

Model Name: GA-B75M-D3V

Revision 2.01

SHEET

TITLE

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02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
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05	CPU_LGA1155-B
06	CPU_LGA1155-C
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08	DDR III CHANNEL B
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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*1 X2 SLOT
16	PCI SLOT1
17	ITE 8620 LPC IO
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23	REAR AUDIO JACK
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25	DISCRETE POWER
26	ATX, M3 POWER
27	RT8120_CPU_VTT

SHEET

TITLE

28	VCORE ISL95836_1
29	VCORE ISL95836_2
30	RT8120_DDR POWER
31	LPT
32	DVI



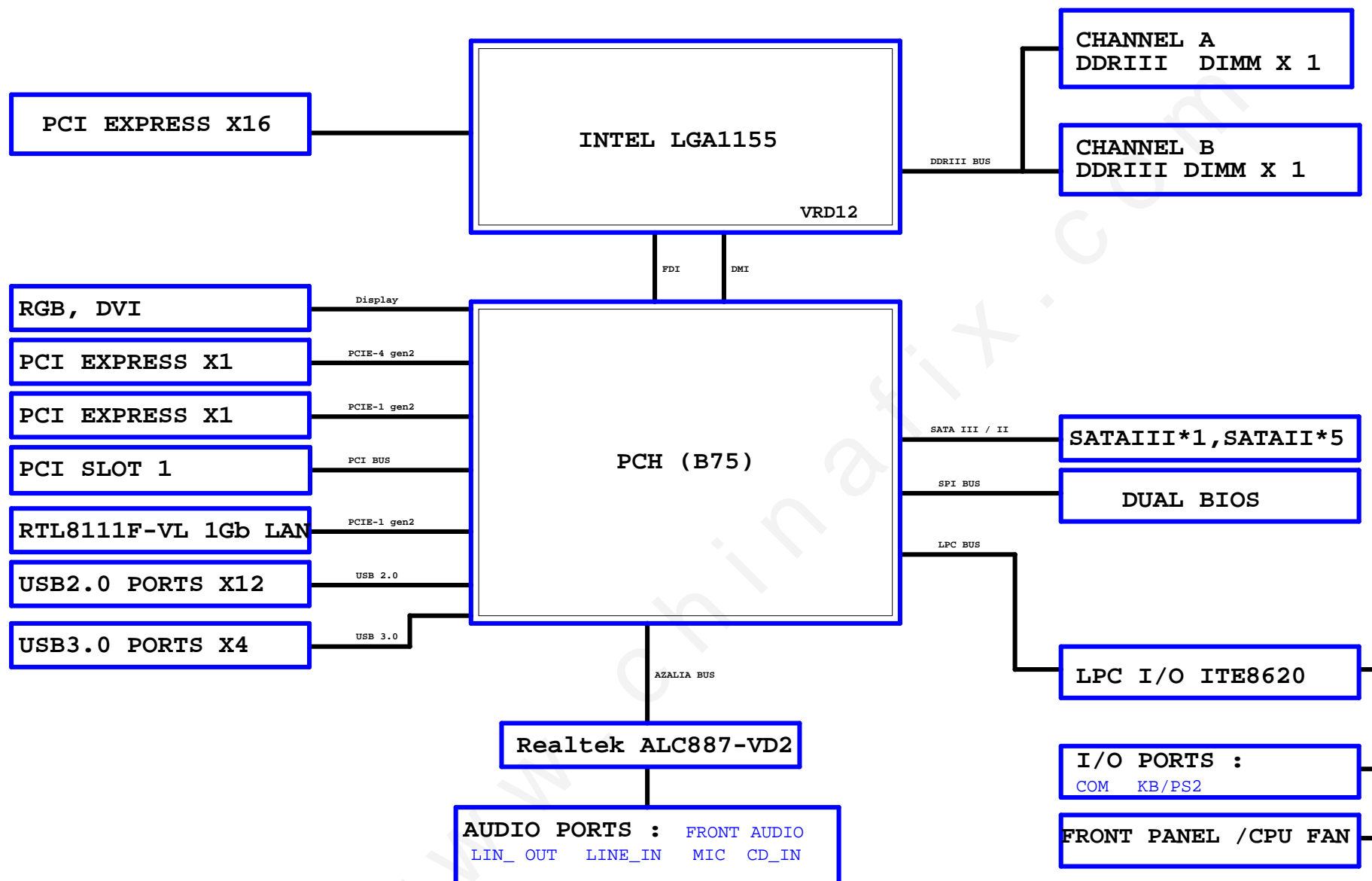
Gigabyte Technology			
Cover Sheet			
Title	GA-B75M-D3V		
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## 2013/04/11

[illegible]

# BLOCK DIAGRAM



LGA1155E



LGA1155E

LGA1155E



LGA1155D



LGA1155D

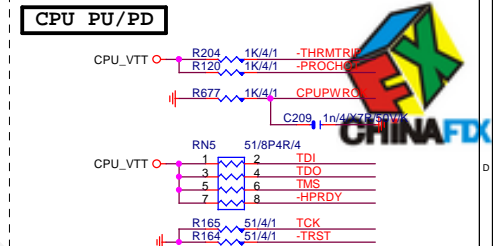
LGA1155D

(c)

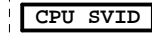


(c)

(c)



## CPU SVID

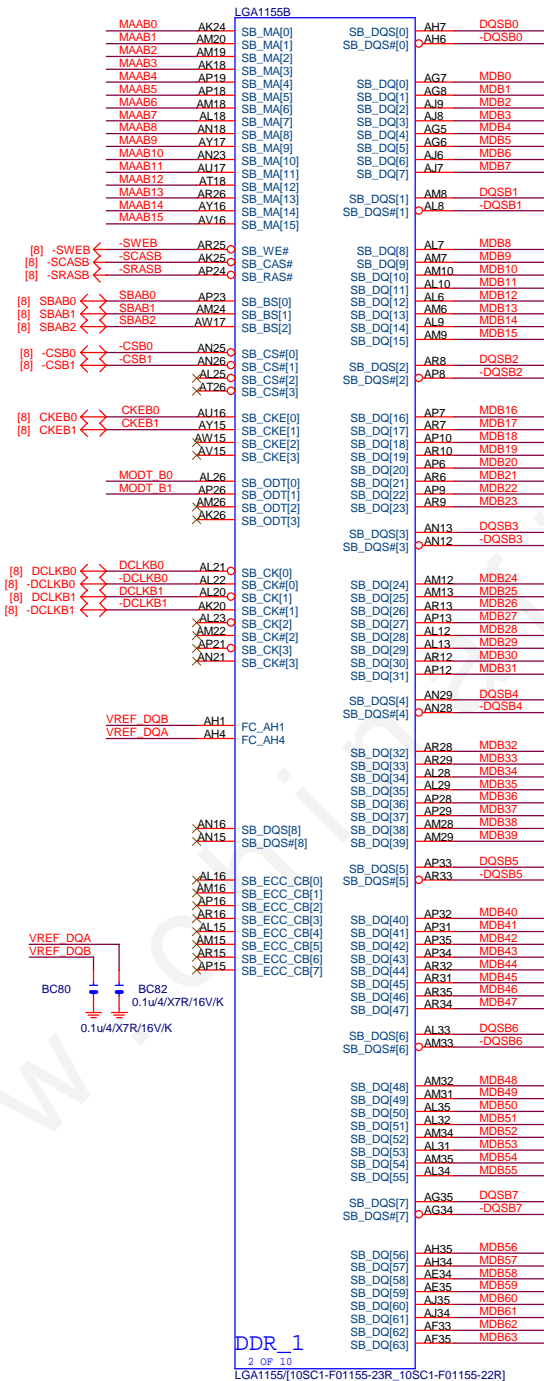
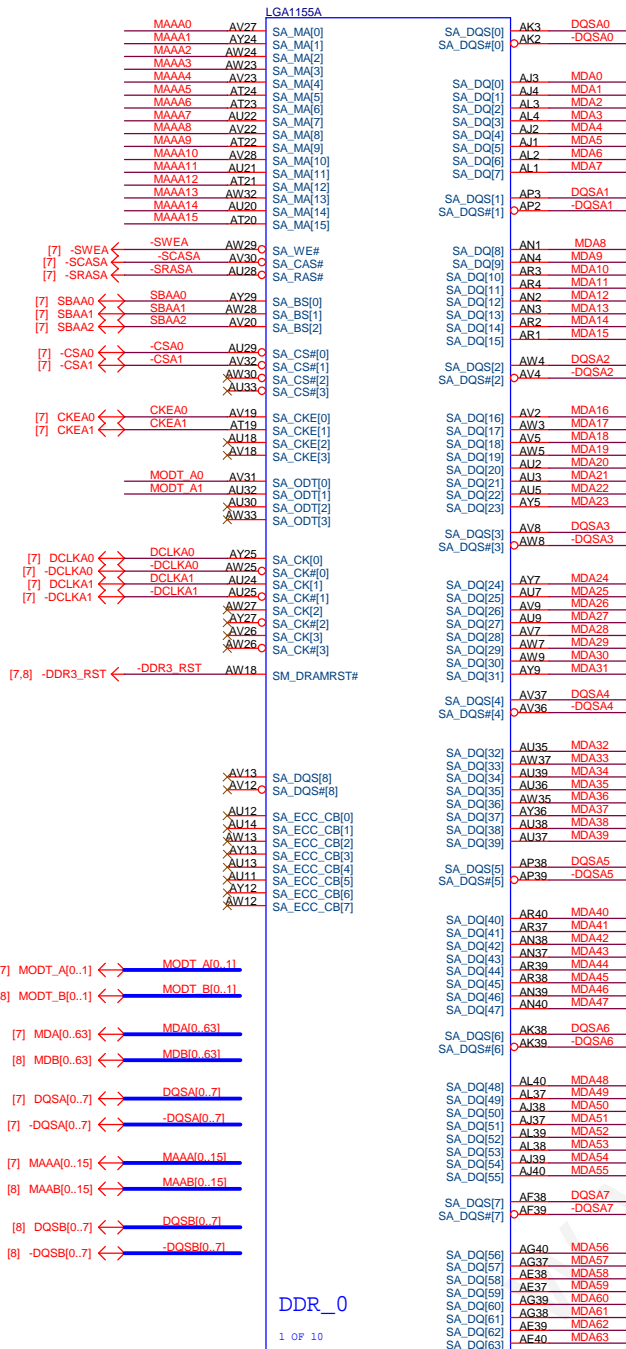
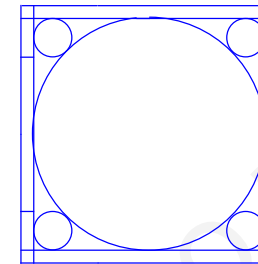


SM REF



## Gigabyte Technology

## Gigabyte Technology

CR  
CPU RETENTION/X

LGA1155\_P

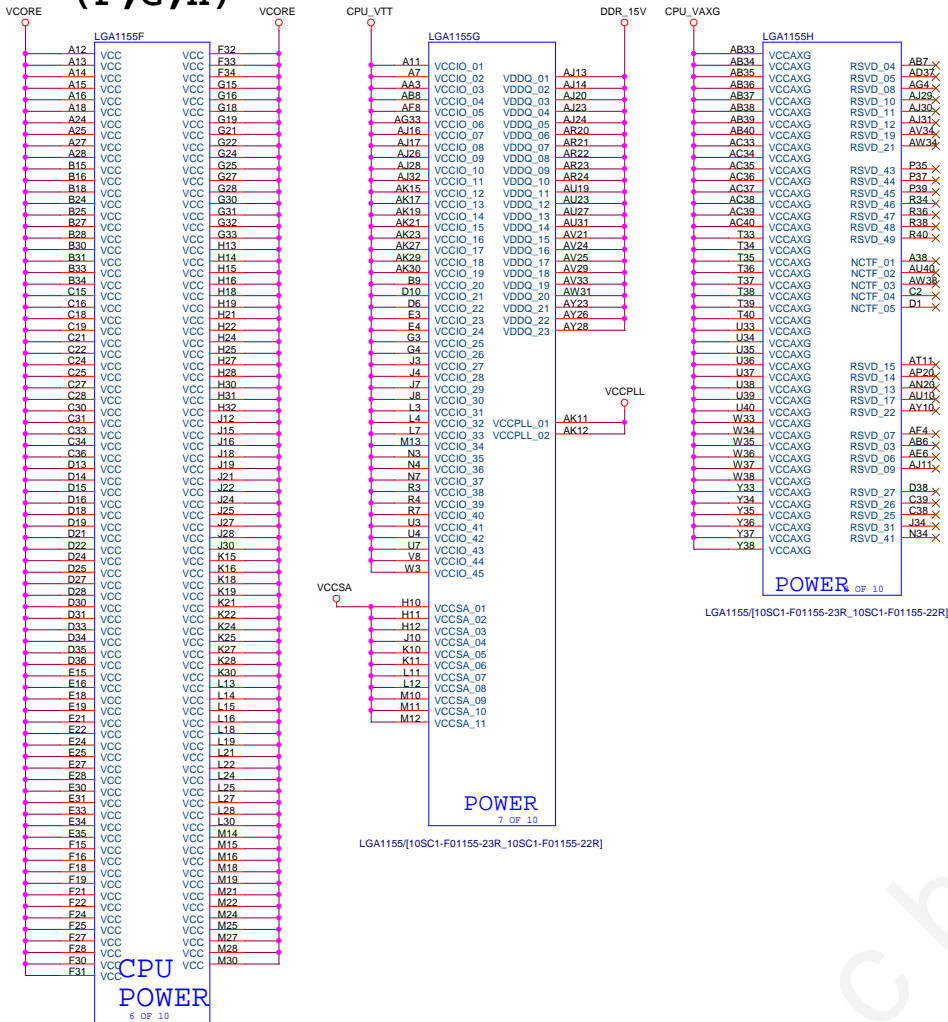


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Gigabyte Technology

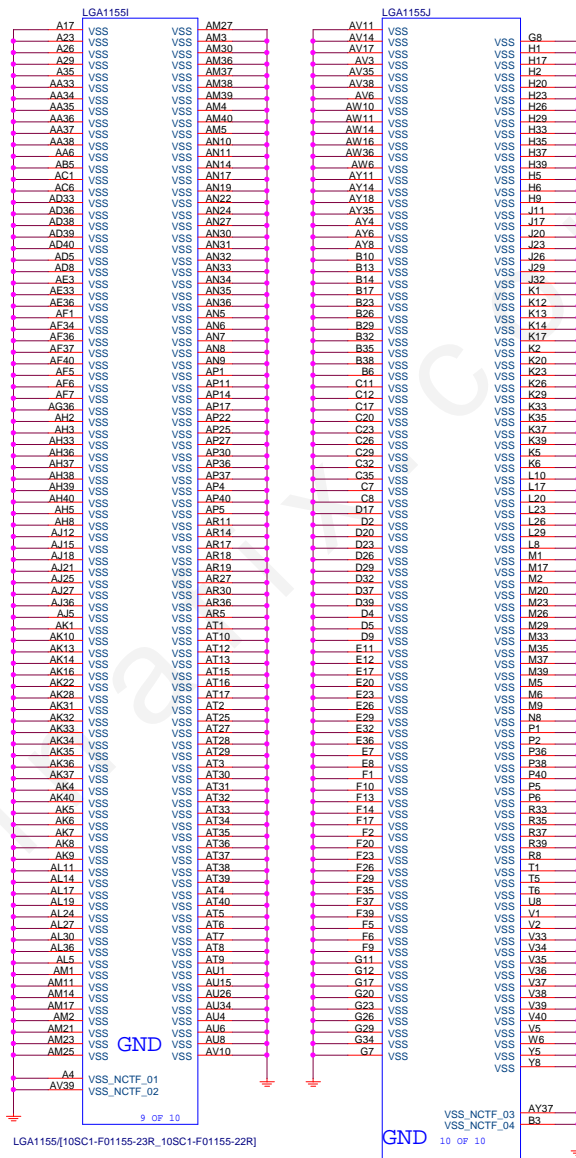
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Size	Document Number	GA-B75M-D3V	
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LGA1155 (F,G,H)



LGA1155/[10SC1-F01155-23R\_10SC1-F01155-22R]

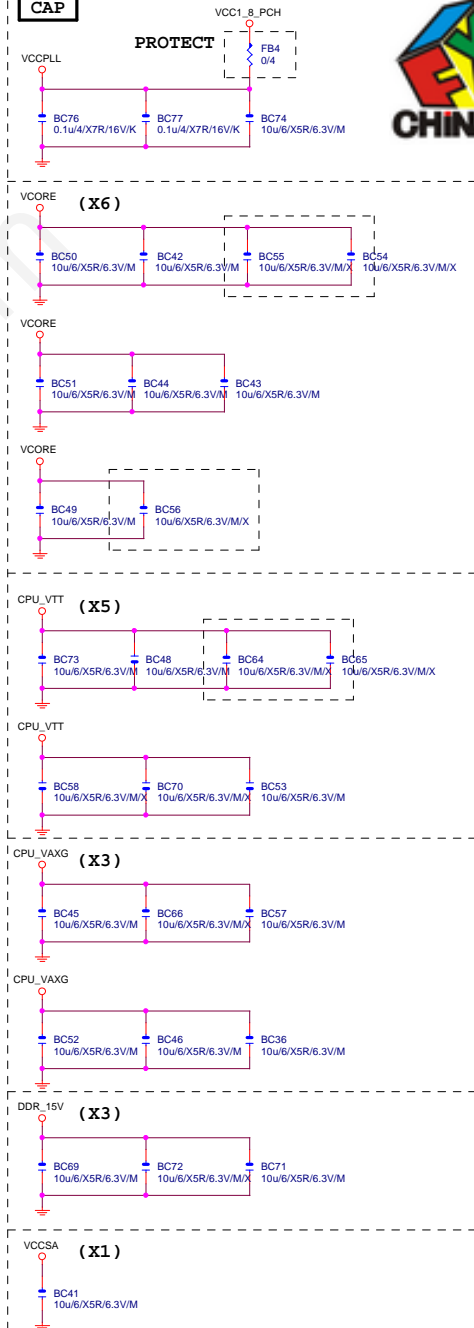
LGA1155 (I,J)



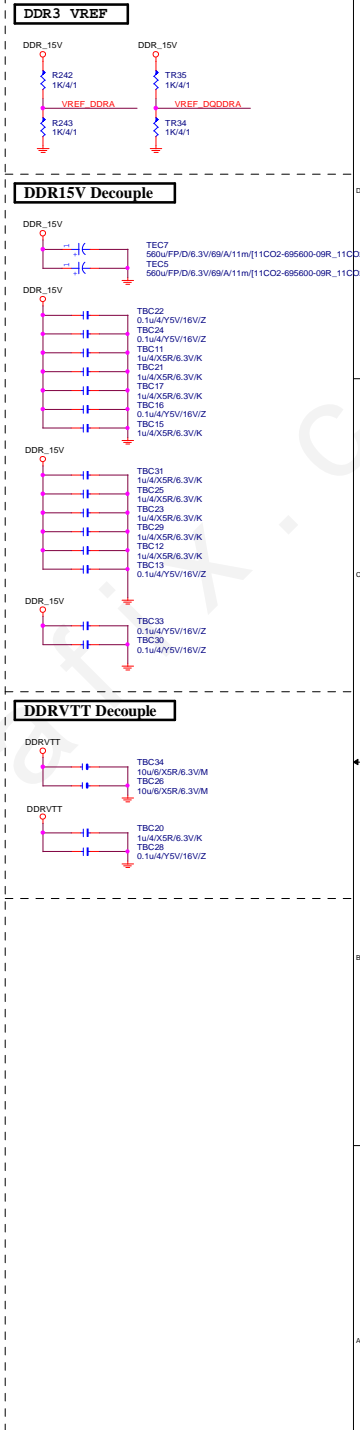
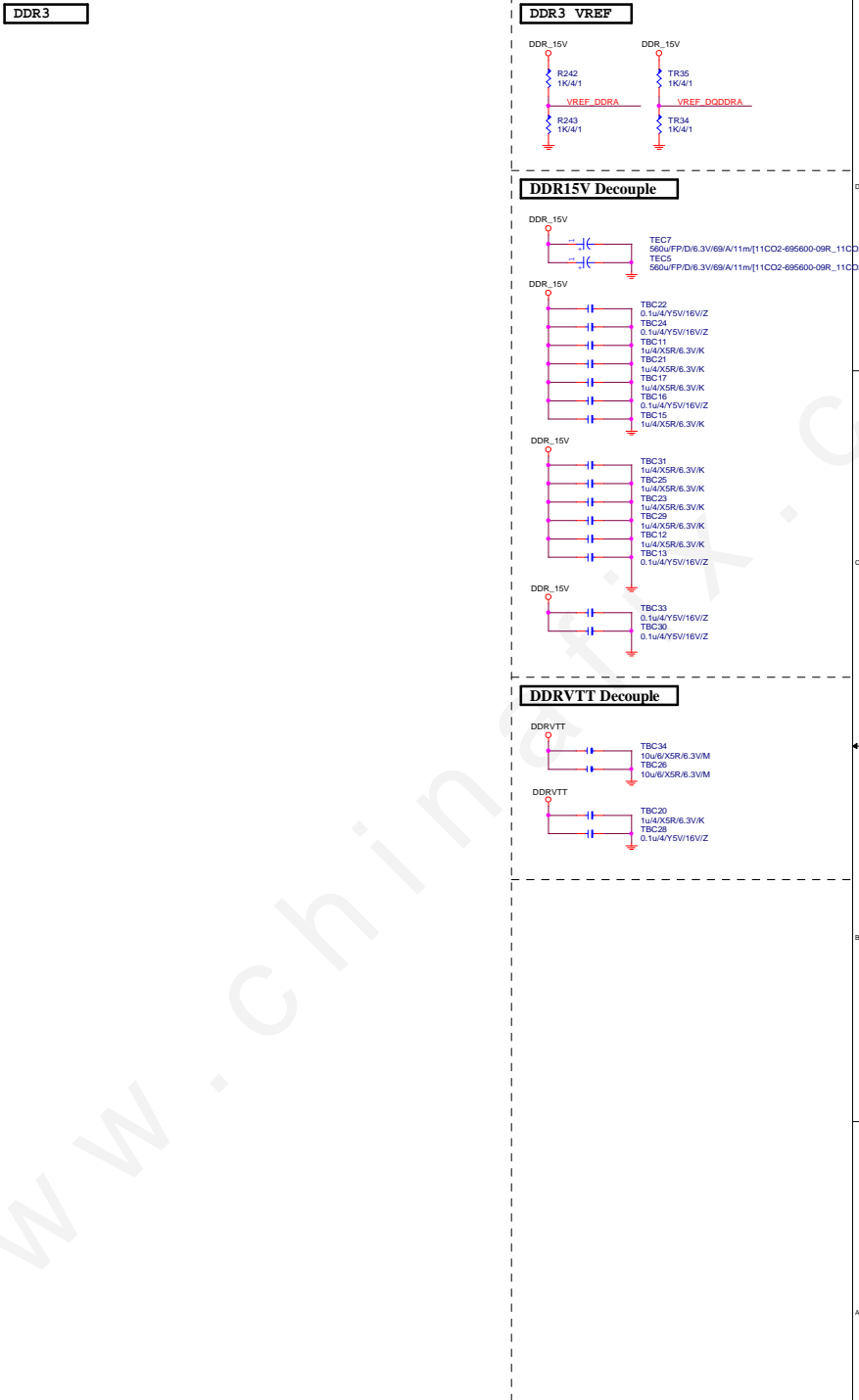
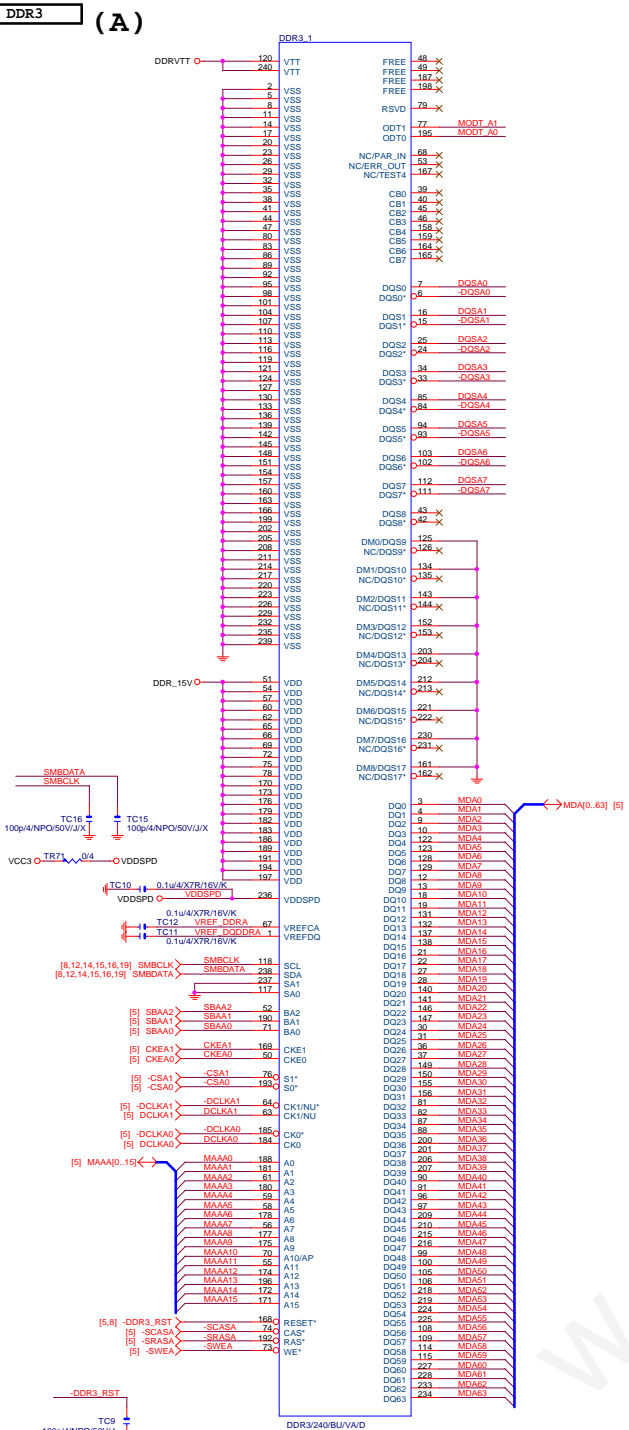
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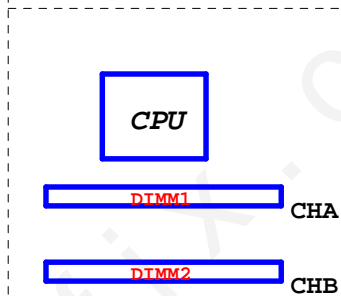
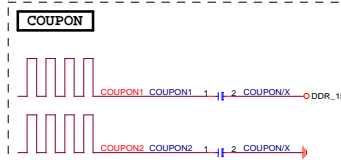
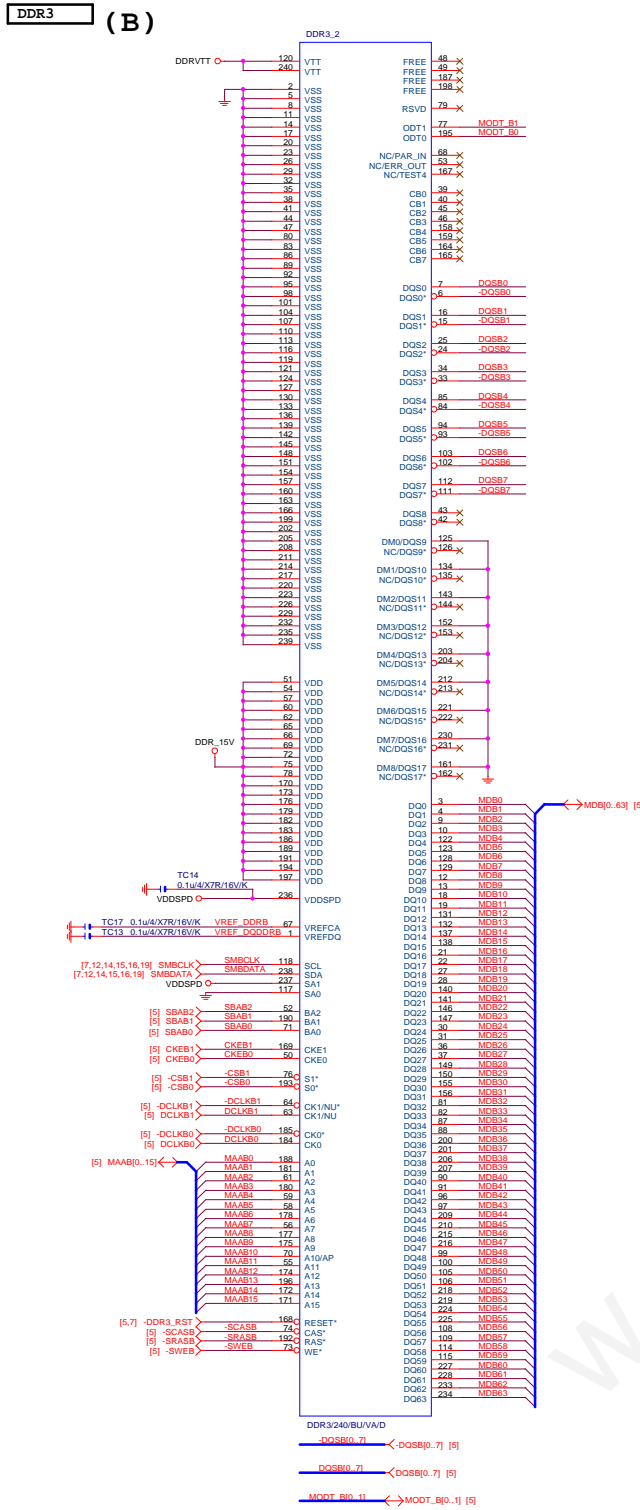
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## CAP



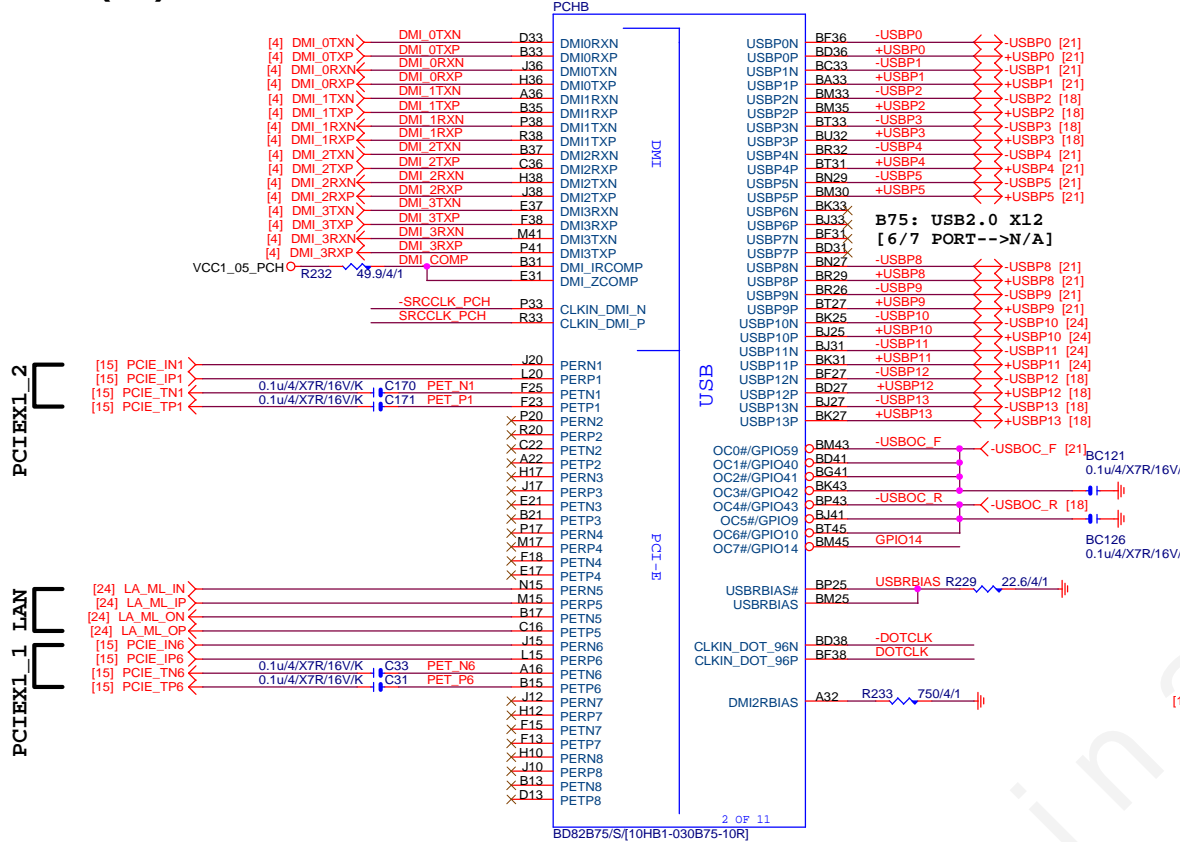
Size Custom	Document Number <b>GA-B75M-D3V</b>	Rev <b>2.01</b>
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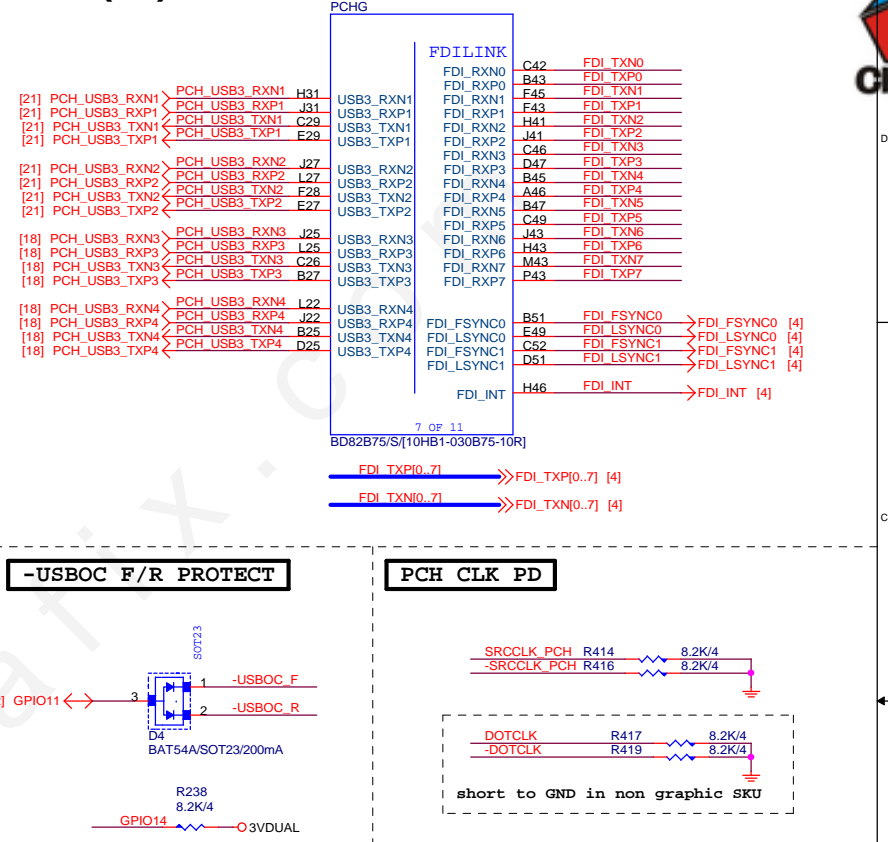


<b>Gigabyte Technology</b>		
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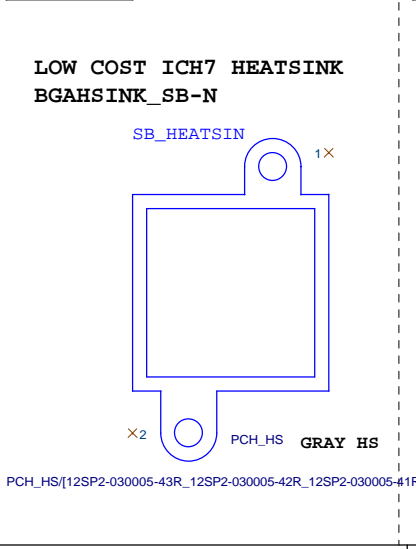
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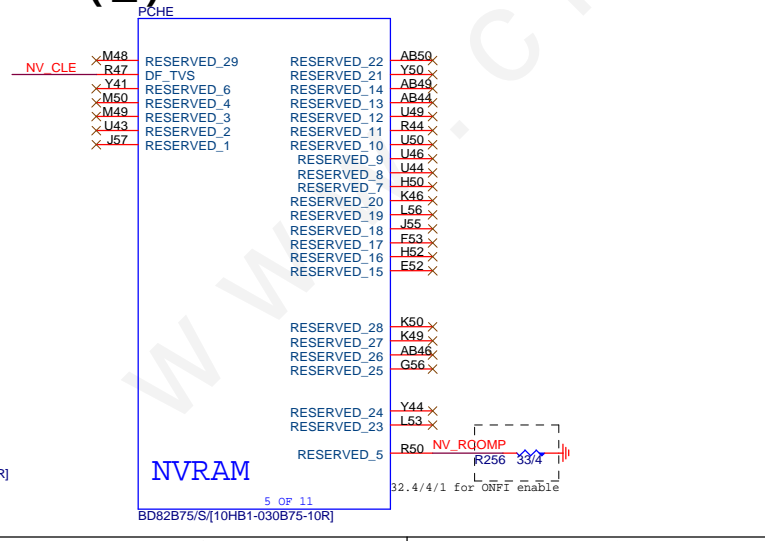
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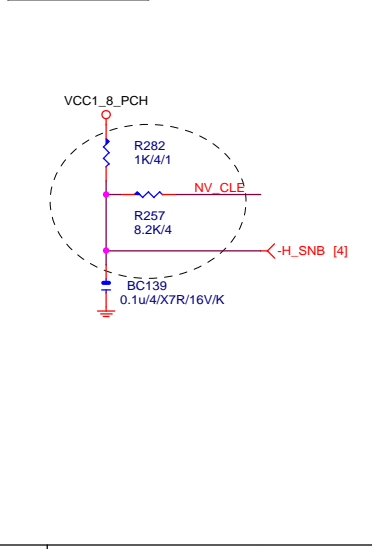
# PCH H/S



# PCH (E)



# NVRAM PU



# USB TABLE

USB OC# Configure	
OC0#	USB0_1(F_USB30)
OC1#	USB2_3(USB30_20)
OC2#	USB4_5(F_USB1)
OC3#	USB6_7(B75:N/A)
OC4#	USB8_9(F_USB2)
OC5#	USB10_11(USB_LAN)
OC6#	USB12_13(KB_USB)
OC7#	N/A

**Gigabyte Technology**

**PCH FDI,DMI,USB,PCIE,NVRAM**

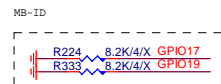
**GA-B75M-D3V**

**Rev 2.01**

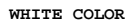
**Monday, April 15, 2013**

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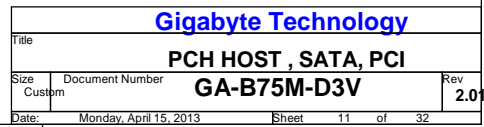




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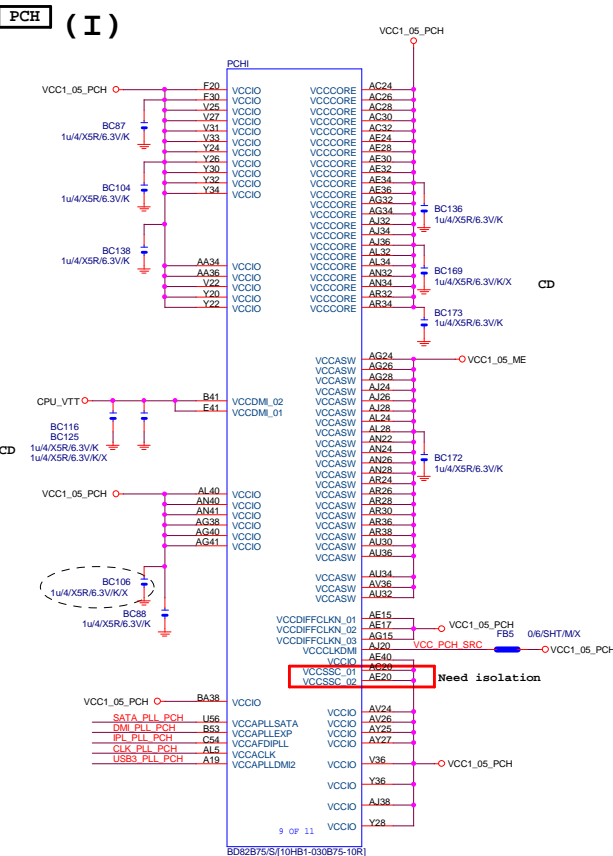
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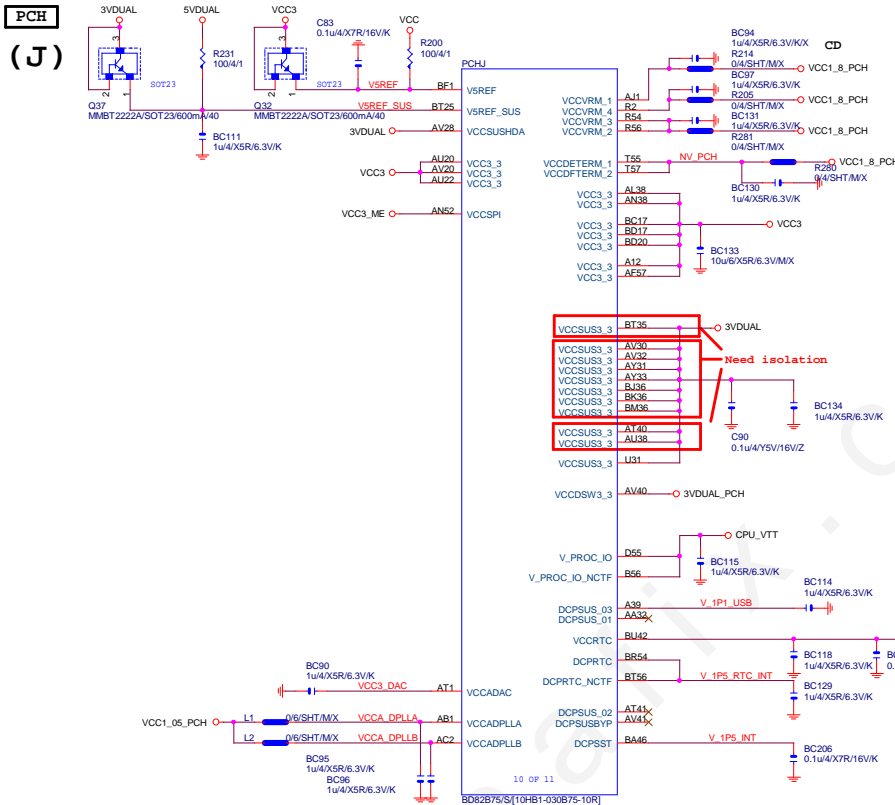




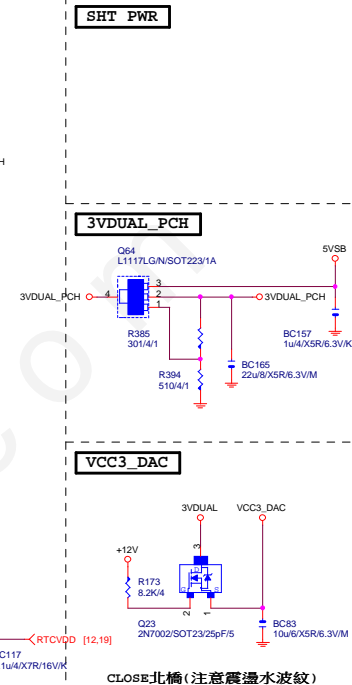
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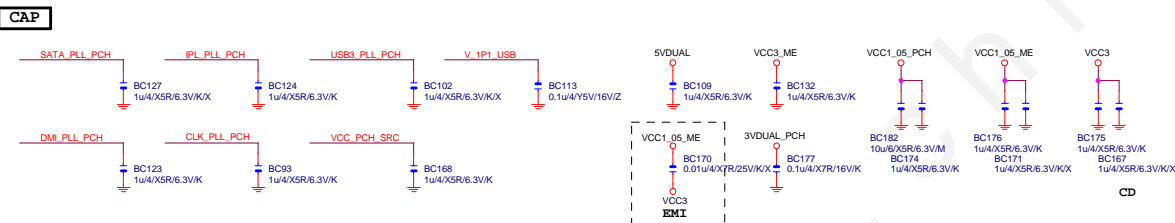
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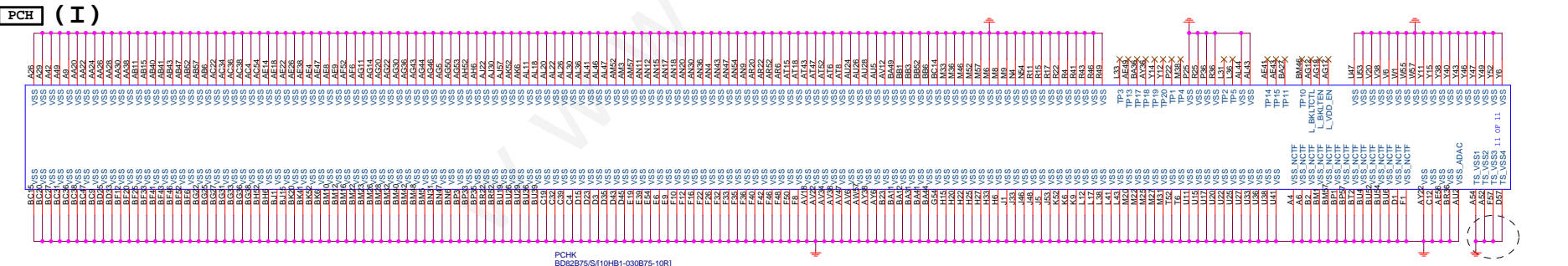
SHT	PWR
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## CAP

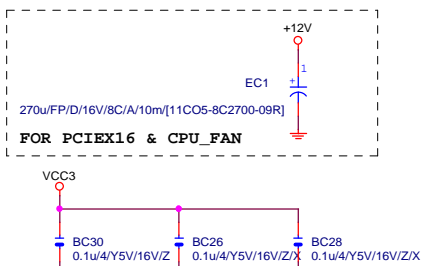


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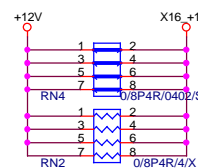




## PCIEX16 CAP



## PCIEX16 PROTECT SHT

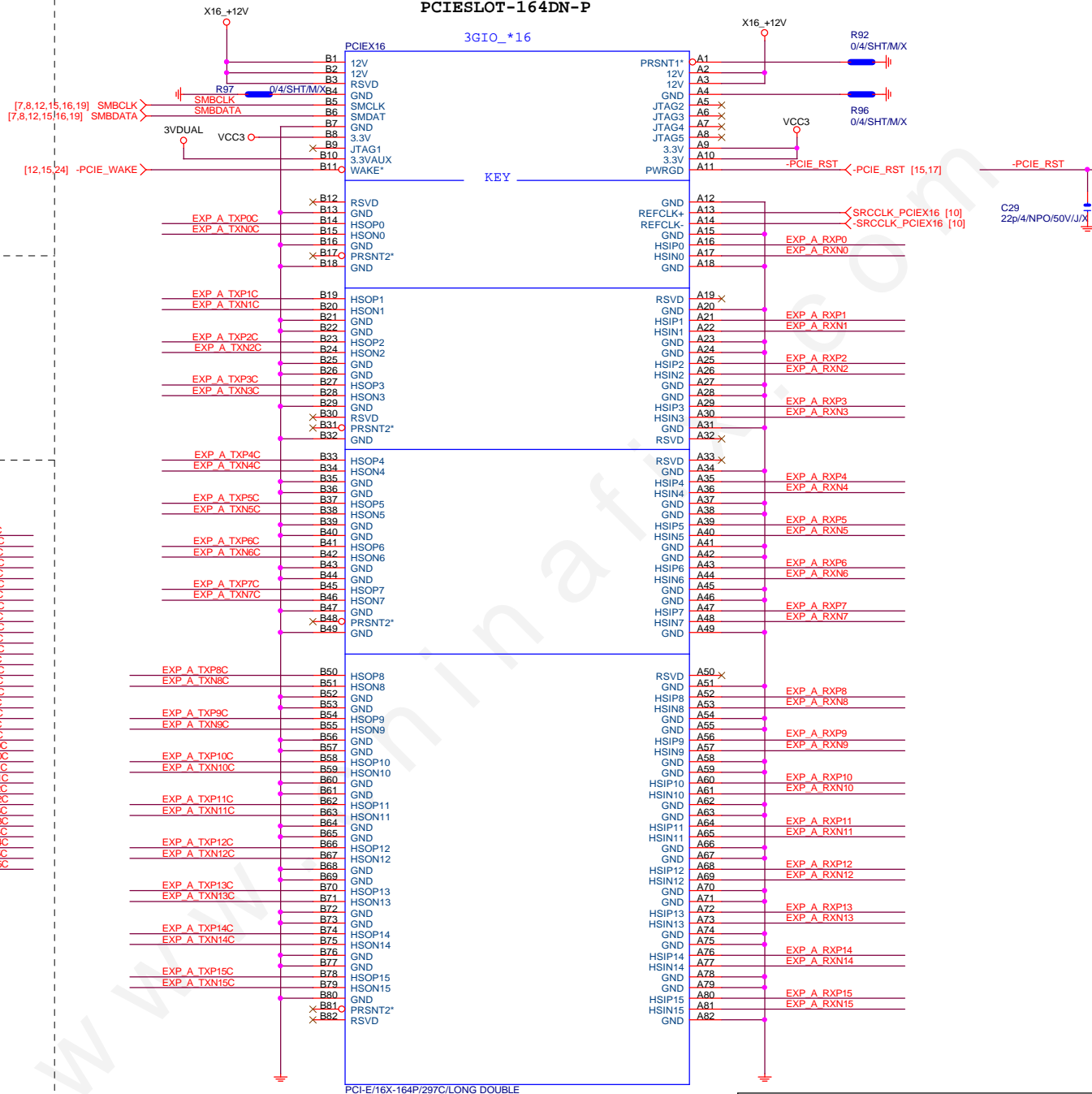


## PCIEX16 AC CAP

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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
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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

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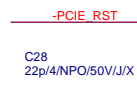
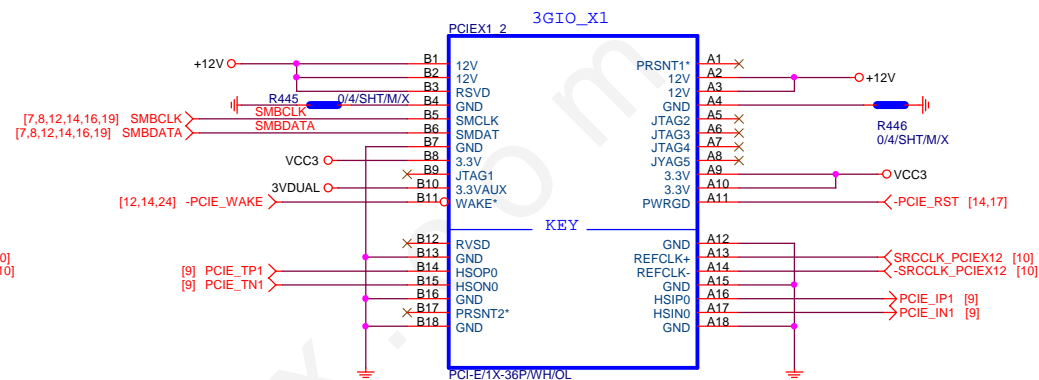
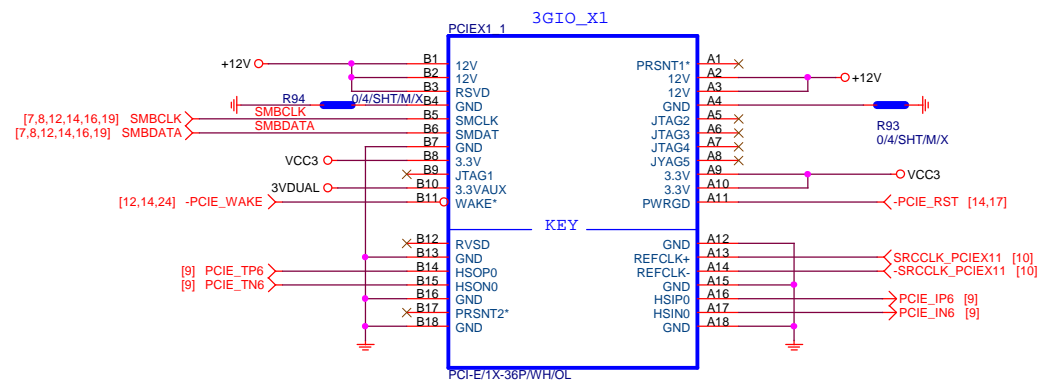


PCI-E16X-164P/297C/LONG DOUBLE

Gigabyte Technology

Title			PCI EXPRESS * 16	
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## PCIEX1 SLOT



## PCIEX1 CAP



## Gigabyte Technology

PCI EXPRESS X 1 PORT

Size	
Custom	

Document Number

GA-B75M-D3V

Rev	
<b>2.01</b>	

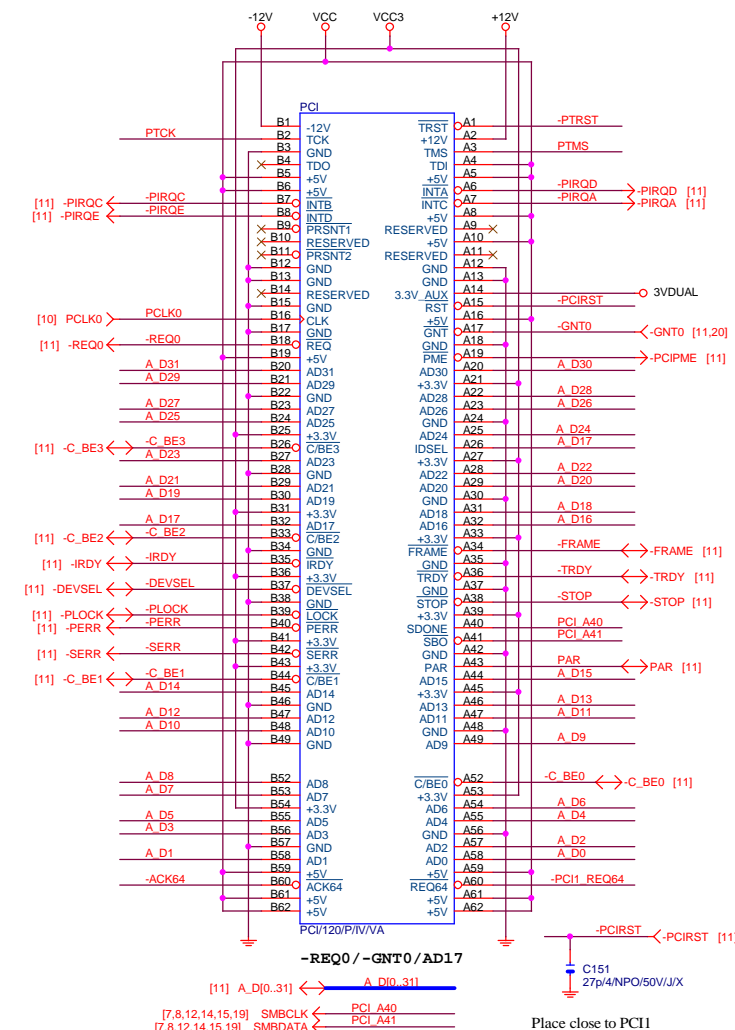
Date:

Monday, April 15, 2013

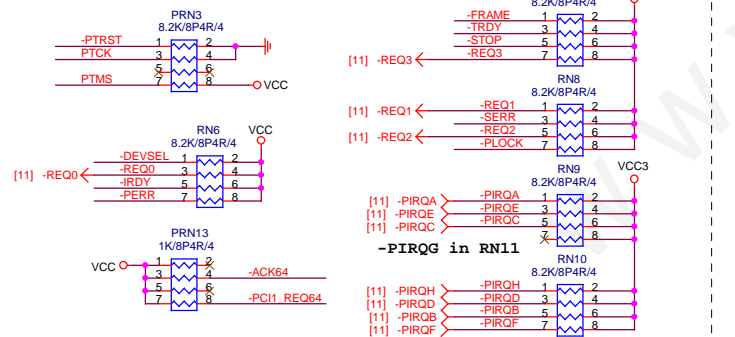
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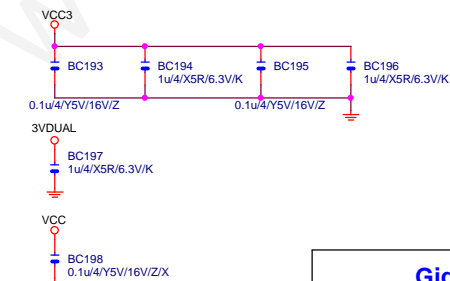
# PCI SLOT



# PCI PU

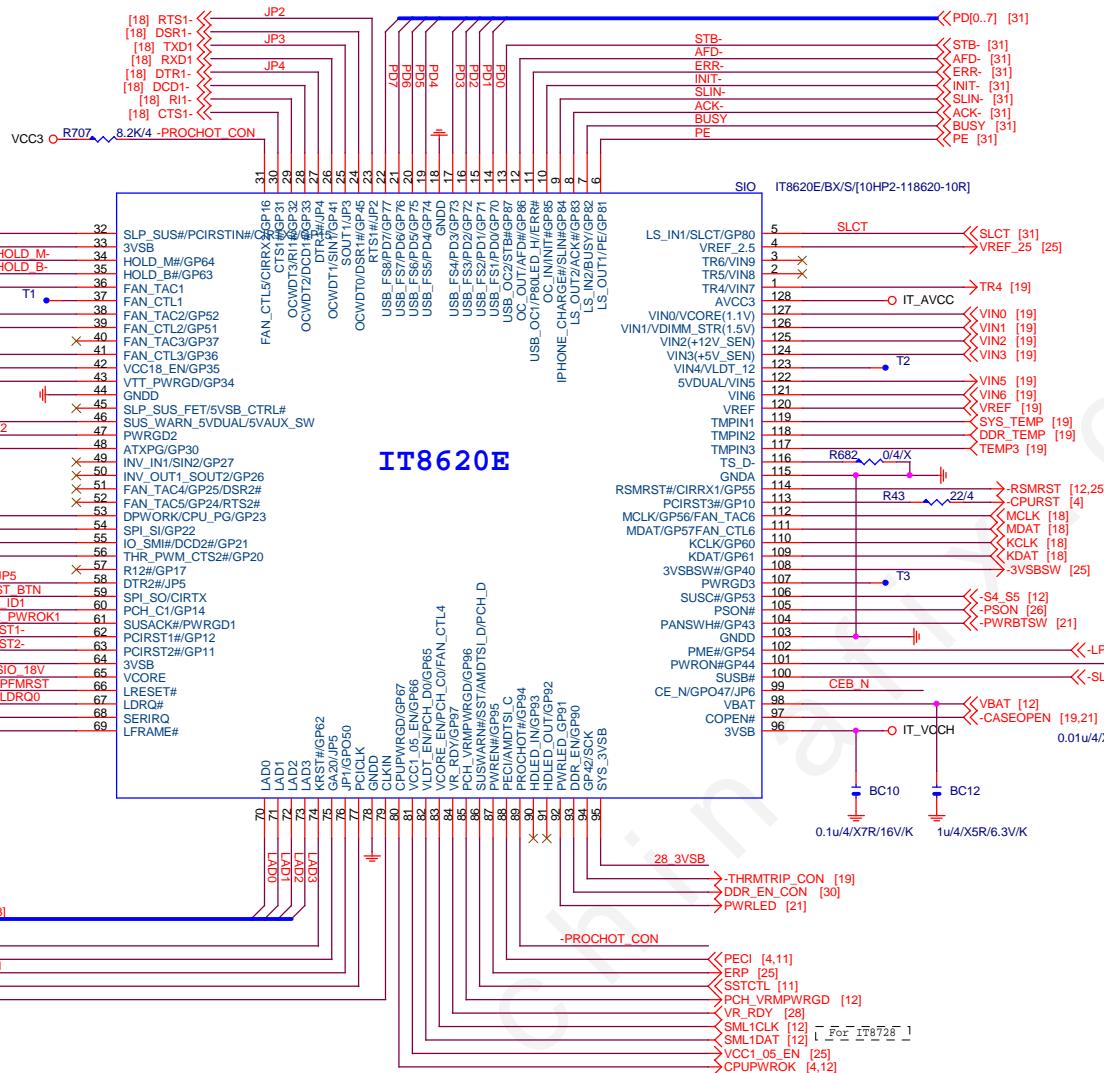


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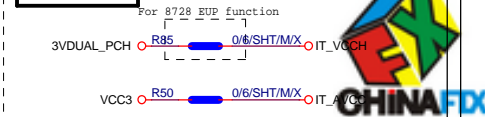


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Size			
Document Number			
GA-B75M-D3V			
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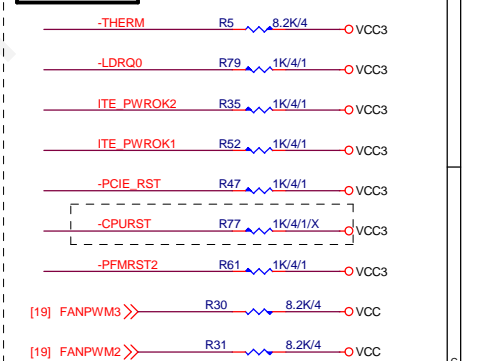
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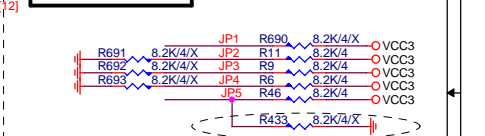
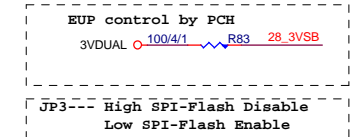
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## SIO PU



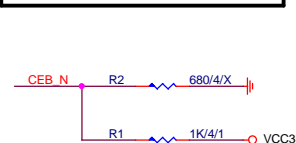
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IT8728-EX  
PULL DOWN ENABLE OVP

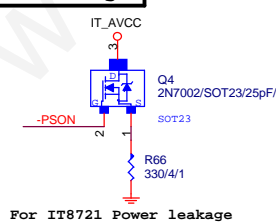
## IT8728F NOTE

	IT8728
PIN121	VCORE_EN/PCH_C0
PIN120	VLDI_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	VIN0/VCORE(1.1V)/NC

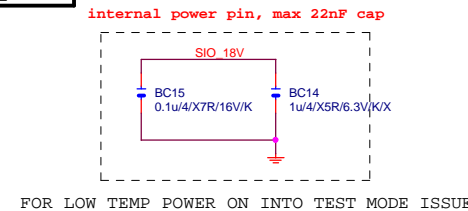
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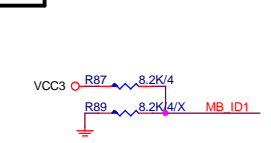
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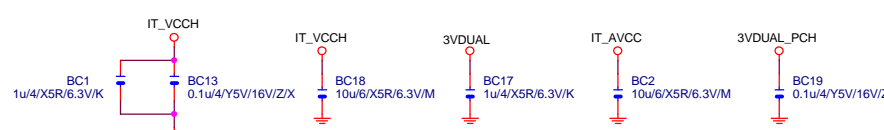
## SIO\_18V



## MB ID



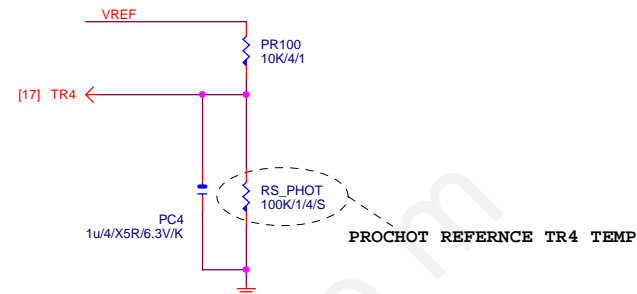
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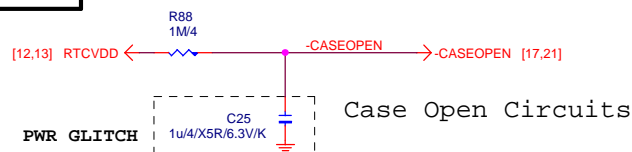
## Gigabyte Technology

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Size			Custom
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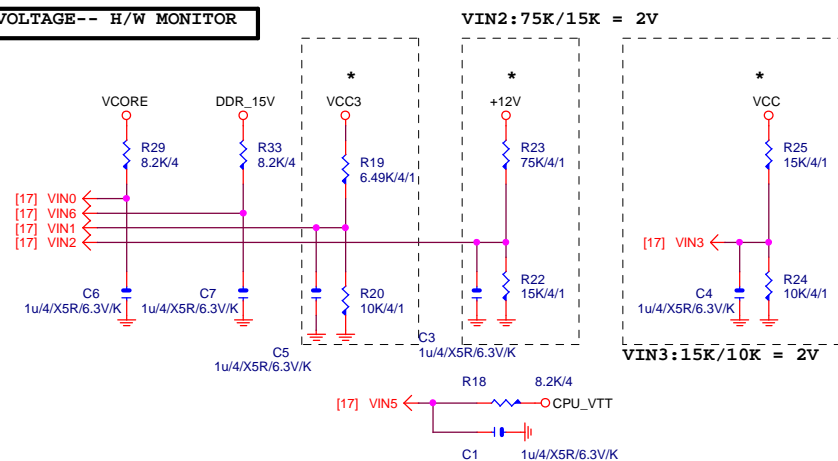
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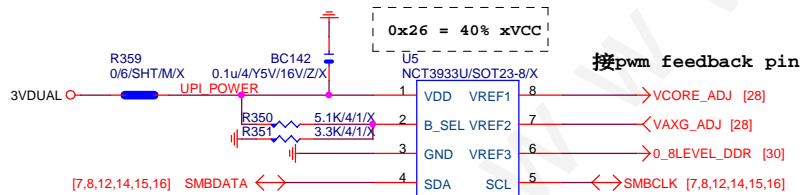
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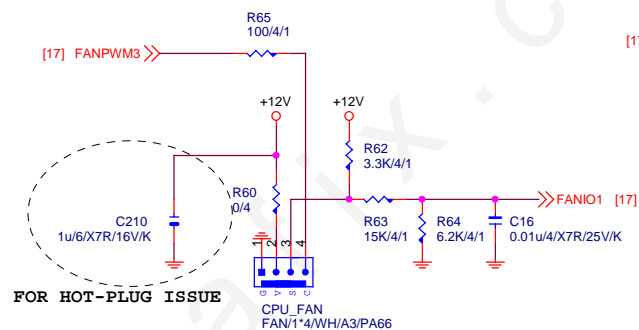
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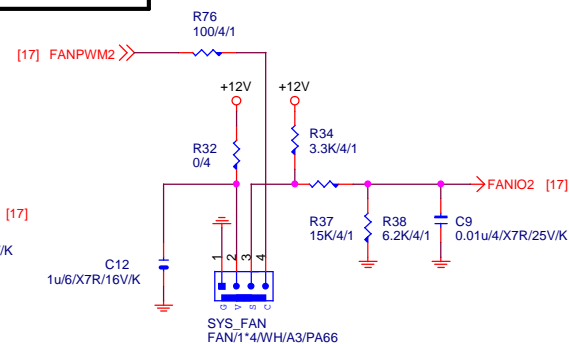
OV NCT3933



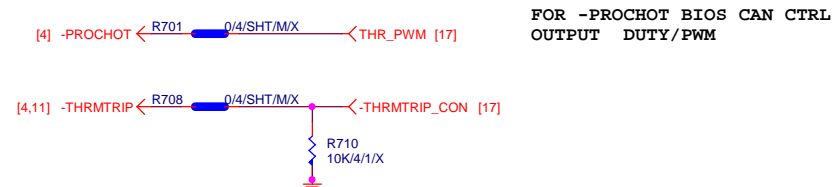
## CPU SMART FAN



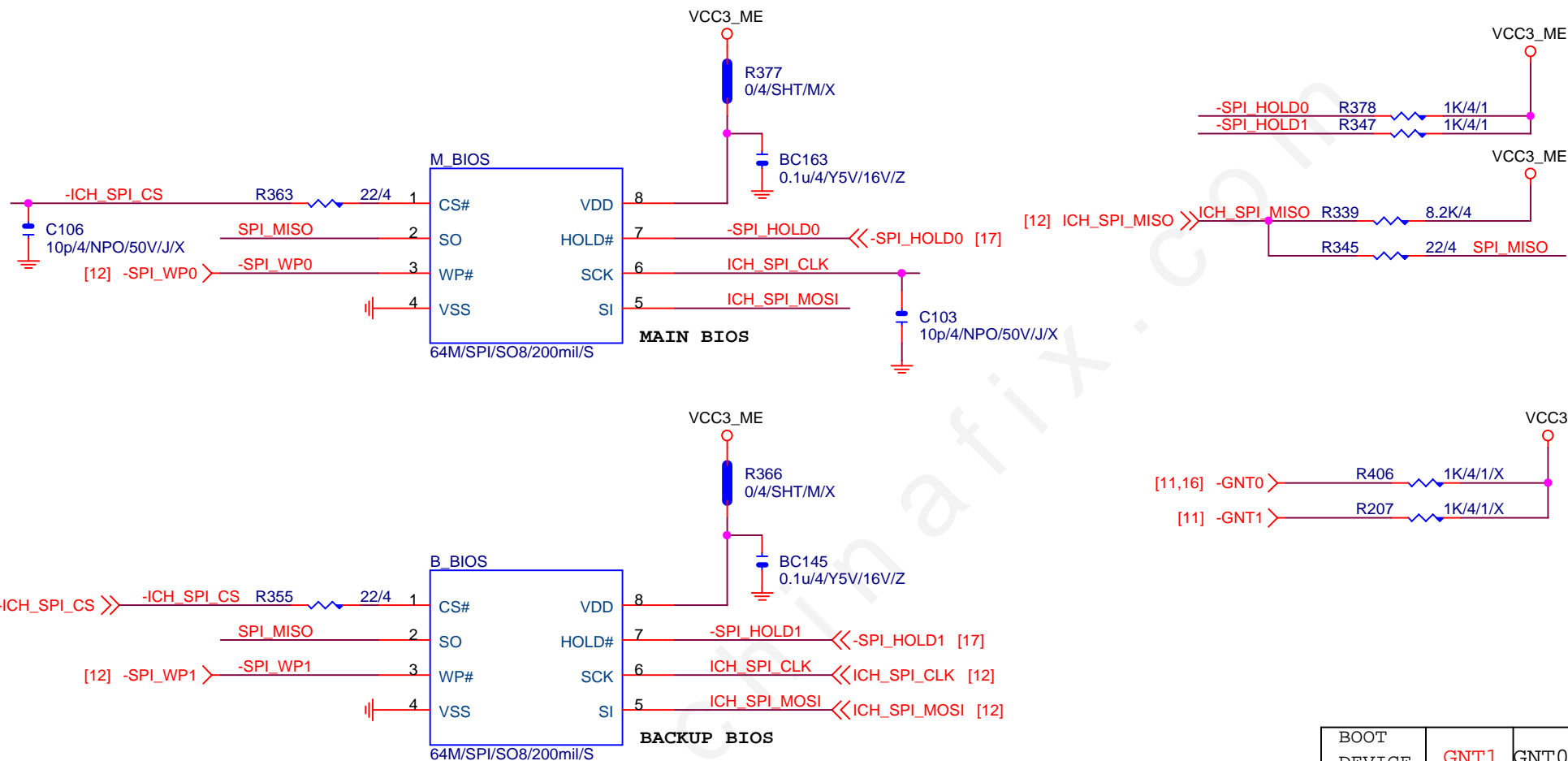
## SYS SMART FAN



**-PROHOT**



# DUAL BIOS



B65使用64M BIOS  
使用H67暫用32M  
H61使用32M BIOS

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

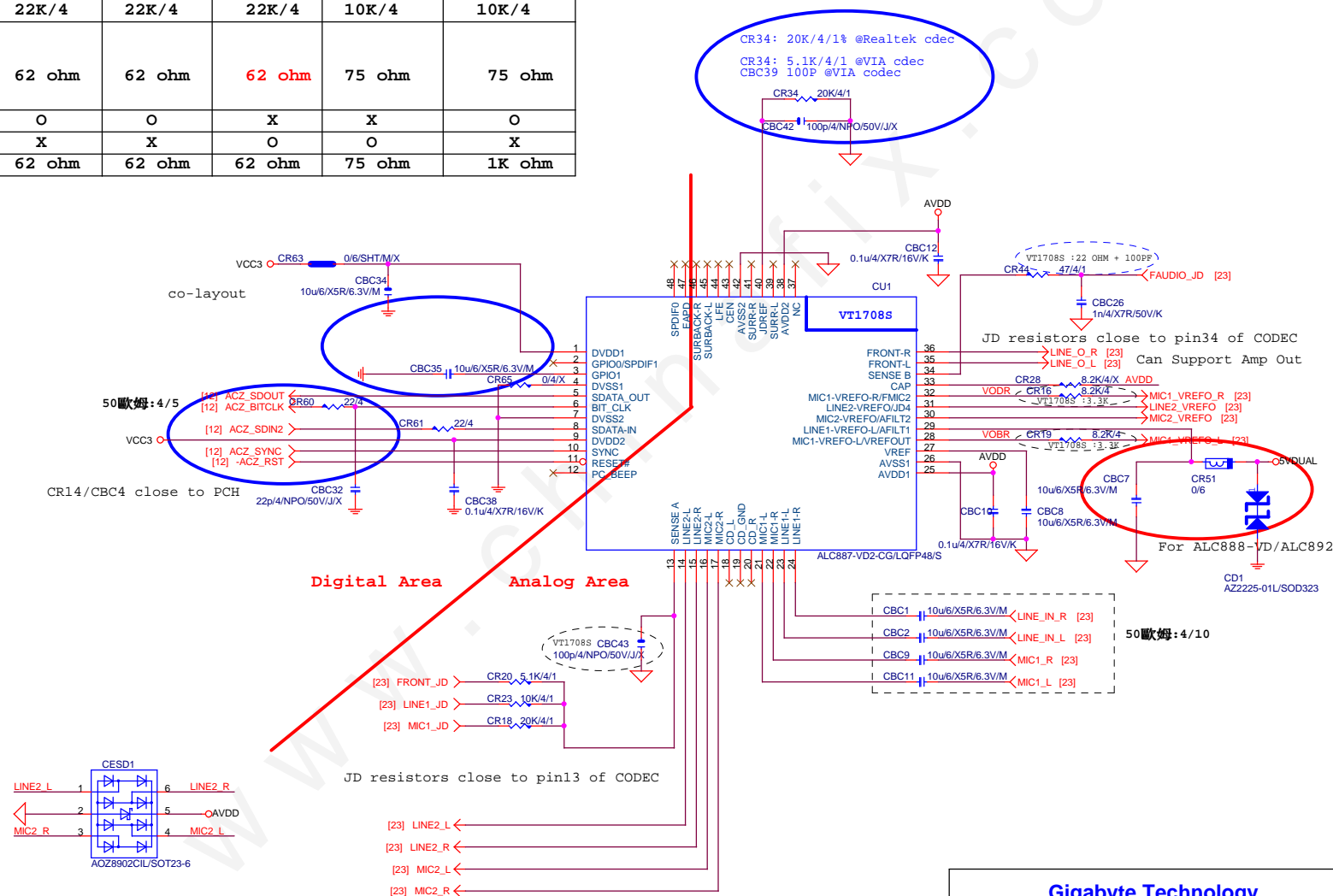
1 means floating  
0 means PD 1K

**Gigabyte Technology**

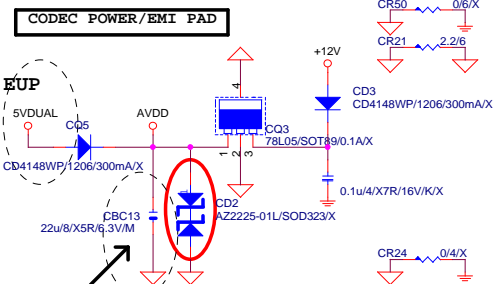
Title		
DUAL BIOS		
Size A	Document Number <b>GA-B75M-D3V</b>	Rev <b>2.01</b>
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	ALC662	ALC887-VD2	ALC889	VT1708S	VT1708SCE
CR65	X	X	O	O	X
CR64	X	X	X	X	0.1u/4
CBC35	O	O	X	X	O
CR44/CBC6	47ohm+1nF	47ohm+1nF	47ohm+1nF	22ohm+100P	22ohm+100P
CR31	X	O	O	O	O
CR30	O	X	X	X	X
CBC1/CBC2	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R
CR20	5.11K/4/1	5.11K/4/1	5.11K/4/1	5.1K/4/1	5.1K/4/1
CR34	20K/4/1	20K/4/1	20K/4/1	5.1K/4/1	20K/4/1
CBC39/CBC40	N/A	N/A	N/A	100P/4	100P/4
CR6/CR7/CR54/CR58	22K/4	22K/4	22K/4	10K/4	10K/4
CR5/CR8/CR11/CR4/ CR17/CR22/CR45/CR33/ CR47/CR40/CR26/CR37/ CR13/CR11/CR57/CR53	62 ohm	62 ohm	62 ohm	75 ohm	75 ohm
CR51/CD1/CBC7	O	O	X	X	O
CD2/CD3/CQ3/CQ5	X	X	O	O	X
CR1/CR14/CR17/CR22	62 ohm	62 ohm	62 ohm	75 ohm	1K ohm

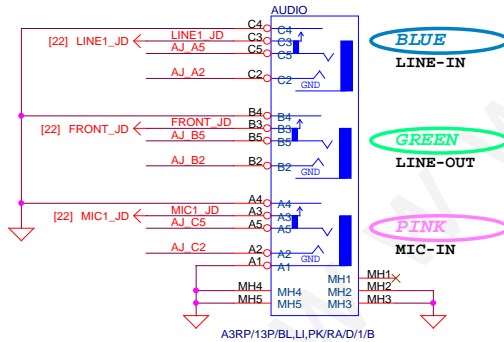


# CODEC POWER/EMI PAD

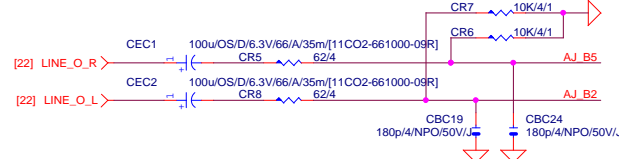


上ALC892時,此顆電容要保留  
ADD CD2 For ESD PROTECT DIODE

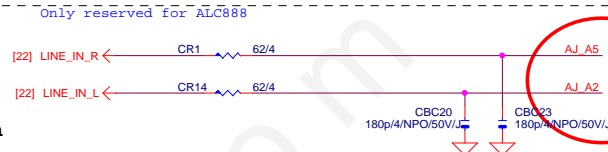
# SPDIF\_OUT



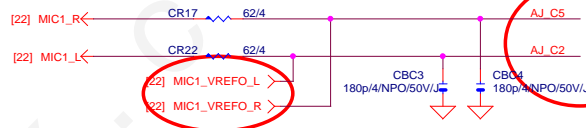
# LINE-OUT



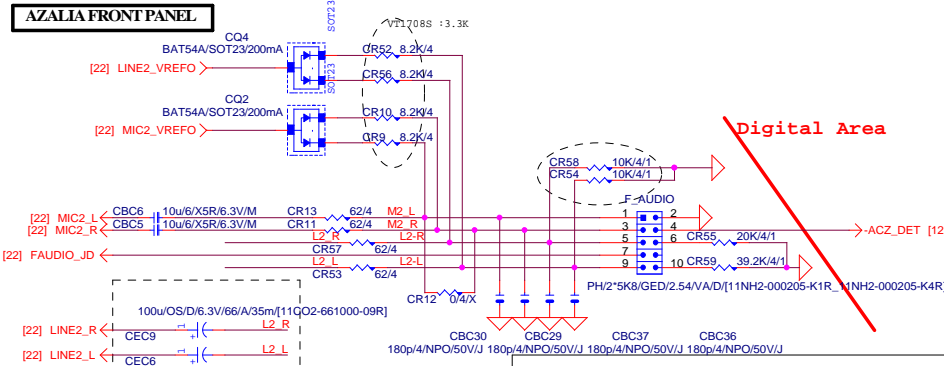
# LINE-IN



# MIC-IN

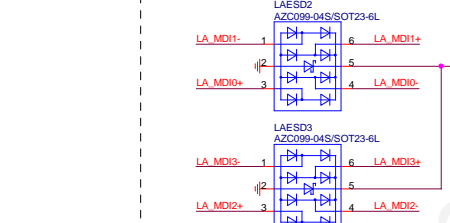
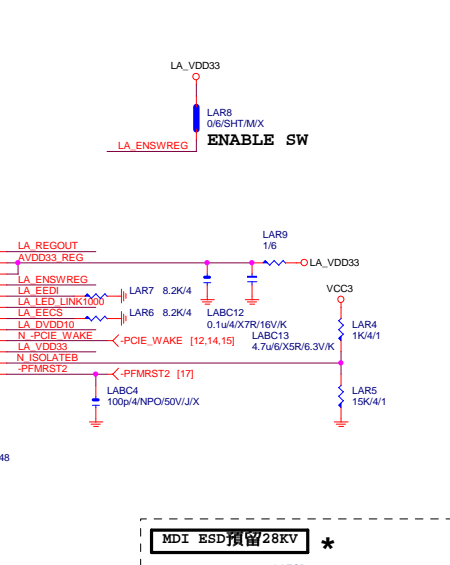
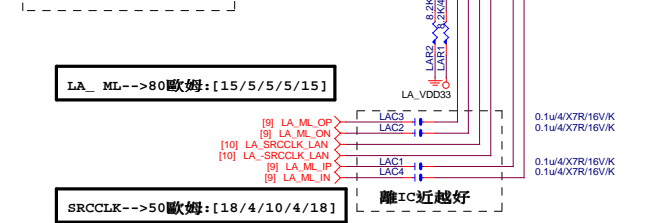
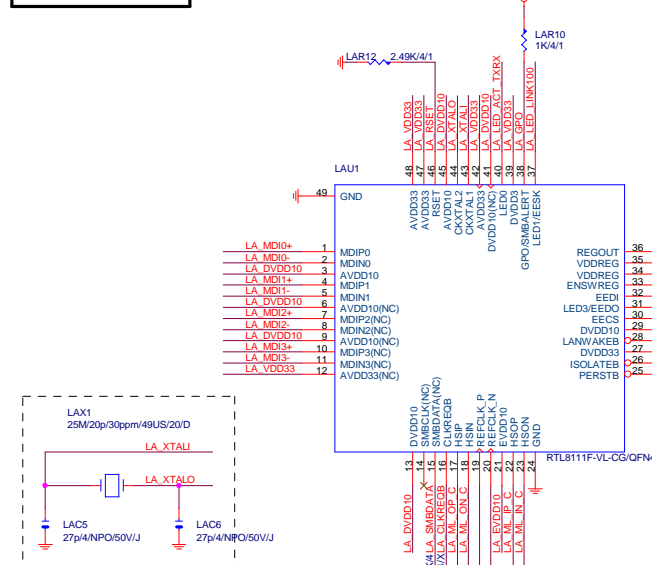


# AZALIA FRONT PANEL

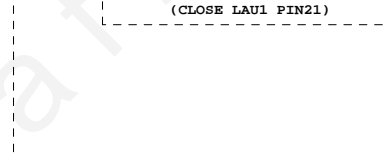
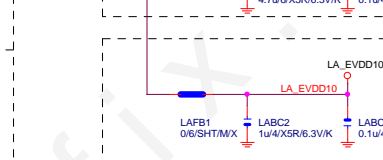
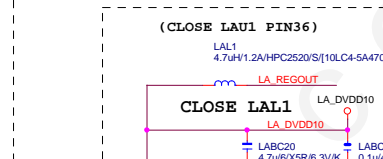
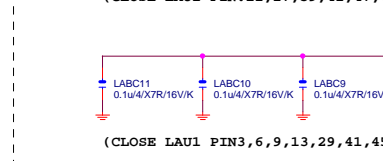
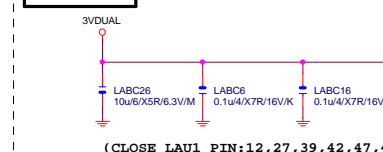


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AUDIO JACK			
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# LAN:RTL8111E/VB/VL



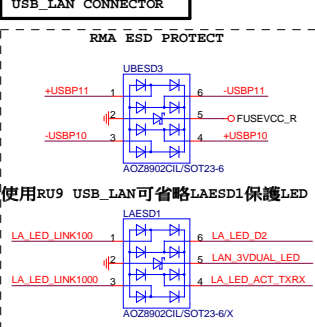
# LAN POWER



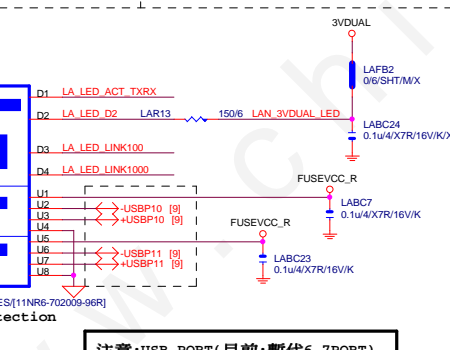
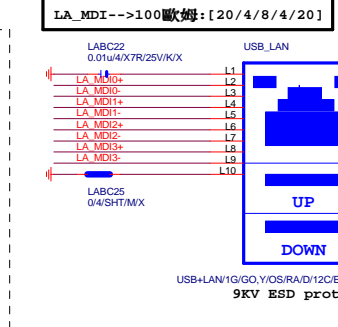
**Power domain chart**

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

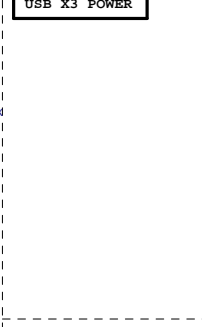
# USB LAN CONNECTOR



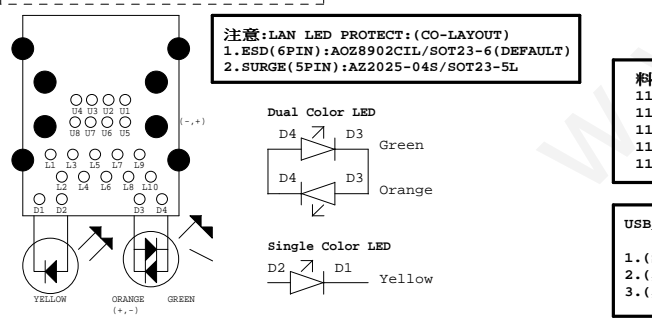
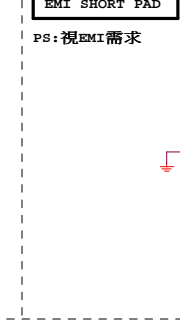
# LA\_MDI-->100欧姆:[20/4/8/4/20]



# USB X3 POWER



# EMI SHORT PAD

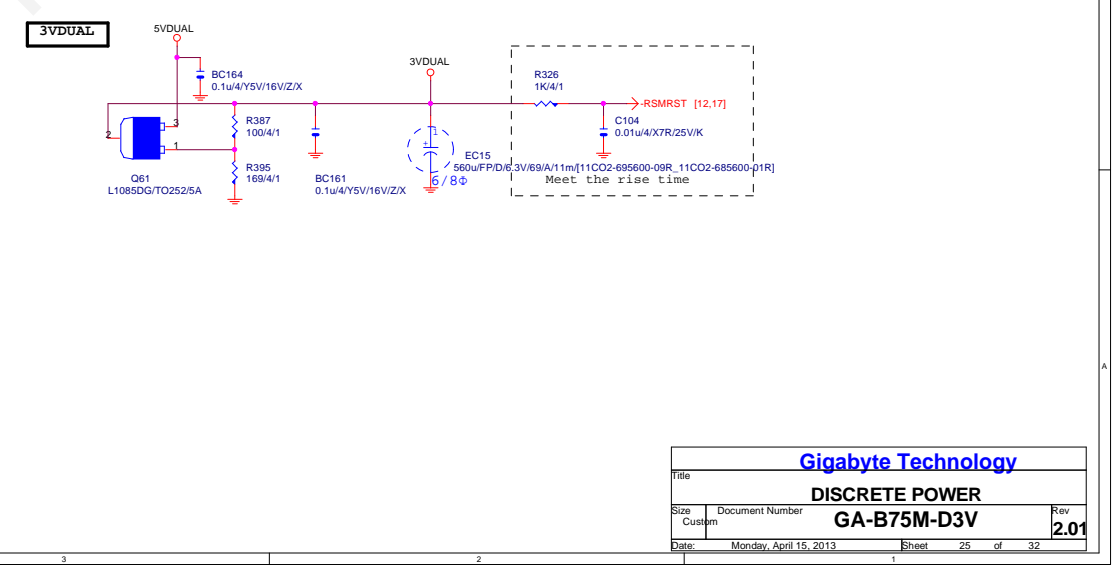
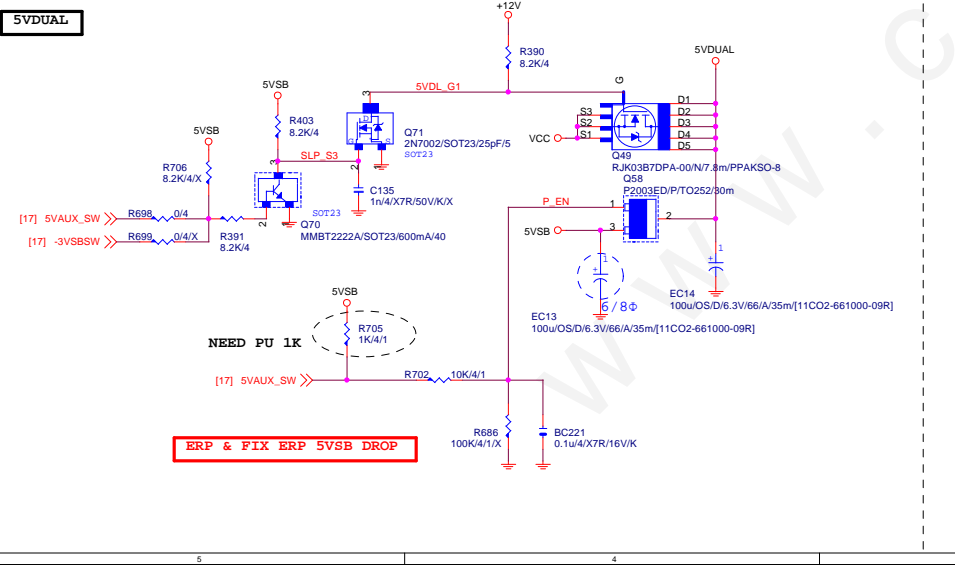
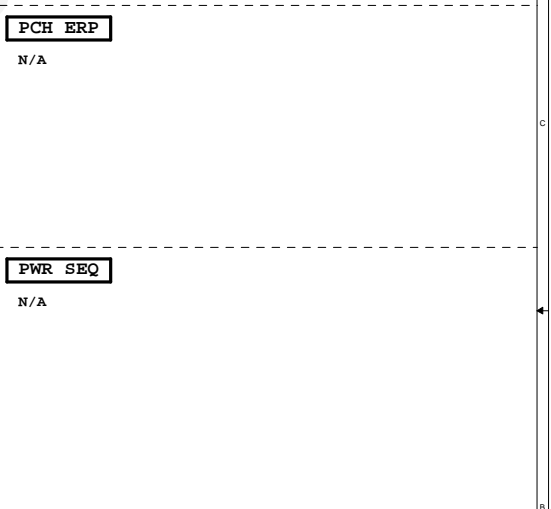
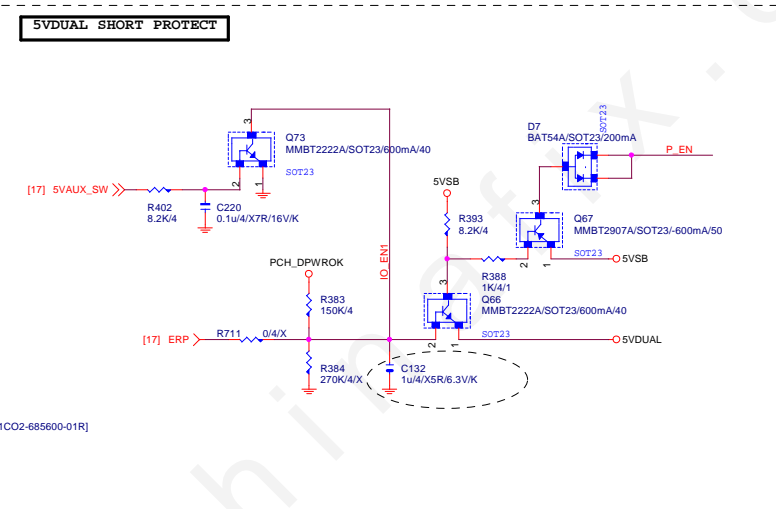
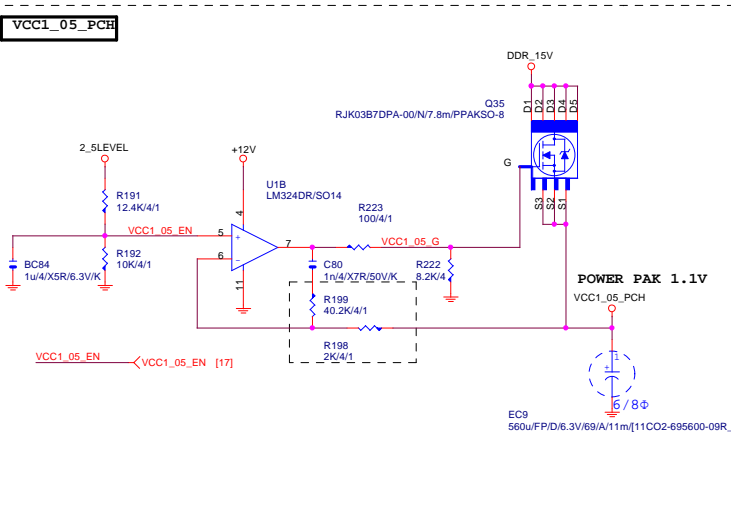
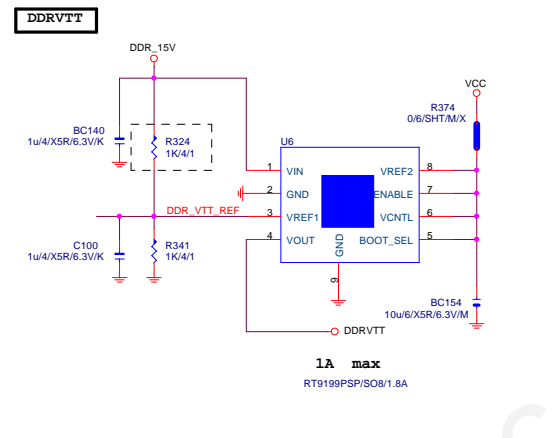
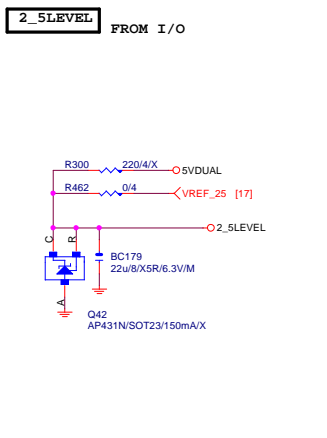
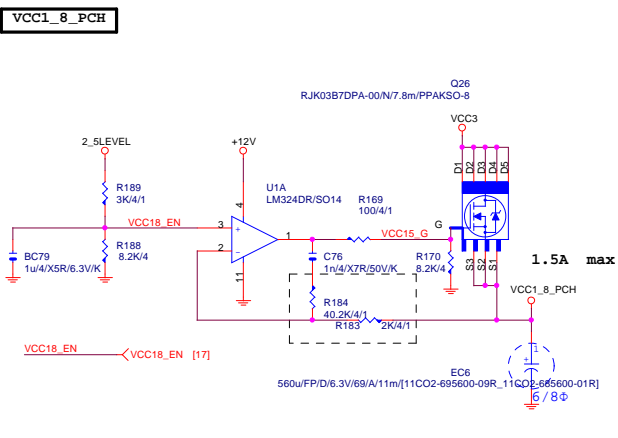


**注意:USB PORT(目前:暫代6,7PORT)**  
USB-->90欧姆:[15/4.5/7.5/4.5/15]

料號	規格	廠商
11NR6-702009-0ER	1G LAN (12core)	UDE
11NR6-702009-91R	1G LAN (8 core)	FOXCONN
11NR6-702009-92R	1G LAN (8 core)	UDE
11NR6-702009-11R	1G LAN (12core/RED)	UDE
11NR6-702009-12R	1G LAN (8 core/RED)	FOXCONN

**USB LAN BOM區分:**

- (紅色/12CORE/三倍):USB+LAN/1G/GO,Y/OS/RA/D/1/RED
- (黑色/12CORE):USB+LAN/1G/GO,Y/OS/RA/D/1
- (黑色/8CORE):USB+LAN/1G/GO,Y/OS/RA/D/8C





ATX\_4-5

VCC3 DUMMY LOAD

FIX PWR MINMUN LOAD

To prevent the 5VSB  
under loading when  
boot

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

### Power Option

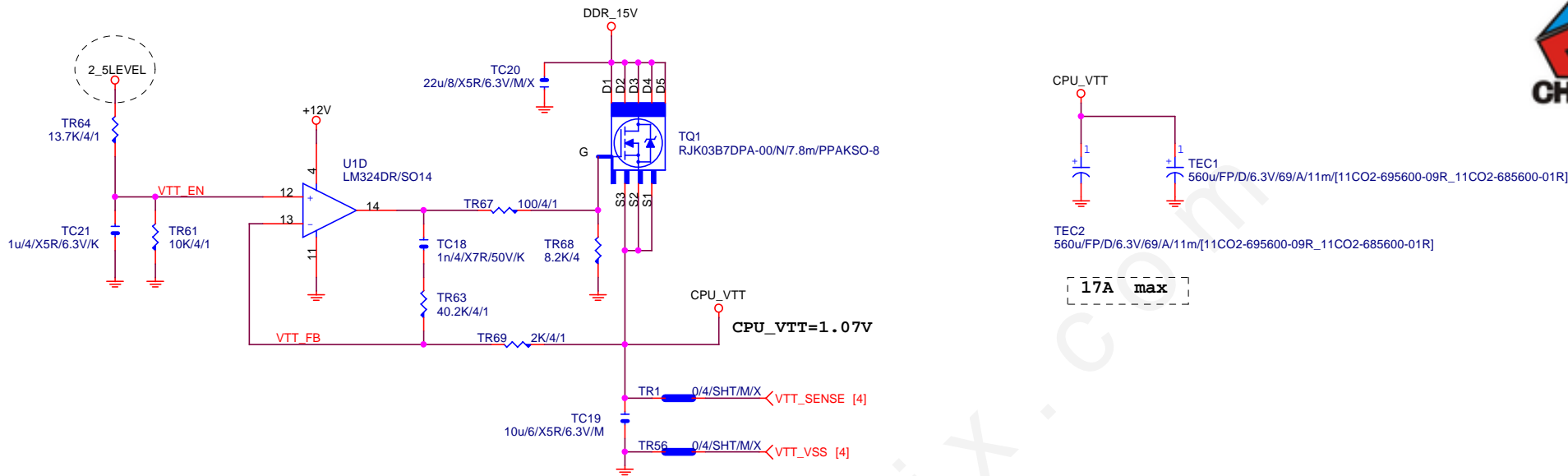
## Gigabyte Technology

## ATX CONNECTOR

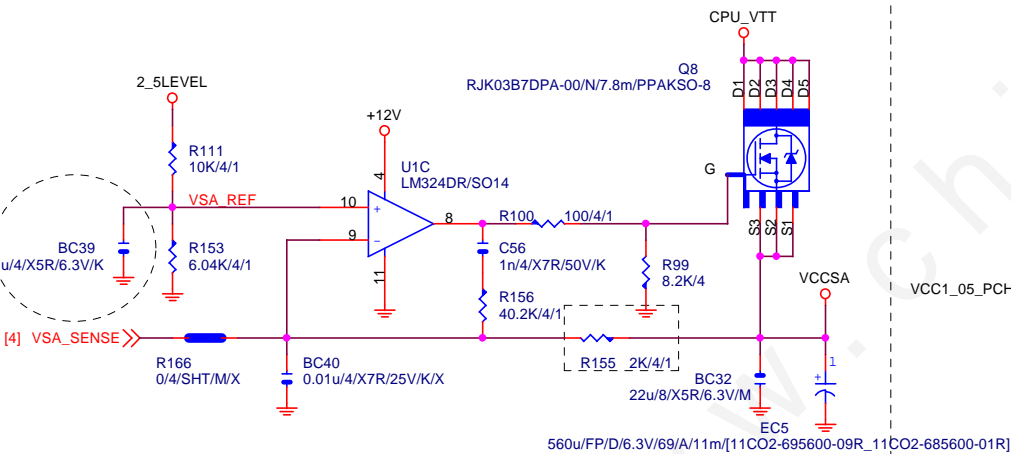
GA-B75M-D3V

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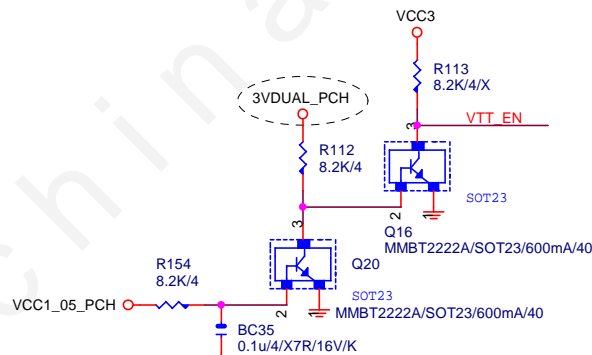
# CPU\_VTT



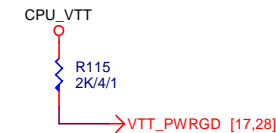
# VCCSA



# CPU\_VTT PWR SEQ

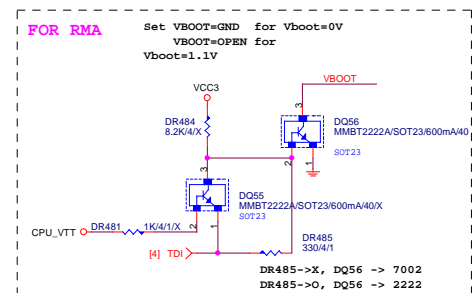
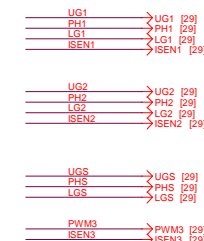
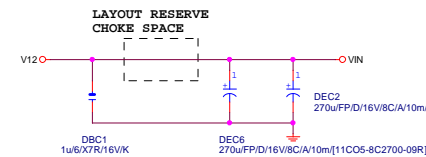


# VTT\_PWRGD



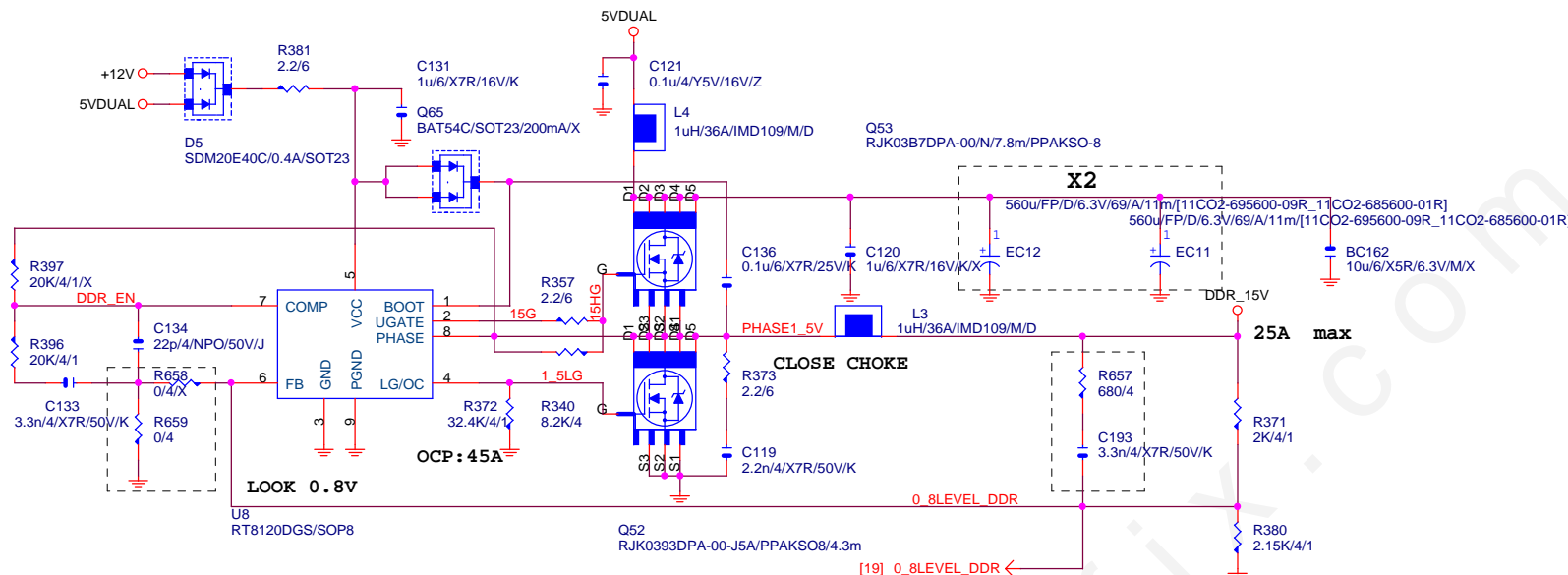
**GIGABYTE™**

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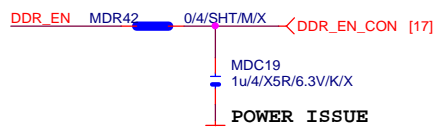




# DDR15V



# PWR SEQ



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  

$$Rocset = (Iocp * Lgate, rdson) / Iocset$$

$$Rocset = (45A * 6.7m\Omega) / 10uA = 30K$$

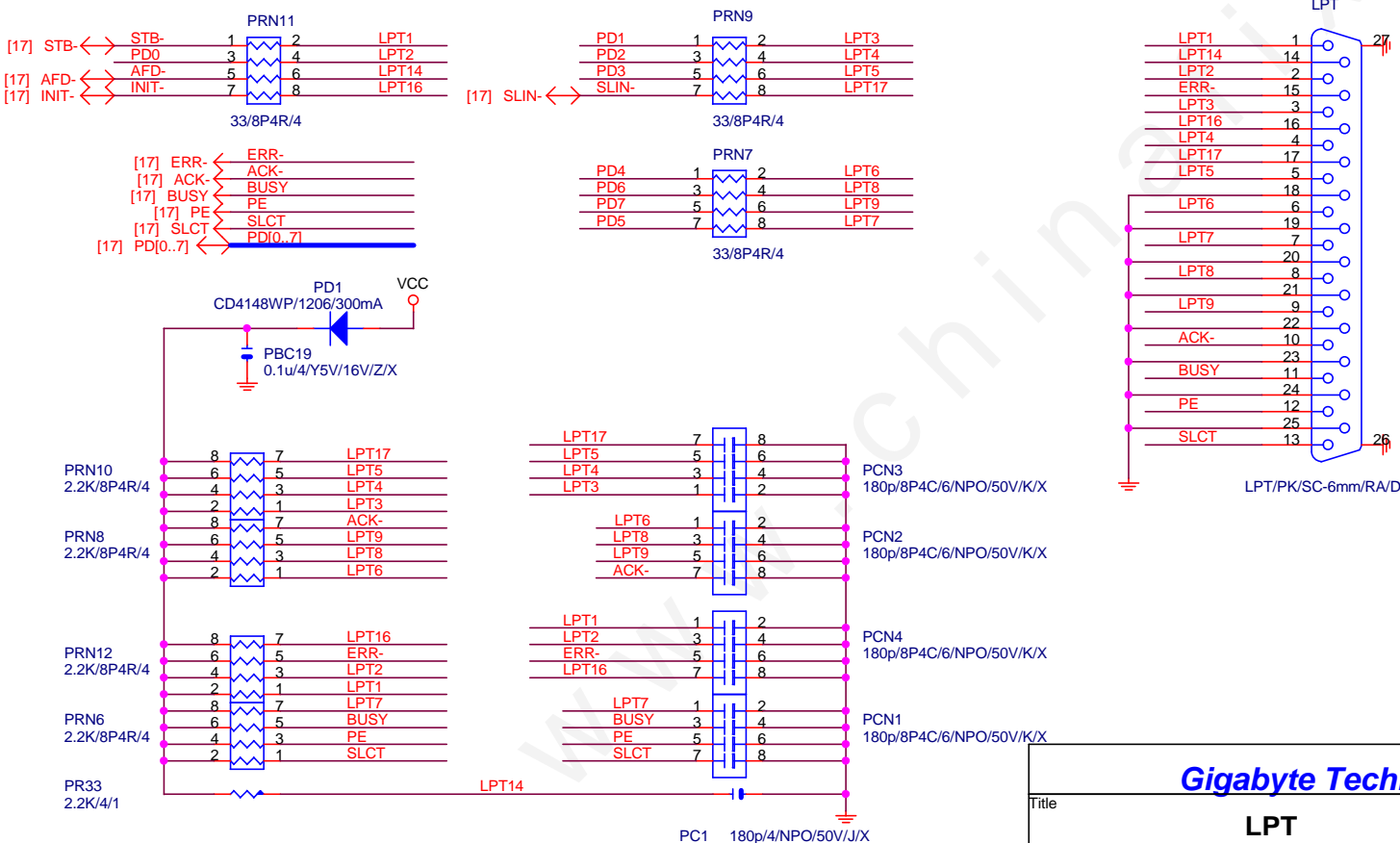
$$Iocset = 10uA$$

**Gigabyte Technology**

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# TPM

## LPT PORT



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