

Model Name: GA-B75M-D2V

SHEET

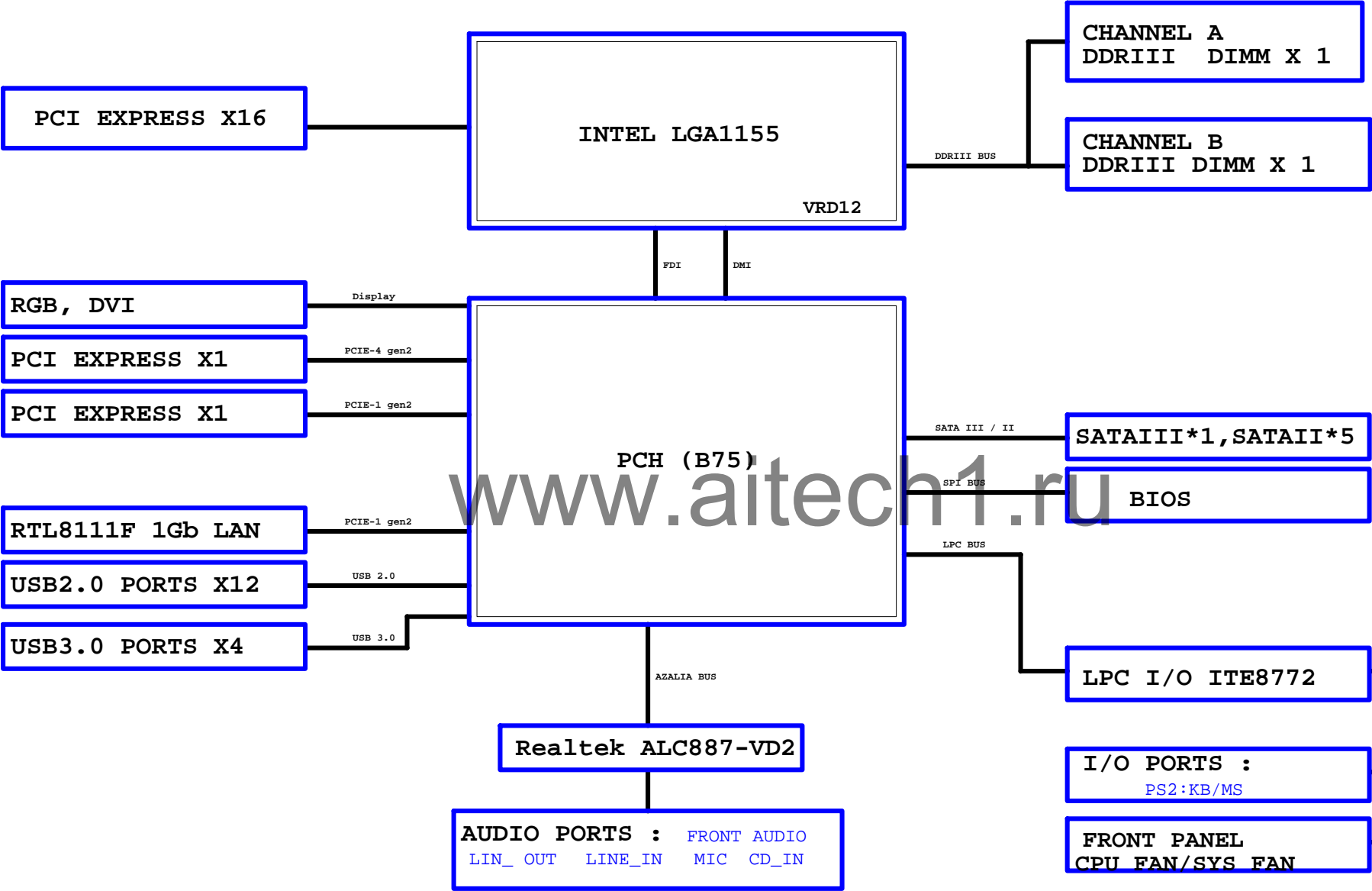
TITLE

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/B
08	PCH_FDI,DMI,USB,PCIE,NVRAM
09	PCH_DP,CLK BUFFER,DVI,RGB
10	PCH_HOST,SATA,PCI
11	PCH_GPIO,CTRL,AUDIO
12	PCH_PWR,GND
13	PCI EXPRESS*16 SLOT
14	PCI EXPRESS*1 X2 SLOT
15	ITE 8772 LPC IO
16	BIOS,KB_MS,USB30_20
17	HWM,FAN CTRL,OV,-PROCHOT
18	FP,FUSB,SPK,SATALED
19	Realtek ALC887-VD2
20	REAR AUDIO JACK
21	REALTEK RTL8111F-VL
22	DISCRETE POWER
23	ATX, M3 POWER
24	RT8120_CPU_VTT/DDR/VSA
25	VCORE ISL95836_1
26	VCORE ISL95836_2

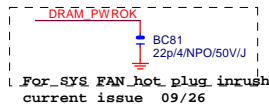
Gigabyte Technology		
Title		
Cover Sheet		
Size	Document Number	Rev
Custom	GA-B75M-D2V	1.0
Date:	Wednesday, October 03, 2012	Sheet 1 of 26

[illegible][illegible][illegible][illegible][illegible][illegible]

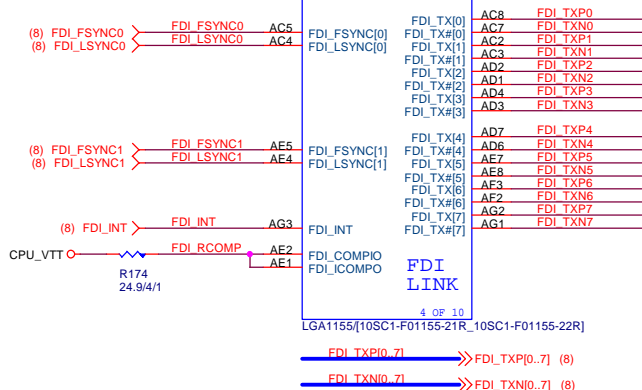
BLOCK DIAGRAM



(E)



(D)



(C)



Gigabyte Technology

Title				CPU LGA1155-A			
Size	Custom	Document Number					Rev
		GA-B75M-D2V					1.0
Date	Wednesday, October 03, 2012			Sheet	4 of 26		

(A)



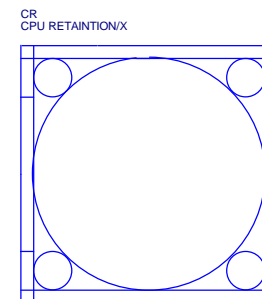
1 OF 10

(B)



2 OF 10

(CR)



LGA1155_P



ILM_BP/1156/CSP/ILM_BP/1156/CSP/[12KRC-0F0001-05R_12KRC-0F0001-31R]

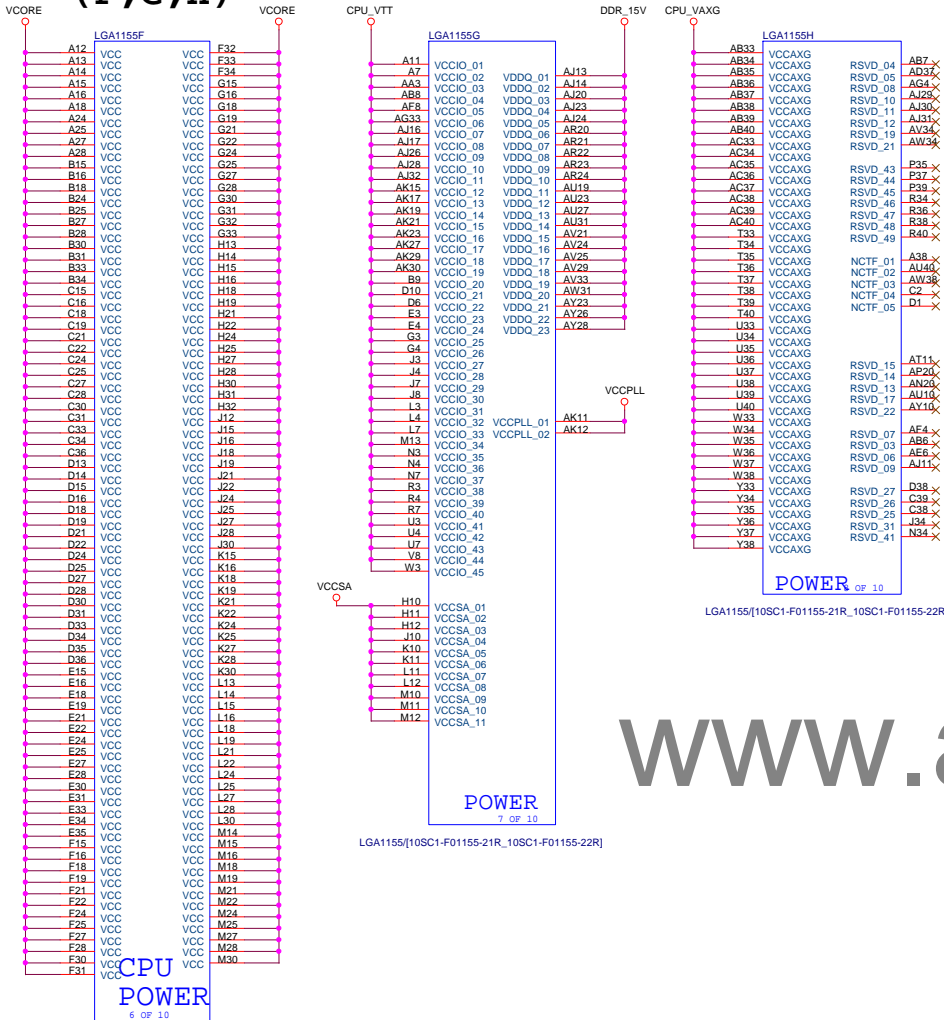
CPU LGA1156-B

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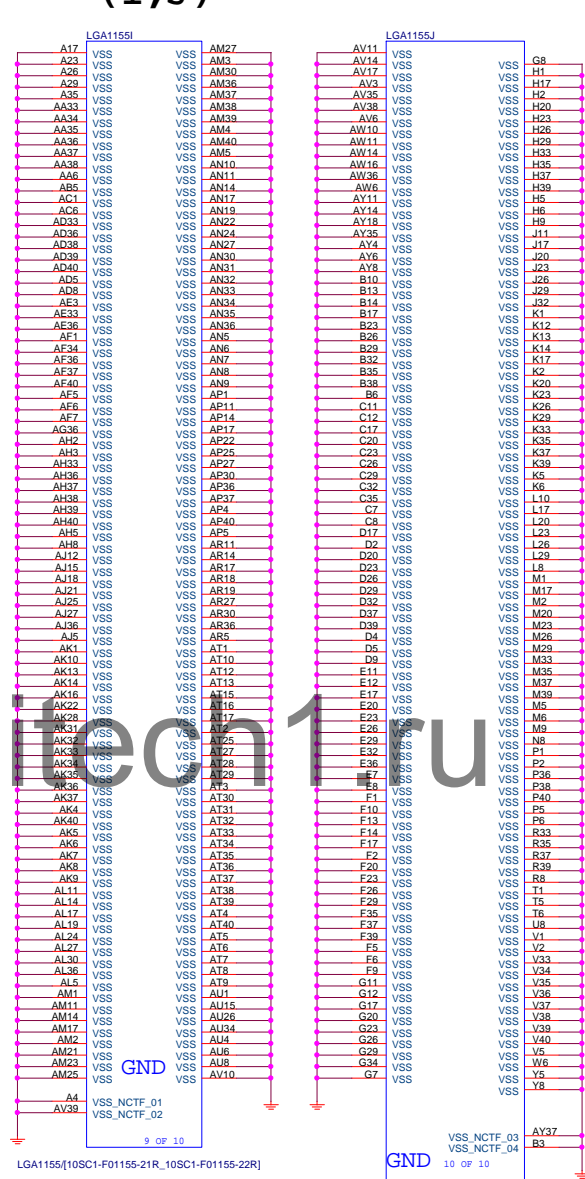
Rev	1.0
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Date: Wednesday, October 03, 2012 Sheet 5 of 26

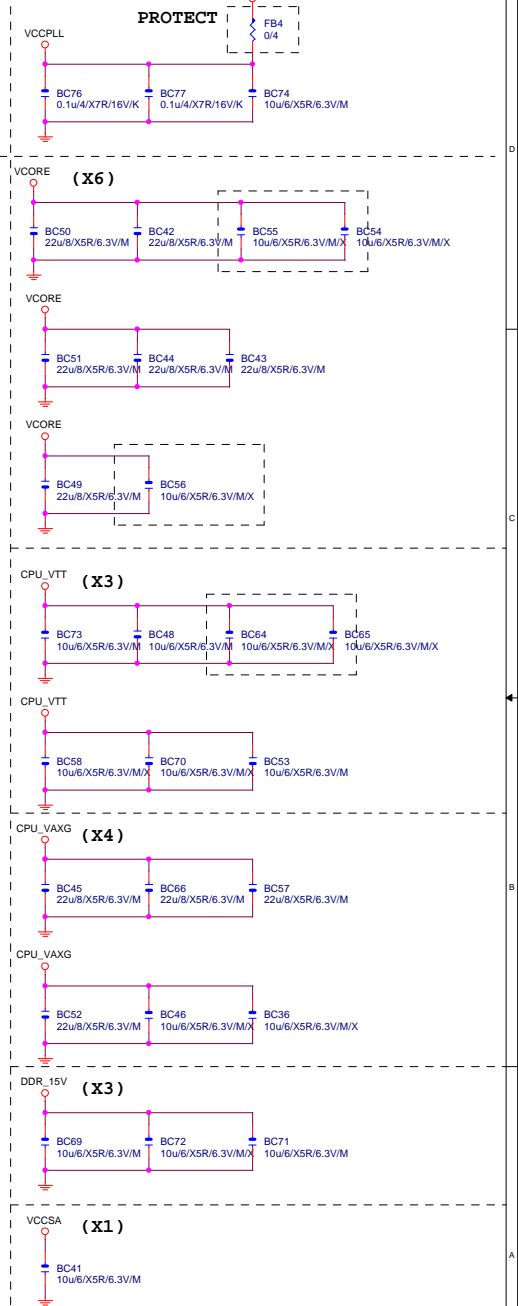
LGA1155 (F,G,H)



LGA1155 (I,J)



CAP



(B)



(E)

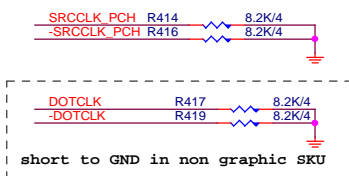
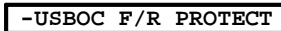
SB HEATSIN



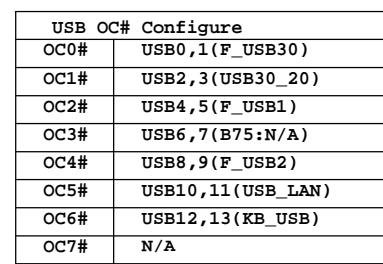
NVRAM

5 OF 11
BD82B75/S/[10HB1-030B75-10R]

(G)



USB TABLE



Gigabyte Technology

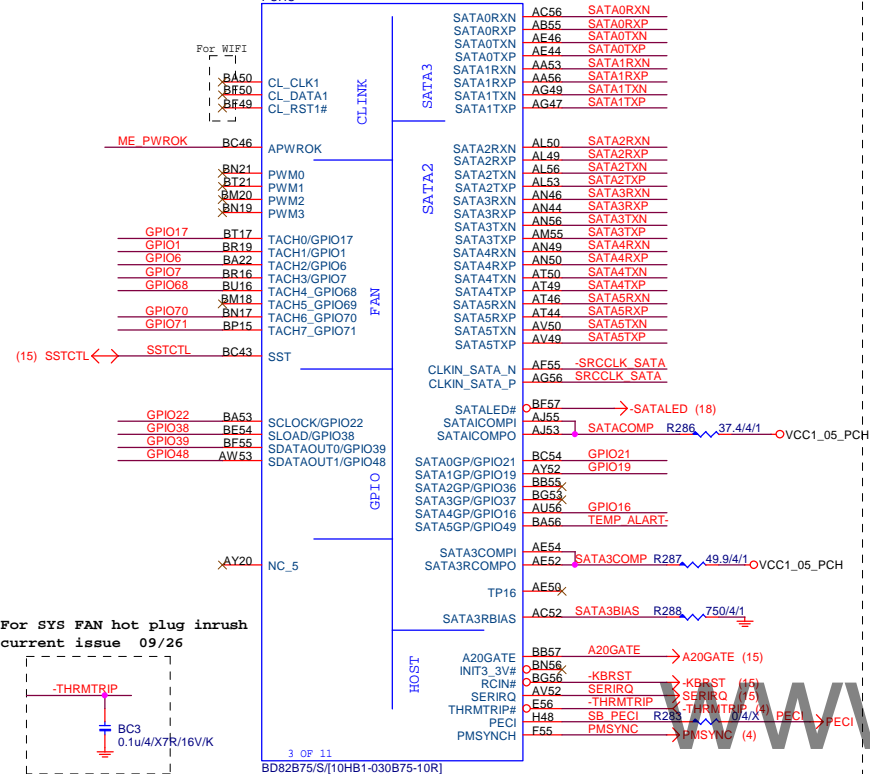
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Size		Document Number		GA-B75M-D2V				1.0	
Custom									
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PCH

(C)

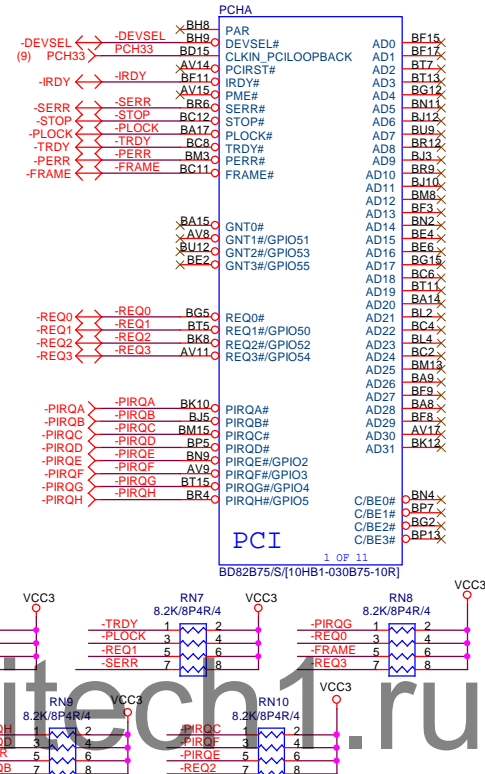
B75 SATA3.0 ONLY PORT0
B75 Not Support RAID

PCHC



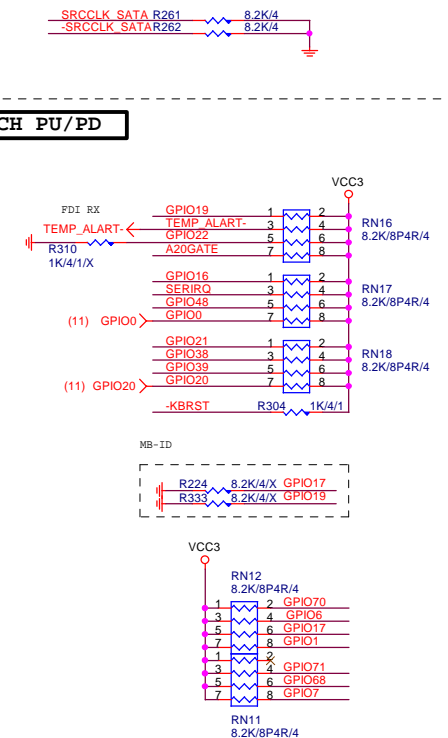
PCH

(A)



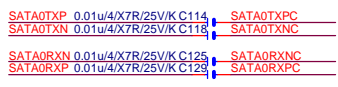
PCH CLK PD

PCH PU/PD

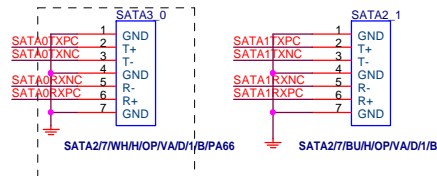


SATA CONNECTOR H1X7-SATA2-HS-MASK

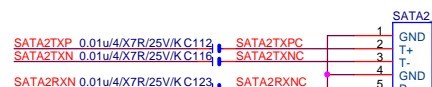
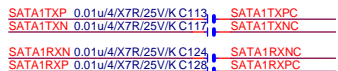
B75 SATA 3.0



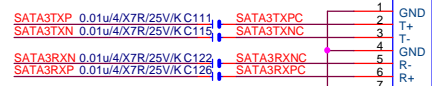
White connector for SATA3



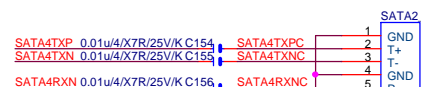
B75 SATA 2.0



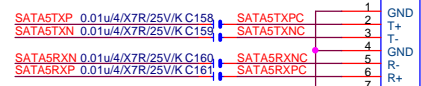
SATA27/BU/HOP/VA/D1/B



SATA27/BU/HOP/VA/D1/B

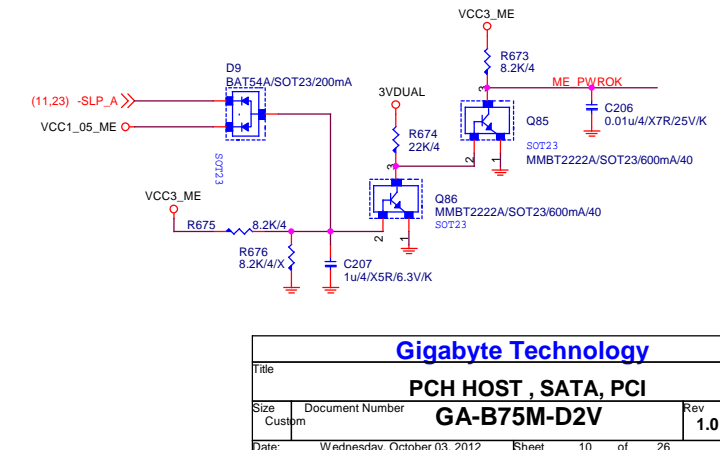


SATA27/BU/HOP/VA/D1/B

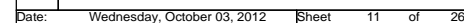


SATA27/BU/HOP/VA/D1/B

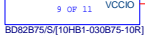
ME_PWROK



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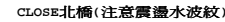
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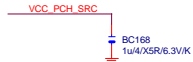


(J)



SHT PWF

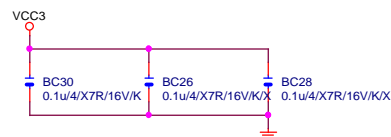




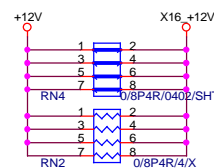
(I)



PCIEX16 CAP



PCIEX16 PROTECT SHT



PCIEX16 AC CAP

EXP A TXP0	C32	0.22u/4/X5R/6.3V/K	EXP A TXP0C
EXP A TXN0	C30	0.22u/4/X5R/6.3V/K	EXP A TXN0C
EXP A TXP1	C35	0.22u/4/X5R/6.3V/K	EXP A TXP1C
EXP A TXN1	C37	0.22u/4/X5R/6.3V/K	EXP A TXN1C
EXP A TXP2	C39	0.22u/4/X5R/6.3V/K	EXP A TXP2C
EXP A TXN2	C41	0.22u/4/X5R/6.3V/K	EXP A TXN2C
EXP A TXP3	C43	0.22u/4/X5R/6.3V/K	EXP A TXP3C
EXP A TXN3	C45	0.22u/4/X5R/6.3V/K	EXP A TXN3C
EXP A TXP4	C46	0.22u/4/X5R/6.3V/K	EXP A TXP4C
EXP A TXN4	C49	0.22u/4/X5R/6.3V/K	EXP A TXN4C
EXP A TXP5	C50	0.22u/4/X5R/6.3V/K	EXP A TXP5C
EXP A TXN5	C51	0.22u/4/X5R/6.3V/K	EXP A TXN5C
EXP A TXP6	C52	0.22u/4/X5R/6.3V/K	EXP A TXP6C
EXP A TXN6	C54	0.22u/4/X5R/6.3V/K	EXP A TXN6C
EXP A TXP7	C57	0.22u/4/X5R/6.3V/K	EXP A TXP7C
EXP A TXN7	C58	0.22u/4/X5R/6.3V/K	EXP A TXN7C
EXP A TXP8	C60	0.22u/4/X5R/6.3V/K	EXP A TXP8C
EXP A TXN8	C61	0.22u/4/X5R/6.3V/K	EXP A TXN8C
EXP A TXP9	C62	0.22u/4/X5R/6.3V/K	EXP A TXP9C
EXP A TXN9	C63	0.22u/4/X5R/6.3V/K	EXP A TXN9C
EXP A TXP10	C64	0.22u/4/X5R/6.3V/K	EXP A TXP10C
EXP A TXN10	C65	0.22u/4/X5R/6.3V/K	EXP A TXN10C
EXP A TXP11	C66	0.22u/4/X5R/6.3V/K	EXP A TXP11C
EXP A TXN11	C67	0.22u/4/X5R/6.3V/K	EXP A TXN11C
EXP A TXP12	C68	0.22u/4/X5R/6.3V/K	EXP A TXP12C
EXP A TXN12	C70	0.22u/4/X5R/6.3V/K	EXP A TXN12C
EXP A TXP13	C72	0.22u/4/X5R/6.3V/K	EXP A TXP13C
EXP A TXN13	C73	0.22u/4/X5R/6.3V/K	EXP A TXN13C
EXP A TXP14	C74	0.22u/4/X5R/6.3V/K	EXP A TXP14C
EXP A TXN14	C75	0.22u/4/X5R/6.3V/K	EXP A TXN14C
EXP A TXP15	C77	0.22u/4/X5R/6.3V/K	EXP A TXP15C
EXP A TXN15	C78	0.22u/4/X5R/6.3V/K	EXP A TXN15C

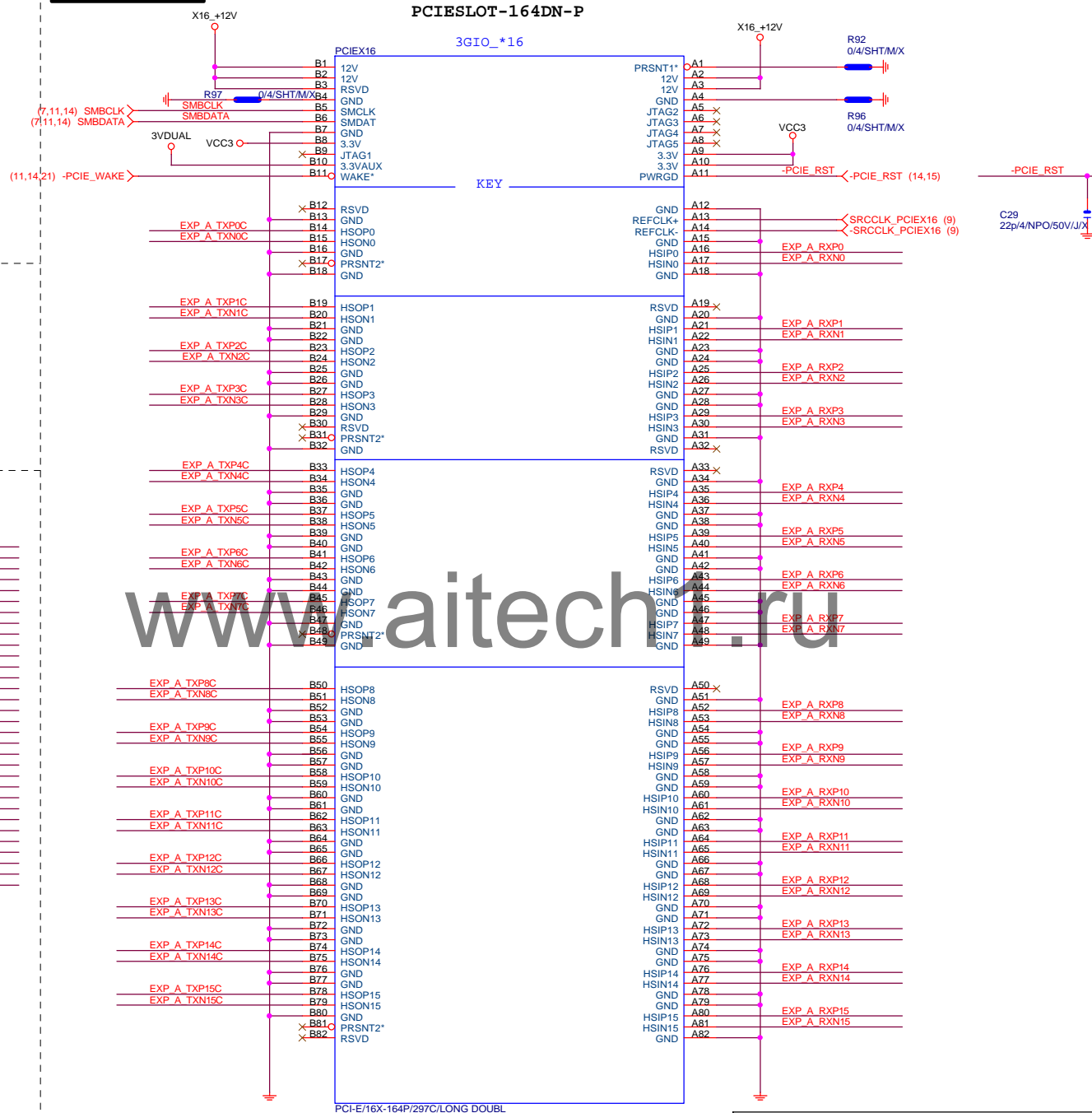
EXP A RXP0.15] >>> EXP_A_RXP0.15] (4)

EXP A RXN0.15] >>> EXP_A_RXN0.15] (4)

EXP A TXP0.15] >>> EXP_A_TXP0.15] (4)

EXP A TXN0.15] >>> EXP_A_TXN0.15] (4)

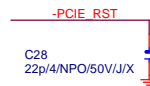
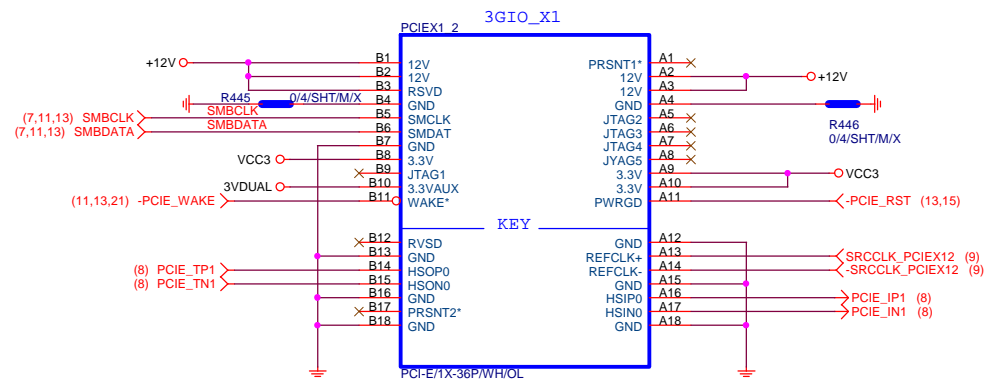
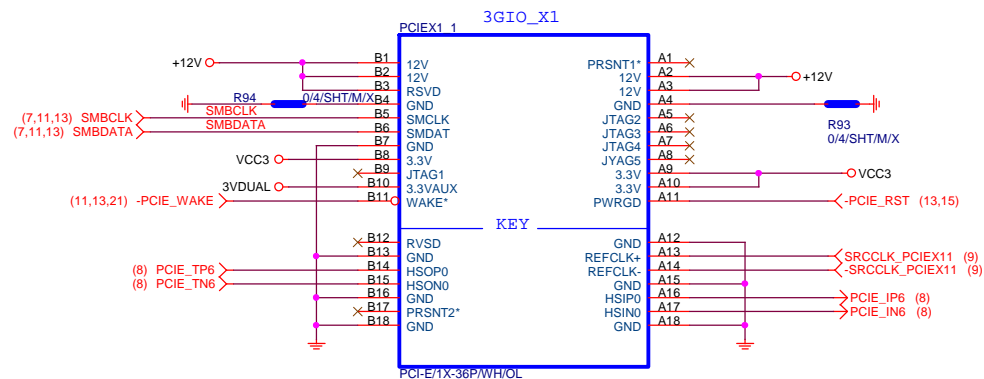
PCIEX16 SLOT



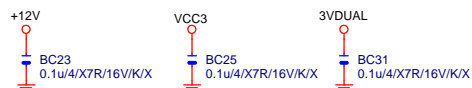
Gigabyte Technology

Title			PCI EXPRESS * 16	
Size			GA-B75M-D2V	
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PCIE1 SLOT



PCIE1 CAP

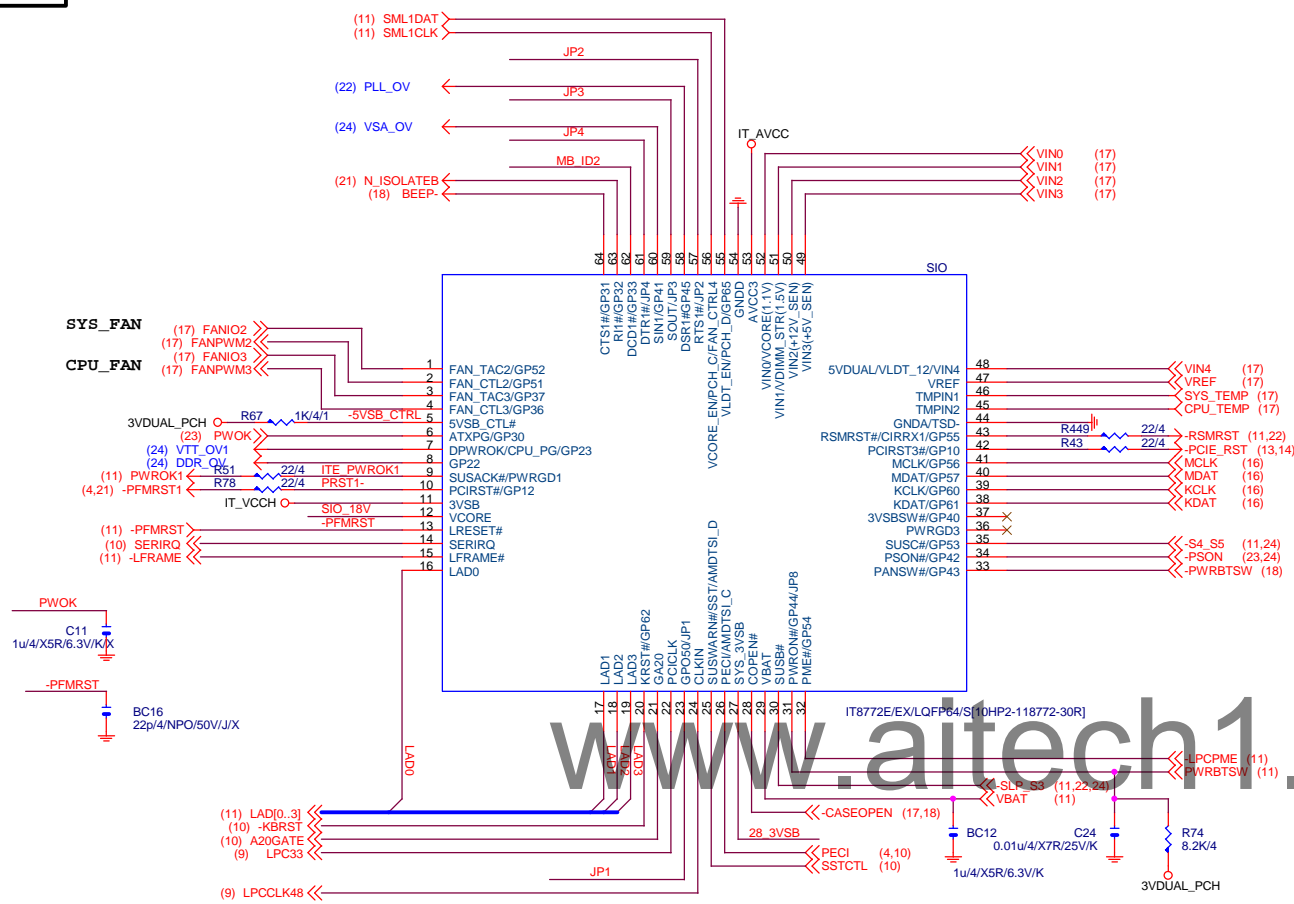


Gigabyte Technology

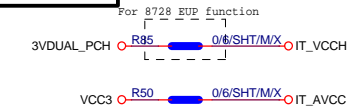
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PCI EXPRESS X 1 PORT		
Size	Document Number	Rev
Custom	GA-B75M-D2V	1.0
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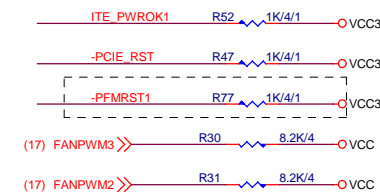
SIO IT8772



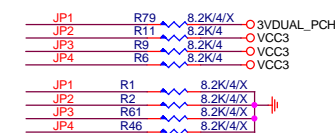
PWR	SHT
-----	-----



SIO	PU
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SIO STRAP



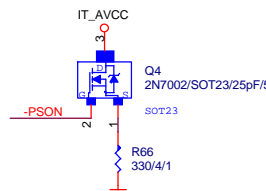
EUP control by PCH

3VDUAL 100/4/1 R83 28_3VSB

IT8772 STRAP

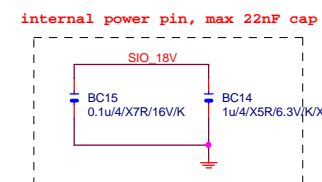
JP1	1 = EUP 0 = DSW
JP2	1 = Disable WDT 0 = Enable WDT
JP3	1 = EC index 63h/6Bh/73h is 80h 0 = EC index 63h/6Bh/73h is 00h
JP4	1 = Disable K8 sequence 0 = Enable K8 sequence

Power leakage



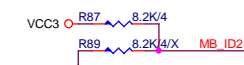
For IT8721 Power leakage

SIO_18V

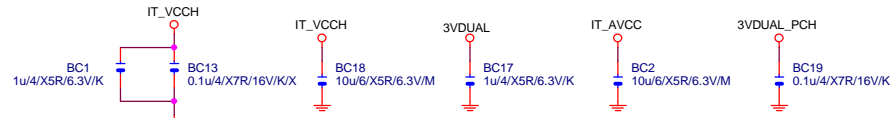


FOR LOW TEMP POWER ON INTO TEST MODE ISSUE

MB ID



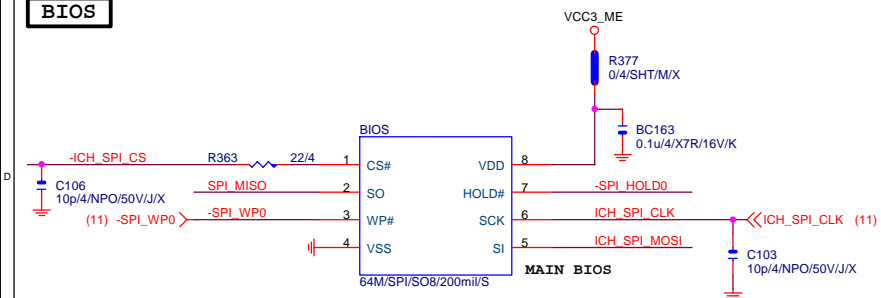
SIO CAP



Gigabyte Technology

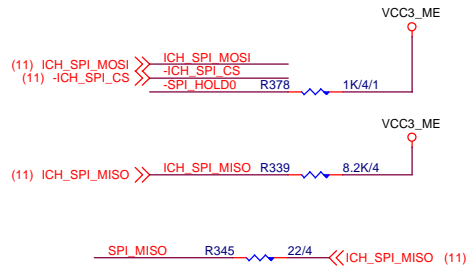
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ITE 8728 LPC IO			
Size	Document Number		Rev
Custom	GA-B75M-D2V		1.0
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BIOS

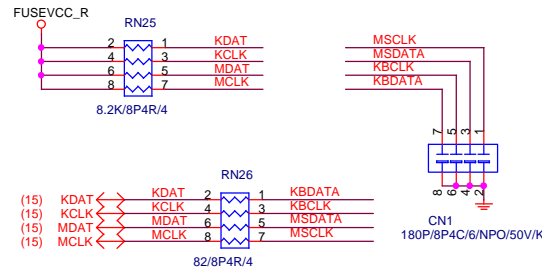
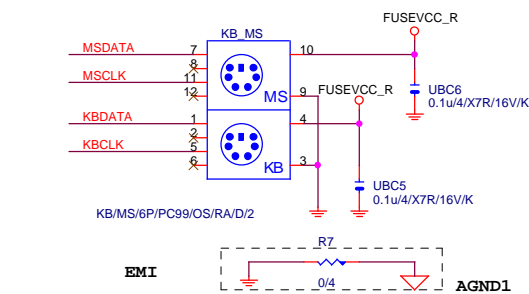


BOOT DEVICE	GNT1	GNT0
LPC	0	0
PCI	0	1
SPI	1	1

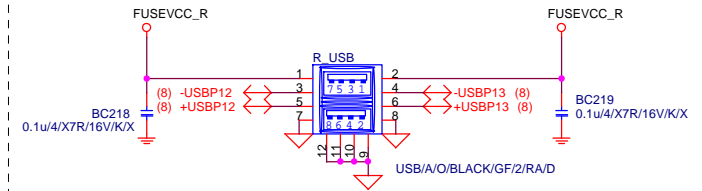
1 means floating
0 means PD 1K



KB/MS

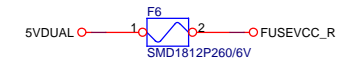


R_USB



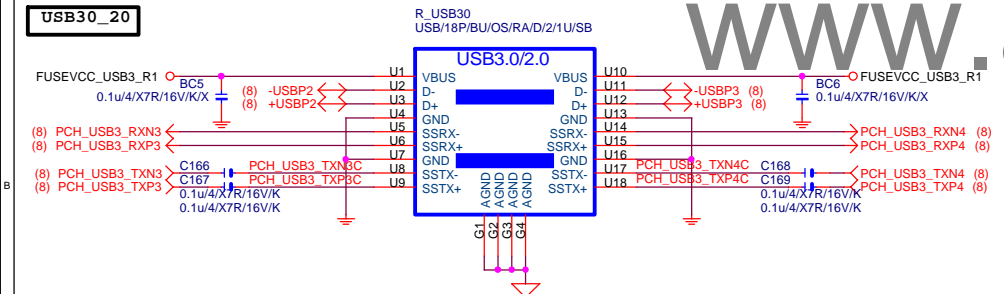
USB2.0 PWR

USB_LAN, R_USB 4-Port 2.6A

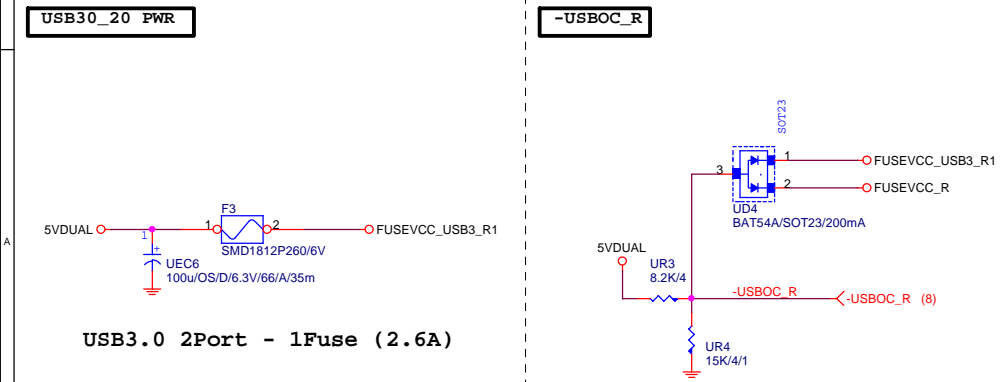


Close to connector

USB30_20

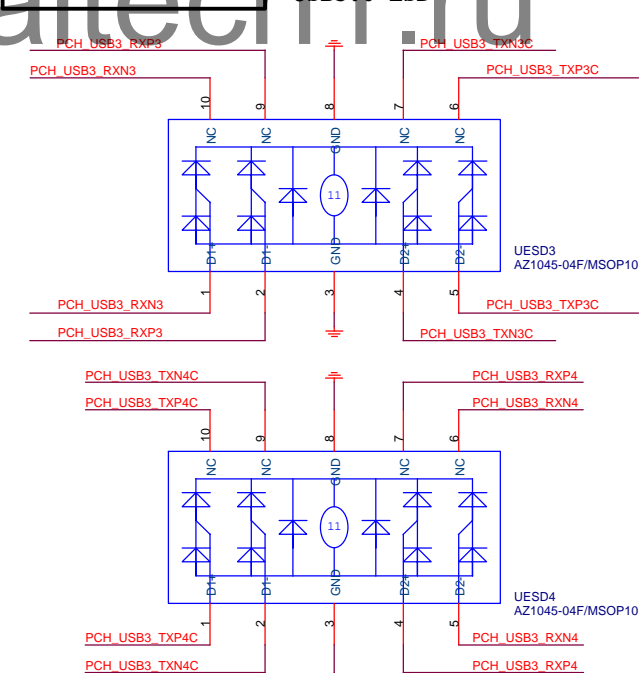


USB30_20 PWR



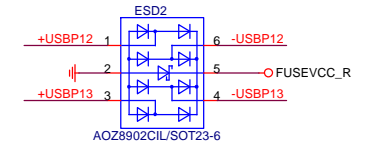
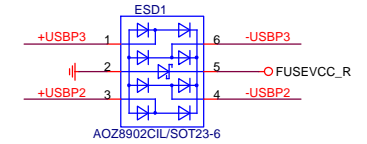
USB3.0 2Port - 1Fuse (2.6A)

USB30_20 ESD PROTECT



USB3.0 ESD

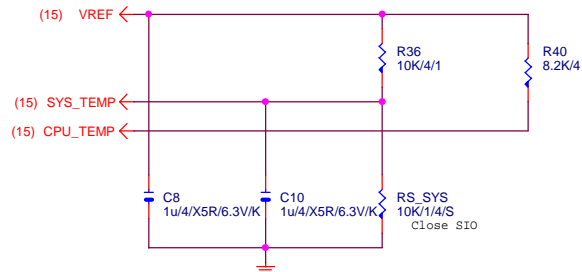
USB2.0 ESD



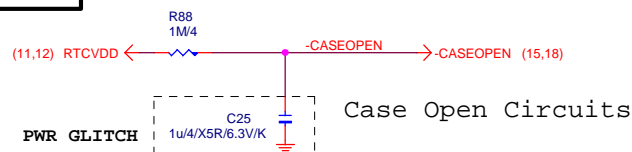
Gigabyte Technology

Title			BIOS,KB_MS,USB30/20
Size	Document Number	GA-B75M-D2V	
Custom			
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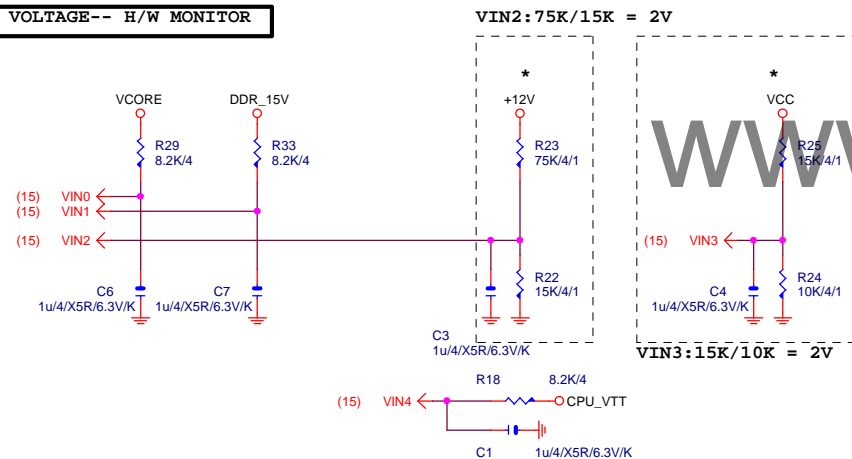
TEMP H/W MONITOR



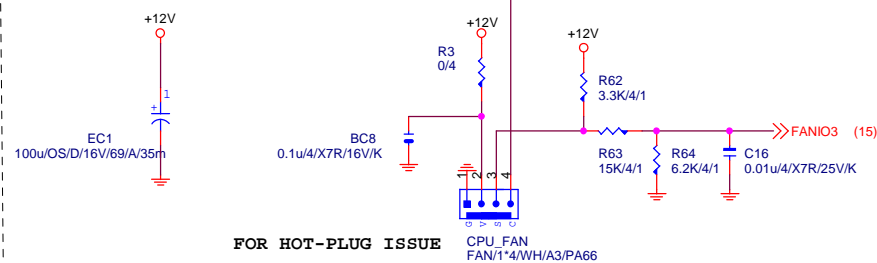
CASE OPEN



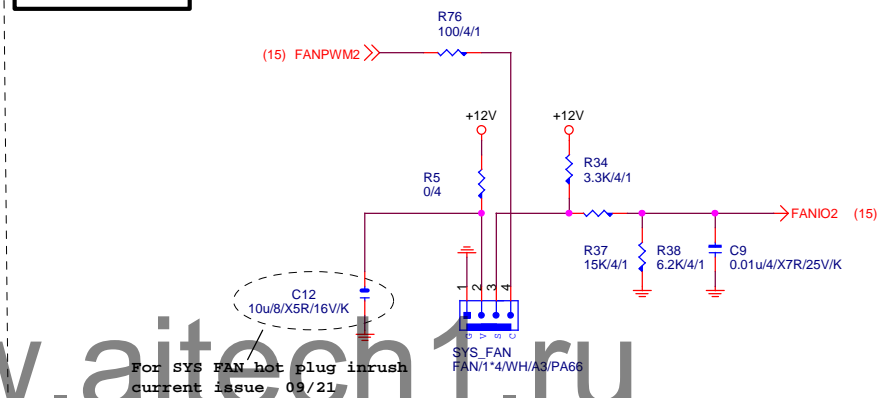
VOLTAGE-- H/W MONITOR



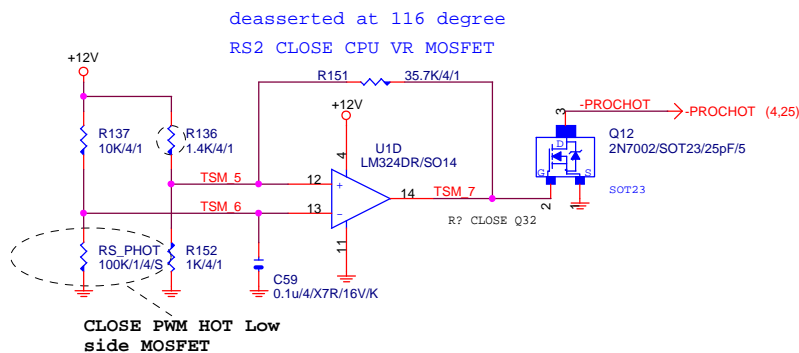
CPU SMART FAN



SYS SMART FAN



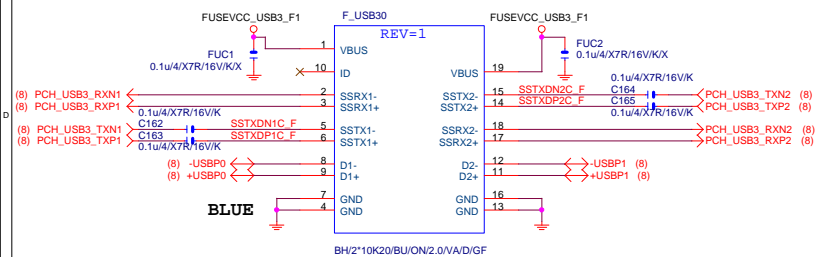
-PROHOT



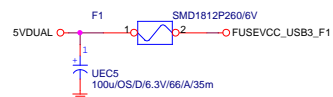
Gigabyte Technology

Title			HWM,FAN CTRL,OV
Size	Document Number	GA-B75M-D2V	
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F_USB30

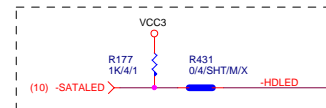


F_USB30 PWR

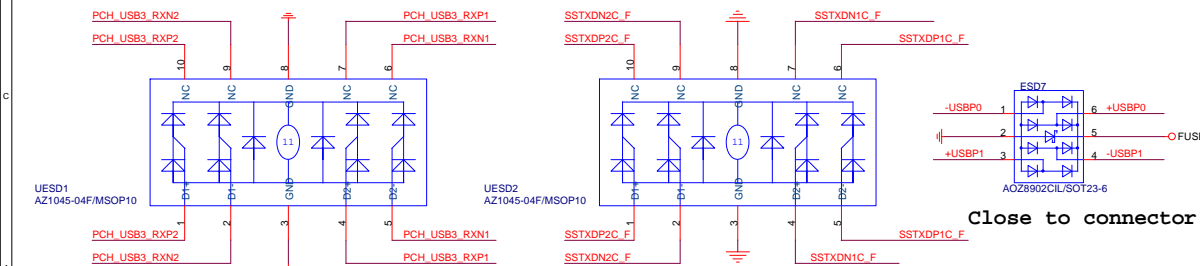


USB3.0 2Port - 1Fuse (2.6A)

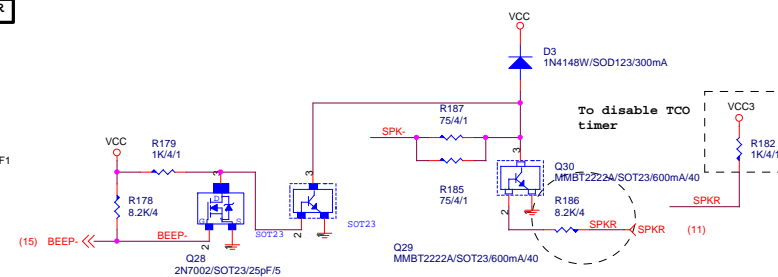
SATA LED



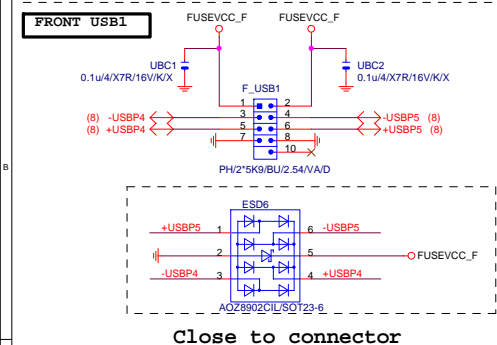
F_USB30 ESD PROTECT



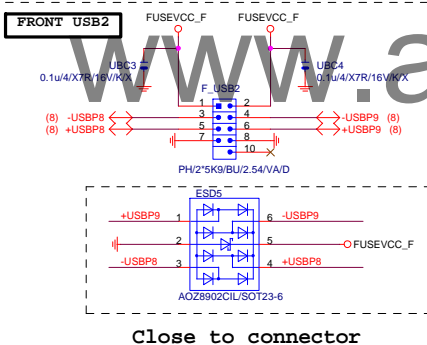
SPKR



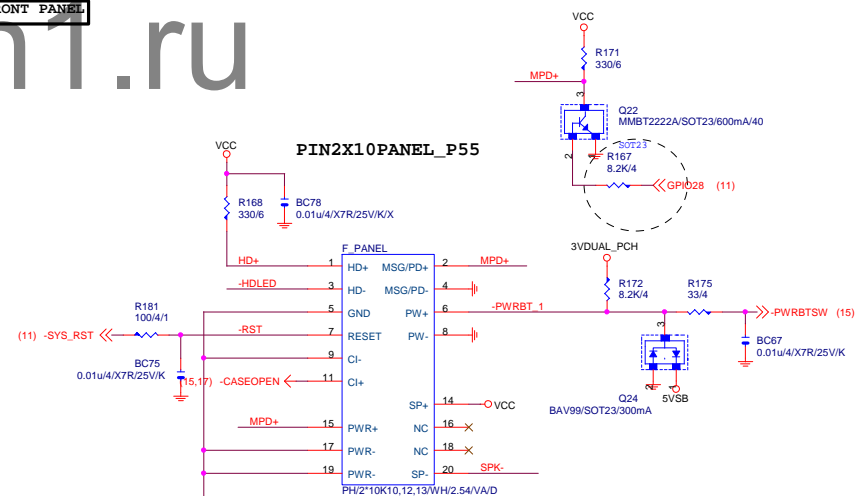
FRONT USB1



FRONT USB2

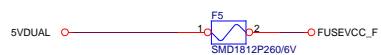


INTEL FRONT PANEL

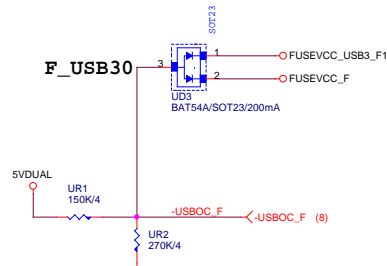


FUSEVCC_F

F_USB1, F_USB2 4-Port 2.6A



-USB30_F

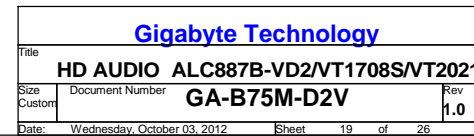


Gigabyte Technology			
FP,F_USB,USB PWR,SPKR,SATA LED			
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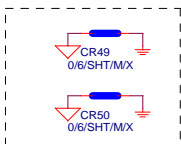
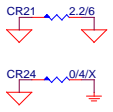
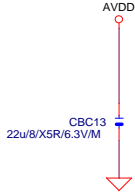
CR34: 20K/4/1% @Realtek cdec
CR34: 5.1K/4/1 %@VIA cdec
CBC39 100P @VIA codec

CR34 20K/4/1

CBC42 100p/4/NPO/50V/J/X

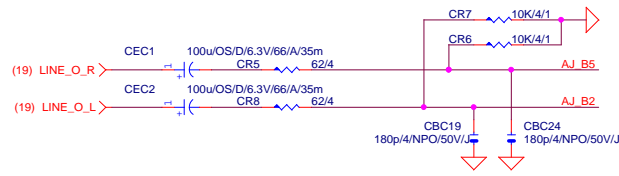


CODEC POWER/EMI PAD

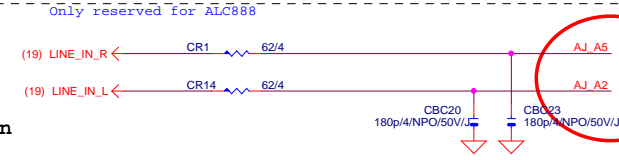


For EMI

LINE-OUT



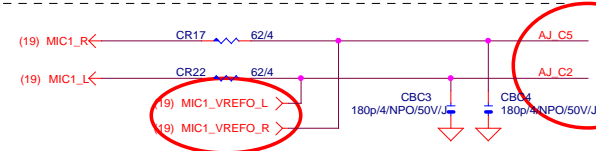
LINE-IN



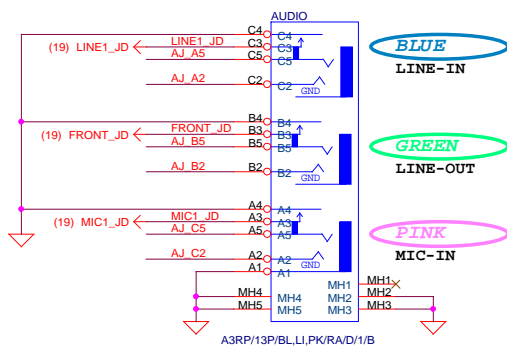
Verify MIC function in LINE-in

For 889A/888

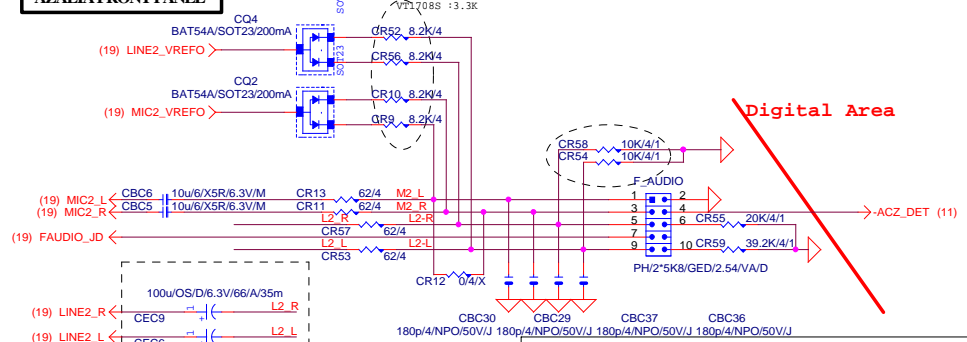
MIC-IN



SPDIF_OUT



AZALIA FRONT PANEL



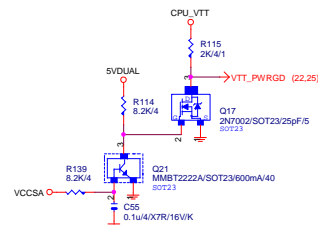
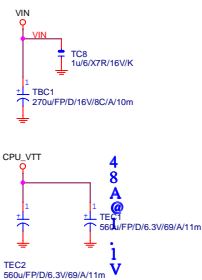
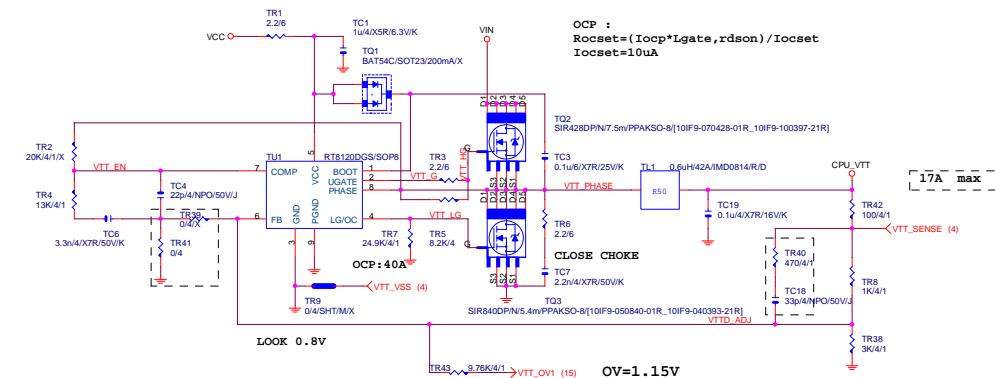
Gigabyte Technology

AUDIO JACK

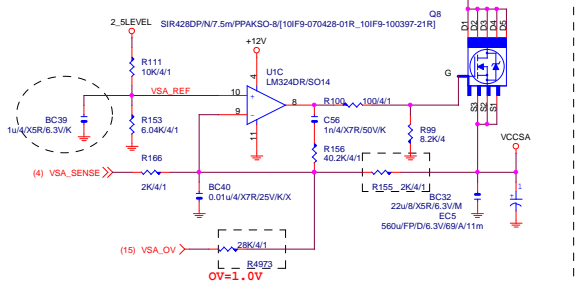
GA-B75M-D2V

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	GA-B75M-D2V	1.0
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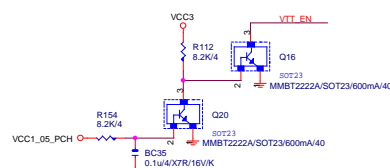
CPU_VTT



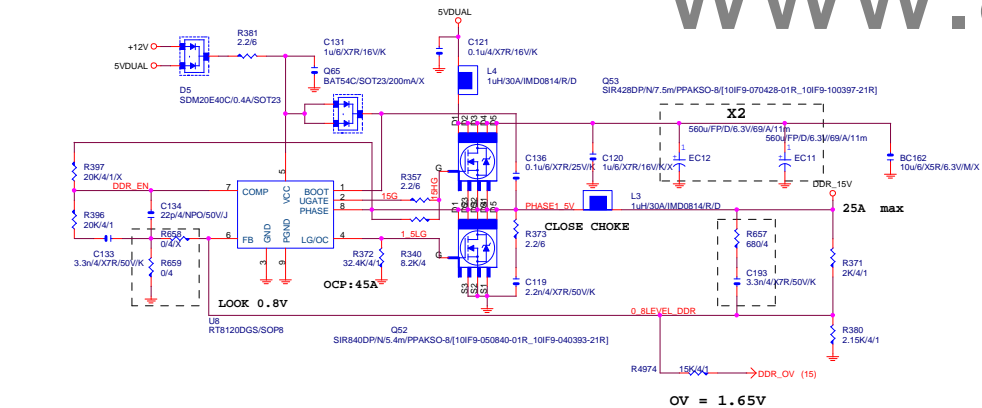
VCCSA



CPU_VTT	PWR	SEQ
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0	0	7
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0	0	133
0	0	134
0	0	135
0	0	136
0	0	137
0	0	1



DDR15V



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

```
Rocset=(Iocp*Lgate,rdson)/Iocset
Rocset=(45A*6.7mOhm)/10uA = 30K
Iocset=10uA
```

DDR	PWR	SEQ
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