Model Name: EP43T-USB3 REV 1.0

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02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	TABLE LIST
05	P4_LGA775_A
06	P4_LGA775_B,D
07	P4_LGA775_C
08	P4_L775_E,F,G,H
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10	GMCH-Eaglelake_DDRII
11	GMCH-Eaglelake_PCI E, DMI
12	GMCH-Eaglelake_INT VGA
13	GMCH-Eaglelake_GND
14	GMCH-Eaglelake_PWR
15	DDR3 CHANNEL A 1,2
16	DDR3 CHANNEL B 1,2
17	DDR3 TERMINATION
18	PCI EXPRESS*16 SLOT
19	ICH10 DMI, PCI, USB
20	ICH10 GPIO, CTRL
21	ICH10 SATA, FAN PWM
22	ICH10 VCC, GND
23	CLOCK-ICS9LPRS914
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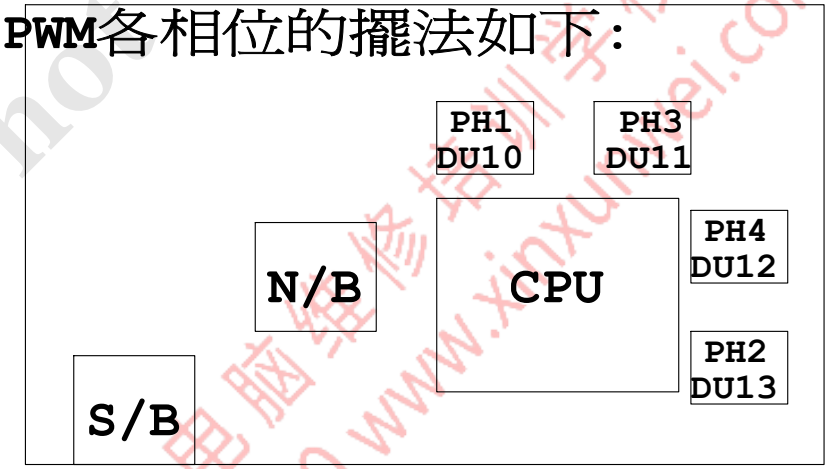
25	ITE8718/GB,RESET DRIVE
26	COM_LPT, -PROHOT,DYNAMIC,RUSB
27	BIOS,CI,HWM,KB/MS

SHEET	TITLE
28	AZALIA ALC888
29	AUDIO JACK
30	VCORE PWM_ISL6334CRZ
31	DISCRETE1 POWER,FAN CTRL
32	ATX POWER
33	JMicron JMB368
34	LAN REALTEK RTL8111C
35	FRONT PANEL,FUSB,FDD
36	TPM I/F-1.2

PWM各相位的擺法如下：



Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: EP43T-USB3 | Rev: 1.0

Date: Tuesday, December 29, 2009 | Sheet 1 of 36

Model Name: GA-EP43T-USB3
Rev:1.0

Component value change history

Data	Change Item	Reason
97/04/01 EBOM:01A	1. P43 CHIPSET E-BOM	
97/04/15 EBOM:02	1. 修改LED的POWER及阻值;DEL R484,DR78. ADD DR79,,R348	
	2. ADD DR80,R300 10-->49.9,C158,LBC43 0ohm-->100PF for EMI	
	3. del Q3,Q4,BC11,BC9,R42,R15,PCI_BT1,PCI_BT2,R166,R168	
97/04/28 EBOM:10A	1. DDR2 VOLTAGE 1.83 --> 1.9V --> 2.0V --> 2.1V .....-->2.5V	
97/05/09 PBOM:10B	1. DR59,DR60 14K---->549ohm,del DR69	
	2. ADD U9(uP6262),R436,BC133 FOR CPU 超頻	
97/05/21 PBOM:10C	1.ICH,MCH PCI-E ,JM368的RX,TX串電容BOM 0.1U/Y5V-->0.1U/X7R,RTC RTCVDD -->X7R	
	2.ADD U6 FOR DDR TURN ON 2.1V ISSUE	
97/06/4 PBOM:10D	1.DEL Q107,R620,ADD R621	
	2.Q49(BAT54C) 限用 DII	
97/06/18 PBOM:10E	1.ADD MB_ID R283,DEL R282,Q87,Q91,R452,R498,R499,R500 FOR VTT_GMCH 1.2V	
	2.C197 0.1U/Y5V--->X7R	
	3.R300 49.9--->100 ohm ,C158 Y5V--->X7R for USB	
	4.DC20 0.01u--->1nf FOR CPU PSI ISSUE	
97/08/07 EBOM:20A	1.CPU 改爲SMART FAN	
	2.L4,L7 CHOKE Footprint Change "CHOKE1U2-20A-1PQN"	
	3.獨立南橋1.1V 的電壓	
	4. ADD GPIO37 FOR LOAD LINE CALIBRATION	
	5.J368 改爲1.8V;R209=100 OHM, ADD R640 FOR MB_ID2	
97/08/08 EBOM:30A	1.J368 改爲1.8V;47--->44.2	
	2.TO252---改爲POWER PACK	
97/08/26 EBOM:10A	1.DDR2換成DDR3 2.換NB /SB HEAT SINK	
97/10/15 PBOM:10B	1.CHANGE SB HEAT SINK FOR DDR3專用 2.R414 102K-->105K;R384 1.27k---->1.3k for 電壓調整	
	3. FDD改爲白色	
98/02/20 PBOM:10C	1.100UF 統一料號	
98/05/18 PBOM:10D	1.Backup bios R56 pull-high 1k--->330 ohm; 移除SST BIOS	
98/06/16 PBOM:10E	1.藍、白 DIMM slot;白色IDE	

Circuit or PCB layout change for next version

DATE	Change Item	Reason
97/04/01 PCB:0.1	1.P43-DS3L	
97/04/23 PCB:1.0	1. CE3位置請移至EC24左邊	
	2. 增加 upi6262 VCC Power (R620,R621,Q107)	
	3. 增加R622,R623 FOR DDR18V_OV3	
97/07/23 PCB:2.0	1.由1.0 修改,直接改成2.0	
	2.PCIEX16 和PCIEX1_2對調位置	
	3. DDR2_1~DDR2_4往左移,盡量讓MCH的位置在DDR SLOT中間	
	4.ADD CPU SMART FAN CONTROL	
97/07/23 PCB:3.0	1.由2.0 修改	
	2. cpu Vcore MOS TO252改爲POWER PACK	
97/08/26 PCB:1.0	1.由EP45-UD3L-1.0修改;DDR2換成DDR3	
97/10/15 PCB:1.01	1.由1.0 修改字面 FOR DDR3 2200+	
98/11/09 PCB:1.1	1.add EUP function,audio co-lay 892(同EP45T-UD3LR SHARE PCB)	

Gigabyte Technology		
Title: BOM & PCB MODIFY HISTORY		
Size: Custom	Document Number: EP43T-USB3	Rev: 1.0
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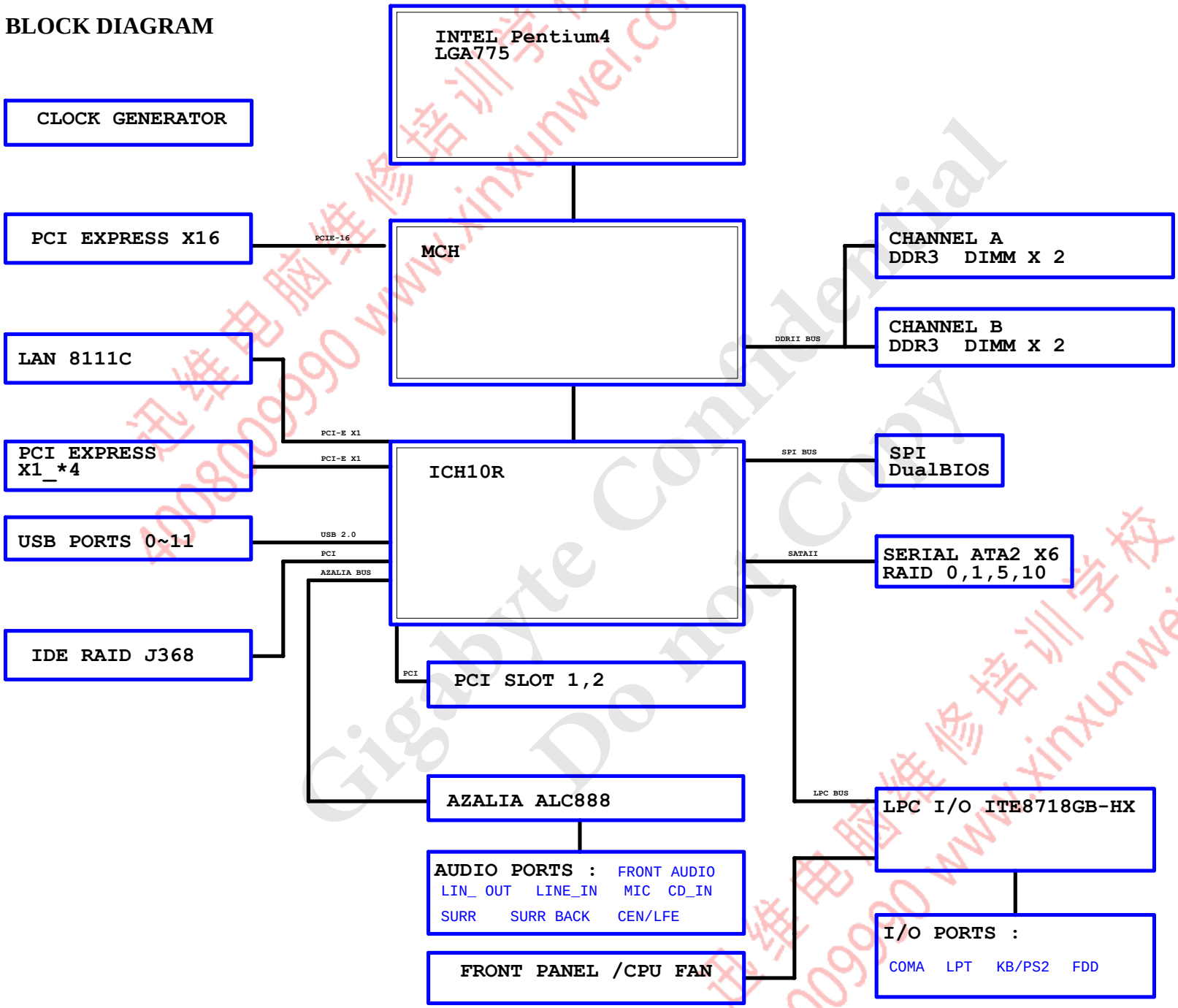
BLOCK DIAGRAM



Gigabyte Technology

Title: BLOCK DIAGRAM

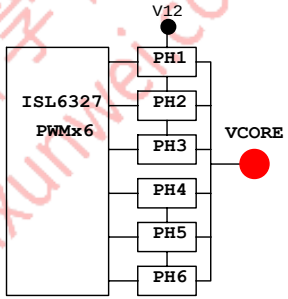
Size: Custom | Document Number: EP43T-USB3 | Rev: 1.0

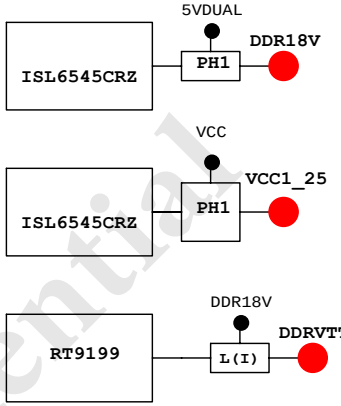
Date: Tuesday, December 29, 2009 | Sheet 3 of 36

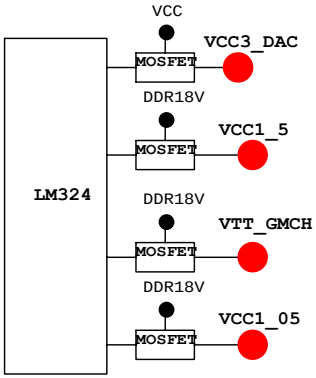
ICH8 GPIO LIST TABLE

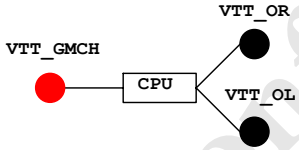
PIN NAME	PWR WELL	AFTER/ PLTRST	USAGE	NOTE
GP0	MAIN	IN	-ACZ_DET	P/U 8.2K VCC3
GP1/TACH1	MAIN	IN	ICH_FAN_TACH1	P/U 8.2K VCC3
GP2/PIRQE#	MAIN	IN	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN	IN	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN	IN	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN	IN	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN	IN	ICH_FAN_TACH2	P/U 8.2K VCC3
GP7/TACH3	MAIN	IN	ICH_FAN_TACH3	P/U 8.2K VCC3
GP8	STBY	IN	GPIO8(DUALBIOS_INPUT)	P/U 8.2K 3VDUAL
GP9	STBY	OUT	WOL_ONLY	P/D 100K GND
GP10	STBY	IN	CLGPIO1	P/U 8.2K 3VDUAL
GP11/SMBALERT#	STBY	OUT	-SMBALRT	P/U 8.2K 3VDUAL
GP12	STBY	IN	MB_ID0	P/U 8.2K 3VDUAL
GP13	STBY	IN	-LPCPME	P/U 8.2K 3VDUAL
GP14	STBY	IN	CLGPIO2	P/U 8.2K 3VDUAL
GP15	STBY	OUT	LAN_DISABLE(STP_PCI-)	N/A
GP16	MAIN	OUT/LOW	RESET	N/A
GP17/TACH0	MAIN	IN	ICH_FAN_TACH0	P/U 8.2K VCC3
GP18	MAIN	OUT	MB_ID1	P/U 8.2K VCC3
GP19	MAIN	IN	SATA1GP	P/U 8.2K VCC3
GP20	MAIN	OUT	-SPI_WP0	P/U 1K 3VCL
GP21	MAIN	IN	SATA0GP	P/U 8.2K VCC3
GP22	MAIN	IN	SCLOCK	P/U 8.2K VCC3
GP23	MAIN	OUT	-LDRQ1	P/U 8.2K VCC3
GP24	STBY	OUT	CLGPIO0	P/U 8.2K 3VDUAL
GP25	STBY	IN	MB_ID2(STP_CPU-)	P/U 8.2K 3VDUAL
GP26/S4_STATE#	STBY	OUT	S4_STATE#	P/U 8.2K 3VDUAL
GP27	STBY	OUT/LOW	GPIO27(EL_STATE0)	P/U 8.2K 3VDUAL
GP28	STBY	OUT/LOW	PWR_LED(EL_STATE1)	N/A
GP29/OC5#	STBY	IN	-USBOC_R	P/U FUSEVCC
GP30/OC6#	STBY	IN	-USBOC_R	P/U FUSEVCC
GP31/OC7#	STBY	IN	-USBOC_R	P/U FUSEVCC
GP32	MAIN	OUT	DUAL_BIOS	P/U 100K+1M VCC3
GP33	MAIN	OUT	DUAL_BIOS	P/U 8.2K VCC3
GP34	MAIN	OUT/LOW	GPIO34/SMB_RST	N/A
GP35	MAIN	OUT	SATACLKREQ#	N/A
GP36	MAIN	IN	SATA2GP	P/U 8.2K VCC3
GP37	MAIN	IN	SATA3GP	P/U 8.2K VCC3
GP38	MAIN	IN	SLOAD	P/U 8.2K VCC3
GP39	MAIN	IN	GPIO39	P/D 8.2K GND
GP48	MAIN	IN	GPIO48	P/U 8.2K VCC3
GP49	MAIN	IN	CPUPWROK	P/U 100 VTT_OL

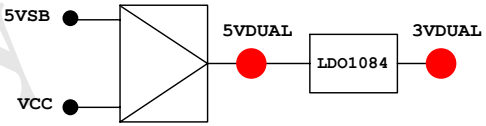
VCORE:6 PHASE PWM--ISL6327CRZ











Gigabyte Technology			
Title: TABLE LIST			
Size: B	Document Number: EP43T-USB3		Rev: 1.0
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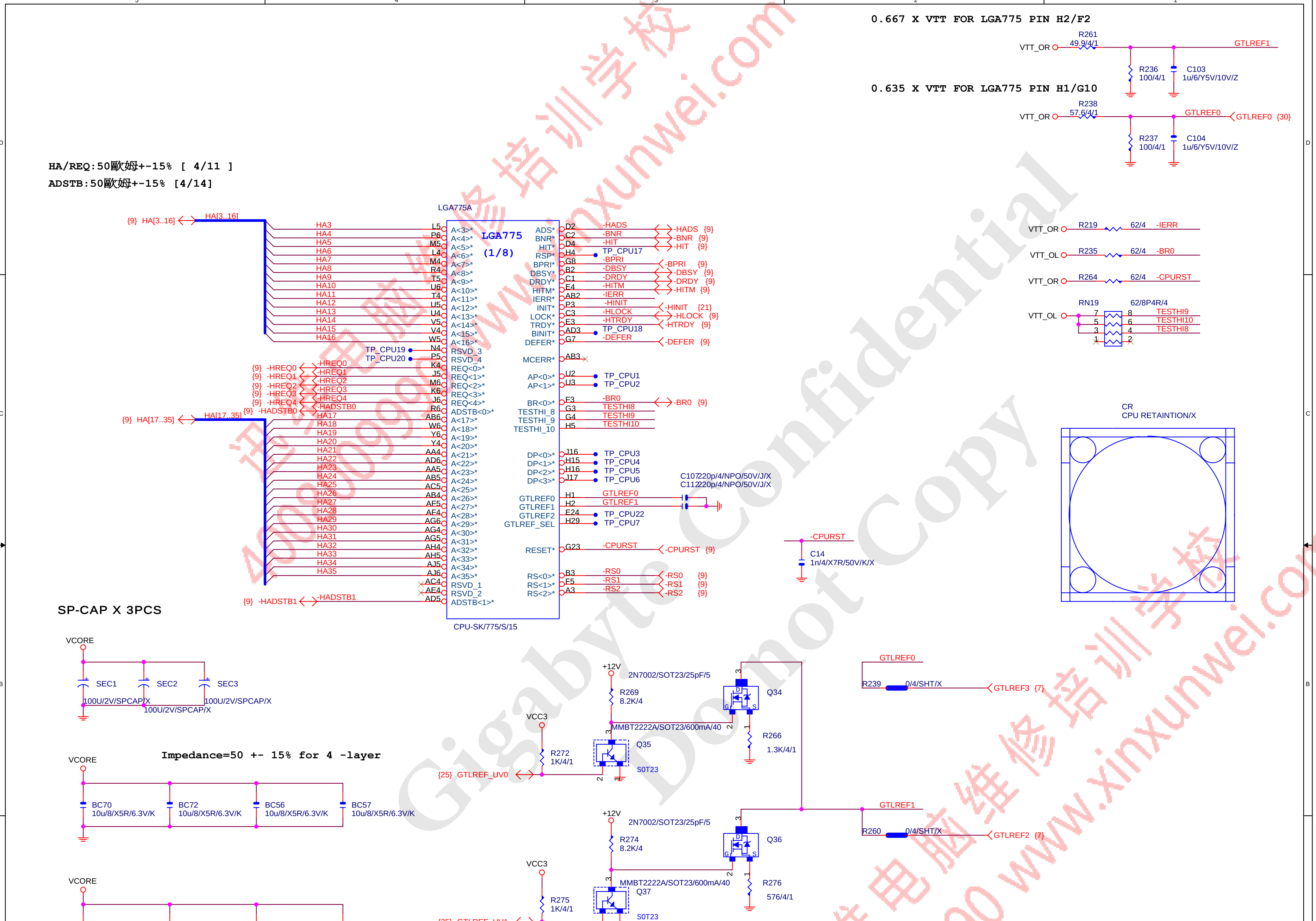


CPU GTLREF RATIO

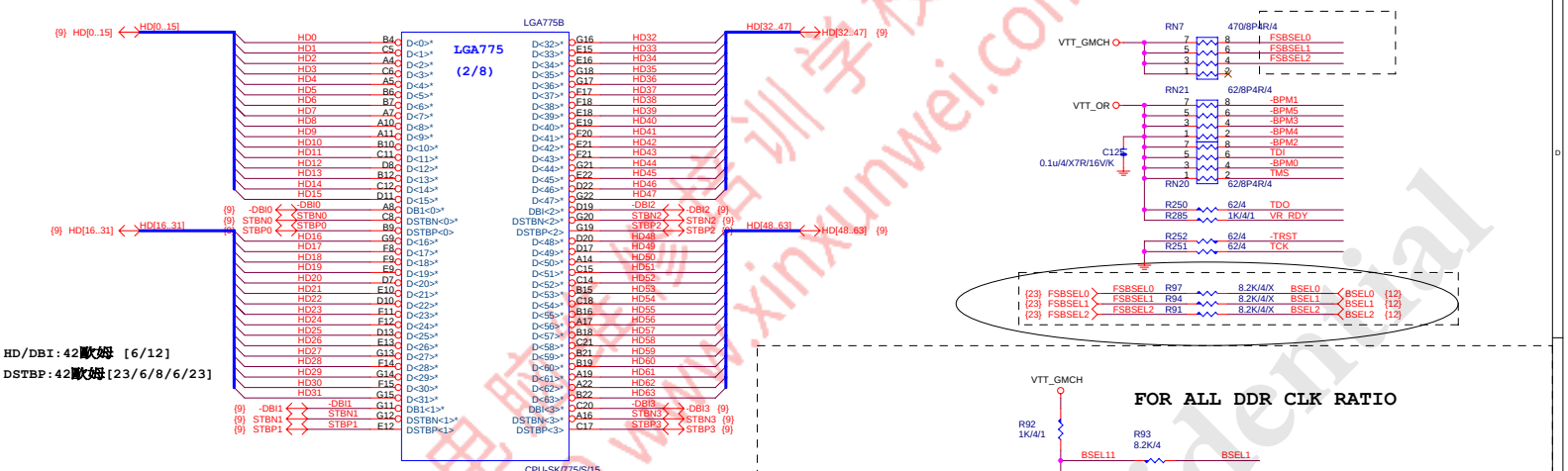
GTLREF_UV0	GTLREF_UV1	Ratio Set
HIGH	HIGH	0.67
LOW	HIGH	0.65
HIGH	LOW	0.63
LOW	LOW	0.615

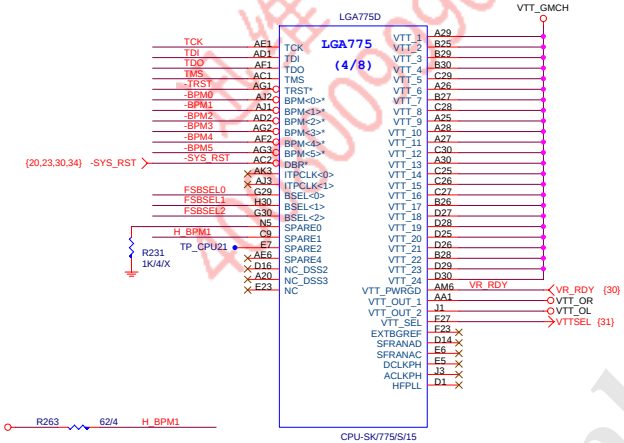
Gigabyte Technology

Title: P4_LGA775-A

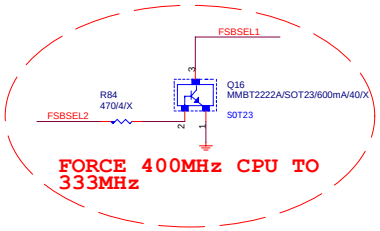
Size: Custom | Document Number: EP43T-USB3 | Rev: 1.0

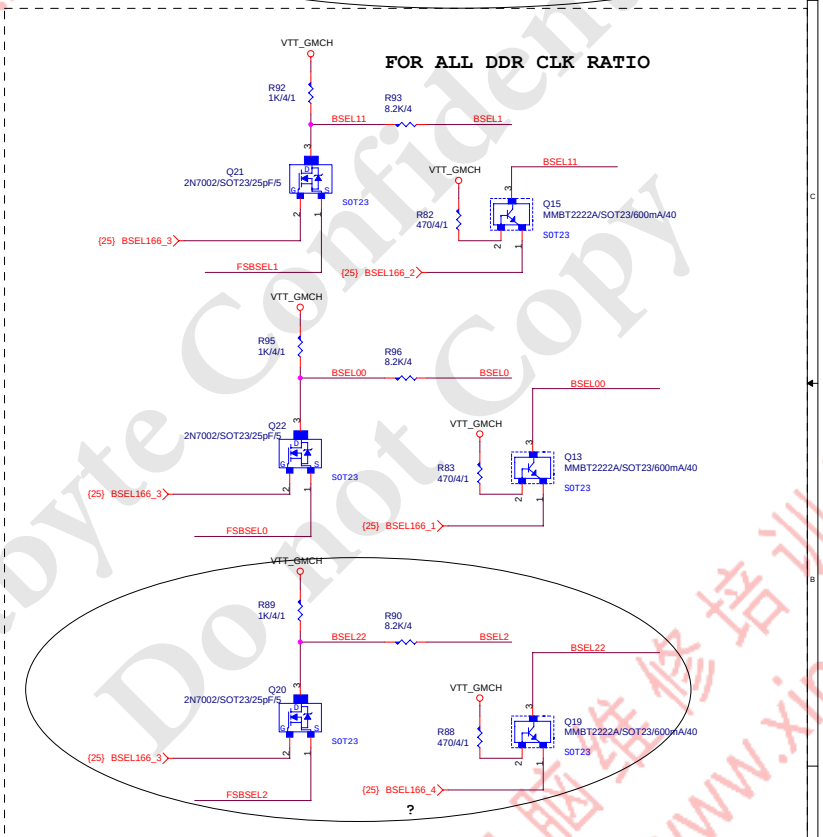
Date: Tuesday, December 29, 2009 | Sheet 5 of 36





4X Length Guidelines for Quad core processors
Signal Name ATX Layer Pin to Pin
D[15:0]#, DBI0#, DSTBP0#, DSTBN0# Layer 1 2.2" - 2.7"
D[31:16]#, DBI1#, DSTBP1#, DSTBN1# Layer 4 3.0" - 3.5
D[47:32]#, DBI2#, DSTBP2#, DSTBN2# Layer 4 3.6" - 4.3
D[63:48]#, DBI3#, DSTBP3#, DSTBN3# Layer 1 2.4" - 3.0



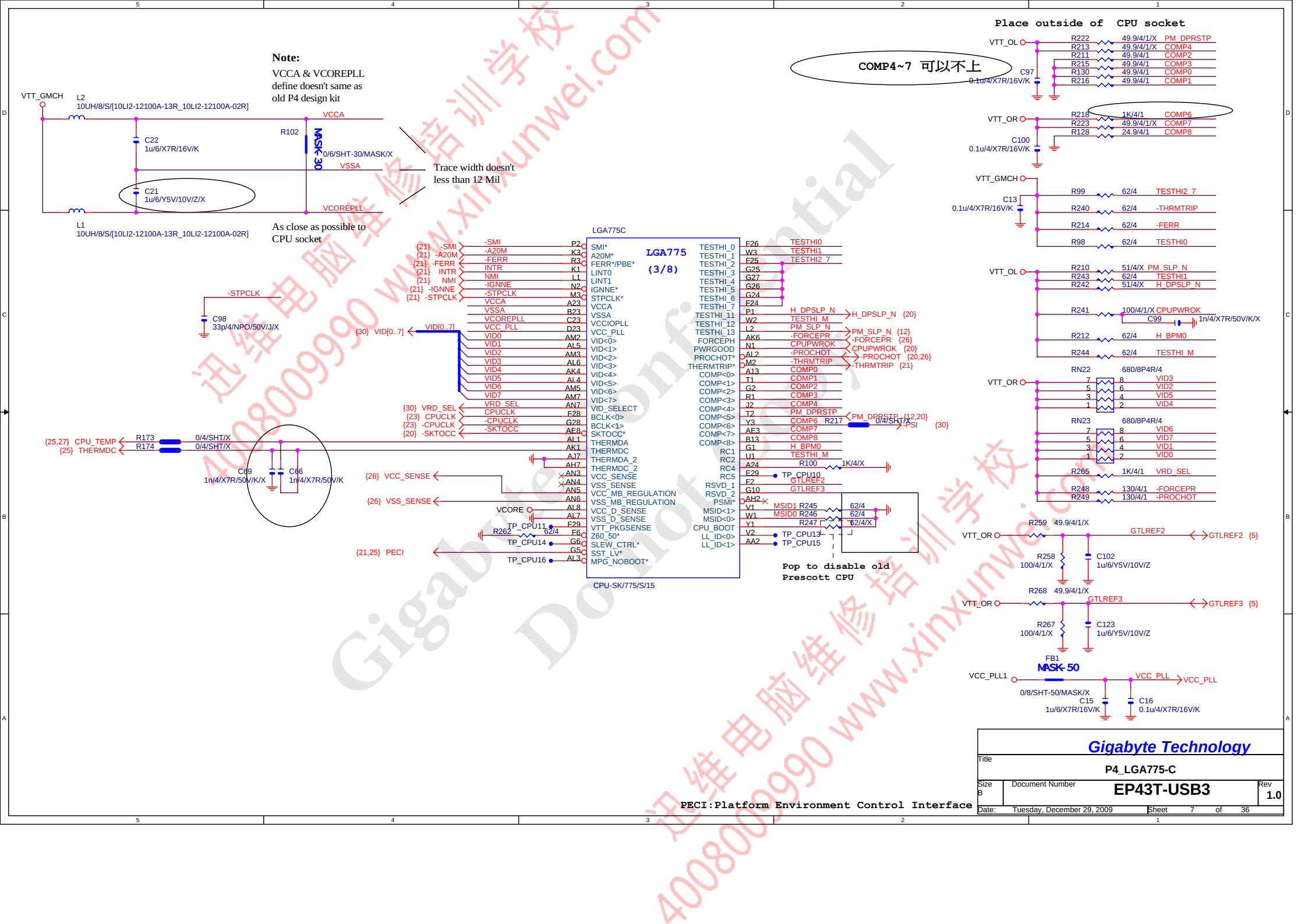


	FSA	FSB	FSC		
	FSBSEL0	FSBSEL1	FSBSEL2	Clock	
?	1	0	1	100MHz	
?	1	0	0	133MHz	3/4
G33	0	1	0	200MHz	2/2.66/3.33/4+
G33	0	0	0	266MHz	2/2.5/3/4~
G33	0	0	1	333MHz	2/2.4/3.2/4#
	0	1	1	400MHz	

400/533
400/533/667/800
533/667/800/1066
667/800/1066/1333

Gigabyte Technology

Title	P4_LGA775-B,D	
Size: Custom	Document Number: EP43T-USB3	Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 6 of 36	


Note:
VCCA & VCOREPLL define doesn't same as old P4 design kit
Trace width doesn't less than 12 Mil
As close as possible to CPU socket
Place outside of CPU socket
COMP4~7 可以不上
LGA775C
LGA775 (3/8)
CPU-SK/775/S/15
Pop to disable old Prescott CPU
PECI:Platform Environment Control Interface
Gigabyte Technology
P4_LGA775-C
EP43T-USB3
Rev 1.0
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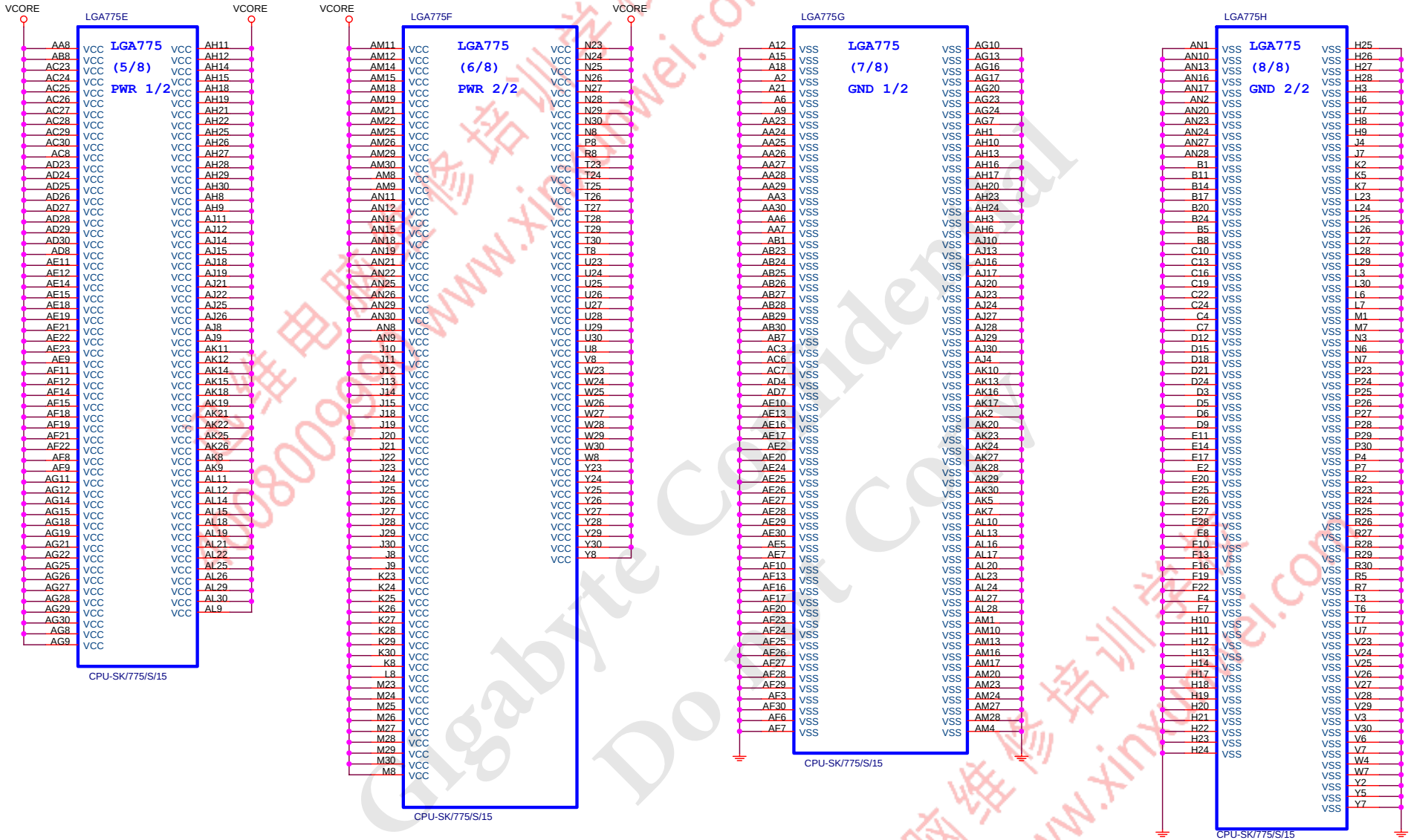
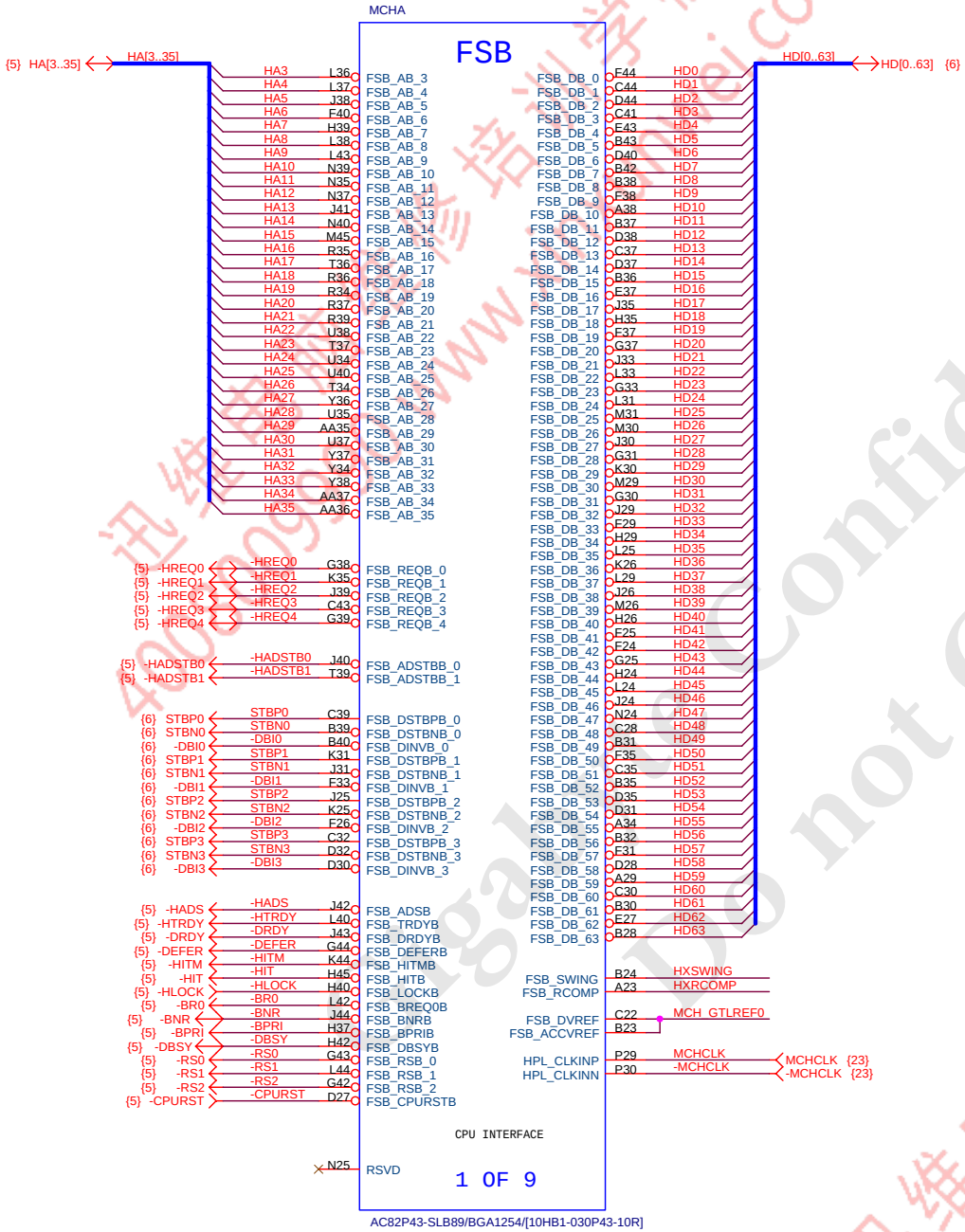
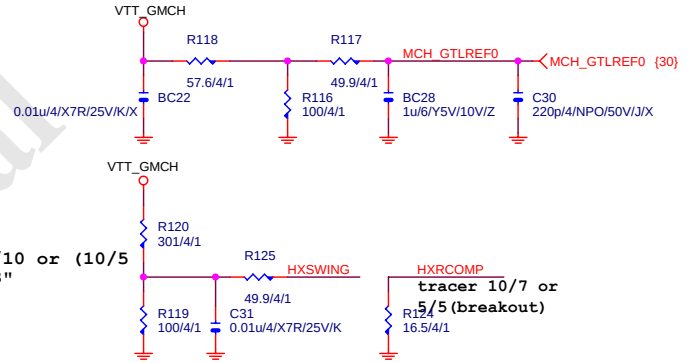
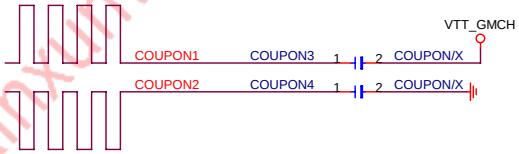
Do not copy
迅维电脑维修培训学校 400800990 www.xinxunwei.com



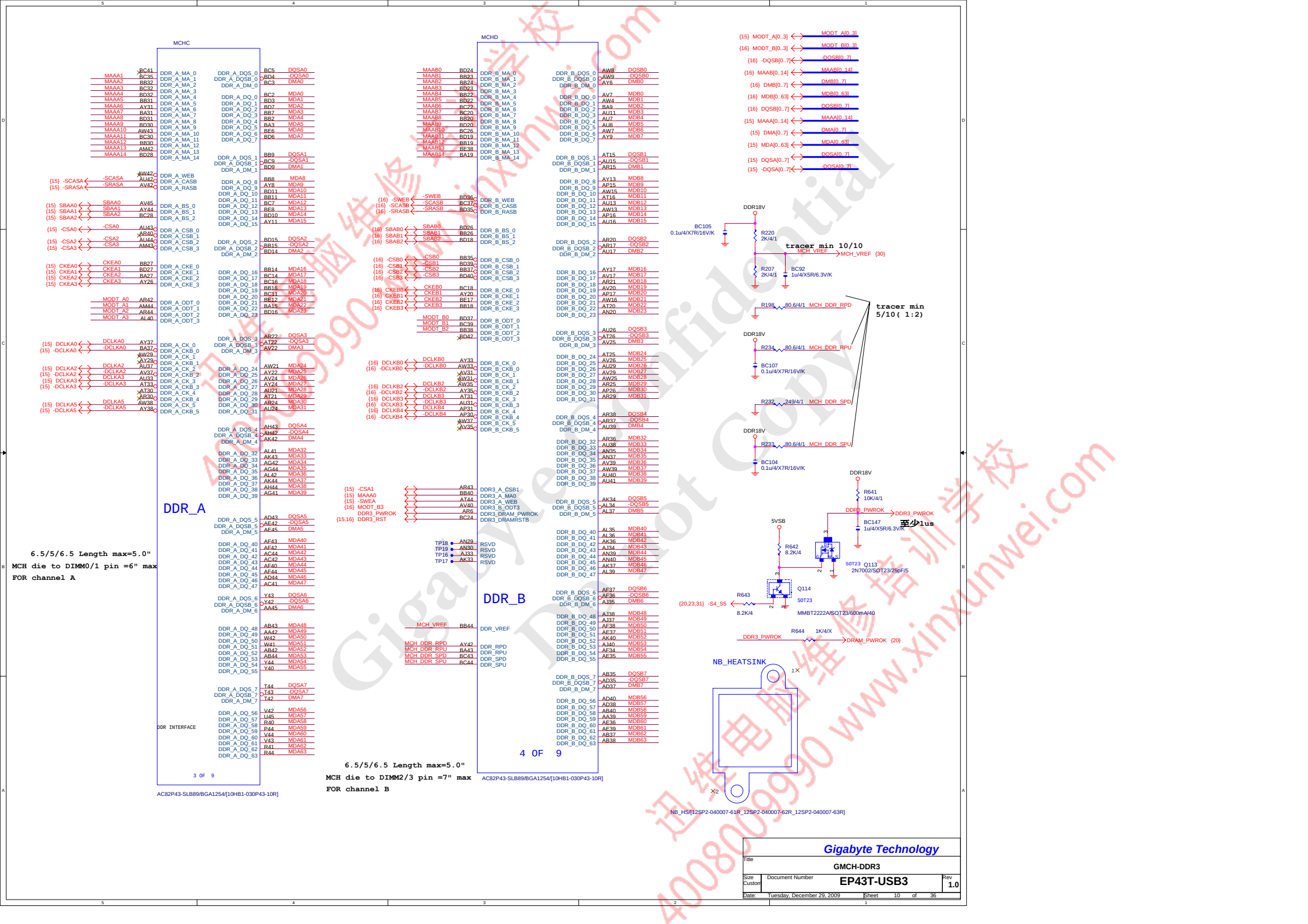
Gigabyte Technology		
Title: P4_LGA775-E,F,G,H		
Size: B	Document Number: EP43T-USB3	Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 8 of 36	







Gigabyte Technology		
Title: GMCH-HOST		
Size: Custom	Document Number: EP43T-USB3	Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 9 of 36	


MCHC
DDR_A
DDR INTERFACE
3 OF 9
AC82P43-SLB89/BGA1254/[10HB1-030P43-10R]
6.5/5/6.5 Length max=5.0"
MCH die to DIMM0/1 pin =6" max
FOR channel A
MCHD
DDR_B
4 OF 9
AC82P43-SLB89/BGA1254/[10HB1-030P43-10R]
6.5/5/6.5 Length max=5.0"
MCH die to DIMM2/3 pin =7" max
FOR channel B
tracer min 10/10
tracer min
5/10(1:2)
NB_HEATSINK
NB_HS/[12SP2-040007-61R_12SP2-040007-62R_12SP2-040007-63R]
Gigabyte Technology
GMCH-DDR3
EP43T-USB3
Tuesday, December 29, 2009
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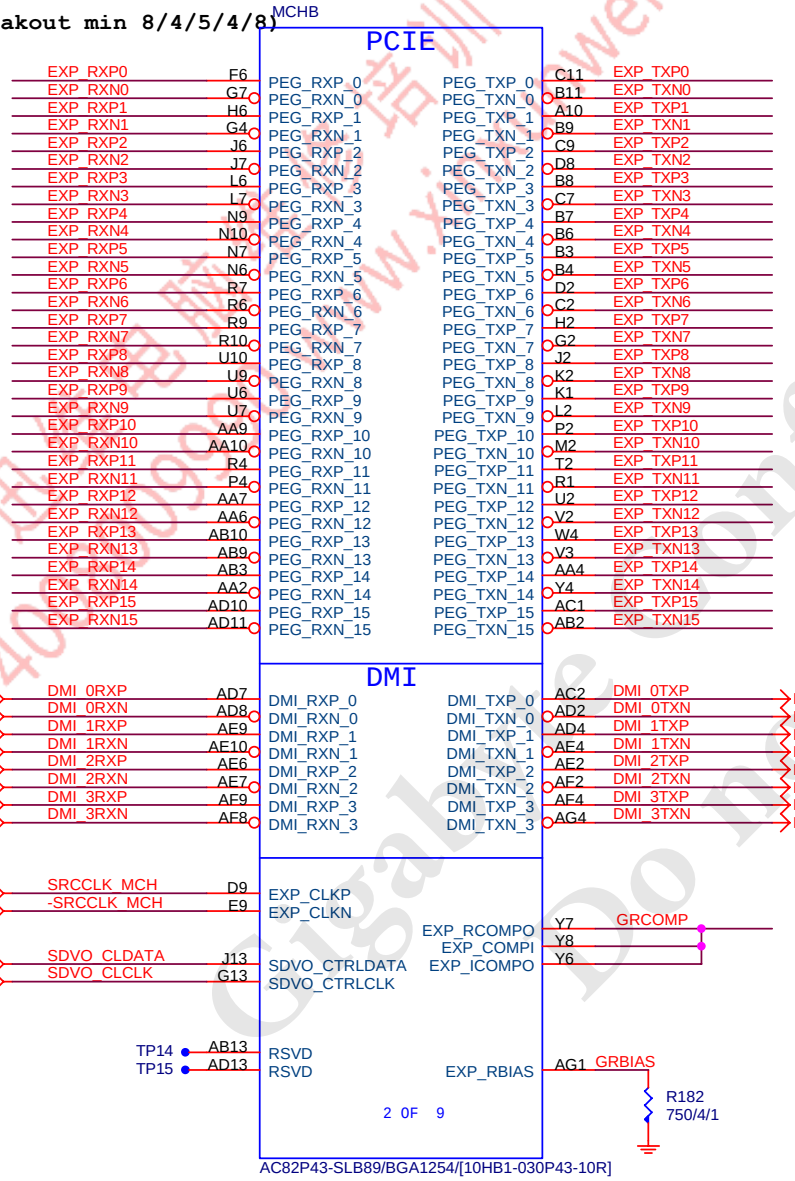
1.0

PCIEX16:16/5/5/5/5/16(breakout min 8/4/5/4/8)

Impedance=85 +- 17.5%



DMI:12/4/8/4/12

Impedance=95 +- 17.5%

EXP_TXP[0..15] → EXP_TXP[0..15] {18}

EXP_TXN[0..15] → EXP_TXN[0..15] {18}

EXP_RXP[0..15] → EXP_RXP[0..15] {18}

EXP_RXN[0..15] → EXP_RXN[0..15] {18}

VCC1_1

BC69 0.1u/4/X7R/16V/K

R165 49.9/4/1 GRCOMP

tracer 10/10

Gigabyte Technology			
Title: GMCH-PCI E & DMI			
Size: Custom	Document Number: EP43T-USB3		Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 11 of 36		

EXP_SM
0:SDVO OR PCIE
1:BOTH SDVO AND PCIE

EXP_SLR:
0:BTX PCIE are reversed
1:ATX PCIE normal

ITPM:
0:ENABLE ITPM
1:DISABLE ITPM

CEN:
0:DISABLE TLS
1:ENABLE TLS

CL_VREF:4/10
0.349V

MCHE

VGA

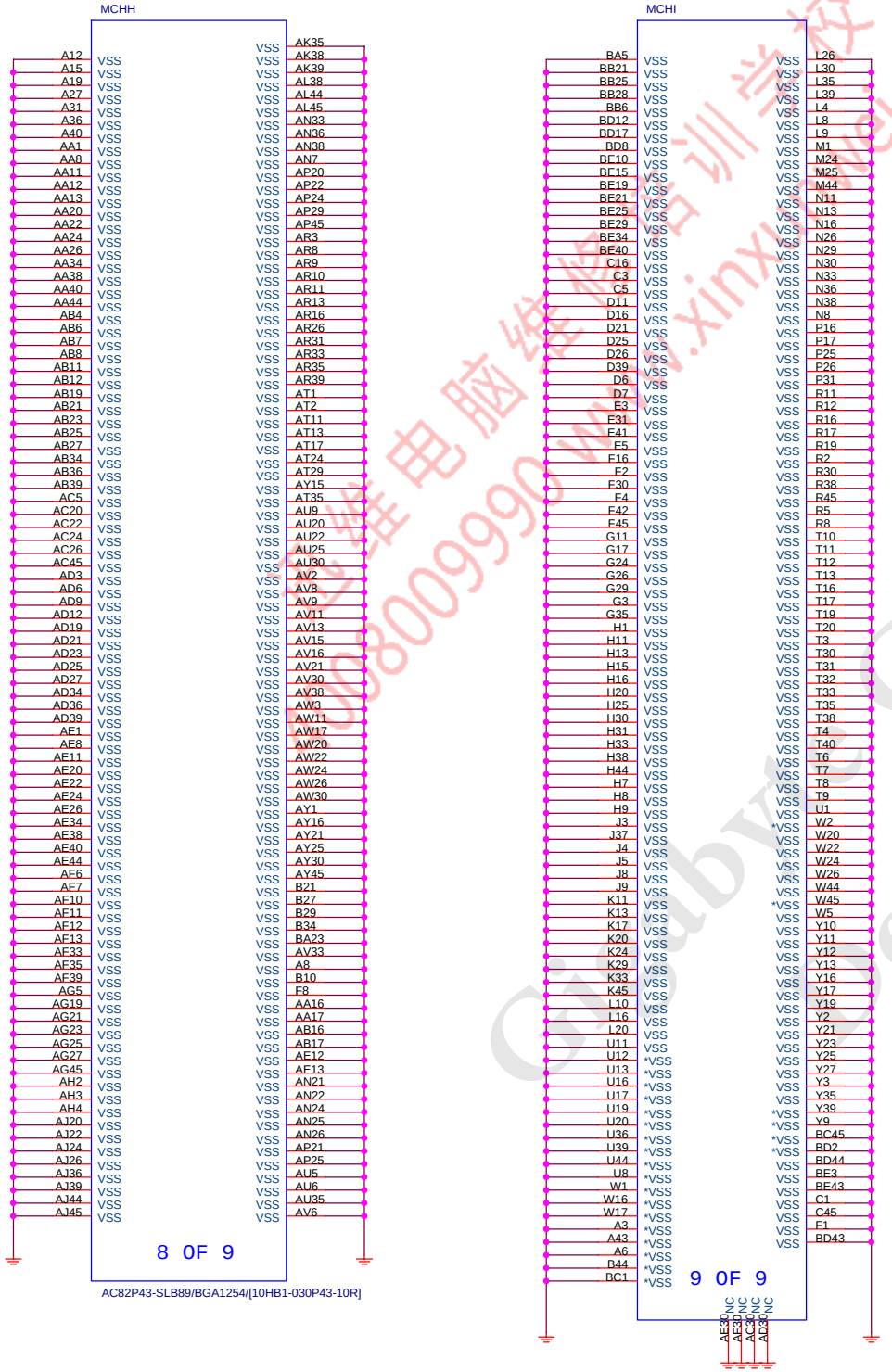
MISC

5 OF 9

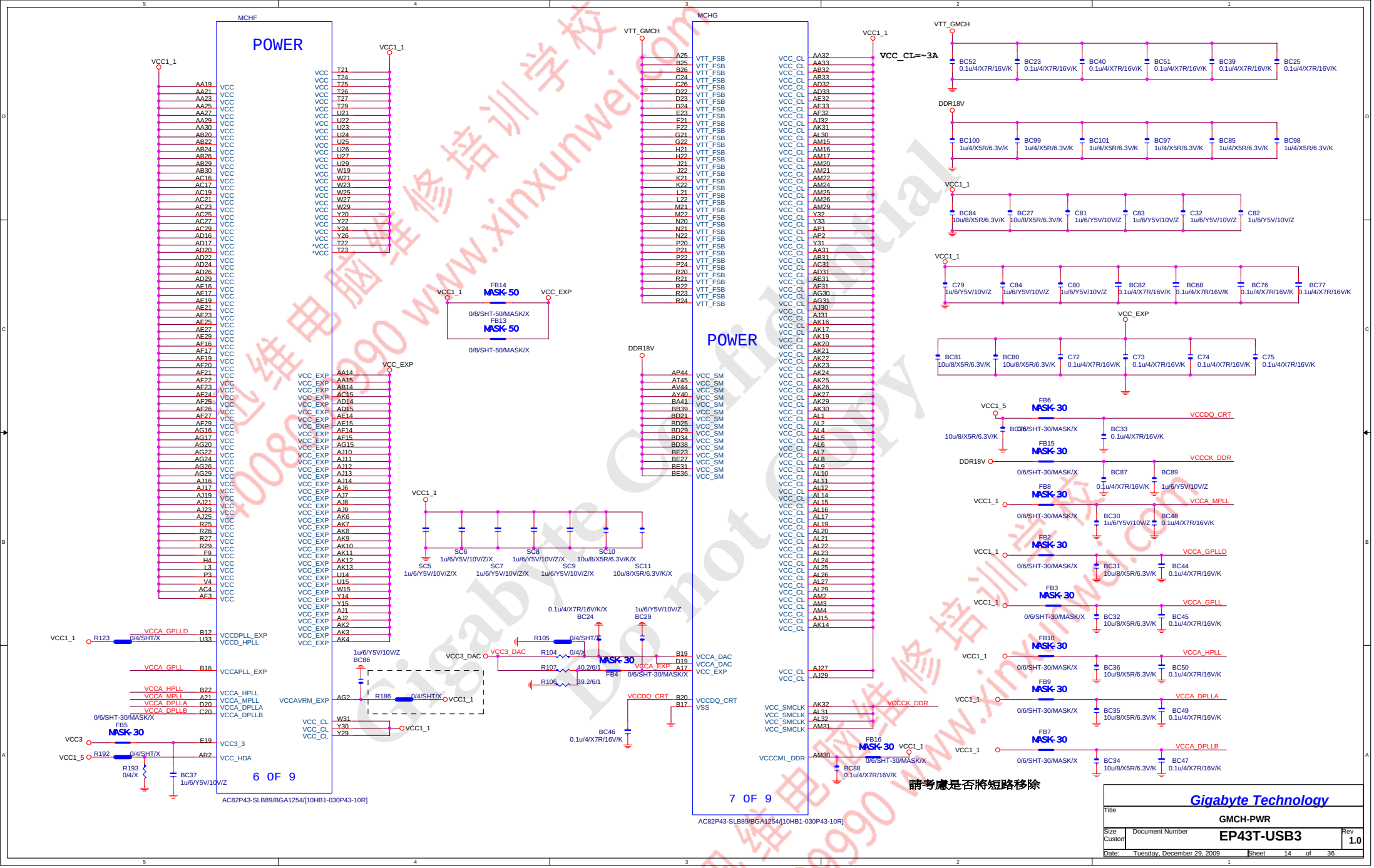
AC82P43-SLB89/BGA1254/[10HB1-030P43-10R]

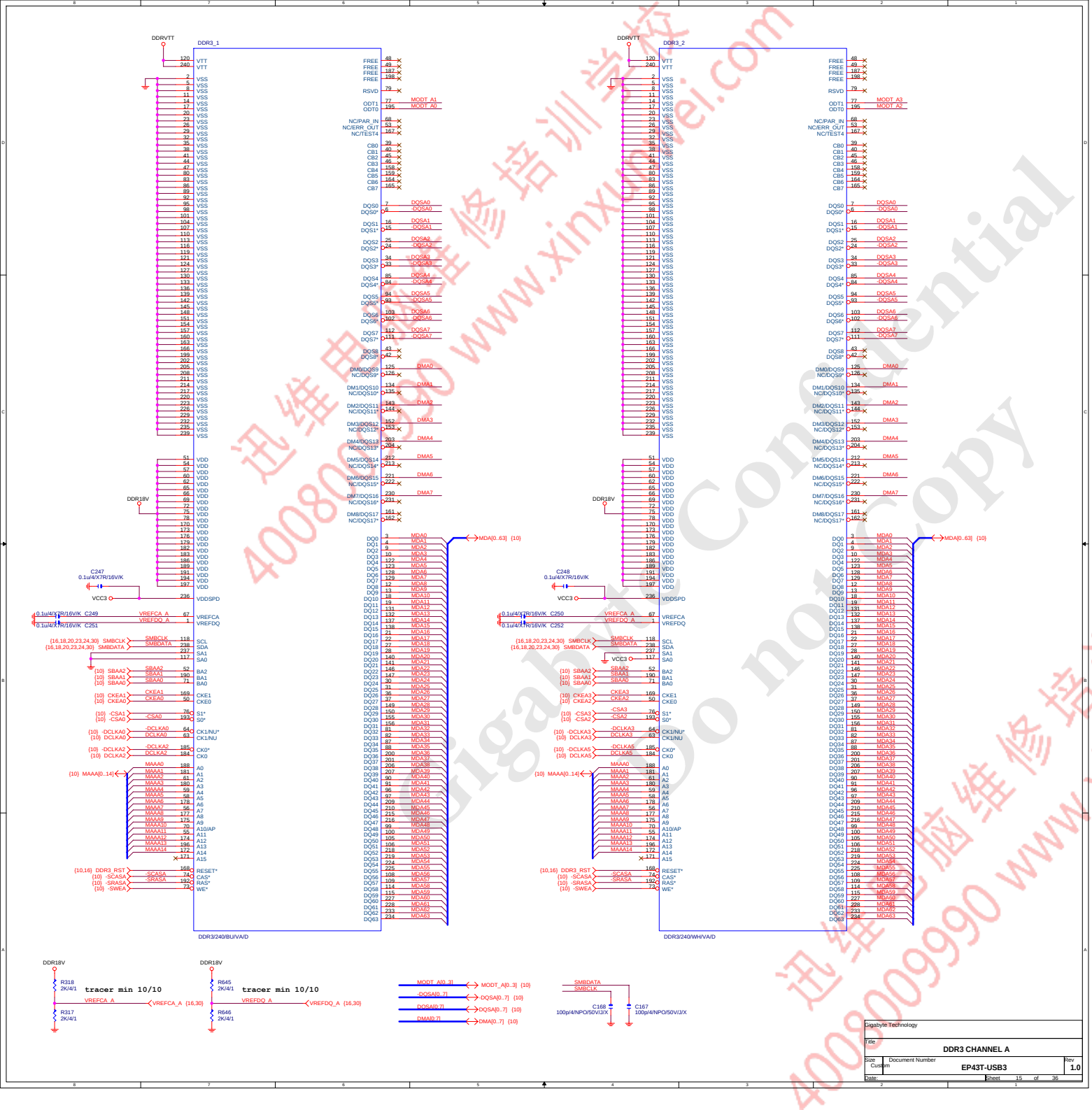
BW+ICH8 不要上(SAMPLE)
BW+ICH7 要上

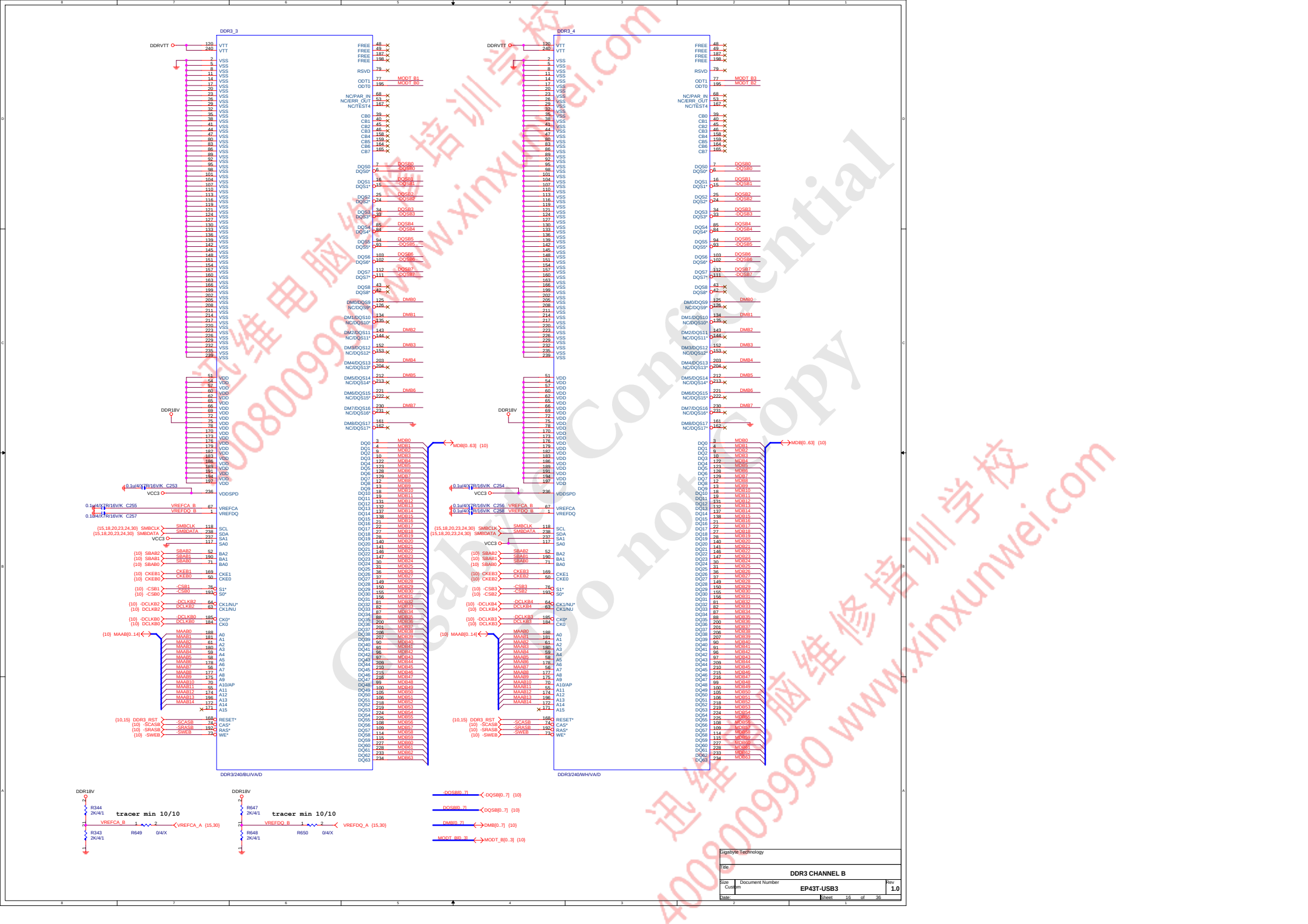
Gigabyte Technology			
Title	GMCH-INTERNAL VGA		
Size: Custom	Document Number: EP43T-USB3		Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 12 of 36		



Gigabyte Technology			
Title: GMCH-GND			
Size: Custom	Document Number: EP43T-USB3		Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 13 of 36		



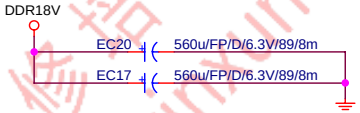

DDR3_1
DDR3_2
DDR3/240/BU/VA/D
DDR3/240/WH/VA/D
DDRVTT
DDR18V
VCC3
C247
C248
C249
C250
C251
C252
R318
R317
R645
R646
tracer min 10/10
VREFCA_A
VREFDQ_A
MDA[0..63] {10}
MODT_A[0..3] {10}
-DQSA[0..7] {10}
DQSA[0..7] {10}
DMA[0..7] {10}
SMBDATA
SMBCLK
C168
C167
100p/4/NPO/50V/J/X
Gigabyte Technology
DDR3 CHANNEL A
EP43T-USB3
Custom
1.0
Sheet 15 of 36

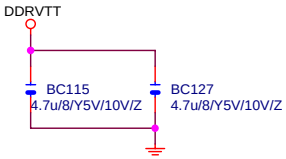


Gigabyte Technology	
Title	DDR3 CHANNEL B
Size: Custom	Document Number: EP43T-USB3
Rev	1.0
Date:	Sheet 16 of 36

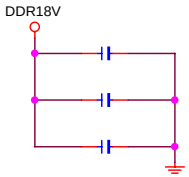
DDR TERMINATION CHANNEL A

DDRVTT Decouple

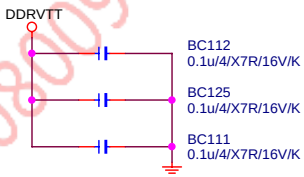


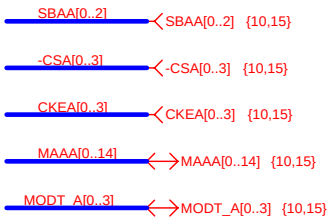


DDR18V Decouple



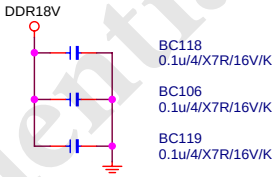
DDRVTT Decouple



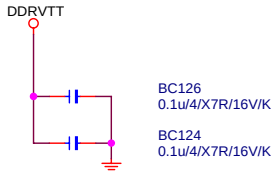


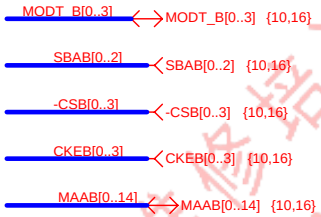
DDR TERMINATION CHANNEL B

DDR18V Decouple

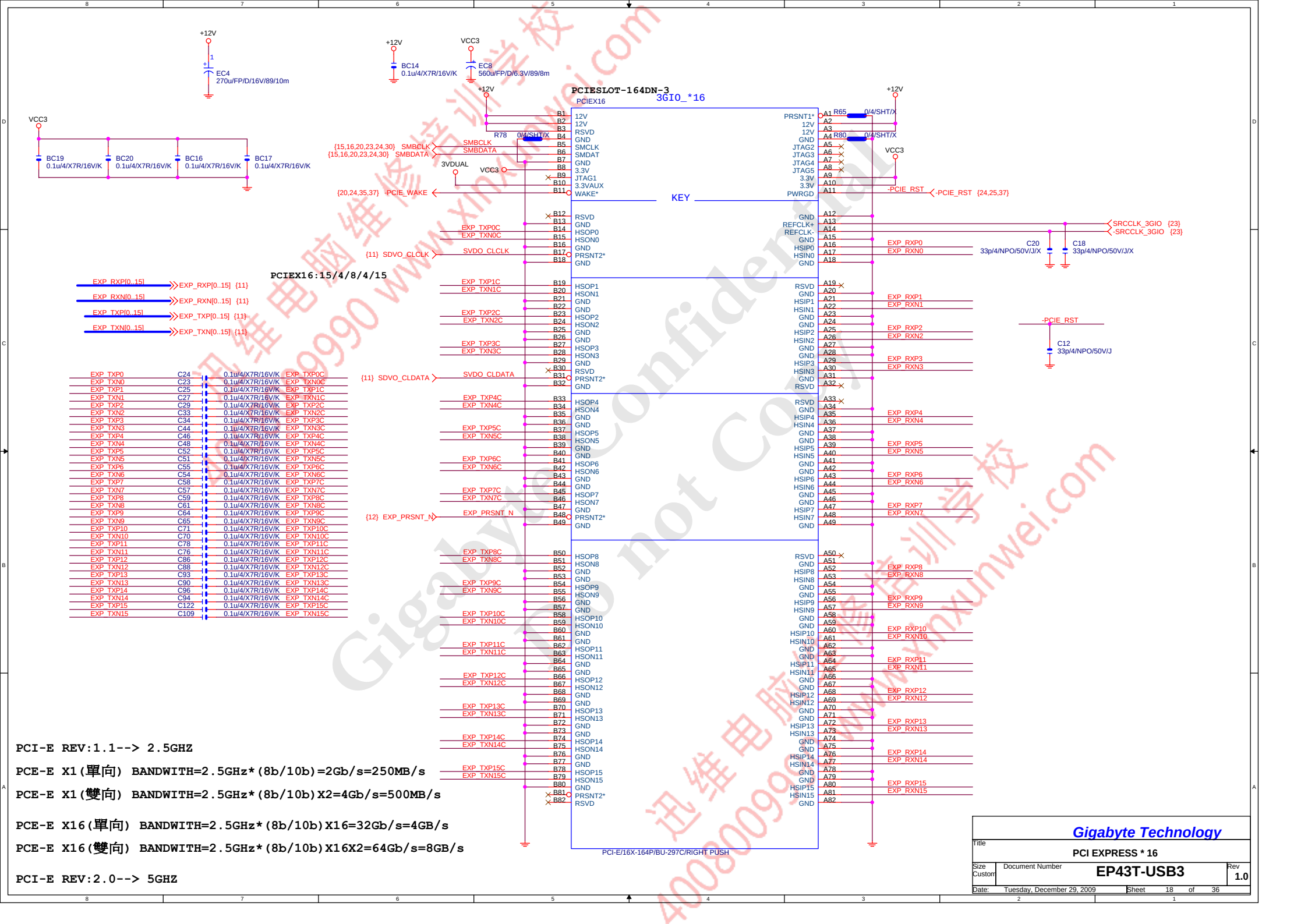


DDRVTT Decouple





Gigabyte Technology		
Title: DDR3 TERMINATOR		
Size: Custom	Document Number: EP43T-USB3	Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 17 of 36	


PCIESLOT-164DN-3
PCIEX16
3GIO_*16
KEY
PCIEX16:15/4/8/4/15
PCI-E/16X-164P/BU-297C/RIGHT PUSH
+12V
VCC3
3VDUAL
EC4 270u/FP/D/16V/89/10m
BC14 0.1u/4/X7R/16V/K
EC8 560u/FP/D/6.3V/89/8m
BC19 0.1u/4/X7R/16V/K
BC20 0.1u/4/X7R/16V/K
BC16 0.1u/4/X7R/16V/K
BC17 0.1u/4/X7R/16V/K
R78 0/4/SHT/X
R65 0/4/SHT/X
R80 0/4/SHT/X
SMBCLK
SMBDATA
-PCIE_WAKE
-PCIE_RST
SVDO_CLCLK
SVDO_CLDATA
EXP_PRSNT_N
EXP_RXP[0..15]
EXP_RXN[0..15]
EXP_TXP[0..15]
EXP_TXN[0..15]
SRCCLK_3GIO
-SRCCLK_3GIO
C20 33p/4/NPO/50V/J/X
C18 33p/4/NPO/50V/J/X
C12 33p/4/NPO/50V/J
PCI-E REV:1.1--> 2.5GHZ
PCE-E X1(單向) BANDWITH=2.5GHz*(8b/10b)=2Gb/s=250MB/s
PCE-E X1(雙向) BANDWITH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s
PCE-E X16(單向) BANDWITH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s
PCE-E X16(雙向) BANDWITH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s
PCI-E REV:2.0--> 5GHZ
Gigabyte Technology
PCI EXPRESS * 16
EP43T-USB3
1.0
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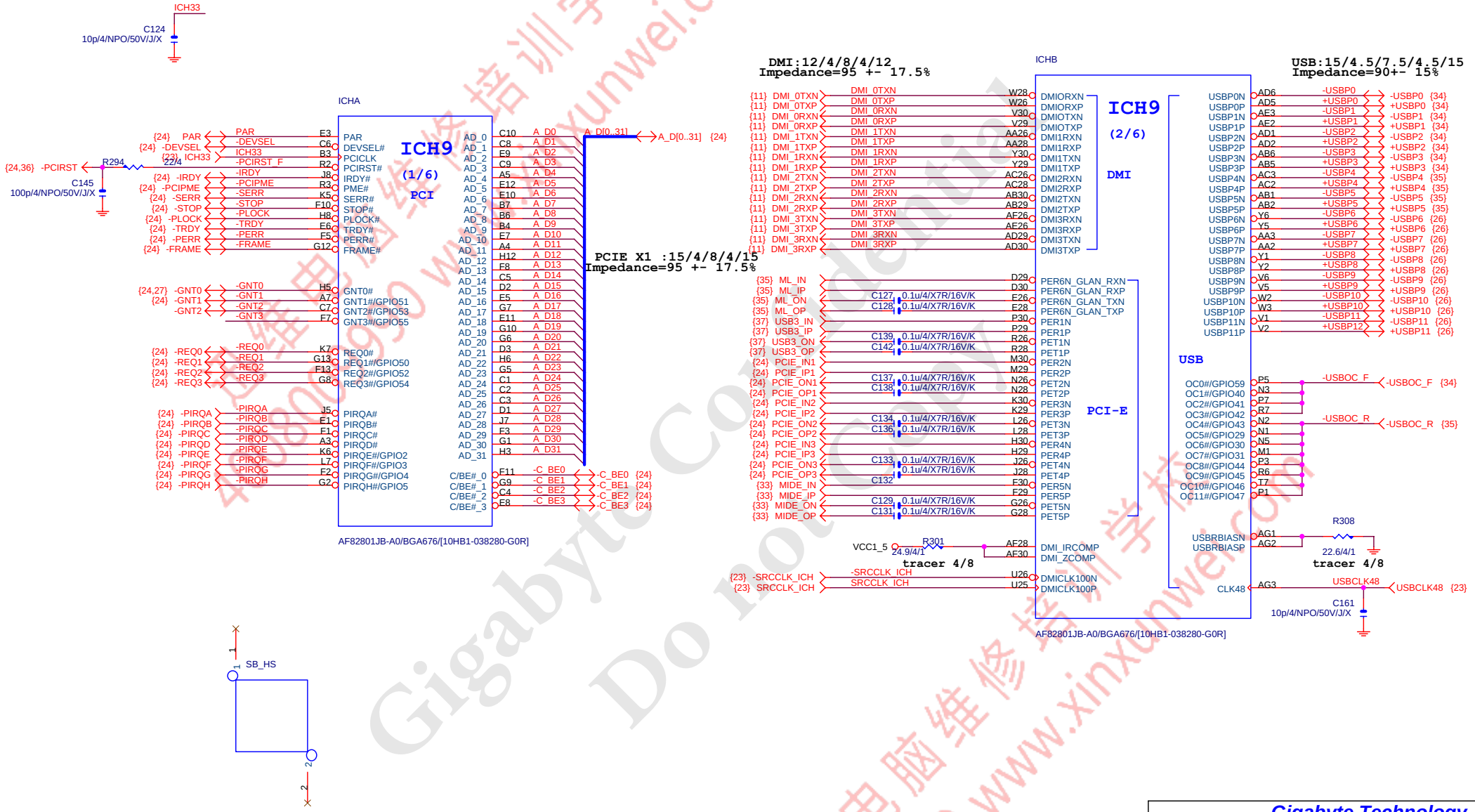
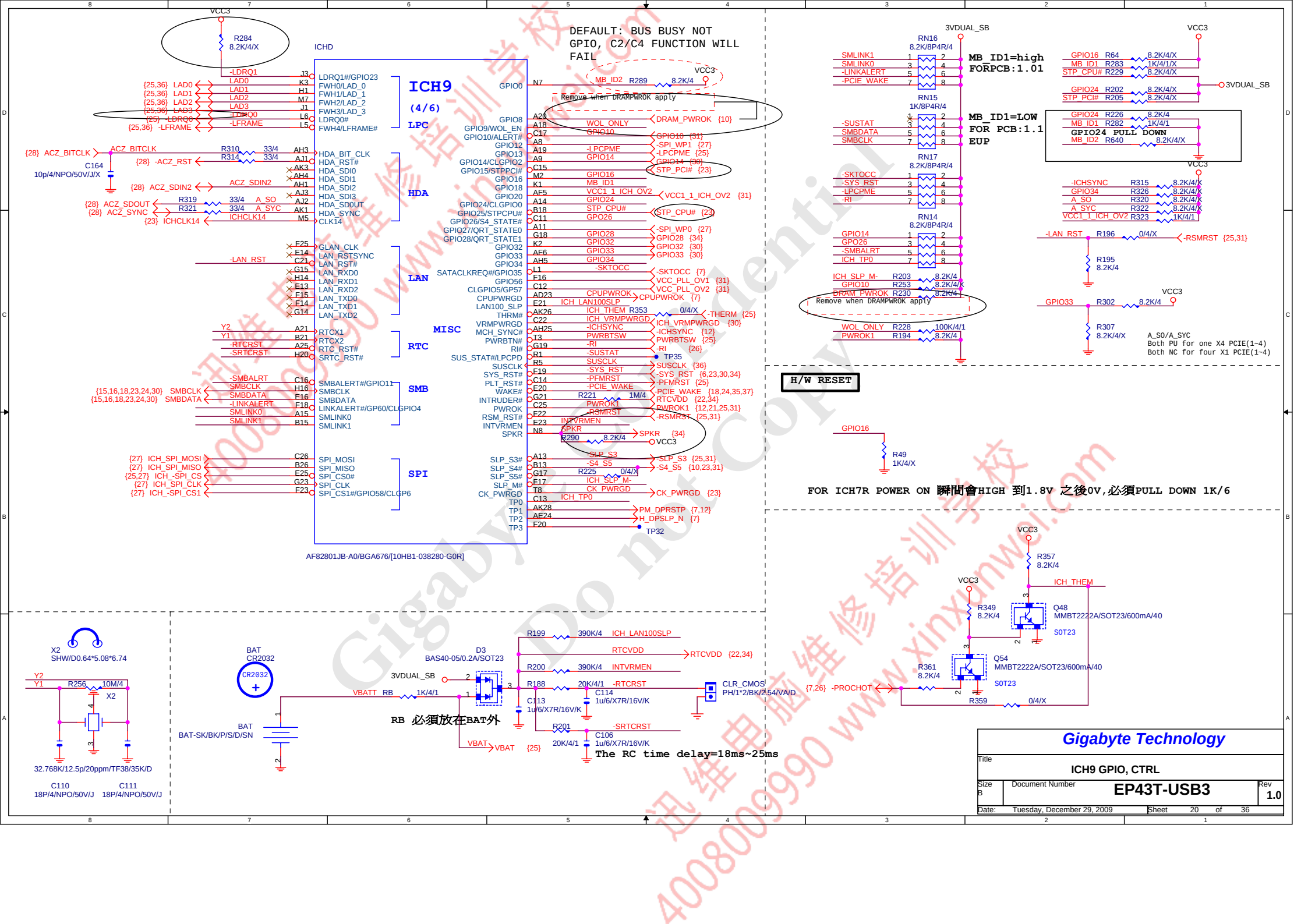
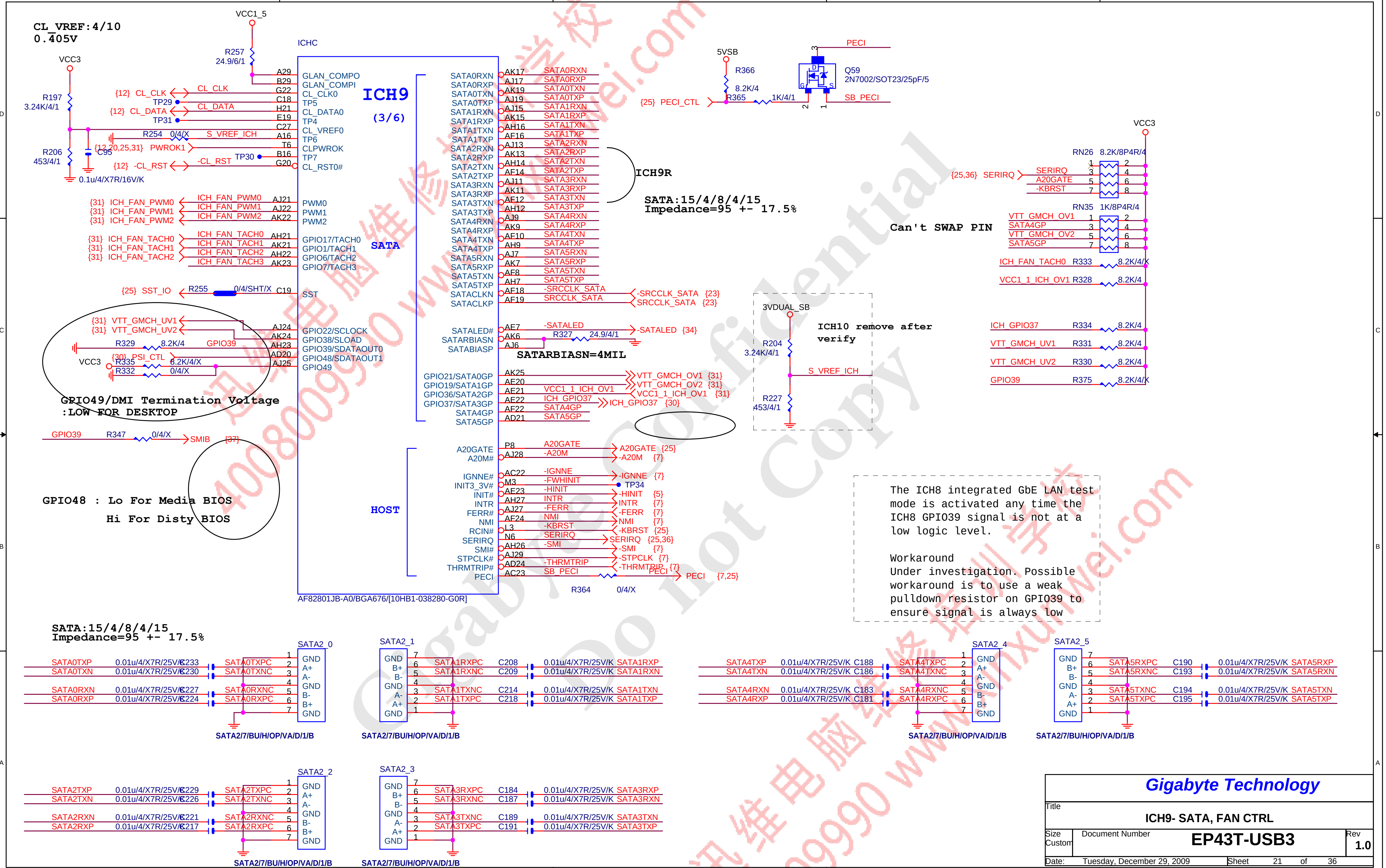
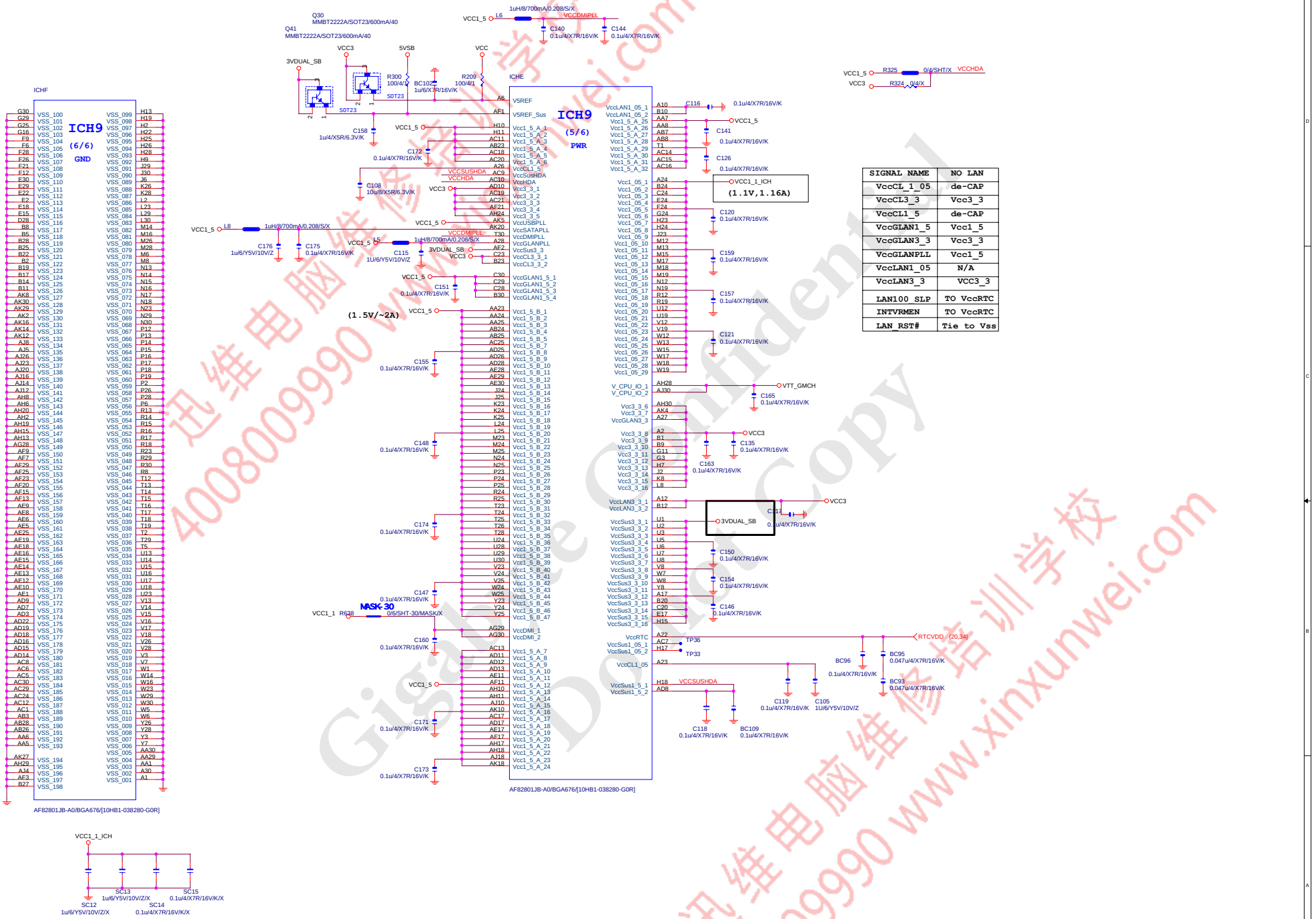


Gigabyte Technology		
Title	ICH9-PCI, DMI, LAN, USB	
Size B	Document Number EP43T-USB3	Rev 1.0
Date: Tuesday, December 29, 2009	Sheet 19 of 36	





Gigabyte Technology		
Title: ICH9- SATA, FAN CTRL		
Size: Custom	Document Number: EP43T-USB3	Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 21 of 36	



Gigabyte Technology	
Title	ICH9-PWR & GND
Size: C	Document Number: EP43T-USB3
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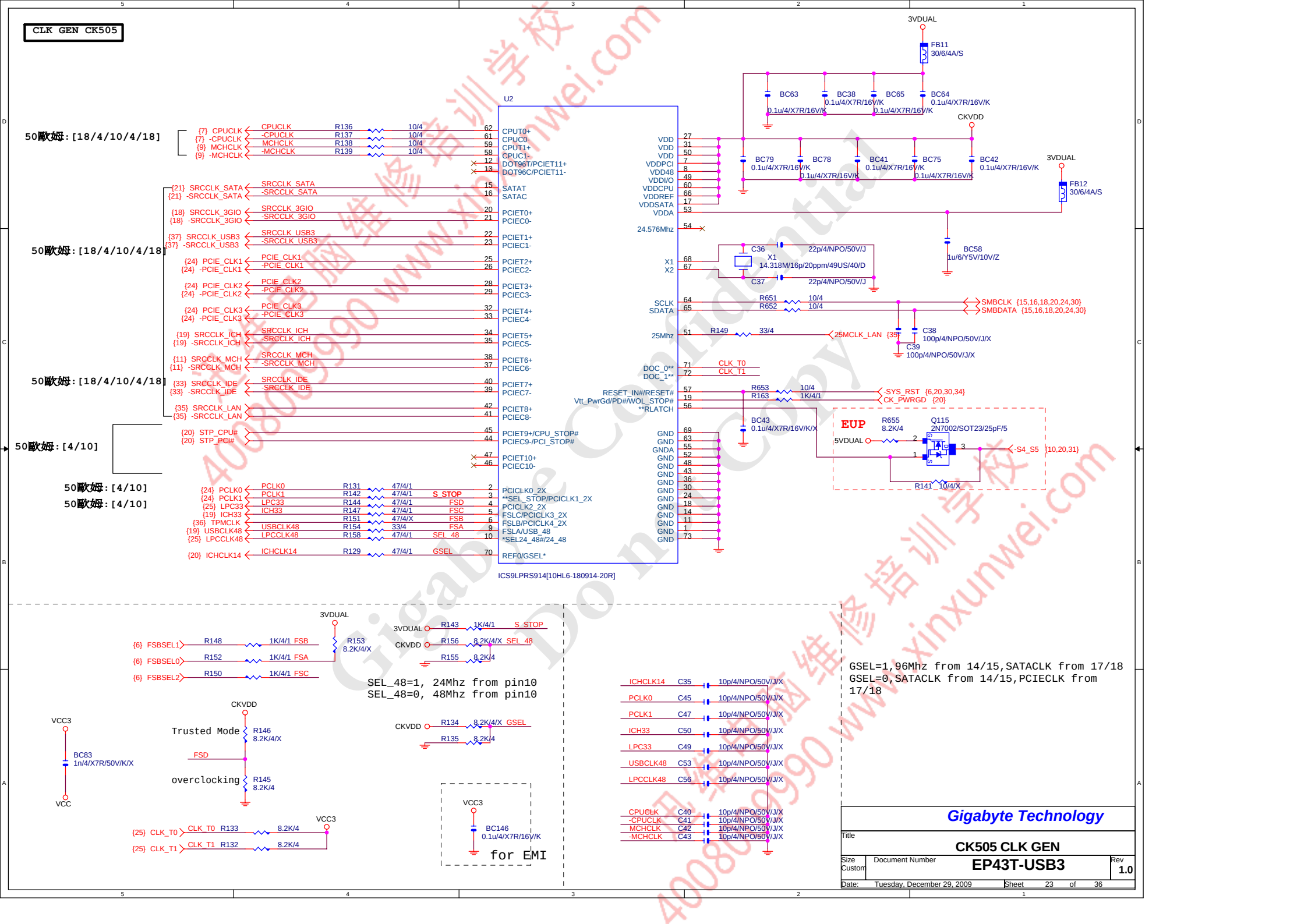
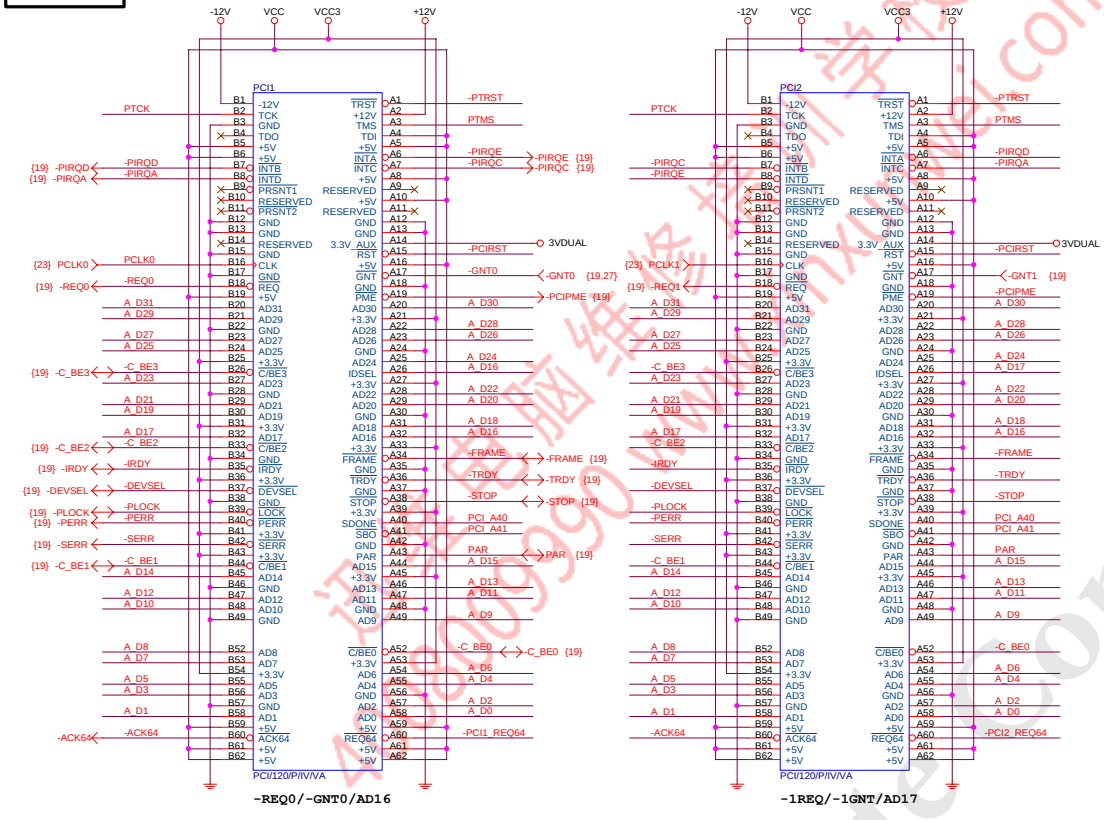
Date: Tuesday, December 29, 2009	Sheet 22 of 36

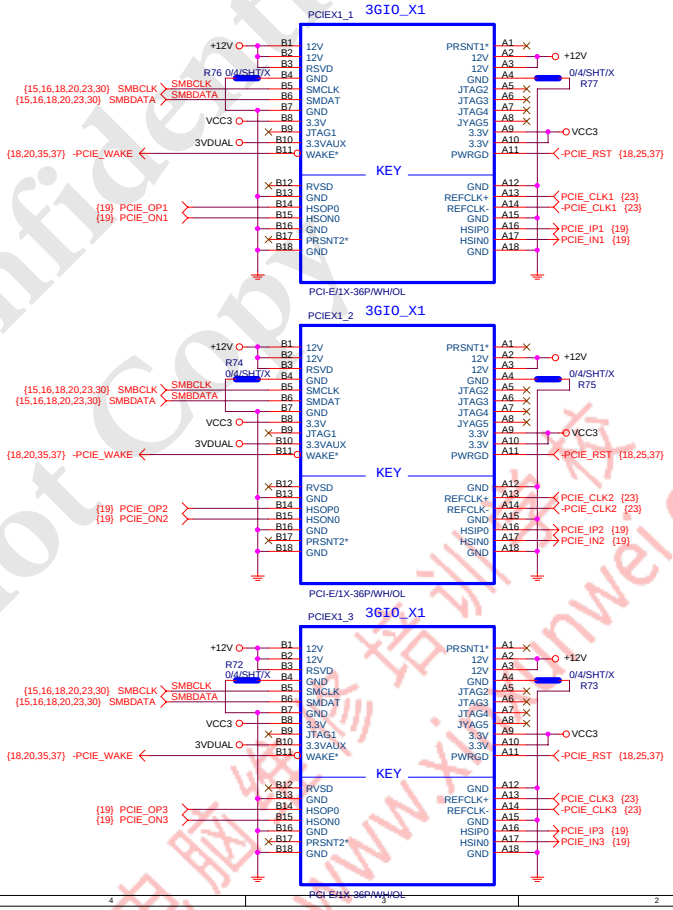
CLK GEN CK505

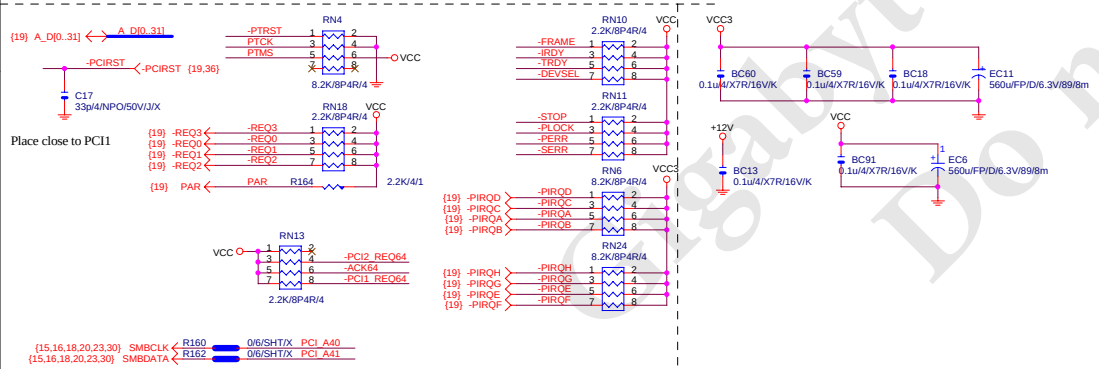


Gigabyte Technology	
Title	CK505 CLK GEN
Size: Custom	Document Number: EP43T-USB3
Rev	1.0
Date: Tuesday, December 29, 2009	Sheet 23 of 36

PCI1,2 SLOT







Gigabyte Technology

Title: PCI SLOT 1, 2/PCIEX1

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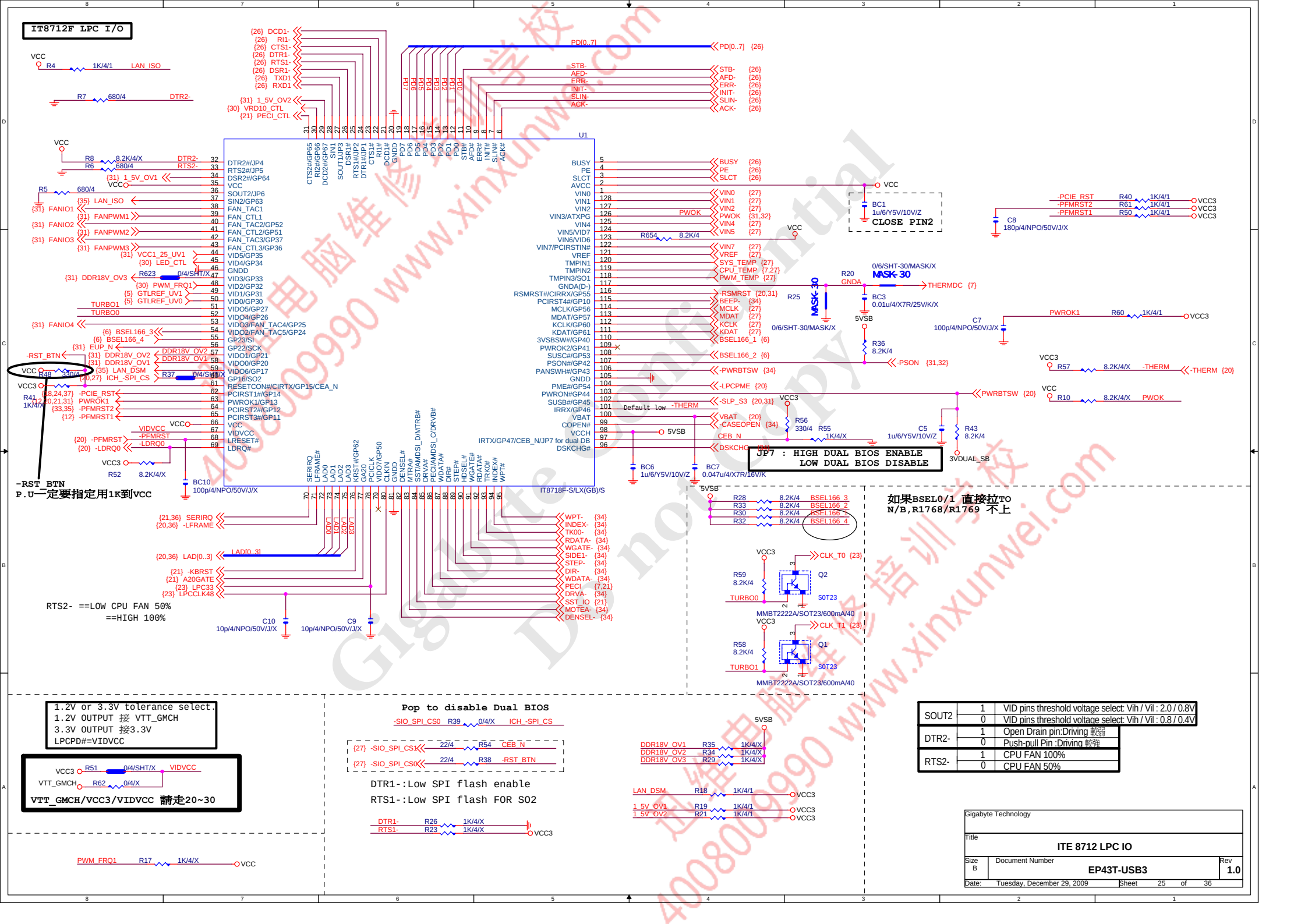
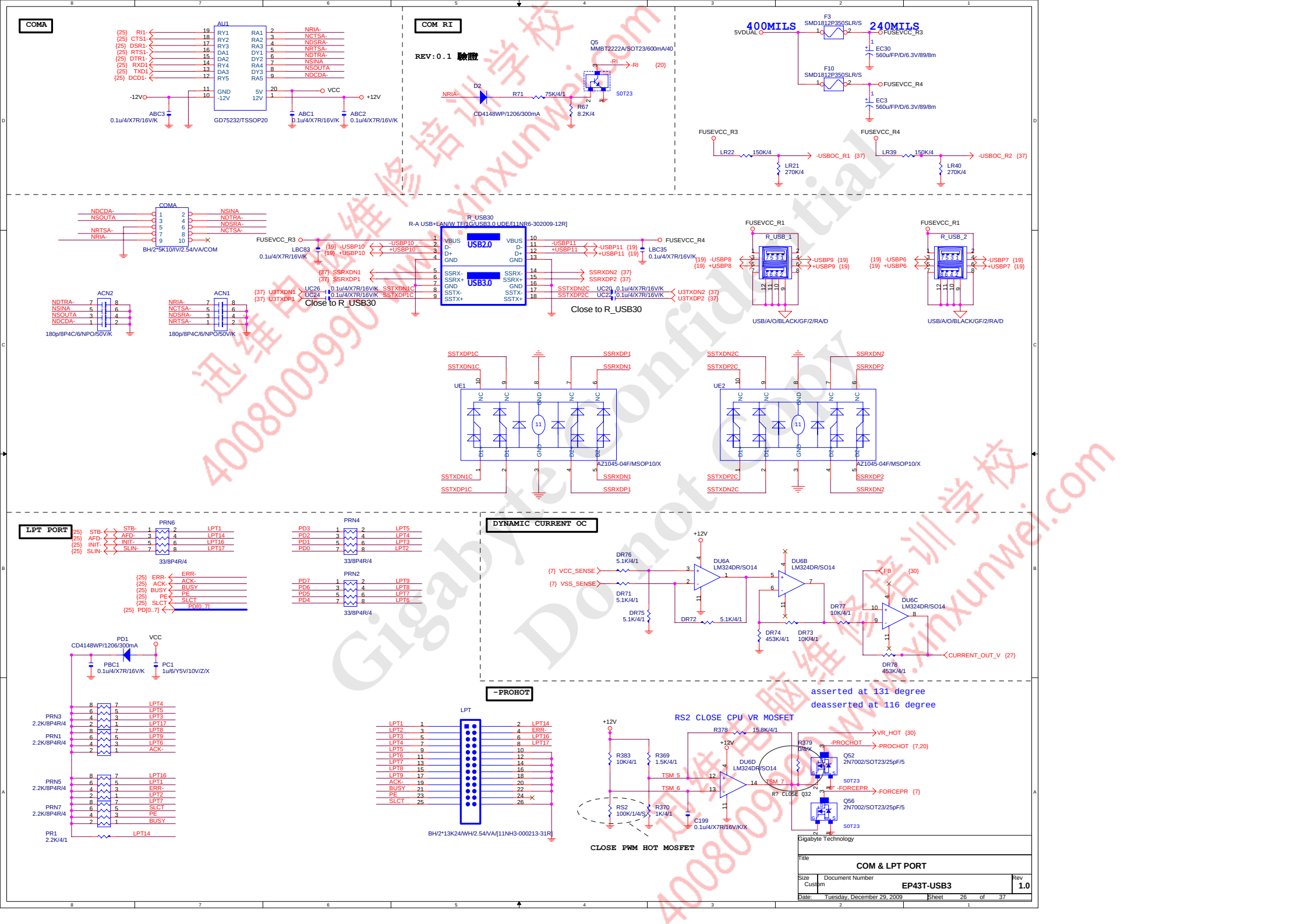
IT8712F LPC I/O



SOUT2	1	VID pins threshold voltage select: Vih / Vil : 2.0 / 0.8V
	0	VID pins threshold voltage select: Vih / Vil : 0.8 / 0.4V
DTR2-	1	Open Drain pin:Driving 較弱
	0	Push-pull Pin :Driving 較強
RTS2-	1	CPU FAN 100%
	0	CPU FAN 50%

Gigabyte Technology			
Title: ITE 8712 LPC IO			
Size: B	Document Number: EP43T-USB3		Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 25 of 36		



TEMP H/W MONITOR

{25} VREF
{25} SYS_TEMP
{25} PWM_TEMP
{7,25} CPU_TEMP

R12 10K/4/1
R13 10K/4/1
R16 30K/4/1/X
FOR IT8718 REV:B
C2 1u/6/Y5V/10V/Z
C3 1u/6/Y5V/10V/Z
RS1 10K/1/4/S
R14 30K/4/1
C4 2.2n/4/X7R/50V/K

M_BIOS

VCC3
-SPI_CS0
ICH_SPI_MISO
-SPI_WP0
C242 10p/4/NPO/50V/J/X
CS# SO WP# VSS VDD HOLD# SCK SI
-SPI_HOLD0
ICH_SPI_CLK {20}
ICH_SPI_MOSI
MAIN BIOS
8M/SPI/SO8/200mil/S/[10HP4-112580-11R]
MXIC(4K)/SST(4K)

RN9 8.2K/8P4R/4
{20} ICH_SPI_MOSI
{20} ICH_SPI_MISO
{20,25} ICH_-SPI_CS

RN8 1K/8P4R/4
{20} -SPI_WP0
{20} -SPI_WP1
-SPI_HOLD0
-SPI_WP0
-SPI_HOLD1
-SPI_WP1

{25} -SIO_SPI_CS0
{25} -SIO_SPI_CS1
R121 0/4/SHT/X -SPI_CS0
R122 0/4/SHT/X -SPI_CS1

BOOT DEVICE	GNT0	CS1
SPI	0	1
PCI	1	0
FWH	1	1

{19,24} -GNT0
R175 1K/4/1
因ICH9 內部PULL HIGH 20K
VCC3
R172 1K/4/1
{20} ICH_-SPI_CS1
ICH_-SPI_CS1
1K/4/X
R169

PCI_BT1
JP/1*2/BU/OH/O::[1-2]CLOSE/X

VOLTAGE-- H/W MONITOR

VCORE DDR18V VCC3 +12V
R1 8.2K/4
R2 8.2K/4
R11 8.2K/4
R24 24K/4/1
{25} VIN0
{25} VIN1
{25} VIN2
{25} VIN7
{25} VIN4
{25} VIN5
CURRENT_OUT_V {26}
IOUT {30,31}
R45 10K/4/1
R3 0/4/SHT/X
R31 8.2K/4
C6 0.1u/4/X7R/16V/K
R44 10K/4/1
R9 10K/4/1/X
C1 1u/6/X7R/16V/K

KB/MS

RN1 82/8P4R/4
{25} KDAT
{25} KCLK
{25} MDAT
{25} MCLK
KBDATA
KBCLK
MSDATA
MSCLK
CN1 180p/8P4C/6/NPO/50V/K
FUSEVCC_R1
RN2 8.2K/8P4R/4
KB_MS
MS
KB
KB/MS/6P/PC99/OS/RA/D/2
BC4 0.1u/4/X7R/16V/K
BC5 0.1u/4/X7R/16V/K

VCC3
BC12 1u/6/Y5V/10V/Z
BC8 0.1u/4/X7R/16V/K

+12V
BC21 1n/4/X7R/50V/K

Gigabyte Technology

Title: BIOS/HW-MONITOR/CI/KB/MS
Size: Custom
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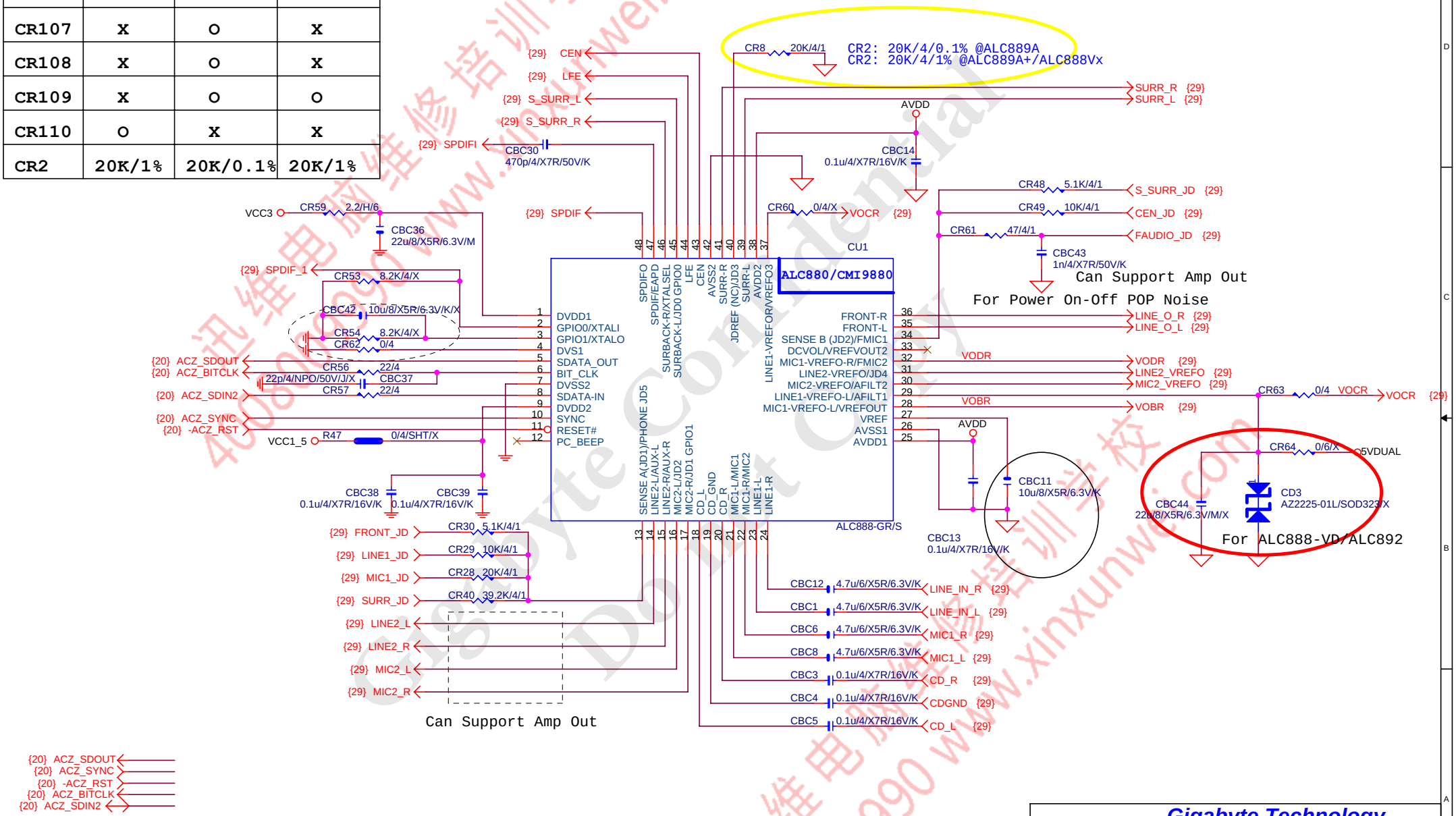
AZALIA CODEC

ALC889A+/ALC889A/ALC888Vx Colay

	ALC889A+	ALC889A	ALC888Vx
CR107	X	O	X
CR108	X	O	X
CR109	X	O	O
CR110	O	X	X
CR2	20K/1%	20K/0.1%	20K/1%



Gigabyte Technology	
Title	ALC888
Size: Custom	Document Number: EP43T-USB3
Rev	1.0
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CODEC POWER/EMI PAD

CR47 0/4/SHT/X
CR7 2.2/6
+12V
CD2 CD4148WP/1206/300mA
5VDUAL
AVDD
CD1 CD4148WP/1206/300mA
CQ3 78L05/SOT89/0.1A
CBC31 0.1u/4/X7R/16V/K
CD4 AZ2225-01L/SOD323
CBC19 22u/8/X5R/6.3V/M

CO-LAYOUT

Fpr
EMI

{28} SPDIF
SPDIF
CBC17 0.01u/4/X7R/25V/K
CR17 100/4/1
CR18 220/4
CBC18 100p/4/NPO/50V/J

SPDIF
FUSEVCC_R1
OPT RCA
VCC RCA
G G G G
R_SPDIF
G1 G2 G3 G4

NEW "RCA_SPDIF-JST"

RCA/OPTI/SPDIFOUT/SHELL

FOR DS3L
11NR6-402030-41R(無鐵殼)11NR6-402030-51R/52R(鐵殼)

FOR S3L 11NR6-501004-G1R ONLY support RCA

CD IN

CD_IN
{28} CD_L
{28} CDGND
{28} CD_R
CR23 8.2K/4
CR22 8.2K/4
CR24 8.2K/4
SHR/1*4/BK/P/2.54/VA/D

SPDIF

VCC
SPDIF_I
{28} SPDIFI
SHR/1*3/WH/P/2.54/VA/D

{28} SPDIF
{28} SPDIF_1
CR51 0/4
CR52 0/4/X
PIN1
SPDIF_O
PH/1*2/BK/2.54/VA/D
CBC35
100p/4/NPO/50V/J/X

AZALIA JACK

USB_1394
USB_LAN

BTX AZALIA CONNECTOR

3RP/26P/OR,BK,GY,BU,GE,PK/RA/D/1/B
VISTA規範:REAR-->BLK,CEN/SUB-->ORG

AUDIOA
VISTA
{28} CEN_JD
CEN_JD
BJ_B5
BJ_B2
CEN/SUB(ORG)
{28} SURR_JD
SURR_JD
BJ_C5
BJ_C2
REAR(BLK)
{28} S_SURR_JD
S_SURR_JD
BJ_A5
BJ_A2
SIDE(GRY)
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

AUDIOB
VISTA
{28} LINE1_JD
LINE1_JD
AJ_LINE_IN_R
AJ_LINE_IN_L
LINE-IN(BLU)
{28} FRONT_JD
FRONT_JD
AJ_B5
AJ_B2
LINE-OUT(GRN)
{28} MIC1_JD
MIC1_JD
AJ_MIC1_R
AJ_MIC1_L
MIC-IN(PNK)
2X3RP/26P/OR,BK,GY,BU,GE,PK/RA

LINE-OUT

{28} LINE_O_R
CEC2 100u/OS/D/16V/66/24m
CR31 75/4/1
AJ_B5
{28} LINE_O_L
CEC3 100u/OS/D/16V/66/24m
CR1 75/4/1
AJ_B2
CR4 22K/4
CR32 22K/4
CBC9 180p/4/NPO/50V/J
CBC22 180p/4/NPO/50V/J

LINE-IN

75/4 FOR ESD
{28} LINE_IN_R
CR35 75/4/1
AJ_LINE_IN_R
{28} LINE_IN_L
CR2 75/4/1
AJ_LINE_IN_L
{28} VOCR
CR65 8.2K/4
CR66 8.2K/4
CQ4 BAT54A/SOT23/200mA/[10DK1-320054-12R]
CBC21 180p/4/NPO/50V/J
CBC24 180p/4/NPO/50V/J

MIC-IN

{28} MIC1_R
CR3 75/4/1
AJ_MIC1_R
{28} MIC1_L
CR6 75/4/1
AJ_MIC1_L
{28} VOBR
CR9 8.2K/4
{28} VODR
CR5 8.2K/4
CBC7 180p/4/NPO/50V/J
CBC2 180p/4/NPO/50V/J

SURROUND

EMI
{28} SURR_R
CEC6 10u/FP/S/10V/45/220m
CR41 75/4/1
BJ_C5
{28} SURR_L
CEC1 10u/FP/S/10V/45/220m
CR36 75/4/1
BJ_C2
CR37 22K/4
CR42 22K/4
CBC25 180p/4/NPO/50V/J
CBC27 180p/4/NPO/50V/J
若CEC3 爲有極性電容必須快速放電電

CEN/LFE

EMI
{28} LFE
CEC4 10u/FP/S/10V/45/220m
CR45 75/4/1
BJ_B5
{28} CEN
CEC5 10u/FP/S/10V/45/220m
CR38 75/4/1
BJ_B2
CR39 22K/4
CR40 22K/4
CBC26 180p/4/NPO/50V/J
CBC29 180p/4/NPO/50V/J

SURR BACK

EMI
{28} S_SURR_R
CEC7 10u/FP/S/10V/45/220m
CR43 75/4/1
BJ_A5
{28} S_SURR_L
CEC8 10u/FP/S/10V/45/220m
CR33 75/4/1
BJ_A2
CR34 22K/4
CR44 22K/4
CBC23 180p/4/NPO/50V/J
CBC28 180p/4/NPO/50V/J

AZALIA FRONT PANEL

CQ1 BAT54A/SOT23/200mA/[10DK1-320054-12R]
{28} LINE2_VREFO
CR10 8.2K/4
CR16 8.2K/4
CQ2 BAT54A/SOT23/200mA/[10DK1-320054-12R]
{28} MIC2_VREFO
CR11 8.2K/4
CR20 8.2K/4
CR27 0/4/X
CR19 0/4/SHT/X
FOR EMI
{28} MIC2_L
{28} MIC2_R
{28} LINE2_R
{28} FAUDIO_JD
{28} LINE2_L
CBC16 4.7u/6/X5R/6.3V/K
CBC15 4.7u/6/X5R/6.3V/K
CR25 75/4/1
CR13 75/4/1
CR26 75/4/1
CR14 75/4/1
CR21 22K/4
CR12 22K/4
F_AUDIO
3VDUAL
CR58 8.2K/4
CR50 20K/4/1
CR55 39.2K/4/1
PH/2*5K8/GED/2.54/VA/D
CEC10 100u/OS/D/16V/66/24m
CEC9 100u/OS/D/16V/66/24m
CBC33 180p/4/NPO/50V/J
CBC32 180p/4/NPO/50V/J
CBC40 180p/4/NPO/50V/J
CBC34 180p/4/NPO/50V/J

Gigabyte Technology

Title	AUDIO JACK	
Size: Custom	Document Number: EP43T-USB3	Rev: 1.0
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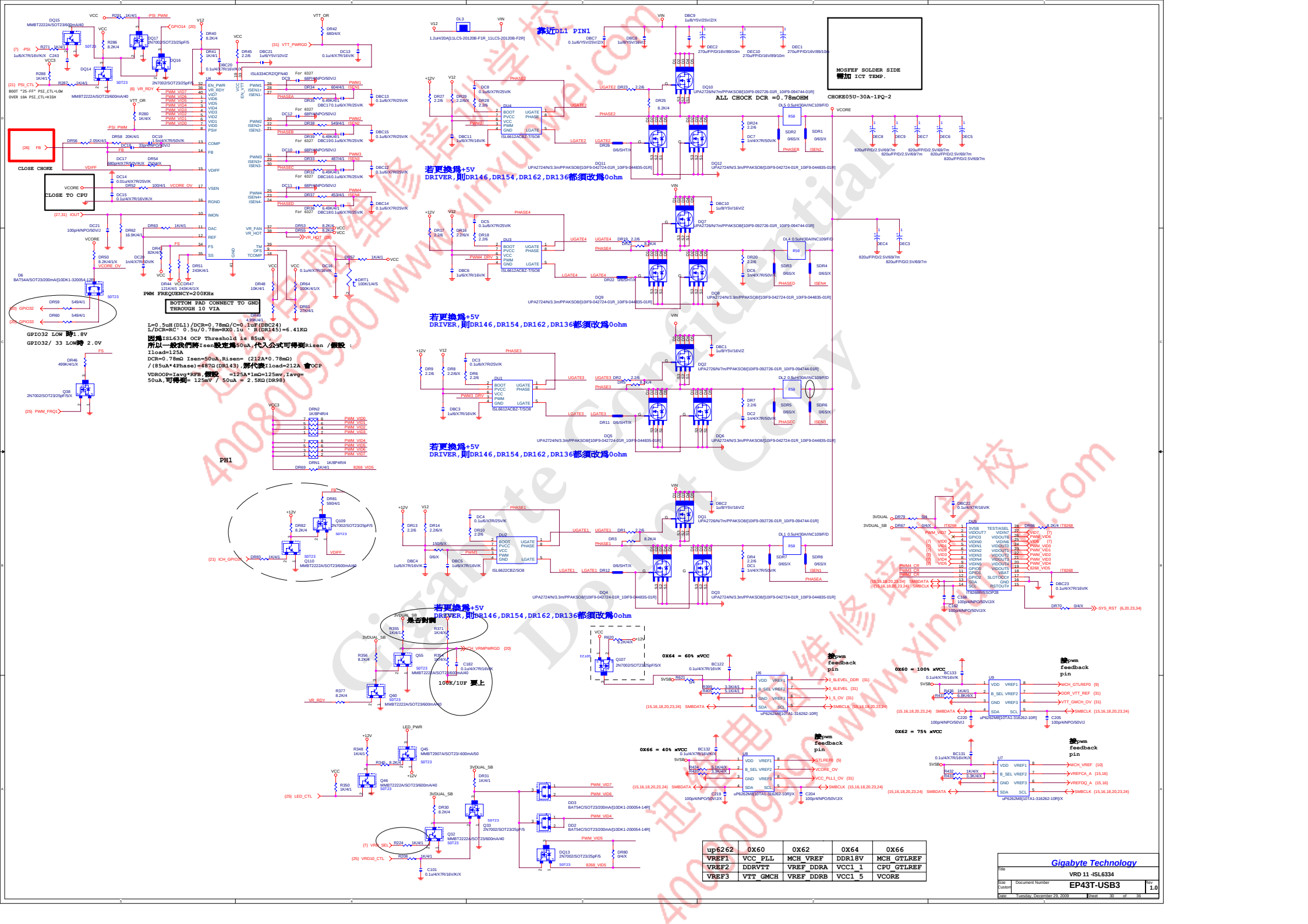
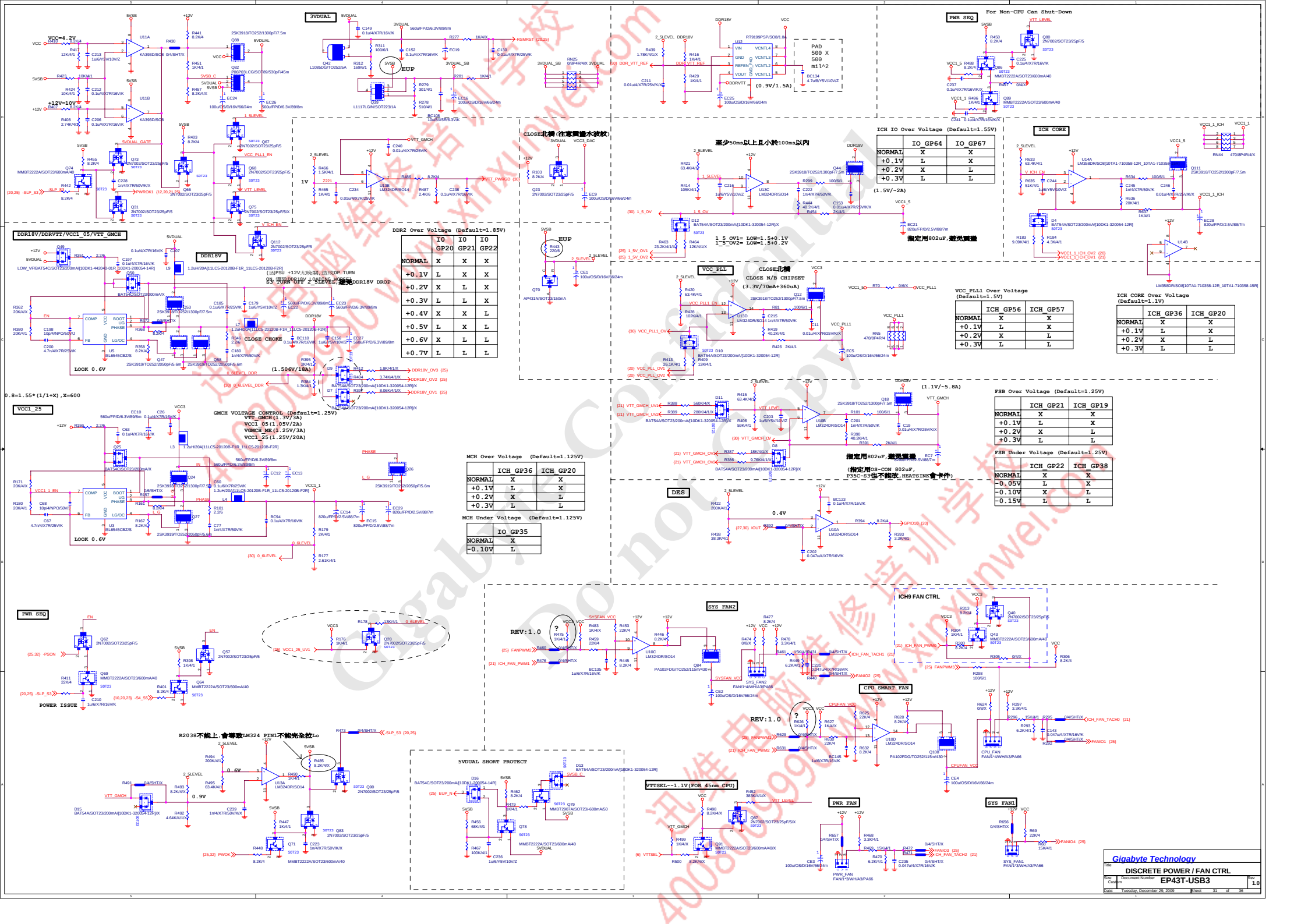


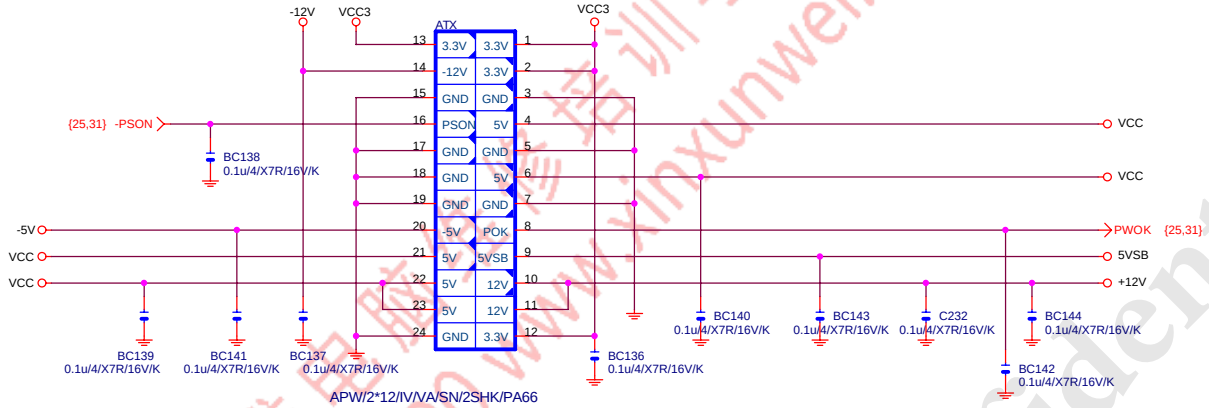
up6262	0X60	0X62	0X64	0X66
VREF1	VCC_PLL	MCH_VREF	DDR18V	MCH_GTLREF
VREF2	DDRVTT	VREF_DDRA	VCC1_1	CPU_GTLREF
VREF3	VTT_GMCH	VREF_DDRB	VCC1_5	VCORE

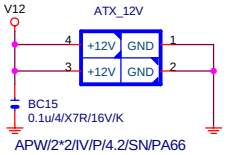
Gigabyte Technology

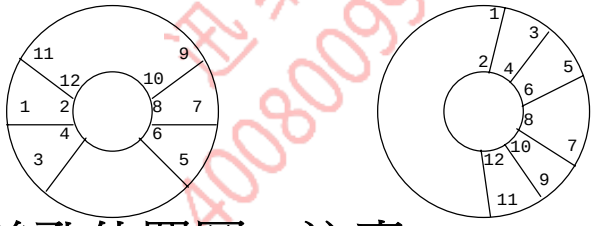
Title	VRD 11 -ISL6334	
Size: Custom	Document Number: EP43T-USB3	Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 30 of 36	


VCC=4.2V
+12V=10V
3VDUAL
EUP
PWR SEQ
For Non-CPU Can Shut-Down
PAD
500 X
500
mil^2
(0.9V/1.5A)
CLOSE北橋(注意震盪水波紋)
室少50ms以上且小於100ms以內
ICH IO Over Voltage (Default=1.55V)
IO_GP64
IO_GP67
NORMAL
+0.1V
+0.2V
+0.3V
(1.5V/-2A)
指定用802uF,避免震盪
ICH CORE
DDR18V/DDRVTT/VCC1_05/VTT_GMCH
DDR18V
DDR2 Over Voltage (Default=1.85V)
IO GP20
IO GP21
IO GP22
LOOK 0.6V
0.8=1.55*(1/1+X),X=600
CLOSE CHOKE
(1.506V/18A)
VCC_PLL
CLOSE北橋
CLOSE N/B CHIPSET
(3.3V/70mA+360uA)
VCC_PLL1 Over Voltage (Default=1.5V)
ICH_GP56
ICH_GP57
ICH CORE Over Voltage (Default=1.1V)
ICH_GP36
ICH_GP20
(1.1V/~5.8A)
FSB Over Voltage (Default=1.25V)
ICH_GP21
ICH_GP19
FSB Under Voltage (Default=1.25V)
ICH_GP22
ICH_GP38
VCC1_25
GMCH VOLTAGE CONTROL (Default=1.25V)
VTT_GMCH(1.3V/3A)
VCC1_05(1.05V/2A)
VCC1_25(1.25V/20A)
MCH Over Voltage (Default=1.125V)
ICH_GP36
ICH_GP20
MCH Under Voltage (Default=1.125V)
IO_GP35
-0.10V
DES
0.4V
PWR SEQ
POWER ISSUE
SYS FAN2
REV:1.0
ICH9 FAN CTRL
CPU SMART FAN
R2038不能上,會導致LM324 PIN1不能完全拉Lo
0.6V
0.9V
5VDUAL SHORT PROTECT
VTTSEL--1.1V(FOR 45nm CPU)
PWR FAN
SYS FAN1
Gigabyte Technology
DISCRETE POWER / FAN CTRL
EP43T-USB3
Tuesday, December 29, 2009

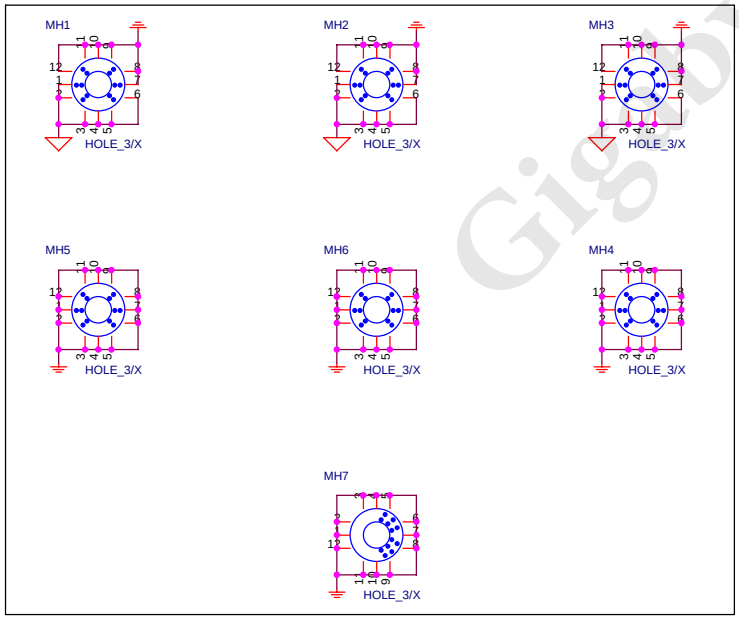
ATX POWER CONNECTOR

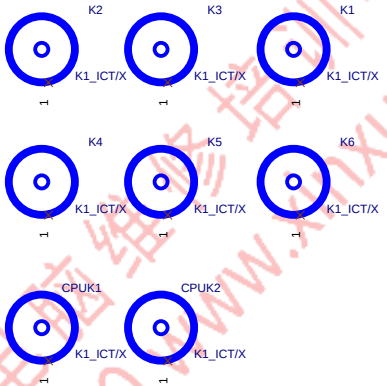


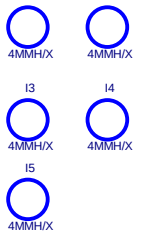




螺絲孔位置圖 (注意Footprint不同)







Gigabyte Technology		
Title: ATX POWER CONNECTOR		
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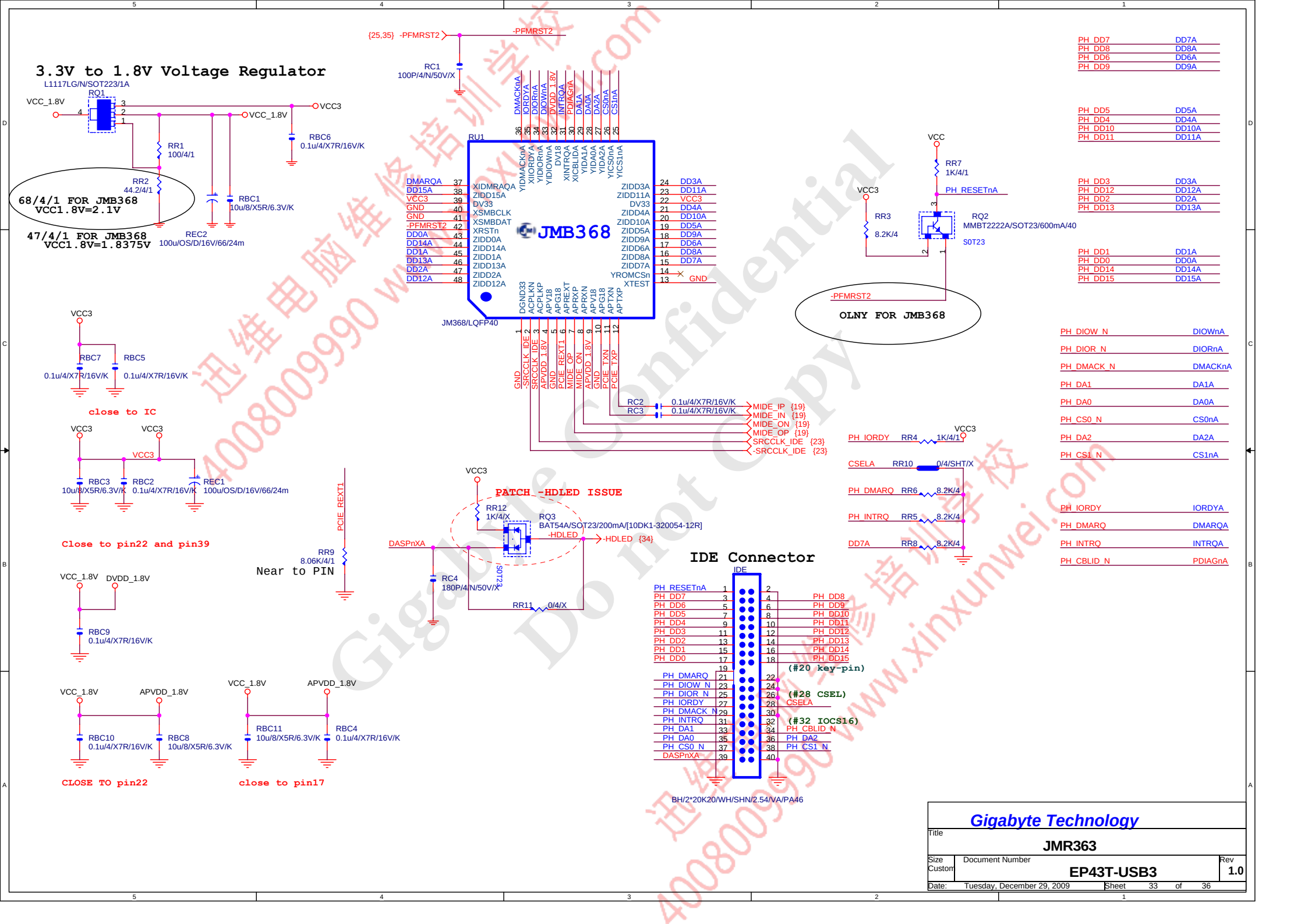

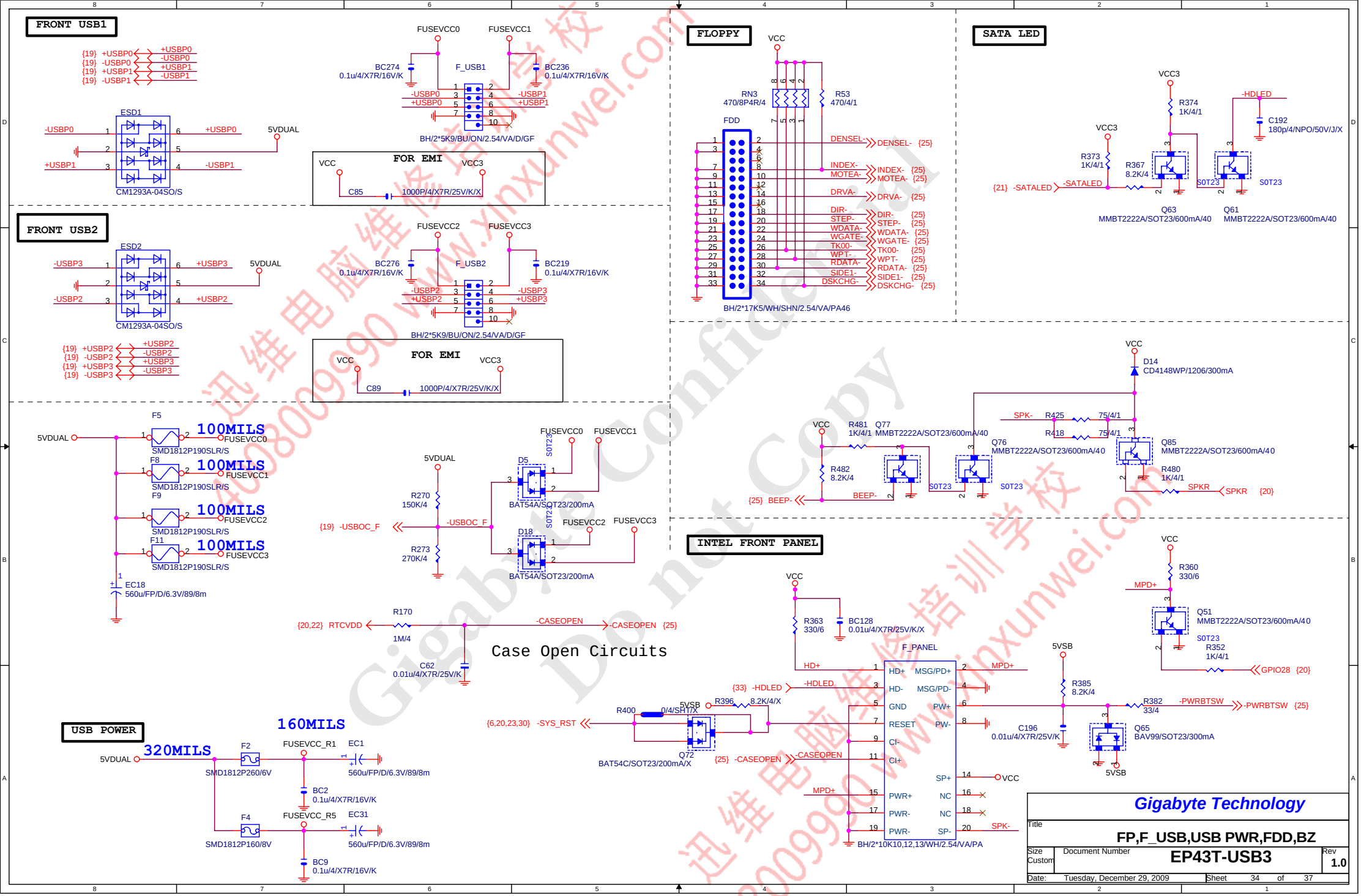
FRONT USB1
FRONT USB2
FLOPPY
SATA LED
INTEL FRONT PANEL
USB POWER
FOR EMI
Case Open Circuits
Gigabyte Technology
FP,F_USB,USB PWR,FDD,BZ
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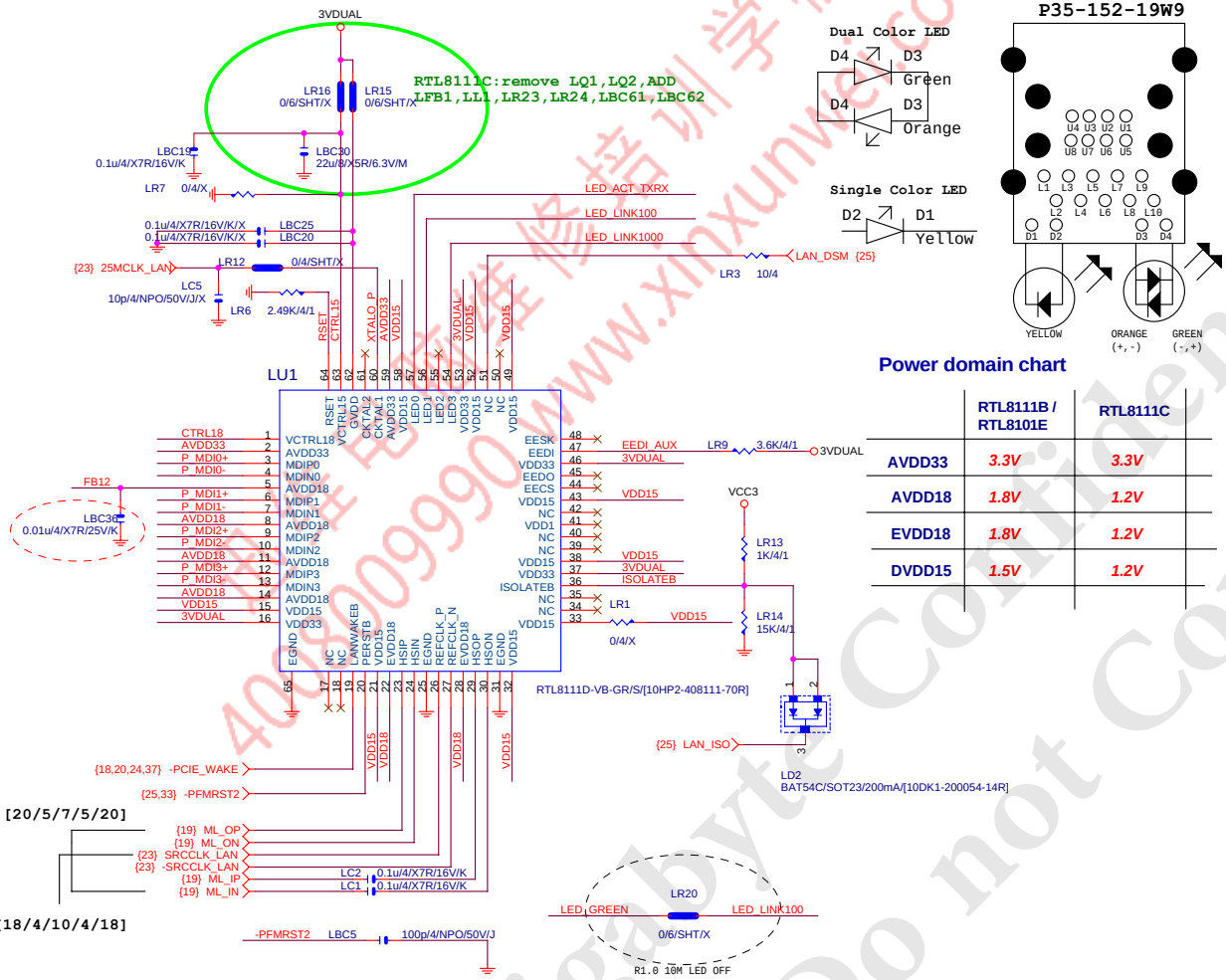
PCIE-1G LAN



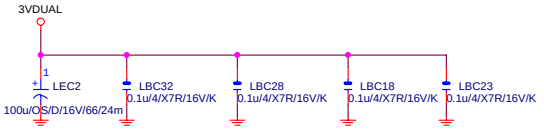
Dual Color LED

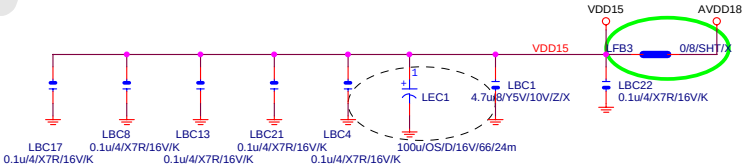
Single Color LED

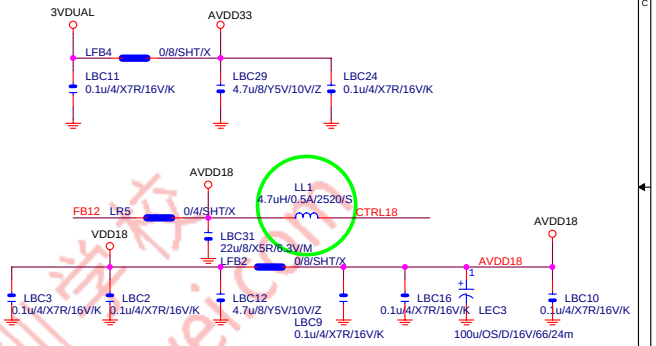
P35-152-19W9

Power domain chart

	RTL8111B / RTL8101E	RTL8111C
AVDD33	3.3V	3.3V
AVDD18	1.8V	1.2V
EVDD18	1.8V	1.2V
DVDD15	1.5V	1.2V

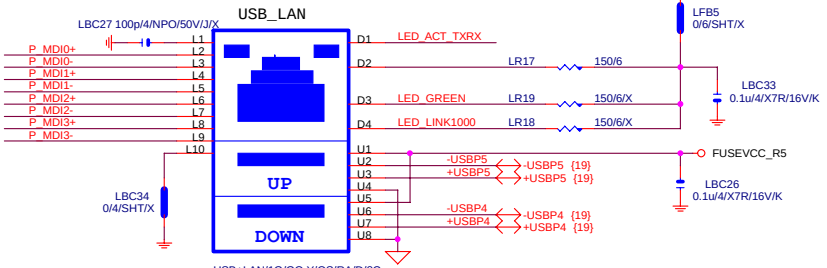






USB_LAN CONNECTOR

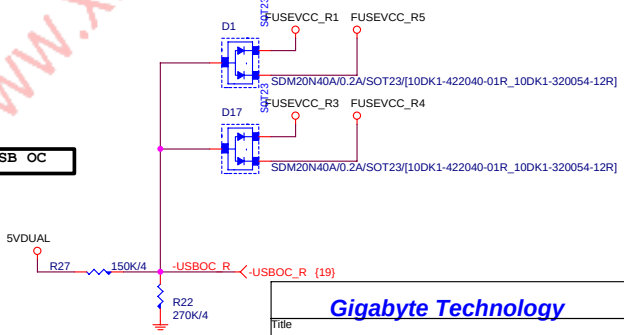
LAN 100歐姆:[30/4/8/4/30] FOR B 製程



USB POWER

90歐姆:[15/4.5/7.5/4.5/15]

REAR USB OC



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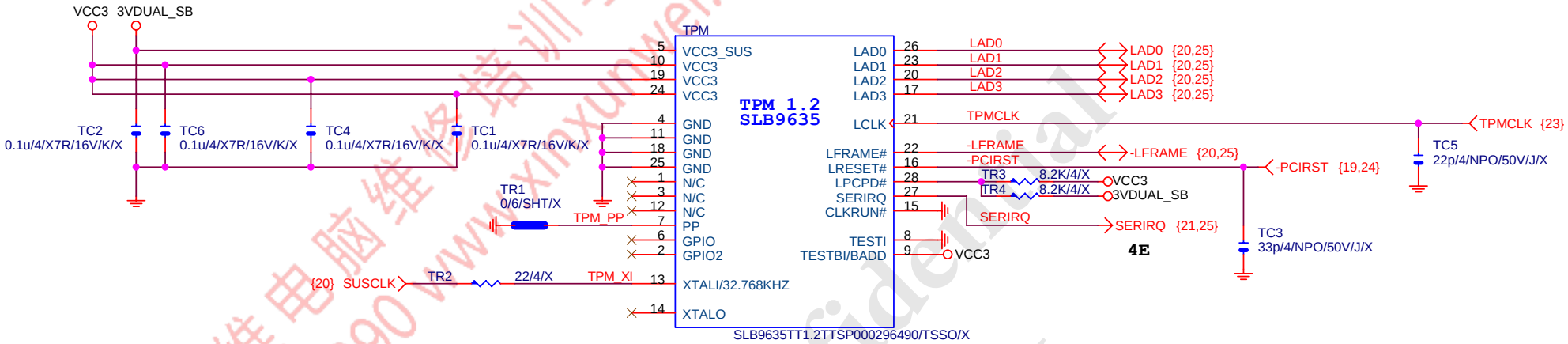

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Title: TPM I/F-SLB 9635 TT 1.2		
Size: Custom	Document Number: EP43T-USB3	Rev: 1.0
Date: Tuesday, December 29, 2009	Sheet 36 of 36