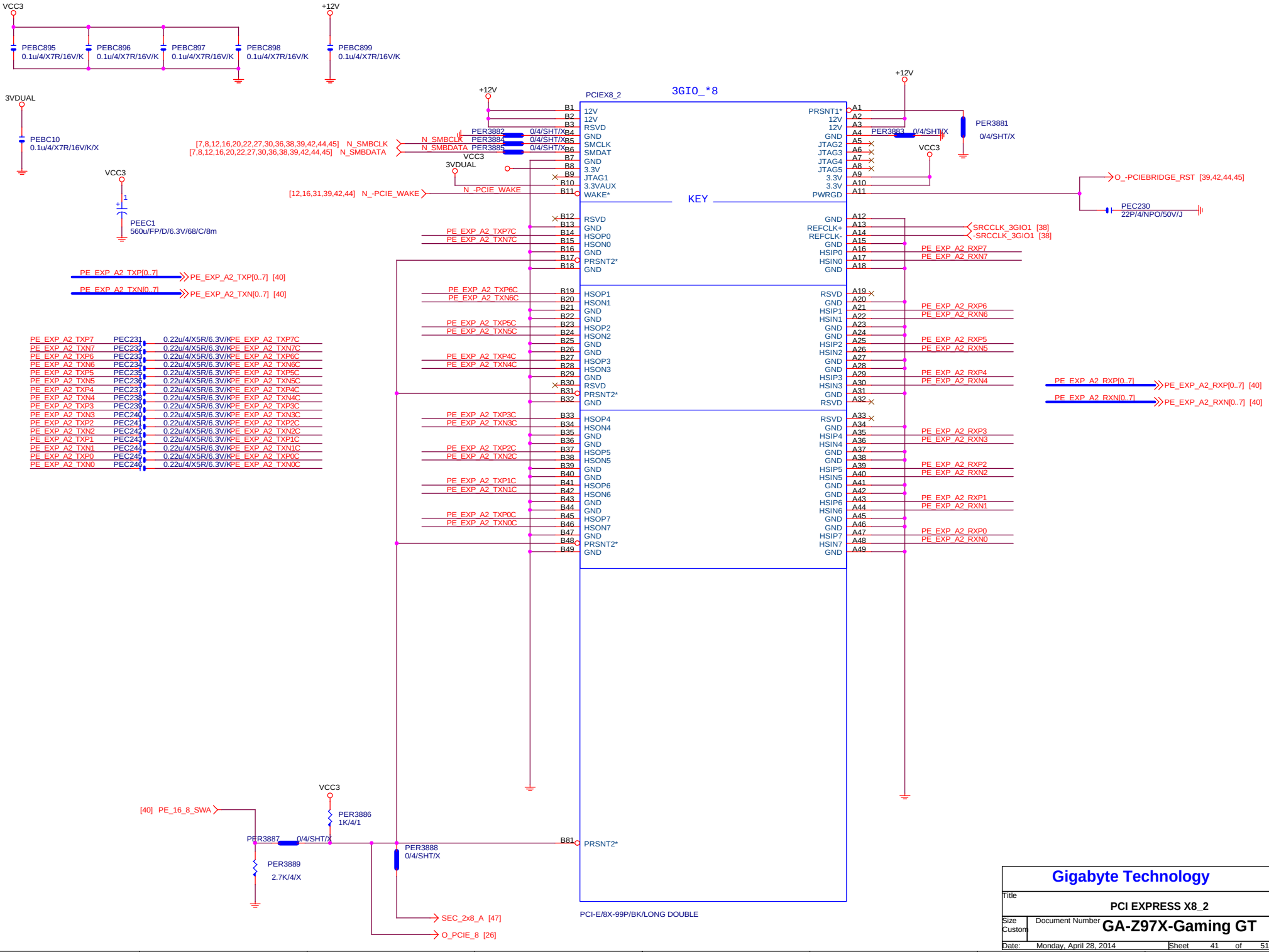
VCC3
PEBC895 0.1u/4/X7R/16V/K
PEBC896 0.1u/4/X7R/16V/K
PEBC897 0.1u/4/X7R/16V/K
PEBC898 0.1u/4/X7R/16V/K
+12V
PEBC899 0.1u/4/X7R/16V/K
3VDUAL
PEBC10 0.1u/4/X7R/16V/K/X
PEEC1 560u/FP/D/6.3V/68/C/8m
PCIEX8_2
3GIO_*8
KEY
PCI-E/8X-99P/BK/LONG DOUBLE
PER3881 0/4/SHT/X
PER3882 0/4/SHT/X
PER3883 0/4/SHT/X
PER3884 0/4/SHT/X
PER3885 0/4/SHT/X
PER3886 1K/4/1
PER3887 0/4/SHT/X
PER3888 0/4/SHT/X
PER3889 2.7K/4/X
PEC230 22P/4/NPO/50V/J
N_SMBCLK
N_SMBDATA
N_-PCIE_WAKE
O_-PCIEBRIDGE_RST [39,42,44,45]
SRCCLK_3GIO1 [38]
-SRCCLK_3GIO1 [38]
PE_EXP_A2_TXP[0..7] PE_EXP_A2_TXP[0..7] [40]
PE_EXP_A2_TXN[0..7] PE_EXP_A2_TXN[0..7] [40]
PE_EXP_A2_RXP[0..7] PE_EXP_A2_RXP[0..7] [40]
PE_EXP_A2_RXN[0..7] PE_EXP_A2_RXN[0..7] [40]
[40] PE_16_8_SWA
SEC_2x8_A [47]
O_PCIE_8 [26]
Gigabyte Technology
PCI EXPRESS X8_2
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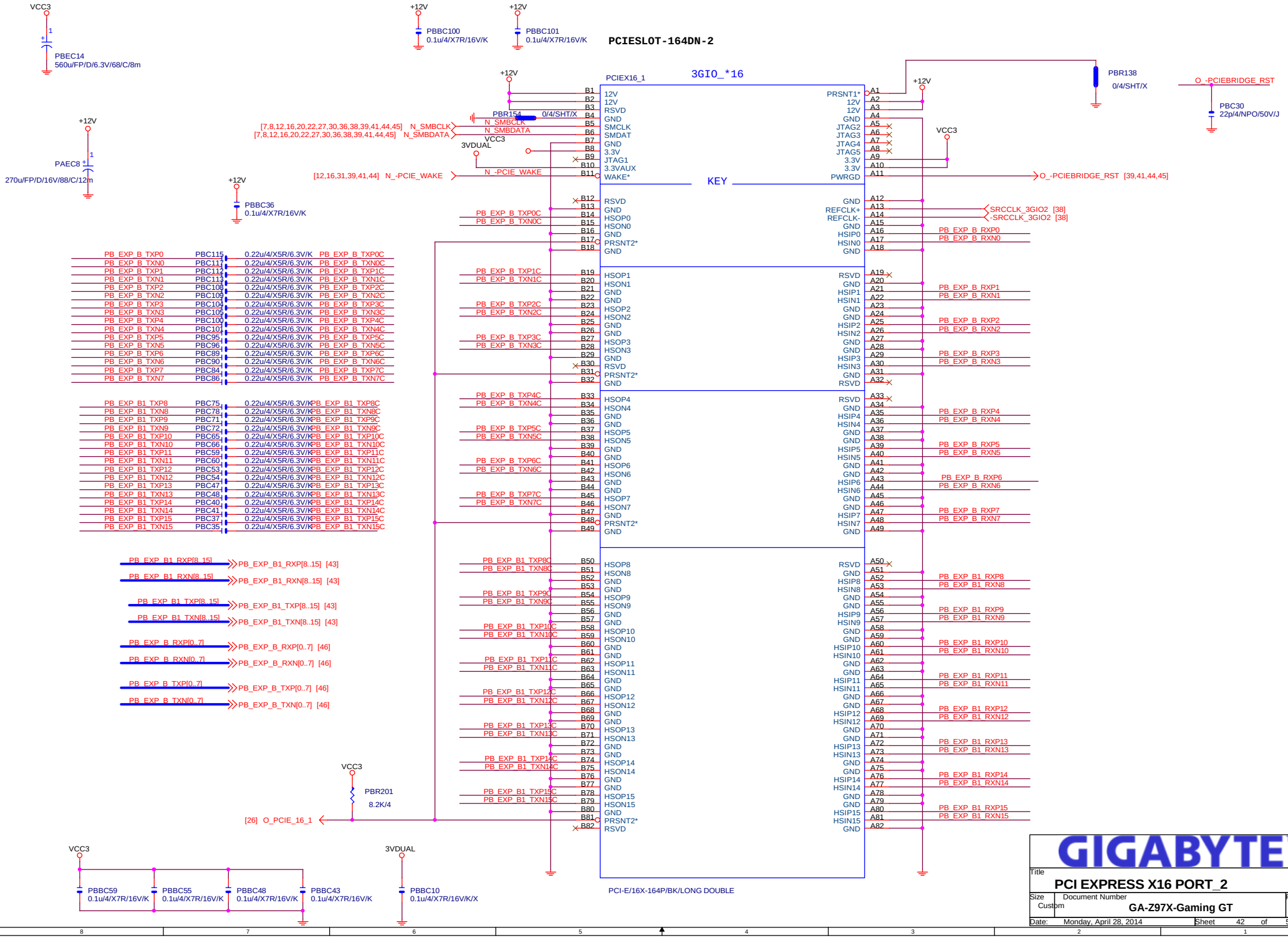
PCIESLOT-164DN-2
PCIEX16_1
3GIO_*16
KEY
PCI-E/16X-164P/BK/LONG DOUBLE
VCC3
+12V
3VDUAL
PBEC14
560u/FP/D/6.3V/68/C/8m
PAEC8
270u/FP/D/16V/88/C/12m
PBBC100
0.1u/4/X7R/16V/K
PBBC101
0.1u/4/X7R/16V/K
PBBC36
0.1u/4/X7R/16V/K
PBR154
0/4/SHT/X
PBR138
0/4/SHT/X
PBR201
8.2K/4
PBC30
22p/4/NPO/50V/J
PBBC59
0.1u/4/X7R/16V/K
PBBC55
0.1u/4/X7R/16V/K
PBBC48
0.1u/4/X7R/16V/K
PBBC43
0.1u/4/X7R/16V/K
PBBC10
0.1u/4/X7R/16V/K/X
N_SMBCLK
N_SMBDATA
N_-PCIE_WAKE
O_-PCIEBRIDGE_RST
SRCCLK_3GIO2
-SRCCLK_3GIO2
GIGABYTE
Title
PCI EXPRESS X16 PORT_2
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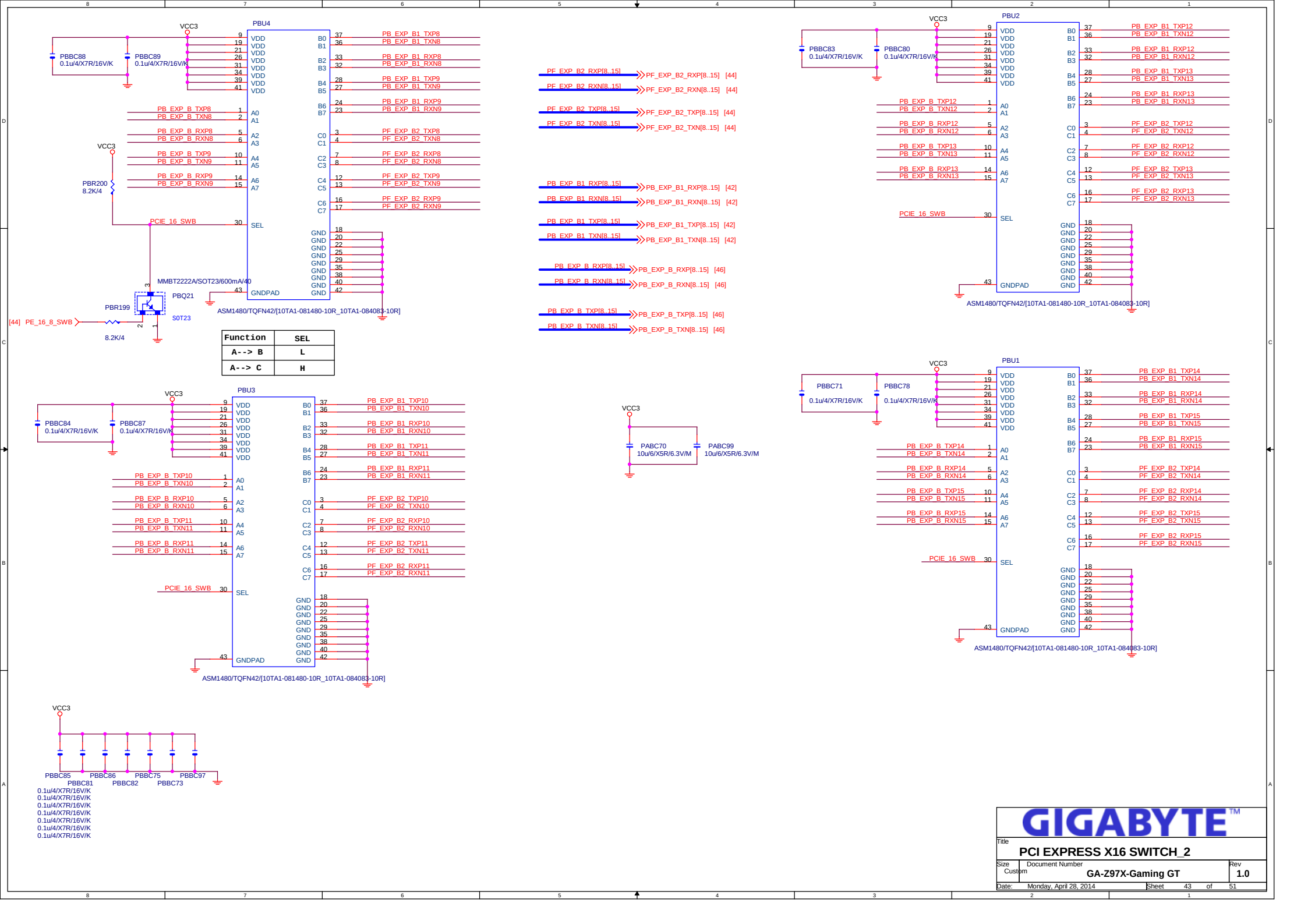
PBU4
VCC3
PBBC88 0.1u/4/X7R/16V/K
PBBC89 0.1u/4/X7R/16V/K
PB_EXP_B_TXP8
PB_EXP_B_TXN8
PB_EXP_B_RXP8
PB_EXP_B_RXN8
PB_EXP_B_TXP9
PB_EXP_B_TXN9
PB_EXP_B_RXP9
PB_EXP_B_RXN9
PBR200 8.2K/4
PCIE_16_SWB
MMBT2222A/SOT23/600mA/40
PBQ21
S0T23
PBR199
[44] PE_16_8_SWB
8.2K/4
PB_EXP_B1_TXP8
PB_EXP_B1_TXN8
PB_EXP_B1_RXP8
PB_EXP_B1_RXN8
PB_EXP_B1_TXP9
PB_EXP_B1_TXN9
PB_EXP_B1_RXP9
PB_EXP_B1_RXN9
PF_EXP_B2_TXP8
PF_EXP_B2_TXN8
PF_EXP_B2_RXP8
PF_EXP_B2_RXN8
PF_EXP_B2_TXP9
PF_EXP_B2_TXN9
PF_EXP_B2_RXP9
PF_EXP_B2_RXN9
GNDPAD
ASM1480/TQFN42/[10TA1-081480-10R_10TA1-084083-10R]
Function
SEL
A--> B
L
A--> C
H
PBU3
PBBC84 0.1u/4/X7R/16V/K
PBBC87 0.1u/4/X7R/16V/K
PB_EXP_B_TXP10
PB_EXP_B_TXN10
PB_EXP_B_RXP10
PB_EXP_B_RXN10
PB_EXP_B_TXP11
PB_EXP_B_TXN11
PB_EXP_B_RXP11
PB_EXP_B_RXN11
PB_EXP_B1_TXP10
PB_EXP_B1_TXN10
PB_EXP_B1_RXP10
PB_EXP_B1_RXN10
PB_EXP_B1_TXP11
PB_EXP_B1_TXN11
PB_EXP_B1_RXP11
PB_EXP_B1_RXN11
PF_EXP_B2_TXP10
PF_EXP_B2_TXN10
PF_EXP_B2_RXP10
PF_EXP_B2_RXN10
PF_EXP_B2_TXP11
PF_EXP_B2_TXN11
PF_EXP_B2_RXP11
PF_EXP_B2_RXN11
PBBC85 PBBC86 PBBC75 PBBC97
PBBC81 PBBC82 PBBC73
0.1u/4/X7R/16V/K
PF_EXP_B2_RXP[8..15] PF_EXP_B2_RXP[8..15] [44]
PF_EXP_B2_RXN[8..15] PF_EXP_B2_RXN[8..15] [44]
PF_EXP_B2_TXP[8..15] PF_EXP_B2_TXP[8..15] [44]
PF_EXP_B2_TXN[8..15] PF_EXP_B2_TXN[8..15] [44]
PB_EXP_B1_RXP[8..15] PB_EXP_B1_RXP[8..15] [42]
PB_EXP_B1_RXN[8..15] PB_EXP_B1_RXN[8..15] [42]
PB_EXP_B1_TXP[8..15] PB_EXP_B1_TXP[8..15] [42]
PB_EXP_B1_TXN[8..15] PB_EXP_B1_TXN[8..15] [42]
PB_EXP_B_RXP[8..15] PB_EXP_B_RXP[8..15] [46]
PB_EXP_B_RXN[8..15] PB_EXP_B_RXN[8..15] [46]
PB_EXP_B_TXP[8..15] PB_EXP_B_TXP[8..15] [46]
PB_EXP_B_TXN[8..15] PB_EXP_B_TXN[8..15] [46]
VCC3
PABC70 10u/6/X5R/6.3V/M
PABC99 10u/6/X5R/6.3V/M
PBU2
PBBC83 0.1u/4/X7R/16V/K
PBBC80 0.1u/4/X7R/16V/K
PB_EXP_B_TXP12
PB_EXP_B_TXN12
PB_EXP_B_RXP12
PB_EXP_B_RXN12
PB_EXP_B_TXP13
PB_EXP_B_TXN13
PB_EXP_B_RXP13
PB_EXP_B_RXN13
PCIE_16_SWB
PB_EXP_B1_TXP12
PB_EXP_B1_TXN12
PB_EXP_B1_RXP12
PB_EXP_B1_RXN12
PB_EXP_B1_TXP13
PB_EXP_B1_TXN13
PB_EXP_B1_RXP13
PB_EXP_B1_RXN13
PF_EXP_B2_TXP12
PF_EXP_B2_TXN12
PF_EXP_B2_RXP12
PF_EXP_B2_RXN12
PF_EXP_B2_TXP13
PF_EXP_B2_TXN13
PF_EXP_B2_RXP13
PF_EXP_B2_RXN13
GNDPAD
ASM1480/TQFN42/[10TA1-081480-10R_10TA1-084083-10R]
PBU1
PBBC71 0.1u/4/X7R/16V/K
PBBC78 0.1u/4/X7R/16V/K
PB_EXP_B_TXP14
PB_EXP_B_TXN14
PB_EXP_B_RXP14
PB_EXP_B_RXN14
PB_EXP_B_TXP15
PB_EXP_B_TXN15
PB_EXP_B_RXP15
PB_EXP_B_RXN15
PCIE_16_SWB
PB_EXP_B1_TXP14
PB_EXP_B1_TXN14
PB_EXP_B1_RXP14
PB_EXP_B1_RXN14
PB_EXP_B1_TXP15
PB_EXP_B1_TXN15
PB_EXP_B1_RXP15
PB_EXP_B1_RXN15
PF_EXP_B2_TXP14
PF_EXP_B2_TXN14
PF_EXP_B2_RXP14
PF_EXP_B2_RXN14
PF_EXP_B2_TXP15
PF_EXP_B2_TXN15
PF_EXP_B2_RXP15
PF_EXP_B2_RXN15
GNDPAD
ASM1480/TQFN42/[10TA1-081480-10R_10TA1-084083-10R]
GIGABYTE™
Title
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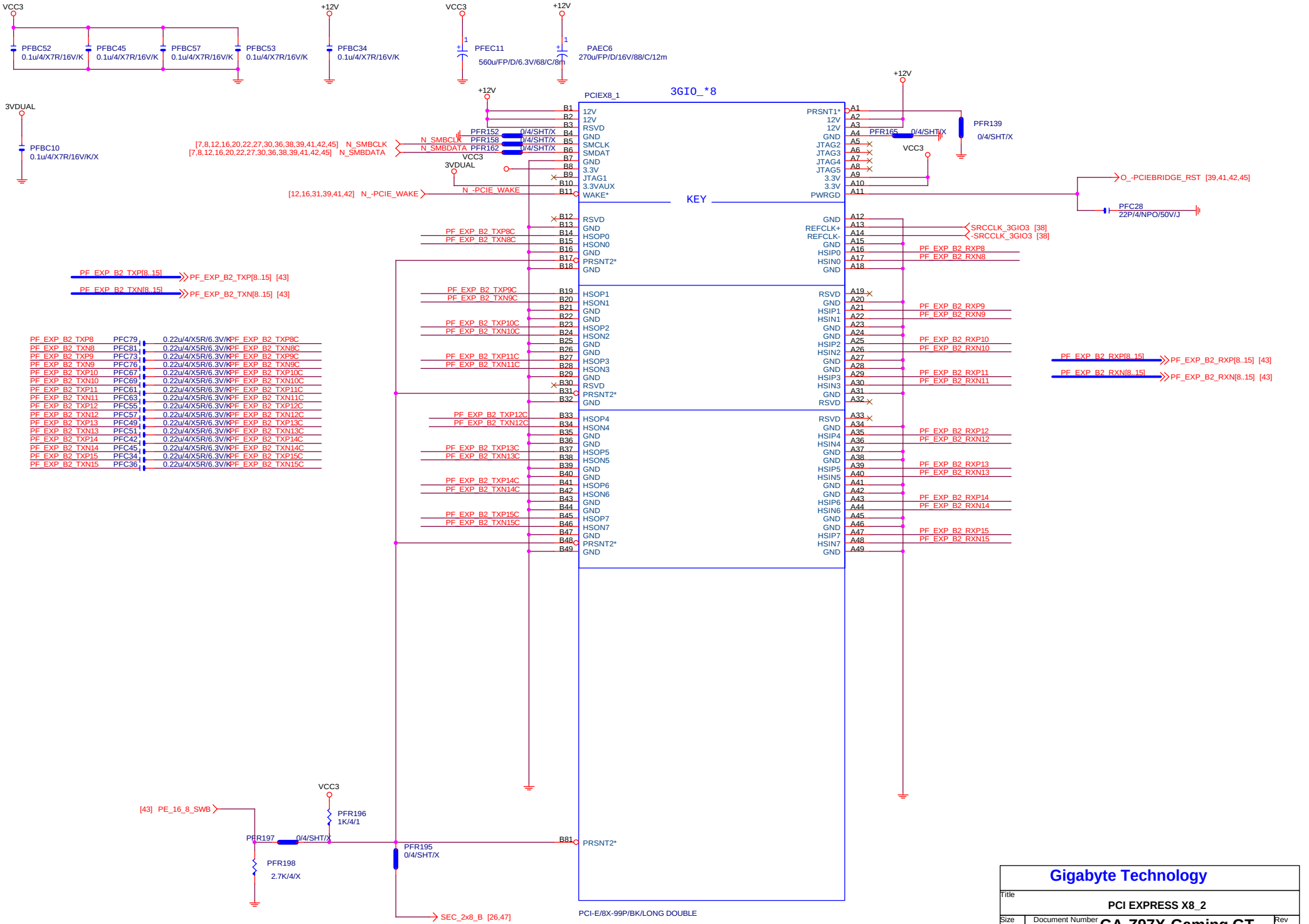
VCC3
PFBC52 0.1u/4/X7R/16V/K
PFBC45 0.1u/4/X7R/16V/K
PFBC57 0.1u/4/X7R/16V/K
PFBC53 0.1u/4/X7R/16V/K
+12V
PFBC34 0.1u/4/X7R/16V/K
VCC3
PFEC11 560u/FP/D/6.3V/68/C/8m
+12V
PAEC6 270u/FP/D/16V/88/C/12m
3VDUAL
PFBC10 0.1u/4/X7R/16V/K/X
PCIEX8_1
3GIO_*8
KEY
PFR152 0/4/SHT/X
PFR158 0/4/SHT/X
PFR162 0/4/SHT/X
N_SMBCLK
N_SMBDATA
[7,8,12,16,20,22,27,30,36,38,39,41,42,45] N_SMBCLK
[7,8,12,16,20,22,27,30,36,38,39,41,42,45] N_SMBDATA
N_-PCIE_WAKE
[12,16,31,39,41,42] N_-PCIE_WAKE
PFR139 0/4/SHT/X
PFR165 0/4/SHT/X
O_-PCIEBRIDGE_RST [39,41,42,45]
PFC28 22P/4/NPO/50V/J
PF_EXP_B2_TXP[8..15]
PF_EXP_B2_TXP[8..15] [43]
PF_EXP_B2_TXN[8..15]
PF_EXP_B2_TXN[8..15] [43]
PF_EXP_B2_RXP[8..15]
PF_EXP_B2_RXP[8..15] [43]
PF_EXP_B2_RXN[8..15]
PF_EXP_B2_RXN[8..15] [43]
SRCCLK_3GIO3 [38]
-SRCCLK_3GIO3 [38]
PF_EXP_B2_TXP8 PFC79 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXP8C
PF_EXP_B2_TXN8 PFC81 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXN8C
PF_EXP_B2_TXP9 PFC73 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXP9C
PF_EXP_B2_TXN9 PFC76 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXN9C
PF_EXP_B2_TXP10 PFC67 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXP10C
PF_EXP_B2_TXN10 PFC69 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXN10C
PF_EXP_B2_TXP11 PFC61 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXP11C
PF_EXP_B2_TXN11 PFC63 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXN11C
PF_EXP_B2_TXP12 PFC55 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXP12C
PF_EXP_B2_TXN12 PFC57 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXN12C
PF_EXP_B2_TXP13 PFC49 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXP13C
PF_EXP_B2_TXN13 PFC51 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXN13C
PF_EXP_B2_TXP14 PFC42 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXP14C
PF_EXP_B2_TXN14 PFC45 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXN14C
PF_EXP_B2_TXP15 PFC34 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXP15C
PF_EXP_B2_TXN15 PFC36 0.22u/4/X5R/6.3V/K PF_EXP_B2_TXN15C
[43] PE_16_8_SWB
PFR196 1K/4/1
PFR197 0/4/SHT/X
PFR198 2.7K/4/X
PFR195 0/4/SHT/X
SEC_2x8_B [26,47]
PCI-E/8X-99P/BK/LONG DOUBLE
Gigabyte Technology
PCI EXPRESS X8_2
GA-Z97X-Gaming GT
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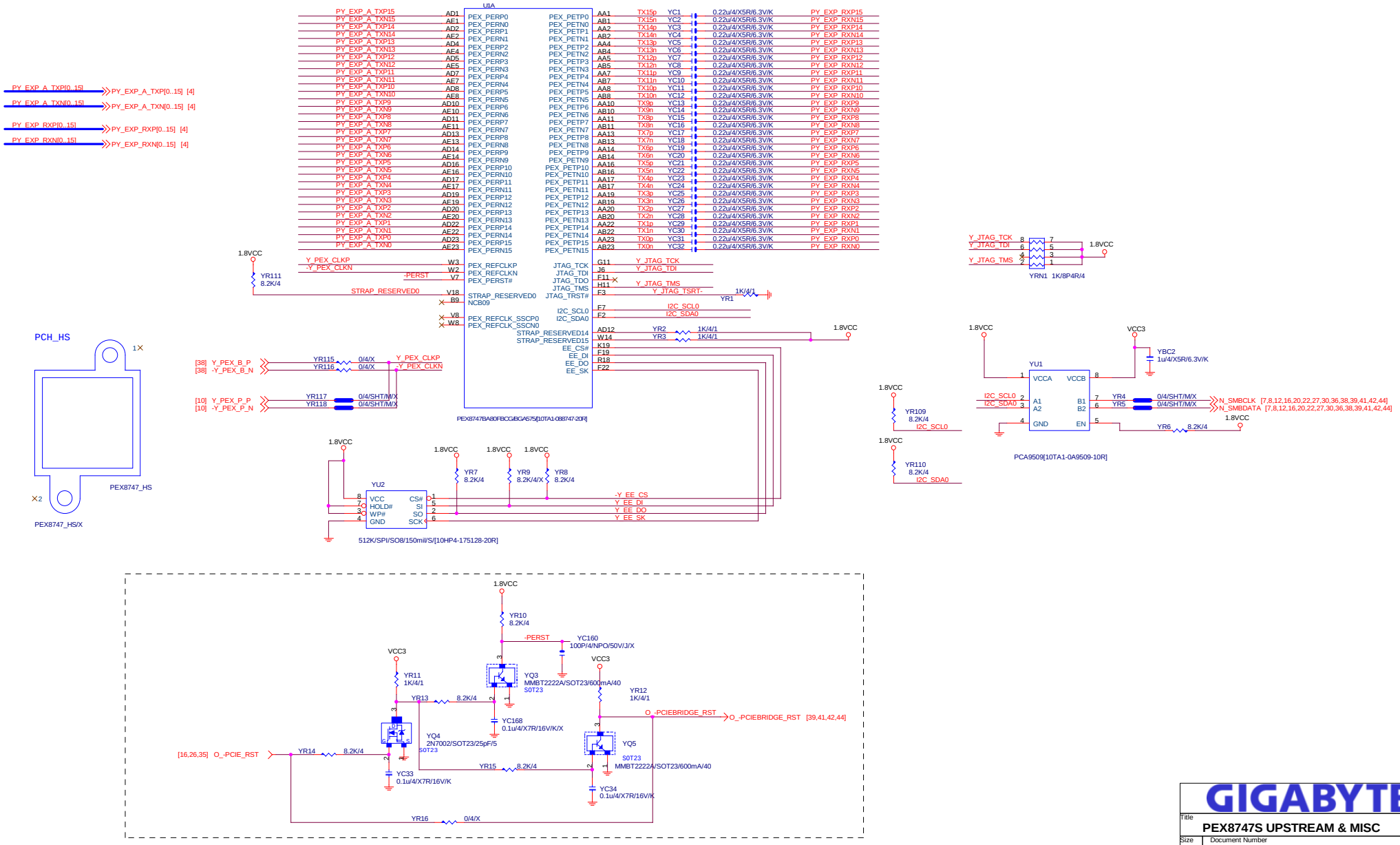

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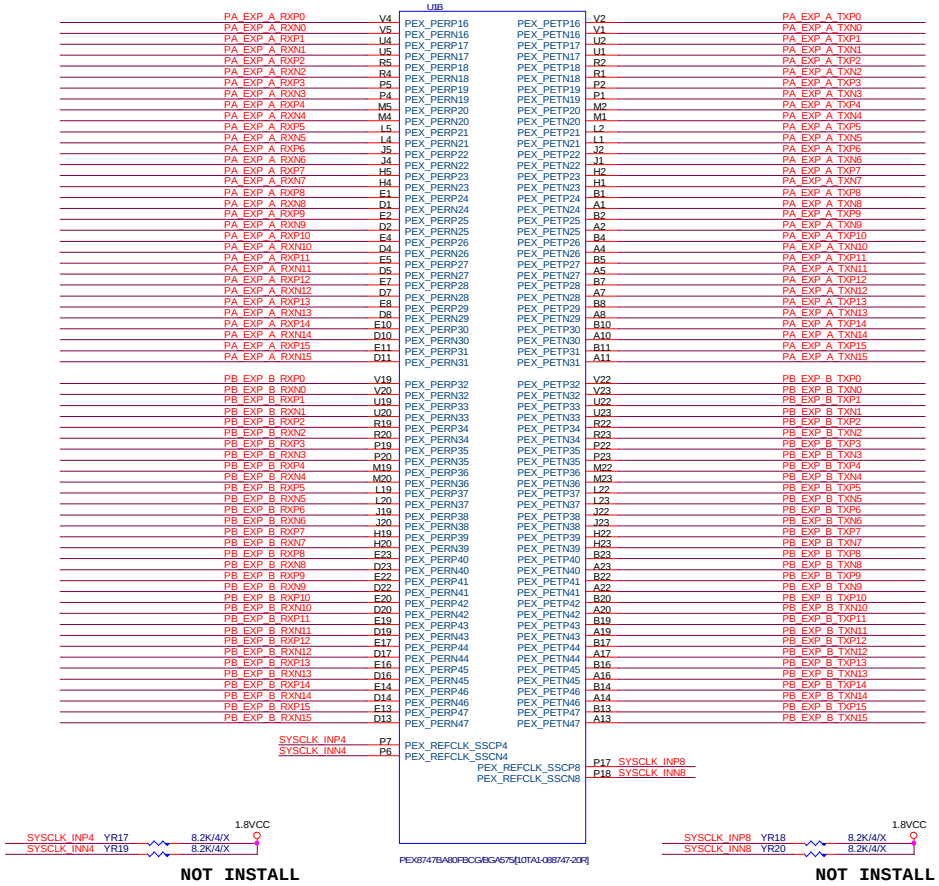

PA_EXP_A_RXP[0..7] PA_EXP_A_RXP[0..7] [40]
PA_EXP_A_RXN[0..7] PA_EXP_A_RXN[0..7] [40]
PA_EXP_A_TXP[0..7] PA_EXP_A_TXP[0..7] [40]
PA_EXP_A_TXN[0..7] PA_EXP_A_TXN[0..7] [40]
PA_EXP_A_RXP[8..15] PA_EXP_A_RXP[8..15] [39]
PA_EXP_A_RXN[8..15] PA_EXP_A_RXN[8..15] [39]
PA_EXP_A_TXP[8..15] PA_EXP_A_TXP[8..15] [39]
PA_EXP_A_TXN[8..15] PA_EXP_A_TXN[8..15] [39]
PB_EXP_B_RXP[0..7] PB_EXP_B_RXP[0..7] [42]
PB_EXP_B_RXN[0..7] PB_EXP_B_RXN[0..7] [42]
PB_EXP_B_TXP[0..7] PB_EXP_B_TXP[0..7] [42]
PB_EXP_B_TXN[0..7] PB_EXP_B_TXN[0..7] [42]
PB_EXP_B_RXP[8..15] PB_EXP_B_RXP[8..15] [43]
PB_EXP_B_RXN[8..15] PB_EXP_B_RXN[8..15] [43]
PB_EXP_B_TXP[8..15] PB_EXP_B_TXP[8..15] [43]
PB_EXP_B_TXN[8..15] PB_EXP_B_TXN[8..15] [43]

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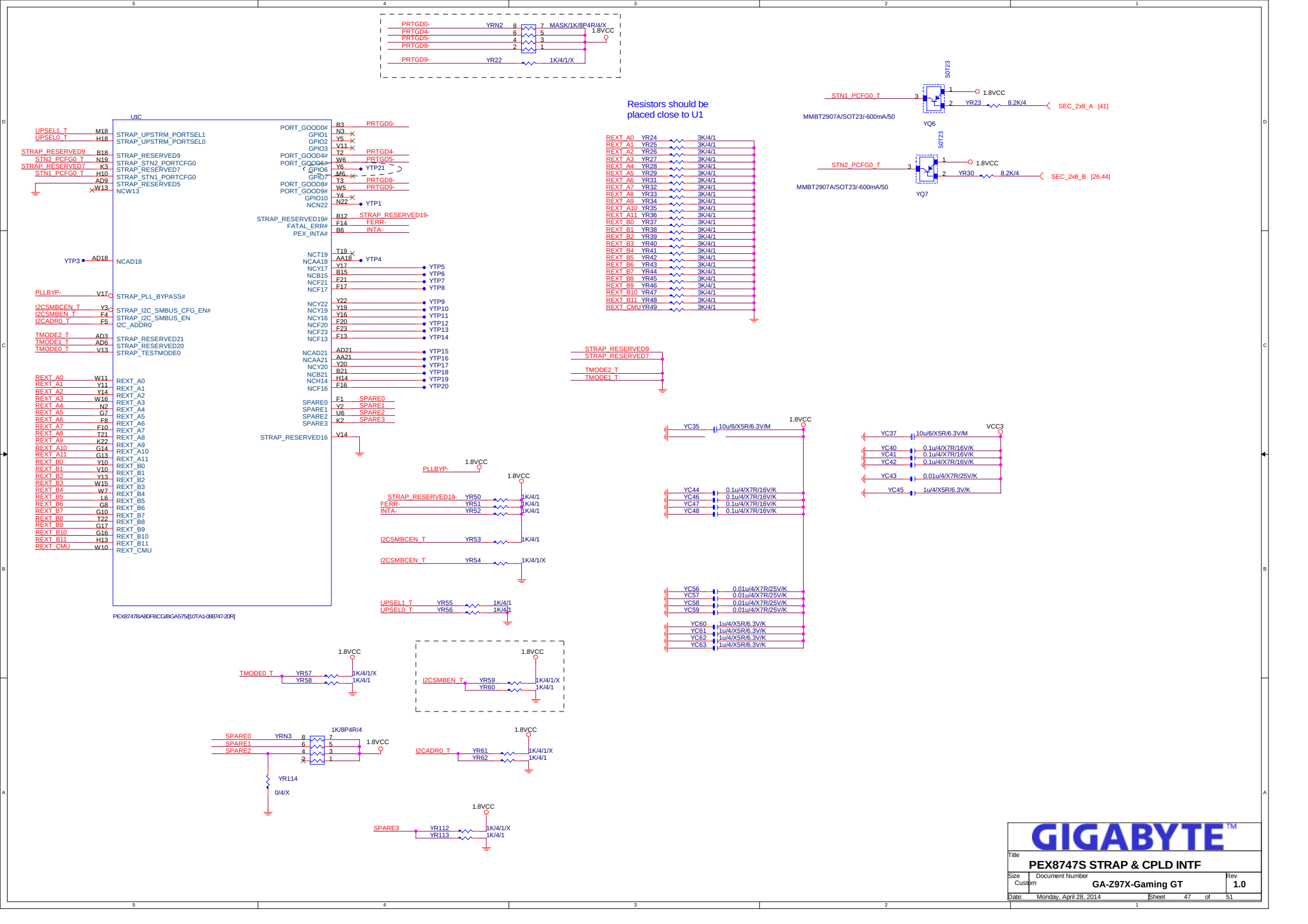
PRTGD0-
PRTGD4-
PRTGD5-
PRTGD8-
PRTGD9-
YRN2
YR22
MASK/1K/8P4R/4/X
1K/4/1/X
1.8VCC
Resistors should be placed close to U1
STN1_PCFG0_T
STN2_PCFG0_T
SOT23
MMBT2907A/SOT23/-600mA/50
YQ6
YQ7
YR23
YR30
8.2K/4
SEC_2x8_A [41]
SEC_2x8_B [26,44]
U1C
PEX8747/BA80FBCG/BGA575/[10TA1-088747-20R]
REXT_A0 YR24
REXT_A1 YR25
REXT_A2 YR26
REXT_A3 YR27
REXT_A4 YR28
REXT_A5 YR29
REXT_A6 YR31
REXT_A7 YR32
REXT_A8 YR33
REXT_A9 YR34
REXT_A10 YR35
REXT_A11 YR36
REXT_B0 YR37
REXT_B1 YR38
REXT_B2 YR39
REXT_B3 YR40
REXT_B4 YR41
REXT_B5 YR42
REXT_B6 YR43
REXT_B7 YR44
REXT_B8 YR45
REXT_B9 YR46
REXT_B10 YR47
REXT_B11 YR48
REXT_CMU YR49
3K/4/1
STRAP_RESERVED9
STRAP_RESERVED7
TMODE2_T
TMODE1_T
YC35 10u/6/X5R/6.3V/M
YC37 10u/6/X5R/6.3V/M
YC40 0.1u/4/X7R/16V/K
YC41 0.1u/4/X7R/16V/K
YC42 0.1u/4/X7R/16V/K
YC43 0.01u/4/X7R/25V/K
YC45 1u/4/X5R/6.3V/K
YC44 0.1u/4/X7R/16V/K
YC46 0.1u/4/X7R/16V/K
YC47 0.1u/4/X7R/16V/K
YC48 0.1u/4/X7R/16V/K
YC56 0.01u/4/X7R/25V/K
YC57 0.01u/4/X7R/25V/K
YC58 0.01u/4/X7R/25V/K
YC59 0.01u/4/X7R/25V/K
YC60 1u/4/X5R/6.3V/K
YC61 1u/4/X5R/6.3V/K
YC62 1u/4/X5R/6.3V/K
YC63 1u/4/X5R/6.3V/K
VCC3
PLLBYP-
STRAP_RESERVED19-
FERR-
INTA-
I2CSMBCEN_T
UPSEL1_T
UPSEL0_T
TMODE0_T
SPARE0
SPARE1
SPARE2
SPARE3
YR50
YR51
YR52
YR53
YR54
YR55
YR56
YR57
YR58
YR59
YR60
YR61
YR62
YR112
YR113
YR114
1K/4/1
1K/4/1/X
0/4/X
1K/8P4R/4
YRN3
I2CADR0_T
YTP1
YTP3
YTP4
YTP5
YTP6
YTP7
YTP8
YTP9
YTP10
YTP11
YTP12
YTP13
YTP14
YTP15
YTP16
YTP17
YTP18
YTP19
YTP20
YTP21
PRTGD0-
PRTGD4-
PRTGD5-
PRTGD8-
PRTGD9-
STRAP_RESERVED19-
FERR-
INTA-
SPARE0
SPARE1
SPARE2
SPARE3
NCAD18
STRAP_PLL_BYPASS#
STRAP_I2C_SMBUS_CFG_EN#
STRAP_I2C_SMBUS_EN
I2C_ADDR0
STRAP_RESERVED21
STRAP_RESERVED20
STRAP_TESTMODE0
REXT_A0
REXT_A1
REXT_A2
REXT_A3
REXT_A4
REXT_A5
REXT_A6
REXT_A7
REXT_A8
REXT_A9
REXT_A10
REXT_A11
REXT_B0
REXT_B1
REXT_B2
REXT_B3
REXT_B4
REXT_B5
REXT_B6
REXT_B7
REXT_B8
REXT_B9
REXT_B10
REXT_B11
REXT_CMU
STRAP_RESERVED16
GIGABYTE™
Title
PEX8747S STRAP & CPLD INTF
Size
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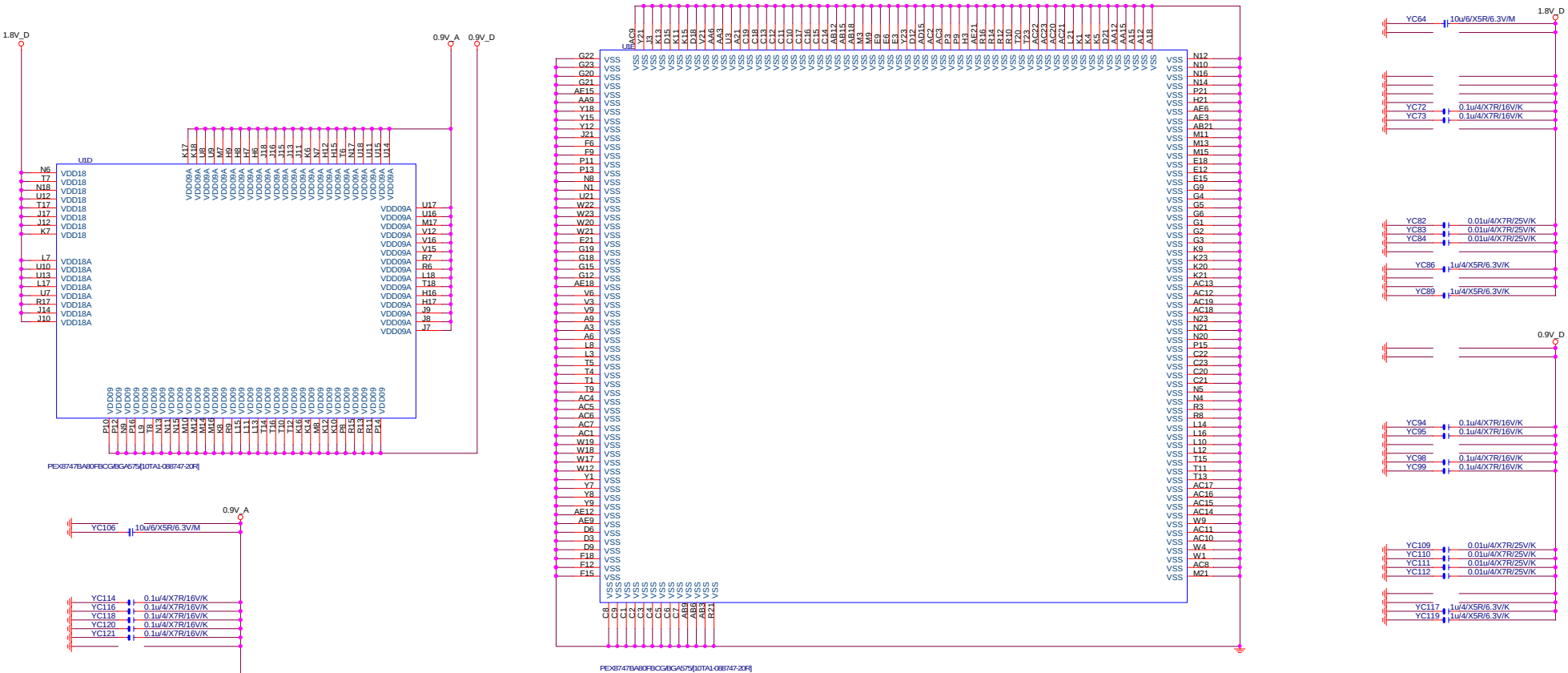

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Title	PEX8747S POWER	
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Title
PEX8747 POWER DESIGN

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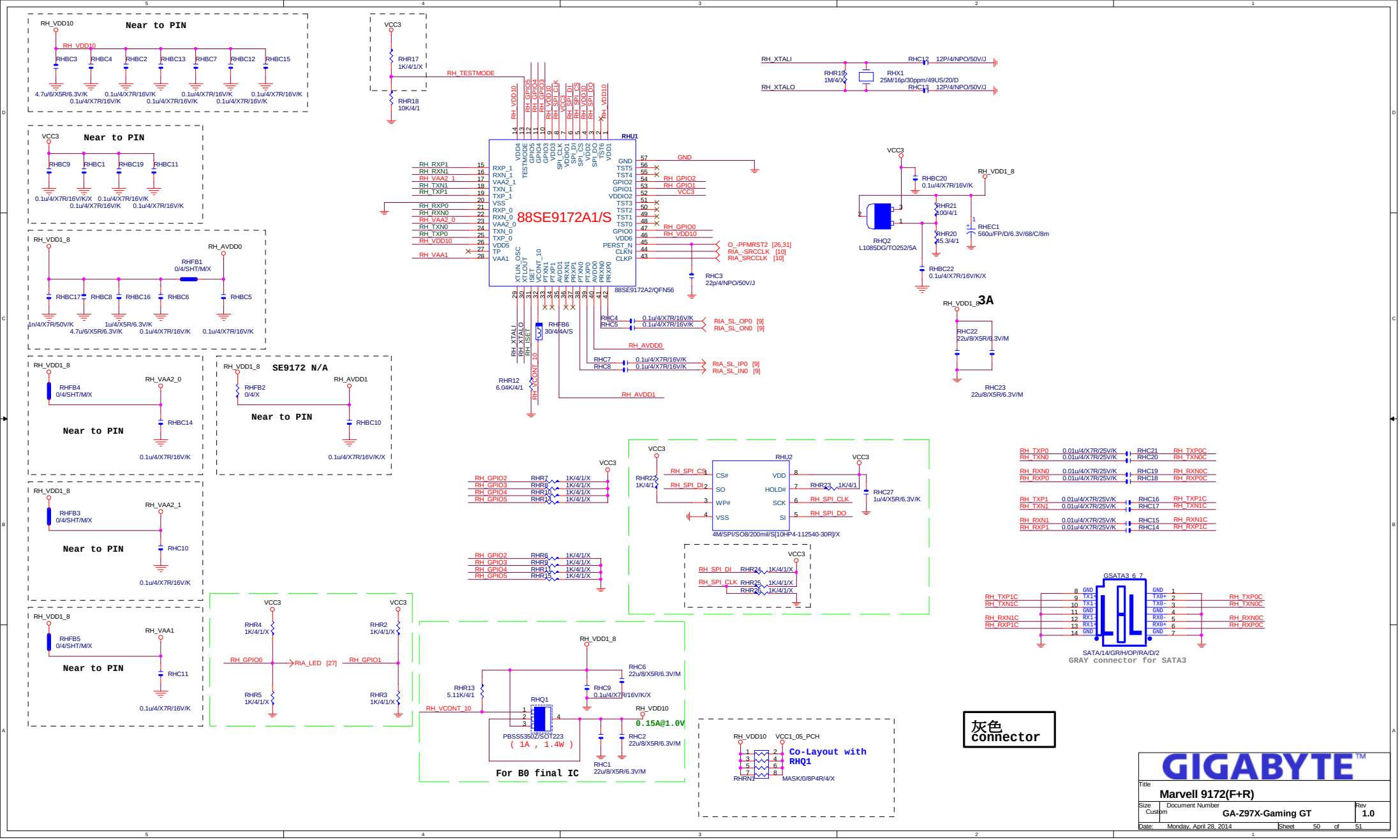
Near to PIN
RH_VDD10
RHBC3
RHBC4
RHBC2
RHBC13
RHBC7
RHBC12
RHBC15
4.7u/6/X5R/6.3V/K
0.1u/4/X7R/16V/K
VCC3
RHR17
1K/4/1/X
RH_TESTMODE
RHR18
10K/4/1
RHBC9
RHBC1
RHBC19
RHBC11
0.1u/4/X7R/16V/K/X
RH_AVDD0
RHFB1
0/4/SHT/M/X
RHBC17
RHBC8
RHBC16
RHBC6
RHBC5
1u/4/X7R/50V/K
1u/4/X5R/6.3V/K
RH_VDD1_8
RHFB4
RH_VAA2_0
RHBC14
SE9172 N/A
RHFB2
RH_AVDD1
RHBC10
RHFB3
RH_VAA2_1
RHFB5
RH_VAA1
RHC11
RH_XTALI
RH_XTALO
RHR19
1M/4/X
RHX1
25M/16p/30ppm/49US/20/D
RHC12
12P/4/NPO/50V/J
RHC13
RHU1
88SE9172A1/S
88SE9172A2/QFN56
RH_RXP1
RH_RXN1
RH_VAA2_1
RH_TXN1
RH_TXP1
RH_RXP0
RH_RXN0
RH_VAA2_0
RH_TXN0
RH_TXP0
RH_VDD10
RH_VAA1
RH_GPIO2
RH_GPIO1
RH_GPIO0
RH_SPI_CLK
RH_SPI_DI
RH_SPI_CS
RH_SPI_DO
RHC3
22p/4/NPO/50V/J
O_-PFMRST2 [26,31]
RIA_-SRCCLK [10]
RIA_SRCCLK [10]
RHFB6
30/4/4A/S
RHR12
6.04K/4/1
RH_VCONT_10
RHC4
RHC5
RIA_SL_OP0 [9]
RIA_SL_ON0 [9]
RHC7
RHC8
RIA_SL_IP0 [9]
RIA_SL_IN0 [9]
RHBC20
0.1u/4/X7R/16V/K
RHR21
100/4/1
RHR20
45.3/4/1
RHEC1
560u/FP/D/6.3V/68/C/8m
RHQ2
L1085DG/TO252/5A
RHBC22
RH_VDD1_8
3A
RHC22
22u/8/X5R/6.3V/M
RHC23
RHU2
CS#
SO
WP#
VSS
VDD
HOLD#
SCK
SI
RHR22
RHR23
RHC27
1u/4/X5R/6.3V/K
4M/SPI/SO8/200mil/S[10HP4-112540-30R]/X
RHR7
RHR8
RHR10
RHR11
RHR6
RHR9
RHR14
RHR15
RHR24
RHR25
RHR26
RHR4
RHR2
RHR5
RHR3
RIA_LED [27]
RHR13
5.11K/4/1
RHQ1
PBSS5350Z/SOT223
(1A , 1.4W)
RHC6
22u/8/X5R/6.3V/M
RHC9
0.1u/4/X7R/16V/K/X
RHC2
RHC1
0.15A@1.0V
For B0 final IC
RHRN1
MASK/0/8P4R/4/X
VCC1_05_PCH
Co-Layout with RHQ1
灰色 connector
RH_TXP0
RH_TXN0
RH_RXN0
RH_RXP0
RH_TXP1
RH_TXN1
RH_RXN1
RH_RXP1
0.01u/4/X7R/25V/K
RHC21
RHC20
RHC19
RHC18
RHC16
RHC17
RHC15
RHC14
RH_TXP0C
RH_TXN0C
RH_RXN0C
RH_RXP0C
RH_TXP1C
RH_TXN1C
RH_RXN1C
RH_RXP1C
GSATA3_6_7
SATA/14/GR/H/OP/RA/D/2
GRAY connector for SATA3
GIGABYTE
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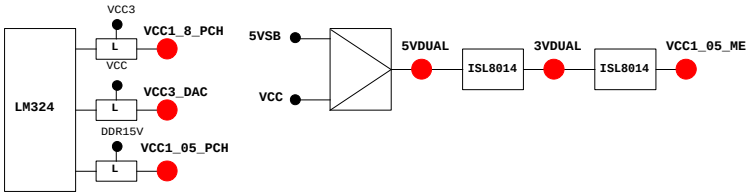
PCH GPIO LIST TABLE

PIN NAME	PWR	AFTER/PLTRST	Default	USAGE	NOTE
GP0	MAIN	H-Z	GPI	-PECI_REQ	N/A
GP1/TACH1	MAIN		GPI	ICH_FAN_TACH1	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	ICH_FAN_TACH2	N/A
GP7/TACH3	MAIN		GPI	ICH_FAN_TACH3	N/A
GP8	STBY	H	GPO	GPIO8	P/U 8.2K 3VDUAL
GP9/OC5#	STBY		NATIVE	OC5#	N/A
GP10/OC6#	STBY		NATIVE	OC6#	N/A
GP11/SMBALERT#	STBY		NATIVE	-SMBALERT	P/U 8.2K 3VDUAL
GP12	STBY	L	GPI	LAN_PHY_PWR_CTRL	P/U 8.2K 3VDUAL
GP13	STBY	L	GPI	GPIO13	P/U 8.2K 3VDUAL
GP14/OC7#	STBY		NATIVE	OC7#	N/A
GP15	STBY	L	GPO	GPIO15	N/A
GP16	MAIN		GPI	-SKTOCC	P/U 8.2K VCC3
GP17/TACH0	MAIN		GPI	ICH_FAN_TACH0	N/A
GP18	MAIN		NATIVE	MB_ID0	P/D 8.2K GND
GP19	MAIN		GPI	-LAN1_ISO	P/U 8.2K VCC3
GP20	MAIN		NATIVE	LED_CTL	P/U 1K VCC3
GP21	MAIN		GPI	VCC18_PCH_OV2	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI	VCORE_OV3	P/U 8.2K VCC3
GP23	MAIN		NATIVE	-LDRQ1	P/U 8.2K VCC3
GP24	STBY	L	GPO	TLS	P/U 8.2K 3VDUAL
GP25	STBY		NATIVE	-CPU_STOP	P/U 8.2K 3VDUAL
GP26	STBY		NATIVE	-ACZ_DET	P/U 8.2K 3VDUAL
GP27	STBY	H	GPO	GPIO27	P/U 8.2K 3VDUAL
GP28	STBY	H	GPO	GPIO28	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI	GPIO29	N/A
GP30	STBY	H-Z	GPI	S_PWR_ACK	P/U 100K 3VDUAL
GP31	STBY	H-Z	GPI	N/A(Reverse)	P/U 8.2K VCC3
GP32	MAIN	H	GPO	MB_ID1	P/D 8.2K GND
GP33	MAIN	H	GPO	LOAD-LINE	P/U 1K VCC3
GP34	MAIN	H-Z	GPI	-PCI_STOP	P/U 8.2K VCC3
GP35	MAIN	L	GPO	GPIO35	P/U 8.2K VCC3
GP36	MAIN		GPI	-LAN1_DSM	P/U 8.2K VCC3
GP37	MAIN		GPI	N/A	P/U 8.2K VCC3
GP38	MAIN	H-Z	GPI	VCORE_OV2	P/U 8.2K VCC3
GP39	MAIN	H-Z	GPI	-LAN_DSM	P/U 8.2K VCC3
GP40	STBY		NATIVE	OC1#	N/A
GP41	STBY		NATIVE	OC2#	N/A
GP42	STBY		NATIVE	OC3#	N/A
GP43	STBY		NATIVE	OC4#	N/A
GP44	STBY	L	NATIVE	N/A	P/U 8.2K 3VDUAL
GP45	STBY		NATIVE	-LPCPME	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	PWR_LED	P/U 8.2K 3VDUAL
GP47	STBY		NATIVE	PSI LED	P/U 8.2K 3VDUAL
GP48	MAIN	H-Z	IN	EN_PWM	P/U 8.2K VCC3
GP49	MAIN	H-Z	IN	VCC18_OV1	P/U 8.2K VCC3
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	N/A(Reverse)	P/U 8.2K 3VDUAL
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		NATIVE	1_05V_OV1	P/U 8.2K 3VDUAL
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

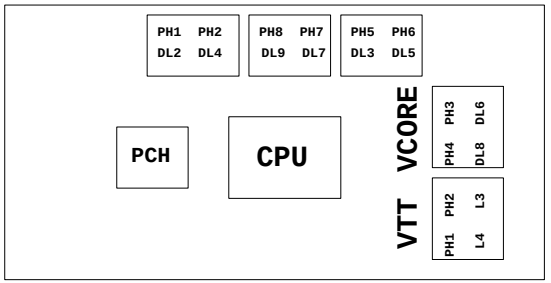
Super I/O ITE8720 GPIO Table

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#CIRRX1/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSSO0	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	
3VSBSW#/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/BUSSO1	MB_ID3	
PD7/GP77/BUSSO2	MB_ID4	
AFD#/GP86/SMBC_R	空 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/CIRRX2/GP16	-THERM	
VIDO4/GP26/SOUT2	DDR18V_PH2_EN	
VIDO2/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VIDO6/GP17/RI2#	1_1V_PH_EN	
VIDO7/JP6/DTR2#	JP6	
PD5/GP75/BUSSO0	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 Terminatio
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

散熱模組料號：

8IBP:
1.12SP2-01A001-Y1R/Y2R
2.12SP2-01A001-Z1R/Z2R
(HIBRID模組)包材階

	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

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Title: TABLE LIST

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