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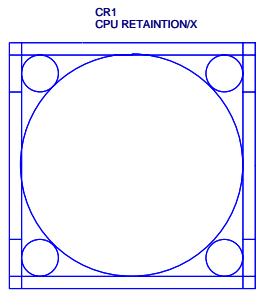
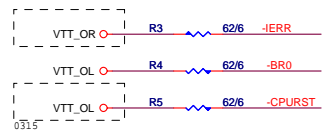
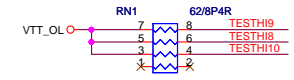
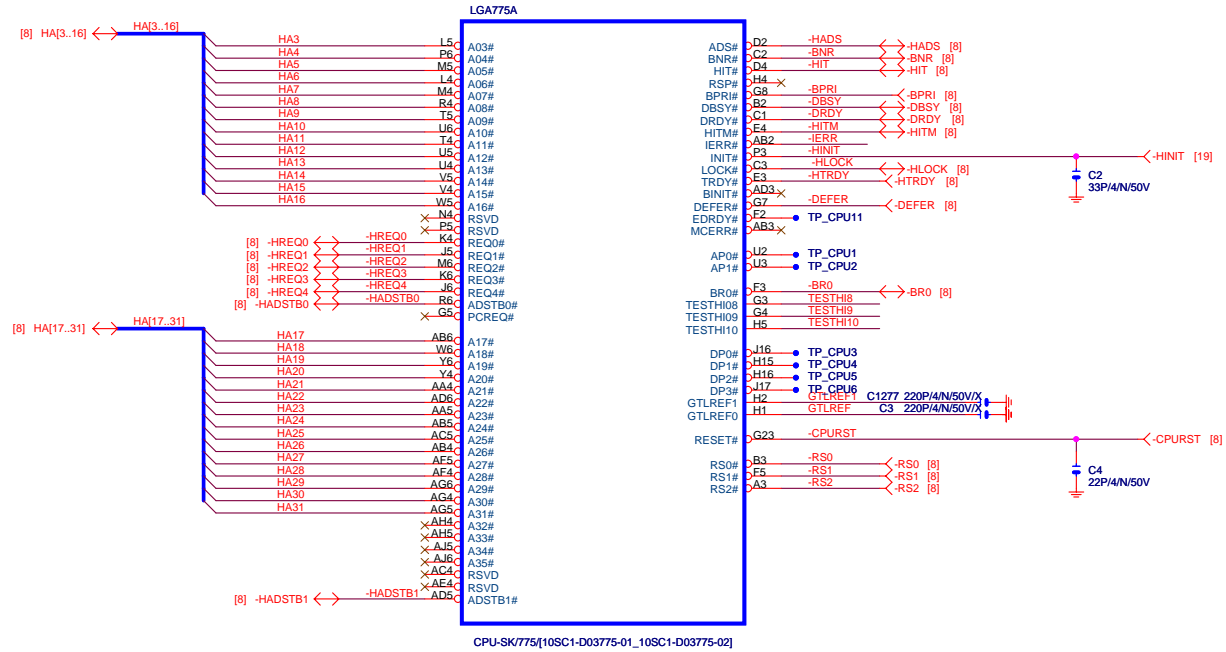
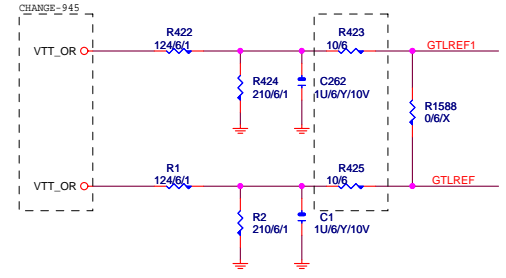
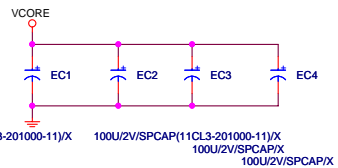
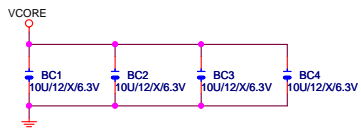
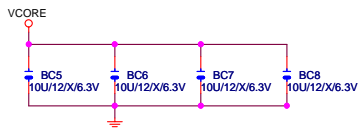
TITLE

01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4_LGA775_A
05	P4_LGA775_B
06	P4_LGA775_C
07	P4_LGA775_D,E,F,G
08	GMCH-LAKEPORT_HOST
09	GMCH-LAKEPORT_DDRII
10	GMCH-LAKEPORT_PCI E, DMI
11	GMCH-LAKEPORT_INT VGA
12	GMCH-LAKEPORT_GND
13	GMCH-LAKEPORT_PWR
14	DDRII CHANNEL A 1,2
15	DDRII CHANNEL B 1,2
16	DDRII TERMINATION
17	PCI EXPRESS*16 SLOT
18	ICH7 PCI, USB, DMI, LAN
19	ICH7 IDE, GPIO, SATA, CTRL
20	ICH7 VCC, GND
21	GB/CK410M CLOCK.
22	PCI SLOT 1,2,PCIE*1
23	IDE/FLOPPY
24	ITE 8712 GBIX
25	COM_LPT
26	BIOS, CI, HWM, KB/MS
27	ALC882

SHEET

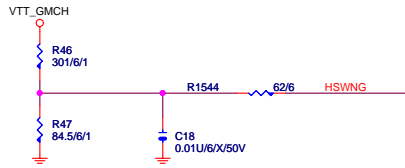
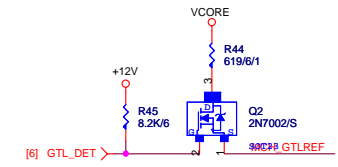
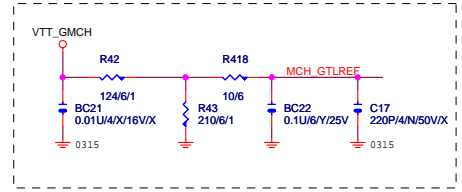
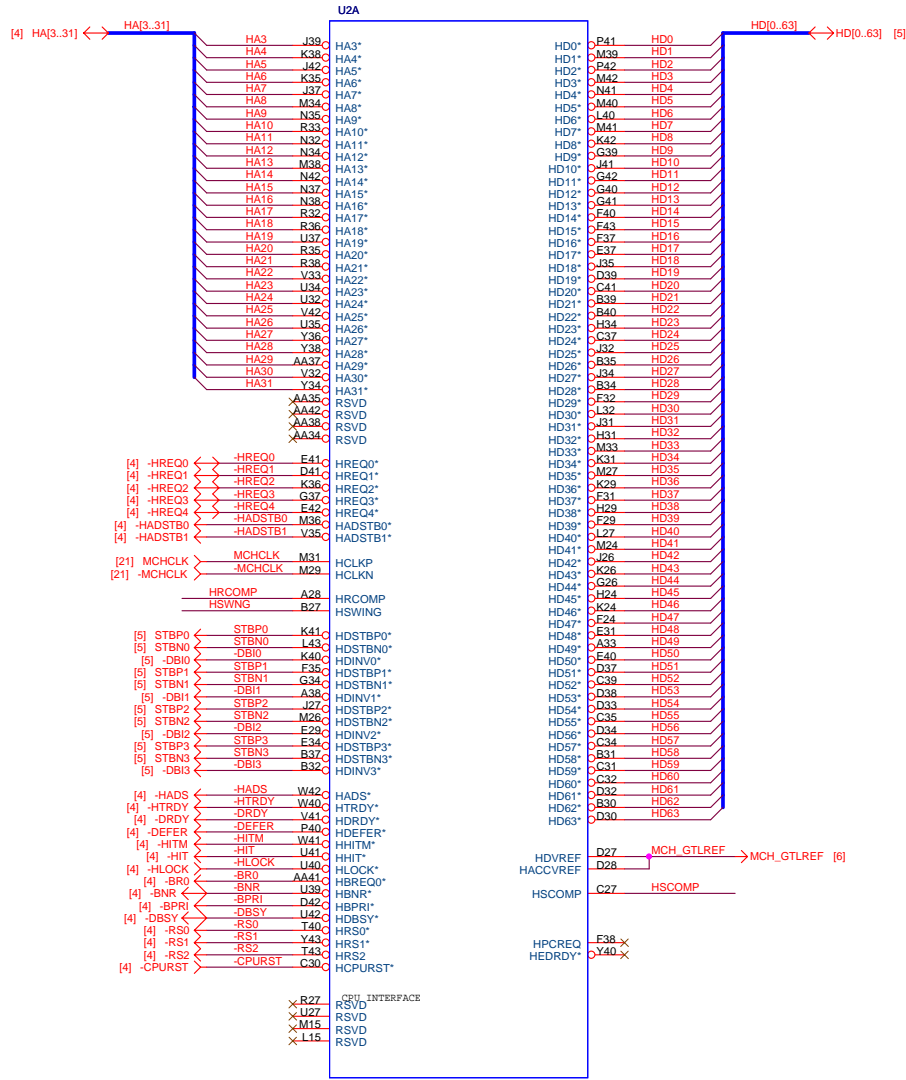
TITLE

28	REAR AUDIO JACK
29	TI TSB43AB23 1394
30	MARVELL 88E8053
31	VCORE PWM_ISL6556
32	DISCRETE POWER
33	ATX, OTHERS POWER
34	FRONT PANEL



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P4_LGA775-A			
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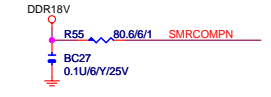
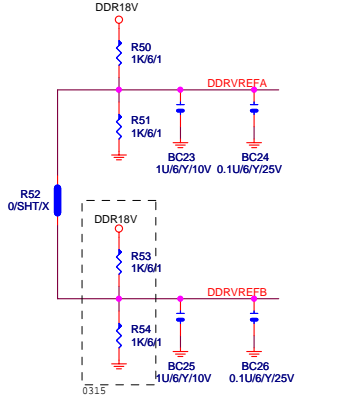
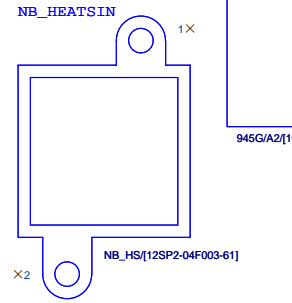
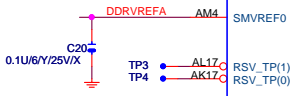


945G/A2[10HB1-033000-22R] Pb-Free



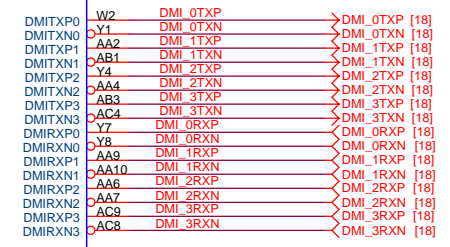
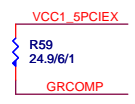
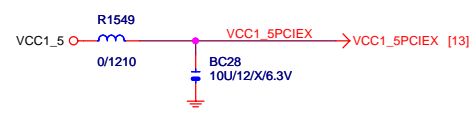
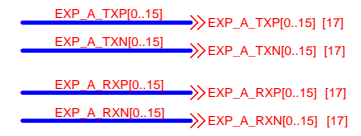
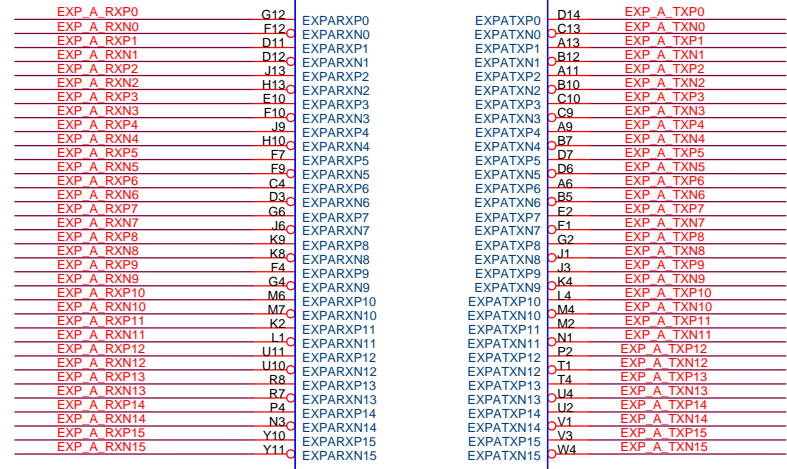
Gigabyte Technology			
GMCH-HOST			
Title	Document Number		Rev
	81945GMF		1.0
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U2F		U2G	
MAAA0 BA32	SAMA0	MAA0 BB22	SBMA0
MAAA1 BA32	SAMA1	MAA1 BB21	SBMA1
MAAA2 BA30	SAMA2	MAA2 BA21	SBMA2
MAAA3 BA30	SAMA3	MAA3 AY21	SBMA3
MAAA4 AY30	SAMA4	MAA4 BC20	SBMA4
MAAA5 BA27	SAMA5	MAA5 AY19	SBMA5
MAAA6 BC28	SAMA6	MAA6 AY20	SBMA6
MAAA7 AY27	SAMA7	MAA7 BA18	SBMA7
MAAA8 AY28	SAMA8	MAA8 BA18	SBMA8
MAAA9 BB27	SAMA9	MAA9 BB18	SBMA9
MAAA10 AY33	SAMA10	MAA10 BA22	SBMA10
MAAA11 AW27	SAMA11	MAA11 BB17	SBMA11
MAAA12 BB26	SAMA12	MAA12 BA17	SBMA12
MAAA13 BC38	SAMA13	MAA13 AW42	SBMA13
[14,16] -SWEA ← SB35C	SADQ50	[15,16] -SWEB ← SB23C	SBWE*
[14,16] -SCASA ← BA37C	SADQ51	[15,16] -SCASB ← BA23C	SBCE*
[14,16] -SRASA ← BA34C	SADQ52	[15,16] -SRASB ← BA23C	SBCK*
[14,16] SBA00 BC33	SADQ53	[15,16] SBAB0 ← AW23	SBBA0
[14,16] SBA01 AY34	SADQ54	[15,16] SBAB1 AY21	SBBA1
[14,16] SBA02 BA26	SADQ55	[15,16] SBAB2 AY17	SBBA2
[14,16] -CSA0 ← BB37C	SADQ56	[15,16] -CSB0 ← BA40C	SBCE0
[14,16] -CSA1 ← BA39C	SADQ57	[15,16] -CSB1 ← BA41C	SBCE1
[14,16] -CSA2 ← BA35C	SADQ58	[15,16] -CSB2 ← BA44C	SBCKE0
[14,16] -CSA3 ← AY38C	SADQ59	[15,16] -CSB3 ← AW40C	SBCKE1
[14,16] CKEA0 BB25	SADQ60	[15,16] CKEB0 BA14	SBCKE2
[14,16] CKEA1 AY25	SADQ61	[15,16] CKEB1 AY16	SBCKE3
[14,16] CKEA2 BC24	SADQ62	[15,16] CKEB2 BA13	
[14,16] CKEA3 BA25	SADQ63	[15,16] CKEB3 BB13	
MODT_A0 AW37	SADQ64		
MODT_A1 AY39	SADQ65		
MODT_A2 AY37	SADQ66		
MODT_A3 BB40	SADQ67		
[14] DCLKA0 ← BB32	SADQ68		
[14] DCLKA0 ← AY32C	SADQ69		
[14] DCLKA1 ← AY5	SADQ70		
[14] DCLKA1 ← BB5C	SADQ71		
[14] DCLKA2 ← AK42	SADQ72		
[14] DCLKA2 ← AK41C	SADQ73		
[14] DCLKA3 ← BA31C	SADQ74		
[14] DCLKA3 ← BB31C	SADQ75		
[14] DCLKA4 ← AY8	SADQ76		
[14] DCLKA4 ← BA5C	SADQ77		
[14] DCLKA5 ← AH40C	SADQ78		
[14] DCLKA5 ← AH43C	SADQ79		
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	SADQ98		
	SADQ99		



- [15] -DQS[0..7] ↔ -DQS[0..7]
- [15,16] MAA[0..13] ↔ MAA[0..13]
- [15] DMB[0..7] ↔ DMB[0..7]
- [15] MDB[0..63] ↔ MDB[0..63]
- [15] DQS[0..7] ↔ DQS[0..7]
- [14,16] MAA[0..13] ↔ MAA[0..13]
- [14] DMA[0..7] ↔ DMA[0..7]
- [14] MDA[0..63] ↔ MDA[0..63]
- [14] DQA[0..7] ↔ DQA[0..7]
- [14] -DQA[0..7] ↔ -DQA[0..7]

U2B



945G/A2[110HB1-033000-22R]

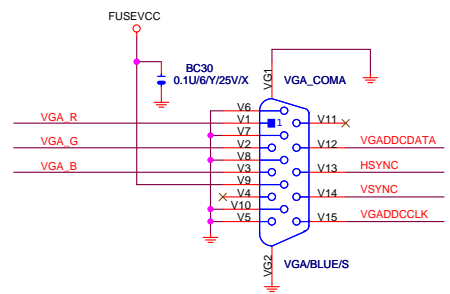
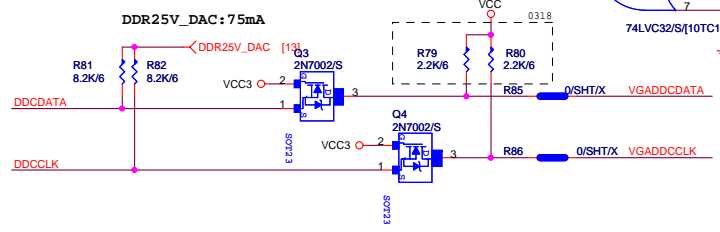
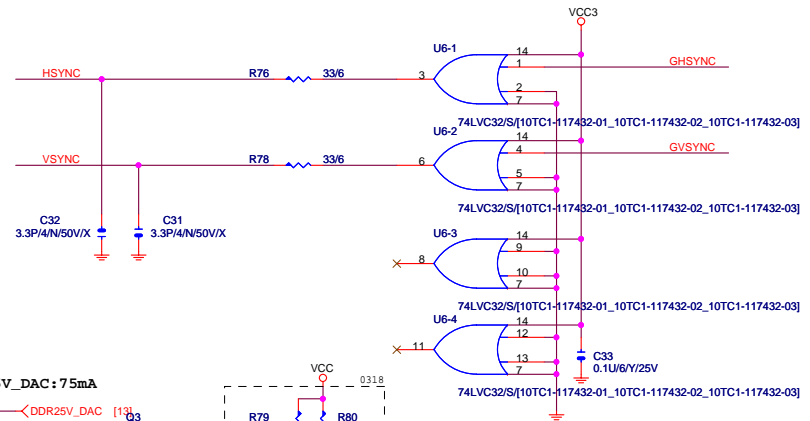
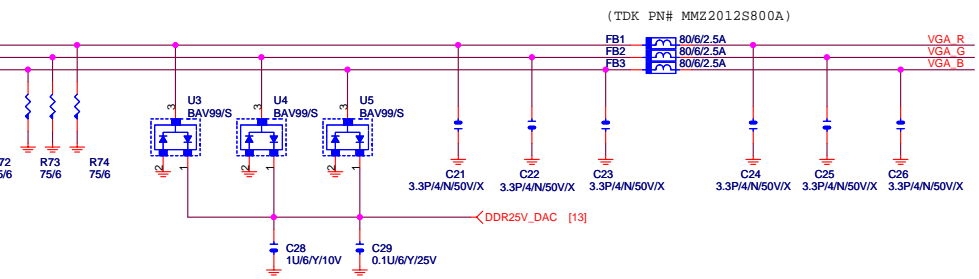
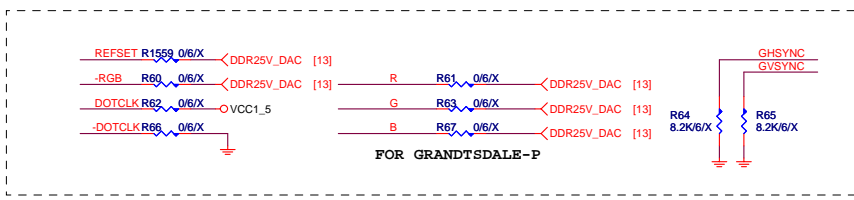
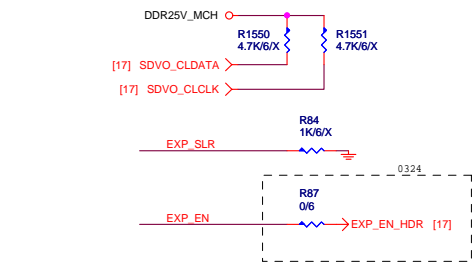
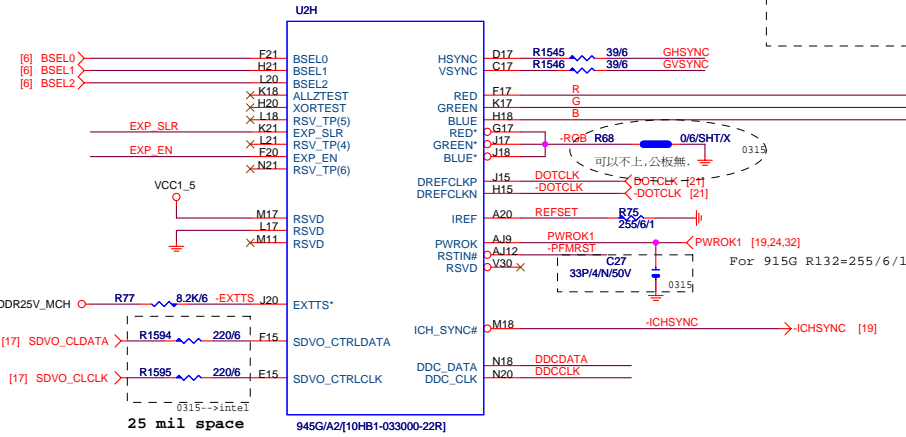
Gigabyte Technology

Title

GMCH-PCI E & DMI

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U2C

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A16 VSS
A22 VSS
A26 VSS
A31 VSS
A35 VSS
B4 VSS
B6 VSS
B9 VSS
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B38 VSS
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C12 VSS
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AC39

U2E

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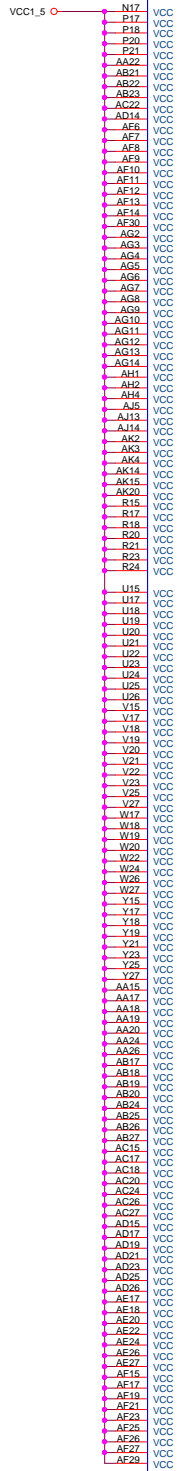
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NC B2 X
NC B3 X
NC B41 X
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NC AW29 X
NC BA2 X
NC BB1 X
NC BB2 X
NC BB43 X
NC BC1 X
NC BC2 X
NC BC42 X
NC BC43 X

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RSVD AJ23 X
RSVD AJ26 X
RSVD AL23 X
RSVD AL20 X
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RSVD AK22 X
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RSVD AG34 X
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RSVD AG28 X
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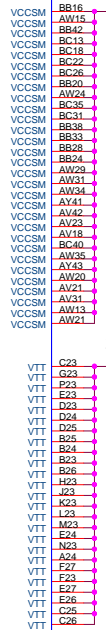
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945G/A2[10HB1-033000-22R]

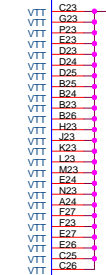
1.425~1.575V



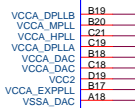
1.7~1.9V



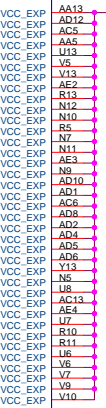
1.14~1.26V



2.375~2.625V



1.425~1.575V



VCCA_EXPPLL=VCCA_GPLL=45mA(1.425V~1.575V)



VCCA_HPLL>50mA 公板為200mA(1.425V~1.575V)



VCCA_DPLL A=65mA(1.425V~1.575V)



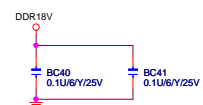
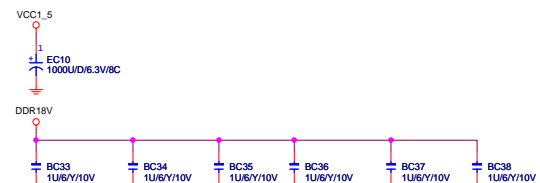
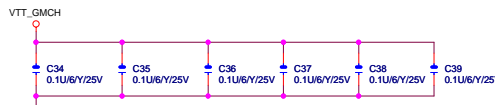
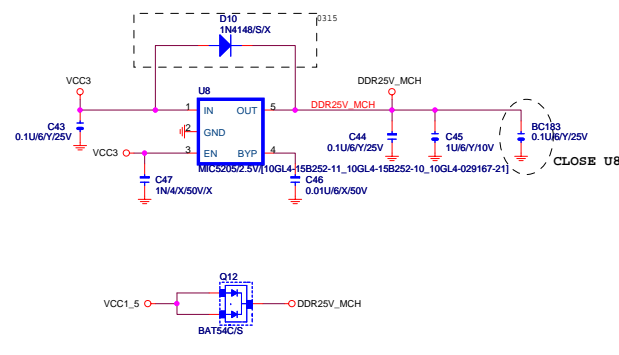
VCCA_DPLL B=65mA(1.425V~1.575V)



VCCA_MPLL>50mA(1.425V~1.575V)



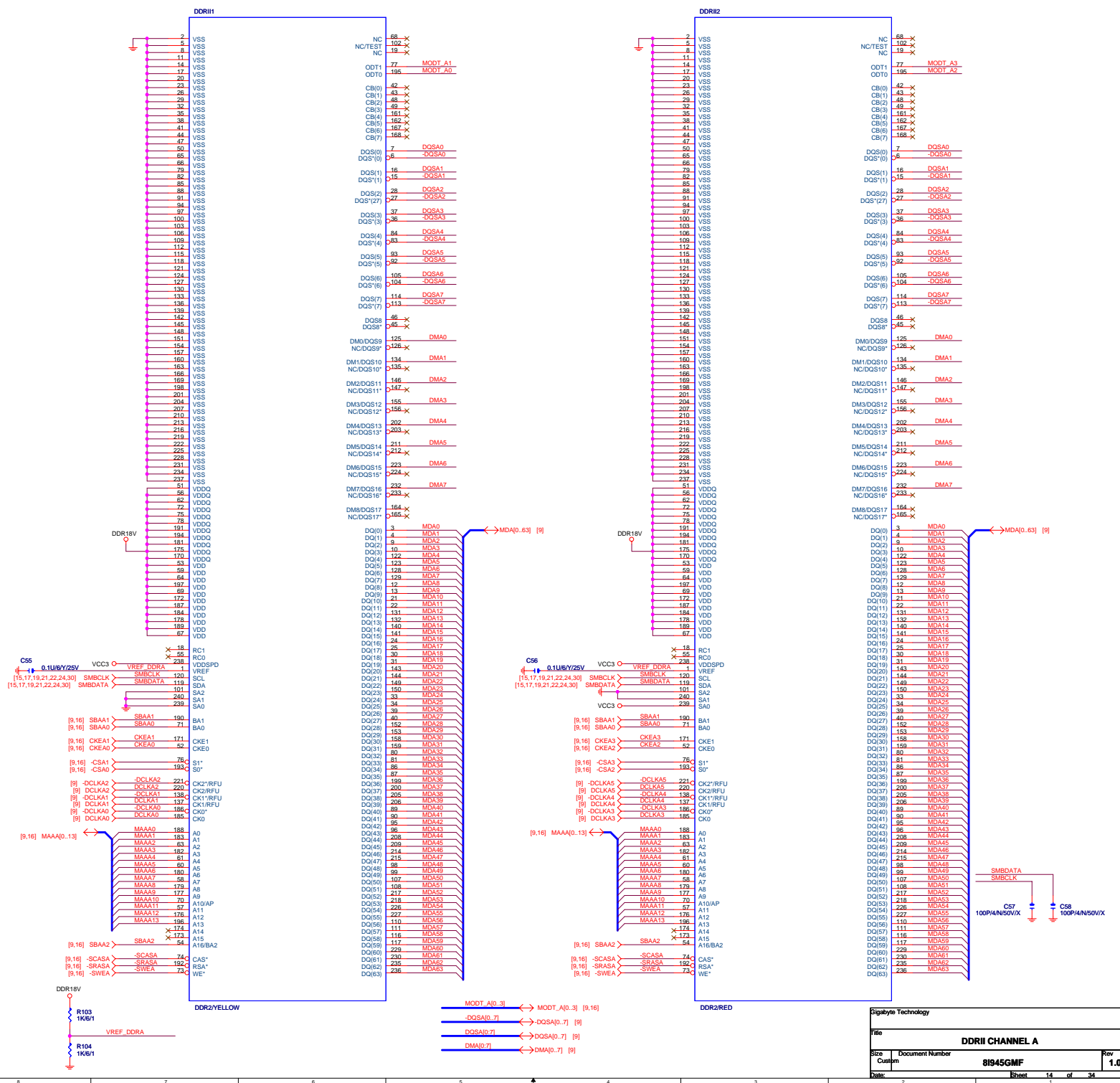
VCCA_DAC=DDR25V_DAC=70mA(2.375~2.625V)



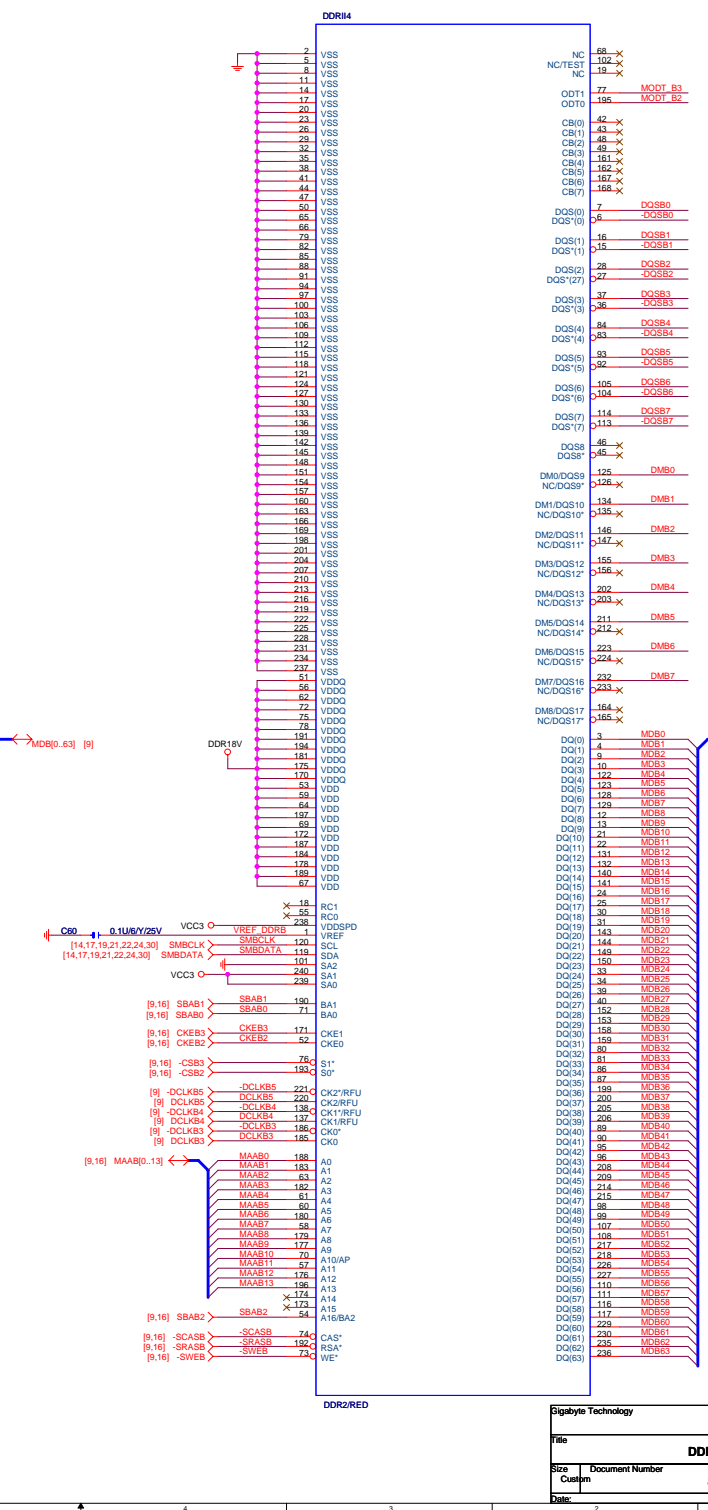
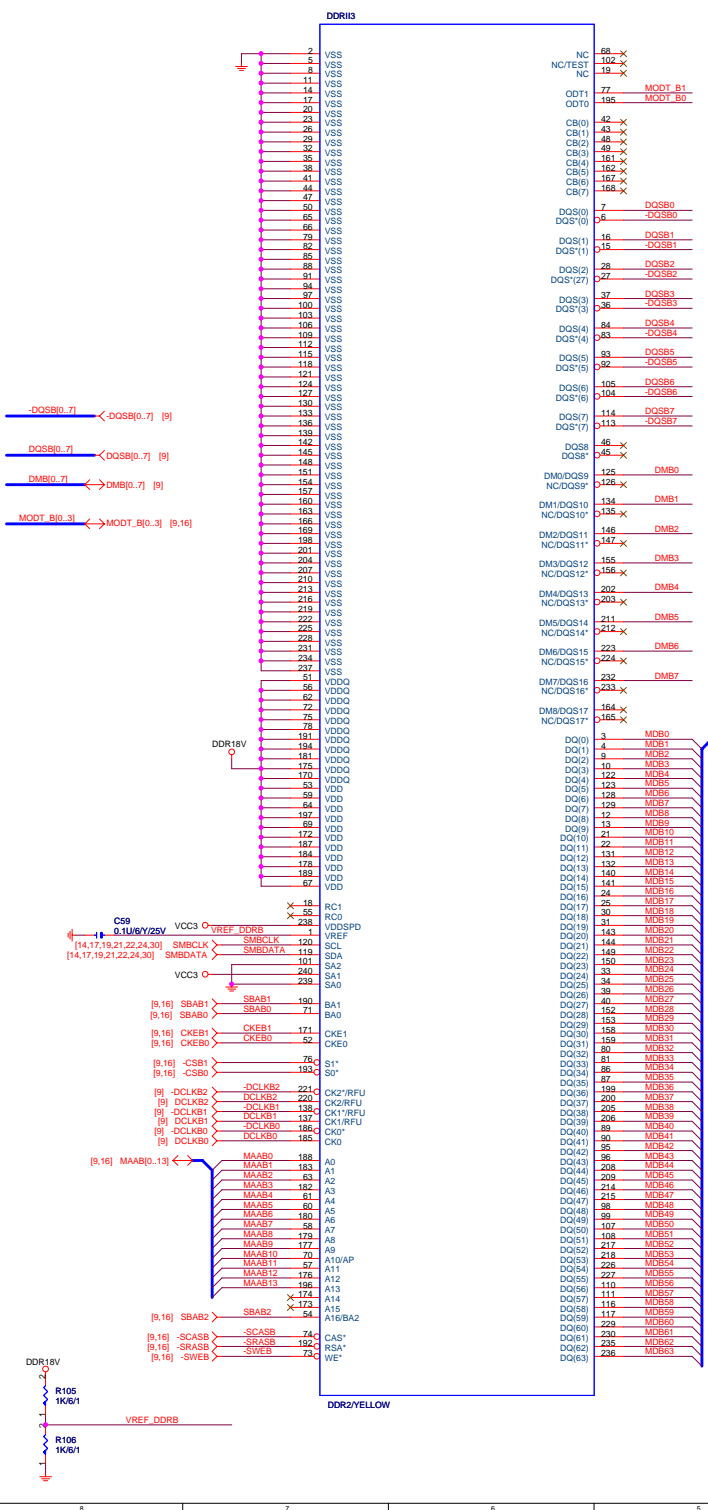
945 Design Guide rev1.5 spec.
 VCCA_EXPPLL=VCCA_GPLL=45mA(1.425V~1.575V)
 VCCA_HPLL>50mA 公板為200mA(1.425V~1.575V)
 VCCA_DPLL A=65mA(1.425V~1.575V)
 VCCA_DPLL B=65mA(1.425V~1.575V)
 VCCA_MPLL>50mA(1.425V~1.575V)
 VCCA_DAC=DDR25V_DAC=70mA(2.375~2.625V)

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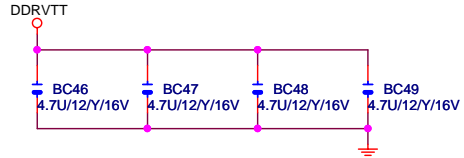
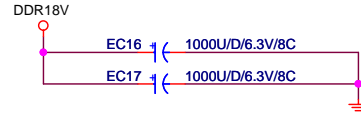
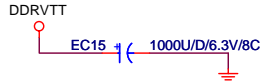


Egabyte Technology	
DDR1 CHANNEL A	
File	
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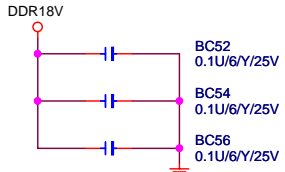


DDR TERMINATION CHANNEL A

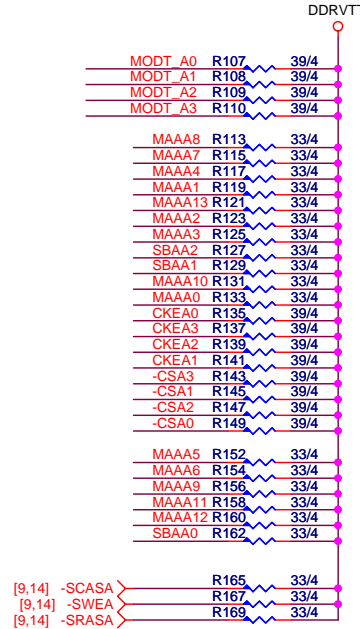
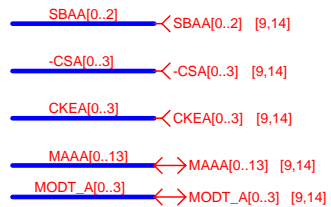
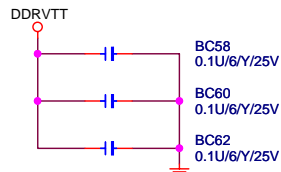
DDRVTT Decouple



DDR18V Decouple

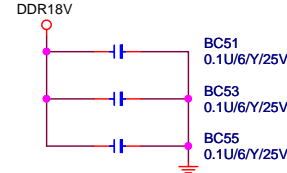


DDRVTT Decouple

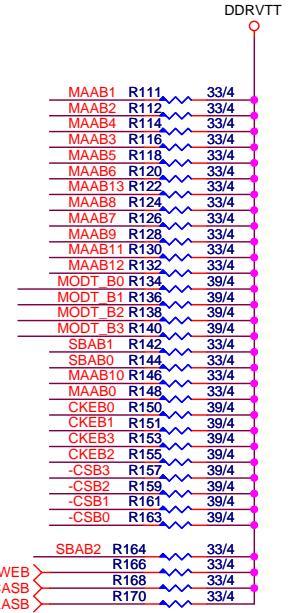
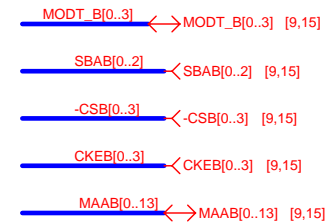
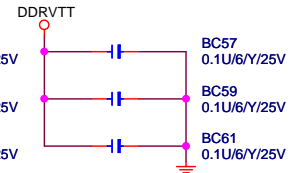


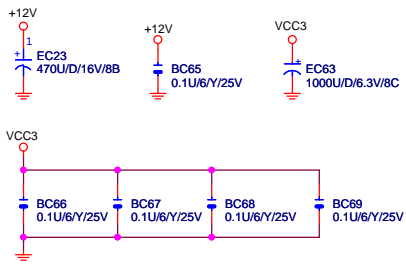
DDR TERMINATION CHANNEL B

DDR18V Decouple

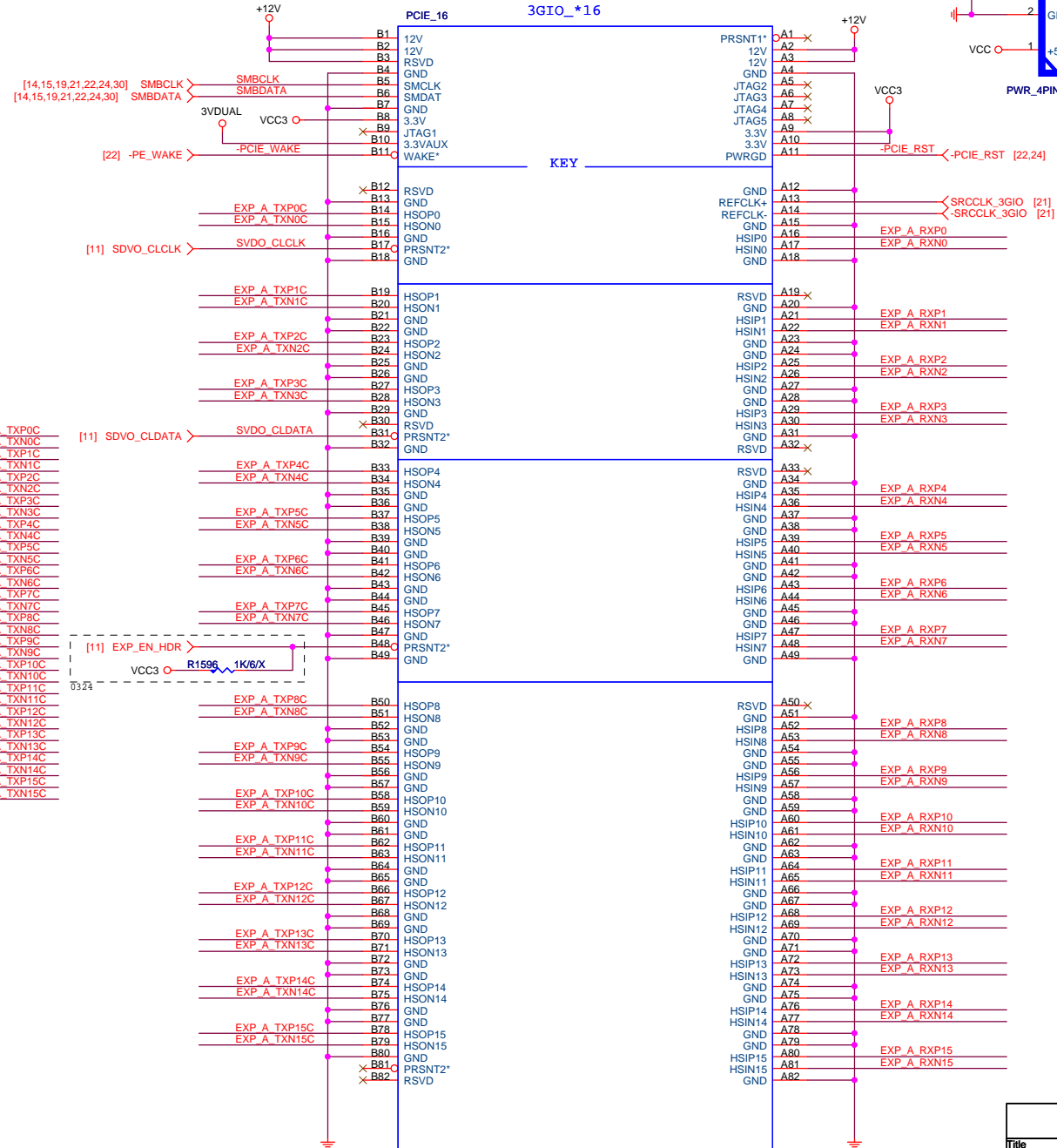
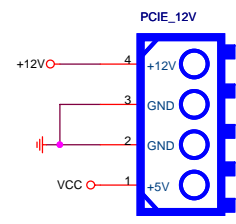


DDRVTT Decouple



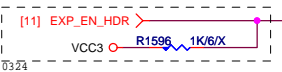


PCIESLOT-164DN-2



EXP_A_TXP[0..15] >>> EXP_A_TXP[0..15] [10]
 EXP_A_TXN[0..15] >>> EXP_A_TXN[0..15] [10]

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EXP_A_TXN0	C93	0.1U/6/Y/25V	EXP_A_TXN0C
EXP_A_TXP1	C94	0.1U/6/Y/25V	EXP_A_TXP1C
EXP_A_TXN1	C95	0.1U/6/Y/25V	EXP_A_TXN1C
EXP_A_TXP2	C96	0.1U/6/Y/25V	EXP_A_TXP2C
EXP_A_TXN2	C97	0.1U/6/Y/25V	EXP_A_TXN2C
EXP_A_TXP3	C98	0.1U/6/Y/25V	EXP_A_TXP3C
EXP_A_TXN3	C99	0.1U/6/Y/25V	EXP_A_TXN3C
EXP_A_TXP4	C100	0.1U/6/Y/25V	EXP_A_TXP4C
EXP_A_TXN4	C101	0.1U/6/Y/25V	EXP_A_TXN4C
EXP_A_TXP5	C102	0.1U/6/Y/25V	EXP_A_TXP5C
EXP_A_TXN5	C103	0.1U/6/Y/25V	EXP_A_TXN5C
EXP_A_TXP6	C104	0.1U/6/Y/25V	EXP_A_TXP6C
EXP_A_TXN6	C105	0.1U/6/Y/25V	EXP_A_TXN6C
EXP_A_TXP7	C106	0.1U/6/Y/25V	EXP_A_TXP7C
EXP_A_TXN7	C107	0.1U/6/Y/25V	EXP_A_TXN7C
EXP_A_TXP8	C108	0.1U/6/Y/25V	EXP_A_TXP8C
EXP_A_TXN8	C109	0.1U/6/Y/25V	EXP_A_TXN8C
EXP_A_TXP9	C110	0.1U/6/Y/25V	EXP_A_TXP9C
EXP_A_TXN9	C111	0.1U/6/Y/25V	EXP_A_TXN9C
EXP_A_TXP10	C112	0.1U/6/Y/25V	EXP_A_TXP10C
EXP_A_TXN10	C113	0.1U/6/Y/25V	EXP_A_TXN10C
EXP_A_TXP11	C114	0.1U/6/Y/25V	EXP_A_TXP11C
EXP_A_TXN11	C115	0.1U/6/Y/25V	EXP_A_TXN11C
EXP_A_TXP12	C116	0.1U/6/Y/25V	EXP_A_TXP12C
EXP_A_TXN12	C117	0.1U/6/Y/25V	EXP_A_TXN12C
EXP_A_TXP13	C118	0.1U/6/Y/25V	EXP_A_TXP13C
EXP_A_TXN13	C119	0.1U/6/Y/25V	EXP_A_TXN13C
EXP_A_TXP14	C120	0.1U/6/Y/25V	EXP_A_TXP14C
EXP_A_TXN14	C121	0.1U/6/Y/25V	EXP_A_TXN14C
EXP_A_TXP15	C122	0.1U/6/Y/25V	EXP_A_TXP15C
EXP_A_TXN15	C123	0.1U/6/Y/25V	EXP_A_TXN15C



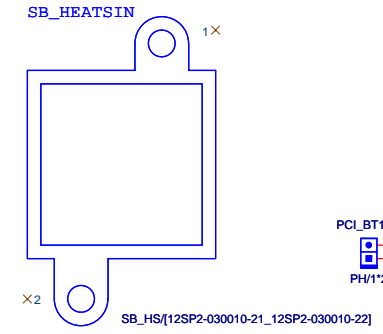
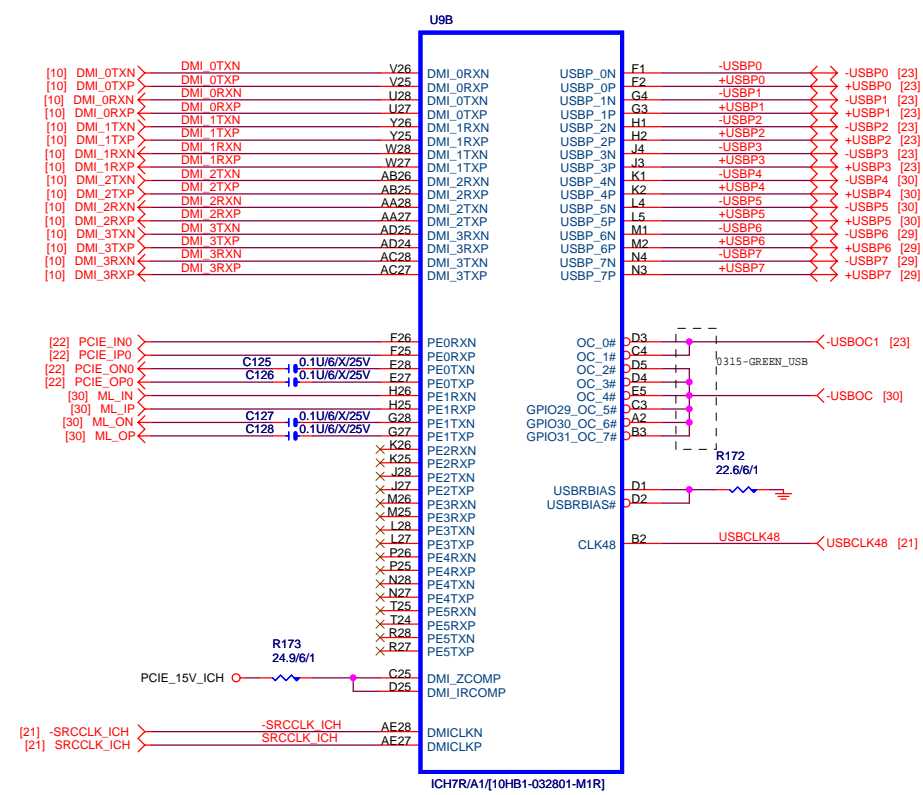
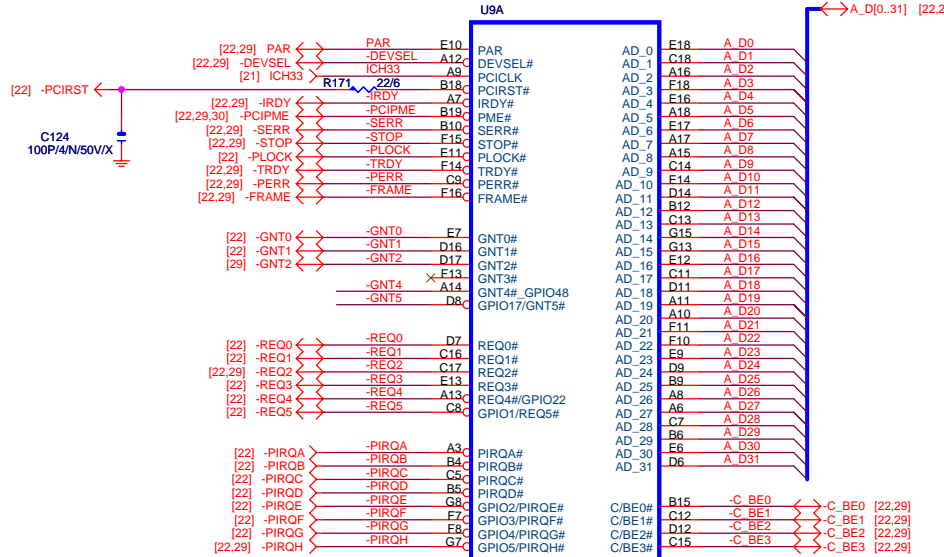
EXP_A_RXP[0..15] >>> EXP_A_RXP[0..15] [10]
 EXP_A_RXN[0..15] >>> EXP_A_RXN[0..15] [10]

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Size Custom: Document Number **81945GMF** Rev **1.0**

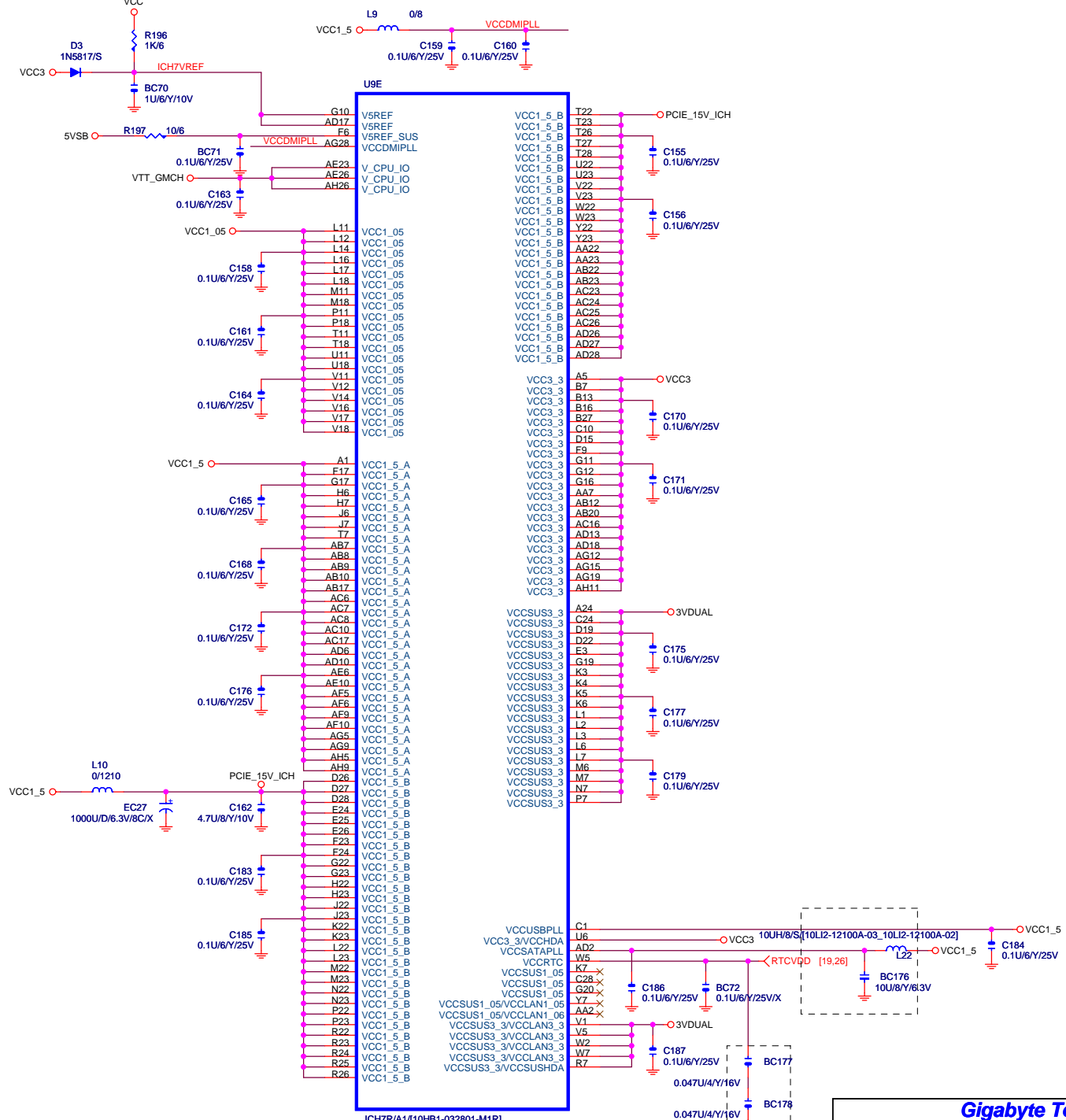
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U9F		
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A23	VSS102	VSS102
B1	VSS3	VSS103
B8	VSS4	VSS104
B11	VSS5	VSS105
B14	VSS6	VSS106
B17	VSS7	VSS107
B20	VSS8	VSS108
B26	VSS9	VSS109
B28	VSS10	VSS110
C2	VSS11	VSS111
D6	VSS12	VSS112
D10	VSS13	VSS113
D13	VSS14	VSS114
D18	VSS15	VSS115
D21	VSS16	VSS116
D24	VSS17	VSS117
E1	VSS18	VSS118
E2	VSS19	VSS119
E8	VSS20	VSS120
E15	VSS21	VSS121
F3	VSS22	VSS122
F4	VSS23	VSS123
F5	VSS24	VSS124
F12	VSS25	VSS125
F27	VSS26	VSS126
F28	VSS27	VSS127
G1	VSS28	VSS128
G2	VSS29	VSS129
G5	VSS30	VSS130
G6	VSS31	VSS131
G9	VSS32	VSS132
G14	VSS33	VSS133
G18	VSS34	VSS134
G21	VSS35	VSS135
G24	VSS36	VSS136
G25	VSS37	VSS137
G26	VSS38	VSS138
H3	VSS39	VSS139
H4	VSS40	VSS140
H24	VSS41	VSS141
H27	VSS42	VSS142
H28	VSS43	VSS143
H28	VSS44	VSS144
J1	VSS45	VSS145
J5	VSS46	VSS146
J24	VSS47	VSS147
J25	VSS48	VSS148
J26	VSS49	VSS149
K24	VSS50	VSS150
K27	VSS51	VSS151
K28	VSS52	VSS152
L13	VSS53	VSS153
L15	VSS54	VSS154
L24	VSS55	VSS155
L25	VSS56	VSS156
L26	VSS57	VSS157
M3	VSS58	VSS158
M4	VSS59	VSS159
M5	VSS60	VSS160
M12	VSS61	VSS161
M13	VSS62	VSS162
M14	VSS63	VSS163
M15	VSS64	VSS164
M16	VSS65	VSS165
M17	VSS66	VSS166
M24	VSS67	VSS167
M27	VSS68	VSS168
M28	VSS69	VSS169
N1	VSS70	VSS170
N2	VSS71	VSS171
N5	VSS72	VSS172
N6	VSS73	VSS173
N11	VSS74	VSS174
N12	VSS75	VSS175
N13	VSS76	VSS176
N14	VSS77	VSS177
N15	VSS78	VSS178
N16	VSS79	VSS179
N17	VSS80	VSS180
N18	VSS81	VSS181
N24	VSS82	VSS182
N25	VSS83	VSS183
N26	VSS84	VSS184
P3	VSS85	VSS185
P4	VSS86	VSS186
P12	VSS87	VSS187
P13	VSS88	VSS188
P14	VSS89	VSS189
P15	VSS90	VSS190
P16	VSS91	VSS191
P17	VSS92	VSS192
P24	VSS93	VSS193
P27	VSS94	VSS194
P28	VSS95	
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ICH7R/A1[10HB1-032801-M1R]

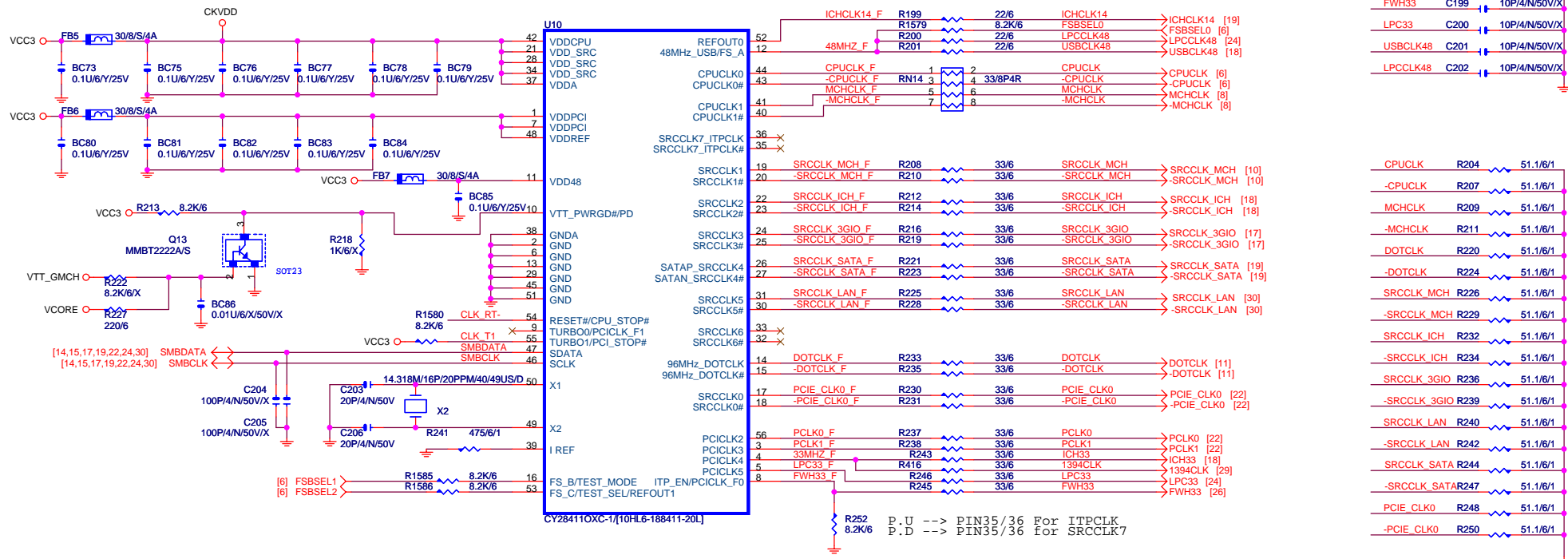


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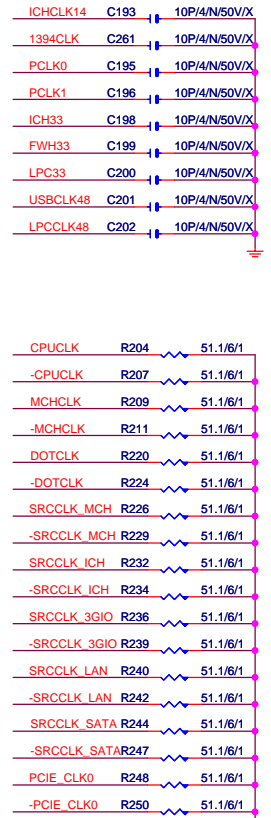
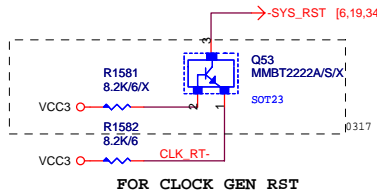
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Gigabyte Technology

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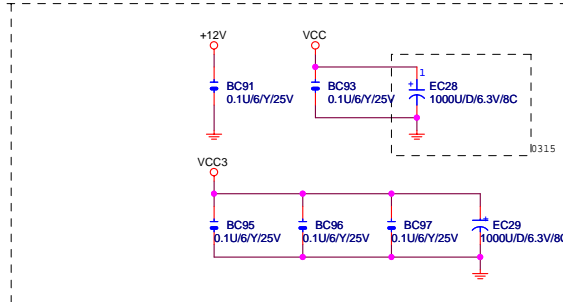
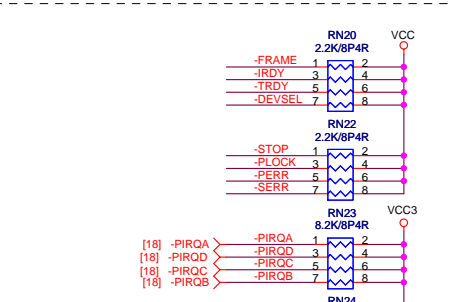
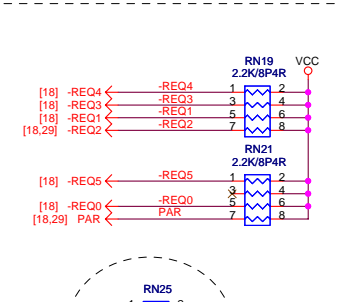
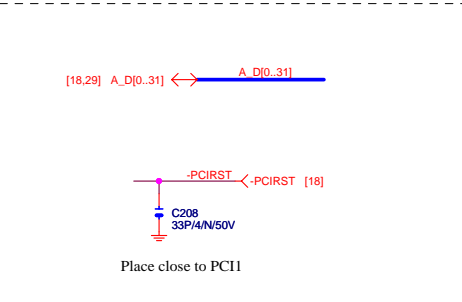
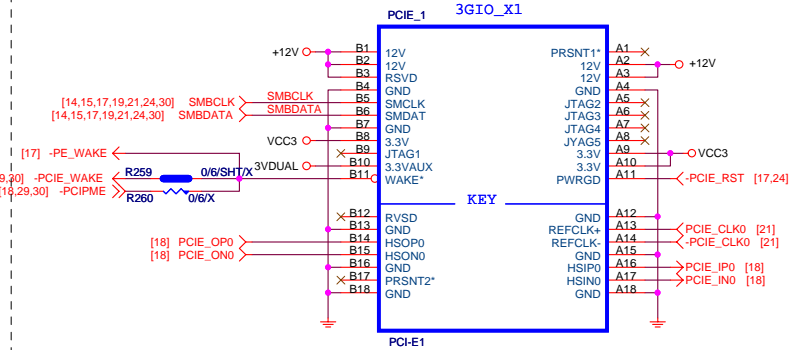
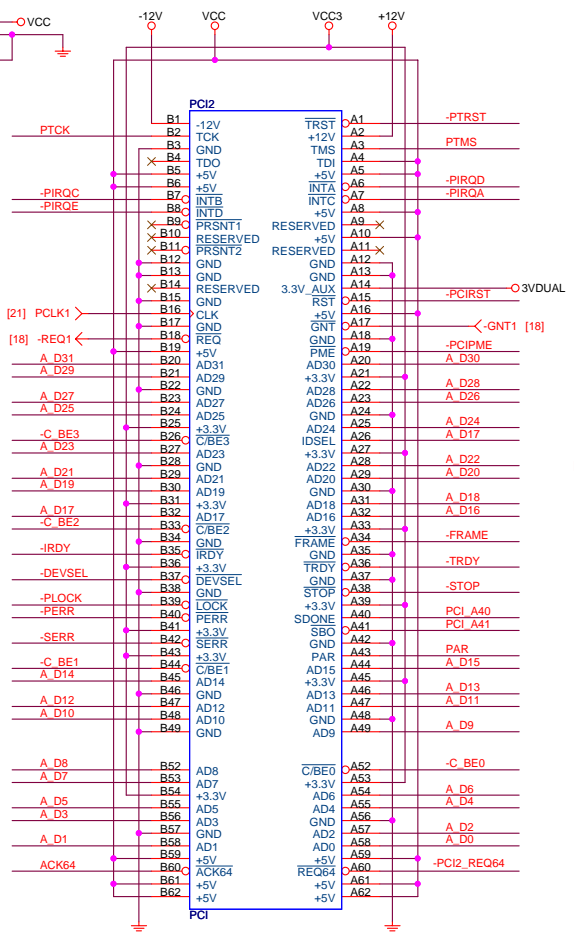
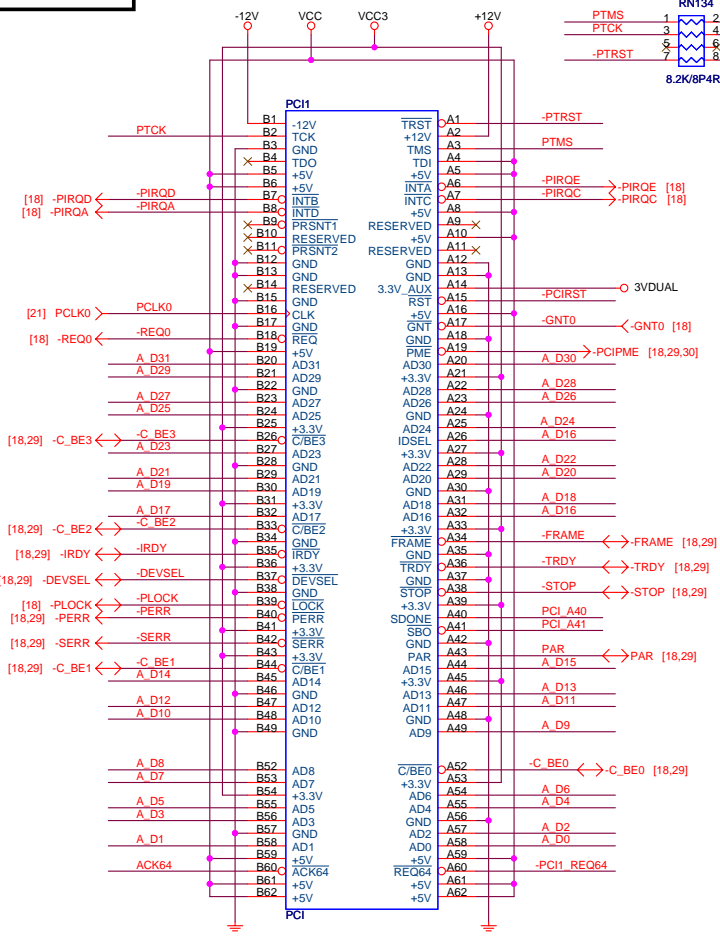


CY284110XC-1無RESET,不可上Q53,否則CPU_STOP#產生,造成CPURST- DELAY 200ms(spec>1ms)



PCI1, 2 SLOT

PCIe*1



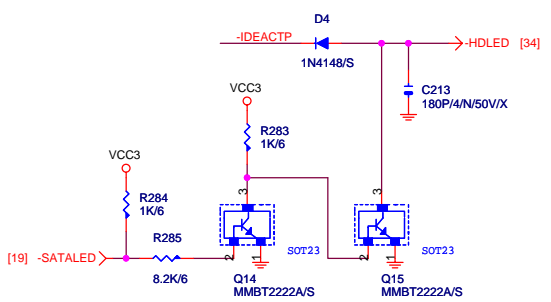
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PCI SLOT 1, 2/PCIEX1

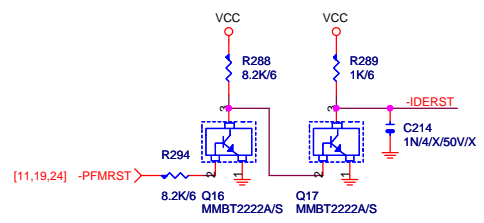
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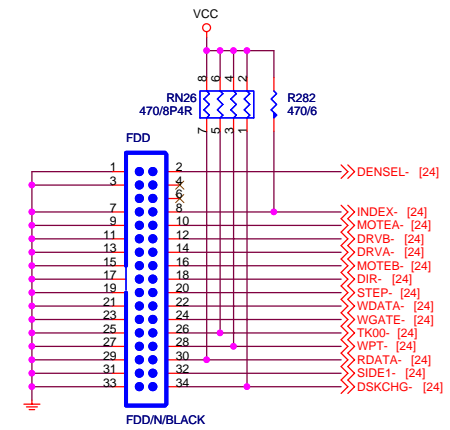
IDE/SATA LED



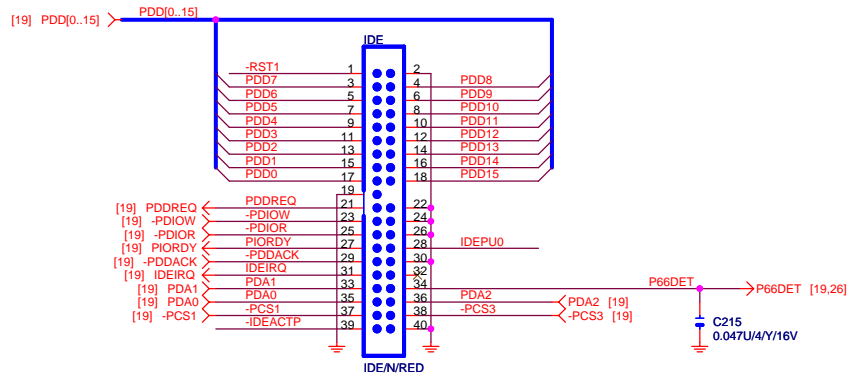
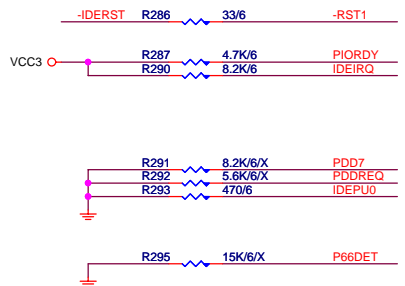
IDE RESET



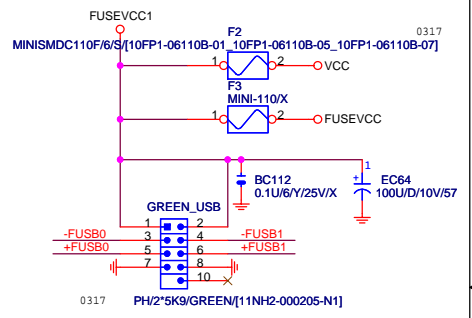
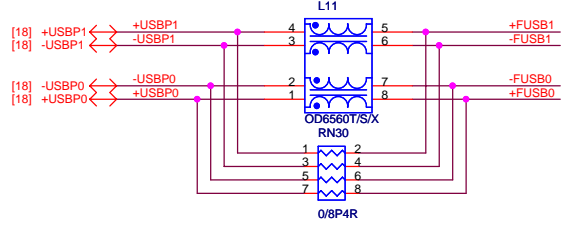
FLOPPY



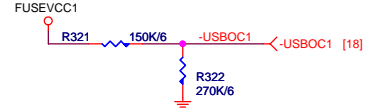
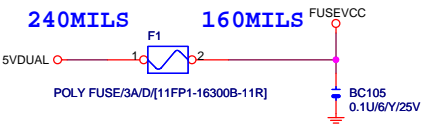
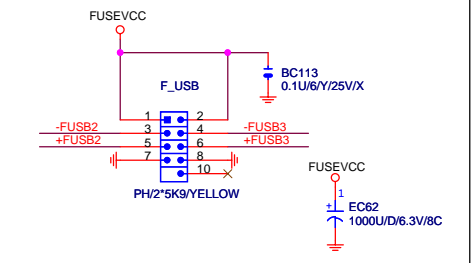
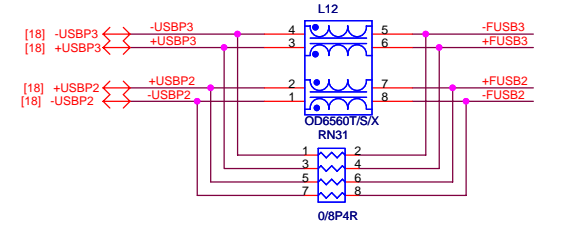
IDE



GREEN USB

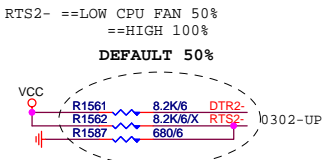


FRONT USB

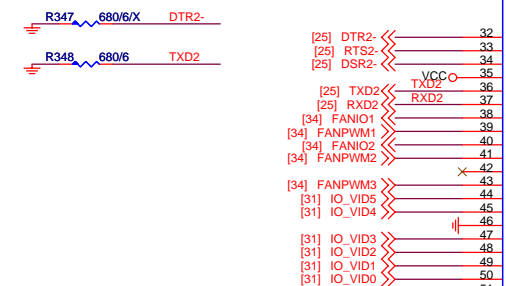


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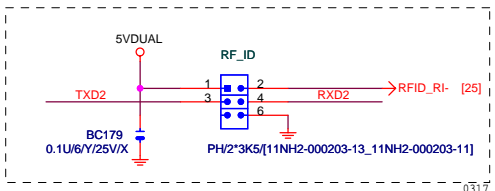
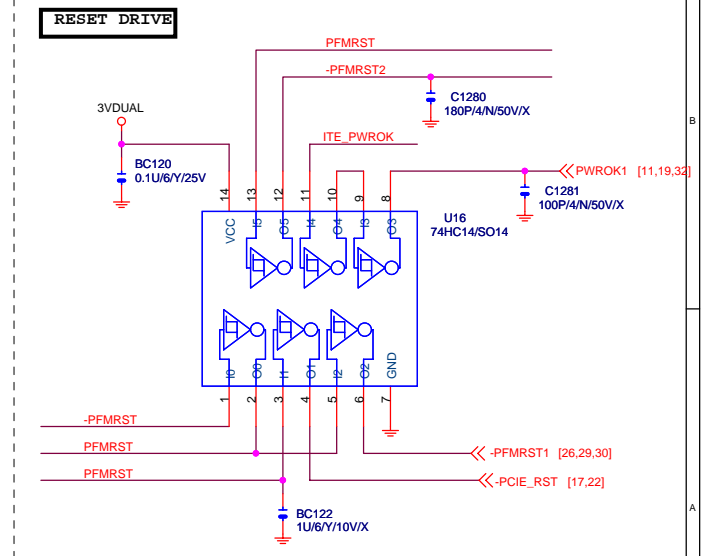
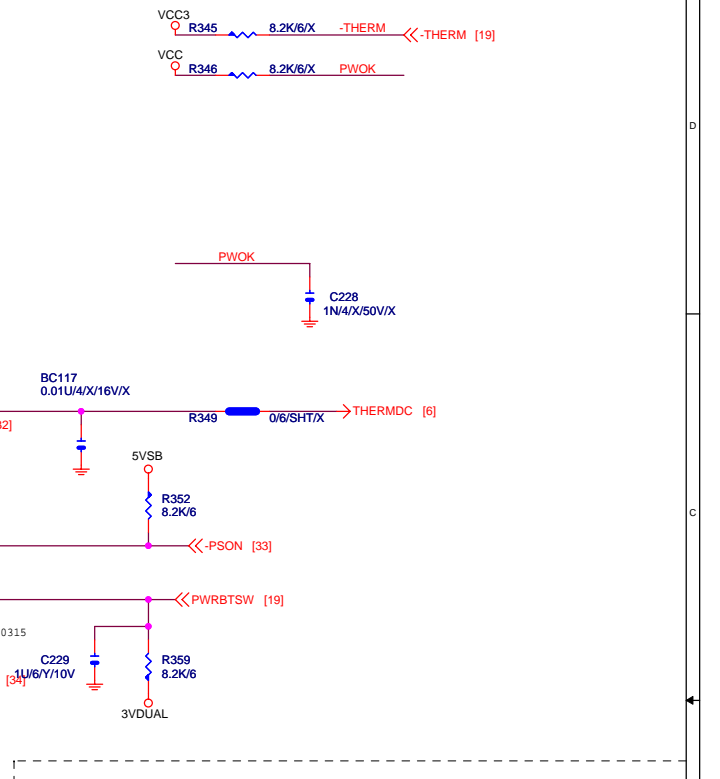
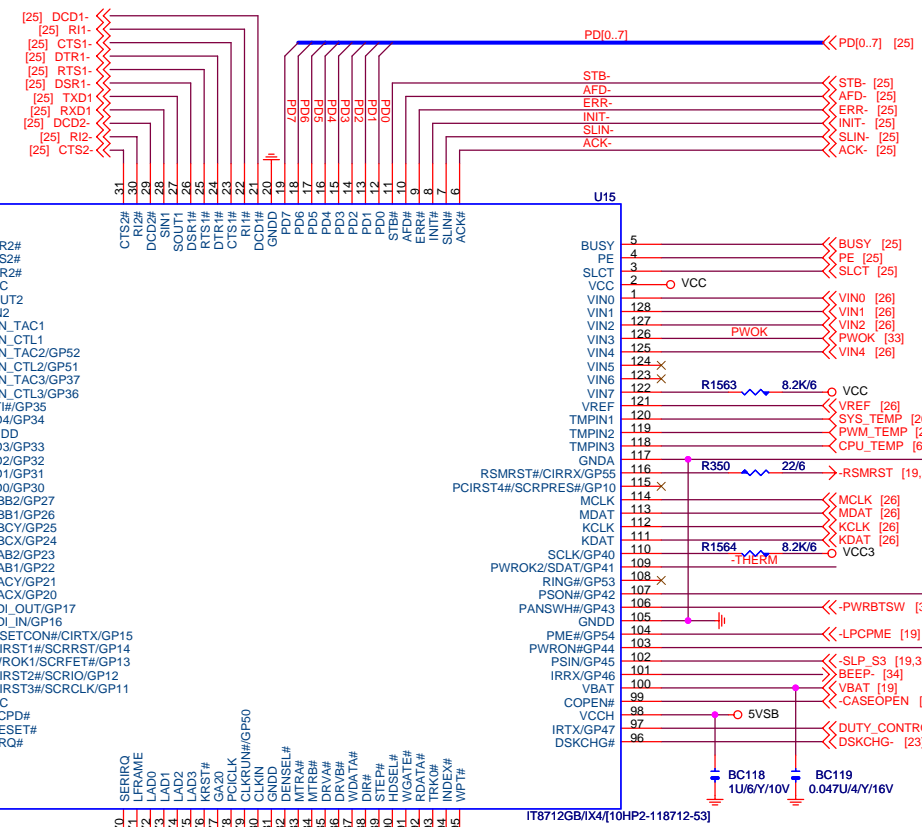
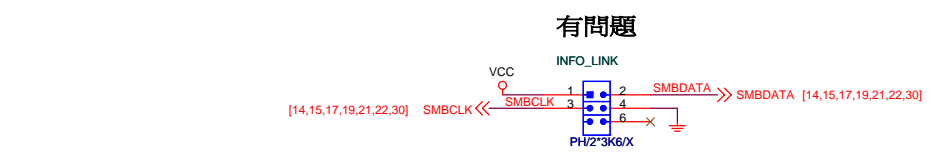
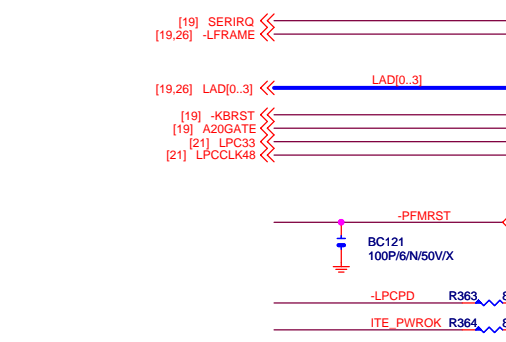
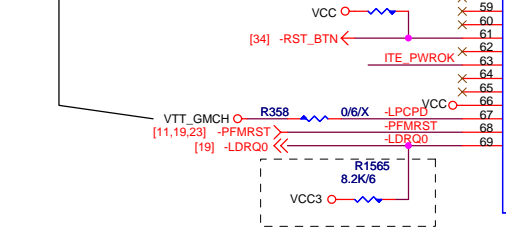
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		Rev	1.0



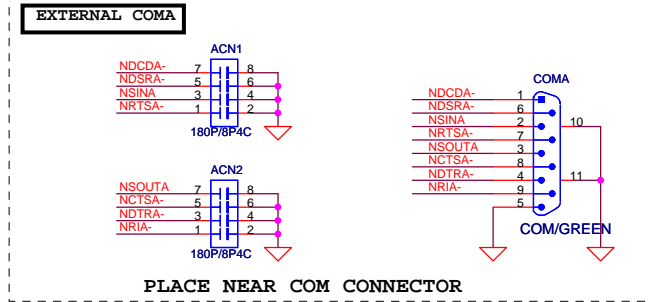
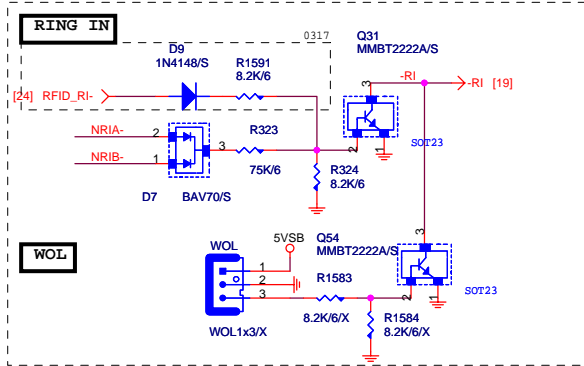
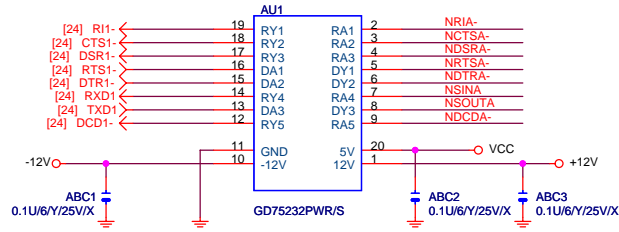
SOUT2	1	VID pins threshold voltage select: Vih / Vil : 2.0 / 0.1V
	0	VID pins threshold voltage select: Vih / Vil : 0.8 / 0.1V



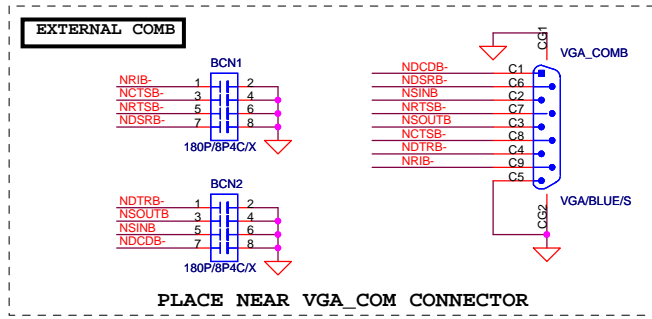
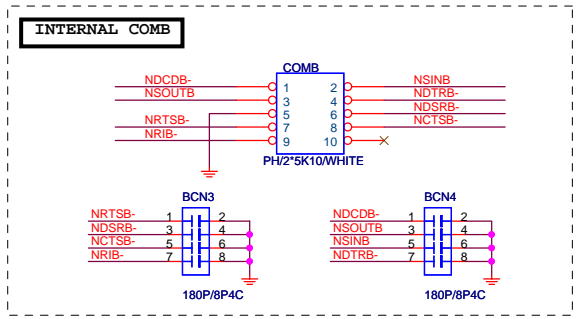
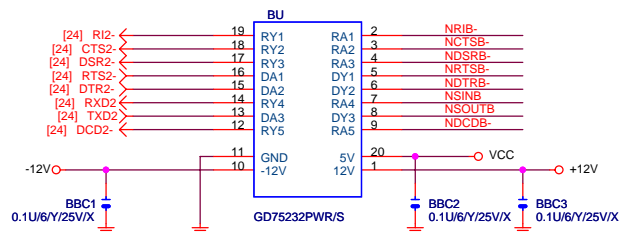
1.2V or 3.3V tolerance select.
 1.2V OUTPUT 接 VTT_GMCH
 3.3V OUTPUT 接 3.3V
 LPCPD#=#VIDVCC



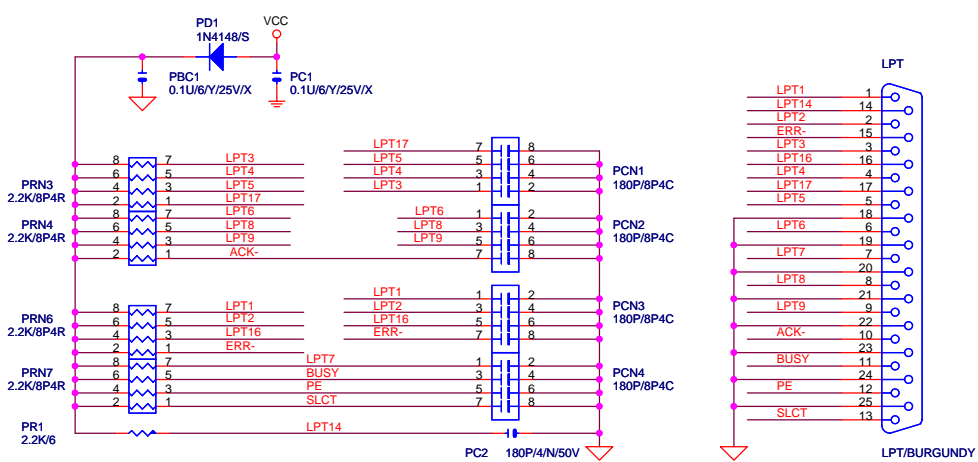
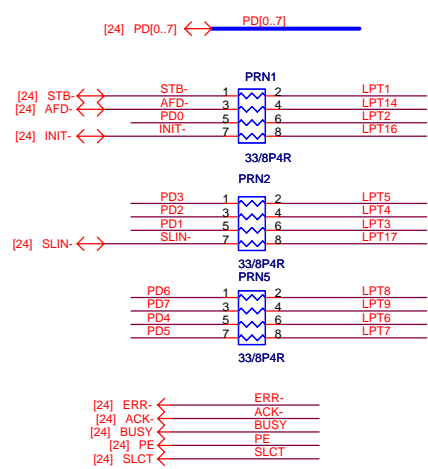
COMA



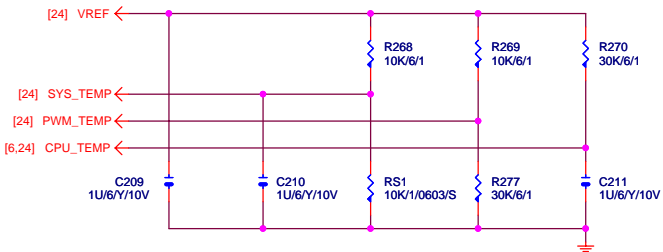
COMB



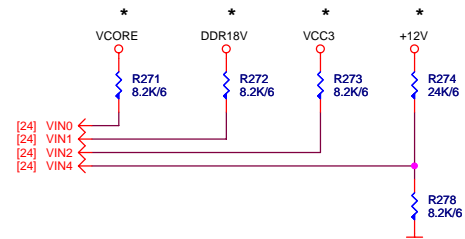
LPT PORT



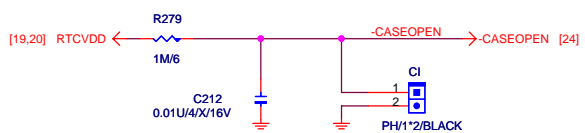
TEMP H/W MONITOR



VOLTAGE-- H/W MONITOR

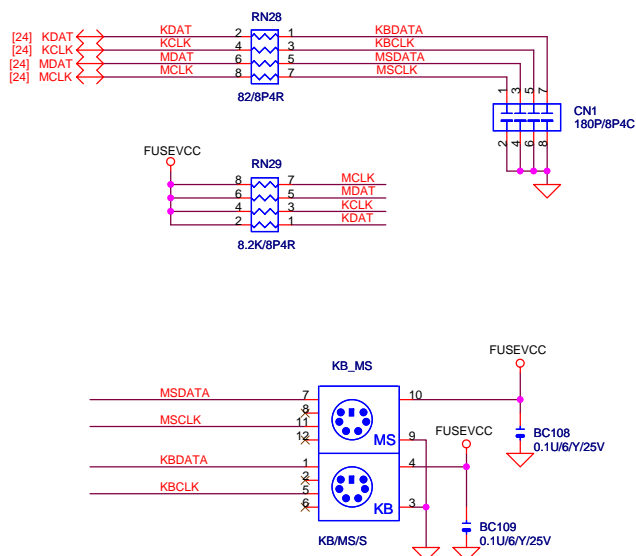


CASE OPEN

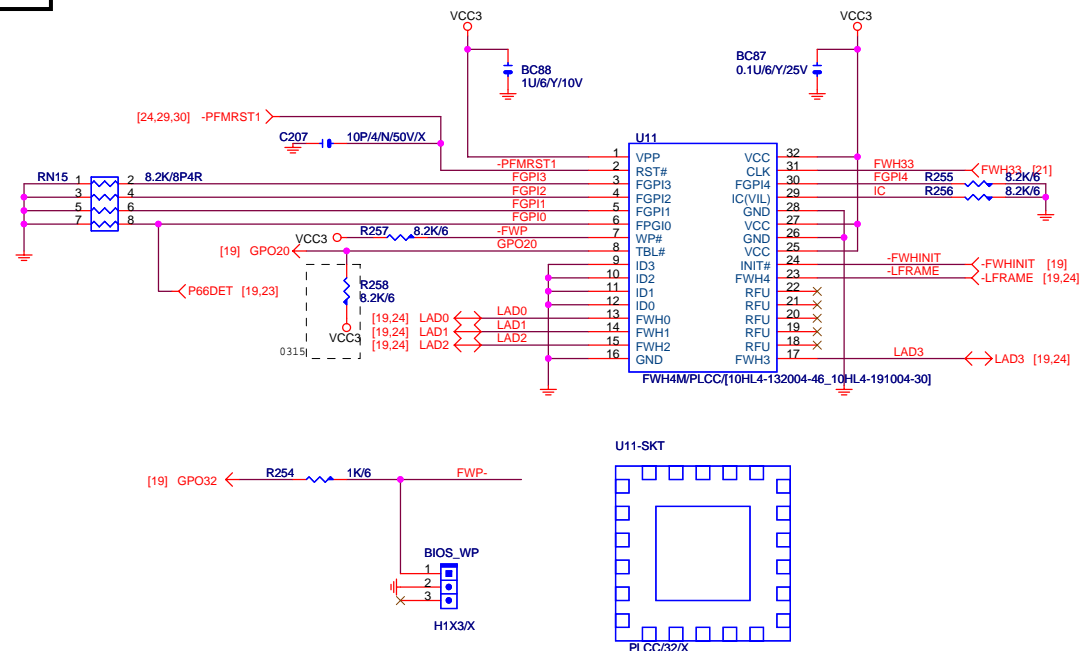


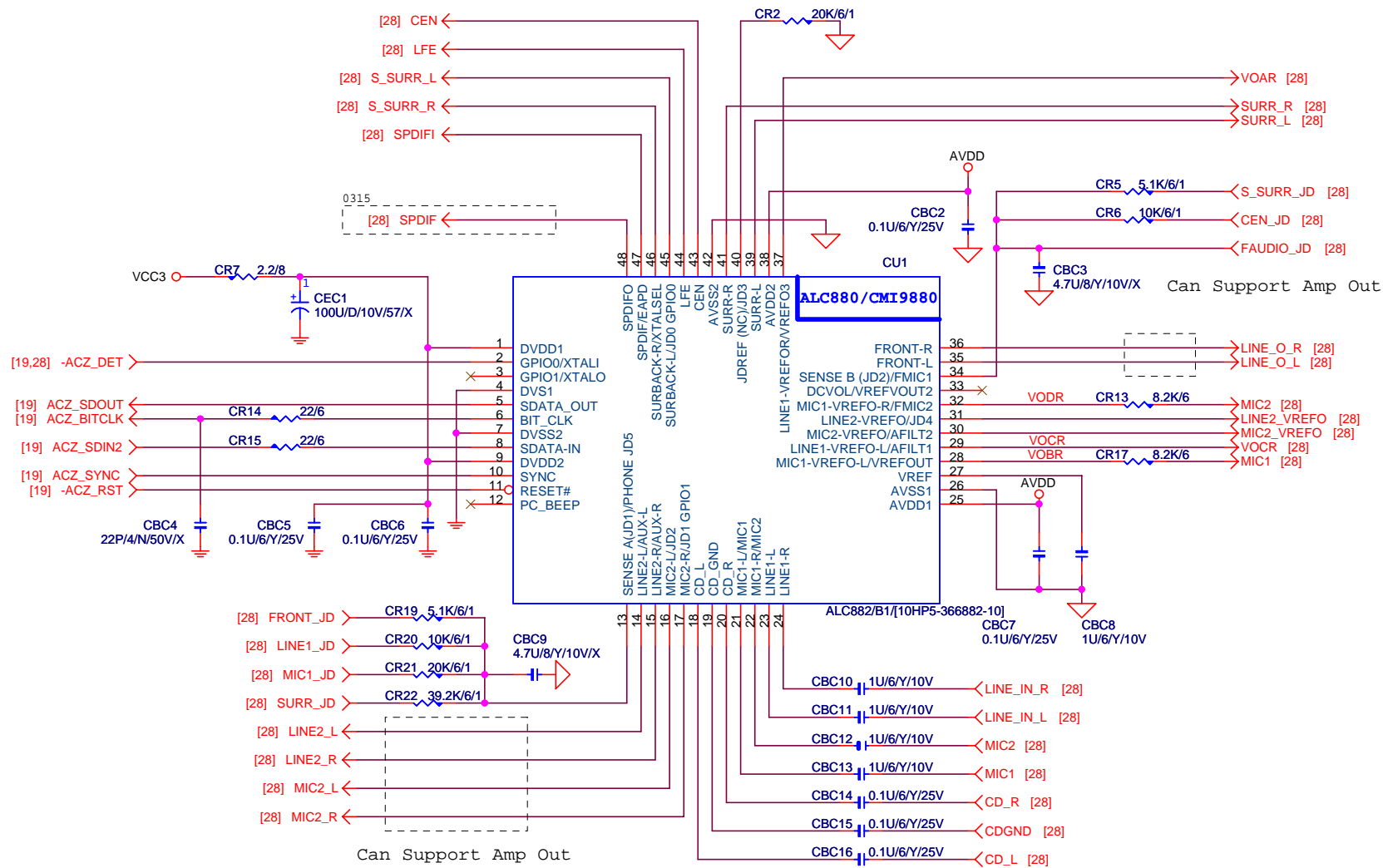
Case Open Circuits

KB/MS



FWM BIOS

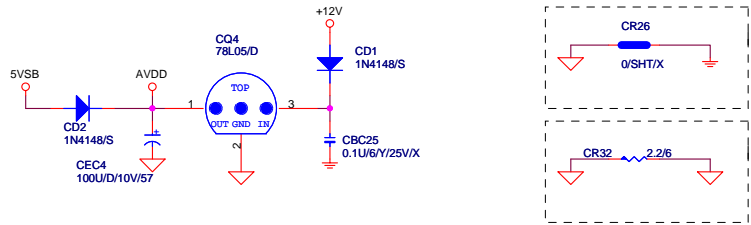




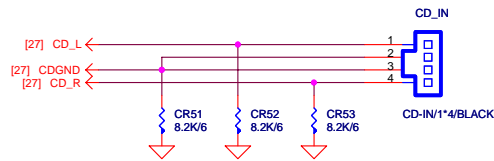
Gigabyte Technology

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AC97 ALC658		
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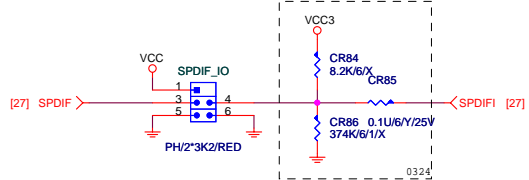
CODEC POWER/EMI PAD



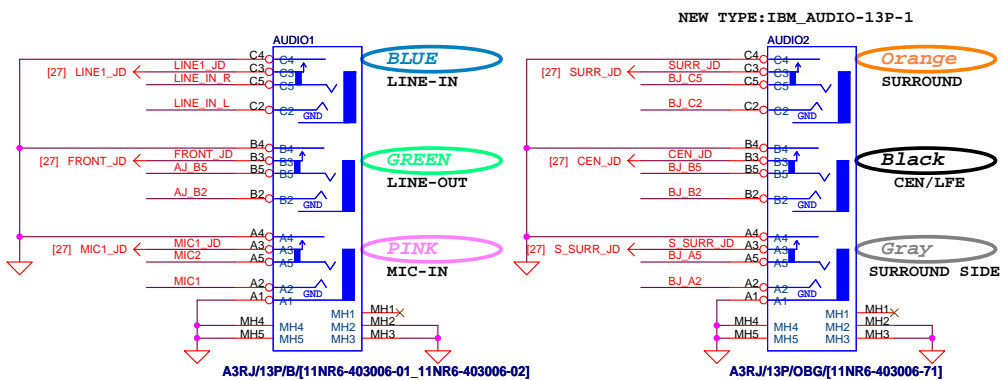
CD IN



SPDIF



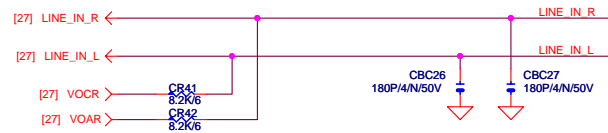
AZALIA JACK



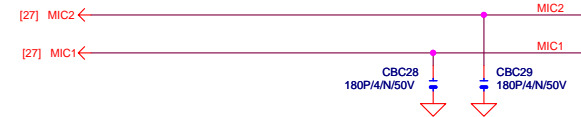
LINE-OUT



LINE-IN



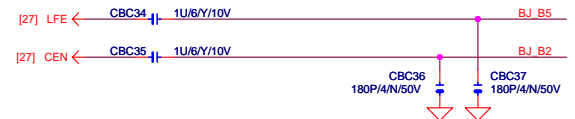
MIC-IN



SURROUND



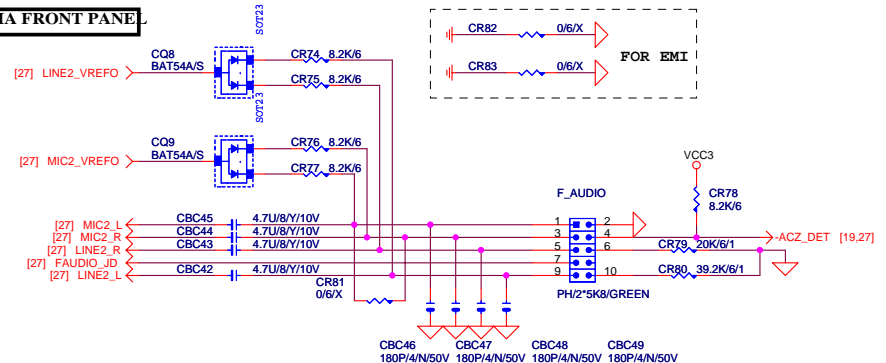
CEN/LFE



SURR BACK

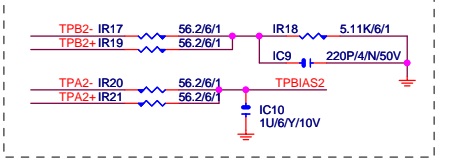
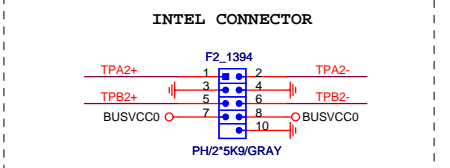
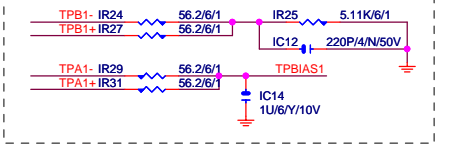
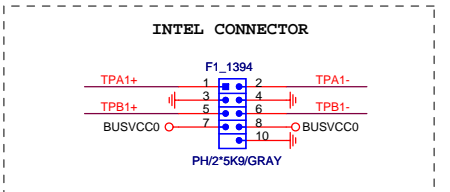
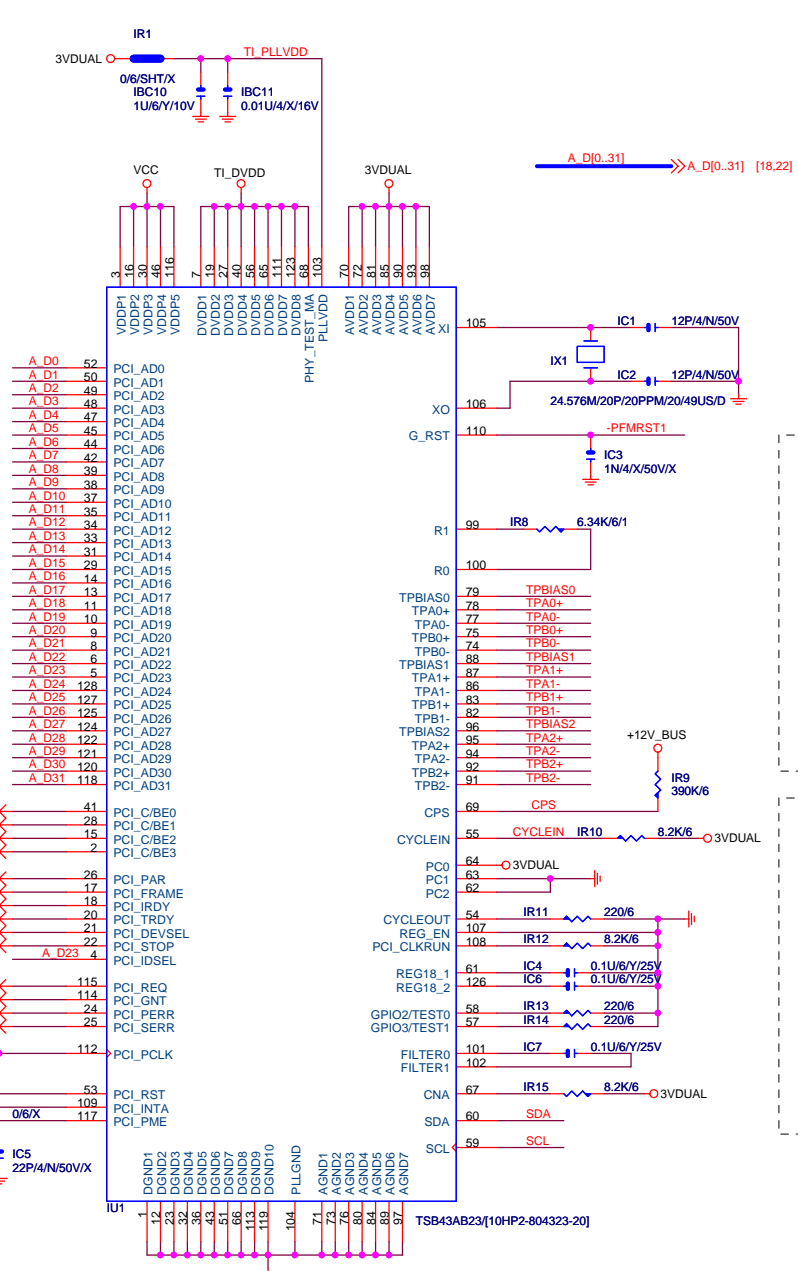
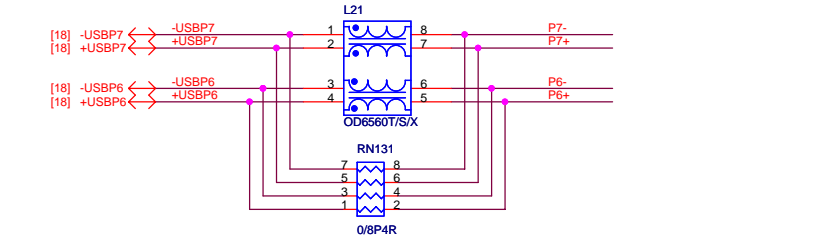
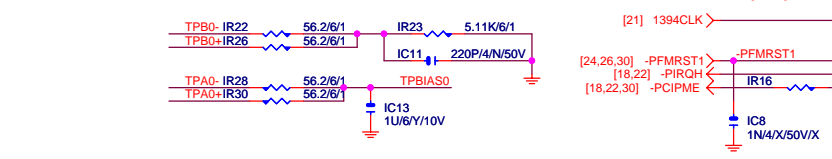
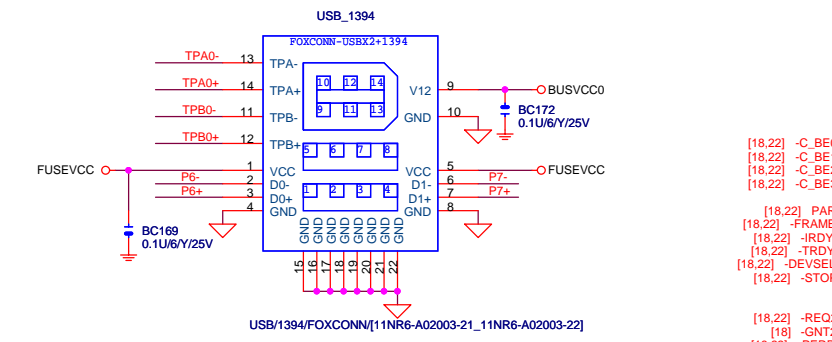
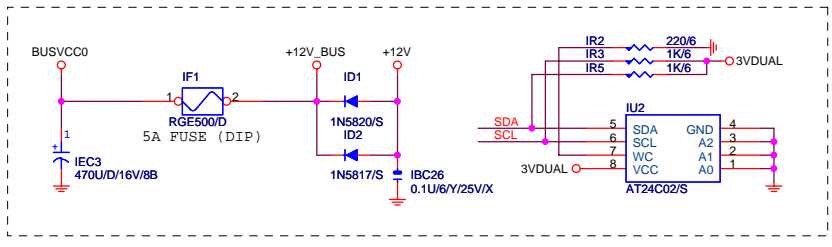
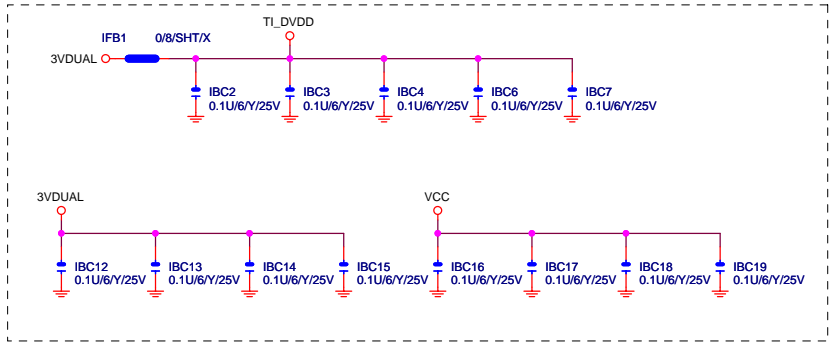


AZALIA FRONT PANEL

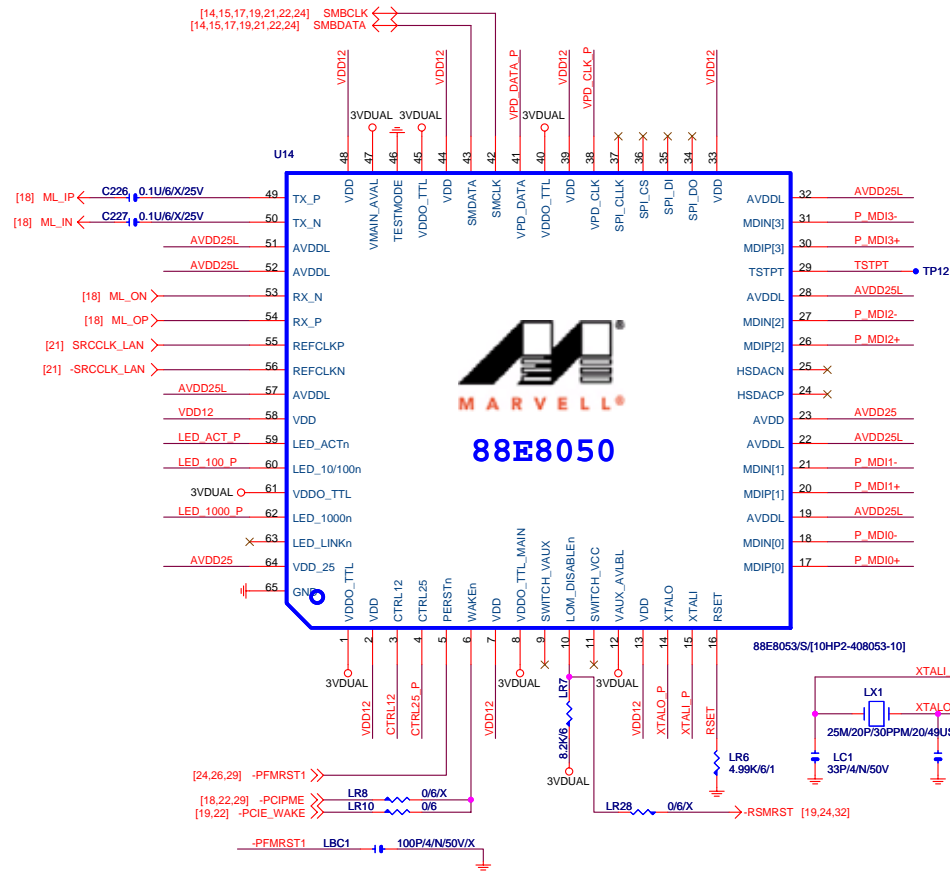


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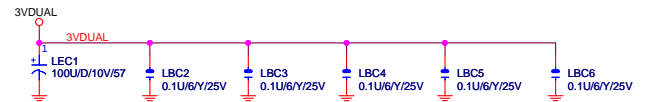
PCIE-1G LAN



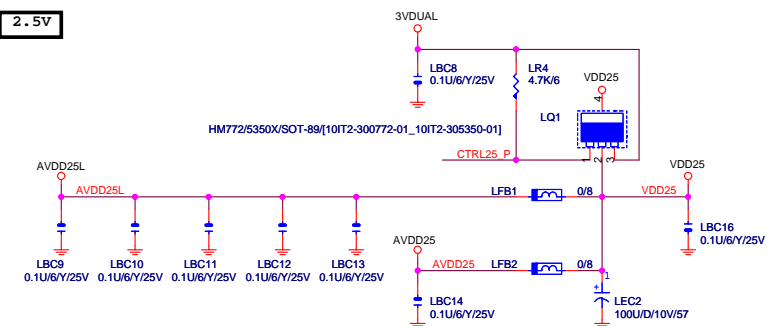
Layout Check 注意事項

1. L1~L11 PIN65 需下內層GND, 打 12 via
2. 3VDUAL, VCC3, VDD15_L, AVDD25_L 至少走20mil寬, 並且電容擺設每兩pin至少放一顆Bypass Cap.
3. X'TAL 25MHz 兩訊號線, TRACE 愈短愈好, 線寬12mil
4. MDI正負0~3, TRACE 8:7:8, 每對之間保持 40mil

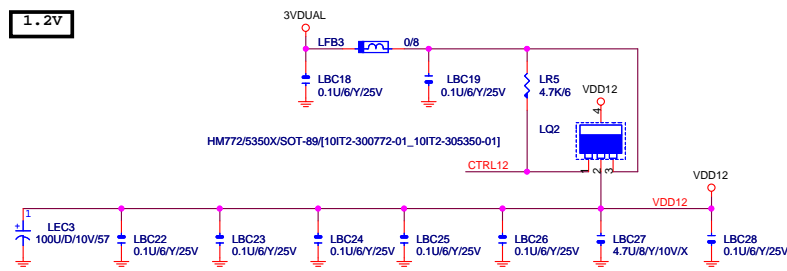
3VDUAL



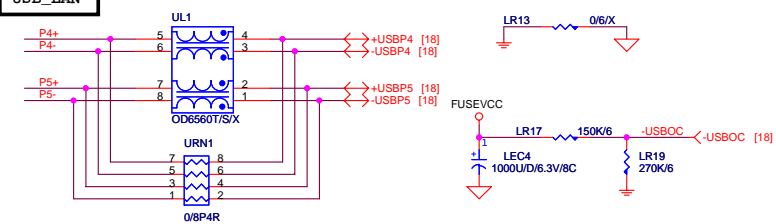
2.5V



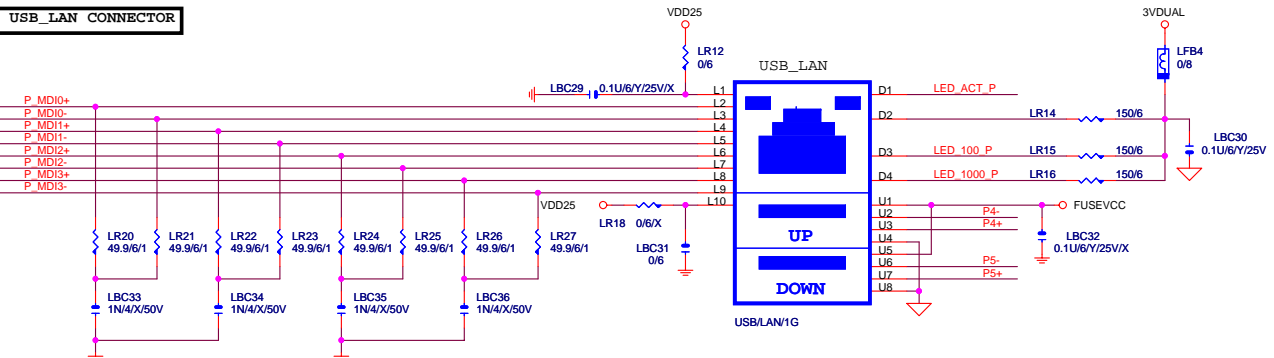
1.2V



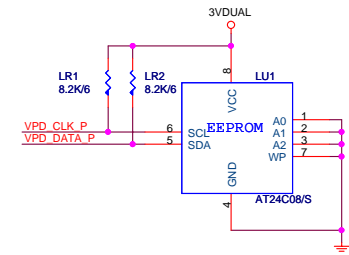
USB_LAN



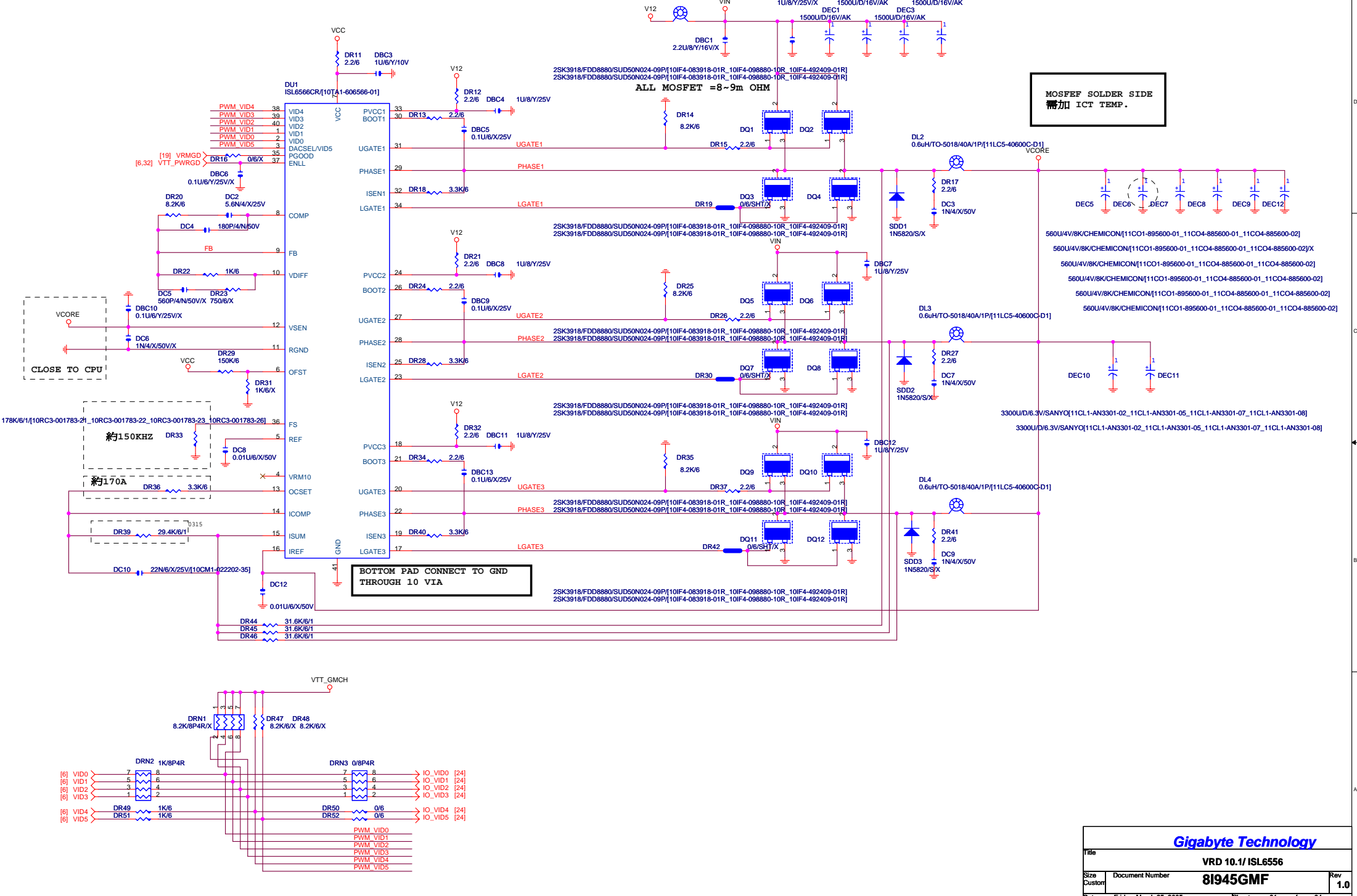
USB_LAN CONNECTOR



EEPROM



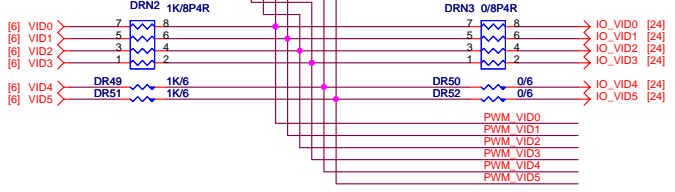
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MOSFET SOLDER SIDE
需加 ICT TEMP.

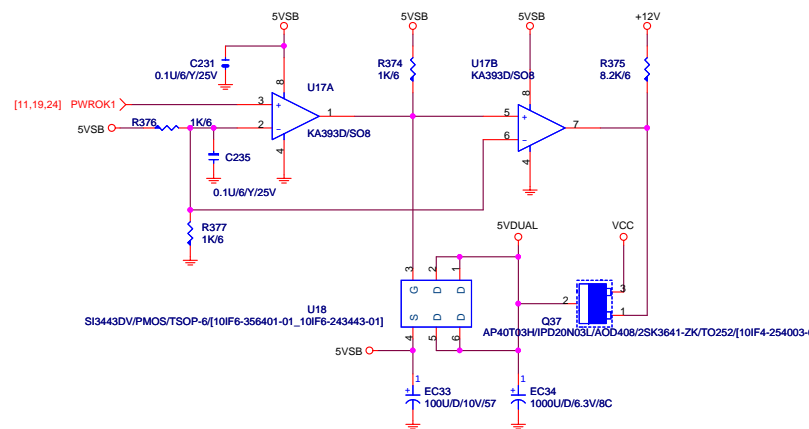
BOTTOM PAD CONNECT TO GND
THROUGH 10 VIA

CLOSE TO CPU

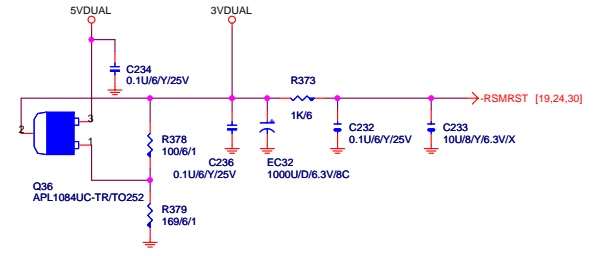


Gigabyte Technology		
VRD 10.1/ ISL6556		
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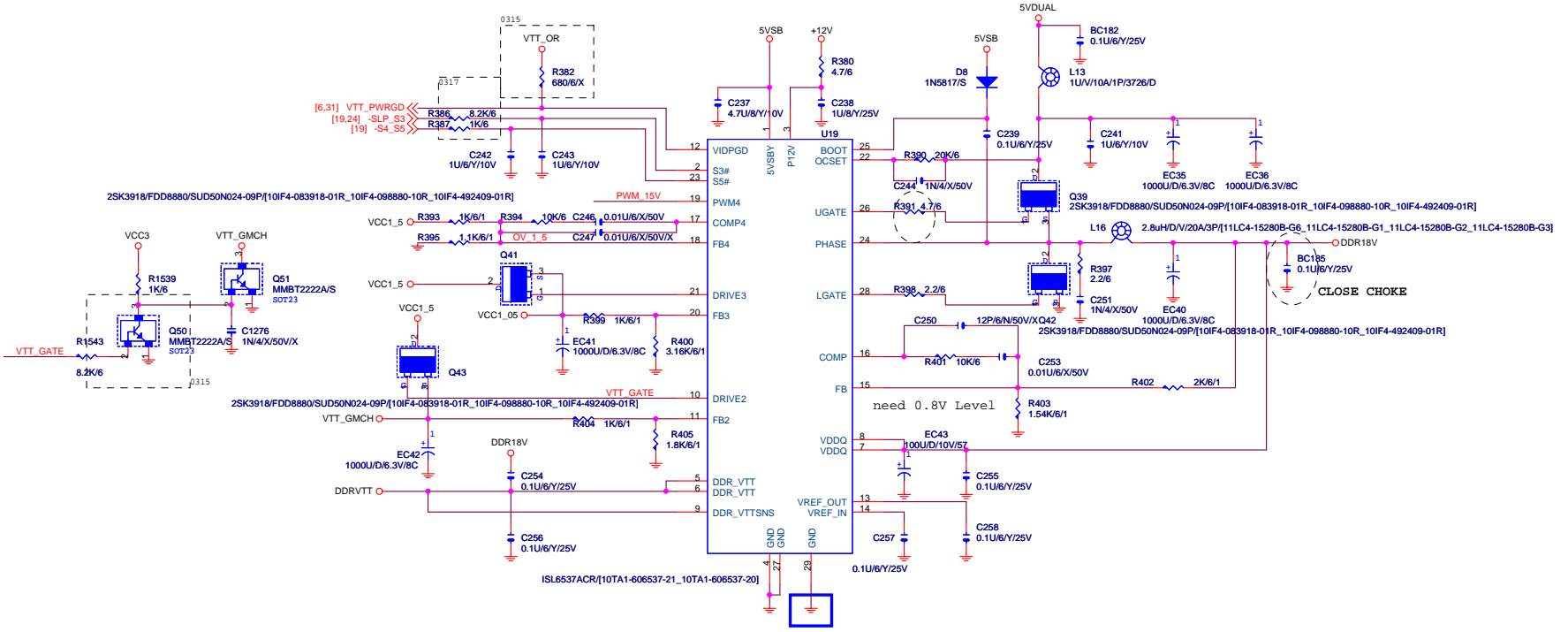
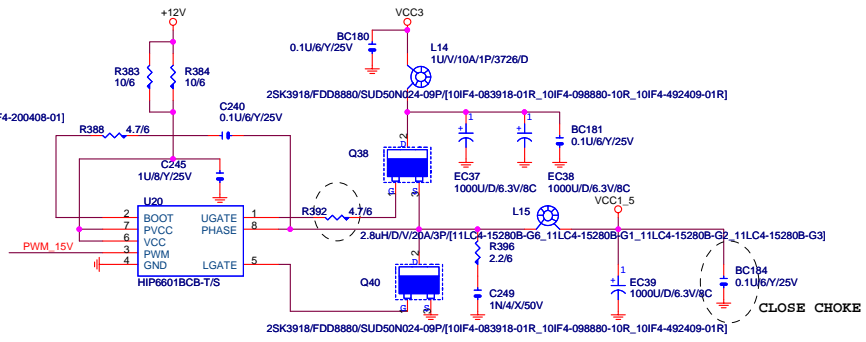
5VDUAL



3VDUAL



VCC1_5



BOTTOM PAD
USE 6 VIAS
CONNECT TO
GND

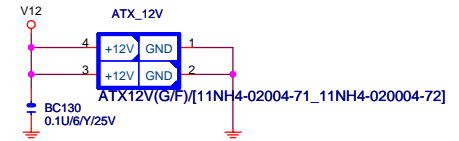
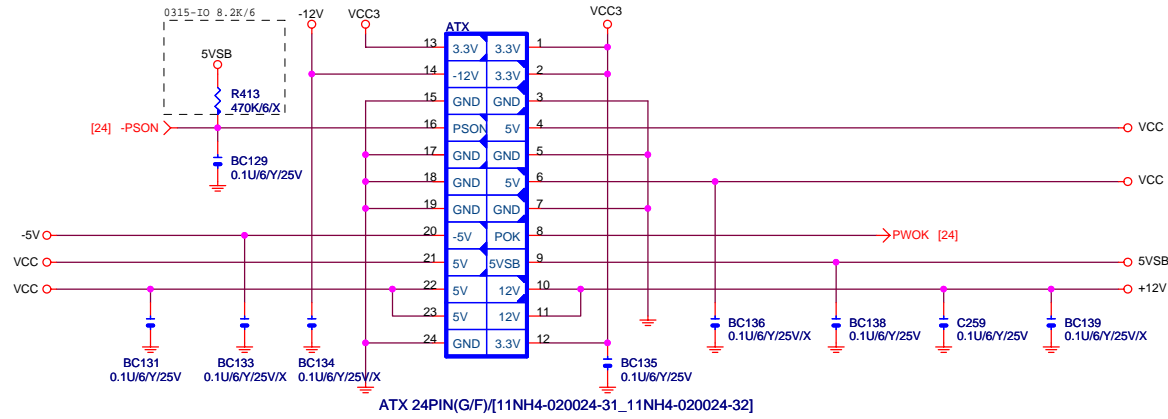
Gigabyte Technology

Title: **DISCRETE POWER**

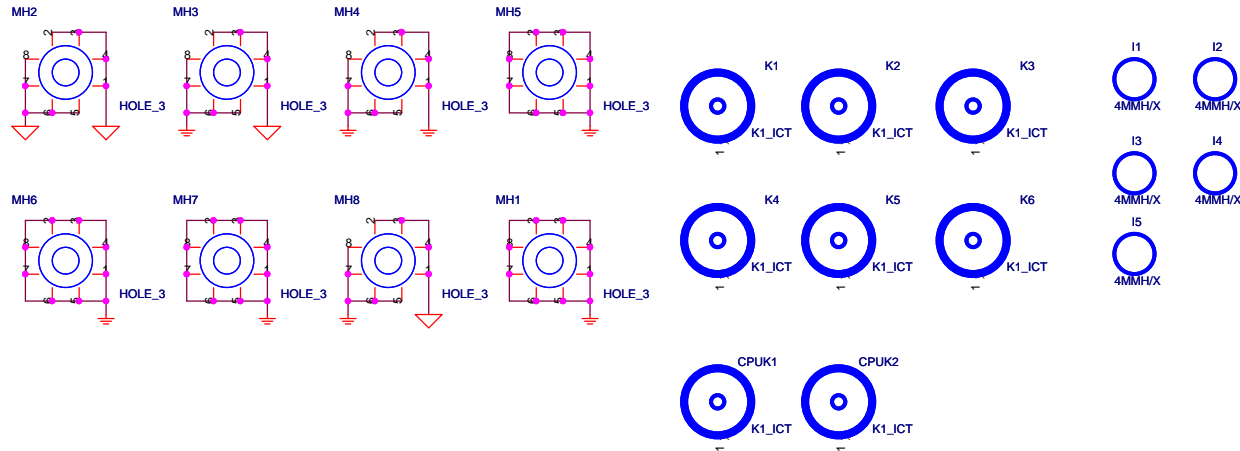
Size: Custom Document Number: **8I945GMF** Rev: **1.0**

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ATX POWER CONNECTOR



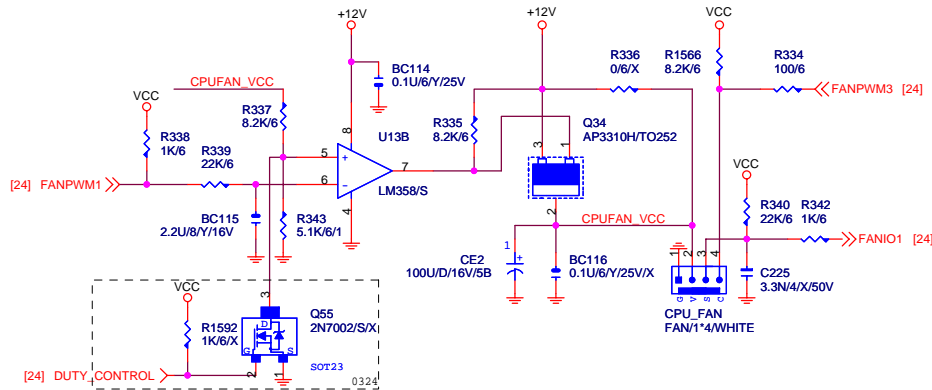
HOLE_3-2--->有鉛



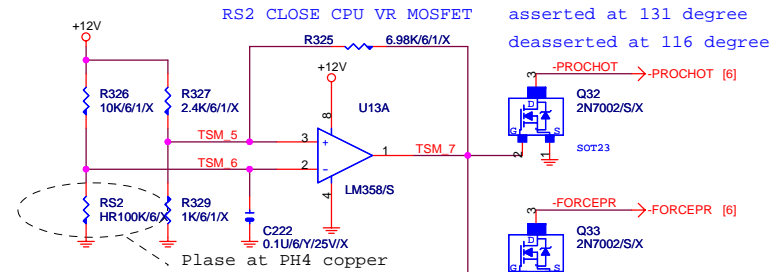
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Title			ATX POWER CONNECTOR		
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CPU SMART FAN SMART FAN

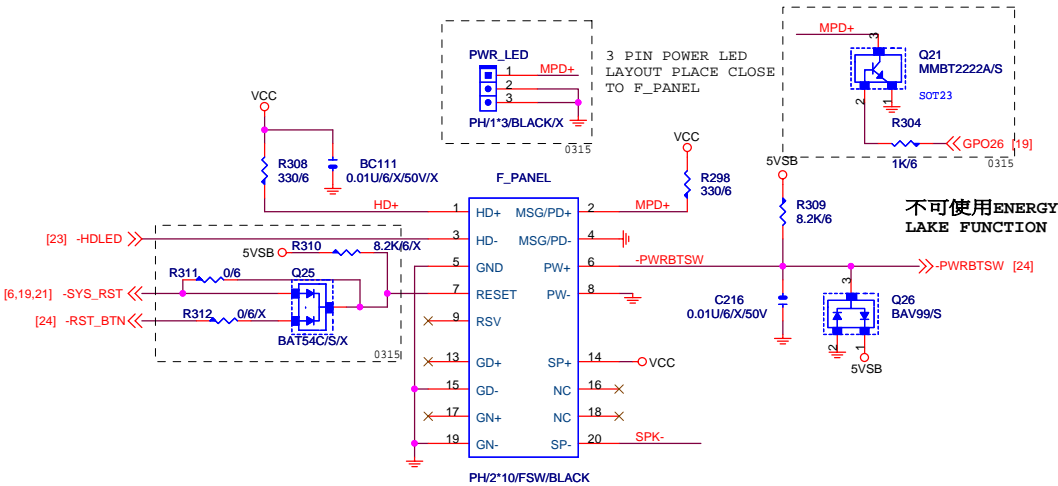


PROCESSOR HOT

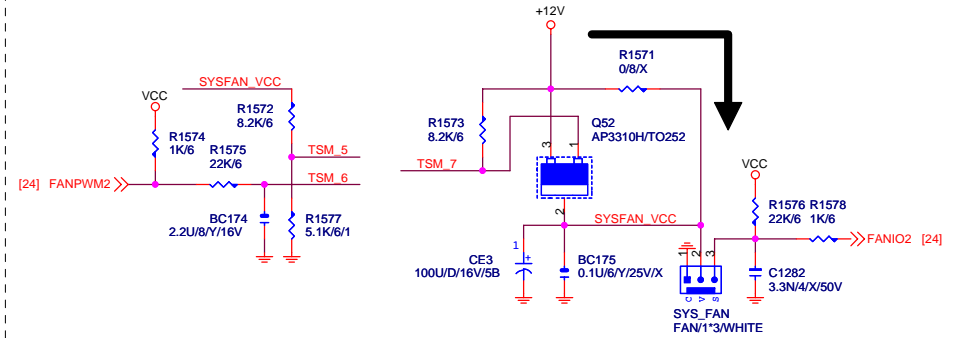


INTEL FRONT PANEL

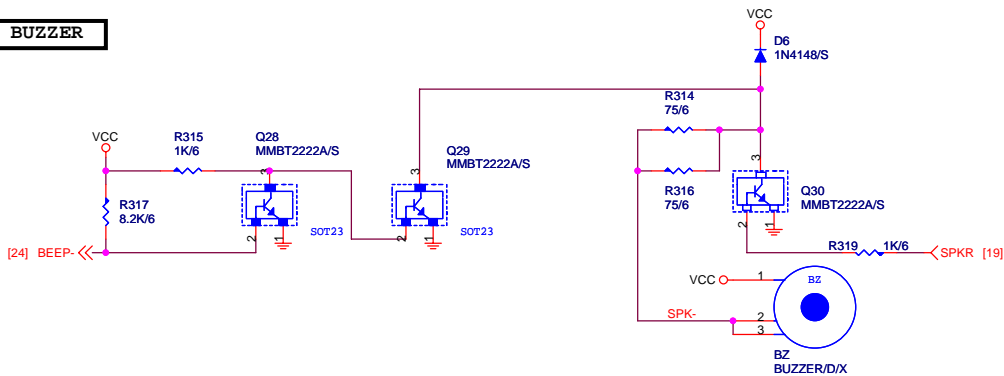
MPD- : (GPIO25--VCCSUS3+HI+HI+DEFINED(C3/C4/S/1/S3/S/4/S5))-->INTEL



SYS_FAN SMART FAN



BUZZER



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