

GA-8PE667 Ultra2 Schematics

Revision 1.01

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03	BLOCK DIAGRAM
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05	P4_478B
06	P4_478C
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08	GMCH-BROOKDALE-PE
09	GMCH-BROOKDALE-PE
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12	DDR3 & DDR TERM.
13	AGP SLOT
14	ICH4_1
15	ICH4_2
16	FWH(DUAL BIOS)
17	ICS950223AF CLOCK GEN
18	PCI1 & PCI2 SLOT
19	PCI3 & PCI4 SLOT & RESET
20	PCI5 & PCI6 SLOT
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SHEET TITLE

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26	IDE CONNECTOR
27	PS/2 K/B & M/S
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29	AC97 CODEC
30	LINE OUT & FRONT AUDIO
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34	VCORE PWM(HIP6301/6302CB)
35	DDR POWER
36	Sil3112A S-ATA CONNECTOR
37	KINNERETH-R/KENAI32 LAN
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GIGABYTE			
Title			
COVER SHEET			
Size	Document Number		Rev
Custom	GA-8PE667 Ultra2		1.01
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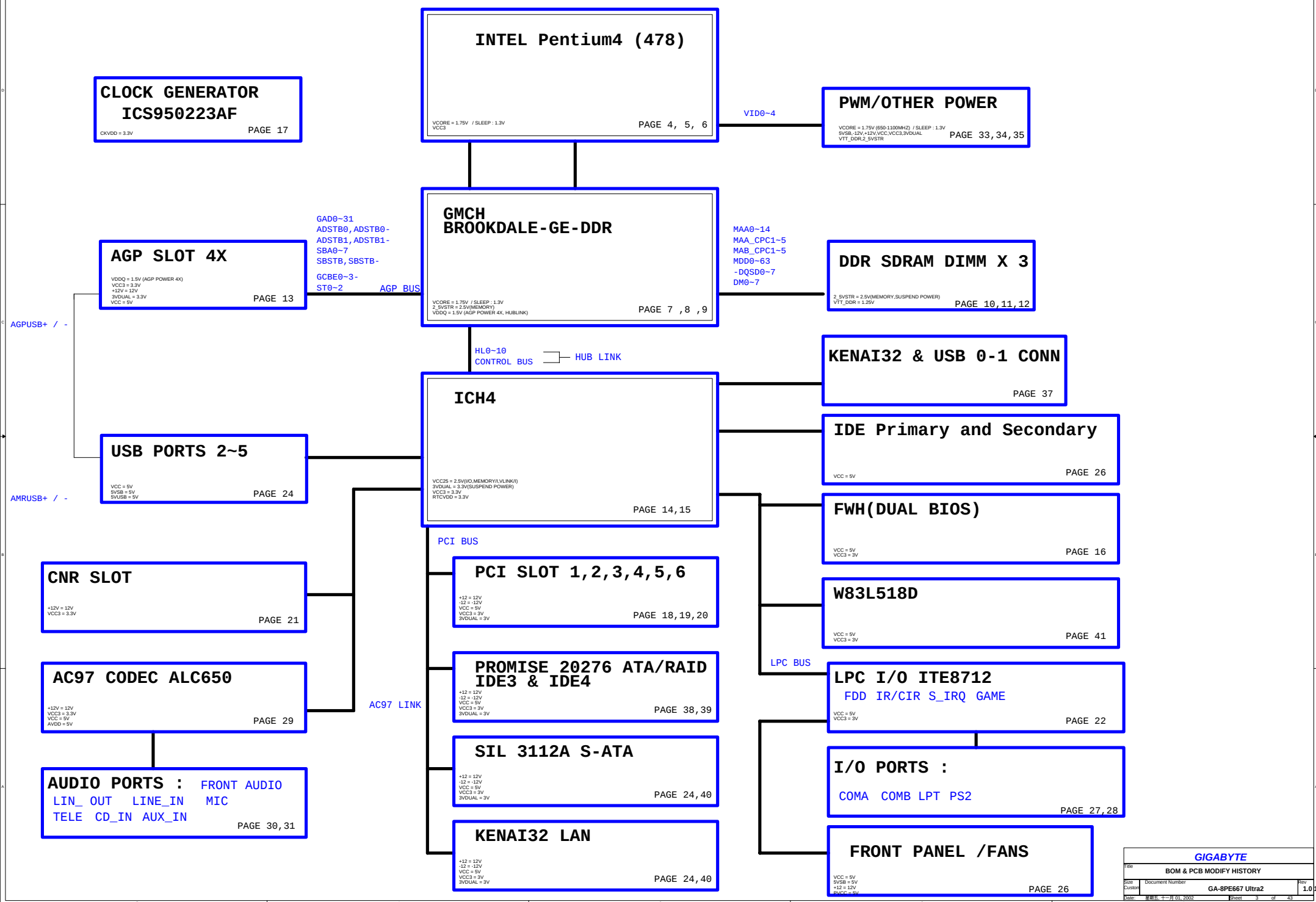
Component value change history

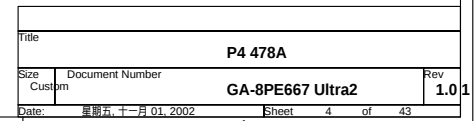
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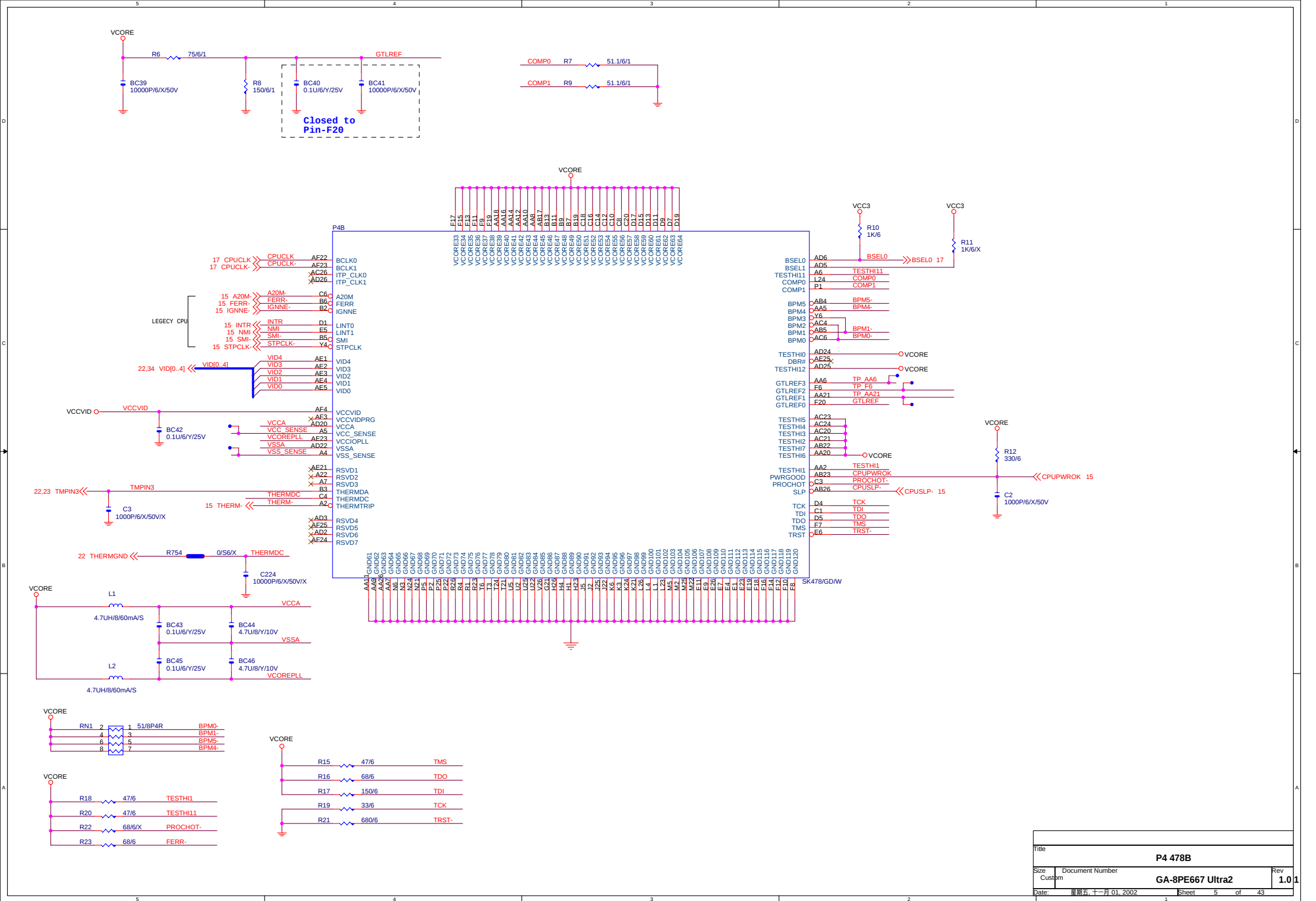
Circuit or PCB layout change for next version

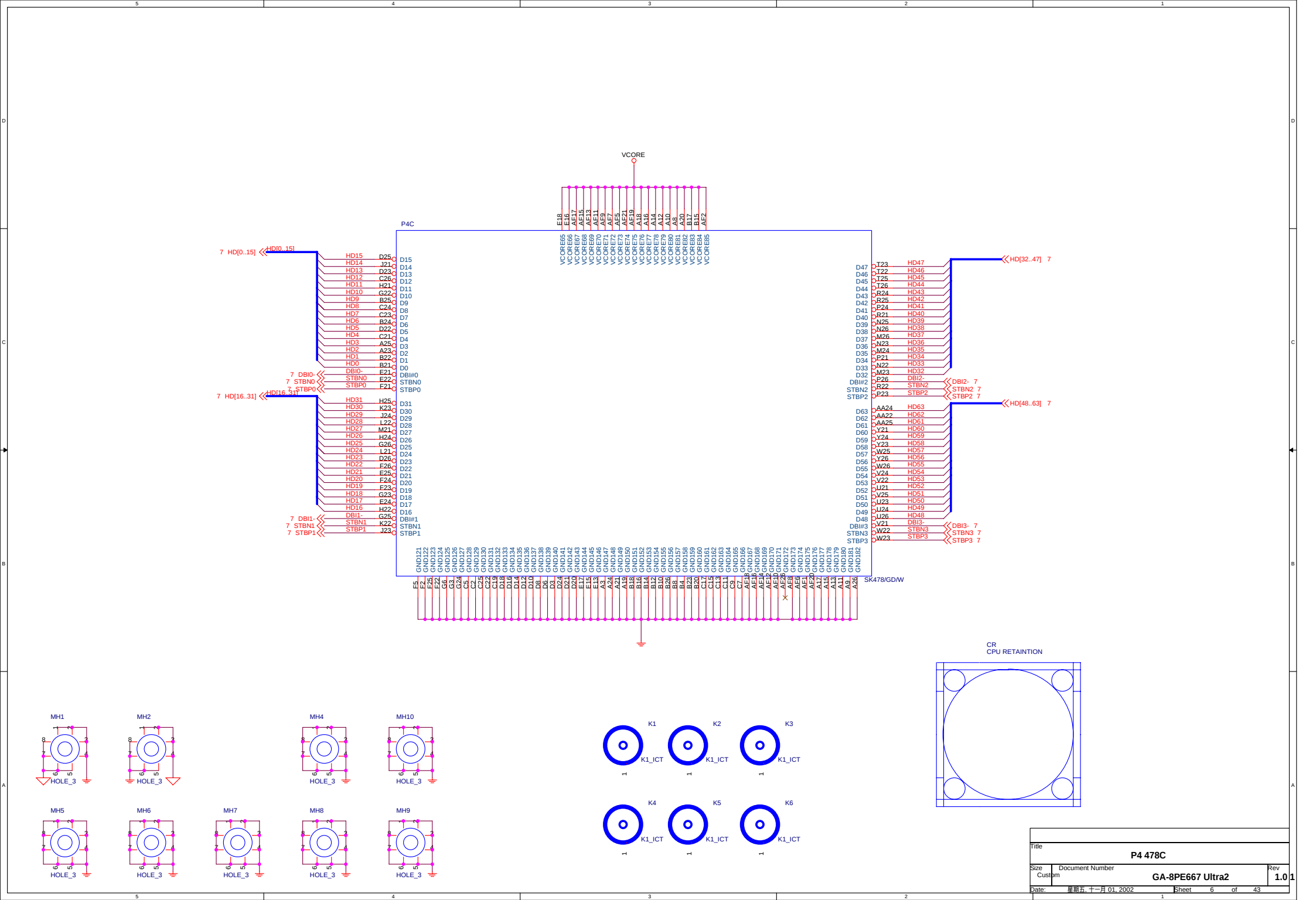
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BLOCK DIAGRAM

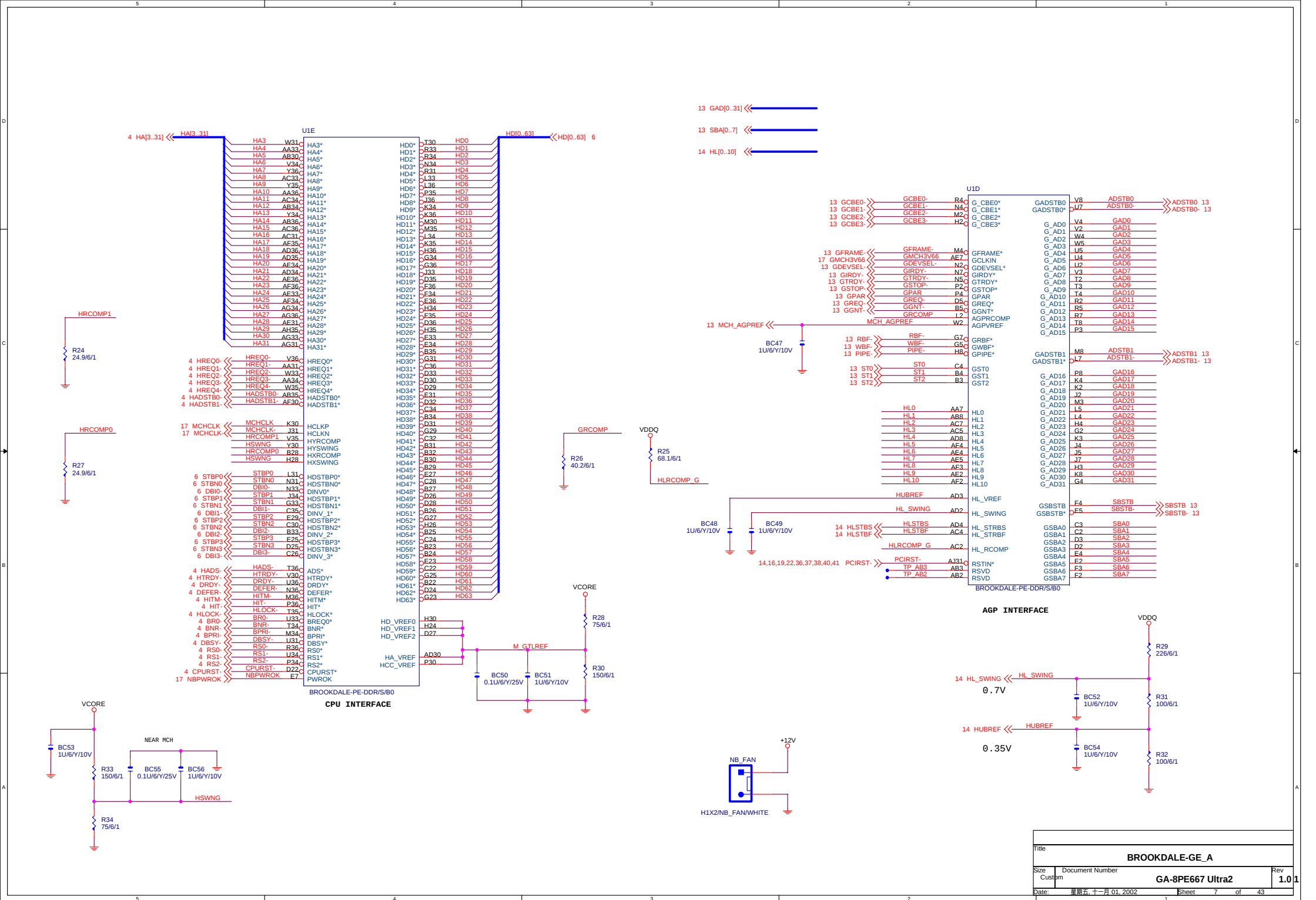


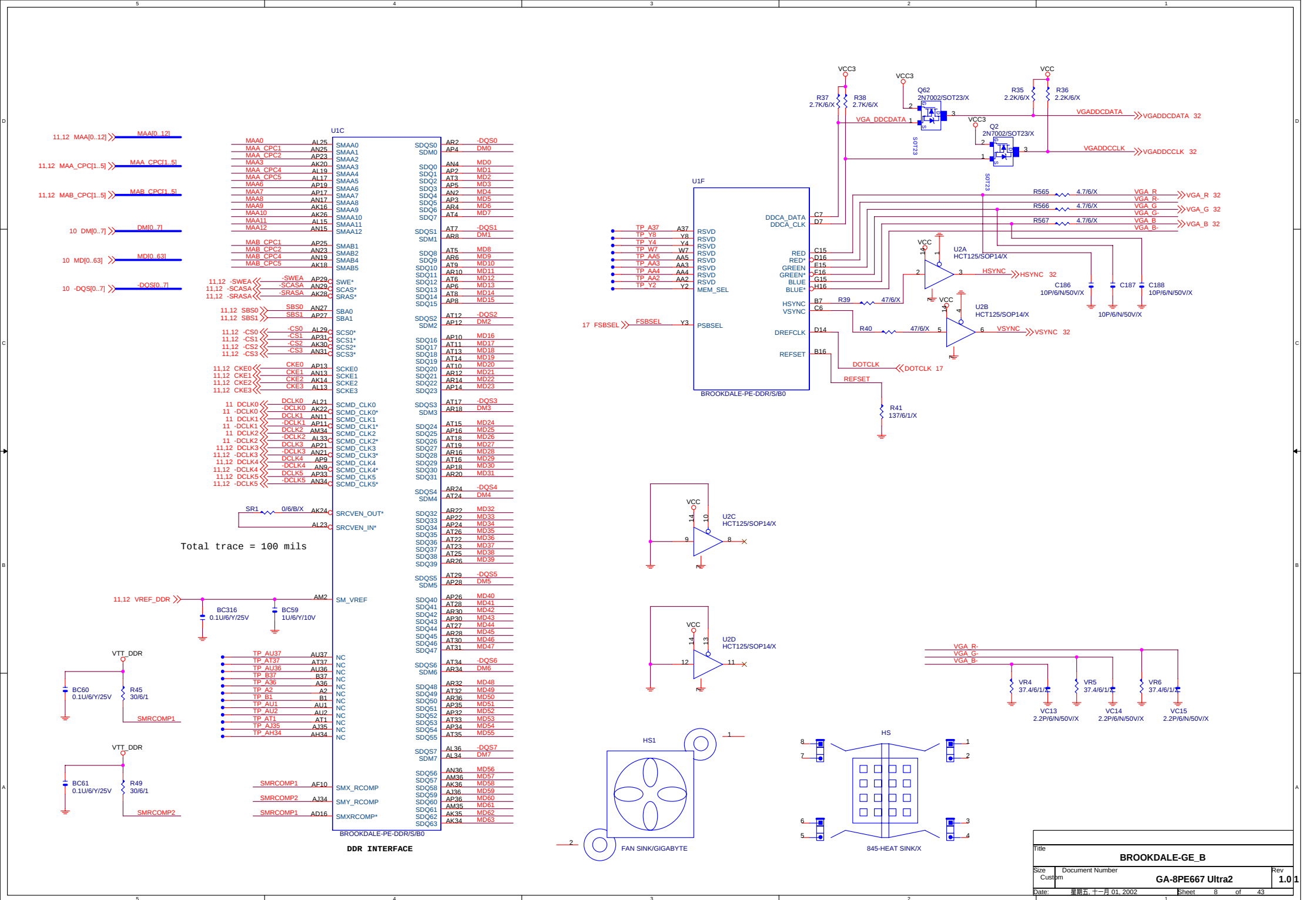


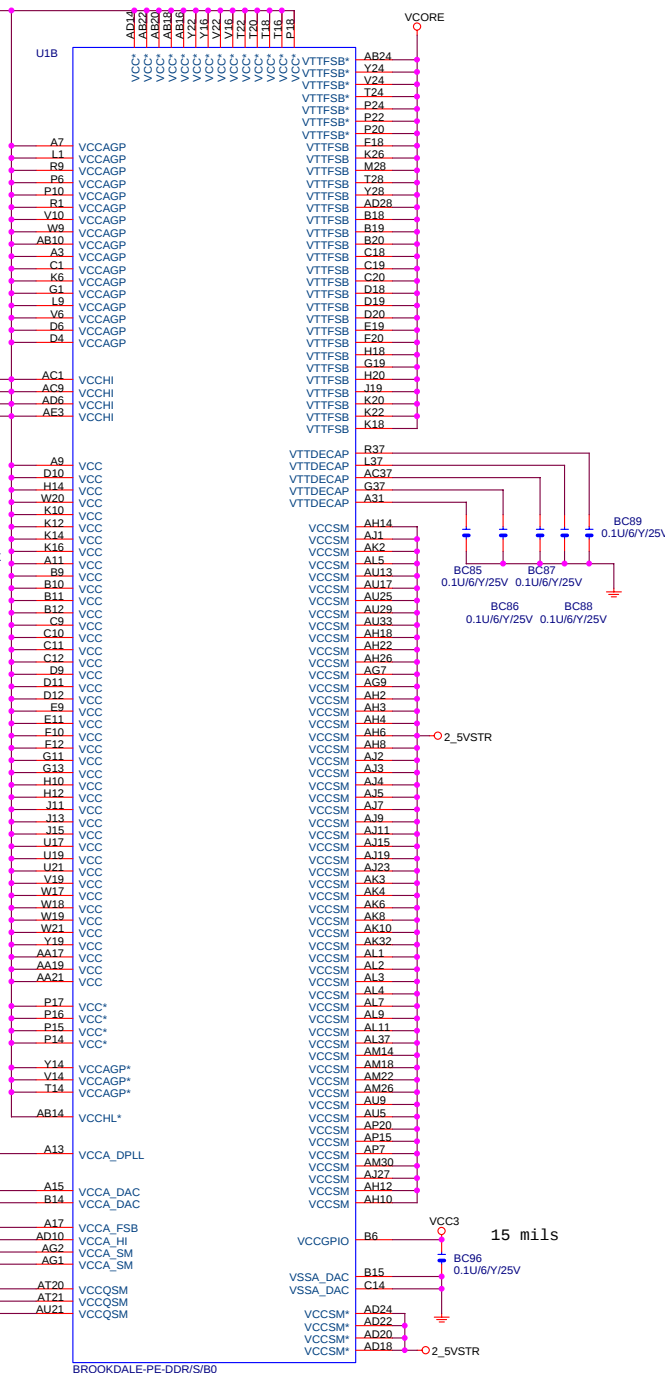
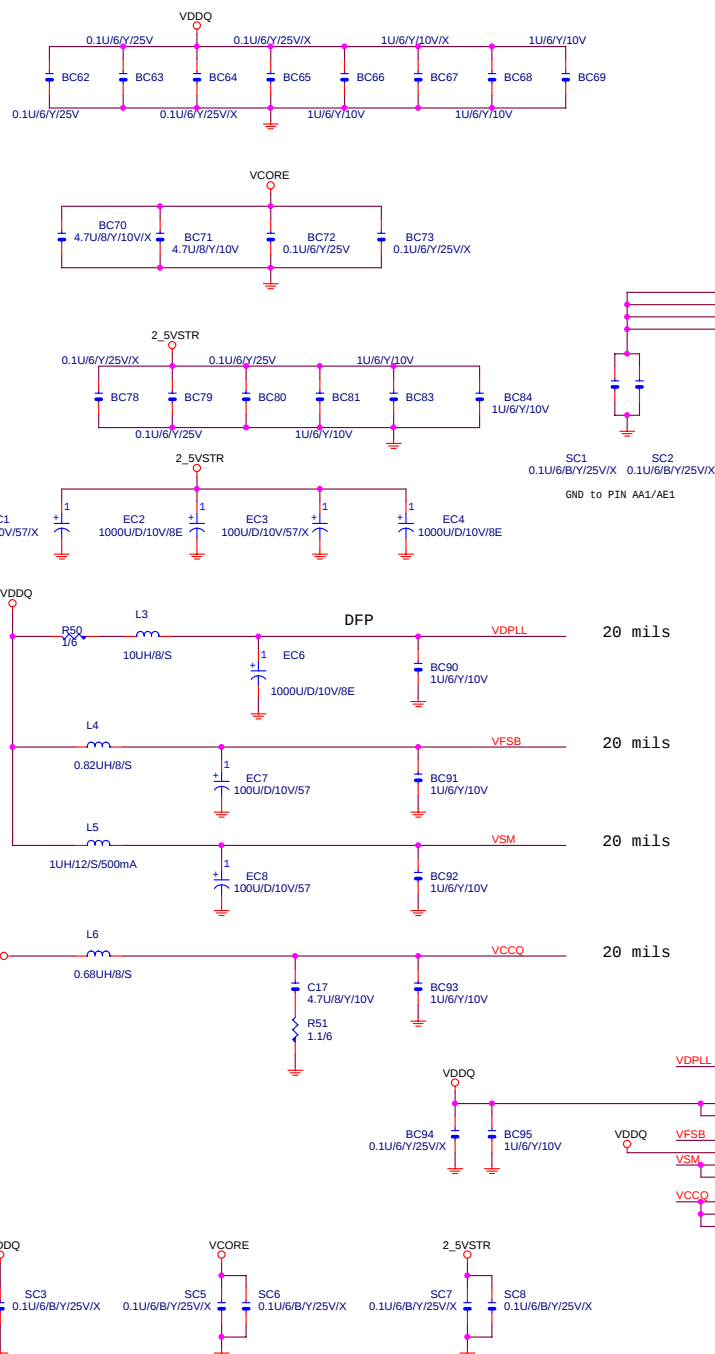
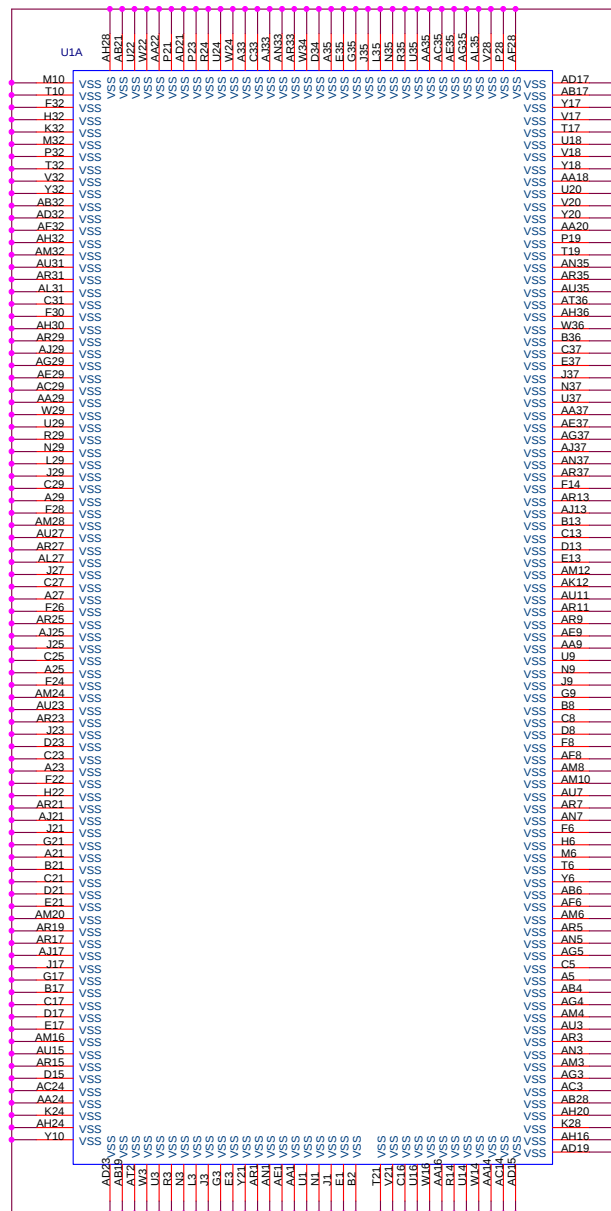




Title			P4 478C		
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11.12 MD_[0..63] << <<MD[0..63] 8

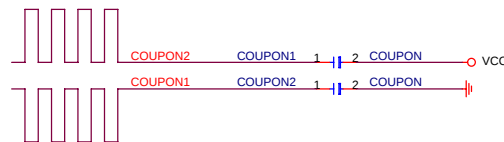
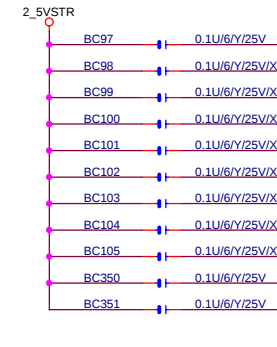
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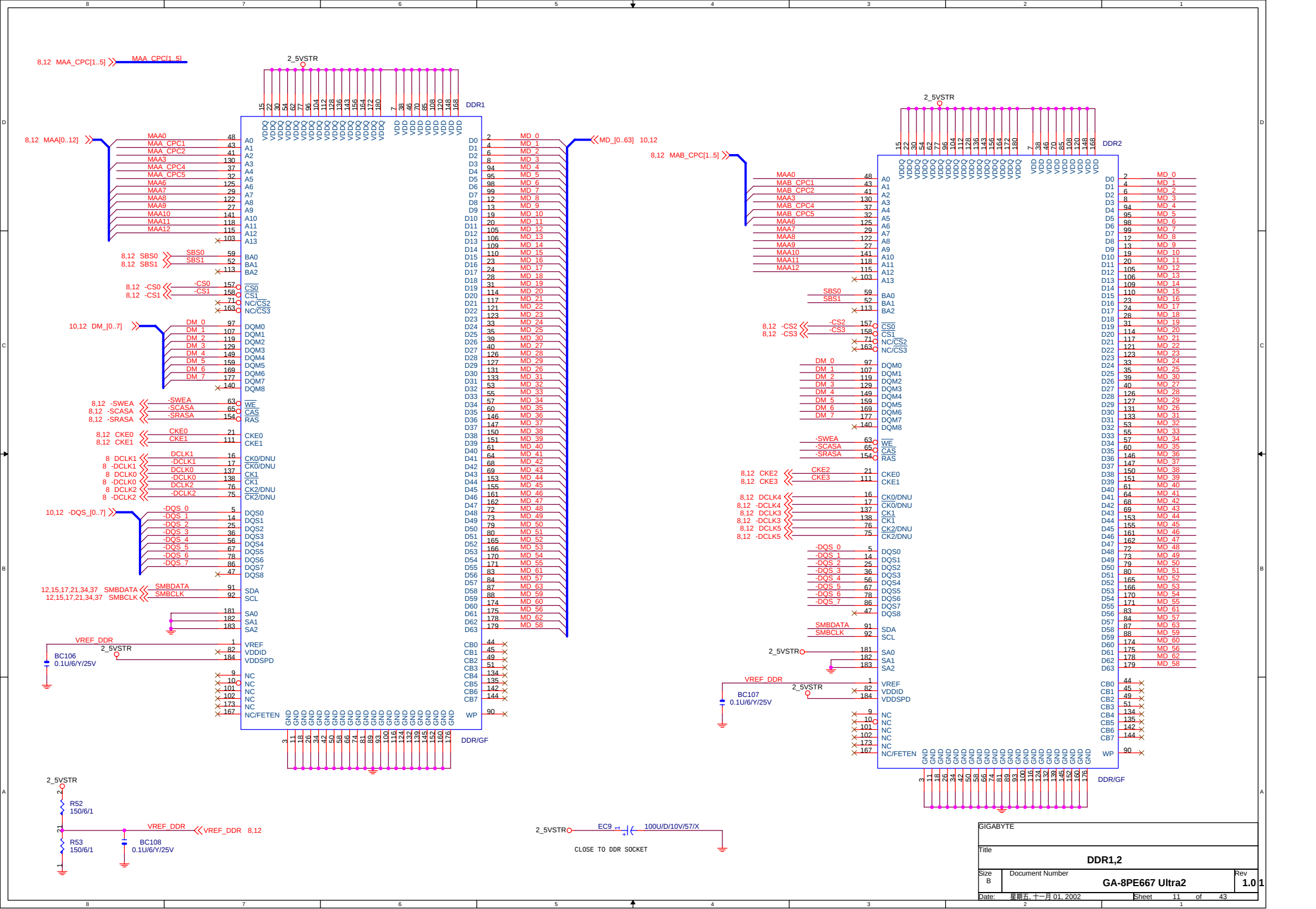
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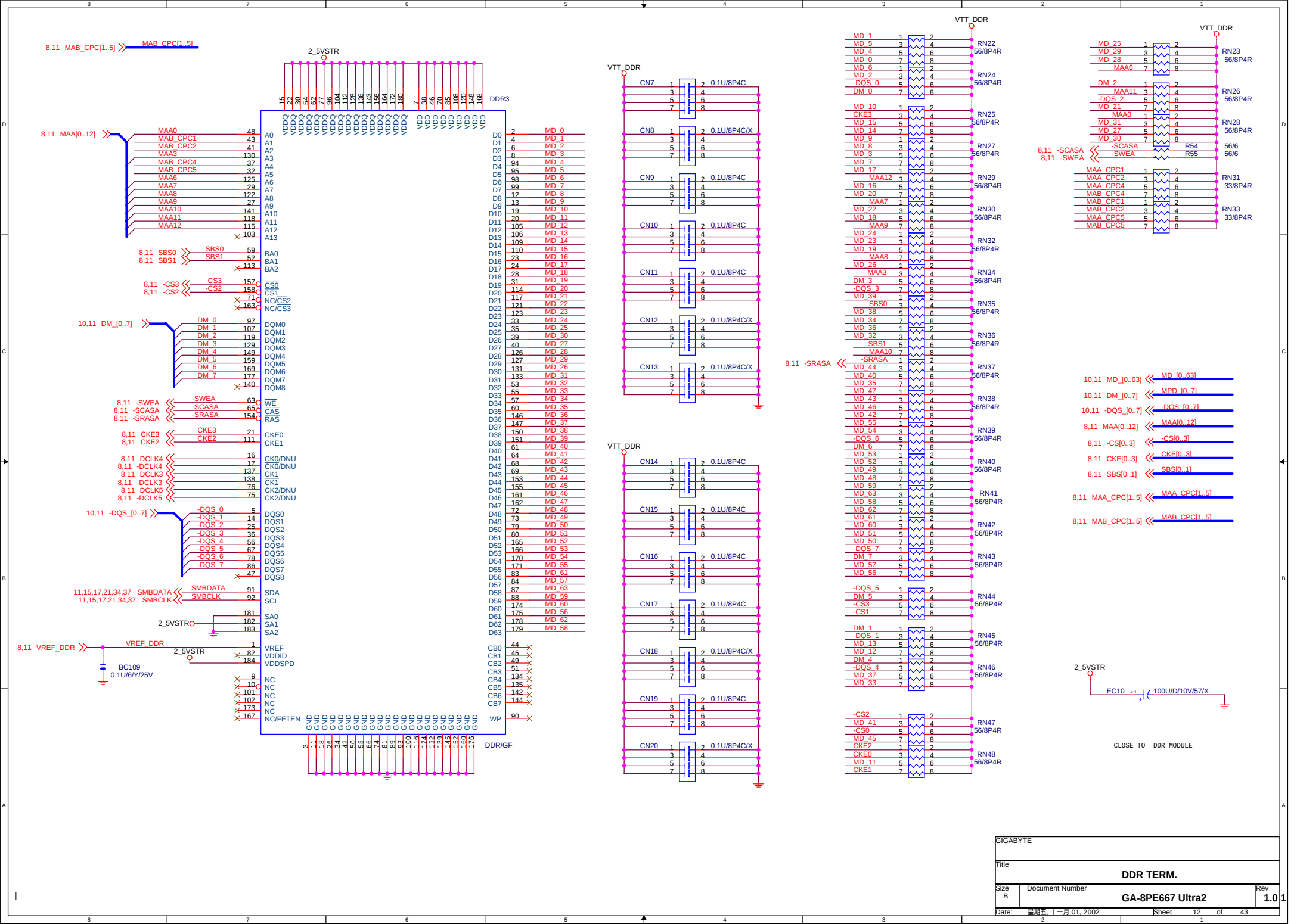
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-DQS 0		3	4	-DQS0
MD 2		5	6	MD2
MD 6		7	8	MD6
MD 0	RN5	1	2 10/8P4R	MD0
MD 4		3	4	MD4
MD 5		5	6	MD5
MD 1		7	8	MD1
MD 12	RN6	1	2 10/8P4R	MD12
MD 13		3	4	MD13
-DQS 1		5	6	-DQS1
DM 1		7	8	DM1
MD 14	RN7	1	2 10/8P4R	MD14
MD 15		3	4	MD15
MD 10		5	6	MD10
MD 11		7	8	MD11
-DQS 2	RN9	1	2 10/8P4R	-DQS2
DM 2		3	4	DM2
MD 18		5	6	MD18
MD 22		7	8	MD22
MD 29	RN11	1	2 10/8P4R	MD29
MD 25		3	4	MD25
-DQS 3		5	6	-DQS3
DM 3		7	8	DM3
MD 26	RN12	1	2 10/8P4R	MD26
MD 30		3	4	MD30
MD 27		5	6	MD27
MD 31		7	8	MD31
MD 32	RN13	1	2 10/8P4R	MD32
MD 36		3	4	MD36
MD 33		5	6	MD33
MD 37		7	8	MD37
MD 39	RN14	1	2 10/8P4R	MD39
MD 35		3	4	MD35
MD 40		5	6	MD40
MD 44		7	8	MD44
-DQS 4	RN15	1	2 10/8P4R	-DQS4
DM 4		3	4	DM4
MD 34		5	6	MD34
MD 38		7	8	MD38
MD 45	RN16	1	2 10/8P4R	MD45
MD 41		3	4	MD41
DM 5		5	6	DM5
-DQS 5		7	8	-DQS5
MD 48	RN17	1	2 10/8P4R	MD48
MD 49		3	4	MD49
MD 52		5	6	MD52
MD 53		7	8	MD53
MD 50	RN18	1	2 10/8P4R	MD50
MD 51		3	4	MD51
MD 60		5	6	MD60
MD 61		7	8	MD61
DM 6	RN19	1	2 10/8P4R	DM6
-DQS 6		3	4	-DQS6
MD 54		5	6	MD54
MD 55		7	8	MD55
MD 56	RN20	1	2 10/8P4R	MD56
MD 57		3	4	MD57
DM 7		5	6	DM7
-DQS 7		7	8	-DQS7
MD 59	RN21	7	8 10/8P4R	MD59
MD 63		5	6	MD63
MD 58		3	4	MD58
MD 62		1	2	MD62

MD 20	RN2	1	2 10/8P4R	MD20
MD 16		3	4	MD16
MD 17		5	6	MD17
MD 21		7	8	MD21
MD 42	RN4	1	2 10/8P4R	MD42
MD 46		3	4	MD46
MD 43		5	6	MD43
MD 47		7	8	MD47

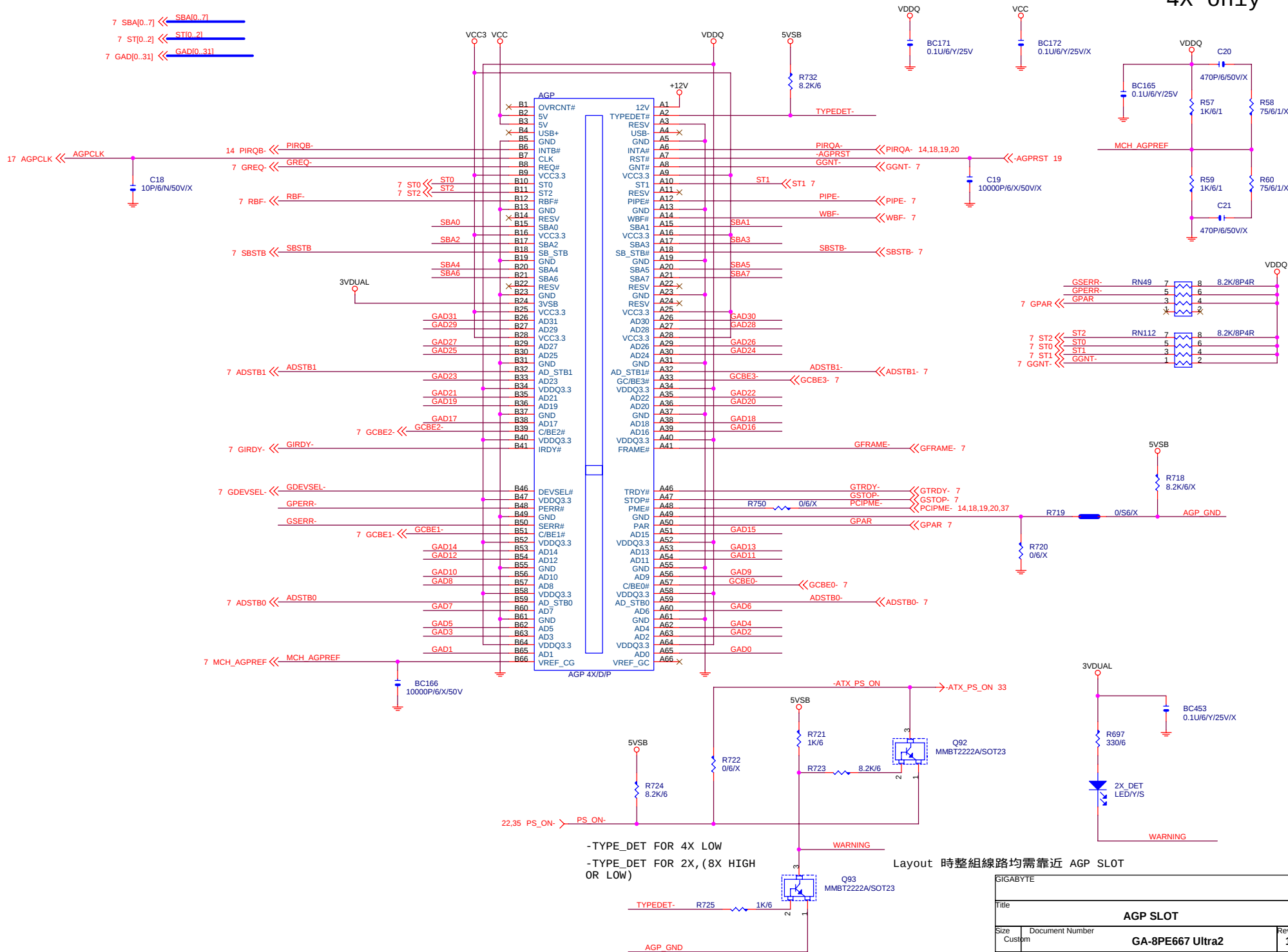
MD 7	RN8	1	2 10/8P4R	MD7
MD 3		3	4	MD3
MD 8		5	6	MD8
MD 9		7	8	MD9
MD 19	RN10	1	2 10/8P4R	MD19
MD 23		3	4	MD23
MD 24		5	6	MD24
MD 28		7	8	MD28



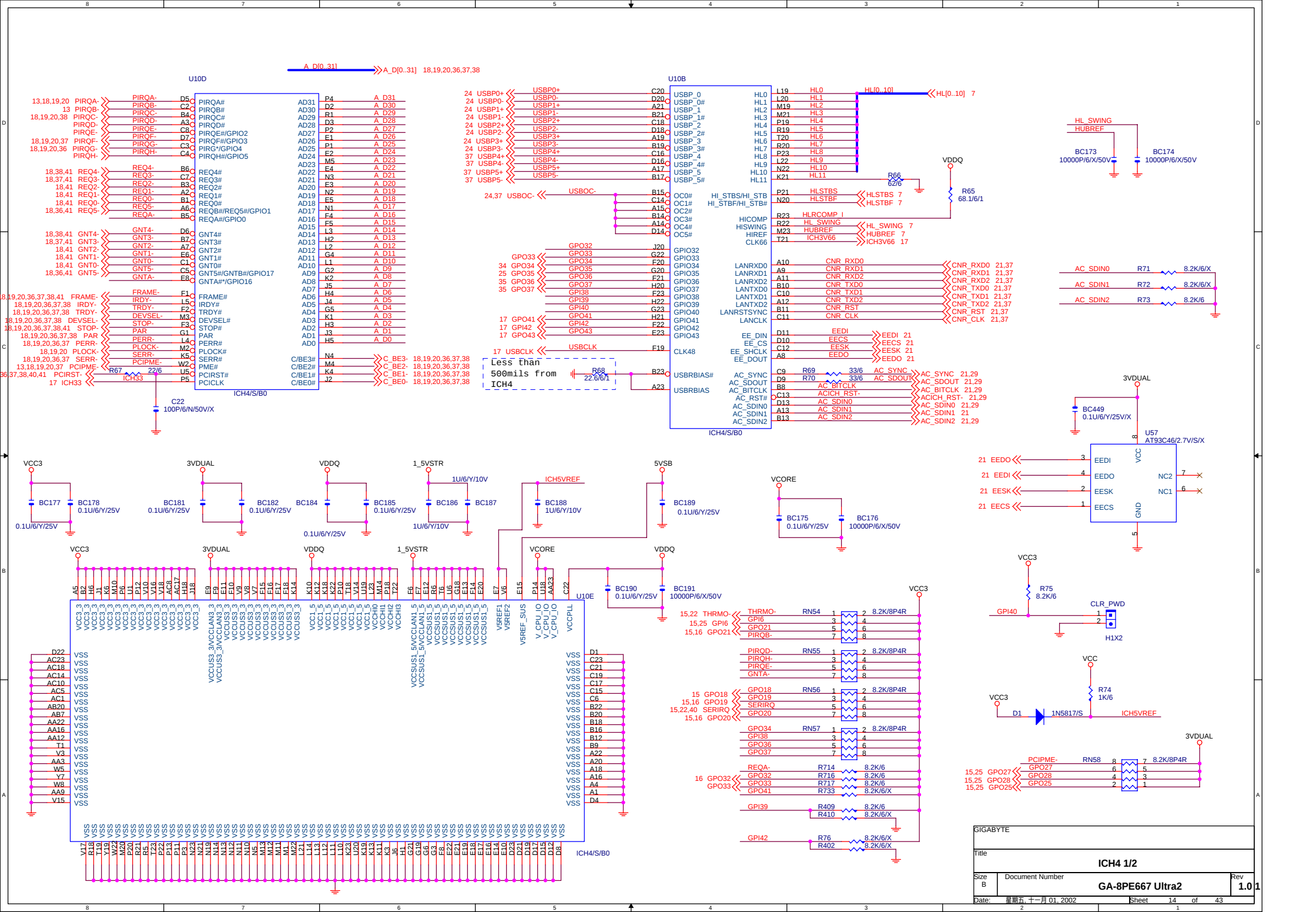


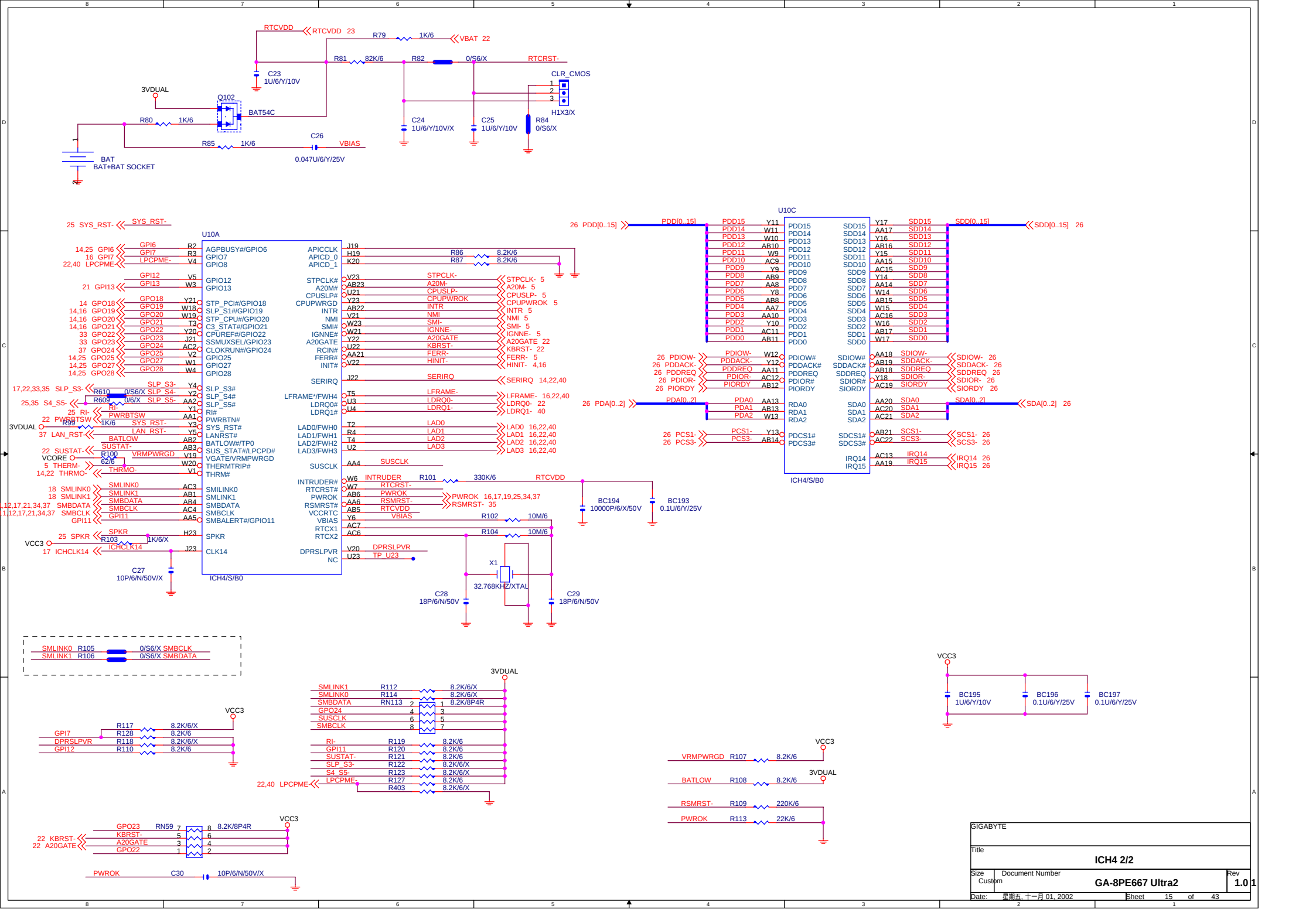


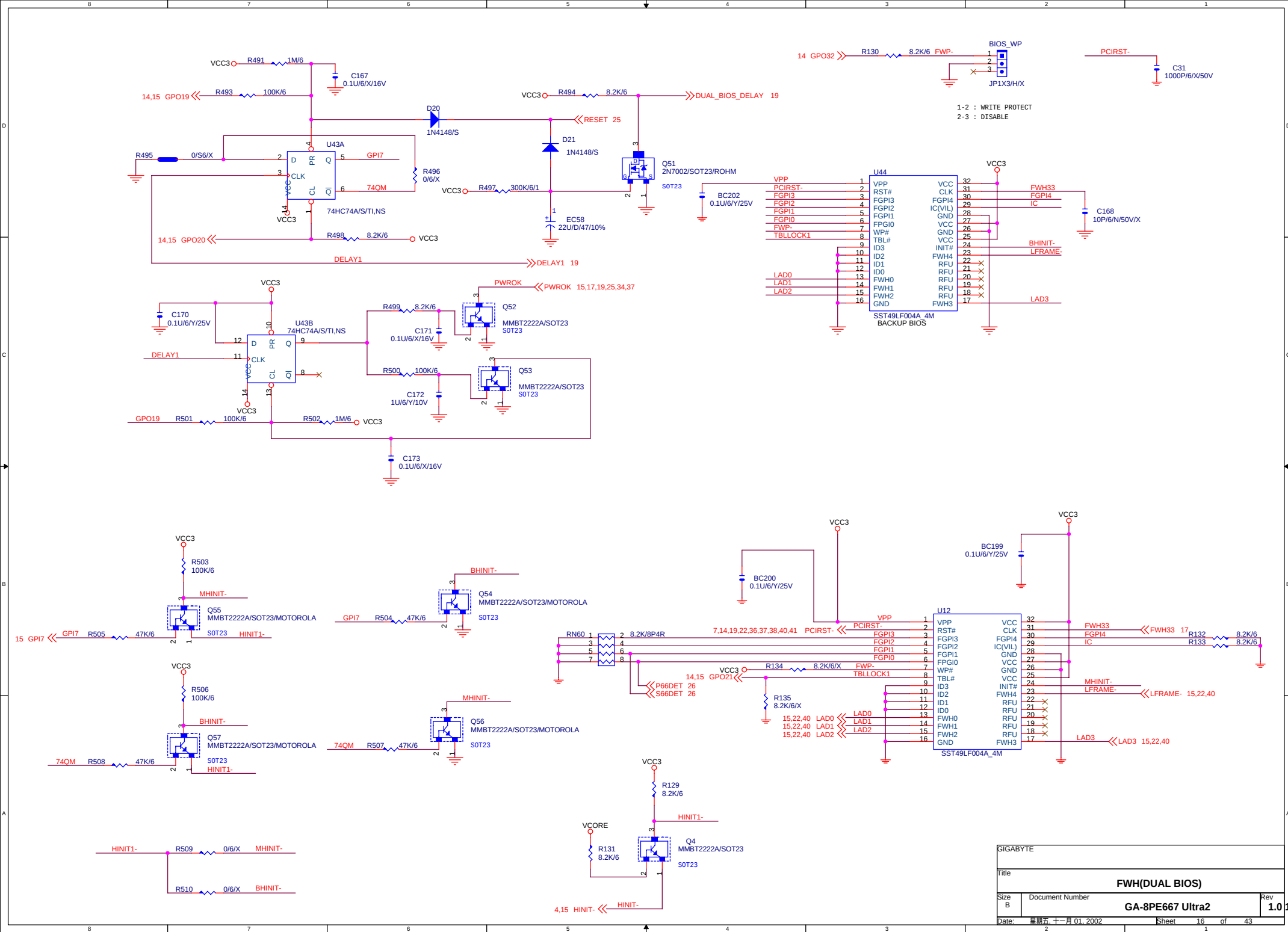
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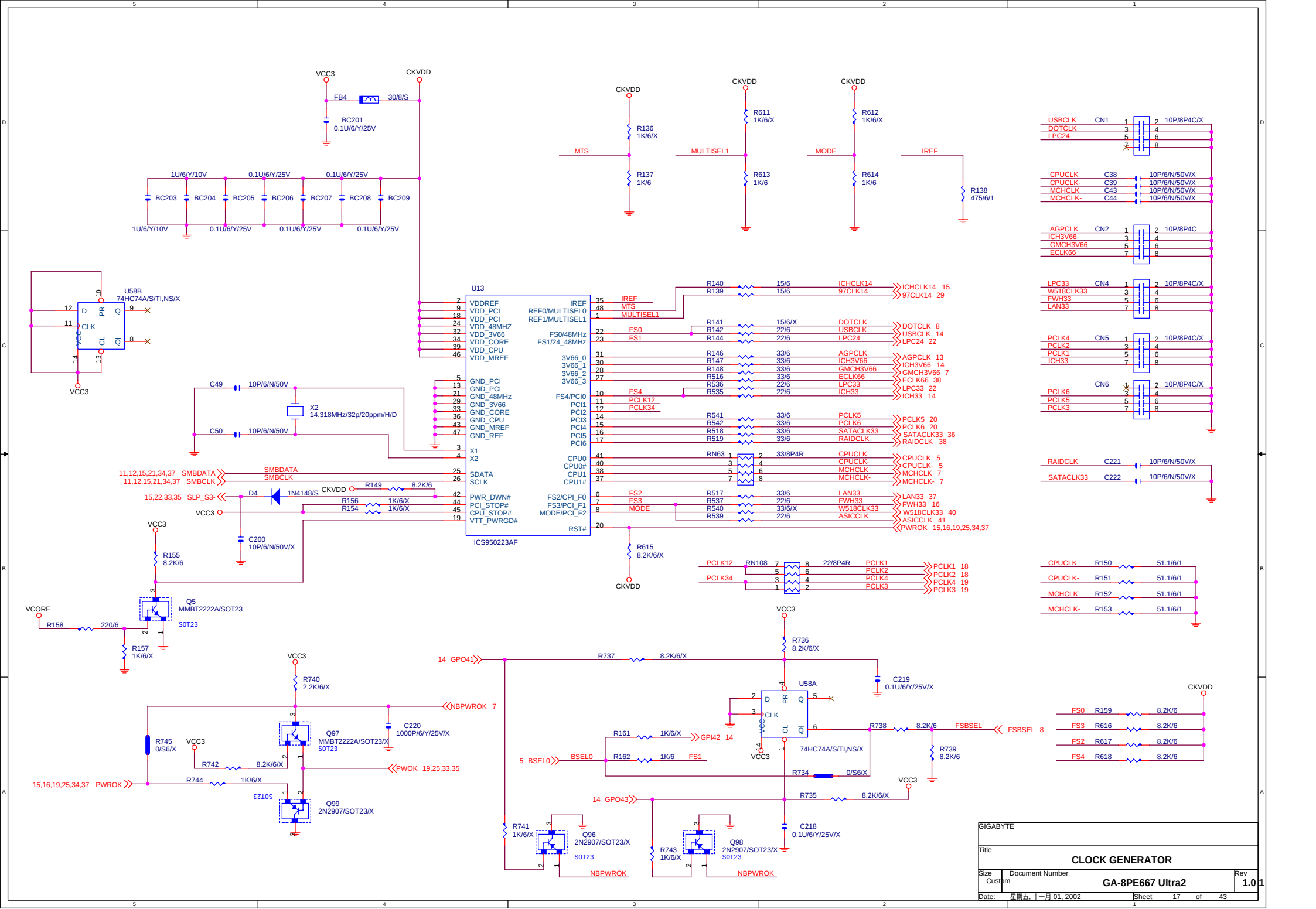


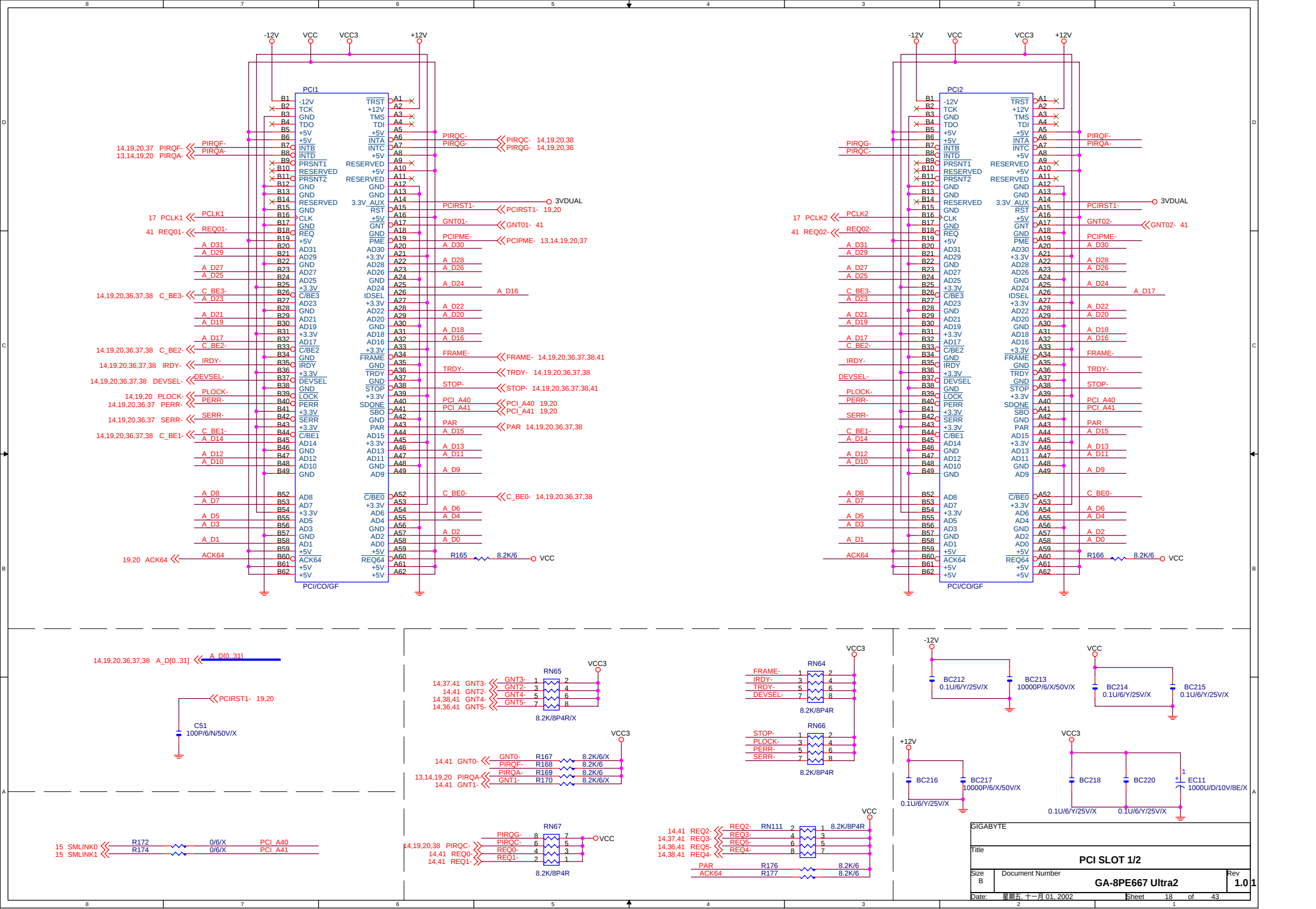
GIGABYTE				
Title				
AGP SLOT				
Size	Document Number			Rev
Cusum	GA-8PE667 Ultra2			1.0
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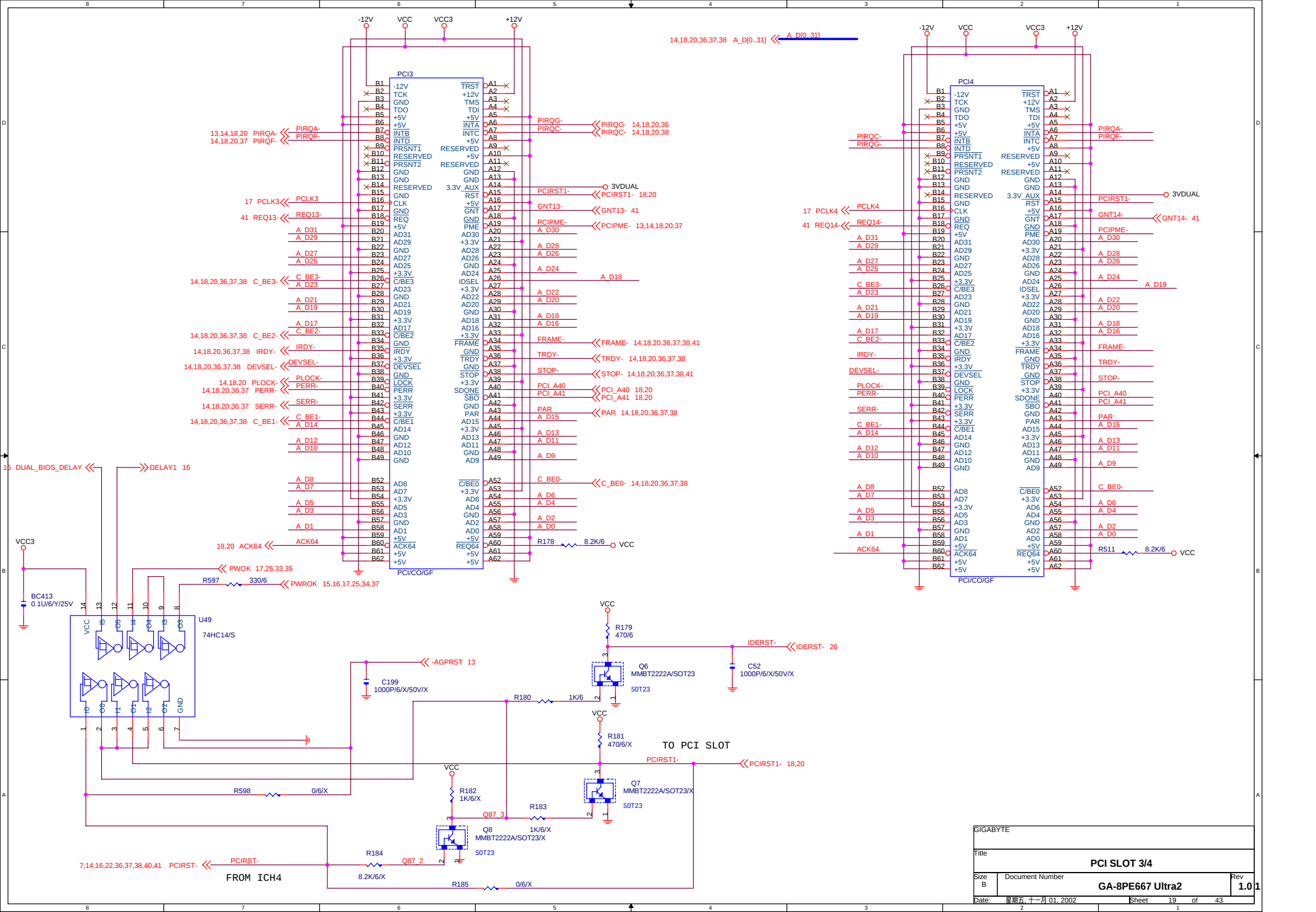


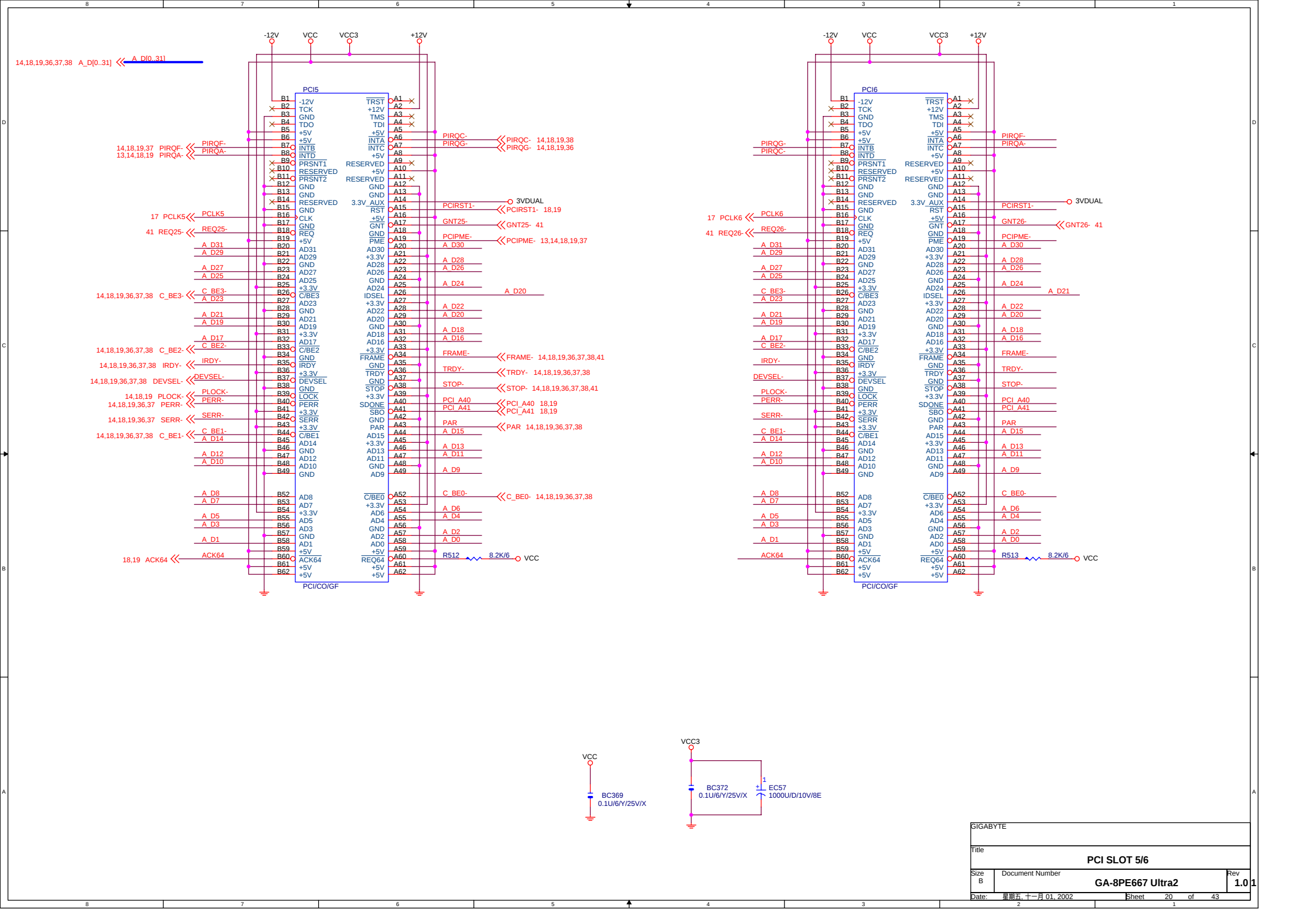


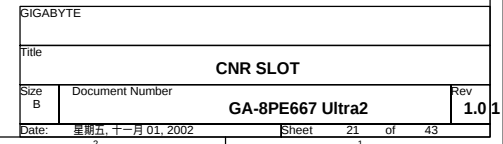


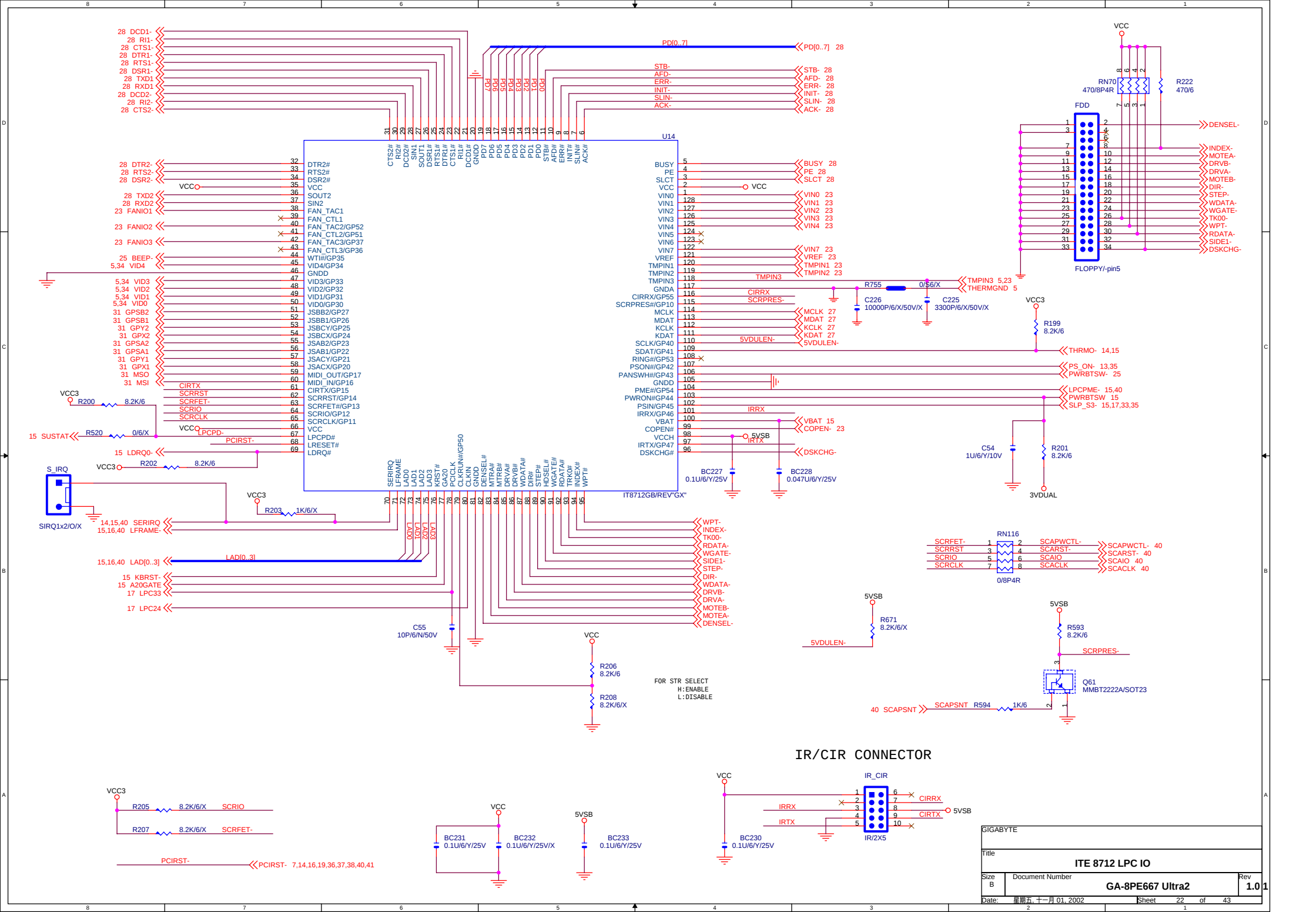




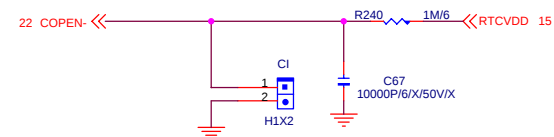
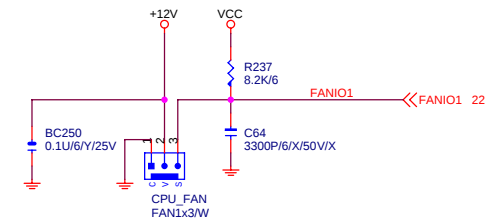
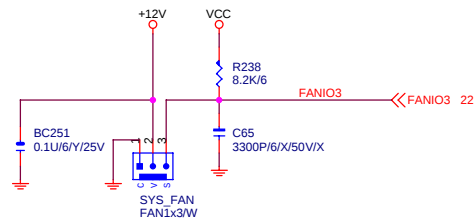
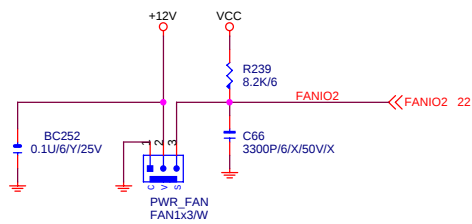
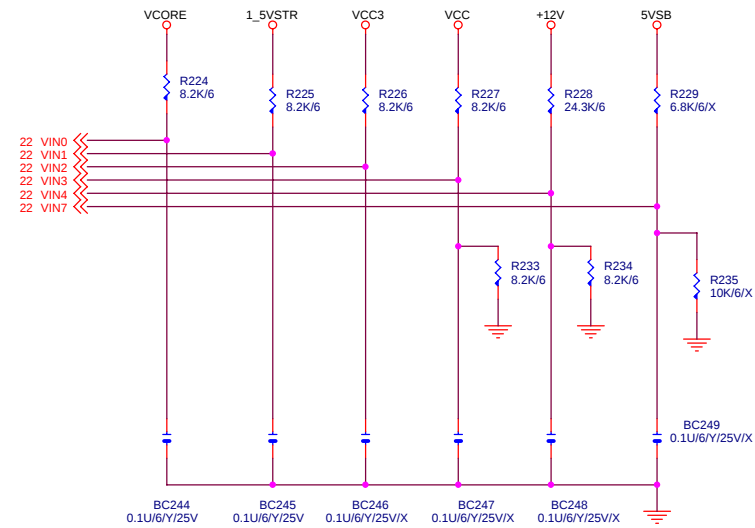
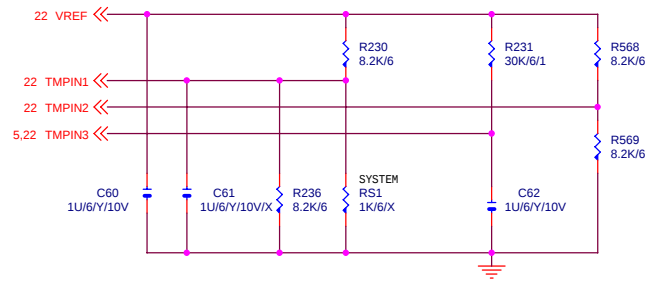




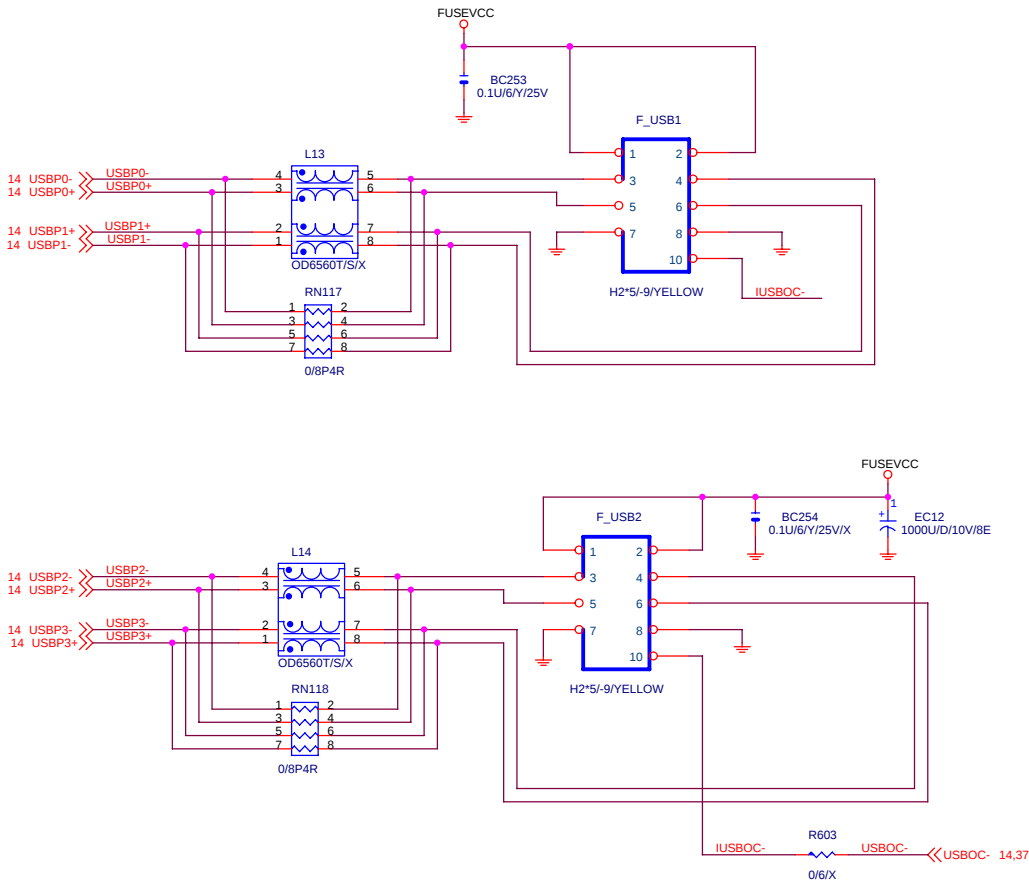


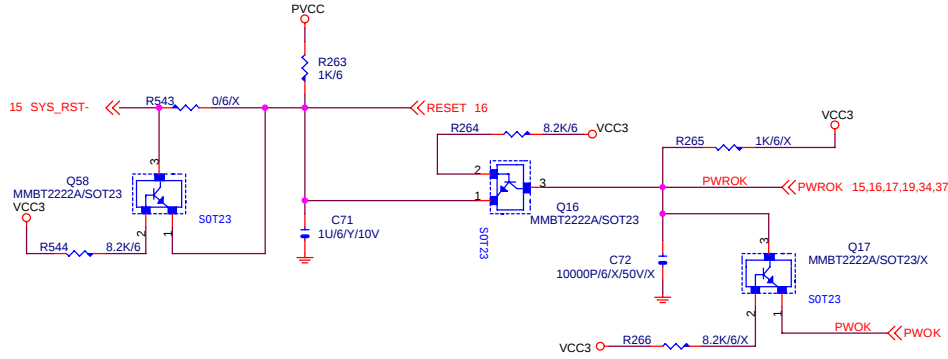


Hardware Monitor circuits



ICH4 USB2.0





States for a single-color power LED

LED States	ACPI States	GP025	GP027	GP035
OFF	S1, S3, S5	1	1	N01
Steady Green	S0	0	1	0
Blinking Green	S0(message waiting)	0	0	0

N01 GP035
只需在
S1 PROGRAMMING
LOW

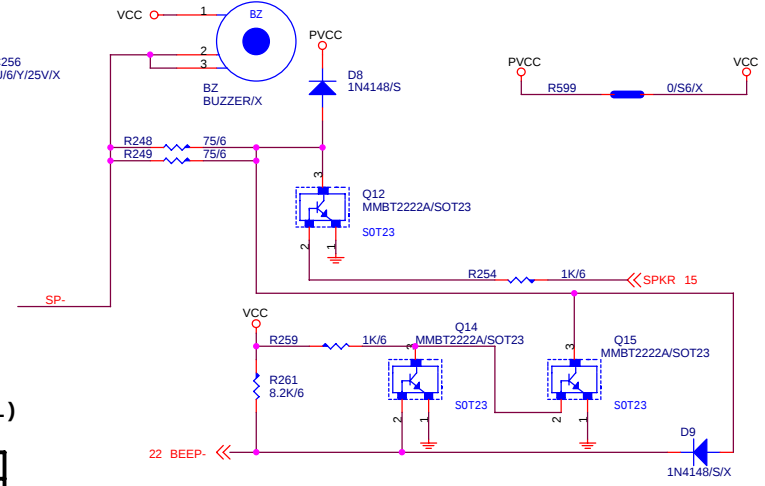
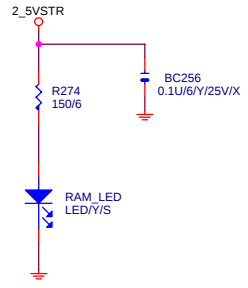
States for a dual-color power LED

LED States	ACPI States	GP025	GP027	GP035
OFF	S5	1	1	X
Steady Green	S0	0	1	0
Blinking Green	S0(message waiting)	0	0	0
Steady Yellow	S1, S3	1	0	N01
Blinking Yellow	S1, S3(message waiting)	1	0	N01

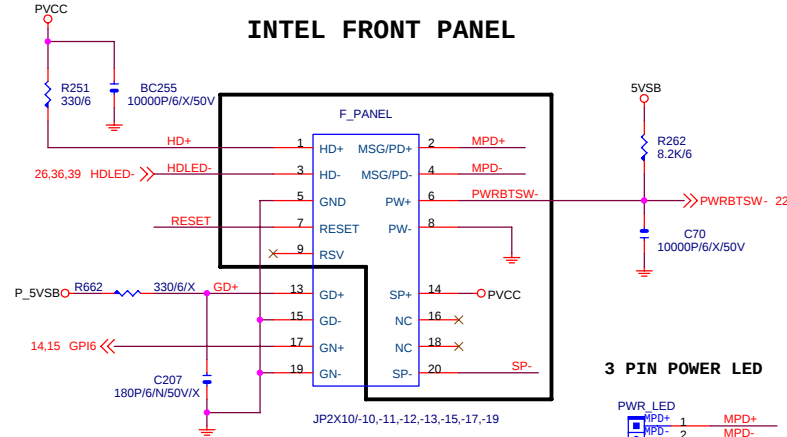
(GP028 DEFAULT HIGH, RESUME WELL)

States for green LED

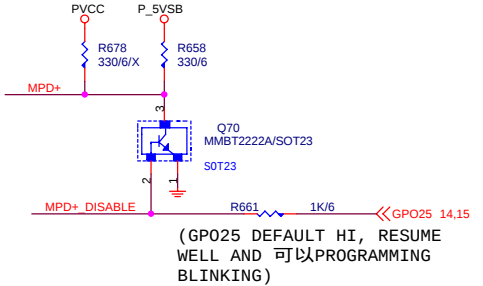
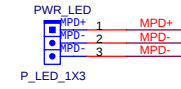
LED States	ACPI States	GP028
ON	S1, S3	0
OFF	S0, S5	1



INTEL FRONT PANEL

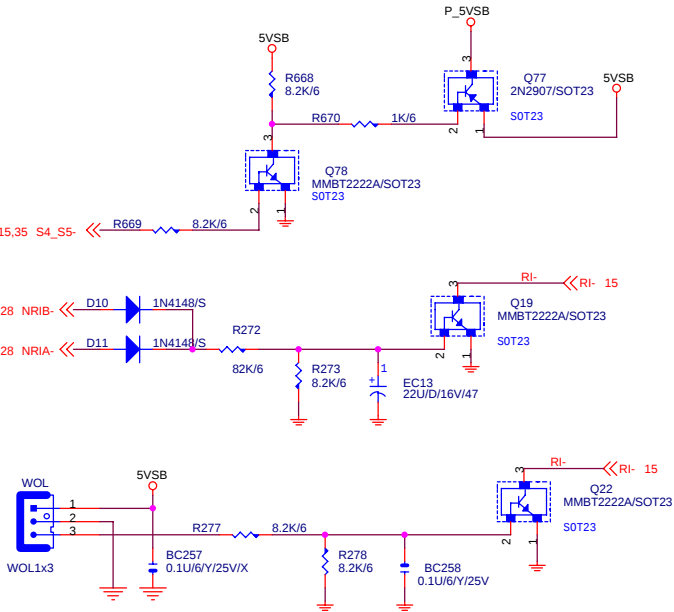


3 PIN POWER LED



(GP025 DEFAULT HI, RESUME WELL AND 可以PROGRAMMING BLINKING)

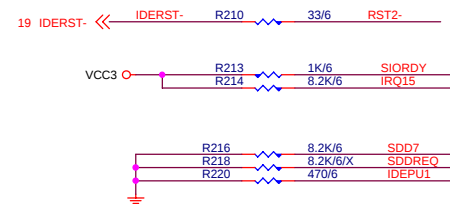
(GP027 DEFAULT HI, RESUME WELL AND 可以PROGRAMMING BLINKING)



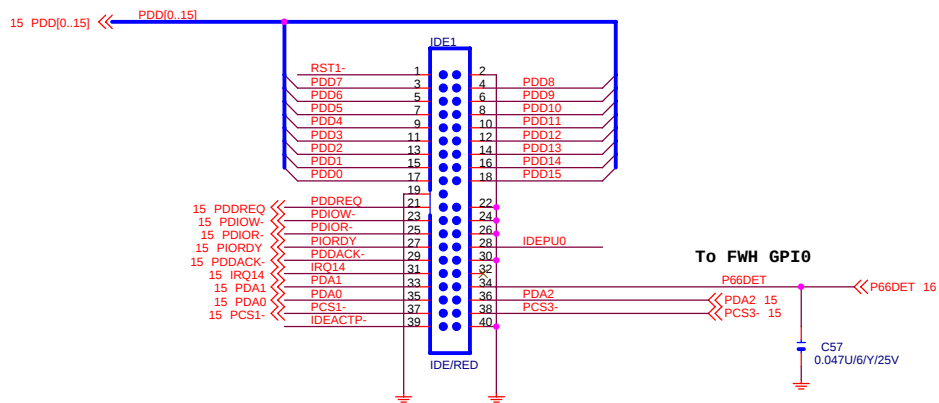
(DEFAULT HIGH, main power)

IF GP035 有 SUPPORT S5
LOW, S0 HIGH
則不需使用此CIRCUIT

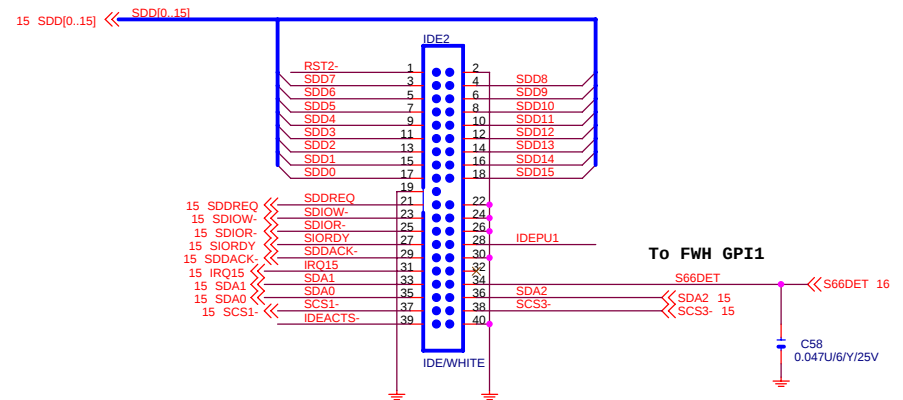
GIGABYTE			
Title			
PANEL & STR LED & RI			
Size B	Document Number	GA-8PE667 Ultra2	
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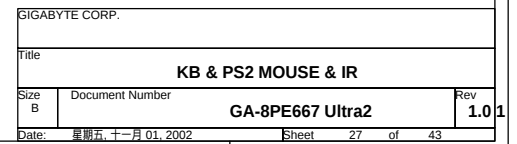


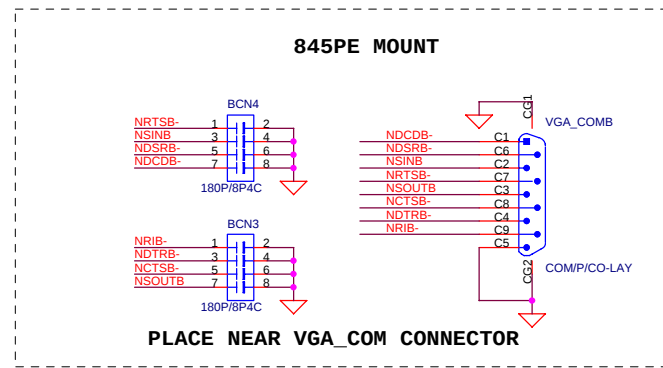
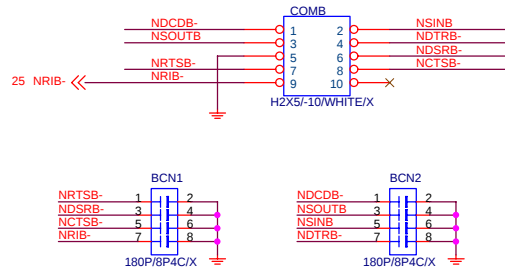
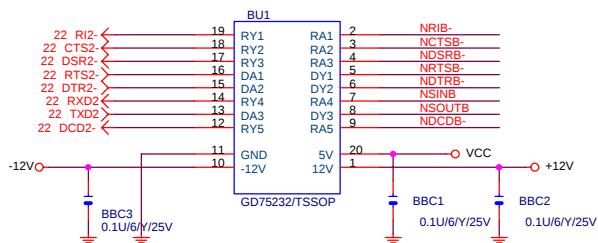
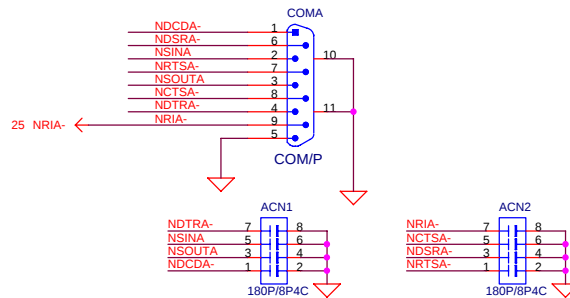
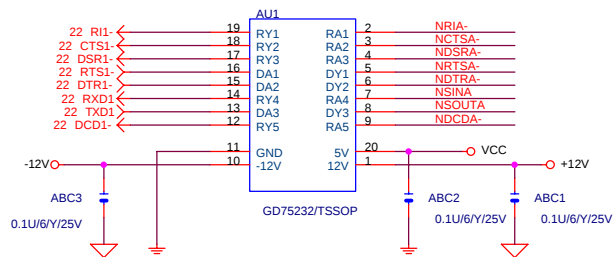
PRIMARY IDE CONNECTOR



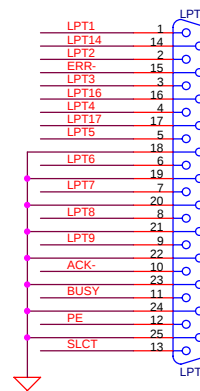
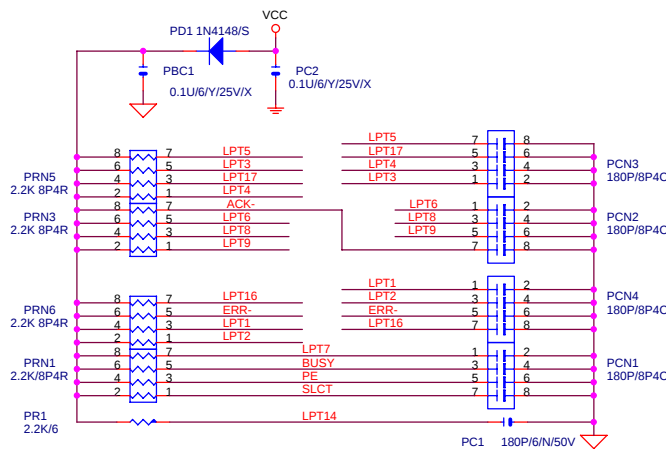
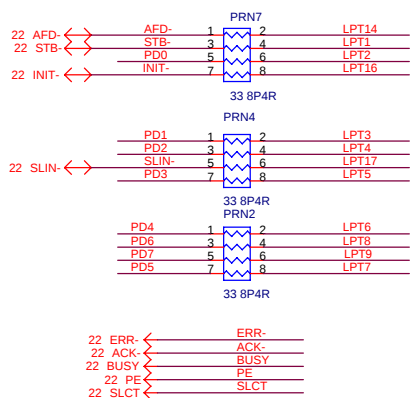
SECONDARY IDE CONNECTOR





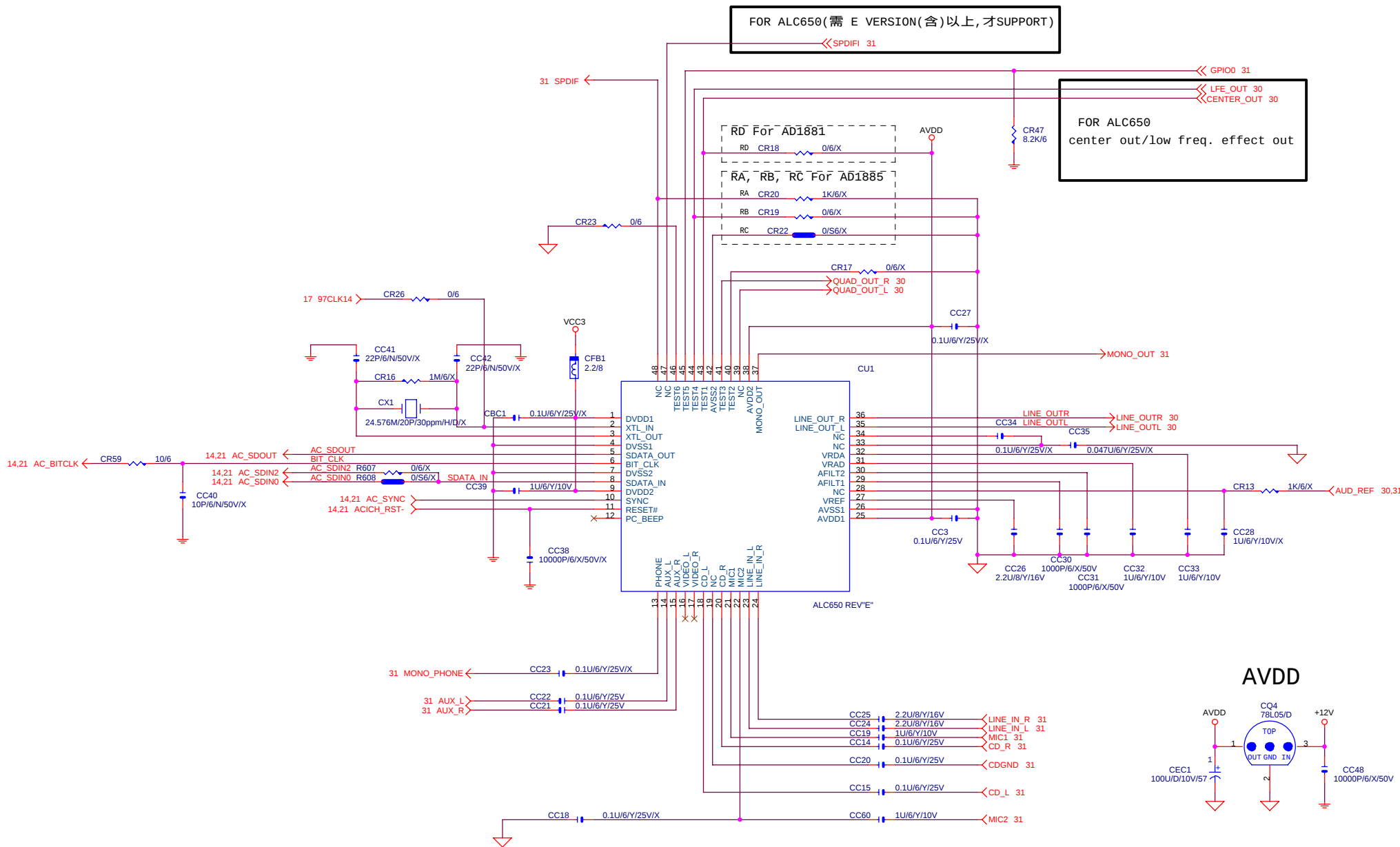


22 PD[0..7] ↔ PD[0..7]

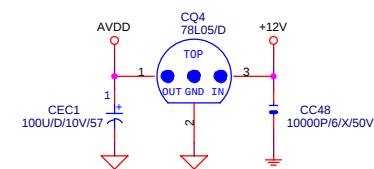


FOR ALC650(需 E VERSION(含)以上,才SUPPORT)

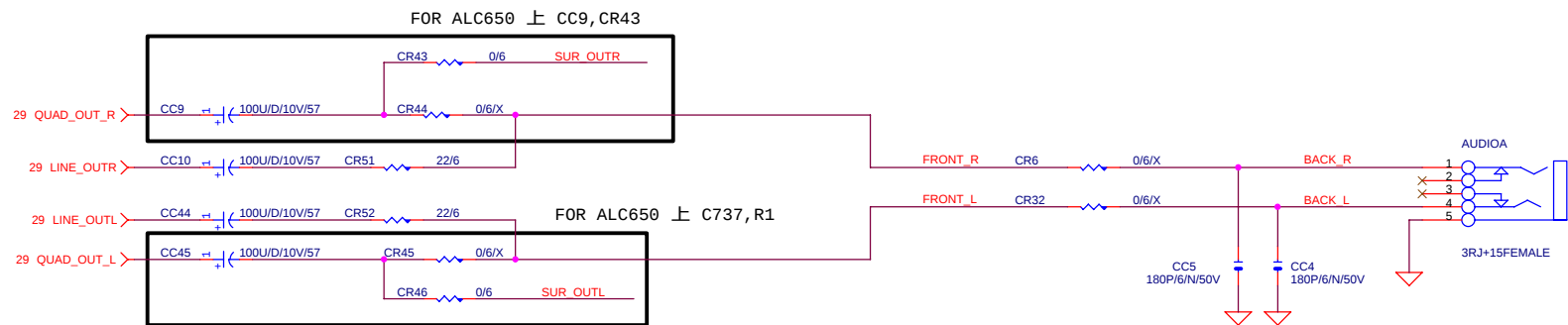
FOR ALC650
center out/low freq. effect out



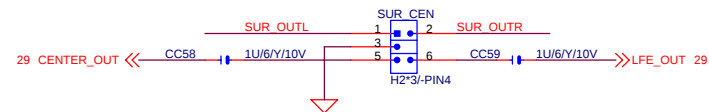
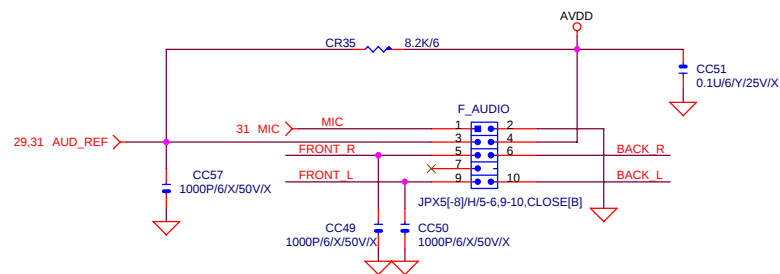
AVDD



LINE OUT

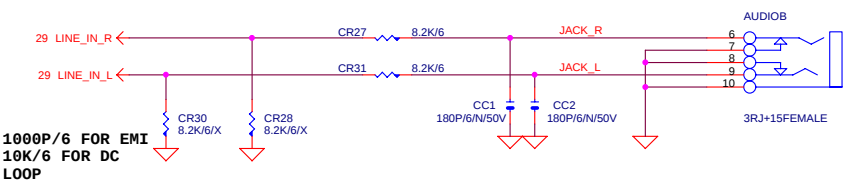


INTEL FRONT AUDIO

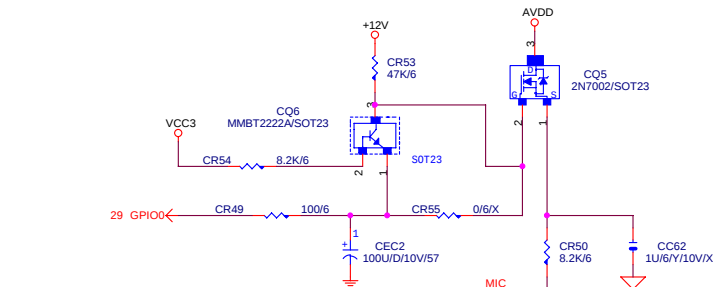
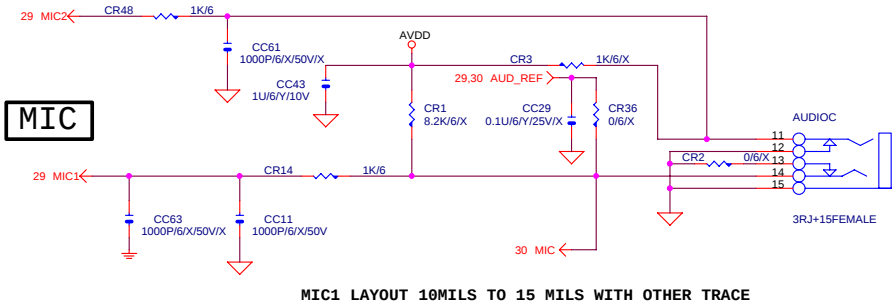


FOR SUPPORT 6 CHANNEL,
SURROUND OUT
CENTER OUT, LOW
FREQUENCY
EFFECT OUT

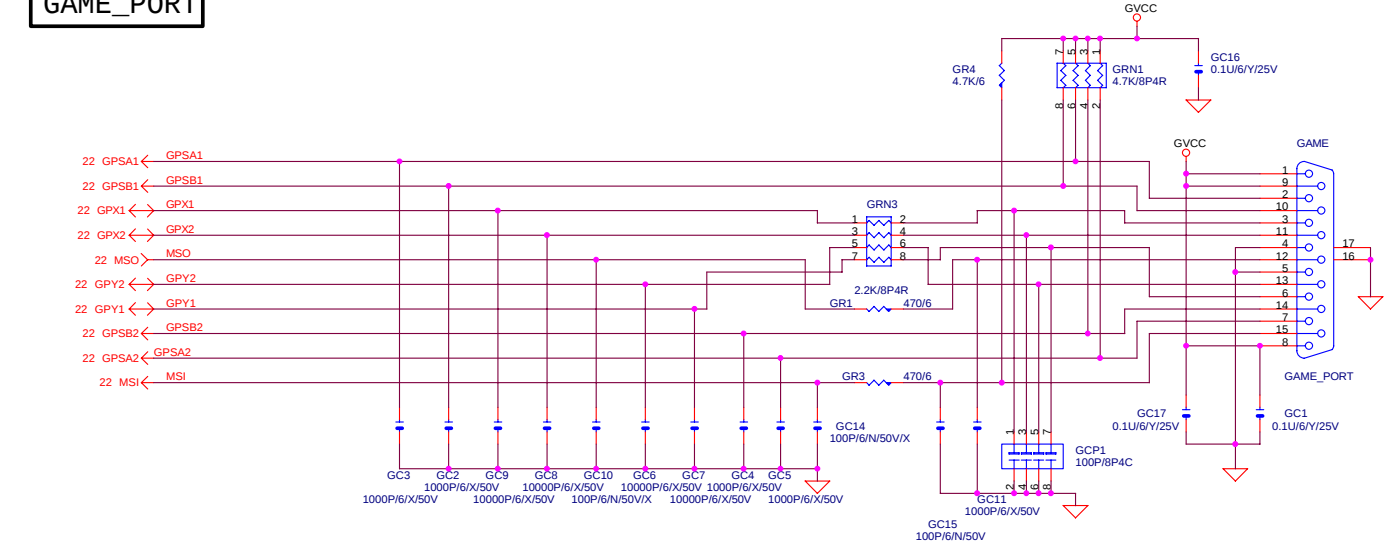
LINE-IN



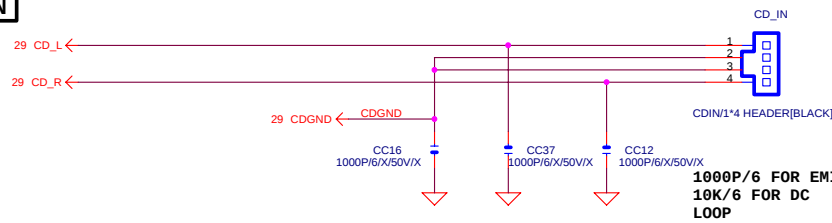
MIC



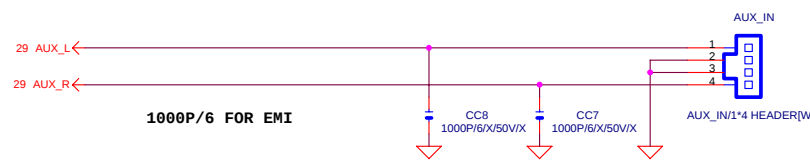
GAME_PORT



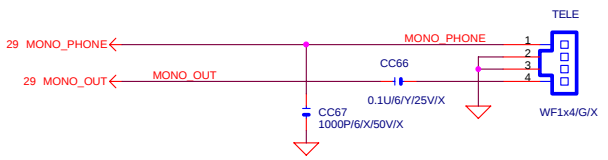
CDIN



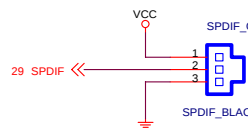
AUX_IN



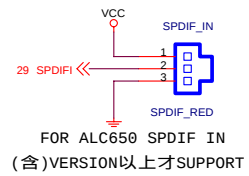
TELE



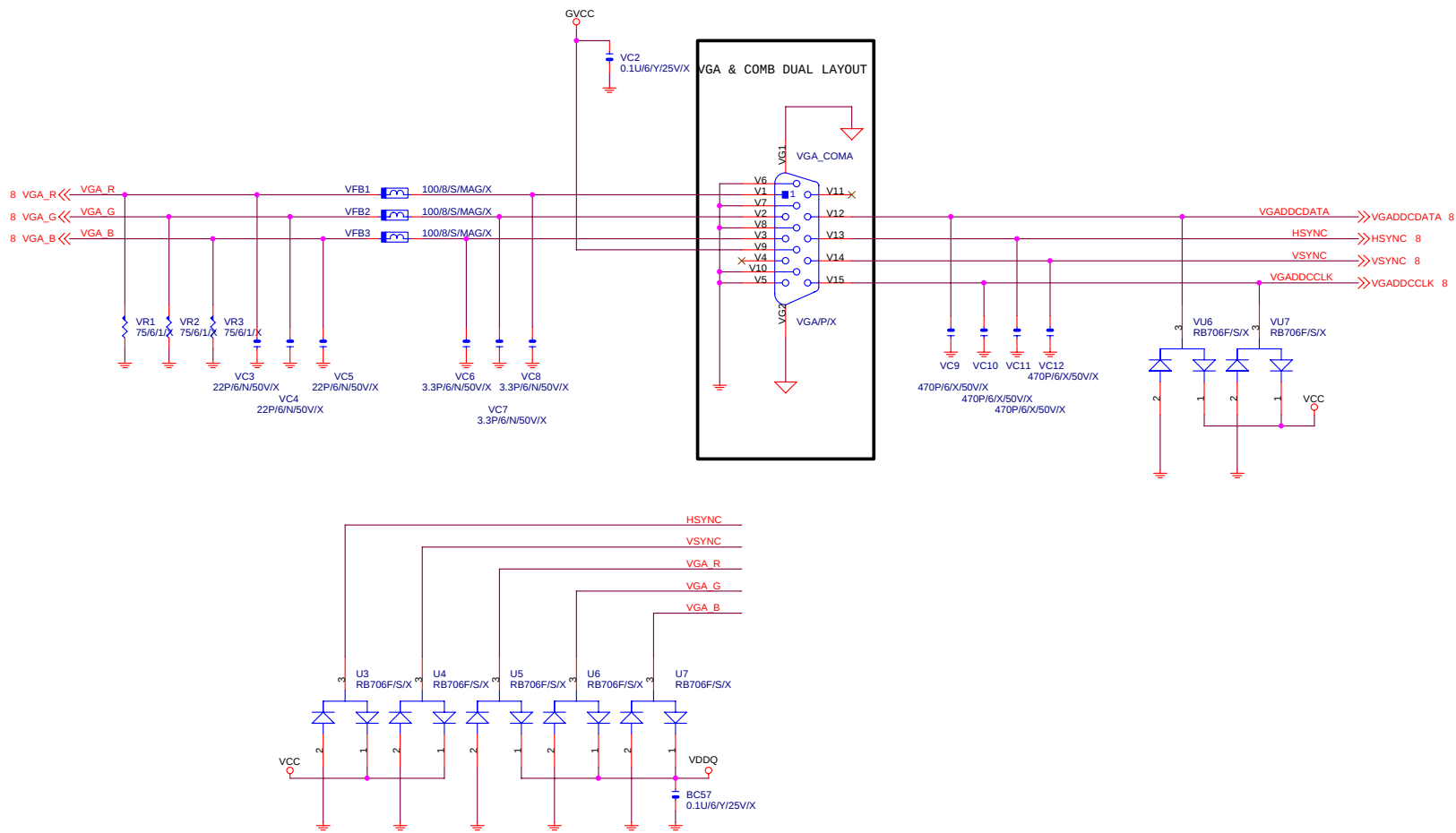
SPDIF



SPDIF IN

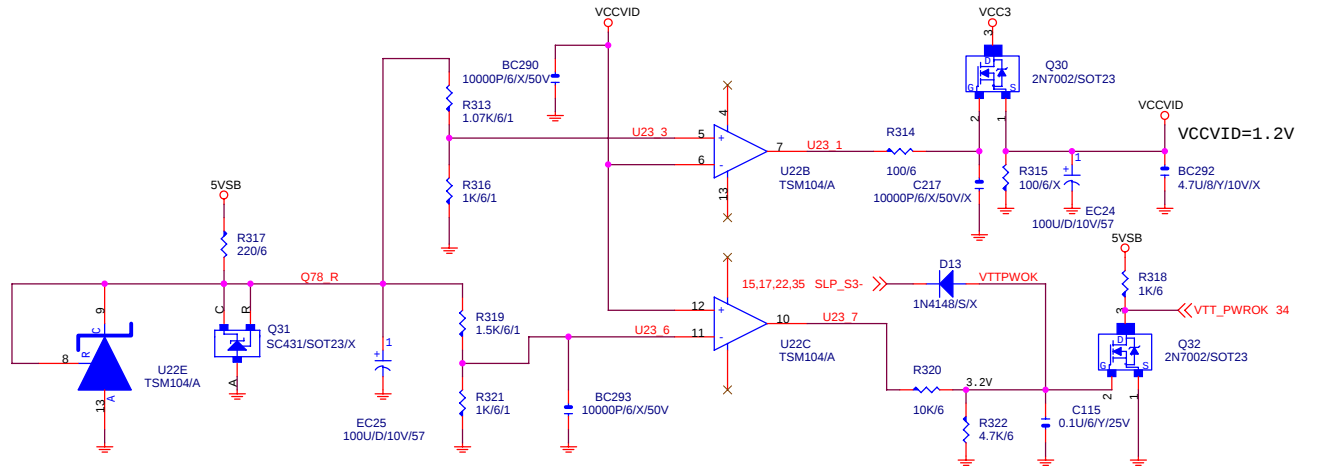
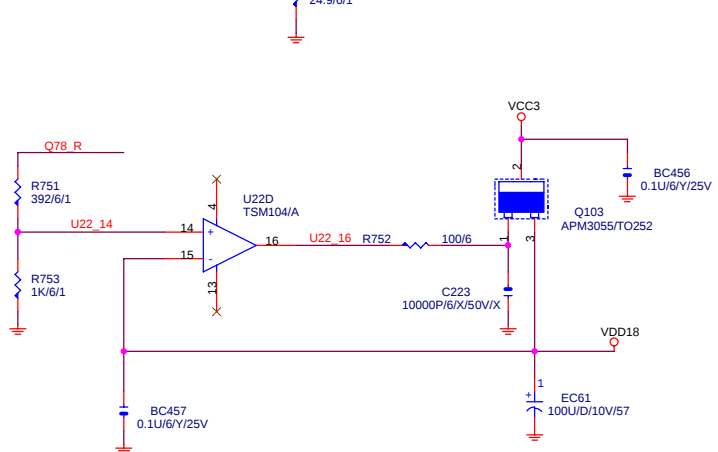
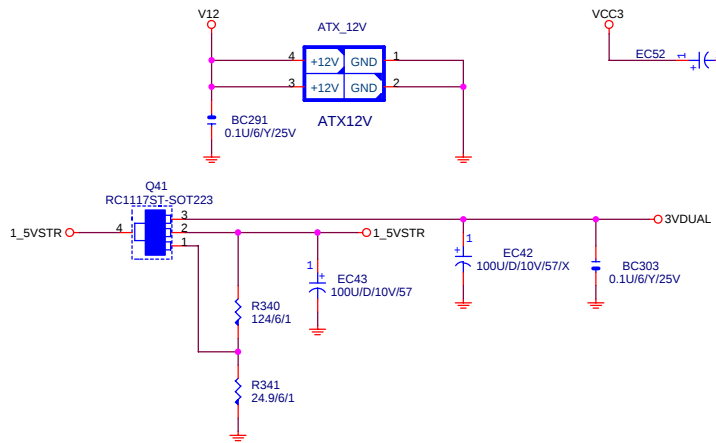
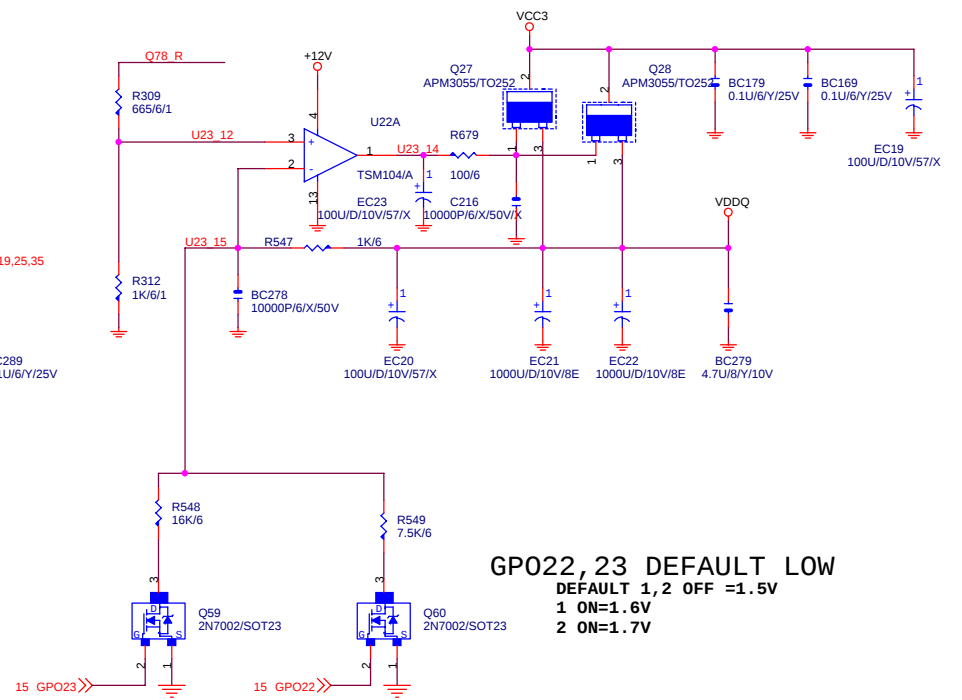
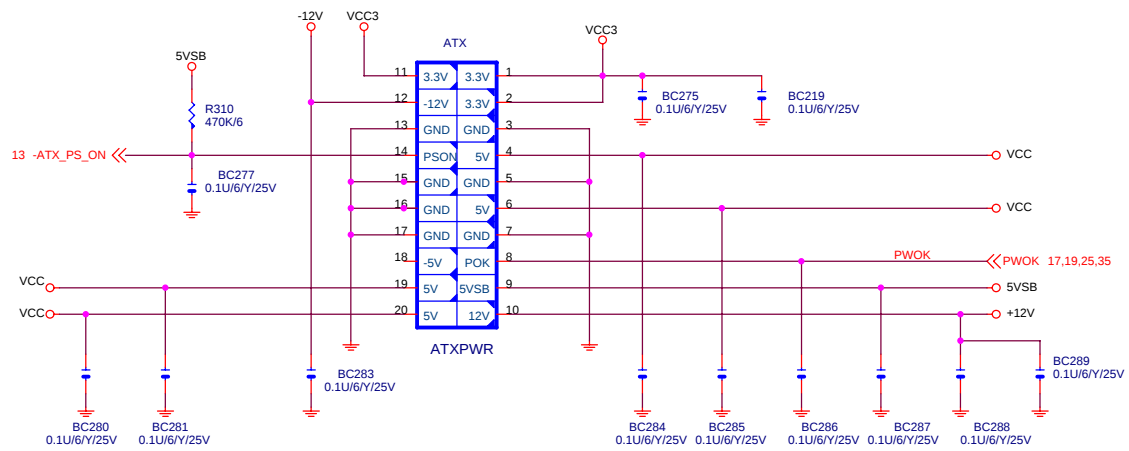


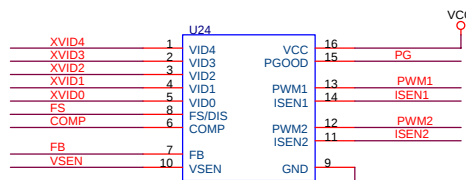
GIGABYTE CORP.			
Title			
PHONE JACK, GAME PORT			
Size	Document Number	Rev	
Custom	GA-8PE667 Ultra2	1.0 1	
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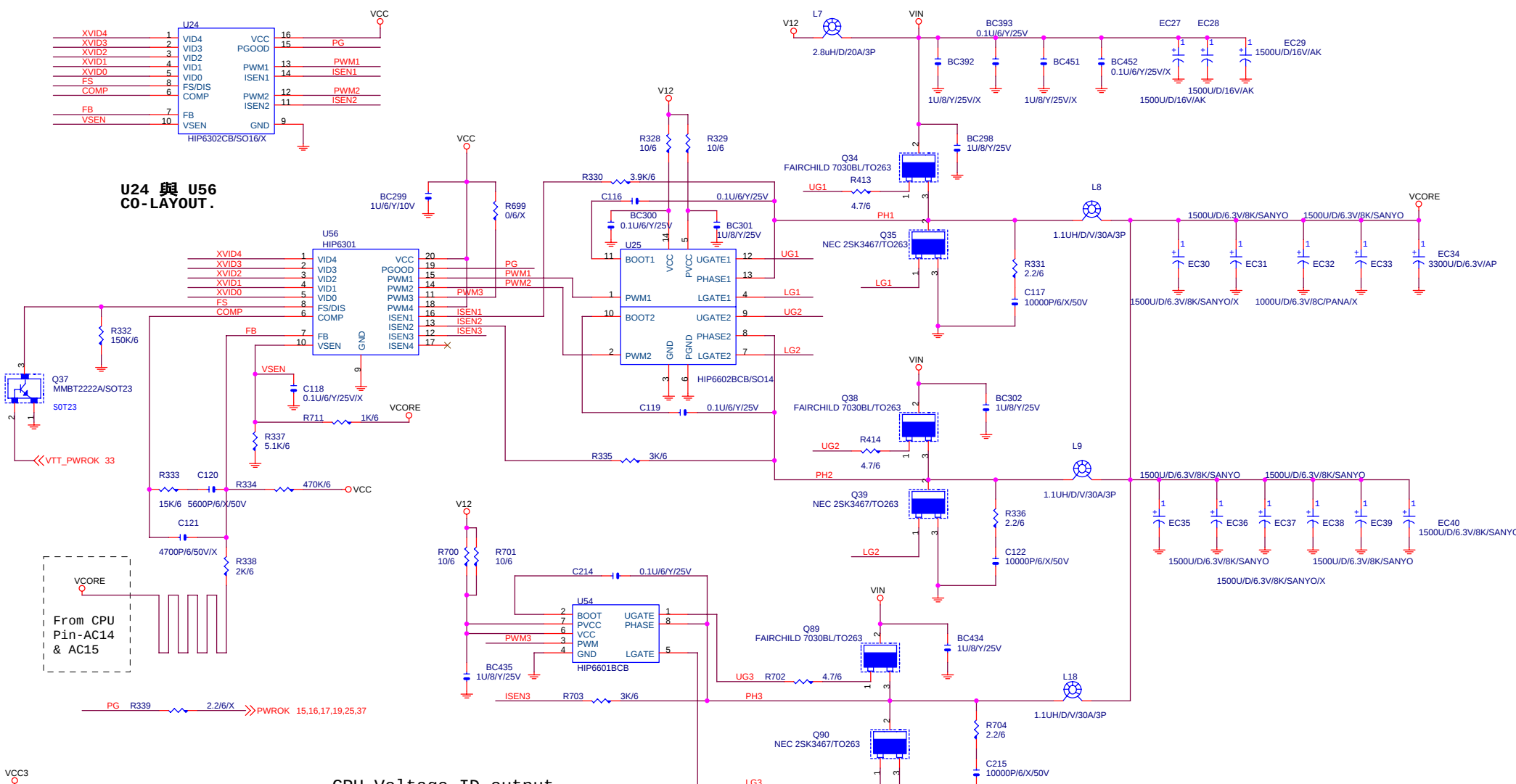
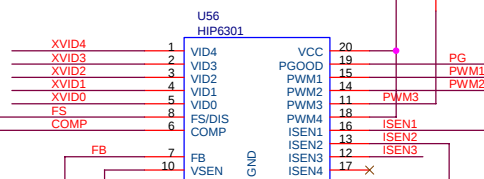
Title			VGA CONNECTOR
Size	Document Number	Rev	
Custom	GA-8PE667 Ultra2	1.0 1	
Date:	星期五, 十一月 01, 2002	Sheet	32 of 43

ATX POWER CONNECTOR

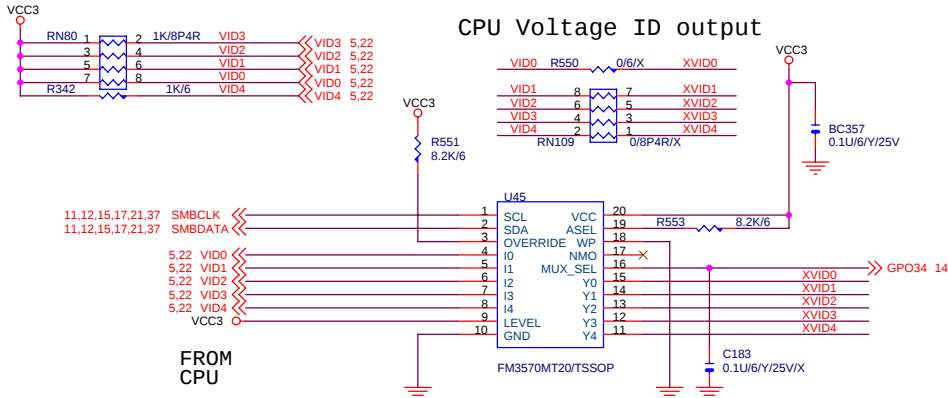




**U24 與 U56
CO-LAYOUT.**



CPU Voltage ID output



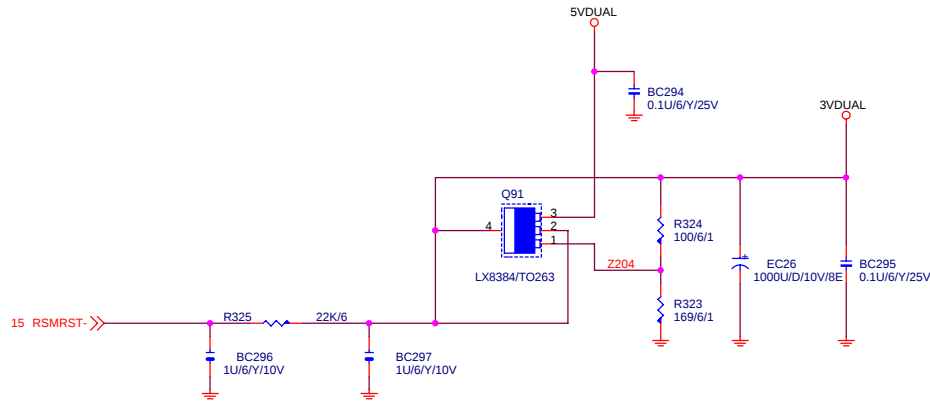
Option ckt:CPU 超電壓

OPTION CKT:VCORE VOLTAGE ADJUST FOR CPU OVER SPEED

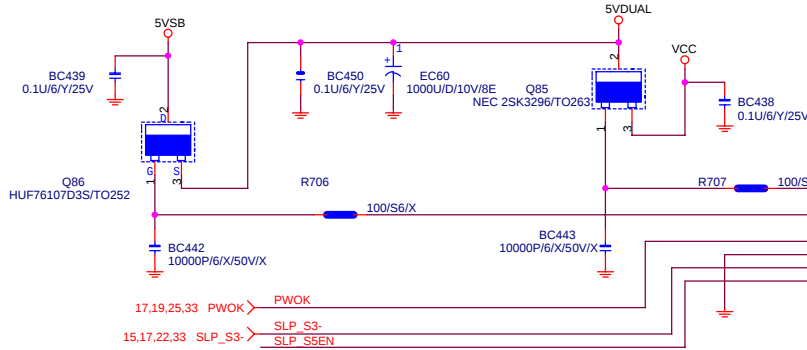
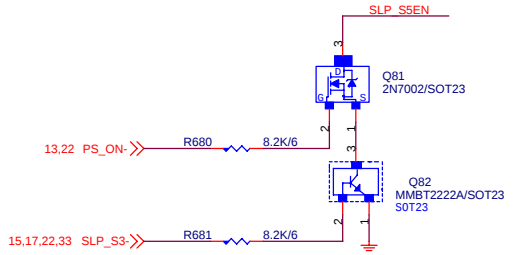
GPIO High:Bypass input VID to output VID
GPIO Low:Output VID switch to internal memory value

PS: I2C address - 1001110

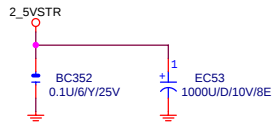
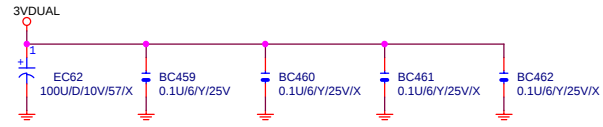
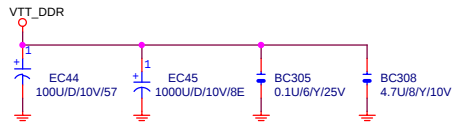
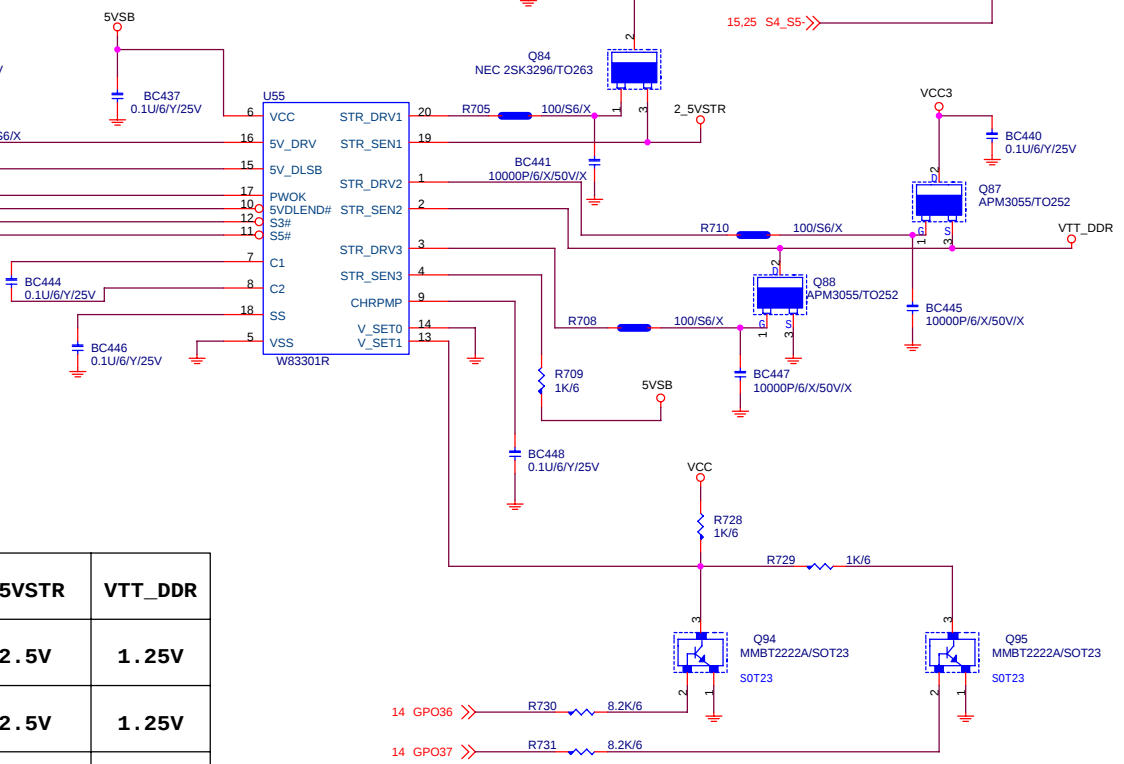
GIGABYTE			
Title			
Vcore PWM HIP6301/6302CB			
Size	Document Number		Rev
Custom	GA-8PE667 Ultra2		1.01
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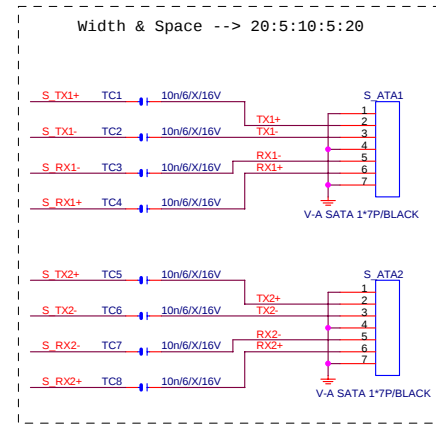
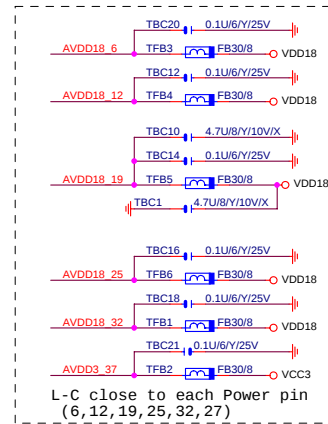
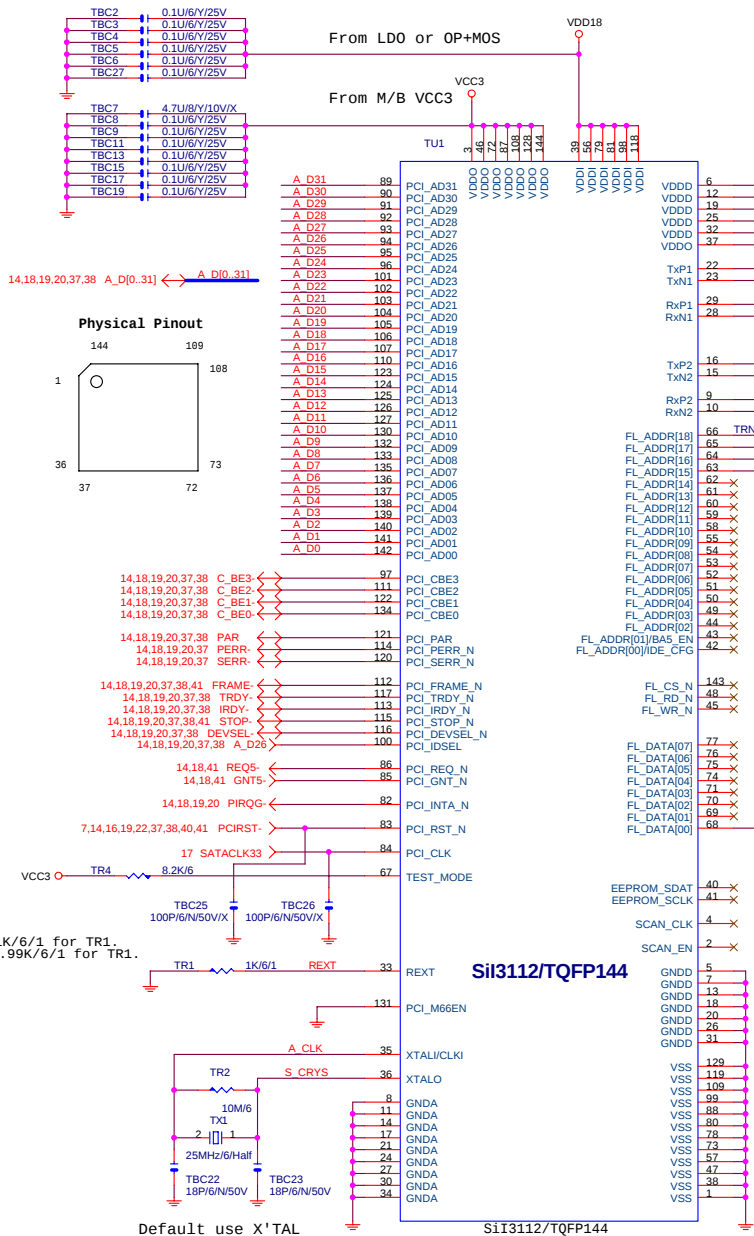
	SLP_S3-	PS_ON-	S4_S5-	SLP_S5EN
FIRST INSTALL	HIGH	HIGH	HIGH	LOW
S0	HIGH	LOW	HIGH	HIGH
S3	LOW	HIGH	HIGH	HIGH
S5	LOW	HIGH	LOW	LOW



5VDULEN- DEFAULT LOW RESUM WELL



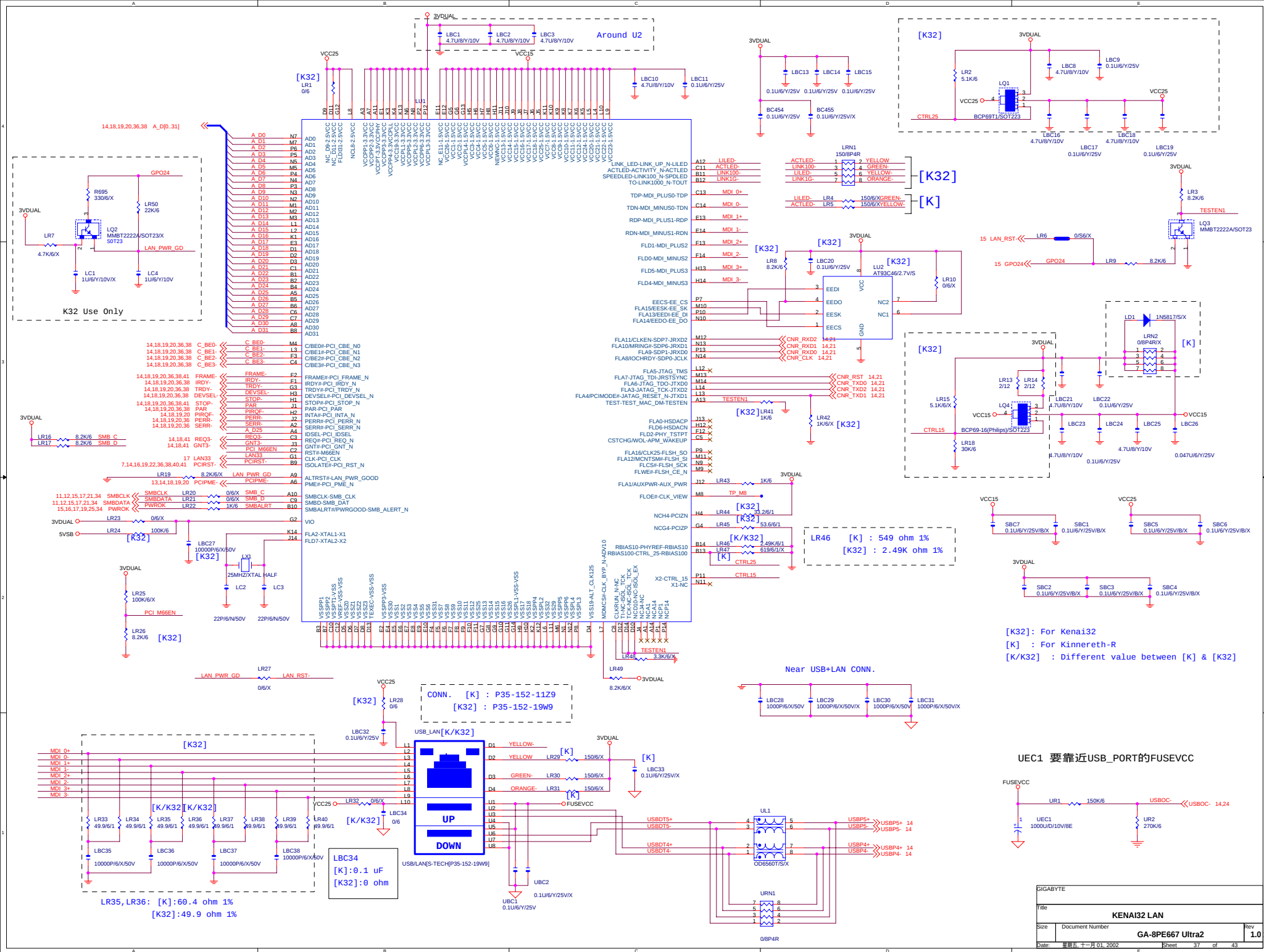
GP036	GP037	2_5VSTR	VTT_DDR
HIGH	HIGH	2.5V	1.25V
HIGH	LOW	2.5V	1.25V
LOW	HIGH	2.6V	1.30V
LOW	LOW	2.7V	1.35V

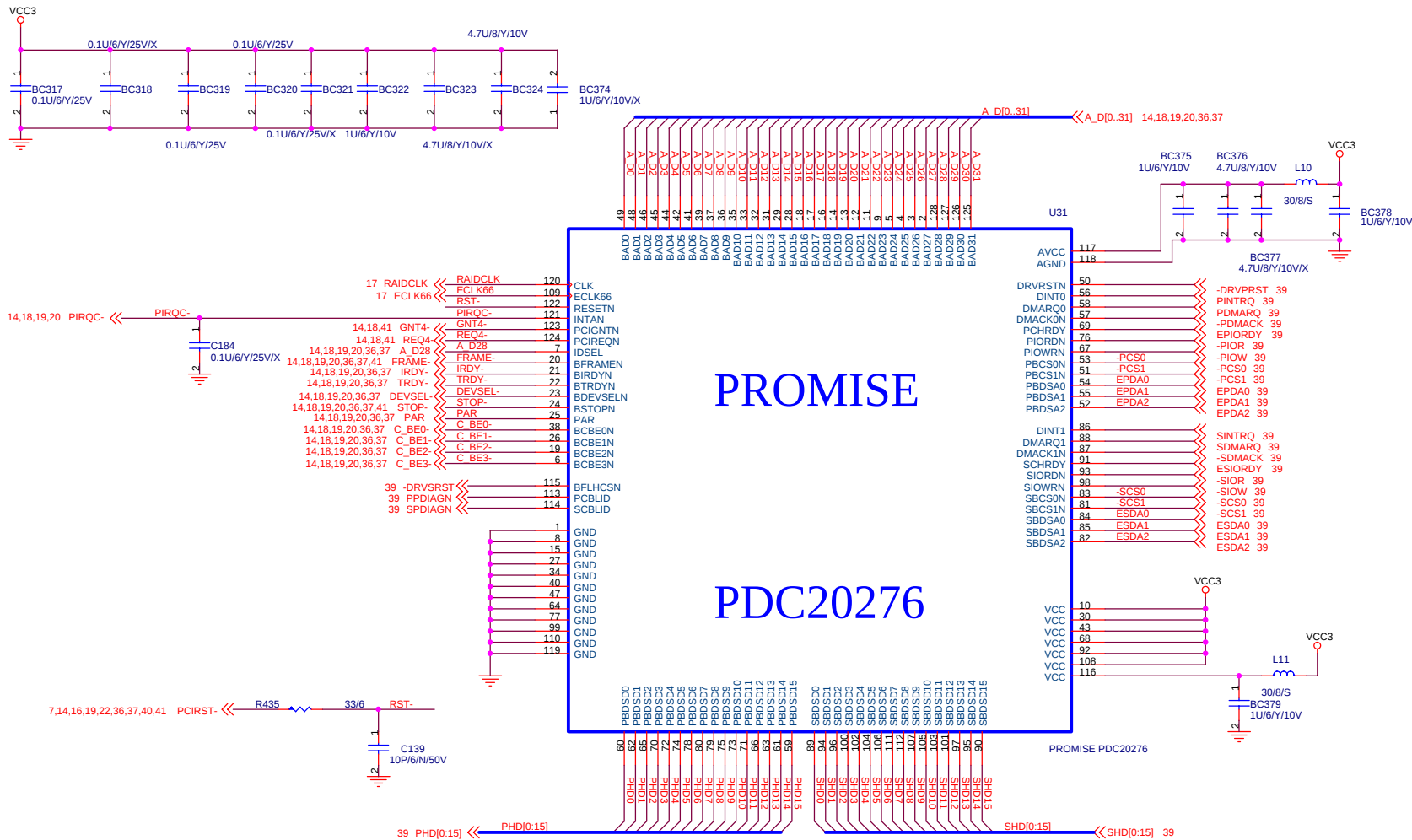


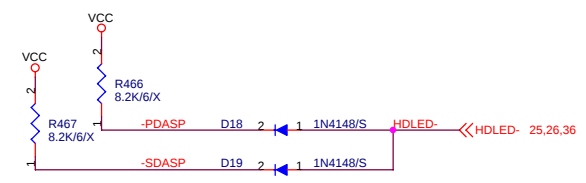
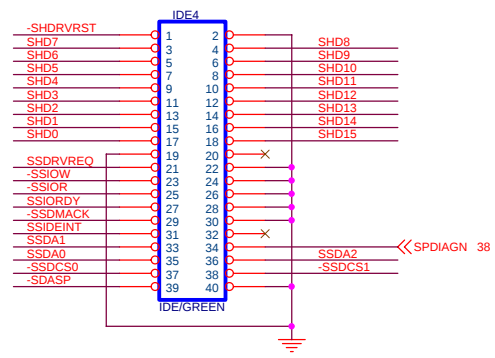
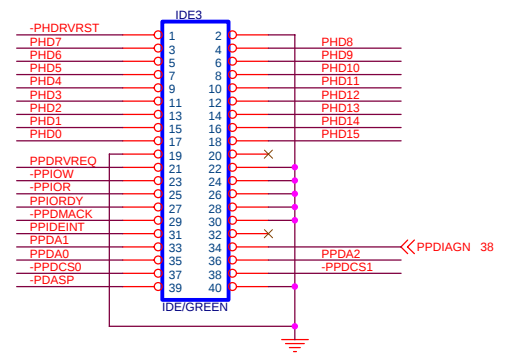
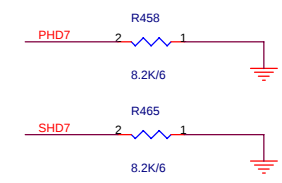
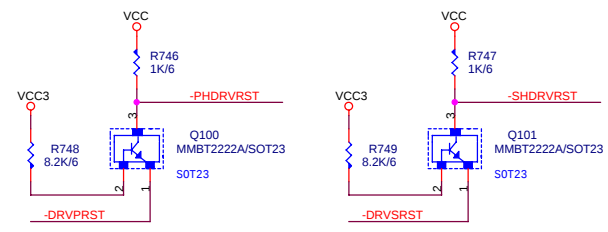
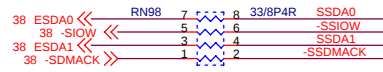
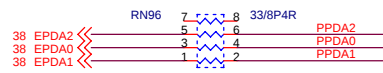
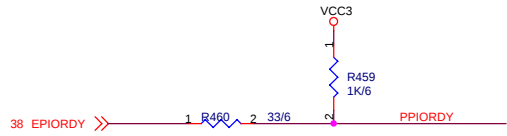
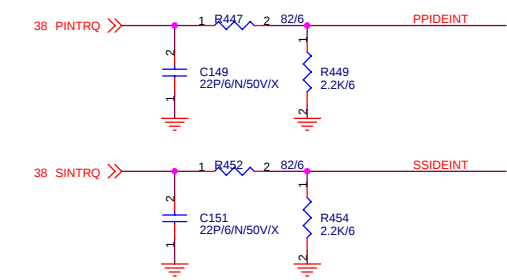
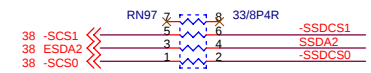
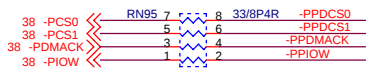
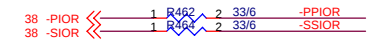
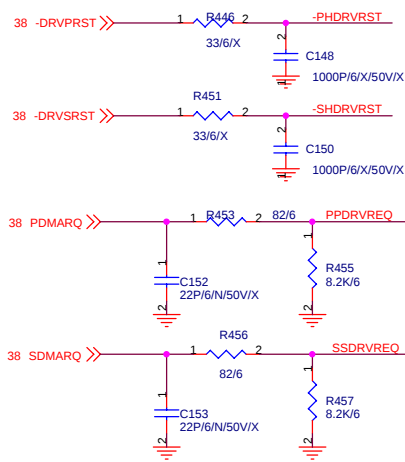
1. TX+/- & RX+/- 儘可能Reference GND, 換層時須在其Via hole旁5mil處左右各打一個GND Via.
2. TX+/- & RX+/- 兩旁最好能包地。

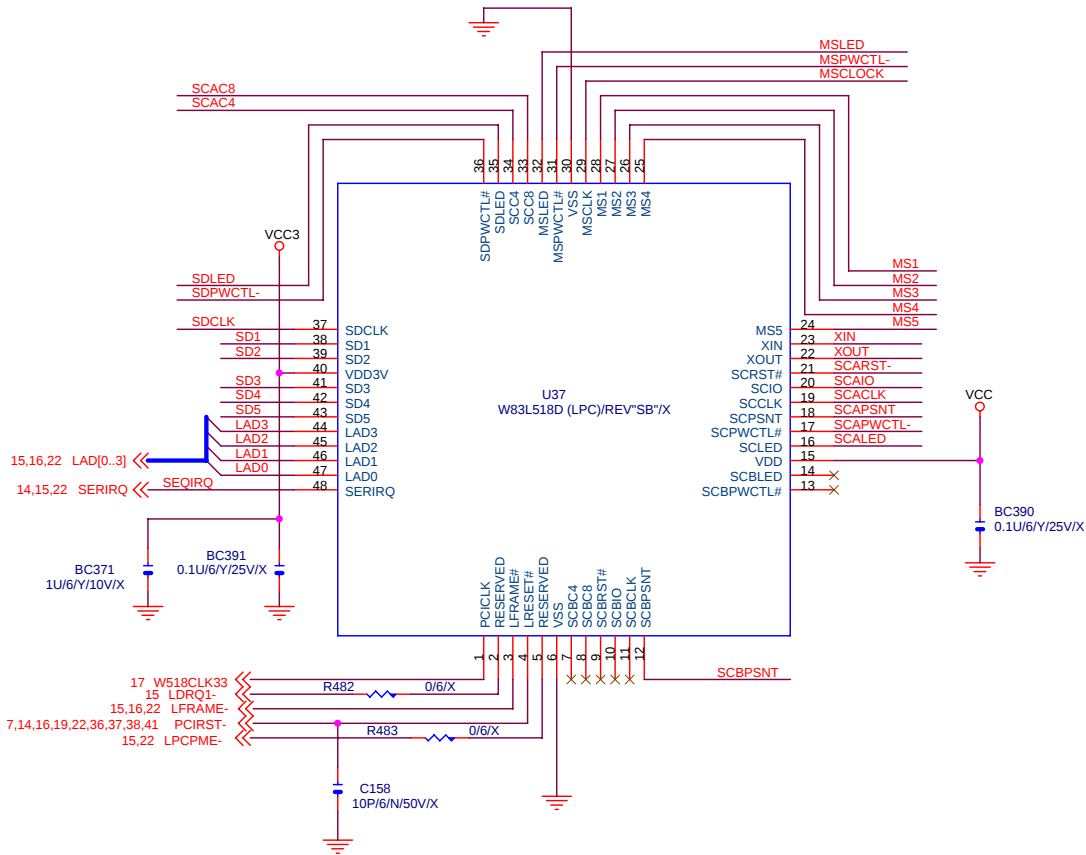


GIGABYTE			
Title			
Silicon Image SiI3112(S-ATA)			
Size	Document Number	Rev	
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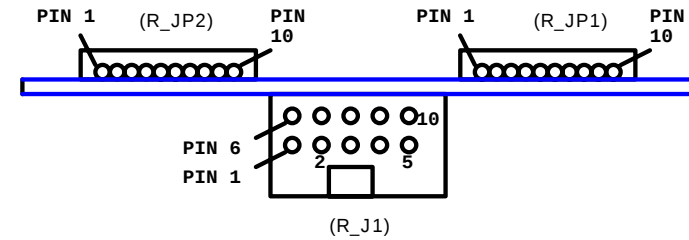


Winbond Recommended Reader Board

<<Connector Side>>

R_JP1,2: 1x10 ; 2.0 mm(pitch)

R_J1 : 2x5 ; 2.54 mm(pitch)



Note 1: The RESET# should be connected with a low asserted signal like PCIRST# on PCI bus or LRESET# on LPC bus(active low)

Note 2: There is either function of SD and MS can be used on versio A but two sockets interface can be implemented on version B.

Note 3: If any of SC or MS/SD function isn't intended to use, signals like SCPSNT/SCBPSNT should be tied to a pull-down resistor and MS[5:2]/SD[5:2] to pull-high resistors. These will reduce power consumption. (recommended: 4.7K-8.2K Ohm)

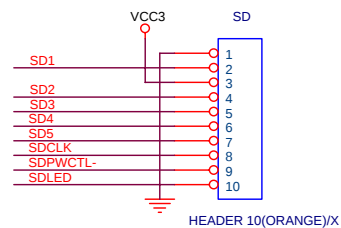
Note 4: The trade marks and intellectual property rights of Memory Stick belong to SONY Corporation. Information check: <http://www.memorystick.org>

Note 5: If JP1,2,3,4 are designed for Winbond recommended reader please meet following connector spec.

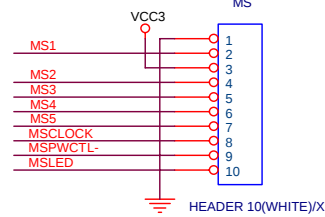
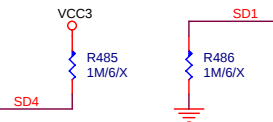
JP1,2: 1X10;pitch(2.0mm)

JP3: 2X5;pitch(2.54mm)

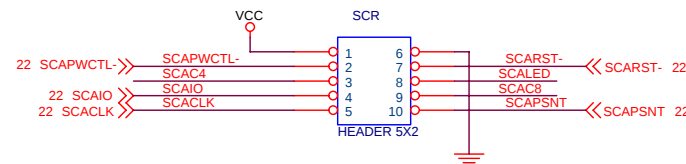
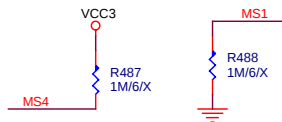
Note 6: For the recommended reader, please contact to Taiwan Zetatronic Industrial CO.,LTD(<http://www.tzt.com.tw>)



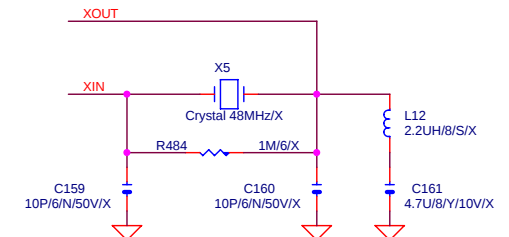
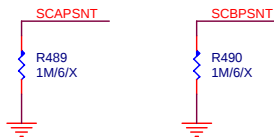
SECURE DIGITAL



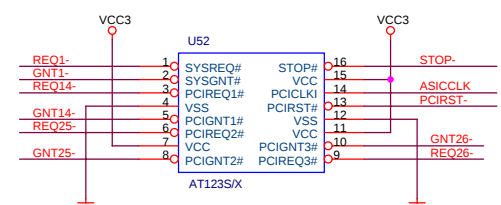
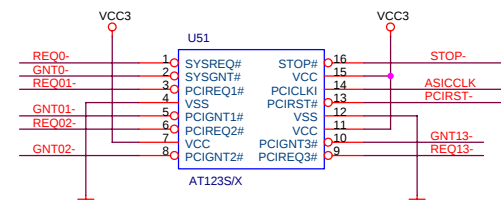
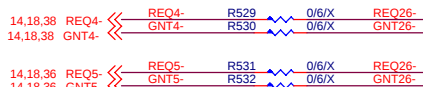
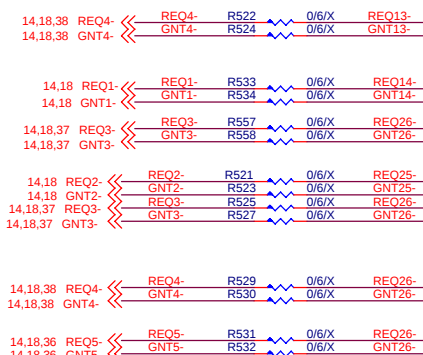
MEMORY STICK



SMART CARD READER



GIGABYTE CORP.			
Title			
W83L518D			
Size	Document Number		Rev
B	GA-8PE667 Ultra2		1.0 1
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GIGABYTE GA-8PE667 Ultra2
PCI ROUNTING LIST

Revision 1.01

PCI DEVICE	IDSEL	INT	CLOCK	REQ	GNT	
PCI SLOT1	16	C, F, G, A	PCLK1	REQ01-	GNT01-	
PCI SLOT2	17	F, G, A, C	PCLK2	REQ02-	GNT02-	
PCI SLOT3	18	G, A, C, F	PCLK3	REQ13-	GNT13-	
PCI SLOT4	19	A, C, F, G	PCLK4	REQ14-	GNT14-	
PCI SLOT5	20	C, F, G, A	PCLK5	REQ25-	GNT25-	
PCI SLOT6	21	F, G, A, C	PCLK6	REQ26-	GNT26-	
LAN	25	F	LANCLK	REQ3-	GNT3-	
RAID	28	C	RAIDCLK	REQ4-	GNT4-	
S-ATA	26	G	USB20CLK	REQ5-	GNT5-	

PCI DEVICE	6 PCI	LAN	RAID	NEC	LAN RAID	LAN RAID	RAID NEC	ALL
PCI SLOT1	0	01	01	01	01	01	01	01
PCI SLOT2	5	02	02	02	02	02	02	02
PCI SLOT3	4	13	13	13	13	13	13	13
PCI SLOT4	1	1	1	1	1	1	1	14
PCI SLOT5	2	2	2	2	2	2	2	25
PCI SLOT6	3	5	5	3	4	5	3	26
LAN(1 Gb)		3			3	3		3
RAID			4			4	4	4
USB2.0				5	5		5	5
ASIC NO.	NA	ASIC1	ASIC1	ASIC1	ASIC1	ASIC1	ASIC1	ASIC1/2

GIGABYTE GA-8PE667 Ultra2 GPIO LIST

Revision 0.1

SHEET	TITLE	
GPI		
GPI0/REQA-		PULL DOWN 15K, detect IDE1 connector type.
GPI1/REQ5-		PULL DOWN 15K, detect IDE2 connector type.
GPI2/PIRQE-		PULL 8.2K TO VCC3
GPI3/PIRQF-		PULL 8.2K TO VCC3
GPI4/PIRQG-		PULL 8.2K TO VCC3
GPI5/PIRQH-		PULL 8.2K TO VCC3
GPI6		PULL 8.2K TO VCC3 (GREEN_BUTTON)
GPI7		NOT IMPLEMENTED
GPI8		PULL 8.2K TO 3VDUAL, LPC PME.
GPI9	NA	NOT IMPLEMENTED
GPI10	NA	NOT IMPLEMENTED
GPI11		PULL 4.7K TO 3VDUAL (SMBALERT)
GPI12		PULL DOWN 10K.
GPI13		PULL DOWN 10K, CNR_PRIMARY
GPI14	NA	NOT IMPLEMENTED
GPI15	NA	NOT IMPLEMENTED

SHEET	TITLE	
GPO		
GP016		PULL 8.2K TO VCC3
GP017		PULL 8.2K TO VCC3 (GNT5-)
GP018		PULL 8.2K TO VCC3
GP019		PULL 8.2K TO VCC3
GP020		PULL 8.2K TO VCC3
GP021		PULL 8.2K TO VCC3
GP022		PULL 8.2K TO VCC3
GP023		PULL 8.2K TO VCC3
GP024		PULL 1K TO 3VDUAL (TOP BLOCK)
GP025		PULL 4.7K TO 3VDUAL, LAN 100/10 DETECT.
GP026		NOT IMPLEMENTED
GP027		PULL 8.2K TO 3VDUAL, BIOS WRITE PROTECT.
GP028		PULL 8.2K TO 3VDUAL