

SHEET

TITLE

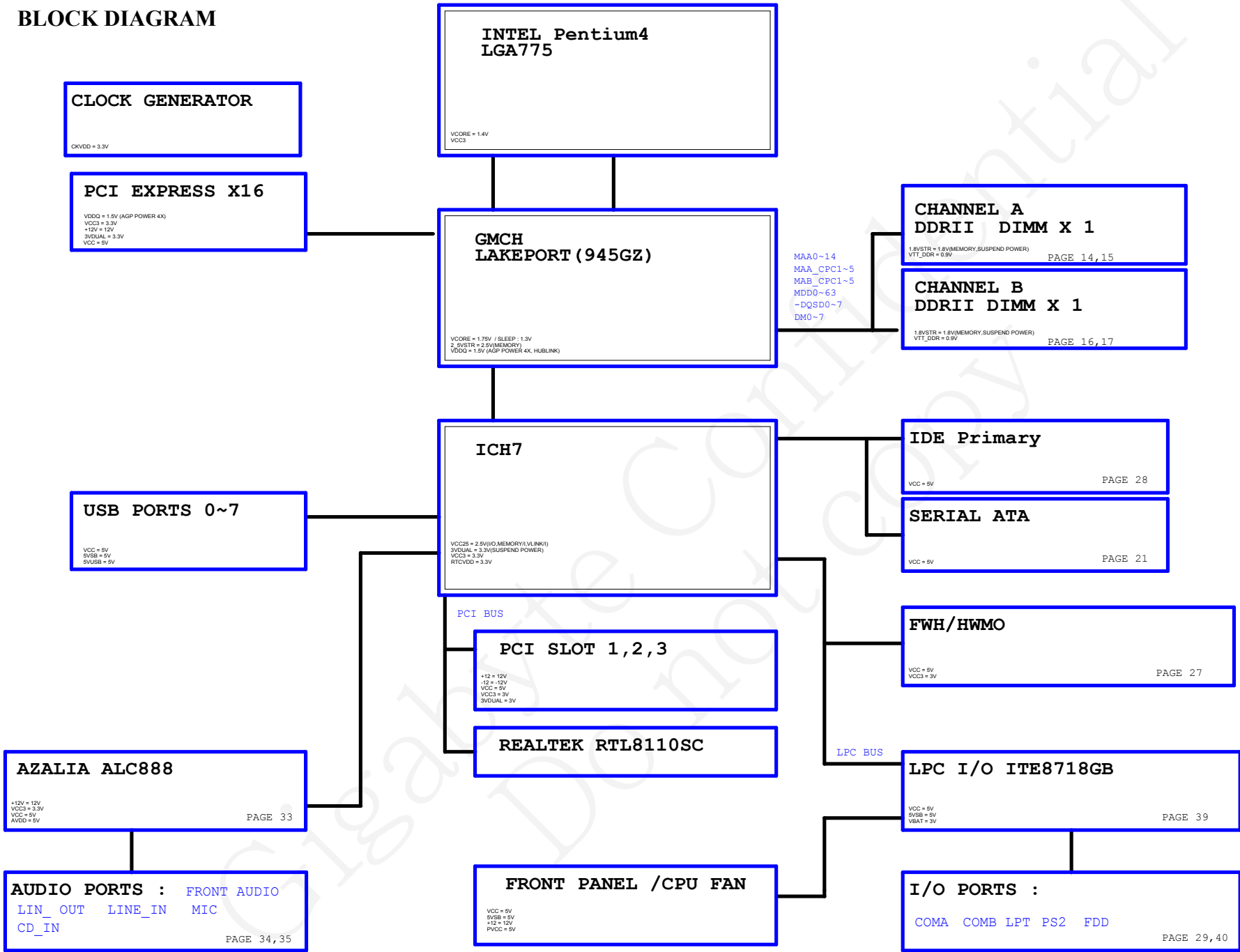
01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4 LGA775 A
05	P4 LGA775 B
06	P4 LGA775 C
07	P4 LGA775 D,E,F,G
08	GMCH-LAKEPORT HOST
09	GMCH-LAKEPORT DDRII
10	GMCH-LAKEPORT PCI E, DMI
11	GMCH-LAKEPORT INT VGA
12	GMCH-LAKEPORT GND
13	GMCH-LAKEPORT PWR
14	DDRII CHANNEL A 1
15	DDRII CHANNEL B 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-OC CLOCK.
22	PCI SLOT 1,2,3
23	IDE/FLOPPY
24	ITE 8718 GBIX
25	COM LPT
26	BIOS,CI,HWM,KB/MS
27	AZALIA ALC883

SHEET

TITLE

28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM ISL6312
31	ATX, OTHERS POWER
32	REALTEK RTL8110SC
33	FRONT PANEL

BLOCK DIAGRAM



Model Name : 945GZM-S2

Version: 3.0

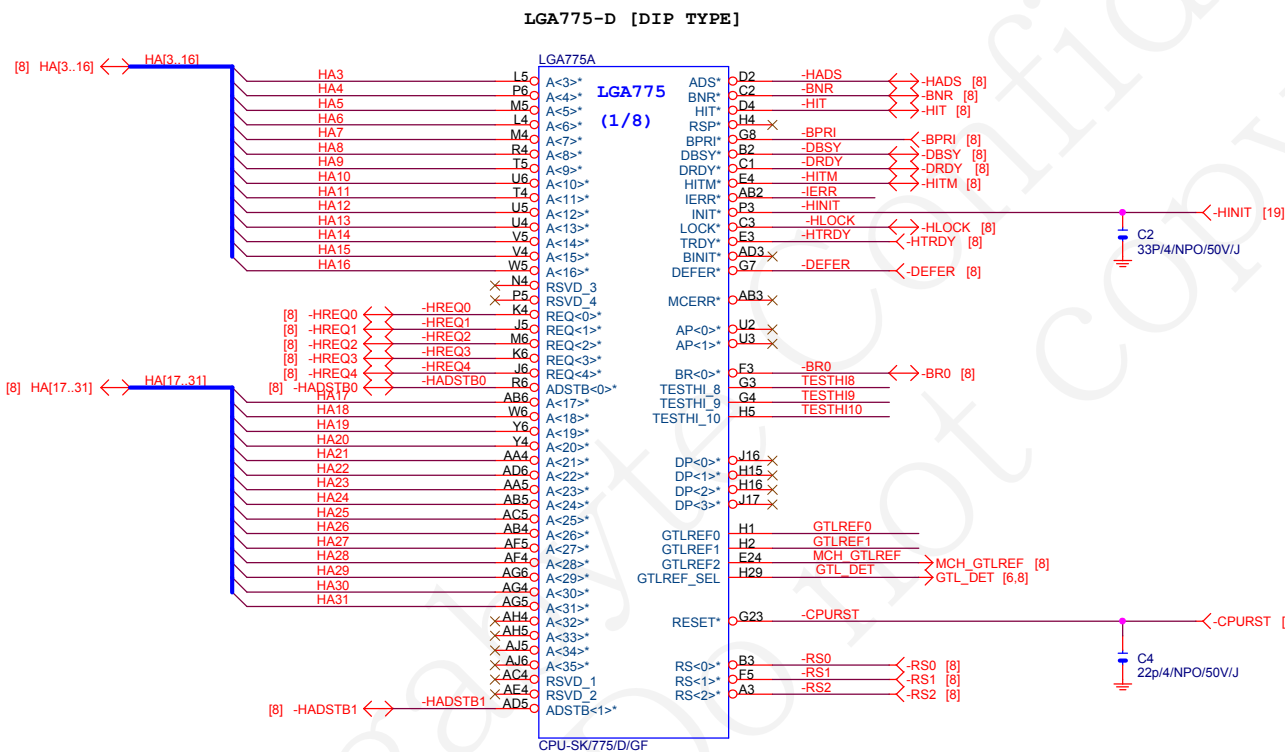
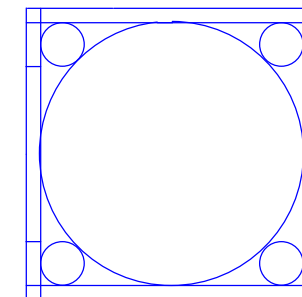
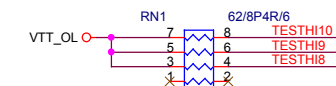
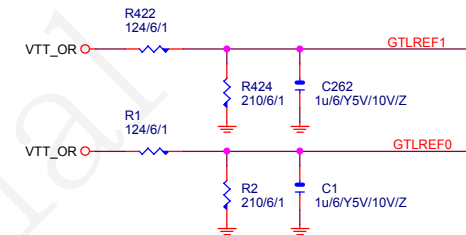
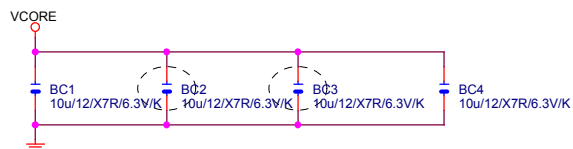
Component value change history

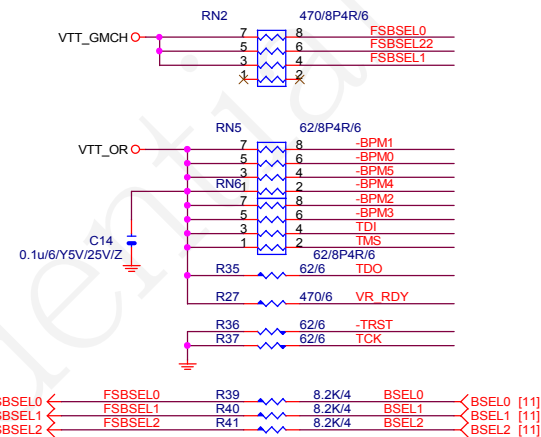
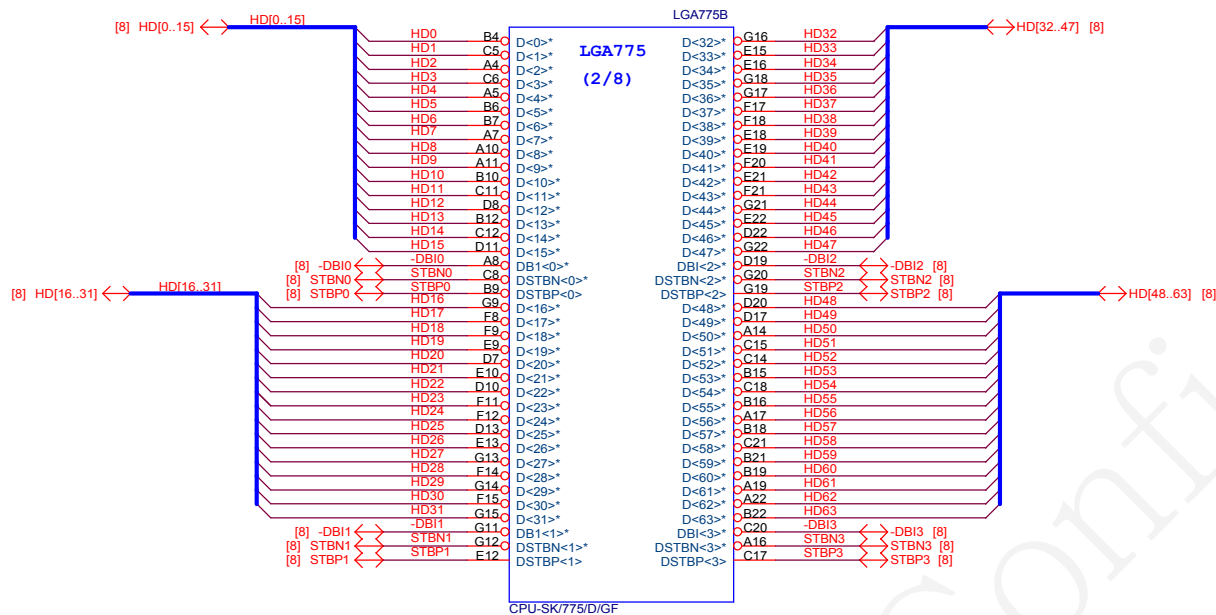
2006/12/27

Data	Change Item	Reason
2006/04/14	1.RENAME 945ZM-S2-->8I945GZME-RH	(與8I945GZME SPEC完全不同,不可共用)
2006/04/17	SWAP NET	
2006/04/18	U87 ADD MASK GND PIN9	
2006/04/20	改BAT LIB/EMI	
2006/05/21	R1.0 LAYOUT	1. MODIFY EMI ISSUE
		2.MODIFY PWM+VCC1_5(S3)+RESET+-THRMTRIP
2006/06/06	PVT SCH SEND 工廠	
2006/07/03	COMP8 CHANGE 30/6/1	
	VTT_PWRGD# ADD RC DELAY TIME	BOM:9M945GZMER-00-10B
2006/08/29	PCB R2.0:AUDIO(VISTA)+SB_HS+SMD FUSE+VCORE(8C CAP)+方形CHOKE+螺絲孔	VCORE 5PCS E-CAP
2006/09/05	MODIFY AUDIO 1X3-->2X3 JACK.	
2006/09/18	MODIFY NAME:945GZM-S2	
2006/09/21	MODIFY CHOKE FOOTPRINT	
2006/09/22	MODIFY NAME:945PLM-DS2 R20	
2006/10/11	PBOM:9M945PLMDR-00-20B	
2006/10/16	MODIFY NAME:945GCM-DS2 R20 FROM 945PLM-DS2 R20	1.CHIPSET 945G SUPPORT FSB1066
2006/10/17	945GCM-DS2 R2.1 OC FSB1066(ICS954148)	
2006/10/20	945PLM-DS2 R2.1 OC FSB1066(ICS954148)	
2006/10/30	945GCM-S2 R2.1 OC FSB1066(ICS954148)	
2006/11/20	Dynamic O.C ISSUE REMOVE R1911,R1580	
	CHANG AP9T18GH LOW THRESOLD FIX MOS BURN OUT	
	R1707/R1905-->4.7/6	PBOM:9M945CMS2R-00-21B
2006/11/23	REV 2.11:MODIFY 方型CHOKE	
2006/12/13	R3.0 MODIFY LAN RTL8110SC	
2006/12/14	MODIFY 78L05 SMD	
2006/12/27	PBOM:9M945GZM2R-00-30A	

Circuit or PCB layout change
for next version

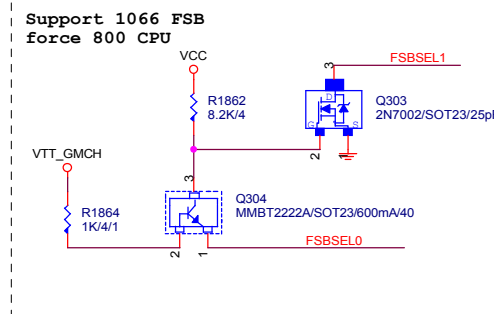
[illegible]





CPU

NA	FSB	FSA	
FSBSEL3	FSBSEL1	FSBSEL0	Clock
1	0	1	100MHz
0	0	1	133MHz
0	1	1	166MHz
0	1	0	200MHz
0	0	0	266MHz



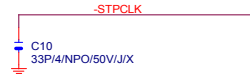
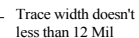
FOR FIX FSB1333 CPU

Gigabyte Technology

Title		P4_LGA775-B,D	
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COMP8 CHANGE 30/6/1 FOR CONROE CPU

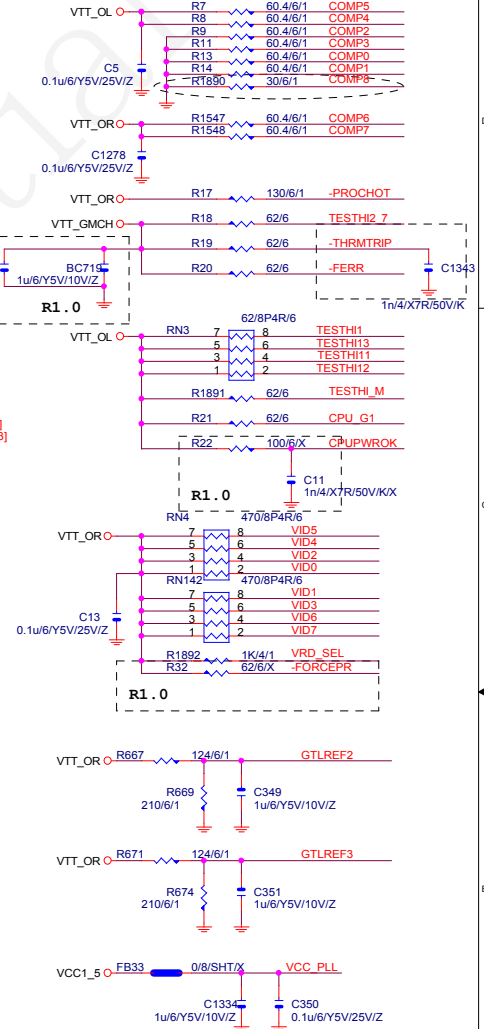
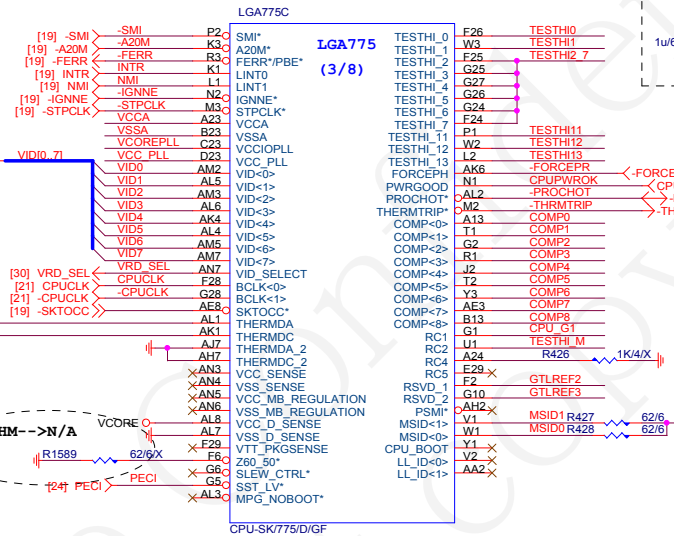
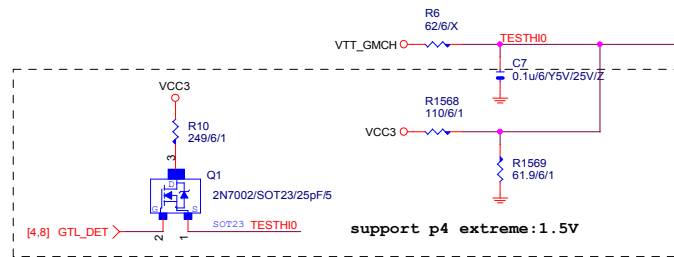
VCCA & VCOREPLL
define doesn't same as
old P4 design kit

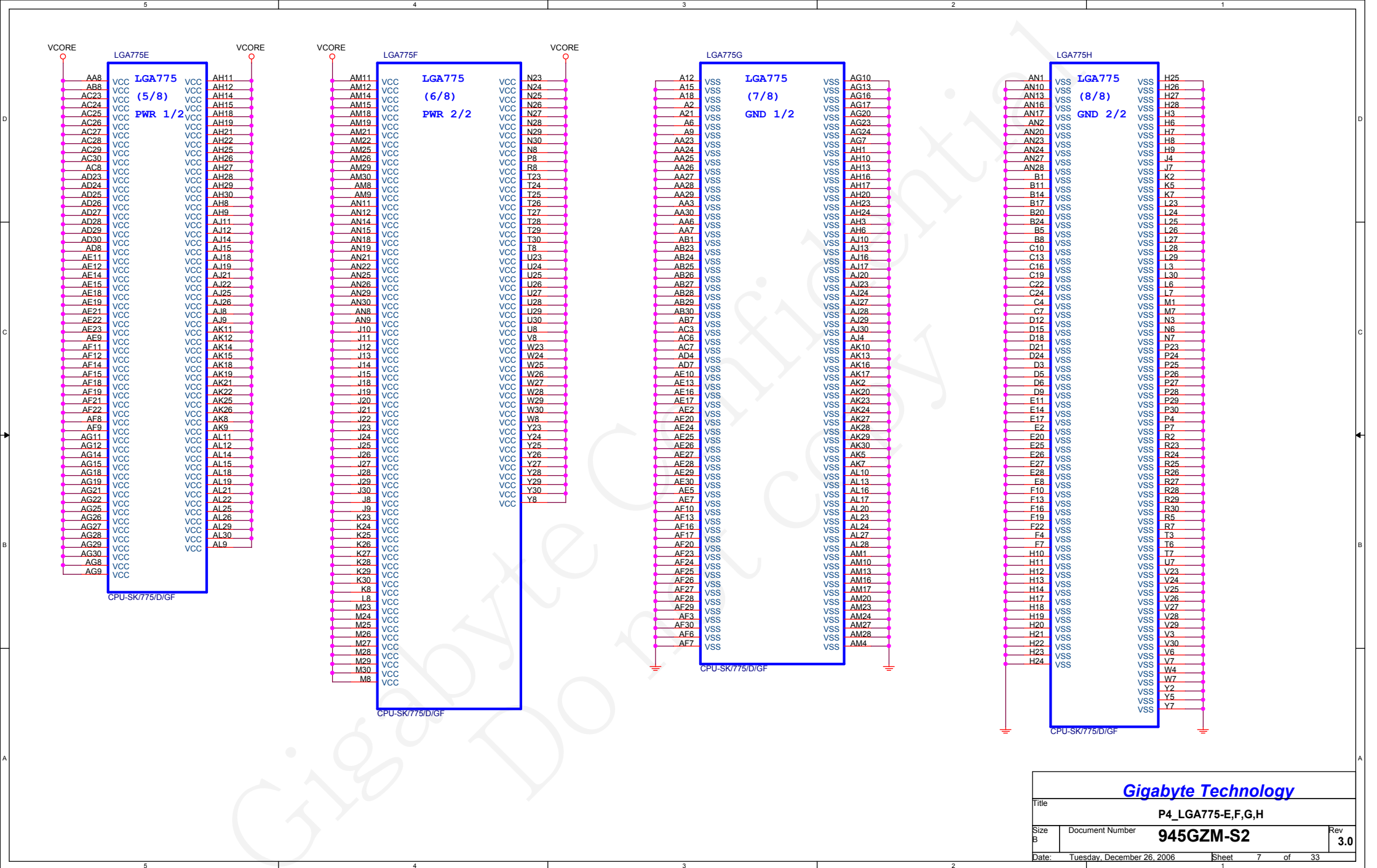


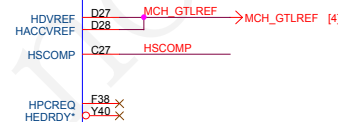
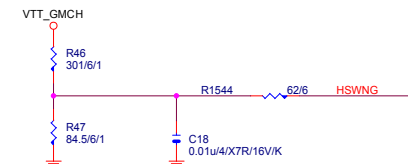
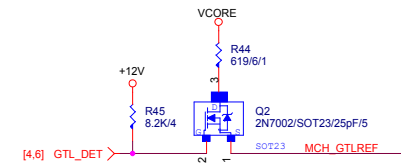
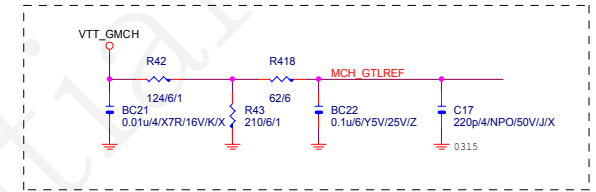
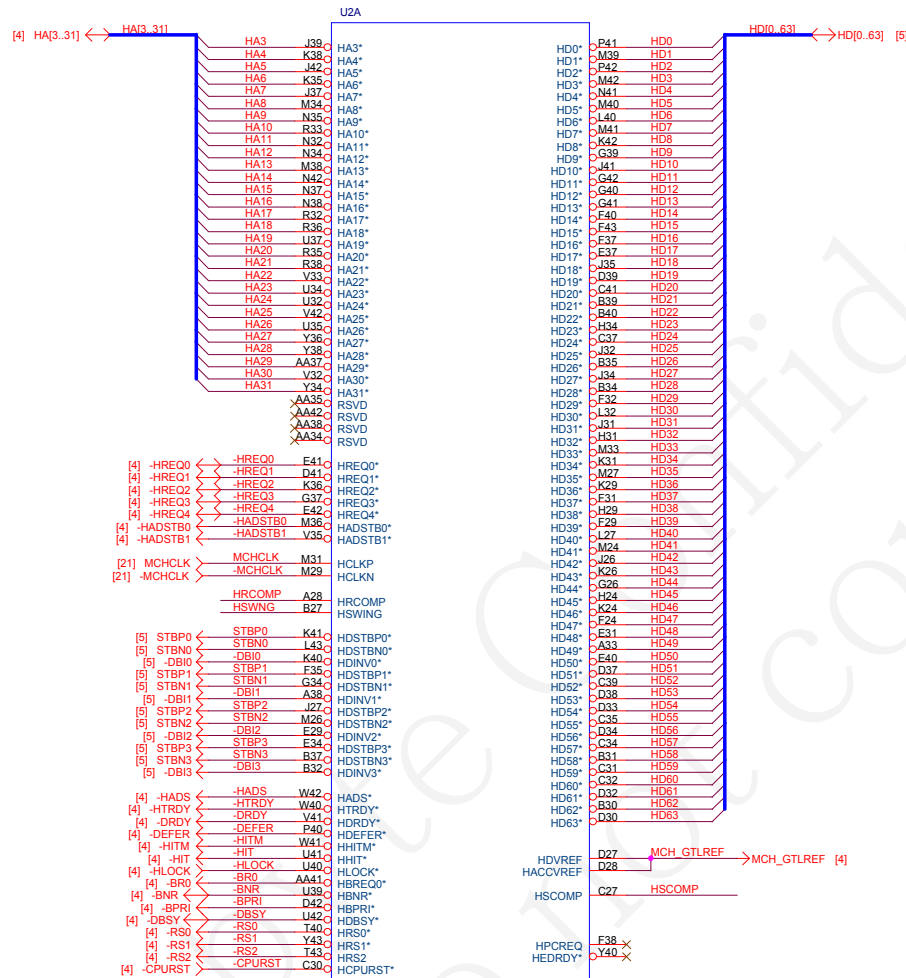
FSA	FSB	NA	
FBSSEL0	FBSSEL1	FBSSEL3	Clock
1	0	1	100MHz
1	0	0	133MHz
1	1	0	166MHz
0	1	0	200MHz
0	0	0	266MHz

10LI2-12100A-13=INDUCTOR 10uH 300mA TAI-TECH
10LI2-12100A-02=INDUCTOR 10uH 155mA TAIYO
10LI2-12100A-01=INDUCTOR 10uH 120mA TDK

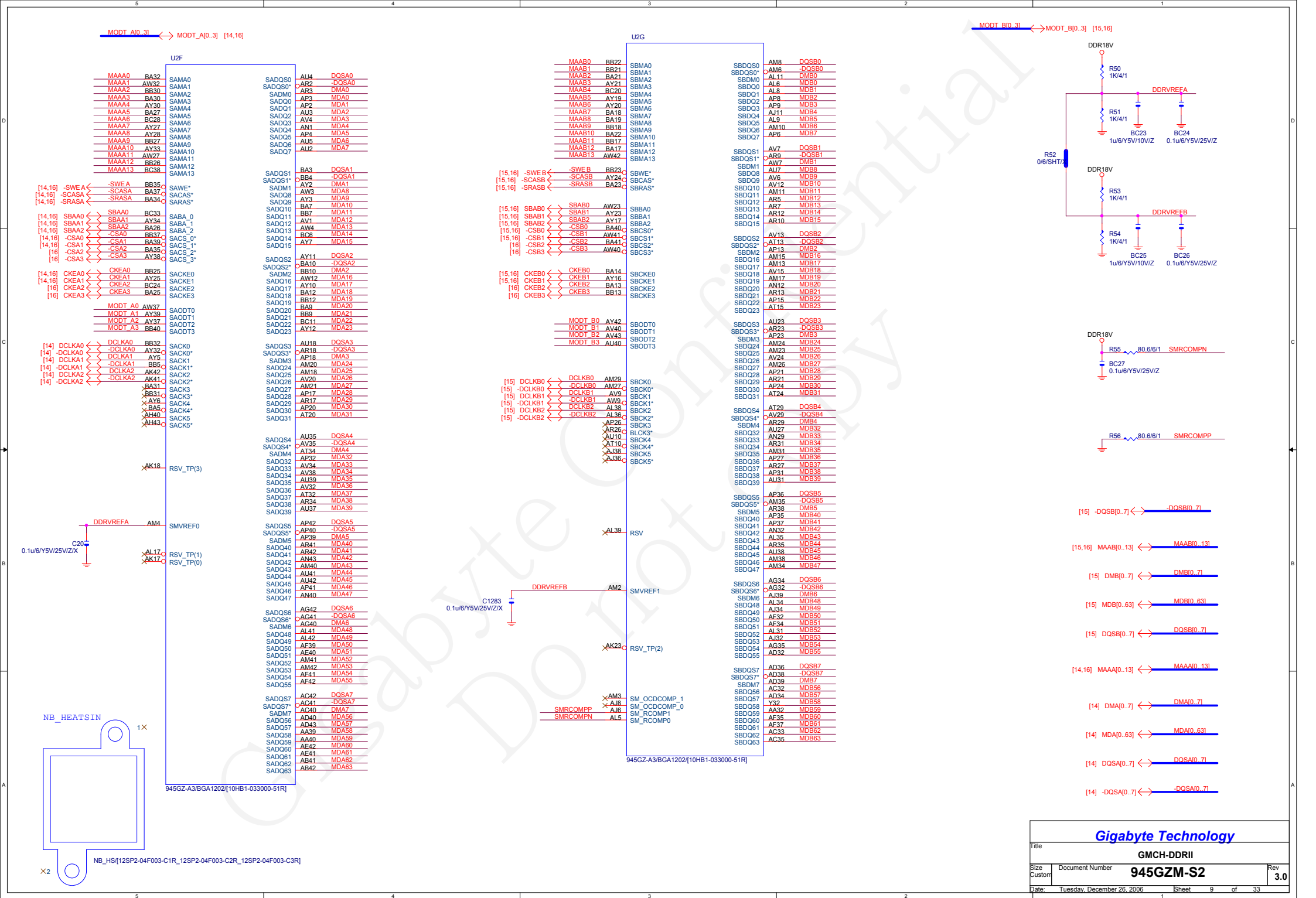
限用兩種







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Title			
GMCH-HOST			
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U2C

A4	VSS	N2
A16	VSS	N6
A22	VSS	N8
A26	VSS	N13
A31	VSS	N15
A35	VSS	N24
B4	VSS	N26
B6	VSS	N27
B9	VSS	N29
B11	VSS	N31
B13	VSS	N33
B21	VSS	N36
B22	VSS	N39
B28	VSS	N43
B33	VSS	P3
B38	VSS	P14
C3	VSS	P15
C5	VSS	P24
C7	VSS	P26
C12	VSS	P27
C14	VSS	P29
C22	VSS	P30
C40	VSS	R6
D2	VSS	R9
D5	VSS	R12
D10	VSS	R14
D16	VSS	R30
D20	VSS	R31
D21	VSS	R34
E3	VSS	R37
E4	VSS	R39
E7	VSS	T2
E9	VSS	T42
F12	VSS	U3
F13	VSS	U5
F17	VSS	U12
F18	VSS	U14
F20	VSS	U31
F21	VSS	U33
F32	VSS	U36
F2	VSS	U38
F6	VSS	V2
F13	VSS	V8
F18	VSS	V11
F26	VSS	V12
F34	VSS	V14
F42	VSS	V44
G3	VSS	V36
G5	VSS	V37
G7	VSS	V38
G9	VSS	V39
G10	VSS	V43
G13	VSS	W3
G15	VSS	Y2
G18	VSS	Y5
G20	VSS	Y6
G21	VSS	Y9
G24	VSS	Y12
G27	VSS	Y14
G29	VSS	Y31
G31	VSS	Y35
G32	VSS	Y37
G35	VSS	Y39
G38	VSS	Y42
H12	VSS	AA3
H17	VSS	AA8
H26	VSS	AA11
H27	VSS	AA12
H32	VSS	AA14
J2	VSS	AA21
J5	VSS	AA23
J7	VSS	AA31
J10	VSS	AA33
J12	VSS	AA36
J21	VSS	AB2
J24	VSS	AB43
J29	VSS	AC2
J38	VSS	AC3
J43	VSS	AC7
K3	VSS	AC10
K5	VSS	AC14
K6	VSS	AC21
K7	VSS	AC23
K10	VSS	AC31
K12	VSS	AC36
K13	VSS	AC37
K15	VSS	AC38
K20	VSS	AC39
K27	VSS	
K32	VSS	
K34	VSS	
K37	VSS	
K39	VSS	
L2	VSS	
L12	VSS	
L13	VSS	
L24	VSS	
L26	VSS	
L29	VSS	
L31	VSS	
L42	VSS	
M3	VSS	
M5	VSS	
M8	VSS	
M9	VSS	
M10	VSS	
M13	VSS	
M20	VSS	
M21	VSS	
M35	VSS	
M37	VSS	

945GZ-A3/B/GA1202[10HB1-033000-51R]

U2E

AD7	VSS
AD9	VSS
AD11	VSS
AD13	VSS
AD33	VSS
N24	VSS
AD37	VSS
AD42	VSS
N27	VSS
AF1	VSS
AF2	VSS
N33	VSS
AF5	VSS
N39	VSS
AF36	VSS
N43	VSS
P3	VSS
P14	VSS
AG30	VSS
AG31	VSS
AG33	VSS
AG36	VSS
P29	VSS
AG38	VSS
R6	VSS
RA42	VSS
R12	VSS
A10	VSS
A30	VSS
A31	VSS
A33	VSS
A35	VSS
A37	VSS
AK24	VSS
AK26	VSS
AK29	VSS
AK30	VSS
U9	VSS
AL1	VSS
AL2	VSS
AL3	VSS
AL7	VSS
AL10	VSS
AL12	VSS
AL13	VSS
AL15	VSS
AL18	VSS
AL21	VSS
AL23	VSS
AL24	VSS
AL27	VSS
AL32	VSS
AL33	VSS
AL37	VSS
V38	VSS
AM5	VSS
AM7	VSS
Y2	VSS
AM33	VSS
Y6	VSS
AM36	VSS
AM37	VSS
AM39	VSS
AN2	VSS
AN4	VSS
AN13	VSS
Y37	VSS
AN17	VSS
AN18	VSS
AN20	VSS
AN21	VSS
AN23	VSS
AN24	VSS
AN26	VSS
AN27	VSS
AN31	VSS
AN42	VSS
AP5	VSS
AP7	VSS
AP10	VSS
AP12	VSS
AP29	VSS
AP34	VSS
AP38	VSS
AR1	VSS
AR6	VSS
AR15	VSS
AR20	VSS
AR24	VSS
AR32	VSS
AR37	VSS
AR39	VSS
AR43	VSS
AT12	VSS
AT17	VSS
AT18	VSS
AT21	VSS
AT23	VSS
AT26	VSS
AT27	VSS
AT31	VSS
AU6	VSS
AU9	VSS
AU12	VSS
AU13	VSS
AU15	VSS
AU17	VSS
AU20	VSS
AD18	VSS
AD20	VSS
AD22	VSS
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AD27	VSS
AD29	VSS
AE19	VSS
AE21	VSS
AE23	VSS
AE25	VSS
AF18	VSS
AF20	VSS
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AF24	VSS
AY1	VSS
BC4	VSS

945GZ-A3/B/GA1202[10HB1-033000-51R]

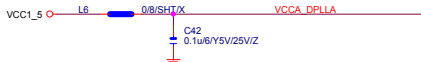
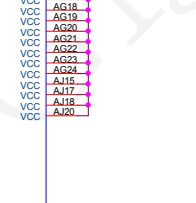
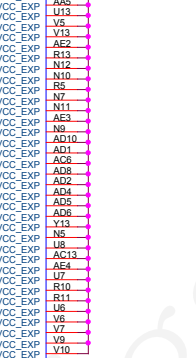
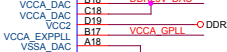
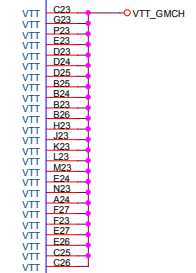
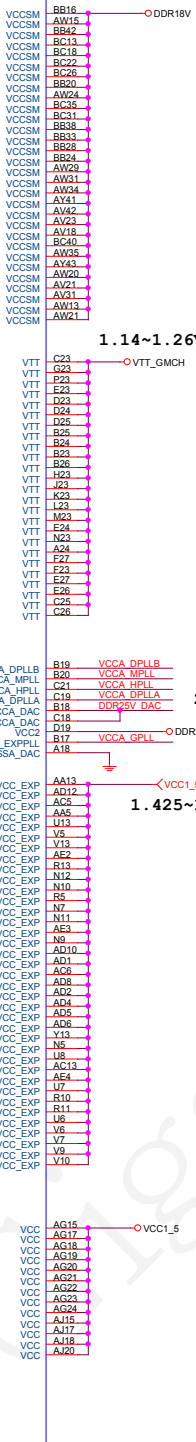
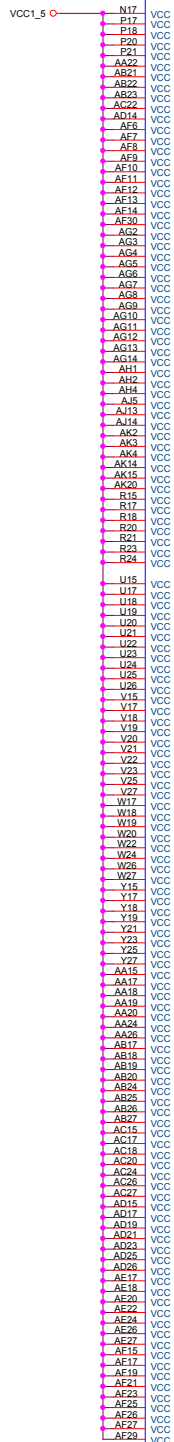
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VSS	AU24
VSS	AU26
VSS	AU29
VSS	AU32
VSS	AU34
VSS	AV2
VSS	AV10
VSS	AV17
VSS	AV37
VSS	AW10
VSS	BA4
VSS	BA42
VSS	BB3
VSS	BB6
VSS	BB11
VSS	BB14
VSS	BB19
VSS	BB34
VSS	BB39
VSS	BB41
VSS	BC9
VSS	A40
VSS	D1
VSS	D43
VSS	R26
VSS	R29
VSS	U29
VSS	V24
VSS	V26
VSS	V29
VSS	W21
VSS	W23
VSS	W25
VSS	Y20
VSS	Y22
VSS	Y24
VSS	Y26
VSS	Y29
VSS	AA25
VSS	AA27
VSS	AA29
VSS	AC19
VSS	AC25
VSS	AC29

NC	AA2
NC	B2
NC	B3
NC	B43
NC	B42
NC	B43
NC	C2
NC	C42
NC	E35
NC	AV26
NC	AV27
NC	AW2
NC	AW28
NC	BA2
NC	BB1
NC	BB2
NC	BB43
NC	BC1
NC	BC2
NC	BC42
NC	BC43

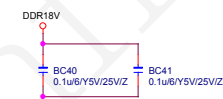
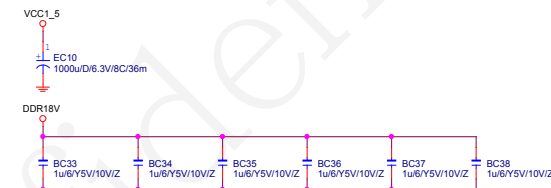
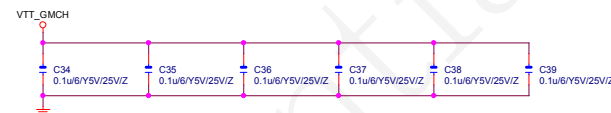
RSVD	AK21
RSVD	AJ23
RSVD	AJ26
RSVD	AL29
RSVD	AL50
RSVD	AJ21
RSVD	AL26
RSVD	AK27
RSVD	AD36
RSVD	AC34
RSVD	Y30
RSVD	Y33
RSVD	AF31
RSVD	AD31
RSVD	U31
RSVD	V31
RSVD	AA30
RSVD	AC30
RSVD	AA3
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RSVD	AG27
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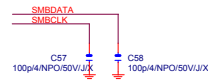
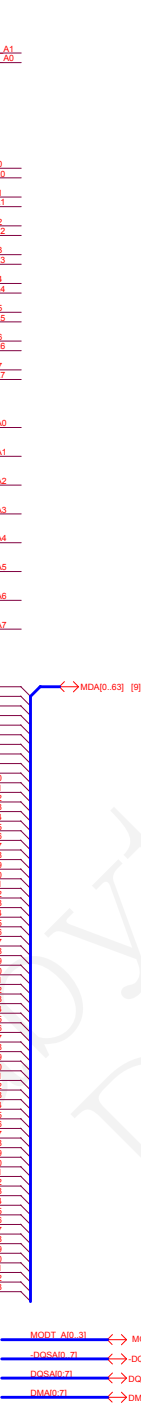
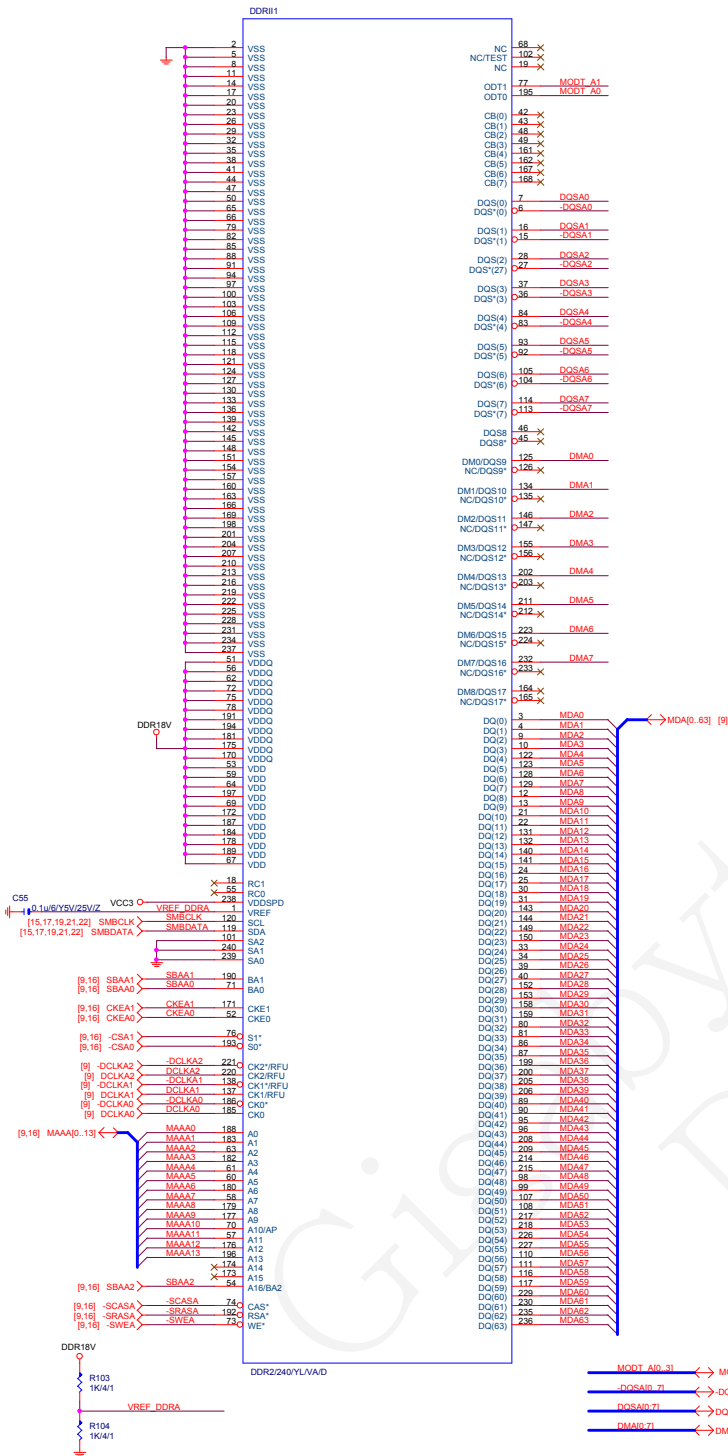
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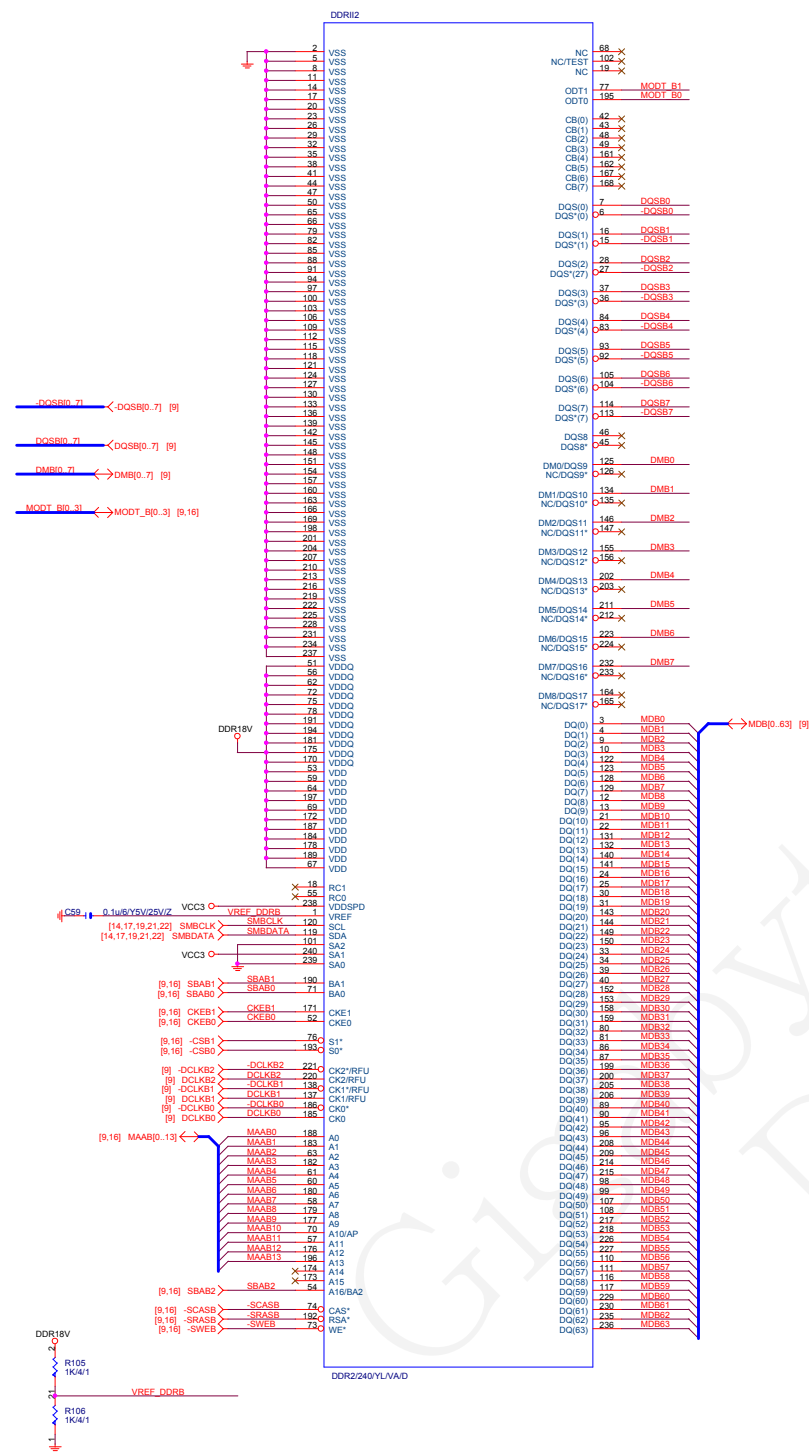
Title			GMCH-GND
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945 Design Guide rev1.5 spec.
VCCA_EXPLL=VCCA GPLL=45mA(1.425V~1.575V)
VCCA_HPLL>50mA 公板爲200mA(1.425V~1.575V)
VCCA_DPLLA=65mA(1.425V~1.575V)
VCCA_DPLLB=65mA(1.425V~1.575V)
VCCA_MPLL>50mA(1.425V~1.575V)
VCCA_DAC=DDR25V_DAC=70mA(2.375~2.625V)

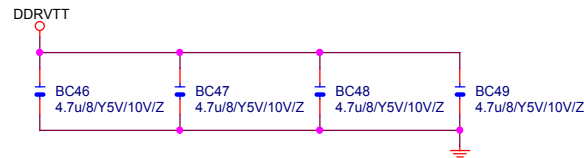




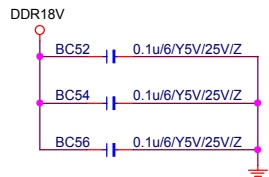


DDR TERMINATION CHANNEL A

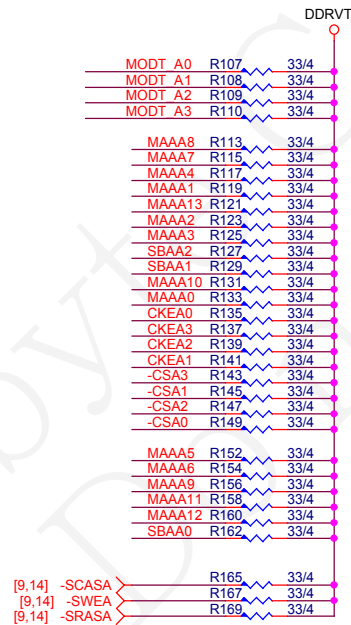
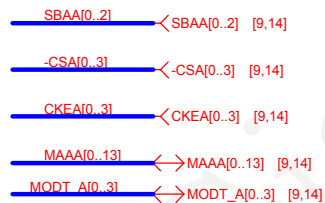
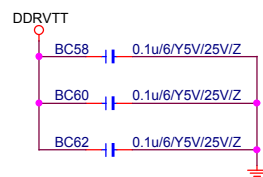
DDRVTT Decouple



DDR18V Decouple

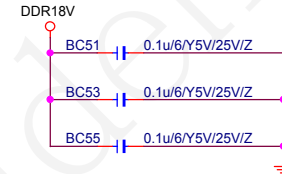


DDRVTT Decouple

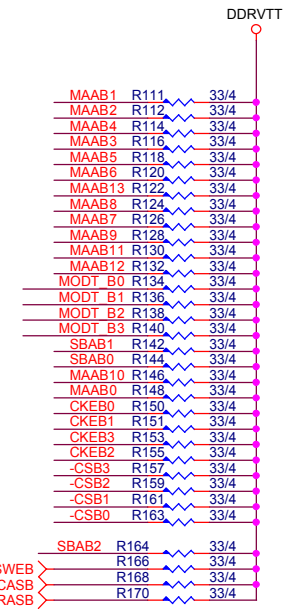
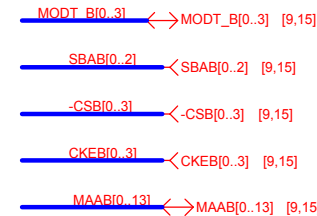
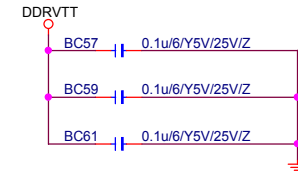


DDR TERMINATION CHANNEL B

DDR18V Decouple

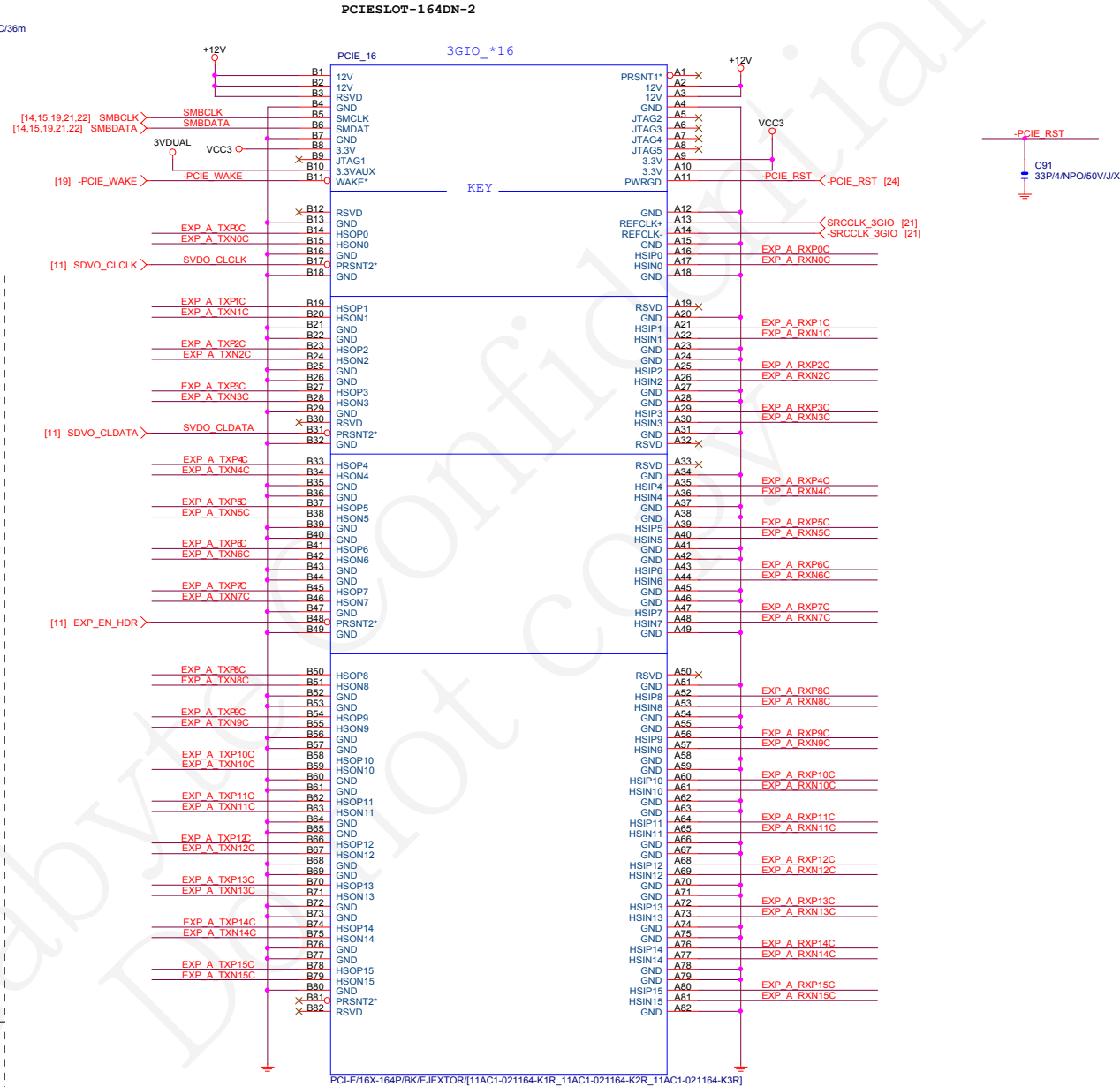
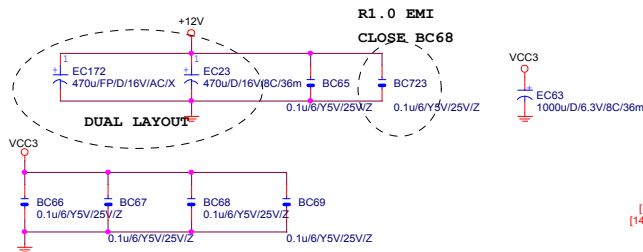


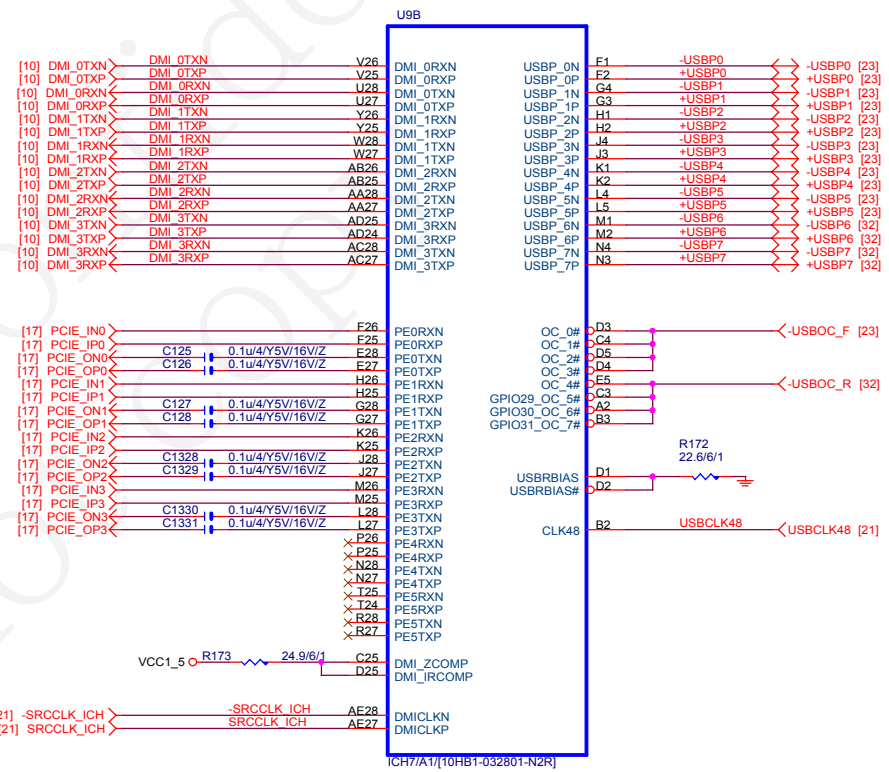
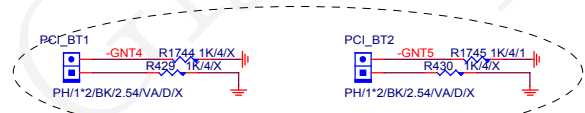
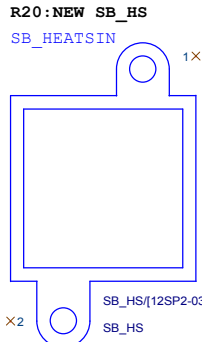
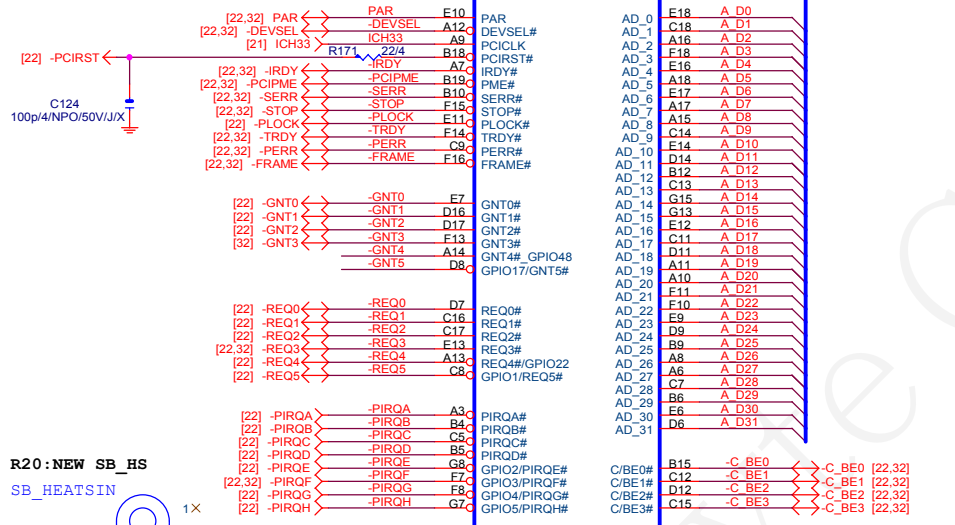
DDRVTT Decouple

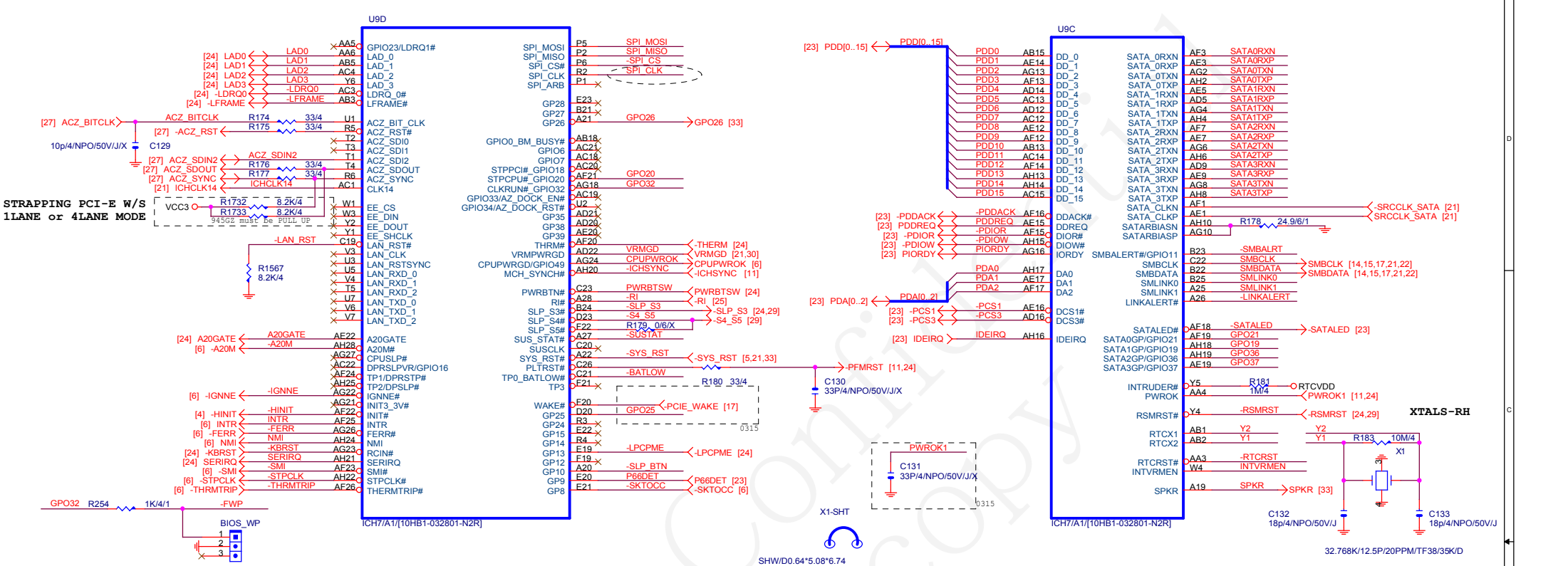


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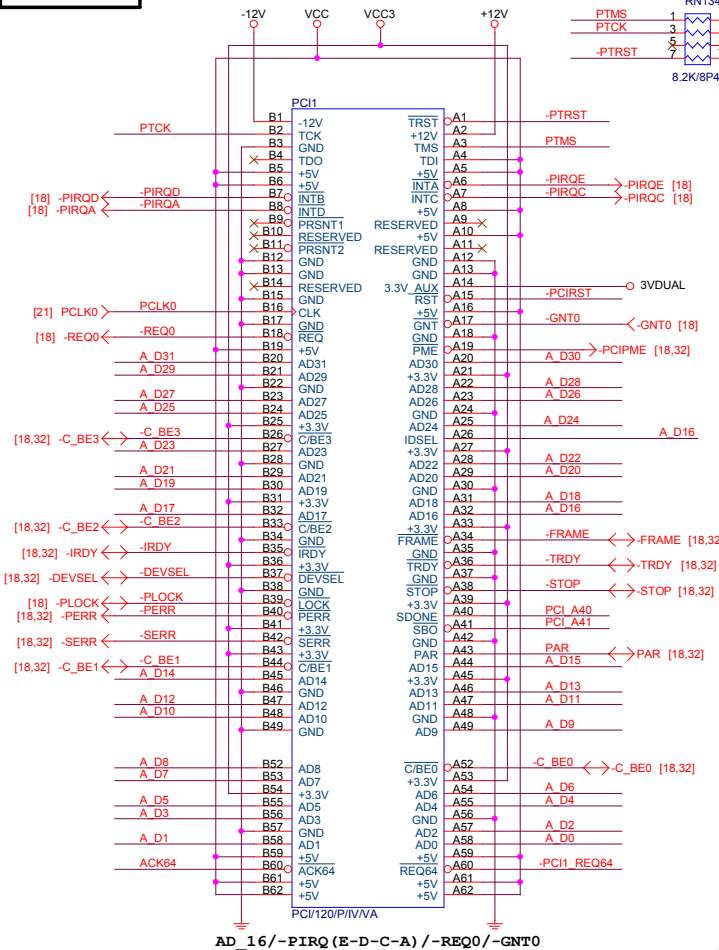
Title			DDRII TERMINATOR	
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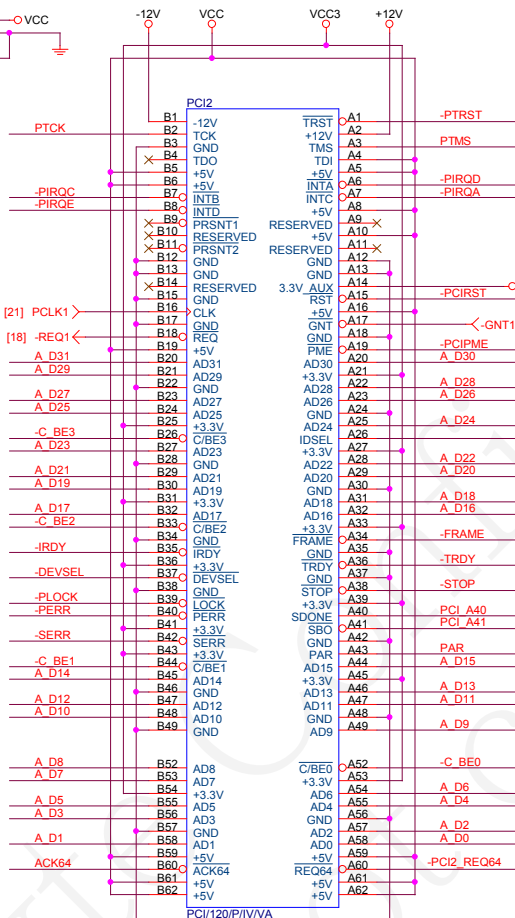




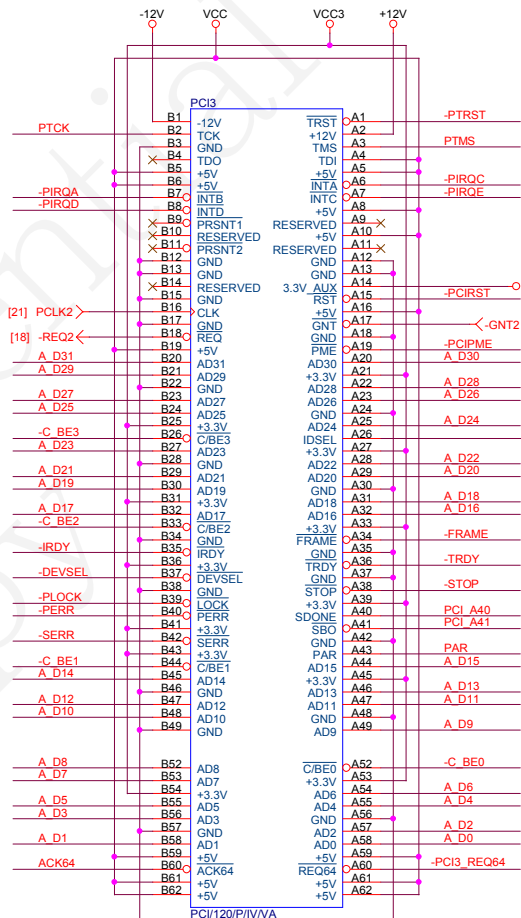
PCI1,2 SLOT



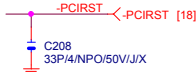
AD_16/-PIRQ (E-D-C-A) /-REQ0/-GNT0



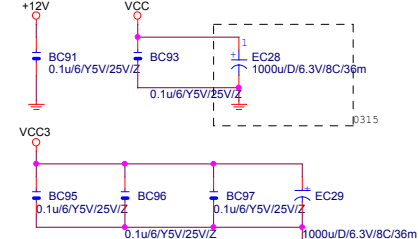
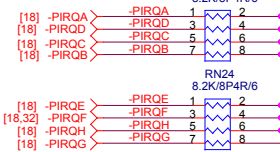
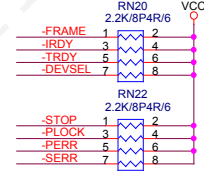
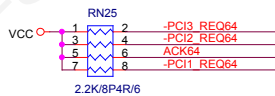
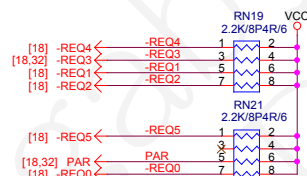
AD_17/-PIRQ(D-C-A-E)/-REQ1/-GNT1



AD 18/-PIRQ(C-A-E-D)/-REQ2/-GNT2



Place close to PCI1

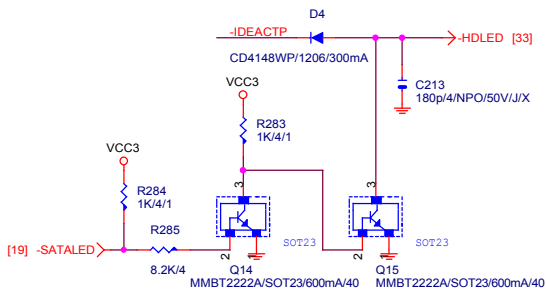


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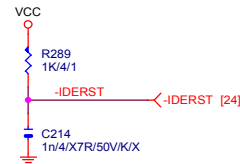
PCI SLOT 1, 2/PCIEX1
945GZM-S2

3.0

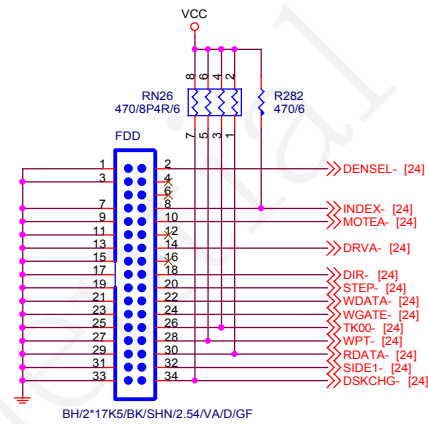
IDE/SATA LED



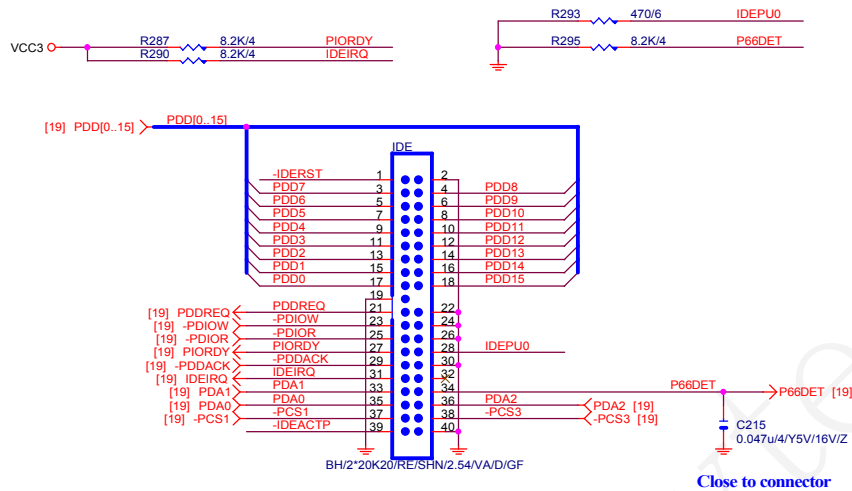
IDE RESET



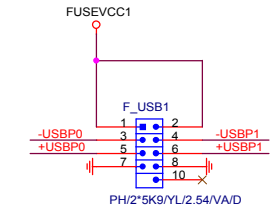
FLOPPY



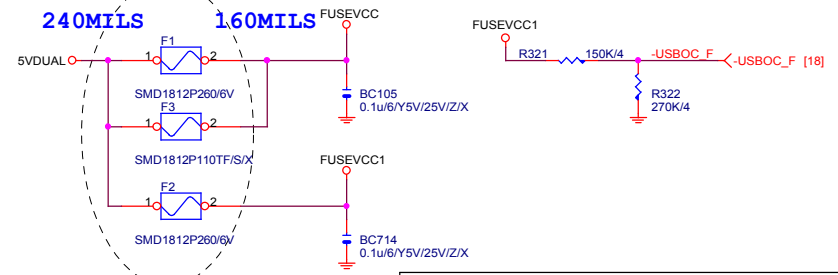
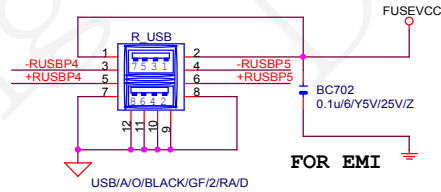
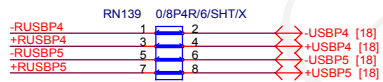
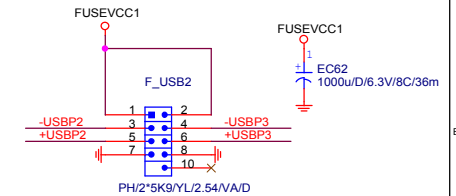
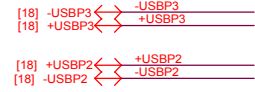
IDE



FRONT USB1

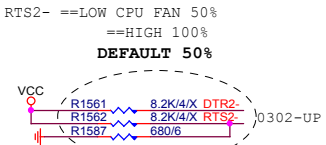


FRONT USB2

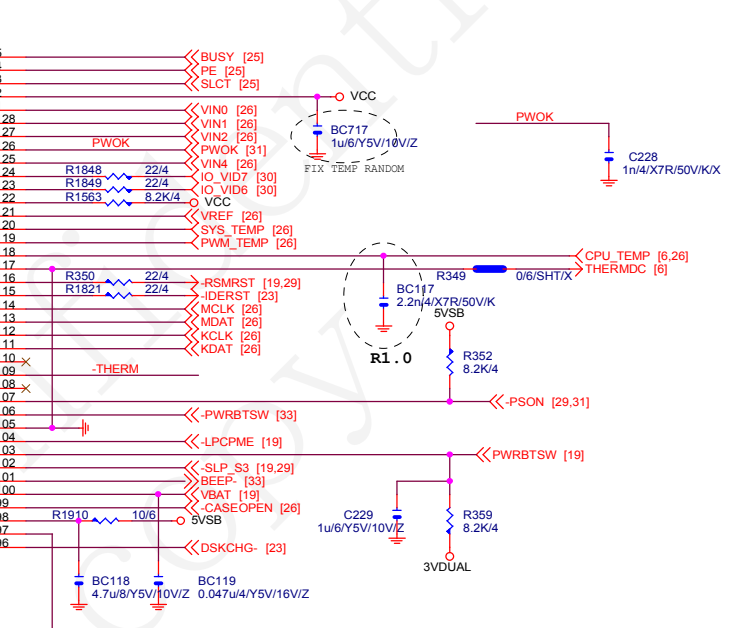
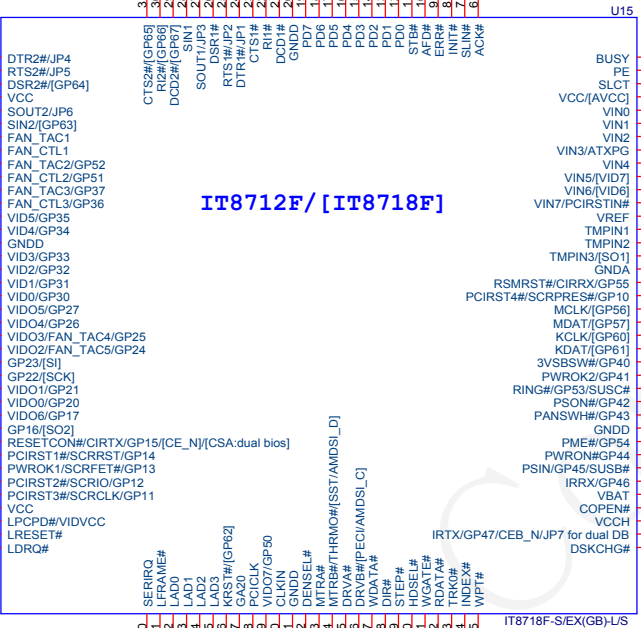
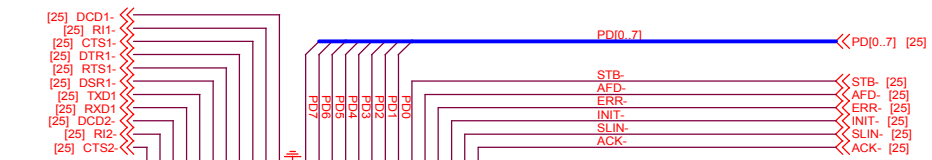
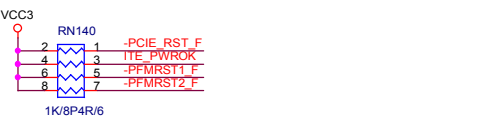
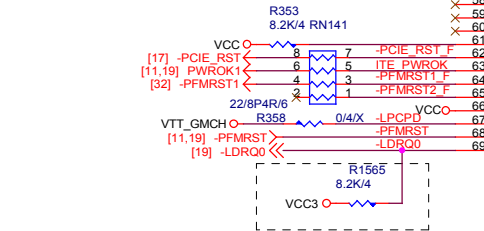
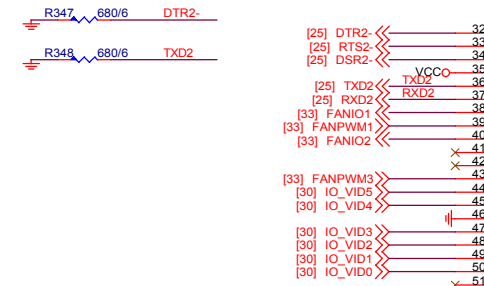


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IDE,FDD,F_USB		
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SOUT2	1	VID pins threshold voltage select: Vih / Vil : 2.0 / 0.8V
	0	VID pins threshold voltage select: Vih / Vil : 0.8 / 0.4V

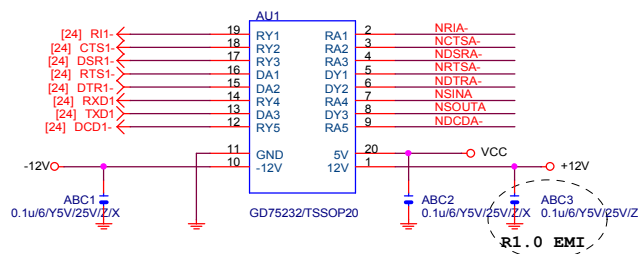


**JP7 : HIGH DUAL BIOS DISABLE
LOW DUAL BIOS ENABLE**

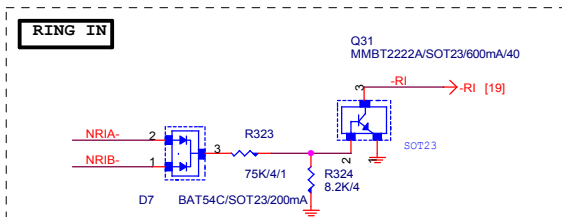
Dual BIOS:
GB logo :Pin 61 (GP15/CSA)
GB logo :Pin 59 (GP17/CSB)
Pin 59 Dual BIOS ,Power On Strapping:
H ==>Dual BIOS function Enable
L ==>Dual BIOS function Disable

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

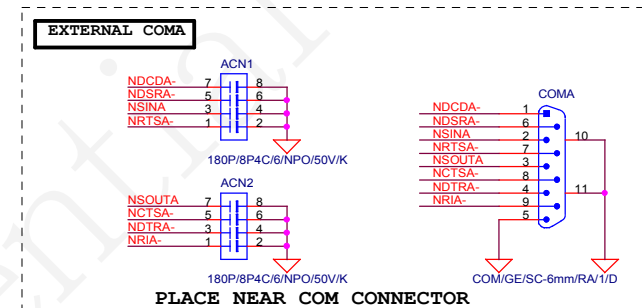
COMA



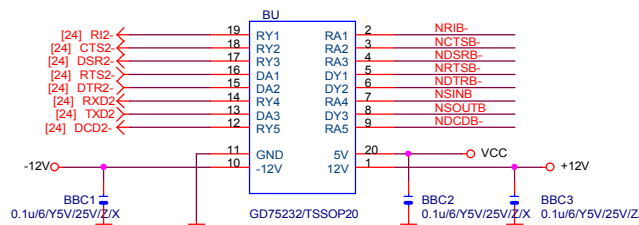
RING IN



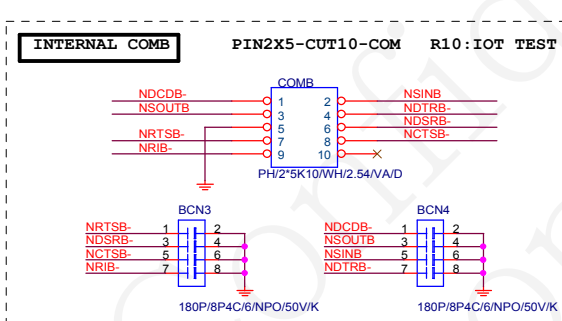
EXTERNAL COMA



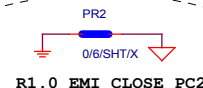
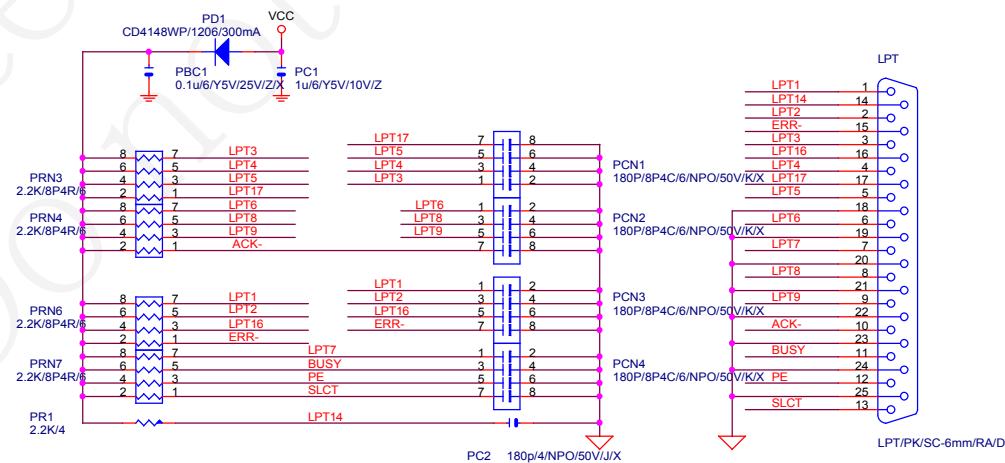
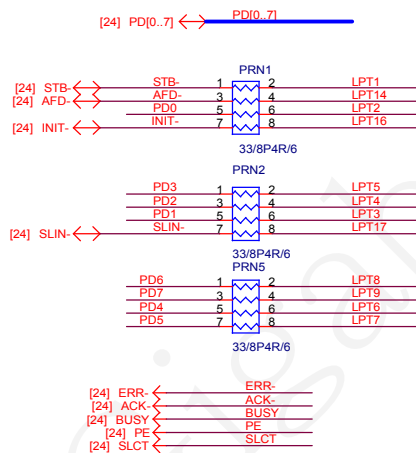
COMB



INTERNAL COMB



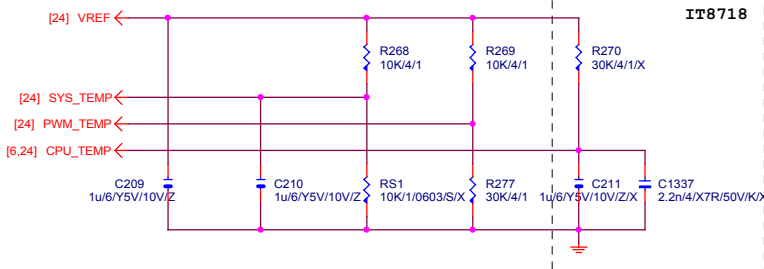
LPT PORT



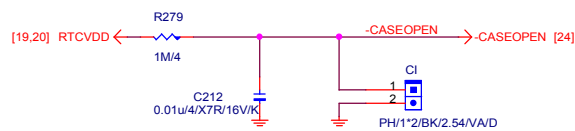
Gigabyte Technology

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COM & LPT PORT		
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TEMP H/W MONITOR

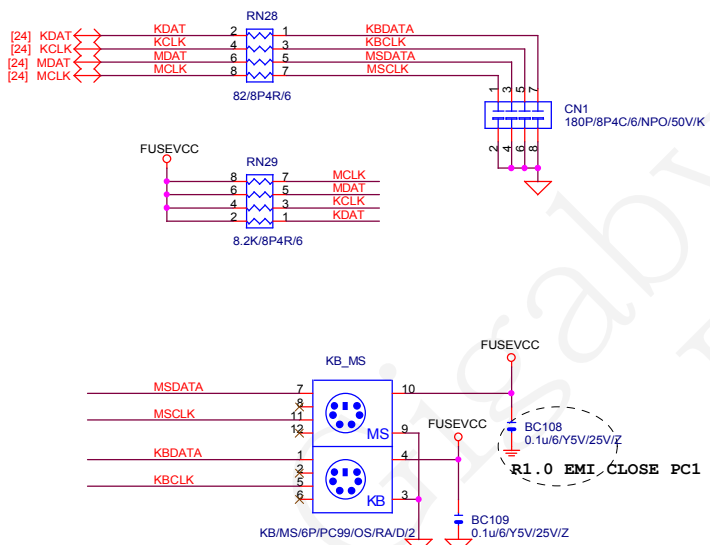


CASE OPEN

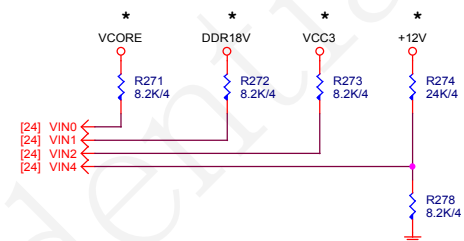


Case Open Circuits

KB/MS

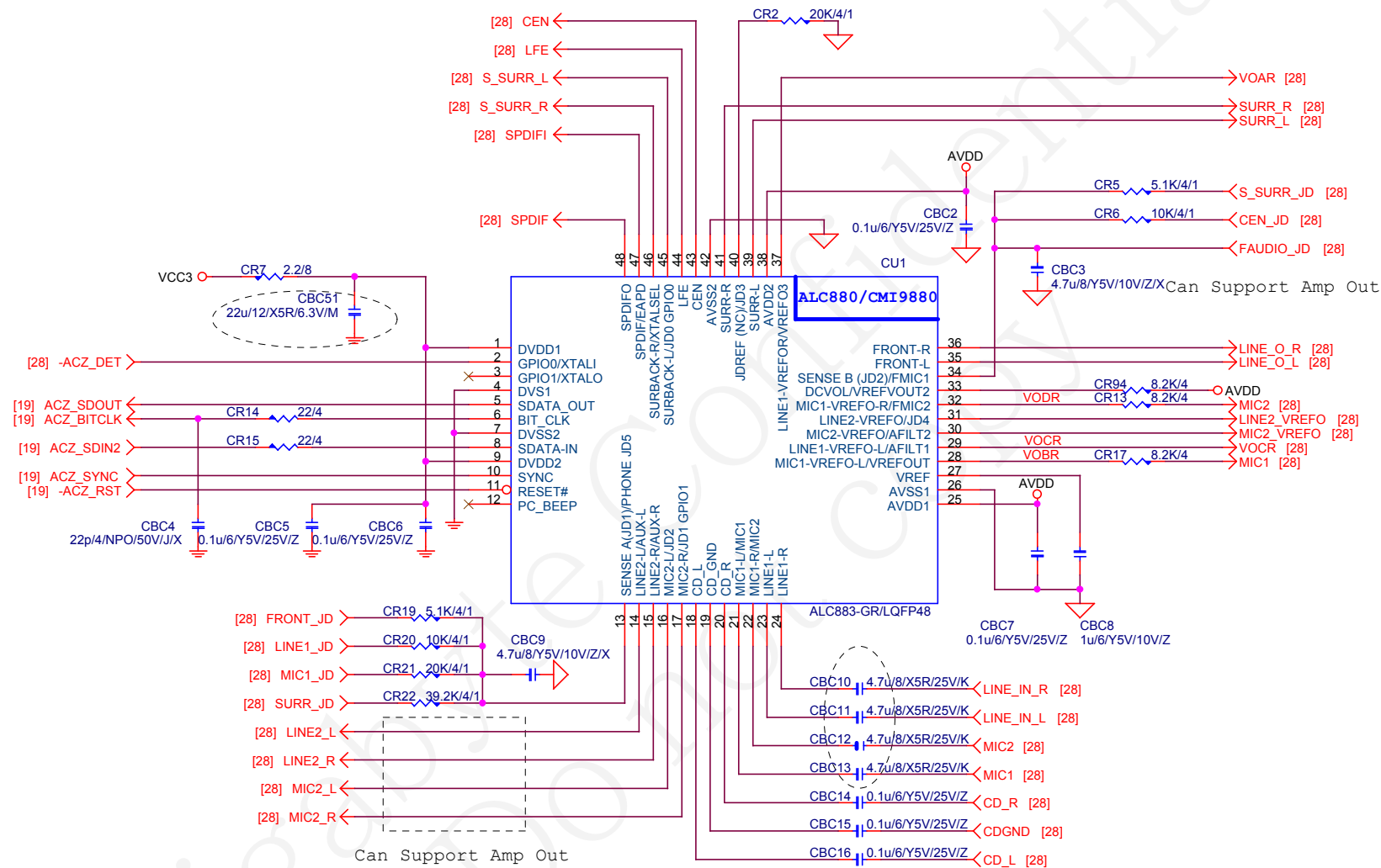


VOLTAGE-- H/W MONITOR



Gigabyte Technology

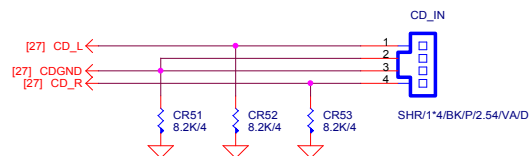
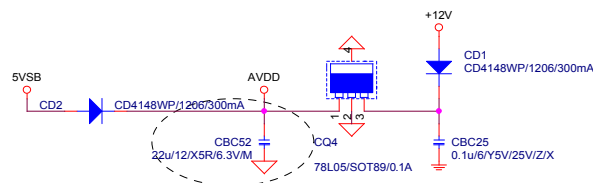
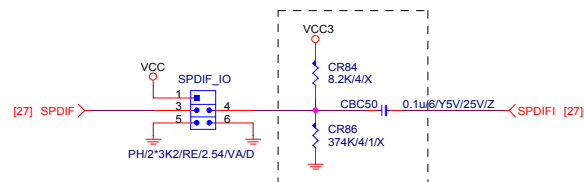
Title		
BIOS/HW-MONITOR/CI/KB/MS		
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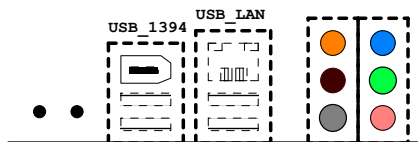
Gigabyte Technology

Title			AZALIA ALC883		
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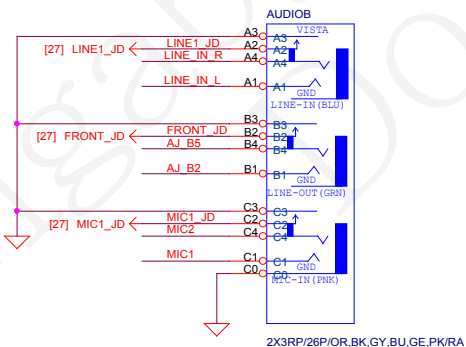
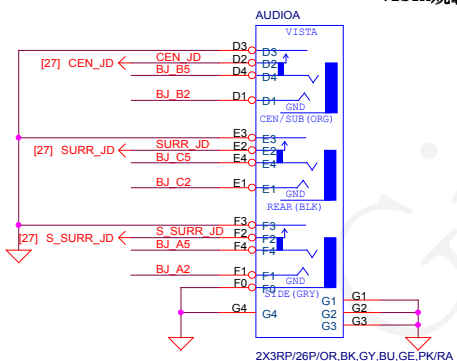
CD IN

**SPDIF**

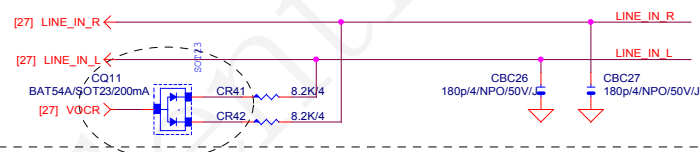
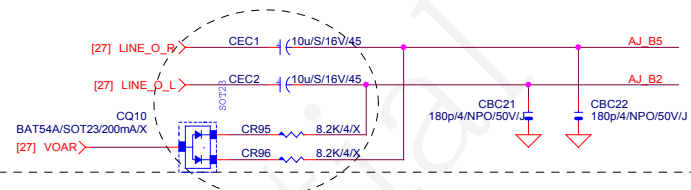
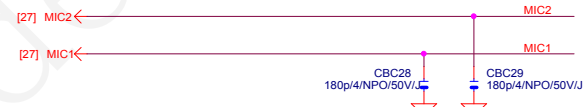
「AZALIA JACK」



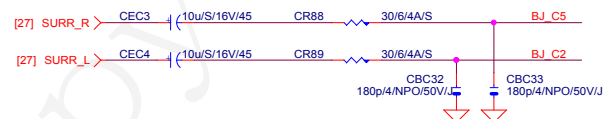
3RP/26P/OR,BK,GY,BU,GE,PK/RA/D/1/B
VISTA規範: REAR-->BLK,CEN/SUB-->ORG



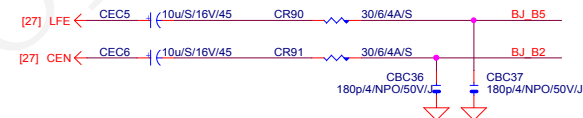
LINE-IN

**MIC-IN**

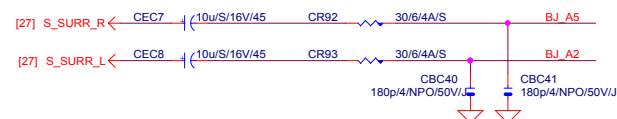
SURROUND



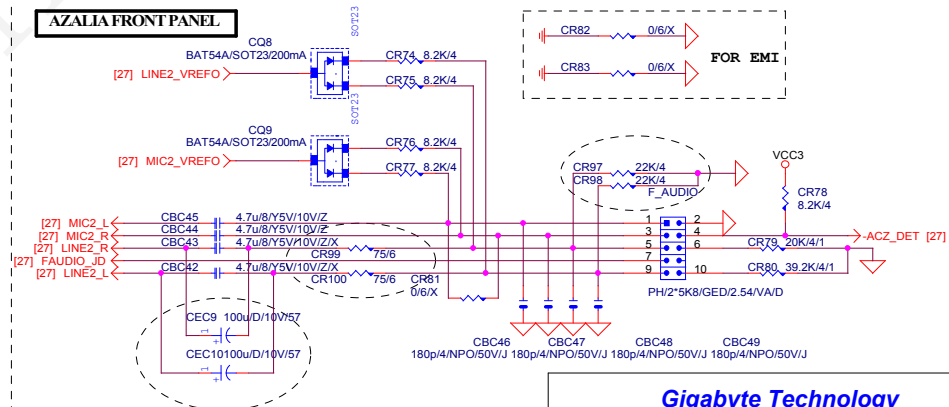
CEN/LFE



SURR BACK



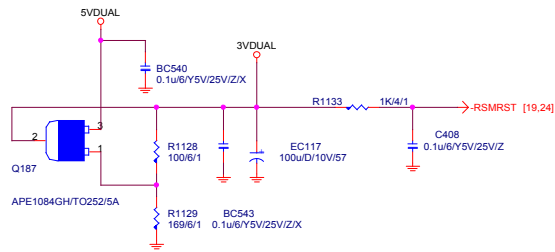
AZALIA FRONT PANEL



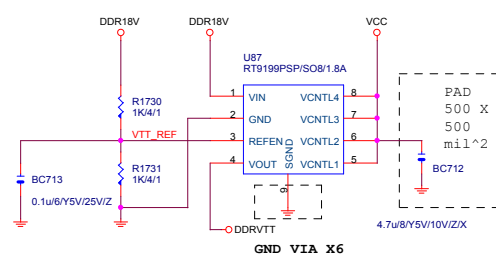
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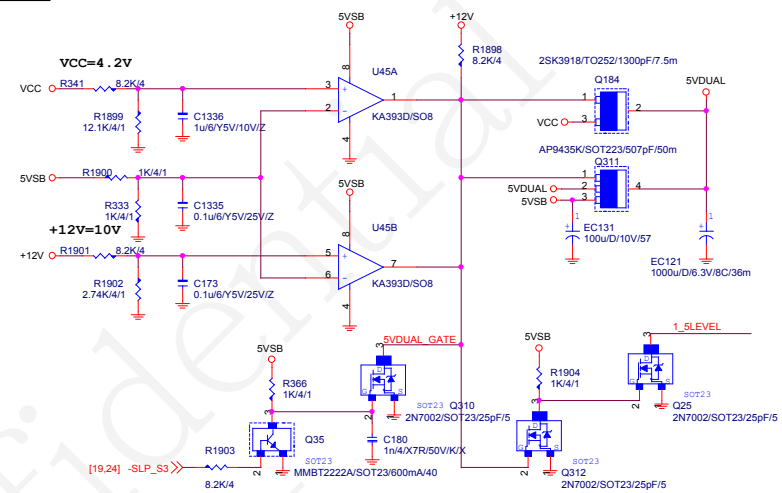
3VDUAL CIRCUIT



DDRVTT

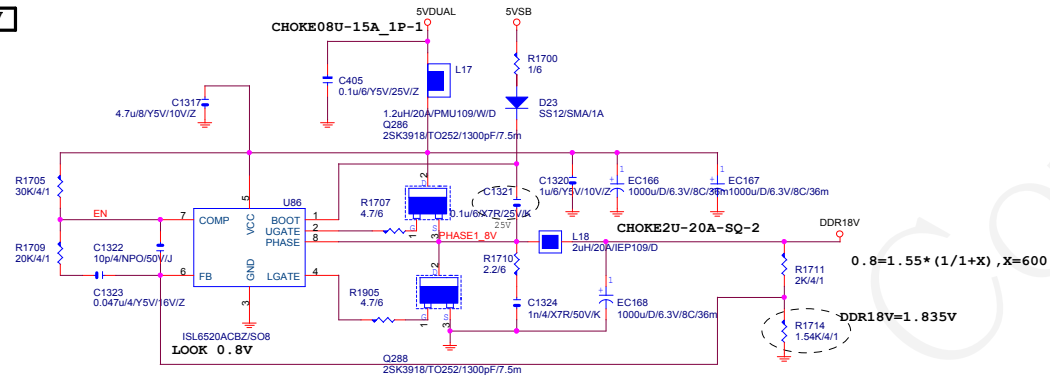


5VDUAL

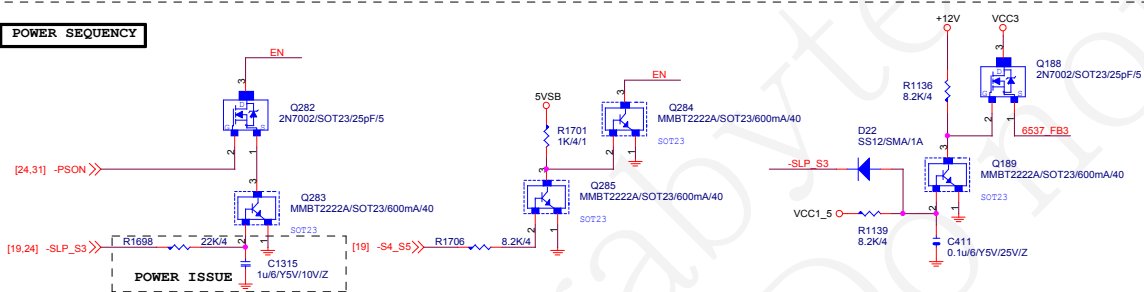


S3 TURN OFF 2.5LEVEL, 避免DDR18V DROP
(因PSU +12V太晚關,造成OF TURN
ON,導致DDR18V LOADING WORSE)

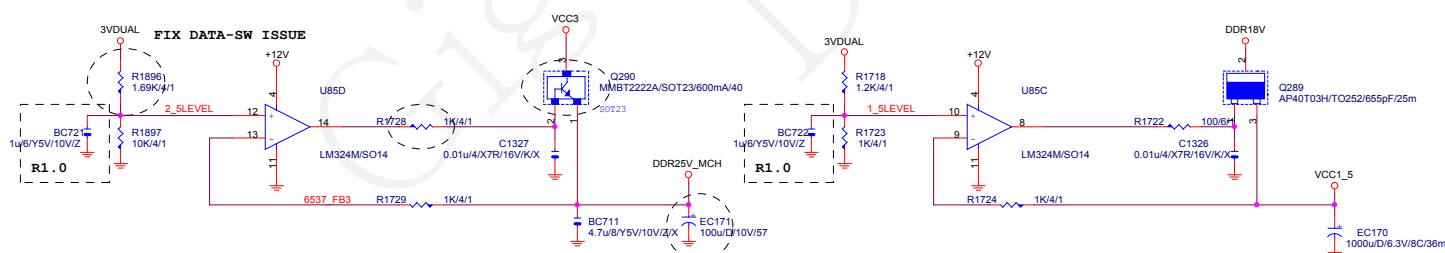
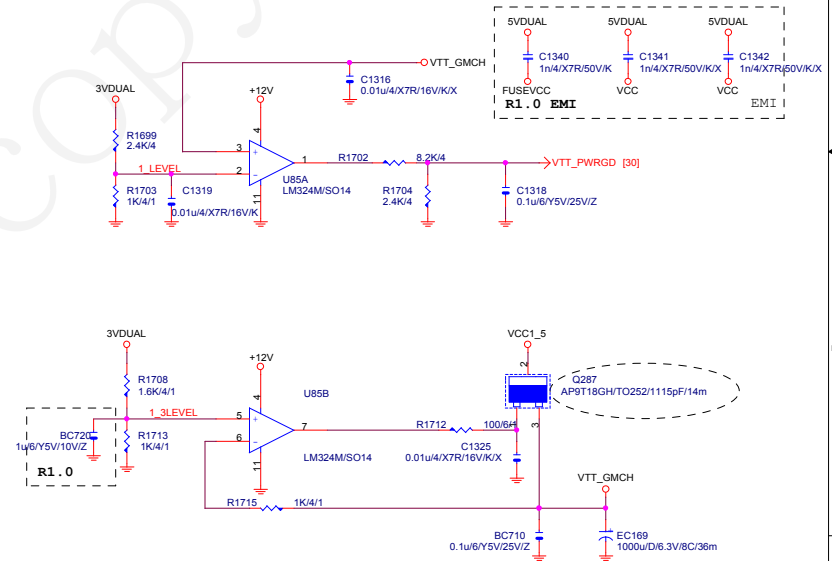
DDR18V



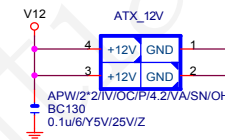
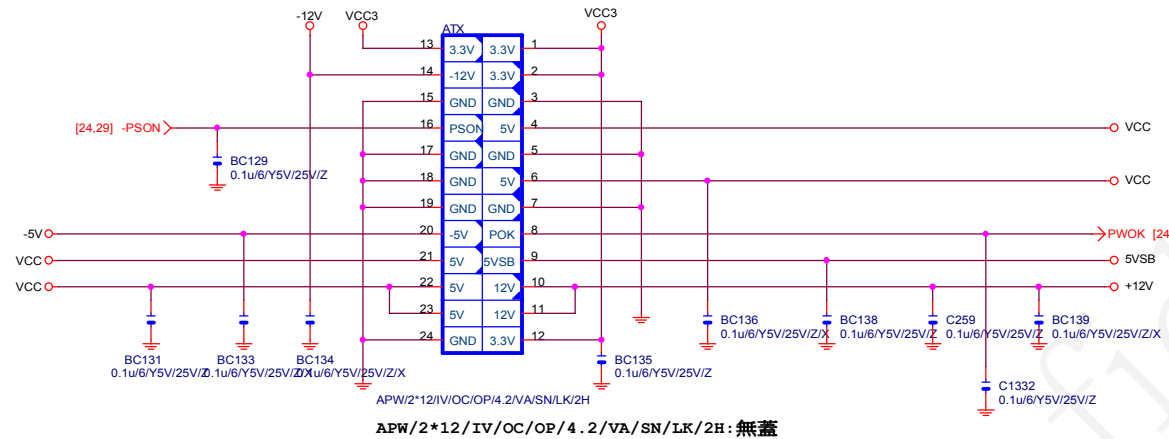
POWER SEQUENCY



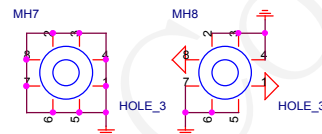
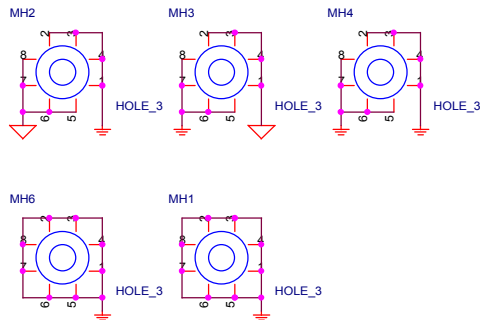
POWER



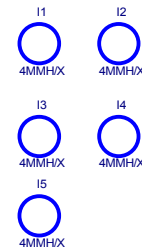
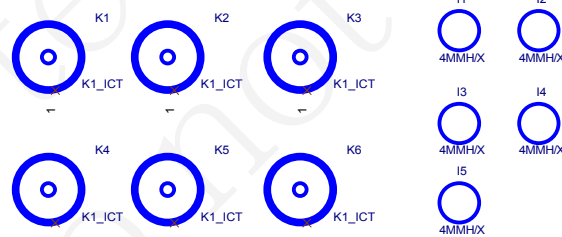
ATXPWR_24-2 ATX POWER CONNECTOR



HOLE_3-RH-2



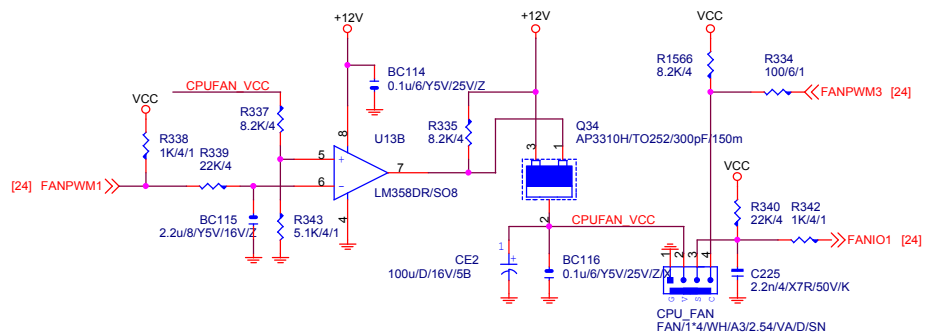
HOLE_3-RH-5MM



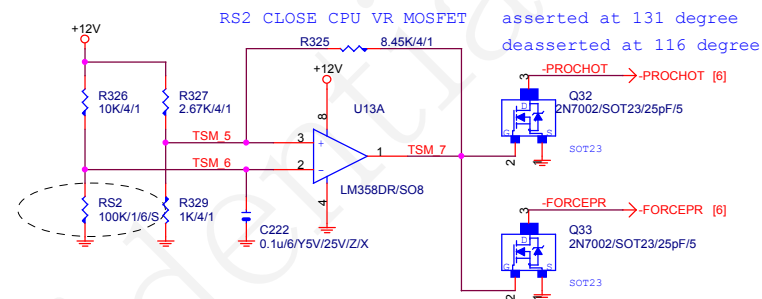
Gigabyte Technology

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ATX POWER CONNECTOR		
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CPU SMART FAN	SMART FAN
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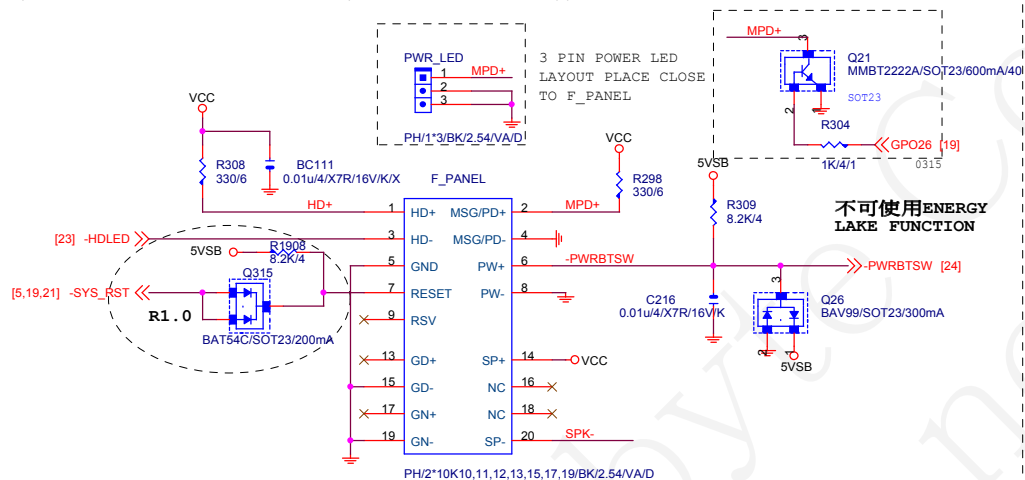


PROCESSOR HOT

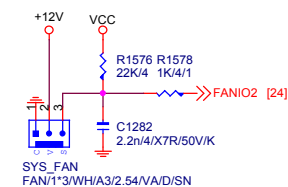


INTEL FRONT PANEL

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



SYS FAN



BUZZER

