

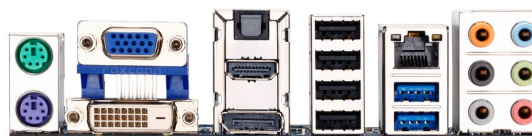
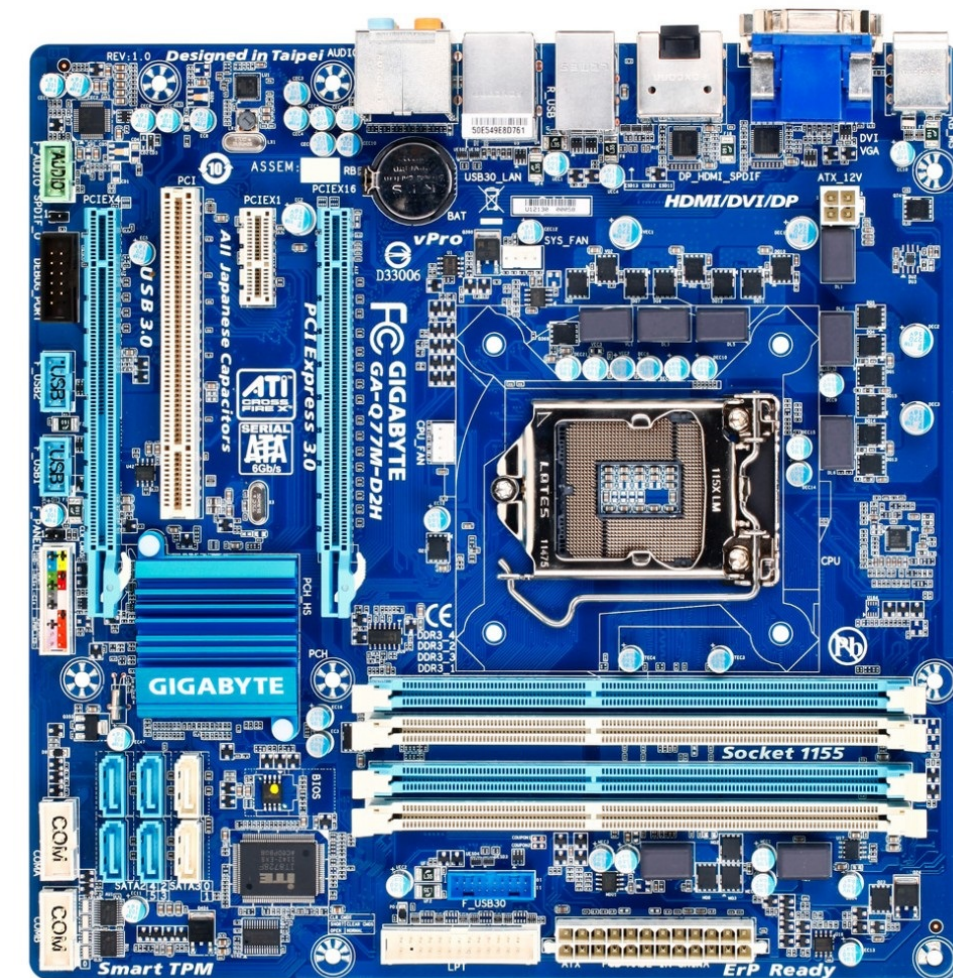
Model Name: GA-Q77M-D2H

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



GIGABYTE			
Cover Sheet			
Title	GA-Q77M-D2H		
Size	Custom	Document Number	Rev 1.01
Date:	Wednesday, April 11, 2012	Sheet	1 of 32

Model Name: GA-Q77M-D2H

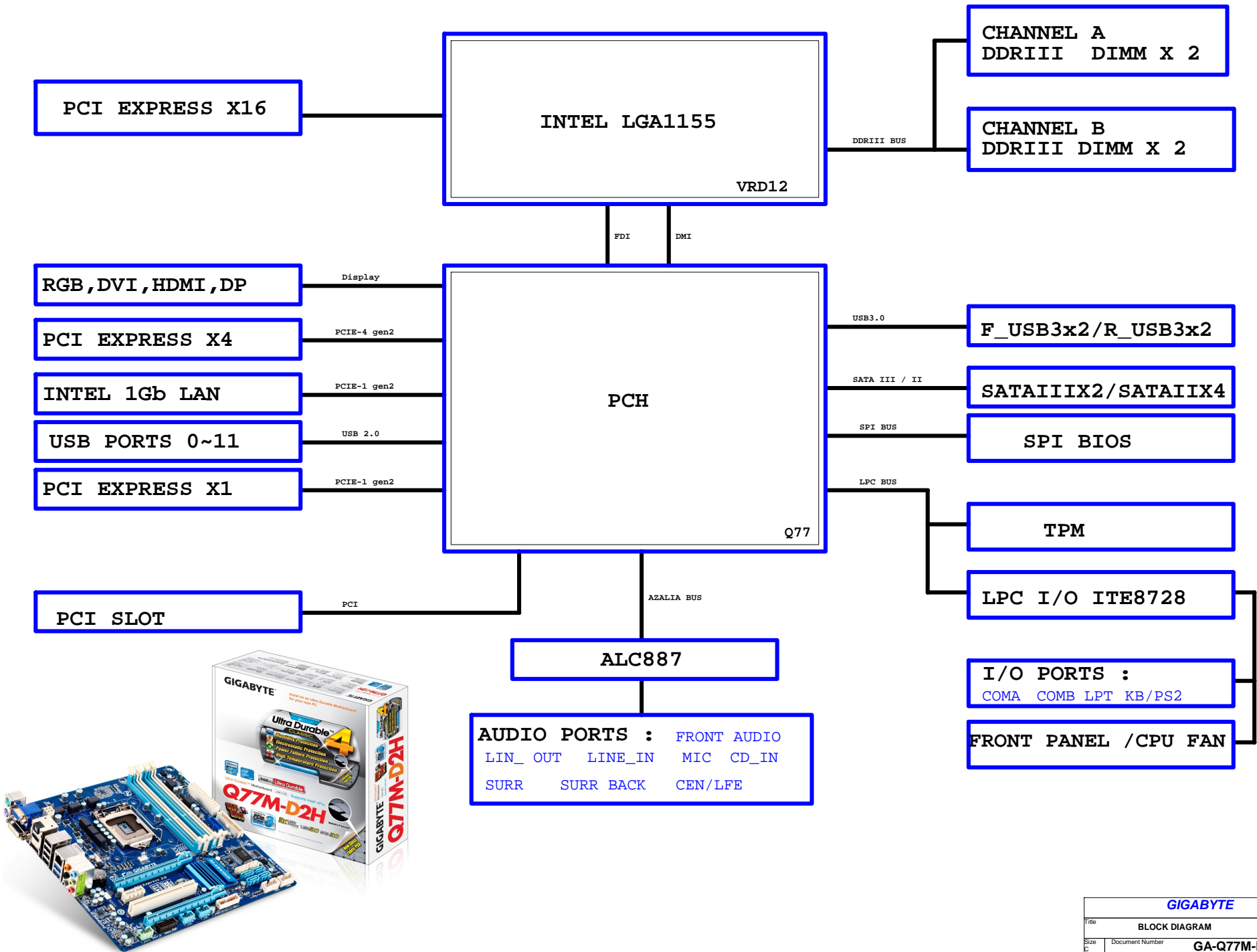
Component value change history

[illegible]

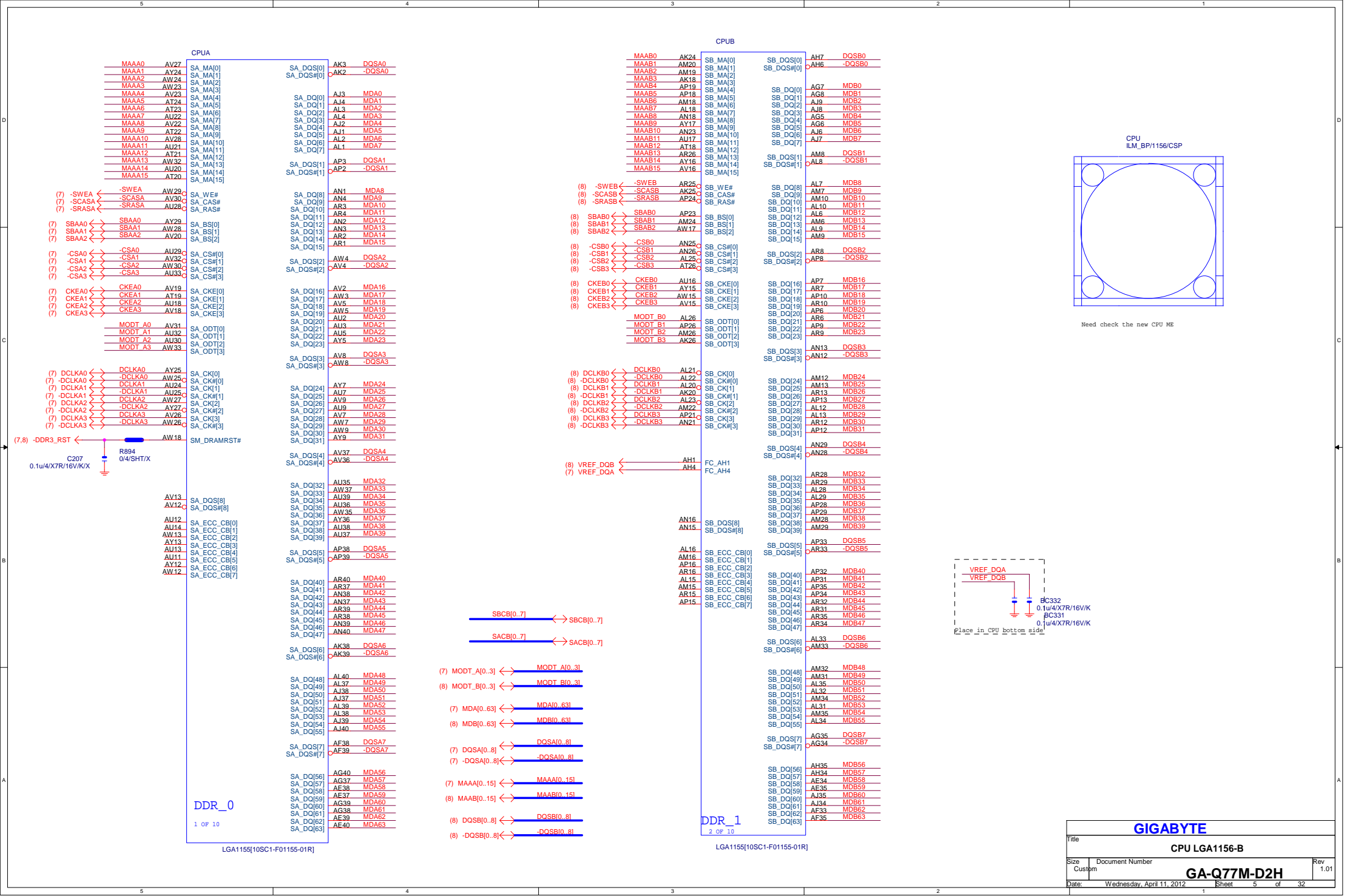
Circuit or PCB layout change

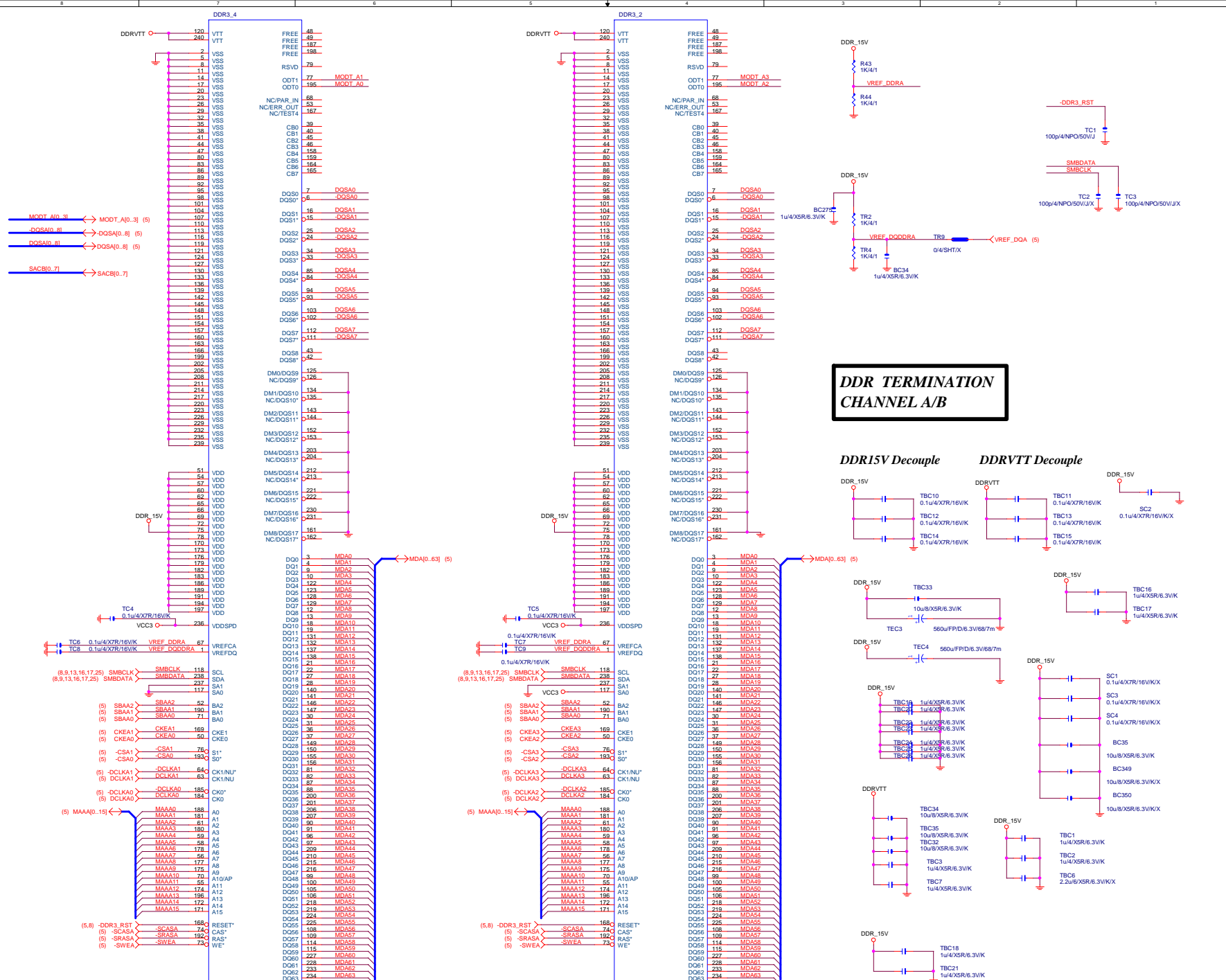
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BLOCK DIAGRAM





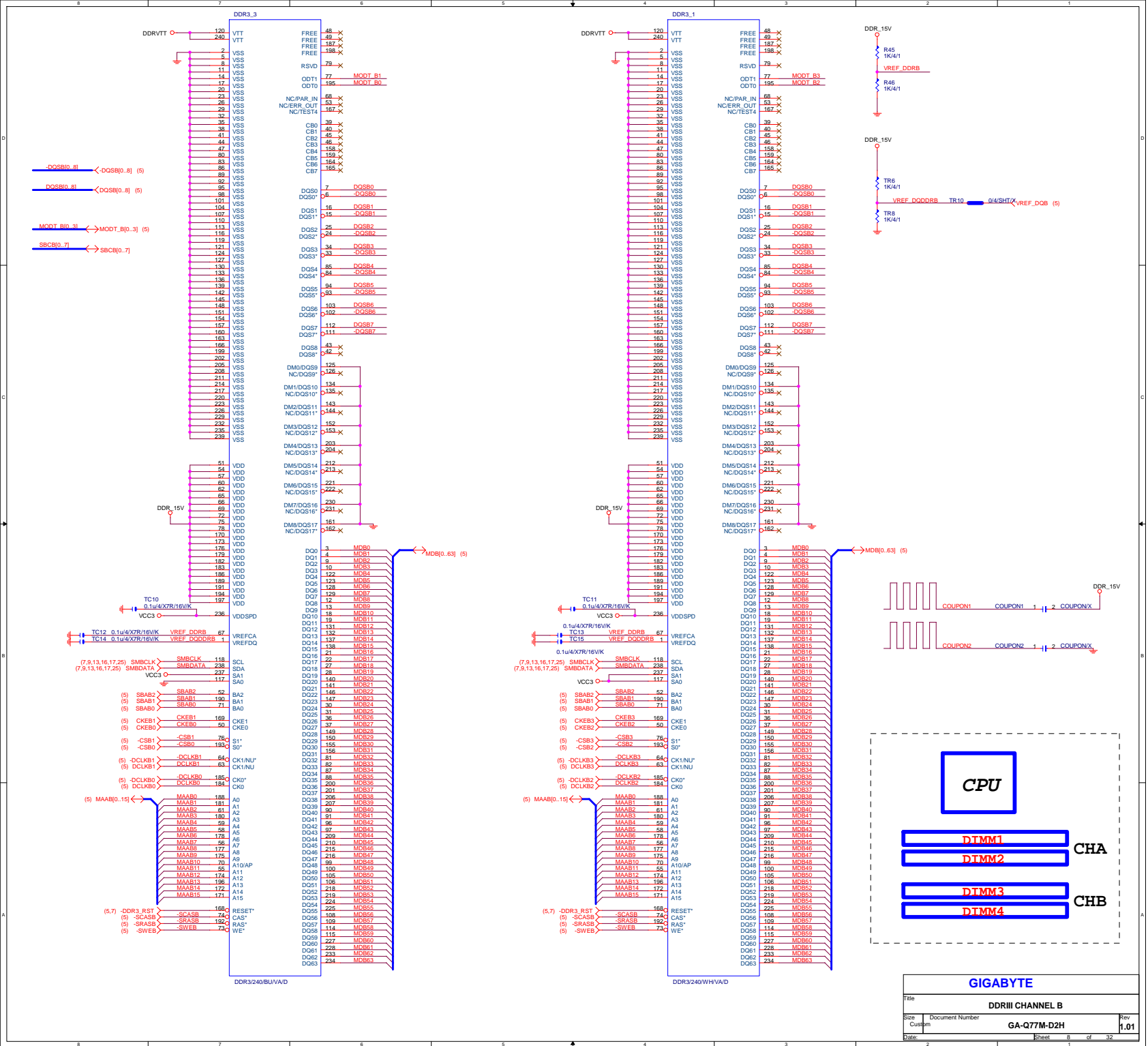


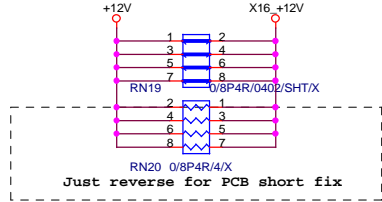
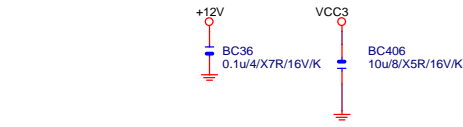


DDR TERMINATION CHANNEL A/B

DDR15V Decouple

DDRVTT Decouple

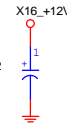
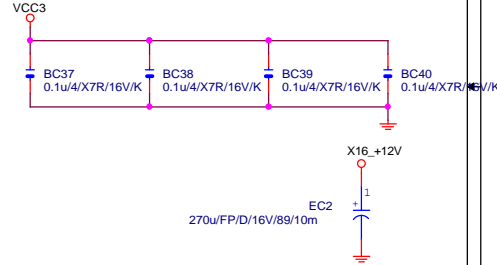
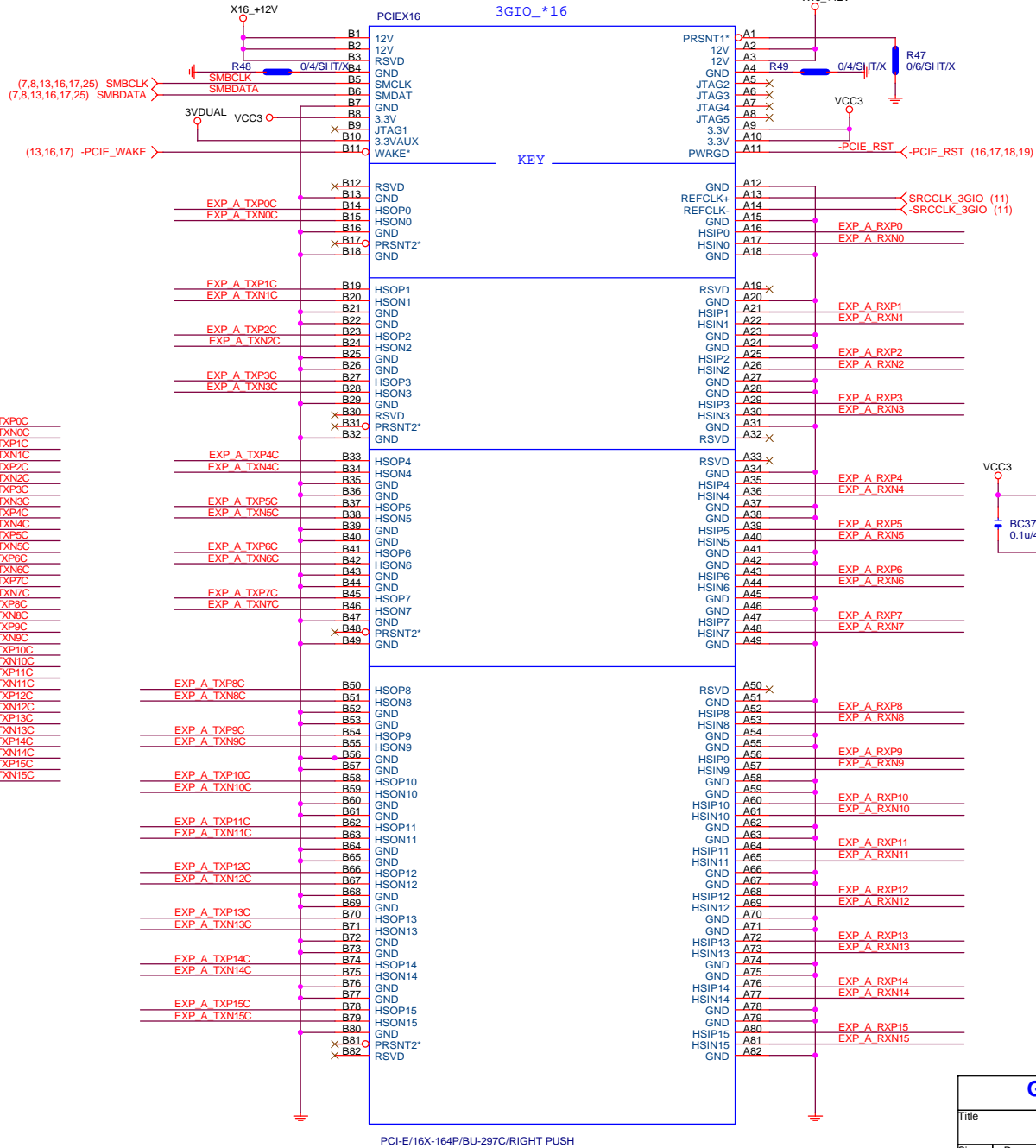


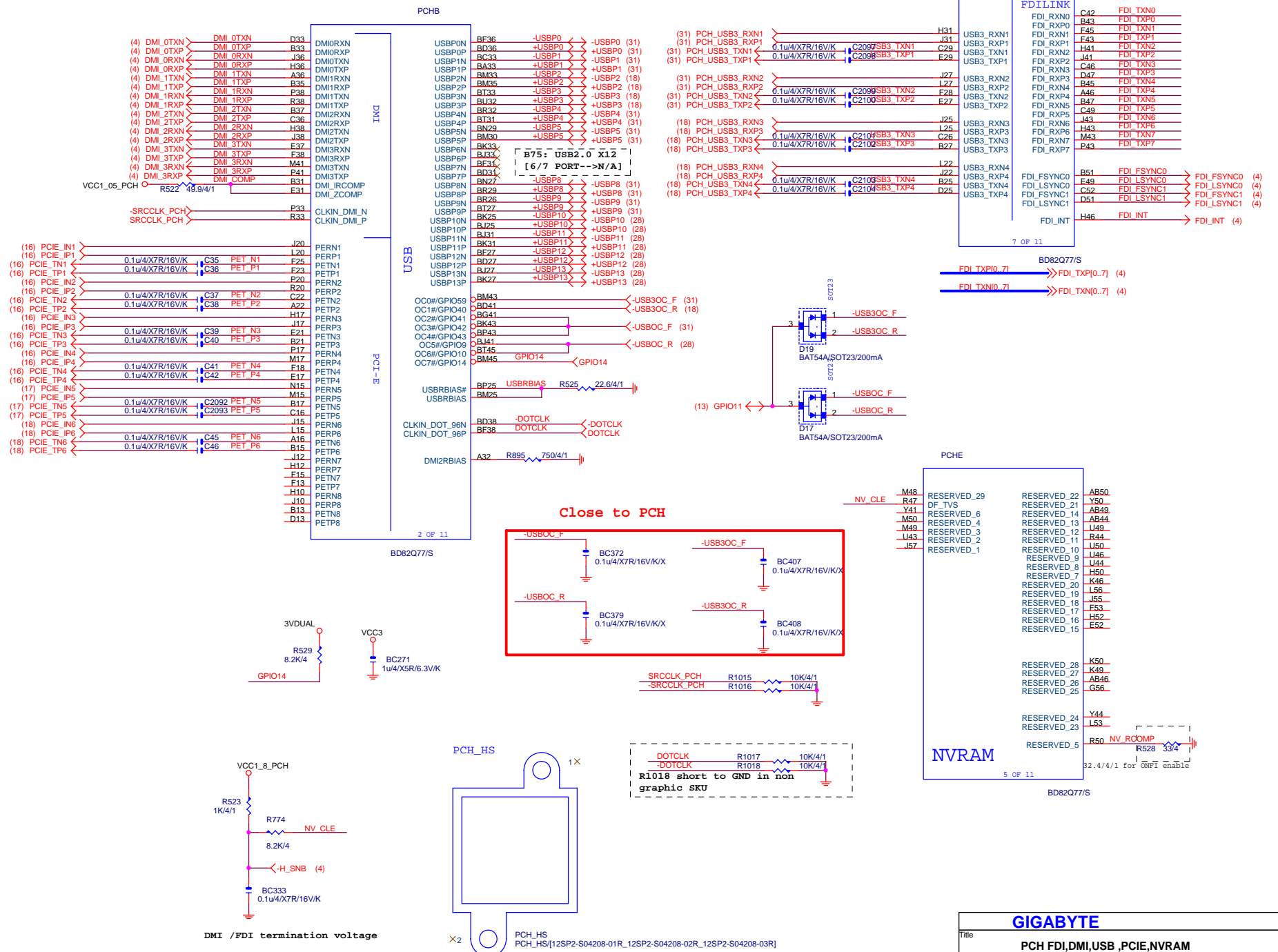


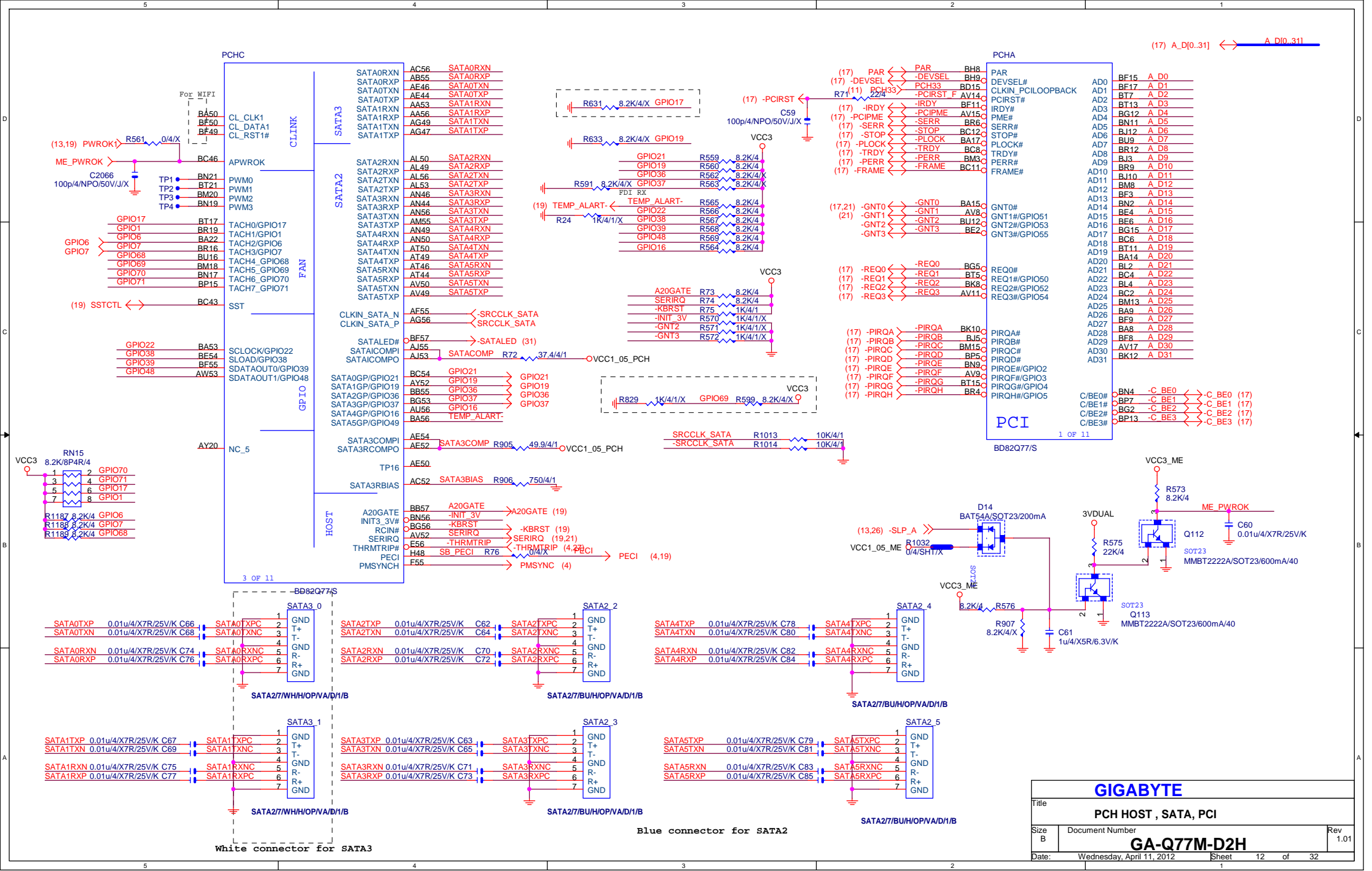
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EXP A RXN0[.15] >>> EXP_A_RXN[0.15] (4)

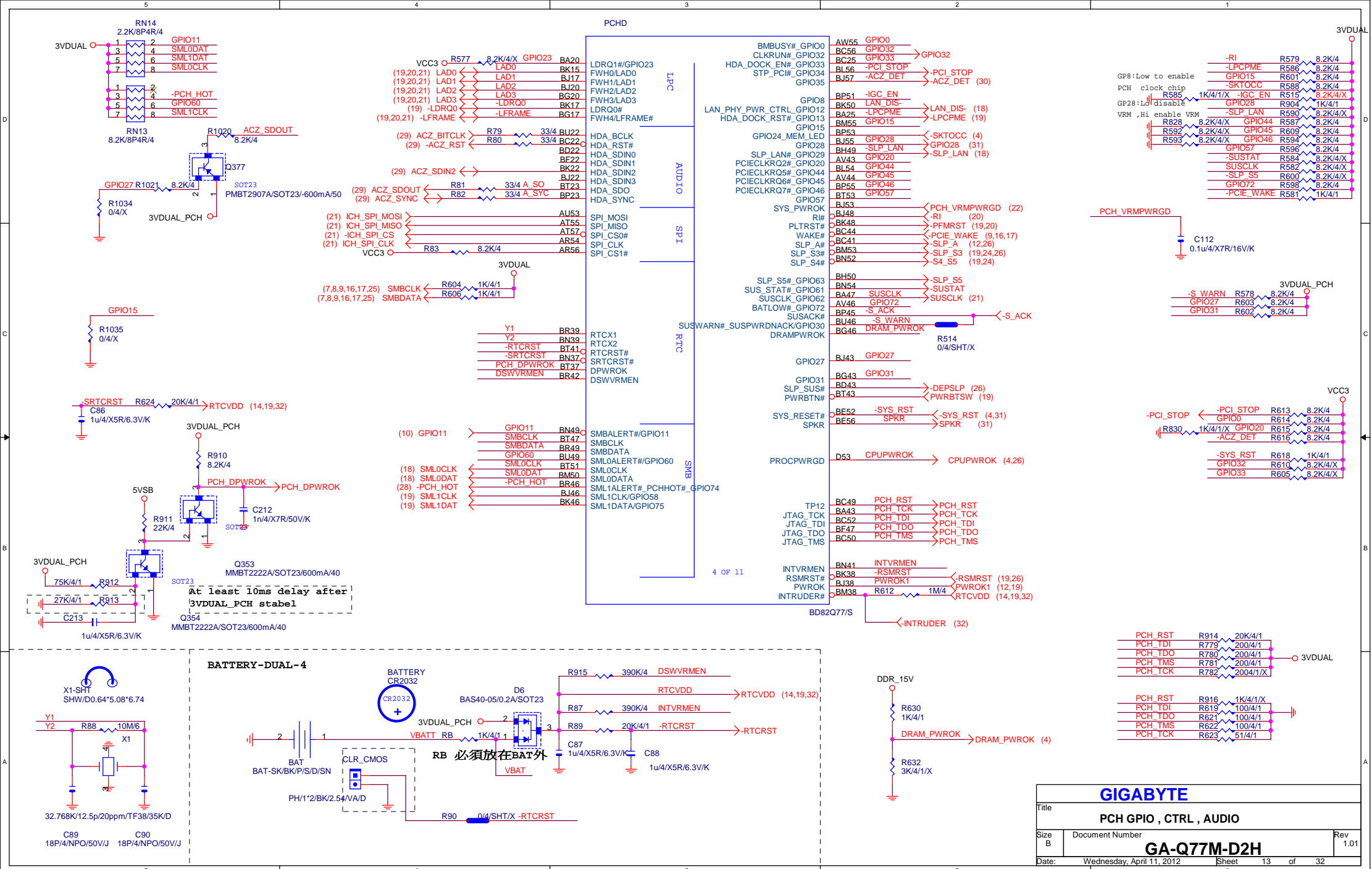
EXP A TXP0[.15] >>> EXP_A_TXP[0.15] (4)
EXP A TXN0[.15] >>> EXP_A_TXN[0.15] (4)

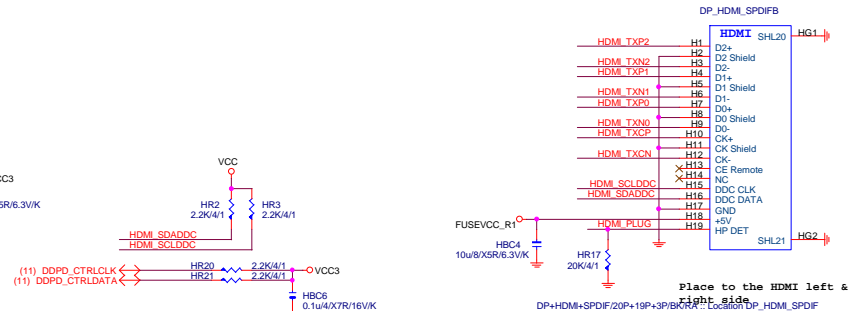
EXP A TXP0	C2	0.22u/4/X5R/6.3V/K	EXP A TXP0C
EXP A TXN0	C3	0.22u/4/X5R/6.3V/K	EXP A TXN0C
EXP A TXP1	C4	0.22u/4/X5R/6.3V/K	EXP A TXP1C
EXP A TXN1	C5	0.22u/4/X5R/6.3V/K	EXP A TXN1C
EXP A TXP2	C6	0.22u/4/X5R/6.3V/K	EXP A TXP2C
EXP A TXN2	C7	0.22u/4/X5R/6.3V/K	EXP A TXN2C
EXP A TXP3	C8	0.22u/4/X5R/6.3V/K	EXP A TXP3C
EXP A TXN3	C9	0.22u/4/X5R/6.3V/K	EXP A TXN3C
EXP A TXP4	C10	0.22u/4/X5R/6.3V/K	EXP A TXP4C
EXP A TXN4	C11	0.22u/4/X5R/6.3V/K	EXP A TXN4C
EXP A TXP5	C12	0.22u/4/X5R/6.3V/K	EXP A TXP5C
EXP A TXN5	C13	0.22u/4/X5R/6.3V/K	EXP A TXN5C
EXP A TXP6	C14	0.22u/4/X5R/6.3V/K	EXP A TXP6C
EXP A TXN6	C15	0.22u/4/X5R/6.3V/K	EXP A TXN6C
EXP A TXP7	C16	0.22u/4/X5R/6.3V/K	EXP A TXP7C
EXP A TXN7	C17	0.22u/4/X5R/6.3V/K	EXP A TXN7C
EXP A TXP8	C18	0.22u/4/X5R/6.3V/K	EXP A TXP8C
EXP A TXN8	C19	0.22u/4/X5R/6.3V/K	EXP A TXN8C
EXP A TXP9	C20	0.22u/4/X5R/6.3V/K	EXP A TXP9C
EXP A TXN9	C21	0.22u/4/X5R/6.3V/K	EXP A TXN9C
EXP A TXP10	C22	0.22u/4/X5R/6.3V/K	EXP A TXP10C
EXP A TXN10	C23	0.22u/4/X5R/6.3V/K	EXP A TXN10C
EXP A TXP11	C24	0.22u/4/X5R/6.3V/K	EXP A TXP11C
EXP A TXN11	C25	0.22u/4/X5R/6.3V/K	EXP A TXN11C
EXP A TXP12	C26	0.22u/4/X5R/6.3V/K	EXP A TXP12C
EXP A TXN12	C27	0.22u/4/X5R/6.3V/K	EXP A TXN12C
EXP A TXP13	C28	0.22u/4/X5R/6.3V/K	EXP A TXP13C
EXP A TXN13	C29	0.22u/4/X5R/6.3V/K	EXP A TXN13C
EXP A TXP14	C30	0.22u/4/X5R/6.3V/K	EXP A TXP14C
EXP A TXN14	C31	0.22u/4/X5R/6.3V/K	EXP A TXN14C
EXP A TXP15	C32	0.22u/4/X5R/6.3V/K	EXP A TXP15C
EXP A TXN15	C33	0.22u/4/X5R/6.3V/K	EXP A TXN15C



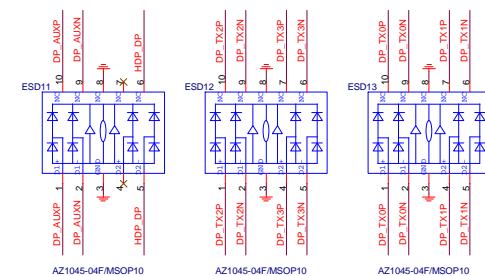
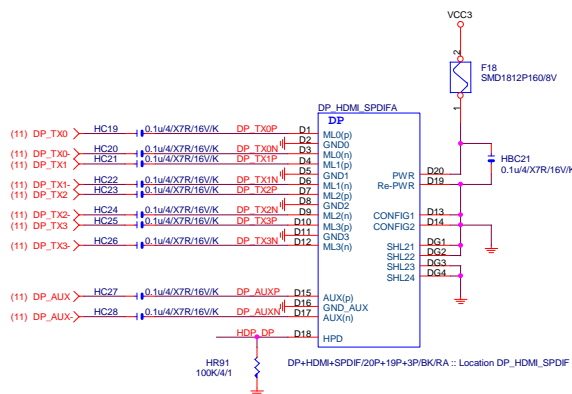
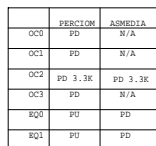


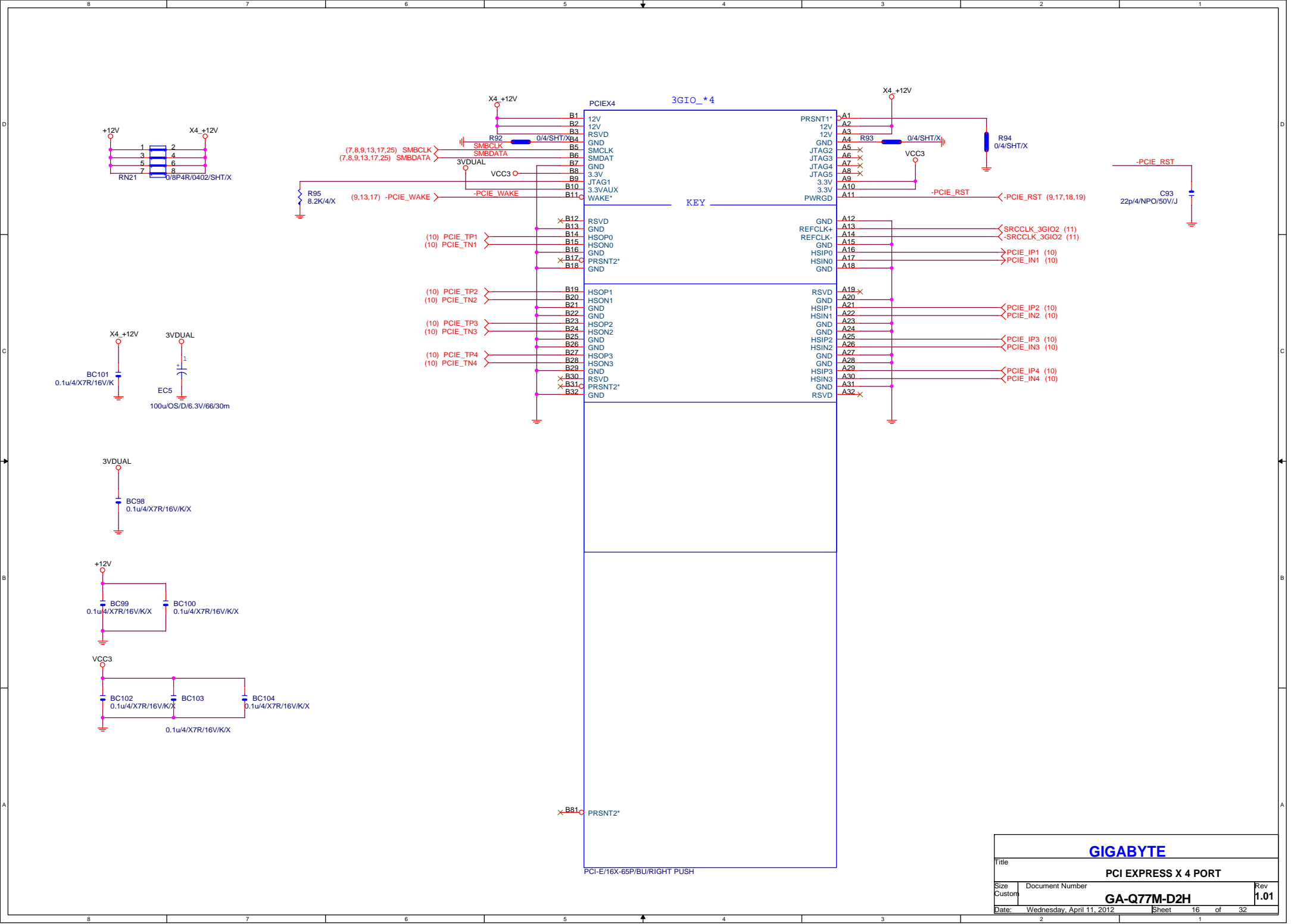




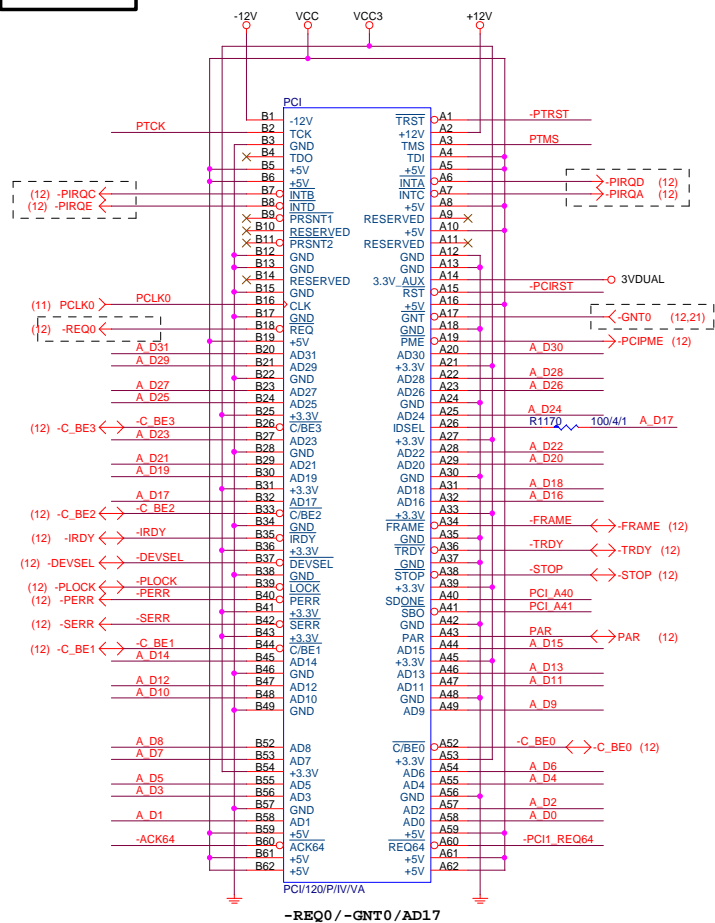


	PERCIOM	ASMEDIA
OC0	PD	N/A
OC1	PD	N/A
OC2	PU 4.7K	PD 3.3K
OC3	PD	N/A
EQ0	PD	PD
EQ1	PU	PD

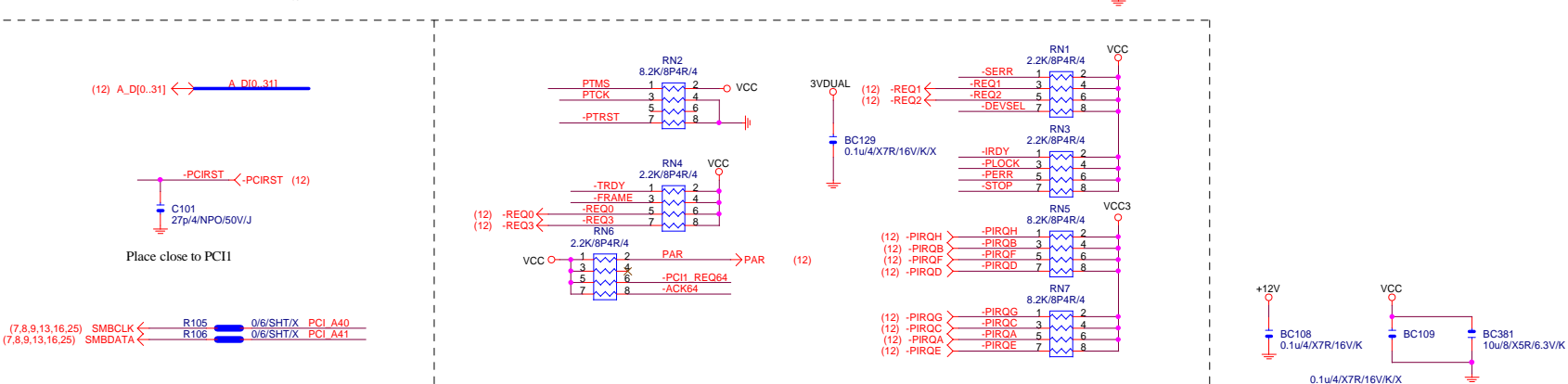
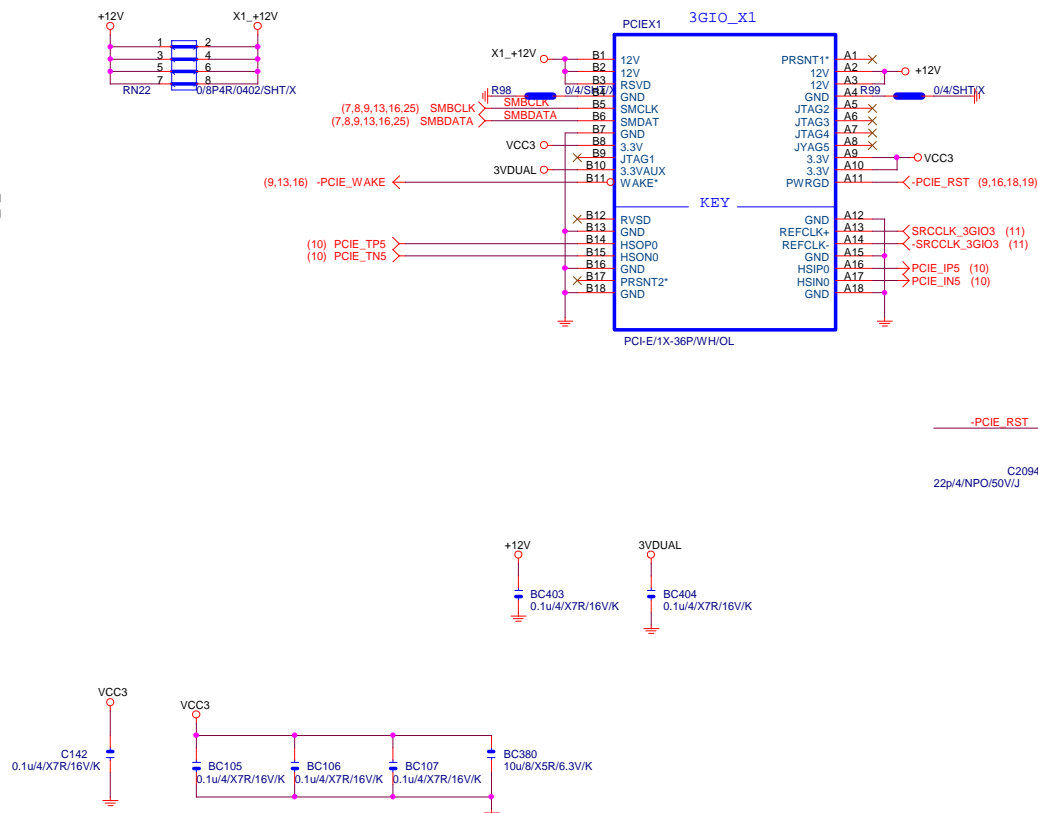


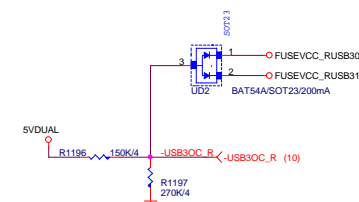
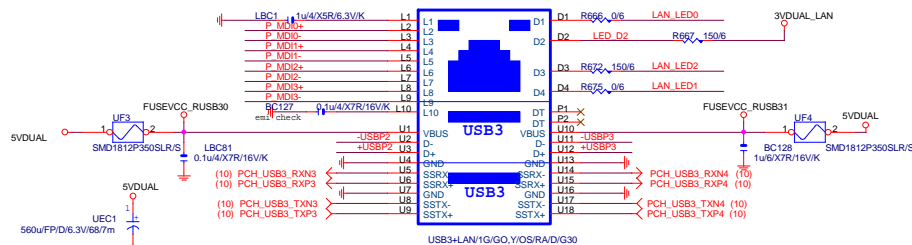
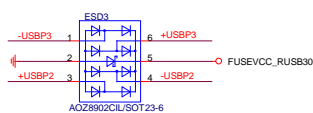
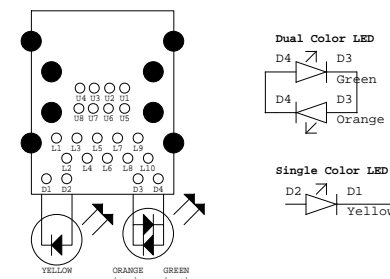
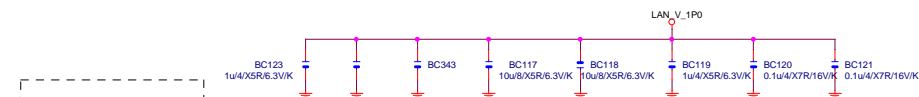
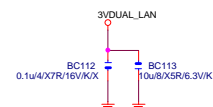


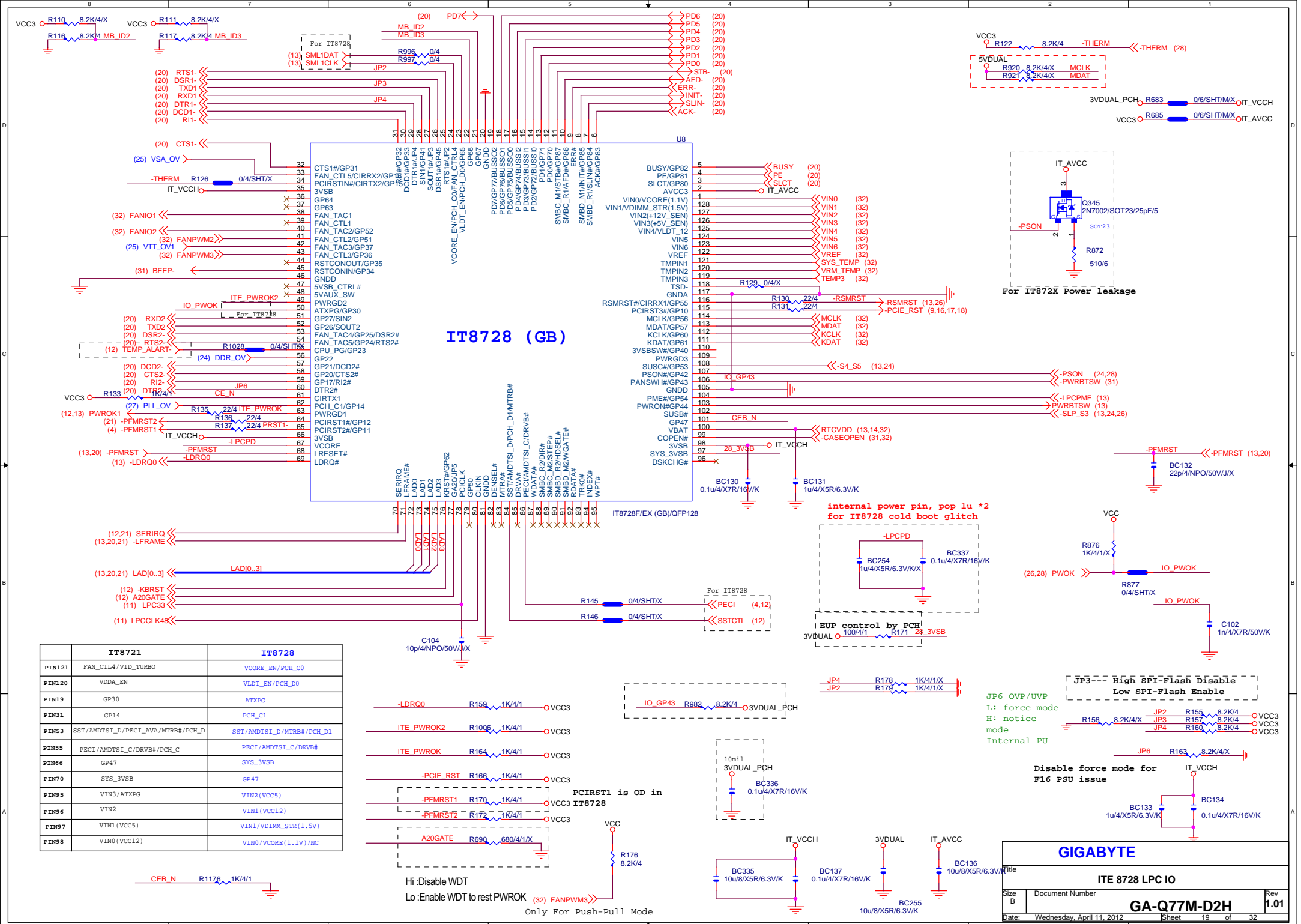
PCI SLOT



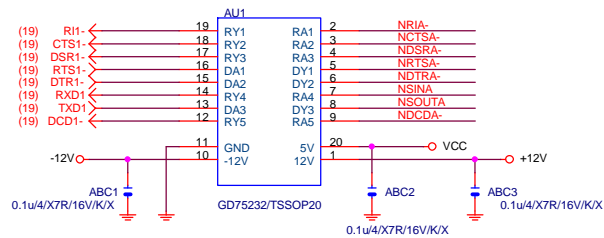
PCIE*1



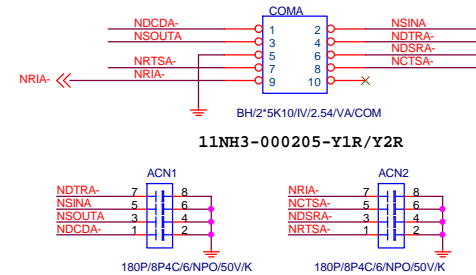
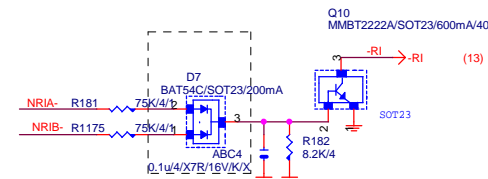




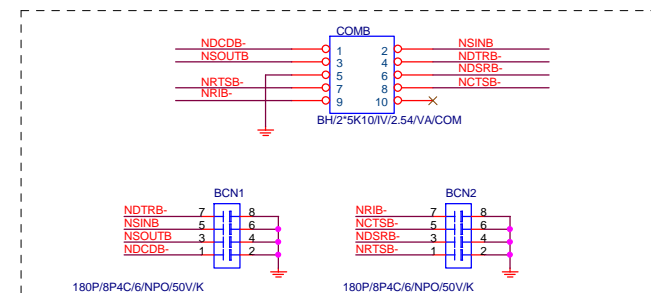
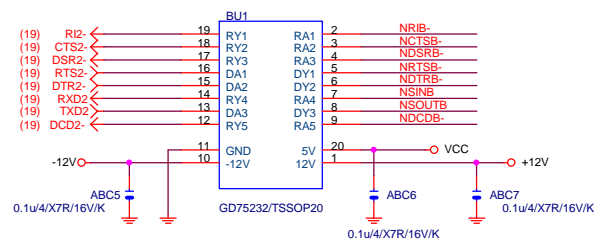
COMA



COM RI

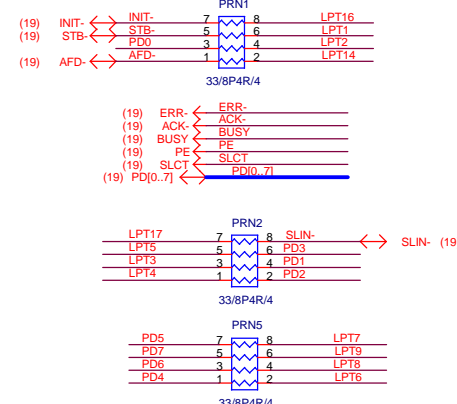
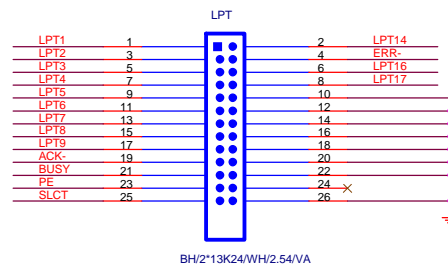
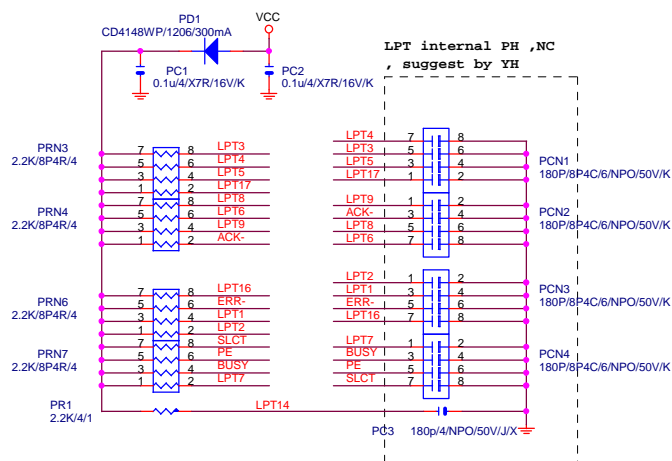


COMB

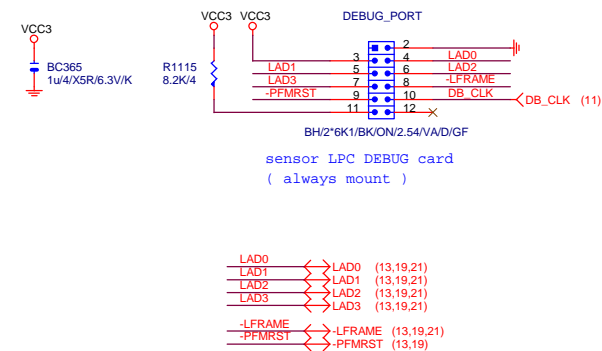


PLACE NEAR COM CONNECTOR

LPT PORT



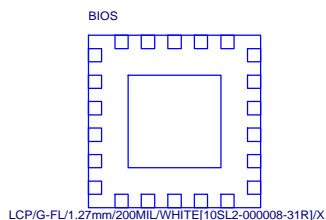
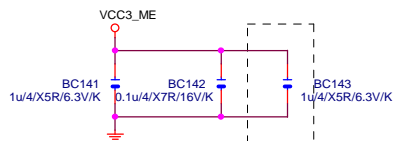
80 PORT



GIGABYTE

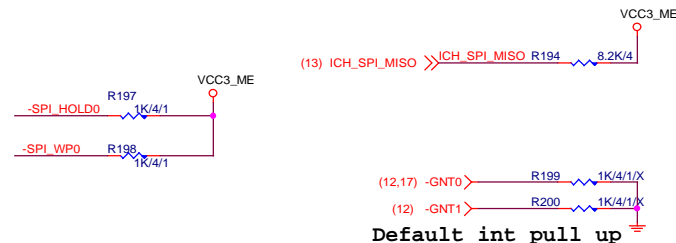
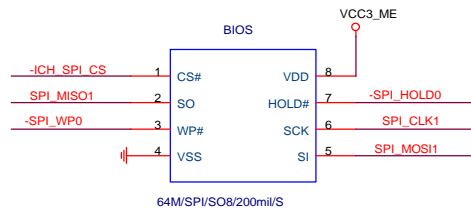
COM A/B & LPT & 80 PORT

Title			
COM A/B & LPT & 80 PORT			
Size	Document Number		Rev
Custom		GA-Q77M-D2H	1.01
Date:	Wednesday, April 11, 2012	Sheet	20 of 32

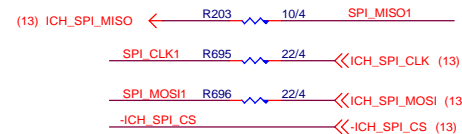


BOOT DEVICE	GNT1	GP19
LPC	0	0
PCI	1	0
SPI	1	1

1 means floating
0 means PD 1K

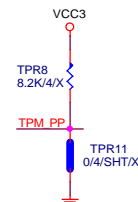
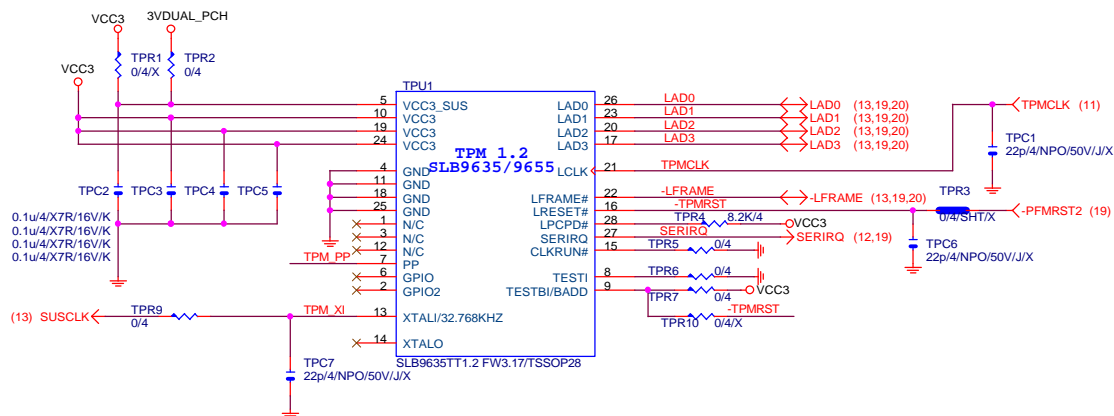


(12,17) -GNT0> R199 1K/4/1/X
(12) -GNT1> R200 1K/4/1/X
Default int pull up



damp close to SPI flash

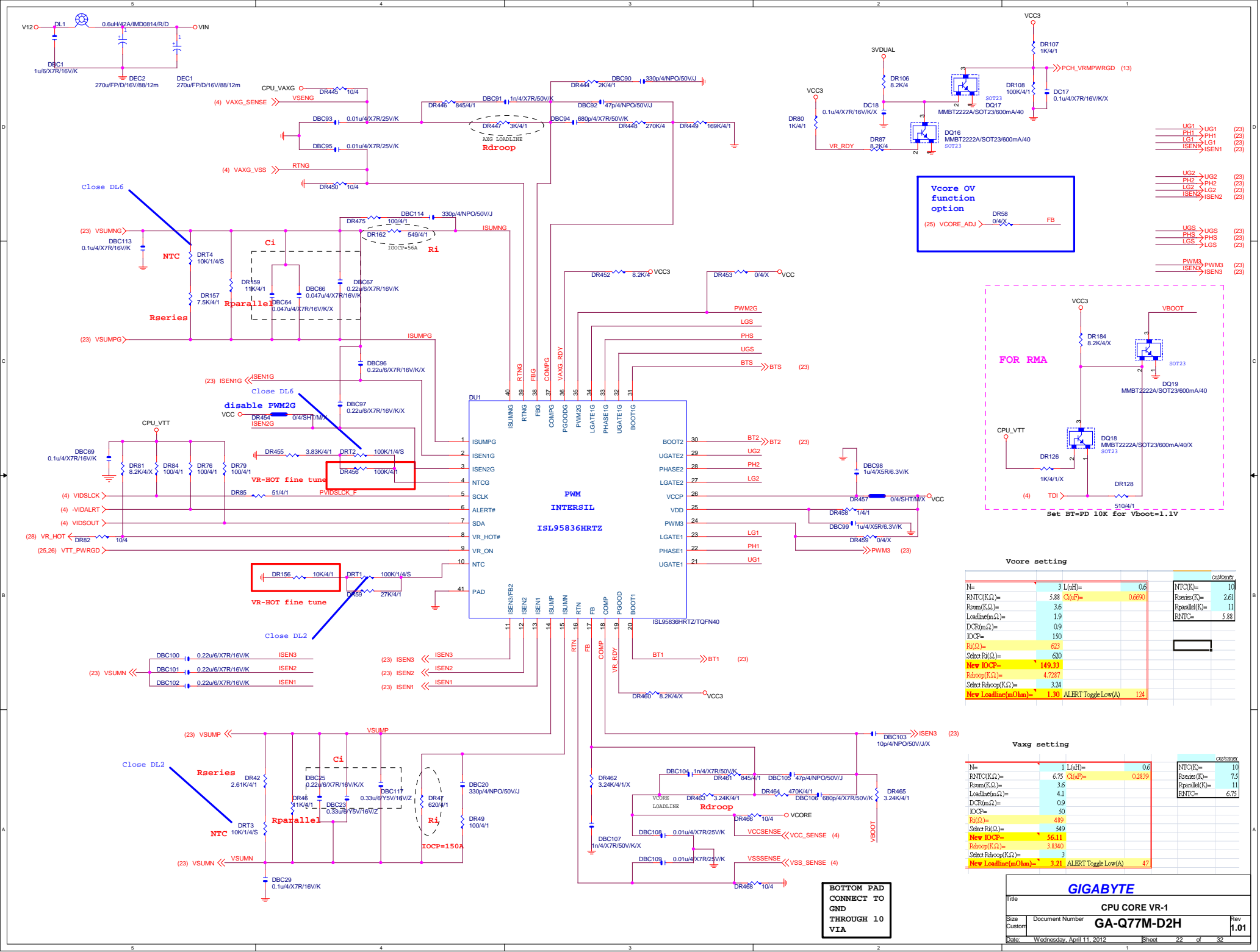
TPM

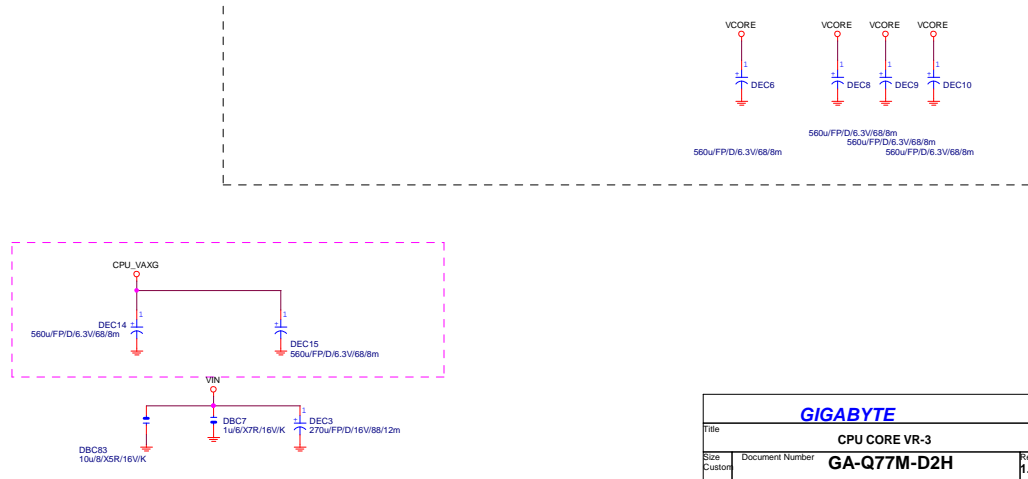
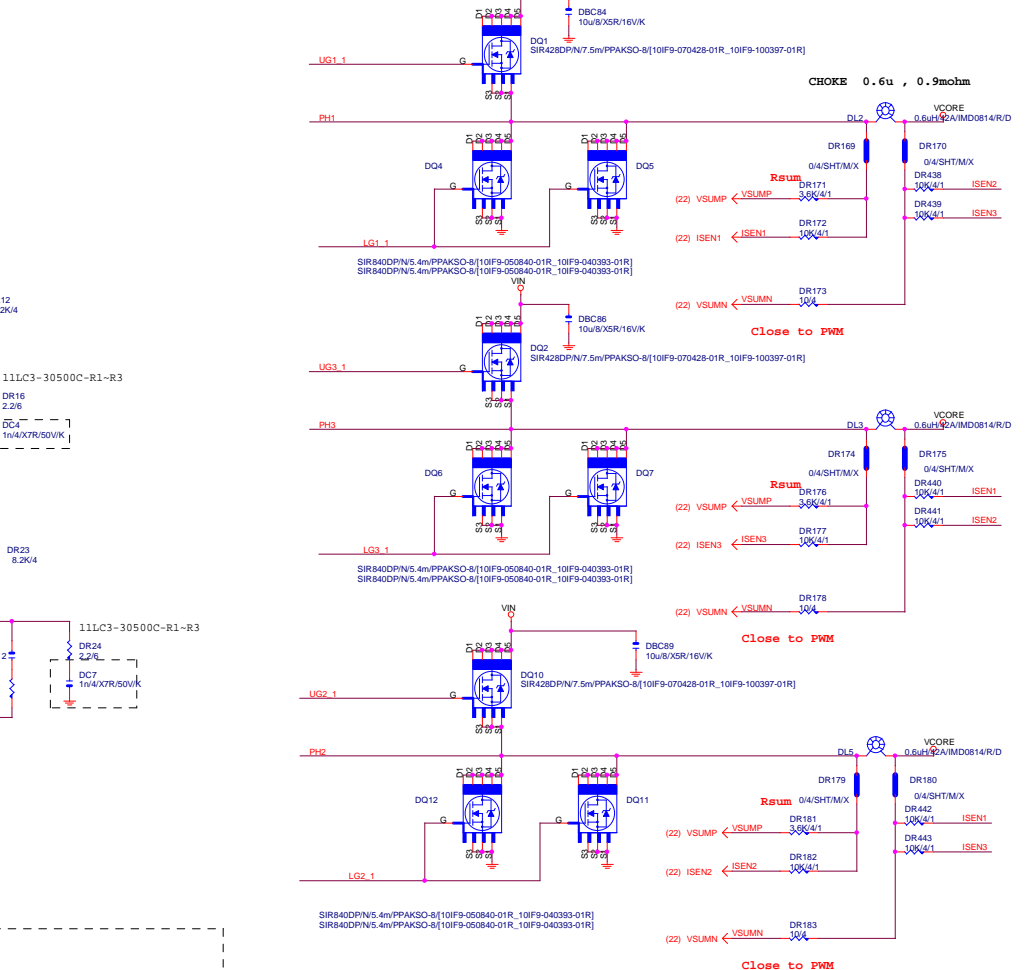
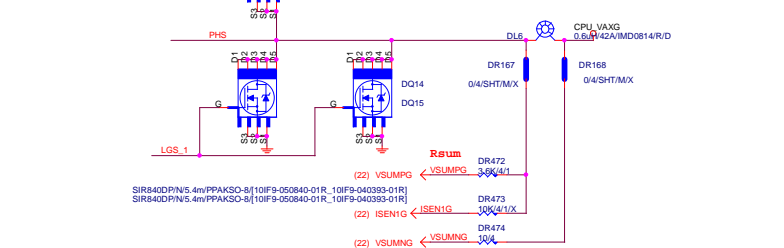
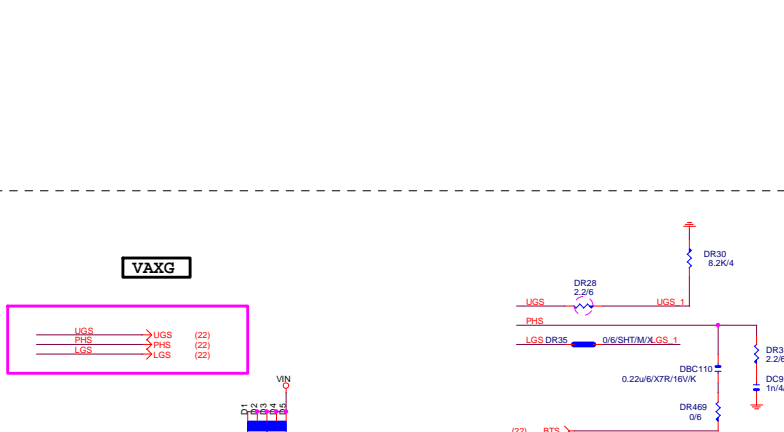
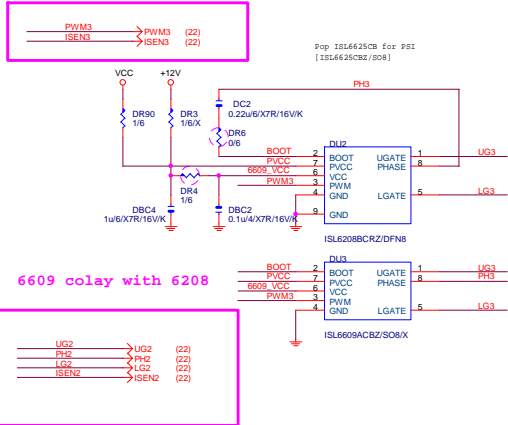
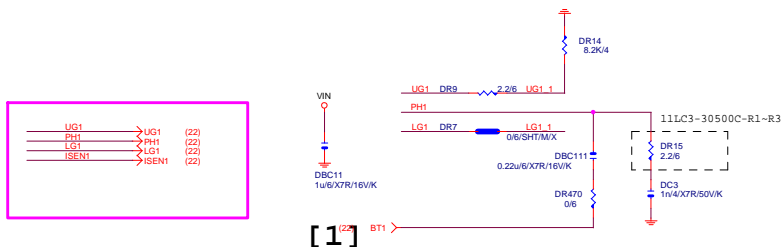


	SLB9635	SLB9655
TPR2, TPR4, TPR5, TPR6, TPR7, TPR9	MOUNT	N/A
TPR1, TPR10	N/A	MOUNT

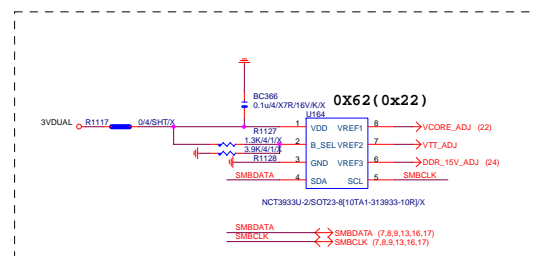
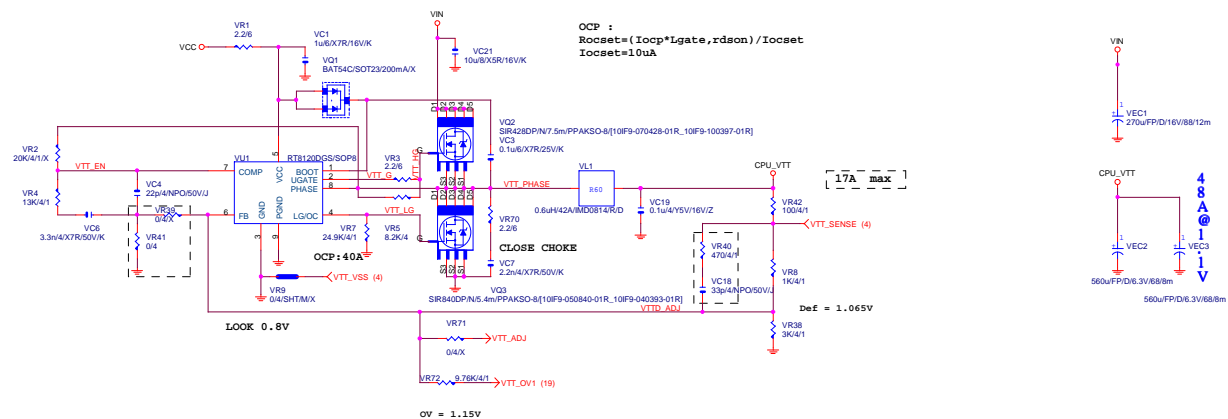
GIGABYTE

BIOS		
Title	GA-Q77M-D2H	
Size	Document Number	Rev
Custom	GA-Q77M-D2H	1.01
Date:	Wednesday, April 11, 2012	Sheet 21 of 32

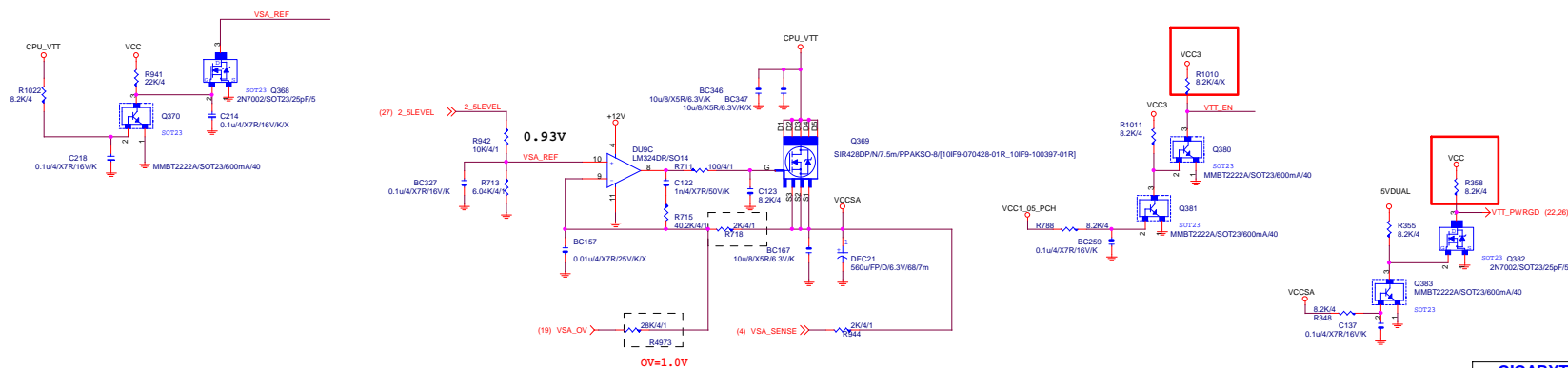




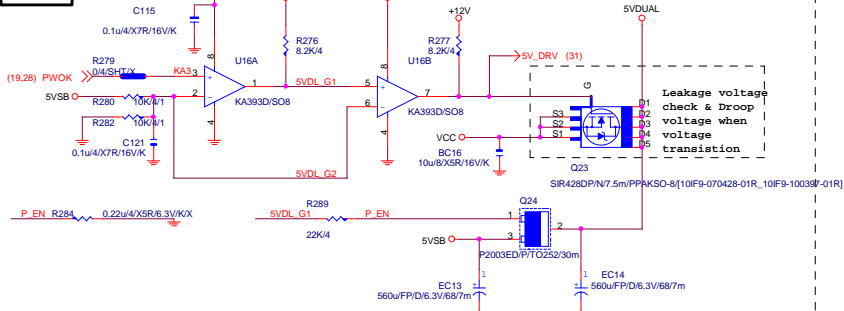
CPU_VTT



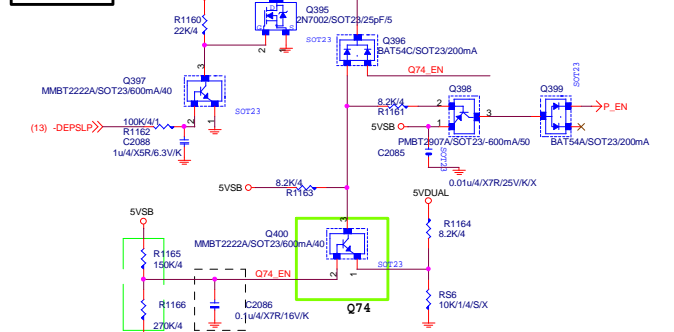
VCC_SA



5VDUAL

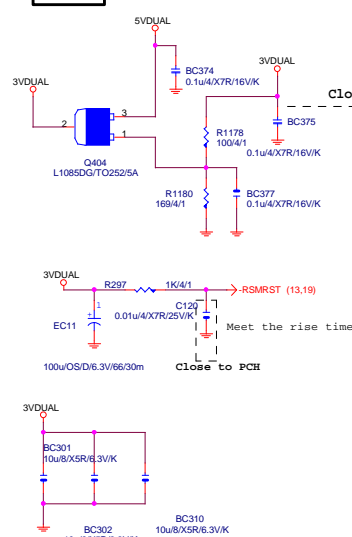


5VDUAL UVP

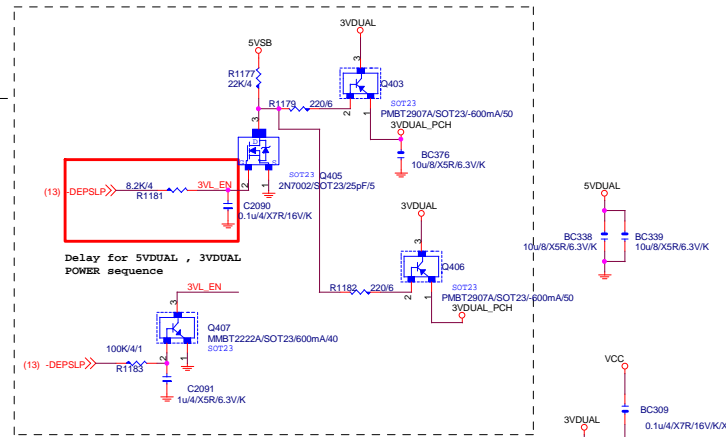


To delay protect circuit enable time

3VDUAL



Close up



Delay for 5VDUAL, 3VDUAL POWER sequence

(13) -DEPSLP>> 8.2K/4 R1181

3VLEN

(13) -DEPSLP>> 100K/4/1 R1183

C2091 1u4/X5R/6.3V/K

Q407 MMBT2222A/SOT23/600mA/40 SOT23

Q405 2N7002/SOT23/25pF/5 SOT23

Q403 PMBT2907A/SOT23-600mA/50 SOT23

Q406 PMBT2907A/SOT23-600mA/50 SOT23

Q404 MMBT2222A/SOT23/600mA/40 SOT23

Q402 2N7002/SOT23/25pF/5 SOT23

Q401 PMBT2907A/SOT23-600mA/50 SOT23

Q400 MMBT2222A/SOT23/600mA/40 SOT23

Q399 2N7002/SOT23/25pF/5 SOT23

Q398 PMBT2907A/SOT23-600mA/50 SOT23

Q397 MMBT2222A/SOT23/600mA/40 SOT23

Q396 2N7002/SOT23/25pF/5 SOT23

Q395 PMBT2907A/SOT23-600mA/50 SOT23

Q394 MMBT2222A/SOT23/600mA/40 SOT23

Q393 2N7002/SOT23/25pF/5 SOT23

Q392 PMBT2907A/SOT23-600mA/50 SOT23

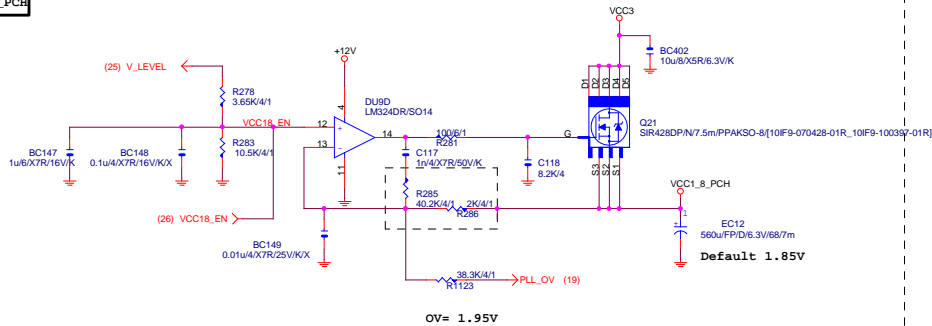
Q391 MMBT2222A/SOT23/600mA/40 SOT23

Q390 2N7002/SOT23/25pF/5 SOT23

Q389 PMBT2907A/SOT23-600mA/50 SOT23

Q388 MMBT2222A/SOT23/600mA

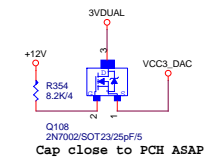
VCC1_8_PCH



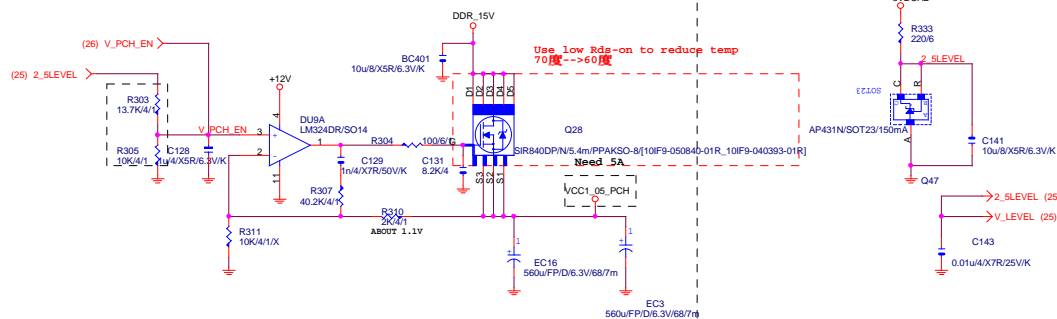
VCC3_DAC

(3.3V/70mA+360uA)

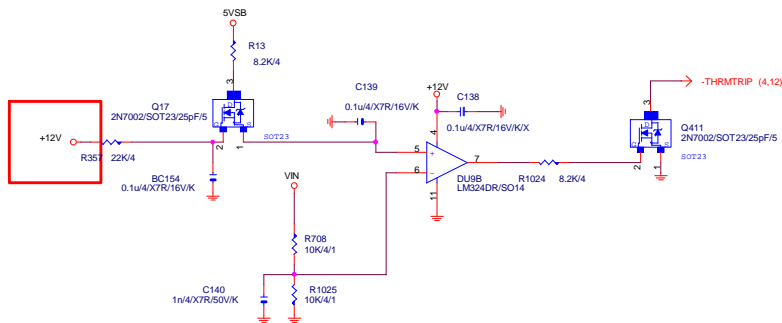
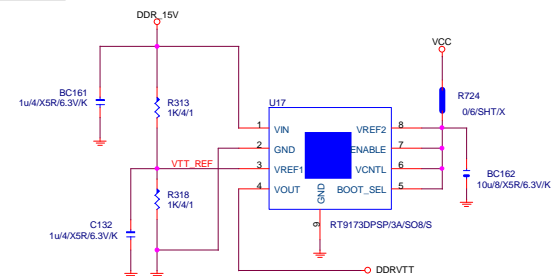
CLOSE PCH (注意震盪水波紋)



VCC1_05_PCH

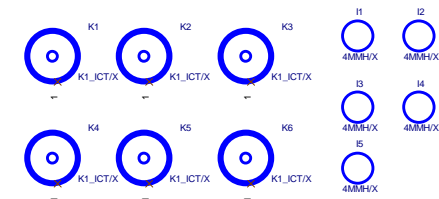
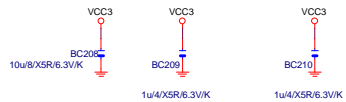
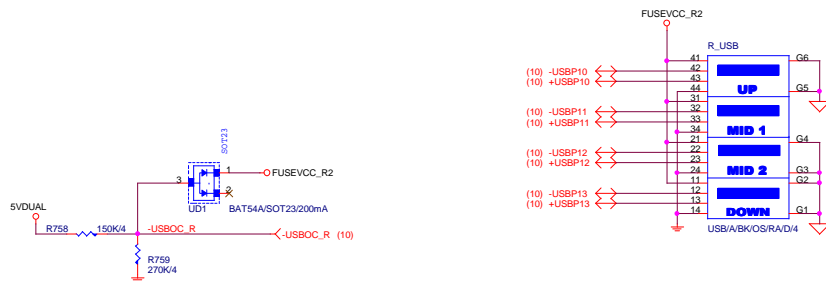


DDR_VTT



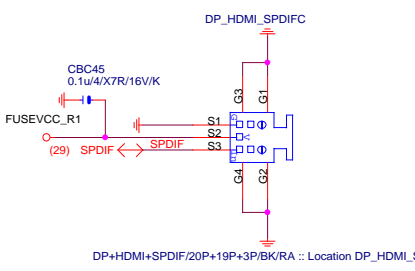
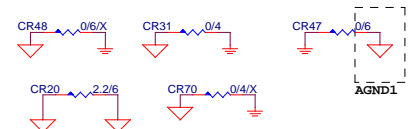
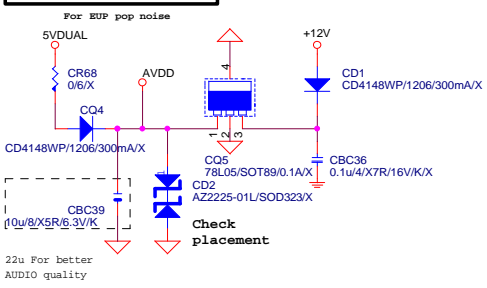
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To prevent the 5VSB under loading when boot

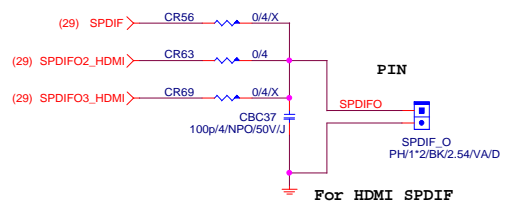
[illegible]

The schematic diagram illustrates the HD Audio ALC889 circuit, divided into Digital and Analog areas. The Digital Area includes components like CR57, CBC32, CBC47, CBC41, CR59, CR61, CBC33, and CBC34. The Analog Area includes components like CR19, CR21, CR13, CR16, CR23, CR27, CR28, CR29, CR30, CR31, CR32, CR33, CR34, CR35, CR36, CR37, CR38, CR39, CR40, CR41, CR42, CR43, CR44, CR45, CR46, CR47, CR48, CR49, CR50, CR51, CR52, CR53, CR54, CR55, CR56, CR57, CR58, CR59, CR60, CR61, CR62, CR63, CR64, CR65, CR66, CR67, CR68, CR69, CR70, CR71, CR72, CR73, CR74, CR75, CR76, CR77, CR78, CR79, CR80, CR81, CR82, CR83, CR84, CR85, CR86, CR87, CR88, CR89, CR90, CR91, CR92, CR93, CR94, CR95, CR96, CR97, CR98, CR99, CR100, CR101, CR102, CR103, CR104, CR105, CR106, CR107, CR108, CR109, CR110, CR111, CR112, CR113, CR114, CR115, CR116, CR117, CR118, CR119, CR120, CR121, CR122, CR123, CR124, CR125, CR126, CR127, CR128, CR129, CR130, CR131, CR132, CR133, CR134, CR135, CR136, CR137, CR138, CR139, CR140, CR141, CR142, CR143, CR144, CR145, CR146, CR147, CR148, CR149, CR150, CR151, CR152, CR153, CR154, CR155, CR156, CR157, CR158, CR159, CR160, CR161, CR162, CR163, CR164, CR165, CR166, CR167, CR168, CR169, 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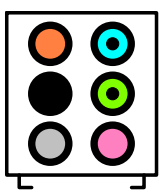
CODEC POWER/EMI PAD



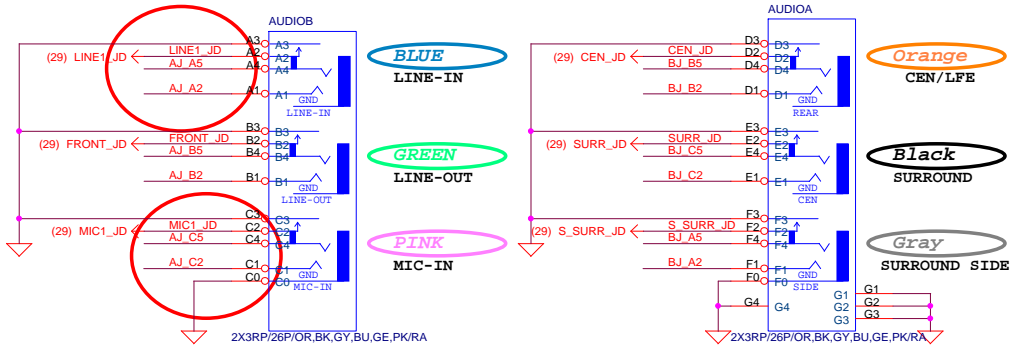
DP+HDMI+SPDIF/20P+19P+3P/BK/RA :: Location DP_HDMI_SPDIF



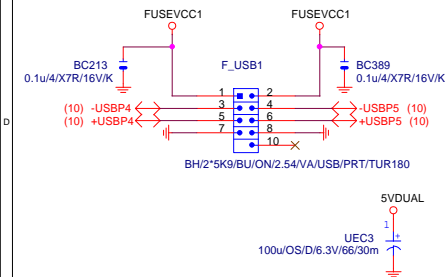
AZALIA JACK
BTX AZALIA CONNECTOR



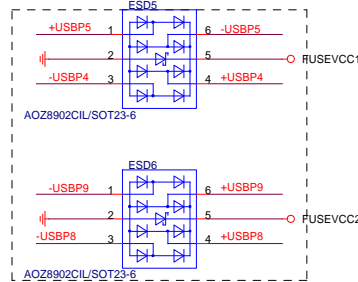
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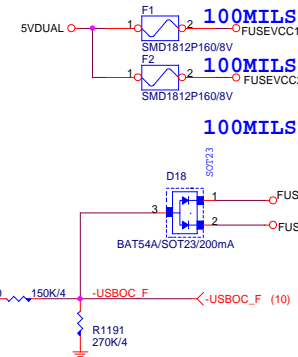
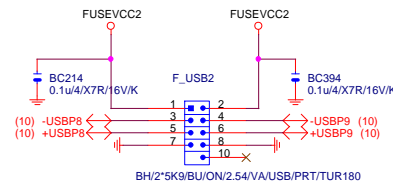
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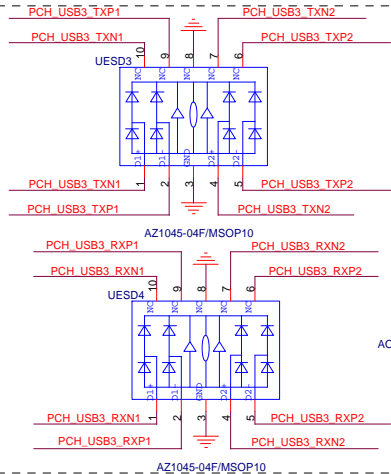
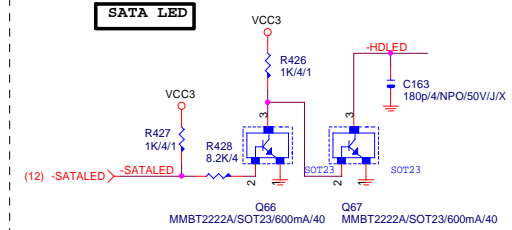
FRONT USB2



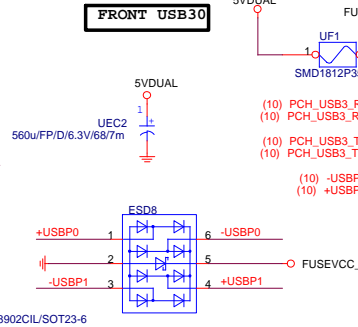
Close to connector



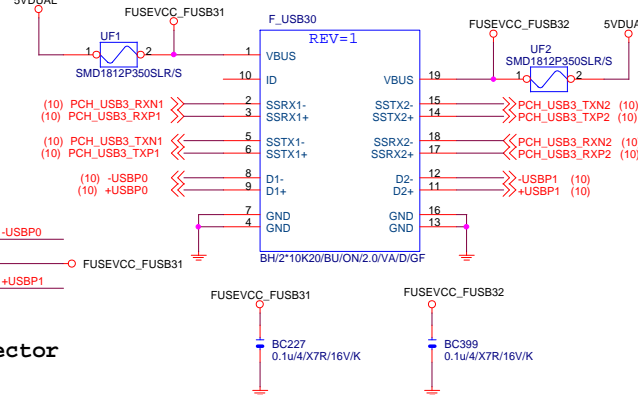
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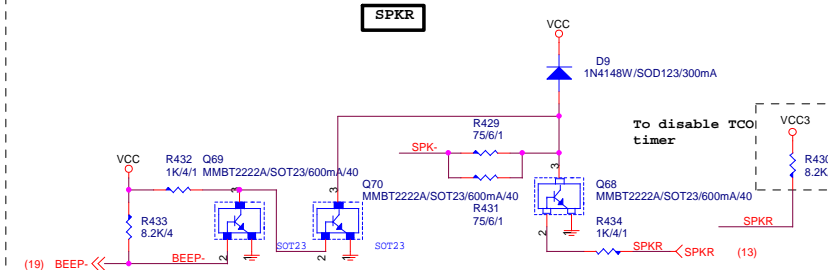
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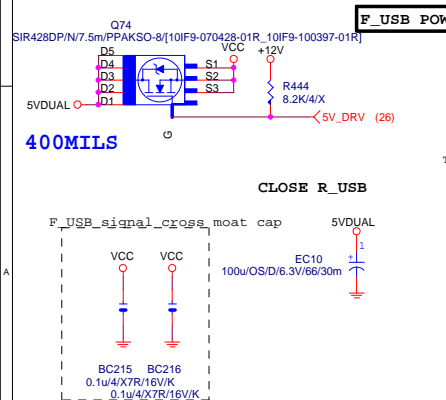
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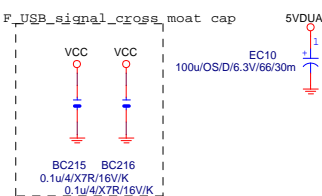
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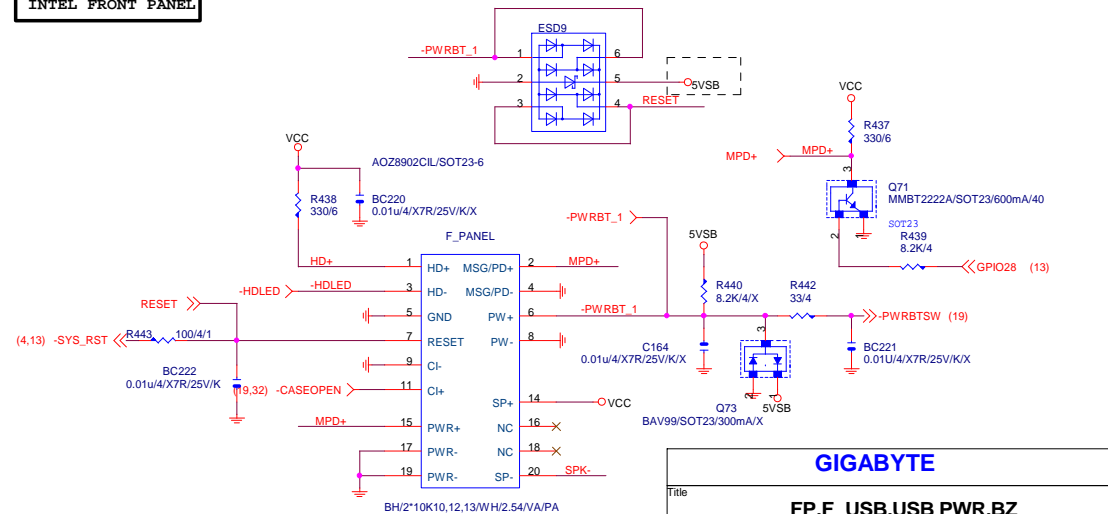
F_USB POWER



CLOSE R_USB



INTEL FRONT PANEL



GIGABYTE

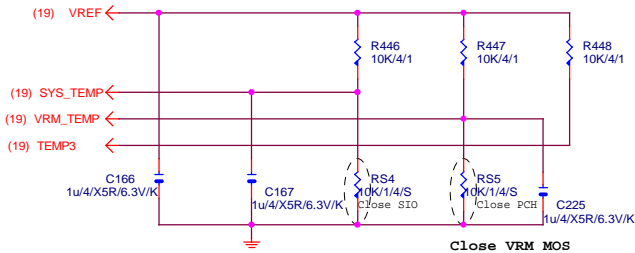
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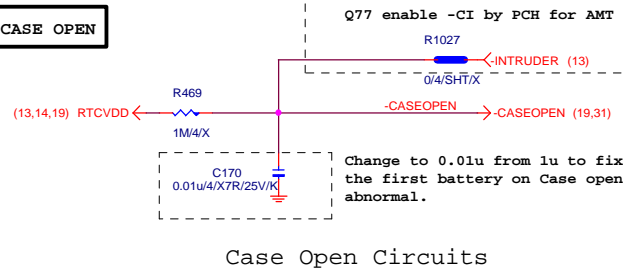
Rev 1.01

Date: Wednesday, April 11, 2012 Sheet 31 of 32

TEMP H/W MONITOR

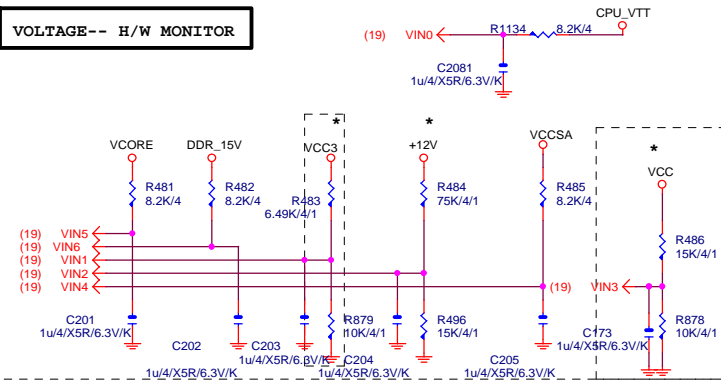


CASE OPEN

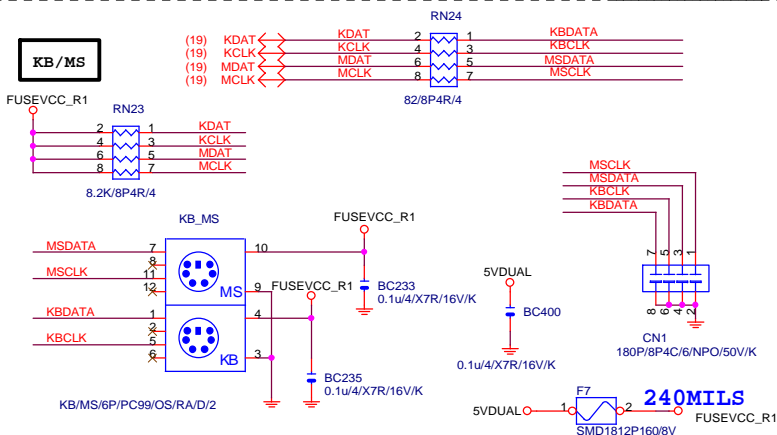


Case Open Circuits

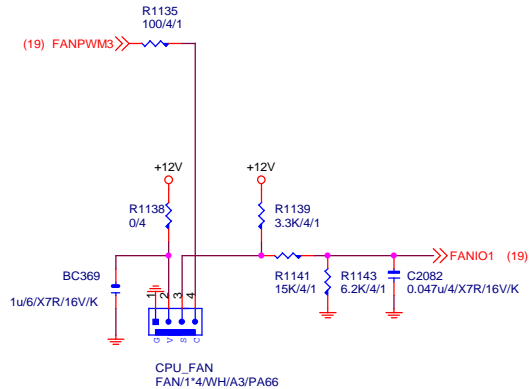
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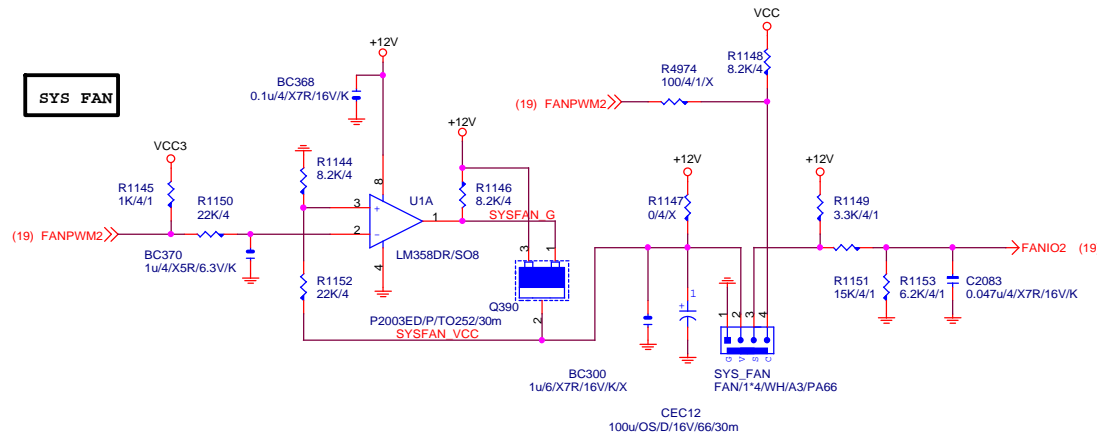
KB/MS



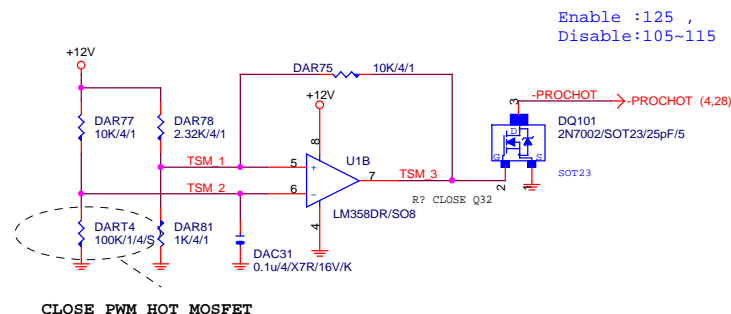
CPU SMART FAN



SYS FAN



-PROHOT



GIGABYTE

Title		HWM,KB/MS, FAN CTRL	
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Date: Wednesday, April 11, 2012		GA-Q77M-D2H	
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