

Model Name:GA-P41T-D3P Revision 1.5

SHEET TITLE

01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4_LGA775_A
05	P4_LGA775_B,D
06	P4_LGA775_C
07	P4_LGA775_E,F,G,H
08	Eaglelake HOST
09	Eaglelake DDR
10	Eaglelake PCI_EXP_16,DMI
11	Eaglelake VGA
12	Eaglelake GND
13	Eaglelake PWR
14	PCI EXPRESS*16 SLOT
15	DDRII CHANNEL A
16	DDRII CHANNEL B
17	DDRII TERMINATION
18	ICH7 PCI, USB, DMI, LAN
19	ICH7 IDE, GPIO, SATA, CTRL
20	ICH7 VCC, GND
21	CK505 CLOCK.
22	PCI SLOT 1,2,PCIE*1
23	IDE/FLOPPY
24	ITE 8718 GB/HX
25	COM_LPT
26	CI,HWM,KB/MS,DUAL BIOS
27	ALC888

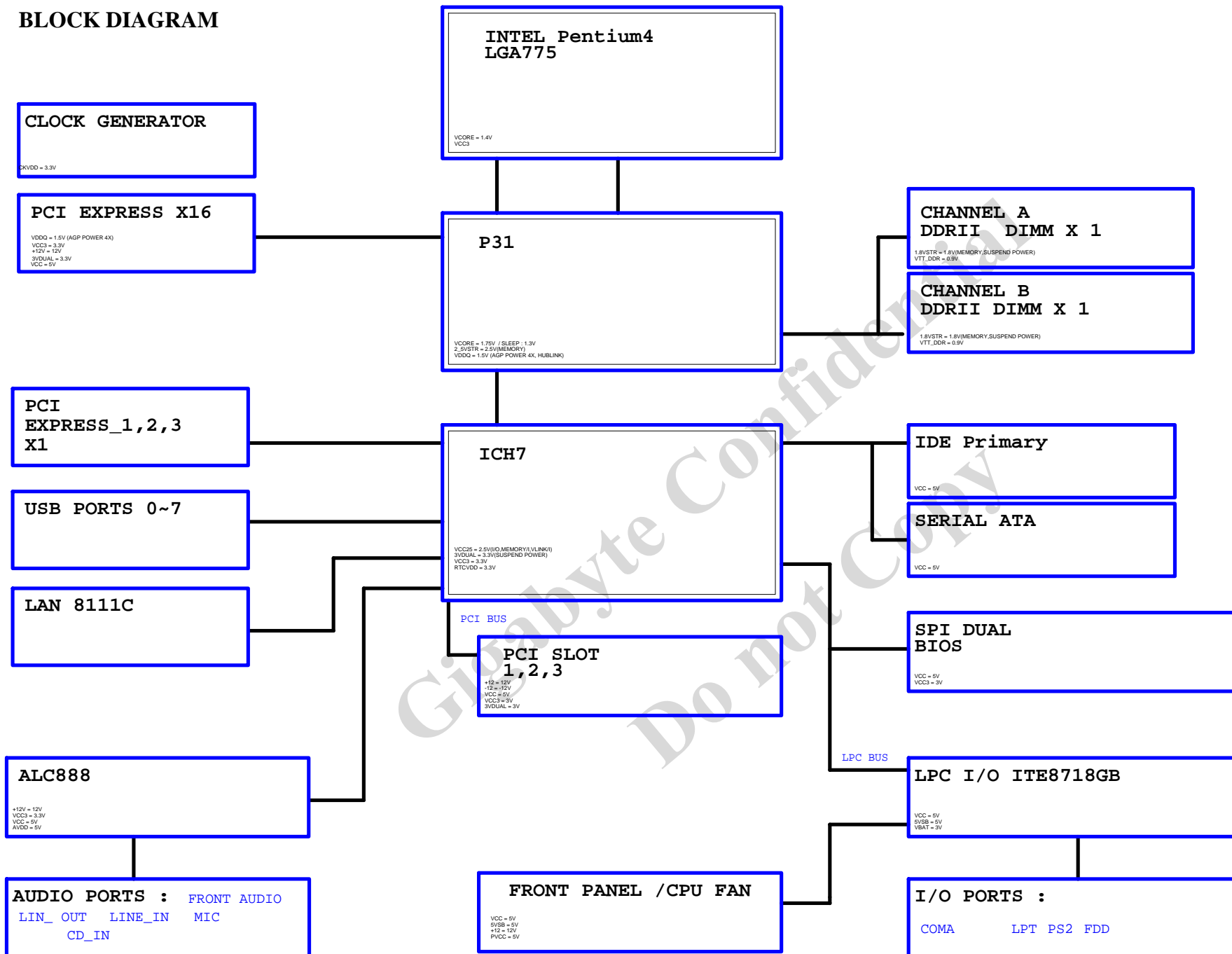
SHEET TITLE

28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM_ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	REALTEK RTL8111D
34	PCI SLOT3,PCIE*2,3

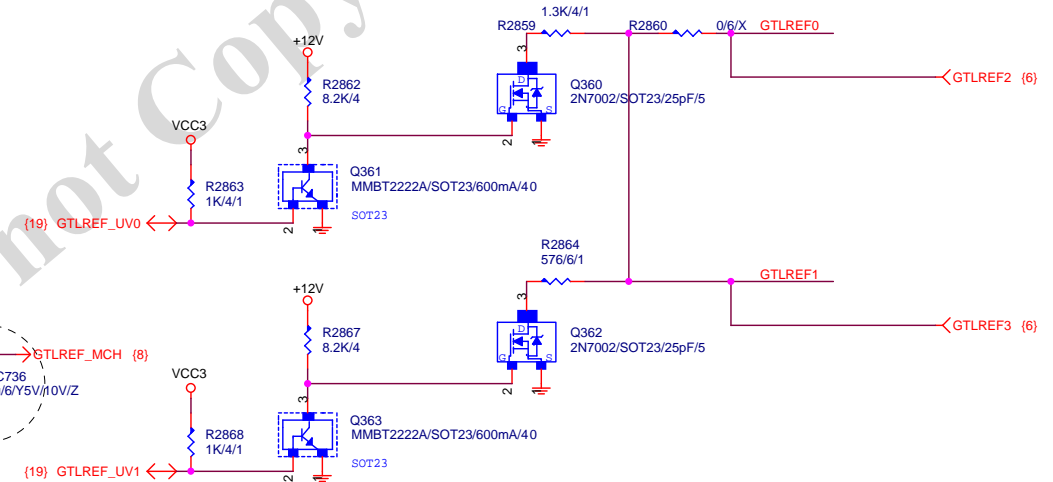
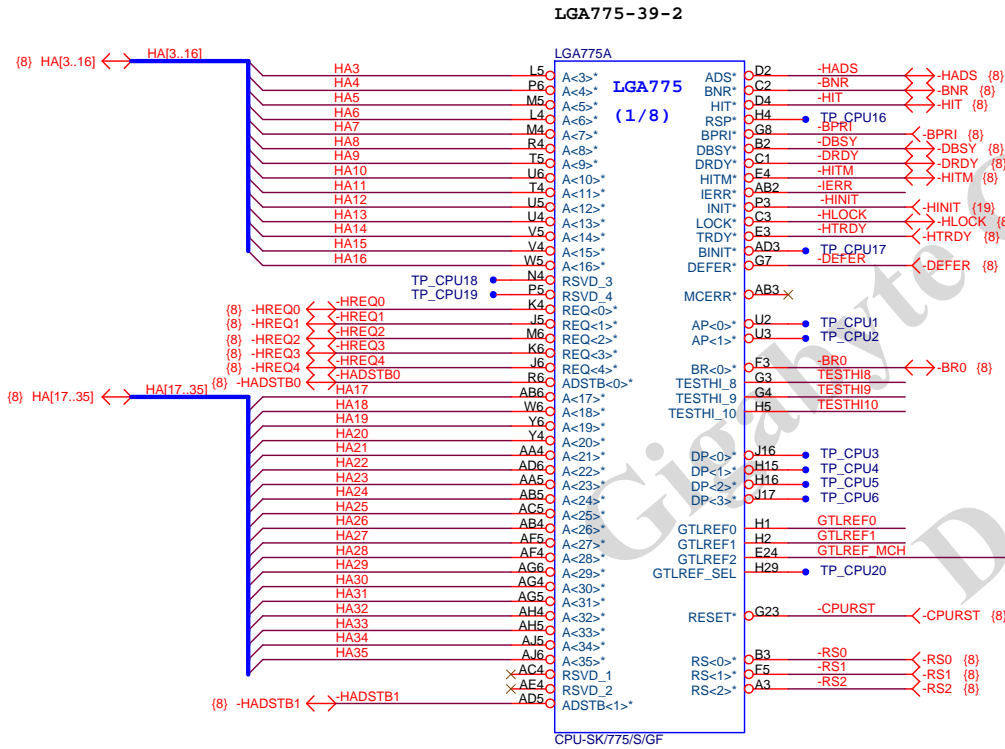
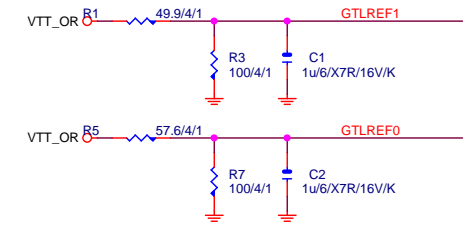
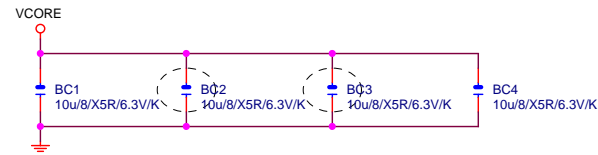
Gigabyte Technology

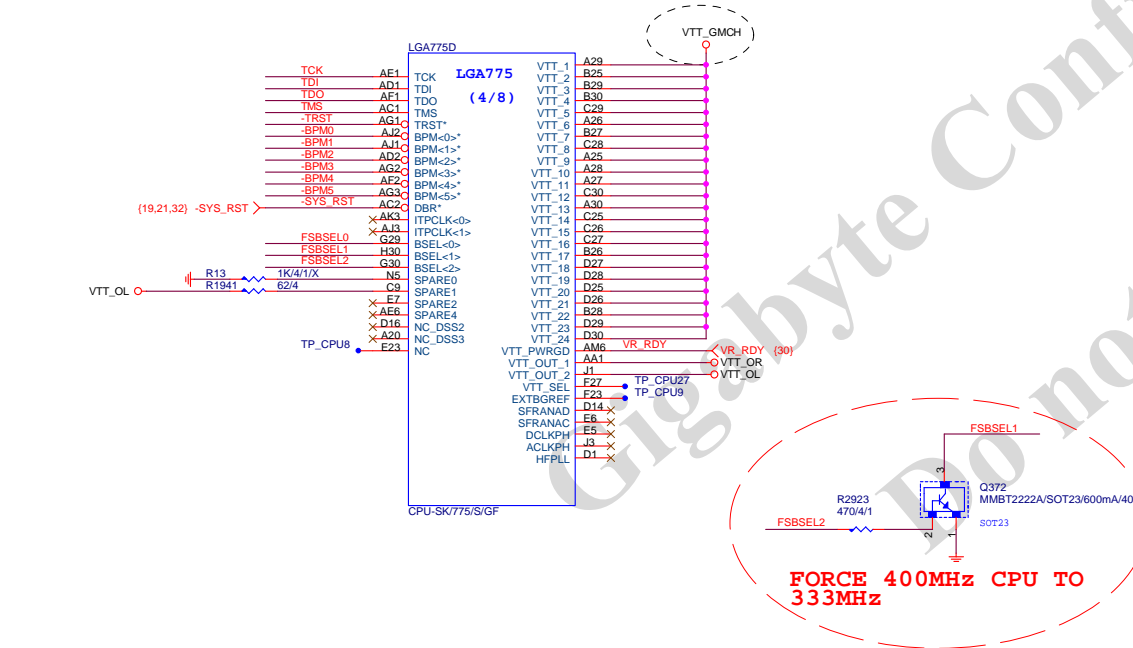
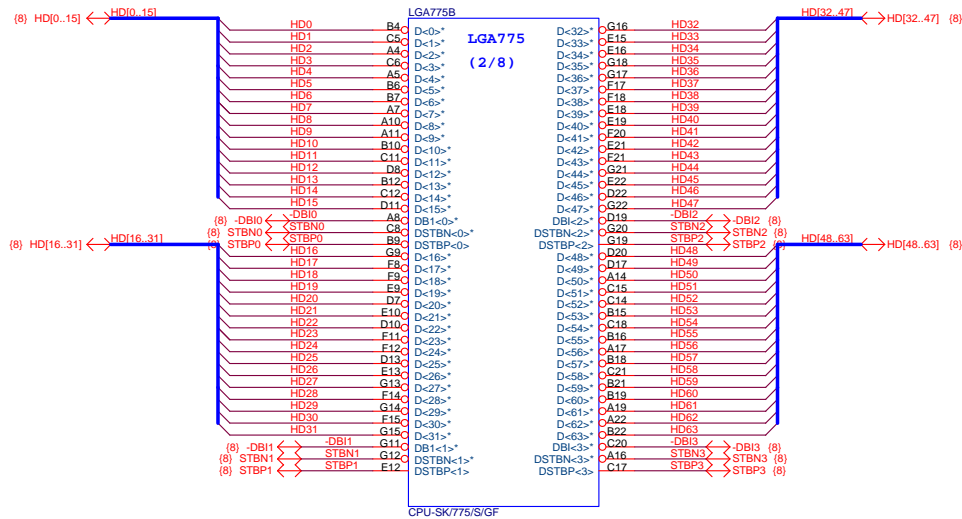
Title		
Cover Sheet		
Size	Document Number	Rev
Custom	GA-P41T-D3P	1.5
Date:	Friday, August 26, 2011	Sheet 1 of 34

BLOCK DIAGRAM



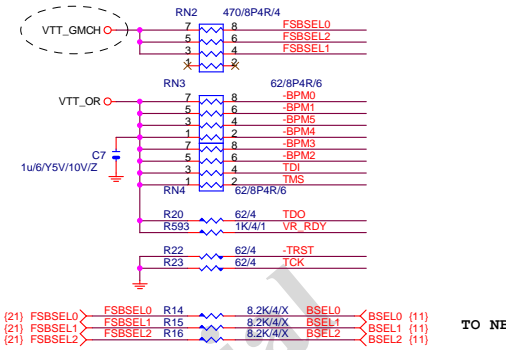
<i>Gigabyte Technology</i>			
BOM & PCB MODIFY HISTORY			
Size Custom	Document Number	GA-P41T-D3P	Rev 1.5
Date: Friday, August 26, 2011		Sheet 3 of 34	



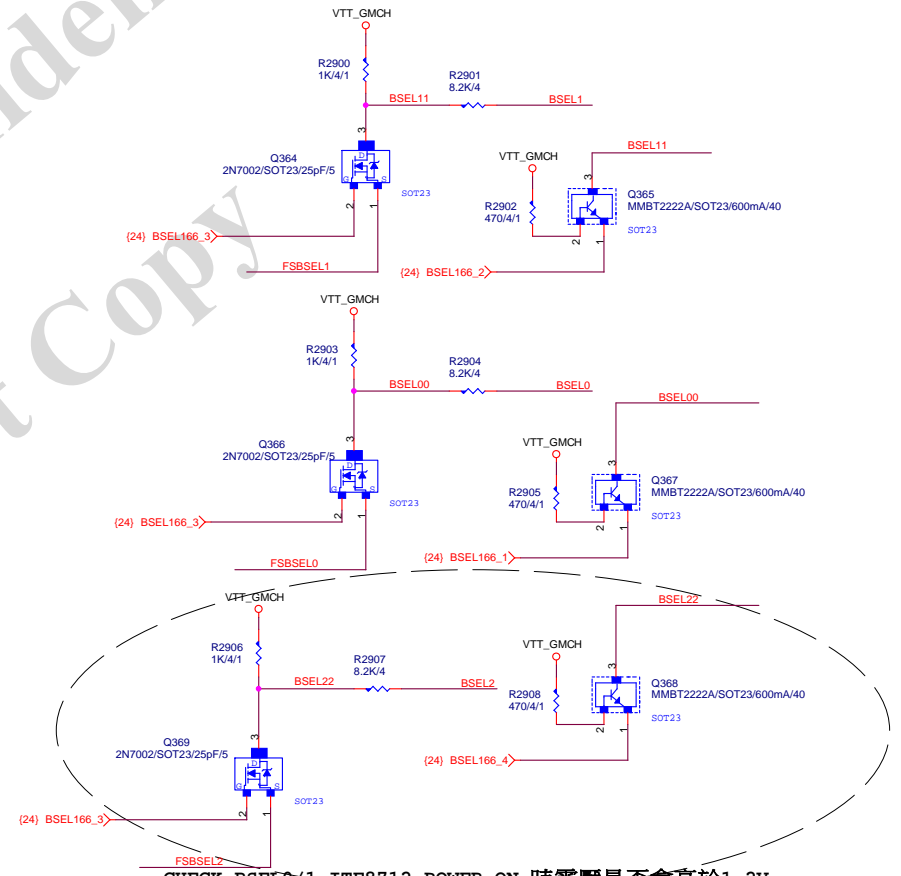


FORCE 400MHz CPU TO 333MHz

	FSA	FSB	FSC		
	FSBSEL0	FSBSEL1	FSBSEL2	Clock	
?	1	0	1	100MHz	
	1	0	0	133MHz	3/4
G31	0	1	0	200MHz	400/533
G31	0	0	0	266MHz	400/533/667/800
G31	0	0	1	333MHz	533/667/800/1066
	0	1	1	400MHz	667/800

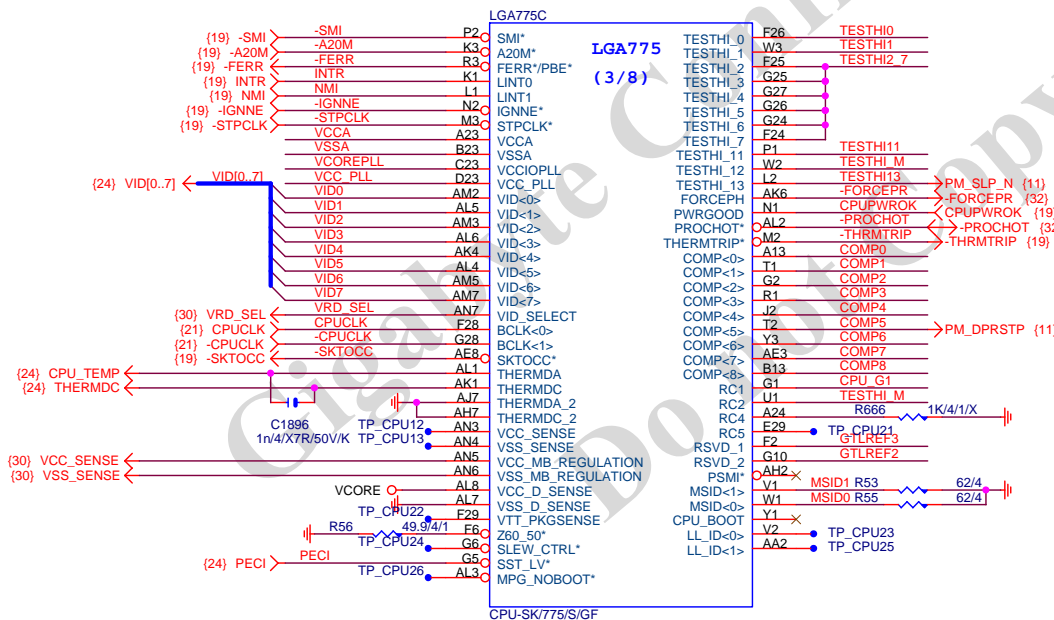


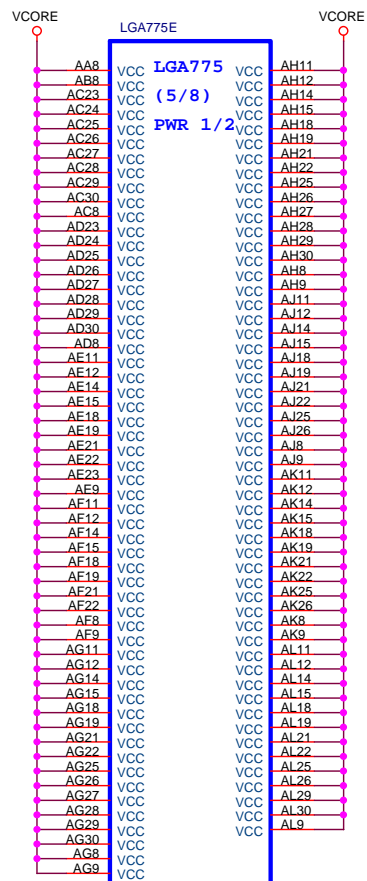
FOR ALL DDR CLK RATIO



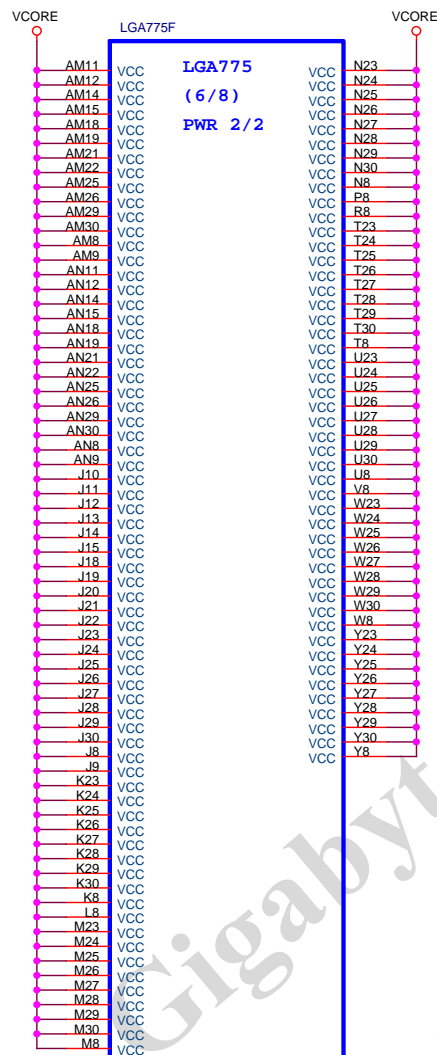
CHECK BSEL0/1 ITE8712 POWER ON 時電壓是否會高於1.2V

Title			
P4_LGA775-C			
Size B	Document Number	GA-P41T-D3P	Rev 1.5
Date:	Friday, August 26, 2011	Sheet 6 of 34	

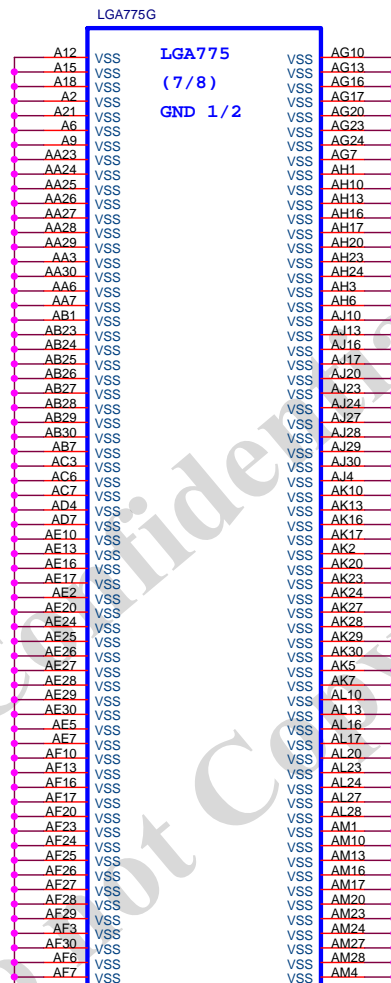




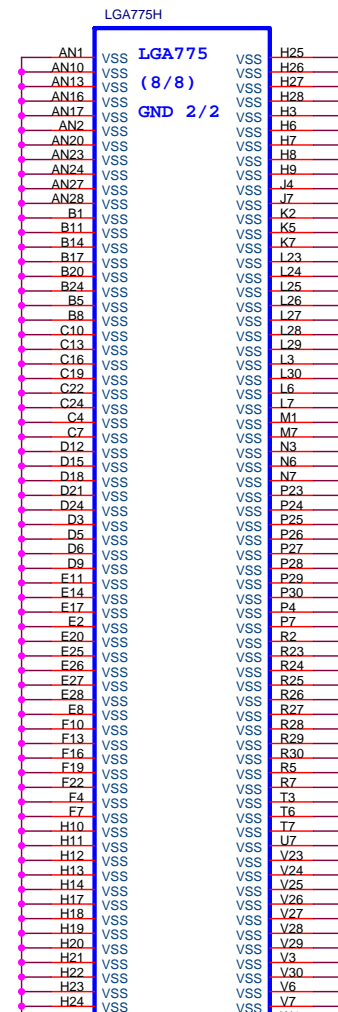
CPU-SK/775/S/GF



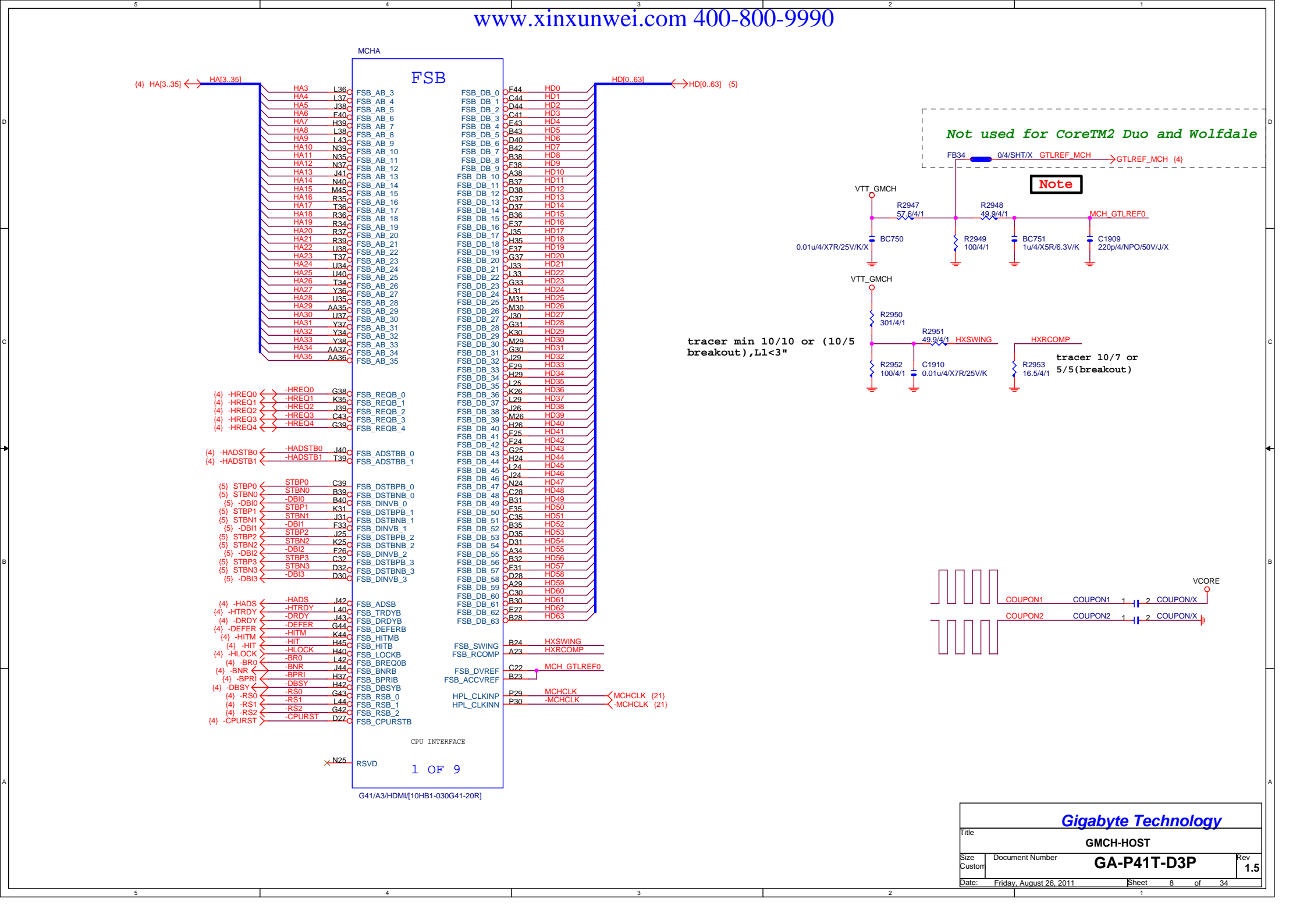
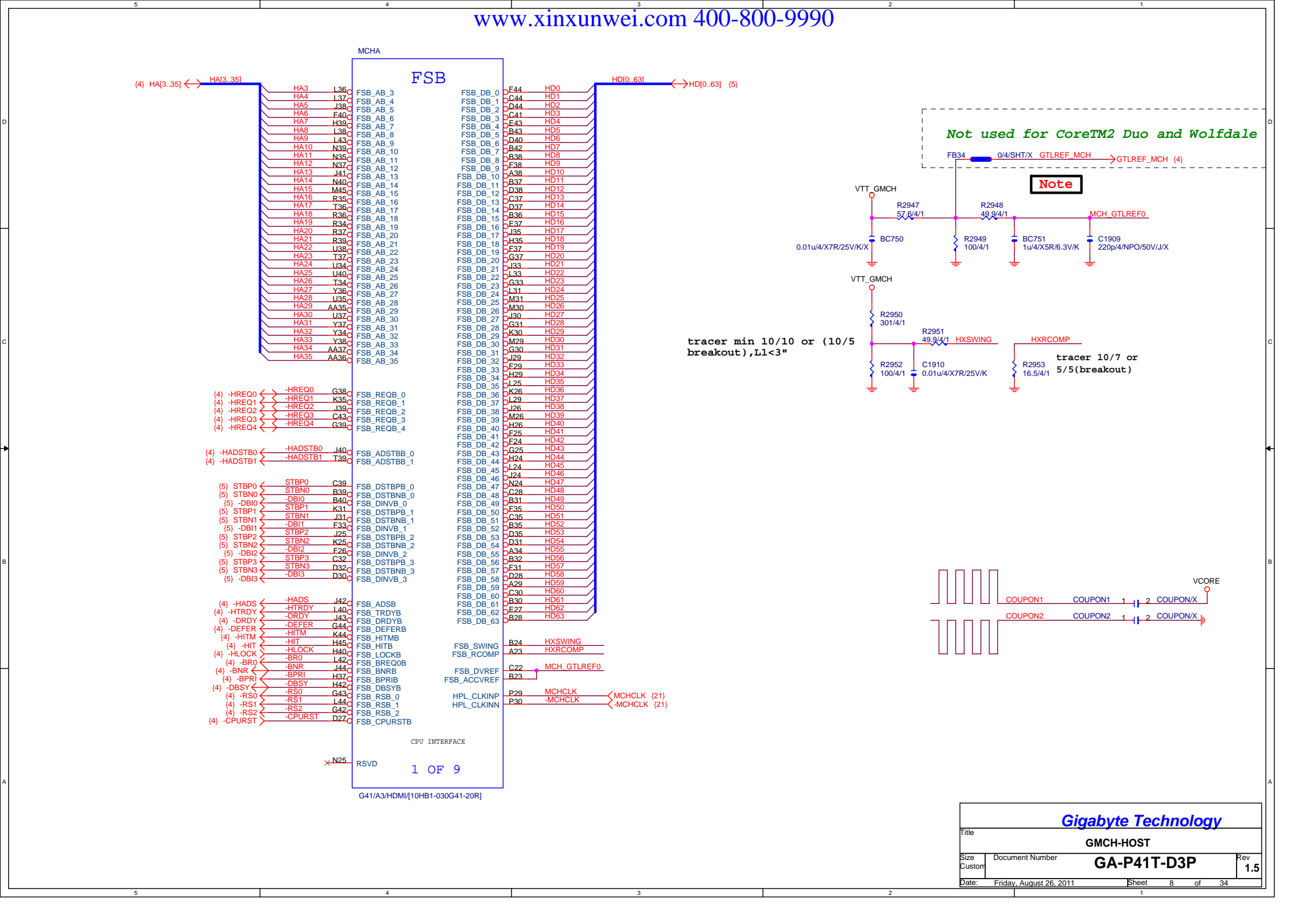
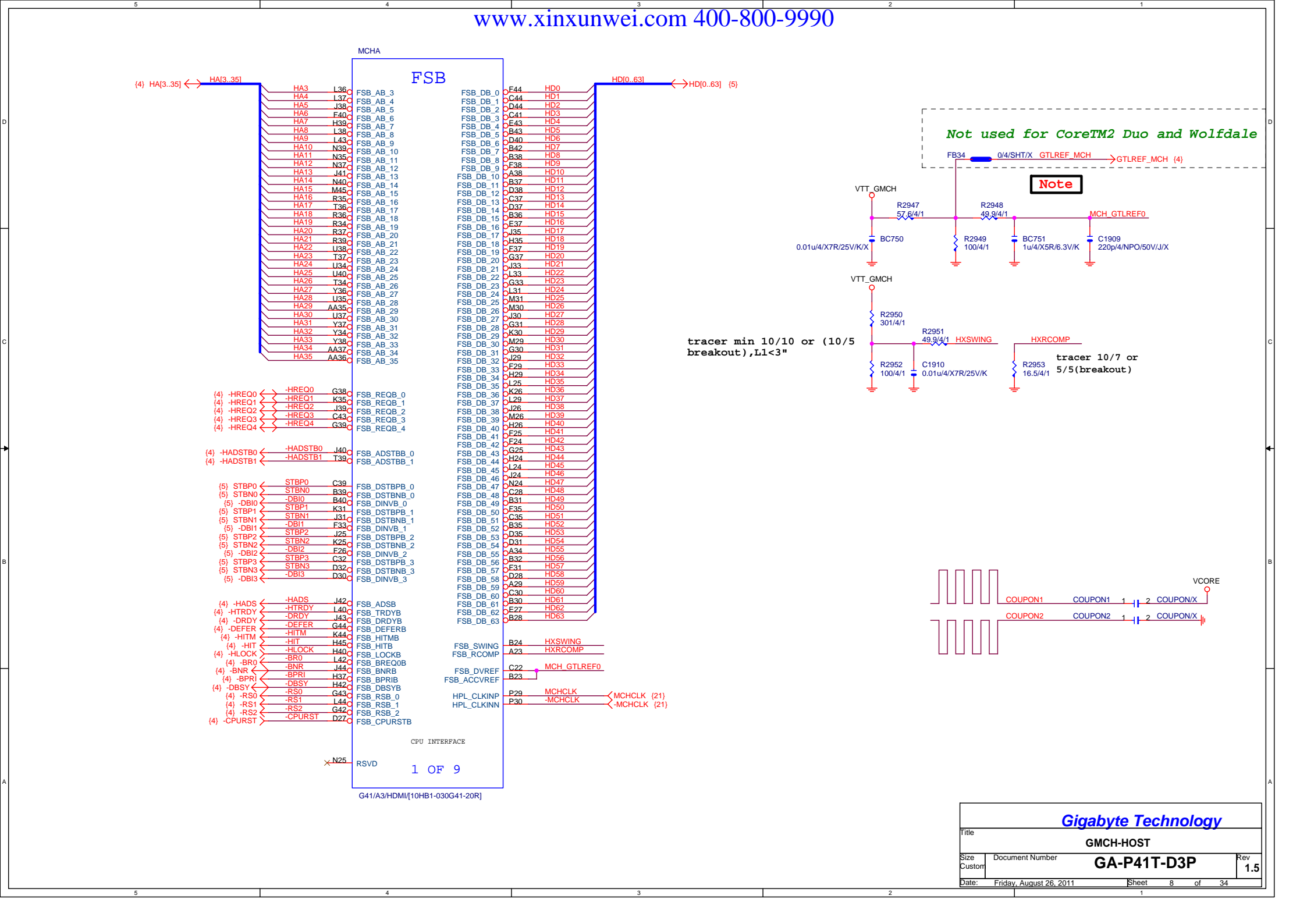
CPU-SK/775/S/GF



CPU-SK/775/S/GF



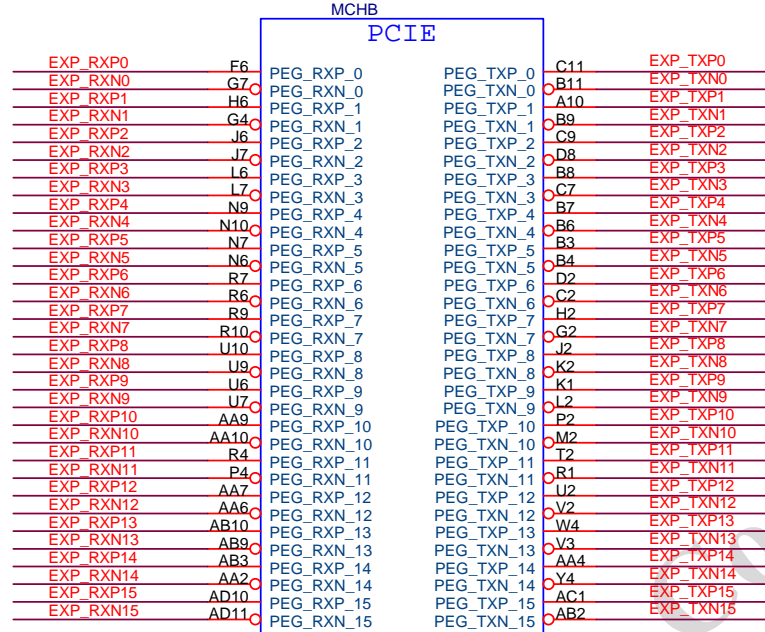
CPU-SK/775/S/GP





PCIE16:16/5/5/5/16(breakout min 8/4/5/4/8)

Impedance=85 +/- 17.5%

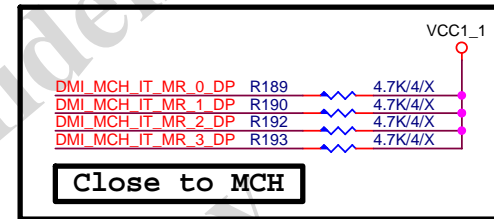
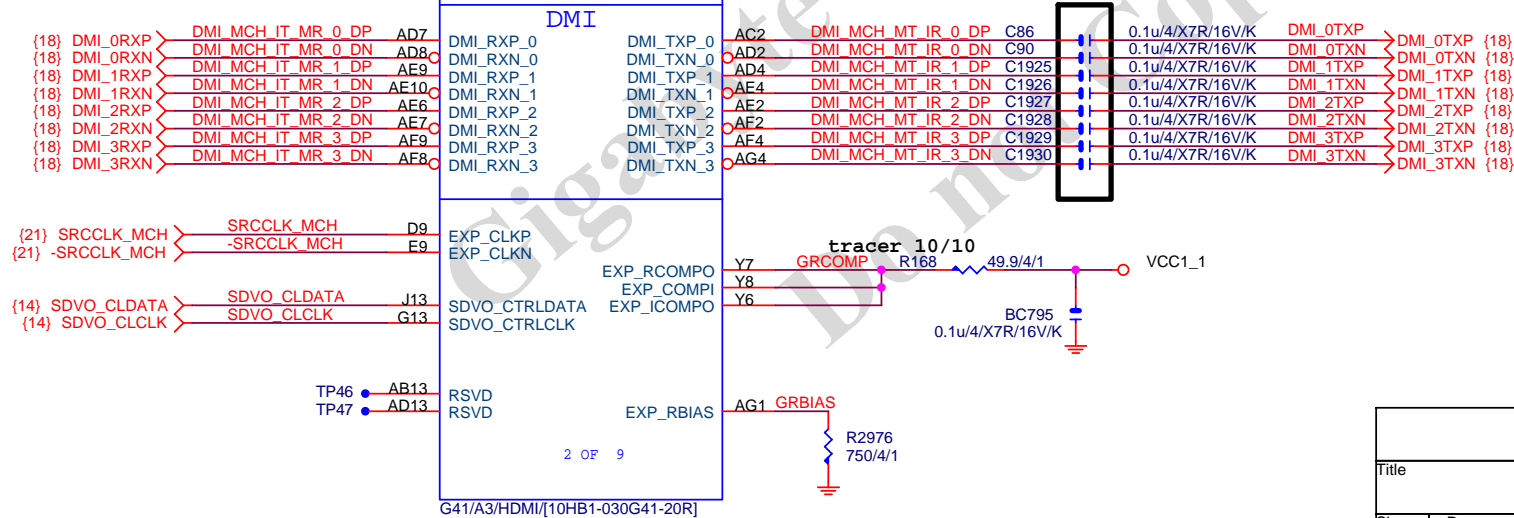


EXP_TXP[0..15] >> EXP_TXP[0..15] {14}

EXP_TXN[0..15] >> EXP_TXN[0..15] {14}

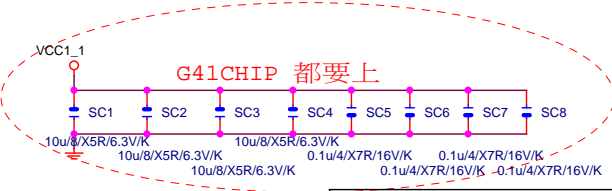
EXP_RXP[0..15] >> EXP_RXP[0..15] {14}

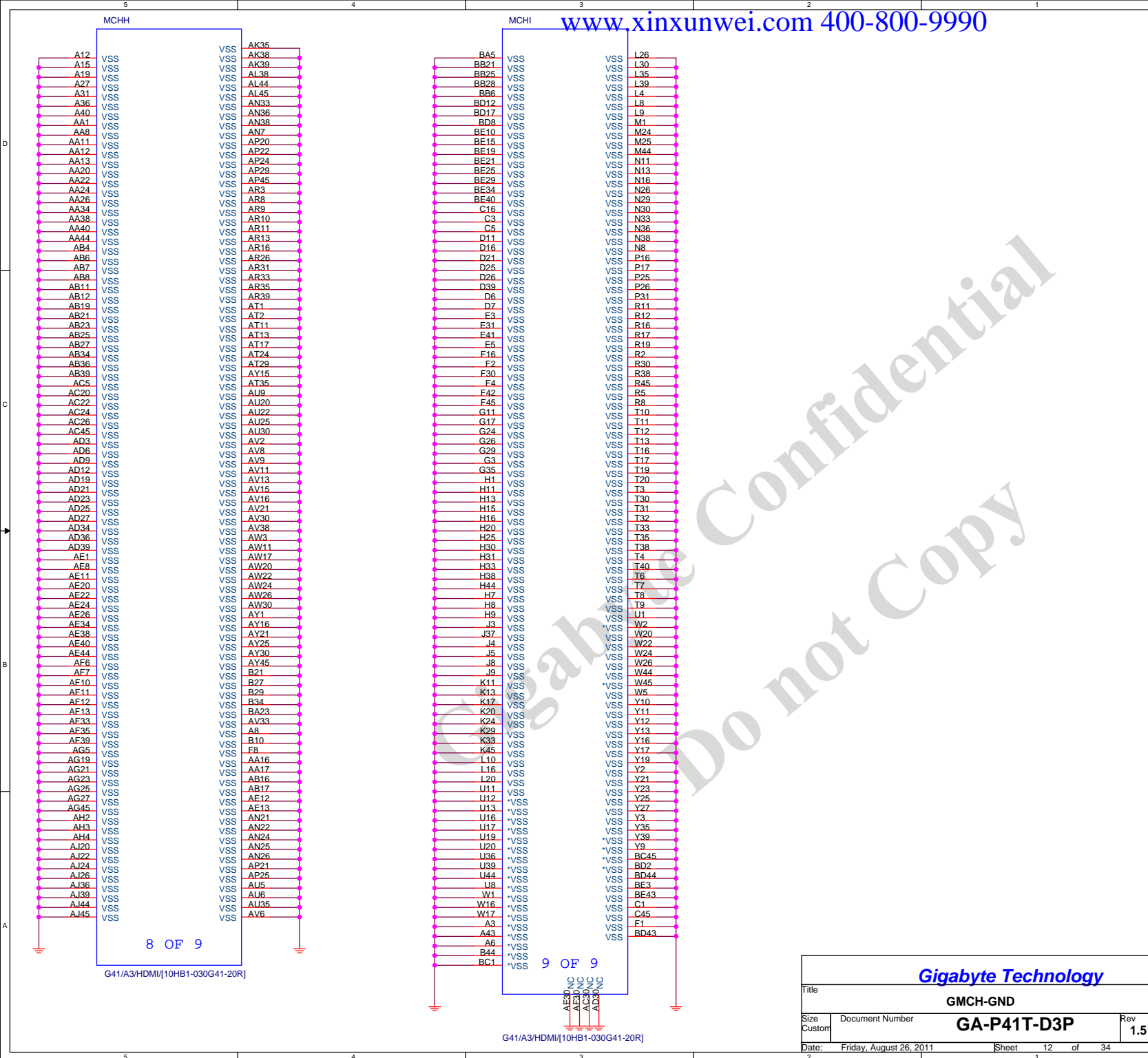
EXP_RXN[0..15] >> EXP_RXN[0..15] {14}

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

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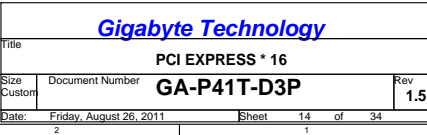
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GMCH-PCI E & DMI			
Size	Document Number	Rev	
Custom	GA-P41T-D3P	1.5	
Date:	Friday, August 26, 2011	Sheet	10 of 34



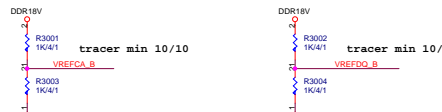


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Title			GMCH-GND
Size	Document Number	GA-P41T-D3P	Rev
Custom			1.5
Date:	Friday, August 26, 2011	Sheet	12 of 34

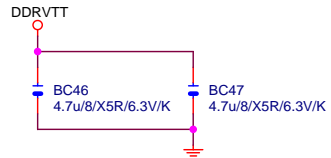




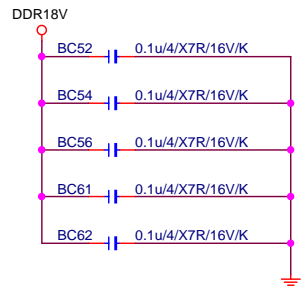


DDR TERMINATION CHANNEL A

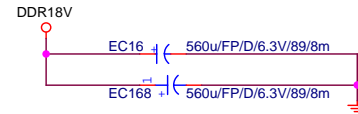
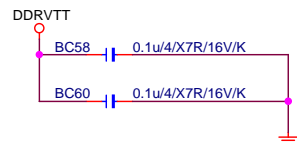
DDRVTT Decouple



DDR18V Decouple

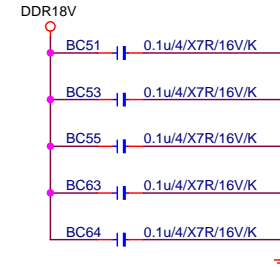


DDRVTT Decouple

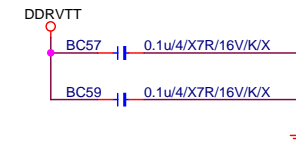


DDR TERMINATION CHANNEL B

DDR18V Decouple



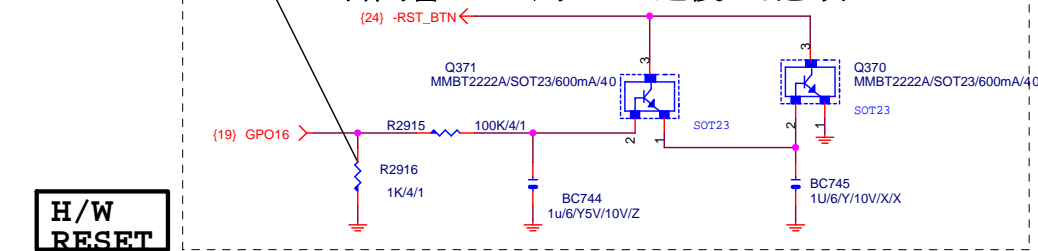
DDRVTT Decouple



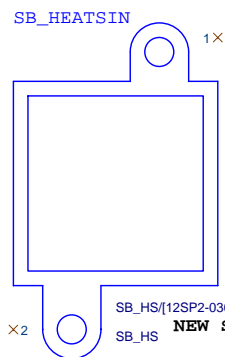
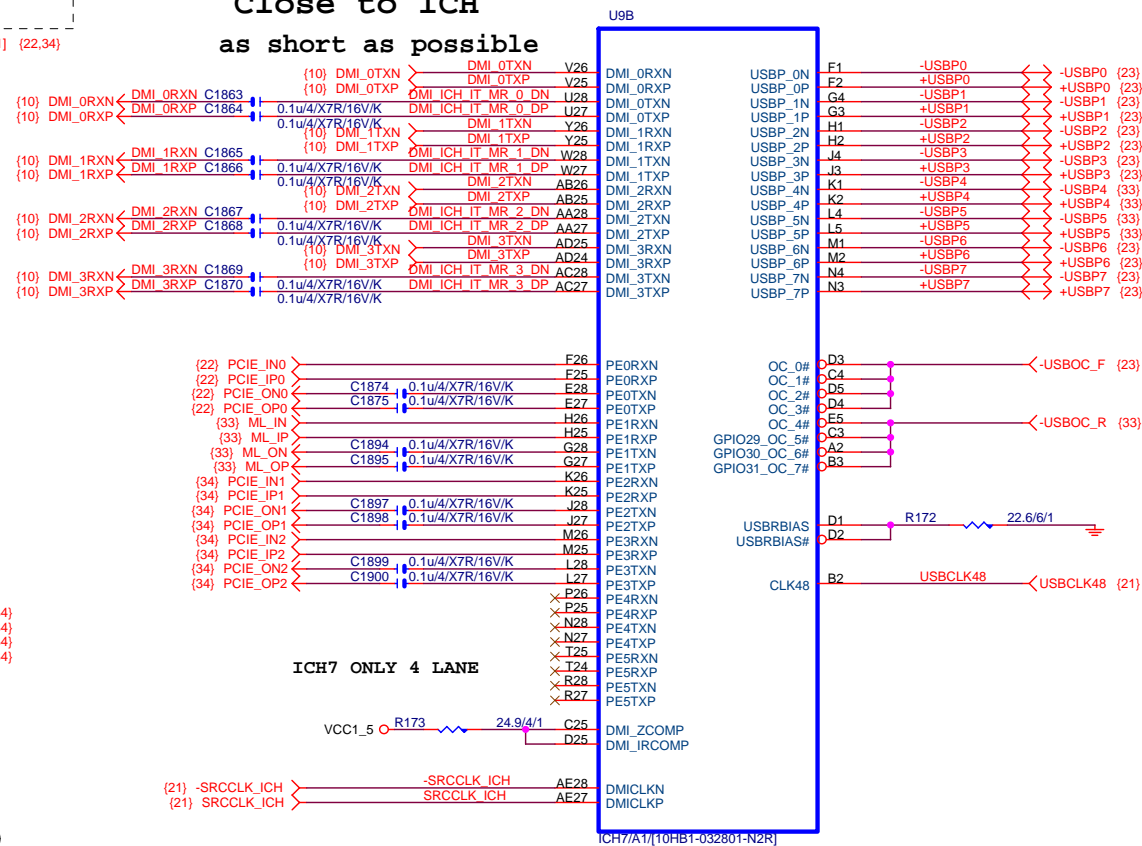
Gigabyte Technology

Title			DDRII TERMINATOR
Size Custom	Document Number	GA-P41T-D3P	
Date:	Friday, August 26, 2011	Sheet	17 of 34
		Rev	1.5

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



Close to ICH
as short as possible

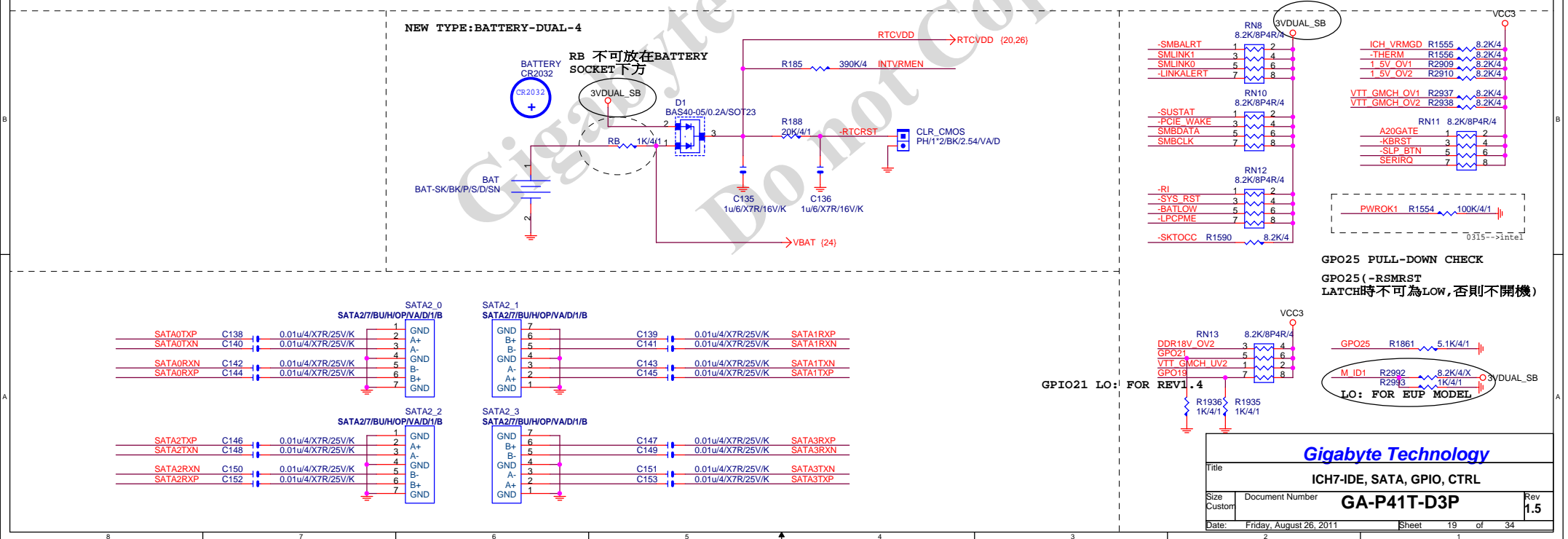
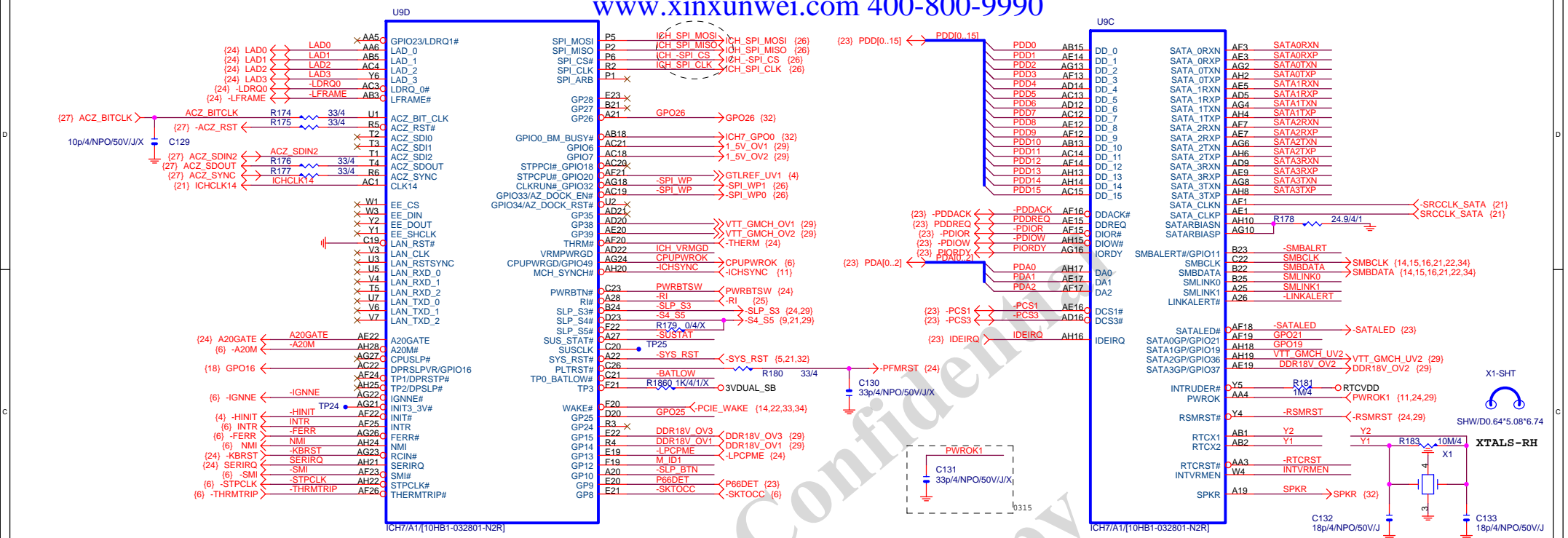


01=SPI
10=PCI
11=LPC (DEFAULT)

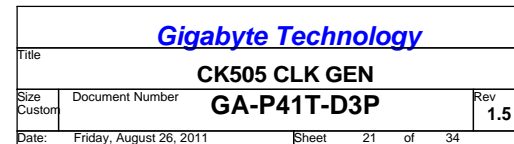


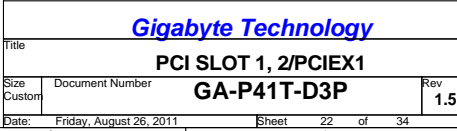
Gigabyte Technology

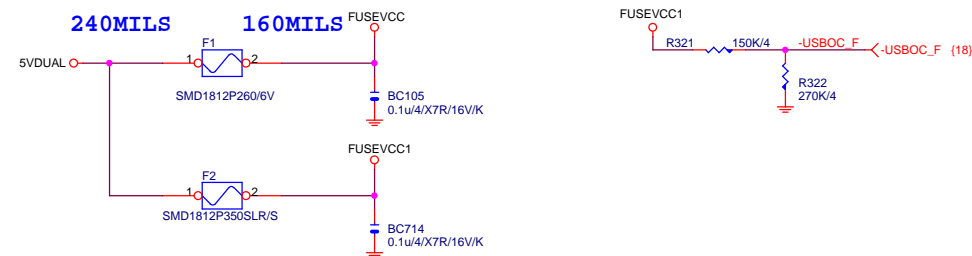
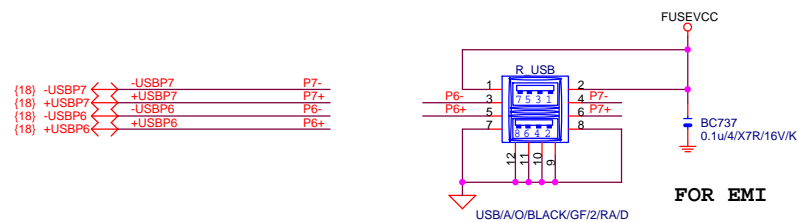
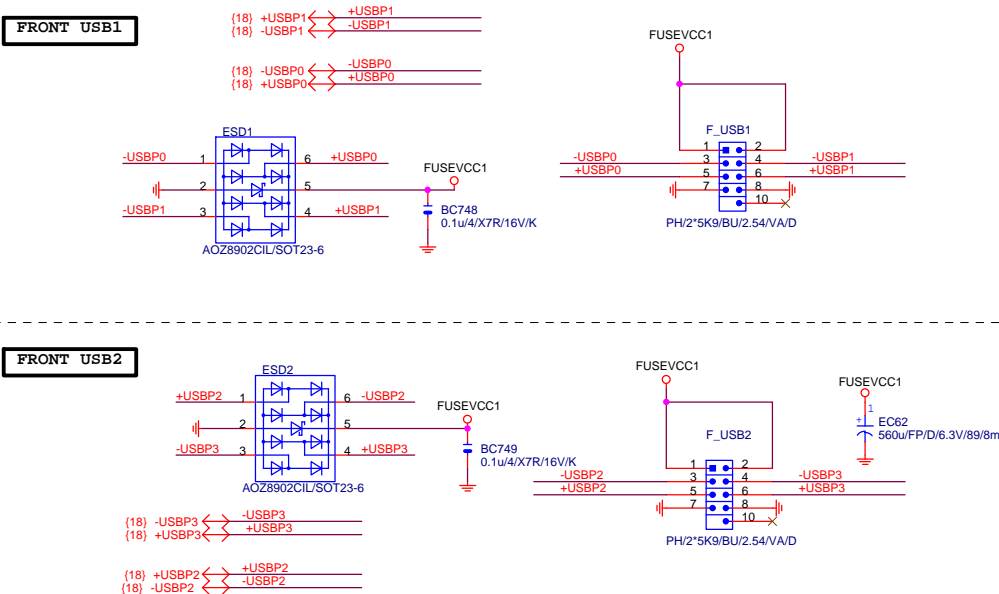
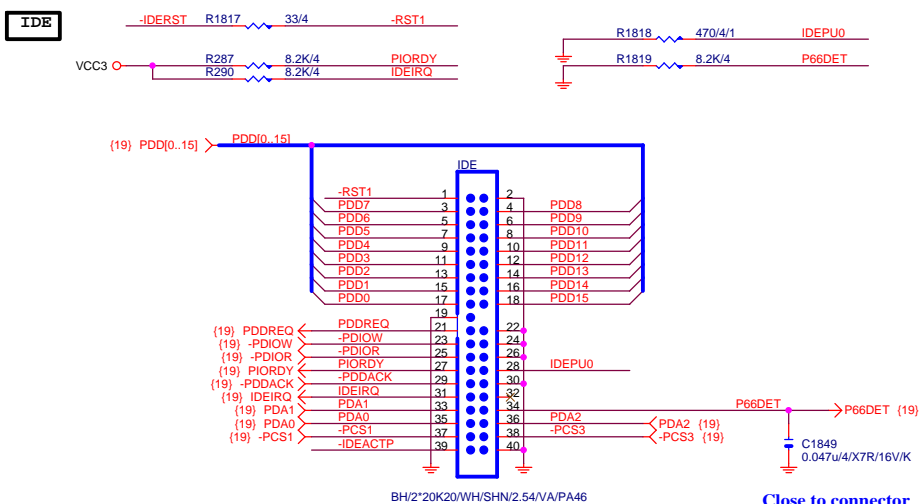
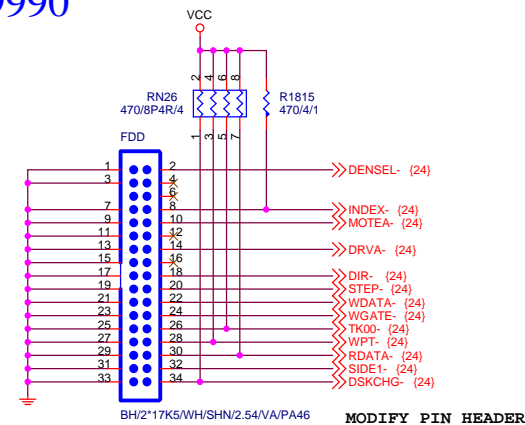
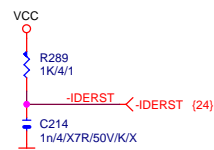
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ICH7-PCI, DMI, LAN, USB			
Size B	Document Number	GA-P41T-D3P	Rev 1.5
Date:	Friday, August 26, 2011	Sheet 18 of 34	

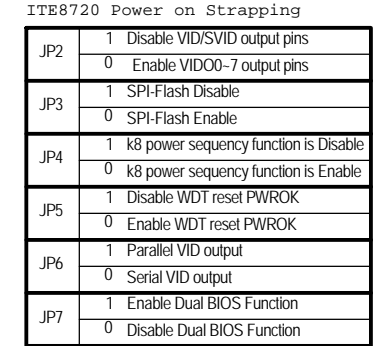


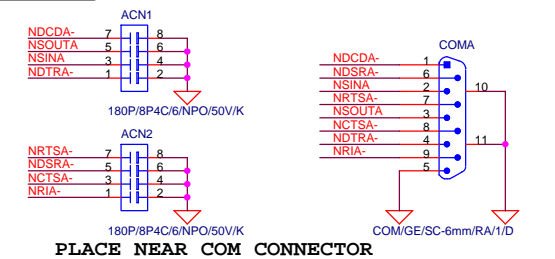
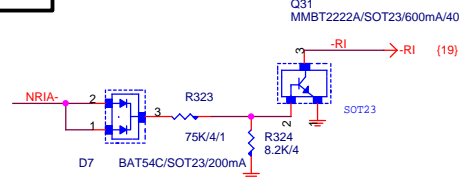
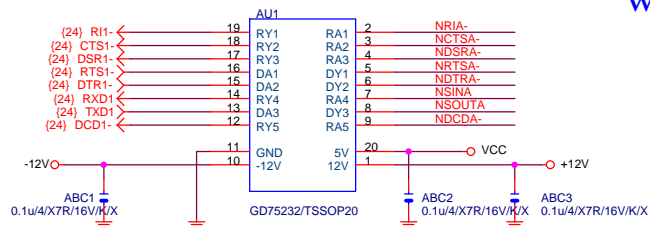












(24) PD[0..7] \longleftrightarrow PD0_71

(24) STB \longleftrightarrow STB- 5 PRN1 6 LPT1
(24) AFD \longleftrightarrow AFD- 1 2 LPT14
(24) PD0 \longleftrightarrow PD0 3 4 LPT2
(24) INIT- \longleftrightarrow INIT- 7 8 LPT16

33/8P4R/4

PRN2

PD3 3 4 LPT5
PD2 1 2 LPT4
PD1 5 6 LPT3
(24) SLIN- \longleftrightarrow SLIN- 7 8 LPT17

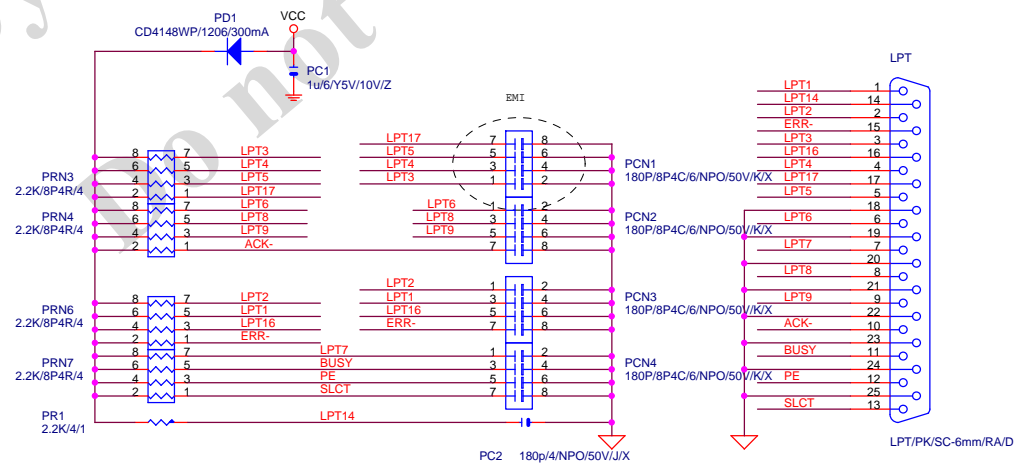
33/8P4R/4

PRN5

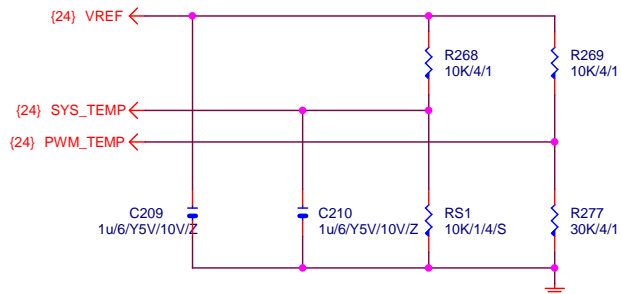
PD6 1 2 LPT8
PD7 3 4 LPT9
PD4 5 6 LPT6
PD5 7 8 LPT7

33/8P4R/4

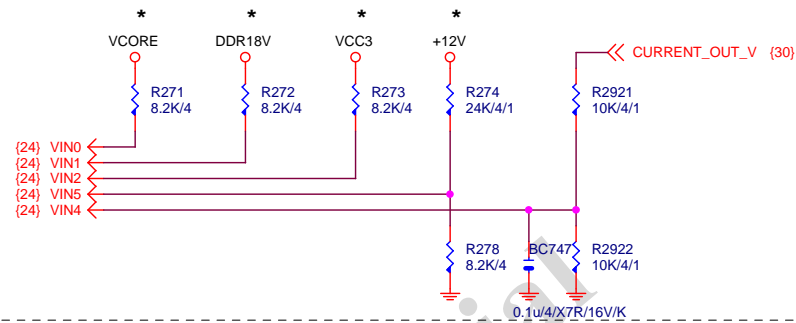
(24) ERR- \longleftrightarrow ERR-
(24) ACK \longleftrightarrow ACK-
(24) BUSY \longleftrightarrow BUSY
(24) PE \longleftrightarrow PE
(24) SLCT \longleftrightarrow SLCT



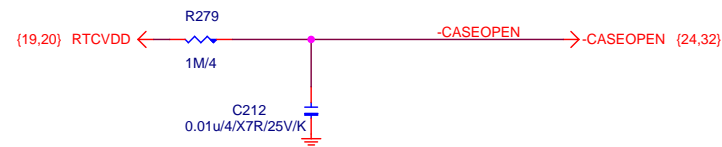
TEMP H/W MONITOR



VOLTAGE-- H/W MONITOR

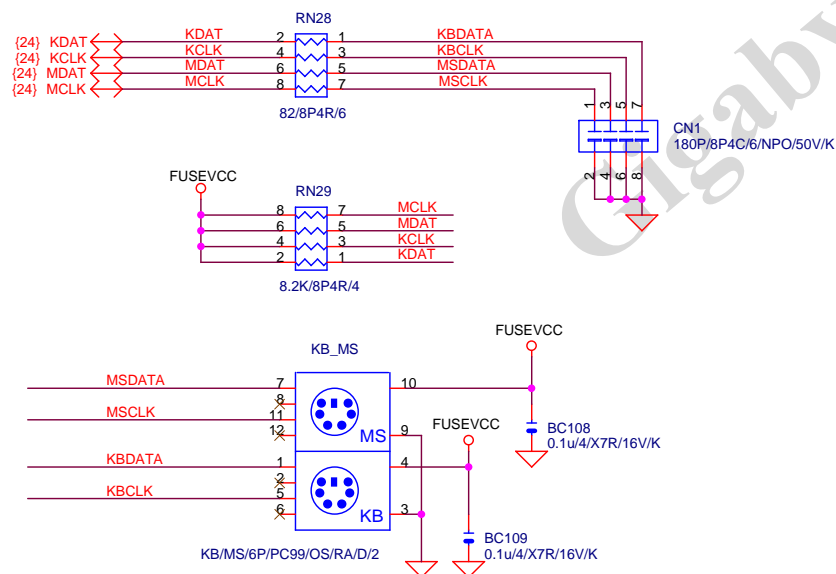


CASE OPEN



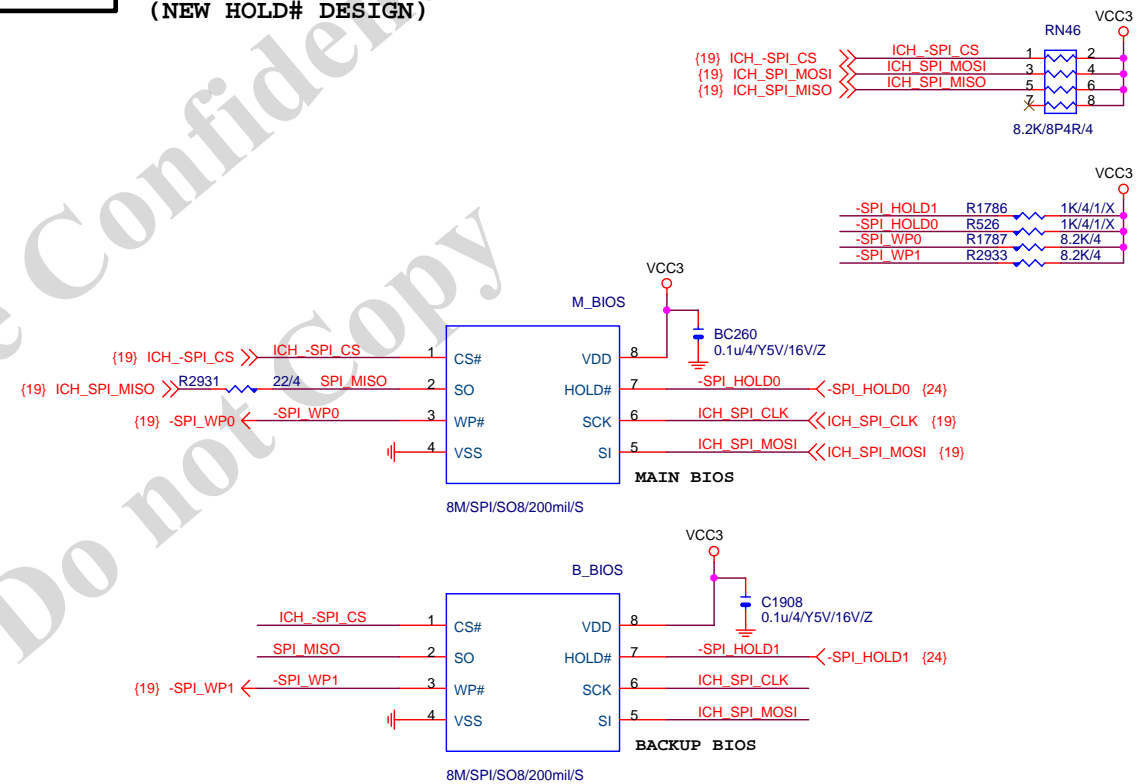
Case Open Circuits

KB/MS



DUAL BIOS

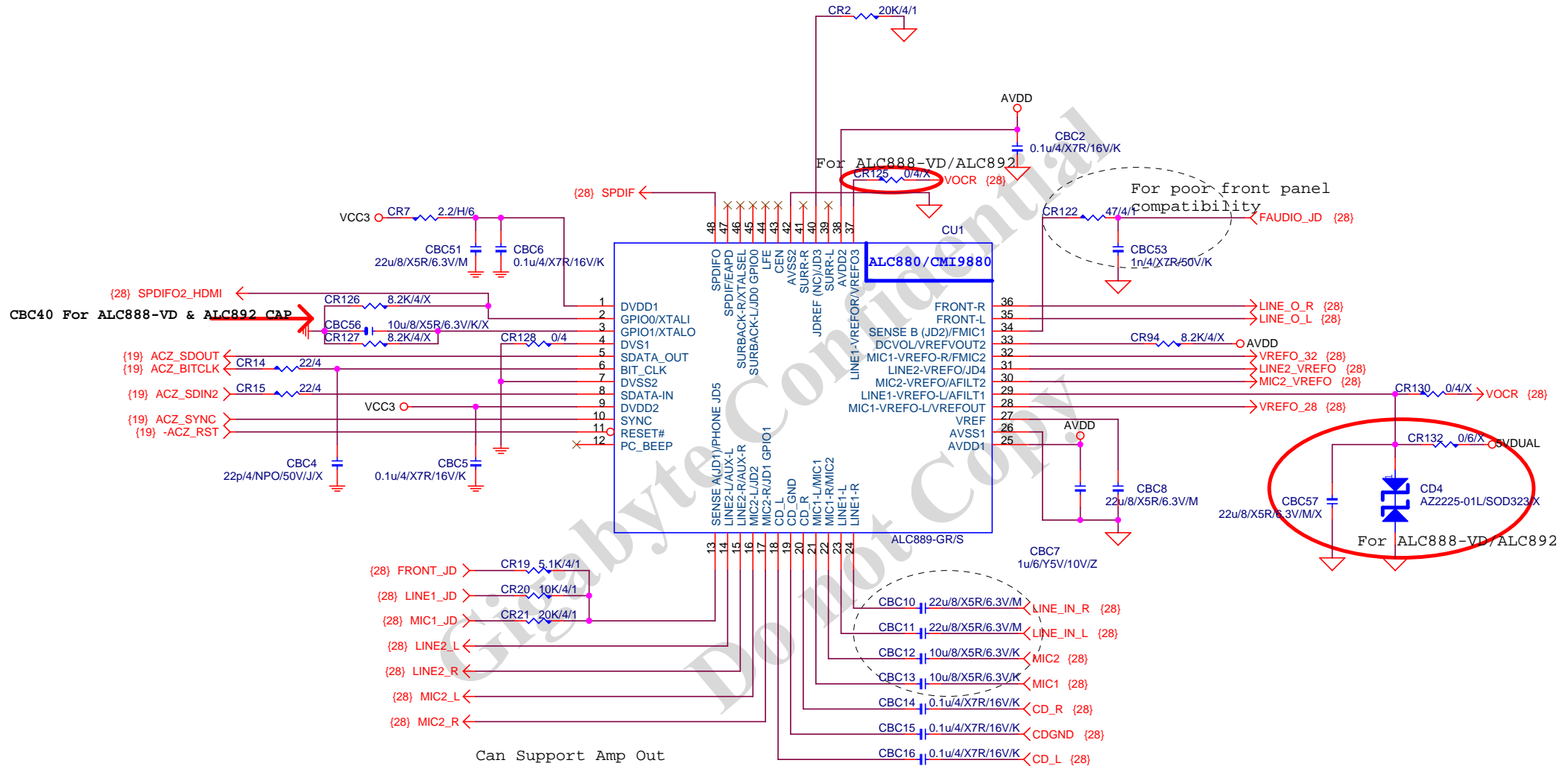
(NEW HOLD# DESIGN)



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Title			HW-MONITOR/CI/KB/MS/BIOS	
Size	Document Number	GA-P41T-D3P		Rev
Custom				1.5
Date:	Friday, August 26, 2011	Sheet	26	of 34

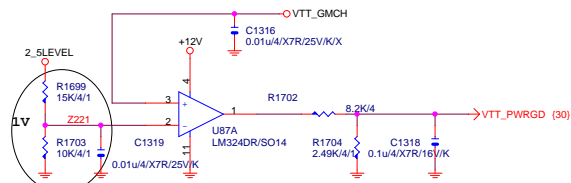
AZALIA CODEC



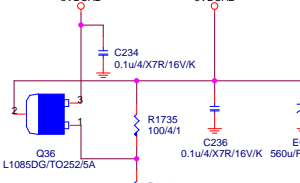
Gigabyte Technology

Title			AZALIA ALC888	
Size	Document Number	GA-P41T-D3P		Rev
Custom				1.5
Date:	Friday, August 26, 2011	Sheet	27	of 34

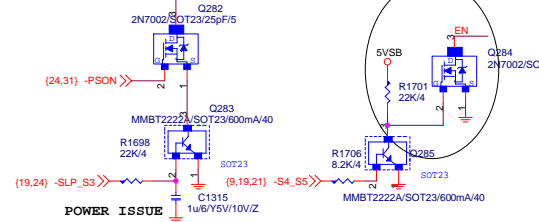
VTT_PWRGD



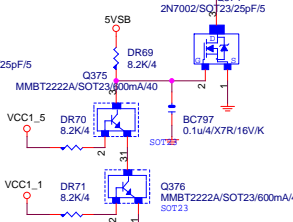
3VDUAL



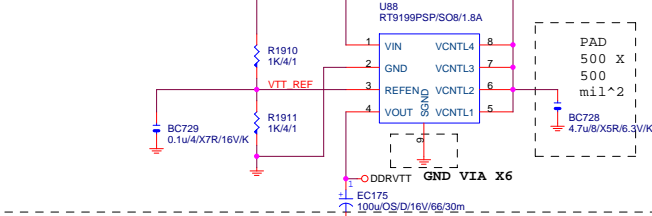
VTT_PSRST



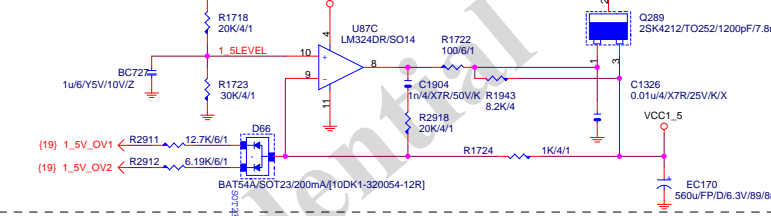
FOR NON-CPU CAN SHUT-DOWN



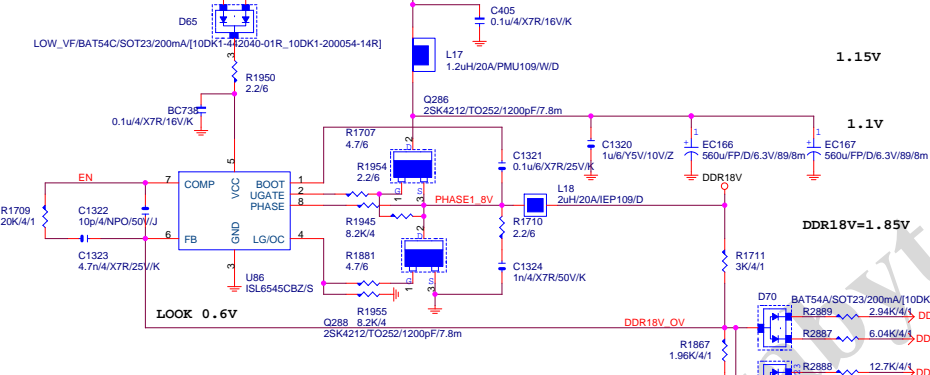
DDRVT



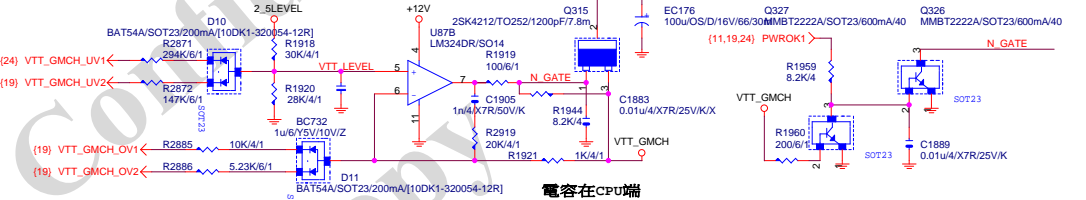
VCC1_5



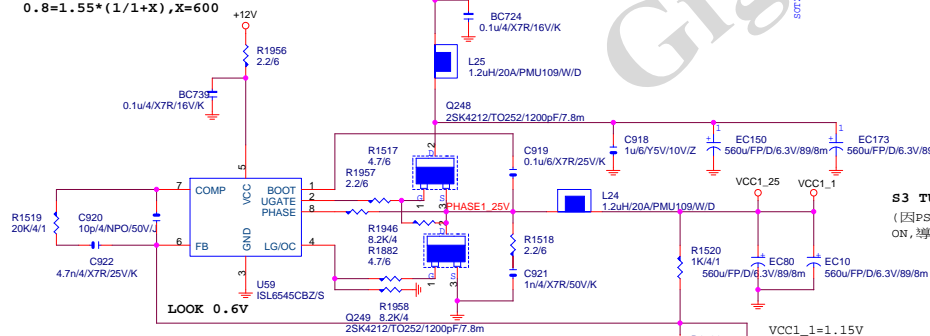
DDR18V



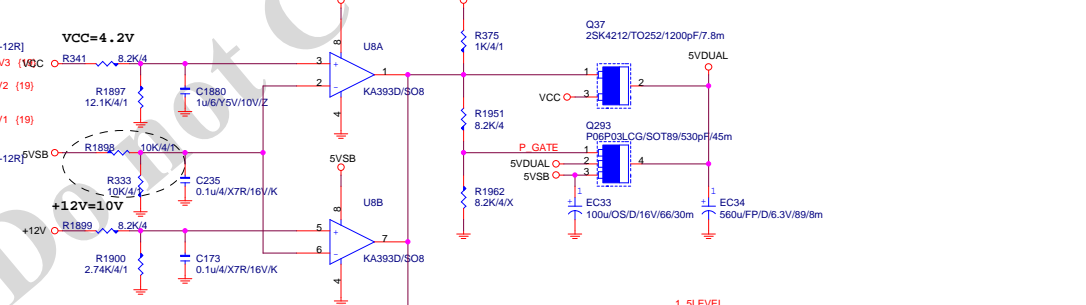
VTT_GMCH



VCC1_25



5VDUAL



OCF : $I_{peak} = (2 \times I_{ocset} \times R_{ocset}) / R_{dson}$

$I_{ocset} = 21.5\mu A$, $R_{ocset} = 8.2k$

OCF : $I_{peak} = (2 \times I_{ocset} \times R_{ocset}) / R_{dson}$

$= (2 \times 21.5\mu A \times 8.2k) / 7.5m$

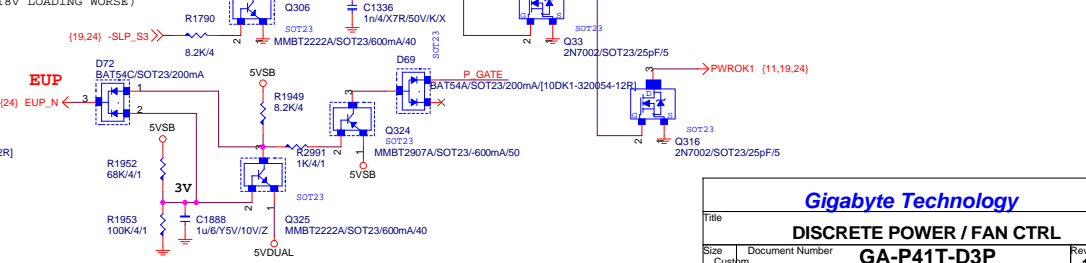
$= 47A$

注意 : R_{ocset} 的阻值要依據 Lo side R_{dson} 改變

一般 I_{peak} 設定在 50~60A 即可

S3 TURN OFF 2_5LEVEL, 避免 DDR18V DROP

(因 PSU +12V 太晚關, 造成 OP TURN ON, 導致 DDR18V LOADING WORSE)



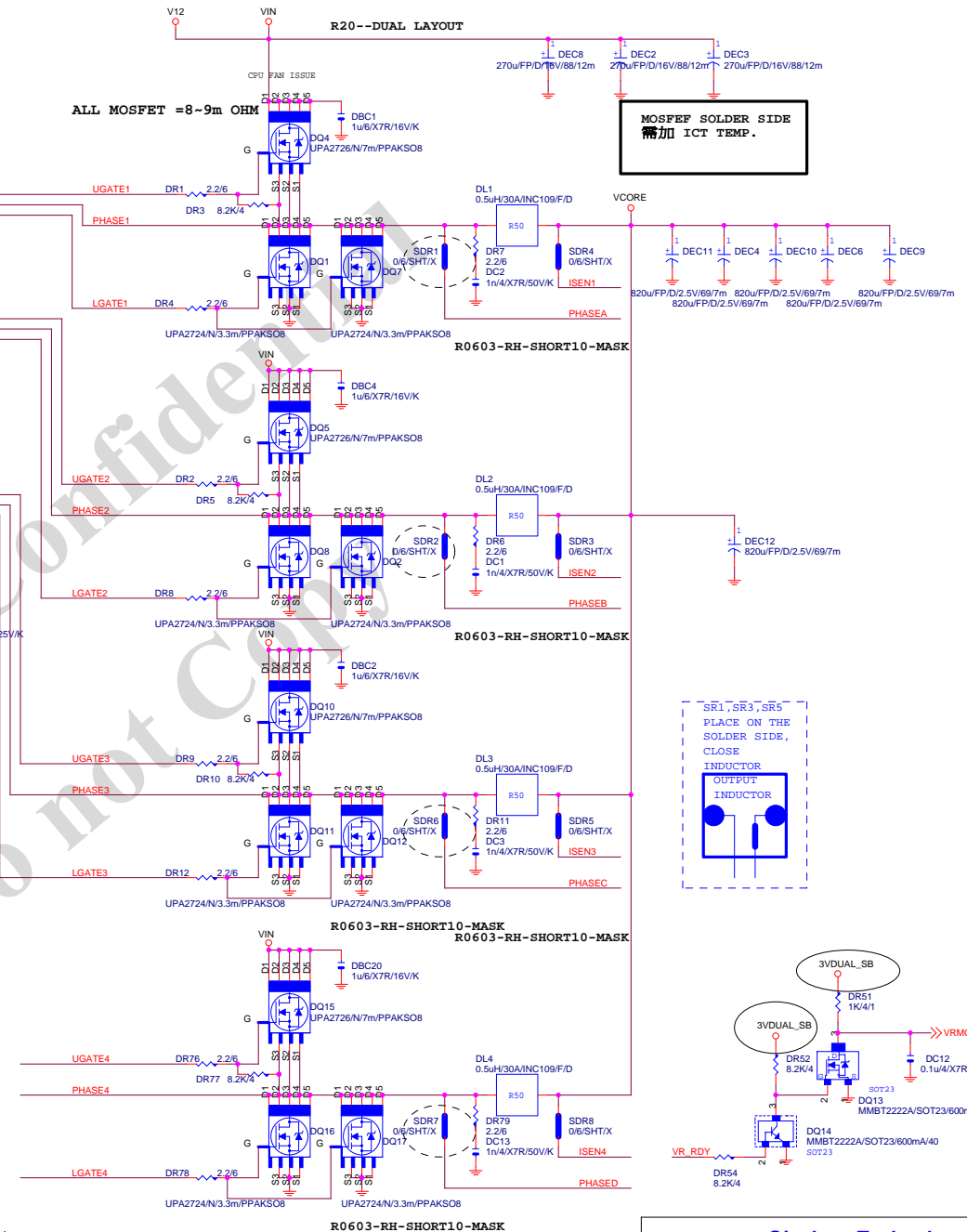
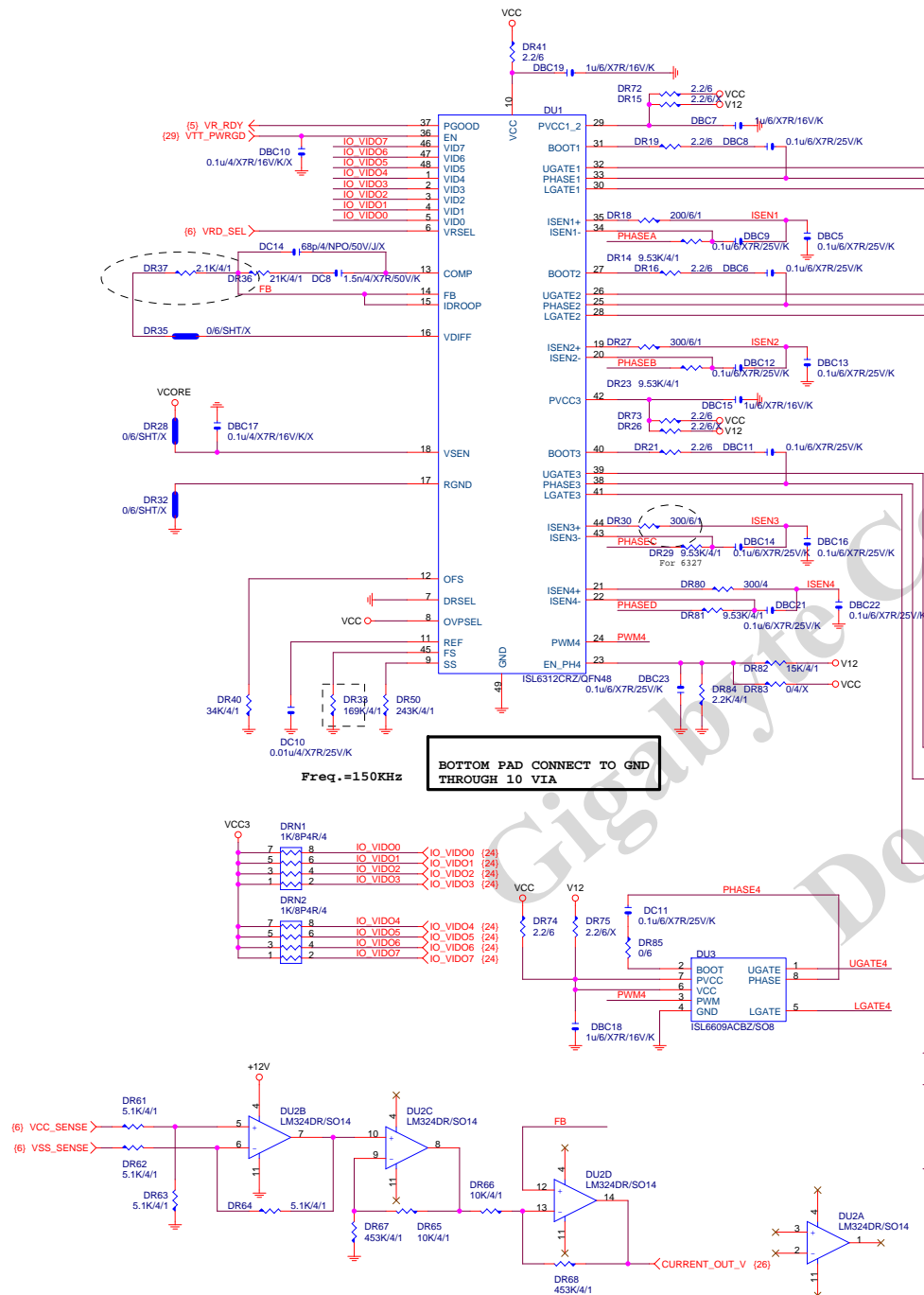
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DISCRETE POWER / FAN CTRL

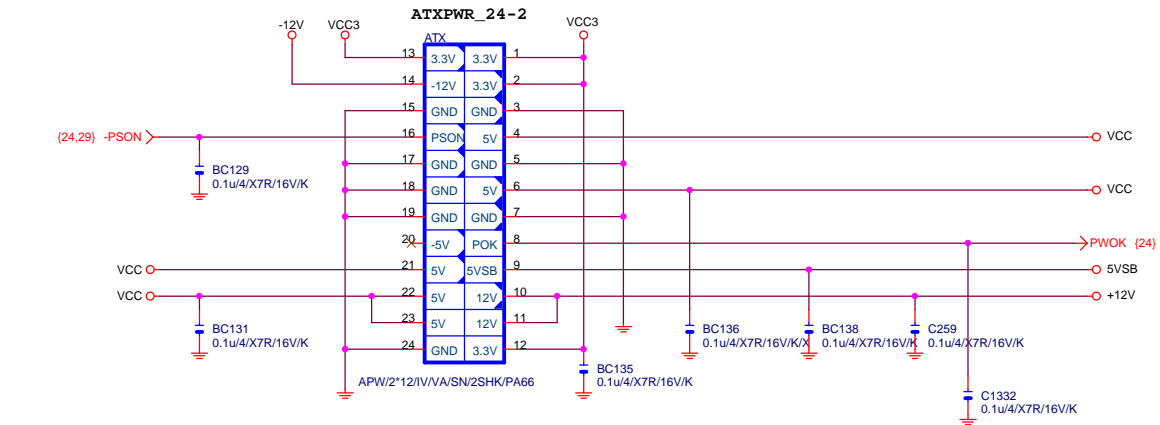
GA-P41T-D3P

Rev 1.5

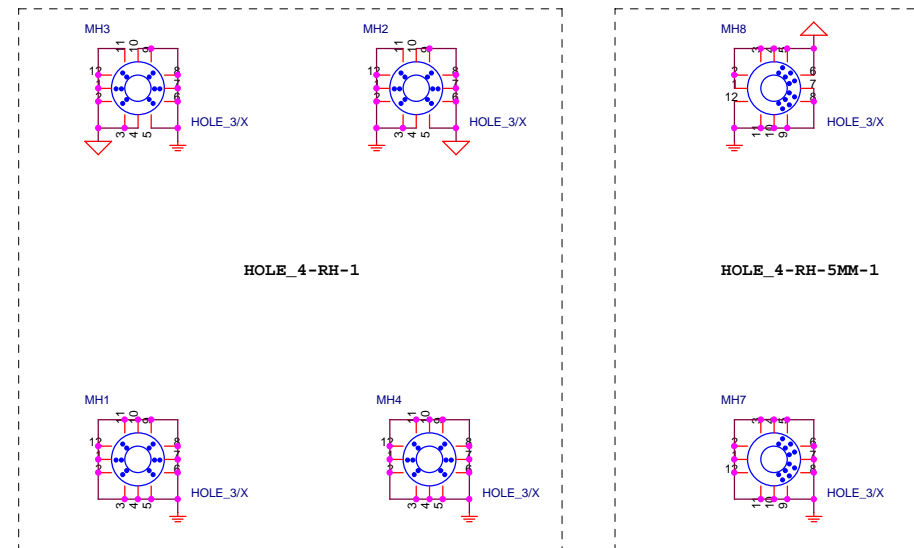
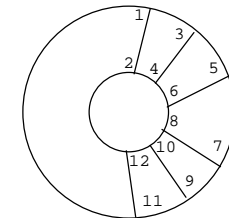
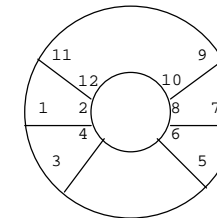
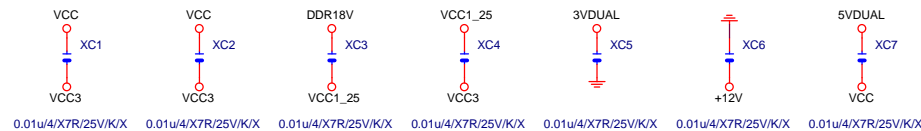
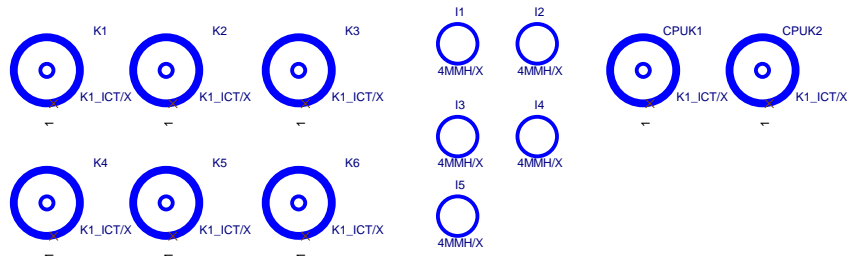
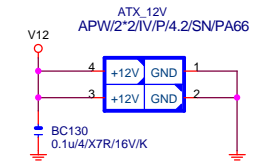
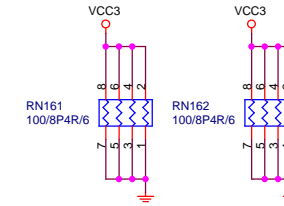
Date: Friday, August 26, 2011 Sheet 29 of 34



ATX POWER CONNECTOR



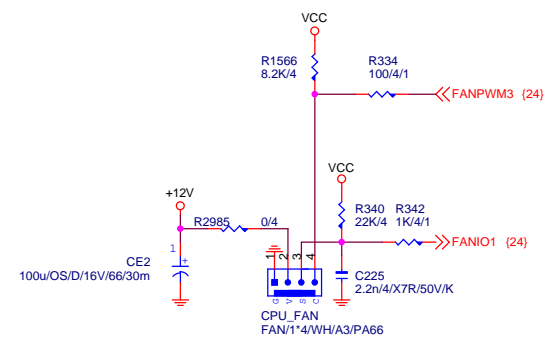
FIX PWR AcBel(ATX-400C-A2ADB)



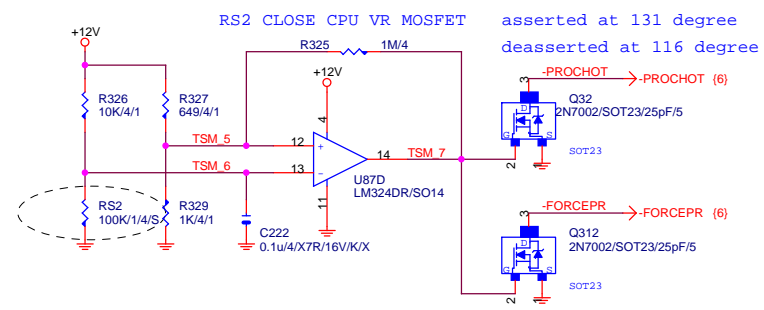
Gigabyte Technology

Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
B	GA-P41T-D3P	1.5
Date:	Friday, August 26, 2011	Sheet 31 of 34

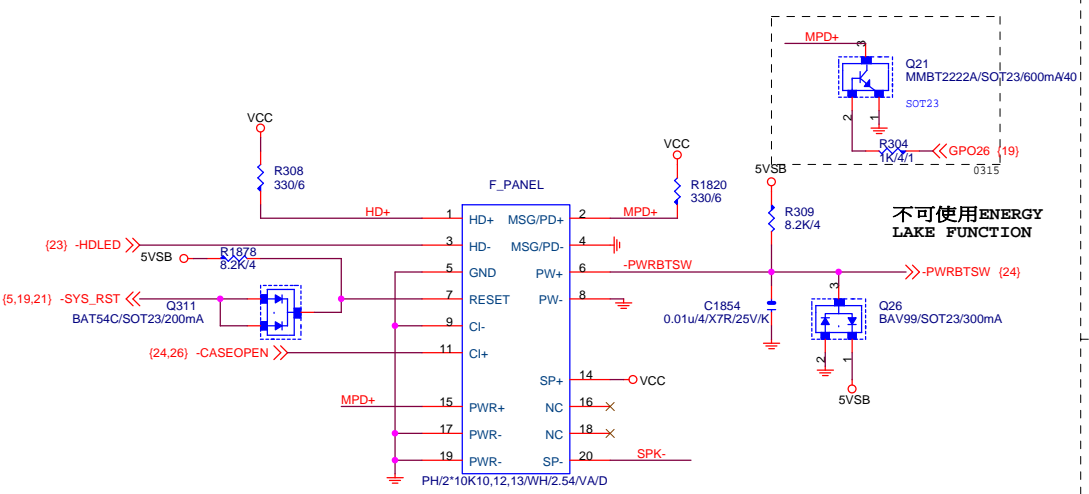
CPU SMART FAN SMART FAN



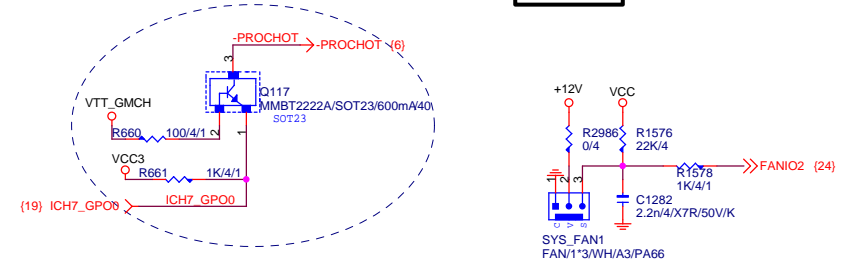
PROCESSOR HOT



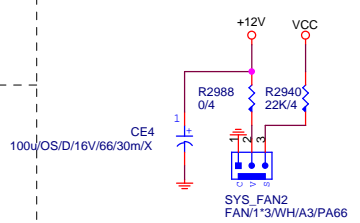
INTEL FRONT PANEL



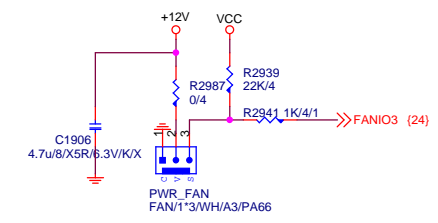
SYS_FAN1



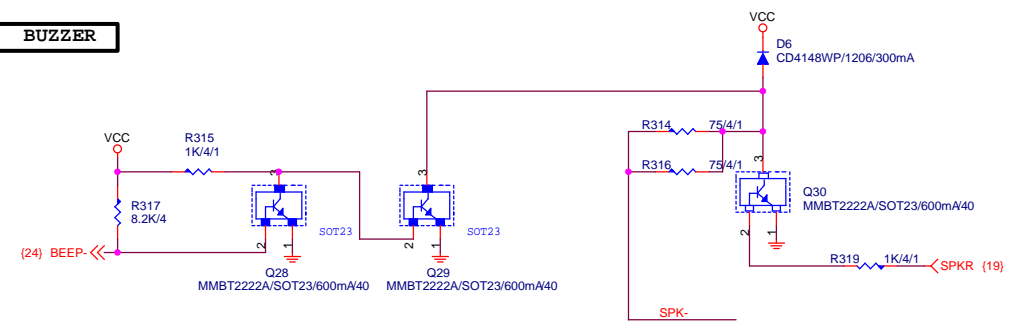
SYS_FAN2



PWR FAN



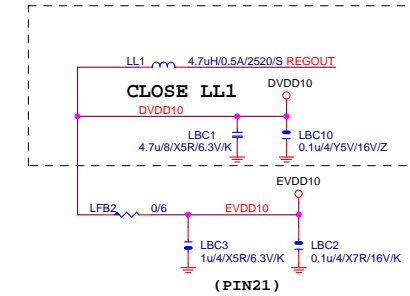
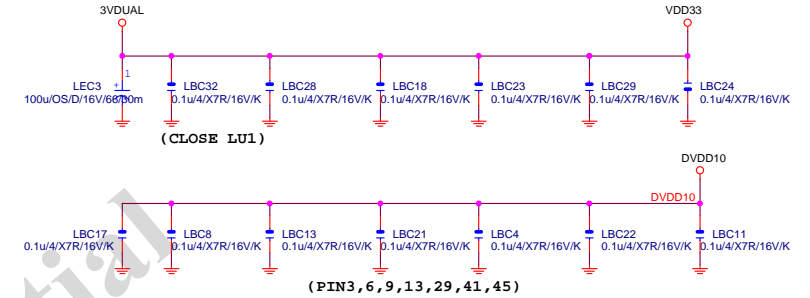
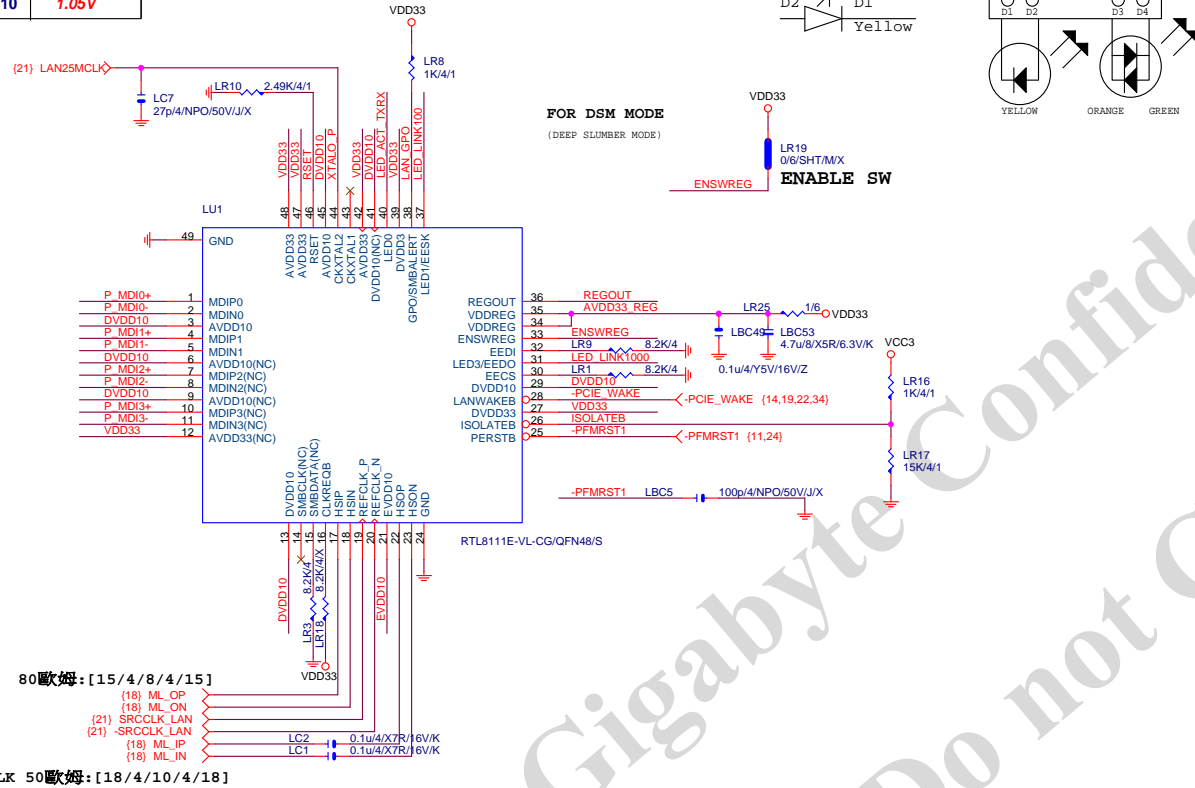
BUZZER



PCIE-1G LAN

Power domain chart

	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V



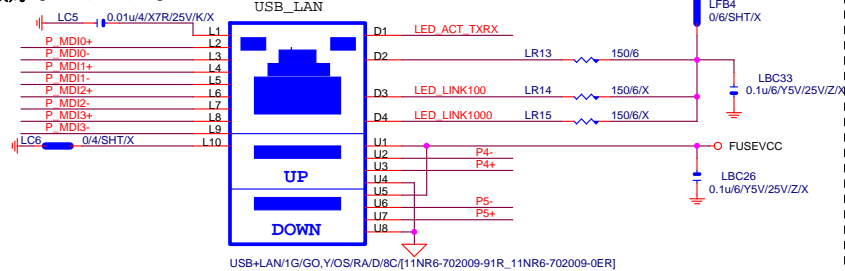
USB_LAN CONNECTOR

RTL8101E : L1+L10-->AVDD18+0.1u(BIOS DISABLE MDI-X FUNCTION)

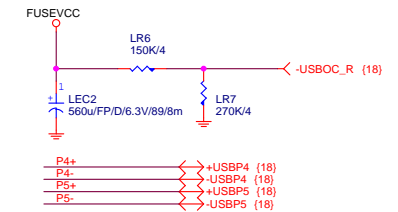
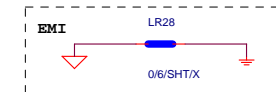
1G : USB+LAN/1G/GO,Y/OS/RA/D/1

100M: USB+LAN/100/GO,Y/OS/RA/D/1

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USB_LAN



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Title	REALTEK RTL8111E	Rev	1.5
Size	Custom	Document Number	GA-P41T-D3P
Date:	Friday, August 26, 2011	Sheet	33 of 34

