

# Model Name: 8I915PL-G REV2.0

## SHEET TITLE

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02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4_LGA775_A
05	P4_LGA775_B
06	P4_LGA775_C
07	P4_LGA775_D
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10	GMCH-GARNTSDALE_DDR
11	GMCH-GRANTSDALE_PCI E, DMI
12	GMCH-GRANTSDALE_INT VGA
13	GMCH-GRANTSDALE_GND
14	GMCH-GRANTSDALE_PWR
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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

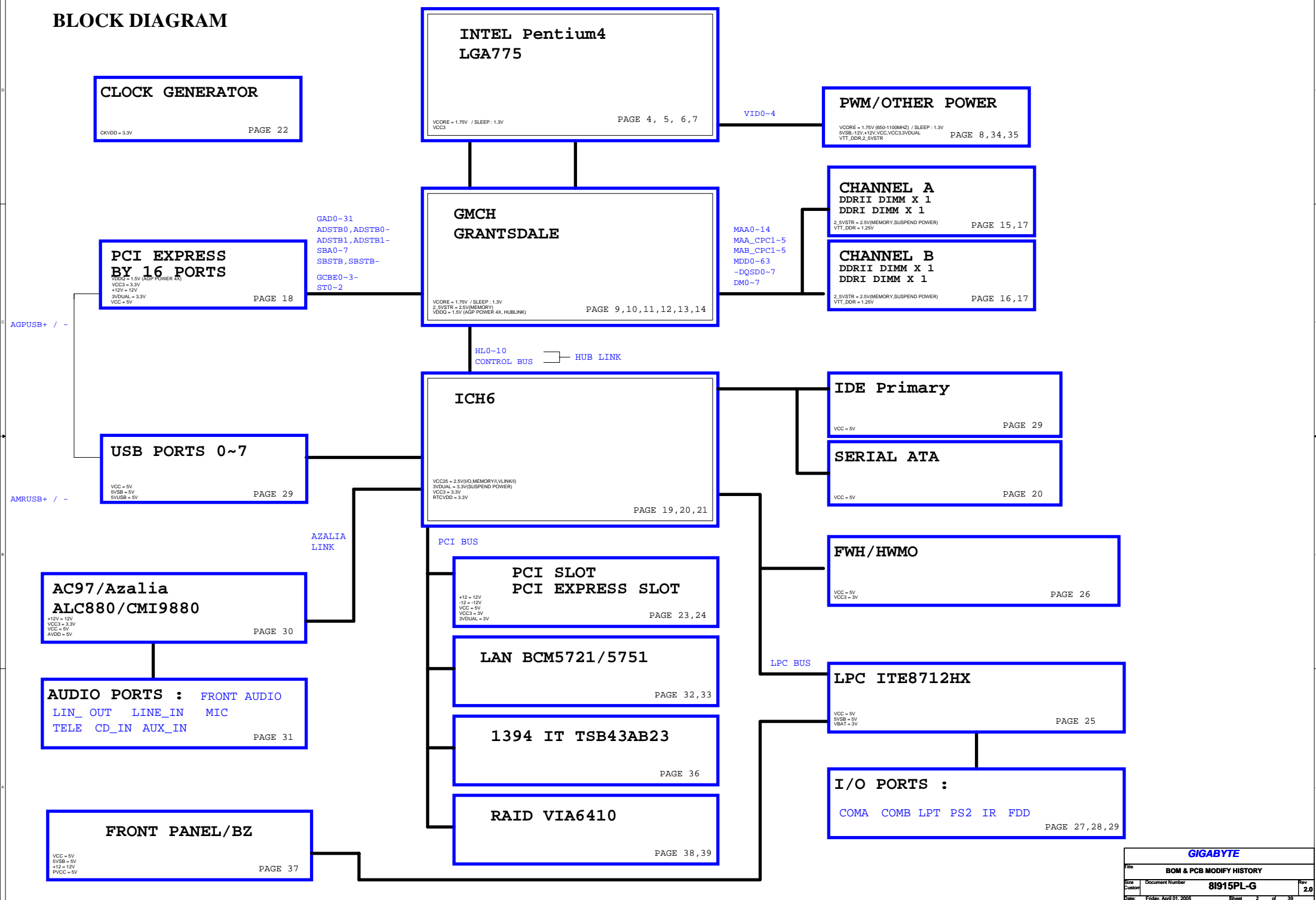
## SHEET TITLE

23	PCI SLOT
24	PCI EXPRESS*1 SLOT
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 BCM5705E/5751
33	LAN BCM5751
34	ATX POWER CONN.
35	ALL POWER
36	1394 TSB43AB23
37	FRONT PANEL/BZ
38	RAID VIA6410
39	RAID IDE CONNECTOR
40	GPIO TABLE
41	RESET TABLE

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

<b>GIGABYTE</b>		
Title		
Cover Sheet		
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## BLOCK DIAGRAM



**Version: 2.0**

## Component value change history

2004/11/22

[illegible]

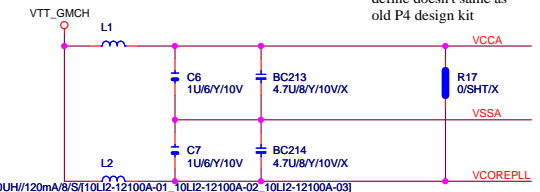
Circuit or PCB layout change  
for next version

[illegible]

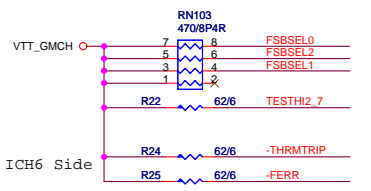
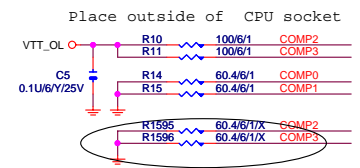
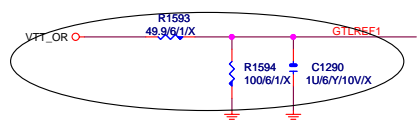
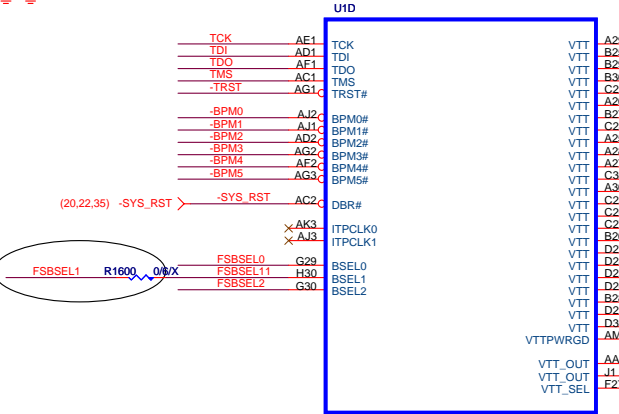
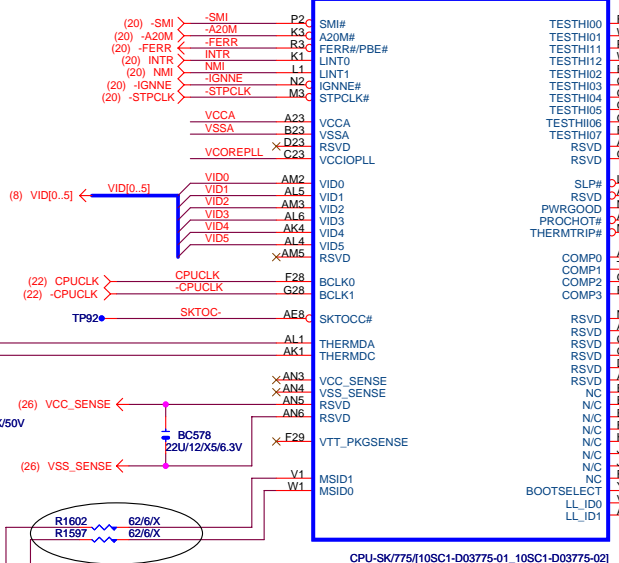
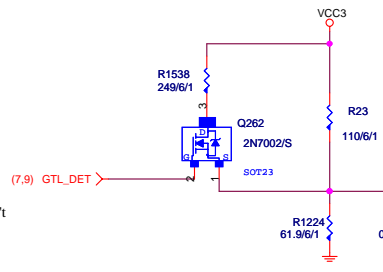
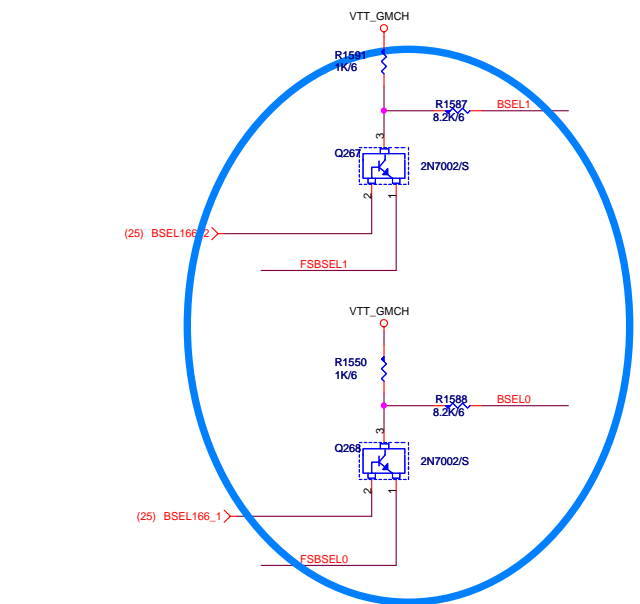
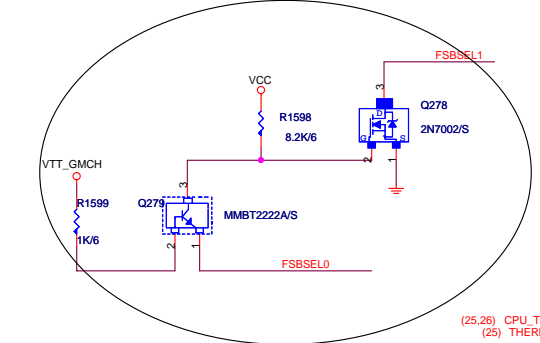


10UH/120mA/8/S/[10LJ2-12100A-01\_10LJ2-12100A-02\_10LJ2-12100A-03]

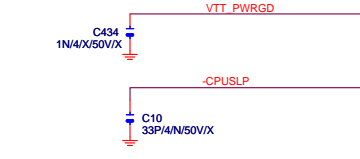
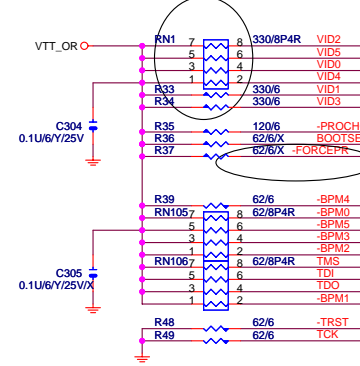
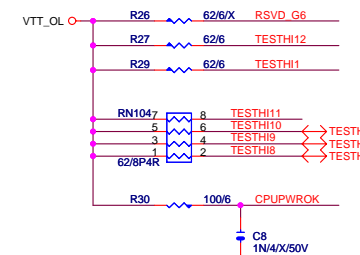
**Note:**  
VCCA & VCOREPLL  
define doesn't same as  
old P4 design kit



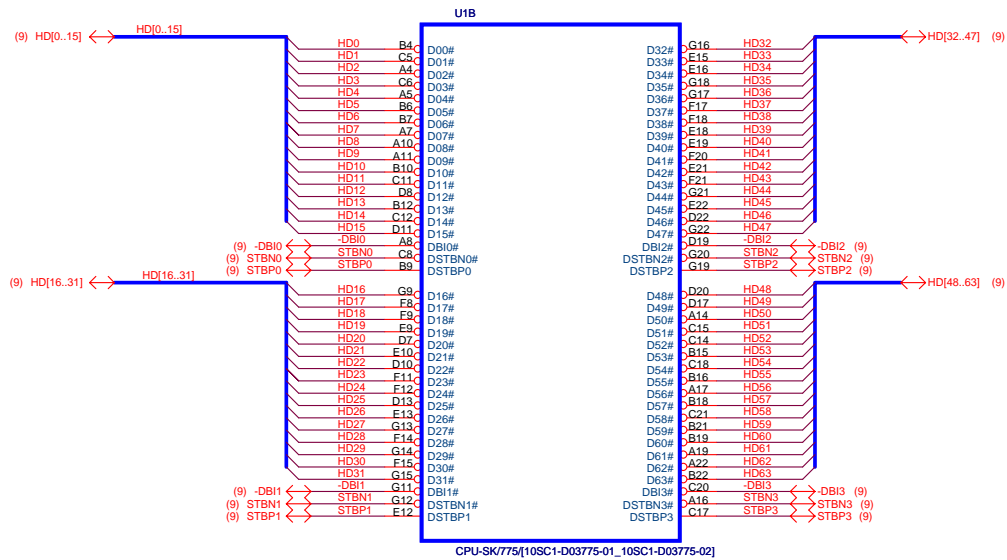
As close as possible to  
CPU socket



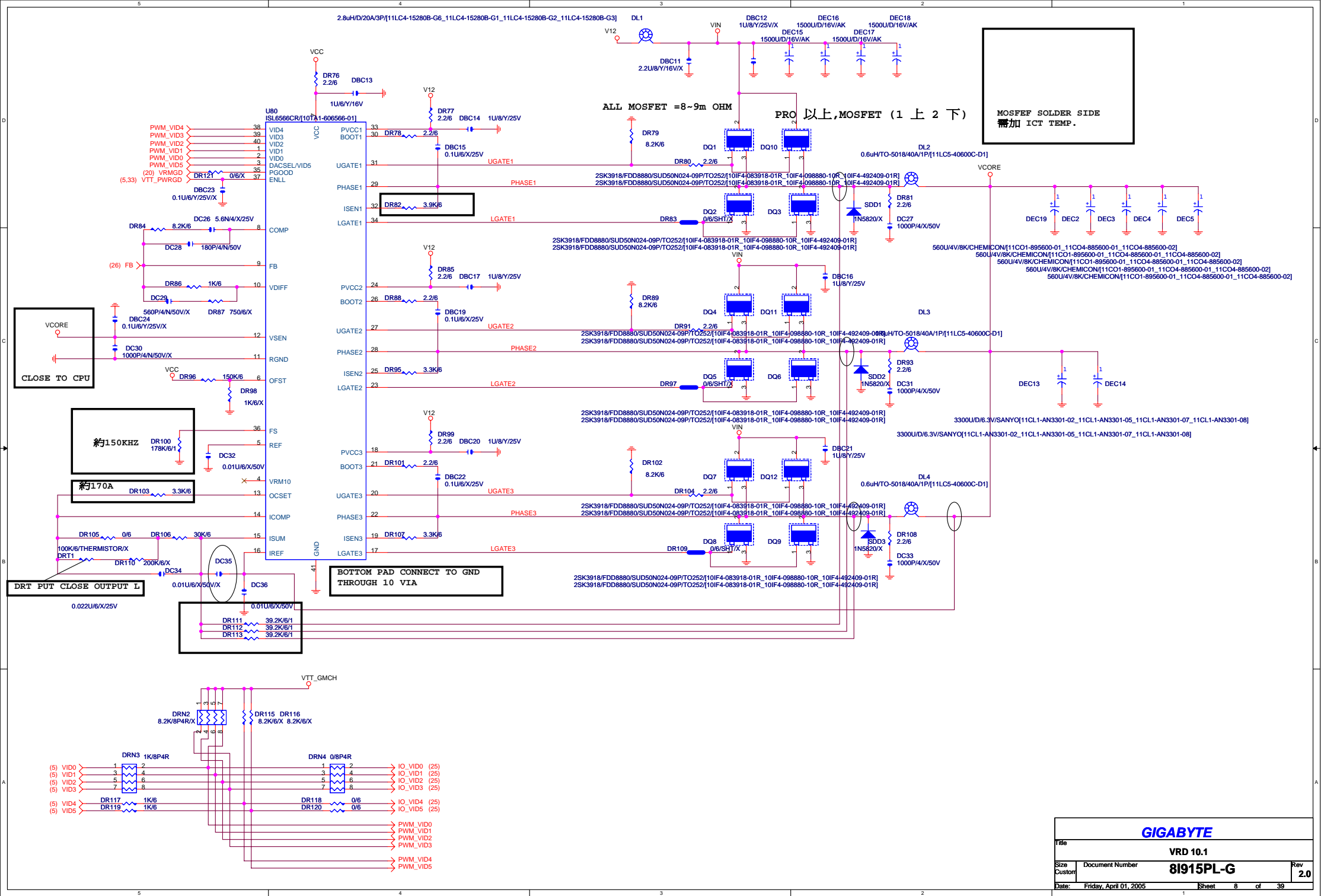
Locate at ICH6 Side



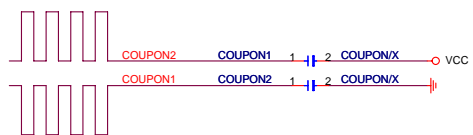
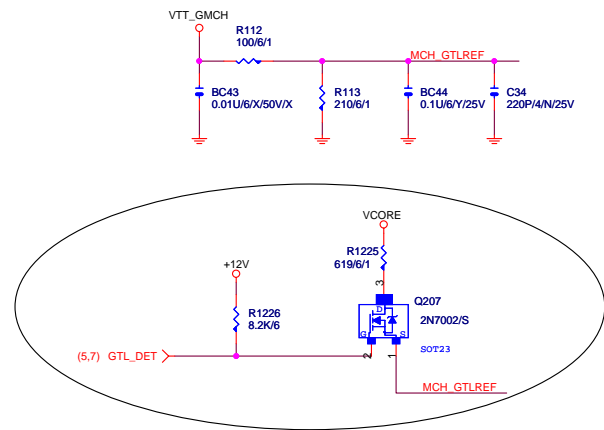
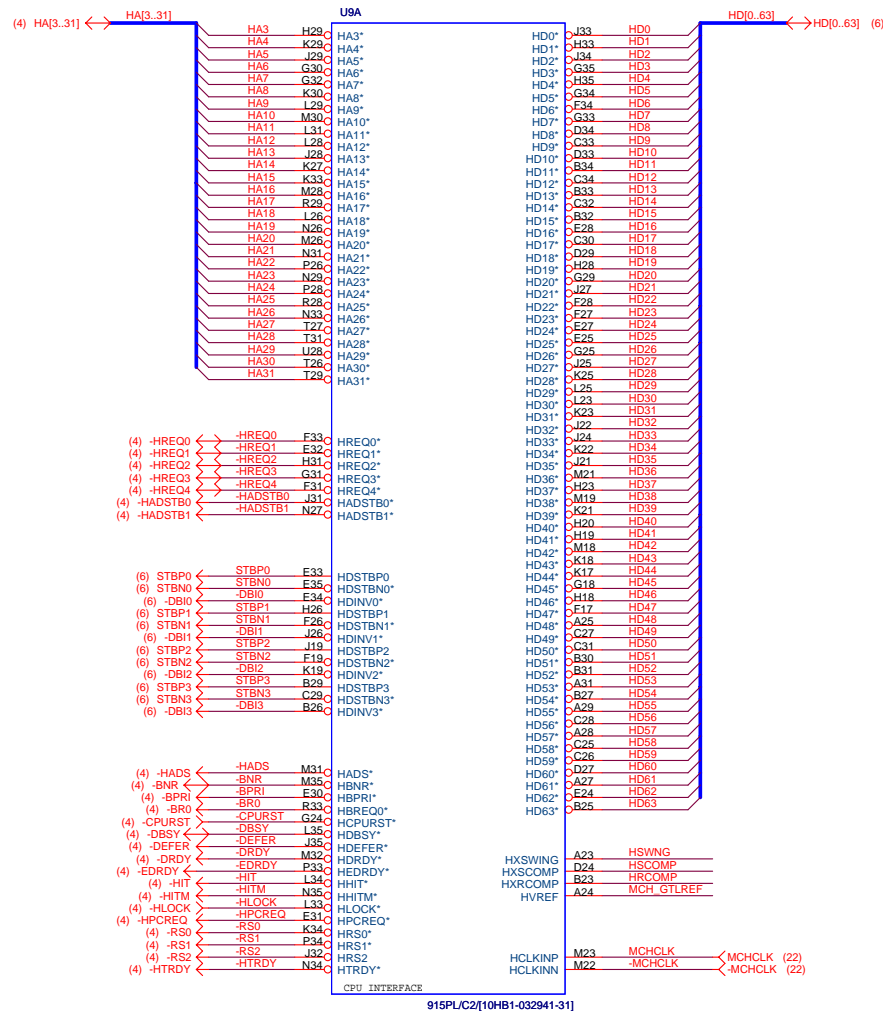
<b>GIGABYTE</b>			
<b>P4_LGA775-B</b>			
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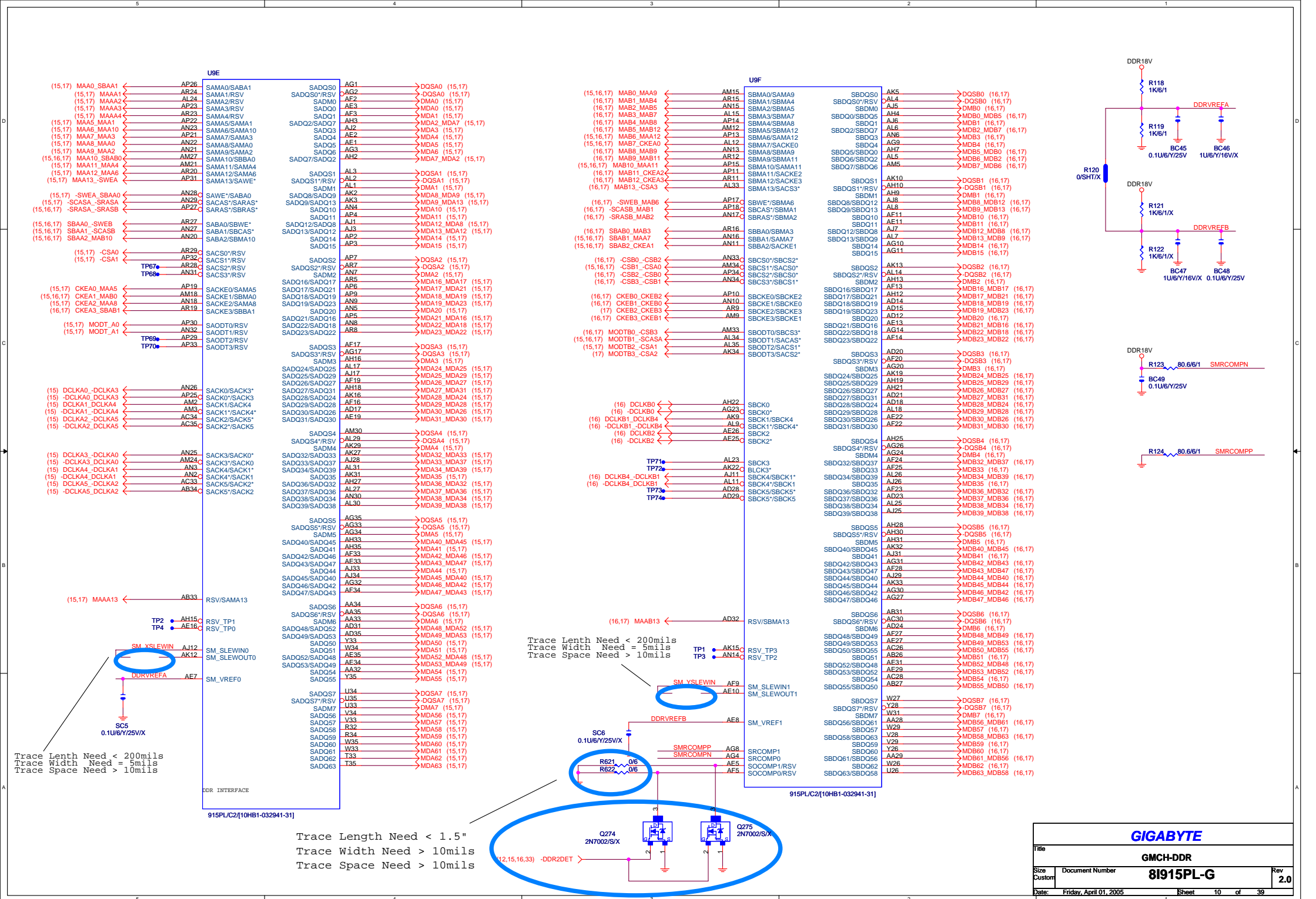


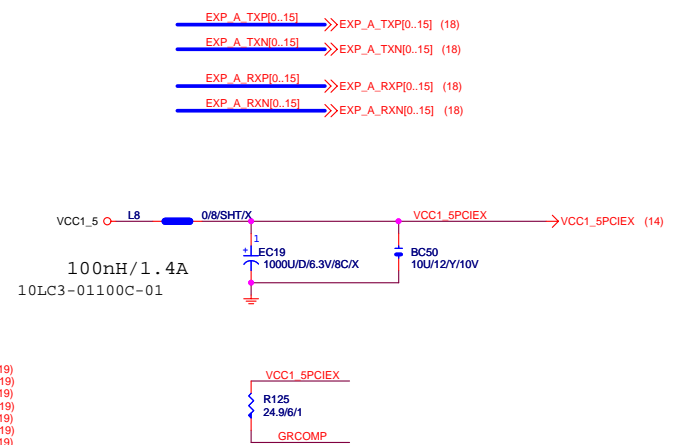


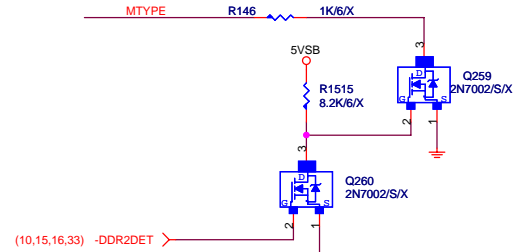
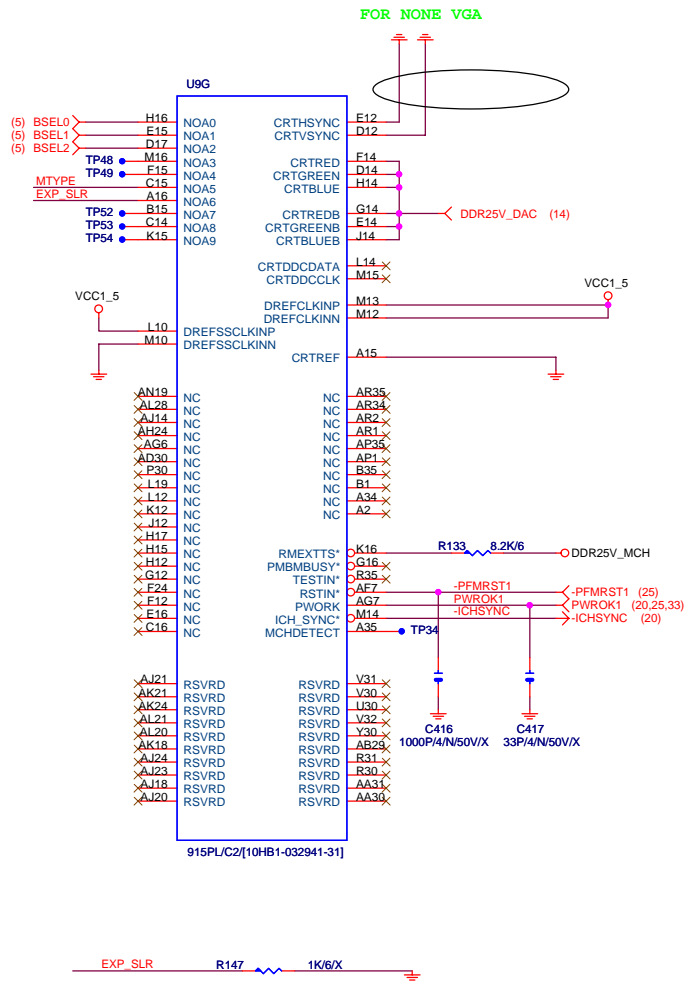




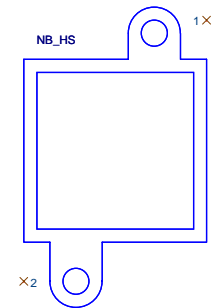






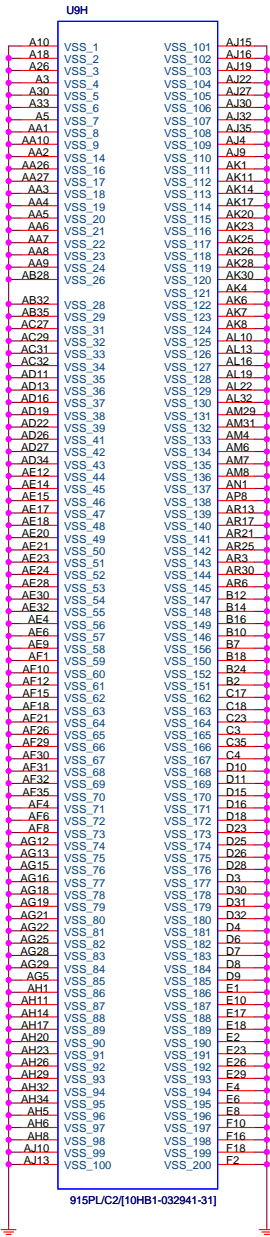


When -DDR2DET=0, MTYP --> 0  
When -DDR2DET=1, MTYP --> 1

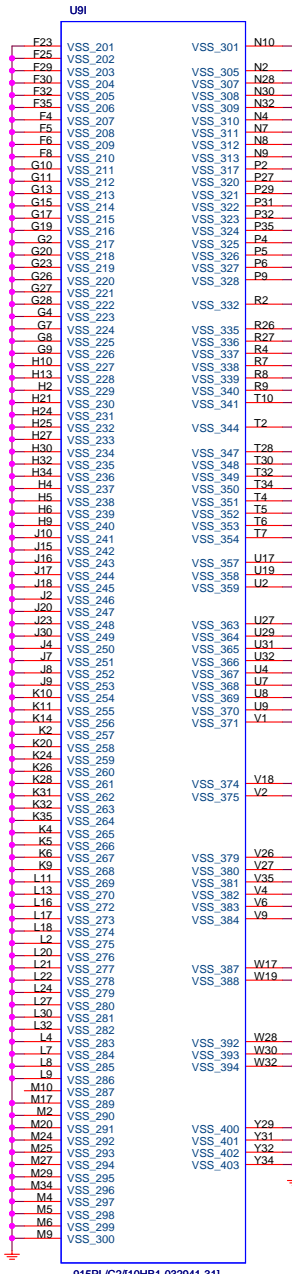


NEW\_HS[12SP2-04E003-01\_12SP2-04E003-02\_12SP2-04E003-03]

GIGABYTE			
Title			
GMCH-INTERNAL VGA			
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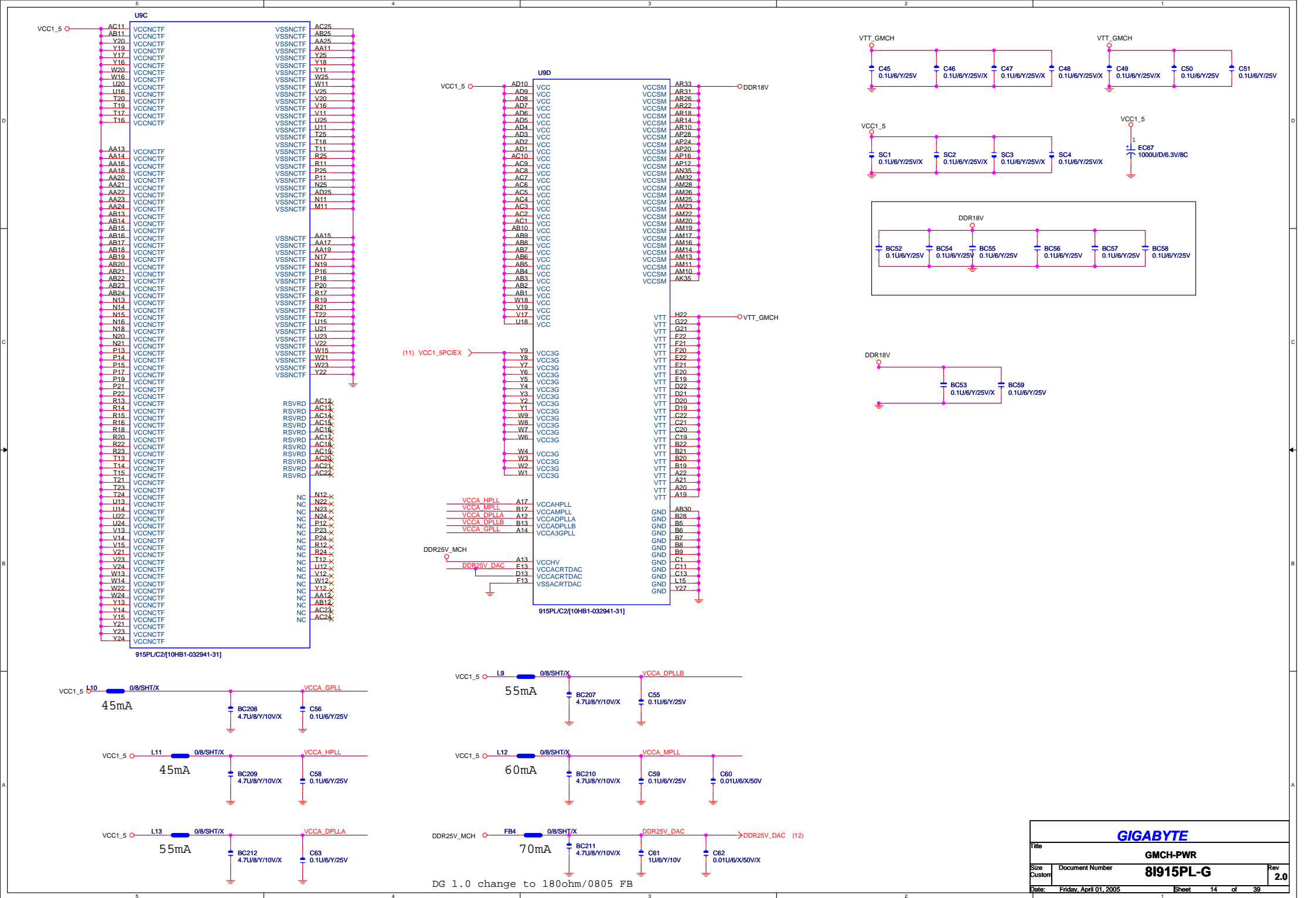


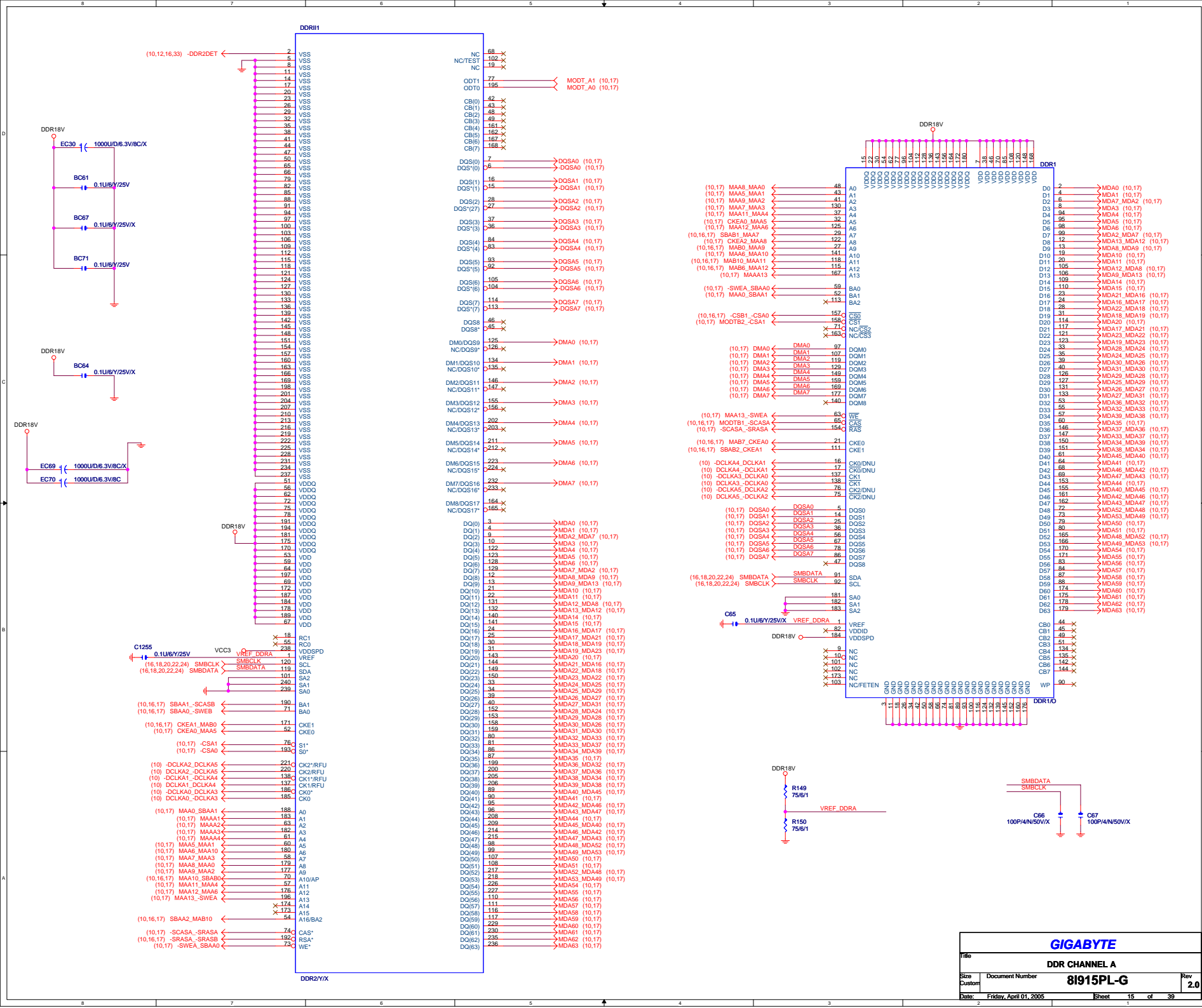
915PL/C2[10HB1-032941-31]



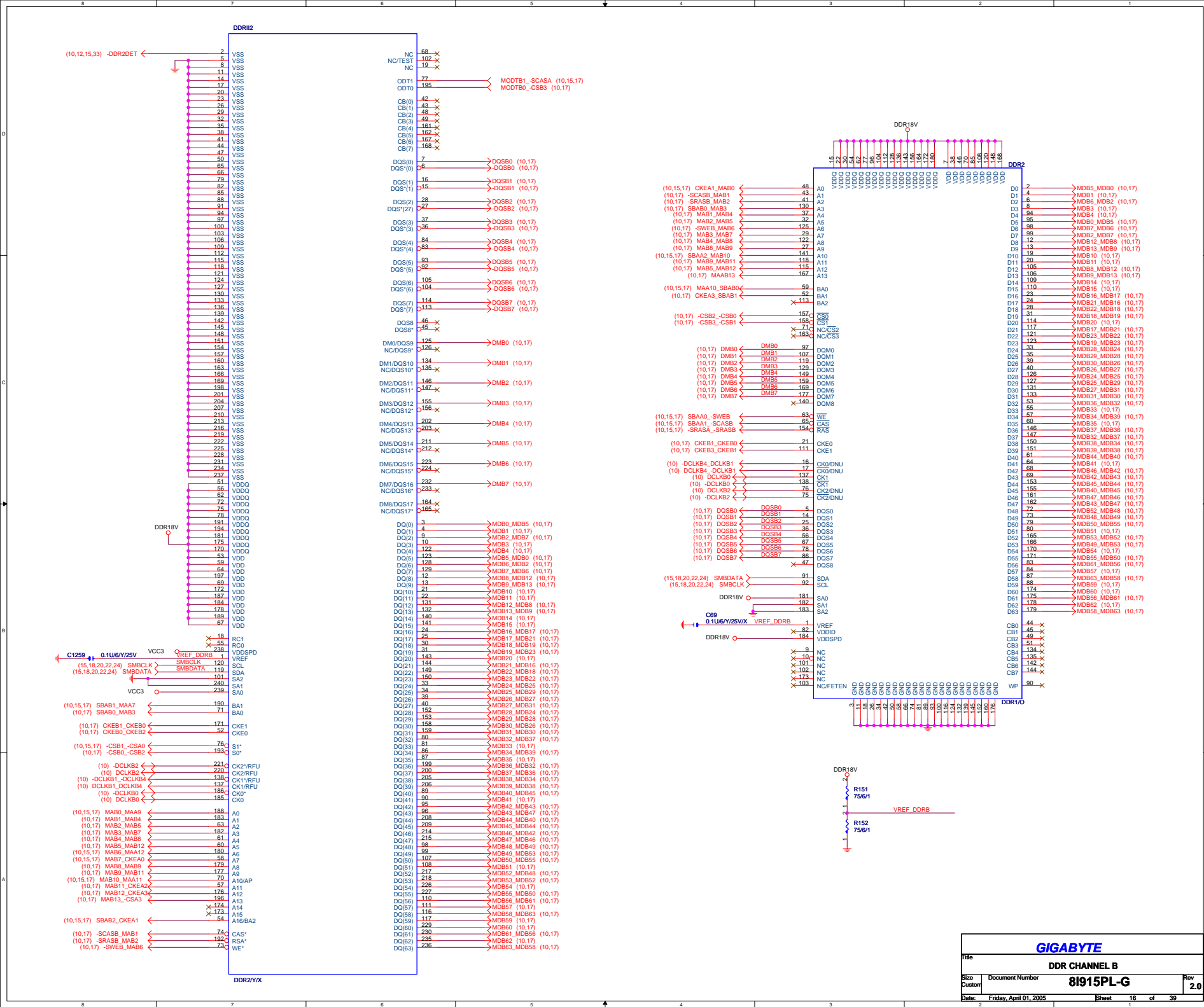
915PL/C2[10HB1-032941-31]

<b>GIGABYTE</b>		
Title		
GMCH-GND		
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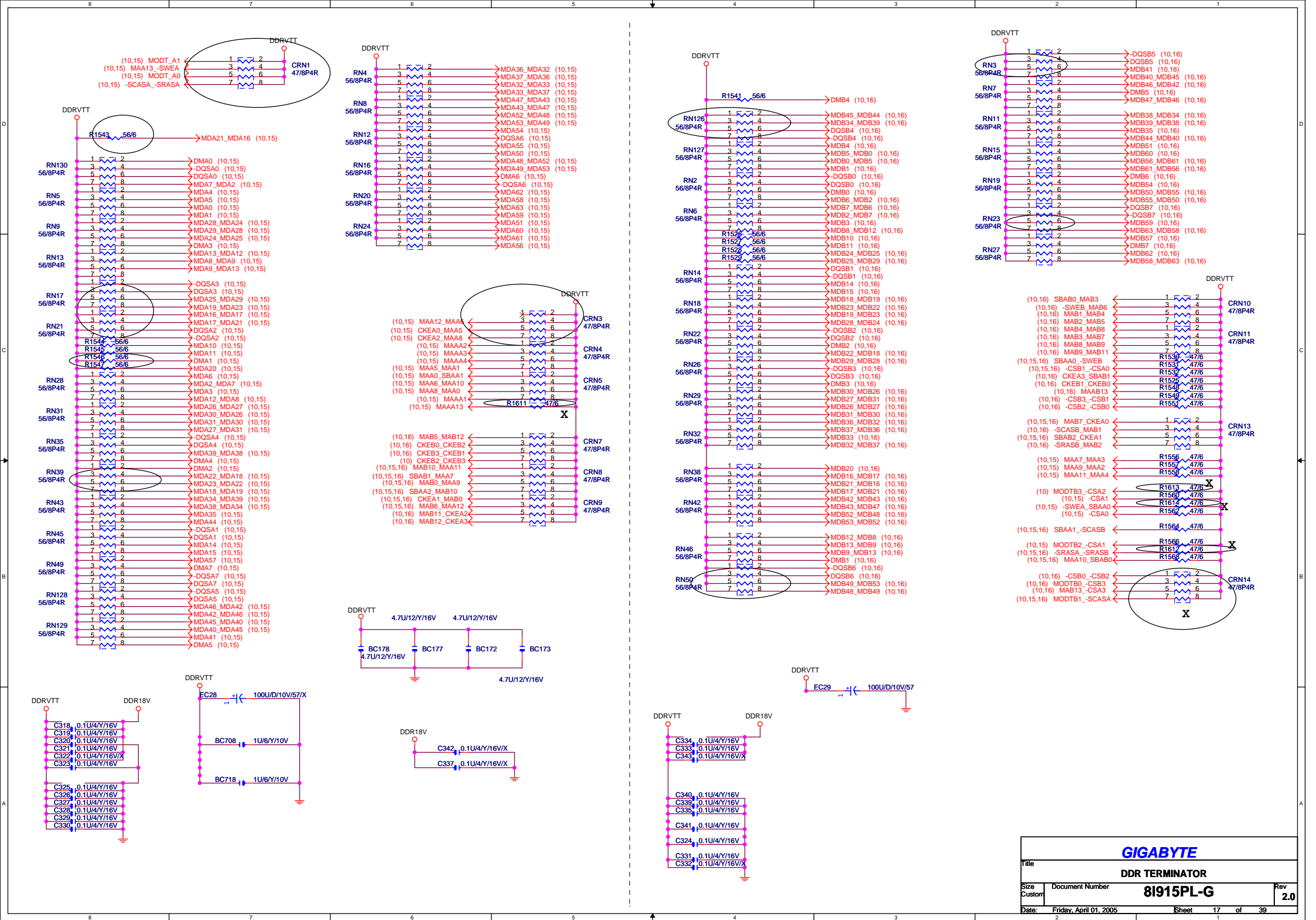


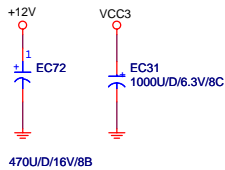








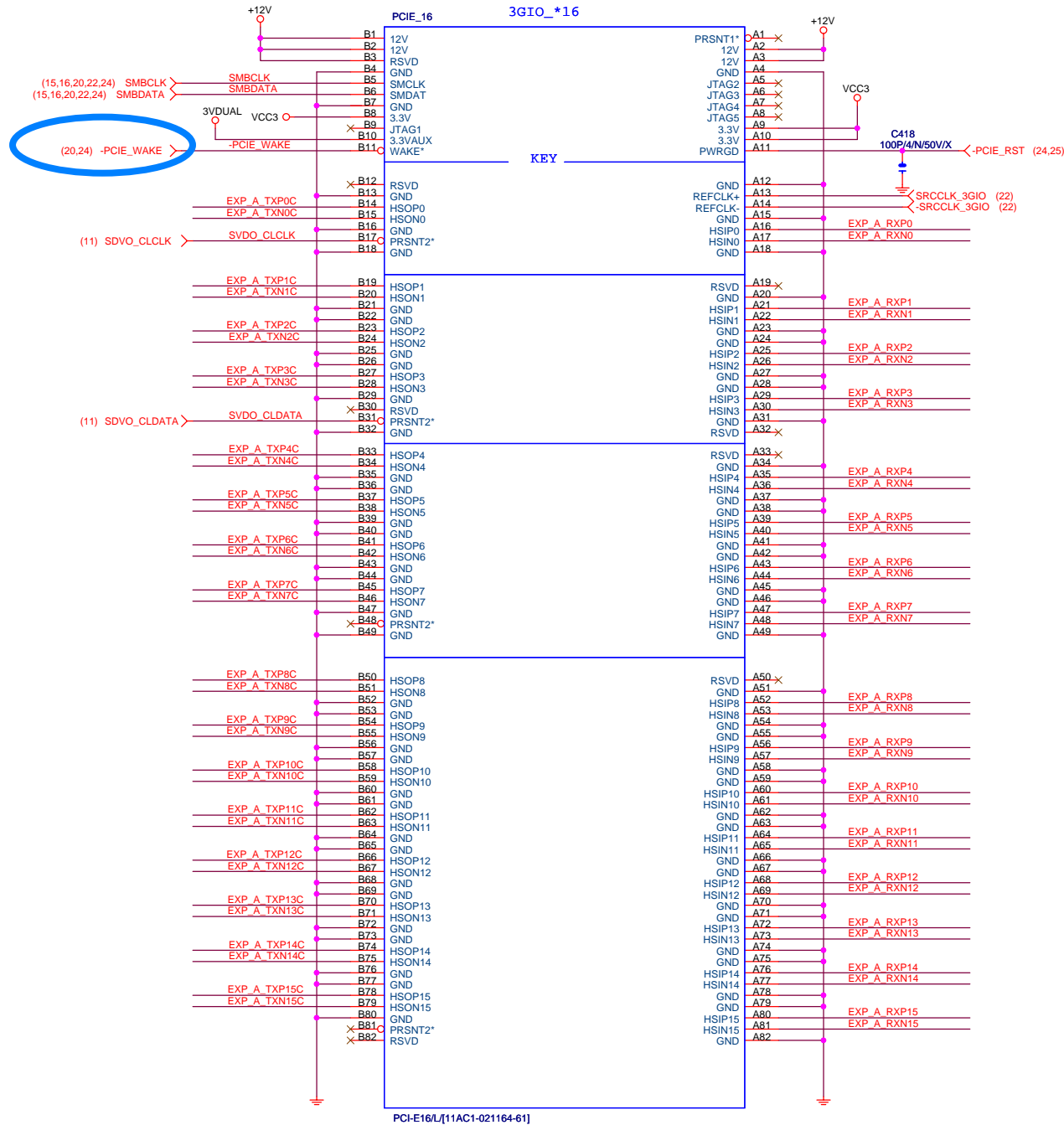


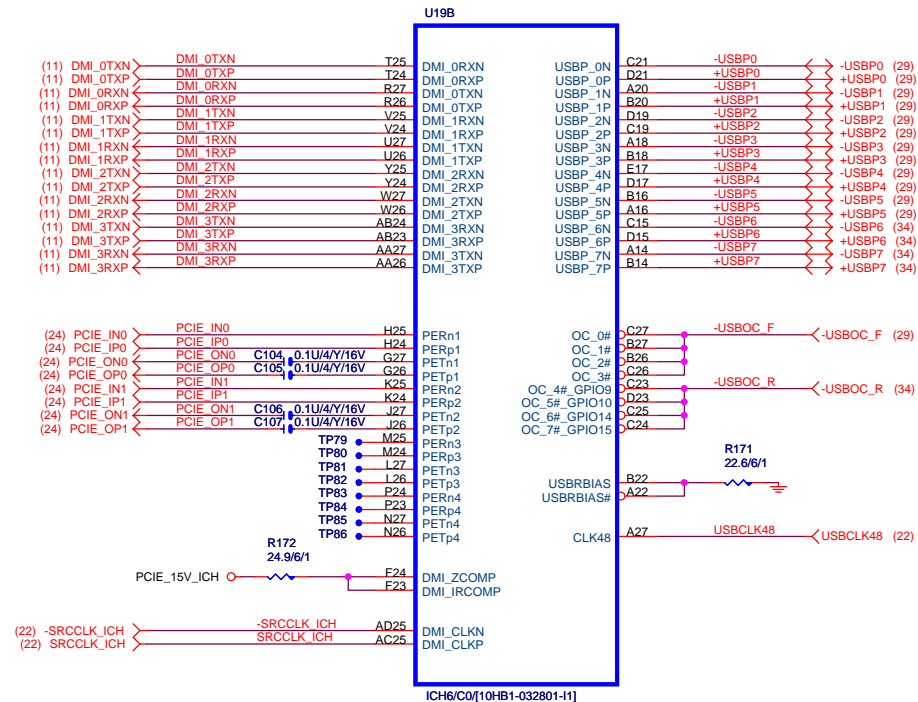
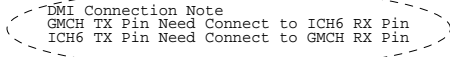


EXP A RXP[0..15] >> EXP\_A\_RXP[0..15] (11)  
EXP A RXN[0..15] >> EXP\_A\_RXN[0..15] (11)

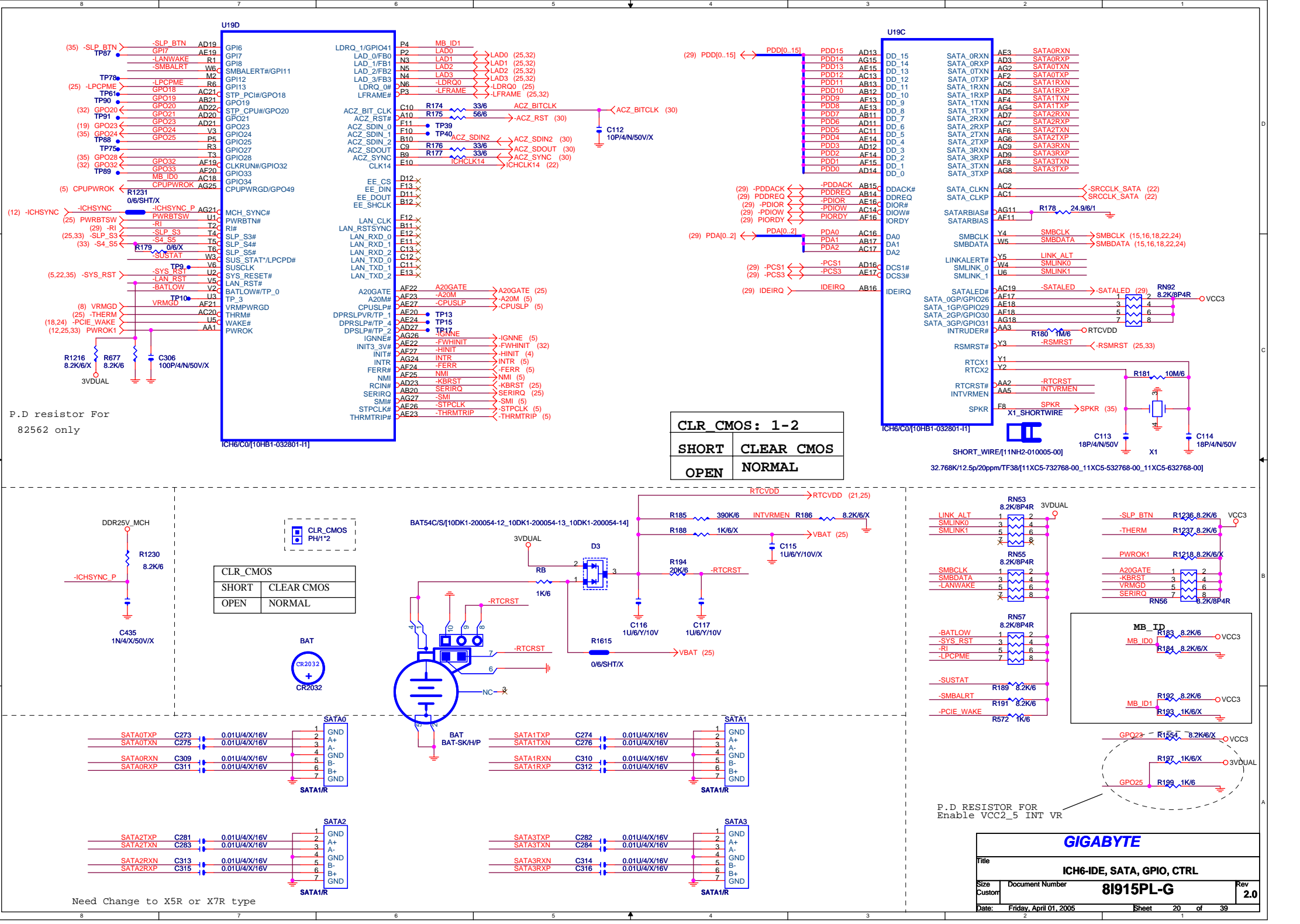
EXP A TXP[0..15] >> EXP\_A\_TXP[0..15] (11)  
EXP A TXN[0..15] >> EXP\_A\_TXN[0..15] (11)

EXP A TXP0	C70	0.1U/6/Y/25V	EXP A TXP0C
EXP A TXN0	C71	0.1U/6/Y/25V	EXP A TXN0C
EXP A TXP1	C72	0.1U/6/Y/25V	EXP A TXP1C
EXP A TXN1	C73	0.1U/6/Y/25V	EXP A TXN1C
EXP A TXP2	C74	0.1U/6/Y/25V	EXP A TXP2C
EXP A TXN2	C75	0.1U/6/Y/25V	EXP A TXN2C
EXP A TXP3	C76	0.1U/6/Y/25V	EXP A TXP3C
EXP A TXN3	C77	0.1U/6/Y/25V	EXP A TXN3C
EXP A TXP4	C78	0.1U/6/Y/25V	EXP A TXP4C
EXP A TXN4	C79	0.1U/6/Y/25V	EXP A TXN4C
EXP A TXP5	C80	0.1U/6/Y/25V	EXP A TXP5C
EXP A TXN5	C81	0.1U/6/Y/25V	EXP A TXN5C
EXP A TXP6	C82	0.1U/6/Y/25V	EXP A TXP6C
EXP A TXN6	C83	0.1U/6/Y/25V	EXP A TXN6C
EXP A TXP7	C84	0.1U/6/Y/25V	EXP A TXP7C
EXP A TXN7	C85	0.1U/6/Y/25V	EXP A TXN7C
EXP A TXP8	C86	0.1U/6/Y/25V	EXP A TXP8C
EXP A TXN8	C87	0.1U/6/Y/25V	EXP A TXN8C
EXP A TXP9	C88	0.1U/6/Y/25V	EXP A TXP9C
EXP A TXN9	C89	0.1U/6/Y/25V	EXP A TXN9C
EXP A TXP10	C90	0.1U/6/Y/25V	EXP A TXP10C
EXP A TXN10	C91	0.1U/6/Y/25V	EXP A TXN10C
EXP A TXP11	C92	0.1U/6/Y/25V	EXP A TXP11C
EXP A TXN11	C93	0.1U/6/Y/25V	EXP A TXN11C
EXP A TXP12	C94	0.1U/6/Y/25V	EXP A TXP12C
EXP A TXN12	C95	0.1U/6/Y/25V	EXP A TXN12C
EXP A TXP13	C96	0.1U/6/Y/25V	EXP A TXP13C
EXP A TXN13	C97	0.1U/6/Y/25V	EXP A TXN13C
EXP A TXP14	C98	0.1U/6/Y/25V	EXP A TXP14C
EXP A TXN14	C99	0.1U/6/Y/25V	EXP A TXN14C
EXP A TXP15	C100	0.1U/6/Y/25V	EXP A TXP15C
EXP A TXN15	C101	0.1U/6/Y/25V	EXP A TXN15C

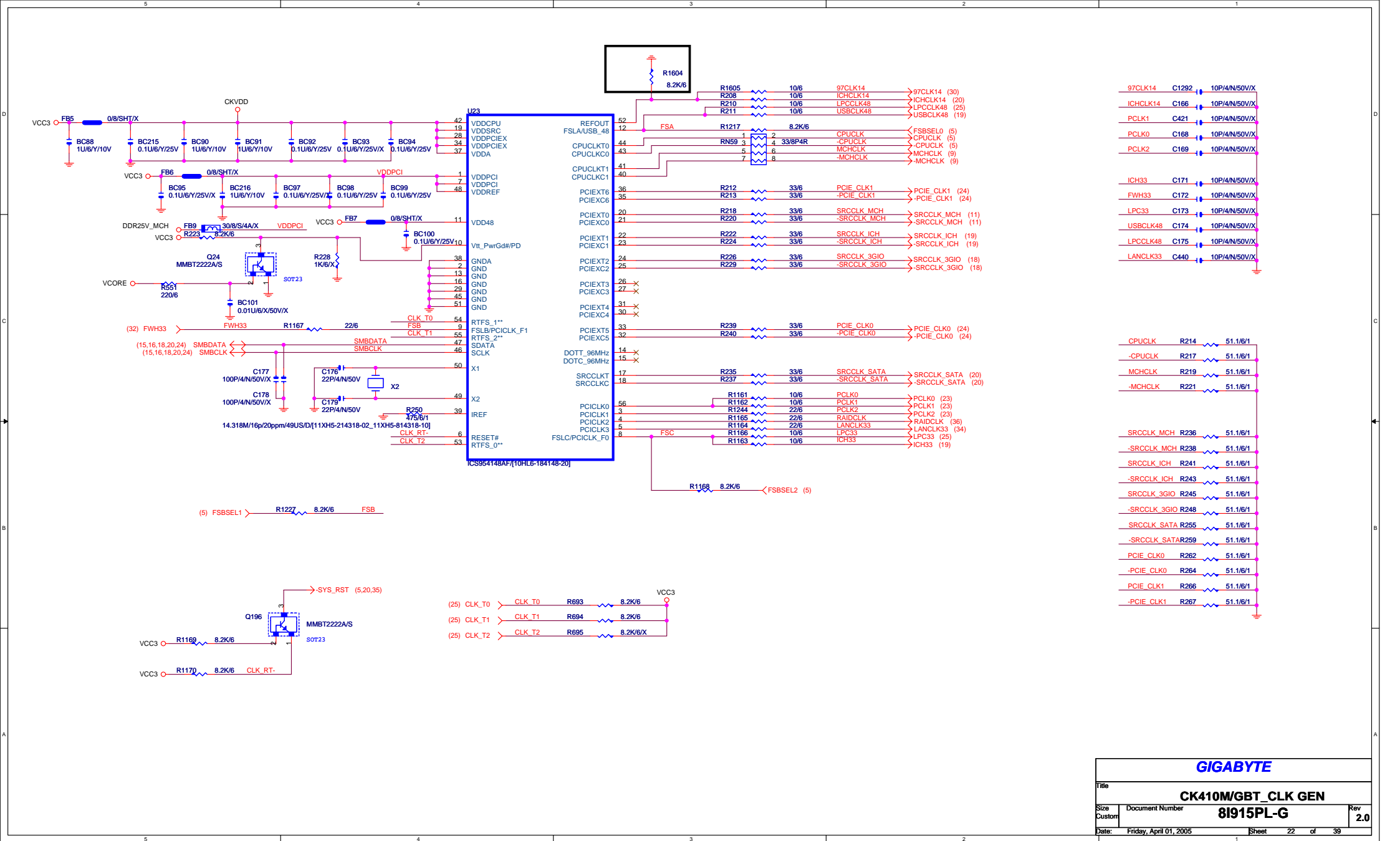




Title			
ICH6-PCI, DMI, LAN, USB			
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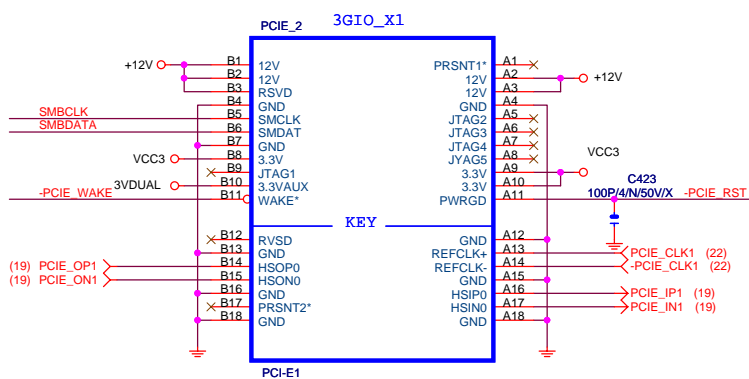
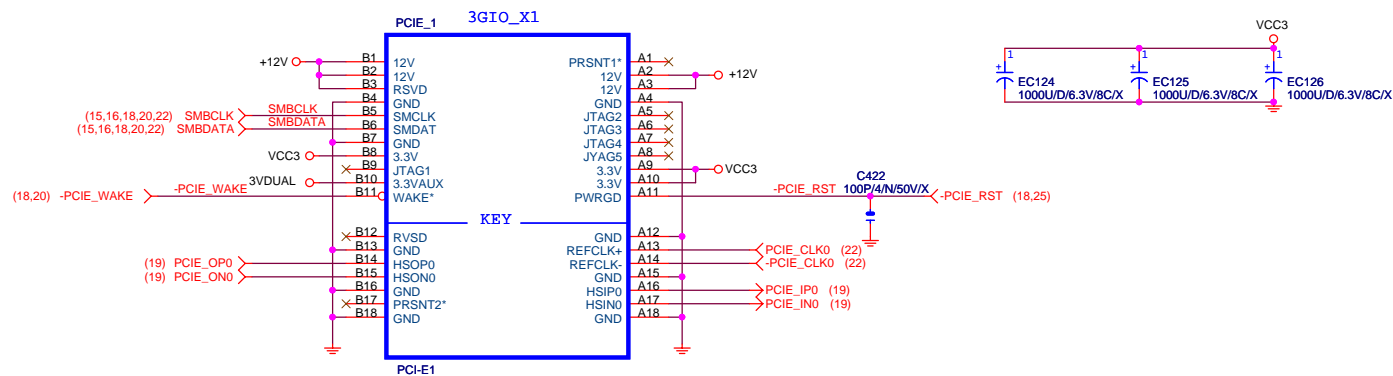




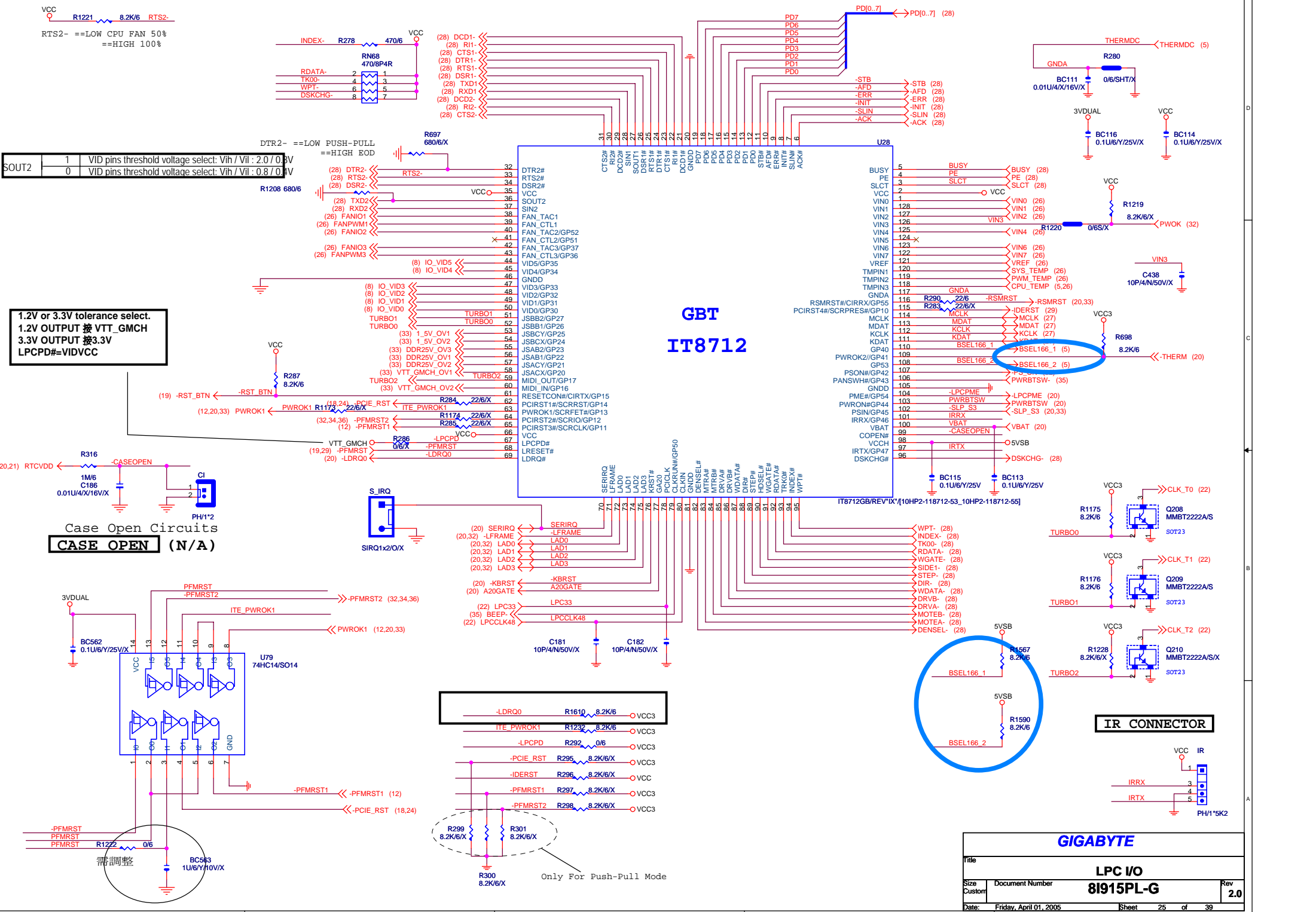








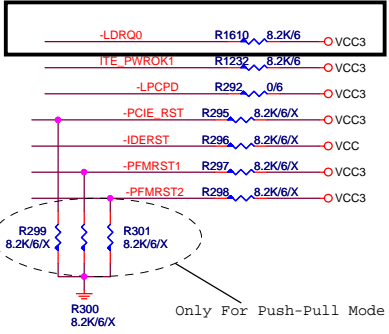
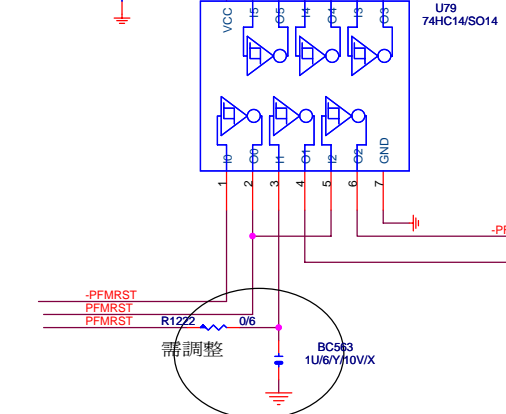




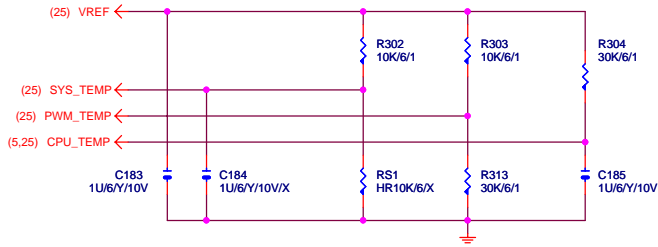
SOUT2	1	VID pins threshold voltage select: Vih / Vil : 2.0 / 0.8V
	0	VID pins threshold voltage select: Vih / Vil : 0.8 / 0.0V

1.2V or 3.3V tolerance select.  
1.2V OUTPUT 接 VTT\_GMCH  
3.3V OUTPUT 接 3.3V  
LPCPD# = VIDVCC

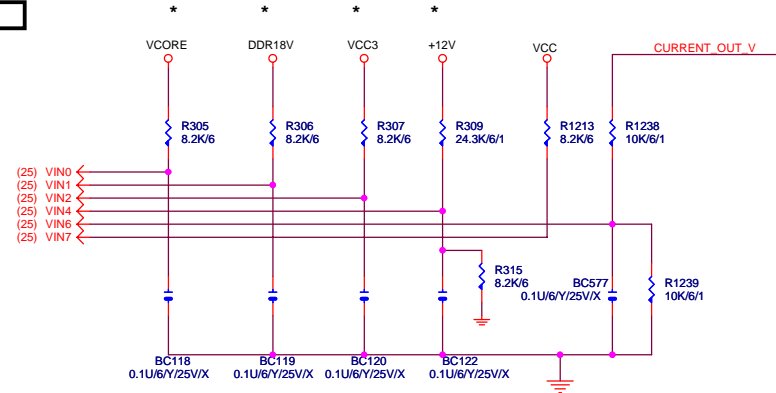
Case Open Circuits  
**CASE OPEN** (N/A)



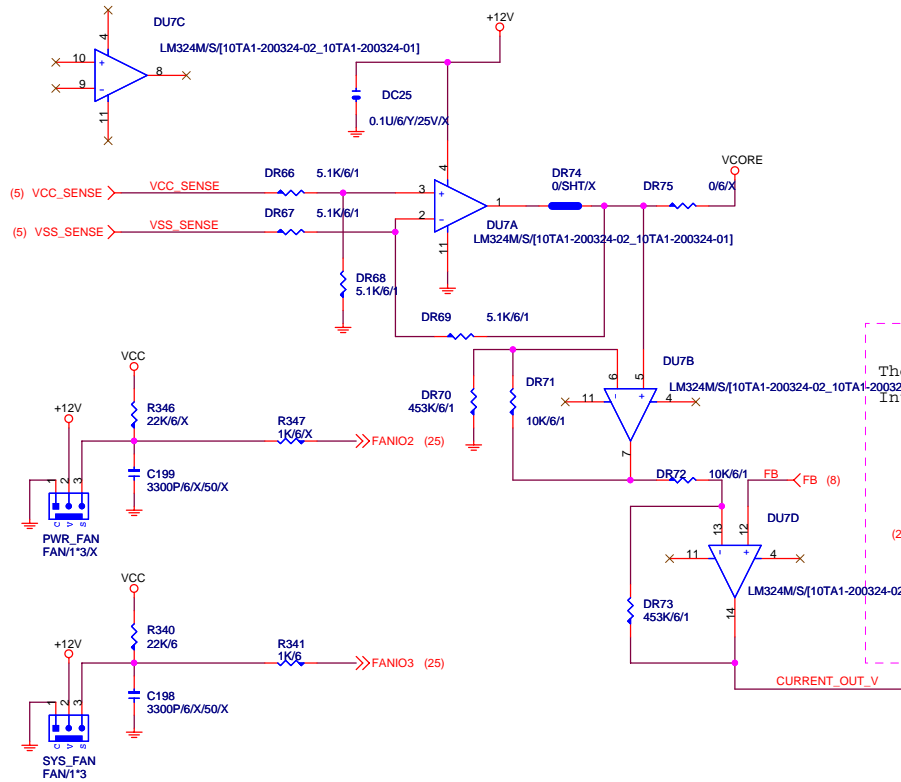
## TEMP. SENSE



## VOLTAGE SENSE



## DUAL POWER



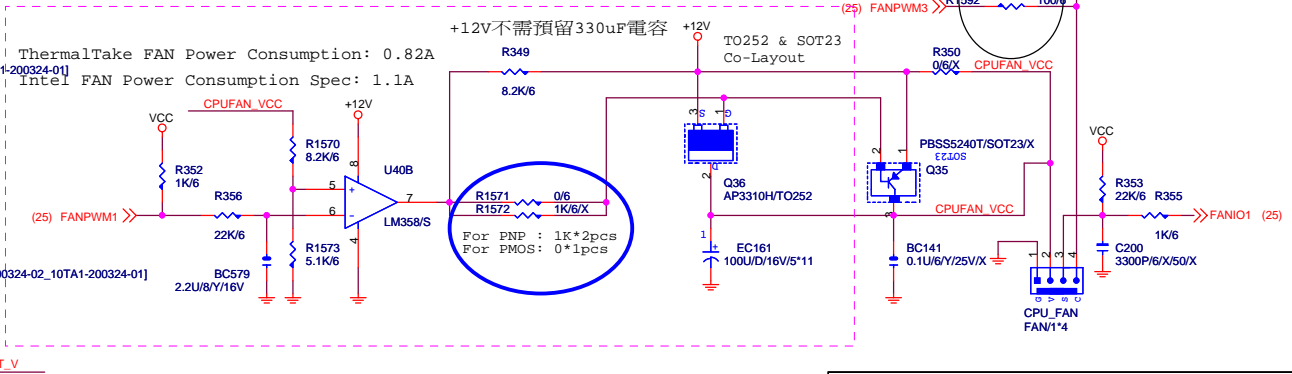
## CPU/SYS FAN

If use PBSS5240 lpcs : (non airflow)

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

If use PBSS5240 lpcs : (with airflow)

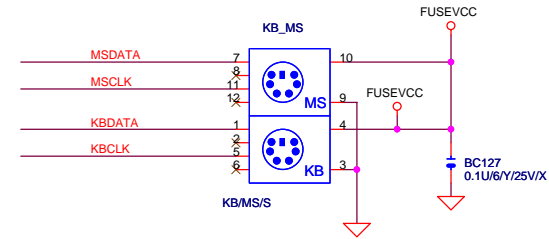
CPUFAN\_VCC=12V: Temp=33 deg  
 CPUFAN\_VCC=11V: Temp=62 deg  
 CPUFAN\_VCC=10V: Temp=86 deg  
 CPUFAN\_VCC= 9V: Temp=117 deg  
 CPUFAN\_VCC= 8V: Temp>122 deg



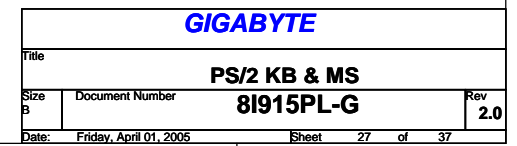
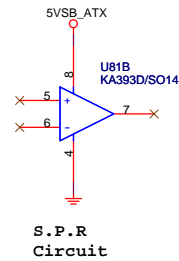
**GIGABYTE**

Title		
HWM/FAN/C/BIOS		
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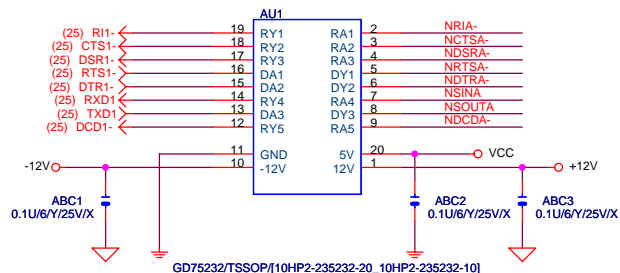
**KB/MS**



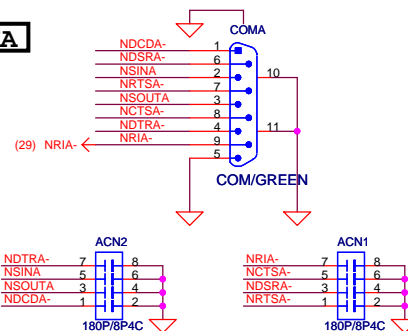
**S.P.P.**



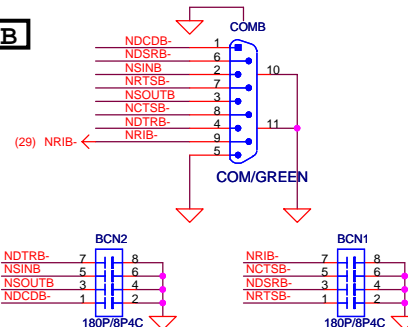
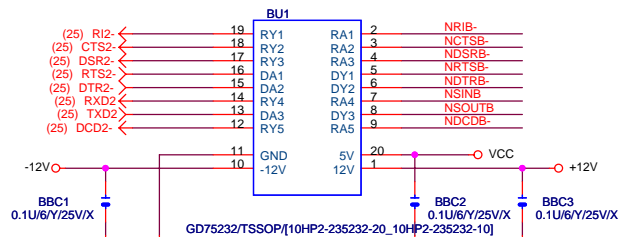
COMA/COMB



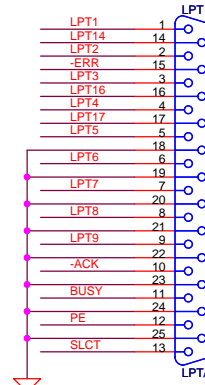
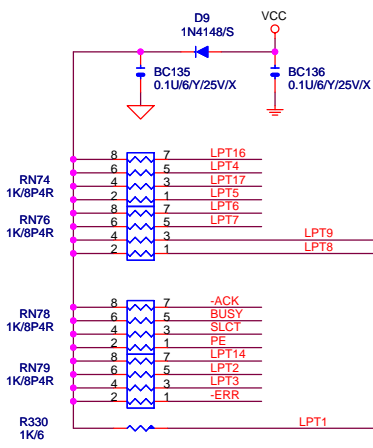
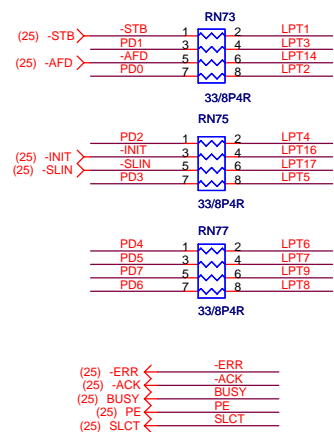
**COMA**



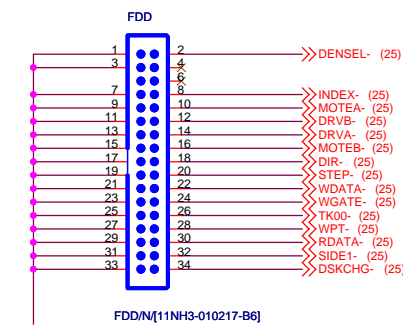
**COMB**



LPT



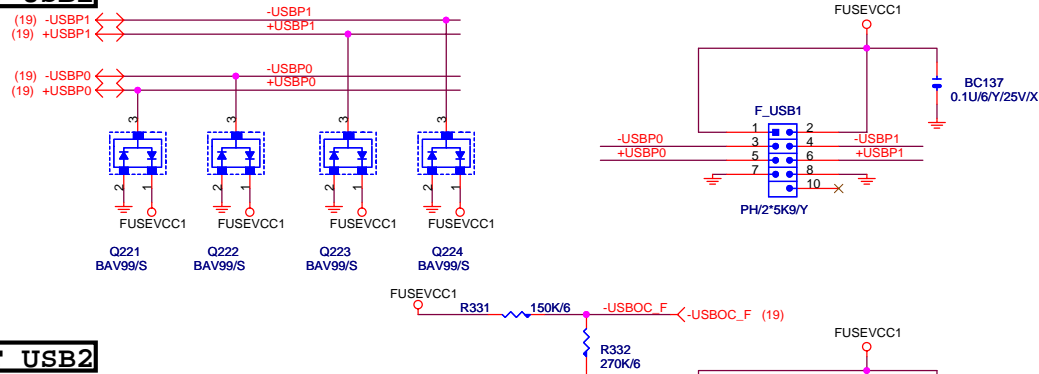
**FLOPPY**



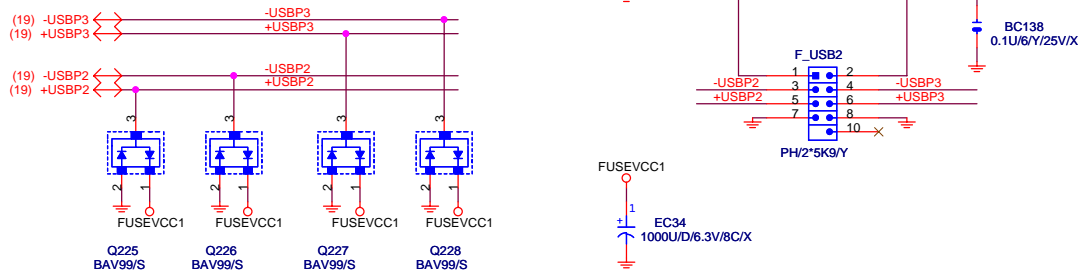
**GIGABYTE**

Title			
<b>COM, LPT, FDD</b>			
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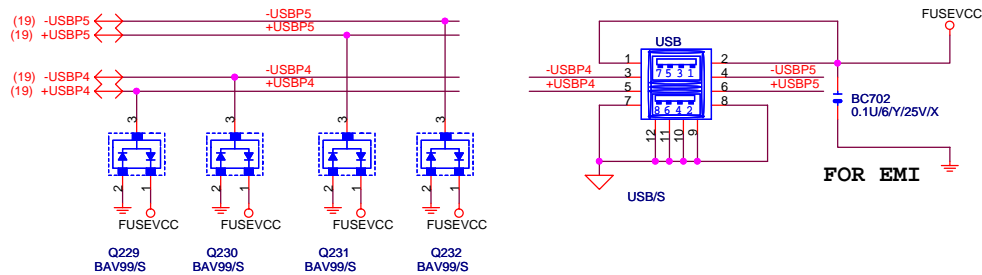
## FRONT USB1



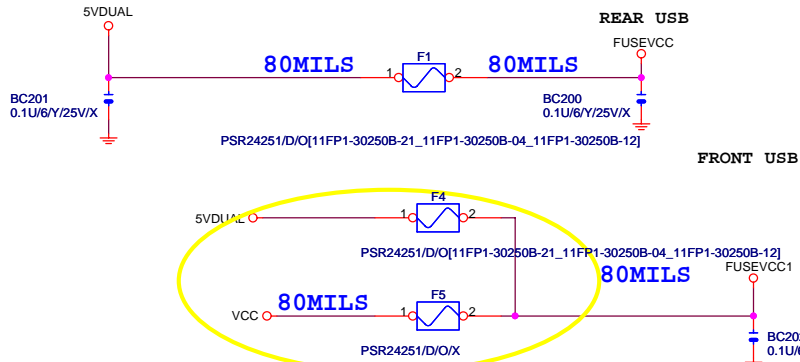
## FRONT USB2



## FUSEVCC, GAMEVCC

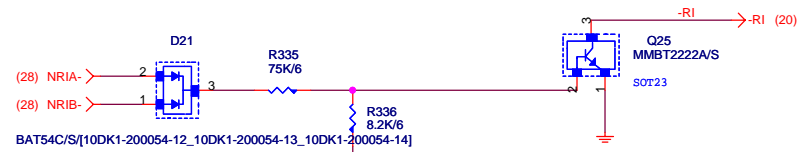


160MILS

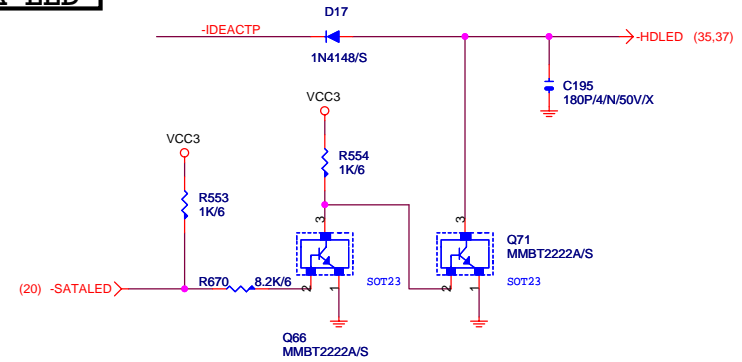


CH4

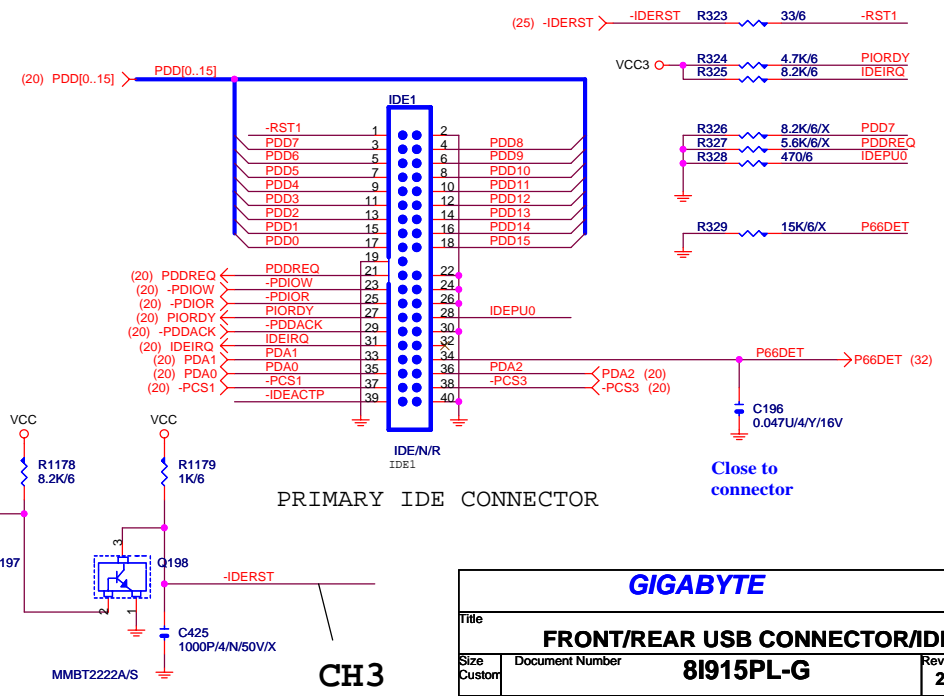
## RING IN



## IDE/SATA LED



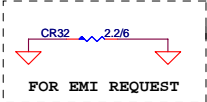
## IDE



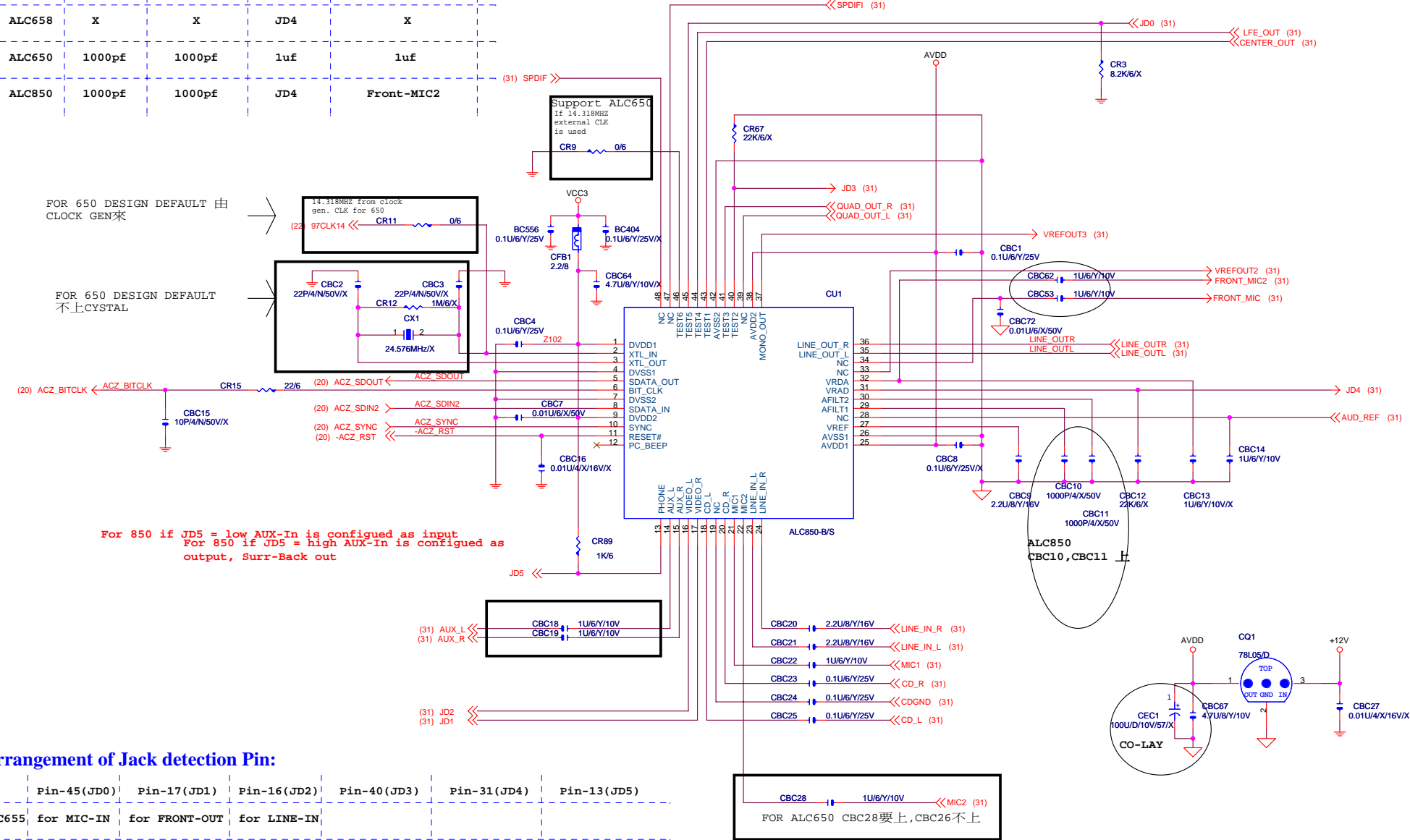
GIGABYTE			
FRONT/REAR USB CONNECTOR/IDE			
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Filter Cap design:

	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
ALC850	1000pf	1000pf	JD4	Front-MIC2



BETWEEN AUDIO1 & USB\_LAN IN COMPONENT SIDE



Arrangement of Jack detection Pin:

	Pin-45(JD0)	Pin-17(JD1)	Pin-16(JD2)	Pin-40(JD3)	Pin-31(JD4)	Pin-13(JD5)
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	External pull high is needed	
ALC850	for MIC-IN	for Front Pannel OUT	for Front Pannel IN	for FRONT-OUT	for LINE-IN	for SurrBack Out

For 850 if JD5 = low AUX-In is configured as input  
For 850 if JD5 = high AUX-In is configured as output, Surr-Back out

LINE IN(C)

LINE OUT(B)

MIC IN(A)

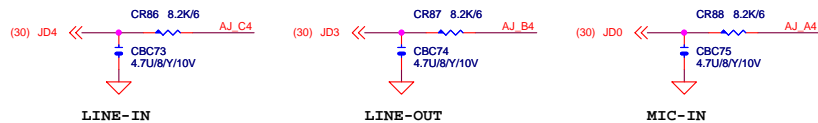
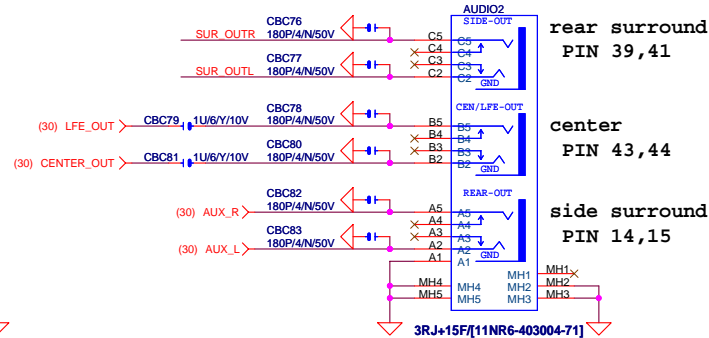
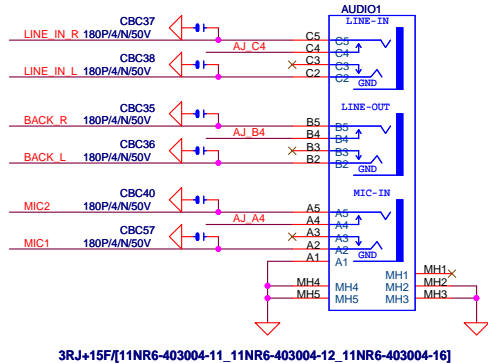
AUDIO PANEL  
AUDIO1

SURR OUT

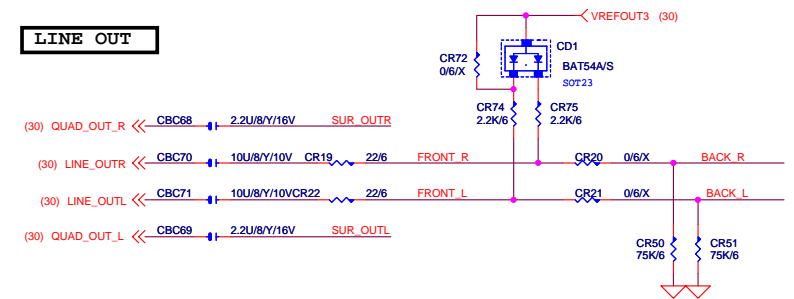
CEN/LFE OUT

SIDE-SURR OUT

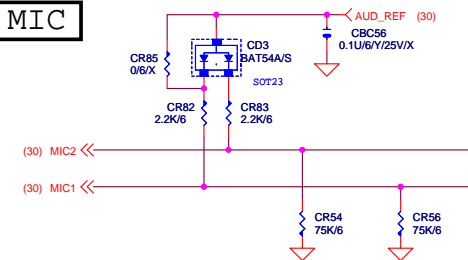
SURR KIT for 850  
AUDIO2



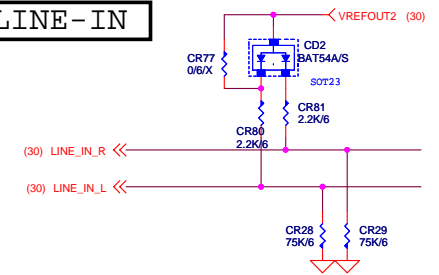
LINE OUT



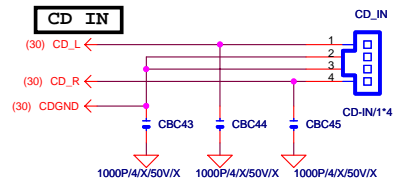
MIC



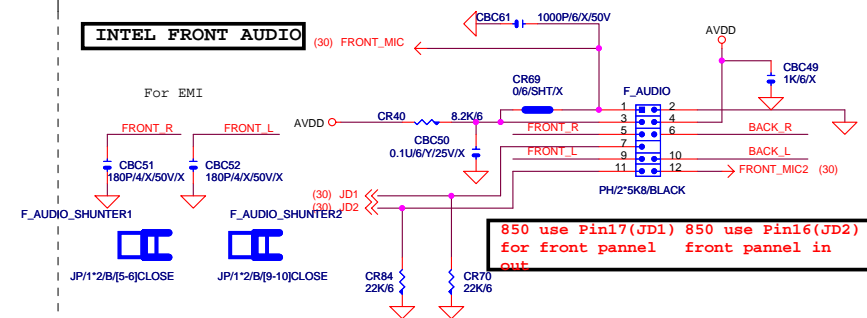
LINE-IN



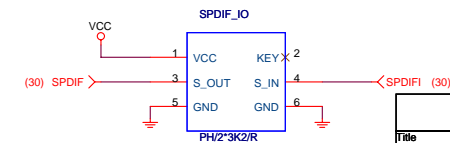
CD IN



INTEL FRONT AUDIO

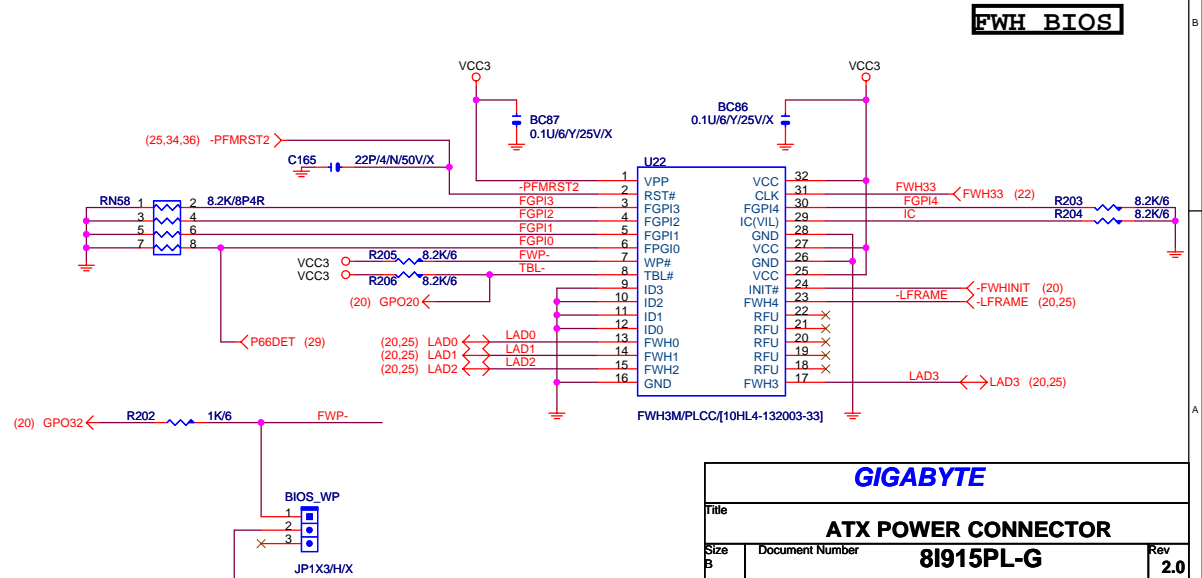
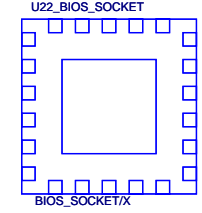
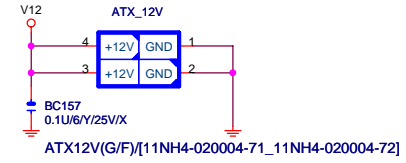
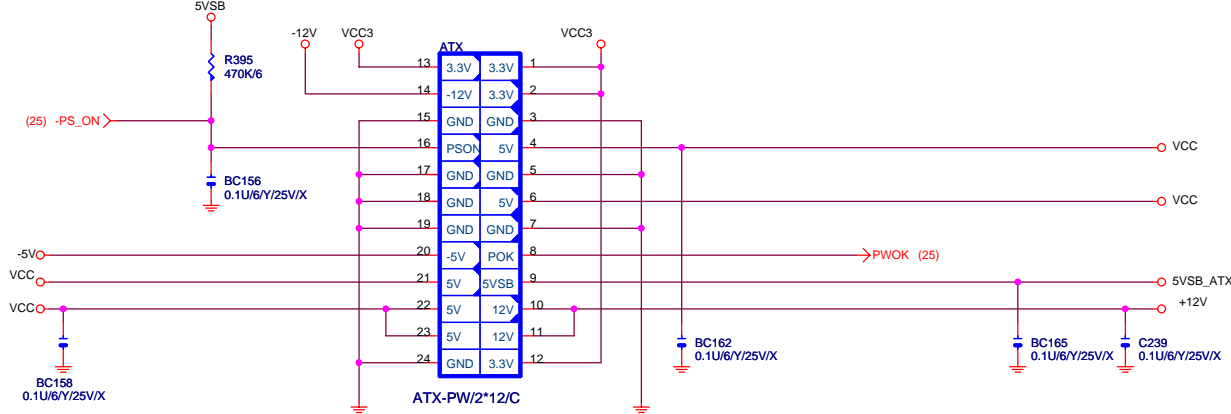


SPDIF\_IO



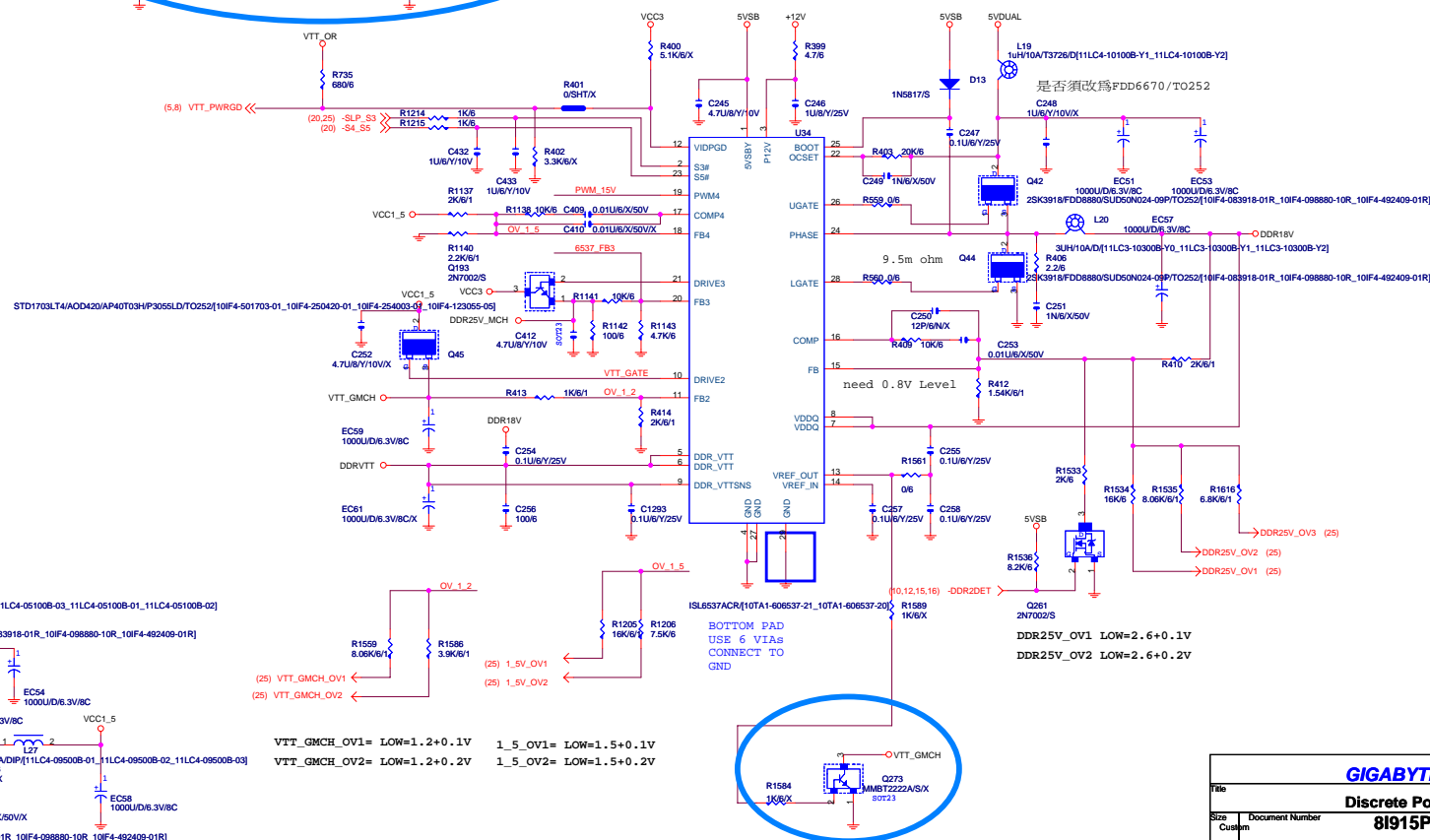
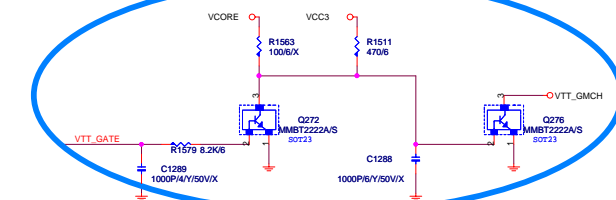
GIGABYTE CORP.			
Title			
AUDIO OUTPUT, GAME PORT			
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# ATX POWER CONNECTOR



GIGABYTE			
Title			
ATX POWER CONNECTOR			
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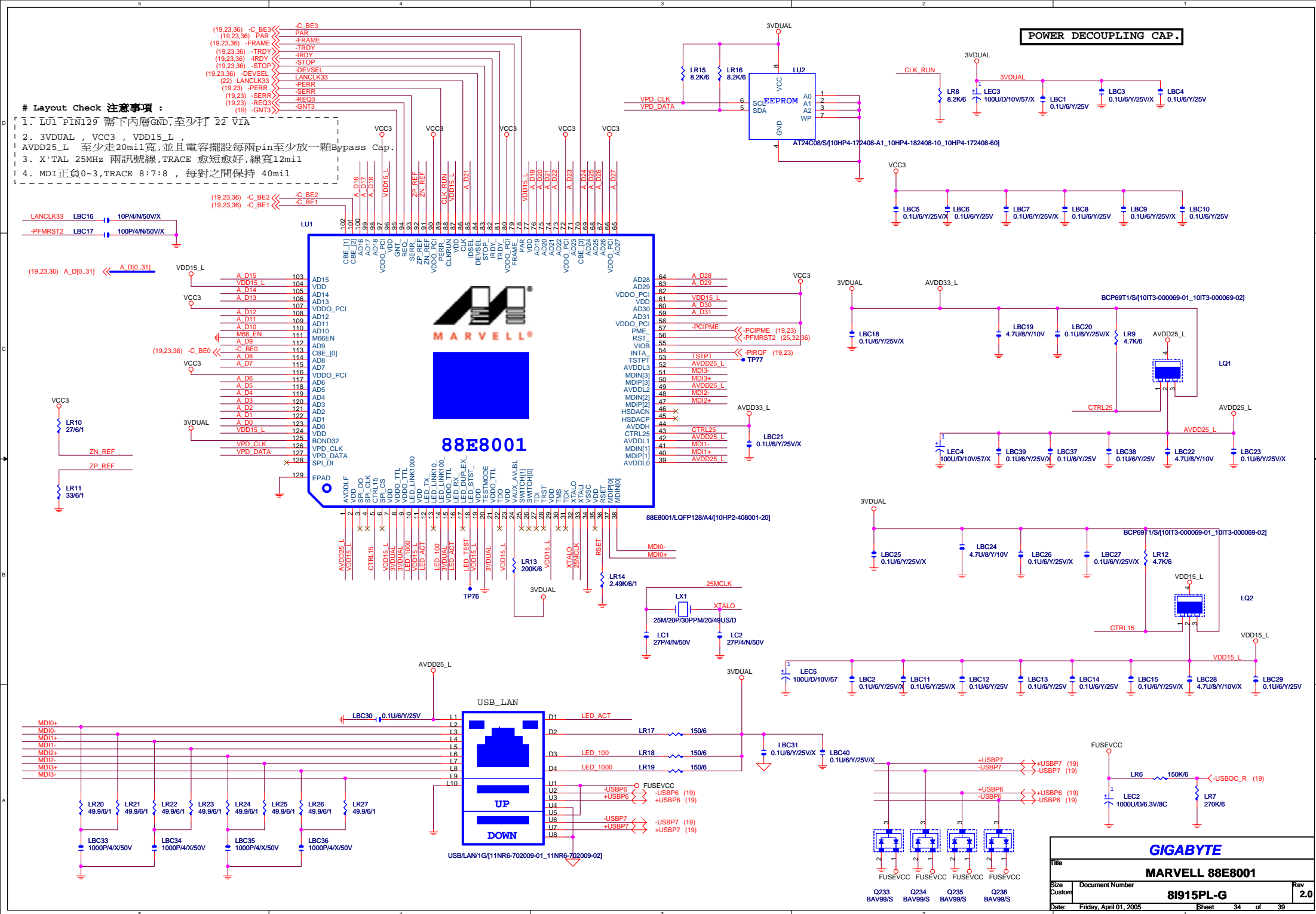
[illegible][illegible]

```
1_5_OV1= LOW=1.5+0.1V
1_5_OV2= LOW=1.5+0.2V
```

DDR25V\_OV2 LOW=2.6+0.2V

8I915PL-G

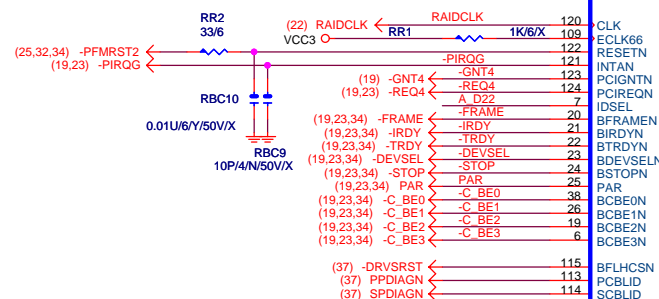
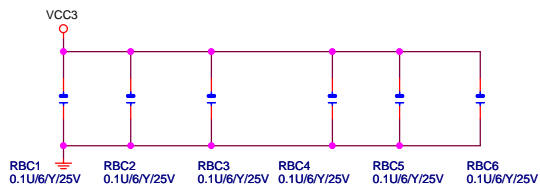
Title			
Discrete Power			
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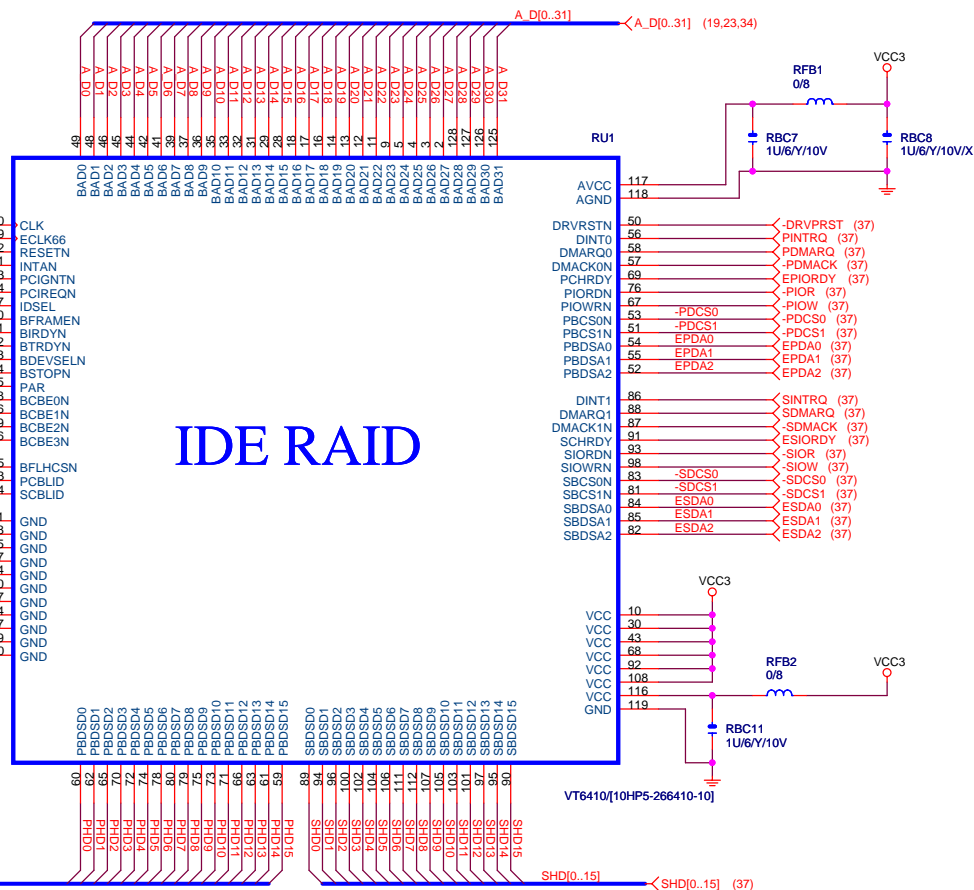


## 3

ALL INPUT PIN MUST HAVE 0.1 CAPACITOR

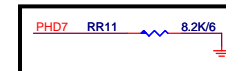
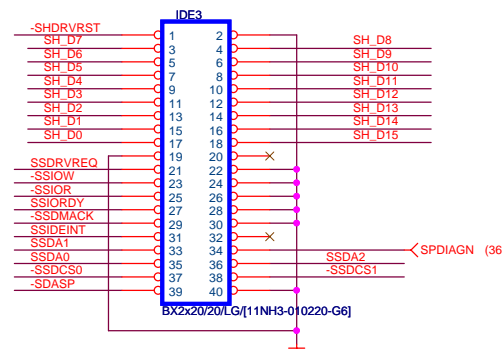
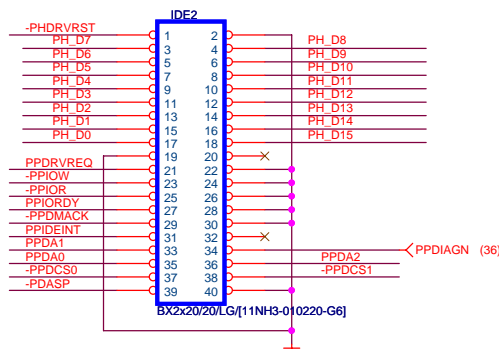
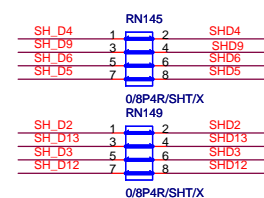
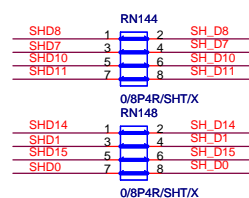
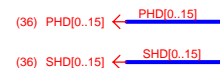
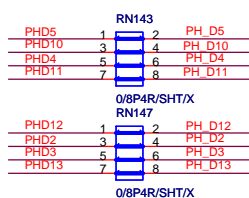
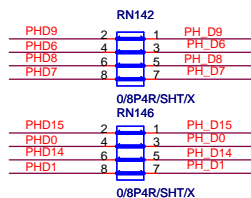
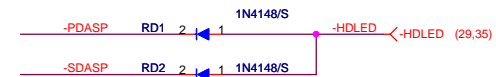
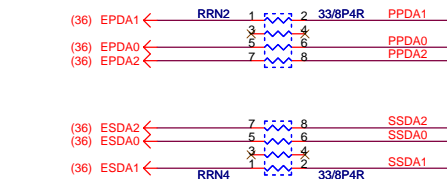
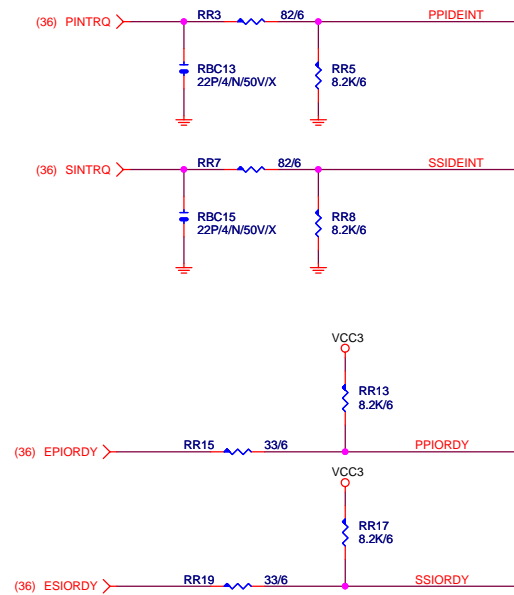
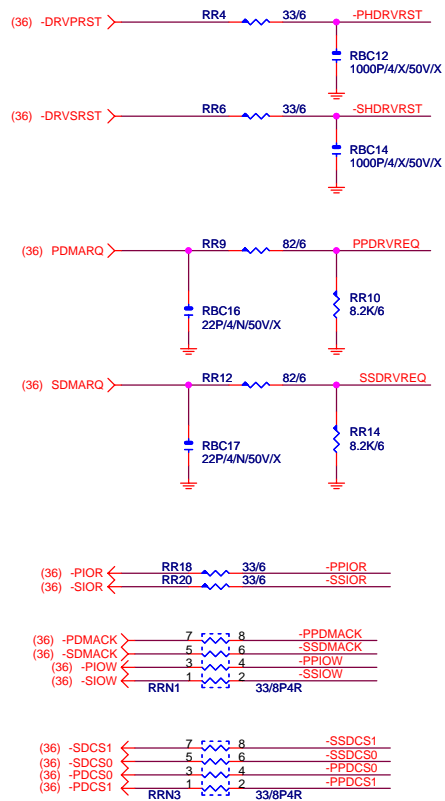


## IDE RAID



**GIGABYTE**

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ATA100/133 & IDE RAID			
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紅字表示CPI/O 同PIN

*GPO PIN*

[illegible]

## GPIO TABLE

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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	GPO48	VCC3	-GNT4
GPI2	V5REF	-PIRQE	GPO49	V-CPUIO	CPUPWOK
GPI3	V5REF	-PIRQF			
GPI4	V5REF	-PIRQG			
GPI5	V5REF	-PIRQH			
GPI6	VCC3	-SLP BTN			
GPI7	VCC3	DUAL BIOS			
GPI8	3VDAUL	-LANWAKE			
GPI9	3VDAUL	-USBOC4			
GPI10	3VDAUL	-USBOC5			
GPI11	3VDAUL	-SMBALT			
GPI12	VCC3	ATX DET			
GPI13	3VDAUL	-LPCPME			
GPI14	3VDAUL	-USBOC6			
GPI15	3VDAUL	-USBOC7			
GPO16	VCC3	CPU OV1 (-GNT6)			
GPO17	VCC3	-GNT5			
GPO18	VCC3	CPU OV2			
GPO19	VCC3	DUAL BIOS			
GPO20	VCC3	BIOS T-BLOCK			
GPO21	VCC3	DUAL BIOS			
GPO23	VCC3	DDR OV0			
GPI024	3VDAUL	GREEN LED			
GPI025	3VDAUL	DDR OV1			
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	M/B ID			
GPI40	V5REF	-REQ4			

PWROK/RESET Table:

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

**GIGABYTE THCNOLOGIES , INC.**

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