

Model Name: GA-B85M-HD3

Revision 1.1

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1150-A
05	CPU_LGA1150-B
06	CPU_LGA1150-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	PCI EXPRESS*16 SLOT
15	PCI EXPRESS X1 *2 SLOT
16	PCI SLOT
17	ITE 8728 LPC IO
18	COM,KB_MS_USB,USB30_20
19	HWM,FAN CTRL,OV,-PROCHOT
20	DUAL BIOS
21	FP,FUSB,SPK,SATALED
22	Realtek ALC887-VD2
23	REAR AUDIO JACK
24	REALTEK RTL8111F
25	DISCRETE POWER
26	ATX , CLOCK GEN
27	VCORE ISL95820_1

SHEET

TITLE

28	VCORE ISL95820_2
29	RT8120_DDR POWER
30	LPT, M3 POWER
31	DVI, HDMI
32	IT8892E

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Gigabyte Technology

Title			Cover Sheet
Size	Document Number	GA-B85M-HD3	
Custom			Rev 1.1
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## Revision 1.1

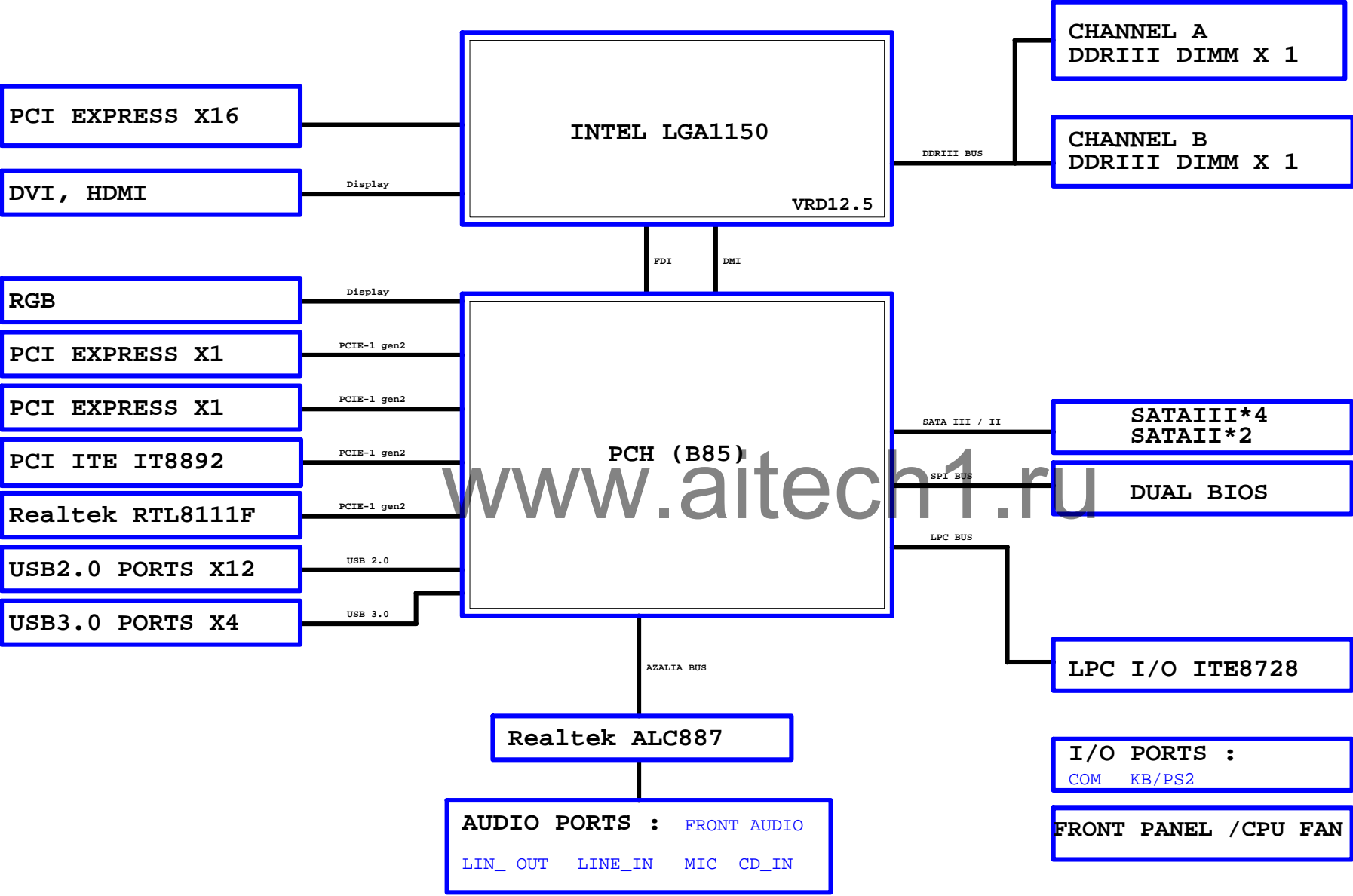
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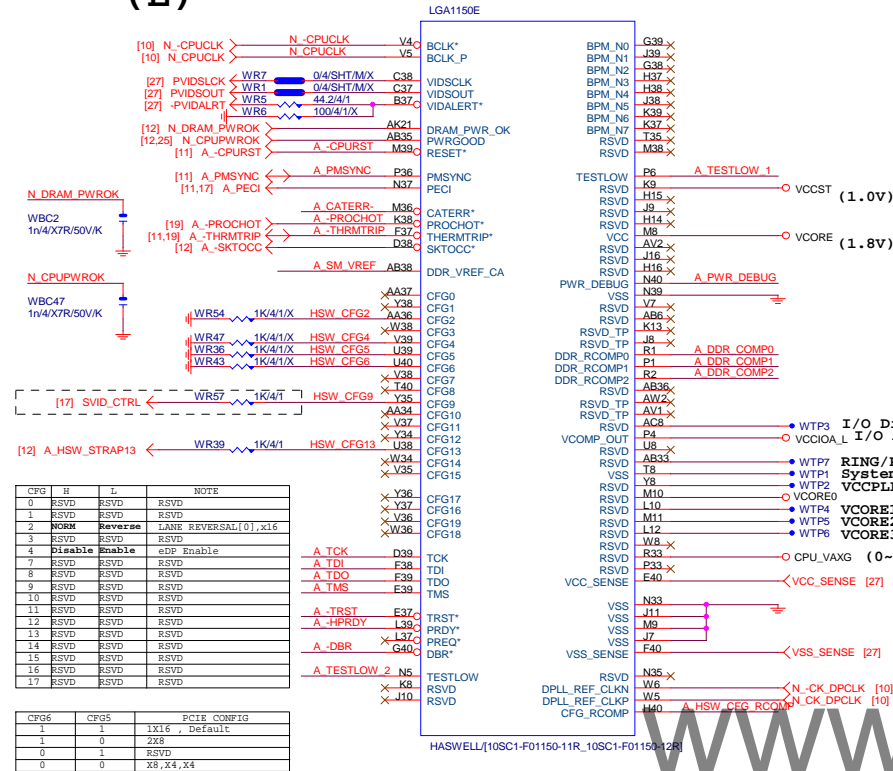
## Gigabyte Technology

Title			
BOM & PCB MODIFY HISTORY			
Size	Document Number		Rev
Custom	GA-B85M-HD3		1.1
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BLOCK DIAGRAM



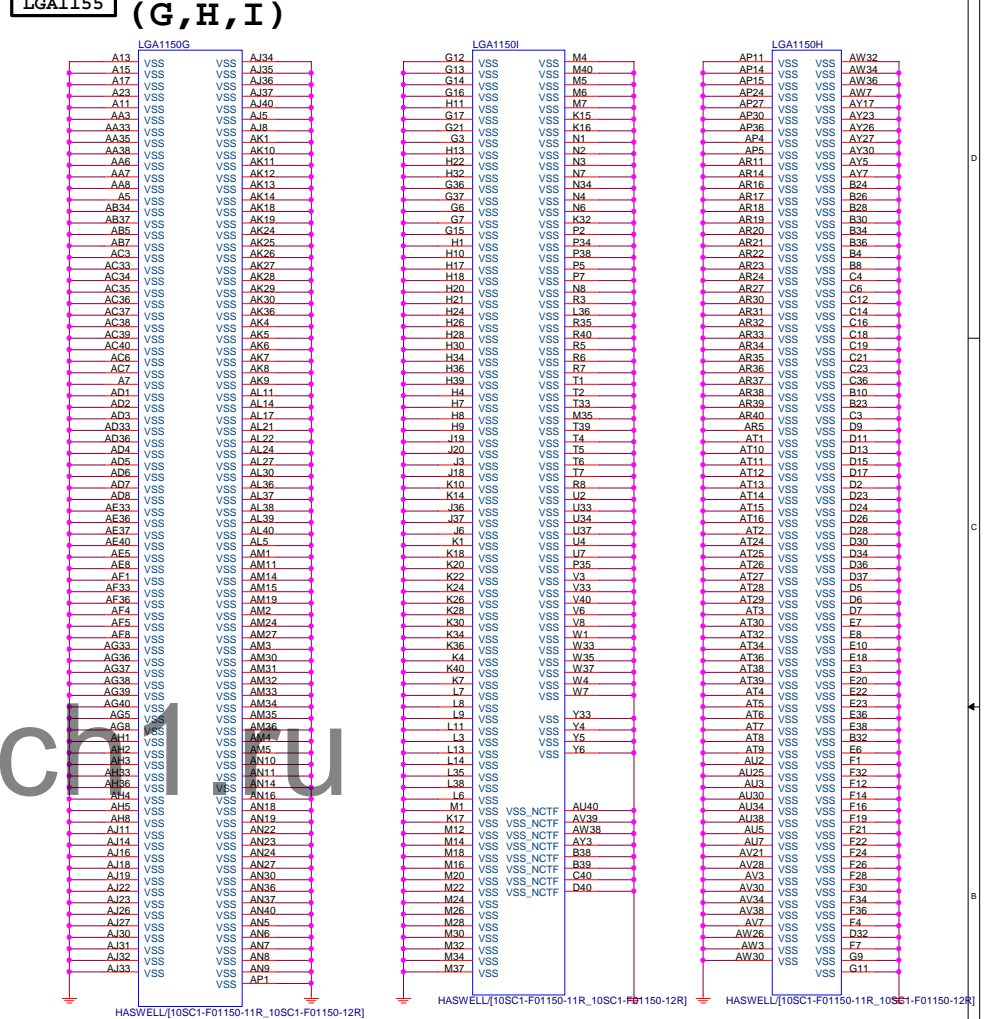
# LGA1150 (E)



## LGA1150 (A)

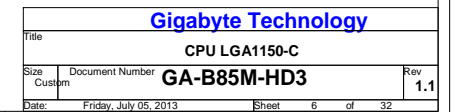
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MAAA0	AU13	DDR0_MA1	DDR0_D01	AD39	MDA1
MAAA1	AV16	DDR0_MA2	DDR0_D02	AF38	MDA2
MAAA2	AU16	DDR0_MA3	DDR0_D03	AF39	MDA3
MAAA3	AW17	DDR0_MA4	DDR0_D04	AD37	MDA4
MAAA4	AU17	DDR0_MA5	DDR0_D05	AD40	MDA5
MAAA5	AW18	DDR0_MA6	DDR0_D06	AE37	MDA6
MAAA6	AV17	DDR0_MA7	DDR0_D07	AF40	MDA7
MAAA7	AT18	DDR0_MA8	DDR0_D08	AH40	MDA9
MAAA8	AU18	DDR0_MA9	DDR0_D09	AH39	MDA10
MAAA9	AT19	DDR0_MA10	DDR0_D10	AK38	MDA11
MAAA10	AW11	DDR0_MA11	DDR0_D11	AK39	MDA12
MAAA11	AV19	DDR0_MA12	DDR0_D12	AH37	MDA12
MAAA12	AU19	DDR0_MA13	DDR0_D13	AH38	MDA14
MAAA13	AT20	DDR0_MA14	DDR0_D14	AK37	MDA15
MAAA14	AW21	DDR0_MA15	DDR0_D15	AK40	MDA15
MAAA15	AU21	DDR0_MA16	DDR0_D16	AM40	MDA17
MODT_A0	AW10	DDR0_ODT0	DDR0_D17	AM39	MDA21
MODT_A1	AY8	DDR0_ODT1	DDR0_D18	AP38	MDA18
AW9	AW9	DDR0_ODT2	DDR0_D19	AP39	MDA19
AW8	AW8	DDR0_ODT3	DDR0_D20	AM37	MDA20
AW33	AW33	DDR0_ECC0	DDR0_D21	AM38	MDA16
AW33	AW33	DDR0_ECC1	DDR0_D22	AP37	MDA22
AU31	AU31	DDR0_ECC2	DDR0_D23	AP40	MDA23
AU31	AU31	DDR0_ECC3	DDR0_D24	AW37	MDA29
AU33	AU33	DDR0_ECC4	DDR0_D25	AU35	MDA26
AT31	AT31	DDR0_ECC5	DDR0_D26	AU35	MDA27
AW31	AW31	DDR0_ECC6	DDR0_D27	T37	MDA28
AW31	AW31	DDR0_ECC7	DDR0_D28	AU37	MDA24
SBAA0	SBAA0	DDR0_BA0	DDR0_D29	AT35	MDA30
SBAA1	SBAA1	DDR0_BA1	DDR0_D30	AW35	MDA31
SBAA2	SBAA2	DDR0_BA2	DDR0_D31	AY6	MDA33
CKEA0	CKEA0	DDR0_CK0	DDR0_D32	AU6	MDA37
CKEA1	CKEA1	DDR0_CK1	DDR0_D33	AW6	MDA36
CSA0	CSA0	DDR0_CS_N0	DDR0_D34	AW4	MDA38
CSA1	CSA1	DDR0_CS_N1	DDR0_D35	AW4	MDA39
DCLKA0	DCLKA0	DDR0_CLK_P0	DDR0_D36	AR1	MDA41
DCLKA1	DCLKA1	DDR0_CLK_P1	DDR0_D37	AR4	MDA45
DCLKA2	DCLKA2	DDR0_CLK_P2	DDR0_D38	AN3	MDA42
DCLKA3	DCLKA3	DDR0_CLK_P3	DDR0_D39	AN4	MDA43
DCLKA4	DCLKA4	DDR0_CLK_P4	DDR0_D40	AR2	MDA44
DCLKA5	DCLKA5	DDR0_CLK_P5	DDR0_D41	AR3	MDA40
DCLKA6	DCLKA6	DDR0_CLK_P6	DDR0_D42	AN2	MDA46
DCLKA7	DCLKA7	DDR0_CLK_P7	DDR0_D43	AN1	MDA47
DCLKA8	DCLKA8	DDR0_CLK_P8	DDR0_D44	AL1	MDA49
DCLKA9	DCLKA9	DDR0_CLK_P9	DDR0_D45	AL4	MDA53
DCLKA10	DCLKA10	DDR0_CLK_P10	DDR0_D46	AJ3	MDA50
DCLKA11	DCLKA11	DDR0_CLK_P11	DDR0_D47	AJ4	MDA51
DCLKA12	DCLKA12	DDR0_CLK_P12	DDR0_D48	AL2	MDA52
DCLKA13	DCLKA13	DDR0_CLK_P13	DDR0_D49	AJ2	MDA48
DCLKA14	DCLKA14	DDR0_CLK_P14	DDR0_D50	AJ1	MDA55
DCLKA15	DCLKA15	DDR0_CLK_P15	DDR0_D51	AG1	MDA57
DCLKA16	DCLKA16	DDR0_CLK_P16	DDR0_D52	AG4	MDA61
DCLKA17	DCLKA17	DDR0_CLK_P17	DDR0_D53	AE3	MDA58
DCLKA18	DCLKA18	DDR0_CLK_P18	DDR0_D54	E4	MDA59
DCLKA19	DCLKA19	DDR0_CLK_P19	DDR0_D55	AG2	MDA60
DCLKA20	DCLKA20	DDR0_CLK_P20	DDR0_D56	AG3	MDA56
DCLKA21	DCLKA21	DDR0_CLK_P21	DDR0_D57	AE2	MDA62
DCLKA22	DCLKA22	DDR0_CLK_P22	DDR0_D58	AE1	MDA63
DCLKA23	DCLKA23	DDR0_CLK_P23	DDR0_D59	AE39	DQSA0
DCLKA24	DCLKA24	DDR0_CLK_P24	DDR0_D60	AJ39	DQSA1
DCLKA25	DCLKA25	DDR0_CLK_P25	DDR0_D61	AN39	DQSA2
DCLKA26	DCLKA26	DDR0_CLK_P26	DDR0_D62	AV36	DQSA3
DCLKA27	DCLKA27	DDR0_CLK_P27	DDR0_D63	AV5	DQSA4
DCLKA28	DCLKA28	DDR0_CLK_P28	DDR0_D64	AP3	DQSA5
DCLKA29	DCLKA29	DDR0_CLK_P29	DDR0_D65	AK3	DQSA6
DCLKA30	DCLKA30	DDR0_CLK_P30	DDR0_D66	AF3	DQSA7
DCLKA31	DCLKA31	DDR0_CLK_P31	DDR0_D67	AV32	DQSA7
DCLKA32	DCLKA32	DDR0_CLK_P32	DDR0_D68	AE38	DQSA0
DCLKA33	DCLKA33	DDR0_CLK_P33	DDR0_D69	AJ38	DQSA1
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DCLKA37	DCLKA37	DDR0_CLK_P37	DDR0_D73	AP2	DQSA5
DCLKA38	DCLKA38	DDR0_CLK_P38	DDR0_D74	AK2	DQSA6
DCLKA39	DCLKA39	DDR0_CLK_P39	DDR0_D75	AF2	DQSA7
DCLKA40	DCLKA40	DDR0_CLK_P40	DDR0_D76	AJ32	DQSA7
DCLKA41	DCLKA41	DDR0_CLK_P41	DDR0_D77		
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DCLKA43	DCLKA43	DDR0_CLK_P43	DDR0_D79		
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DCLKA45	DCLKA45	DDR0_CLK_P45	DDR0_D81		
DCLKA46	DCLKA46	DDR0_CLK_P46	DDR0_D82		
DCLKA47	DCLKA47	DDR0_CLK_P47	DDR0_D83		
DCLKA48	DCLKA48	DDR0_CLK_P48	DDR0_D84		
DCLKA49	DCLKA49	DDR0_CLK_P49	DDR0_D85		
DCLKA50	DCLKA50	DDR0_CLK_P50	DDR0_D86		
DCLKA51	DCLKA51	DDR0_CLK_P51	DDR0_D87		
DCLKA52	DCLKA52	DDR0_CLK_P52	DDR0_D88		
DCLKA53	DCLKA53	DDR0_CLK_P53	DDR0_D89		
DCLKA54	DCLKA54	DDR0_CLK_P54	DDR0_D90		
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DCLKA58	DCLKA58	DDR0_CLK_P58	DDR0_D94		
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DCLKA69	DCLKA69	DDR0_CLK_P69	DDR0_D105		
DCLKA70	DCLKA70	DDR0_CLK_P70	DDR0_D106		
DCLKA71	DCLKA71	DDR0_CLK_P71	DDR0_D107		
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DCLKA76	DCLKA76	DDR0_CLK_P76	DDR0_D112		
DCLKA77	DCLKA77	DDR0_CLK_P77	DDR0_D113		
DCLKA78	DCLKA78	DDR0_CLK_P78	DDR0_D114		
DCLKA79	DCLKA79	DDR0_CLK_P79	DDR0_D115		
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DCLKA82	DCLKA82	DDR0_CLK_P82	DDR0_D118		
DCLKA83	DCLKA83	DDR0_CLK_P83	DDR0_D119		
DCLKA84	DCLKA84	DDR0_CLK_P84	DDR0_D120		
DCLKA85	DCLKA85	DDR0_CLK_P85	DDR0_D121		
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DCLKA87	DCLKA87	DDR0_CLK_P87	DDR0_D123		
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DCLKA89	DCLKA89	DDR0_CLK_P89	DDR0_D125		
DCLKA90	DCLKA90	DDR0_CLK_P90	DDR0_D126		
DCLKA91	DCLKA91	DDR0_CLK_P91	DDR0_D127		
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DCLKA96	DCLKA96	DDR0_CLK_P96	DDR0_D132		
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DCLKA98	DCLKA98	DDR0_CLK_P98	DDR0_D134		
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DCLKA153	DCLKA153	DDR0_CLK_P153	DDR0_D189		
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DCLKA155	DCLKA155	DDR0_CLK_P155	DDR0_D191		
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DCLKA157	DCLKA157	DDR0_CLK_P157	DDR0_D193		
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DCLKA159	DCLKA159	DDR0_CLK_P159	DDR0_D195		
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DCLKA162	DCLKA162	DDR0_CLK_P162	DDR0_D198		
DCLKA163	DCLKA163	DDR0_CLK_P163	DDR0_D199		
DCLKA164	DCLKA164	DDR0_CLK_P164	DDR0_D200		
DCLKA165	DCLKA165	DDR0_CLK_P165	DDR0_D201		
DCLKA166	DCLKA166	DDR0_CLK_P166	DDR0_D202		
DCLKA167	DCLKA167	DDR0_CLK_P167	DDR0_D203		
DCLKA168	DCLKA168	DDR0_CLK_P168	DDR0_D204		
DCLKA169	DCLKA169	DDR0_CLK_P169	DDR0_D205		
DCLKA170	DCLKA170	DDR0_CLK_P170	DDR0_D206		
DCLKA171	DCLKA171	DDR0_CLK_P171	DDR0_D207		
DCLKA172	DCLKA172	DDR0_CLK_P172	DDR0_D208		
DCLKA173	DCLKA173	DDR0_CLK_P173	DDR0_D209		
DCLKA174	DCLKA174	DDR0_CLK_P174	DDR0_D210		
DCLKA175	DCLKA175	DDR0_CLK_P175	DDR0_D211		
DCLKA176	DCLKA176	DDR0_CLK_P176	DDR0_D212		
DCLKA177	DCLKA177	DDR0_CLK_P177	DDR0_D213		
DCLKA178	DCLKA178	DDR0_CLK_P178	DDR0_D214		
DCLKA179	DCLKA179	DDR0_CLK_P179	DDR0_D215		
DCLKA180	DCLKA180	DDR0_CLK_P180	DDR0_D216		
DCLKA181	DCLKA181	DDR0_CLK_P181	DDR0_D217		
DCLKA182	DCLKA182	DDR0_CLK_P182	DDR0_D218		
DCLKA183	DCLKA183	DDR0_CLK_P183	DDR0_D219		
DCLKA184	DCLKA184	DDR0_CLK_P184	DDR0_D220		
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DCLKA186	DCLKA186	DDR0_CLK_P186	DDR0_D222		
DCLKA187	DCLKA187	DDR0_CLK_P187	DDR0_D223		
DCLKA188					

LGA1155 (G,H,I)



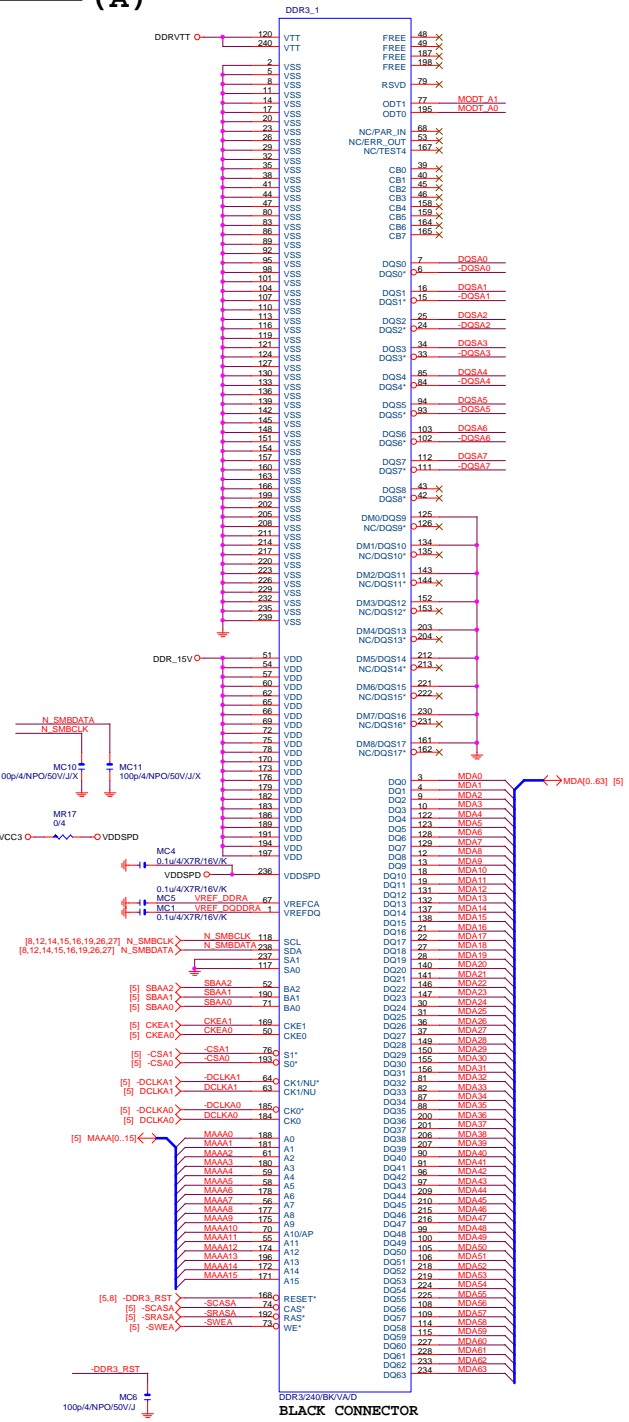
## DDR CAP

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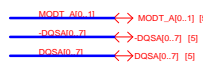


DDR3

(A)

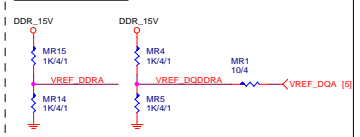


BLACK CONNECTOR

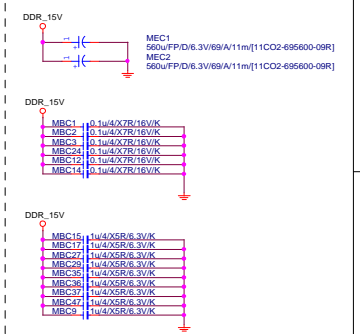


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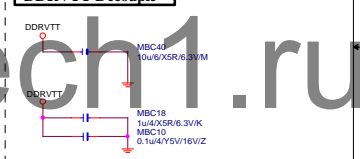
DDR3 VREF



DDR15V Decouple



DDRVTT Decouple



Gigabyte Technology	
File	
DDR3 CHANNEL A	
GA-B85M-HD3	
Size	Rev
Custom	1.1
Date	Sheet 7 of 32



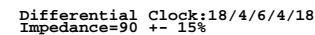




(E)



**(G)**

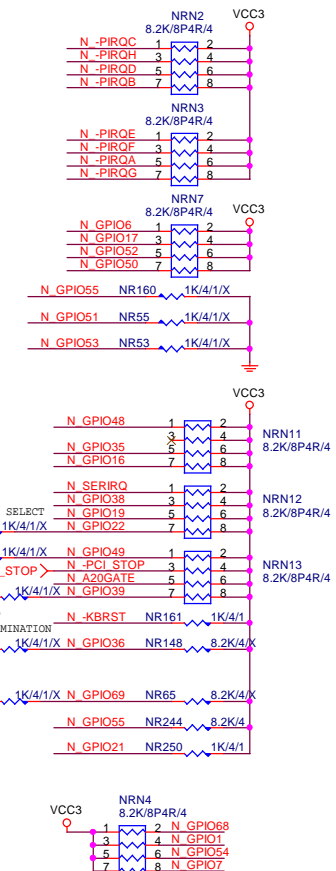
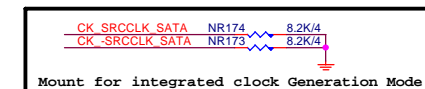
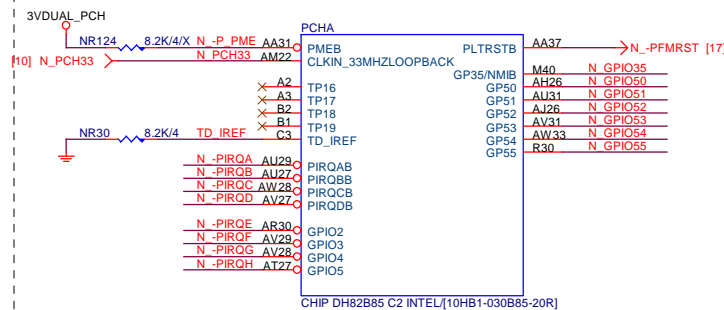


AZC099-04S/SOT23-6L

Close to Filter

Title			
PCH DISPLAY ,CLK BUFFER			
Size	Document Number		Rev
Custom	GA-B85M-HD3		1.1
Date:	Friday, July 05, 2013	Sheet	10 of 32

SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)  
Impedance=90 +- 17.5%  
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)  
Impedance=90 +- 17.5%



Title			
PCH HOST , SATA, PCI			
Size	Document Number		Rev
Custom	GA-B85M-HD3		1.1
Date:	Friday, July 05, 2013	Sheet	11 of 32

(D)



## HSW\_STRAP13

32.768KHZ



## CLR\_CMOS

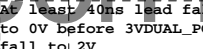


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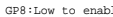


## PCH\_DPWROK

3VDUAL PCH stabel



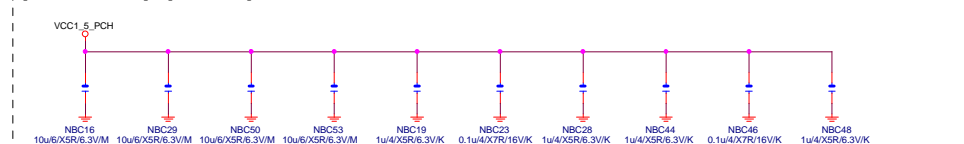
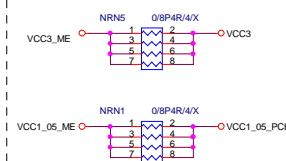
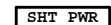
PCH	PU/PD
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# Gigabyte Technology

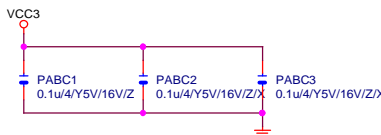
Title				PCH GPIO , CTRL , AUDIO			
Size	Document Number						Rev
Custom	GA-B85M-HD3						1.1
Date: Friday, July 05, 2013				Sheet 12 of 32			

**PCH (I)**

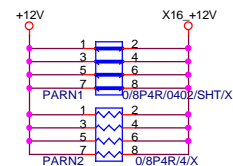




## PCIEX16 CAP



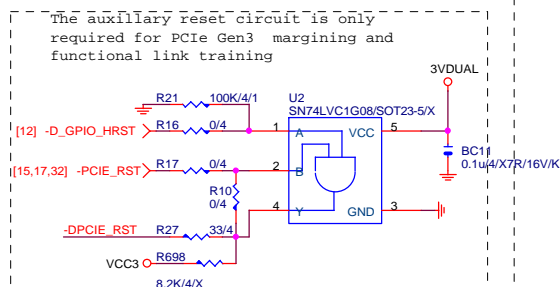
PCIEX16	PROTECT	SHT
---------	---------	-----



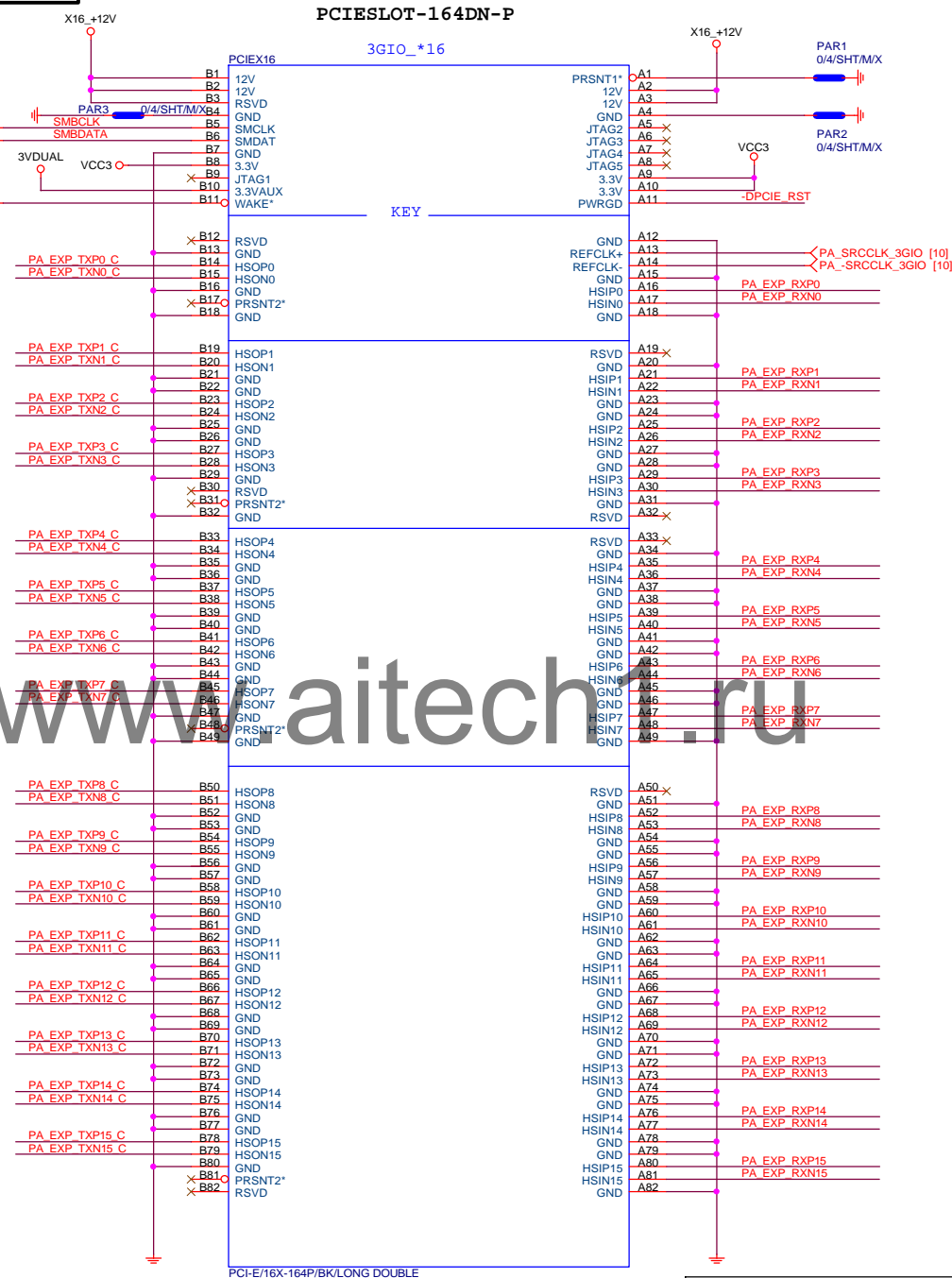
PCIEX16	AC	CAP
---------	----	-----

PA EXP TXP0	PAC5	0.22u4/X5R/6.3V/K	PA EXP TXP0 C
PA EXP TXN0	PAC4	0.22u4/X5R/6.3V/K	PA EXP TXN0 C
PA EXP TXP1	PAC6	0.22u4/X5R/6.3V/K	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22u4/X5R/6.3V/K	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22u4/X5R/6.3V/K	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u4/X5R/6.3V/K	PA EXP TXN2 C
PA EXP TXP3	PAC10	0.22u4/X5R/6.3V/K	PA EXP TXP3 C
PA EXP TXN3	PAC11	0.22u4/X5R/6.3V/K	PA EXP TXN3 C
PA EXP TXP4	PAC12	0.22u4/X5R/6.3V/K	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22u4/X5R/6.3V/K	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22u4/X5R/6.3V/K	PA EXP TXP5 C
PA EXP TXN5	PAC15	0.22u4/X5R/6.3V/K	PA EXP TXN5 C
PA EXP TXP6	PAC16	0.22u4/X5R/6.3V/K	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22u4/X5R/6.3V/K	PA EXP TXN6 C
PA EXP TXP7	PAC18	0.22u4/X5R/6.3V/K	PA EXP TXP7 C
PA EXP TXN7	PAC19	0.22u4/X5R/6.3V/K	PA EXP TXN7 C
PA EXP TXP8	PAC20	0.22u4/X5R/6.3V/K	PA EXP TXP8 C
PA EXP TXN8	PAC21	0.22u4/X5R/6.3V/K	PA EXP TXN8 C
PA EXP TXP9	PAC22	0.22u4/X5R/6.3V/K	PA EXP TXP9 C
PA EXP TXN9	PAC23	0.22u4/X5R/6.3V/K	PA EXP TXN9 C
PA EXP TXP10	PAC24	0.22u4/X5R/6.3V/K	PA EXP TXP10 C
PA EXP TXN10	PAC25	0.22u4/X5R/6.3V/K	PA EXP TXN10 C
PA EXP TXP11	PAC26	0.22u4/X5R/6.3V/K	PA EXP TXP11 C
PA EXP TXN11	PAC27	0.22u4/X5R/6.3V/K	PA EXP TXN11 C
PA EXP TXP12	PAC28	0.22u4/X5R/6.3V/K	PA EXP TXP12 C
PA EXP TXN12	PAC29	0.22u4/X5R/6.3V/K	PA EXP TXN12 C
PA EXP TXP13	PAC30	0.22u4/X5R/6.3V/K	PA EXP TXP13 C
PA EXP TXN13	PAC31	0.22u4/X5R/6.3V/K	PA EXP TXN13 C
PA EXP TXP14	PAC32	0.22u4/X5R/6.3V/K	PA EXP TXP14 C
PA EXP TXN14	PAC33	0.22u4/X5R/6.3V/K	PA EXP TXN14 C
PA EXP TXP15	PAC34	0.22u4/X5R/6.3V/K	PA EXP TXP15 C
PA EXP TXN15	PAC35	0.22u4/X5R/6.3V/K	PA EXP TXN15 C

PA\_EXP\_RXP[0..15] >> PA\_EXP\_RXP[0..15] [4]  
PA\_EXP\_RXN[0..15] >> PA\_EXP\_RXN[0..15] [4]  
PA\_EXP\_TXP[0..15] >> PA\_EXP\_TXP[0..15] [4]  
PA\_EXP\_TXN[0..15] >> PA\_EXP\_TXN[0..15] [4]



PCIEX16 SLOT



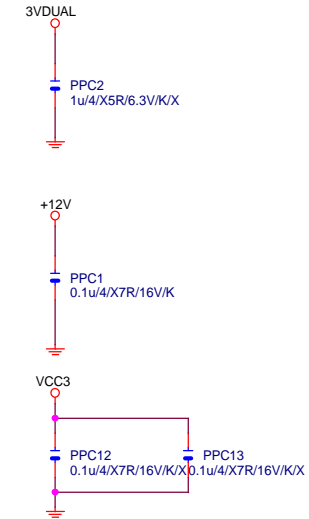
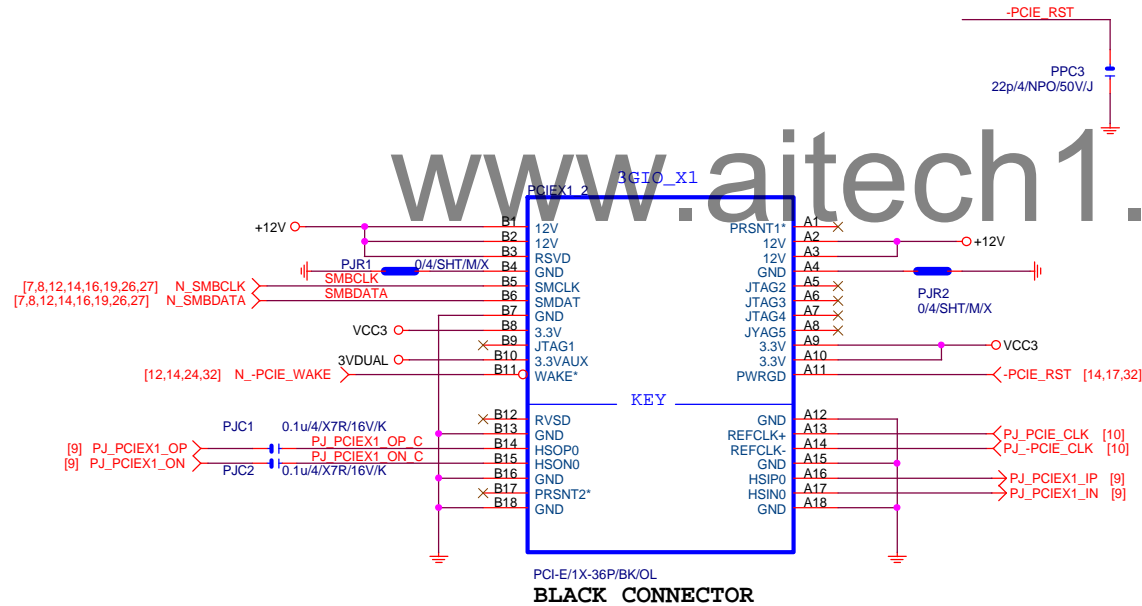
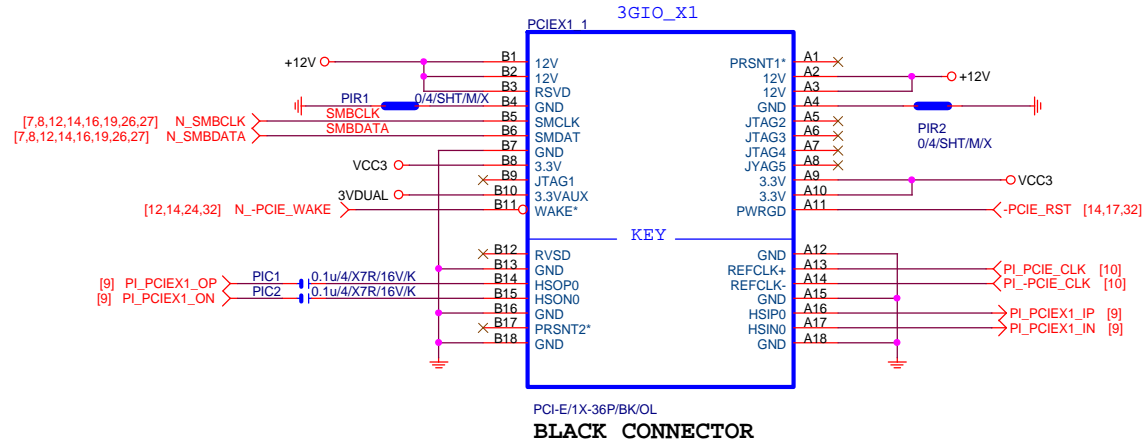
BLACK CONNECTOR

## Gigabyte Technology

PCI EXPRESS \* 16

Title			
PCI EXPRESS * 16			
Size Custom	Document Number	GA-B85M-HD3	Rev 1.1
Date:	Friday, July 05, 2013	Sheet 14 of 32	

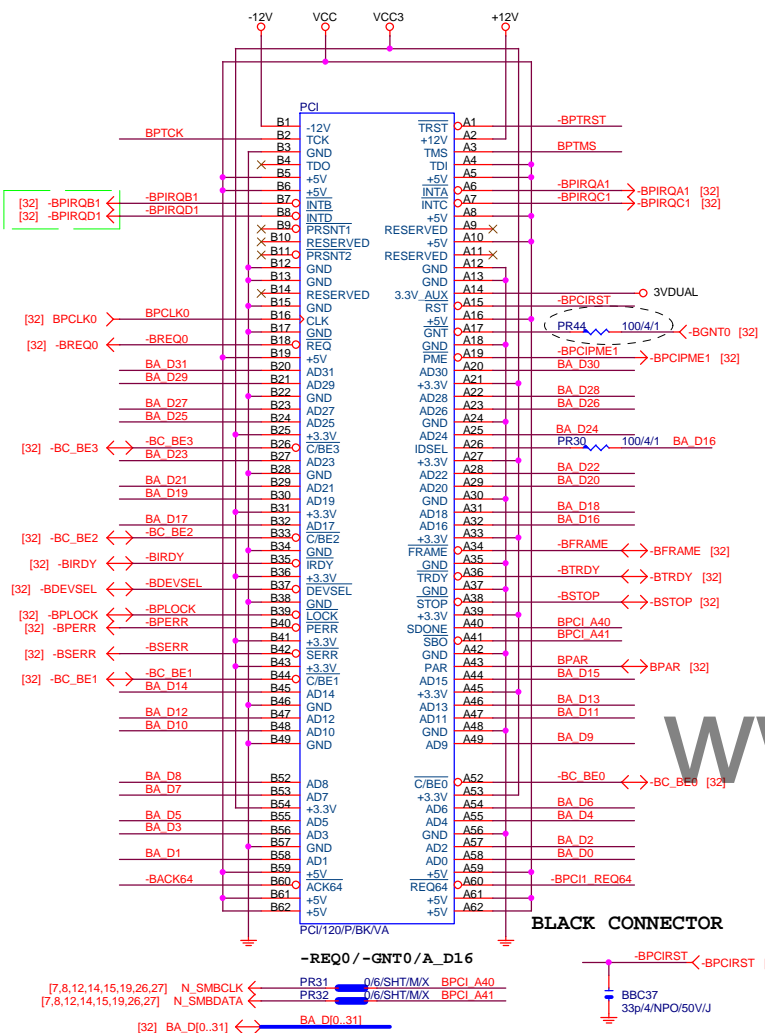
# PCIEX1 SLOT



Gigabyte Technology

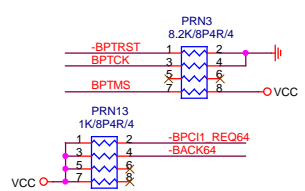
Title			PCI EXPRESS X 1 PORT
Size	Document Number	GA-B85M-HD3	
Custom		Rev	1.1
Date:	Friday, July 05, 2013	Sheet	15 of 32

# PCI SLOT 1

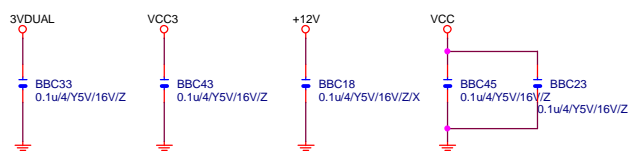


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## PCI PU



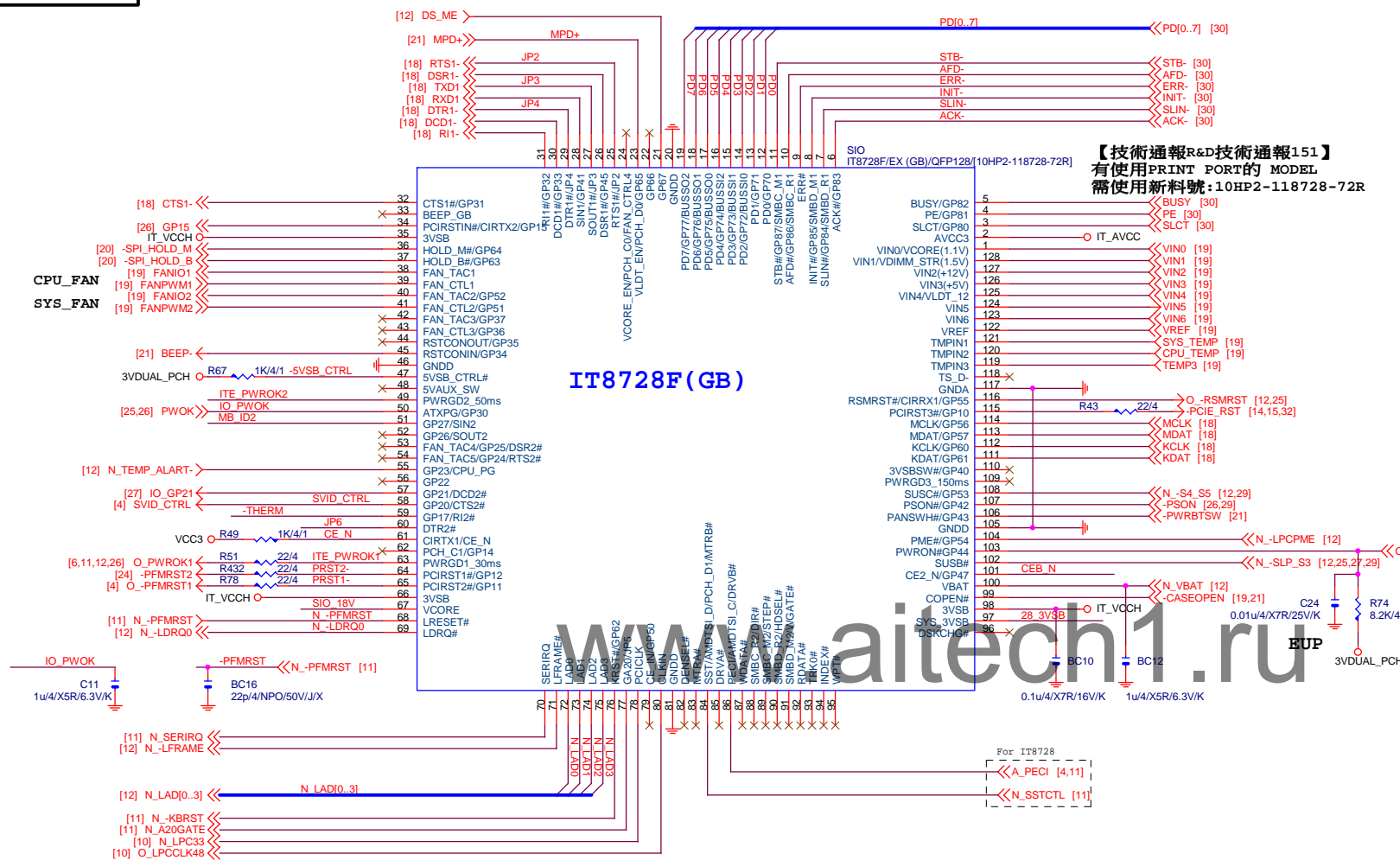
## PCI CAP



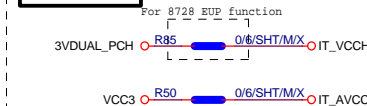
Gigabyte Technology			
Title			
PCI SLOT 1&2			
Size	Document Number	Rev	
Custom	GA-B85M-HD3	1.1	
Date:	Friday, July 05, 2013	Sheet	16 of 32



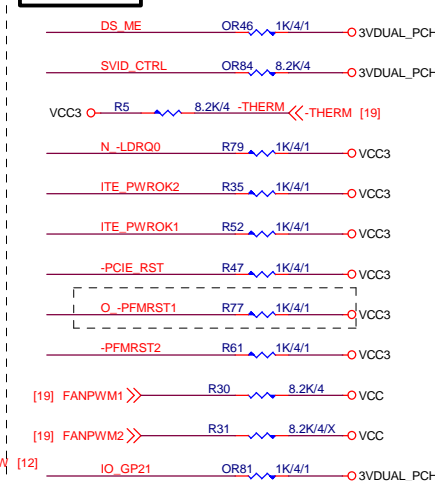
## SIO IT8728F



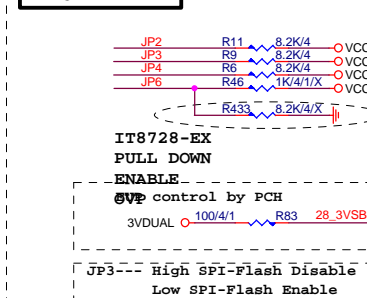
## PWR SHT



## SIO PU



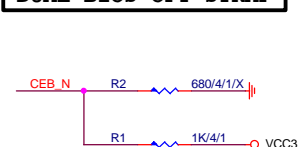
## SIO STRAP



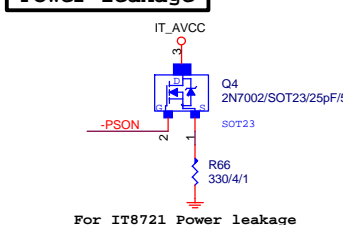
## IT8728F NOTE

	IT8728
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRV#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2 (VCC5)
PIN96	VIN1 (VCC12)
PIN97	VIN1/VDIMM_STR(1.5V)
PIN98	VINO/VCORE(1.1V)/NC

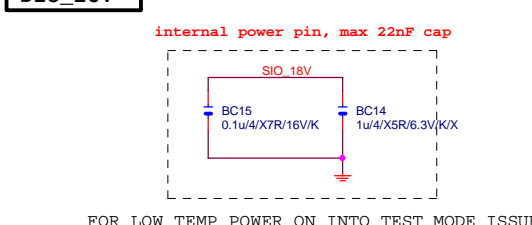
## DUAL BIOS OPT STRAP



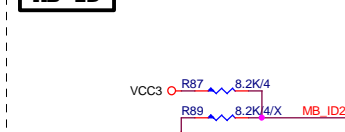
## Power leakage



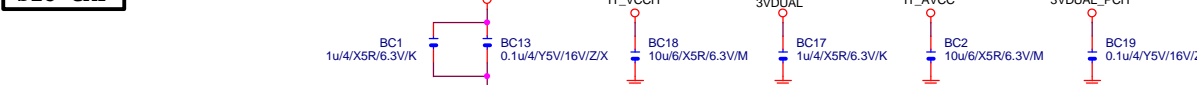
## SIO\_18V



## MB ID



## SIO CAP

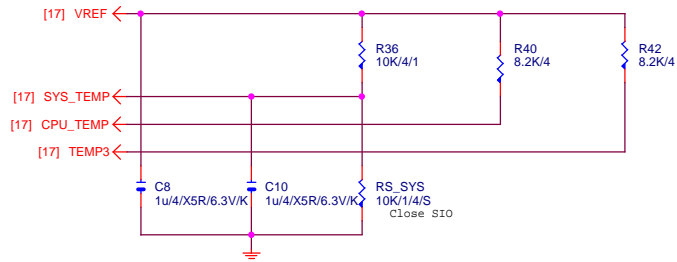


## Gigabyte Technology

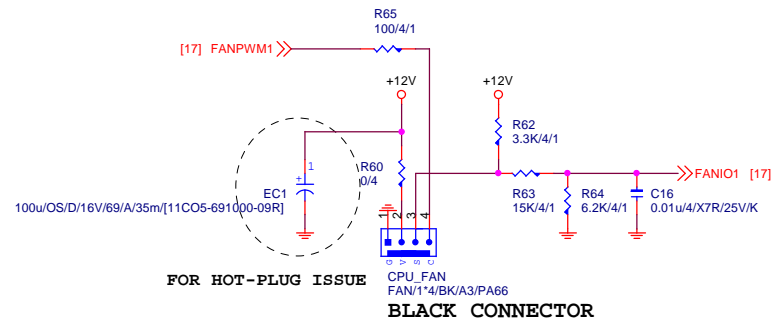
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Size	Document Number	GA-B85M-HD3	
Custom			Rev 1.1
Date:	Friday, July 05, 2013	Sheet	17 of 32



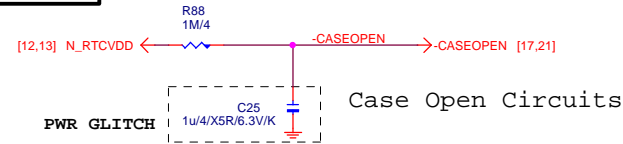
## TEMP H/W MONITOR



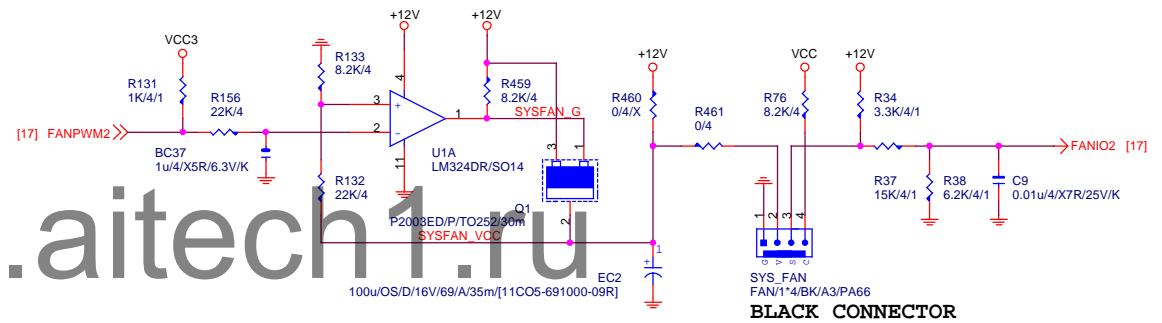
## CPU SMART FAN



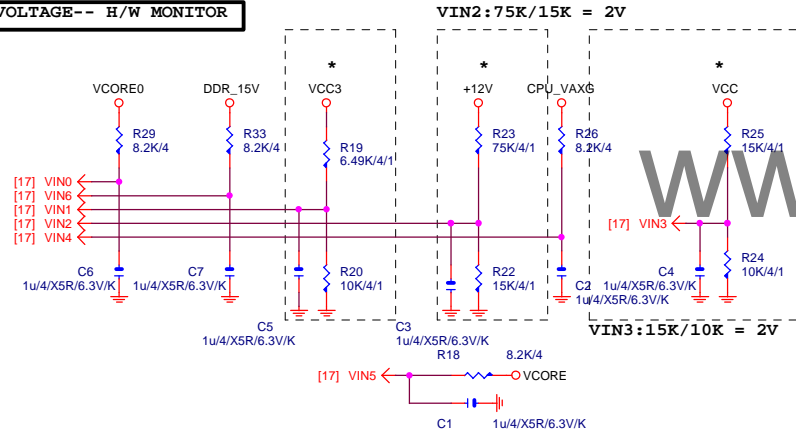
## CASE OPEN



## SYS SMART FAN

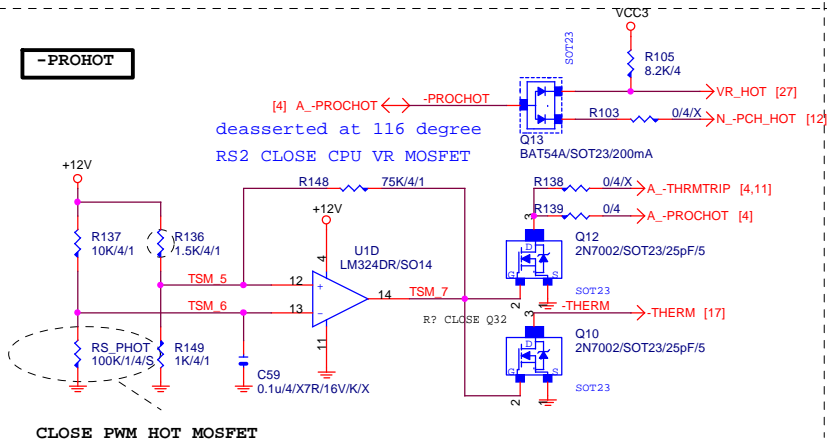


## VOLTAGE-- H/W MONITOR

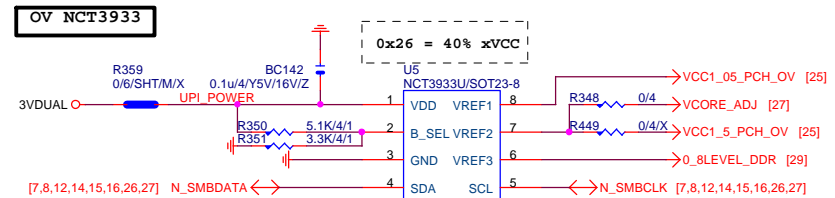


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## -PROHOT

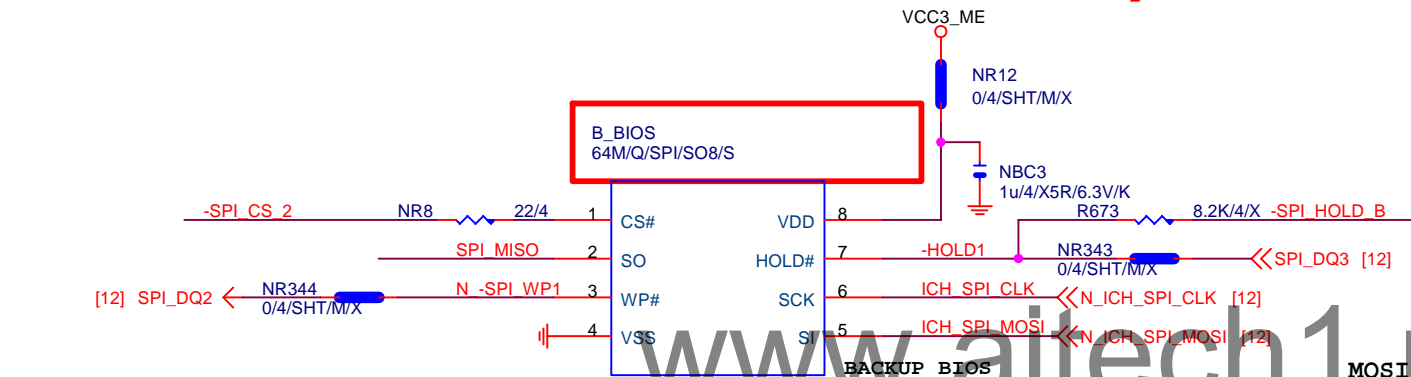
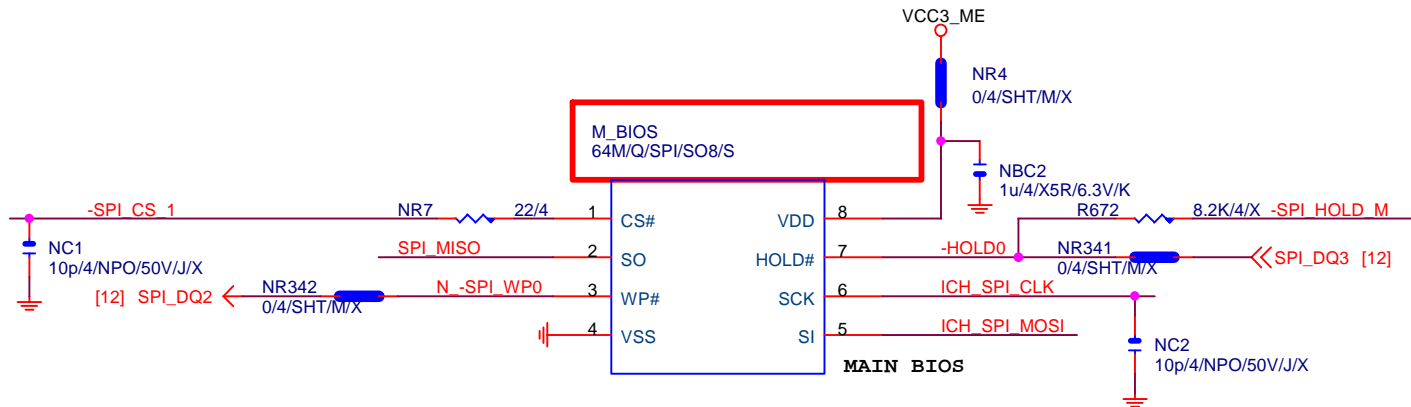


## 接pwm feedback pin



Gigabyte Technology

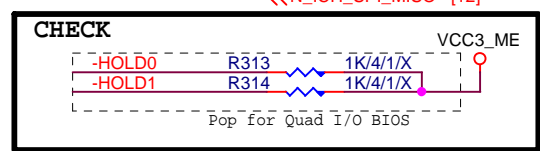
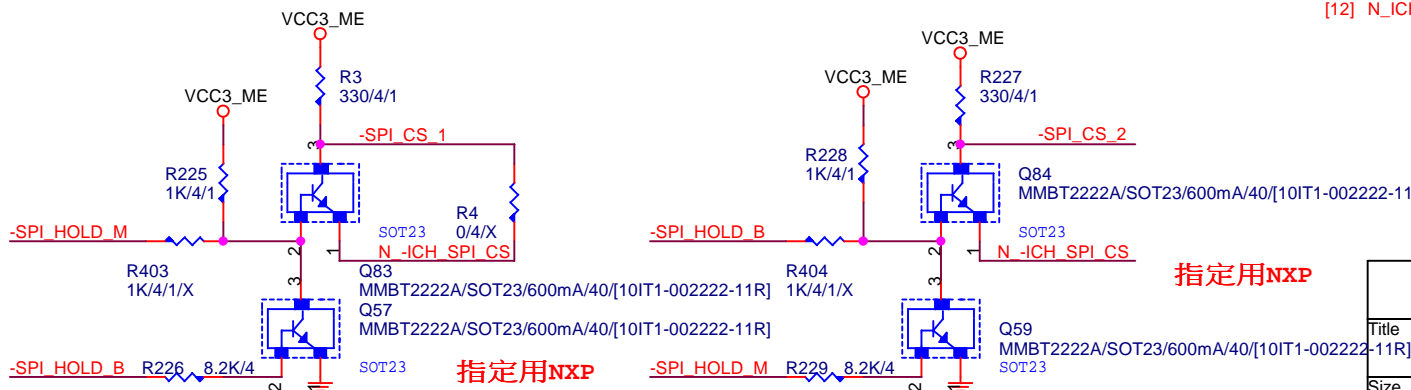
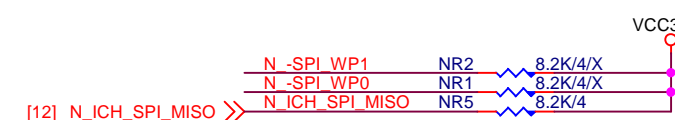
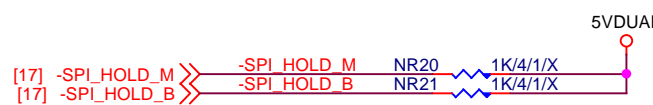
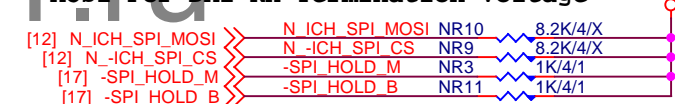
Title				
HWM,FAN CTRL,OV				
Size	Document Number			Rev
Custom	GA-B85M-HD3			1.1
Date:	Friday, July 05, 2013		Sheet	19 of 32



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

1 means floating  
0 means PD 1K

#### MOSI For DMI RX Termination Voltage



## Gigabyte Technology

### DUAL BIOS

# GA-B85M-HD3

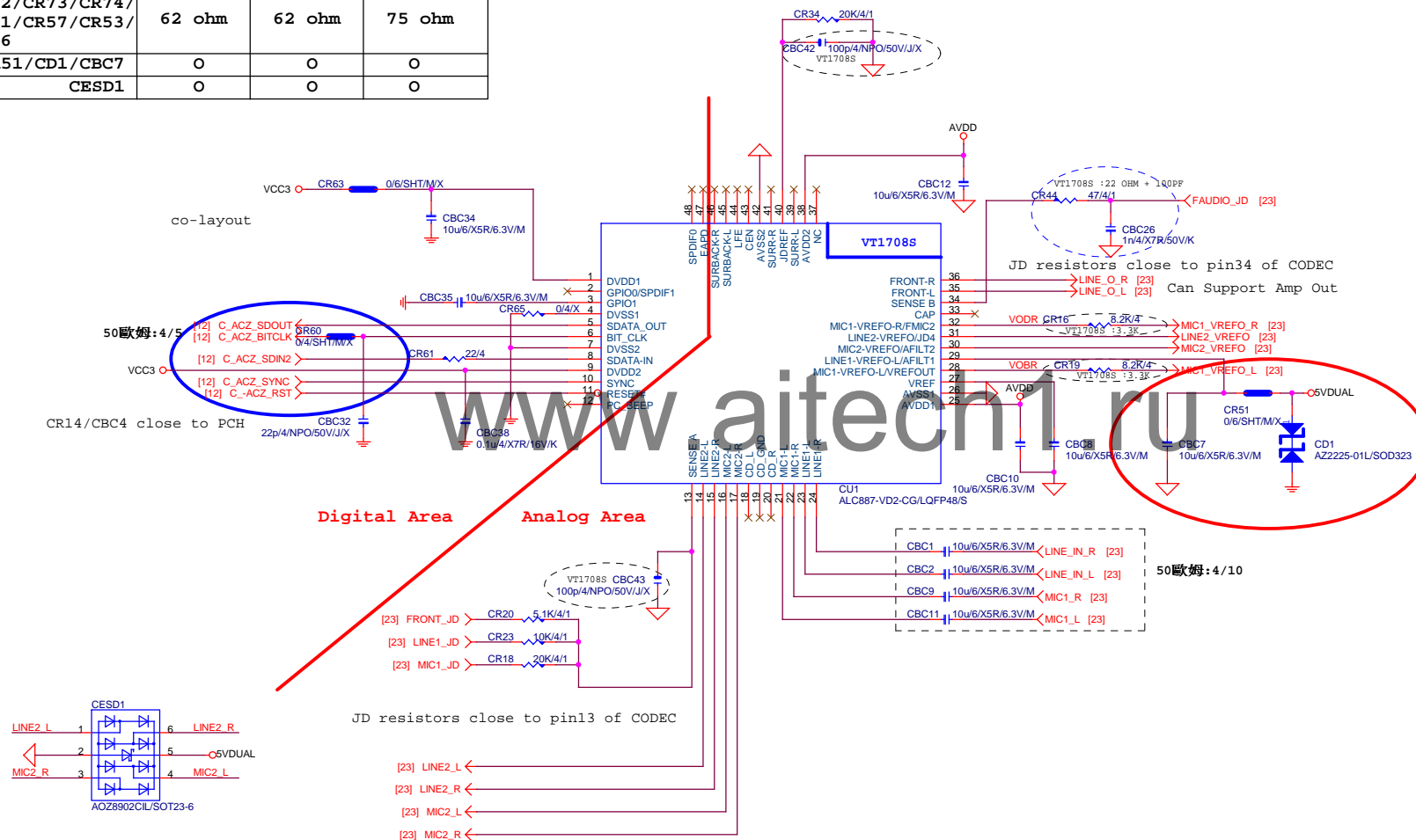
Title	Document Number		Rev
Size	Date		1.1
Custom	Friday, July 05, 2013		20 of 32

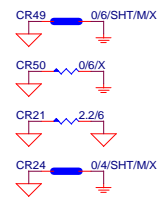
指定用NXP

指定用NXP

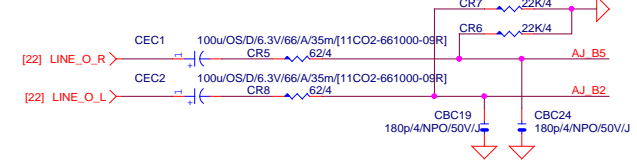


	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7	O	O	O
CESD1	O	O	O





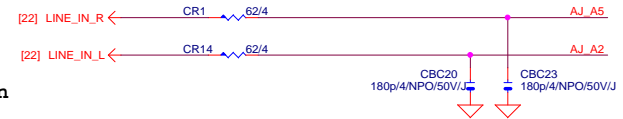
## LINE-OUT



## LINE-IN

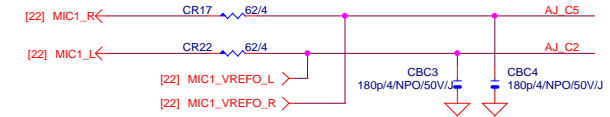
Verify MIC function  
in LINE-in

Only reserved for ALC888



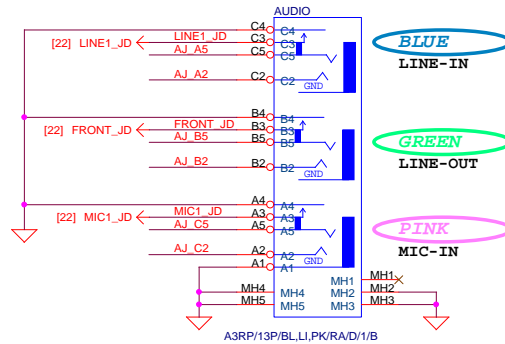
For 889A/888

## MIC-IN

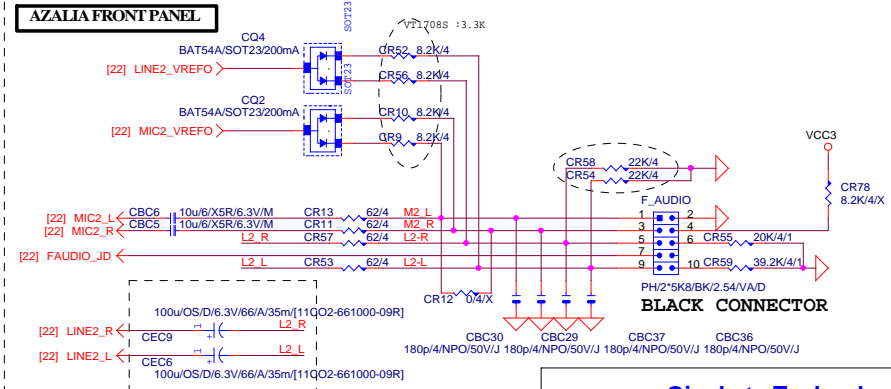


## SPDIF\_OUT

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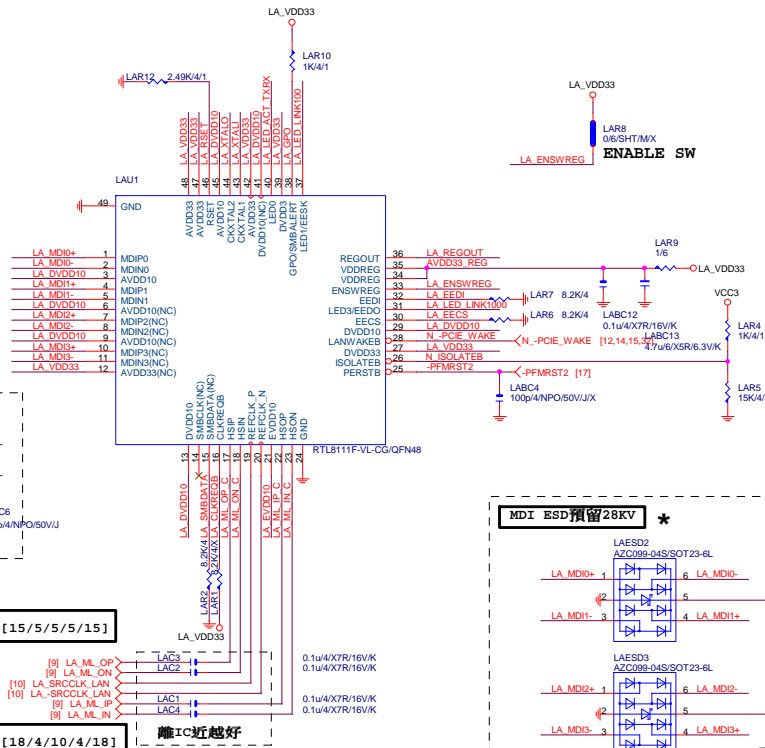
## AZALIA FRONT PANEL



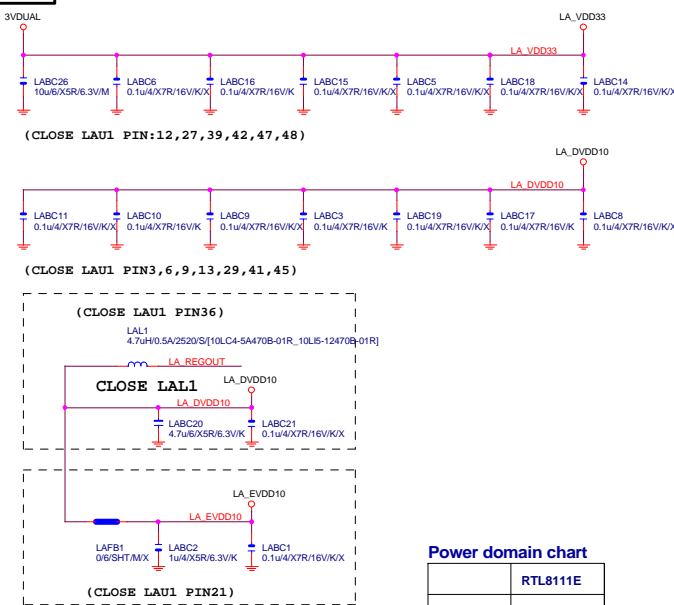
Gigabyte Technology

Title		
AUDIO JACK		
Size	Document Number	Rev
Custom	GA-B85M-HD3	1.1
Date:	Friday, July 05, 2013	Sheet 23 of 32

LAN:RTL8111F/VB/VL



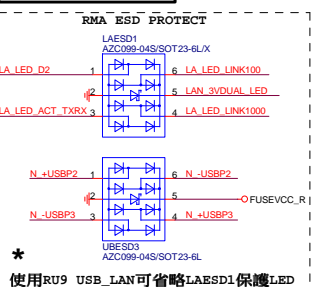
LAN POWER



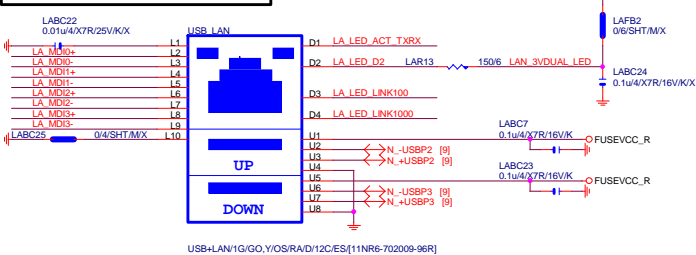
Power domain chart

	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V

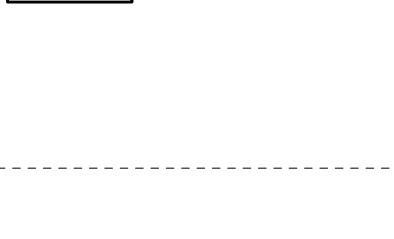
USB LAN CONNECTOR



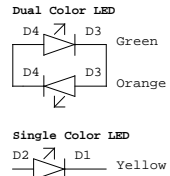
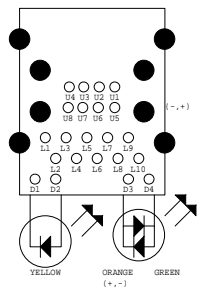
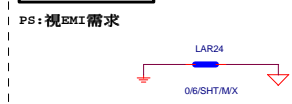
LA\_MDI-->100歐姆:[20/4/8/4/20]



USB X3 POWER



EMI SHORT PAD



注意:USB PORT(目前:暫代6,7PORT)  
USB-->90歐姆:[15/4.5/7.5/4.5/15]

BOM NOTICE \*

料號	規格	廠商
11NR6-702009-96R	1G LAN (12core)	UDE(RU9 ESD+)
[LED獨立走線,可省略外加AZC099料件LAESD1]		
1. 9KV ESD BOM:		
USB_LAN (RU9):11NR6-702009-96R		
2. 28KV ESD BOM:		
USB_LAN (RU9):11NR6-702009-96R		
LAESD2,LAESD3:上件AZC398-04S		

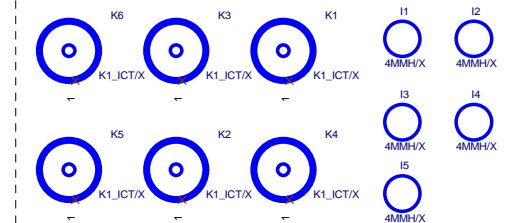
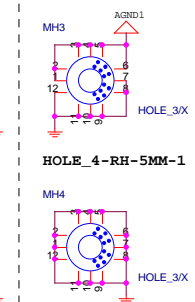
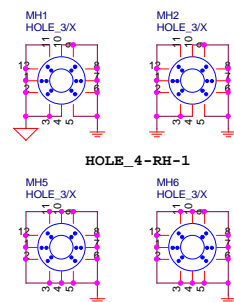
Gigabyte Technology

Title		Realtek RTL8111G	
Size	Document Number	GA-B85M-HD3	
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## 【技術通報R&amp;D技術通報155】

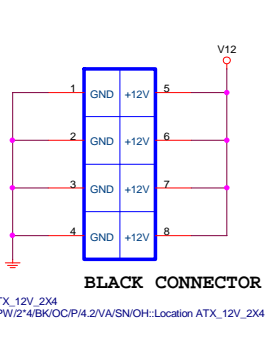


```
| To prevent the 5VSB  
| under loading when  
| boot
```

\_\_\_\_\_

To fix 12V light load

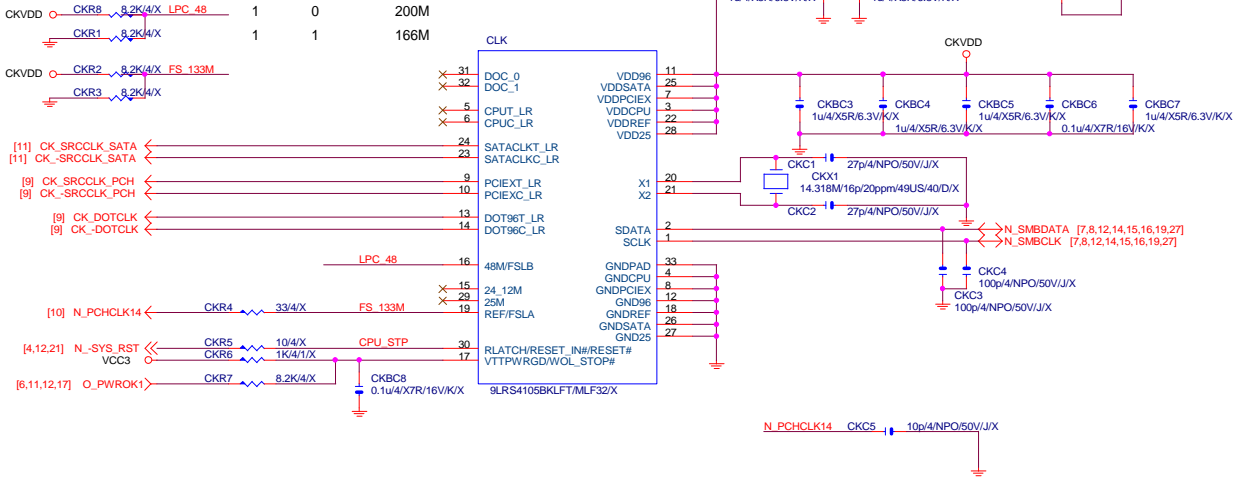
### THINK POWER CONNECTION



---

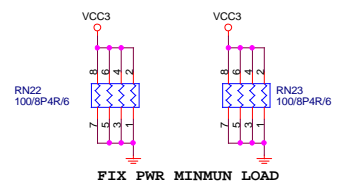
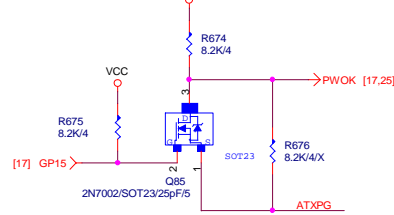
ESL D      ESL A      CS

FSLB	FSLA	CPU
0	0	100M <Default>
0	1	133M
1	0	200M
1	1	166M



2. 地线连接=0=地线

VCC

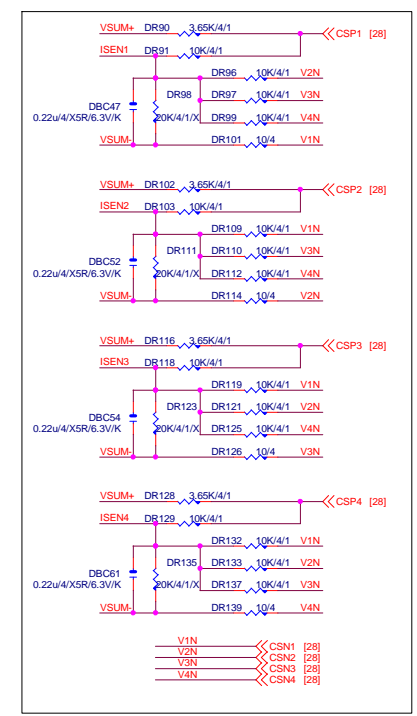
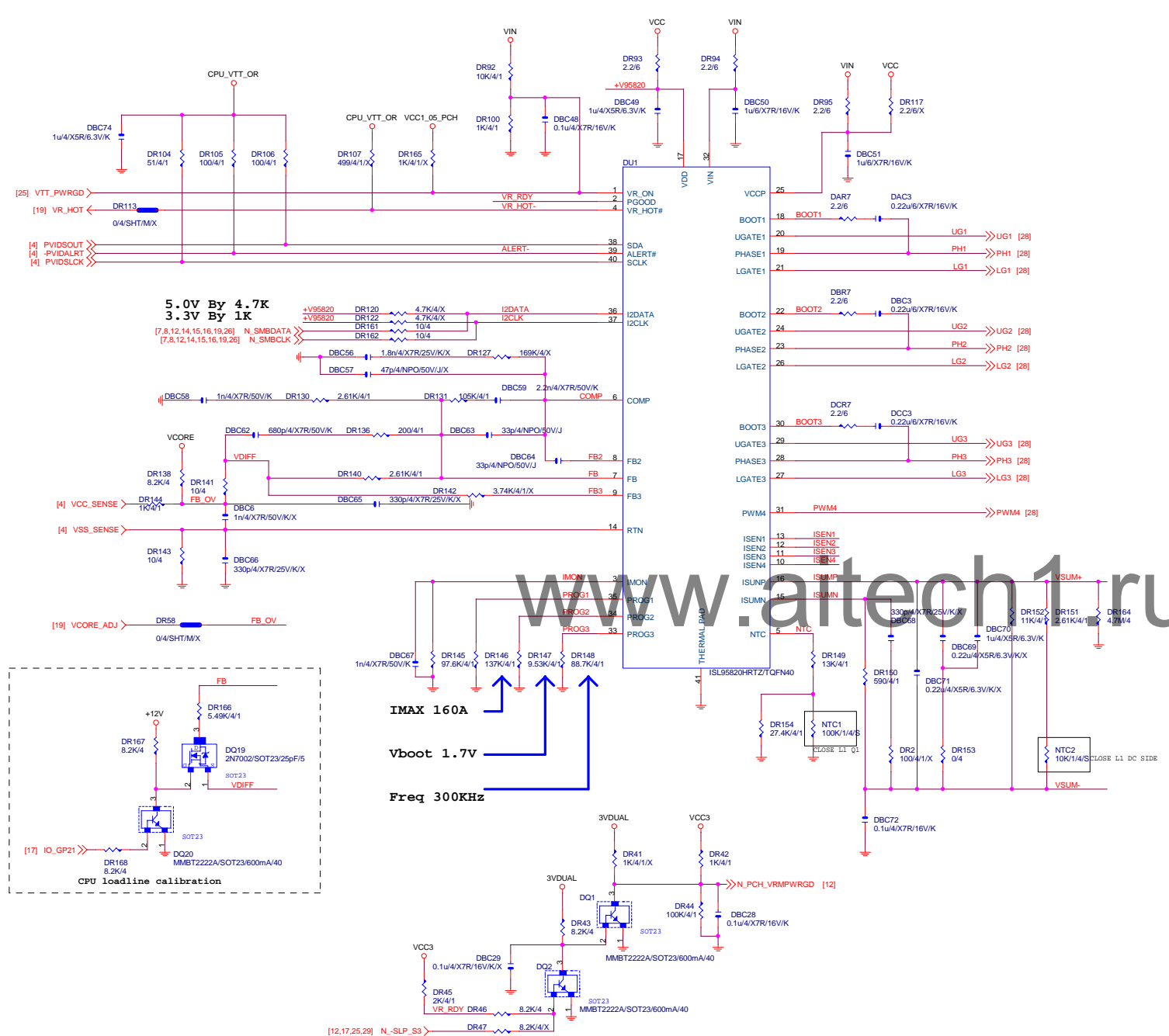


FIX PWR MINMUN LOAD

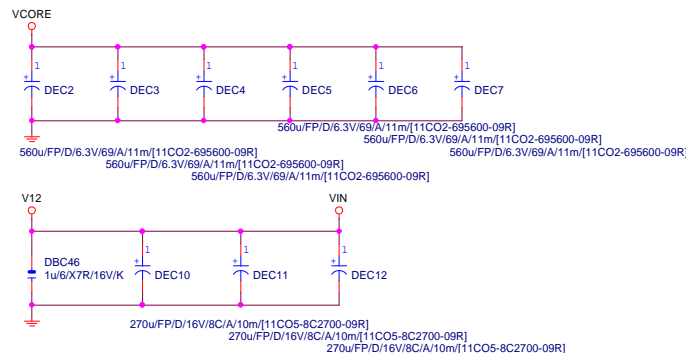
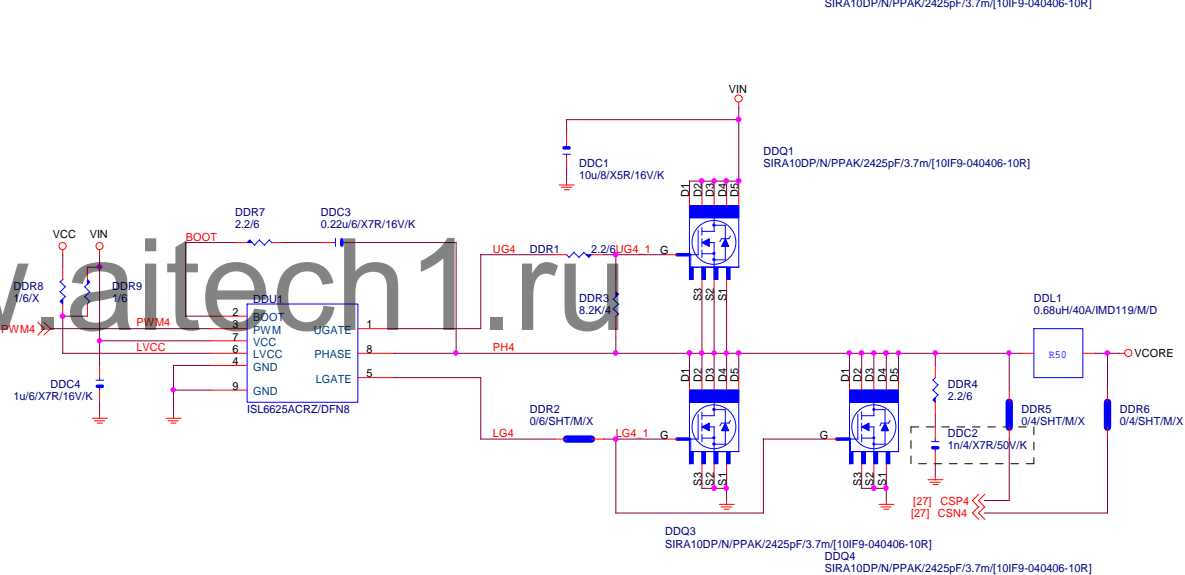
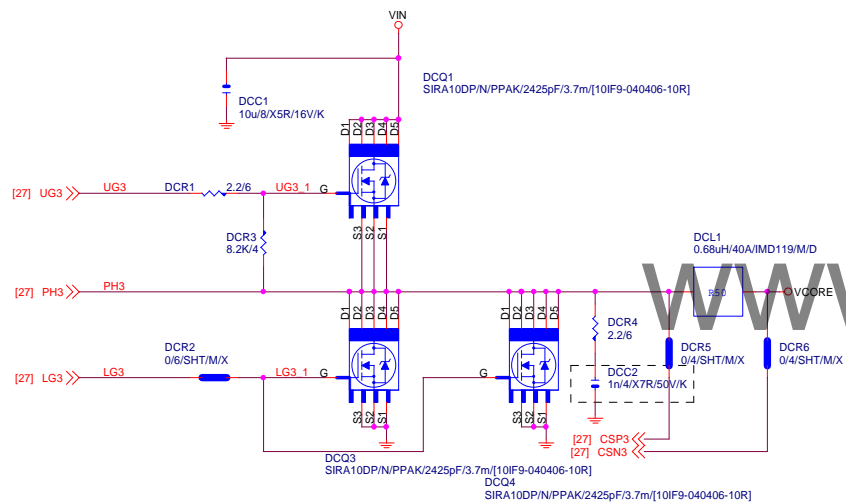
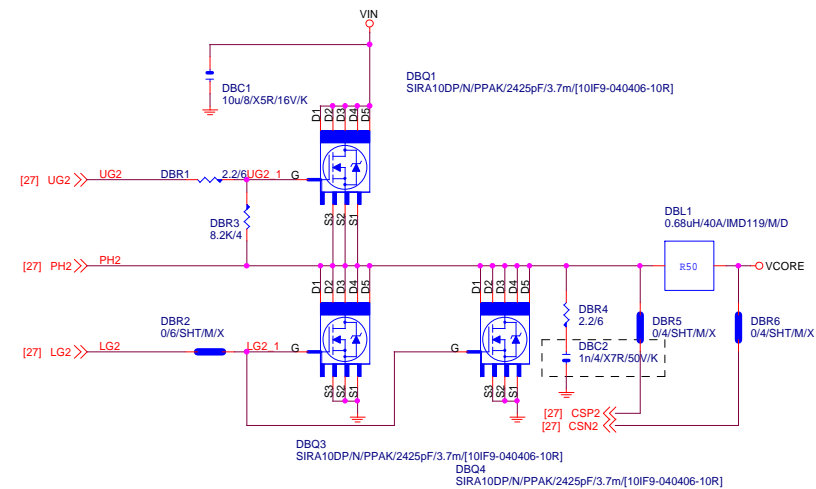
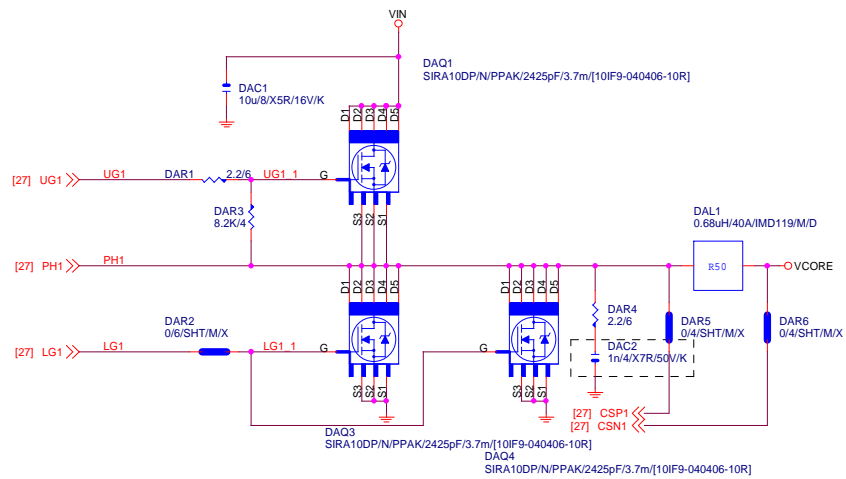
## Gigabyte Technology

## ATX CONNECTOR

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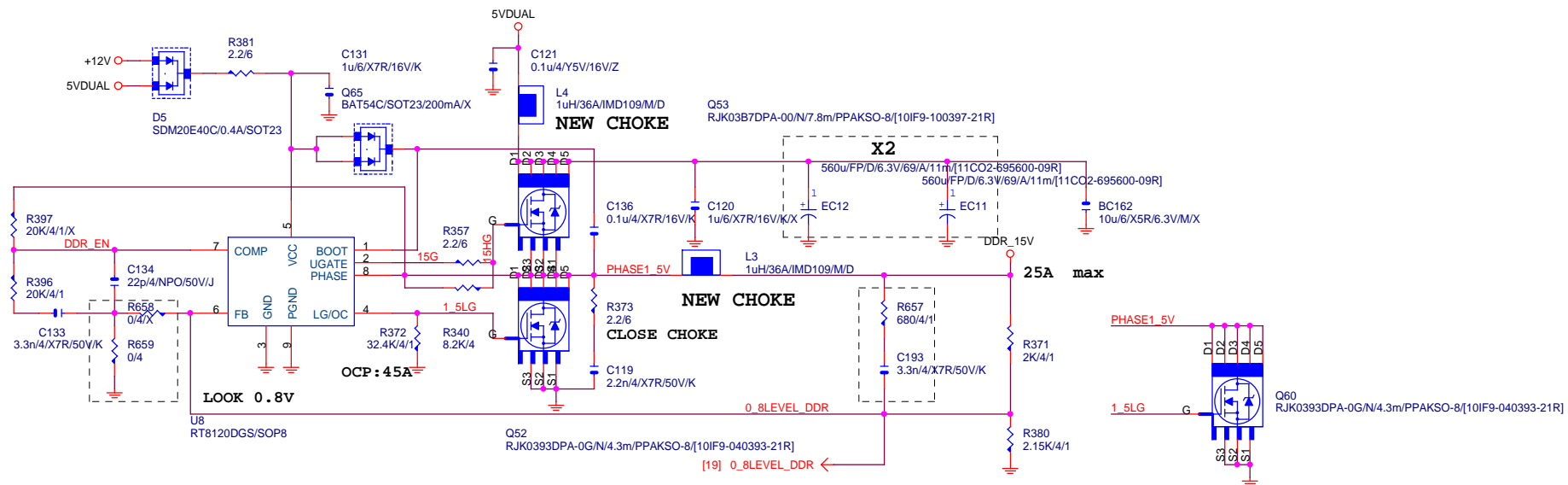


CLOSE PWR

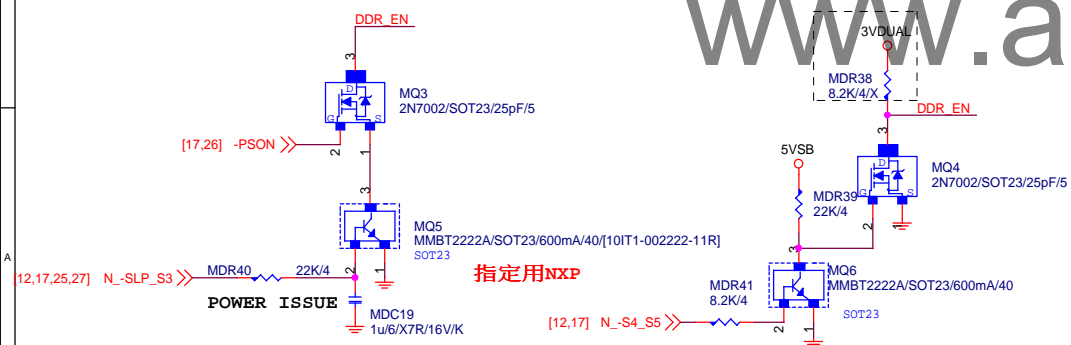


Gigabyte Technology			
Title			
CPU CORE VR-2			
Size			
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DDR15V



PWR SEQ



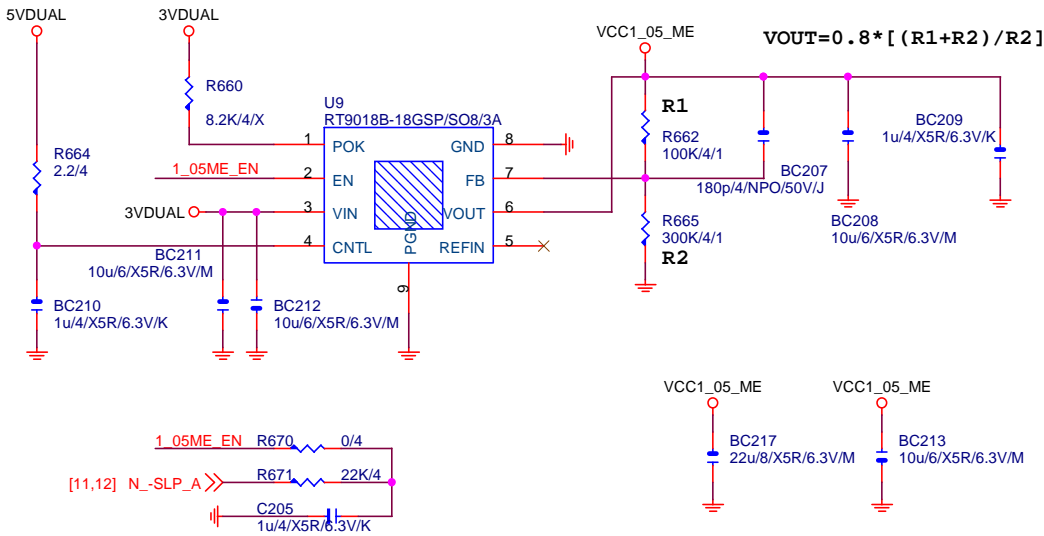
VIN=5V, VOUT=1.5V, IOUT=25A, PHASE=1  
IRMS=11.45A  
560uF/P/D/6.3V/68/8m RIPPLE CURRENT=4.7A  
Coefficient=1.7(85°C), 1(105°C)  
VIN Ripple current=4.7X1.7=7.99A(85°C)  
-->故固态电容须2X7.99=15.98>11.45A

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

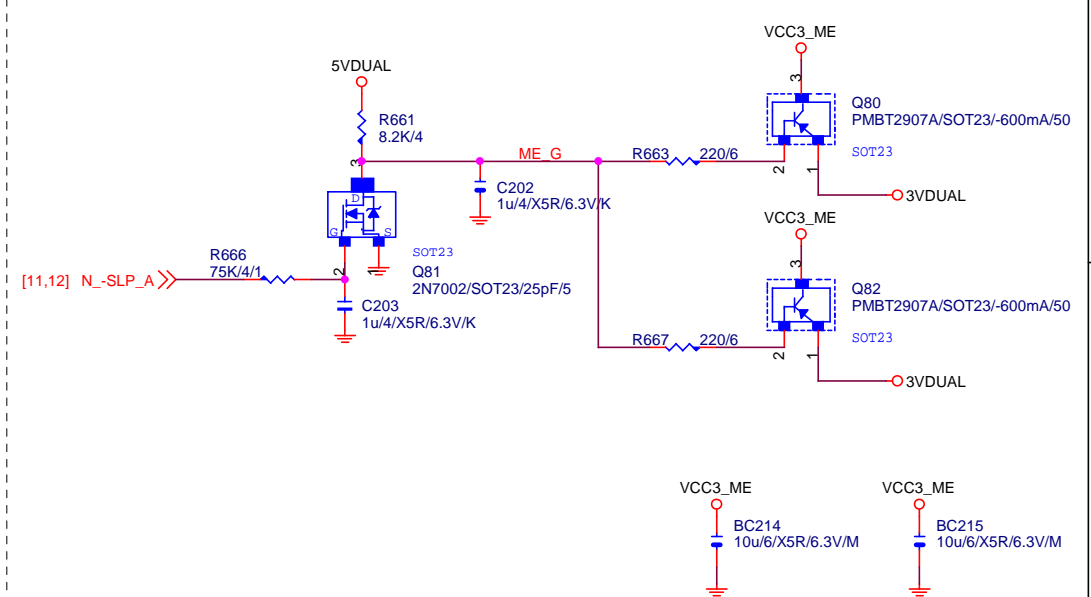
<p align="center"><b><i>Gigabyte Technology</i></b></p>			
<p>Title</p> <p align="center"><b>DDR POWER</b></p>			
Size	Document Number	Rev	
Custom	<b>GA-B85M-HD3</b>	<b>1.1</b>	
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# VCC1\_05\_ME

【技術通報R&D技術通報156】  
(RICHTEK), (NUVOTON), (EMC)做共用  
PIN7分壓阻值須做修改為100K以上電阻值

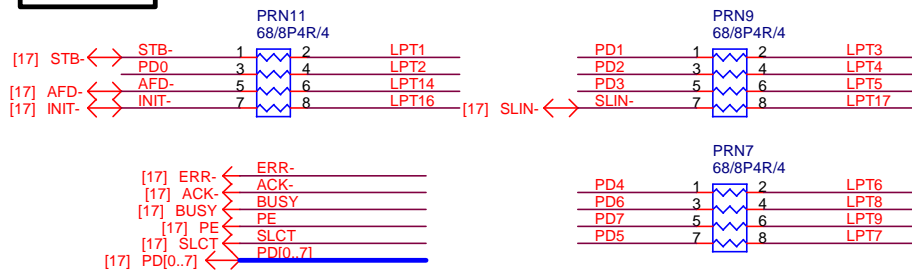


# VCC3\_ME

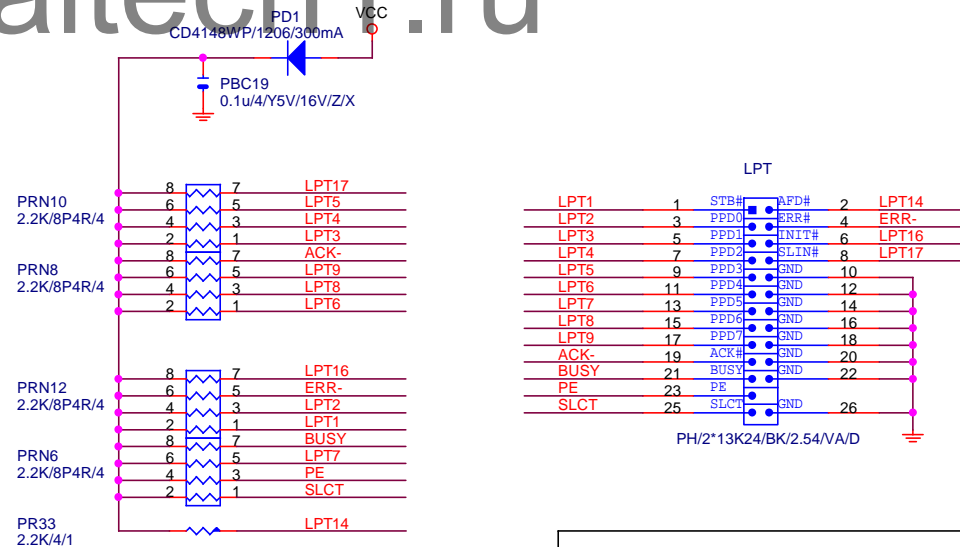


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# LPT PORT



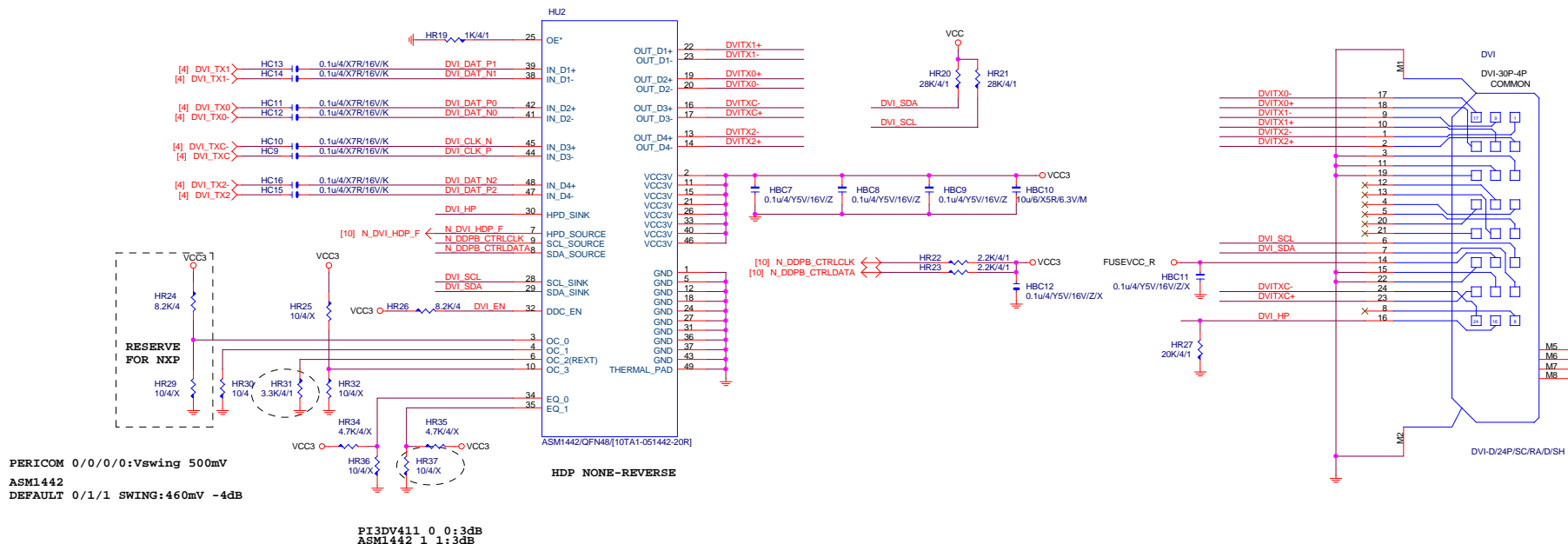
【技術通報R&D技術通報151】  
33ohm Change to 68ohm



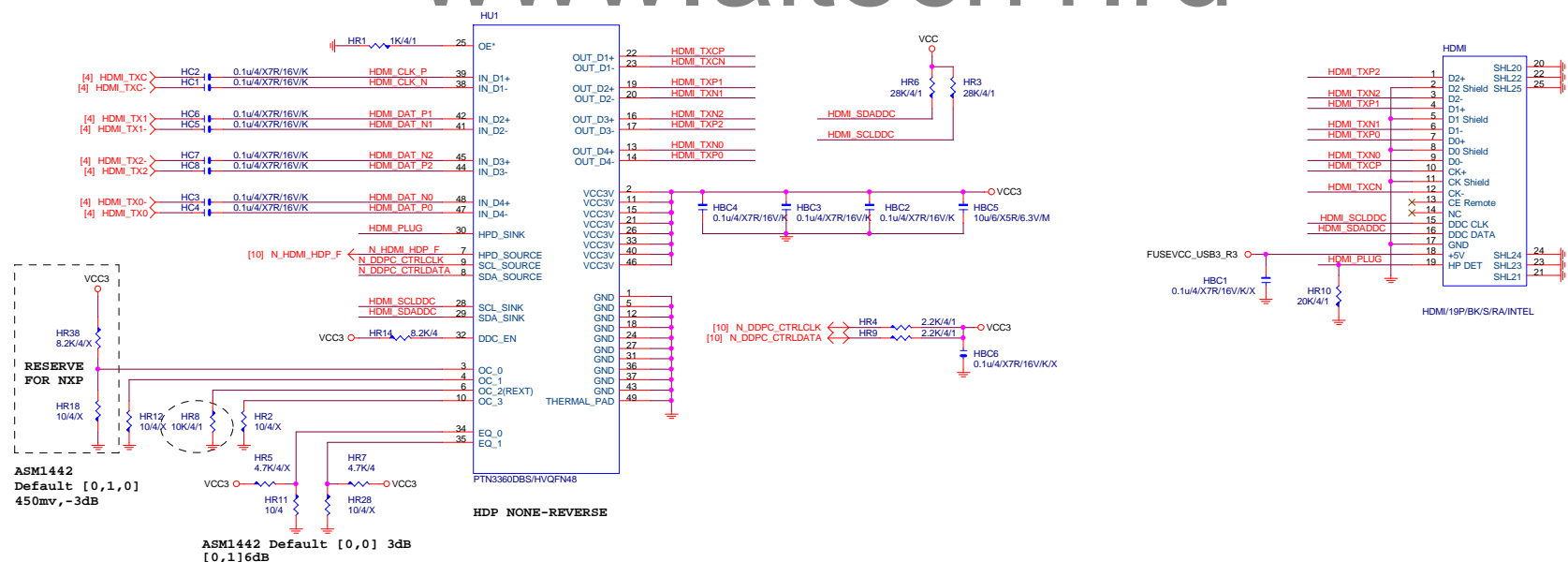
Gigabyte Technology

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LPT			
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## DVI LEVEL SHIFT



## HDMI LEVEL SHIFT



【技術通報R&amp;D技術通報150】

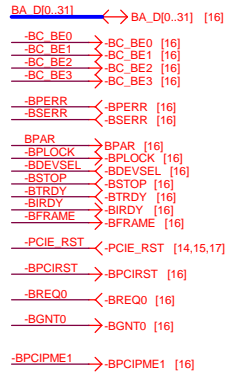
HDMI eye diagram1.4版(deep color)會fail

原因：因目前的HDMI訊號過長，造成RISING TIME過慢，而會壓到eye diagram

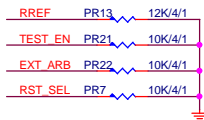
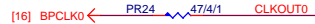
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

# PCIE TO PCI

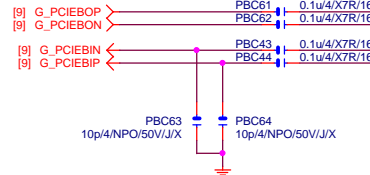
PCI:5/4/5 Impedance=50 +- 15%



IT8892: PR24 -> 47ohm  
IT8893: PR24 -> 22ohm



[10] G\_-PBCLK  
[10] G\_-PBCLK

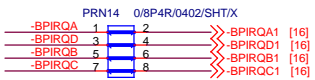


High: Enable PCI CLK 66MHz  
Low: Disable PCI CLK 66MHz



High: PCICLK INPUT form CLK Gen  
Low: PCICLK OUTPUT form IT8893 chip

IT8892

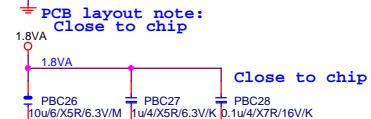
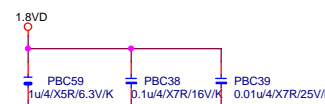
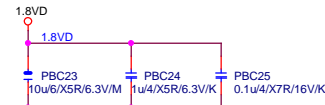
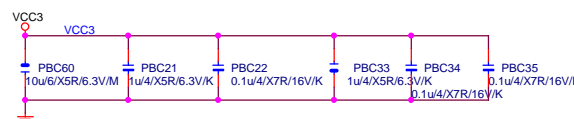
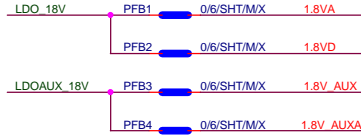
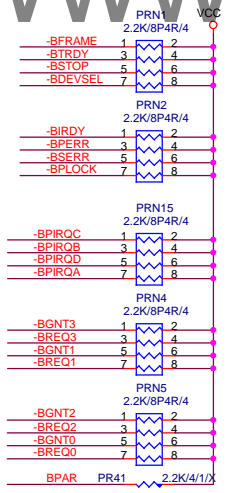
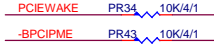


PCI slot

PCI slot

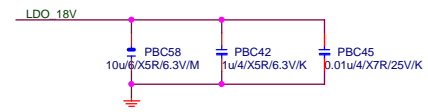
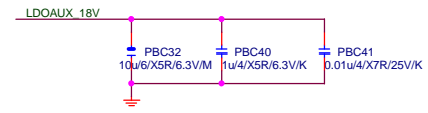
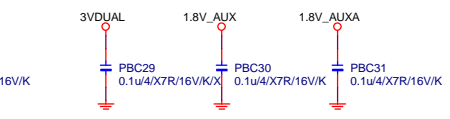
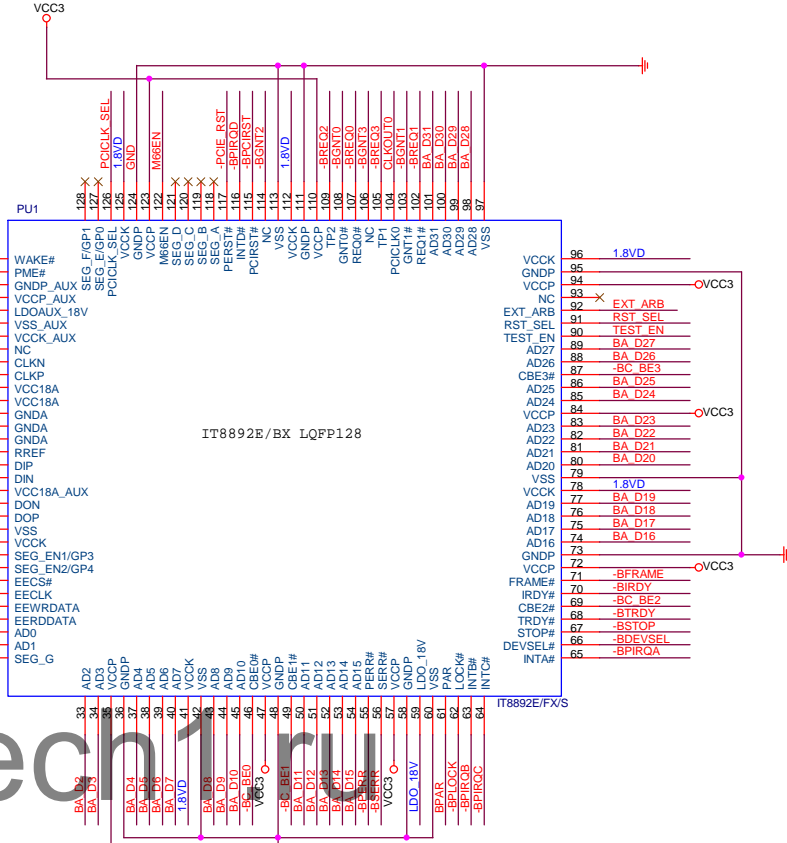


chipset side



PCB layout note:  
Close to chip

Close to chip



PCB layout note:  
Close to chip

Gigabyte Technology

ITE IT8892E  
GA-B85M-HD3

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