GIGABYTE GA-8I848P Schematics

Revision 2.01

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37	KINNERETH-R LNA(CSA-3)

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Title: COVER SHEET

Size: Custom | Document Number: GA-8I848P | Rev: 2.01

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Model Name: GA-8I848P
Version :2.01

Component history

Date	Change Item	Reason
	EVT BOM READY	
8I848PL-00-10A	PCB 1.0 尺寸304.8X204.97	
8I848PL-00-10B	ADD C324 0.01U/4/X/16V	
	R954 619/6/1 > 511/6/1	
8I848PL-00-10B	PCB 統盟,祥裕,佳鼎 --> 奇宮,智恩	
1.0D-0910	1. R1095 1K/6/1 -> 931/6/1 2. R849 8.2K->22K,R1127 1K->47K,R1126 8.2K->0,R842 1K->22K,R1125 22K REMOVE,Q137 2222->2N7002	FOR D-STEPING CELERON CPU Modify Prescott CPU BOOTSEL Control Circuit
8I848PL-00-20A	PCB	FOR COST-DOWN VERSION
8I848PG-00-20A	PCB 統盟,祥裕,信豐利	DVT
8I848PG-00-20B	PCB 8I848P-G REV2.01 統盟,祥裕,信豐利	PVT
8I848P-00-20B	PCB 8I848P REV2.01 統盟,祥裕	PVT
9MD8I848P-NB-20B	FOR CKD BOM 統盟,祥裕	MP
20C-0213	R1188 33K -> 36K , R1189 910 -> 1.2K	FOR PSC CPU PROCHOT MODIFY
NB-20C-0213	9M8I848PG-00-20C --> 9M8I848PG-NB-20C	FOR CKD BOM
ECN-20C-0216	PCB統盟,替料移除	

Circuit or PCB layout history

Date	Change Item	Reason

GIGABYTE CORP.

Title: BOM & PCB MODIFY HISTORY

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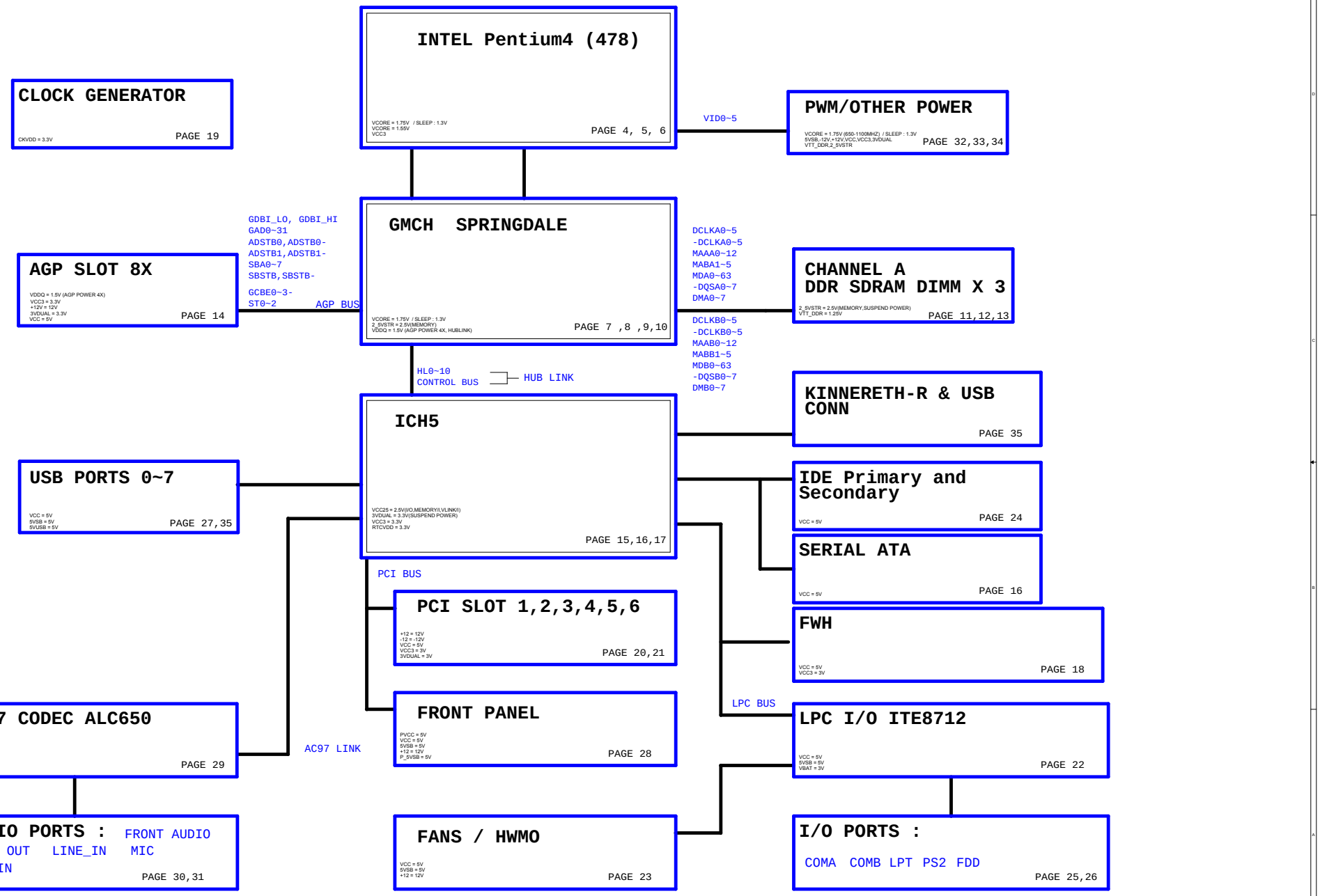
BLOCK DIAGRAM

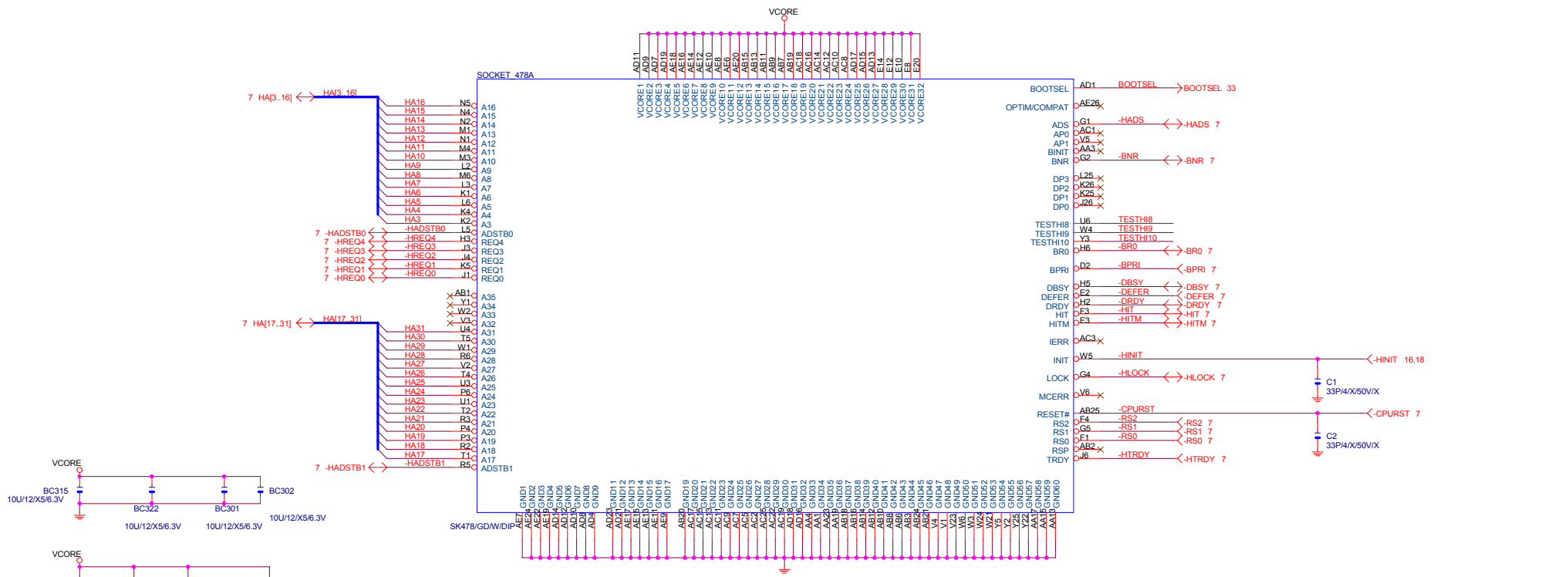


GIGABYTE CORP.

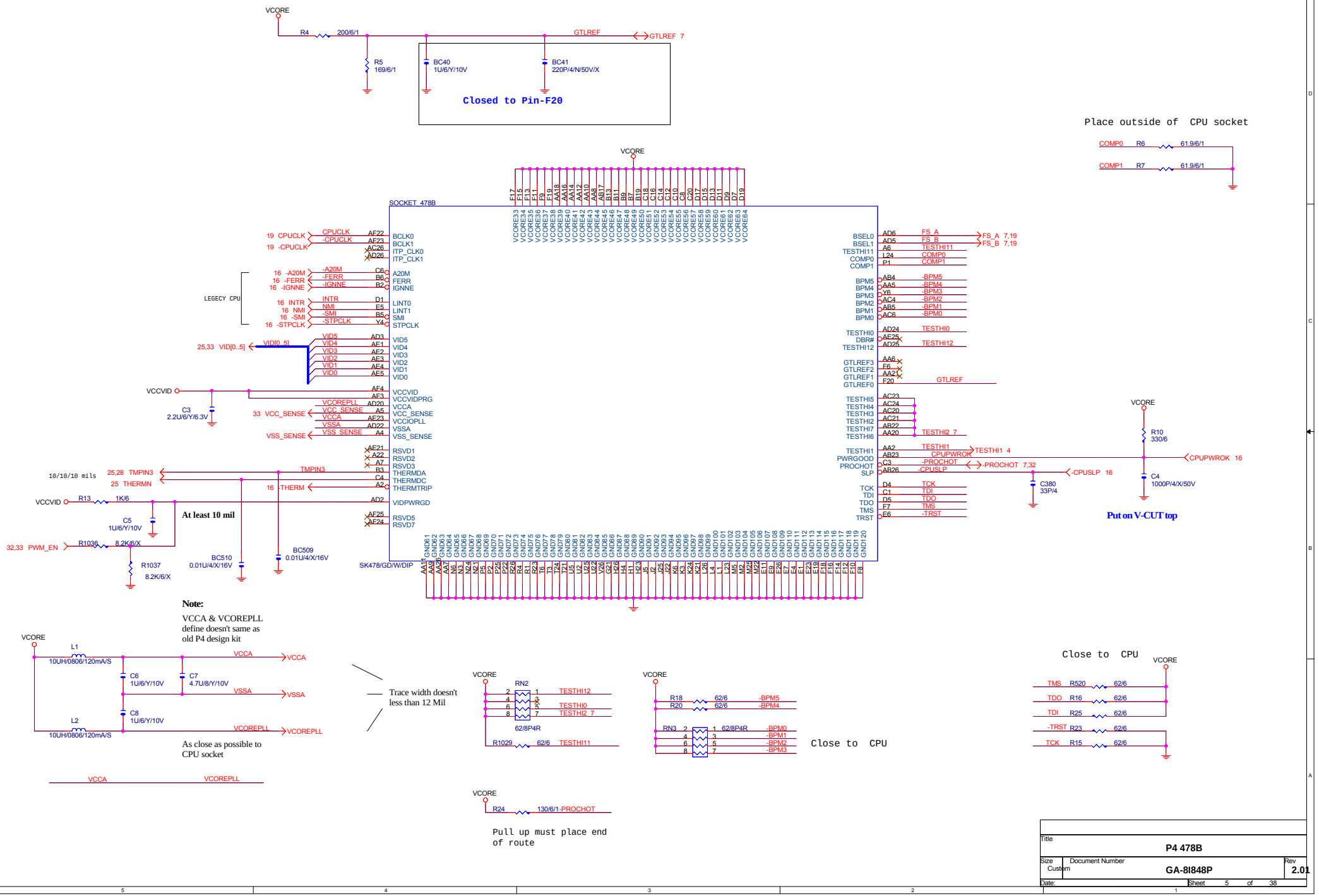
Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-8I848P | Rev: 2.01

Date: | Sheet 3 of 38



Title	P4 478A	
Size: Custom	Document Number: GA-8I848P	Rev: 2.01
Date:	Sheet 4 of 38	


VCORE
R4 200/6/1
GTLREF
GTLREF 7
R5 169/6/1
BC40 1U/6/Y/10V
BC41 220P/4/N/50V/X
Closed to Pin-F20
Place outside of CPU socket
COMP0 R6 61.9/6/1
COMP1 R7 61.9/6/1
SOCKET_478B
SK478/GD/W/DIP
LEGECY CPU
CPUCLK
-CPUCLK
-A20M
-FERR
-IGNNE
INTR
NMI
-SMI
-STPCLK
VID[0..5]
VCCVID
C3 2.2U/6/Y/6.3V
VCC_SENSE
VSS_SENSE
TMPIN3
THERM
-THERM
R13 1K/6
C5 1U/6/Y/10V
At least 10 mil
R1036 8.2K/6/X
R1037 8.2K/6/X
PWM_EN
BC510 0.01U/4/X/16V
BC509 0.01U/4/X/16V
10/10/10 mils
BSEL0
BSEL1
TESTHI11
COMP0
COMP1
BPM5
BPM4
BPM3
BPM2
BPM1
BPM0
TESTHI0
DBR#
TESTHI12
GTLREF3
GTLREF2
GTLREF1
GTLREF0
TESTHI5
TESTHI4
TESTHI3
TESTHI2
TESTHI7
TESTHI6
TESTHI1
PWRGOOD
PROCHOT
SLP
TCK
TDI
TDO
TMS
TRST
FS_A 7,19
FS_B 7,19
-PROCHOT 7,32
-CPUSLP 16
C380 33P/4
R10 330/6
C4 1000P/4/X/50V
CPUPWROK 16
Put on V-CUT top
Note:
VCCA & VCOREPLL define doesn't same as old P4 design kit
L1 10UH/0806/120mA/S
L2 10UH/0806/120mA/S
C6 1U/6/Y/10V
C7 4.7U/8/Y/10V
C8 1U/6/Y/10V
VCCA
VSSA
VCOREPLL
As close as possible to CPU socket
Trace width doesn't less than 12 Mil
RN2
62/8P4R
R1029 62/6 TESTHI11
R18 62/6 -BPM5
R20 62/6 -BPM4
RN3 62/8P4R -BPM0 -BPM1 -BPM2 -BPM3
Close to CPU
Close to CPU
TMS R520 62/6
TDO R16 62/6
TDI R25 62/6
-TRST R23 62/6
TCK R15 62/6
R24 130/6/1-PROCHOT
Pull up must place end of route
Title
P4 478B
Size Custom
Document Number
GA-8I848P
Rev 2.01
Date:
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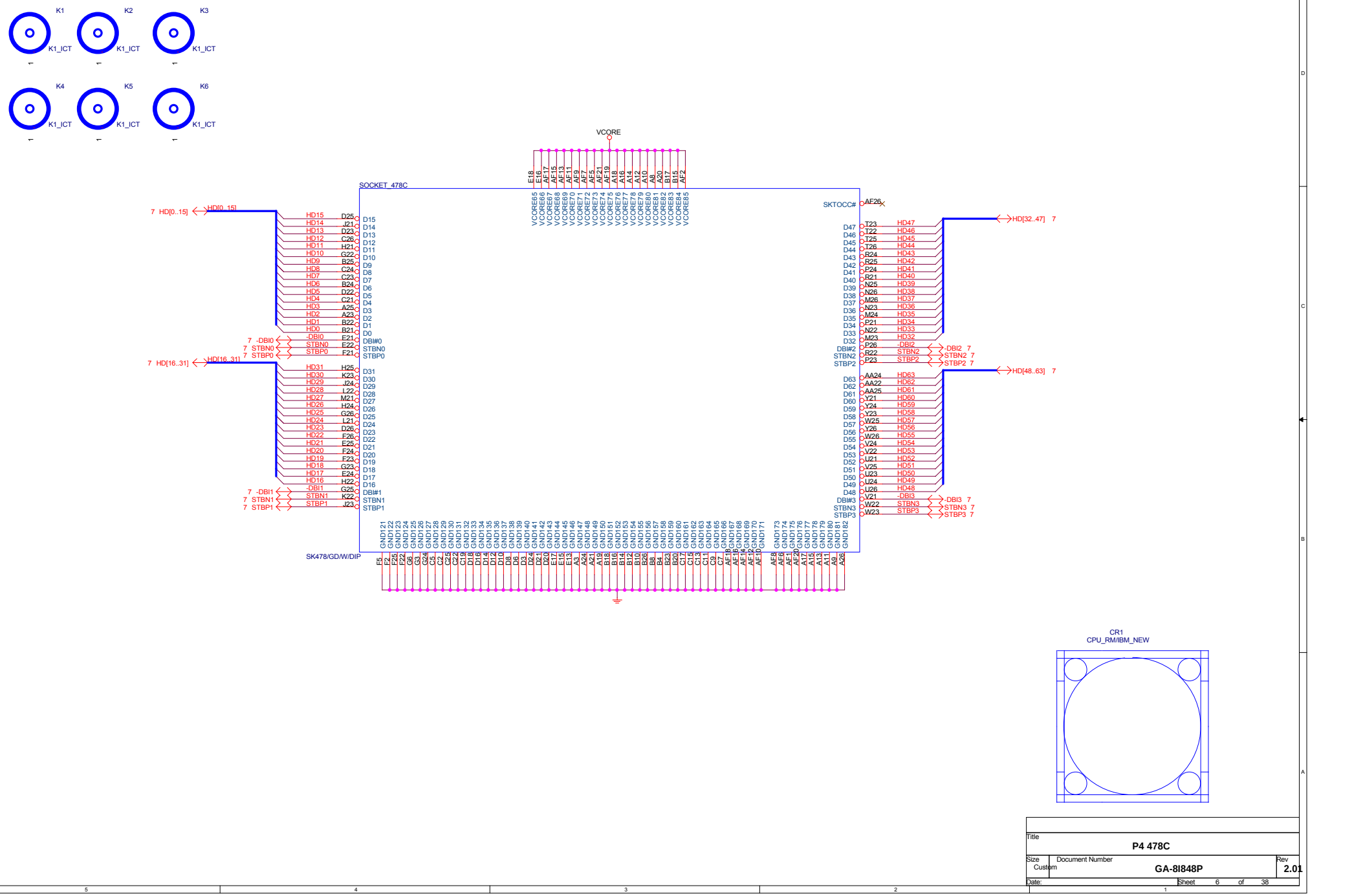
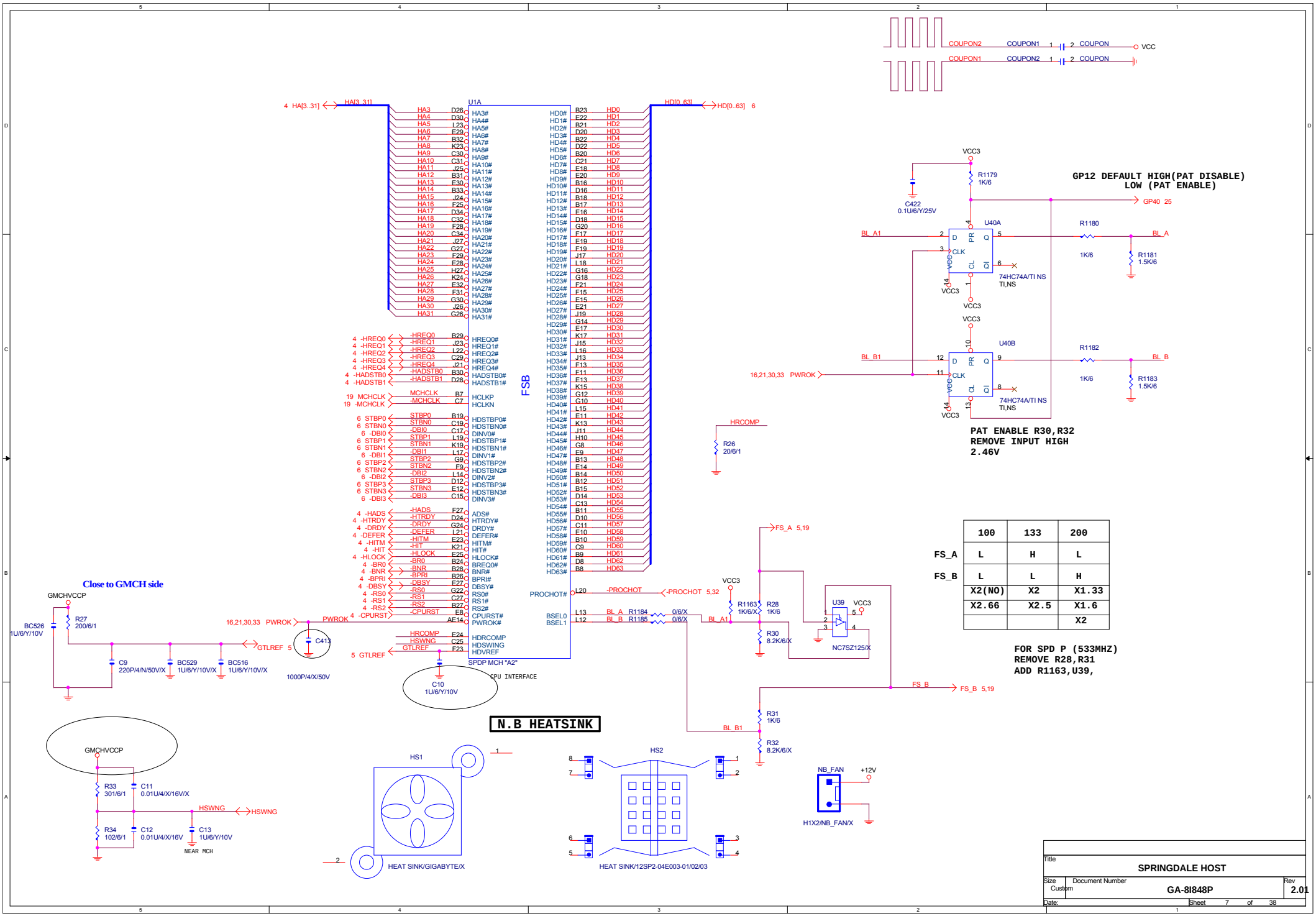


Title	P4 478C	
Size: Custom	Document Number: GA-8I848P	Rev: 2.01
Date:	Sheet 6 of 38	


COUPON2
COUPON1
COUPON
VCC
GP12 DEFAULT HIGH(PAT DISABLE)
LOW (PAT ENABLE)
GP40 25
U40A
U40B
74HC74A/TI NS
TI,NS
PAT ENABLE R30,R32
REMOVE INPUT HIGH
2.46V
U1A
FSB
HA[3..31]
HD[0..63]
HREQ0#
HREQ1#
HREQ2#
HREQ3#
HREQ4#
HADSTB0#
HADSTB1#
HCLKP
HCLKN
HDSTBP0#
HDSTBN0#
DINV0#
HDSTBP1#
HDSTBN1#
DINV1#
HDSTBP2#
HDSTBN2#
DINV2#
HDSTBP3#
HDSTBN3#
DINV3#
ADS#
HTRDY#
DRDY#
DEFER#
HITM#
HIT#
HLOCK#
BREQ0#
BNR#
BPRI#
DBSY#
RS0#
RS1#
RS2#
CPURST#
PWROK#
HDRCOMP
HDSWING
HDVREF
SPDP MCH "A2"
CPU INTERFACE
PROCHOT#
BSEL0
BSEL1
HRCOMP
R26
20/6/1
PWROK
16,21,30,33
FS_A 5,19
FS_B 5,19
FS_A
FS_B
100
133
200
L
H
X2(NO)
X2
X1.33
X2.66
X2.5
X1.6
X2
FOR SPD P (533MHZ)
REMOVE R28,R31
ADD R1163,U39,
Close to GMCH side
GMCHVCCP
GTLREF
C10
1U/6/Y/10V
N.B HEATSINK
HS1
HS2
HEAT SINK/GIGABYTE/X
HEAT SINK/12SP2-04E003-01/02/03
NB_FAN
+12V
H1X2/NB_FAN/X
HSWNG
NEAR MCH
Title
SPRINGDALE HOST
Size
Custom
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Date:
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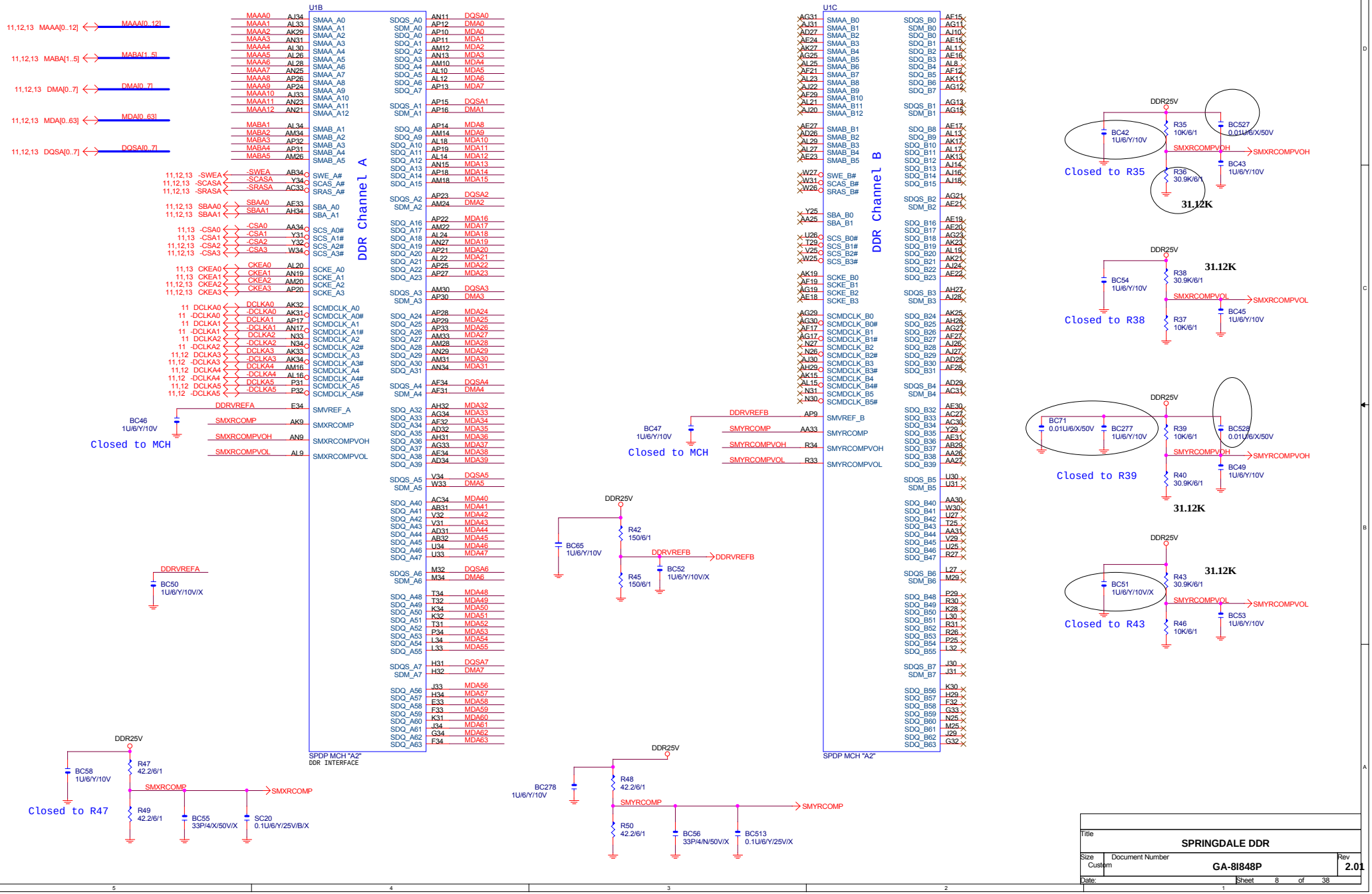

Title	SPRINGDALE DDR	
Size: Custom	Document Number: GA-8I848P	Rev: 2.01
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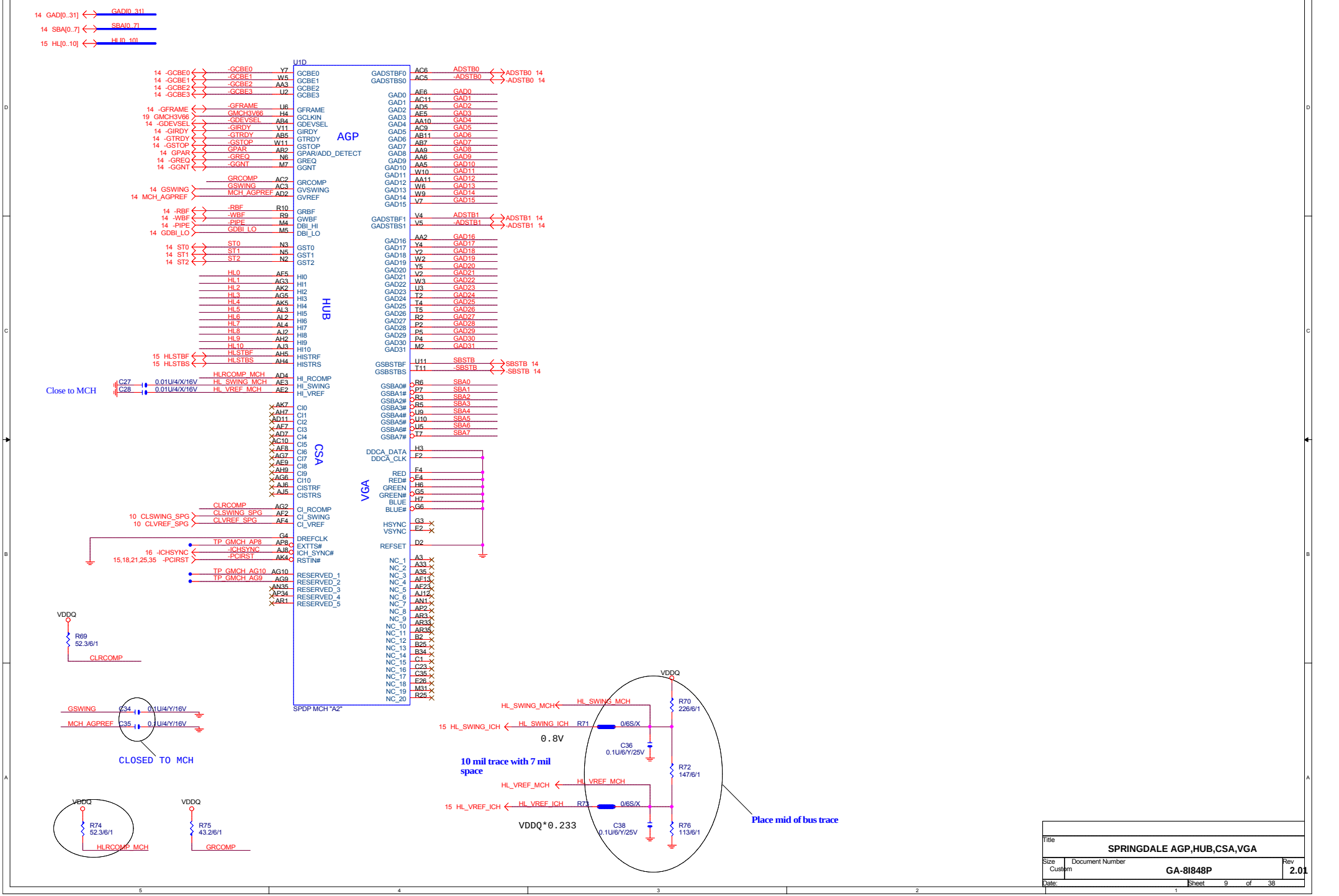
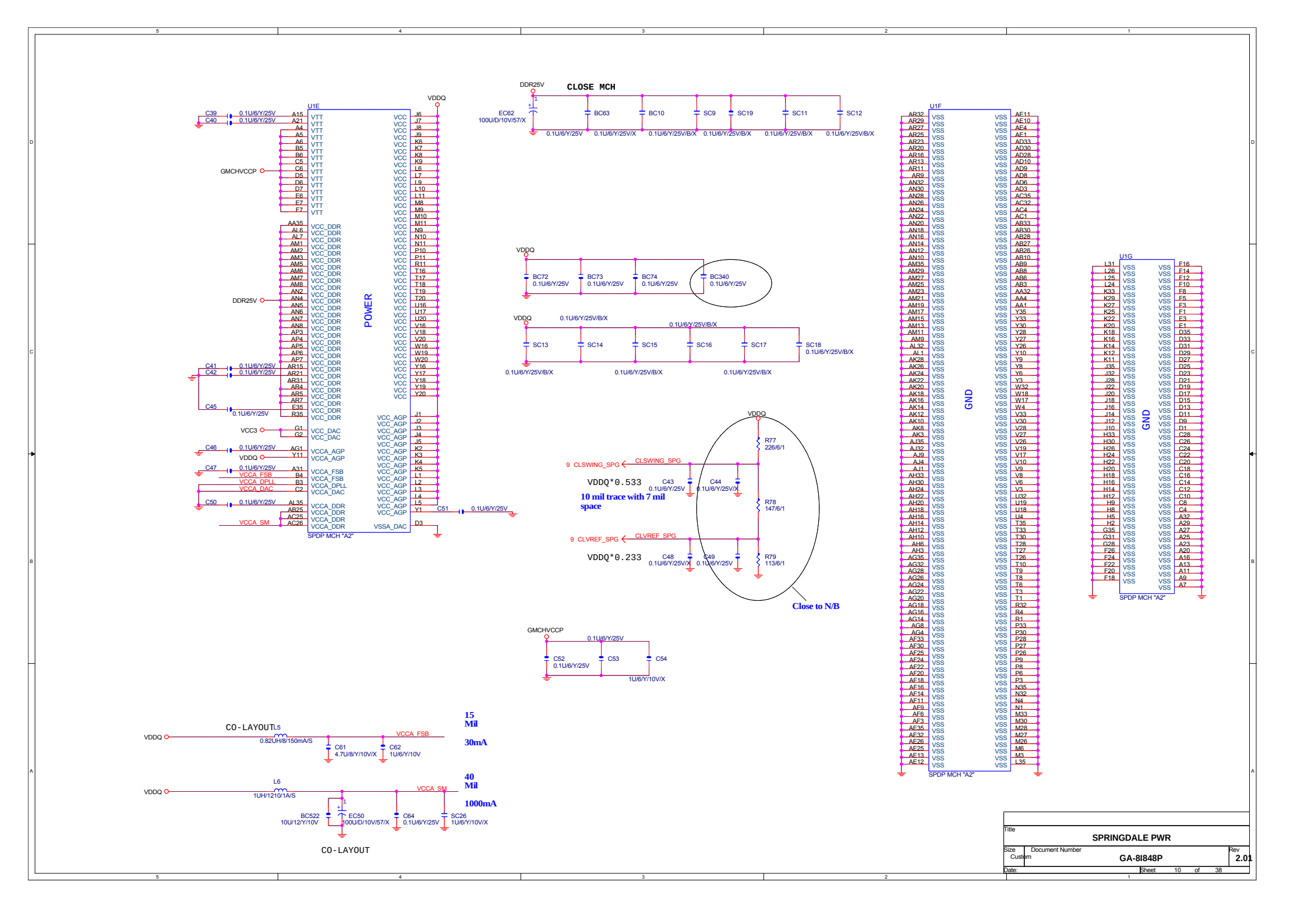

14 GAD[0..31]
GAD[0..31]
14 SBA[0..7]
SBA[0..7]
15 HL[0..10]
HL[0..10]
U1D
AGP
HUB
CSA
VGA
Close to MCH
SPDP MCH "A2"
CLOSED TO MCH
10 mil trace with 7 mil space
Place mid of bus trace
VDDQ*0.233
0.8V
SPRINGDALE AGP,HUB,CSA,VGA
GA-8I848P
2.01
Sheet 9 of 38



Title	SPRINGDALE PWR	
Size: Custom	Document Number: GA-8I848P	Rev: 2.01
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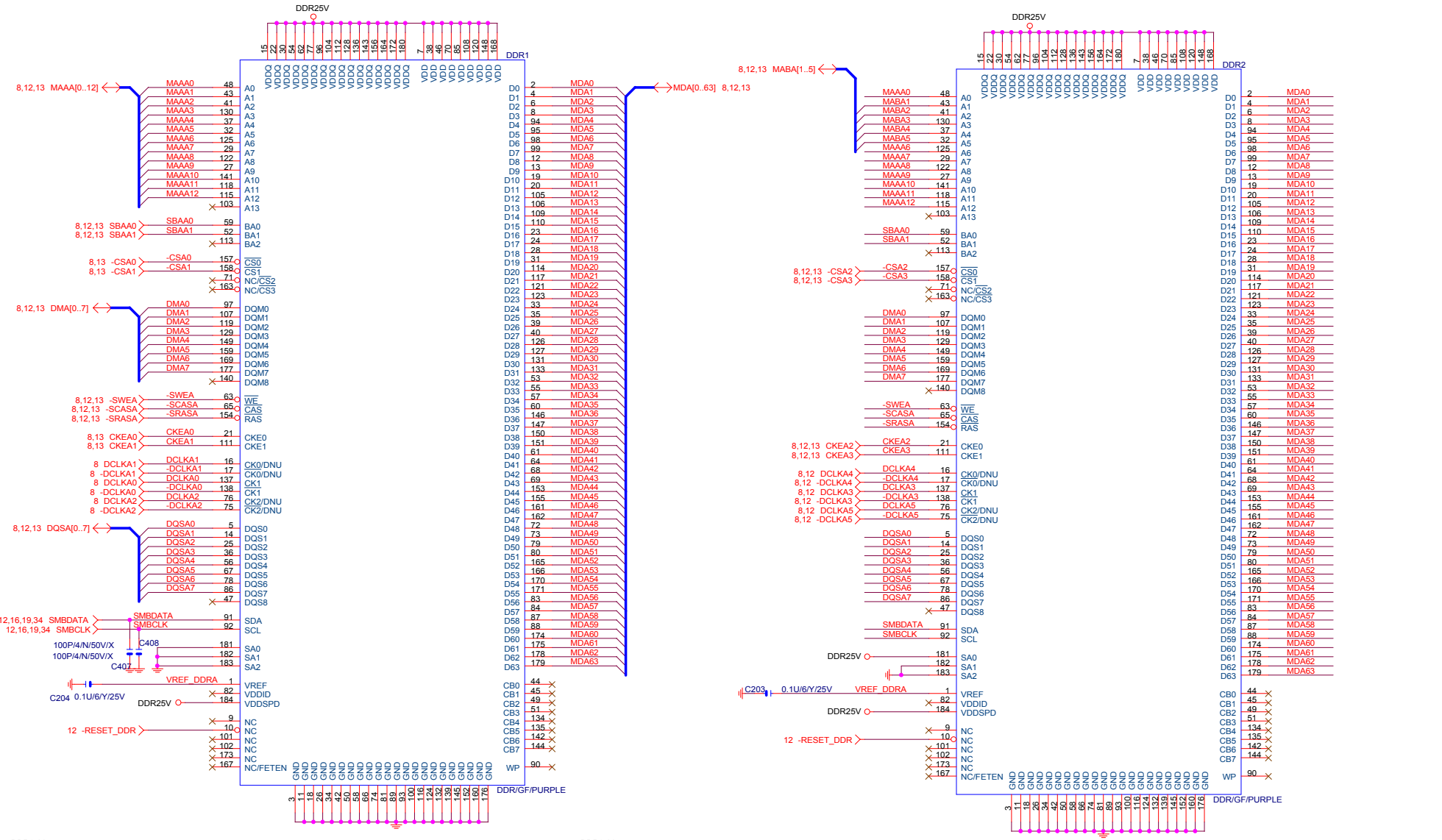
DDR25V
DDR1
DDR2
DDR/GF/PURPLE
8,12,13 MAAA[0..12]
8,12,13 MABA[1..5]
MDA[0..63] 8,12,13
8,12,13 DMA[0..7]
8,12,13 DQSA[0..7]
12,16,19,34 SMBDATA
12,16,19,34 SMBCLK
100P/4/N/50V/X
C204 0.1U/6/Y/25V
C203 0.1U/6/Y/25V
12 -RESET_DDR
VREF_DDRA
VREF_DDRA 12
R522 75/6/1
R524 75/6/1
R523 8.2K/6
C205 0.1U/6/Y/25V/X
-RESET_DDR 12
For Register DDR Support
GIGABYTE CORP.
Title
DDR1,2 CHANNEL A
Size B
Document Number
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Rev 2.01
Date:
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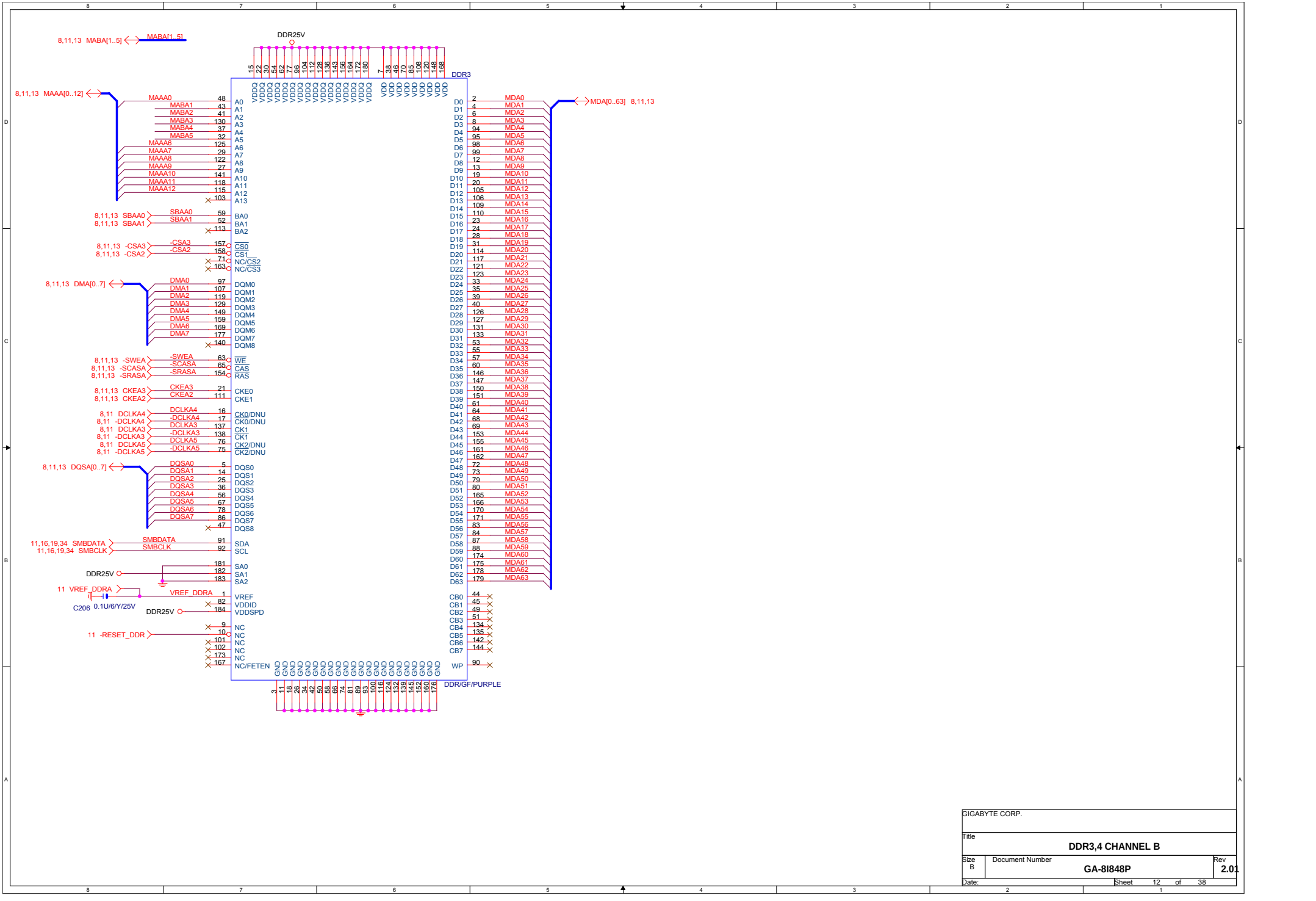

GIGABYTE CORP.		
Title	DDR3,4 CHANNEL B	
Size B	Document Number GA-8I848P	Rev 2.01
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DDR TERMINATION

DDRVTT Decouple

DDRVTT

CN6 0.1U/8P4C/X
CN1 0.1U/8P4C/X
CN21 0.1U/8P4C/X
CN9 0.1U/8P4C/X
CN13 0.1U/8P4C/X
CN25 0.1U/8P4C/X
CN18 0.1U/8P4C/X

DDRVTT

CN5 0.1U/8P4C/X
CN23 0.1U/8P4C/X
CN17 0.1U/8P4C/X
CN27 0.1U/8P4C/X
CN29 0.1U/8P4C/X

DDRVTT

CN2 0.1U/8P4C/X
CN10 0.1U/8P4C/X
CN14 0.1U/8P4C/X

DEFAULT MOUNT

DDR25V Decouple

DDR25V

Channel -A CLOSE

BC64 0.1U/6/Y/25V
BC78 0.1U/6/Y/25V
BC81 0.1U/6/Y/25V
BC82 0.1U/6/Y/25V
BC88 0.1U/6/Y/25V
BC83 0.1U/6/Y/25V/X
BC91 0.1U/6/Y/25V
BC69 0.1U/6/Y/25V/X

CHANNEL A

DDRVTT

MDA6 MDA2 DMA0 DQSA0 MDA1 MDA5 MDA4 MDA0 MDA9 MDA8 MDA3 MDA7 DMA1 MDA13 DQSA1 MDA12 MDA22 MDA18 DMA2 → RN7 56/8P4R

DQSA2 MDA21 MDA17 MDA16 DMA3 DQSA3 MDA29 MDA25 MDA31 MDA27 MDA26 MDA30 MDA38 DMA4 MDA34 DQSA4 MDA28 MDA24 MDA23 MDA19 MDA40 MDA44 MDA35 MDA39 MDA11 MDA10 MDA15 MDA14 DQSA7 DMA7 MDA57 MDA56 → RN11 RN15 RN19 RN23 RN27 RN31 RN33 RN37 RN42 RN46 RN51 RN55 56/8P4R

MDA20 R94 56/6
DMA5 R497 56/6
DQSA5 R499 56/6
MDA41 R501 56/6
MDA45 R503 56/6

DDRVTT

MDA37 MDA33 MDA36 MDA32 MDA47 MDA46 MDA43 MDA42 MDA55 MDA54 DQSA6 DMA6 MDA53 MDA52 MDA49 MDA48 MDA58 MDA59 MDA63 MDA62 MDA61 MDA60 MDA51 MDA50 → RN5 RN13 RN17 RN21 RN25 RN29 56/8P4R

MABA3 MAAA3 MABA4 MAAA4 MABA5 MAAA8 MAAA7 → RN35 RN43 47/8P4R

SBAA1 MAAA10 MAAA0 MAAA1 CKEA0 CKEA2 CKEA3 CKEA1 -CSA3 -CSA2 8,11,12 -SCASA -CSA0 → RN49 RN53 RN57 47/8P4R

MAAA5 R494 47/6
MAAA6 R495 47/6
MAAA9 R496 47/6
MAAA11 R498 47/6
MAAA12 R500 47/6
SBAA0 R502 47/6
-CSA1 R1135 47/6
MAAA2 R1118 47/6
8,11,12 -SWEA R92 47/6
8,11,12 -SRASA R96 47/6

47 Ohms

SBAA[0:1] ↔ SBAA[0:1] 8,11,12
-CSA[0:3] ↔ -CSA[0:3] 8,11,12
CKEA[0:3] ↔ CKEA[0:3] 8,11,12
MABA[1..5] ↔ MABA[1..5] 8,11,12
MAAA[0..12] ↔ MAAA[0..12] 8,11,12

56 Ohms

DQSA[0..7] ↔ DQSA[0..7] 8,11,12
DMA[0..7] ↔ DMA[0..7] 8,11,12
MDA[0..63] ↔ MDA[0..63] 8,11,12

DDRVTT Decouple

DDRVTT

8,11,12 MABA1 ↔ MABA1 R1164 47/6
8,11,12 MABA2 ↔ MABA2 R1165 47/6

DDR25V

BC532 0.1U/6/Y/25V/X
BC533 0.1U/6/Y/25V/X
BC534 0.1U/6/Y/25V/X
BC536 0.1U/6/Y/25V/X
BC540 0.1U/6/Y/25V

CHANNEL B

DDRVTT

BC576 10U/12/Y/10V
BC575 10U/12/Y/10V
BC558 1U/6/Y/10V/X
BC559 1U/6/Y/10V/X
BC560 1U/6/Y/10V
BC561 1U/6/Y/10V/X
BC562 1U/6/Y/10V/X
BC563 1U/6/Y/10V
BC564 1U/6/Y/10V/X
BC565 1U/6/Y/10V
BC566 1U/6/Y/10V/X
BC567 1U/6/Y/10V
BC568 1U/6/Y/10V/X
BC569 1U/6/Y/10V
BC570 1U/6/Y/10V/X
BC571 1U/6/Y/10V
BC572 1U/6/Y/10V/X
BC573 1U/6/Y/10V/X
BC574 1U/6/Y/10V

VCC3

EC9 1000U/D/6.3V/8E/X

GIGABYTE CORP.		
Title: DDR TERMINATION		
Size: B	Document Number: GA-8I848P	Rev: 2.01
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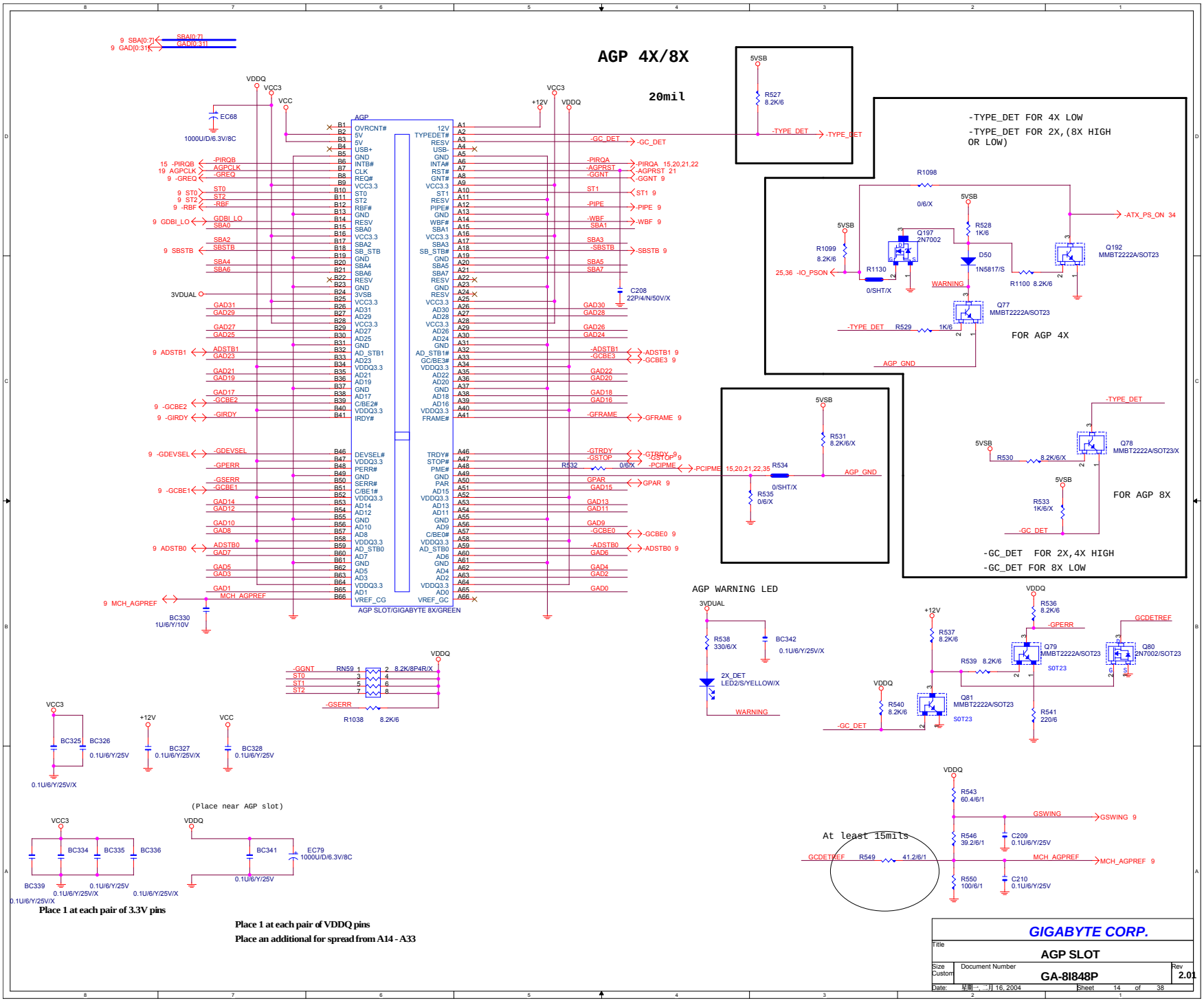
AGP 4X/8X
20mil
AGP
AGP SLOT/GIGABYTE 8X/GREEN
-TYPE_DET FOR 4X LOW
-TYPE_DET FOR 2X,(8X HIGH OR LOW)
FOR AGP 4X
FOR AGP 8X
-GC_DET FOR 2X,4X HIGH
-GC_DET FOR 8X LOW
AGP WARNING LED
(Place near AGP slot)
At least 15mils
Place 1 at each pair of 3.3V pins
Place 1 at each pair of VDDQ pins
Place an additional for spread from A14 - A33
GIGABYTE CORP.
Title
AGP SLOT
Size
Custom
Document Number
GA-8I848P
Rev
2.01
Date:
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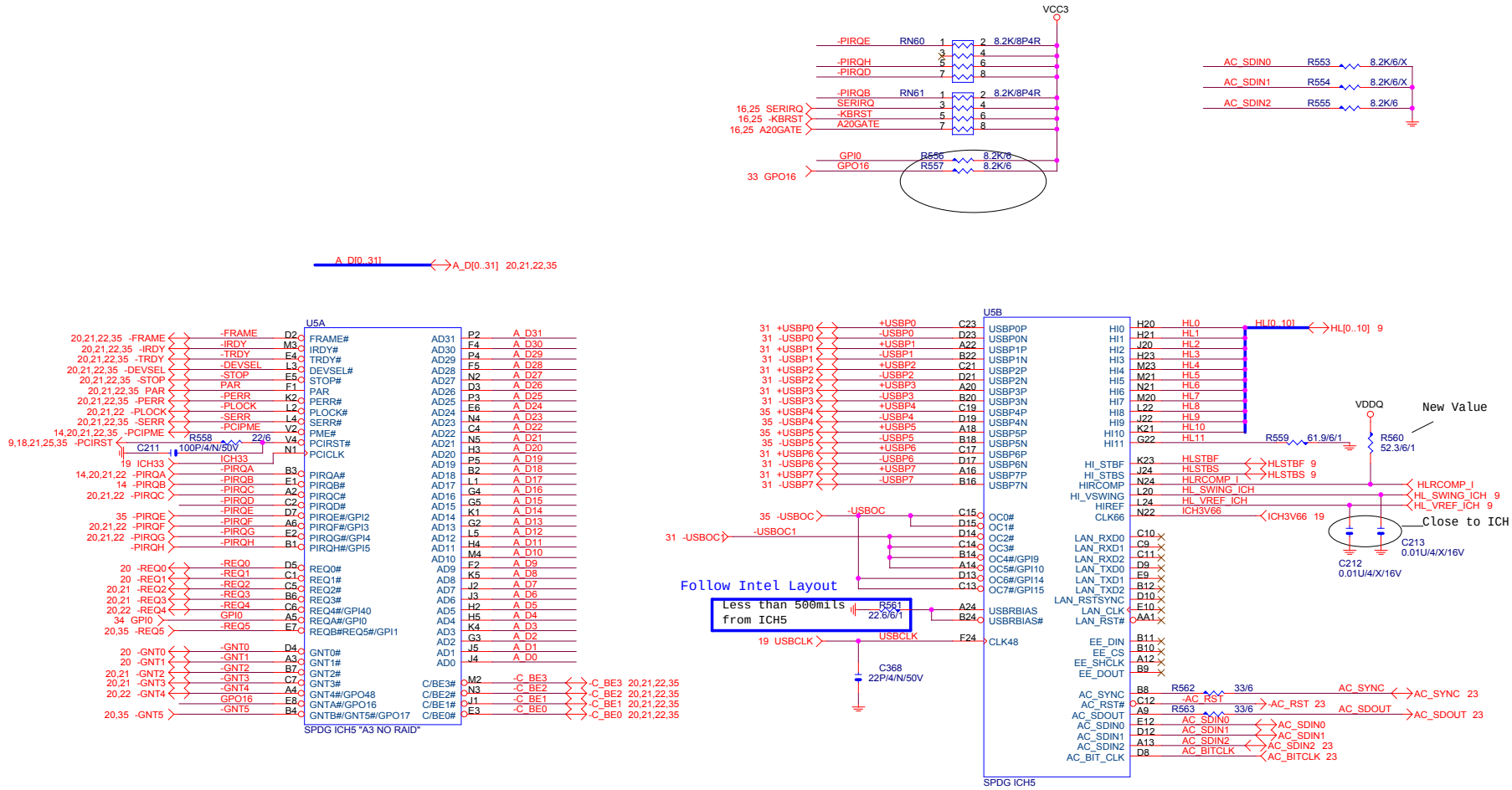

GIGABYTE CORP.		
Title	ICH5 PCI, USB, HUB, LAN	
Size B	Document Number GA-8I848P	Rev 2.01
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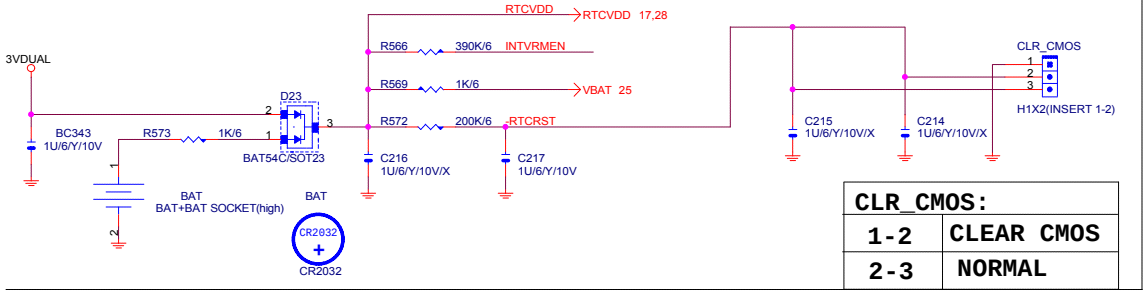
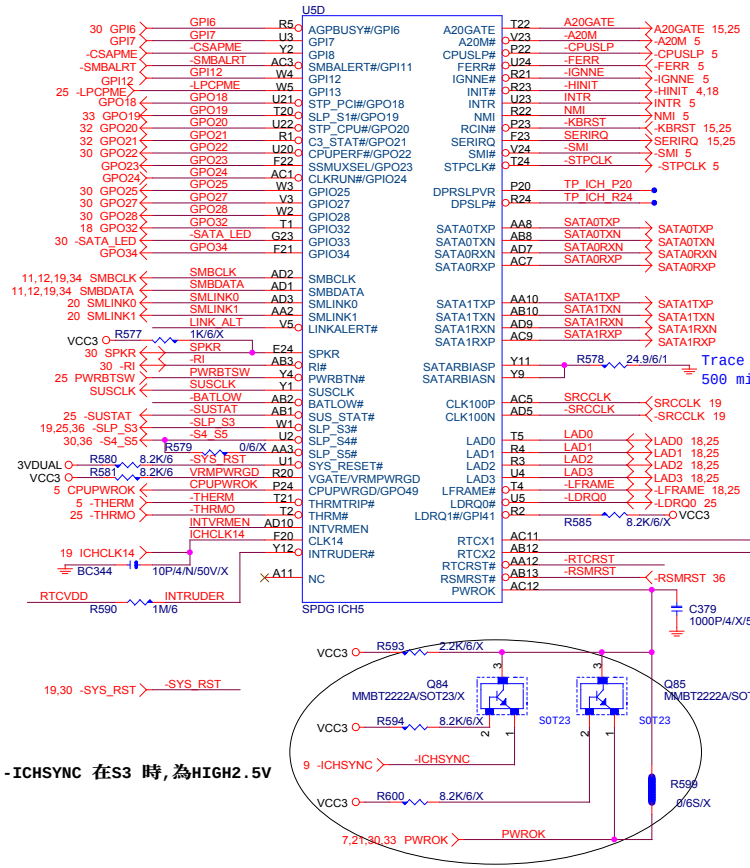
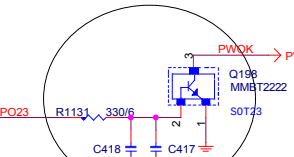


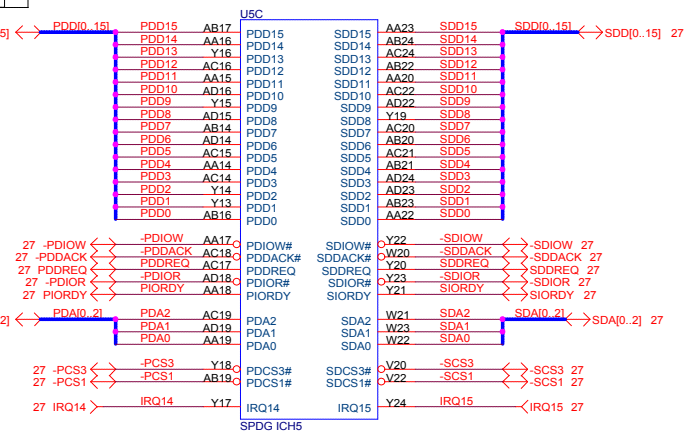
CLR_CMOS:	
1-2	CLEAR CMOS
2-3	NORMAL

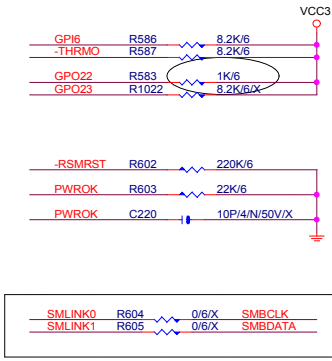


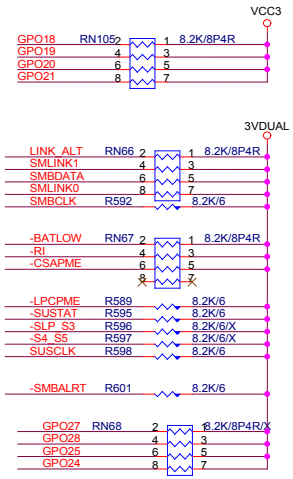
-ICHSYNC 在S3 時,為HIGH2.5V

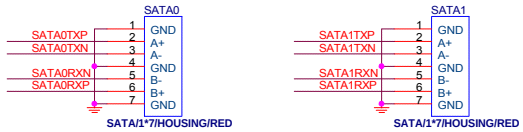


CPU Signal Term



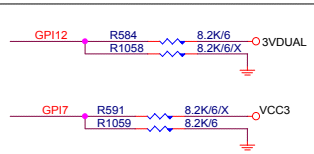






GPI_12 HIGH=
LOW=
GPI_7 HIGH=8I848P REV1.0

LOW=8I848P REV2.0



M/B ID

GIGABYTE CORP.

Title: ICH5 IDE, GPIO, SATA, CTRL

Size: Custom | Document Number: GA-8I848P | Rev: 2.01

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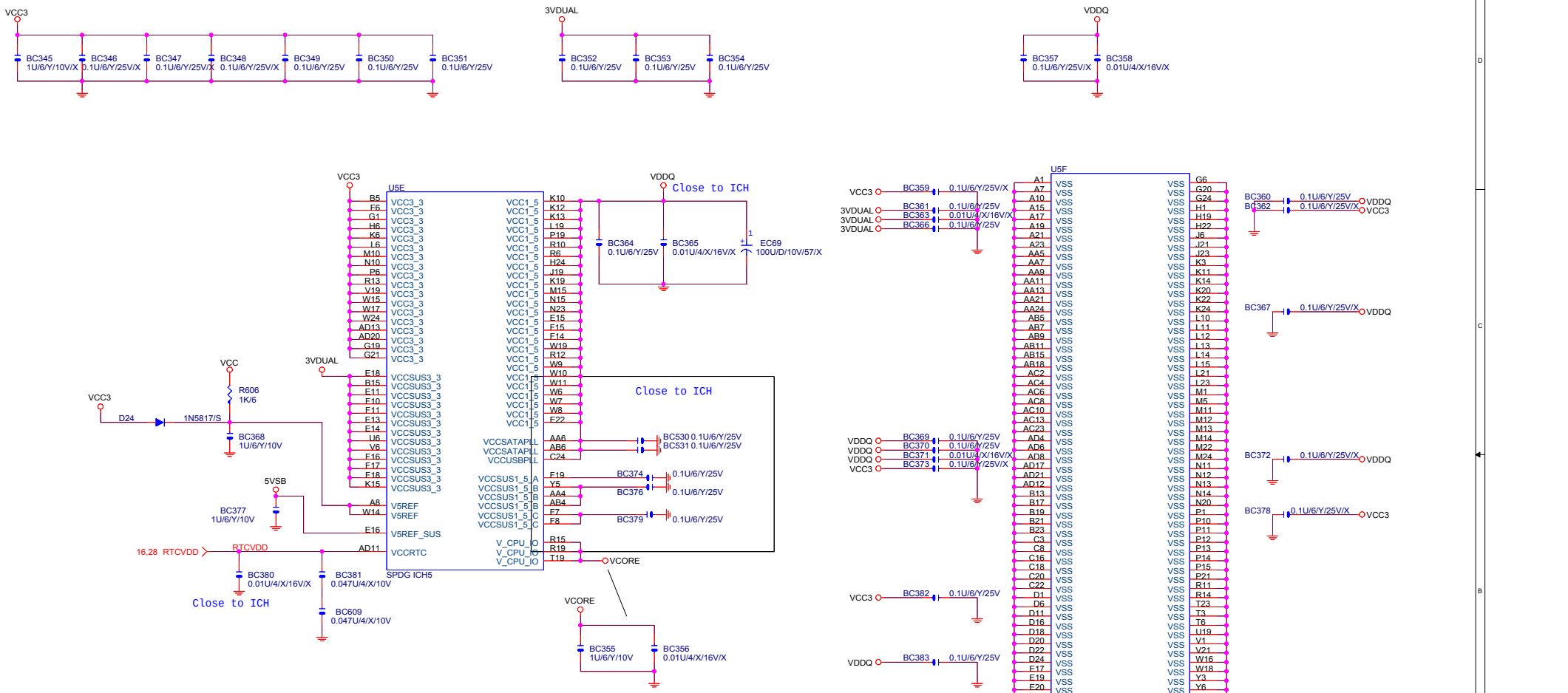
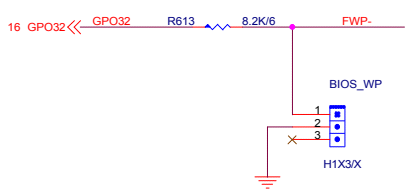
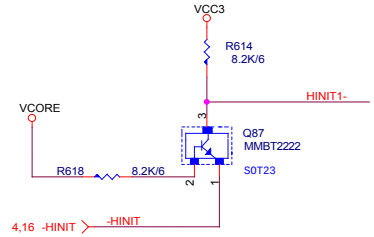
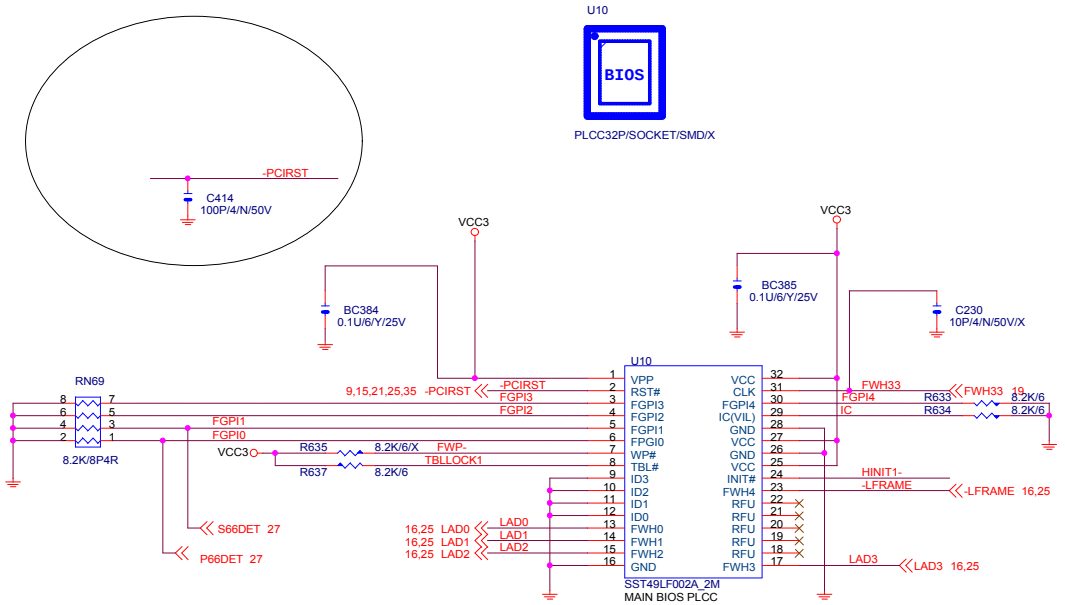


GIGABYTE CORP.		
Title	ICH5 VCC, GND	
Size B	Document Number GA-8I848P	Rev 2.01
Date:	Sheet 17 of 38	





BIOS_WP:	
1-2	WRITE PROTECT
2-3	DISABLE



ADD WINBOUD FWH SEC. SOURCE

GIGABYTE CORP.

Title: FWH

Size	Document Number	Rev
B	GA-8I848P	2.01

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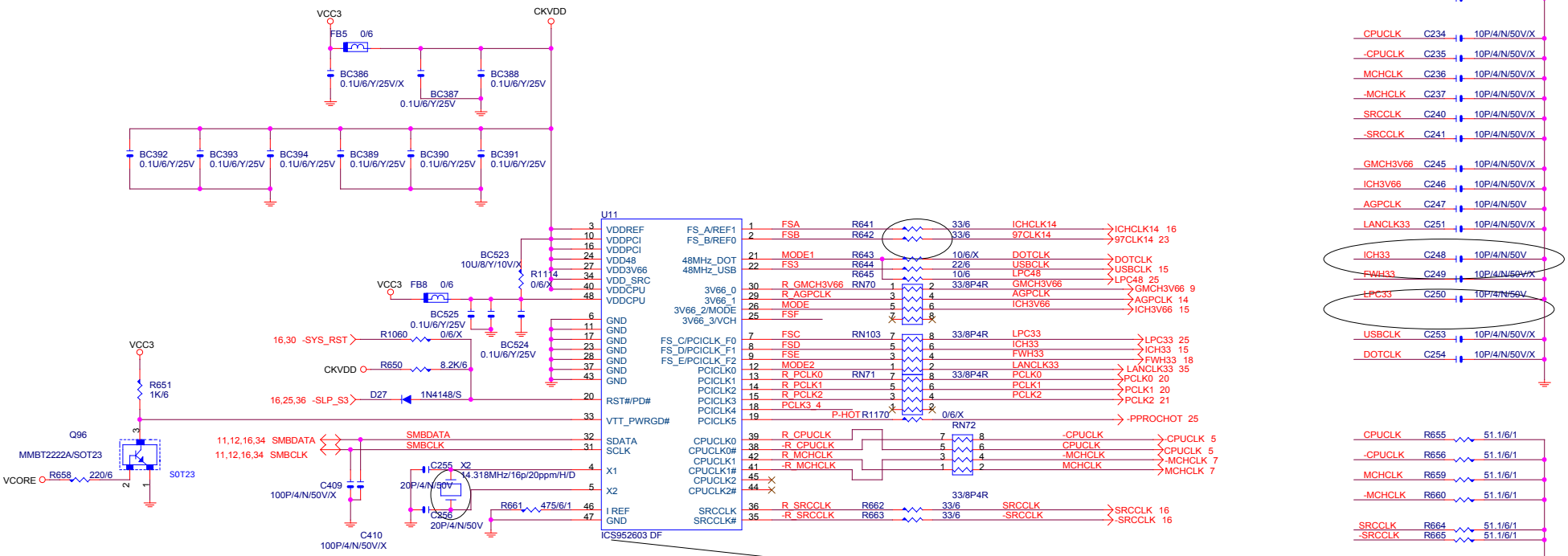


CYPRESS CY28405

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

ICS952603

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

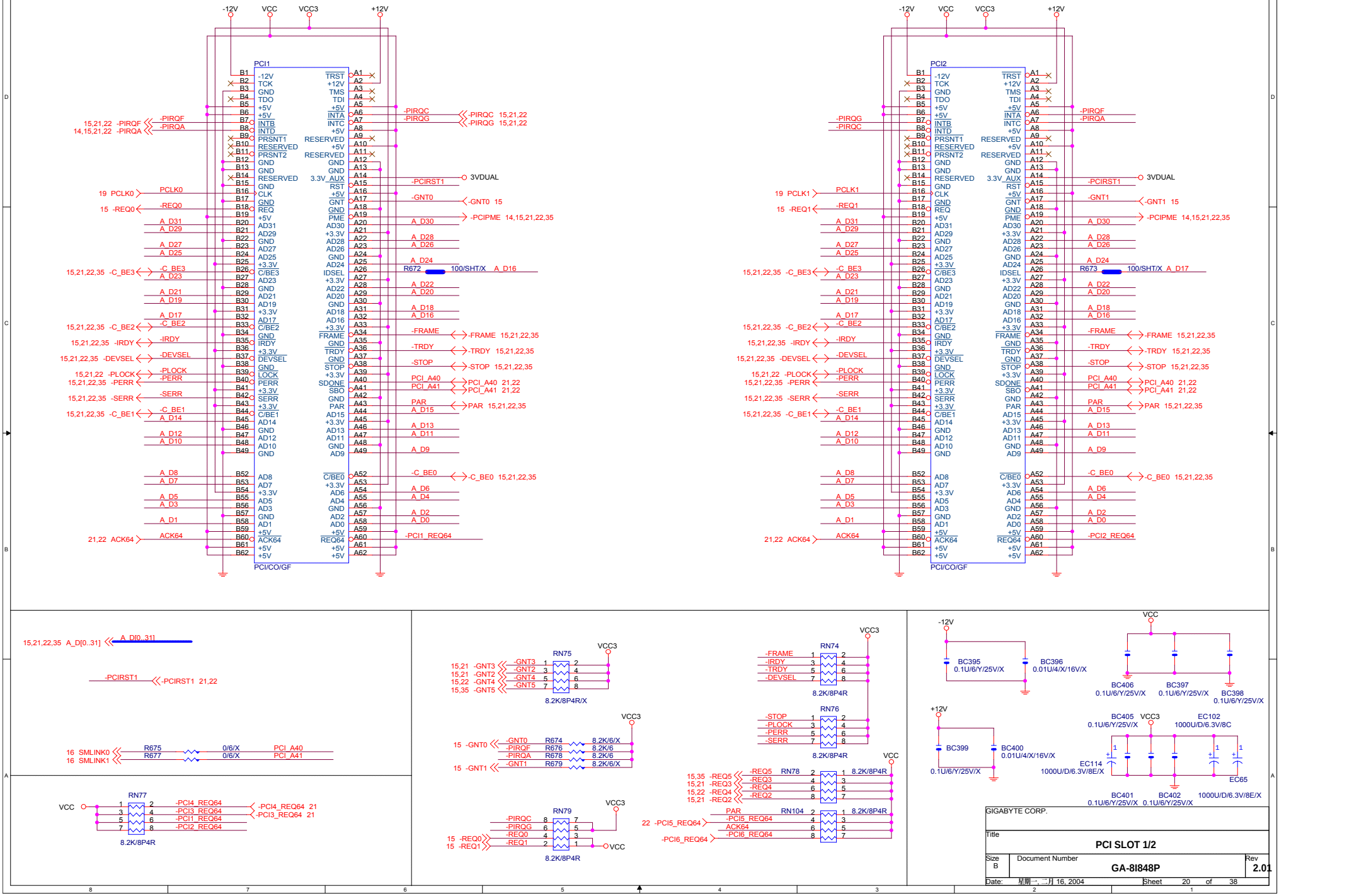
CY28405 上 R1031,R1034,R671
不上R1030,R1035
ICS952616上R1030,R1035
不上 R1031,R1034,R671

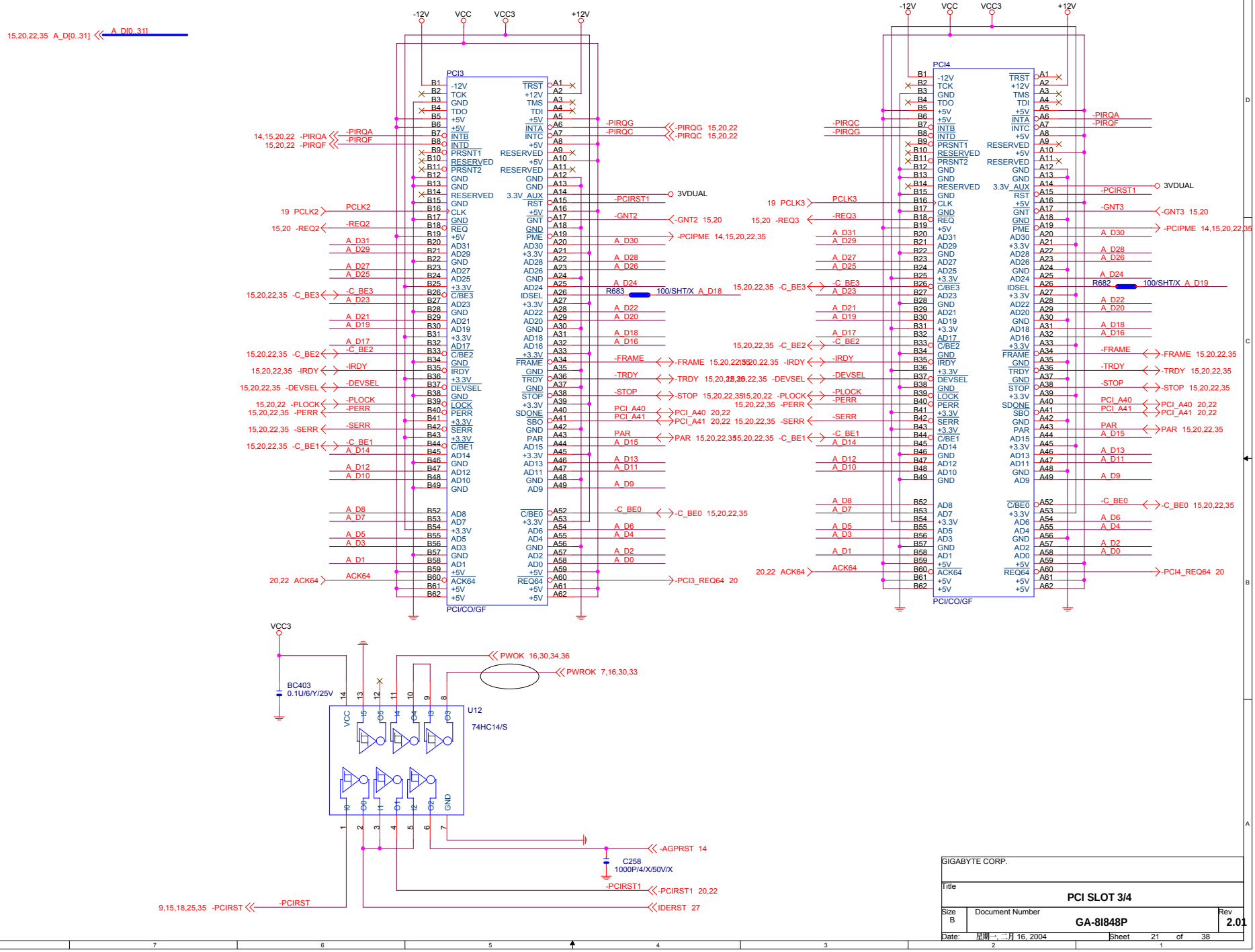
GIGABYTE CORP.

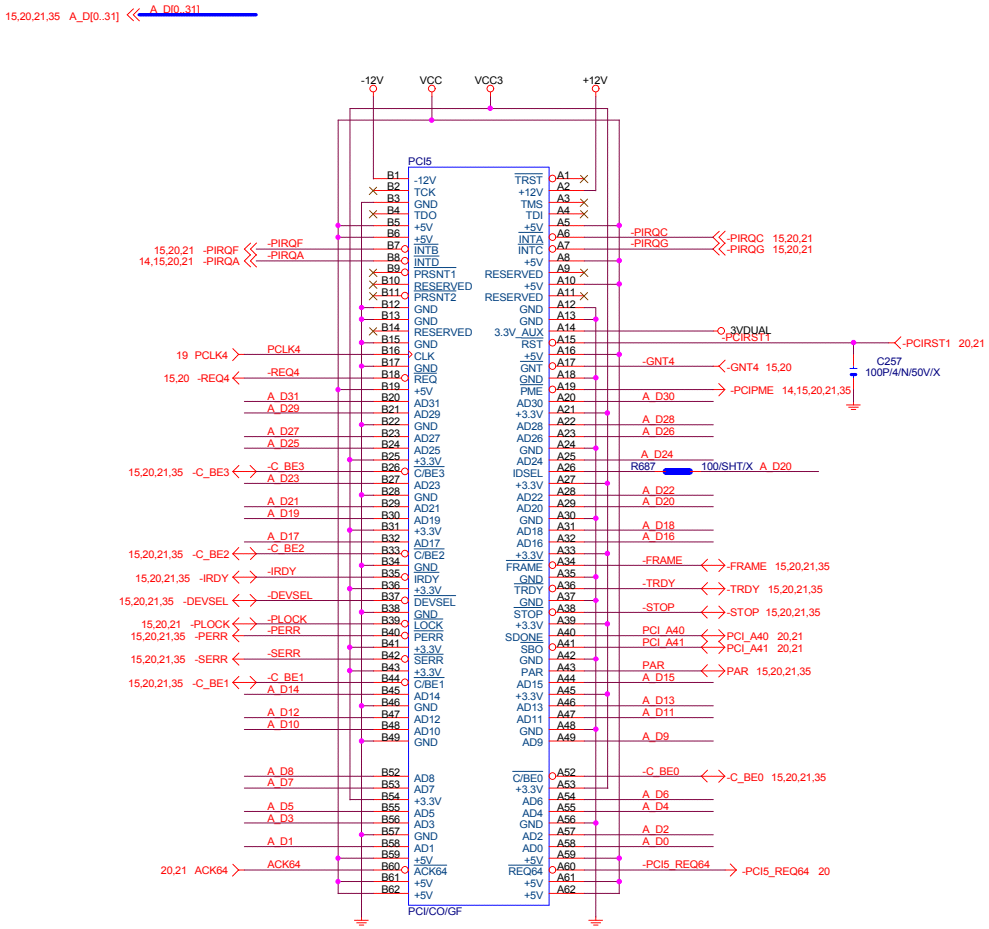
Title: CLOCK GENERATOR

Size: Custom | Document Number: GA-8I848P | Rev: 2.01

Date: | Sheet 19 of 38


PCI1
PCI2
PCI/CO/GF
-12V
VCC
VCC3
+12V
3VDUAL
RN74
RN75
RN76
RN77
RN78
RN79
RN104
8.2K/8P4R
8.2K/8P4R/X
GIGABYTE CORP.
PCI SLOT 1/2
GA-8I848P
2.01
Date: 星期一, 二月 16, 2004
Sheet 20 of 38


15,20,22,35 A_D[0..31]
A_D[0..31]
-12V
VCC
VCC3
+12V
PCI3
PCI/CO/GF
PCI4
3VDUAL
R683 100/SHT/X A_D18
R682 100/SHT/X A_D19
PWOK 16,30,34,36
PWROK 7,16,30,33
BC403
0.1U/6/Y/25V
U12
74HC14/S
C258
1000P/4/X/50V/X
-AGPRST 14
-PCIRST1 20,22
9,15,18,25,35 -PCIRST
IDERST 27
GIGABYTE CORP.
Title
PCI SLOT 3/4
Size B
Document Number
GA-8I848P
Rev 2.01
Date: 星期一, 二月 16, 2004
Sheet 21 of 38



GIGABYTE CORP.			
Title: PCI SLOT 5/6			
Size: Custom	Document Number: GA-8I848P		Rev: 2.01
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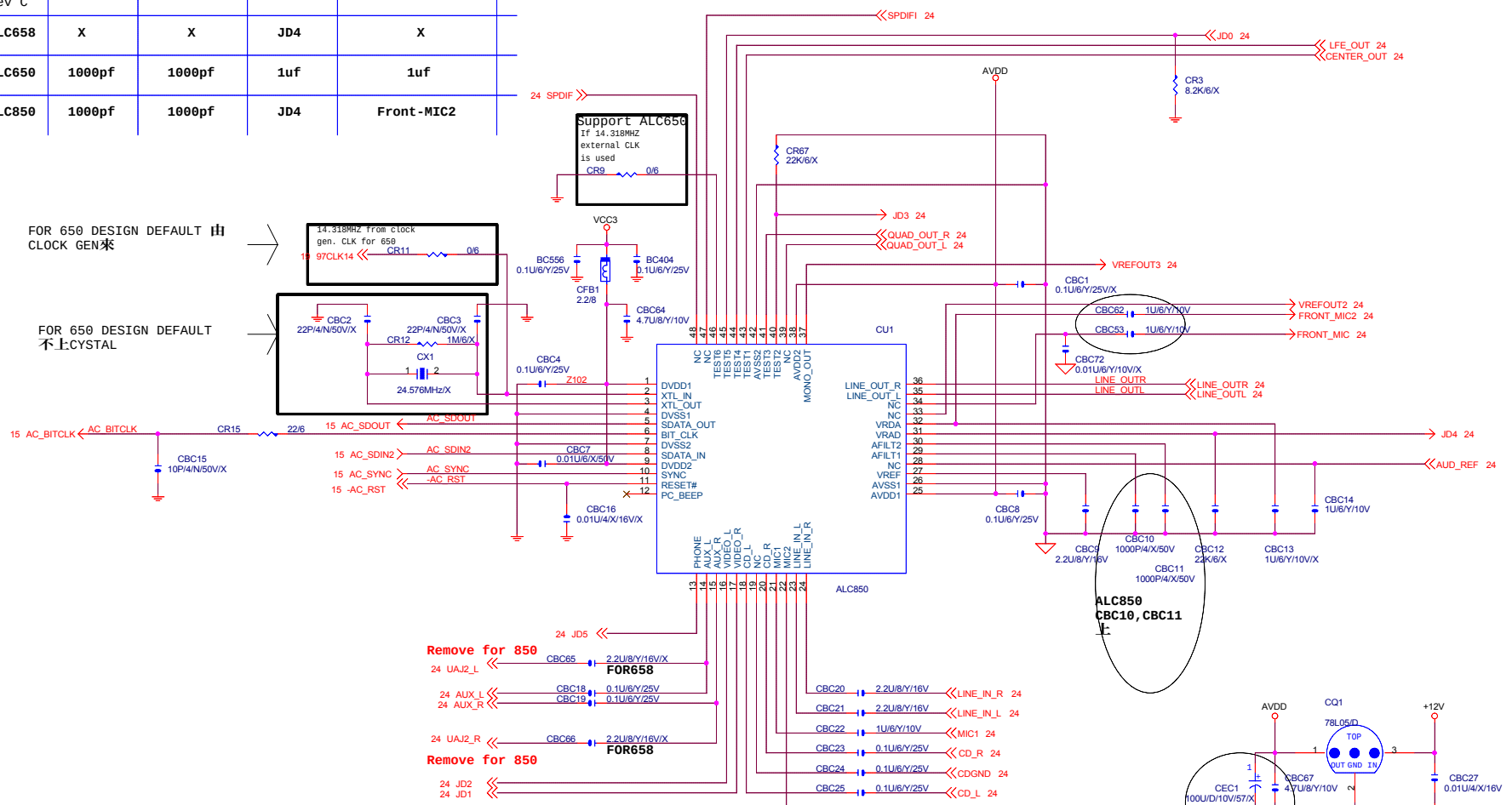
Filter Cap design:

	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



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 Exernal pull high is needed	for LINE-IN Exernal 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

GIGABYTE CORP.			
Title	ALC850		
Size: Custom	Document Number: GA-8I848P		Rev: 2.01
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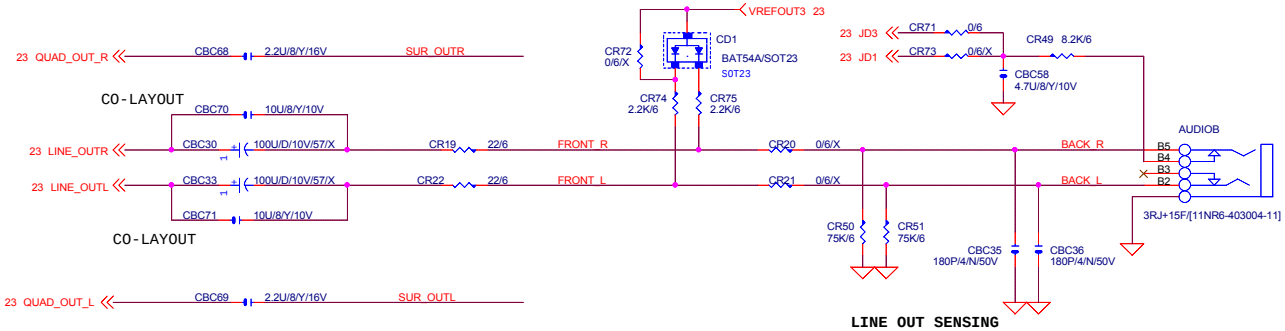
LINE OUT

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

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



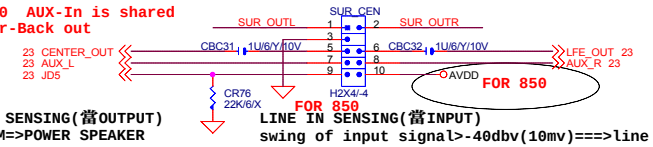
LINE OUT SENSING
R>4K OHM=>POWER SPEAKER
4K OHM>R>400 OHM=>MICROPHONE
R<400 OHM=>HEADPHONE

2x5 header for 850

For 850 if JD5 = low AUX-In is configued as input

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

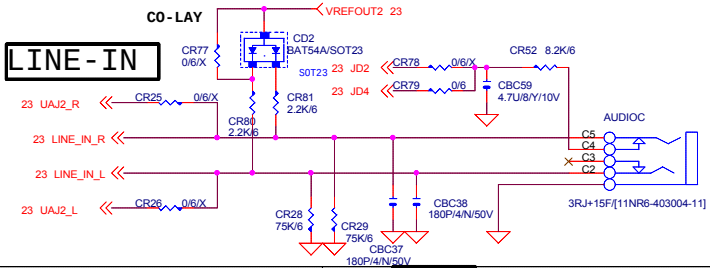
For 850 AUX-In is shared to Surr-Back out



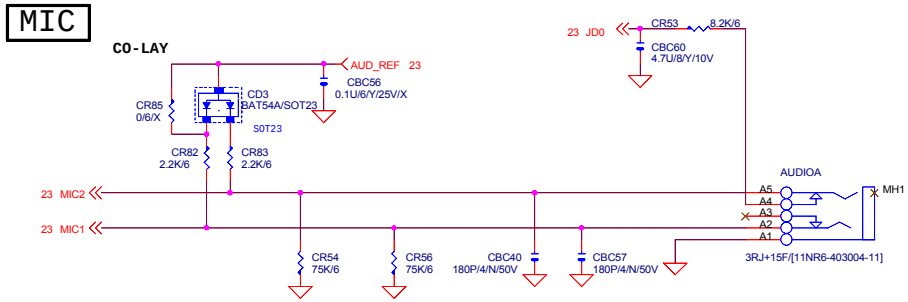
LINE IN SENSING(當OUTPUT)
R>4K OHM=>POWER SPEAKER
4K OHM>R>400 OHM=>MICROPHONE
R<400 OHM=>HEADPHONE

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

LINE-IN



MIC

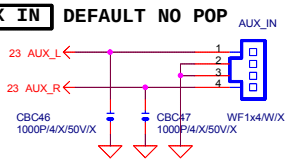


MICROPHONE IN SENSING(當INPUT)(利用vref 偏壓與CR43,CR32 並聯求出阻抗)
7.1k ohm>R>2.3k ohm===>microphone in
R<2.3k ohm or R>7.1k ohm===>unknown device

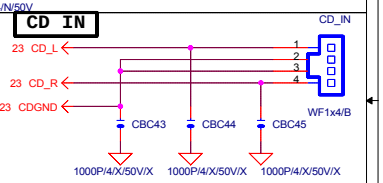
MICROPHONE IN SENSING(當OUTPUT)
R>4K OHM=>POWER SPEAKER
4K OHM>R>400 OHM=>MICROPHONE
R<400 OHM=>HEADPHONE

AUX IN

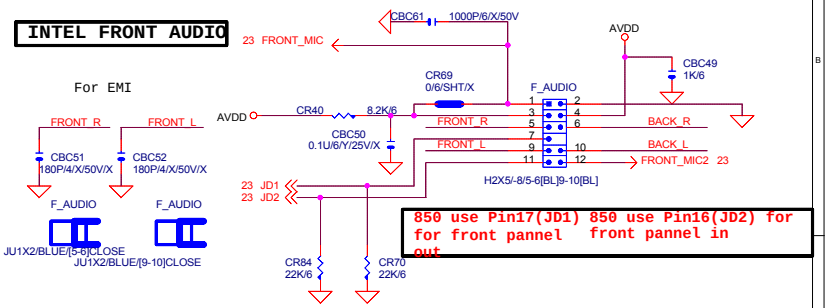
DEFAULT NO POP



CD IN

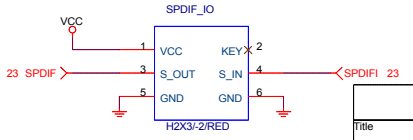


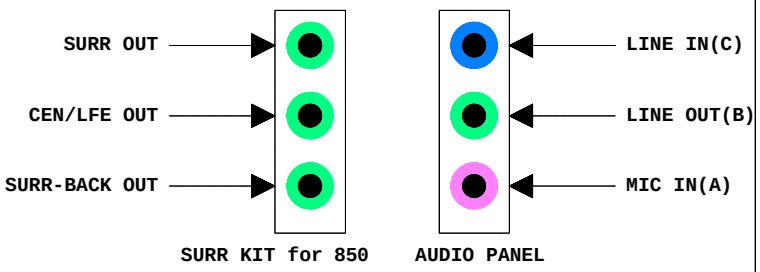
INTEL FRONT AUDIO



850 use Pin17(JD1) 850 use Pin16(JD2) for front pannel
for front pannel in out

SPDIF_IO





GIGABYTE CORP.

Title: AUDIO OUTPUT,GAME PORT

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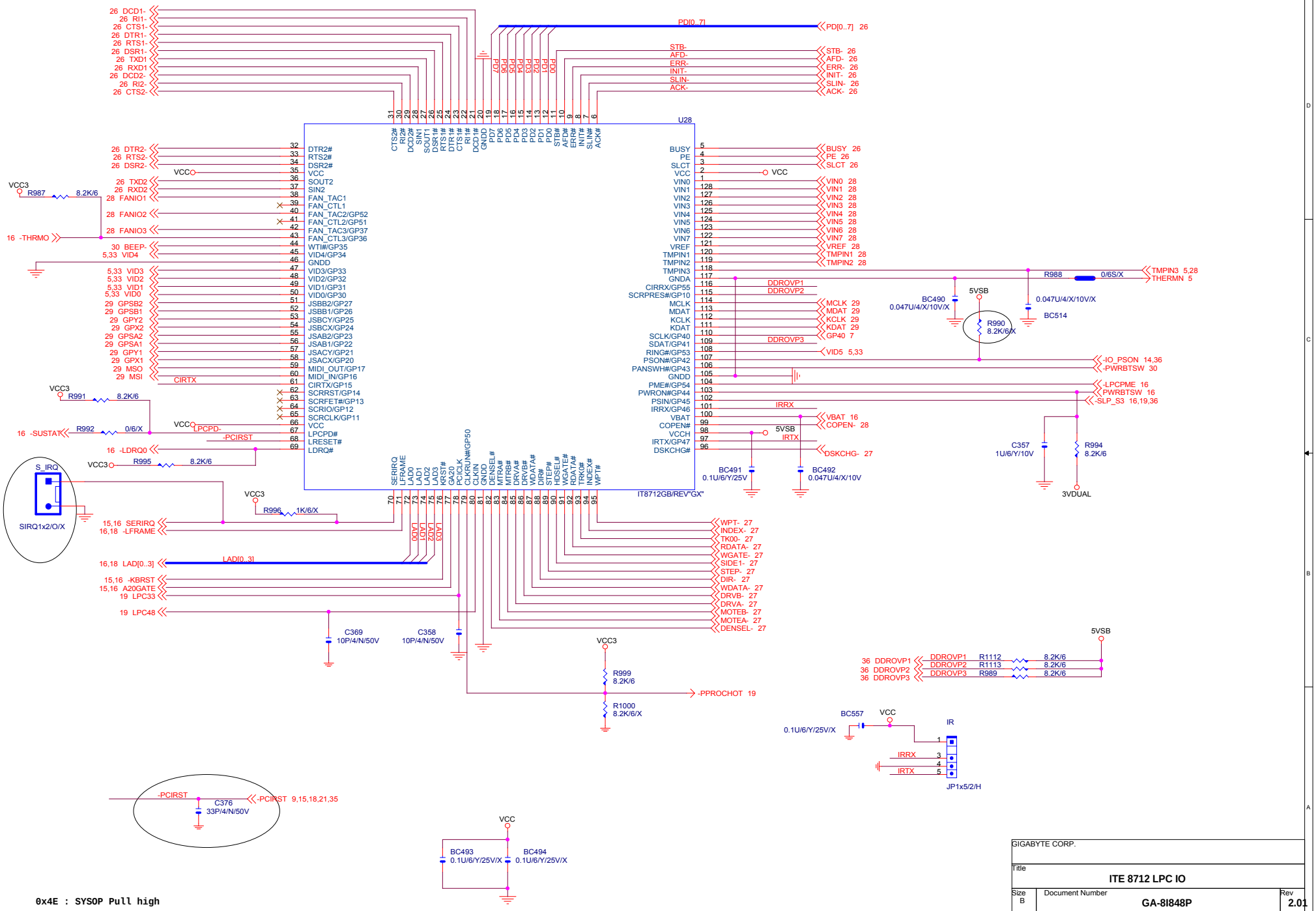
U28
IT8712GB/REV"GX"
26 DCD1-
26 RI1-
26 CTS1-
26 DTR1-
26 RTS1-
26 DSR1-
26 TXD1
26 RXD1
26 DCD2-
26 RI2-
26 CTS2-
PD[0..7]
PD[0..7] 26
STB- 26
AFD- 26
ERR- 26
INIT- 26
SLIN- 26
ACK- 26
DTR2-
RTS2-
DSR2-
TXD2
RXD2
FANIO1
FANIO2
FANIO3
-THRMO
BEEP-
VID4
VID3
VID2
VID1
VID0
GPSB2
GPSB1
GPY2
GPX2
GPSA2
GPSA1
GPY1
GPX1
MSO
MSI
CIRTX
SCRRST#/GP14
SCRFET#/GP13
SCRIO/GP12
SCRCLK/GP11
LPCPD#
LRESET#
LDRQ#
SERIRQ
LFRAME#
LAD0
LAD1
LAD2
LAD3
KRST#
GA20
PCICLK
CLKRUN#/GP50
DENSEL#
MTRA#
MTRB#
DRVA#
DRVB#
WDATA#
DIR#
STEP#
WGATE#
RDATA#
TRK0#
INDEX#
WPT#
BUSY
PE
SLCT
VIN0
VIN1
VIN2
VIN3
VIN4
VIN5
VIN6
VIN7
VREF
TMPIN1
TMPIN2
TMPIN3
GNDA
CIRRX/GP55
SCRPRES#/GP10
MCLK
MDAT
KCLK
KDAT
SCLK/GP40
SDAT/GP41
RING#/GP53
PSON#/GP42
PANSWH#/GP43
PME#/GP54
PWRON#/GP44
PSIN/GP45
IRRX/GP46
VBAT
COPEN#
VCCH
IRTX/GP47
DSKCHG#
DDROVP1
DDROVP2
DDROVP3
VID5 5,33
IRRX
IRTX
R988 0/6S/X
TMPIN3 5,28
THERMN 5
BC490 0.047U/4/X/10V/X
BC514 0.047U/4/X/10V/X
R990 8.2K/6/X
5VSB
-IO_PSON 14,36
-PWRBTSW 30
-LPCPME 16
PWRBTSW 16
-SLP_S3 16,19,36
C357 1U/6/Y/10V
R994 8.2K/6
3VDUAL
BC491 0.1U/6/Y/25V
BC492 0.047U/4/X/10V
VBAT 16
COPEN- 28
DSKCHG- 27
R987 8.2K/6
R991 8.2K/6
R992 0/6/X
R995 8.2K/6
R996 1K/6/X
-SUSTAT
-LDRQ0
-PCIRST
LPCPD-
VCC3
VCC
S_IRQ
SIRQ1x2/O/X
15,16 SERIRQ
16,18 -LFRAME
16,18 LAD[0..3]
LAD[0..3]
15,16 -KBRST
15,16 A20GATE
19 LPC33
19 LPC48
C369 10P/4/N/50V
C358 10P/4/N/50V
WPT- 27
INDEX- 27
TK00- 27
RDATA- 27
WGATE- 27
SIDE1- 27
STEP- 27
DIR- 27
WDATA- 27
DRVB- 27
DRVA- 27
MOTEB- 27
MOTEA- 27
DENSEL- 27
R999 8.2K/6
R1000 8.2K/6/X
-PPROCHOT 19
36 DDROVP1
36 DDROVP2
36 DDROVP3
R1112 8.2K/6
R1113 8.2K/6
R989 8.2K/6
BC557
0.1U/6/Y/25V/X
IR
IRRX
IRTX
JP1x5/2/H
-PCIRST
C376 33P/4/N/50V
-PCIRST 9,15,18,21,35
BC493 0.1U/6/Y/25V/X
BC494 0.1U/6/Y/25V/X
0x4E : SYSOP Pull high
GIGABYTE CORP.
Title
ITE 8712 LPC IO
Size B
Document Number
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Rev 2.01
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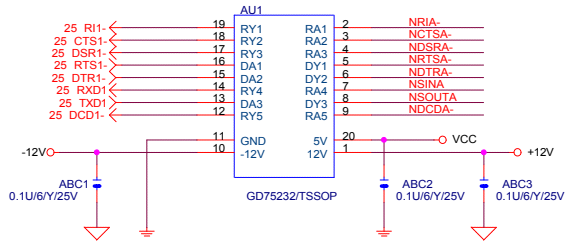
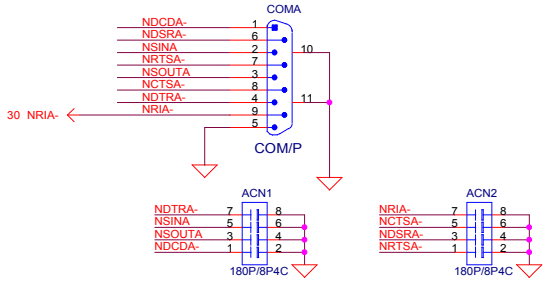
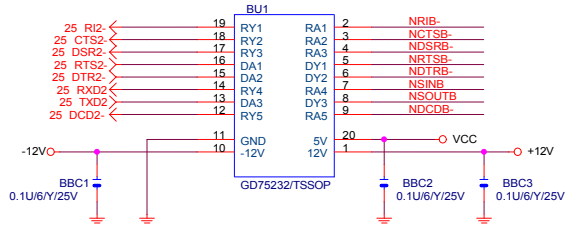
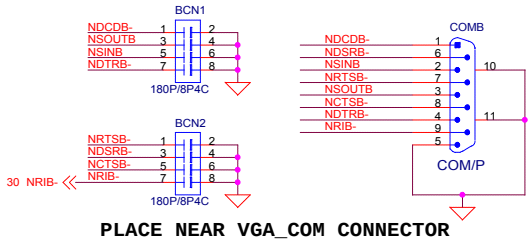
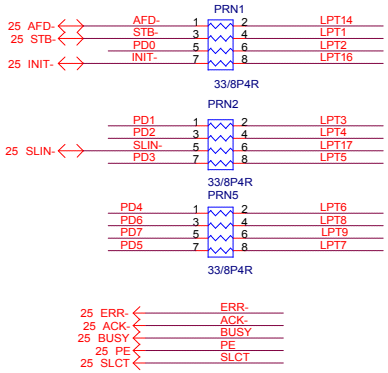


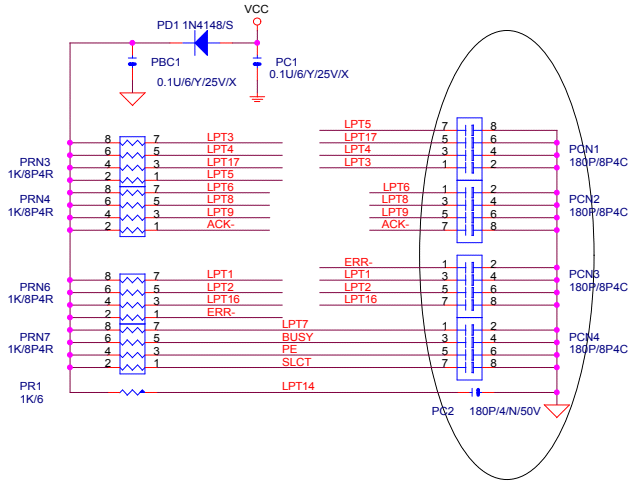


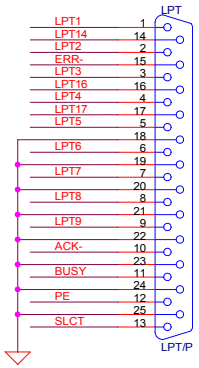




PLACE NEAR VGA_COM CONNECTOR







GIGABYTE CORP.		
Title: COM & IR & LPT PORT &FLOOPY		
Size: B	Document Number: GA-8I848P	Rev: 2.01
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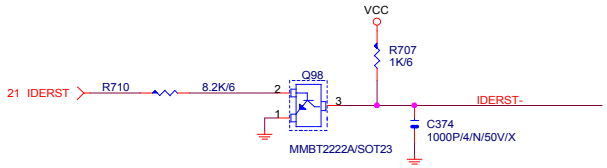
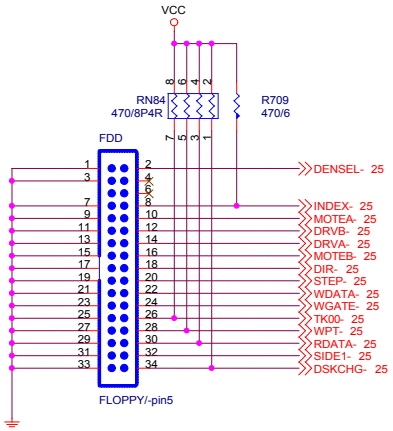
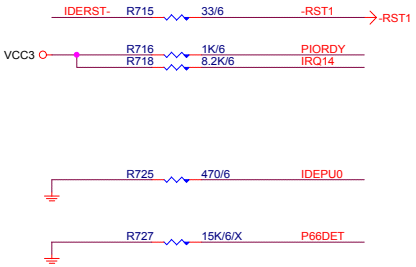
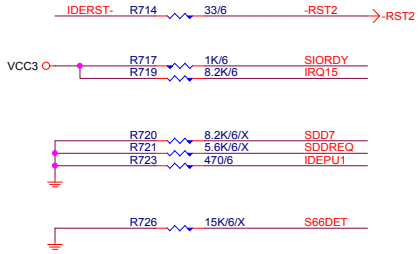
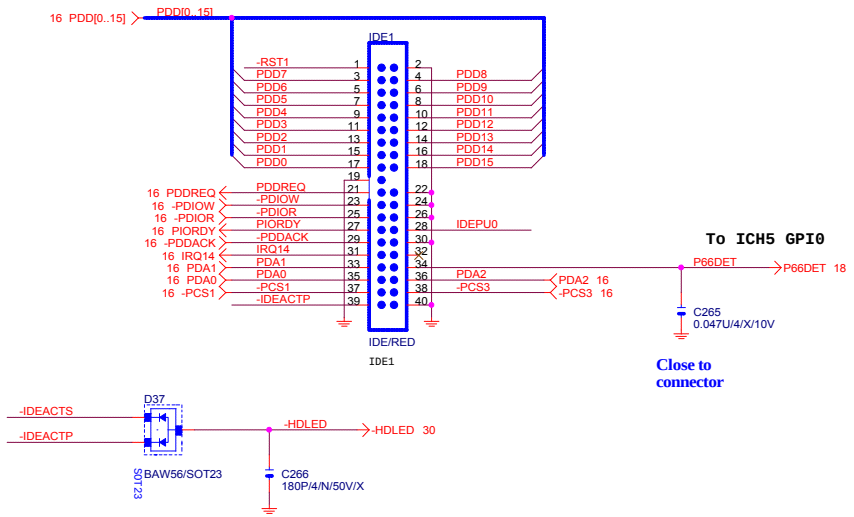




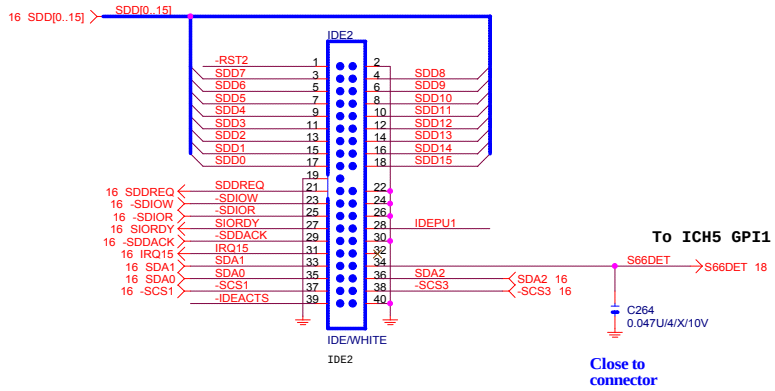




PRIMARY IDE CONNECTOR

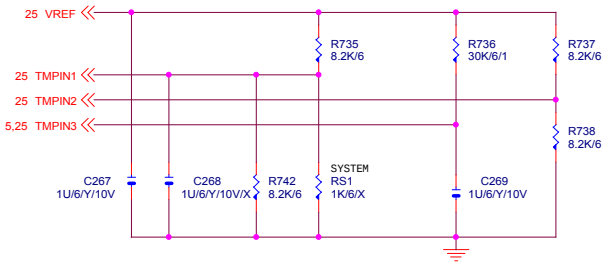


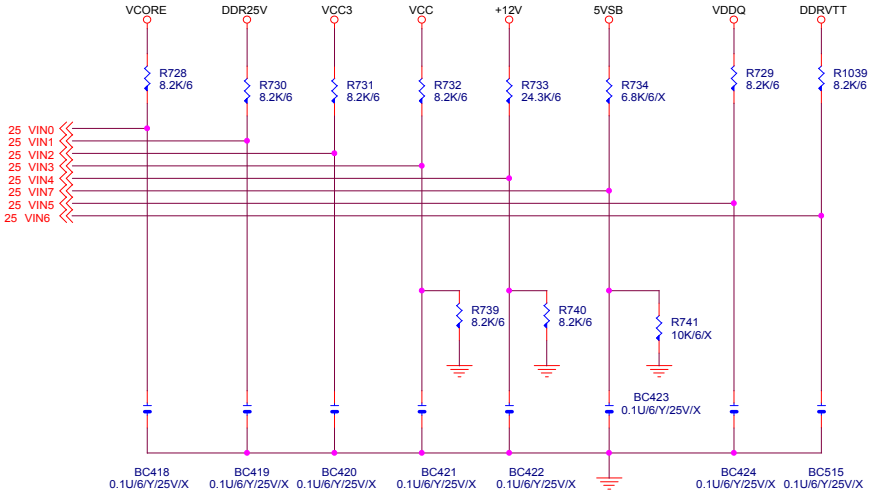
SECONDARY IDE CONNECTOR

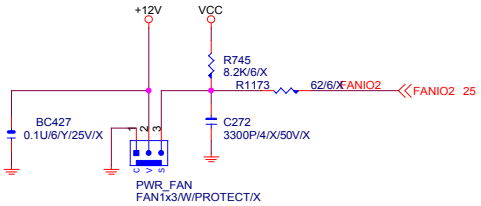


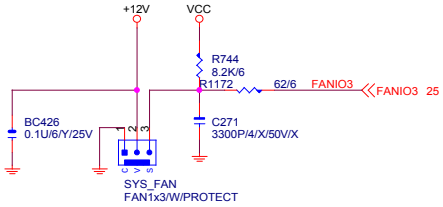
GIGABYTE CORP.		
Title: IDE CONNECTOR		
Size: B	Document Number: GA-8I848P	Rev: 2.01
Date:	Sheet 27 of 38	

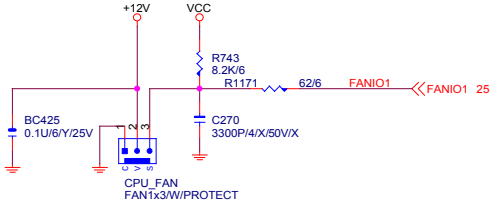
Hardware Monitor circuits

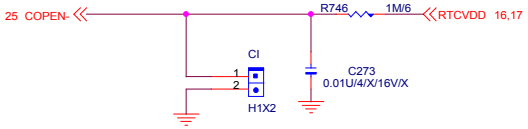




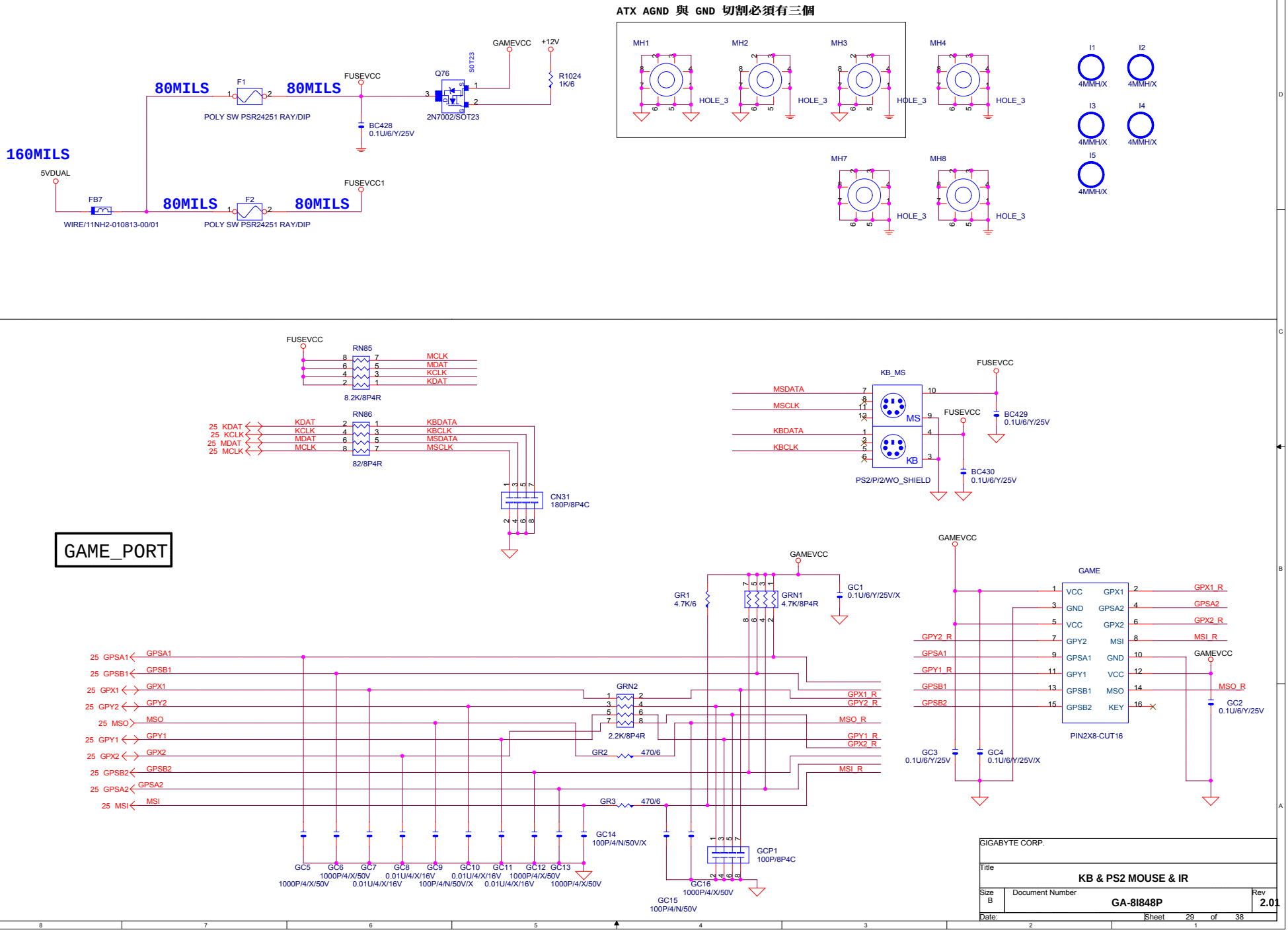




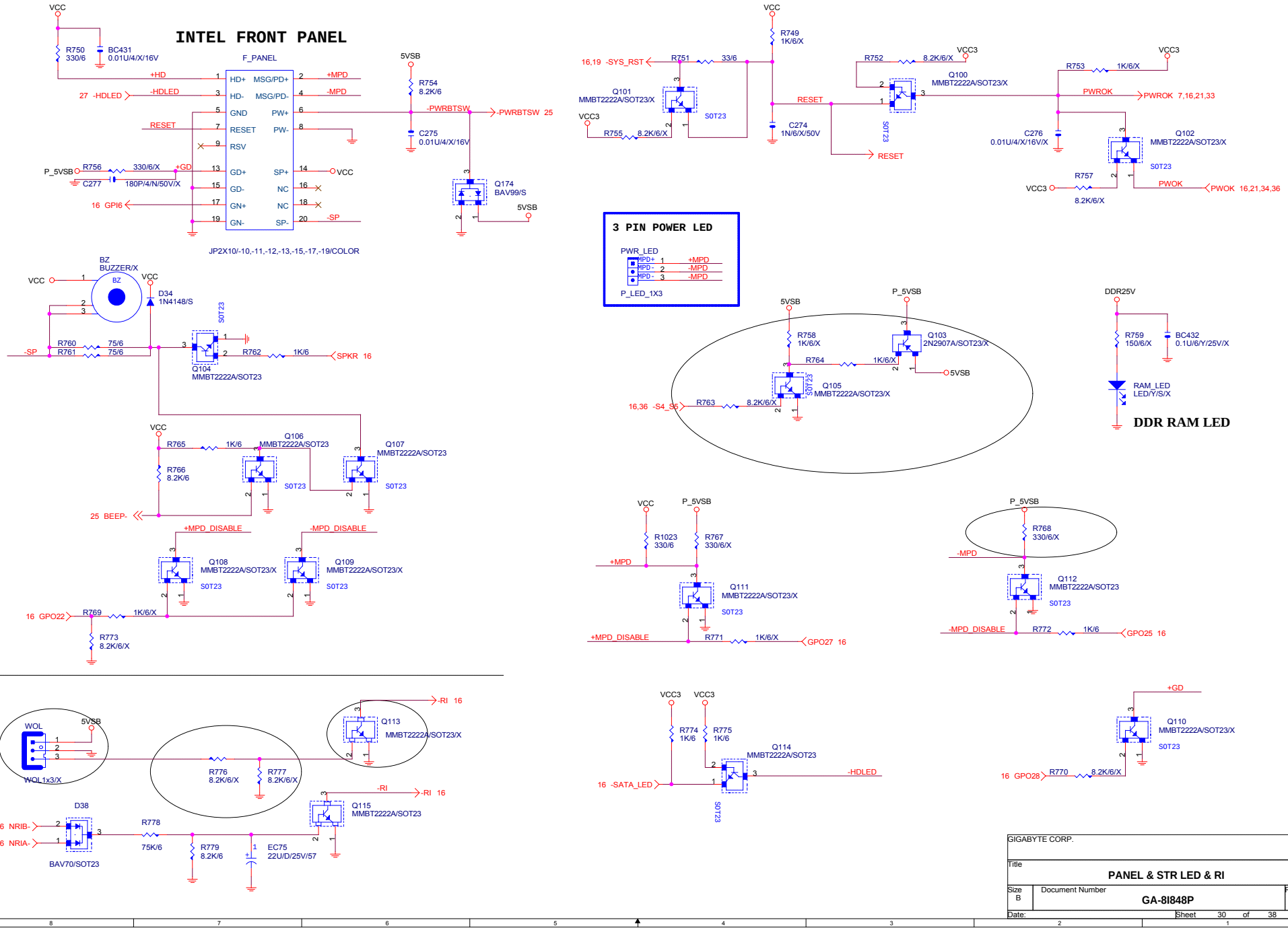




GIGABYTE CORP.		
Title: FAN/HWMO		
Size: B	Document Number: GA-8I848P	Rev: 2.01
Date: 星期一, 二月 16, 2004	Sheet 28 of 38	



GIGABYTE CORP.		
Title: KB & PS2 MOUSE & IR		
Size: B	Document Number: GA-8I848P	Rev: 2.01
Date:	Sheet 29 of 38	


INTEL FRONT PANEL
F_PANEL
JP2X10/-10,-11,-12,-13,-15,-17,-19/COLOR
3 PIN POWER LED
PWR_LED
P_LED_1X3
DDR RAM LED
WOL1x3/X
BAV70/SOT23
GIGABYTE CORP.
PANEL & STR LED & RI
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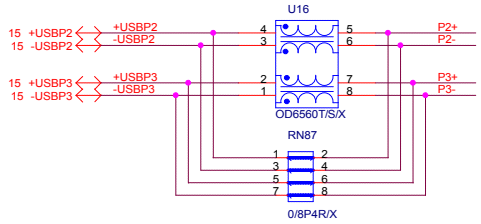
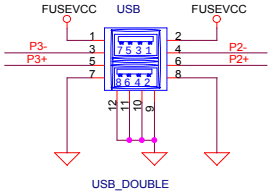
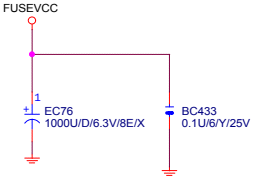
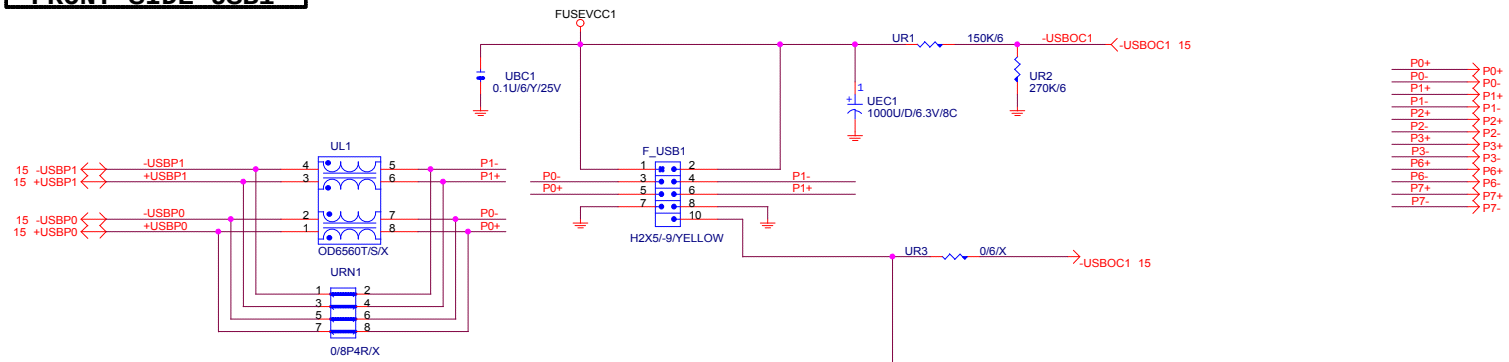
REAR USB



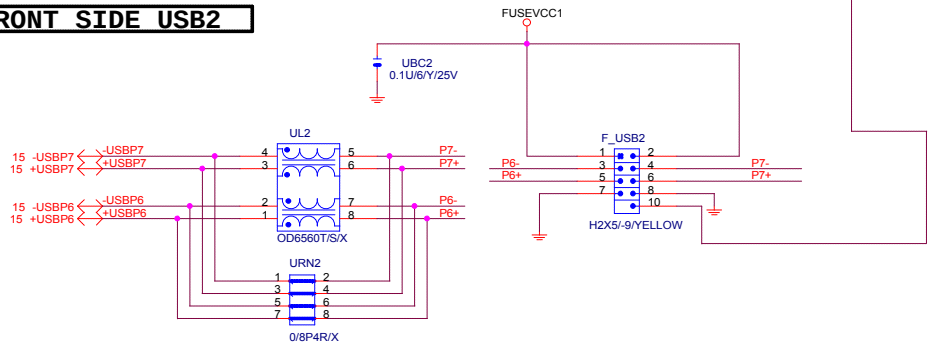




FRONT SIDE USB1



FRONT SIDE USB2



GIGABYTE CORP.		
Title: ICH USB PORT		
Size: B	Document Number: GA-8I848P	Rev: 2.01
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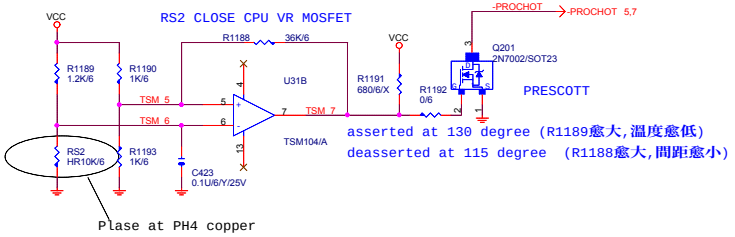
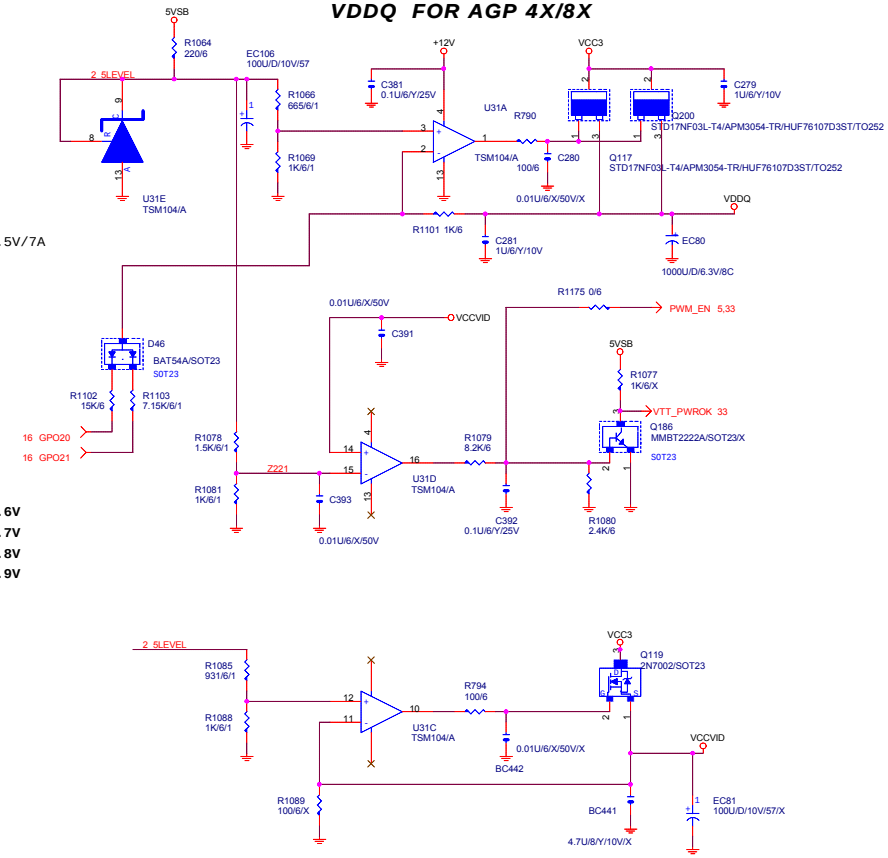
DDR25V FOR DDR DIMM & NB



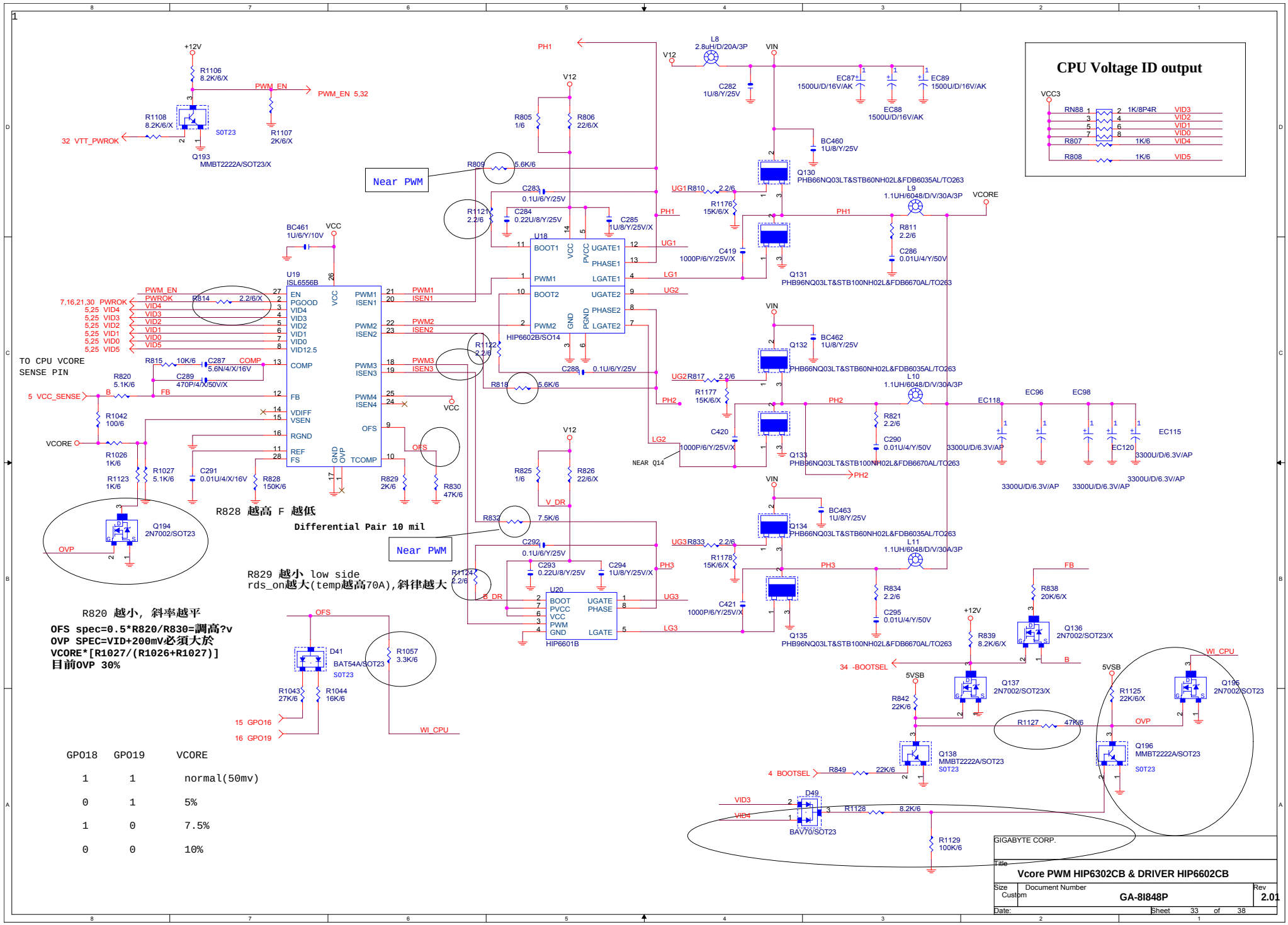
2.5V/7A

DDROVP1	DDROVP2	
1	1	2.6V
0	1	2.7V
1	0	2.8V
0	0	2.9V

VDDQ FOR AGP 4X/8X



Title	ISL6556B Springdale power ckt	
Size	Document Number GA-8I848P	Rev 2.01
Date: 星期一, 二月 16, 2004	Sheet 32 of 38	


CPU Voltage ID output
VCC3
RN88
1K/8P4R
VID3
VID2
VID1
VID0
R807
1K/6
VID4
R808
1K/6
VID5
+12V
R1106
8.2K/6/X
PWM_EN
PWM_EN 5,32
R1108
8.2K/6/X
SOT23
R1107
2K/6/X
32 VTT_PWROK
Q193
MMBT2222A/SOT23/X
PH1
V12
L8
2.8uH/D/20A/3P
VIN
C282
1U/8/Y/25V
EC87
1500U/D/16V/AK
EC88
1500U/D/16V/AK
EC89
1500U/D/16V/AK
R805
1/6
R806
22/6/X
Near PWM
R809
5.6K/6
BC460
1U/8/Y/25V
Q130
PHB66NQ03LT&STB60NH02L&FDB6035AL/TO263
C283
0.1U/6/Y/25V
R1121
2.2/6
C284
0.22U/8/Y/25V
C285
1U/8/Y/25V/X
U18
BOOT1
UGATE1
PHASE1
PWM1
LGATE1
BOOT2
UGATE2
PHASE2
PWM2
LGATE2
HIP6602B/SO14
UG1
R810
2.2/6
R1176
15K/6/X
L9
1.1UH/6048/D/V/30A/3P
VCORE
R811
2.2/6
C286
0.01U/4/Y/50V
C419
1000P/6/Y/25V/X
Q131
PHB96NQ03LT&STB100NH02L&FDB6670AL/TO263
LG1
UG2
BC461
1U/6/Y/10V
VCC
U19
ISL6556B
PWM_EN
PWROK
R814
2.2/6/X
7,16,21,30 PWROK
5,25 VID4
5,25 VID3
5,25 VID2
5,25 VID1
5,25 VID0
5,25 VID5
EN
PGOOD
VID4
VID3
VID2
VID1
VID0
VID12.5
PWM1
ISEN1
PWM2
ISEN2
PWM3
ISEN3
PWM4
ISEN4
VDIFF
VSEN
RGND
REF
FS
COMP
FB
OFS
TCOMP
GND
OVP
R1122
2.2/6
R818
5.6K/6
C288
0.1U/6/Y/25V
R815
10K/6
C287
5.6N/4/X/16V
COMP
C289
470P/4/X/50V/X
R820
5.1K/6
5 VCC_SENSE
R1042
100/6
VCORE
R1026
1K/6
R1027
5.1K/6
R1123
1K/6
C291
0.01U/4/X/16V
R828
150K/6
R829
2K/6
R830
47K/6
TO CPU VCORE
SENSE PIN
Q194
2N7002/SOT23
OVP
R828 越高 F 越低
Differential Pair 10 mil
Near PWM
R832
7.5K/6
C292
0.1U/6/Y/25V
C293
0.22U/8/Y/25V
C294
1U/8/Y/25V/X
R1124
2.2/6
B_DR
U20
BOOT
PVCC
VCC
PWM
GND
UGATE
PHASE
LGATE
HIP6601B
UG3
LG3
R829 越小 low side
rds_on越大(temp越高70A),斜律越大
R820 越小, 斜率越平
OFS spec=0.5*R820/R830=調高?v
OVP SPEC=VID+200mV必須大於
VCORE*[R1027/(R1026+R1027)]
目前OVP 30%
OFS
D41
BAT54A/SOT23
SOT23
R1057
3.3K/6
R1043
27K/6
R1044
16K/6
15 GPO16
16 GPO19
WI_CPU
GPO18 GPO19 VCORE
1 1 normal(50mv)
0 1 5%
1 0 7.5%
0 0 10%
V_DR
R825
1/6
R826
22/6/X
Q132
BC462
1U/8/Y/25V
PHB66NQ03LT&STB60NH02L&FDB6035AL/TO263
R817
2.2/6
R1177
15K/6/X
L10
1.1UH/6048/D/V/30A/3P
R821
2.2/6
C290
0.01U/4/Y/50V
C420
1000P/6/Y/25V/X
Q133
PHB96NQ03LT&STB100NH02L&FDB6670AL/TO263
NEAR Q14
EC118
EC96
EC98
EC115
EC120
3300U/D/6.3V/AP
Q134
BC463
1U/8/Y/25V
PHB66NQ03LT&STB60NH02L&FDB6035AL/TO263
R833
2.2/6
R1178
15K/6/X
L11
1.1UH/6048/D/V/30A/3P
R834
2.2/6
C295
0.01U/4/Y/50V
C421
1000P/6/Y/25V/X
Q135
PHB96NQ03LT&STB100NH02L&FDB6670AL/TO263
R838
20K/6/X
Q136
2N7002/SOT23/X
R839
8.2K/6/X
34 -BOOTSEL
Q137
2N7002/SOT23/X
R842
22K/6
R1127
47K/6
R1125
22K/6/X
Q195
2N7002/SOT23
Q138
MMBT2222A/SOT23
SOT23
Q196
MMBT2222A/SOT23
SOT23
4 BOOTSEL
R849
22K/6
D49
BAV70/SOT23
R1128
8.2K/6
R1129
100K/6
GIGABYTE CORP.
Title
Vcore PWM HIP6302CB & DRIVER HIP6602CB
Size
Custom
Document Number
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2.01
Date:
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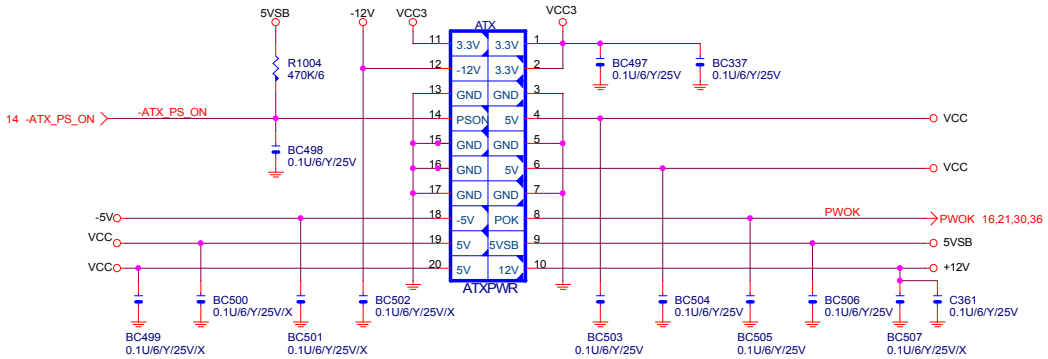
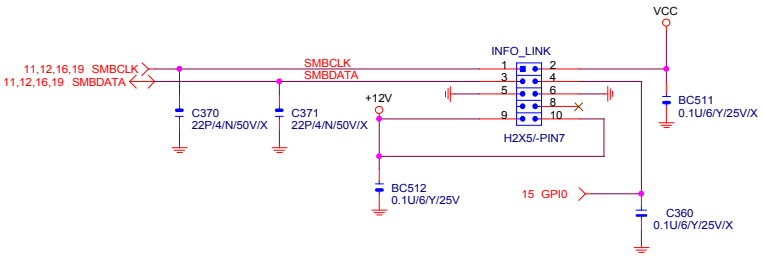
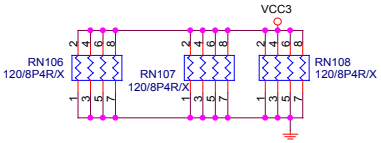
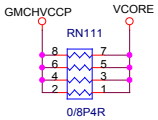
ATX POWER CONNECTOR

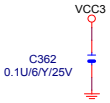


SMBUS CONN.

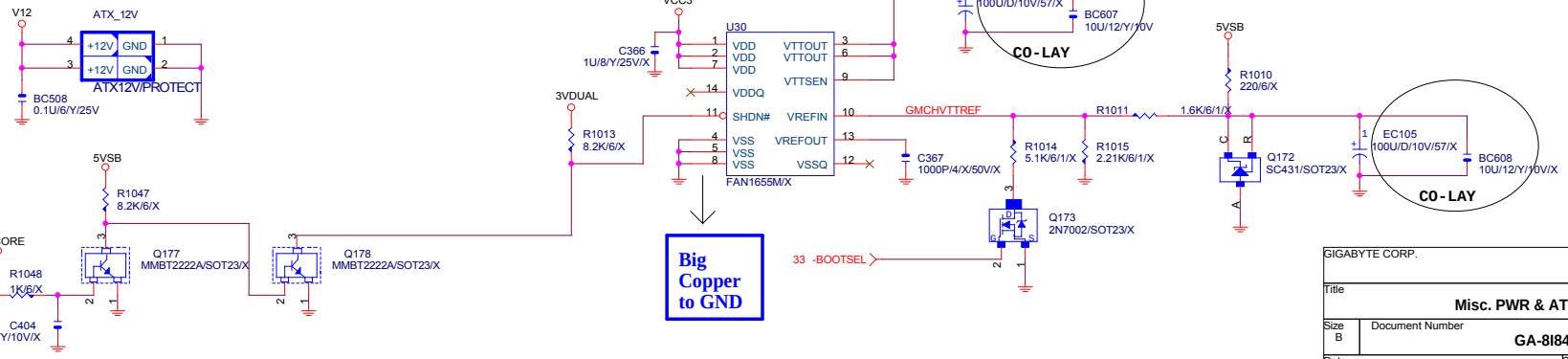








Northwood:+1.45V
Prescott:+1.225V



GIGABYTE CORP.		
Title: Misc. PWR & ATX CONN.		
Size: B	Document Number: GA-8I848P	Rev: 2.01
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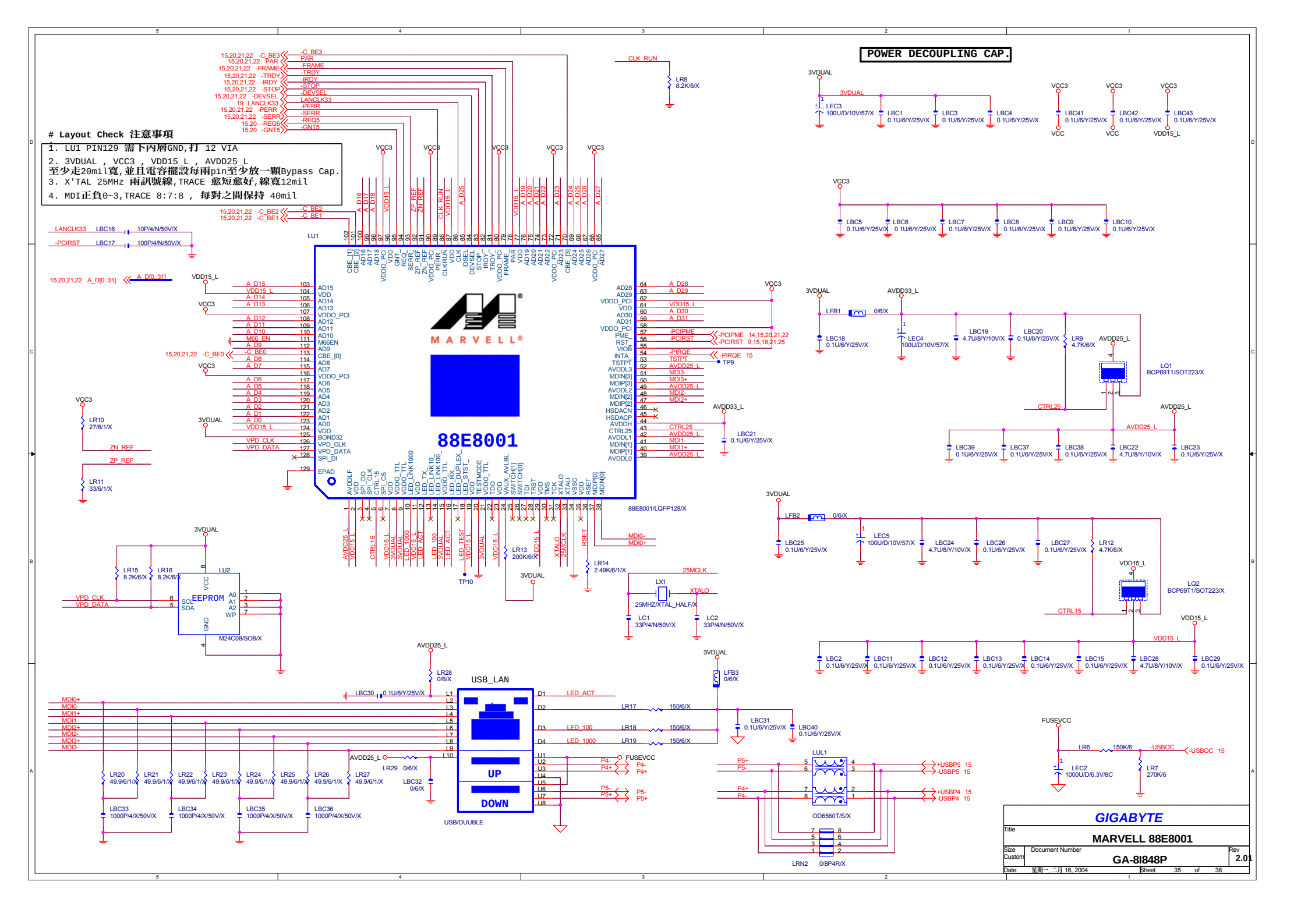
POWER DECOUPLING CAP.
Layout Check 注意事項
1. LU1 PIN129 需下內層GND,打 12 VIA
2. 3VDUAL , VCC3 , VDD15_L , AVDD25_L
至少走20mil寬,並且電容擺設每兩pin至少放一顆Bypass Cap.
3. X'TAL 25MHz 兩訊號線,TRACE 愈短愈好,線寬12mil
4. MDI正負0~3,TRACE 8:7:8 , 每對之間保持 40mil
88E8001
88E8001/LQFP128/X
M24C08/SO8/X
USB_LAN
USB/DUUBLE
OD6560T/S/X
LRN2 0/8P4R/X
GIGABYTE
Title
MARVELL 88E8001
Size Custom
Document Number
GA-8I848P
Rev 2.01
Date: 星期一, 二月 16, 2004
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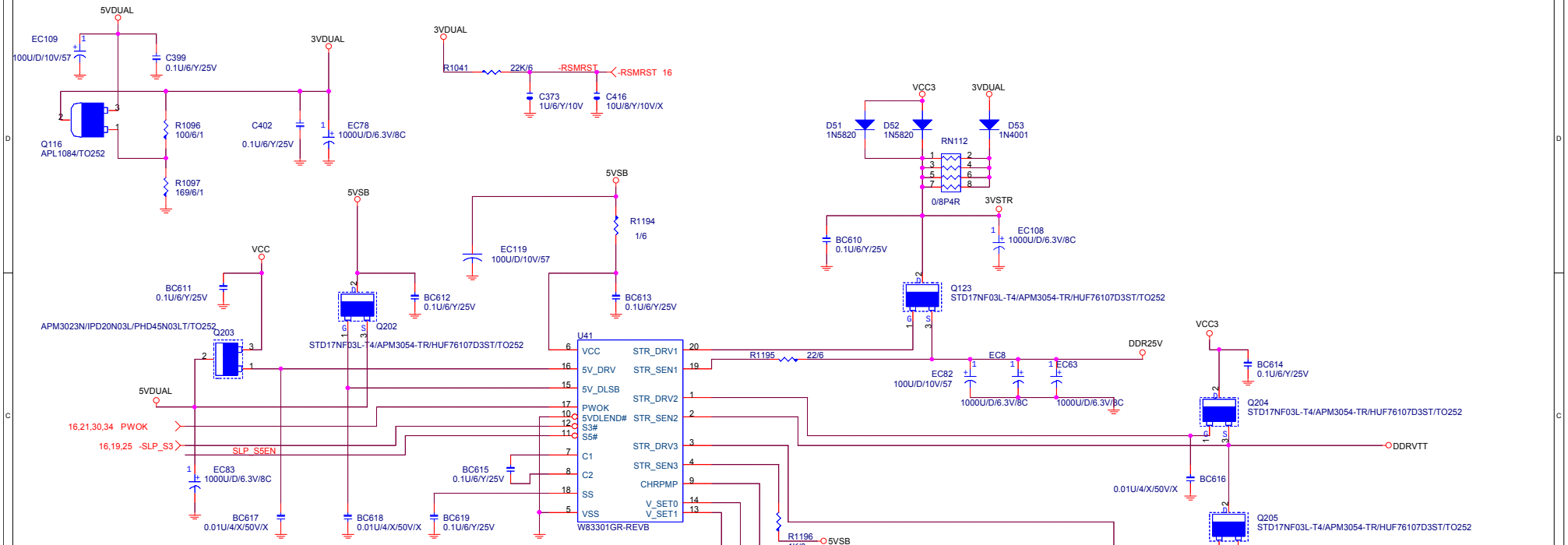

GIGABYTE THCHNOLOGIES , INC.

Title: DDR POWER

Size: Custom | Document Number: GA-8I848P | Rev: 2.01

Date: 星期一, 二月 16, 2004 | Sheet 36 of 38

GIGABYTE GA-8I848P PCI ROUNTING LIST

PCI DEVICE	IDSEL	INT	CLOCK	REQ	GNT	
PCI SLOT1	16	C,F,G,A	PCLK0	REQ0-	GNT0-	
PCI SLOT2	17	F,G,A,C	PCLK1	REQ1-	GNT1-	
PCI SLOT3	18	G,A,C,F	PCLK2	REQ2-	GNT2-	
PCI SLOT4	19	A,C,F,G	PCLK3	REQ3-	GNT3-	
PCI SLOT5	20	C,F,G,A	PCLK4	REQ4-	GNT4-	
LAN (Marvell)	25	E	LANCLK33	-REQ5(REQB#)	-GNT5(GNTB#)	

GIGABYTE CORP.

Title: PCI ROUNT LIST

Size: Custom | Document Number: GA-8I848P | Rev: 2.01

Date: 星期一, 二月 16, 2004 | Sheet 37 of 38

GIGABYTE GA-8I848P GPIO LIST

SHEET TITLE

GPIP	I/O	FUNCTION
GPI0/REQA-	I	PULL HIGH 8.2K to VCC3, SMB connector.
GPI1/REQ5-		PULL HIGH 8.2K to VCC, REQ5-.
GPI2/PIRQE-		PULL HIGH 8.2K to VCC3, PIRQE-.
GPI3/PIRQF-		PULL HIGH 8.2K to VCC3, PIRQF-.
GPI4/PIRQG-		PULL HIGH 8.2K to VCC, PIRQG-.
GPI5/PIRQH-	NA	PULL HIGH 8.2K to VCC
GPI6/AGPBUSY-	I	PULL 8.2K TO VCC3, PANEL GREEN_BUTTON
GPI7	I	DUAL BIOS FIRST BOOT SELECT.
GPI8	I	PULL 8.2K TO 3VDUAL, -CASPME.
GPI9/OC4-	NA	USB OC4-.
GPI10/OC5-	NA	USB OC5-.
GPI11/-SMBALRT	NA	PULL 8.2K TO 3VDUAL,-SMBALERT.
GPI12	I	PULL 8.2K TO VCC3,M/B REVERSION ID.
GPI13	I	LPC PME.
GPI14/OC6-	NA	USB OC6-.
GPI15/OC7-	NA	USB OC7-.
GPO16/GNTA-	NA	GPO16.
GPO17/GNT5-		GNT5-.
GPO18/STP_PCI-	NA	GPO18.
GPO19/SLP_S1-	O	DUAL BIOS.
GPO20/SLP_CPU-	O	DUAL BIOS.
GPO21/C3_SATA-	O	BLOCK TOP TABLE.
GPO22/CPUPERF-	O	PULL 8.2K TO VCC3,PANEL S3 POWER LED.

SHEET TITLE

GPIP	I/O	FUNCTION
GPO16		PULL 8.2K TO VCC3
GPO17		PULL 8.2K TO VCC3 (GNT5-)
GPO18		PULL 8.2K TO VCC3
GPO19		PULL 8.2K TO VCC3
GPO20		PULL 8.2K TO VCC3
GPO21		PULL 8.2K TO VCC3
GPO22		PULL 8.2K TO VCC3
GPO23		PULL 8.2K TO VCC3
GPO24		PULL 1K TO 3VDUAL (TOP BLOCK)
GPO25		PULL 4.7K TO 3VDUAL, LAN 100/10 DETECT.
GPO26		NOT IMPLEMENTED
GPO27		PULL 8.2K TO 3VDUAL, BIOS WRITE PROTECT.
GPO28		PULL 8.2K TO 3VDUAL

GIGABYTE CORP.

Title: GPIO LIST

Size: Custom | Document Number: GA-8I848P | Rev: 2.01

Date: 星期一, 二月 16, 2004 | Sheet 38 of 38