

# Model Name: GA-Z68XP-UD5

SHEET TITLE

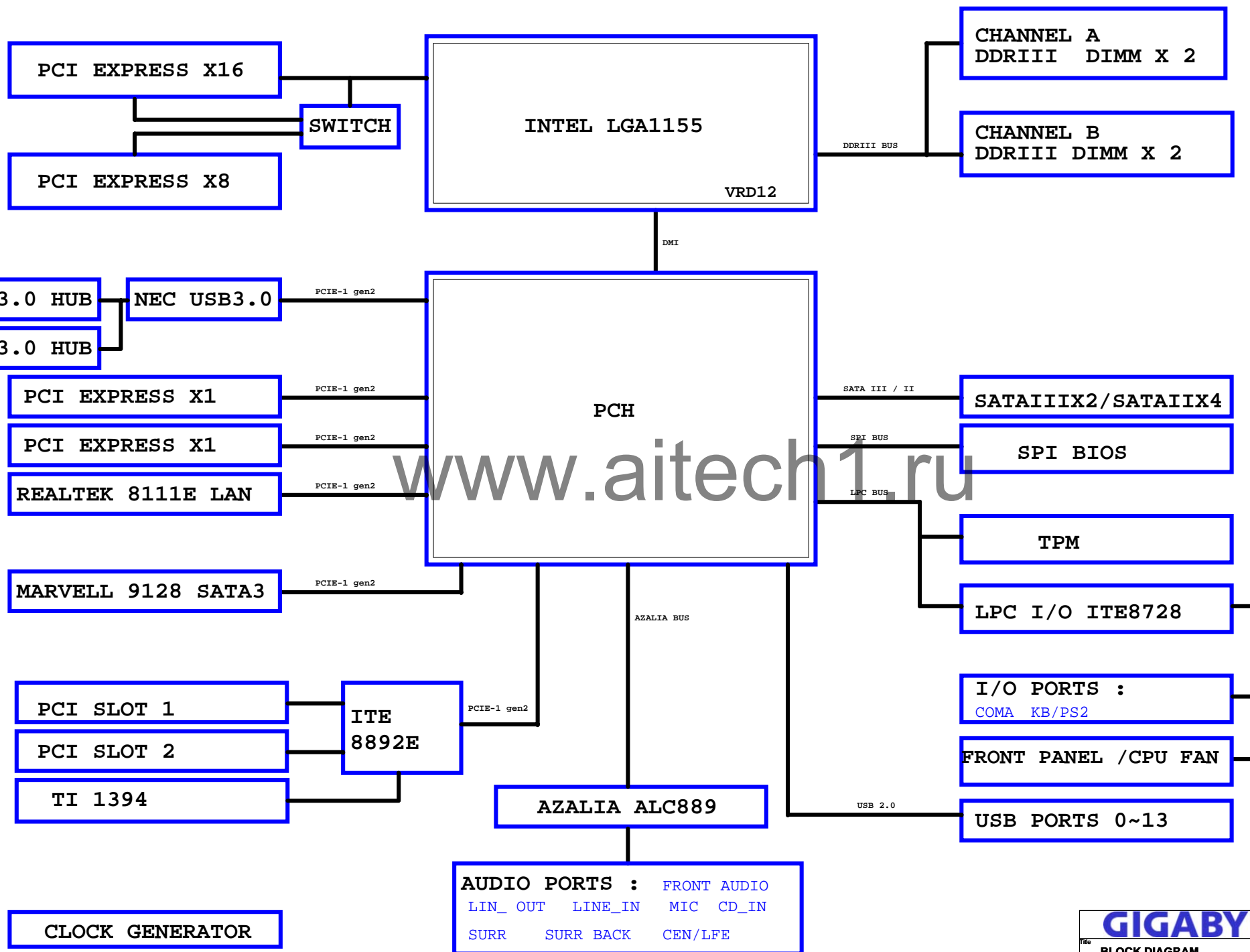
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	DUAL BIOS,TPM
15	PCIEX2 , PCI SIGNAL
16	ITE 8721/ITE 8728
17	-PROHOT,KB/MS,PROTECT
18-25	VCORE
26	VCCSA POWER
27	CPU_VTTD ISL6322
28	DDR POWER ISL6545
29	PCH CORE
30	DISCRETE POWER1
31	DISCRETE POWER2
32	FP, FUSB, USB PWR

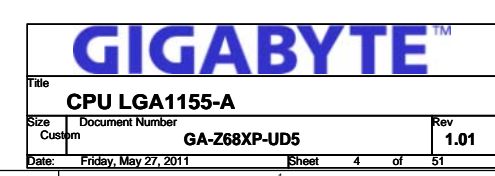
SHEET TITLE

33	ATX , CLOCK GEN
34	ALC889A+
35	REAR AUDIO JACK
36	HWM,FAN CTRL
37	NEC UP720200 USB3.0
38	VL810 USB3_HUB1
39	VL810 USB3_HUB2
40	REALTEK RTL8111E
41	TI TSB43AB23 1394
42	IT8892E
43	PCI SLOT 1&2
44	ESATA MARVELL SE9128
45	PCI EXPRESS X16 SLOT
46	PCI EXPRESS X8 SLOT
47	PCI EXPRESS X16 SWITCH
48	PCI EXPRESS X4 SLOT
49	LED_BUTTON CONTROL
50	HDMI
51	VAXG PHASE

[illegible][illegible][illegible][illegible][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	AV22	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	-SWEA	AW29	SA_WE#	AN1	MDA8
(7) -SCASA	-SCASA	AV30	SA_CAS#	AN4	MDA9
(7) -SRASA	-SRASA	AU28	SA_RAS#	AR3	MDA10
(7) SBAA0	SBAA0	AY29	SA_BS[0]	AR4	MDA11
(7) SBAA1	SBAA1	AW28	SA_BS[1]	AN2	MDA12
(7) SBAA2	SBAA2	AV20	SA_BS[2]	AN3	MDA13
(7) -CSA0	-CSA0	AU29	SA_CS[0]	AR2	MDA14
(7) -CSA1	-CSA1	AV32	SA_CS[1]	AR1	MDA15
(7) -CSA2	-CSA2	AW30	SA_CS[2]		
(7) -CSA3	-CSA3	AU33	SA_CS[3]	AV4	DQSA2
(7) CKEA0	CKEA0	AV19	SA_CKE[0]	AV2	MDA16
(7) CKEA1	CKEA1	AT19	SA_CKE[1]	AW3	MDA17
(7) CKEA2	CKEA2	AU18	SA_CKE[2]	AV5	MDA18
(7) CKEA3	CKEA3	AV18	SA_CKE[3]	AW5	MDA19
MODT_A0	AV31	SA_ODT[0]		AU2	MDA20
MODT_A1	AU32	SA_ODT[1]		AU3	MDA21
MODT_A2	AU30	SA_ODT[2]		AU5	MDA22
MODT_A3	AW33	SA_ODT[3]		AY5	MDA23
(7) DCLKA0	DCLKA0	AY25	SA_CK[0]	AV8	DQSA3
(7) -DCLKA0	-DCLKA0	AW25	SA_CK[0]	AV8	-DQSA3
(7) DCLKA1	DCLKA1	AU24	SA_CK[1]		
(7) -DCLKA1	-DCLKA1	AU25	SA_CK[1]	AY7	MDA24
(7) DCLKA2	DCLKA2	AY27	SA_CK[2]	AU7	MDA25
(7) -DCLKA2	-DCLKA2	AV26	SA_CK[2]	AV9	MDA26
(7) DCLKA3	DCLKA3	AW26	SA_CK[3]	AU9	MDA27
(7) -DCLKA3	-DCLKA3	AW26	SA_CK[3]	AV7	MDA28
(7.8) -DDR3_RST	R894	AW18	SM_DRAMRST#	AW7	MDA29
				AW9	MDA30
				AY9	MDA31
				AV37	DQSA4
				AV36	-DQSA4
				AU35	MDA32
				AV37	MDA33
				AU39	MDA34
				AU36	MDA35
				AW35	MDA36
				AY36	MDA37
				AU38	MDA38
				AU37	MDA39
				AP38	DQSA5
				AP39	-DQSA5
				AR40	MDA40
				AR37	MDA41
				AN38	MDA42
				AN37	MDA43
				AR39	MDA44
				AR38	MDA45
				AN39	MDA46
				AN40	MDA47
				AK38	DQSA6
				AK39	-DQSA6
				AL40	MDA48
				AL37	MDA49
				AJ38	MDA50
				AJ37	MDA51
				AL39	MDA52
				AL38	MDA53
				AJ39	MDA54
				AJ40	MDA55
				AF38	DQSA7
				AF39	-DQSA7
				AG40	MDA56
				AG37	MDA57
				AE38	MDA58
				AE37	MDA59
				AG39	MDA60
				AG38	MDA61
				AE39	MDA62
				AE40	MDA63

DDR\_0

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CPU-SK/1155/S/15

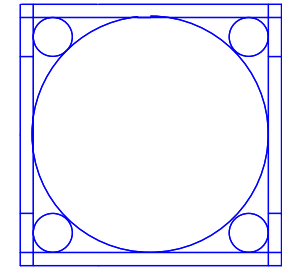
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MAAB1	AM20	SB_MA[1]	SB_DQS[0]	AH6	-DQSB0
MAAB2	AM19	SB_MA[2]			
MAAB3	AK18	SB_MA[3]			
MAAB4	AP19	SB_MA[4]	SB_DQ[0]	AG7	MDB0
MAAB5	AP18	SB_MA[5]	SB_DQ[1]	AG8	MDB1
MAAB6	AM18	SB_MA[6]	SB_DQ[2]	AJ8	MDB2
MAAB7	AL18	SB_MA[7]	SB_DQ[3]	AG5	MDB4
MAAB8	AN18	SB_MA[8]	SB_DQ[4]	AG6	MDB5
MAAB9	AY17	SB_MA[9]	SB_DQ[5]	AJ6	MDB6
MAAB10	AN23	SB_MA[10]	SB_DQ[6]	AJ7	MDB7
MAAB11	AU17	SB_MA[11]			
MAAB12	AT18	SB_MA[12]	SB_DQS[1]	AM8	DQSB1
MAAB13	AR26	SB_MA[13]	SB_DQS[1]	AL8	-DQSB1
MAAB14	AY16	SB_MA[14]			
MAAB15	AV16	SB_MA[15]			
(8) -SWEB	-SWEB	AR25	SB_WE#	AL7	MDB8
(8) -SCASB	-SCASB	AK25	SB_CAS#	AM7	MDB9
(8) -SRASB	-SRASB	AP24	SB_RAS#	AM10	MDB10
(8) SBAB0	SBAB0	AP23	SB_BS[0]	AL10	MDB11
(8) SBAB1	SBAB1	AM24	SB_BS[1]	AL6	MDB12
(8) SBAB2	SBAB2	AW17	SB_BS[2]	AM6	MDB13
(8) -CSB0	-CSB0	AN25	SB_CS[0]	AL9	MDB14
(8) -CSB1	-CSB1	AN26	SB_CS[1]	AM9	MDB15
(8) -CSB2	-CSB2	AL25	SB_CS[2]		
(8) -CSB3	-CSB3	AT26	SB_CS[3]	AR8	DQSB2
(8) CKEB0	CKEB0	AU16	SB_CKE[0]	AP8	-DQSB2
(8) CKEB1	CKEB1	AY15	SB_CKE[1]	AP7	MDB16
(8) CKEB2	CKEB2	AW15	SB_CKE[2]	AR7	MDB17
(8) CKEB3	CKEB3	AV15	SB_CKE[3]	AP10	MDB18
MODT_B0	AL26	SB_ODT[0]		AR10	MDB19
MODT_B1	AP26	SB_ODT[1]		AP6	MDB20
MODT_B2	AM26	SB_ODT[2]		AP9	MDB21
MODT_B3	AK26	SB_ODT[3]		AR9	MDB23
(8) DCLKB0	DCLKB0	AL21	SB_CK[0]	AN13	DQSB3
(8) -DCLKB0	-DCLKB0	AL22	SB_CK[0]	AN12	-DQSB3
(8) DCLKB1	DCLKB1	AL20	SB_CK[1]	AM12	MDB24
(8) -DCLKB1	-DCLKB1	AK20	SB_CK[1]	AM13	MDB25
(8) DCLKB2	DCLKB2	AL23	SB_CK[2]	AR13	MDB26
(8) -DCLKB2	-DCLKB2	AP21	SB_CK[2]	AP13	MDB27
(8) DCLKB3	DCLKB3	AP21	SB_CK[3]	AL12	MDB28
(8) -DCLKB3	-DCLKB3	AN21	SB_CK[3]	AL13	MDB29
(8) VREF_DQB	AH1	FC_AH1		AR12	MDB30
(8) VREF_DQA	AH4	FC_AH4		AP12	MDB31
AN16			SB_DQS[3]	AN29	DQSB4
AN15			SB_DQS[3]	AN28	-DQSB4
AL16			SB_DQ[32]	AR28	MDB32
AL16			SB_DQ[33]	AR29	MDB33
AL15			SB_DQ[34]	AL28	MDB34
AP16			SB_DQ[35]	AL29	MDB35
AL15			SB_DQ[36]	AP28	MDB36
AR15			SB_DQ[37]	AP29	MDB37
AP15			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]	AP31	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]	AL31	MDB52
			SB_DQ[53]	AL34	MDB53
			SB_DQ[54]	AM35	MDB54
			SB_DQ[55]	AL34	MDB55
			SB_DQS[7]	AG35	DQSB7
			SB_DQS[7]	AG34	-DQSB7
			SB_DQ[56]	AH35	MDB56
			SB_DQ[57]	AH34	MDB57
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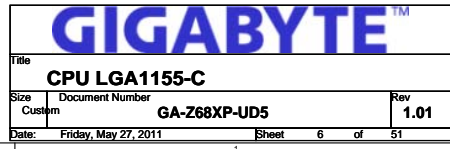
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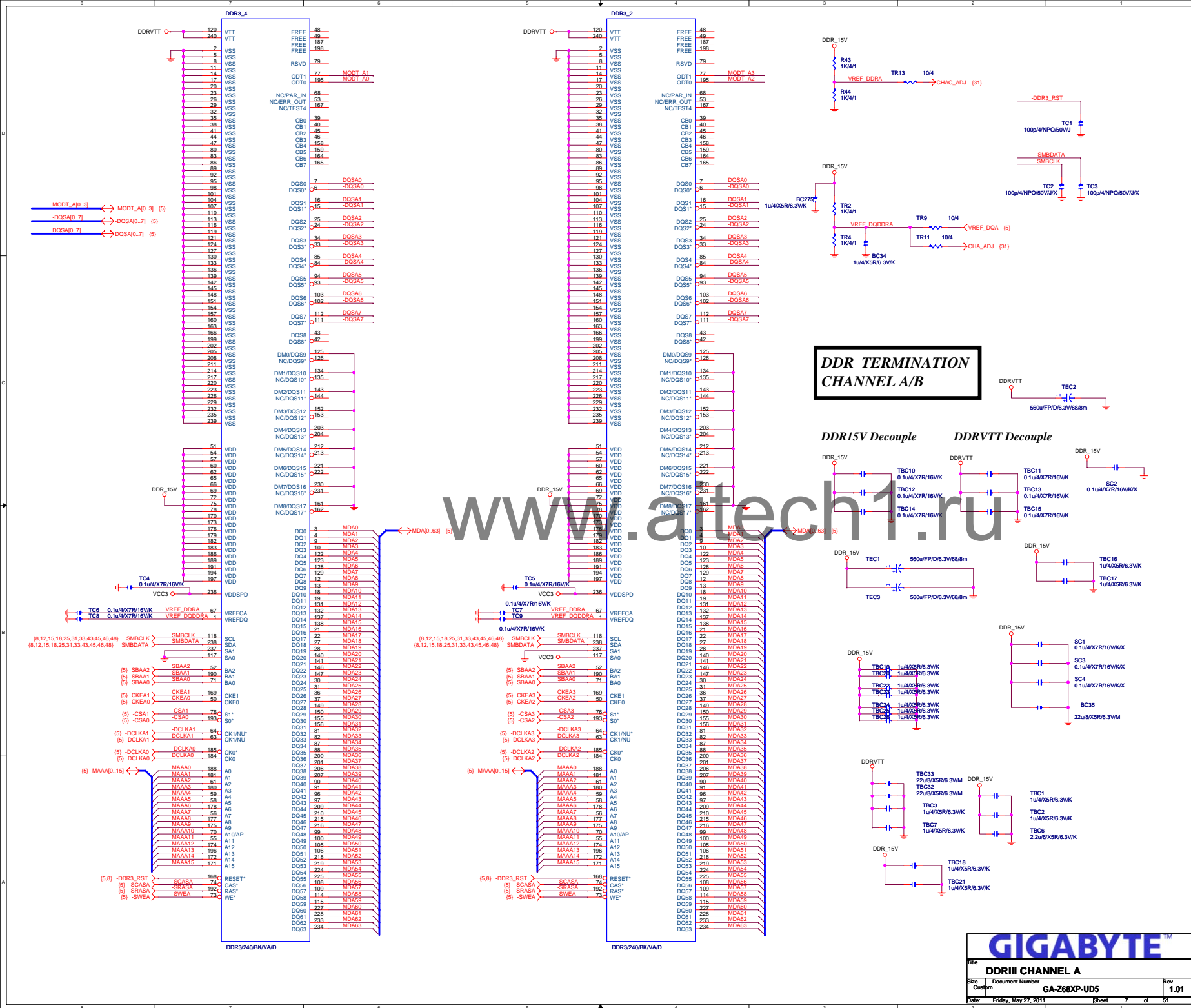
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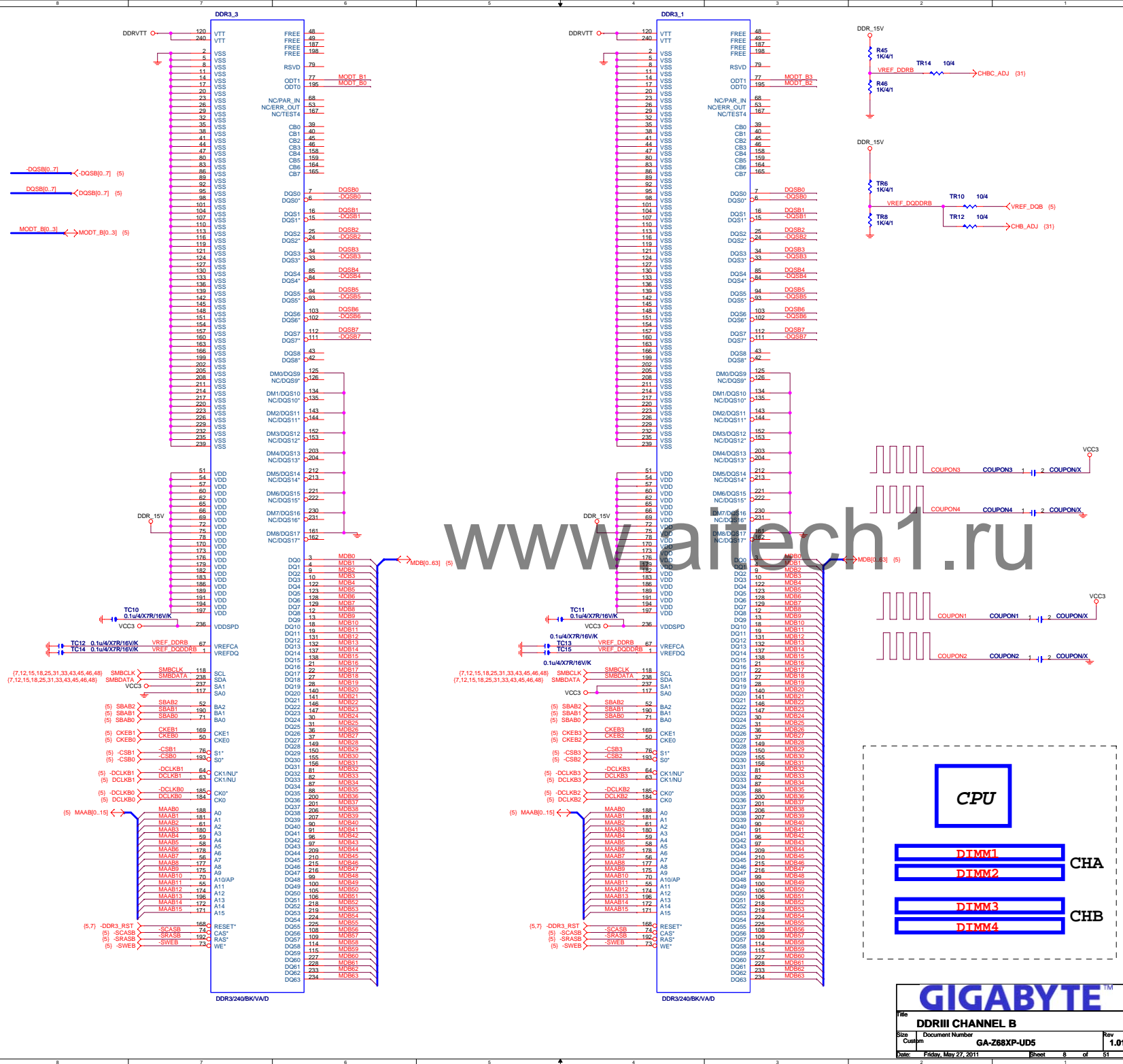
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CPU  
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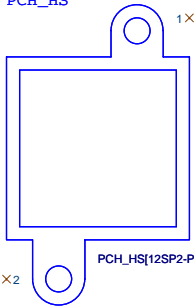
Need check the new CPU ME



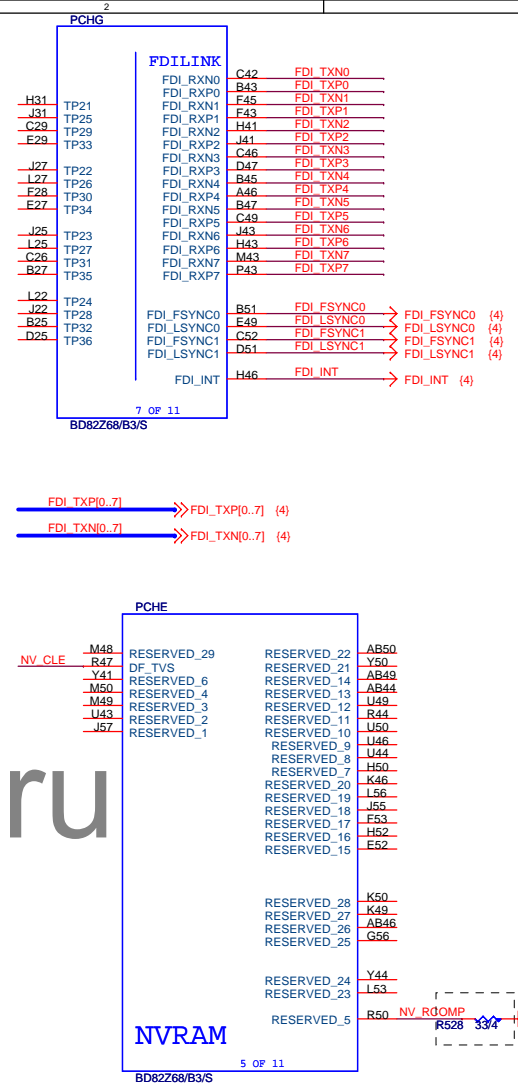
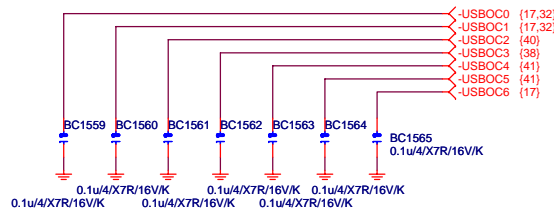
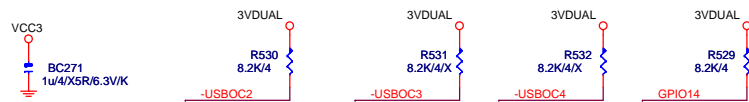




PCH\_HS



DMT / FDI termination voltage

**GIGABYTE™**

Title			
PCH FDI,DMI,USB ,PCIE,NVRAM			
Size	Document Number	Rev	
Custom	GA-Z68XP-UD5	1.01	
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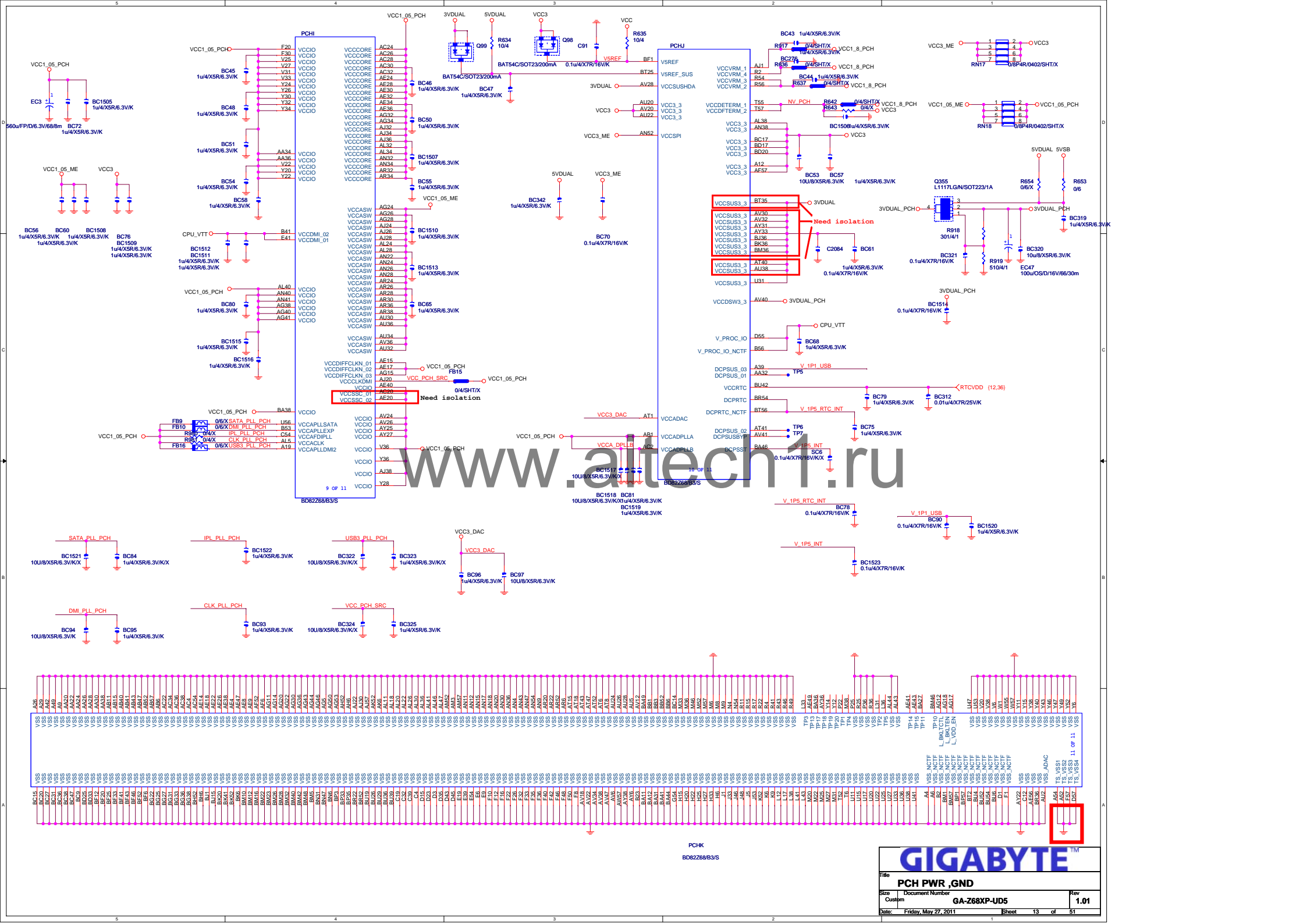




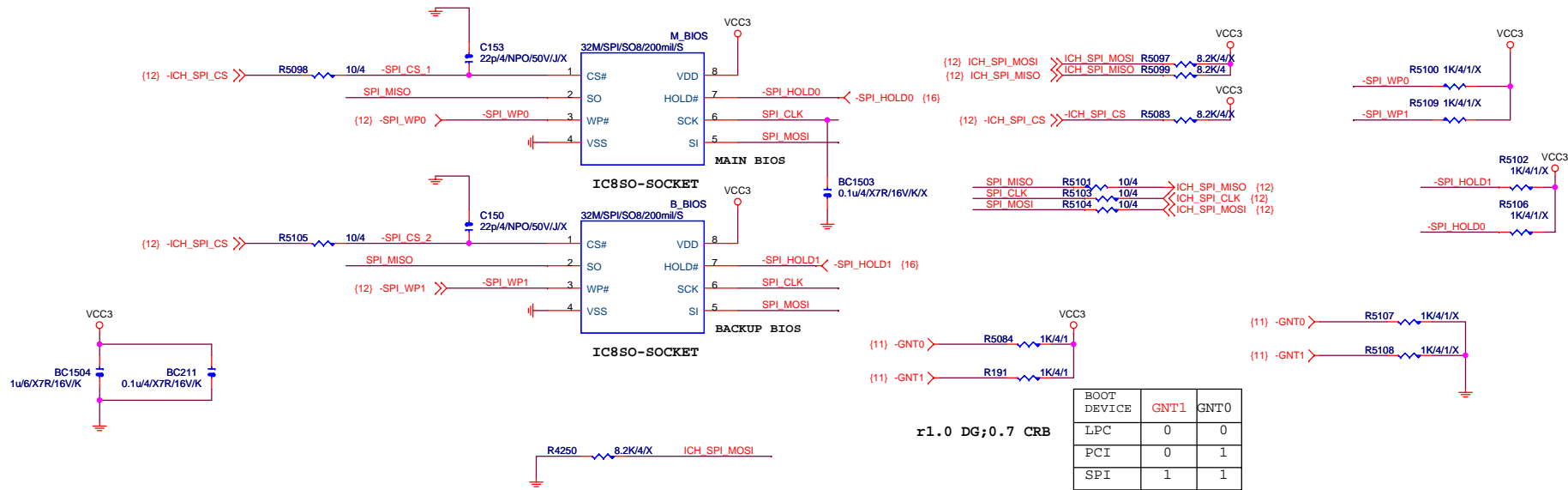




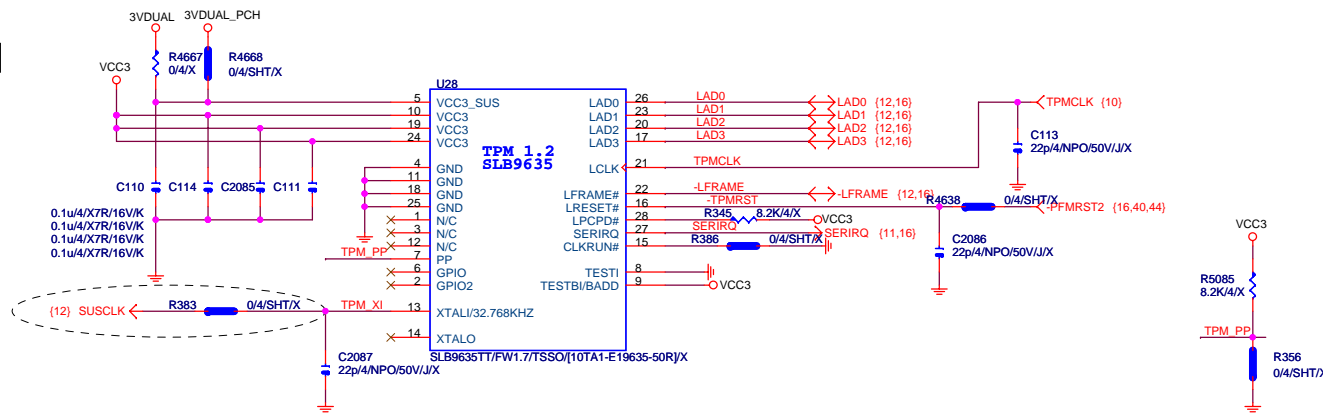




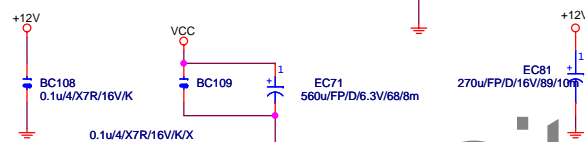
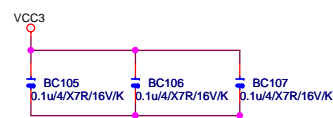
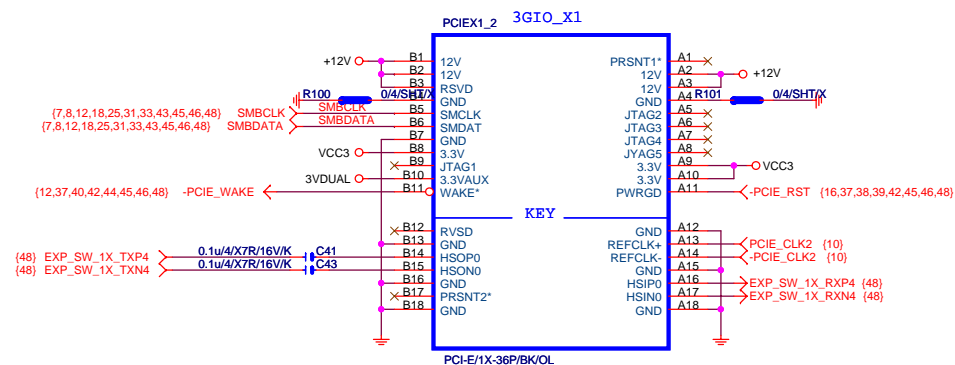
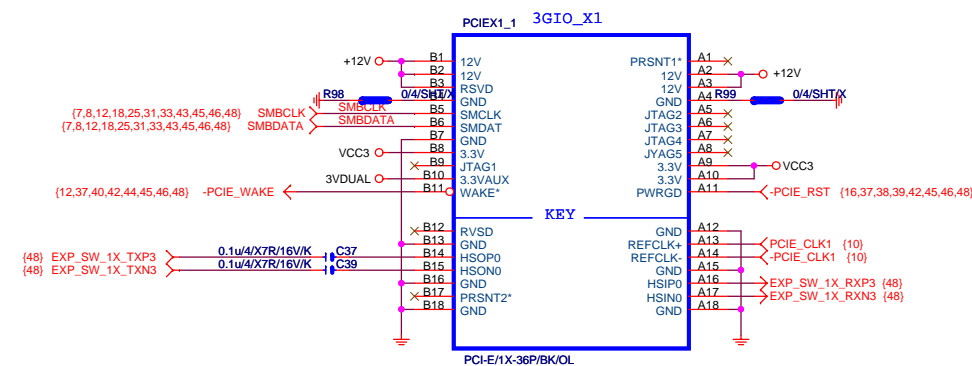
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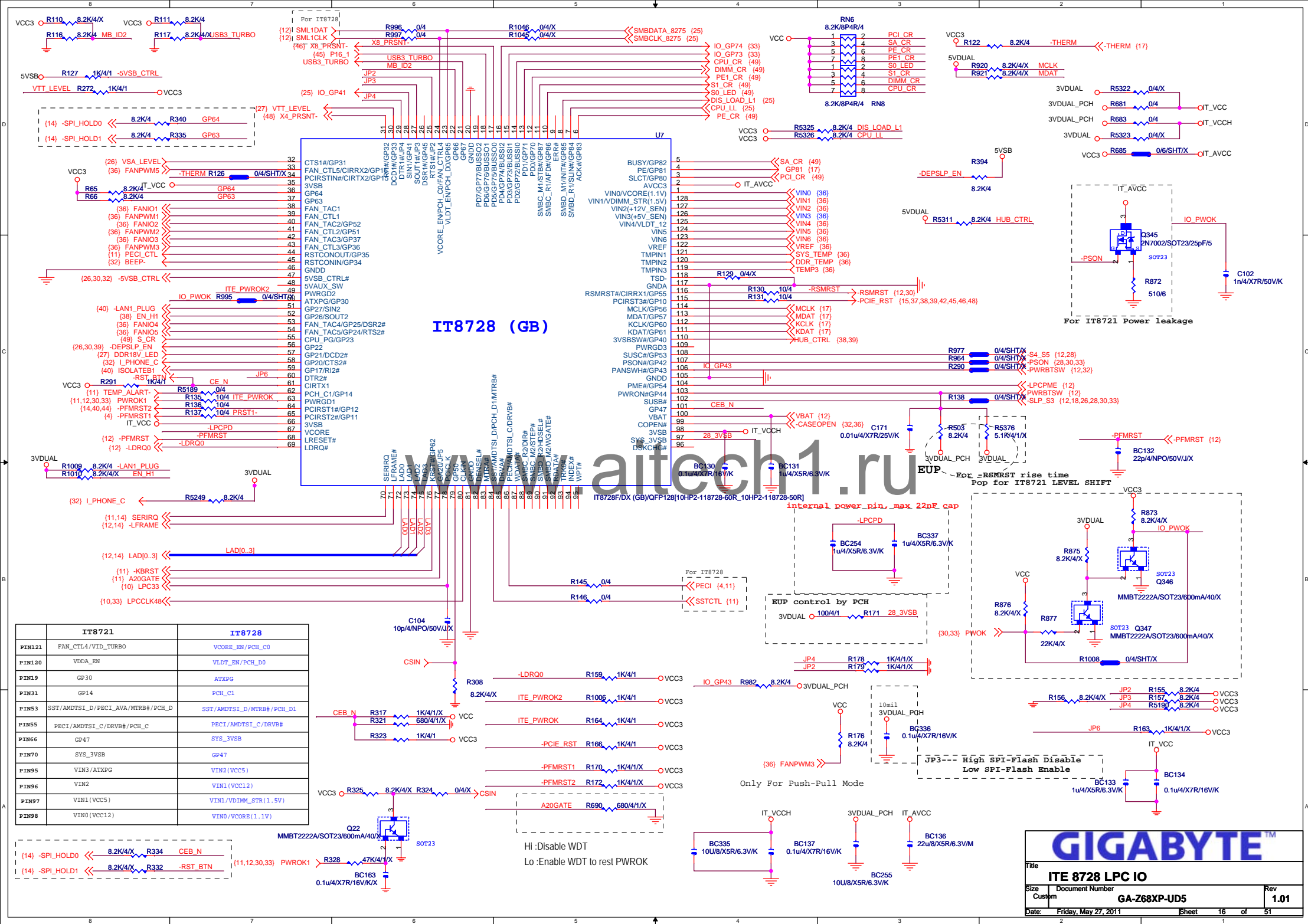
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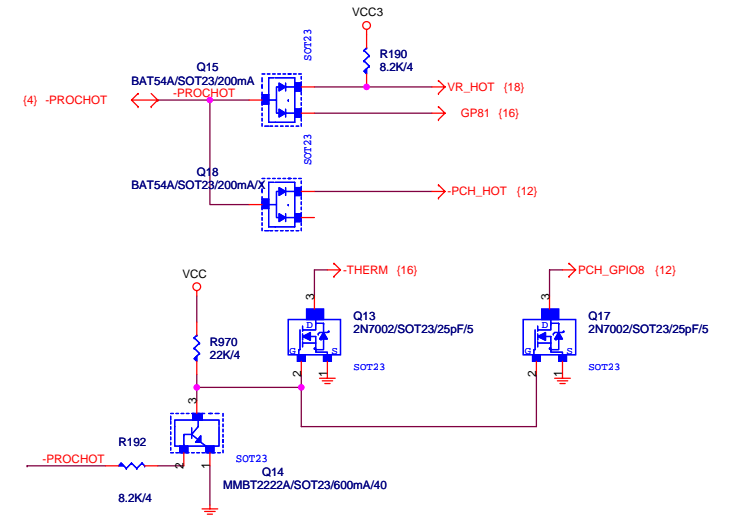
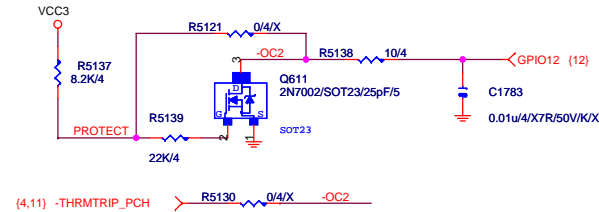
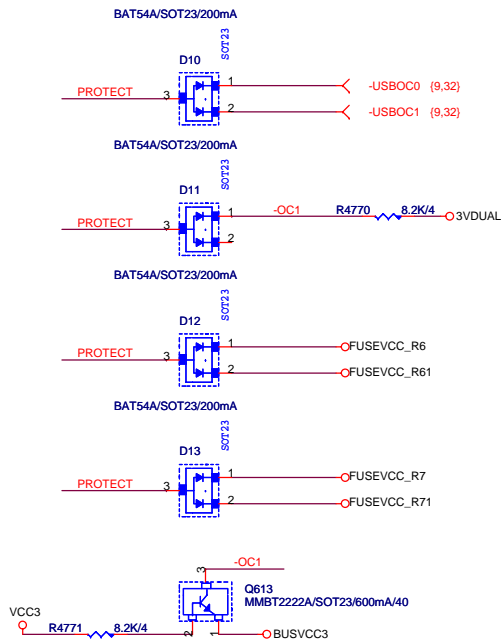


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 2.U28  
 3.R383.R345.R386.R356



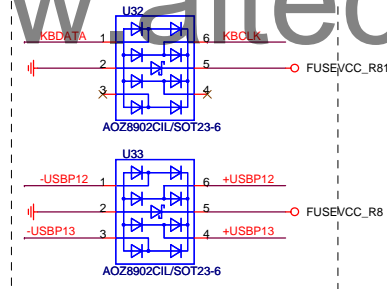
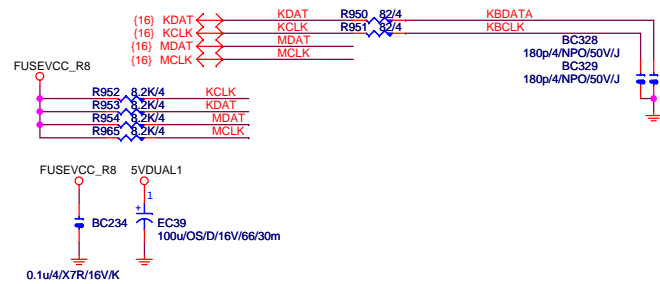
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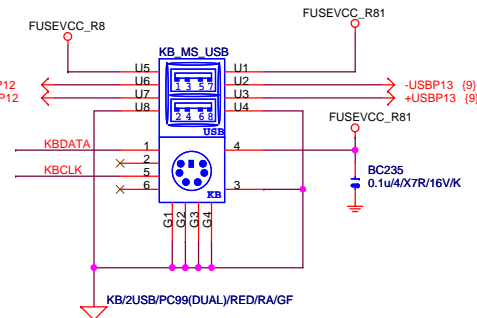


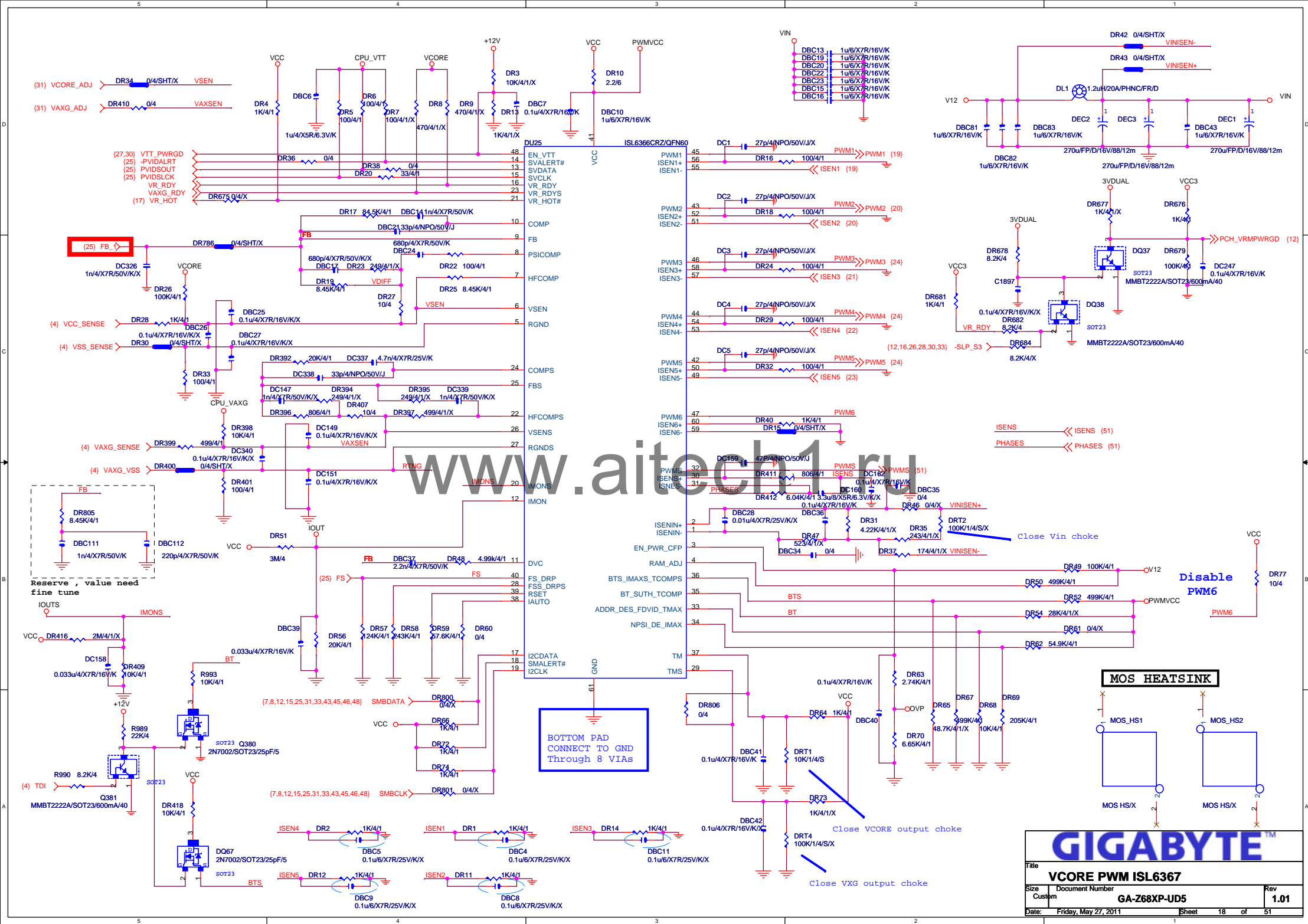
KB/MS

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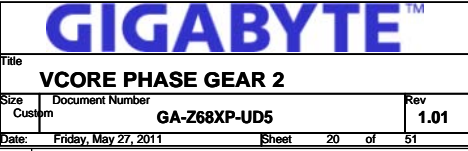
Close to connector













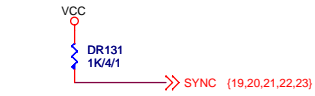
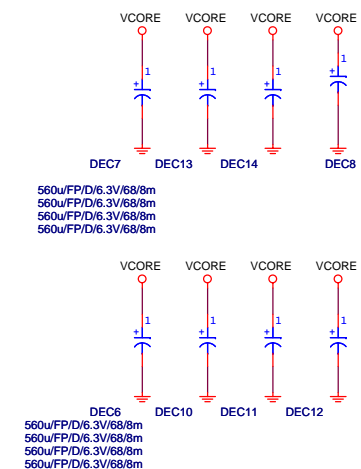
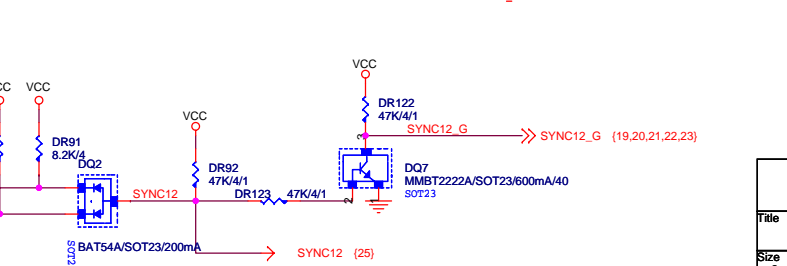
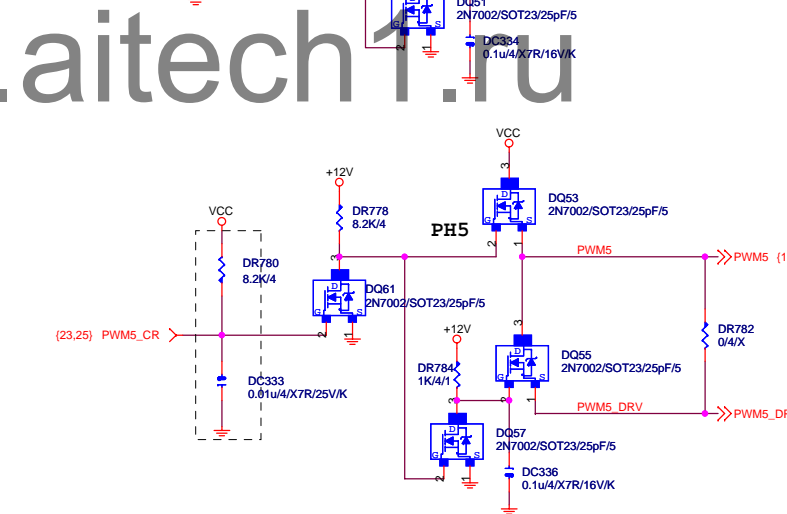
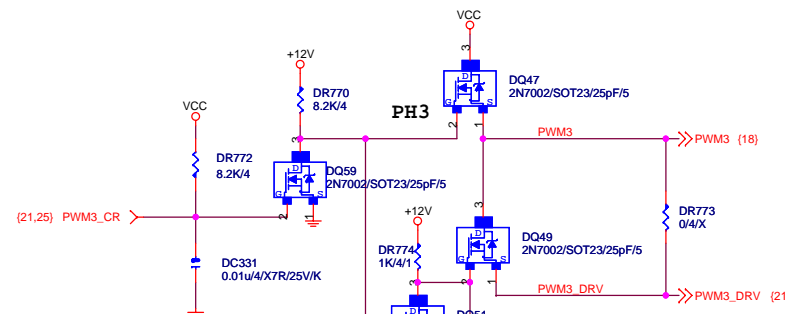
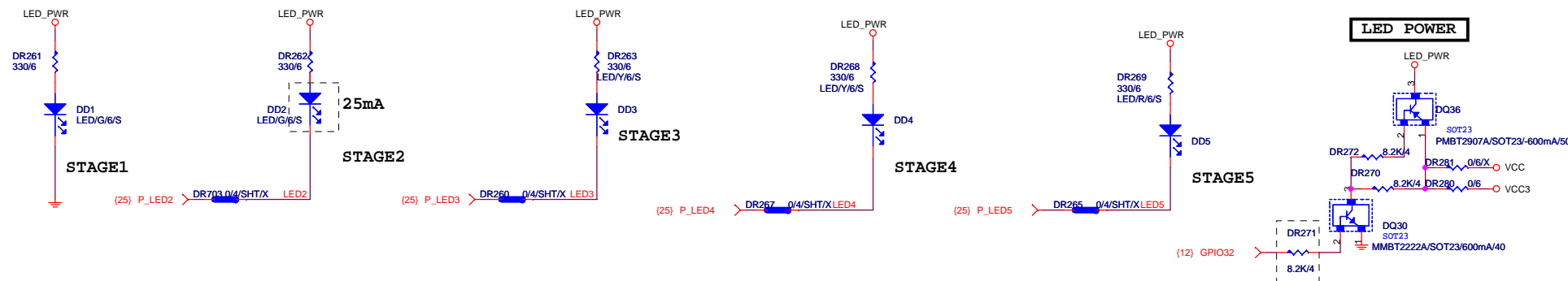






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# PHASE LED



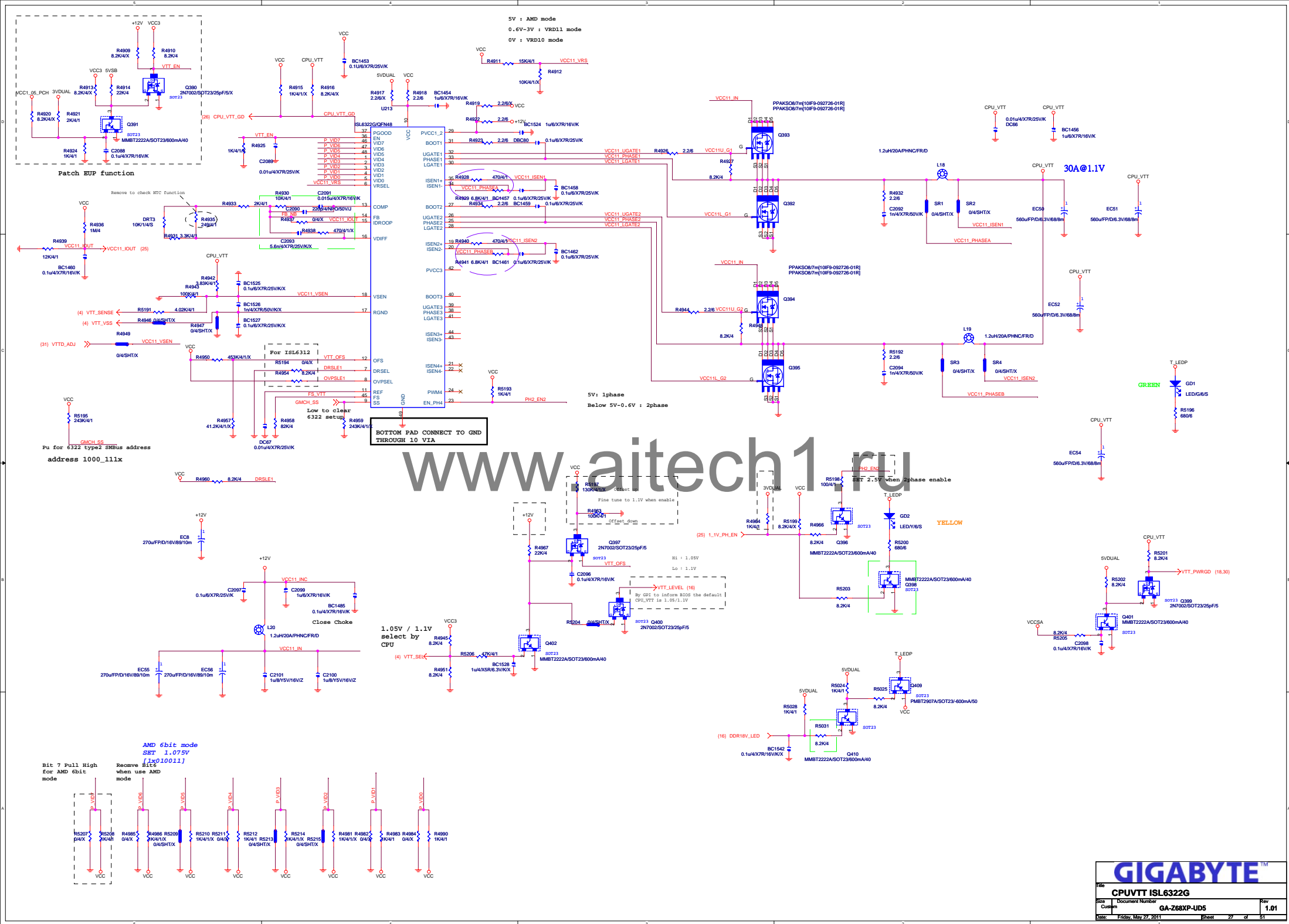
**GIGABYTE™**

**VCORE PHASE CONTROL**

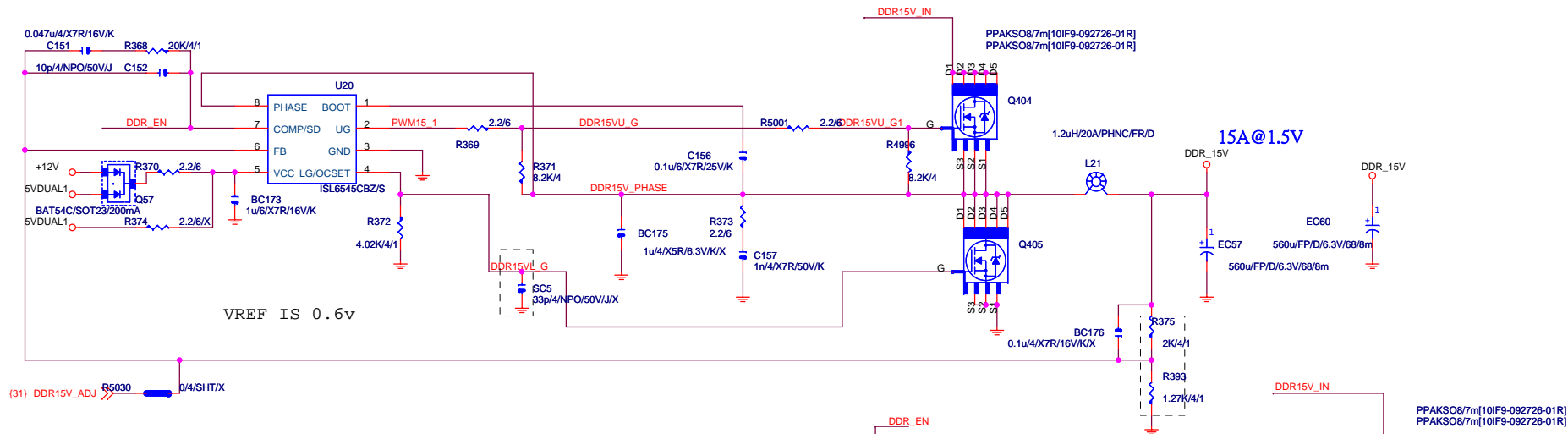
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Size	Custom	1.01
Date	Friday, May 27, 2011	Sheet 24 of 51



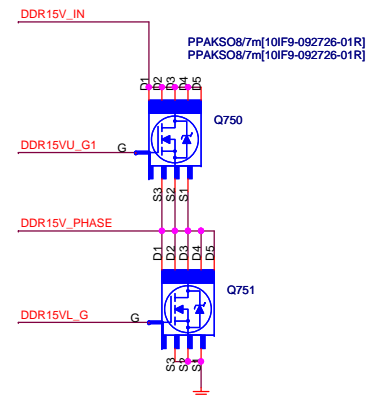
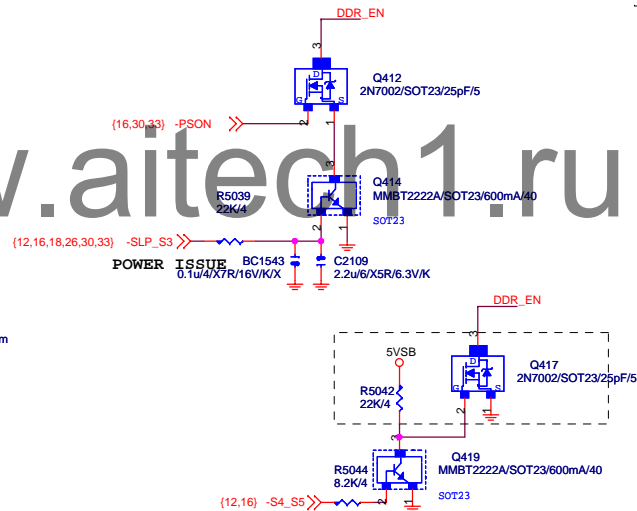
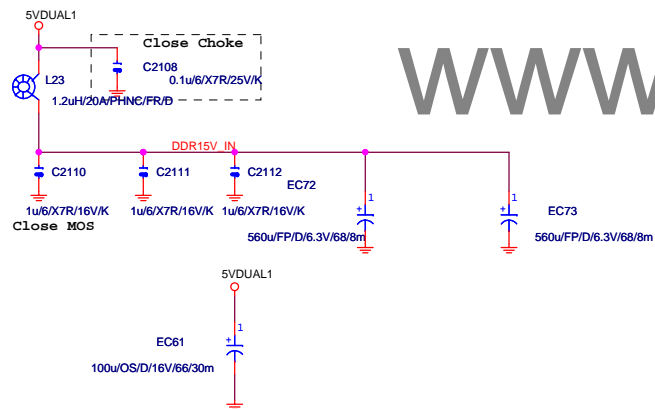




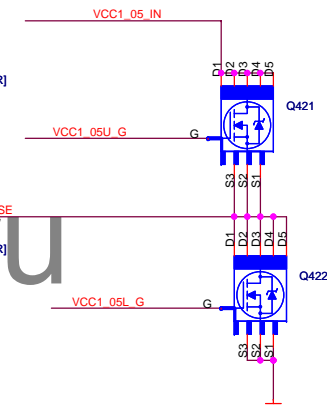
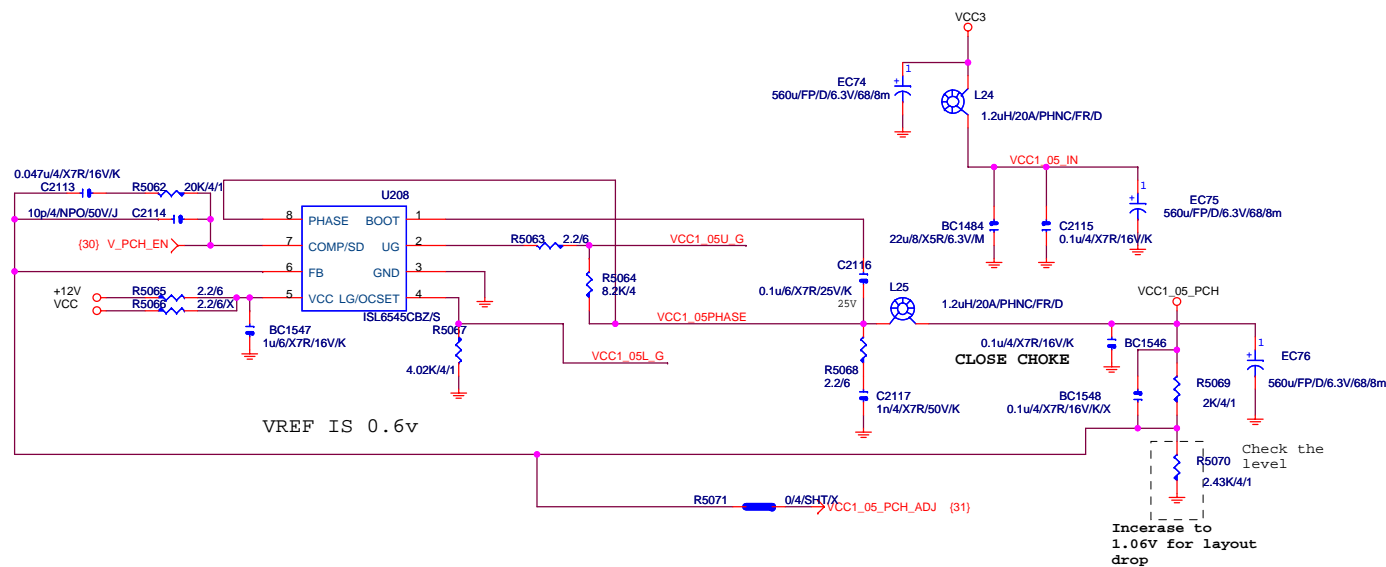




For ISL 6322

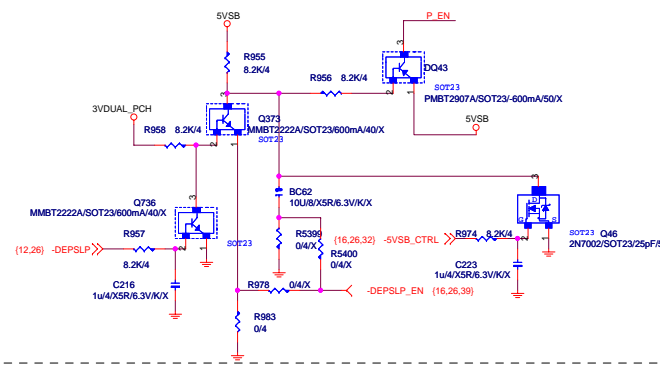
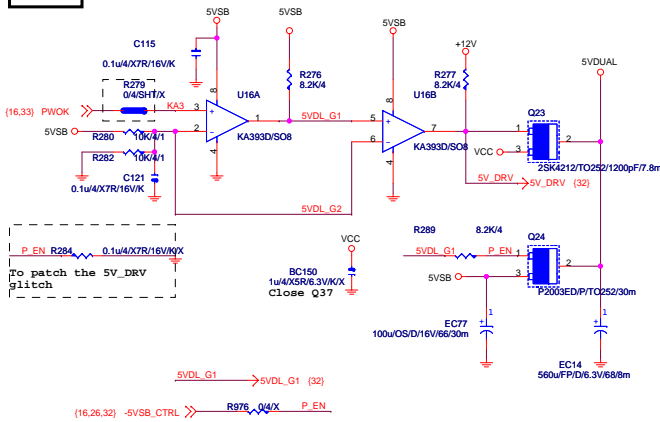




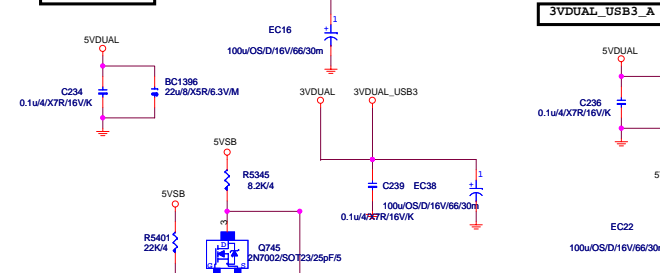


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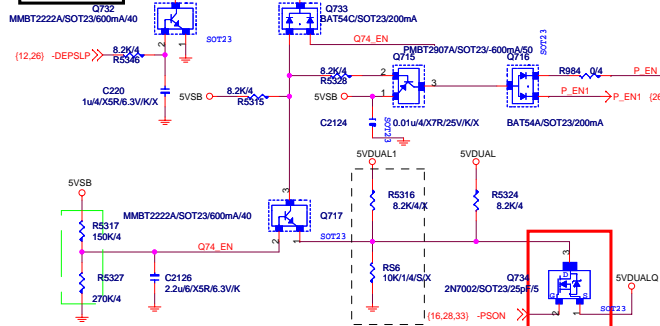
## 5VDUAL



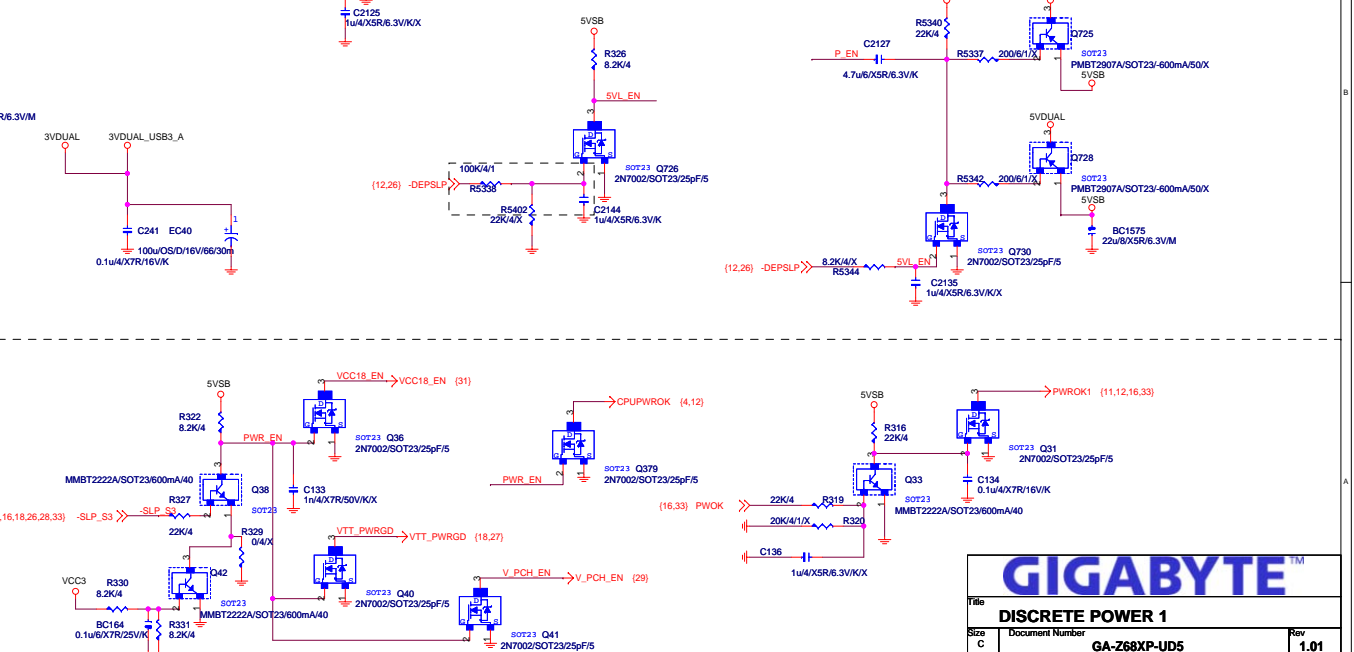
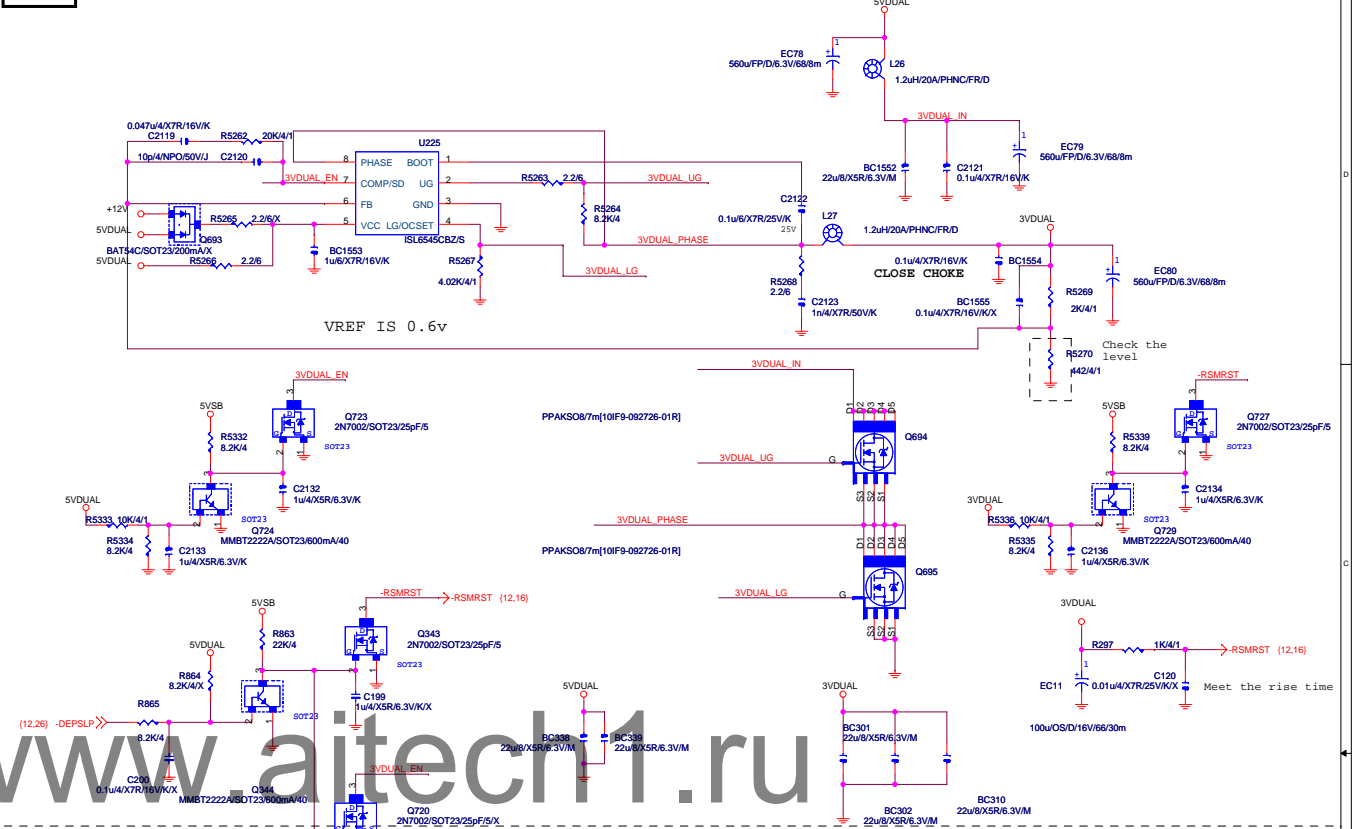
## 3VDUAL\_USB3



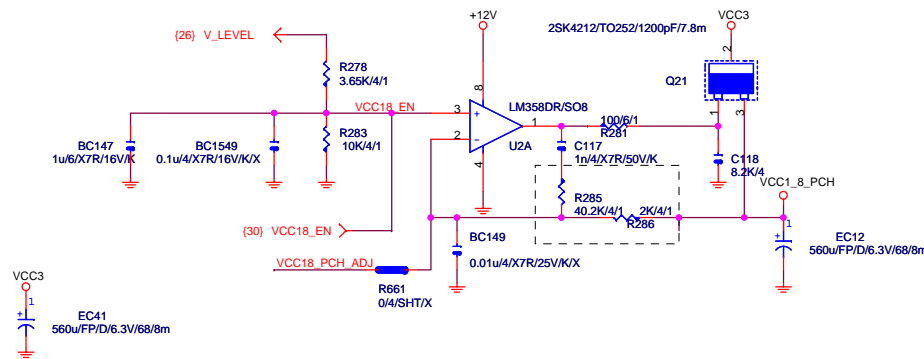
## 5VDUAL UVP



## 3VDUAL

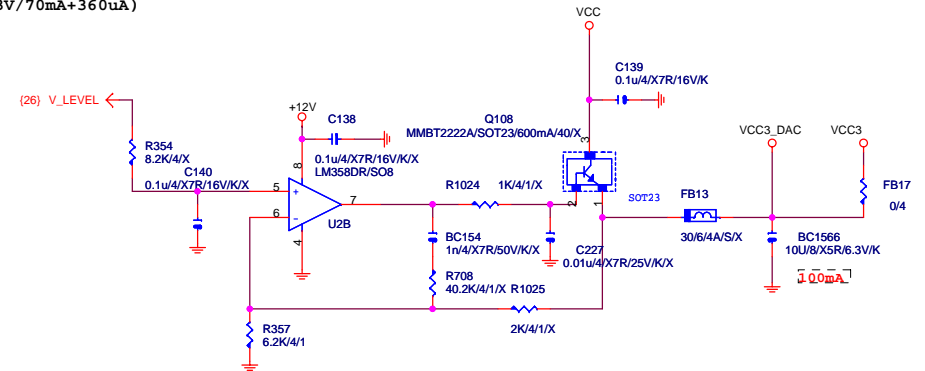


# VCC1\_8\_PCH

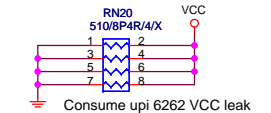
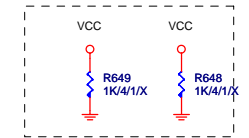
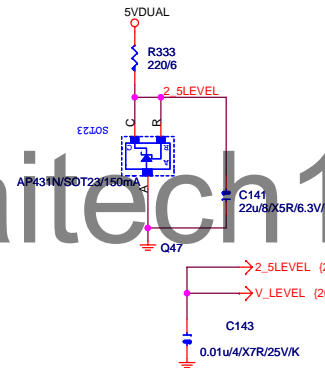
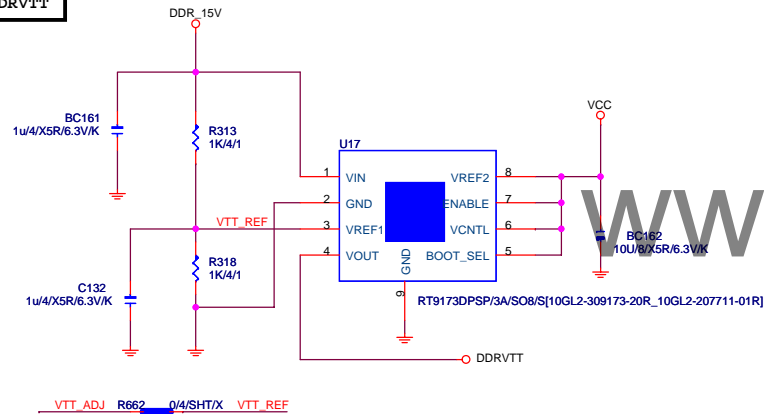


# VCC3\_DAC

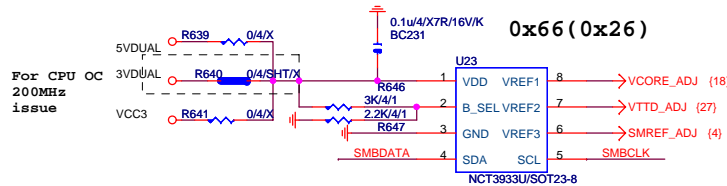
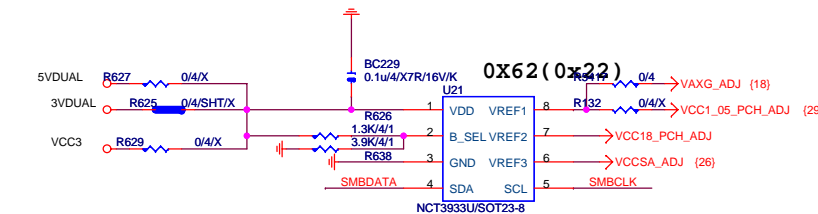
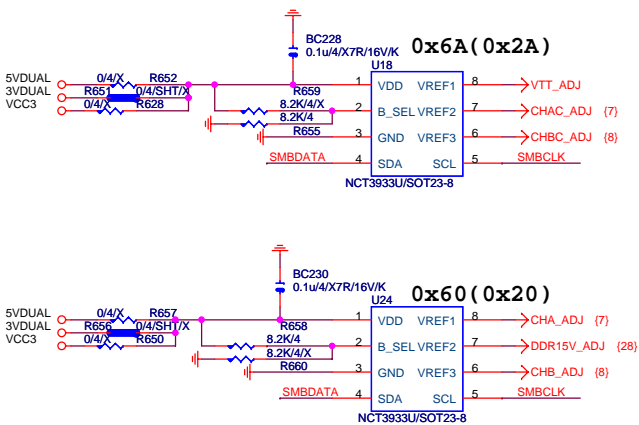
(3.3V/70mA+360uA)

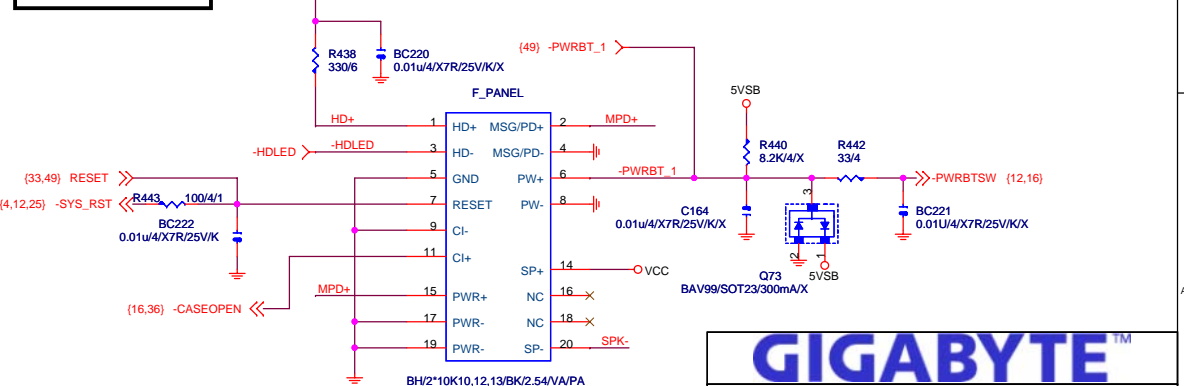
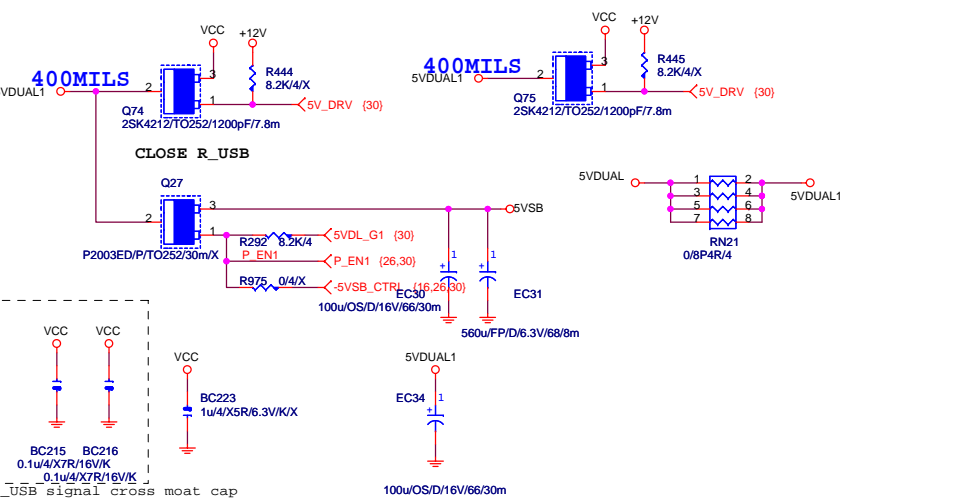
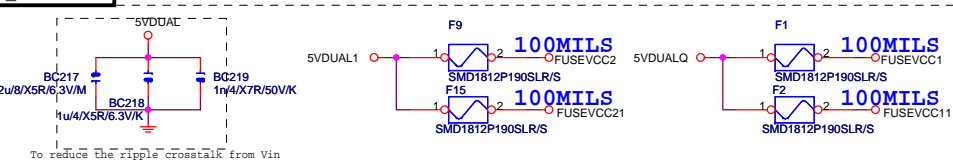
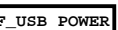
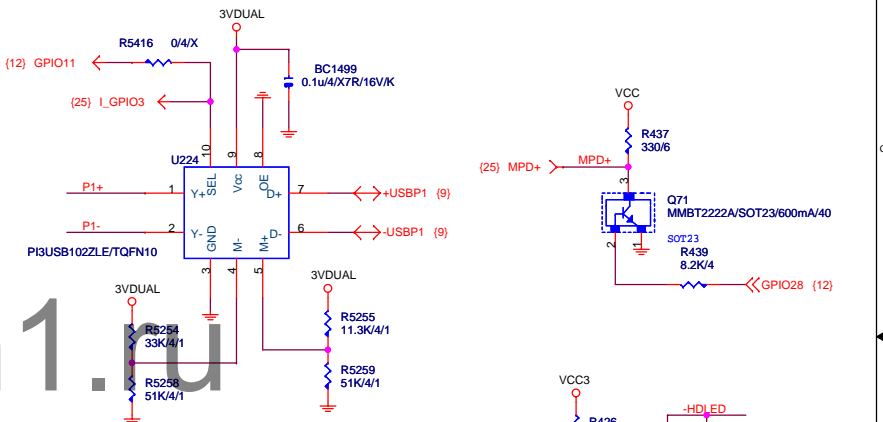
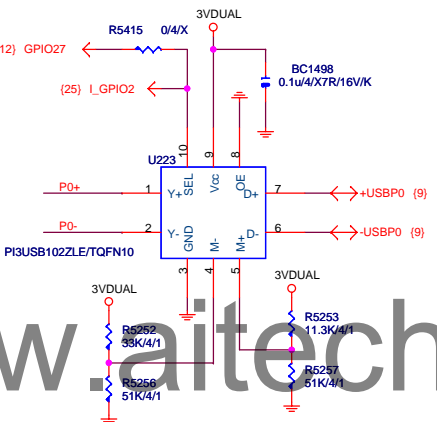
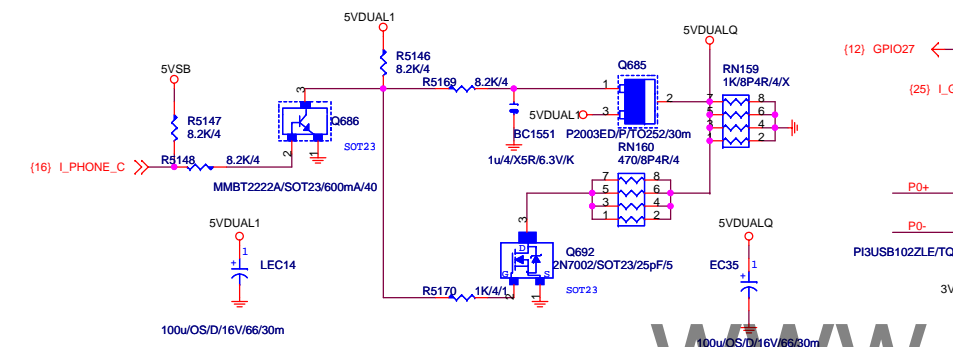
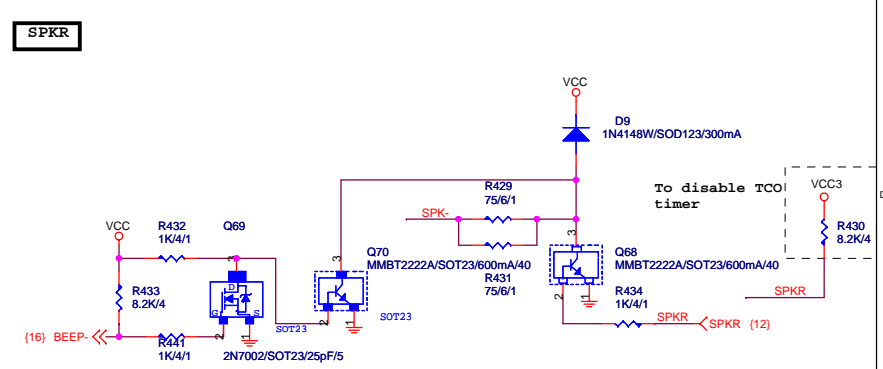
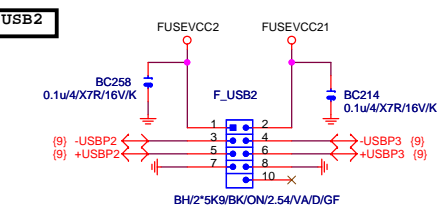
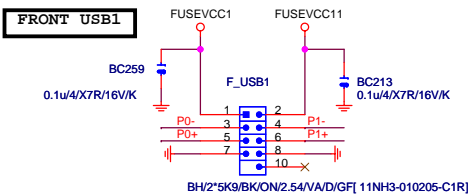
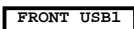


# DDR\_VTT

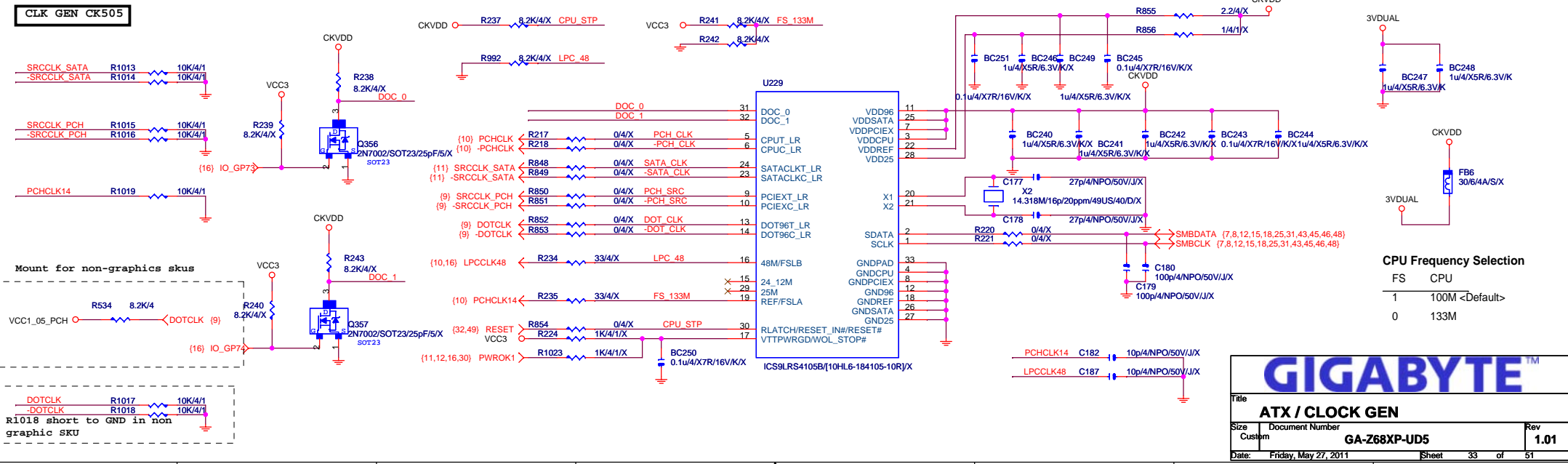
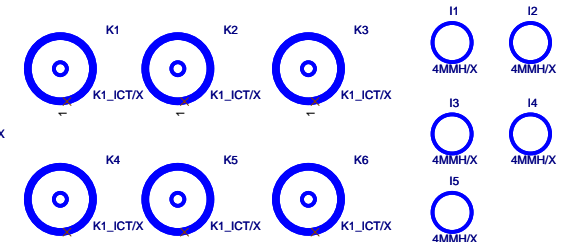
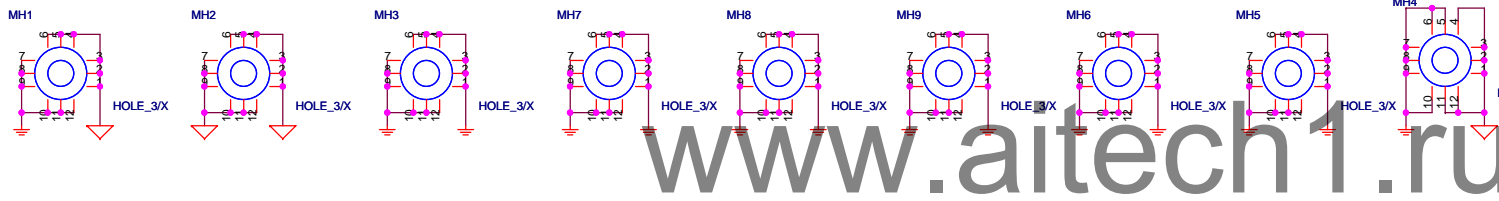
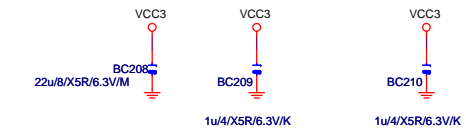
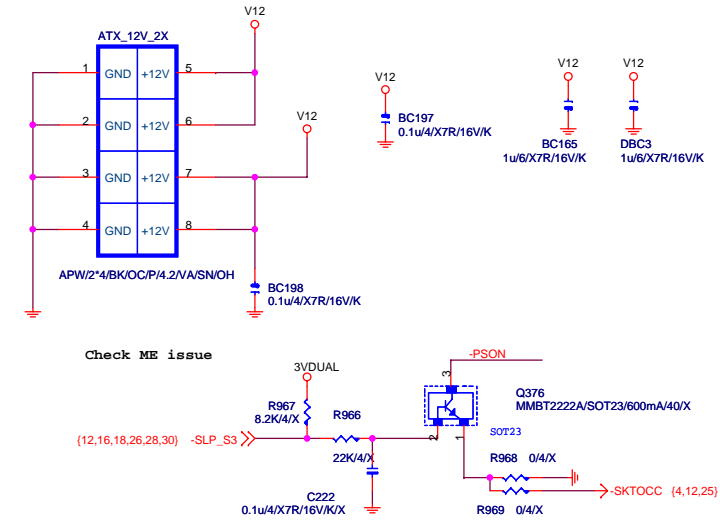
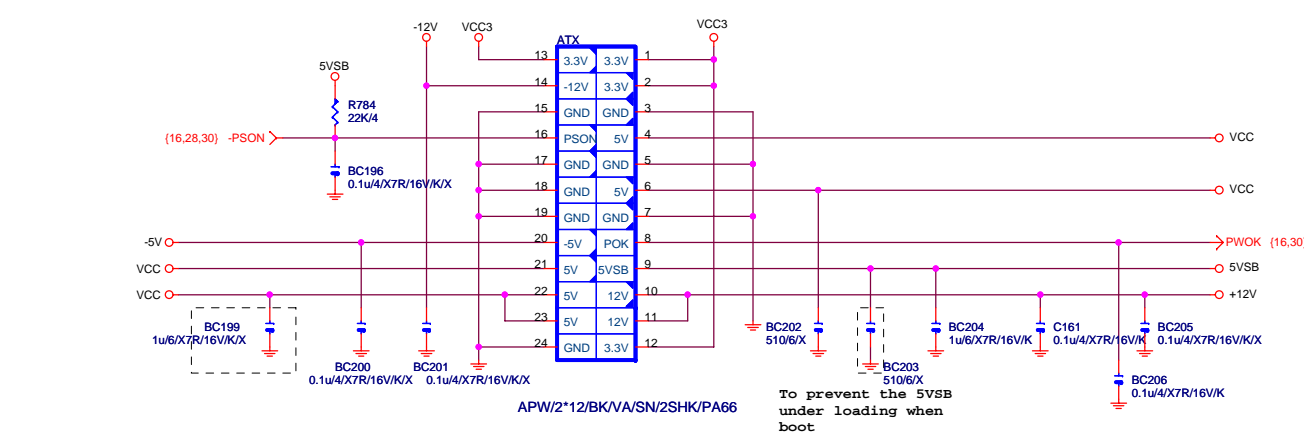


Consume upi 6262 VCC leak

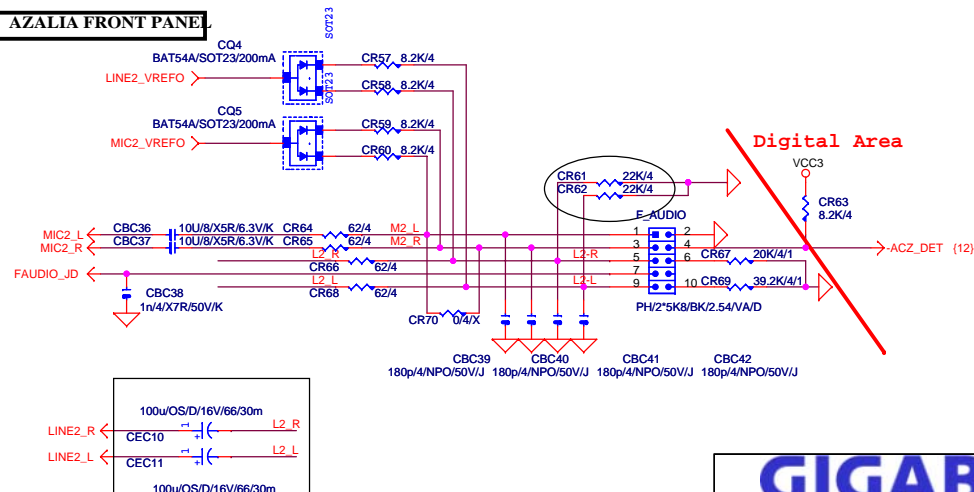
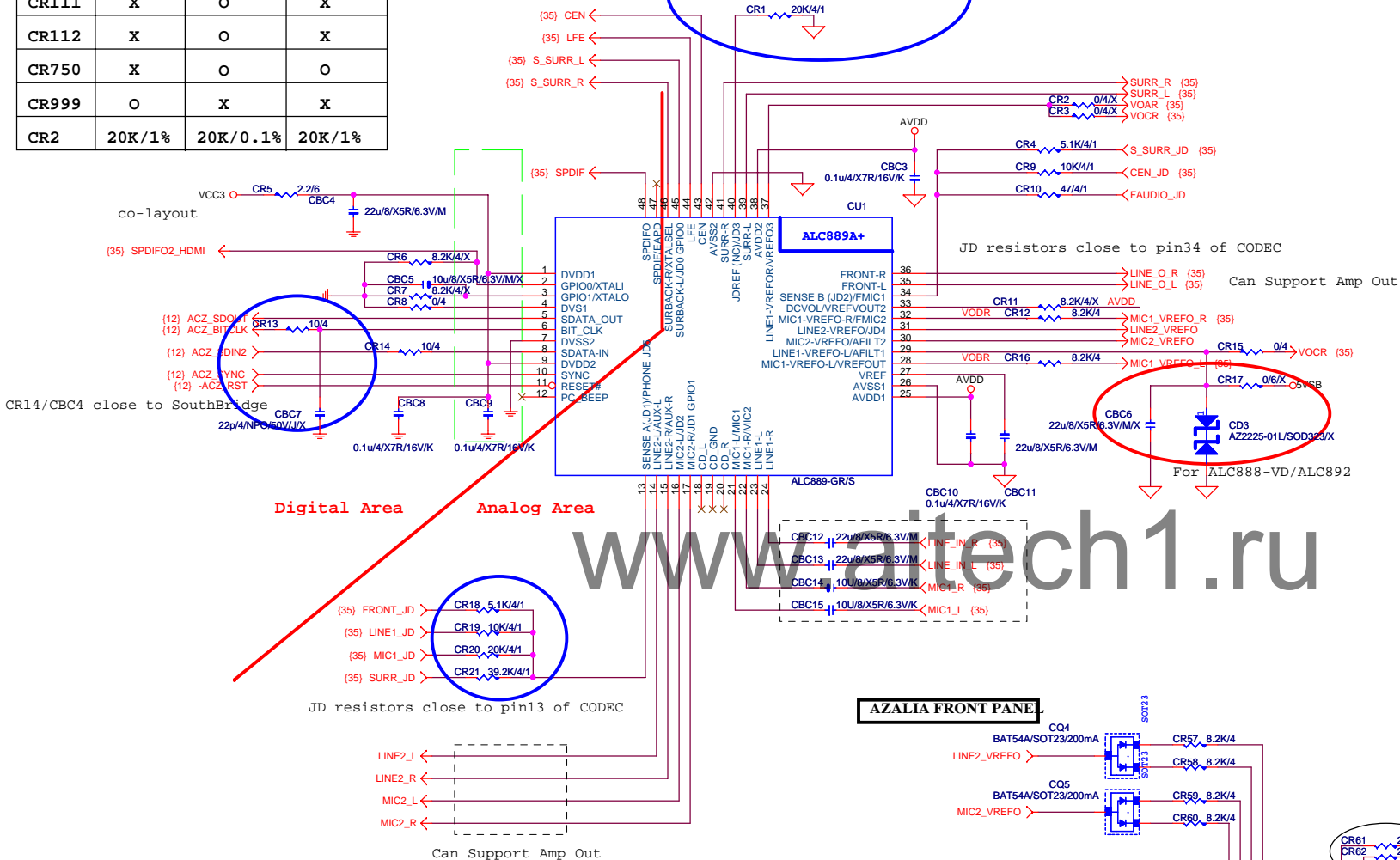




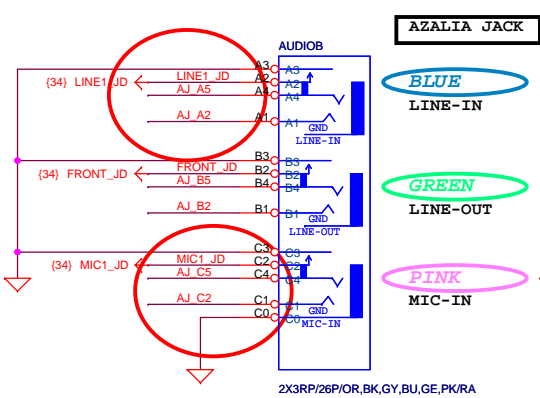
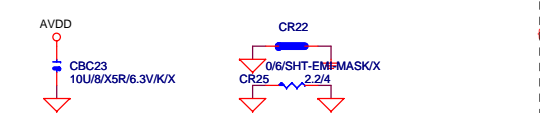
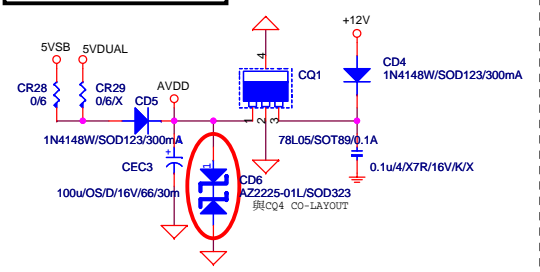
# ATX POWER CONNECTOR



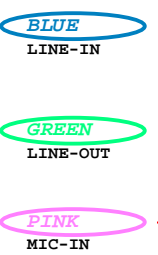
	ALC889A+	ALC889A	ALC888Vx
CR111	X	O	X
CR112	X	O	X
CR750	X	O	O
CR999	O	X	X
CR2	20K/1%	20K/0.1%	20K/1%



# CODEC POWER/EMI PAD

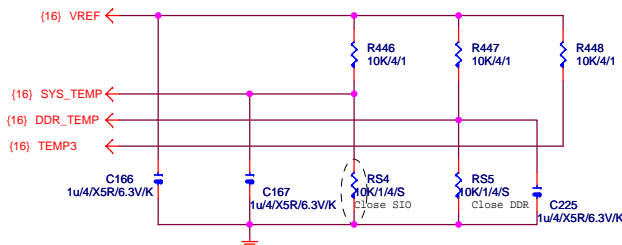


# AZALIA JACK

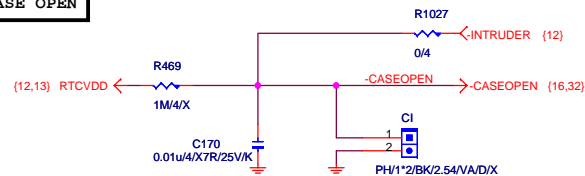




# TEMP H/W MONITOR

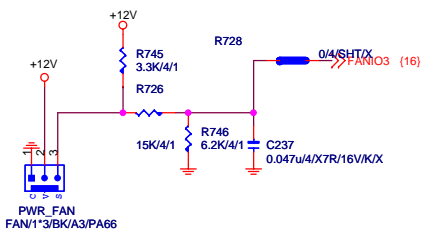
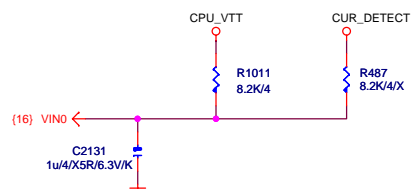
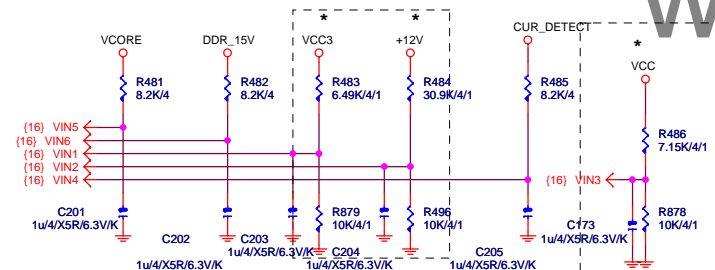


# CASE OPEN

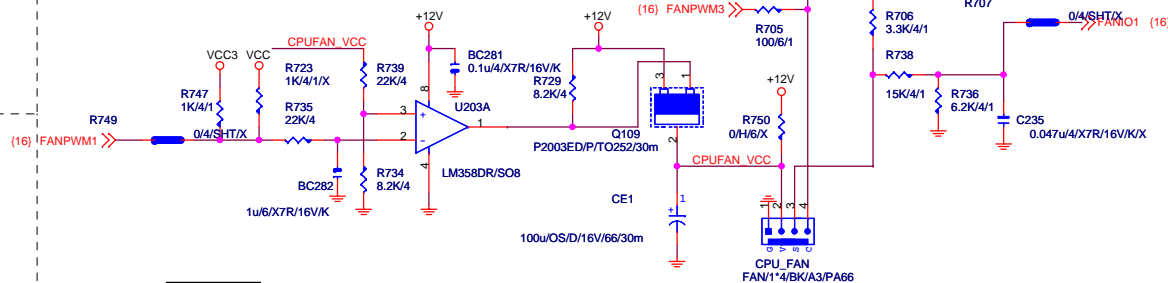
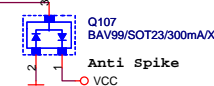
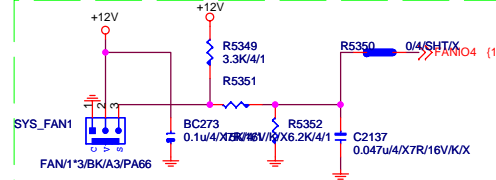
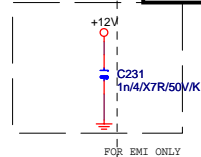


Case Open Circuits

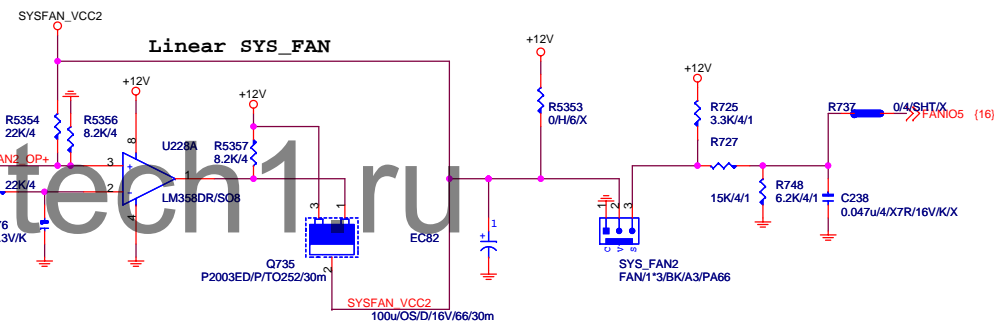
# VOLTAGE-- H/W MONITOR



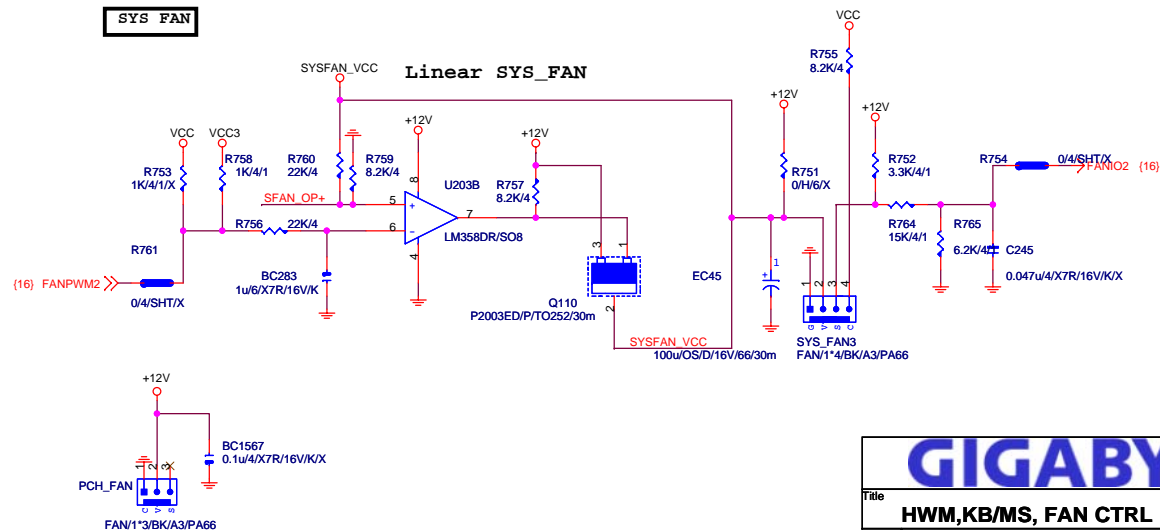
# CPU SMART FAN



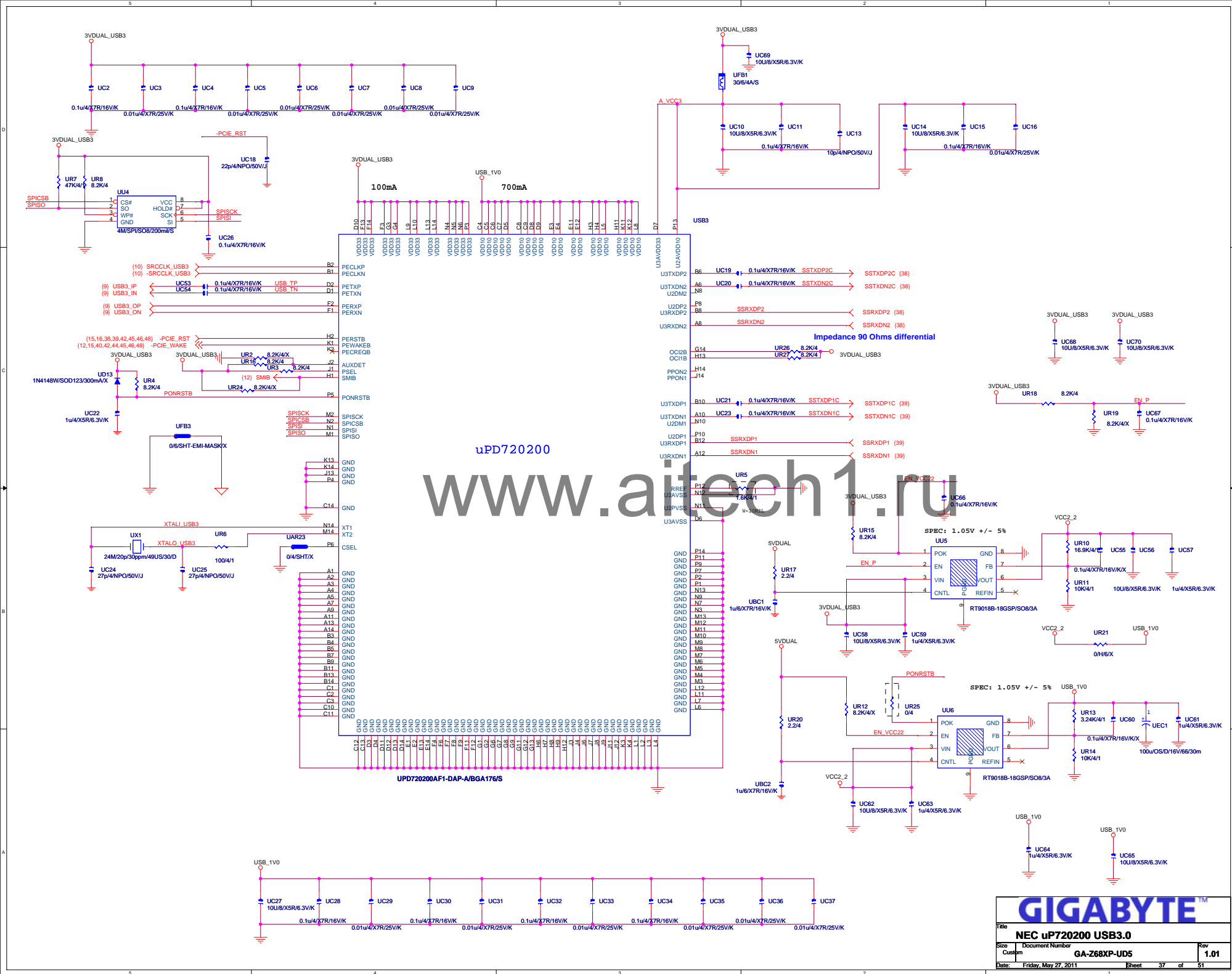
# SYS\_FAN2

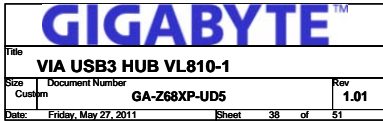


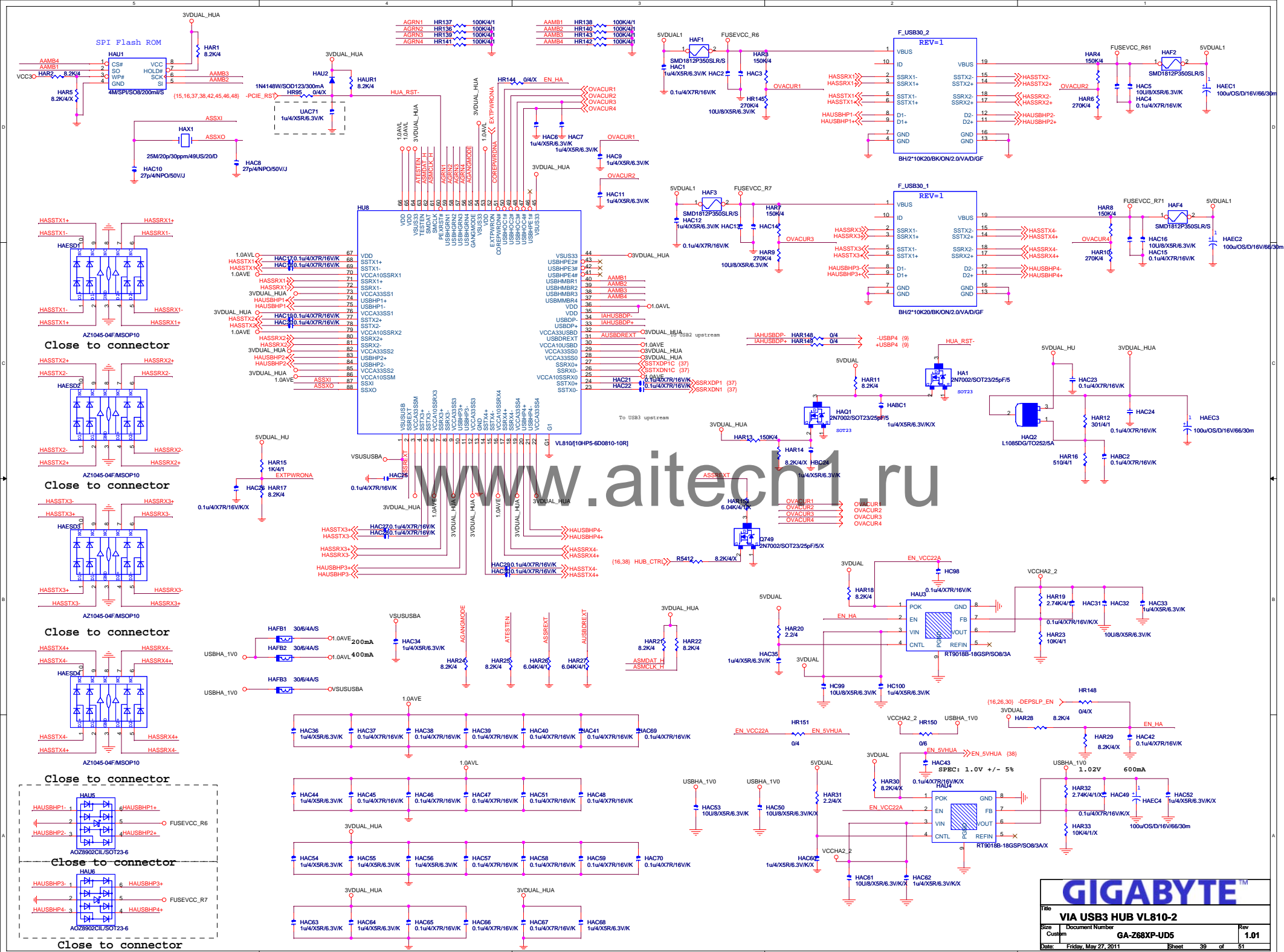
# SYS\_FAN

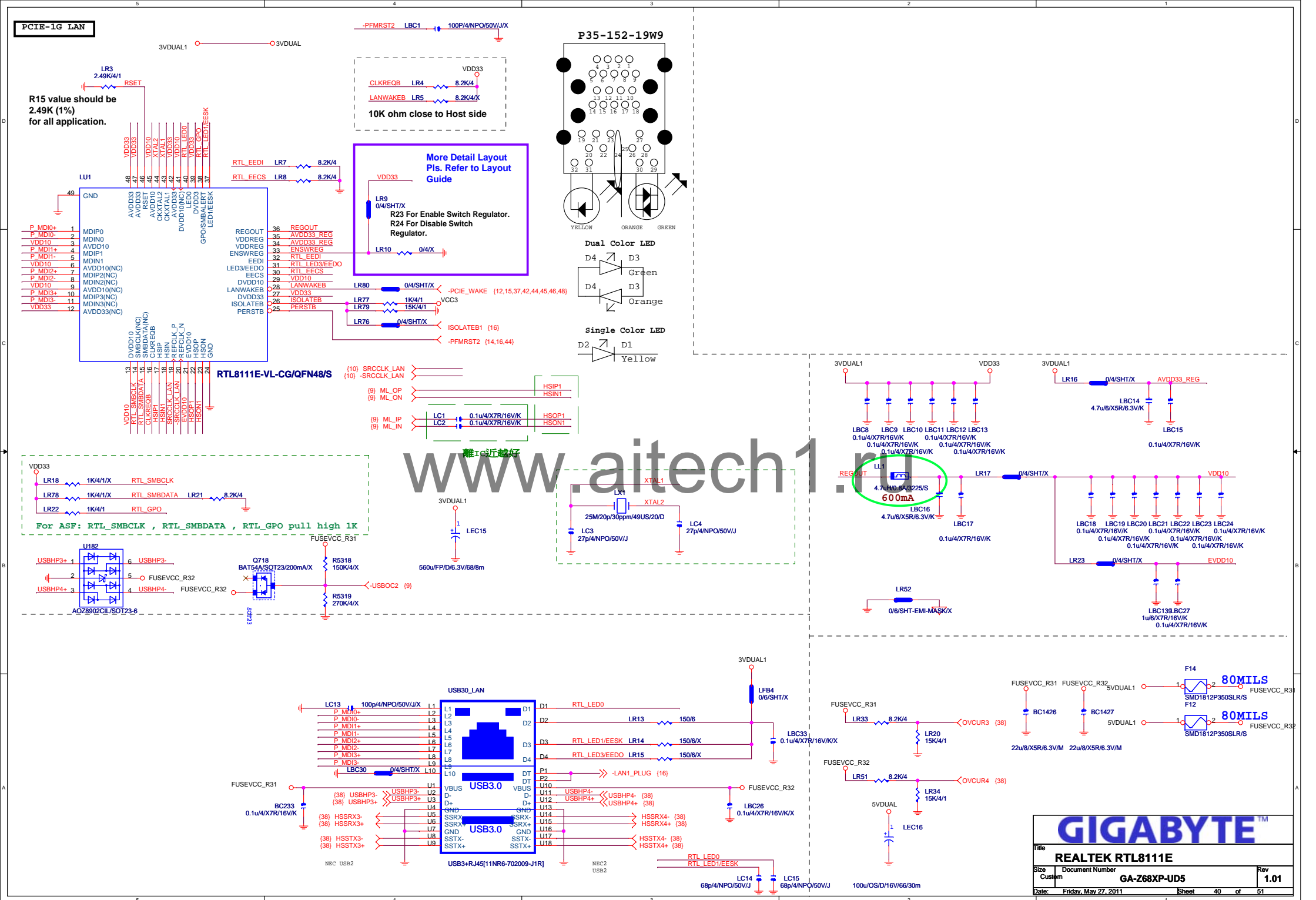


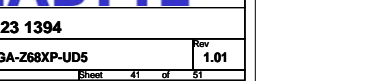
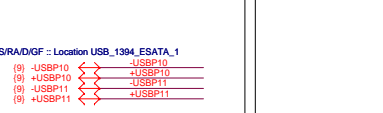
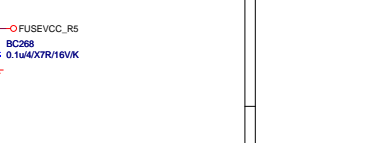
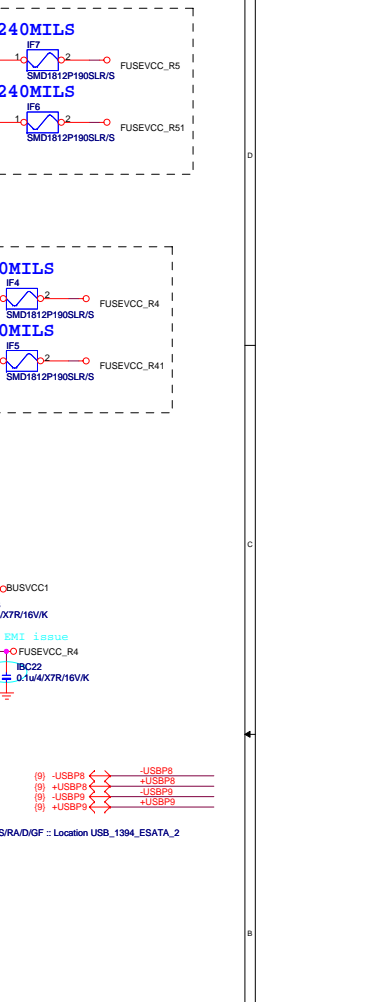
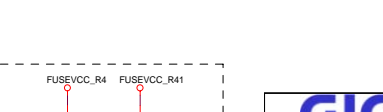
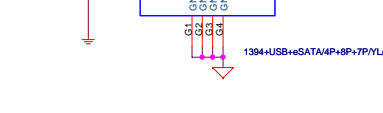
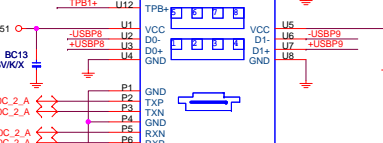
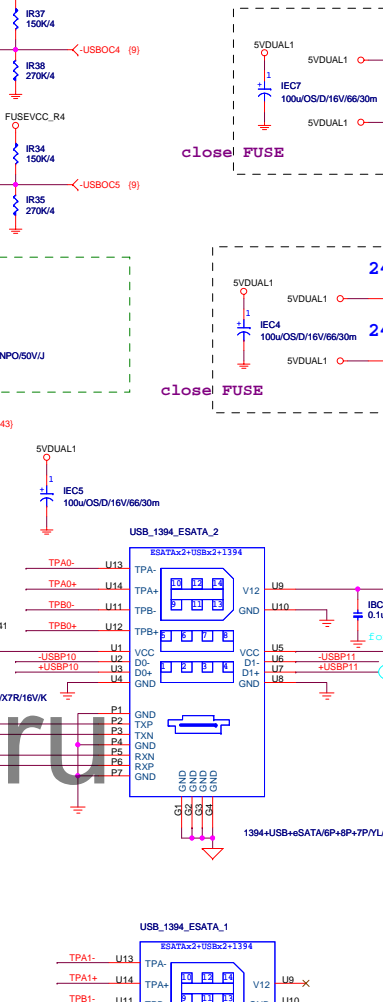
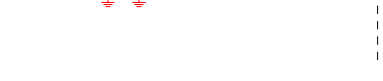
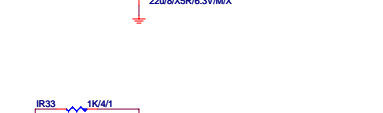
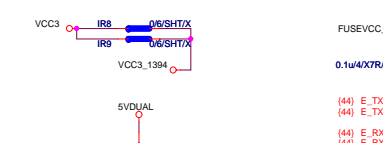
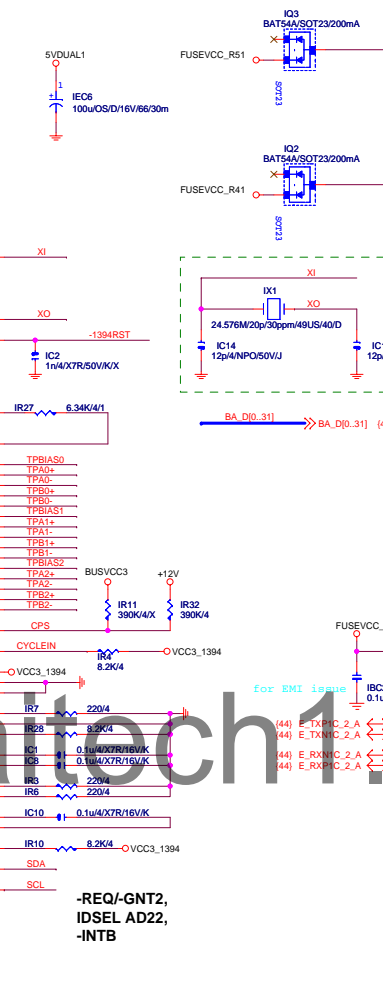
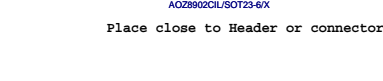
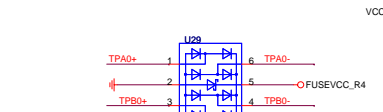
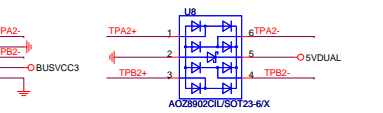
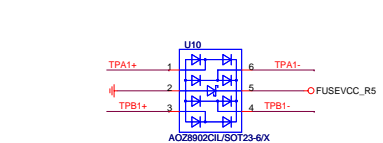
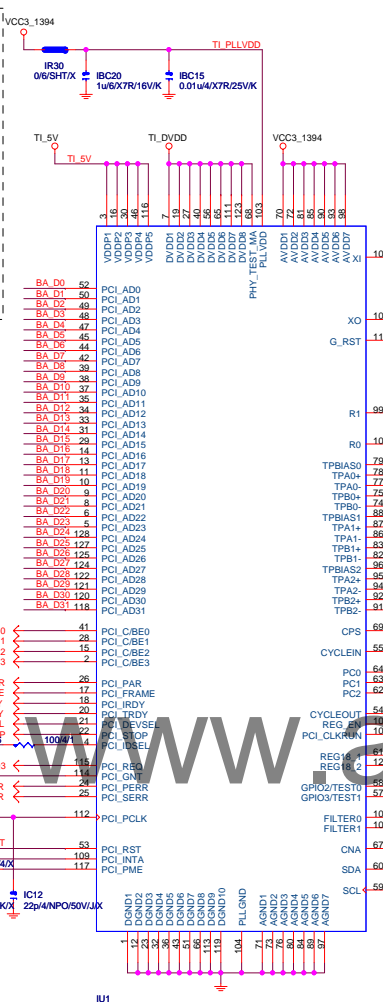
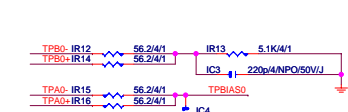
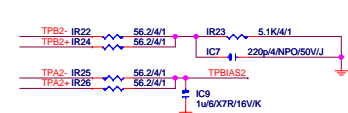
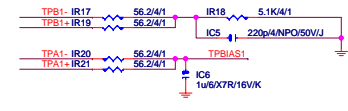
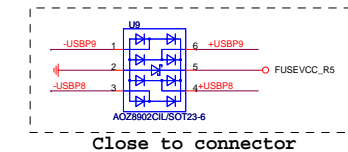
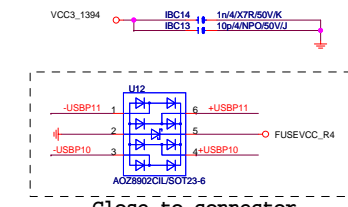
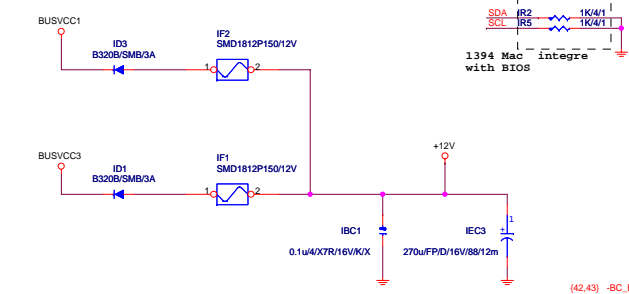
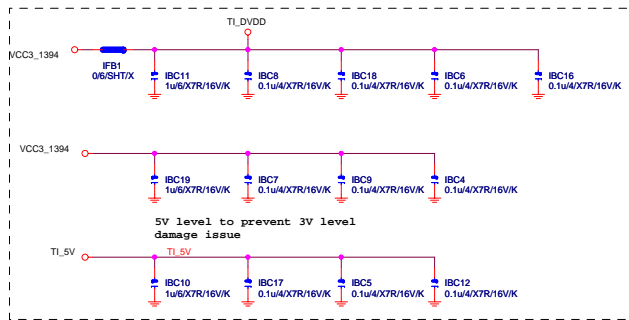


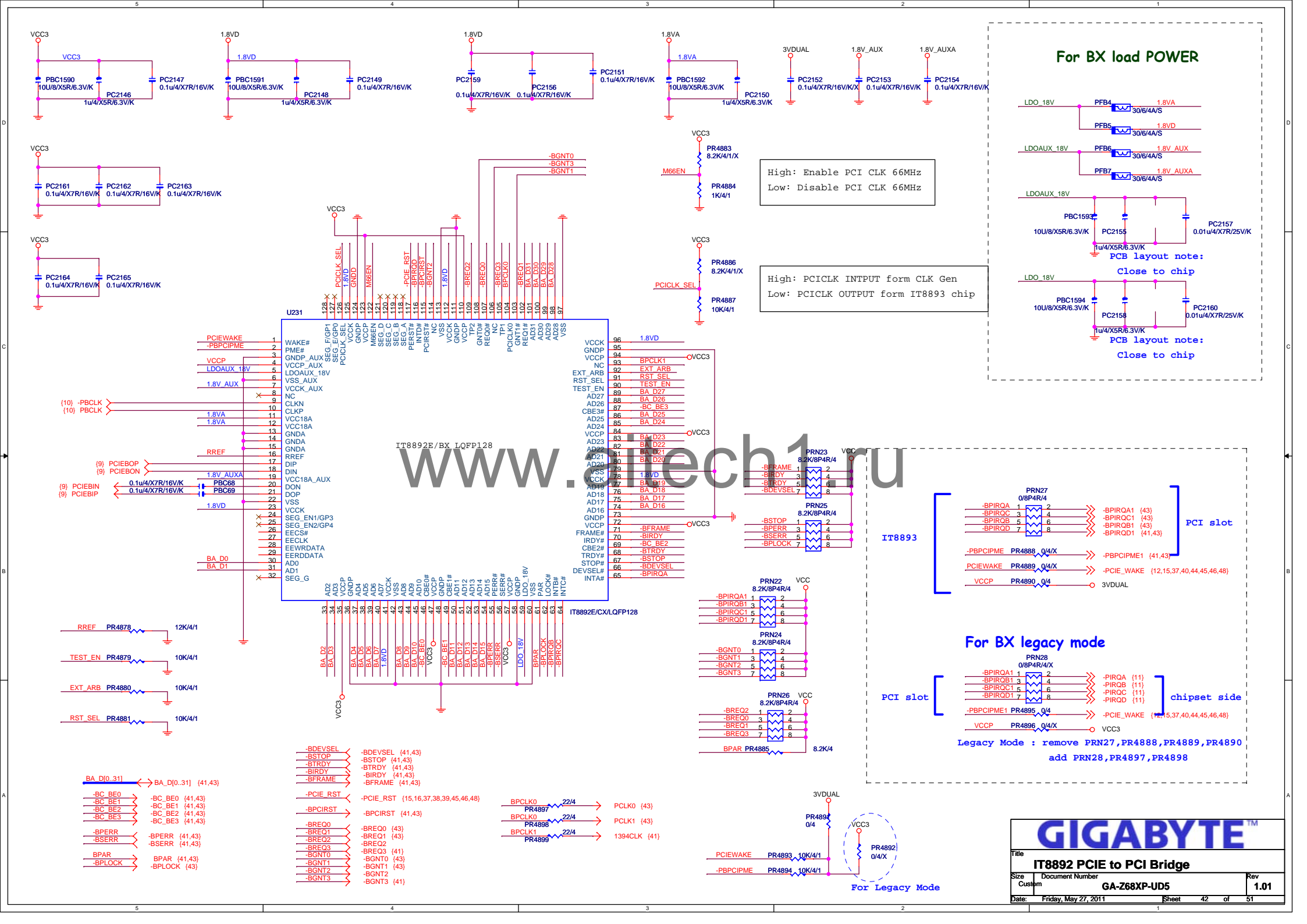




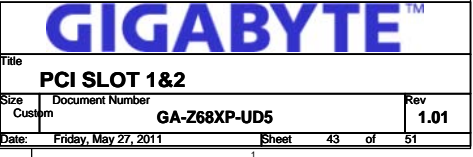




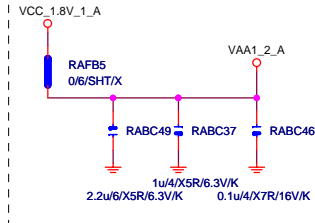
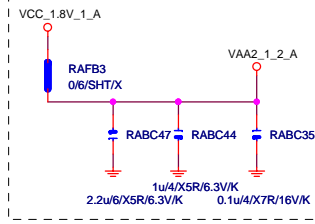
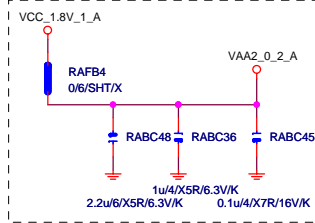
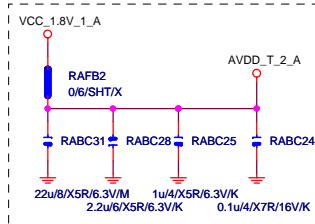
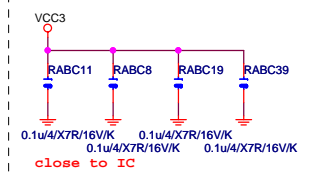
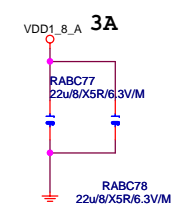
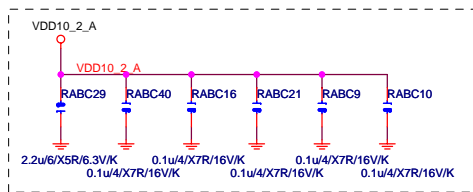












2.2u/6/X5R/6.3V/K

VCC\_1.8V\_1\_A

RABC79

VCC\_1.8V\_1\_A

RABC80

0.1u/4/X7R/16V/K

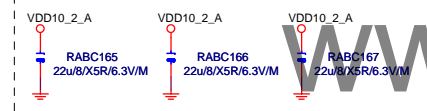
(14,16,40) -PFMRST2

RAC2

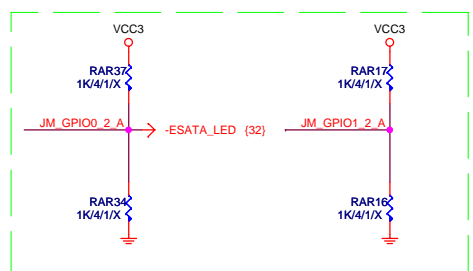
100P/4/NPO/50V/J/X

VCC\_1.8V\_1\_A

VDD1\_8\_A



GPIO	GP0	GP1	GP2	GP3	GP4	GP5
SET	X	X	X	X	X	X



88SE9128B1-NAA2/S

Near to PIN

6.04K/4/1

RAR52

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

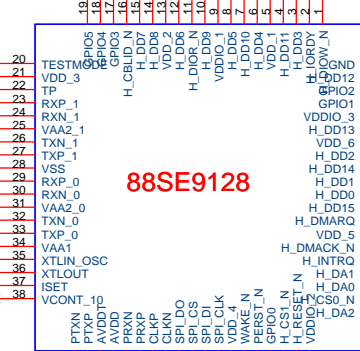
TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A



88SE9128B1-NAA2/S

Near to PIN

6.04K/4/1

RAR52

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

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VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A

TESTMODE 2 A

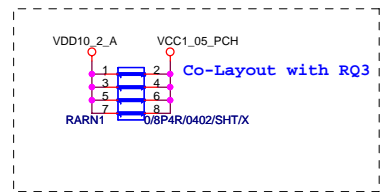
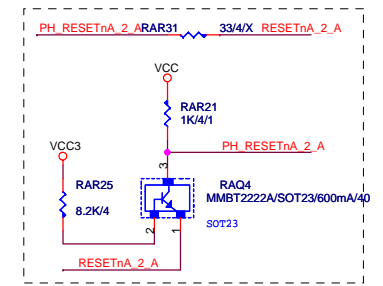
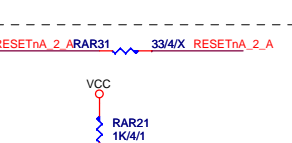
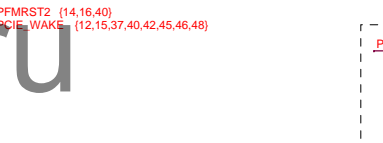
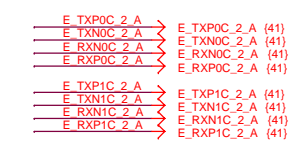
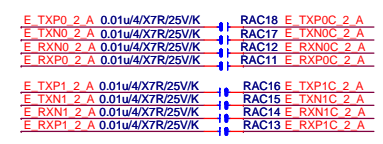
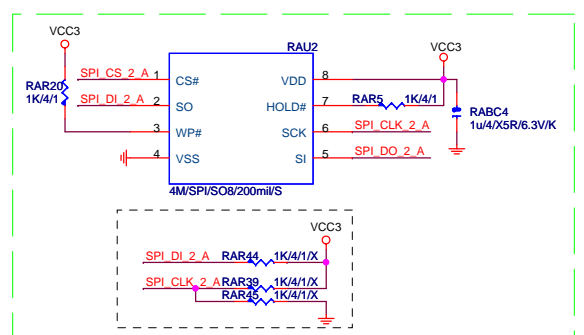
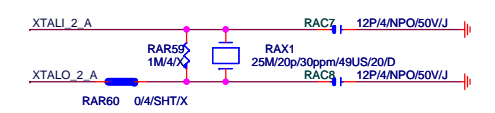
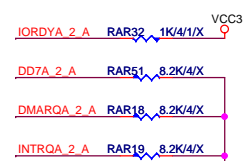
VDD10\_2 A

TESTMODE 2 A

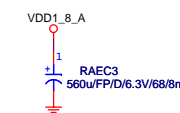
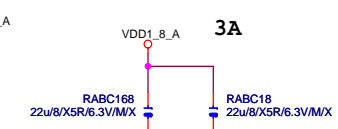
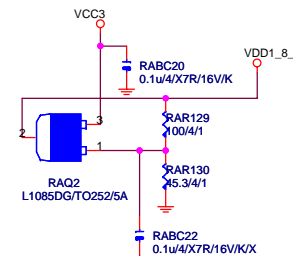
VDD10\_2 A

TESTMODE 2 A

VDD10\_2 A



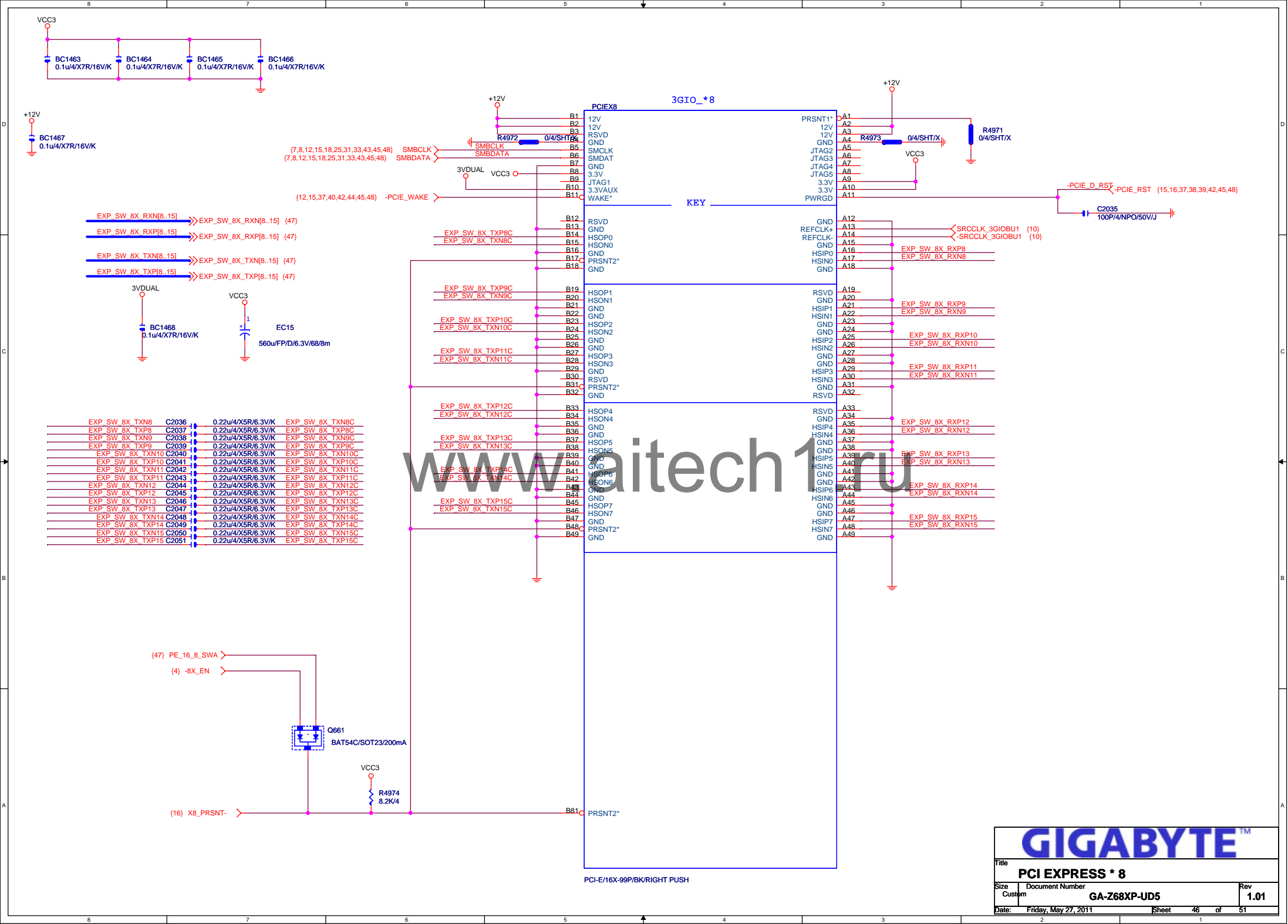
Co-Layout with RQ3

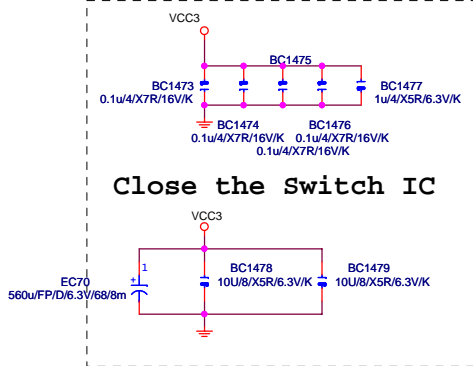
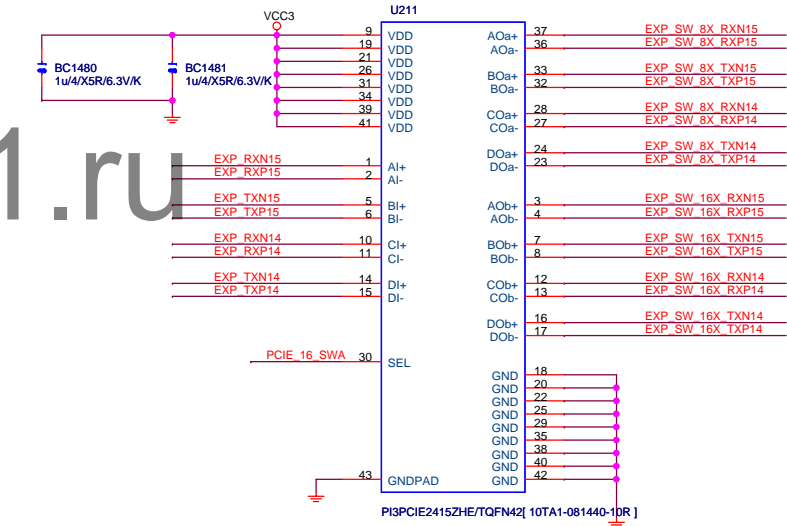
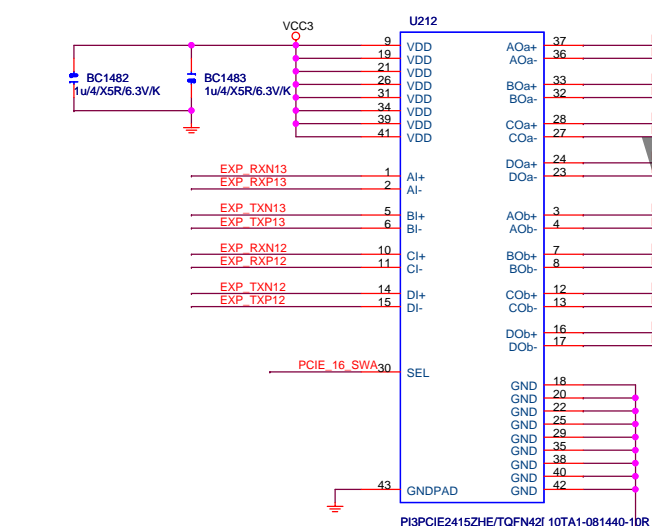
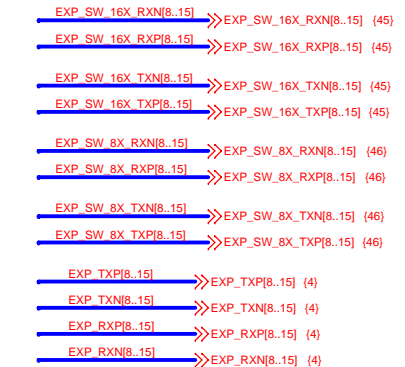
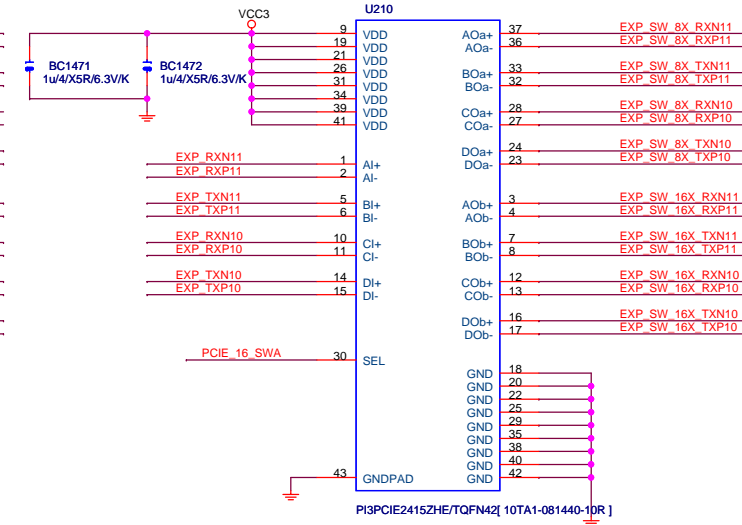
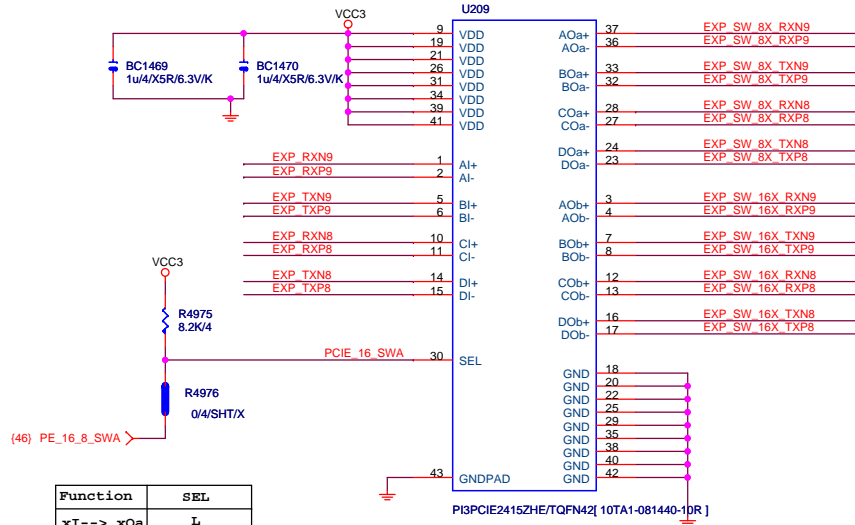


**ESATA MARVELL 9128**

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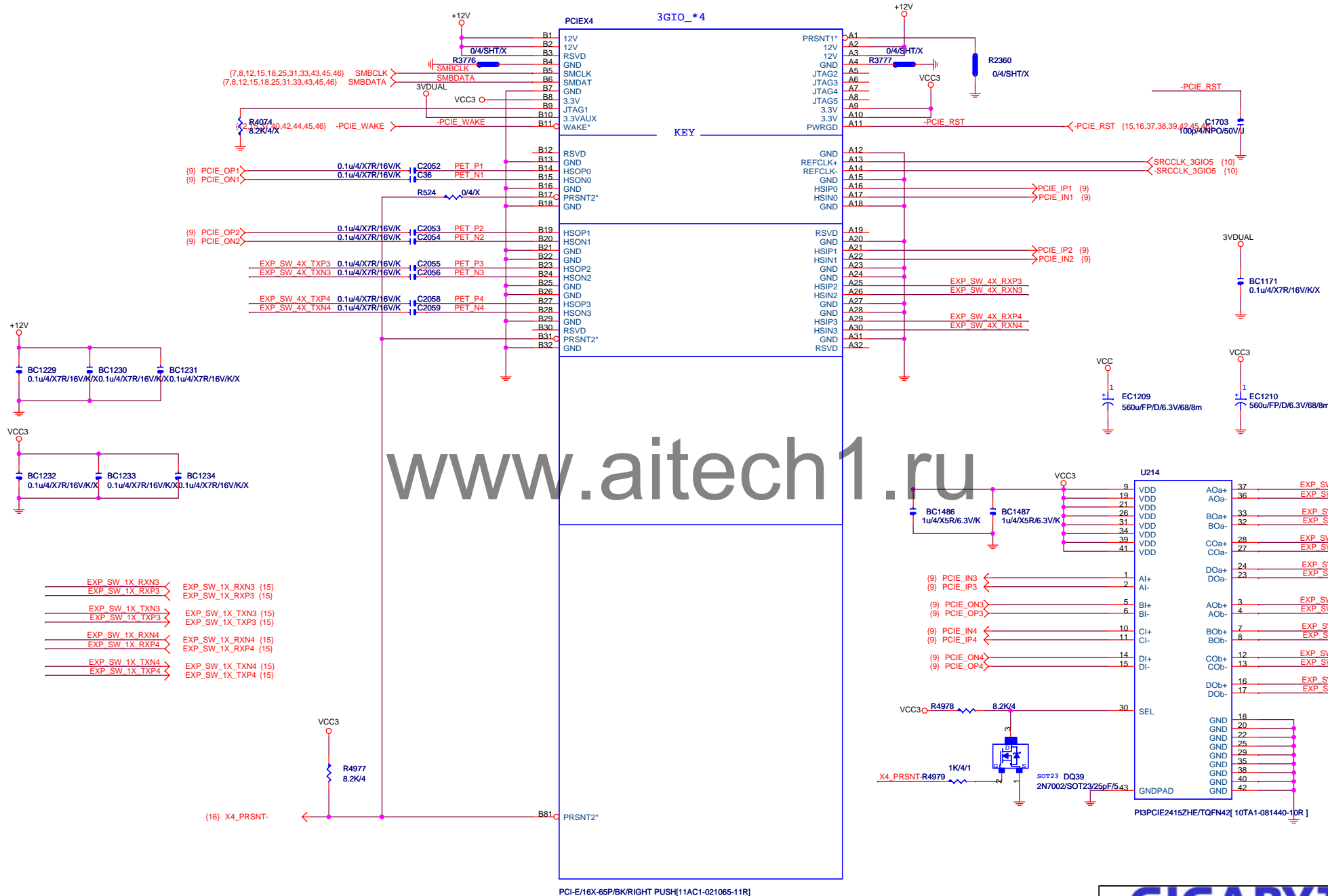
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	X16_SW	-8X_EN
USB3.0 Gen1	Hi	Hi
USB3.0 Gen2	Lo	Lo

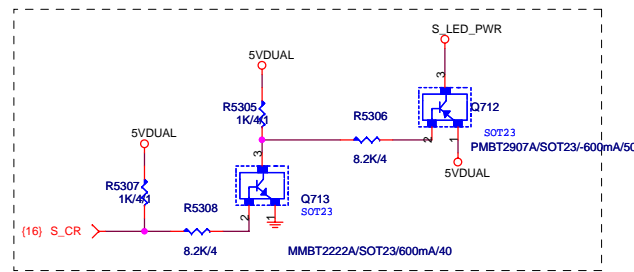
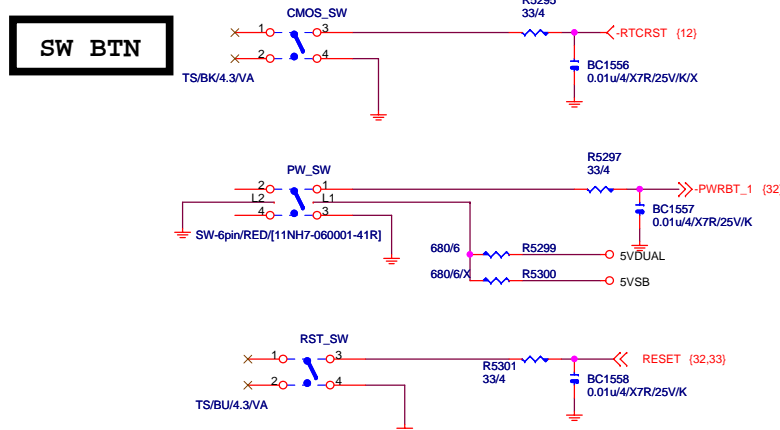
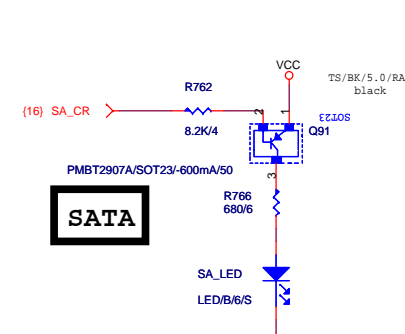
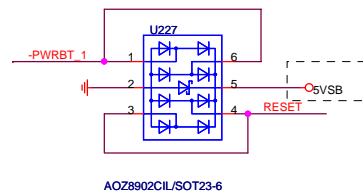
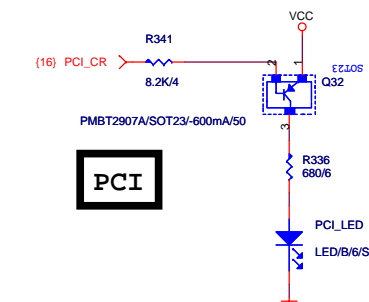
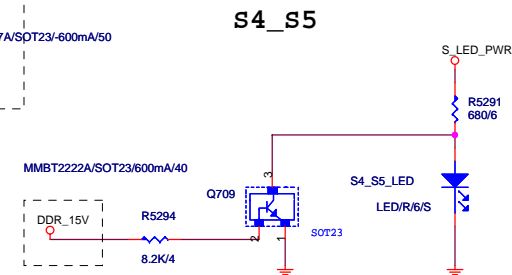
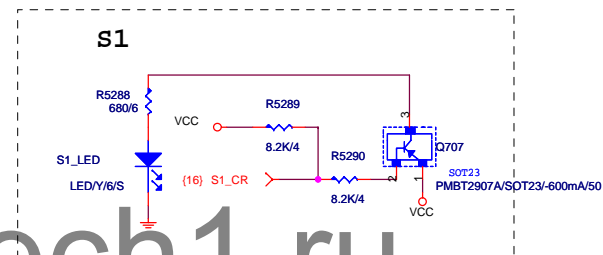
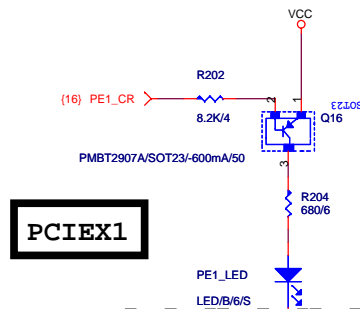
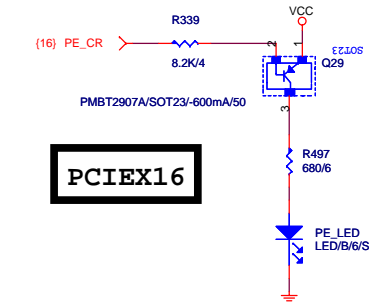
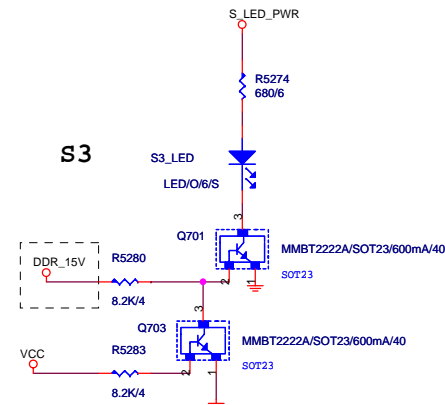
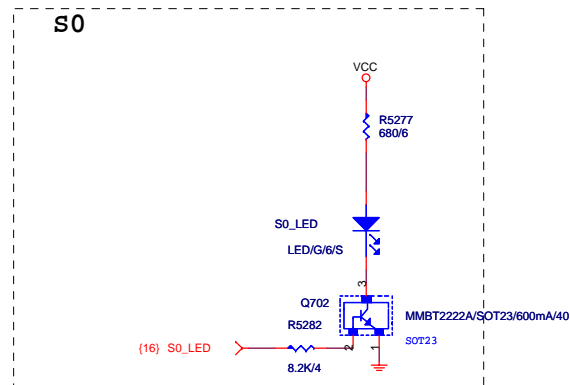
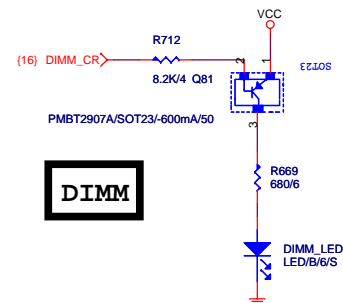
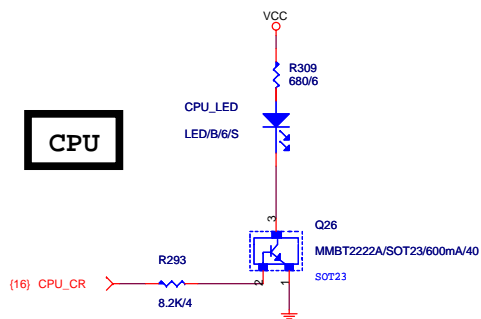
**GIGABYTE™**

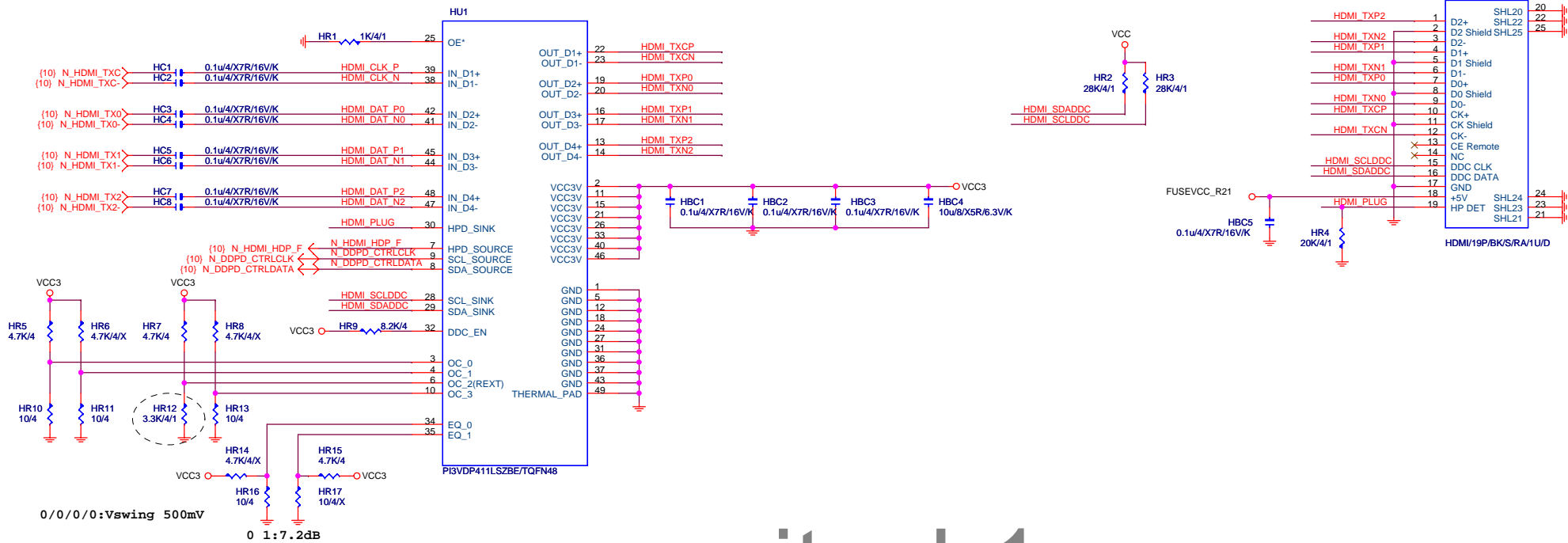
**PCI EXPRESS SWITCH**

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