

Model Name: GA-Z77X-UD3H

1.01

SHEET

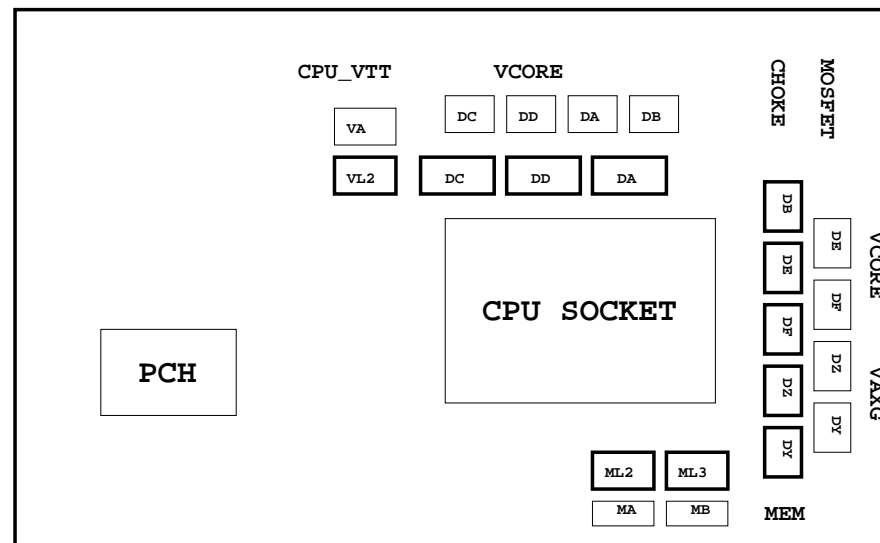
TITLE

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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_HDMI_DVI_DAC,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*8 SLOT
16	PCI EXPRESS*16/*8 SWITCH
17	PCI EXPRESS*1 SLOTS X3
18	PCI EXPRESS*4 SLOT / SWITCH
19	IT8892 PCIE to PCI BRIDGE
20	PCI SLOT
21	DP / HDMI / DVI Connector
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23	Dual BIOS , TPM
24	VT2021
25	REAR AUDIO JACK
26	VCORE PWM_IR3567-1
27	VCORE PWM_IR3567-2

SHEET

TITLE

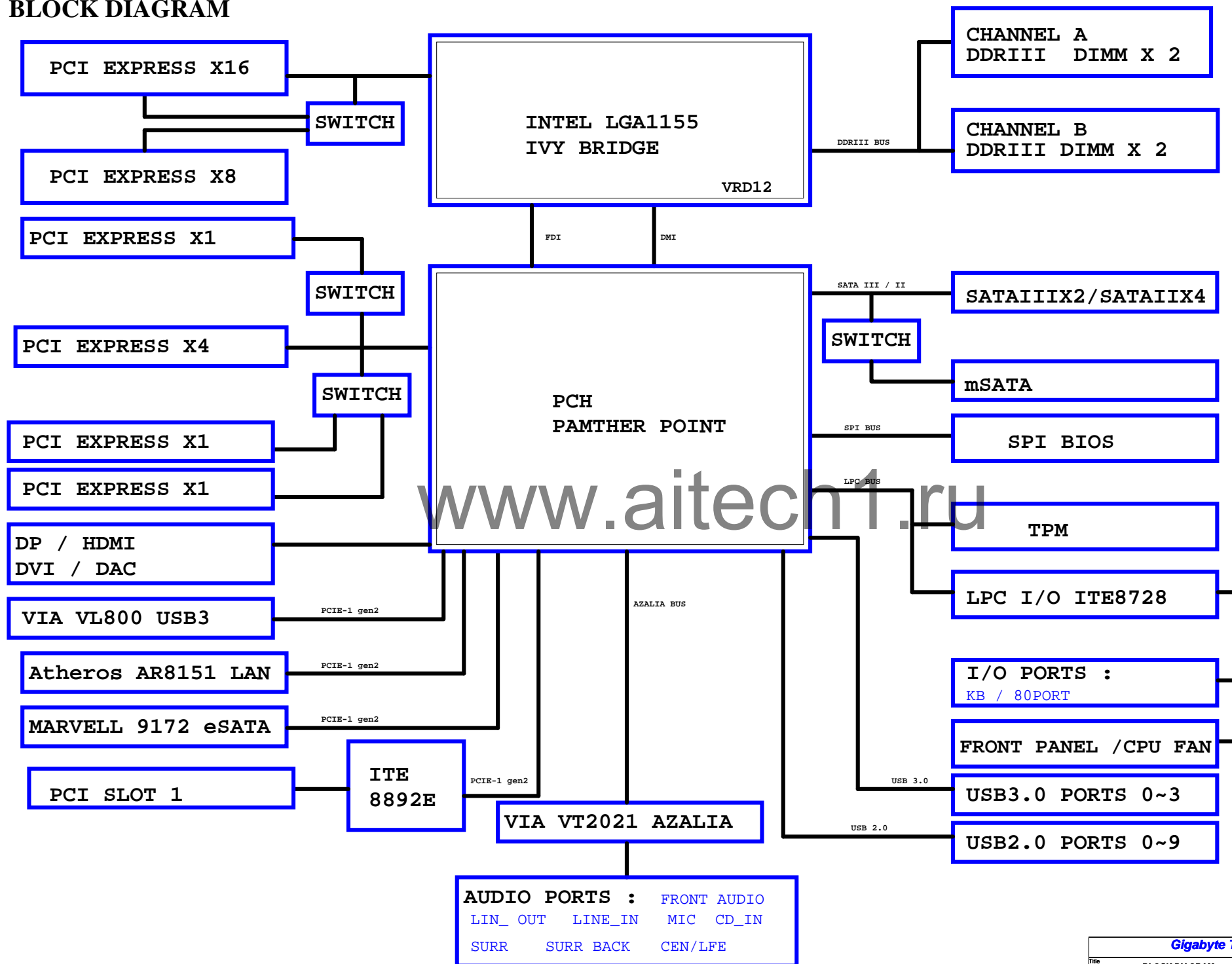
28	DDR_15V & CPUVTT PWM_IR3570-1
29	DDR_15V & CPUVTT PWM_IR3570-2
30	DISCRETE POWER 1
31	DISCRETE POWER 2
32	I/O IT8728F
33	USB3_ESATA , KB/USB3, -PHOT
34	F_PANEL , F_USB , F_USB3
35	ATX POWER, CLOCK GEN
36	HWM, FAN CTRL
37	Atheros 8151
38	ESATA SE9172
39	80PORT / PWR SW / OV NCT3933
40	VIA VL800
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Gigabyte Technology

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BLOCK DIAGRAM



LGA1155A

M_AAA0	AV27	SA_MA[0]
M_AAA1	AY24	SA_MA[1]
M_AAA2	AW24	SA_MA[2]
M_AAA3	AW23	SA_MA[3]
M_AAA4	AV23	SA_MA[4]
M_AAA5	AT24	SA_MA[5]
M_AAA6	AT23	SA_MA[6]
M_AAA7	AU22	SA_MA[7]
M_AAA8	AV22	SA_MA[8]
M_AAA9	AT22	SA_MA[9]
M_AAA10	AV28	SA_MA[10]
M_AAA11	AU21	SA_MA[11]
M_AAA12	AT21	SA_MA[12]
M_AAA13	AW32	SA_MA[13]
M_AAA14	AU20	SA_MA[14]
M_AAA15	AT20	SA_MA[15]

(7) M_SWEA	M_SCASA	AW29	SA_WE#
(7) M_SCASA	M_SRASA	AV30	SA_CAS#
(7) M_SRASA		AU28	SA_RAS#
(7) M_SBA0	M_SBA0	AY29	SA_BS[0]
(7) M_SBA1	M_SBA1	AW28	SA_BS[1]
(7) M_SBA2	M_SBA2	AV20	SA_BS[2]
(7) M-CSA0	M-CSA0	AU29	SA_CS#0
(7) M-CSA1	M-CSA1	AV32	SA_CS#1
(7) M-CSA2	M-CSA2	AW30	SA_CS#2
(7) M-CSA3	M-CSA3	AU33	SA_CS#3
(7) M_CKEA0	M_CKEA0	AV19	SA_CKE[0]
(7) M_CKEA1	M_CKEA1	AT19	SA_CKE[1]
(7) M_CKEA2	M_CKEA2	AU18	SA_CKE[2]
(7) M_CKEA3	M_CKEA3	AV18	SA_CKE[3]
(7) M_ODT_A0		AV31	SA_ODT[0]
(7) M_ODT_A1		AU32	SA_ODT[1]
(7) M_ODT_A2		AU30	SA_ODT[2]
(7) M_ODT_A3		AW33	SA_ODT[3]

(7) M_DCLKA0	M_DCLKA0	AY25	SA_CK[0]
(7) M_DCLKA0	M_DCLKA0	AW25	SA_CK[0]
(7) M_DCLKA1	M_DCLKA1	AU24	SA_CK[1]
(7) M_DCLKA1	M_DCLKA1	AU25	SA_CK[1]
(7) M_DCLKA2	M_DCLKA2	AW27	SA_CK[2]
(7) M_DCLKA2	M_DCLKA2	AY27	SA_CK[2]
(7) M_DCLKA3	M_DCLKA3	AU26	SA_CK[3]
(7) M_DCLKA3	M_DCLKA3	AW26	SA_CK[3]

(7.8) M_DDR3_RST	MR1	AW18	SM_DRAMRST#
	MBC8	0.1u4/XT7R/16V/KX	

AV13	SA_DQS[8]
AV12	SA_DQS#8
AU12	SA_ECC_CB[0]
AU14	SA_ECC_CB[1]
AW13	SA_ECC_CB[2]
AY13	SA_ECC_CB[3]
AU13	SA_ECC_CB[4]
AY12	SA_ECC_CB[5]
AW12	SA_ECC_CB[7]

DDR_0

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LGA1155[10SC1-F01155-01R]

AK3	M_DQSA0
AK2	M_DQSA0
AJ3	M_DA0
AJ4	M_DA1
AL4	M_DA2
AL4	M_DA3
AJ2	M_DA4
SA_DQ[4]	M_DA5
SA_DQ[5]	M_DA6
SA_DQ[6]	M_DA7
SA_DQ[7]	
AP3	M_DQSA1
AP2	M_DQSA1

AN1	M_DA8
AN4	M_DA9
SA_DQ[8]	M_DA10
SA_DQ[9]	M_DA11
SA_DQ[10]	M_DA12
SA_DQ[11]	M_DA13
AN2	M_DA14
AN3	M_DA15
SA_DQ[12]	
SA_DQ[13]	
SA_DQ[14]	
SA_DQ[15]	
AW4	M_DQSA2
AV4	M_DQSA2

AV2	M_DA16
SA_DQ[16]	M_DA17
SA_DQ[17]	M_DA18
SA_DQ[18]	M_DA19
SA_DQ[19]	M_DA20
SA_DQ[20]	M_DA21
SA_DQ[21]	M_DA22
SA_DQ[22]	M_DA23
SA_DQ[23]	

AV8	M_DQSA3
AW8	M_DQSA3
SA_DQS[3]	
SA_DQS#3	
AY7	M_DA24
AU7	M_DA25
SA_DQ[24]	M_DA26
SA_DQ[25]	M_DA27
SA_DQ[26]	M_DA28
SA_DQ[27]	M_DA29
SA_DQ[28]	M_DA30
SA_DQ[29]	M_DA31
SA_DQ[30]	
SA_DQ[31]	

AV37	M_DQSA4
AV36	M_DQSA4
SA_DQS[4]	
SA_DQS#4	
AU35	M_DA32
AW37	M_DA33
SA_DQ[32]	M_DA34
SA_DQ[33]	M_DA35
SA_DQ[34]	M_DA36
SA_DQ[35]	M_DA37
SA_DQ[36]	M_DA38
SA_DQ[37]	M_DA39
SA_DQ[38]	
SA_DQ[39]	

AP38	M_DQSA5
AP39	M_DQSA5
SA_DQS[5]	
SA_DQS#5	
AR40	M_DA40
AR37	M_DA41
SA_DQ[40]	M_DA42
SA_DQ[41]	M_DA43
SA_DQ[42]	M_DA44
SA_DQ[43]	M_DA45
SA_DQ[44]	M_DA46
SA_DQ[45]	M_DA47
SA_DQ[46]	
SA_DQ[47]	

AK38	M_DQSA6
AK39	M_DQSA6
SA_DQS[6]	
SA_DQS#6	
AL40	M_DA48
AL37	M_DA49
SA_DQ[48]	M_DA50
SA_DQ[49]	M_DA51
SA_DQ[50]	M_DA52
SA_DQ[51]	M_DA53
SA_DQ[52]	M_DA54
SA_DQ[53]	M_DA55
SA_DQ[54]	
SA_DQ[55]	

AF38	M_DQSA7
AF39	M_DQSA7
SA_DQS[7]	
SA_DQS#7	
AG40	M_DA56
AG37	M_DA57
SA_DQ[56]	M_DA58
SA_DQ[57]	M_DA59
SA_DQ[58]	M_DA60
SA_DQ[59]	M_DA61
SA_DQ[60]	M_DA62
SA_DQ[61]	M_DA63
SA_DQ[62]	
SA_DQ[63]	

(7) M_ODT_A[0..3] < M_ODT_A[0..3]

(8) M_ODT_B[0..3] < M_ODT_B[0..3]

(7) M_DA[0..63] < M_DA[0..63]

(8) M_DB[0..63] < M_DB[0..63]

(7) M_DQSA[0..7] < M_DQSA[0..7]

(7) M_DQSA[0..7] < M_DQSA[0..7]

(7) M_AA[0..15] < M_AA[0..15]

(8) M_AAB[0..15] < M_AAB[0..15]

(8) M_DQSB[0..7] < M_DQSB[0..7]

(8) M_DQSB[0..7] < M_DQSB[0..7]

LGA1155B

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M_AAB1	AM20	SB_MA[1]
M_AAB2	AM19	SB_MA[2]
M_AAB3	AK18	SB_MA[3]
M_AAB4	AP19	SB_MA[4]
M_AAB5	AP18	SB_MA[5]
M_AAB6	AM18	SB_MA[6]
M_AAB7	AL18	SB_MA[7]
M_AAB8	AN18	SB_MA[8]
M_AAB9	AY17	SB_MA[9]
M_AAB10	AN23	SB_MA[10]
M_AAB11	AU17	SB_MA[11]
M_AAB12	AT18	SB_MA[12]
M_AAB13	AR26	SB_MA[13]
M_AAB14	AV16	SB_MA[14]
M_AAB15	AV16	SB_MA[15]

(8) M_SWEB	M_SWEB	AR25	SB_WE#
(8) M_SCASB	M_SCASB	AK25	SB_CAS#
(8) M_SRASB	M_SRASB	AP24	SB_RAS#
(8) M_SBA0	M_SBA0	AP23	SB_BS[0]
(8) M_SBA1	M_SBA1	AM24	SB_BS[1]
(8) M_SBA2	M_SBA2	AW17	SB_BS[2]
(8) M-CSB0	M-CSB0	AN25	SB_CS#0
(8) M-CSB1	M-CSB1	AN26	SB_CS#1
(8) M-CSB2	M-CSB2	AL26	SB_CS#2
(8) M-CSB3	M-CSB3	AT26	SB_CS#3

(8) M_CKEB0	M_CKEB0	AU16	SB_CKE[0]
(8) M_CKEB1	M_CKEB1	AY15	SB_CKE[1]
(8) M_CKEB2	M_CKEB2	AW15	SB_CKE[2]
(8) M_CKEB3	M_CKEB3	AV15	SB_CKE[3]
(8) M_ODT_B0		AL26	SB_ODT[0]
(8) M_ODT_B1		AP26	SB_ODT[1]
(8) M_ODT_B2		AK26	SB_ODT[2]
(8) M_ODT_B3		AK26	SB_ODT[3]

(8) M_DCLKB0	M_DCLKB0	AL21	SB_CK[0]
(8) M_DCLKB0	M_DCLKB0	AL22	SB_CK[0]
(8) M_DCLKB1	M_DCLKB1	AL20	SB_CK[1]
(8) M_DCLKB1	M_DCLKB1	AK20	SB_CK[1]
(8) M_DCLKB2	M_DCLKB2	AL23	SB_CK[2]
(8) M_DCLKB2	M_DCLKB2	AM22	SB_CK[2]
(8) M_DCLKB3	M_DCLKB3	AP21	SB_CK[3]
(8) M_DCLKB3	M_DCLKB3	AN21	SB_CK[3]

(8)	M_DCLKB0	M_DCLKB0	AL21C	SB_CK[0]		AN12	M_DCLKB0
(7)	M_DCLKB0	M_DCLKB0	AL22C	SB_CK[0]			
(6)	M_DCLKB1	M_DCLKB1	AL20C	SB_CK[0]	SB_DQ[24]	AM12	M_DB24
(5)	M_DCLKB1	M_DCLKB1	AK20	SB_CK[1]	SB_DQ[24]	AR13	M_DB25
(4)	M_DCLKB1	M_DCLKB1	AK20	SB_CK[1]	SB_DQ[26]	AP13	M_DB26
(3)	M_DCLKB2	M_DCLKB2	AL23C	SB_CK[2]	SB_DQ[27]	AL12	M_DB28
(2)	M_DCLKB2	M_DCLKB2	AM22C	SB_CK[2]	SB_DQ[28]	AP13	M_DB27
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(0)	M_DCLKB3	M_DCLKB3	AN21	SB_CK[3]	SB_DQ[30]	AR12	M_DB30
					SB_DQ[30]	AP12	M_DB31

AN29	M_DQSB4
AN28	M_DQSB4
AR28	M_DB32
AR29	M_DB33
AL28	M_DB34
AL29	M_DB35
AP28	M_DB36
AP29	M_DB37
AN28	M_DB38
AM29	M_DB39
AP33	M_DQSB5
AR33	M_DQSB5
AP32	M_DB40
AP21	M_DB41
AP35	M_DB42
AP34	M_DB43
AR32	M_DB44
AR31	M_DB45
AR35	M_DB46
AR34	M_DB47
AL33	M_DQSB6
AM33	M_DQSB6

AM32	M_DB48
AM31	M_DB49
AL35	M_DB50
AL32	M_DB51
AM34	M_DB52
AL31	M_DB53
AM35	M_DB54
AL34	M_DB55
AG35	M_DQSB7
AG34	M_DQSB7
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SB_DQ[60]	
SB_DQ[61]	
SB_DQ[62]	
SB_DQ[63]	

DDR_1

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LGA1155[10SC1-F01155-01R]

SB_DQS[0]	AH7	M_DQSB0
SB_DQS#0	AH6	M_DQSB0
SB_DQ[0]	AG7	M_DB0
SB_DQ[1]	AG8	M_DB1
SB_DQ[2]	AJ9	M_DB2
SB_DQ[3]	AJ8	M_DB3
SB_DQ[4]	AG5	M_DB4
SB_DQ[5]	AG6	M_DB5
SB_DQ[6]	AJ6	M_DB6
SB_DQ[7]	AJ7	M_DB7
SB_DQS[11]	AM8	M_DQSB1
SB_DQS#11	AL8	M_DQSB1

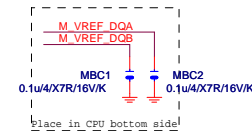
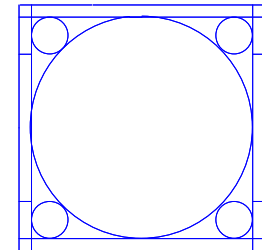
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SB_CAS#	AM10	M_DB10
SB_RAS#	AL10	M_DB11
SB_BS[0]	AL6	M_DB12
SB_BS[1]	AM6	M_DB13
SB_BS[2]	AL9	M_DB14
SB_BS[3]	AM9	M_DB15
SB_CS#0	AR8	M_DQSB2
SB_CS#1	AP8	M_DQSB2
SB_CS#2		
SB_CS#3		

SB_CKE[0]	AP7	M_DB16
SB_CKE[1]	AR7	M_DB17
SB_CKE[2]	AP10	M_DB18
SB_CKE[3]	AR10	M_DB19
SB_ODT[0]	AP6	M_DB20
SB_ODT[1]	AR6	M_DB21
SB_ODT[2]	AP9	M_DB22
SB_ODT[3]	AR9	M_DB23

SB_DQS#3	AN12	M	DB24
SB_DQ[24]	AM12	M	DB24
SB_DQ[25]	AM13	M	DB25
SB_DQ[26]	AR13	M	DB26
SB_DQ[27]	AP13	M	DB27
SB_DQ[28]	AL12	M	DB28
SB_DQ[29]	AL13	M	DB29
SB_DQ[30]	AR12	M	DB30
	AP12	M	DB31

AN29	M_DQSB4
AN28	M_DQSB4
AR28	M_DB32
AR29	M_DB33
AL28	M_DB34
AL29	M_DB35
AP28	M_DB36
AP29	M_DB37
AN28	M_DB38
AM29	M_DB39
AP33	M_DQSB5
AR33	M_DQSB5
AP32	M_DB40
AP21	M_DB41
AP35	M_DB42
AP34	M_DB43
AR32	M_DB44
AR31	M_DB45
AR35	M_DB46
AR34	M_DB47
AL33	M_DQSB6
AM33	M_DQSB6

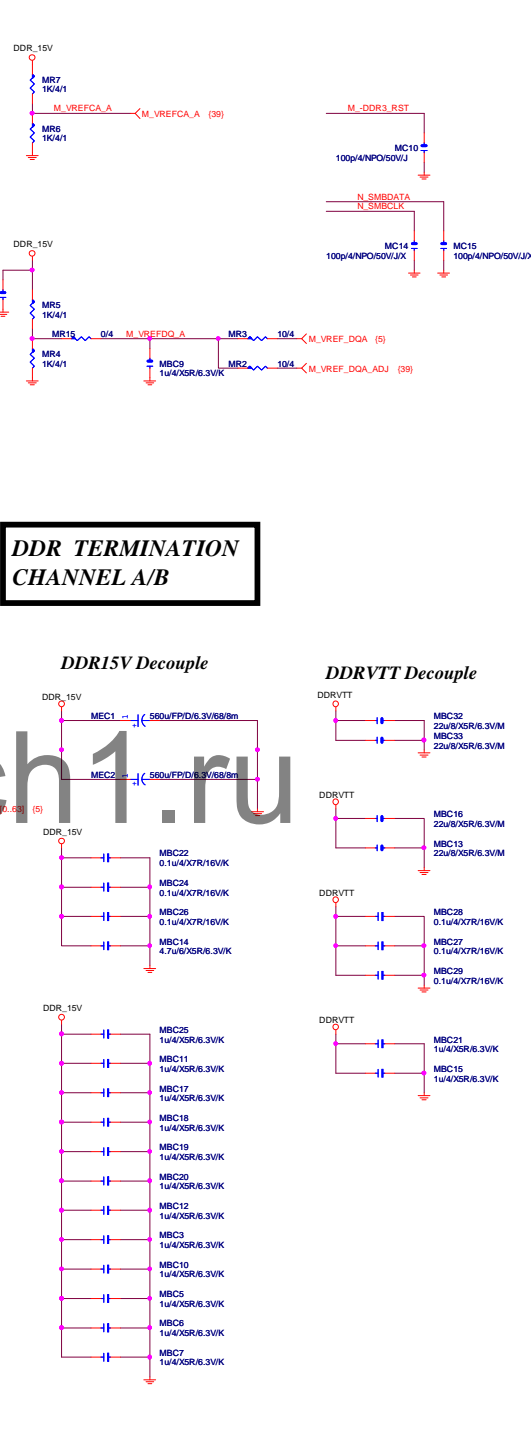
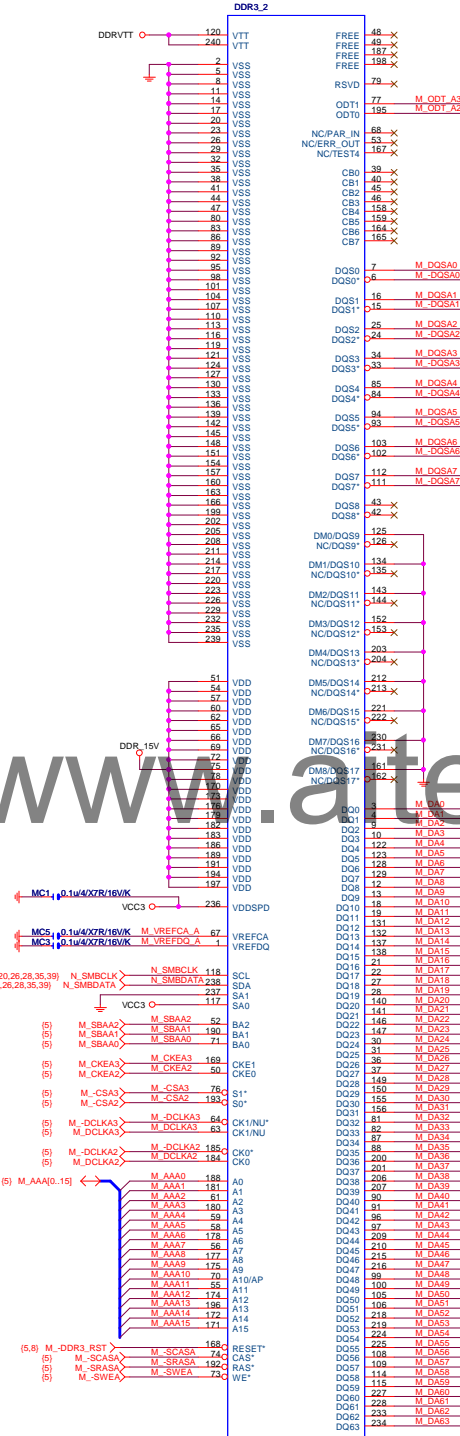
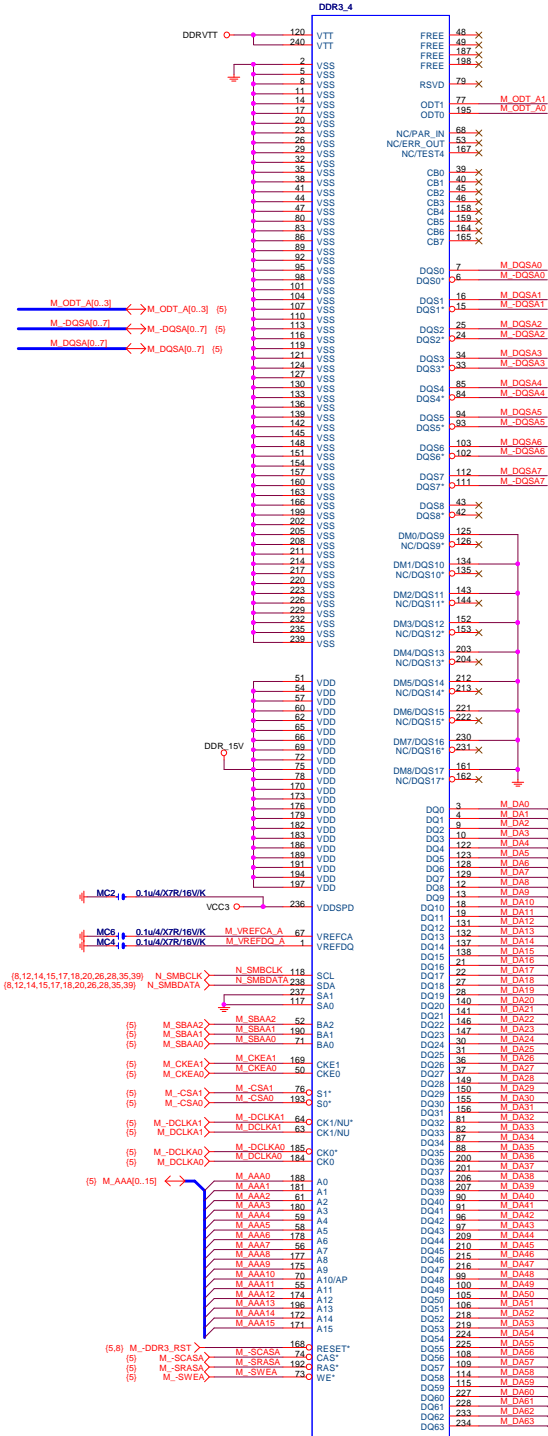
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AM31	M_DB49
AL35	M_DB50
AL32	M_DB51
AM34	M_DB52
AL31	M_DB53
AM35	M_DB54
AL34	M_DB55
AG35	M_DQSB7
AG34	M_DQSB7
SB_DQ[48]	
SB_DQ[49]	
SB_DQ[50]	
SB_DQ[51]	
SB_DQ[52]	
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SB_DQ[54]	
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SB_DQ[57]	
SB_DQ[58]	
SB_DQ[59]	
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SB_DQ[63]	

LGA1155
ILM_BP/1156/BKNI

Need check the new CPU ME

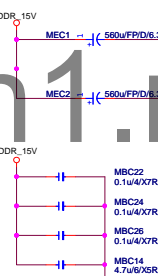
Intel CRB

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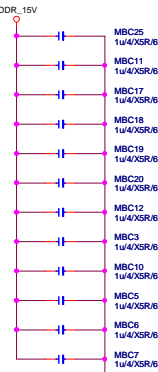
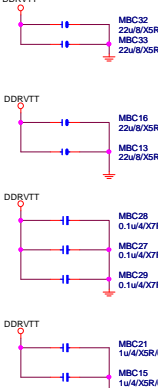


DDR TERMINATION CHANNEL A/B

DDR15V Decouple

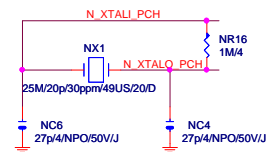
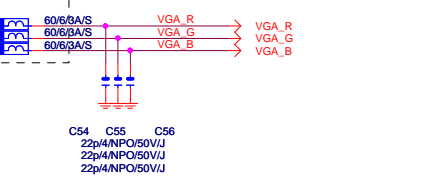
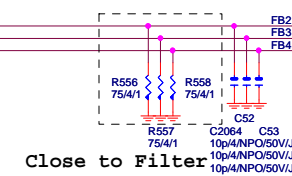
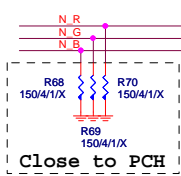
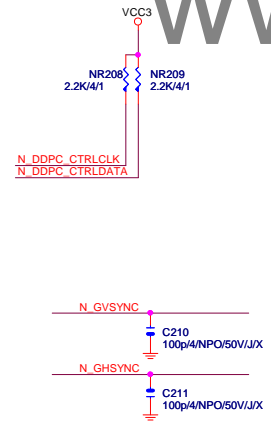
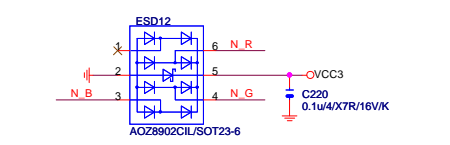
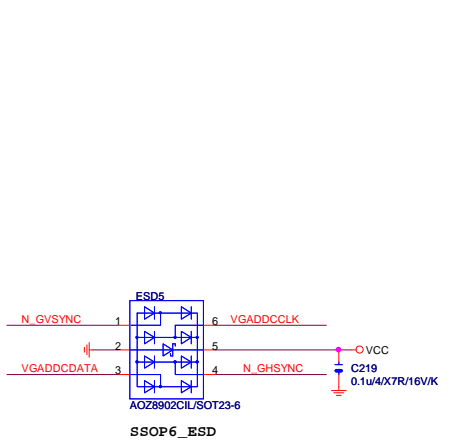
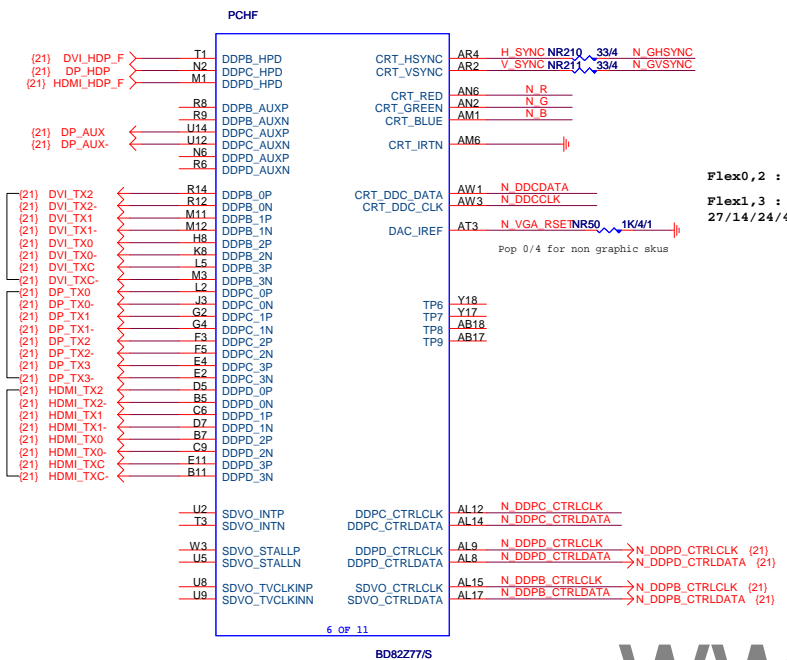


DDRVT Decouple

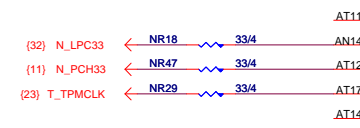




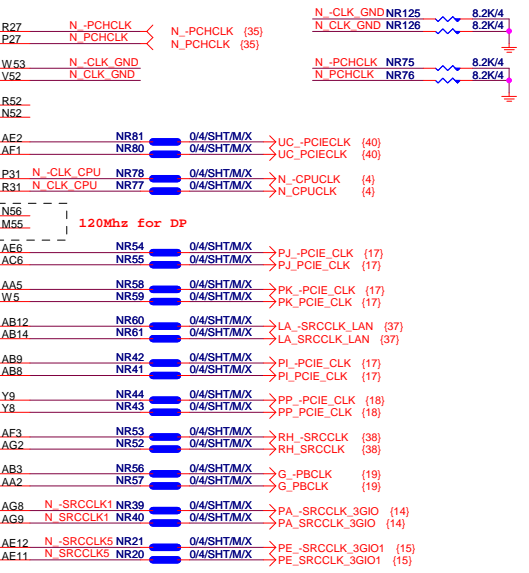
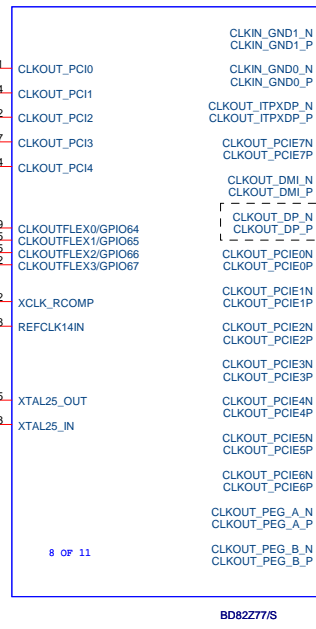
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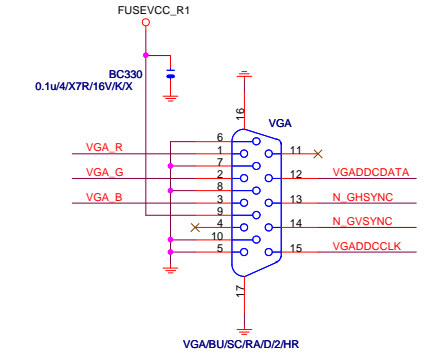
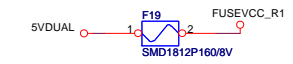
Mount for integrated clock generation Mode



Flex0,2 : 33MHZ
Flex1,3 : 27/14/24/48/25MHZ

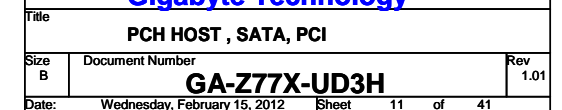


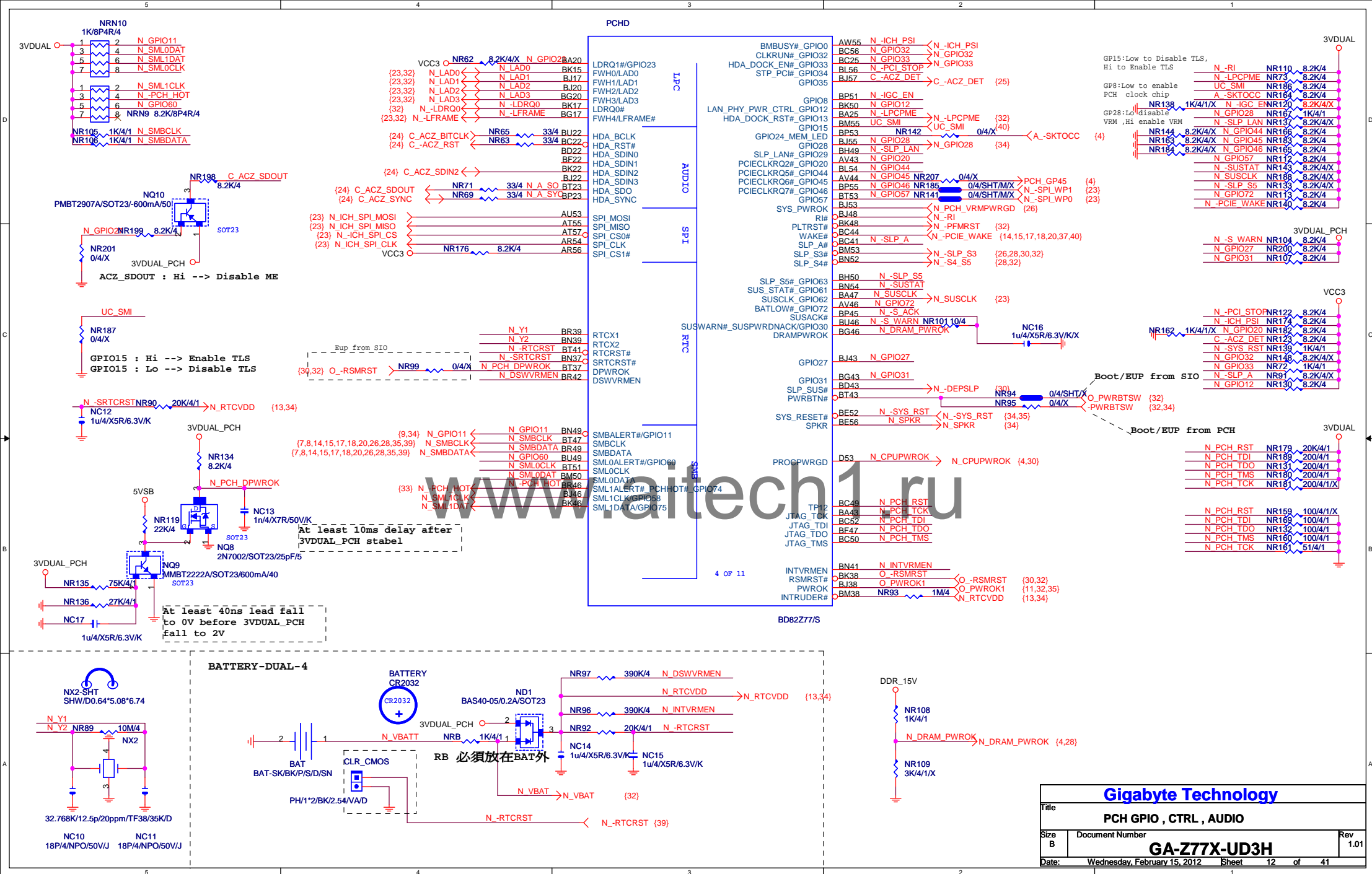
Differential Clock:18/6/4/6/18
Impedance=90 +- 15%

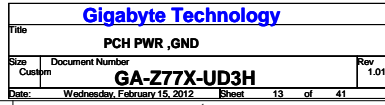


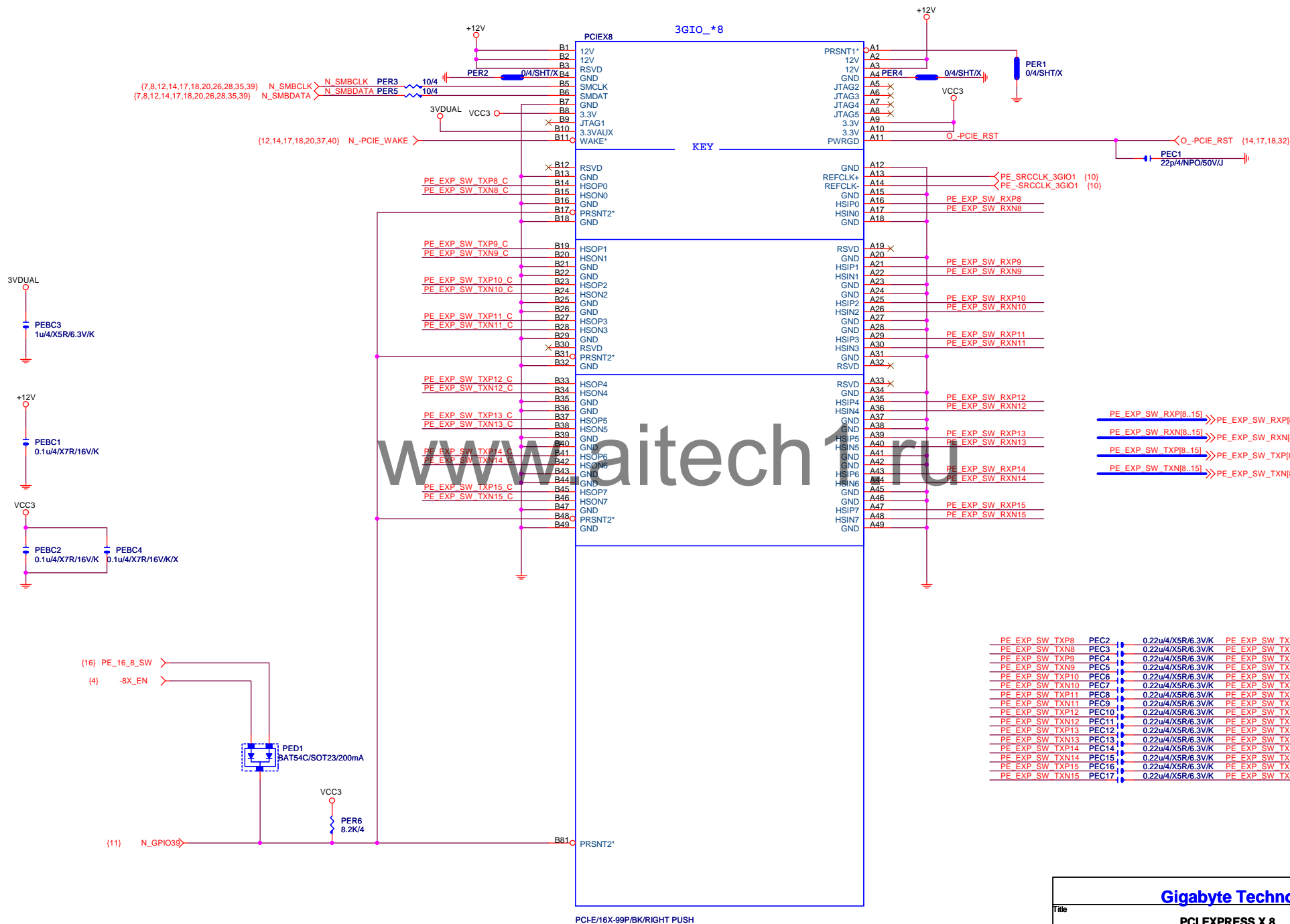
Gigabyte Technology				
PCH DISPLAY ,CLK BUFFER				
Title	Document Number	Rev		1.01
Size	Custom	Gigabyte Technology		
Date	Wednesday, February 15, 2012	Sheet	10	of 41

PCHC

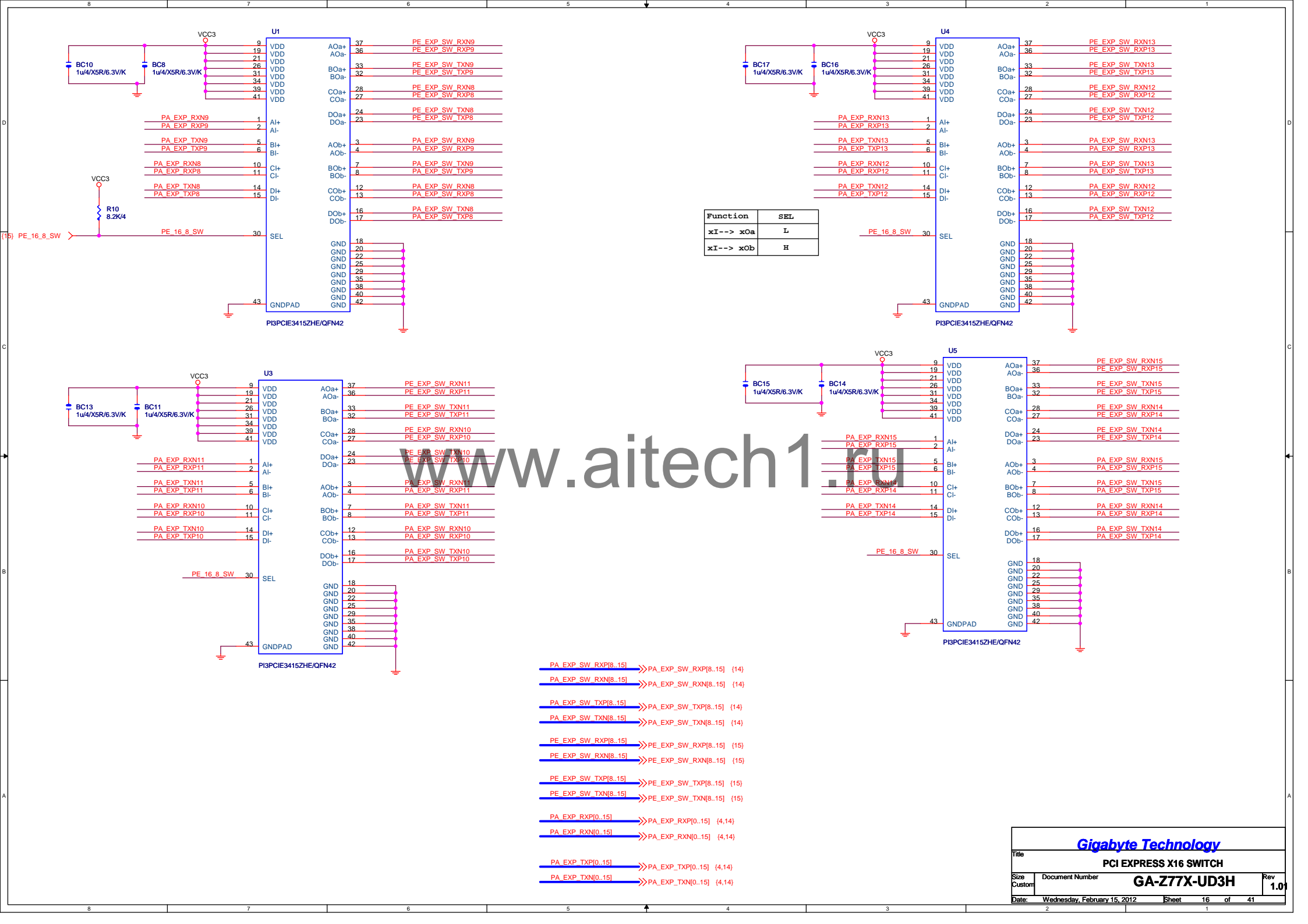


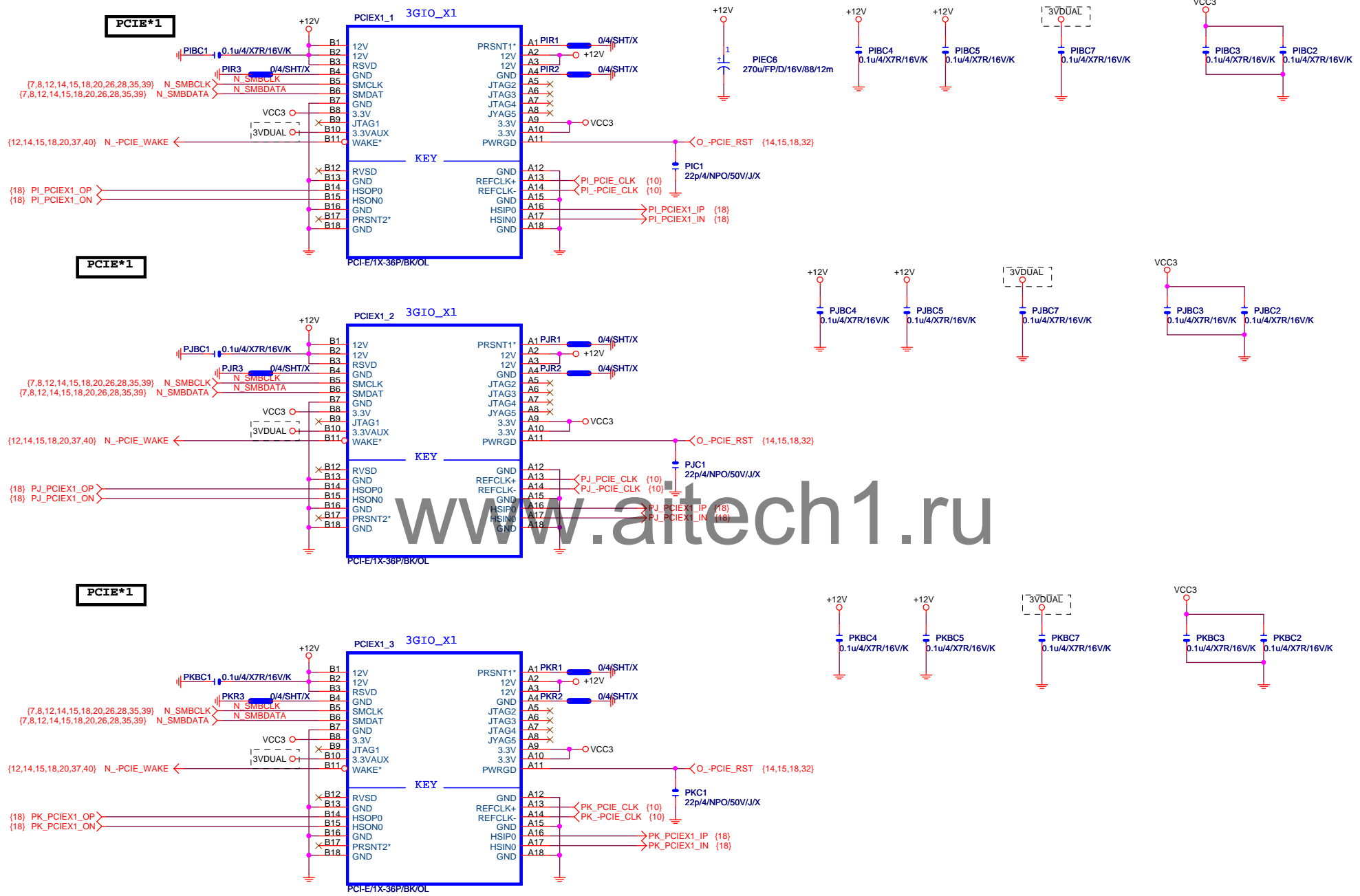






PE EXP SW TXP8	PEC2	0.22u4/X5R/6.3V/K	PE EXP SW TXP8 C
PE EXP SW TXN8	PEC3	0.22u4/X5R/6.3V/K	PE EXP SW TXN8 C
PE EXP SW TXP9	PEC4	0.22u4/X5R/6.3V/K	PE EXP SW TXP9 C
PE EXP SW TXN9	PEC5	0.22u4/X5R/6.3V/K	PE EXP SW TXN9 C
PE EXP SW TXP10	PEC6	0.22u4/X5R/6.3V/K	PE EXP SW TXP10 C
PE EXP SW TXN10	PEC7	0.22u4/X5R/6.3V/K	PE EXP SW TXN10 C
PE EXP SW TXP11	PEC8	0.22u4/X5R/6.3V/K	PE EXP SW TXP11 C
PE EXP SW TXN11	PEC9	0.22u4/X5R/6.3V/K	PE EXP SW TXN11 C
PE EXP SW TXP12	PEC10	0.22u4/X5R/6.3V/K	PE EXP SW TXP12 C
PE EXP SW TXN12	PEC11	0.22u4/X5R/6.3V/K	PE EXP SW TXN12 C
PE EXP SW TXP13	PEC12	0.22u4/X5R/6.3V/K	PE EXP SW TXP13 C
PE EXP SW TXN13	PEC13	0.22u4/X5R/6.3V/K	PE EXP SW TXN13 C
PE EXP SW TXP14	PEC14	0.22u4/X5R/6.3V/K	PE EXP SW TXP14 C
PE EXP SW TXN14	PEC15	0.22u4/X5R/6.3V/K	PE EXP SW TXN14 C
PE EXP SW TXP15	PEC16	0.22u4/X5R/6.3V/K	PE EXP SW TXP15 C
PE EXP SW TXN15	PEC17	0.22u4/X5R/6.3V/K	PE EXP SW TXN15 C

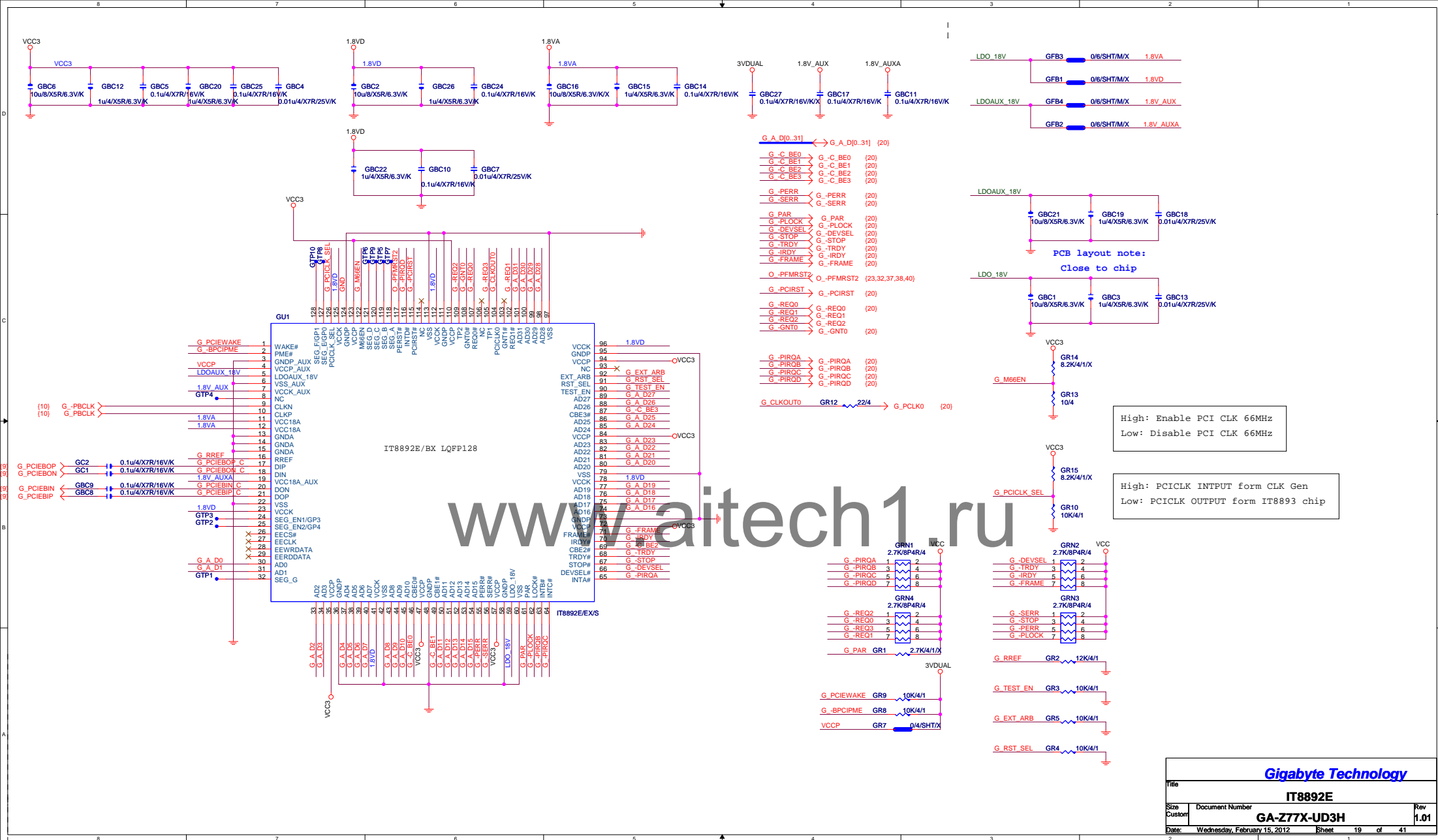




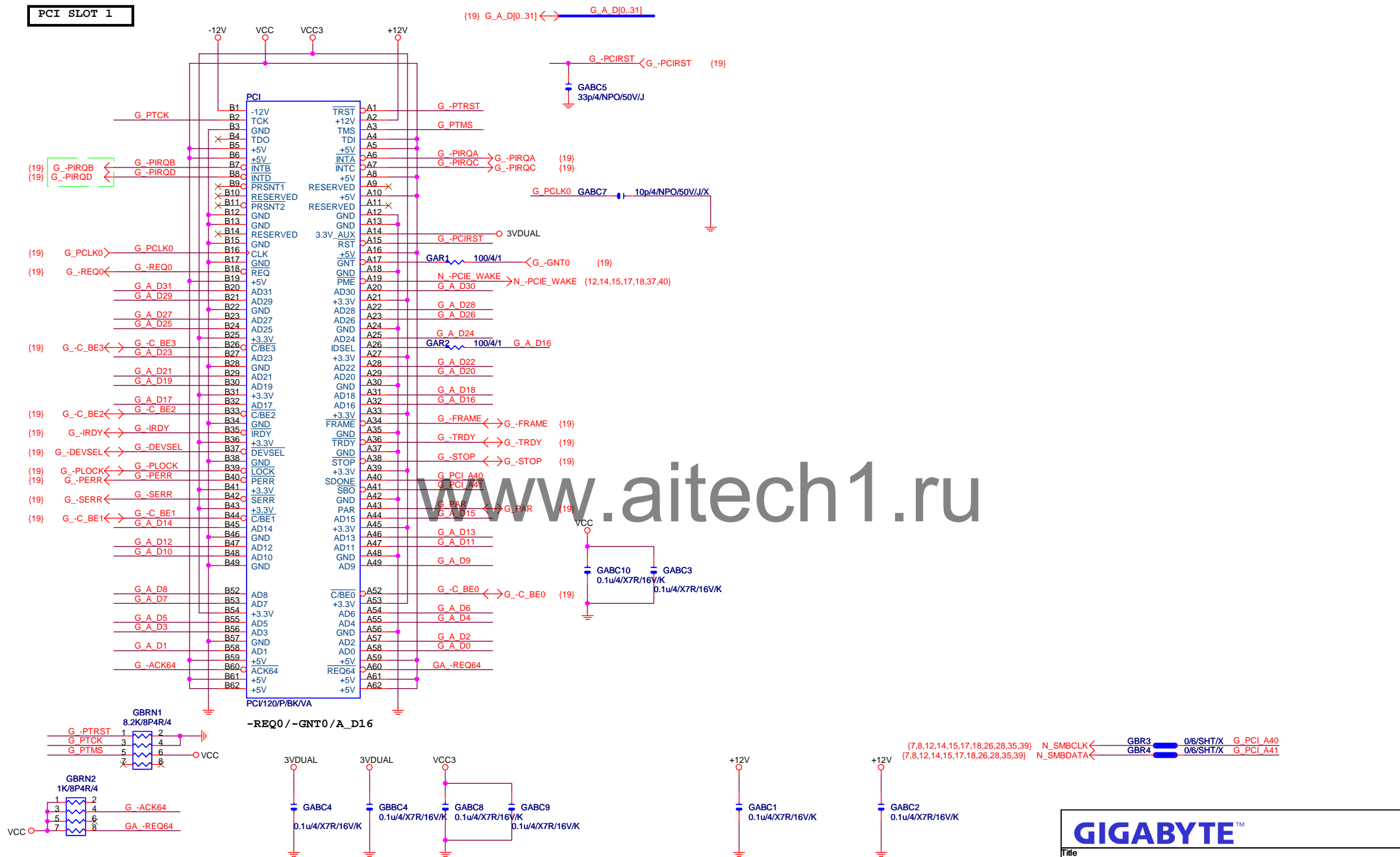
PCIE*4



GIGABYTE™			
Title			
PCIe_X4			
Size	Document Number		Rev
Custom	GA-Z77X-UD3H		1.01
Date:	Wednesday, February 15, 2012	Sheet	18 of 41

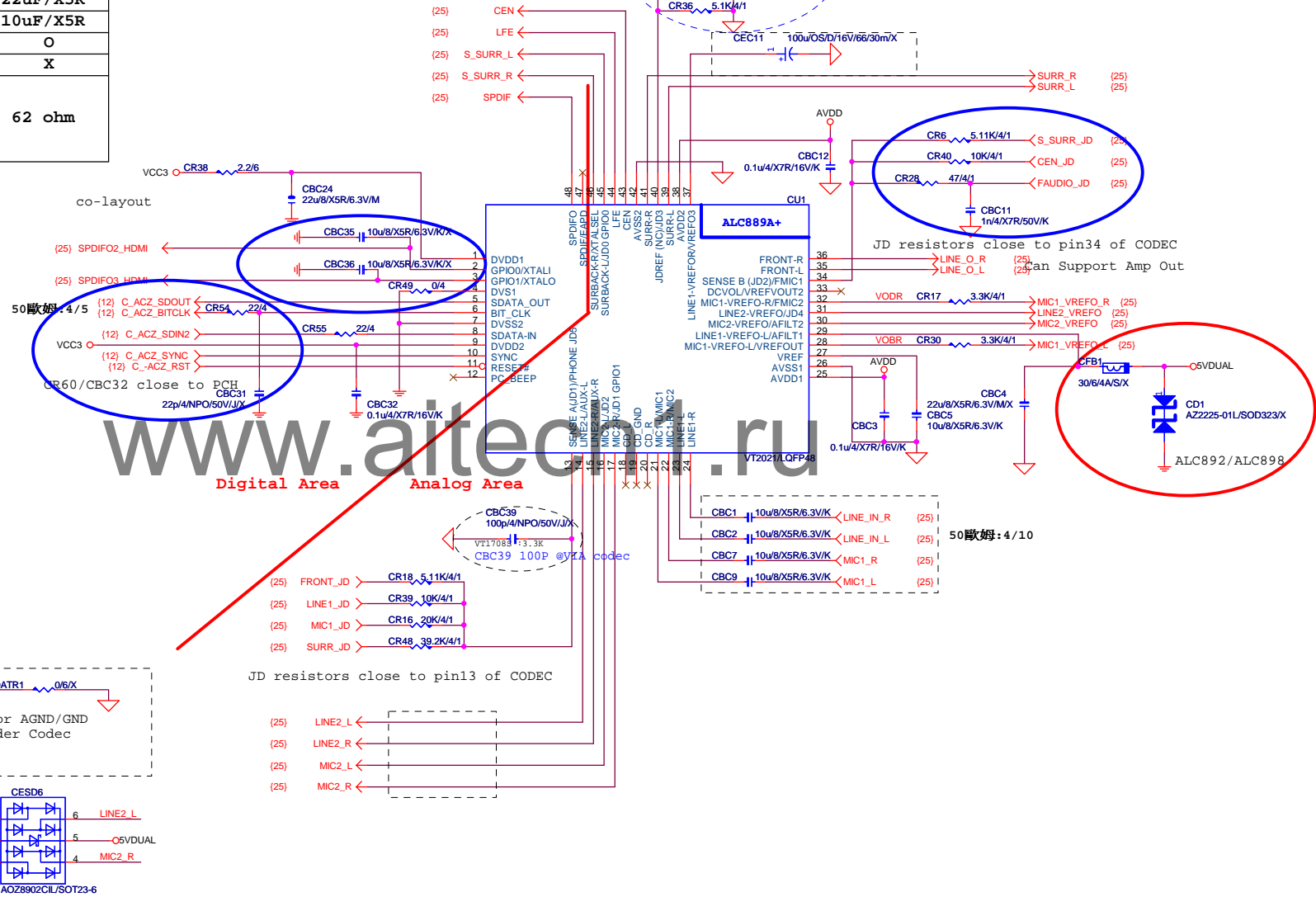


PCI SLOT 1



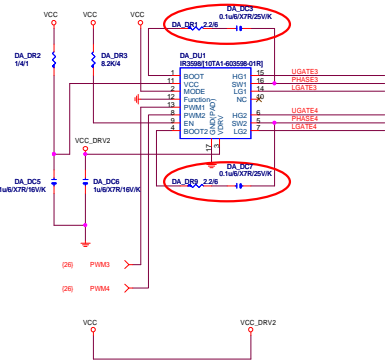
GIGABYTE™			
Title			
PCI SLOT 1			
Size	Document Number		Rev
Custom	GA-Z77X-UD3H		1.01
Date:	Wednesday, February 15, 2012		Sheet 20 of 41

	ALC889	ALC889B	ALC898/ALC892
CR49	O	O	X
CBC36	X	X	10uF/X5R
CBC35	X	10uF/X5R	X
CR52	O	X	O
CR53	X	O	X
CBC1/CBC2	22uF/X5R	22uF/X5R	22uF/X5R
CBC7/CBC9/CBC20/CBC15	10uF/X5R	10uF/X5R	10uF/X5R
CFB1/CD1/CBC4	X	X	O
CD2/CD3/CQ3/CQ4	O	O	X
CR7/CR9/CR5/CR13/ CR29/CR32/CR46/CR19/ CR50/CR41/CR21/CR47/ CR2/CR11/CR14/CR24	62 ohm	62 ohm	62 ohm





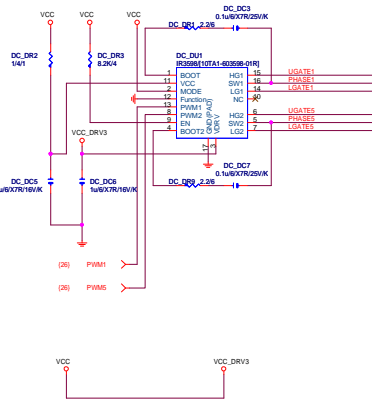
VCORE Phase 3,6



FUNCTION	MODE	PHASE	MODE	PHASE	MODE
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9
10	10	10	10	10	10

In Quad mode, ICI pin1 link to ICI pin1
ICI pin1 link to ICI pin1 without PU

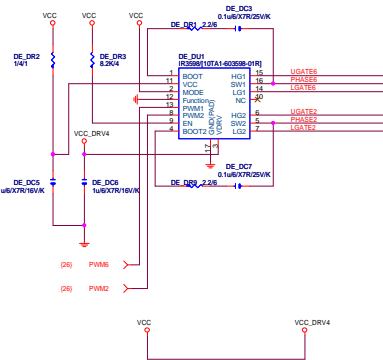
VCORE Phase 1,4



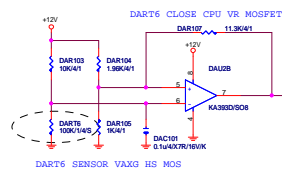
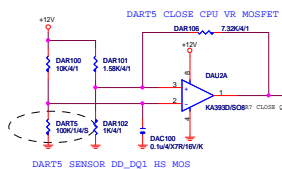
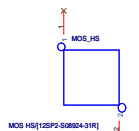
FUNCTION	MODE	PHASE	MODE	PHASE	MODE
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9
10	10	10	10	10	10

In Quad mode, ICI pin1 link to ICI pin1
ICI pin1 link to ICI pin1 without PU

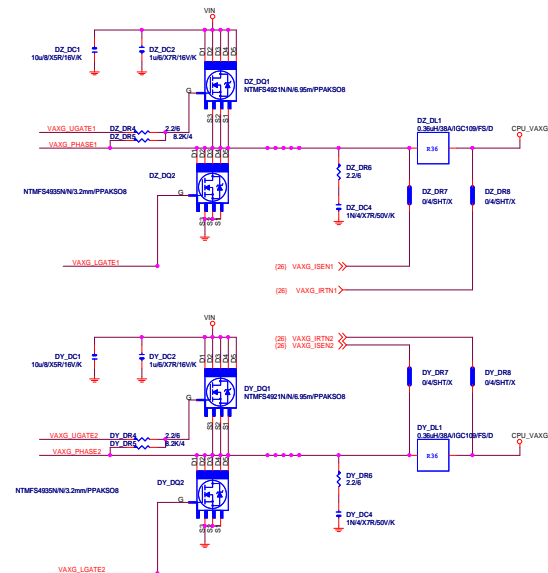
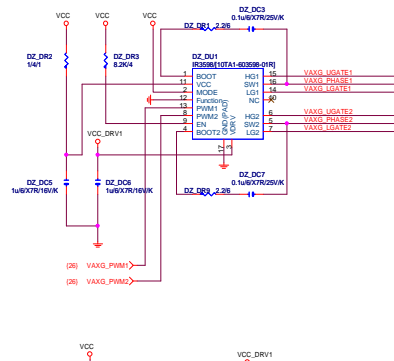
VCORE Phase 5,2

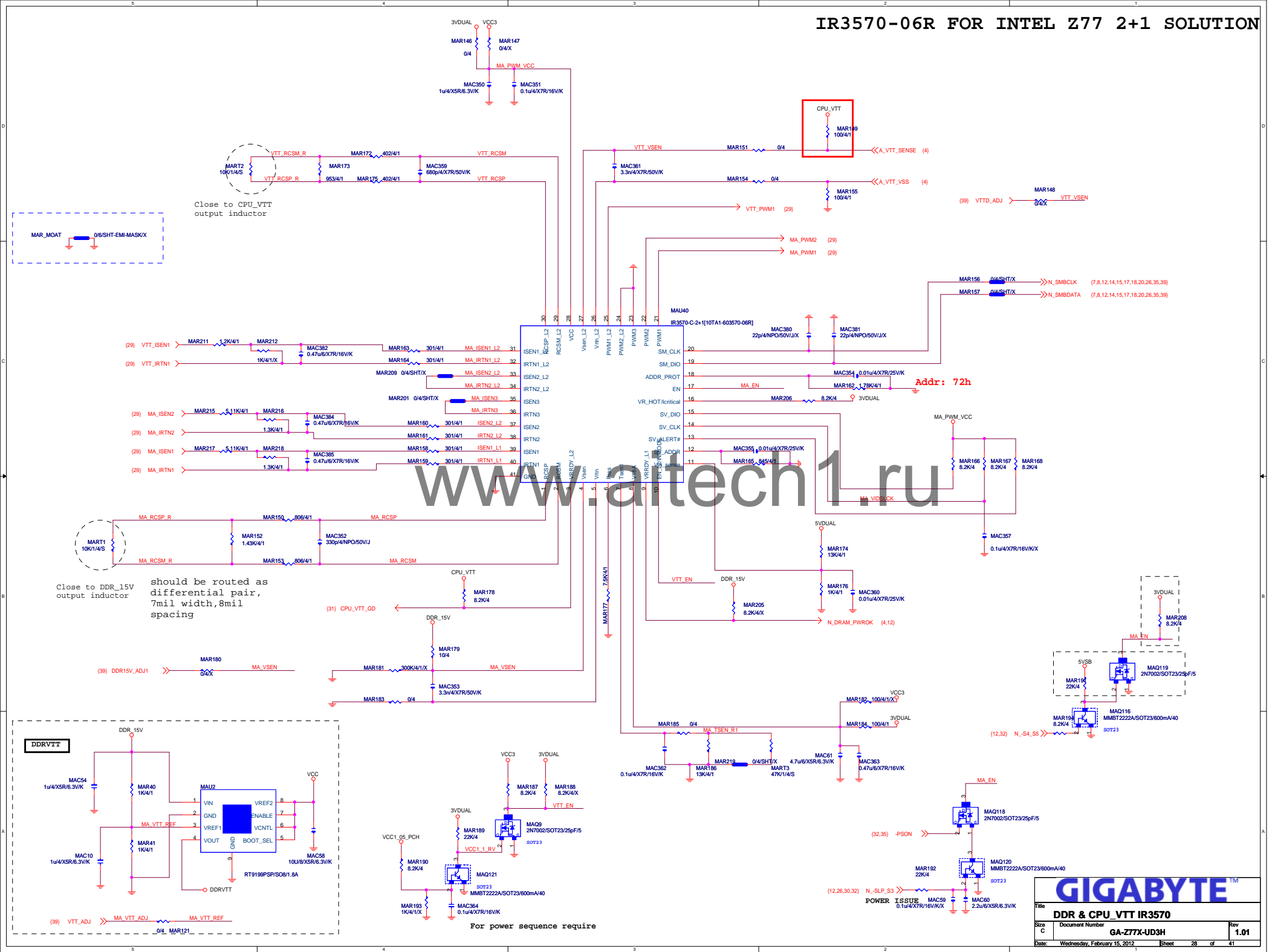


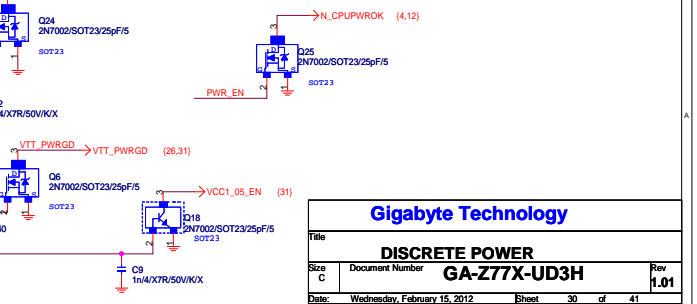
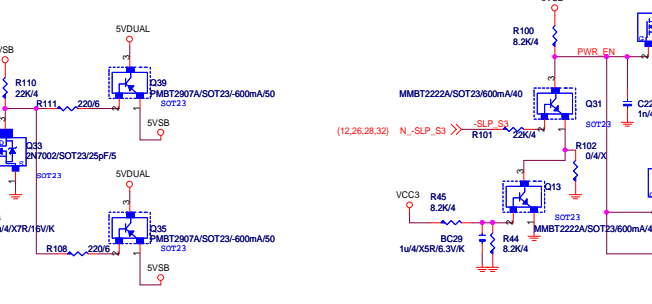
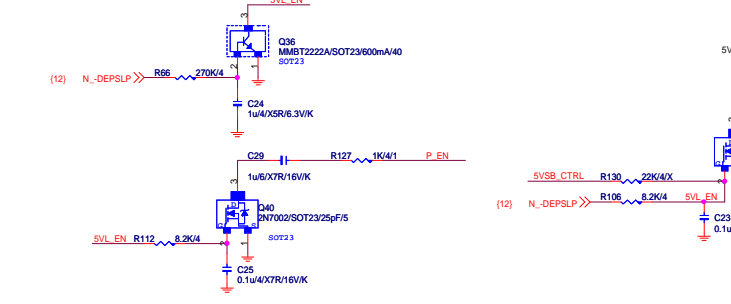
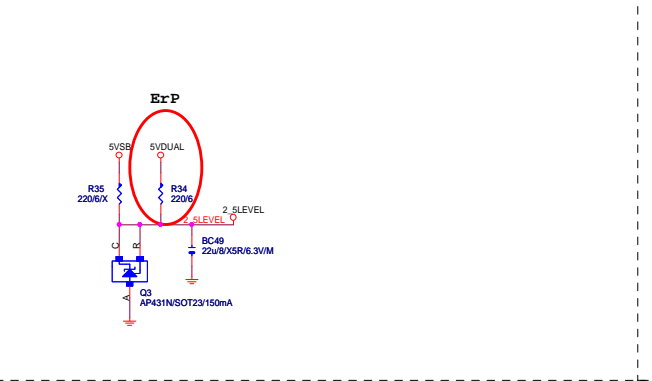
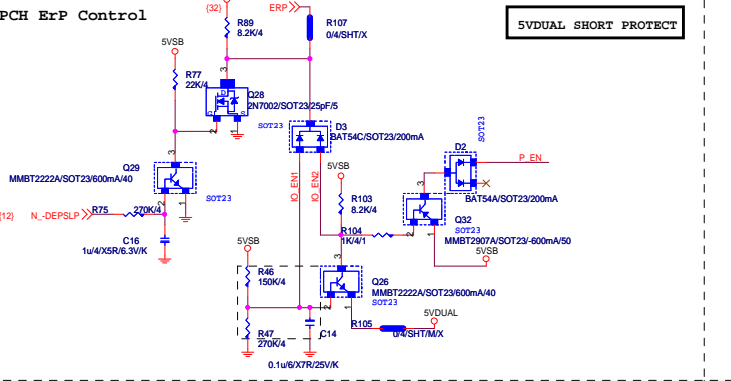
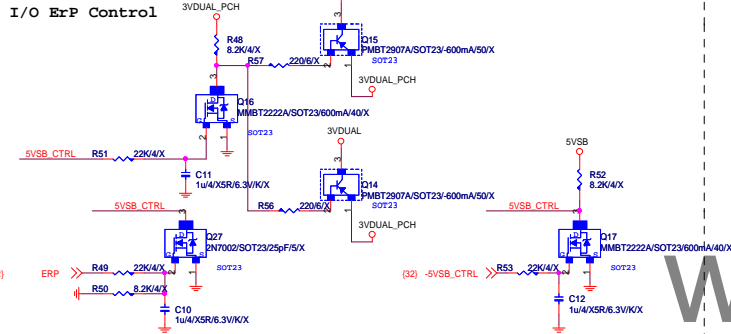
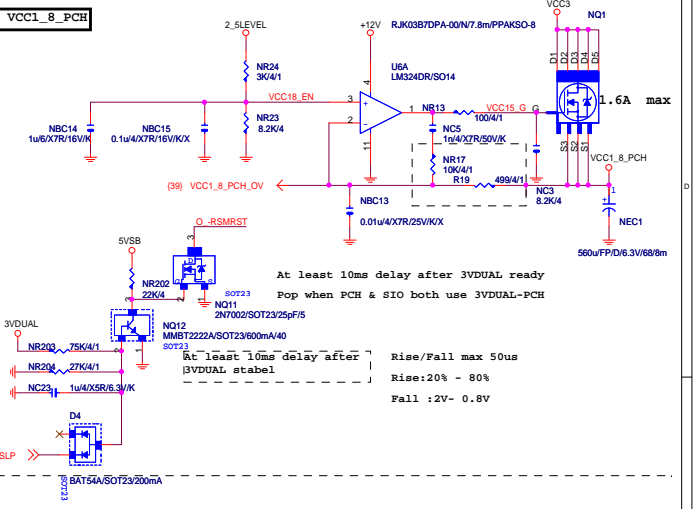
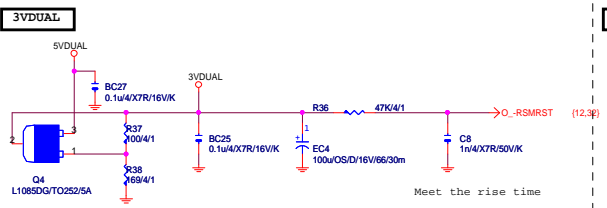
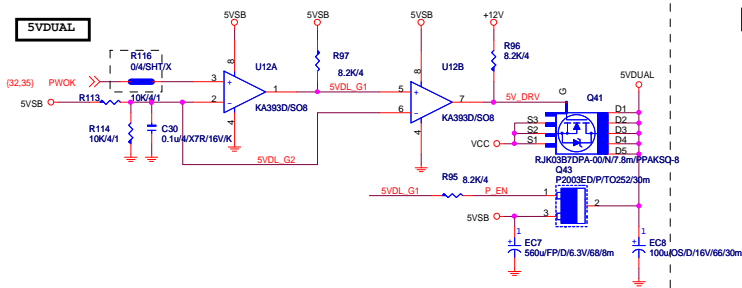
MOS HEATSINK

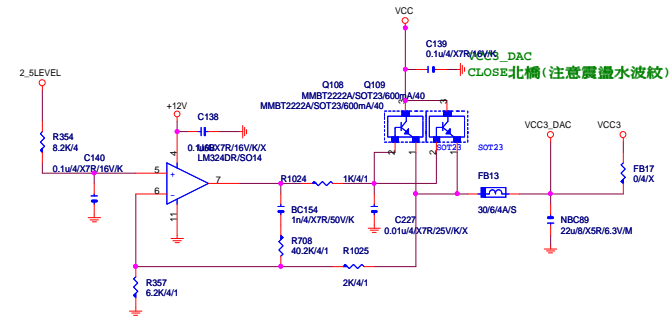


VAXG Phase

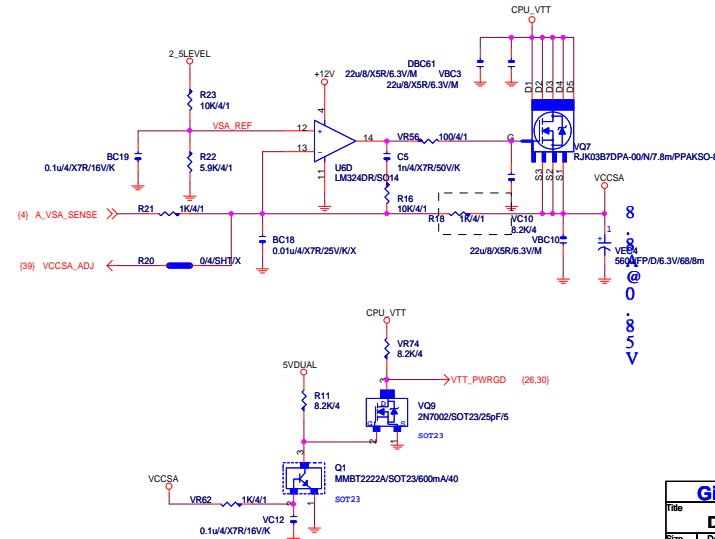


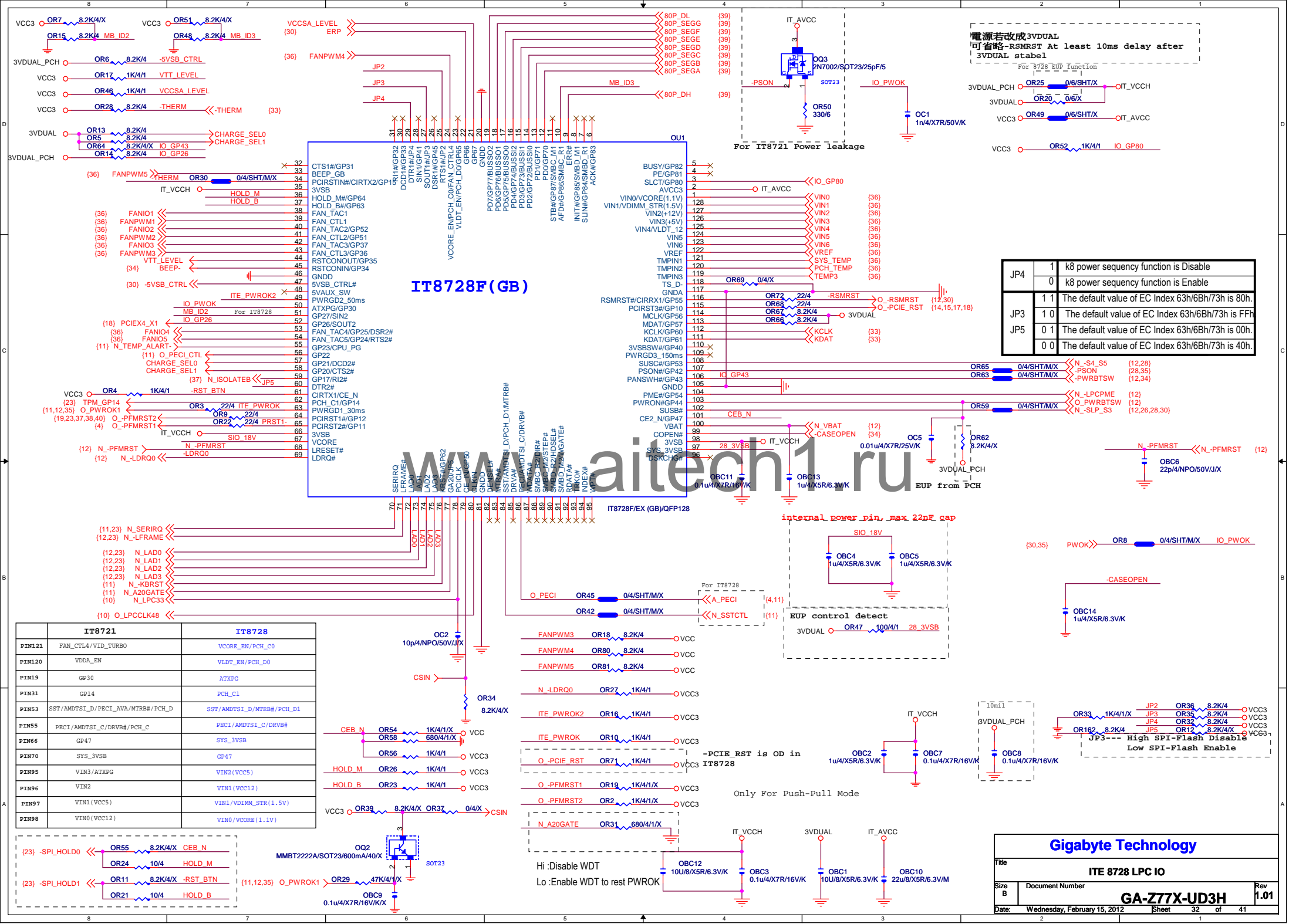


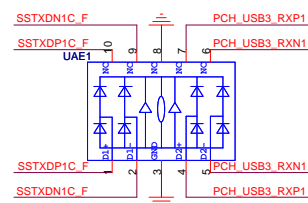
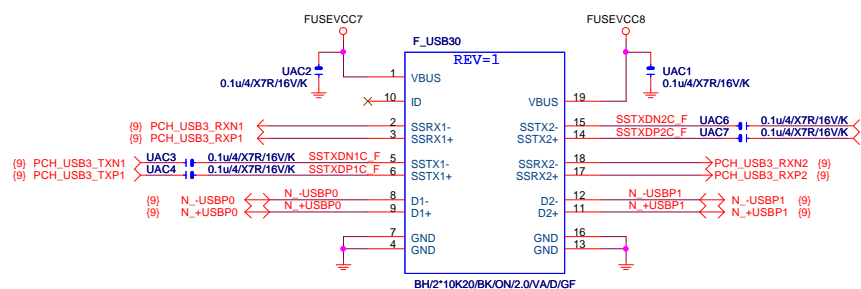


[illegible]
$$(3.3V/70mA+360\mu A)$$


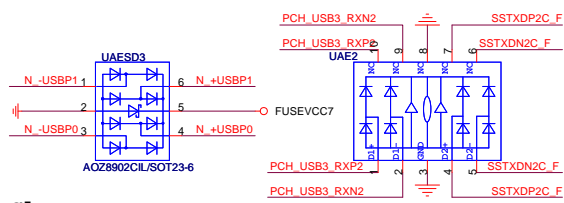
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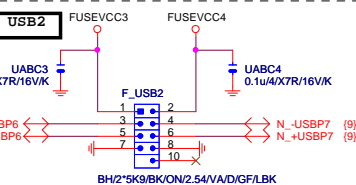
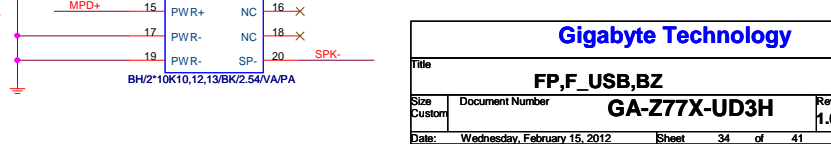
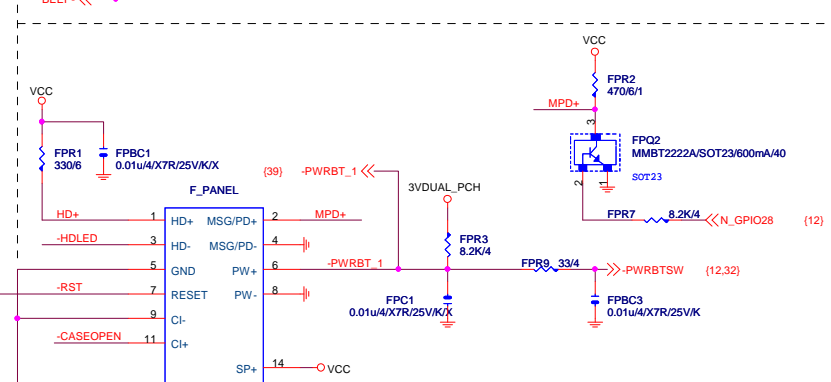
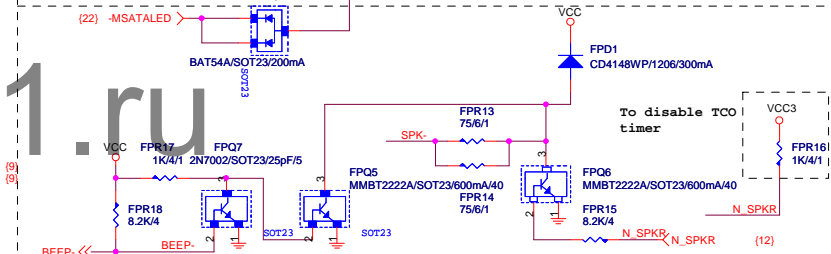
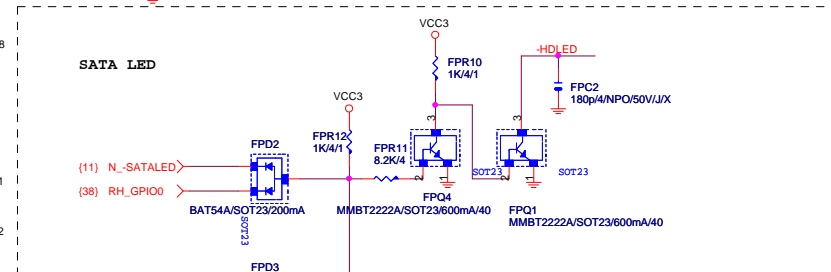
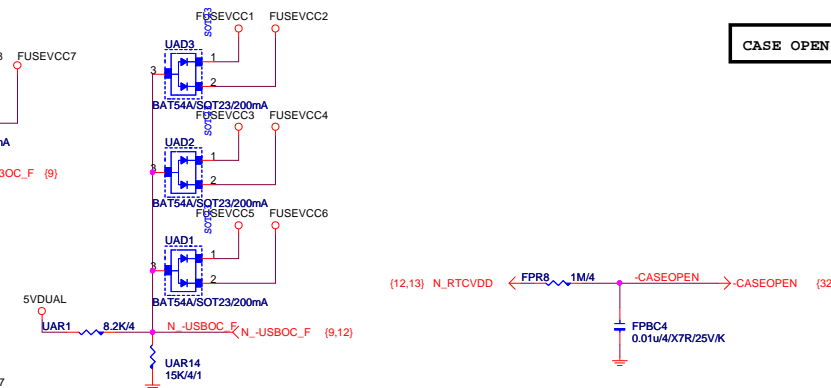
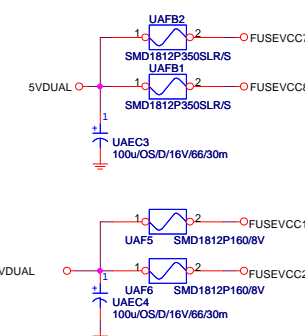
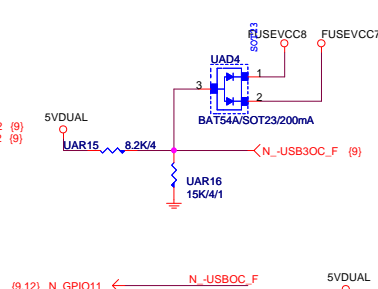


Close to connector

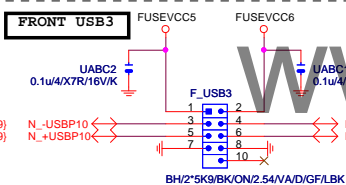


Close to connector

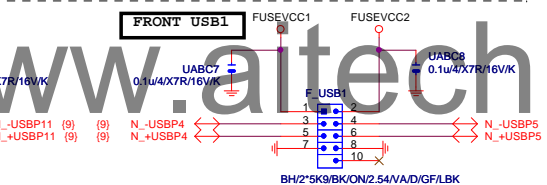
Close to connector



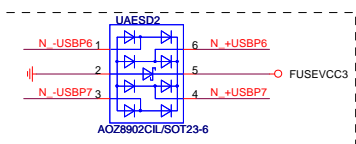
Close to connector



Close to connector



Close to connector



SVIDUAL

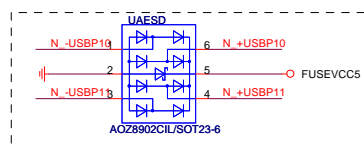
1 2 UAF3 SMD1812P160/8V FUSEVCC3

1 2 UAF4 SMD1812P160/8V FUSEVCC4

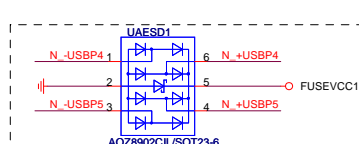
100MILS

1 UAE2

100uS/D/16V/66/30m



Schematic diagram of the FUSEVCC5 and FUSEVCC6 power planes. The diagram shows two parallel traces connected to an SVDUAL source. The top trace is labeled FUSEVCC5 and the bottom trace is labeled FUSEVCC6. Both traces contain a fuse component labeled UAF2 and UAF1 respectively, with a value of SMD1812P160/8V. A dimension line indicates a 100MILS spacing between the traces. A note specifies 100uOS/D/16V/66/30m.

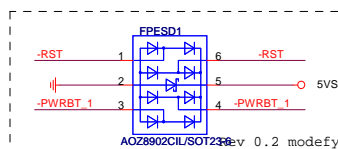


(39) RESET >>

5VSB

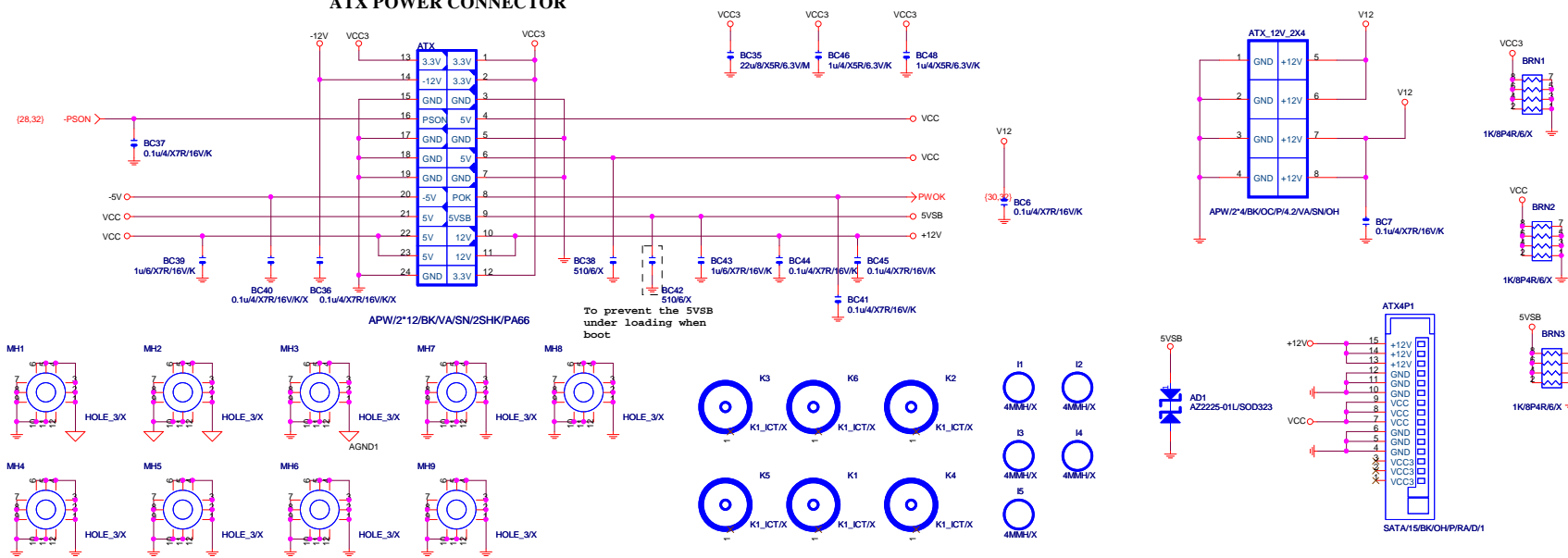
(12.35) N_SYS_RST << FPR5 100/4

INTEL FRONT PANEL



Close to connector

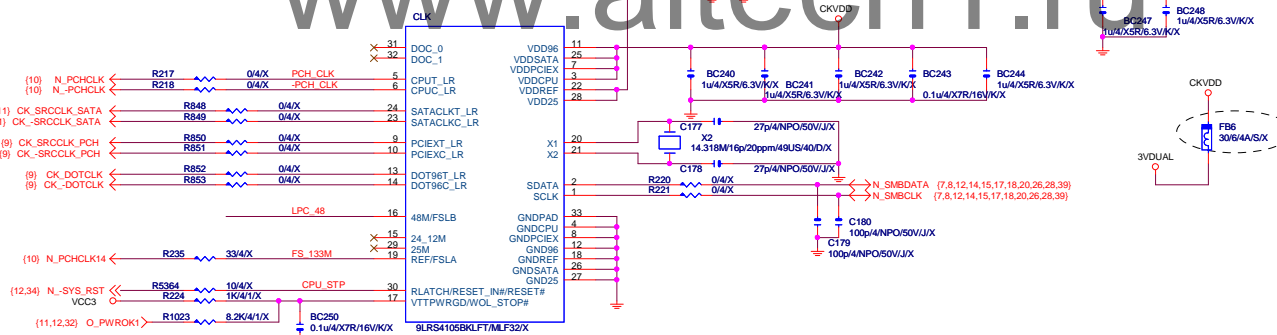
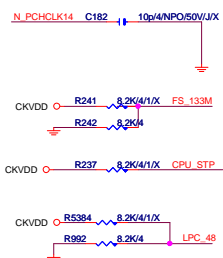
ATX POWER CONNECTOR



CLK GEN CK505

CPU Frequency Selection

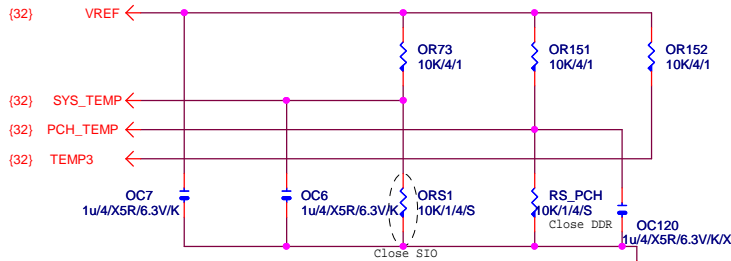
FSLB	FSLA	CPU
0	0	100M <Default>
0	1	133M
1	0	200M
1	1	166M



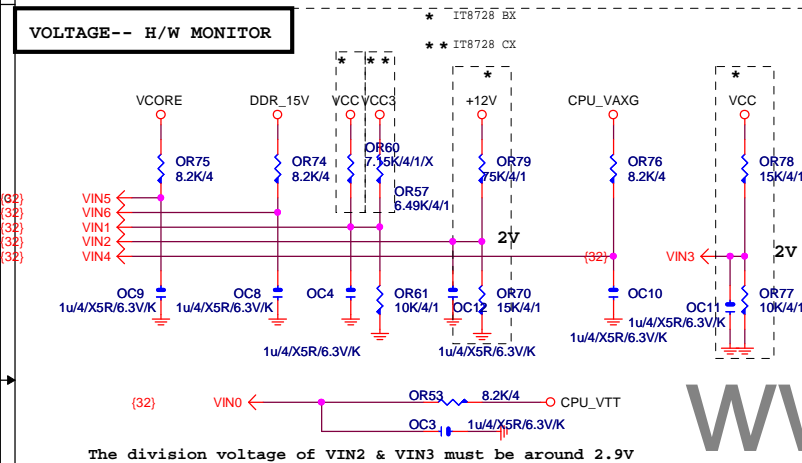
Gigabyte Technology

Title			Rev
ATX POWER CONNECTOR			1.01
Size	Document Number	GA-Z77X-UD3H	
Custom			
Date:	Wednesday, February 15, 2012	Sheet	35 of 41

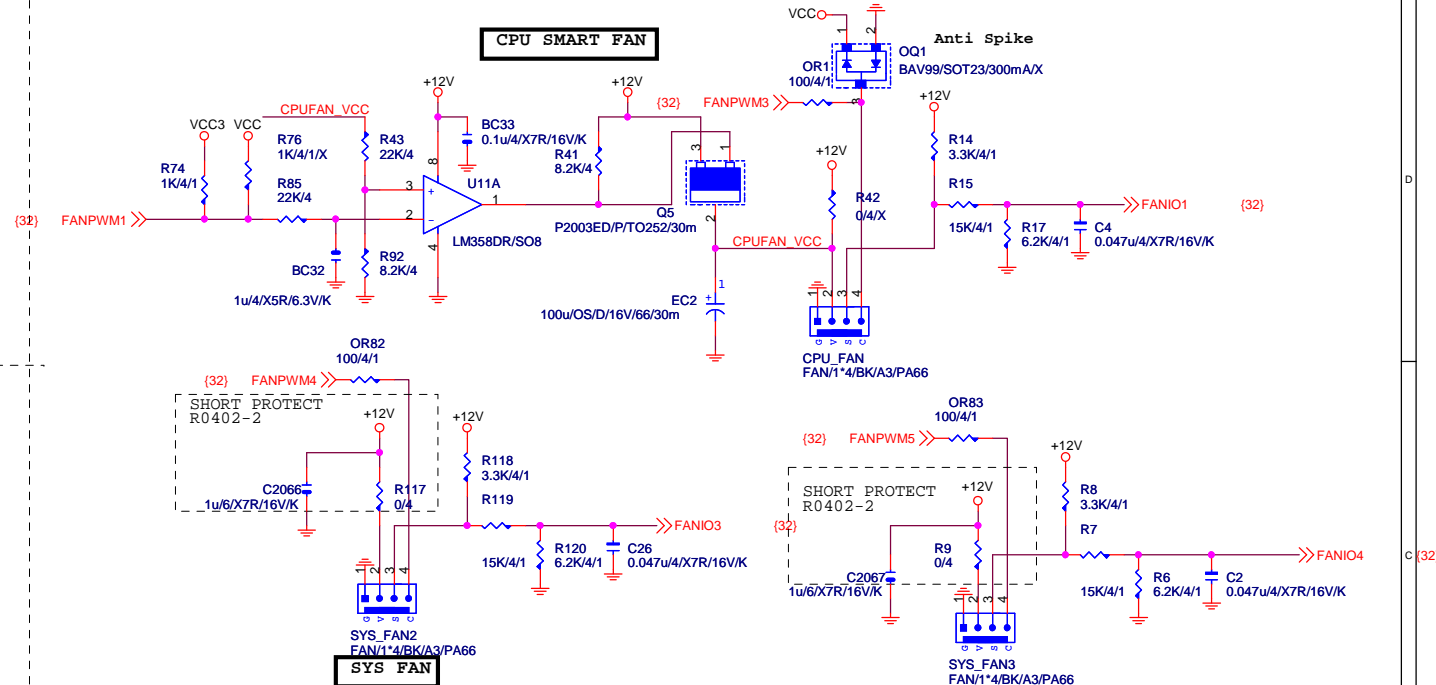
TEMP H/W MONITOR



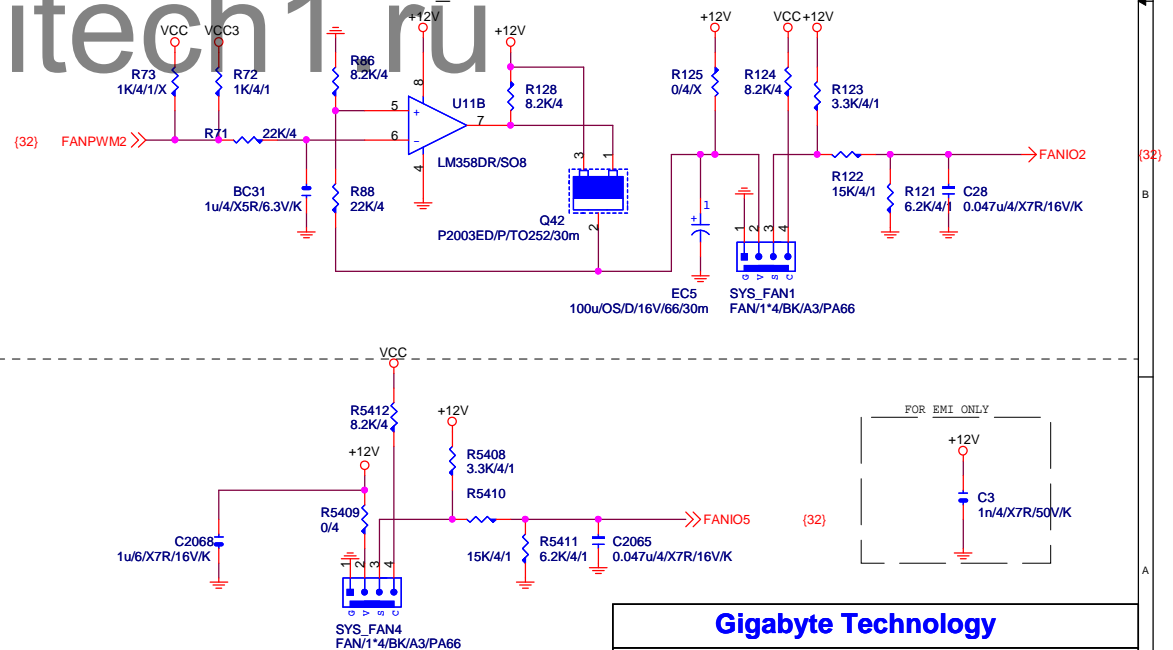
VOLTAGE-- H/W MONITOR



CPU SMART FAN

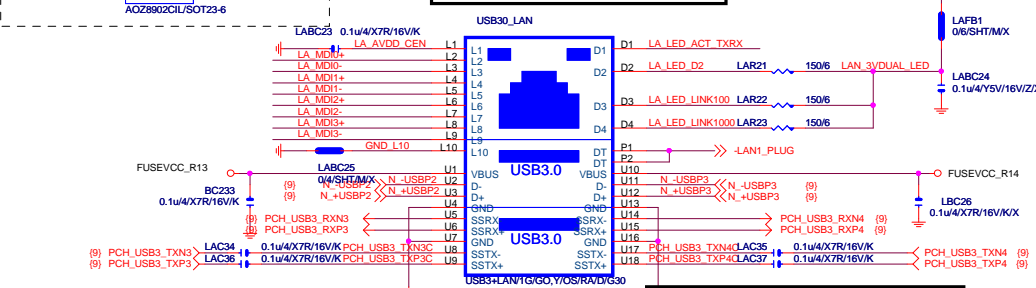
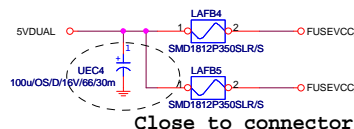
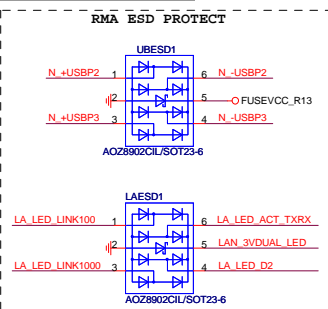
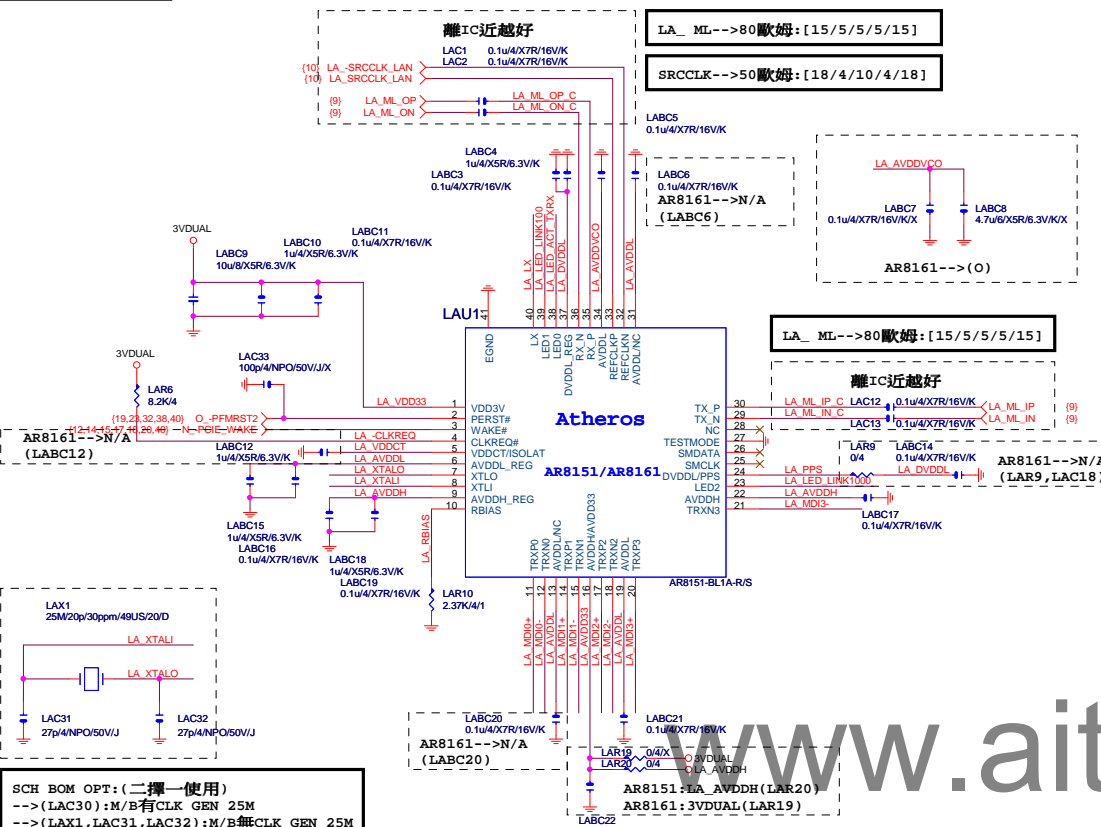


Linear SYS_FAN

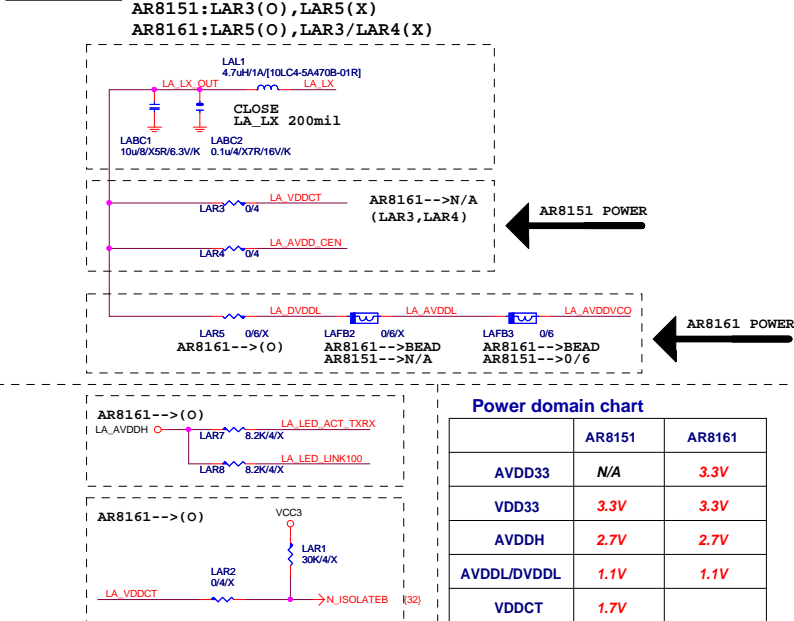


Gigabyte Technology

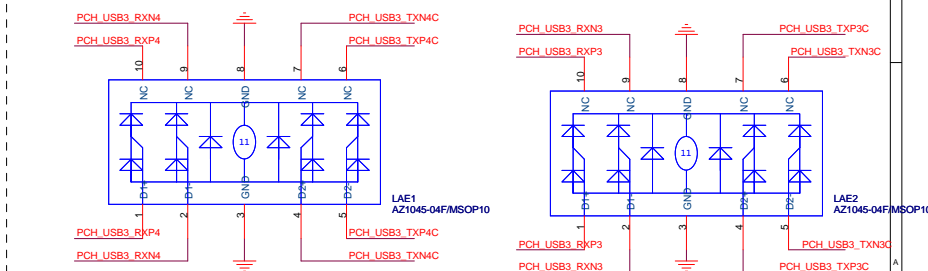
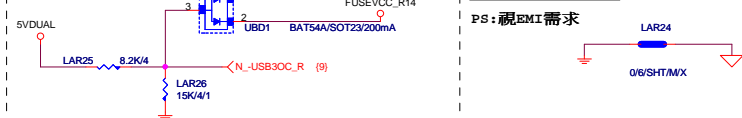
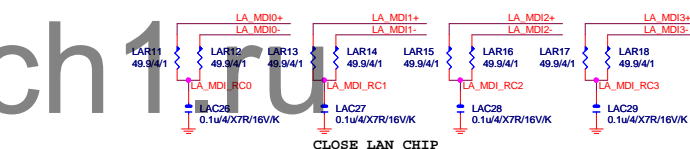
Title		
HWM,KB/MS, FAN CTRL		
Size	Document Number	Rev
Custom	GA-Z77X-UD3H	1.01
Date:	Wednesday, February 15, 2012	Sheet 36 of 41

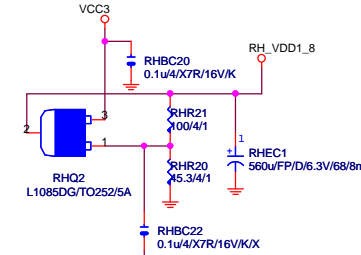
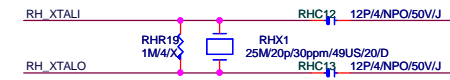
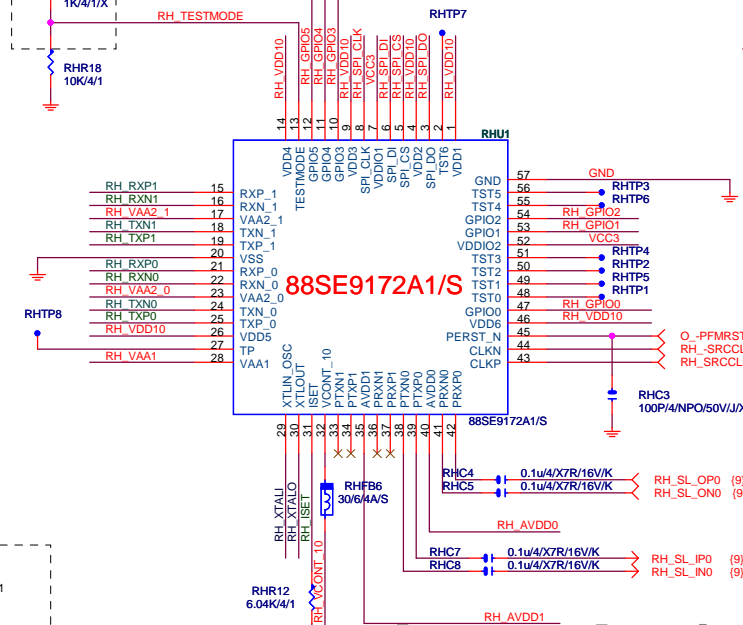
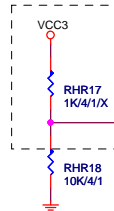
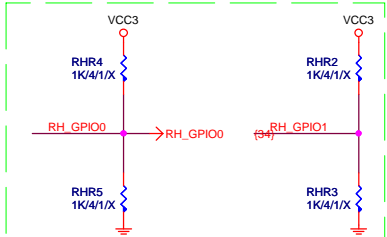
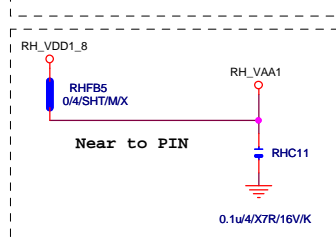
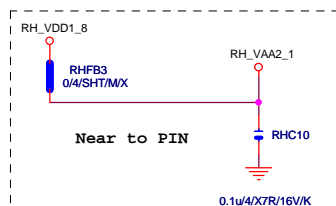
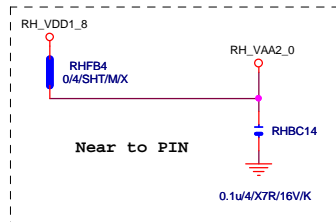
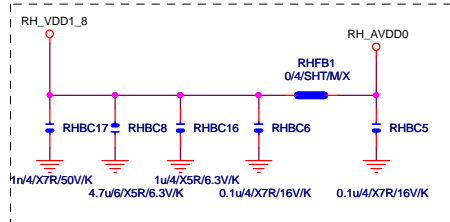
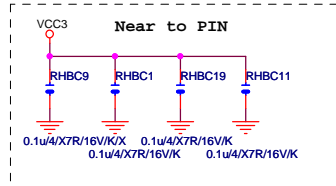
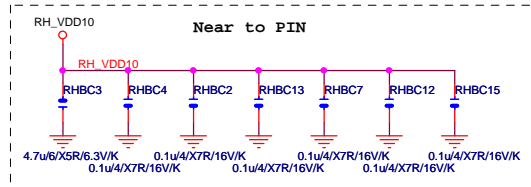


注意:USB PORT(目前:暫代6,7PORT)
USB-->90歐姆:[15/4.5/7.5/4.5/15]

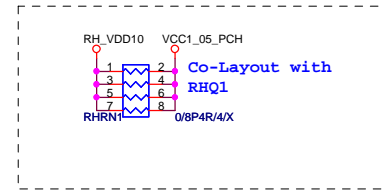
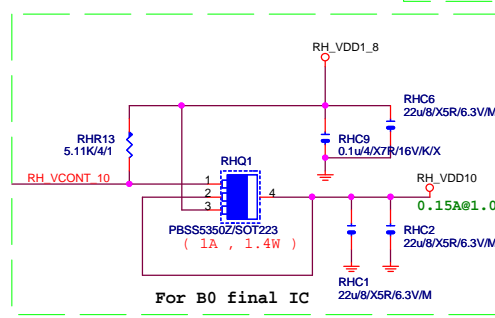
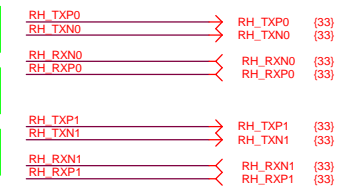
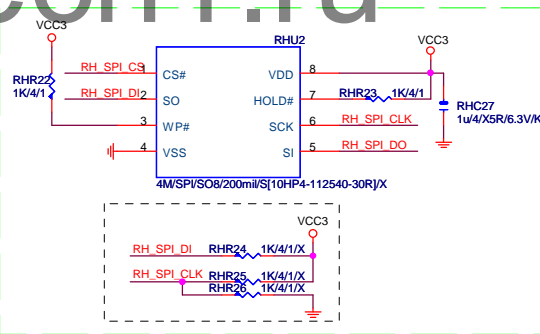
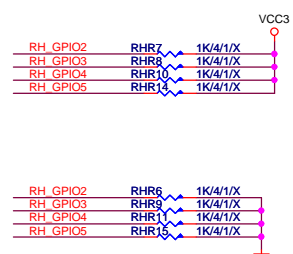


	AR8151	AR8161
AVDD33	N/A	3.3V
VDD33	3.3V	3.3V
AVDDH	2.7V	2.7V
AVDDL/DVDDL	1.1V	1.1V
VDDCT	1.7V	





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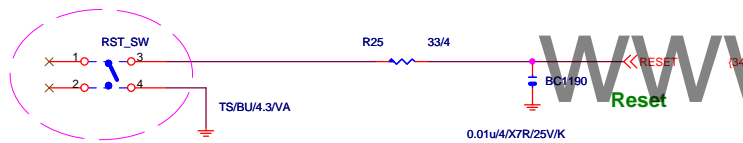
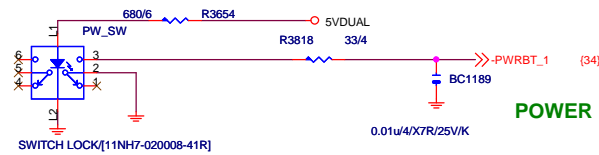
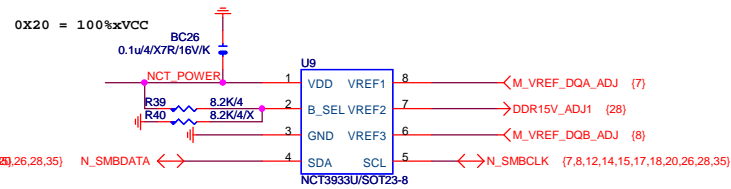
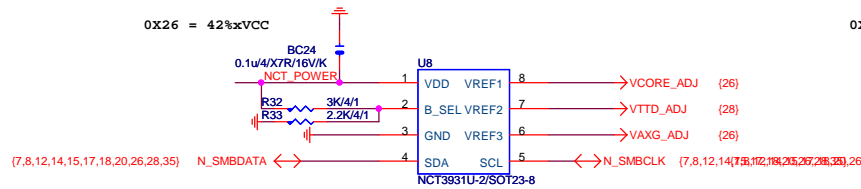
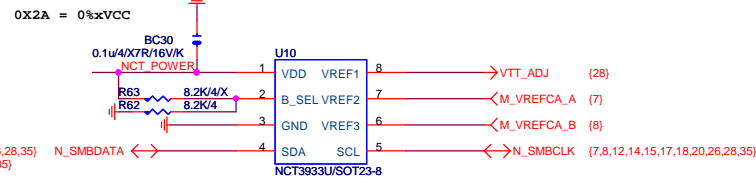
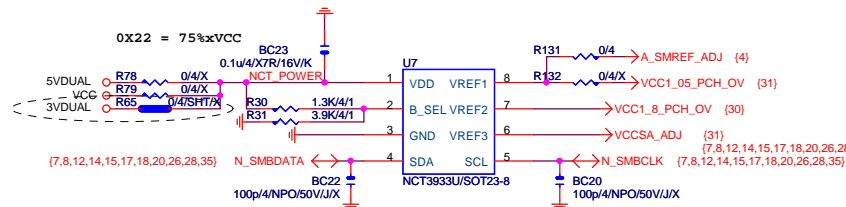
Marvell 9172 Power Requirements

Analog 1.8V 230mA

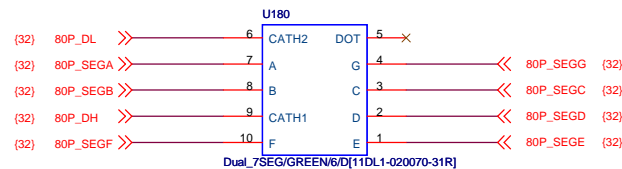
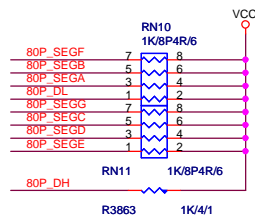
Core 1.0V 900mA

I/O 3.3V 50mA

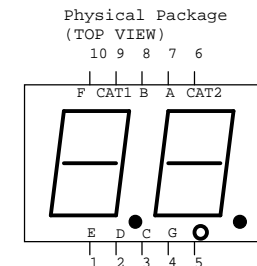
GIGABYTE™		
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Size: Document Number	GA-Z77X-UD3H	Rev: 1.01
Date: Wednesday, February 15, 2012	Sheet: 38	of: 41

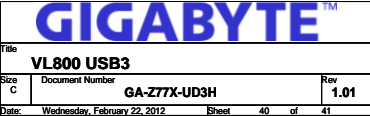


80 PORT



COMMON CATHODE



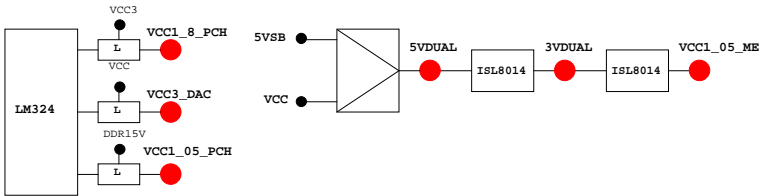


PCH GPIO LIST TABLE					
PIN NAME	PWR	Default	USAG	NOTE	
GP0	MAIN	H-Z	GPI	-PECI_REQ	N/A
GP1/TACH1	MAIN		GPI	ICH_FAN_TACH1	N/A
GP2/PIRQE#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	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	-AC2_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

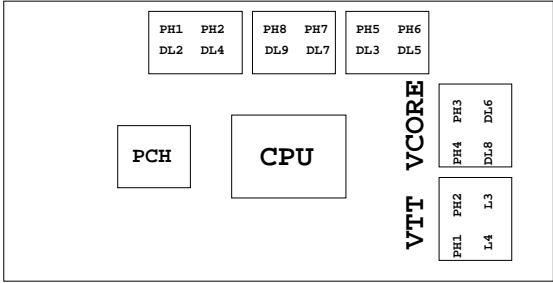
Super I/O ITE8720 GPIO Table

PIN NAME	USAG	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/BUSS00	N/A	

PIN NAME	USAG	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/BUSS11	SB_LED1_C	
PD4/GP74/BUSS12	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSS10	NB_LED3_C	
GP22/SEN	LOW_PWR_1	
VIDO5/GP27/SEN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VSB5W#/GP40	CSI_F0	BSEL166_1
SUSCH#/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_CLT15/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/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 Terminatio
VREF_CA_AVREF_CA_B	DRAM Address Ref
VREF_DQ_AVREF_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

Gigabyte Technology			
TABLE LIST			
Size C	Document Number	Rev	
	GA-Z77X-UD3H	1.01	
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