

Model Name: GA-H61M-DS2 DVI Revision 1.01

SHEET TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*1x2 SLOT
16	ITE 8728 LPC IO
17	COMA,KB_MS,R_USB,-PROCHOT
18	HWM,FAN CTRL,OV
19	DUAL BIOS
20	FP,FUSB,SPK,SATALED
21	ALC887
22	REAR AUDIO JACK
23	REALTEK 8111E/USB_LAN
24	DISCRETE POWER
25	ATX,-S_WARN,-S_ACK,5VDUAL
26	Richtek_RT8120_CPU_VTT
27	VCORE INTERSIL_95836_1

SHEET TITLE

28	VCORE INTERSIL_95836_2
29	VCORE INTERSIL_95836_3
30	LPT

Gigabyte Technology		
Cover Sheet		
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Component value change history

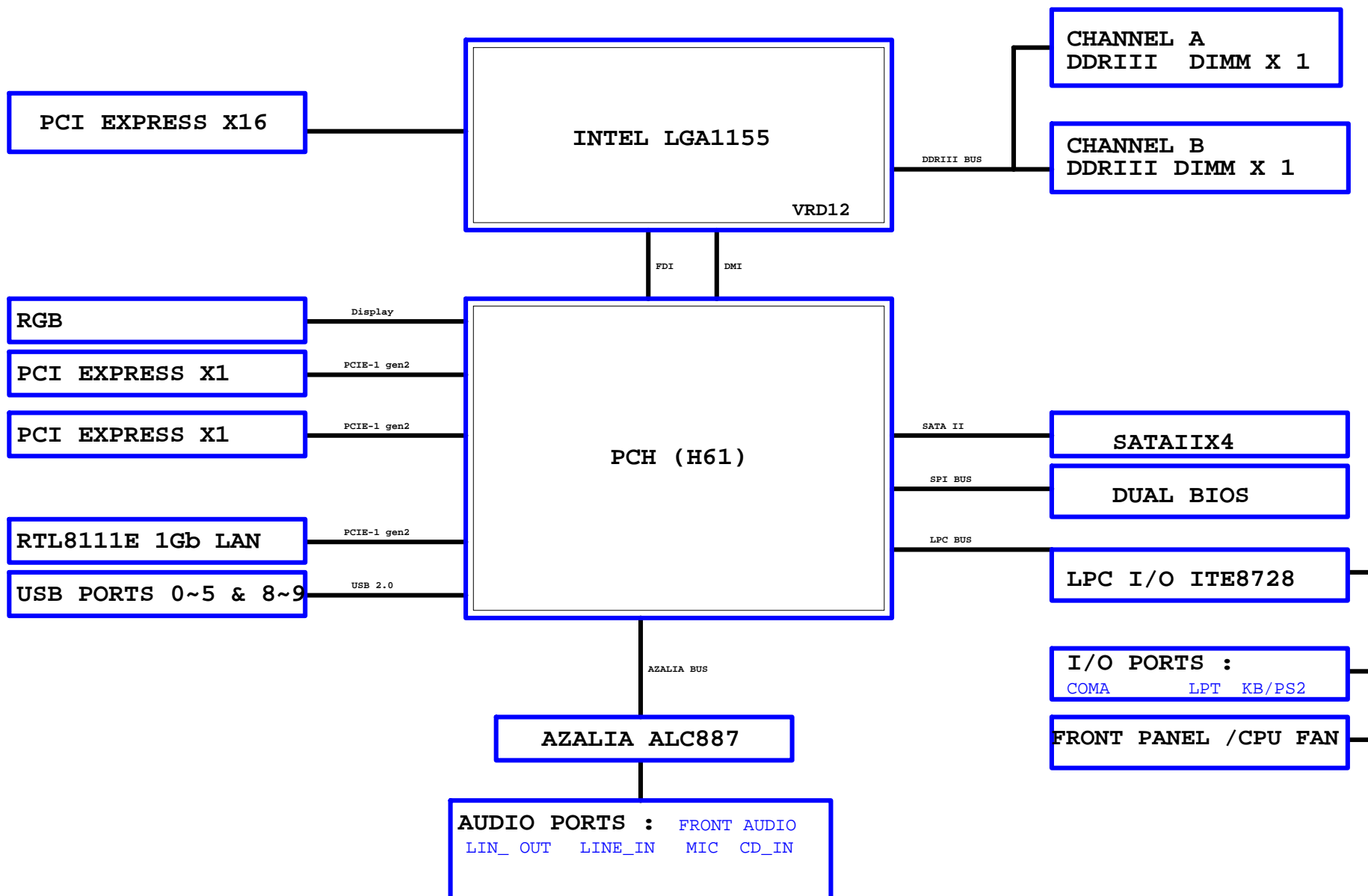
2012/09/17

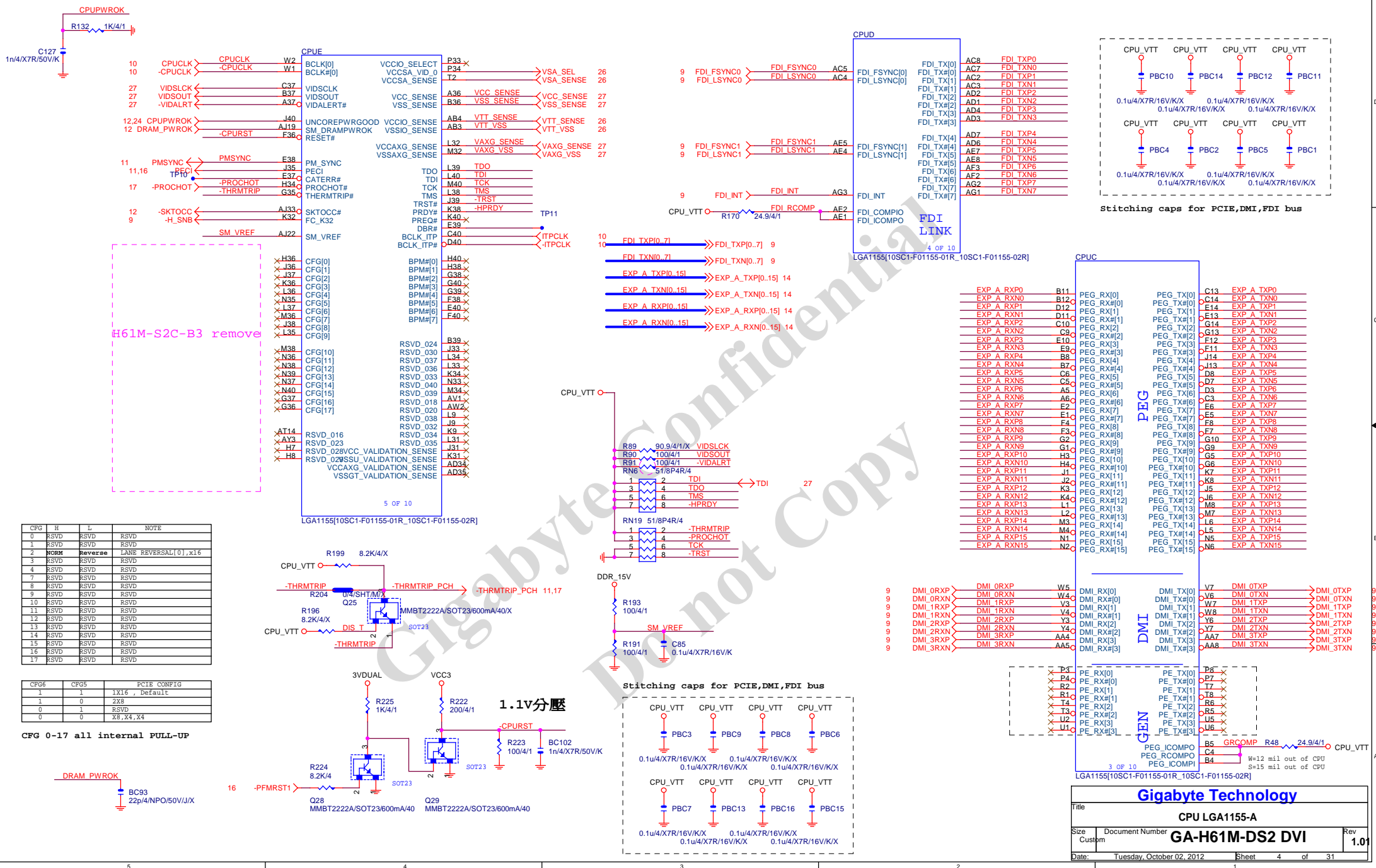
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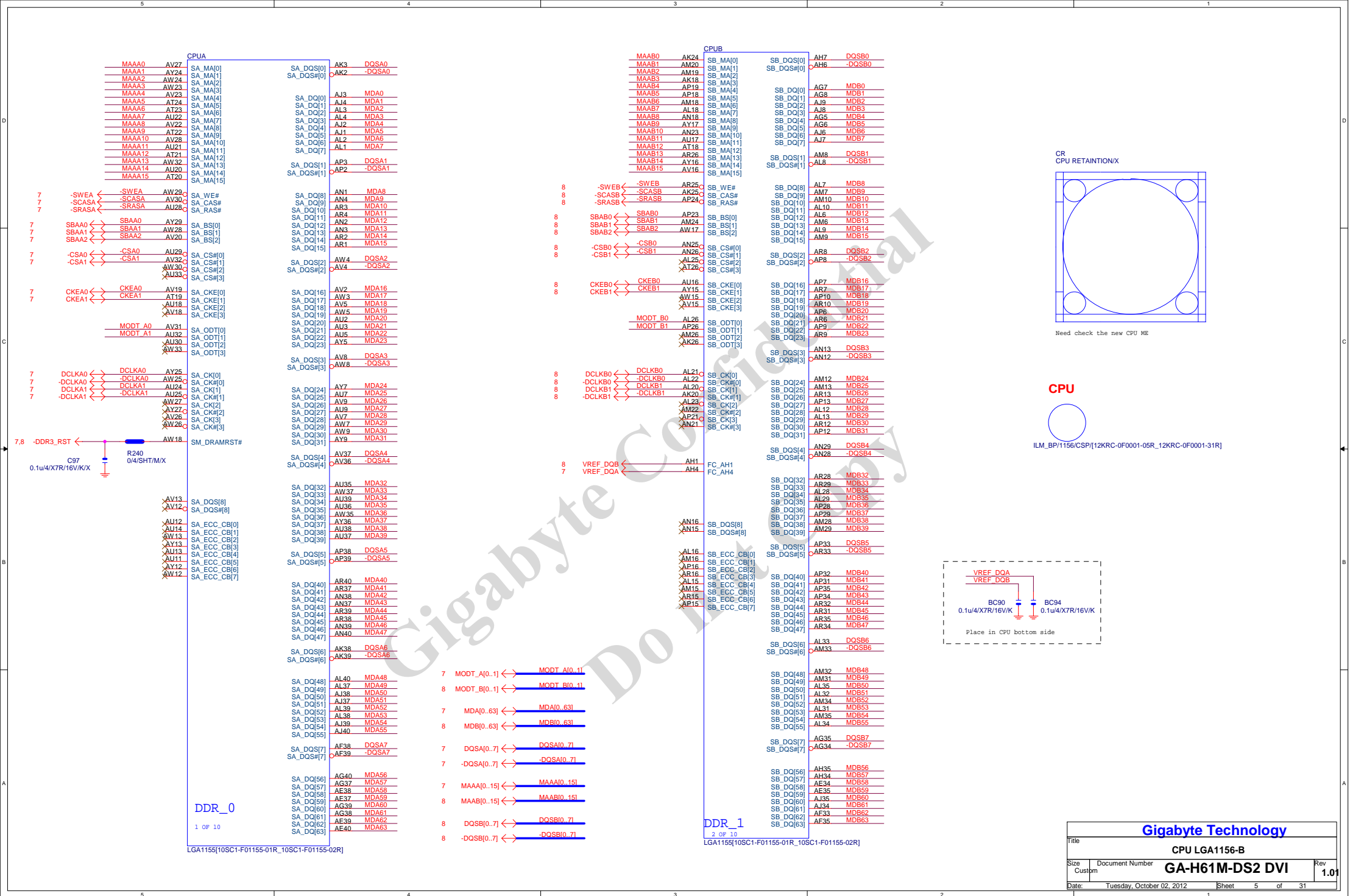
Circuit or PCB layout change

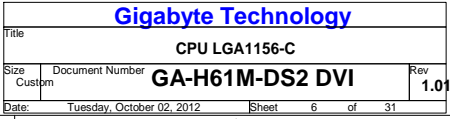
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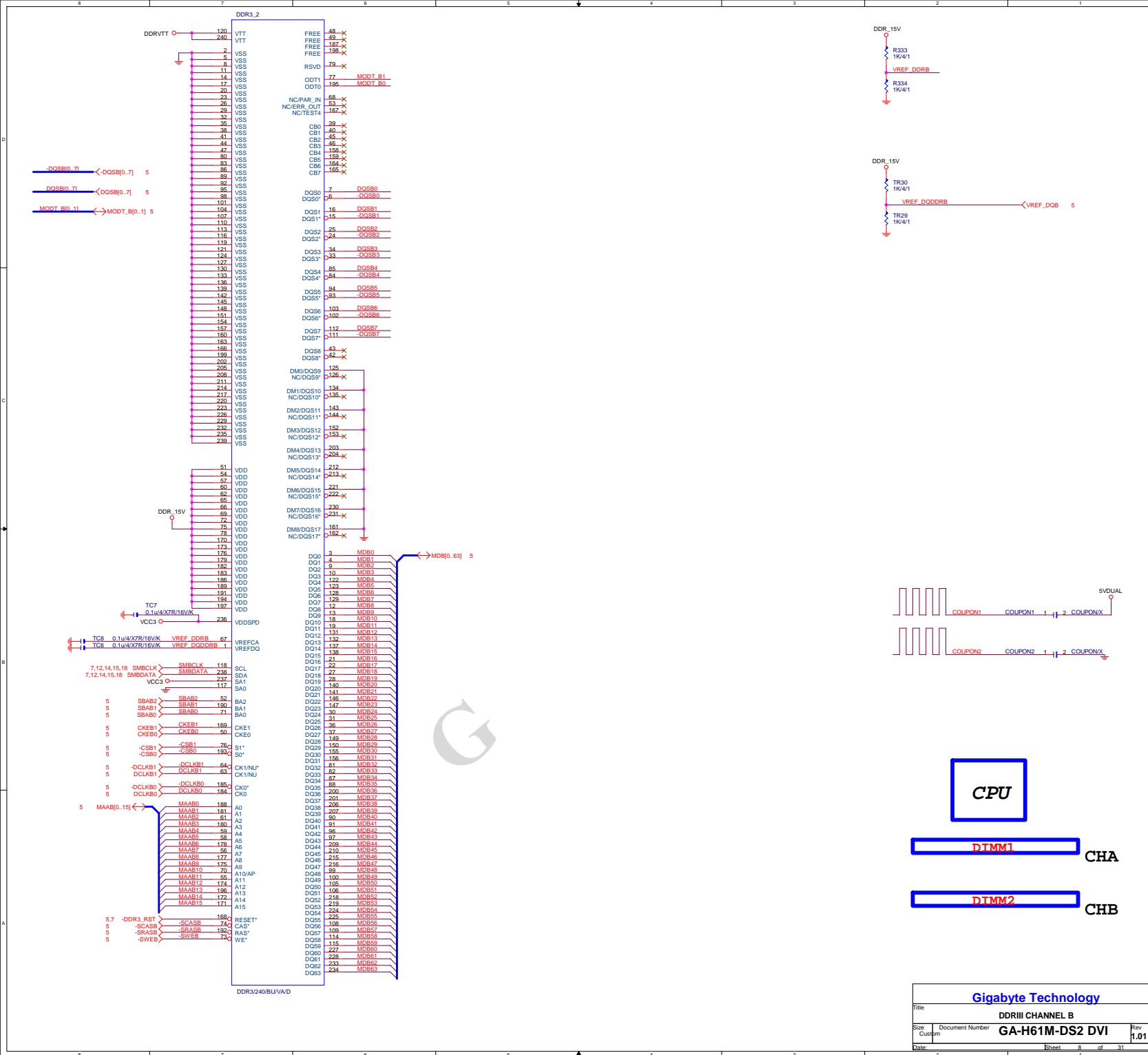
BLOCK DIAGRAM







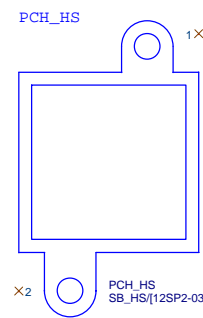




PCIEX1_1

PCIEX1_2 LAN

NEW FOOTPRINT: BGAHSINK_PCH_HS

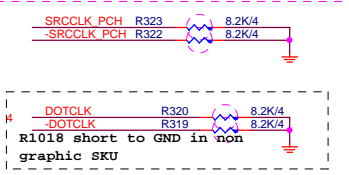


PCH_HS
SB_HS[12SP2-030005-42R_12SP2-030005-43R]



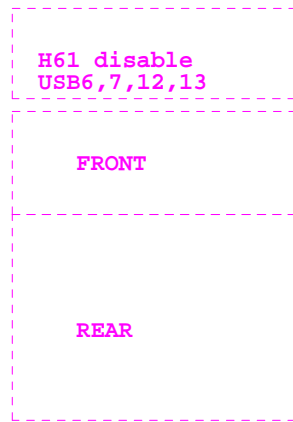
DMT / FDI termination voltage

USB OC# Configure for H61	
OC0#	USB0,1(F_USB1)
OC1#	USB2,3(F_USB2)
OC2#	USB4,5(USB_LAN)
OC3#	N/A
OC4#	USB8,9(R_USB1)
OC5#	USB10~11(R_USB2)
OC6#	N/A
OC7#	GPIO14



INTERNAL CLK STRAPPING

FOR FUSE SHORT GPIO

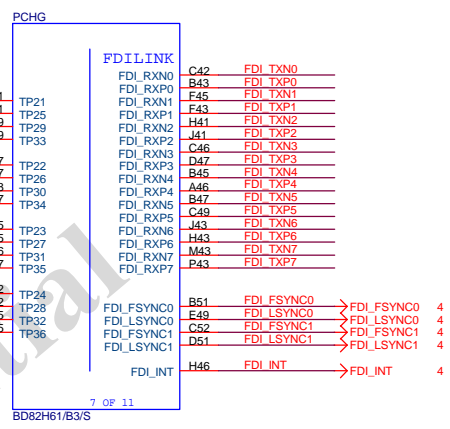


H61 disable
USB6,7,12,13

FRONT

REAR

finetune USB driving



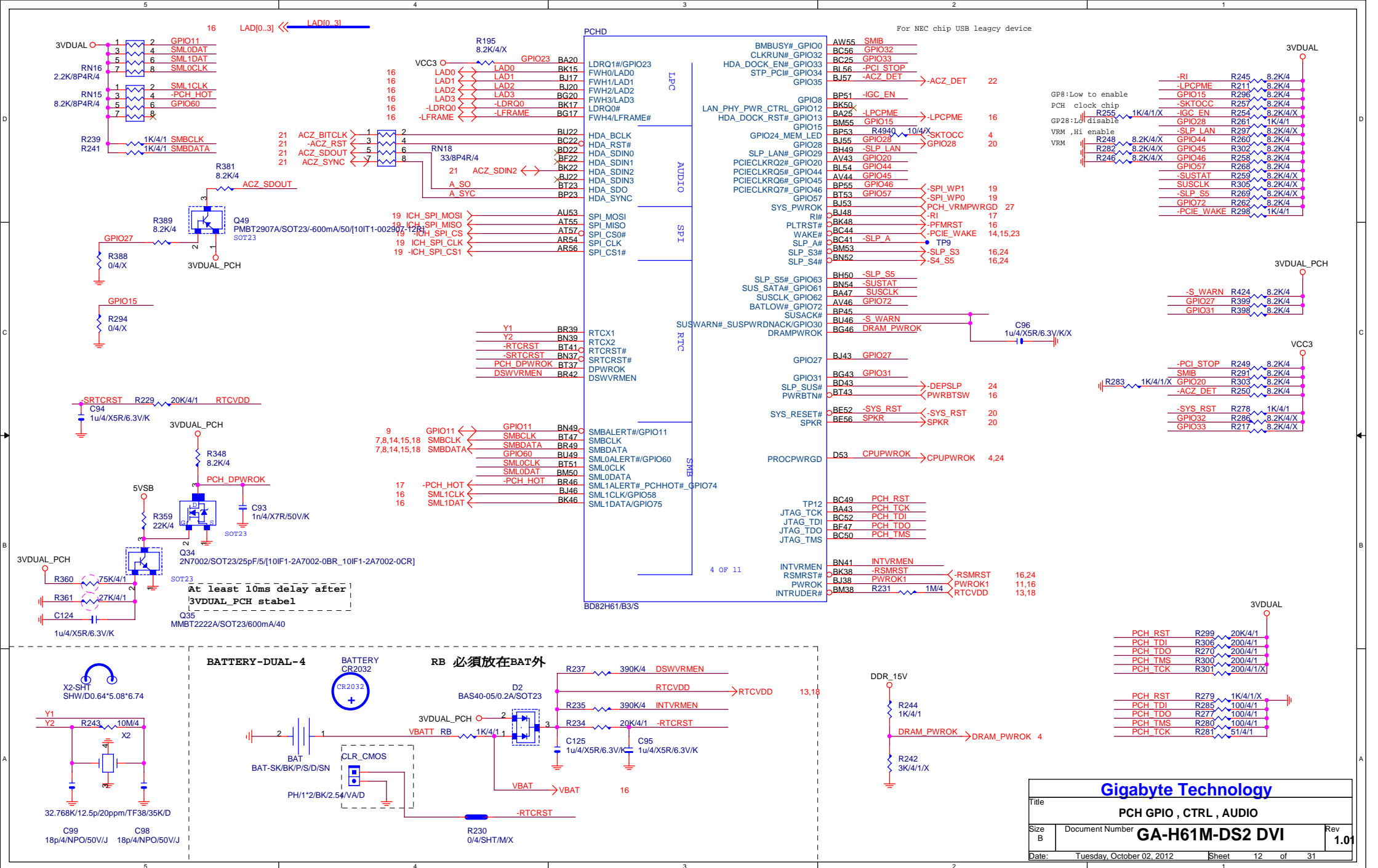
FDILINK

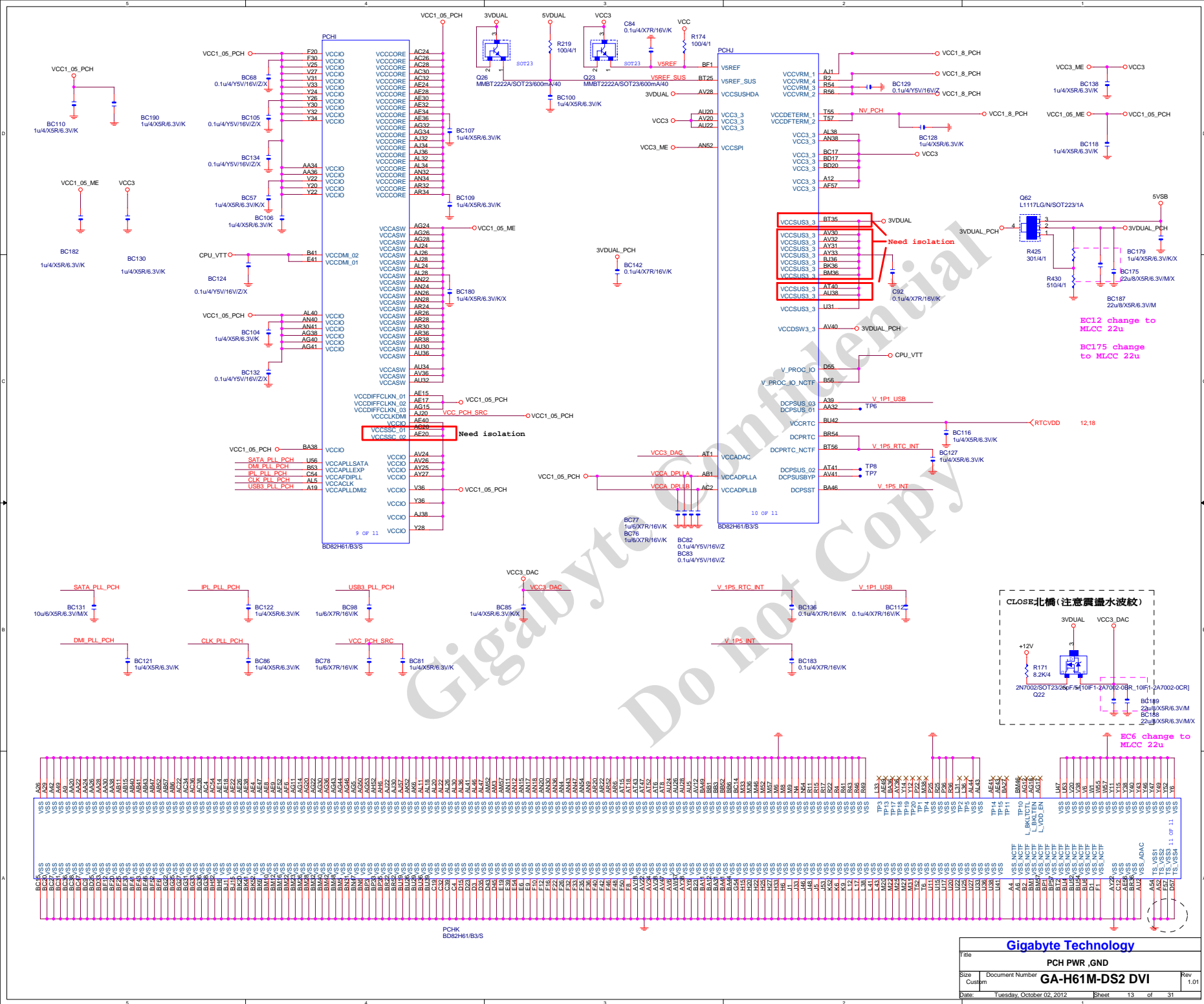
NVRAM

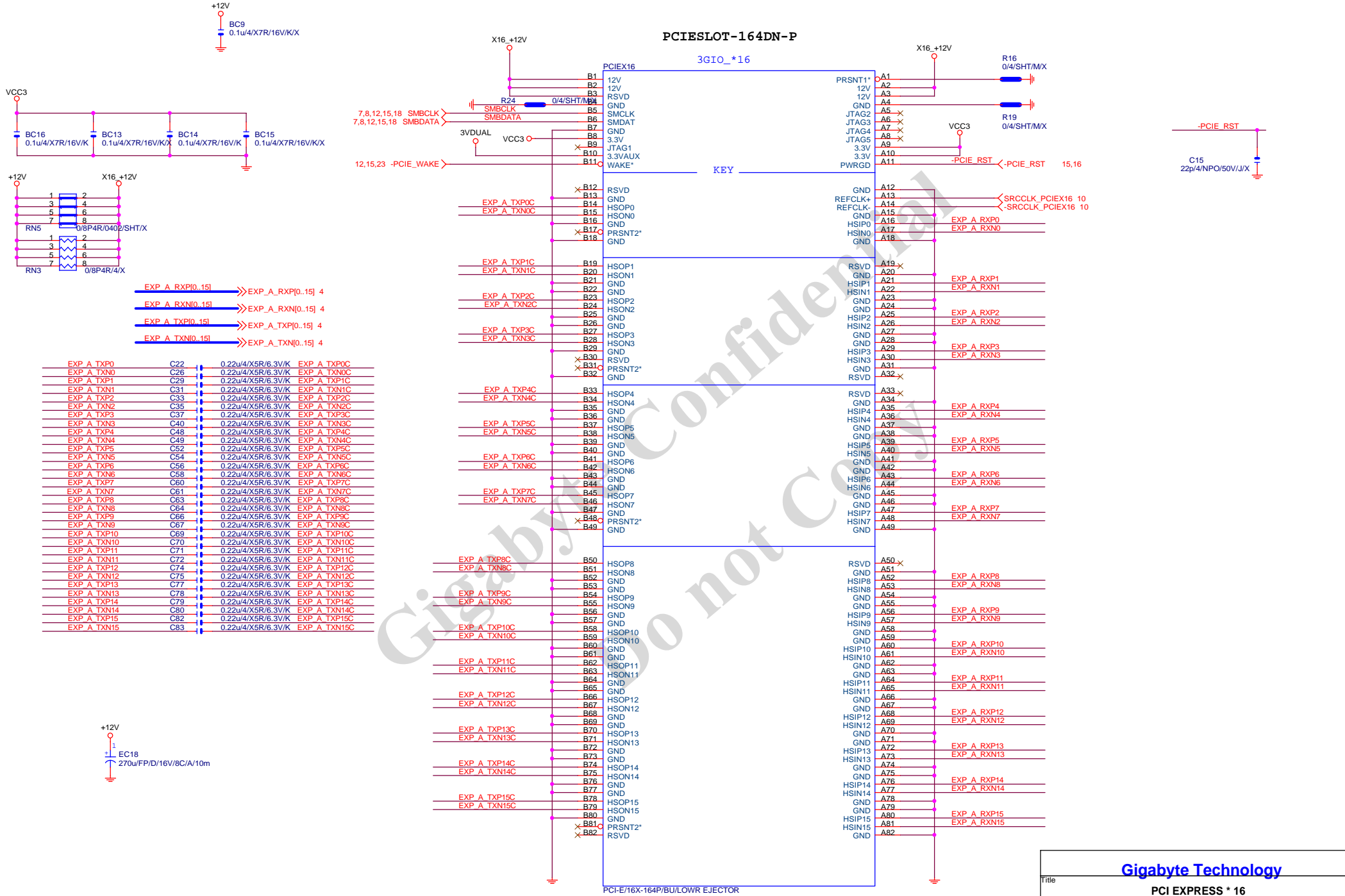
Gigabyte Technology			
Title			
PCH FDI,DMI,USB,PCIE,NVRAM			
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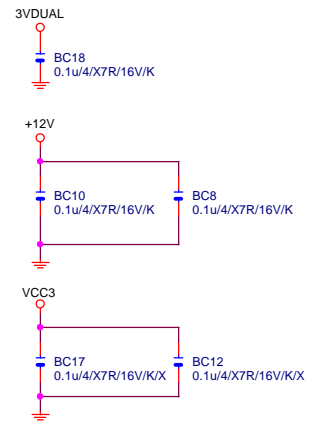
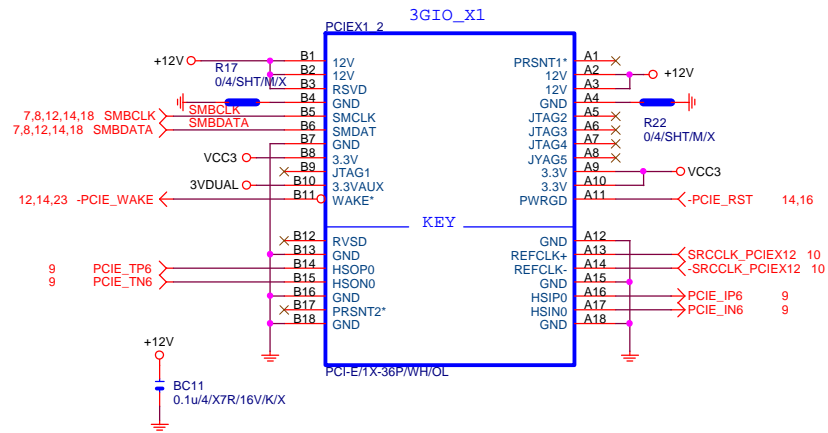
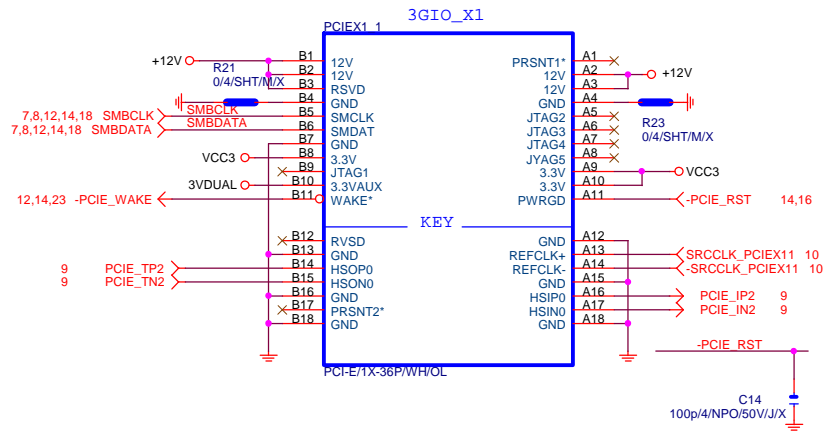
H1X7-SATA2-HS-MASK







PCIE*1

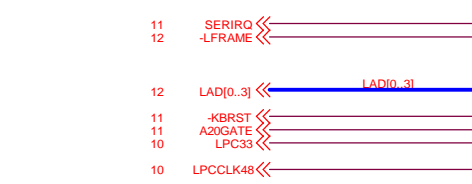
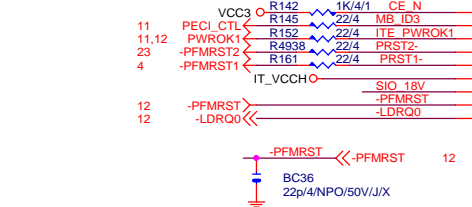
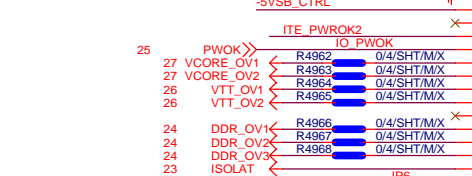
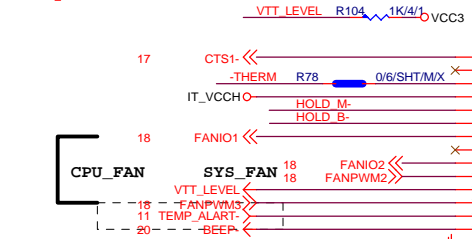
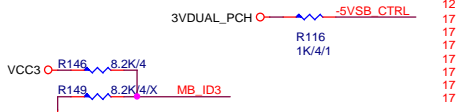


CLK GEN

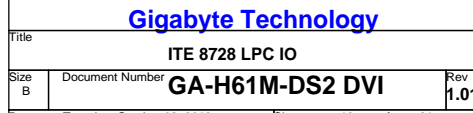
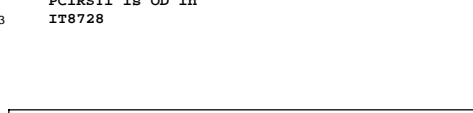
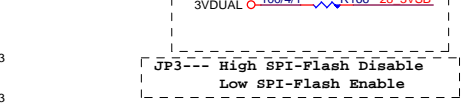
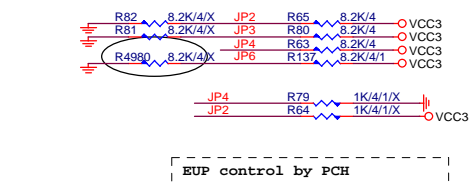
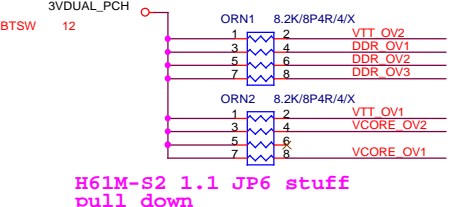
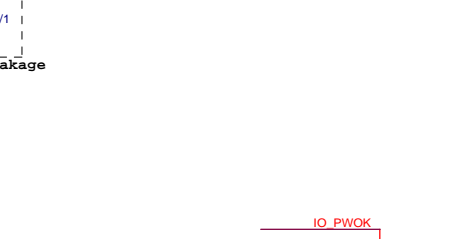
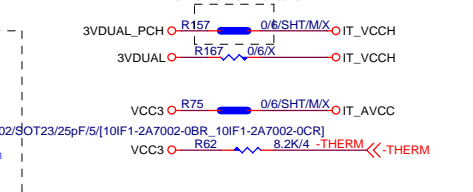
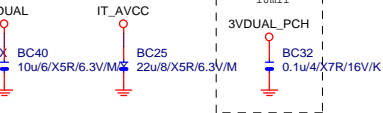
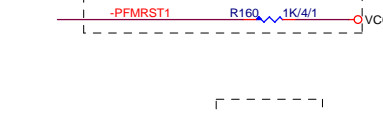
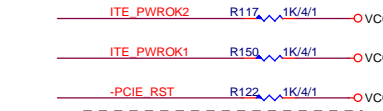
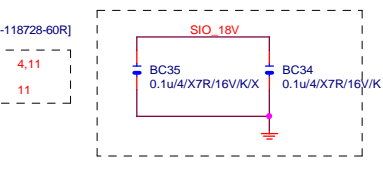
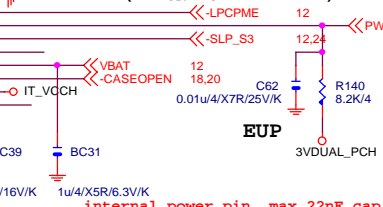
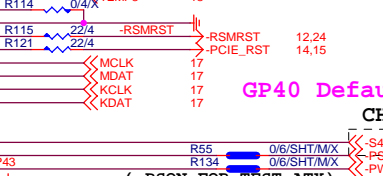
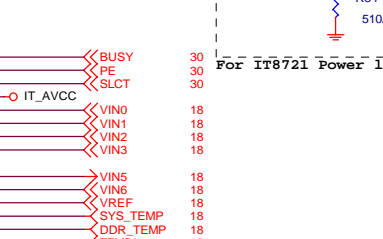
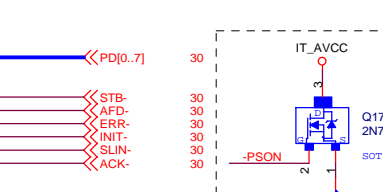
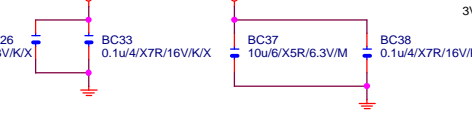
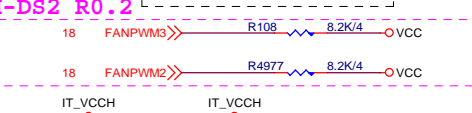
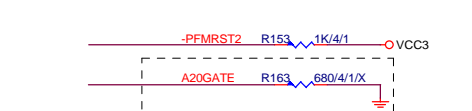
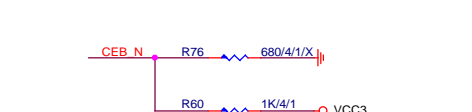
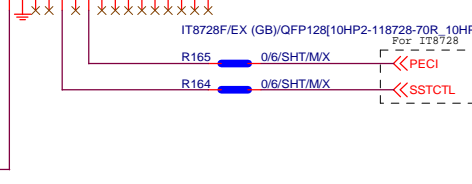
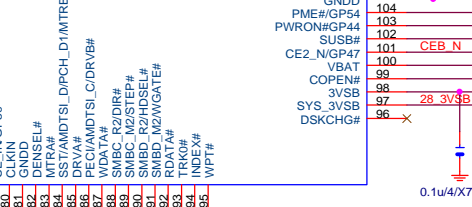
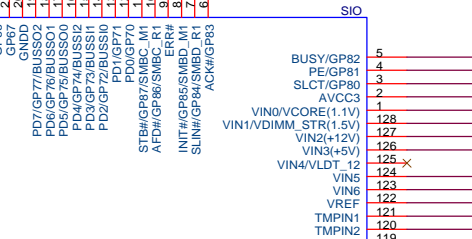
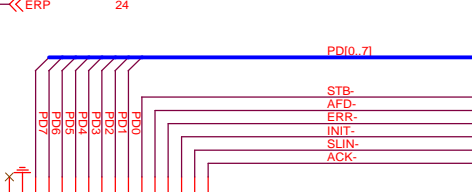
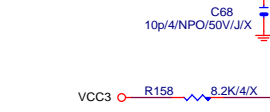
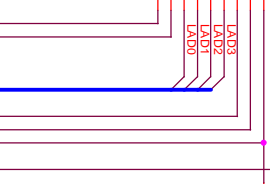
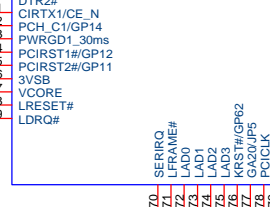
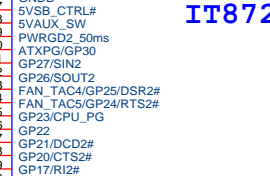
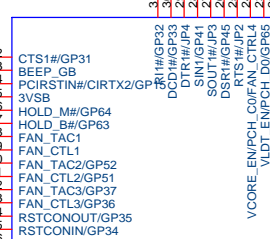
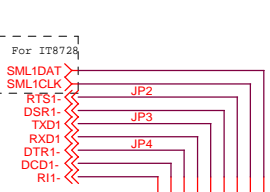
Gigabyte Technology			
Title			
PCIE1,X2/CLK GEN			
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	2		1

GP22 Default GP22 DIOD8

GP23 Default CPU_PG DOD8



IT8728	
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXP
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRVB#
PIN66	SYS_3VSB
PIN70	GP47
PIN95	VIN2 (VCC5)
PIN96	VIN1 (VCC12)
PIN97	VIN1/VDIMM_STR (1.5V)
PIN98	VIN0/VCORE (1.1V)/NC



IT8728F(GB)

GP40 Default 3VBSW# DO8

CHK GPIO53

H61M-S2 1.1 JP6 stuff pull down

EUP control by PCH

JP3--- High SPI-Flash Disable Low SPI-Flash Enable

PCIRST1 is OD in IT8728

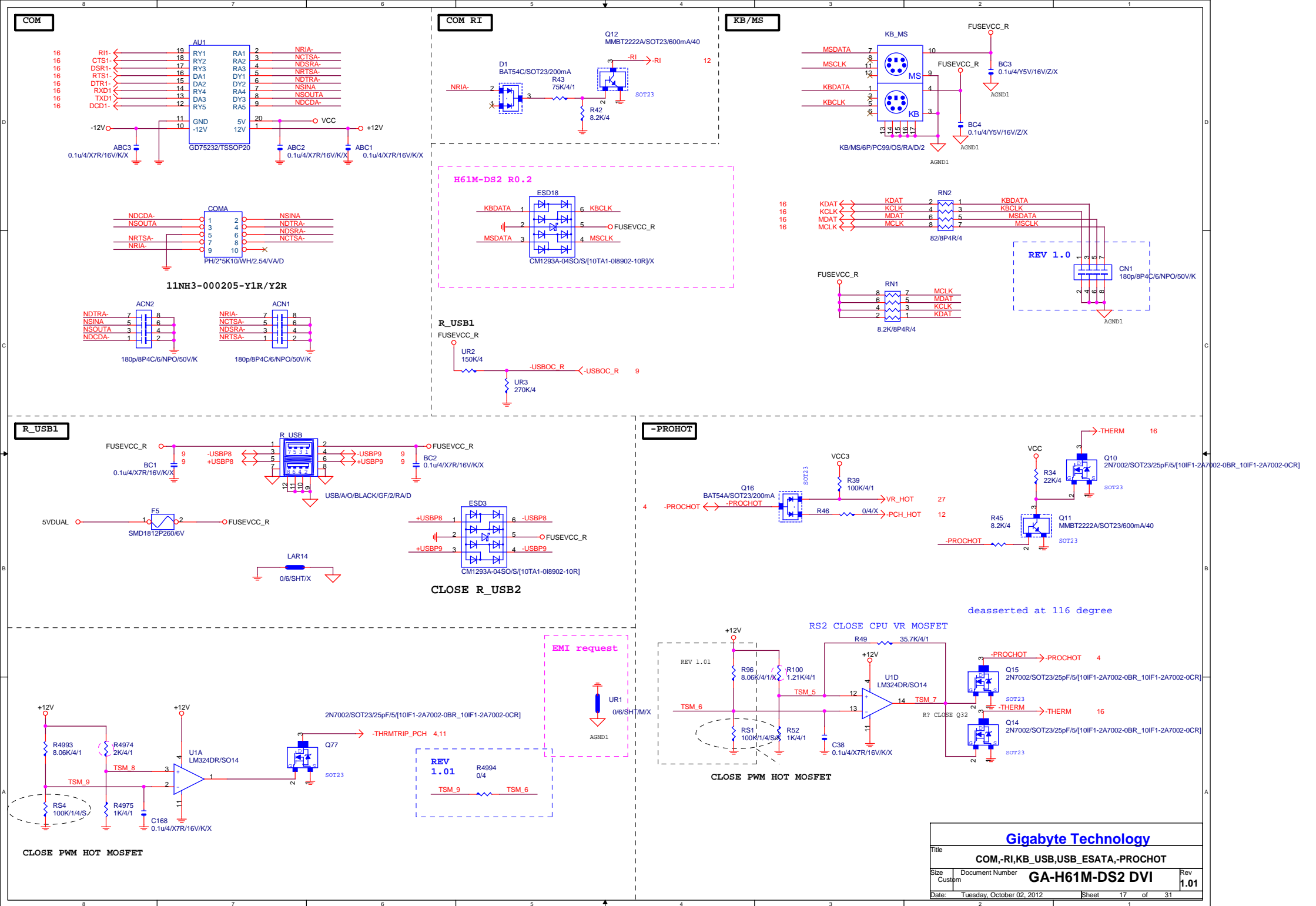
Gigabyte Technology

ITE 8728 LPC IO

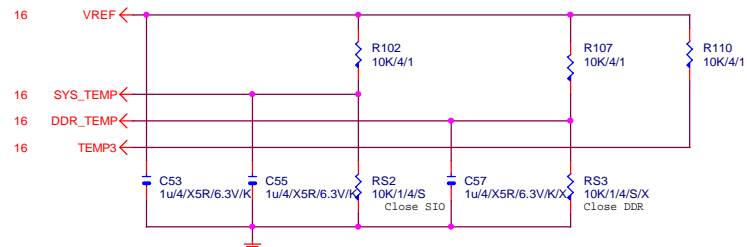
GA-H61M-DS2 DVI

Rev 1.01

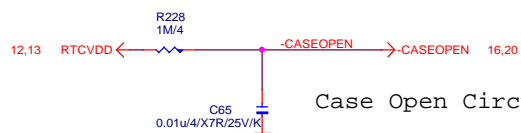
Title		Date	
ITE 8728 LPC IO		Tuesday, October 02, 2012	
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B		2	



TEMP H/W MONITOR



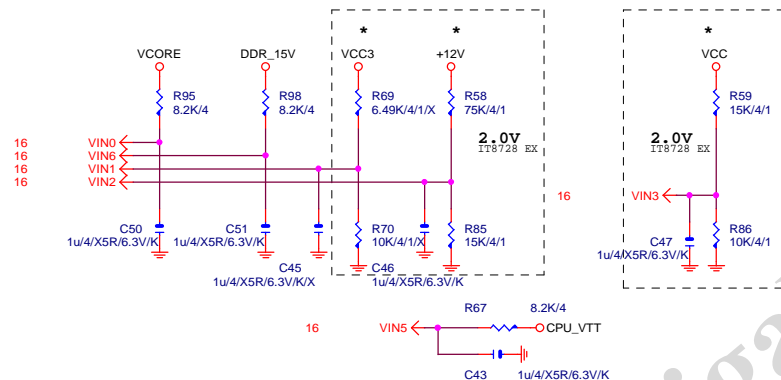
CASE OPEN



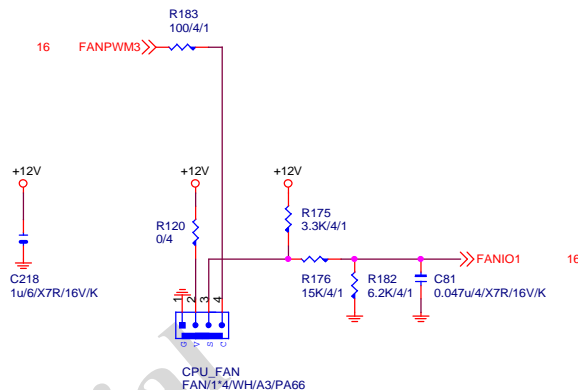
Case Open Circuits

VOLTAGE-- H/W MONITOR

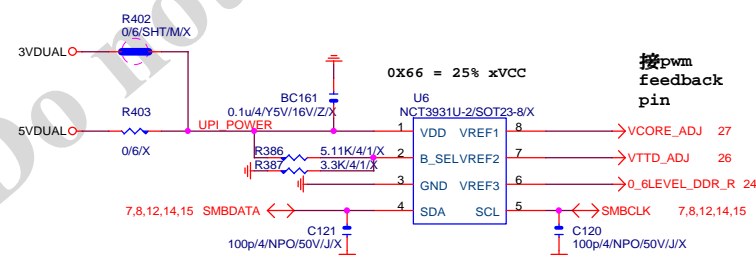
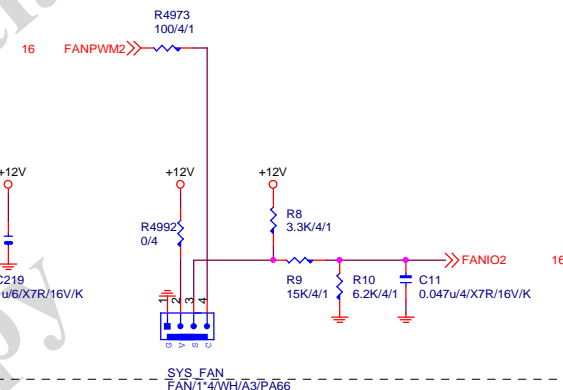
I (VAXG)



CPU SMART FAN



SYS SMART FAN

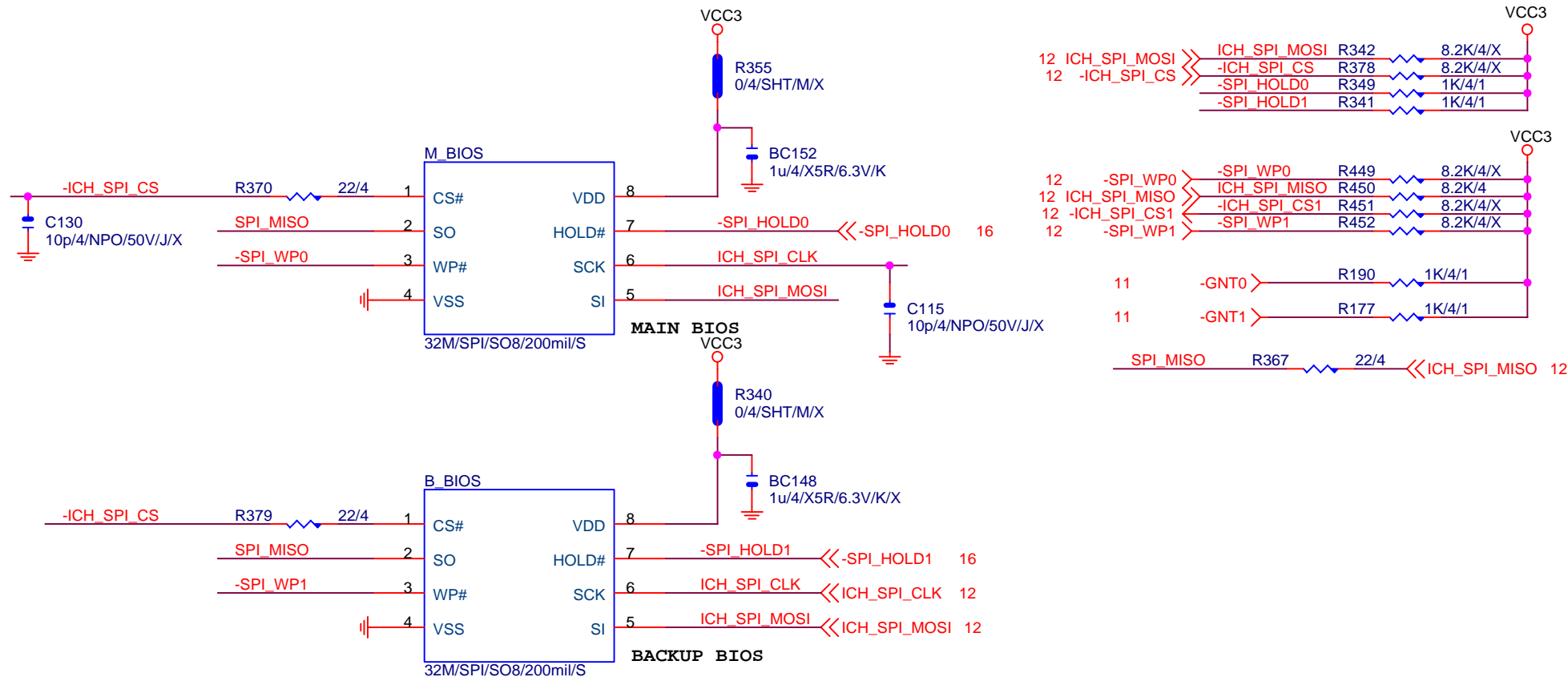


接pwm
feedback
pin

Gigabyte Technology

Title			HWM,FAN CTRL,OV	
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DUAL BIOS



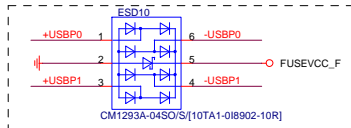
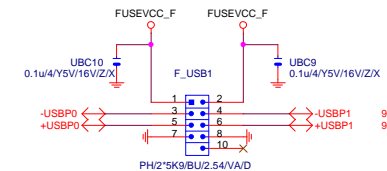
BOOT DEVICE	GNT1	GNT0
LPC	0	0
PCI	0	1
SPI	1	1

1 means floating
0 means PD 1K

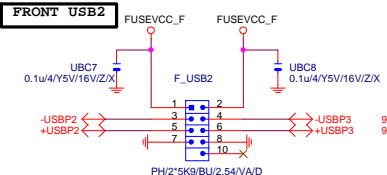
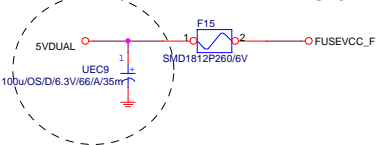
Gigabyte Technology

Title		
DUAL BIOS		
Size A	Document Number	Rev
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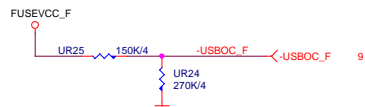
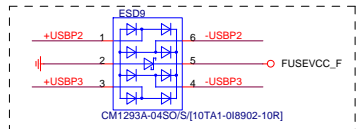
FRONT USB1



CLOSE F_USB1



FRONT USB3

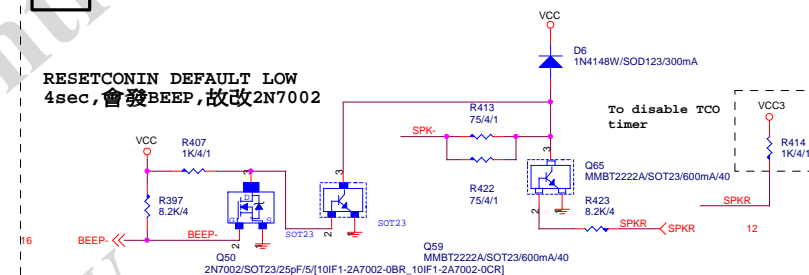


SATA LED

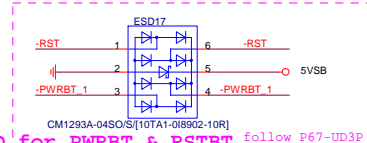


SPKR

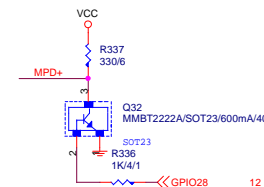
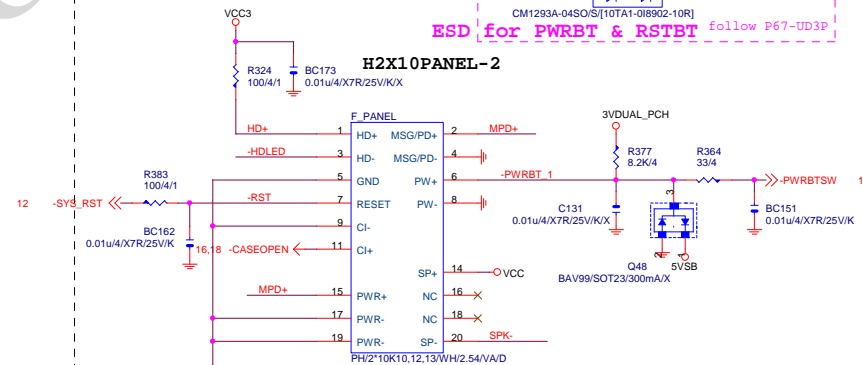
RESETCONIN DEFAULT LOW
4sec, 會發BEEP, 故改2N7002



INTEL FRONT PANEL



H2X10PANEL-2



Gigabyte Technology			
Title	FP,F_USB,USB PWR,SPKR,SATA LED		
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FOR VT1708S

CBC42
100p4/NPO/50V/J/X

CR28 20K/4/1

CR26: 20K/4/0.1% @ALC889A
CR26: 20K/4/1% @others

For ALC888-VD/ALC892

CR68 0/4/X → VOCR

AVDD 3Z

REV 1.0

CBC25 10u6/X5R/6.3V/M

CU1

ALC889A+

FRONT-R 36
FRONT-L 35
SENSE B (JD2)/FIMC1 34
DCVOL/VREF/OUT2 33
MIC1-VREF0-R/FIMC2 32
LINE2-VREF0/JD4 31
MIC2-VREF0/AFILT2 30
LINE1-VREF0-L/AFILT1 29
MIC1-VREF0-L/VREFOUT 28
VREF 27
AVSS1 26
AVDD1 25

LINE1-VREF0R/VREF03 37
JREF (NC)/JD3 40
SURR-R 41
SURR-L 42
CD R 43
CD L 44
MIC2-R/JD1 GP01 45
MIC2-L/JD2 46
LINE2-L/AUX-L 15
LINE2-L/AUX-R 16
MIC2-R/JD1 17
MIC2-L/JD2 18
CD L 19
CD R 20
MIC1-L/MIC2 21
MIC1-R/MIC2 22
LINE1-L 23
LINE1-R 24

JD resistors close to pin34 of CODEC

Can Support Amp Out

CR65 47/4/1

FAUDIO_JD 22

CBC39 1n4/X7R/50V/K

CR20 8.2K/4/X AVDD

VODR CR14 8.2K/4

VOBR CR18 8.2K/4

CR67 0/4/X → VOCR

CR66 0/6

C5VDDUAL

CD1 A2225-01U SDD323

For ALC888-VD/ALC892

REV 1.0

CBC12 22u8/X5R/6.3V/M

CBC7 22u8/X5R/6.3V/M

10u6/X5R/6.3V/M

ALC887-VD2-CG/LQFP48/S

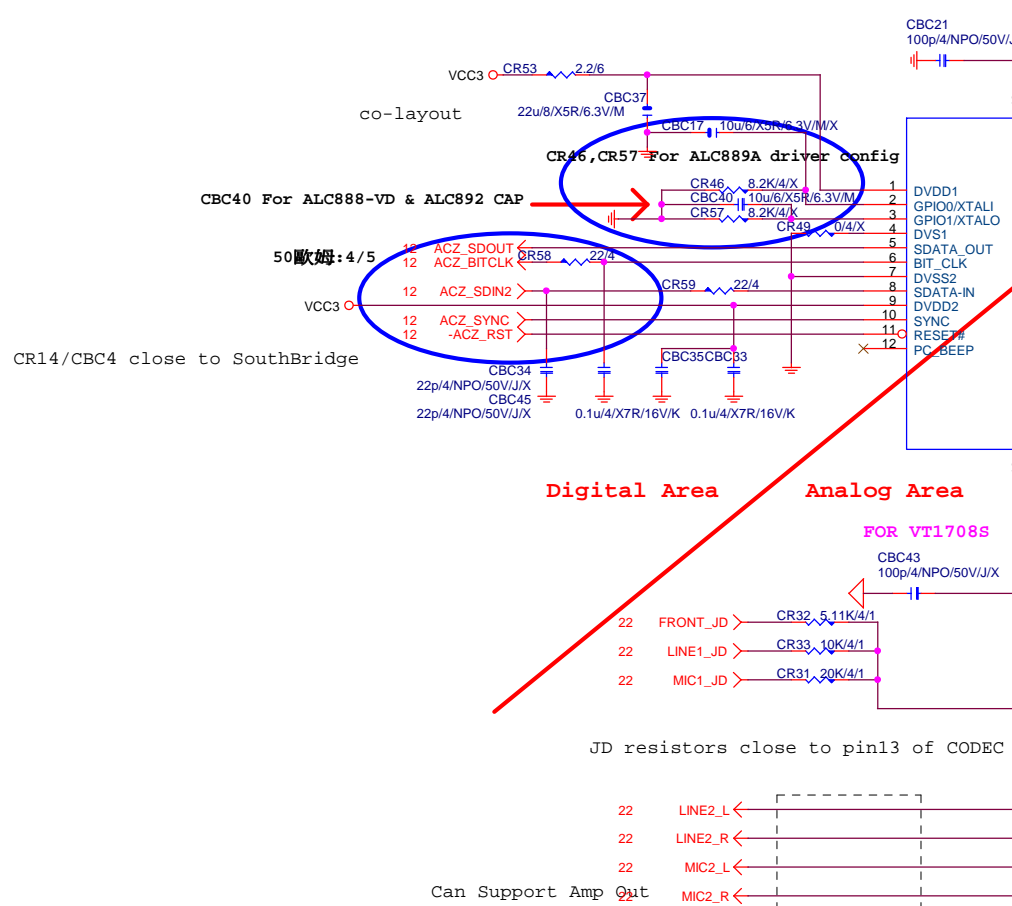
CBC3 22u8/X5R/6.3V/M → LINE_IN_R 22

CBC4 22u8/X5R/6.3V/M → LINE_IN_L 22

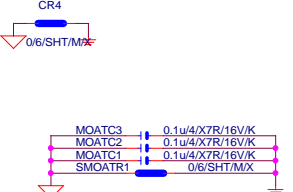
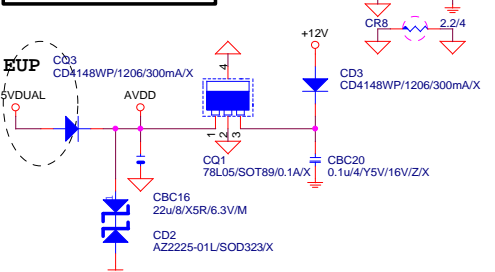
CBC15 10u6/X5R/6.3V/M → MIC1_R 22

CBC23 10u6/X5R/6.3V/M → MIC1_L 22

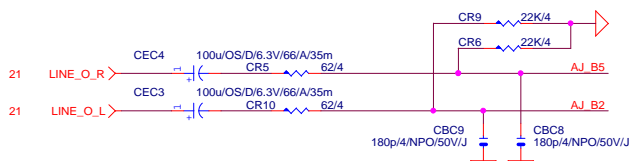
50歐姆: 4/10



CODEC POWER/EMI PAD

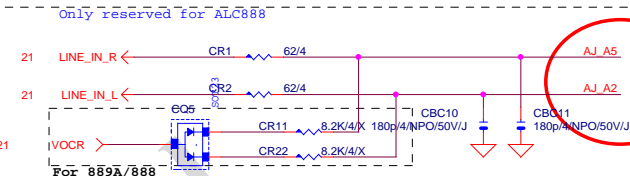


LINE-OUT

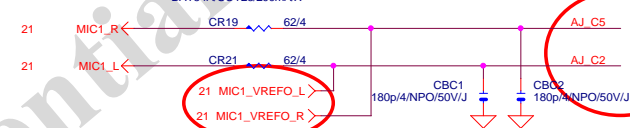


LINE-IN

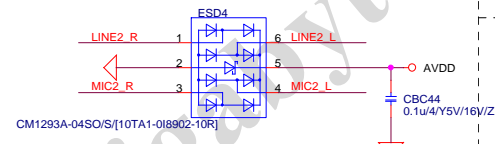
Verify MIC function in LINE-in



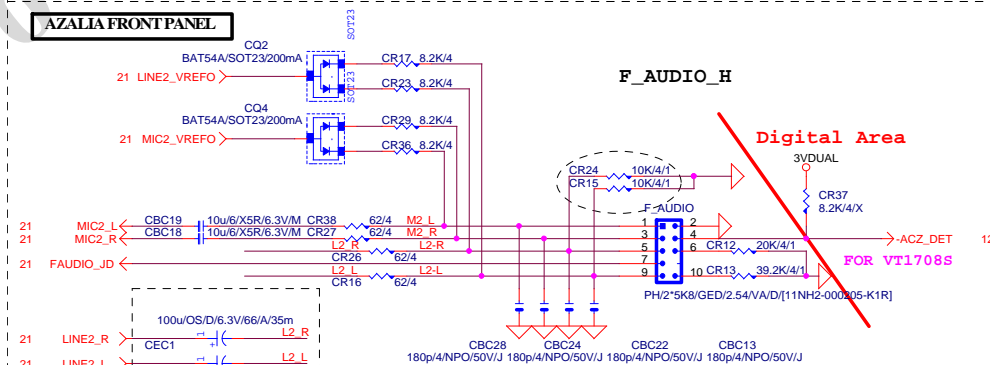
MIC-IN



AZALIA JACK



AZALIA FRONT PANEL



F_AUDIO_H

Digital Area

FOR VT1708S

Gigabyte Technology

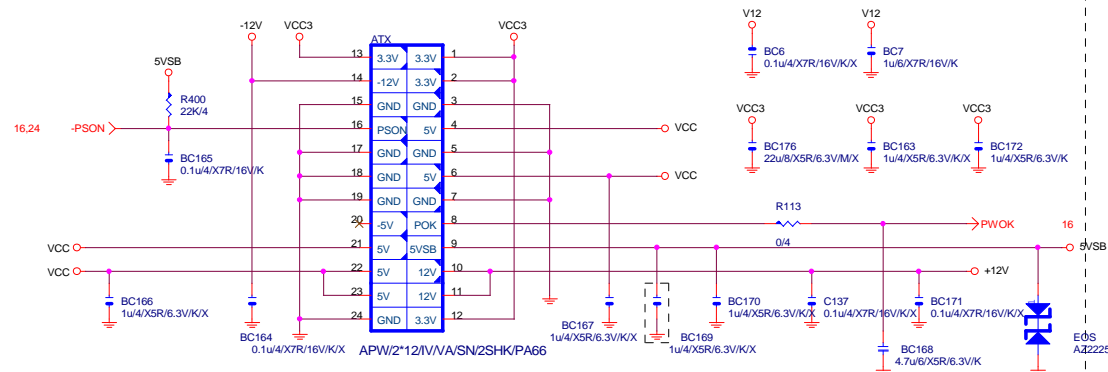
AUDIO JACK

GA-H61M-DS2 DVI

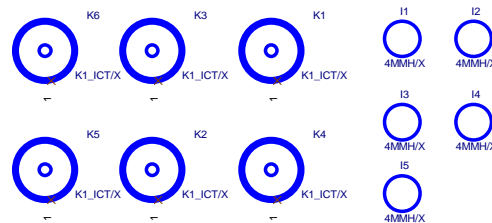
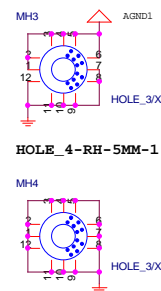
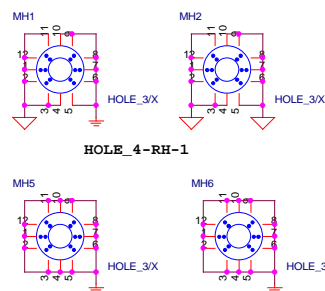
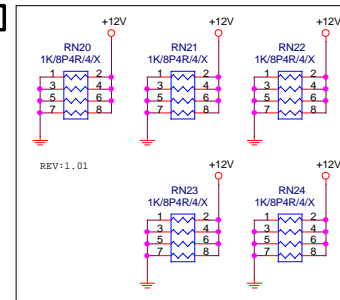
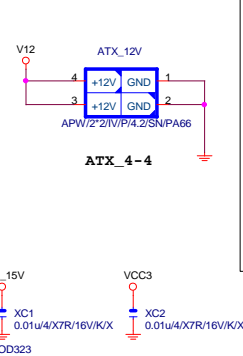
Rev 1.01

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ATXX24 POWER CONNECTOR



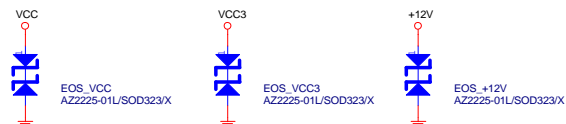
ATXX4 POWER CONNECTOR



```
| To prevent the 5VSB
| under loading when
| boot
```

5VDUAL1(USB PORT/DDRIII POWER)
5VDUAL(3VDUAL/OTHER)

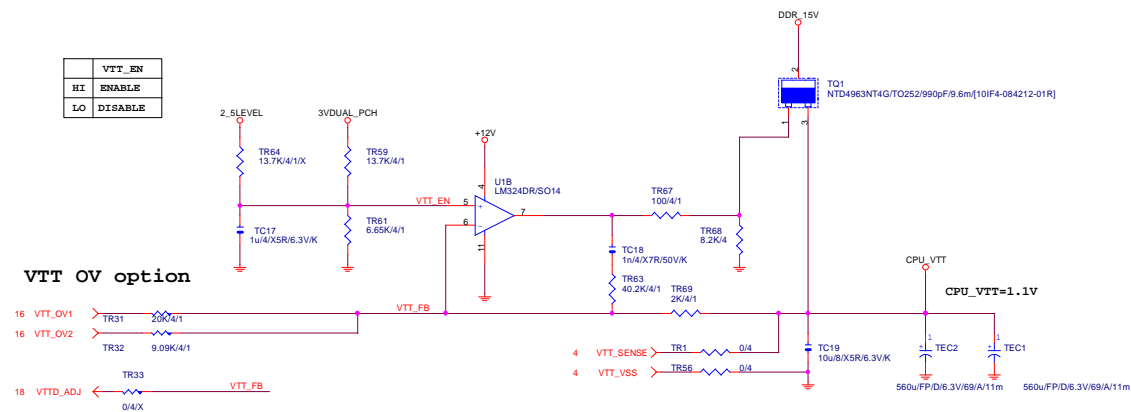
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-S WARN-->5VDUAL1-->-S ACK(PCH)-->-DEPSLP/-RSMRST-->5VDUAL-->3VDUAL
```



HOLE 4-RH-5MM-1

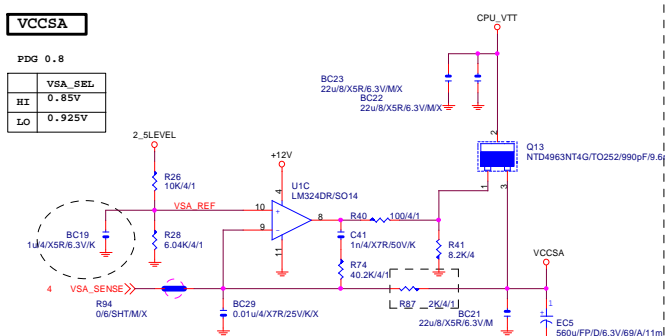
CPU_VTT

	VTT_EN
HI	ENABLE
LO	DISABLE

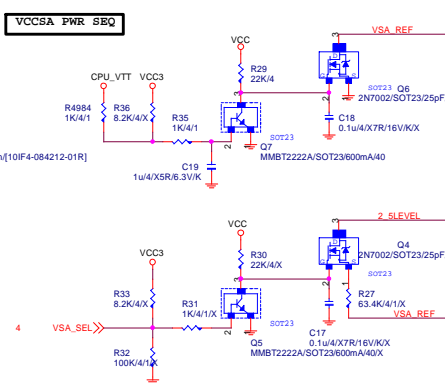


VCCSA

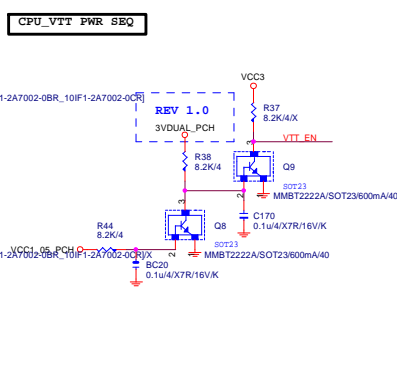
	VSA_SEL
HI	0.85V
LO	0.925V



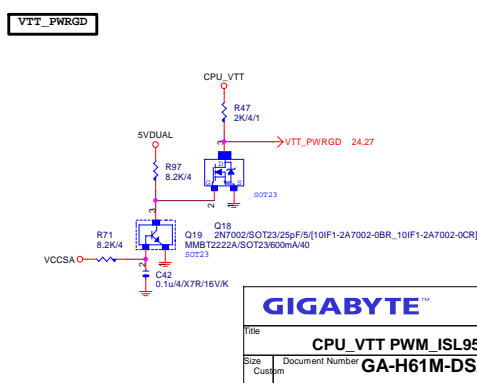
VCCSA PWR SEQ

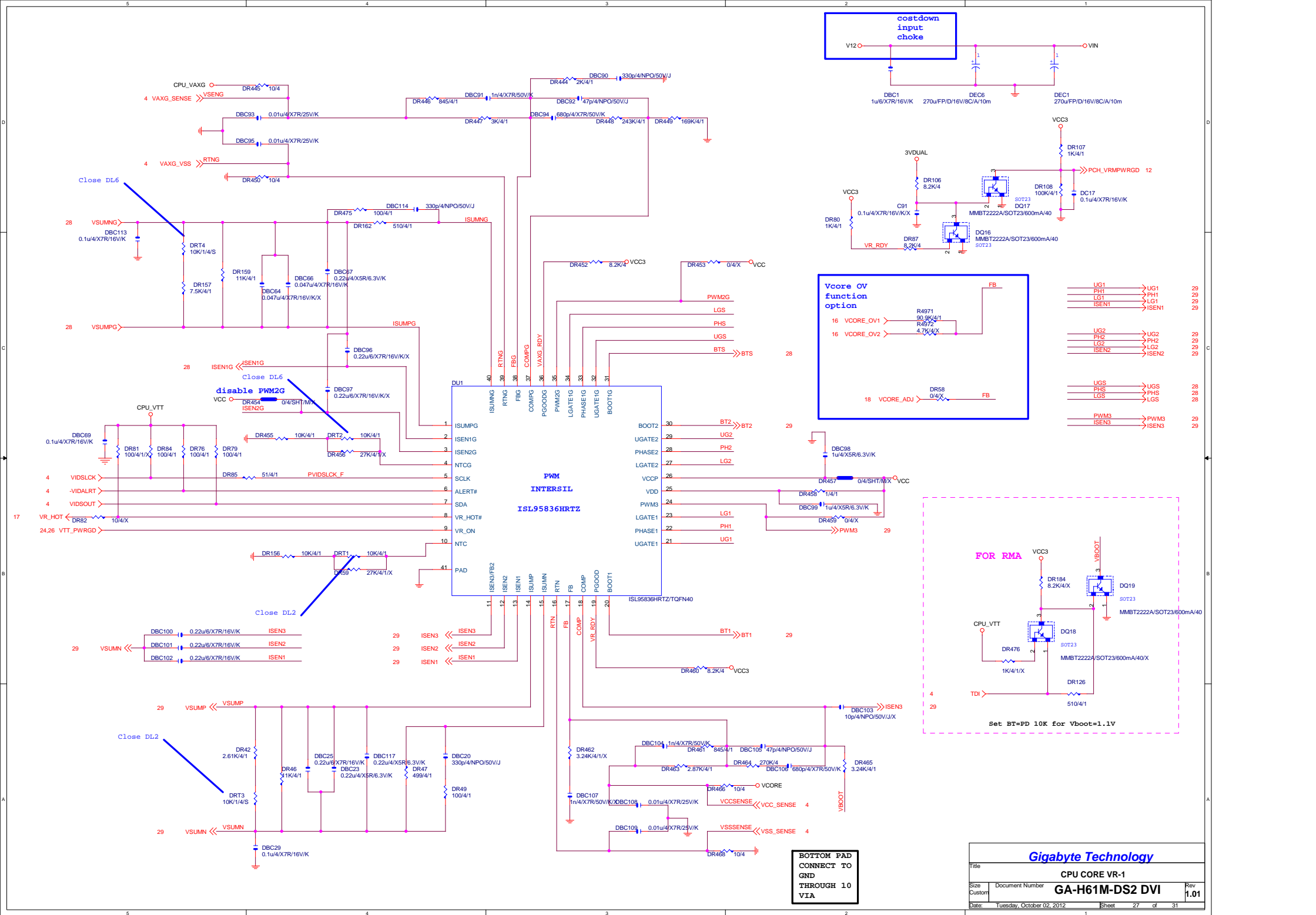


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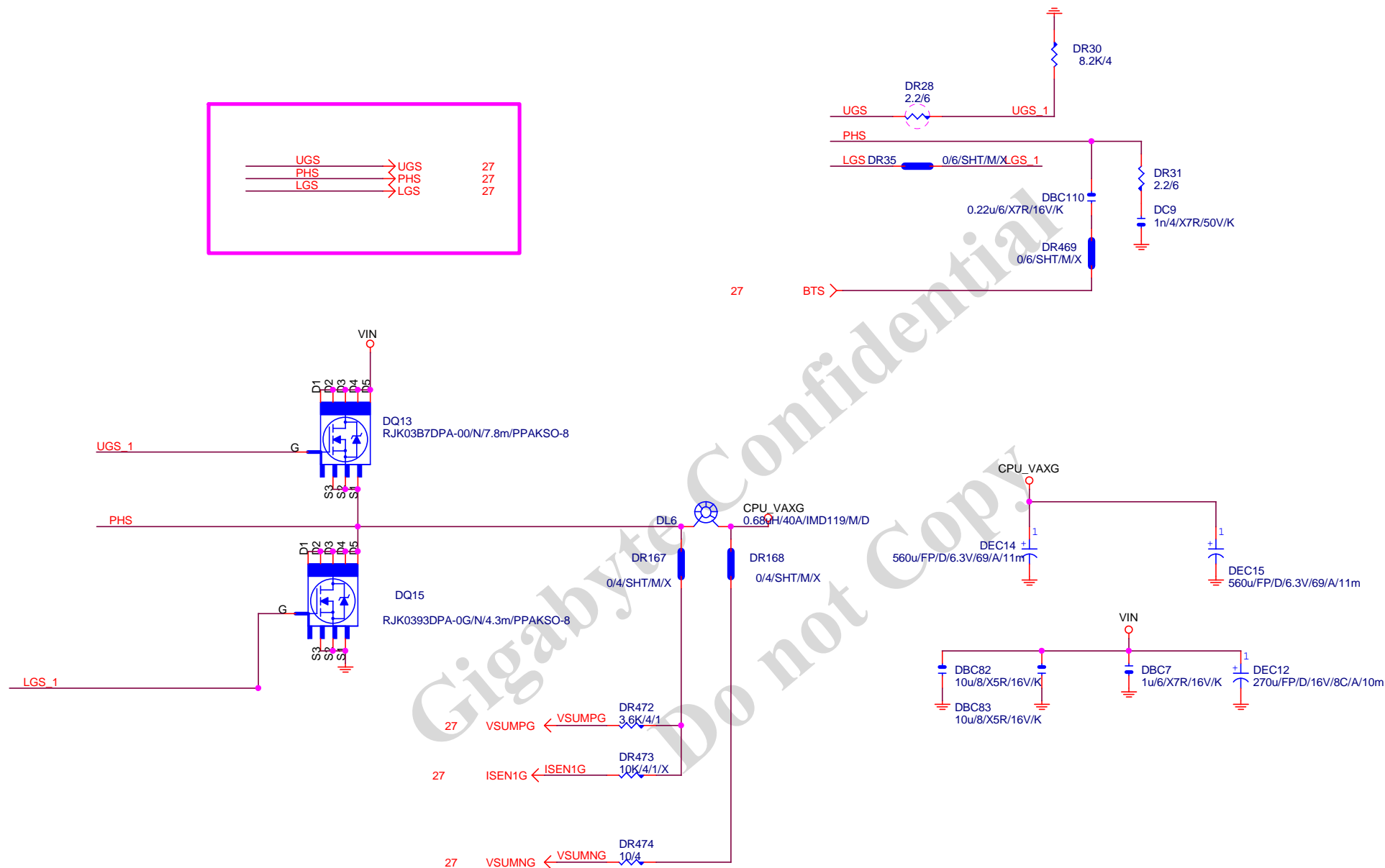
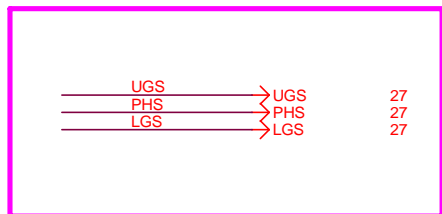


VTT_PWRGD

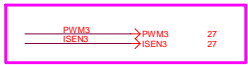




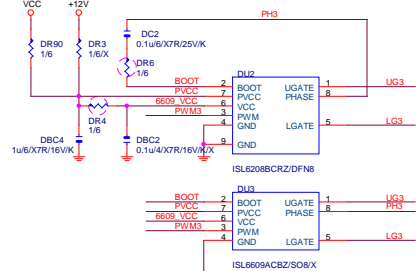
VAXG



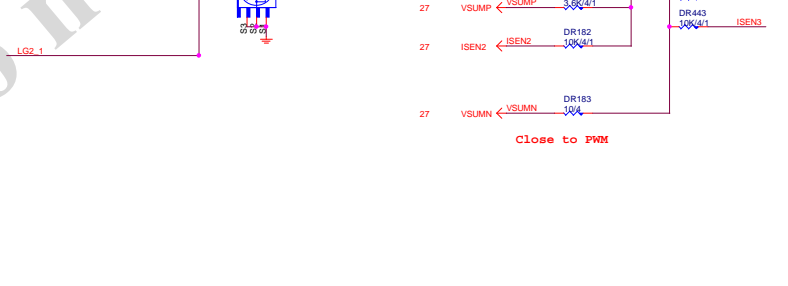
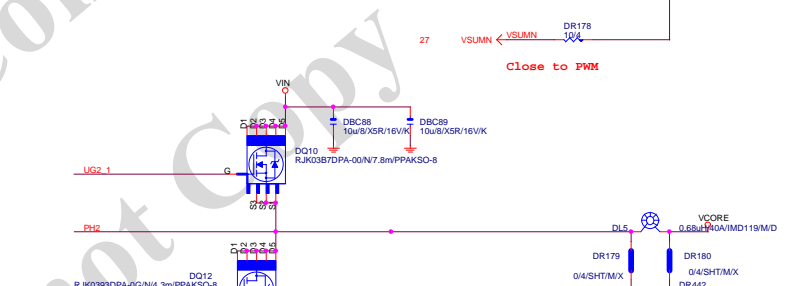
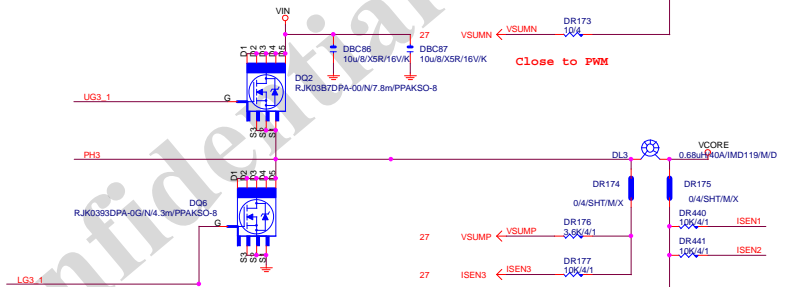
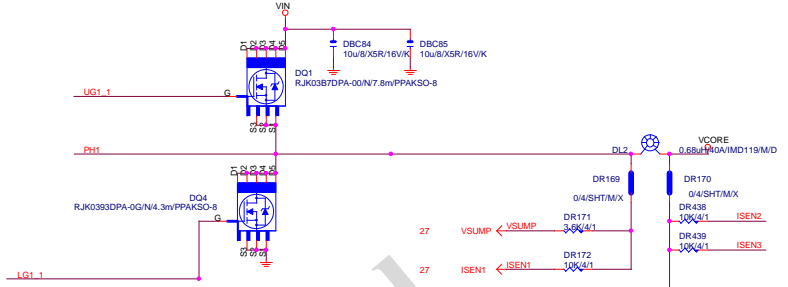
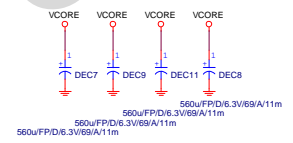
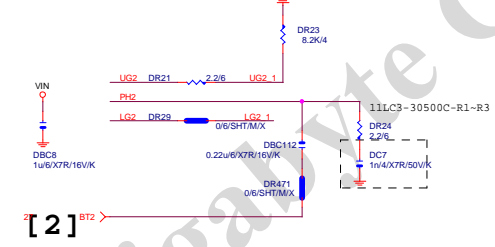
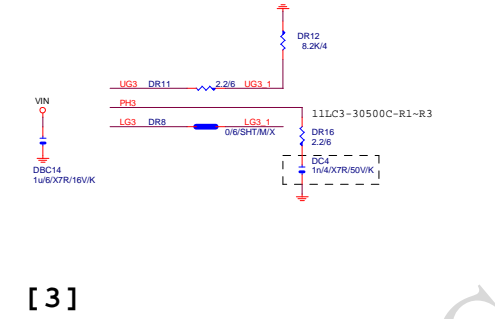
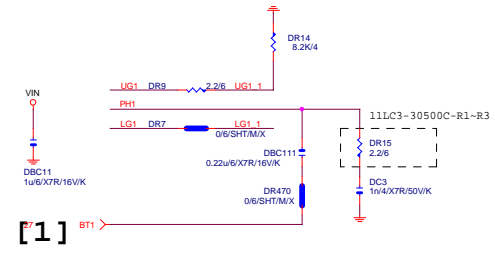
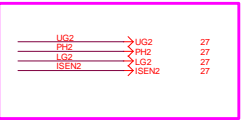
Gigabyte Technology			
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CPU CORE VR-2			
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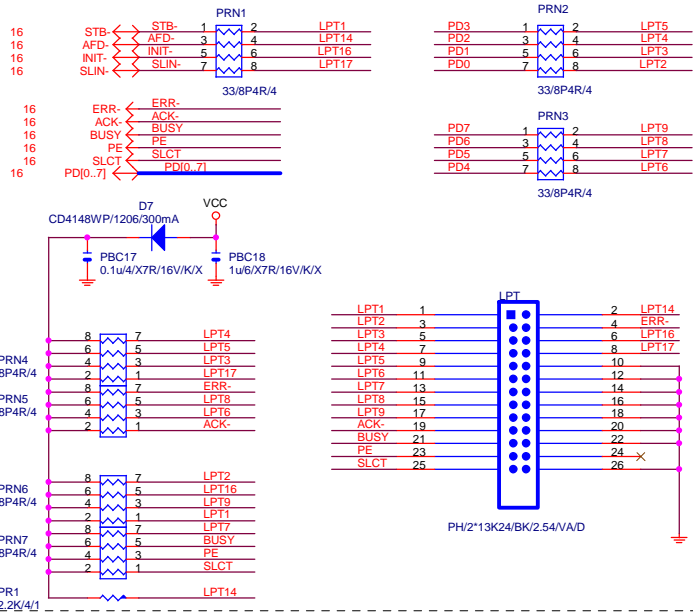
Pop 1816425CB for PB2
 [1816425CBZ/S08]



6609 colay with 6208



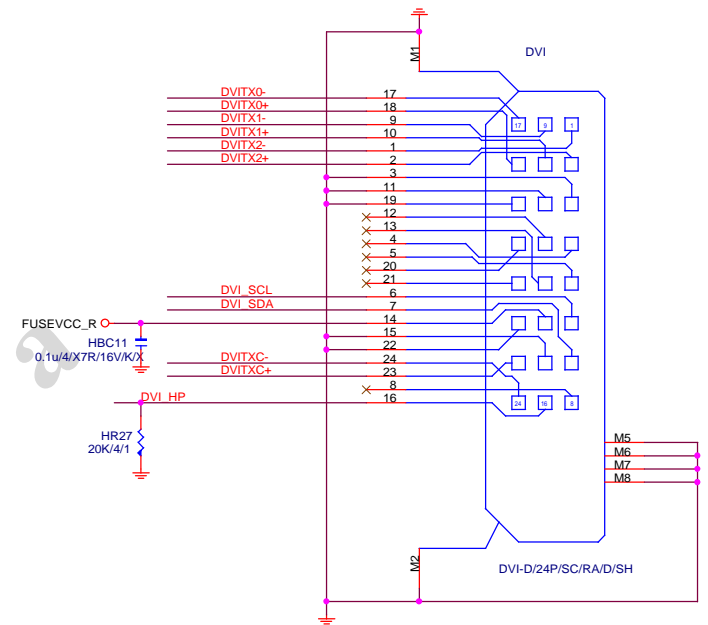
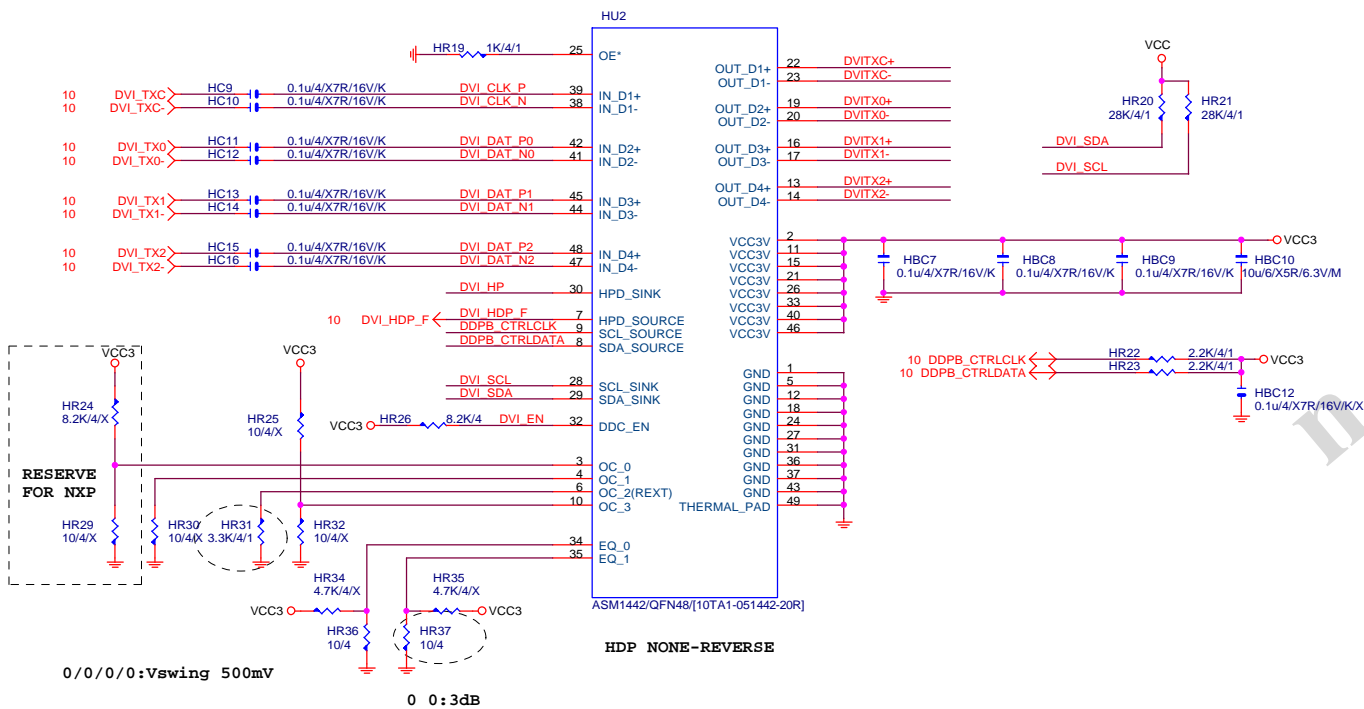
LPT PORT



Gigabyte Technology

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LPT			
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DVI LEVEL SHIFT



EMI SHORT PAD

PS:視EMI需求

