

Model Name:GA-EP41T-UD3L Rev:1.1

SHEET

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05	L775 B,D
06	L775 C
07	L775 E,F,G,H
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09	GMCH-Eaglelake DDRII
10	GMCH-Eaglelake PCI E, DMI
11	GMCH-Eaglelake INT VGA
12	GMCH-Eaglelake GND
13	GMCH-Eaglelake PWR
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19	ICH7 IDE, GPIO, SATA, CTRL
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24	PCI SLOT 1,2,3
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26	IDE/FLOPPY
27	KB_PS2

SHEET

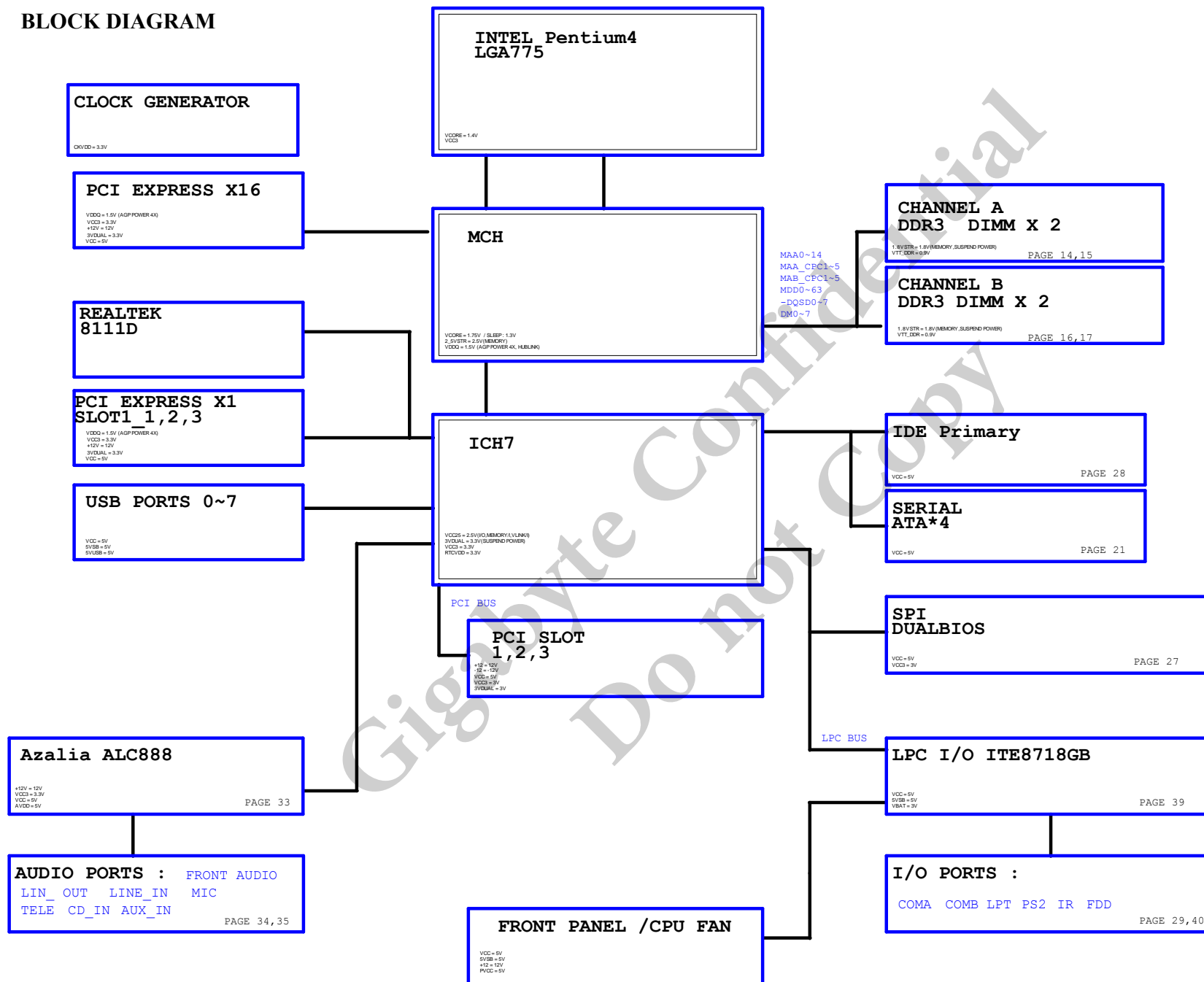
TITLE

28	FRONT PANEL
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30	PROCESSOR HOT
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32	REAR AUDIO JACK
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BLOCK DIAGRAM

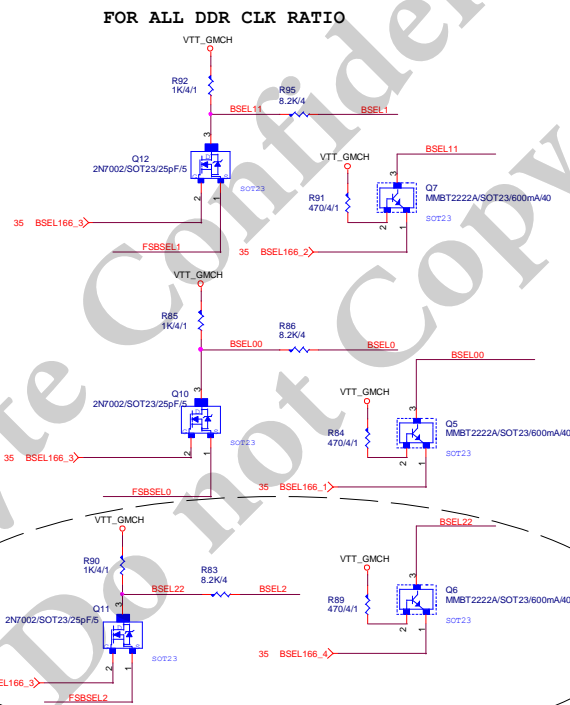
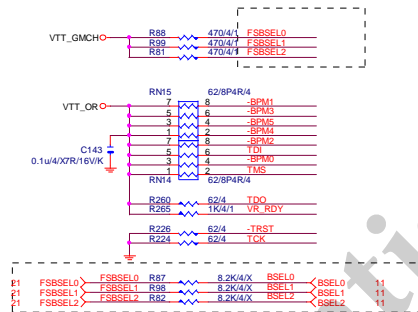


Circuit or PCB layout change
for next version

2009

[illegible][illegible]

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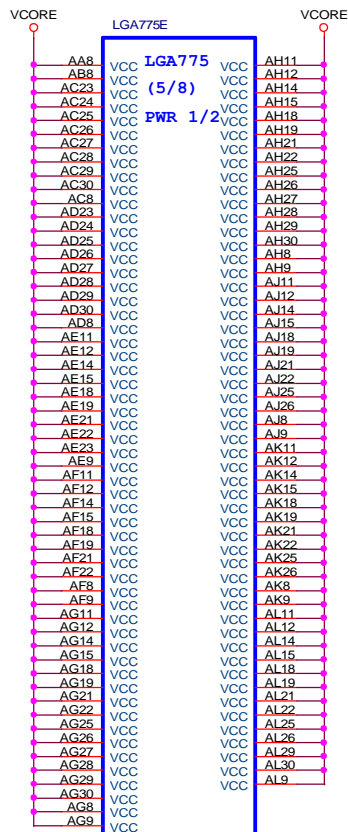


CHECK BSEL0/1 ITE8712 POWER ON 時電壓是否會高於1.2V

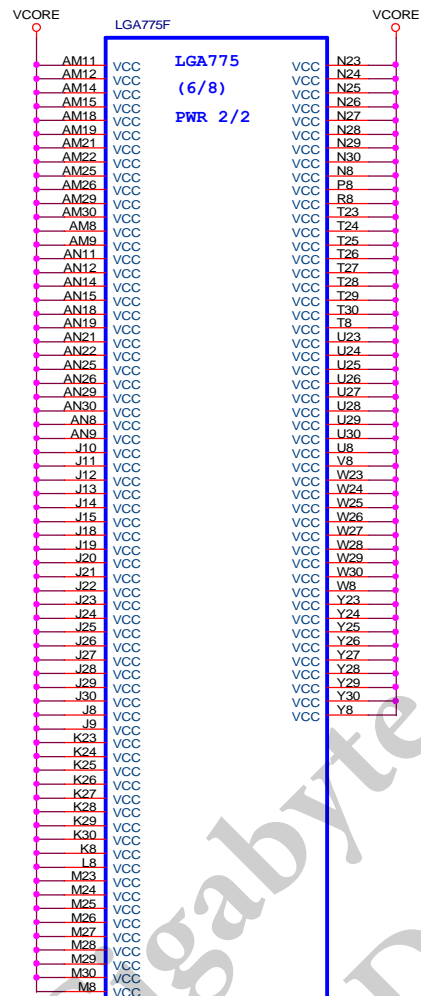
	FBSSEL0	FBSSEL1	FBSSEL2	Clock	
?	1	0	1	10MHz	
?	1	0	0	13MHz	3/4
G31	0	1	0	20MHz	2/2.66/3.33/4
G31	0	0	0	26MHz	2/2.5/3/4
G31	0	0	1	33MHz	2/2.4
	0	1	1	40MHz	

Gigabyte Technology

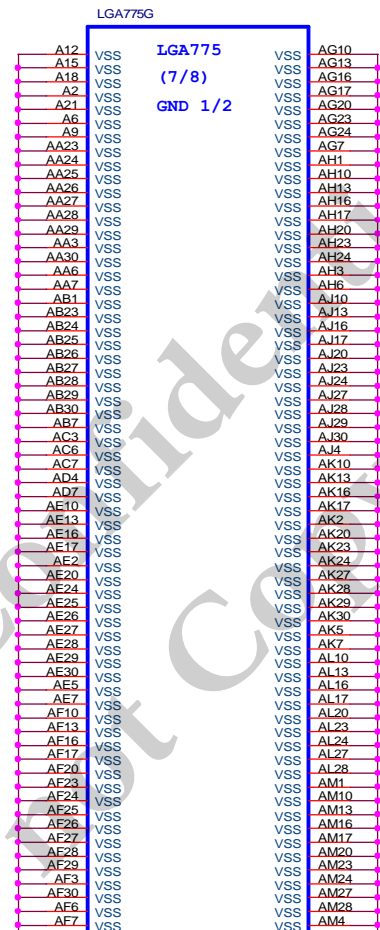
Title				P4_LGA775-B,D			
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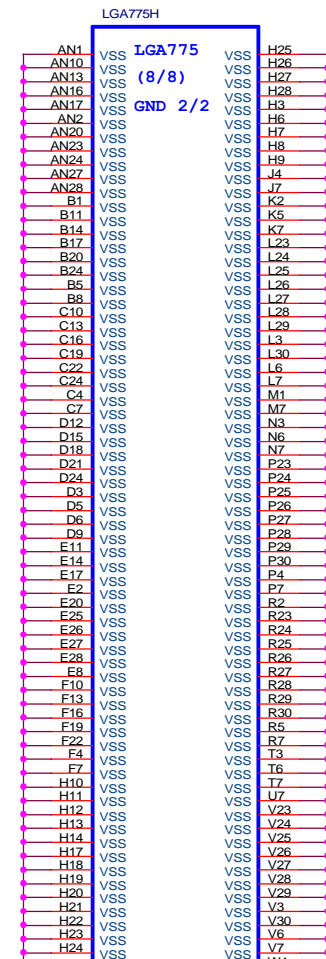
CPU-SK/775/S/15



CPU-SK/775/S/15



CPU-SK/775/S/15



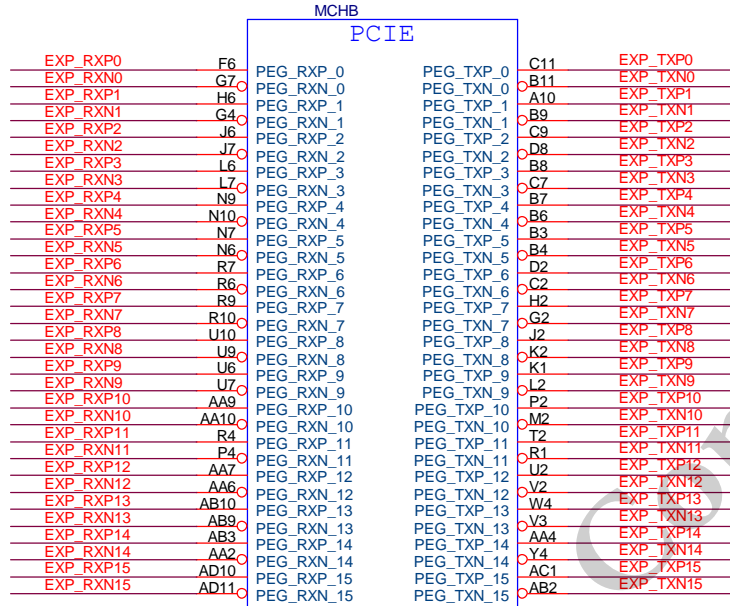
CPU-SK/775/S/15

Gigabyte Technology

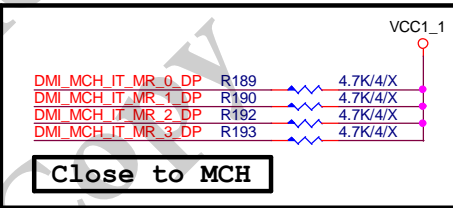
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P4_LGA775-E,F,G,H			
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PCIEX16:16/5/5/5/16(breakout min 8/4/5/4/8)

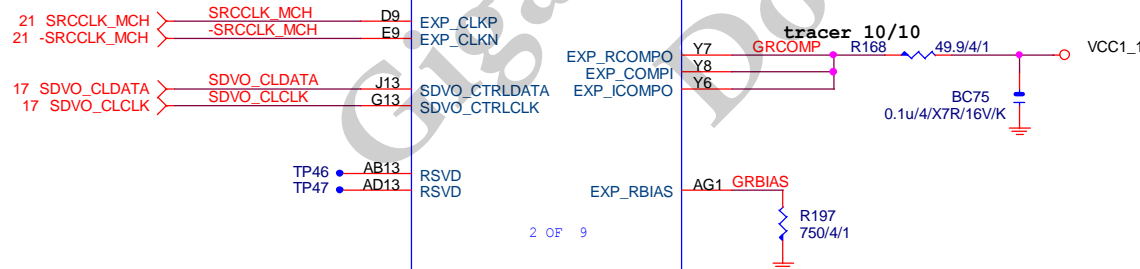
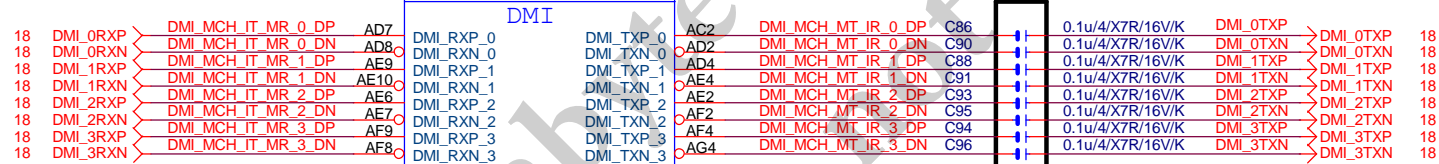
Impedance=85 +- 17.5%



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



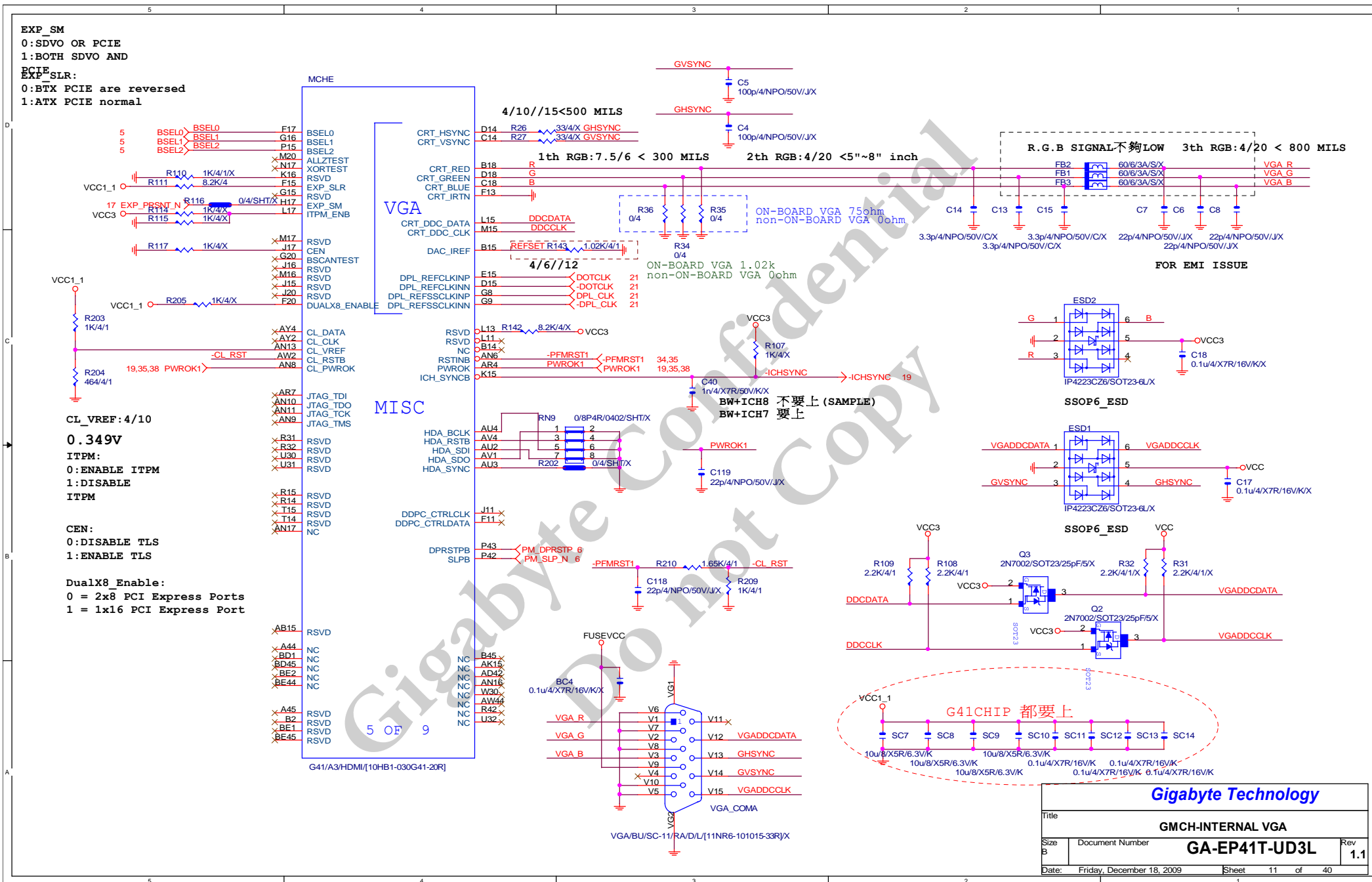
DMI:12/4/8/4/12
Impedance=95 +- 17.5%

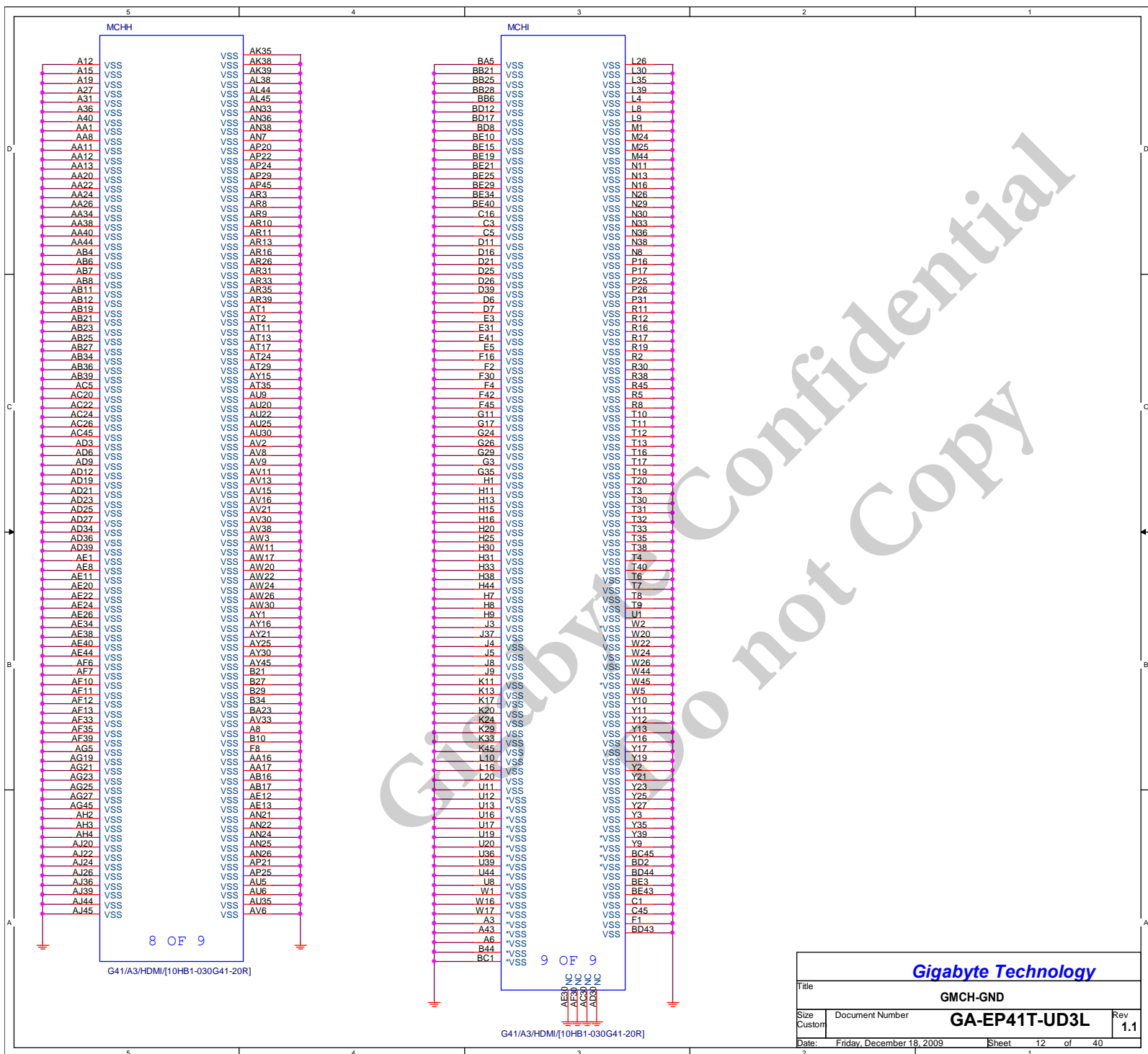


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G41/A3/HDMI[10HB1-030G41-20R]

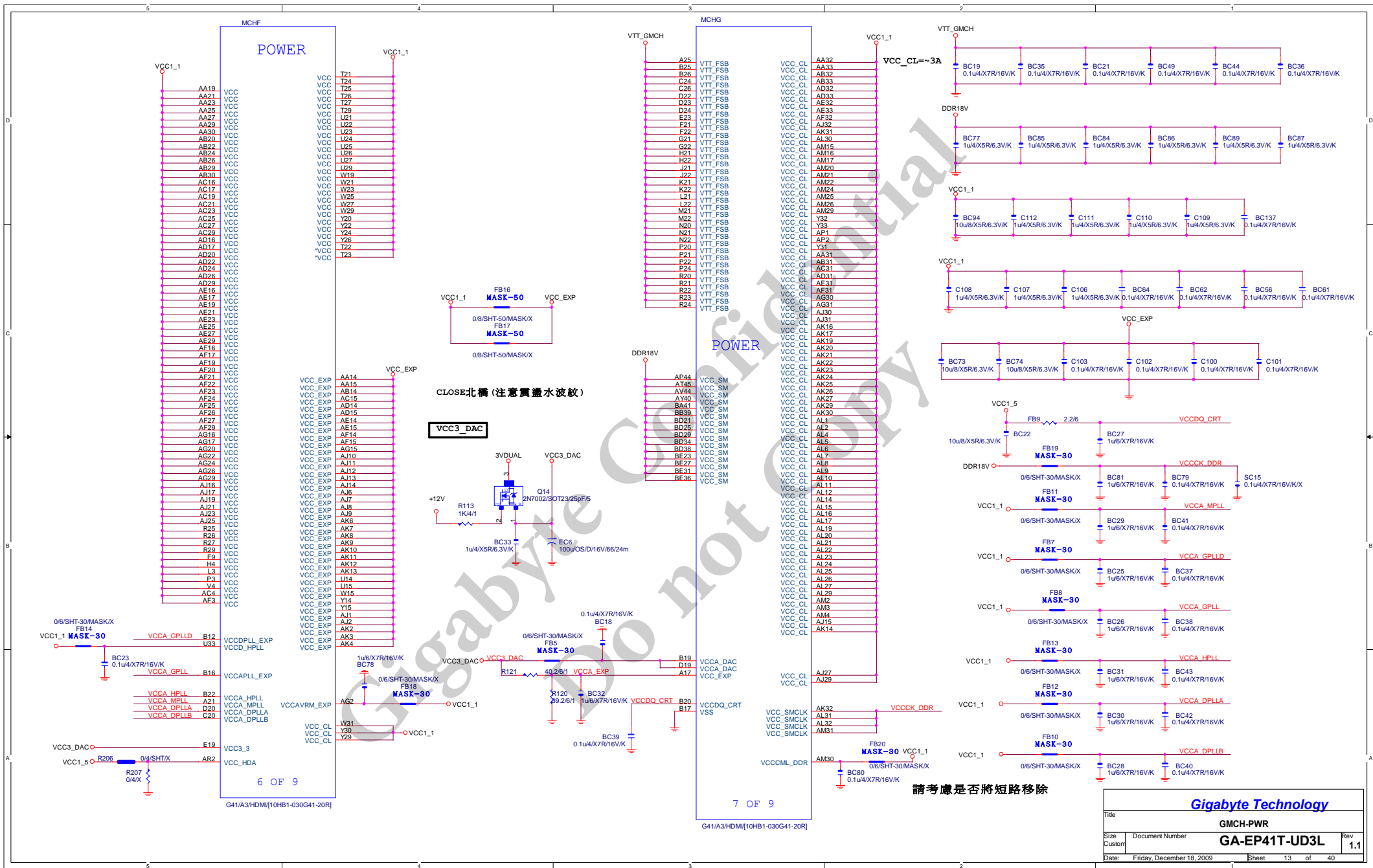
Gigabyte Technology			
Title			
GMCH-PCI E & DMI			
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```
EXP_SM
0:SDVO OR PCIE
1:BOTH SDVO AND
PCIE
EXP_SLR:
0:BTX PCIE are reversed
1:ATX PCIE normal
```

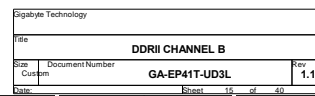




Gigabyte Technology		
Title: GMCH-GND		
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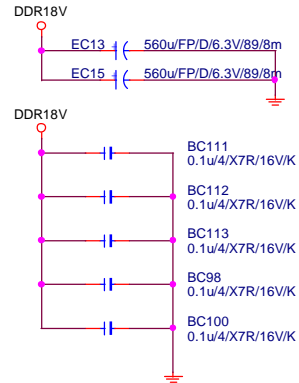




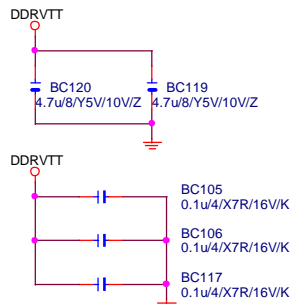


DDR TERMINATION

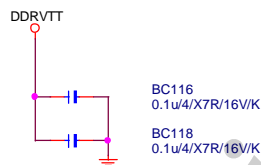
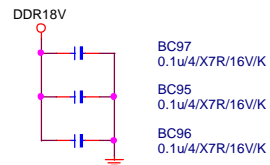
CHANNEL A DDR18V Decouple



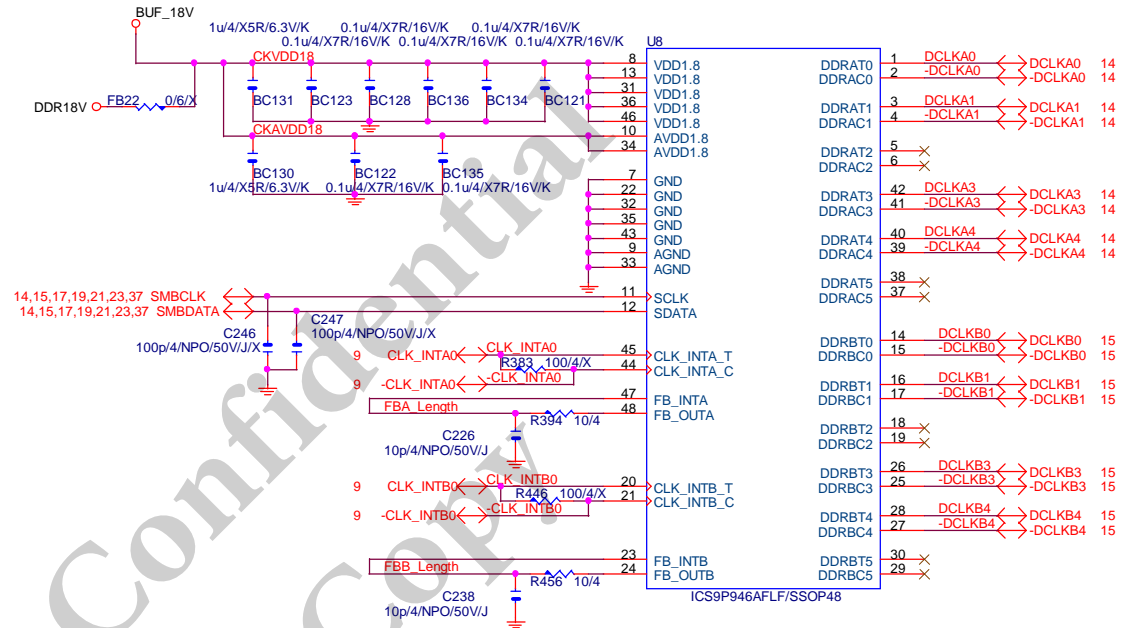
DDRVTT Decouple



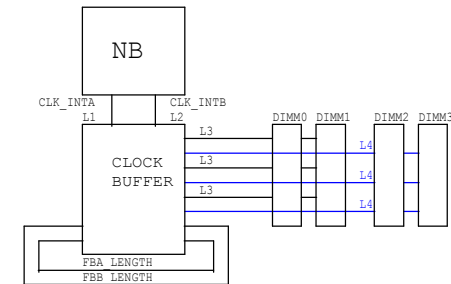
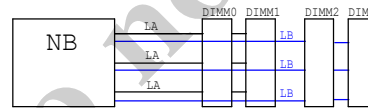
CHANNEL B



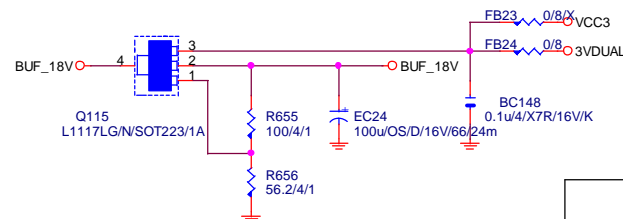
DDR3 CLOCK BUFFER



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



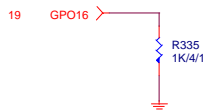
3.3V to 1.8V Voltage Regulator



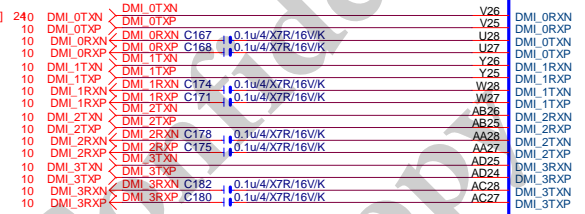
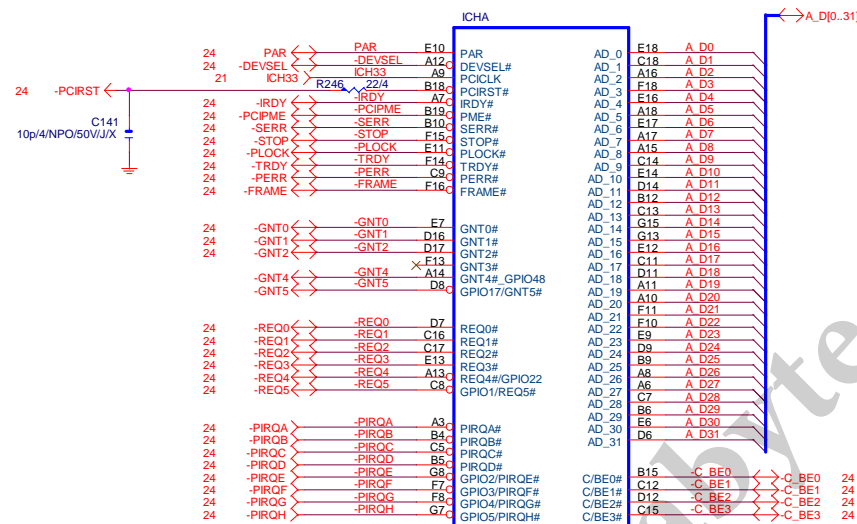
Gigabyte Technology			
Title			
DDRII TERMINATOR			
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FOR ICH7R POWER ON 瞬間會HIGH 到1.8V 之後0V,必須PULL DOWN 1K/6

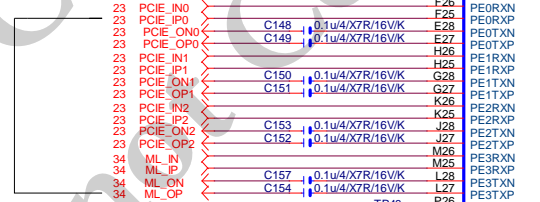
H/W
RESET



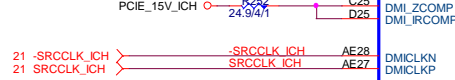
95歐姆 : [12/4/8/4/12]
Close to ICH



95歐姆 : [15/4/8/4/15]

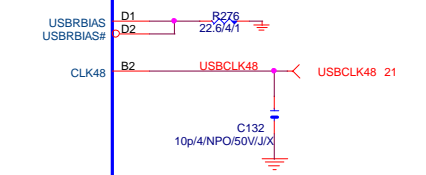
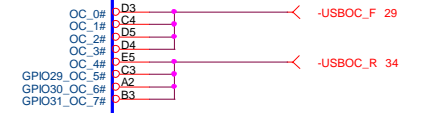
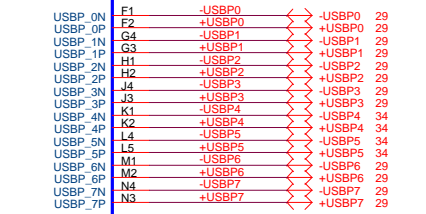


50歐姆 : [4/8]<500mil
PCIE_15V_ICH



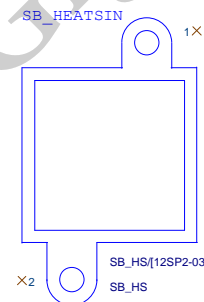
ICHB

90歐姆 : [15/4.5/7.5/4.5/15]



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

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



NEW GRAY SB_HS 對邊

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

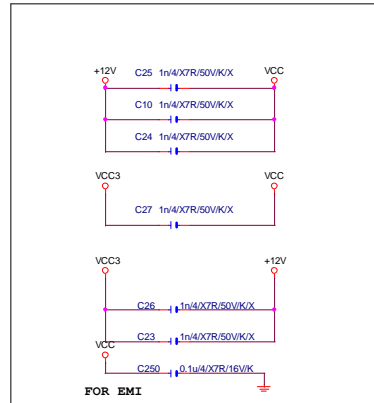
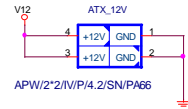
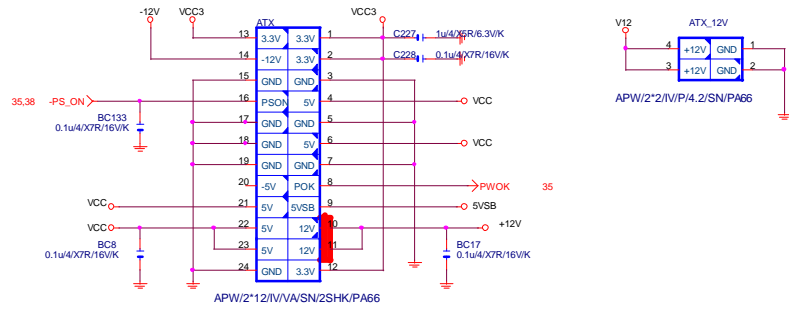
SB_HS

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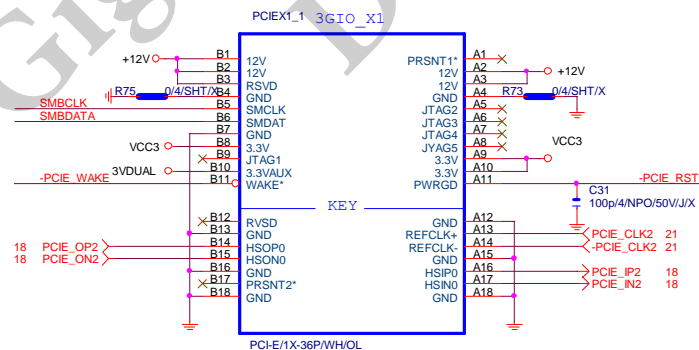
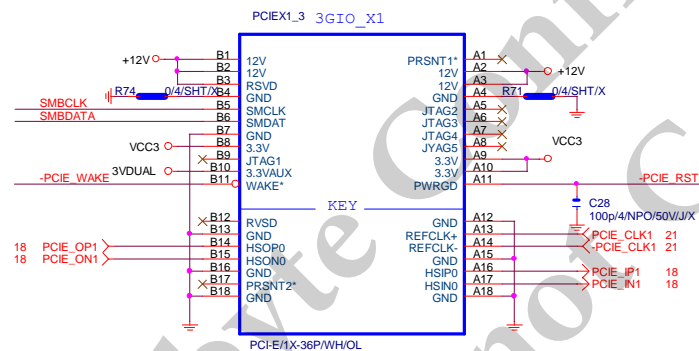
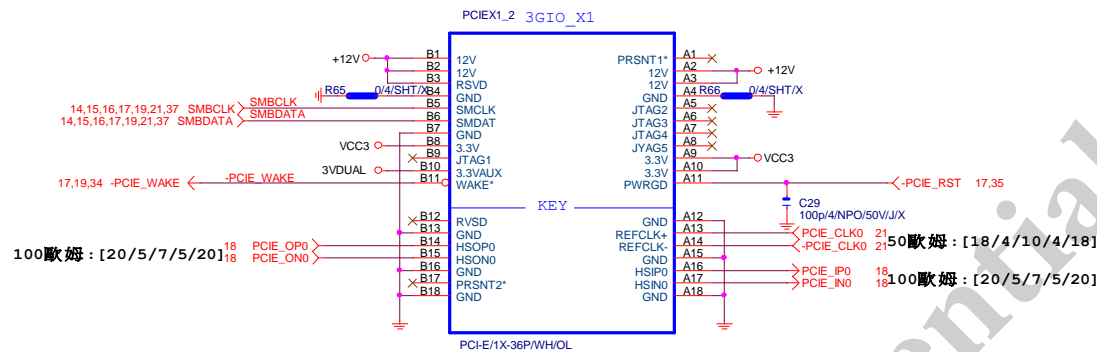
ATX POWER CONNECTOR

DUAL BIOS



GIGABYTE

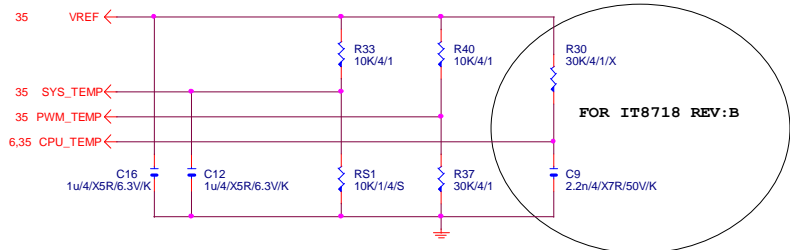
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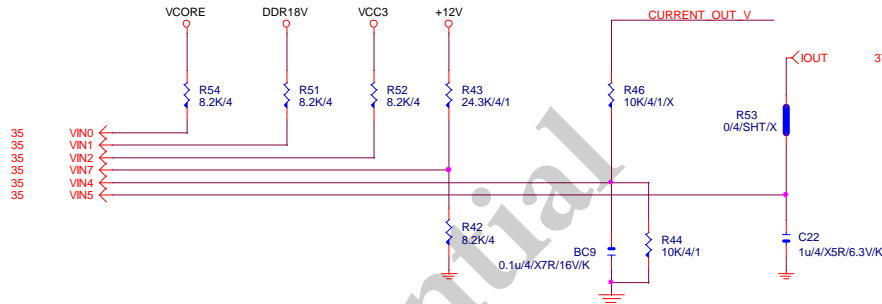
Intel Confidential

Title			PCI E SLOT 1, 2, 3
Size B	Document Number	GA-EP41T-UD3L	
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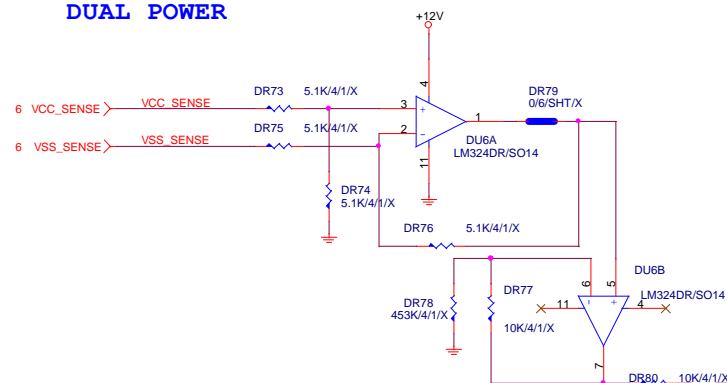
TEMP. SENSE



VOLTAGE SENSE



DUAL POWER



CPU/SYS FAN

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

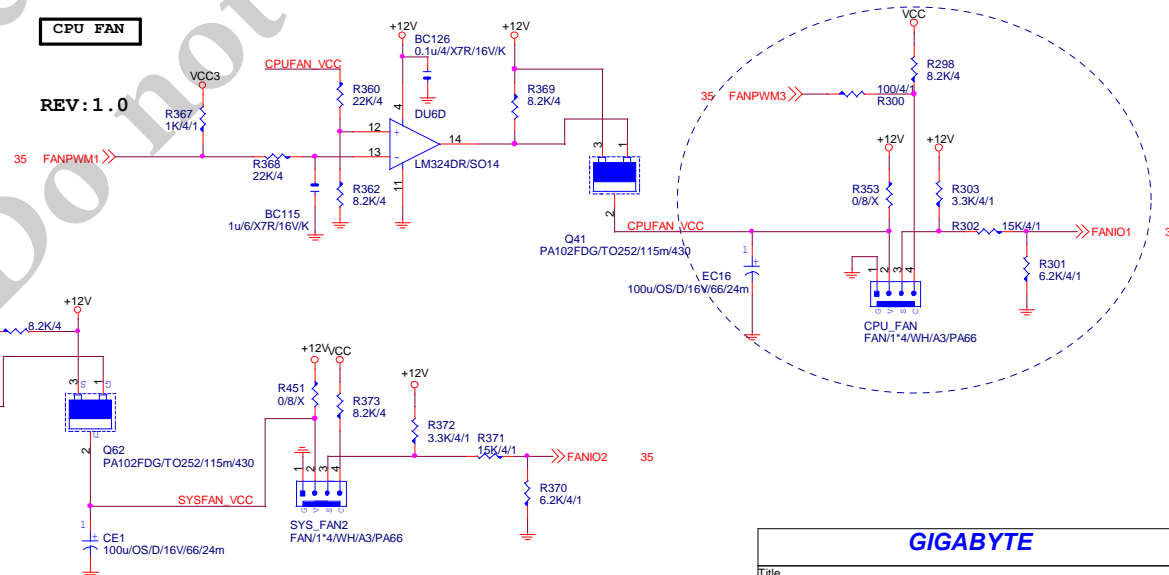
CPUFAN_VCC=12V: Temp=40 deg	CPUFAN_VCC=12V: Temp=33 deg
CPUFAN_VCC=11V: Temp=82 deg	CPUFAN_VCC=11V: Temp=62 deg
CPUFAN_VCC=10V: Temp=70 deg	CPUFAN_VCC=10V: Temp=86 deg
CPUFAN_VCC= 9V: Temp=110 deg	CPUFAN_VCC= 9V: Temp=117 deg
CPUFAN_VCC= 8V: Temp>200 deg	CPUFAN_VCC= 8V: Temp>122 deg

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

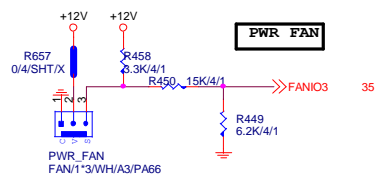
+12V不需預留330uF電容

CPU FAN

REV:1.0

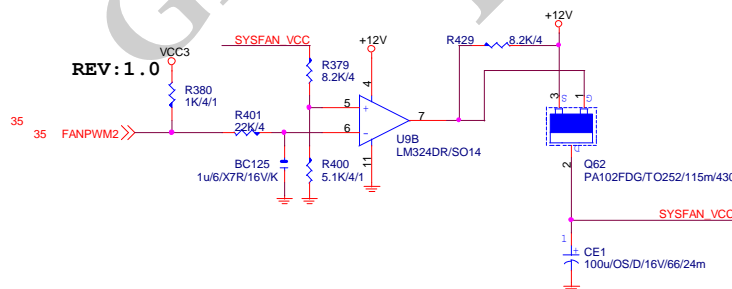


PWR FAN

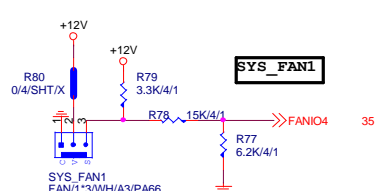


SYS FAN2

REV:1.0

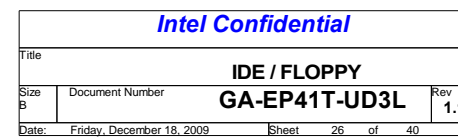
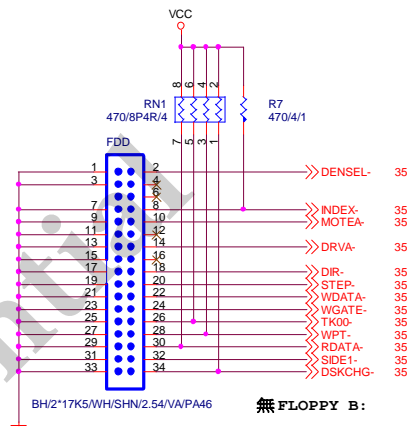


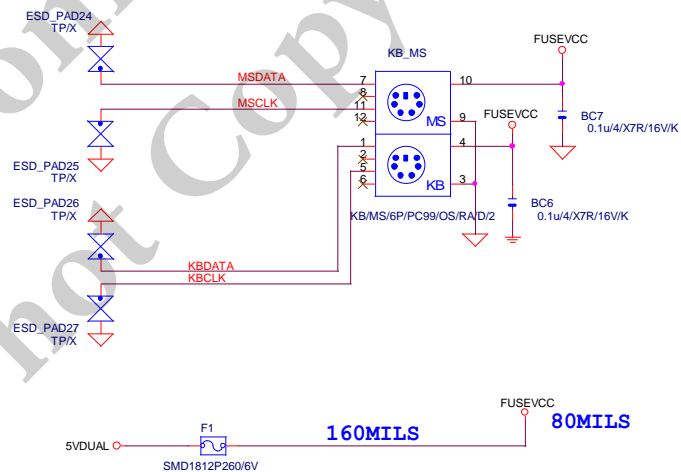
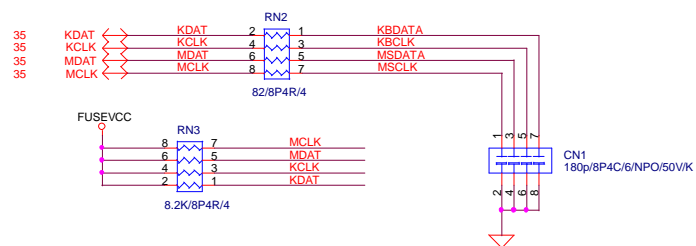
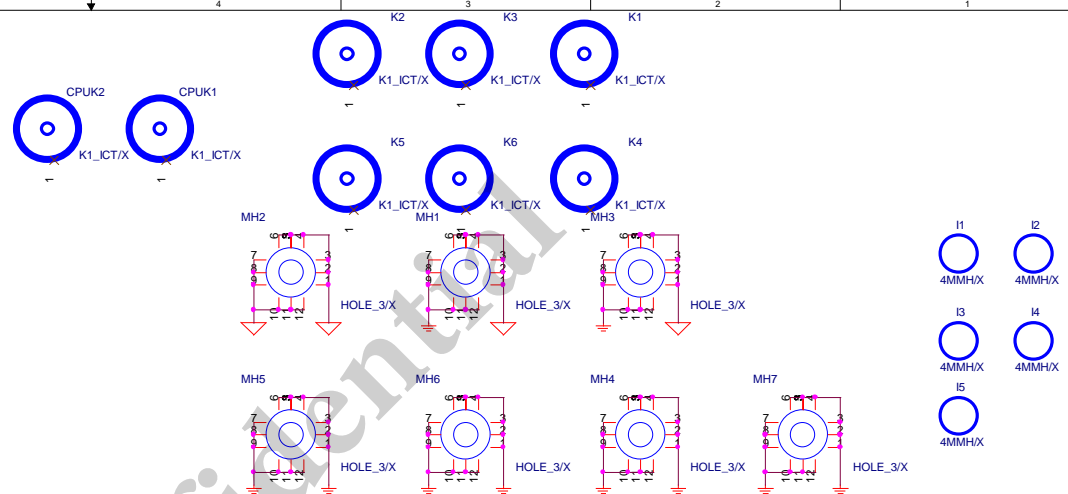
SYS FAN1



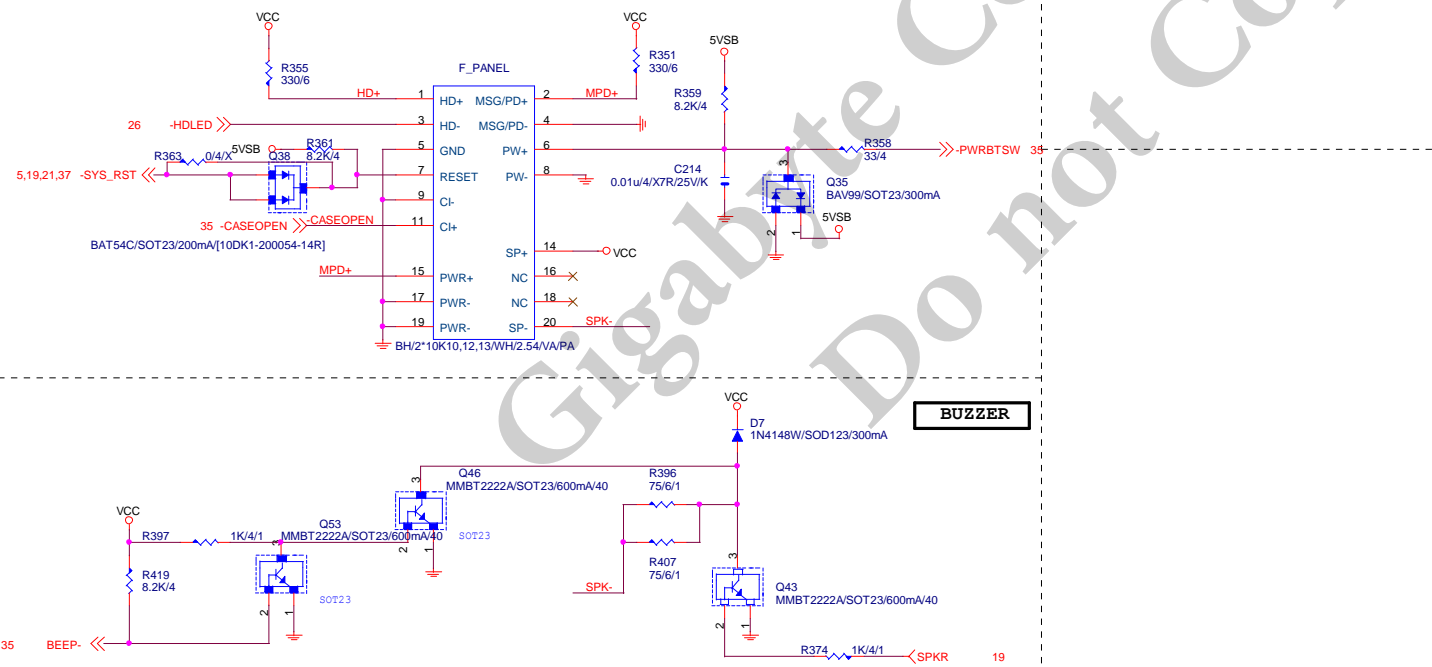
GIGABYTE

Title			HWM/FAN/CI
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INTEL FRONT PANEL



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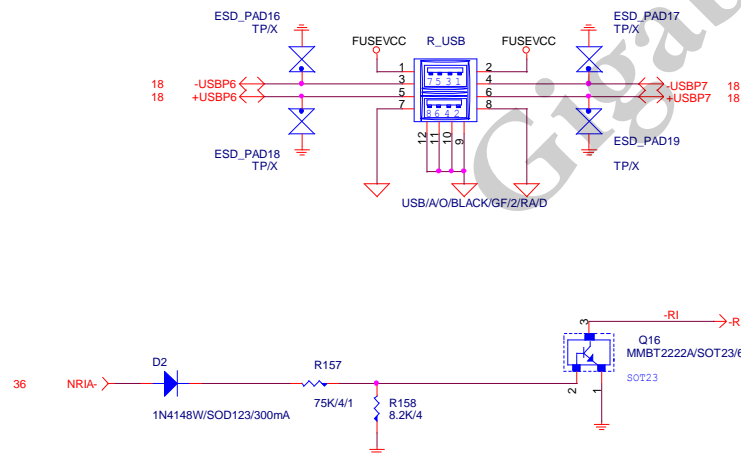
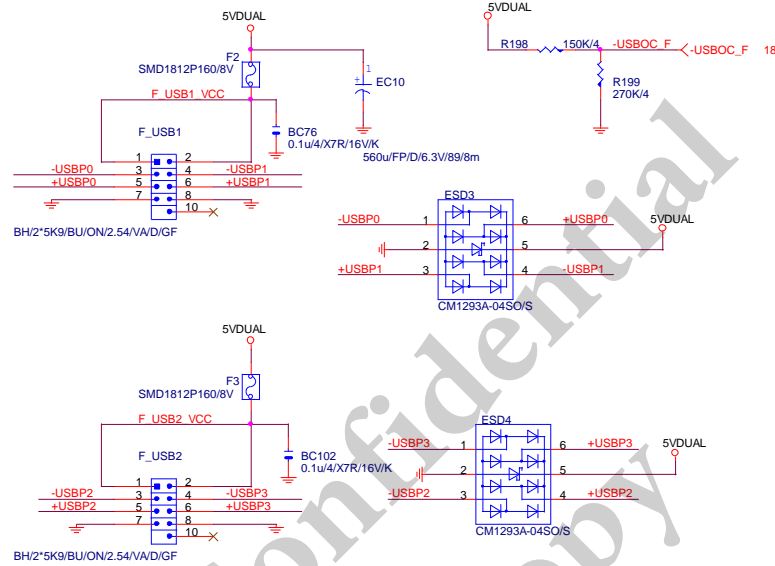
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FRONT PANEL			
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FRONT USB

90欧姆: [15/4.5/7.5/4.5/15]



90欧姆: [15/4.5/7.5/4.5/15]



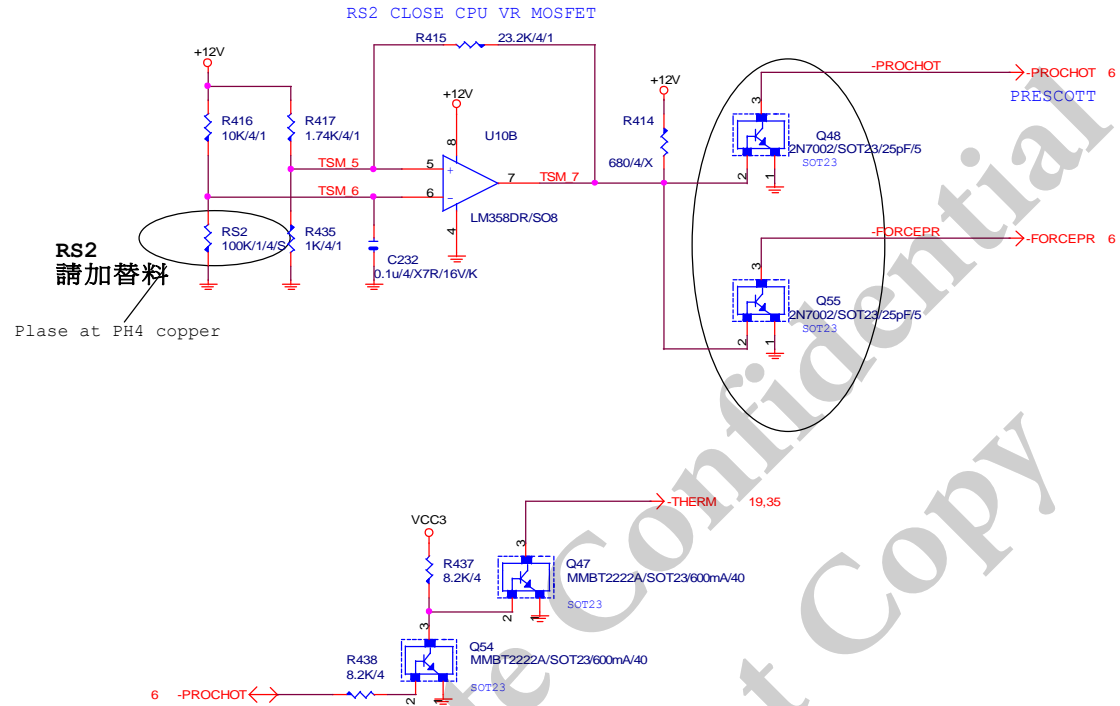
FOR 882 EMI
靠近USB

靠近FRONT USB

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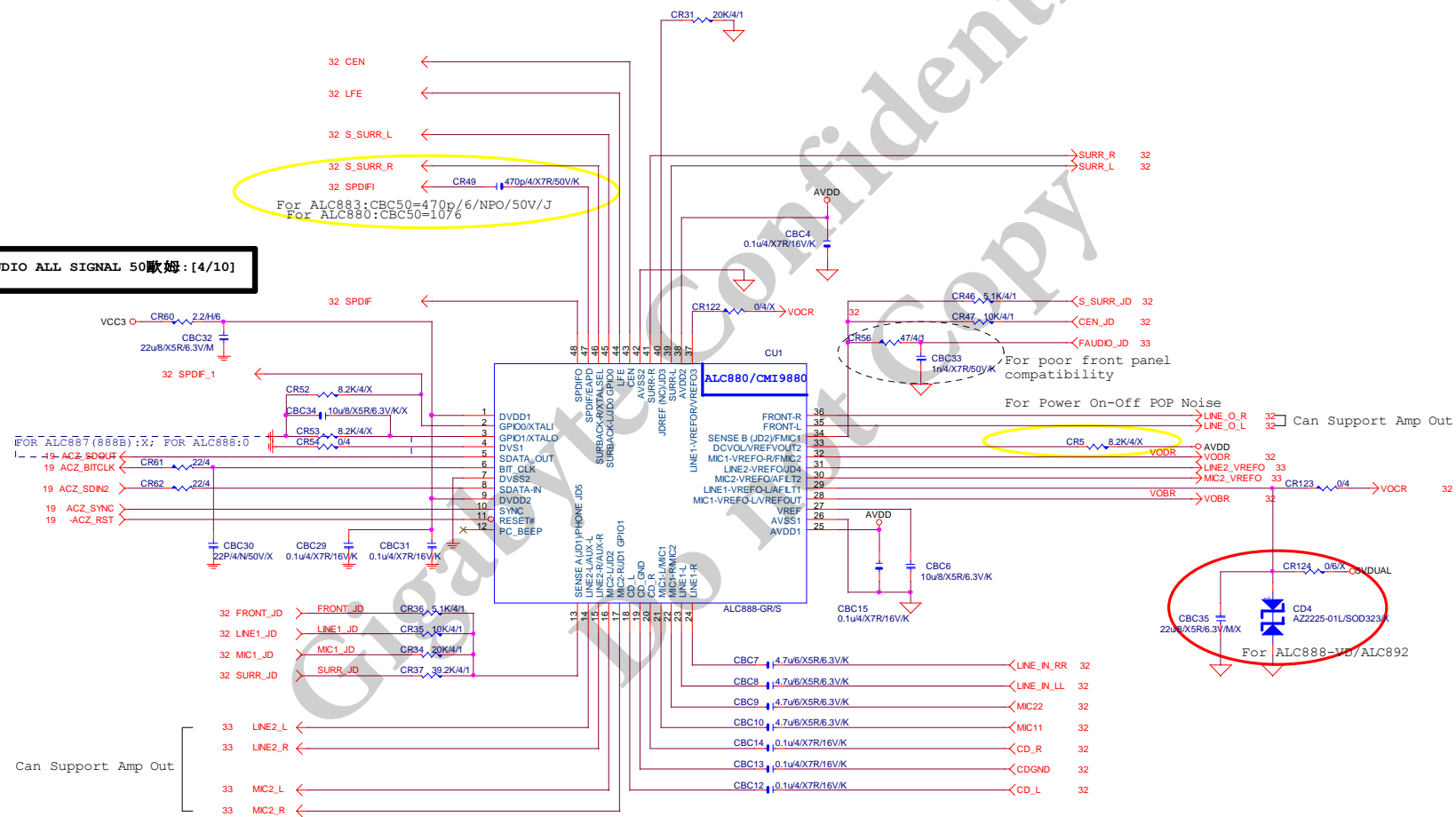
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FRONT USB CONNECTOR			
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asserted at 131 degree
deasserted at 116 degree

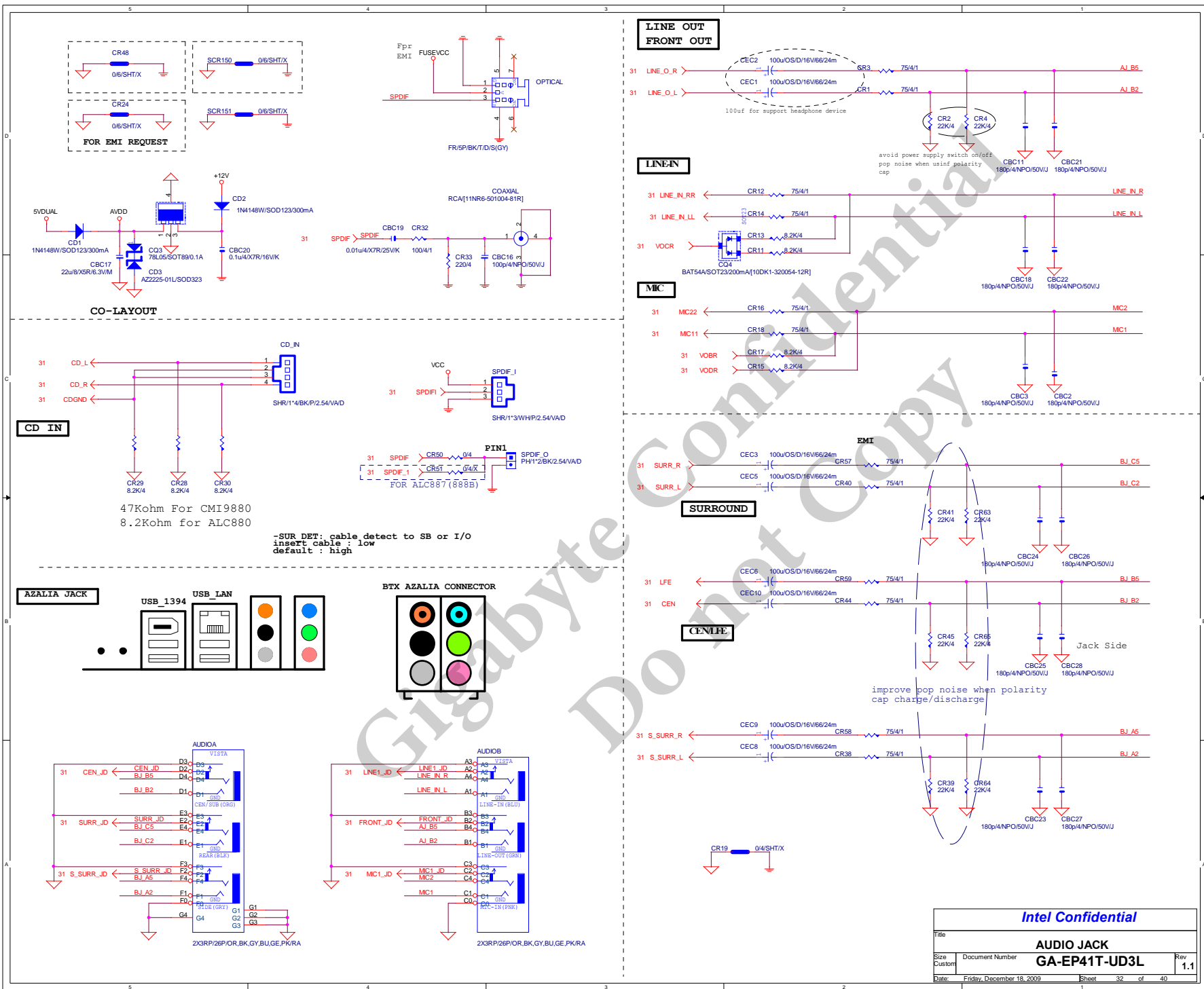


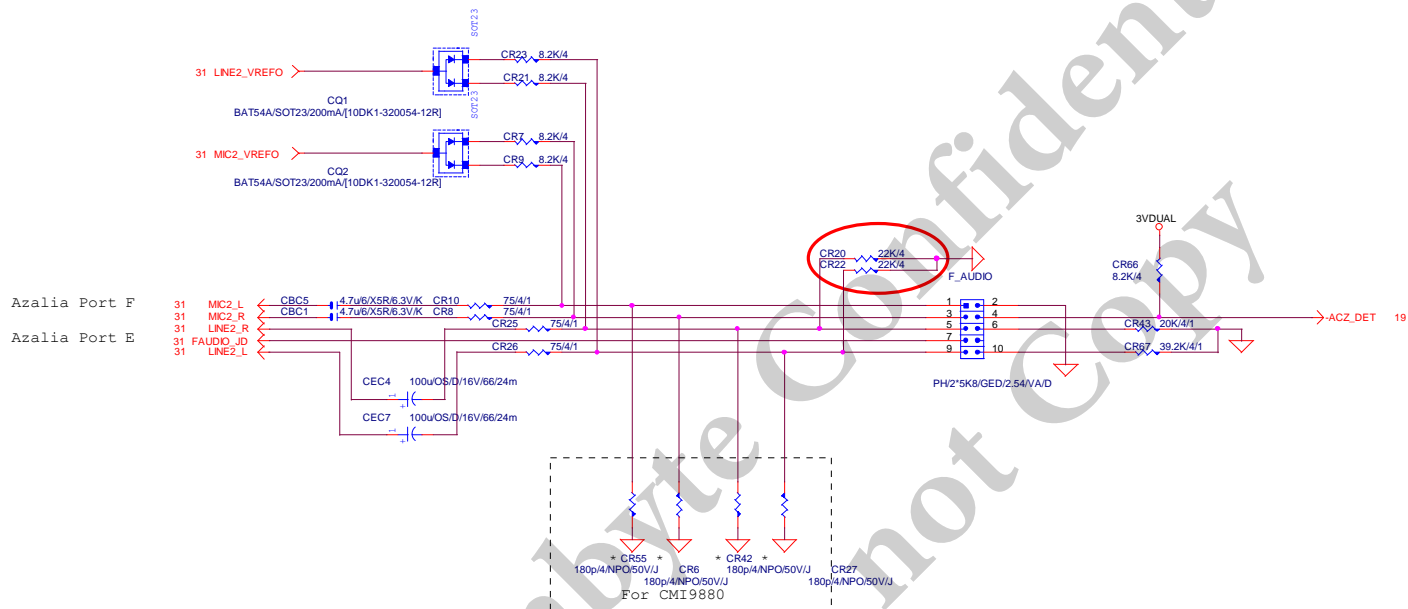
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Title			
PROCHOT			
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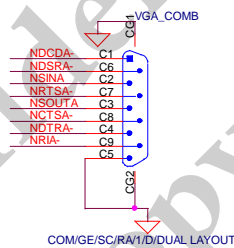
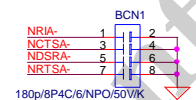
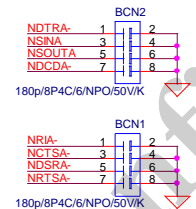
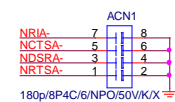
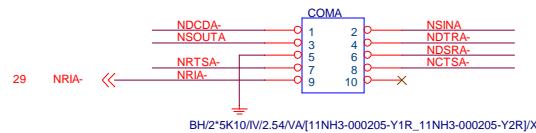
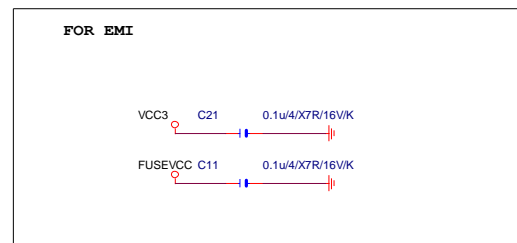
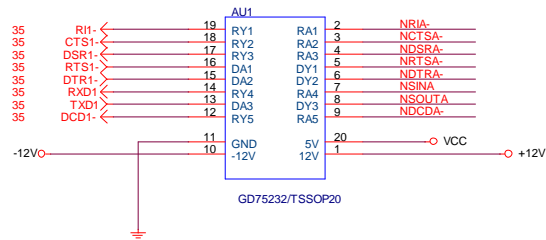
Can Support Amp Out



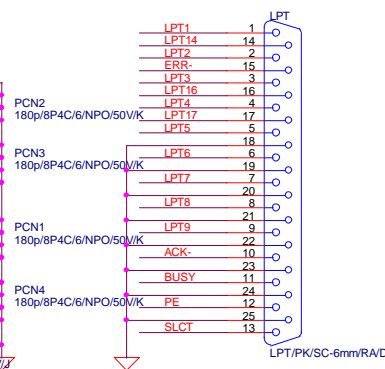
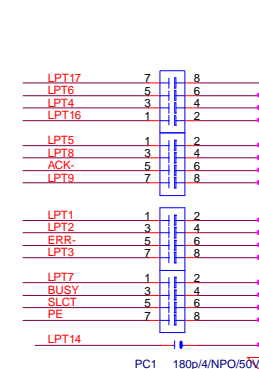
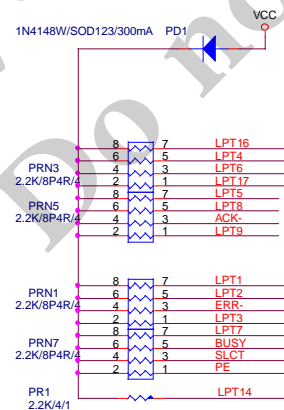
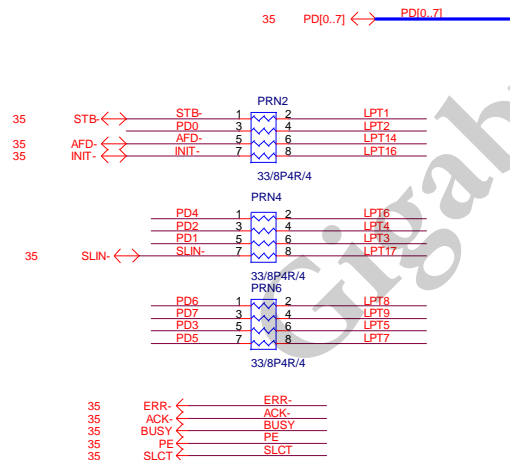


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PLACE NEAR VGA_COM CONNECTOR



GIGABYTE TECHNOLOGIES, INC.			
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COM & IR & LPT PORT & FLOOPY			
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INTEL ICH7 GPIO Implementation

紅字表示CPI/O 同PIN

GPI PIN

Pin Name	Pin Type	Power Well		GPIO Application
GPIO[0]	IIO	VCC3	GPIBM_BUSY# (NA)	(NA)
GPIO[1]	IIO	VCC	-REQ[5] (P.U VCC)	-REQ[5]
GPIO[5:2]	IIO	VCC	-PIRQ[H:E] (P.U VCC)	-PIRQ[H:E]
GPIO[6]	IIO	VCC3	GPI (NA)	M_ID0 FOR MEDIA
GPIO[7]	IIO	VCC3	GPI (NA)	DUALBIOS_INPUT
GPIO[8]	IIO	3VDUAL	GPI (P.U 3VDUAL)	-SKTOCC
GPIO[9]	IIO	3VDUAL	GPI (NA)	P66DET
GPIO[10]	IIO	3VDUAL	GPI (NA)	M_ID1 FOR MB_ID
GPIO[11]	IIO	3VDUAL	-SMBALERT (P.U 3VDUAL)	-SMBALRT
GPIO[12]	IIO	3VDUAL	GPI (NA)	M_ID2 FOR MB_ID
GPIO[13]	IIO	3VDUAL	GPI (P.U 3VDUAL)	-LPCPME
GPIO[14]	IIO	3VDUAL	GPI (NA)	M_ID3 FOR MB_ID
GPIO[15]	IIO	3VDUAL	GPI (NA)	-ACZ_DET
GPIO[16]	IIO	VCC3	GPO P.D 20K(INT.)	HW RESET
GPIO[17]	IIO	VCC3	GPOI-GNT[5] (NA)	GPOI-GNT[5]
GPIO[18]	IIO	VCC3	GPOItoggle (NA)	(NA)
GPIO[19]	IIO	VCC3	SATA1GP (P.U VCC3)	SATA1GP
GPIO[20]	IIO	VCC3	GPO (P.U VCC3)	TBL-
GPIO[21]	IIO	VCC3	SATA0GP (P.U VCC3)	SATA0GP
GPIO[22]	IIO	VCC3	-REQ[4] (P.U VCC)	-REQ[4]
GPIO[23]	IIO	VCC3	LDRQ1# (NA)	(NA)
GPIO[24]	IIO	3VDUAL	GPOIreset not cleared (NA)	(NA)
GPIO[25]	IIO	3VDUAL	GPO (NA)	PWD_LED
GPIO[26]	IIO	3VDUAL	EL_RSVD (P.D)	-SPI_WP
GPIO[27]	IIO	3VDUAL	EL_STATE0 (NA)	(NA)
GPIO[28]	IIO	3VDUAL	EL_STATE1 (NA)	(NA)
GPIO[29]	IIO	3VDUAL	OC5# (P.U VCC 分壓))	OC5#
GPIO[30]	IIO	3VDUAL	OC6# (P.U VCC 分壓))	OC6#
GPIO[31]	IIO	3VDUAL	OC7# (P.U VCC 分壓))	OC7#
GPIO[32]	IIO	VCC3	GPO (NA)	DUAL_BIOS
GPIO[33]	IIO	VCC3	GPO (NA)	DUAL_BIOS
GPIO[34]	IIO	VCC3	GPO (P.U VCC3)	FWP-
GPIO[35]	IIO	VCC3	SATACLKREQ# (NA)	(NA)
GPIO[36]	I	VCC3	SATA2GP (P.U VCC3)	SATA2GP
GPIO[37]	I	VCC3	SATA3GP (P.U VCC3)	SATA3GP

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_GMCHCPUPWRGD (P.U VTT_OL)		GPUPWROK
PCI1	PCLK0	-PCIRST	-REQ0I-GNT0-PIRQE	A_D16
PCI2	PCLK1	-PCIRST	-REQ1I-GNT1-PIRQD	A_D17
PCI3	PCLK2	-PCIRST	-REQ2I-GNT2-PIRQC	A_D18
1394b	1394CLK	-PFMRST2	-REQ3I-GNT3-PIRQH	A_D23
IT8212	RAIDCLK	-PFMRST2	-REQ4I-GNT4-PIRQG	A_D22

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GPIO TABLE

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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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