

Model Name: GA-8I915G-LGE Revision 1.0

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	GMCH-GRANTSDALE_HOST
09	GMCH-GARNTSDALE_DDR
10	GMCH-GRANTSDALE_PCI E, DMI
11	GMCH-GRANTSDALE_INT VGA
12	GMCH-GRANTSDALE_GND
13	GMCH-GRANTSDALE_PWR
14	DDRII CHANNEL A
15	DDRII CHANNEL B
16	DDR TERMINATION
17	PCI EXPRESS*16 SLOT
18	ICH6 PCI, USB, DMI, LAN
19	ICH6 IDE, GPIO, SATA, CTRL
20	ICH6 VCC, GND
21	FWH
22	CK410M CLOCK.

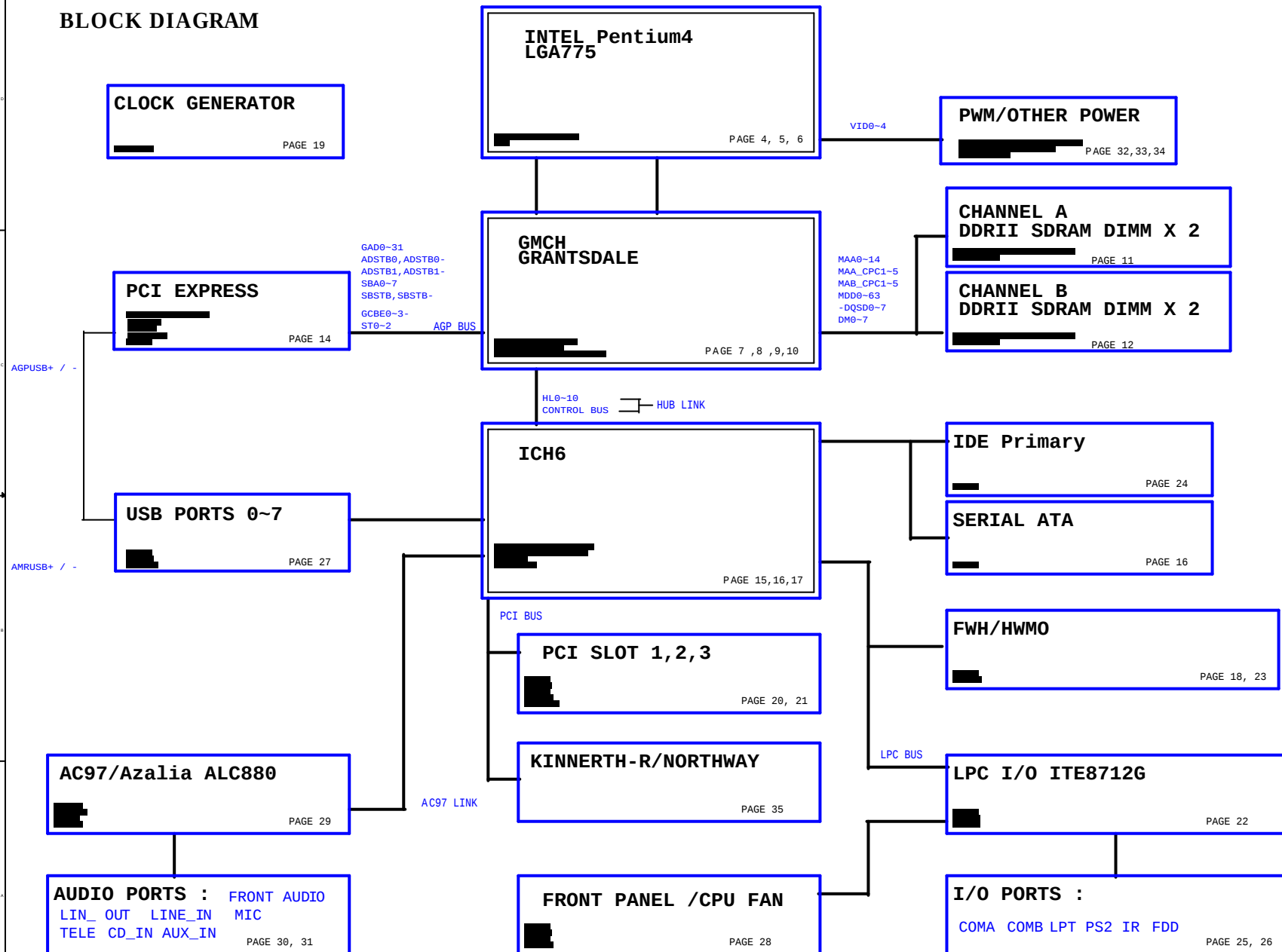
SHEET TITLE

23	PCI EXPRESS*1 SLOT 1
24	PCI SLOT 1, 2
25	HWM0&PROCHOT
26	IDE&FDD
27	KB_MS&GAME PORT
28	FRONT PANEL
29	FRONT USB CONNECTOR
30	CPU_FAN & SYS_FAN
31	CODEC
32	AUDIO JACK
33	F_AUDIO
34	LAN
35	ALL POWER
36	ITE8712 & IR
37	COM & LPT
38	1394
39	VCORE POWER
40	ATX POWER CONN.
41	GPIO & RESET TABLE
42	
43	
44	

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

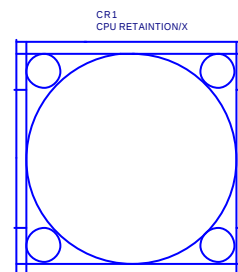
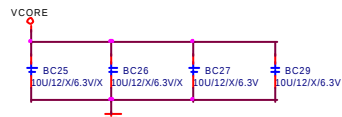
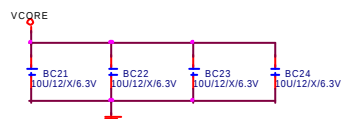
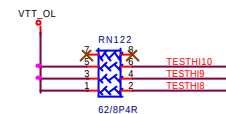
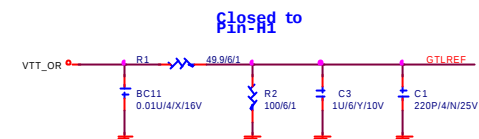
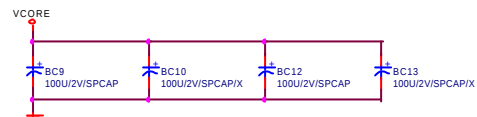
GIGABYTE		
Title		
Cover Sheet		
Doc Custom	Document Number	Rev
	GA-8I915G-LGE	1.0
Date:	2004年07月07日	Sheet 1 of 41

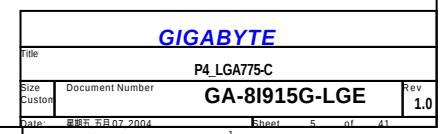
BLOCK DIAGRAM



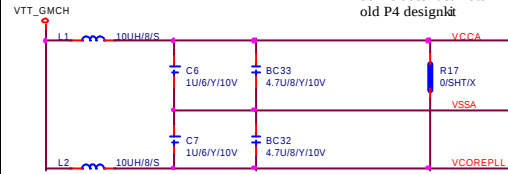
243.84mm*243.84mm/C/60/+ -15%/blue

[illegible][illegible]



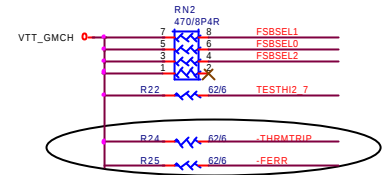
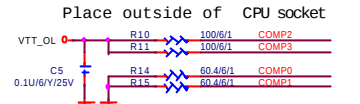
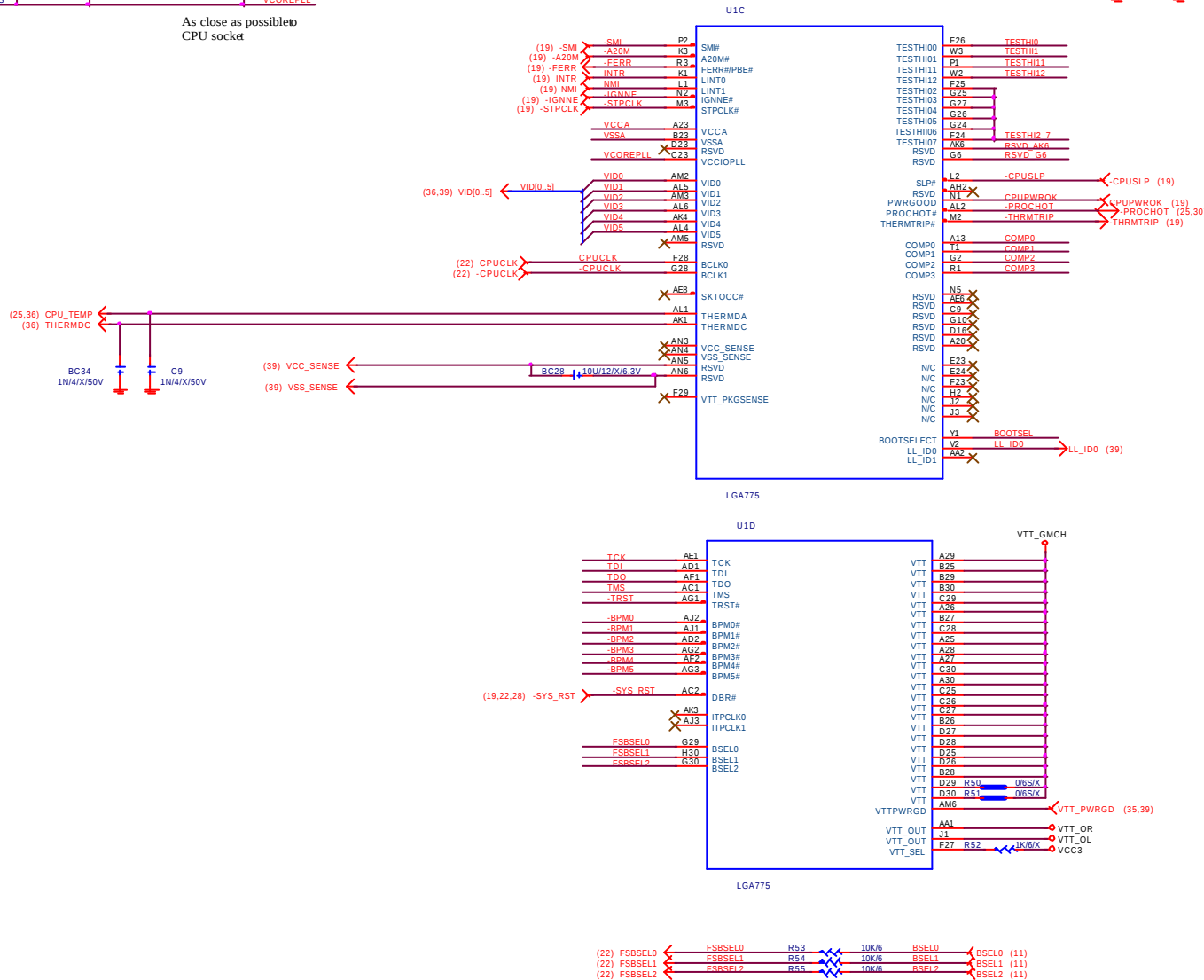


Note:
VCCA & VCOREPLL
define doesn't same as
old P4 design kit

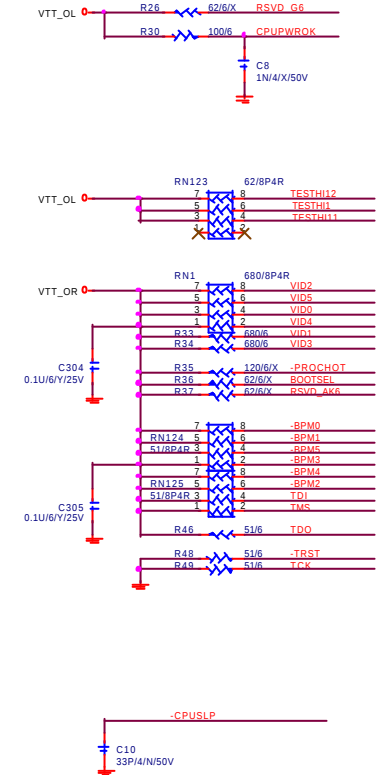


Trace width doesn't
less than 12 Mil

As close as possible to
CPU socket

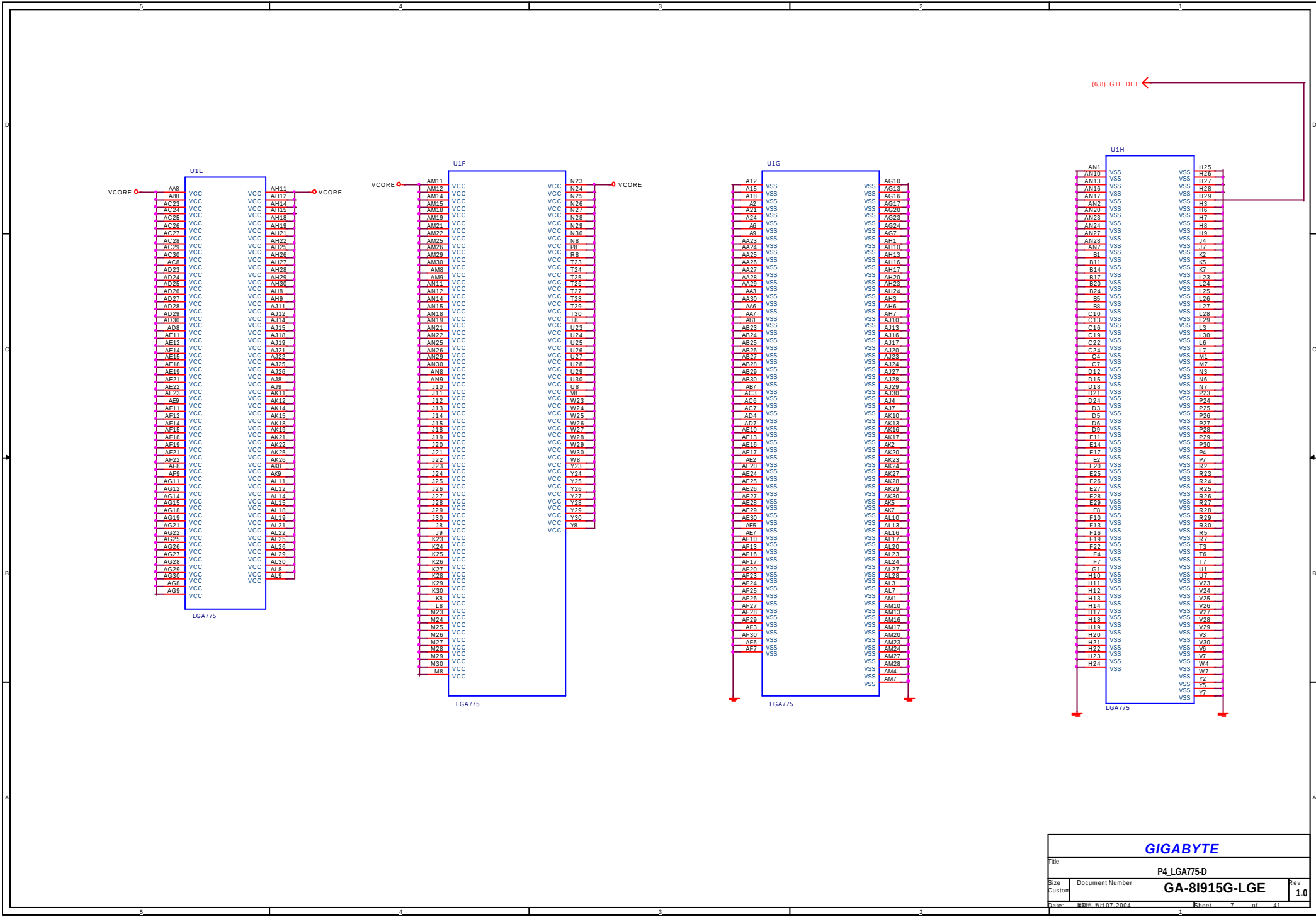


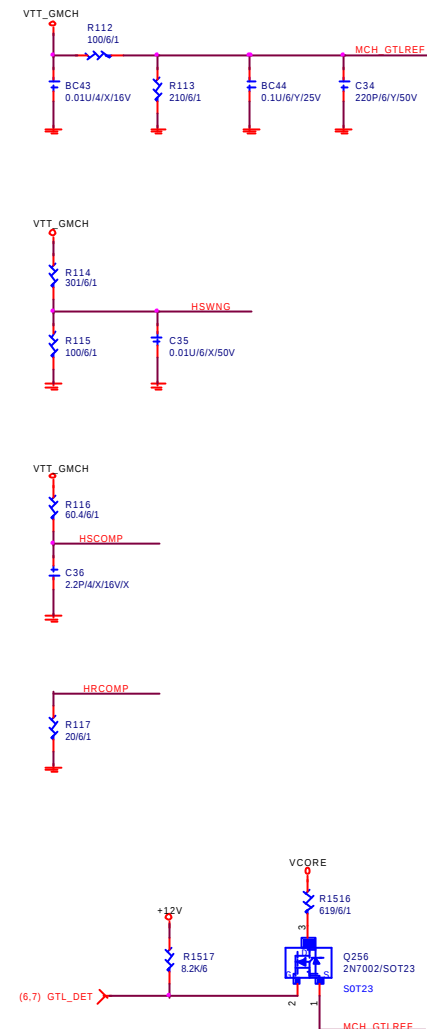
Locate at ICH6 Side

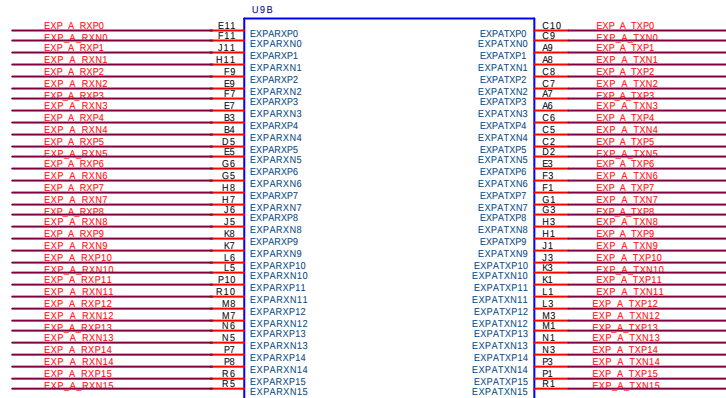


GIGABYTE

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Size			Document Number
Custom			GA-8I915G-LGE
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2004.07.05			1.0



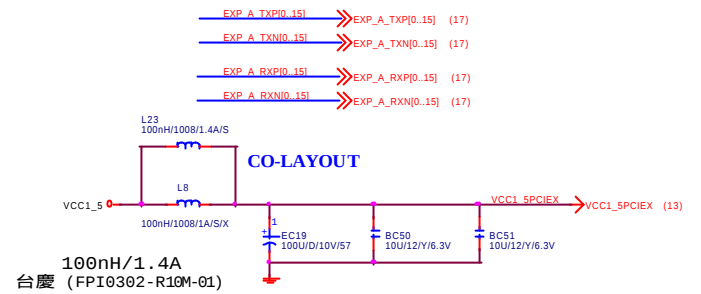
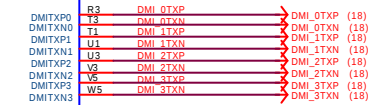


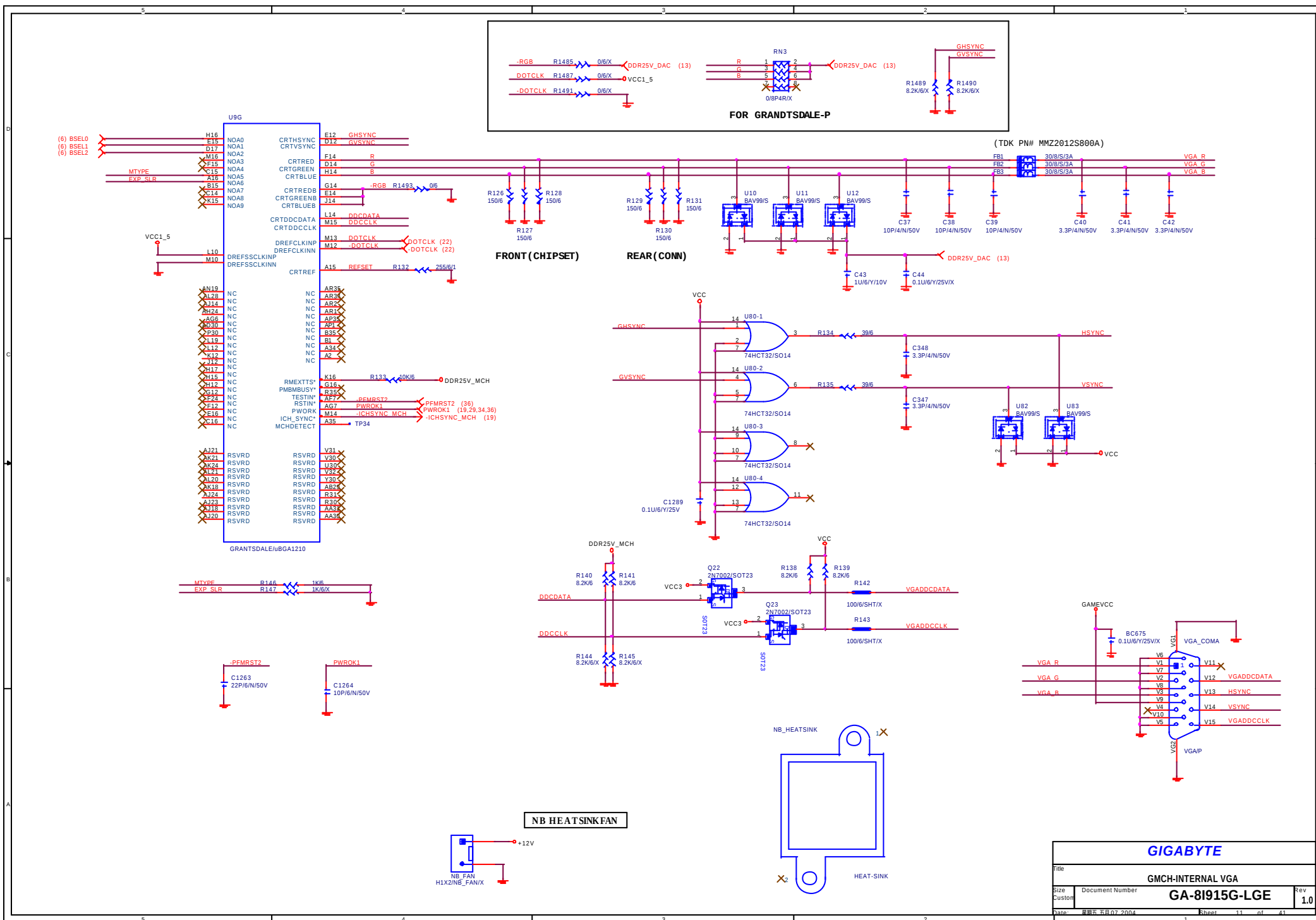


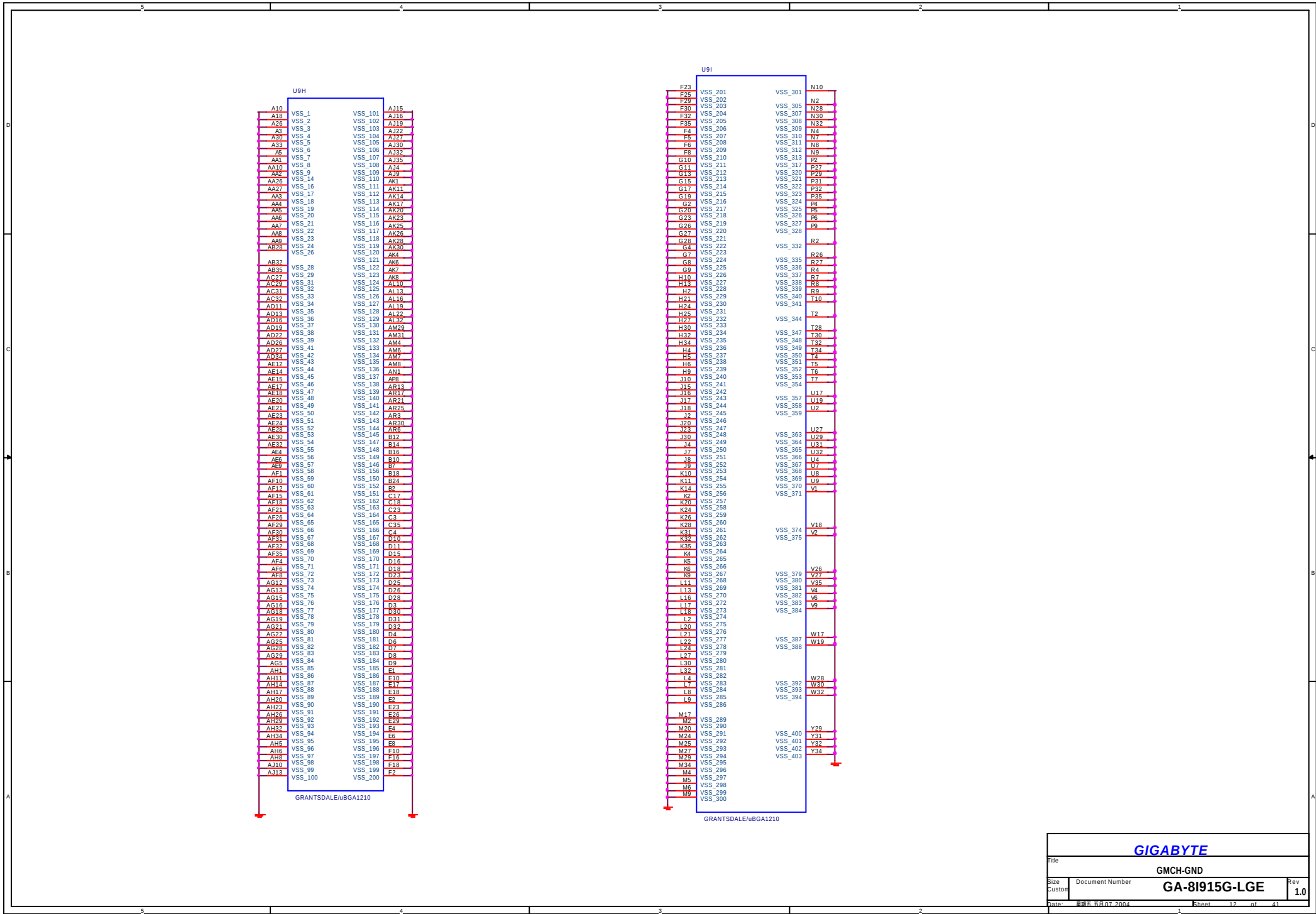
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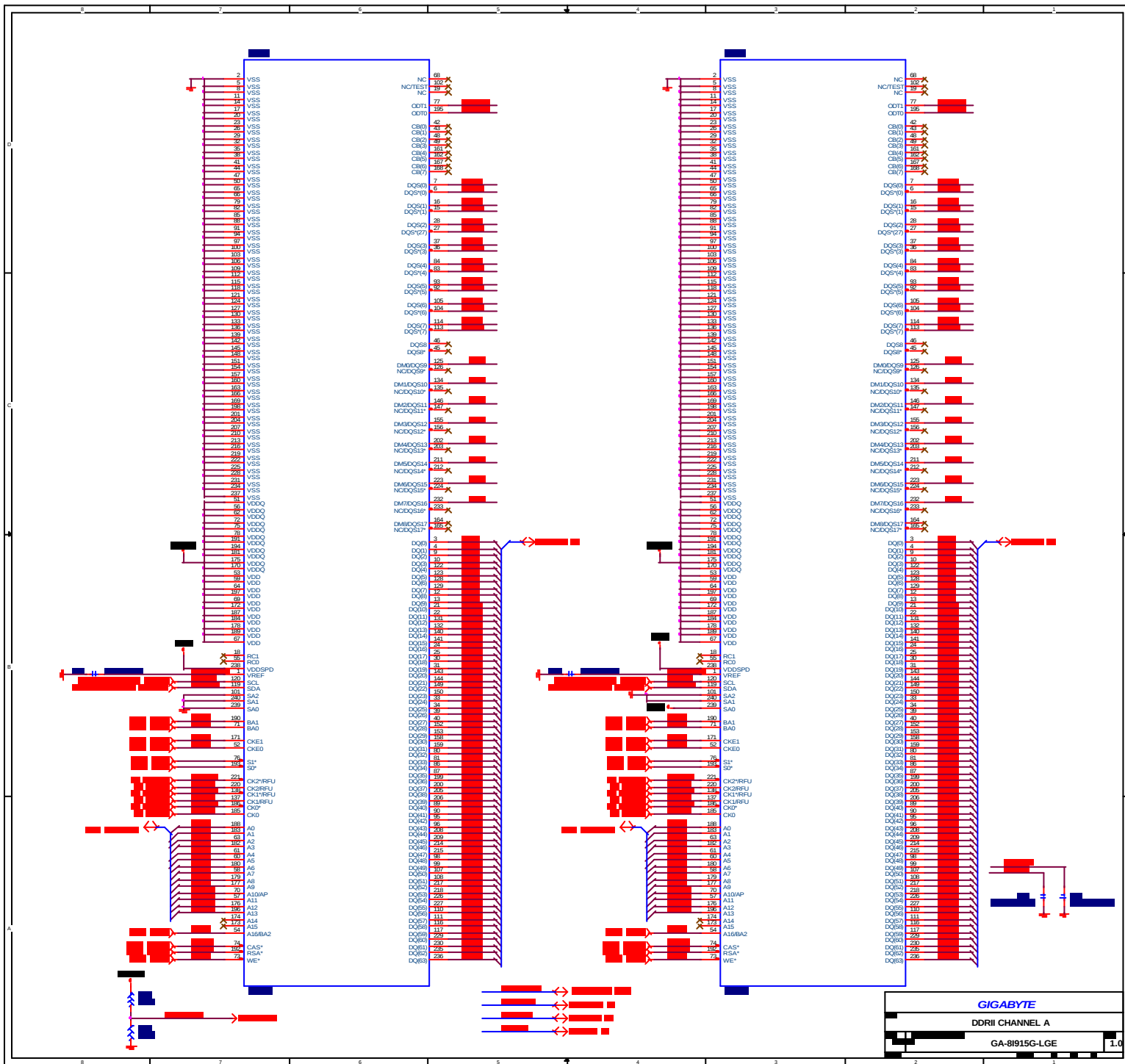
GRANTSDALE/bGA1210

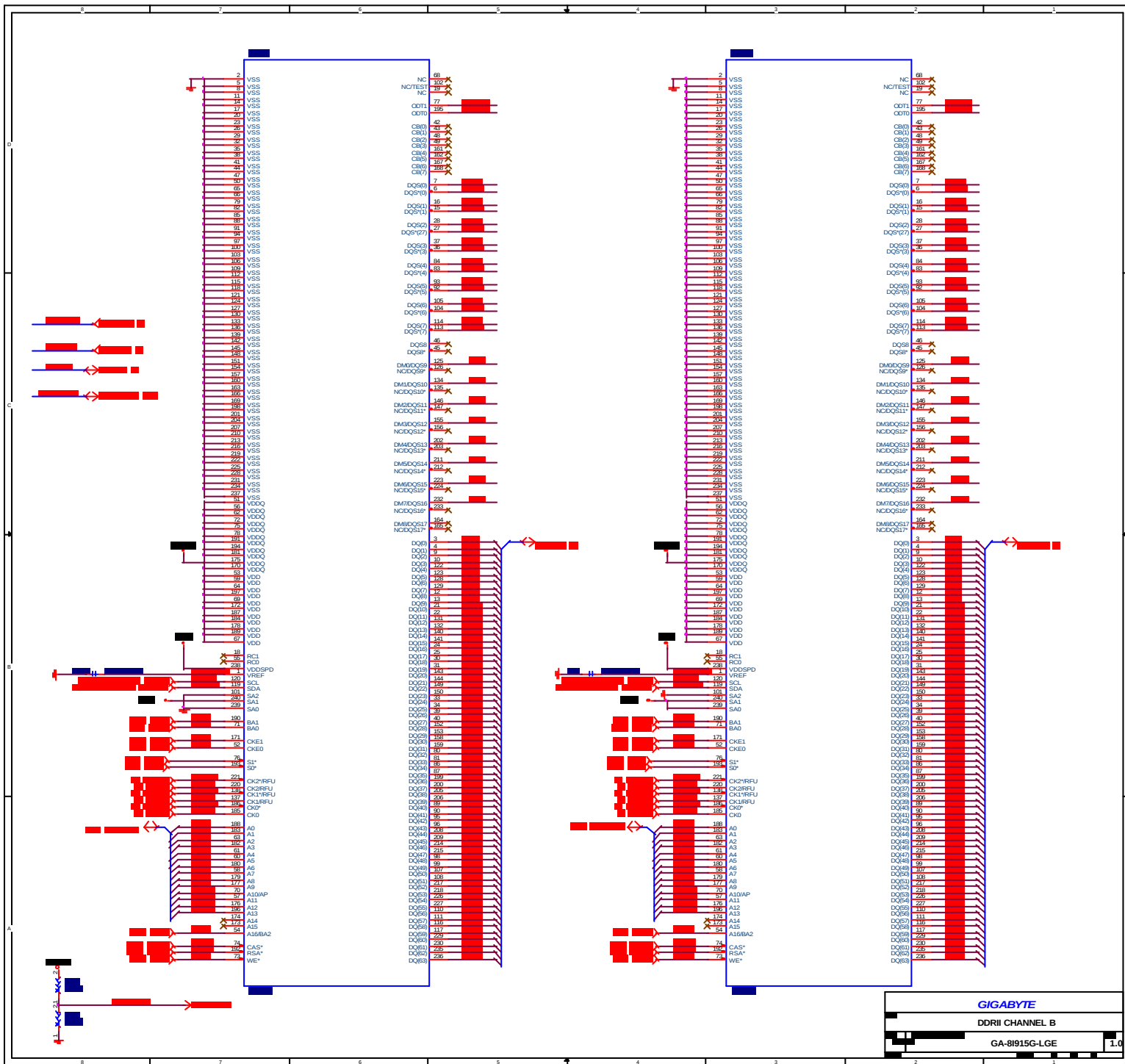




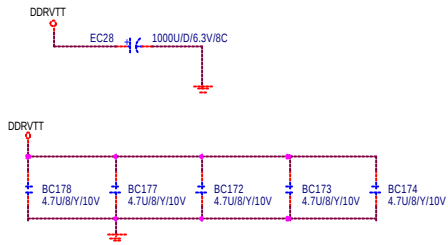


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Title			
GMCH-GND			
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1			

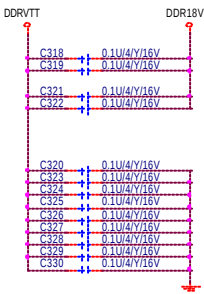
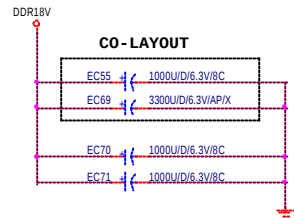




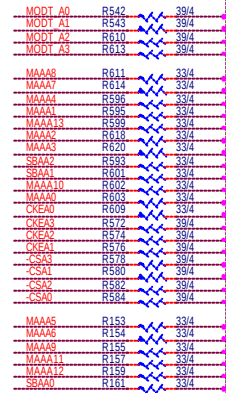
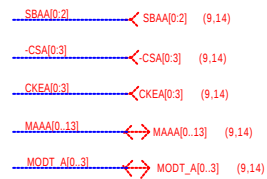
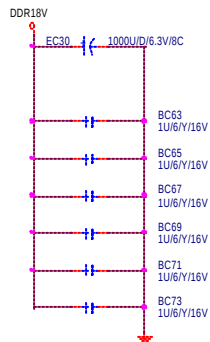
DDRVTT Decouple



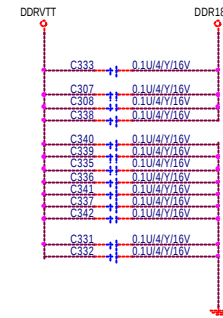
DDR TERMINATION CHANNEL A



DDR18V Decouple

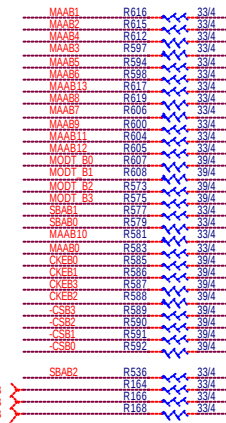
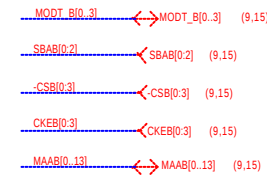
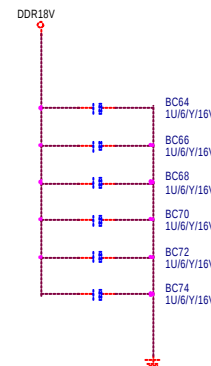


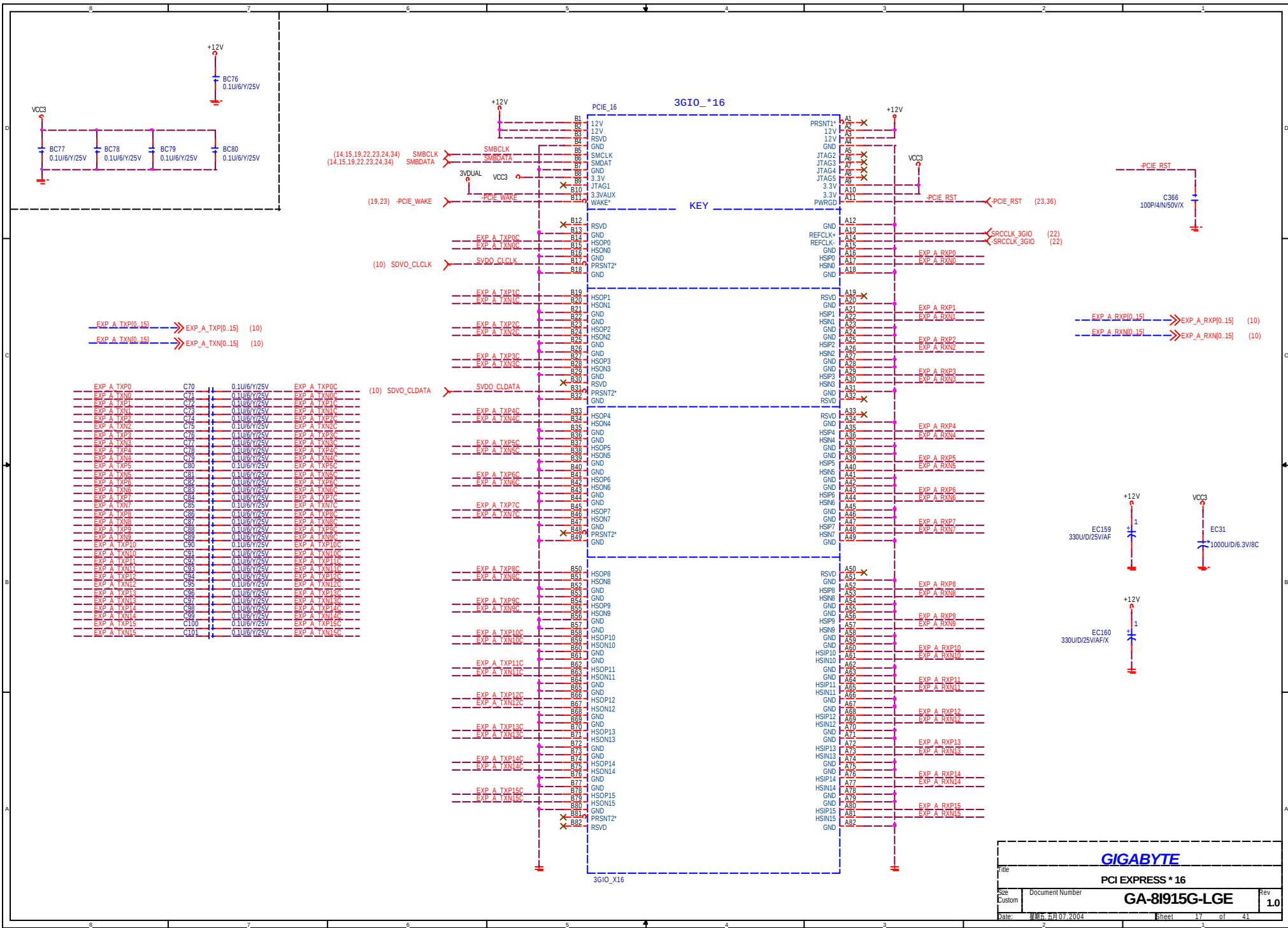
DDRVTT Decouple



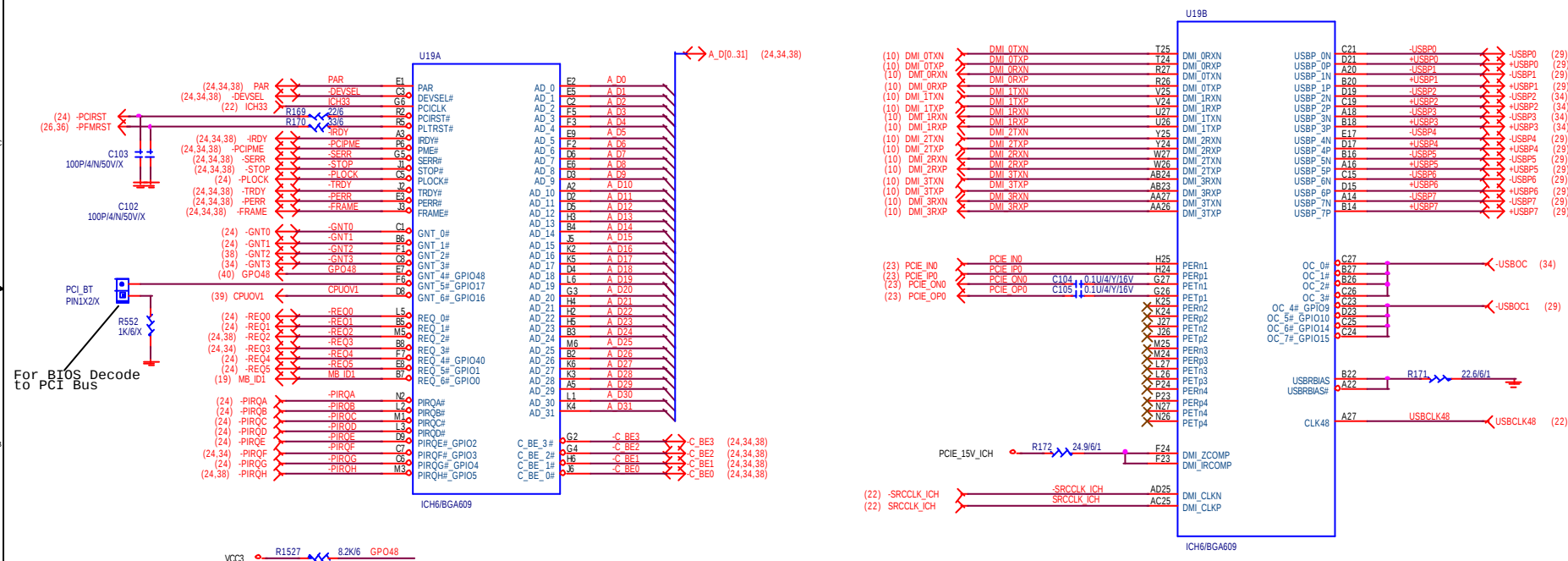
CHANNEL B

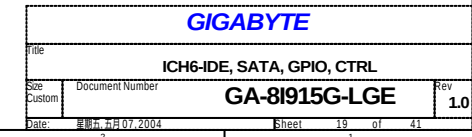
DDR18V Decouple

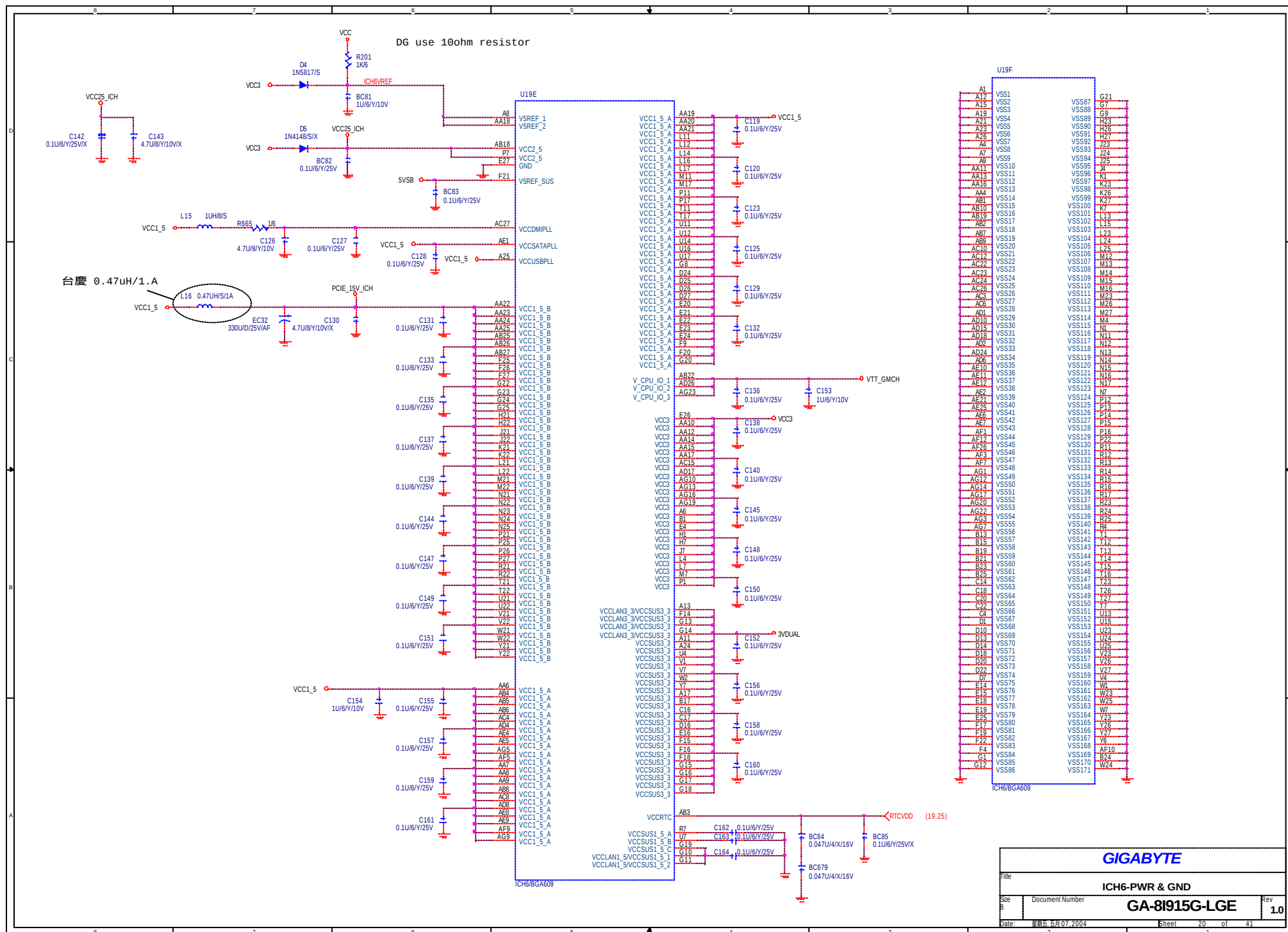


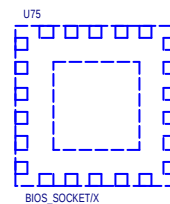


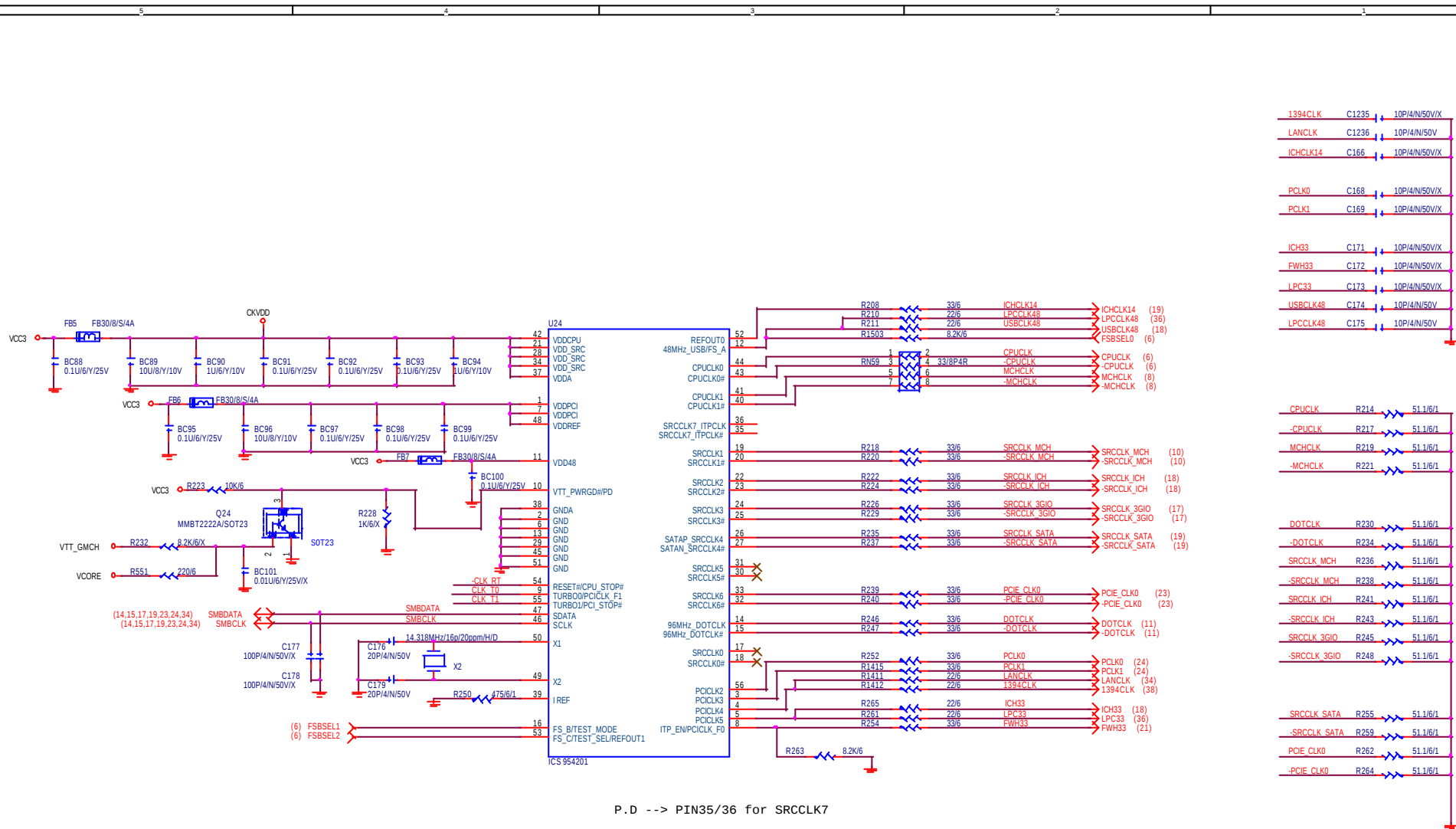
DMI Connection Note
 GMCH TX Pin Need Connect to ICH6 RX Pin
 ICH6 TX Pin Need Connect to GMCH RX Pin











P.D --> PIN35/36 for SRCCLK7

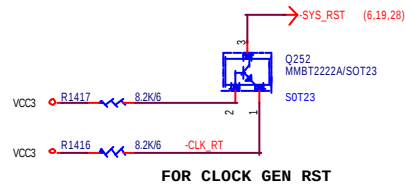
FOR CK410M R NOT INSTALL

(36) TURBO0 ← R1418 0/6/X CLK T0

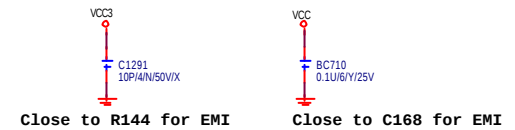
FOR CIA II
FUNCTION

FOR CK410M

(36) TURBO1 ← R1420 0/6/X CLK T1



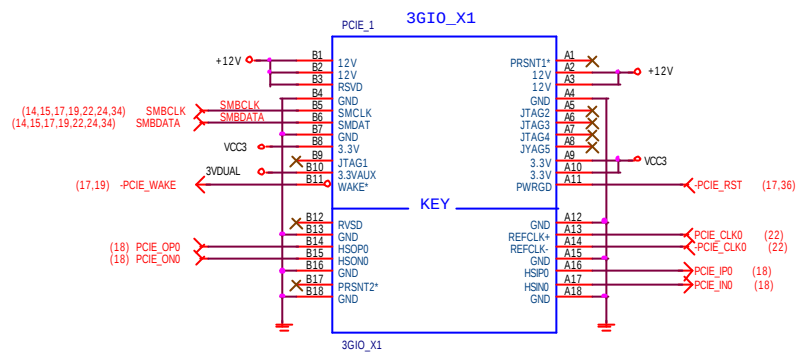
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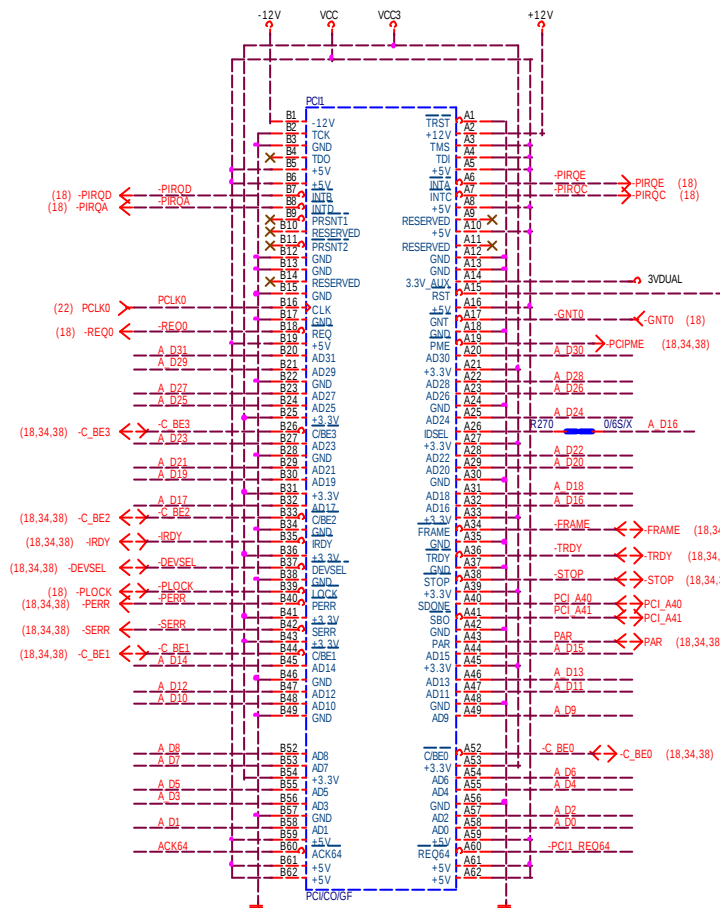


Close to R144 for EMI

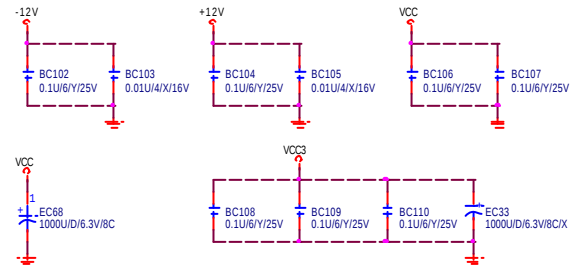
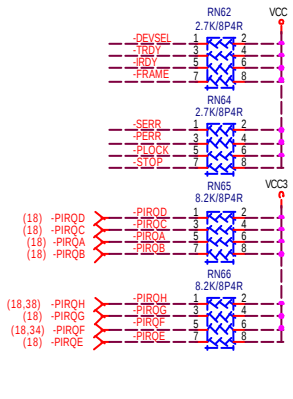
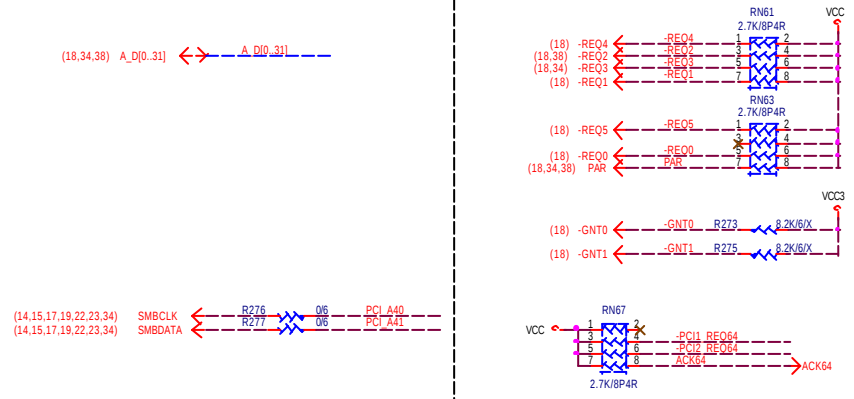
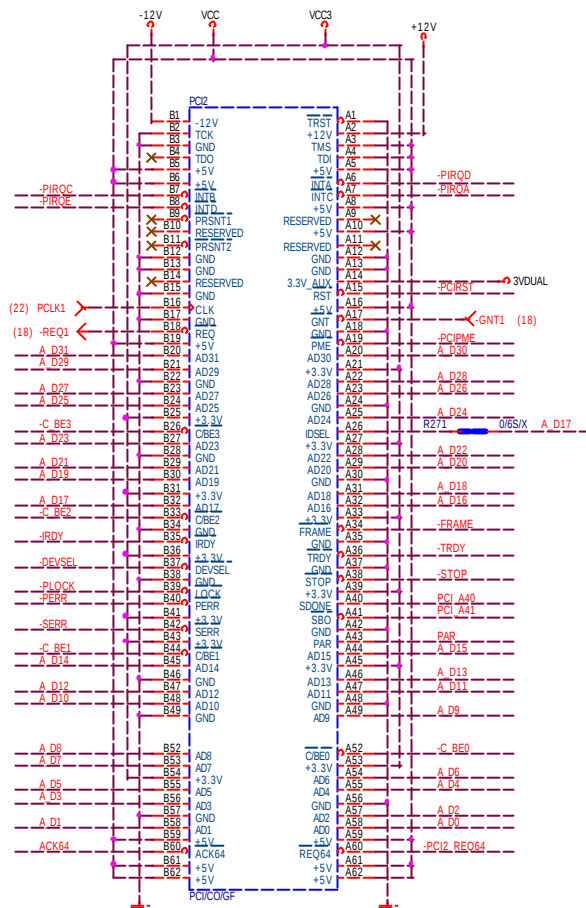
Close to C168 for EMI

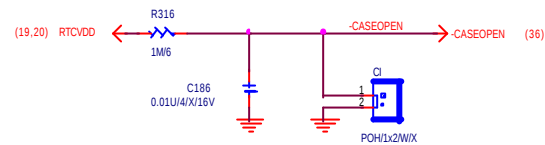
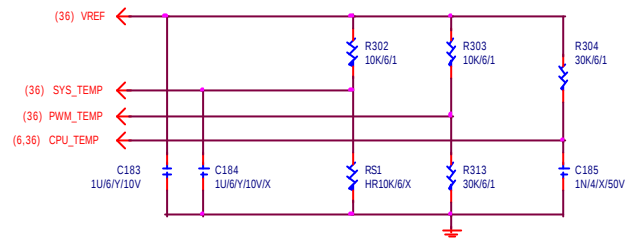
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CK410M/GBT_CLK_GEN			
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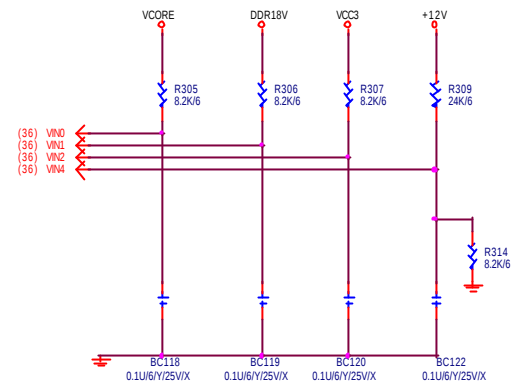


Place close to PC11

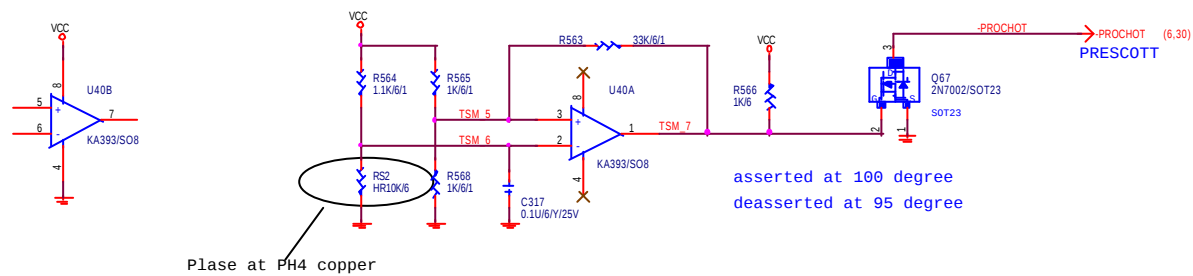




Case Open Circuits



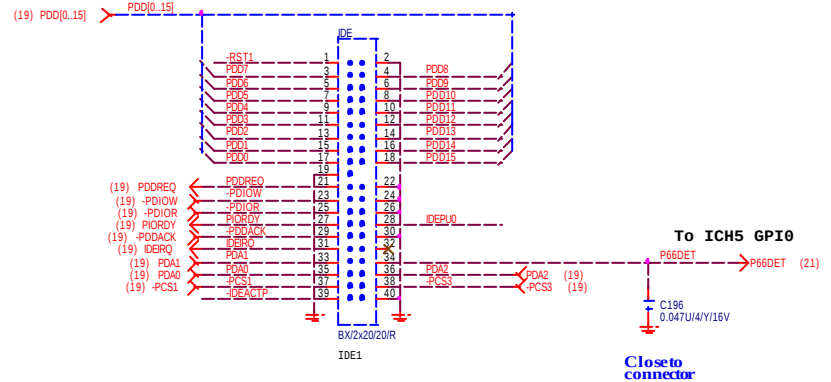
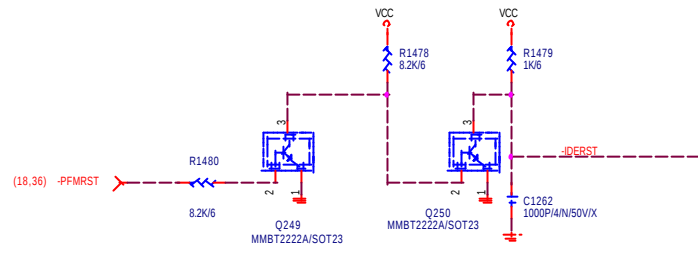
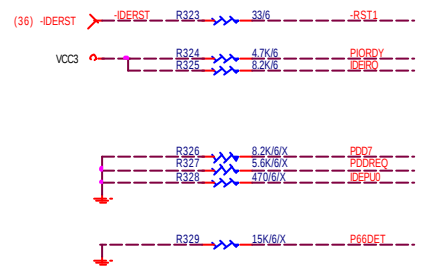
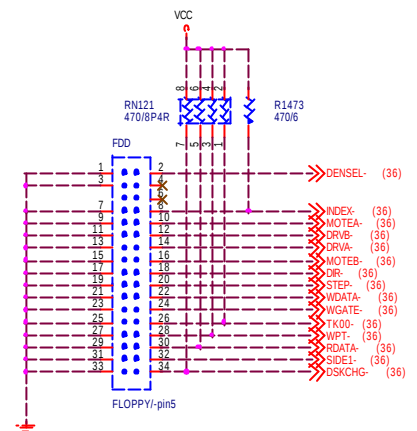
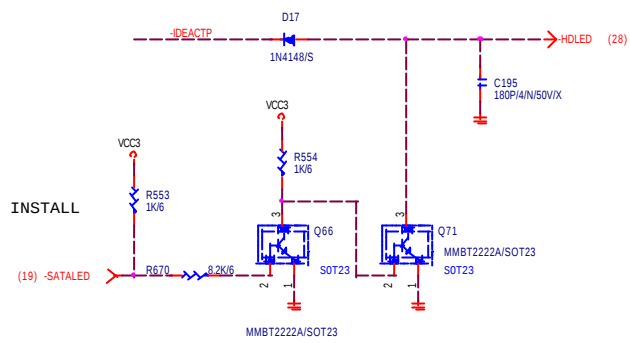
RS2 CLOSE CPU VR MOSFET



Plase at PH4 copper

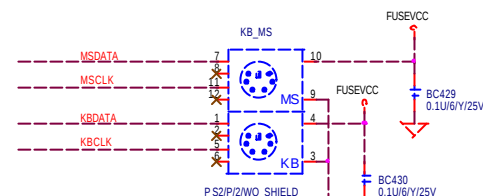
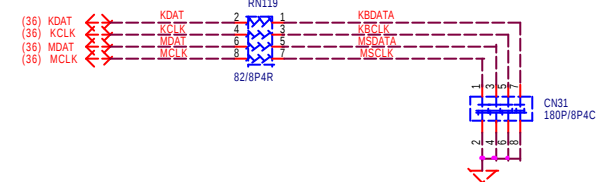
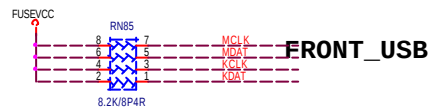
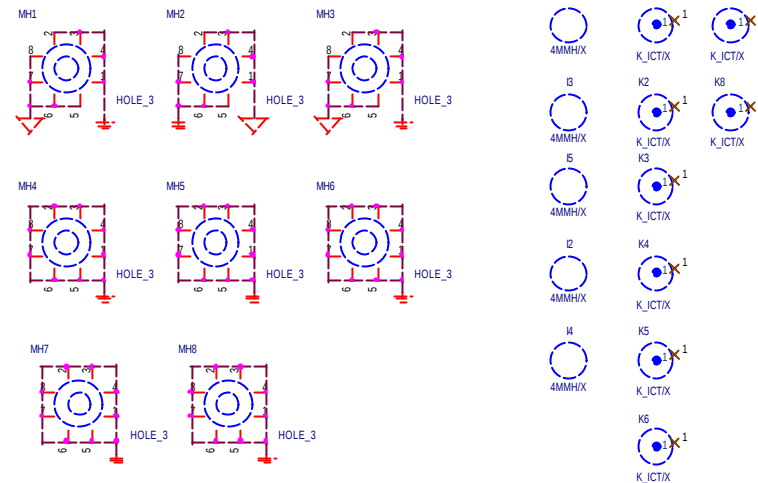
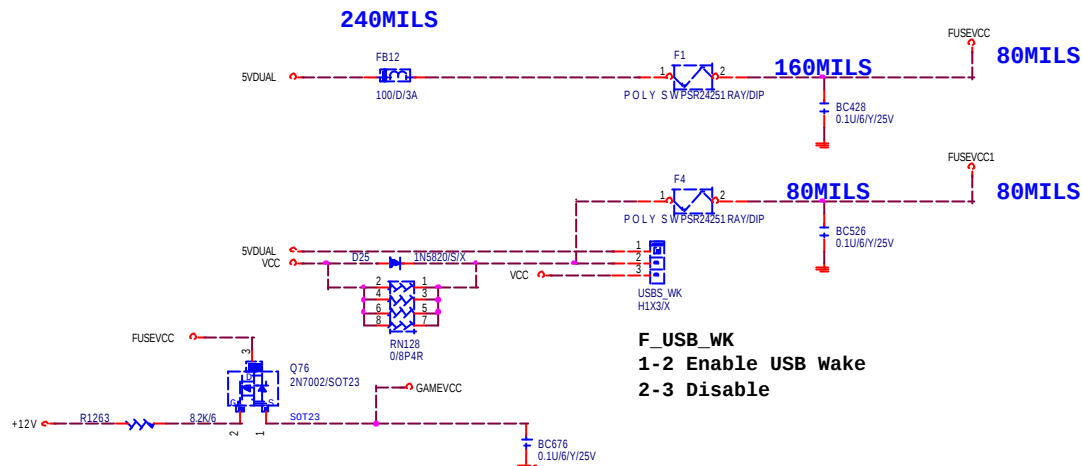
GIGABYTE

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HWMO & PROCHOT			
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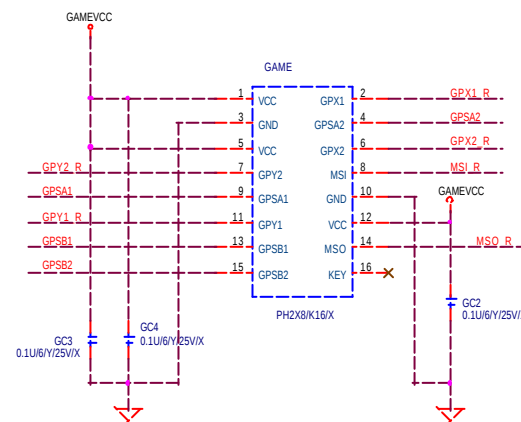
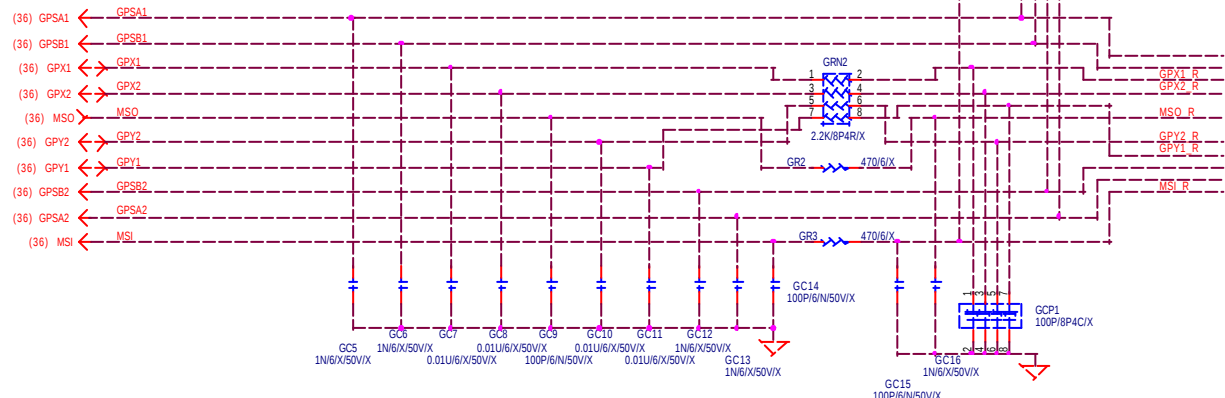


PRIMARY IDE CONNECTOR

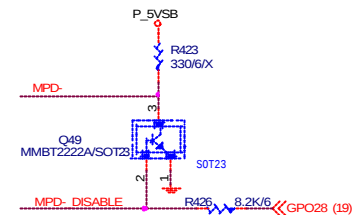
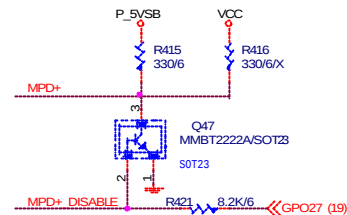
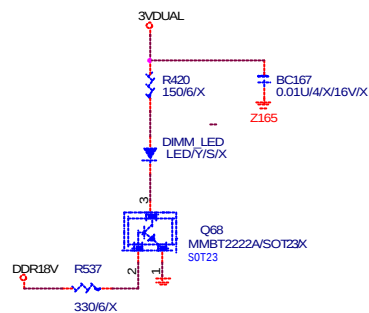
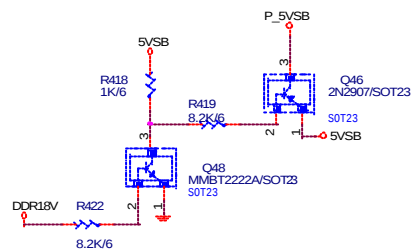
GIGABYTE			
IDE & FLOOPY			
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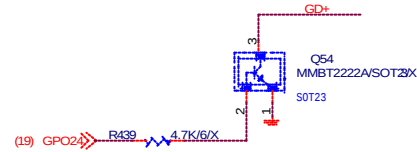
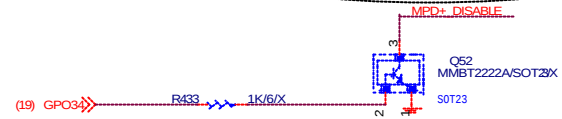
GAME_PORT



GIGABYTE			
Title			
KB & PS2 MOUSE & GAME PORT			
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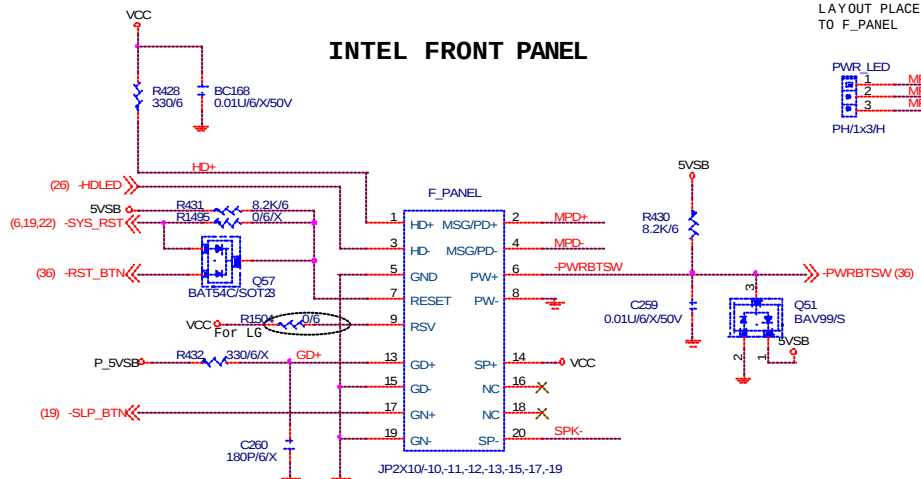
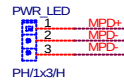


PREVENT S0 W/O CPU, GREEN IS ON.

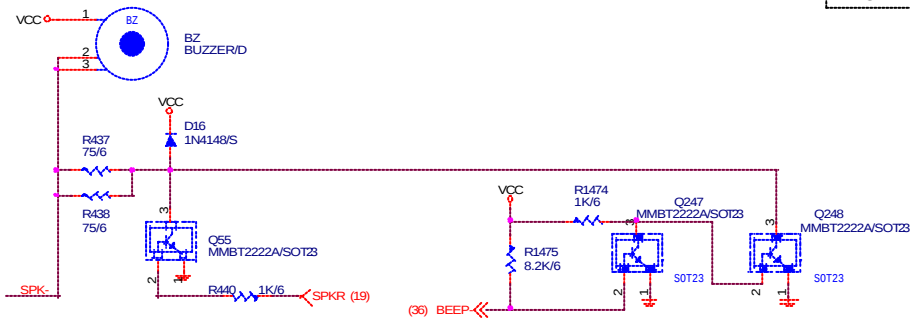


INTEL FRONT PANEL

3 PIN POWER LED LAYOUT PLACE CLOSE TO F_PANEL



BUZZER



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

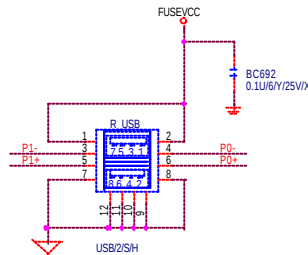
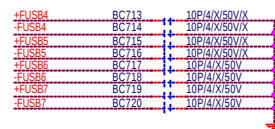
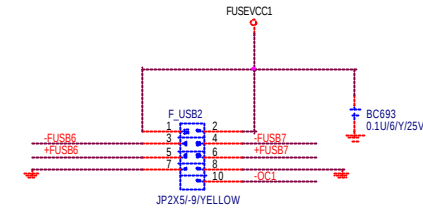
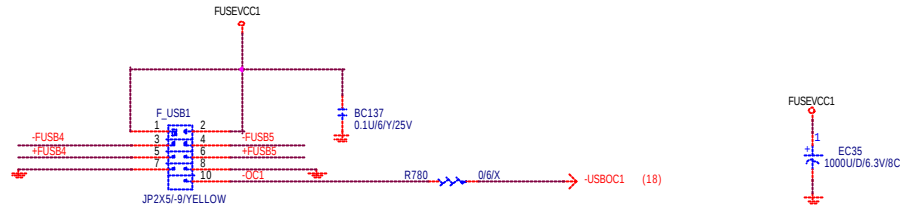
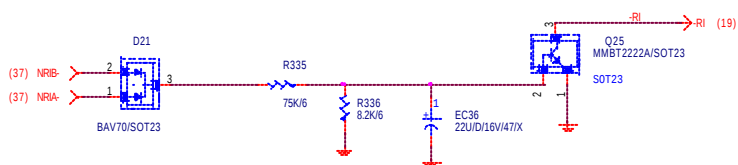
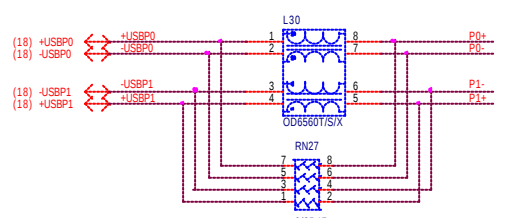
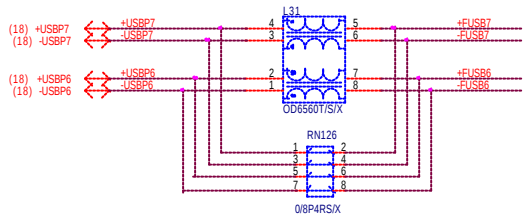
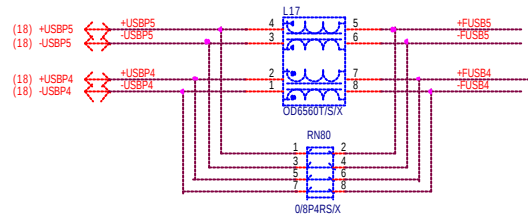
LED States	ACPI States	GP025	GP027	GP022
OFF	S5	1	1	X
Steady Green	S0	1	1	1
Blinking Green	S0(message waiting)	1	B	1
Steady Yellow	S1, S3	1	0	N01
Blinking Yellow	S1, S3(message waiting)	1	B	N01

GIGABYTE

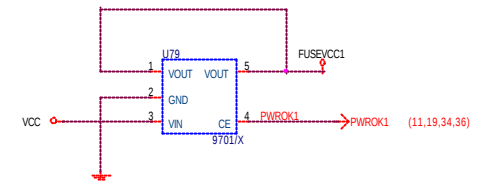
Title: FRONT PANEL
 Size: Custom
 Document Number: GA-8I915G-LGE
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FRONT USB

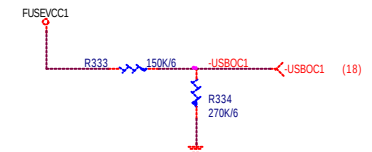
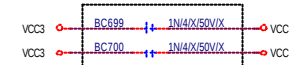
ICH6 USB2.0



NEAR F_USB CONNECTOR

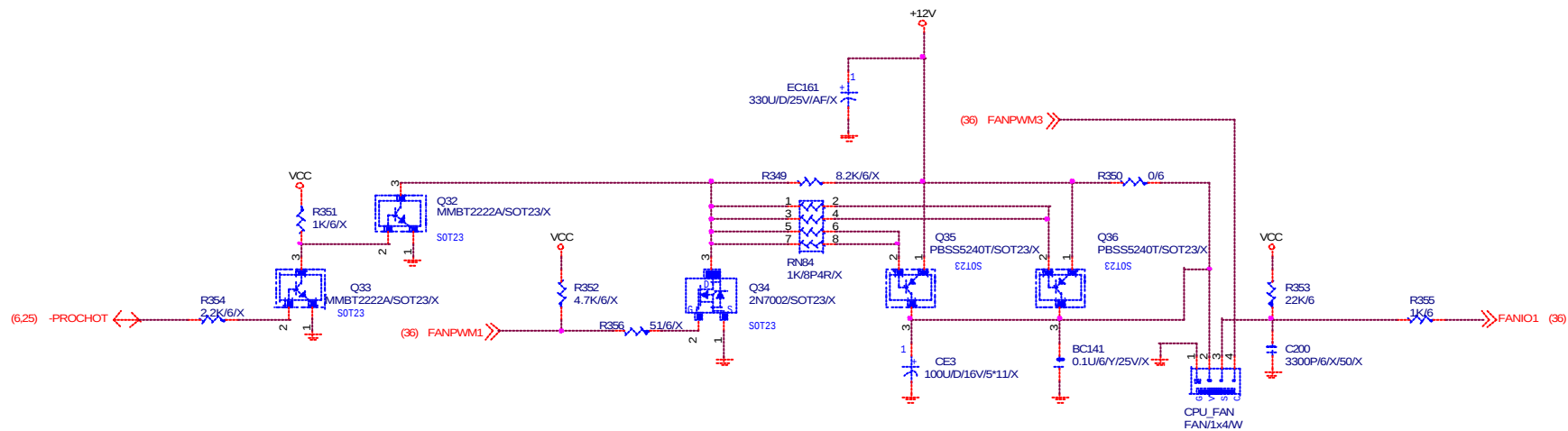
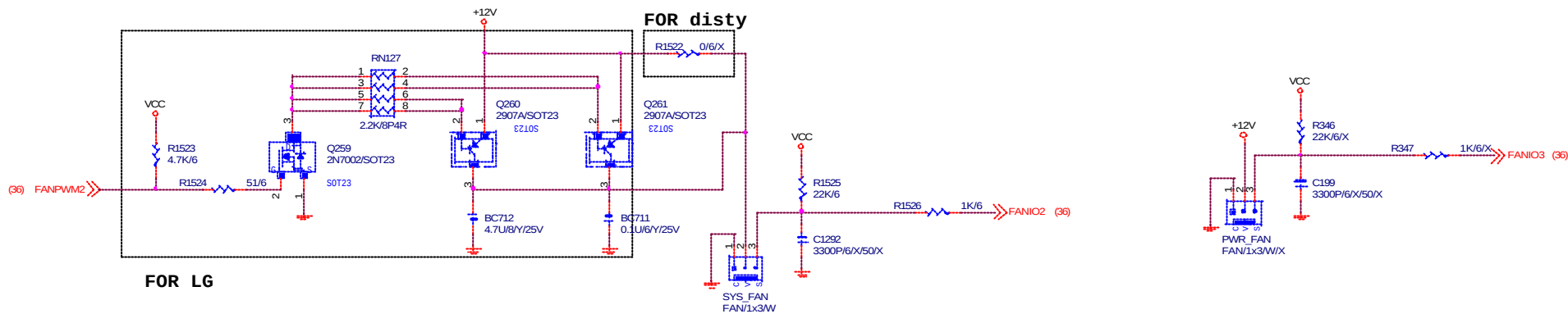


For EMI

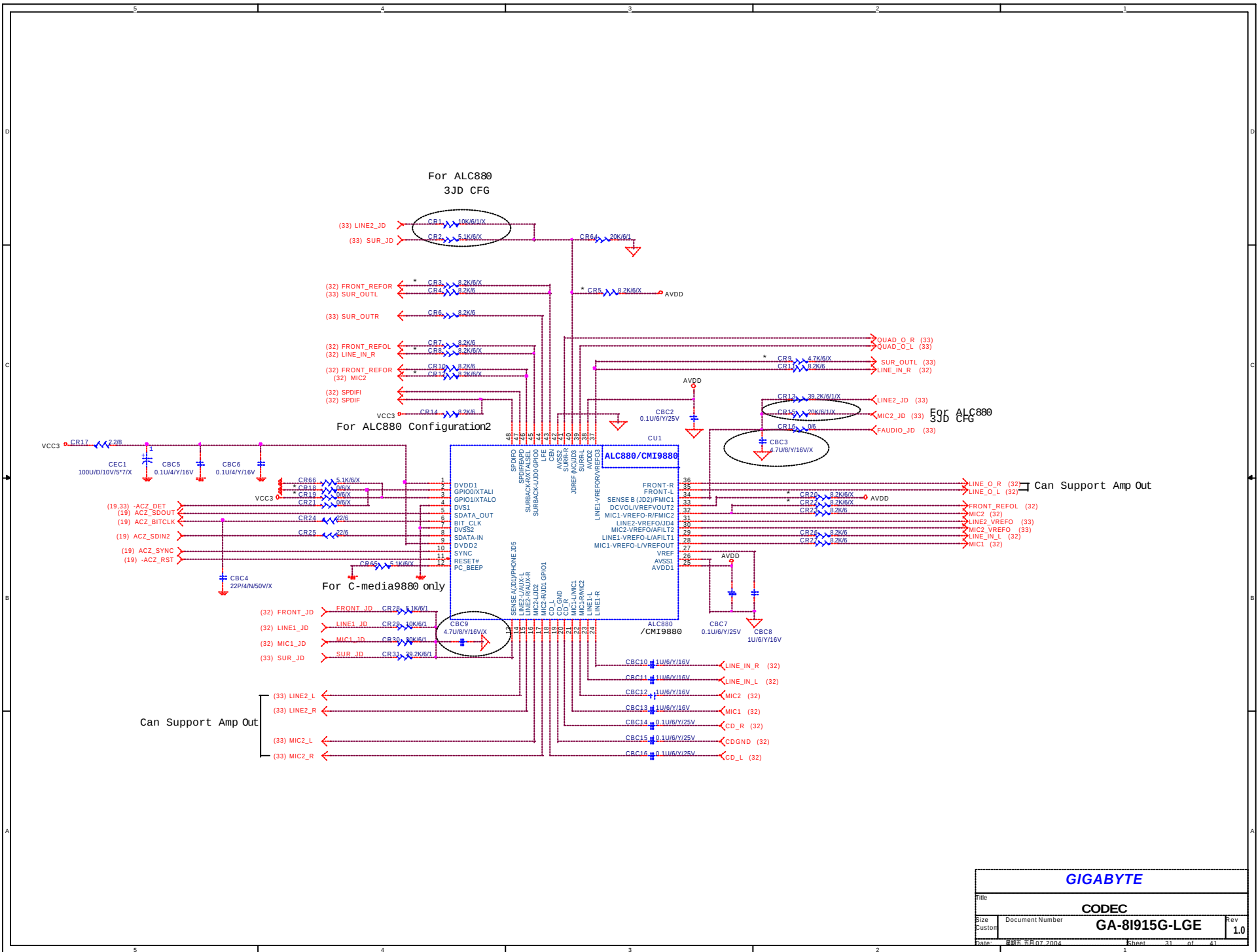


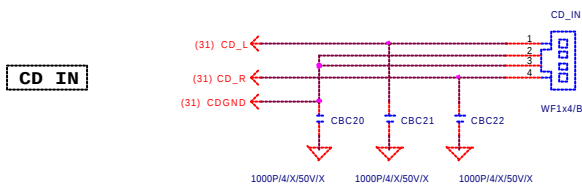
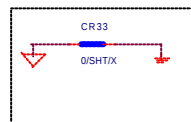
GIGABYTE

FRONT USB CONNECTOR			
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Title			
FAN CONTROL			
GA-8I915G-LGE			
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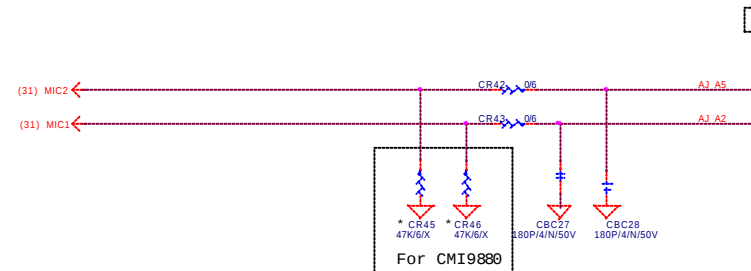
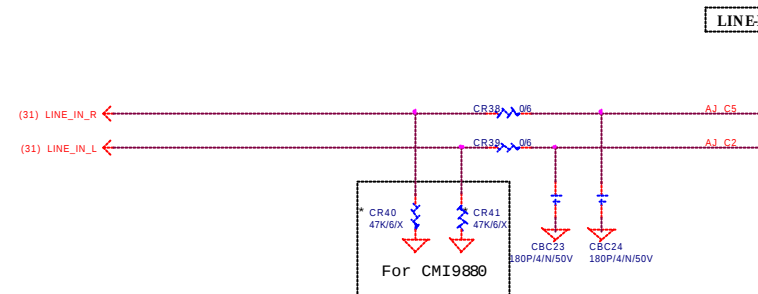
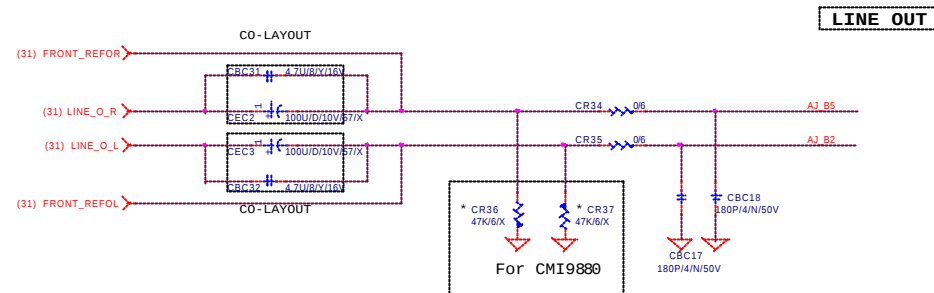
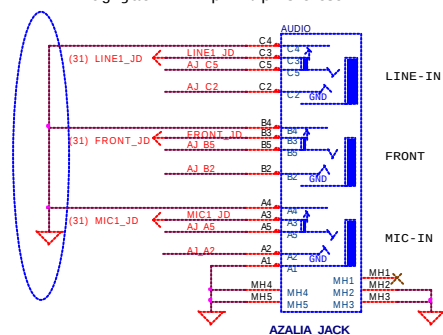




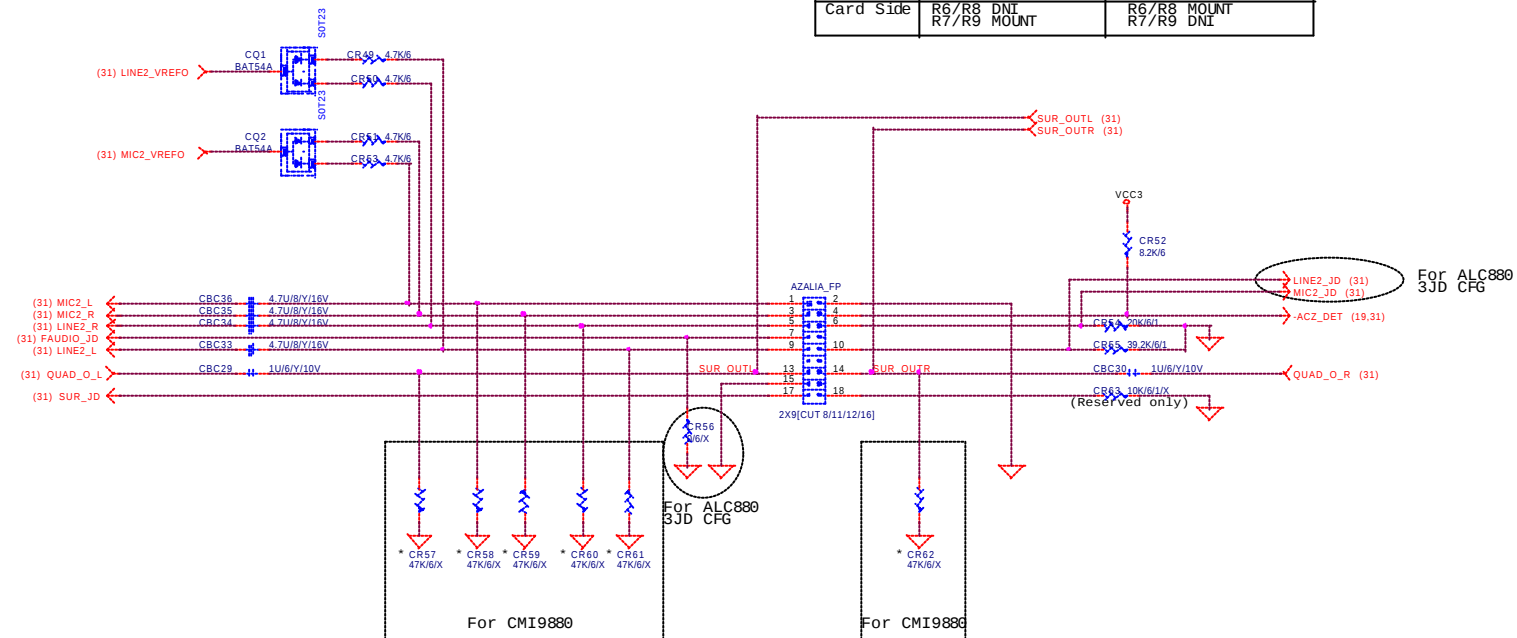
Azalia Jack

Normal --> pin4/pin3 open

Plug jack --> pin4/pin3 close

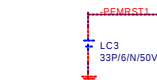


	Front Audio Jack sense method	
	From Pin6/Pin10	From Pin7
M/B Side	R524/R526/R528 MOUNT	R581/R529/R529 MOUNT
Card Side	R6/R8 MOUNT R7/R9 MOUNT	R6/R8 MOUNT R7/R9 MOUNT

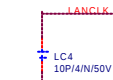
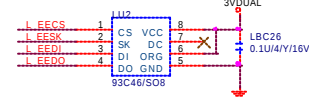


	10/100	Giga	Giga
	8100C	8110S	8110SB
AVDDH	N/A	3.3V	3.3V
V_12P	2.5V	N/A	3.3V
AVDDL	3.3V	2.5V	2.5V
V_DAC	N/A	2.5V	2.5V
DVDD	2.5V	1.8V	1.3V
DVDD_A	2.5V	1.8V	1.3V

	Yellow	Green	Orange
10MB	---	OFF	OFF
100MB	---	ON	OFF
1Gb	---	OFF	ON
Link	ON	---	---
Active	Blink	---	---



LAN EEPROM



LR22, LR23, LBC26 Close to Lan Chip
Realtek suggestion (TX+, TX-).

LR24, LR25, LBC27 Close to Lan Chip
Realtek Suggestion (RX+, RX-).

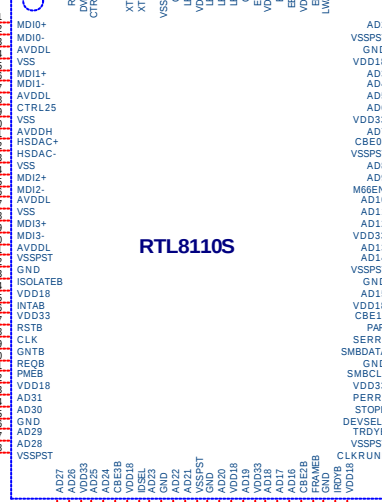
LU1:
100M:RTL8100C
1G:RTL8110S

LR15:
100M:5.9K/6/1
1G:2.49K/6/1

LR26~LR29:
100M:N/A
1G:49.9/6/1

LBC28, LBC29:
100M:N/A
1G:0.01U/6

RTL8110S



IDESEL 30
-REQ/-GNT(5)
-PIRQC

LBC23:
100M:N/A
1G:N/A

LR17:
100M:N/A
1G:0/6

LBC29:
100M:0.1U/6
1G:0.01U/6

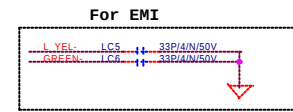
FOR 16:P35-152-1JN9
FOR 100M:P35-152-1J29

USB[LAN]S-TECHP35-152-1JN9

UP
DOWN

REAR USBX2

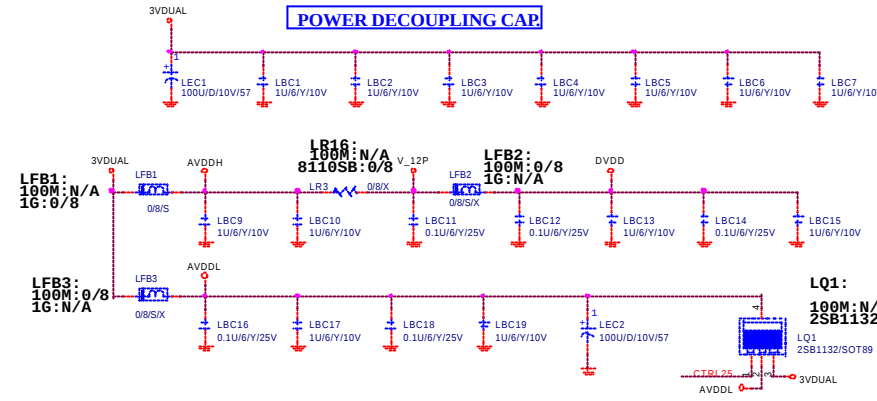
Close to USB port



For 8100C
For EMI

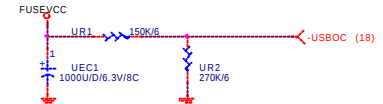
FOR EMI

POWER DECOUPLING CAP

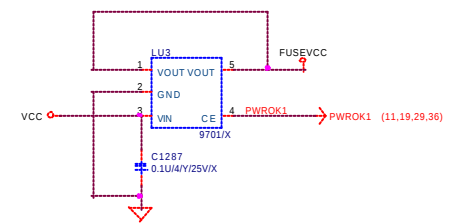


LQ1:
100M:N/A
2SB1132

For : Gigabyte LAN



NEAR USB_LAN CONNECTOR



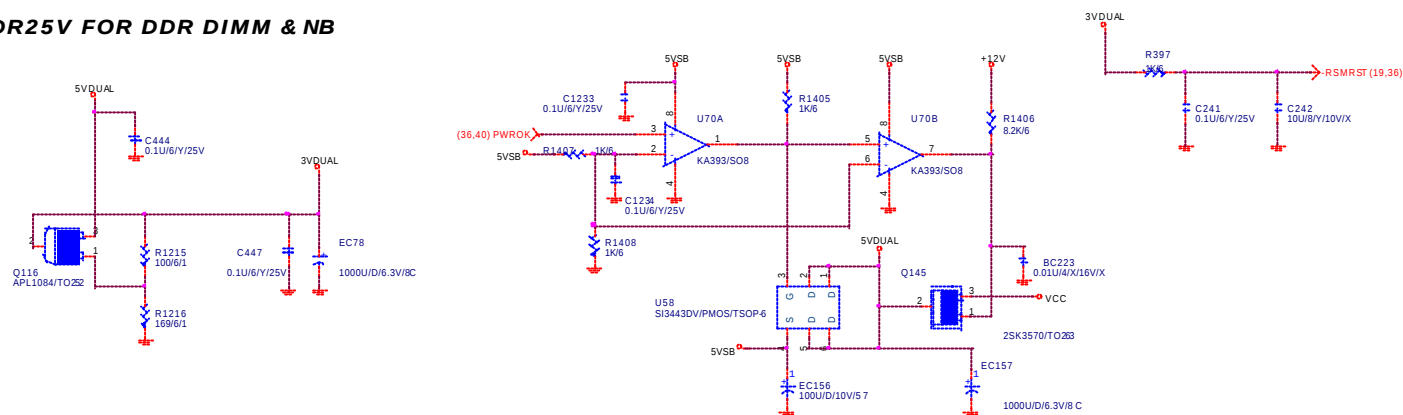
GIGABYTE

LAN RTL8110S

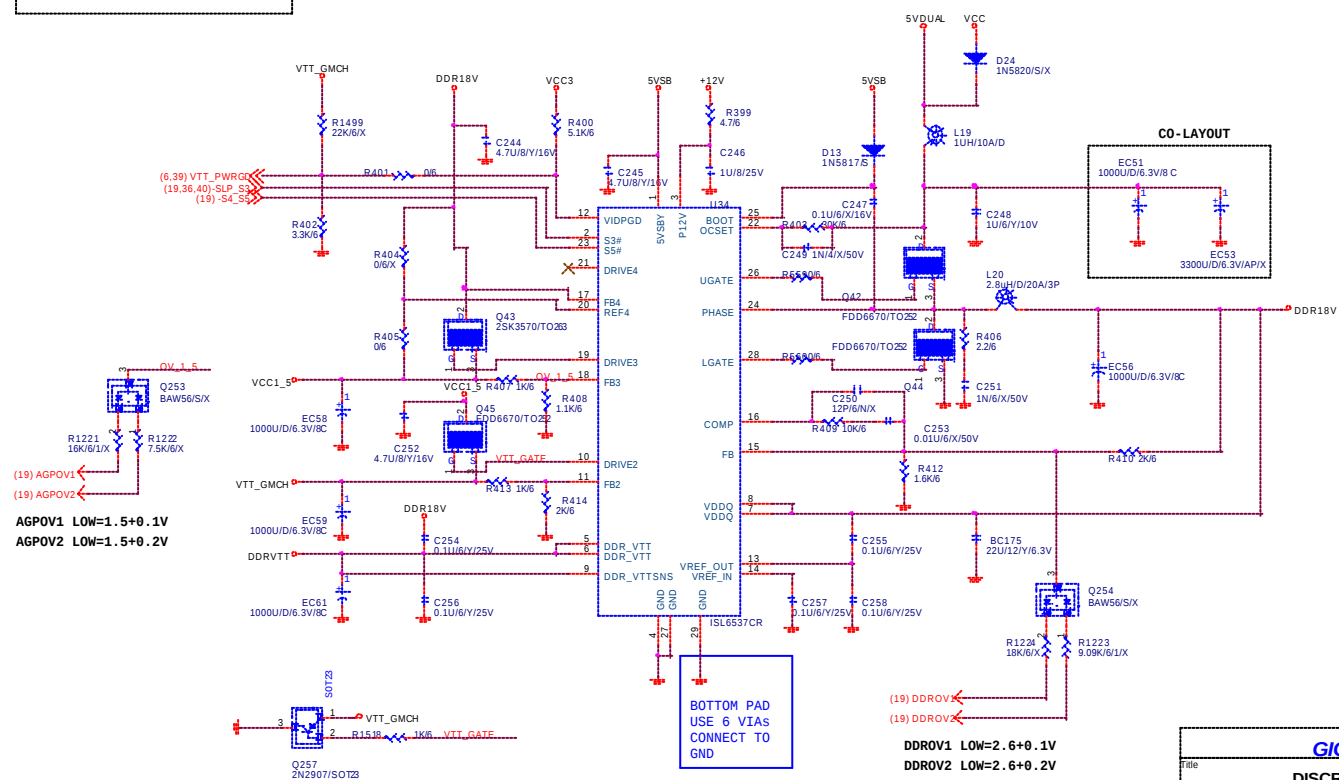
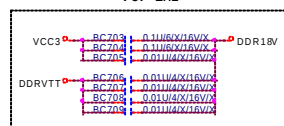
GA-81915G-LGE

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DDR25V FOR DDR DIMM & NB



For EMI



DDROV1 LOW=2.6+0.1V
DDROV2 LOW=2.6+0.2V

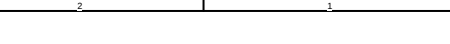
GIGABYTE

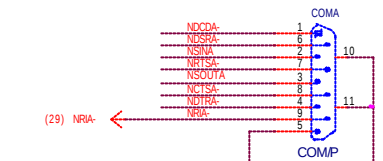
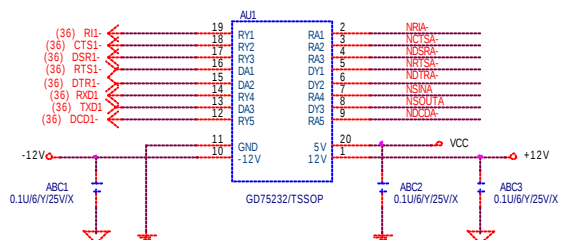
DISCRETE POWER

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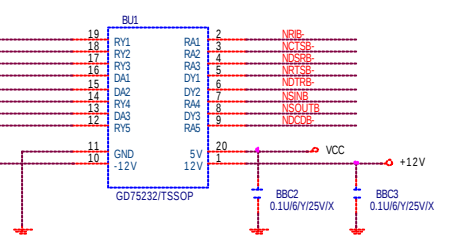
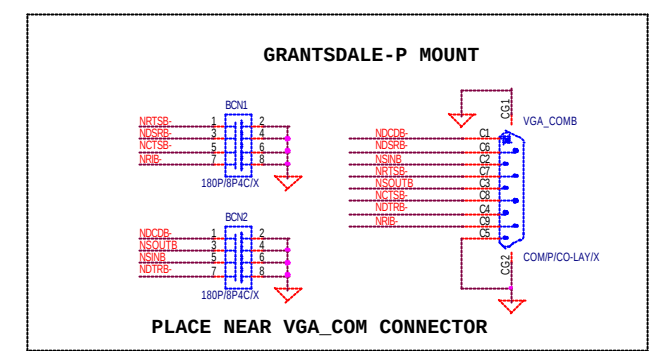
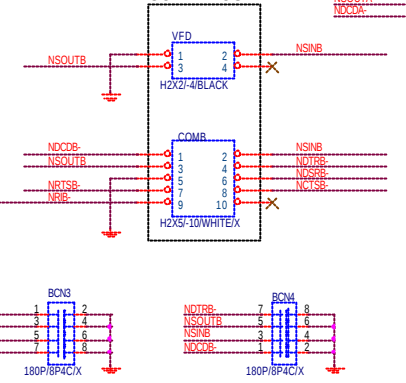
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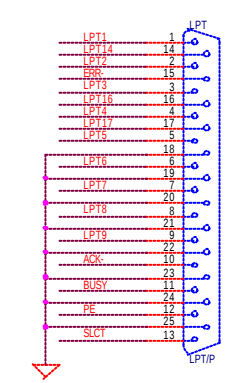
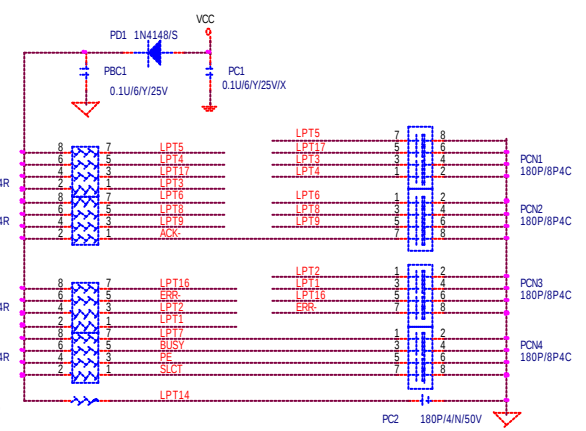
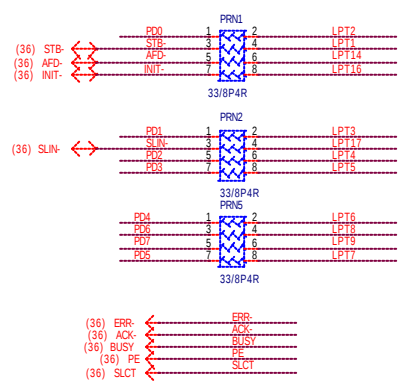




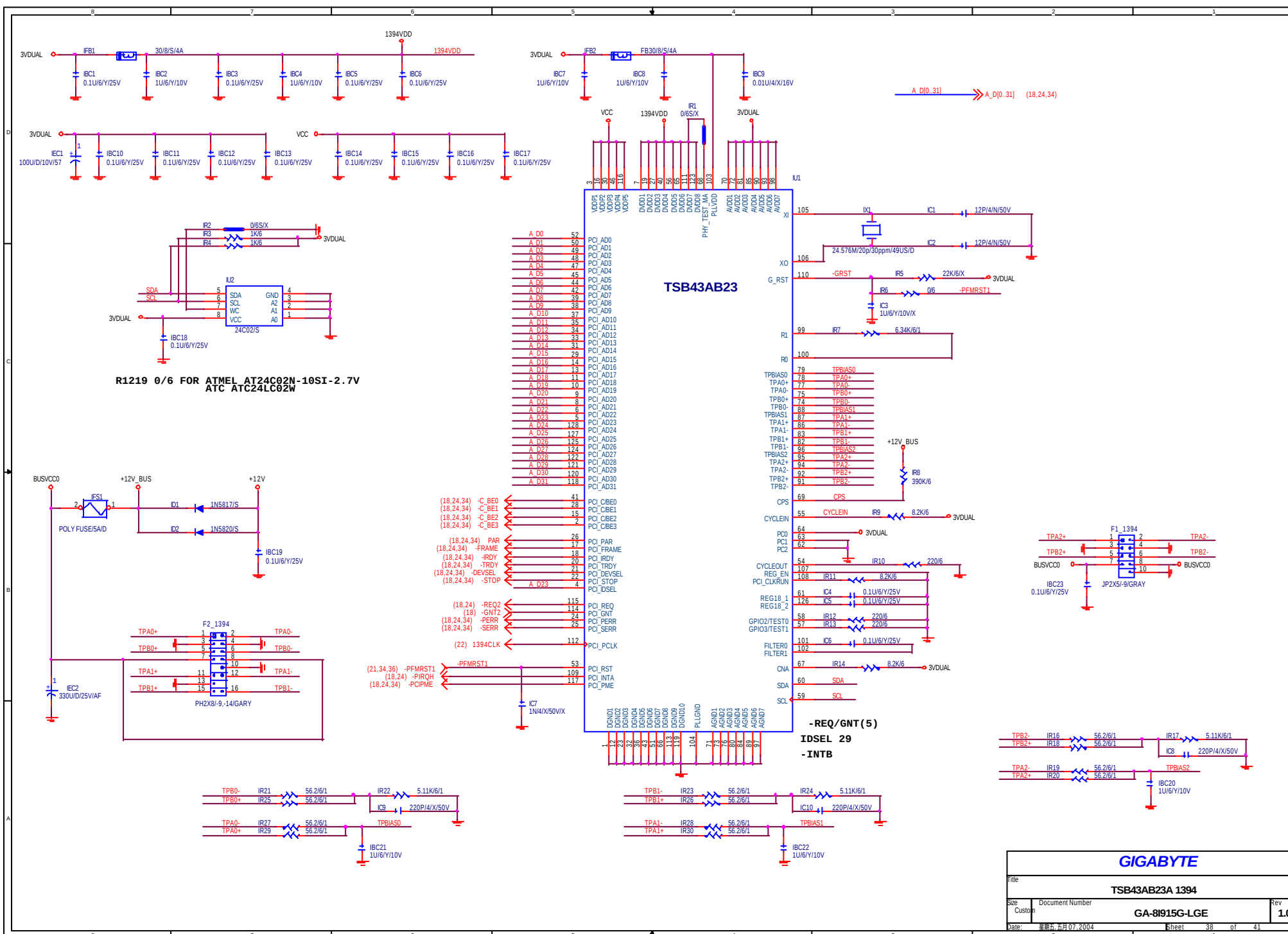
CO-LAYOUT

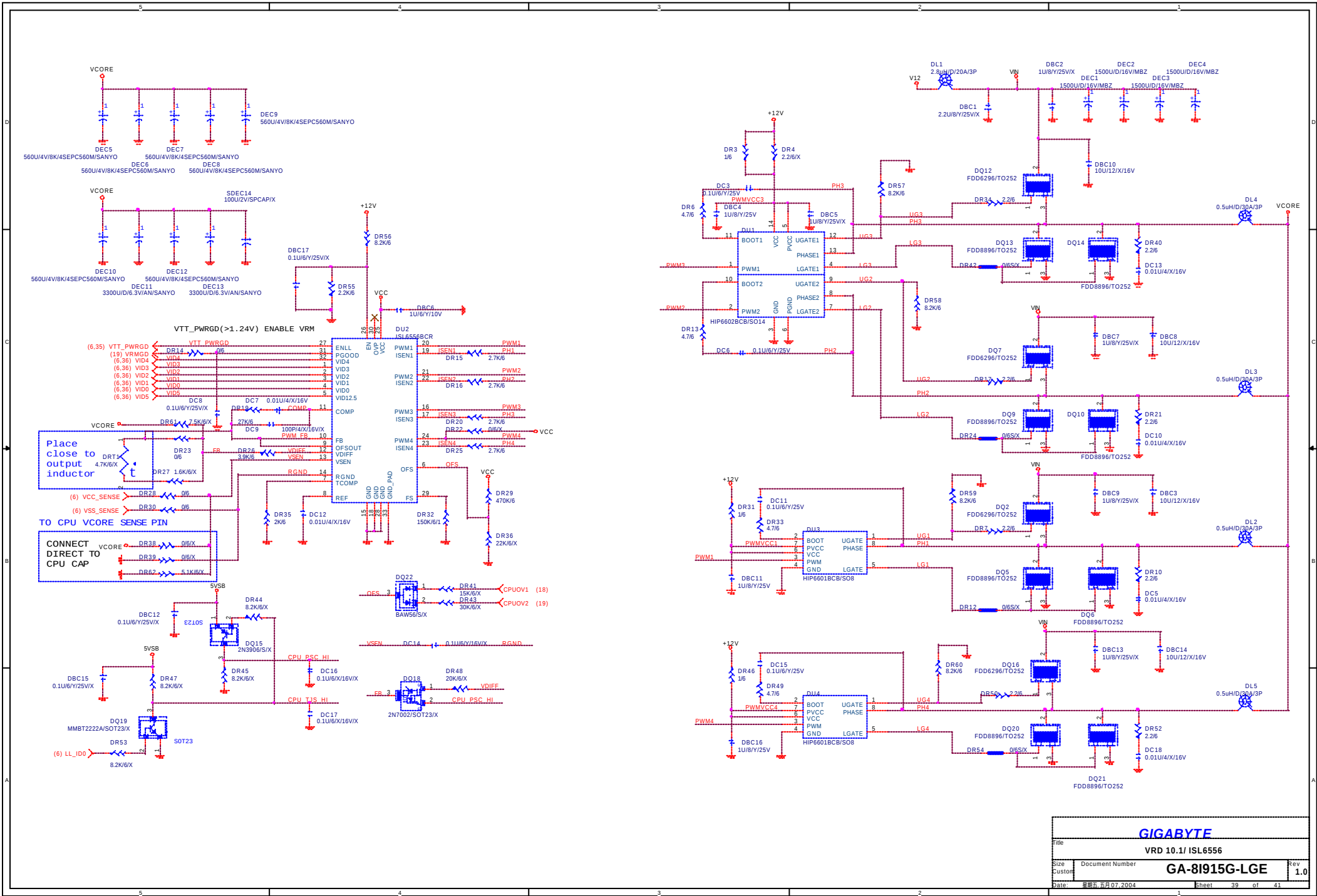


(36) PD[0..7] ↔ PD[0..7]

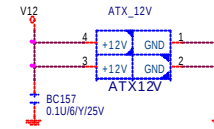
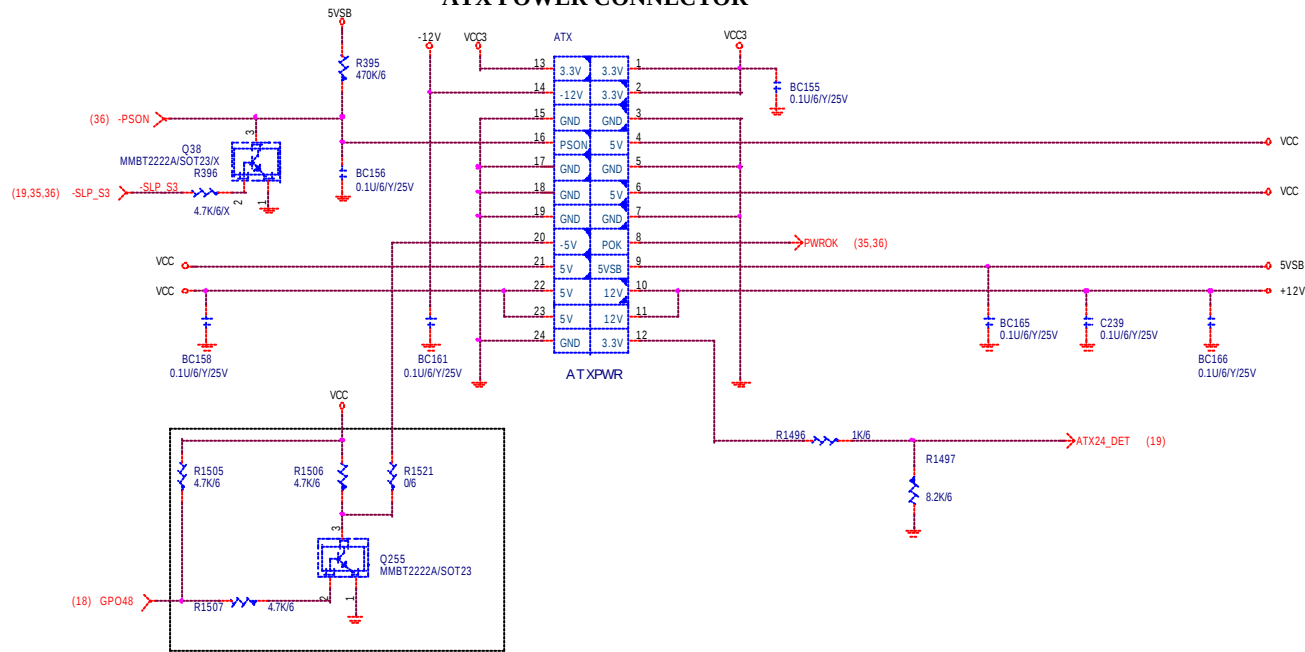


GIGABYTE			
COM & LPT PORT			
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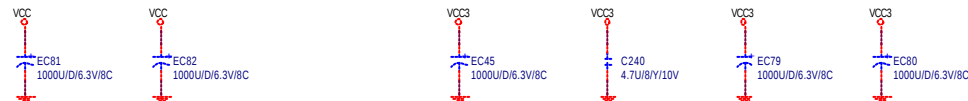




ATX POWER CONNECTOR



For LG only



GIGABYTE

Title		
ATX POWER CONNECTOR		
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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 ID
GPI1	V5REF	-REQ5	GP048	VCC3	-GNT4
GPI2	V5REF	-PIRQE	GP049	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			
GP016	VCC3	CPU_0V1 (-GNT6)			
GP017	VCC3	-GNT5			
GP018	VCC3	CPU_0V2			
GP019	VCC3	DUAL BIOS			
GP020	VCC3	BIOS_T-BLOCK			
GP021	VCC3	DUAL BIOS			
GP023	VCC3	DDR_0V0			
GPI024	3VDAUL	GREEN_LED			
GPI025	3VDAUL	DDR_0V1			
GPI26	VCC3	SATA_GP0			
GPI027	3VDAUL	+PWRLED			
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			
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	-IDERST	Reserved For IDE
PIN63/PWROK1	PWROK1	1. GMCH 2. ICH6 3. 5VDUAL SWITCH 4. DPS CONTROL
PIN109/PWROK2	-THERM	1. ICH6