

Model Name: 8I915GV-MF

Revision 1.2

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
08	VCORE POWER
09	GMCH-GRANTS DALE_HOST
10	GMCH-GARNTSDALE_DDR
11	GMCH-GRANTS DALE_PCI E, DMI
12	GMCH-GRANTS DALE_INT VGA
13	GMCH-GRANTS DALE_GND
14	GMCH-GRANTS DALE_PWR
15	DDR CHANNEL A
16	DDR CHANNEL B
17	DDR TERMINATION
18	PCI EXPRESS*16 SLOT
19	ICH6 PCI, USB, DMI, LAN
20	ICH6 IDE, GPIO, SATA, CTRL
21	ICH6 VCC, GND
22	CLK GEN

SHEET TITLE

23	PCI SLOT 1
24	PCI EXPRESS*1 SLOT 1,2
25	ITE8712HX
26	HWMO/FAN/FWH BIOS
27	KB_MS/GAME
28	COM/LPT/FDD
29	(FRONT+REAR)USB/RING/IDE
30	AZALIA CODEC ALC880/CMI9880
31	AUDIO JACK
32	LAN RTL8110S/8100C
33	ATX POWER CONN.
34	ALL POWER
35	1394 TSB43AB23
36	FRONT PANEL/BZ

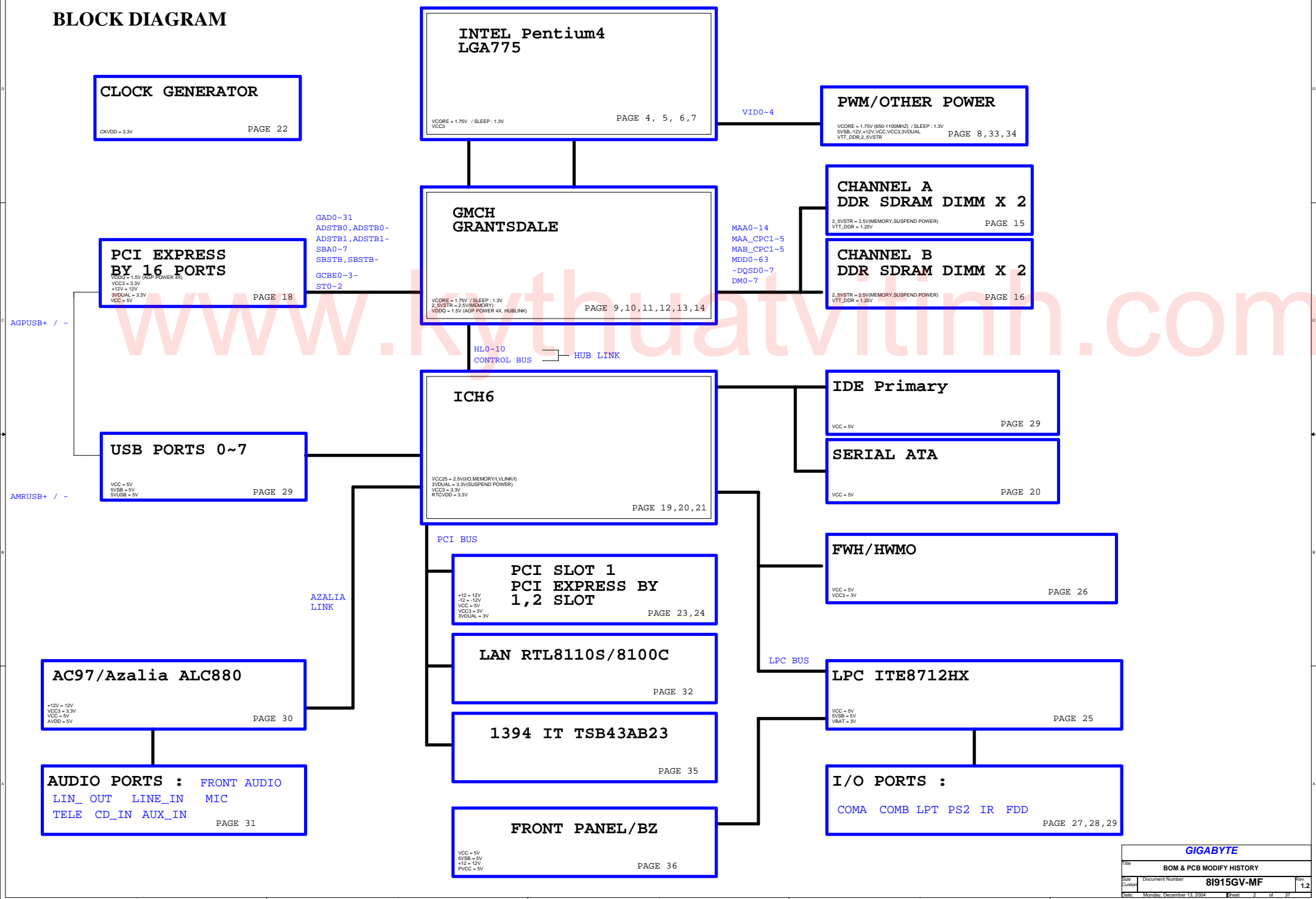
PCB VANDER:育富(TB),智恩(TA),鴻達

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

GIGABYTE

Cover Sheet			
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BLOCK DIAGRAM



Version:1.2

Component value change history

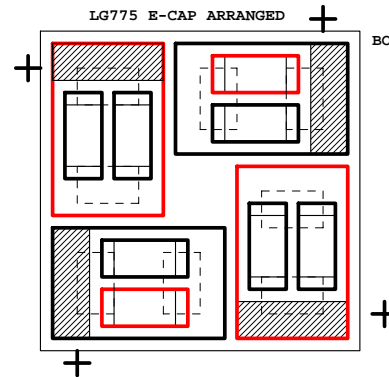
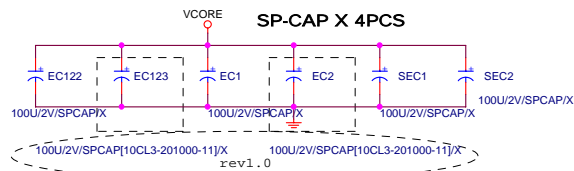
2004/11/18

Data	Change Item	Reason
12/11	REV 0.1進LAYOUT	
12/23	PM MODIFY SPEC PCIX2,PCIEX1	
12/24	IT8712/IX MODIFY	
12/25	DEL 1394 SIGNAL CHOKE/8P4R/SHT	
12/29	DDR POWER/FUSE FOR KB_MS	
01/05	ich6 add 1000 p 0402於-ichsync pin for A1	
01/07	MODIFY RN98-102 -->R0603 TYPE FOR LAYOUT	
	PWM FAN5019 ADD DIODE/CAP	
01/08	-SYS_RST ADD 0/6	
	1394 SCH NET DVDD-->DVDD1394	
01/09	ADD VCC/VCC3 CROSS CAP	
01/13	E-BOM :8GDGMF-00-01	
02/13	E-BOM :8I915GMF-00-02	1.VCORE PWM LOAD LINE(PH2-->PH4)
		2.GRANTSDALE/ICH6(A0/A0)-->(A2/A1)
		3.VGA(HSYNC/VSYNC)-->74HCT32
		4.BY ITE8212/IX(RESET/PWROK)-->DRIVE BY 74HC14
		5.PCB MODEL NAME:8GDGMF-->8I915G-MF
		6.CAP COST DOWN BY MEASURE
02/25		1.IDE RESET
03/29	rev 0.3-->modify function	1.FRONT USB PWR(VCC/5VDUAL)
		2.AZALIA CODEC FUNCTION
		3.VCORE SP-CAP+MOSFET CHOKE/DIP
04/09	VCORE PWM CHANGE PLACEMENT	TOP(X3PHASE)+RIGHT(X1PHASE),PWM RIGHT DOWN
04/13	EMI ADD X12PCS (0402)CAP ON DDR	
04/21	AUDIO REARX6PORT+FRONTX2PORT	
04/30	BOM:8I915GMF-00-10A	1.MODIFY AUDIO
		2.ADD CPU_FAN FOR SMART
05/11	BOM:8I915GMF-00-10B	1.包材
		2.SPDIF/SPDIF-IN BOM CHANGED
		3.F_AUDIO BOM CHANGED
		4.PCI EXPRESSX16 ADD PUSH PIN

Circuit or PCB layout change
for next version

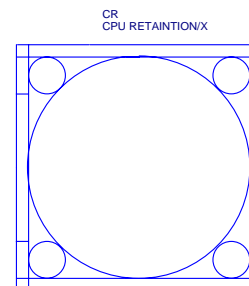
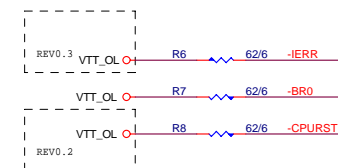
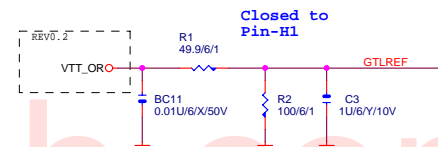
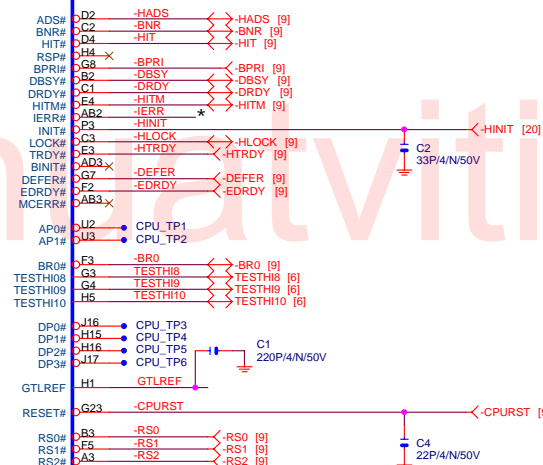
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GIGABYTE			
BOM & PCB MODIFY HISTORY			
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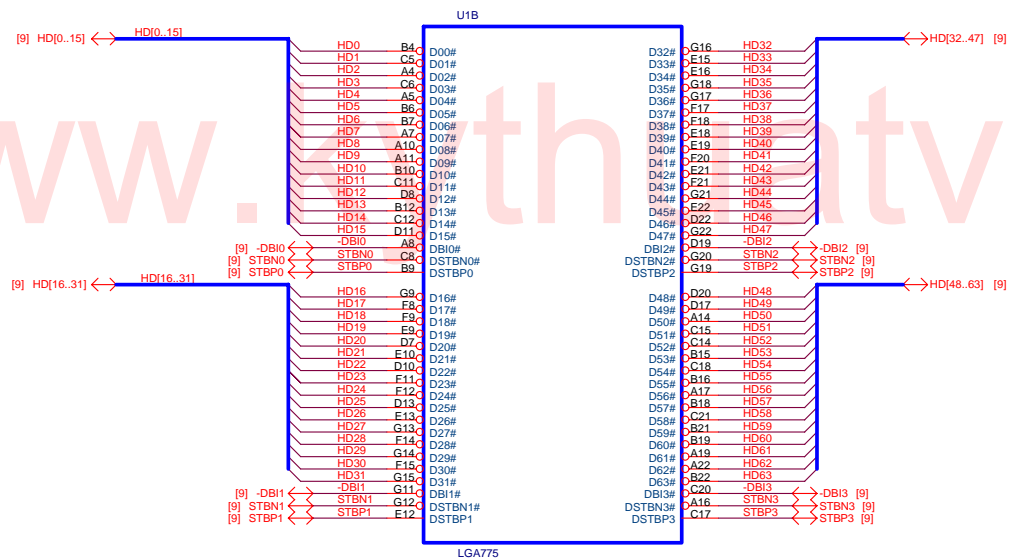


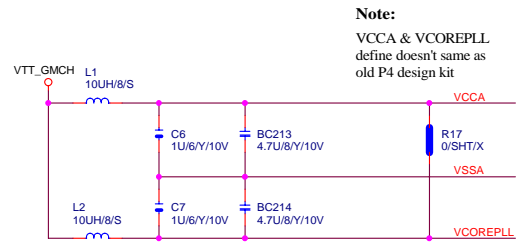
The diagram shows the pinout for the ADSTB0F0P0CQ0F0 component. It is organized into three main sections: HA[3..16], HA[17..31], and HA31. Each section lists the component's pins and their corresponding functions.

Pin	Function
HA3	L5C A03#
HA4	P6C A04#
HA5	M5C A05#
HA6	L4C A06#
HA7	M4C A07#
HA8	R4C A08#
HA9	T5C A09#
HA10	U5C A10#
HA11	T4C A11#
HA12	U4C A12#
HA13	V5C A13#
HA14	V4C A14#
HA15	V4C A15#
HA16	W5C A16#
[9] -HREQ0	× N4C R5VD
[9] -HREQ1	× K4C R5VD
[9] -HREQ2	J5C REQ01#
[9] -HREQ3	M6C REQ02#
[9] -HREQ4	K6C REQ03#
[9] -HADSTB0	J6C ADSTB0F0P0CQ0F0
[9] -HPCREQ	P6C PCREQ#
HA17	AB6C A17#
HA18	W6C A18#
HA19	Y6C A19#
HA20	Y4C A20#
HA21	AA4C A21#
HA22	AD6C A22#
HA23	AA5C A23#
HA24	AB5C A24#
HA25	AC5C A25#
HA26	AB4C A26#
HA27	AE5C A27#
HA28	AE4C A28#
HA29	AG6C A29#
HA30	AG4C A30#
HA31	AG5C A31#
× AH4C	A32#
× AH5C	A33#
× AJ5C	A34#
× AJ6C	A35#
× AC4C	R5VD
× AE4C	R5VD
[9] -HADSTB1	ADSTB1#



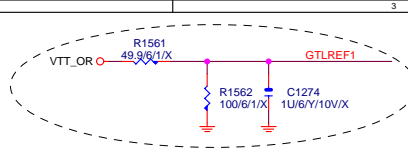
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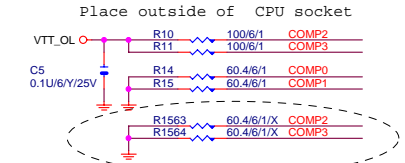
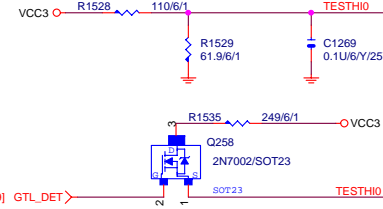


As close as possible to
CPU socket

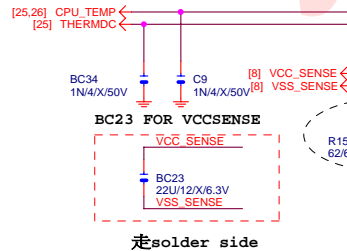
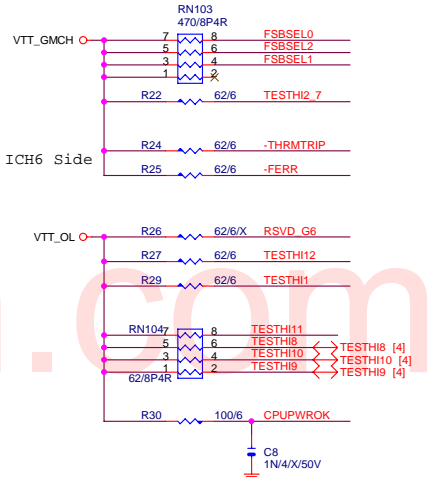
Trace width doesn't
less than 12 Mil



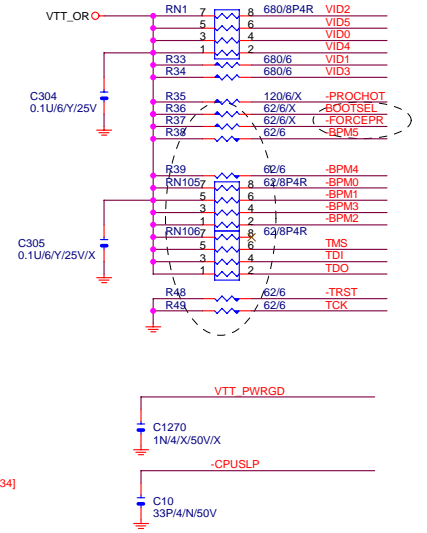
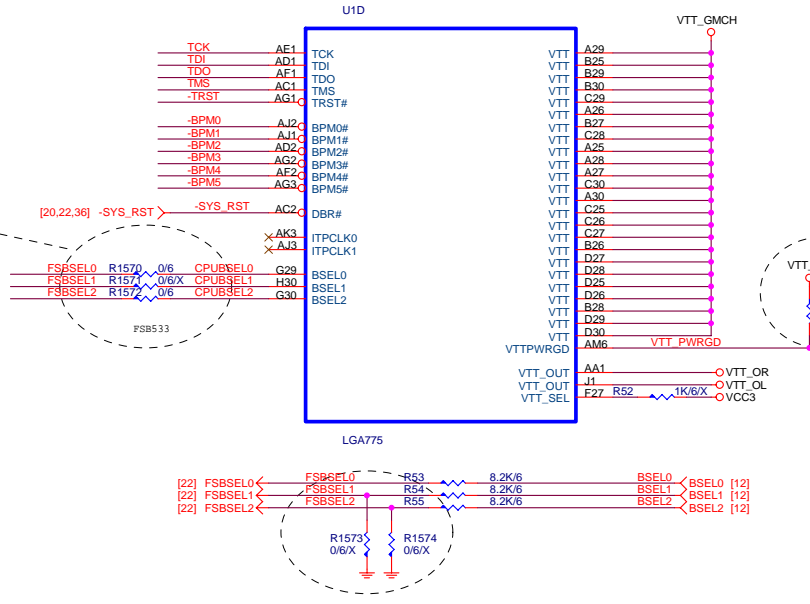
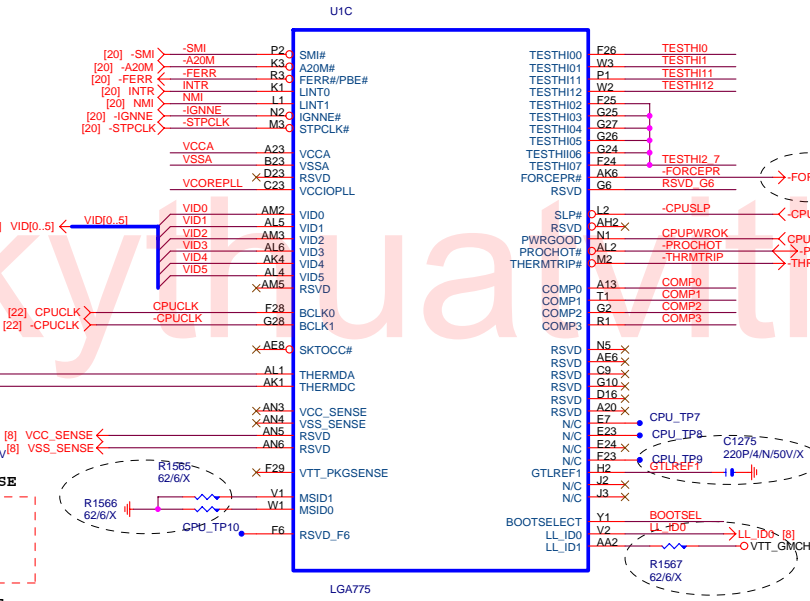
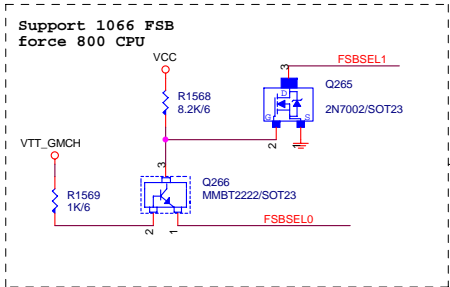
REV0.2

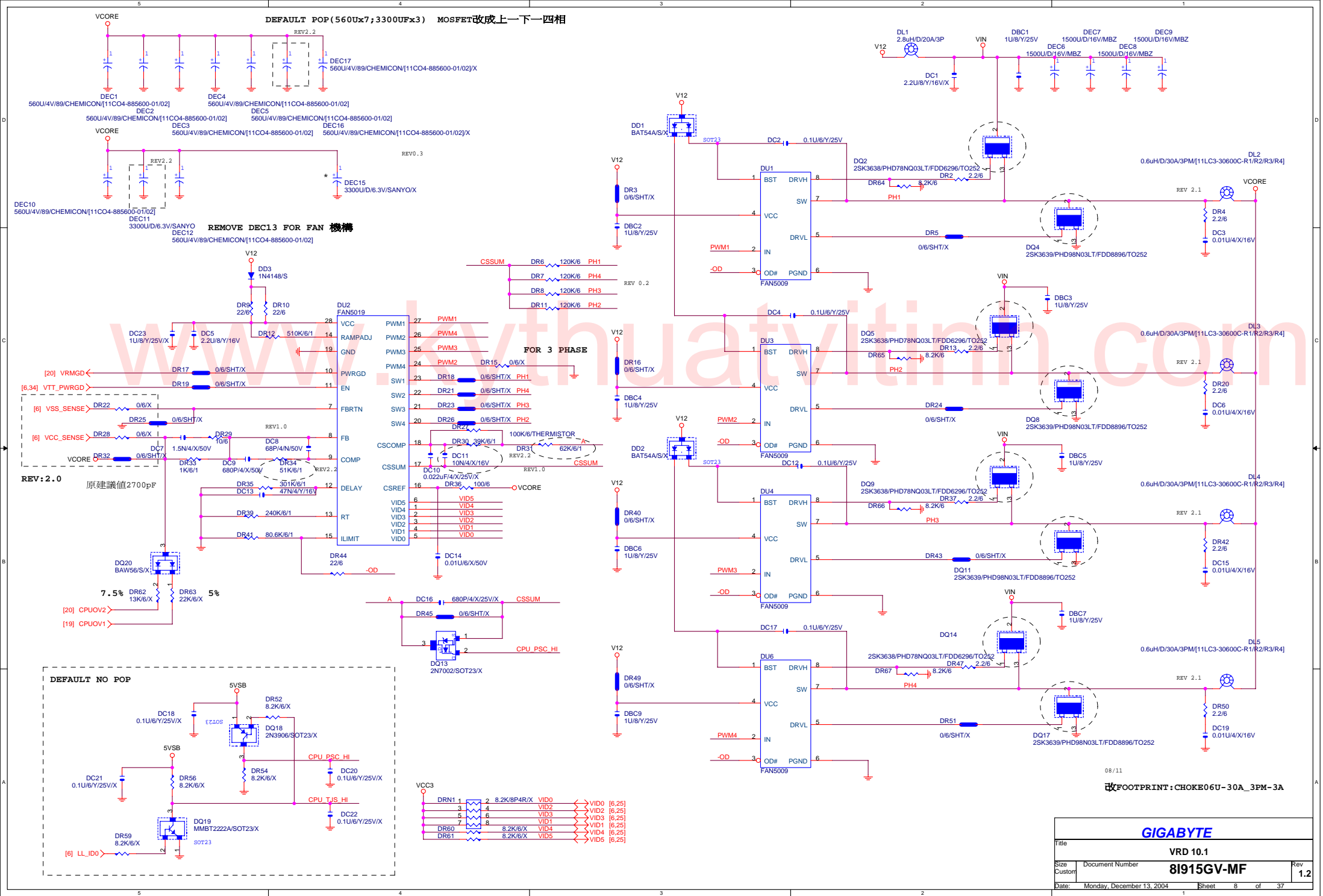


Locate at ICH6 Side



走solder side

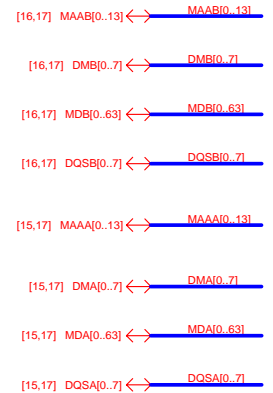
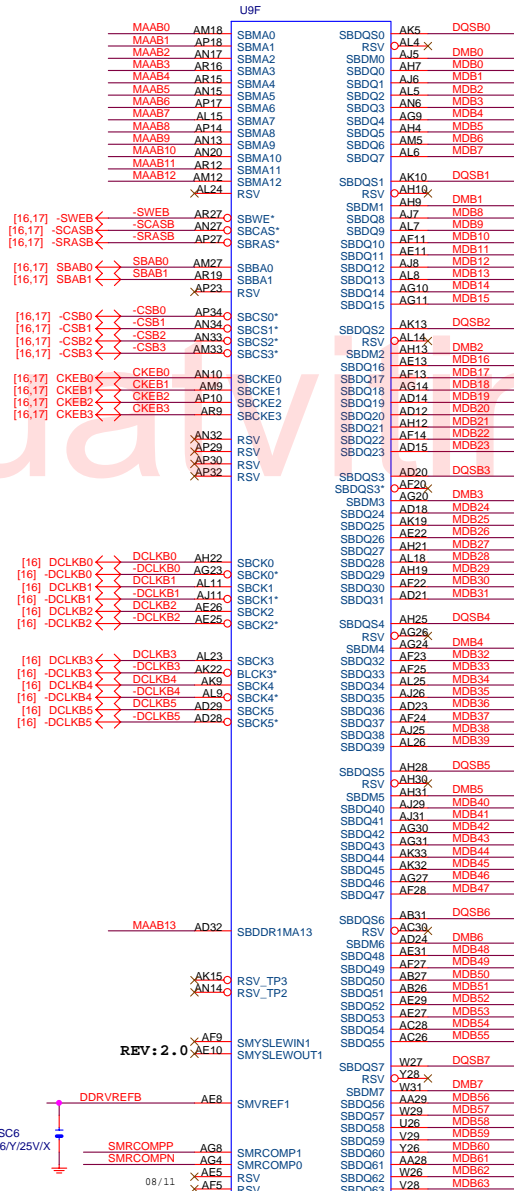




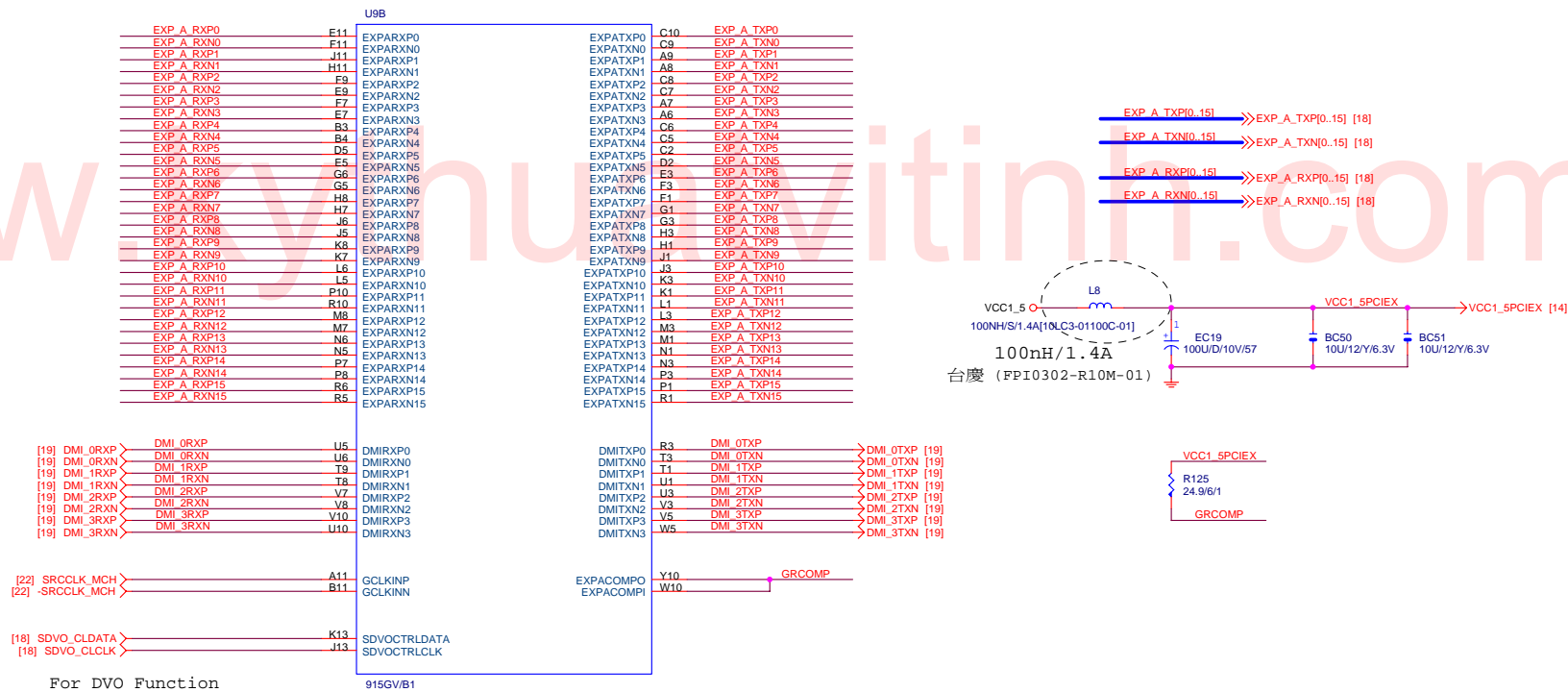
08/11

FOOTPRINT: CHOKE06U-30A_3PM-3A

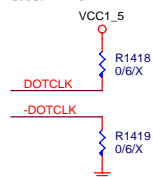
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Title			
VRD 10.1			
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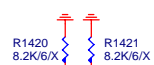
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FOR NONE VGA



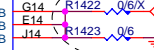
FOR NONE VGA



FOR NONE VGA



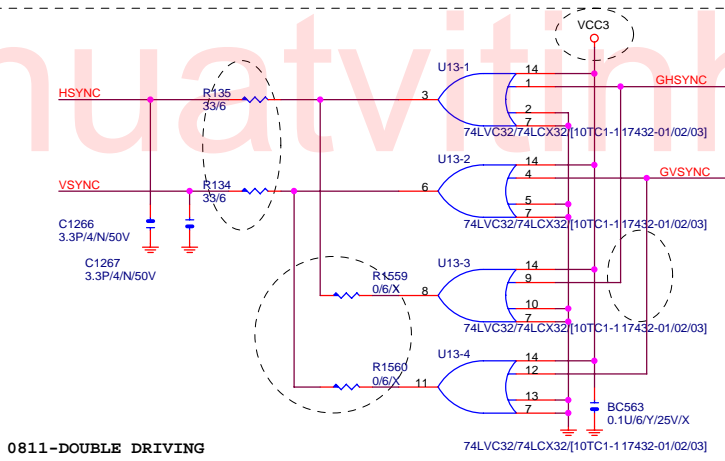
FOR NONE VGA



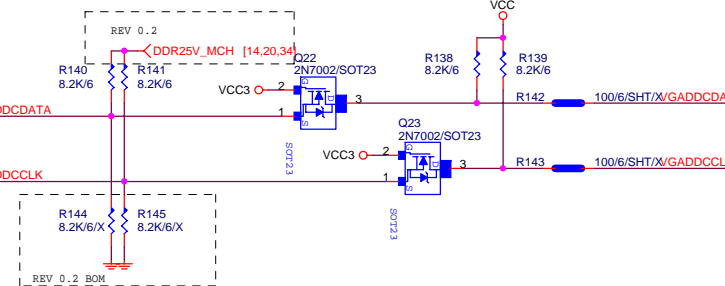
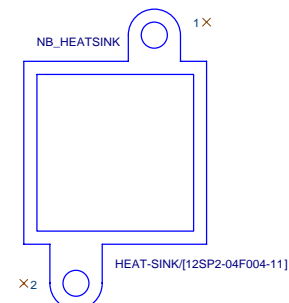
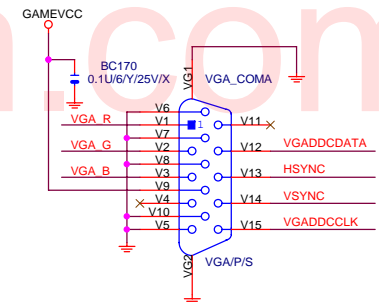
FRONT (CHIPSET)

REAR (CONN)

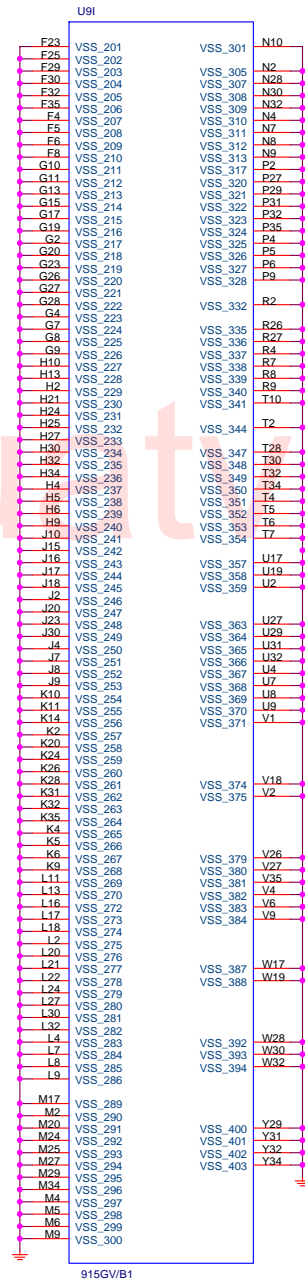
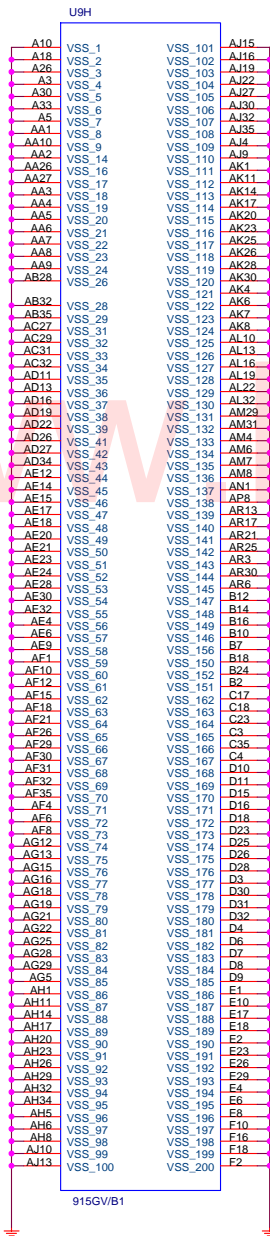
FOR NONE VGA

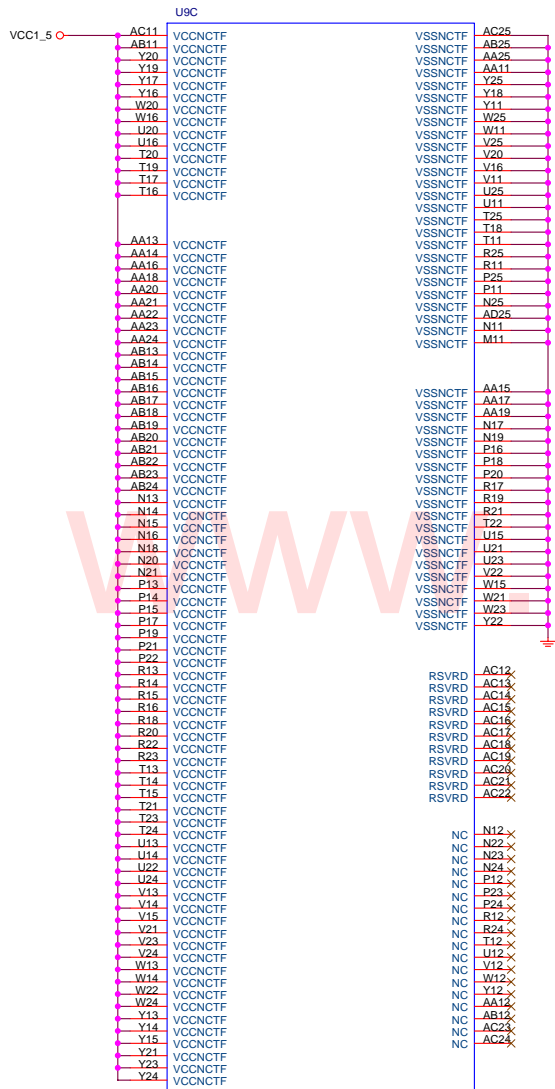


0811-DOUBLE DRIVING



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Title	GMCH-INTERNAL VGA		
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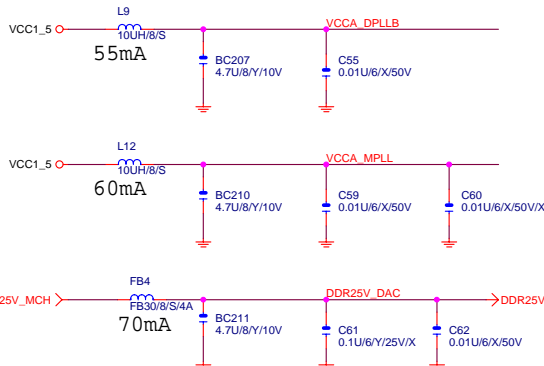
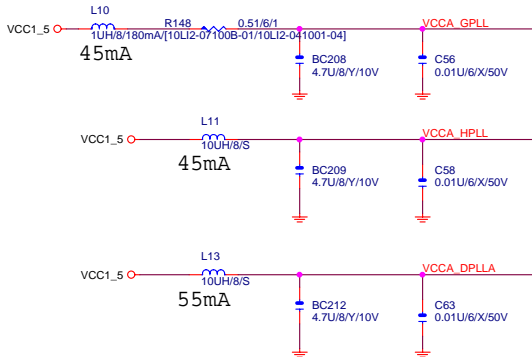
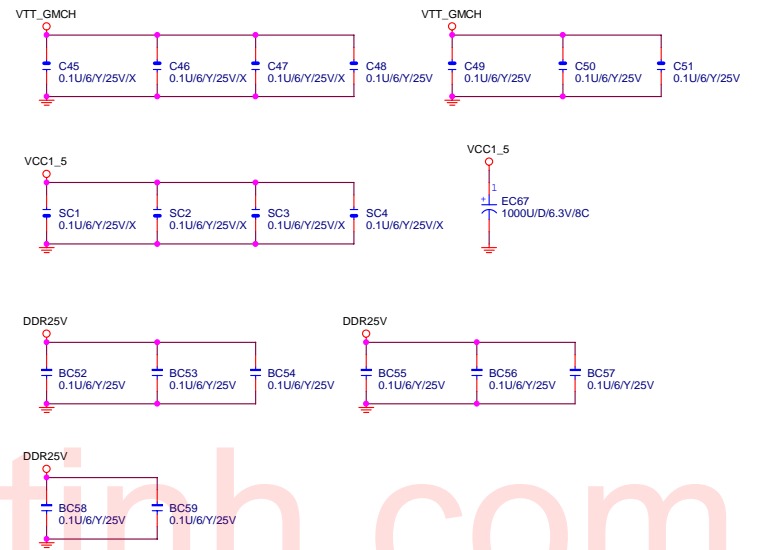


[11] VCC1_5PCIE(X)

VCCA_HPLL A17 VCCA_HPLL B17 VCCA_MPLL A12 VCCA_MPLL B12 VCCA_DPLL A13 VCCA_DPLL B13 VCCA_GPLL A14 VCCA_GPLL B14

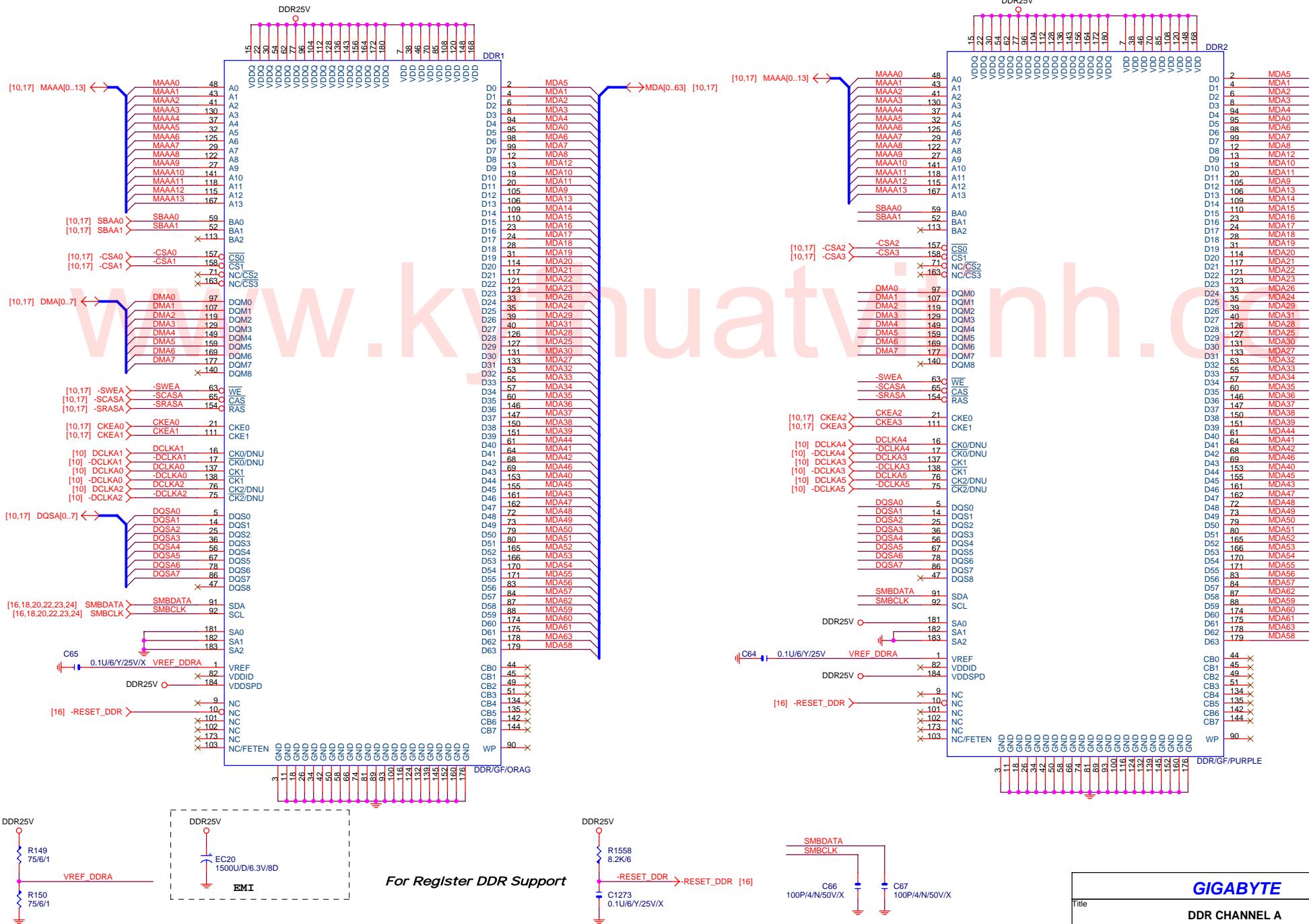
DDR25V_MCH A13 VCC2 E13 VCCA_DAC D13 VCCA_DAC F13 VSSA_DAC

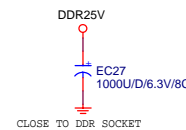
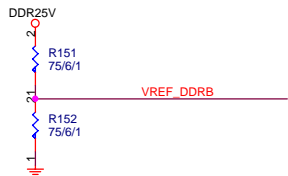
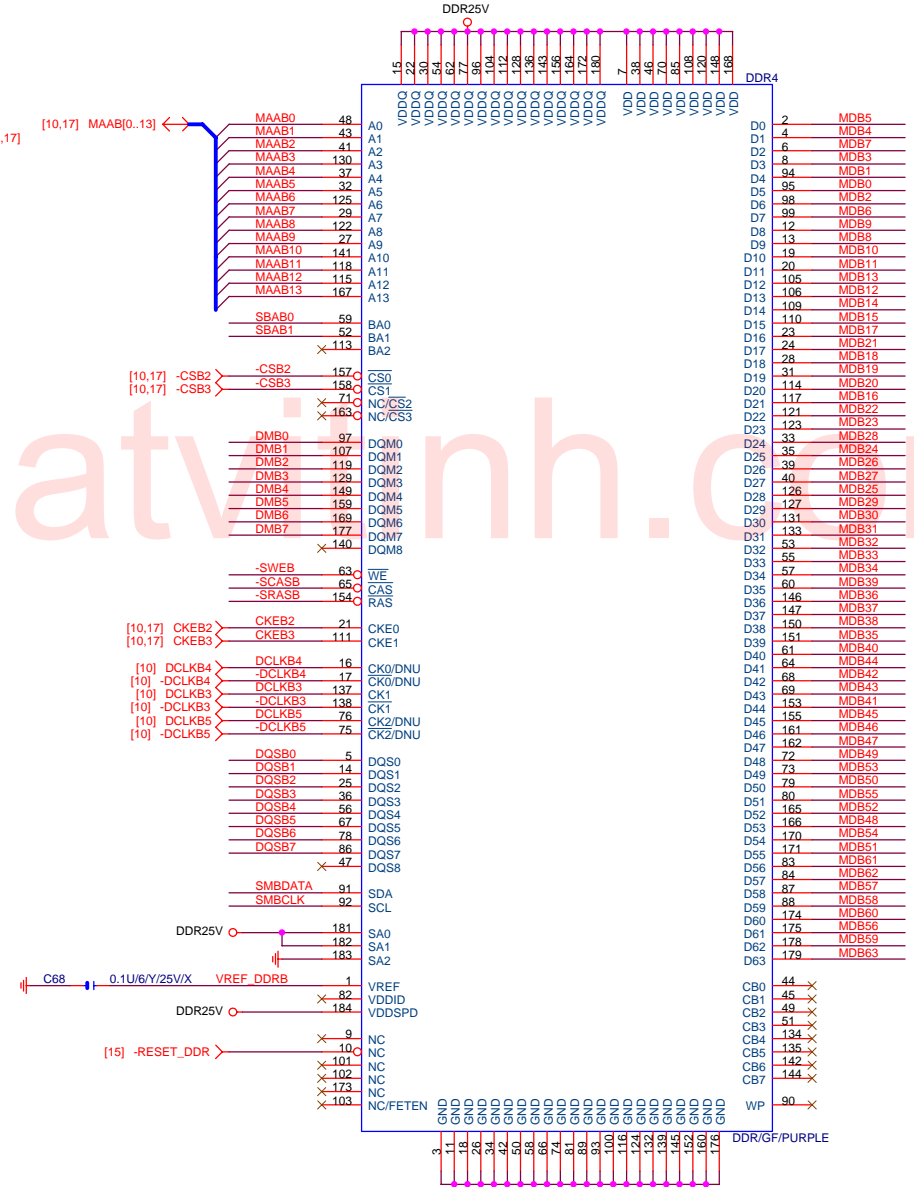
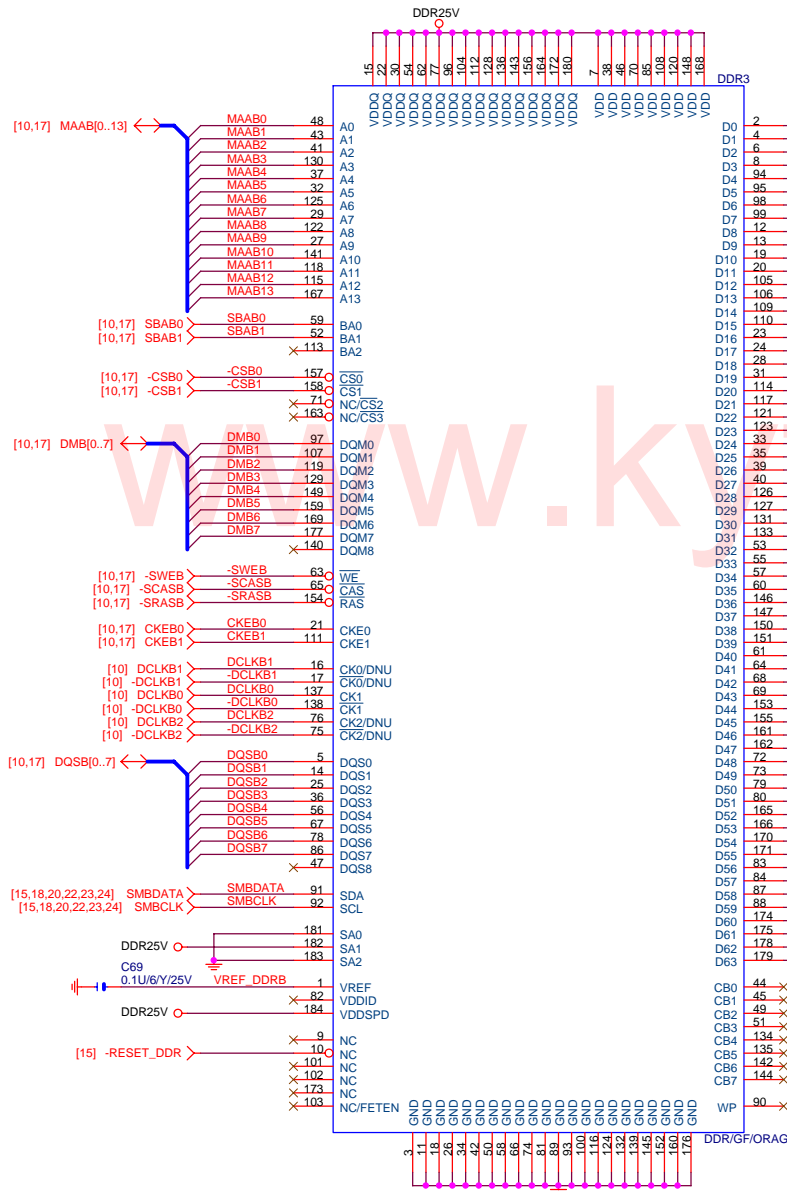
915GV/B1



DG 1.0 change to 180ohm/0805 FB

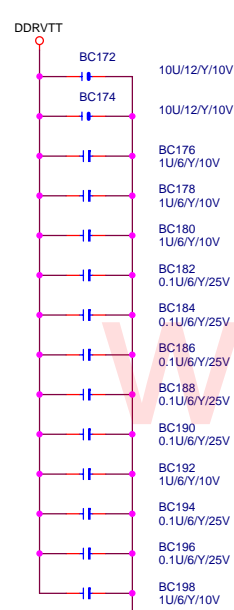
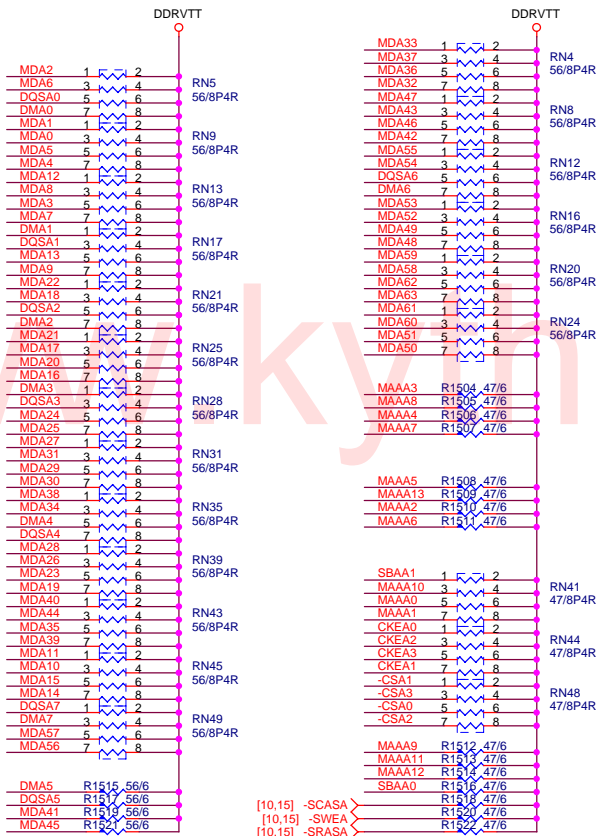
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Title			
GMCH-PWR			
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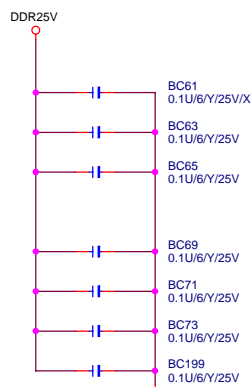


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DDR CHANNEL B			
Title	Document Number	8I915GV-MF	Rev 1.2
Size B			
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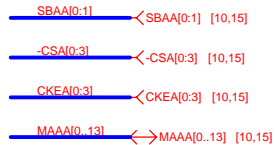
DDRVTT Decouple

DDR TERMINATION
CHANNEL A

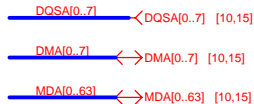
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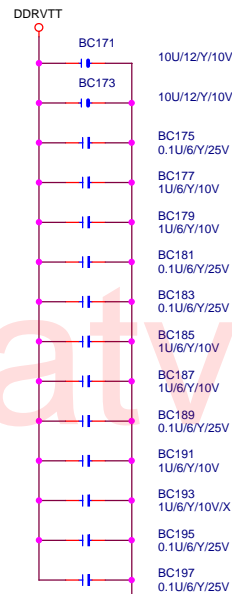
47 Ohms



56 Ohms



DDRVTT Decouple



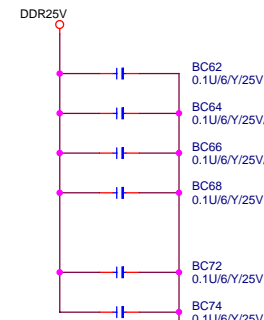
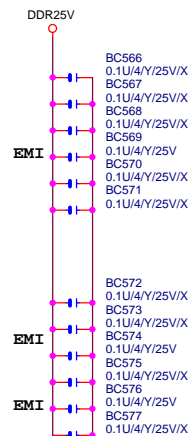
CHANNEL B

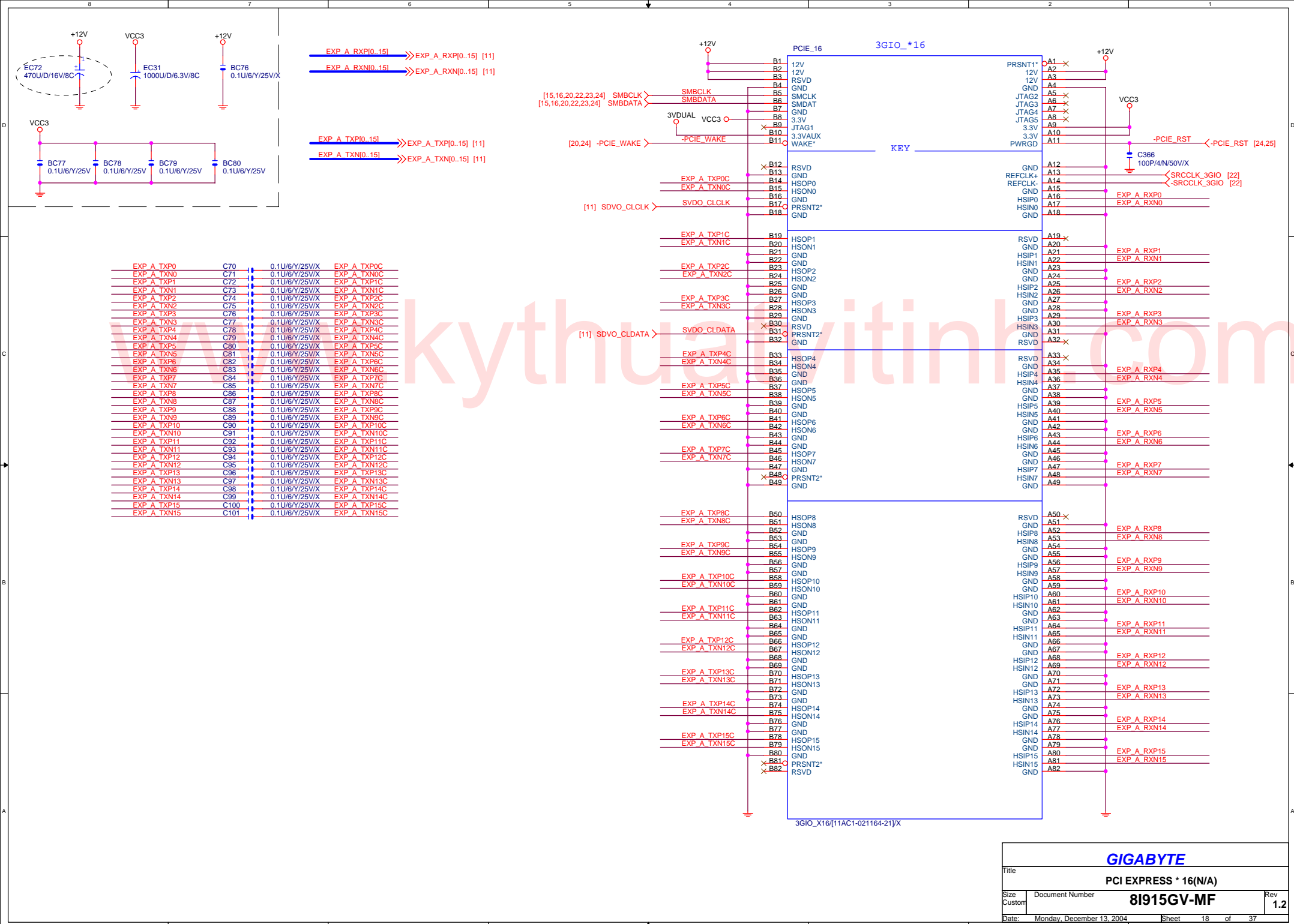


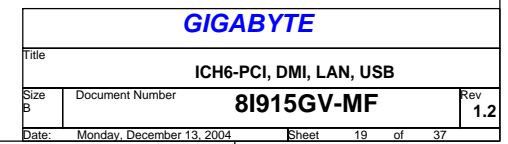
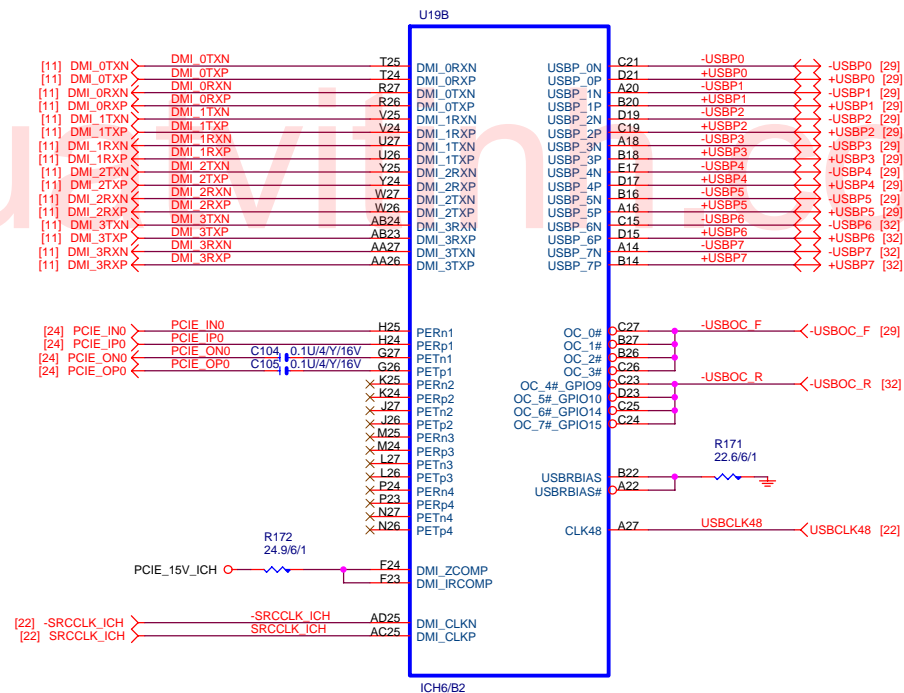
47 Ohms

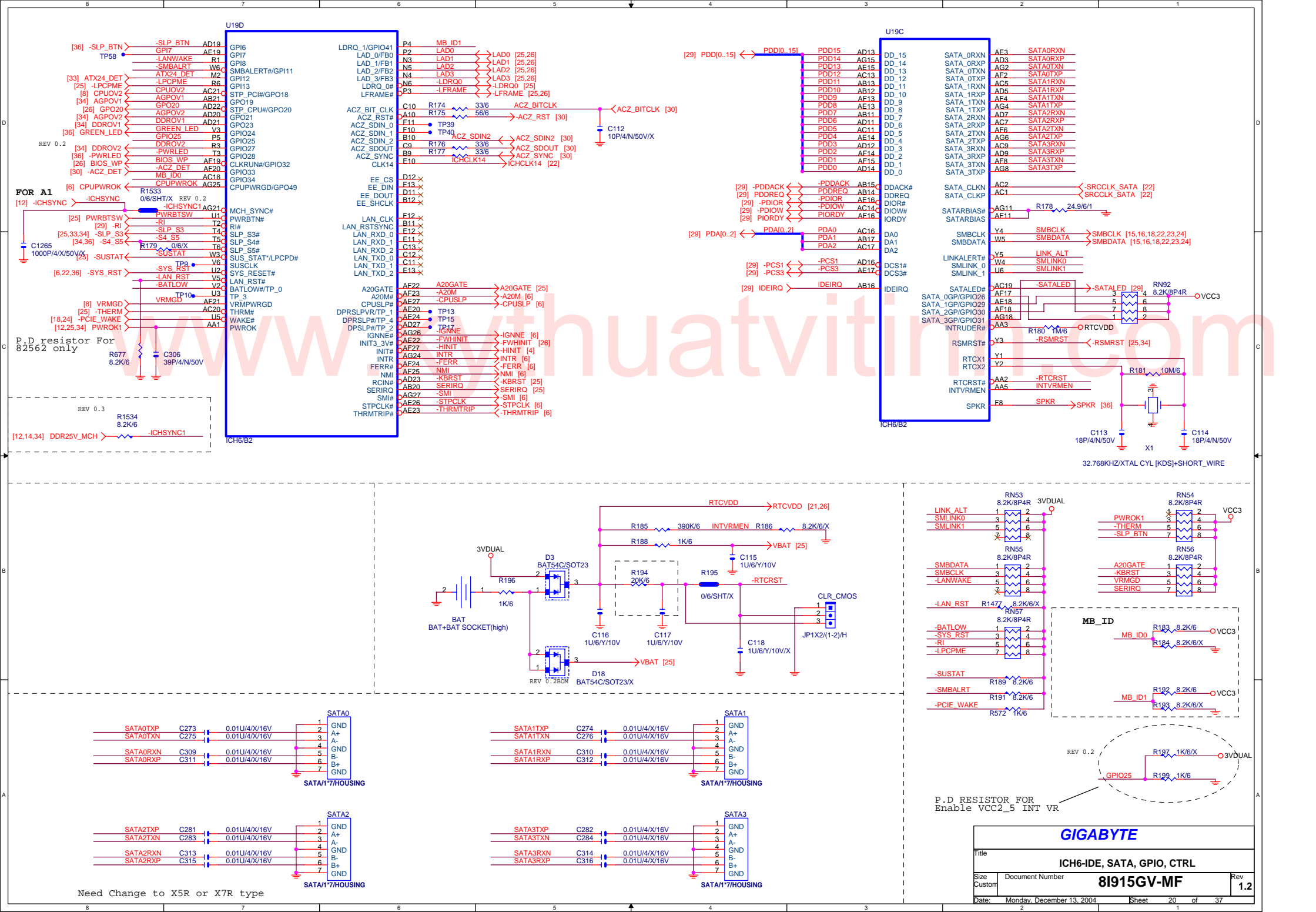


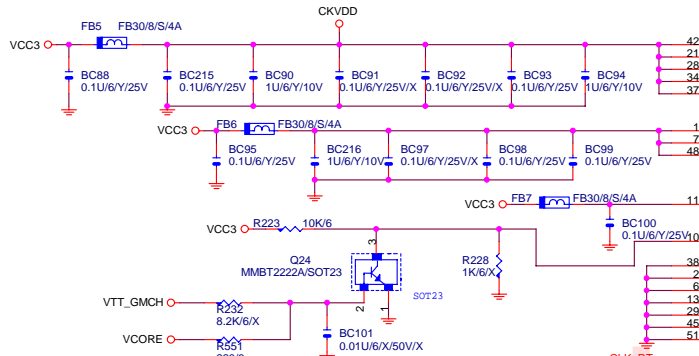
56 Ohms

DDR25V
Decouple

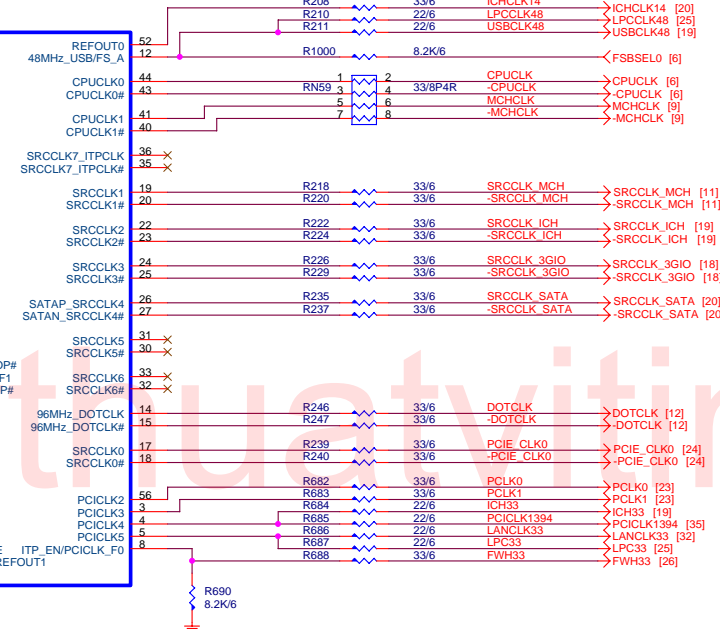
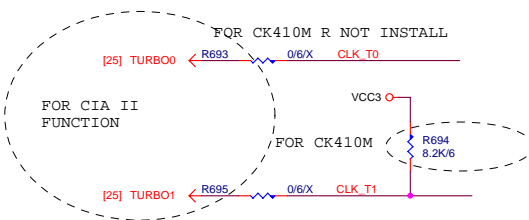




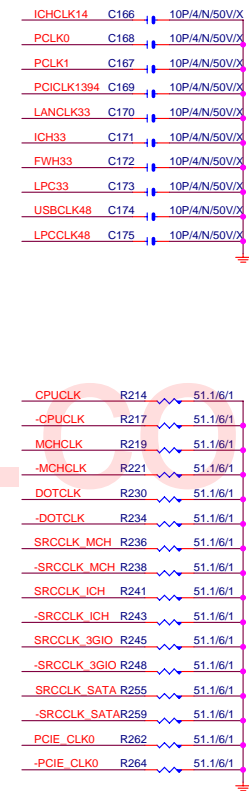
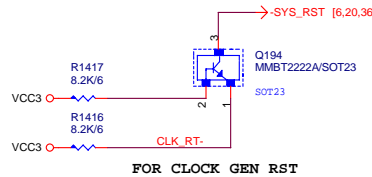




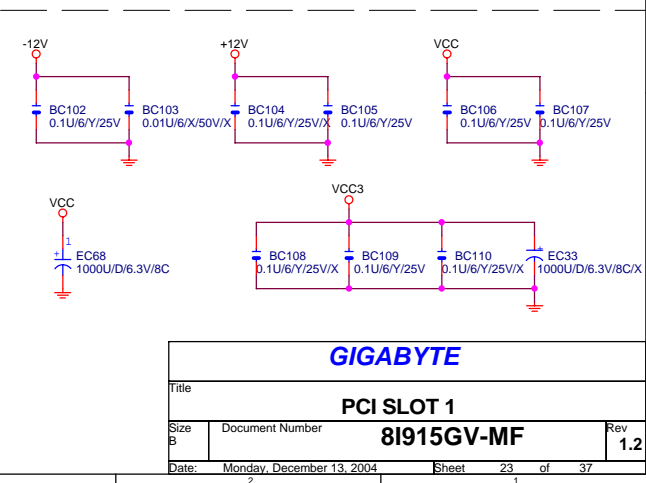
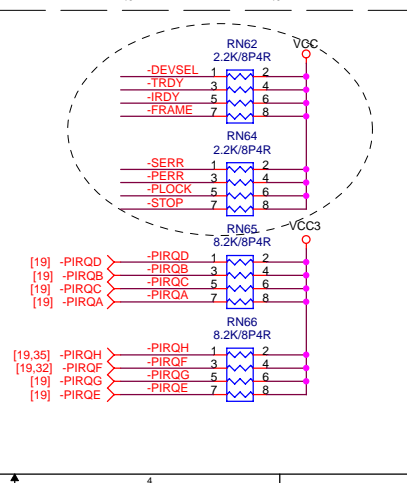
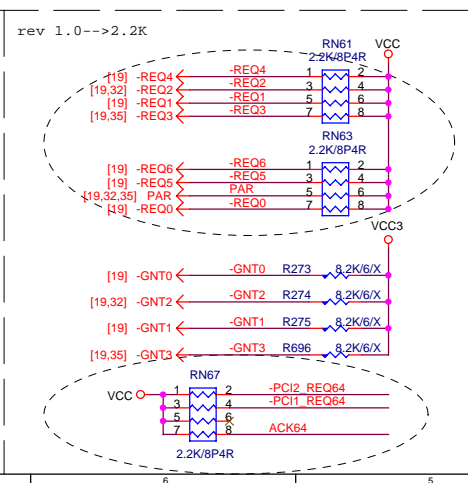
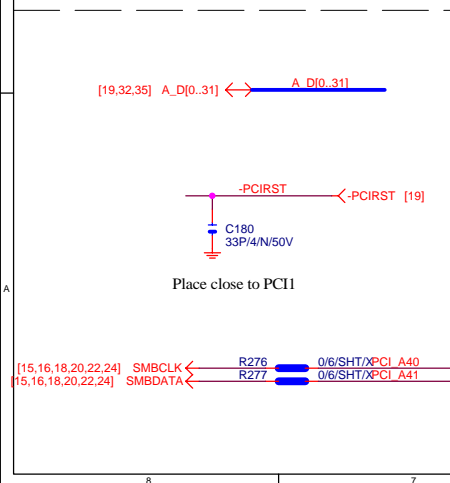
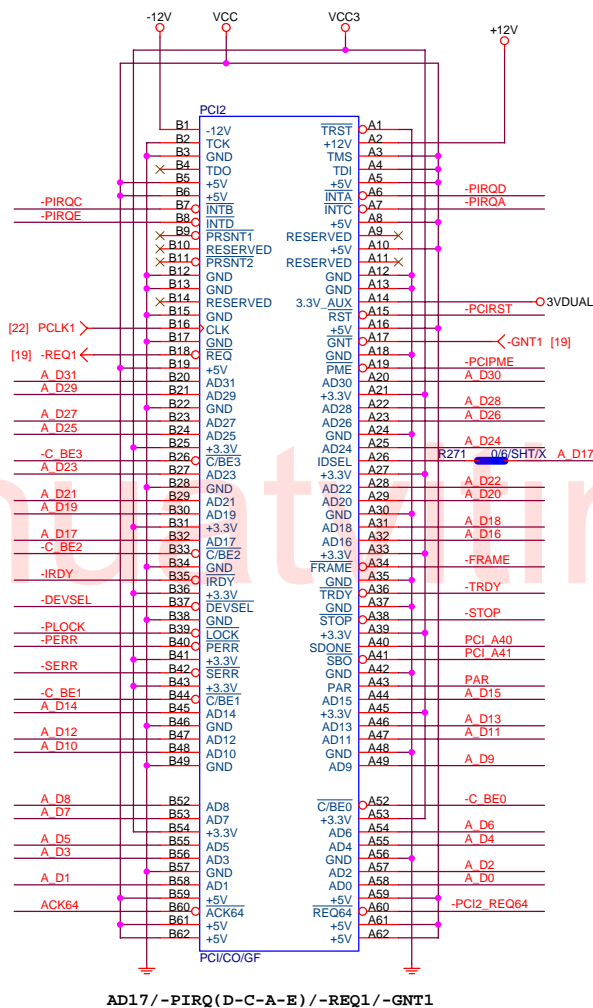
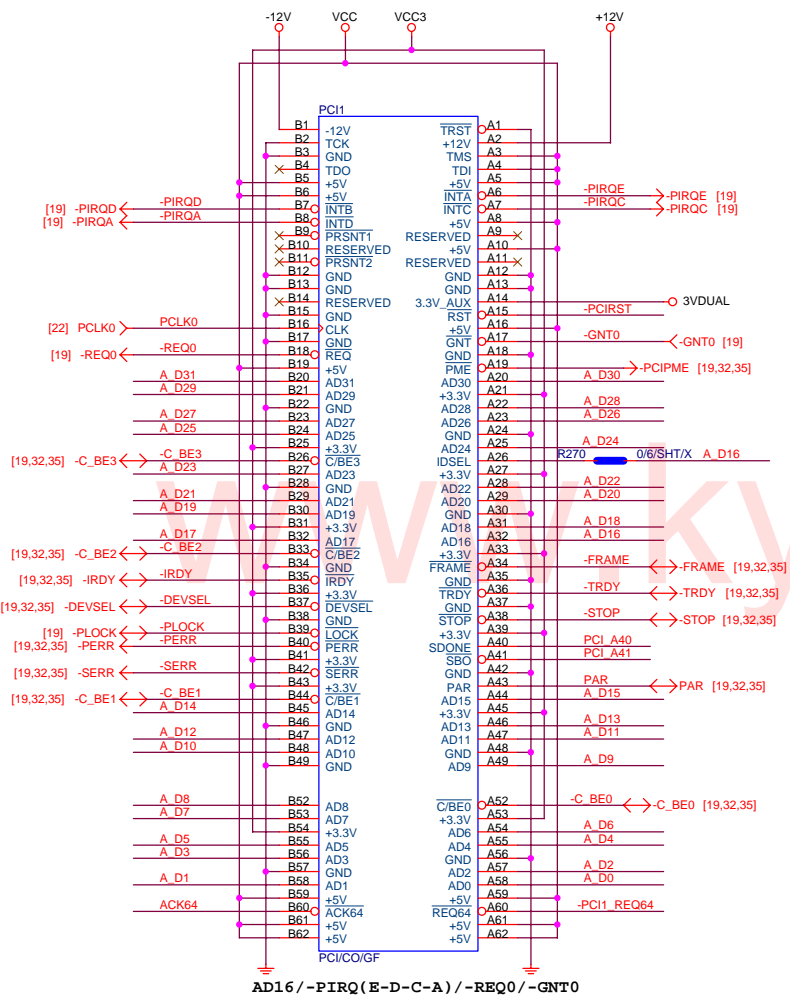
PIN9 (CLK_T0) : ICS954206
PULL-UP: 100MHZ (POP R693)

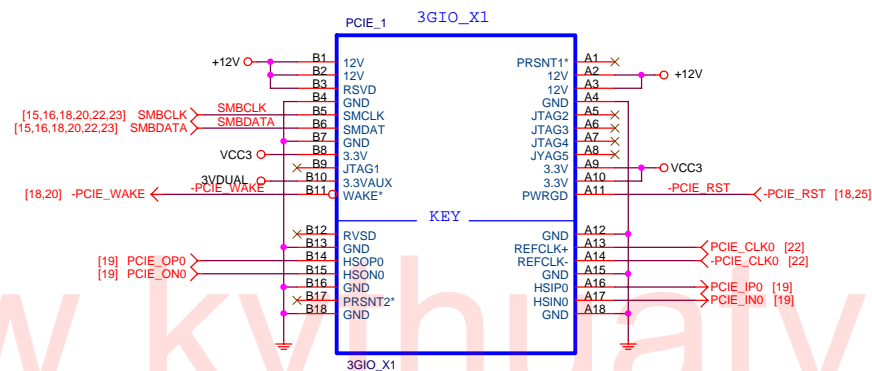


P.D --> PIN35/36 for SRCCLK7

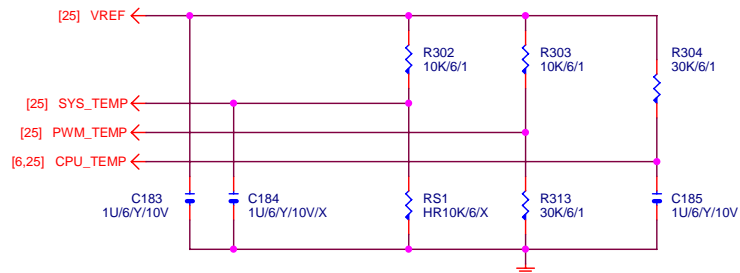


GIGABYTE			
Title			
CK410M/GBT_CLK GEN			
Size	Document Number		Rev
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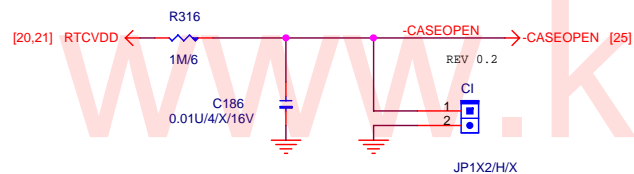




TEMP. SENSE

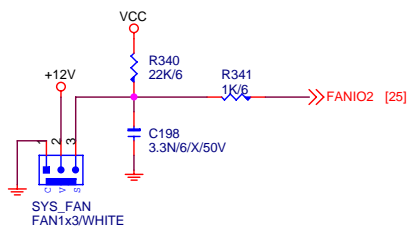


CASE OPEN (N/A)

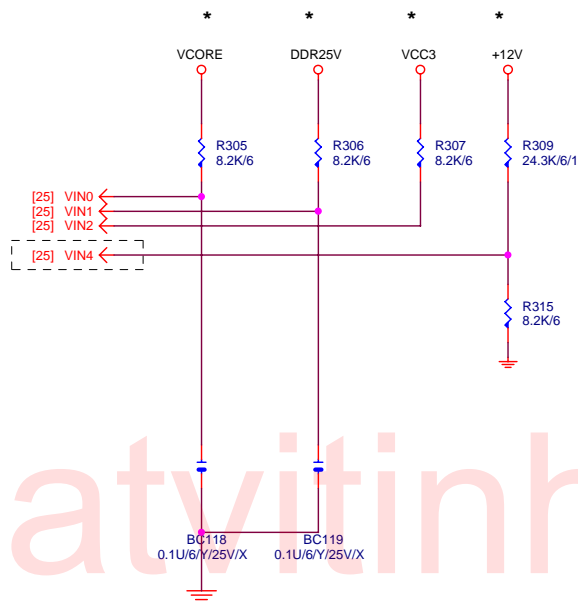


Case Open Circuits

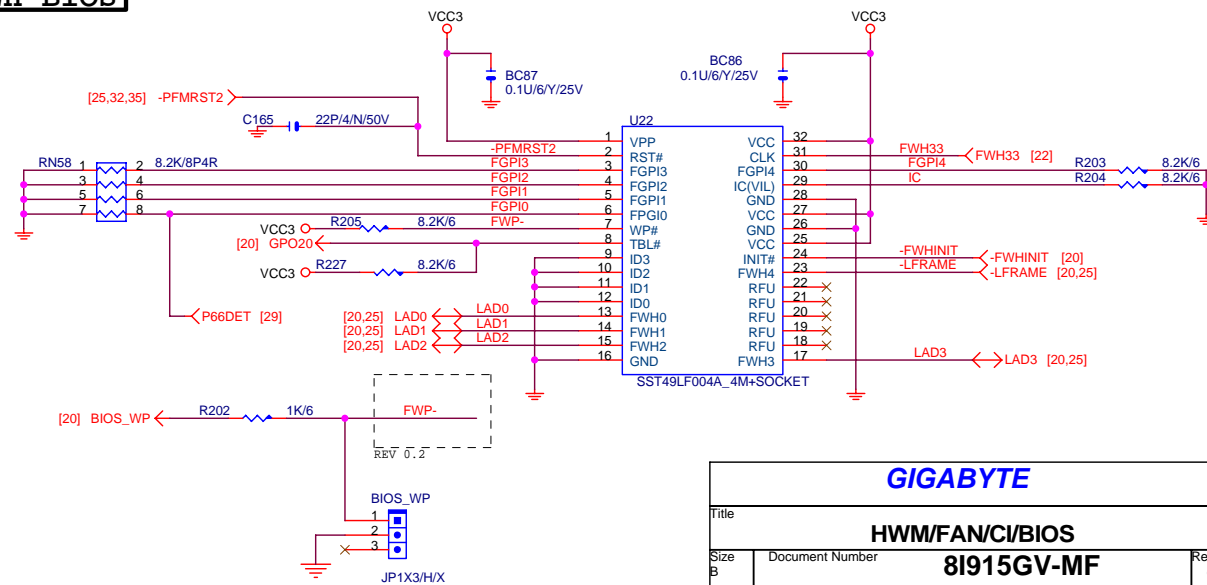
SYS FAN



VOLTAGE SENSE



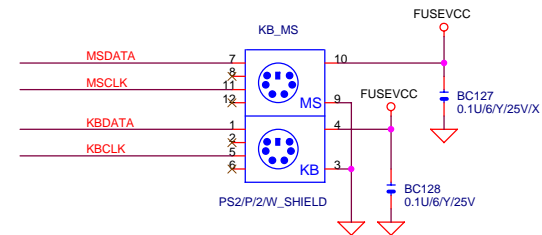
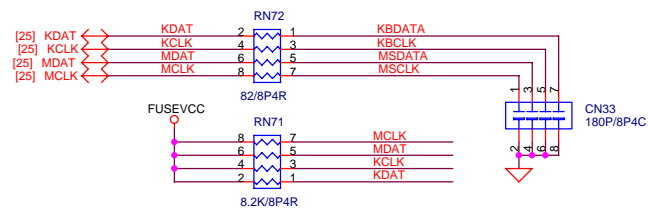
FWH BIOS



GIGABYTE

Title			
HWM/FAN/CI/BIOS			
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KB/MS

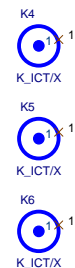
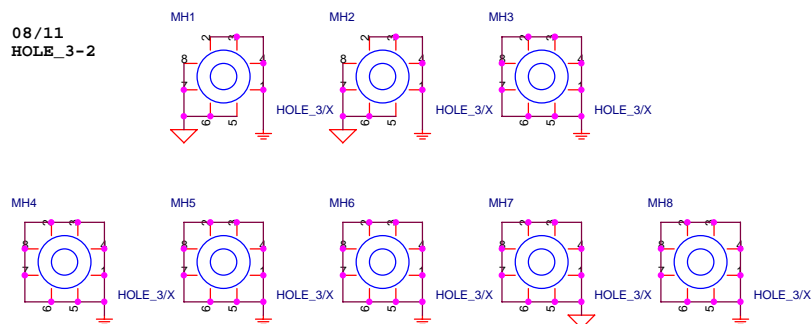


GAME PORT (N/A)

rev 0.4

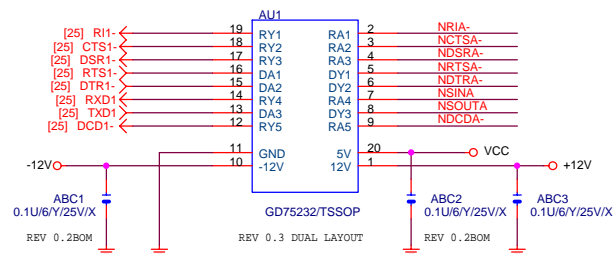
www.kythuatvitinh.com

08/11
HOLE_3-2

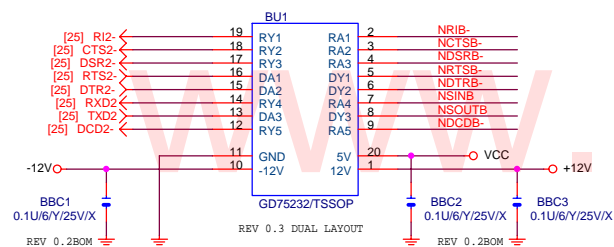


GIGABYTE			
Title			
PS/2 KB & MS			
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COMA / COMB

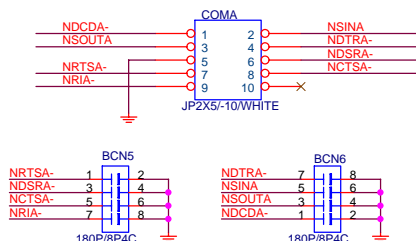


Foot Print Change

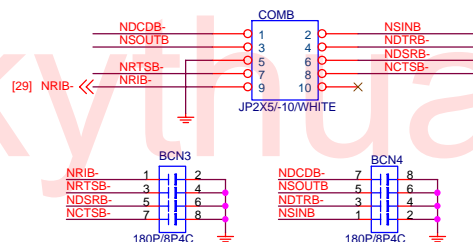


INTERNAL COMA

rev 0.4

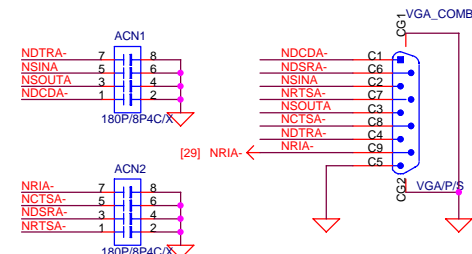


INTERNAL COMB



REAR COMA

rev 0.4

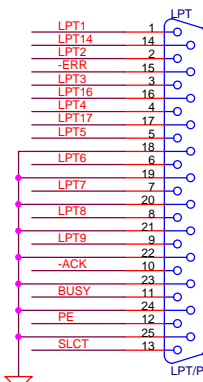
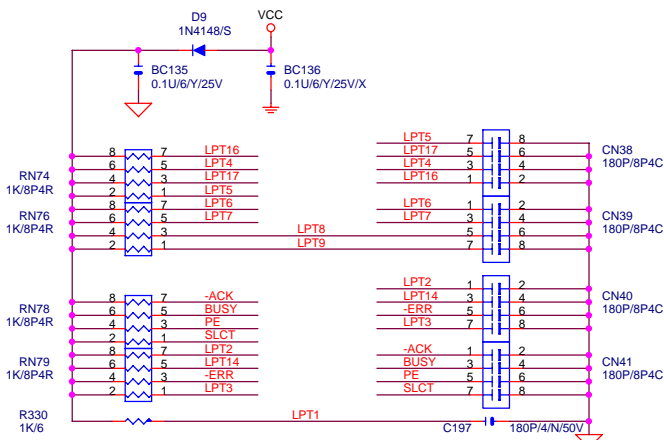
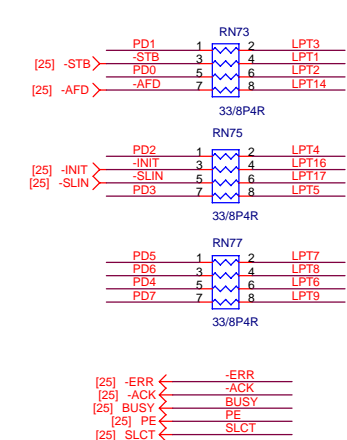


PLACE NEAR VGA COM CONNECTOR

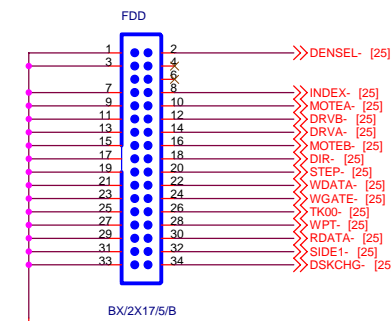
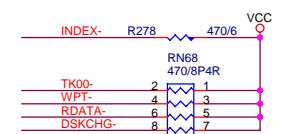
凡ATX系列 (含 NXP, PRO, Ultra, 戰鬥版, both 915P or 915G...) 只support 一個COM port.

凡uATX系列 (含915P or 915G) 需support 兩個COM port

LPT



FLOPPY



GIGABYTE

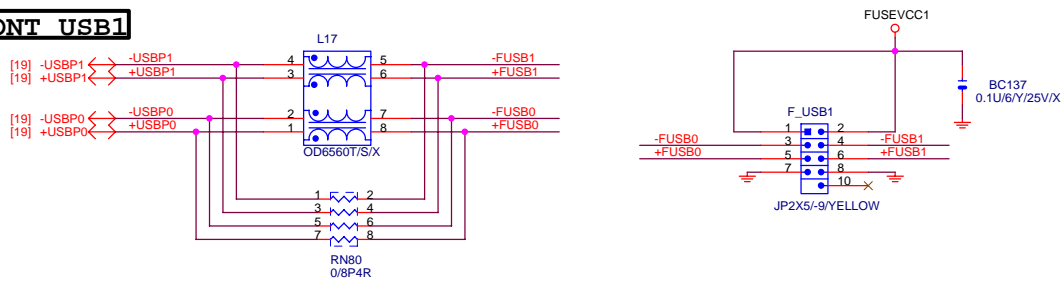
COM, LPT, FDD

8I915GV-MF

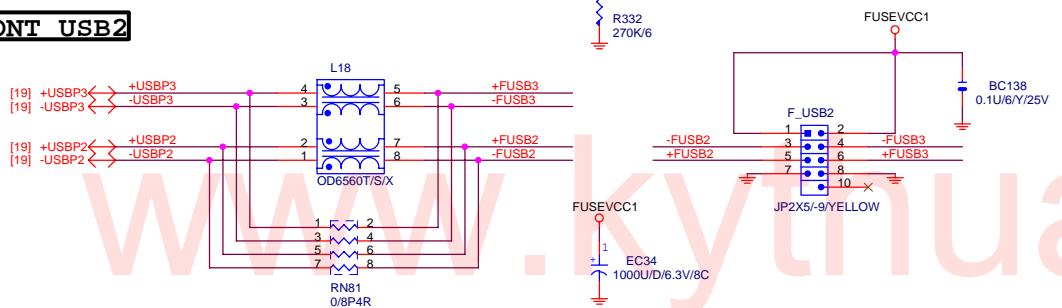
Rev	1 2
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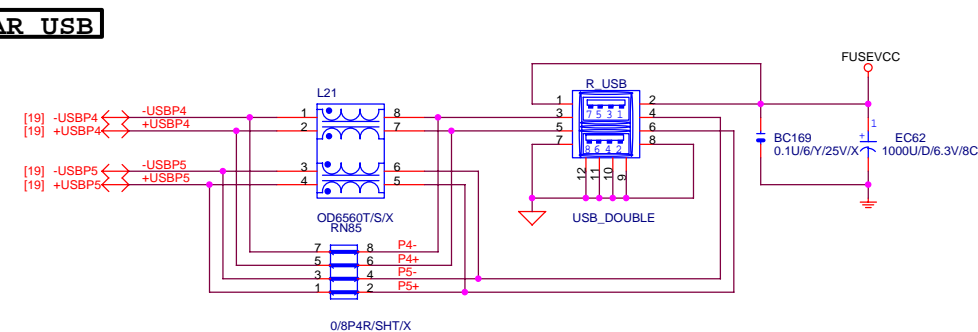
FRONT USB1



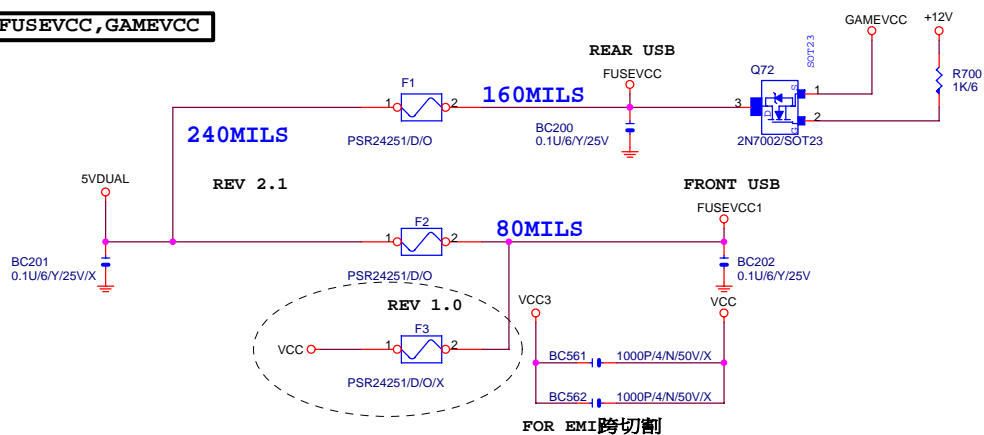
FRONT USB2



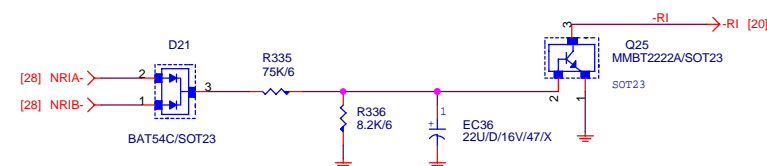
REAR USB



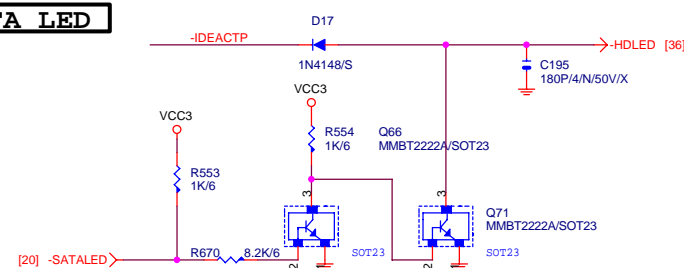
FUSEVCC, GAMEVCC



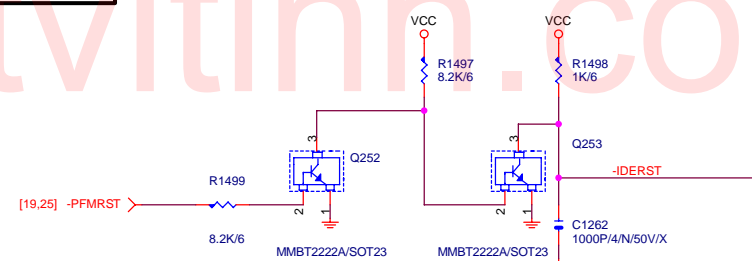
RING IN



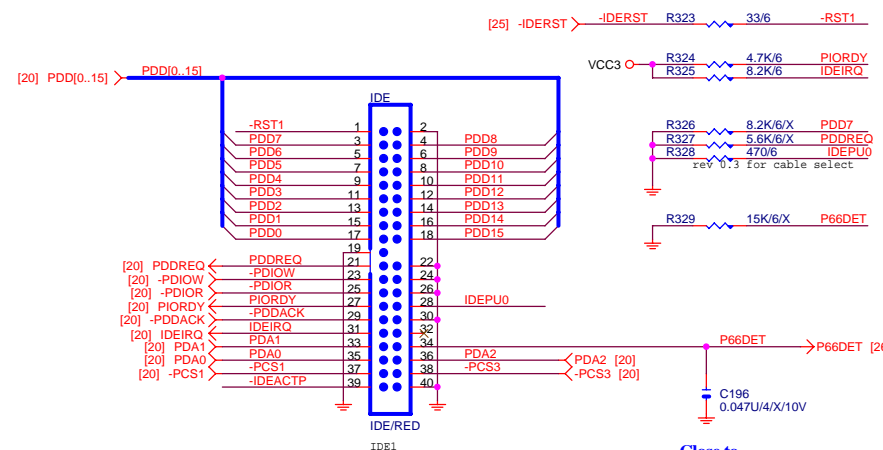
IDE/SATA LED



IDE RESET



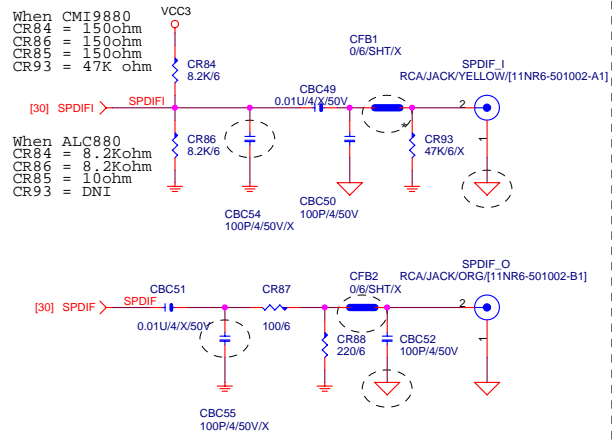
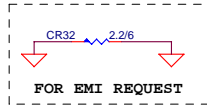
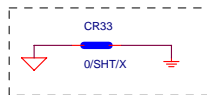
IDE



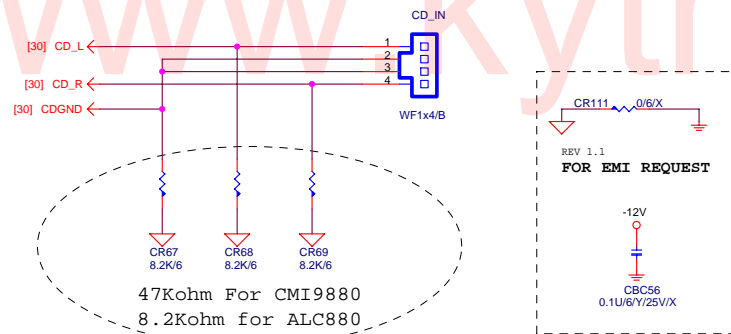
PRIMARY IDE CONNECTOR

GIGABYTE

FRONT/REAR USB CONNECTOR/IDE			
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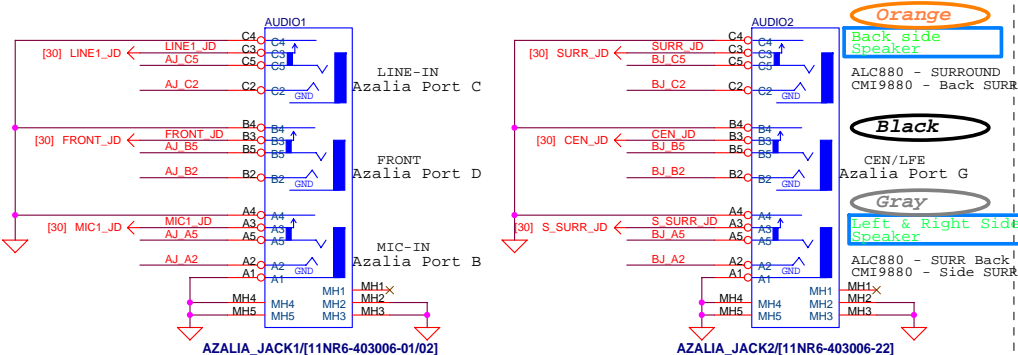
CD IN



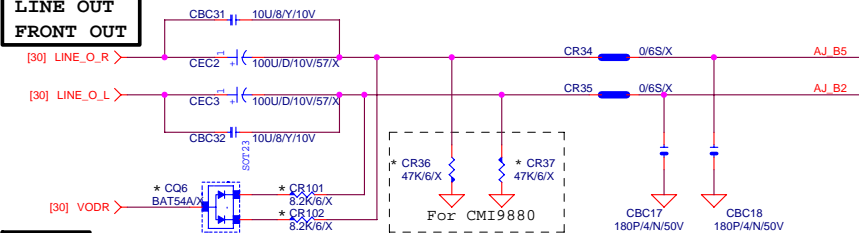
Azalia Jack

Normal --> pin4/pin3 open
Plug jack --> pin4/pin3 close

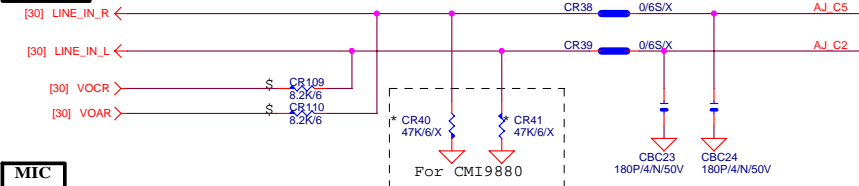
CMI9880 Port A is Side SURROUND, Port H is Back SURROUND
ALC880 Port A is SURROUND, Port H is SIDE



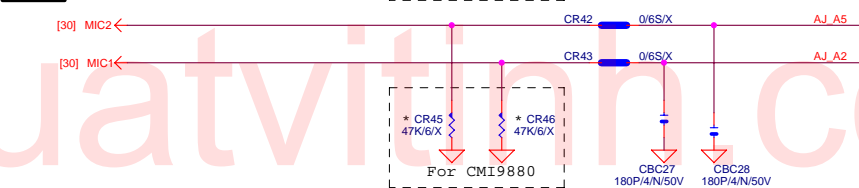
LINE OUT FRONT OUT



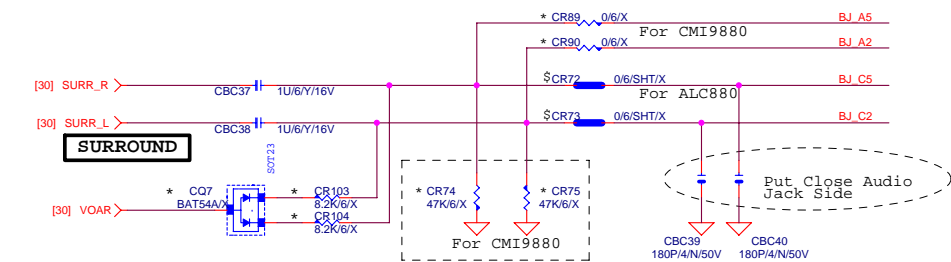
LINE-IN



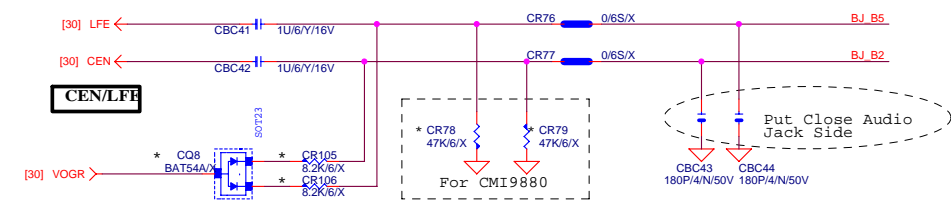
MIC



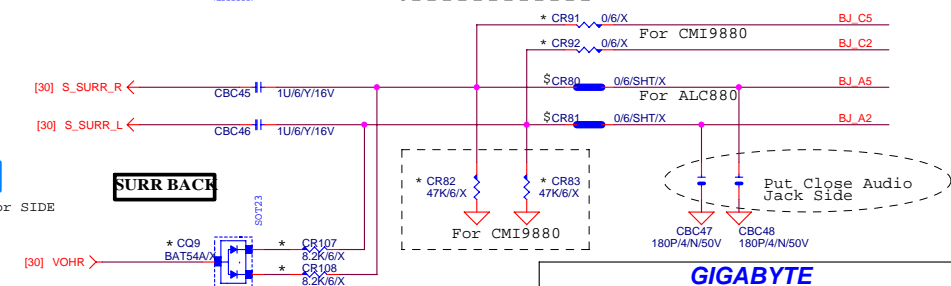
SURROUND



CEN/LFE

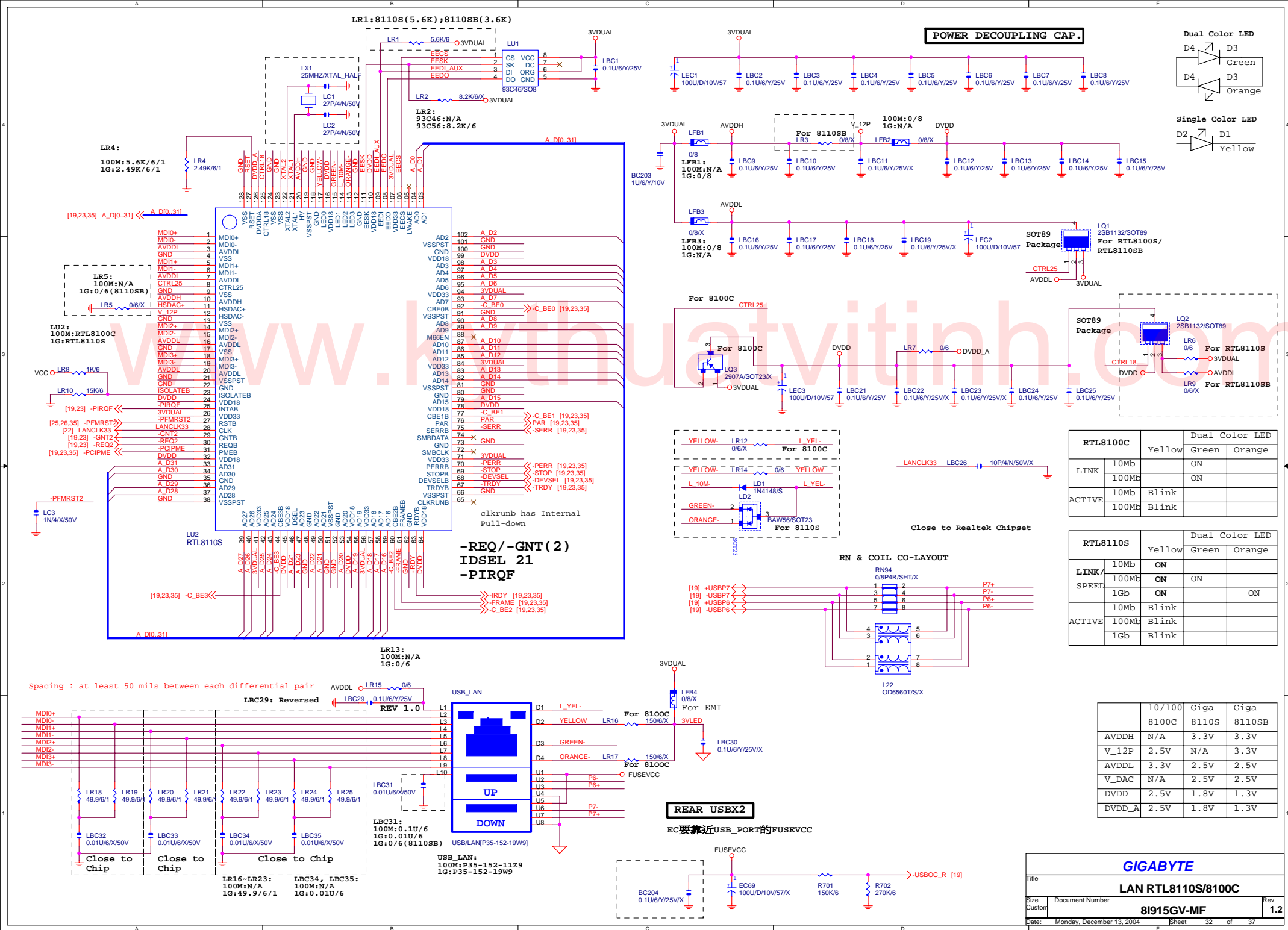


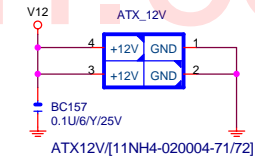
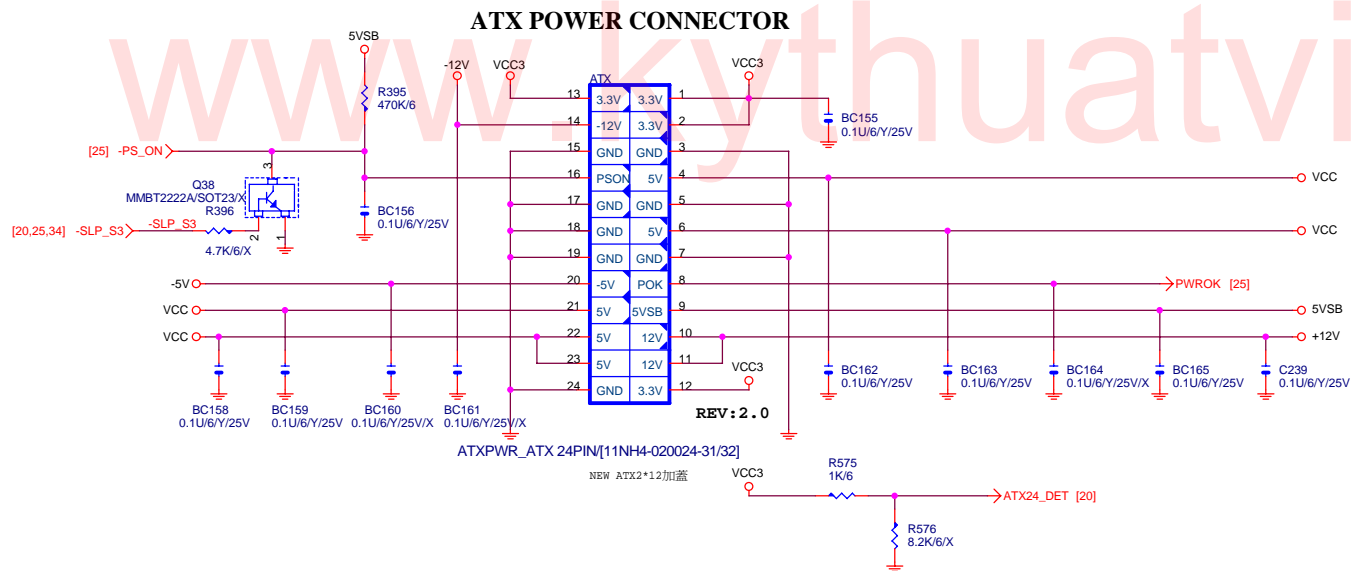
SURR BACK



GIGABYTE

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ATX POWER CONNECTOR			
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REV: 2.0

此FUSEVCC防燒線路有IO
5VSB(MS)漏電1.1V,造成不開機

3VDUAL CIRCUIT

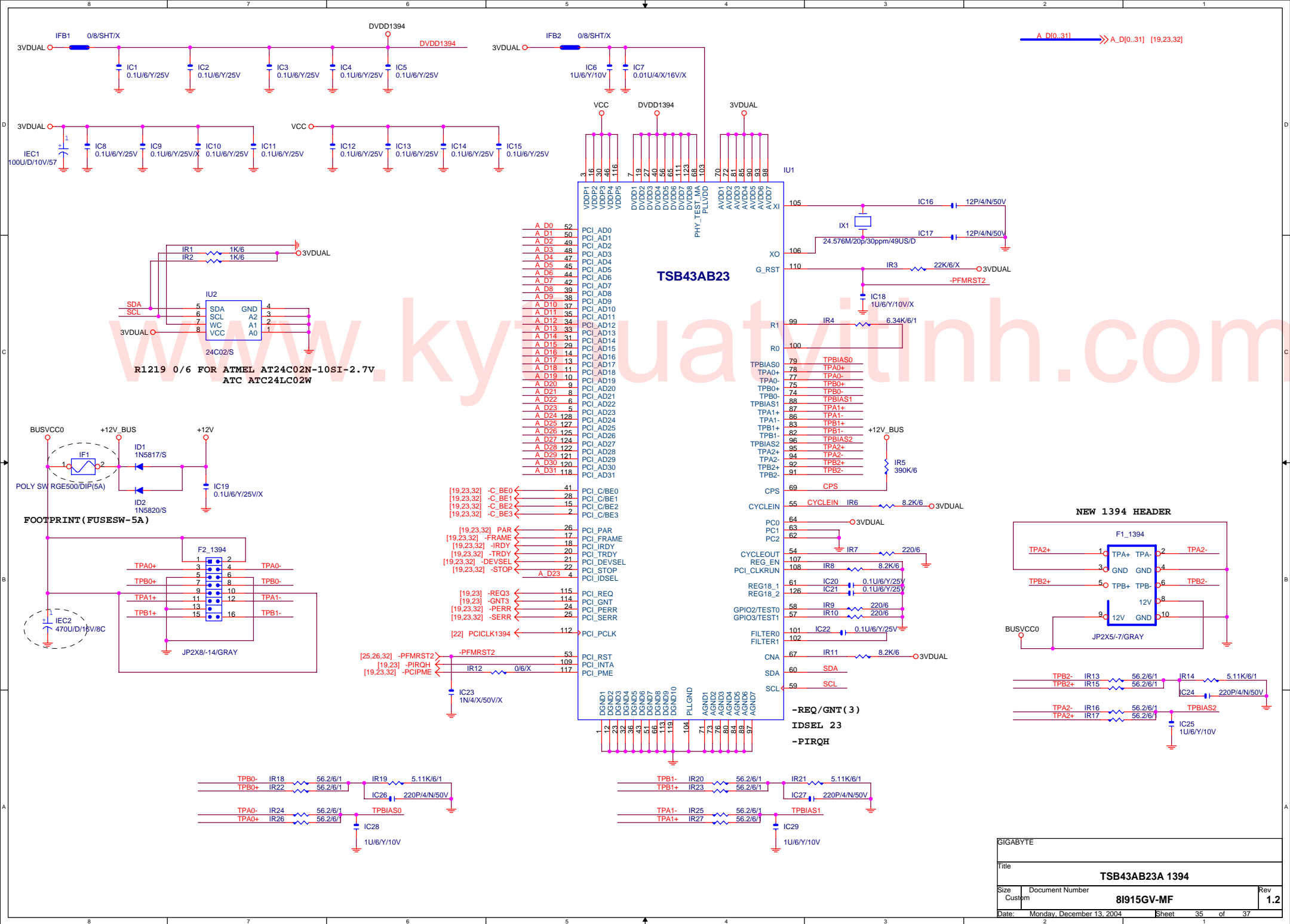


Discrete Power

8I915GV-MF

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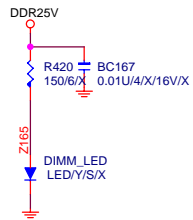
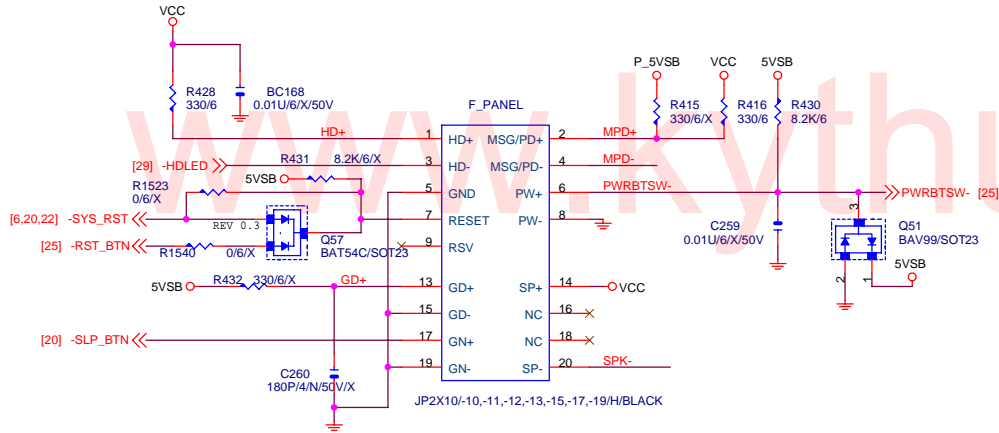
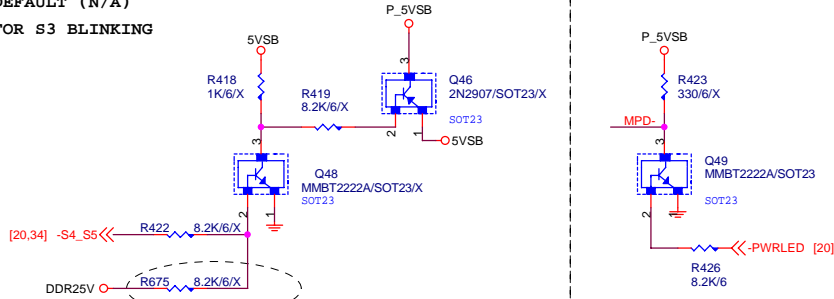


INTEL FRONT PANEL

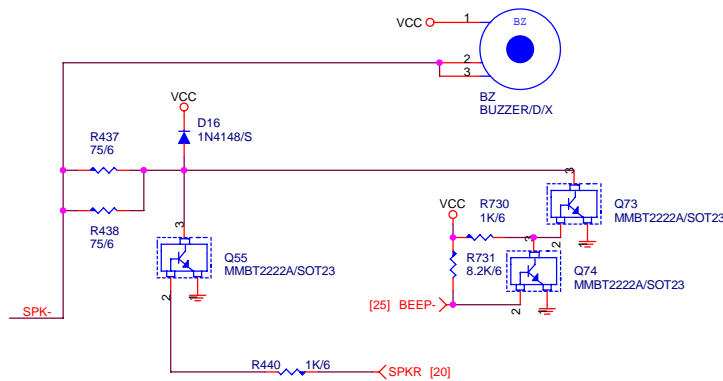
DEFAULT (N/A)
FOR S3 BLINKING

3 PIN POWER LED
LAYOUT PLACE CLOSE
TO F_PANEL

PWR_LED
1 MPD+
2 MPD-
3 MPD-
JP1X3/H



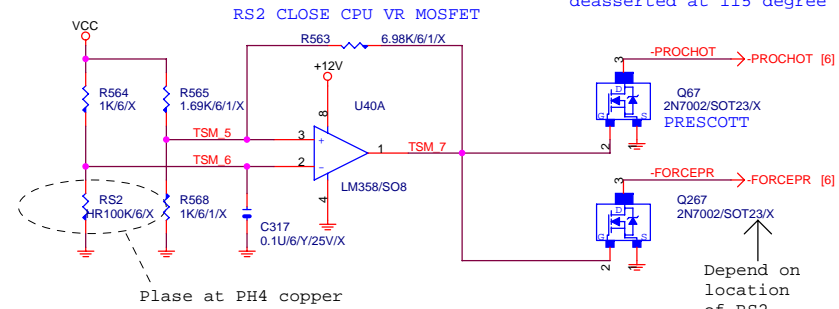
BUZZER



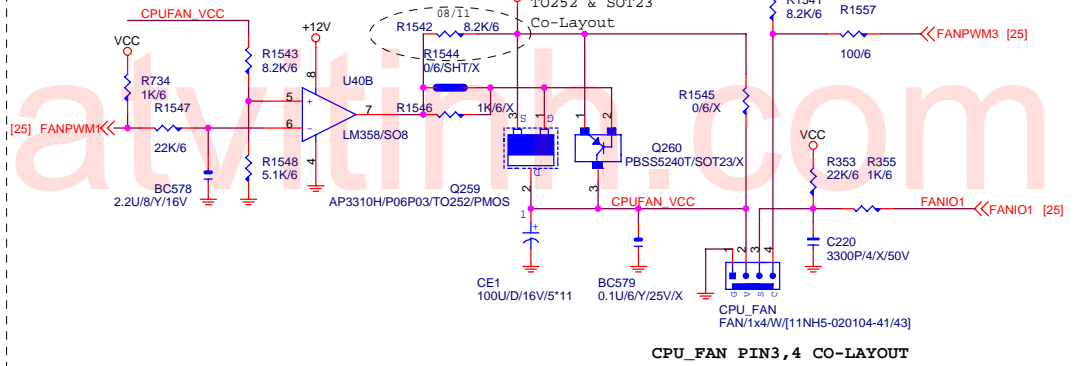
PROCESSOR HOT

U-ATX PROCESSOR HOT NO POP

asserted at 130 degree (RS2=720 ohm)
deasserted at 115 degree (RS2=1270 ohm)



ThermalTake FAN Power Consumption: 0.82A
Intel FAN Power Consumption Spec: 1.1A



States for green LED NO1 GPO22 only S1 PROGRAMMING LOW

LED States	ACPI States	GPO28
ON	S1,S3	0
OFF	S0,S5	1

(GPO22 DEFAULT HIGH, main power)

States for a single-color power LED

LED States	ACPI States	GPO25	GPO27	GPO24
OFF	S1,S3,S5	1	1	NO1
Steady Green	S0	1	1	1
Blinking Green	S0(message waiting)	1	B	1

LED States	ACPI States	GPO25	GPO27	GPO22
OFF	S5	1	1	X
Steady Green	S0	1	1	1
Blinking Green	S0(message waiting)	1	B	1
Steady Yellow	S1,S3	1	0	NO1
Blinking Yellow	S1,S3(message waiting)	1	B	NO1

GIGABYTE

Title			FRONT PANEL	
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ICH6 GPIO Table:

NAME	PWR LANE	USAGE	NAME	PWR LANE	USAGE
GPI0	V5REF	M/B ID (-REQ6)	GPI41	VCC3	M/B ID1
GPI1	V5REF	-REQ5	GPO48	VCC3	-GNT4(TP)
GPI2	V5REF	-PIRQE	GPO49	V-CPUIO	CPUPWOK
GPI3	V5REF	-PIRQF			
GPI4	V5REF	-PIRQG			
GPI5	V5REF	-PIRQH			
GPI6	VCC3	-SLP BTN			
GPI7	VCC3	DUAL BIOS(TP)			
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(TP)			
GPO18	VCC3	CPU OV2			
GPO19	VCC3	DUAL BIOS(AGPOV1)			
GPO20	VCC3	BIOS T-BLOCK			
GPO21	VCC3	DUAL BIOS(AGPOV2)			
GPO23	VCC3	DDR OV1			
GPI024	3VDAUL	GREEN LED			
GPI025	3VDAUL	2.5V REGULATOR(P.D)			
GPI26	VCC3	SATA GP0			
GPI027	3VDAUL	DDR OV2			
GPI028	3VDAUL	-PWRLED			
GPI29	VCC3	SATA GP1			
GPI30	VCC3	SATA GP2			
GPI31	VCC3	SATA GP3			
GPI032	VCC3	BIOS WP			
GPI033	VCC3	AZALIA DET			
GPI034	VCC3	PWRLED(MB ID0)			
GPI40	V5REF	-REQ4			

PWROK/RESET Table:

ITE8712BHX PIN	NET NAME	TARGET
PIN62/-PCIRST1	-PCIE_RST	1. PCI-E * 1 Slot1 2. PCI-E * 16 slot
PIN64/-PCIRST2	-PFMRST2	1. Onboard PCI Lan 2. Onboard 1394 Chip 3. OnBoard FWH
PIN65/-PCIRST3	-PFMRST1	1. GMCH
PIN115/-PCIRST4	-IDERST	Reserved For IDE
PIN63/PWROK1	PWROK1	1. GMCH 2. ICH6
PIN109/PWROK2	-THERM	1. ICH6

GIGABYTE THCHNOLOGIES , INC.

Title			GPIO/RESET TABLE	
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