GIGABYTE GA-8I845PE PRO Schematics

Revision 1.01

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05	P4_478B
06	P4_478C
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08	SPRINGDALE DDR
09	SPRINGDALE AGP, HUB, CSA, VGA
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12	DDR3 CHANNEL A
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14	AGP
15	ICH5 PCI, USB, HUB, LAN
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18	FWH
19	ICS952603 CLOCK GEN
20	PCI1_2
21	PCI3_4
22	PCI5_6

SHEET	TITLE
23	CODEC
24	AUDIO JACK, L_OUT, F_AUDIO
25	ITE 8712
26	COM_LPT
27	IDE
28	FAN/HWMO
29	KB_PS2
30	FPANEL
31	USB CONN
32	DDR POWER
33	VCORE POWER
34	ATX, OTHERS POWER
35	KINNERETH-R LNA(CSA-1)
36	KINNERETH-R LNA(CSA-2)
37	KINNERETH-R LNA(CSA-3)

Digitally signed by dd
DN: cn=dd, o=dd, ou=dd, email=dddd@yahoo.com, c=US
Date: 2009.10.23 06:52:22 +07'00'

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

GIGABYTE CORP.

Title: COVER SHEET

Size: Custom | Document Number: GA-8I845PE PRO | Rev: 1.01

Date: | Sheet 1 of 38

Model Name: GA-8I845PE PRO
Version : 1.01

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 --> 育富,智恩	
1.0D-0910	1. R1085 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 統盟,祥裕,信豐利	FOR COST-DOWN VERSION
8I848PG-00-20A	PCB 統盟,祥裕,信豐利	DVT
8I848PG-00-20B	PCB REV2.01 統盟,祥裕	PVT
20B-0205	ADD 替料 LU2 AT24C08AN	
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	
20D-0301	R828 150K/6 -> 187K/6/1 , R829 2K/6 -> 7.5K/1	FOR PSC CPU PROCHOT MODIFY
9MD-NB-20D	R828 150K/6 -> 187K/6/1 , R829 2K/6 -> 7.5K/1	FOR PSC CPU PROCHOT MODIFY
20E-0317 9MD-NB-20E	R1085 931->806; R1171,R1172 62->1K,R1200 1K->0,R1197 1K,R1201 8.2K,Q206 MMBT222A REMOVE	SET VCCVID TO 1.4V REMOVE DDR +0.3V CHANGE FAN SENSOR
9M8I845PEP-00-10A	1. U1 848P --> 865P	MIB FUNCTION REMOVE , N/B FSB533
10A-0408	修改包材	FOR PVT
10A-0709	增加替料:鴻達PCB	ONLY FOR 905 PCS
10A-0712	移除替料:鴻達PCB	
10B-0812	FDD,IDE1,IDE2 修改成PBT材質	
9MD-10B-0826	FOR CKD BOM	
10C-1007 9MD-NB-10C	RTCRST# R572 200K/6 --> 20K/6 Q117,Q200,Q123,Q204,Q205,Q202, 加替料A0IF4-501703-01	
10D-1029 9MD-NB-10D	LU1 MARVELL Rev.A3 --> Rev.A4	
10D-1111	LU1 MARVELL Rev.A4-->Rev.A3	
10D-1122 9MD-NB-10D	HS:Q130,Q132,Q134 加替料NEC3570 ; LS:Q131,Q133,Q135 加替料NEC3572	
10E-1224 9MD-NB-10E	1. PCB 8I845PE PRO Rev1.0 --> Rev1.01 2. ADD 5VSB & USB PROTECT FUNCTION	

Circuit or PCB layout history

Date	Change Item	Reason

GIGABYTE CORP.

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-8I845PE PRO | Rev: 1.01

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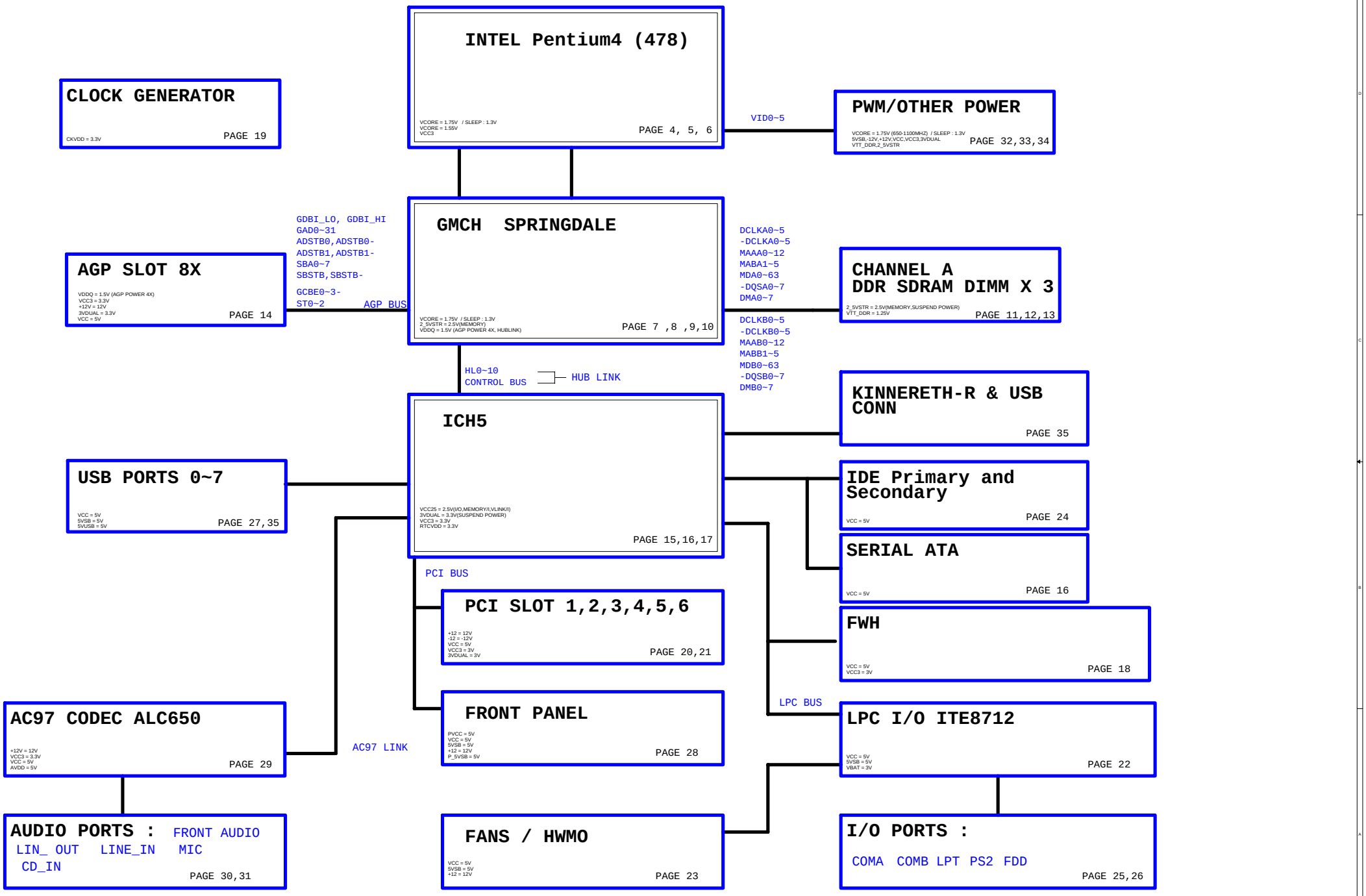
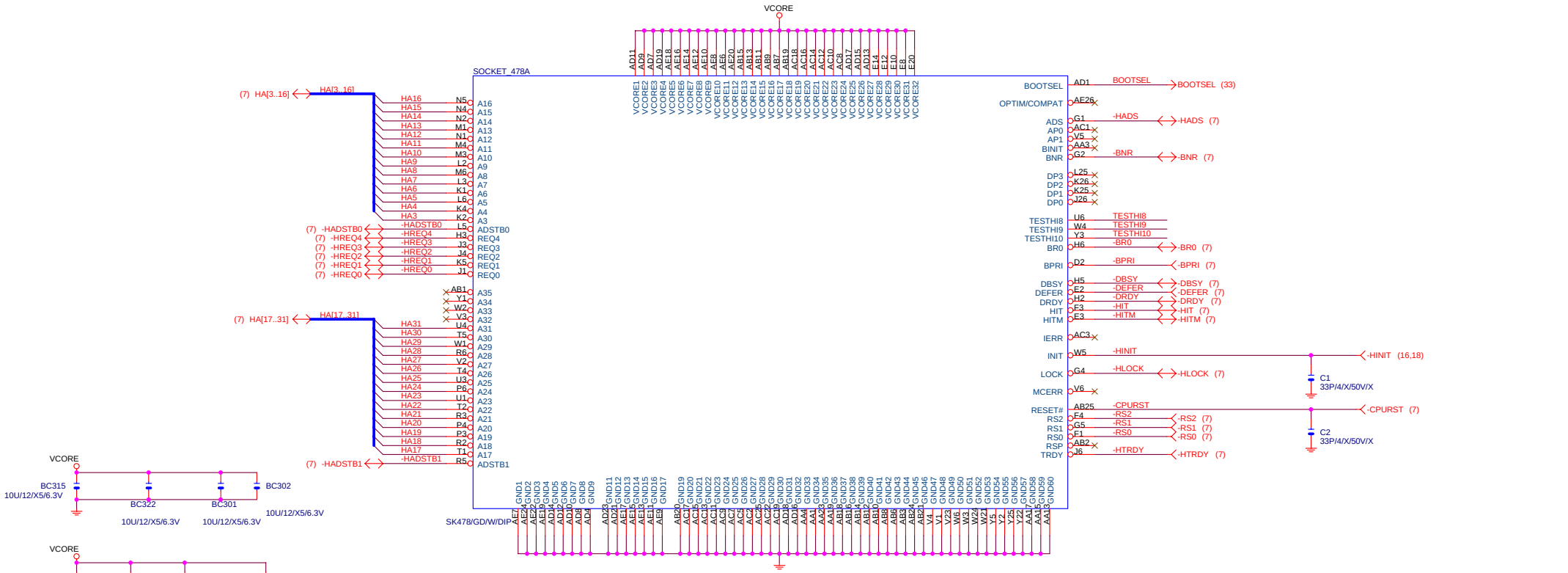
BLOCK DIAGRAM

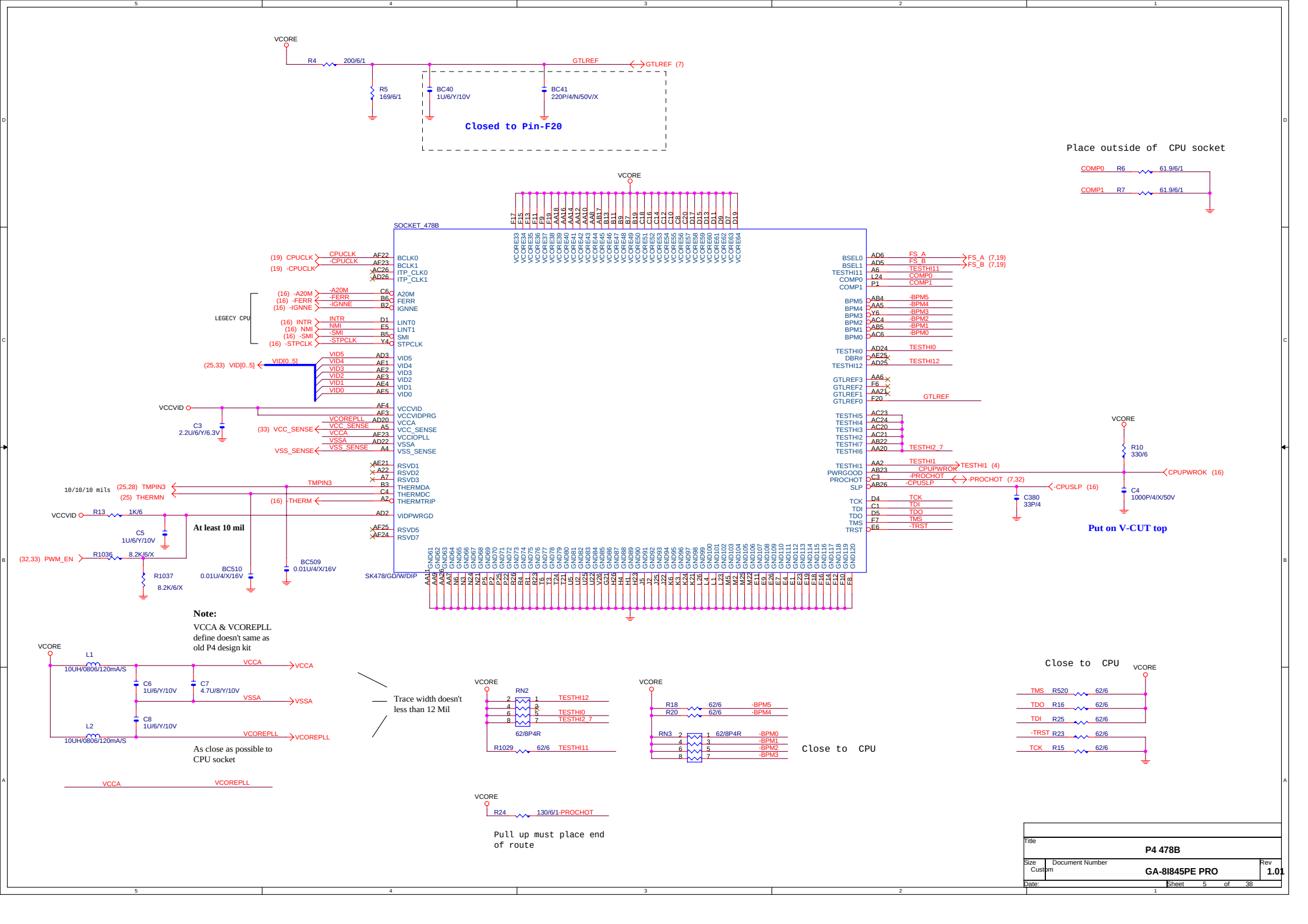


GIGABYTE CORP.		
Title: BOM & PCB MODIFY HISTORY		
Size: Custom	Document Number: GA-8I845PE PRO	Rev: 1.01
Date:	Sheet 3 of 38	



CPU SCOKET

Title	P4 478A		
Size: Custom	Document Number: GA-8I845PE PRO	Rev: 1.01	
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
(19) CPUCLK
(19) -CPUCLK
(16) -A20M
(16) -FERR
(16) -IGNNE
(16) INTR
(16) NMI
(16) -SMI
(16) -STPCLK
(25,33) VID[0..5]
VCCVID
C3 2.2U/6/Y/6.3V
(33) VCC_SENSE
VSS_SENSE
10/10/10 mils
(25,28) TMPIN3
(25) THERMN
(16) -THERM
R13 1K/6
C5 1U/6/Y/10V
At least 10 mil
(32,33) PWM_EN
R1036 8.2K/6/X
R1037 8.2K/6/X
BC510 0.01U/4/X/16V
BC509 0.01U/4/4/X/16V
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)
TESTHI2_7
TESTHI1 (4)
CPUPWROK
-PROCHOT (7,32)
-CPUSLP (16)
C380 33P/4
R10 330/6
CPUPWROK (16)
C4 1000P/4/X/50V
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
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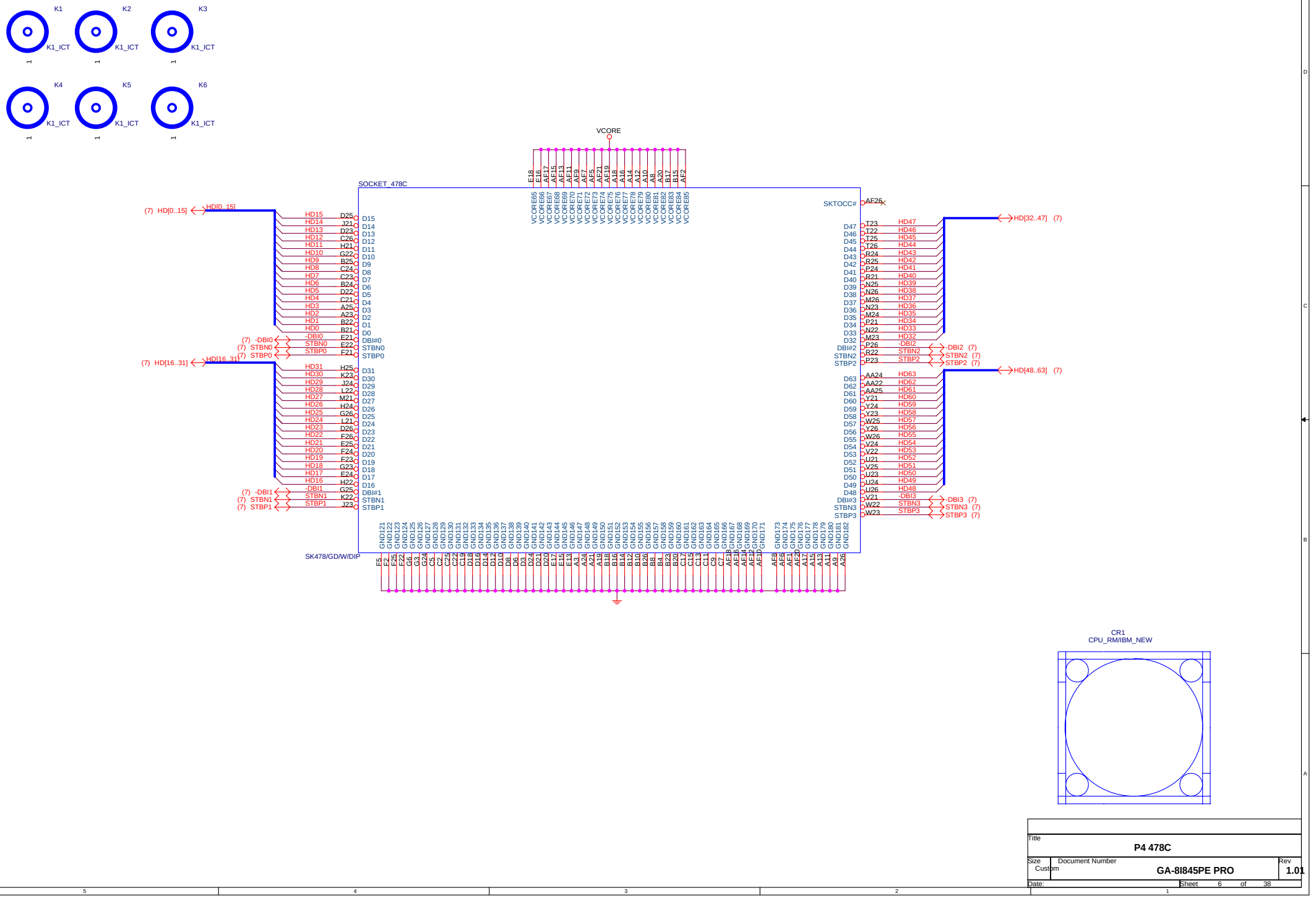
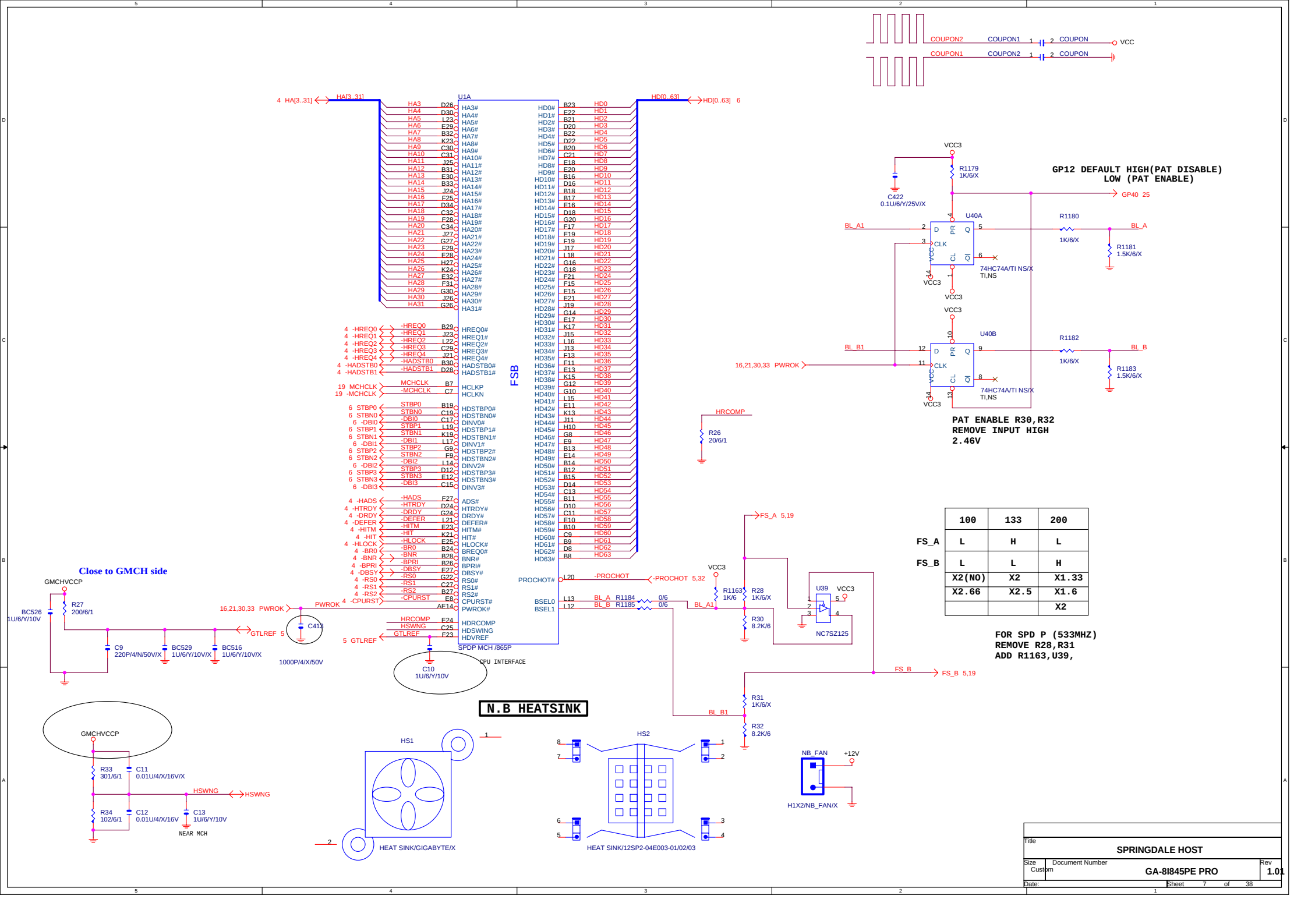


Title	P4 478C	
Size: Custom	Document Number: GA-8I845PE PRO	Rev: 1.01
Date:	Sheet 6 of 38	



	100	133	200
FS_A	L	H	L
FS_B	L	L	H
	X2(NO)	X2	X1.33
	X2.66	X2.5	X1.6
			X2

Title	SPRINGDALE HOST		
Size: Custom	Document Number: GA-8I845PE PRO		Rev: 1.01
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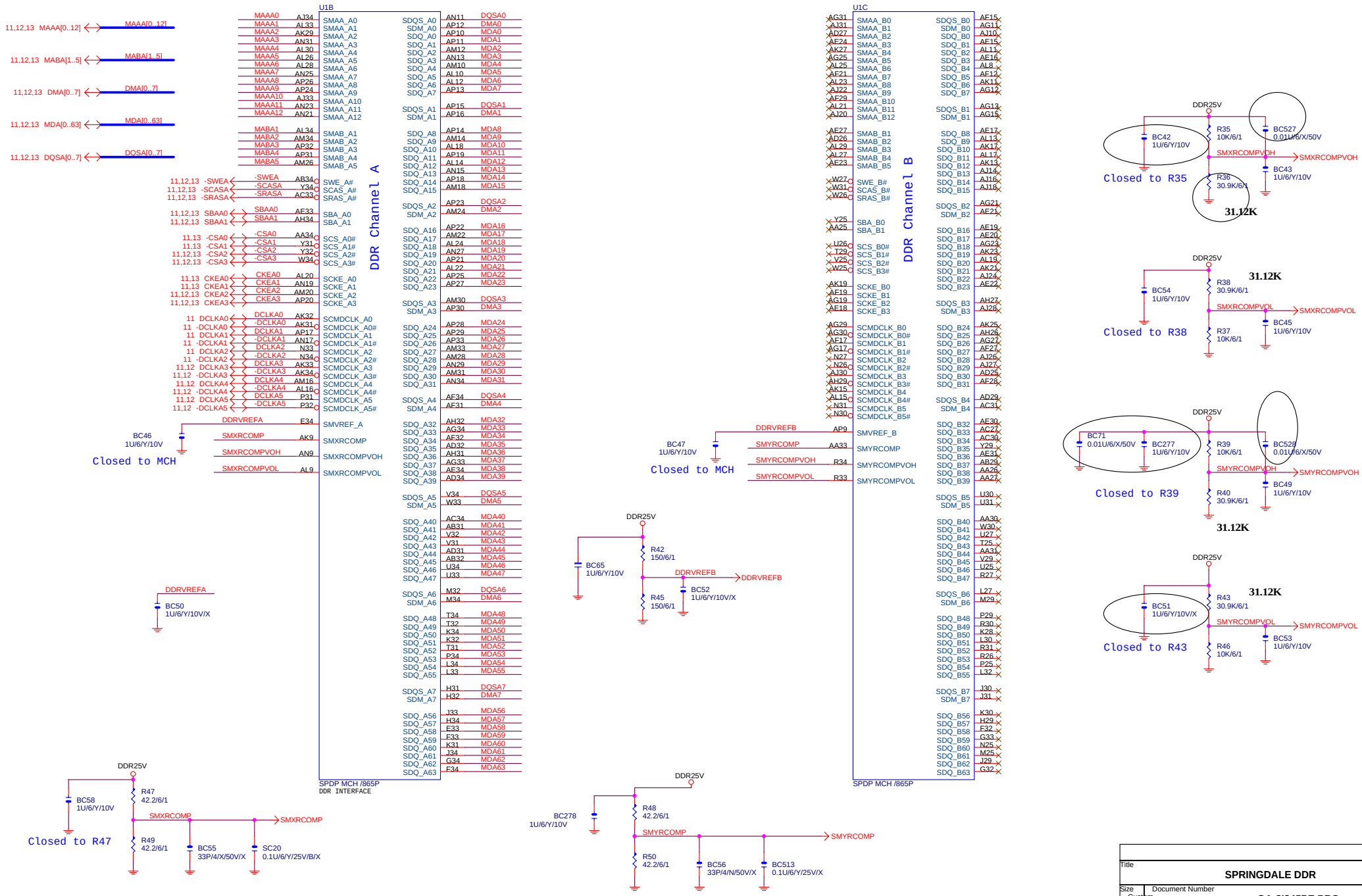

Title	SPRINGDALE DDR	
Size: Custom	Document Number: GA-8I845PE PRO	Rev: 1.01
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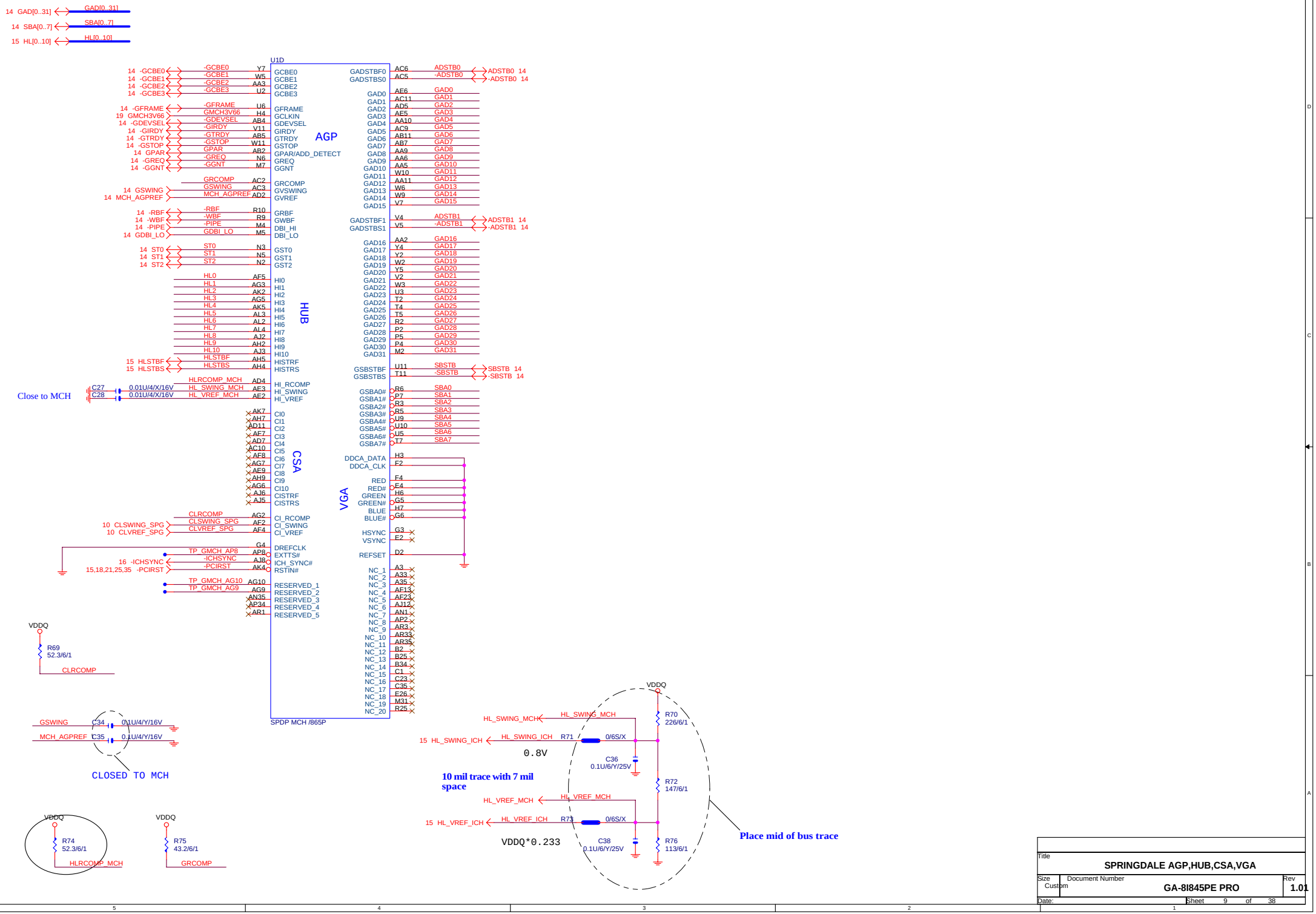

Title	SPRINGDALE AGP,HUB,CSA,VGA	
Size: Custom	Document Number: GA-8I845PE PRO	Rev: 1.01
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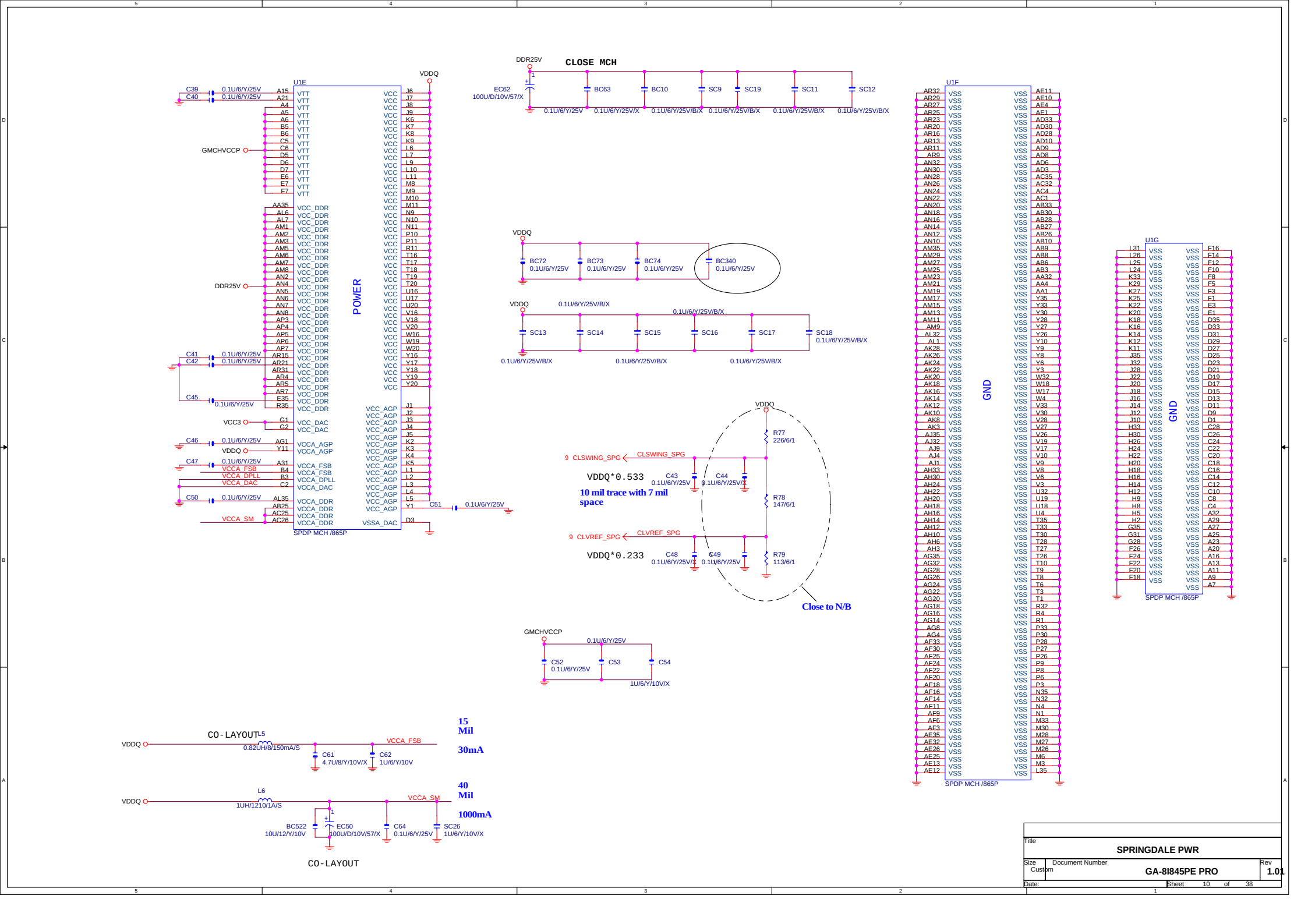
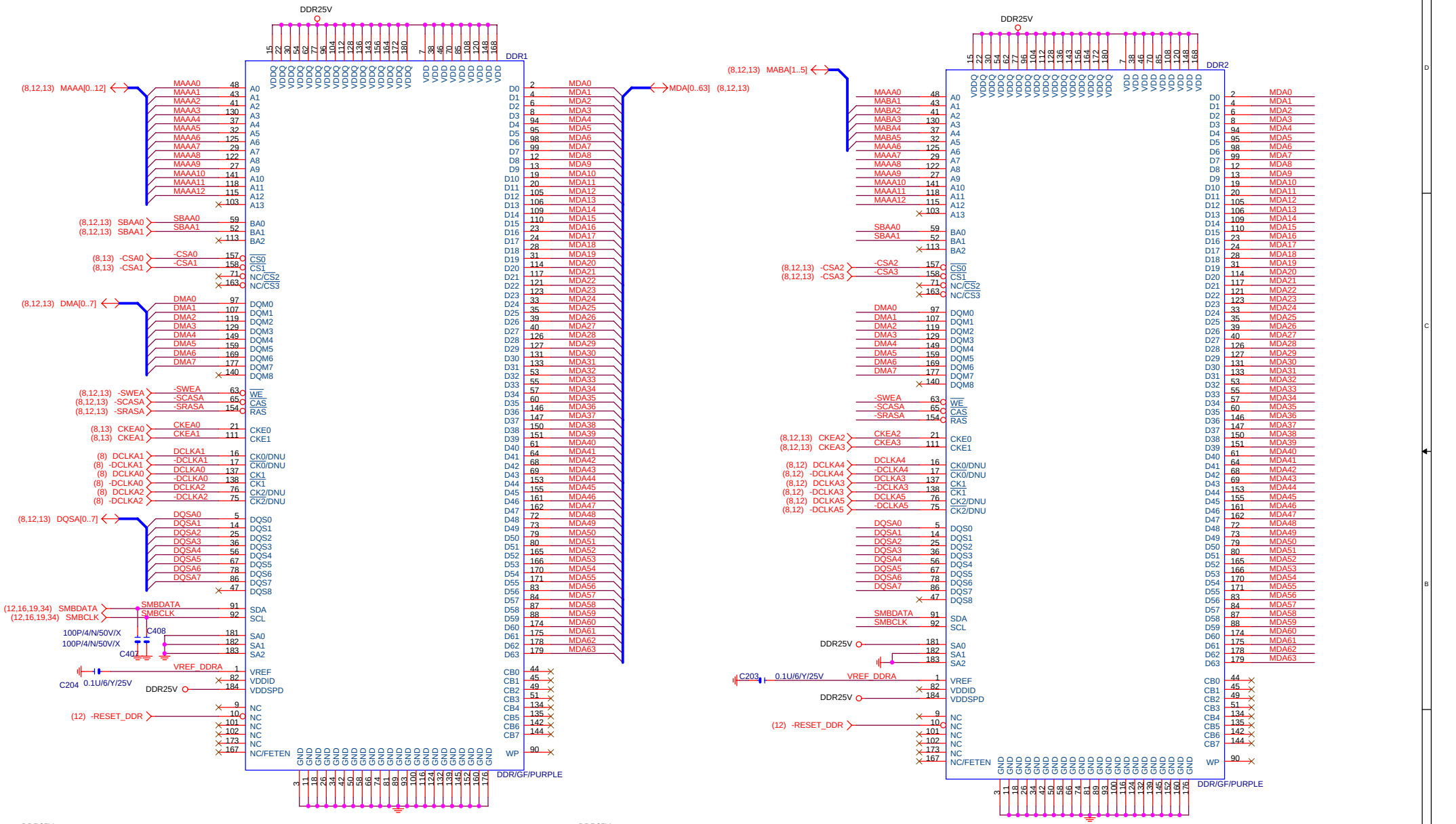
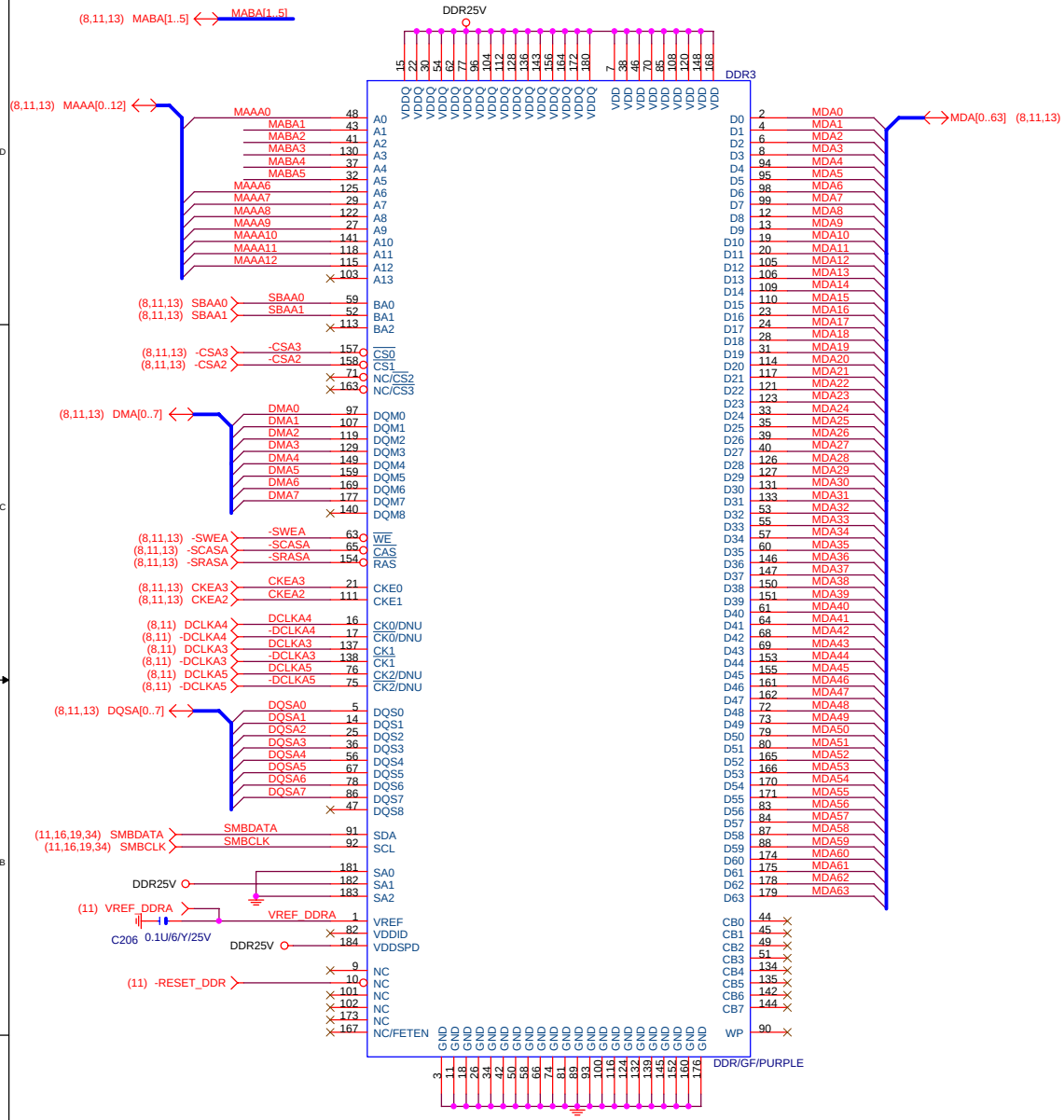


Title	SPRINGDALE PWR		
Size: Custom	Document Number: GA-8I845PE PRO	Rev: 1.01	
Date:	Sheet 10 of 38		



For Register DDR Support

GIGABYTE CORP.		
Title: **DDR1,2 CHANNEL A**		
Size: B	Document Number: **GA-8I845PE PRO**	Rev: **1.01**
Date:	Sheet 11 of 38	



GIGABYTE CORP.		
Title	DDR3,4 CHANNEL B	
Size B	Document Number GA-8I845PE PRO	Rev 1.01
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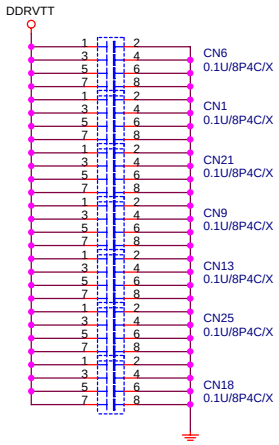
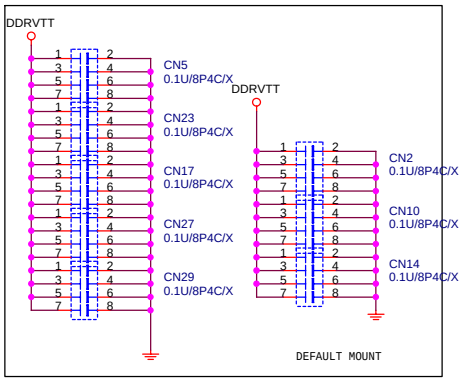
DDR TERMINATION

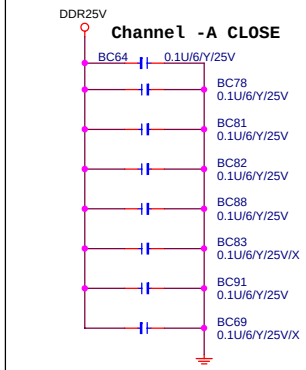
CHANNEL A

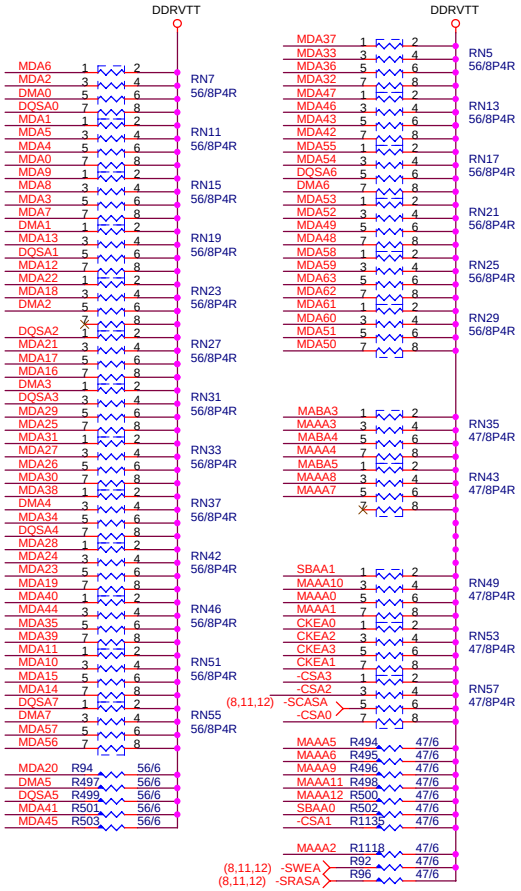
DDRVTT Decouple





DDR25V Decouple





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

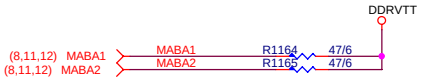
DQSA[0..7] — DQSA[0..7] (8,11,12)

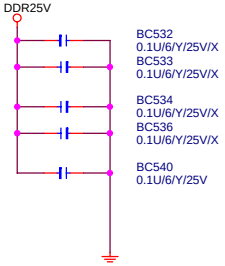
DMA[0..7] — DMA[0..7] (8,11,12)

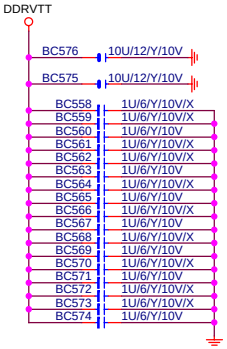
MDA[0..63] — MDA[0..63] (8,11,12)

CHANNEL B

DDRVTT Decouple







GIGABYTE CORP.		
Title: DDR TERMINATION		
Size: B	Document Number: GA-8I845PE PRO	Rev: 1.01
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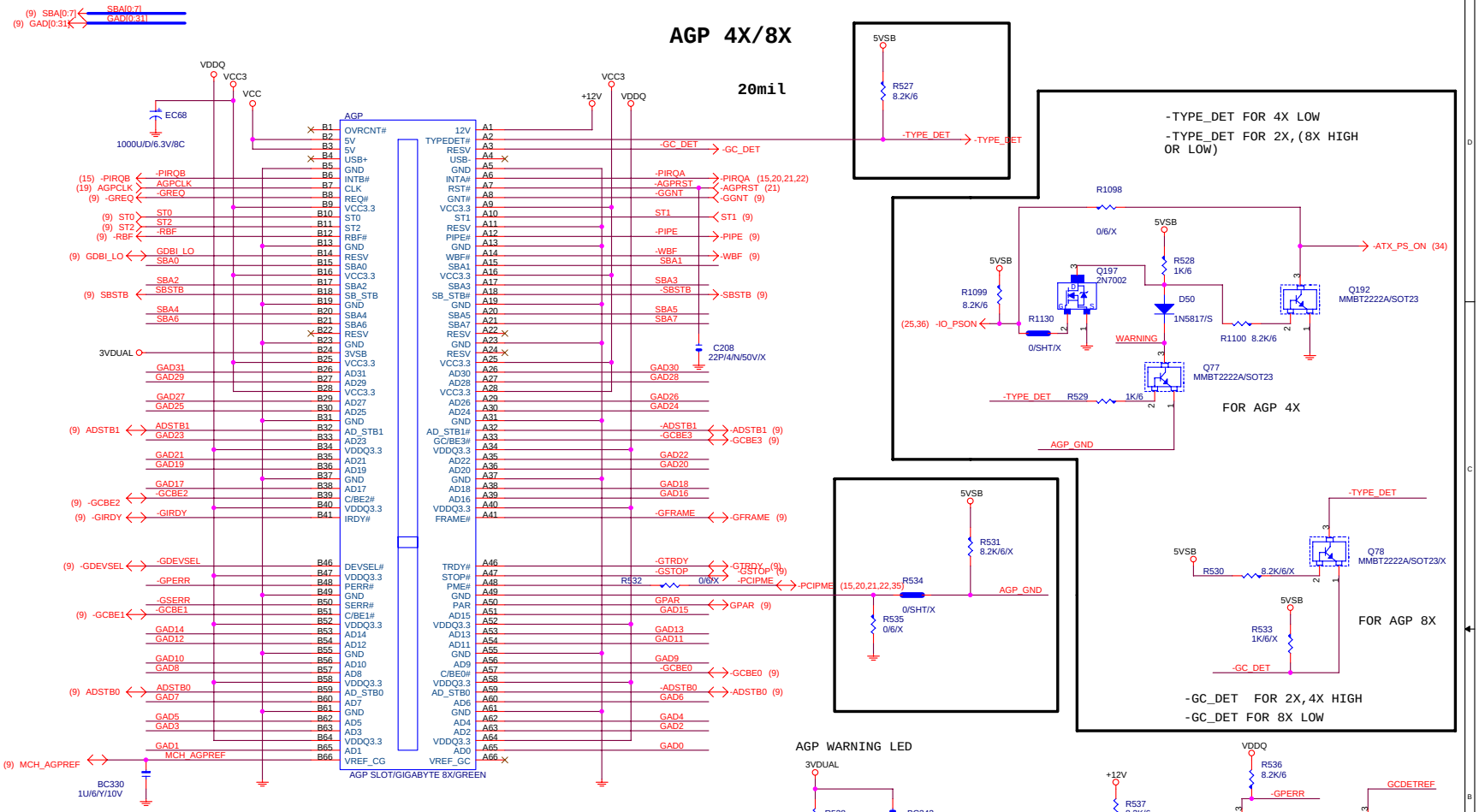
AGP 4X/8X

20mil



Title	AGP SLOT
Size	Custom
Document Number	GA-8I845PE PRO
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Date:	Monday, January 03, 2005
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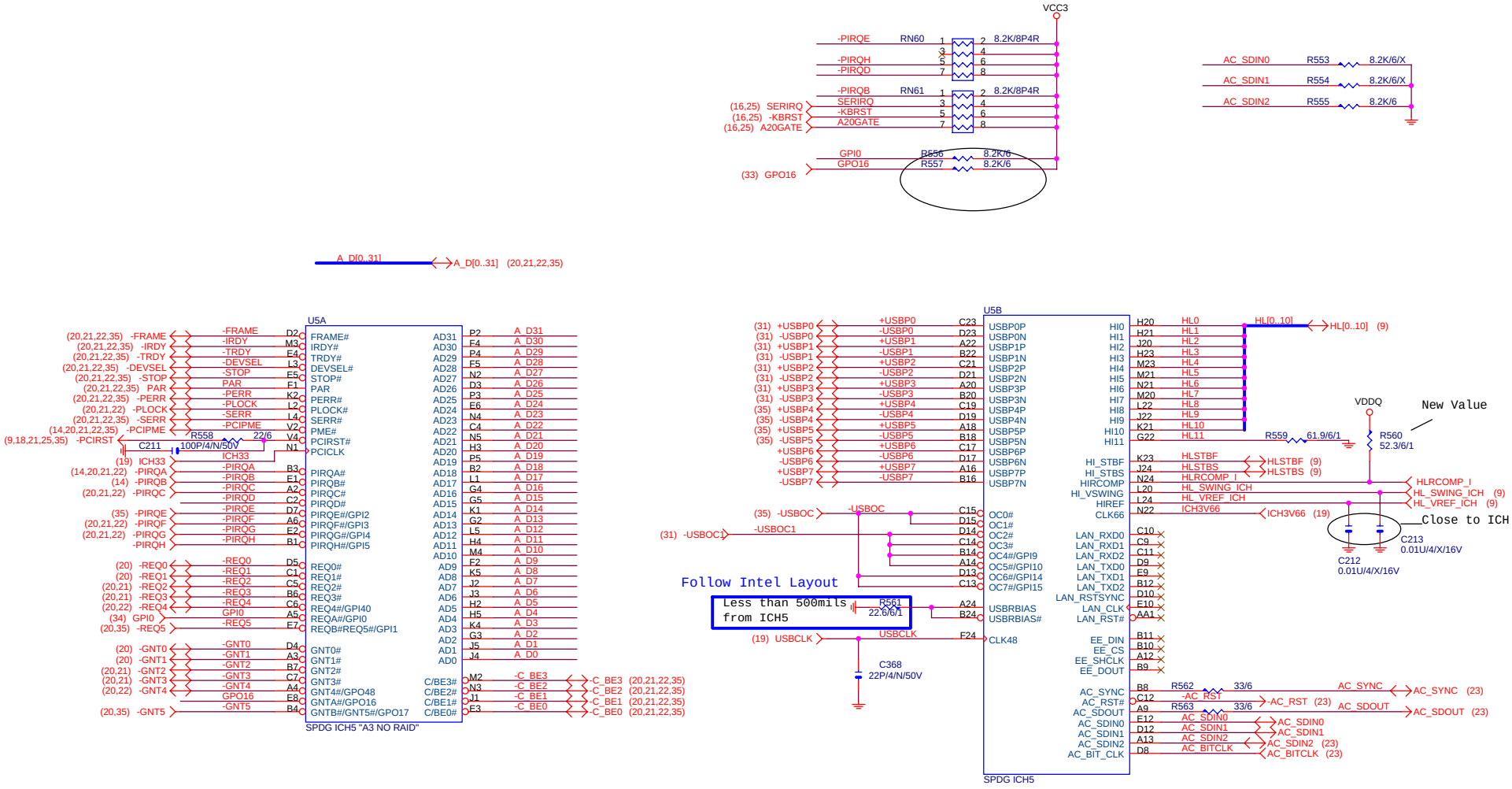
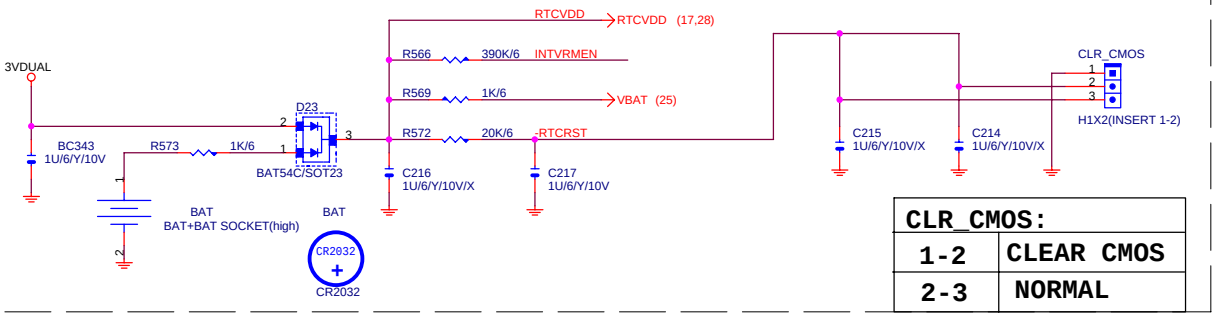
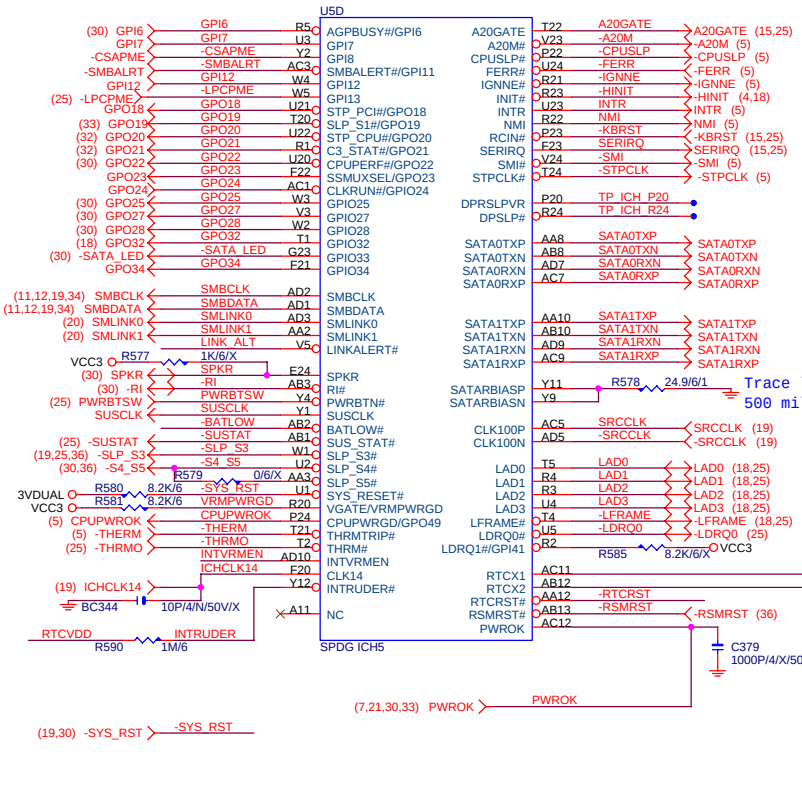
GIGABYTE CORP.

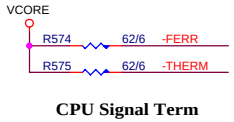


GIGABYTE CORP.		
Title	ICH5 PCI, USB, HUB, LAN	
Size B	Document Number GA-8I845PE PRO	Rev 1.01
Date:	Sheet 15 of 38	

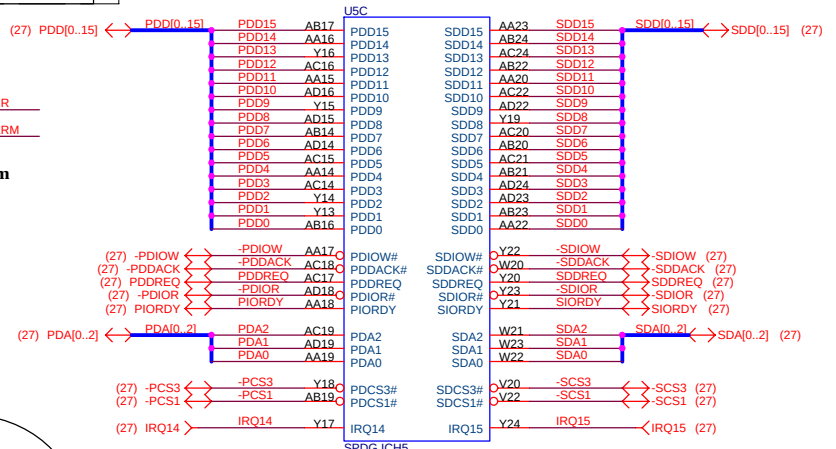


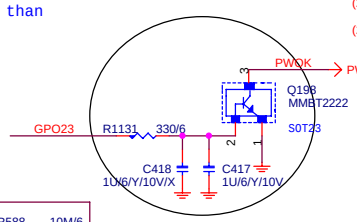
CLR_CMOS:	
1-2	CLEAR CMOS
2-3	NORMAL



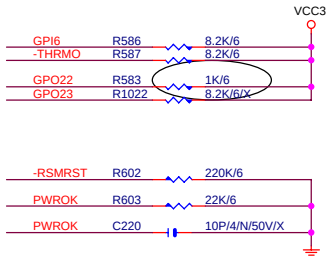


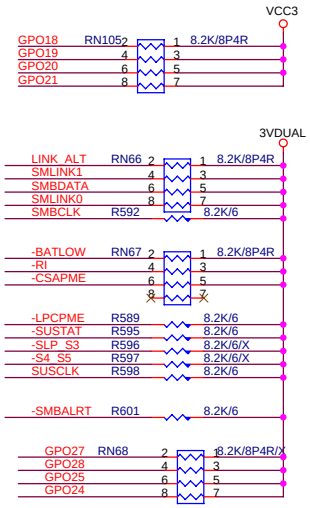
CPU Signal Term



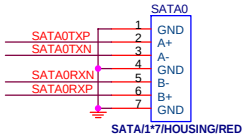


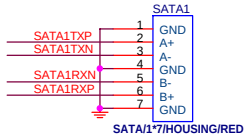
Trace less than 500 mils





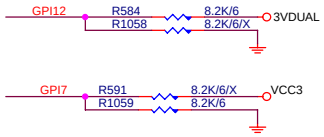
-ICHSYNC 在S3 時,爲HIGH2.5V





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

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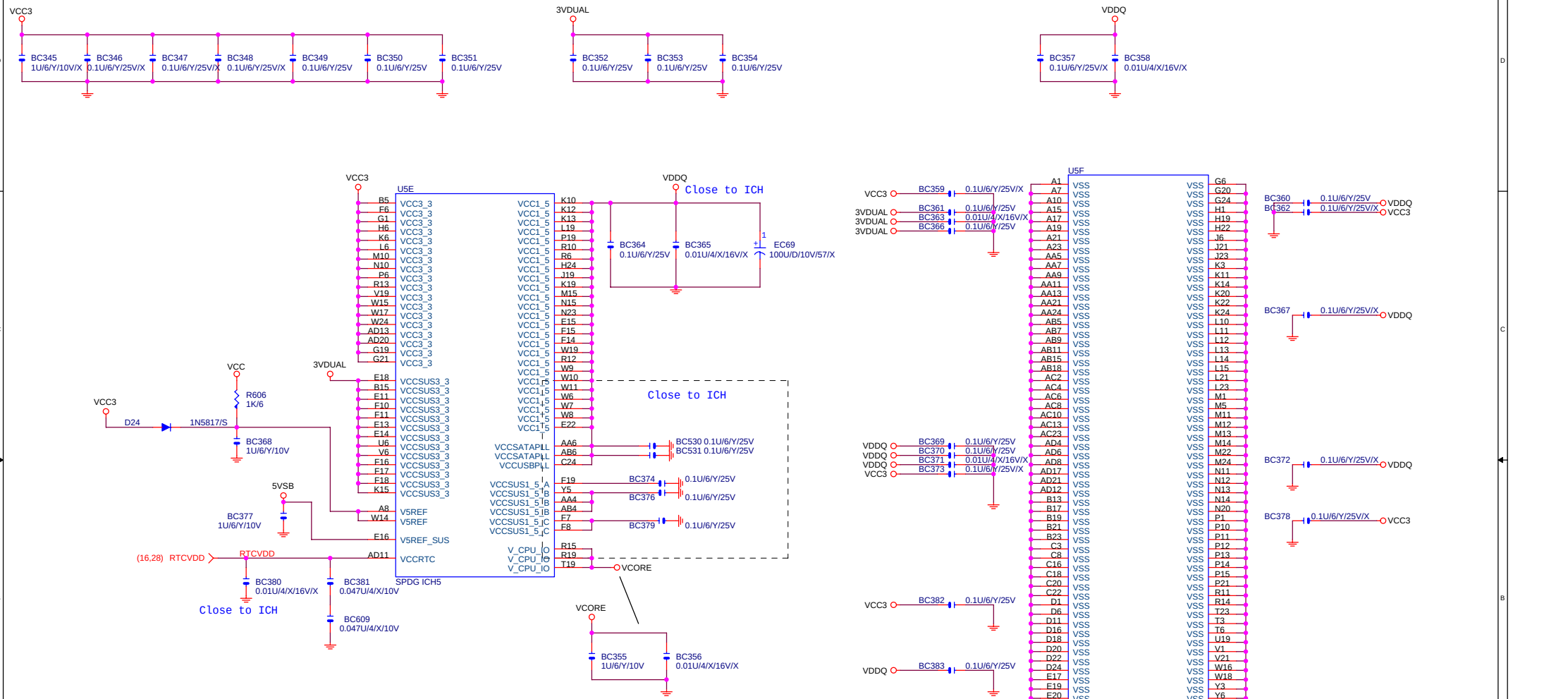

GIGABYTE CORP.		
Title	ICH5 VCC, GND	
Size B	Document Number GA-8I845PE PRO	Rev 1.01
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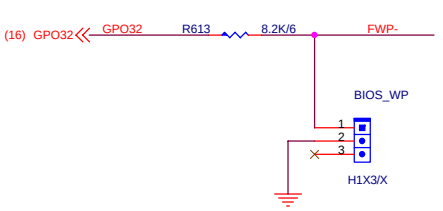
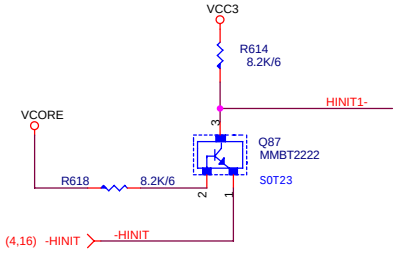
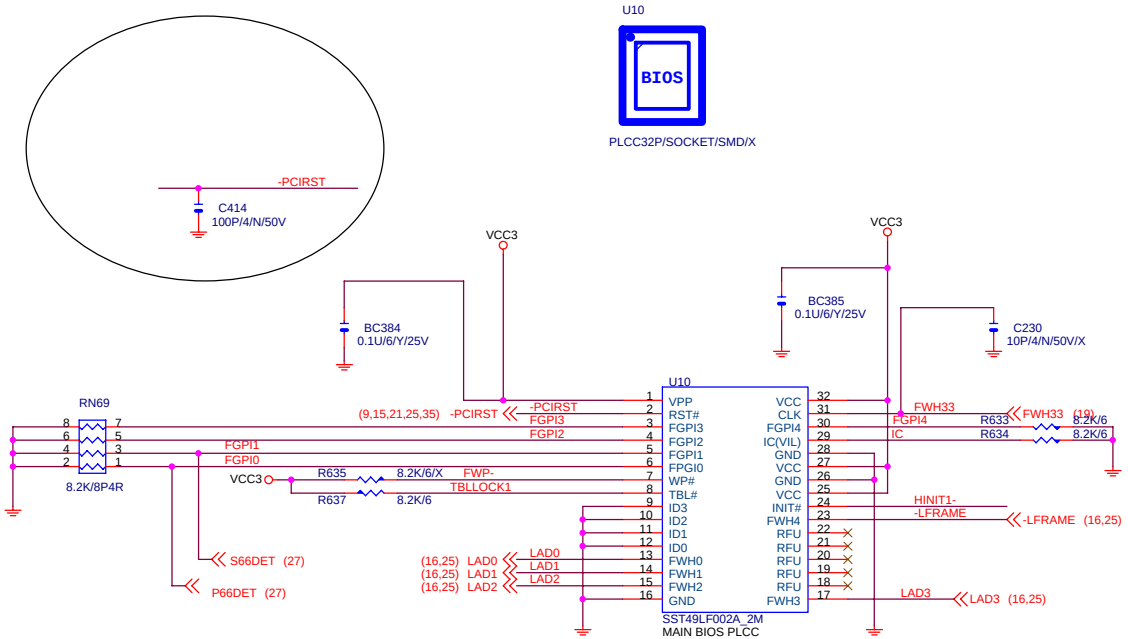


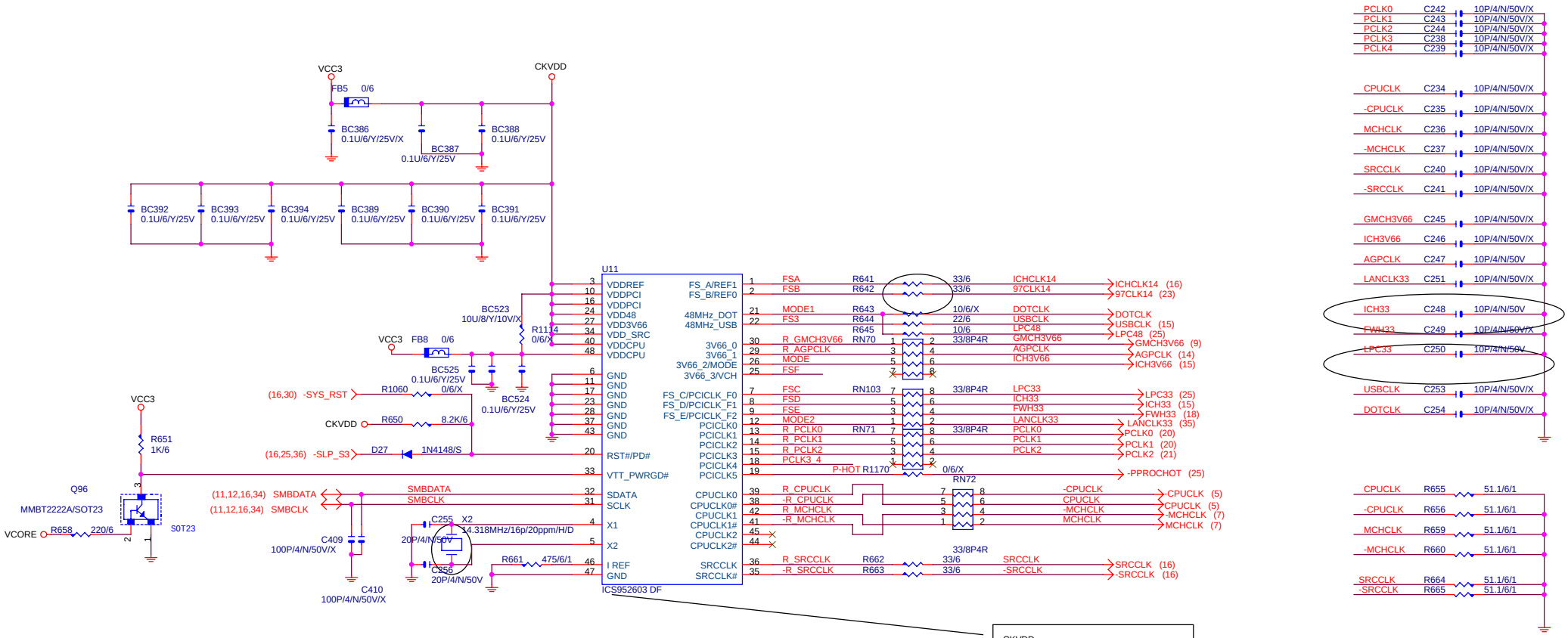


BIOS_WP:	
1-2	WRITE PROTECT
2-3	DISABLE



ADD WINBOUD FWH SEC. SOURCE

GIGABYTE CORP.		
Title: FWH		
Size: B	Document Number: GA-8I845PE PRO	Rev: 1.01
Date: Monday, January 03, 2005	Sheet 18 of 38	



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

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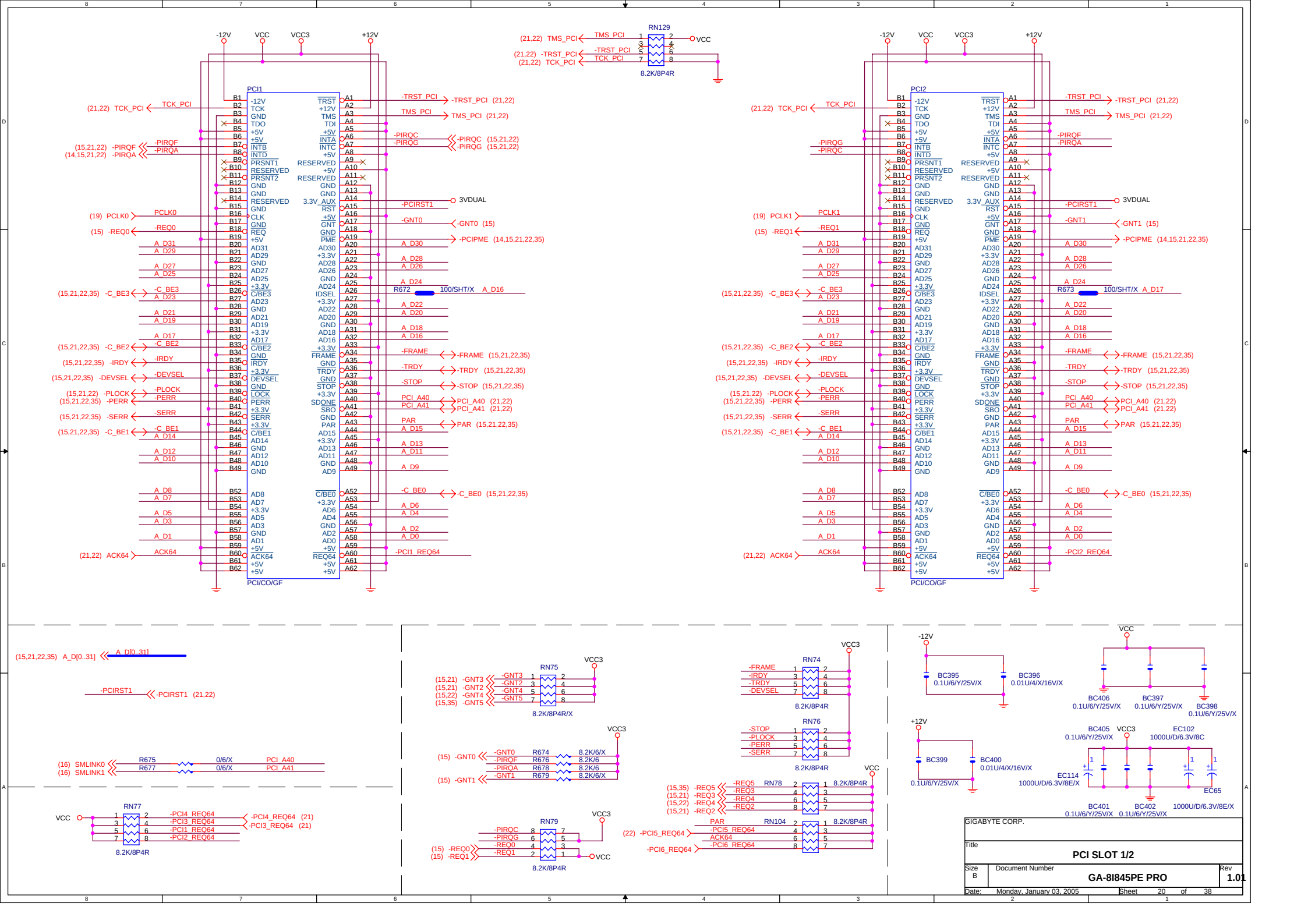
PCI1
PCI2
PCI/CO/GF
RN129
8.2K/8P4R
RN74
RN75
RN76
RN77
RN78
RN79
8.2K/8P4R/X
R672
R673
100/SHT/X
R674
R675
R676
R677
R678
R679
0/6/X
8.2K/6/X
8.2K/6
BC395
0.1U/6/Y/25V/X
BC396
0.01U/4/X/16V/X
BC399
BC400
BC405
BC406
BC397
BC398
EC102
1000U/D/6.3V/8C
EC114
1000U/D/6.3V/8E/X
EC65
BC401
BC402
GIGABYTE CORP.
Title
PCI SLOT 1/2
Size
B
Document Number
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1.01
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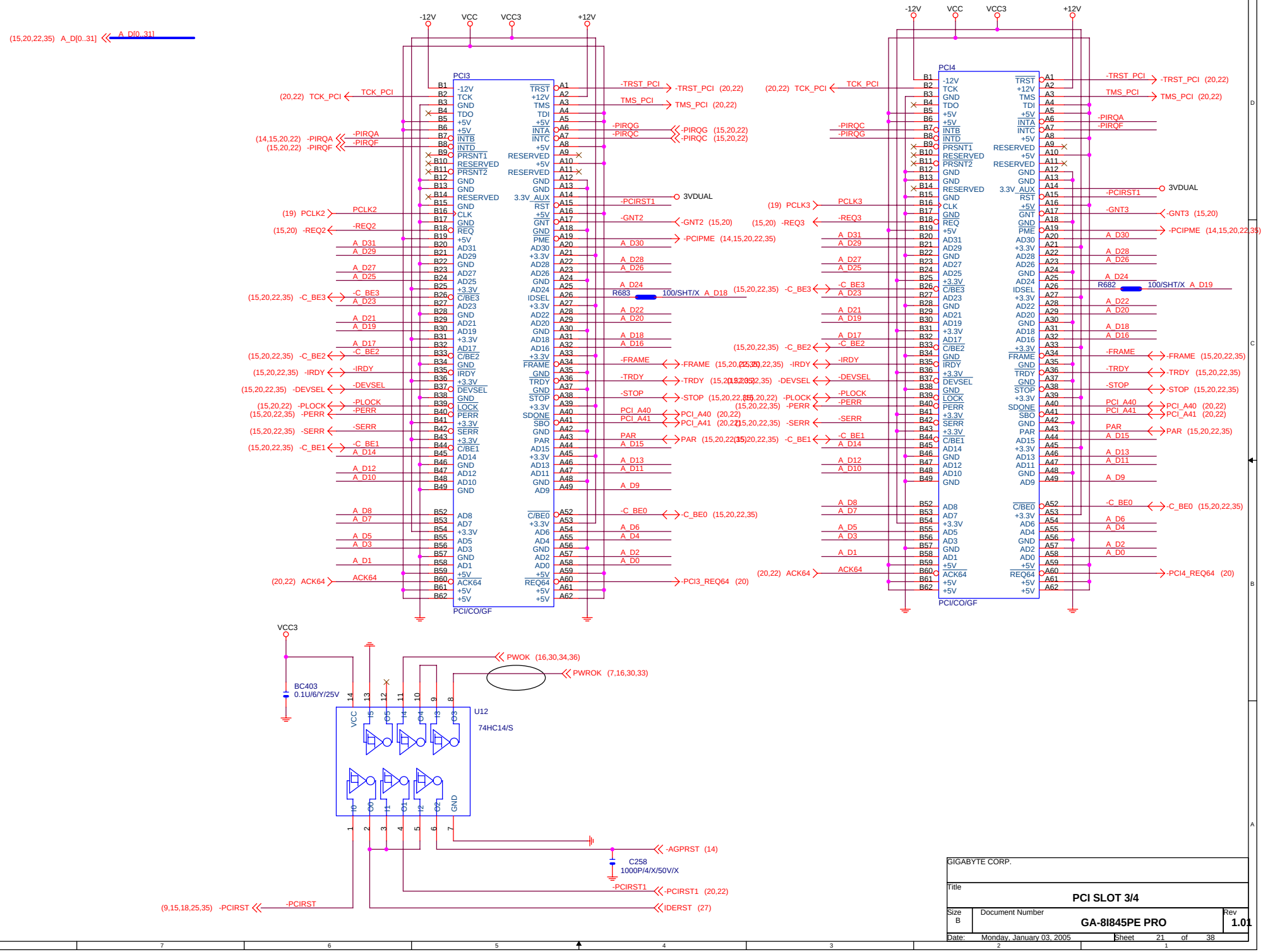
38


A_D[0..31]
(15,20,22,35) A_D[0..31]
PCI3
PCI4
PCI/CO/GF
-12V
VCC
VCC3
+12V
TCK_PCI
-TRST_PCI
TMS_PCI
-PIRQA
-PIRQF
-PIRQG
-PIRQC
3VDUAL
PCLK2
-REQ2
-GNT2
-PCIPME
A_D31
A_D29
A_D30
A_D27
A_D25
A_D28
A_D26
-C_BE3
A_D23
A_D24
R683
100/SHT/X
A_D18
A_D21
A_D19
A_D22
A_D20
A_D17
-C_BE2
A_D18
A_D16
-IRDY
-FRAME
-DEVSEL
-TRDY
-PLOCK
-STOP
-PERR
PCI_A40
PCI_A41
-SERR
PAR
-C_BE1
A_D15
A_D14
A_D13
A_D12
A_D11
A_D10
A_D9
A_D8
A_D7
-C_BE0
A_D6
A_D5
A_D4
A_D3
A_D2
A_D1
A_D0
ACK64
-PCI3_REQ64
-PCI4_REQ64
PCIRST1
-PCIRST
IDERST
PWOK
PWROK
BC403
0.1U/6/Y/25V
U12
74HC14/S
VCC
GND
-AGPRST
C258
1000P/4/X/50V/X
GIGABYTE CORP.
Title
PCI SLOT 3/4
Size
B
Document Number
GA-8I845PE PRO
Rev
1.01
Date:
Monday, January 03, 2005
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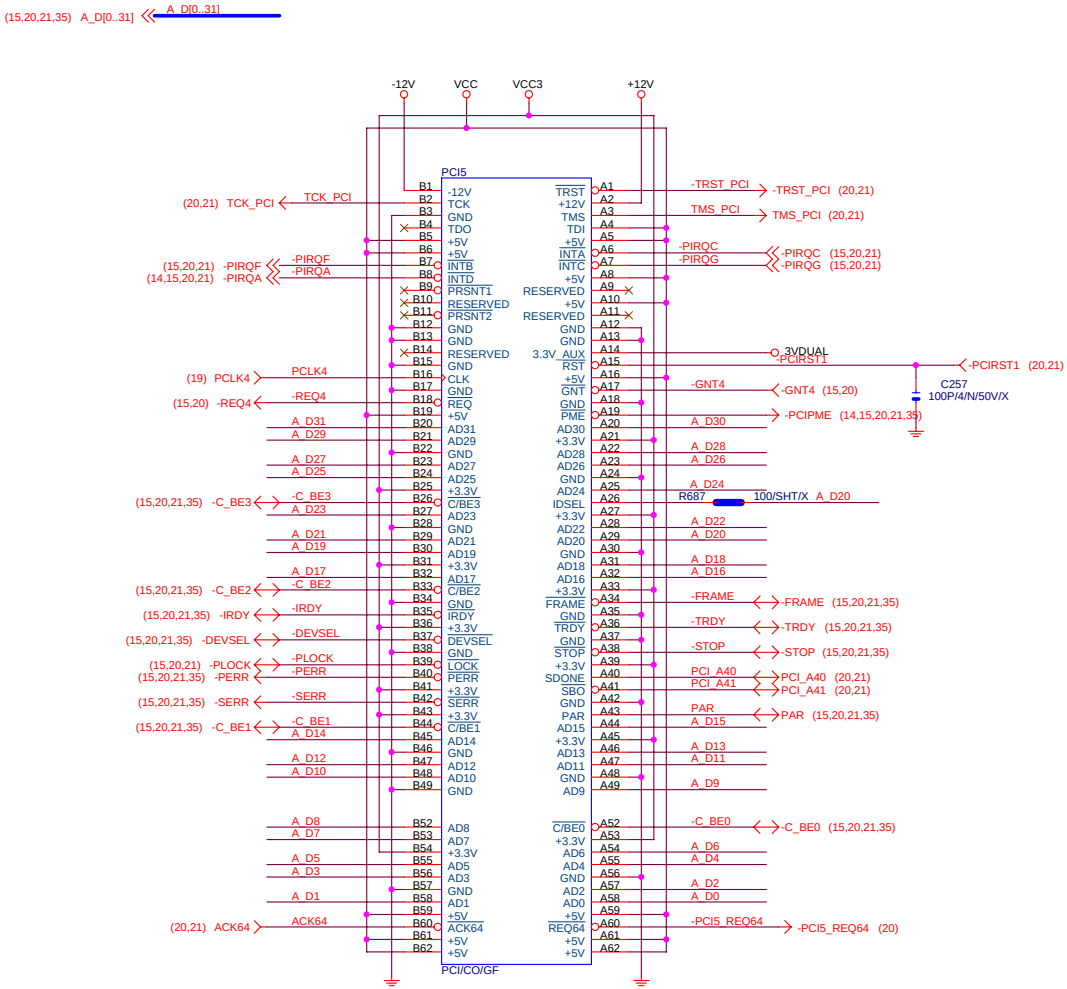
21
of
38



GIGABYTE CORP.		
Title	PCI SLOT 5/6	
Size: Custom	Document Number: GA-8I845PE PRO	Rev: 1.01
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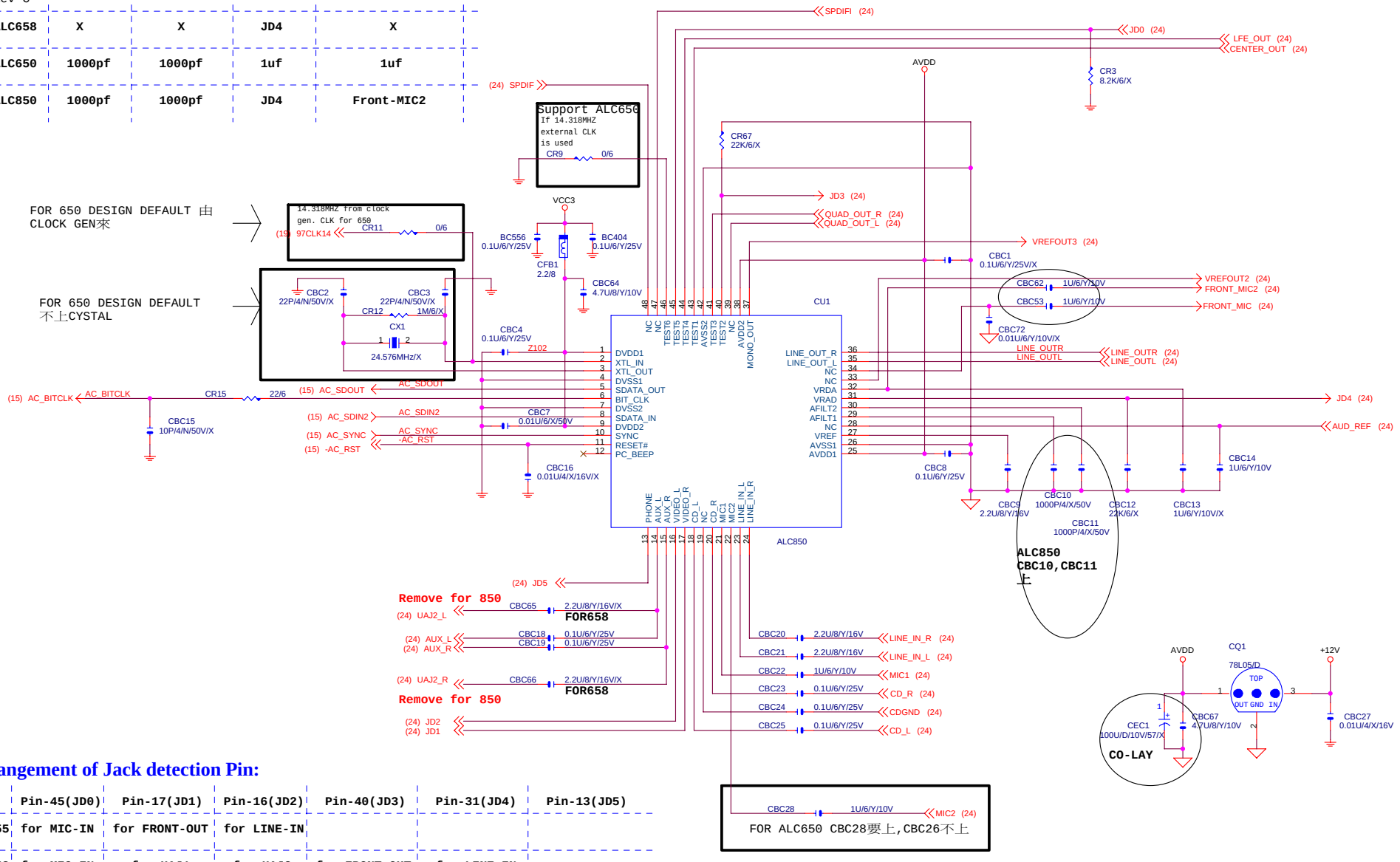
Filter Cap design:

	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		
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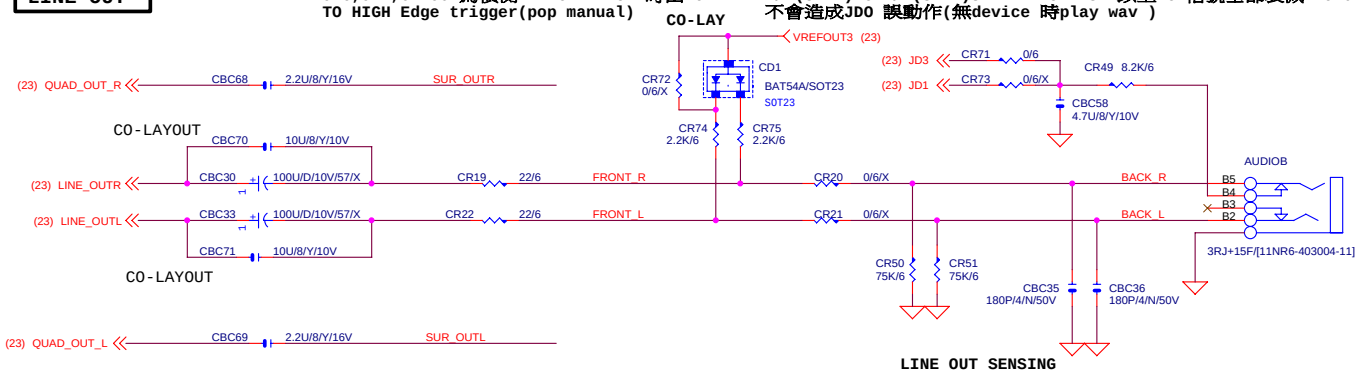
LINE OUT

JDO,JD2,GPIO0 爲偵測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)

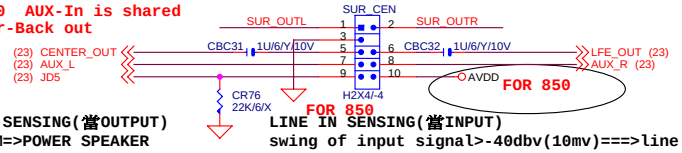


LINE OUT SENSING
R>4K OHM=>POWER SPEAKER
4K OHM>R>400 OHM=>MICROPHONE
R<400 OHM=>HEADPHONE

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

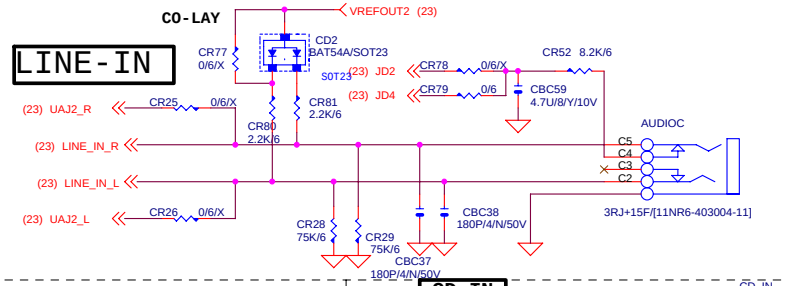
For 850 AUX-In is shared to Surr-Back out



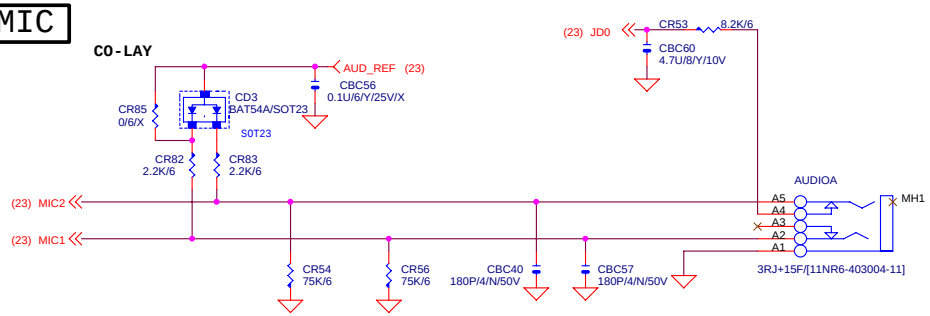
LINE IN SENSING(當OUTPUT)
R>4K OHM=>POWER SPEAKER
4K OHM>R>400 OHM=>MICROPHONE
R<400 OHM=>HEADPHONE

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



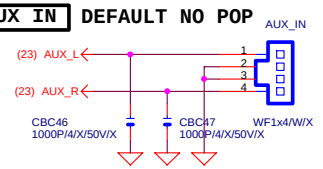
MIC



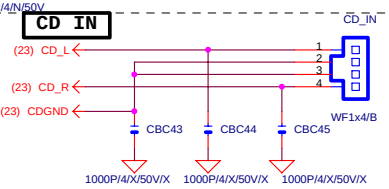
MICROPHONE IN SENSING(當INPUT)(利用vref 偏壓與CR43,CR32 並聯求出阻抗)
7.1k ohm>R>2.3k ohm===>microphone in
R<2.3k ohm or R>7.1k ohm===>unknown device

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

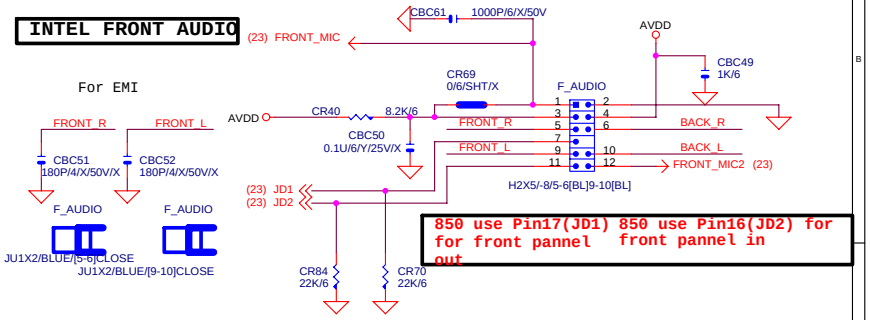
AUX IN DEFAULT NO POP



CD IN

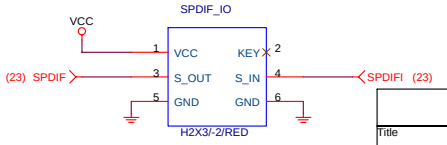


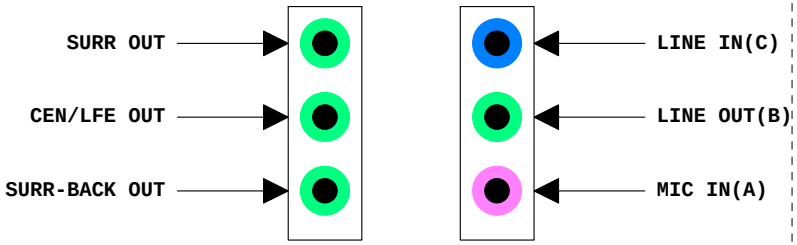
INTEL FRONT AUDIO



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

SPDIF_IO





SURR KIT for 850 AUDIO PANEL

GIGABYTE CORP.

Title: AUDIO OUTPUT,GAME PORT

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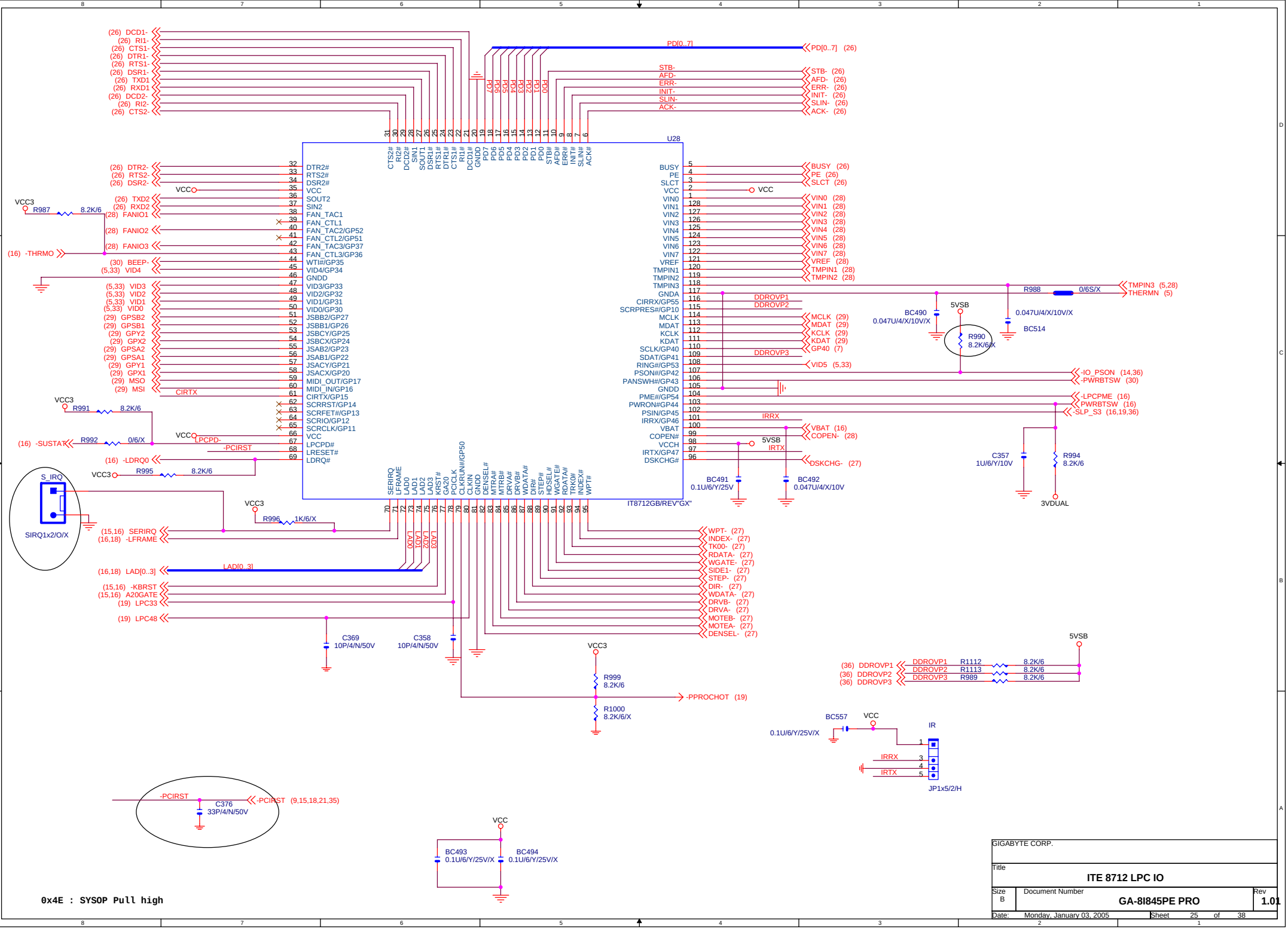
U28
IT8712GB/REV"GX"
(26) DCD1-
(26) RI1-
(26) CTS1-
(26) DTR1-
(26) RTS1-
(26) DSR1-
(26) TXD1
(26) RXD1
(26) DCD2-
(26) RI2-
(26) CTS2-
PD[0..7]
PD[0..7] (26)
STB- STB- (26)
AFD- AFD- (26)
ERR- ERR- (26)
INIT- INIT- (26)
SLIN- SLIN- (26)
ACK- ACK- (26)
DTR2#
RTS2#
DSR2#
SOUT2
SIN2
FAN_TAC1
FAN_CTL1
FAN_TAC2/GP52
FAN_CTL2/GP51
FAN_TAC3/GP37
FAN_CTL3/GP36
WTI#/GP35
VID4/GP34
GNDD
VID3/GP33
VID2/GP32
VID1/GP31
VID0/GP30
JSBB2/GP27
JSBB1/GP26
JSBCY/GP25
JSBCX/GP24
JSAB2/GP23
JSAB1/GP22
JSACY/GP21
JSACX/GP20
MIDI_OUT/GP17
MIDI_IN/GP16
CIRTX/GP15
SCRRST/GP14
SCRFET#/GP13
SCRIO/GP12
SCRCLK/GP11
LPCPD#
LRESET#
LDRQ#
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#
SERIRQ
LFRAME
LAD0
LAD1
LAD2
LAD3
KRST#
GA20
PCICLK
CLKIN
GNDD
DENSEL#
MTRA#
MTRB#
DRVA#
DRVB#
WDATA#
DIR#
STEP#
HDSEL#
WGATE#
RDATA#
TRK0#
INDEX#
WPT#
VCC3
VCC
5VSB
R987 8.2K/6
R988 0/6S/X
R990 8.2K/6/X
R991 8.2K/6
R992 0/6/X
R995 8.2K/6
R996 1K/6/X
R999 8.2K/6
R1000 8.2K/6/X
R994 8.2K/6
BC490 0.047U/4/X/10V/X
BC514 0.047U/4/X/10V/X
BC491 0.1U/6/Y/25V
BC492 0.047U/4/X/10V
C357 1U/6/Y/10V
C369 10P/4/N/50V
C358 10P/4/N/50V
C376 33P/4/N/50V
BC493 0.1U/6/Y/25V/X
BC494 0.1U/6/Y/25V/X
BC557
0.1U/6/Y/25V/X
IR
JP1x5/2/H
S_IRQ
SIRQ1x2/O/X
(16) -THRMO
(16) -SUSTAT
(16) -LDRQ0
(28) FANIO1
(28) FANIO2
(28) FANIO3
(30) BEEP-
(5,33) VID4
(5,33) VID3
(5,33) VID2
(5,33) VID1
(5,33) VID0
(29) GPSB2
(29) GPSB1
(29) GPY2
(29) GPX2
(29) GPSA2
(29) GPSA1
(29) GPY1
(29) GPX1
(29) MSO
(29) MSI
CIRTX
LPCPD-
-PCIRST
(15,16) SERIRQ
(16,18) -LFRAME
(16,18) LAD[0..3]
(15,16) -KBRST
(15,16) A20GATE
(19) LPC33
(19) LPC48
-PPROCHOT (19)
(36) DDROVP1
(36) DDROVP2
(36) DDROVP3
DDROVP1 R1112 8.2K/6
DDROVP2 R1113 8.2K/6
DDROVP3 R989 8.2K/6
TMPIN3 (5,28)
THERMN (5)
-IO_PSON (14,36)
-PWRBTSW (30)
-LPCPME (16)
PWRBTSW (16)
-SLP_S3 (16,19,36)
VBAT (16)
COPEN- (28)
DSKCHG- (27)
VID5 (5,33)
MCLK (29)
MDAT (29)
KCLK (29)
KDAT (29)
GP40 (7)
DDROVP1
DDROVP2
DDROVP3
IRRX
IRTX
3VDUAL
-PCIRST (9,15,18,21,35)
0x4E : SYSOP Pull high
GIGABYTE CORP.
Title
ITE 8712 LPC IO
Size B
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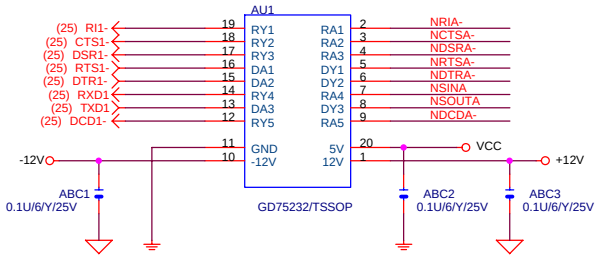
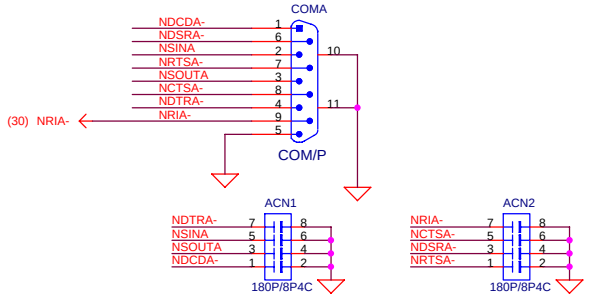
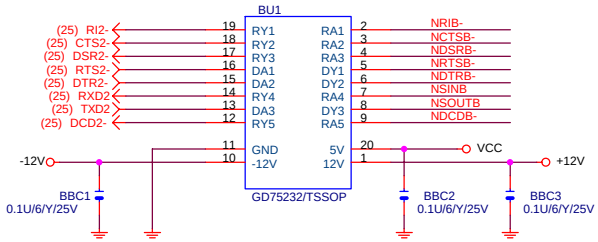
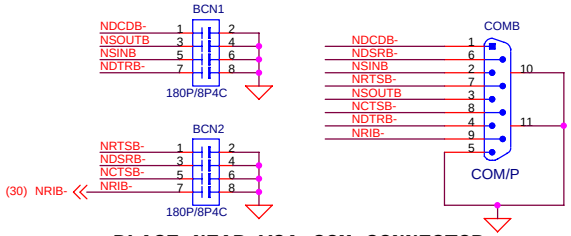
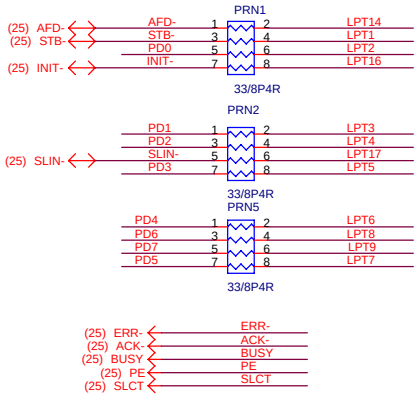


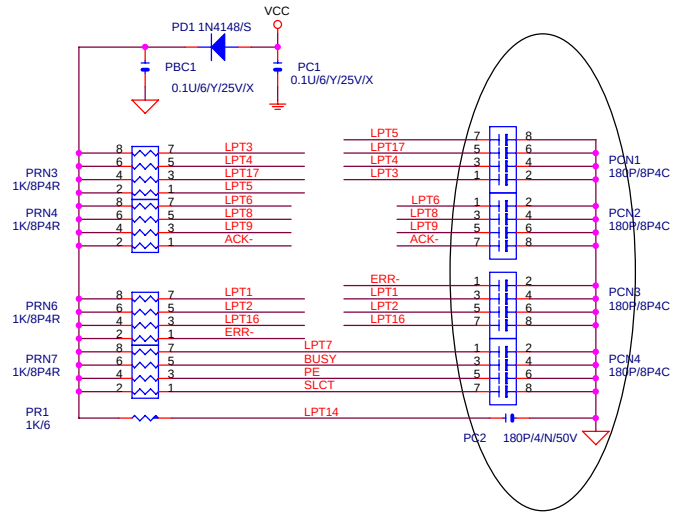


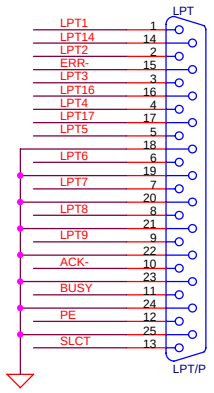




PLACE NEAR VGA_COM CONNECTOR







GIGABYTE CORP.		
Title: COM & IR & LPT PORT &FLOOPY		
Size: B	Document Number: GA-8I845PE PRO	Rev: 1.01
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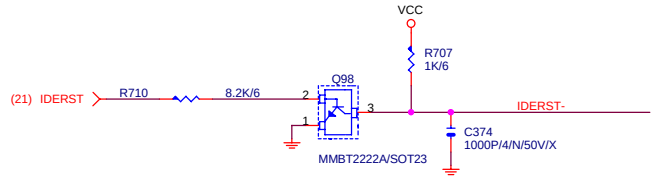
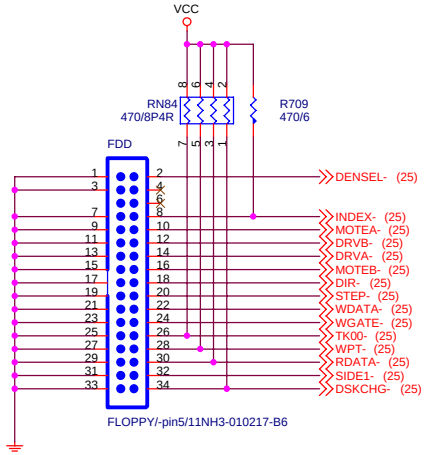
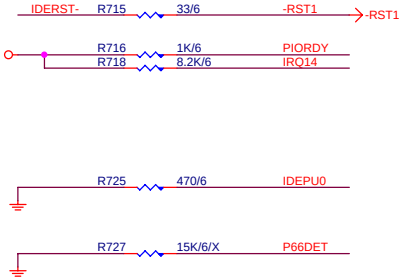
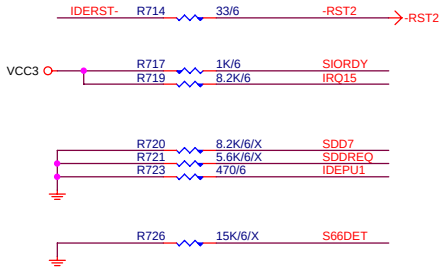
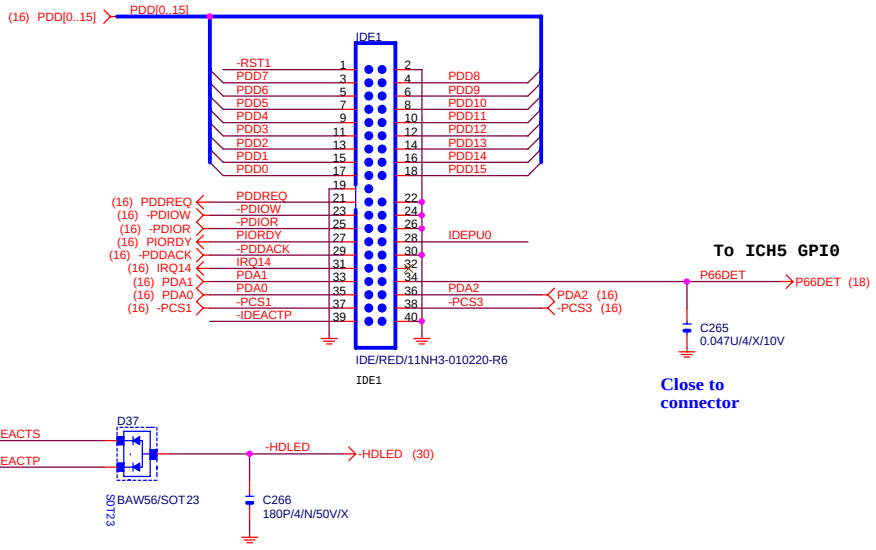




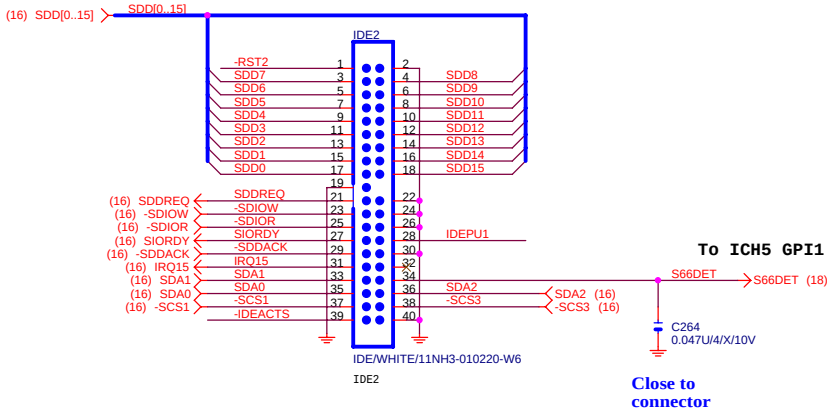




PRIMARY IDE CONNECTOR

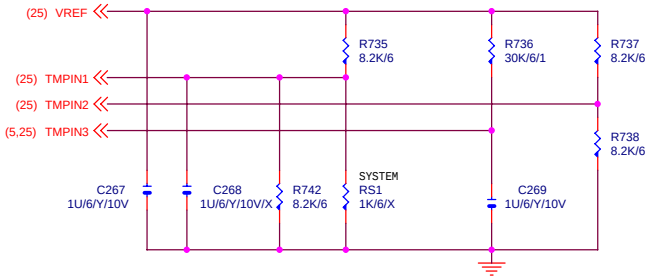


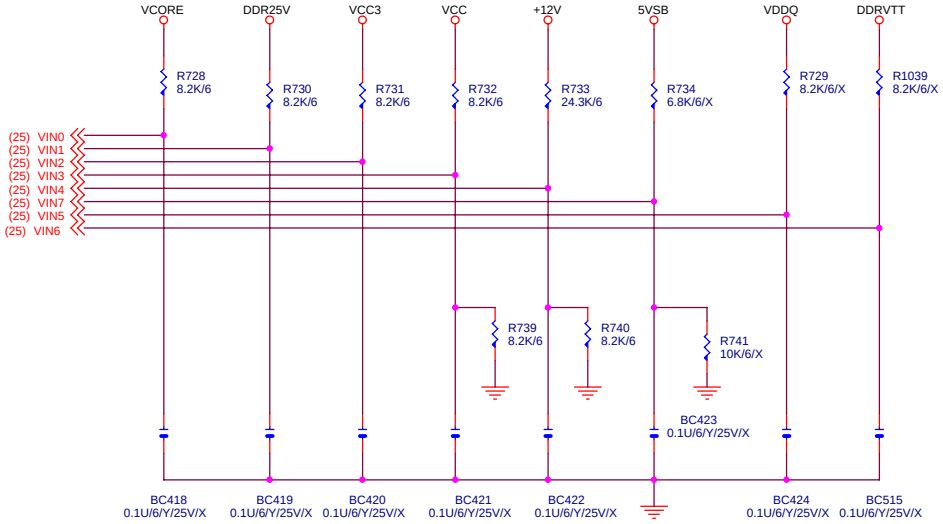
SECONDARY IDE CONNECTOR

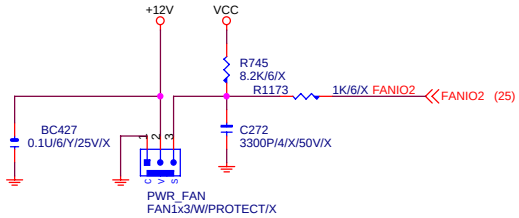


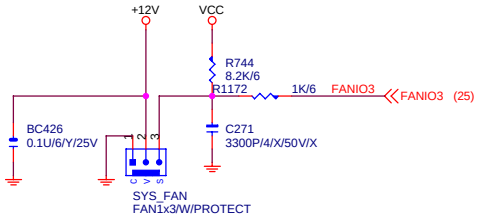
GIGABYTE CORP.		
Title: IDE CONNECTOR		
Size: B	Document Number: GA-8I845PE PRO	Rev: 1.01
Date:	Sheet 27 of 38	

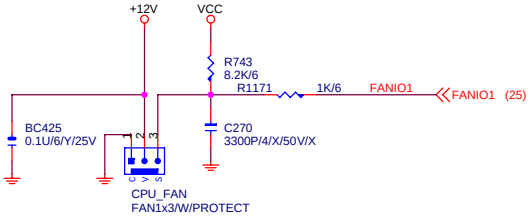
Hardware Monitor circuits

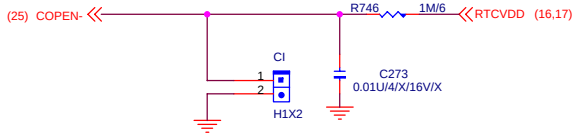












GIGABYTE CORP.		
Title: FAN/HWMO		
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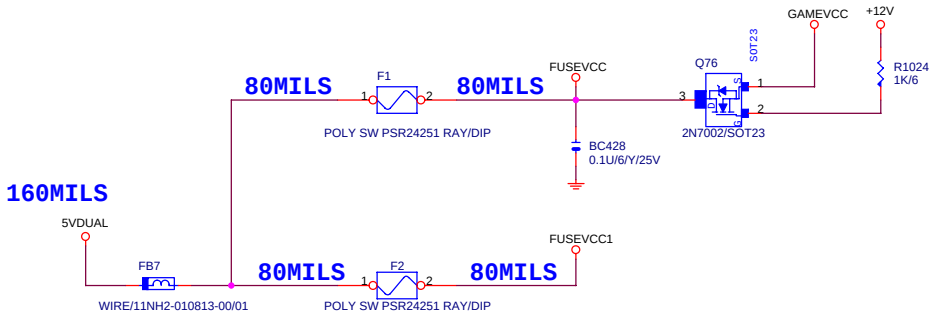
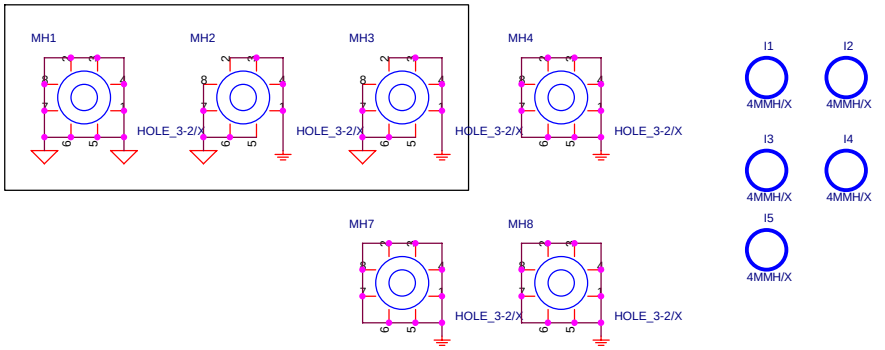
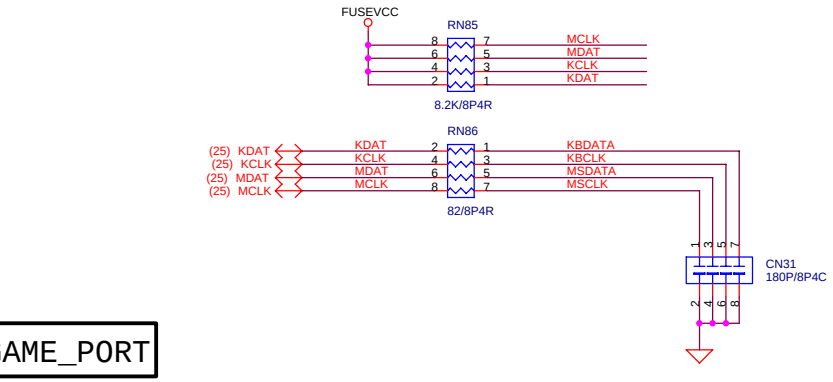
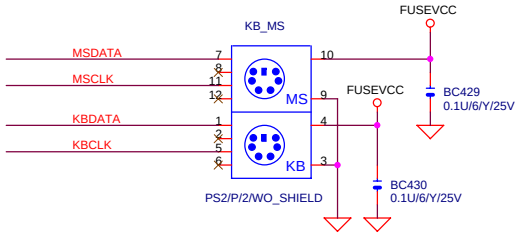
ATX AGND 與 GND 切割必須有三個

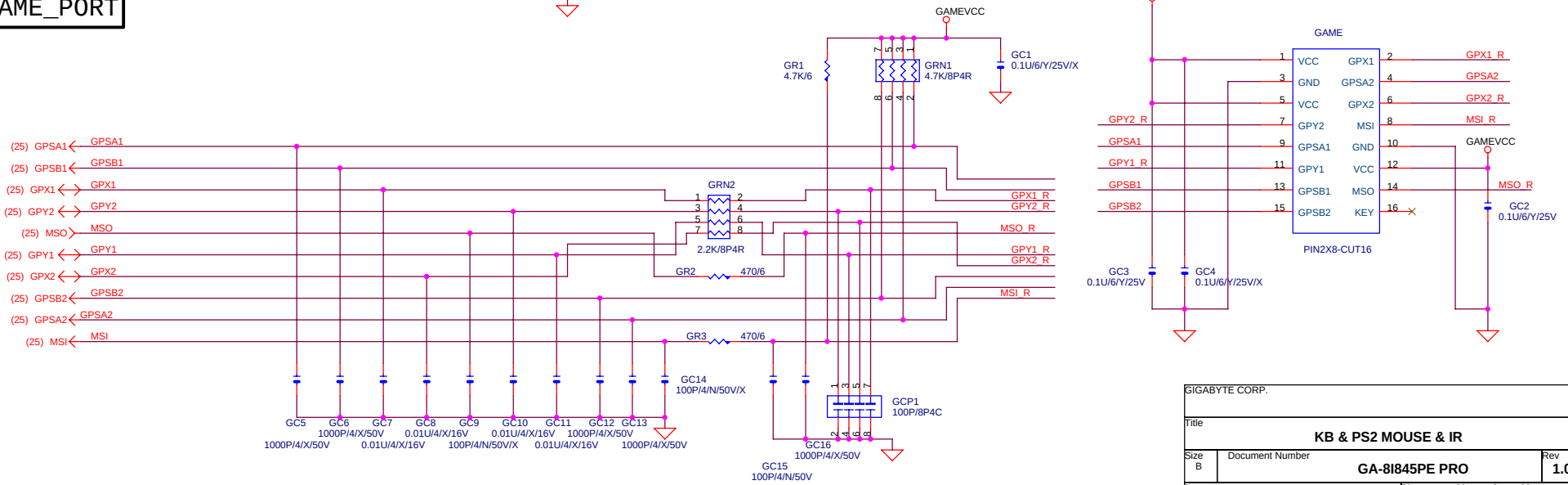




GAME_PORT







GIGABYTE CORP.		
Title: KB & PS2 MOUSE & IR		
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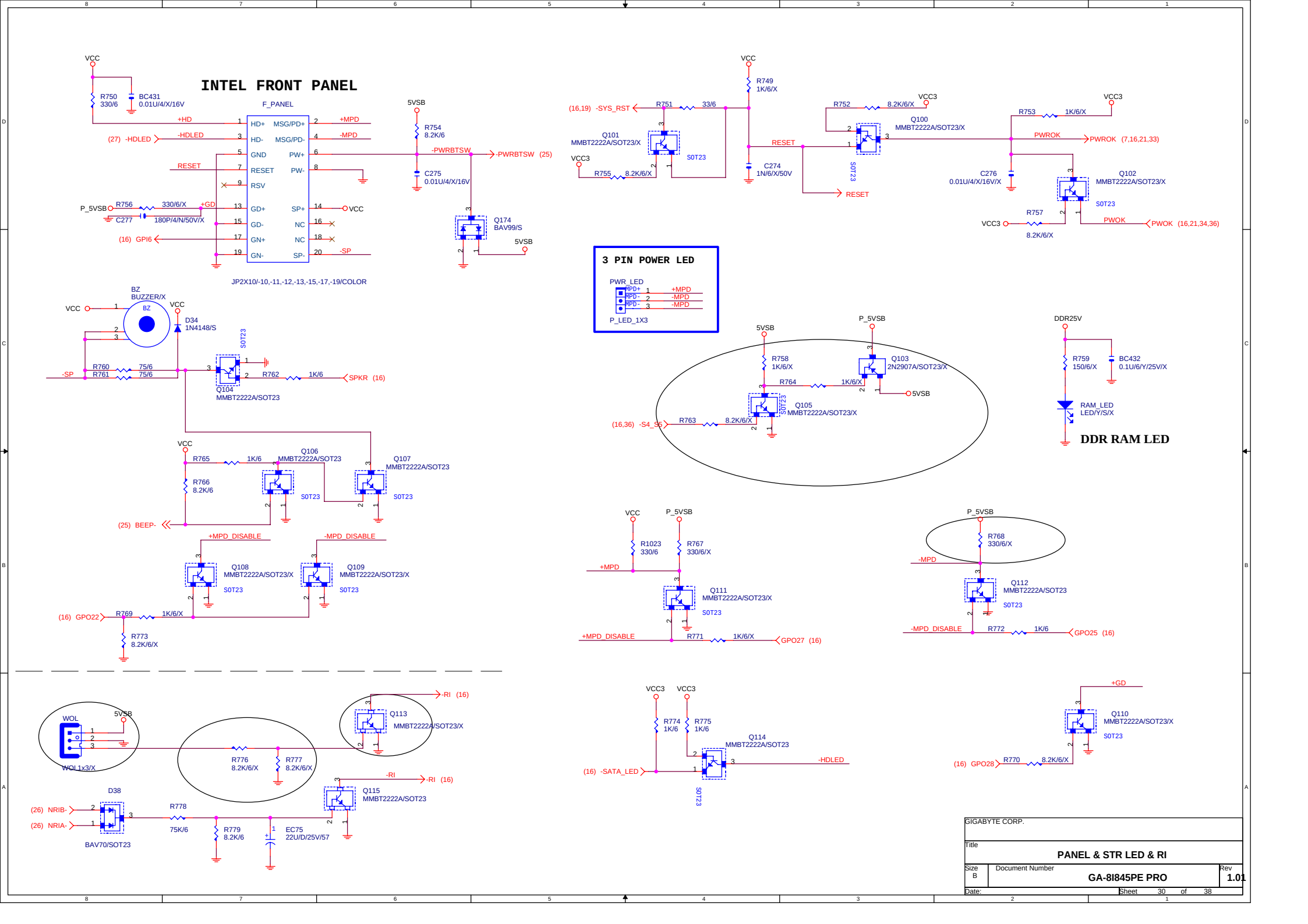
INTEL FRONT PANEL
F_PANEL
JP2X10/-10,-11,-12,-13,-15,-17,-19/COLOR
3 PIN POWER LED
PWR_LED
P_LED_1X3
DDR RAM LED
WOL
WOL 1x3/X
BAV70/SOT23
PANEL & STR LED & RI
GIGABYTE CORP.
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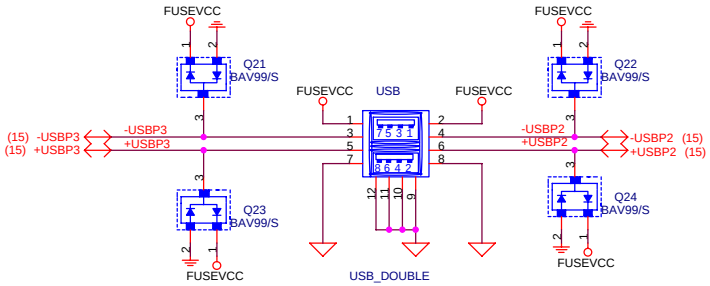
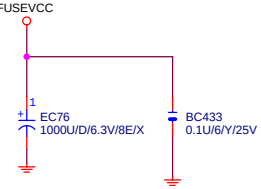
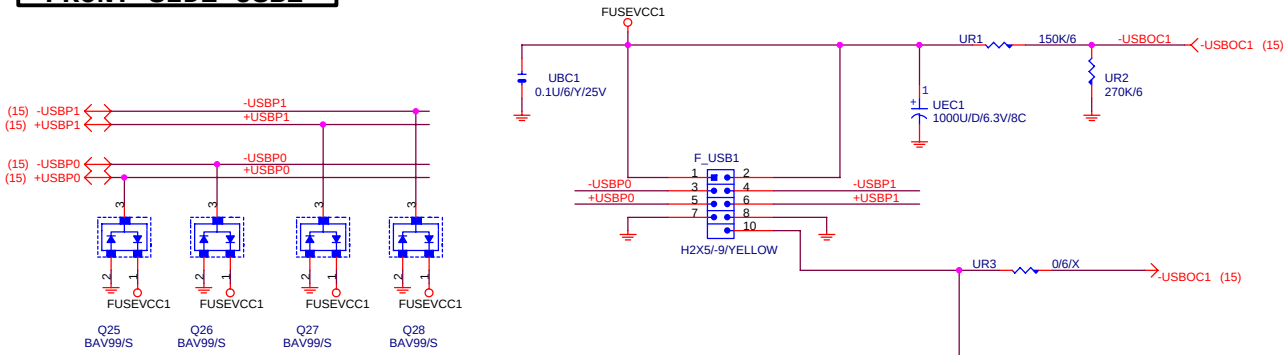
REAR USB

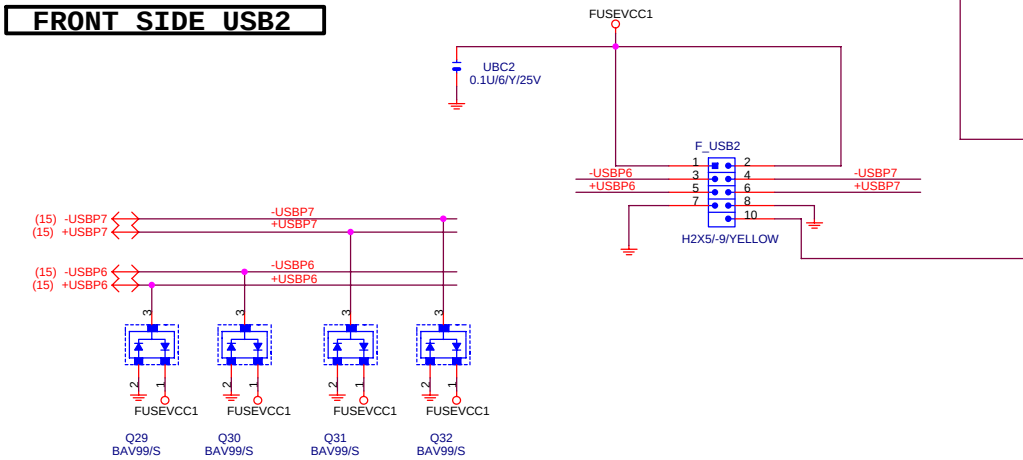




FRONT SIDE USB1



FRONT SIDE USB2



GIGABYTE CORP.		
Title: ICH USB PORT		
Size: B	Document Number: GA-8I845PE PRO	Rev: 1.01
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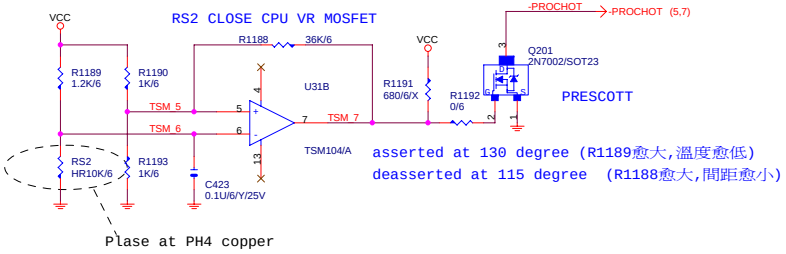
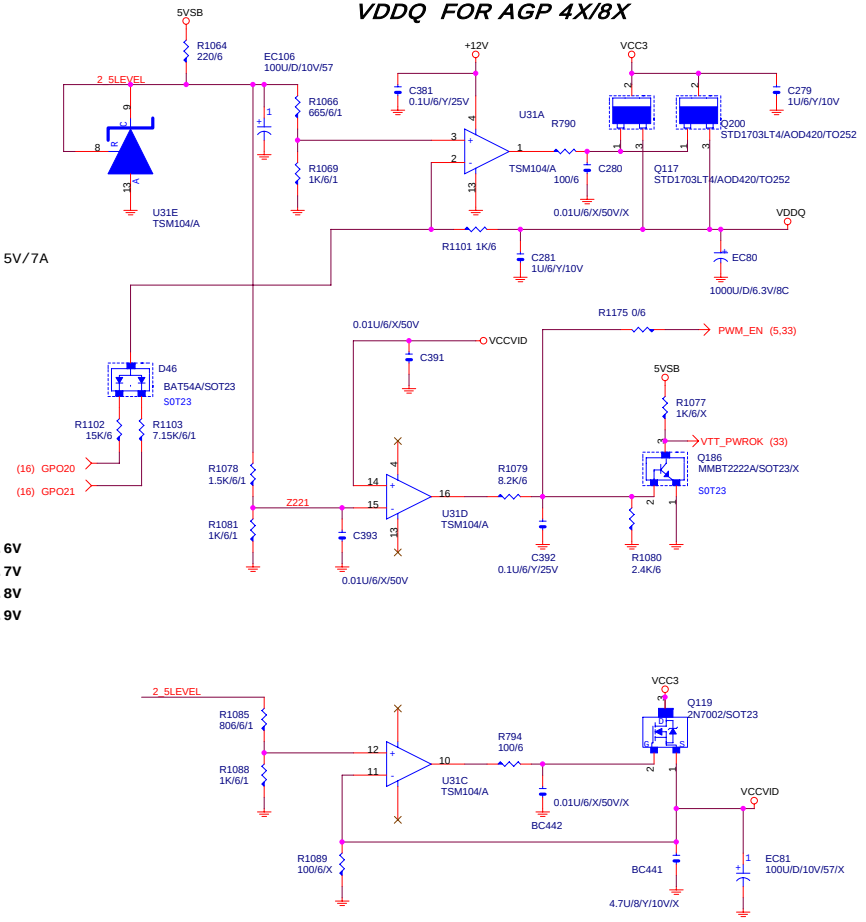
DDR25V FOR DDR DIMM & NB



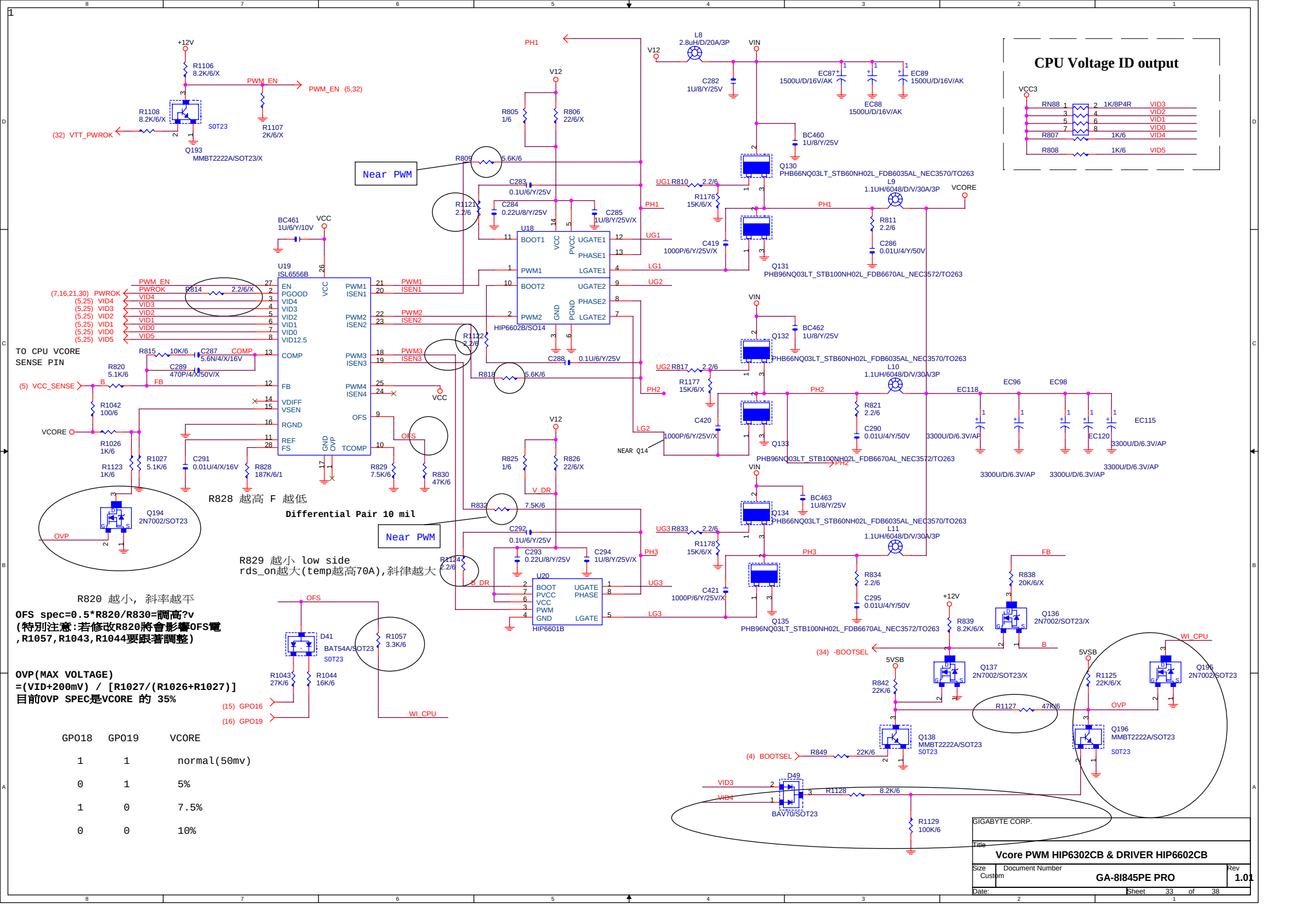
DDROVP1	DDROVP2	
1	1	2.6V
0	1	2.7V
1	0	2.8V
0	0	2.9V

VDDQ FOR AGP 4X/8X

2.5V/7A



Title	ISL6556B Springdale power ckt	
Size	Document Number GA-8I845PE PRO	Rev 1.01
Date:	Monday, January 03, 2005	Sheet 32 of 38


CPU Voltage ID output
VCC3
RN88
1K/8P4R
VID3
VID2
VID1
VID0
R807
1K/6
VID4
R808
1K/6
VID5
U19
ISL6556B
U18
HIP6602B/SO14
U20
HIP6601B
TO CPU VCORE SENSE PIN
(5) VCC_SENSE
VCORE
OVP
R828 越高 F 越低
Differential Pair 10 mil
Near PWM
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
(特別注意:若修改R820將會影響OFS電
,R1057,R1043,R1044要跟著調整)
OVP(MAX VOLTAGE)
=(VID+200mV) / [R1027/(R1026+R1027)]
目前OVP SPEC是VCORE 的 35%
GPO18 GPO19 VCORE
1 1 normal(50mv)
0 1 5%
1 0 7.5%
0 0 10%
GIGABYTE CORP.
Vcore PWM HIP6302CB & DRIVER HIP6602CB
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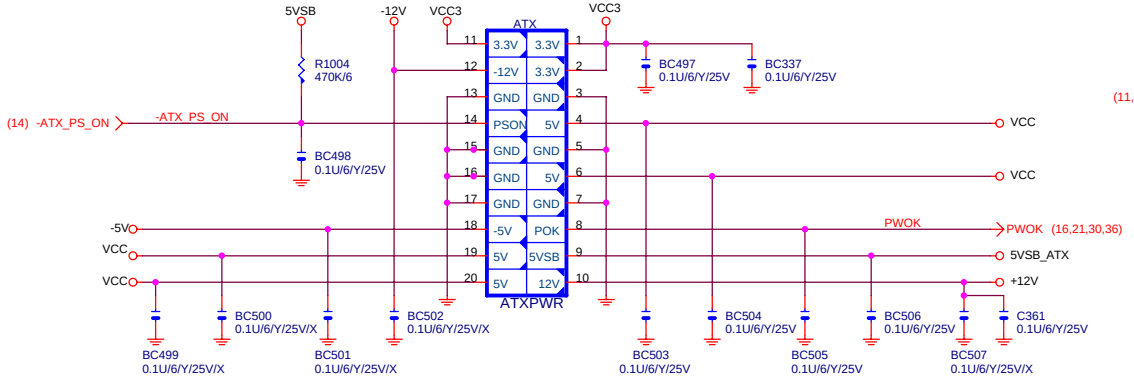
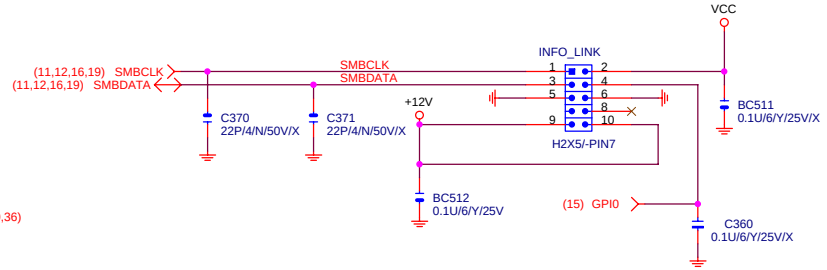
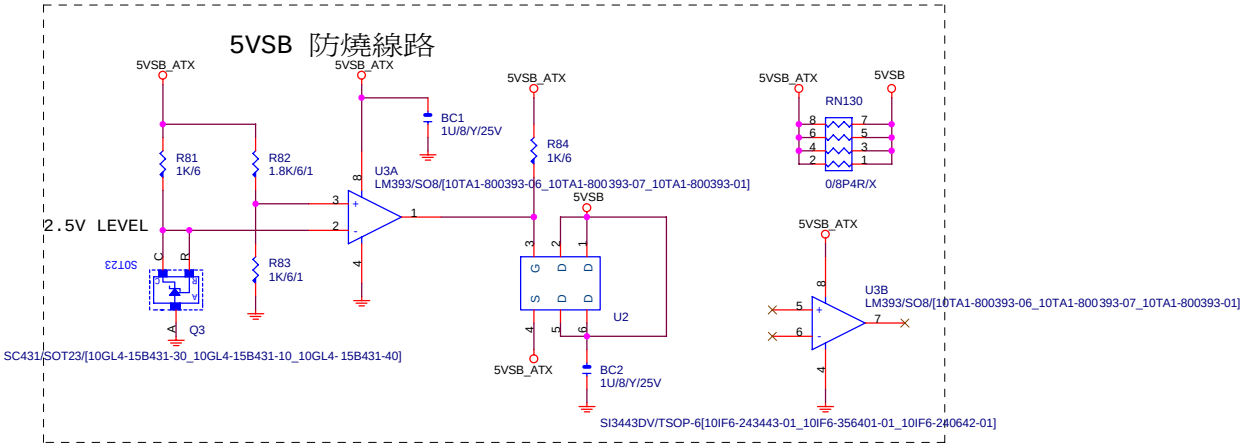
ATX POWER CONNECTOR

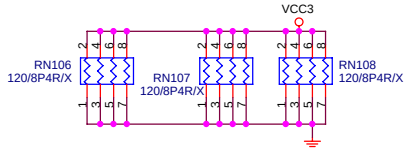


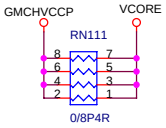
SMBUS CONN.



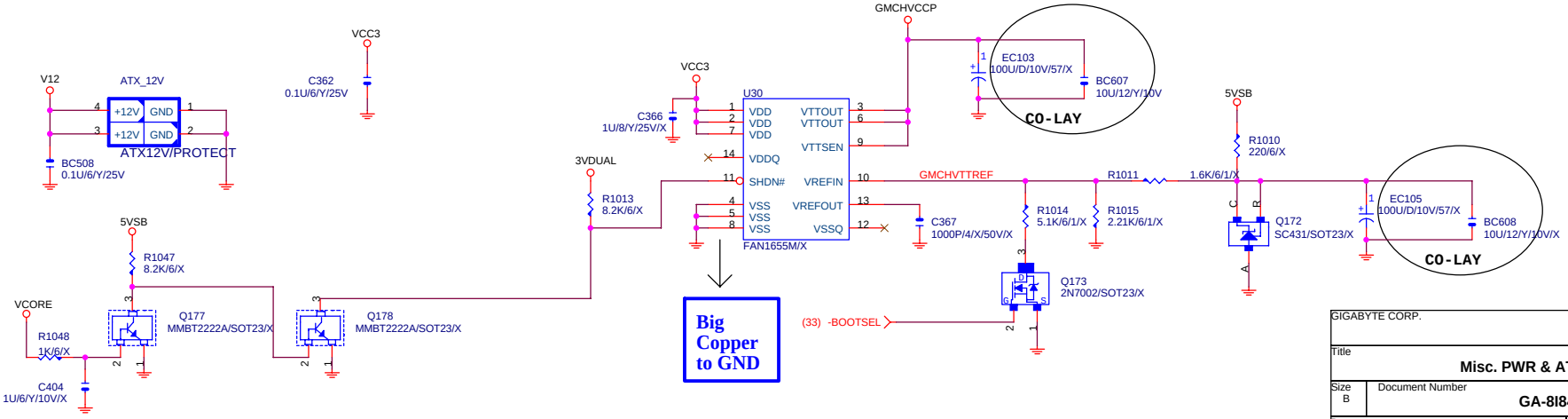
5VSB 防燒線路







Northwood:+1.45V
Prescott:+1.225V



GIGABYTE CORP.		
Title: Misc. PWR & ATX CONN.		
Size: B	Document Number: GA-8I845PE PRO	Rev: 1.01
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POWER DECOUPLING CAP.

 # Layout Check 注意事項

1. LU1 PIN129 需下丙層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

LU1 88E8001 88E8001/LQFP128/A4

EEPROM AT24C08/SO8

USB_LAN USB/LAN[S-TECHP35-152-19W9]

Title	MARVELL 88E8001
Size: Custom	Document Number: GA-8I845PE PRO
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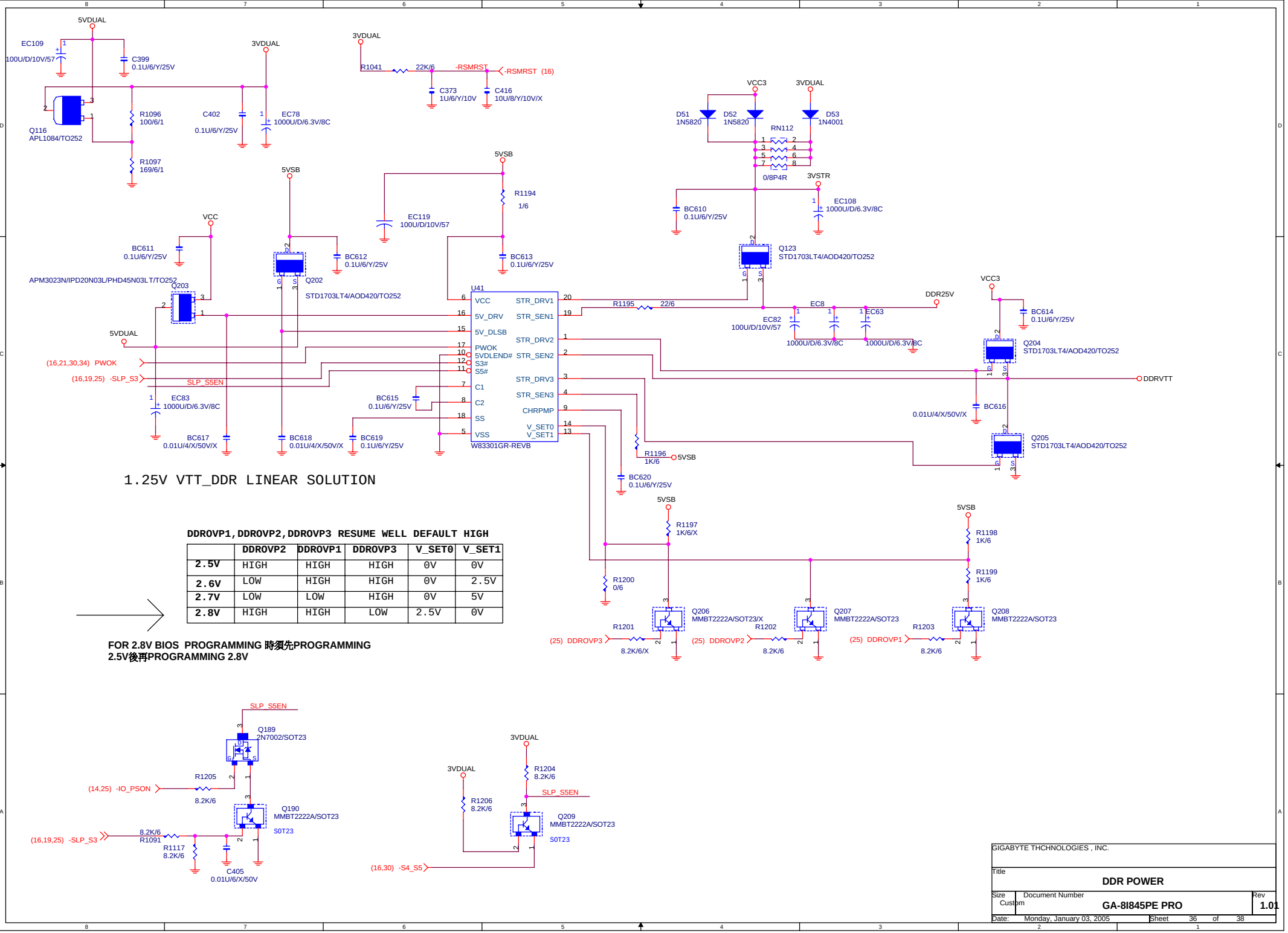
GIGABYTE



DDROVP1,DDROVP2,DDROVP3 RESUME WELL DEFAULT HIGH

	DDROVP2	DDROVP1	DDROVP3	V_SET0	V_SET1
2.5V	HIGH	HIGH	HIGH	0V	0V
2.6V	LOW	HIGH	HIGH	0V	2.5V
2.7V	LOW	LOW	HIGH	0V	5V
2.8V	HIGH	HIGH	LOW	2.5V	0V

FOR 2.8V BIOS PROGRAMMING 時須先PROGRAMMING 2.5V後再PROGRAMMING 2.8V

GIGABYTE THCHNOLOGIES , INC.				
Title: DDR POWER				
Size: Custom	Document Number: GA-8I845PE PRO			Rev: 1.01
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GIGABYTE GA-8I845PE PRO 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

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GIGABYTE GA-8I845PE RPO 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-8I845PE PRO | Rev: 1.01

Date: Monday, January 03, 2005 | Sheet 38 of 38