

GIGABYTE GA-8IG1000 Pro

Schematics

Revision
2.03

SHEET

TITLE

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	P4_478A
05	P4_478B
06	P4_478C
07	SPRINGDALE HOST
08	SPRINGDALE DDR
09	SPRINGDALE AGP, HUB, CSA, VGA
10	SPRINGDALE PWR
11	DDR1,2 CHANNEL A
12	DDR3,4 CHANNEL B
13	DDR TERMINATION
14	AGP 8X SLOT
15	ICH5 PCI, USB, HUB, LAN
16	ICH5 IDE, GPIO, SATA, CTRL
17	ICH5 VCC, GND
18	DUAL FWH
19	ICS952635 CLOCK GENERATOR
20	PCI SLOT1/SLOT2
21	PCI SLOT3/SLOT4/RESET BUFFER
22	PCI SLOT5/SLOT6

23	AC '97 CODEC
24	AUDIO JACK, L_OUT, F_AUDIO
25	ITE 8712/IR_CIR/SCR/S_IRQ
26	COMA/VGA_COMB/LPT
27	IDE1/IDE2/FDD
28	FAN/HW MONITOR
29	KB_MS/GAME/FUSEVCC
30	FRONT PANEL
31	R_USB/F_USB1/F_USB2
32	DDR/VDDQ/5VDUAL/VCCVID POWER
33	VCORE POWER
34	ATX/ATX_12V/FAN1655M
35	KINNERETH-R LAN(CSA-1)
36	KINNERETH-R LAN(CSA-2)
37	KINNERETH-R LAN(CSA-3)
38	TI TSB43AB23(1394)
39	PCI ROUNTIONG
40	GPIO PIN LIST

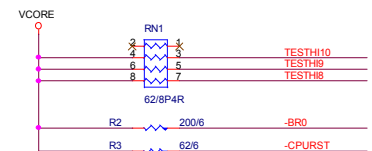
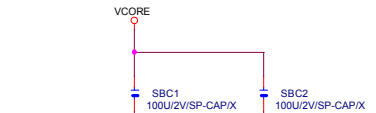
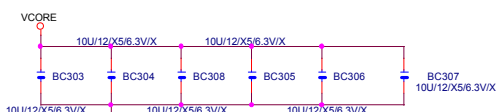
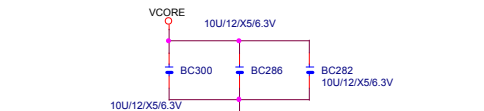
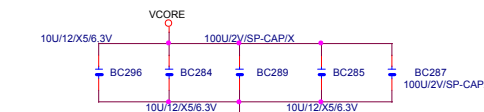
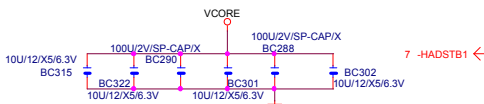
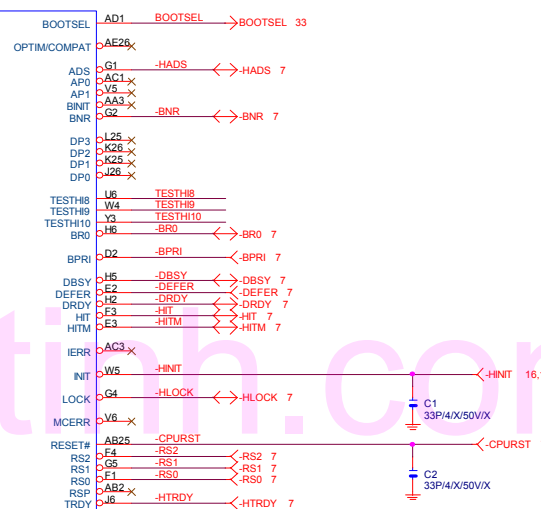
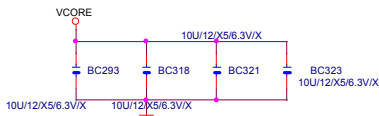
PROCESS: C

_____	COMPONENT SIDE (0.5 oz. Copper)
_____	VCC SIDE (1 oz. Copper)
_____	GND SIDE (1 oz. Copper)
_____	SOLDER SIDE (0.5 oz. Copper)

GIGABYTE CORP.

Title: **COVER SHEET**

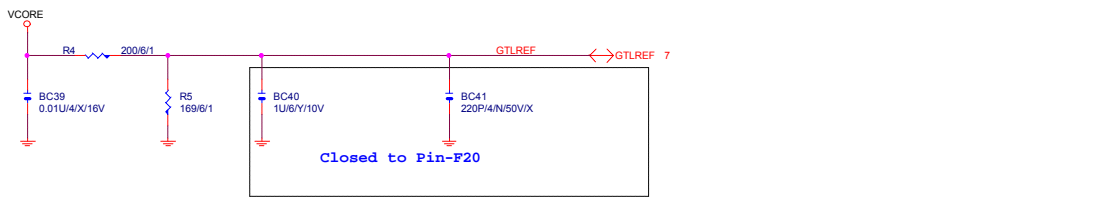
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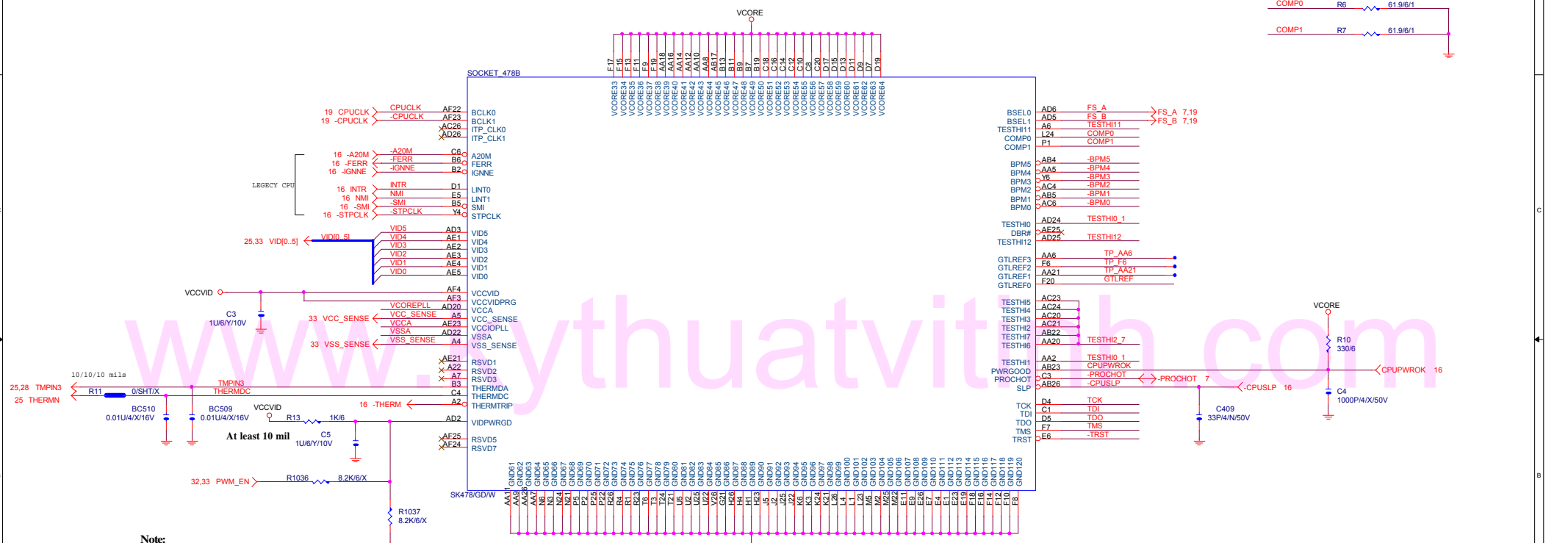
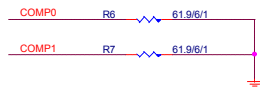
SP-CAP X 4 PCS CPU SOCKET

CAP place at (D14,D15) solder side

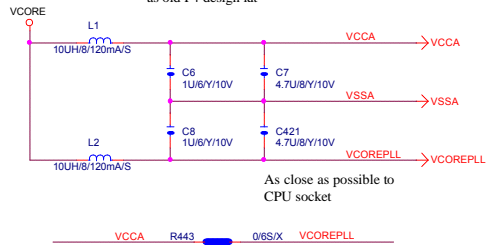
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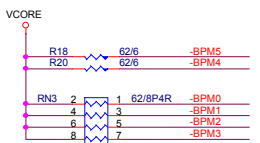
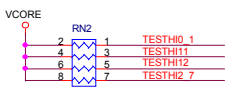
Place outside of CPU socket



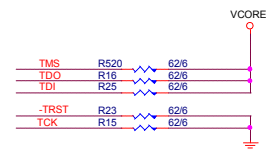
Note:
VCCA & VCCOREPLL define doesn't same as old P4 design kit



Trace width doesn't less than 12 Mil



Close to CPU

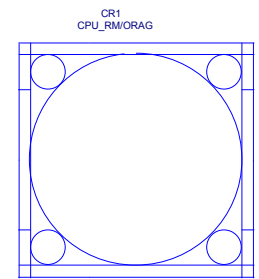
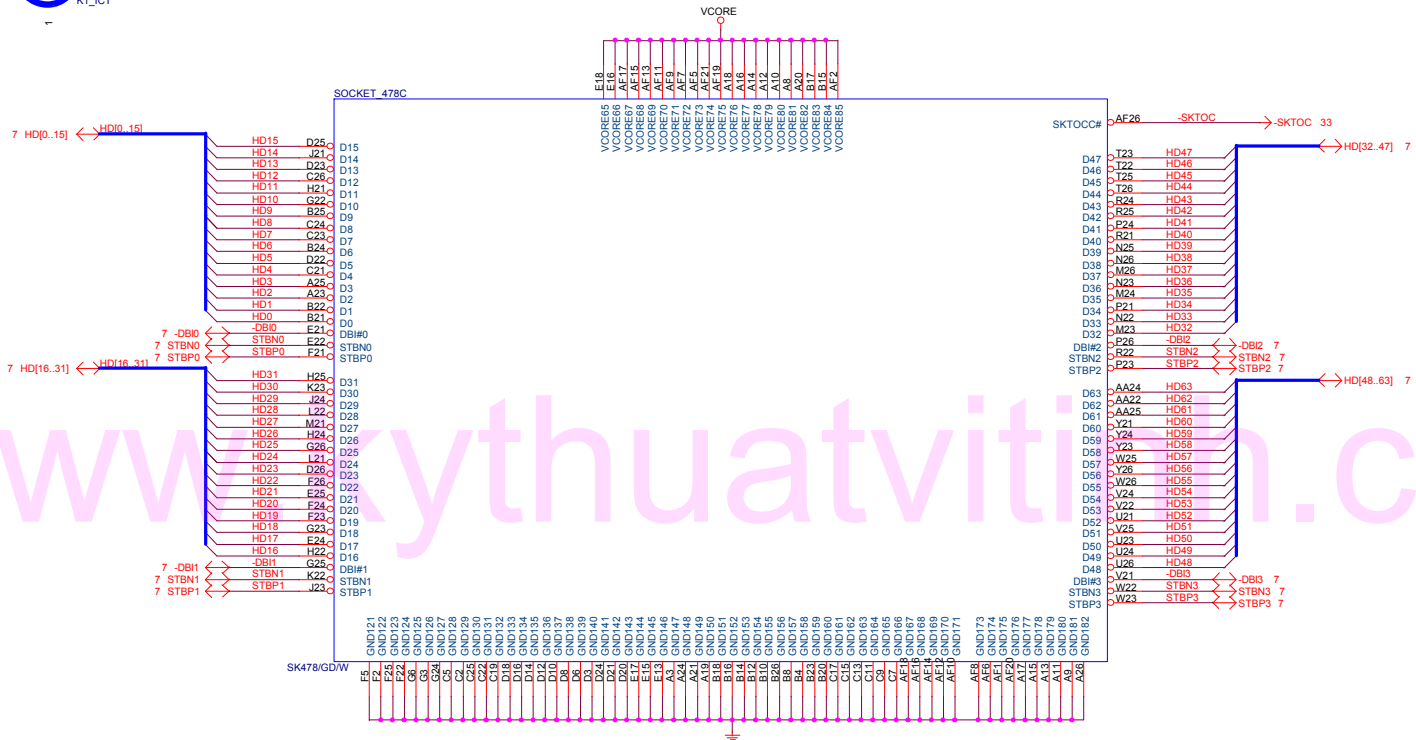
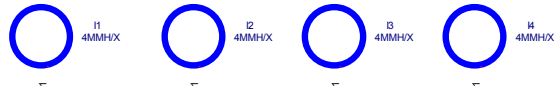
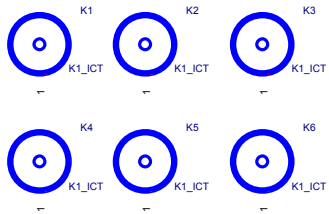


Close to CPU

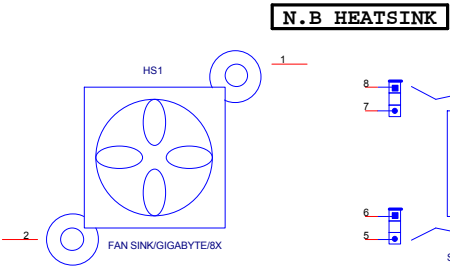
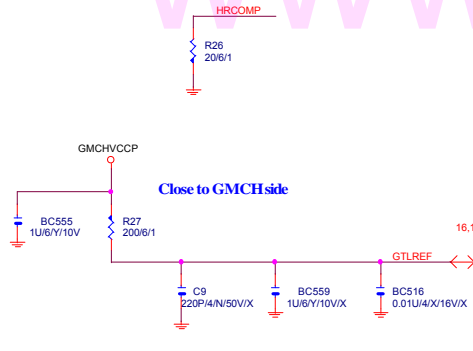
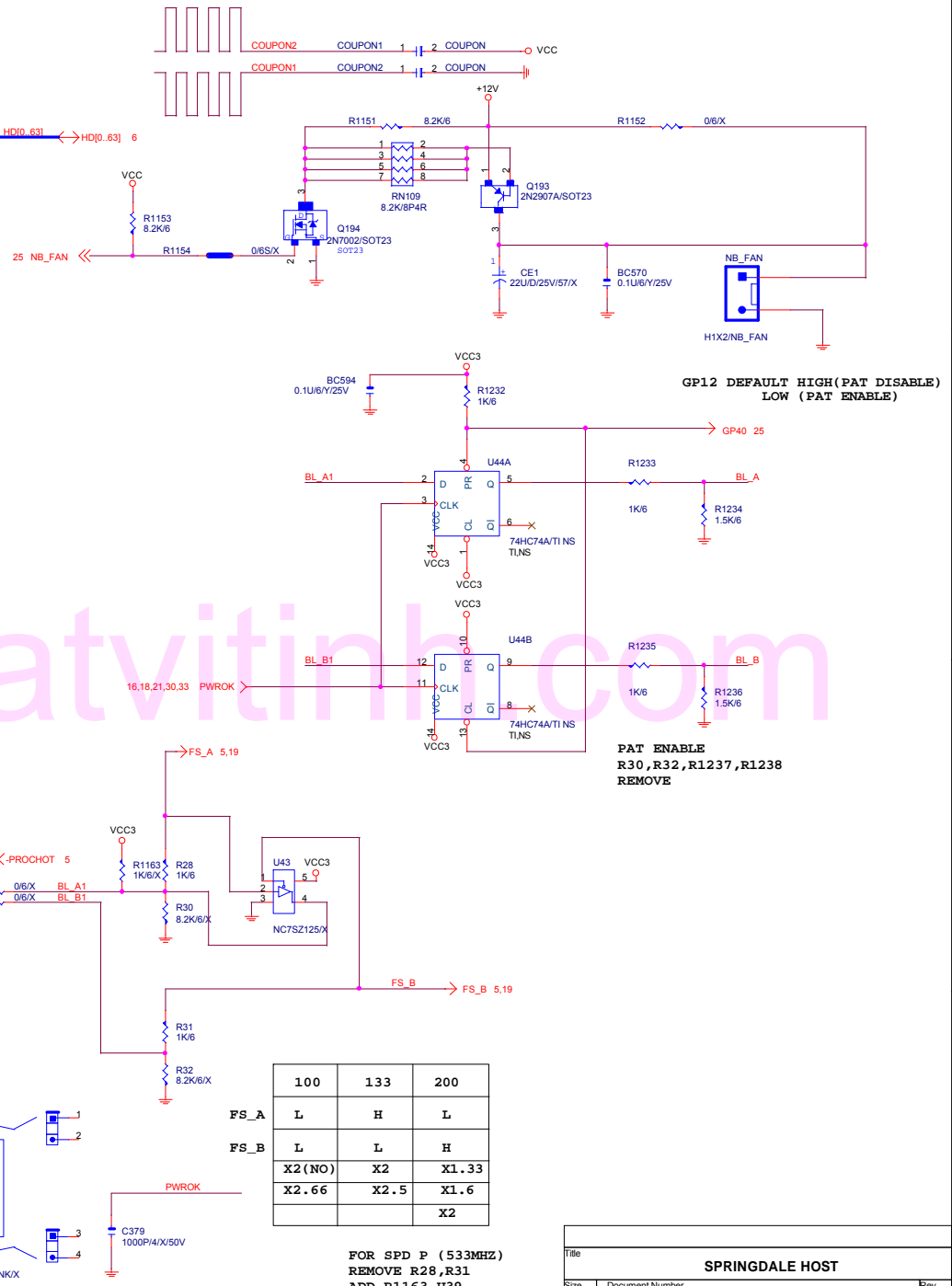
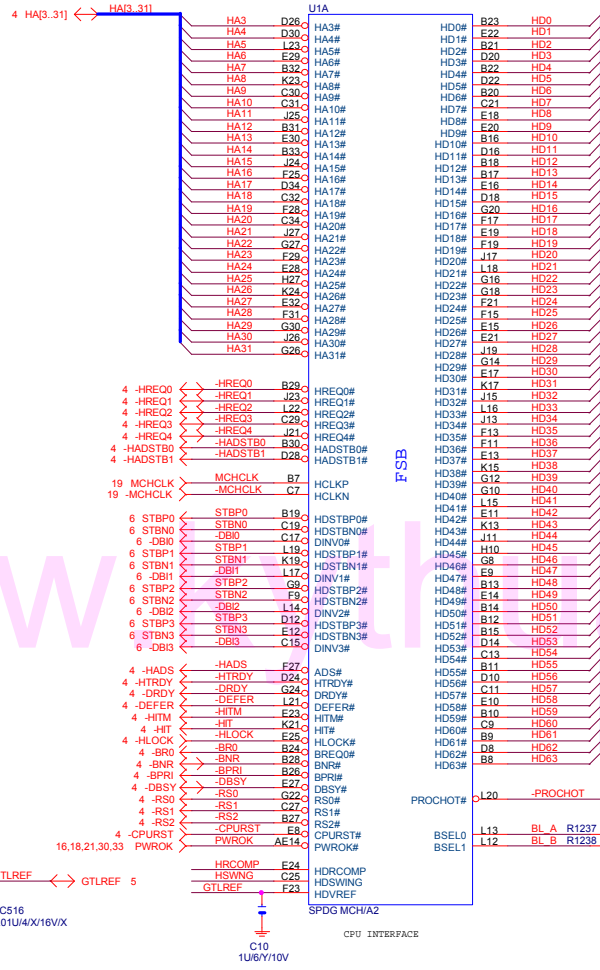


Pull up must place end of route

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Title			P4 478C		
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	100	133	200
FS_A	L	H	L
FS_B	L	L	H
X2 (NO)	X2	X2	X1.33
X2.66	X2.5	X1.6	X2

FOR SPD P (533MHZ)
REMOVE R28, R31
ADD R1163, U39,

14 GAD[0..31] <-> GAD[0..31]
 14 SBA[0..7] <-> SBA[0..7]
 15 HL[0..10] <-> HL[0..10]

14 -GCBE0 <-> -GCBE0 Y7
 14 -GCBE1 <-> -GCBE1 W5
 14 -GCBE2 <-> -GCBE2 AA3
 14 -GCBE3 <-> -GCBE3 U2

14 -GFRAME <-> -GFRAME U6
 19 GMCH3V66 <-> GMCH3V66 U14
 14 -GDEVSEL <-> -GDEVSEL AB4
 14 -GIRDY <-> -GIRDY V11
 14 -GTRDY <-> -GTRDY AB5
 14 -GSTOP <-> -GSTOP W11
 14 GPAR <-> GPAR AB2
 14 -GREQ <-> -GREQ N6
 14 -GGNT <-> -GGNT M7

14 GSWING <-> GRCOMP AC2
 14 MCH_AGPREF <-> MCH_AGPREF AC3
 14 -RBF <-> -RBF R10
 14 -WBF <-> -WBF R9
 14 -PIPE <-> -PIPE M4
 14 GDBI_LO <-> GDBI_LO M5

14 ST0 <-> ST0 N3
 14 ST1 <-> ST1 N5
 14 ST2 <-> ST2 N2

HL0 <-> AF5 H0
 HL1 <-> AG3 H1
 HL2 <-> AK2 H2
 HL3 <-> AG5 H3
 HL4 <-> AK5 H4
 HL5 <-> AL3 H5
 HL6 <-> AL2 H6
 HL7 <-> AL4 H7
 HL8 <-> AJ2 H8
 HL9 <-> AJ2 H9
 HL10 <-> AJ3 H10

15 HLSTBF <-> HLSTBF AH5
 15 HLSTBS <-> HLSTBS AH4

HLRCOMP_MCH <-> HLRCOMP AD4
 HL_SWING_MCH <-> HL_SWING AE3
 HL_VREF_MCH <-> HL_VREF AE2

10 CLSWING_SPG <-> CLRCOMP AG2
 10 CLVREF_SPG <-> CLVREF_SPG AF2
 19 DOTCLK <-> DOTCLK G4
 16 -ICHSYNC <-> -ICHSYNC AJ8
 15,18,21,25,35,38 -PCIRST <-> -PCIRST AK4

TP_GMCH_AG10 <-> TP_GMCH_AG10 AG10
 TP_GMCH_AG9 <-> TP_GMCH_AG9 AG9
 AN3 <-> AN3 NC_3
 AP34 <-> AP34 NC_4
 AR1 <-> AR1 NC_7

AC6 <-> ADSTB0 14
 AC5 <-> ADSTB0 14

AE6 <-> GAD0
 AC11 <-> GAD1
 AD5 <-> GAD2
 AE5 <-> GAD3
 AA10 <-> GAD4
 AC9 <-> GAD5
 AC9 <-> GAD5
 AB11 <-> GAD6
 AB7 <-> GAD7
 AA9 <-> GAD8
 AA6 <-> GAD9
 AA5 <-> GAD10
 W10 <-> GAD11
 AA11 <-> GAD12
 W6 <-> GAD13
 W9 <-> GAD14
 V7 <-> GAD15

V4 <-> ADSTB1 14
 V5 <-> ADSTB1 14

AA2 <-> GAD16
 Y4 <-> GAD17
 Y2 <-> GAD18
 W2 <-> GAD19
 Y5 <-> GAD20
 V2 <-> GAD21
 W3 <-> GAD22
 U3 <-> GAD23
 T2 <-> GAD24
 T4 <-> GAD25
 T5 <-> GAD26
 R2 <-> GAD27
 P2 <-> GAD28
 P5 <-> GAD29
 M4 <-> GAD30
 M2 <-> GAD31

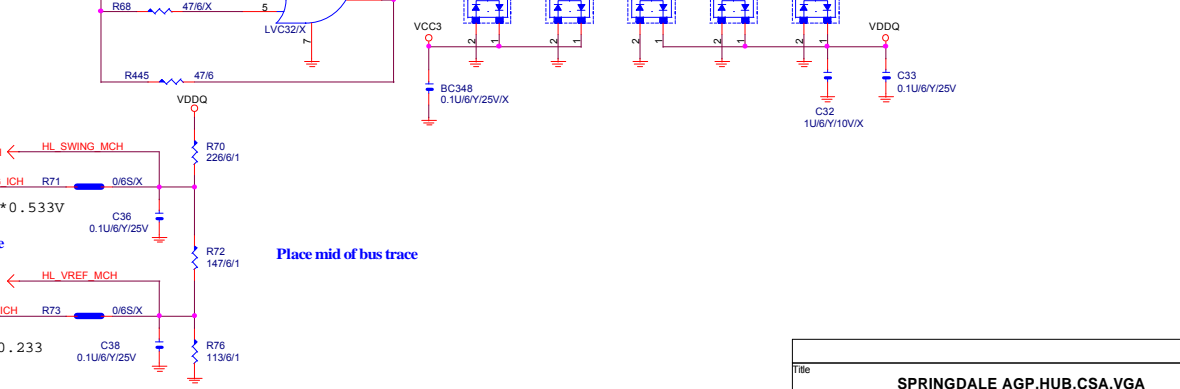
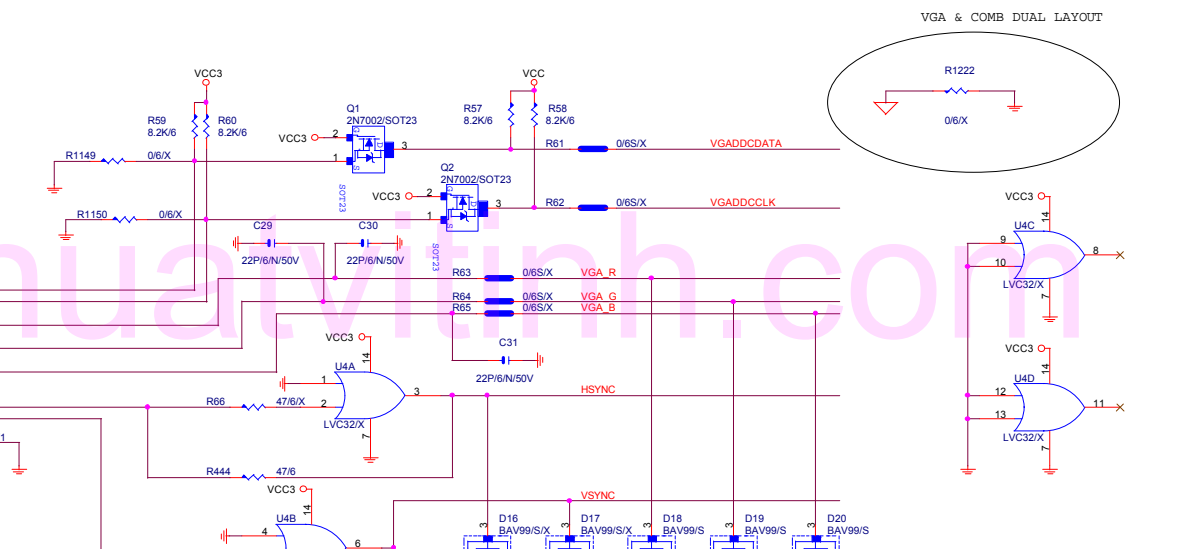
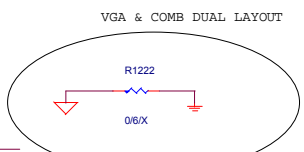
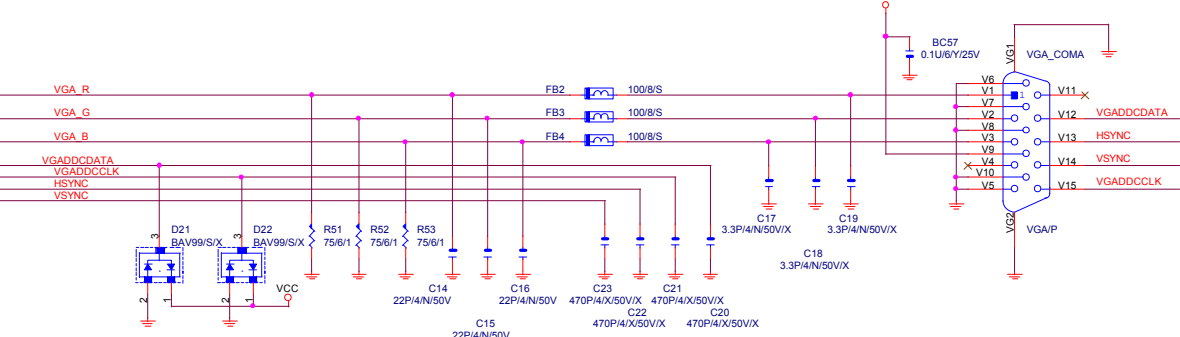
SBSTB <-> SBSTB 14
 T11 <-> SBSTB 14

SBA0 <-> SBA0 R6
 SBA1 <-> SBA1 P7
 SBA2 <-> SBA2 R3
 SBA3 <-> SBA3 R5
 SBA4 <-> SBA4 U9
 SBA5 <-> SBA5 U10
 SBA6 <-> SBA6 U5
 SBA7 <-> SBA7 T7

RED <-> E4 H3
 RED# <-> E4 H6
 GREEN <-> G5 H7
 BLUE <-> G6 H8
 BLUE# <-> G6 H5

RESERVED_1 <-> RESERVED_1 NC_1
 RESERVED_2 <-> RESERVED_2 NC_2
 RESERVED_3 <-> RESERVED_3 NC_5
 RESERVED_4 <-> RESERVED_4 NC_7
 RESERVED_5 <-> RESERVED_5 NC_9

SPDG_MCH/A2 <-> SPDG_MCH/A2



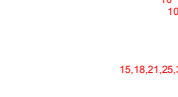
Close to MCH

C27 0.01u/4X/16V
 C28 0.01u/4X/16V



35 C[100]

C100 0.01u/4X/16V



35 CISTBF
 35 CISTBS



VDDQ
 R69 52.3/6/1
 CLRCOMP



GSWING C34 0.1u/6/Y/25V
 MCH_AGPREF C35 0.01u/4X/16V



CLOSED TO MCH

VDDQ
 R74 52.3/6/1
 HLRCOMP_MCH



VDDQ
 R75 43.26/1
 GRCOMP



VDDQ
 C419 10P/6/Y/16V/X



15 HL_SWING_I<CH <-> HL_SWING_I<CH R71 0/6S/X
 VDDQ * 0.533V
 C36 0.1u/6/Y/25V



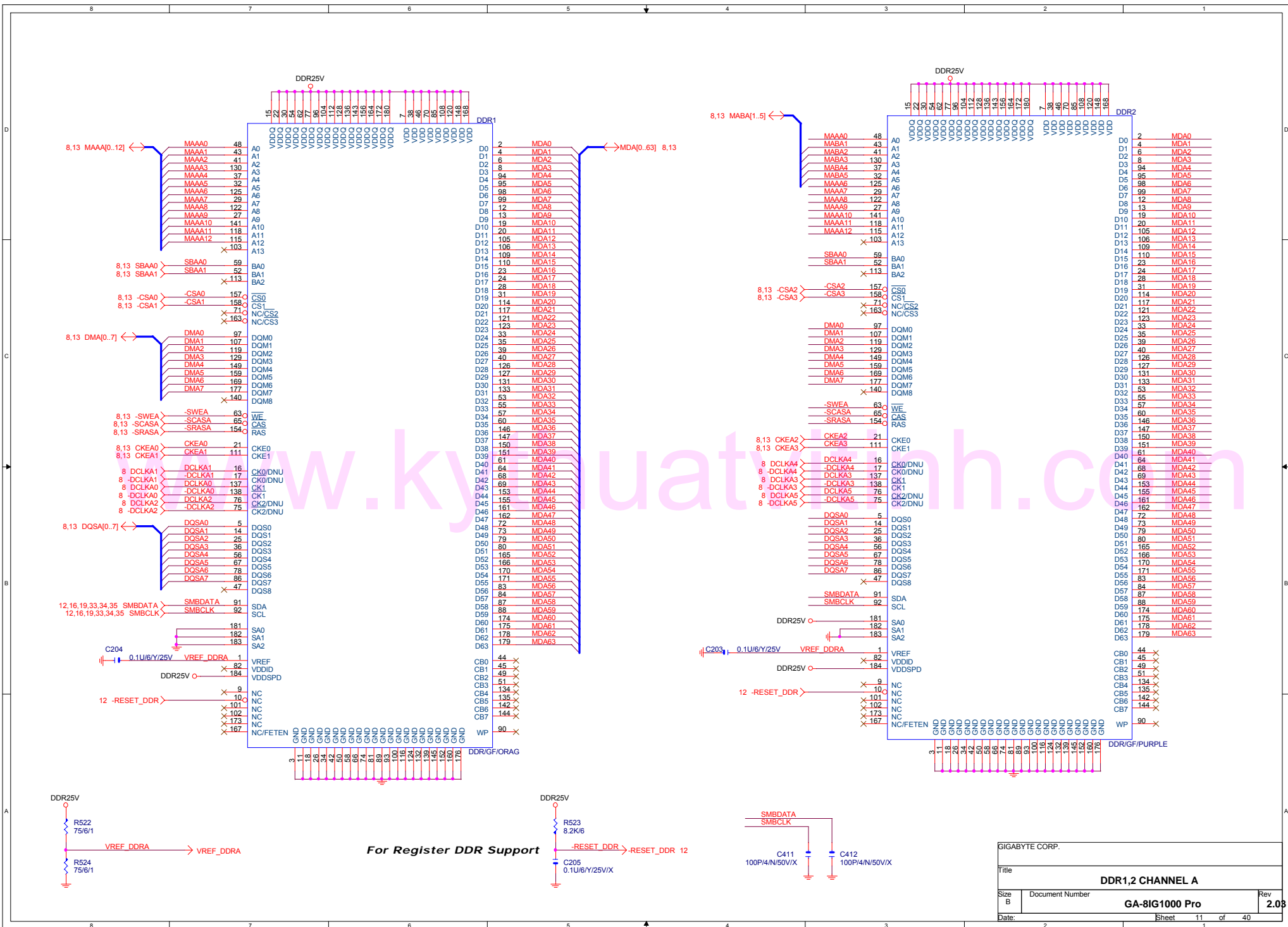
10 mil trace with 7 mil space

HL_VREF_M<CH <-> HL_VREF_M<CH
 15 HL_VREF_I<CH <-> HL_VREF_I<CH R73 0/6S/X
 VDDQ * 0.233
 C38 0.1u/6/Y/25V



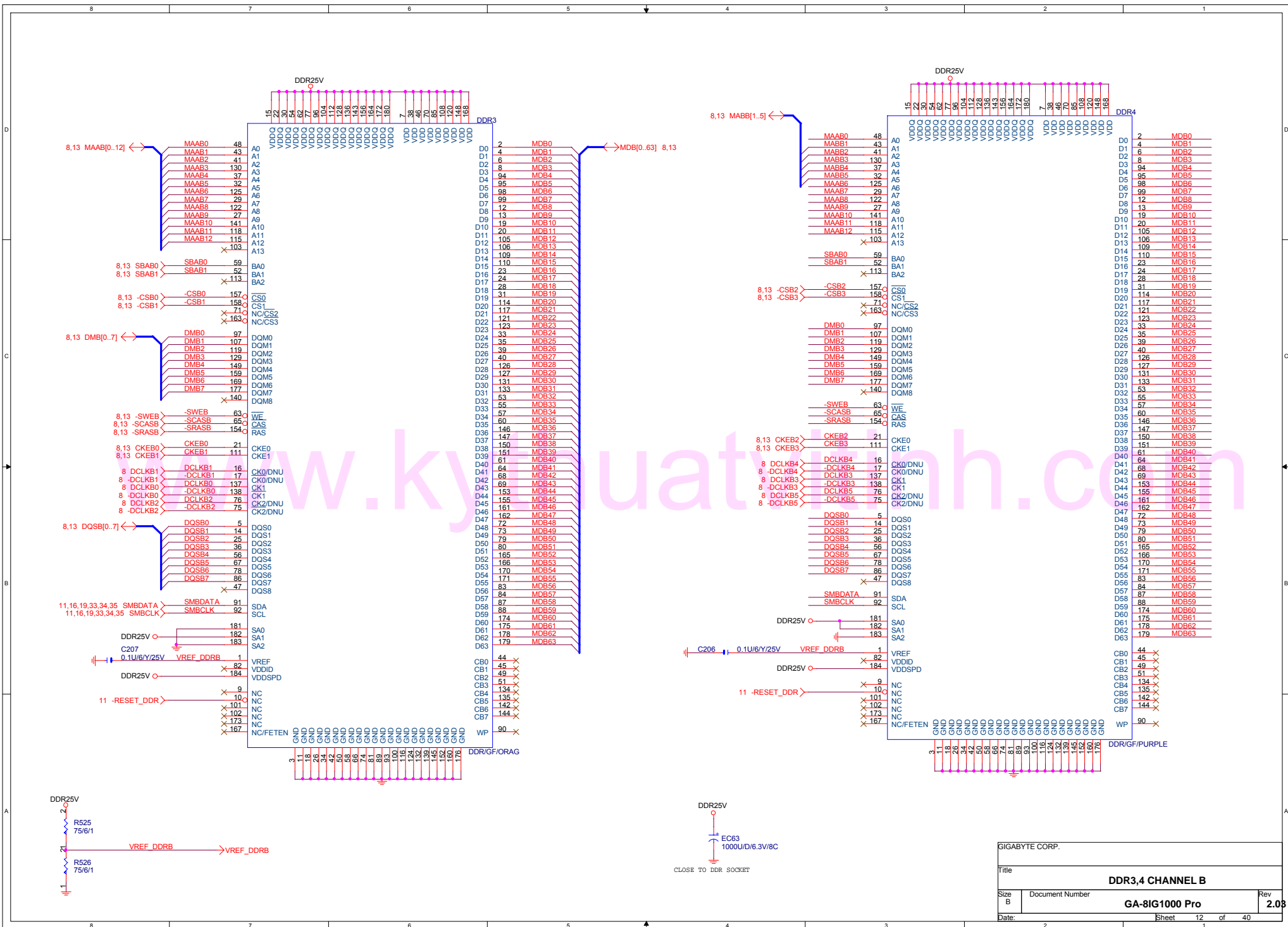
Place mid of bus trace

Title			
SPRINGDALE AGP,HUB,CSA,VGA			
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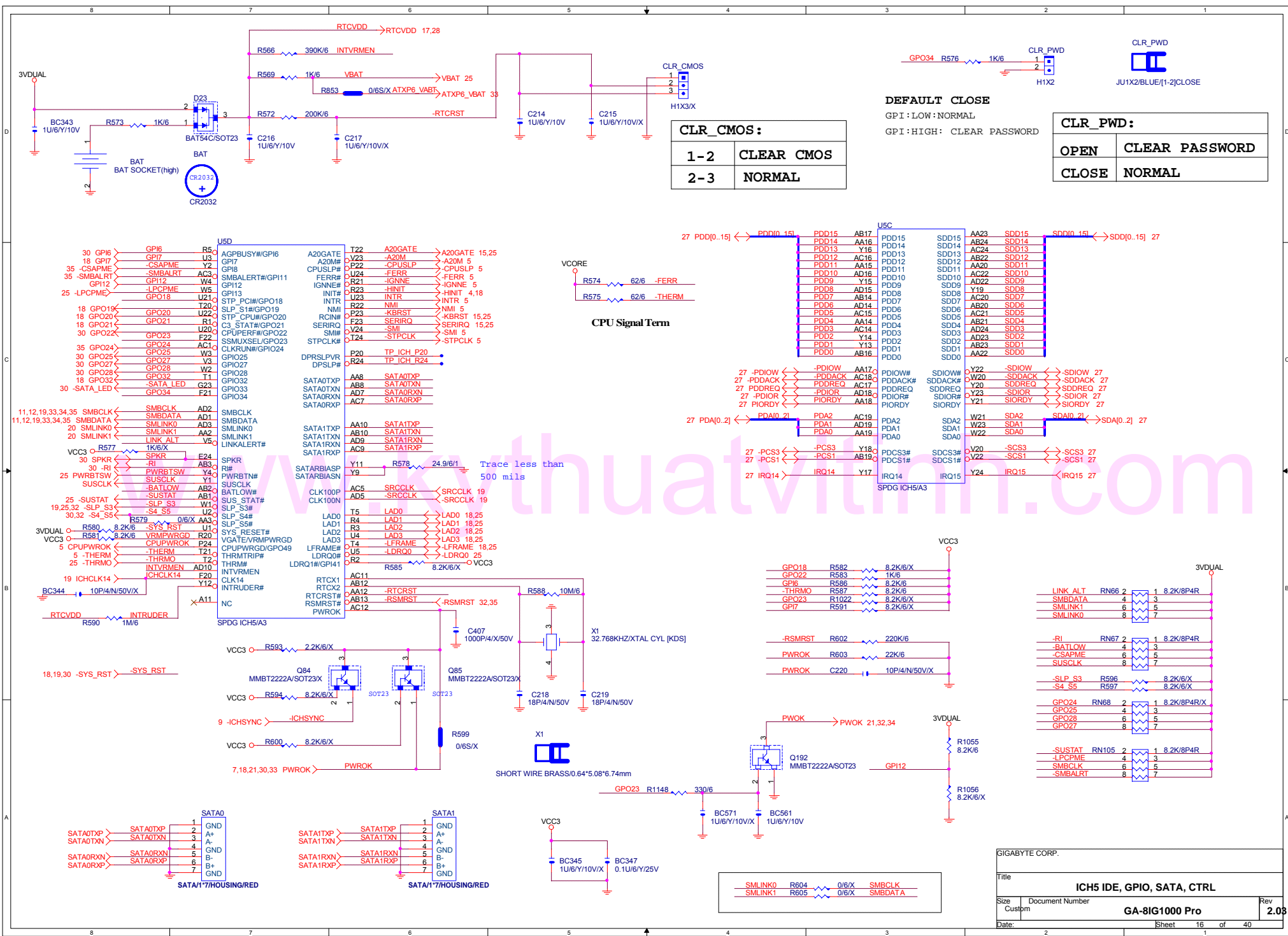


For Register DDR Support

GIGABYTE CORP.		
Title		
DDR1,2 CHANNEL A		
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GIGABYTE CORP.		
Title		
DDR3,4 CHANNEL B		
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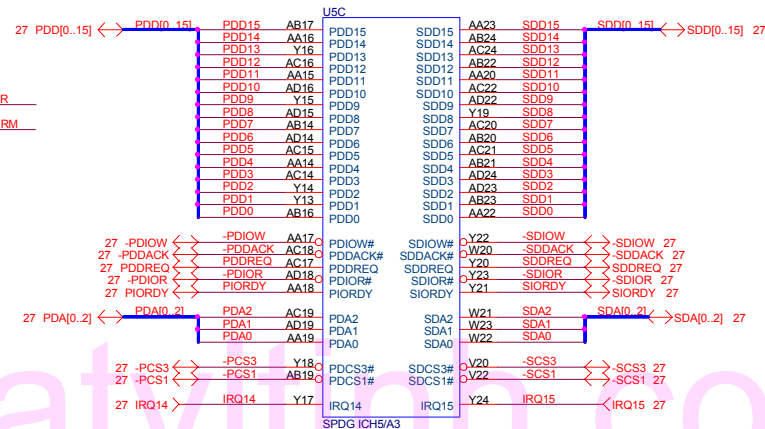


CLR_CMOS :

1-2	CLEAR CMOS
2-3	NORMAL

CLR_PWD :

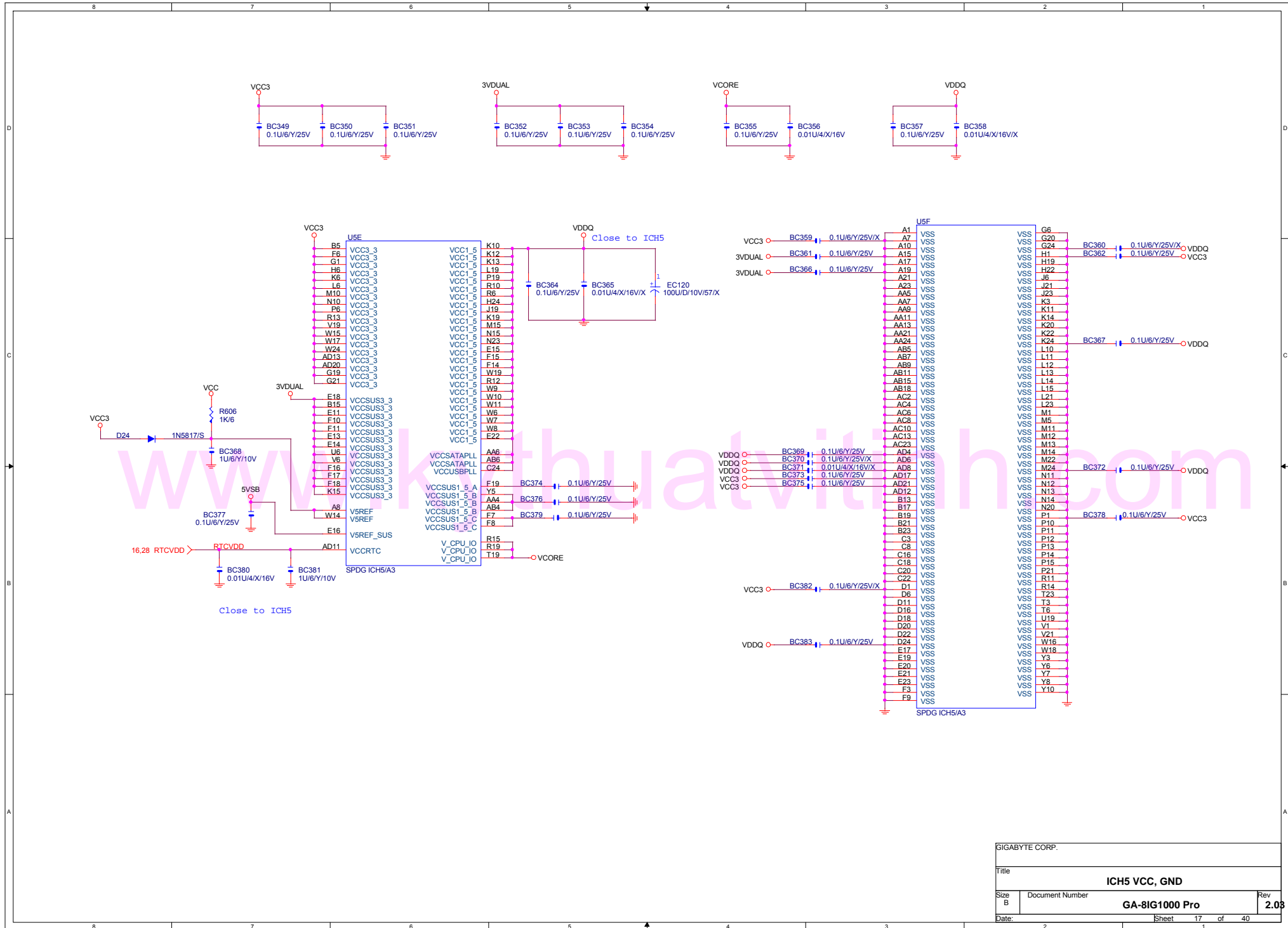
OPEN	CLEAR PASSWORD
CLOSE	NORMAL

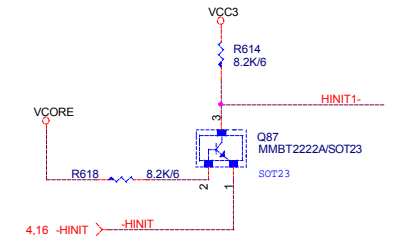
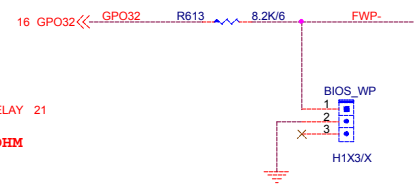
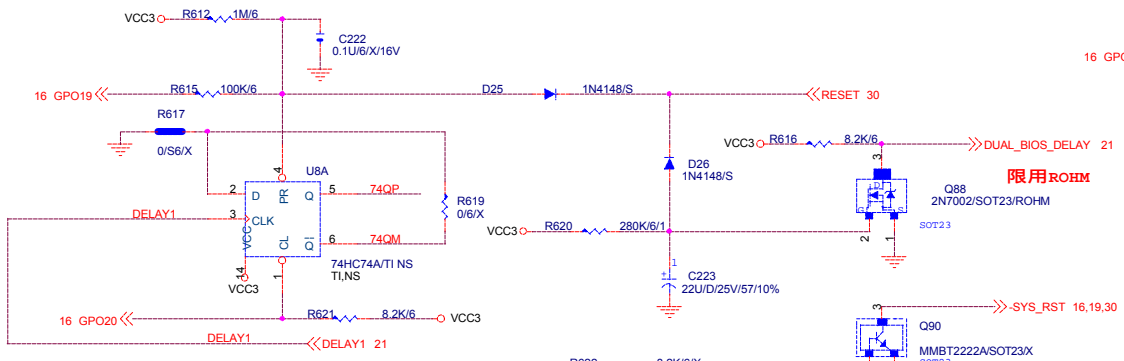


GIGABYTE CORP.

Title: **ICH5 IDE, GPIO, SATA, CTRL**

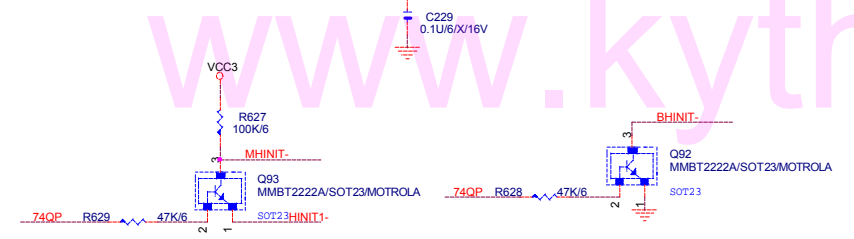
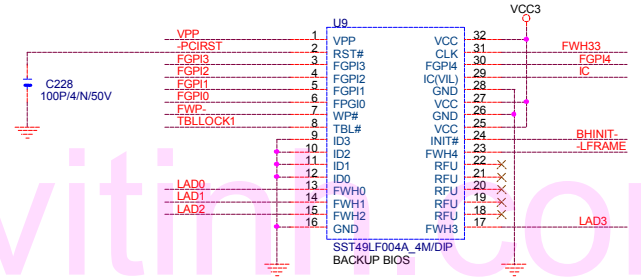
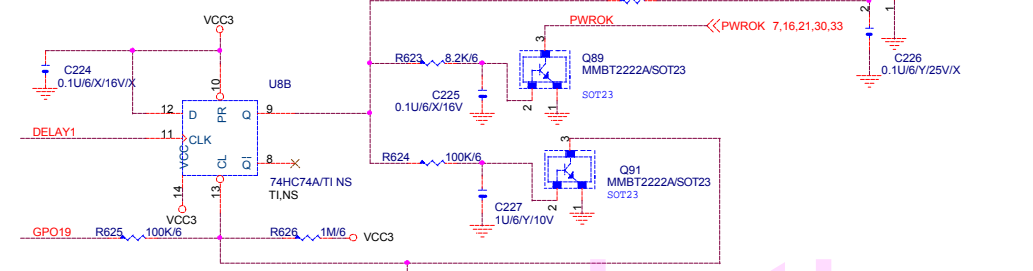
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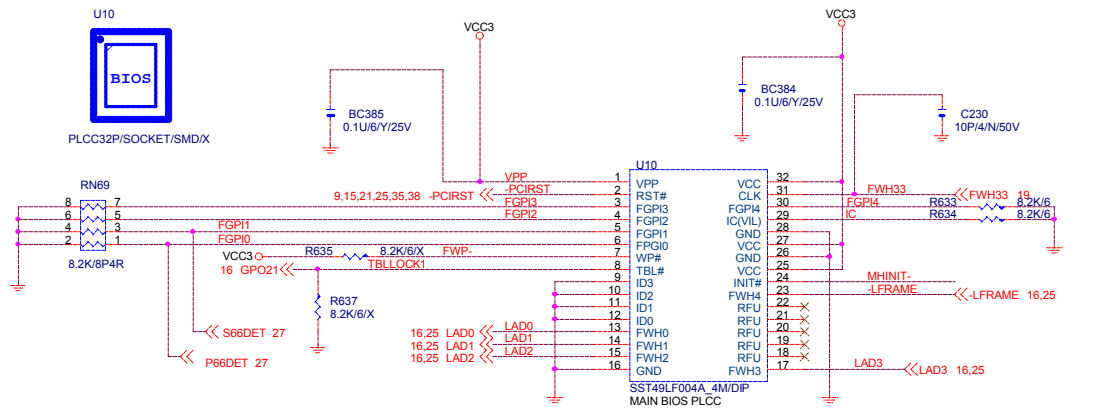
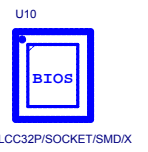


BIOS_WP:

1-2	WRITE PROTECT
2-3	DISABLE



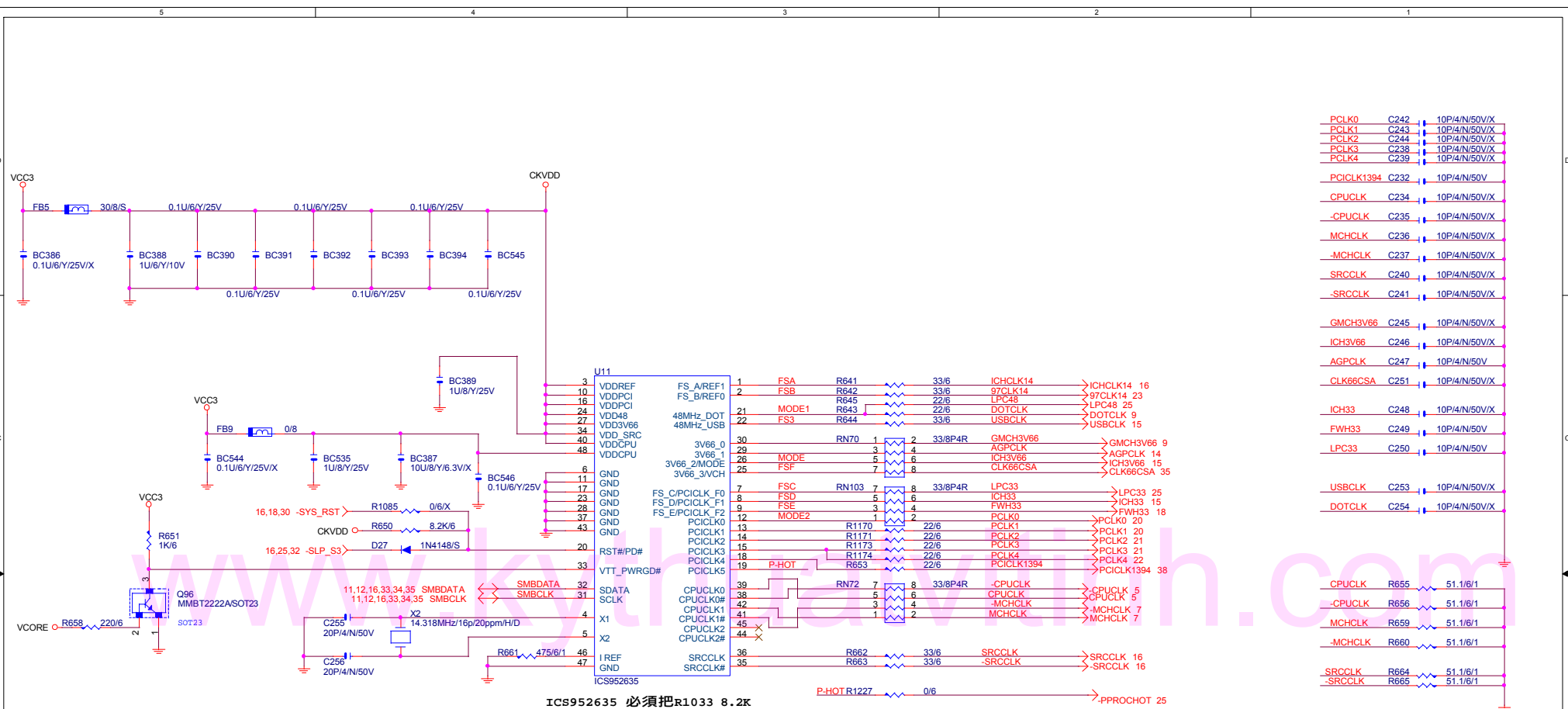
指定用MOTROLA



GIGABYTE CORP.

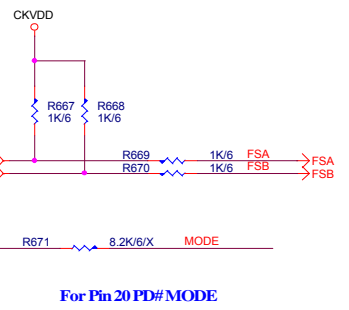
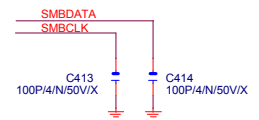
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ADD WINBOUD FWH SEC. SOURCE

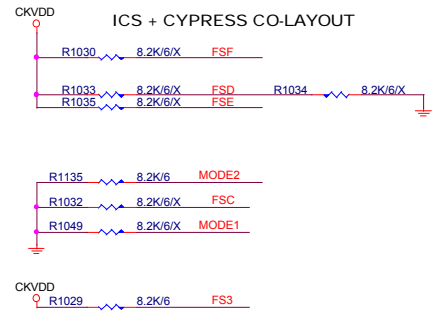


- PCLK0 C242 10P/4/N/50V/X
- PCLK1 C243 10P/4/N/50V/X
- PCLK2 C244 10P/4/N/50V/X
- PCLK3 C238 10P/4/N/50V/X
- PCLK4 C239 10P/4/N/50V/X
- PCCLK1394 C232 10P/4/N/50V
- CPUCLK C234 10P/4/N/50V/X
- CPUCLK C235 10P/4/N/50V/X
- MCHCLK C236 10P/4/N/50V/X
- MCHCLK C237 10P/4/N/50V/X
- SRCLK C240 10P/4/N/50V/X
- SRCLK C241 10P/4/N/50V/X
- GMCH3V66 C245 10P/4/N/50V/X
- ICH3V66 C246 10P/4/N/50V/X
- AGPCLK C247 10P/4/N/50V
- CLK66CSA C251 10P/4/N/50V/X
- ICH33 C248 10P/4/N/50V/X
- FWH33 C249 10P/4/N/50V
- LPC33 C250 10P/4/N/50V
- USBCLK C253 10P/4/N/50V/X
- DOTCLK C254 10P/4/N/50V/X
- CPUCLK R655 51.1/6/1
- CPUCLK R656 51.1/6/1
- MCHCLK R659 51.1/6/1
- MCHCLK R660 51.1/6/1
- SRCLK R664 51.1/6/1
- SRCLK R665 51.1/6/1

ICS952635 必須把R1033 8.2K REMOVE



For Pin 20 PD# MODE

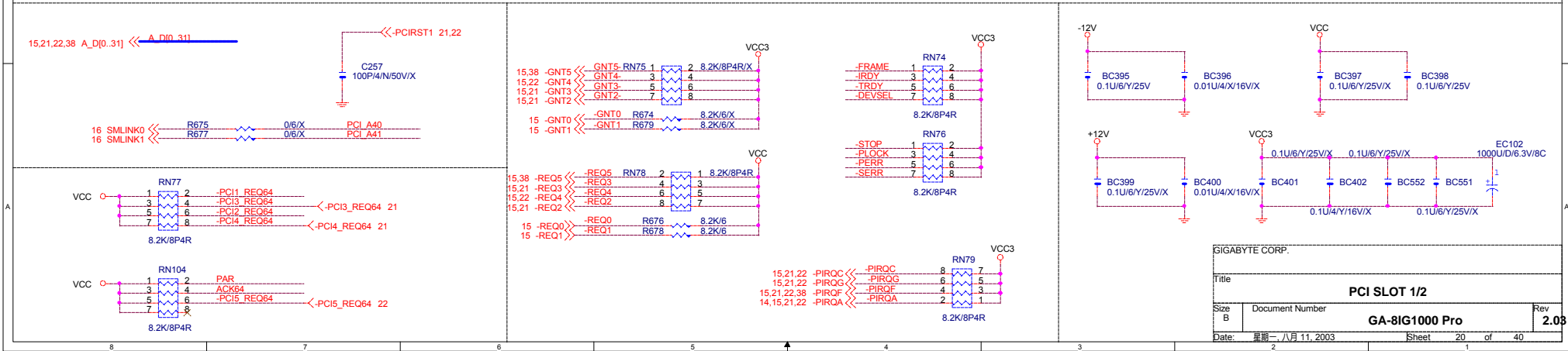
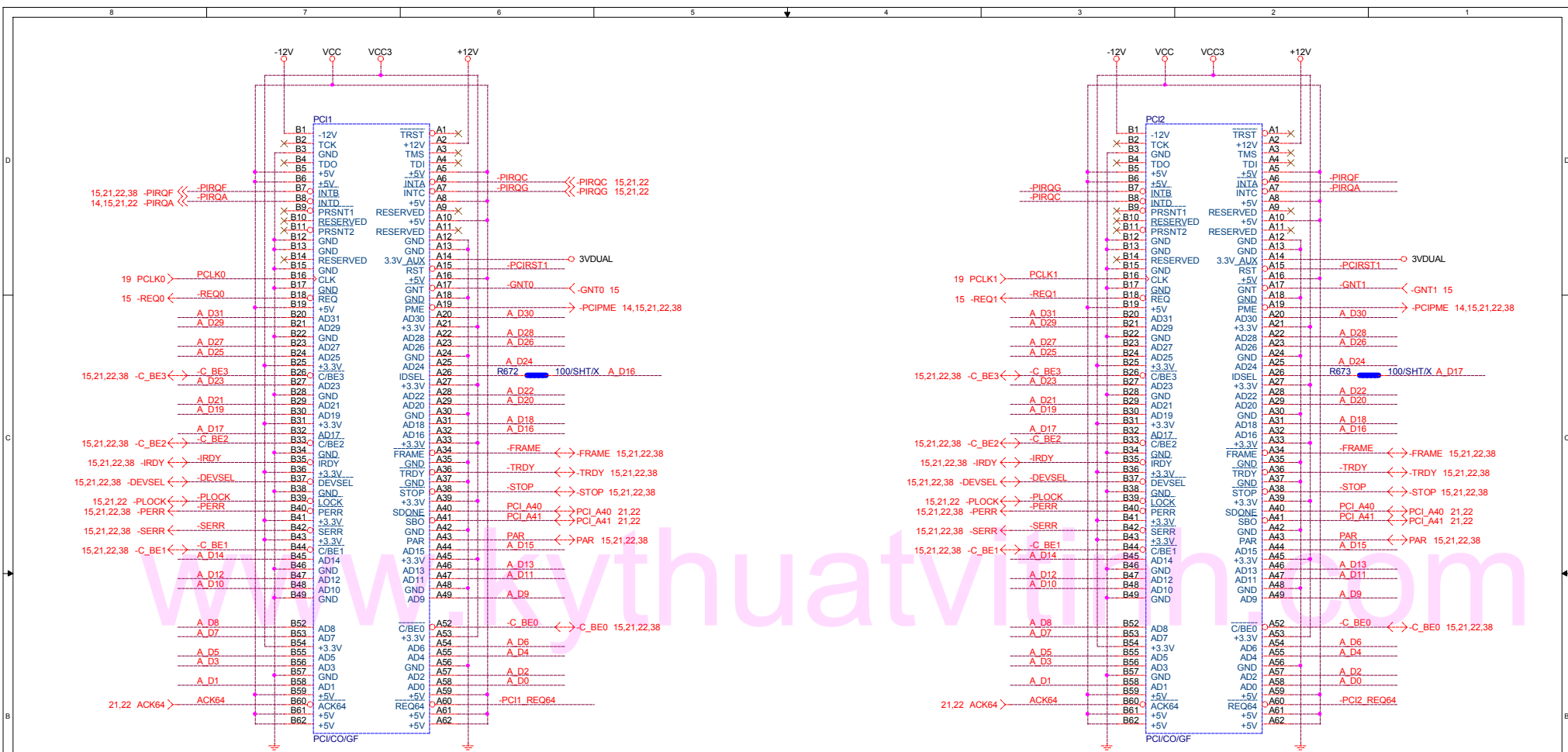


CYPRESS CY28405

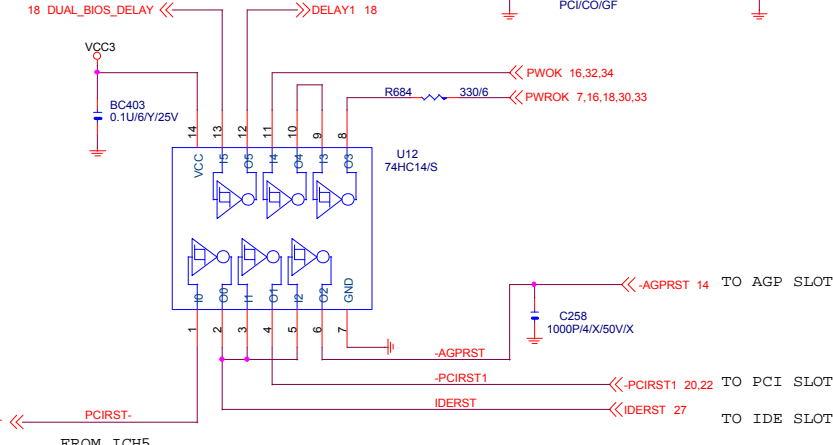
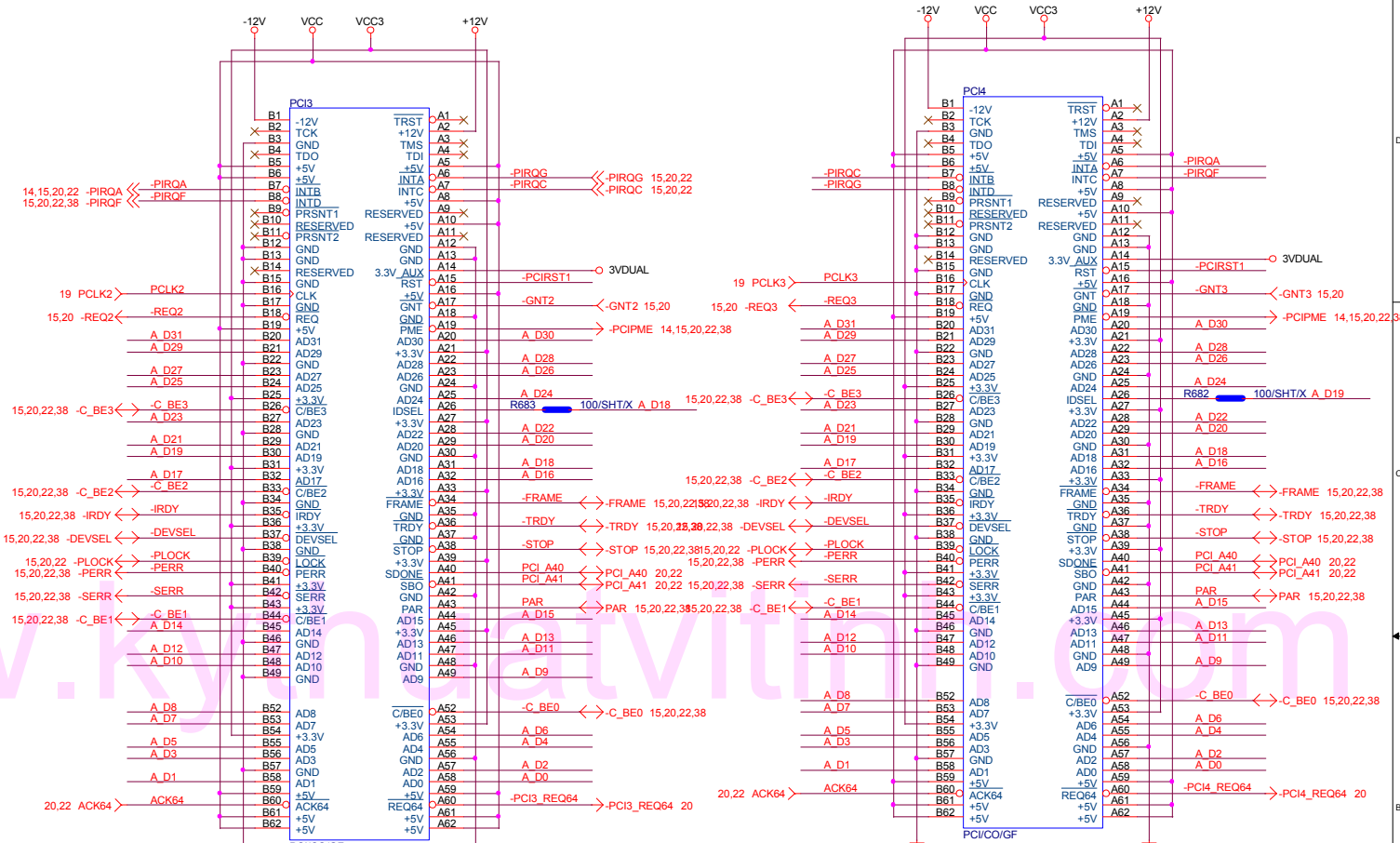
FS_E	FS_D	FS_C	FS_B	FS_A	Clock
1	1	0	0	0	100.9MHz
1	1	0	0	1	133.9MHz
1	1	0	1	1	166.9MHz
1	1	0	1	0	200.9MHz

ICS952616

FS_E	FS_3	FS_C	FS_B	FS_A	Clock
1	0	0	0	0	100MHz
1	0	0	0	1	133MHz
1	0	0	1	1	166MHz
1	0	0	1	0	200MHz

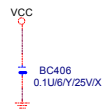
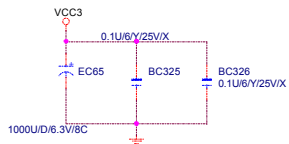
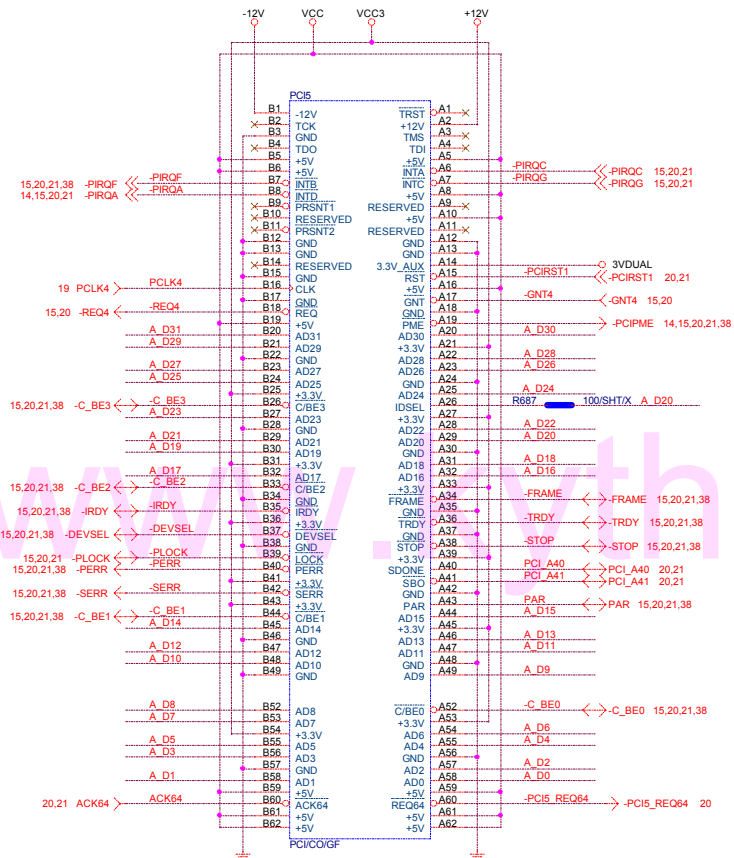


15,20,22,38 A_D0[0..31] << A_D0_311



GIGABYTE CORP.		
Title		
PCI SLOT 3/4		
Size	Document Number	Rev
B	GA-8IG1000 Pro	2.03
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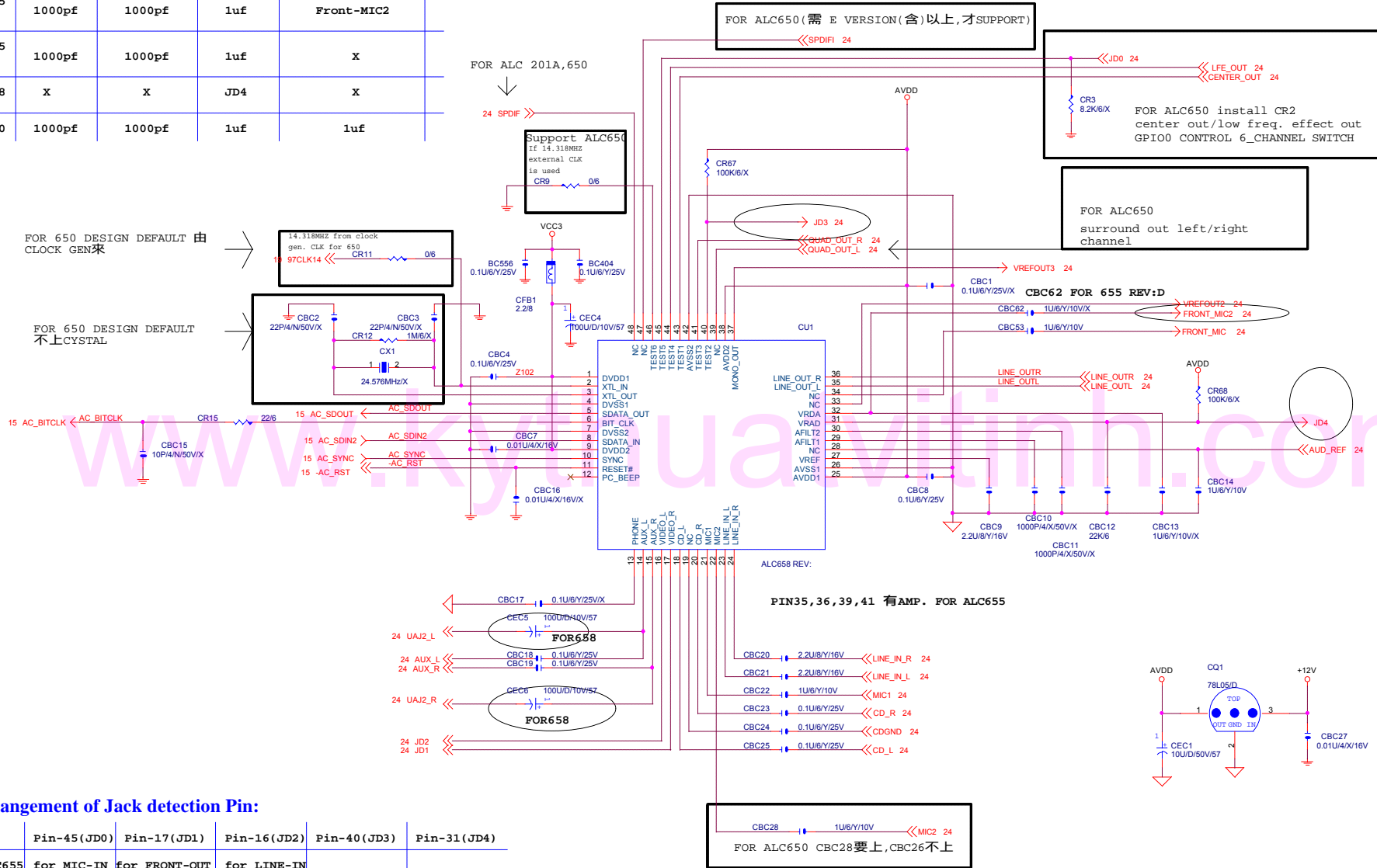
15,20,21,38 A_D[0..31] << A_D[0..31]



SIGABYTE CORP.			
Title			
PCI SLOT 5			
Size	Document Number	Rev	
Custom	GA-8IG1000 Pro	2.03	
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Filter Cap design:

	Pin-29	Pin-30	Pin-31	Pin-32
ALC655 Rev D	1000pf	1000pf	1uf	Front-MIC2
ALC655 Rev C	1000pf	1000pf	1uf	X
ALC658	X	X	JD4	X
ALC650	1000pf	1000pf	1uf	1uf

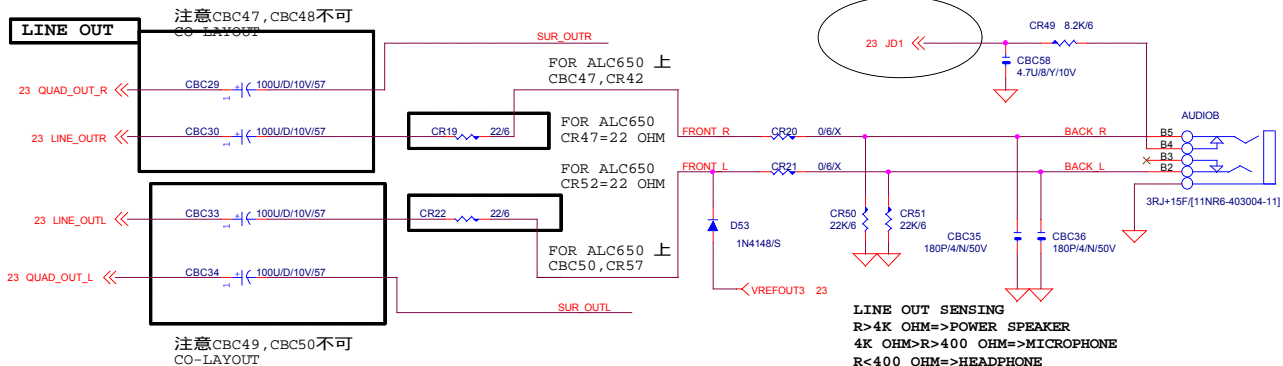


Arrangement of Jack detection Pin:

	Pin-45(JD0)	Pin-17(JD1)	Pin-16(JD2)	Pin-40(JD3)	Pin-31(JD4)
ALC655	for MIC-IN	for FRONT-OUT	for LINE-IN		
ALC658	for MIC-IN	for UAJ1	for UAJ2	for FRONT-OUT	for LINE-IN External pull high is needed

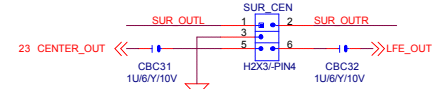
JDO,JD2,GPIO0 為偵測DEVICE INPUT 時由LOW TO HIGH Edge trigger(pop manual)

1/2(3.14)RC=1/2(3.14)8.2K*4.7U=4.3HZ以上AC 信號全部衰減 TO 0V 不會造成JDO 誤動作(無device 時play wav)



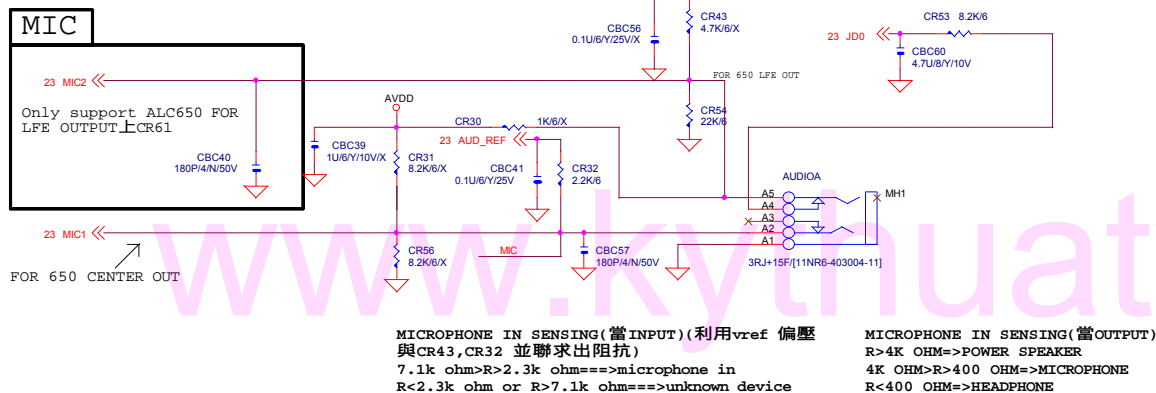
FOR SUPPORT 6 CHANNEL,
SURROUND OUT

CENTER OUT, LOW
FREQUENCY EFFECT OUT

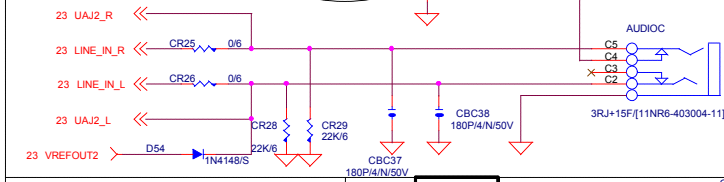


LINE IN SENSING(當OUTPUT)
R>4K OHM=>POWER SPEAKER
4K OHM>R>400 OHM=>MICROPHONE
R<400 OHM=>HEADPHONE

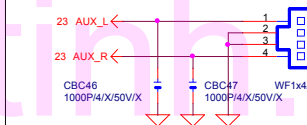
LINE IN SENSING(當INPUT)
swing of input signal>-40dbv(10mv)===>line in
device active
swing of input signal<-40dbv(10mv)===>unknown
line-in-device



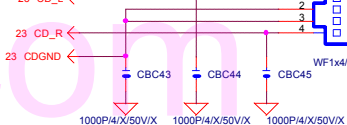
LINE-IN



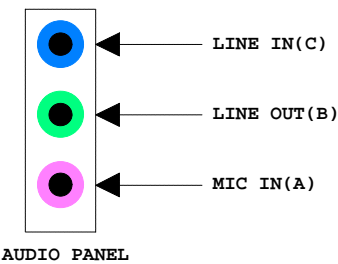
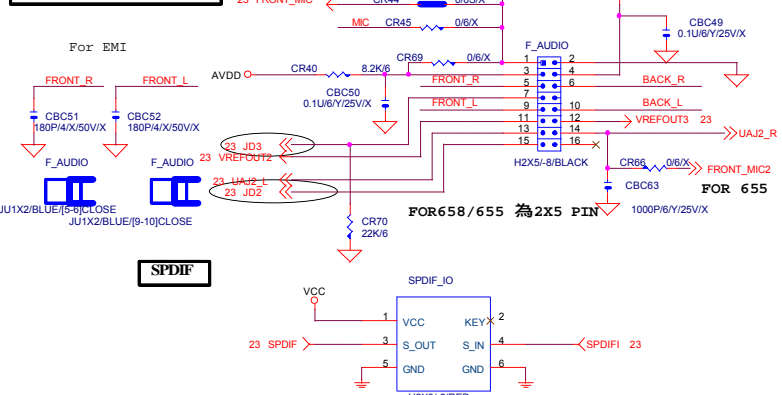
AUX IN DEFAULT NO POP

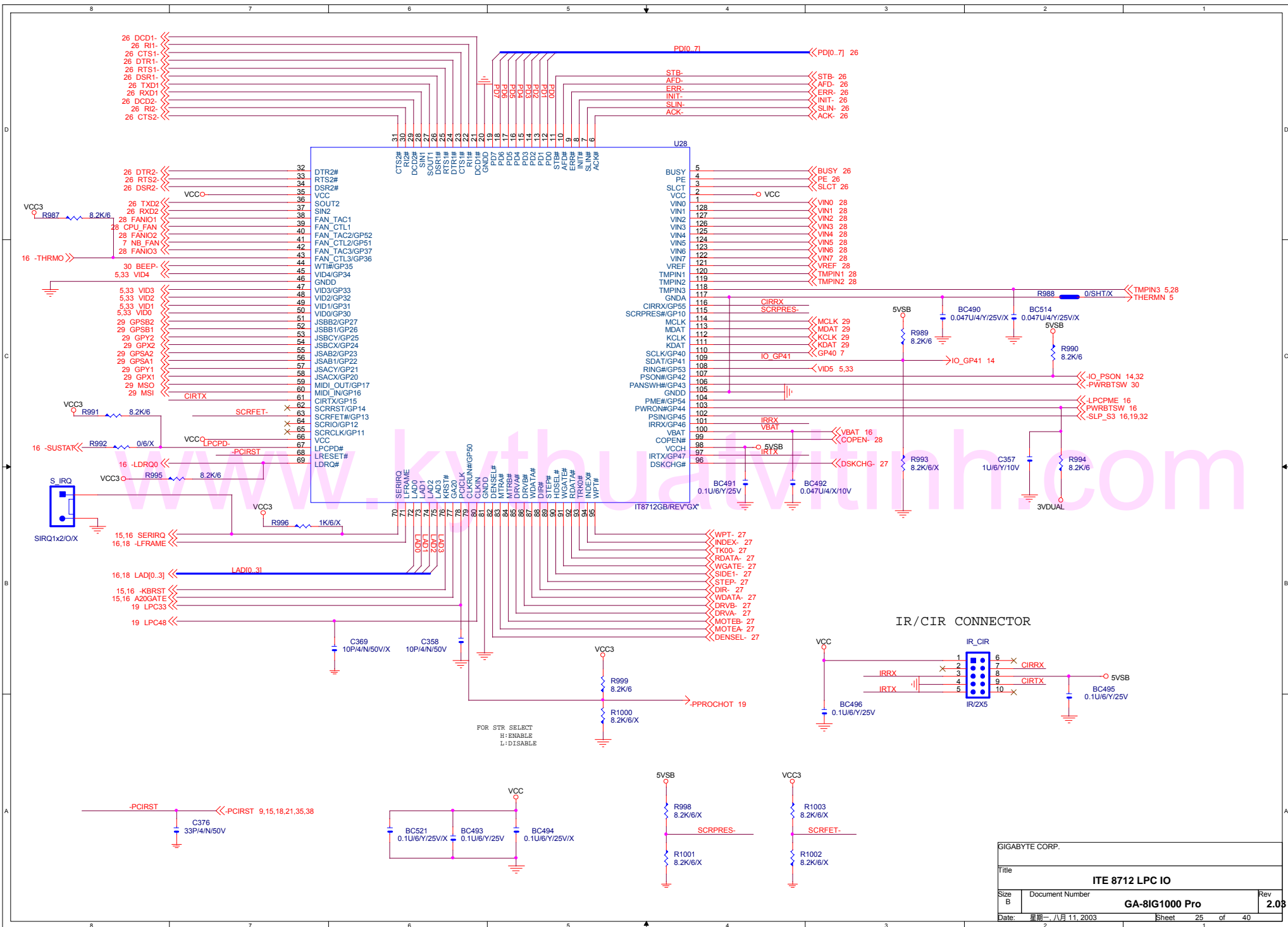


CD IN

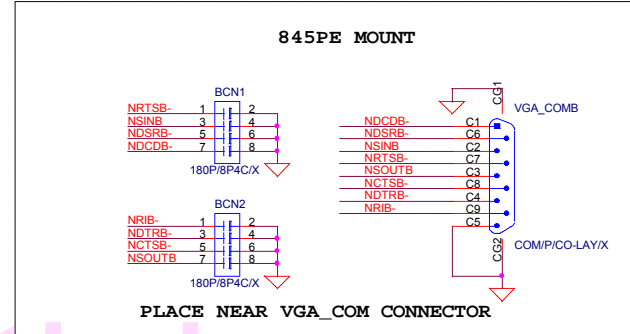
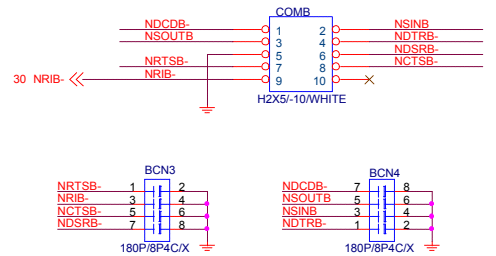
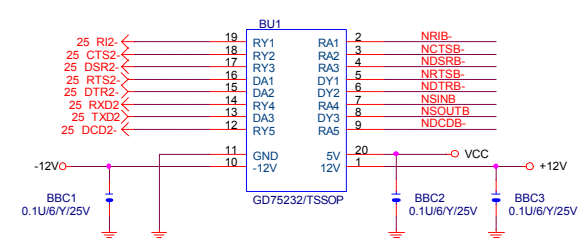
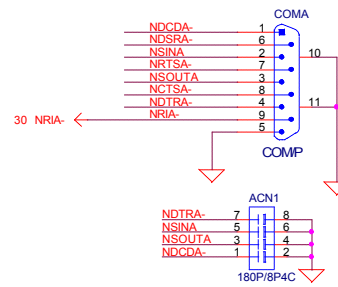
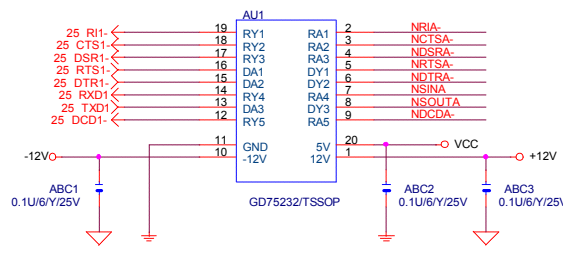


INTEL FRONT AUDIO

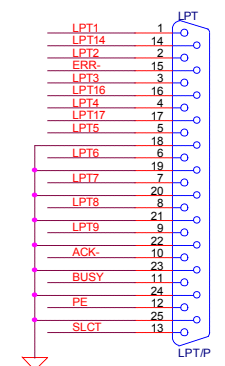
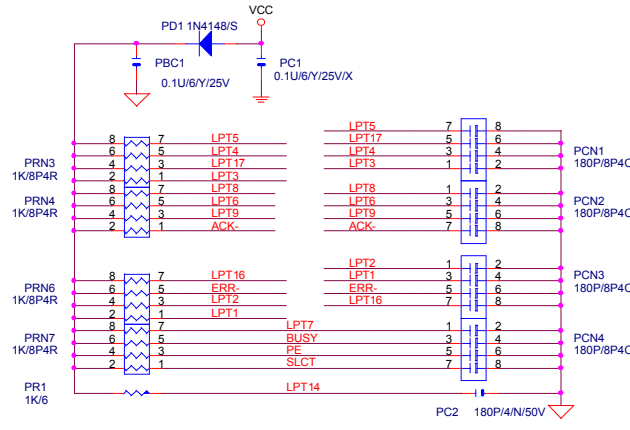
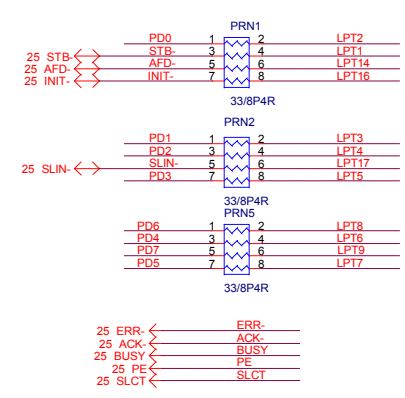


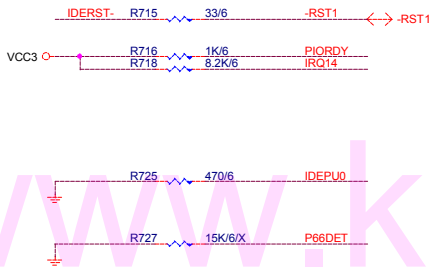
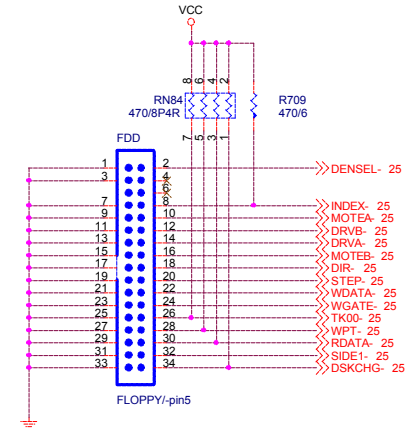
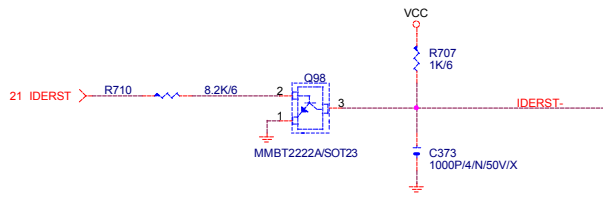


GIGABYTE CORP.		
Title		
ITE 8712 LPC IO		
Size	Document Number	Rev
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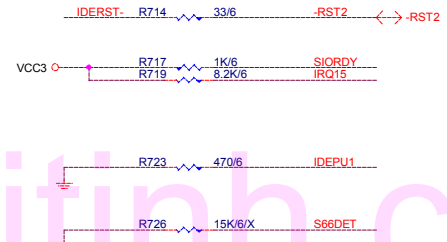


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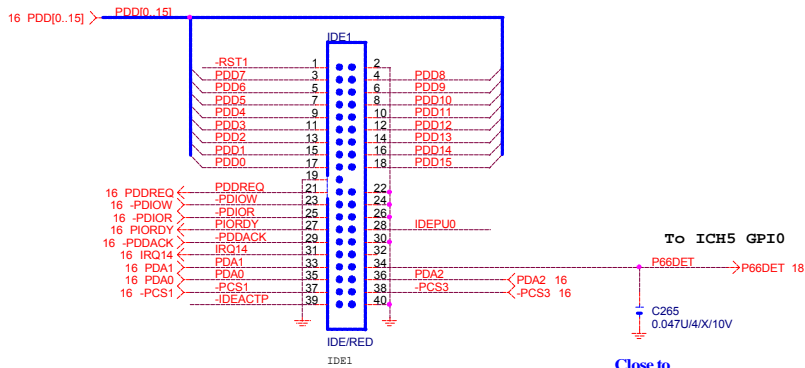




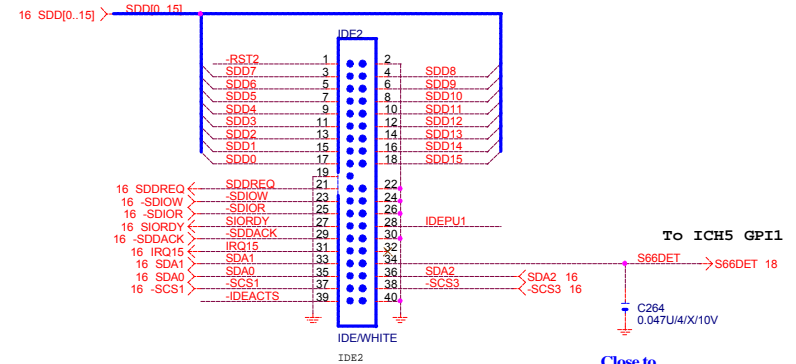
PRIMARY IDE CONNECTOR



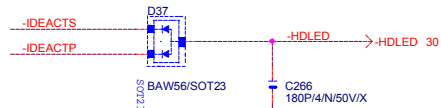
SECONDARY IDE CONNECTOR



Close to connector



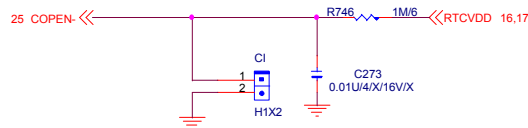
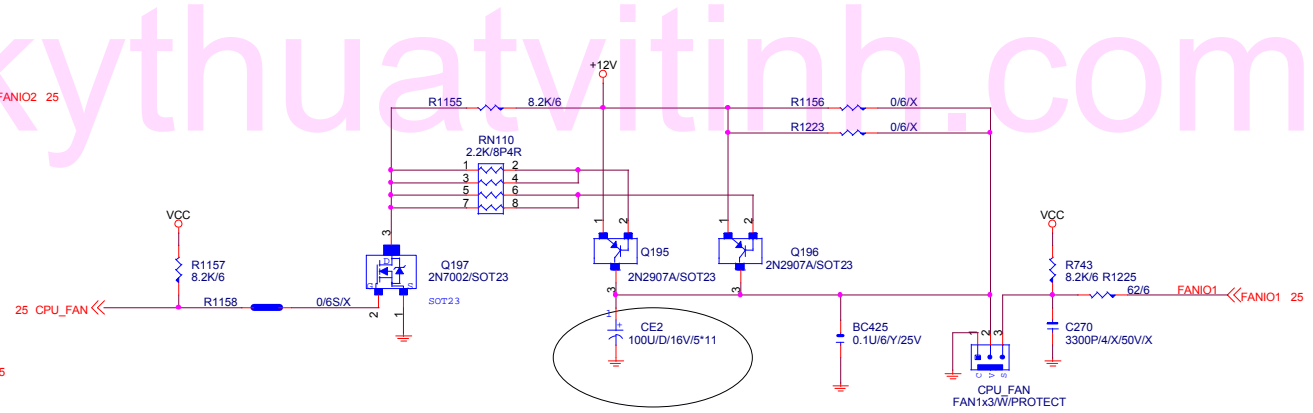
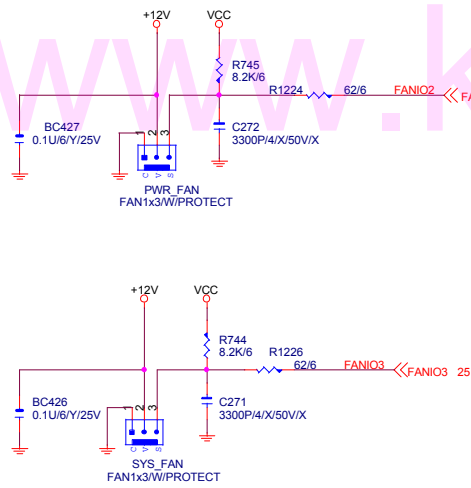
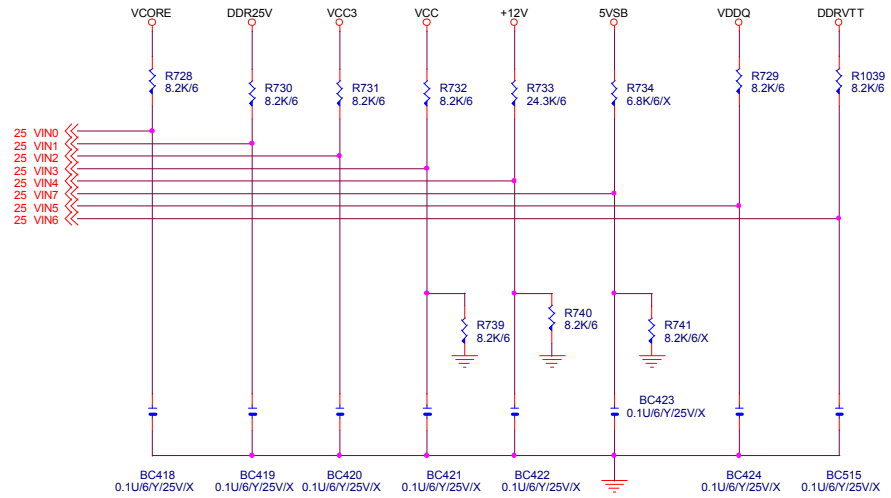
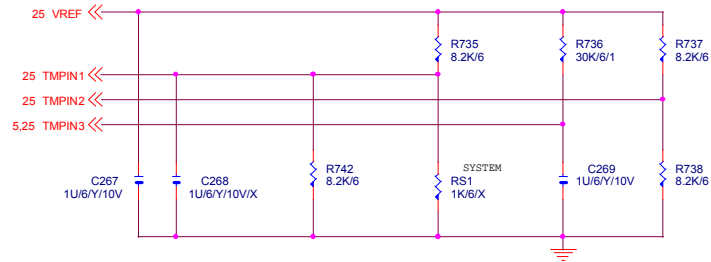
Close to connector



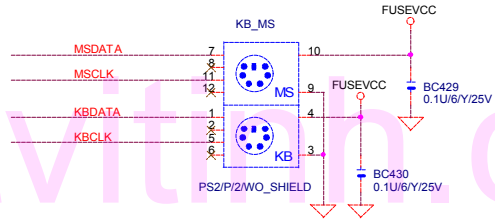
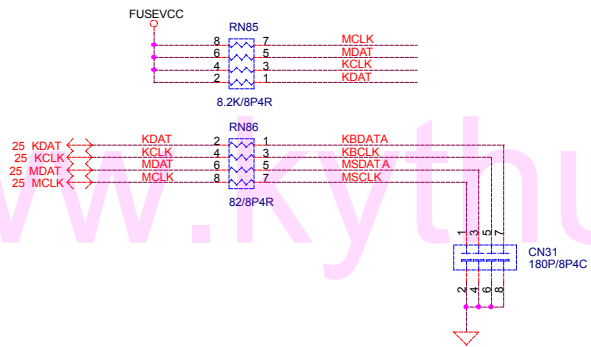
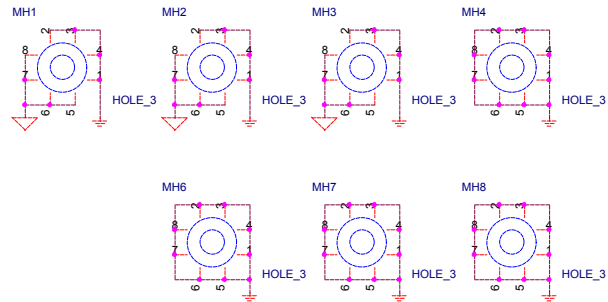
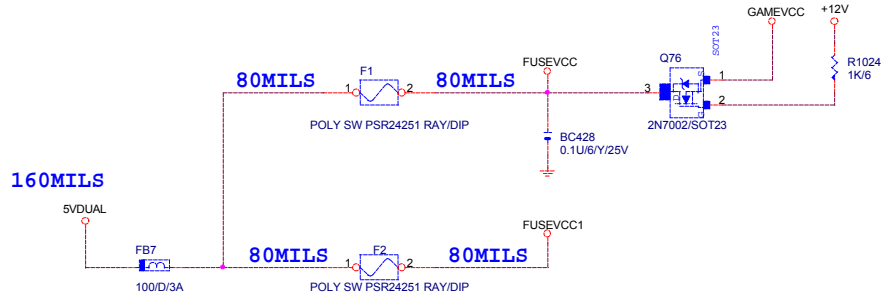
GIGABYTE CORP.

Title		
IDE CONNECTOR		
Size B	Document Number	Rev
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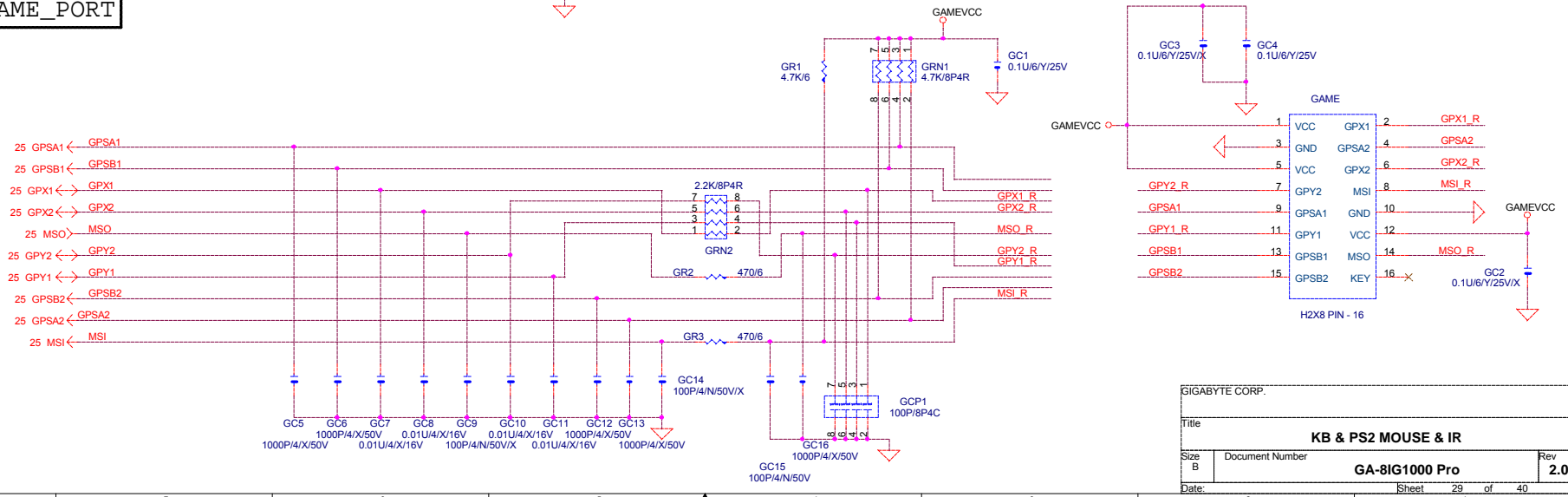
Hardware Monitor circuits



GIGABYTE CORP.		
Title		
FAN/HWMO		
Size	Document Number	Rev
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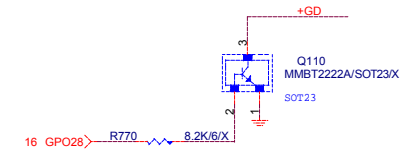
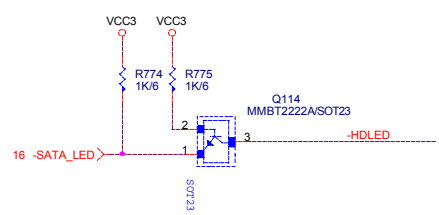
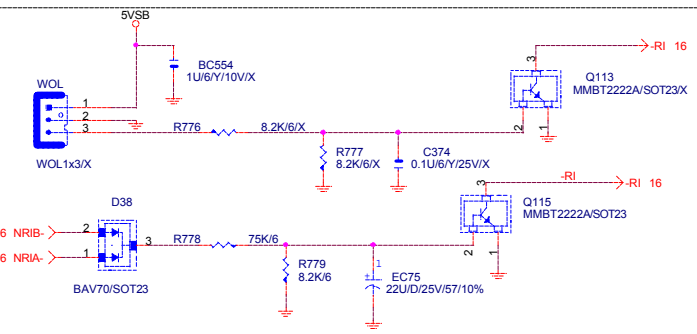
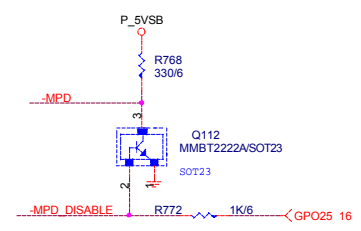
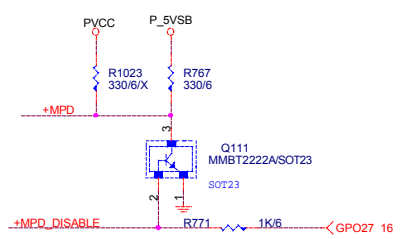
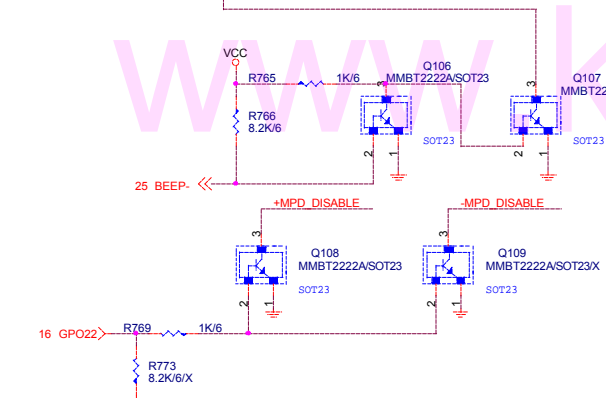
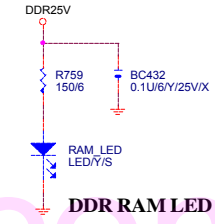
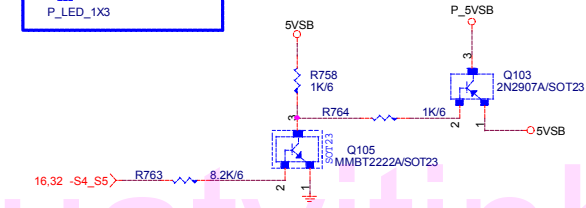
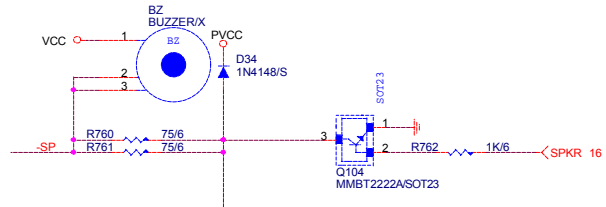
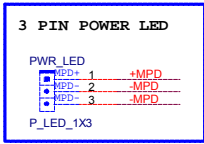
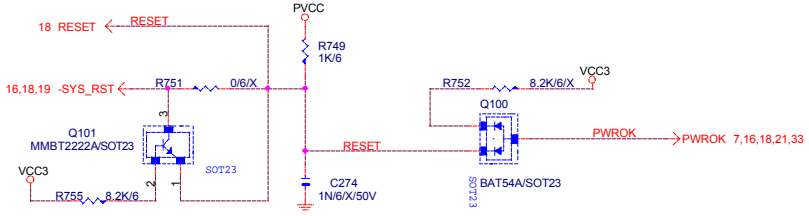
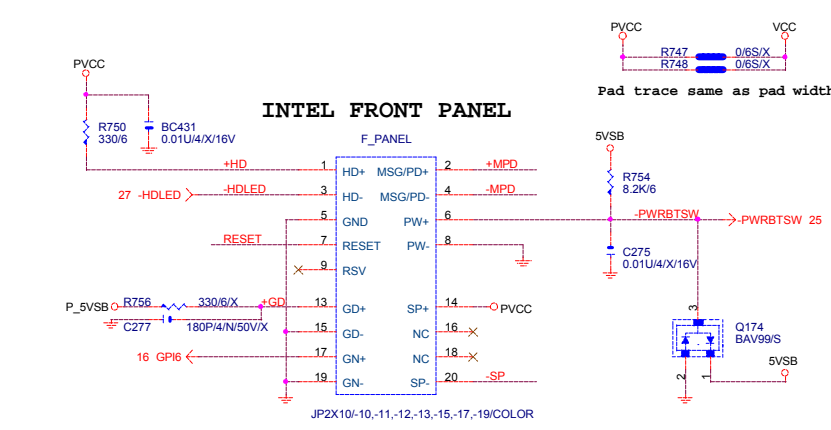


GAME_PORT



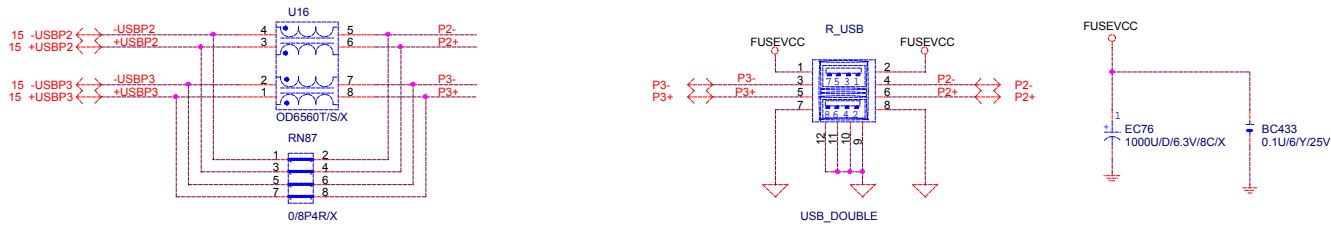
GIGABYTE CORP.		
Title		
KB & PS2 MOUSE & IR		
Size	Document Number	Rev
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INTEL FRONT PANEL

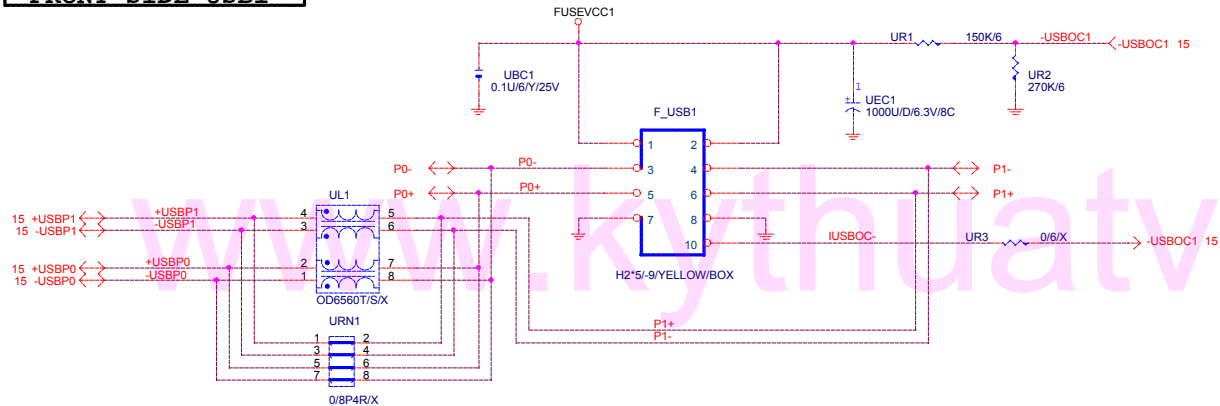


GIGABYTE CORP.		
Title		
PANEL & STR LED & RI		
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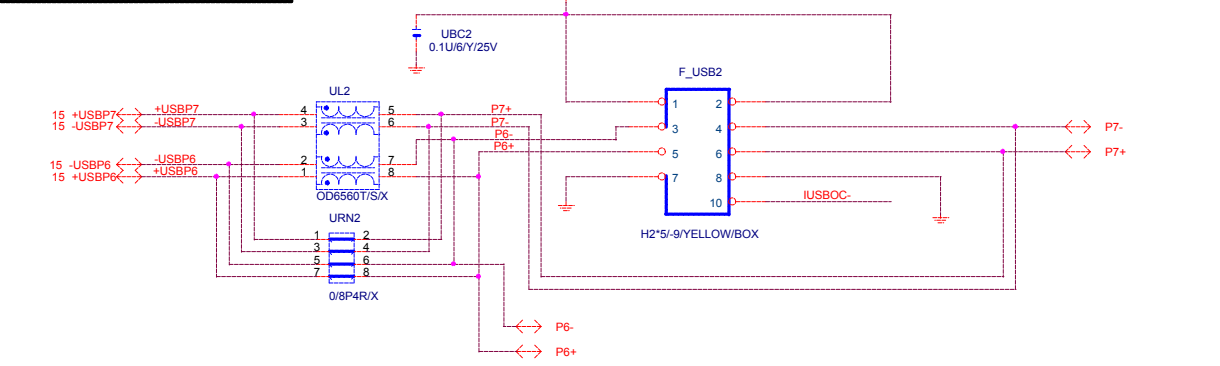
REAR USB



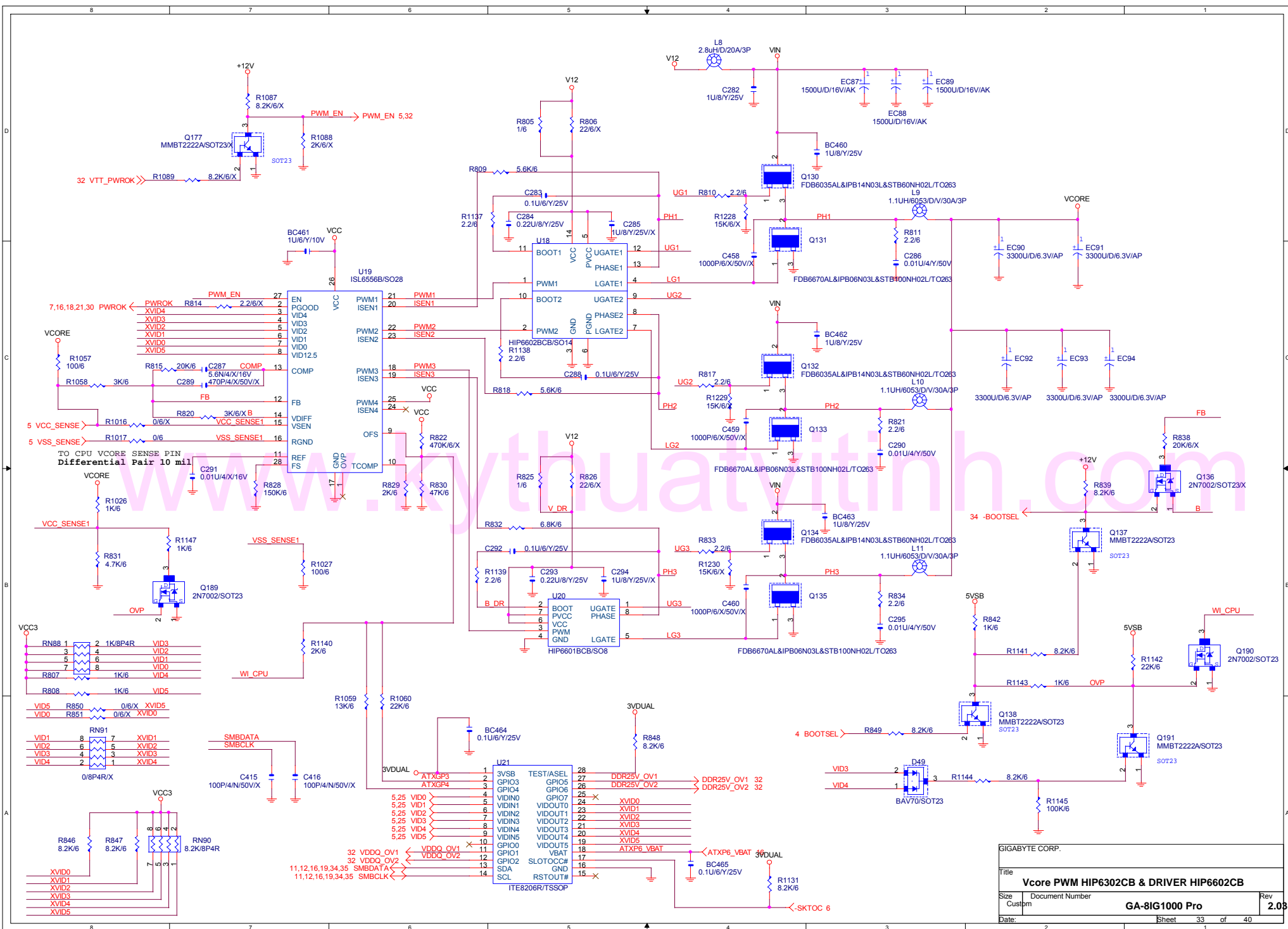
FRONT SIDE USB1



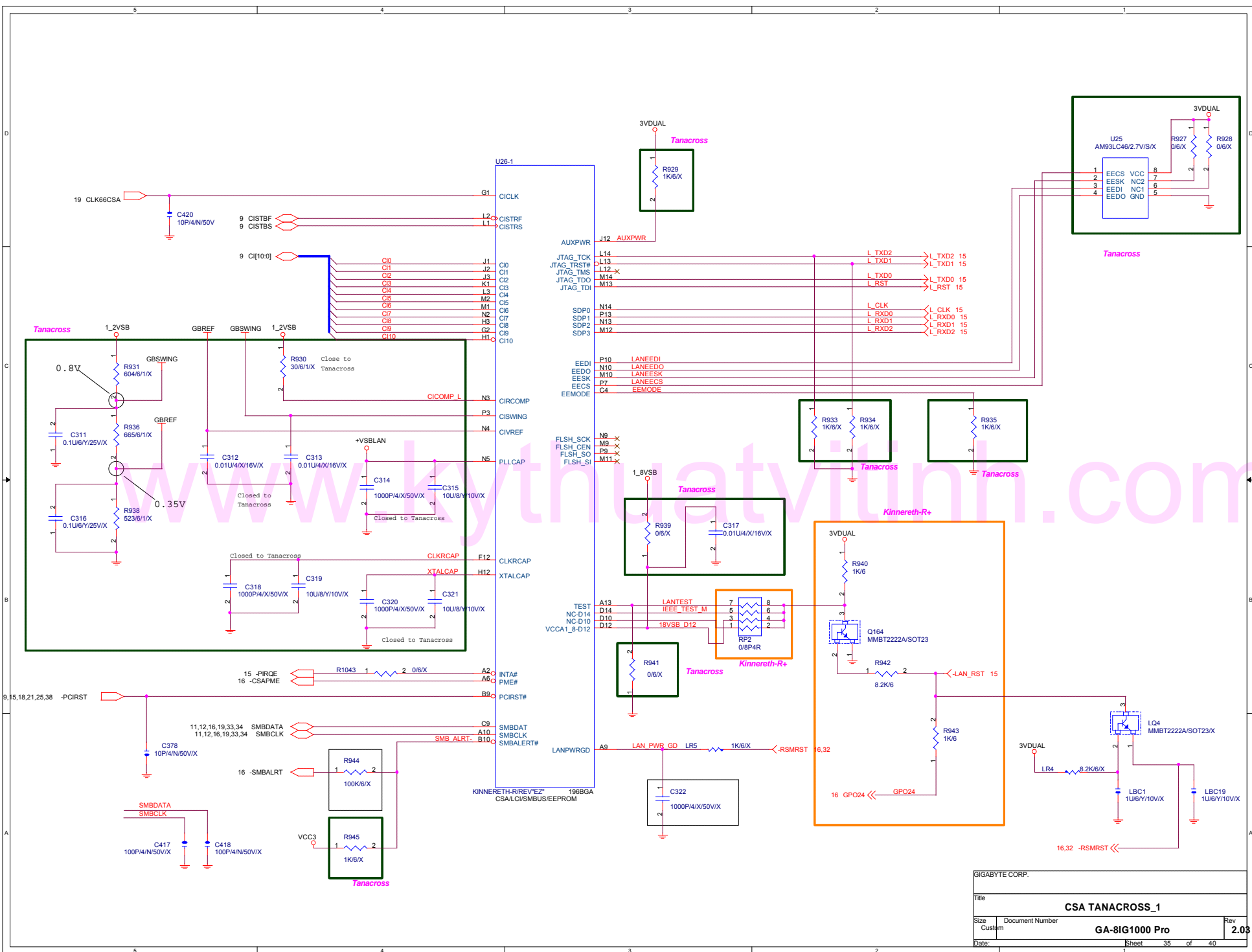
FRONT SIDE USB2



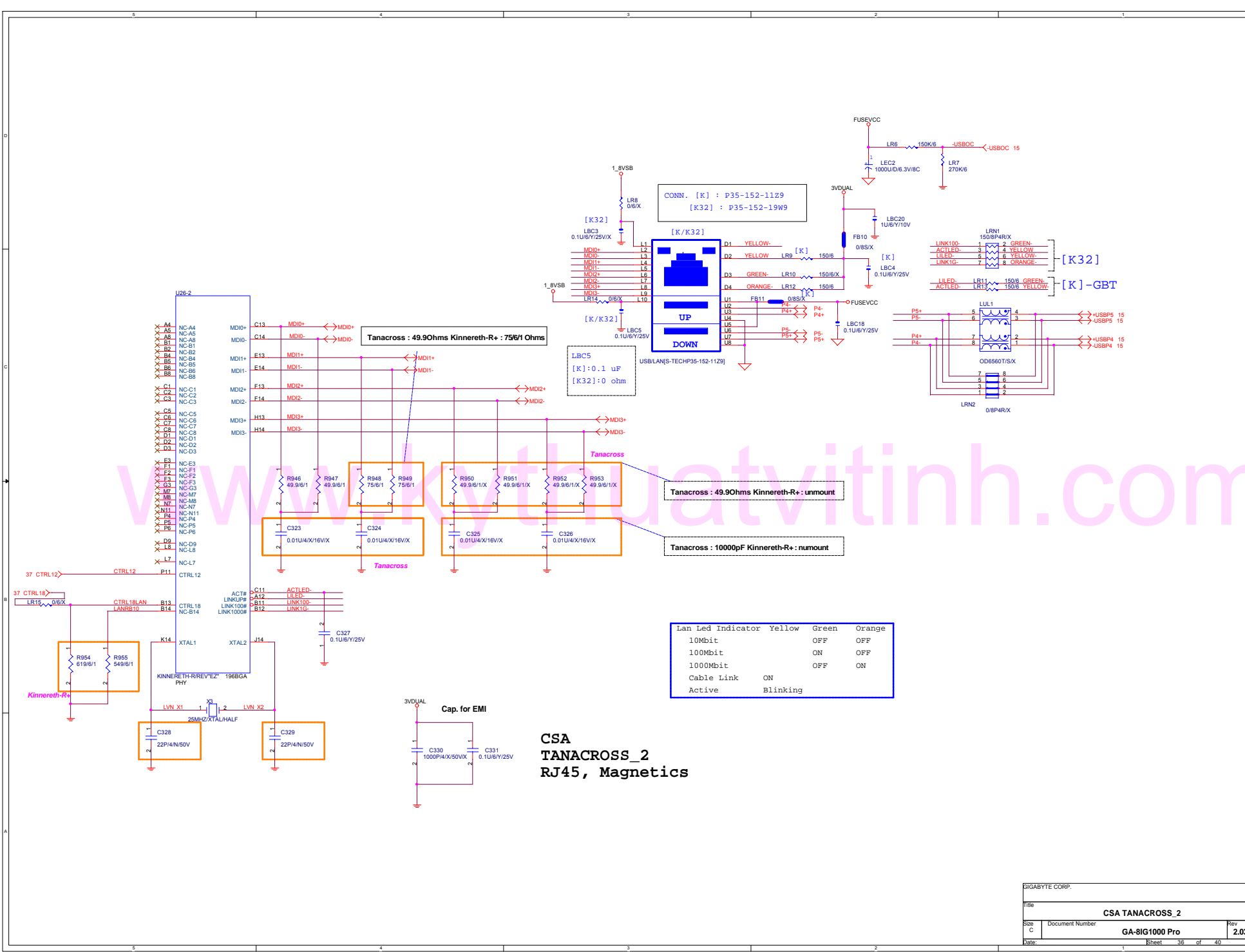
GIGABYTE CORP.		
Title		
ICH USB PORT		
Size B	Document Number	Rev
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GIGABYTE CORP.		
Title Vcore PWM HIP6302CB & DRIVER HIP6602CB		
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Title			
CSA TANACROSS_1			
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Tanacross : 49.90hms Kinnereth-R+ : 756/1 Ohms

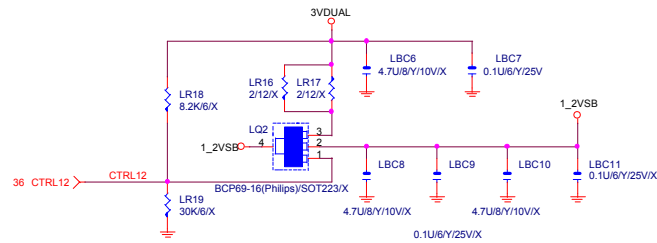
Tanacross : 49.90hms Kinnereth-R+ : numount

Tanacross : 10000pF Kinnereth-R+ : numount

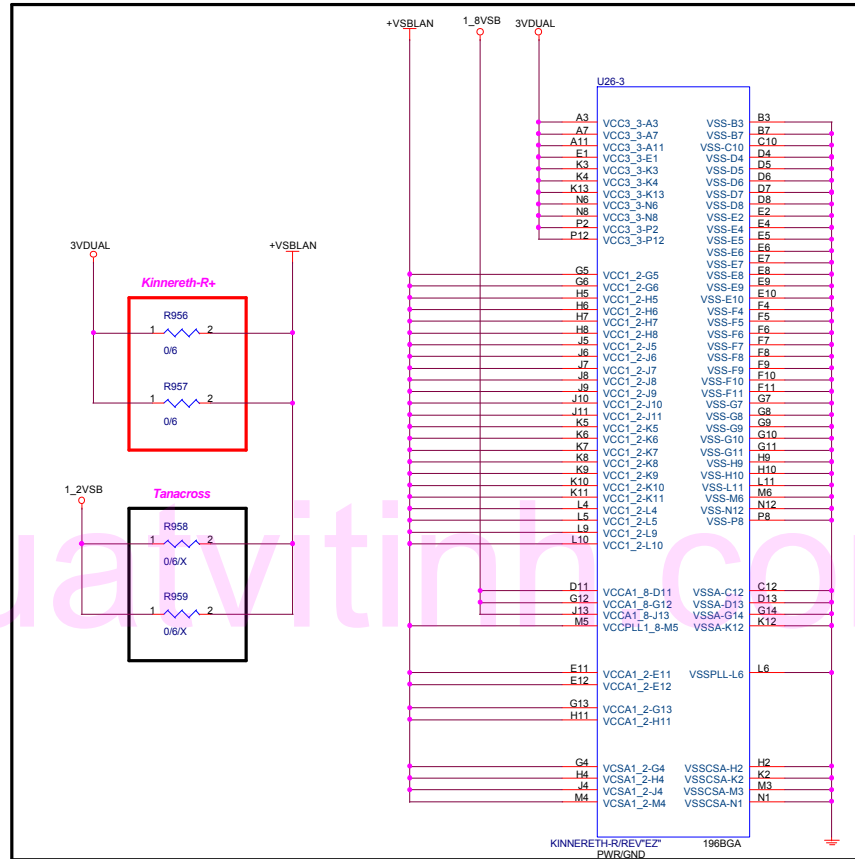
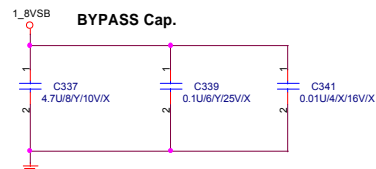
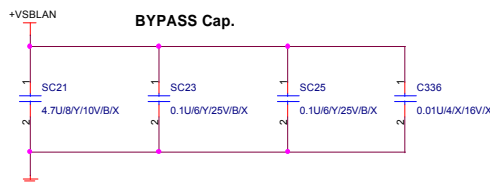
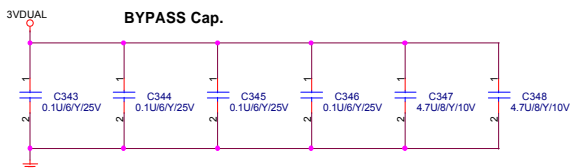
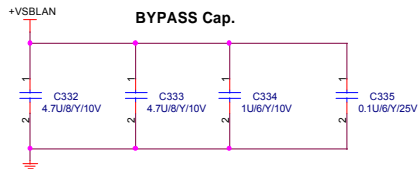
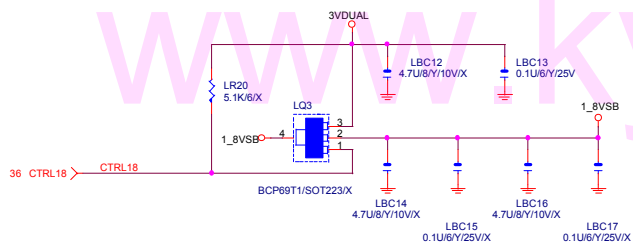
Lan Led Indicator	Yellow	Green	Orange
10Mbit		OFF	OFF
100Mbit		ON	OFF
1000Mbit		OFF	ON
Cable Link	ON		
Active		Blinking	

**CSA
TANACROSS_2
RJ45, Magnetics**

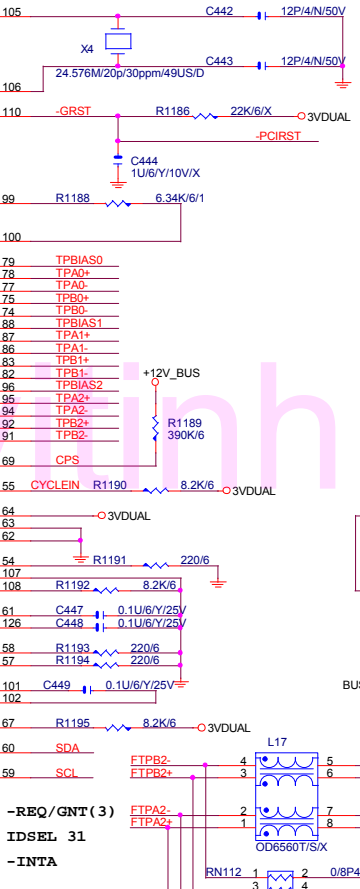
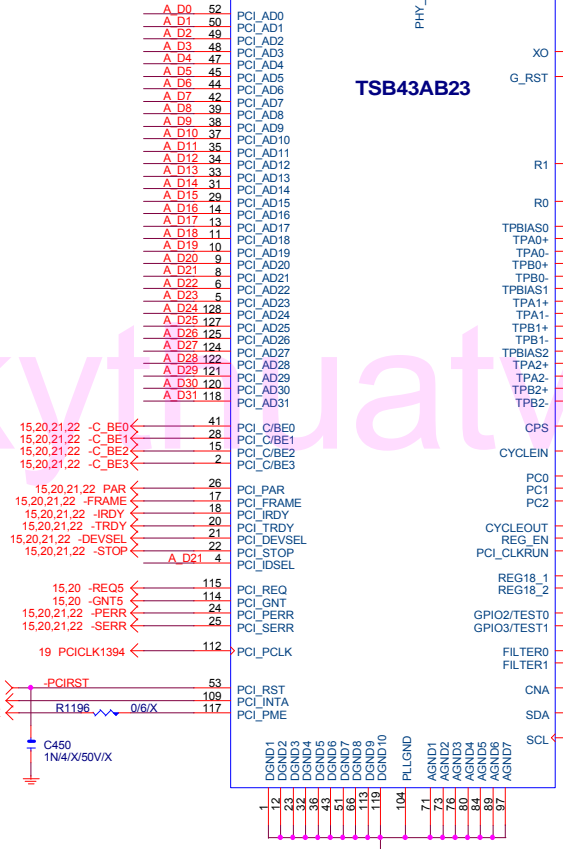
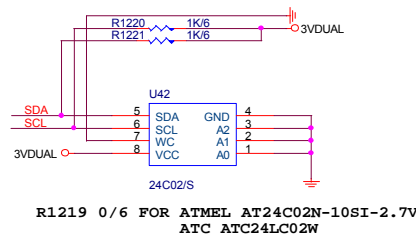
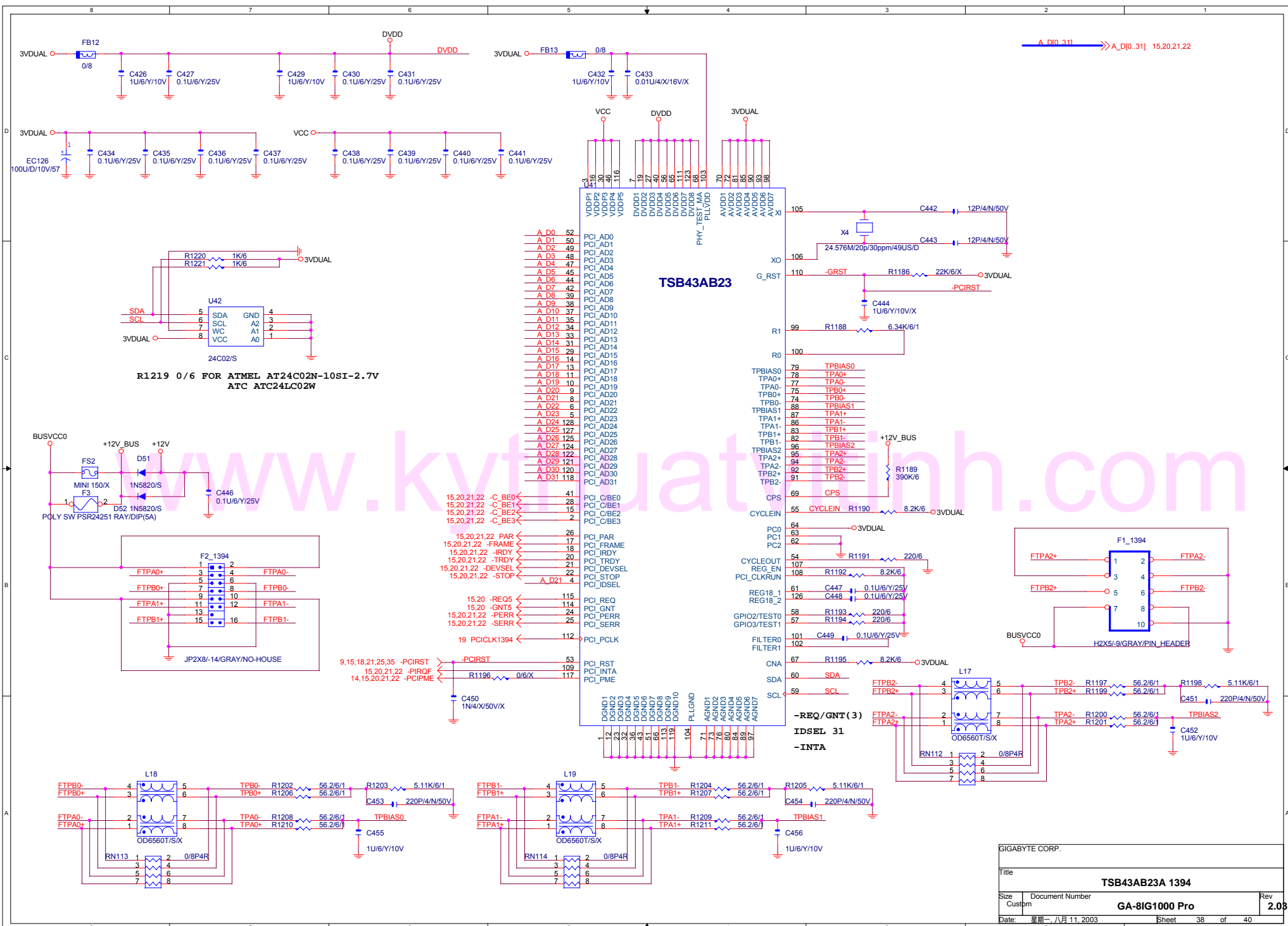
+1.2VSB
Max800mA Typ500mA



+1.8VSB
Max500mA Typ250mA



SIGABYTE CORP.			
Title			
CSA TANACROSS_3			
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GIGABYTE GA-8IG1000 Pro PCI ROUNTING LIST

PCI DEVICE	IDSEL	INT	CLOCK	REQ	GNT	
PCI SLOT1	16	C,F,G,A	PCLK0	-REQ0	-GNT0	
PCI SLOT2	17	F,G,A,C	PCLK1	-REQ1	-GNT1	
PCI SLOT3	18	G,A,C,F	PCLK2	-REQ2	-GNT2	
PCI SLOT4	19	A,C,F,G	PCLK3	-REQ3	-GNT3	
PCI SLOT5	20	C,F,G,A	PCLK4	-REQ4	-GNT4	
TI 1394	21	F	PCICLK1394	-REQ5 (REQB#)	-GNT5 (GNTB#)	

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GIGABYTE			
Title			
PCI ROUNT LIST			
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