Model Name:GA-G31M-ES2L

Revision 1.11

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	G31_HOST
09	G31_DDRII
10	G31_PCI E, DMI
11	G31_VGA
12	G31_GND
13	G31_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,DUALBIOS
27	ALC883

SHEET	TITLE
28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM_ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	REALTEK RTL8111C/8102E

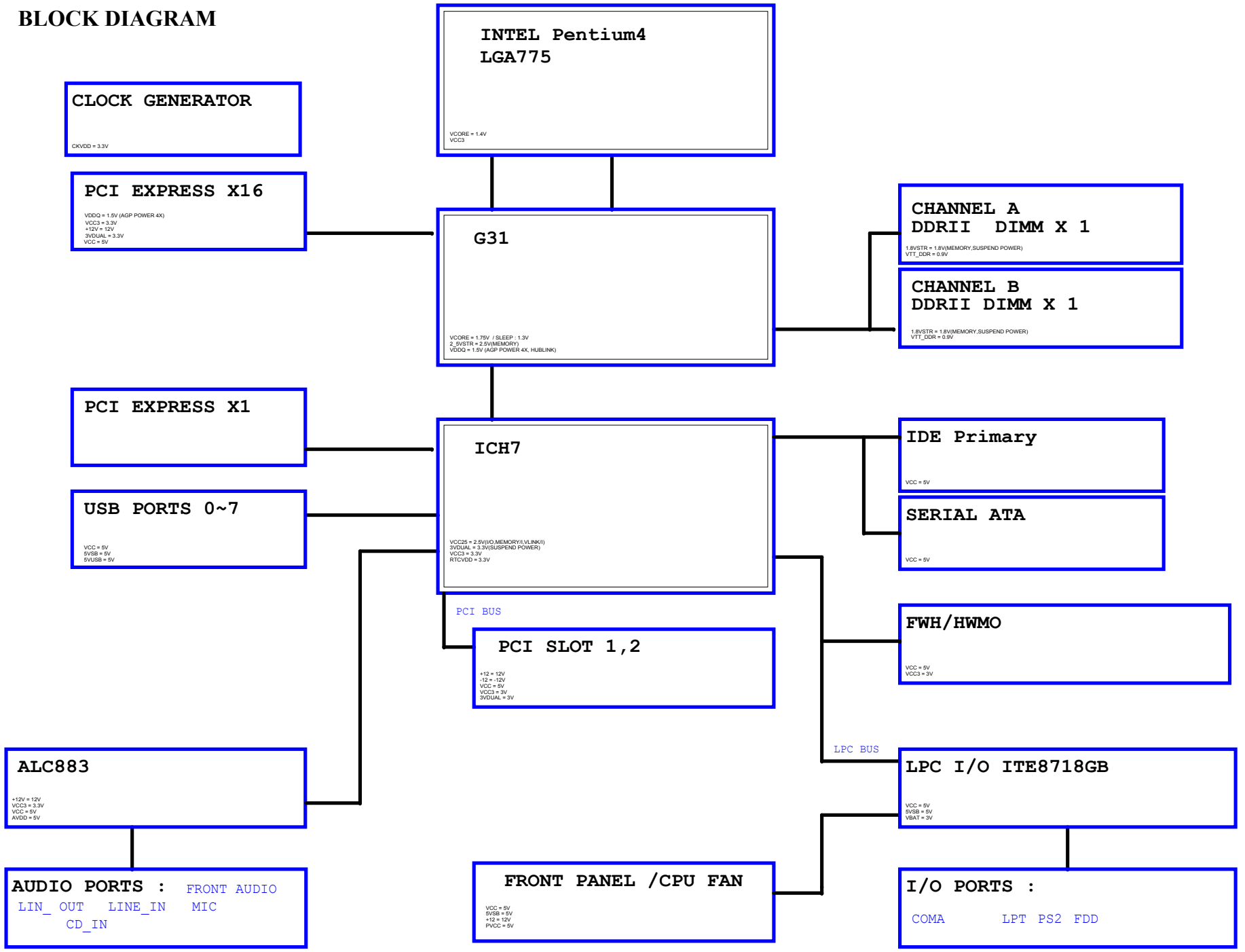
Gigabyte Technology

Title: Cover Sheet

Size: Custom | Document Number: GA-G31M-ES2L | Rev: 1.11

Date: Thursday, July 17, 2008 | Sheet 1 of 33

BLOCK DIAGRAM



Gigabyte Technology		
Title: BOM & PCB MODIFY HISTORY		
Size: Custom	Document Number: GA-G31M-ES2L	Rev: 1.1
Date: Thursday, July 17, 2008	Sheet 2 of 33	

Model Name:GA-G31M-ES2L

Version: 1.11

Component value change history

2008/07/18

Data	Change Item	Reason
2008/07/17	RENAME FROM G31M-S2L R2.02	
2008/07/18	R1.11 PVT	PBOM:9MG31ME2L-00-11A

Circuit or PCB layout change for next version

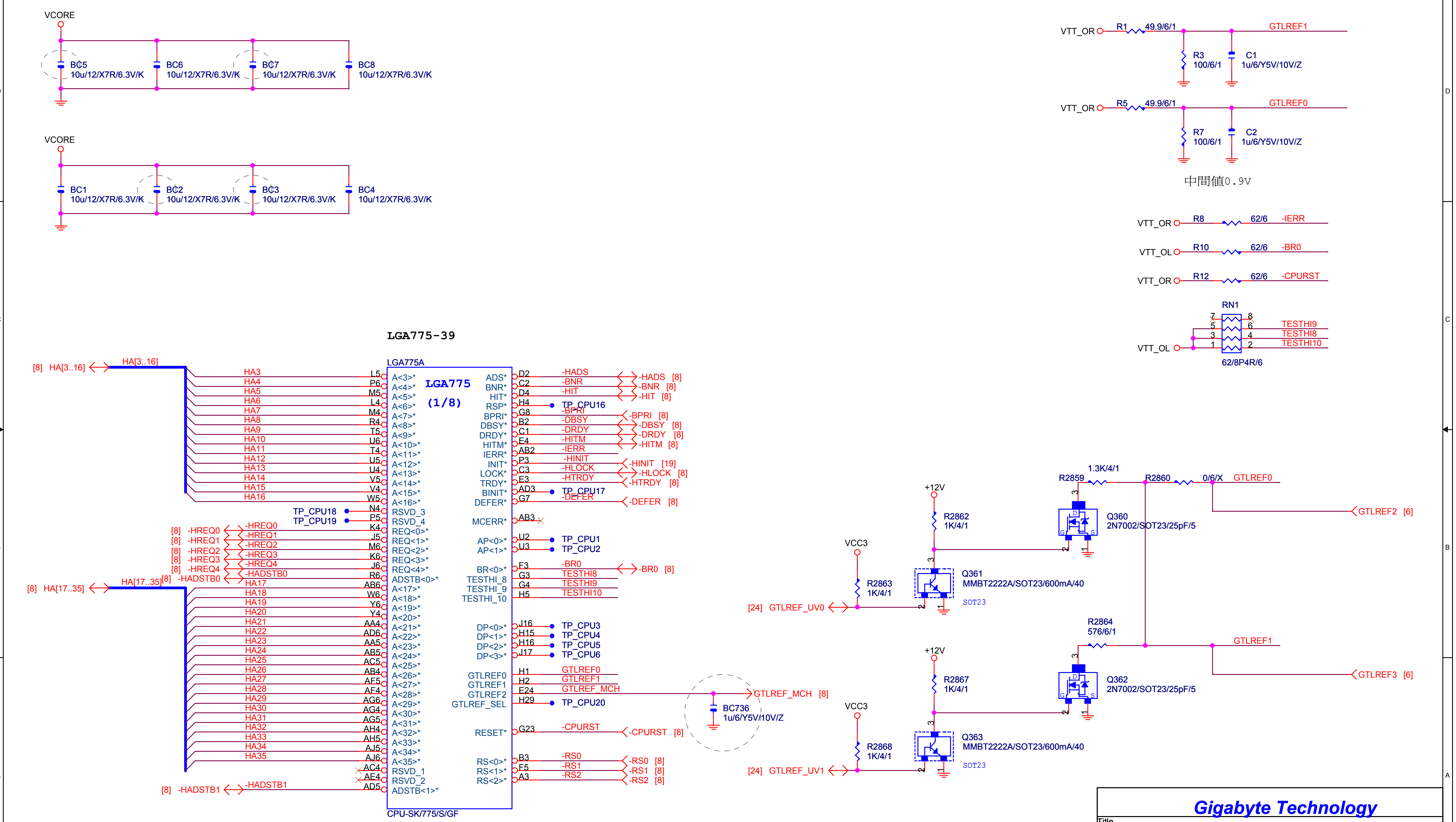
DATE	Change Item	Reason

Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-G31M-ES2L | Rev: 1.11

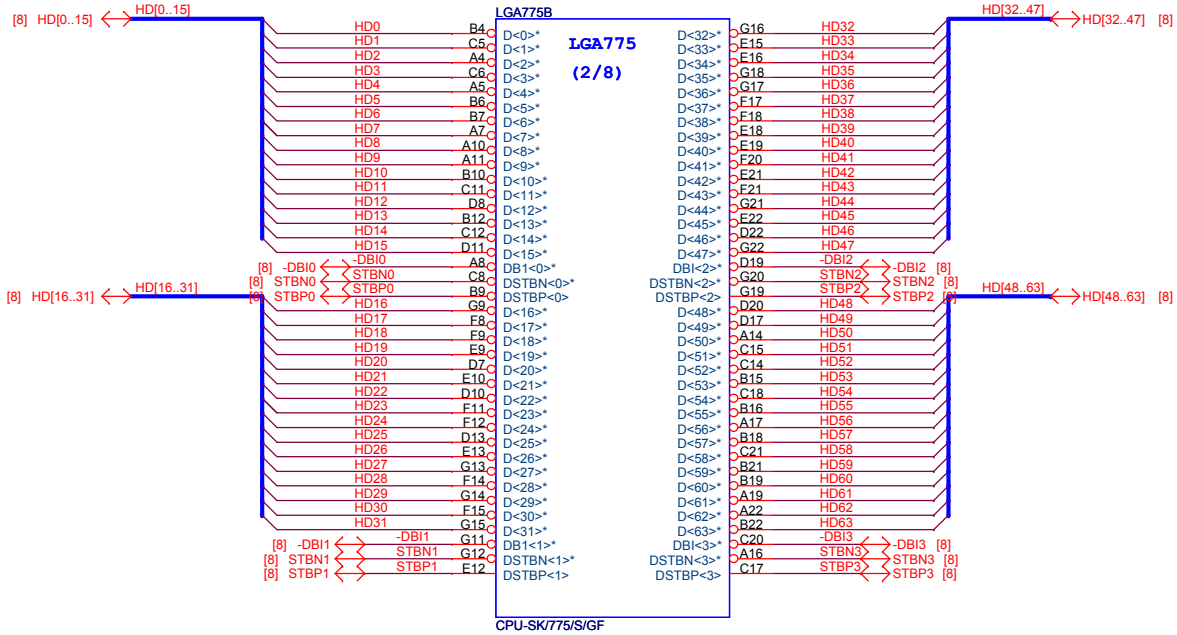
Date: Friday, July 18, 2008 | Sheet 3 of 33

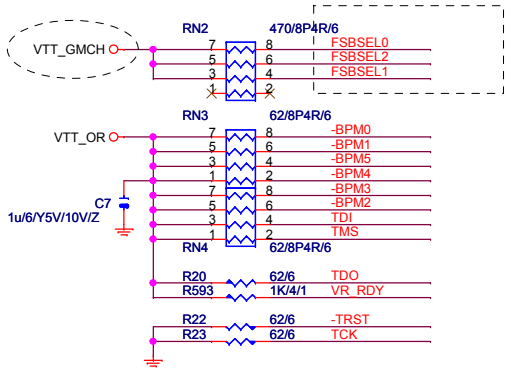


VCORE
BC5 10u/12/X7R/6.3V/K
BC6 10u/12/X7R/6.3V/K
BC7 10u/12/X7R/6.3V/K
BC8 10u/12/X7R/6.3V/K
VCORE
BC1 10u/12/X7R/6.3V/K
BC2 10u/12/X7R/6.3V/K
BC3 10u/12/X7R/6.3V/K
BC4 10u/12/X7R/6.3V/K
VTT_OR R1 49.9/6/1 GTLREF1
R3 100/6/1
C1 1u/6/Y5V/10V/Z
VTT_OR R5 49.9/6/1 GTLREF0
R7 100/6/1
C2 1u/6/Y5V/10V/Z
中間值0.9V
VTT_OR R8 62/6 -IERR
VTT_OL R10 62/6 -BR0
VTT_OR R12 62/6 -CPURST
RN1
TESTHI9
TESTHI8
TESTHI10
VTT_OL
62/8P4R/6
LGA775-39
LGA775A
LGA775 (1/8)
[8] HA[3..16]
HA3 L5 A<3>*
HA4 P6 A<4>*
HA5 M5 A<5>*
HA6 L4 A<6>*
HA7 M4 A<7>*
HA8 R4 A<8>*
HA9 T5 A<9>*
HA10 U6 A<10>*
HA11 T4 A<11>*
HA12 U5 A<12>*
HA13 U4 A<13>*
HA14 V5 A<14>*
HA15 V4 A<15>*
HA16 W5 A<16>*
TP_CPU18 N4 RSVD_3
TP_CPU19 P5 RSVD_4
[8] -HREQ0 K4 REQ<0>*
[8] -HREQ1 J5 REQ<1>*
[8] -HREQ2 M6 REQ<2>*
[8] -HREQ3 K6 REQ<3>*
[8] -HREQ4 J6 REQ<4>*
[8] -HADSTB0 R6 ADSTB<0>*
[8] HA[17..35]
HA17 AB6 A<17>*
HA18 W6 A<18>*
HA19 Y6 A<19>*
HA20 Y4 A<20>*
HA21 AA4 A<21>*
HA22 AD6 A<22>*
HA23 AA5 A<23>*
HA24 AB5 A<24>*
HA25 AC5 A<25>*
HA26 AB4 A<26>*
HA27 AF5 A<27>*
HA28 AF4 A<28>*
HA29 AG6 A<29>*
HA30 AG4 A<30>*
HA31 AG5 A<31>*
HA32 AH4 A<32>*
HA33 AH5 A<33>*
HA34 AJ5 A<34>*
HA35 AJ6 A<35>*
AC4 RSVD_1
AE4 RSVD_2
[8] -HADSTB1 AD5 ADSTB<1>*
ADS* D2 -HADS [8]
BNR* C2 -BNR [8]
HIT* D4 -HIT [8]
RSP* H4 TP_CPU16
BPRI* G8 -BPRI [8]
DBSY* B2 -DBSY [8]
DRDY* C1 -DRDY [8]
HITM* E4 -HITM [8]
IERR* AB2 -IERR
INIT* P3 -HINIT [19]
LOCK* C3 -HLOCK [8]
TRDY* E3 -HTRDY [8]
BINIT* AD3 TP_CPU17
DEFER* G7 -DEFER [8]
MCERR* AB3
AP<0>* U2 TP_CPU1
AP<1>* U3 TP_CPU2
BR<0>* F3 -BR0 [8]
TESTHI_8 G3 TESTHI8
TESTHI_9 G4 TESTHI9
TESTHI_10 H5 TESTHI10
DP<0>* J16 TP_CPU3
DP<1>* H15 TP_CPU4
DP<2>* H16 TP_CPU5
DP<3>* J17 TP_CPU6
GTLREF0 H1 GTLREF0
GTLREF1 H2 GTLREF1
GTLREF2 E24 GTLREF_MCH
GTLREF_SEL H29 TP_CPU20
GTLREF_MCH [8]
BC736 1u/6/Y5V/10V/Z
RESET* G23 -CPURST [8]
RS<0>* B3 -RS0 [8]
RS<1>* F5 -RS1 [8]
RS<2>* A3 -RS2 [8]
CPU-SK/775/S/GF
R2859 1.3K/4/1
R2860 0/6/X GTLREF0
+12V
R2862 1K/4/1
Q360 2N7002/SOT23/25pF/5
GTLREF2 [6]
VCC3
R2863 1K/4/1
Q361 MMBT2222A/SOT23/600mA/40
SOT23
[24] GTLREF_UV0
R2864 576/6/1
GTLREF1
+12V
R2867 1K/4/1
Q362 2N7002/SOT23/25pF/5
GTLREF3 [6]
VCC3
R2868 1K/4/1
Q363 MMBT2222A/SOT23/600mA/40
SOT23
[24] GTLREF_UV1

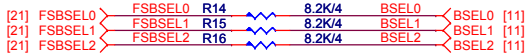
Gigabyte Technology

Title	P4_LGA775-A	
Size B	Document Number GA-G31M-ES2L	Rev 1.11
Date: Thursday, July 17, 2008	Sheet 4 of 33	





TO CLK GEN

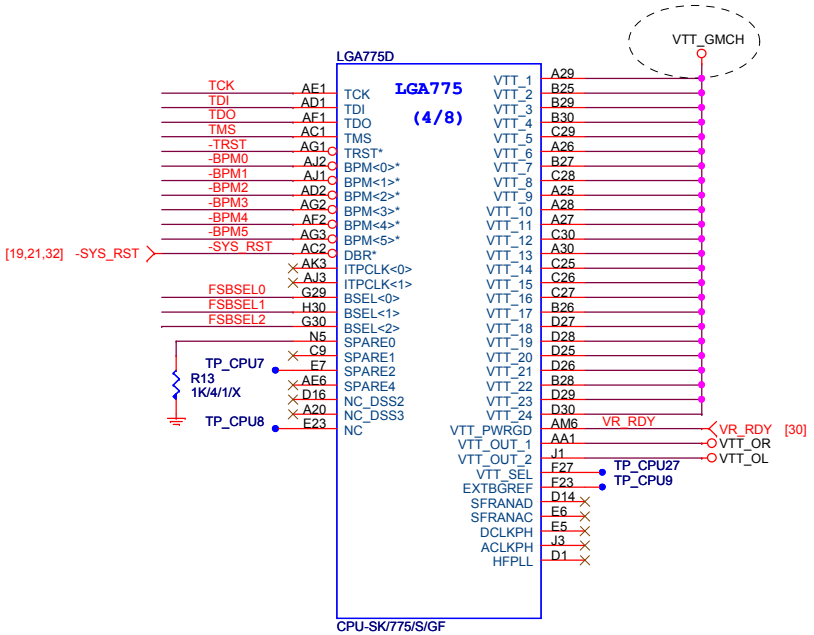


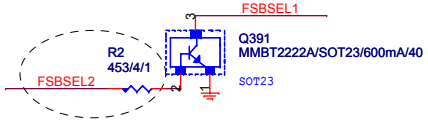
TO NB

CPU

NA	FSB	FSA	
FSBSEL3	FSBSEL1	FSBSEL0	Clock
1	0	1	100MHz
0	0	1	133MHz
0	1	1	166MHz
0	1	0	200MHz
0	0	0	266MHz

X



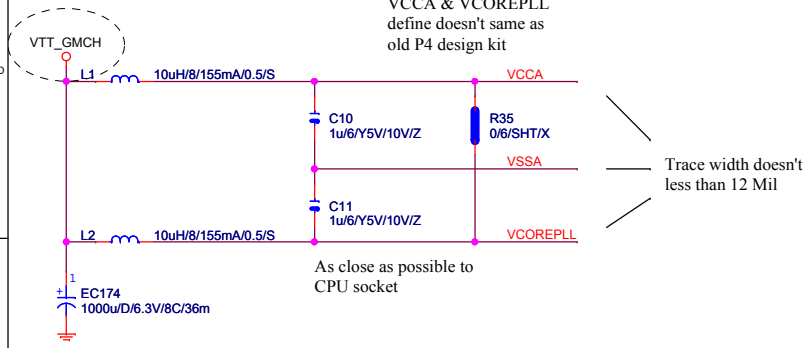


FIX FSB1600 LATCH FAIL

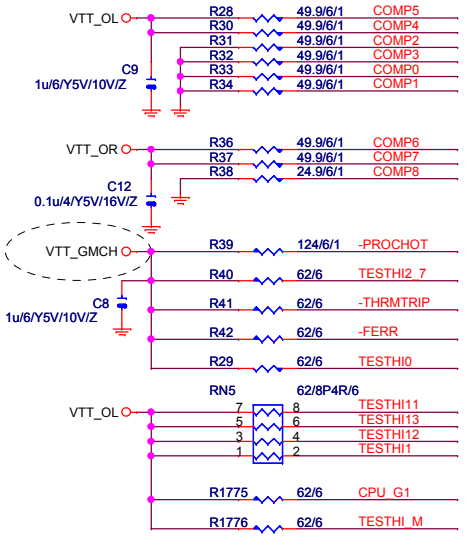
Gigabyte Technology		
Title	P4_LGA775-B,D	
Size B	Document Number GA-G31M-ES2L	Rev 1.11
Date: Thursday, July 17, 2008	Sheet 5 of 33	

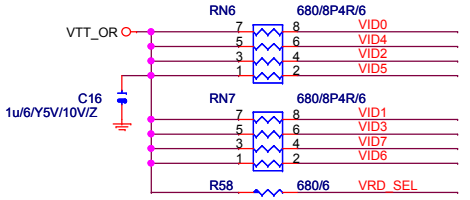
Note:

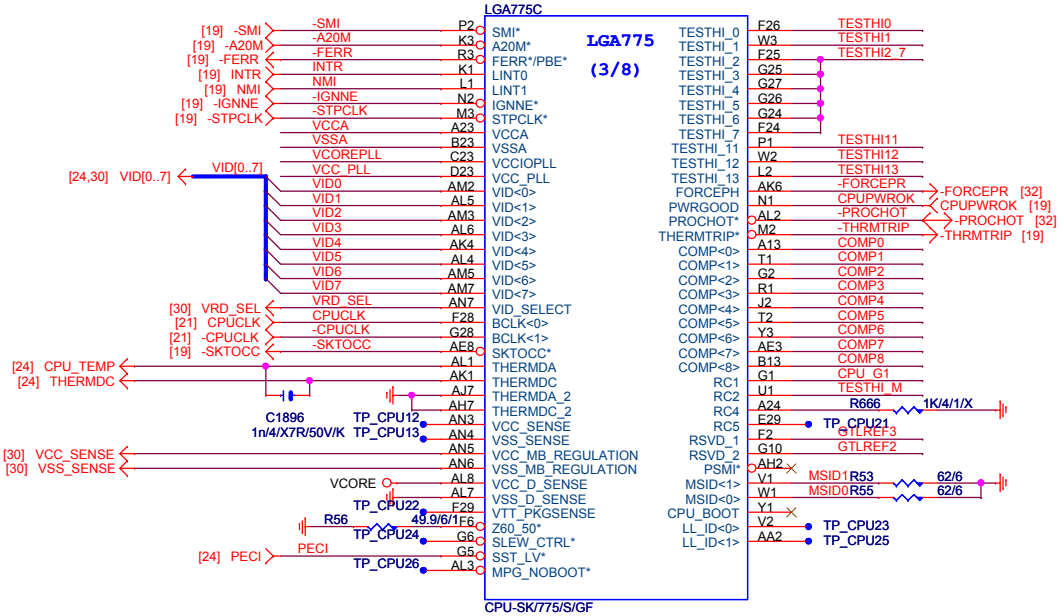
VCCA & VCOREPLL define doesn't same as old P4 design kit

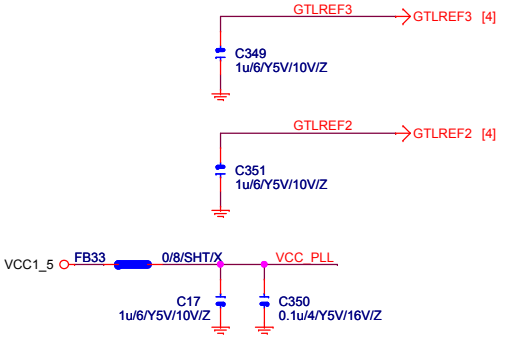


Place outside of CPU socket



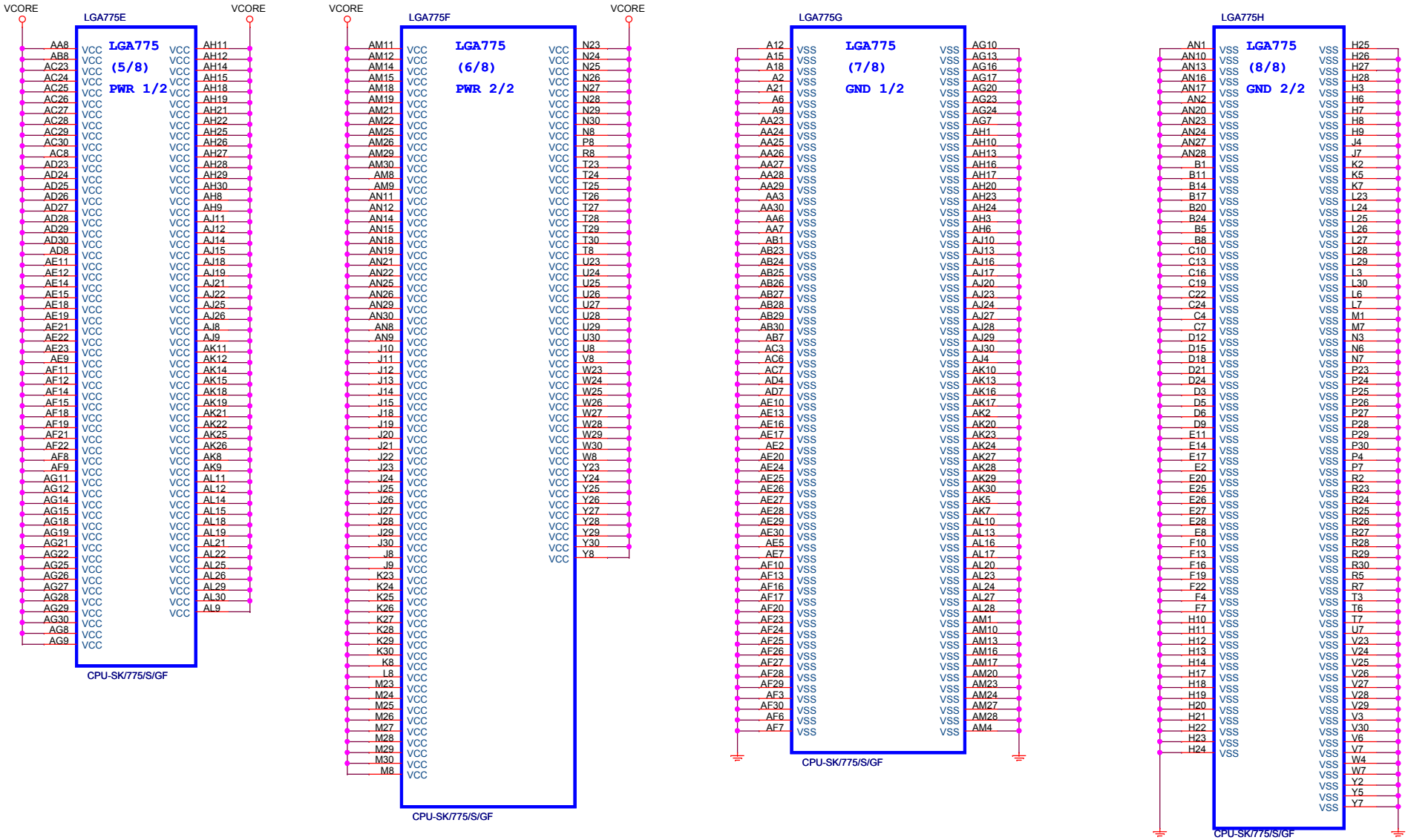




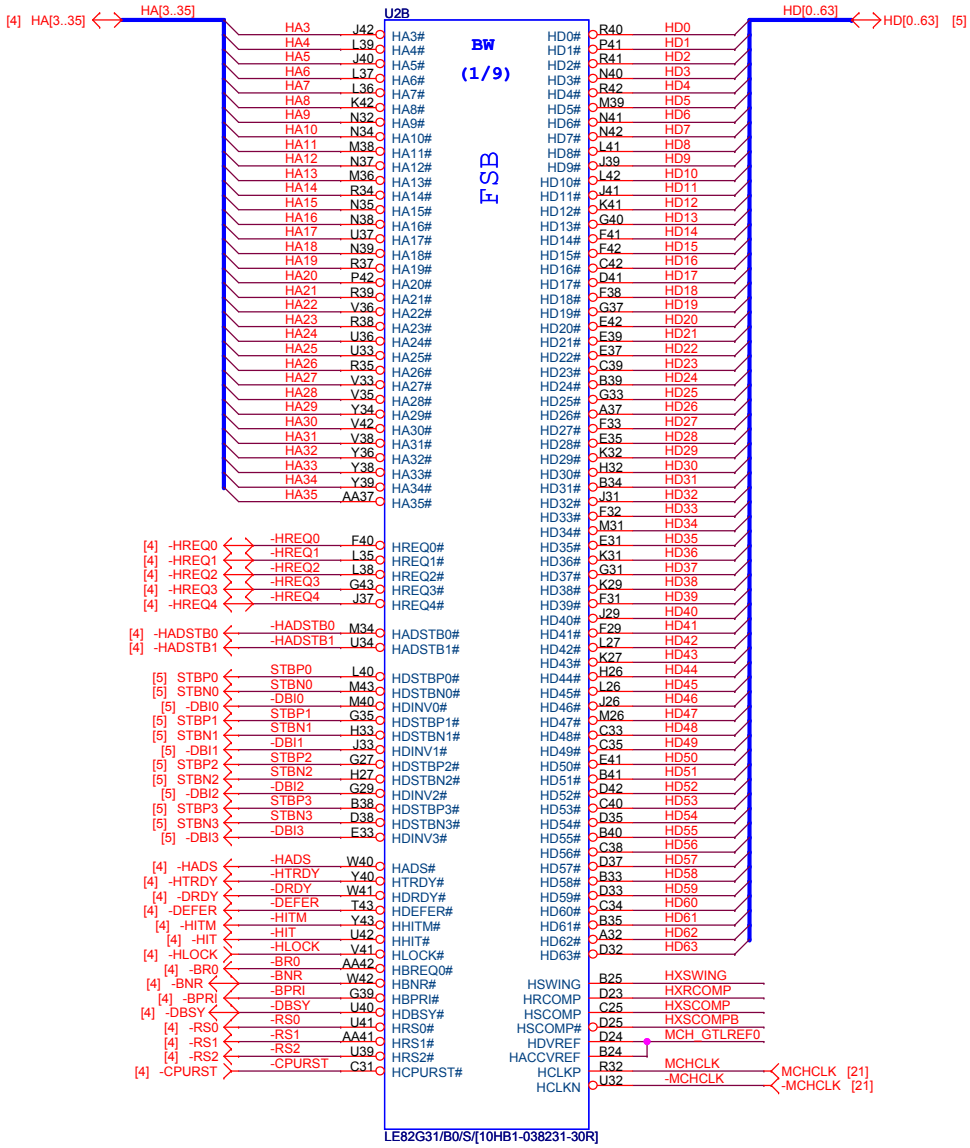


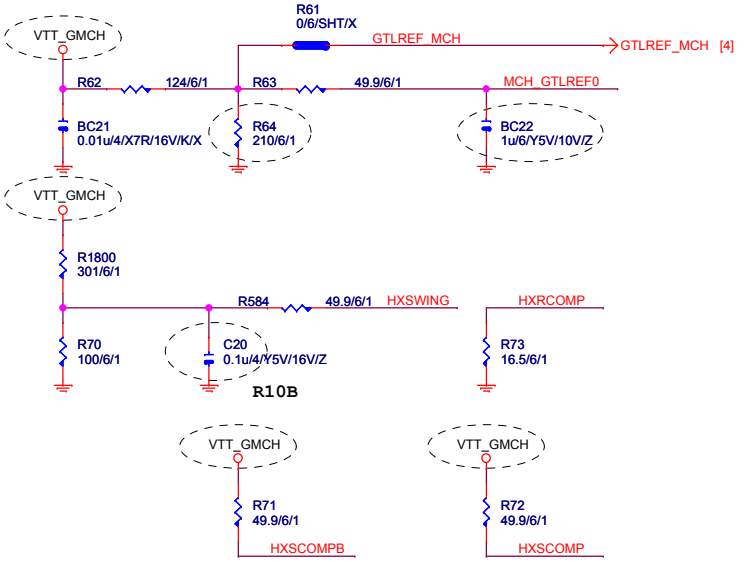
PECI:Platform Environment Control Interface

Gigabyte Technology			
Title: P4_LGA775-C			
Size: B	Document Number: GA-G31M-ES2L		Rev: 1.11
Date: Thursday, July 17, 2008	Sheet 6 of 33		

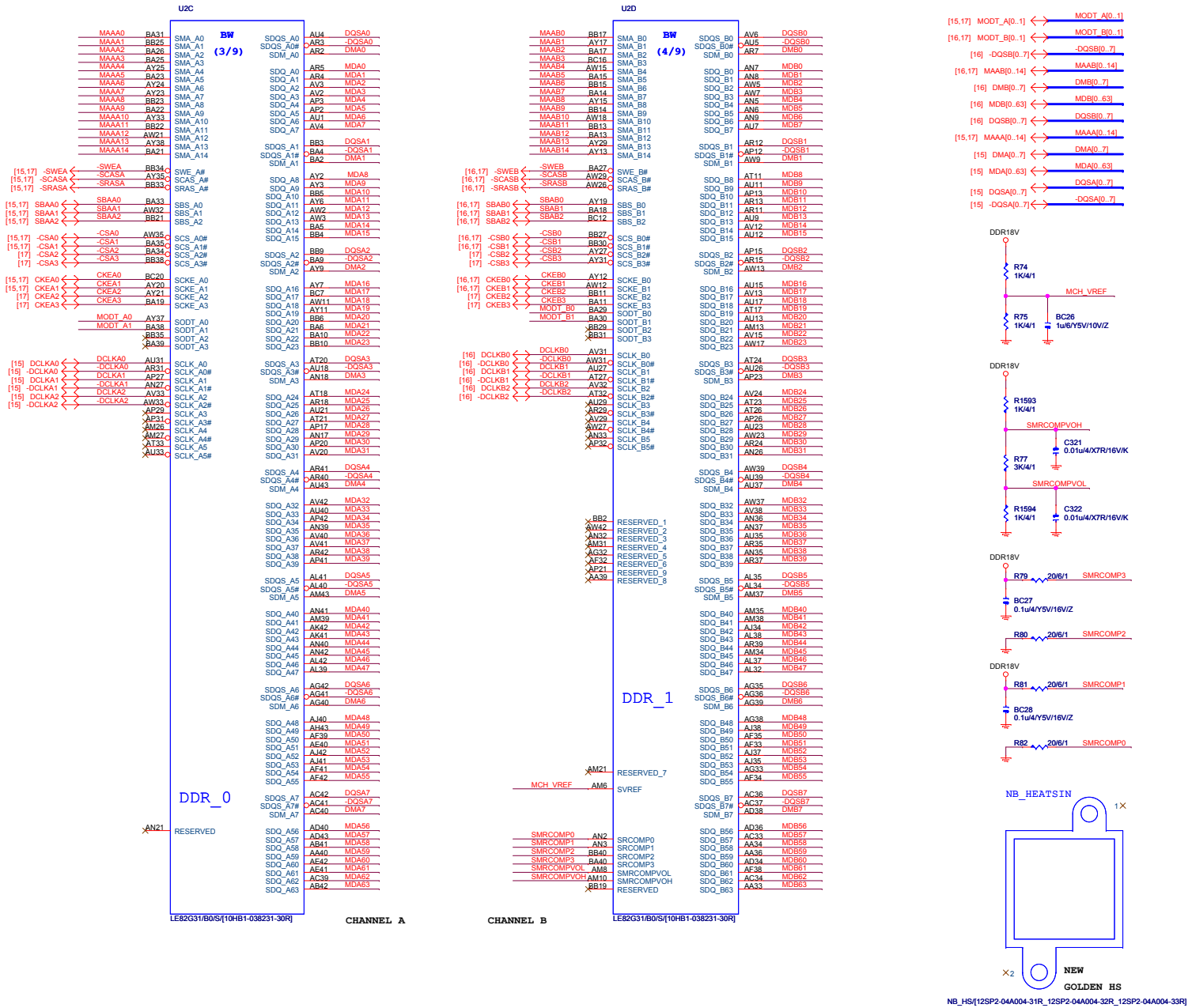


Gigabyte Technology			
Title: P4_LGA775-E,F,G,H			
Size: B	Document Number: GA-G31M-ES2L		Rev: 1.11
Date: Thursday, July 17, 2008		Sheet 7 of 33	





Gigabyte Technology		
Title: GMCH-HOST		
Size: B	Document Number: GA-G31M-ES2L	Rev: 1.11
Date: Thursday, July 17, 2008	Sheet 8 of 33	



Title	GMCH-DDRII
Size: Custom	Document Number: GA-G31M-ES2L
Rev	1.11
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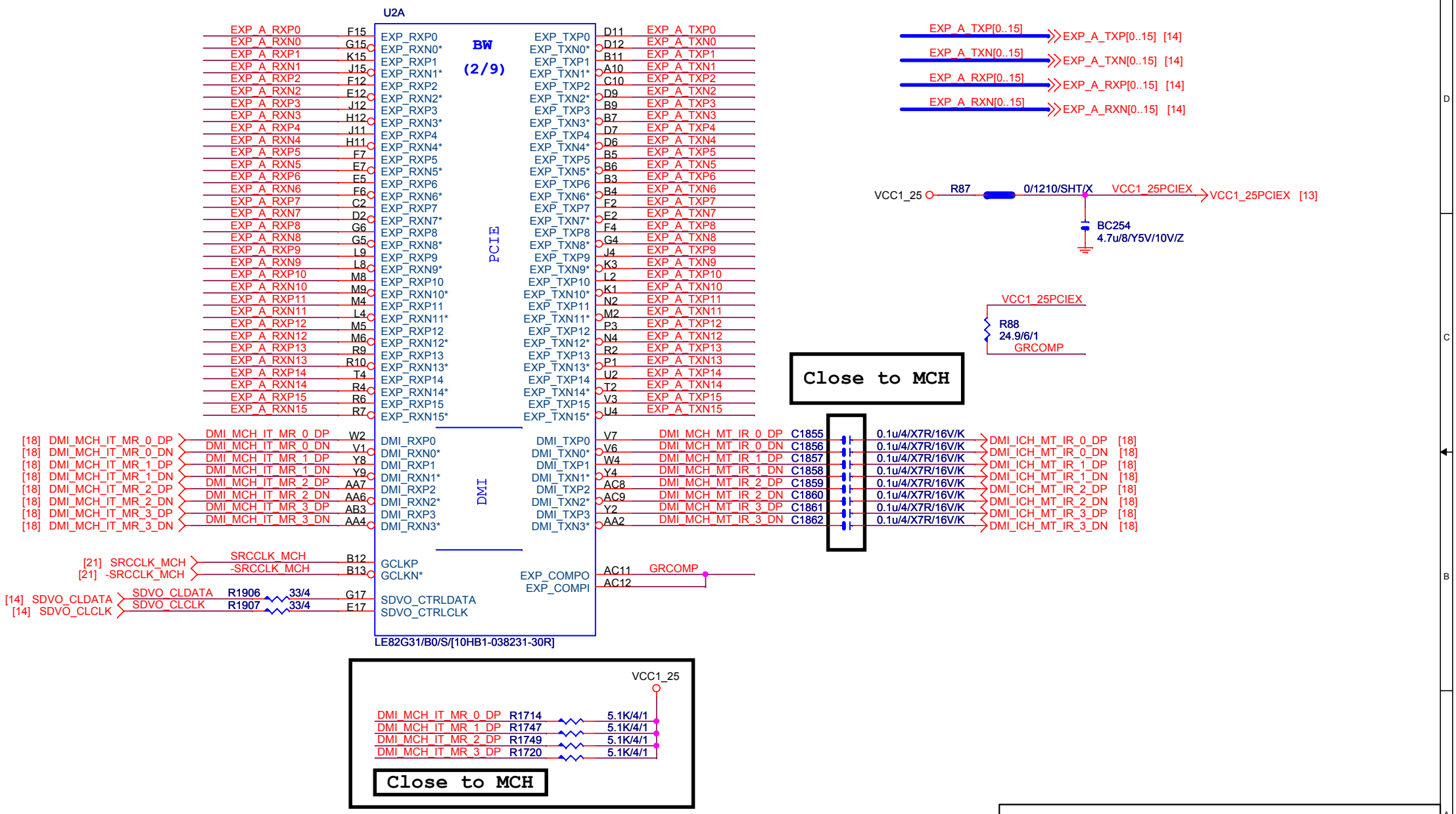
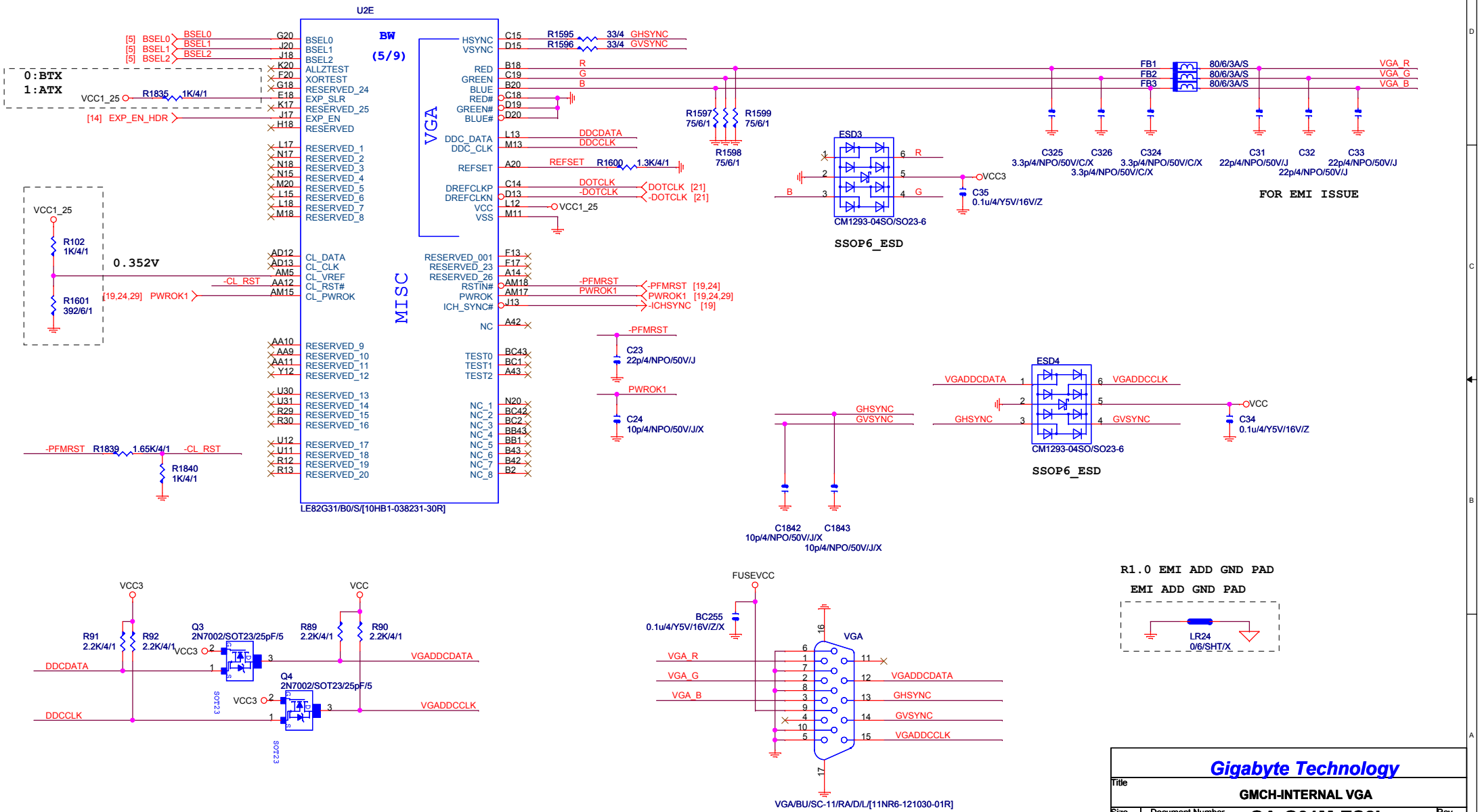
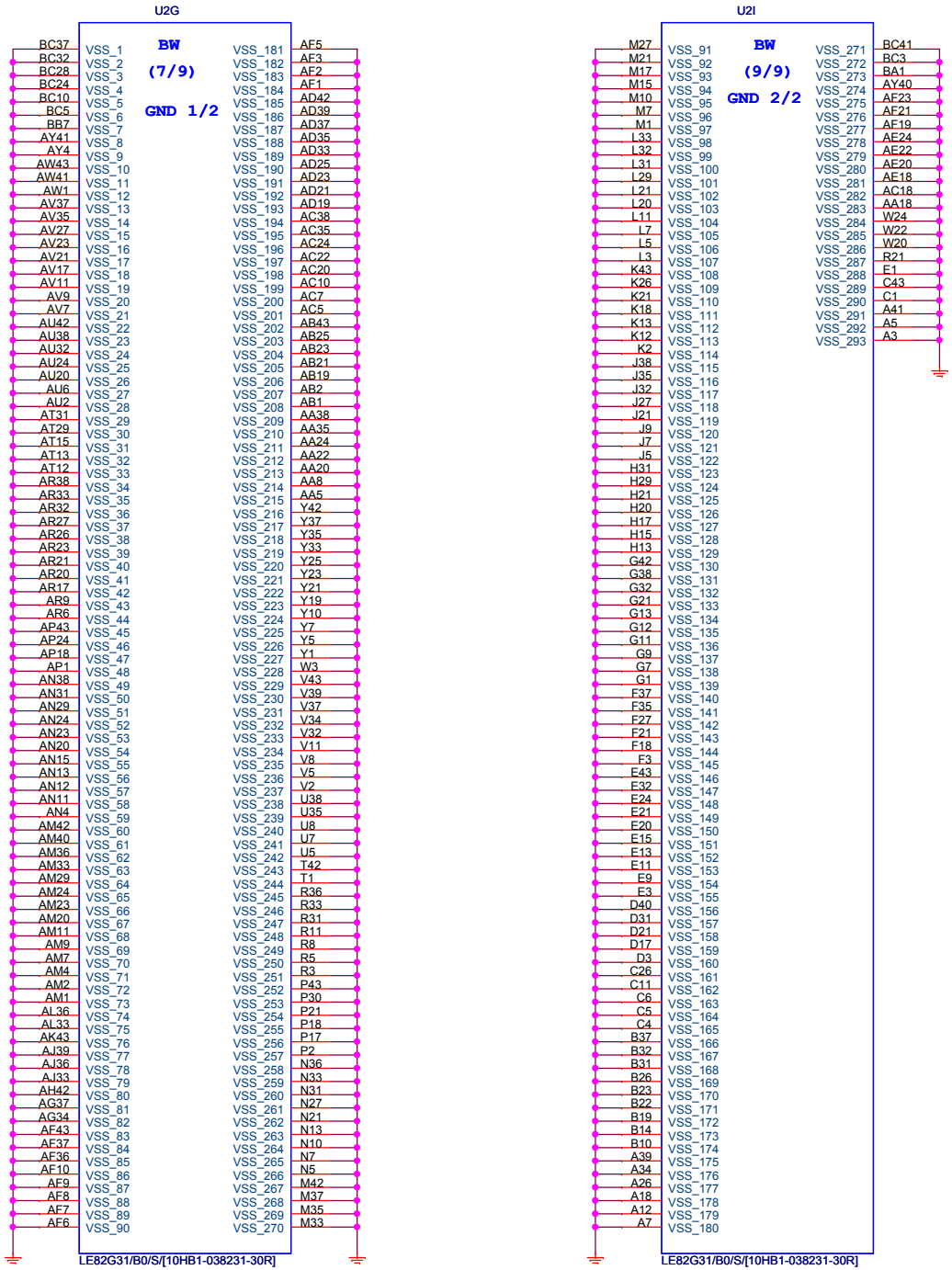
Gigabyte Technology



Gigabyte Technology			
Title: GMCH-PCI E & DMI			
Size: Custom	Document Number: GA-G31M-ES2L		Rev: 1.11
Date: Thursday, July 17, 2008	Sheet 10 of 33		

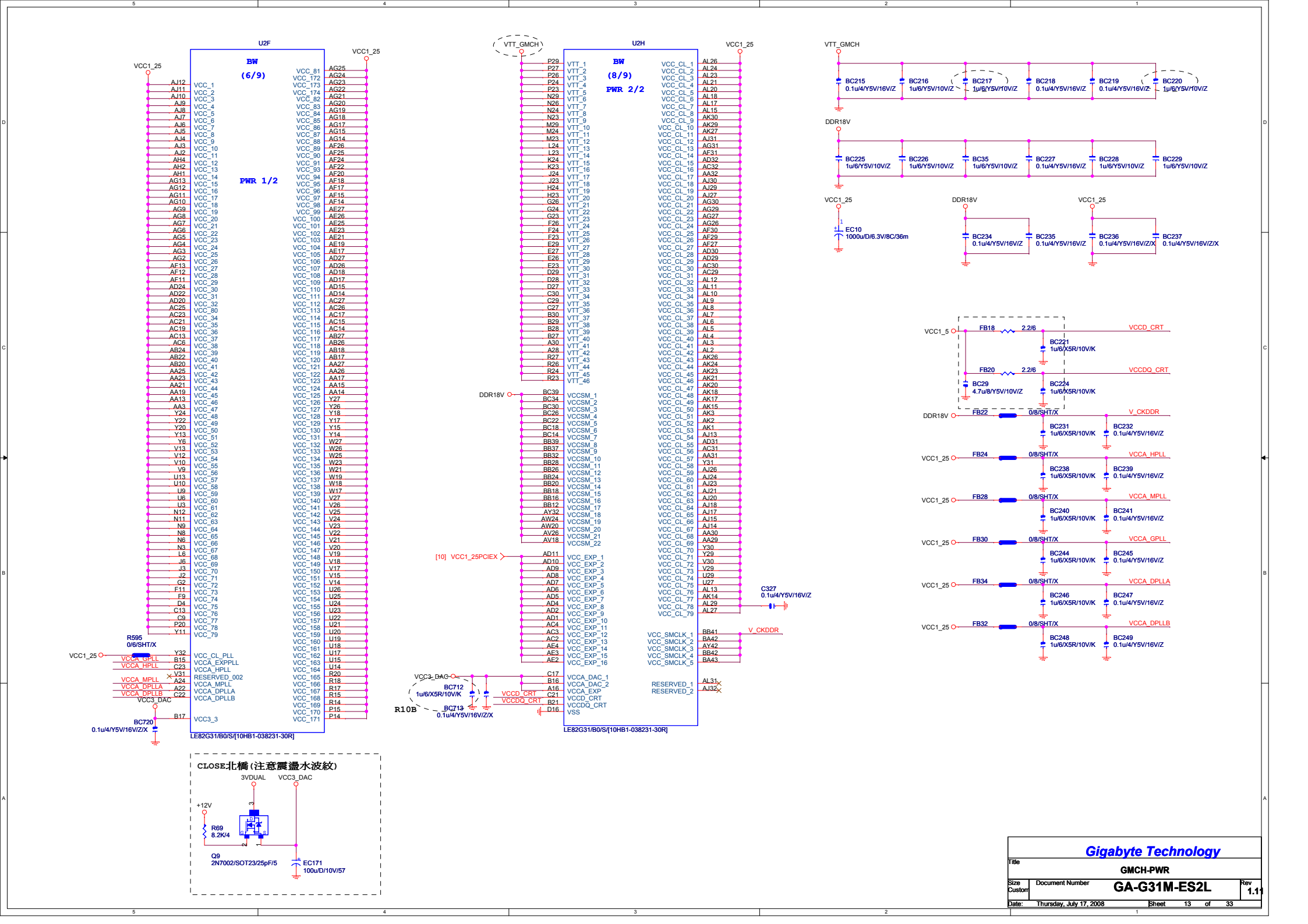


Gigabyte Technology		
Title: GMCH-INTERNAL VGA		
Size: B	Document Number: GA-G31M-ES2L	Rev: 1.11
Date: Thursday, July 17, 2008	Sheet 11 of 33	



Gigabyte Technology

Title	GMCH-GND		
Size: Custom	Document Number: GA-G31M-ES2L		Rev: 1.11
Date: Thursday, July 17, 2008		Sheet 12 of 33	


U2F
BW
(6/9)
PWR 1/2
LE82G31/B0/S/[10HB1-038231-30R]
U2H
BW
(8/9)
PWR 2/2
LE82G31/B0/S/[10HB1-038231-30R]
VCC1_25
VTT_GMCH
DDR18V
R595
0/6/SHT/X
BC720
0.1u/4/Y5V/16V/Z/X
BC712
1u/6/X5R/10V/K
BC713
0.1u/4/Y5V/16V/Z/X
R10B
C327
0.1u/4/Y5V/16V/Z
V_CKDDR
VCC3_DAC
VCCD_CRT
VCCDQ_CRT
[10] VCC1_25PCIEX
CLOSE北橋(注意震盪水波紋)
3VDUAL
+12V
R69
8.2K/4
Q9
2N7002/SOT23/25pF/5
EC171
100u/D/10V/57
BC215
0.1u/4/Y5V/16V/Z
BC216
1u/6/Y5V/10V/Z
BC217
1u/6/Y5V/10V/Z
BC218
0.1u/4/Y5V/16V/Z
BC219
0.1u/4/Y5V/16V/Z
BC220
1u/6/Y5V/10V/Z
BC225
1u/6/Y5V/10V/Z
BC226
1u/6/Y5V/10V/Z
BC35
1u/6/Y5V/10V/Z
BC227
0.1u/4/Y5V/16V/Z
BC228
1u/6/Y5V/10V/Z
BC229
1u/6/Y5V/10V/Z
EC10
1000u/D/6.3V/8C/36m
BC234
0.1u/4/Y5V/16V/Z
BC235
0.1u/4/Y5V/16V/Z
BC236
0.1u/4/Y5V/16V/Z/X
BC237
0.1u/4/Y5V/16V/Z/X
FB18
2.2/6
VCCD_CRT
BC221
1u/6/X5R/10V/K
FB20
2.2/6
VCCDQ_CRT
BC29
4.7u/8/Y5V/10V/Z
BC224
1u/6/X5R/10V/K
FB22
0/8/SHT/X
V_CKDDR
BC231
1u/6/X5R/10V/K
BC232
0.1u/4/Y5V/16V/Z
FB24
0/8/SHT/X
VCCA_HPLL
BC238
1u/6/X5R/10V/K
BC239
0.1u/4/Y5V/16V/Z
FB28
0/8/SHT/X
VCCA_MPLL
BC240
1u/6/X5R/10V/K
BC241
0.1u/4/Y5V/16V/Z
FB30
0/8/SHT/X
VCCA_GPLL
BC244
1u/6/X5R/10V/K
BC245
0.1u/4/Y5V/16V/Z
FB34
0/8/SHT/X
VCCA_DPLLA
BC246
1u/6/X5R/10V/K
BC247
0.1u/4/Y5V/16V/Z
FB32
0/8/SHT/X
VCCA_DPLLB
BC248
1u/6/X5R/10V/K
BC249
0.1u/4/Y5V/16V/Z
Gigabyte Technology
Title
GMCH-PWR
Size
Custom
Document Number
GA-G31M-ES2L
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1.11
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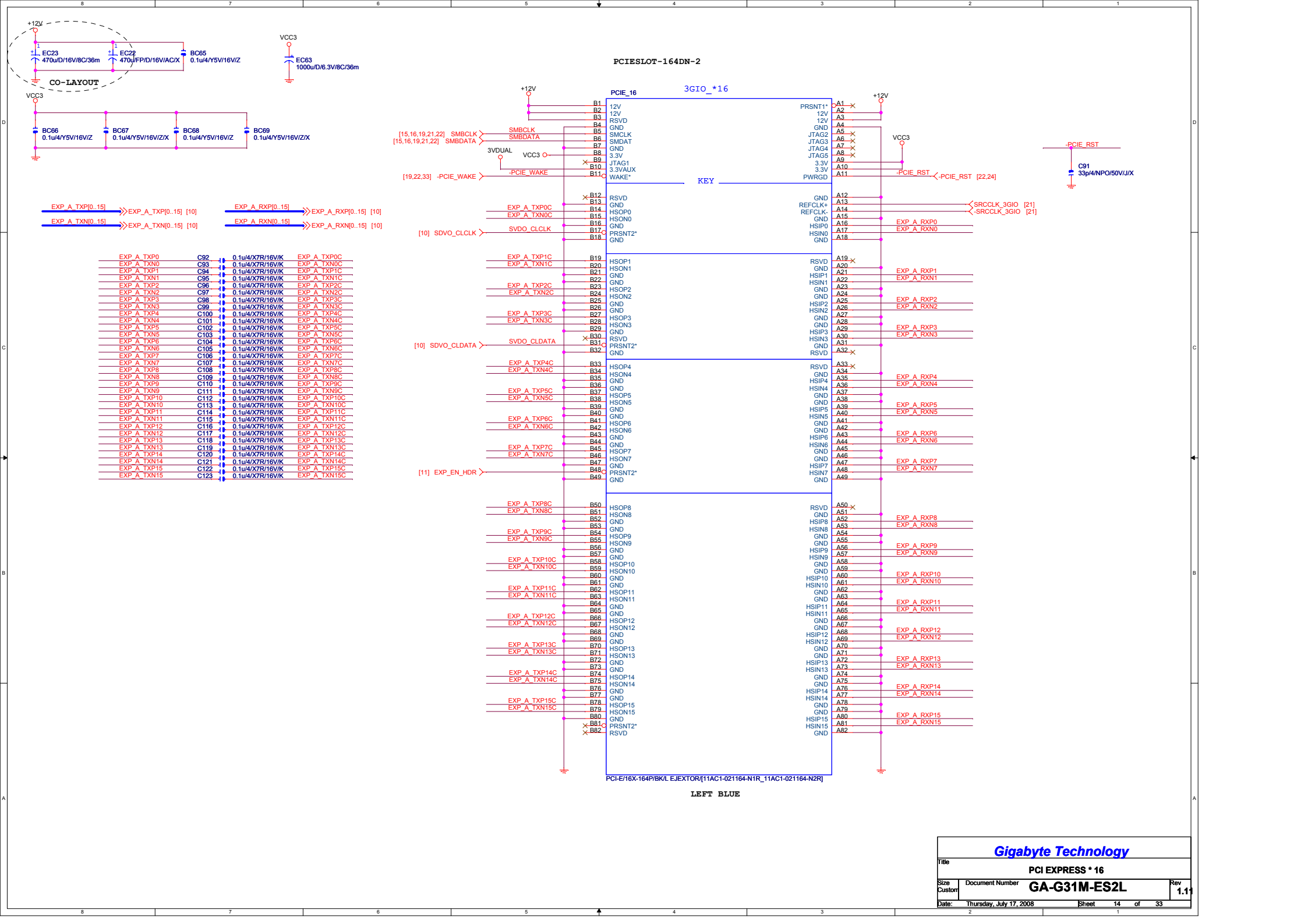
+12V
EC23 470u/D/16V/8C/36m
EC22 470u/FP/D/16V/AC/X
BC65 0.1u/4/Y5V/16V/Z
CO-LAYOUT
VCC3
EC63 1000u/D/6.3V/8C/36m
VCC3
BC66 0.1u/4/Y5V/16V/Z
BC67 0.1u/4/Y5V/16V/Z/X
BC68 0.1u/4/Y5V/16V/Z
BC69 0.1u/4/Y5V/16V/Z/X
PCIESLOT-164DN-2
3GIO_*16
PCIE_16
KEY
EXP_A_TXP[0..15]
EXP_A_TXN[0..15]
EXP_A_RXP[0..15]
EXP_A_RXN[0..15]
SMBCLK
SMBDATA
3VDUAL
-PCIE_WAKE
SVDO_CLCLK
SVDO_CLDATA
EXP_EN_HDR
-PCIE_RST
SRCCLK_3GIO
SRCCLK_3GIO
C91 33p/4/NPO/50V/J/X
PCI-E/16X-164P/BK/L EJEXTOR/[11AC1-021164-N1R_11AC1-021164-N2R]
LEFT BLUE
Gigabyte Technology
PCI EXPRESS * 16
GA-G31M-ES2L
1.11
Thursday, July 17, 2008
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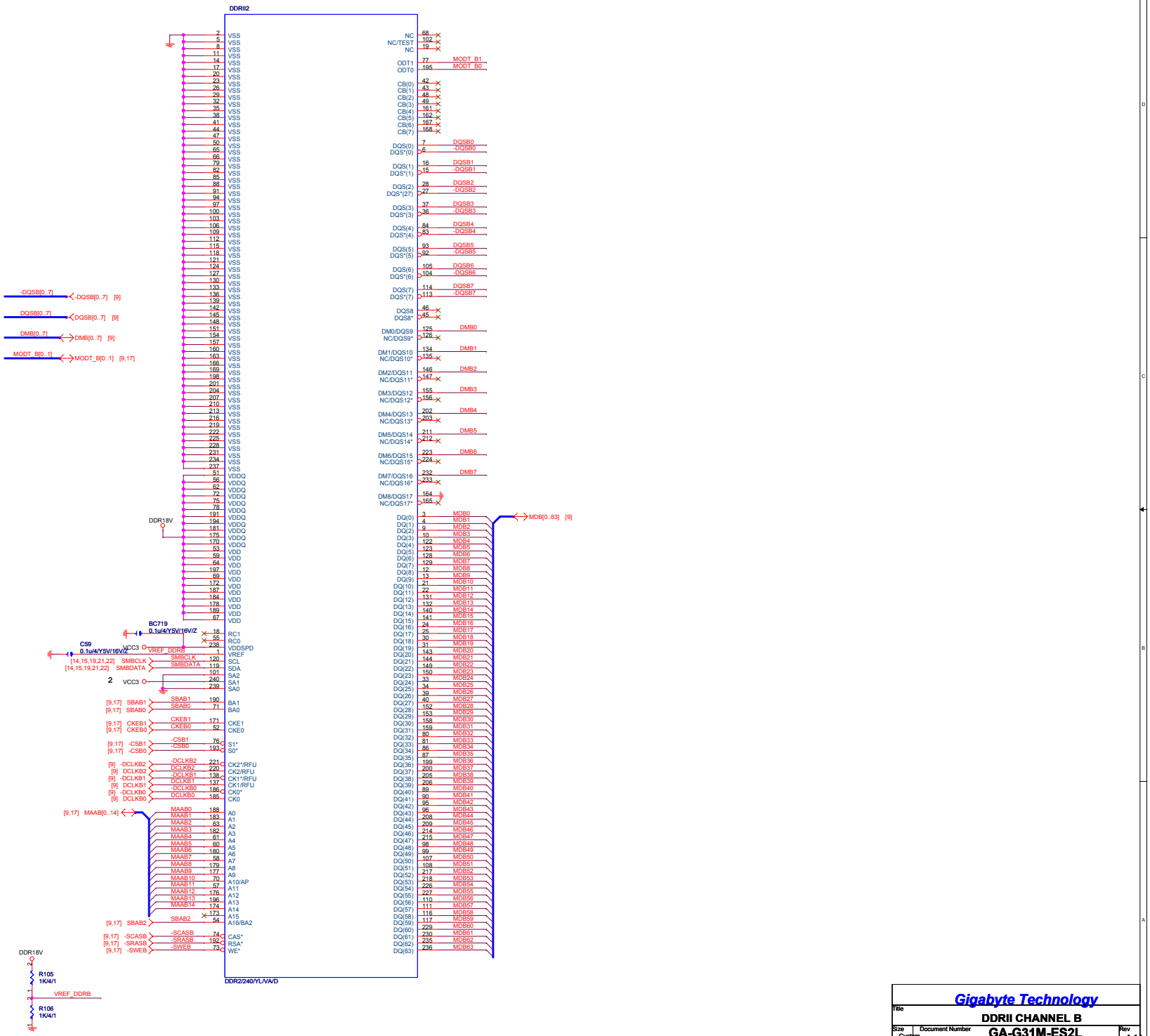
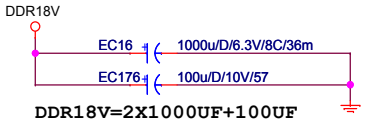
Gigabyte Technology		
Title: DDRII CHANNEL A		
Size: Custom	Document Number: GA-G31M-ES2L	Rev: 1.11
Date:	Sheet 15 of 33	

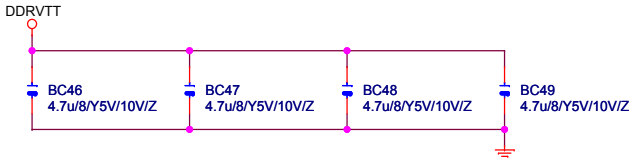


Gigabyte Technology		
Title	DDRII CHANNEL B	
Size: Custom	Document Number: GA-G31M-ES2L	Rev: 1.11
Date:	Sheet 16 of 33	

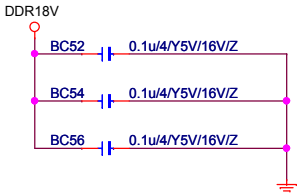
DDR TERMINATION CHANNEL A

DDRVTT Decouple

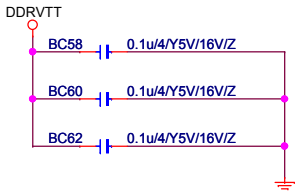


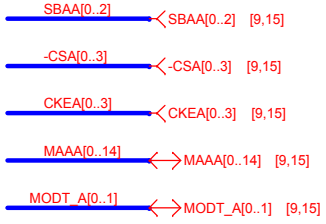


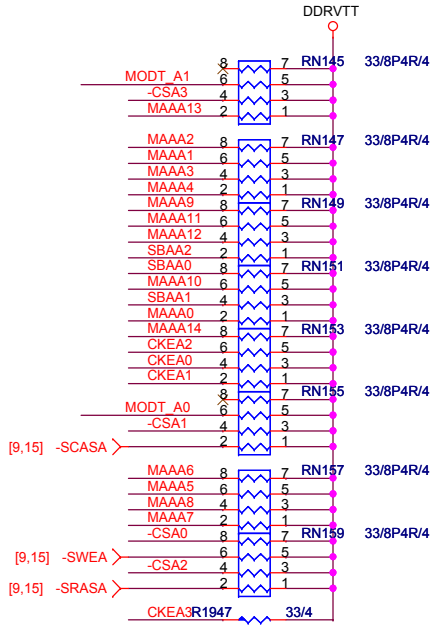
DDR18V Decouple



DDRVTT Decouple

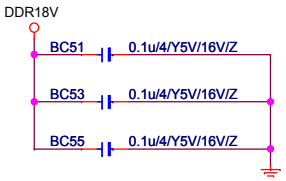




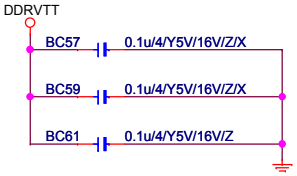


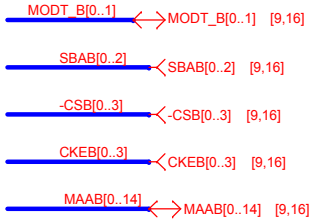
DDR TERMINATION CHANNEL B

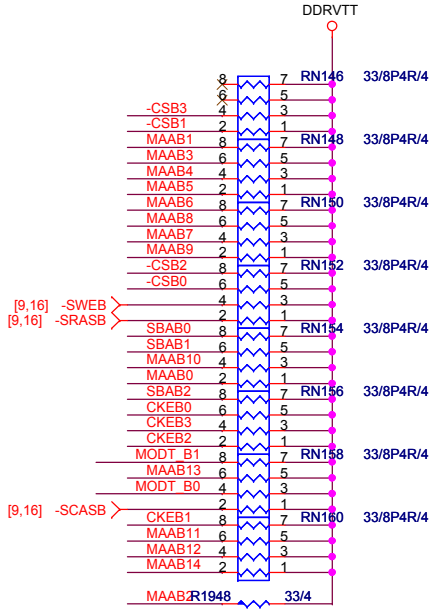
DDR18V Decouple



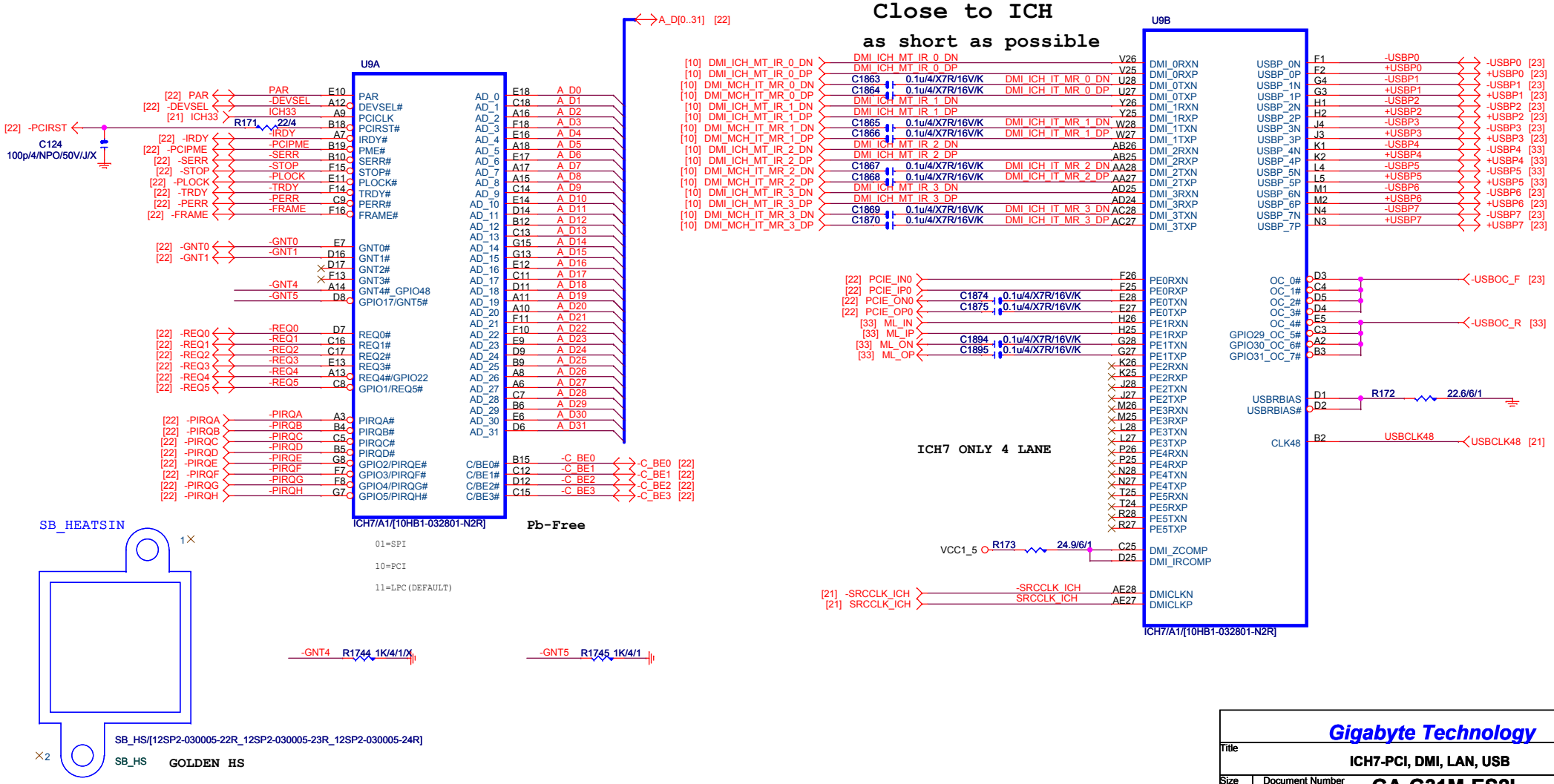
DDRVTT Decouple



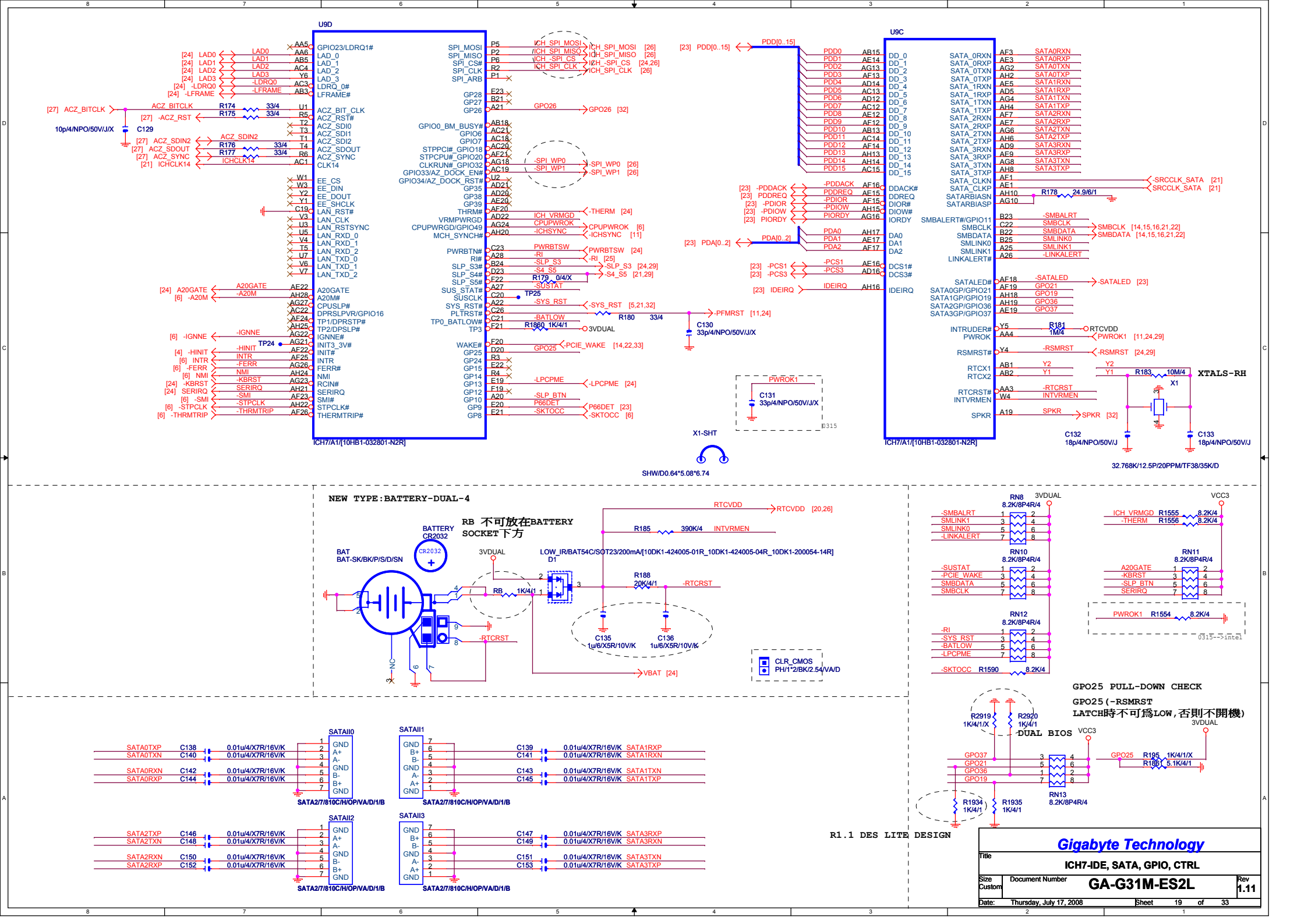




Gigabyte Technology			
Title: DDRII TERMINATOR			
Size: Custom	Document Number: GA-G31M-ES2L		Rev: 1.11
Date: Thursday, July 17, 2008	Sheet 17 of 33		



Gigabyte Technology			
Title: ICH7-PCI, DMI, LAN, USB			
Size: B	Document Number: GA-G31M-ES2L		Rev: 1.11
Date: Thursday, July 17, 2008	Sheet 18 of 33		


U9D
ICH7/A1/[10HB1-032801-N2R]
U9C
ICH7/A1/[10HB1-032801-N2R]
GPIO23/LDRQ1#
LAD_0
LAD_1
LAD_2
LAD_3
LDRQ_0#
LFRAME#
ACZ_BIT_CLK
ACZ_RST#
ACZ_SDI0
ACZ_SDI1
ACZ_SDI2
ACZ_SDOUT
ACZ_SYNC
CLK14
EE_CS
EE_DIN
EE_DOUT
EE_SHCLK
LAN_RST#
LAN_CLK
LAN_RSTSYNC
LAN_RXD_0
LAN_RXD_1
LAN_RXD_2
LAN_TXD_0
LAN_TXD_1
LAN_TXD_2
A20GATE
A20M#
CPUSLP#
DPRSLPVR/GPIO16
TP1/DPRSTP#
TP2/DPSLP#
IGNNE#
INIT3_3V#
INIT#
INTR
FERR#
NMI
RCIN#
SERIRQ
SMI#
STPCLK#
THERMTRIP#
SPI_MOSI
SPI_MISO
SPI_CS#
SPI_CLK
SPI_ARB
GPIO0_BM_BUSY#
GPIO6
GPIO7
STPPCI#_GPIO18
STPCPU#_GPIO20
CLKRUN#_GPIO32
GPIO33/AZ_DOCK_EN#
GPIO34/AZ_DOCK_RST#
THRM#
VRMPWRGD
CPUPWRGD/GPIO49
MCH_SYNCH#
PWRBTN#
RI#
SLP_S3#
SLP_S4#
SLP_S5#
SUS_STAT#
SUSCLK
SYS_RST#
PLTRST#
TP0_BATLOW#
TP3
WAKE#
PDD[0..15]
PDA[0..2]
DDACK#
DDREQ
DIOR#
DIOW#
IORDY
DA0
DA1
DA2
DCS1#
DCS3#
IDEIRQ
SATA_0RXN
SATA_0RXP
SATA_0TXN
SATA_0TXP
SATA_1RXN
SATA_1RXP
SATA_1TXN
SATA_1TXP
SATA_2RXN
SATA_2RXP
SATA_2TXN
SATA_2TXP
SATA_3RXN
SATA_3RXP
SATA_3TXN
SATA_3TXP
SATA_CLKN
SATA_CLKP
SATARBIASN
SATARBIASP
SMBALERT#/GPIO11
SMBCLK
SMBDATA
SMLINK0
SMLINK1
LINKALERT#
SATALED#
SATA0GP/GPIO21
SATA1GP/GPIO19
SATA2GP/GPIO36
SATA3GP/GPIO37
INTRUDER#
PWROK
RSMRST#
RTCX1
RTCX2
RTCRST#
INTVRMEN
SPKR
XTALS-RH
32.768K/12.5P/20PPM/TF38/35K/D
X1-SHT
SHW/D0.64*5.08*6.74
NEW TYPE:BATTERY-DUAL-4
BATTERY
CR2032
RB 不可放在BATTERY
SOCKET下方
BAT
BAT-SK/BK/P/S/D/SN
LOW_IR/BAT54C/SOT23/200mA/[10DK1-424005-01R_10DK1-424005-04R_10DK1-200054-14R]
CLR_CMOS
PH/1*2/BK/2.54/VA/D
RN8
RN10
RN11
RN12
RN13
8.2K/8P4R/4
GPO25 PULL-DOWN CHECK
GPO25(-RSMRST
LATCH時不可爲LOW,否則不開機)
DUAL BIOS
R1.1 DES LITE DESIGN
SATAII0
SATAII1
SATAII2
SATAII3
SATA2/7/810C/H/OP/VA/D/1/B
Gigabyte Technology
ICH7-IDE, SATA, GPIO, CTRL
GA-G31M-ES2L
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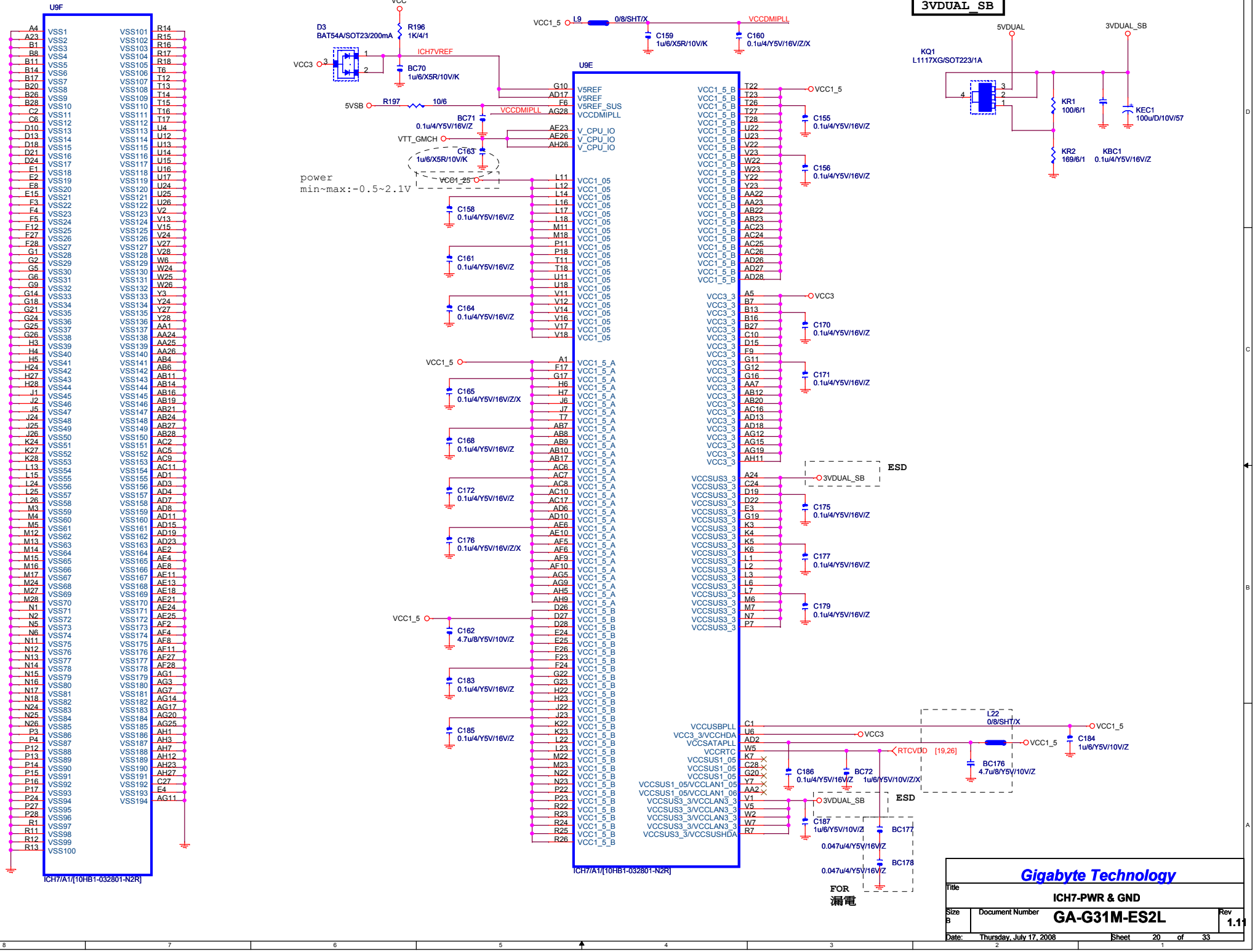
U9F
ICH7/A1/[10HB1-032801-N2R]
U9E
ICH7/A1/[10HB1-032801-N2R]
3VDUAL_SB
power
min~max:-0.5~2.1V
ESD
FOR
漏電
Gigabyte Technology
ICH7-PWR & GND
GA-G31M-ES2L
Rev 1.11
Thursday, July 17, 2008
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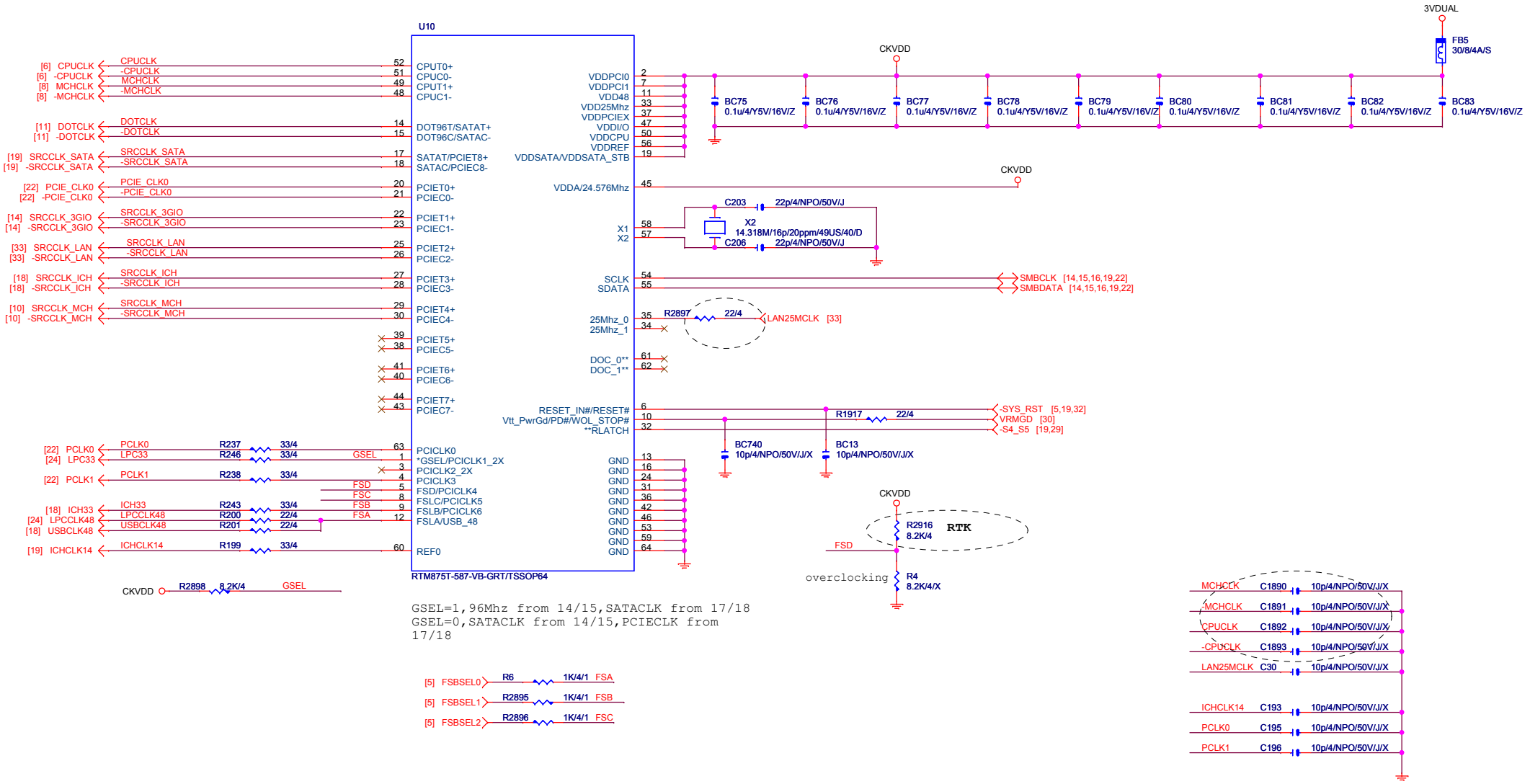
CLK GEN CK505



Gigabyte Technology		
Title: CK505 CLK GEN		
Size: Custom	Document Number: GA-G31M-ES2L	Rev: 1.11
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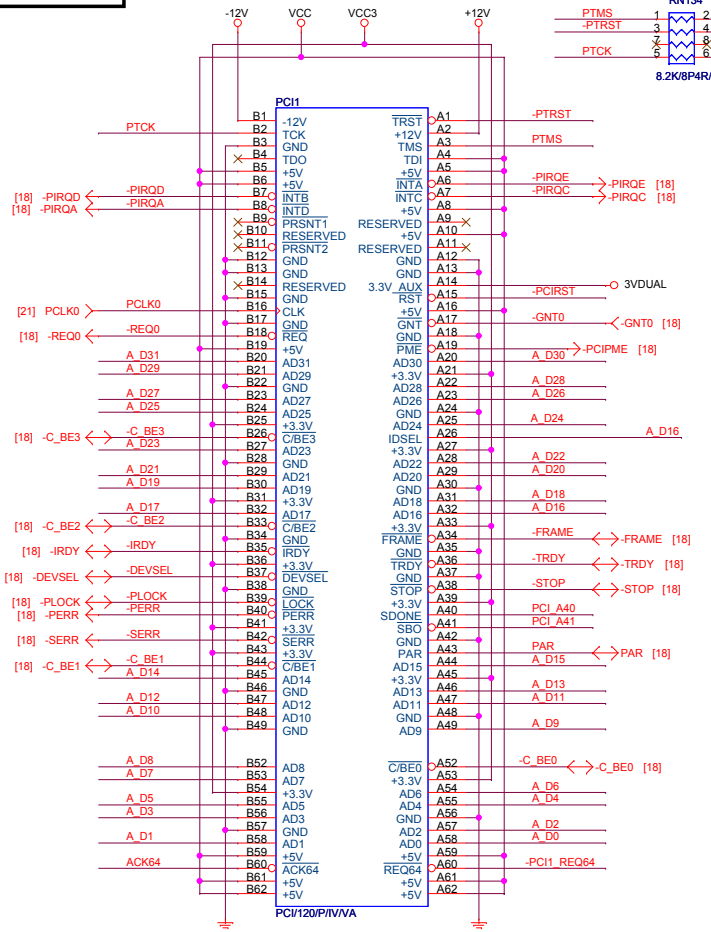
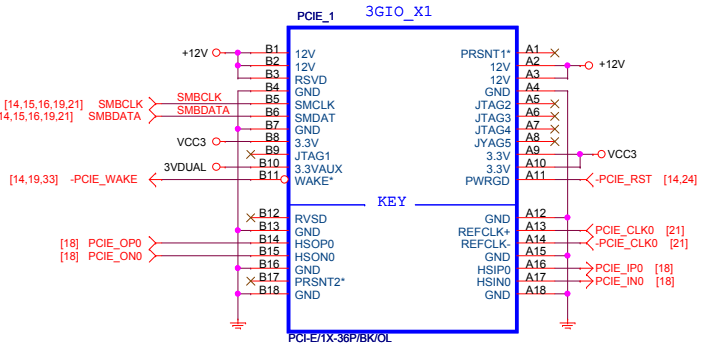
PCI1,2 SLOT

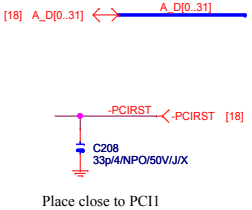


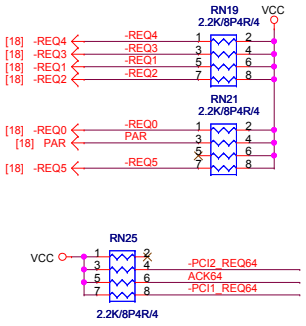
AD_16/-PIRQ(E-D-C-A)/-REQ0/-GNT0

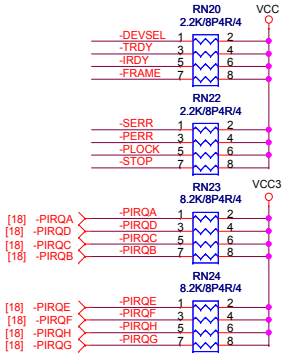
AD_17/-PIRQ(D-C-A-E)/-REQ1/-GNT1

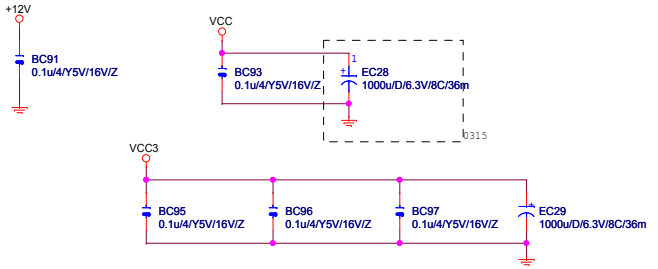
PCIE*1











[14,15,16,19,21] SMBCLK PCI_A40
[14,15,16,19,21] SMBDATA PCI_A41

Gigabyte Technology		
Title	PCI SLOT 1, 2/PCIEX1	
Size: Custom	Document Number: GA-G31M-ES2L	Rev: 1.11
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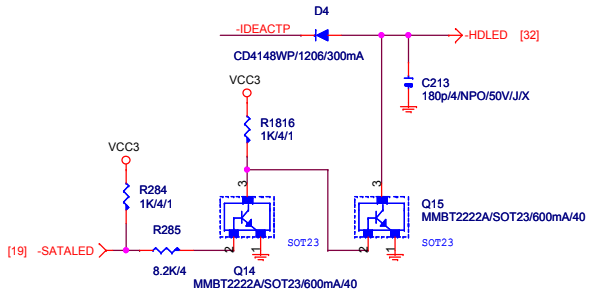
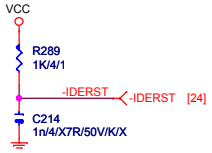
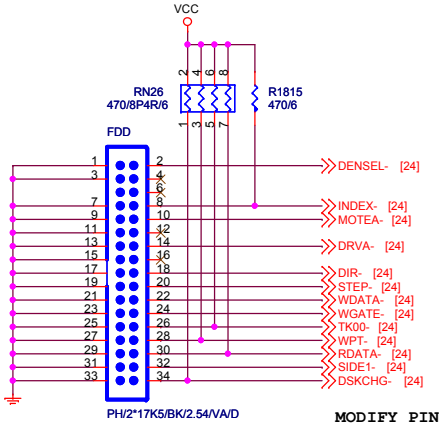
IDE/SATA LED



IDE RESET

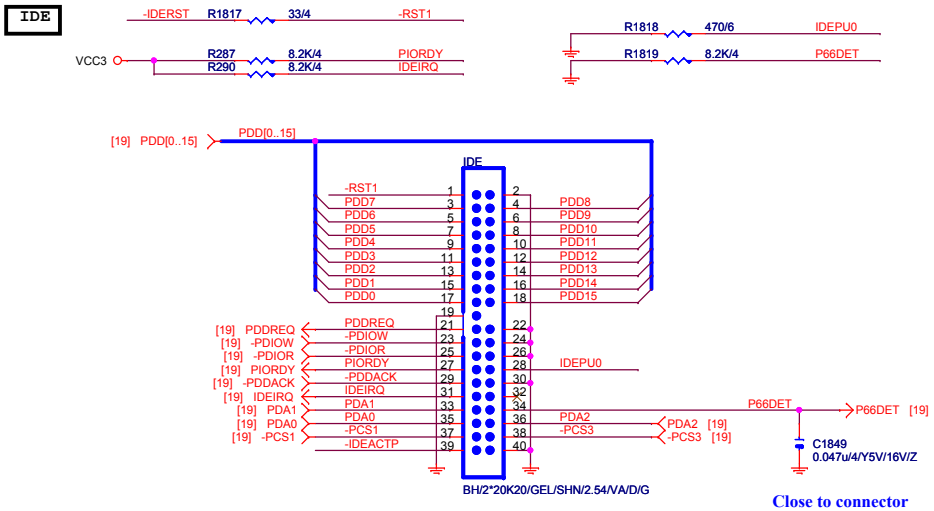


FLOPPY



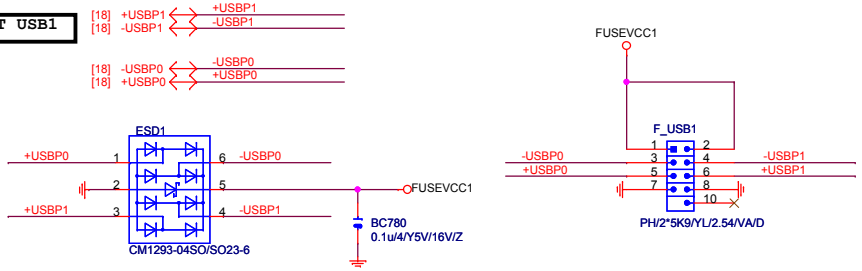
MODIFY PIN HEADER

IDE



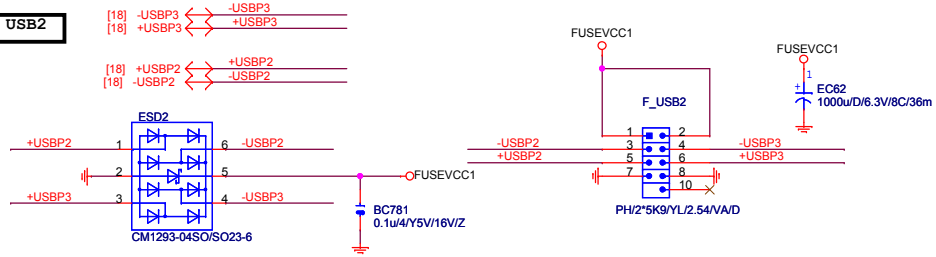
Close to connector

FRONT USB1

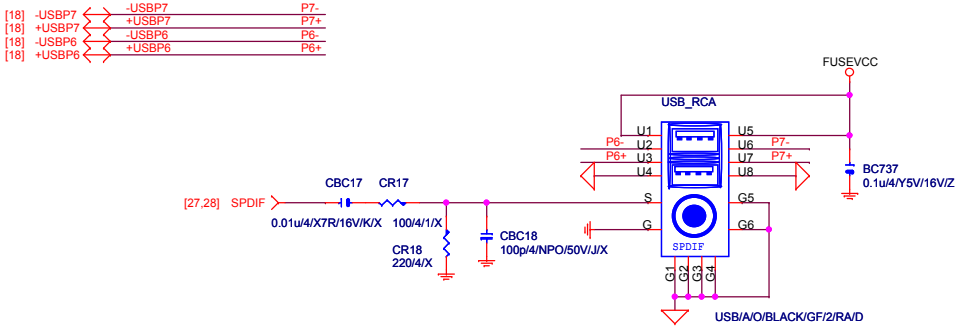


SSOP6_ESD

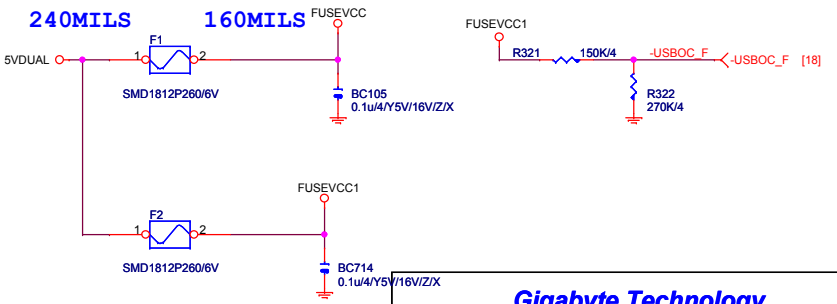
FRONT USB2



SSOP6_ESD



POP USBX2



Gigabyte Technology		
Title: IDE,FDD,F_USB,USB_RCA		
Size: B	Document Number: GA-G31M-ES2L	Rev: 1.11
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RTS2- ==LOW CPU FAN 50%
==HIGH 100%

DEFAULT 50%

0302-UP

IT8712F/[IT8718F]

U15

IT8718F-S/HX(GB)/S

JP7 : HIGH DUAL BIOS ENABLE
LOW DUAL BIOS DISABLE

Pop to disable Dual BIOS

Dual BIOS:
GB logo :Pin 61 (GP15/CSA)
GB logo :Pin 59 (GP17/CSB)

Pin 59 Dual BIOS ,Power On Strapping:
H ==>Dual BIOS function Enable
L ==>Dual BIOS function Disable

1.2V or 3.3V tolerance select.
1.2V OUTPUT 接 VTT_GMCH
3.3V OUTPUT 接3.3V
LPCPD#=VIDVCC

Gigabyte Technology

Title: ITE 8712/18 LPC IO

Size: B | Document Number: GA-G31M-ES2L | Rev: 1.11

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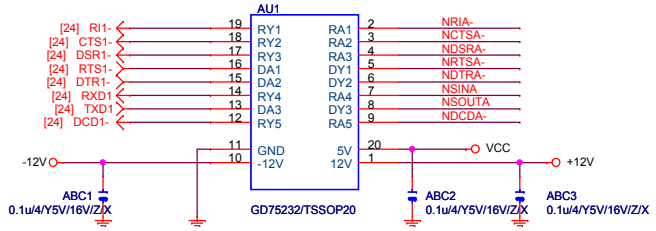
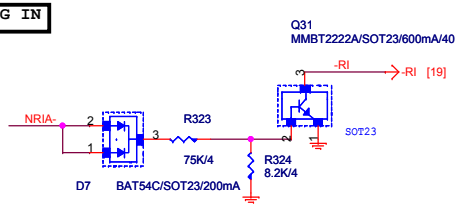
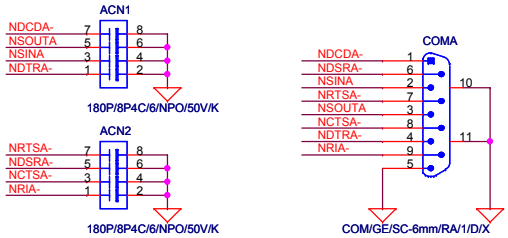
COMA



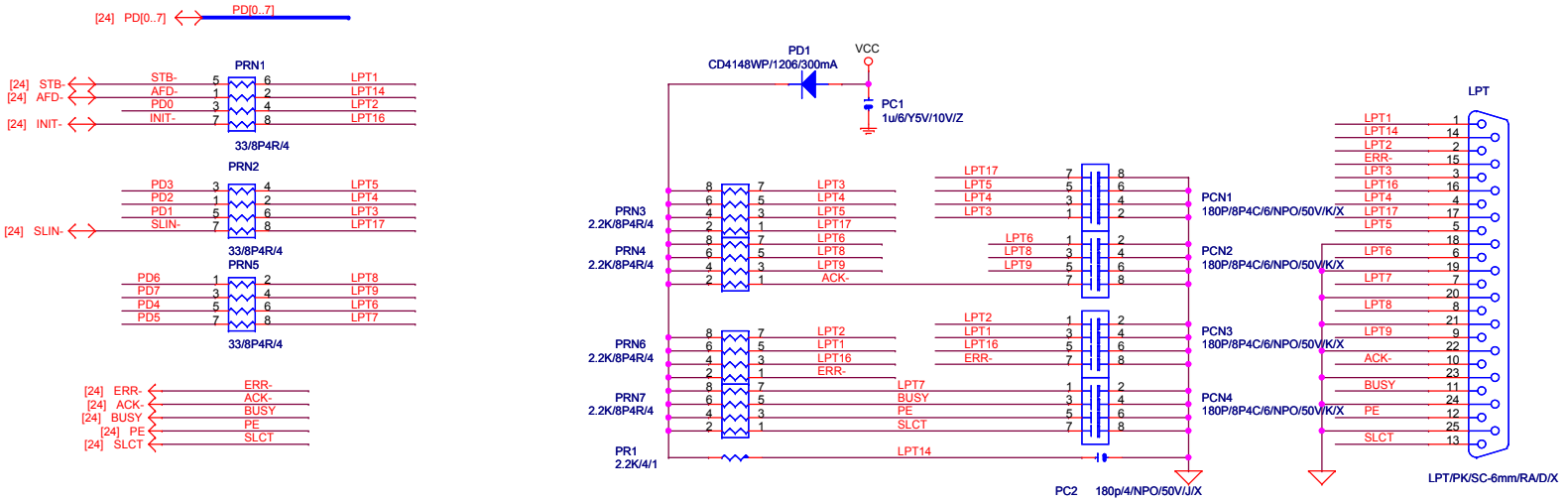
RING IN



EXTERNAL COMA



LPT PORT



Gigabyte Technology		
Title: COM & LPT PORT		
Size: B	Document Number: GA-G31M-ES2L	Rev: 1.11
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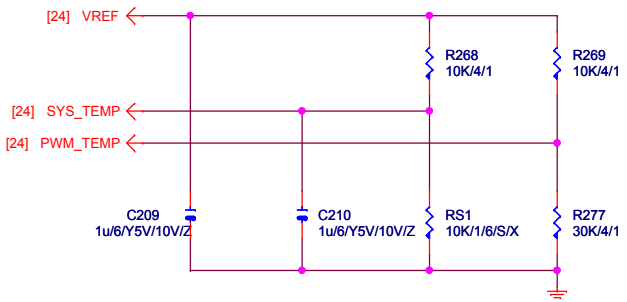
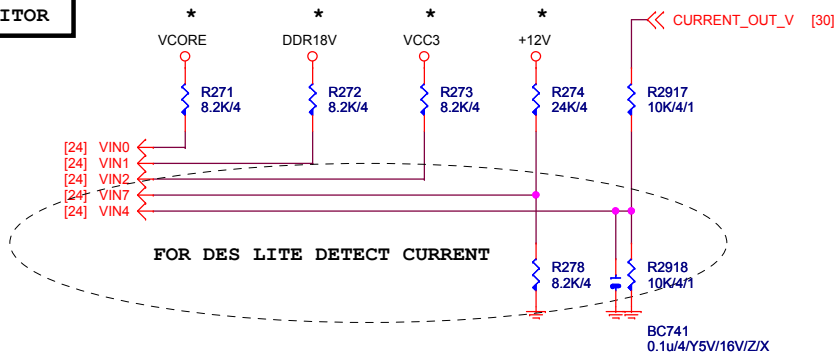
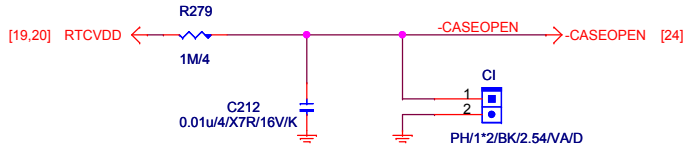
TEMP H/W MONITOR



VOLTAGE-- H/W MONITOR

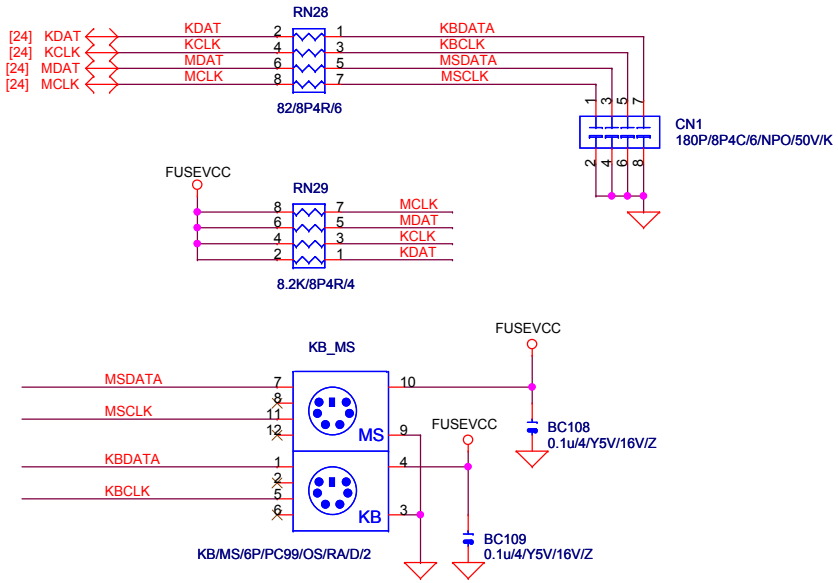


CASE OPEN

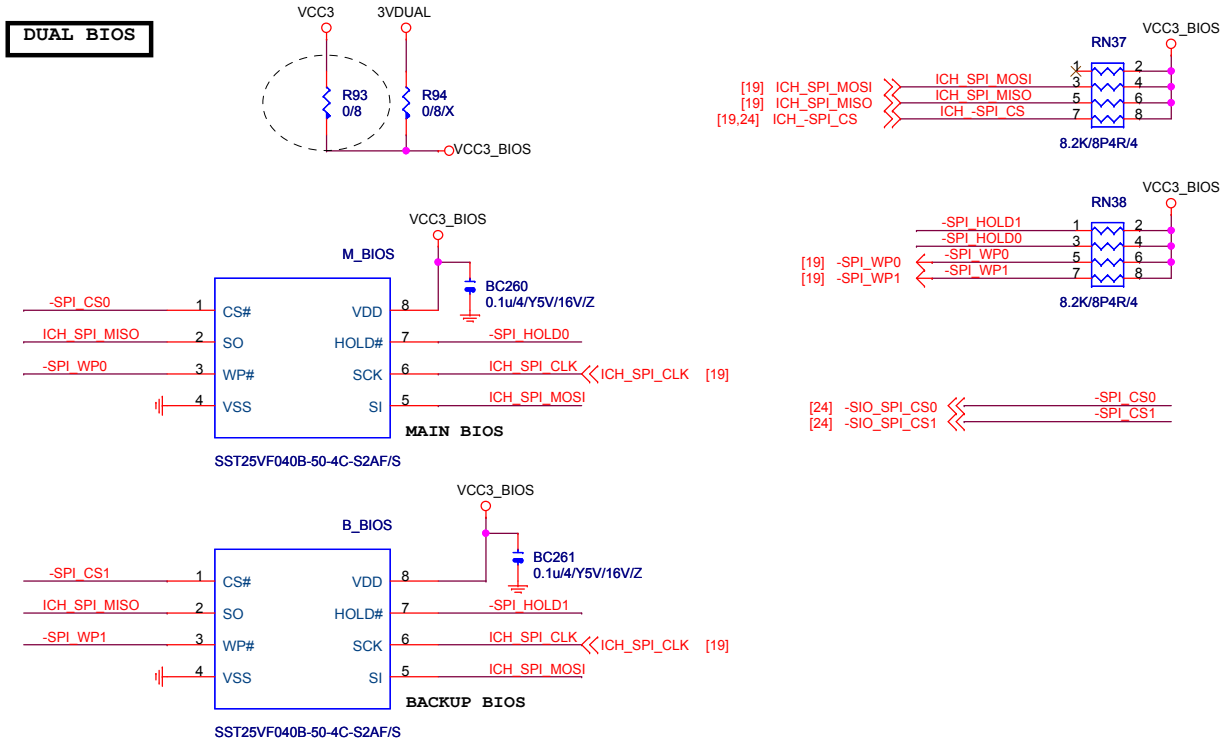


Case Open Circuits

KB/MS



DUAL BIOS



Gigabyte Technology		
Title: HW-MONITOR/CI/KB/MS/BIOS		
Size: Custom	Document Number: GA-G31M-ES2L	Rev: 1.11
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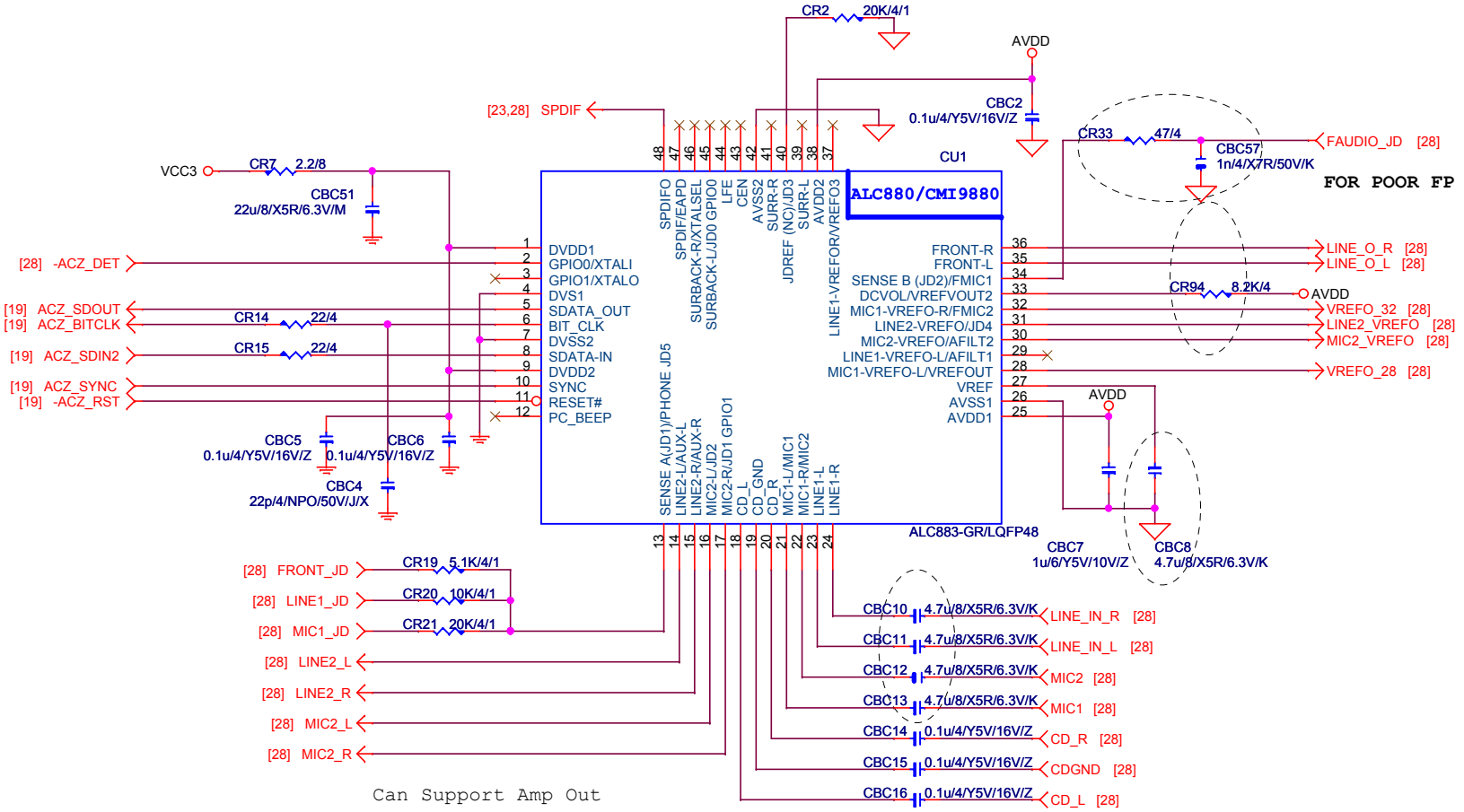
AZALIA CODEC



Gigabyte Technology		
Title: AZALIA ALC883		
Size: Custom	Document Number: GA-G31M-ES2L	Rev: 1.11
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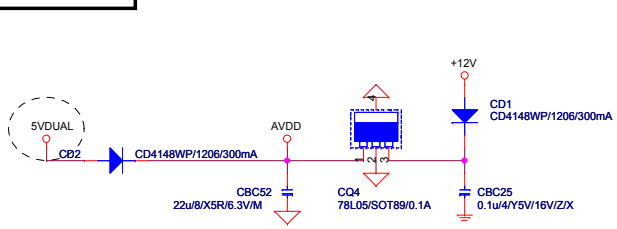
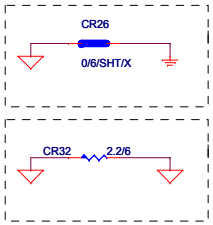
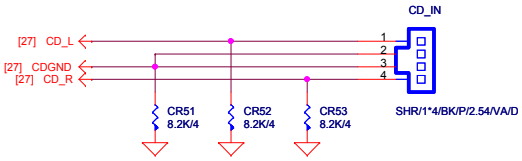
CODEC POWER/EMI PAD

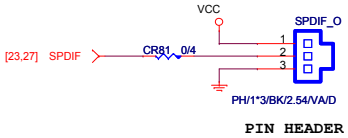




CD IN

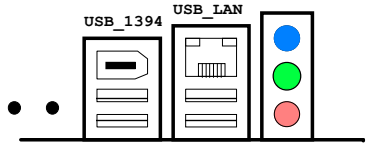


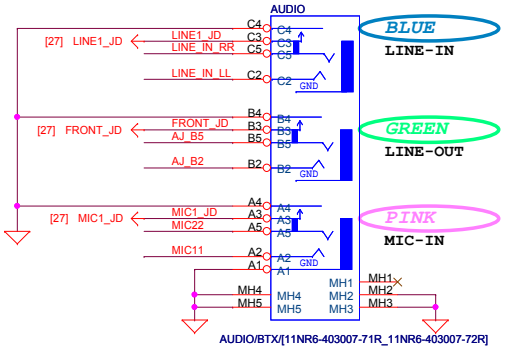
SPDIF IN



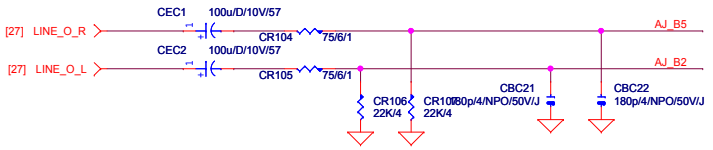
PIN HEADER

AZALIA JACK

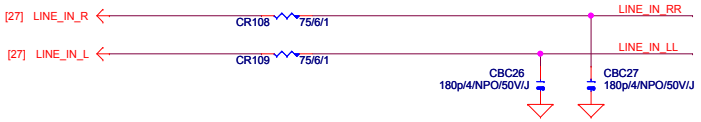




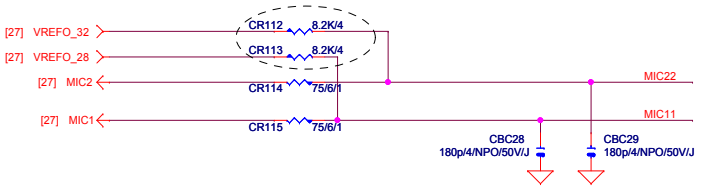
LINE-OUT



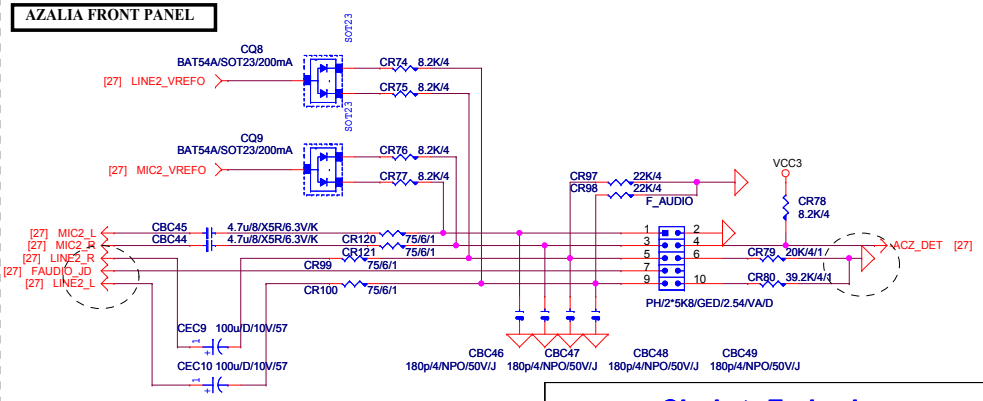
LINE-IN



MIC-IN



AZALIA FRONT PANEL



Gigabyte Technology

Title: AUDIO JACK

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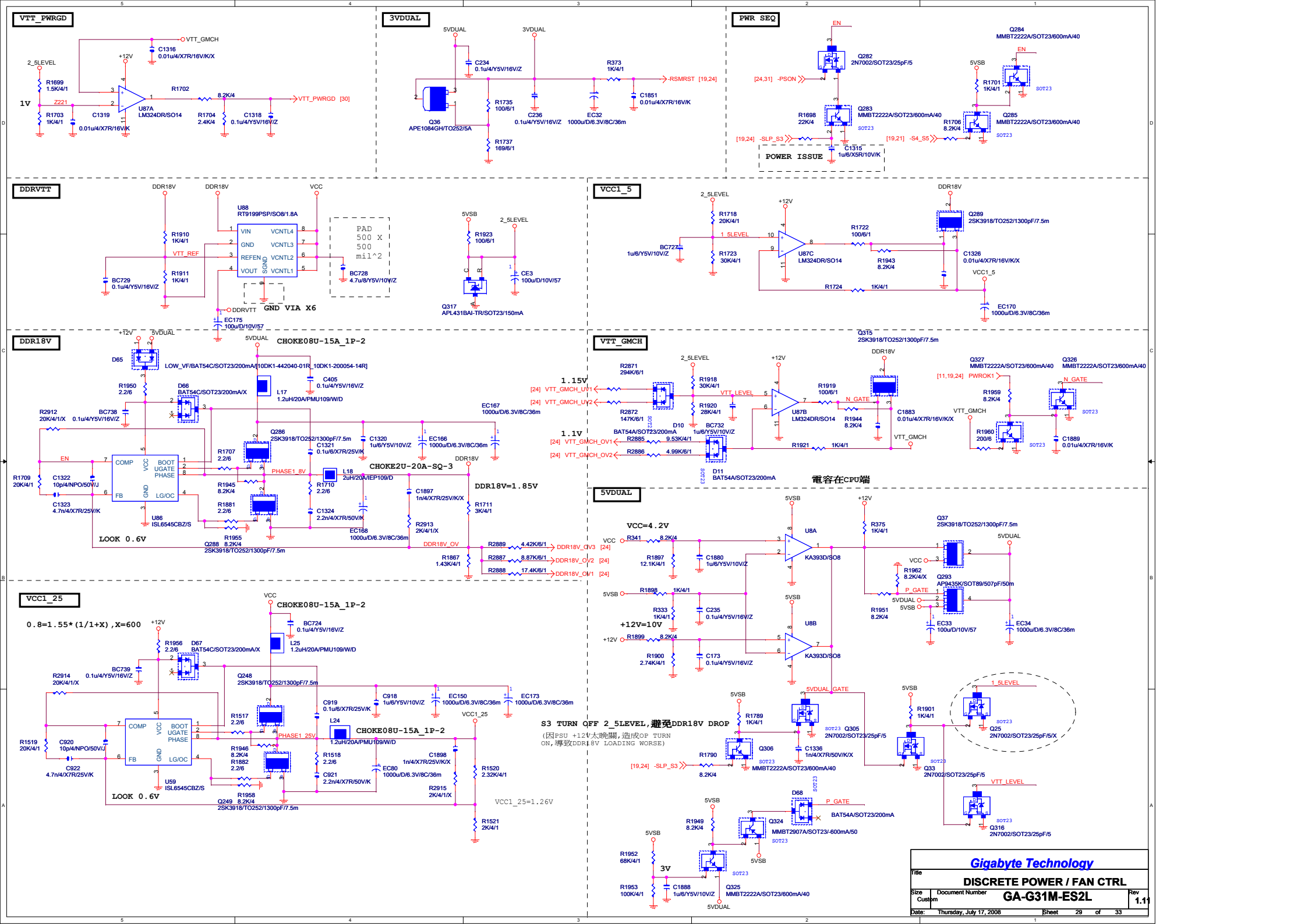
VTT_PWRGD
3VDUAL
PWR SEQ
DDRVTT
VCC1_5
DDR18V
VTT_GMCH
5VDUAL
VCC1_25
POWER ISSUE
GND VIA X6
CHOKE08U-15A_1P-2
CHOKE2U-20A-SQ-3
DDR18V=1.85V
LOOK 0.6V
VCC=4.2V
+12V=10V
S3 TURN OFF 2_5LEVEL,避免DDR18V DROP
(因PSU +12V太晚關,造成OP TURN ON,導致DDR18V LOADING WORSE)
電容在CPU端
VCC1_25=1.26V
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DISCRETE POWER / FAN CTRL
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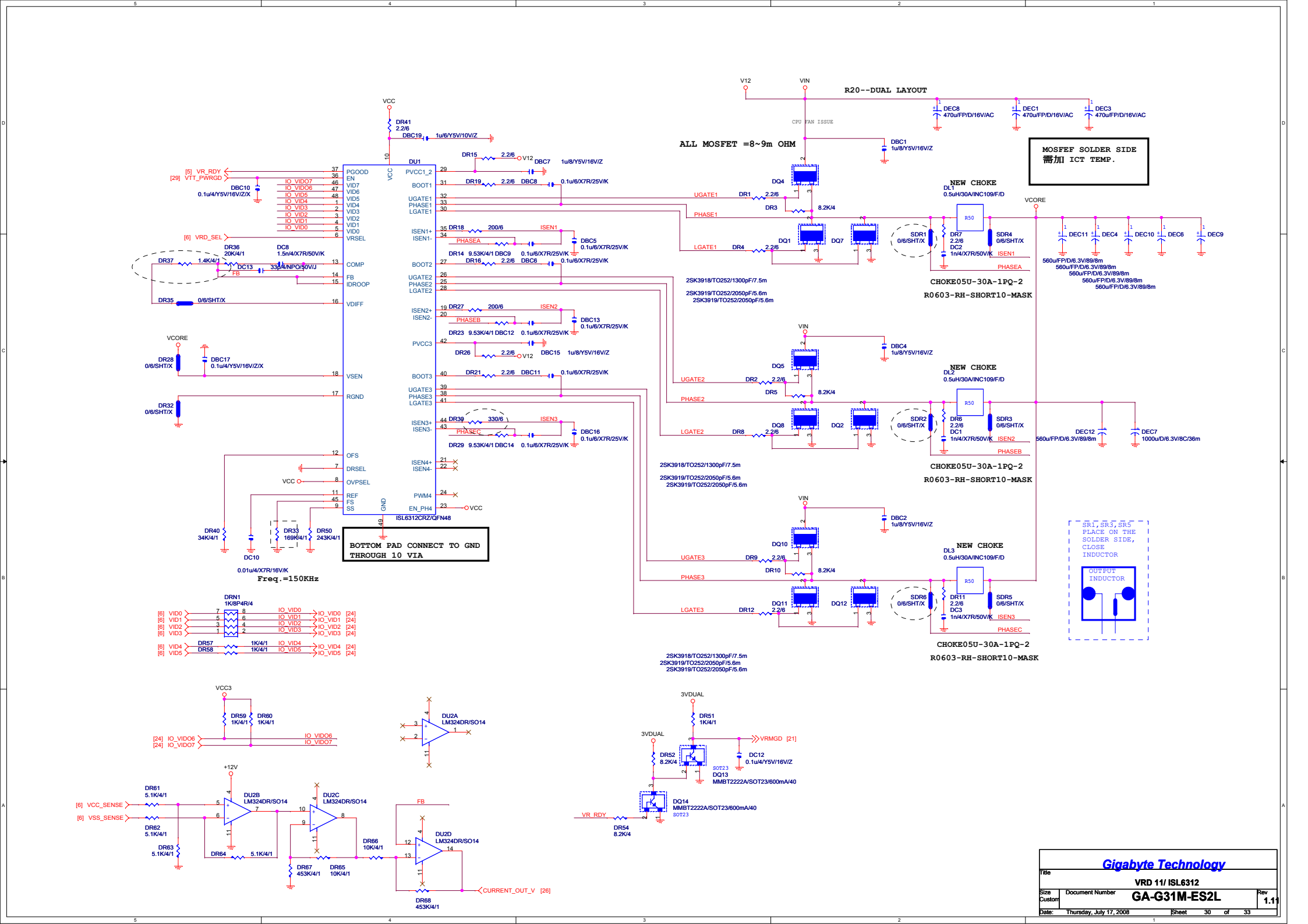

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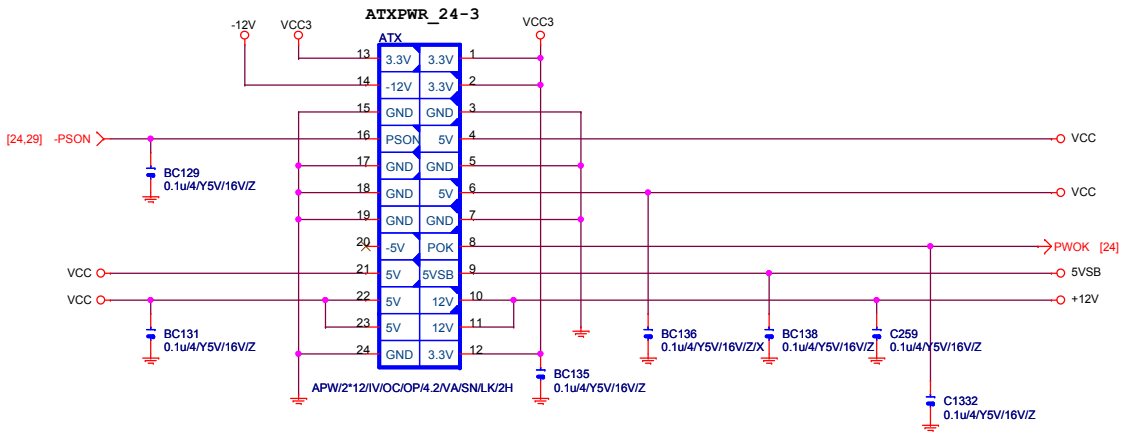
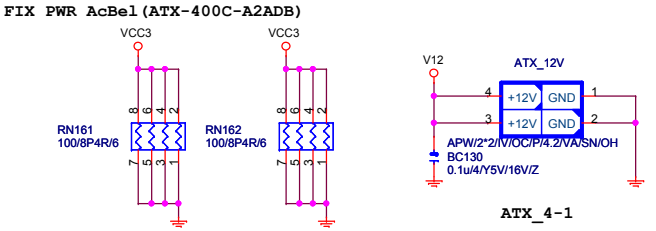
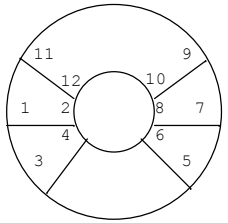
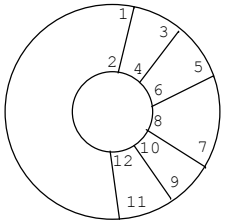
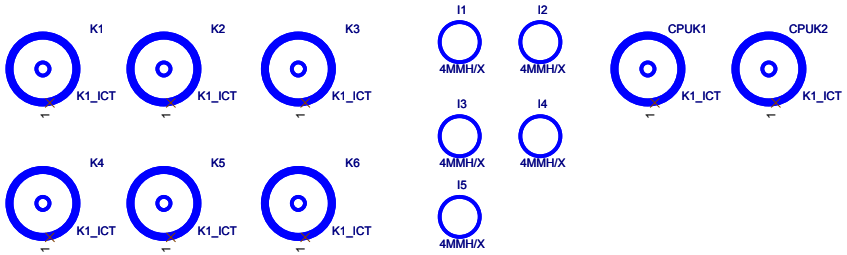
ATX POWER CONNECTOR

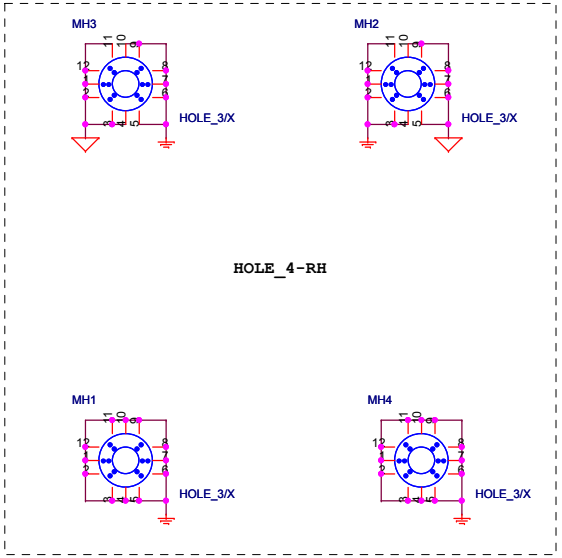


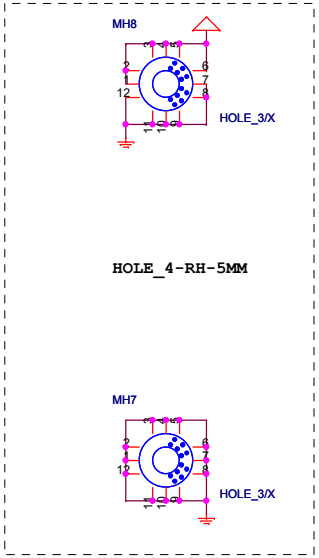


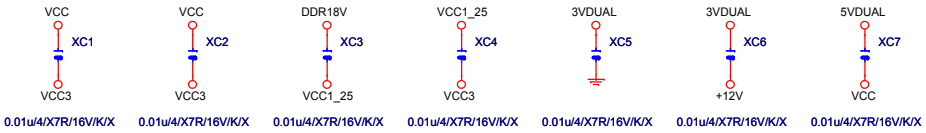












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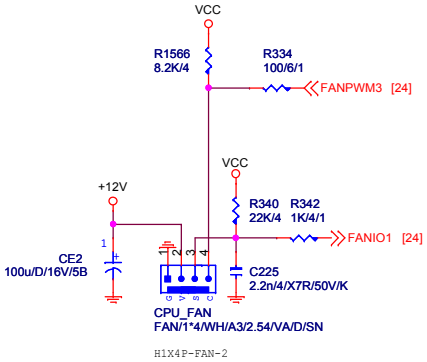
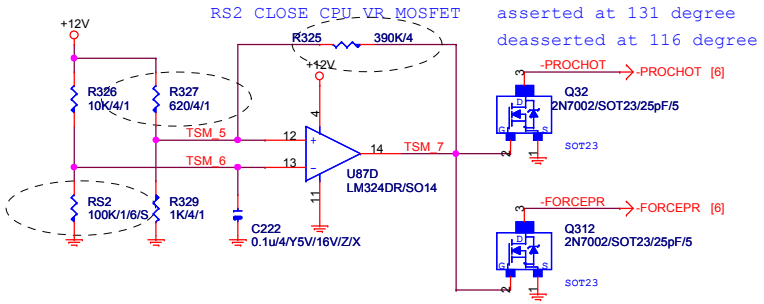
CPU SMART FAN

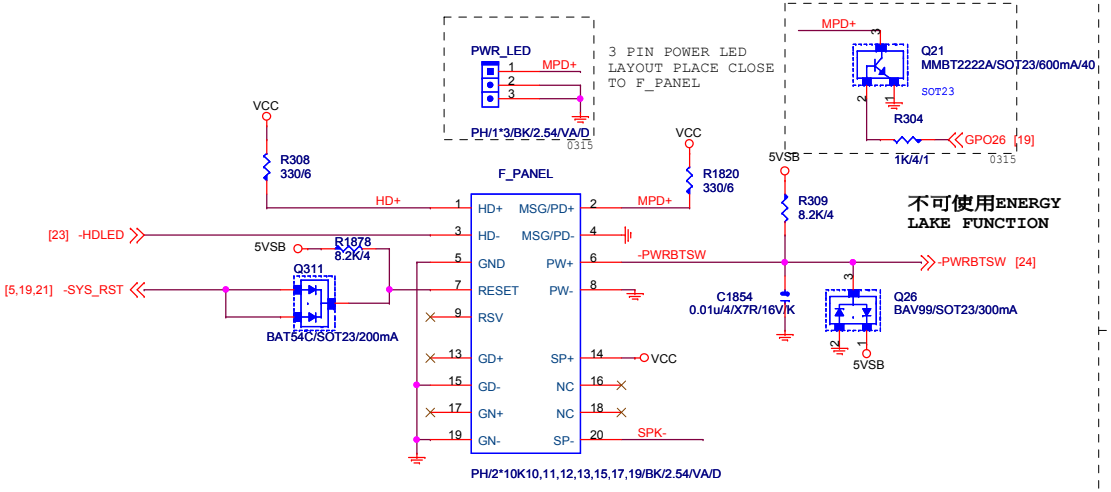
SMART FAN



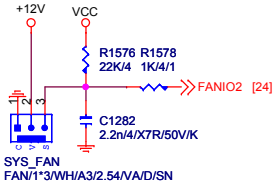
PROCESSOR HOT



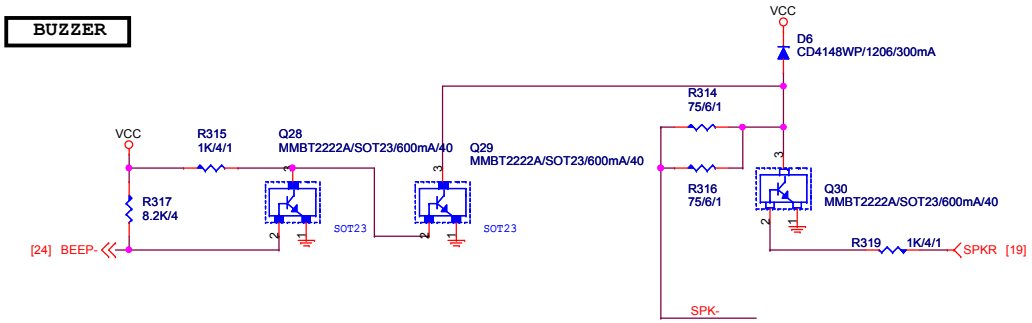
INTEL FRONT PANEL



SYS_FAN



BUZZER



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PCIE-1G LAN

RTL8111C

3VDUAL VDD15

LR23 1/6 LR36 1/6 LR26 1/6

LR33:0/6 DISABLE SWICHING REG

LBC61 0.1u/4/Y5V/16V/Z LBC62 22u/8/X5R/6.3V/M

LED_ACT_TXRX
LED_LINK100
LED_LINK1000
LAN_GPIO

[21] LAN25MCLK

LR16 2.49K/4/1

LR16:
RTL8101E-->2K/4/1
RTL8111C/8102E-->2.49K/4/1

LR20 22/4 LAN_DSM [24]

FOR DSM MODE
(DEEP SLUMBER MODE)

RSET CTRL15 AVDD33 VDD15_18 3VDUAL VDD15 VDD15

LU1

CTRL18	1	64	RSET
AVDD33	2	63	CTRL15
P_MDI0+	3	62	GVDD
P_MDI0-	4	61	CKTAL2
FB12	5	60	CKTAL1
P_MDI1+	6	59	AVDD33
P_MDI1-	7	58	VDD15
AVDD18	8	57	LED0
P_MDI2+	9	56	LED1
P_MDI2-	10	55	LED2
AVDD18	11	54	LED3
P_MDI3+	12	53	VDD33
P_MDI3-	13	52	VDD15
AVDD18	14	51	NC
VDD15	15	50	NC
3VDUAL	16	49	VDD15

VCTRL18 AVDD33 MDIP0 MDIN0 AVDD18 MDIP1 MDIN1 AVDD18 MDIP2 MDIN2 AVDD18 MDIP3 MDIN3 AVDD18 VDD15 VDD33

EESK	48	48	EESK
EEDI	47	47	EEDI_AUX
VDD33	46	46	3VDUAL
EEDO	45	45	EEDO
EECS	44	44	EECS
VDD15	43	43	VDD15
NC	42	42	
VDD1	41	41	
NC	40	40	
NC	39	39	
VDD15	38	38	VDD15
VDD33	37	37	3VDUAL
ISOLATEB	36	36	ISOLATEB
NC	35	35	
NC	34	34	
VDD15	33	33	

EGND NC NC LANWAKEB PERSTB VDD15 VDD18 HSIP HSIN EGND REFCLK_P REFCLK_N EVDD18 HSOP HSON EGND VDD15

65 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

RTL8111C-VCO-GR/QFN64

LC9 0.01u/4/X7R/16V/K/X
FOR EMI

LR10 100/4/1/X VCC3 LR17 1K/4/1 ISOLATEB [24]

LR18 15K/4/1

[14,19,22] -PCIE_WAKE
[24] -PFMRST1
[18] ML_OP
[18] ML_ON
[21] SRCCLK_LAN
[21] -SRCCLK_LAN
[18] ML_IP
[18] ML_IN

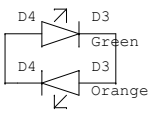
LC3 0.1u/4/X7R/16V/K
LC4 0.1u/4/X7R/16V/K

CLOSE LAN CHIP

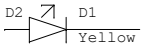
LED_GREEN LED_LINK100

-PFMRST1 LBC34 100p/4/NPO/50V/J/X

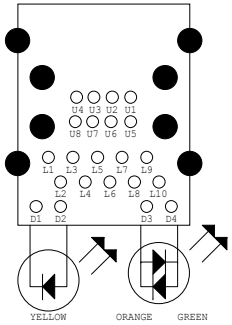
Dual Color LED



Single Color LED



P35-152-19W9



3VDUAL

LEC7 100u/D/10V/57 LBC35 0.1u/4/Y5V/16V/Z/X LBC36 0.1u/4/Y5V/16V/Z/X LBC51 0.1u/4/Y5V/16V/Z

CTRL15 LFB9 0/8/X VDD15 AVDD18

VDD15 LFB8 0/8

LBC49 4.7u/8/Y5V/10V/Z

LBC44 0.1u/4/Y5V/16V/Z LBC45 0.1u/4/Y5V/16V/Z LBC46 0.1u/4/Y5V/16V/Z LBC47 0.1u/4/Y5V/16V/Z LBC48 0.1u/4/Y5V/16V/Z LBC50 0.1u/4/Y5V/16V/Z

3VDUAL AVDD33

LFB6 0/8/SHT/X

LBC53 0.1u/4/Y5V/16V/Z

LL1/LFB10 CO-LAYOUT CLOSE

LFB10 0/8/X

CHOKE4U7-500MA

LL1 4.7uH/1A/[10LC3-5A470B-01R]

CTRL18

LR32 CLOSE LBC63/64

LR32 0/6/SHT/X

FB12

LL1/LBC64/LBC63
CLOSE LU1 PIN1

LBC63 0.1u/4/Y5V/16V/Z LBC64 22u/8/X5R/6.3V/M

RTL8102E LFB11-->X

AVDD18 LFB7 0/8 LFB11 0/8 VDD18

LBC54 0.1u/4/Y5V/16V/Z LBC55 0.1u/4/Y5V/16V/Z LBC56 0.1u/4/Y5V/16V/Z LBC57 0.1u/4/Y5V/16V/Z LBC59 1u/6/Y5V/10V/Z LBC58 4.7u/8/Y5V/10V/Z

FOR 93C56 OR BIOS DETECT
RTL8102E -->X

LR35 8.2K/4/X 3VDUAL LU2

EECS EESK EEDI_AUX EEDO

CS SK DI DO VCC DC ORG GND

AT93C46-10SU-2.7/S/X

LR19 3.6K/4 3VDUAL

3VDUAL LBC60 0.1u/4/Y5V/16V/Z/X

USB_LAN CONNECTOR

RTL8101E:LR38/LC5/LR43/LC6-->O
RTL8102E:LC5/LC6-->O
RTL8111C:LC6-->O

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

RTL8102E -->X

AVDD18 LR38 1/6/X LC5 0.1u/4/Y5V/16V/Z/X

P_MDI0+ P_MDI0- P_MDI1+ P_MDI1- P_MDI2+ P_MDI2- P_MDI3+ P_MDI3-

LR39 49.9/6/1/X LR40 49.9/6/1/X LR41 49.9/6/1/X LR42 49.9/6/1/X

LC7 0.01u/4/X7R/16V/K/X LC8 0.01u/4/X7R/16V/K/X

AVDD18 LR43 1/6/X LC6 0.01u/4/X7R/16V/K

CLOSE LAN CHIP

1G:LC6=0.01u/4/X7R/16V/K
100M:LC6=0.1u/4/Y5V/16V/Z

USB_LAN

L1 L2 L3 L4 L5 L6 L7 L8 L9 L10

UP
DOWN

D1 LED_ACT_TXRX
D2 LR13 150/6
D3 LED_GREEN LR14 150/6
D4 LED_LINK1000 LR15 150/6

U1 U2 U3 U4 U5 U6 U7 U8

P4- P4+ P5- P5+

USB+LAN/1G/GO,Y/OS/RA/D/8C

3VDUAL

LFB4 0/6/SHT/X

LBC33 0.1u/6/Y5V/25V/Z/X

FUSEVCC

LBC26 0.1u/6/Y5V/25V/Z/X

USB_LAN

EMI LR28 0/6/SHT/X

FUSEVCC

LR6 150K/4

-USBOC_R [18]

LEC2 1000u/D/6.3V/8C/36m LR7 270K/4

P4+ P4- P5+ P5-

+USBP4 [18]
-USBP4 [18]
+USBP5 [18]
-USBP5 [18]

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