

Model Name: 8GDM-LE1 Revision 1.03



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-GRANTSDALE_HOST
10	GMCH-GARNTSDALE_DDR
11	GMCH-GRANTSDALE_PCI E, DMI
12	GMCH-GRANTSDALE_INT VGA
13	GMCH-GRANTSDALE_GND
14	GMCH-GRANTSDALE_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

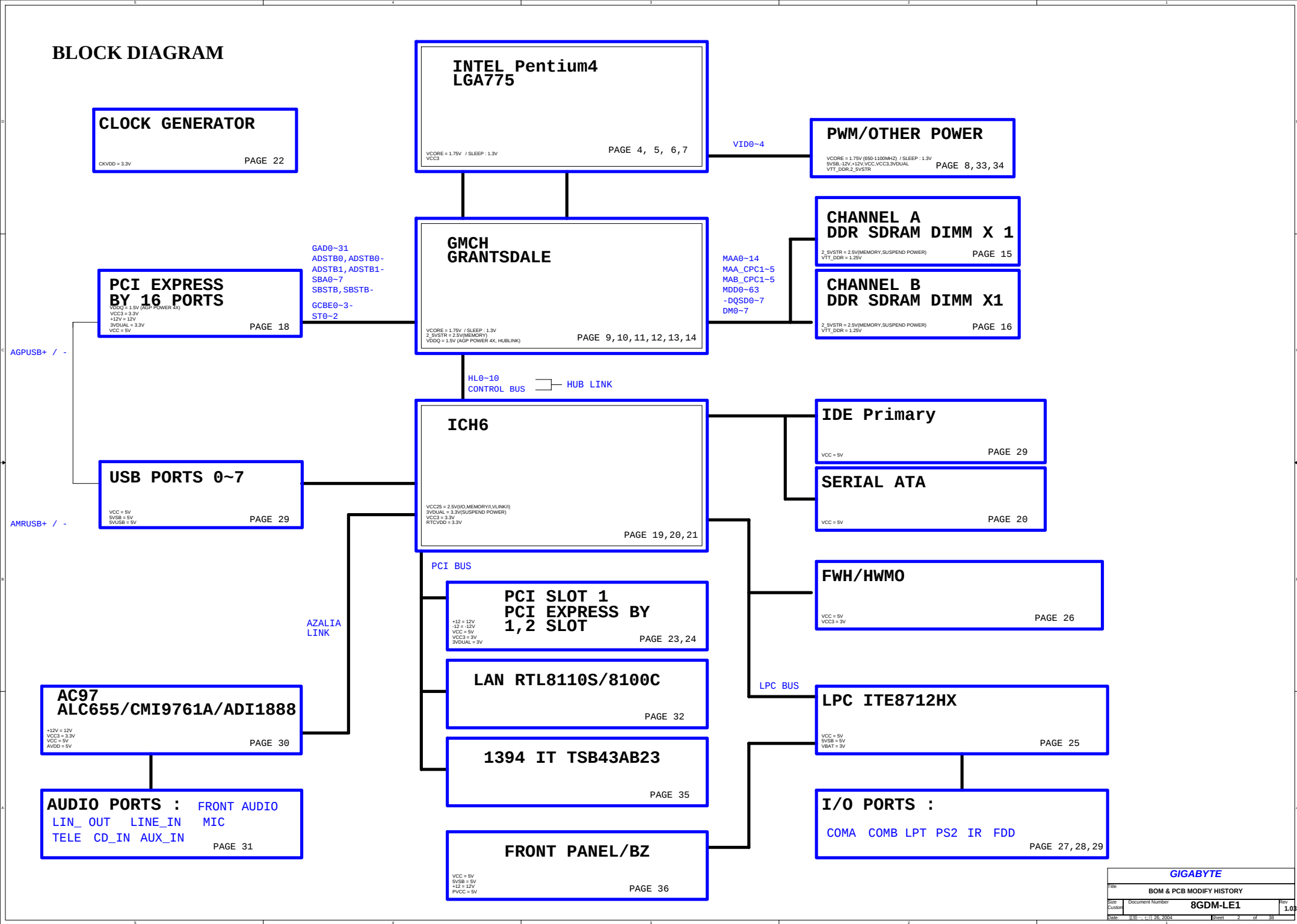
SHEET TITLE

23	PCI SLOT 1,2
24	PCI SLOT 3
25	ITE8712HX
26	HWM0/FAN/FWH BIOS
27	KB_MS
28	COM/LPT/FDD
29	(FRONT+REAR)USB/RING/IDE
30	AC97 CODEC ALC880/CMI9880/ADI1888
31	AUDIO JACK
32	LAN RTL8110S/8100C
33	ATX POWER CONN.
34	ALL POWER
35	1394 TSB43AB23
36	FRONT PANEL/BZ
36	FRONT PANEL2

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

GIGABYTE			
Title			
Cover Sheet			
Size	Document Number	8GDM-LE1	Rev
Custom			1.03
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BLOCK DIAGRAM



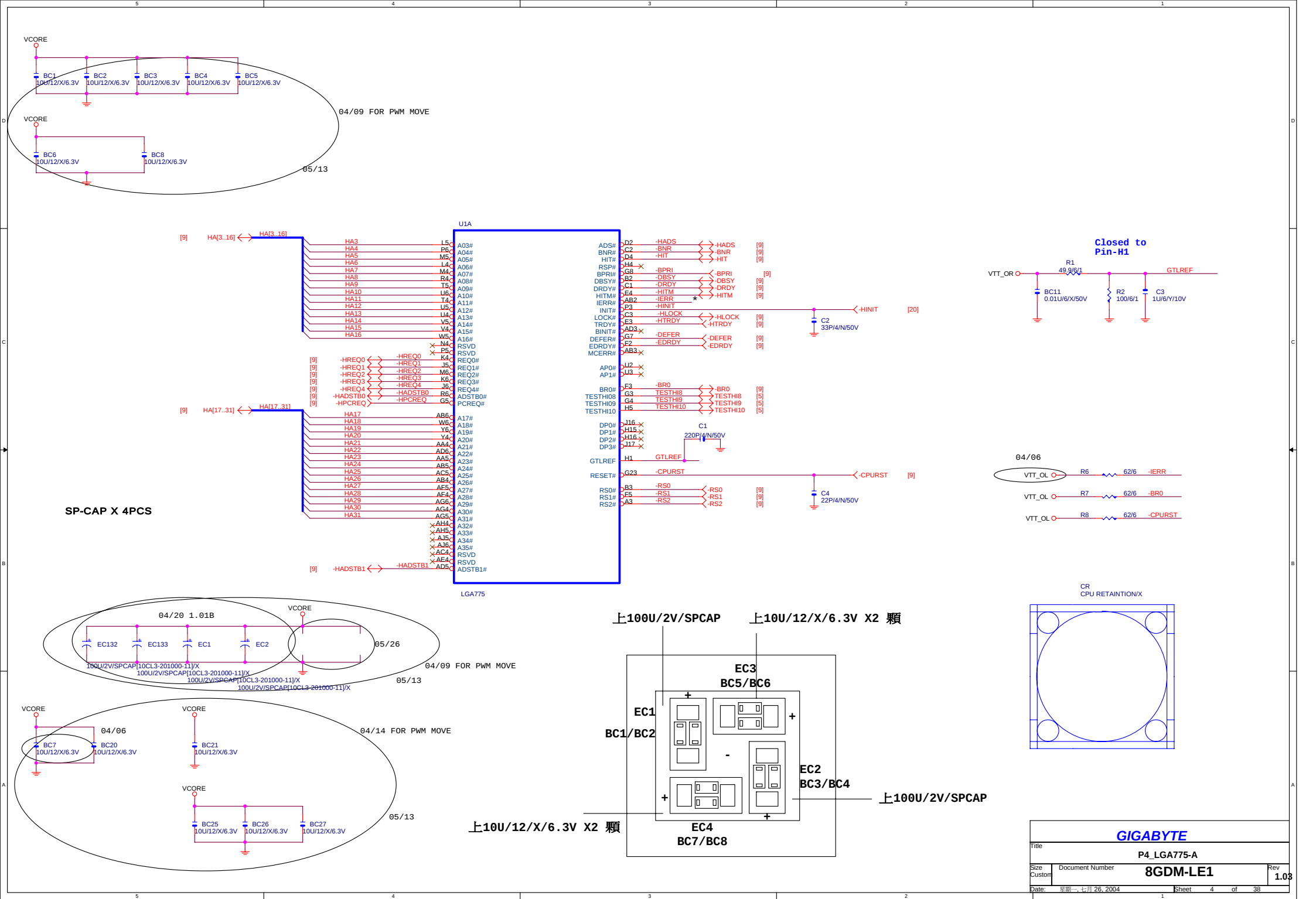
Version:1.03D

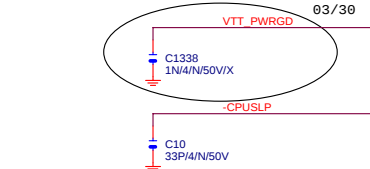
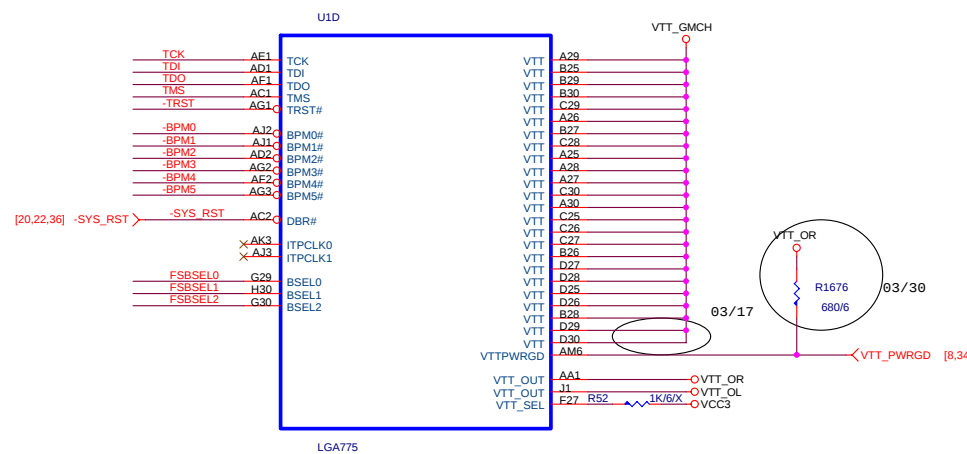
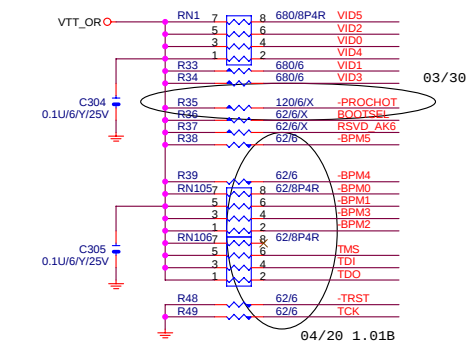
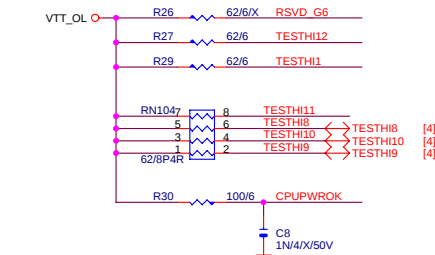
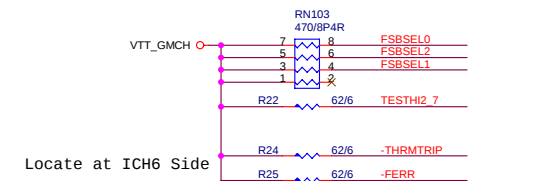
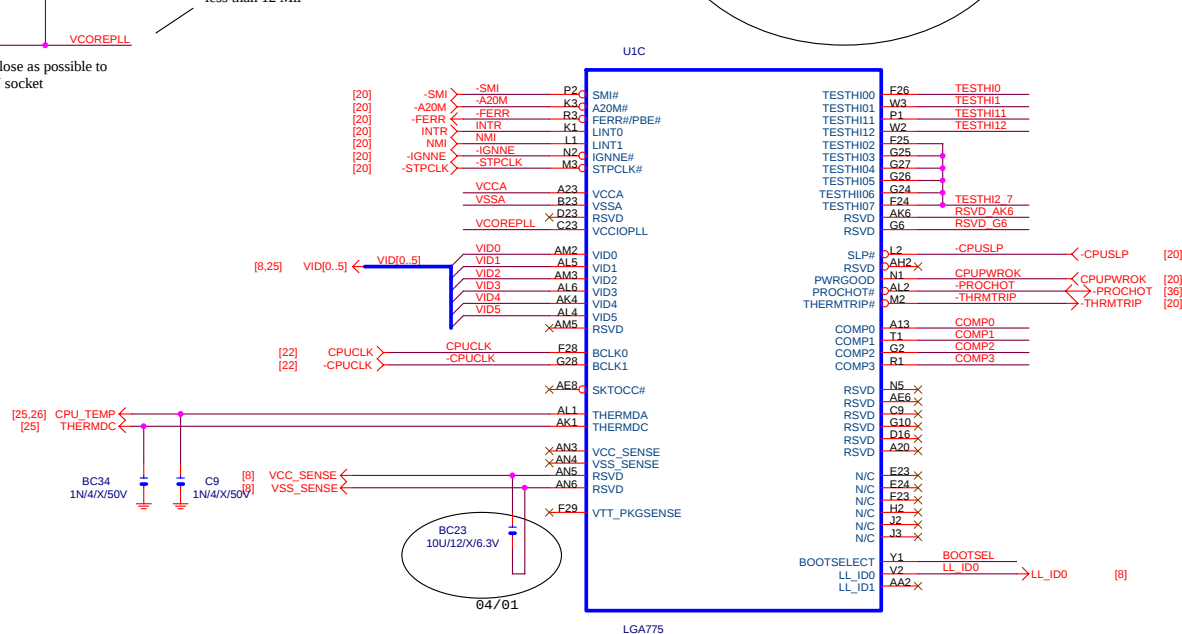
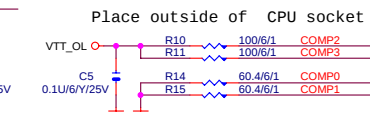
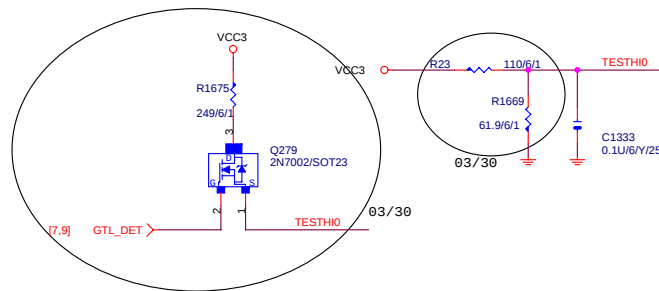
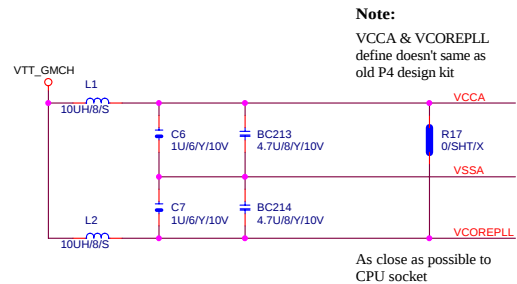
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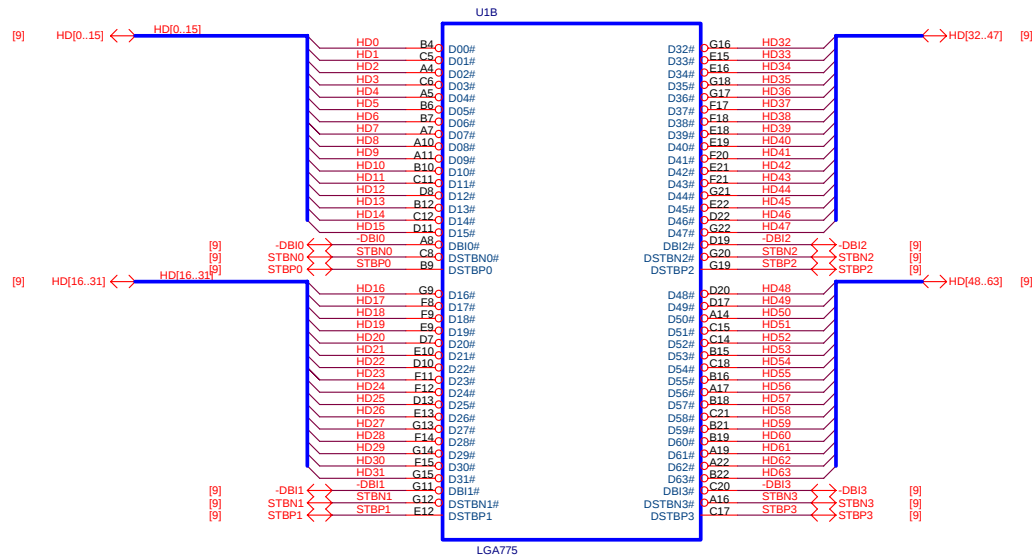
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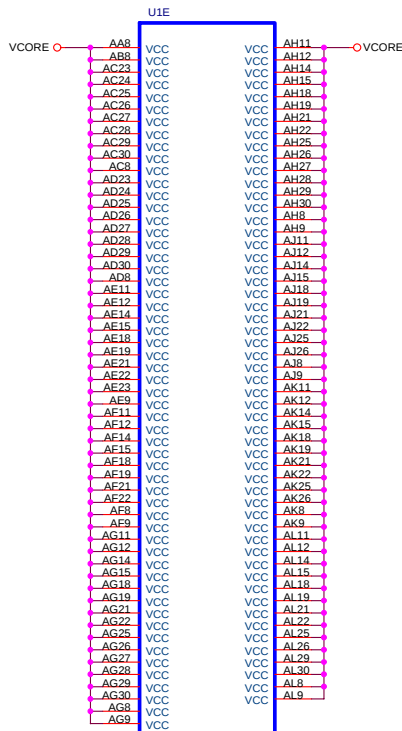
Circuit or PCB layout change for next version

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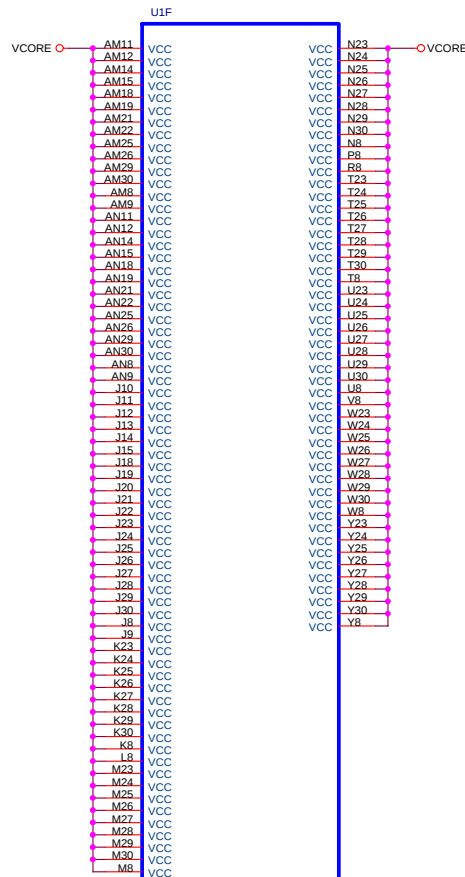




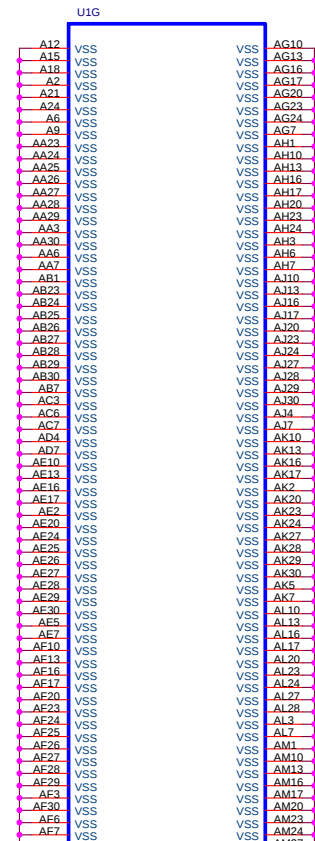




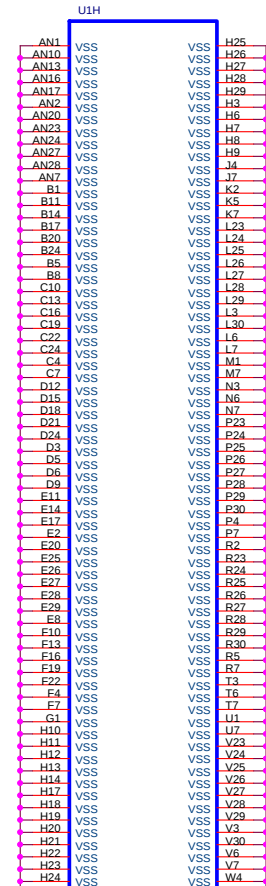
LGA775



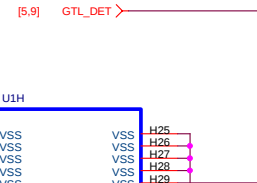
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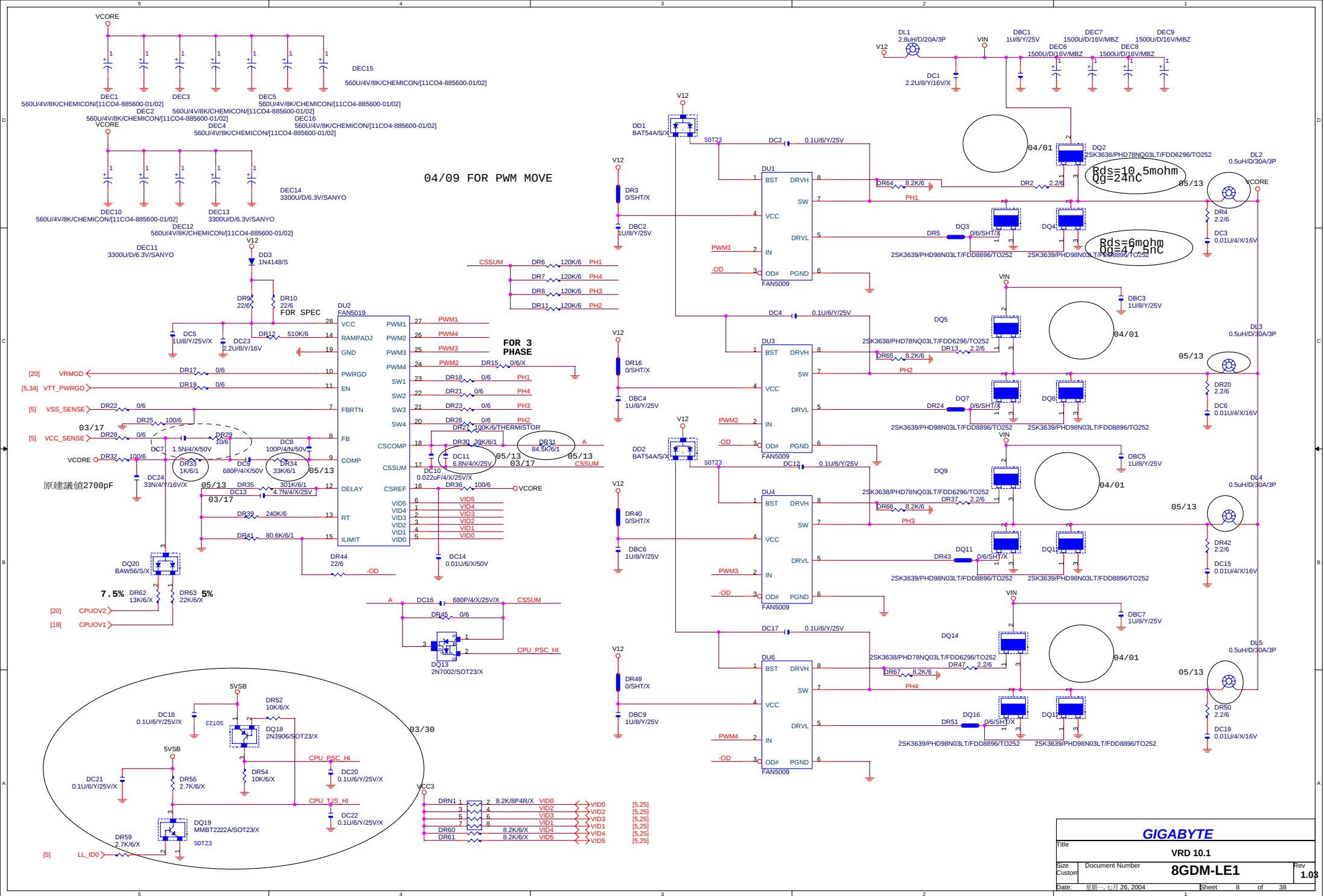


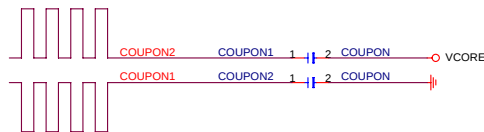
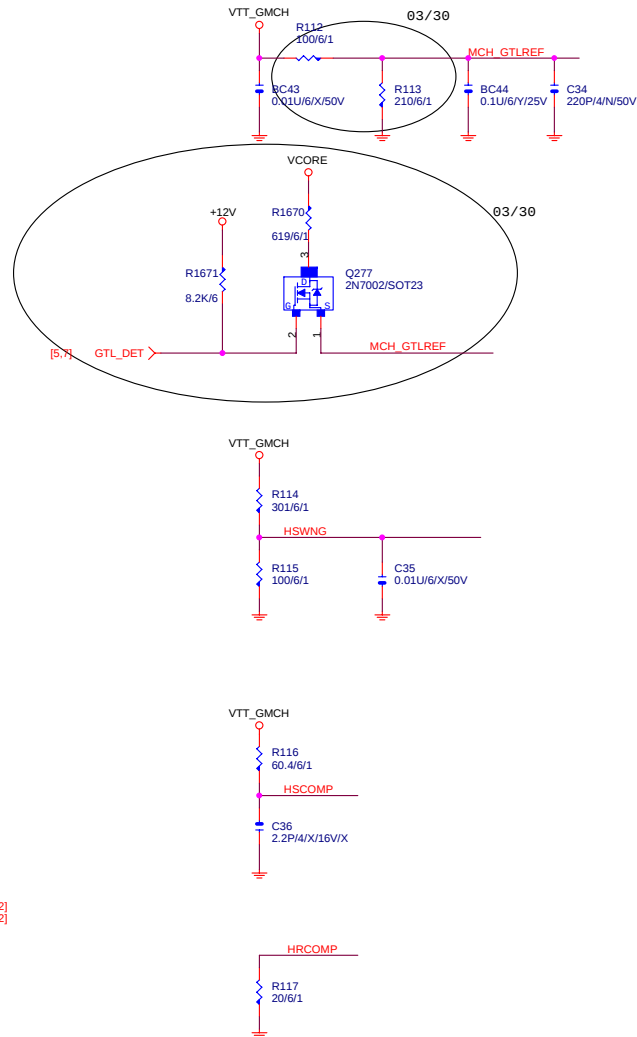
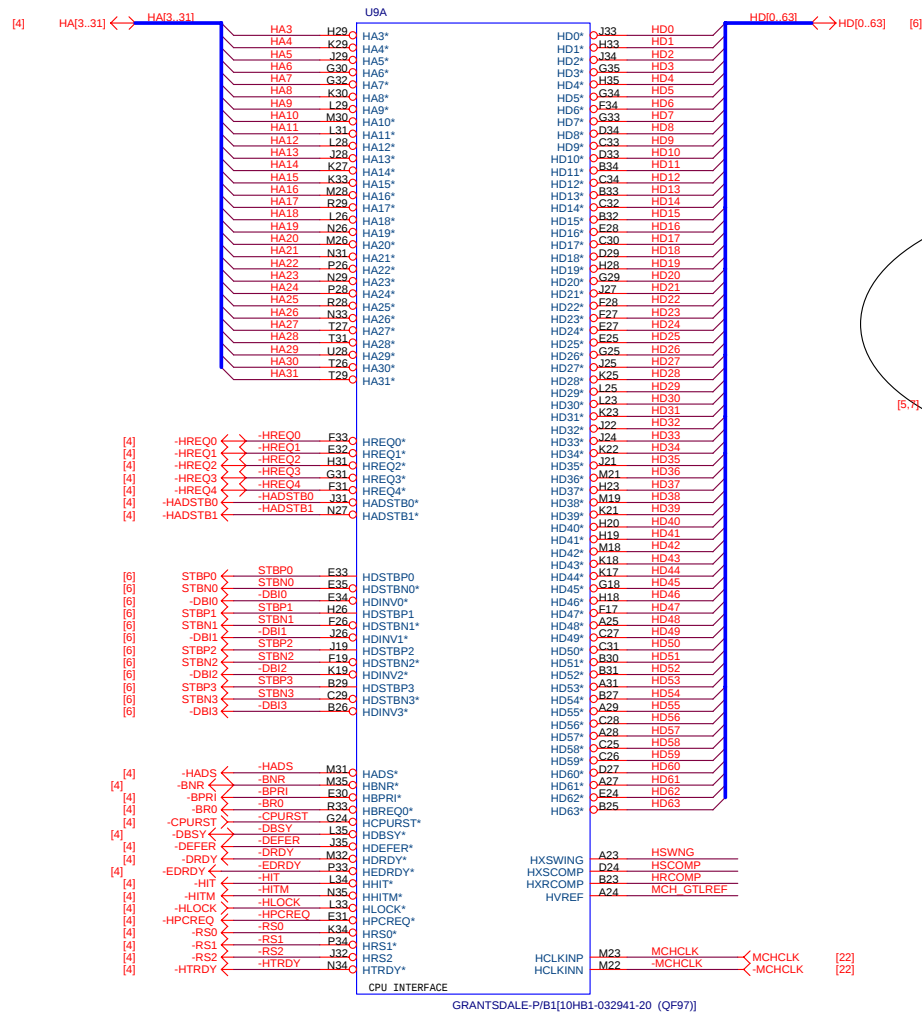
LGA775



LGA775



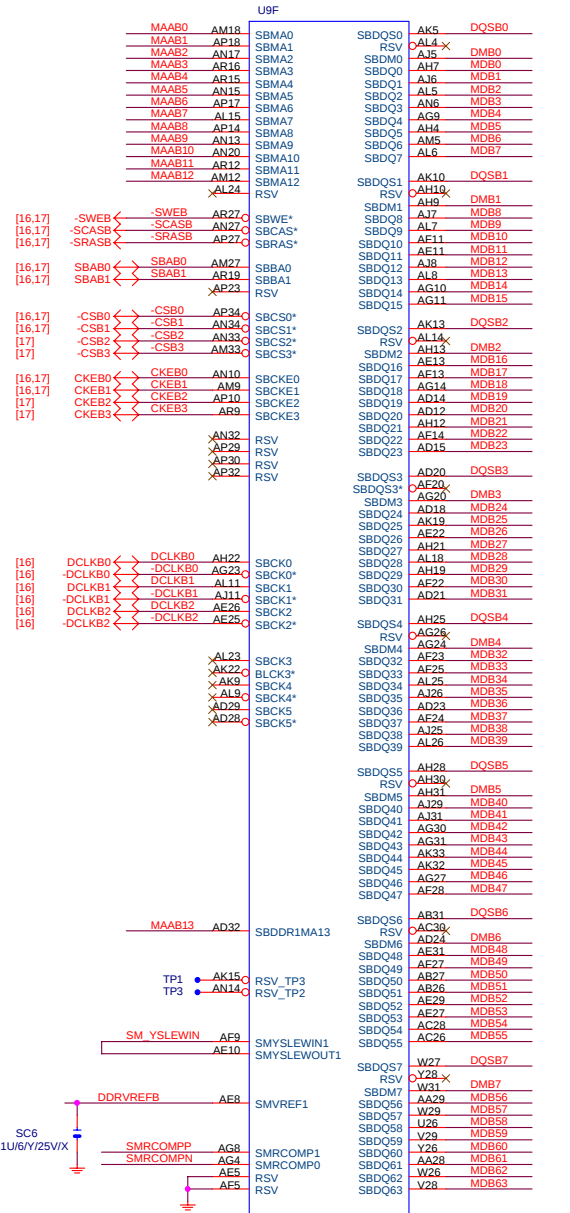




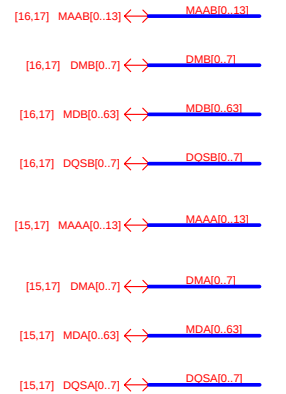
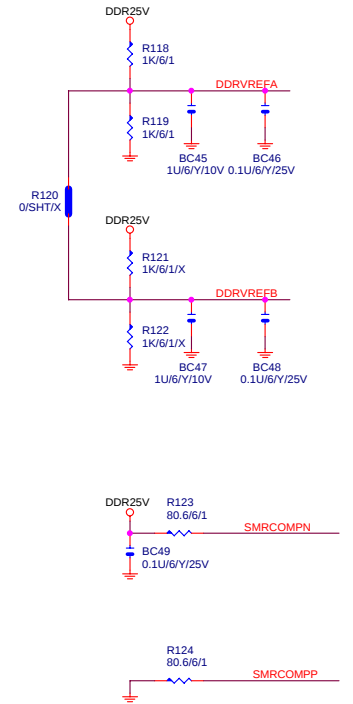
GIGABYTE			
Title			
GMCH-HOST			
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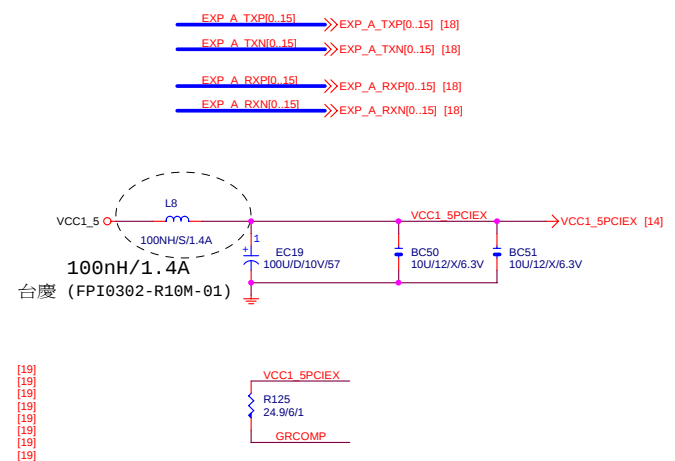
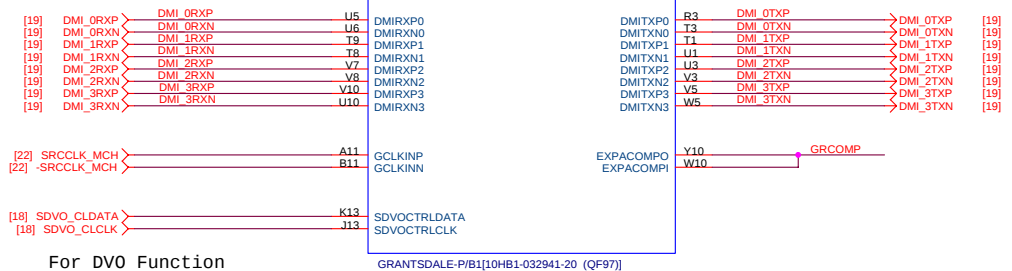
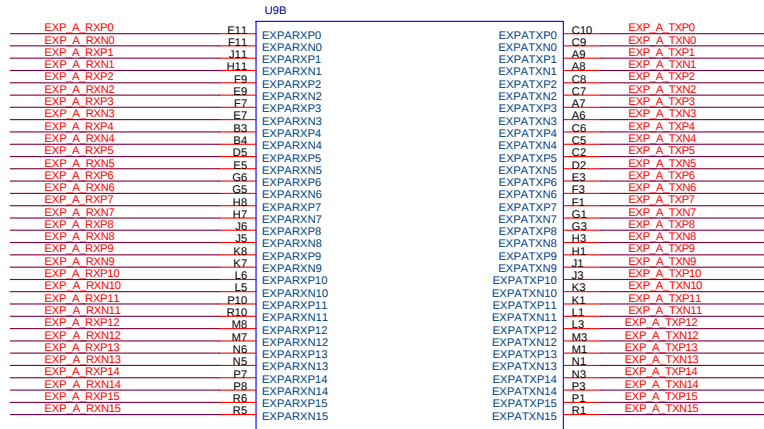


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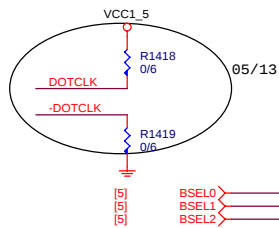


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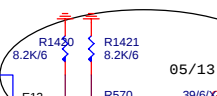




FOR NONE VGA



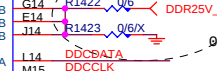
FOR NONE VGA



FOR NONE VGA

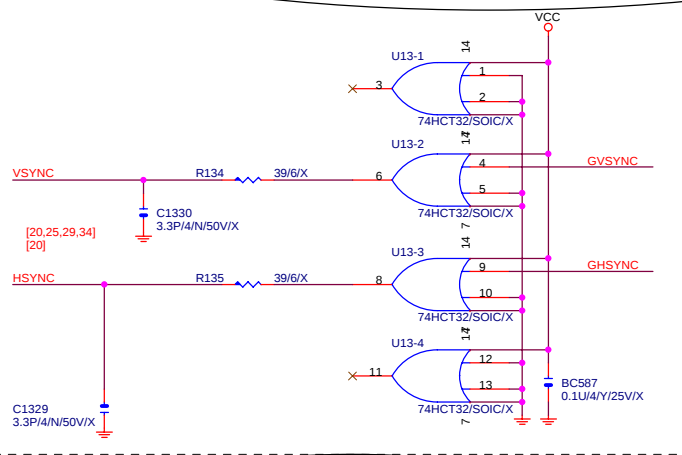
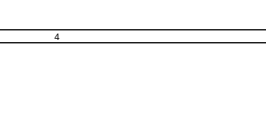
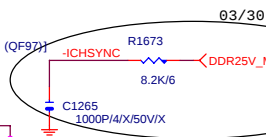
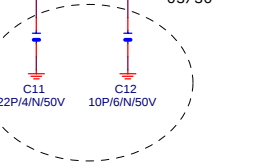
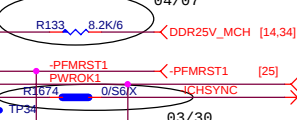
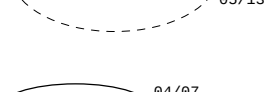


FOR NONE VGA

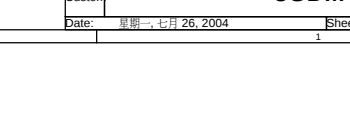
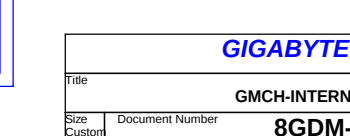
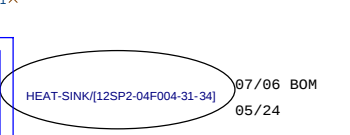
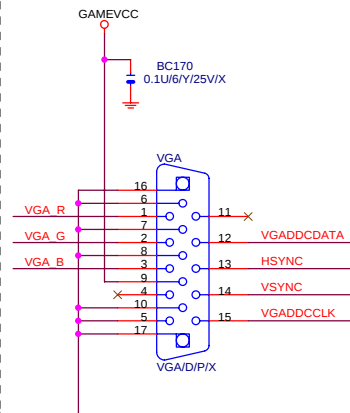
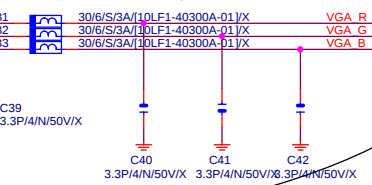


FRONT (CHIPSET)

REAR (CONN)

FOR NONE VGA
R132=0/6

(TDK PN# MMZ2012S800A)



HEAT-SINK[12SP2-04F004-31-34] 07/06 BOM 05/24

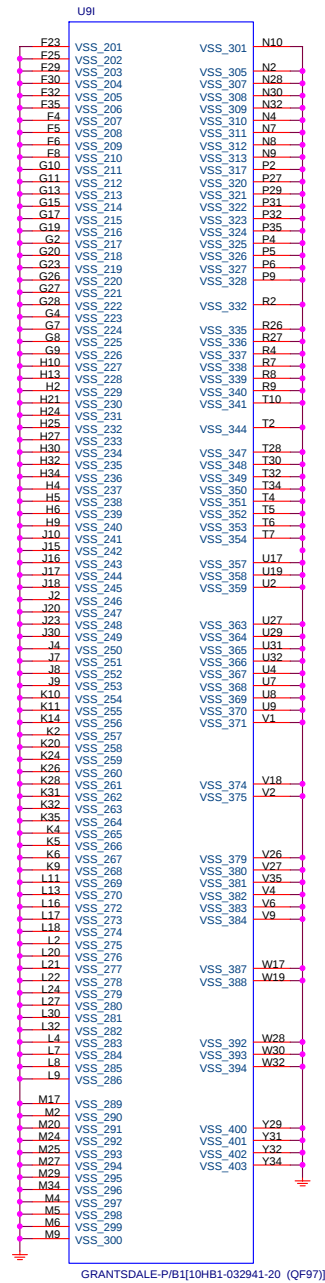
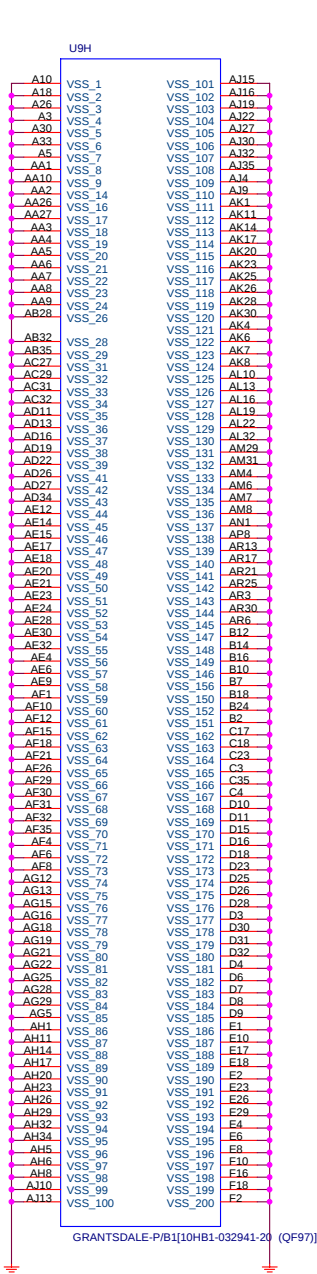
GIGABYTE

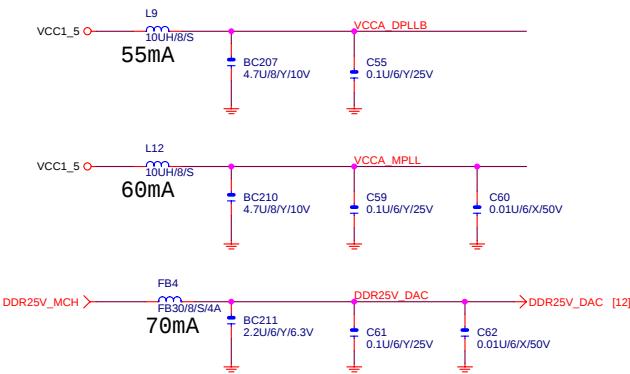
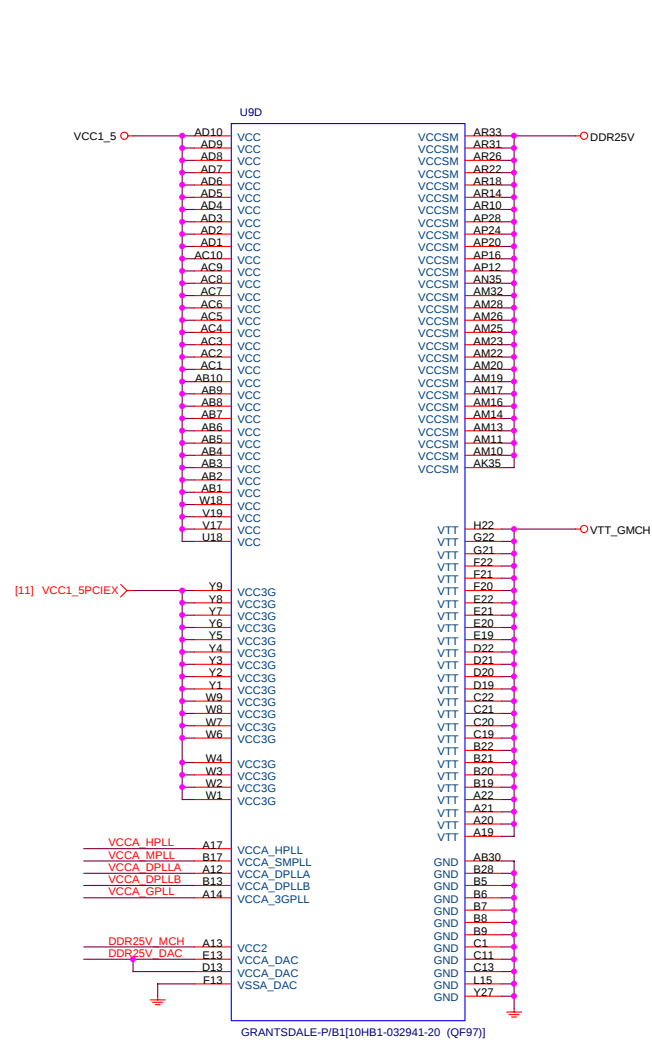
GMCH-INTERNAL VGA

8GDM-LE1

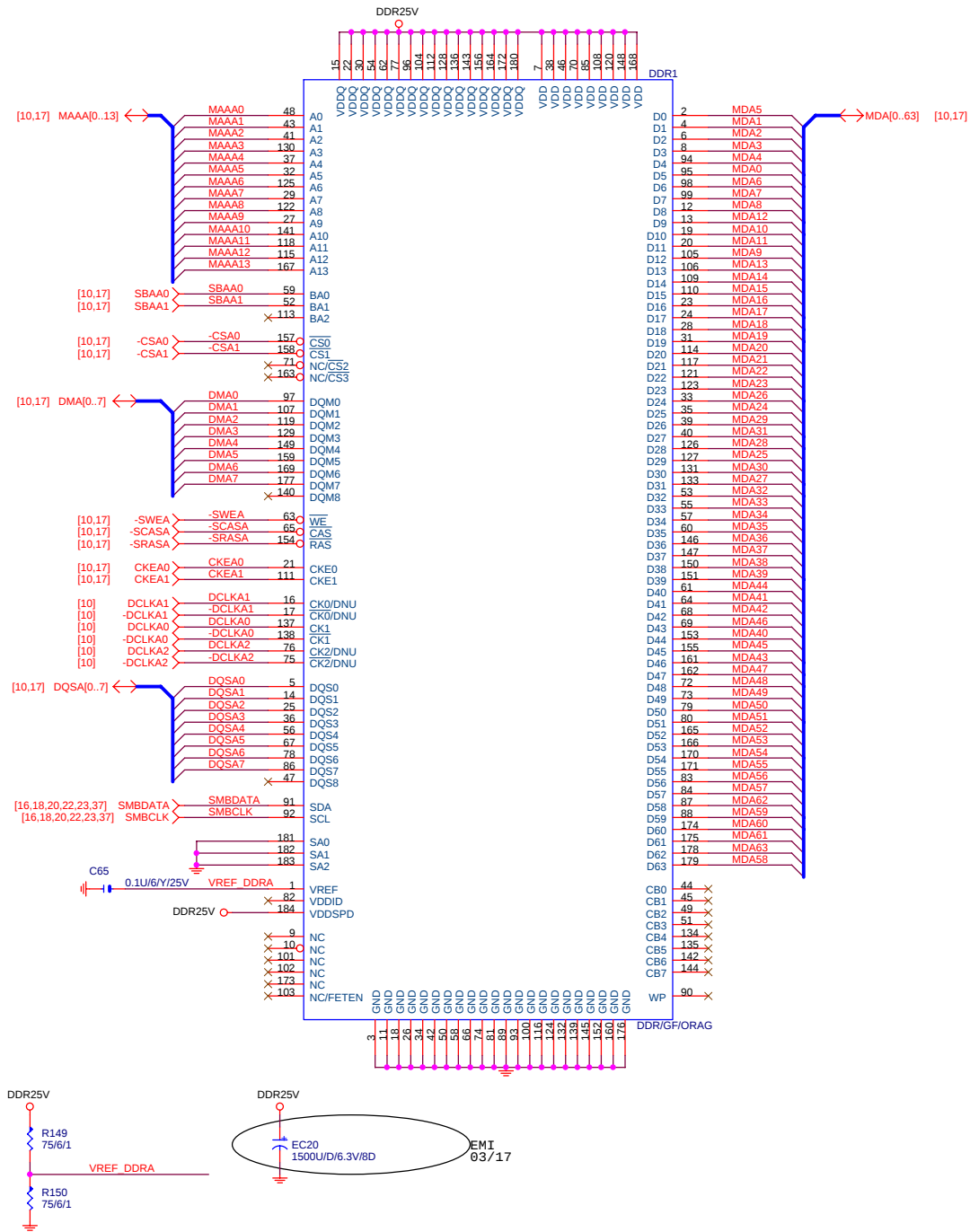
Rev 1.03

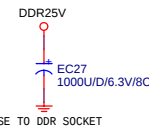
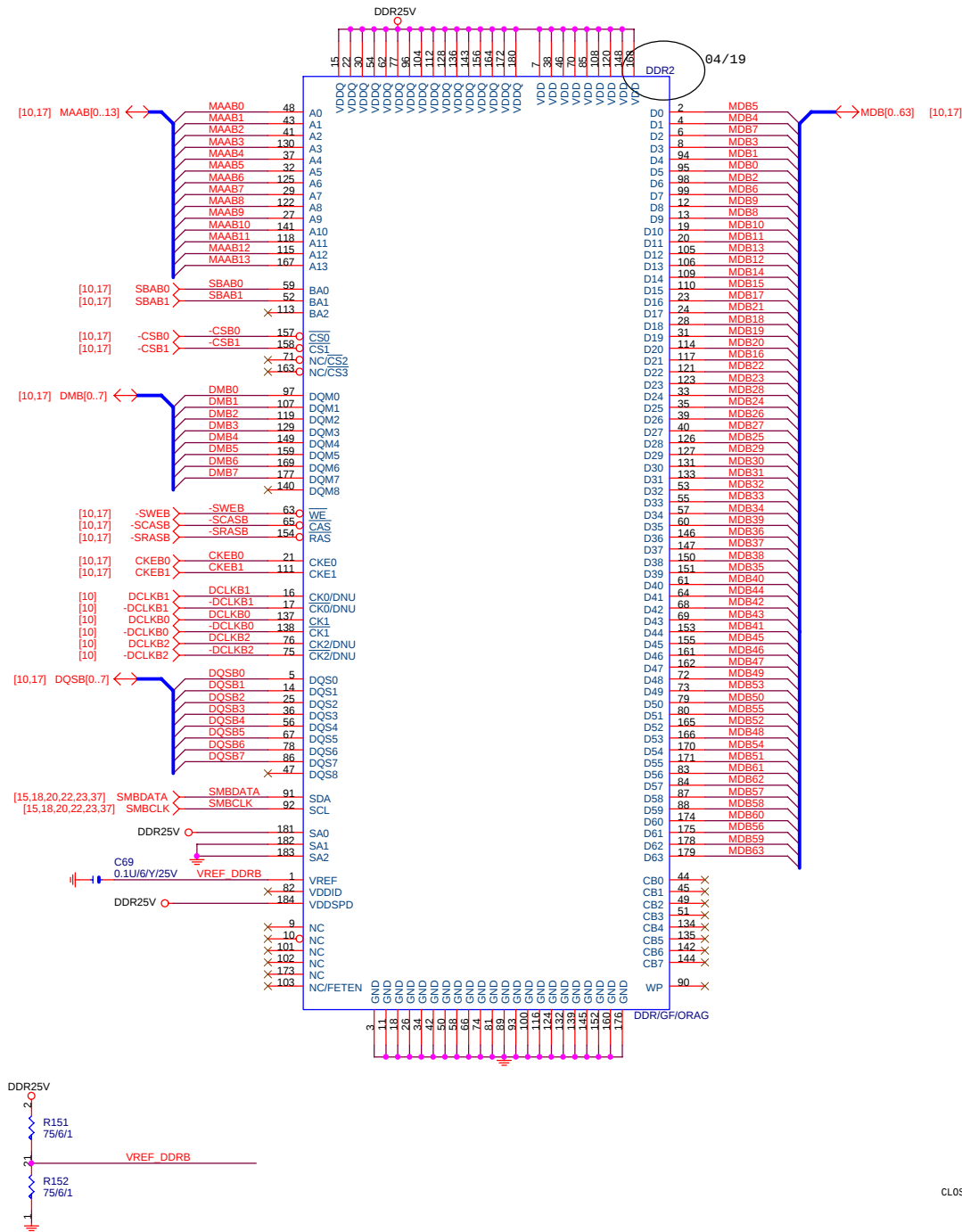
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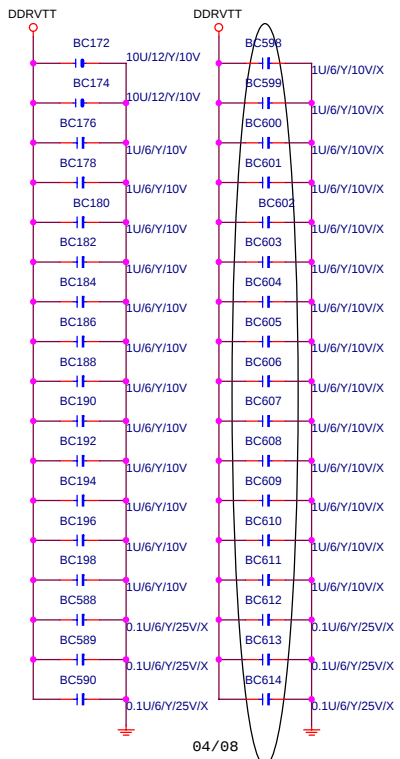


GIGABYTE			
Title			
GMCH-PWR			
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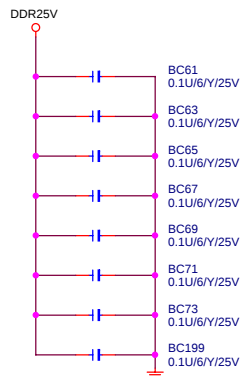




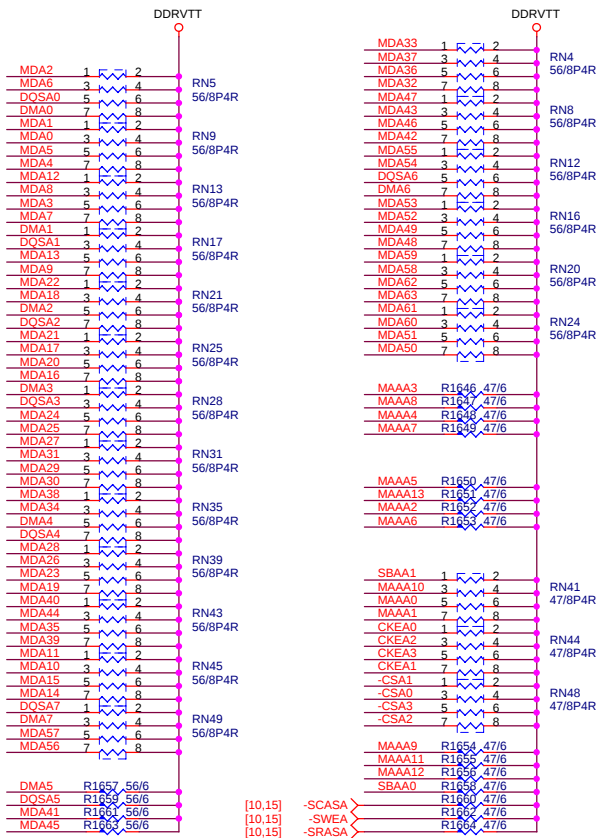
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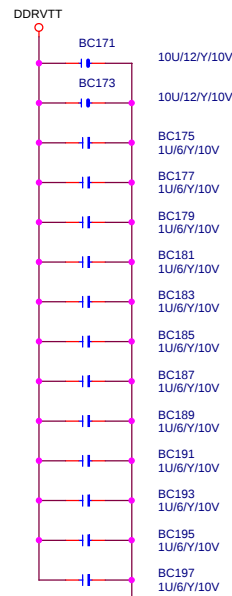
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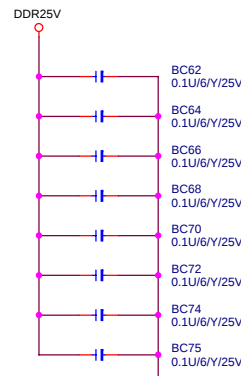
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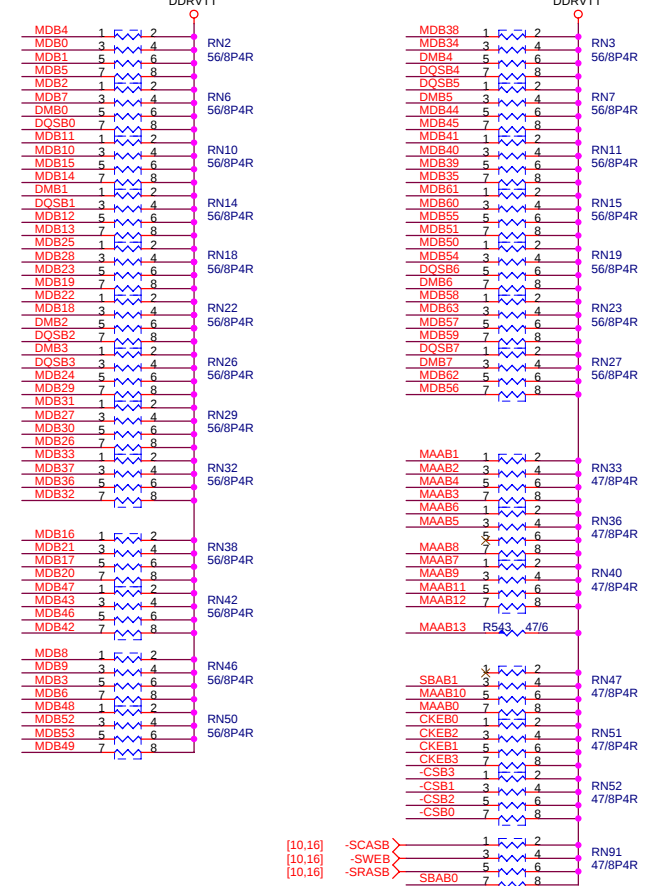
DDRVTT Decouple



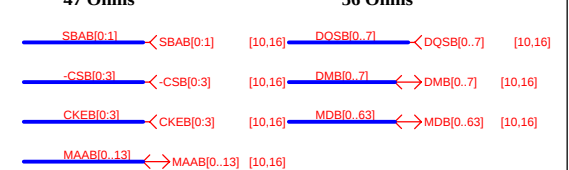
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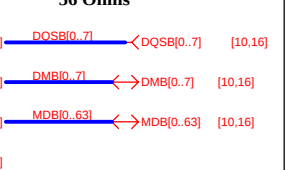
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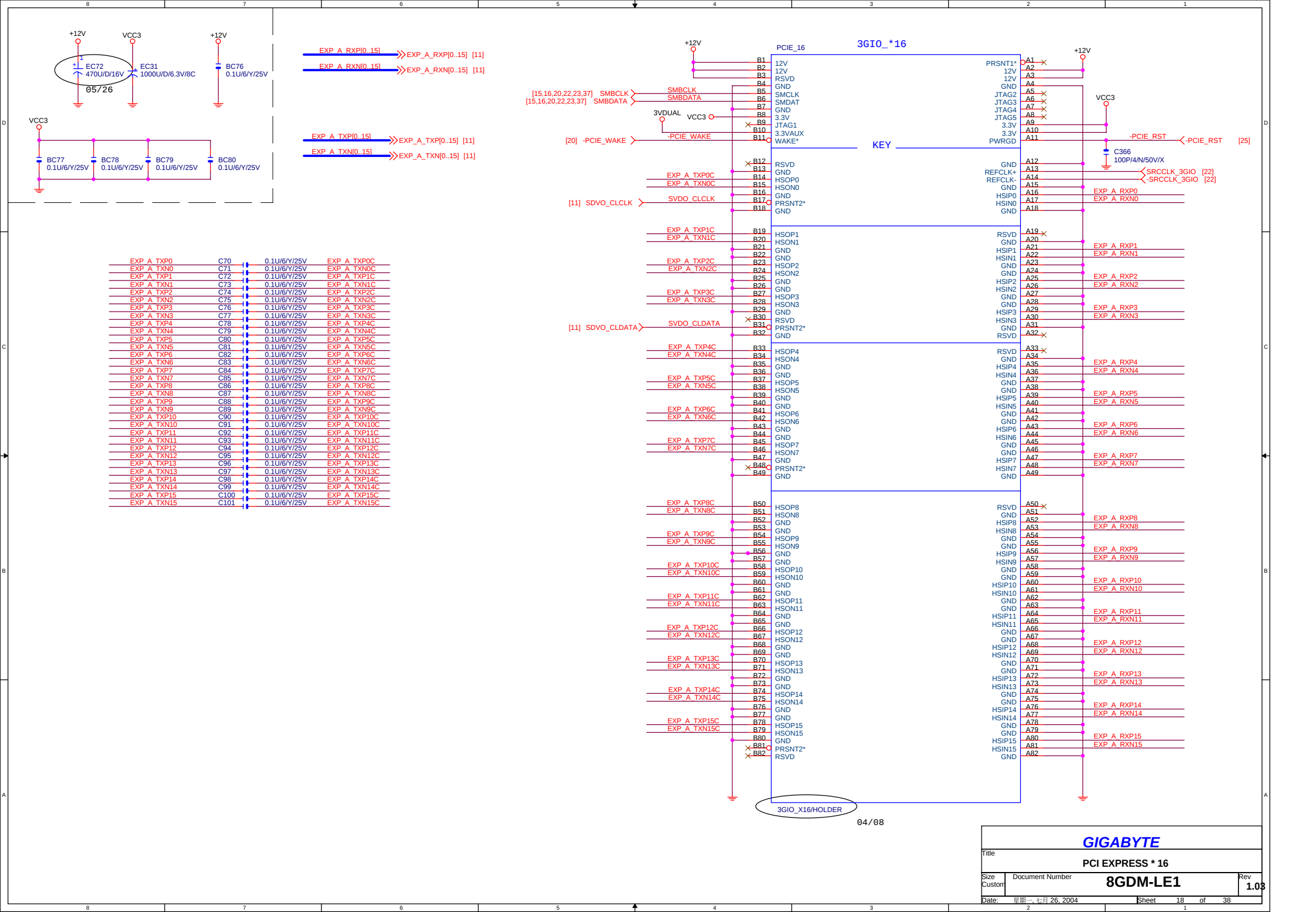


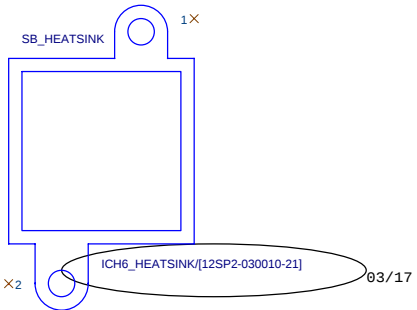
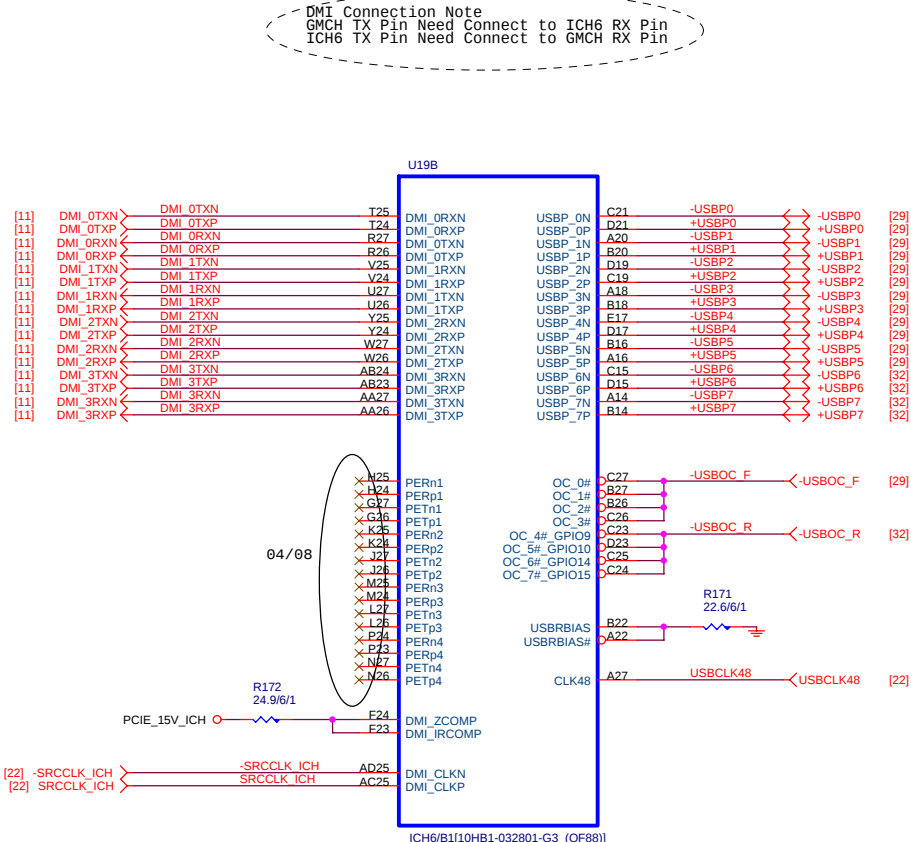
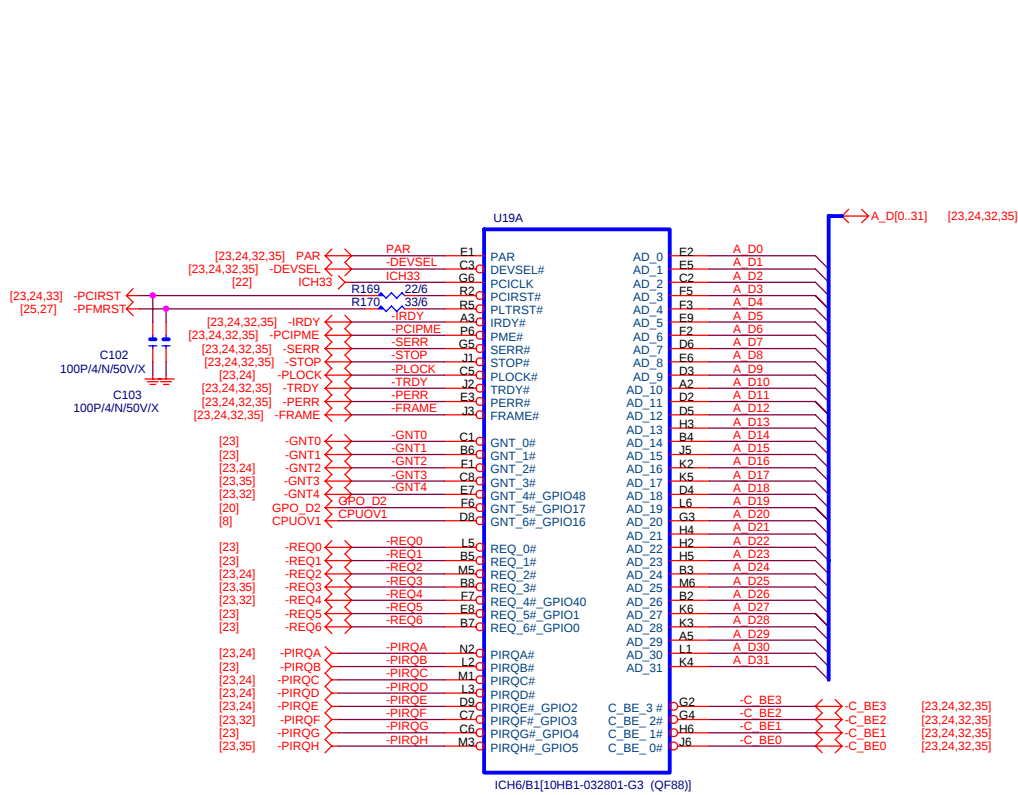
47 Ohms

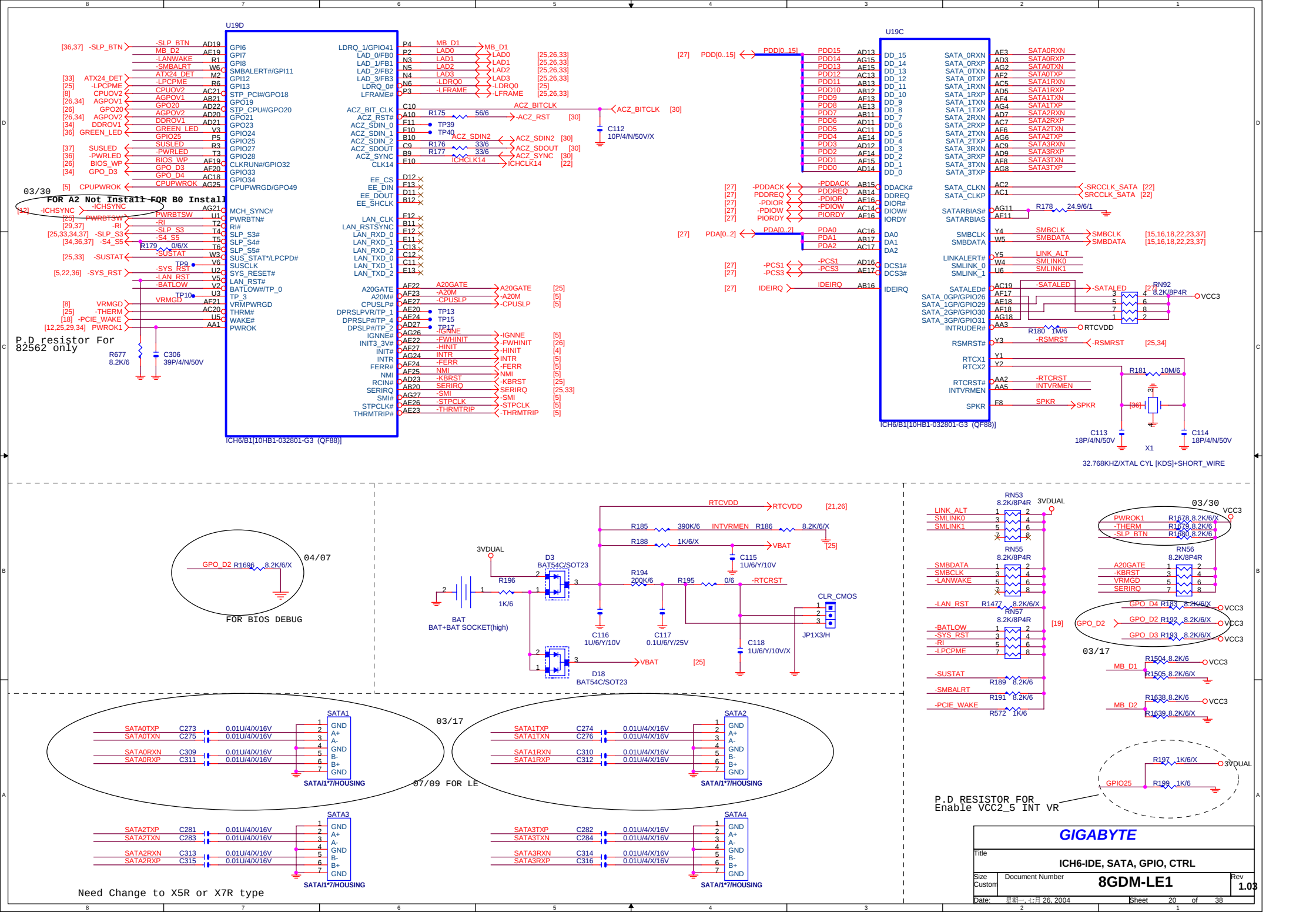


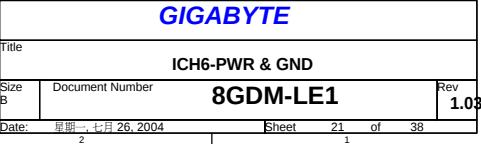
56 Ohms

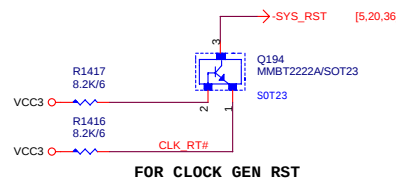
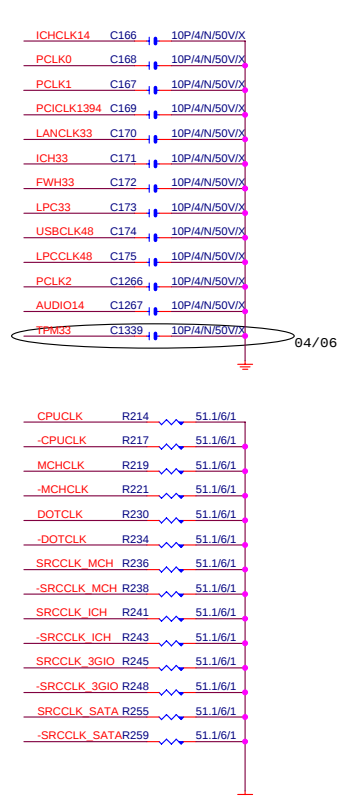


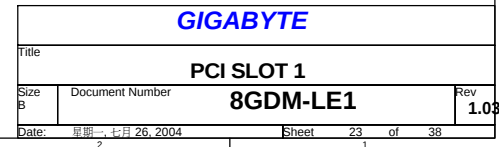


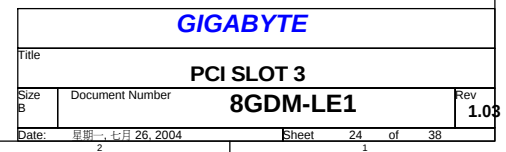




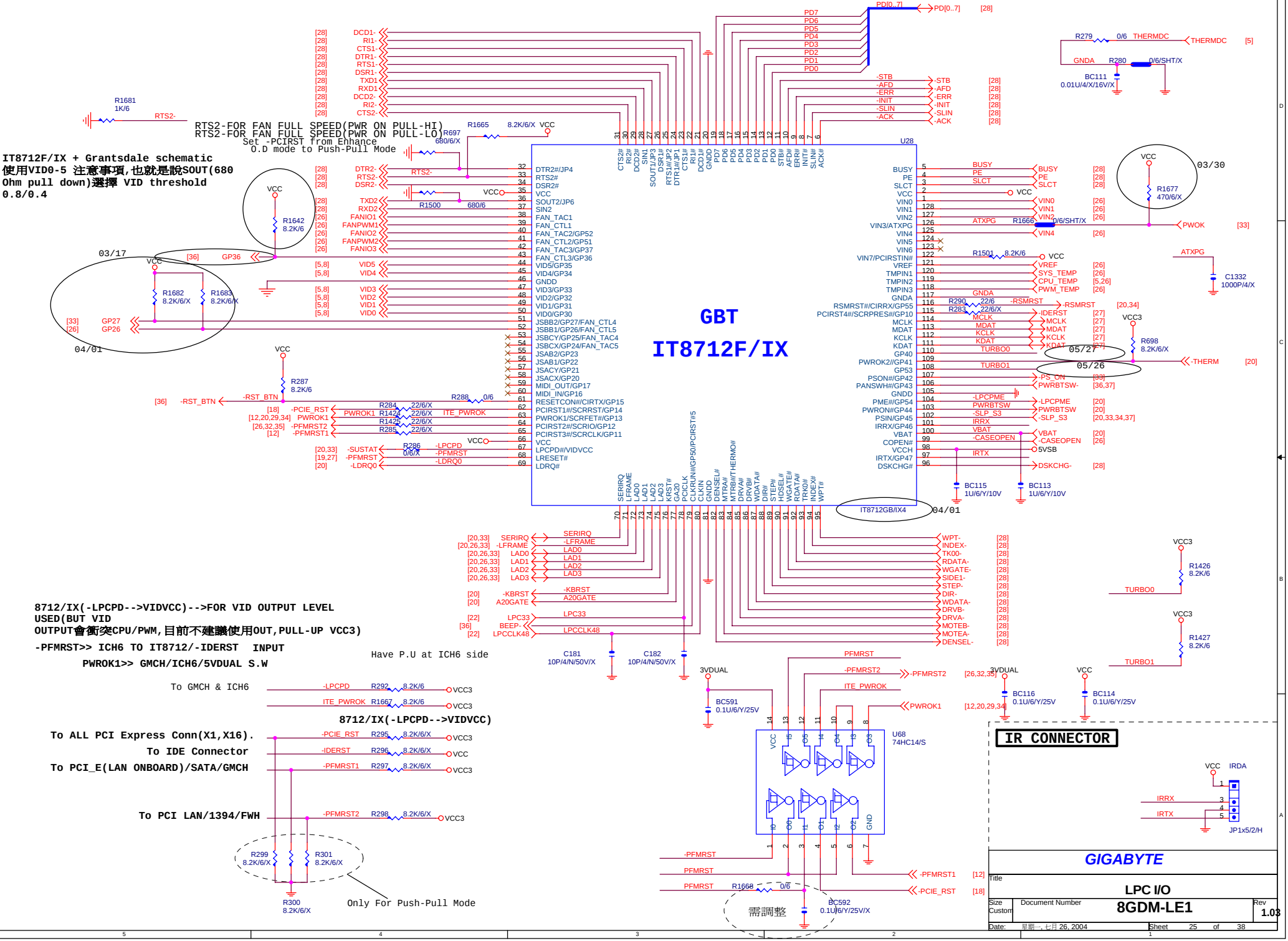








IT8712F/IX + Grantsdale schematic
使用VID0-5 注意事項,也就是說SOUT(680
Ohm pull down)選擇 VID threshold
0.8/0.4

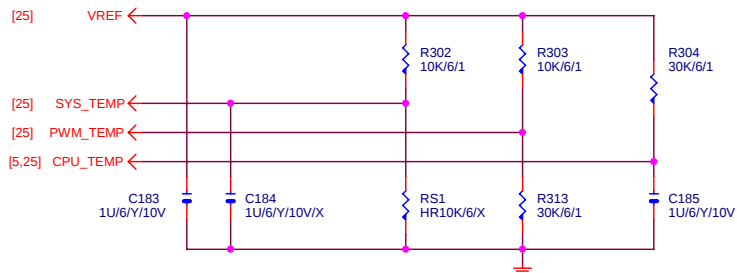


8712/IX(-LPCPD-->VIDVCC)-->FOR VID OUTPUT LEVEL
USED(BUT VID
OUTPUT會衝突CPU/PWM, 目前不建議使用OUT,PULL-UP VCC3)
-PFMRST>> ICH6 TO IT8712/-IDERST INPUT
PWR0K1>> GMCH/ICH6/SVDUAL S.W

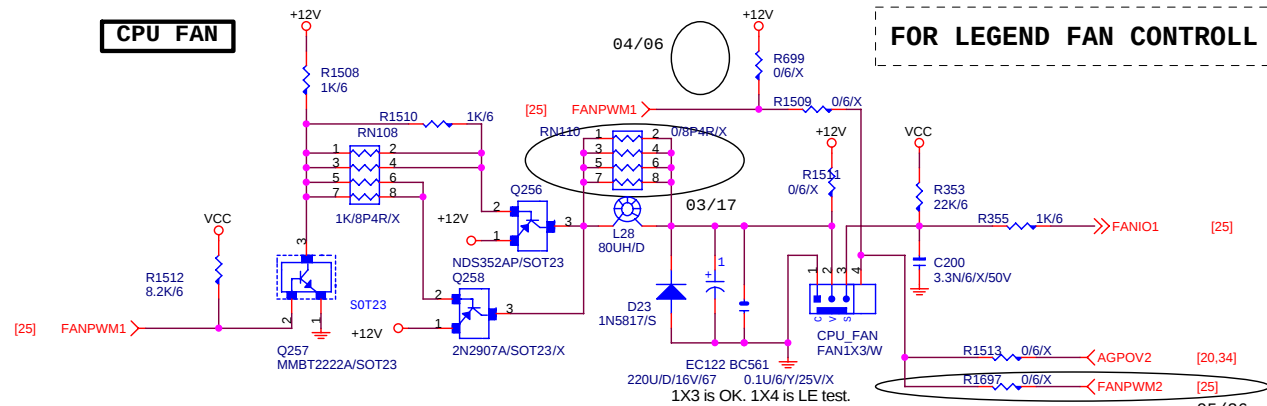
To GMCH & ICH6
To ALL PCI Express Conn(X1,X16).
To IDE Connector
To PCI_E(LAN ONBOARD)/SATA/GMCH
To PCI LAN/1394/FWH
Only For Push-Pull Mode

IR CONNECTOR			
GIGABYTE			
Title LPC I/O			
8GDM-LE1			
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Custom			
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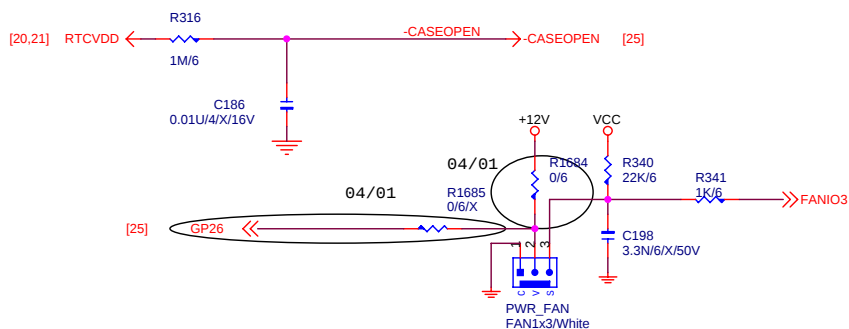
TEMP. SENSE



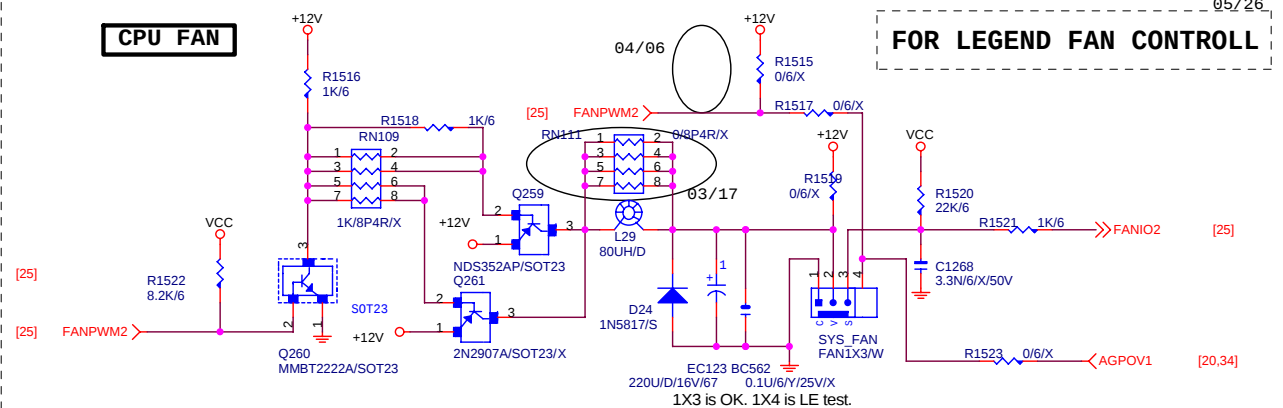
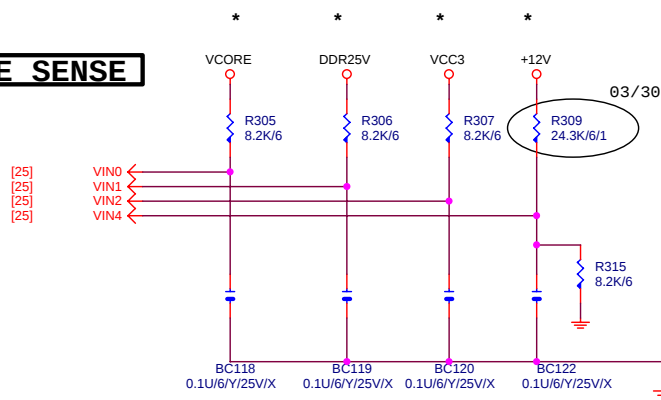
CPU/SYS FAN



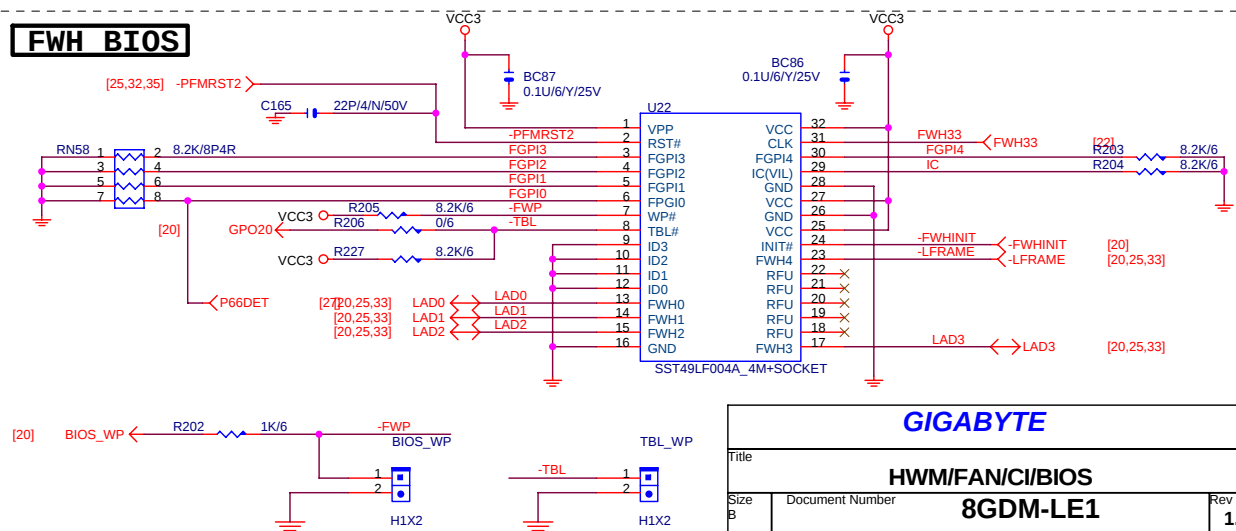
CASE OPEN (N/A)

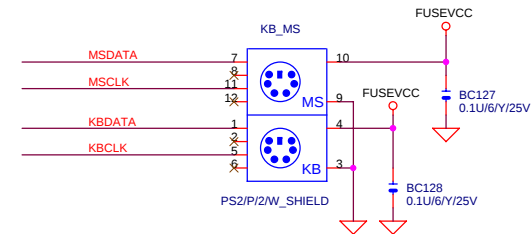
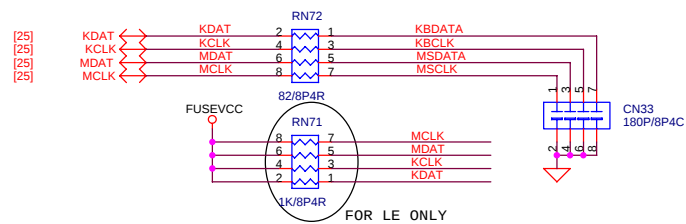


CPU FAN

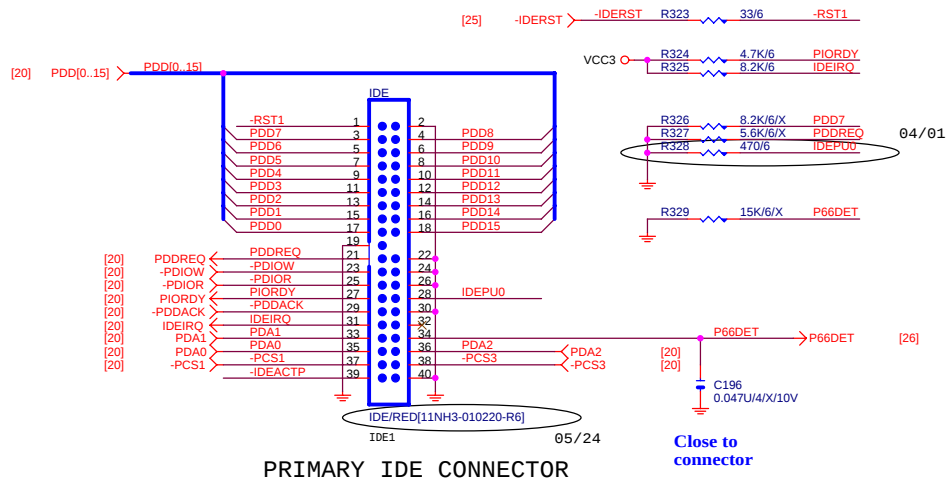
**VOLTAGE SENSE**

FWH BIOS

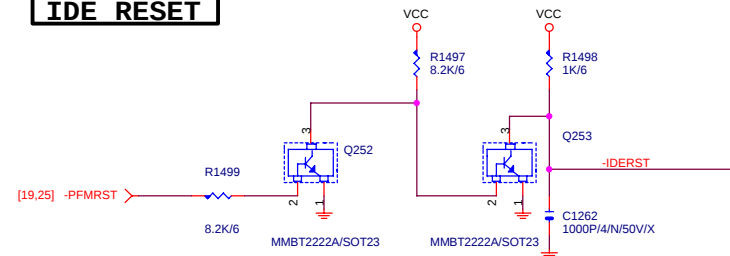




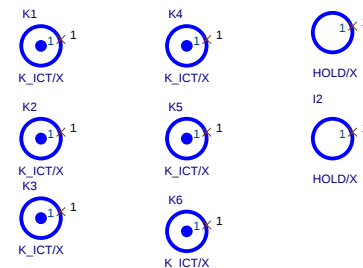
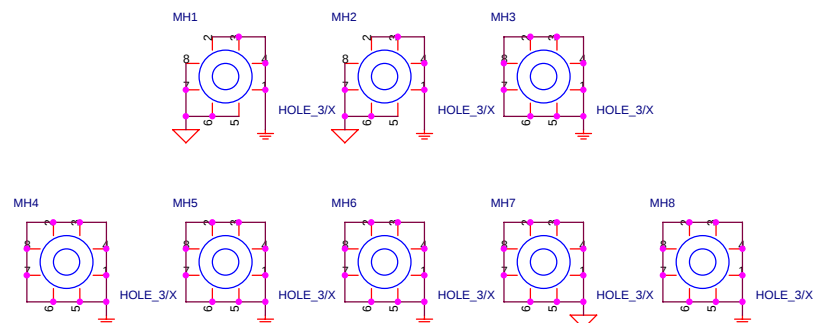
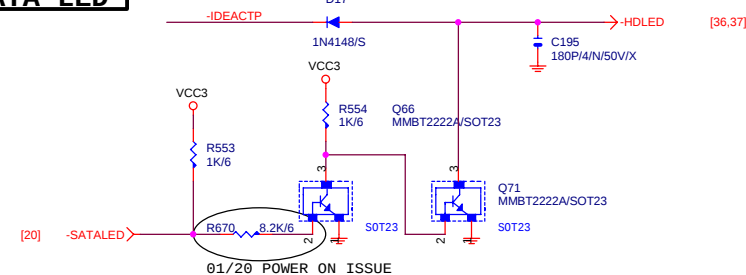
IDE



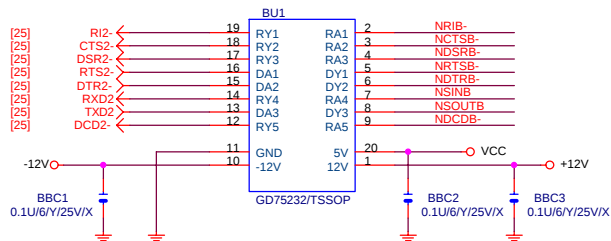
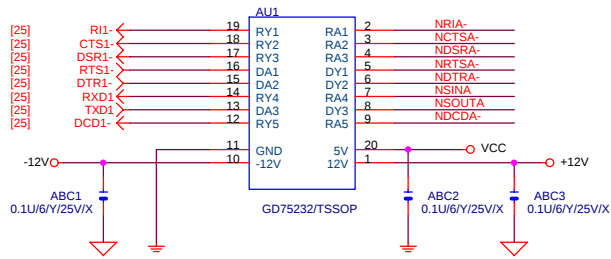
IDE RESET



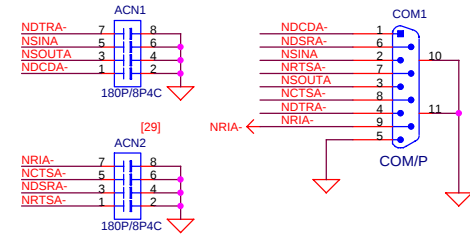
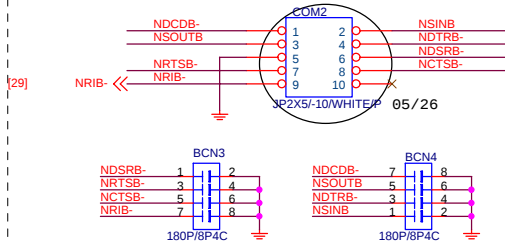
IDE/SATA LED



COMA/COMB

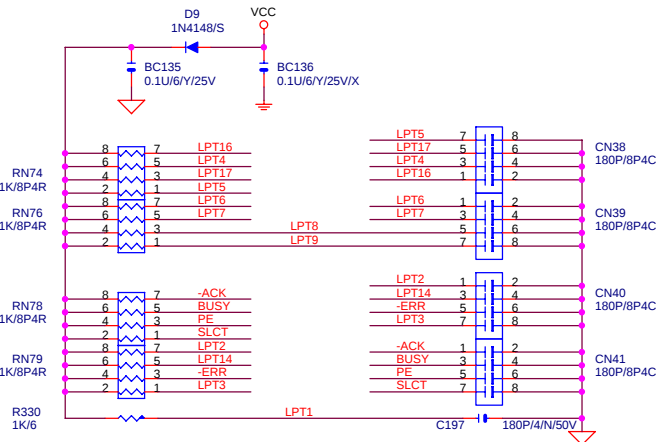
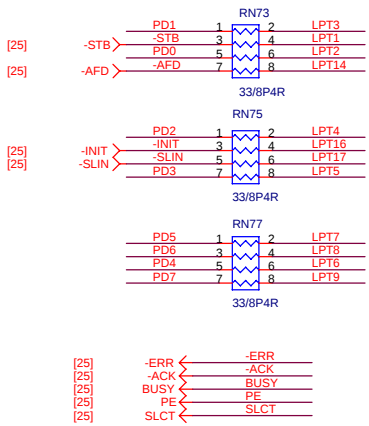


INTERNAL COMB

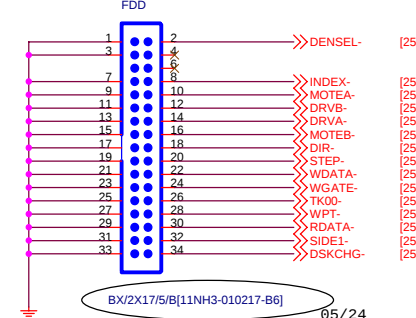
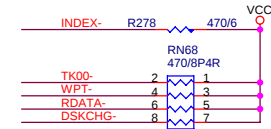


LPT

[25] PD[0..7] > PDIO_7



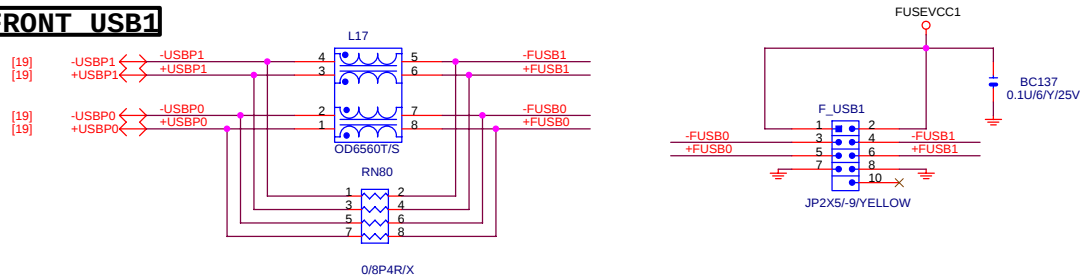
FLOPPY



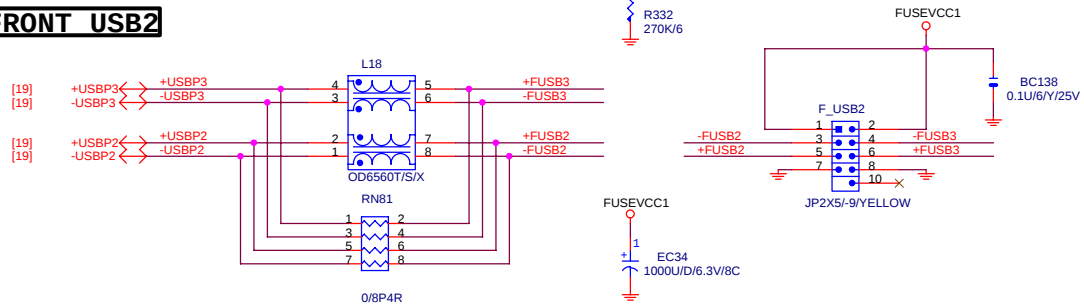
GIGABYTE

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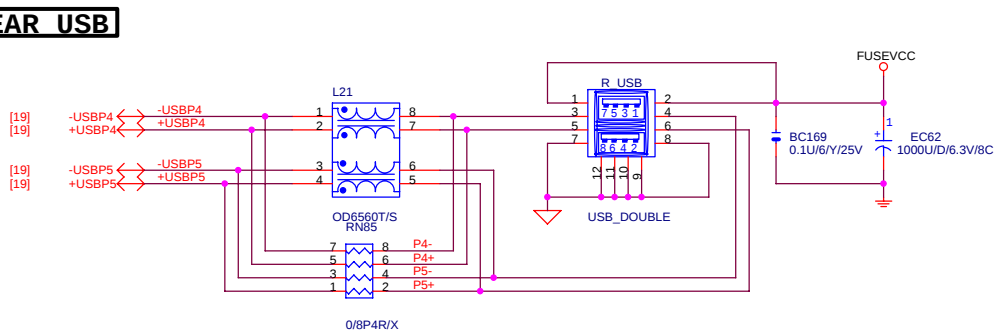
FRONT USB1



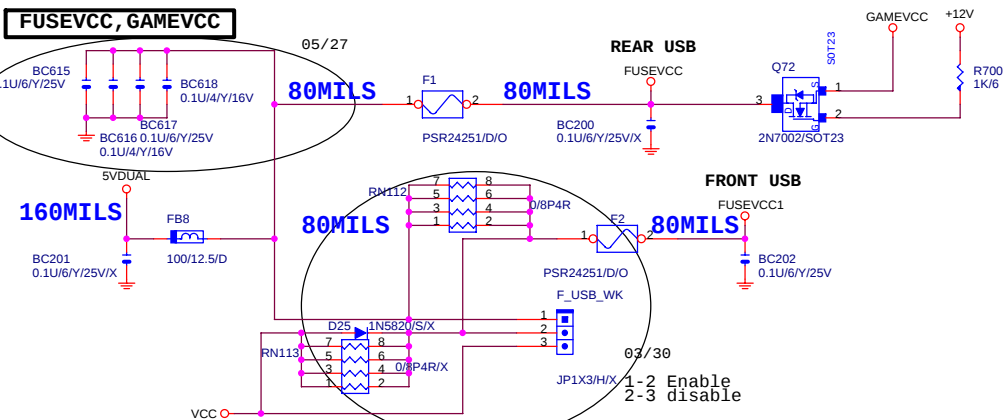
FRONT USB2



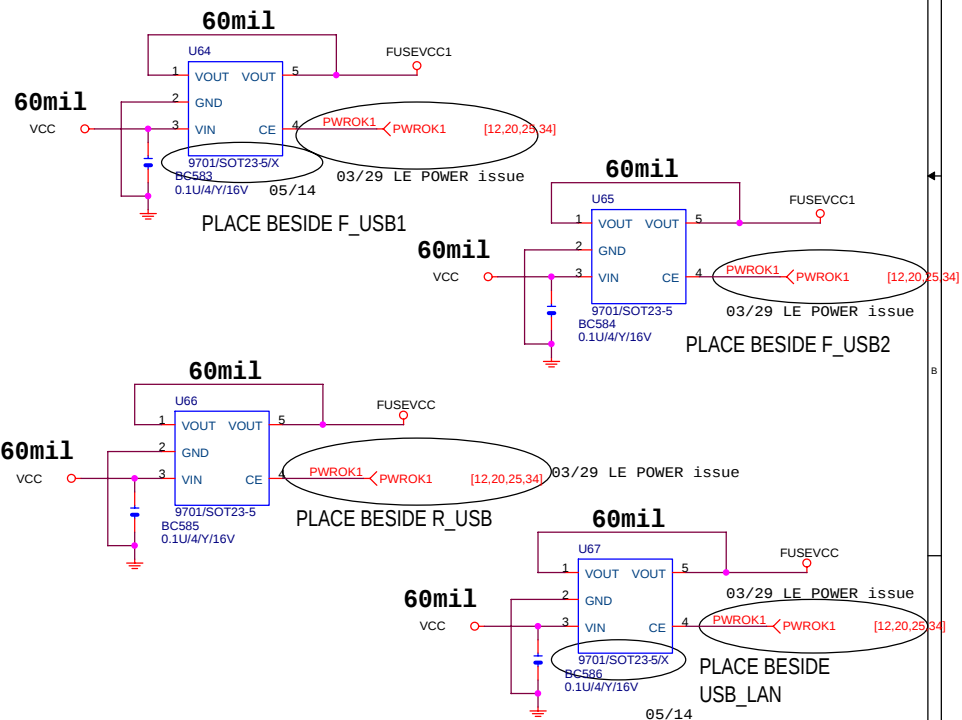
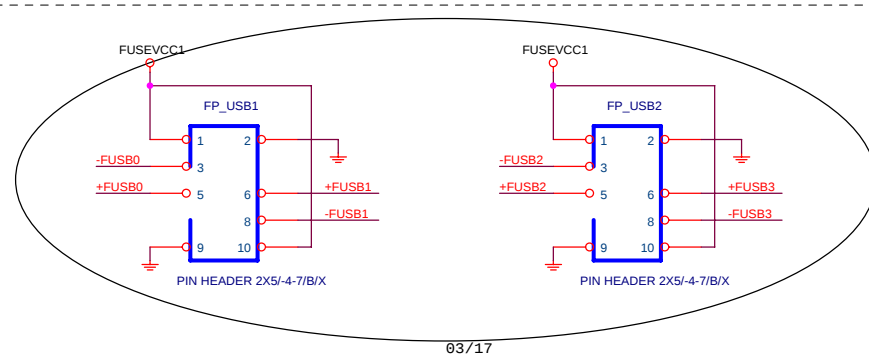
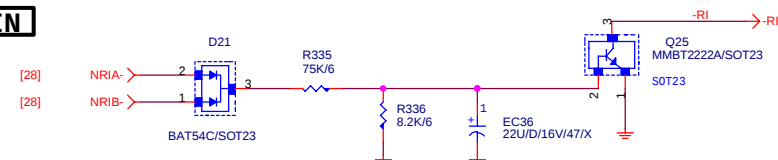
REAR USB



FUSEVCC, GAMEVCC

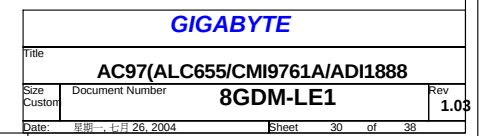


RING IN

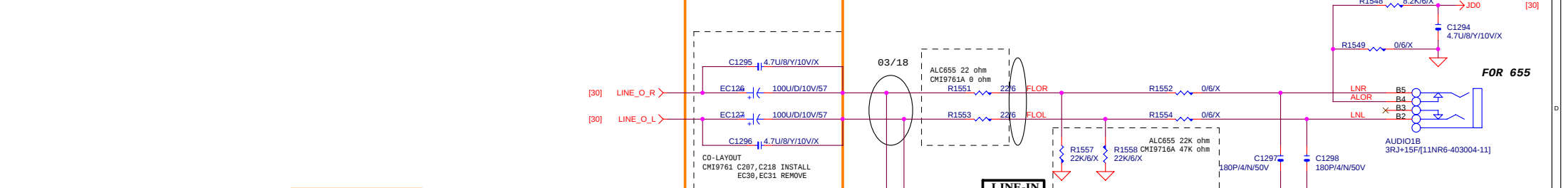


GIGABYTE

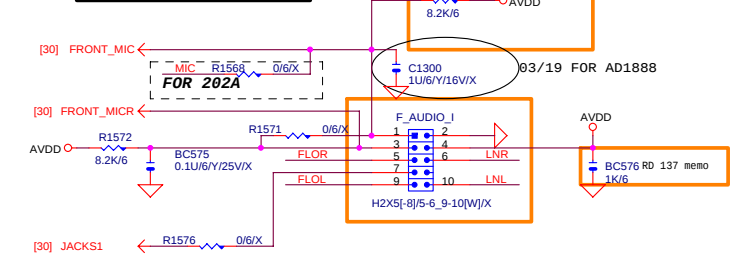
FRONT/REAR USB CONNECTOR/IDE			
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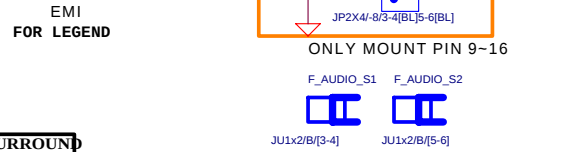
SPDIF



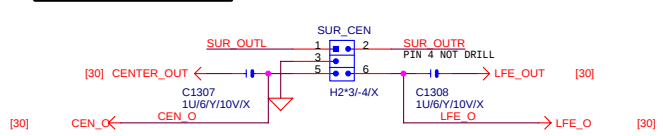
INTEL FRONT AUDIO



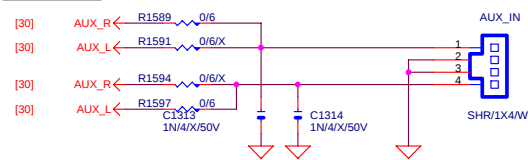
EMI FOR LEGEND



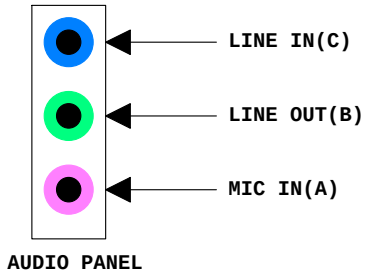
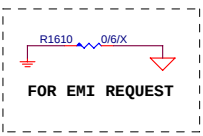
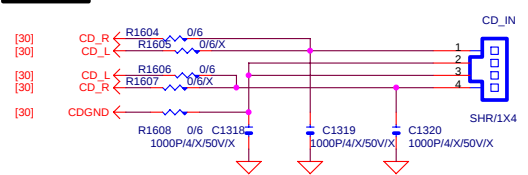
CENTER & SURROUND



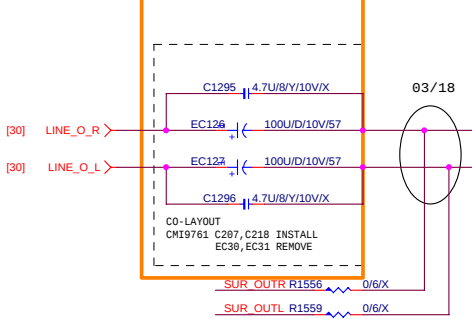
AUX IN



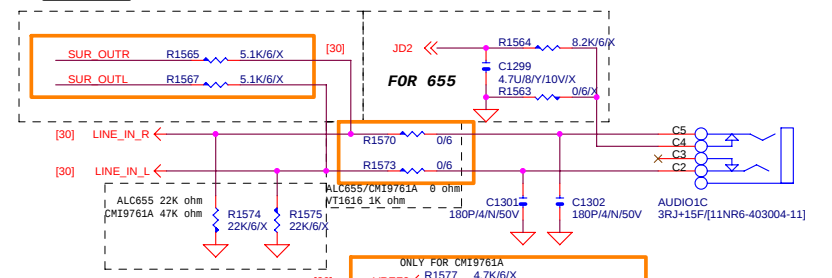
CD IN



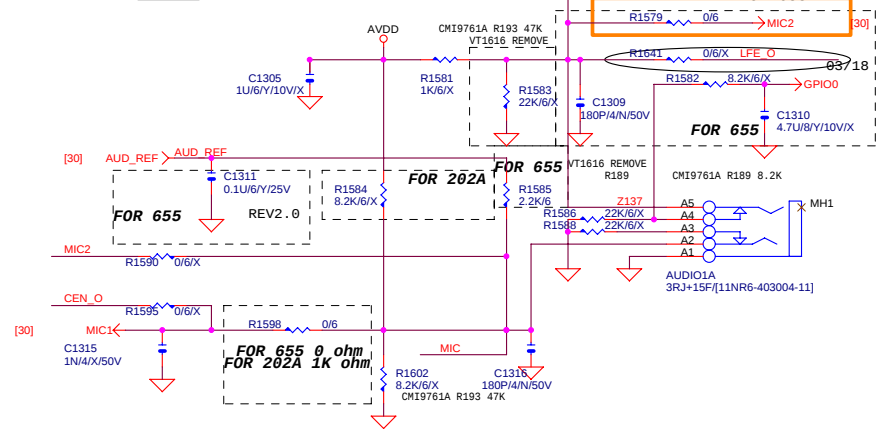
LINE OUT



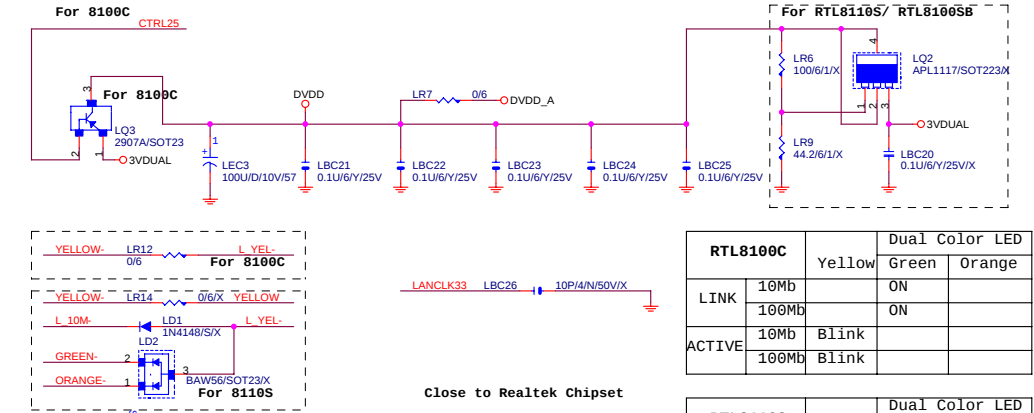
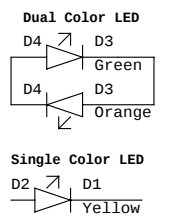
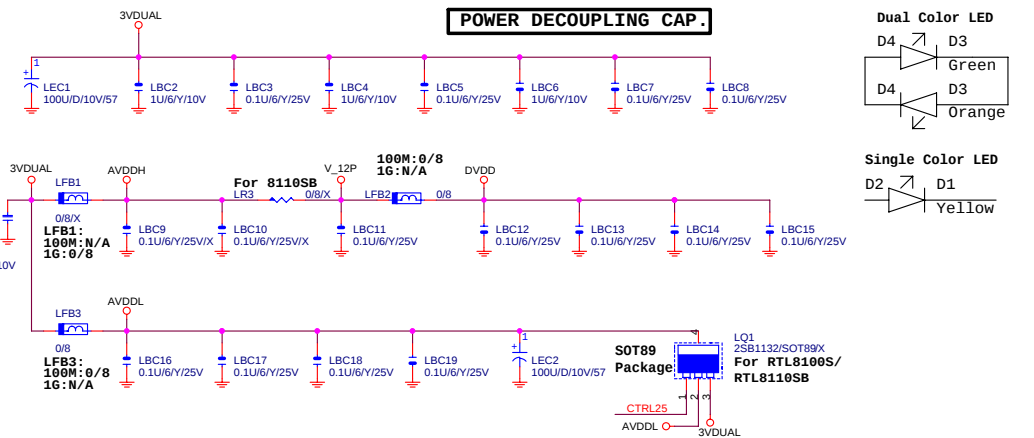
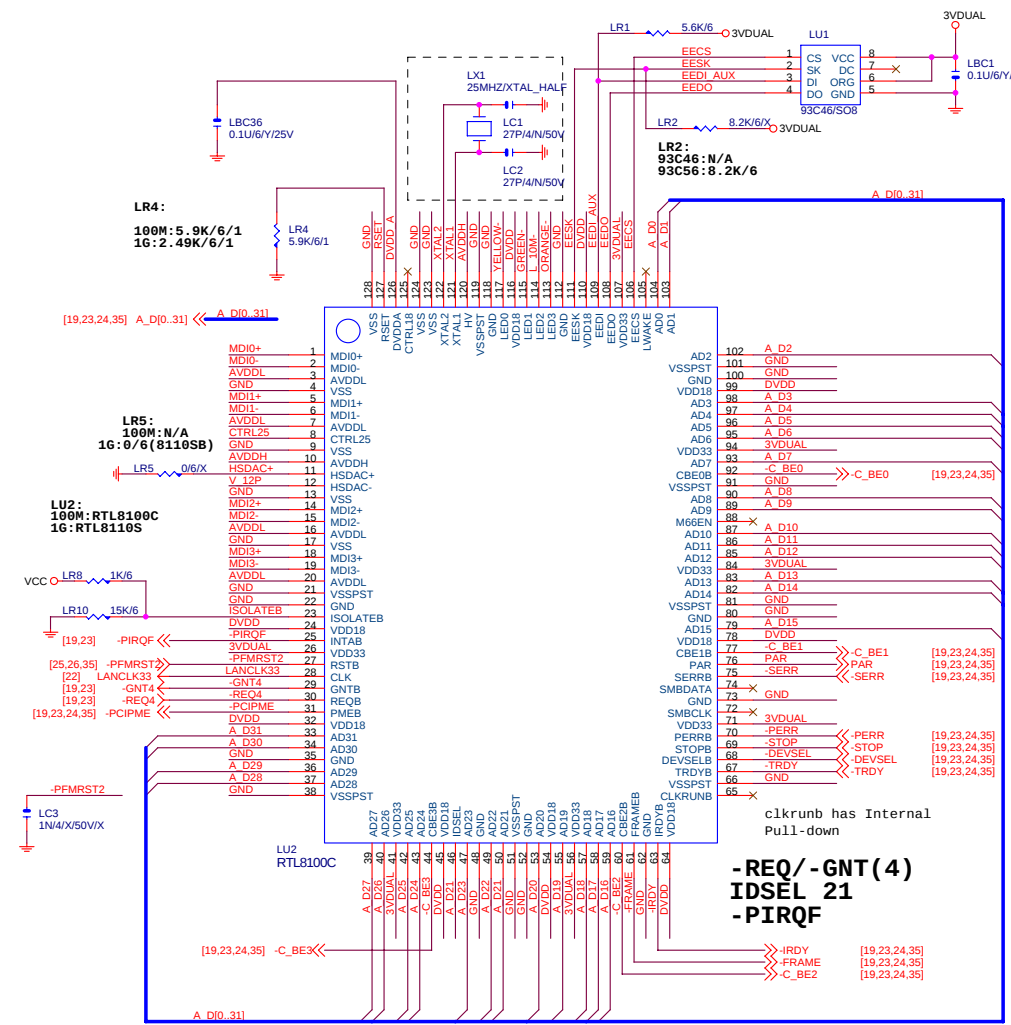
LINE-IN



MIC

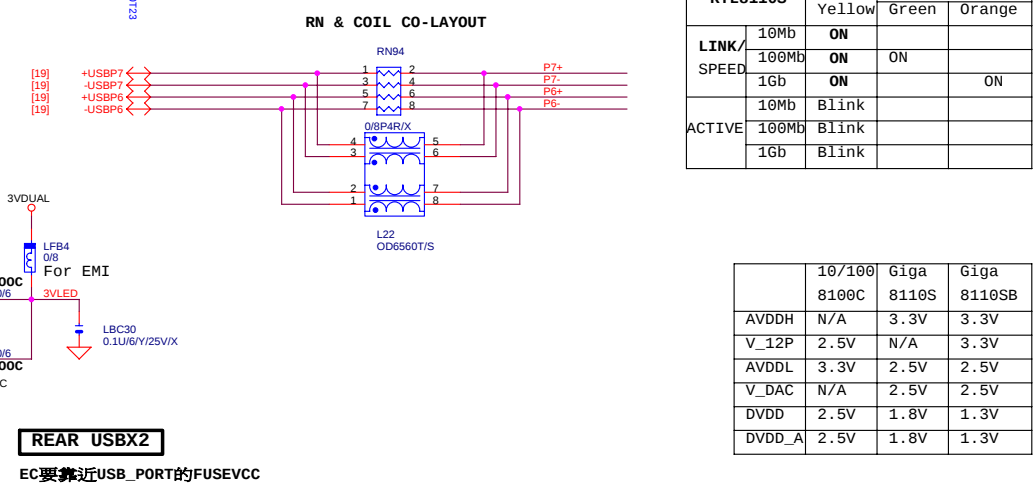
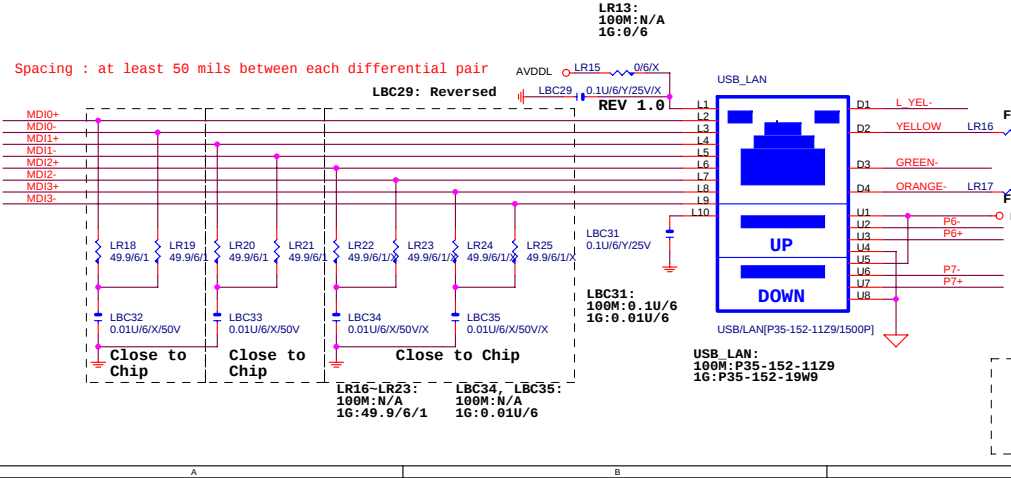


GIGABYTE			
Title			
AUDIO JACK			
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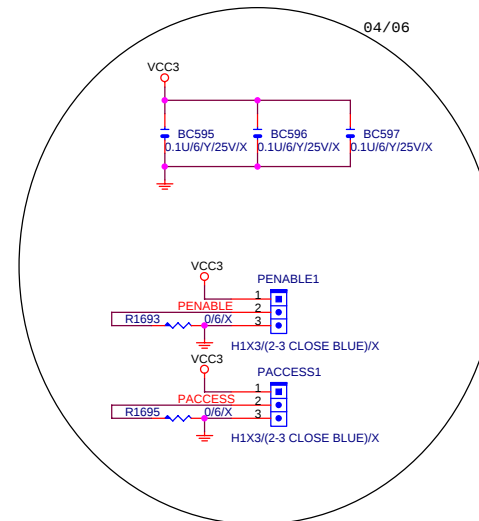
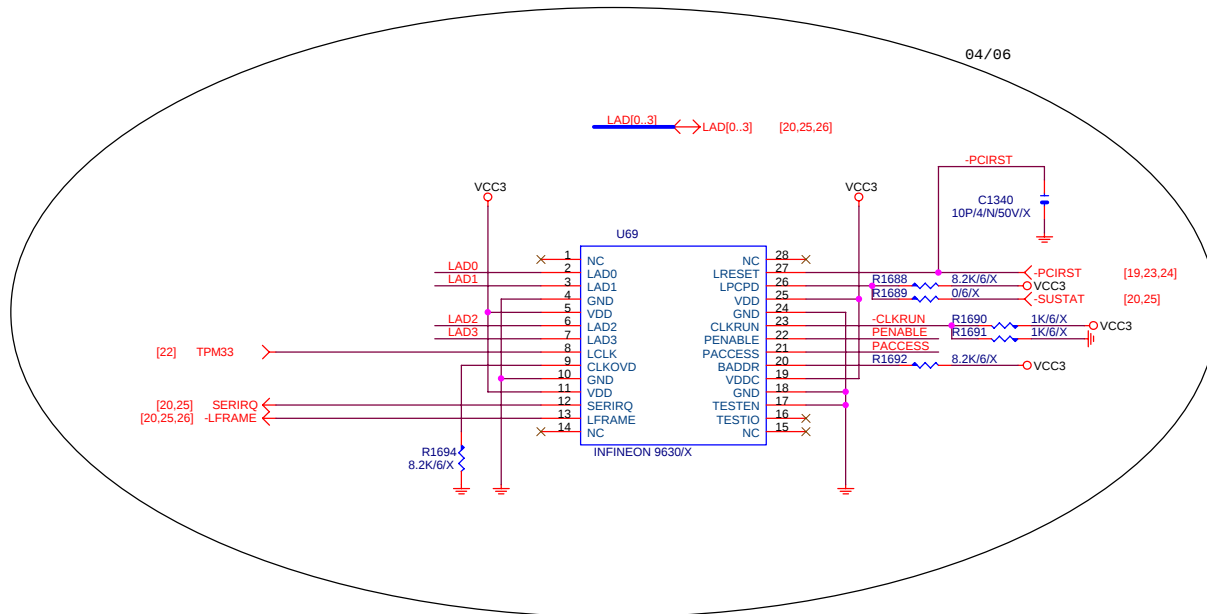
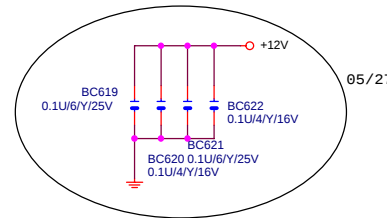
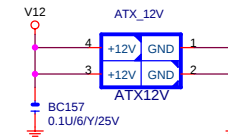
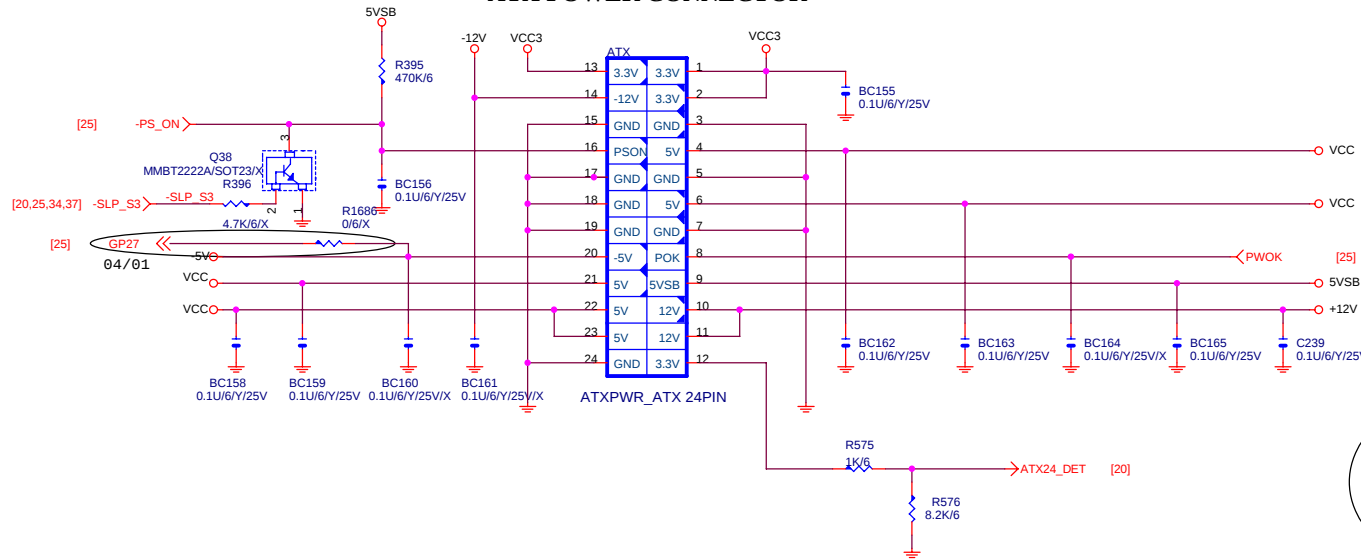
RTL8100C	LINK	10Mb	Dual Color LED		
			Yellow	Green	Orange
ACTIVE	10Mb	ON			
	10Mb	Blink			

RTL8110S	LINK/SPEED	10Mb	Dual Color LED		
			Yellow	Green	Orange
ACTIVE	10Mb	ON			
	10Mb	Blink			



	10/100	Giga	Giga
	8100C	8110S	8110SB
AVDDH	N/A	3.3V	3.3V
AVDDL	3.3V	2.5V	2.5V
V_DAC	N/A	2.5V	2.5V
DVDD	2.5V	1.8V	1.3V
DVDD_A	2.5V	1.8V	1.3V

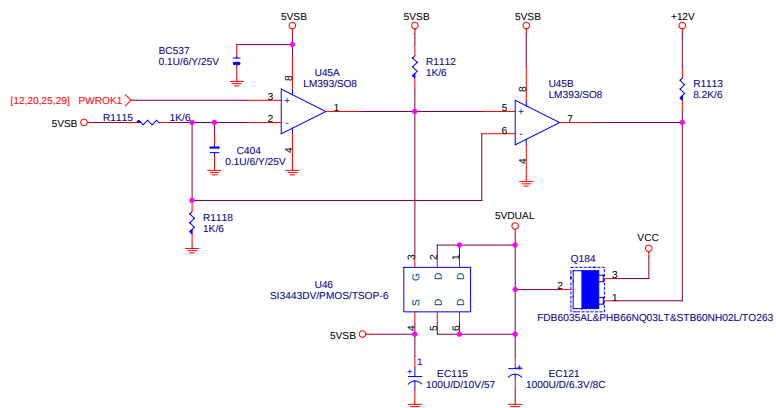
ATX POWER CONNECTOR



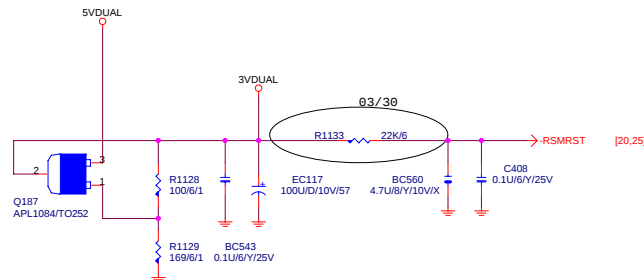
GIGABYTE

Title			
ATX POWER CONNECTOR & TPM			
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	2		1

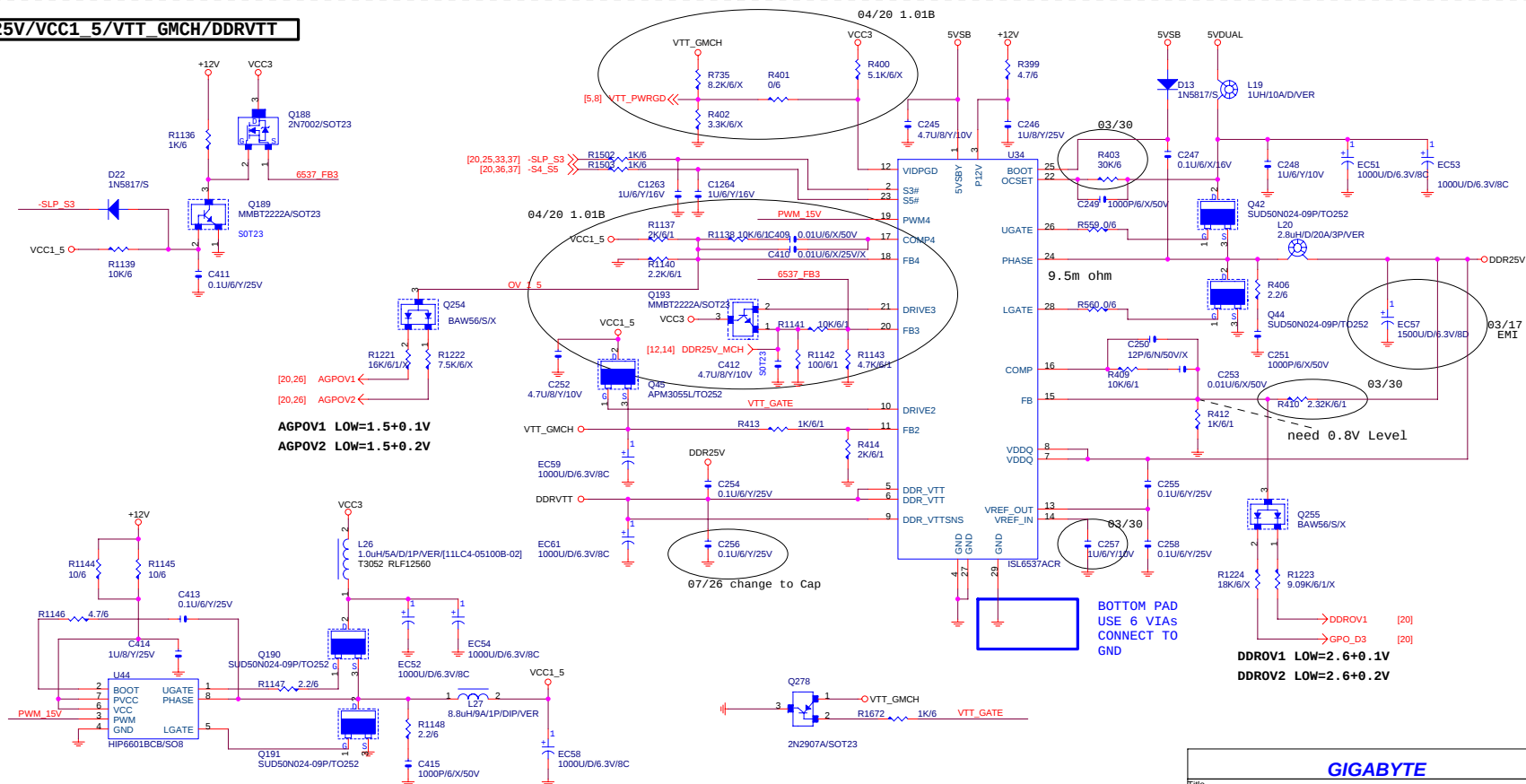
5VDUAL CIRCUIT



3VDUAL CIRCUIT



DDR25V/VCC1_5/VTT_GMCH/DDRVT



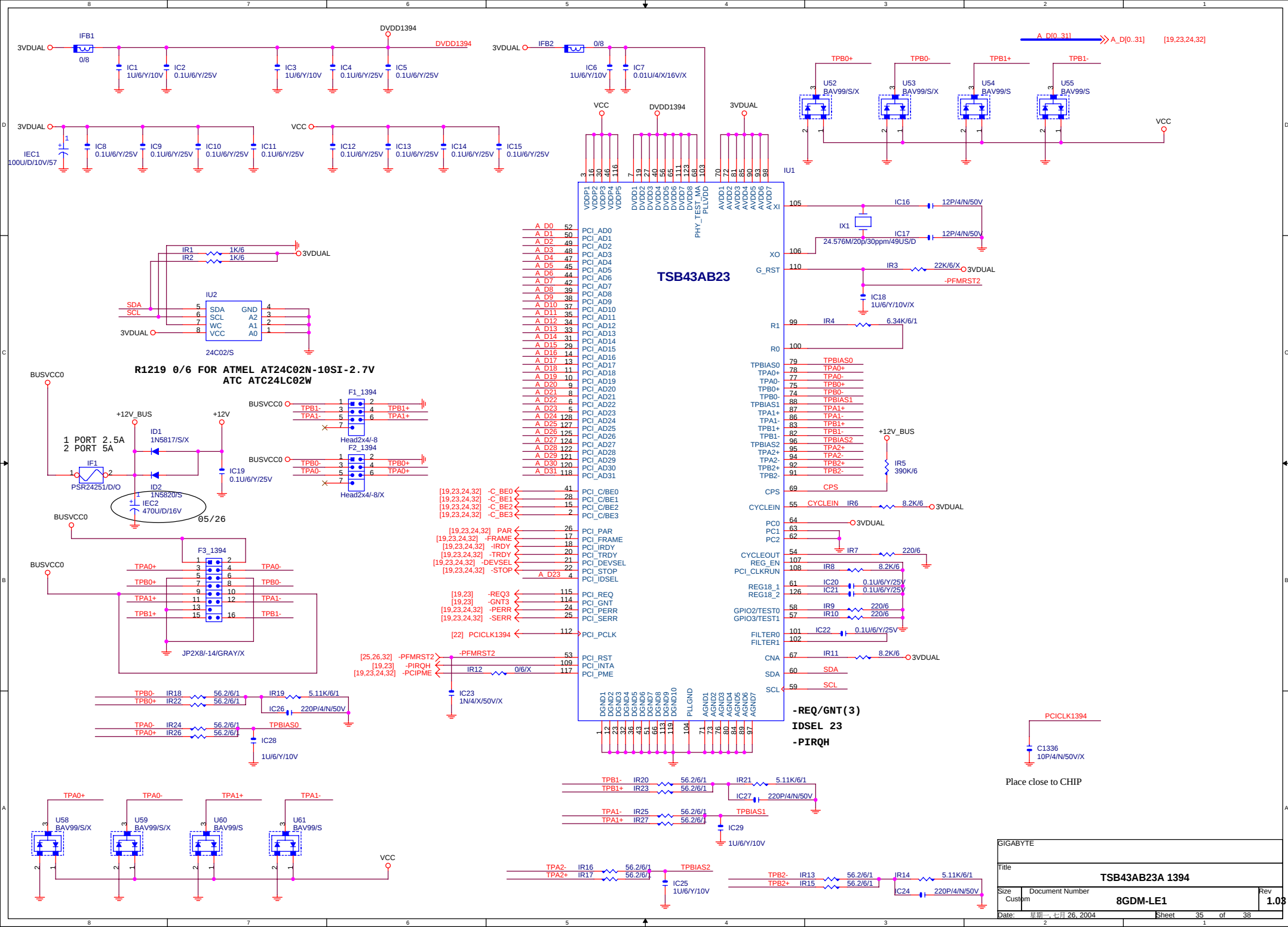
GIGABYTE

Discrete Power

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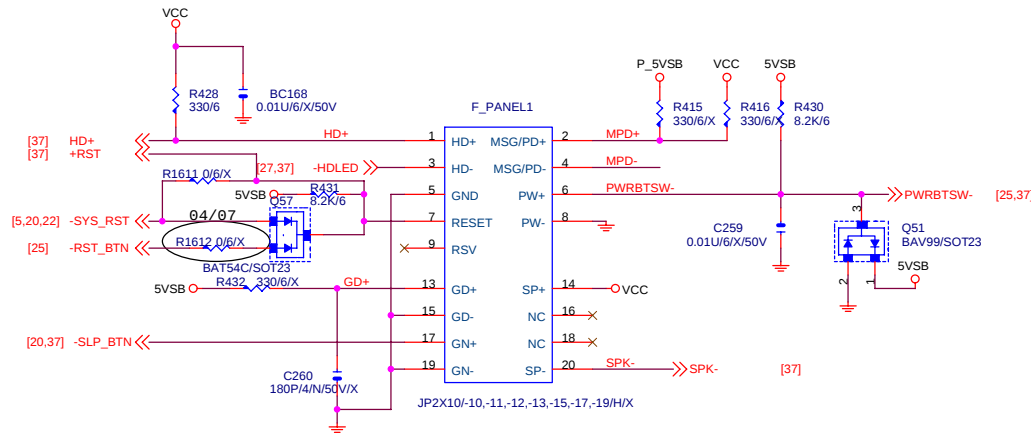
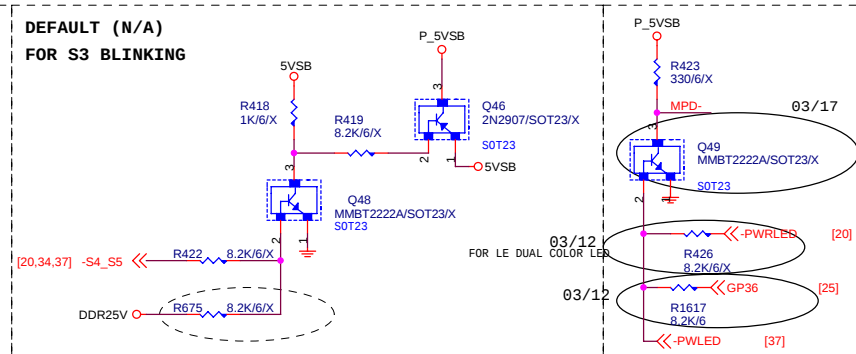
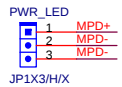
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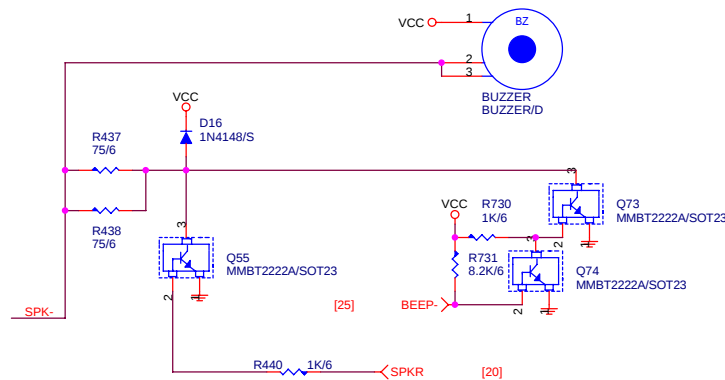
INTEL FRONT PANEL

DEFAULT (N/A) FOR S3 BLINKING

3 PIN POWER LED
LAYOUT PLACE CLOSE
TO F_PANEL



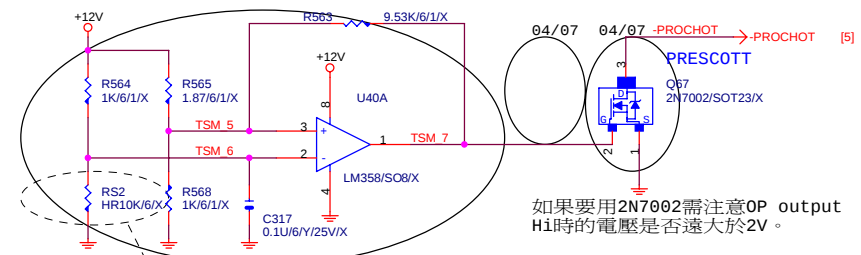
BUZZER



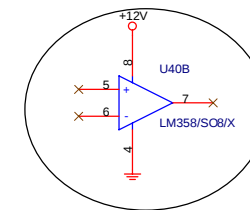
PROCESSOR HOT (N/A)

04/07 KA393改為LM358，電源pin改接+12V，Prochot#溫度需重新調整之。

RS2 CLOSE CPU VR MOSFET



Plase at PH4 copper asserted at 130 degree (RS2=720 ohm)
deasserted at 115 degree (RS2=1270 ohm)



Depend on
location
of RS2

States for green LED N01 GP022 only S1 PROGRAMMING LOW

LED States	ACPI States	GP028
ON	S1, S3	0
OFF	S0, S5	1

(GP022 DEFAULT HIGH, main power)

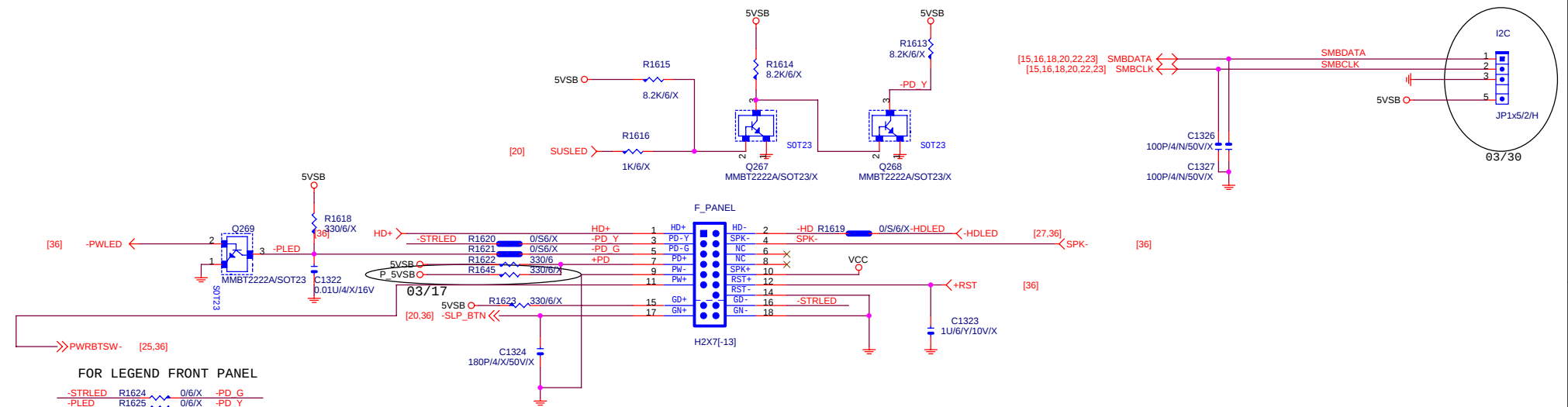
States for a single-color power LED

LED States	ACPI States	GP025	GP027	GP024
OFF	S1, S3, S5	1	1	N01
Steady Green	S0	1	1	1
Blinking Green	S0(message waiting)	1	B	1

LED States	ACPI States	GP025	GP027	GP022
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	N01
Blinking Yellow	S1, S3(message waiting)	1	B	N01

GIGABYTE

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Dual-Color Power LED Status

	PD_G-	PD_Y-	6PI028
S0	ON	OFF	HI
S1	BLINKING	OFF	BLINKING
S3	OFF	ON	LOW
S4	OFF	OFF	LOW
S5			

Do not mirror physical package.
LEGEND DUAL COLOR LED

ITE IO ESD PROTECTION

5VSB

BC580
0.1U/6/Y/25V/X

FRISW
PWR1X3/R

PWRBTSW- [25,36]

SYSTEM RESET TO ICH5

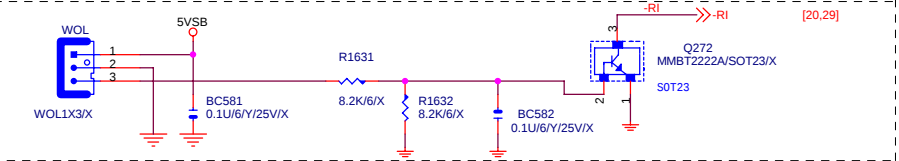
0120

LEGEND CONSUMER USE 2X7 (PIN 1~14)

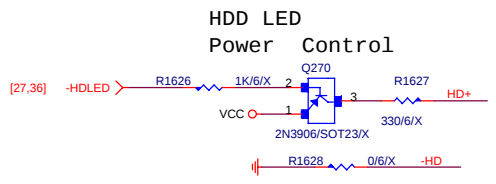
LEGEND COMMERCIAL USE 2X9 (PIN 1~18)

03/17

don't support DEBUG port



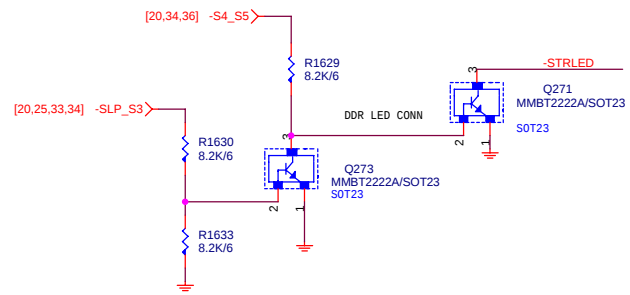
03/17



GIGABYTE STANDARD 2x7 PIN (PIN 1~14)

STATUS	POWER LED	DIMM LED
ON	ON	ON
BLINKING	ON	ON
OFF	OFF	OFF

DIMM LED CONNECTOR DEFAULT EMPTY



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	GP048	VCC3	-GNT4(TP)
GPI2	V5REF	-PIRQE	GP049	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			
GP016	VCC3	CPU 0V1 (-GNT6)			
GP017	VCC3	-GNT5(TP)			
GP018	VCC3	CPU 0V2			
GP019	VCC3	DUAL BIOS(AGPOV1)			
GP020	VCC3	BIOS T-BLOCK			
GP021	VCC3	DUAL BIOS(AGPOV2)			
GP023	VCC3	DDR 0V1			
GPI024	3VDAUL	GREEN_LED			
GPI025	3VDAUL	DDR 0V2			
GPI26	VCC3	SATA GP0			
GPI027	3VDAUL	+PWRLED(TP)			
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			

PWR0K/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	-IDERST	Reserved For IDE
PIN63/PWROK1	PWROK1	1. GMCH 2. ICH6 3. 5VDUAL SWITCH 4. DPS CONTROL
PIN109/PWROK2	-THERM	1. ICH6

GIGABYTE THCHNOLOGIES , INC.

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GPIO/RESET TABLE				
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