

Model Name: GA-Z97X-SOC Force LN2

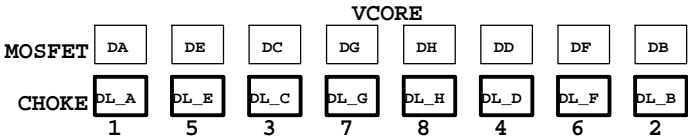
SHEET TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCH HDMI/DP
15	PCI EXPRESS*16 SLOT
16	PCI EXPRESS*8 SLOT
17	PCI EXPRESS*1 SLOTS X1
18	PCI EXPRESS X8 X4 SWITCH
19	PCI EXPRESS*4 SLOT (CPU)
20	PCI EXPRESS*4 SLOT (PCH)
21	ITE 8892
22	PCI SLOT 1&2
23	ALC1150
24	REAR AUDIO JACK
25	Dual BIOS
26	IR3580A PWM
27	IR3550-VCORE

Rev 1.0

SHEET TITLE

28	IR3570-DDR PWM
29	IR3550-DDR POWER
30	5VDUAL, 3VDAUL, ERP
31	DISCRETE POWER
32	I/O ITE8620
33	KB/USB3,R_USB
34	F_PANEL ,COM , PHOT
35	F_USB 2.0
36	F_USB 3.0
37	ATX POWER
38	HWM, FAN CTRL
39	LAN E2201
40	Highly switch
41	RST, PWR, CLR_CMOS,NCT3933
42	IT 8790
43	EC FAN CTRL
44	OC POWER
45	SATA_EXPRESS
46	VGA
46	TABLE



Title

Cover Sheet

Size Custom

Document Number

GA-Z97X-SOC Force LN2

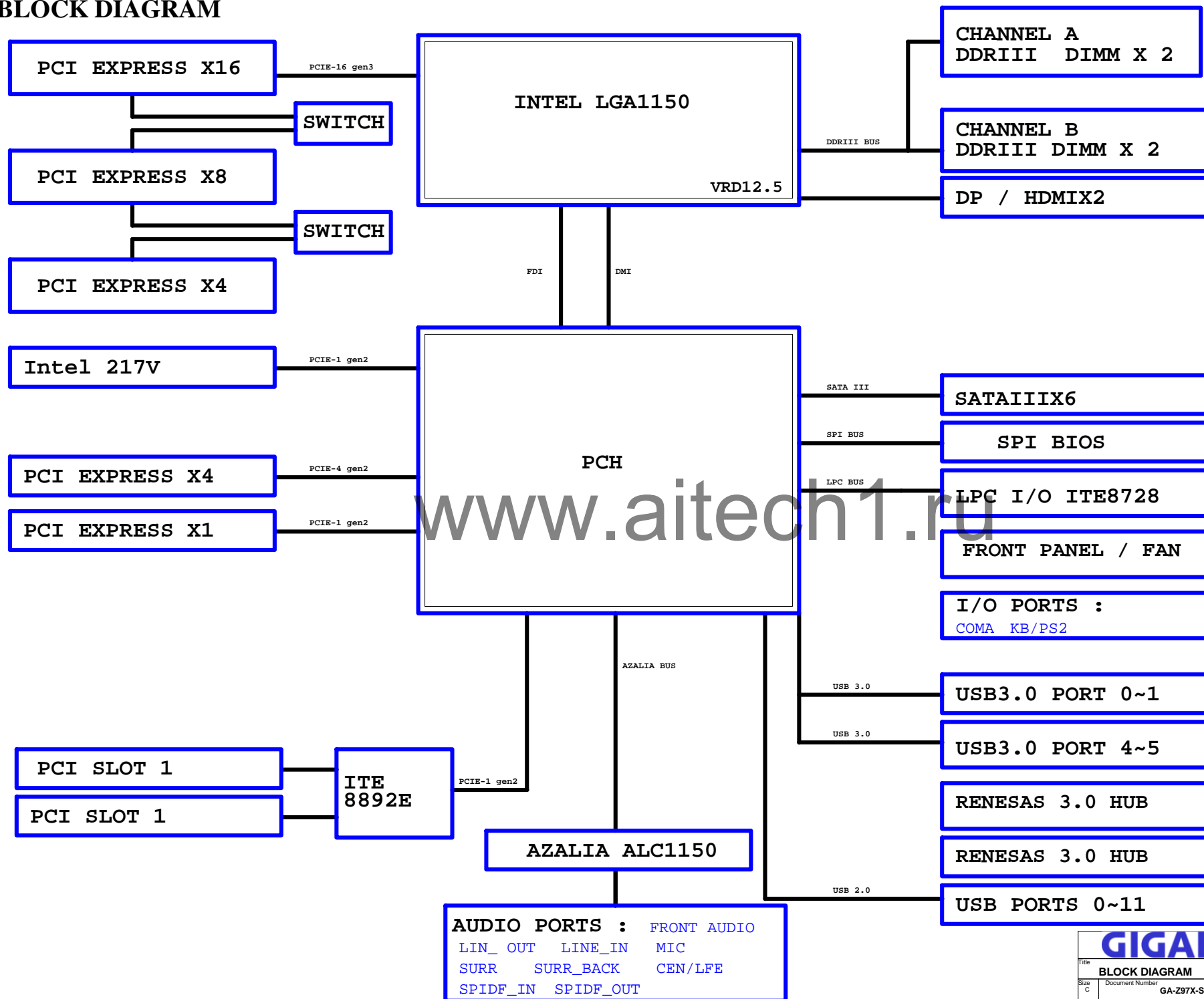
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Rev 1.0

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BLOCK DIAGRAM

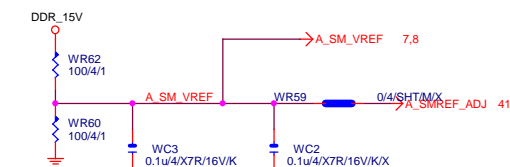


CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	NORM	Reverse	LANE REVERSAL[01,x16]
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD	RSVD	RSVD

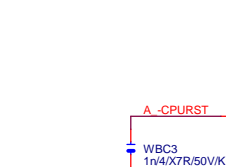
CFG6	CFG5	PCIE CONFIG
1	1	1x16, Default
1	0	2x8
0	1	RSVD
0	0	X8_X4_X4

CFG 0-17 all internal PULL-UP

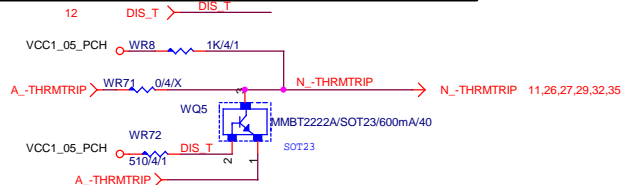
SM_REF



-CPURST



THRMTRIP DISABLE FOR Z97 OVERCLOCK



GIGABYTE

CPU LGA1150-A

Size	Document Number	Rev
Custm	GA-Z97X-SOC Force LN2	1.0
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LGA1150A			
MAAA0	AU13	DDR0_MA0	DDR0_DQ0
MAAA1	AV16	DDR0_MA1	DDR0_DQ1
MAAA2	AU16	DDR0_MA2	DDR0_DQ2
MAAA3	AW17	DDR0_MA3	DDR0_DQ3
MAAA4	AU17	DDR0_MA4	DDR0_DQ4
MAAA5	AV18	DDR0_MA5	DDR0_DQ5
MAAA6	AV17	DDR0_MA6	DDR0_DQ6
MAAA7	AT18	DDR0_MA7	DDR0_DQ7
MAAA8	AU18	DDR0_MA8	DDR0_DQ8
MAAA9	AT19	DDR0_MA9	DDR0_DQ9
MAAA10	AV19	DDR0_MA10	DDR0_DQ10
MAAA11	AV18	DDR0_MA11	DDR0_DQ11
MAAA12	AU19	DDR0_MA12	DDR0_DQ12
MAAA13	AU10	DDR0_MA13	DDR0_DQ13
MAAA14	AT20	DDR0_MA14	DDR0_DQ14
MAAA15	AU21	DDR0_MA15	DDR0_DQ15
AW10	DDR0_ODT0	DDR0_ODT0	DDR0_ODT0
AY8	DDR0_ODT1	DDR0_ODT1	DDR0_ODT1
MODT_A2	AW9	DDR0_ODT2	DDR0_ODT2
MODT_A3	AU8	DDR0_ODT3	DDR0_ODT3
AW33	DDR0_ECC0	DDR0_ECC0	DDR0_ECC0
AV33	DDR0_ECC1	DDR0_ECC1	DDR0_ECC1
AU31	DDR0_ECC2	DDR0_ECC2	DDR0_ECC2
AV31	DDR0_ECC3	DDR0_ECC3	DDR0_ECC3
AU33	DDR0_ECC4	DDR0_ECC4	DDR0_ECC4
AT33	DDR0_ECC5	DDR0_ECC5	DDR0_ECC5
AW31	DDR0_ECC6	DDR0_ECC6	DDR0_ECC6
AW31	DDR0_ECC7	DDR0_ECC7	DDR0_ECC7
SBA00	SBAA0	AV12	DDR0_BA0
SBA01	SBAA1	AY11	DDR0_BA1
SBA02	SBAA2	AT21	DDR0_BA2
CKEA2	CKEA2	AV22	DDR0_CKE0
CKEA3	CKEA3	AU22	DDR0_CKE1
CKEA3	CKEA3	AU23	DDR0_CKE2
CKEA3	CKEA3	AU23	DDR0_CKE3
CSA2	CSA2	AU14	DDR0_CS_N0
CSA3	CSA3	AU10	DDR0_CS_N1
CSA3	CSA3	AW8	DDR0_CS_N2
CSA3	CSA3	AW8	DDR0_CS_N3
DCLKA2	DCLKA2	AV15	DDR0_CLK_P0
DCLKA2	DCLKA2	AV16	DDR0_CLK_N0
DCLKA3	DCLKA3	AV15	DDR0_CLK_P1
DCLKA3	DCLKA3	AV14	DDR0_CLK_N1
DCLKA3	DCLKA3	AW14	DDR0_CLK_P2
DCLKA3	DCLKA3	AW13	DDR0_CLK_N2
DCLKA3	DCLKA3	AY13	DDR0_CLK_P3
DCLKA3	DCLKA3	AY13	DDR0_CLK_N3
RSVD	RSVD	AW12	RSVD
SRASA	SRASA	AU12	DDR0_RAS*
SWEA	SWEA	AU11	DDR0_WE*
SCASA	SCASA	AU9	DDR0_CAS*
DDR3_RST	WR61	AK22	DDR_RESET*
WC4	0.1u/4X7R/16V/K/X	0/4/SHT/M/X	

HASWELL[10SC1-F01150-01R]

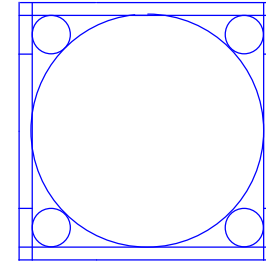
7	MODT_A[0..3]	MODT_A0_31
8	MODT_B[0..3]	MODT_B0_31
7	MDA[0..63]	MDA0_631
8	MDB[0..63]	MDB0_631
7	DQSA[0..7]	DQSA0_71
7	-DQSA[0..7]	-DQSA0_71
7	MAAA[0..15]	MAAA0_151
8	MAAB[0..15]	MAAB0_151
8	DQSB[0..7]	DQSB0_71
8	-DQSB[0..7]	-DQSB0_71

LGA1150B

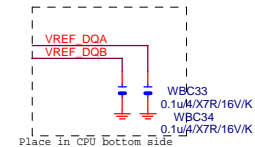
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MAAB1	AK23	DDR1_MA1	DDR1_DQ1
MAAB2	AM22	DDR1_MA2	DDR1_DQ2
MAAB3	AM23	DDR1_MA3	DDR1_DQ3
MAAB4	AP23	DDR1_MA4	DDR1_DQ4
MAAB5	AL23	DDR1_MA5	DDR1_DQ5
MAAB6	AY24	DDR1_MA6	DDR1_DQ6
MAAB7	AV25	DDR1_MA7	DDR1_DQ7
MAAB8	AU26	DDR1_MA8	DDR1_DQ8
MAAB9	AW25	DDR1_MA9	DDR1_DQ9
MAAB10	AP18	DDR1_MA10	DDR1_DQ10
MAAB11	AK38	DDR1_MA11	DDR1_DQ11
MAAB12	AK39	DDR1_MA12	DDR1_DQ12
MAAB13	AR15	DDR1_MA13	DDR1_DQ13
MAAB14	AV27	DDR1_MA14	DDR1_DQ14
MAAB15	AY28	DDR1_MA15	DDR1_DQ15
AM17	DDR1_ODT0	DDR1_ODT0	DDR1_ODT0
AL16	DDR1_ODT1	DDR1_ODT1	DDR1_ODT1
MODT_B2	AM16	DDR1_ODT2	DDR1_ODT2
MODT_B3	AK15	DDR1_ODT3	DDR1_ODT3
AM26	DDR1_ECC0	DDR1_ECC0	DDR1_ECC0
AM25	DDR1_ECC1	DDR1_ECC1	DDR1_ECC1
AP25	DDR1_ECC2	DDR1_ECC2	DDR1_ECC2
AP26	DDR1_ECC3	DDR1_ECC3	DDR1_ECC3
AL26	DDR1_ECC4	DDR1_ECC4	DDR1_ECC4
AL25	DDR1_ECC5	DDR1_ECC5	DDR1_ECC5
AR26	DDR1_ECC6	DDR1_ECC6	DDR1_ECC6
AR25	DDR1_ECC7	DDR1_ECC7	DDR1_ECC7
SBAB0	SBAB0	AK17	DDR1_BA0
SBAB1	SBAB1	AL18	DDR1_BA1
SBAB2	SBAB2	AW28	DDR1_BA2
AW29	DDR1_CKE0	DDR1_CKE0	DDR1_CKE0
AY29	DDR1_CKE1	DDR1_CKE1	DDR1_CKE1
AU28	DDR1_CKE2	DDR1_CKE2	DDR1_CKE2
AU29	DDR1_CKE3	DDR1_CKE3	DDR1_CKE3
AP17	DDR1_CS_N0	DDR1_CS_N0	DDR1_CS_N0
AN15	DDR1_CS_N1	DDR1_CS_N1	DDR1_CS_N1
AN17	DDR1_CS_N2	DDR1_CS_N2	DDR1_CS_N2
AL15	DDR1_CS_N3	DDR1_CS_N3	DDR1_CS_N3
AM20	DDR1_CLK_P0	DDR1_CLK_P0	DDR1_CLK_P0
AM21	DDR1_CLK_N0	DDR1_CLK_N0	DDR1_CLK_N0
AP22	DDR1_CLK_P1	DDR1_CLK_P1	DDR1_CLK_P1
AP21	DDR1_CLK_N1	DDR1_CLK_N1	DDR1_CLK_N1
DCLKB2	DCLKB2	AN20	DDR1_CLK_P2
DCLKB2	DCLKB2	AN21	DDR1_CLK_N2
DCLKB3	DCLKB3	AP19	DDR1_CLK_P3
DCLKB3	DCLKB3	AP20	DDR1_CLK_N3
SCASB	SCASB	AP16	DDR1_CAS*
SRASB	SRASB	AL20	RSVD
SWEB	SWEB	AK16	DDR1_RAS*
VREF_DQA	AB39	DDR1_DQ61	DDR1_DQ61
VREF_DQB	AB40	DDR1_DQ62	DDR1_DQ62
DDR1_DQS_P0	DDR1_DQS_P0	DDR1_DQS_P0	DDR1_DQS_P0
DDR1_DQS_P1	DDR1_DQS_P1	DDR1_DQS_P1	DDR1_DQS_P1
DDR1_DQS_P2	DDR1_DQS_P2	DDR1_DQS_P2	DDR1_DQS_P2
DDR1_DQS_P3	DDR1_DQS_P3	DDR1_DQS_P3	DDR1_DQS_P3
DDR1_DQS_P4	DDR1_DQS_P4	DDR1_DQS_P4	DDR1_DQS_P4
DDR1_DQS_P5	DDR1_DQS_P5	DDR1_DQS_P5	DDR1_DQS_P5
DDR1_DQS_P6	DDR1_DQS_P6	DDR1_DQS_P6	DDR1_DQS_P6
DDR1_DQS_P7	DDR1_DQS_P7	DDR1_DQS_P7	DDR1_DQS_P7
DDR1_DQS_P8	DDR1_DQS_P8	DDR1_DQS_P8	DDR1_DQS_P8
DDR1_DQS_N0	DDR1_DQS_N0	DDR1_DQS_N0	DDR1_DQS_N0
DDR1_DQS_N1	DDR1_DQS_N1	DDR1_DQS_N1	DDR1_DQS_N1
DDR1_DQS_N2	DDR1_DQS_N2	DDR1_DQS_N2	DDR1_DQS_N2
DDR1_DQS_N3	DDR1_DQS_N3	DDR1_DQS_N3	DDR1_DQS_N3
DDR1_DQS_N4	DDR1_DQS_N4	DDR1_DQS_N4	DDR1_DQS_N4
DDR1_DQS_N5	DDR1_DQS_N5	DDR1_DQS_N5	DDR1_DQS_N5
DDR1_DQS_N6	DDR1_DQS_N6	DDR1_DQS_N6	DDR1_DQS_N6
DDR1_DQS_N7	DDR1_DQS_N7	DDR1_DQS_N7	DDR1_DQS_N7
DDR1_DQS_N8	DDR1_DQS_N8	DDR1_DQS_N8	DDR1_DQS_N8

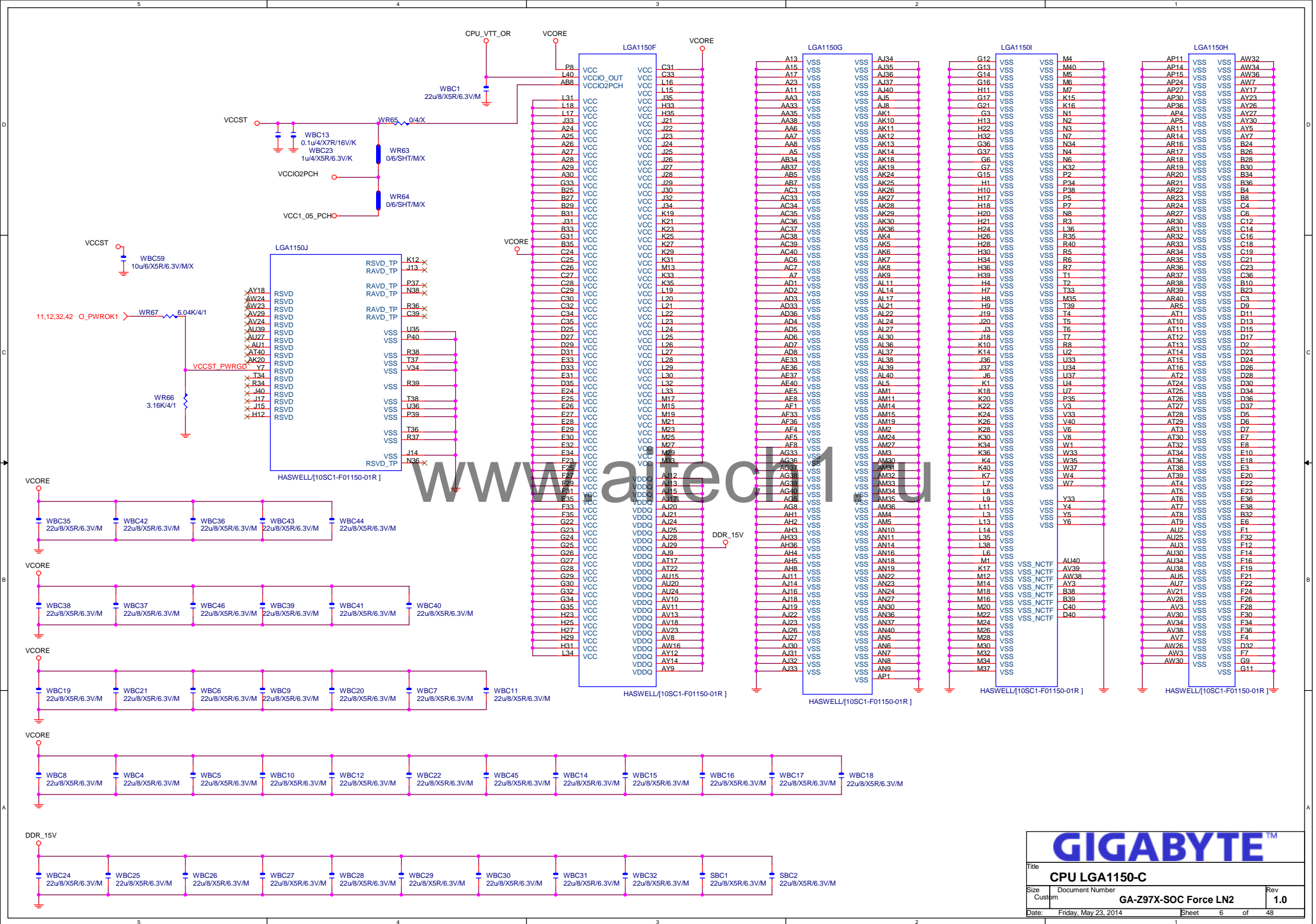
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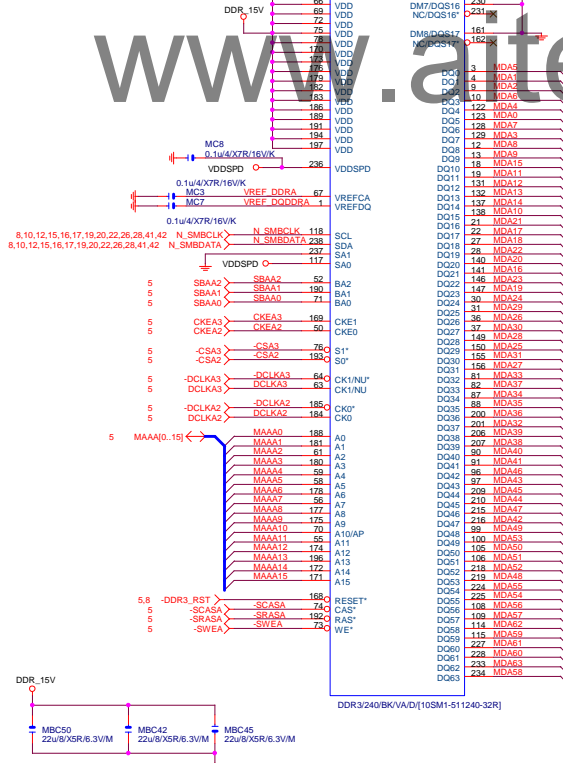
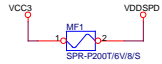
LGA1150
ILM_BP/1156/CSP/[12KRC-0F0001-61R]



Need check the new CPU ME

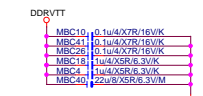




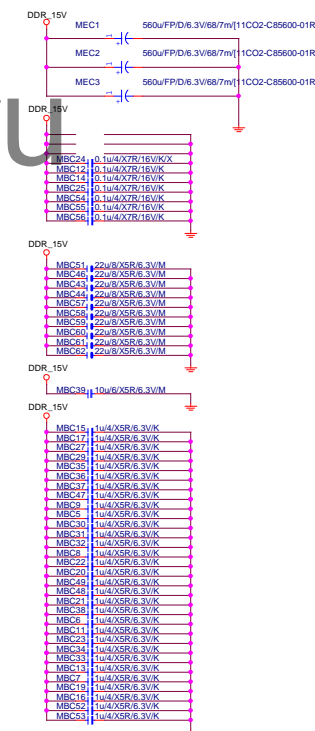


DDR TERMINATION
CHANNEL A/B

DDRVT Decouple

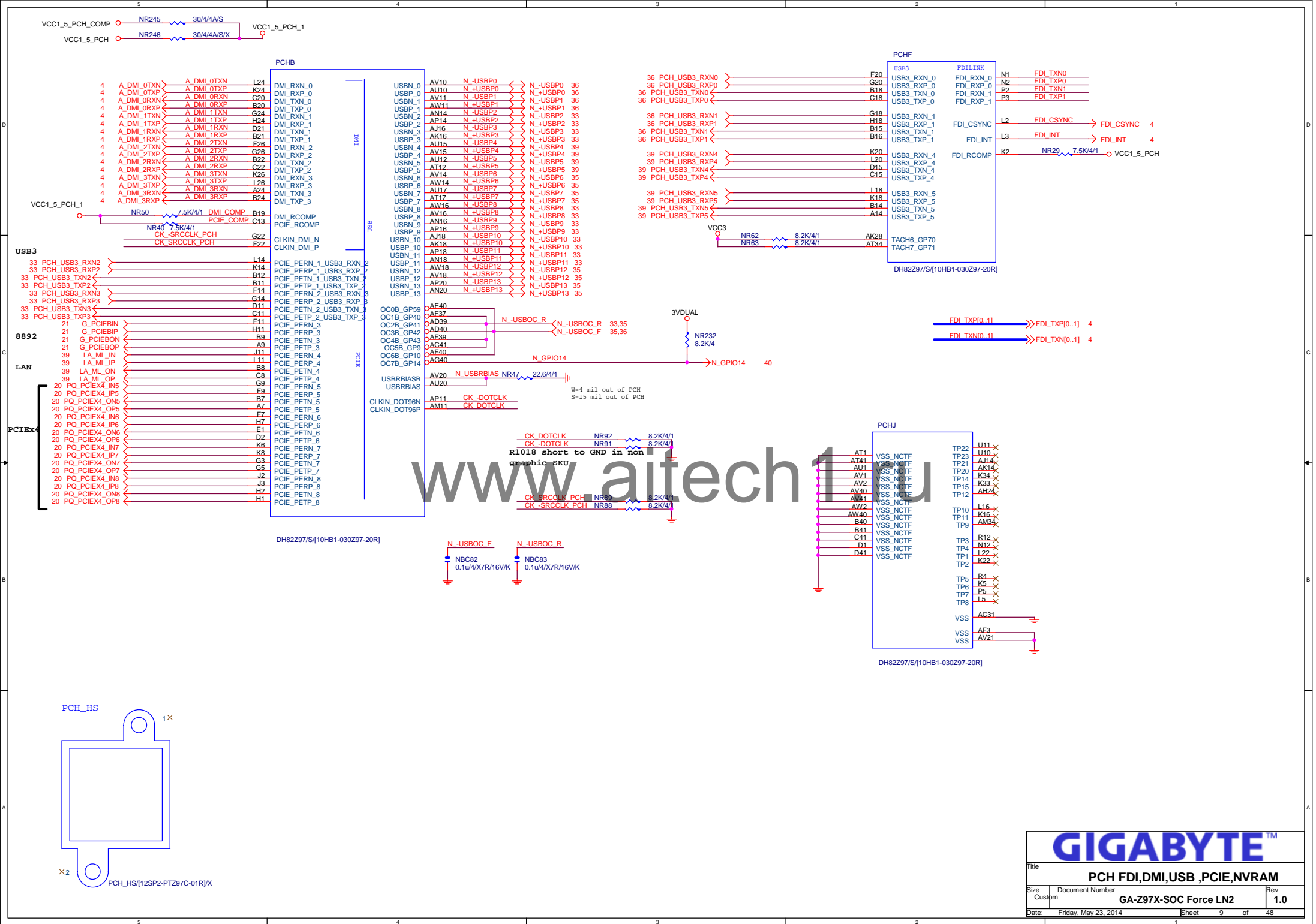


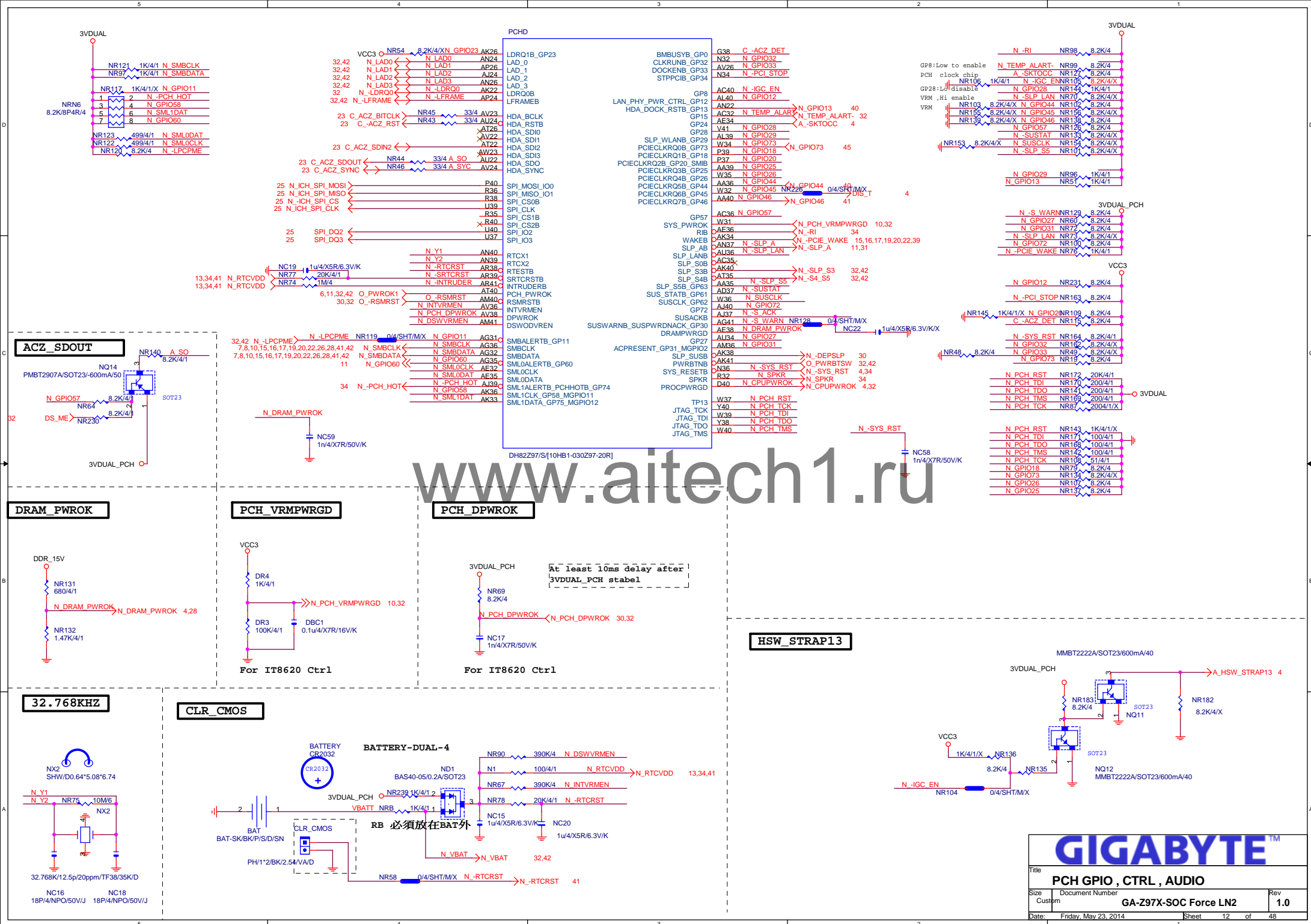
DDR15V Decouple



GIGABYTETM

Title		DDRIII CHANNEL A	
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+12 protect short-wire test

PCIE16:16/5/5/16

PA_EXP_RXP0_15] >> PA_EXP_RXP0[0..15] 4,18
 PA_EXP_RXN0_15] >> PA_EXP_RXN0[0..15] 4,18
 PA_EXP_TXP0_15] >> PA_EXP_TXP0[0..15] 4,18
 PA_EXP_TXN0_15] >> PA_EXP_TXN0[0..15] 4,18

PA_EXP_TXP0	PAC5	0.22u4/X5R/6.3V/K	PA_EXP_TXP0 C
PA_EXP_TXN0	PAC4	0.22u4/X5R/6.3V/K	PA_EXP_TXN0 C
PA_EXP_TXP1	PAC6	0.22u4/X5R/6.3V/K	PA_EXP_TXP1 C
PA_EXP_TXN1	PAC7	0.22u4/X5R/6.3V/K	PA_EXP_TXN1 C
PA_EXP_TXP2	PAC8	0.22u4/X5R/6.3V/K	PA_EXP_TXP2 C
PA_EXP_TXN2	PAC9	0.22u4/X5R/6.3V/K	PA_EXP_TXN2 C
PA_EXP_TXP3	PAC10	0.22u4/X5R/6.3V/K	PA_EXP_TXP3 C
PA_EXP_TXN3	PAC11	0.22u4/X5R/6.3V/K	PA_EXP_TXN3 C
PA_EXP_TXP4	PAC12	0.22u4/X5R/6.3V/K	PA_EXP_TXP4 C
PA_EXP_TXN4	PAC13	0.22u4/X5R/6.3V/K	PA_EXP_TXN4 C
PA_EXP_TXP5	PAC14	0.22u4/X5R/6.3V/K	PA_EXP_TXP5 C
PA_EXP_TXN5	PAC15	0.22u4/X5R/6.3V/K	PA_EXP_TXN5 C
PA_EXP_TXP6	PAC16	0.22u4/X5R/6.3V/K	PA_EXP_TXP6 C
PA_EXP_TXN6	PAC17	0.22u4/X5R/6.3V/K	PA_EXP_TXN6 C
PA_EXP_TXP7	PAC18	0.22u4/X5R/6.3V/K	PA_EXP_TXP7 C
PA_EXP_TXN7	PAC19	0.22u4/X5R/6.3V/K	PA_EXP_TXN7 C
PA_EXP_SW_TXP8	PAC21	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP8 C
PA_EXP_SW_TXN8	PAC20	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN8 C
PA_EXP_SW_TXP9	PAC22	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP9 C
PA_EXP_SW_TXN9	PAC23	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN9 C
PA_EXP_SW_TXP10	PAC24	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP10 C
PA_EXP_SW_TXN10	PAC25	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN10 C
PA_EXP_SW_TXP11	PAC26	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP11 C
PA_EXP_SW_TXN11	PAC27	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN11 C
PA_EXP_SW_TXP12	PAC28	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP12 C
PA_EXP_SW_TXN12	PAC29	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN12 C
PA_EXP_SW_TXP13	PAC30	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP13 C
PA_EXP_SW_TXN13	PAC31	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN13 C
PA_EXP_SW_TXP14	PAC32	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP14 C
PA_EXP_SW_TXN14	PAC33	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN14 C
PA_EXP_SW_TXP15	PAC34	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXP15 C
PA_EXP_SW_TXN15	PAC35	0.22u4/X5R/6.3V/K	PA_EXP_SW_TXN15 C

PA_EXP_SW_RXP8_15] >> PA_EXP_SW_RXP8[8..15] 18
 PA_EXP_SW_RXN8_15] >> PA_EXP_SW_RXN8[8..15] 18
 PA_EXP_SW_TXP8_15] >> PA_EXP_SW_TXP8[8..15] 18
 PA_EXP_SW_TXN8_15] >> PA_EXP_SW_TXN8[8..15] 18

PCI-E REV:1.1--> 2.5GHZ

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

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

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

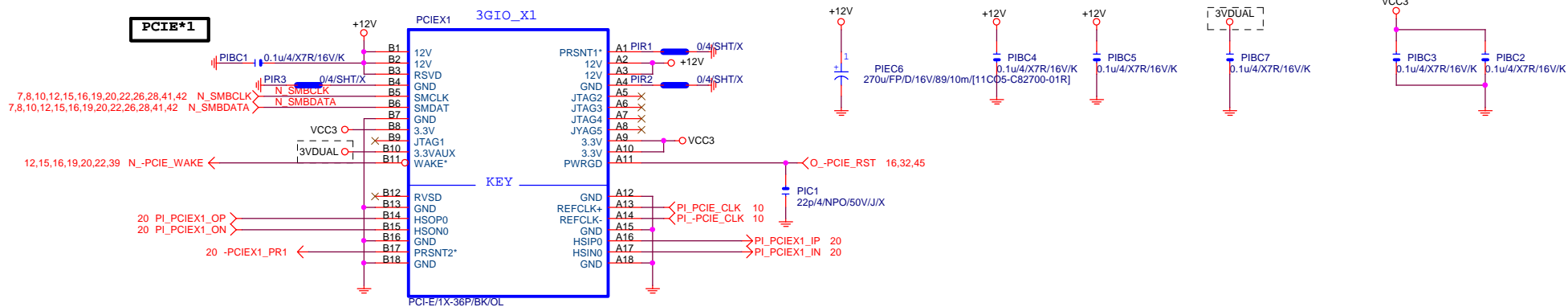
PCE-E X16(雙向) BANDWITH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--> 5GHZ

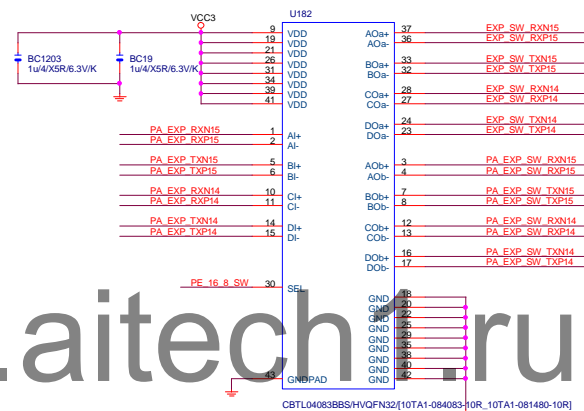
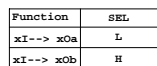
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PCI-E/16X-164P/BK/RIGHT PUSH-[11AC1-023164-62R]

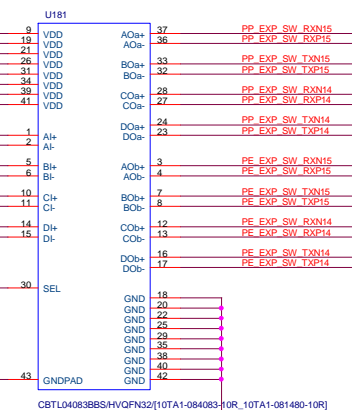
GIGABYTE™		
Title PCI EXPRESS * 16		
Size	Document Number	Rev
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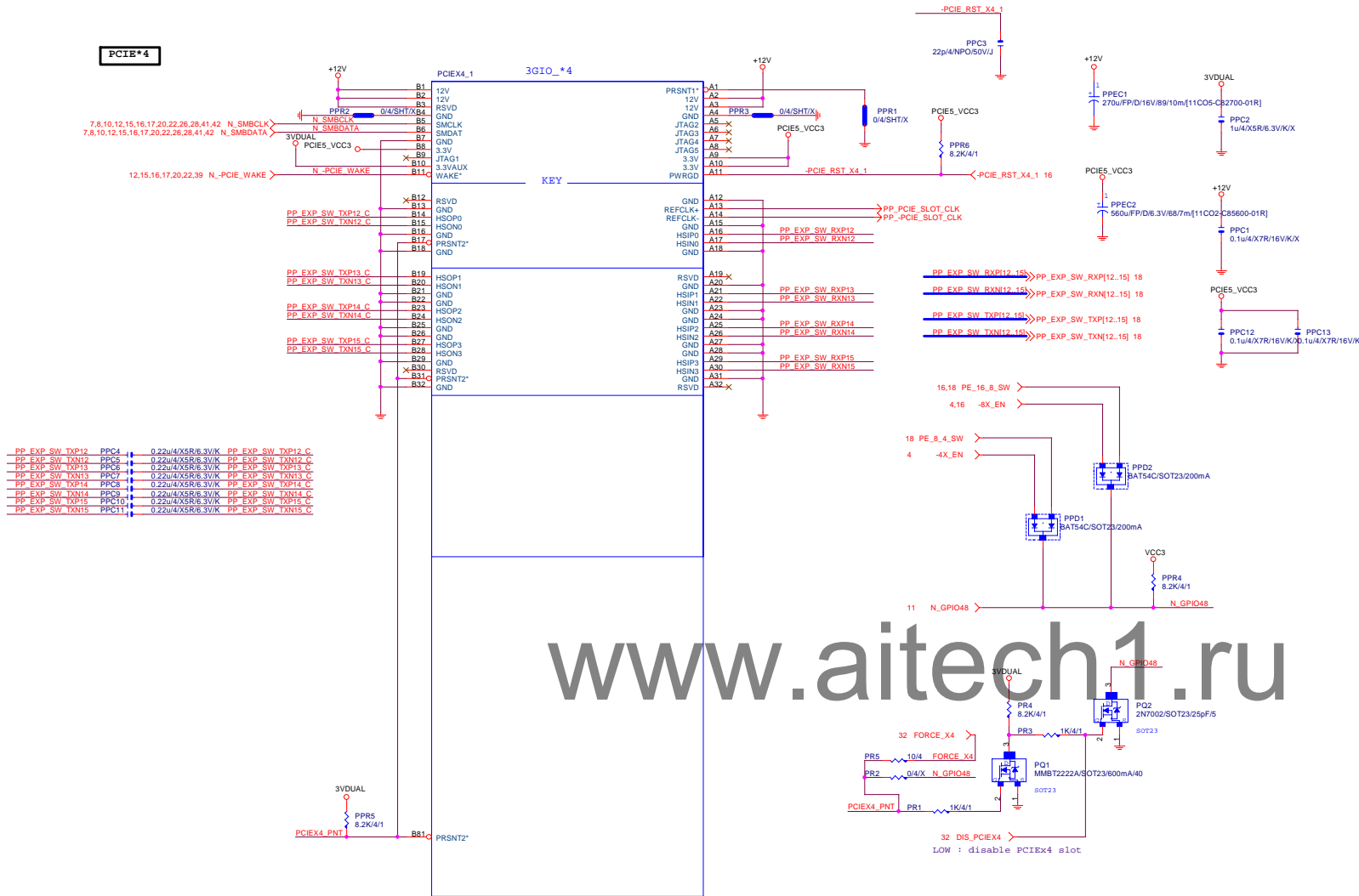


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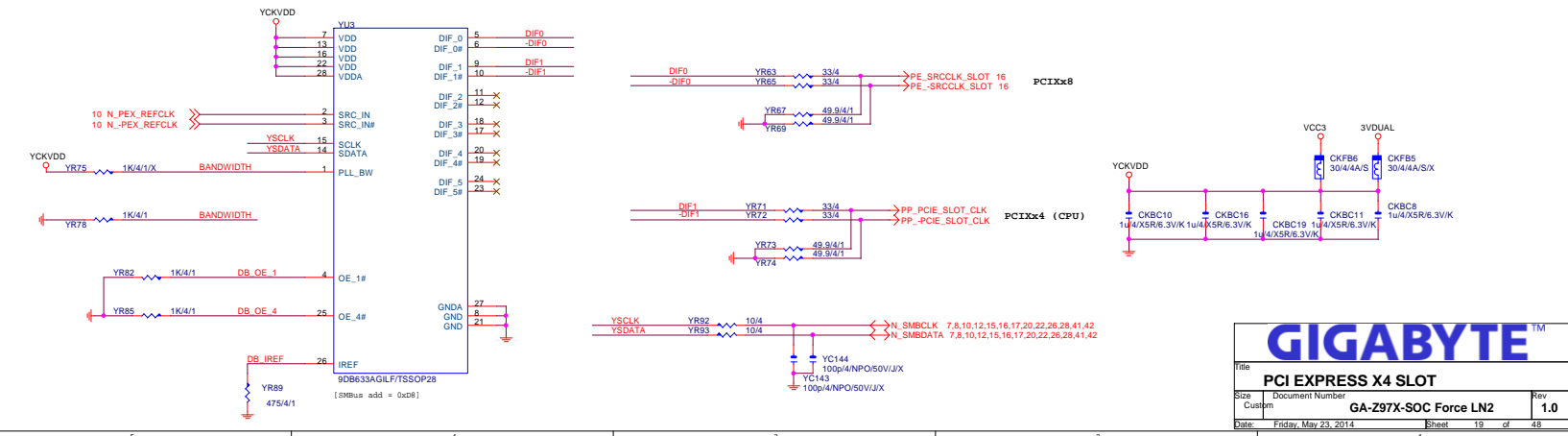


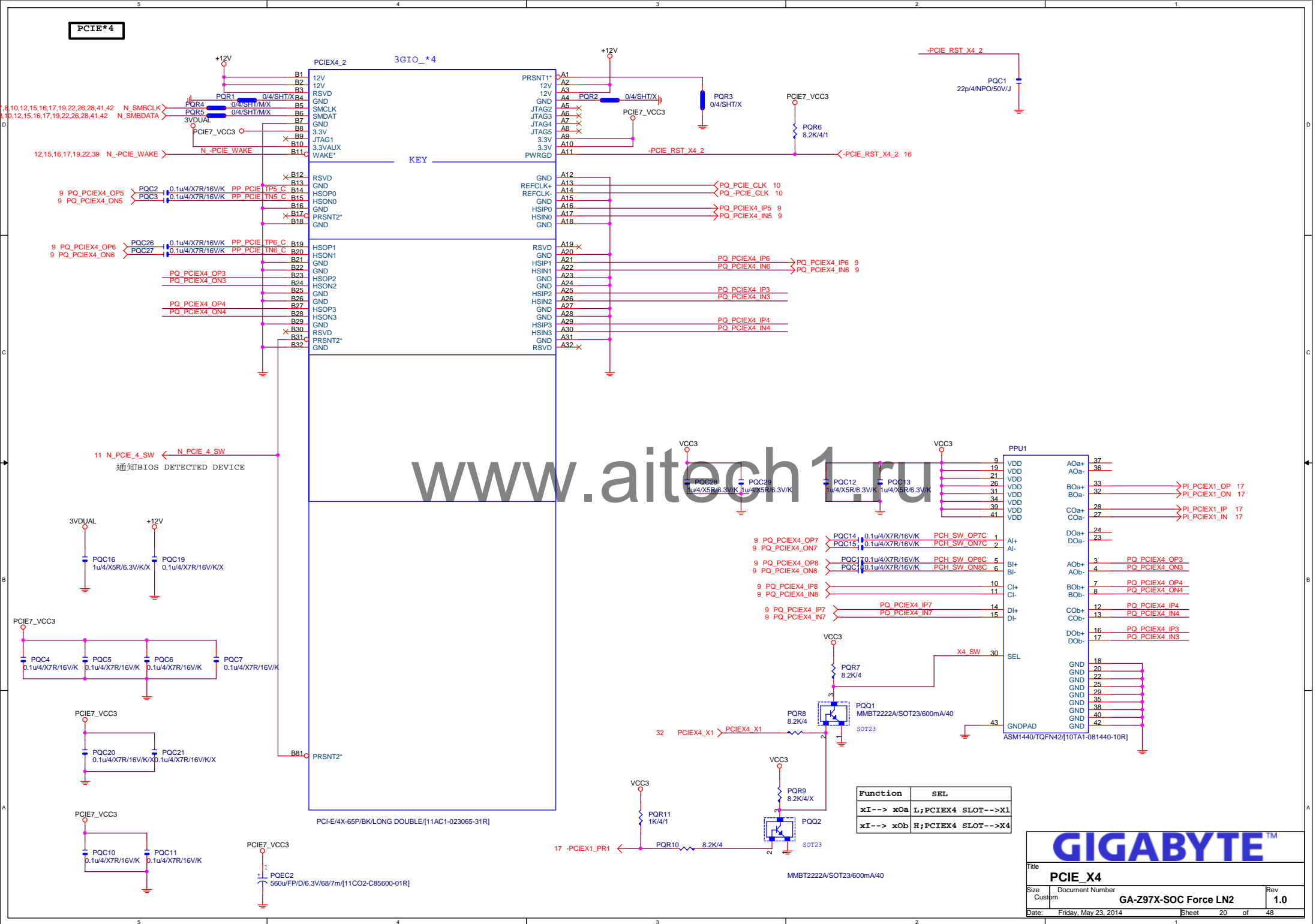
Function	SEL
xI--> x0a	L
xI--> x0b	H

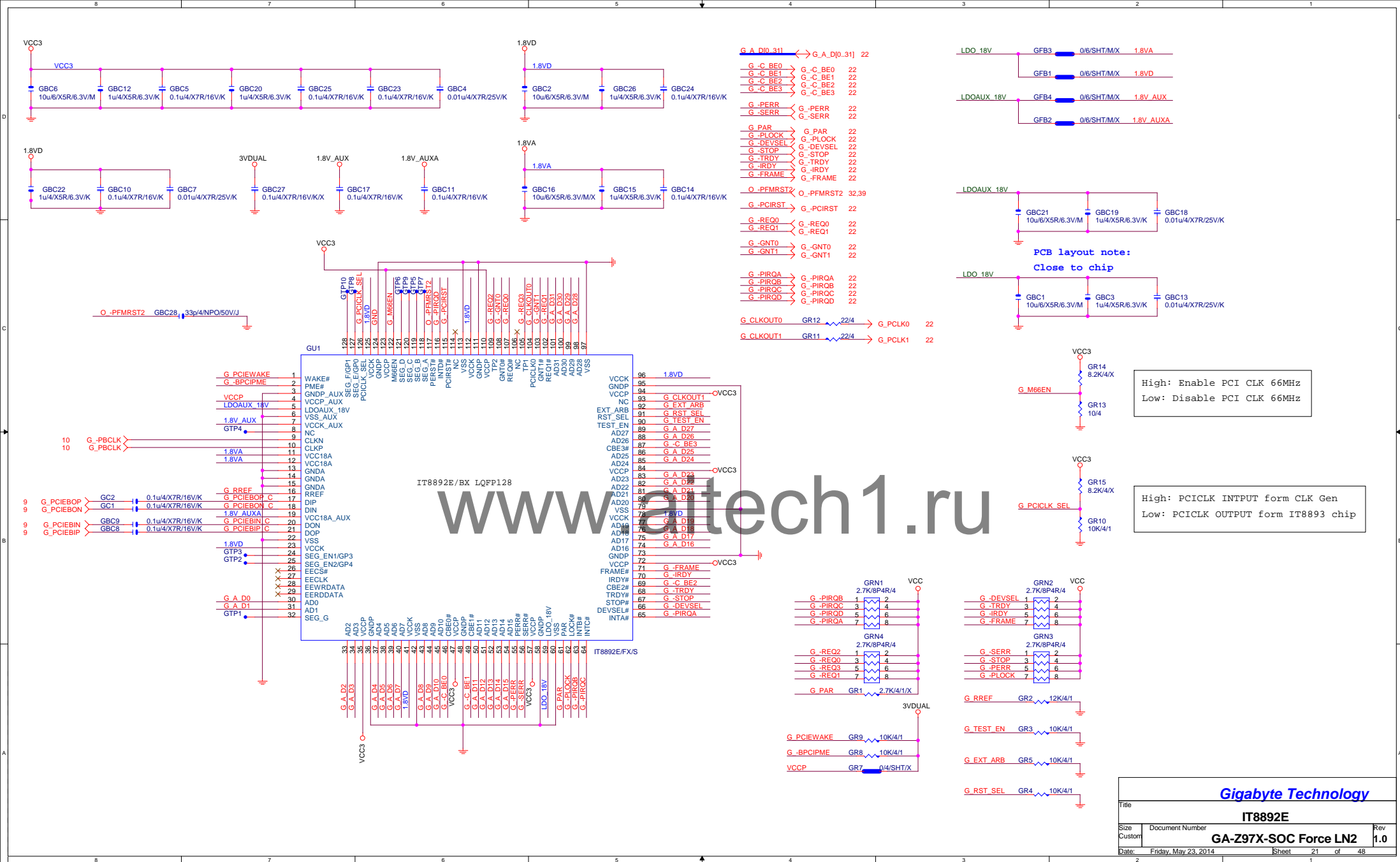
Sheet 18 of 48



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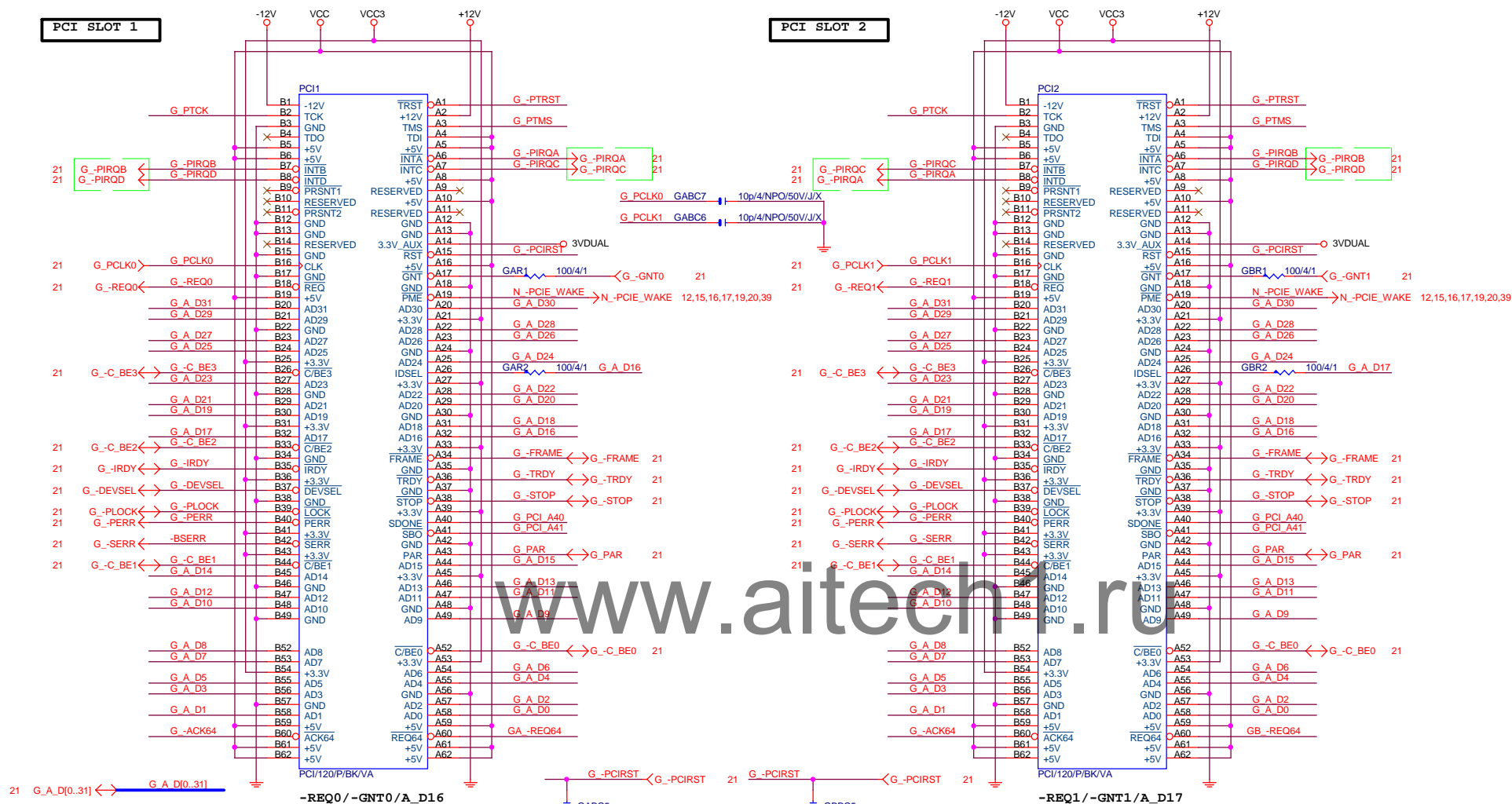






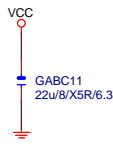
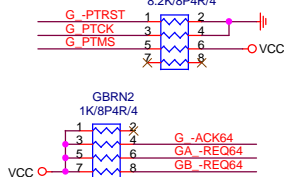
PCI SLOT 1

PCI SLOT 2



PCI PU

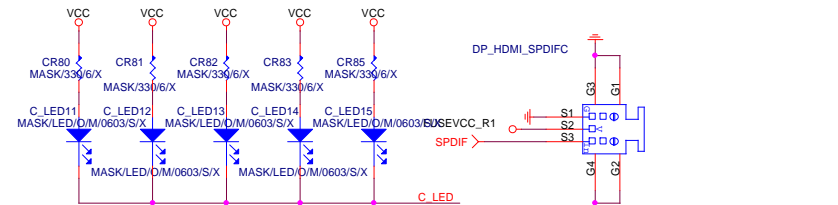
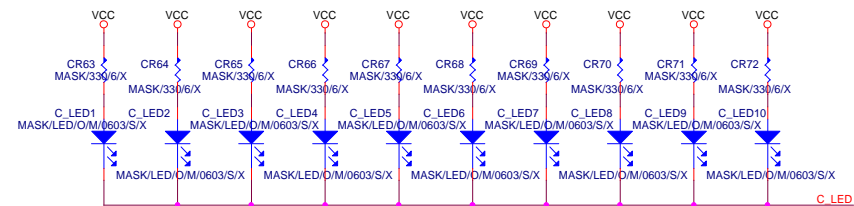
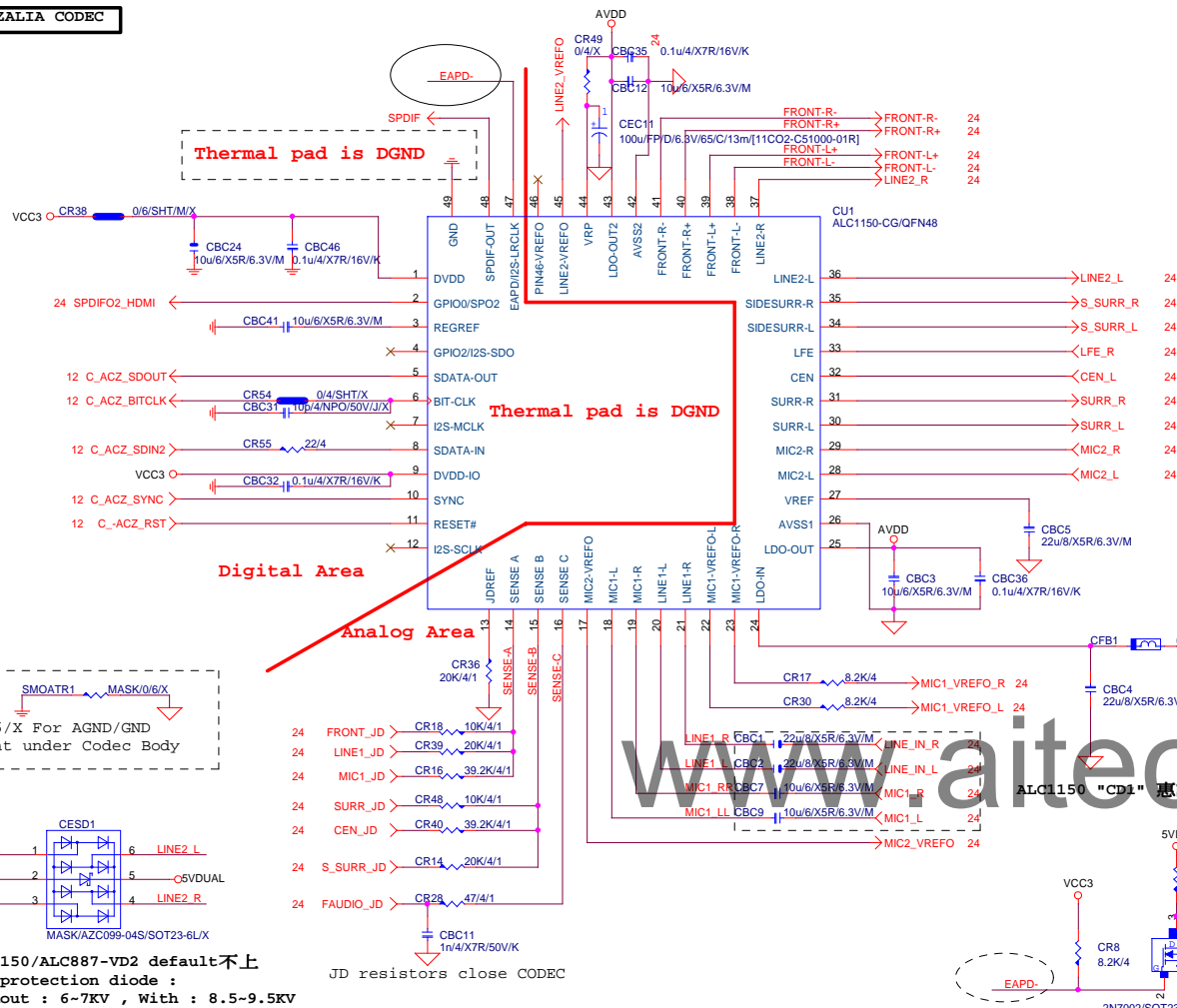
PCI CAP



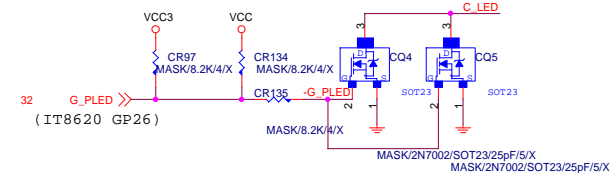
GIGABYTE™

PCI SLOT 1&2

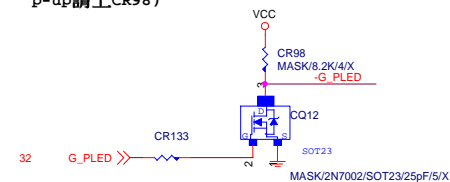
Size: Custom Document Number: GA-Z97X-SOC Force LNB2 Rev: 1
Date: Friday, May 23, 2014 Sheet: 22 of 48



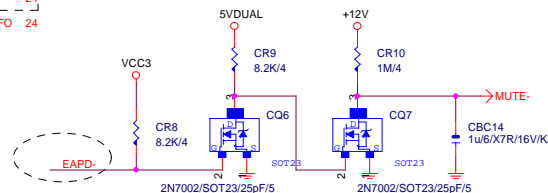
DP+HDMI+SPDIF(20P+19P+3P/BK/RA[11NR6-M10042-11R] :: Location DP_HDMI_SPDIF



- 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



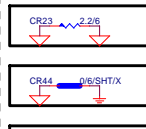
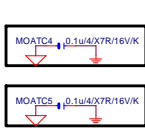
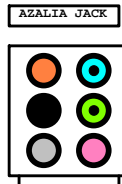
Close to ALC1150

Gigabyte Technology

HD AUDIO ALC1150

Document Number: GA-Z97X-SOC Force L1.0

Date: Friday, May 23, 2014 Sheet 23 of 48

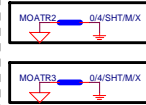


Audio jack -> USB(各打2 VIA hole)

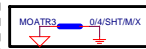
Under Audio jack(各打2 VIA hole)

Codec -> Audio jack(各打2 VIA hole)

LINE-IN

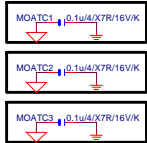
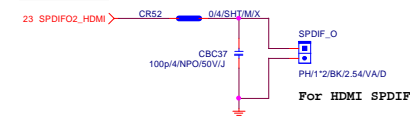


Near Codec Right(各打2 VIA hole)



Near F_AUDIO(各打2 VIA hole)

SPDIF_OUT

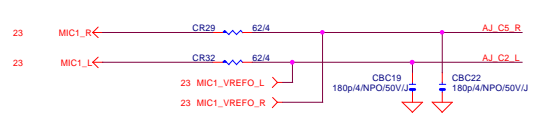


Near F_AUDIO

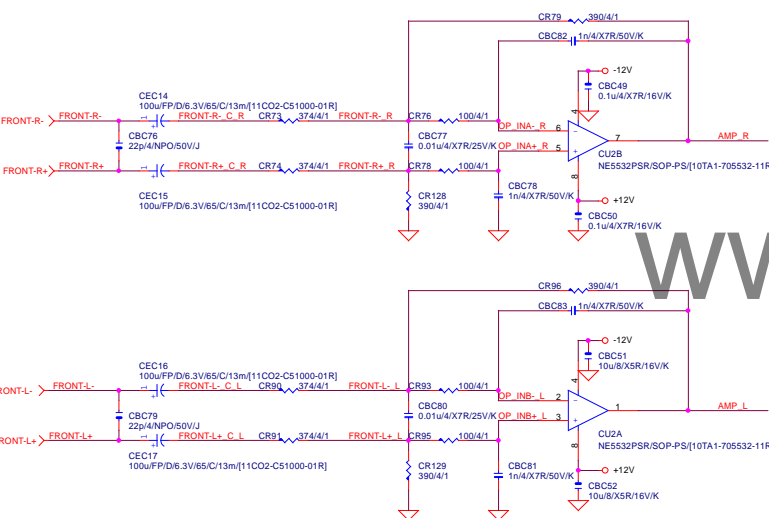
Near R_AUDIO

Near CODEC

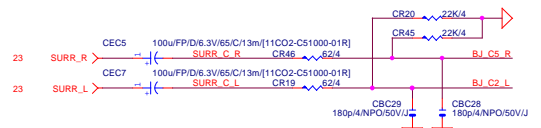
MIC-IN



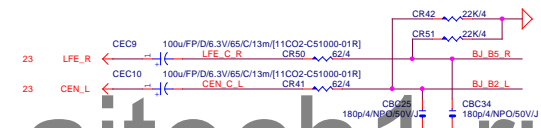
Differential to Single-End AMPLIFIED



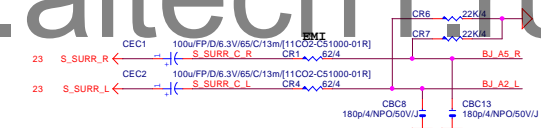
SURROUND



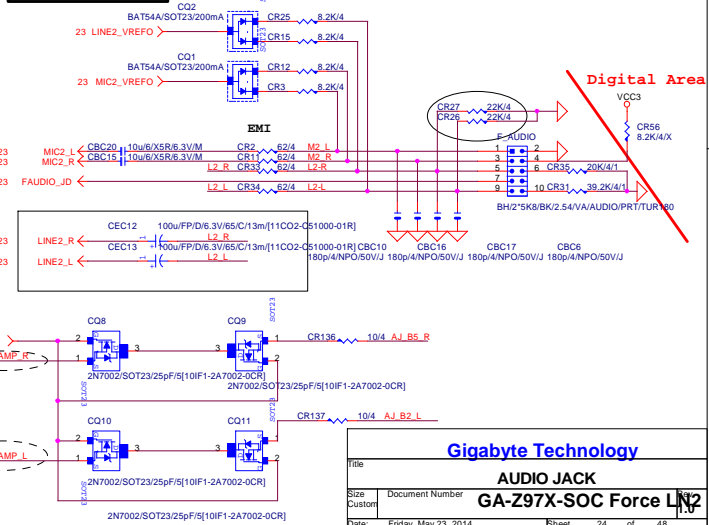
CEN/LFE



SURRBACK



AZALIA FRONT PANEL



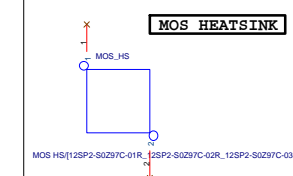
Digital Area

Gigabyte Technology

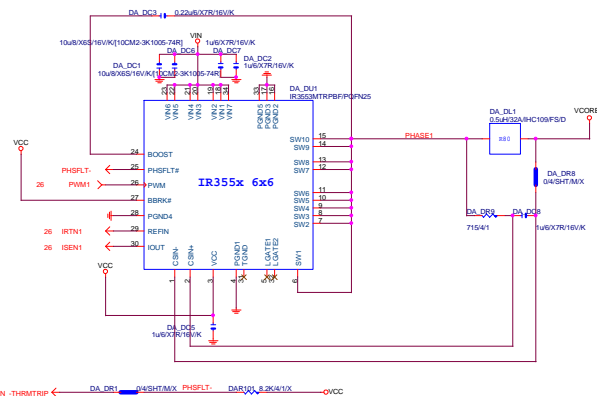
AUDIO JACK

GA-Z97X-SOC Force L

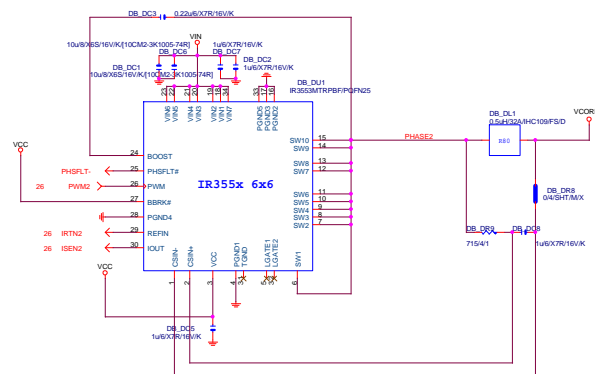




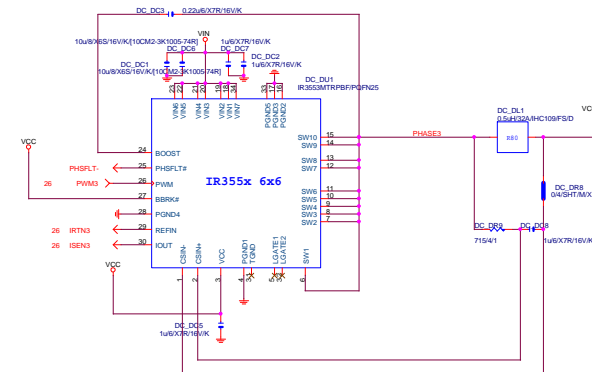
VCORE-PHASE1



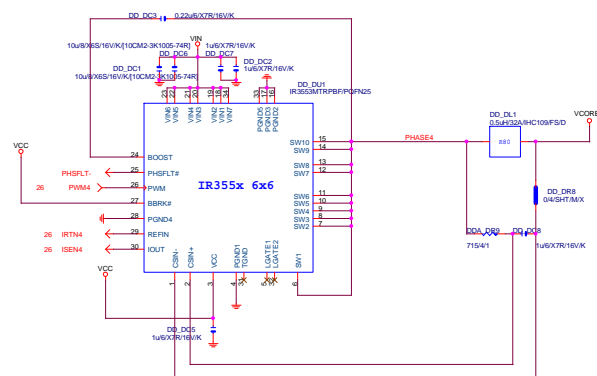
VCORE-PHASE2



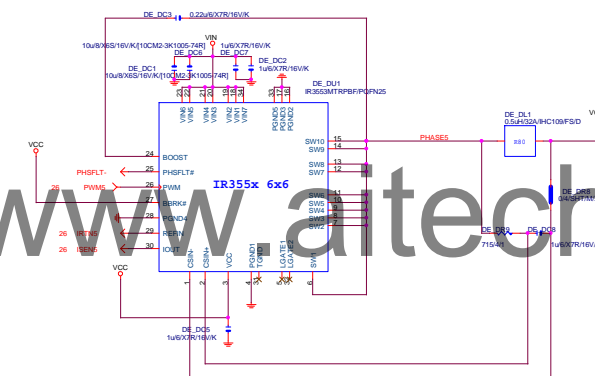
VCORE-PHASE3



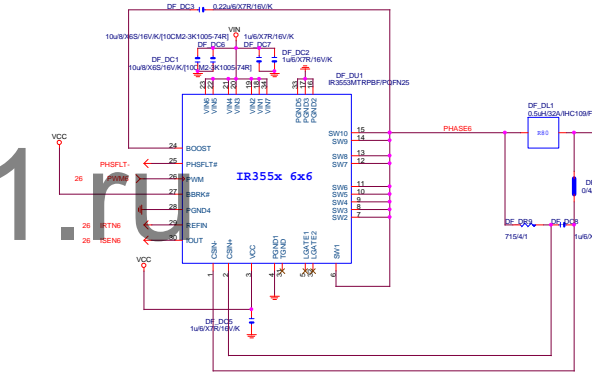
VCORE-PHASE4



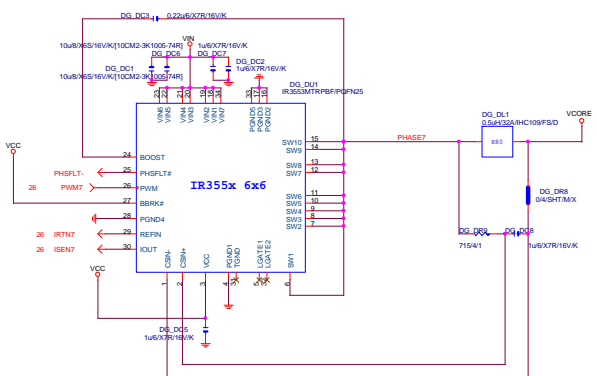
VCORE-PHASE5



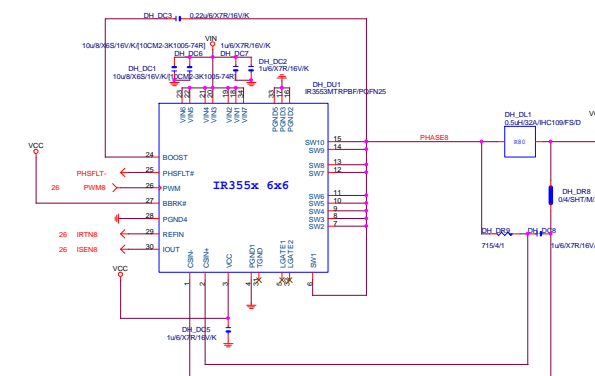
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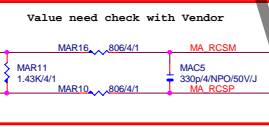
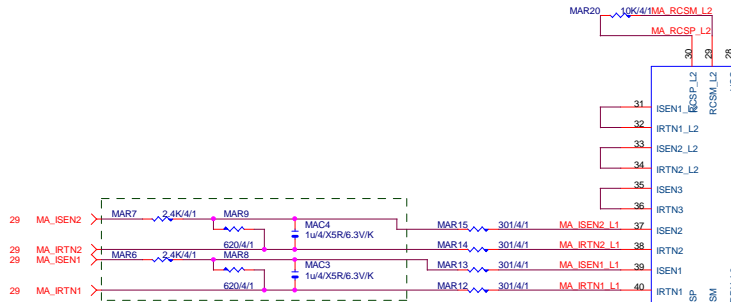
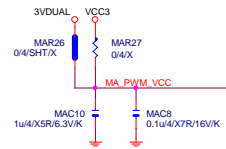
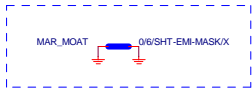


VCORE-PHASE7



VCORE-PHASE8



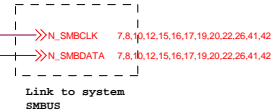
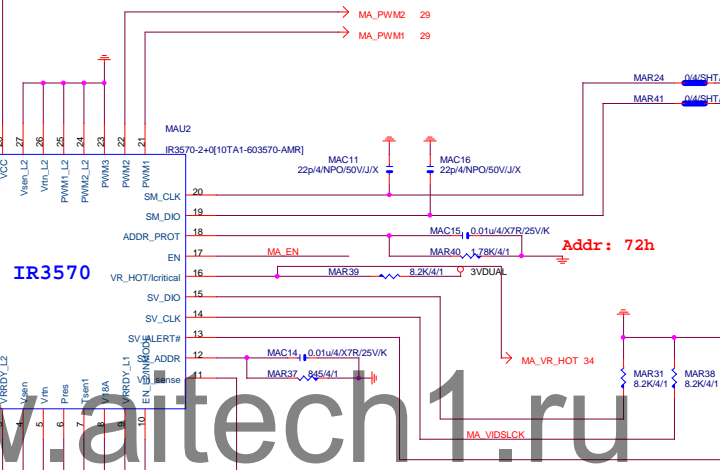


Close to DDR output inductor

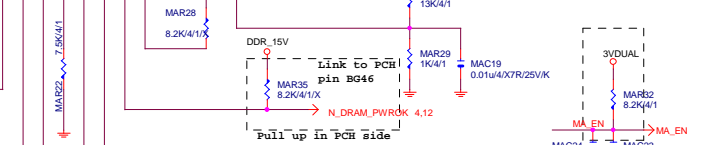
should be routed as differential pair, 7mil width, 8mil spacing

IR3570

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Link to system SMBUS



Link to PCH pin BQ46 Pull up in PCH side

N_DRAM_PWRCK 4.12

DDR_15V

MAR2

MAR17

0/4/SHT/MX

MA_VSEN

MAR1

0/4/SHT/MX

MAR6

3.3u4/X7R/50V/K

MAR25

0/4/SHT/X

MART1

47K/1/4/S

MAR23

13K/4/1

MAC9

0.1u4/X7R/16V/K

MAC18

4.7u6/XSR/6.3V/K

MAC12

0.47u6/X7R/16V/K

MAR33

100/4/1/X

VCC3

3VDUAL

MAR34

100/4/1

3VDUAL

MAR35

8.2K/4/1/X

MAR32

8.2K/4/1

MA_EN

MA_EN

32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

82/4

MAR247

82/4

32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

82/4

MAR247

82/4

32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

82/4

MAR247

82/4

32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

82/4

MAR247

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32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

82/4

MAR247

82/4

32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

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MAR247

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32,37,42 -PSON

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32,37,42 -PSON

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32,37,42 -PSON

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2N7002/SOT23/25pF/5

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32,37,42 -PSON

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2N7002/SOT23/25pF/5

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2N7002/SOT23/25pF/5

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32,37,42 -PSON

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MAR247

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32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

82/4

MAR247

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32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

82/4

MAR247

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32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

82/4

MAR247

82/4

32,37,42 -PSON

MAQ121

2N7002/SOT23/25pF/5

MAR246

82/4

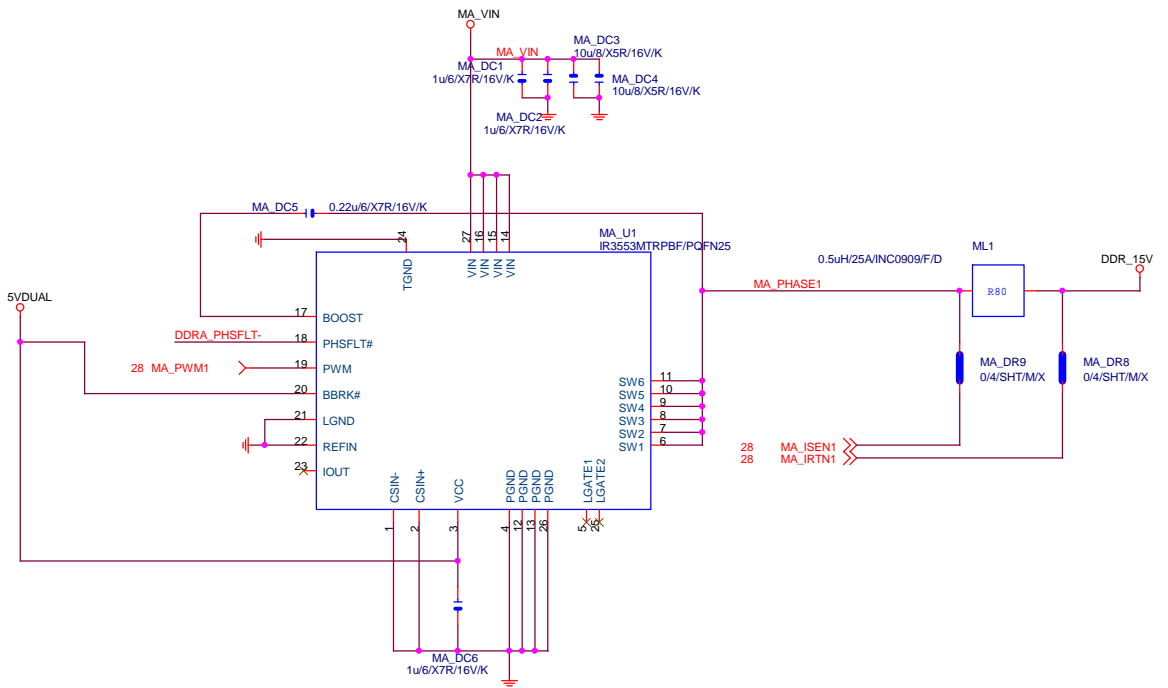
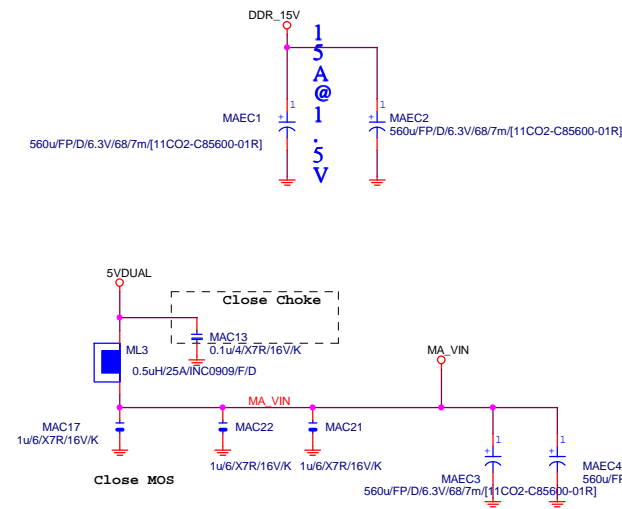
MAR247

82/4

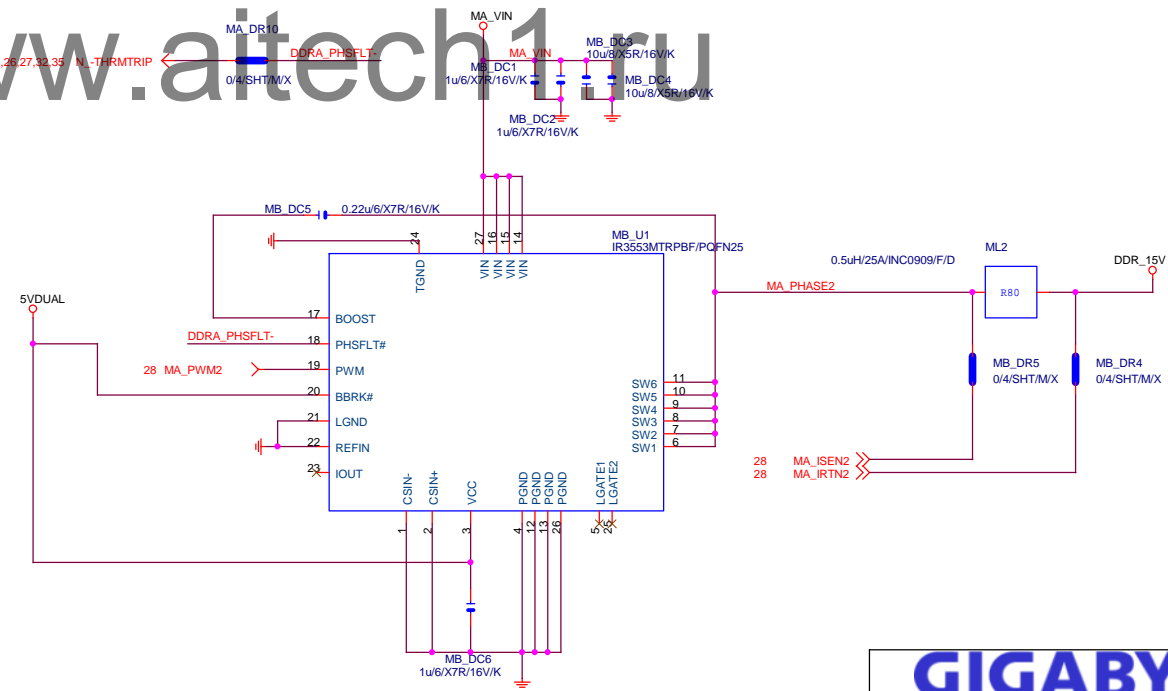
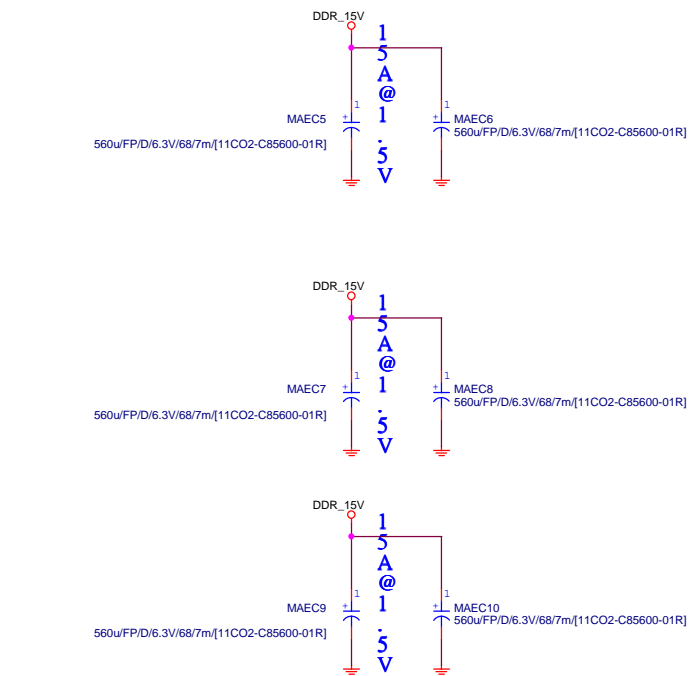
32,37,42 -PSON

MAQ1

DDR_15V

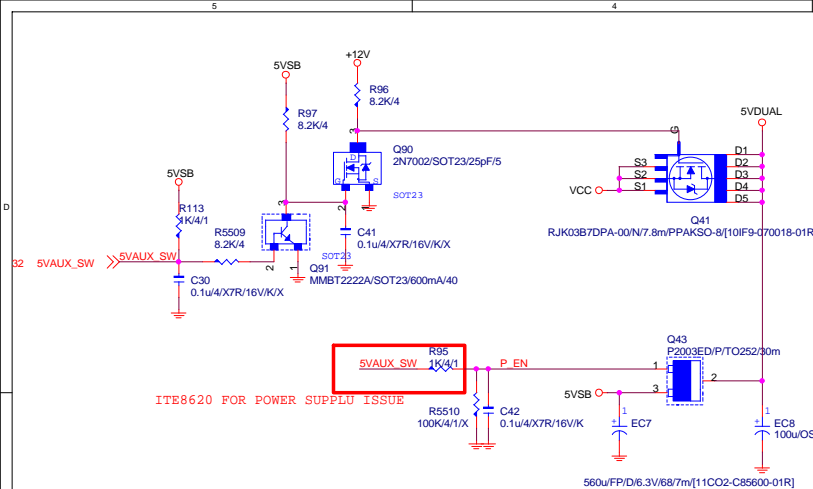


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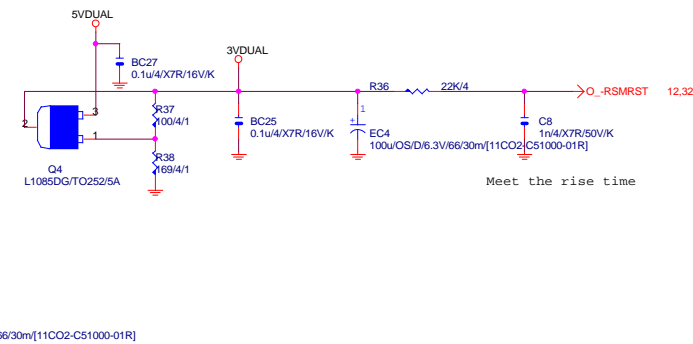


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Title IR3570		
Size Custom	Document Number GA-Z97X-SOC Force LN2	Rev 1.0
Date: Friday, May 23, 2014	Sheet 29	of 48



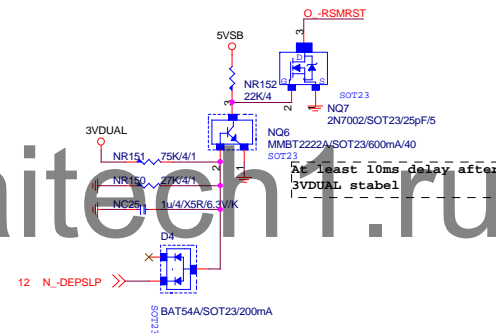
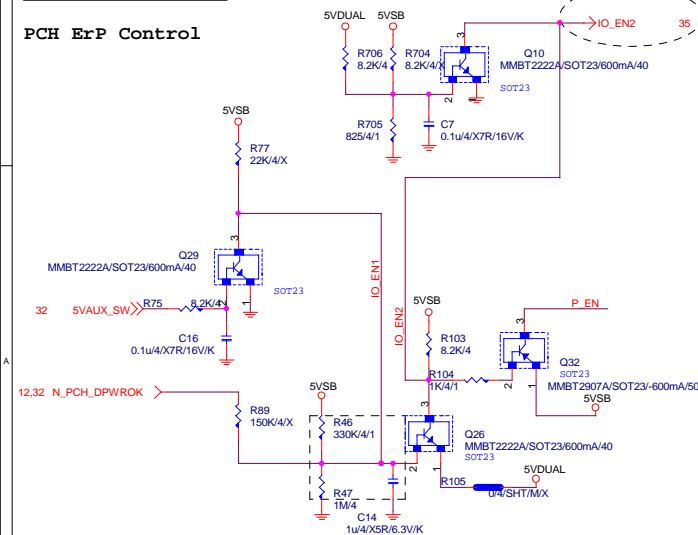
3VDUAL



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5VDUAL SHORT PROTECT

PCH ErP Control

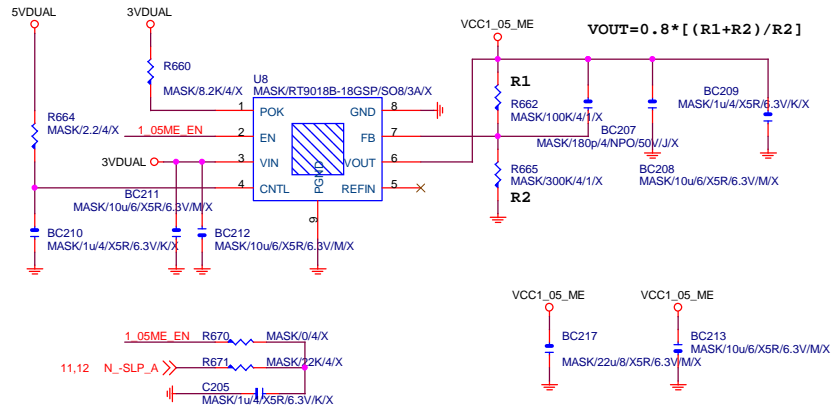


GIGABYTE™

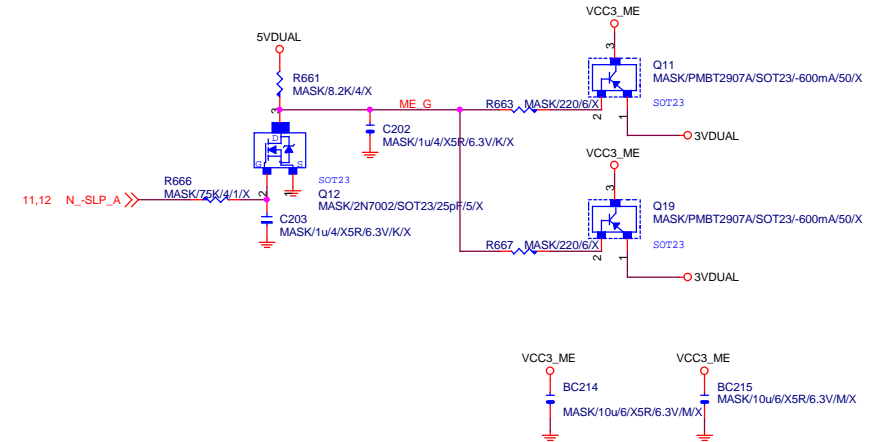
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Size Custom	Document Number GA-Z97X-SOC Force LN2	Rev 1.0
Date Friday, May 23, 2014	Sheet 30	of 48

VCC1_05_ME

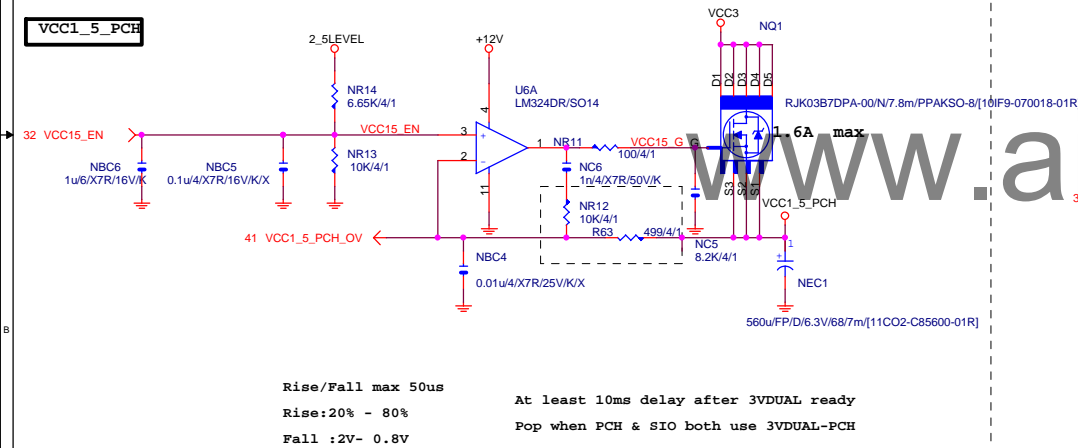
【技術通報R&D技術通報156】
(RICHTER), (NUVOTON), (EMC)做共用
PIN7分壓阻值須做修改為100K以上電阻值



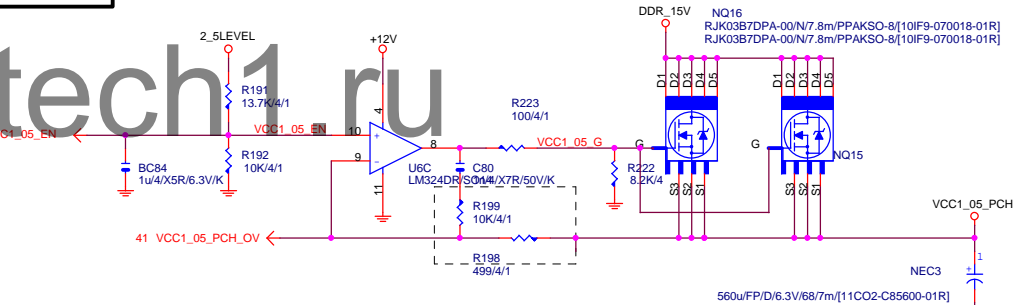
VCC3_ME



VCC1_5_PCH

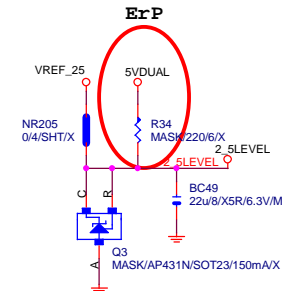
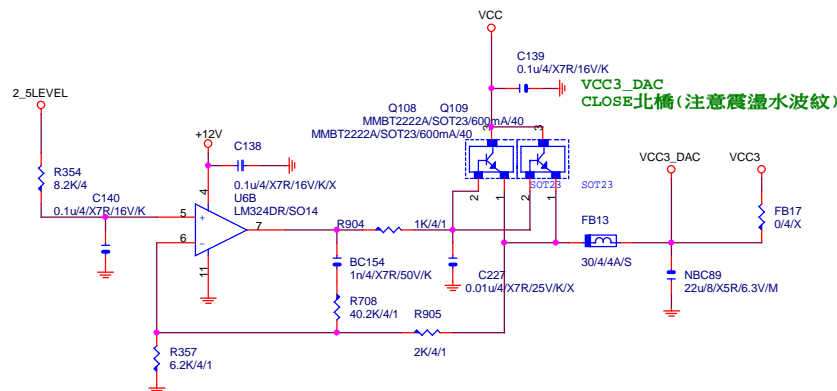


VCC1_05_PCH

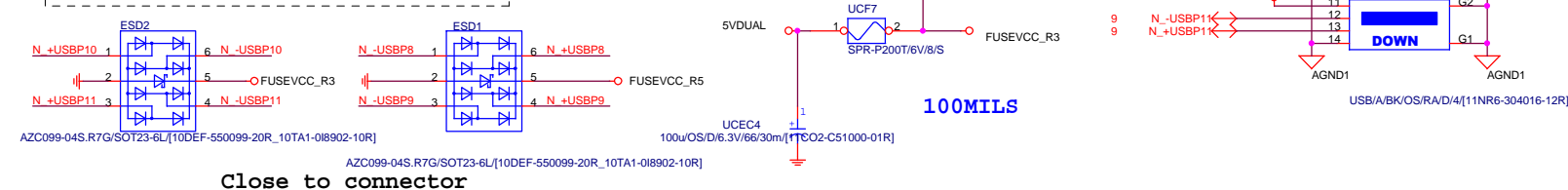
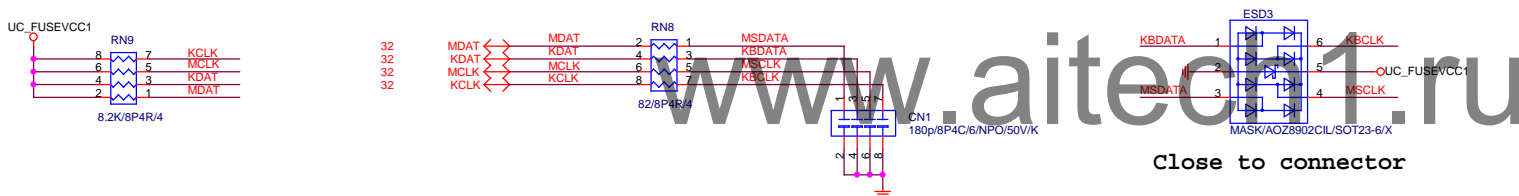


VCC3_DAC

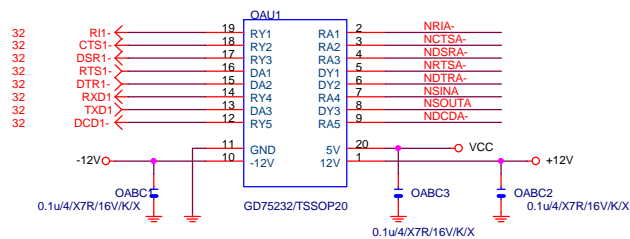
(3.3V/70mA+360uA)



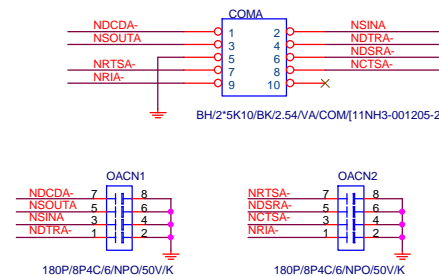
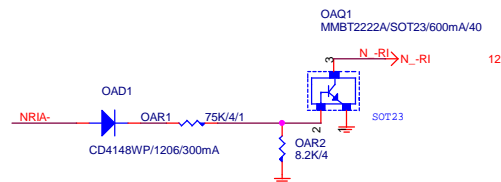
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Title VCC 1.05 PCH, VCC1.5 PCH, CC3 DAC			
Size	Document Number	Rev	
Custom	GA-Z97X-SOC Force LN2	1.0	
Date:	Friday, May 23, 2014	Sheet	31 of 48



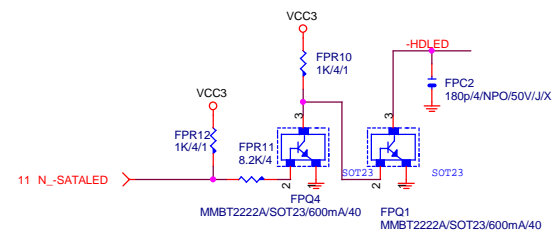
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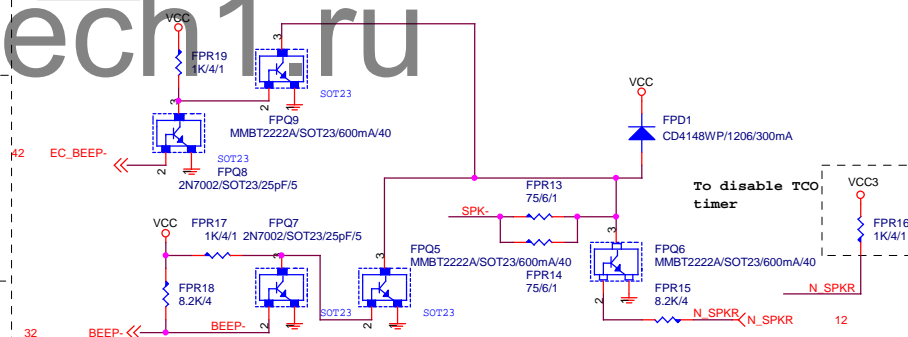
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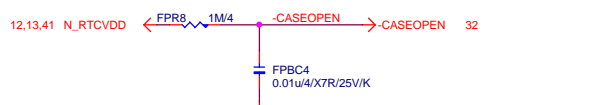
SATA LED



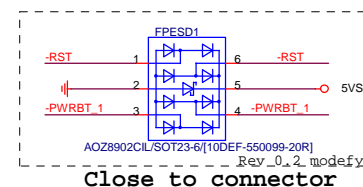
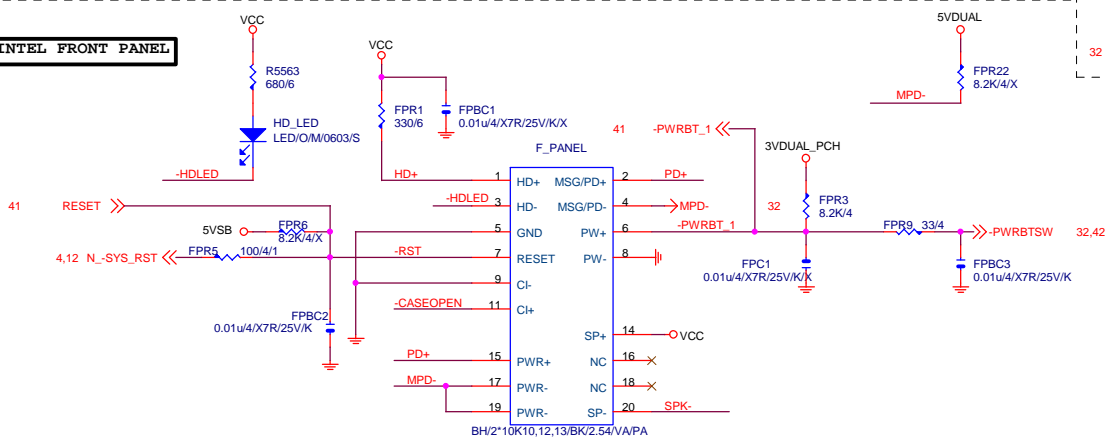
SPKR



CASE OPEN



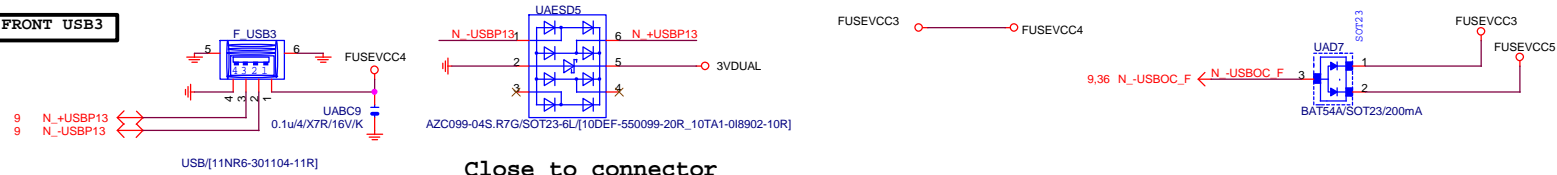
INTEL FRONT PANEL



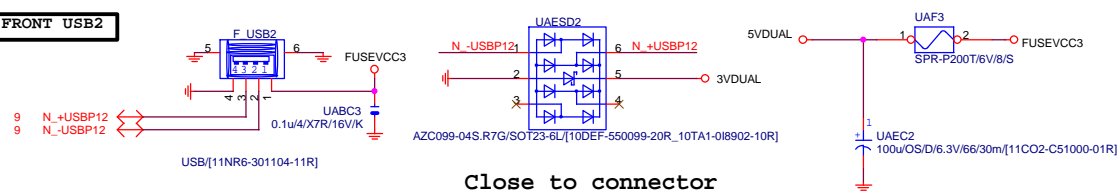
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Title			
FP, COM, -PHOT			
Size	Document Number	Rev	
Custom	GA-Z97X-SOC Force LN2	1.0	
Date:	Friday, May 23, 2014	Sheet	34 of 48

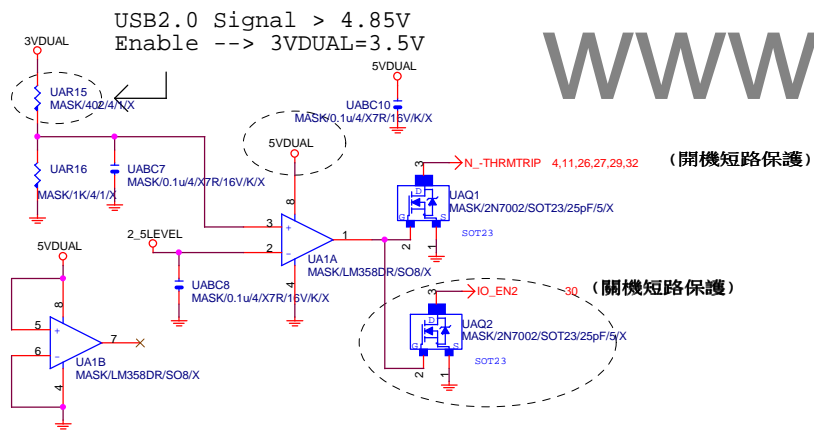
FRONT USB3



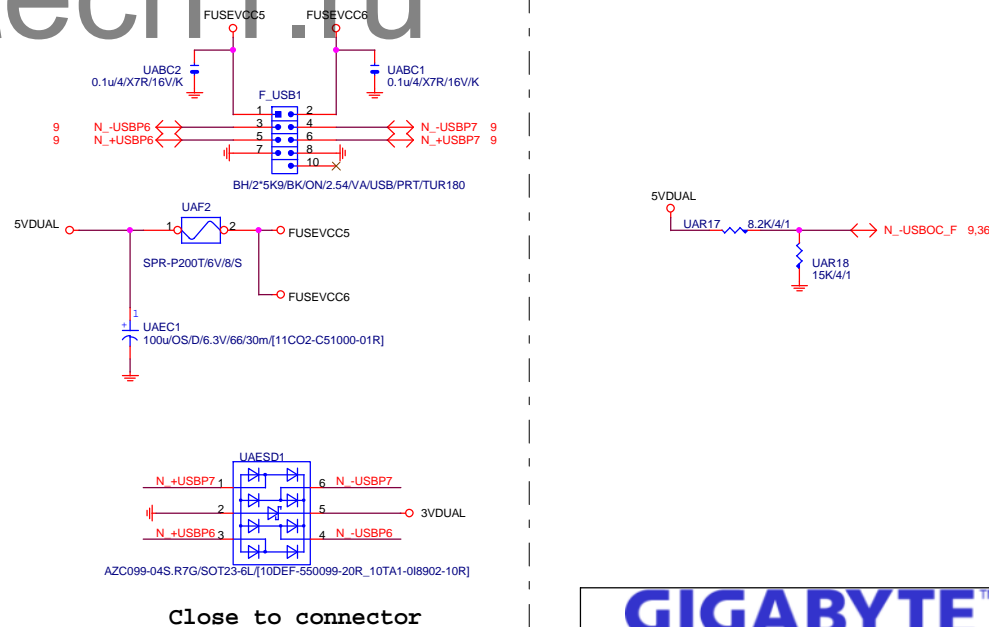
FRONT USB2



USB2.0 Signal & power short protection



FRONT USB1



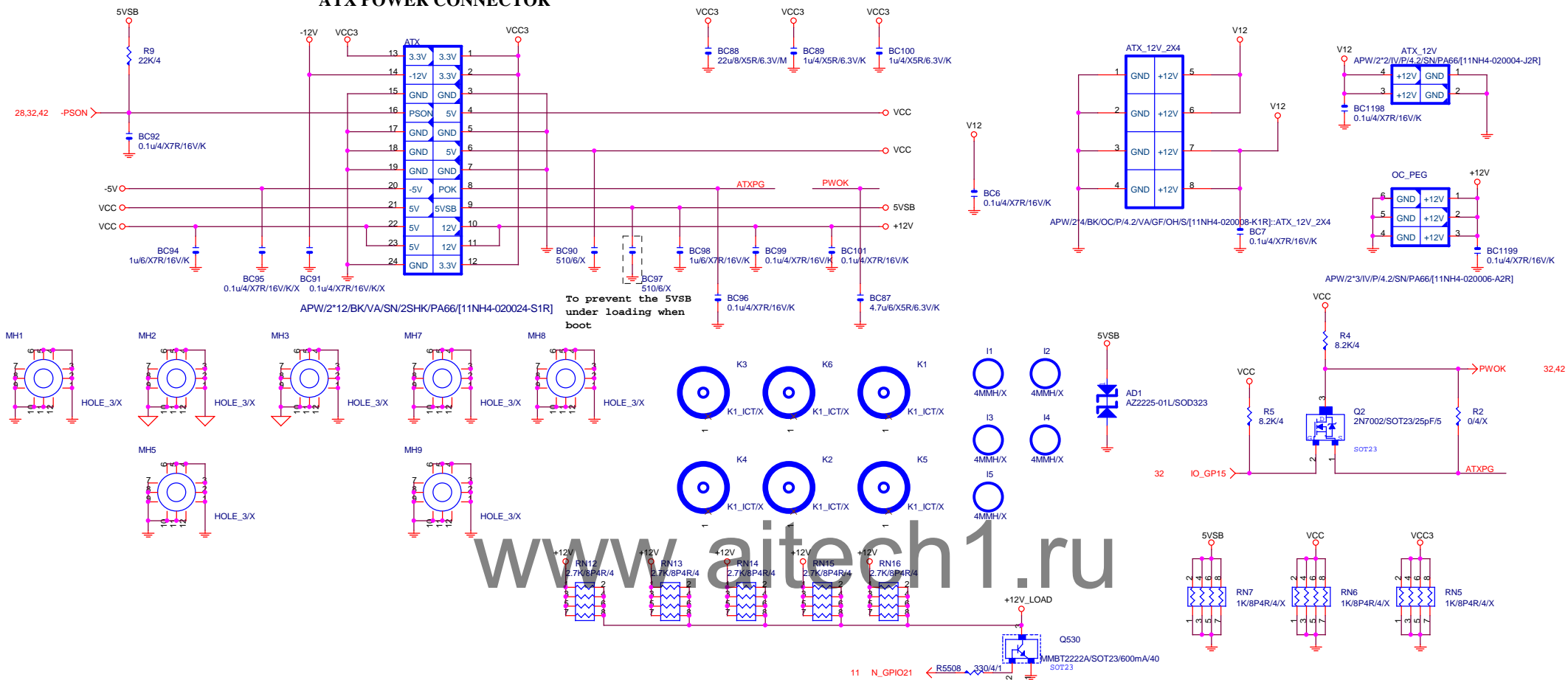
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Title: **FRONT USB 2.0**

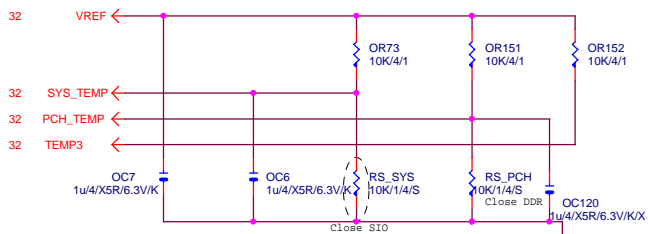
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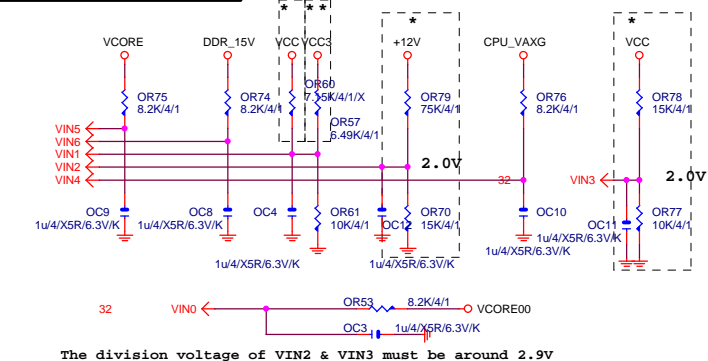
ATX POWER CONNECTOR



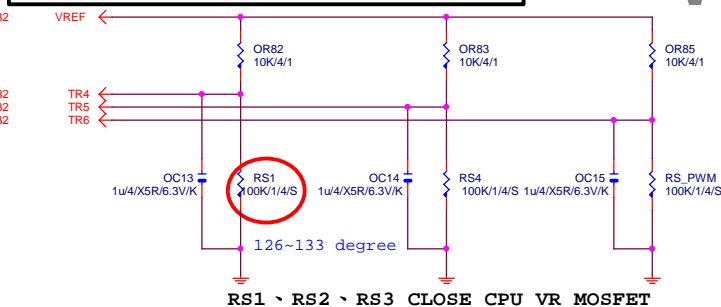
TEMP H/W MONITOR



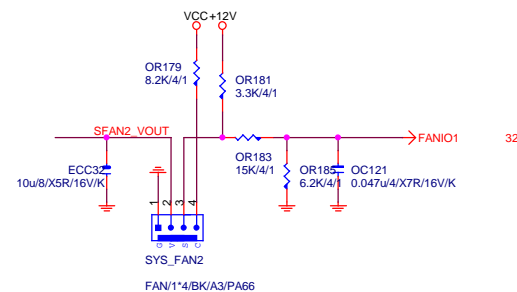
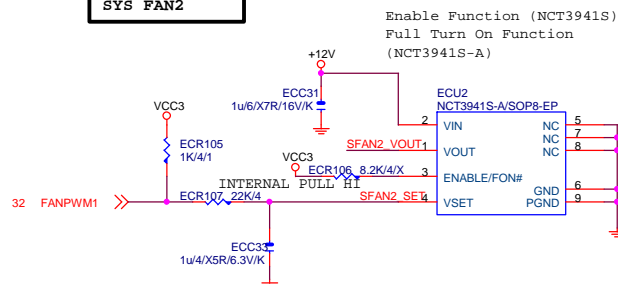
VOLTAGE-- H/W MONITOR



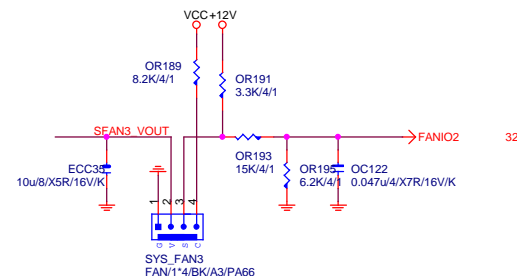
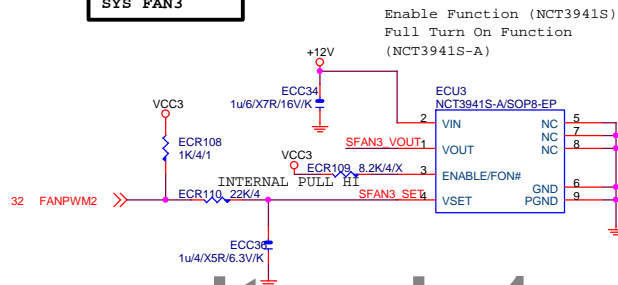
-PROCHOT:有mos heatsink不用prochot function



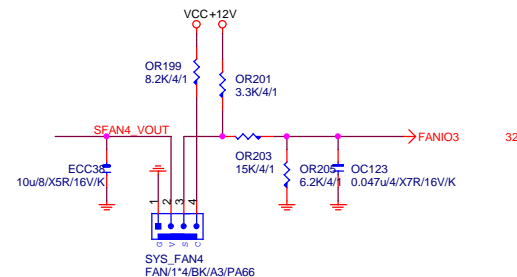
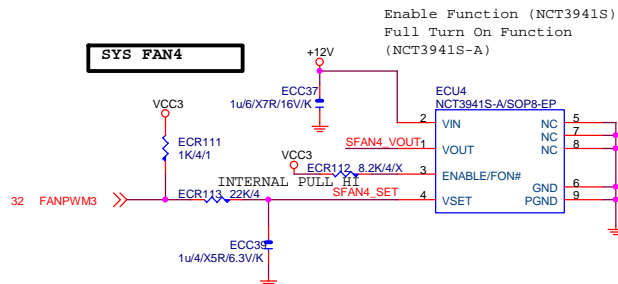
SYS FAN2



SYS FAN3



SYS FAN4

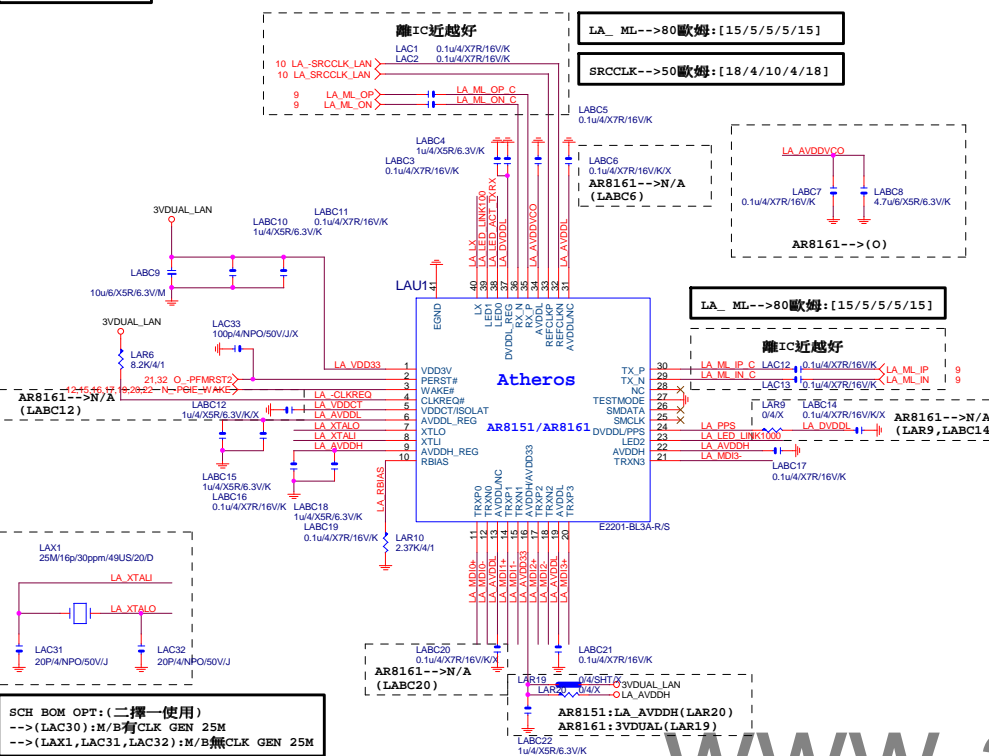


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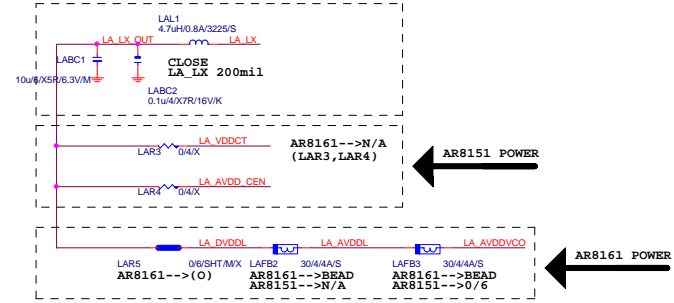
Title HWM, FAN CTRL		
Size Custom	Document Number GA-Z97X-SOC Force LN2	Rev 1.0
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LAN:AR8151/AR8161

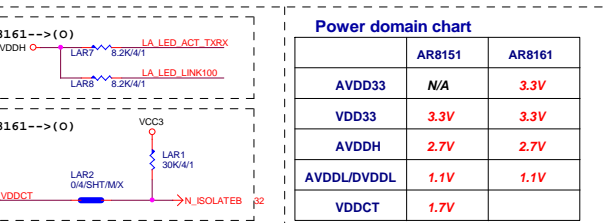


LAN POWER

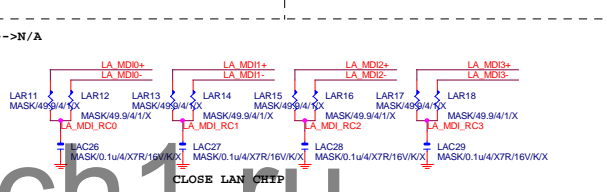
NEW DESIGN FOR INTERNAL SWR
AR8151: LAR3(O), LAR5(X)
AR8161: LAR5(O), LAR3/LAR4(X)



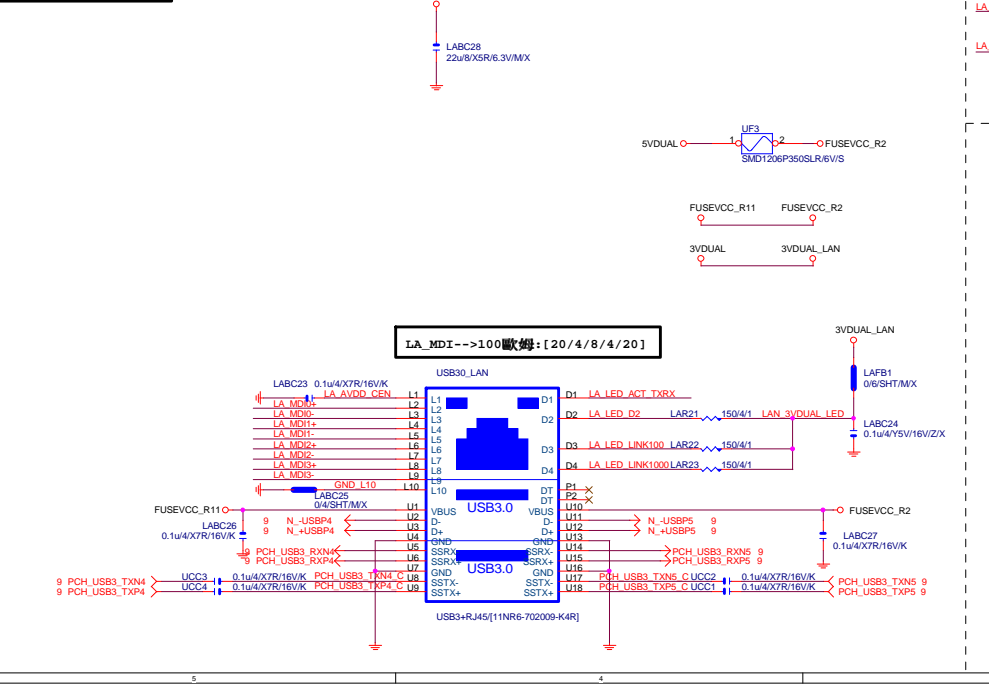
LAN MDI



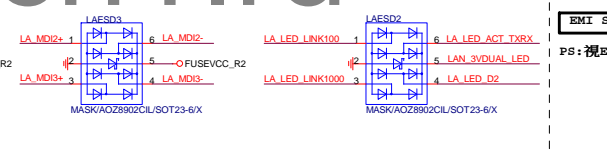
LAN USB LAN CONNECTOR



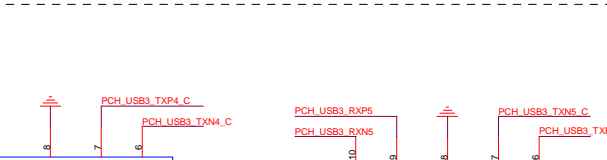
USB LAN CONNECTOR



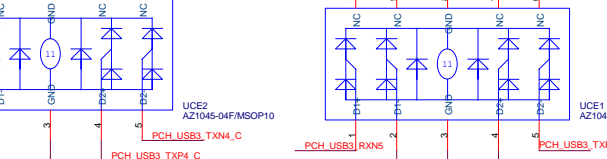
LAN MDI



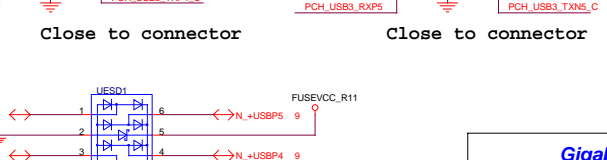
LAN USB LAN CONNECTOR



LAN USB LAN CONNECTOR



LAN USB LAN CONNECTOR



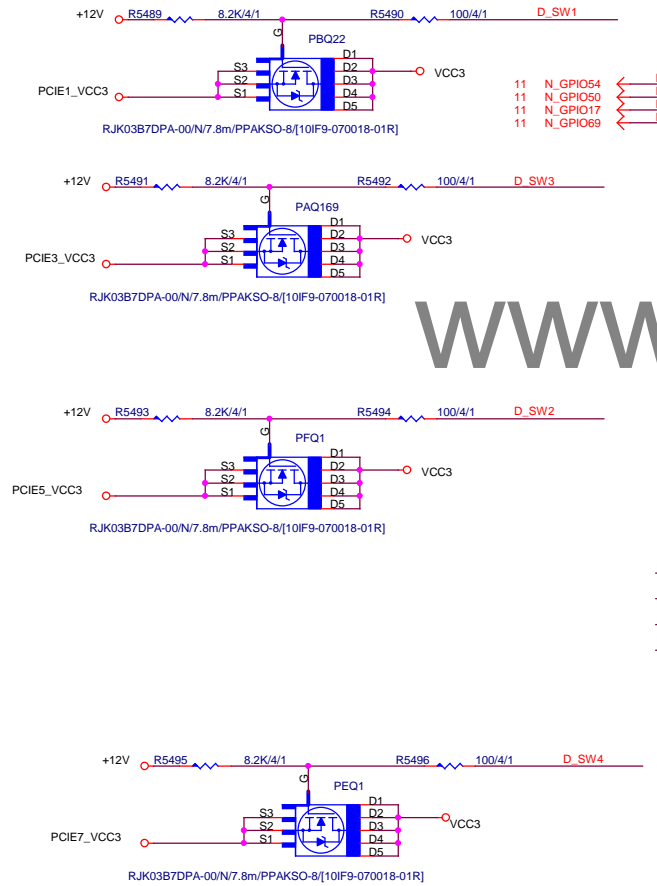
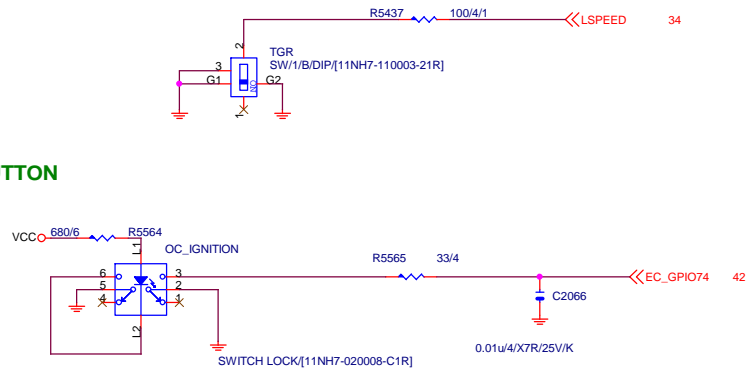
LAN USB LAN CONNECTOR



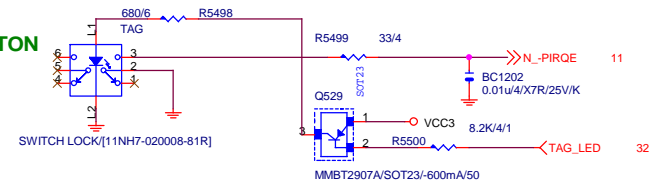
Gigabyte Technology

Title		ARTHEROS AR8151/AR8161	
Size		Document Number	
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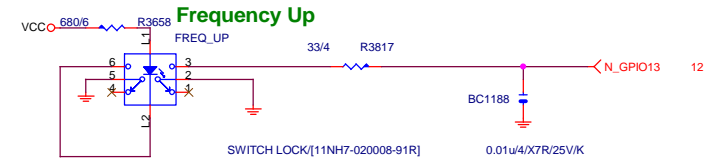
EnPWR BUTTON



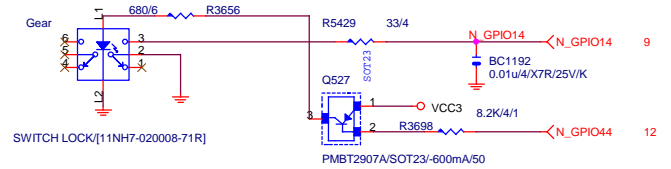
TAG BUTTON



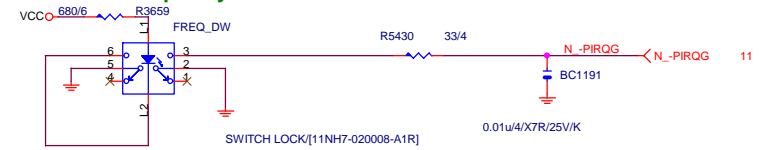
Frequency Up



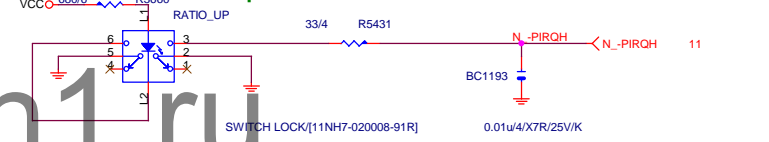
Gear



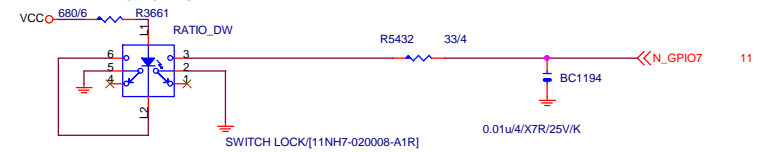
Frequency Down



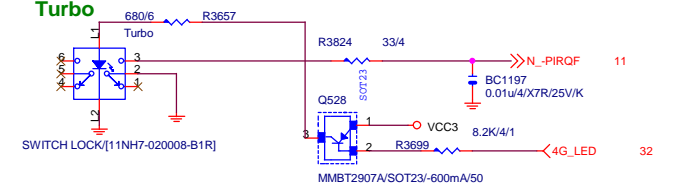
Ratio Up



Ratio Down

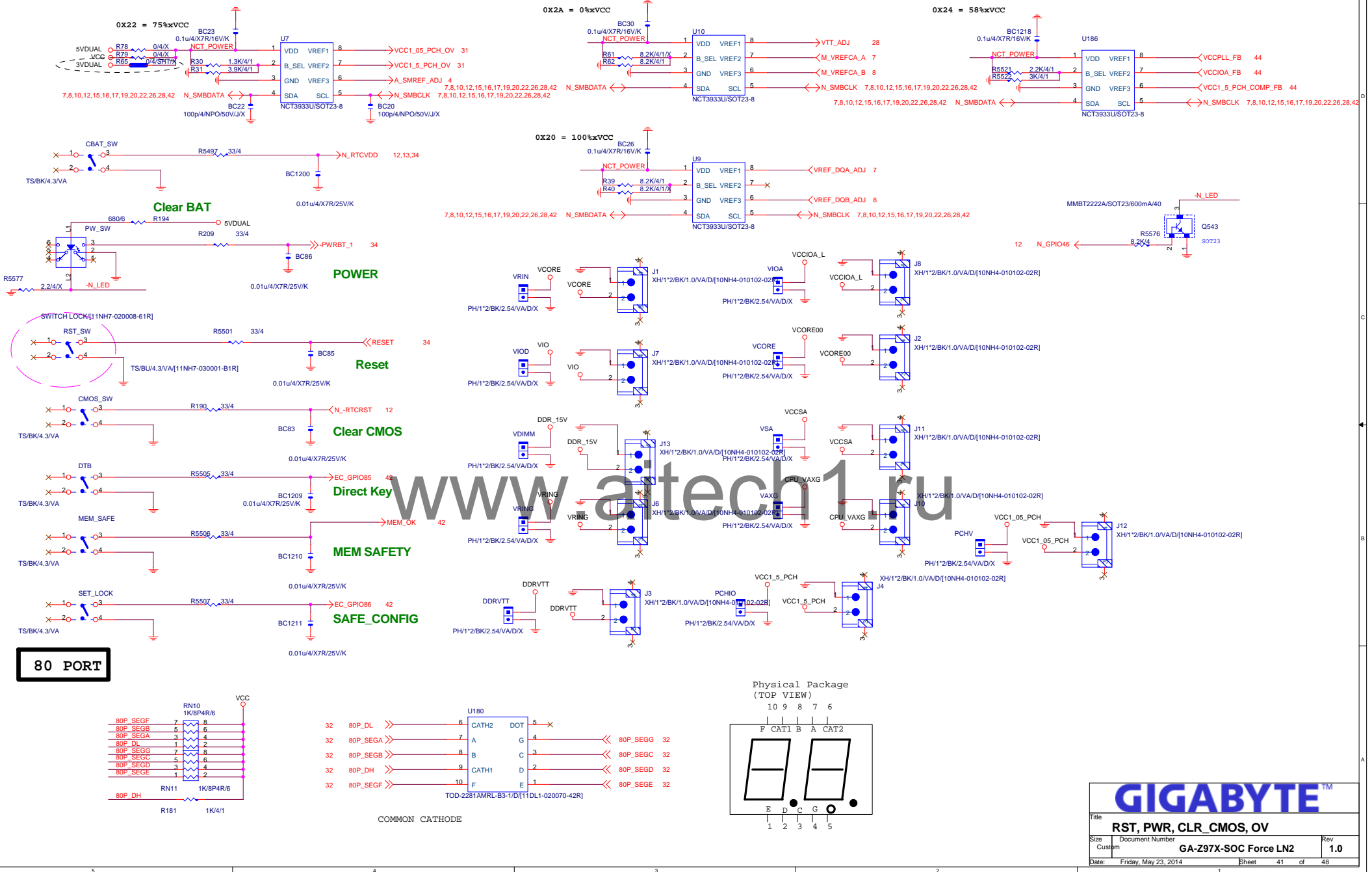


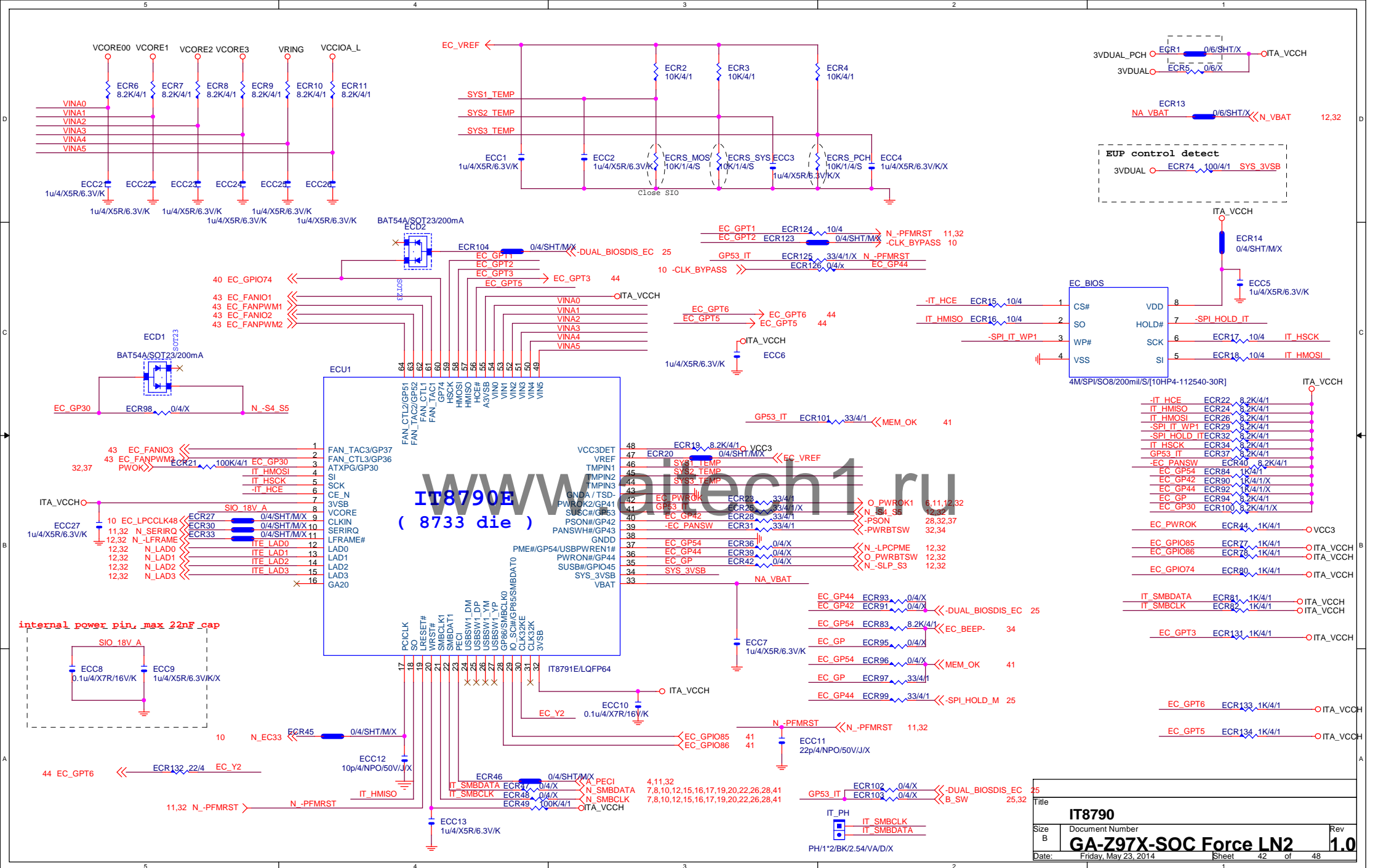
Turbo



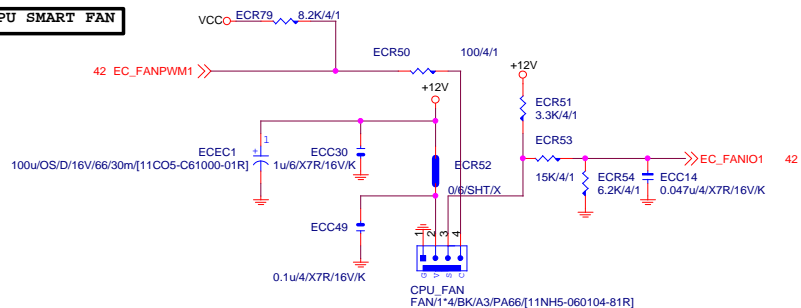
GIGABYTE™

Title		SWITCH	
Size	Document Number	GA-Z97X-SOC Force LN2	
Custom		1.0	
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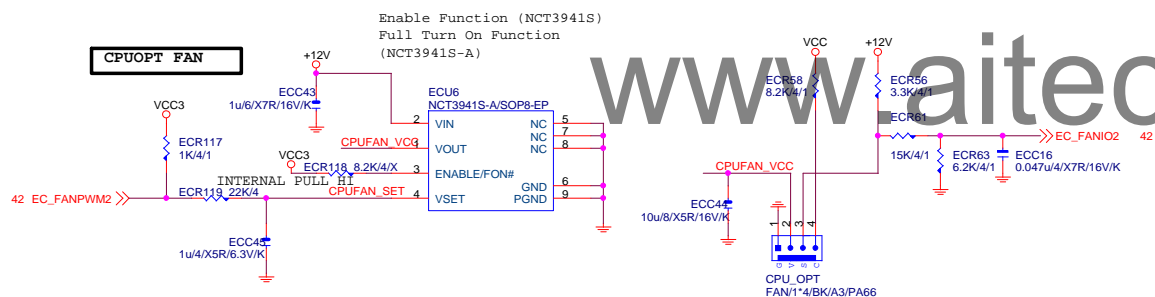




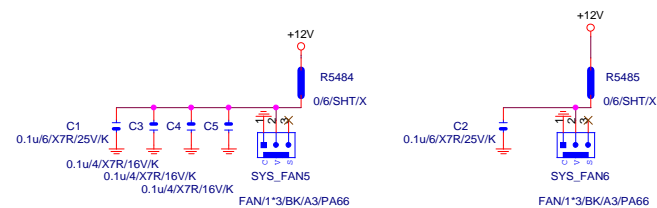
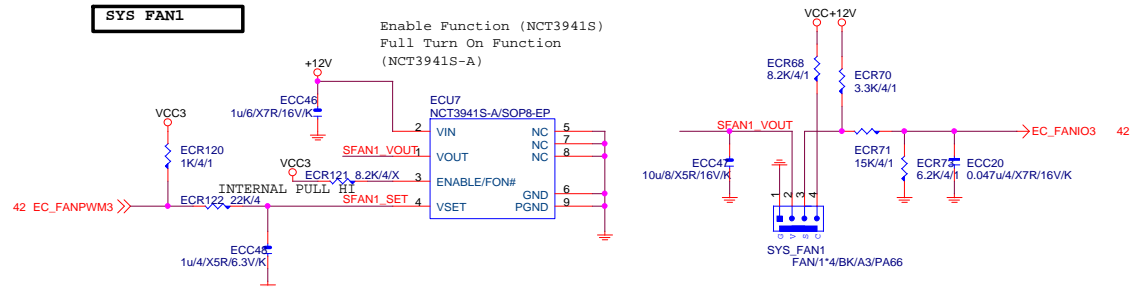
CPU SMART FAN



CPUOPT FAN



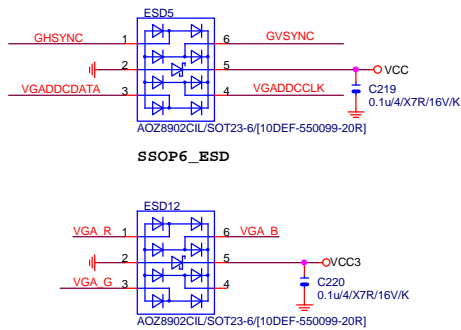
SYS FAN1



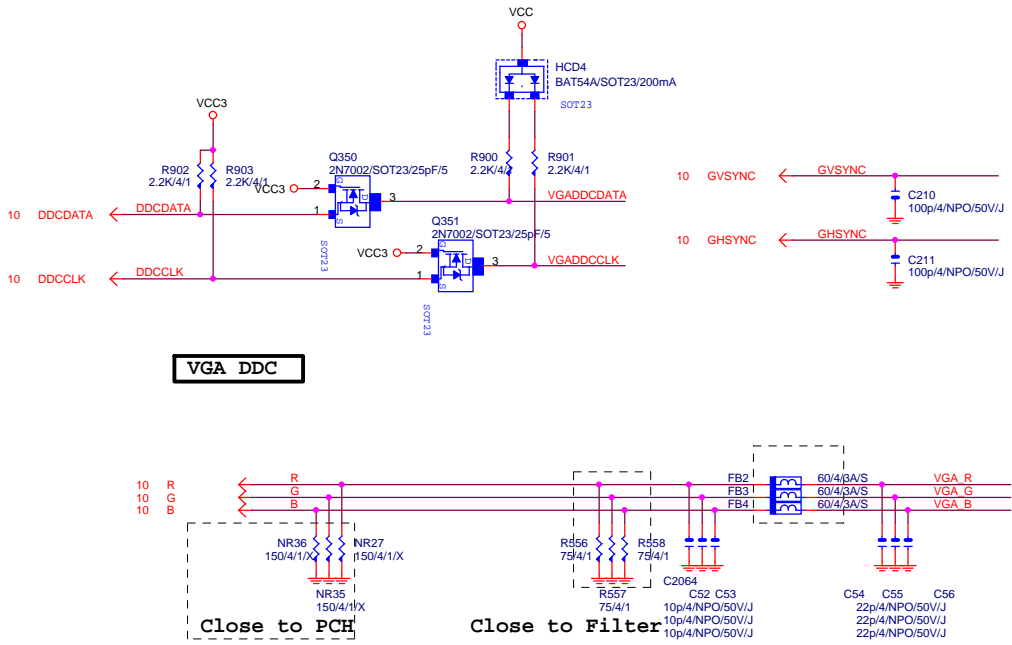
Gigabyte Technology

Title			
HWM,KB/MS, FAN CTRL			
Size	Document Number	Rev	
Custom	GA-Z97X-SOC Force LN2	1.0	
Date:	Friday, May 23, 2014	Sheet	43 of 48

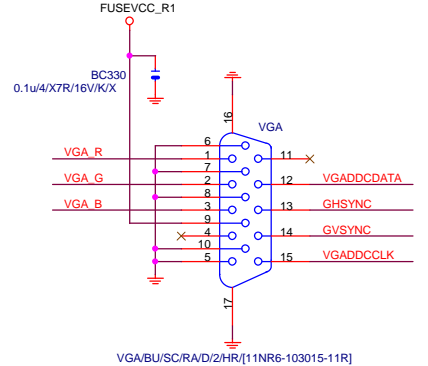
VGA ESD



VGA DDC



VGA CONNECTOR



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Title			
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Size	Document Number	Rev	
CustomGA-Z97X-SOC Force LN2		1.0	
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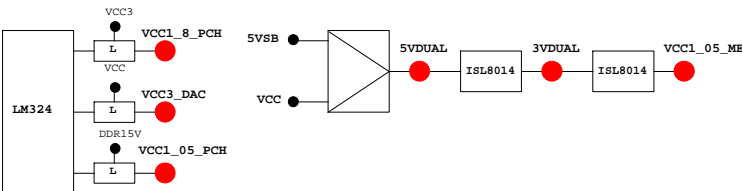
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PIN NAME	PWR	AFTER WDRST	Default	USAGE	NOTE
GP0	MAIN	H-Z	GPI	-PECT_REQ	N/A
GP1/TACH1	MAIN		GPI	ICH_FAN_TACH1	N/A
GP2/PIRQE#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	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	FSR_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

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/BUSS00	N/A	

PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/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/SCX	LOW_PWR_1	
VIDO5/GP27/SIN2	LOW_PWR_2	
PCIRST2#/GP11	-PWRST1	
PCIRST1#/GP12	-PWRST2	
3VBSW#/GP40	CSI_F0	BSEL166_1
SUSC#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VIDO0/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSS01	MB_ID3	
PD7/GP77/BUSS02	MB_ID4	
AFD#/GP86/SMBC_R	3V 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	PWRBTW	
KDAT/GP61	-PWRBTW	
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_IV_PH_EN	
VIDO7/JP6/DTR2#	JP6	
PD5/GP75/BUSS00	SB_LED3_C	

[illegible]

散熱模組料號:

線路圖名稱	BIOS選項
Vcore	CPU Vcore
CPU_VTT	CPU Termination
CPU_VAXG	CPU Graphic Core
VCC1_8_PCH	CPU PLL
VCC1_05_PCH	PCH core
3VDUAL	3VDUAL
DDR15V	DRAM voltage
DDRVTT	DRAM Termination
VREF_CA_AVREF_CA_B	DRAM Address Ref
VREF_DQ_AVREF_DQ_B	DRAM Data Ref

	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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