

Model Name: GA-8I945EF-RH *Revision 1.0*

SHEET

TITLE

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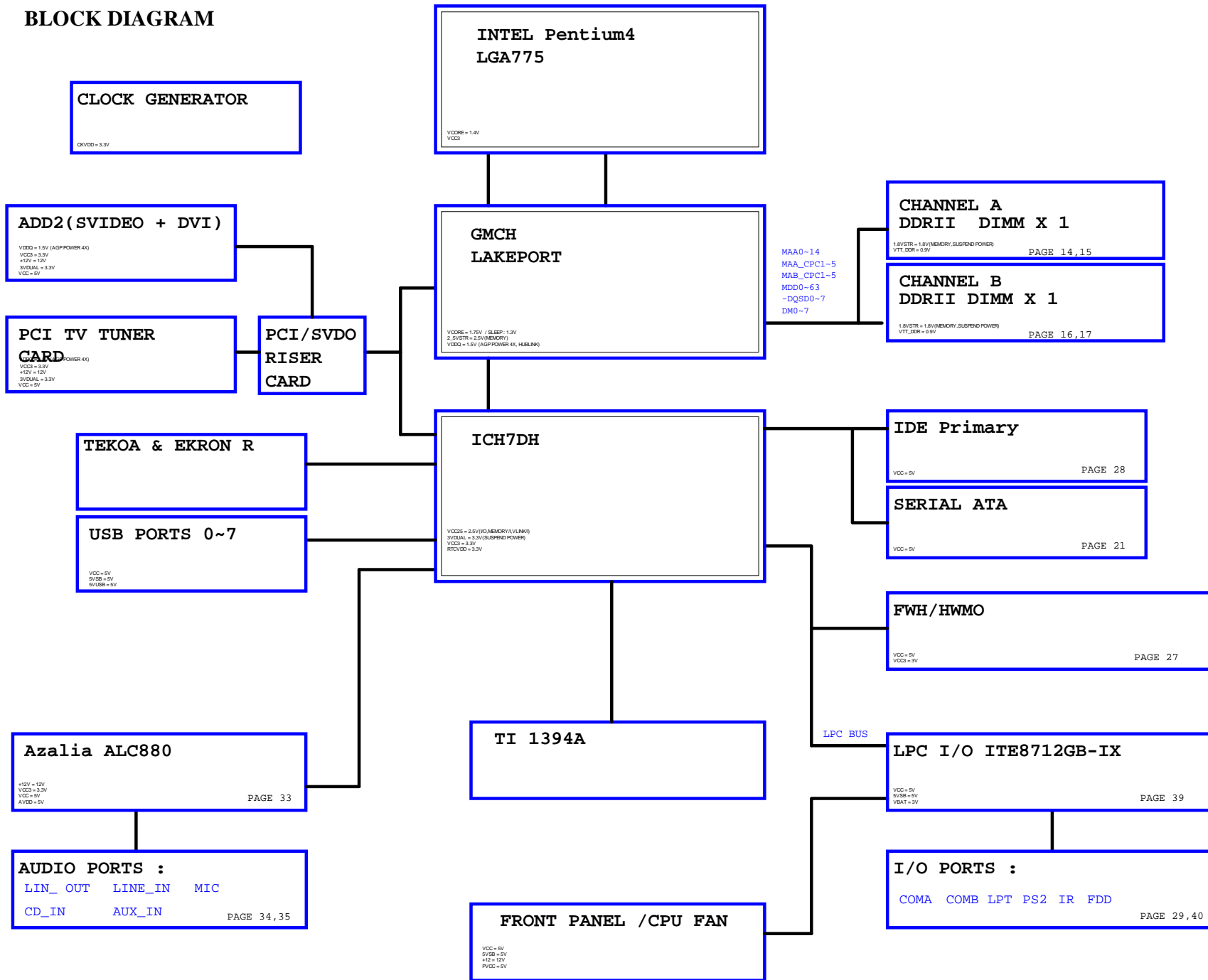
01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4_LGA775_A
05	P4_LGA775_B
06	P4_LGA775_C
07	P4_LGA775_D
08	GMCH-LAKEPORT_HOST
09	GMCH-LAKEPORT_DDRII
10	GMCH-LAKEPORT_PCI E, DMI
11	GMCH-LAKEPORT_INT VGA
12	GMCH-LAKEPORT_GND
13	GMCH-LAKEPORT_PWR
14	DDRII CHANNEL A 1,2
15	DDRII CHANNEL B 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	CY28411 CKG
22	ATX,ATX_12V CONNECT,FWH BIOS
23	PCI EXPRESS*1 SLOT
24	PCI SLOT 1,2
25	H/W MONITOR,FAN
26	IDE
27	KB_PS2

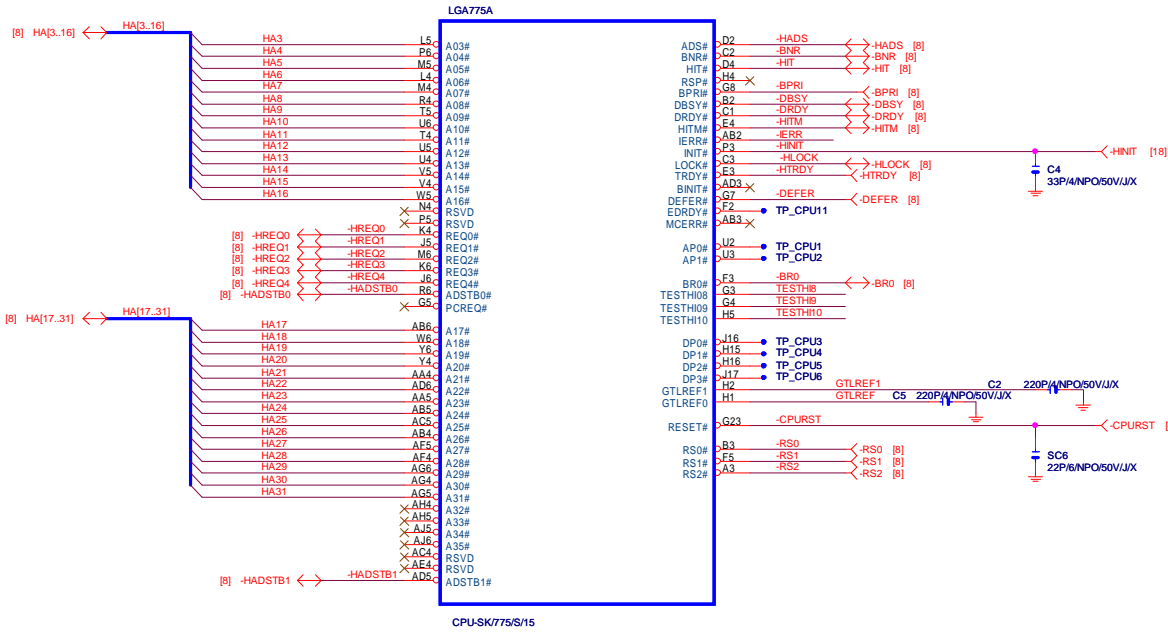
28	FRONT PANEL
29	FRONT USB,REAL USB CONNECT
30	PROCESSOR HOT
31	AZALIA CODEC ALC880
32	AUDIO JACK 1
33	AUDIO JACK 2
34	TI1394A
35	TEKOA & EKRON R
36	TEKOA & EKRON R
37	ITE 8712GB
38	COM_LPT
39	VCORE PWM
40	DISCRETE POWER
41	GPIO DEFINE
42	GPIO DEFINE

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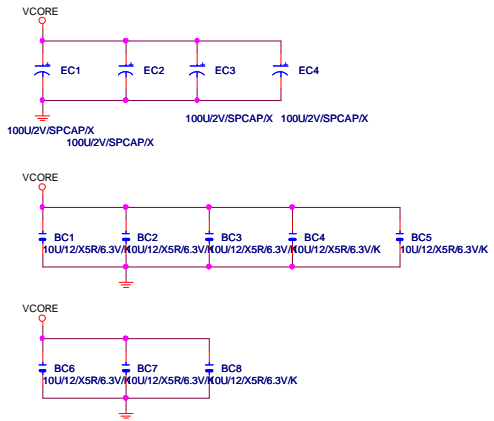
Cover Sheet			
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BLOCK DIAGRAM

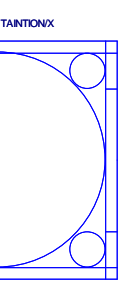
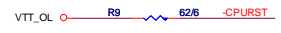
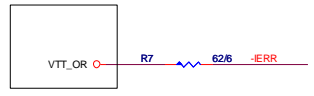
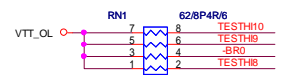
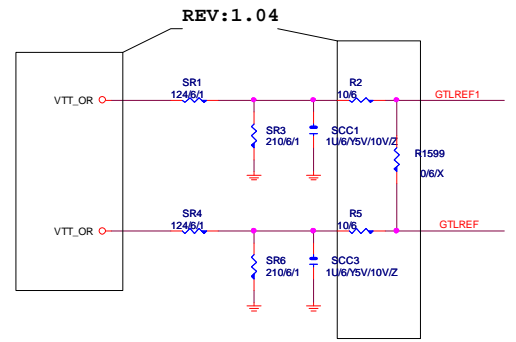
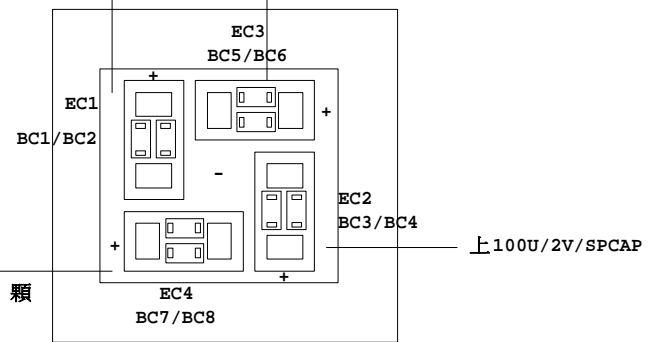




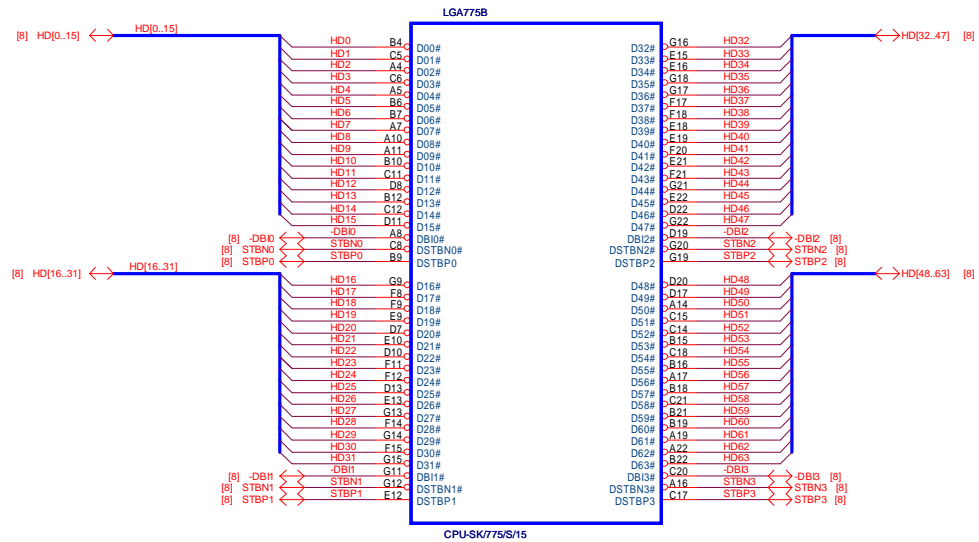
SP-CAP X 4PCS



上100U/2V/SPCAP 上10U/12/X/6.3V X2 顆



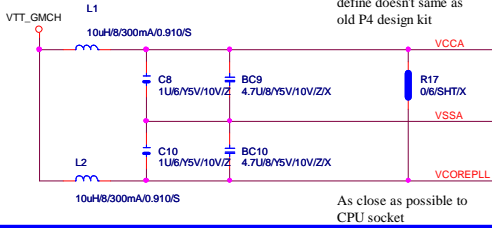
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P4_LGA775-A		
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Note:
VCCA & VCOREPLL
define doesn't same as
old P4 design kit



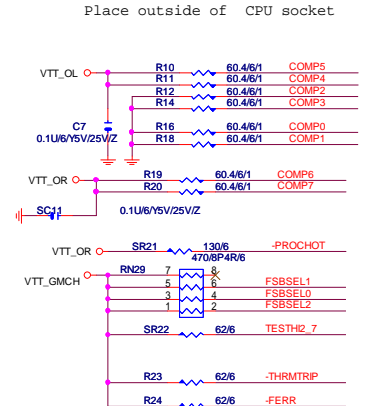
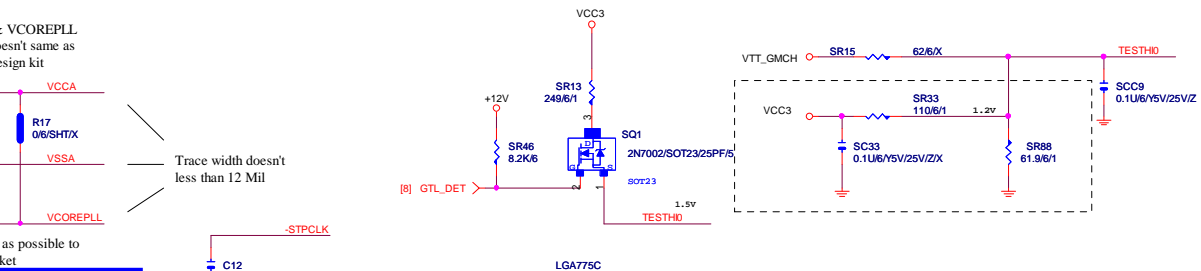
Trace width doesn't
less than 12 Mil

As close as possible to
CPU socket

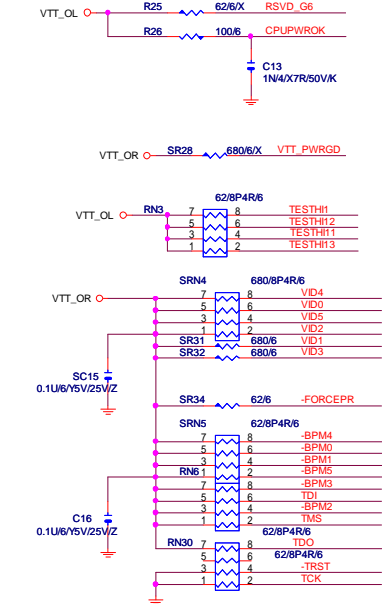
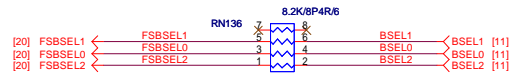
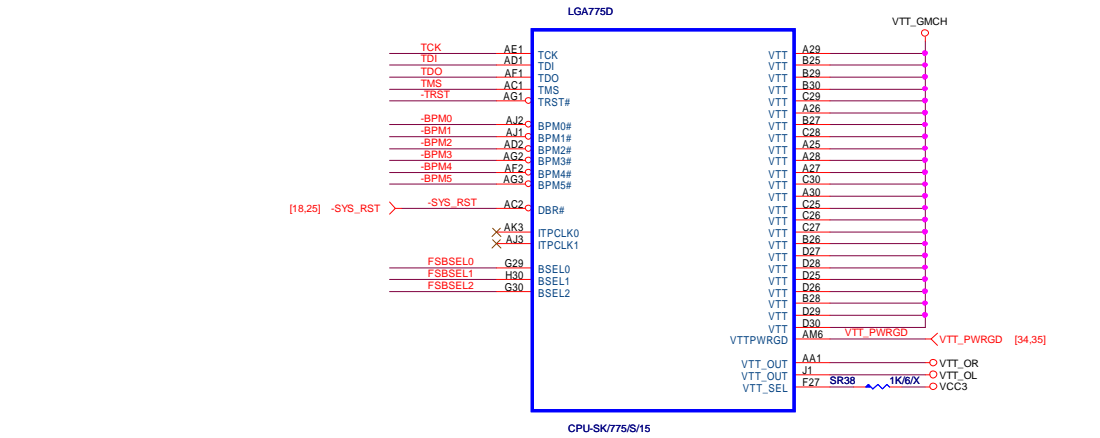
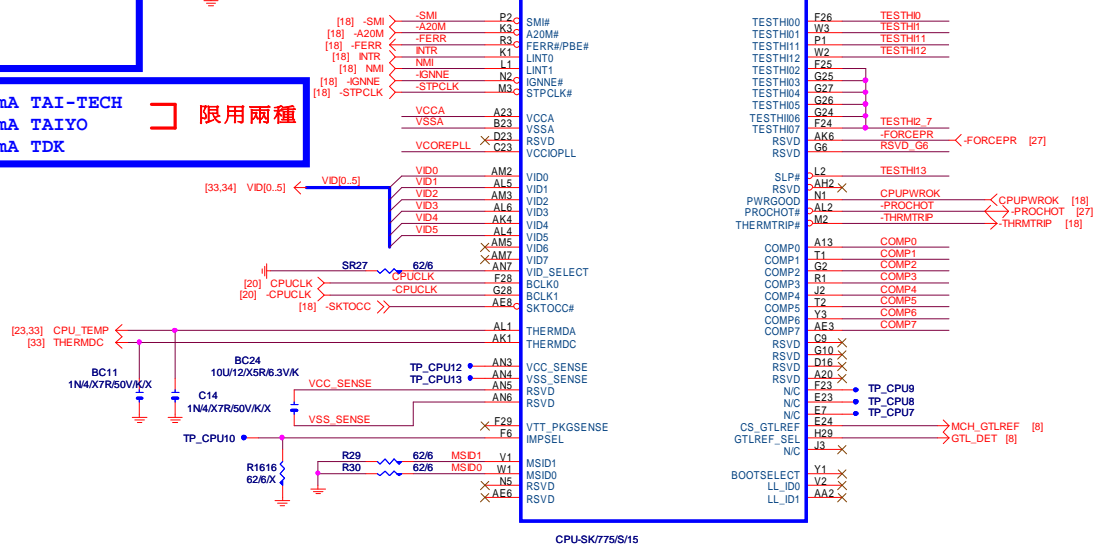
945 Design Guide rev1.5 spec.
VCCA=120~220mA
公板為125mA

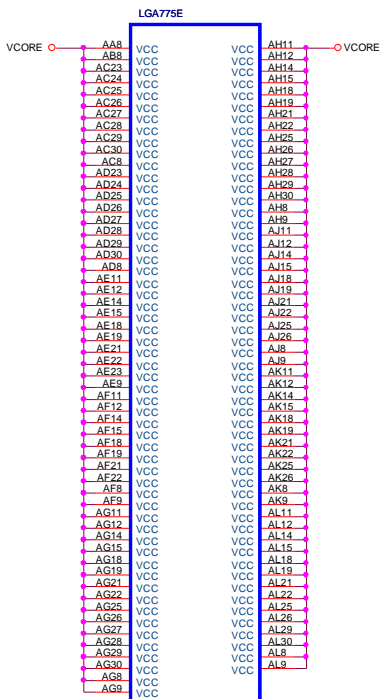
10LI2-12100A-03=INDUCTOR 10uH 300mA TAI-TECH
10LI2-12100A-02=INDUCTOR 10uH 155mA TAIYO
10LI2-12100A-01=INDUCTOR 10uH 120mA TDK

限用兩種

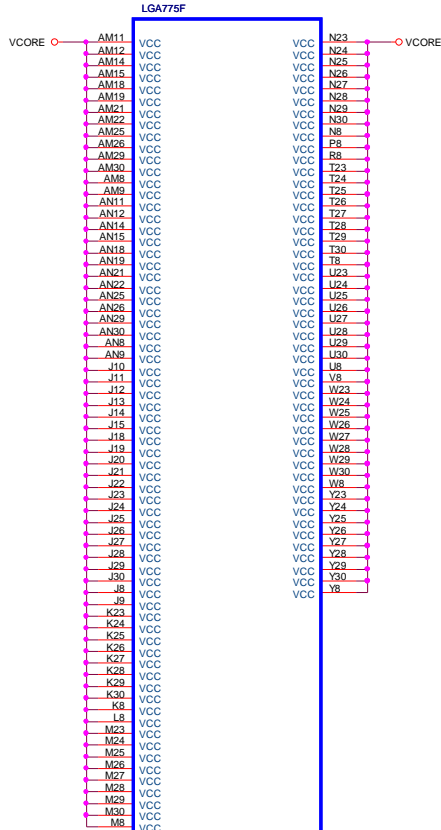


Locate at ICH7 Side

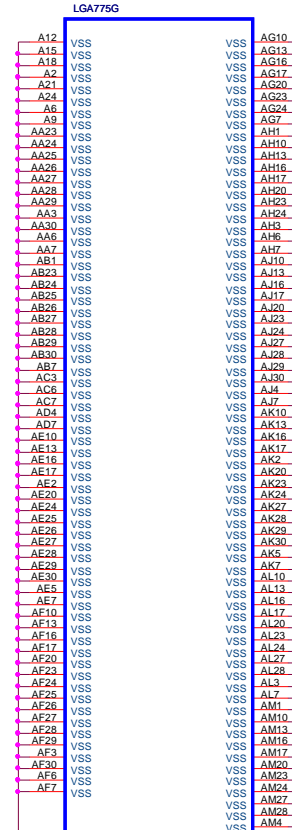




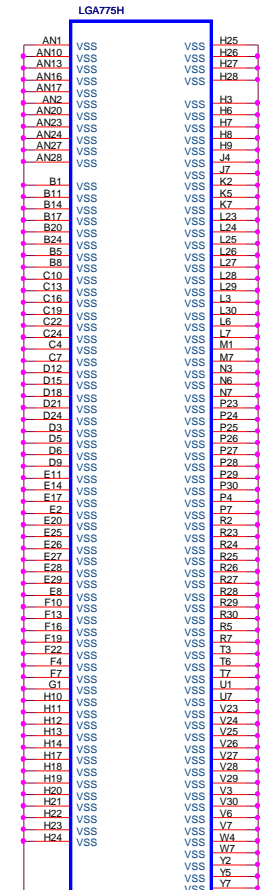
CPU-SK/775/S/15



CPU-SK/775/S/15



CPU-SK/775/S/15

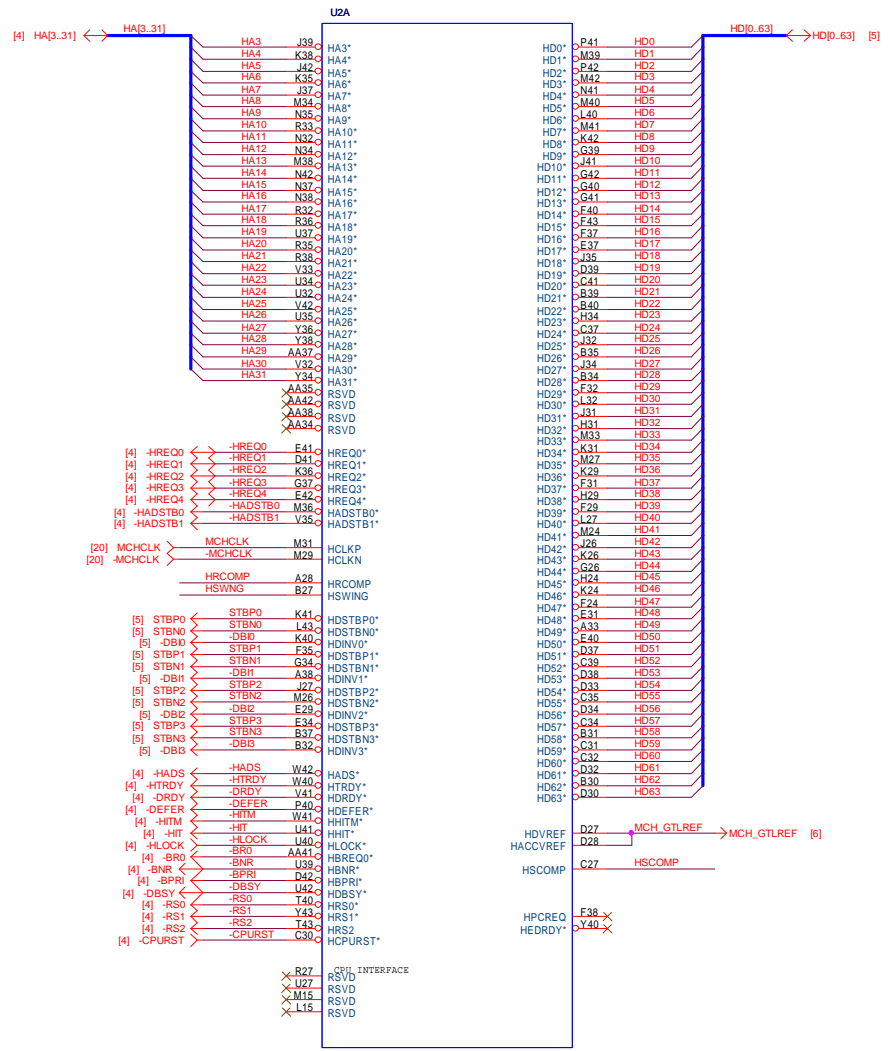


CPU-SK/775/S/15

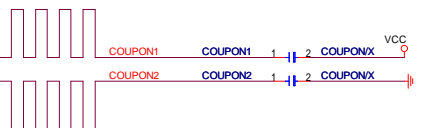
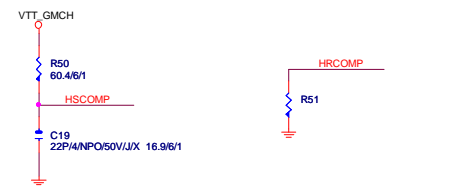
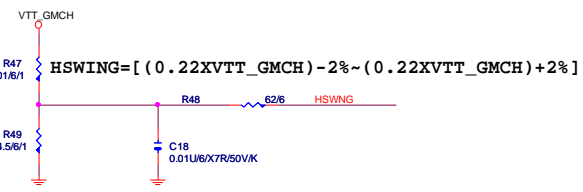
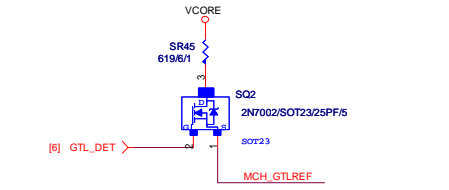
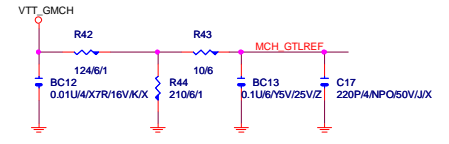
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P4_LGA775-D

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LAKEPORT 945G/A2(10HB1-033000-21) 10HB1-033000-11-REV:A.1
 10HB1-033000-21-REV:A.2 FOR ACER



MODT_A[0..1] ↔ MODT_A[0..1] [14,15]

MODT_B[0..1] ↔ MODT_B[0..1] [14,15]

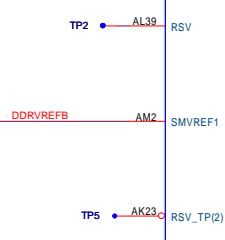
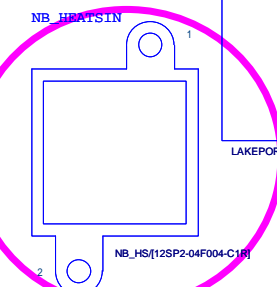
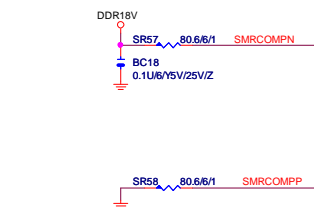
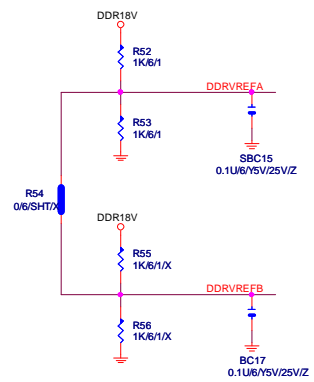
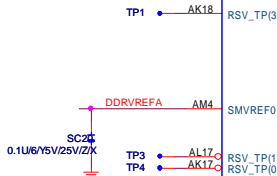
UZF

UZG

MAAA0	BA32	SAMA0	
MAAA1	AW32	SAMA1	
MAAA2	BB30	SAMA2	
MAAA3	BA30	SAMA3	
MAAA4	AY30	SAMA4	
MAAA5	BA27	SAMA5	
MAAA6	BC28	SAMA6	
MAAA7	AY27	SAMA7	
MAAA8	AY28	SAMA8	
MAAA9	BB27	SAMA9	
MAAA10	AY33	SAMA10	
MAAA11	AW27	SAMA11	
MAAA12	BB26	SAMA12	
MAAA13	BC38	SAMA13	
[14,15] -SWEA	-SCASA	BB35	SAWE*
[14,15] -SCASA	-SRASA	BA34	SACAS*
[14,15] -SRASA			SARAS*
[14,15] SBAA0	SBAA1	RC33	SABA_0
[14,15] SBAA1	SBAA2	AY34	SABA_1
[14,15] SBAA2	CSA0	BB37	SABA_2
[14,15] -CSA0	-CSA1	BA39	SACS_0*
[14,15] -CSA1			SACS_1*
			SACS_2*
			SACS_3*
[14,15] CKEA0	CKEA1	BB25	SACKE0
[14,15] CKEA1			SACKE1
			SACKE2
			SACKE3
MODT_A0	AW37	SAODT0	
MODT_A1	AY39	SAODT1	
	AY37	SAODT2	
	BB40	SAODT3	
[14] DCLKA0	DCLKA0	BB32	SACK0
[14] -DCLKA0	-DCLKA0	AY32	SACK0*
[14] DCLKA1	DCLKA1	AY35	SACK1
[14] -DCLKA1	-DCLKA1	BB35	SACK1*
[14] DCLKA2	DCLKA2	AK42	SACK2
[14] -DCLKA2	-DCLKA2	AK41	SACK2*
			SACK3
			SACK3*
			SACK4
			SACK4*
			SACK5
			SACK5*

AAU4	DQSA0	SADQ50
AAAR2	-DQSA0	SADQ50*
AAAP3	DMA0	SADQ51
AAAP2	MDA0	SADQ52
AAAL3	MDA2	SADQ53
AAAL4	MDA3	SADQ54
AAAL5	MDA4	SADQ55
AAAL6	MDA5	SADQ56
AAAL7	MDA6	SADQ57
AAAL8	MDA7	SADQ58
AAAL9	MDA8	SADQ59
AAAL10	MDA9	SADQ60
AAAL11	MDA10	SADQ61
AAAL12	MDA11	SADQ62
AAAL13	MDA12	SADQ63
AAAL14	MDA13	SADQ64
AAAL15	MDA14	SADQ65
AAAL16	MDA15	SADQ66
AAAL17	MDA16	SADQ67
AAAL18	MDA17	SADQ68
AAAL19	MDA18	SADQ69
AAAL20	MDA19	SADQ70
AAAL21	MDA20	SADQ71
AAAL22	MDA21	SADQ72
AAAL23	MDA22	SADQ73
AAAL24	MDA23	SADQ74
AAAL25	MDA24	SADQ75
AAAL26	MDA25	SADQ76
AAAL27	MDA26	SADQ77
AAAL28	MDA27	SADQ78
AAAL29	MDA28	SADQ79
AAAL30	MDA29	SADQ80
AAAL31	MDA30	SADQ81
AAAL32	MDA31	SADQ82
AAAL33	MDA32	SADQ83
AAAL34	MDA33	SADQ84
AAAL35	MDA34	SADQ85
AAAL36	MDA35	SADQ86
AAAL37	MDA36	SADQ87
AAAL38	MDA37	SADQ88
AAAL39	MDA38	SADQ89
AAAL40	MDA39	SADQ90
AAAL41	MDA40	SADQ91
AAAL42	MDA41	SADQ92
AAAL43	MDA42	SADQ93
AAAL44	MDA43	SADQ94
AAAL45	MDA44	SADQ95
AAAL46	MDA45	SADQ96
AAAL47	MDA46	SADQ97
AAAL48	MDA47	SADQ98
AAAL49	MDA48	SADQ99
AAAL50	MDA49	SADQ100
AAAL51	MDA50	SADQ101
AAAL52	MDA51	SADQ102
AAAL53	MDA52	SADQ103
AAAL54	MDA53	SADQ104
AAAL55	MDA54	SADQ105
AAAL56	MDA55	SADQ106
AAAL57	MDA56	SADQ107
AAAL58	MDA57	SADQ108
AAAL59	MDA58	SADQ109
AAAL60	MDA59	SADQ110
AAAL61	MDA60	SADQ111
AAAL62	MDA61	SADQ112
AAAL63	MDA62	SADQ113
AAAL64	MDA63	SADQ114

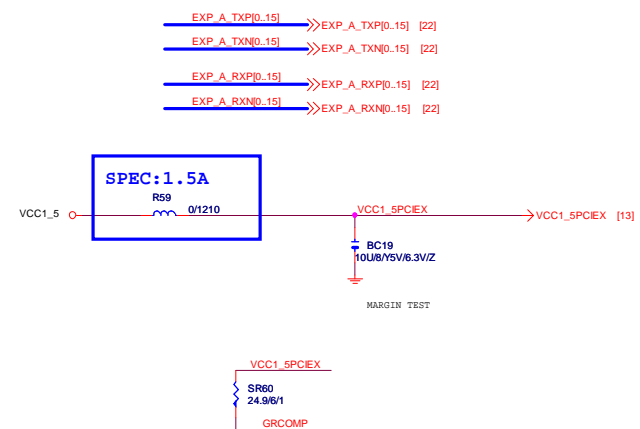
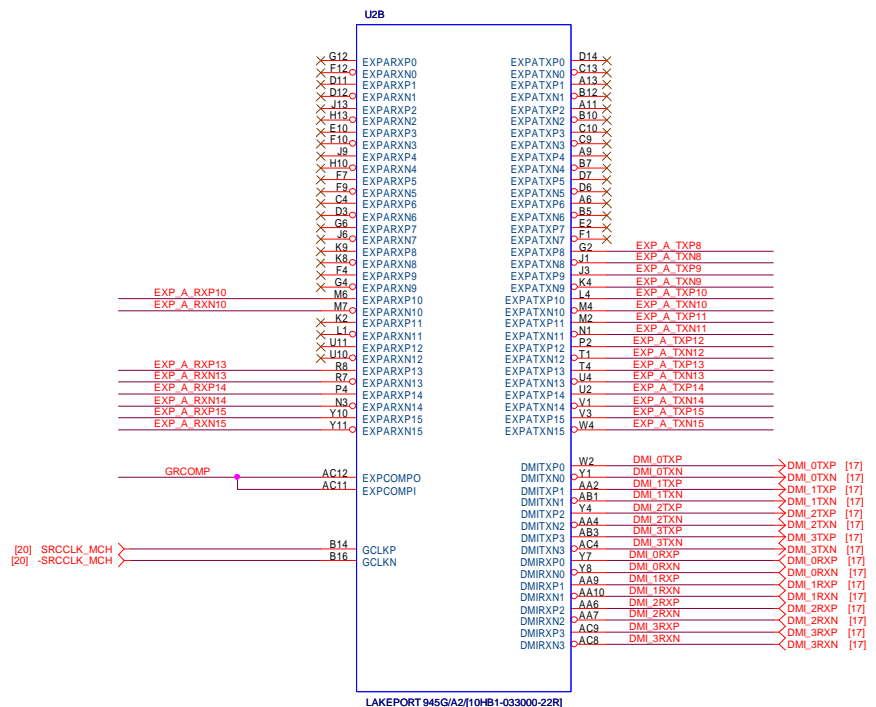
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MAAB1	BB21	SBMA1	
MAAB2	BA21	SBMA2	
MAAB3	AY21	SBMA3	
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MAAB5	AY19	SBMA5	
MAAB6	AY20	SBMA6	
MAAB7	BA18	SBMA7	
MAAB8	BA19	SBMA8	
MAAB9	BB18	SBMA9	
MAAB10	BA22	SBMA10	
MAAB11	BB17	SBMA11	
MAAB12	BA17	SBMA12	
MAAB13	AW42	SBMA13	
[14,15] -SWEB	-SWEB	BB23	SBWE*
[14,15] -SCASB	-SCASB	AY24	SBSCA*
[14,15] -SRASB	-SRASB	BA23	SBRAS*
[14,15] SBAB0	SBAB0	AW23	SBBA0
[14,15] SBAB1	SBAB1	AY23	SBBA1
[14,15] SBAB2	-CSB0	BA40	SBBA2
[14,15] -CSB0	-CSB1	AW41	SBSC0*
[14,15] -CSB1			SBSC2*
			SBSC3*
[14,15] CKEB0	CKEB0	BA14	SBCKE0
[14,15] CKEB1	CKEB1	AY18	SBCKE1
			SBCKE2
			SBCKE3
MODT_B0	AY42	SBODT0	
MODT_B1	AY40	SBODT1	
		SBODT2	
		SBODT3	
[14] DCLKB0	DCLKB0	AM29	SBCK0
[14] -DCLKB0	-DCLKB0	AM27	SBCK0*
[14] DCLKB1	DCLKB1	AY9	SBCK1*
[14] -DCLKB1	-DCLKB1	AW9	SBCK2*
[14] DCLKB2	DCLKB2	AL38	SBCK3*
[14] -DCLKB2	-DCLKB2	AL36	SBCK4*
			SBCK5*
			SBCK5*

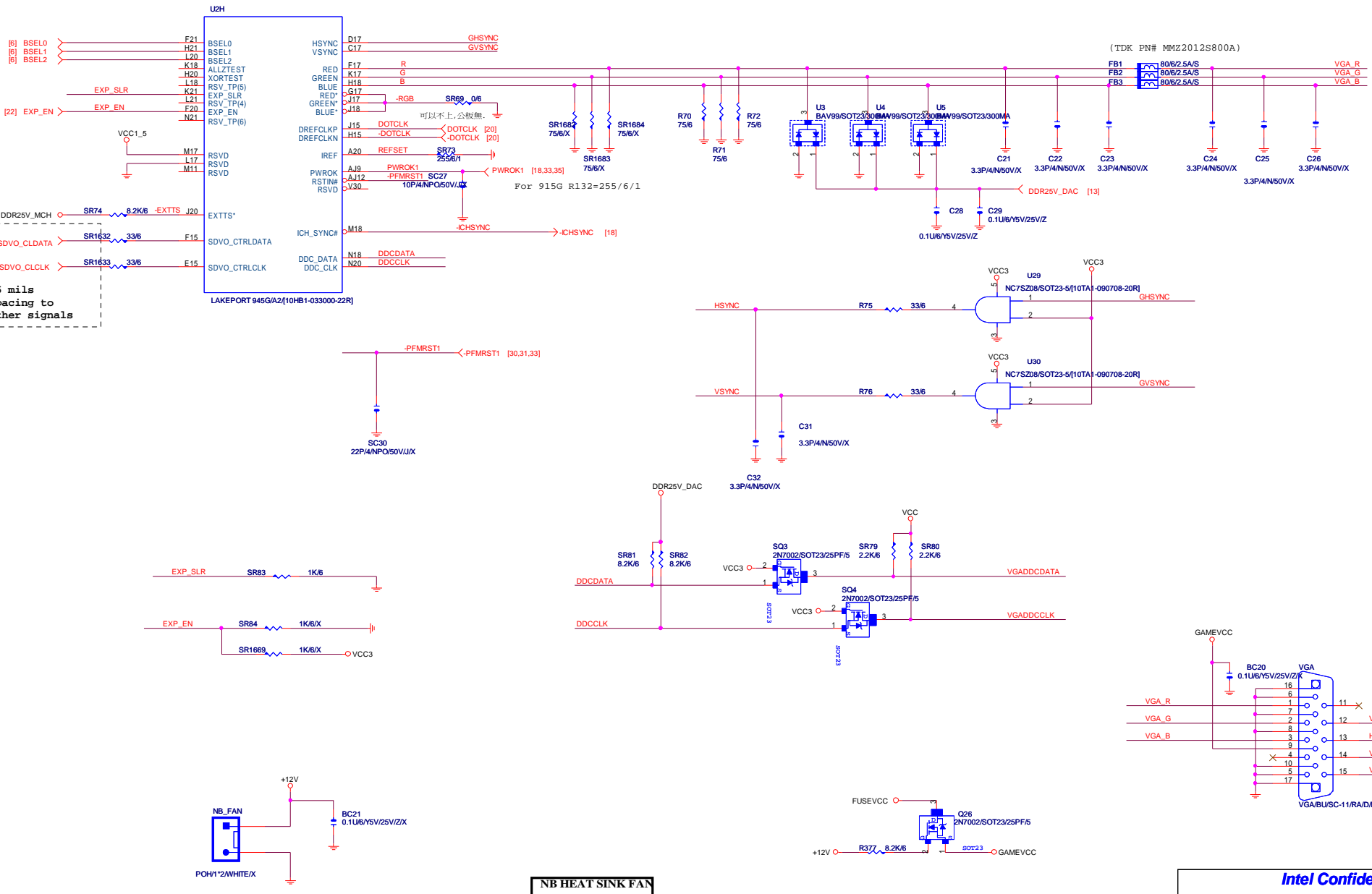


LAKPORT 945G/A2[10HB1-033000-22R]

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NB HEAT SINK FAN

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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	N4
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	R7
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
E12	VSS	U3
E13	VSS	U6
E17	VSS	U9
E18	VSS	U12
E20	VSS	U14
E21	VSS	U31
E32	VSS	U36
F2	VSS	U38
F6	VSS	V2
F13	VSS	V8
F18	VSS	V11
F26	VSS	V12
F42	VSS	V14
G3	VSS	V34
G5	VSS	V36
G7	VSS	V37
G9	VSS	V38
G10	VSS	V39
G13	VSS	V43
G15	VSS	V4
G18	VSS	V2
G20	VSS	AM9
G21	VSS	AM33
G24	VSS	AM36
G27	VSS	AM37
G29	VSS	AM39
G31	VSS	Y12
G32	VSS	Y14
G35	VSS	Y31
G38	VSS	Y35
H12	VSS	Y37
H17	VSS	Y39
H26	VSS	Y42
H27	VSS	AA3
H32	VSS	AA8
J2	VSS	AA11
J6	VSS	AA12
J7	VSS	AA14
J10	VSS	AA21
J12	VSS	AA23
J21	VSS	AA31
J24	VSS	AA33
J29	VSS	AA36
J38	VSS	AB2
J43	VSS	AB43
K3	VSS	AC2
K5	VSS	AC3
K6	VSS	AC7
K7	VSS	AC10
K10	VSS	AC14
K12	VSS	AC21
K13	VSS	AC23
K15	VSS	AC31
K20	VSS	AC36
K27	VSS	AC37
K32	VSS	AC38
K34	VSS	AC39
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	

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

U2E

AD7	VSS	AU21
AD9	VSS	AU24
AD11	VSS	AU26
AD13	VSS	AU29
AD33	VSS	AU32
AD35	VSS	AU34
AD37	VSS	AV7
AD42	VSS	AV10
AF1	VSS	AV17
AF2	VSS	AV37
AF3	VSS	AV10
AF5	VSS	BA4
AF33	VSS	BA42
AF36	VSS	BB3
AF38	VSS	BB6
AF43	VSS	BB11
AG30	VSS	BB14
AG31	VSS	BB19
AG33	VSS	BB34
AG36	VSS	BB39
AG37	VSS	BB41
AG38	VSS	BC9
AG39	VSS	A40
AH42	VSS	D1
AJ7	VSS	D43
AJ10	VSS	R26
AJ30	VSS	R29
AJ31	VSS	U29
AJ33	VSS	V24
AJ35	VSS	V26
AJ37	VSS	V29
AK24	VSS	W21
AK26	VSS	W23
AK29	VSS	W25
AK30	VSS	Y20
AL1	VSS	Y22
AL2	VSS	Y24
AL3	VSS	Y26
AL7	VSS	Y29
AL10	VSS	AA25
AL12	VSS	AA27
AL13	VSS	AA29
AL15	VSS	AC19
AL18	VSS	AC25
AL21	VSS	AC29
AL23	VSS	
AL24	VSS	
AL27	VSS	
AL32	VSS	
AL33	VSS	
AL37	VSS	
AL43	VSS	
AM5	VSS	
AM7	VSS	
AM9	VSS	
AM33	VSS	
AM36	VSS	
AM37	VSS	
AM39	VSS	
AN2	VSS	
AN4	VSS	
AN13	VSS	
AN15	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	
ARE	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	
AD24	VSS	
AD27	VSS	
AD29	VSS	
AD29	VSS	
AE19	VSS	
AE21	VSS	
AE23	VSS	
AE25	VSS	
AF18	VSS	
AF20	VSS	
AF22	VSS	
AF24	VSS	
AT1	VSS	
BC4	VSS	

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

VSS	AU21
VSS	AU24
VSS	AU26
VSS	AU29
VSS	AU32
VSS	AU34
VSS	AV7
VSS	AV10
VSS	AV17
VSS	AV37
VSS	AV10
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	A42
NC	B2
NC	B3
NC	B41
NC	B42
NC	B43
NC	C2
NC	C42
NC	E35
NC	AV26
NC	AV27
NC	AV2
NC	AV25
NC	AV29
NC	B47
NC	BB1
NC	BB2
NC	BB43
NC	BC1
NC	BC2
NC	BC42
NC	BC43

RSVD	AK21
RSVD	AJ23
RSVD	AJ26
RSVD	AL29
RSVD	AL20
RSVD	AJ21
RSVD	AL26
RSVD	AK27
RSVD	AD30
RSVD	AC34
RSVD	Y30
RSVD	Y33
RSVD	AF31
RSVD	AD31
RSVD	U30
RSVD	V31
RSVD	AA30
RSVD	AC30
RSVD	A43
RSVD	AG25
RSVD	AG26
RSVD	AG27
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RSVD	AJ29
RSVD	AG29

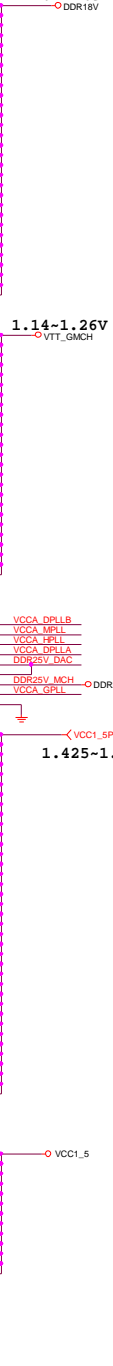
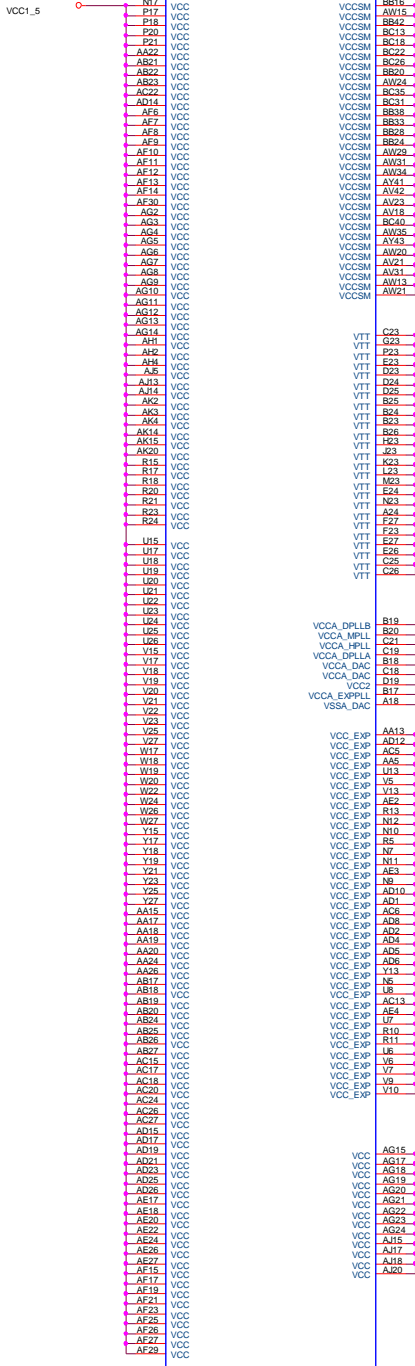
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1.425-1.575V

U2B

1.7-1.9V



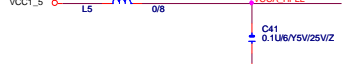
1.14-1.26V

VTT_GMCH

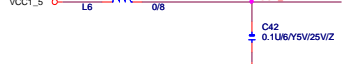
VCCA_EXPPLL=VCCA_GPLL=45mA(1.425V-1.575V)



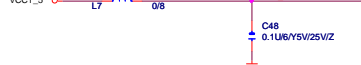
VCCA_HPLL>50mA 公板為200mA(1.425V-1.575V)



VCCA_DPLLA=65mA(1.425V-1.575V)



VCCA_DPLLB=65mA(1.425V-1.575V)



VCCA_MPLL>50mA(1.425V-1.575V)

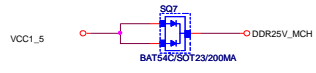
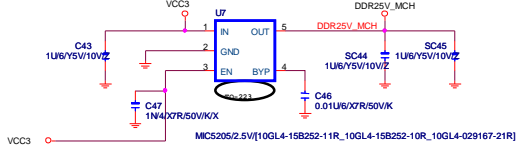
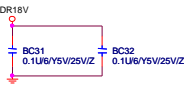
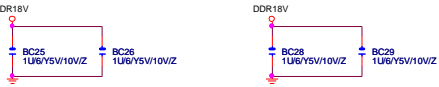
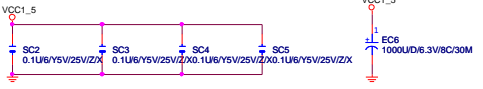
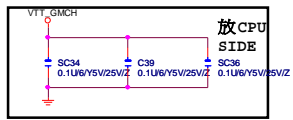
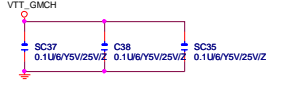


VCC1_5

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



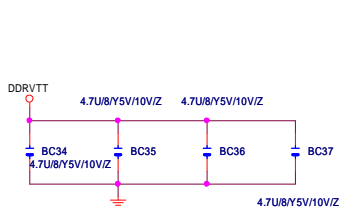
945 Design Guide rev1.5 spec.
 VCCA_EXPPLL=VCCA_GPLL=45mA(1.425V-1.575V)
 VCCA_HPLL>50mA 公板為200mA(1.425V-1.575V)
 VCCA_DPLLA=65mA(1.425V-1.575V)
 VCCA_DPLLB=65mA(1.425V-1.575V)
 VCCA_MPLL>50mA(1.425V-1.575V)
 VCCA_DAC=DDR25V_DAC=70mA(2.375-2.625V)



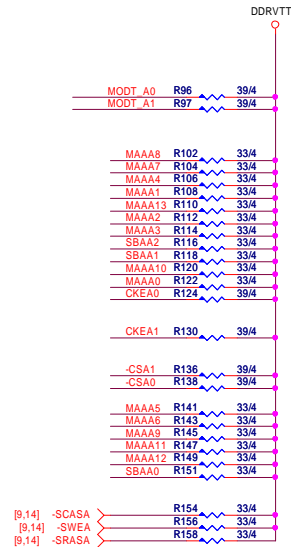
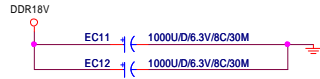
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GMCH-PWR		
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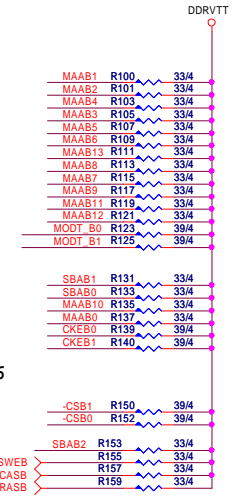
DDRVTT Decouple



DDR TERMINATION CHANNEL A

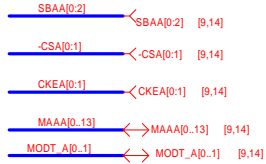
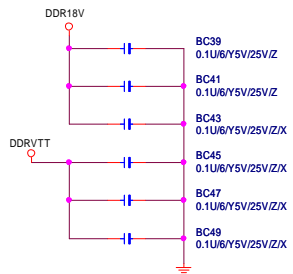


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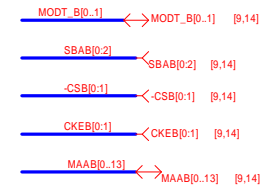
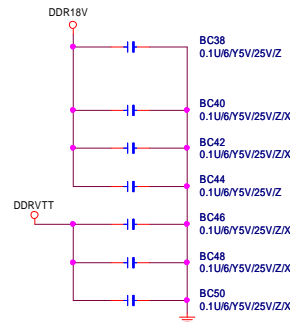


全部改成 33/6

DDR18V Decouple

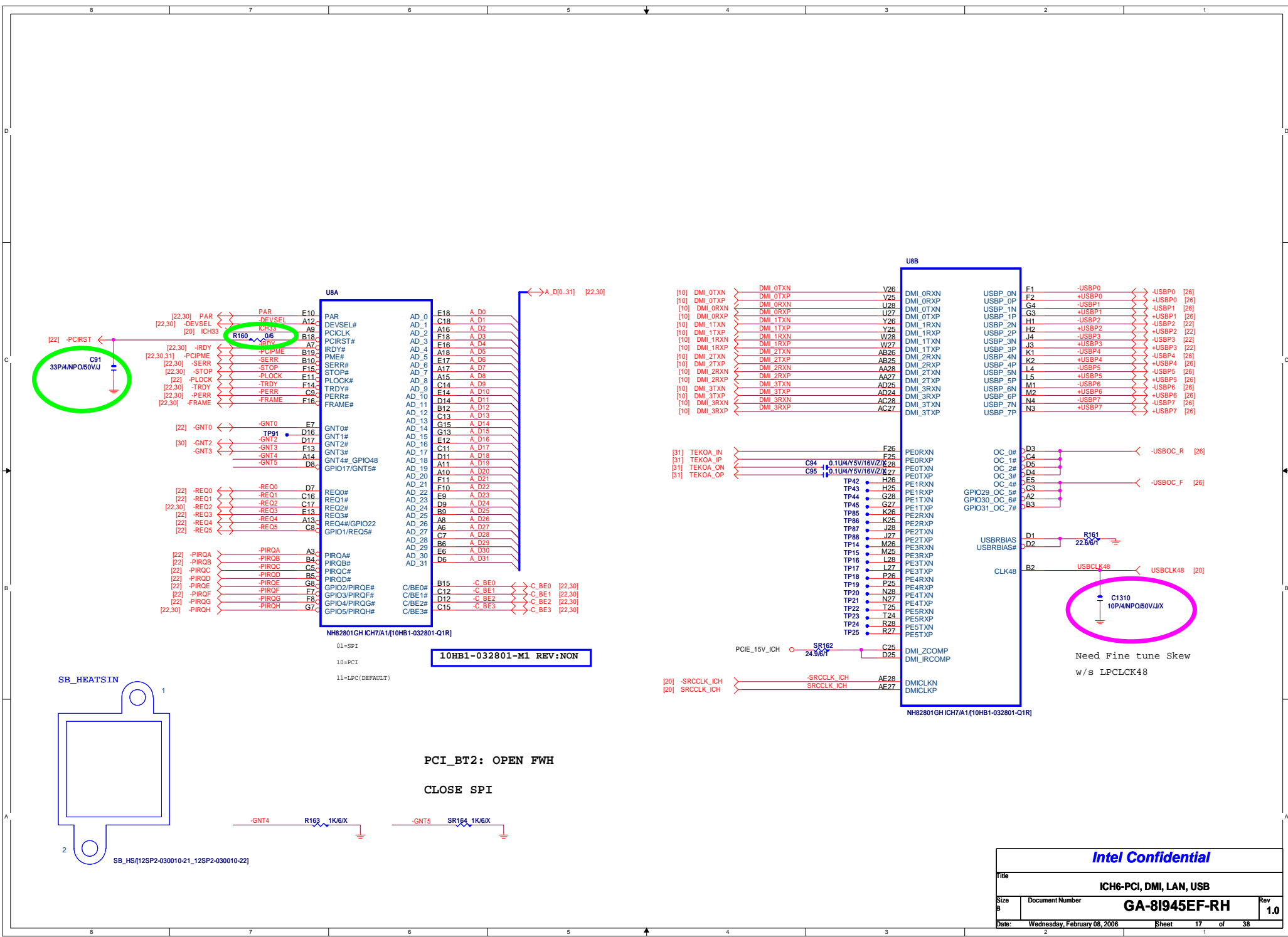


DDR18V Decouple



	8	7	6	5	4	3	2	1
D								
C								
B								
A								
	8	7	6	5	4	3	2	1

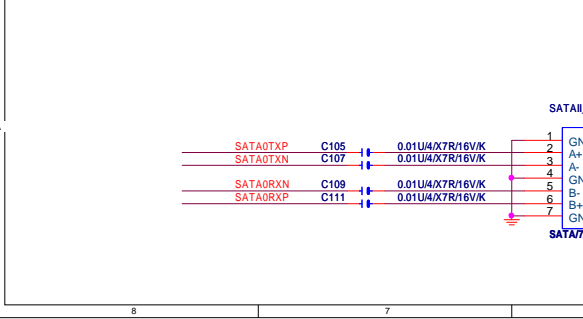
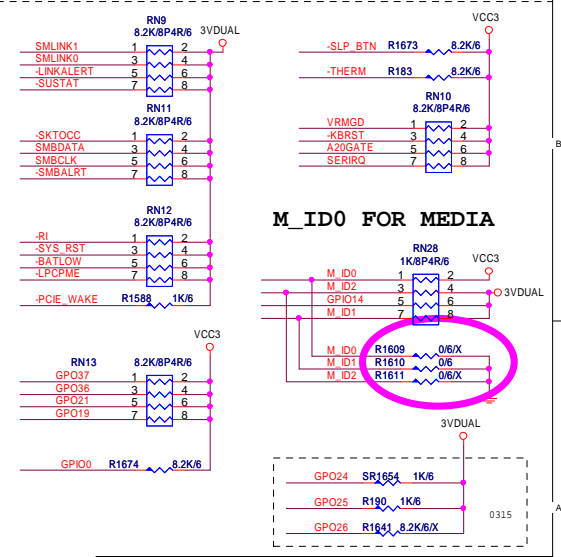
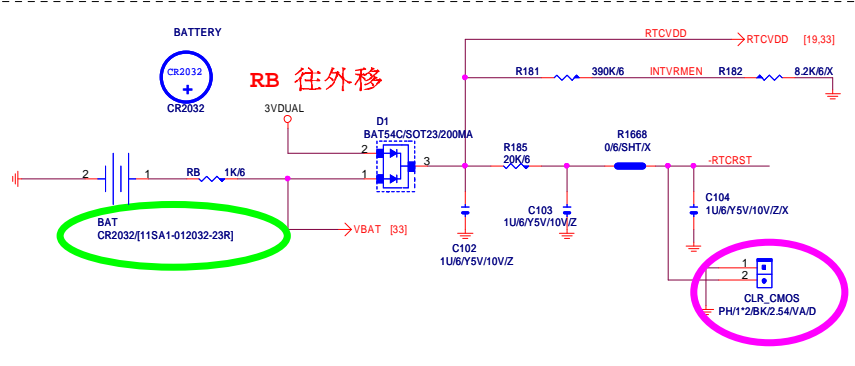
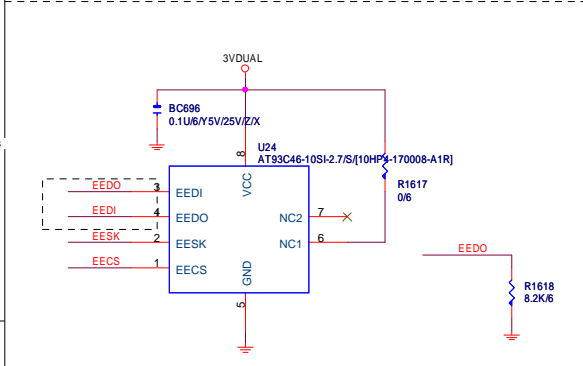
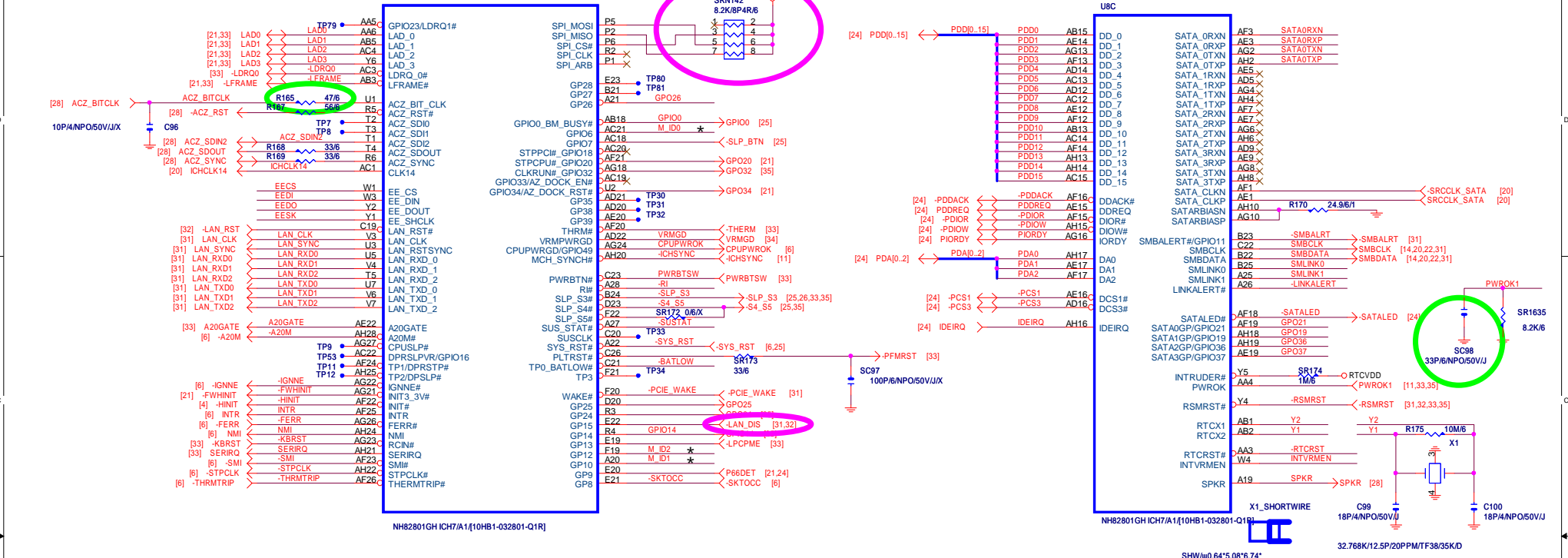
Intel Confidential		
Title PCI EXPRESS * 16		
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PCI_BT2: OPEN FW

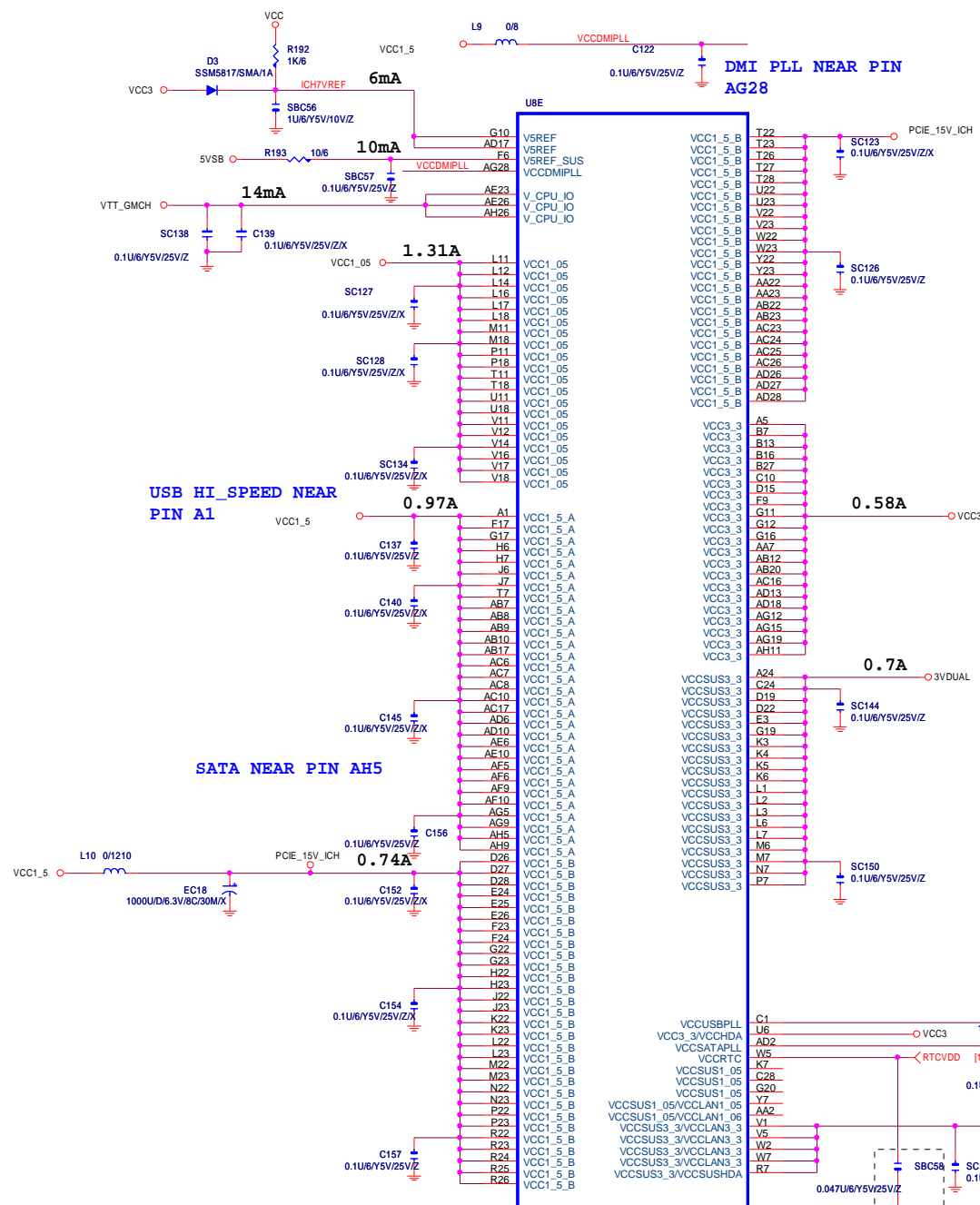
CLOSE SPI

SATAIIO, SATAIII 文字面各別分開

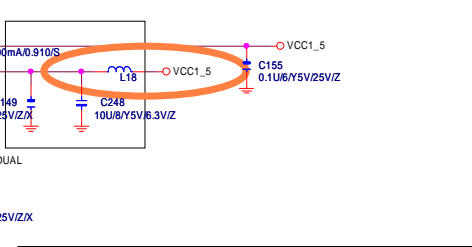
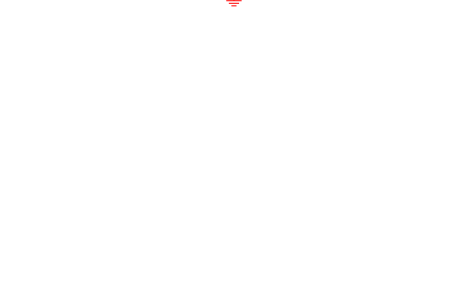
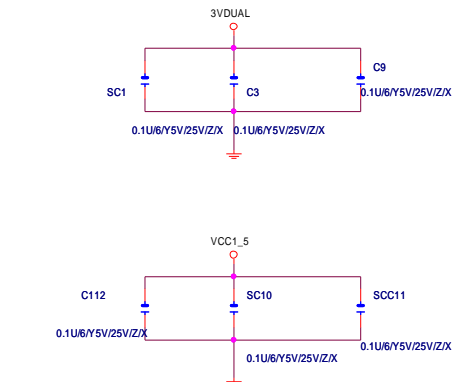


UBF		
A4	VSS1	R14
A23	VSS2	R15
B1	VSS3	R16
B8	VSS4	R17
B11	VSS5	R18
B14	VSS6	T1
B17	VSS7	T2
B20	VSS8	T3
B22	VSS9	T4
C2	VSS10	T5
C6	VSS11	T6
D10	VSS12	T7
D18	VSS13	T8
D21	VSS14	T9
D24	VSS15	T10
E1	VSS16	T11
E2	VSS17	T12
E8	VSS18	T13
E15	VSS19	T14
F3	VSS20	T15
F4	VSS21	T16
F5	VSS22	T17
F12	VSS23	T18
F27	VSS24	T19
F28	VSS25	T20
G1	VSS26	T21
G5	VSS27	T22
G6	VSS28	T23
G9	VSS29	T24
G14	VSS30	T25
G18	VSS31	T26
G21	VSS32	T27
G24	VSS33	T28
G25	VSS34	T29
G26	VSS35	T30
H3	VSS36	Y1
H4	VSS37	Y2
H5	VSS38	Y3
H24	VSS39	Y4
H27	VSS40	Y5
H28	VSS41	Y6
J1	VSS42	Y7
J2	VSS43	Y8
J5	VSS44	Y9
J25	VSS45	Y10
J26	VSS46	Y11
K24	VSS47	Y12
K27	VSS48	Y13
K28	VSS49	Y14
L13	VSS50	Y15
L15	VSS51	Y16
L24	VSS52	Y17
L25	VSS53	Y18
L26	VSS54	Y19
M3	VSS55	Y20
M4	VSS56	Y21
M5	VSS57	Y22
M12	VSS58	Y23
M13	VSS59	Y24
M14	VSS60	Y25
M15	VSS61	Y26
M16	VSS62	Y27
M17	VSS63	Y28
M24	VSS64	Y29
M27	VSS65	Y30
M28	VSS66	Y31
N1	VSS67	Y32
N2	VSS68	Y33
N5	VSS69	Y34
N6	VSS70	Y35
N11	VSS71	Y36
N12	VSS72	Y37
N13	VSS73	Y38
N14	VSS74	Y39
N15	VSS75	Y40
N16	VSS76	Y41
N17	VSS77	Y42
N18	VSS78	Y43
N24	VSS79	Y44
N25	VSS80	Y45
N26	VSS81	Y46
P3	VSS82	Y47
P4	VSS83	Y48
P12	VSS84	Y49
P13	VSS85	Y50
P14	VSS86	Y51
P15	VSS87	Y52
P16	VSS88	Y53
P17	VSS89	Y54
P27	VSS90	Y55
P28	VSS91	Y56
R1	VSS92	Y57
R11	VSS93	Y58
R12	VSS94	Y59
R13	VSS95	Y60

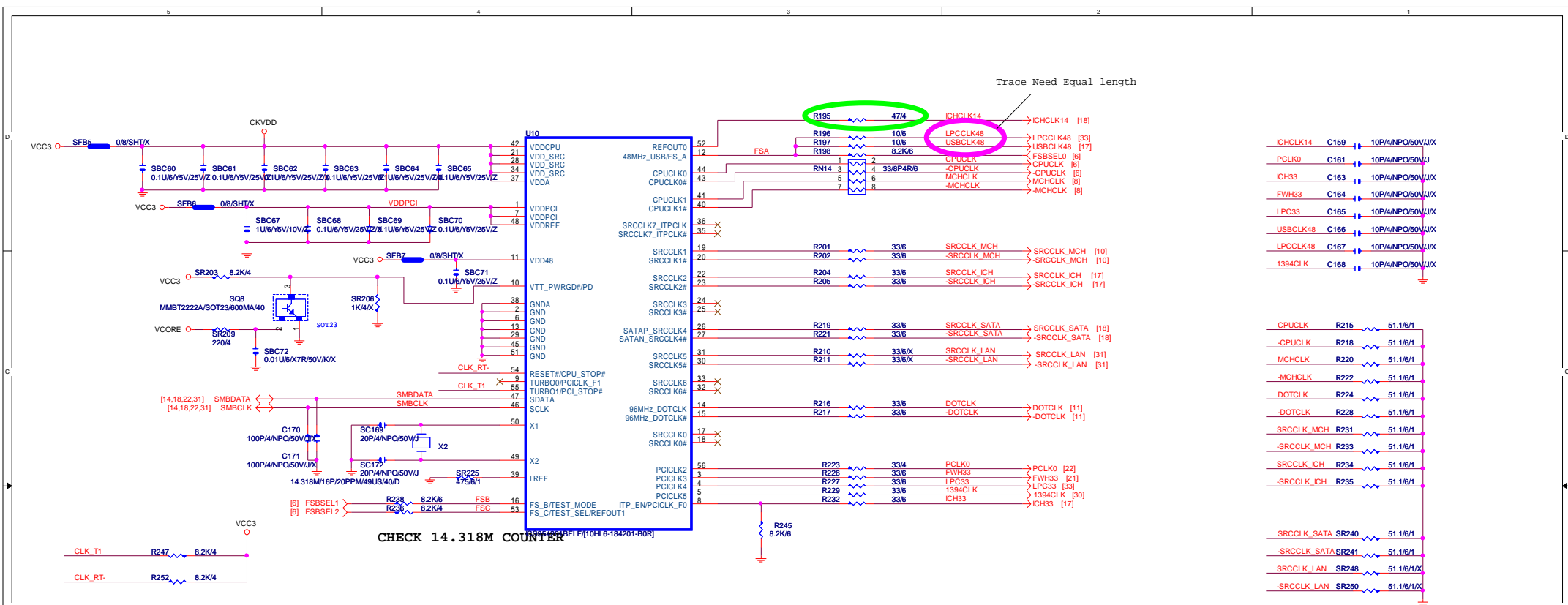
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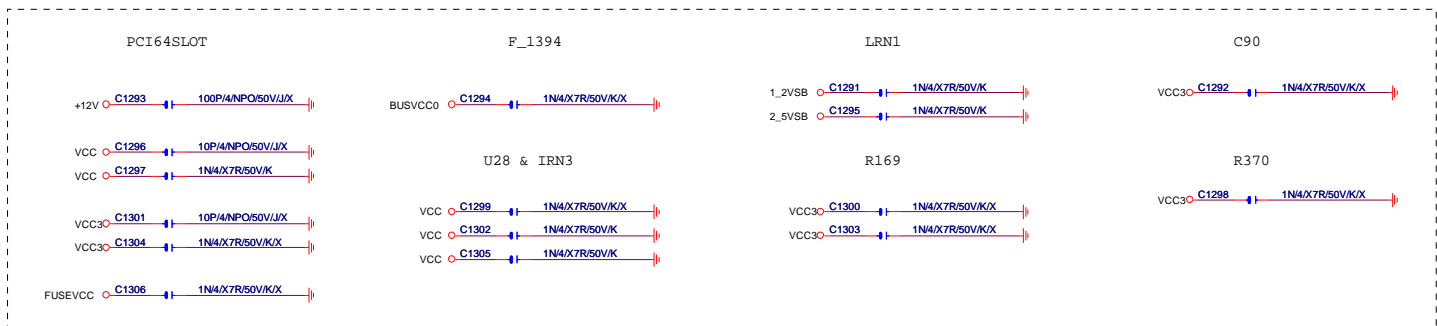
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Title		
ICH6-PWR & GND		
Size	Document Number	Rev
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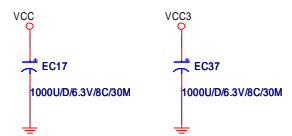
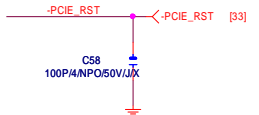


ICHCLK14	C159	10P4/NPO50V/JIX
PCLK0	C161	10P4/NPO50V/JIX
ICH33	C163	10P4/NPO50V/JIX
FWH33	C164	10P4/NPO50V/JIX
LPC33	C165	10P4/NPO50V/JIX
USBCLK48	C166	10P4/NPO50V/JIX
LPCCCLK48	C167	10P4/NPO50V/JIX
1394CLK	C168	10P4/NPO50V/JIX
CPUCLK	R215	51.1/6/1
CPUCLK	R218	51.1/6/1
MCHCLK	R220	51.1/6/1
MCHCLK	R222	51.1/6/1
DOTCLK	R224	51.1/6/1
DOTCLK	R228	51.1/6/1
SRCCCLK_MCH	R231	51.1/6/1
SRCCCLK_MCH	R233	51.1/6/1
SRCCCLK_ICH	R234	51.1/6/1
SRCCCLK_ICH	R235	51.1/6/1
SRCCCLK_SATA	SR240	51.1/6/1
SRCCCLK_SATA	SR241	51.1/6/1
SRCCCLK_LAN	SR248	51.1/6/1/X
SRCCCLK_LAN	SR250	51.1/6/1/X



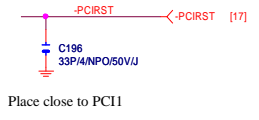
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File ICS954148AF			
Site Custom	Document Number	GA-8I945EF-RH	
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IDSEL --> AD20
IRQ --> A/B/C/D
REQ/GBR --> 0

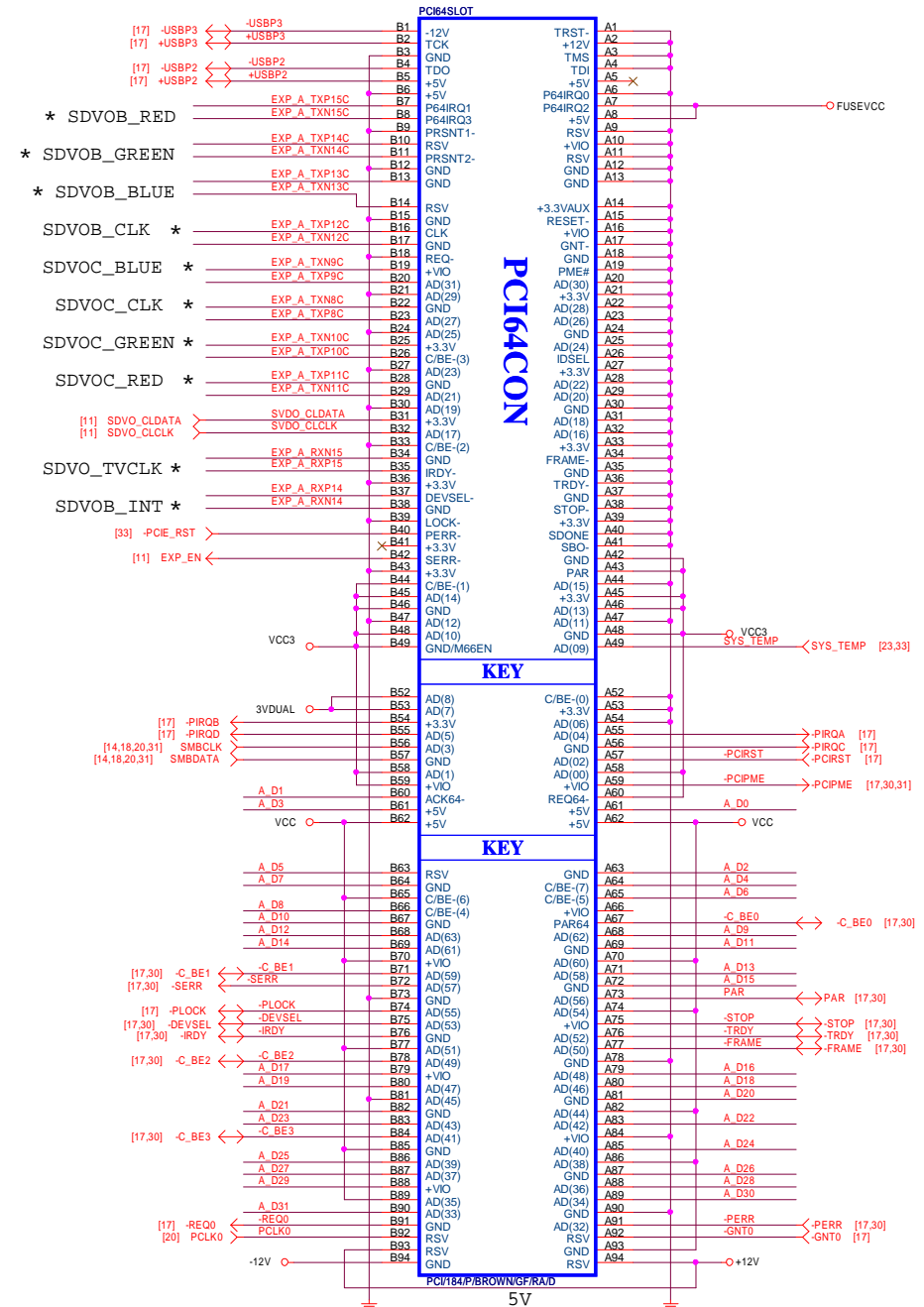
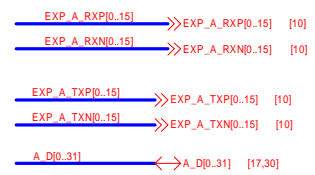
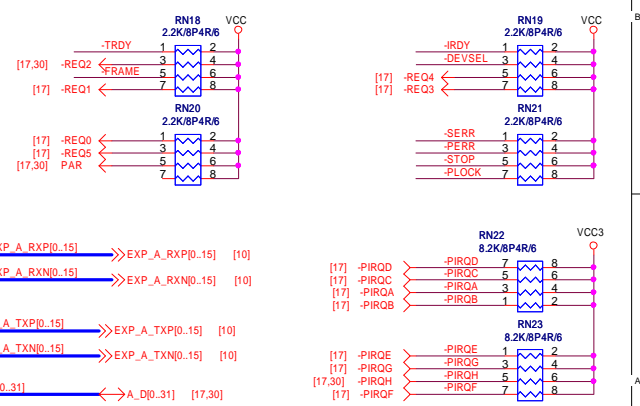


For USB MEC IR Receiver

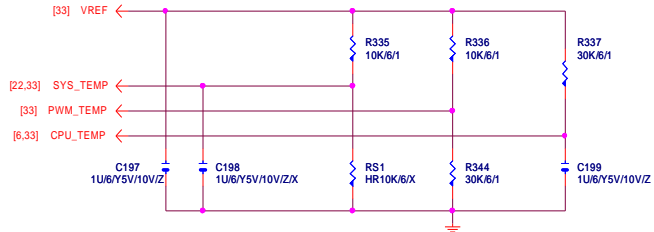
For USB Card Reader



EXP_A_TXP8	C75	0.1uF/5V/25VZ	EXP_A_TXP8C
EXP_A_TXN8	C76	0.1uF/5V/25VZ	EXP_A_TXN8C
EXP_A_TXP9	C77	0.1uF/5V/25VZ	EXP_A_TXP9C
EXP_A_TXN9	C78	0.1uF/5V/25VZ	EXP_A_TXN9C
EXP_A_TXP10	C79	0.1uF/5V/25VZ	EXP_A_TXP10C
EXP_A_TXN10	C80	0.1uF/5V/25VZ	EXP_A_TXN10C
EXP_A_TXP11	C81	0.1uF/5V/25VZ	EXP_A_TXP11C
EXP_A_TXN11	C82	0.1uF/5V/25VZ	EXP_A_TXN11C
EXP_A_TXP12	C83	0.1uF/5V/25VZ	EXP_A_TXP12C
EXP_A_TXN12	C84	0.1uF/5V/25VZ	EXP_A_TXN12C
EXP_A_TXP13	C85	0.1uF/5V/25VZ	EXP_A_TXP13C
EXP_A_TXN13	C86	0.1uF/5V/25VZ	EXP_A_TXN13C
EXP_A_TXP14	C87	0.1uF/5V/25VZ	EXP_A_TXP14C
EXP_A_TXN14	C88	0.1uF/5V/25VZ	EXP_A_TXN14C
EXP_A_TXP15	C89	0.1uF/5V/25VZ	EXP_A_TXP15C
EXP_A_TXN15	C90	0.1uF/5V/25VZ	EXP_A_TXN15C

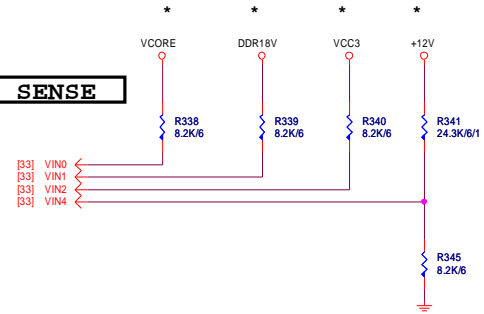


TEMP. SENSE



RS3 CLOSE TO MCH.CO-LAYOUT WITH RS1

VOLTAGE SENSE



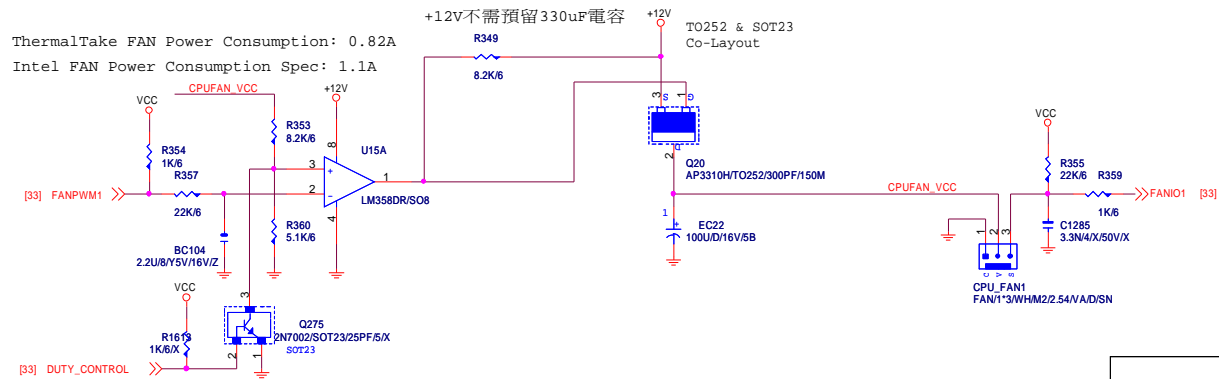
CPU/SYS FAN

If use PBSS5240 lpcs : (non airflow)

CPUFAN_VCC=12V: Temp=40 deg
 CPUFAN_VCC=11V: Temp=82 deg
 CPUFAN_VCC=10V: Temp=70 deg
 CPUFAN_VCC= 9V: Temp=110 deg
 CPUFAN_VCC= 8V: Temp>200 deg

If use PBSS5240 lpcs : (with airflow)

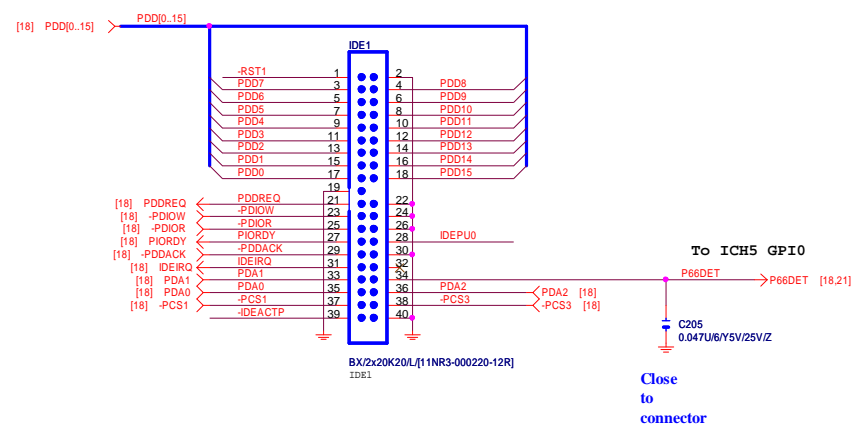
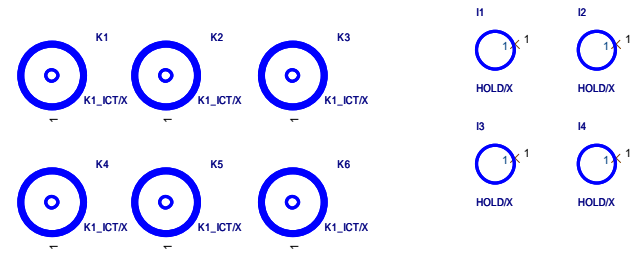
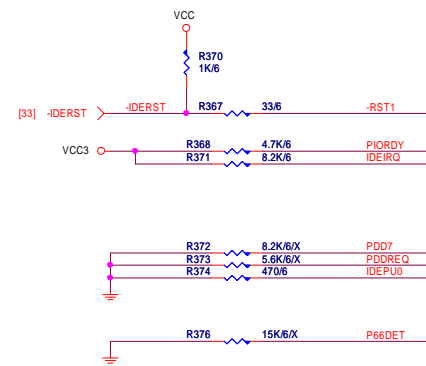
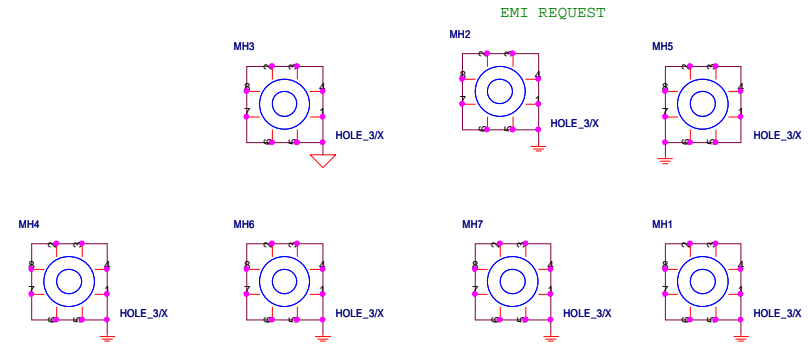
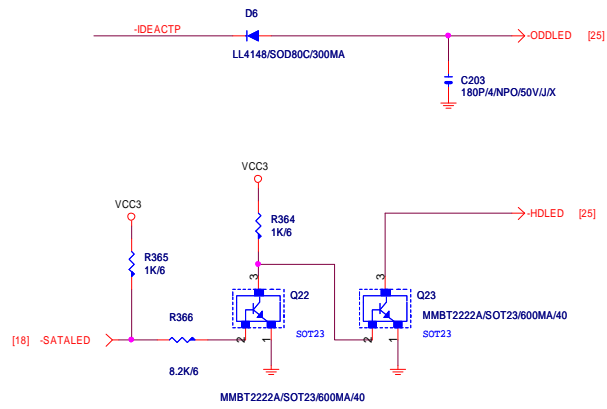
CPUFAN_VCC=12V: Temp=33 deg
 CPUFAN_VCC=11V: Temp=62 deg
 CPUFAN_VCC=10V: Temp=86 deg
 CPUFAN_VCC= 9V: Temp=117 deg
 CPUFAN_VCC= 8V: Temp>122 deg



default is high
 gpio pin 可以 3.3v or 5v
 if 3pin fan 則開機後將 program is low

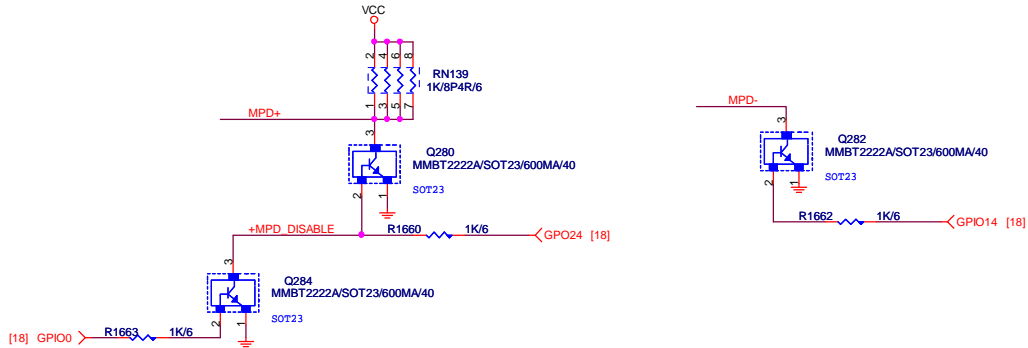
GIGABYTE

Title			HWM/FAN/CI/BIOS	
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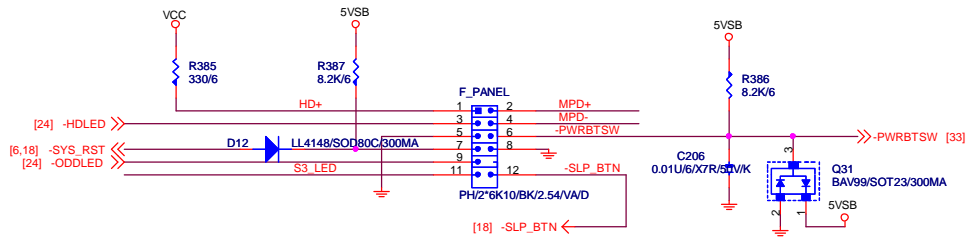


PRIMARY IDE CONNECTOR

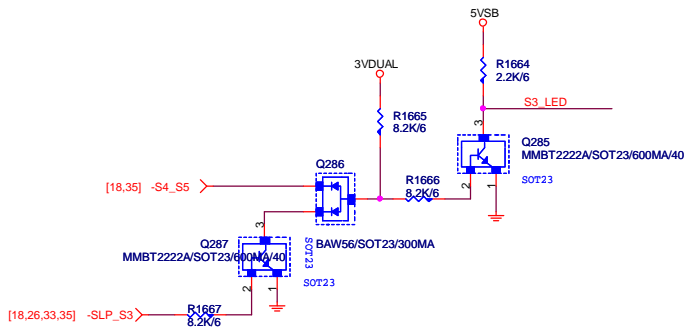
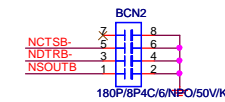
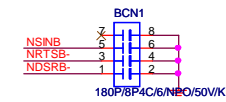
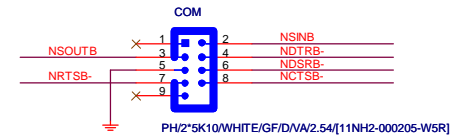
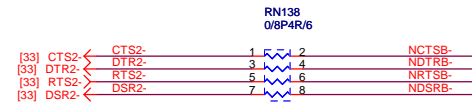
Intel Confidential		
IDE		
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INTEL FRONT PANEL

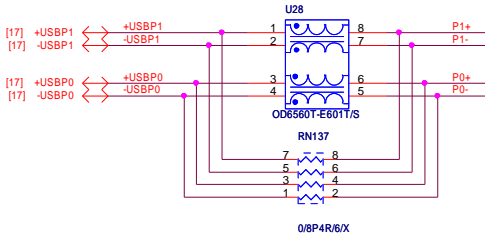
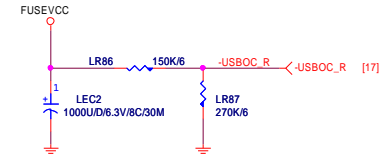
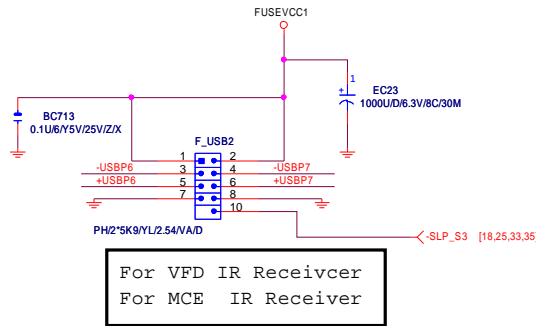
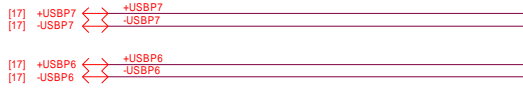
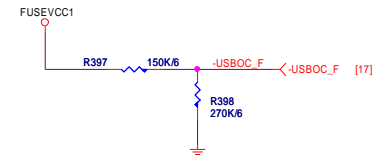
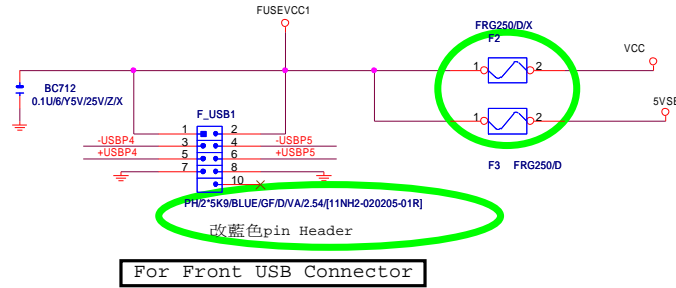


MPD+ MPD- PW+ PW- X -SLP
 HD+ HD- GND RST ODD- -S3_LED

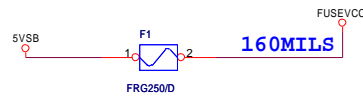
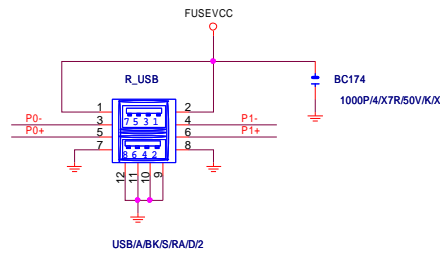


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FRONT PANEL			
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FRONT USB



EMI REQUEST



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FRONT USB CONNECTOR		
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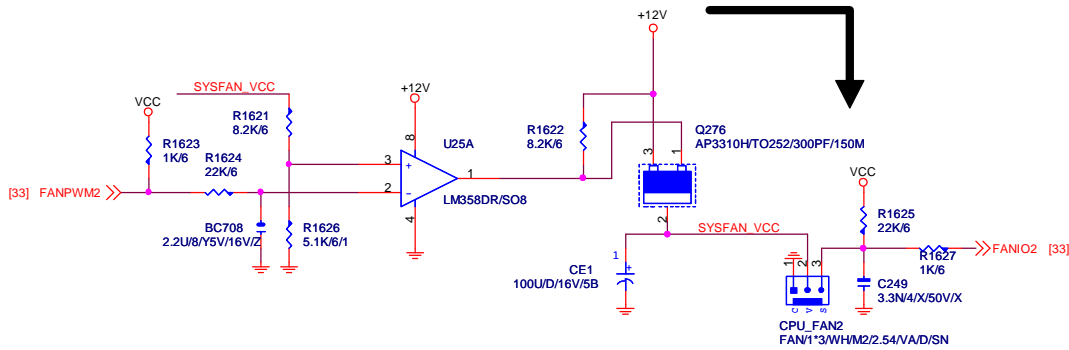
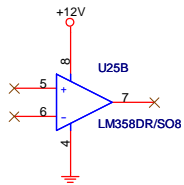
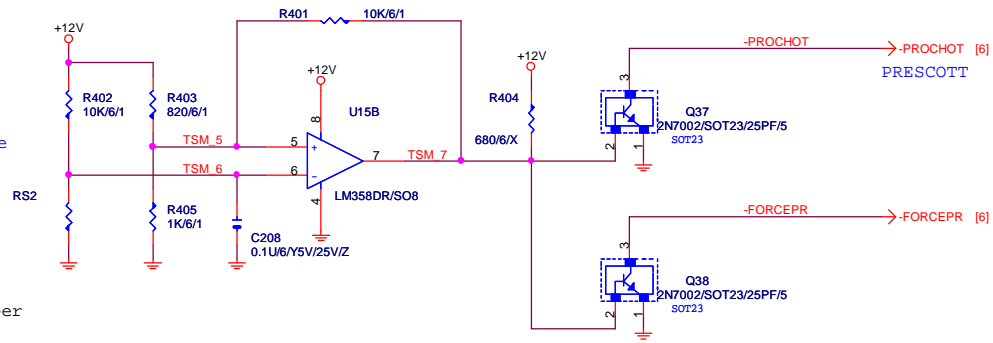
asserted at 131 degree
deasserted at 116 degree

100K/1/6/S

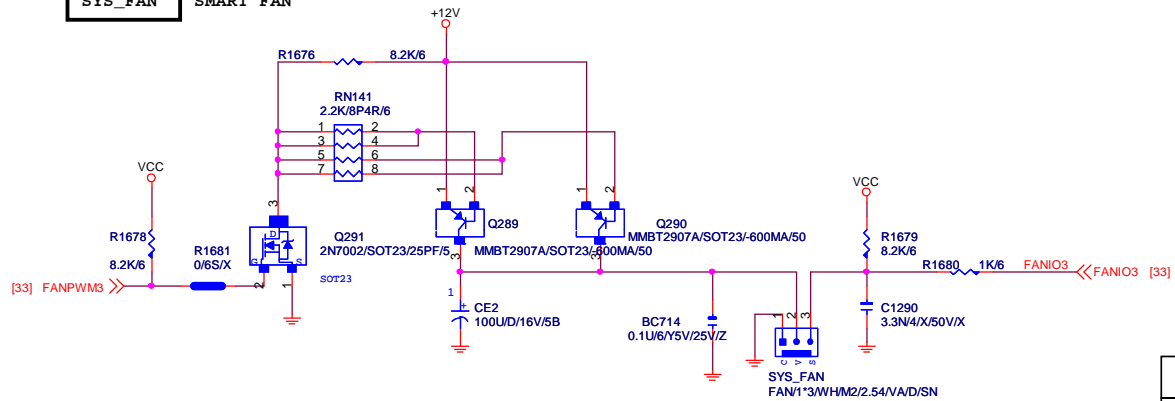
RS2
請加替料

Plase at PH4 copper

RS2 CLOSE CPU VR MOSFET

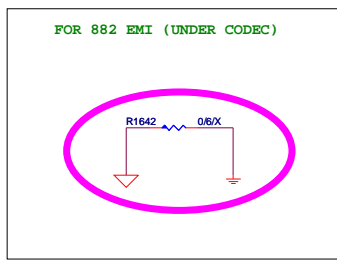
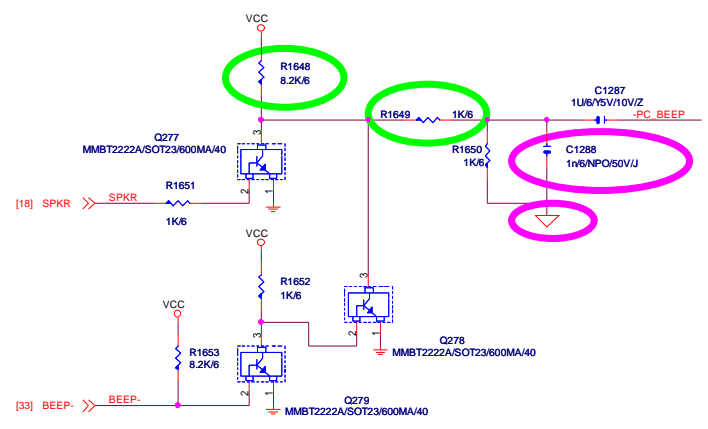
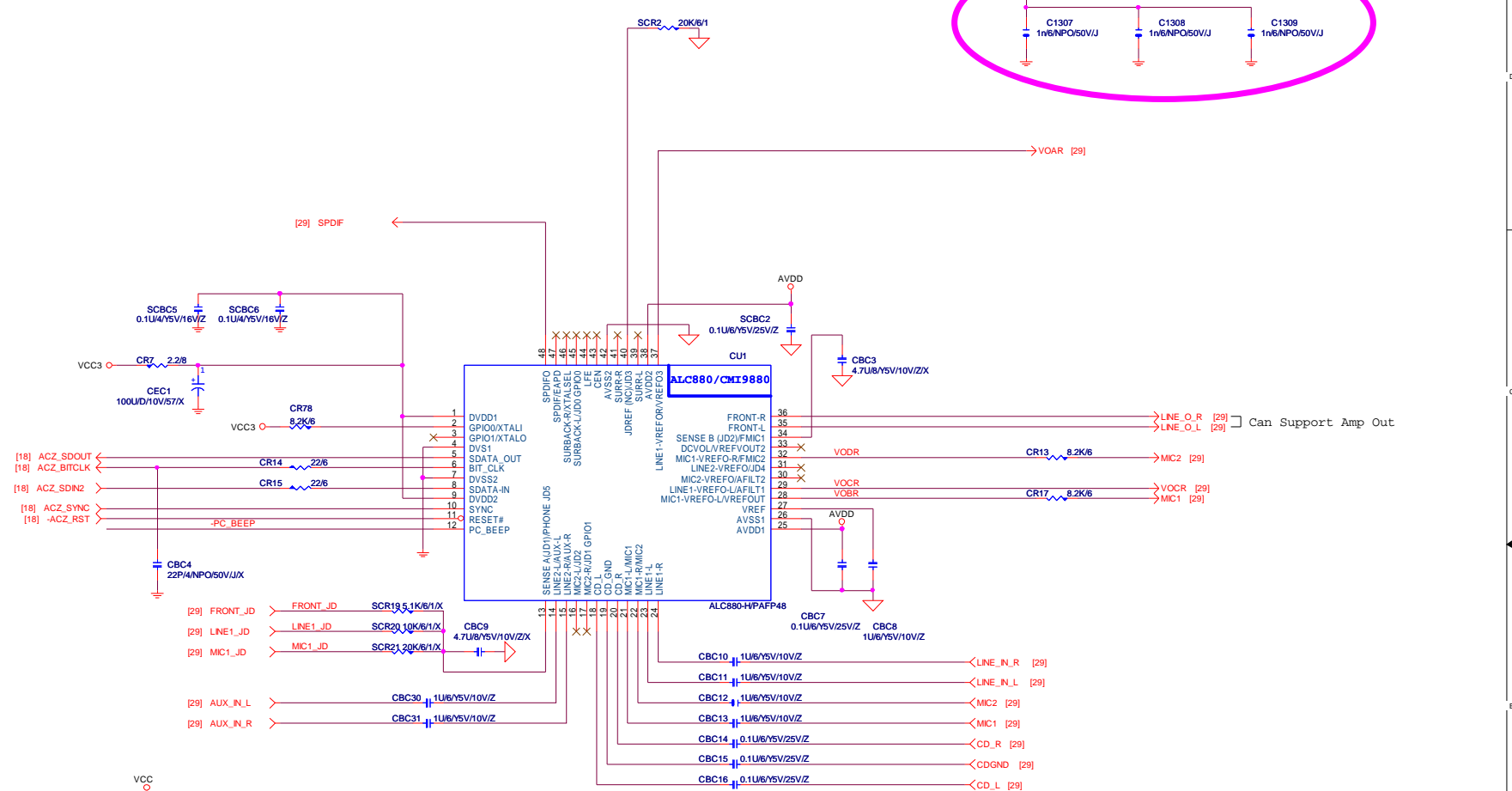
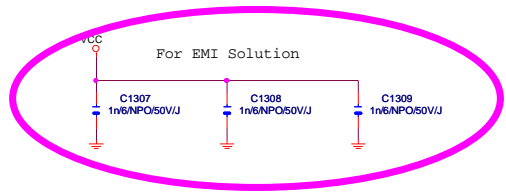


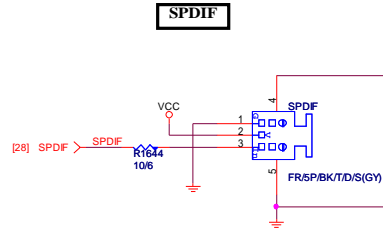
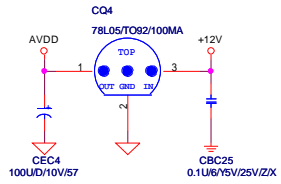
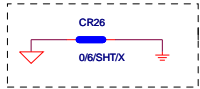
SYS_FAN SMART FAN



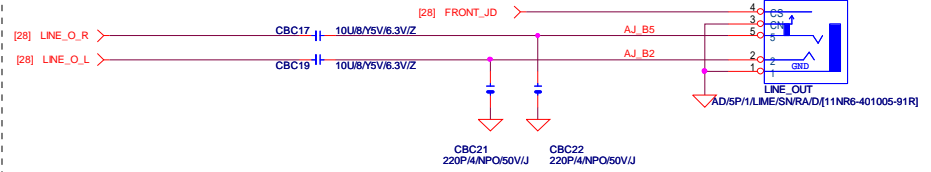
Intel Confidential

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FAN CONTROL		
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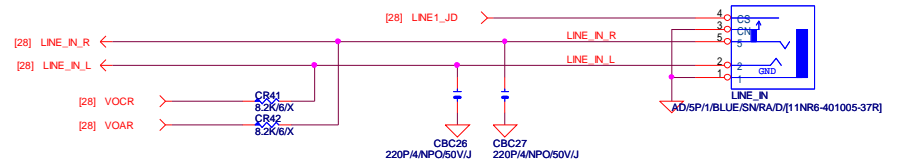




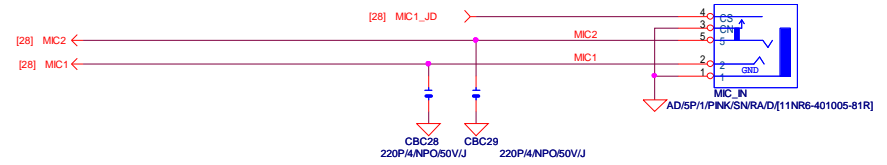
**LINE OUT
FRONT OUT**



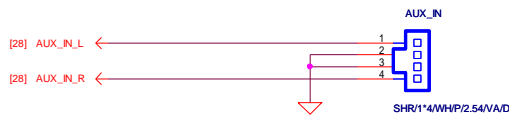
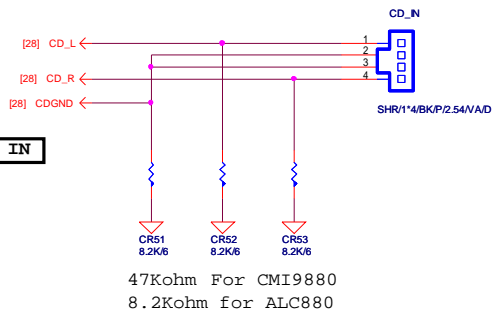
LINE-IN

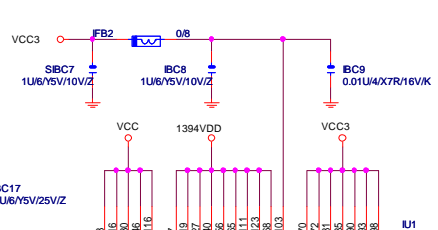
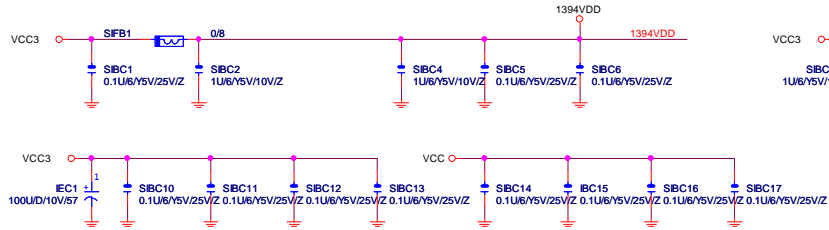


MIC

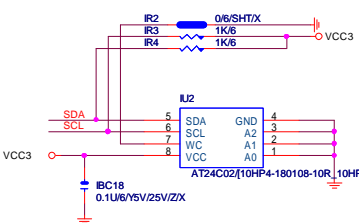
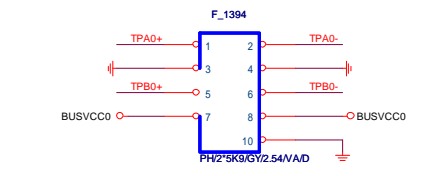
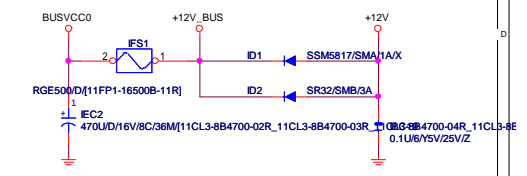


CD IN





IDSEL --> AD23
IRQ --> H
REQ/GBR --> 2



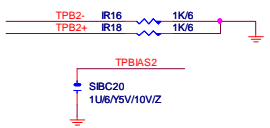
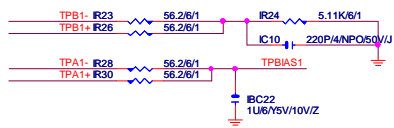
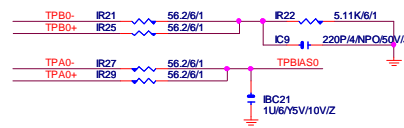
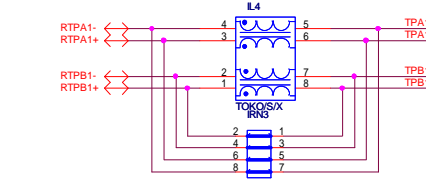
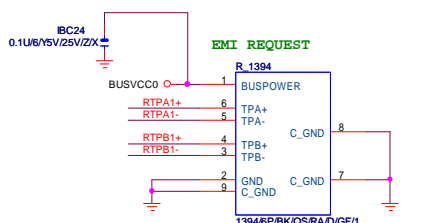
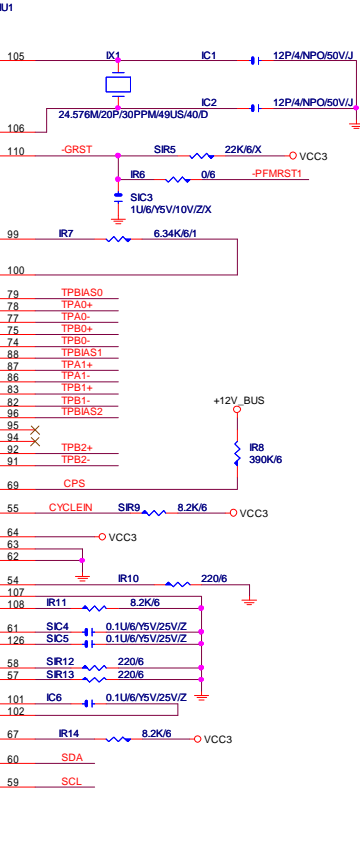
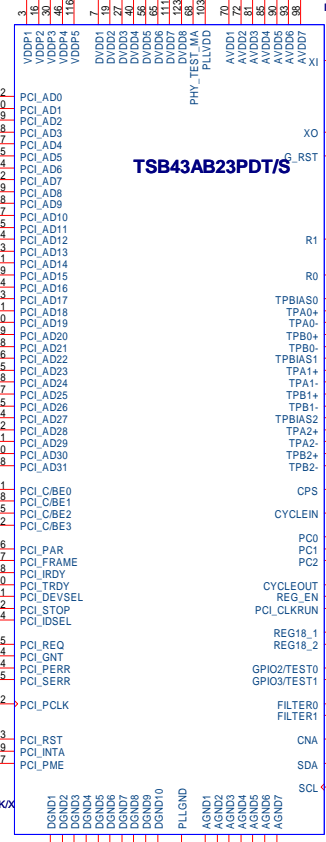
R1219 0/6 FOR ATMEL AT24C02N-10SI-2.7V ATC AT24LC02W

A_D[0..31] >>> A_D[0..31] [17.22]

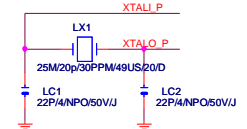
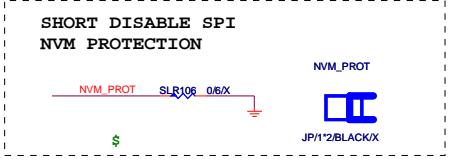
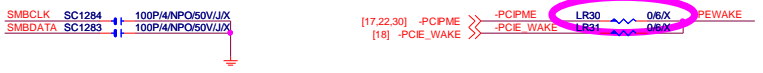
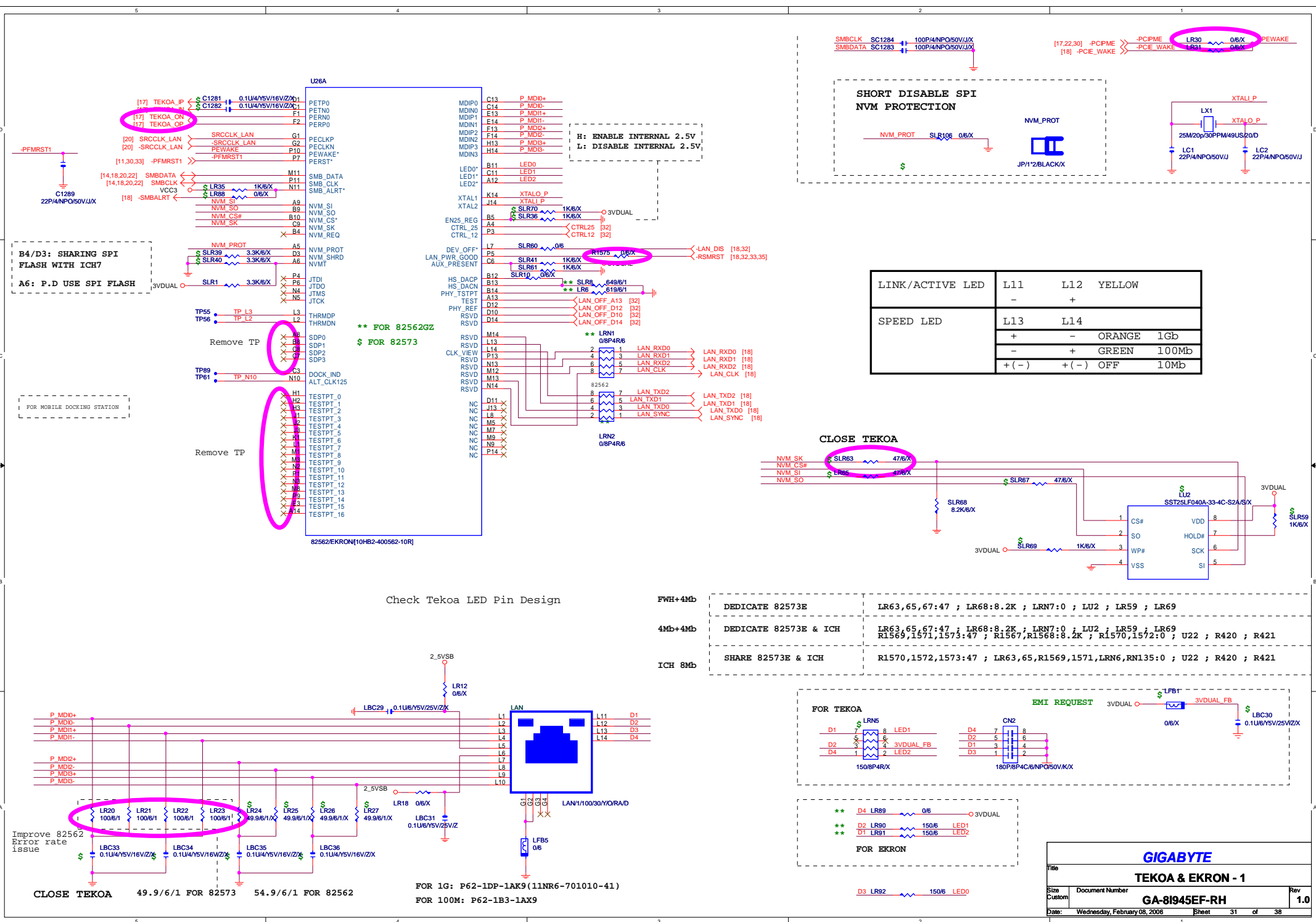
- A D0 52 PCI_AD0
- A D1 50 PCI_AD1
- A D2 49 PCI_AD2
- A D3 48 PCI_AD3
- A D4 47 PCI_AD4
- A D5 45 PCI_AD5
- A D6 44 PCI_AD6
- A D7 42 PCI_AD7
- A D8 39 PCI_AD8
- A D9 38 PCI_AD9
- A D10 37 PCI_AD10
- A D11 35 PCI_AD11
- A D12 34 PCI_AD12
- A D13 33 PCI_AD13
- A D14 31 PCI_AD14
- A D15 29 PCI_AD15
- A D16 14 PCI_AD16
- A D17 13 PCI_AD17
- A D18 11 PCI_AD18
- A D19 10 PCI_AD19
- A D20 9 PCI_AD20
- A D21 8 PCI_AD21
- A D22 6 PCI_AD22
- A D23 5 PCI_AD23
- A D24 128 PCI_AD24
- A D25 127 PCI_AD25
- A D26 125 PCI_AD26
- A D27 124 PCI_AD27
- A D28 122 PCI_AD28
- A D29 121 PCI_AD29
- A D30 120 PCI_AD30
- A D31 118 PCI_AD31

- [17.22] -C_BE0 41 PCI_C/BE0
- [17.22] -C_BE1 28 PCI_C/BE1
- [17.22] -C_BE2 2 PCI_C/BE2
- [17.22] -C_BE3 2 PCI_C/BE3
- [17.22] -PAR 26 PCI_PAR
- [17.22] -FRAME 17 PCI_FRAME
- [17.22] -IRDY 18 PCI_IRDY
- [17.22] -TRDY 20 PCI_TRDY
- [17.22] -DEVSEL 21 PCI_DEVSEL
- [17.22] -STOP 22 PCI_STOP
- [17.22] -A_D23 4 PCI_IDSEL
- [115] -REQ0 115 PCI_REQ
- [114] -GNT2 114 PCI_GNT
- [17] -PERR 24 PCI_PERR
- [17.22] -SERR 25 PCI_SERR

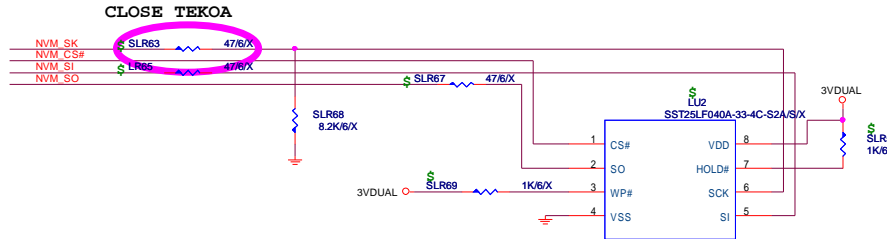
- [20] 1394CLK <- PCI_PCLK 112
- [11.31.33] -PFMRST1 <- -PFMRST1 53
- [17.22] -PROMH <- -PROMH 109
- [17.22.31] -PCPME <- -PCPME 117



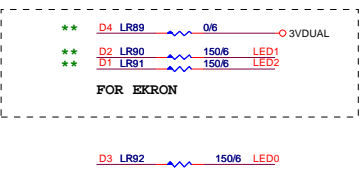
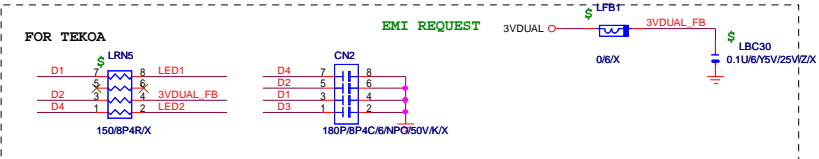
GIGABYTE		
Ti1394A		
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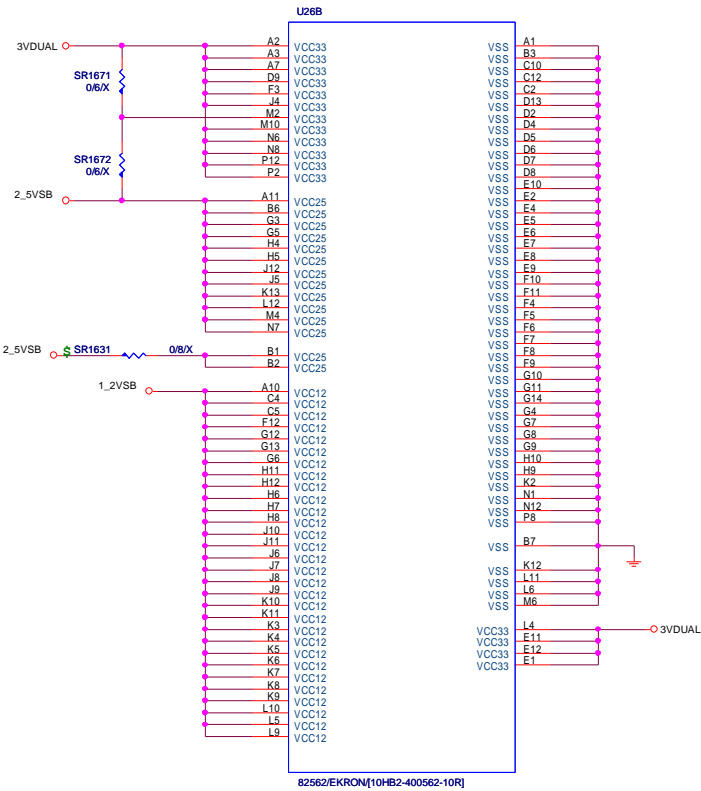
LINK/ACTIVE LED	L11	L12	YELLOW
	-	+	
SPEED LED	L13	L14	
	+	-	ORANGE 1Gb
	-	+	GREEN 100Mb
	+ (-)	+ (-)	OFF 10Mb



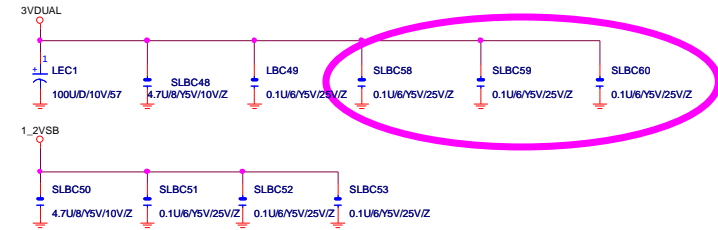
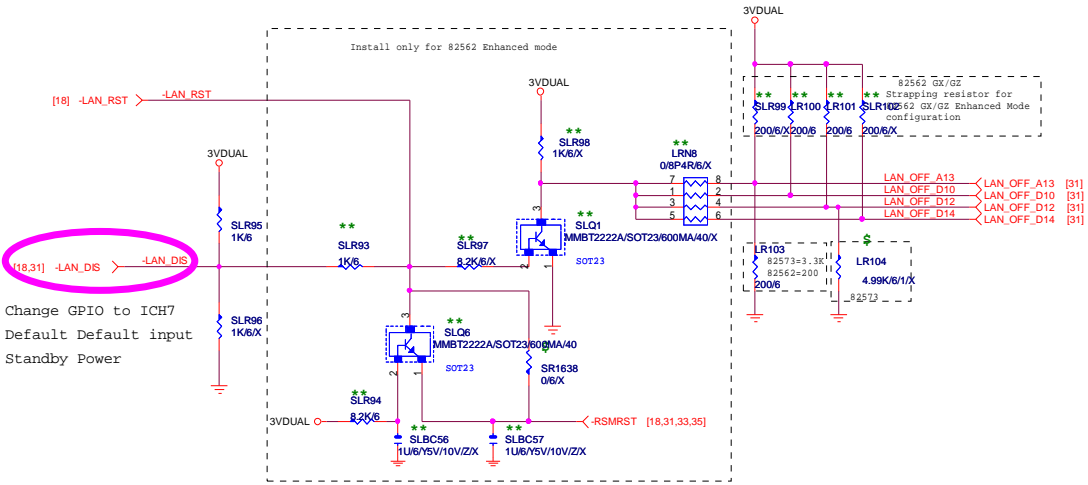
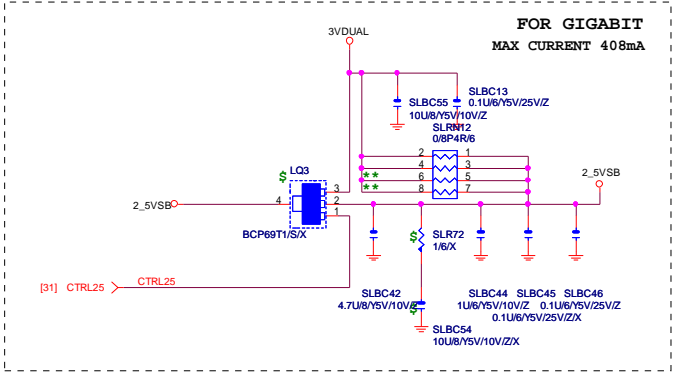
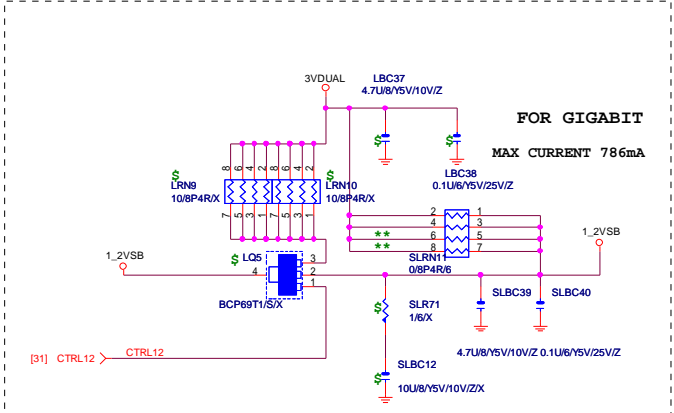
FWH+4Mb	DEDICATE 82573E	LR63,65,67:47 ; LR68:8.2K ; LRN7:0 ; LU2 ; LR59 ; LR69
4Mb+4Mb	DEDICATE 82573E & ICH	LR63,65,67:47 ; LR68:8.2K ; LRN7:0 ; LU2 ; LR59 ; LR69 ; R1569,R1571,1573:47 ; R1567,R1568:8.2K ; R1570,1572:0 ; U22 ; R420 ; R421
ICH 8Mb	SHARE 82573E & ICH	R1570,1572,1573:47 ; LR63,65,R1569,1571,LRN6,RN135:0 ; U22 ; R420 ; R421



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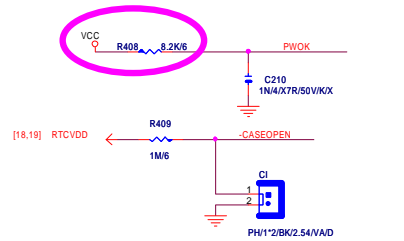
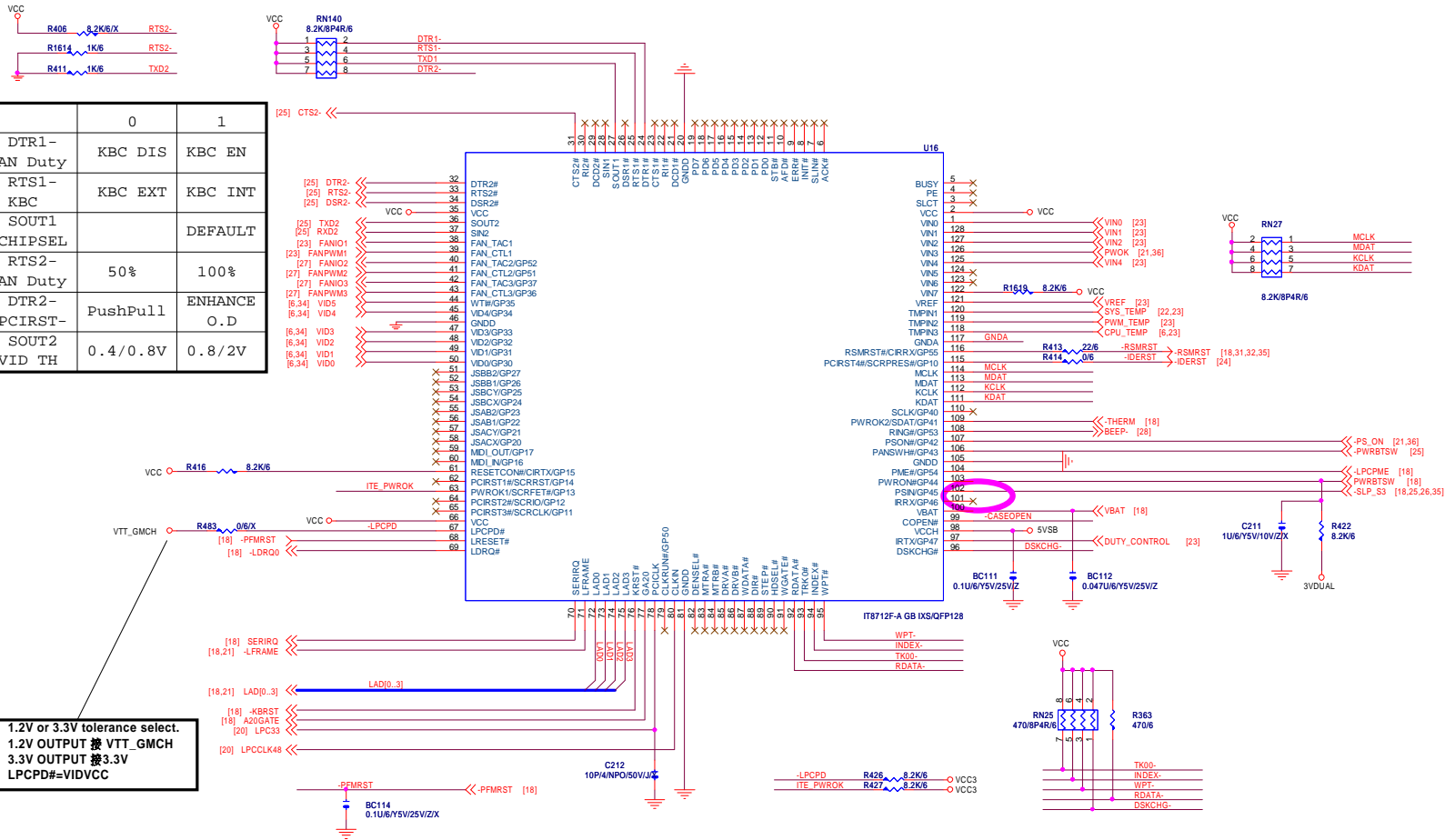
Connect to a Super IO pin that default to input on power up and retains its value during reset.



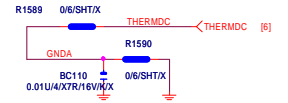
GIGABYTE		
TEKOA & EKRON - 2		
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	0	1
DTR1- FAN Duty	KBC DIS	KBC EN
RTS1- KBC	KBC EXT	KBC INT
SOUT1 CHIPSEL		DEFAULT
FAN Duty	50%	100%
DTR2- PCIRST-	PushPull	ENHANCE
SOUT2 VID TH	0.4/0.8V	0.8/2V

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



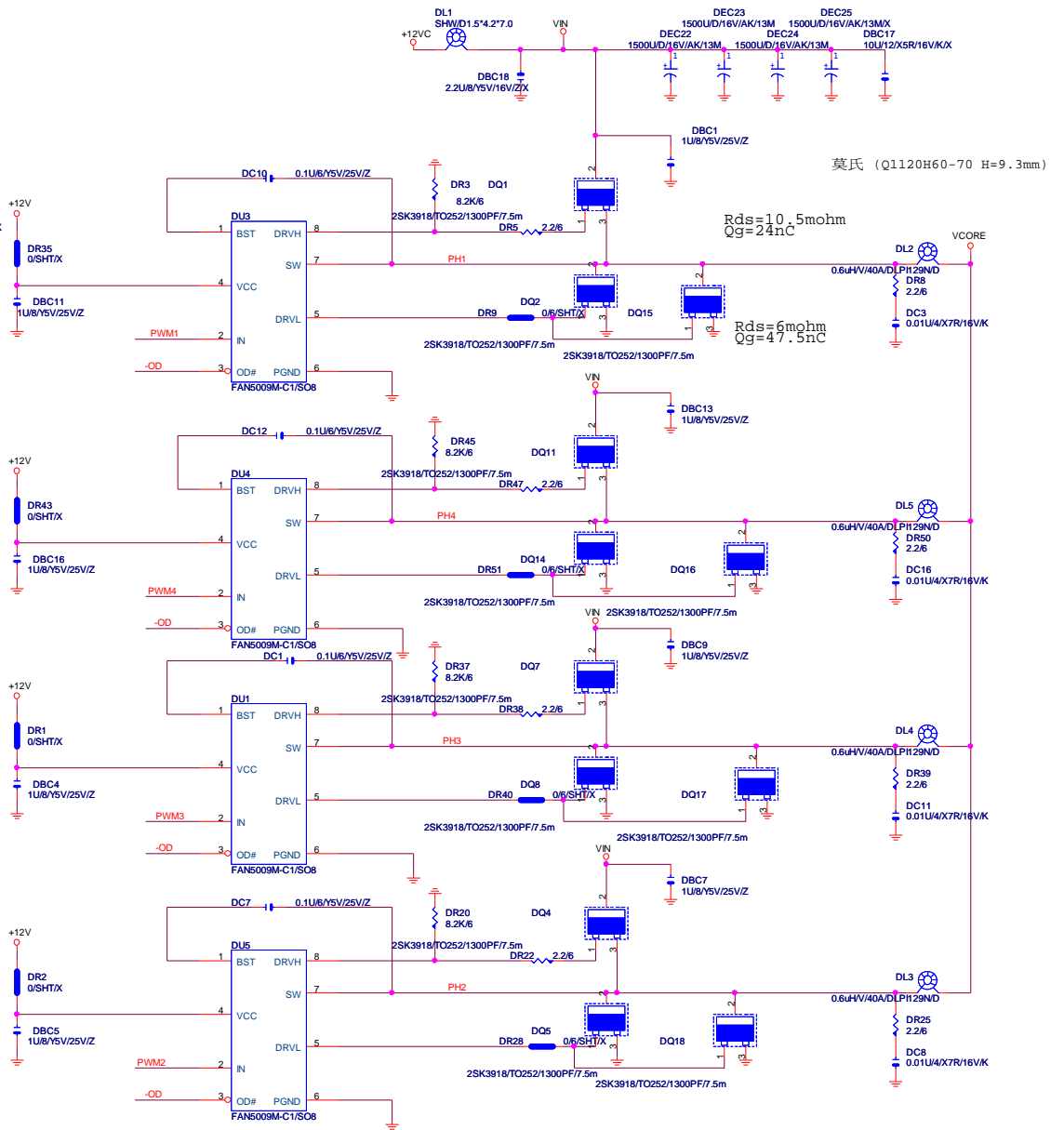
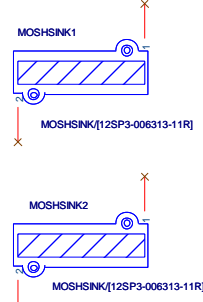
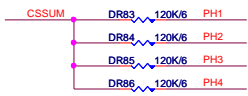
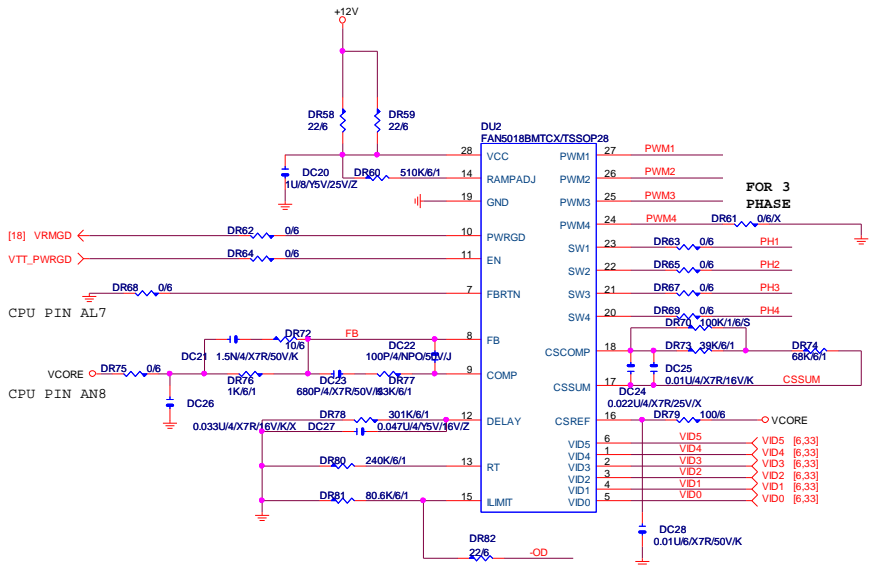
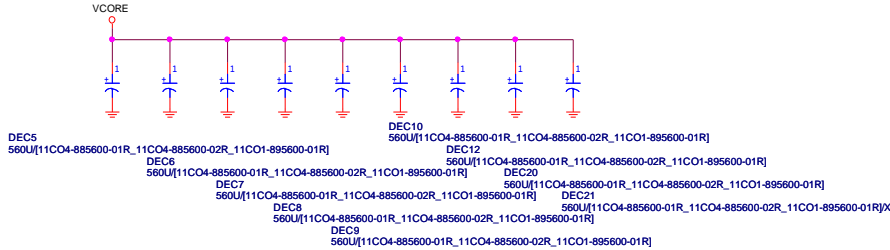
Case Open Circuits



ICH7 -PFMRST	ICH7 -PCIRST	74HC14 -PFMRST1	74HC14 -PFMRST2	74HC14 -PCI_RST
LPC IO	PCI 64 SLOT	GMCH TI 1394 TEKOA	FWH MINI PCI	PCI 64 SLOT

GIGABYTE TECHNOLOGIES, INC.			
Title			
ITE 8712 LPC IO			
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560uF改爲8*8: 11CO4-885600-01 & 02

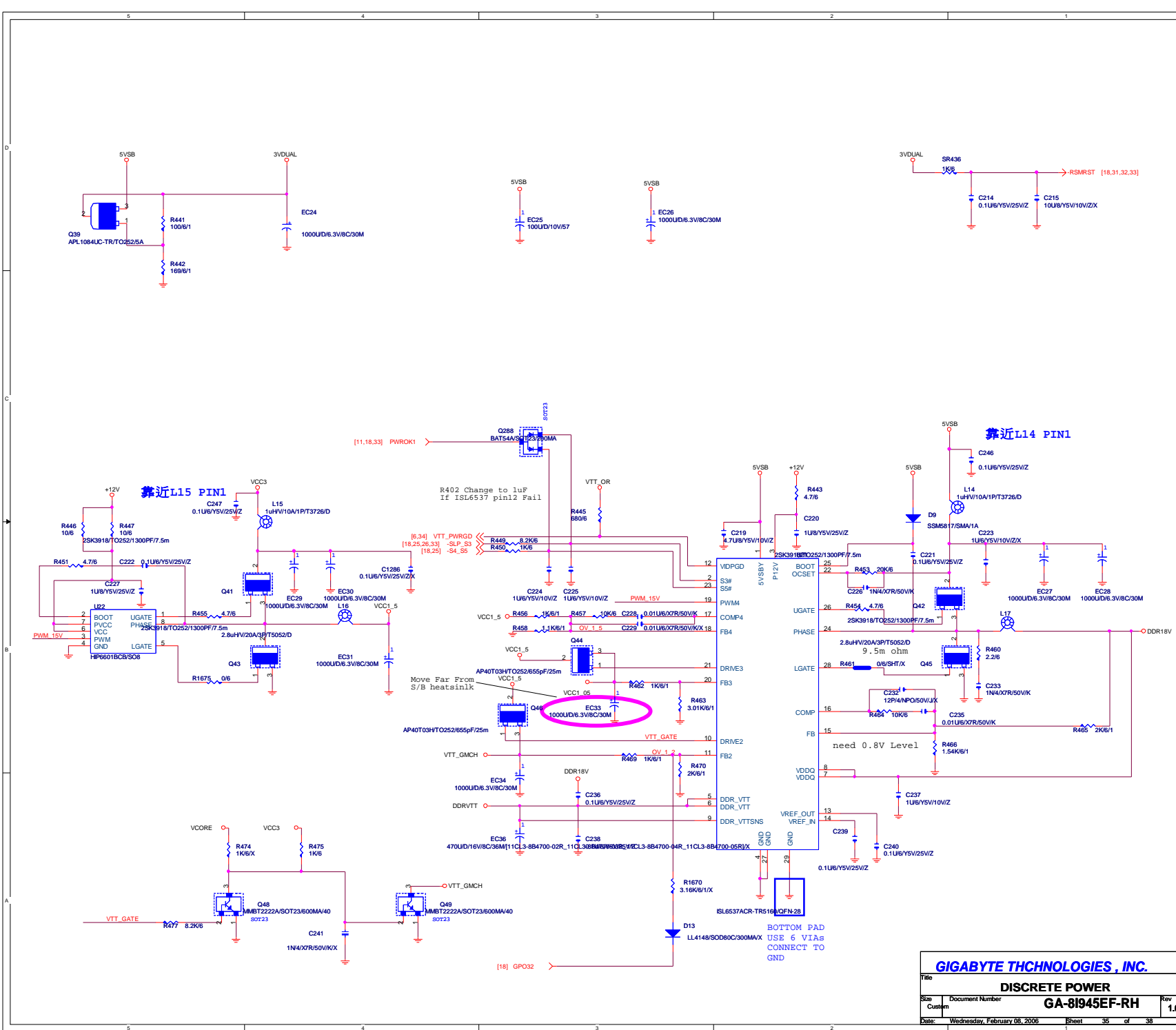


莫氏 (Q1120H60-70 H=9.3mm)

Rds=10.5mohm
Qg=24nC

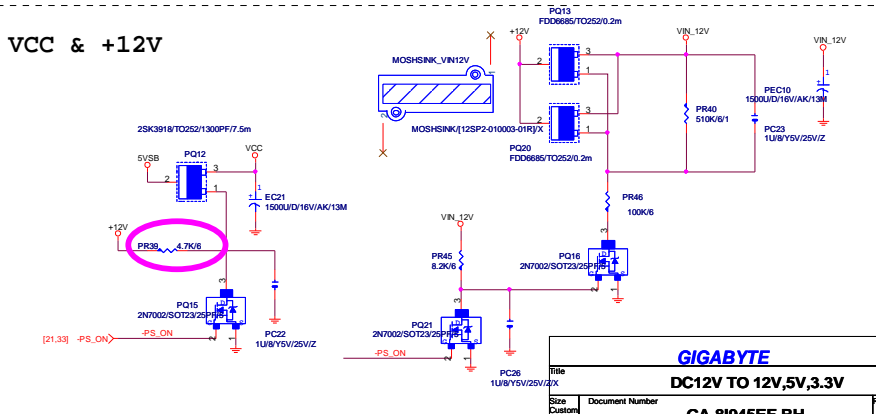
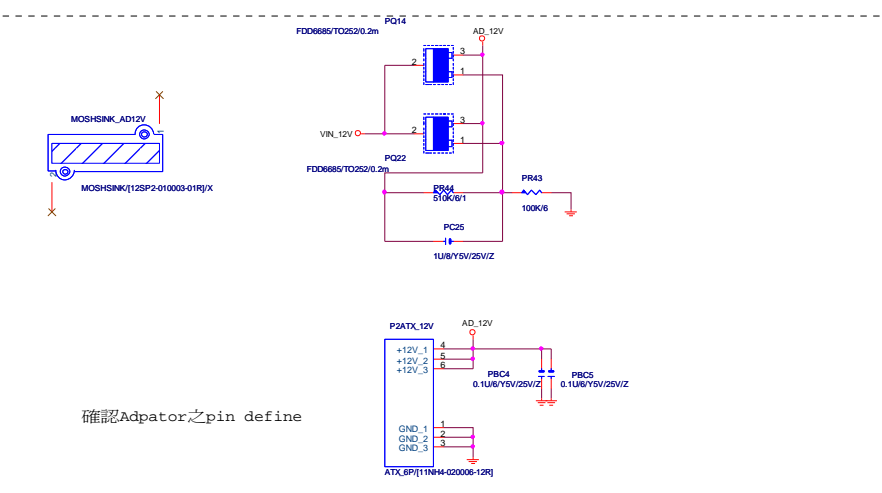
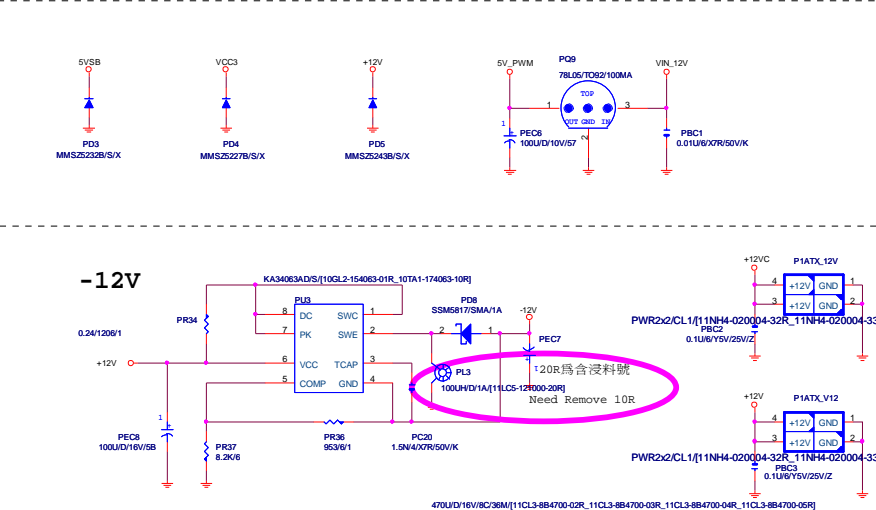
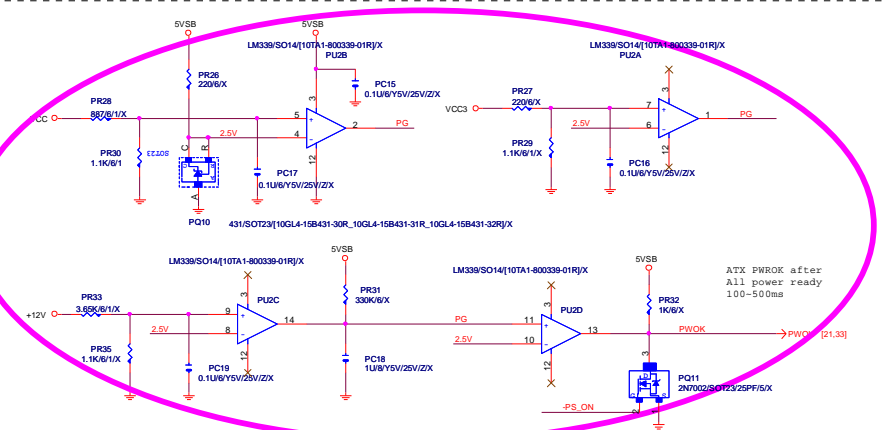
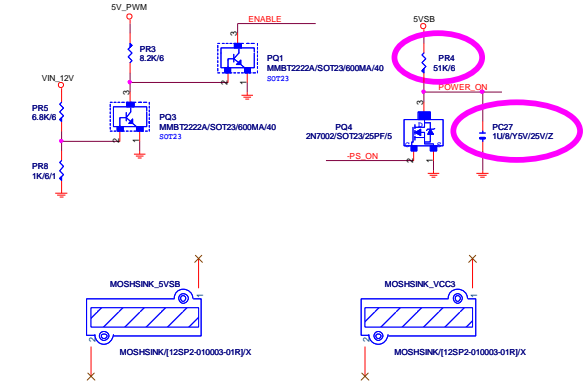
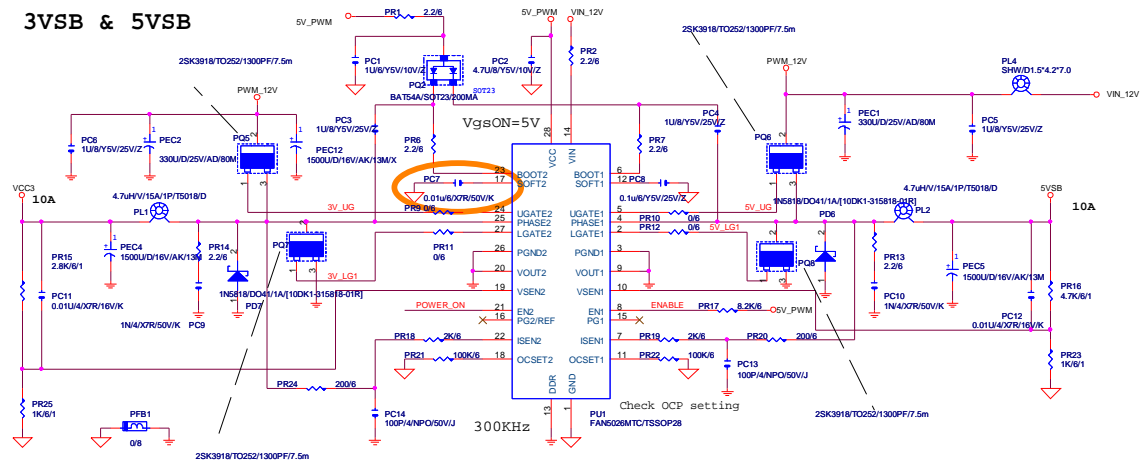
Rds=6mohm
Qg=47.5nC

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GIGABYTE TECHNOLOGIES, INC.			
Title DISCRETE POWER			
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3VSB & 5VSB



確認Adaptor之pin define

GIGABYTE		
DC12V TO 12V,5V,3.3V		
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INTEL ICH7 GPIO Implementation

紅字表示CPI/O 同PIN

GPI PIN

Pin Name	Pin Type	Power Well			GPIO Application
GPIO[0]	I/O	VCC3	GPI/BM_BUSY#	(NA)	(NA)
GPIO[1]	I/O	VCC	-REQ[5]	(P.U VCC)	-REQ[5]
GPIO[5:2]	I/OD	VCC	-PIRQ[H:E]	(P.U VCC)	-PIRQ[H:E]
GPIO[6]	I/O	VCC3	GPI	(NA)	M_ID0 FOR MEDIA
GPIO[7]	I/O	VCC3	GPI	(NA)	DUALBIOS_INPUT
GPIO[8]	I/O	3VDUAL	GPI	(P.U 3VDUAL)	-SKTOCC
GPIO[9]	I/O	3VDUAL	GPI	(NA)	P66DET
GPIO[10]	I/O	3VDUAL	GPI	(NA)	M_ID1 FOR MB_ID
GPIO[11]	I/O	3VDUAL	-SMBALERT	(P.U 3VDUAL)	-SMBALRT
GPIO[12]	I/O	3VDUAL	GPI	(NA)	M_ID2 FOR MB_ID
GPIO[13]	I/O	3VDUAL	GPI	(P.U 3VDUAL)	-LPCPME
GPIO[14]	I/O	3VDUAL	GPI	(NA)	M_ID3 FOR MB_ID
GPIO[15]	I/O	3VDUAL	GPI	(NA)	-ACZ_DET
GPIO[16]	I/O	VCC3	GPO	P.D 20K(INT.)	HW RESET
GPIO[17]	I/O	VCC3	GPO/-GNT[5]	(NA)	GPO/-GNT[5]
GPIO[18]	I/O	VCC3	GPO/toggle	(NA)	(NA)
GPIO[19]	I/O	VCC3	SATA1GP	(P.U VCC3)	SATA1GP
GPIO[20]	I/O	VCC3	GPO	(P.U VCC3)	TBL-
GPIO[21]	I/O	VCC3	SATA0GP	(P.U VCC3)	SATA0GP
GPIO[22]	I/O	VCC3	-REQ[4]	(P.U VCC)	-REQ[4]
GPIO[23]	I/O	VCC3	LDRQ1#	(NA)	(NA)
GPIO[24]	I/O	3VDUAL	GPO/reset not cleared	(NA)	(NA)
GPIO[25]	I/O	3VDUAL	GPO	(NA)	PWD_LED
GPIO[26]	I/O	3VDUAL	EL_RSVD	(P.D)	-SPI_WP
GPIO[27]	I/O	3VDUAL	EL_STATE0	(NA)	(NA)
GPIO[28]	I/O	3VDUAL	EL_STATE1	(NA)	(NA)
GPIO[29]	I/O	3VDUAL	OC5#	(P.U VCC 分壓)	OC5#
GPIO[30]	I/O	3VDUAL	OC6#	(P.U VCC 分壓)	OC6#
GPIO[31]	I/O	3VDUAL	OC7#	(P.U VCC 分壓)	OC7#
GPIO[32]	I/O	VCC3	GPO	(NA)	DUAL_BIOS
GPIO[33]	I/O	VCC3	GPO	(NA)	DUAL_BIOS
GPIO[34]	I/O	VCC3	GPO	(P.U VCC3)	FWP-
GPIO[35]	I/O	VCC3	SATACLKREQ#	(NA)	(NA)
GPIO[36]	I	VCC3	SATA2GP	(P.U VCC3)	SATA2GP
GPIO[37]	I	VCC3	SATA3GP	(P.U VCC3)	SATA3GP

GPO PIN

Pin Name	Pin Number	Power Well	Pin Type		GPIO Application
GPIO[38]	I/O	VCC3	GPI	(NA)	(NA)
GPIO[39]	I/O	VCC3	GPI	(NA)	(NA)
GPIO[40:47]			NOT IMPLEMENTED		NOT IMPLEMENTED
GPIO[48]	I/O	VCC3	-GNT[4]	(NA)	-GNT[4]
GPIO[49]	I/O	VTT GMCH	CPUPWRGD	(P.U VTT_OL)	CPUPWROK
PC11	PCLK0	-PCIRST	-REQ0/-GNT0	-PIROE	A_D16
PC12	PCLK1	-PCIRST	-REQ1/-GNT1	-PIROD	A_D17
PC13	PCLK2	-PCIRST	-REQ2/-GNT2	-PIROC	A_D18
1394b	1394CLK	-PFMRST2	-REQ3/-GNT3	-PIROH	A_D23
IT8212	RAIDCLK	-PFMRST2	-REQ4/-GNT4	-PIROG	A_D22

ICH6 GPIO Table:

NAME	PWR LANE	USAGE	NAME	PWR LANE	USAGE
GPI0	V5REF	M/B ID (-REQ6)	GPI41	VCC3	M/B ID
GPI1	V5REF	-REQ5	GPO48	VCC3	-GNT4
GPI2	V5REF	-PIRQE	GPO49	V-CPUIO	CPUPWOK
GPI3	V5REF	-PIRQF			
GPI4	V5REF	-PIRQG			
GPI5	V5REF	-PIRQH			
GPI6	VCC3	-SLP BTN			
GPI7	VCC3	DUAL BIOS			
GPI8	3VDAUL	-LANWAKE			
GPI9	3VDAUL	-USBOC4			
GPI10	3VDAUL	-USBOC5			
GPI11	3VDAUL	-SMBALT			
GPI12	VCC3	ATX DET			
GPI13	3VDAUL	-LPCPME			
GPI14	3VDAUL	-USBOC6			
GPI15	3VDAUL	-USBOC7			
GPO16	VCC3	CPU OV1 (-GNT6)			
GPO17	VCC3	-GNT5			
GPO18	VCC3	CPU OV2			
GPO19	VCC3	DUAL BIOS			
GPO20	VCC3	BIOS T-BLOCK			
GPO21	VCC3	DUAL BIOS			
GPO23	VCC3	DDR OV0			
GPIO24	3VDAUL	GREEN LED			
GPIO25	3VDAUL	DDR OV1			
GPI26	VCC3	SATA GP0			
GPIO27	3VDAUL	+PWRLED			
GPIO28	3VDAUL	-PWRLED			
GPI29	VCC3	SATA GP1			
GPI30	VCC3	SATA GP2			
GPI31	VCC3	SATA GP3			
GPIO32	VCC3	BIOS WP			
GPIO33	VCC3	AZALIA DET			
GPIO34	VCC3	PWRLED			
GPI40	V5REF	-REQ4			

PWROK/RESET Table:

ITE8712BHX PIN	NET NAME	TARGET
PIN62/-PCIRST1	-PCIE_RST	1. PCI-E * 1 Slot1 2. PCI-E * 1 Slot2 3. PCI-E * 1 Slot3 4. PCI-E * 16 Slot
PIN64/-PCIRST2	-PFMRST2	1. Onboard PCI Lan 2. Onboard 1394 Chip 3. OnBoard FWH
PIN65/-PCIRST3	-PFMRST1	1. Onboard PCI-E Lan 2. Onboard SATA Chip 3. GMCH
PIN115/-PCIRST4	-PFMRST_ -IDERST	Reserved For IDE
PIN63/PWROK1	PWROK1	1. GMCH 2. ICH6 3. 5VDUAL SWITCH 4. DPS CONTROL
PIN109/PWROK2	-THERM	1. ICH6

GIGABYTE THCNOLOGIES , INC.

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