

Model Name: GA-Z68M-D2H

Revision 1.01

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 1,2
08	DDR III CHANNEL B 1,2
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*4 SLOT
16	PCI EXPRESS*1x2 SLOT
17	ITE 8728 LPC IO
18	COM,KB_USB,USB_ESATA,-PROCHOT
19	HWM,FAN CTRL
20	DUAL BIOS
21	FP,FUSB,SPK,SATALED
22	ALC889
23	REAR AUDIO JACK
24	REALTEK RTL8111E
25	HDMI/DVI
26	DISCRETE POWER
27	ATX,TPM

SHEET

TITLE

28	ISL95870_CPU_VTT
29	VCORE ISL6364_1
30	VCORE ISL6364_2
31	VCORE ISL6364_3

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Gigabyte Technology

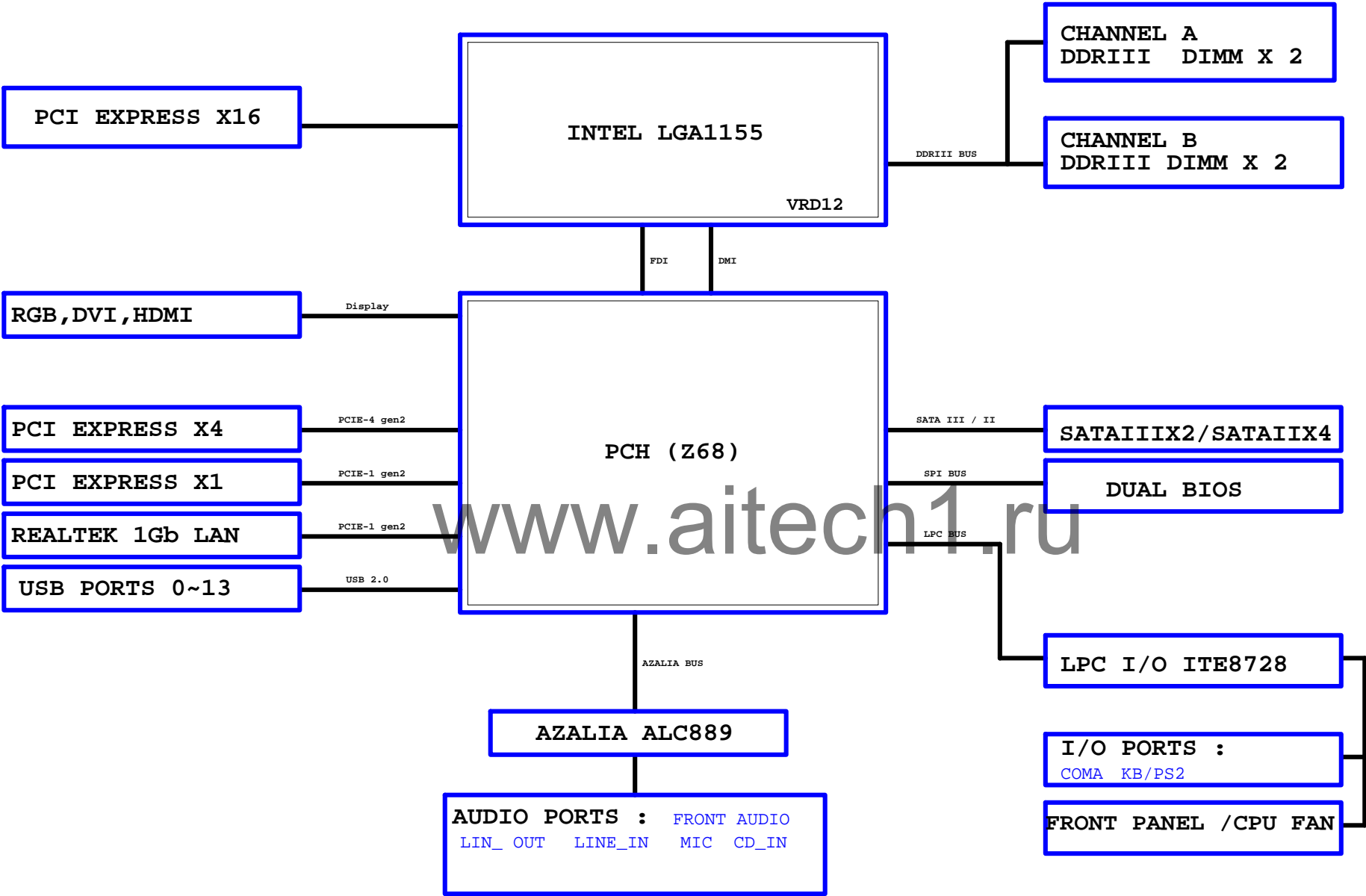
Cover Sheet

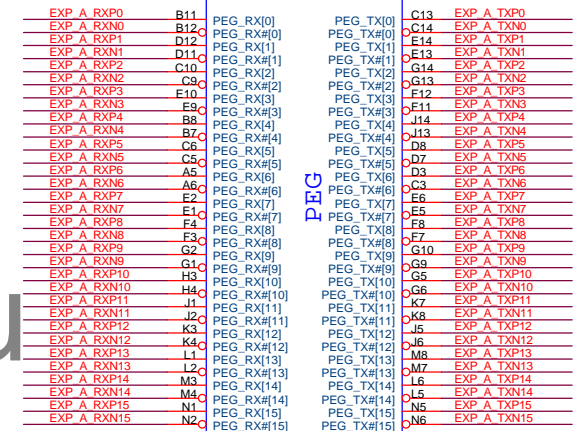
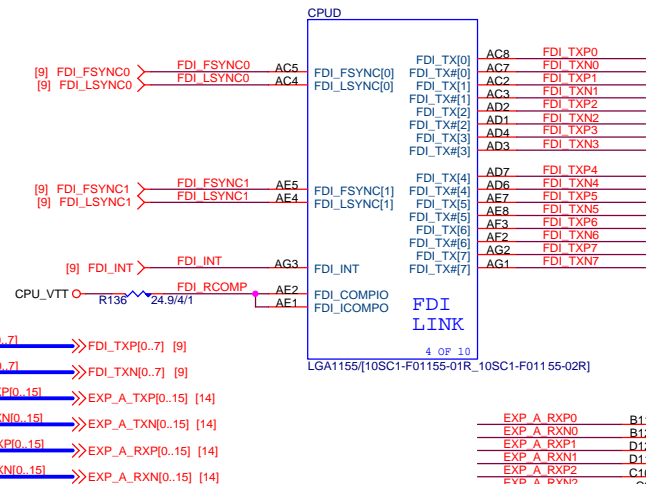
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C[illegible]

BLOCK DIAGRAM

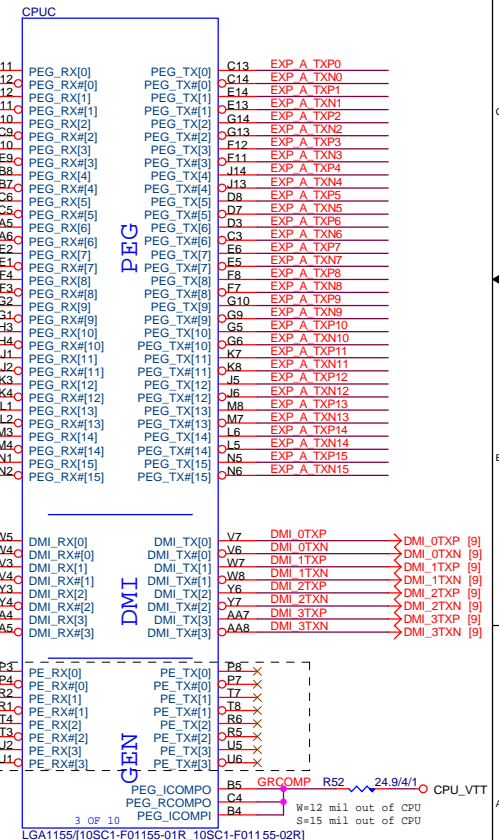
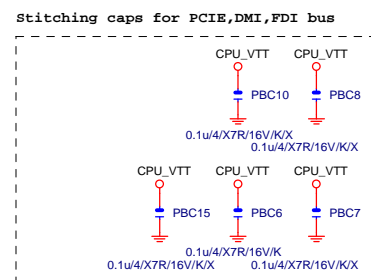
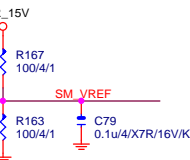
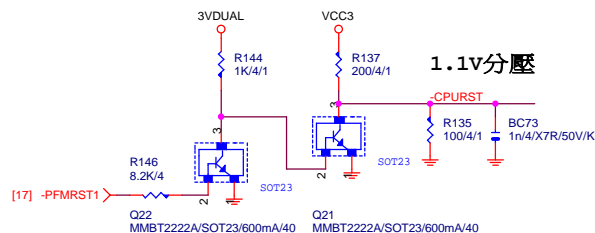




CFG6	CFG5	PCIE CONFIG
1	1	1x16 , Default
1	0	2X8
0	1	RSVD
0	0	X8, X4, X4

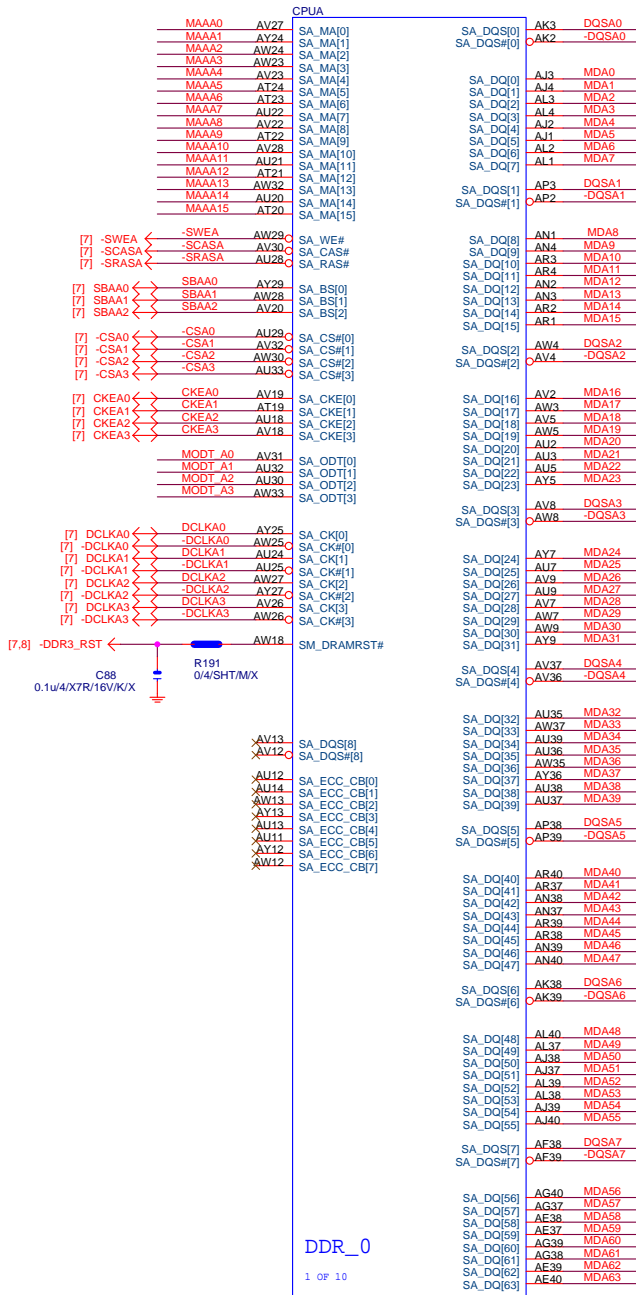
DRAM PWROK

BC110
22p/4/NPO/50V/J/X

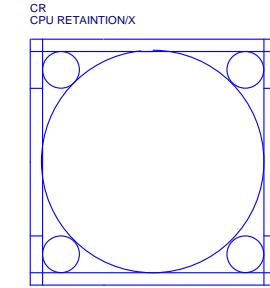
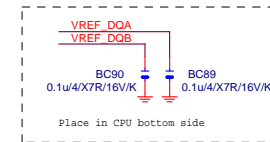


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Title			
CPU LGA1155-A			
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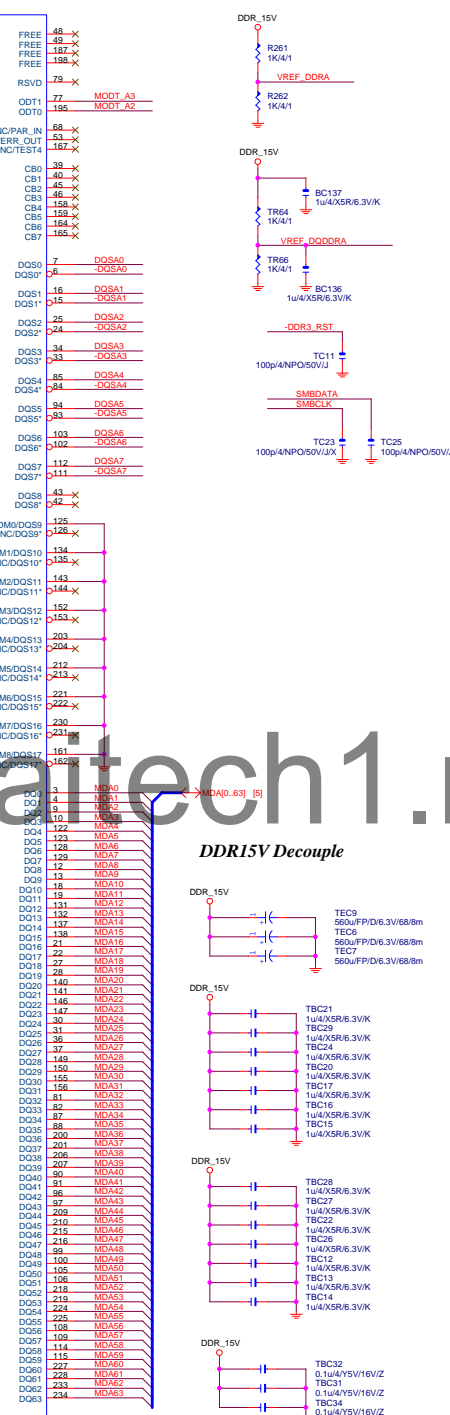
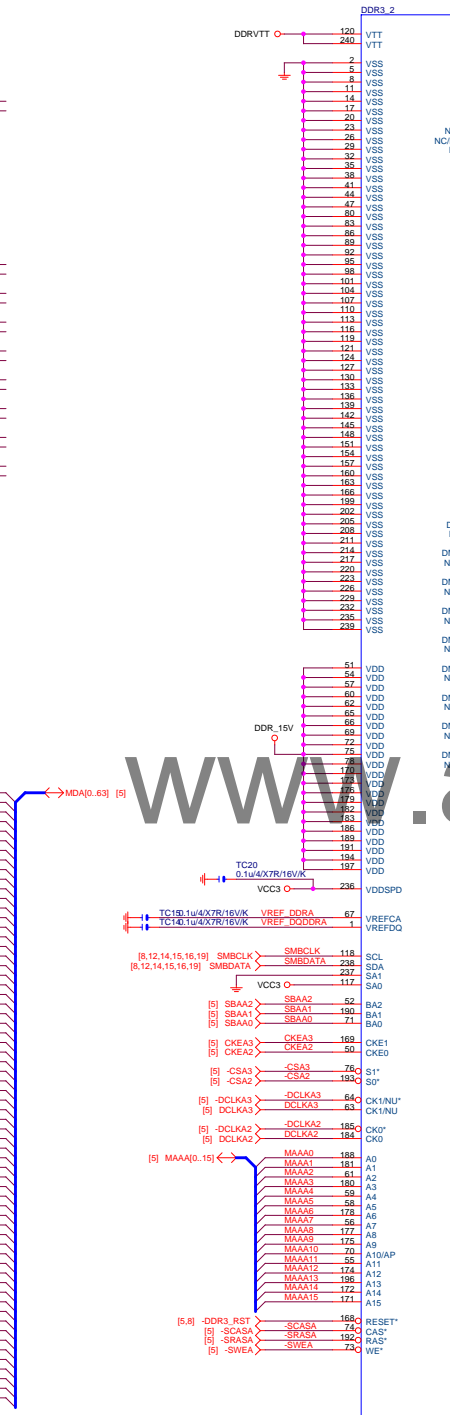
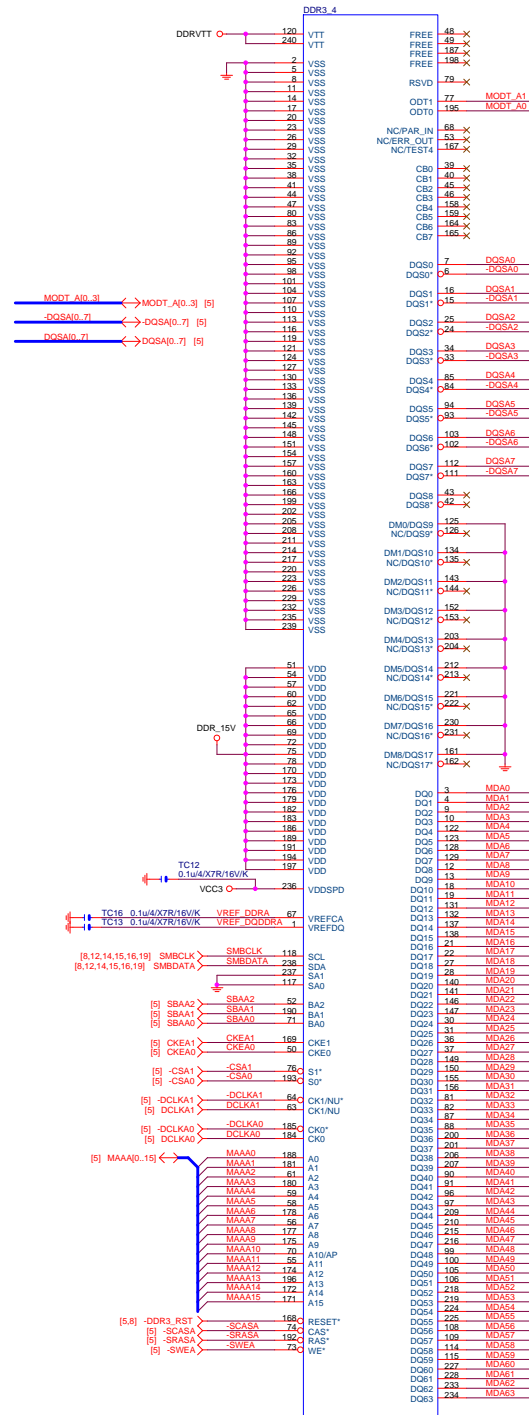
Need check the new CPU ME

CPU_P



ILM_BP/1156/CSP/[12KRC-0F0001-01R_12KRC-0F0001-04R]

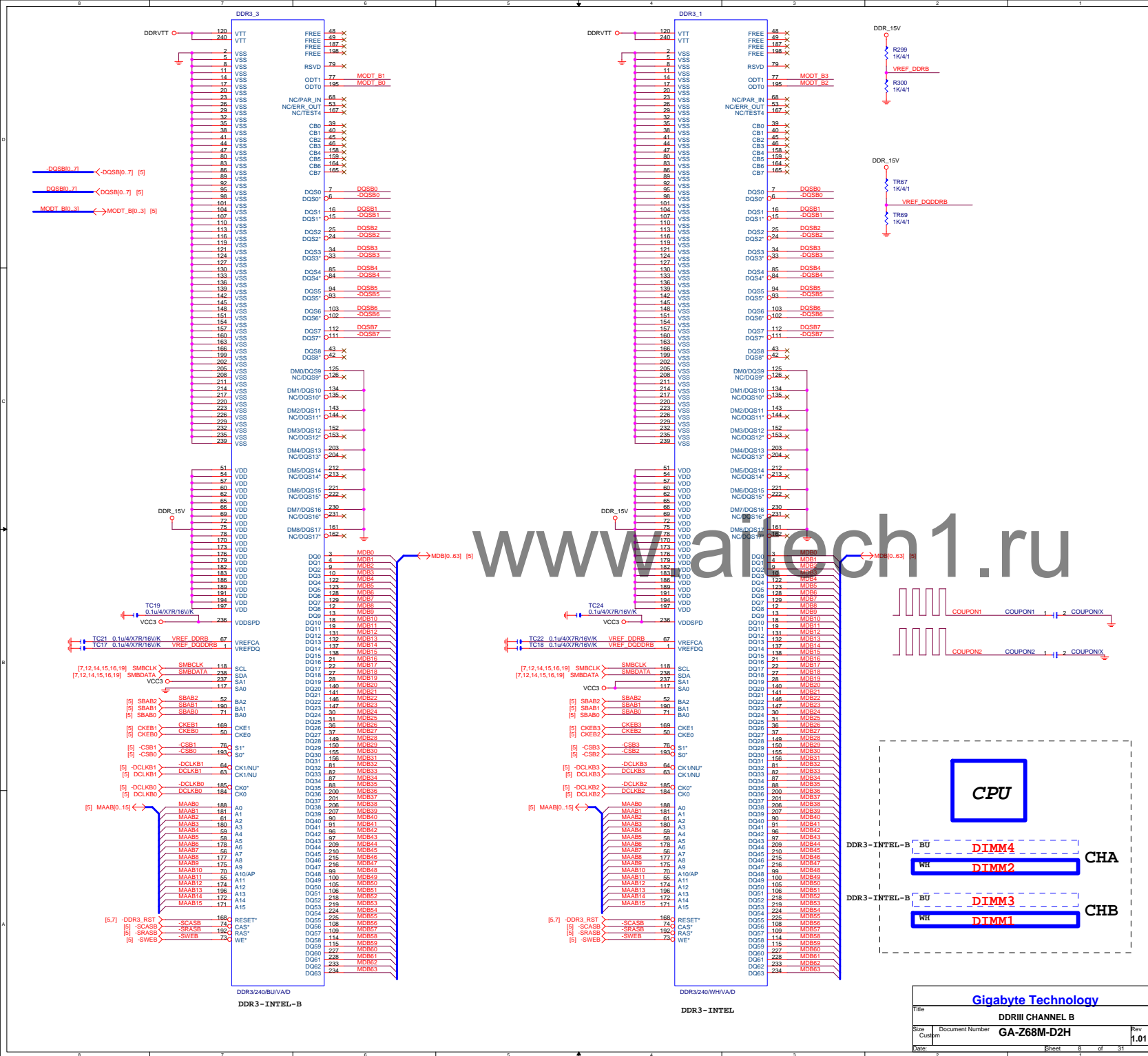
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CPU LGA1156-B			
Size			
Custom			
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Thursday, June 02, 2011			
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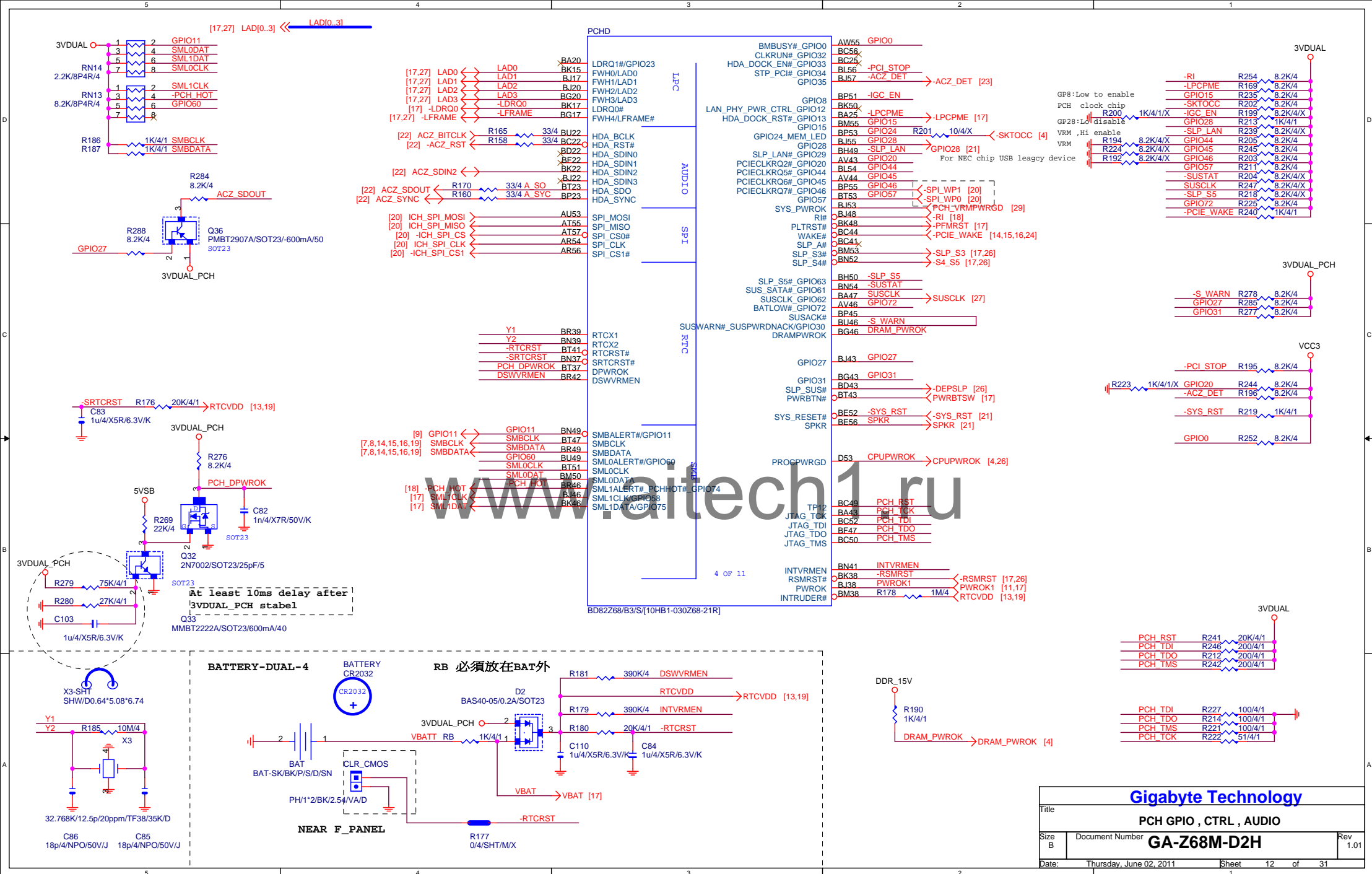
DDR15V Decouple

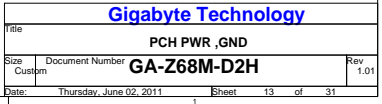
DDRVTT Decouple

Gigabyte Technology		
File	DDR3 CHANNEL A	
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Cur		
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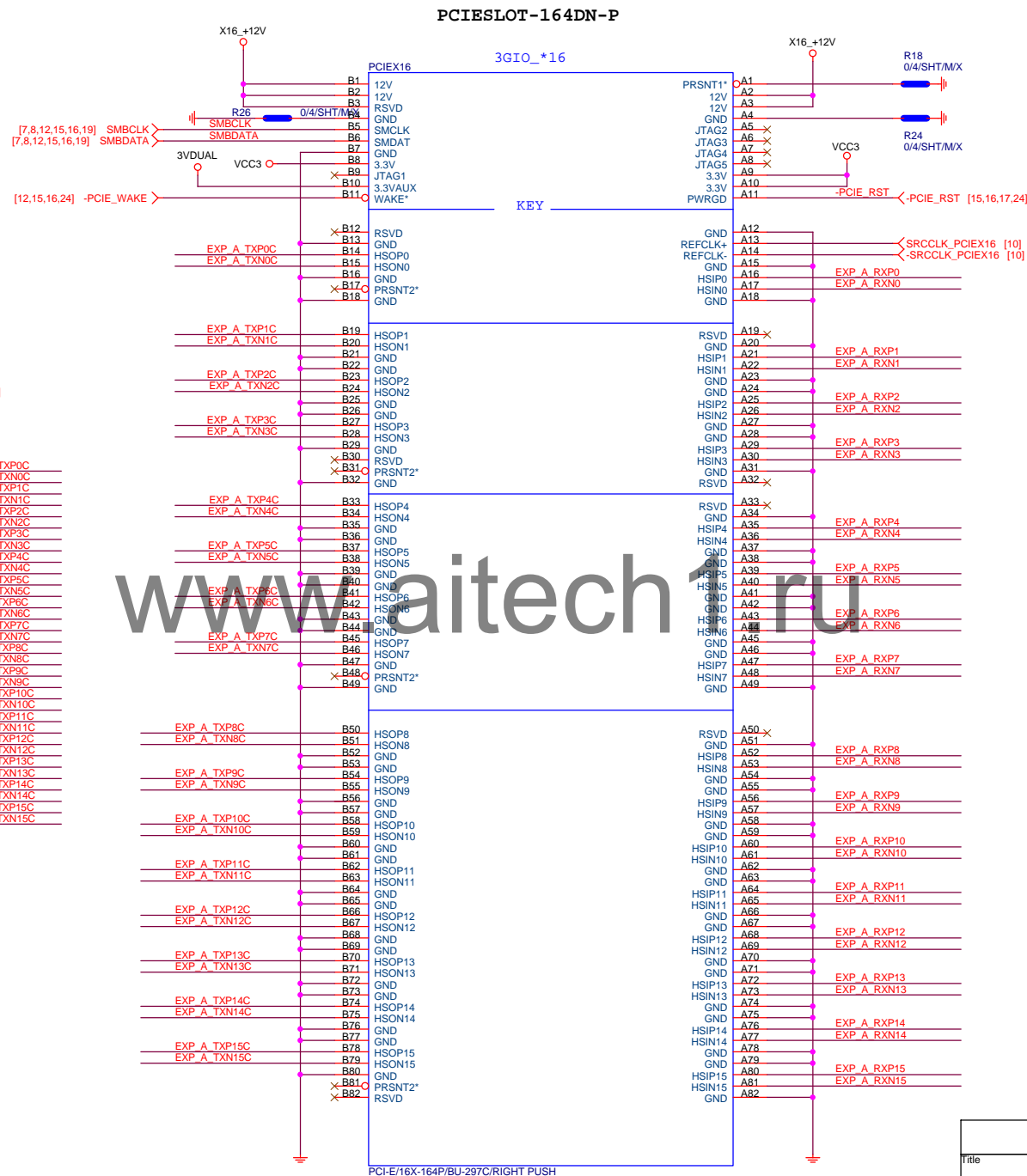


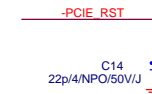
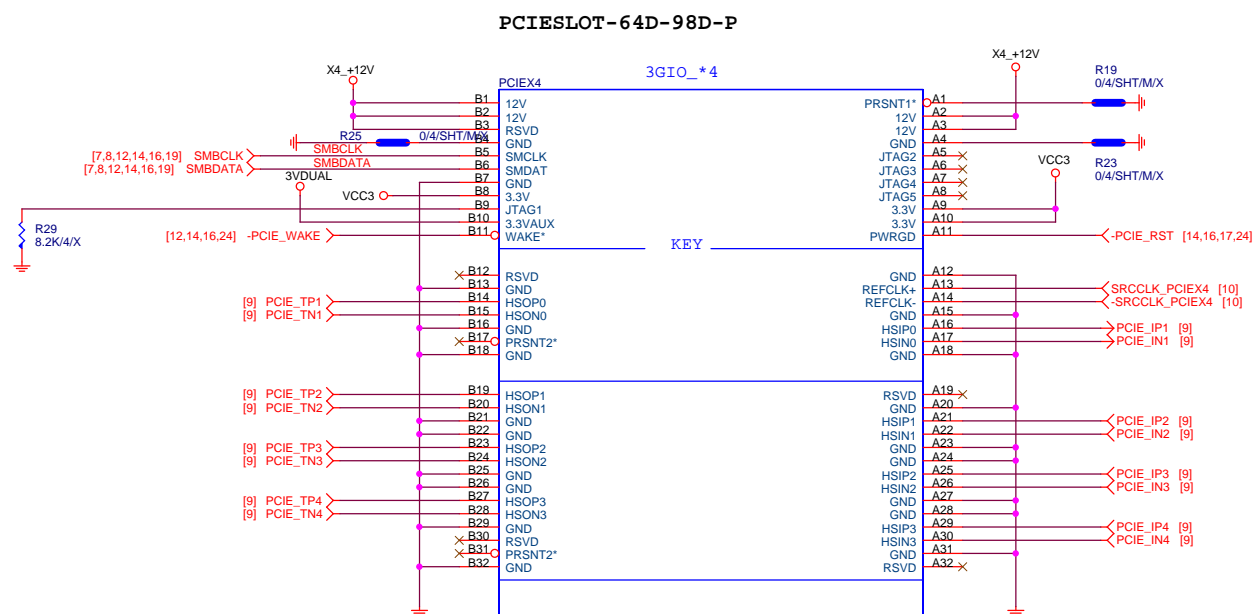
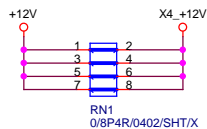




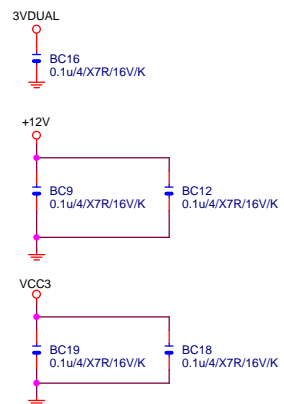


EXP A TXP0	C22	0.22u4/XSR/6.3V/K	EXP A TXP0C
EXP A TXN0	C23	0.22u4/XSR/6.3V/K	EXP A TXN0C
EXP A TXP1	C25	0.22u4/XSR/6.3V/K	EXP A TXP1C
EXP A TXN1	C27	0.22u4/XSR/6.3V/K	EXP A TXN1C
EXP A TXP2	C29	0.22u4/XSR/6.3V/K	EXP A TXP2C
EXP A TXN2	C31	0.22u4/XSR/6.3V/K	EXP A TXN2C
EXP A TXP3	C34	0.22u4/XSR/6.3V/K	EXP A TXP3C
EXP A TXN3	C38	0.22u4/XSR/6.3V/K	EXP A TXN3C
EXP A TXP4	C39	0.22u4/XSR/6.3V/K	EXP A TXP4C
EXP A TXN4	C41	0.22u4/XSR/6.3V/K	EXP A TXN4C
EXP A TXP5	C42	0.22u4/XSR/6.3V/K	EXP A TXP5C
EXP A TXN5	C43	0.22u4/XSR/6.3V/K	EXP A TXN5C
EXP A TXP6	C44	0.22u4/XSR/6.3V/K	EXP A TXP6C
EXP A TXN6	C45	0.22u4/XSR/6.3V/K	EXP A TXN6C
EXP A TXP7	C46	0.22u4/XSR/6.3V/K	EXP A TXP7C
EXP A TXN7	C47	0.22u4/XSR/6.3V/K	EXP A TXN7C
EXP A TXP8	C52	0.22u4/XSR/6.3V/K	EXP A TXP8C
EXP A TXN8	C53	0.22u4/XSR/6.3V/K	EXP A TXN8C
EXP A TXP9	C54	0.22u4/XSR/6.3V/K	EXP A TXP9C
EXP A TXN9	C55	0.22u4/XSR/6.3V/K	EXP A TXN9C
EXP A TXP10	C57	0.22u4/XSR/6.3V/K	EXP A TXP10C
EXP A TXN10	C58	0.22u4/XSR/6.3V/K	EXP A TXN10C
EXP A TXP11	C59	0.22u4/XSR/6.3V/K	EXP A TXP11C
EXP A TXN11	C60	0.22u4/XSR/6.3V/K	EXP A TXN11C
EXP A TXP12	C63	0.22u4/XSR/6.3V/K	EXP A TXP12C
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EXP A TXP14	C68	0.22u4/XSR/6.3V/K	EXP A TXP14C
EXP A TXN14	C68	0.22u4/XSR/6.3V/K	EXP A TXN14C
EXP A TXP15	C70	0.22u4/XSR/6.3V/K	EXP A TXP15C
EXP A TXN15	C71	0.22u4/XSR/6.3V/K	EXP A TXN15C





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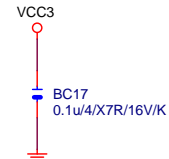


✕ B81 PRSNT2*

PCI-E/16X-65P/BU/RIGHT PUSH

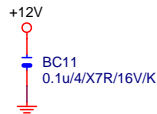
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Title			
PCI EXPRESS X 4 PORT			
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PCIE*1



CLK GEN CK505

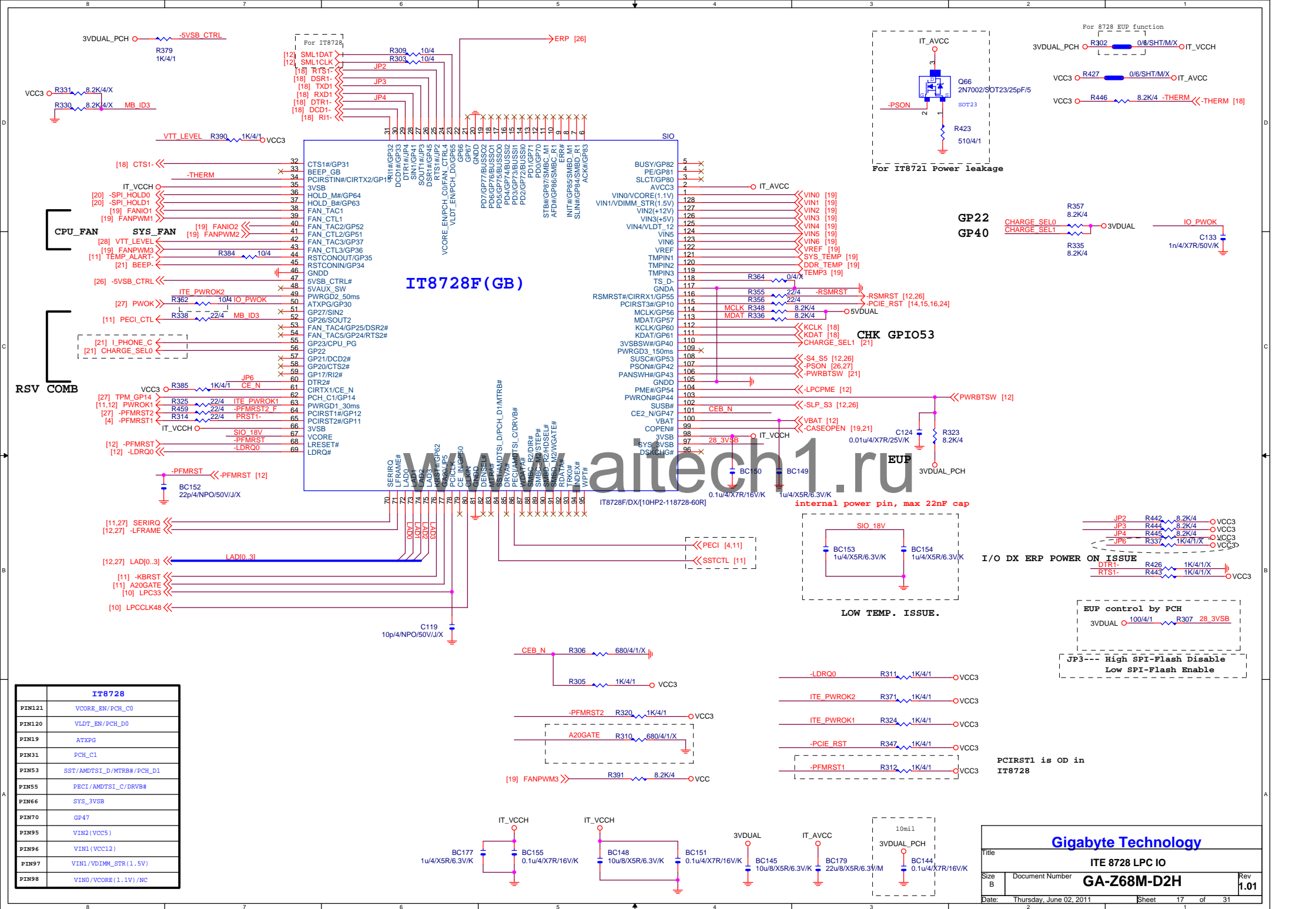
N/A



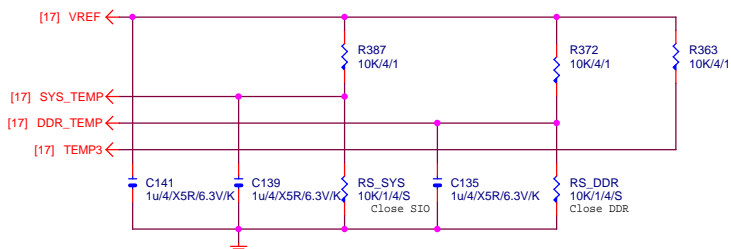
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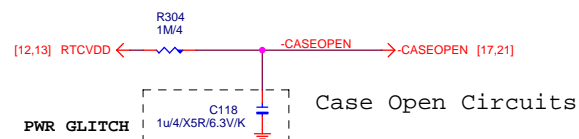
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PCIEX1,X2			
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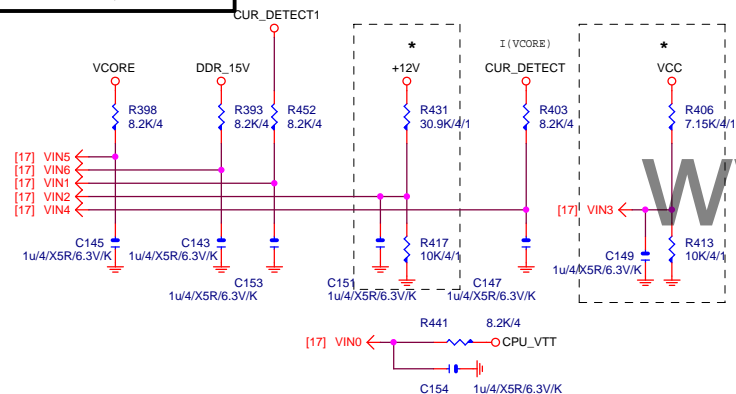
TEMP H/W MONITOR



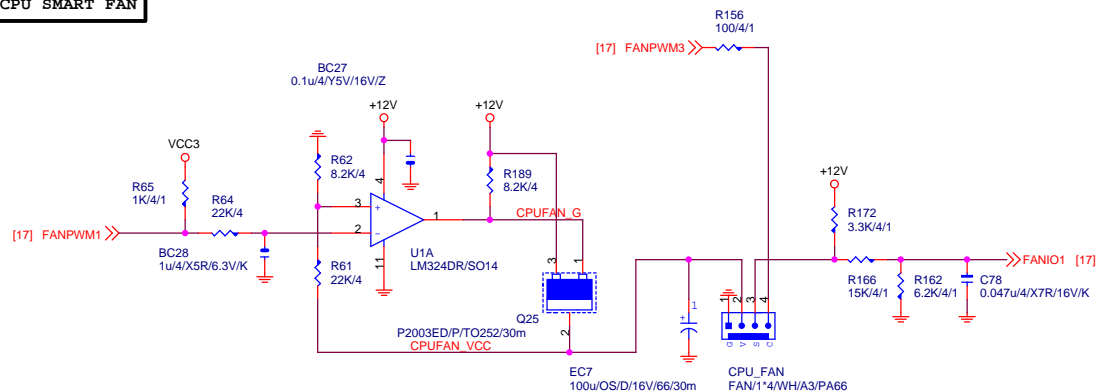
CASE OPEN



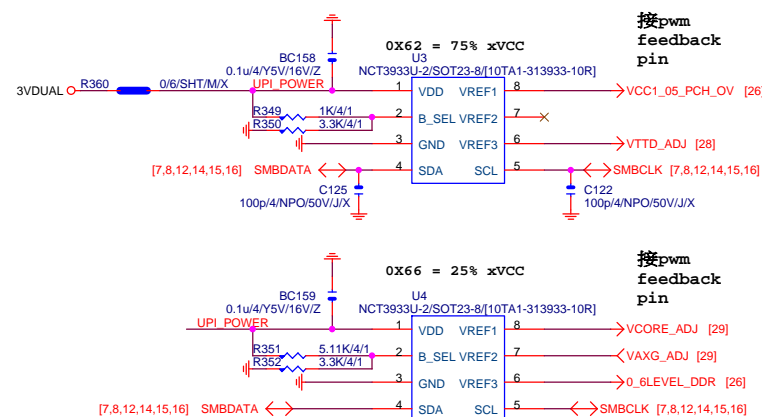
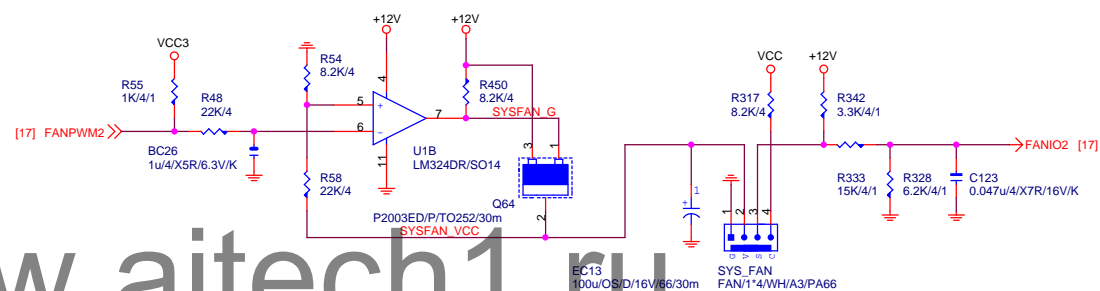
VOLTAGE-- H/W MONITOR



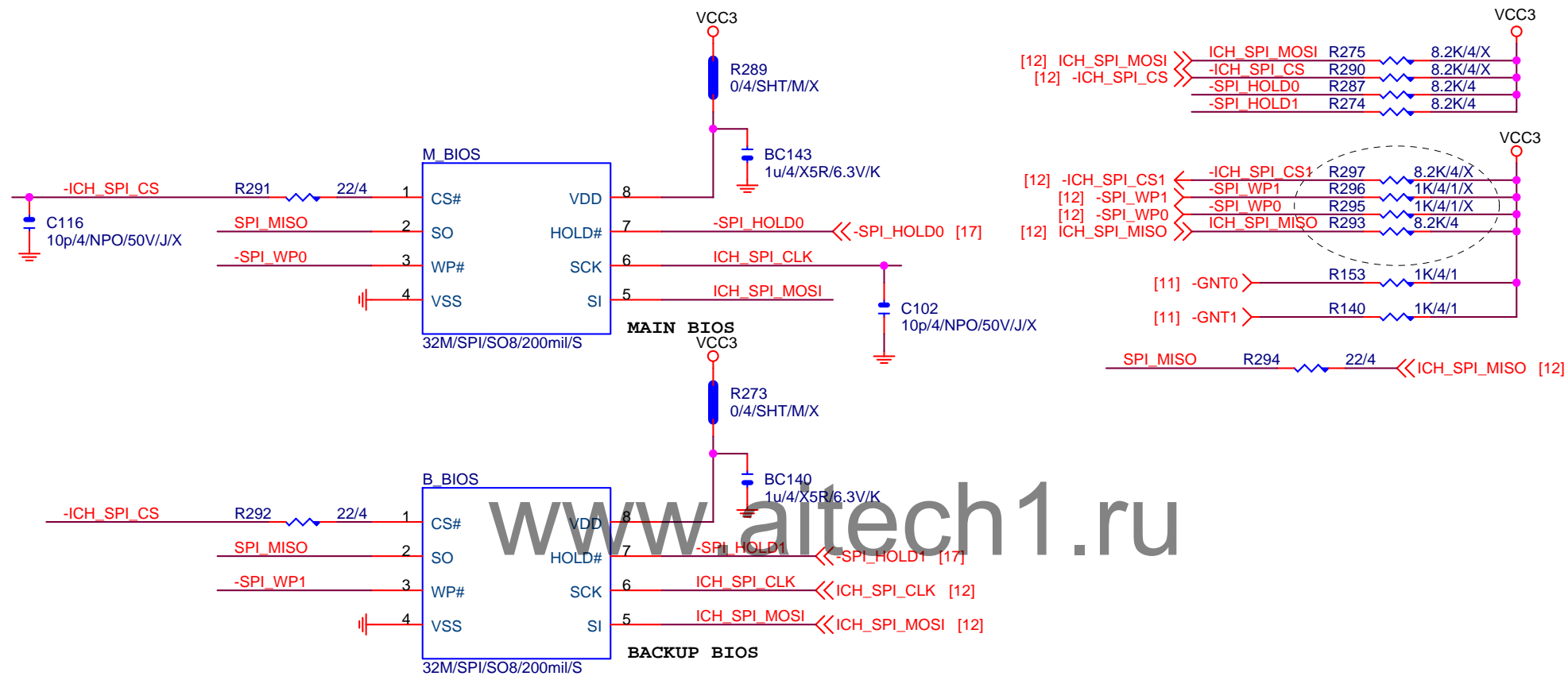
CPU SMART FAN



SYS SMART FAN



DUAL BIOS



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

1	means	floating
0	means	PD 1K

Gigabyte Technology

DUAL BIOS

Size
A

Document Number

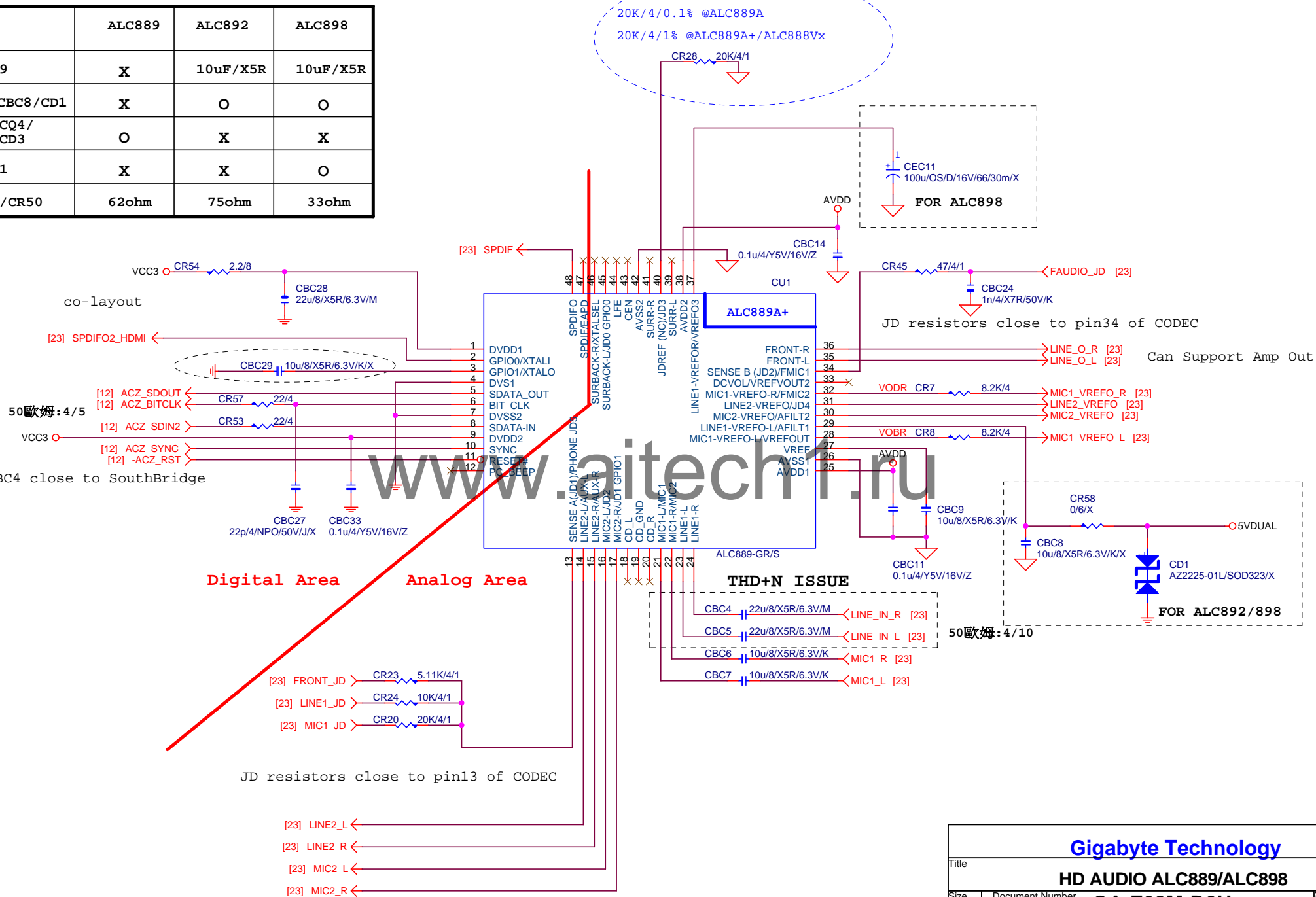
GA-Z68M-D2H

Rev	
1.01	

Date: Thursday, June 02, 2011

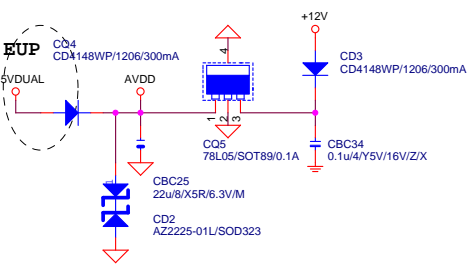
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	ALC889	ALC892	ALC898
CBC29	X	10uF/X5R	10uF/X5R
CR58/CBC8/CD1	X	O	O
CD2/CQ4/ CQ5/CD3	O	X	X
CEC11	X	X	O
CR27/CR50	62ohm	75ohm	33ohm

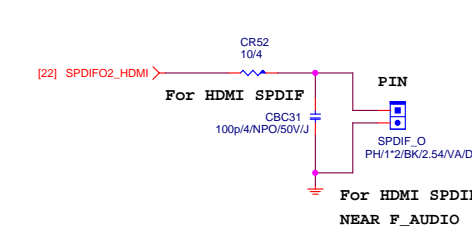


Can Support Amp Out

CODEC POWER/EMI PAD



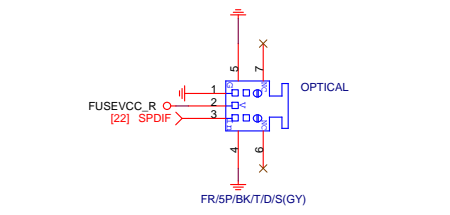
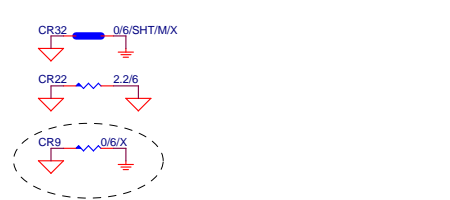
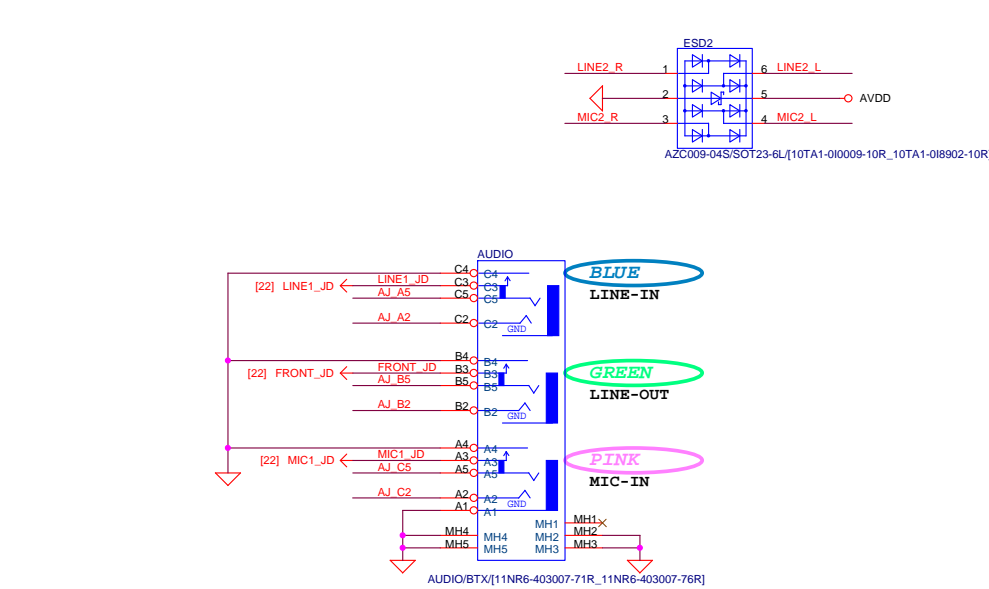
HDMI SPDIF



SPDIF_IN



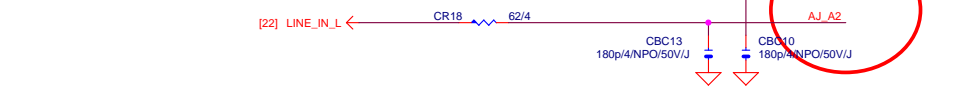
AZALIA JACK



LINE-OUT



LINE-IN

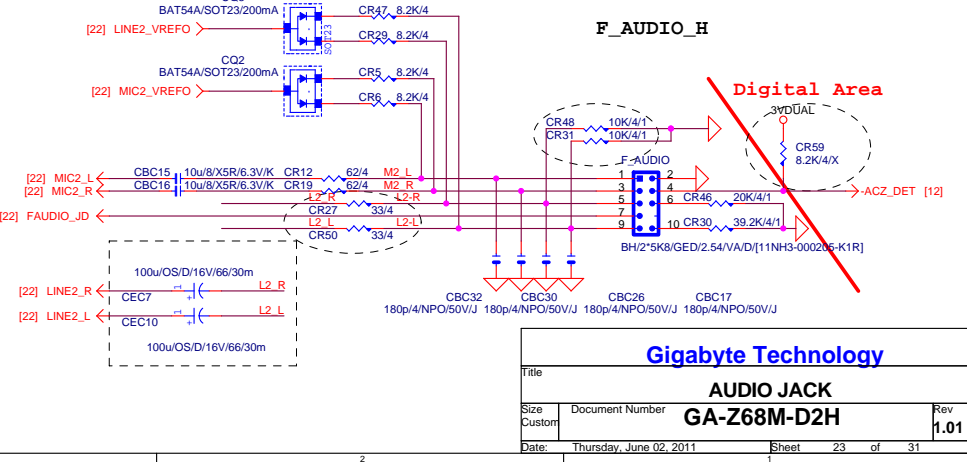


MIC-IN



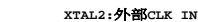
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AZALIA FRONT PANEL

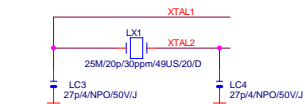
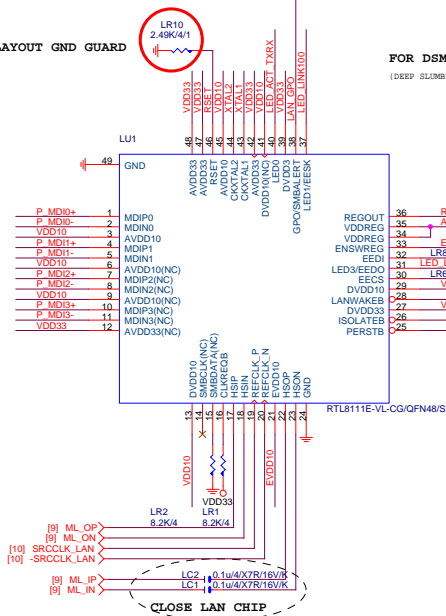


Gigabyte Technology			
Title			
AUDIO JACK			
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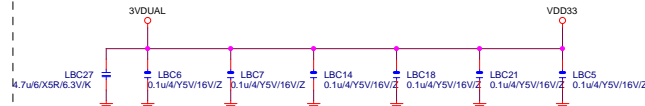
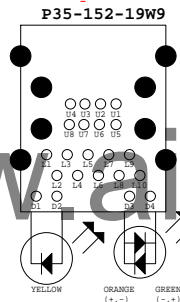
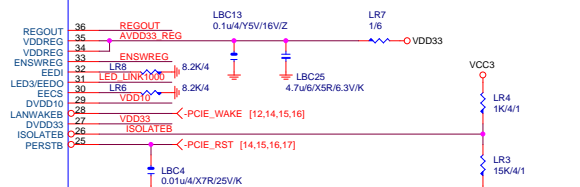
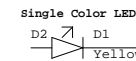
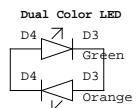
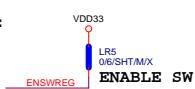
PCIE-1G LAN



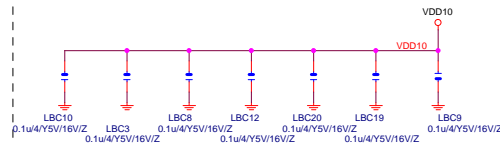
RSET LAYOUT GND GUARD



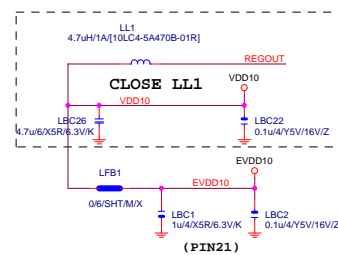
FOR DSM MODE
(DEEP SLUMBER MODE)



(CLOSE LU1)

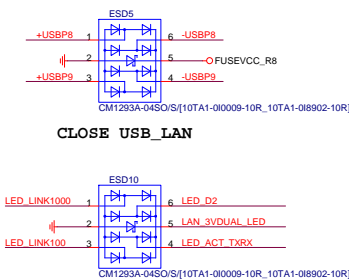


(PIN3,6,9,13,29,41,45)



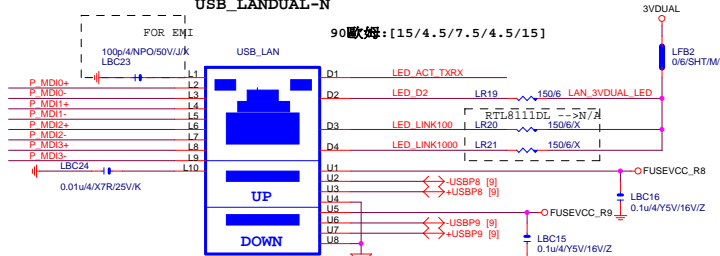
USB_LAN CONNECTOR

90 歐姆:[20/4/8/4/20]



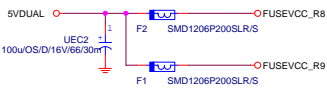
USB_LANDUAL-N

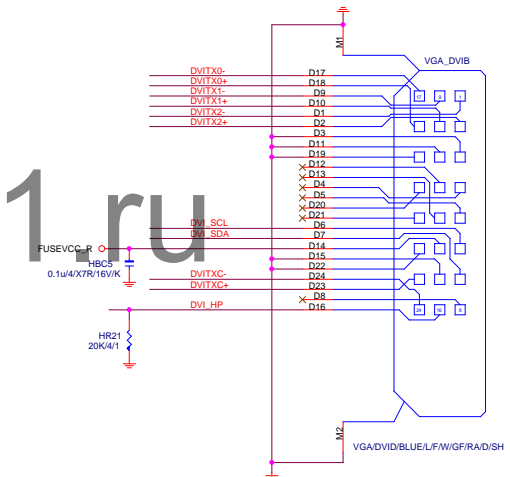
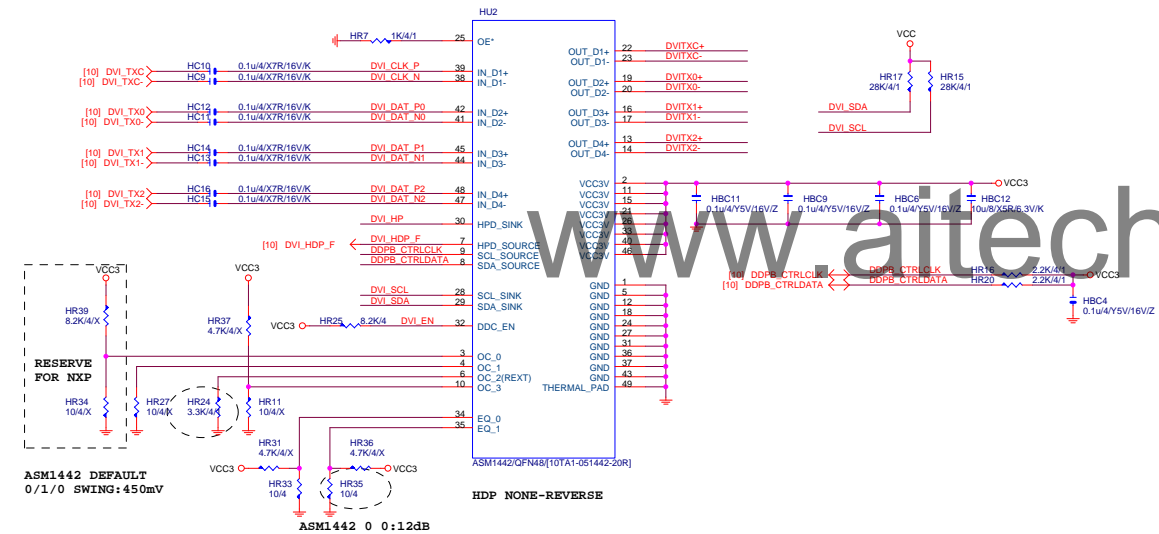
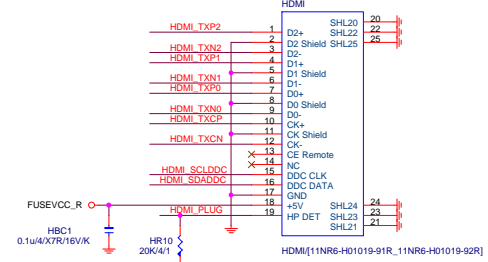
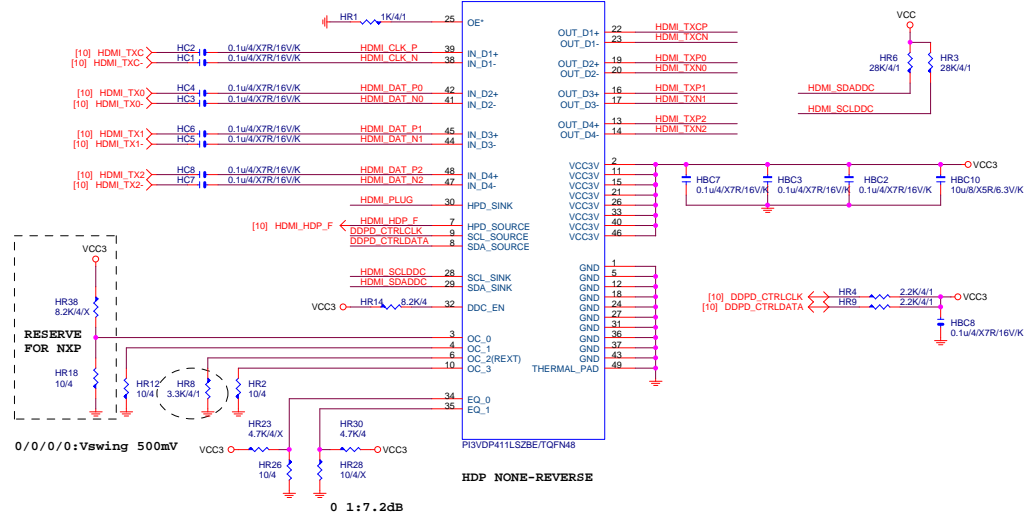
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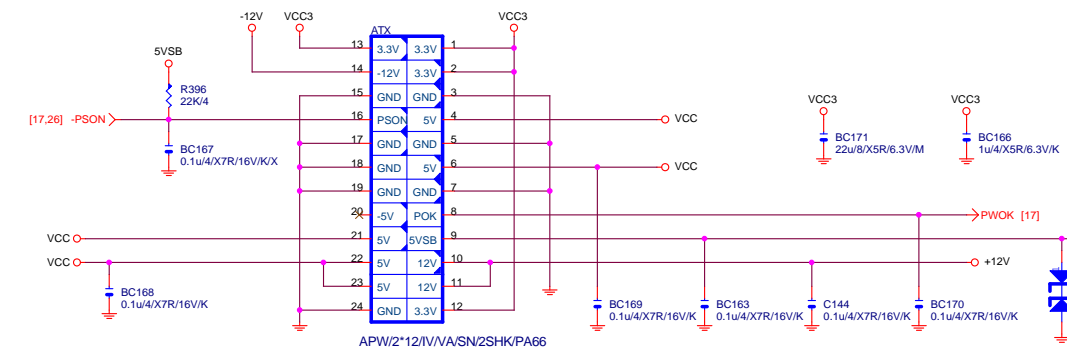
USB+LAN/1G/GO,Y/OS/RA/D/1/RED[11NR6-702009-11R]
RED 11NR6-702009-11R:1G/12CORE
11NR6-702009-41R:1G/8CORE

CLOSE USB_LAN

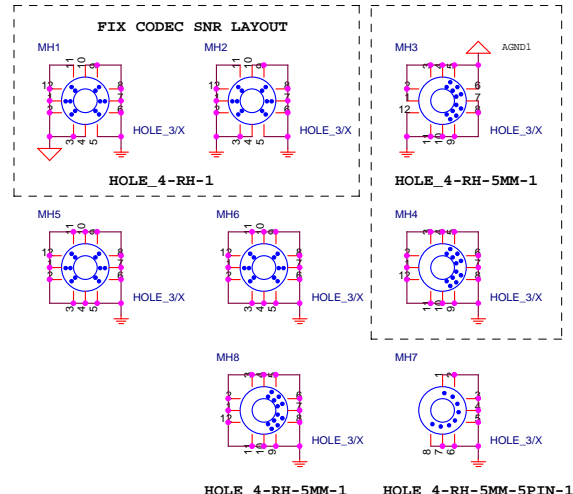
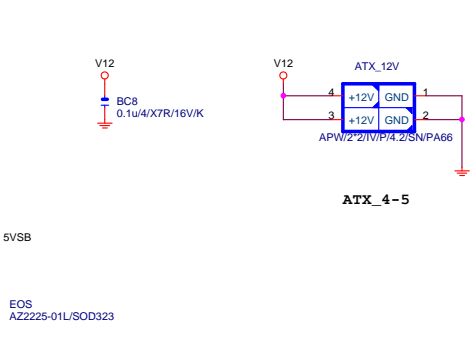




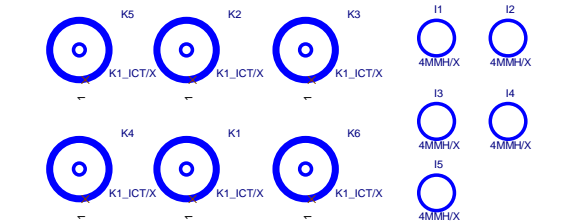
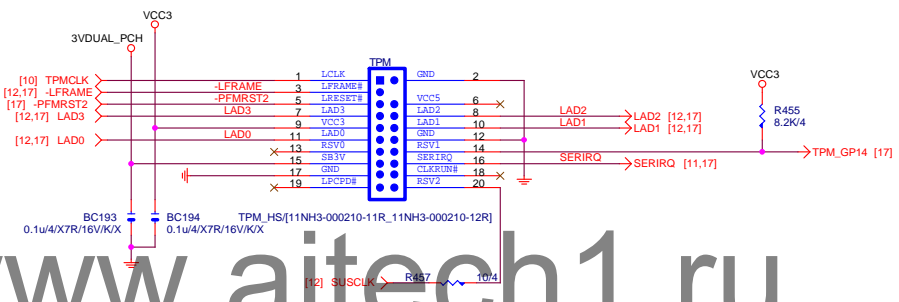
ATXX24 POWER CONNECTOR



ATXX4 POWER CONNECTOR

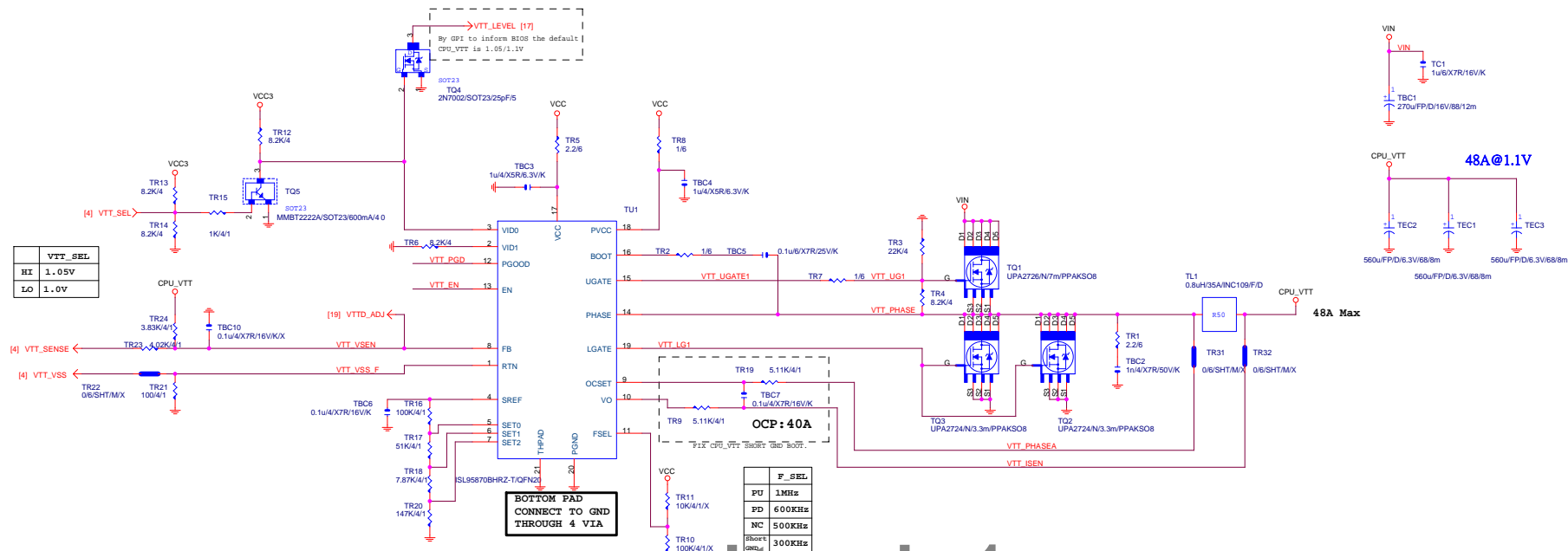


TPM



To prevent the 5VSB under loading when boot

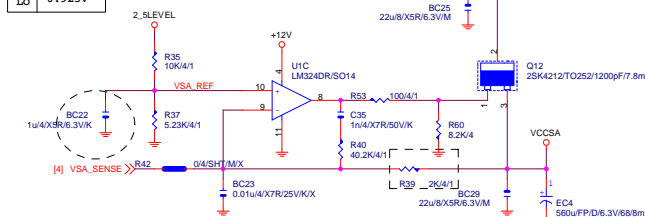
CPU_VTT



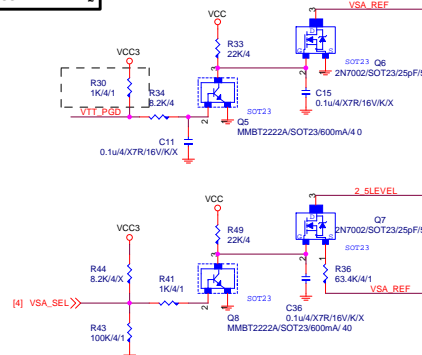
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VCCSA

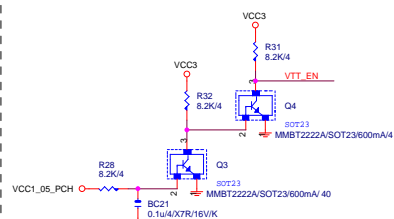
	VSA_SEL
HI	0.85V
LO	0.925V



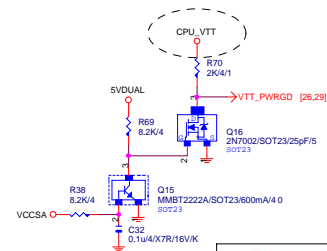
VCCSA PWR SEQ



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0	0	134
0	0	135
0	0	136
0	0	137
0	0	1



VTT_PWRGD



FIX CPU BOOT TO OS FAIL ISSUE

CPU_VTT_F

DBC36 1u4/X5R/6.3V/K

DR86 1K/4/1

DR83 100/4/1

DR76 100/4/1

DR79 100/4/1

DR80 51/4/1

DR86 1K/4/1

DR83 100/4/1

DR76 100/4/1

DR79 100/4/1

DR80 51/4/1

DR86 1K/4/1

DR83 100/4/1

DR76 100/4/1

DR79 100/4/1

DR80 51/4/1

DR86 1K/4/1

DR83 100/4/1

DR76 100/4/1

DR79 100/4/1

DR80 51/4/1

DR86 1K/4/1

DR83 100/4/1

DR76 100/4/1

DR79 100/4/1

DR80 51/4/1

DR86 1K/4/1

DR83 100/4/1

DR76 100/4/1

DR79 100/4/1

DR80 51/4/1

DR86 1K/4/1

DR83 100/4/1

DR76 100/4/1

DR79 100/4/1

DR80 51/4/1

DR86 1K/4/1

DR83 100/4/1

DR76 100/4/1

DR79 100/4/1

DR80 51/4/1

DR86 1K/4/1

DR83 100/4/1

DR76 100/4/1

DR79 100/4/1

FOLLOW SB VALUE

DBC33 68p/4/NPO/50V/J

DBC31 68p/4/X7R/50V/K

DR63 249/4/1

DR60 1.4K/4/1

DR62 1.4K/4/1

DR57 10/4

DR65 14K/4/1

DBC32 1n/4/X7R/50V/K

DR65 14K/4/1

DBC33 68p/4/NPO/50V/J

DBC31 68p/4/X7R/50V/K

DR63 249/4/1

DR60 1.4K/4/1

DR62 1.4K/4/1

DR57 10/4

DR65 14K/4/1

DBC32 1n/4/X7R/50V/K

DR65 14K/4/1

DBC33 68p/4/NPO/50V/J

DBC31 68p/4/X7R/50V/K

DR63 249/4/1

DR60 1.4K/4/1

DR62 1.4K/4/1

DR57 10/4

DR65 14K/4/1

DBC32 1n/4/X7R/50V/K

DR65 14K/4/1

DBC33 68p/4/NPO/50V/J

DBC31 68p/4/X7R/50V/K

DR63 249/4/1

DR60 1.4K/4/1

DR62 1.4K/4/1

DR57 10/4

FOR DVCS

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

FOR CUT5

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

HFCOMP

RGND

VSEN

RTN

COMP

PSICOMP

**BOTTOM PAD
CONNECT TO
GND
THROUGH 10
VIA**

200KHZ

DR203 243K/4/1

DR78 243K/4/1

DR54 24.9K/4/1

DR205 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

200KHZ

DR203 243K/4/1

DR78 243K/4/1

DR54 24.9K/4/1

DR205 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

CUT6

DR203 243K/4/1

DR78 243K/4/1

DR54 24.9K/4/1

DR205 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

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DR215 0/4/SHT/M/X

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DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

200KHZ

DR203 243K/4/1

DR78 243K/4/1

DR54 24.9K/4/1

DR205 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

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DR215 0/4/SHT/M/X

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DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

200KHZ

DR203 243K/4/1

DR78 243K/4/1

DR54 24.9K/4/1

DR205 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

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DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

200KHZ

DR203 243K/4/1

DR78 243K/4/1

DR54 24.9K/4/1

DR205 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

DR215 0/4/SHT/M/X

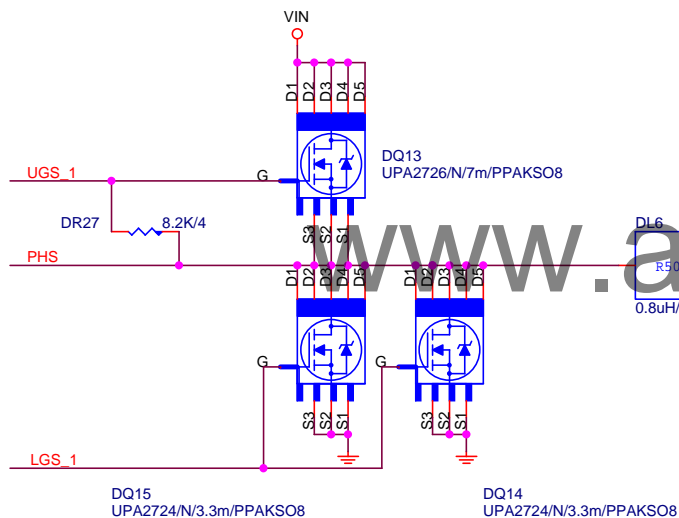
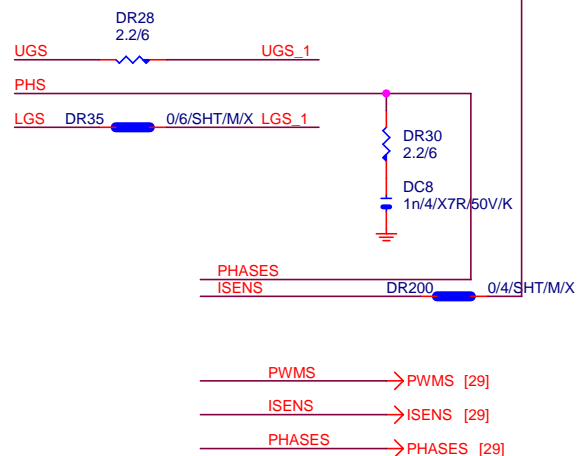
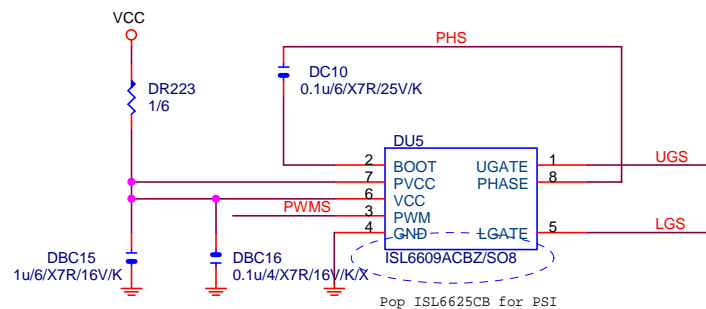
DR215 0/4/SHT/M/X

DR215 0

VAXG

ISL6612 use +12V
ISL6609 use VCC

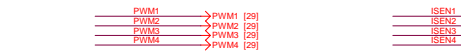
ISL6612 use 1 ohm
ISL6609 use 0 ohm



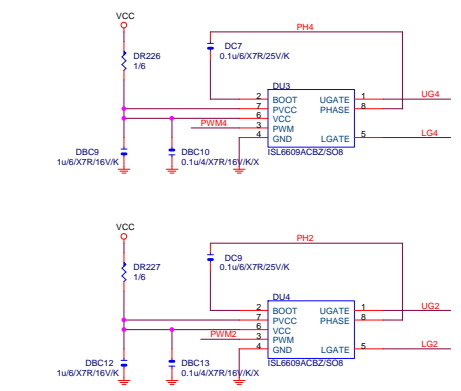
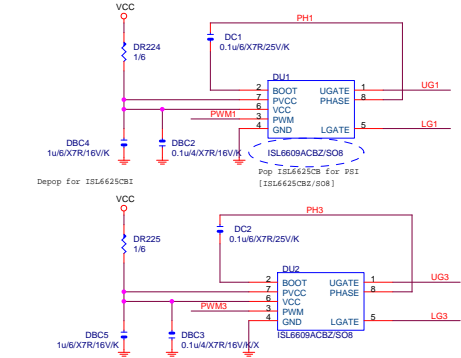
MOS HEATSINK

N/A

Gigabyte Technology			
Title			
CPU CORE VR-2			
Size	Document Number	GA-Z68M-D2H	
Custom		Rev 1.01	
Date:	Thursday, June 02, 2011	Sheet	30 of 31



ISL6612 use +12V
ISL6609 use VCC



[1]

[3]

[4]

[2]

