GIGABYTE 8I845GVMRZ Schematics

Revision 1.0

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SHEET	TITLE
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30	DDR POWER (5VDUAL,2_5VSTR,VTT_DDR)
31	RTL8100C Transformer
32	GPIO PIN LIST
33	PCI ROUNTING

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

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Title: COVER SHEET

Size: Custom | Document Number: 8I845GVMRZ | Rev: 1.0

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For CN BOM

Model Name: 8I845GVMRZ

Vershion : 1.0

243.84mm X 209.98mm, 60+/-15%, C Type

Component value change history

PAGE	Change Item	Reason
12/24 1.03	MS-10C --> MS-10D	MS Request
	DEL CABLE 12CF1-1ID100-01	
	COLOR BOX change to 12BB1-EMECER-00	
	BOX SPR change to 12BB2-000686-00	
	CR1 由包材階移回 DIP 階	
	DEL LABEL (12LB6-ICPUHT-00)	
93/1/5 1.03	Add CH1,CH2 BOM 1.0F for PCB 1.03	
1/14 1.03	8I845GV(-C) Ver.1.03 修改文字面為 8I845GVM-RZ(-C) 1.00	
	Add RZ 1.0A BOM,follow RZ model rule	
1/14 1.03	CH1,CH2 BOM Heat sink change 無 Gogabyte logo	
1/20 1.03	新增 GA 1.0F BOM, GMCH B1 change to A1 Version,改成蜂巢式包材	
2/2 1.03	CH2 BOM U42,U43 新增Fairchild SV 替代料 廠商缺料	
2/11 1.03	Update 8LD533P 2.0D BOM,從 8I845GVMRZ 修改,	
	PCB 2.03(同 8I845GV 1.03)	
	GMCH change to 845GL, support HT	
2/13 1.03	8I845GVMRZ PCB 1.0,BOM 1.0B Vcore power 2相改為2.5相	
2/16 1.03	8I845GVMRZ 1.0B BOM刪除 LAN function, 產生 8I845GVMRZ-C 1.0B BOM	
2/27 1.03	8I845GVMRZ(-C) 1.0C BOM 增加祥裕(TF),慶生(TH) PCB	
	R931 30K change to 39K, solve choke noise issue Follow 實驗結果	
2/27 1.03	8I845GVMRZ(-C) 1.0C BOM增加 -A BOM, GMCH & ICH change to A version.	
2/27 1.03	8I845GVMRZ 1.0C BOM增加 DL BOM, 增加藍色小貼紙,USB 2 Port cable	
	移除 KTS battery, 移除 color box/manual/隔板	
3/2 1.03	For sales request, add 9MD CKD BOM	

Circuit or PCB layout change for next version

PAGE	Change Item	Reason

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Title: BOM & PCB MODIFY HISTORY

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For CN BOM

Model Name: 8I845GVMRZ

Vershion : 1.0

243.84mm X 209.98mm, 60+/-15%, C Type

Component value change history

PAGE	Change Item	Reason
08/06 0.1		
	Form 8VD667 change to 8I845GV	New projrct
08/28 1.0	背板零件修改為一般的 footprint	
	C26 change	
	EC32,EC36 default 上	
	R657 拉 tress	
	R734 330 歐母移除直接拉 tress	
	Printer,COM port 0612 180P 刪除	
	CPUSLP- add 1000P/4 電容	
	Support Willamatte CPU	
08/28 1.0	Add 8I845GV-C BOM	Remove Onboard LAN
09/12 1.0	1.0B BOM, C102 0603 change to 0402,	
	R313 1.07K change to 931	VCCVID change to 1.3V
	C953 remove	CPUSLP-
09/12 1.01	RN121 remove 修 trace,上 0/8P4R	For CH BOM
	RN120,RN122 Remove 0/8P4R,改為直接修 Trace	
	R561 改為直接修 Trace	
09/16 1.01	Add CH1 BOM	For 大陸地區客戶需求
	Add BIOS_WP(3 Pin & Jumper)	
	Add WOL(WOL,R724,R725,BC330,BC331,Q50)	
	Add Rear USB choke (L15)	
	Add AUX_IN(AUX_IN,C831,C832)	
	Add Buzzer(BZ)	
	BIOS 2M change to 3M(U12)	
	包材修改為蜂巢式,免 Manual,Cable,IO SH,RM	
09/16 1.01	Add CH2 BOM	
	845GV chipset change to 845GL	CH1 修改部分CH2都修改,
	R163 8.2K/6 remove	但多將 Chipset change to GL
09/23 1.02	Socket 478 PCB 改為防呆孔位	
	-C,00,CH1,CH2 BOM 均加注 Clr_CMOS INSERT "1-2"	
09/24 1.02	新建 DL CKD BOM,移除彩盒,Manual,Add USB Port Cable	

Circuit or PCB layout change for next version

PAGE	Change Item	Reason
09/24 1.02	新建 8I845GV-C 寧波(NB) BOM	
10/6 1.02	新增 8LD533-P 2.01 Model,只修改 Model name	
11/11 1.03	1.CPU trace 只走單線	
	2.Front Pannel change to 簡化線路	技術通報 118
	3.25Vstr 100u 5顆改 4.7 SMD,但1顆不上	P9,P12
	4.VTTDDR 排容CN17-30)改電容(BC342-361), 100u 3顆改4.7u,1顆不上	P12,P30
	5.Codec AVDD 10u改4.7u,4顆100u 改 2.2u(2顆原本就不上)	P25,26
	6.On.VGA U2 移除,改 0歐姆直接串,U3,U4,U8,U9移除	P8
	7.L1,L2,L3,L4,L6 改成 0/6(R956~R960)	EMI 建議 P5,9
	8. Front Audio AVDD 1K(R961) 對地,解決Pop issue	P26
	9.BC31 -35 因干涉移除掉預留位子	原本 P4
	10. Add 8I845GL support HT 線路	P4
	11. EC32,EC34 add EC72,EC73 8m co-layout	P29
	12. Vcore 3顆 3300u(EC34,37,70) 改為1500u(EC35,72,73)	P29
10/14 1.02	新增 8I845GV Mustek(MS) BOM	
	Add IDE Cable, change color box, RM 移到包材階	
10/8 1.02	新增 8I845GV NB BOM	
	CH1,CH2 BOM update to 1.0C	
10/16 1.02	BC260,BC261 add 1K/6	solve shutdown pop noise
10/21 1.02	新增 8I845GV HI BOM,移除 KTS Battery 替代料	
10/24 1.02	新建 8I845GVC DL CKD BOM,移除彩盒,Manual,Add USB Port Cable	
11/11 1.02	CH2 BOM update to 1.0D, for customer request 南北橋用專屬料號	
11/19 1.02	CH1,CH2 BOM 解決大陸方正 Speaker shutdown 有 noise issue	
	BC269 add 1K ohm, Q23 僅保留主料,替料全移除(替料AVDD 放電慢有 noise)	
11/28 1.03	Add 10E BOM, BC363 add 2.2u,EC1,EC65	Solve DC13 memory unstable
	add 100u, BC362,BC366 remove 4.7u	
	移除育富,鼎富 PCB	隔離孔過大,導致電源不穩
12/1 1.03	8I845GV 1.03 rename to 8LD533-P 2.02	
	Update 8I845GV-C BOM to 1.0E	For PCB 1.03
12/8 1.03	Update 8I845GV/8I845GV-C NB CKD 1.0E BOM	For PCB 1.03
12/10 1.02	Update 8I845GV/8I845GV-C DL 1.0C ECN CKD BOM,	Add Sponge
12/16 1.03	BOM 1.0F FB5 改成直接 short-wire	

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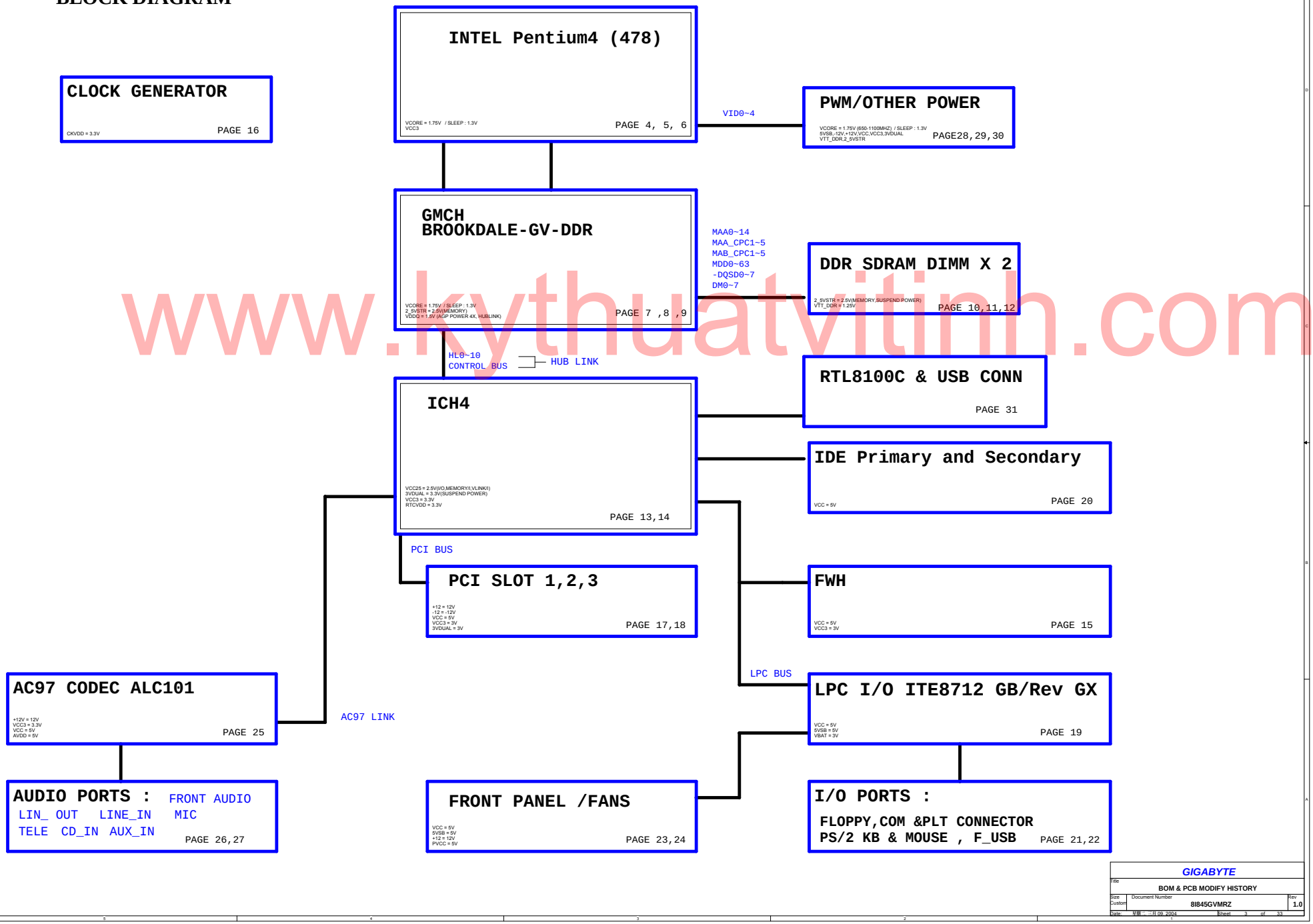
BLOCK DIAGRAM



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Title: BOM & PCB MODIFY HISTORY

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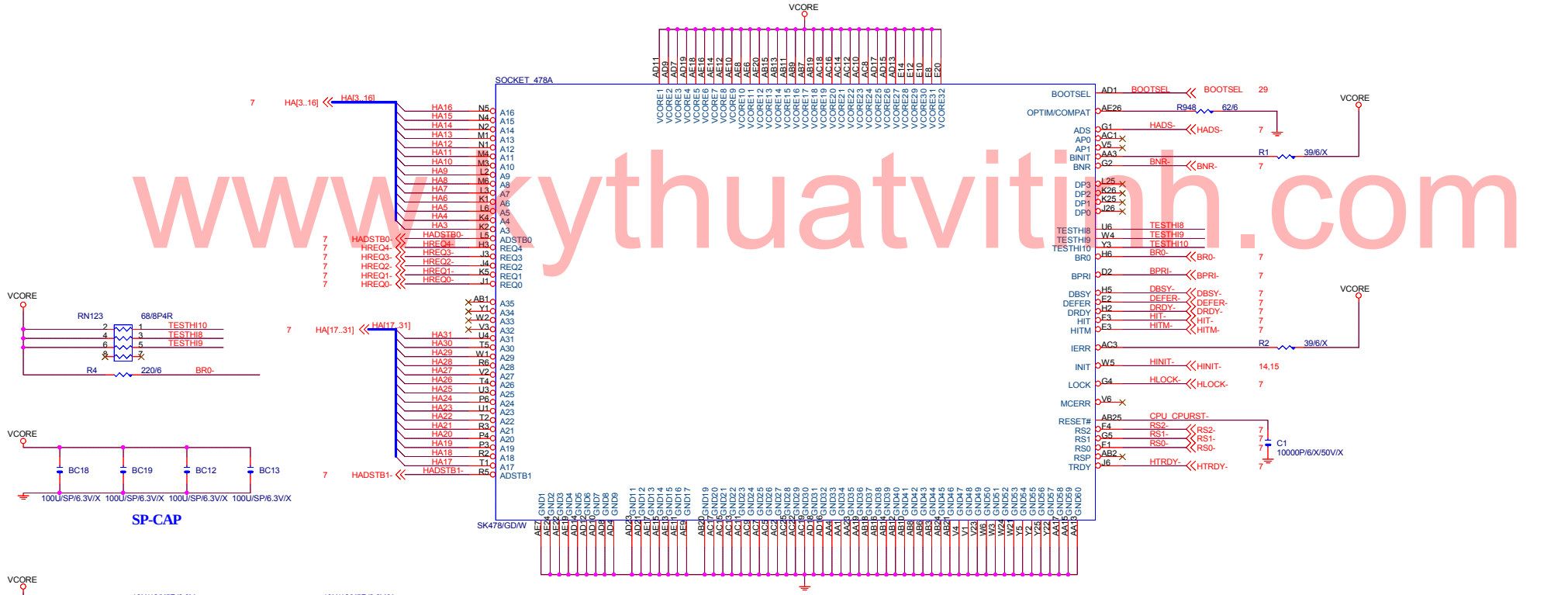

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Size: Custom	Document Number: 8I845GVMRZ	Rev: 1.0
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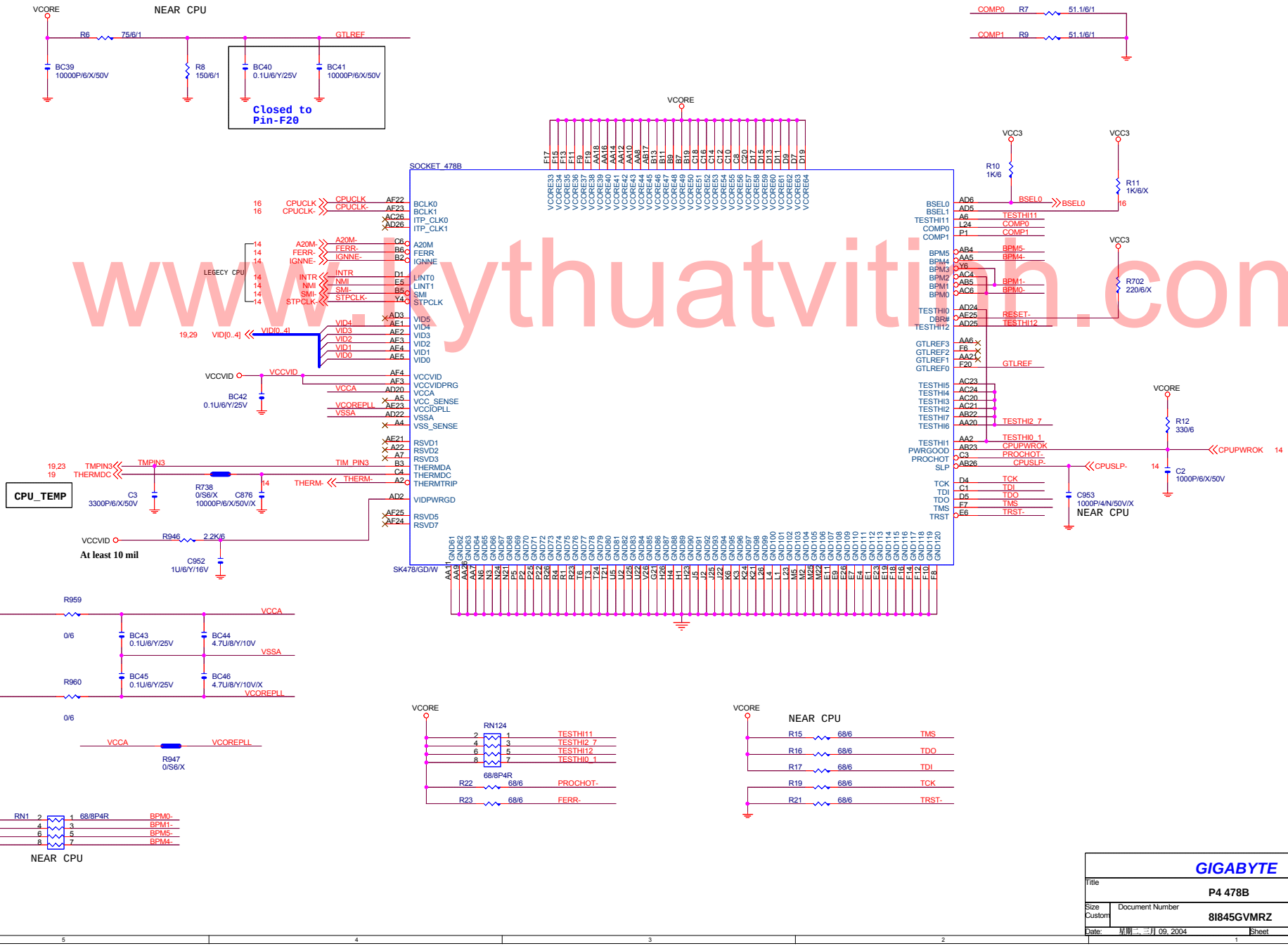

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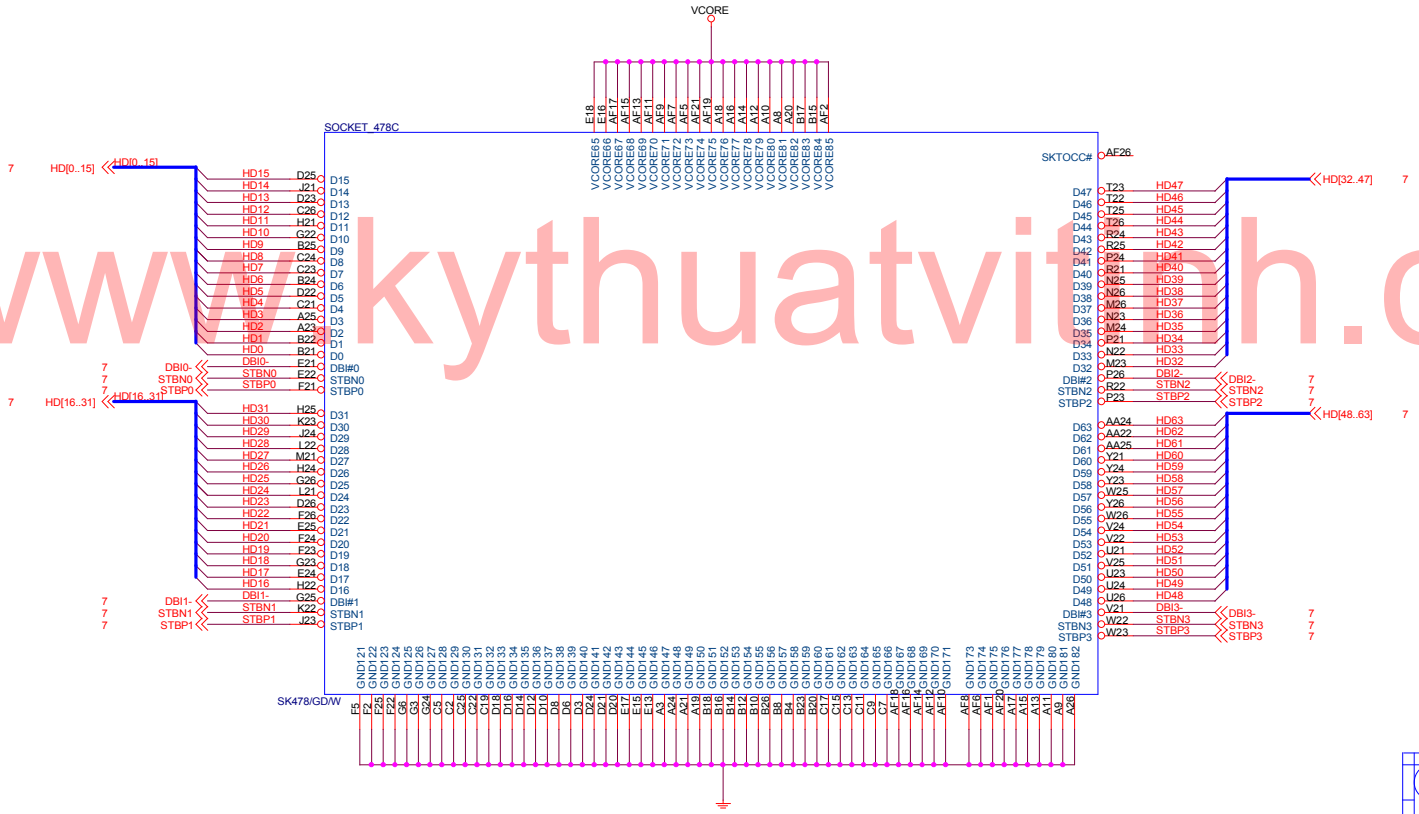

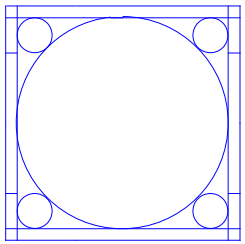

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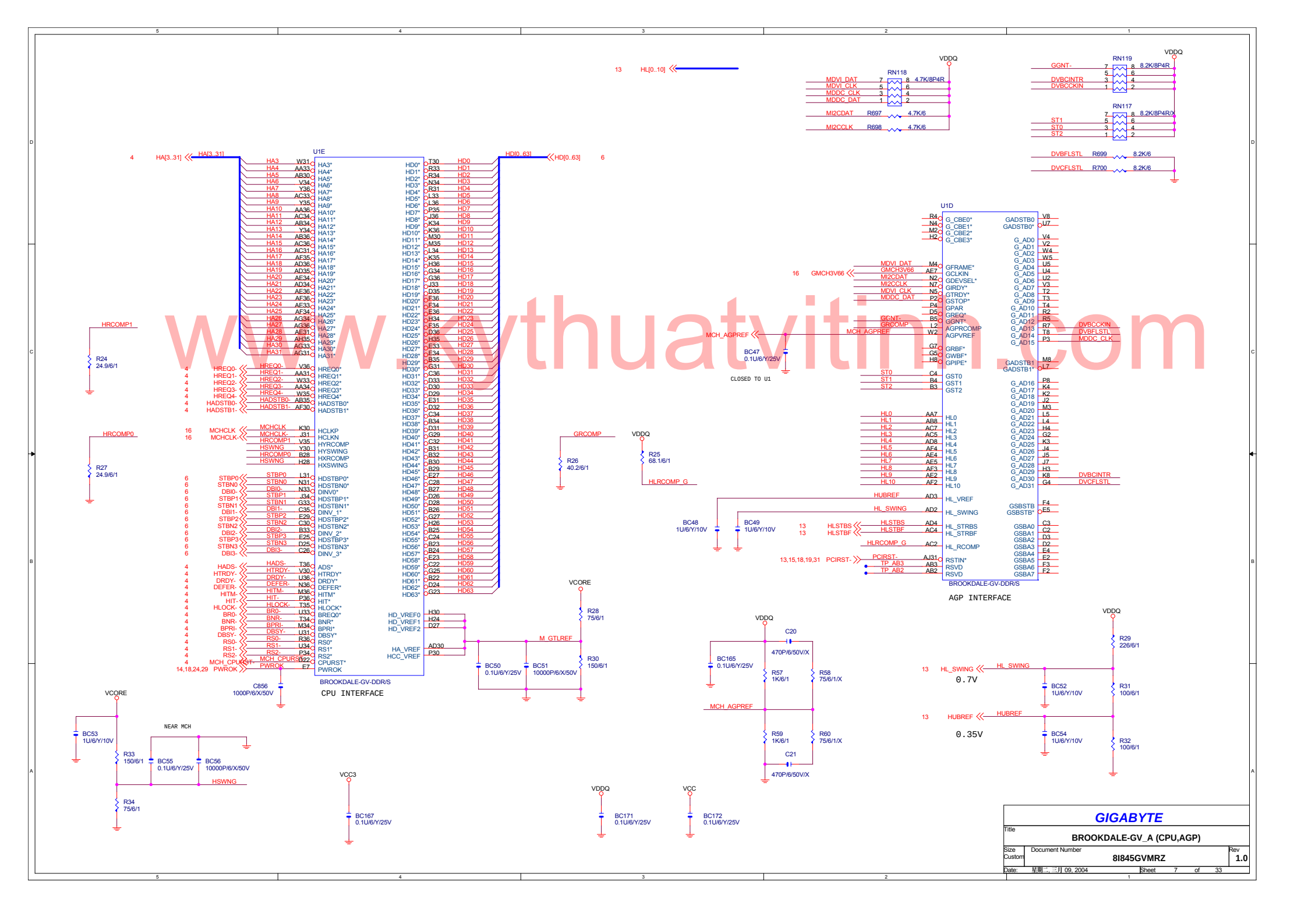

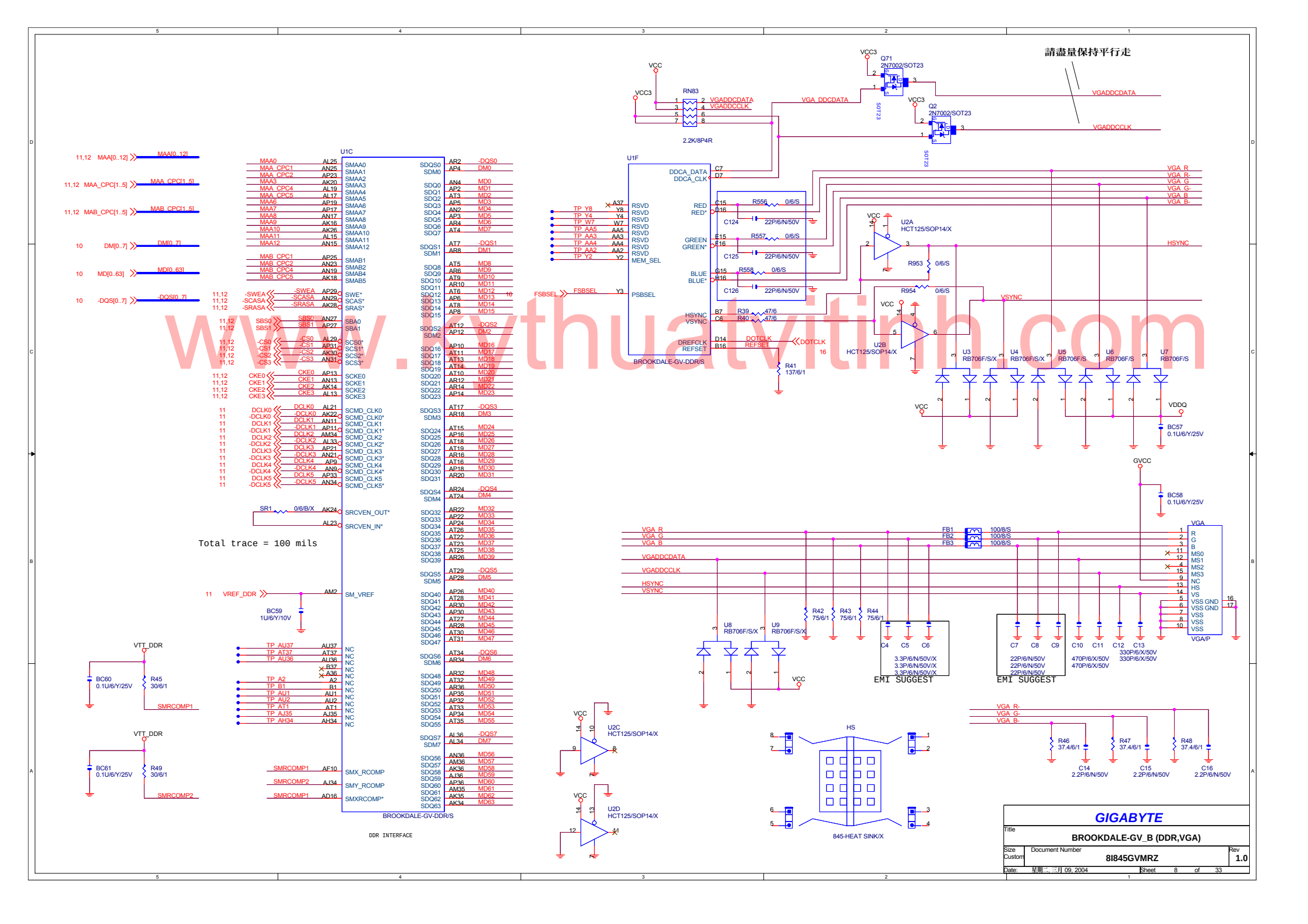

Title	BROOKDALE-GV_B (DDR,VGA)
Size	Custom
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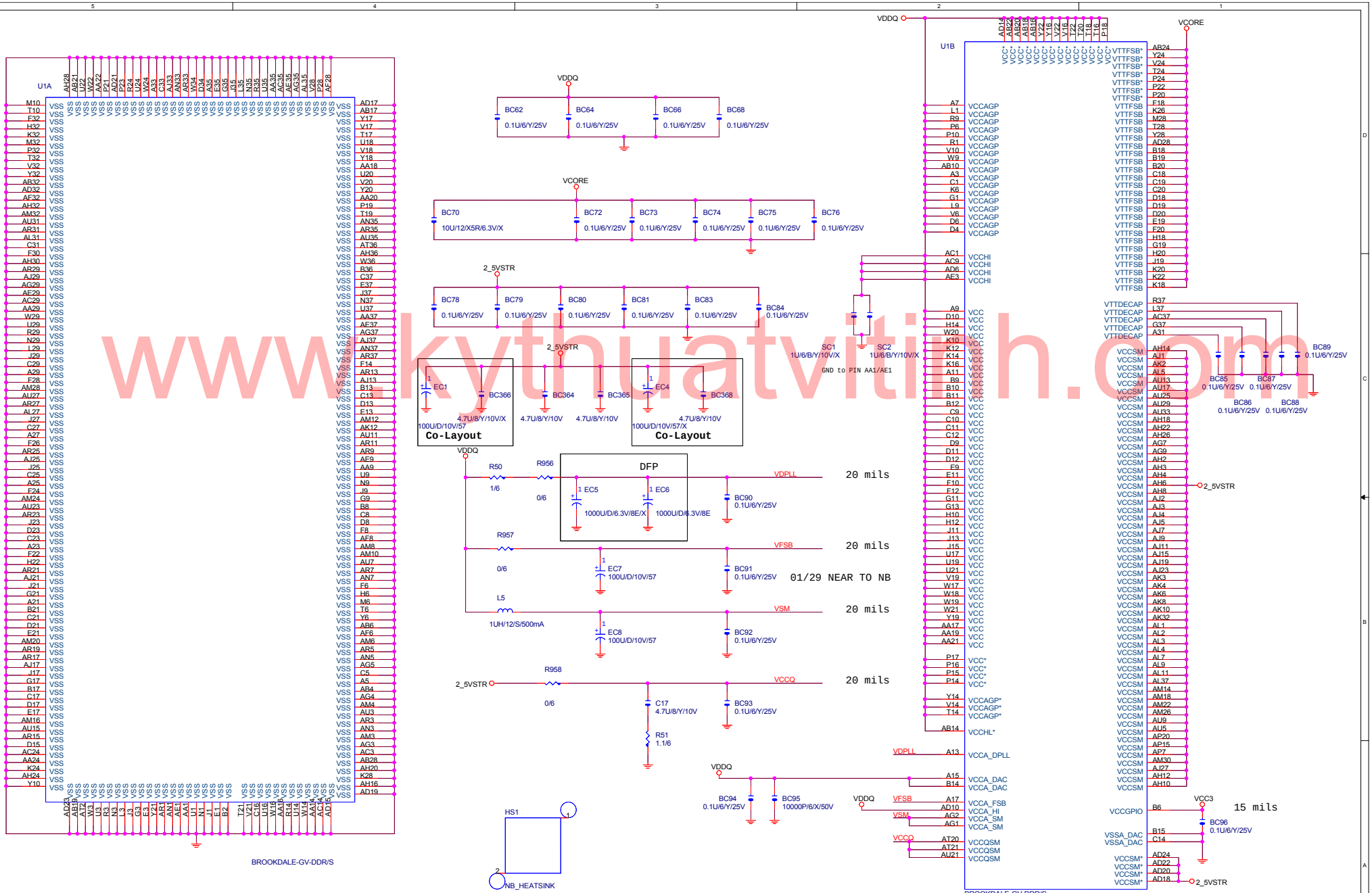

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Title	BROOKDALE-GV_C (POWER)	
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Title	DDR SERIAL TERM.	
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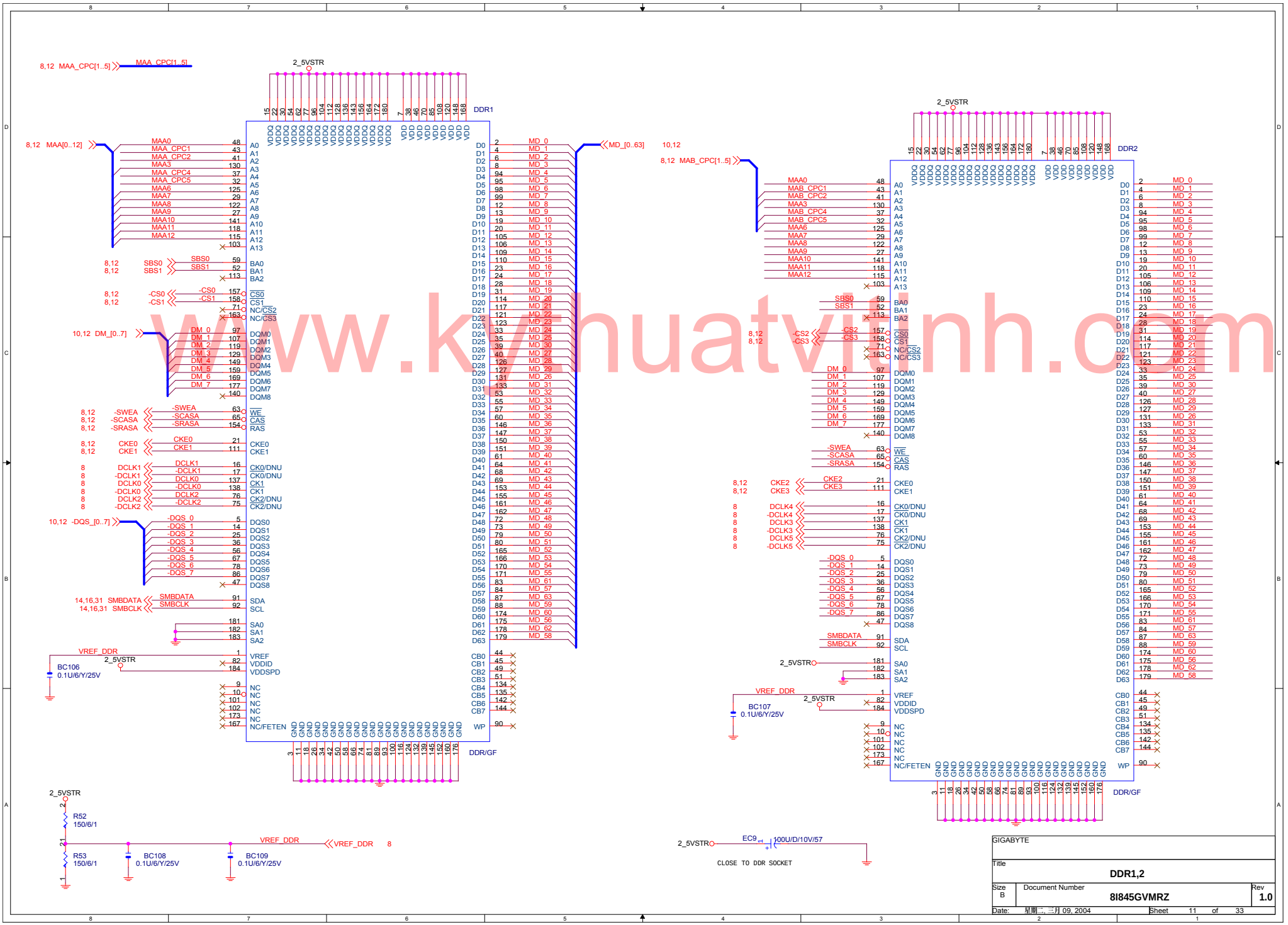

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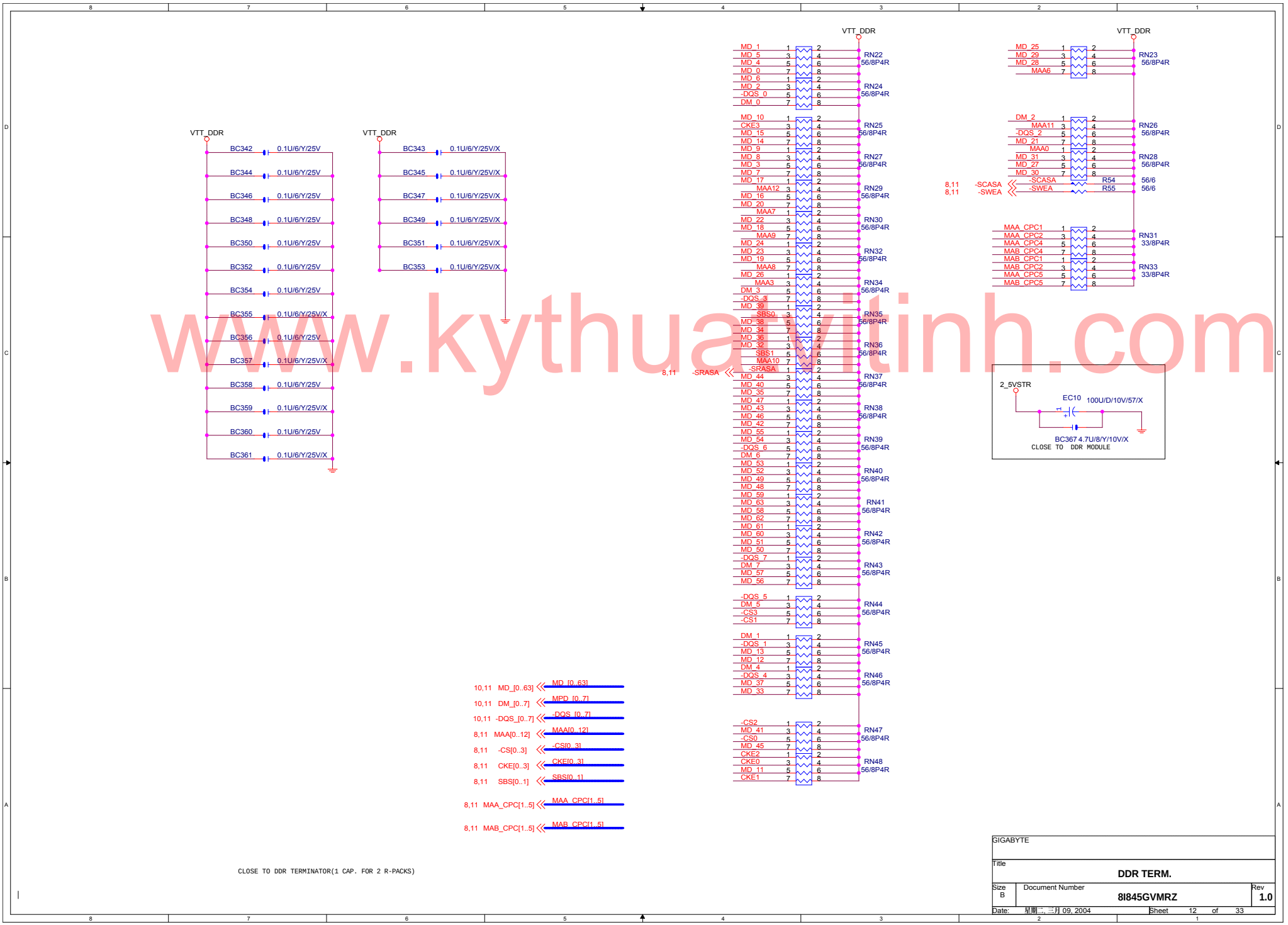

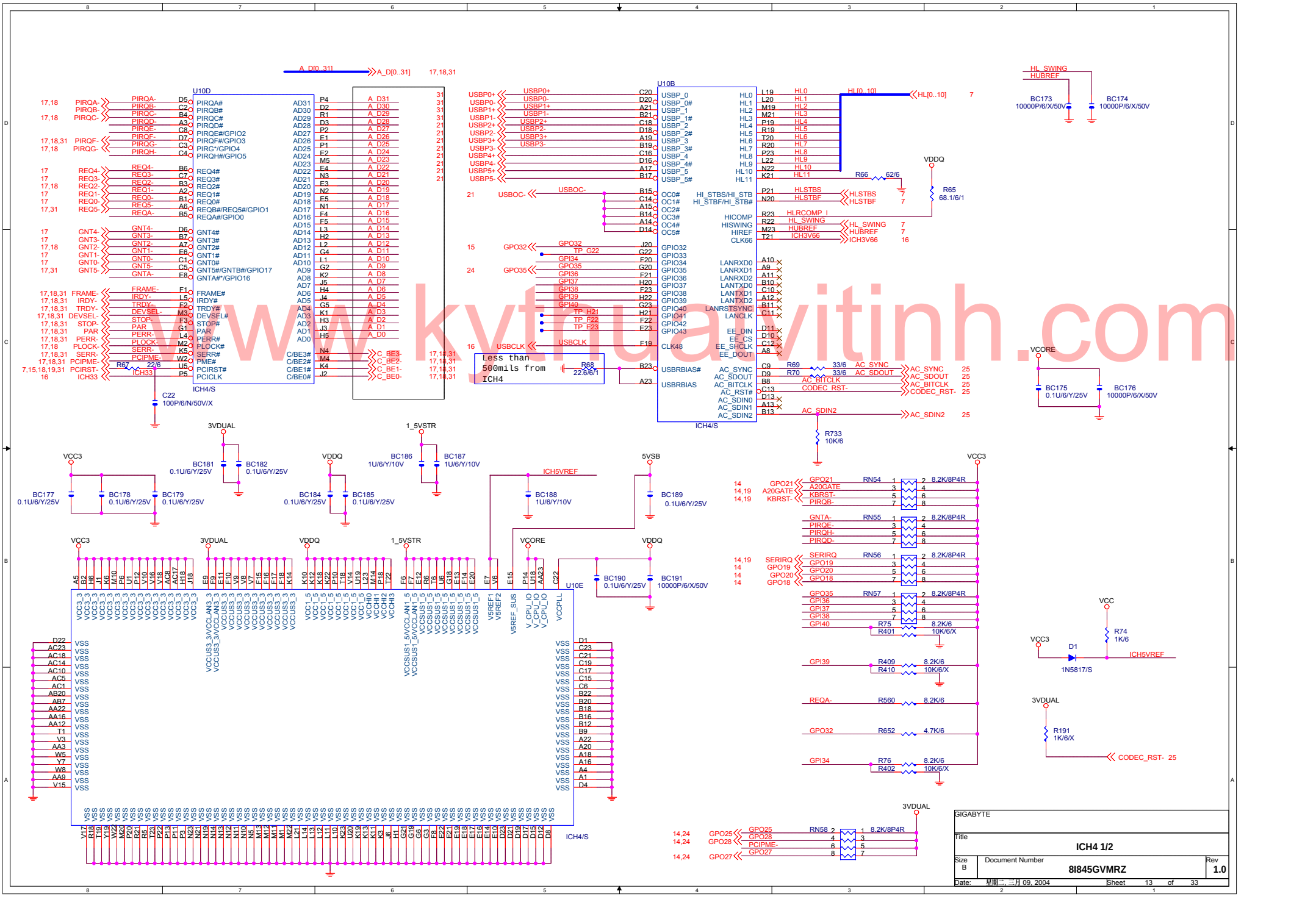

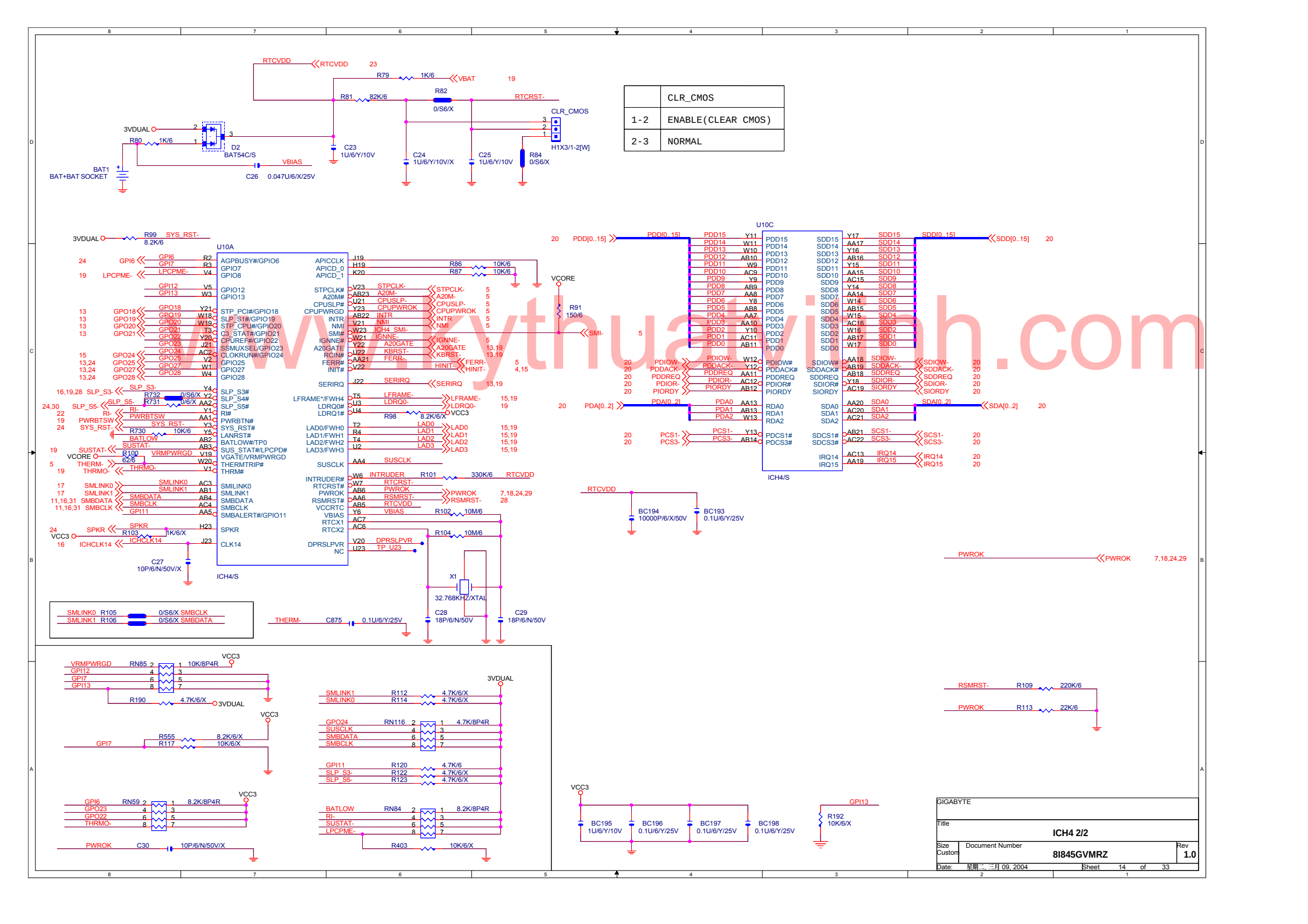

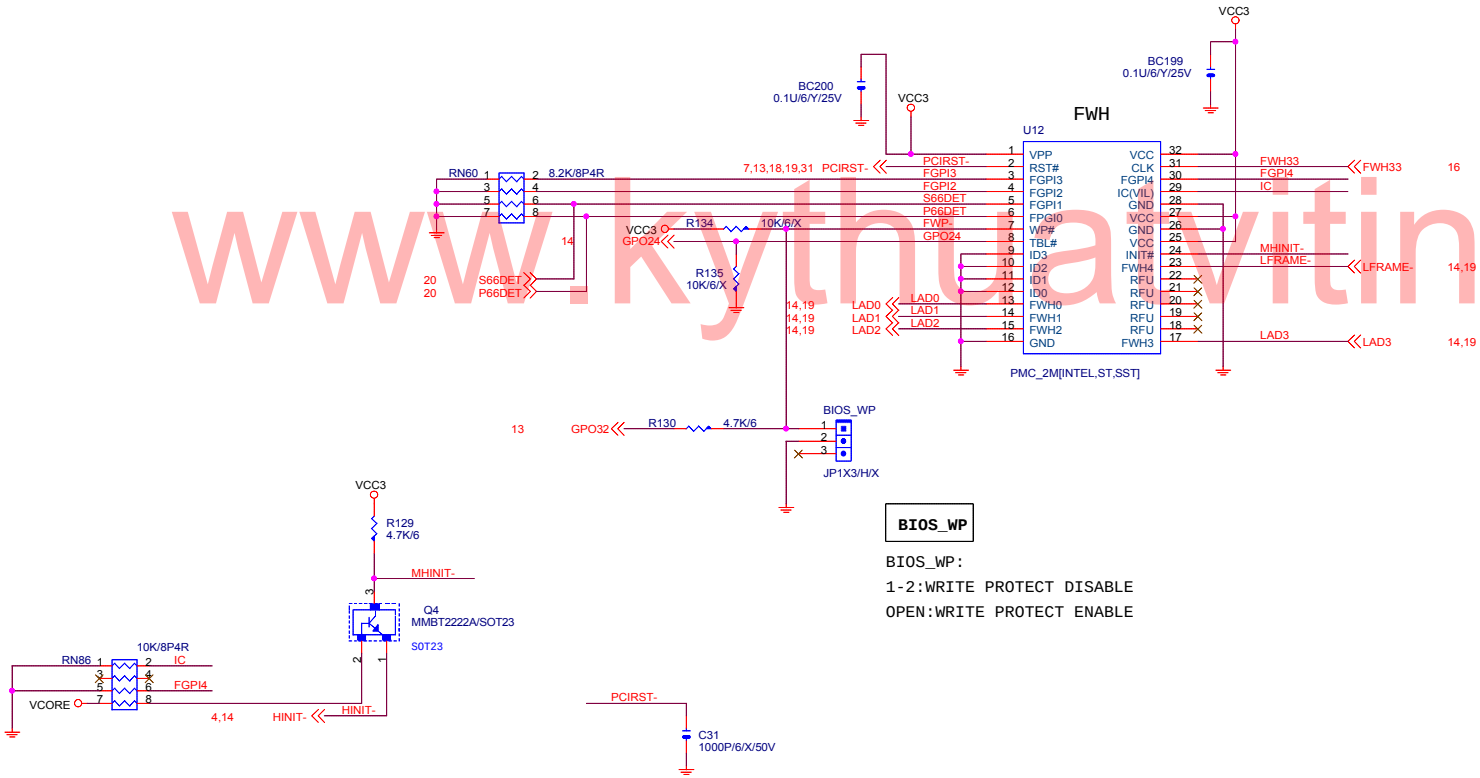

BIOS_WP

BIOS_WP:
1-2:WRITE PROTECT DISABLE
OPEN:WRITE PROTECT ENABLE

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Title: FWH		
Size: B	Document Number: 8I845GVMRZ	Rev: 1.0
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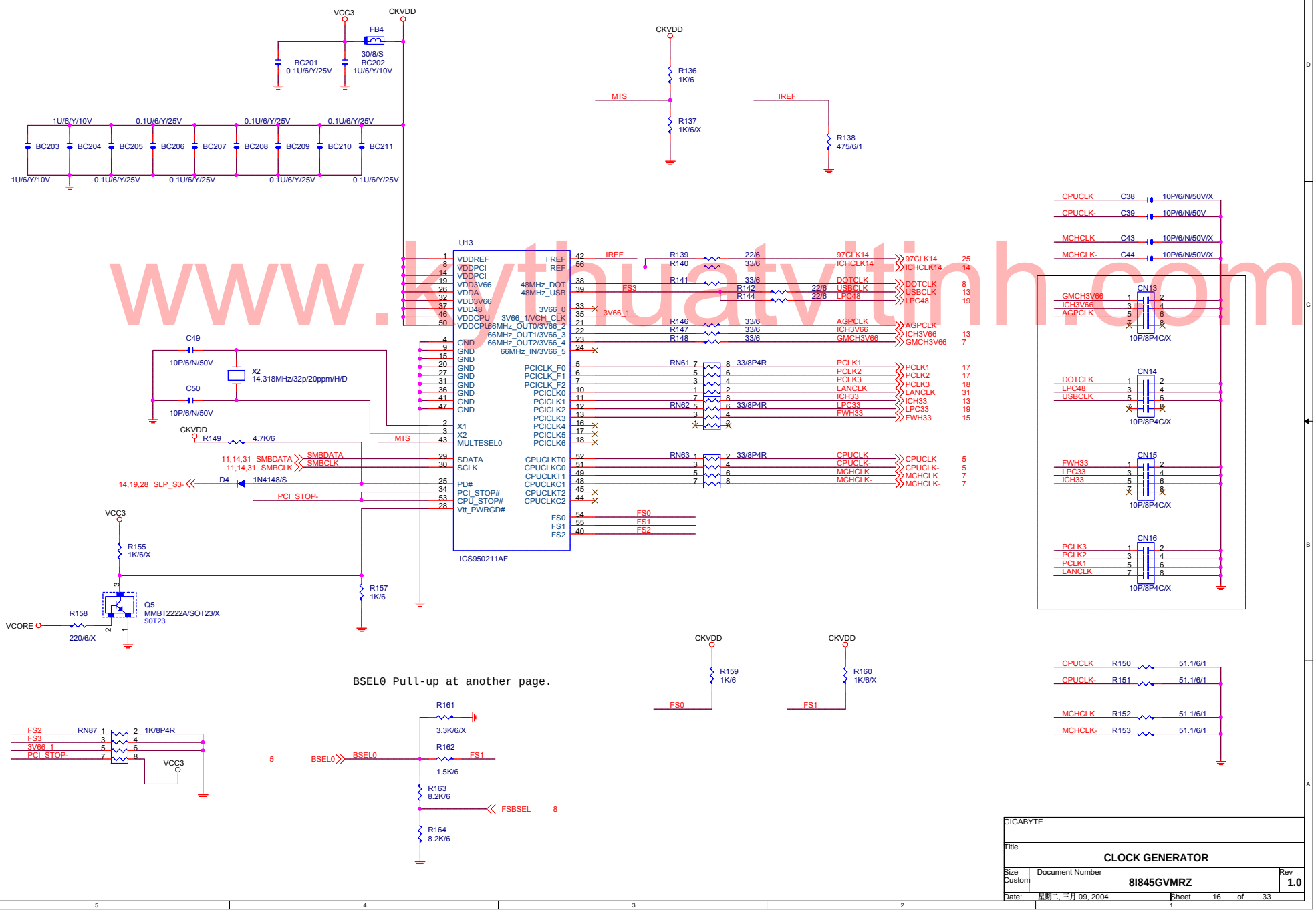

GIGABYTE	
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Size: Custom	Document Number: 8I845GVMRZ
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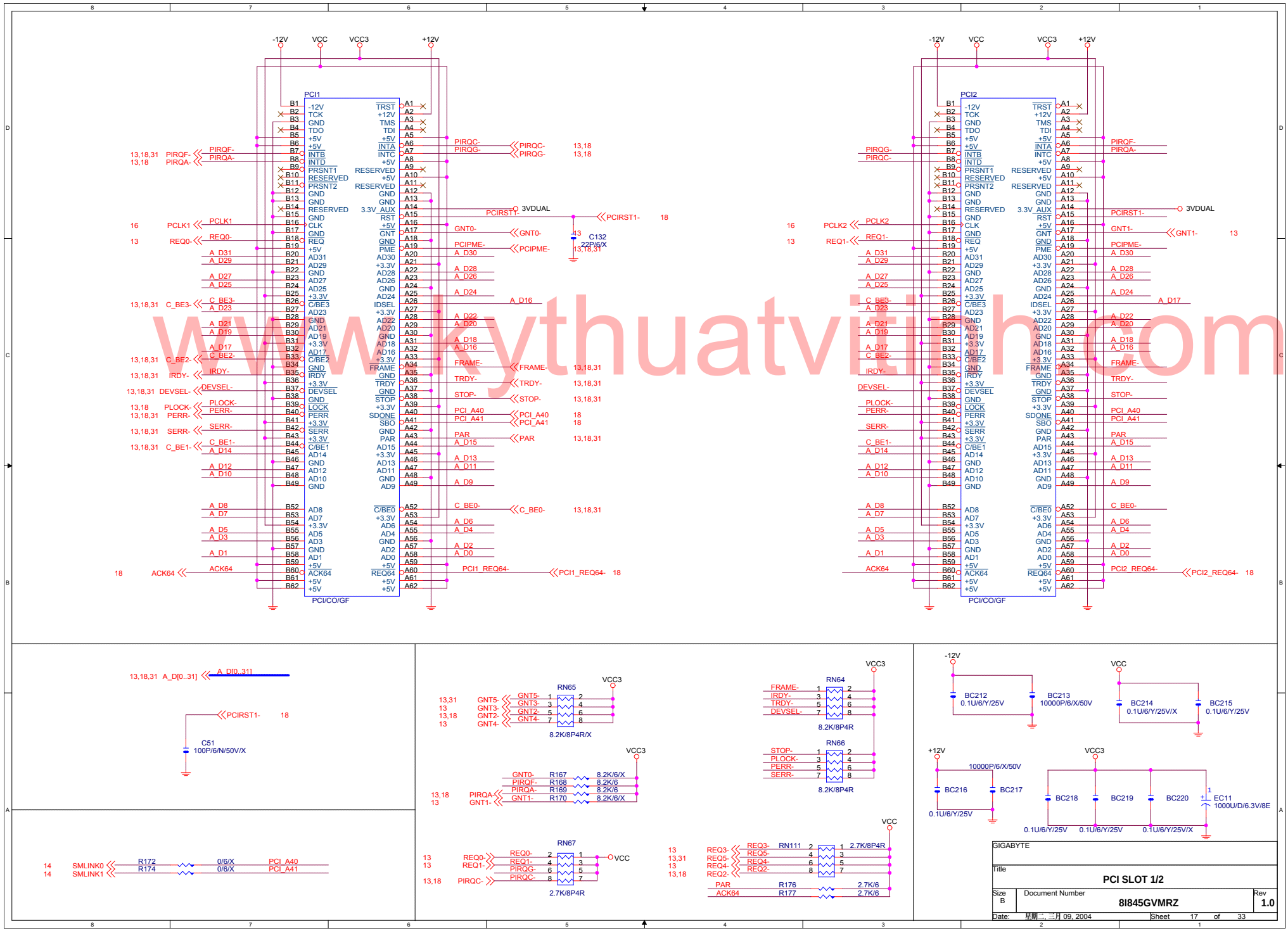

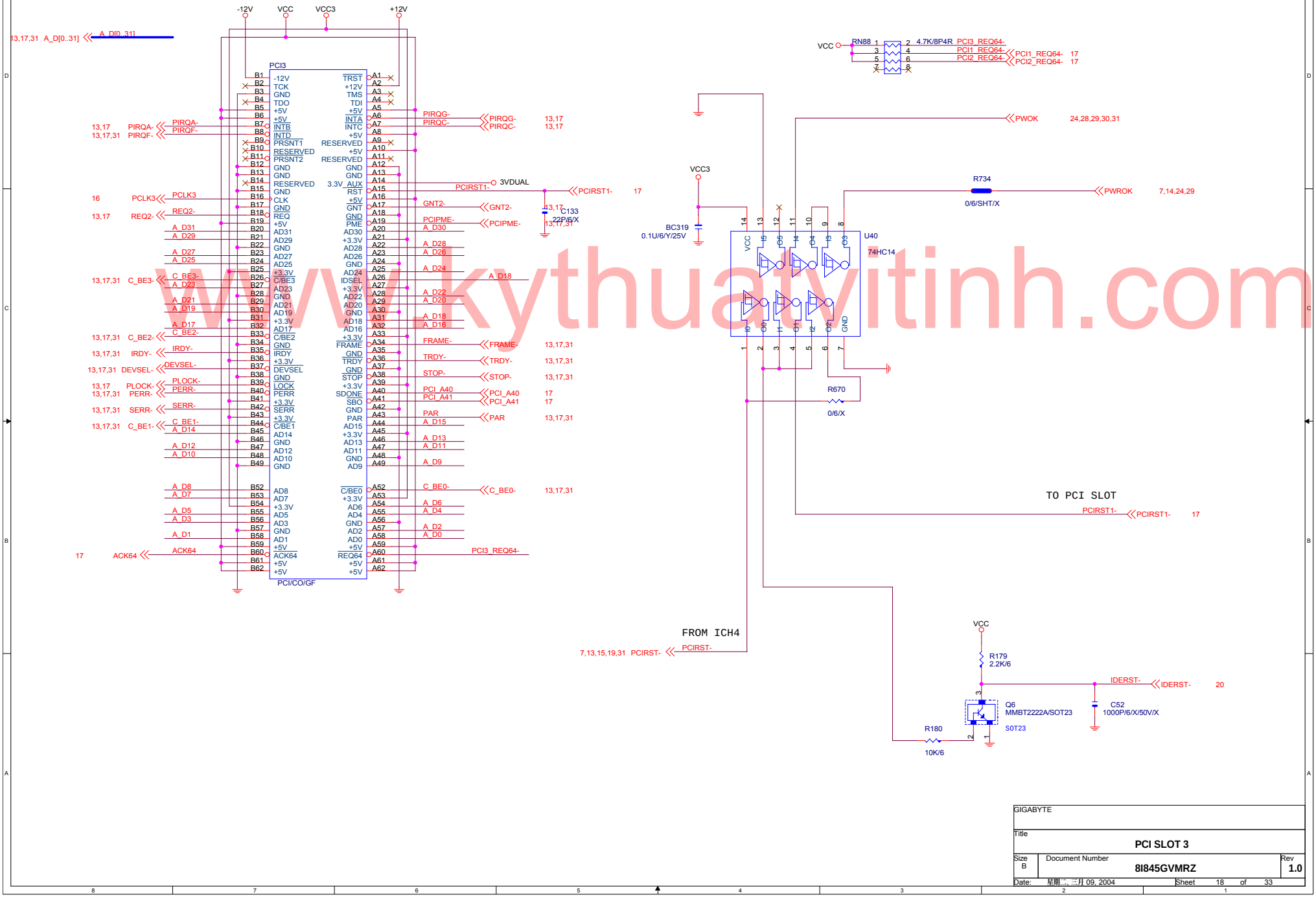

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Size B	Document Number 8I845GVMRZ	Rev 1.0
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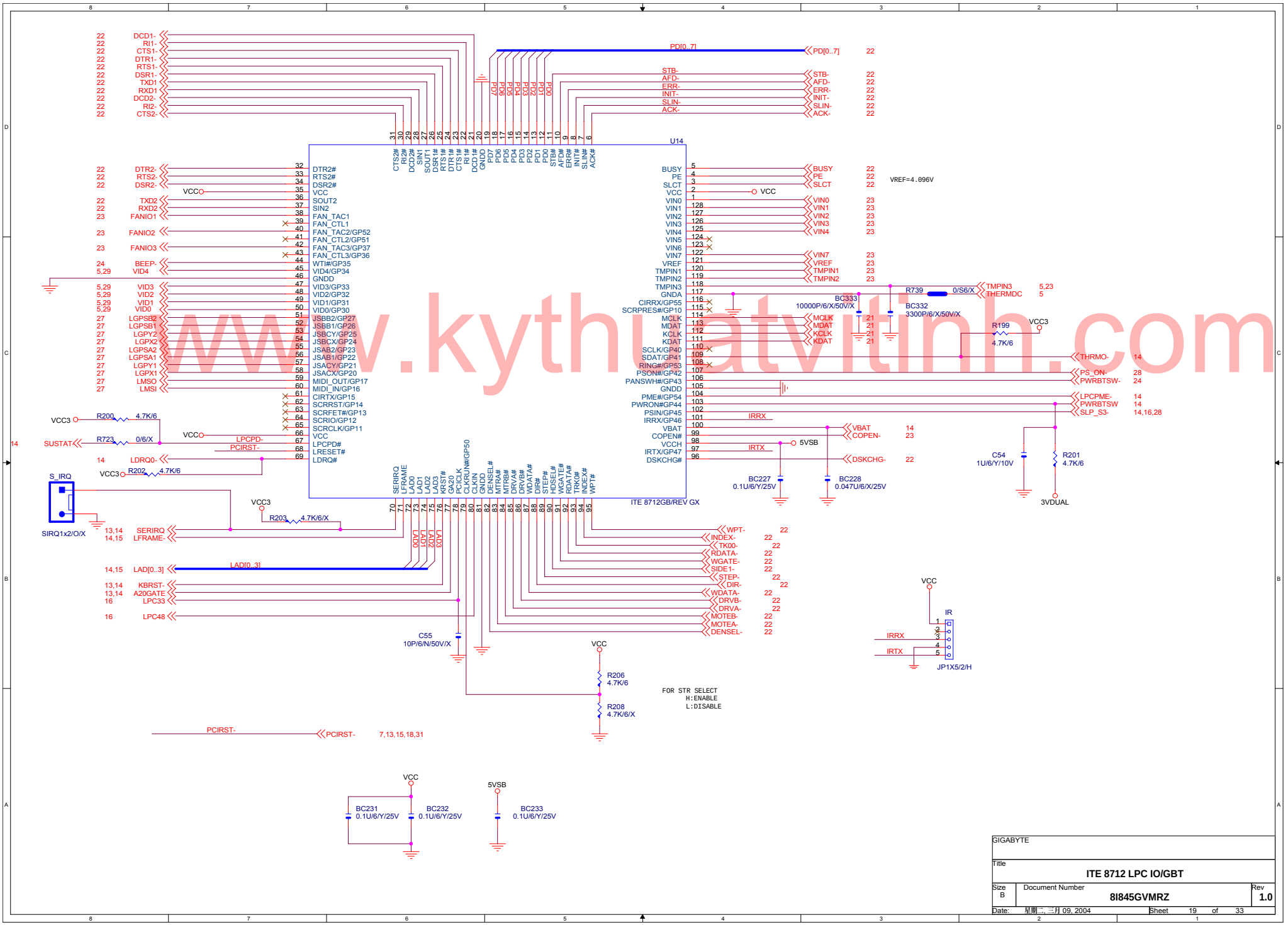
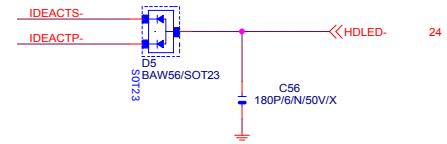
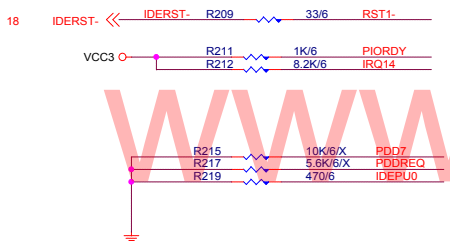
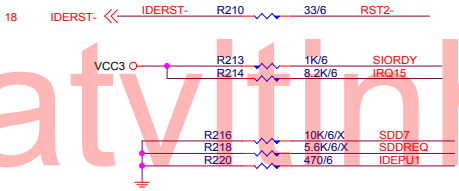
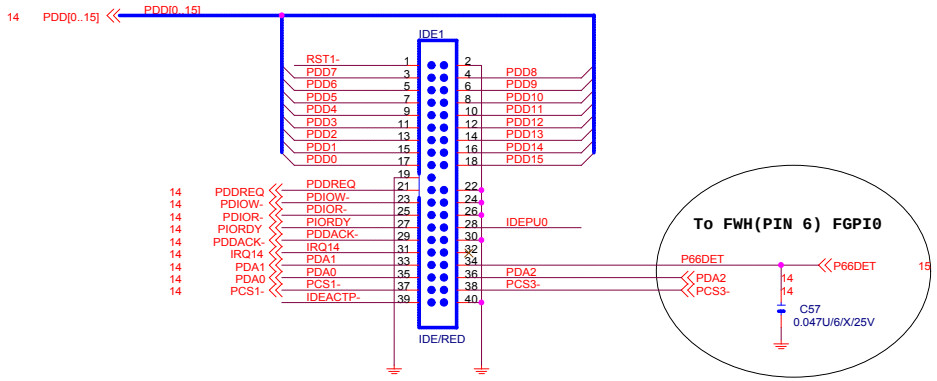




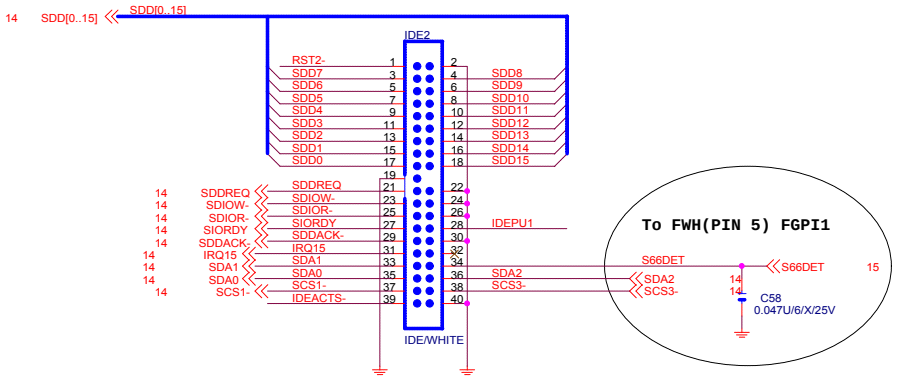




PRIMARY IDE CONNECTOR



SECONDARY IDE CONNECTOR



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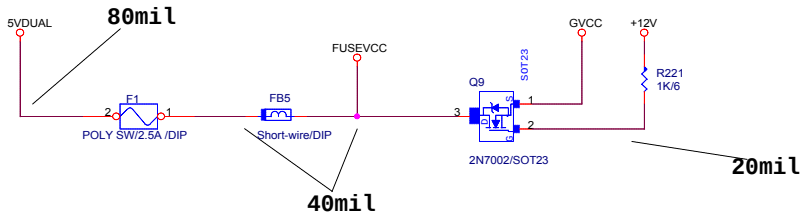
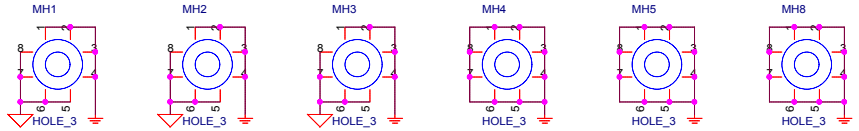
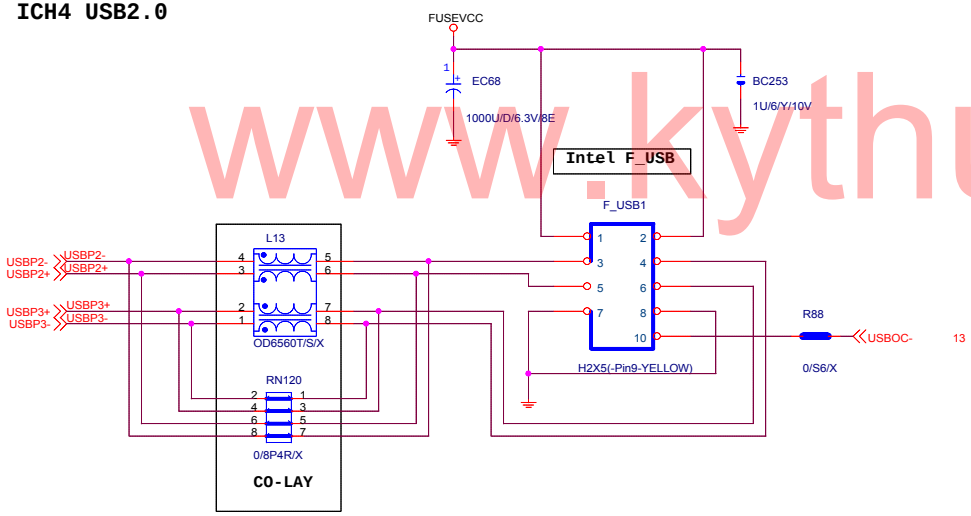
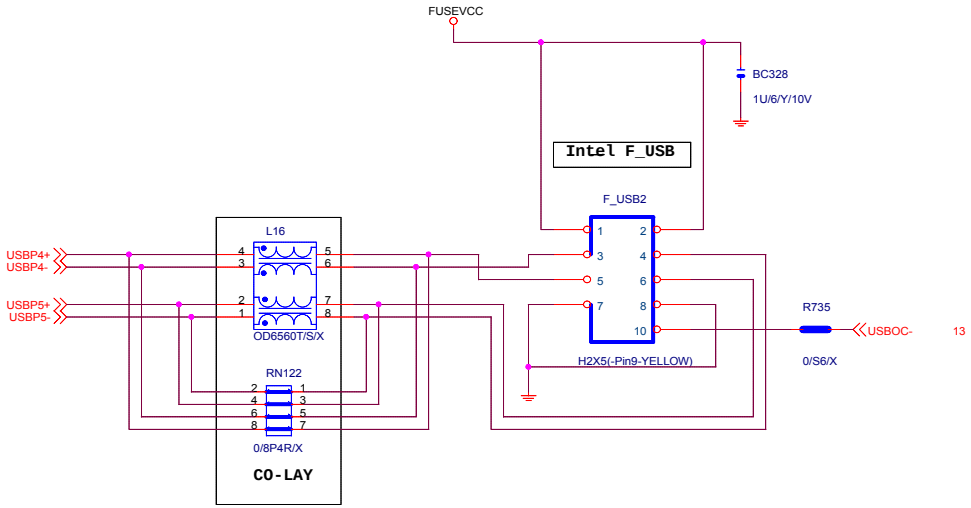




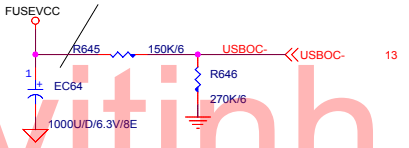
FRONT USB CONN

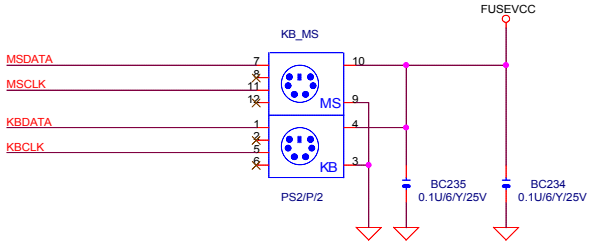
ICH4 USB2.0

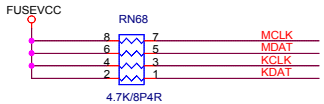


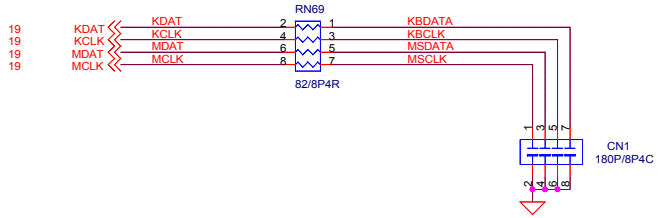


EC64 要靠近USB_PORT的FUSEVCC









GIGABYTE		
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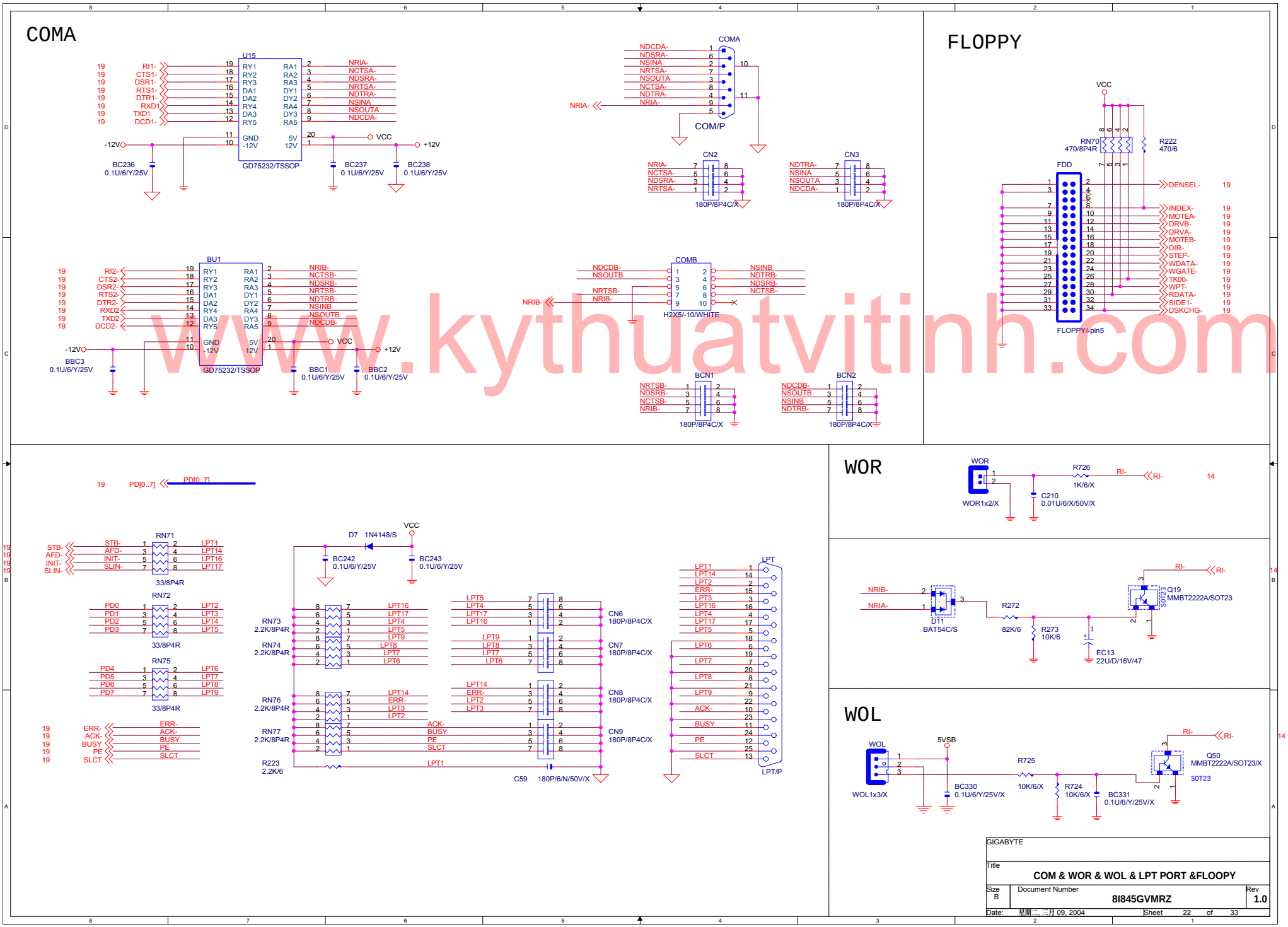
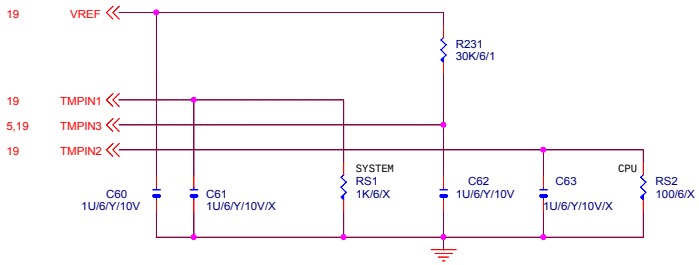
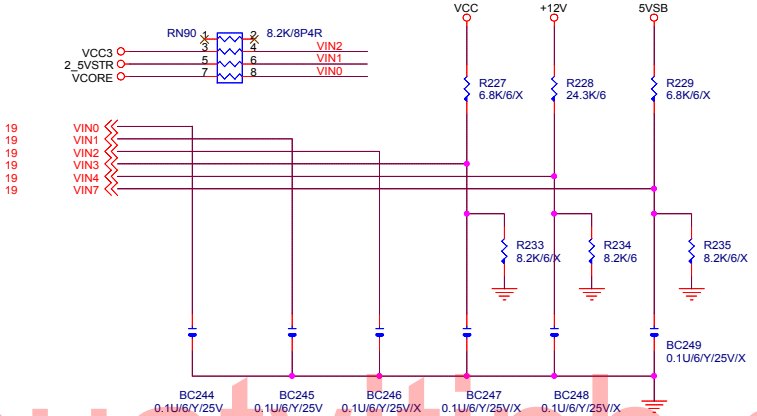
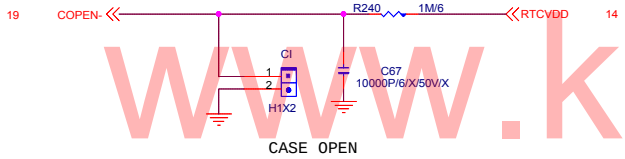
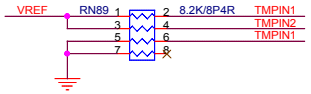


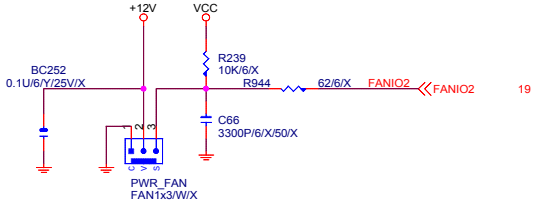
Hardware Monitor circuits



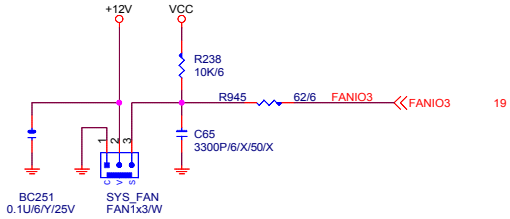




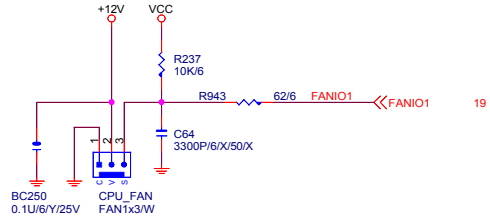




PWR_FAN



SYS_FAN



CPU_FAN

GIGABYTE		
Title	FAN/ HW MONITOR	
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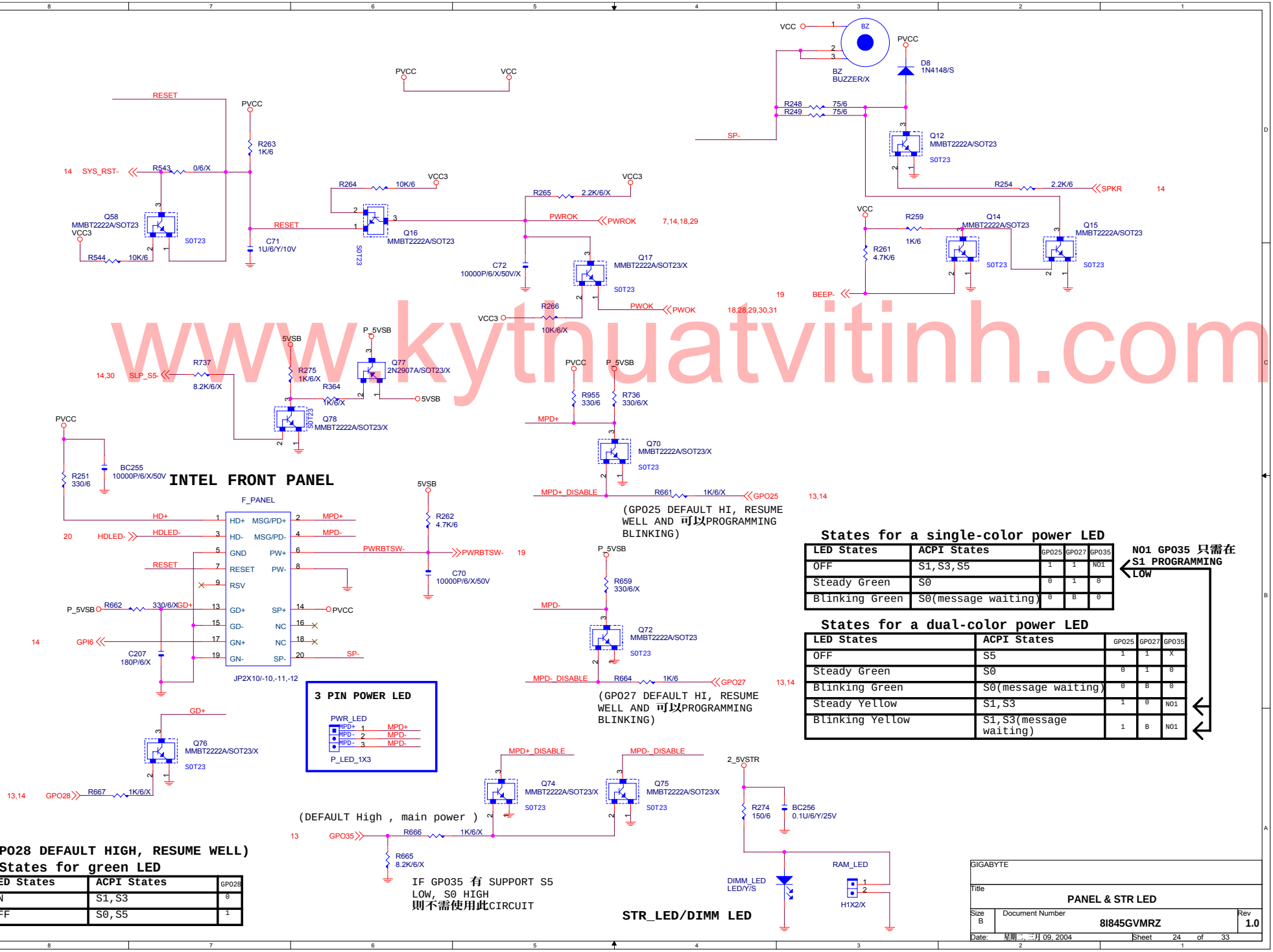
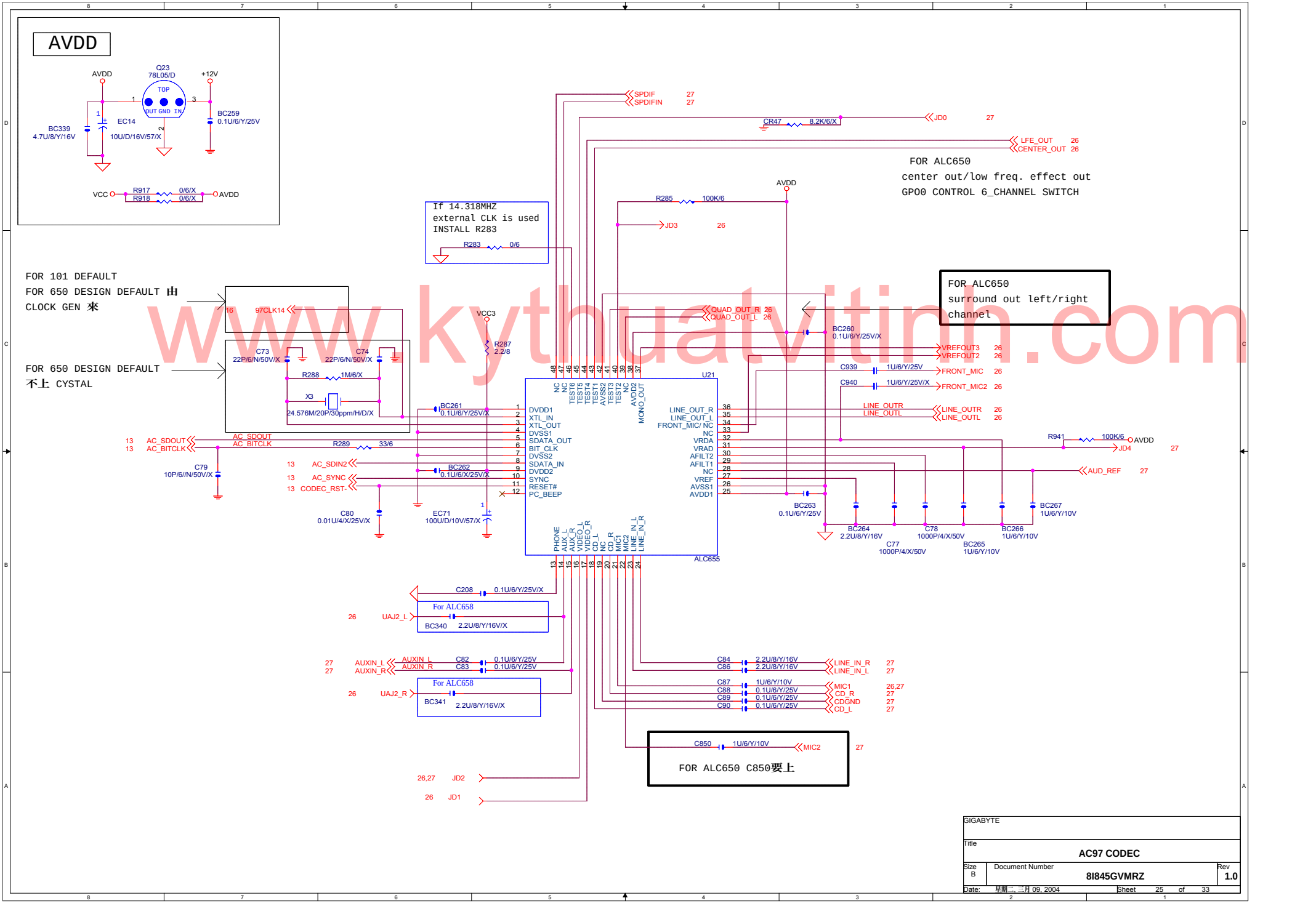
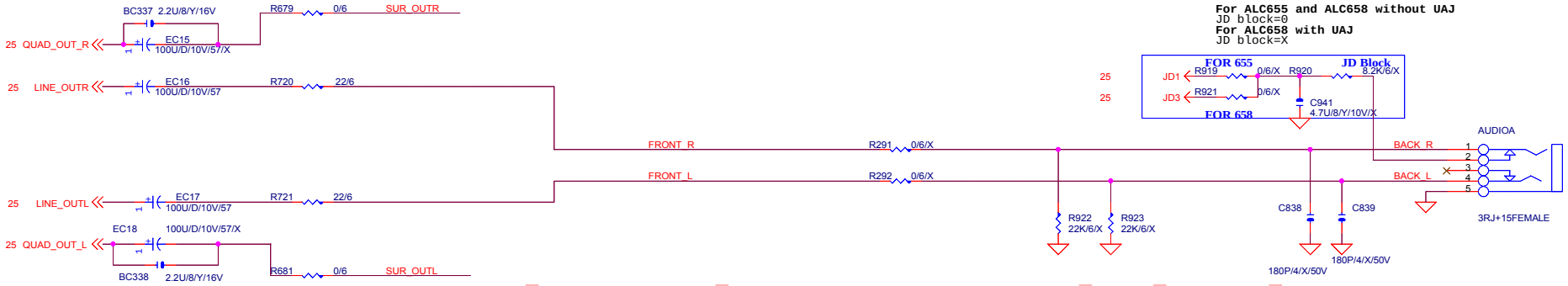
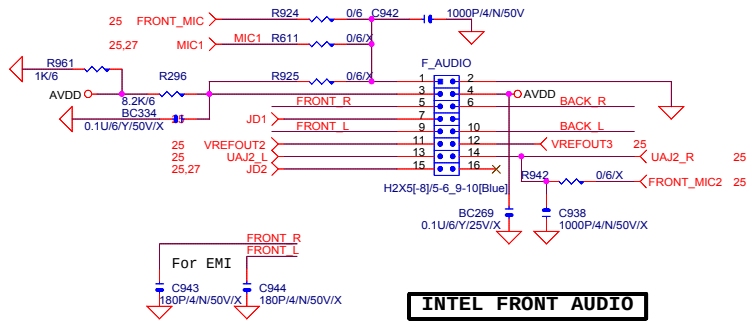


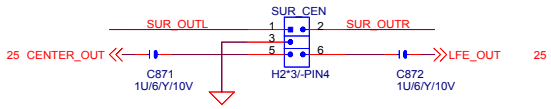


LINE-OUT





INTEL FRONT AUDIO



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

GIGABYTE		
Title: LJACK LINE OUT		
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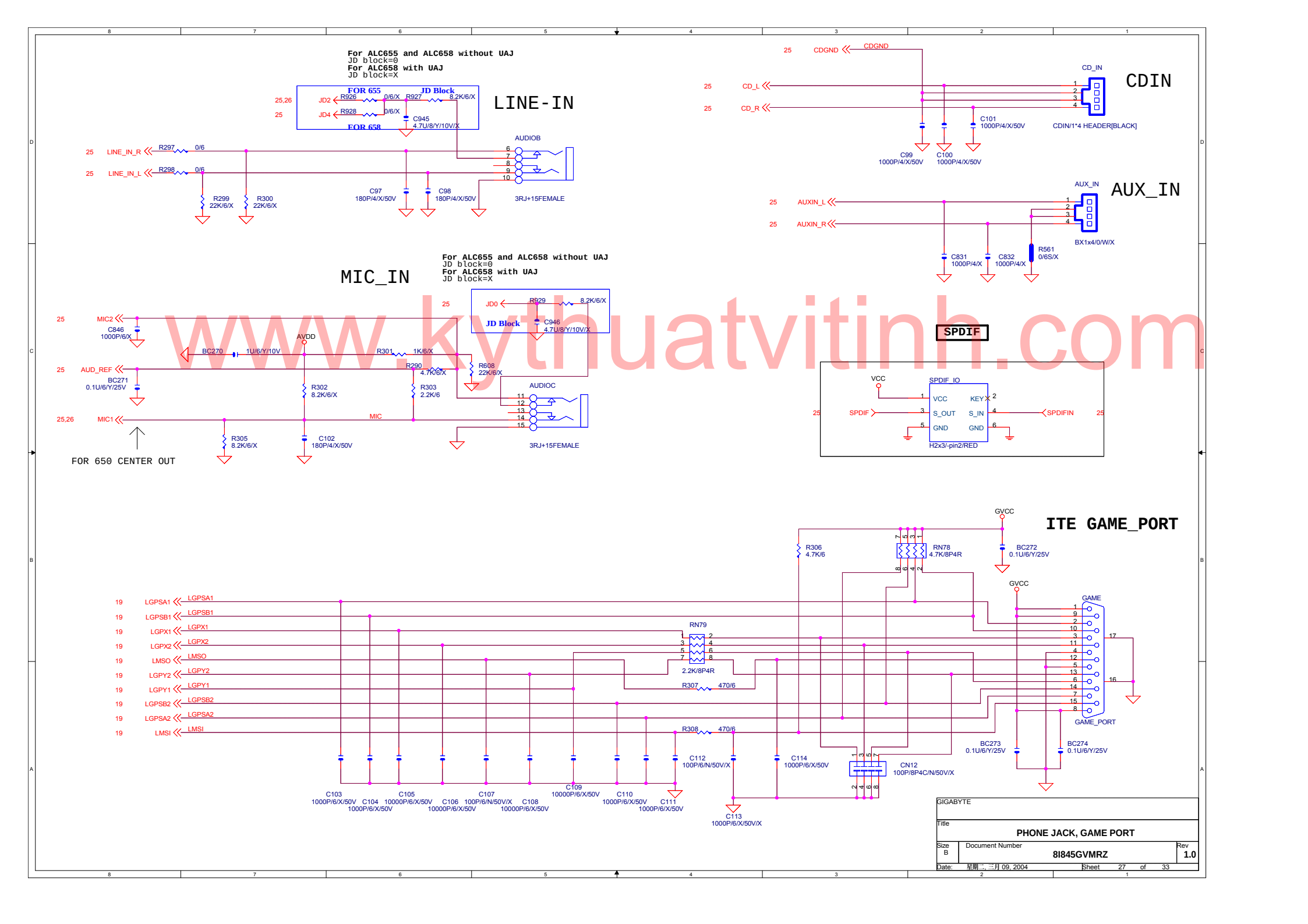
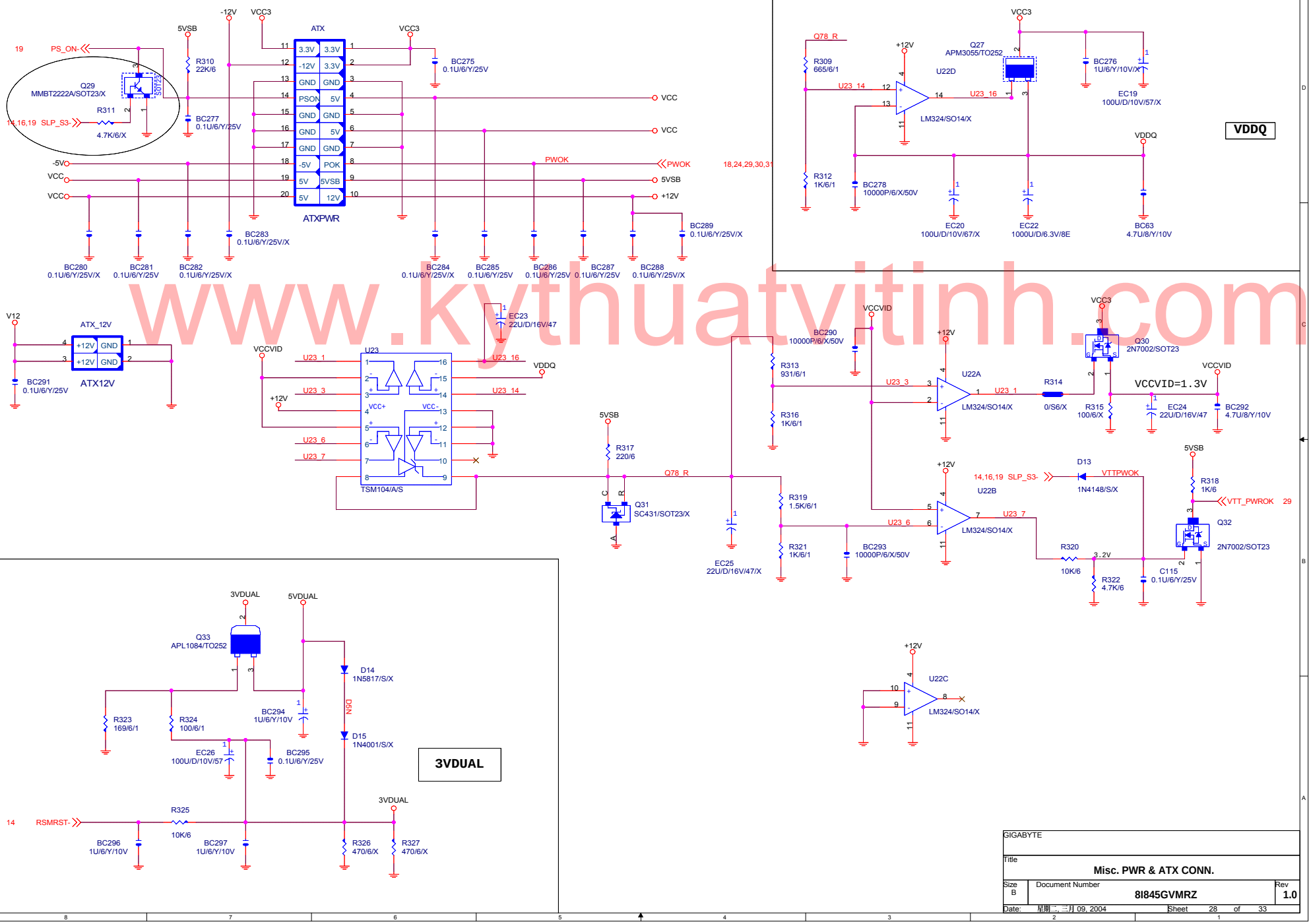


ATX POWER CONNECTOR



GIGABYTE	
Title	Misc. PWR & ATX CONN.
Size B	Document Number 8I845GVMRZ
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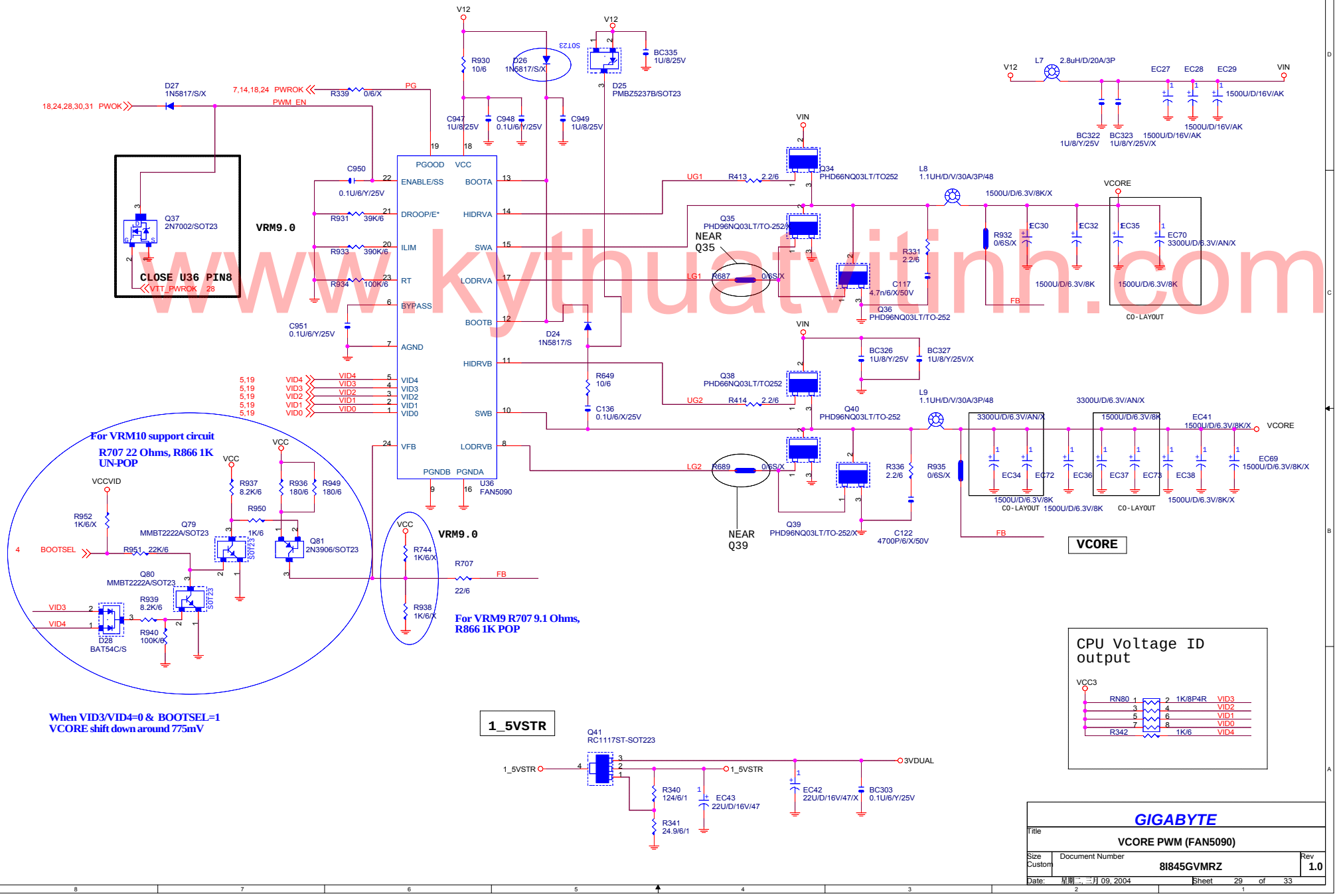
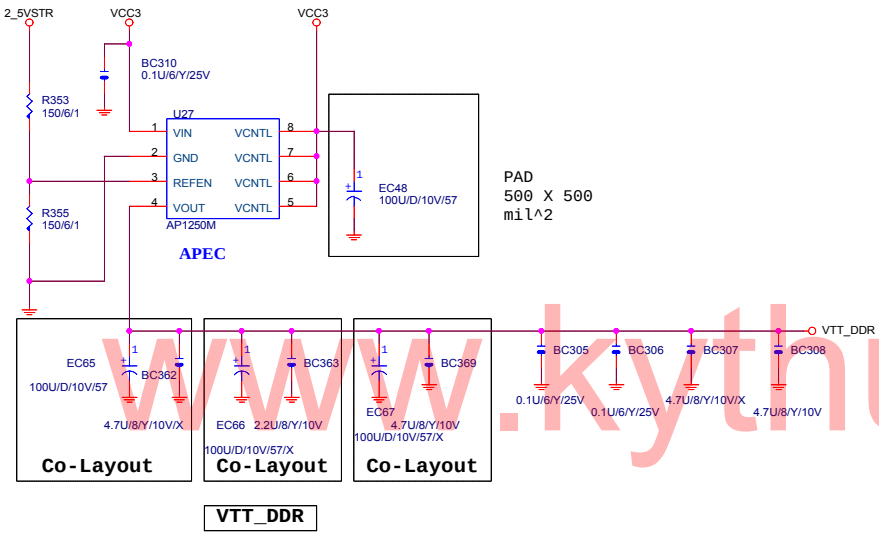
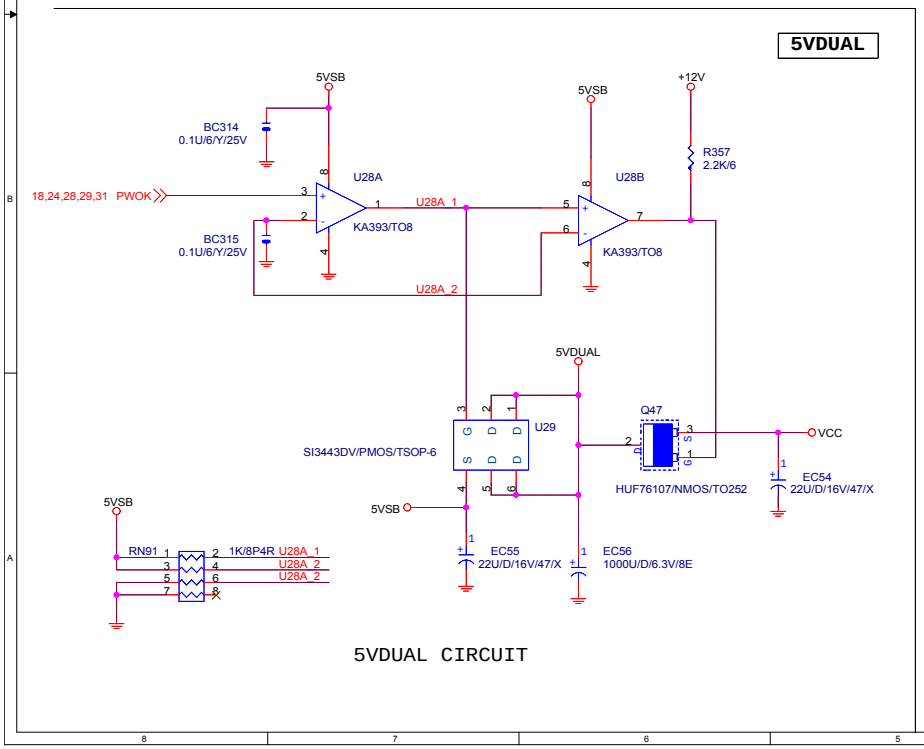
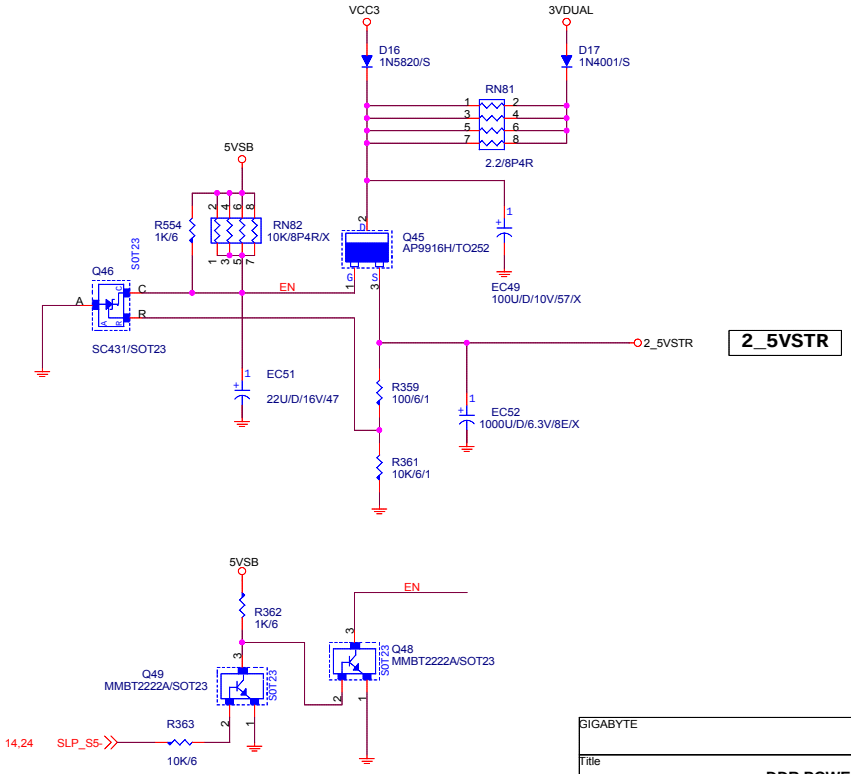


1.25V VTT_DDR LINEAR SOLUTION







GIGABYTE		
Title	DDR POWER	
Size B	Document Number 8I845GVMRZ	Rev 1.0
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	10/100 8100C	Giga 8110S	Giga 8110SB
AVDDH	N/A	3.3V	3.3V
V_12P	2.5V	N/A	3.3V
AVDDL	3.3V	2.5V	2.5V
V_DAC	N/A	2.5V	2.5V
DVDD	2.5V	1.8V	1.3V
DVDD_A	2.5V	1.8V	1.3V

LU1:
100M:RTL8100C
1G:RTL8110S

LR4:
93C46:N/A
93C56:8.2K/6

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

LR35:
100M:N/A
1G:0/6

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

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

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

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

LBC25:
100M:0.1U/6
1G:0.01U/6

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

FOR 1G:P35-152-19W9
FOR 100M:P35-152-11Z9

USB/LAN[S-TECHP35-152-11Z9]

FOR EMI

Spacing : at least 50 mils between each differential pair

LR56, LR57, LBC51 Close to Lan Chip
Realtek suggestion (TX+, TX-).

LR58, LR59, LBC52 Close to Lan Chip
Realtek Suggestion (RX+, RX-).

POWER DECOUPLING CAP.

LFB1:
100M:N/A
1G:0/8

LR16:
100M:N/A
1G:0/8

LFB2:
100M:0/8
1G:N/A

LFB3:
100M:0/8
1G:N/A

LQ1,LQ4:
100M:N/A
1G:2N2907A

For : Gigabyte LAN

LQ3:
100M:2N2907A
1G:N/A

DVDD:
100M:2.5V
1G:1.8V

LAN EEPROM

When Inetl & GBT Gigabit (8110S)

Note: LEDS1-0 must set to 00 in EEPROM

	Status	Yellow	Dual Color LED Green	Orange
RTL8110S Gigabit	10Mb	---	OFF	OFF
	100Mb	---	ON	OFF
	1Gb	---	OFF	ON
	Link	ON	---	---
	Active	Blink	---	---
RTL8100C 10M/100M	10Mb	---	ON	OFF
	100Mb	---	ON	OFF
	Link	---	ON	---
	Active	Blink	---	---

GIGABYTE

Title: **LAN RTL8100C**

Size: Custom | Document Number: **8I845GVMRZ** | Rev: **1.0**

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GIGABYTE 8I845GVMRZ GPIO LIST

Revision 1.0

SHEET TITLE

GPI		
PIRQB-		PULL 8.2K TO VCC3
PIRQD-		PULL 8.2K TO VCC3
PIRQE-		PULL 8.2K TO VCC3
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		
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, BIOS WRITE PROTECT.
GPO26		NOT IMPLEMENTED
GPO27		PULL 8.2K TO 3VDUAL, LAN 100/10 DETECT.
GPO28		PULL 8.2K TO 3VDUAL

GIGABYTE

Title: GPIO LIST

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GIGABYTE 8I845GVMRZ PCI ROUNTING LIST

Revision 1.0

PCI DEVICE	IDSEL	INT	CLOCK	REQ	GNT	
PCI SLOT1	16	C,F,G,A	PCLK1	REQ0-	GNT0-	
PCI SLOT2	17	F,G,A,C	PCLK2	REQ1-	GNT1-	
PCI SLOT3	18	G,A,C,F	PCLK3	REQ2-	GNT2-	
	19					
	20					
	21					
	26					
	28					
	23					
	NA					

GIGABYTE

Title: PCI ROUNT LIST

Size: Custom | Document Number: 8I845GVMRZ | Rev: 1.0

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