

# Model Name: GA-Q77M-D2H

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	PCI EXPRESS*16 SLOT
10	PCH_FDI,DMI,USB,PCIE
11	PCH_DP,CLK BUFFER
12	PCH_HOST,SATA,PCI
13	PCH_GPIO,CTRL,AUDIO
14	PCH_PWR,GND
15	PCH_HDMI,DVI,DP
16	PCI EXPRESS*4 SLOT
17	PCI & PCIEX1 SLOT
18	INTEL 82579 LAN
19	ITE 8728 LPC IO
20	COM,LPT,80 Port
21	BIOS, TPM
22	VCORE /VAXG PWM_ISL95836-1
23	VCORE /VAXG PWM_ISL95836-2
24	RT8120-DDR POWWER
25	RT8120-VTT POWER
26	DISCRET POWER1
27	DISCRET POWER2

SHEET TITLE

28	ATX,RUSB,PROCHOT-
29	VT2021 CODEC
30	REAR AUDIO JACK
31	FP,FUSB,SPKR
32	HWM,KB/MS, FAN CTRL
33	
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<b>GIGABYTE</b>			
Title			
Cover Sheet			
Size	Document Number	GA-Q77M-D2H	Rev
Custom			1.01
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**Model Name:** GA-Q77M-D2H

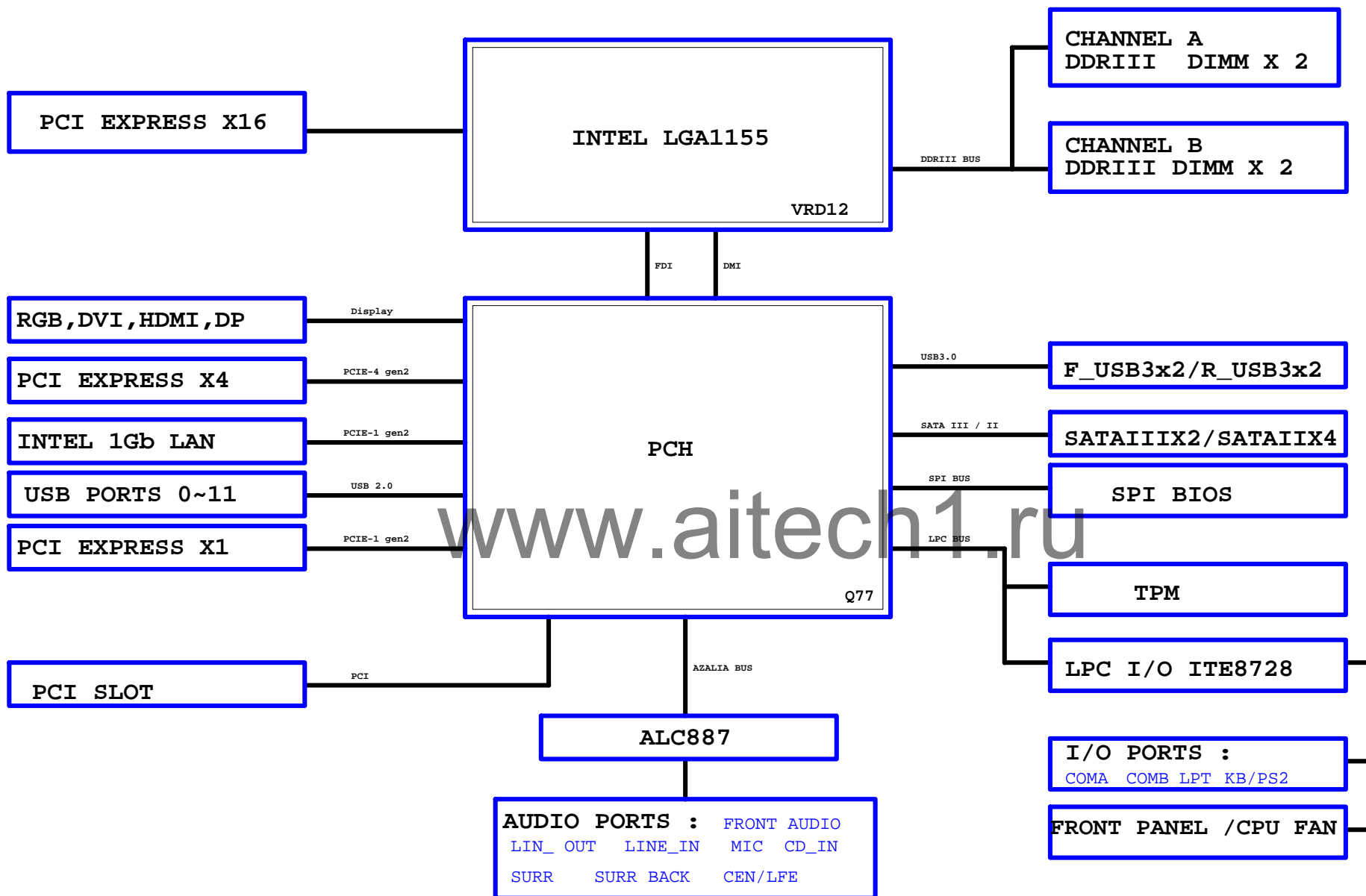
### Component value change history

[illegible]

## Circuit or PCB layout change

[illegible]

# BLOCK DIAGRAM





## CPUA

MAAA0	AV27	SA_MA[0]	SA_DQS[0]	AK3	DQSA0
MAAA1	AY24	SA_MA[1]	SA_DQS[0]	AK2	-DQSA0
MAAA2	AW24	SA_MA[2]			
MAAA3	AW23	SA_MA[3]			
MAAA4	AV23	SA_MA[4]	SA_DQ[0]	AJ3	MDA0
MAAA5	AT24	SA_MA[5]	SA_DQ[1]	AJ4	MDA1
MAAA6	AT23	SA_MA[6]	SA_DQ[2]	AL3	MDA2
MAAA7	AU22	SA_MA[7]	SA_DQ[3]	AL4	MDA3
MAAA8	AV22	SA_MA[8]	SA_DQ[4]	AJ2	MDA4
MAAA9	AT22	SA_MA[9]	SA_DQ[5]	AJ1	MDA5
MAAA10	AV28	SA_MA[10]	SA_DQ[6]	AL2	MDA6
MAAA11	AU21	SA_MA[11]	SA_DQ[7]	AL1	MDA7
MAAA12	AT21	SA_MA[12]			
MAAA13	AW32	SA_MA[13]	SA_DQS[1]	AP3	DQSA1
MAAA14	AU20	SA_MA[14]	SA_DQS[1]	AP2	-DQSA1
MAAA15	AT20	SA_MA[15]			
(7) -SWEA	AW29	SA_WE#	SA_DQ[8]	AN1	MDA8
(7) -SCASA	AV30	SA_CAS#	SA_DQ[9]	AN4	MDA9
(7) -SRASA	AU28	SA_RAS#	SA_DQ[10]	AR3	MDA10
(7) SBA00	AY29	SA_BS[0]	SA_DQ[11]	AR4	MDA12
(7) SBA01	AW28	SA_BS[1]	SA_DQ[12]	AN2	MDA11
(7) SBA02	AV20	SA_BS[2]	SA_DQ[13]	AN3	MDA13
(7) -CSA0	AU29	SA_CS#	SA_DQ[14]	AR2	MDA14
(7) -CSA1	AV32	SA_CS#	SA_DQ[15]	AR1	MDA15
(7) -CSA2	AW30	SA_CS#	SA_DQS[2]	AW4	DQSA2
(7) -CSA3	AU33	SA_CS#	SA_DQS[2]	AW4	-DQSA2
(7) CKEA0	AV19	SA_CKE[0]	SA_DQ[16]	AV2	MDA16
(7) CKEA1	AT19	SA_CKE[1]	SA_DQ[17]	AV3	MDA17
(7) CKEA2	AU18	SA_CKE[2]	SA_DQ[18]	AV5	MDA18
(7) CKEA3	AV18	SA_CKE[3]	SA_DQ[19]	AV5	MDA19
MODT_A0	AV31	SA_ODT[0]	SA_DQ[20]	AU2	MDA20
MODT_A1	AU32	SA_ODT[1]	SA_DQ[21]	AU3	MDA21
MODT_A2	AU30	SA_ODT[2]	SA_DQ[22]	AU5	MDA22
MODT_A3	AW33	SA_ODT[3]	SA_DQ[23]	AY5	MDA23
(7) DCLKA0	AY25	SA_CK[0]	SA_DQS[3]	AV8	DQSA3
(7) -DCLKA0	AW25	SA_CK[0]	SA_DQS[3]	AW8	-DQSA3
(7) DCLKA1	AU24	SA_CK[1]	SA_DQ[24]	AY7	MDA24
(7) -DCLKA1	AU25	SA_CK[1]	SA_DQ[25]	AU7	MDA25
(7) DCLKA2	AW27	SA_CK[2]	SA_DQ[26]	AV9	MDA26
(7) -DCLKA2	AY27	SA_CK[2]	SA_DQ[27]	AU9	MDA27
(7) DCLKA3	AV26	SA_CK[3]	SA_DQ[28]	AV7	MDA28
(7) -DCLKA3	AW26	SA_CK[3]	SA_DQ[29]	AW7	MDA29
(7,8) -DDR3_RST	AW18	SM_DRAMRST#	SA_DQ[30]	AW9	MDA30
			SA_DQ[31]	AY9	MDA31
			SA_DQS[4]	AV37	DQSA4
			SA_DQS[4]	AV36	-DQSA4
			SA_DQ[32]	AU35	MDA32
			SA_DQ[33]	AW37	MDA33
			SA_DQ[34]	AU39	MDA34
			SA_DQ[35]	AU36	MDA35
			SA_DQ[36]	AW35	MDA36
			SA_DQ[37]	AY36	MDA37
			SA_DQ[38]	AU38	MDA38
			SA_DQ[39]	AU37	MDA39
			SA_DQS[5]	AP38	DQSA5
			SA_DQS[5]	AP39	-DQSA5
			SA_DQ[40]	AR40	MDA40
			SA_DQ[41]	AR37	MDA41
			SA_DQ[42]	AN38	MDA42
			SA_DQ[43]	AN37	MDA43
			SA_DQ[44]	AR39	MDA44
			SA_DQ[45]	AR38	MDA45
			SA_DQ[46]	AN39	MDA46
			SA_DQ[47]	AN40	MDA47
			SA_DQS[6]	AK38	DQSA6
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			SA_DQ[48]	AL40	MDA48
			SA_DQ[49]	AL37	MDA49
			SA_DQ[50]	AJ38	MDA50
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			SA_DQ[54]	AJ39	MDA54
			SA_DQ[55]	AJ40	MDA55
			SA_DQS[7]	AF38	DQSA7
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			SA_DQ[56]	AG40	MDA56
			SA_DQ[57]	AG37	MDA57
			SA_DQ[58]	AE38	MDA58
			SA_DQ[59]	AE37	MDA59
			SA_DQ[60]	AG39	MDA60
			SA_DQ[61]	AG38	MDA61
			SA_DQ[62]	AE39	MDA62
			SA_DQ[63]	AE40	MDA63

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LGA1155[10SC1-F01155-01R]

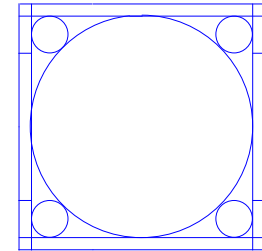
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MAAB2	AM19	SB_MA[2]			
MAAB3	AK18	SB_MA[3]			
MAAB4	AP19	SB_MA[4]	SB_DQ[0]	AG7	MDB0
MAAB5	AP18	SB_MA[5]	SB_DQ[1]	AG8	MDB1
MAAB6	AM18	SB_MA[6]	SB_DQ[2]	AJ9	MDB2
MAAB7	AL18	SB_MA[7]	SB_DQ[3]	AJ8	MDB3
MAAB8	AY17	SB_MA[8]	SB_DQ[4]	AG8	MDB4
MAAB9	AY17	SB_MA[9]	SB_DQ[5]	AJ6	MDB5
MAAB10	AN23	SB_MA[10]	SB_DQ[6]	AJ6	MDB6
MAAB11	AU17	SB_MA[11]	SB_DQ[7]	AJ7	MDB7
MAAB12	AT18	SB_MA[12]			
MAAB13	AR26	SB_MA[13]	SB_DQS[1]	AM8	DQSB1
MAAB14	AY16	SB_MA[14]	SB_DQS[1]	AL8	-DQSB1
MAAB15	AV16	SB_MA[15]			
(8) -SWEB	AR25	SB_WE#	SB_DQ[8]	AL7	MDB8
(8) -SCASB	AK25	SB_CAS#	SB_DQ[9]	AM7	MDB9
(8) -SRASB	AP24	SB_RAS#	SB_DQ[10]	AM10	MDB10
(8) SBAB0	AP23	SB_BS[0]	SB_DQ[11]	AL6	MDB12
(8) SBAB1	AM24	SB_BS[1]	SB_DQ[12]	AL6	MDB13
(8) SBAB2	AW17	SB_BS[2]	SB_DQ[13]	AL9	MDB14
(8) -CSB0	AN25	SB_CS#	SB_DQ[14]	AM9	MDB15
(8) -CSB1	AN26	SB_CS#	SB_DQ[15]		
(8) -CSB2	AL25	SB_CS#	SB_DQS[2]	AR8	DQSB2
(8) -CSB3	AT26	SB_CS#	SB_DQS[2]	AP8	-DQSB2
(8) CKEB0	AU16	SB_CKE[0]	SB_DQ[16]	AF7	MDB16
(8) CKEB1	AY15	SB_CKE[1]	SB_DQ[17]	AR7	MDB17
(8) CKEB2	AW15	SB_CKE[2]	SB_DQ[18]	AP10	MDB18
(8) CKEB3	AV15	SB_CKE[3]	SB_DQ[19]	AR10	MDB19
MODT_B0	AL26	SB_ODT[0]	SB_DQ[20]	AP6	MDB20
MODT_B1	AP26	SB_ODT[1]	SB_DQ[21]	AR6	MDB21
MODT_B2	AM26	SB_ODT[2]	SB_DQ[22]	AP9	MDB22
MODT_B3	AK26	SB_ODT[3]	SB_DQ[23]	AR9	MDB23
(8) DCLKB0	AL21	SB_CK[0]	SB_DQS[3]	AN13	DQSB3
(8) -DCLKB0	AL22	SB_CK[0]	SB_DQS[3]	AN12	-DQSB3
(8) DCLKB1	AK20	SB_CK[1]	SB_DQ[24]	AM12	MDB24
(8) -DCLKB1	AK20	SB_CK[1]	SB_DQ[25]	AM13	MDB25
(8) DCLKB2	AL23	SB_CK[2]	SB_DQ[26]	AR13	MDB26
(8) -DCLKB2	AM22	SB_CK[2]	SB_DQ[27]	AP13	MDB27
(8) DCLKB3	AP21	SB_CK[3]	SB_DQ[28]	AL12	MDB28
(8) -DCLKB3	AN21	SB_CK[3]	SB_DQ[29]	AL13	MDB29
			SB_DQ[30]	AR12	MDB30
			SB_DQ[31]	AP12	MDB31
			SB_DQS[4]	AN29	DQSB4
			SB_DQS[4]	AN28	-DQSB4
			SB_DQ[32]	AR28	MDB32
			SB_DQ[33]	AP23	MDB33
			SB_DQ[34]	AL28	MDB34
			SB_DQ[35]	AL29	MDB35
			SB_DQ[36]	AP28	MDB36
			SB_DQ[37]	AP29	MDB37
			SB_DQ[38]	AM28	MDB38
			SB_DQ[39]	AM29	MDB39
			SB_DQS[5]	AP33	DQSB5
			SB_DQS[5]	AR33	-DQSB5
			SB_DQ[40]	AP32	MDB40
			SB_DQ[41]	AP21	MDB41
			SB_DQ[42]	AP35	MDB42
			SB_DQ[43]	AP34	MDB43
			SB_DQ[44]	AR32	MDB44
			SB_DQ[45]	AR31	MDB45
			SB_DQ[46]	AR35	MDB46
			SB_DQ[47]	AR34	MDB47
			SB_DQS[6]	AL33	DQSB6
			SB_DQS[6]	AM33	-DQSB6
			SB_DQ[48]	AM32	MDB48
			SB_DQ[49]	AM31	MDB49
			SB_DQ[50]	AL35	MDB50
			SB_DQ[51]	AL32	MDB51
			SB_DQ[52]	AM34	MDB52
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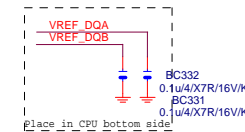
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LGA1155[10SC1-F01155-01R]

CPU  
ILM\_BP/1156/CSP

Need check the new CPU ME

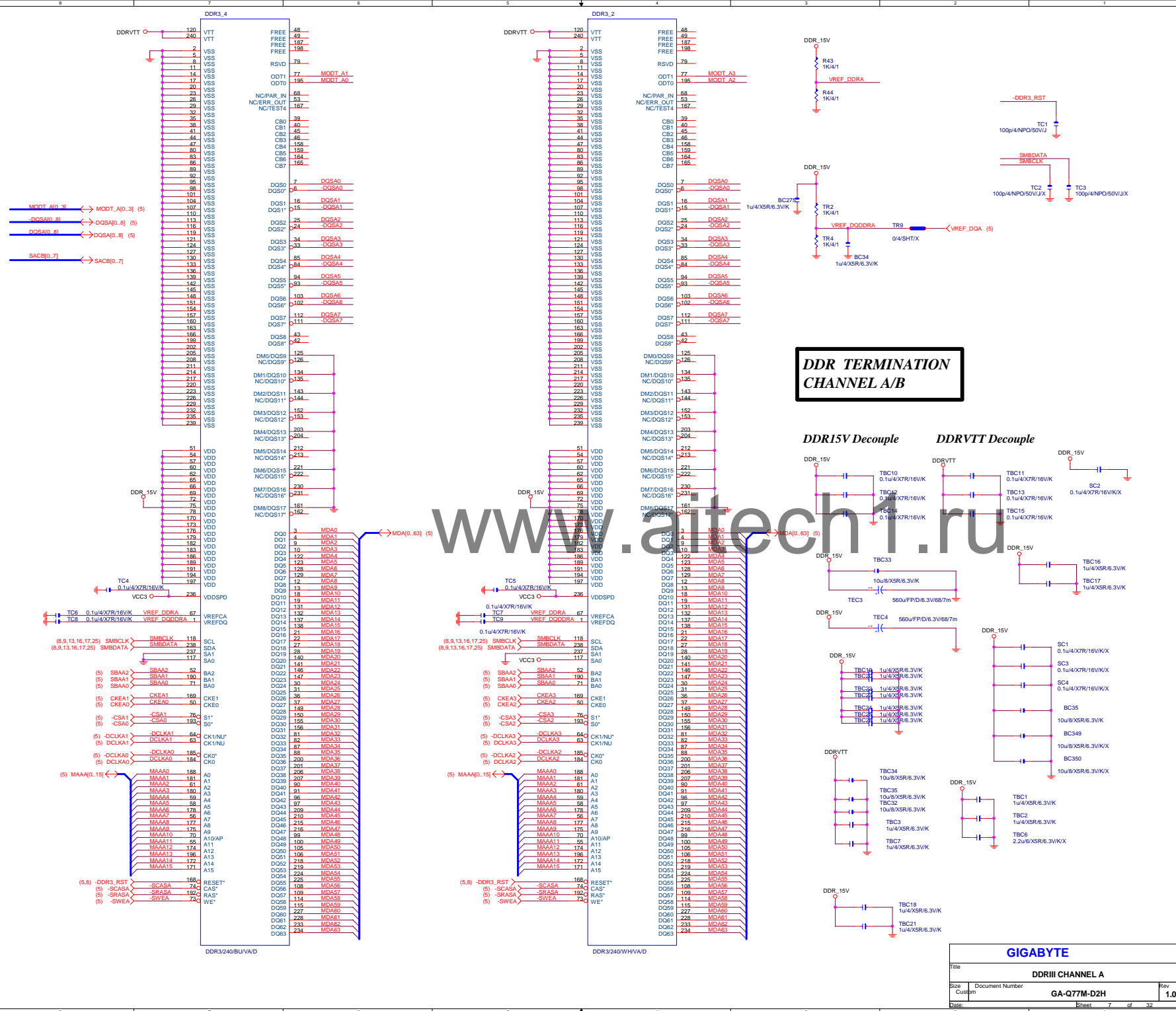


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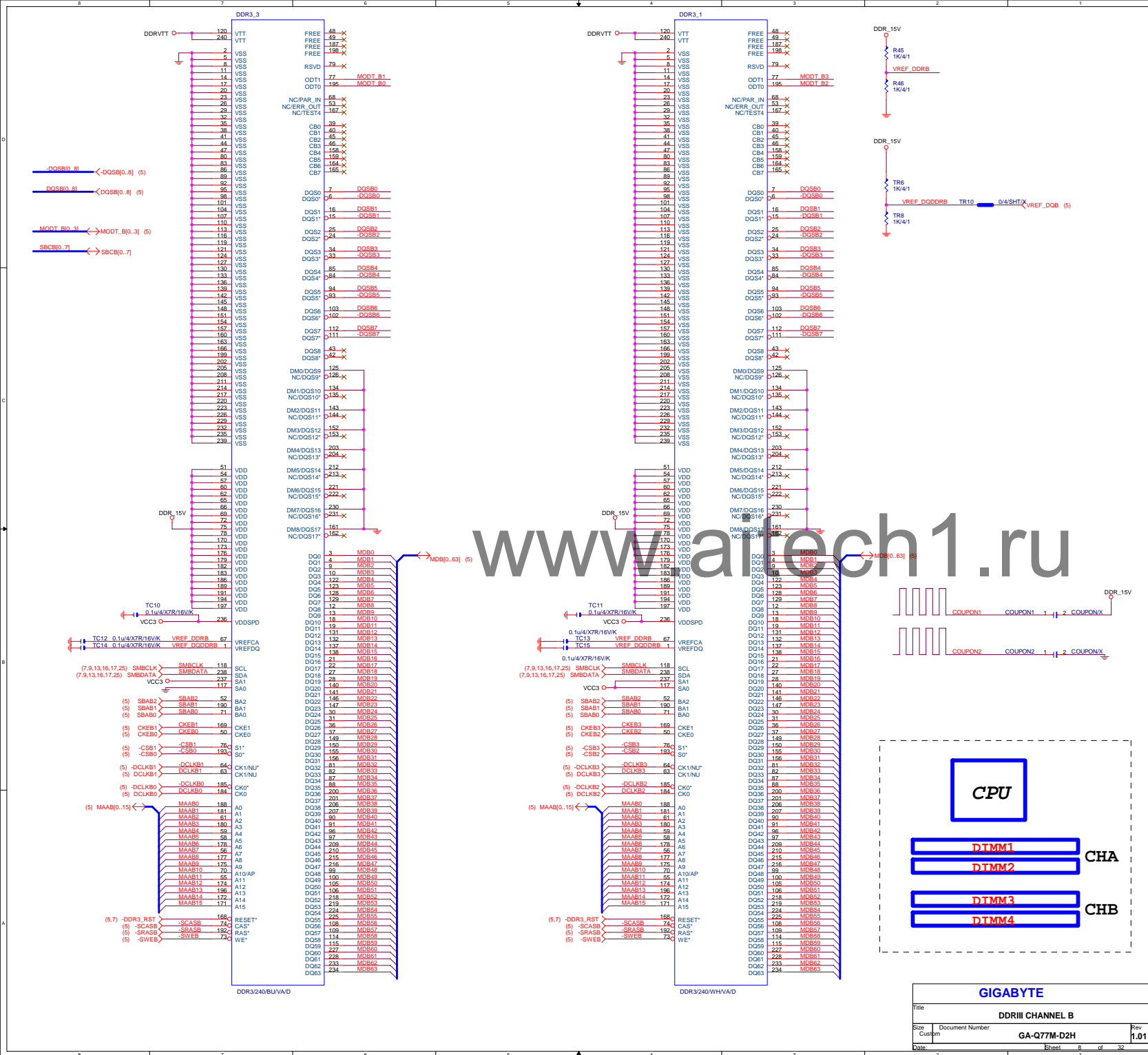
CPU LGA1156-B

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Size			Document Number		
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			Rev 1.01		

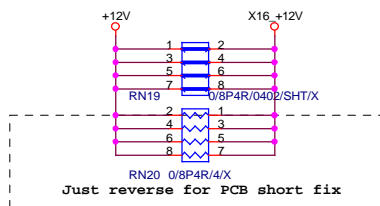
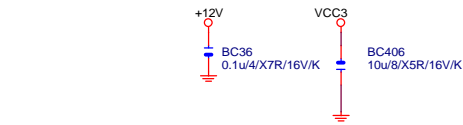








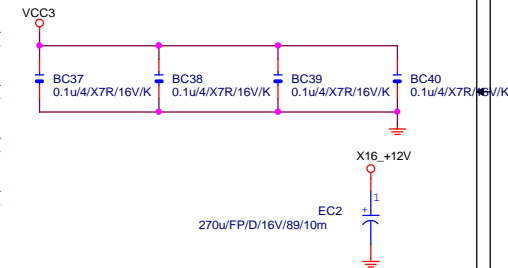
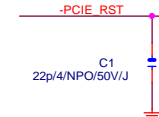
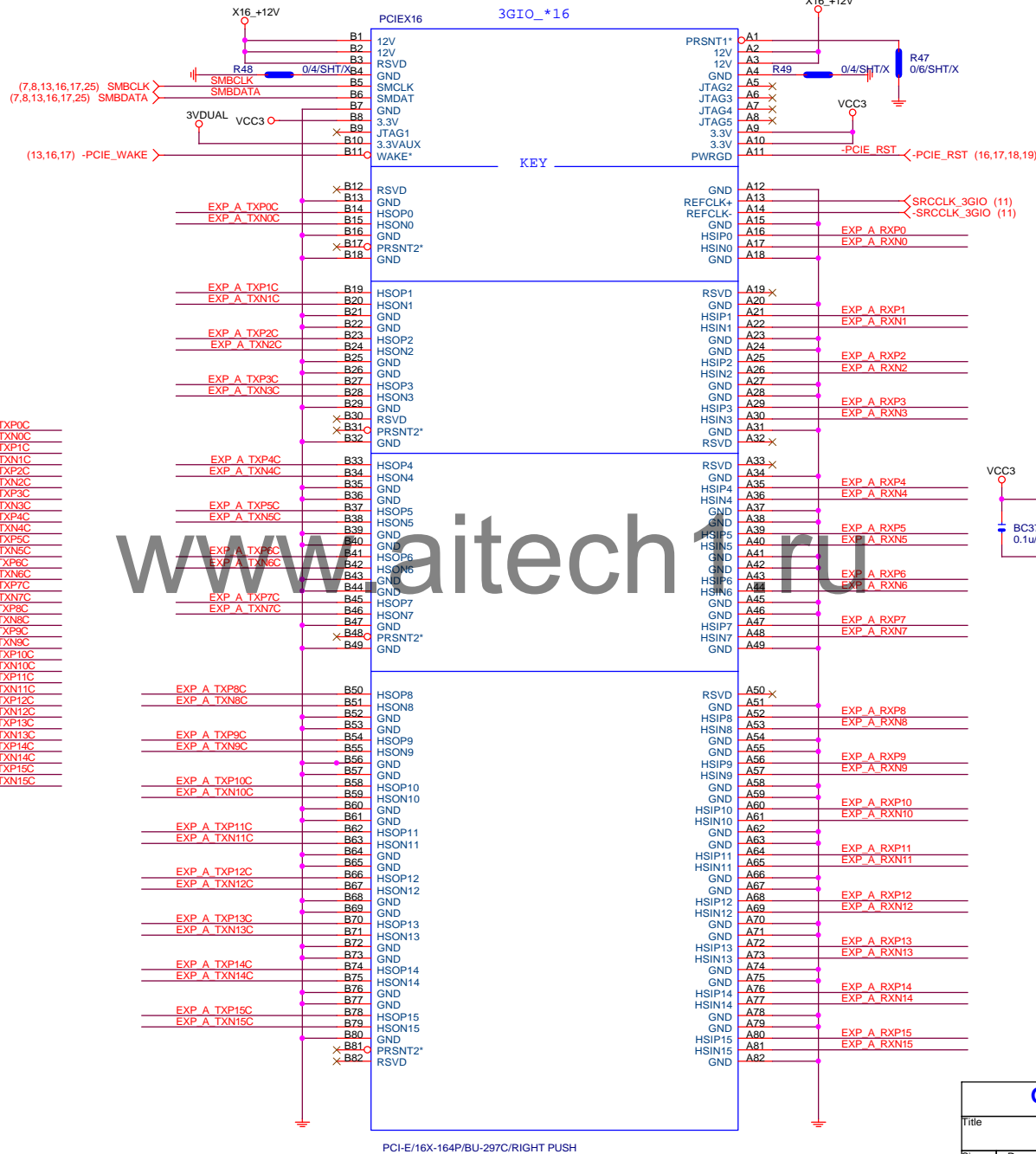




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EXP A TXP0\_15] >>> EXP\_A\_TXP0[0..15] (4)  
EXP A TXN0\_15] >>> EXP\_A\_TXN0[0..15] (4)

EXP A TXP0	C2	0.22u4/X5R/6.3V/K	EXP A TXP0C
EXP A TXN0	C3	0.22u4/X5R/6.3V/K	EXP A TXN0C
EXP A TXP1	C4	0.22u4/X5R/6.3V/K	EXP A TXP1C
EXP A TXN1	C5	0.22u4/X5R/6.3V/K	EXP A TXN1C
EXP A TXP2	C6	0.22u4/X5R/6.3V/K	EXP A TXP2C
EXP A TXN2	C7	0.22u4/X5R/6.3V/K	EXP A TXN2C
EXP A TXP3	C8	0.22u4/X5R/6.3V/K	EXP A TXP3C
EXP A TXN3	C9	0.22u4/X5R/6.3V/K	EXP A TXN3C
EXP A TXP4	C10	0.22u4/X5R/6.3V/K	EXP A TXP4C
EXP A TXN4	C11	0.22u4/X5R/6.3V/K	EXP A TXN4C
EXP A TXP5	C12	0.22u4/X5R/6.3V/K	EXP A TXP5C
EXP A TXN5	C13	0.22u4/X5R/6.3V/K	EXP A TXN5C
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EXP A TXN13	C29	0.22u4/X5R/6.3V/K	EXP A TXN13C
EXP A TXP14	C30	0.22u4/X5R/6.3V/K	EXP A TXP14C
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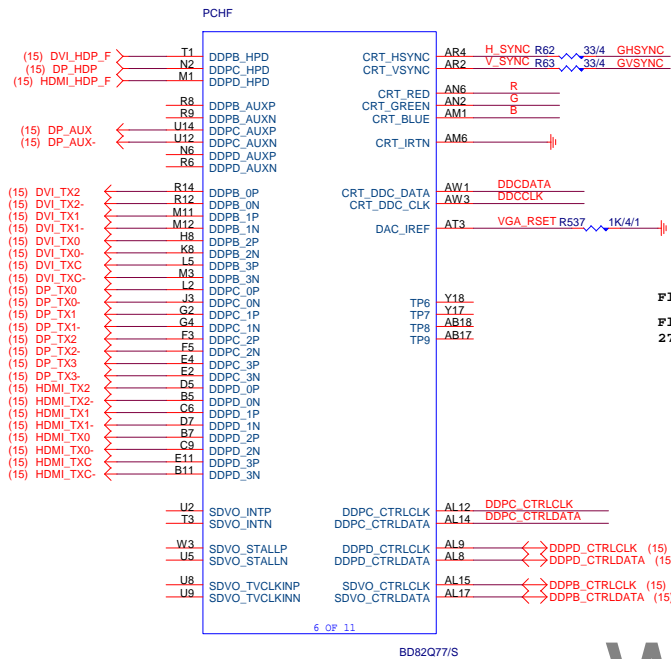
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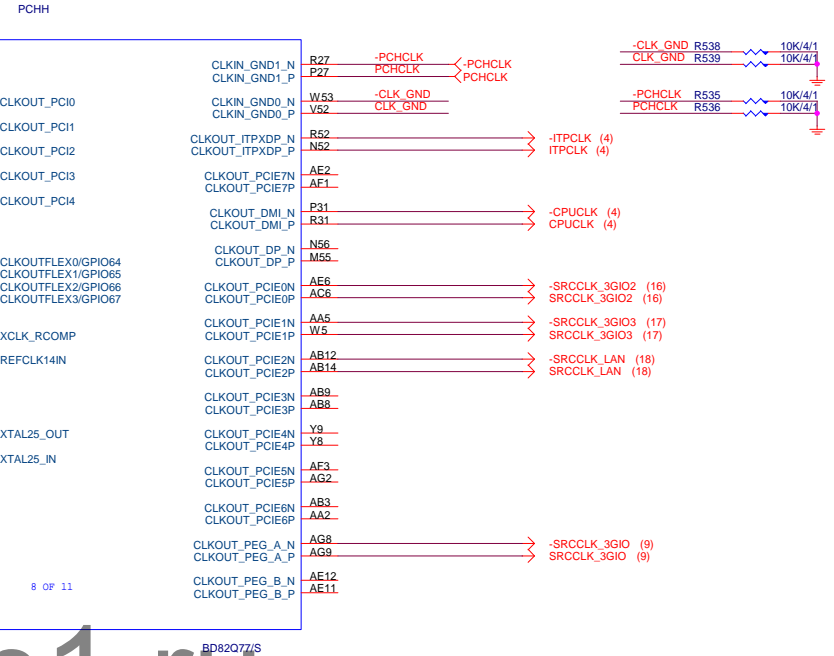
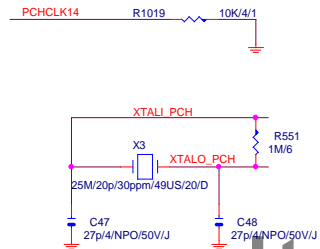
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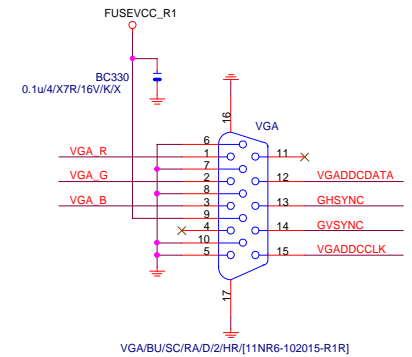
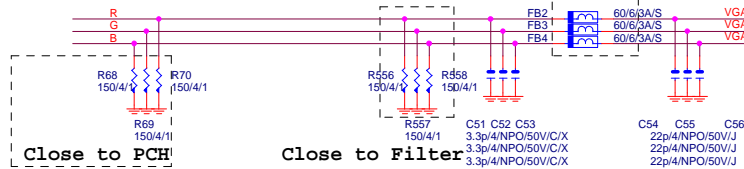
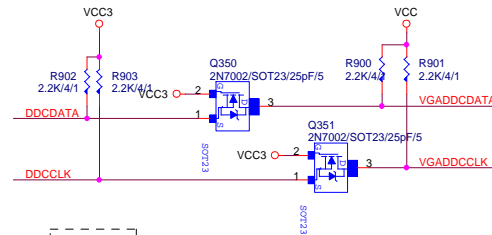
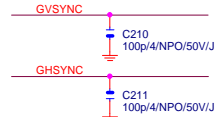
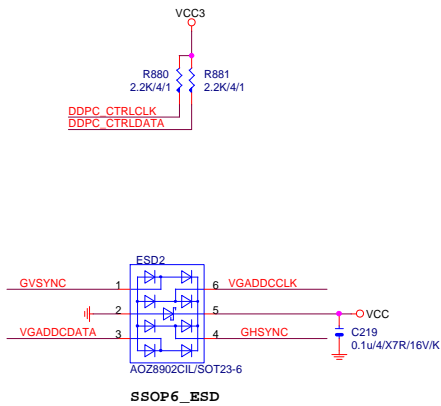




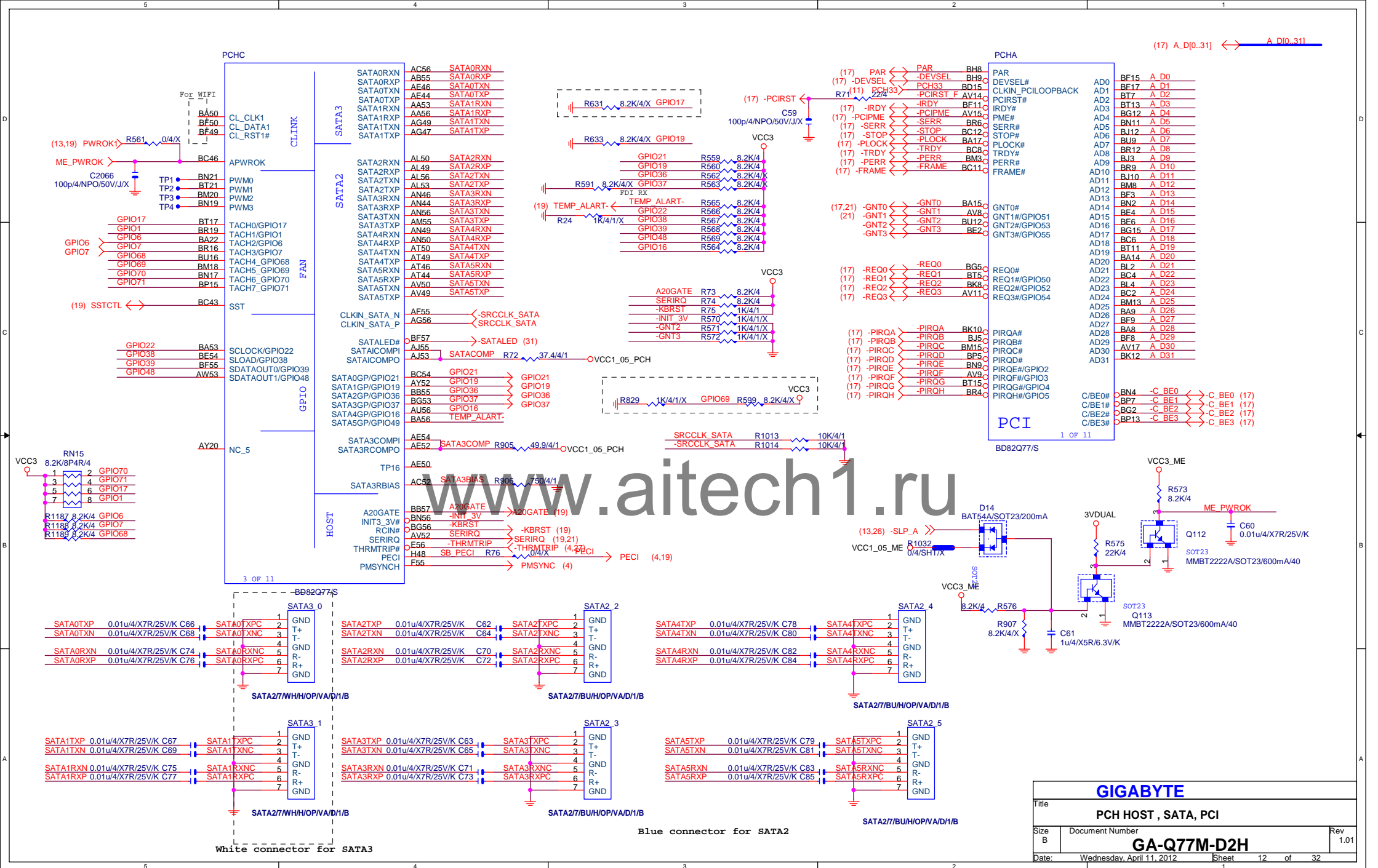
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 Flex1,3 :  
 27/14/24/48/25MHZ

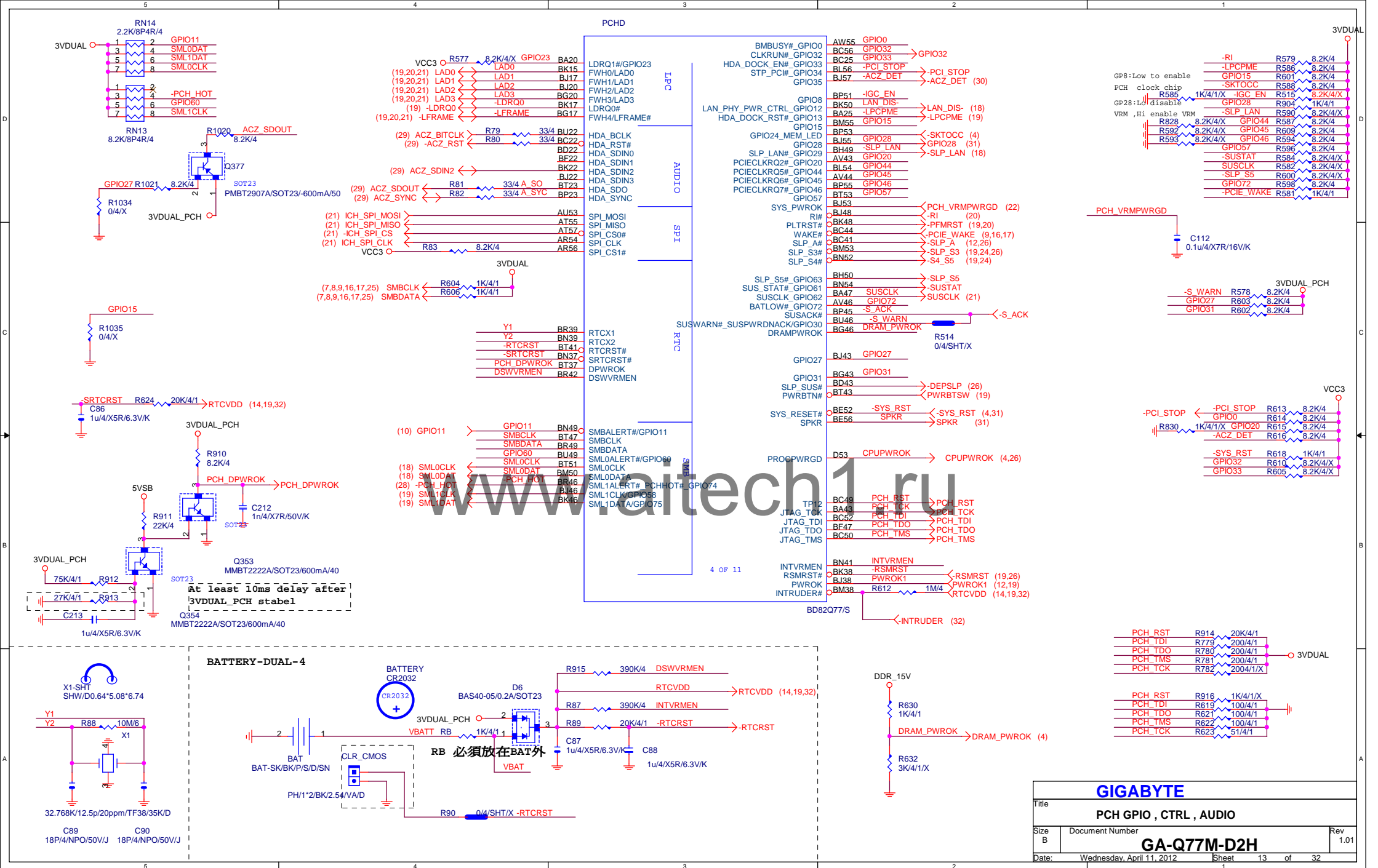


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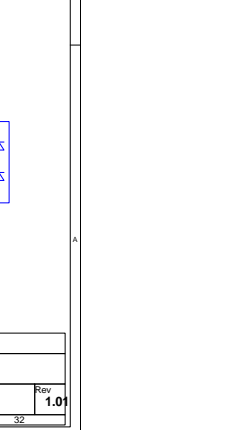
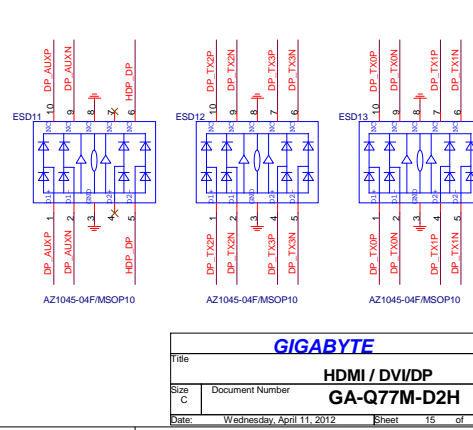
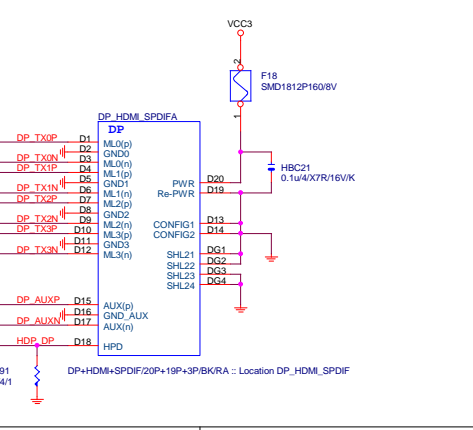
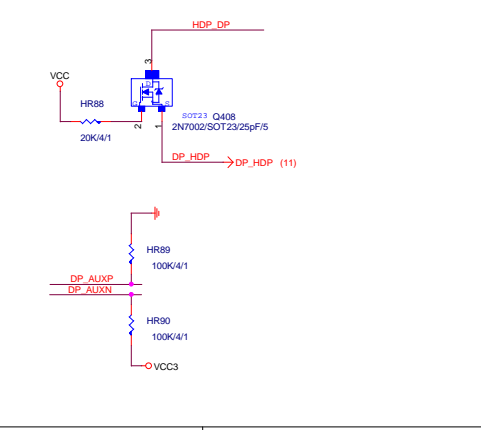
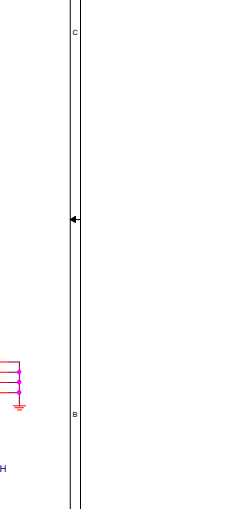
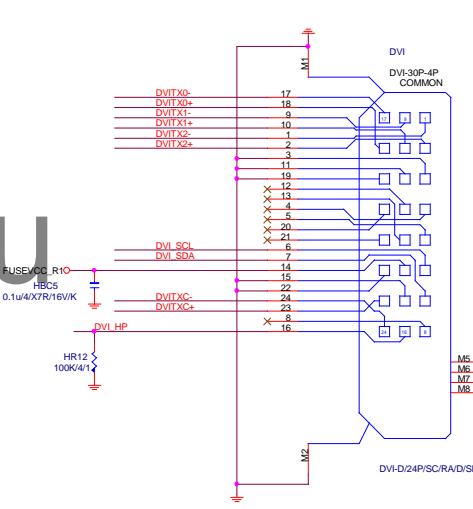
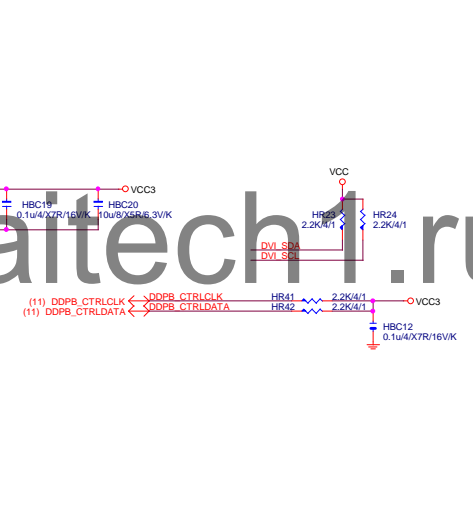
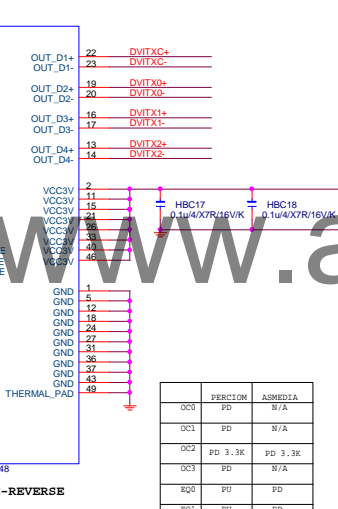
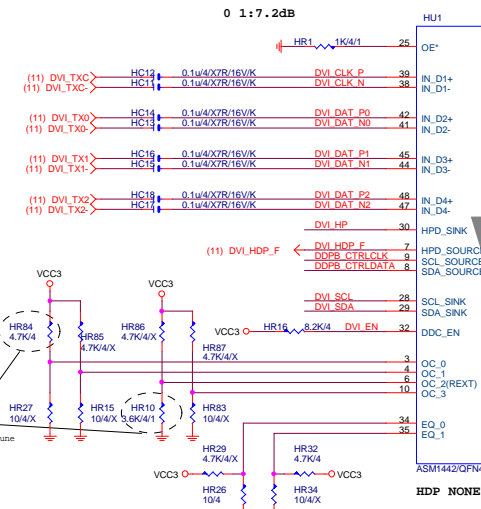
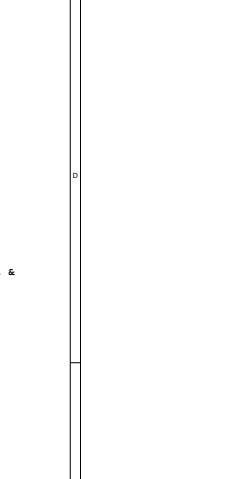
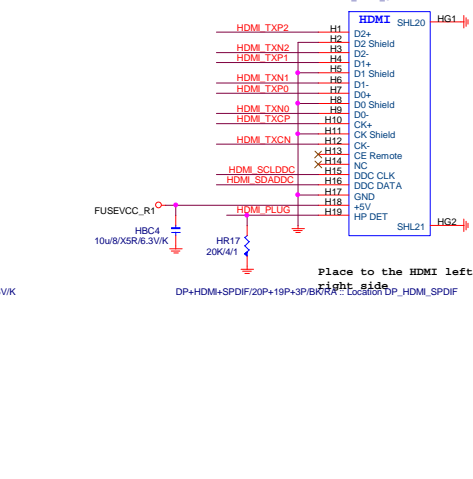
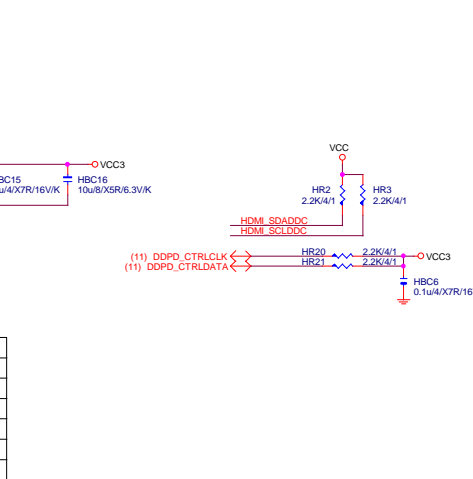
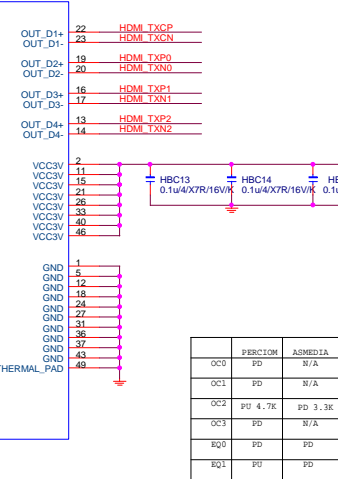
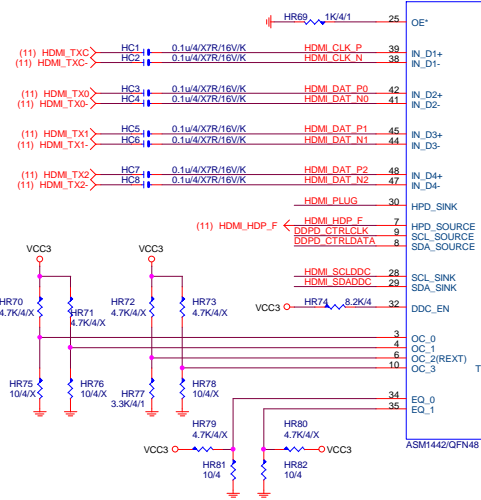
GIGABYTE			
Title			
PCH DISPLAY ,CLK BUFFER			
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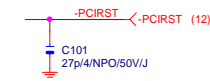
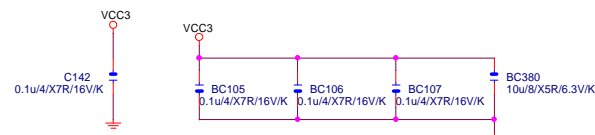
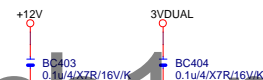
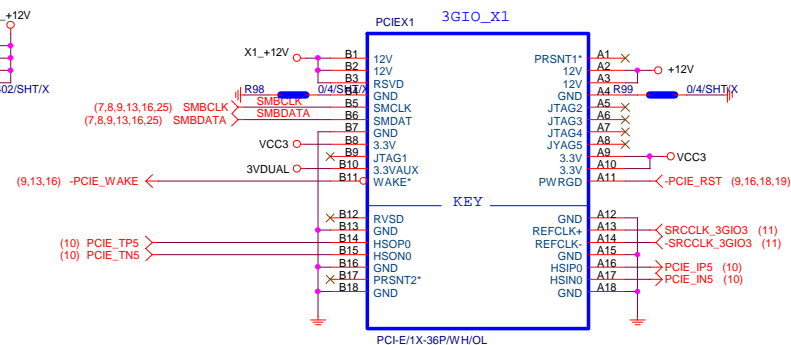
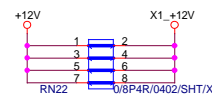
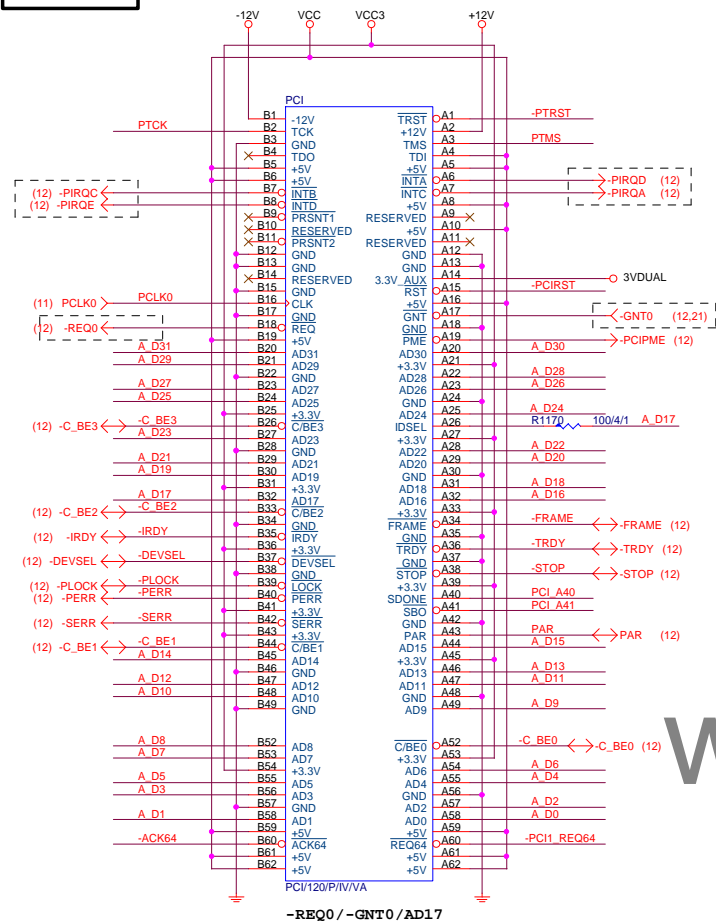




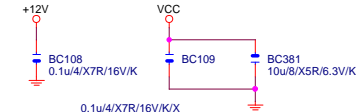
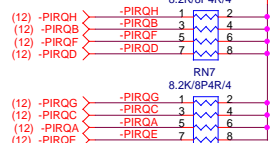
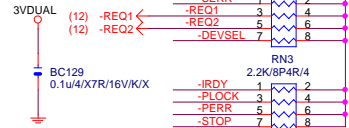
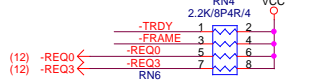
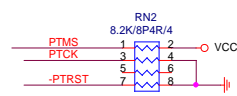




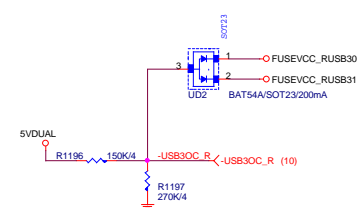
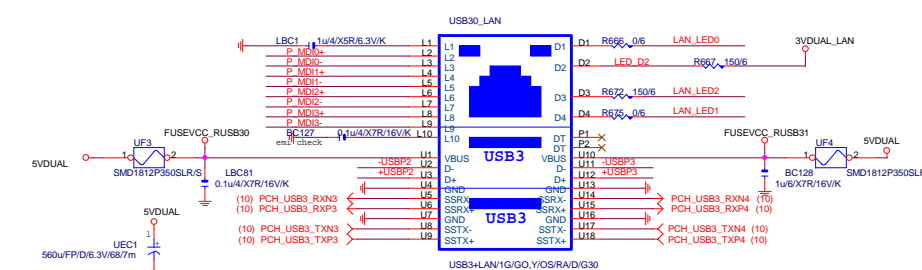
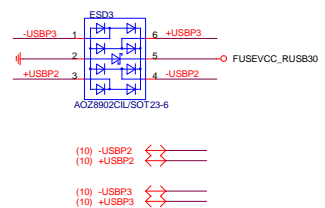
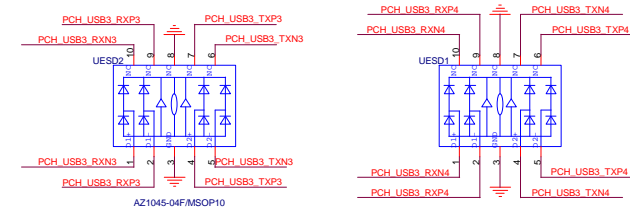
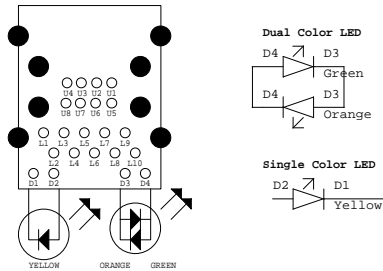
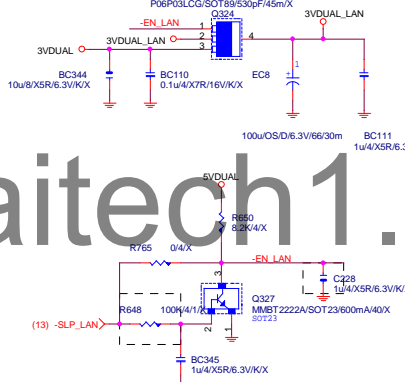
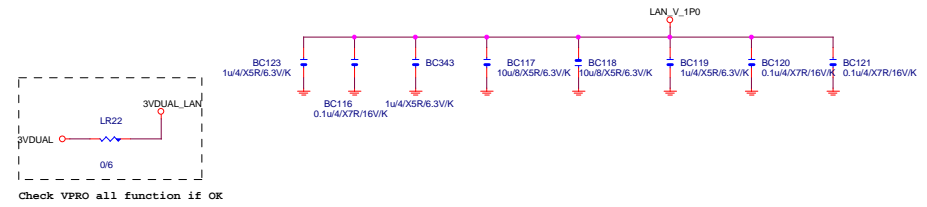
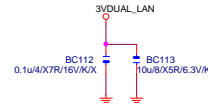
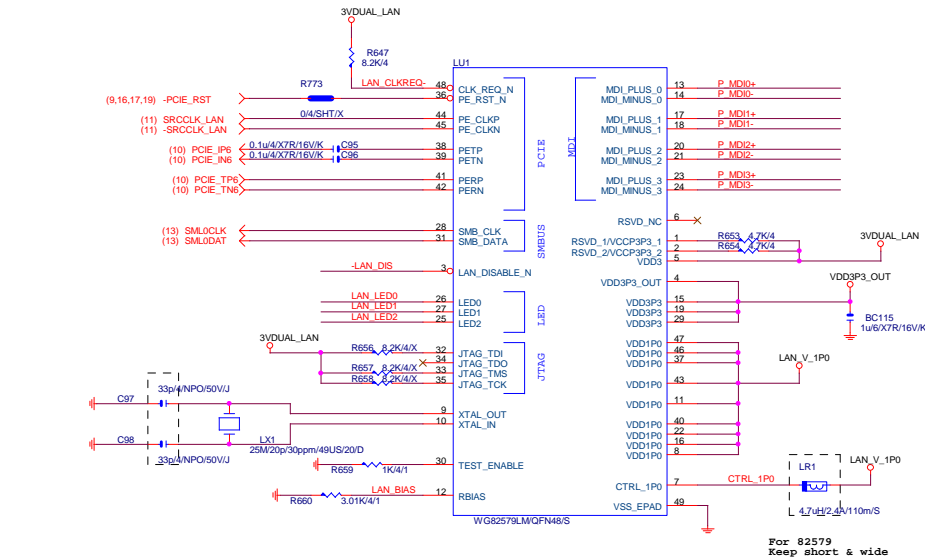




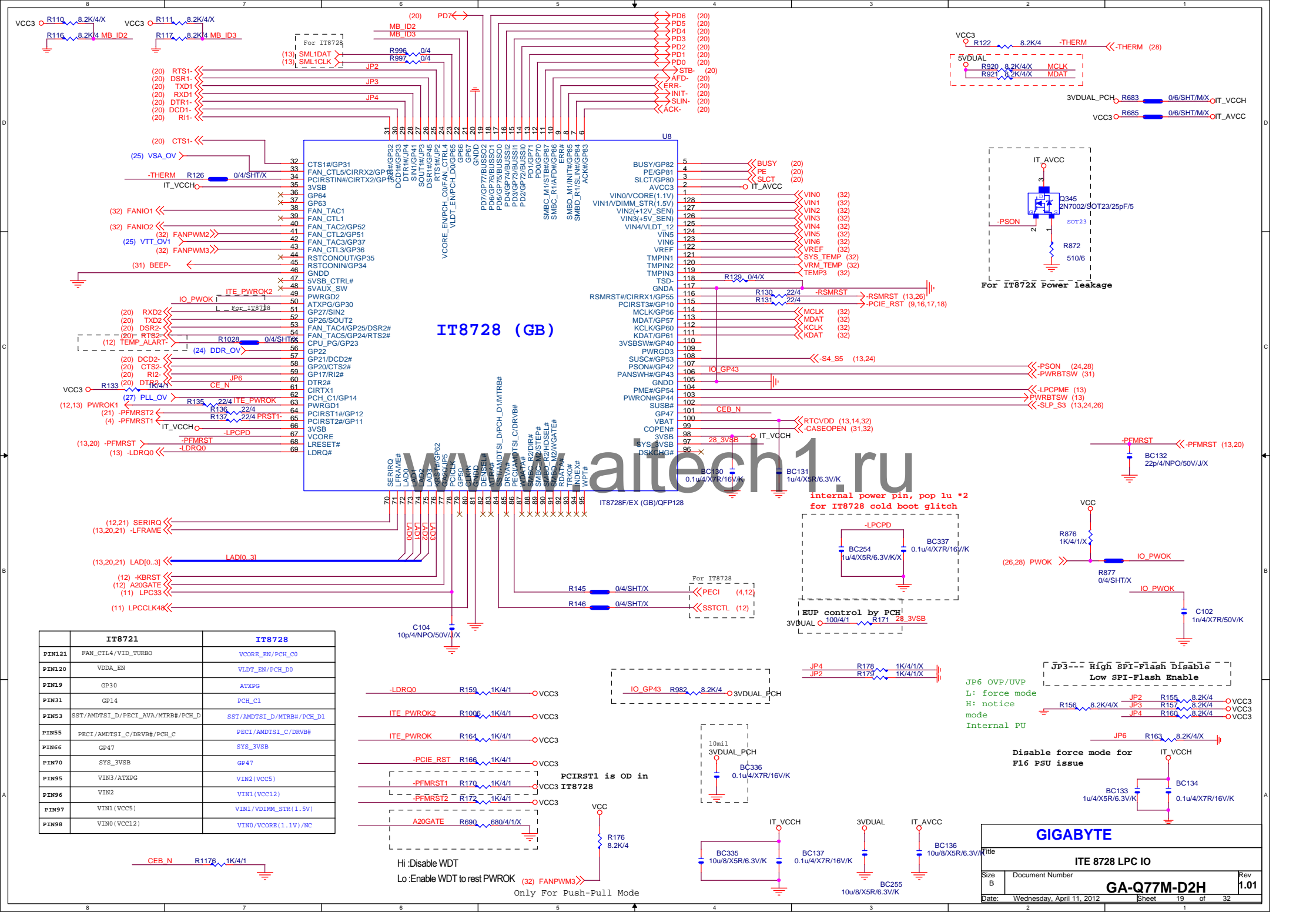
Place close to PCI1



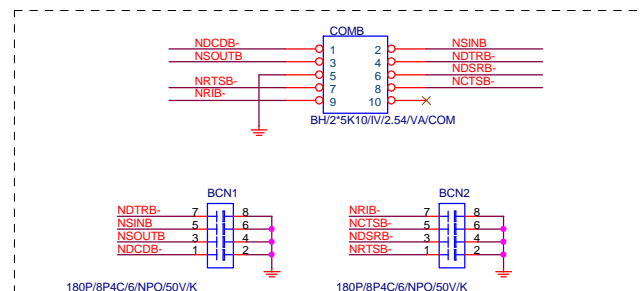
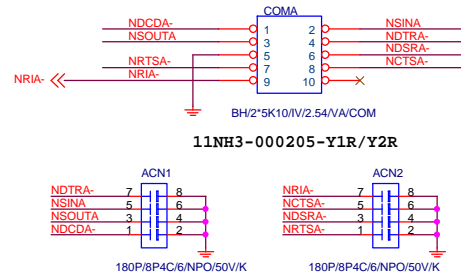
Title			
PCIEX1,PCI SLOT			
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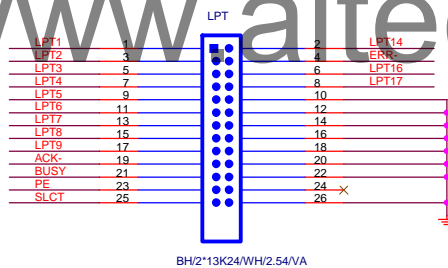


COMB

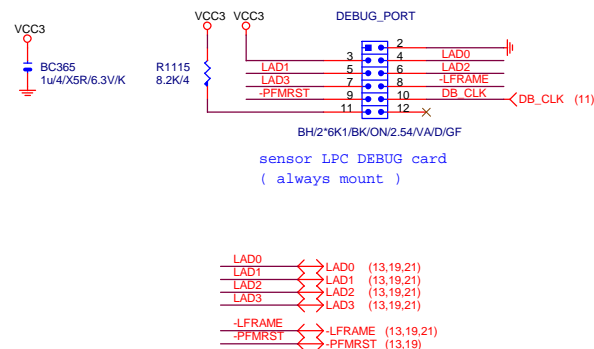


PLACE NEAR COM CONNECTOR

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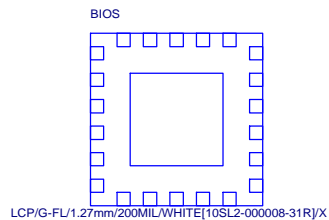
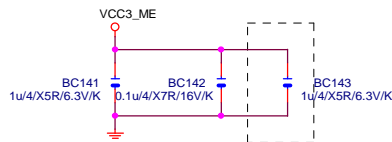
LPT PORT

## 80 PORT



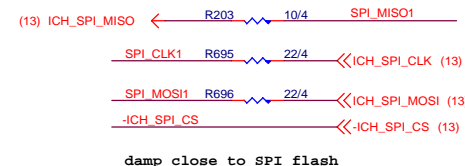
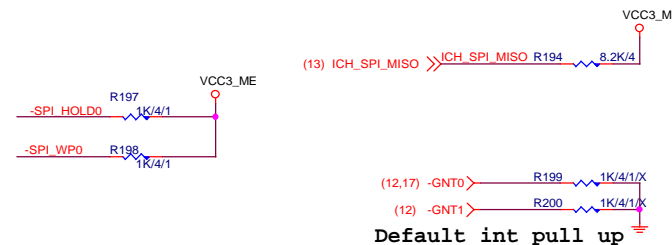
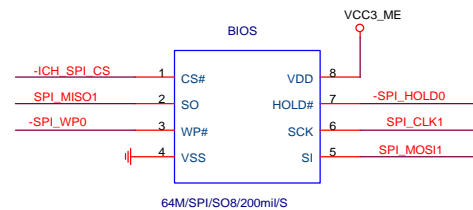
**GIGABYTE**

Title				COM A/B & LPT & 80 PORT			
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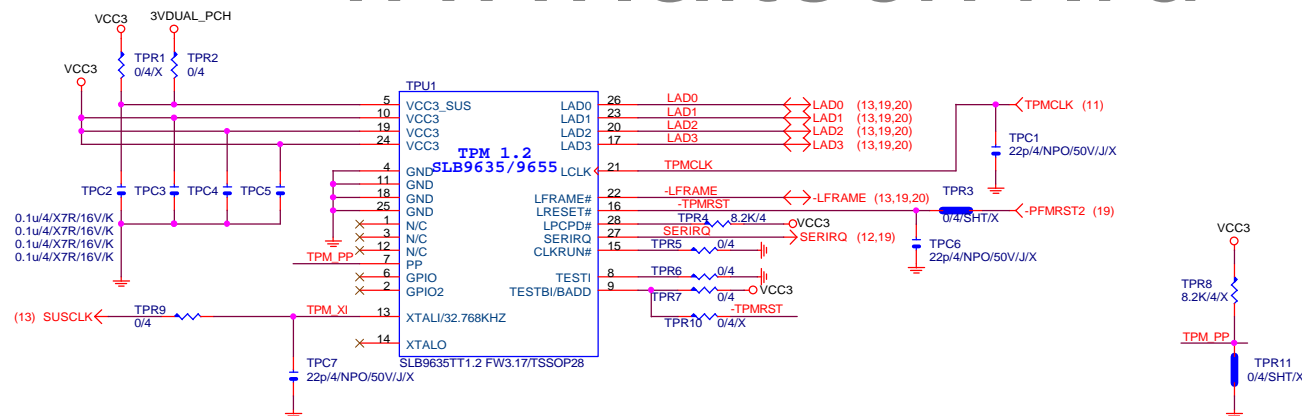
BOOT DEVICE	GNT1	GP19
LPC	0	0
PCI	1	0
SPI	1	1

1 means floating  
0 means PD 1K



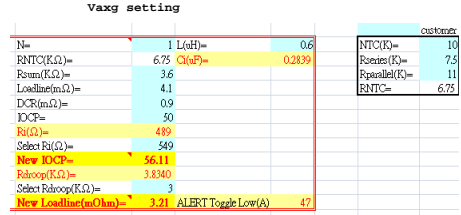
www.aitech1.ru

TPM

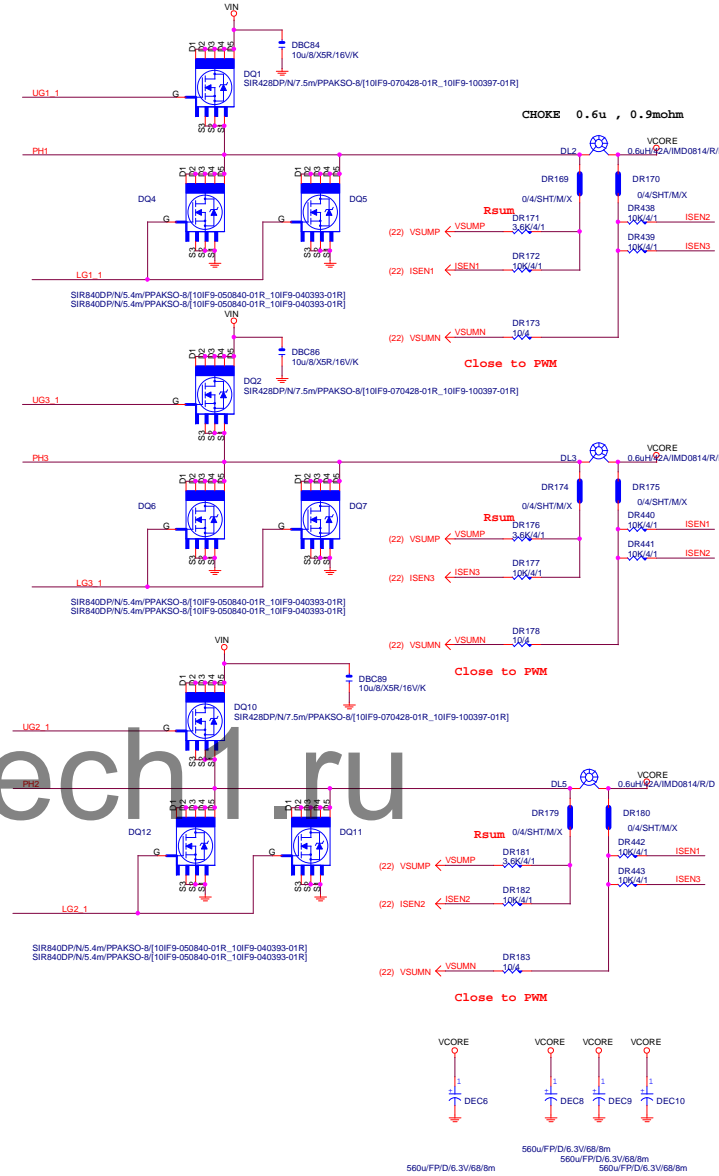
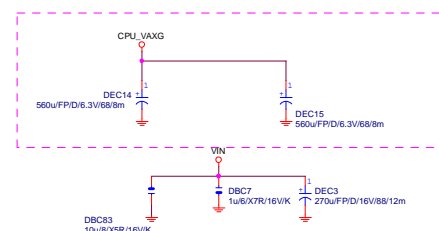
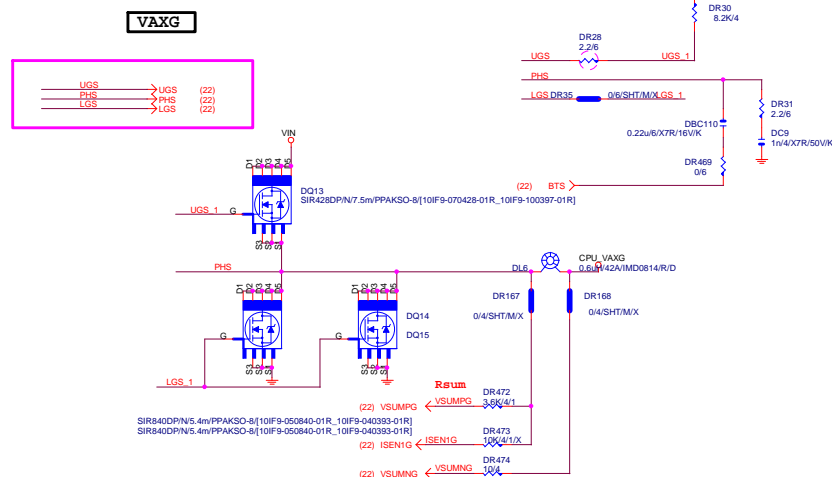
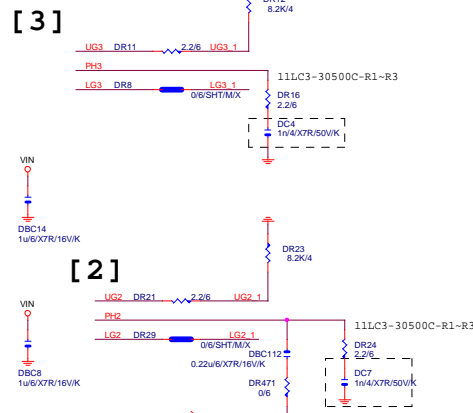
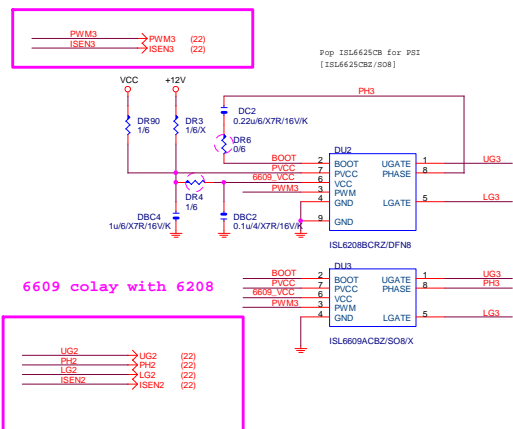


	SLB9635	SLB9655
TPR2, TPR4, TPR5, TPR6, TPR7, TPR9	MOUNT	N/A
TPR1, TPR10	N/A	MOUNT

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DDR\_15V

OCF :  
 $Rocset = (Iocp * Lgate, rdson) / Iocset$   
 $Iocset = 10uA$

VIN=5V, VOUT=1.5V, IOUT=25A, PHASE=1  
 IRMS=11.45A

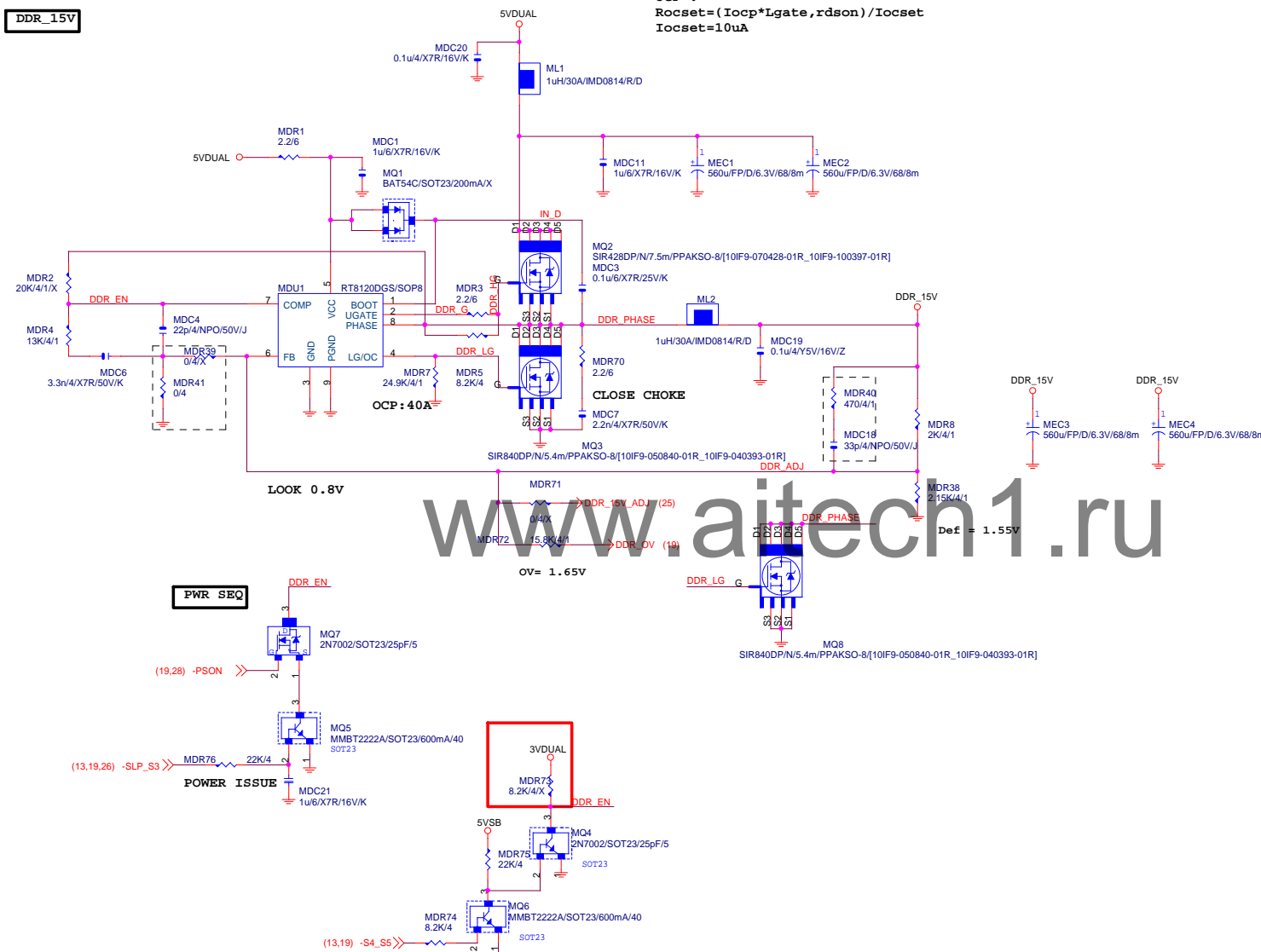
560u/FP/D/6.3V/68/8m RIPPLE CURRENT=4.7A  
 Coefficient=1.7(85°C), 1(105°C)

VIN Ripple current=4.7X1.7=7.99A(85°C)

-->故固態電容須 $2X7.99=15.98 > 11.45A$

OCF :  $Ipeak = (2 * Iocset * Rocset) / Rdson$   
 typ  $Iocset = 20uA$ ,  $Rocset = 4.7k$

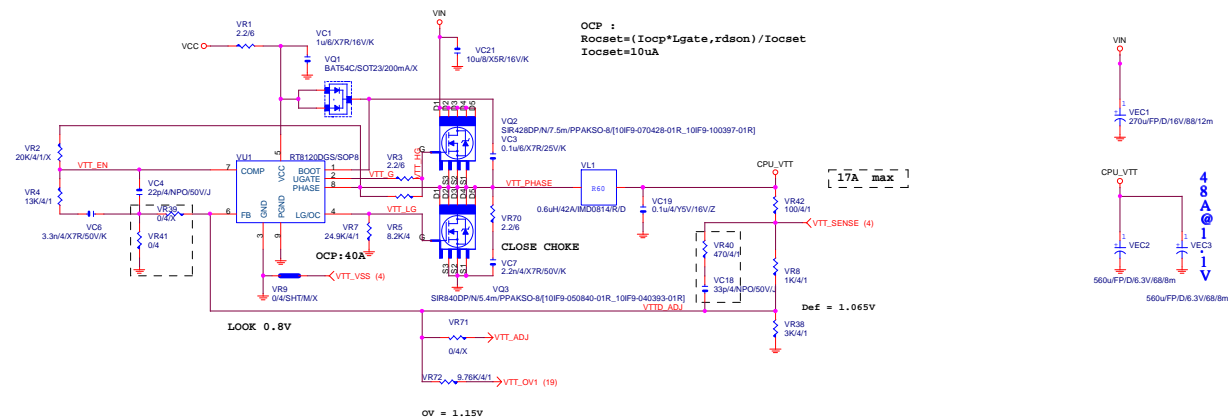
OCF :  $53.71A = (2 * 20uax4.7k) / (7m / 7m)$



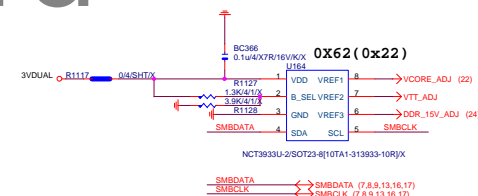
www.aitech1.ru

GIGABYTE			
Title			
DDR POWER			
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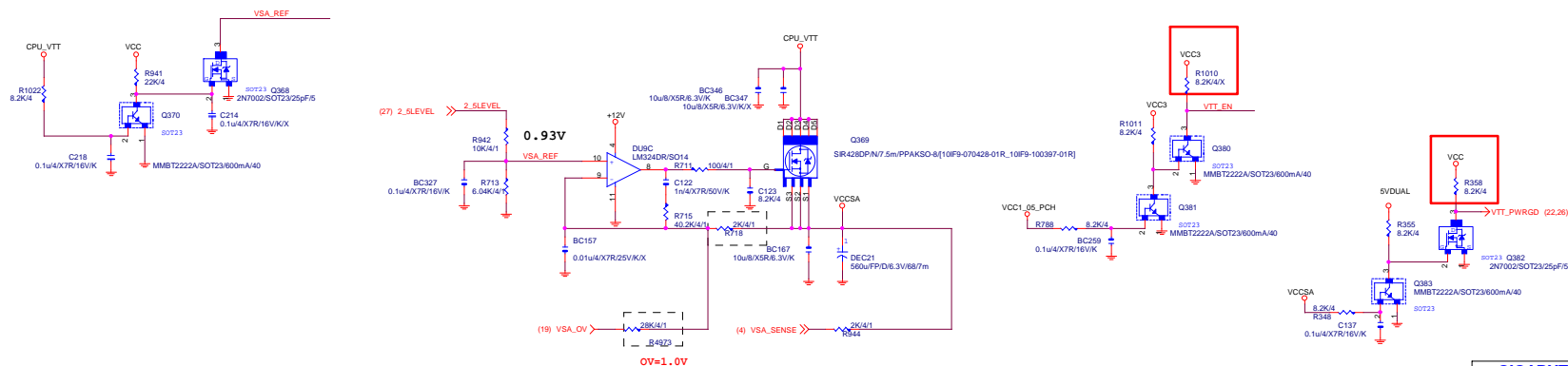
CPU\_VTT



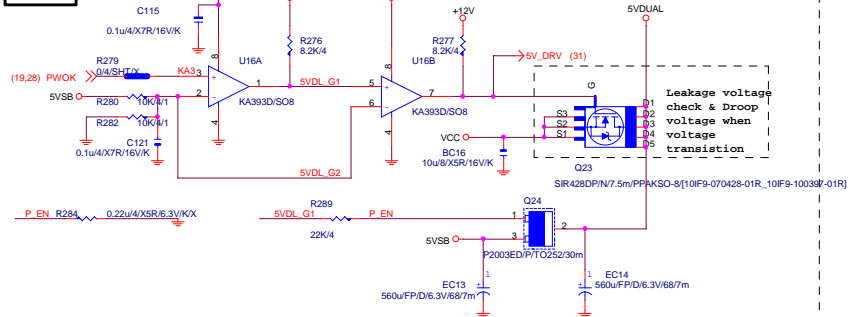
[www.aitech1.ru](http://www.aitech1.ru)



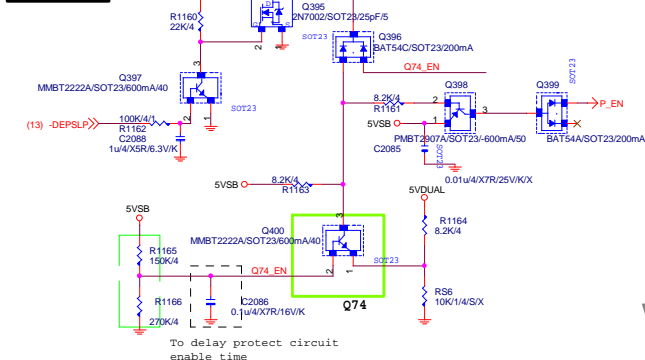
VCC\_SA



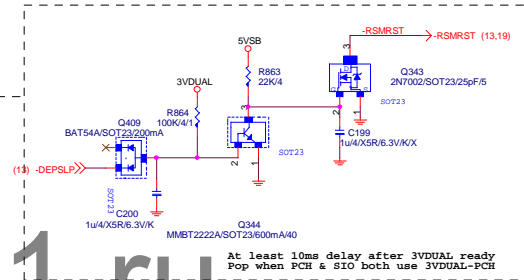
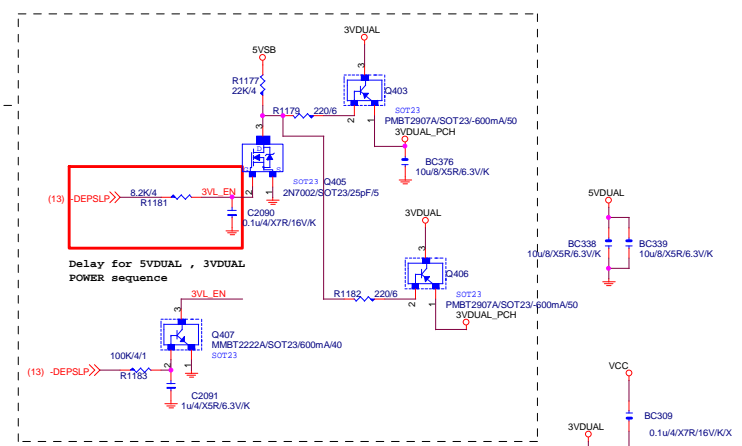
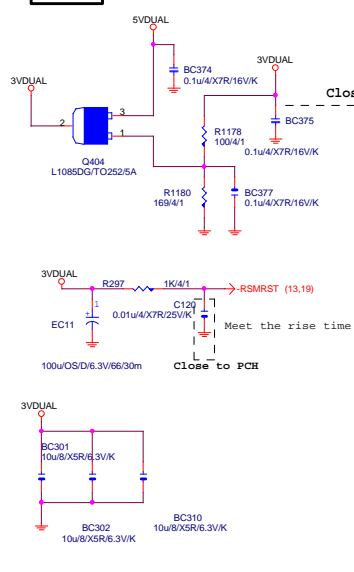
# 5VDUAL



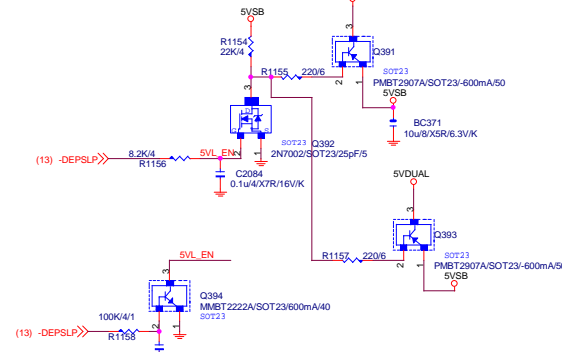
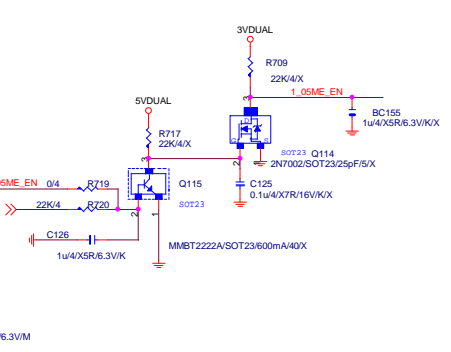
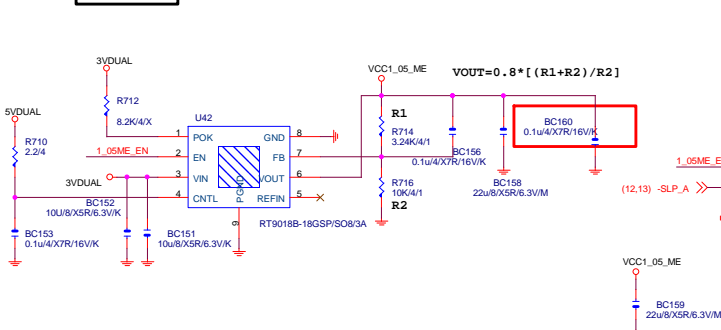
# 5VDUAL UVP



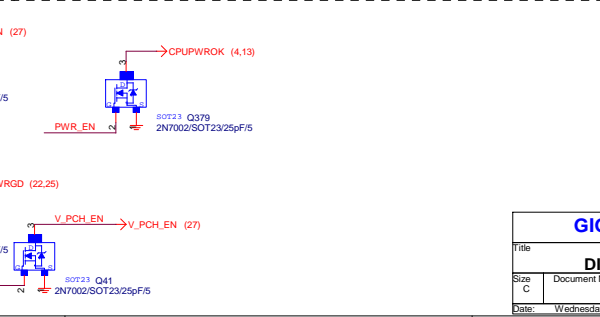
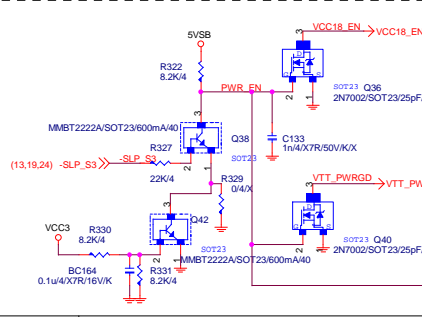
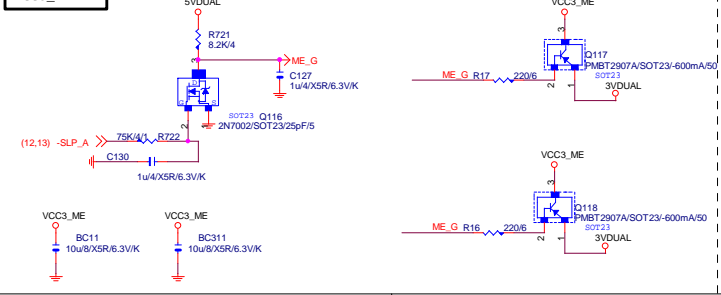
# 3VDUAL



# VCC1\_05\_ME



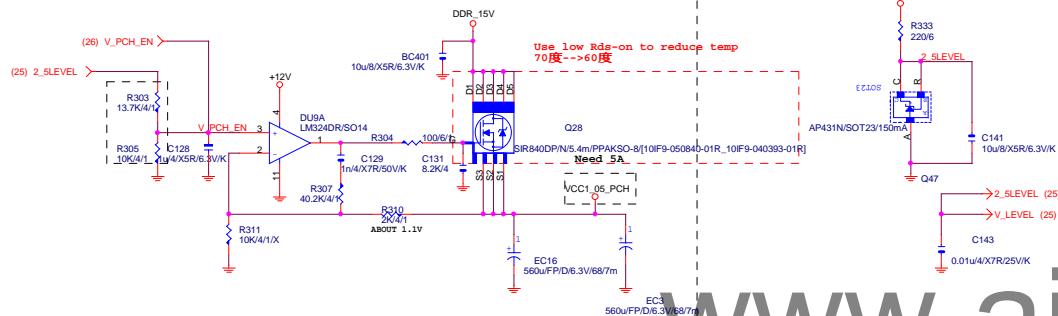
# VCC3\_ME



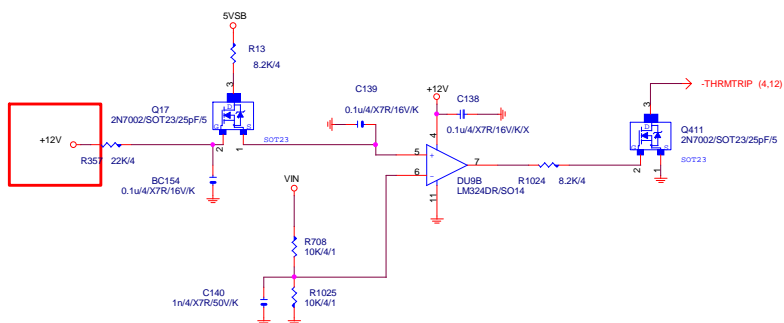
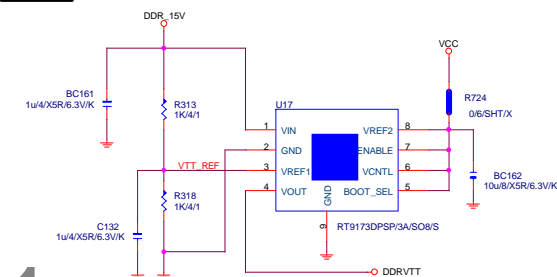
GIGABYTE

Title	DISCRETE POWER	Rev
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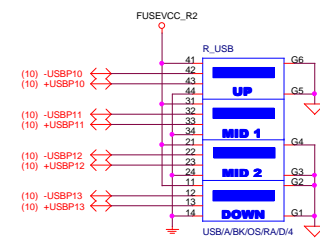
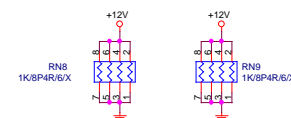
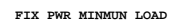
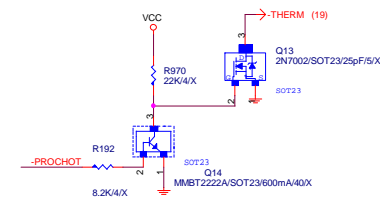
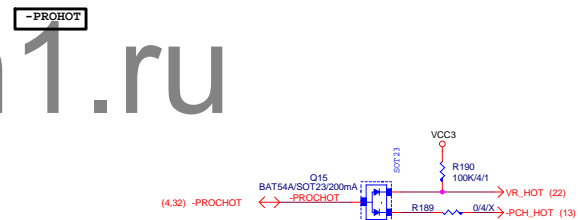
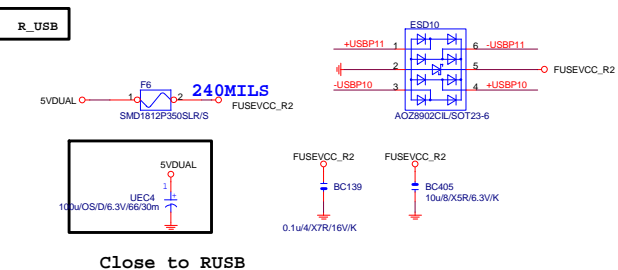
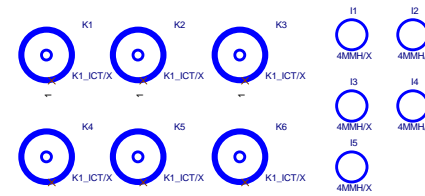
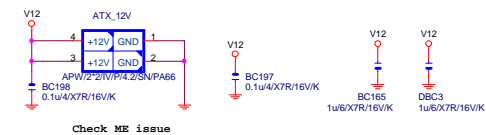
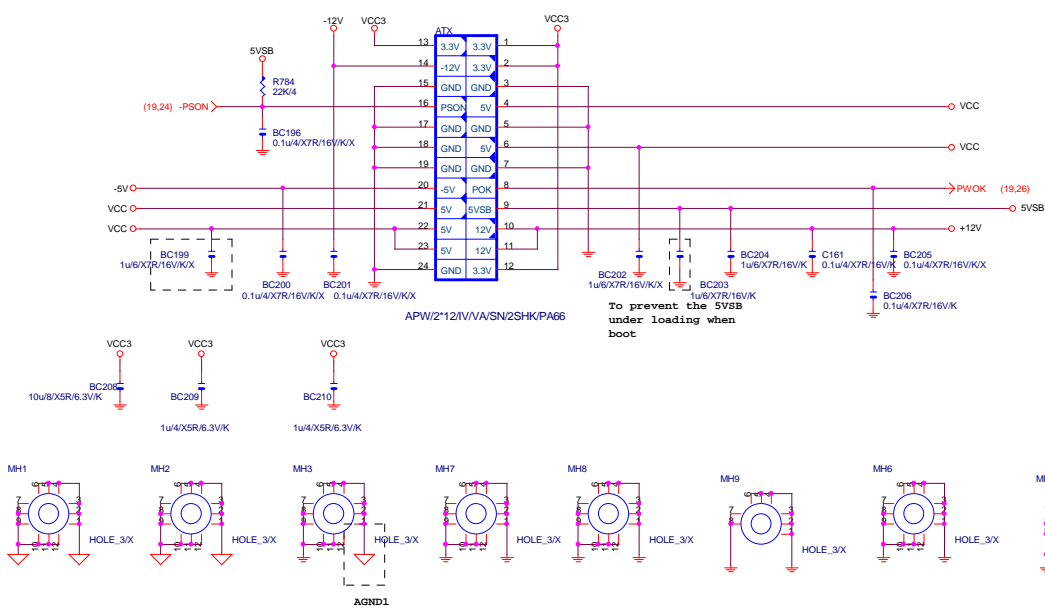
VCC1\_05\_PCH



## DDRVTT

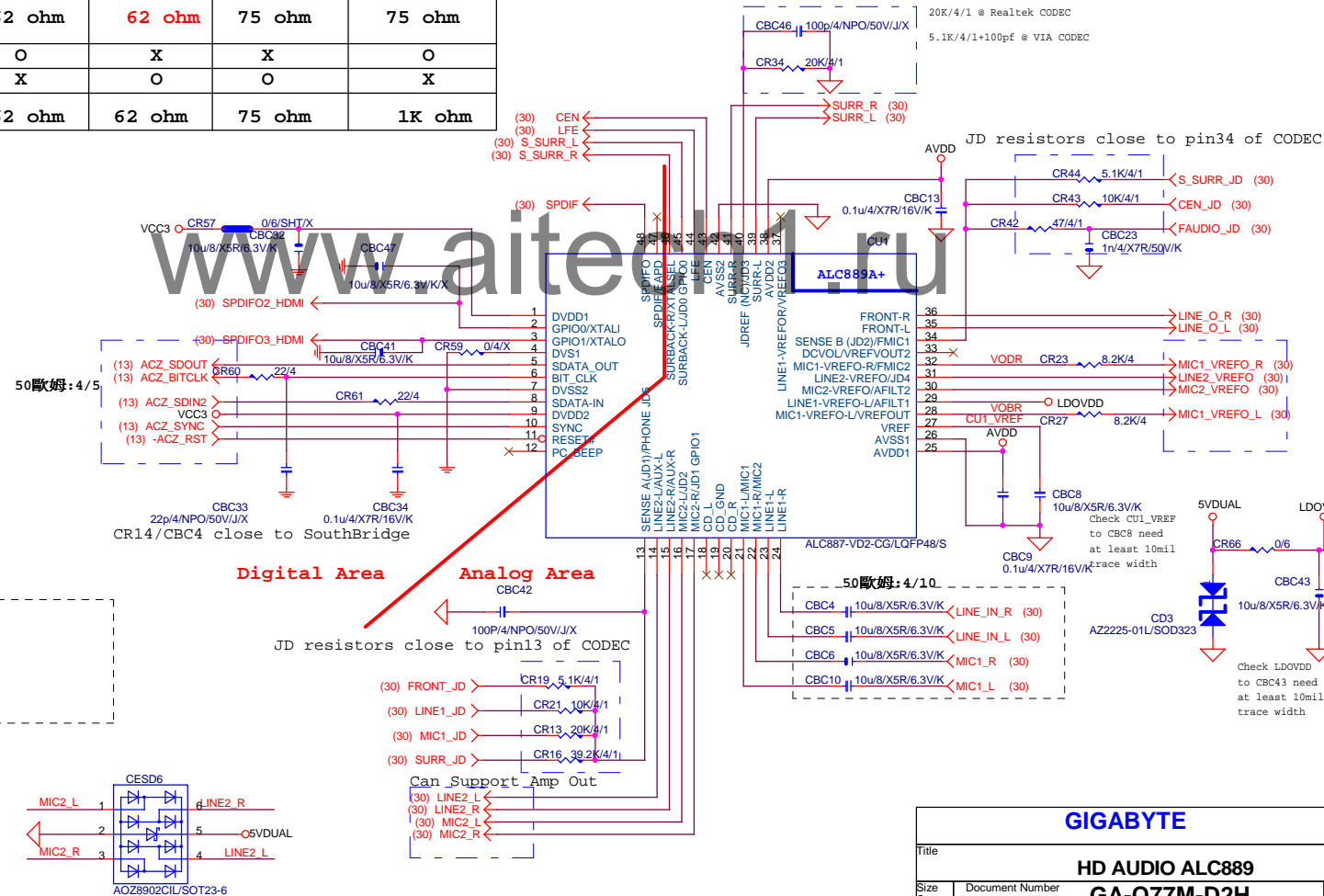


## ATX POWER CONNECTOR



<b>GIGABYTE</b>			
Title			
<b>ATX / CLOCK GEN</b>			
Size C	Document Number	<b>GA-Q77M-D2H</b>	Rev <b>1.01</b>
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	ALC662	ALC887-VD2	ALC889	VT1708S	VT1708SCE
CR59	X	X	O	O	X
CR	X	X	X	X	0.1u/4
CBC41	O	O	X	X	O
CR42/CBC23	47ohm+1nF	47ohm+1nF	47ohm+1nF	22ohm+100P	22ohm+100P
CR63	X	O	O	O	O
CR56	O	X	X	X	X
CBC4/CBC5	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R
CR19	5.11K/4/1	5.11K/4/1	5.11K/4/1	5.1K/4/1	5.1K/4/1
CR34	20K/4/1	20K/4/1	20K/4/1	5.1K/4/1	20K/4/1
CBC42/CBC46	N/A	N/A	N/A	100P/4	100P/4
CR14/CR33/CR28/CR45/ CR41/CR46/CR2/CR4/ CR35/CR39	22K/4	22K/4	22K/4	10K/4	10K/4
CR32/CR15/CR51/CR25 /CR52/CR40/CR3/CR1/ CR9/CR6/CR36/CR38	62 ohm	62 ohm	62 ohm	75 ohm	75 ohm
CR66/CD3/CBC43	O	O	X	X	O
CD1/CD2/CQ4/CQ5/CBC36	X	X	O	O	X
CR12/CR17/CR22/CR26	62 ohm	62 ohm	62 ohm	75 ohm	1K ohm



GIGABYTE

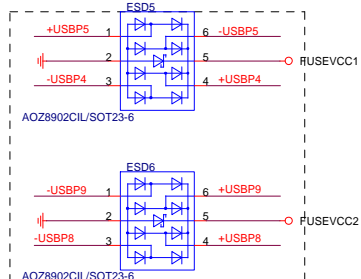
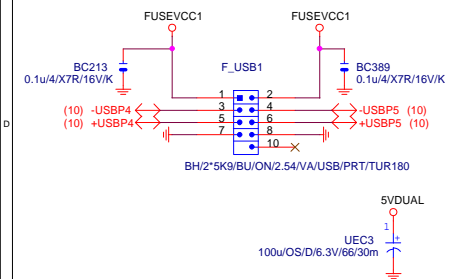
Title			
HD AUDIO ALC889			
Size	Document Number	GA-Q77M-D2H	
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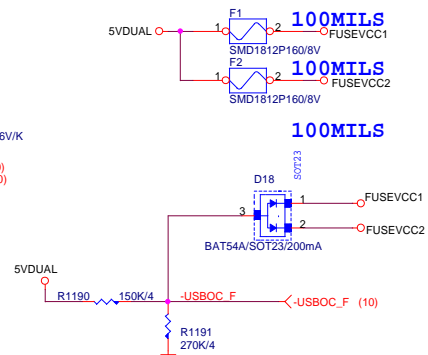


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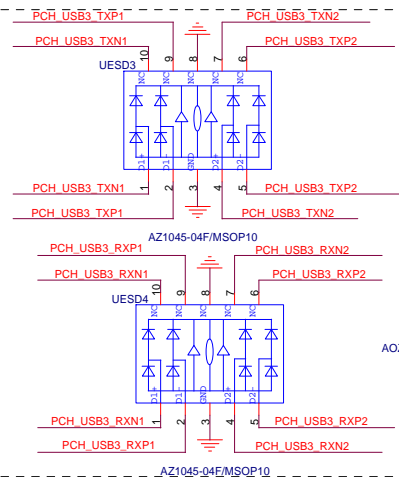
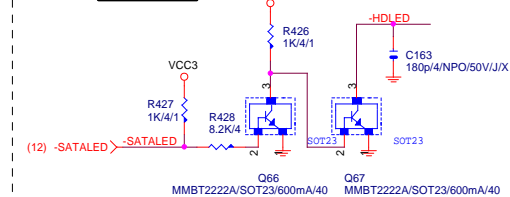
## FRONT USB2



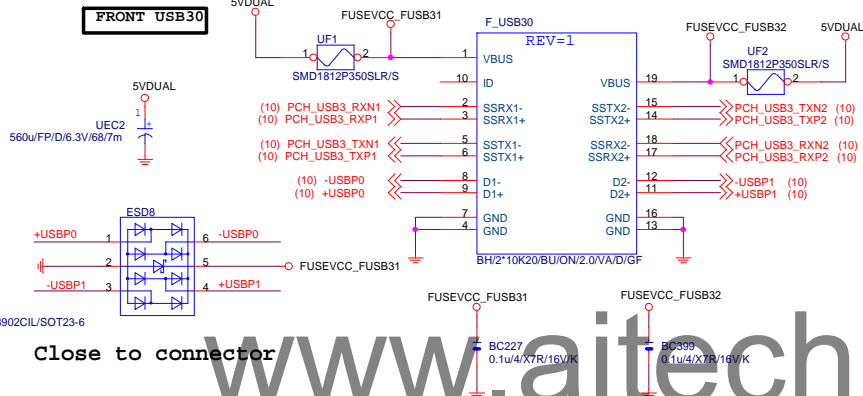
Close to connector



## SATA LED

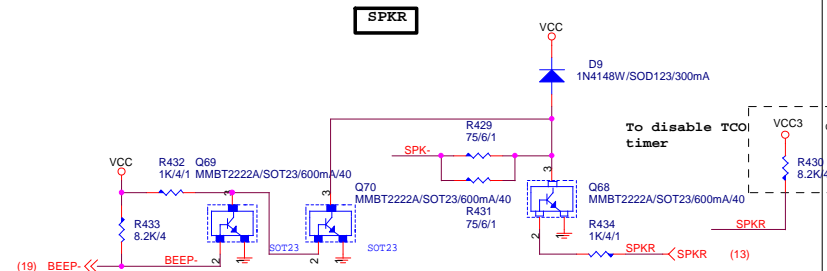


## FRONT USB30

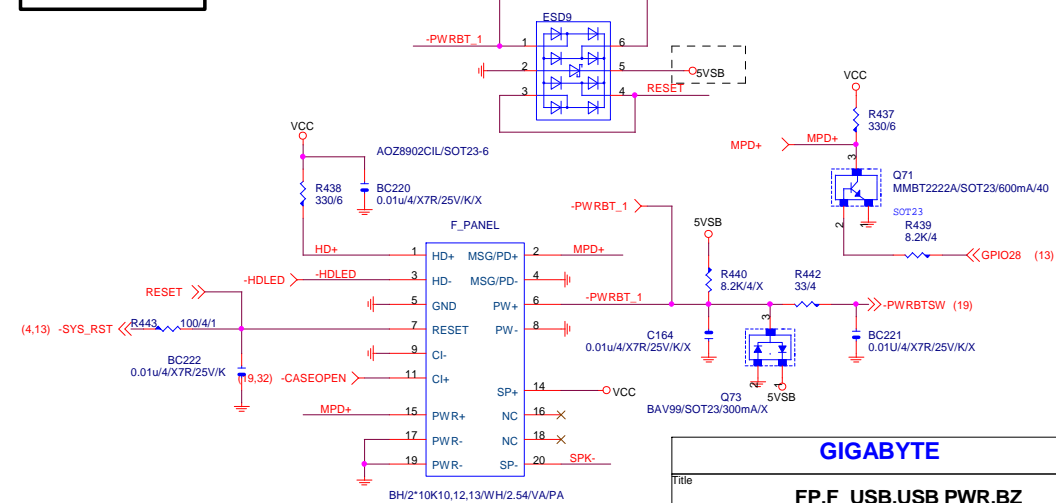


Close to connector

## SPKR



## INTEL FRONT PANEL



## GIGABYTE

Title			FF,F_USB,USB PWR,BZ		
Size			GA-Q77M-D2H		
Date			Wednesday, April 11, 2012		
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Rev			1.01		

(19) VREF ←

(19) SYS\_TEMP ←

(9) VRM\_TEMP ←

(9) TEMP3 ←

C166  
1u4/X5R/6.3V/K

C167  
1u4/X5R/6.3V/K

R446  
10K/4/1

R447  
10K/4/1

R448  
10K/4/1

RS4  
10K/1/4/S  
Close SIO

RS5  
10K/1/4/S  
Close PCH

C225  
1u4/X5R/6.3V/K

Close VREF MOS

The diagram shows a circuit for Case Open Circuits. A red line represents the -CASEOPEN signal, which is connected to the RTCVDD pin (13,14,19) and the INTRUDER pin (13). A blue line represents the 0/4/SHT/X signal, which is connected to the INTRUDER pin (13). A green line represents the 0.01u/4/XTR/25V/K signal, which is connected to the CASEOPEN pin (19,31). A yellow line represents the 1M/4/X signal, which is connected to the CASEOPEN pin (19,31). A note indicates that the value should be changed to 0.01u from 1u to fix the first battery on Case open abnormal.

Change to 0.01u from 1u to fix the first battery on Case open abnormal.

Case Open Circuits

The schematic diagram illustrates the power supply section of the AD9288 evaluation board. It shows the connection of various power pins (VCORE, DDR\_15V, VCC3, +12V, VCCSA, VCC) to the board's power planes. The diagram includes resistors (R481, R482, R483, R484, R485, R486), capacitors (C201, C202, C203, C204, C205, C2081), and a diode (R879). The diagram is labeled with component values and part numbers, and includes a large 'W' watermark in the background.

Key components and their values:

- VCORE:** Connected to V<sub>IN5</sub> through resistor R481 (8.2K/4).
- DDR\_15V:** Connected to V<sub>IN5</sub> through resistor R482 (8.2K/4).
- VCC3:** Connected to V<sub>IN5</sub> through resistor R483 (6.49K/4/1).
- +12V:** Connected to V<sub>IN5</sub> through resistor R484 (75K/4/1).
- VCCSA:** Connected to V<sub>IN5</sub> through resistor R485 (8.2K/4).
- VCC:** Connected to V<sub>IN3</sub> through resistor R486 (15K/4/1).

Capacitors and their values:

- C201:** 1u4/X5R/6.3V/K
- C202:** 1u4/X5R/6.3V/K
- C203:** 1u4/X5R/6.3V/K
- C204:** 1u4/X5R/6.3V/K
- C205:** 1u4/X5R/6.3V/K
- C2081:** 1u4/X5R/6.3V/K

Other components and their values:

- R879:** 10K/4/1
- R496:** 15K/4/1
- R495:** 15K/4/1
- R494:** 15K/4/1
- R493:** 15K/4/1
- R492:** 15K/4/1
- R491:** 15K/4/1
- R490:** 15K/4/1
- R489:** 15K/4/1
- R488:** 15K/4/1
- R487:** 15K/4/1
- R486:** 15K/4/1
- R485:** 8.2K/4
- R484:** 75K/4/1
- R483:** 6.49K/4/1
- R482:** 8.2K/4
- R481:** 8.2K/4

R1135  
 100/4/1  
 (19) FANPWM3  
 +12V  
 R1138  
 0/4  
 BC369  
 1u6/X7R/16V/K  
 +12V  
 R1139  
 3.3K/4/1  
 R1141  
 15K/4/1  
 R1143  
 6.2K/4/1  
 C2082  
 0.047u4/X7R/16V/K  
 FANIO1 (19)  
 CPU\_FAN  
 FAN/1\*4/WH/A3/PA66

**SYS\_FAN**

(19) FANPWM2

VCC3

R1145 1K/4/1

R1150 22K/4

BC370 1u/4/X/5R/6.3V/K

BC368 0.1u/4/X/7R/16V/K

R1144 8.2K/4

R1152 22K/4

U1A LM358DR/S08

12V

1

2

3

4

8

12V

R1146 8.2K/4

12V

R1147 0/4/X

BC300 1u/6/X/7R/16V/K/X

Q390 P2003ED/P10252/30m

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Enable :125 ,  
Disable:105~115

+12V

DAR77 10K/4/1

DAR78 2.32K/4/1

TSM 1

TSM 2

DAR81 1K/4/1

DAR84 100K/1/4/S

DAR75 10K/4/1

+12V

U1B

LM358DR/SO8

TSM 3

R? CLOSE Q32

DAC31 0.1u4/X7R/16V/K

-PROCHOT → -PROCHOT (4,28)

DQ101 2N7002/SOT23/25pF/5

SOT23

CLOSE PWM HOT MOSFET

Title			
HWM,KB/MS, FAN CTRL			
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