

Model Name:EP41T-UD3L Rev:1.4

SHEET

TITLE

SHEET

TITLE

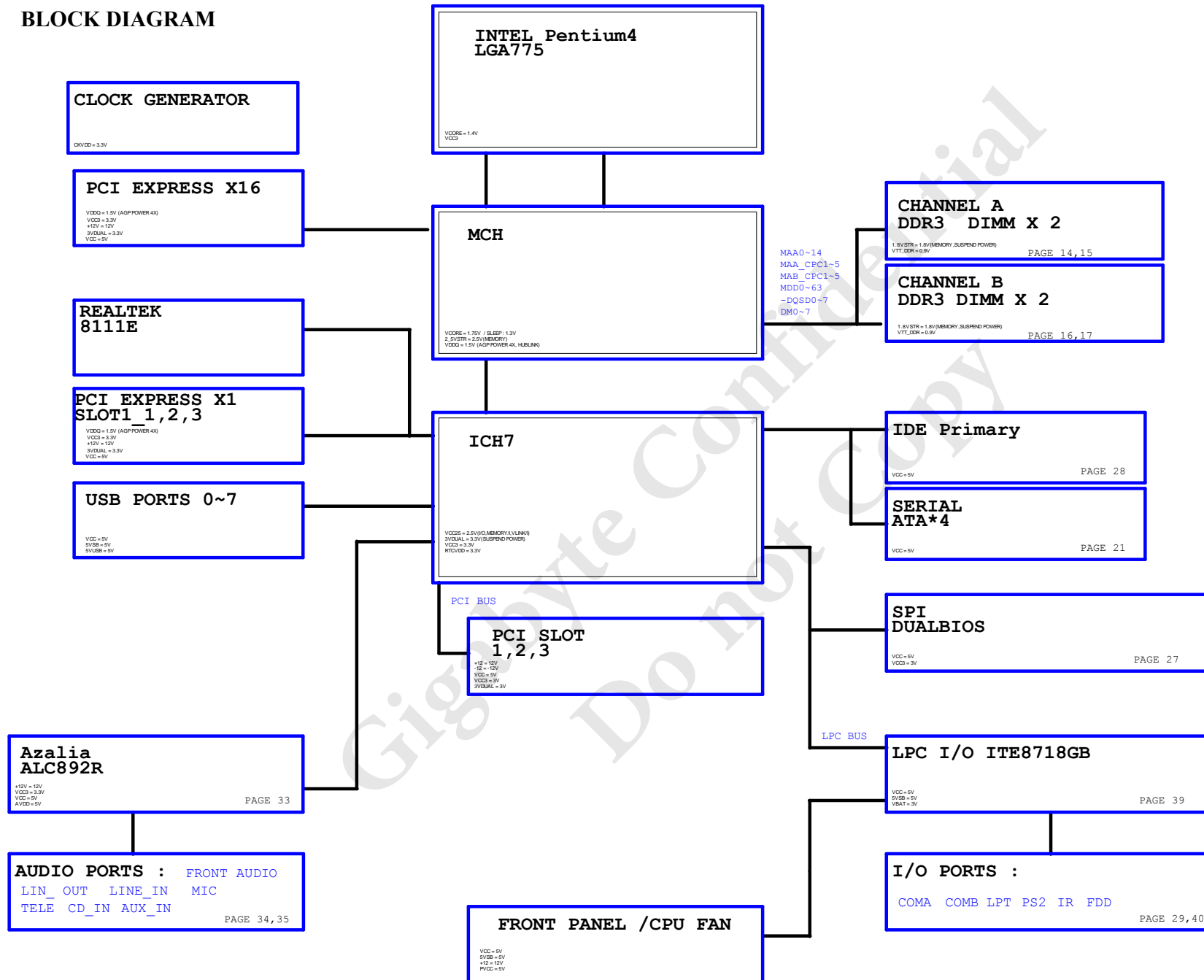
01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	L775 A
05	L775 B,D
06	L775 C
07	L775 E,F,G,H
08	GMCH-Eaglelake HOST
09	GMCH-Eaglelake DDRII
10	GMCH-Eaglelake PCI E, DMI
11	GMCH-Eaglelake INT VGA
12	GMCH-Eaglelake GND
13	GMCH-Eaglelake PWR
14	DDR3 CHANNEL A-SHARE 1,2
15	DDR3 CHANNEL B-SHARE 1,2
16	DDR3 CLOCK BUFFER / TERMINATION
17	PCI EXPRESS*16 SLOT
18	ICH7 DMI, PCI, USB
19	ICH7 IDE, GPIO, SATA, CTRL
20	ICH7 VCC, GND
21	CK505
22	ATX,ATX 12V CONNECT,BIOS
23	PCI EXPRESS*1 SLOT 1,2,3
24	PCI SLOT 1,2,3
25	HWM/ FAN CONTROL
26	IDE/FLOPPY
27	KB_PS2

28	FRONT PANEL
29	FRONT USB,REAL USB CONNECT
30	PROCESSOR HOT
31	ALC892R
32	REAR AUDIO JACK
33	FRONT AUDIO CONNECTOR
34	RTL8111E
35	ITE 8718
36	COM LPT
37	VCORE PWM ISL6336
38	DISCRETE POWER
39	GPIO DEFINE
40	GPIO DEFINE
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BLOCK DIAGRAM



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Component value change history

2009

[illegible]

Circuit or PCB layout change
for next version

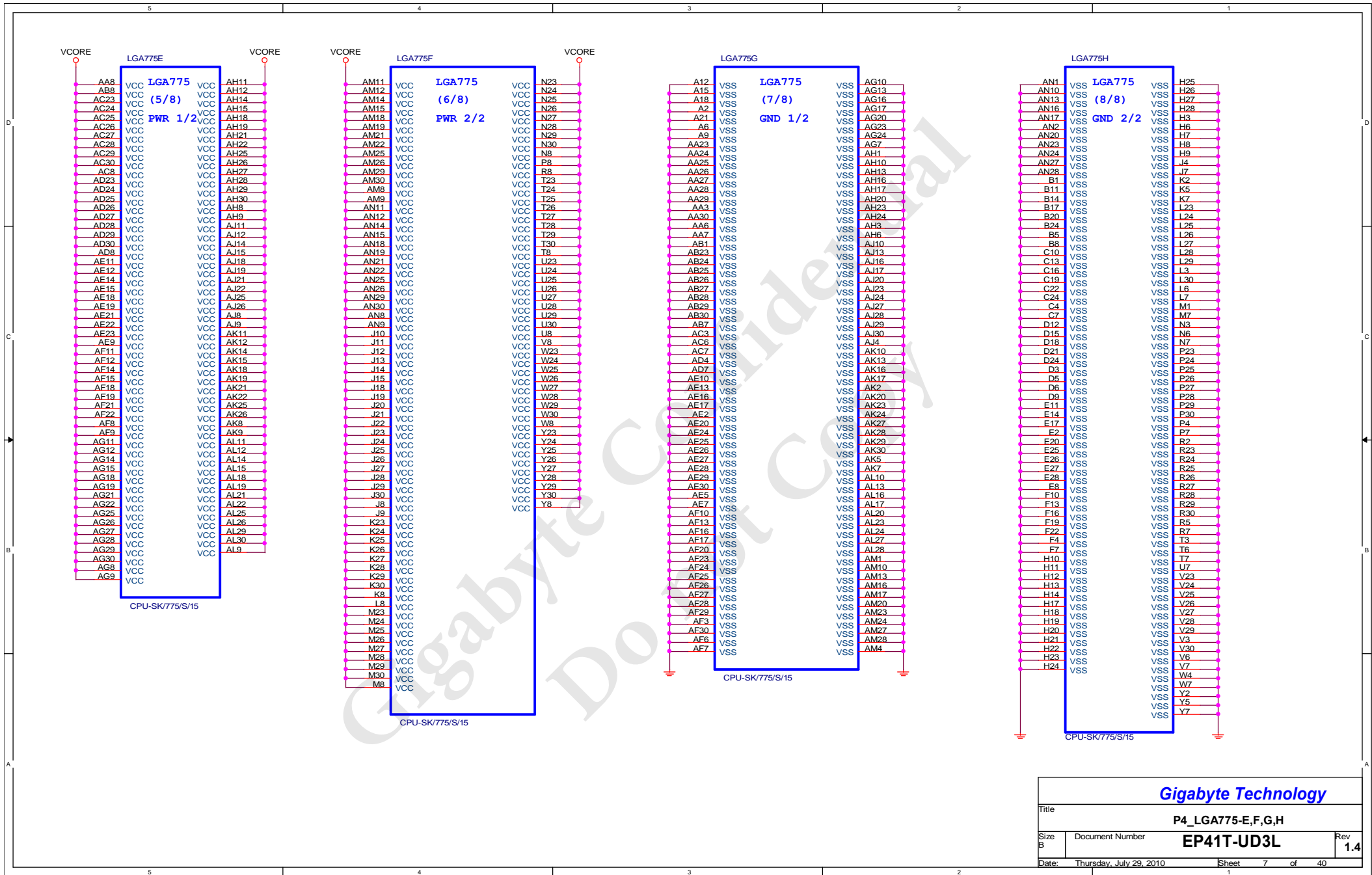
[illegible]

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BOM & PCB MODIFY HISTORY

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ADSTB: 4/17



Gigabyte Technology			
Title			
P4_LGA775-E,F,G,H			
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MCHC

MCHD

DDR_A

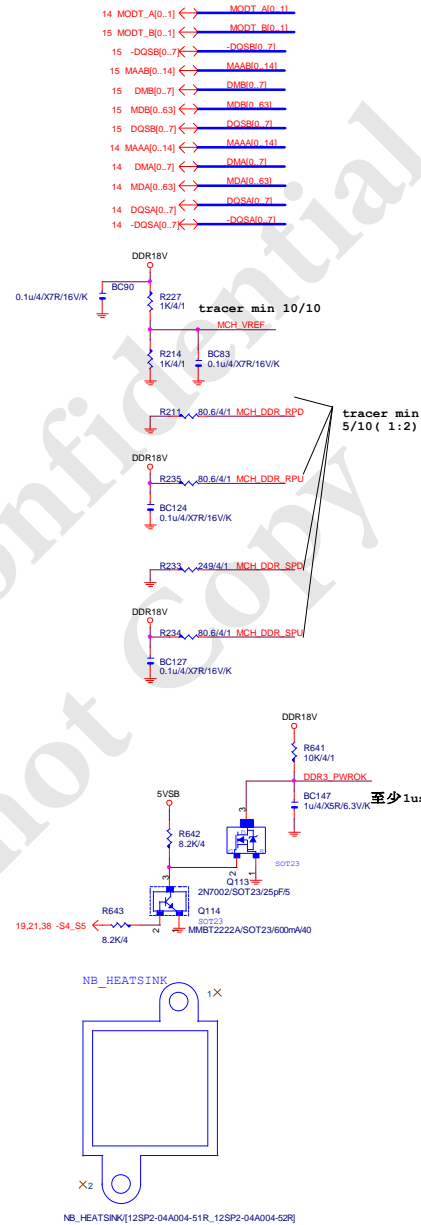
DDR_B

6.5/5/6.5 Length max=5.0"
MCH die to DIMM0/1 pin =6" max
FOR channel A

6.5/5/6.5 Length max=5.0"
MCH die to DIMM2/3 pin =7" max
FOR channel B

G41/A3/HDM1(10H1-030G41-20R)

G41/A3/HDM1(10H1-030G41-20R)

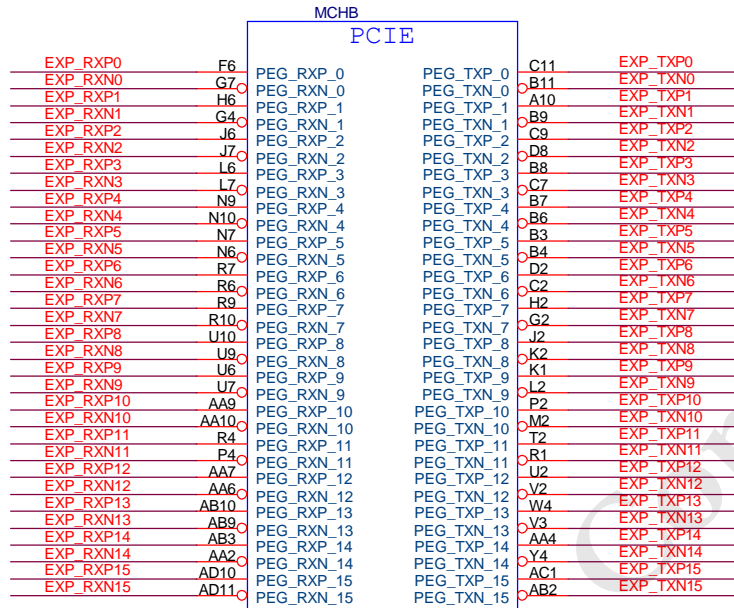


Gigabyte Technology

File	GMCH-DDR11	Rev	1.4
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PCIEX16:16/5/5/5/16(breakout min 8/4/5/4/8)

Impedance=85 +- 17.5%

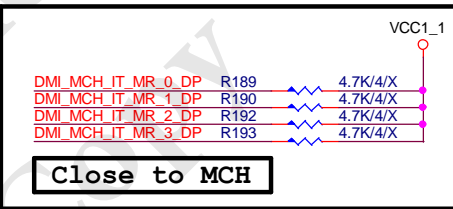
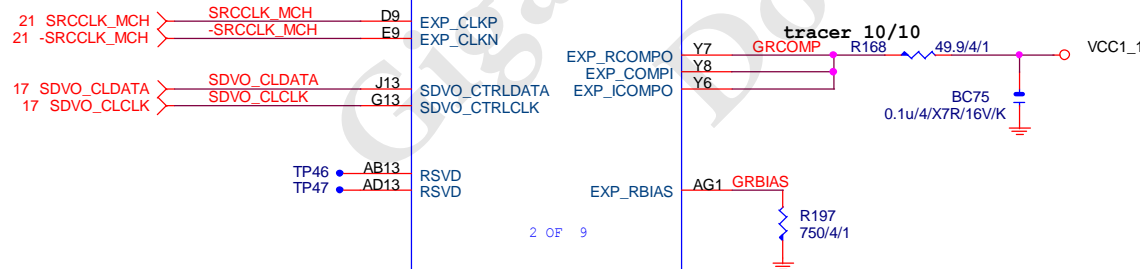
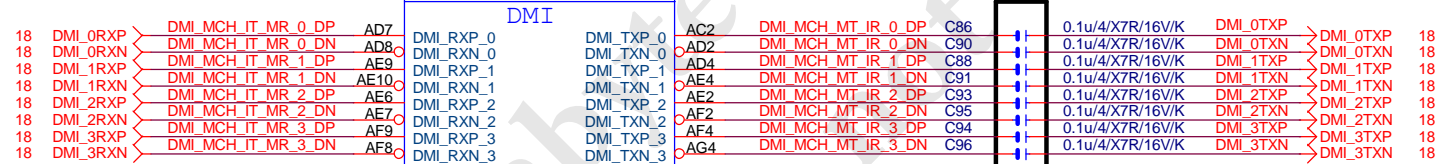


EXP_TXP[0..15] >> EXP_TXP[0..15] 17

EXP_TXN[0..15] >> EXP_TXN[0..15] 17

EXP_RXP[0..15] >> EXP_RXP[0..15] 17

EXP_RXN[0..15] >> EXP_RXN[0..15] 17

DMI:12/4/8/4/12
Impedance=95 +- 17.5%

2 OF 9

G41/A3/HDMI[10HB1-030G41-20R]

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Title			GMCH-PCI E & DMI	
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EXP_SM
0:SDVO OR PCIE
1:BOTH SDVO AND
EXP_SLR:
0:BTX PCIE are reversed
1:ATX PCIE normal

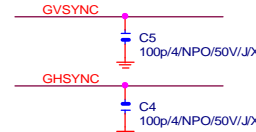
MCHE

VGA

MISC

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G41/A3/HDMI/[10HB1-030G41-20R]



4/10//15<500 MILS

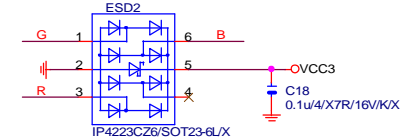
1th RGB:7.5/6 < 300 MILS 2th RGB:4/20 <5"~8" inch

R.G.B SIGNAL不夠LOW 3th RGB:4/20 < 800 MILS

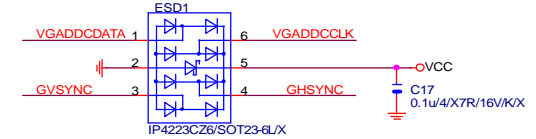
ON-BOARD VGA 75ohm non-ON-BOARD VGA 0ohm

ON-BOARD VGA 1.02k non-ON-BOARD VGA 0ohm

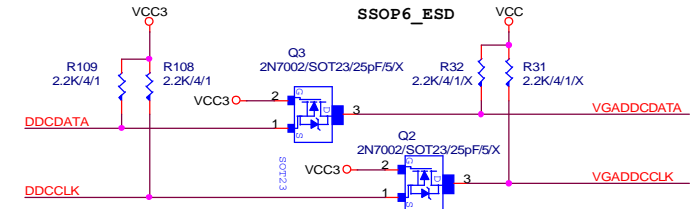
FOR EMI ISSUE



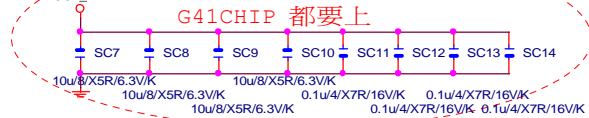
SSOP6_ESD



SSOP6_ESD

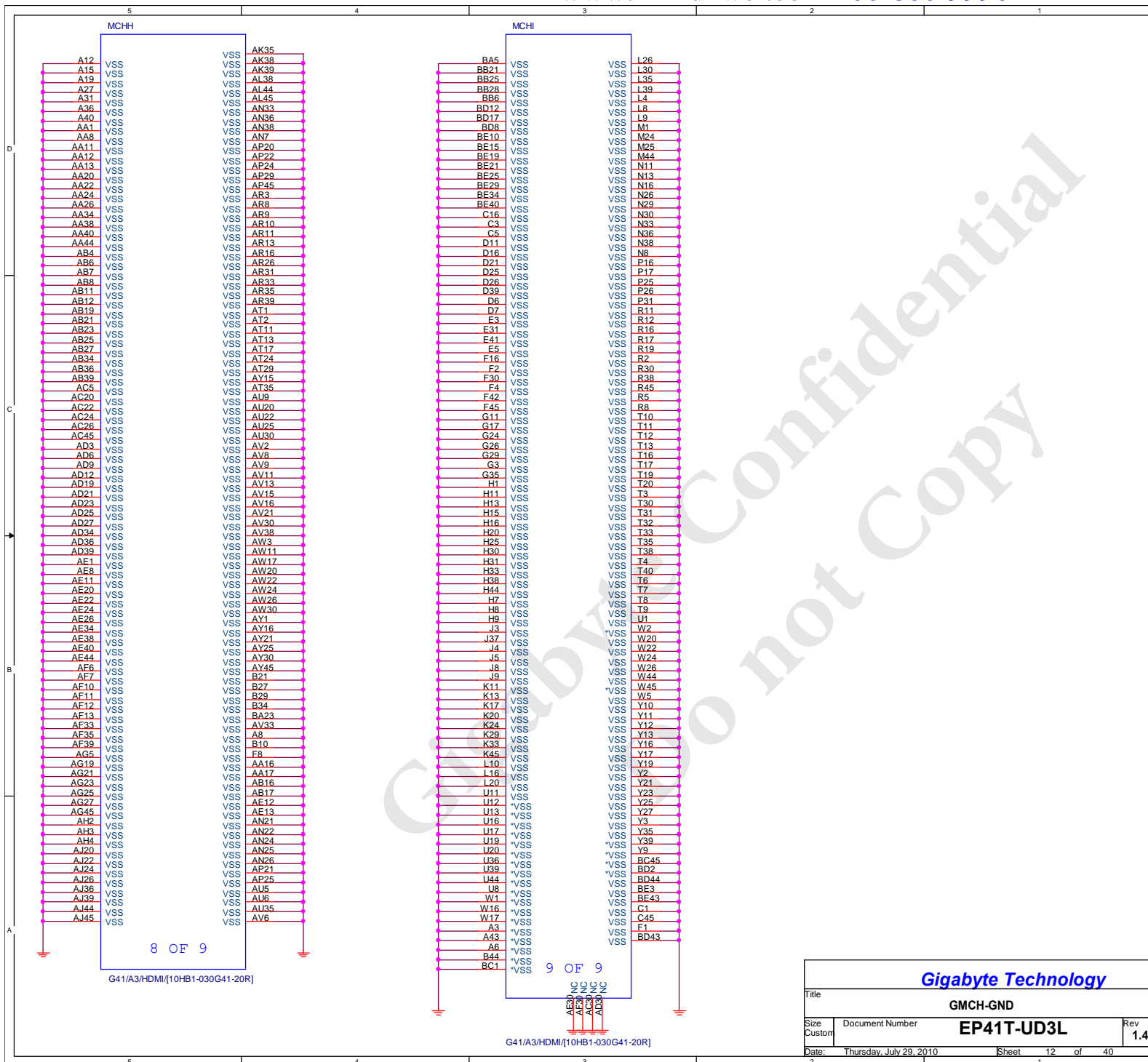


G41CHIP 都要上



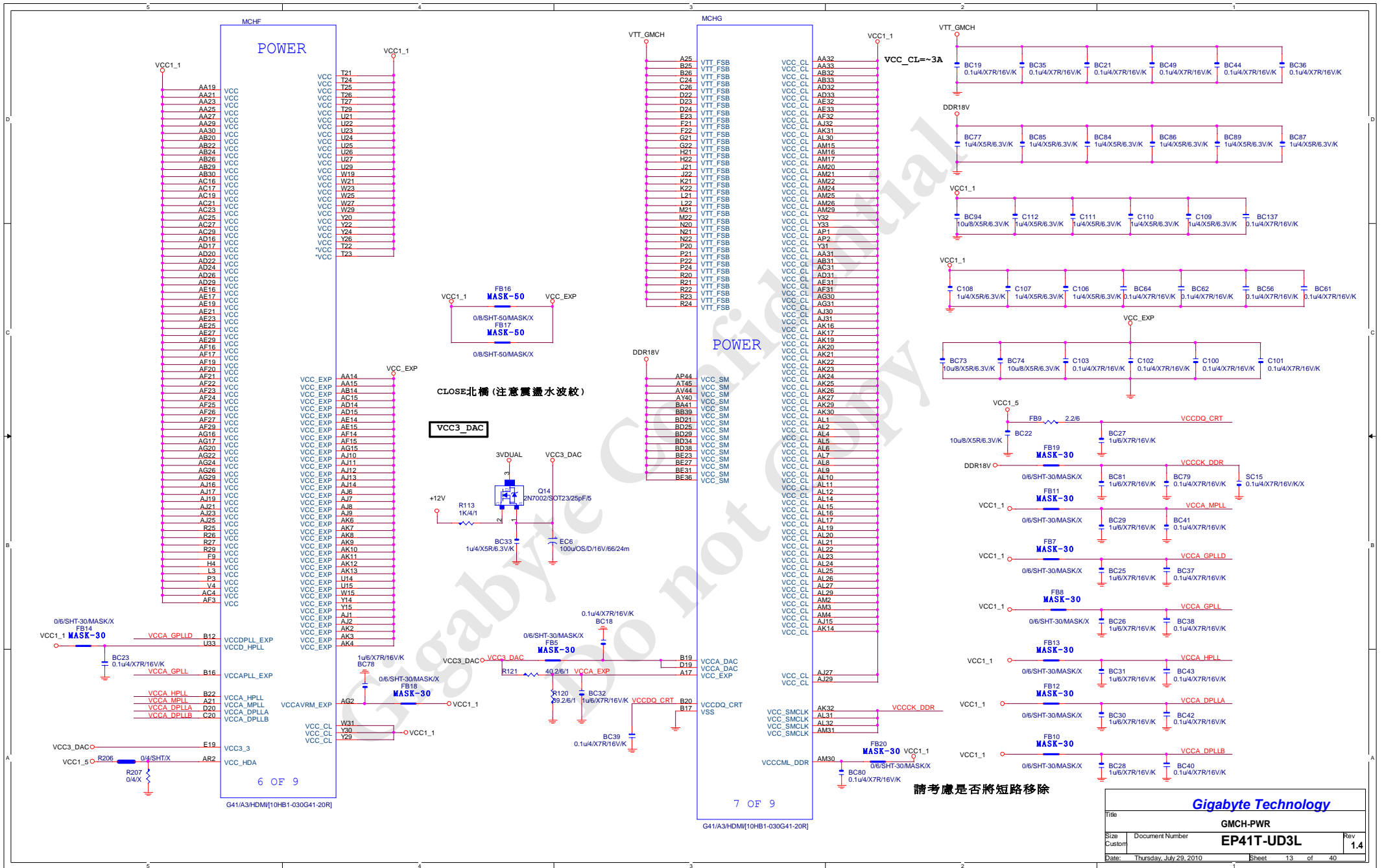
Gigabyte Technology

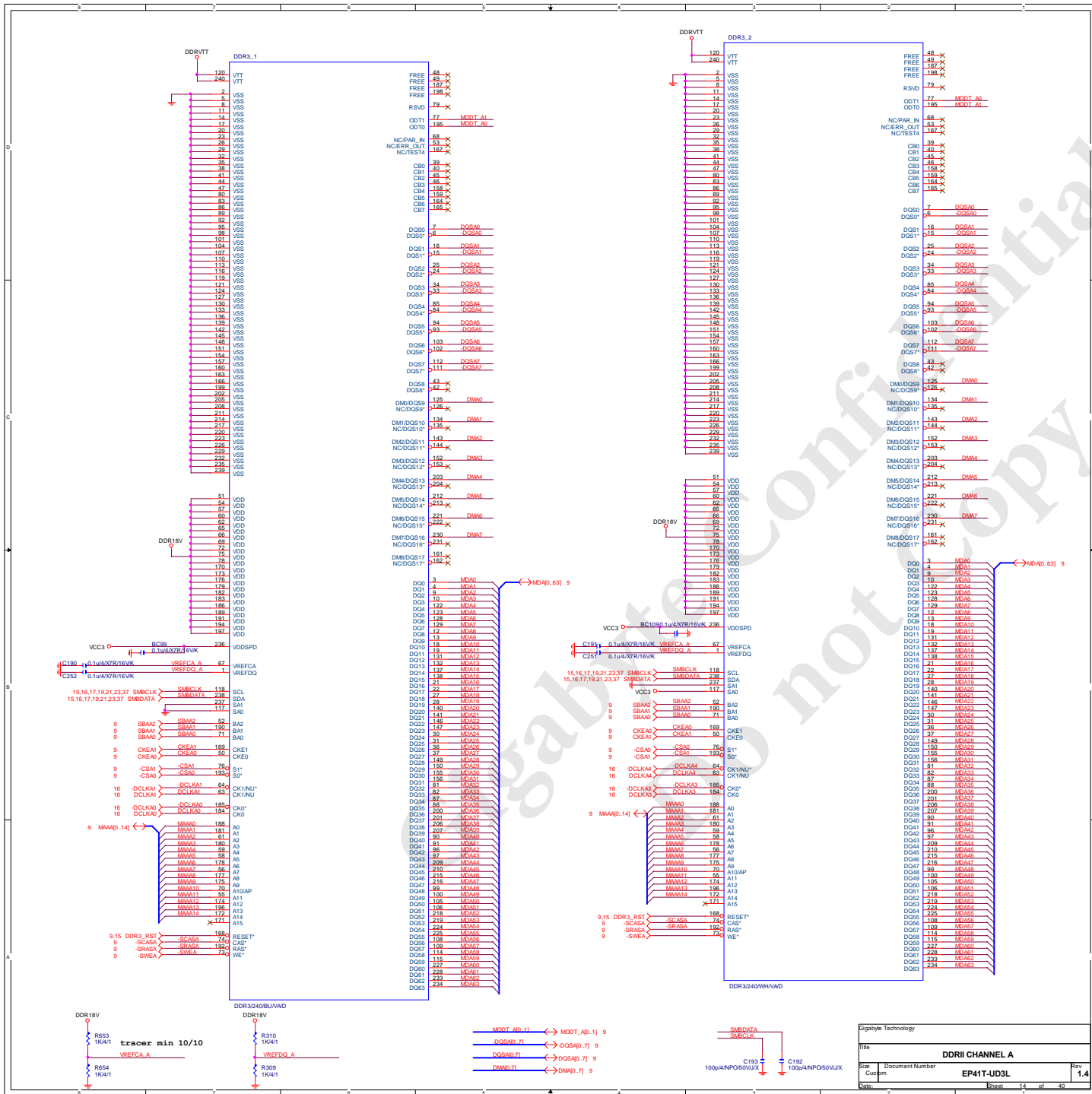
Title			GMCH-INTERNAL VGA	
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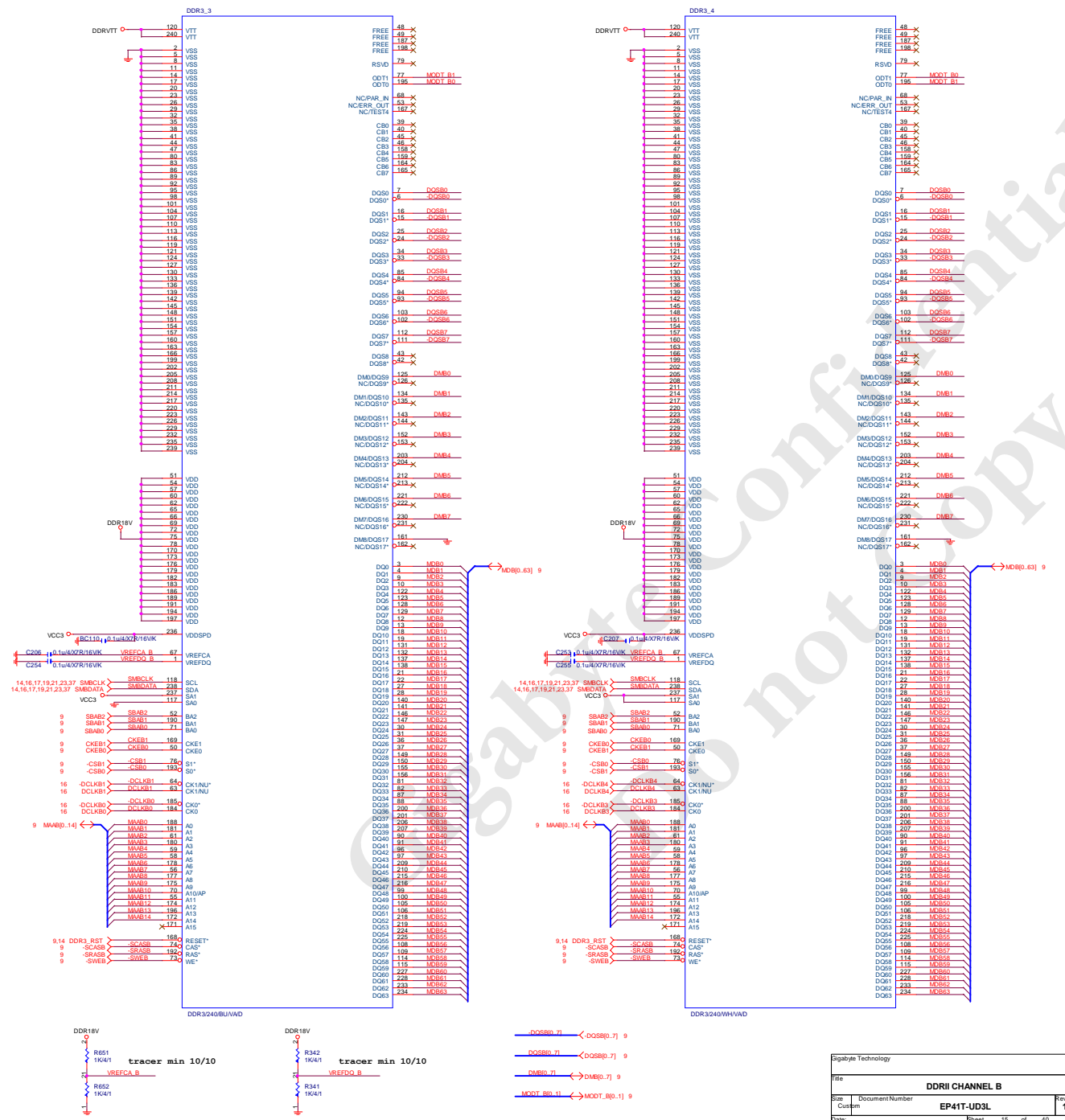


Gigabyte Technology

Title			GMCH-GND
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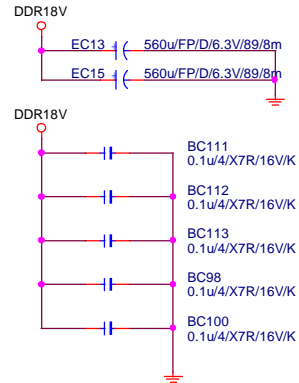




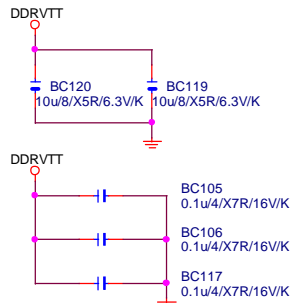


DDR TERMINATION

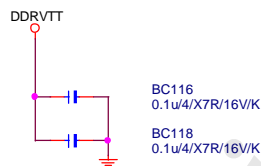
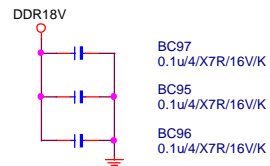
CHANNEL A DDR18V Decouple



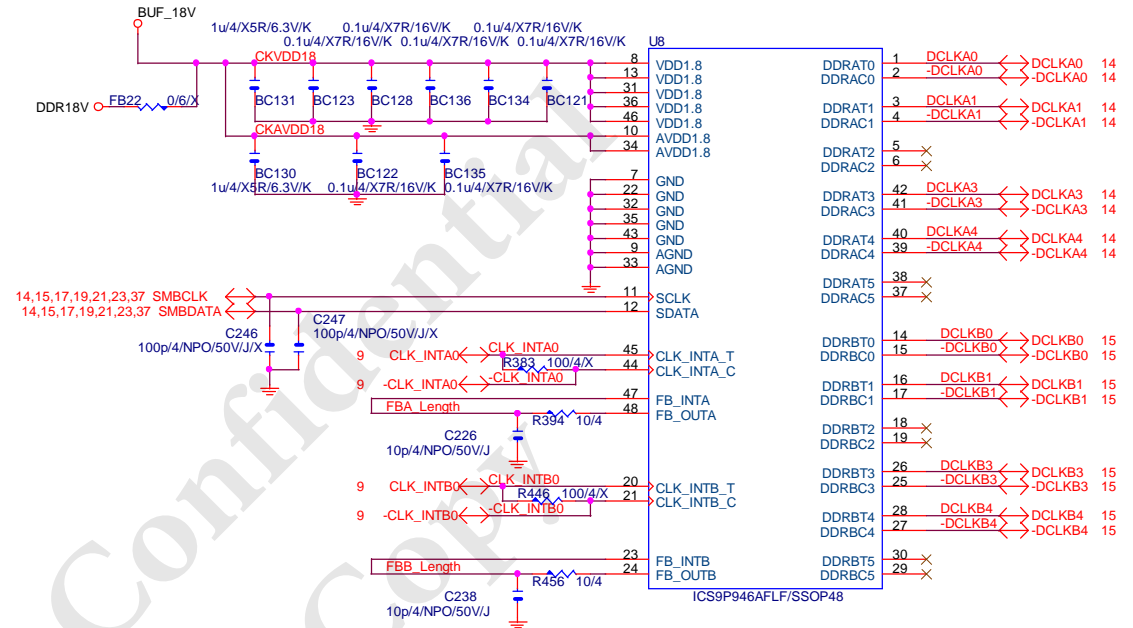
DDRVTT Decouple



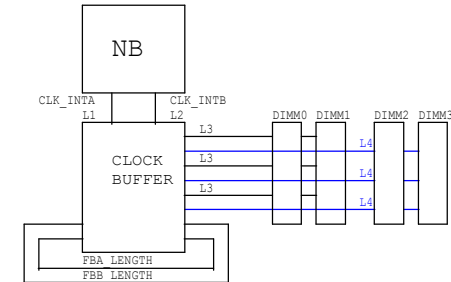
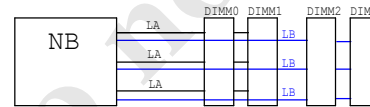
CHANNEL B



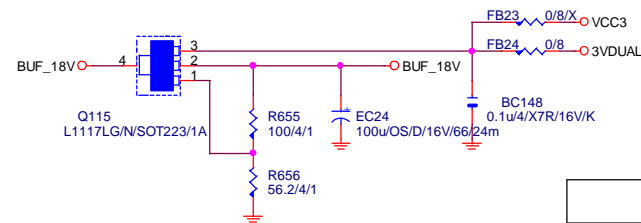
DDR3 CLOCK BUFFER



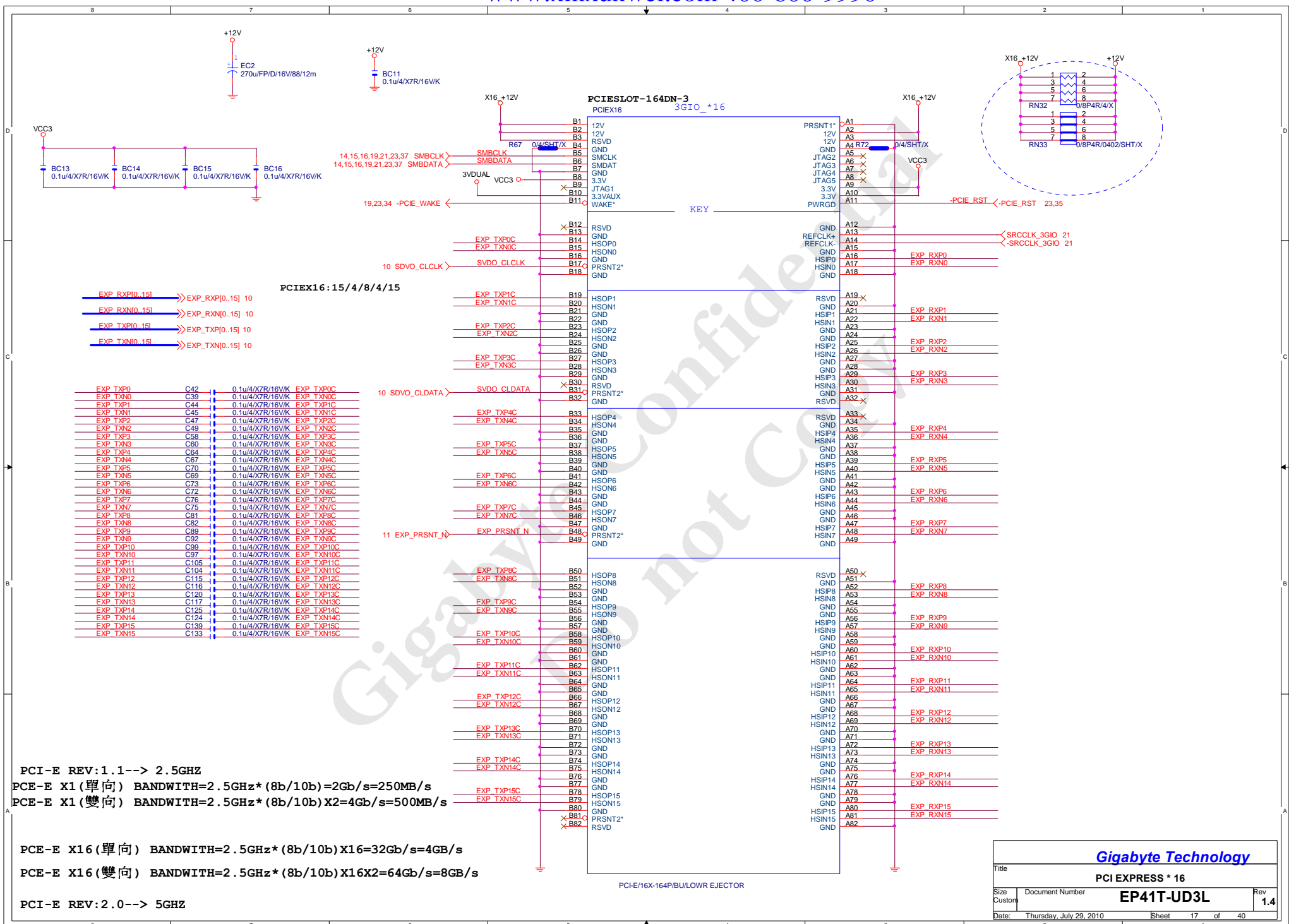
NOTICE
FBA_LENGTH=L1+L3-LA
FBB_LENGTH=L2+L4-LB



3.3V to 1.8V Voltage Regulator



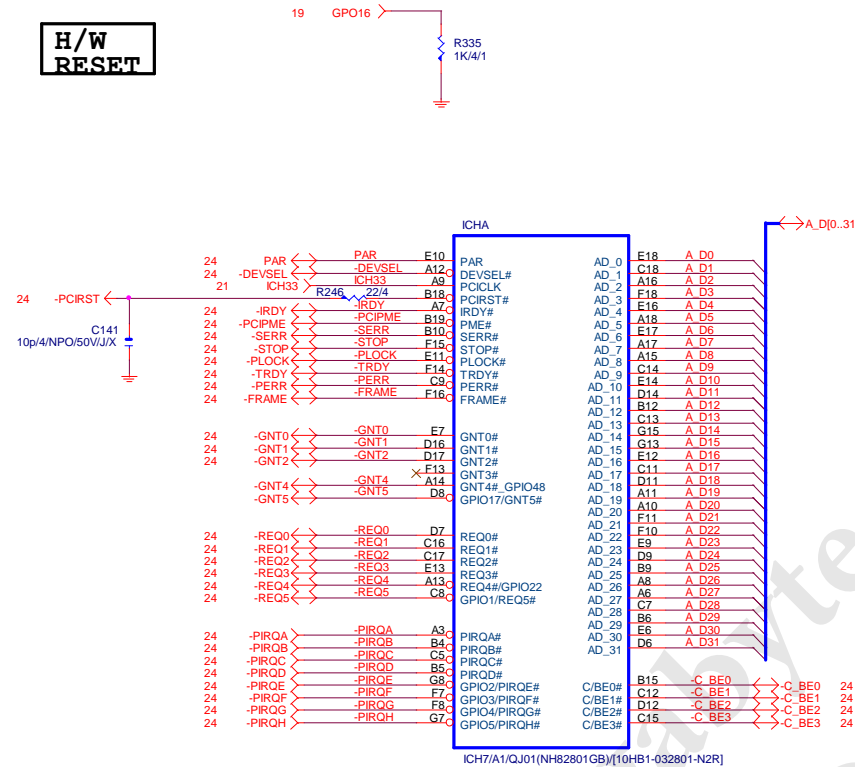
Gigabyte Technology			
Title			
DDRII TERMINATOR			
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FOR ICH7R POWER ON 瞬間會HIGH 到1.8V 之後0V,必須PULL DOWN 1K/6

H/W
RESET

95歐姆 : [12/4/8/4/12]
Close to ICH



ICH7/A1/QJ01(NH82801GB)[10HB1-032801-N2R]

10HB1-032801-M1 REV:NON

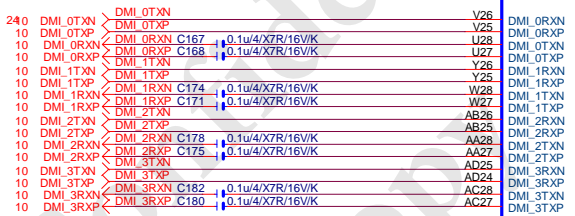
SB_HEATSIN

NEW GRAY SB_HS 對邊

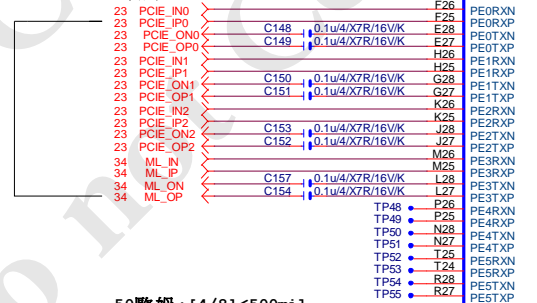
SB_HS[12SP2-030005-42R_12SP2-030005-43R]

SB_HS

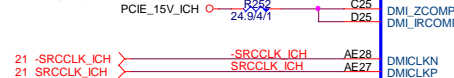
BOOT DEVICE	GNT4#	GNT5#
SPI=	1	0
PCI=	0	1
LPC=	1	1



95歐姆 : [15/4/8/4/15]

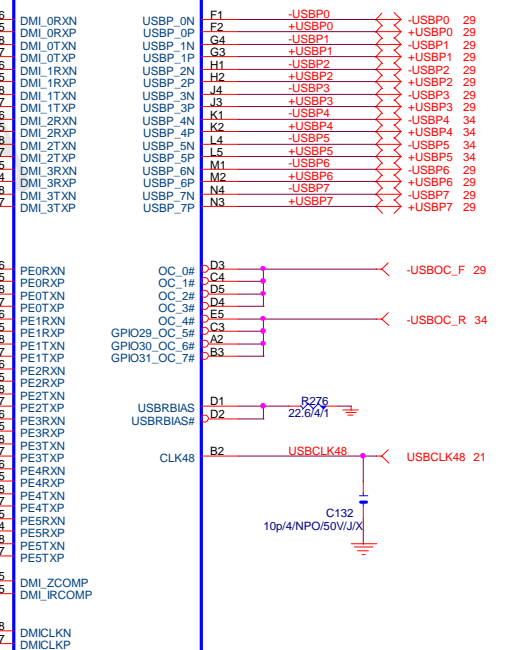


50歐姆 : [4/8]<500mil



ICHB

90歐姆 : [15/4.5/7.5/4.5/15]

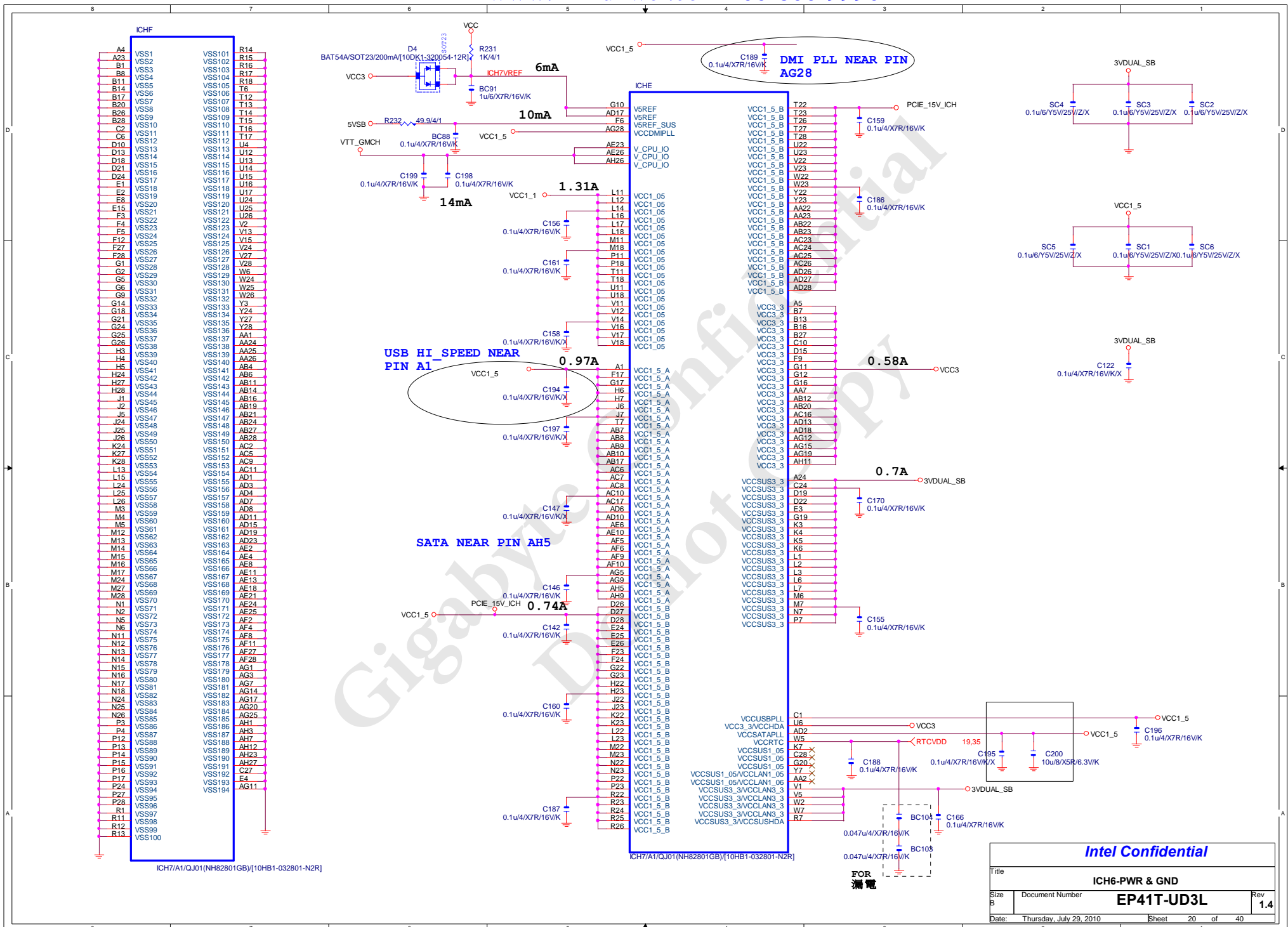


ICH7/A1/QJ01(NH82801GB)[10HB1-032801-N2R]

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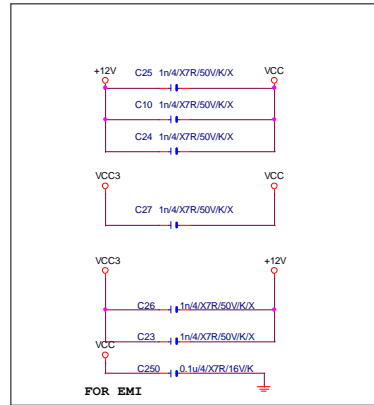
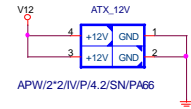
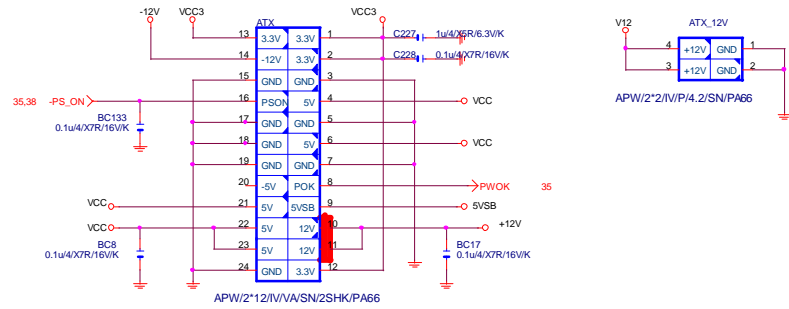
Title		
ICH6-PCI, DMI, LAN, USB		
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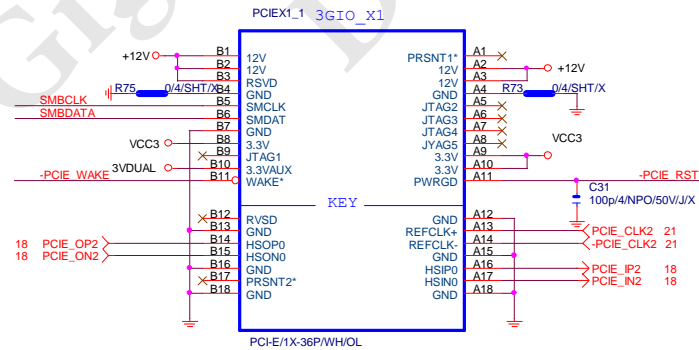
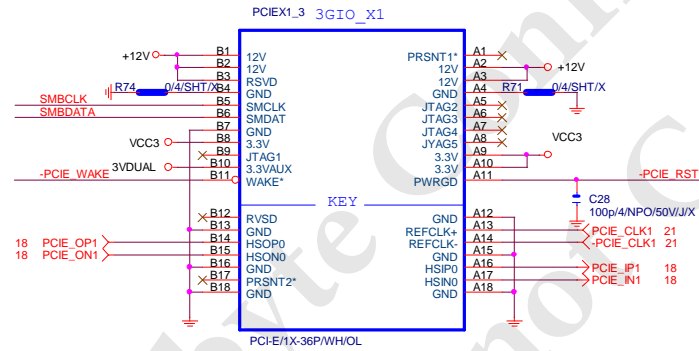
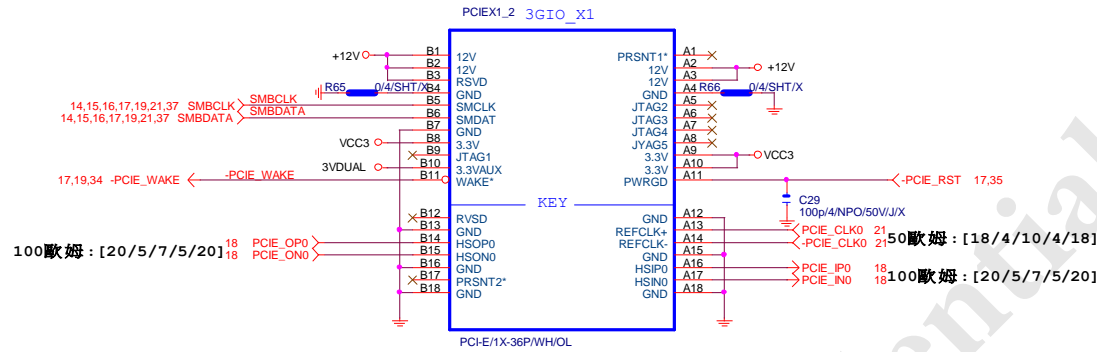
ATX POWER CONNECTOR

DUAL BIOS



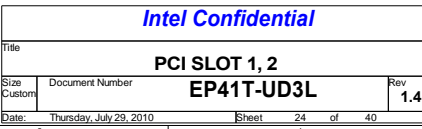
GIGABYTE

Title			ATX POWER CONNECTOR, DUAL BIOS
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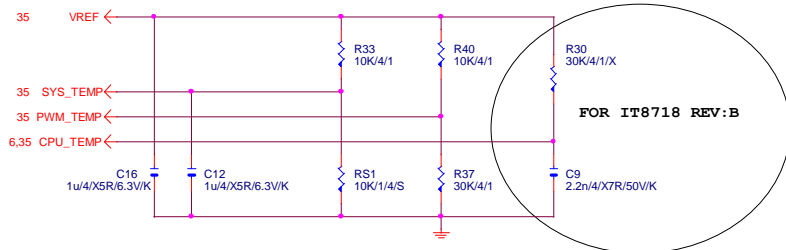


Intel Confidential

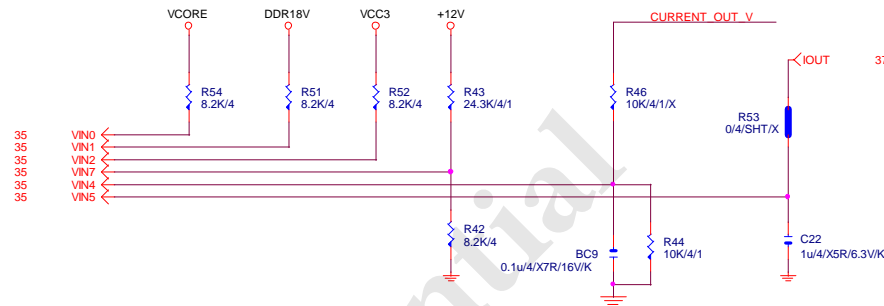
Title			PCI E SLOT 1, 2, 3
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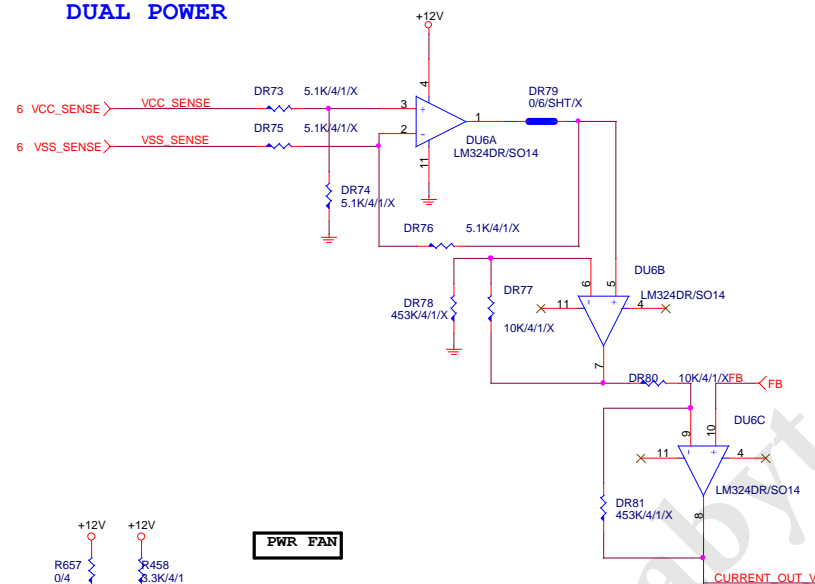
TEMP. SENSE



VOLTAGE SENSE



DUAL POWER



CPU/SYS FAN

If use PBSS5240 1pcs : (non airflow) If use PBSS5240 1pcs : (with airflow)

CPUFAN_VCC=12V: Temp=40 deg
CPUFAN_VCC=11V: Temp=82 deg
CPUFAN_VCC=10V: Temp=70 deg
CPUFAN_VCC= 9V: Temp=110 deg
CPUFAN_VCC= 8V: Temp>200 deg

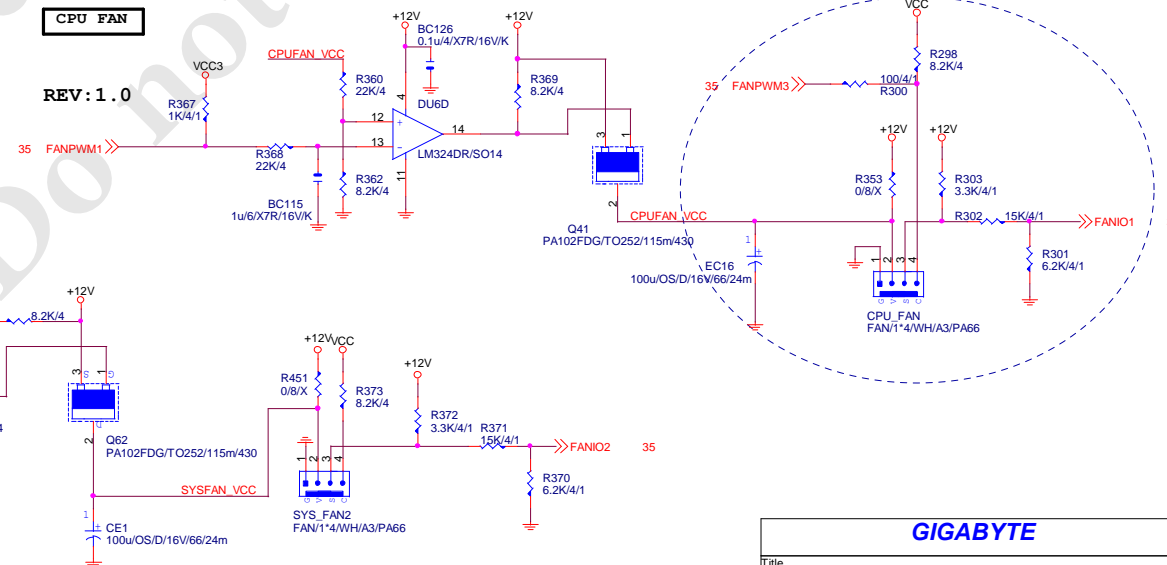
CPUFAN_VCC=12V: Temp=33 deg
CPUFAN_VCC=11V: Temp=62 deg
CPUFAN_VCC=10V: Temp=86 deg
CPUFAN_VCC= 9V: Temp=117 deg
CPUFAN_VCC= 8V: Temp>122 deg

ThermalTake FAN Power Consumption: 0.82A
Intel FAN Power Consumption Spec: 1.1A

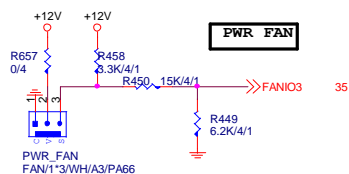
+12V不需預留330uF電容

CPU FAN

REV:1.0

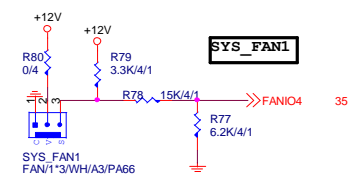


PWR FAN

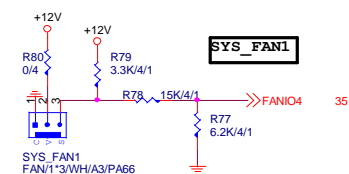


SYS FAN2

REV:1.0

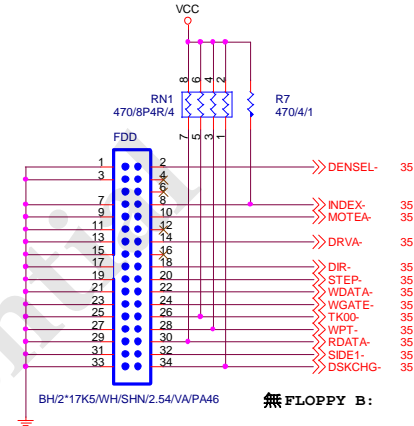
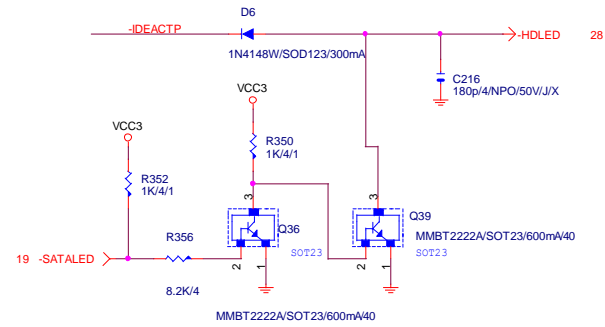


SYS FAN1

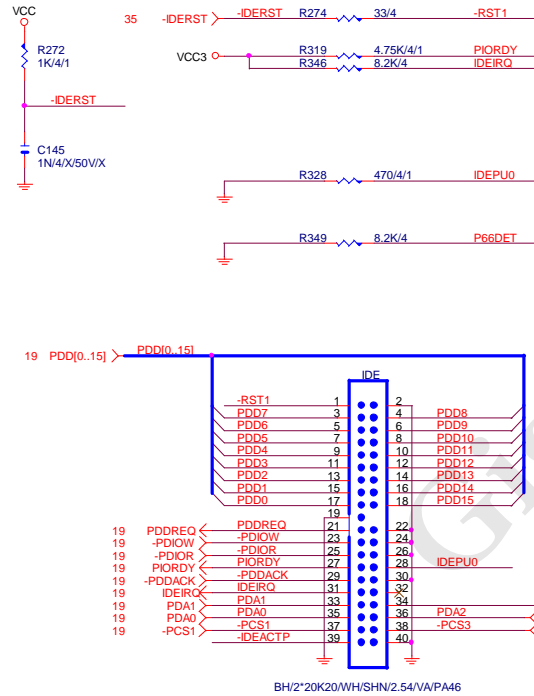


GIGABYTE

Title			HWM/FAN/CI
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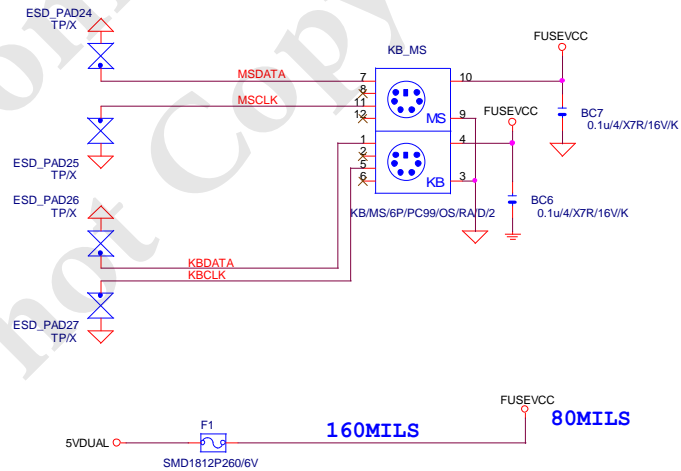
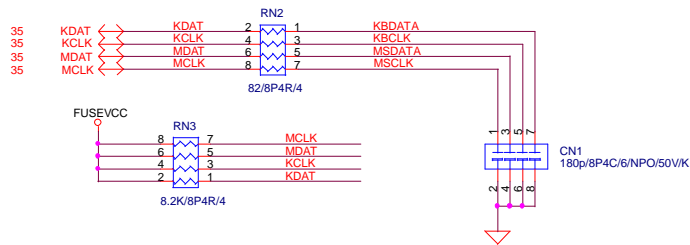
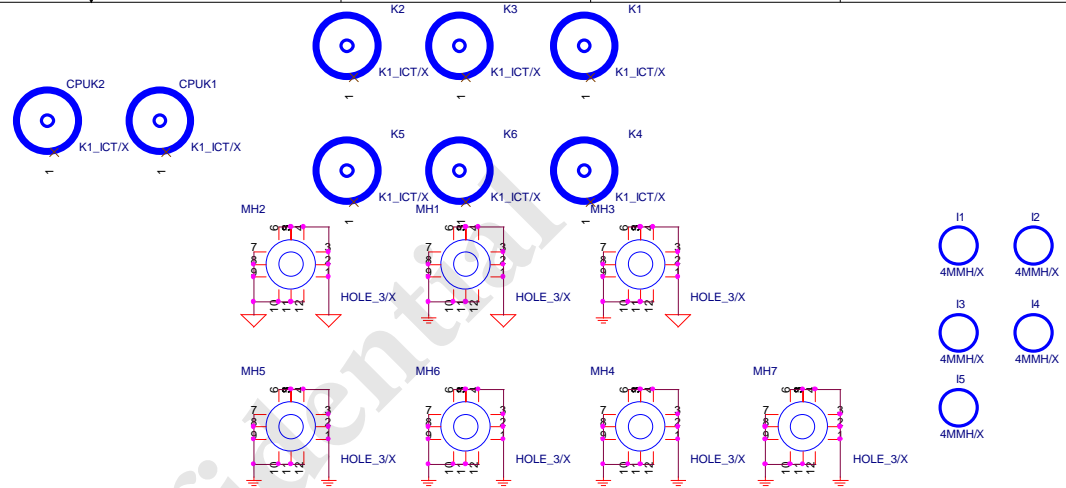
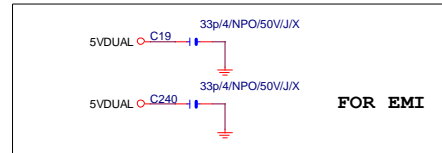
Default 不上,由IT8712 OUTPUT,REV0.2 驗證



Close to connector

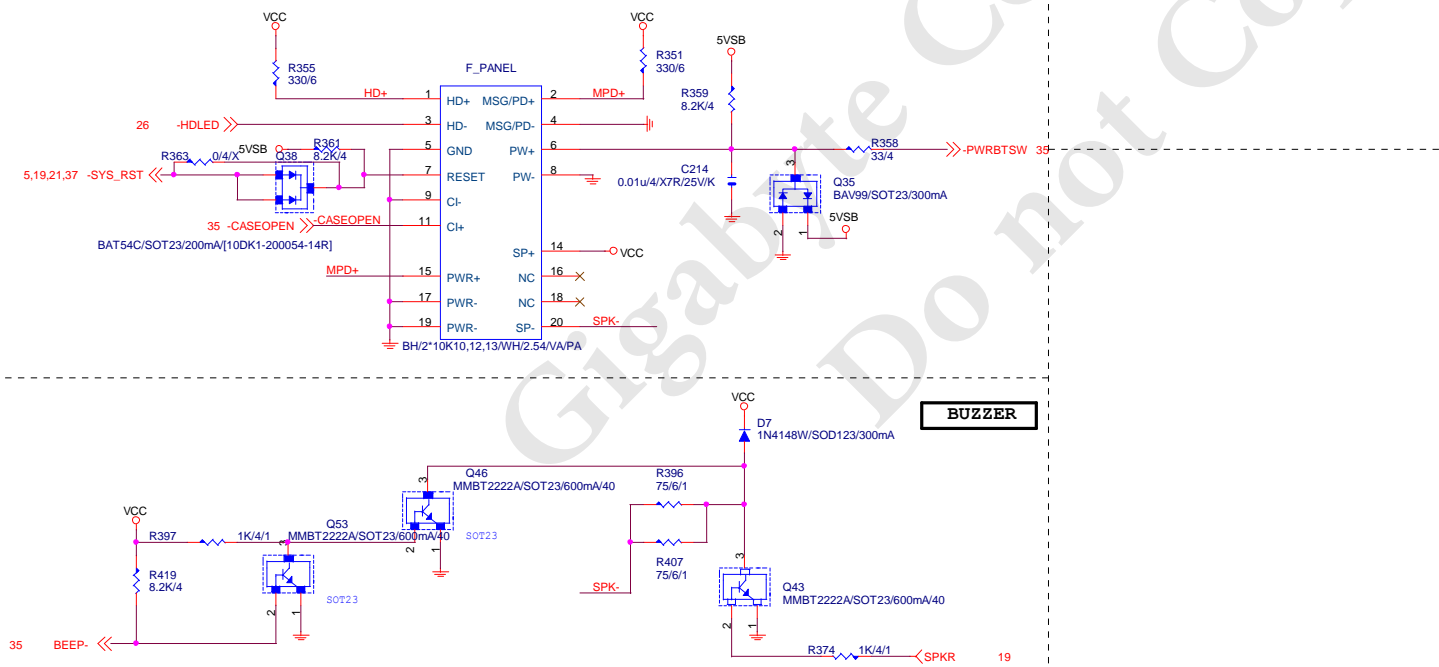
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Title			IDE / FLOPPY
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GIGABYTE CORP.			
Title			
KB & PS2 MOUSE			
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INTEL FRONT PANEL



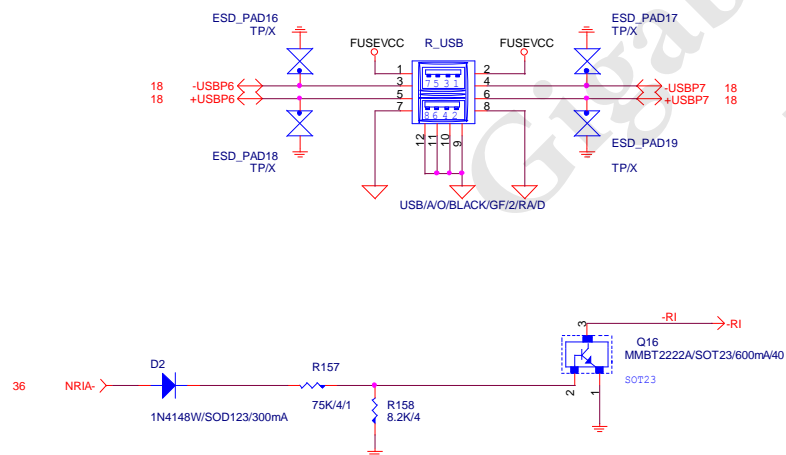
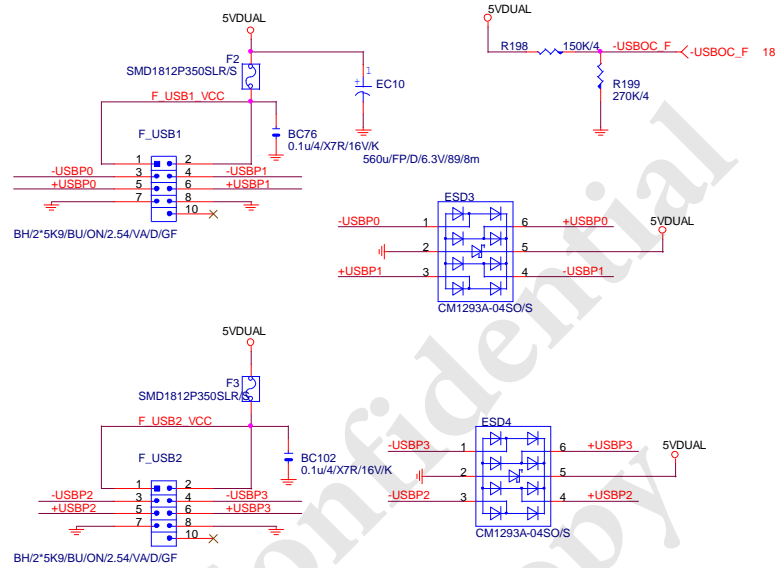
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FRONT USB

90 欧姆 : [15/4.5/7.5/4.5/15]



90 欧姆 : [15/4.5/7.5/4.5/15]

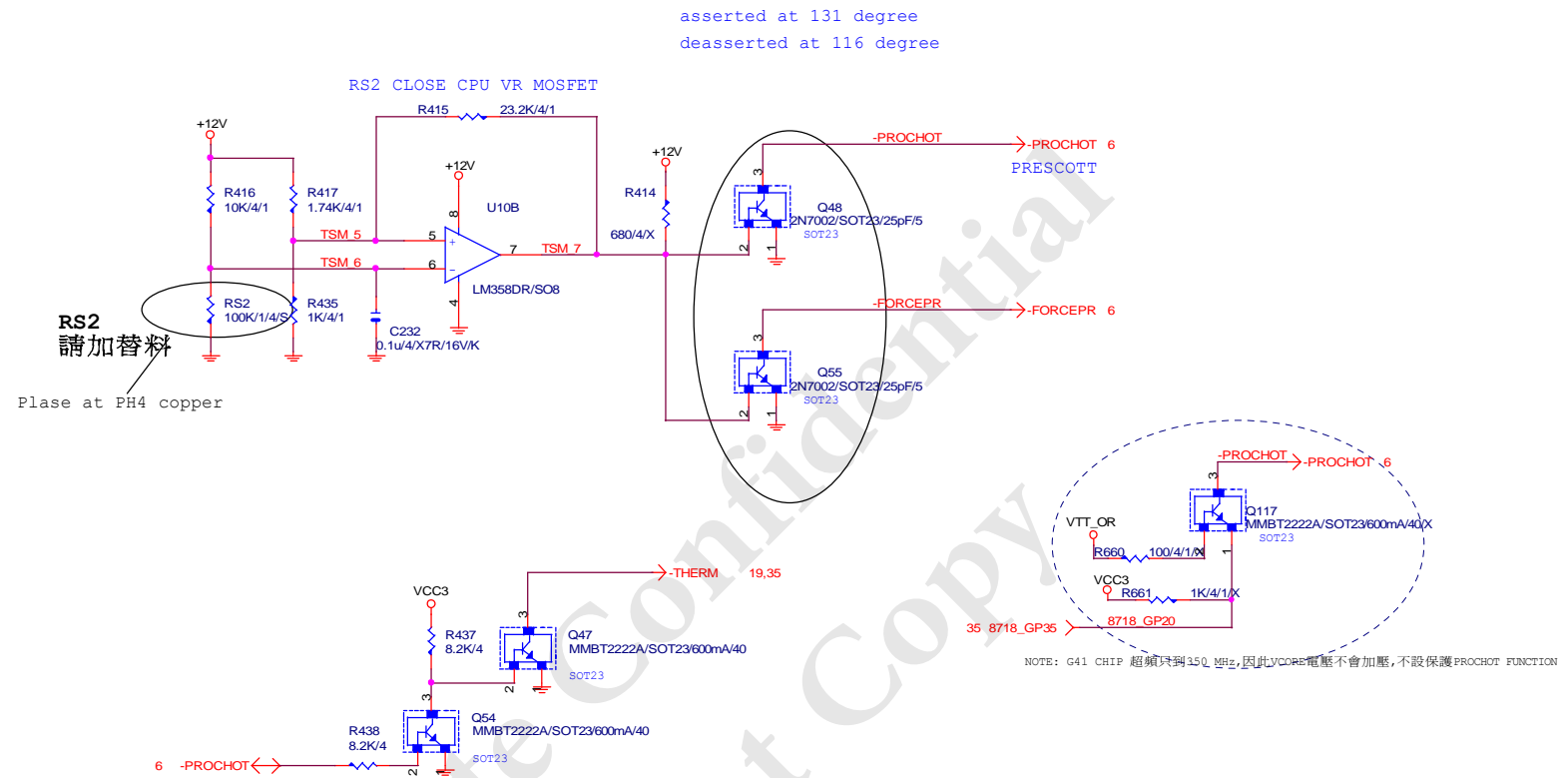


FOR 882 EMI
靠近USB

靠近FRONT USB

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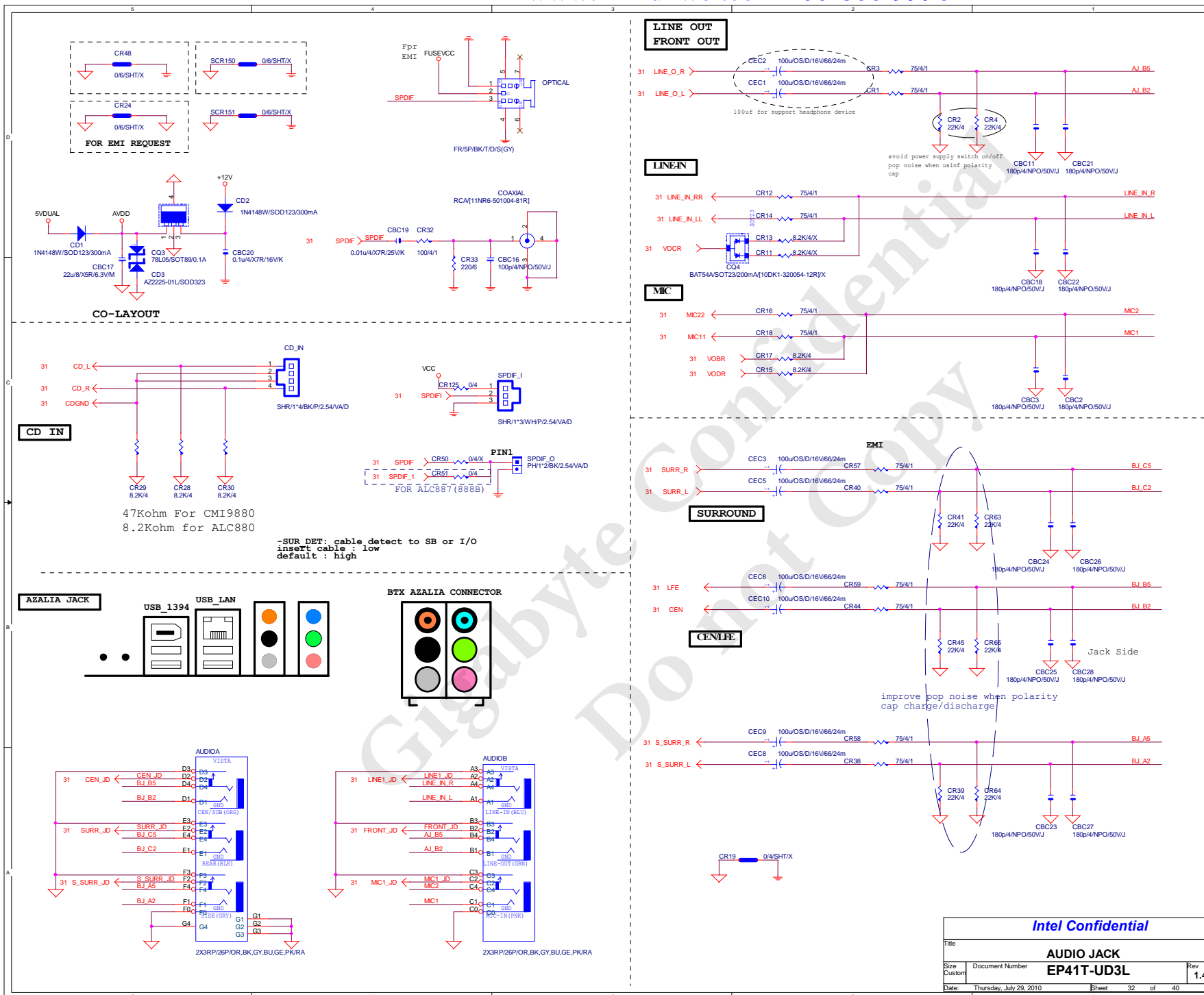
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FRONT USB CONNECTOR			
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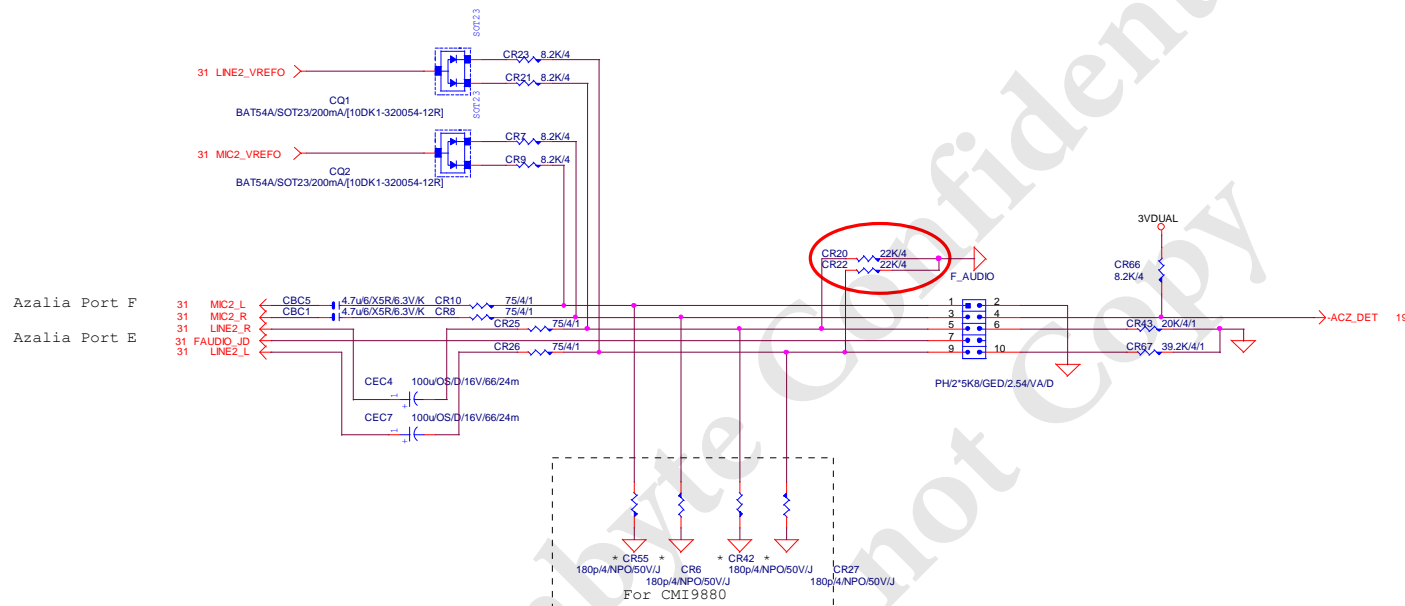


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Title		
PROCHOT		
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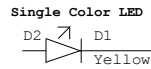
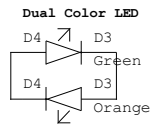




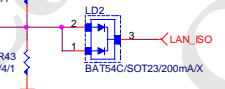
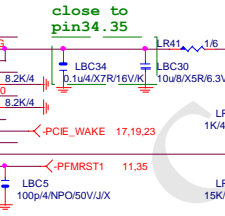
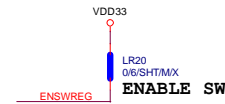
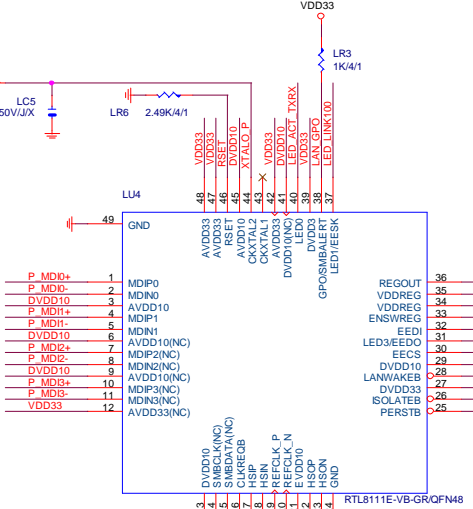
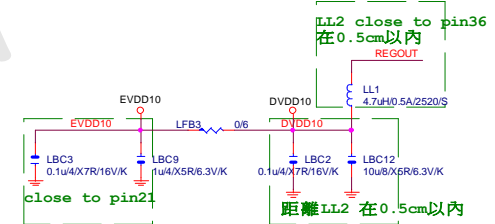
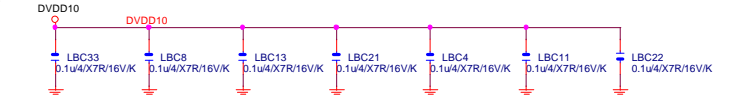
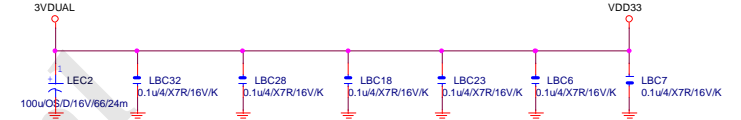
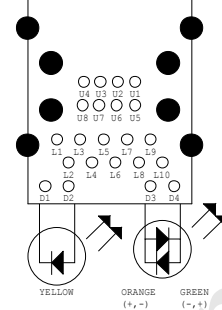


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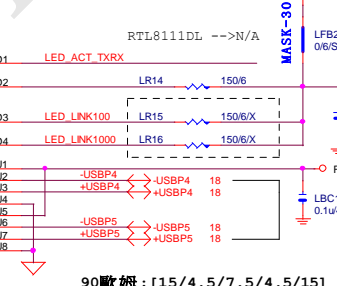
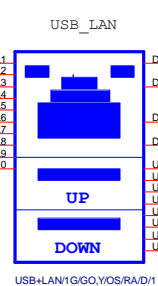
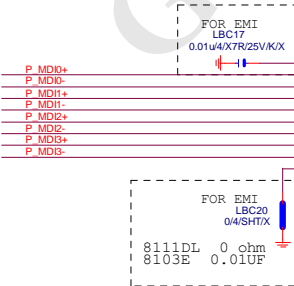


50 歐姆 : [18/4/10/4/18]

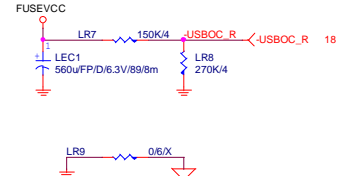
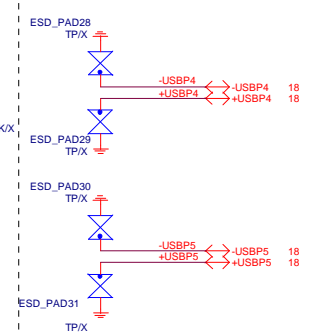
100 歐姆 : [15/4/8/4/15]

USB_LAN CONNECTOR

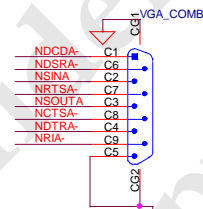
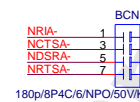
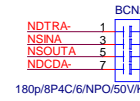
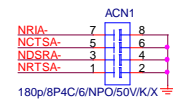
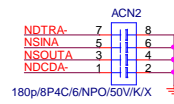
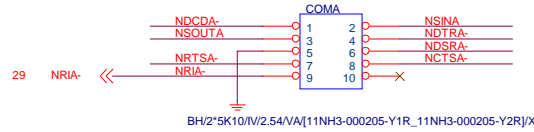
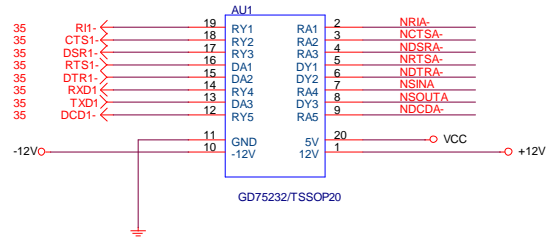
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90 歐姆 : [15/4.5/7.5/4.5/15]

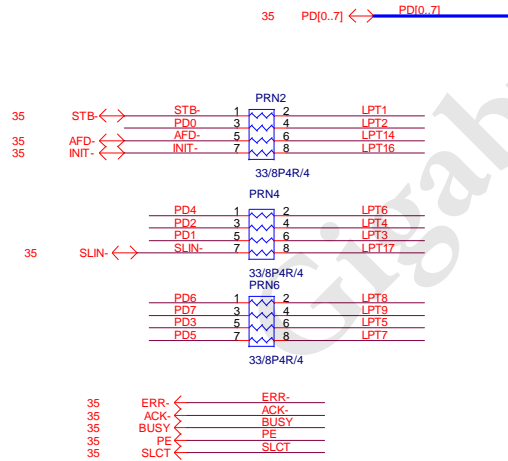
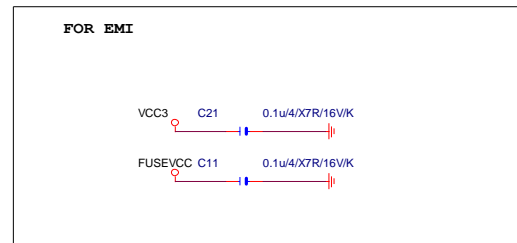


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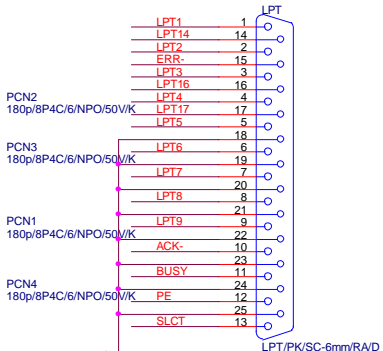
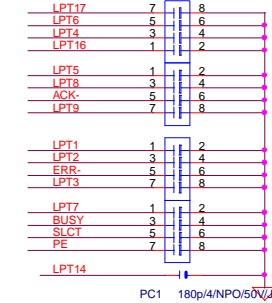
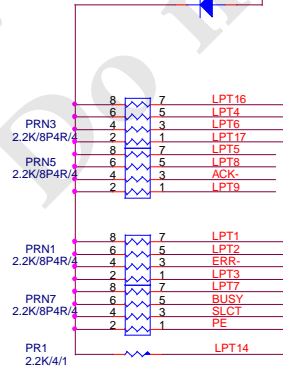


COM/GE/SC/RA1/D/DUAL LAYOUT

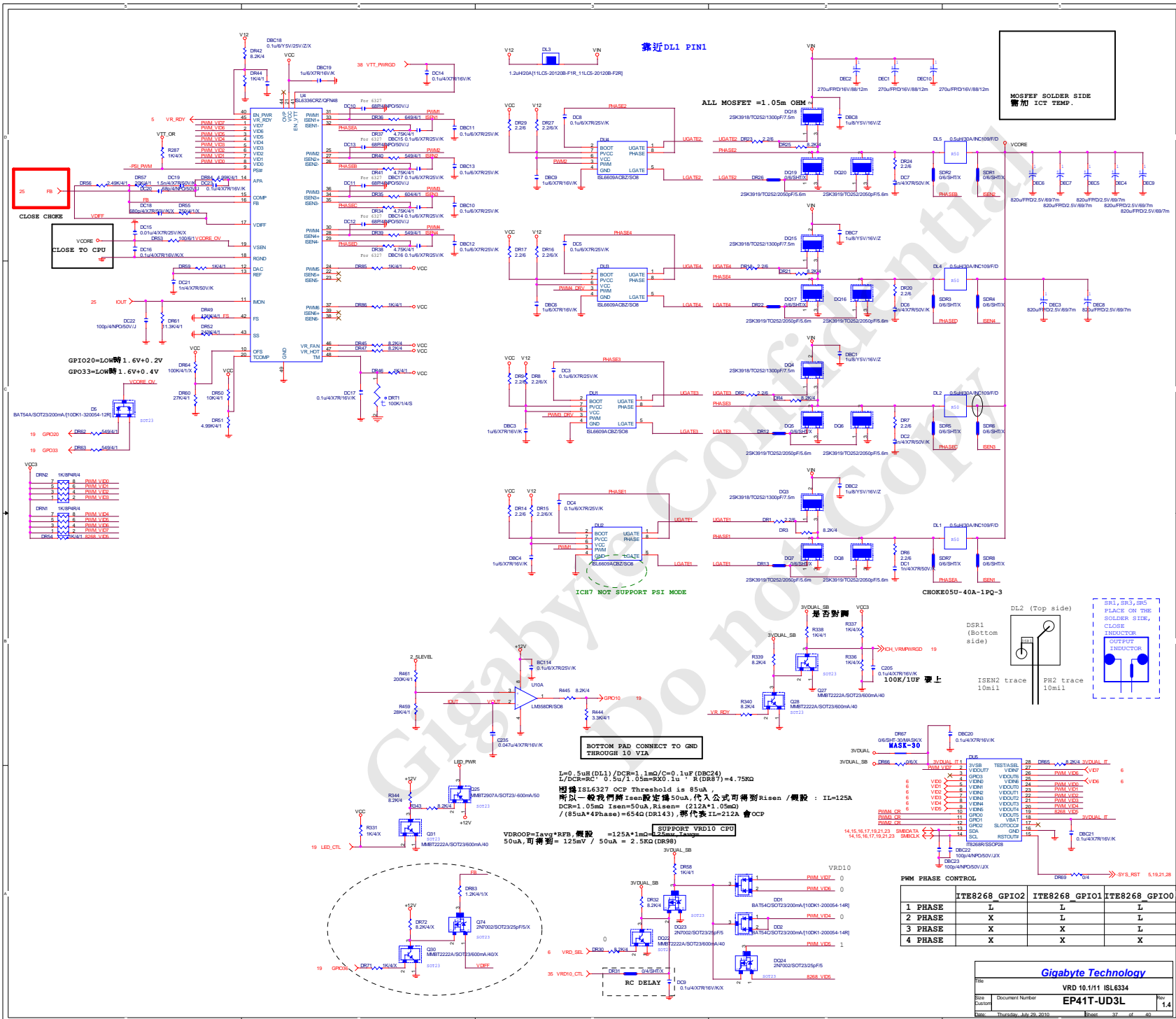
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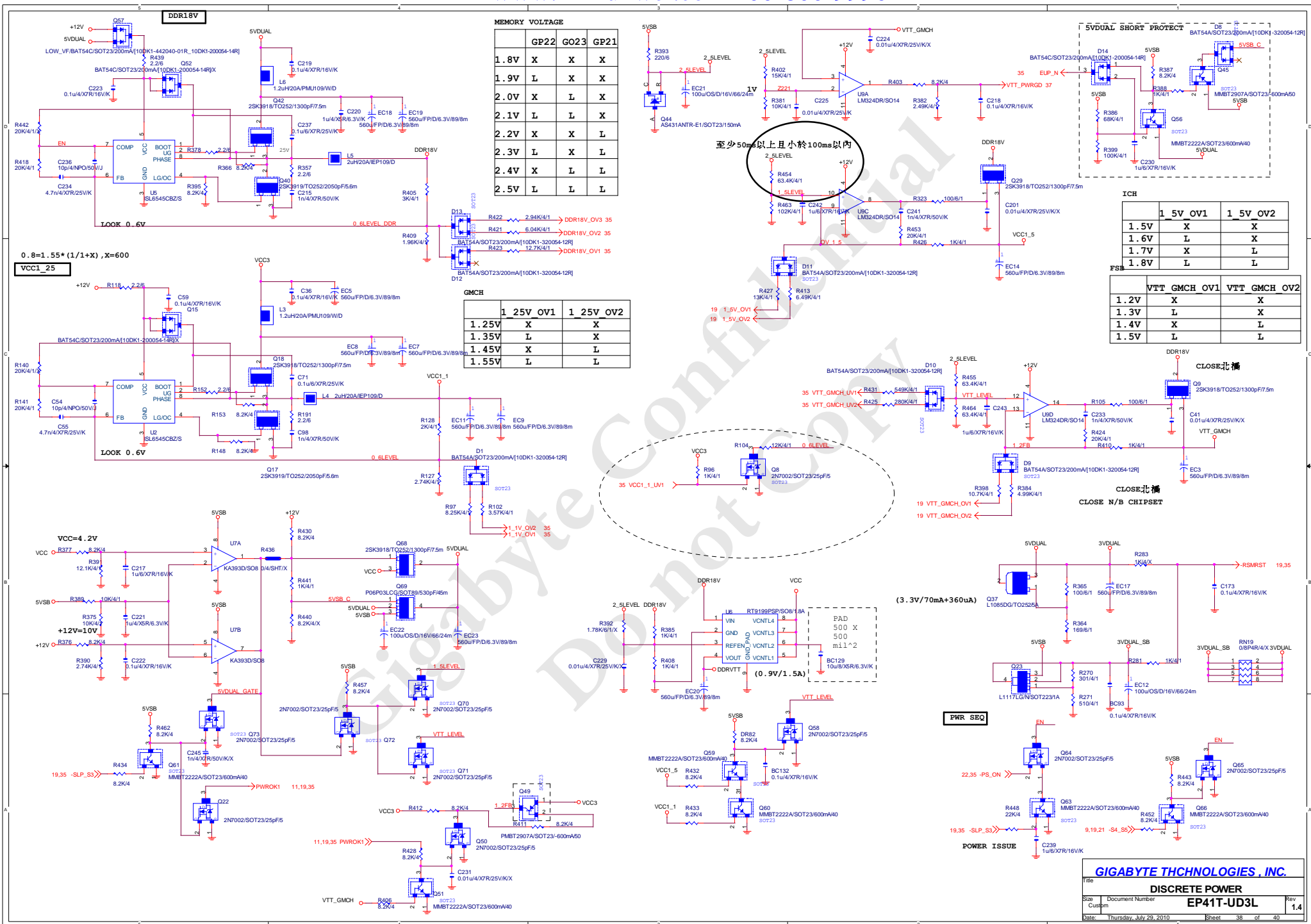


1N4148W/SOD123/300mA PD1



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紅字表示CPI/O 同PIN

GPO PIN

Pin Name	Pin Number	Power Well	Pin Type		GPIO Application
GPIO[38]	IIO	VCC3	GPI	(NA)	(NA)
GPIO[39]	IIO	VCC3	GPI	(NA)	(NA)
GPIO[40:47]		NOT IMPLEMENTED		NOT IMPLEMENTED	
GPIO[48]	IIO	VCC3	-GNT[4]	(NA)	-GNT[4]
GPIO[49]	IIO	VTT_GMCH	CPUPWRGD	(P.U VTT_OL)	CPUPWROK
PCI1	PCLK0	-PCIRST	-REQ0 -GNT0 -PIRQE		A_D16
PCI2	PCLK1	-PCIRST	-REQ1 -GNT1 -PIRQD		A_D17
PCI3	PCLK2	-PCIRST	-REQ2 -GNT2 -PIRQC		A_D18
1394b	1394CLK	-PFMRST2	-REQ3 -GNT3 -PIRQH		A_D23
IT8212	RAIDCLK	-PFMRST2	-REQ4 -GNT4 -PIRQG		A_D22

ICH7 GPIO Table:

NAME	PWR LANE	USAGE	NAME	PWR LANE	USAGE
GPI0	V5REF	M/B ID (-REQ6)	GPI41	VCC3	M/B ID
GPI1	V5REF	-REQ5	GPO48	VCC3	-GNT4
GPI2	V5REF	-PIRQE	GPO49	V-CPUIO	CPUPWOK
GPI3	V5REF	-PIRQF			
GPI4	V5REF	-PIRQG			
GPI5	V5REF	-PIRQH			
GPI6	VCC3	-SLP_BTN			
GPI7	VCC3	DUAL BIOS			
GPI8	3VDAUL	-LANWAKE			
GPI9	3VDAUL	-USBOC4			
GPI10	3VDAUL	-USBOC5			
GPI11	3VDAUL	-SMBALT			
GPI12	VCC3	ATX_DET			
GPI13	3VDAUL	-LPCPME			
GPI14	3VDAUL	-USBOC6			
GPI15	3VDAUL	-USBOC7			
GPO16	VCC3	CPU OV1 (-GNT6)			
GPO17	VCC3	-GNT5			
GPO18	VCC3	CPU OV2			
GPO19	VCC3	DUAL BIOS			
GPO20	VCC3	BIOS T-BLOCK			
GPO21	VCC3	DUAL BIOS			
GPO23	VCC3	DDR OV0			
GPI024	3VDAUL	GREEN LED			
GPI025	3VDAUL	DDR OV1			
GPI26	VCC3	SATA_GP0			
GPI027	3VDAUL	+PWRLED			
GPI028	3VDAUL	-PWRLED			
GPI29	VCC3	SATA GP1			
GPI30	VCC3	SATA GP2			
GPI31	VCC3	SATA GP3			
GPI032	VCC3	BIOS WP			
GPI033	VCC3	AZALIA DET			
GPI034	VCC3	PWRLED			
GPI40	V5REF	-REQ4			

PWROK/RESET Table:

ITE8712BHX PIN	NET NAME	TARGET
PIN62/-PCIRST1	-PCIE_RST	1. PCI-E * 1 Slot1 2. PCI-E * 1 Slot2 3. PCI-E * 1 Slot3 4. PCI-E * 16 Slot
PIN64/-PCIRST2	-PFMRST2	1. Onboard PCI Lan 2. Onboard 1394 Chip 3. OnBoard FWH
PIN65/-PCIRST3	-PFMRST1	1. Onboard PCI-E Lan 2. Onboard SATA Chip 3. GMCH
PIN115/-PCIRST4	-PFMRST -IDERST	Reserved For IDE
PIN63/PWROK1	PWROK1	1. GMCH 2. ICH6 3. 5VDUAL SWITCH 4. DPS CONTROL
PIN109/PWROK2	-THERM	1. ICH6

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