Model Name: GA-B75M-D3H

Revision 1.1

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 1,2
08	DDR III CHANNEL B 1,2
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*4 SLOT
16	PCI SLOT1,2
17	ITE 8728 LPC IO
18	COM,KB_MS_USB,USB30_20
19	HWM,FAN CTRL,OV,-PROCHOT
20	DUAL BIOS
21	FP,FUSB,SPK,SATALED
22	Realtek ALC887-VD2
23	REAR AUDIO JACK
24	REALTEK RTL8111F-VL
25	DISCRETE POWER
26	ATX,CLK GEN
27	RT8120_CPU_VTT

SHEET	TITLE
28	VCORE ISL95836_1
29	VCORE ISL95836_2
30	RT8120_DDR POWER
31	LPT,TPM,M3 POWER
32	HDMI,DVI

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Title	Cover Sheet	
Size: Custom	Document Number: GA-B75M-D3H	Rev: 1.1
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Model Name: GA-B75M-D3H

Revision 1.1

Component value change history

2012/06/01

Data	Change Item	Reason
2011/12/05	LAN Change Realtek RTL8111E	
2011/12/22	Modify to R0.2	
	ADD M3 Power	
2012/01/16	Modify to R1.0	
2012/04/26	FIX ISL95836 OVP ISSUE	9MB75MD3H-00-10C
	Modify R23, R22 (75K/15K)	
2012/05/28	Update to Rev1.1	
	F.B. 60 Ohm 0603 down size to 0402	
	ATX12V 2x2 -> 2x4	
	PWOK ADD 4.7u MLCC	
2012/05/31	PWOK ADD 0ohm Resistance	
2012/06/01	Update ATX Footprint "ATXPWR_24-6"	

Circuit or PCB layout change

DATE	Change Item	Reason

Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-B75M-D3H | Rev: 1.1

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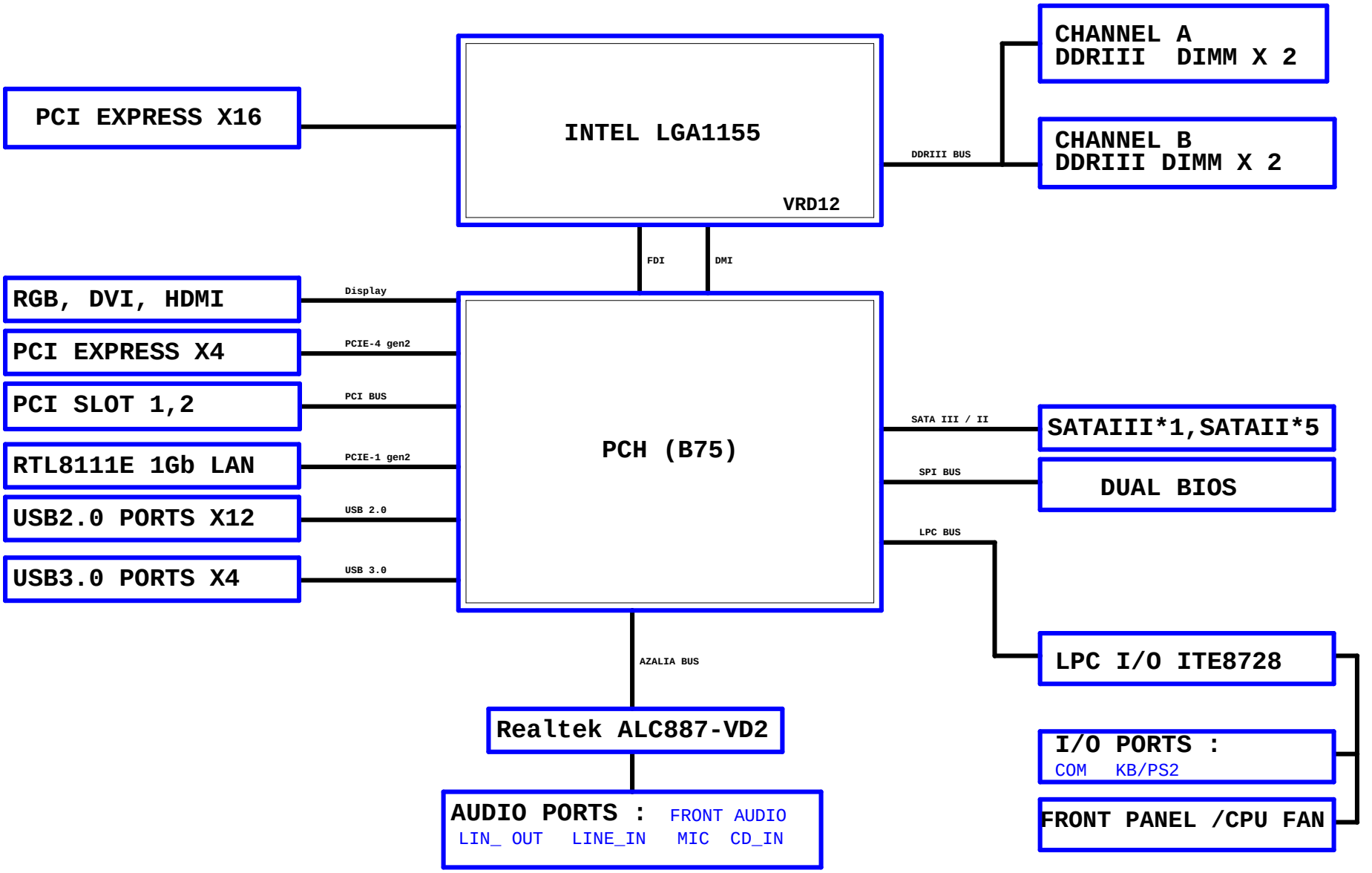
BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-B75M-D3H	Rev: 1.1
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LGA1155 (E)

LGA1155E

CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	**NORM**	**Reverse**	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD	RSVD	RSVD

CFG6	CFG5	PCIE CONFIG
1	1	1X16 , Default
1	0	2X8
0	1	RSVD
0	0	X8,X4,X4

CFG 0-17 all internal PULL-UP

DRAM_PWROK — BC81 22p/4/NPO/50V/J/X

CPUPWROK — C2 1n/4/X7R/50V/K/X **FOR EMI**

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LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]

LGA1155 (C)

LGA1155C

PEG

DMI

GEN

3 OF 10

LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]

EXP_A_TXP[0..15] [14]
EXP_A_TXN[0..15] [14]
EXP_A_RXP[0..15] [14]
EXP_A_RXN[0..15] [14]

LGA1155 (D)

LGA1155D

FDI LINK

4 OF 10

LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]

FDI_TXP[0..7] [9]
FDI_TXN[0..7] [9]

-CPURST

3VDUAL — R218 1K/4/1

VCC3 — R215 200/4/1

1.1V分壓

CPURST — R216 100/4/1, BC98 1n/4/X7R/50V/K

R217 8.2K/4

[17] -PFMRST1

Q33 MMBT2222A/SOT23/600mA/40

Q34 MMBT2222A/SOT23/600mA/40

CPU PU/PD

CPU_VTT — R204 1K/4/1 -THRMTRIP; R120 1K/4/1 -PROCHOT; CPUPWROK; R146 1K/4/1

RN5 51/8P4R/4: TDI, TDO, TMS, -HPRDY

R165 51/4/1 TCK; R164 51/4/1 -TRST

CPU SVID

CPU_VTT — R116 90.9/4/1/X VIDSLCK; R117 100/4/1 VIDSOUT; R118 100/4/1 -VIDALRT

BC180 1u/4/X5R/6.3V/K

SM REF

DDR_15V — R193 100/4/1

SM_VREF — R190 100/4/1; C79 0.1u/4/X7R/16V/K

Title	CPU LGA1155-A
Size	Custom
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LGA1155 (A)

LGA1155A

DDR_0

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LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]

LGA1155 (B)

LGA1155B

DDR_1

2 OF 10

LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]

BC80 0.1u/4/X7R/16V/K

BC82 0.1u/4/X7R/16V/K

LGA1155 (CR)

CR
CPU RETAINTION/X

LGA1155_P

ILM_BP/1156/CSP/ILM_BP/1156/CSP/[12KRC-0F0001-05R_12KRC-0F0001-31R]

Gigabyte Technology

Title	CPU LGA1156-B		
Size: Custom	Document Number: GA-B75M-D3H		Rev: 1.1
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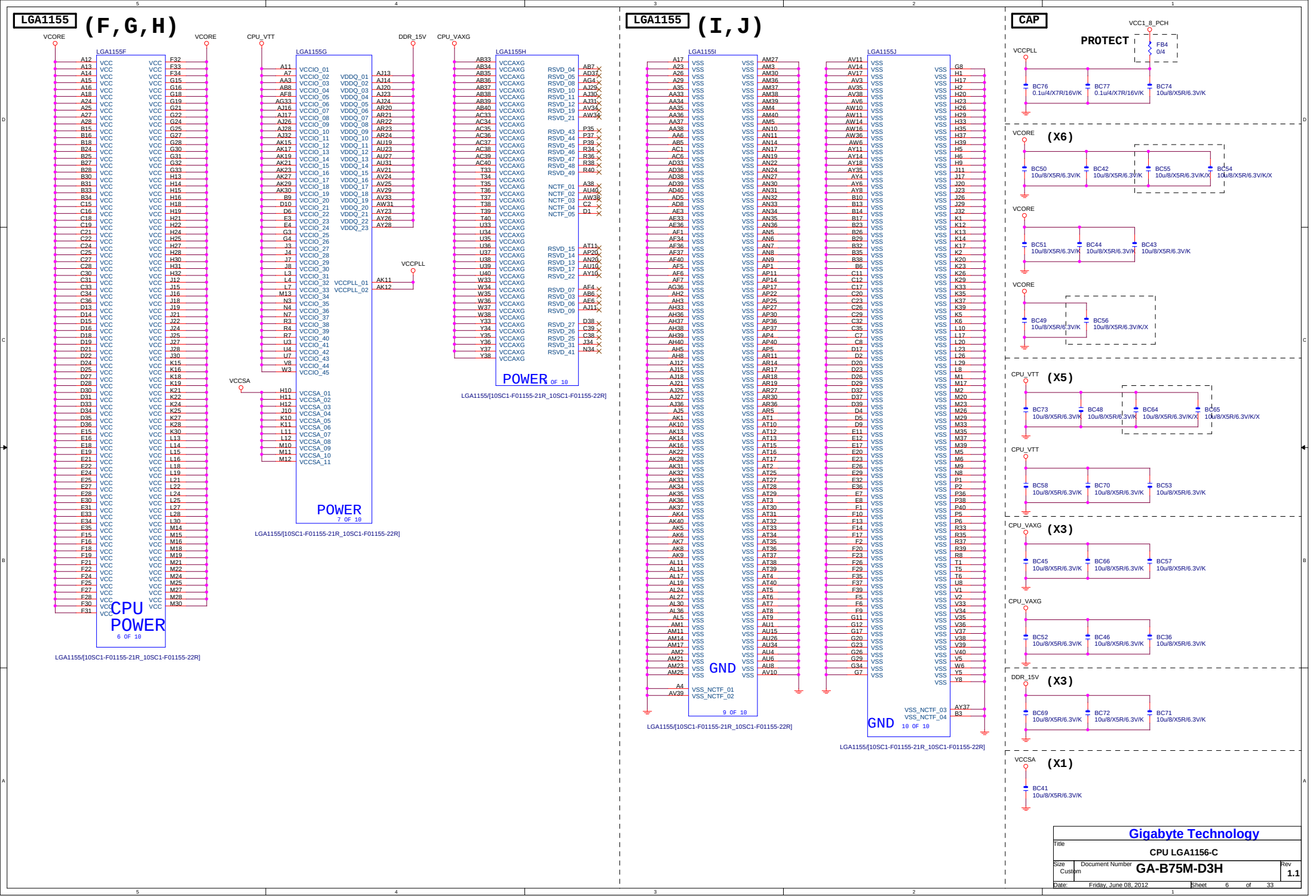
LGA1155 (F,G,H)
LGA1155F
CPU POWER
6 OF 10
LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]
LGA1155G
POWER
7 OF 10
LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]
LGA1155H
POWER
8 OF 10
LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]
LGA1155 (I,J)
LGA1155I
GND
9 OF 10
LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]
LGA1155J
GND
10 OF 10
LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]
CAP
PROTECT
BC76 0.1u/4/X7R/16V/K
BC77 0.1u/4/X7R/16V/K
BC74 10u/8/X5R/6.3V/K
(X6)
BC50 10u/8/X5R/6.3V/K
BC42 10u/8/X5R/6.3V/K
BC55 10u/8/X5R/6.3V/K/X
BC54 10u/8/X5R/6.3V/K/X
BC51 10u/8/X5R/6.3V/K
BC44 10u/8/X5R/6.3V/K
BC43 10u/8/X5R/6.3V/K
BC49 10u/8/X5R/6.3V/K
BC56 10u/8/X5R/6.3V/K/X
(X5)
BC73 10u/8/X5R/6.3V/K
BC48 10u/8/X5R/6.3V/K
BC64 10u/8/X5R/6.3V/K/X
BC65 10u/8/X5R/6.3V/K/X
BC58 10u/8/X5R/6.3V/K
BC70 10u/8/X5R/6.3V/K
BC53 10u/8/X5R/6.3V/K
(X3)
BC45 10u/8/X5R/6.3V/K
BC66 10u/8/X5R/6.3V/K
BC57 10u/8/X5R/6.3V/K
BC52 10u/8/X5R/6.3V/K
BC46 10u/8/X5R/6.3V/K
BC36 10u/8/X5R/6.3V/K
(X3)
BC69 10u/8/X5R/6.3V/K
BC72 10u/8/X5R/6.3V/K
BC71 10u/8/X5R/6.3V/K
(X1)
BC41 10u/8/X5R/6.3V/K
Gigabyte Technology
Title
CPU LGA1156-C
Size Custom
Document Number GA-B75M-D3H
Rev 1.1
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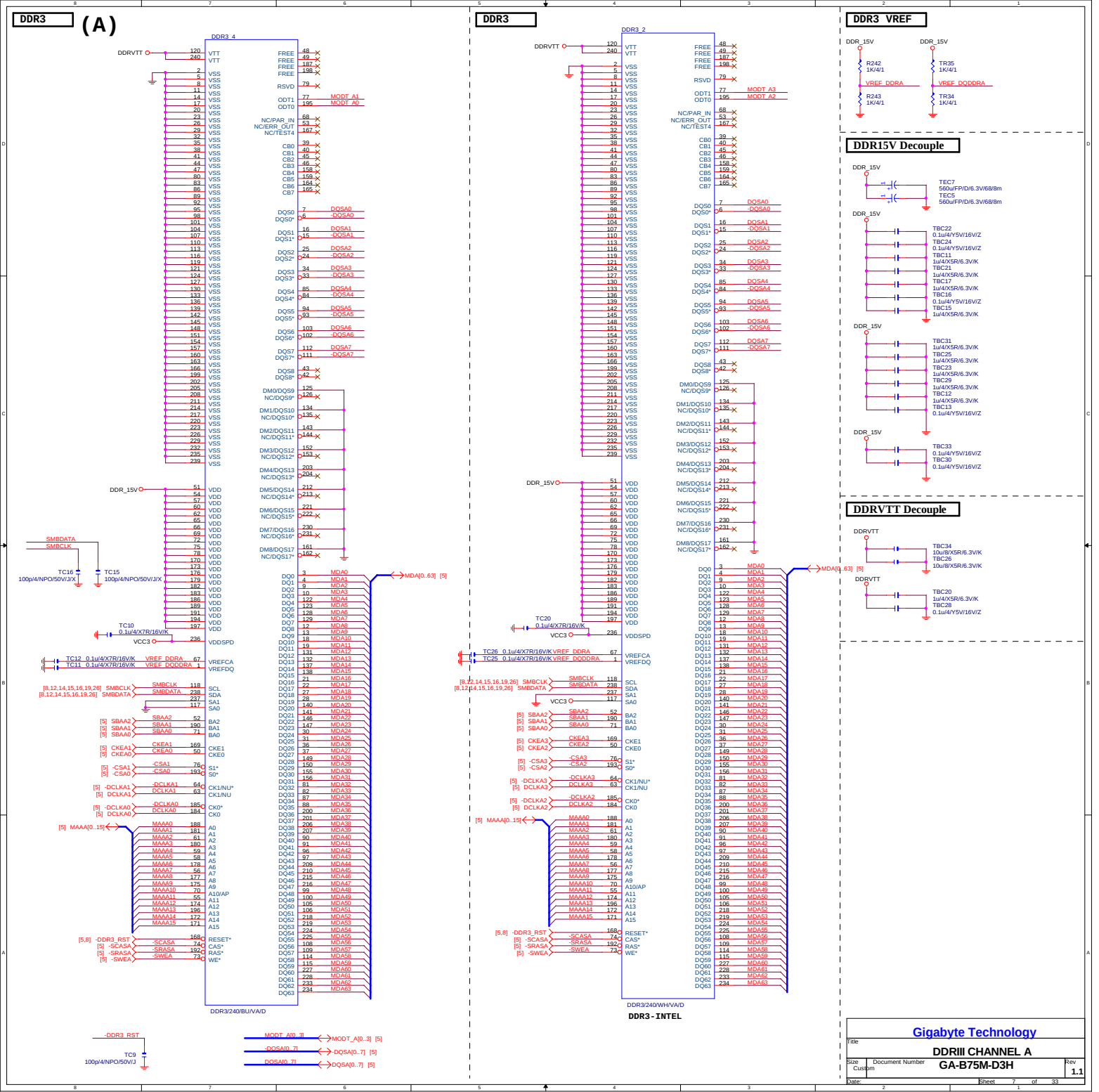
DDR3
(A)
DDR3_4
DDRVTT
DDR_15V
SMBDATA
SMBCLK
TC16
100p/4/NPO/50V/J/X
TC15
100p/4/NPO/50V/J/X
TC10
0.1u/4/X7R/16V/K
VCC3
TC12 0.1u/4/X7R/16V/K VREF_DDRA
TC11 0.1u/4/X7R/16V/K VREF_DQDDRA
[8,12,14,15,16,19,26] SMBCLK
[8,12,14,15,16,19,26] SMBDATA
[5] SBAA2
[5] SBAA1
[5] SBAA0
[5] CKEA1
[5] CKEA0
[5] -CSA1
[5] -CSA0
[5] -DCLKA1
[5] DCLKA1
[5] -DCLKA0
[5] DCLKA0
[5] MAAA[0..15]
[5,8] -DDR3_RST
[5] -SCASA
[5] -SRASA
[5] -SWEA
TC9
100p/4/NPO/50V/J
-DDR3_RST
MDQ7_A[0..3]
-DQSA[0..7]
DQSA[0..7]
MDA[0..63] [5]
DDR3/240/BU/VA/D
DDR3
DDR3_2
DDRVTT
DDR_15V
TC20
0.1u/4/X7R/16V/K
VCC3
TC26 0.1u/4/X7R/16V/K VREF_DDRA
TC25 0.1u/4/X7R/16V/K VREF_DQDDRA
[8,12,14,15,16,19,26] SMBCLK
[8,12,14,15,16,19,26] SMBDATA
VCC3
[5] SBAA2
[5] SBAA1
[5] SBAA0
[5] CKEA3
[5] CKEA2
[5] -CSA3
[5] -CSA2
[5] -DCLKA3
[5] DCLKA3
[5] -DCLKA2
[5] DCLKA2
[5] MAAA[0..15]
[5,8] -DDR3_RST
[5] -SCASA
[5] -SRASA
[5] -SWEA
MDA[0..63] [5]
DDR3/240/WH/VA/D
DDR3-INTEL
DDR3 VREF
DDR_15V
R242 1K/4/1
VREF_DDRA
R243 1K/4/1
TR35 1K/4/1
VREF_DQDDRA
TR34 1K/4/1
DDR15V Decouple
DDR_15V
TEC7 560u/FP/D/6.3V/68/8m
TEC5 560u/FP/D/6.3V/68/8m
TBC22 0.1u/4/Y5V/16V/Z
TBC24 0.1u/4/Y5V/16V/Z
TBC11 1u/4/X5R/6.3V/K
TBC21 1u/4/X5R/6.3V/K
TBC17 1u/4/X5R/6.3V/K
TBC16 0.1u/4/Y5V/16V/Z
TBC15 1u/4/X5R/6.3V/K
TBC31 1u/4/X5R/6.3V/K
TBC25 1u/4/X5R/6.3V/K
TBC23 1u/4/X5R/6.3V/K
TBC29 1u/4/X5R/6.3V/K
TBC12 1u/4/X5R/6.3V/K
TBC13 0.1u/4/Y5V/16V/Z
TBC33 0.1u/4/Y5V/16V/Z
TBC30 0.1u/4/Y5V/16V/Z
DDRVTT Decouple
DDRVTT
TBC34 10u/B/X5R/6.3V/K
TBC26 10u/B/X5R/6.3V/K
TBC20 0.1u/4/Y5V/16V/Z
TBC28 0.1u/4/Y5V/16V/Z
Gigabyte Technology
Title
DDRIII CHANNEL A
Size Custom
Document Number GA-B75M-D3H
Rev 1.1
Date:
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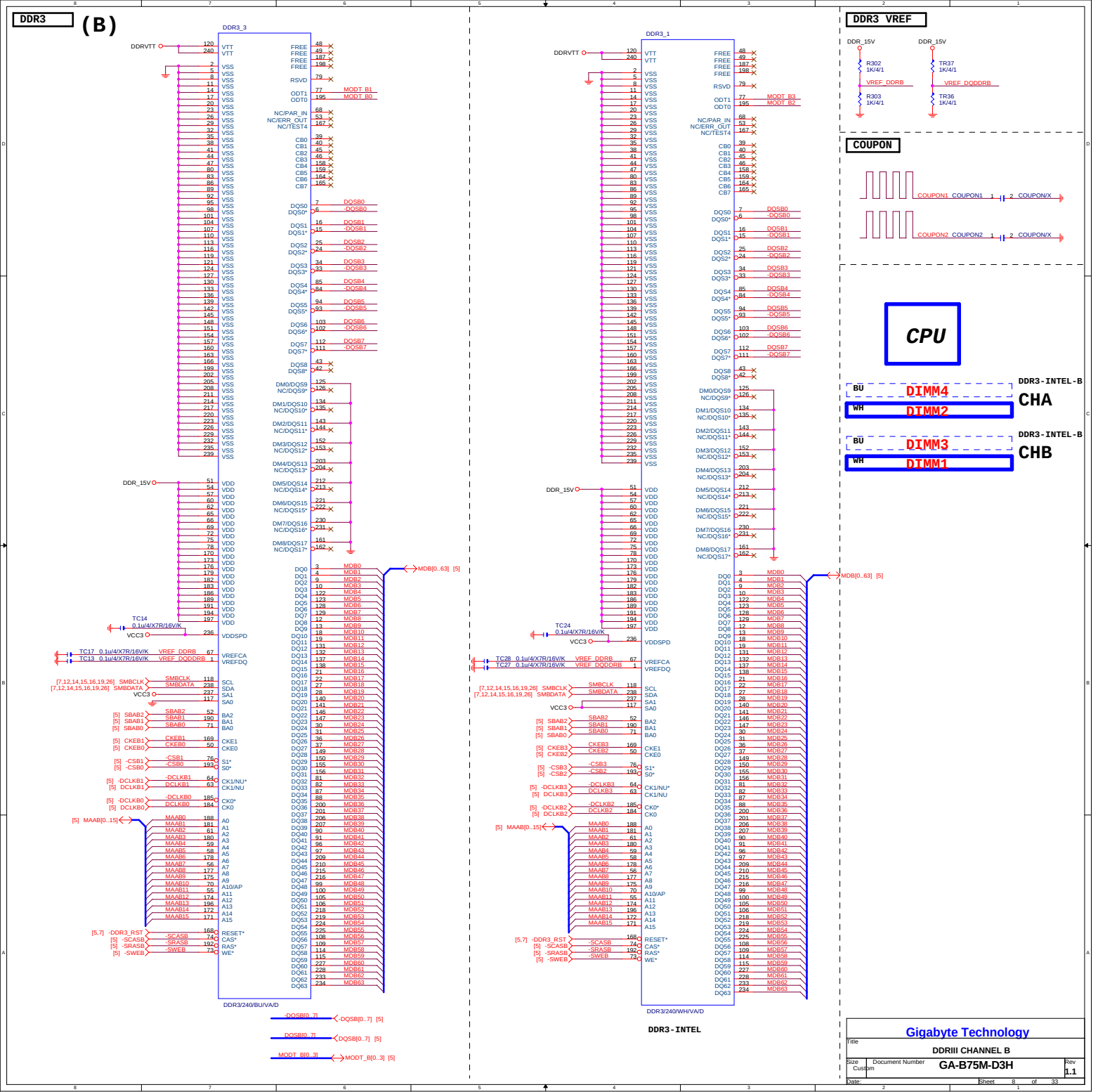
DDR3
(B)
DDR3_3
DDR3_1
DDR3 VREF
DDR_15V
R302 1K/4/1
R303 1K/4/1
VREF_DDRB
TR37 1K/4/1
TR36 1K/4/1
VREF_DQDDRB
COUPON
COUPON1 COUPON1 1 2 COUPON/X
COUPON2 COUPON2 1 2 COUPON/X
CPU
BU DIMM4
WH DIMM2
DDR3-INTEL-B
CHA
BU DIMM3
WH DIMM1
DDR3-INTEL-B
CHB
DDRVTT
DDR_15V
VTT
VDD
VSS
FREE
RSVD
ODT1
ODT0
MODT_B1
MODT_B0
NC/PAR_IN
NC/ERR_OUT
NC/TEST4
CB0
CB1
CB2
CB3
CB4
CB5
CB6
CB7
DQS0
DQS0*
DQS1
DQS1*
DQS2
DQS2*
DQS3
DQS3*
DQS4
DQS4*
DQS5
DQS5*
DQS6
DQS6*
DQS7
DQS7*
DQS8
DQS8*
DM0/DQS9
NC/DQS9*
DM1/DQS10
NC/DQS10*
DM2/DQS11
NC/DQS11*
DM3/DQS12
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DM4/DQS13
NC/DQS13*
DM5/DQS14
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DM7/DQS16
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DQ63
MDB0
MDB1
MDB2
MDB3
MDB4
MDB5
MDB6
MDB7
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MDB10
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MDB45
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MDB55
MDB56
MDB57
MDB58
MDB59
MDB60
MDB61
MDB62
MDB63
MDB[0..63] [5]
VDDSPD
VREFCA
VREFDQ
SMBCLK
SMBDATA
SA0
SA1
SCL
SDA
BA0
BA1
BA2
SBAB0
SBAB1
SBAB2
CKE0
CKE1
CKE2
CKE3
-CSB0
-CSB1
-CSB2
-CSB3
S0*
S1*
-DCLKB0
-DCLKB1
-DCLKB2
-DCLKB3
DCLKB0
DCLKB1
DCLKB2
DCLKB3
CK0*
CK1/NU*
CK1/NU
MAAB[0..15]
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10/AP
A11
A12
A13
A14
A15
-DDR3_RST
-SCASB
-SRASB
-SWEB
RESET*
CAS*
RAS*
WE*
TC14 0.1u/4/X7R/16V/K
TC17 0.1u/4/X7R/16V/K
TC13 0.1u/4/X7R/16V/K
TC24 0.1u/4/X7R/16V/K
TC28 0.1u/4/X7R/16V/K
TC27 0.1u/4/X7R/16V/K
DDR3/240/BU/VA/D
DDR3/240/WH/VA/D
DQSB[0..7]
DQSB[0..7] [5]
MODT_B[0..3]
MODT_B[0..3] [5]
DDR3-INTEL
Gigabyte Technology
Title
DDRIII CHANNEL B
Size Custom
Document Number GA-B75M-D3H
Rev 1.1
Date:
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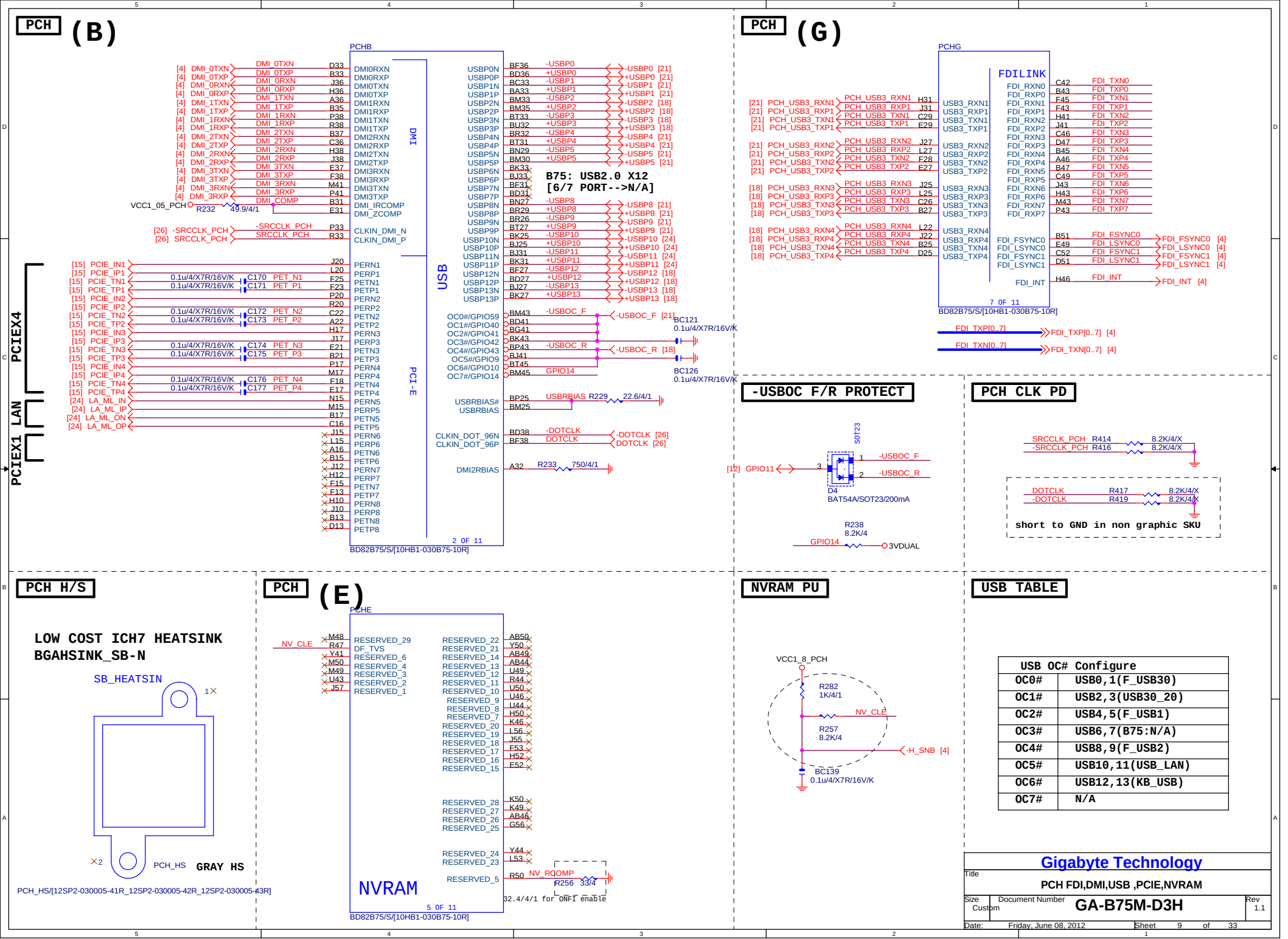
PCH (B)
PCHB
DMI
USB
PCIE
PCIEX4
PCIEX1 LAN
DMI_0TXN
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DMI_2TXP
DMI_2RXN
DMI_2RXP
DMI_3TXN
DMI_3TXP
DMI_3RXN
DMI_3RXP
DMI_COMP
VCC1_05_PCH
R232 49.9/4/1
DMI_IRCOMP
DMI_ZCOMP
-SRCCLK_PCH
SRCCLK_PCH
CLKIN_DMI_N
CLKIN_DMI_P
PCIE_IN1
PCIE_IP1
PCIE_TN1
PCIE_TP1
PCIE_IN2
PCIE_IP2
PCIE_TN2
PCIE_TP2
PCIE_IN3
PCIE_IP3
PCIE_TN3
PCIE_TP3
PCIE_IN4
PCIE_IP4
PCIE_TN4
PCIE_TP4
LA_ML_IN
LA_ML_IP
LA_ML_ON
LA_ML_OP
0.1u/4/X7R/16V/K
C170 PET_N1
C171 PET_P1
C172 PET_N2
C173 PET_P2
C174 PET_N3
C175 PET_P3
C176 PET_N4
C177 PET_P4
PERN1
PERP1
PETN1
PETP1
PERN2
PERP2
PETN2
PETP2
PERN3
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PETP4
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PERP5
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PETP5
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PERP6
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PETP6
PERN7
PERP7
PETN7
PETP7
PERN8
PERP8
PETN8
PETP8
2 OF 11
BD82B75/S/[10HB1-030B75-10R]
USBP0N
USBP0P
USBP1N
USBP1P
USBP2N
USBP2P
USBP3N
USBP3P
USBP4N
USBP4P
USBP5N
USBP5P
USBP6N
USBP6P
USBP7N
USBP7P
USBP8N
USBP8P
USBP9N
USBP9P
USBP10N
USBP10P
USBP11N
USBP11P
USBP12N
USBP12P
USBP13N
USBP13P
-USBP0
+USBP0
-USBP1
+USBP1
-USBP2
+USBP2
-USBP3
+USBP3
-USBP4
+USBP4
-USBP5
+USBP5
B75: USB2.0 X12
[6/7 PORT-->N/A]
-USBP8
+USBP8
-USBP9
+USBP9
-USBP10
+USBP10
-USBP11
+USBP11
-USBP12
+USBP12
-USBP13
+USBP13
OC0#/GPIO59
OC1#/GPIO40
OC2#/GPIO41
OC3#/GPIO42
OC4#/GPIO43
OC5#/GPIO9
OC6#/GPIO10
OC7#/GPIO14
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-USBOC_R
BC121
BC126
0.1u/4/X7R/16V/K
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USBRBIAS
USBRBIAS R229 22.6/4/1
CLKIN_DOT_96N
CLKIN_DOT_96P
-DOTCLK
DOTCLK
DMI2RBIAS
R233 750/4/1
PCH (G)
PCHG
FDILINK
FDI_RXN0
FDI_RXP0
FDI_RXN1
FDI_RXP1
FDI_RXN2
FDI_RXP2
FDI_RXN3
FDI_RXP3
FDI_RXN4
FDI_RXP4
FDI_RXN5
FDI_RXP5
FDI_RXN6
FDI_RXP6
FDI_RXN7
FDI_RXP7
FDI_FSYNC0
FDI_LSYNC0
FDI_FSYNC1
FDI_LSYNC1
FDI_INT
7 OF 11
BD82B75/S/[10HB1-030B75-10R]
FDI_TXP[0..7]
FDI_TXN[0..7]
-USBOC F/R PROTECT
GPIO11
SOT23
D4
BAT54A/SOT23/200mA
R238 8.2K/4
GPIO14
3VDUAL
PCH CLK PD
SRCCLK_PCH R414 8.2K/4/X
-SRCCLK_PCH R416 8.2K/4/X
DOTCLK R417 8.2K/4/X
-DOTCLK R419 8.2K/4/X
short to GND in non graphic SKU
PCH H/S
LOW COST ICH7 HEATSINK
BGAHSINK_SB-N
SB_HEATSIN
PCH_HS
GRAY HS
PCH_HS/[12SP2-030005-41R_12SP2-030005-42R_12SP2-030005-43R]
PCH (E)
PCHE
NV_CLE
RESERVED_29
DF_TVS
RESERVED_6
RESERVED_4
RESERVED_3
RESERVED_2
RESERVED_1
RESERVED_22
RESERVED_21
RESERVED_14
RESERVED_13
RESERVED_12
RESERVED_11
RESERVED_10
RESERVED_9
RESERVED_8
RESERVED_7
RESERVED_20
RESERVED_19
RESERVED_18
RESERVED_17
RESERVED_16
RESERVED_15
RESERVED_28
RESERVED_27
RESERVED_26
RESERVED_25
RESERVED_24
RESERVED_23
RESERVED_5
NVRAM
NV_ROOMP
R256 33/4
32.4/4/1 for ONFI enable
5 OF 11
BD82B75/S/[10HB1-030B75-10R]
NVRAM PU
VCC1_8_PCH
R282 1K/4/1
NV_CLE
R257 8.2K/4
-H_SNB [4]
BC139 0.1u/4/X7R/16V/K
USB TABLE
USB OC# Configure
OC0# USB0,1(F_USB30)
OC1# USB2,3(USB30_20)
OC2# USB4,5(F_USB1)
OC3# USB6,7(B75:N/A)
OC4# USB8,9(F_USB2)
OC5# USB10,11(USB_LAN)
OC6# USB12,13(KB_USB)
OC7# N/A
Gigabyte Technology
Title
PCH FDI,DMI,USB ,PCIE,NVRAM
Size Custom
Document Number GA-B75M-D3H
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PCH (F)

PCHF

[32] DVI_HDP_F — DVI_HDP_F T1 — DDPB_HPD
[32] HDMI_HDP_F — N2 — DDPC_HPD
M1 — DDPD_HPD
R8 — DDPB_AUXP
R9 — DDPB_AUXN
U14 — DDPC_AUXP
U12 — DDPC_AUXN
N6 — DDPD_AUXP
R6 — DDPD_AUXN

[32] DVI_TX2 — DVI_TX2 R14 — DDPB_0P
[32] DVI_TX2- — DVI_TX2- R12 — DDPB_0N
[32] DVI_TX1 — DVI_TX1 M11 — DDPB_1P
[32] DVI_TX1- — DVI_TX1- M12 — DDPB_1N
[32] DVI_TX0 — DVI_TX0 H8 — DDPB_2P
[32] DVI_TX0- — DVI_TX0- K8 — DDPB_2N
[32] DVI_TXC — DVI_TXC L5 — DDPB_3P
[32] DVI_TXC- — DVI_TXC- M3 — DDPB_3N
L2 — DDPC_0P
J3 — DDPC_0N
G2 — DDPC_1P
G4 — DDPC_1N
F3 — DDPC_2P
F5 — DDPC_2N
E4 — DDPC_3P
E2 — DDPC_3N

[32] HDMI_TX2 — D5 — DDPD_0P
[32] HDMI_TX2- — B5 — DDPD_0N
[32] HDMI_TX1 — C6 — DDPD_1P
[32] HDMI_TX1- — D7 — DDPD_1N
[32] HDMI_TX0 — B7 — DDPD_2P
[32] HDMI_TX0- — C9 — DDPD_2N
[32] HDMI_TXC — E11 — DDPD_3P
[32] HDMI_TXC- — B11 — DDPD_3N

U2 — SDVO_INTP
T3 — SDVO_INTN
W3 — SDVO_STALLP
U5 — SDVO_STALLN
U8 — SDVO_TVCLKINP
U9 — SDVO_TVCLKINN

6 0F 11

CRT_HSYNC — AR4 H_SYNC R212 33/4 GHSYNC
CRT_VSYNC — AR2 V_SYNC R213 33/4 GVSYNC
CRT_RED — AN6 R
CRT_GREEN — AN2 G
CRT_BLUE — AM1 B
CRT_IRTN — AM6
CRT_DDC_DATA — AW1 DDCDATA
CRT_DDC_CLK — AW3 DDCCLK
DAC_IREF — AT3 VGA_RSET R211 1K/4/1
Pop 0/4 for non graphic skus

TP6 Y18
TP7 Y17
TP8 AB18
TP9 AB17

DDPC_CTRLCLK — AL12
DDPC_CTRLDATA — AL14
DDPD_CTRLCLK — AL9 — DDPD_CTRLCLK [32]
DDPD_CTRLDATA — AL8 — DDPD_CTRLDATA [32]
SDVO_CTRLCLK — AL15 DDPB_CTRLCLK — DDPB_CTRLCLK [32]
SDVO_CTRLDATA — AL17 DDPB_CTRLDATA — DDPB_CTRLDATA [32]

BD82B75/S/[10HB1-030B75-10R]

PCH (F)

PCHH

[31] TPMCLK — R458 33/4 — AT11 CLKOUT_PCI0
[17] LPC33 — R201 33/4 — AN14 CLKOUT_PCI1
[11] PCH33 — R405 33/4 — AT12 CLKOUT_PCI2
[16] PCLK0 — R453 33/4 — AT17 CLKOUT_PCI3
[16] PCLK1 — R454 33/4 — AT14 CLKOUT_PCI4

Flex0,2 : 33MHZ
Flex1,3 : 27/14/24/48/25MHZ

AT9 CLKOUTFLEX0/GPIO64
BA5 CLKOUTFLEX1/GPIO65
AW5 CLKOUTFLEX2/GPIO66
BA2 CLKOUTFLEX3/GPIO67

[17] LPCCLK48 — R209 33/4 PCH_48M — native 48mhz

VCC1_05_PCH — R206 90.9/4/1 CLK_RCOMP — AL2 XCLK_RCOMP
[26] PCHCLK14 — PCHCLK14 — AN8 REFCLK14IN

XTALO_PCH — AJ5 XTAL25_OUT
XTALI_PCH — AJ3 XTAL25_IN

XTALI_PCH — R197 1M/4 — X1 — XTALO_PCH
25M/20p/30ppm/49US/20/D
C81 27p/4/NPO/50V/J
C82 27p/4/NPO/50V/J

CLKIN_GND1_N — R27 -PCHCLK
CLKIN_GND1_P — P27 PCHCLK
CLKIN_GND0_N — W53 -CLK_GND
CLKIN_GND0_P — V52 CLK_GND
CLKOUT_ITPXDP_N — R52 -CLK_ITP — -ITPCLK [4]
CLKOUT_ITPXDP_P — N52 CLK_ITP — ITPCLK [4]
CLKOUT_PCIE7N — AE2
CLKOUT_PCIE7P — AF1
CLKOUT_DMI_N — P31 -CLK_CPU — -CPUCLK [4]
CLKOUT_DMI_P — R31 CLK_CPU — CPUCLK [4]
CLKOUT_DP_N — N56
CLKOUT_DP_P — M55
CLKOUT_PCIE0N — AE6
CLKOUT_PCIE0P — AC6
CLKOUT_PCIE1N — AA5 -SRCCLK1 — -SRCCLK_PCIEX4 [15]
CLKOUT_PCIE1P — W5 SRCCLK1 — SRCCLK_PCIEX4 [15]
CLKOUT_PCIE2N — AB12
CLKOUT_PCIE2P — AB14
CLKOUT_PCIE3N — AB9 -SRCCLK3 — LA_-SRCCLK_LAN [24]
CLKOUT_PCIE3P — AB8 SRCCLK3 — LA_SRCCLK_LAN [24]
CLKOUT_PCIE4N — Y9
CLKOUT_PCIE4P — Y8
CLKOUT_PCIE5N — AF3
CLKOUT_PCIE5P — AG2
CLKOUT_PCIE6N — AB3
CLKOUT_PCIE6P — AA2
CLKOUT_PEG_A_N — AG8 -SRCCLKA — -SRCCLK_PCIEX16 [14]
CLKOUT_PEG_A_P — AG9 SRCCLKA — SRCCLK_PCIEX16 [14]
CLKOUT_PEG_B_N — AE12
CLKOUT_PEG_B_P — AE11

8 0F 11

PCIEX4
LAN
PCIEX16 FOR OC

BD82B75/S/[10HB1-030B75-10R]

PCH CLK PD

PCHCLK14 R210 8.2K/4/X
-CLK_GND R278 8.2K/4
CLK_GND R279 8.2K/4
-PCHCLK R412 8.2K/4
PCHCLK R411 8.2K/4

VGA DDC

VCC3
R70 2.2K/4/1
R73 2.2K/4/1
DDCDATA
R68 1K/4/1
VCC
Q2 2N7002/SOT23/25pF/5
VCC
R69 2.2K/4/1
R72 2.2K/4/1
VGADDCDATA
GVSYNC
C22 100p/4/NPO/50V/J
DDCCLK
VCC
Q3 2N7002/SOT23/25pF/5
VGADDCCLK
GHSYNC
C20 100p/4/NPO/50V/J
R71 1K/4/1
SOT23

VGA CONNECTOR

FUSEVCC_R12
BC9 0.1u/4/X7R/16V/K/X
VGA
VGA_R
VGA_G
VGA_B
VGADDCDATA
GHSYNC
GVSYNC
VGADDCCLK

VGA/BU/SC/RA/D/2/HR/[11NR6-102015-R1R]

HIGH TYPE

VGA ESD

ESD3
VGADDCDATA 1 — 6 VGADDCCLK
2 — 5 VCC
GHSYNC 3 — 4 GVSYNC
AOZ8902CIL/SOT23-6
SSOP6_ESD

ESD4
1 — 6 R
2 — 5 VCC3
B 3 — 4 G
AOZ8902CIL/SOT23-6

VGA DDC

R
G
B
FB1 60/4/3A/S — VGA_R
FB2 60/4/3A/S — VGA_G
FB3 60/4/3A/S — VGA_B
R53 75/4/1
R55 75/4/1
R54 75/4/1
C17 C18 C19
10p/4/NPO/50V/J
10p/4/NPO/50V/J
10p/4/NPO/50V/J
C13 C14 C15
22p/4/NPO/50V/J
22p/4/NPO/50V/J
22p/4/NPO/50V/J

Close to Filter

Gigabyte Technology

Title	PCH DISPLAY ,CLK BUFFER	
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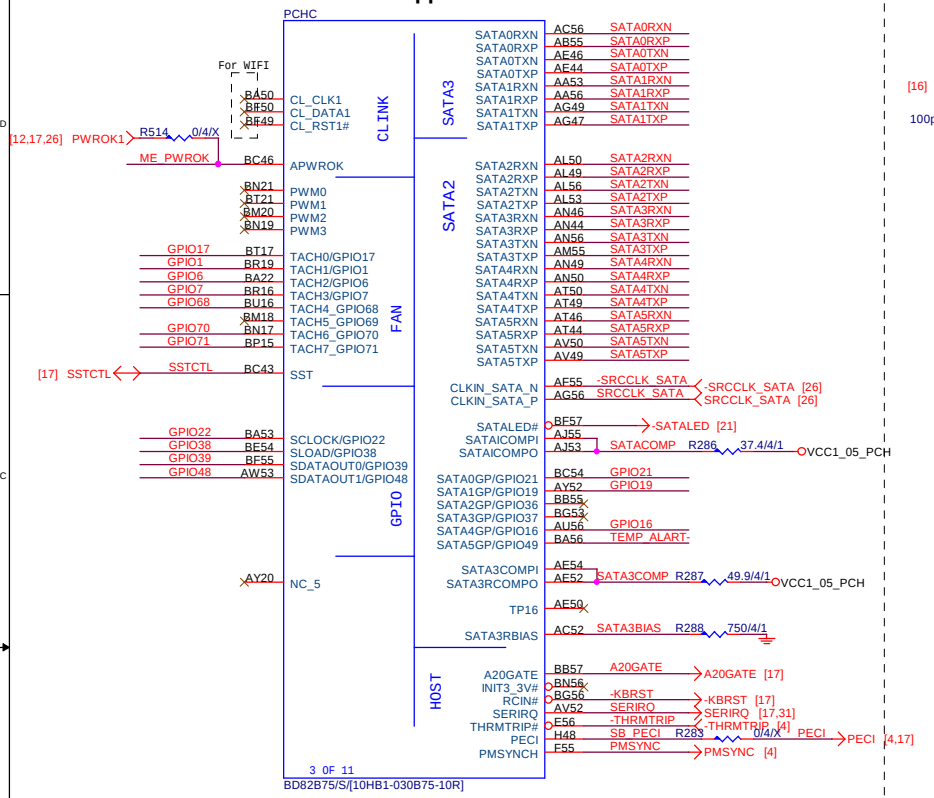
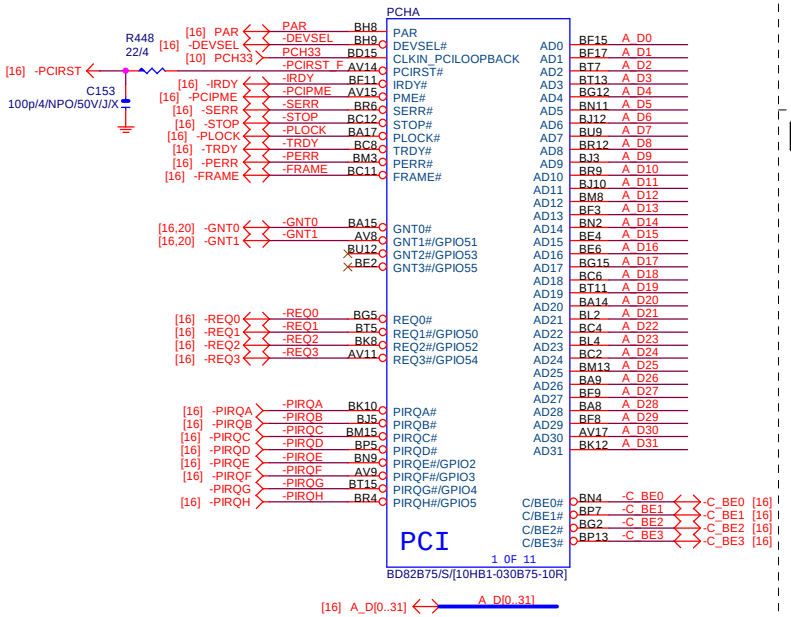
PCH (C)

B75 SATA3.0 ONLY PORT0
B75 Not Support RAID

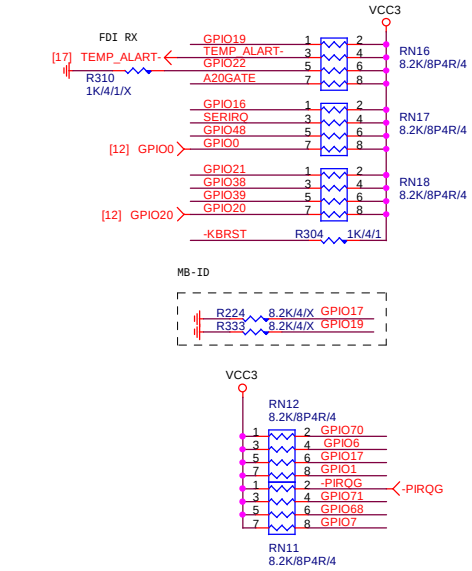


PCH (A)

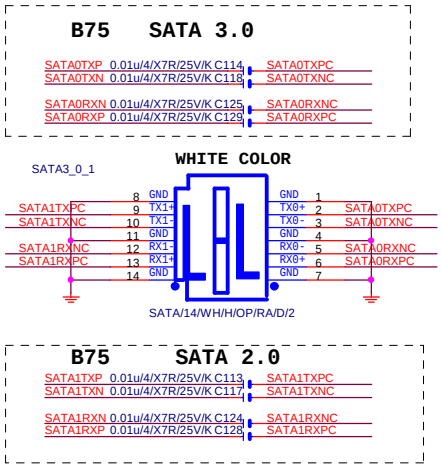


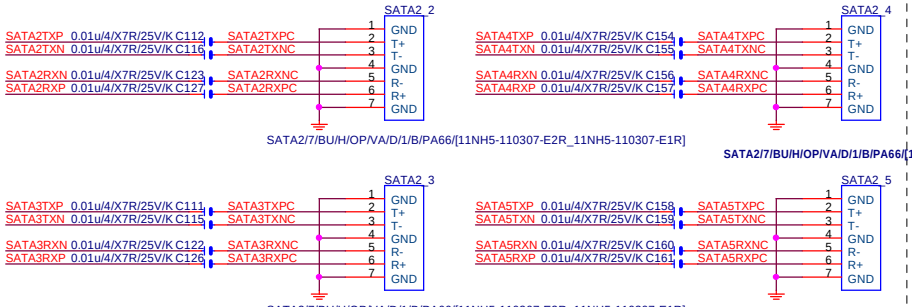
PCH CLK PD

PCH PU/PD

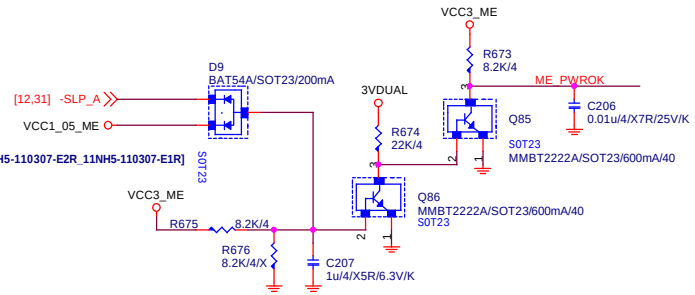


SATA CONNECTOR H1X7-SATA2-HS-MASK





ME PWROK



Gigabyte Technology

Title	PCH HOST , SATA, PCI	
Size: Custom	Document Number: GA-B75M-D3H	Rev: 1.1
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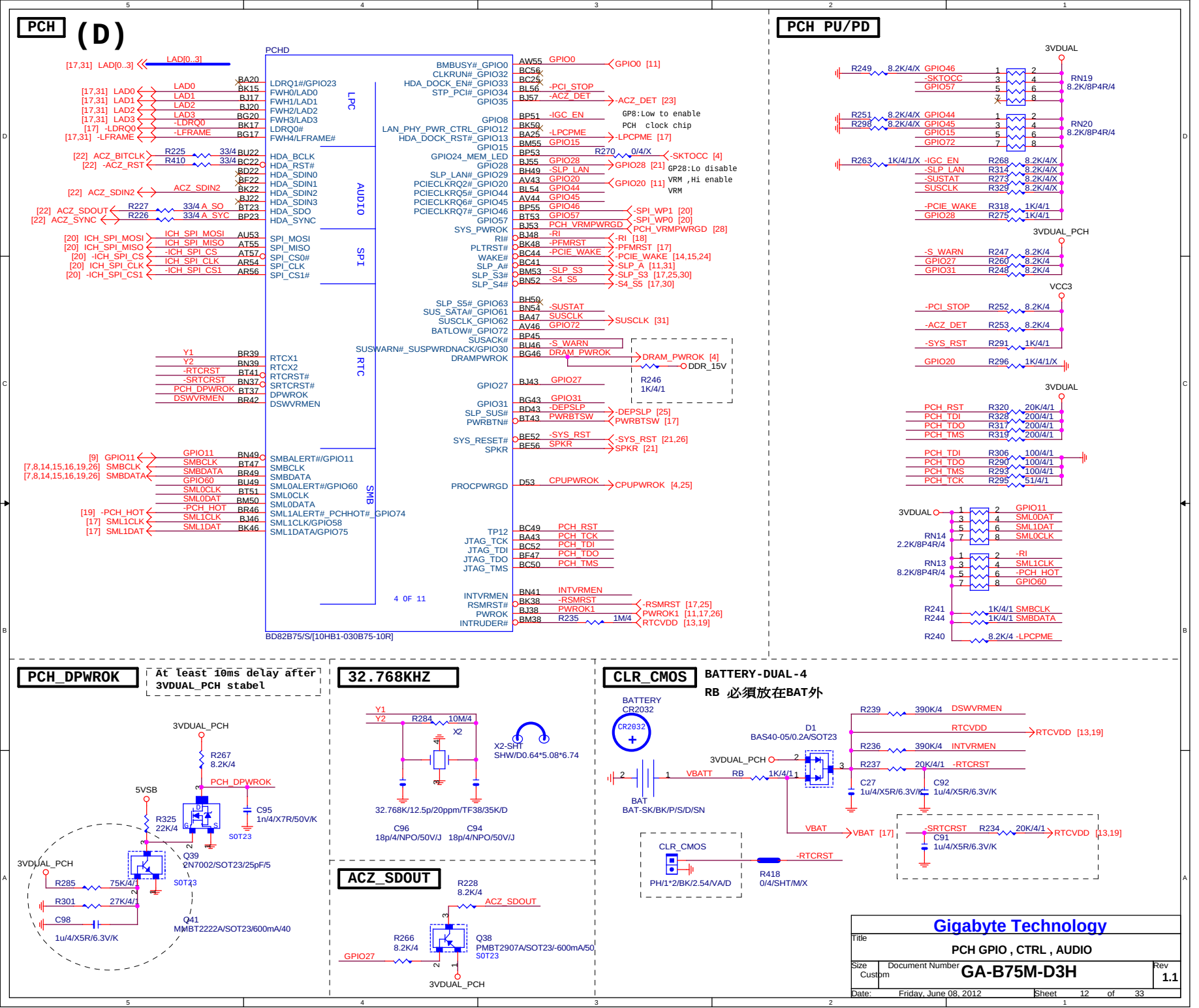
PCH (D)
PCHD
LAD[0..3]
[17,31] LAD[0..3]
LPC
AUDIO
SPI
RTC
SMB
LDRQ1#/GPIO23
FWH0/LAD0
FWH1/LAD1
FWH2/LAD2
FWH3/LAD3
LDRQ0#
FWH4/LFRAME#
HDA_BCLK
HDA_RST#
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDO
HDA_SYNC
SPI_MOSI
SPI_MISO
SPI_CS0#
SPI_CLK
SPI_CS1#
RTCX1
RTCX2
RTCRST#
SRTCRST#
DPWROK
DSWVRMEN
SMBALERT#/GPIO11
SMBCLK
SMBDATA
SML0ALERT#/GPIO60
SML0CLK
SML0DATA
SML1ALERT#_PCHHOT#_GPIO74
SML1CLK/GPIO58
SML1DATA/GPIO75
BMBUSY#_GPIO0
CLKRUN#_GPIO32
HDA_DOCK_EN#_GPIO33
STP_PCI#_GPIO34
GPIO35
GPIO8
LAN_PHY_PWR_CTRL_GPIO12
HDA_DOCK_RST#_GPIO13
GPIO15
GPIO24_MEM_LED
GPIO28
SLP_LAN#_GPIO29
PCIECLKRQ2#_GPIO20
PCIECLKRQ5#_GPIO44
PCIECLKRQ6#_GPIO45
PCIECLKRQ7#_GPIO46
GPIO57
SYS_PWROK
RI#
PLTRST#
WAKE#
SLP_A#
SLP_S3#
SLP_S4#
SLP_S5#_GPIO63
SUS_STAT#_GPIO61
SUSCLK_GPIO62
BATLOW#_GPIO72
SUSACK#
SUSWARN#_SUSPWRDNACK/GPIO30
DRAMPWROK
GPIO27
GPIO31
SLP_SUS#
PWRBTN#
SYS_RESET#
SPKR
PROCPWRGD
TP12
JTAG_TCK
JTAG_TDI
JTAG_TDO
JTAG_TMS
INTVRMEN
RSMRST#
PWROK
INTRUDER#
4 OF 11
BD82B75/S/[10HB1-030B75-10R]
GPIO0 [11]
-PCI_STOP
-ACZ_DET [23]
-IGC_EN
GP8:Low to enable
PCH clock chip
-LPCPME
-LPCPME [17]
GPIO15
R270 0/4/X
-SKTOCC [4]
GPIO28
GPIO28 [21]
GP28:Lo disable
-SLP_LAN
GPIO20
GPIO20 [11]
VRM ,Hi enable
VRM
GPIO44
GPIO45
GPIO46
-SPI_WP1 [20]
-SPI_WP0 [20]
GPIO57
PCH_VRMPWRGD
PCH_VRMPWRGD [28]
-RI
-RI [18]
-PFMRST
-PFMRST [17]
-PCIE_WAKE
-PCIE_WAKE [14,15,24]
-SLP_A [11,31]
-SLP_S3
-SLP_S3 [17,25,30]
-S4_S5
-S4_S5 [17,30]
-SUSTAT
SUSCLK
SUSCLK [31]
GPIO72
-S_WARN
DRAM_PWROK
DRAM_PWROK [4]
DDR_15V
R246 1K/4/1
GPIO31
-DEPSLP
-DEPSLP [25]
PWRBTSW
PWRBTSW [17]
-SYS_RST
-SYS_RST [21,26]
SPKR
SPKR [21]
CPUPWROK
CPUPWROK [4,25]
PCH_RST
PCH_TCK
PCH_TDI
PCH_TDO
PCH_TMS
INTVRMEN
-RSMRST
-RSMRST [17,25]
PWROK1
PWROK1 [11,17,26]
R235 1M/4
RTCVDD [13,19]
LAD0
LAD1
LAD2
LAD3
-LDRQ0
-LFRAME
ACZ_BITCLK
-ACZ_RST
ACZ_SDIN2
ACZ_SDOUT
ACZ_SYNC
ICH_SPI_MOSI
ICH_SPI_MISO
-ICH_SPI_CS
ICH_SPI_CLK
-ICH_SPI_CS1
Y1
Y2
-RTCRST
-SRTCRST
PCH_DPWROK
DSWVRMEN
GPIO11
SMBCLK
SMBDATA
GPIO60
SML0CLK
SML0DAT
-PCH_HOT
SML1CLK
SML1DAT
[9] GPIO11
[7,8,14,15,16,19,26] SMBCLK
[7,8,14,15,16,19,26] SMBDATA
[19] -PCH_HOT
[17] SML1CLK
[17] SML1DAT
PCH PU/PD
3VDUAL
RN19 8.2K/8P4R/4
RN20 8.2K/8P4R/4
R249 8.2K/4/X GPIO46
-SKTOCC
GPIO57
R251 8.2K/4/X GPIO44
R298 8.2K/4/X GPIO45
GPIO15
GPIO72
R263 1K/4/1/X -IGC_EN
-SLP_LAN
-SUSTAT
SUSCLK
-PCIE_WAKE
GPIO28
R318 1K/4/1
R275 1K/4/1
3VDUAL_PCH
-S_WARN
GPIO27
GPIO31
R247 8.2K/4
R260 8.2K/4
R248 8.2K/4
VCC3
-PCI_STOP
-ACZ_DET
-SYS_RST
GPIO20
R252 8.2K/4
R253 8.2K/4
R291 1K/4/1
R296 1K/4/1/X
3VDUAL
PCH_RST
PCH_TDI
PCH_TDO
PCH_TMS
PCH_TCK
R320 20K/4/1
R328 200/4/1
R317 200/4/1
R319 200/4/1
R306 100/4/1
R290 100/4/1
R293 100/4/1
R295 51/4/1
RN14 2.2K/8P4R/4
RN13 8.2K/8P4R/4
GPIO11
SML0DAT
SML1DAT
SML0CLK
-RI
SML1CLK
-PCH_HOT
GPIO60
R241 1K/4/1 SMBCLK
R244 1K/4/1 SMBDATA
R240 8.2K/4 -LPCPME
PCH_DPWROK
At least 10ms delay after 3VDUAL_PCH stabel
3VDUAL_PCH
R267 8.2K/4
PCH_DPWROK
5VSB
R325 22K/4
C95 1n/4/X7R/50V/K
SOT23
Q39 2N7002/SOT23/25pF/5
SOT23
R285 75K/4/1
R301 27K/4/1
C98 1u/4/X5R/6.3V/K
Q41 MMBT2222A/SOT23/600mA/40
32.768KHZ
Y1
Y2
R284 10M/4
X2
X2-SHT SHW/D0.64*5.08*6.74
32.768K/12.5p/20ppm/TF38/35K/D
C96 18p/4/NPO/50V/J
C94 18p/4/NPO/50V/J
ACZ_SDOUT
R228 8.2K/4
ACZ_SDOUT
R266 8.2K/4
GPIO27
Q38 PMBT2907A/SOT23/-600mA/50
SOT23
3VDUAL_PCH
CLR_CMOS
BATTERY-DUAL-4
RB 必须放在BAT外
BATTERY CR2032
CR2032
BAT
BAT-SK/BK/P/S/D/SN
VBATT
RB
1K/4/1
D1 BAS40-05/0.2A/SOT23
3VDUAL_PCH
R239 390K/4 DSWVRMEN
RTCVDD
RTCVDD [13,19]
R236 390K/4 INTVRMEN
R237 20K/4/1 -RTCRST
C27 1u/4/X5R/6.3V/K
C92 1u/4/X5R/6.3V/K
VBAT
VBAT [17]
-SRTCRST
R234 20K/4/1
RTCVDD [13,19]
C91 1u/4/X5R/6.3V/K
CLR_CMOS
PH/1*2/BK/2.54/VA/D
-RTCRST
R418 0/4/SHT/M/X
Gigabyte Technology
Title
PCH GPIO , CTRL , AUDIO
Size Custom
Document Number GA-B75M-D3H
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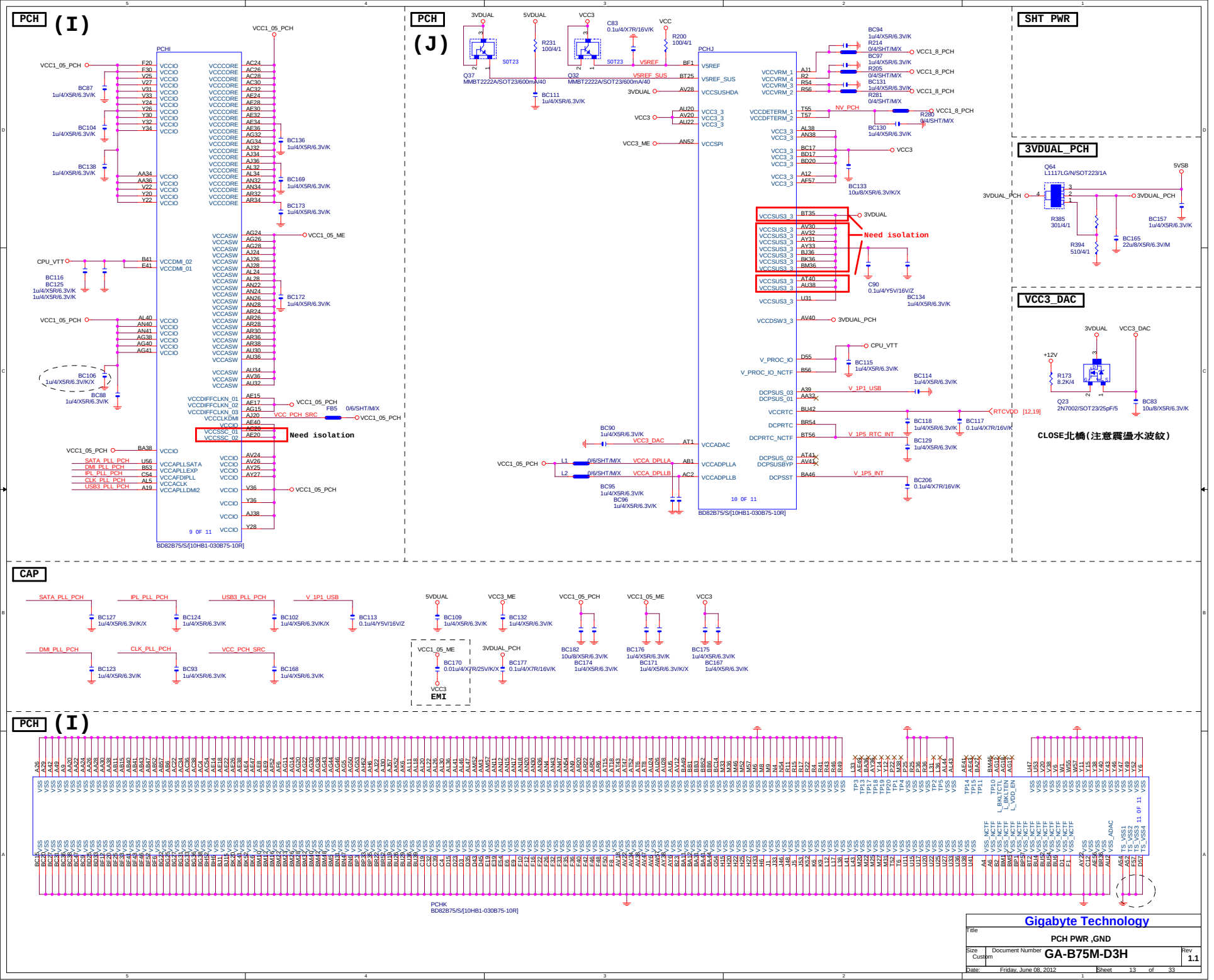
PCH (I)
PCH (J)
SHT_PWR
3VDUAL_PCH
VCC3_DAC
CAP
PCH (I)
Need isolation
Need isolation
CLOSE北橋(注意震盪水波紋)
Gigabyte Technology
PCH PWR ,GND
GA-B75M-D3H
1.1
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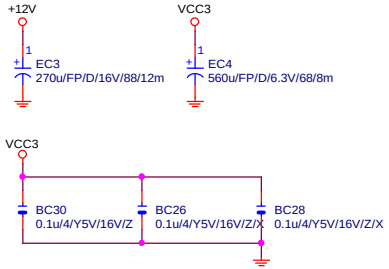
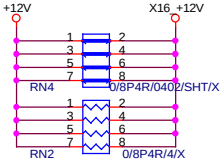
13
33

PCIEX16 CAP



PCIEX16 PROTECT SHT



PCIEX16 AC CAP

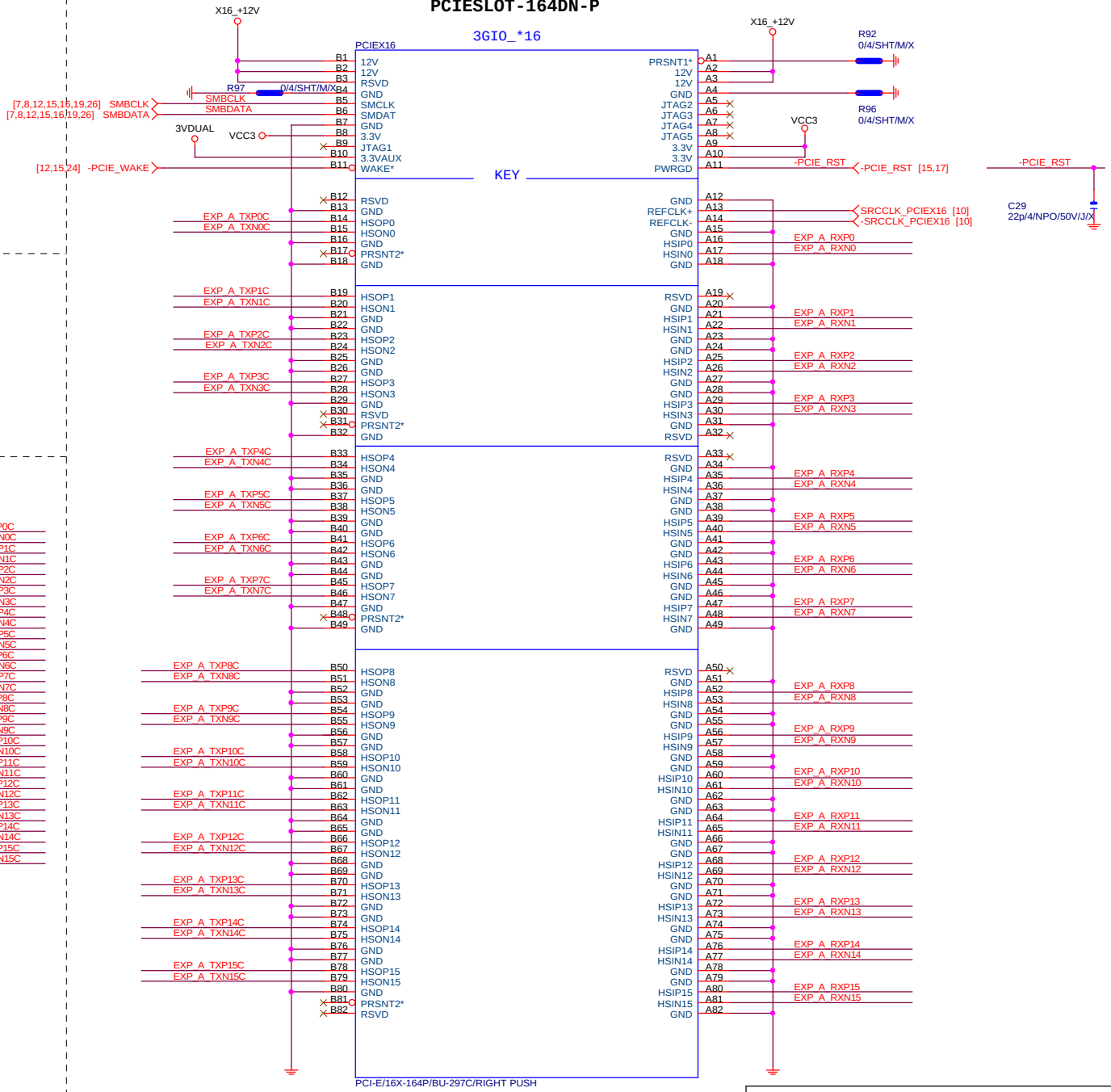
EXP_A_TXP0	C32	0.22u/4/X5R/6.3V/K	EXP_A_TXP0C
EXP_A_TXN0	C30	0.22u/4/X5R/6.3V/K	EXP_A_TXN0C
EXP_A_TXP1	C35	0.22u/4/X5R/6.3V/K	EXP_A_TXP1C
EXP_A_TXN1	C37	0.22u/4/X5R/6.3V/K	EXP_A_TXN1C
EXP_A_TXP2	C39	0.22u/4/X5R/6.3V/K	EXP_A_TXP2C
EXP_A_TXN2	C41	0.22u/4/X5R/6.3V/K	EXP_A_TXN2C
EXP_A_TXP3	C43	0.22u/4/X5R/6.3V/K	EXP_A_TXP3C
EXP_A_TXN3	C45	0.22u/4/X5R/6.3V/K	EXP_A_TXN3C
EXP_A_TXP4	C46	0.22u/4/X5R/6.3V/K	EXP_A_TXP4C
EXP_A_TXN4	C49	0.22u/4/X5R/6.3V/K	EXP_A_TXN4C
EXP_A_TXP5	C50	0.22u/4/X5R/6.3V/K	EXP_A_TXP5C
EXP_A_TXN5	C51	0.22u/4/X5R/6.3V/K	EXP_A_TXN5C
EXP_A_TXP6	C52	0.22u/4/X5R/6.3V/K	EXP_A_TXP6C
EXP_A_TXN6	C54	0.22u/4/X5R/6.3V/K	EXP_A_TXN6C
EXP_A_TXP7	C57	0.22u/4/X5R/6.3V/K	EXP_A_TXP7C
EXP_A_TXN7	C58	0.22u/4/X5R/6.3V/K	EXP_A_TXN7C
EXP_A_TXP8	C60	0.22u/4/X5R/6.3V/K	EXP_A_TXP8C
EXP_A_TXN8	C61	0.22u/4/X5R/6.3V/K	EXP_A_TXN8C
EXP_A_TXP9	C62	0.22u/4/X5R/6.3V/K	EXP_A_TXP9C
EXP_A_TXN9	C63	0.22u/4/X5R/6.3V/K	EXP_A_TXN9C
EXP_A_TXP10	C64	0.22u/4/X5R/6.3V/K	EXP_A_TXP10C
EXP_A_TXN10	C65	0.22u/4/X5R/6.3V/K	EXP_A_TXN10C
EXP_A_TXP11	C66	0.22u/4/X5R/6.3V/K	EXP_A_TXP11C
EXP_A_TXN11	C67	0.22u/4/X5R/6.3V/K	EXP_A_TXN11C
EXP_A_TXP12	C68	0.22u/4/X5R/6.3V/K	EXP_A_TXP12C
EXP_A_TXN12	C70	0.22u/4/X5R/6.3V/K	EXP_A_TXN12C
EXP_A_TXP13	C72	0.22u/4/X5R/6.3V/K	EXP_A_TXP13C
EXP_A_TXN13	C73	0.22u/4/X5R/6.3V/K	EXP_A_TXN13C
EXP_A_TXP14	C74	0.22u/4/X5R/6.3V/K	EXP_A_TXP14C
EXP_A_TXN14	C75	0.22u/4/X5R/6.3V/K	EXP_A_TXN14C
EXP_A_TXP15	C77	0.22u/4/X5R/6.3V/K	EXP_A_TXP15C
EXP_A_TXN15	C78	0.22u/4/X5R/6.3V/K	EXP_A_TXN15C

EXP_A_RXP[0..15] >> EXP_A_RXP[0..15] [4]
EXP_A_RXN[0..15] >> EXP_A_RXN[0..15] [4]
EXP_A_TXP[0..15] >> EXP_A_TXP[0..15] [4]
EXP_A_TXN[0..15] >> EXP_A_TXN[0..15] [4]

PCIEX16 SLOT

PCIESLOT-164DN-P

3GIO_*16



	B1	12V	PRSNT1*	A1	
	B2	12V	12V	A2	
	B3	RSVD	12V	A3	
	B4	GND	GND	A4	
[7,8,12,15,16,19,26] SMBCLK	B5	SMCLK	JTAG2	A5	
[7,8,12,15,16,19,26] SMBDATA	B6	SMDAT	JTAG3	A6	
	B7	GND	JTAG4	A7	
	B8	3.3V	JTAG5	A8	
	B9	JTAG1	3.3V	A9	
	B10	3.3VAUX	3.3V	A10	
[12,15,24] -PCIE_WAKE	B11	WAKE*	PWRGD	A11	-PCIE_RST [15,17]
	B12	RSVD	GND	A12	
	B13	GND	REFCLK+	A13	SRCCLK_PCIEX16 [10]
EXP_A_TXP0C	B14	HSOP0	REFCLK-	A14	-SRCCLK_PCIEX16 [10]
EXP_A_TXN0C	B15	HSON0	GND	A15	
	B16	GND	HSIP0	A16	EXP_A_RXP0
	B17	PRSNT2*	HSIN0	A17	EXP_A_RXN0
	B18	GND	GND	A18	
EXP_A_TXP1C	B19	HSOP1	RSVD	A19	
EXP_A_TXN1C	B20	HSON1	GND	A20	
	B21	GND	HSIP1	A21	EXP_A_RXP1
	B22	GND	HSIN1	A22	EXP_A_RXN1
EXP_A_TXP2C	B23	HSOP2	GND	A23	
EXP_A_TXN2C	B24	HSON2	GND	A24	
	B25	GND	HSIP2	A25	EXP_A_RXP2
	B26	GND	HSIN2	A26	EXP_A_RXN2
EXP_A_TXP3C	B27	HSOP3	GND	A27	
EXP_A_TXN3C	B28	HSON3	GND	A28	
	B29	GND	HSIP3	A29	EXP_A_RXP3
	B30	RSVD	HSIN3	A30	EXP_A_RXN3
	B31	PRSNT2*	GND	A31	
	B32	GND	RSVD	A32	
EXP_A_TXP4C	B33	HSOP4	RSVD	A33	
EXP_A_TXN4C	B34	HSON4	GND	A34	
	B35	GND	HSIP4	A35	EXP_A_RXP4
	B36	GND	HSIN4	A36	EXP_A_RXN4
EXP_A_TXP5C	B37	HSOP5	GND	A37	
EXP_A_TXN5C	B38	HSON5	GND	A38	
	B39	GND	HSIP5	A39	EXP_A_RXP5
	B40	GND	HSIN5	A40	EXP_A_RXN5
EXP_A_TXP6C	B41	HSOP6	GND	A41	
EXP_A_TXN6C	B42	HSON6	GND	A42	
	B43	GND	HSIP6	A43	EXP_A_RXP6
	B44	GND	HSIN6	A44	EXP_A_RXN6
EXP_A_TXP7C	B45	HSOP7	GND	A45	
EXP_A_TXN7C	B46	HSON7	GND	A46	
	B47	GND	HSIP7	A47	EXP_A_RXP7
	B48	PRSNT2*	HSIN7	A48	EXP_A_RXN7
	B49	GND	GND	A49	
EXP_A_TXP8C	B50	HSOP8	RSVD	A50	
EXP_A_TXN8C	B51	HSON8	GND	A51	
	B52	GND	HSIP8	A52	EXP_A_RXP8
	B53	GND	HSIN8	A53	EXP_A_RXN8
EXP_A_TXP9C	B54	HSOP9	GND	A54	
EXP_A_TXN9C	B55	HSON9	GND	A55	
	B56	GND	HSIP9	A56	EXP_A_RXP9
	B57	GND	HSIN9	A57	EXP_A_RXN9
EXP_A_TXP10C	B58	HSOP10	GND	A58	
EXP_A_TXN10C	B59	HSON10	GND	A59	
	B60	GND	HSIP10	A60	EXP_A_RXP10
	B61	GND	HSIN10	A61	EXP_A_RXN10
EXP_A_TXP11C	B62	HSOP11	GND	A62	
EXP_A_TXN11C	B63	HSON11	GND	A63	
	B64	GND	HSIP11	A64	EXP_A_RXP11
	B65	GND	HSIN11	A65	EXP_A_RXN11
EXP_A_TXP12C	B66	HSOP12	GND	A66	
EXP_A_TXN12C	B67	HSON12	GND	A67	
	B68	GND	HSIP12	A68	EXP_A_RXP12
	B69	GND	HSIN12	A69	EXP_A_RXN12
EXP_A_TXP13C	B70	HSOP13	GND	A70	
EXP_A_TXN13C	B71	HSON13	GND	A71	
	B72	GND	HSIP13	A72	EXP_A_RXP13
	B73	GND	HSIN13	A73	EXP_A_RXN13
EXP_A_TXP14C	B74	HSOP14	GND	A74	
EXP_A_TXN14C	B75	HSON14	GND	A75	
	B76	GND	HSIP14	A76	EXP_A_RXP14
	B77	GND	HSIN14	A77	EXP_A_RXN14
EXP_A_TXP15C	B78	HSOP15	GND	A78	
EXP_A_TXN15C	B79	HSON15	GND	A79	
	B80	GND	HSIP15	A80	EXP_A_RXP15
	B81	PRSNT2*	HSIN15	A81	EXP_A_RXN15
	B82	RSVD	GND	A82	

Gigabyte Technology

Title: PCI EXPRESS * 16

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PCIEX4 CAP

+12V
BC200
0.1u/4/Y5V/16V/Z

VCC3
BC202
0.1u/4/Y5V/16V/Z

3VDUAL
BC199
0.1u/4/Y5V/16V/Z

PCIEX16 PROTECT SHT

+12V X4_+12V

1 2
3 4
5 6
7 8

RN15
0/8P4R/0402/SHT/X

PCIEX4 SLOT

PCIESLOT-64D-98D-P

3GIO_*4

PCIEX4

X4_+12V

R445 0/4/SHT/M/X

[7,8,12,14,16,19,26] SMBCLK
[7,8,12,14,16,19,26] SMBDATA

R447 8.2K/4/X

3VDUAL

VCC3

[12,14,24] -PCIE_WAKE

B1	12V	PRSNT1*	A1
B2	12V	12V	A2
B3	RSVD	12V	A3
B4	GND	GND	A4
B5	SMCLK	JTAG2	A5
B6	SMDAT	JTAG3	A6
B7	GND	JTAG4	A7
B8	3.3V	JTAG5	A8
B9	JTAG1	3.3V	A9
B10	3.3VAUX	3.3V	A10
B11	WAKE*	PWRGD	A11
	KEY		
B12	RSVD	GND	A12
B13	GND	REFCLK+	A13
B14	HSOP0	REFCLK-	A14
B15	HSON0	GND	A15
B16	GND	HSIP0	A16
B17	PRSNT2*	HSIN0	A17
B18	GND	GND	A18
B19	HSOP1	RSVD	A19
B20	HSON1	GND	A20
B21	GND	HSIP1	A21
B22	GND	HSIN1	A22
B23	HSOP2	GND	A23
B24	HSON2	GND	A24
B25	GND	HSIP2	A25
B26	GND	HSIN2	A26
B27	HSOP3	GND	A27
B28	HSON3	GND	A28
B29	GND	HSIP3	A29
B30	RSVD	HSIN3	A30
B31	PRSNT2*	GND	A31
B32	GND	RSVD	A32

[9] PCIE_TP1
[9] PCIE_TN1
[9] PCIE_TP2
[9] PCIE_TN2
[9] PCIE_TP3
[9] PCIE_TN3
[9] PCIE_TP4
[9] PCIE_TN4

B81 PRSNT2*

PCI-E/16X-65P/BU/RIGHT PUSH

X4_+12V
R444 0/4/SHT/M/X
VCC3
R446 0/4/SHT/M/X

-PCIE_RST [14,17]

SRCCLK_PCIEX4 [10]
-SRCCLK_PCIEX4 [10]

PCIE_IP1 [9]
PCIE_IN1 [9]
PCIE_IP2 [9]
PCIE_IN2 [9]
PCIE_IP3 [9]
PCIE_IN3 [9]
PCIE_IP4 [9]
PCIE_IN4 [9]

-PCIE_RST

C152
22p/4/NPO/50V/J/X

Gigabyte Technology			
Title: PCI EXPRESS X 4 PORT			
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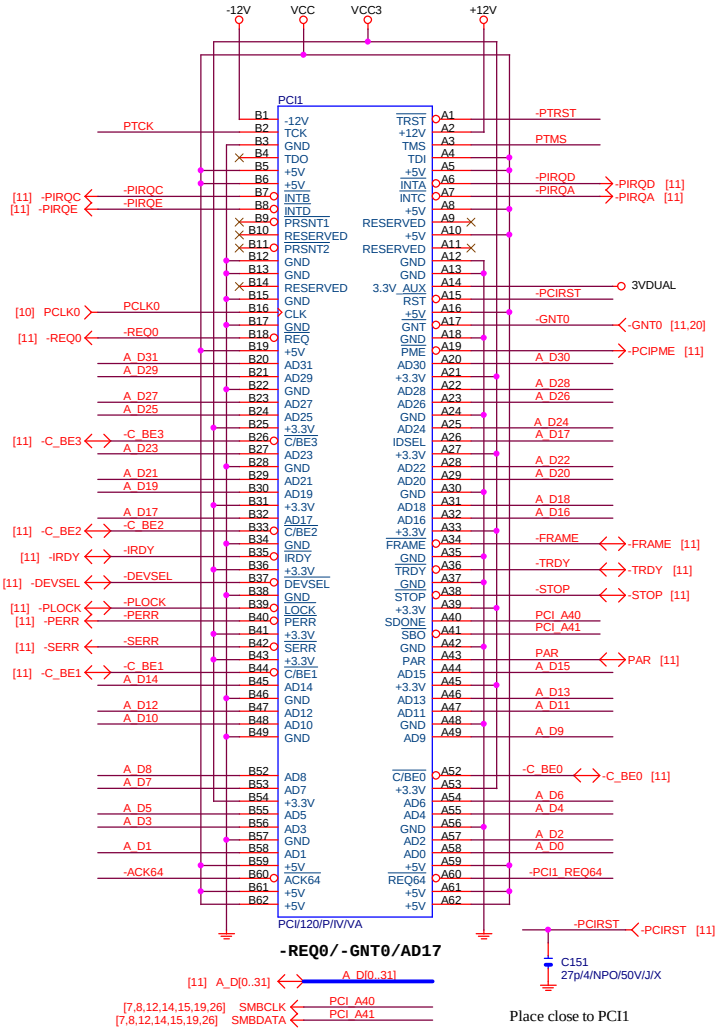
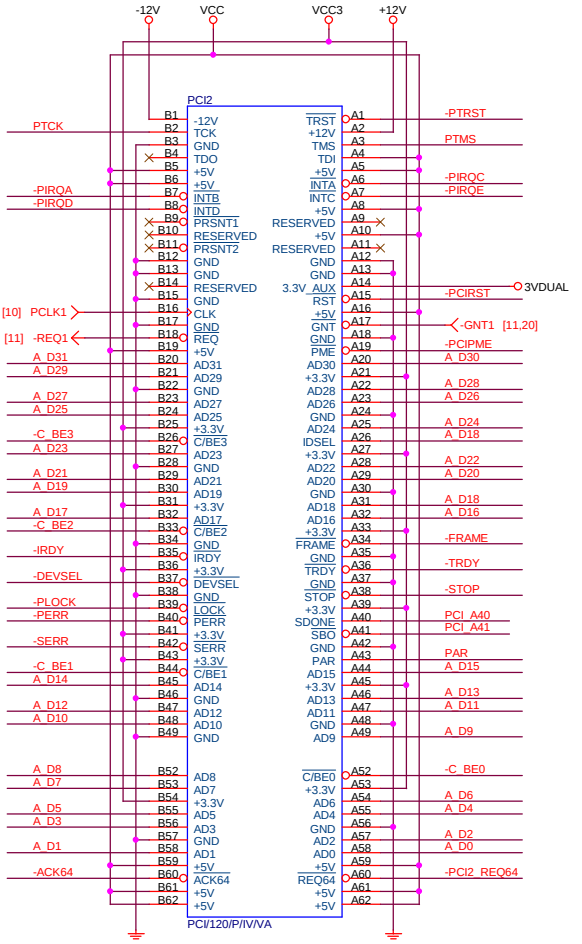
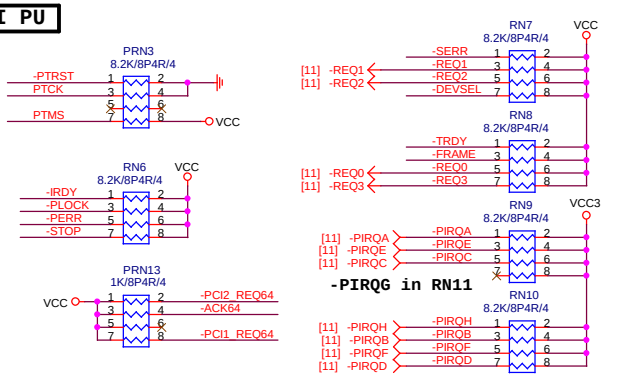
Date: Friday, June 08, 2012	Sheet 15 of 33		

PCI SLOT

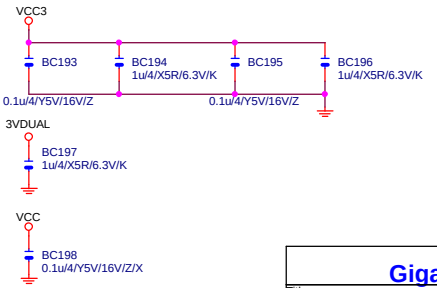




PCI PU



PCI CAP



Gigabyte Technology

Title	PCI SLOT 1&2	
Size: Custom	Document Number: GA-B75M-D3H	Rev: 1.1
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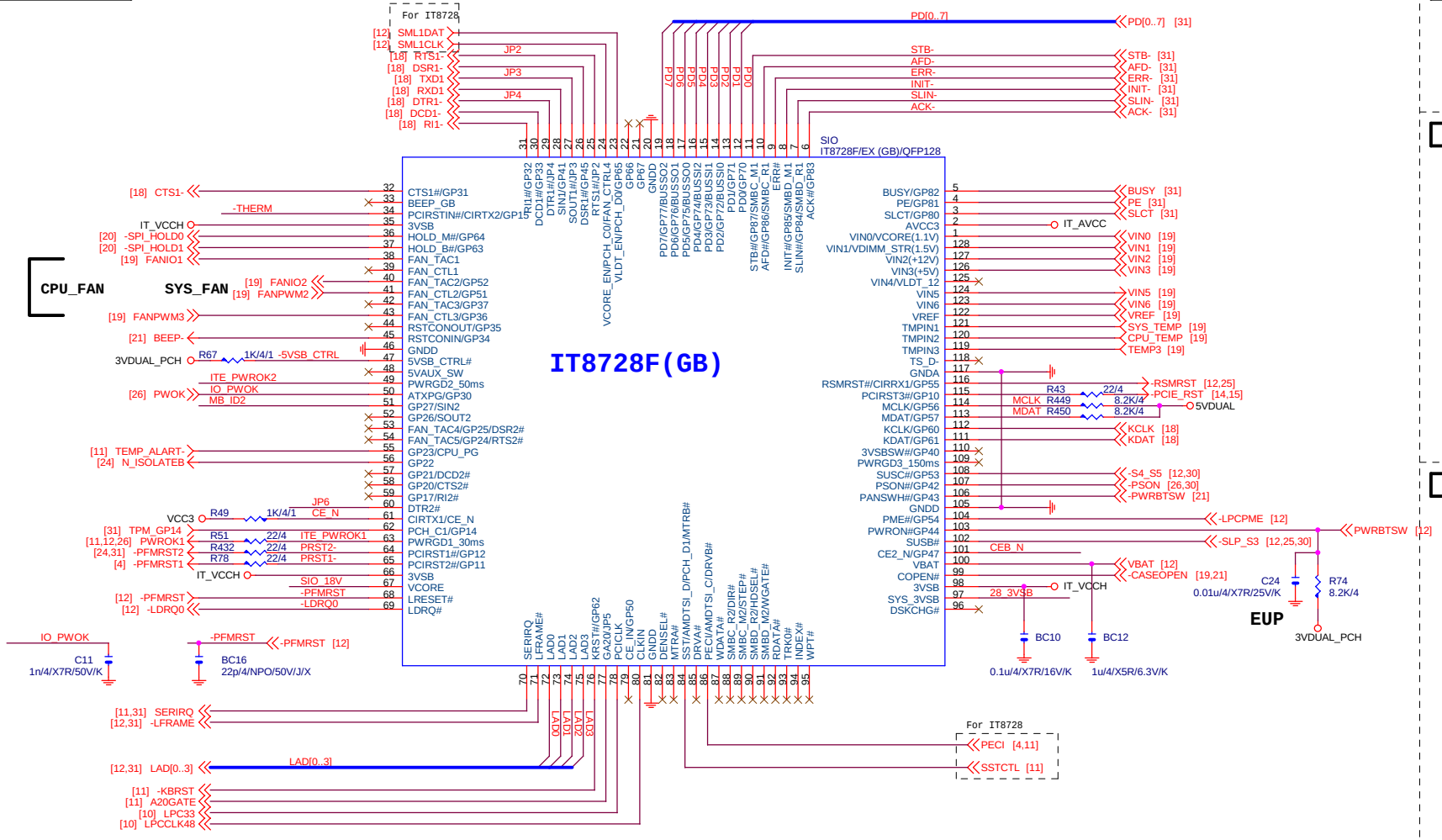
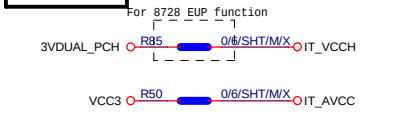
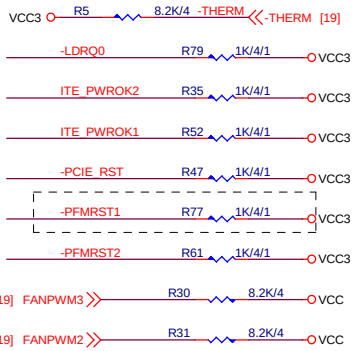
SIO IT8728F



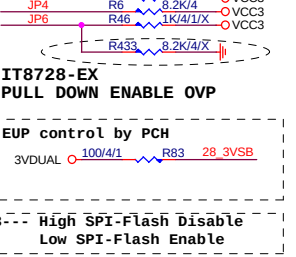
PWR SHT



SIO PU



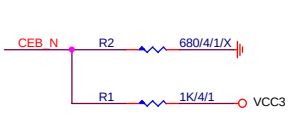
SIO STRAP



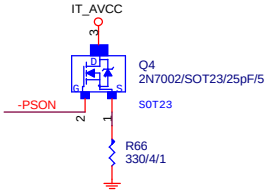
IT8728F NOTE

	IT8728
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
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

DUAL BIOS OPT STRAP



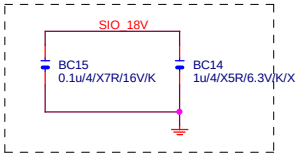
Power leakage



For IT8721 Power leakage

SIO_18V

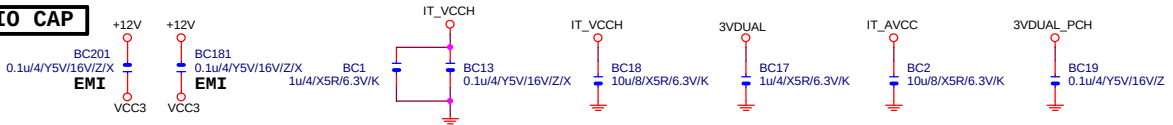
internal power pin, max 22nF cap



FOR LOW TEMP POWER ON INTO TEST MODE ISSUE

MB ID

SIO CAP



Gigabyte Technology

Title	ITE 8728 LPC IO	
Size: Custom	Document Number: GA-B75M-D3H	Rev: 1.1
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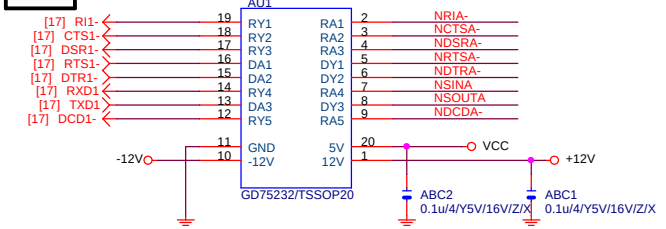
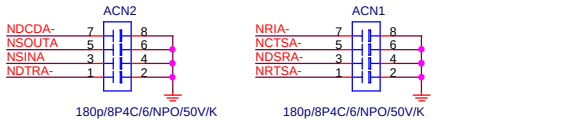
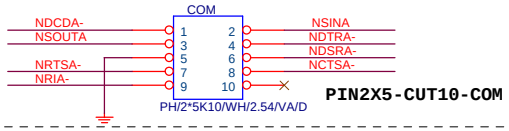
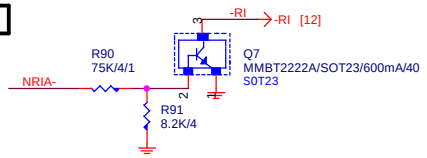
COM



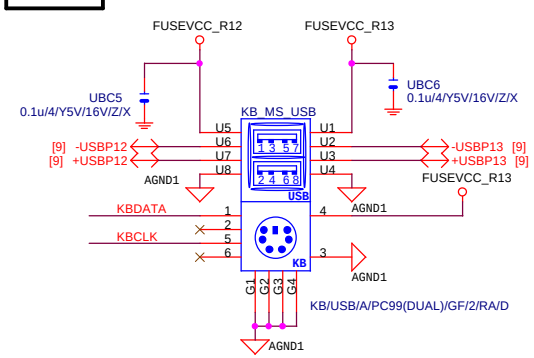


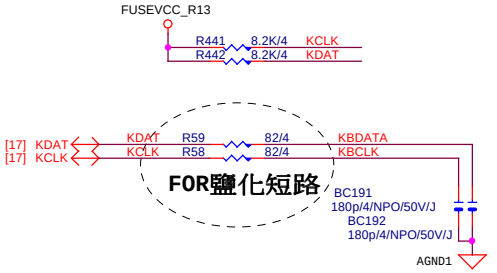


COM RI

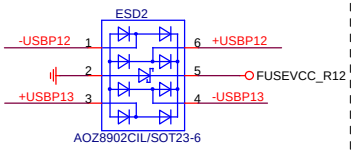


KB/MS

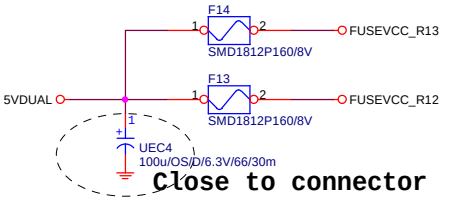




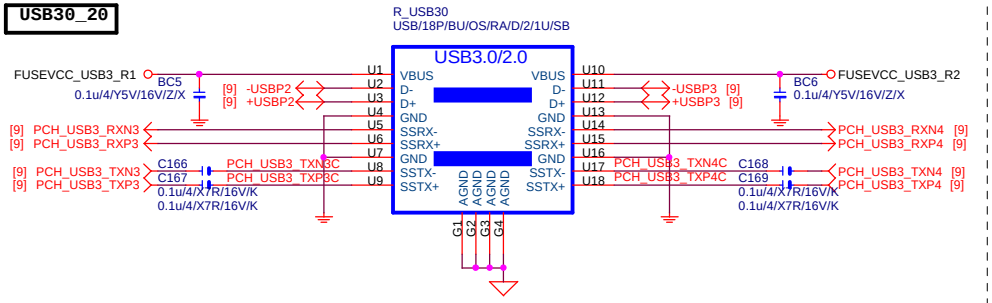
USB2.0 ESD



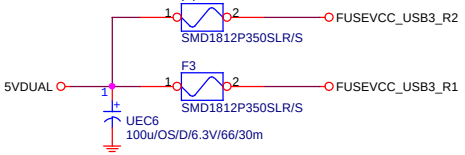
USB2.0 PWR



USB30_20

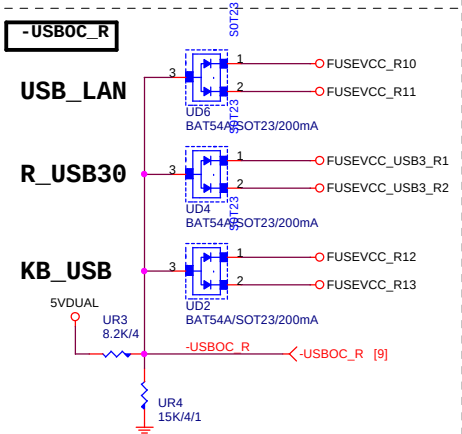


USB30_20 PWR



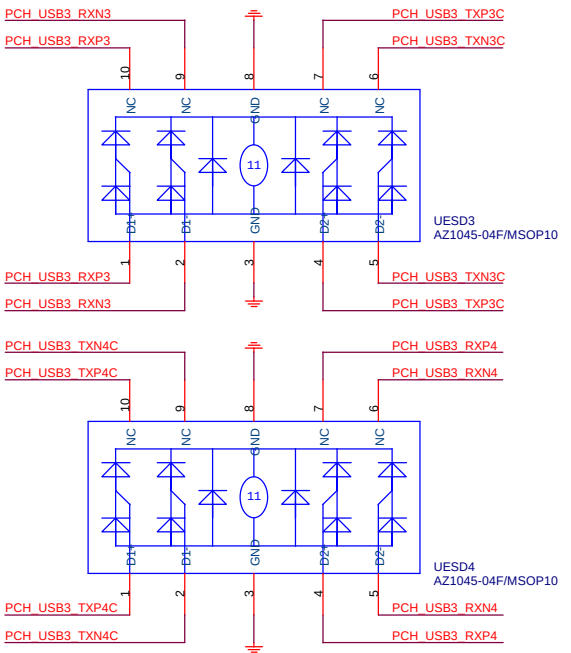
USB3.0 1Port - 1Fuse (3.5A)

-USBOC_R

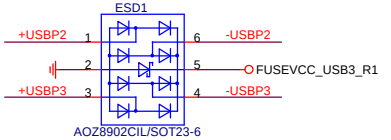


USB30_20 ESD PROCTECT

USB3.0 ESD

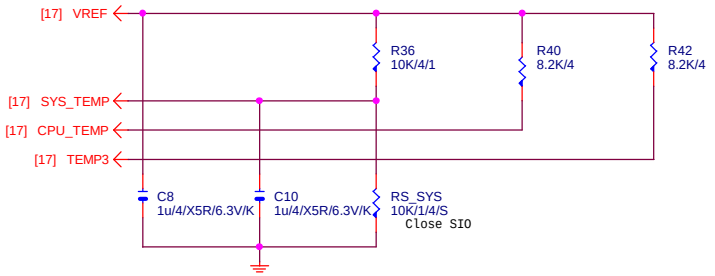


USB2.0 ESD

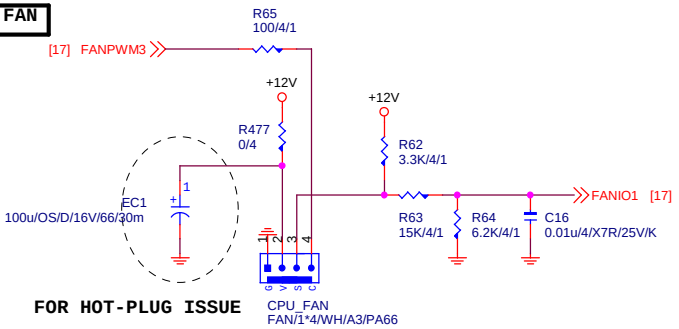


Gigabyte Technology		
Title: COM,-RI,KB_USB,USB_ESATA,-PROCHOT		
Size: Custom	Document Number: GA-B75M-D3H	Rev: 1.1
Date: Friday, June 08, 2012	Sheet 18 of 33	

TEMP H/W MONITOR

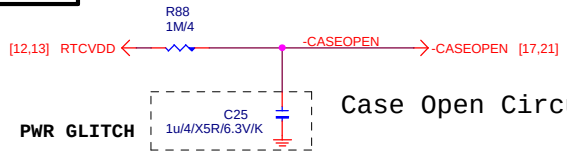


CPU SMART FAN



FOR HOT-PLUG ISSUE

CASE OPEN

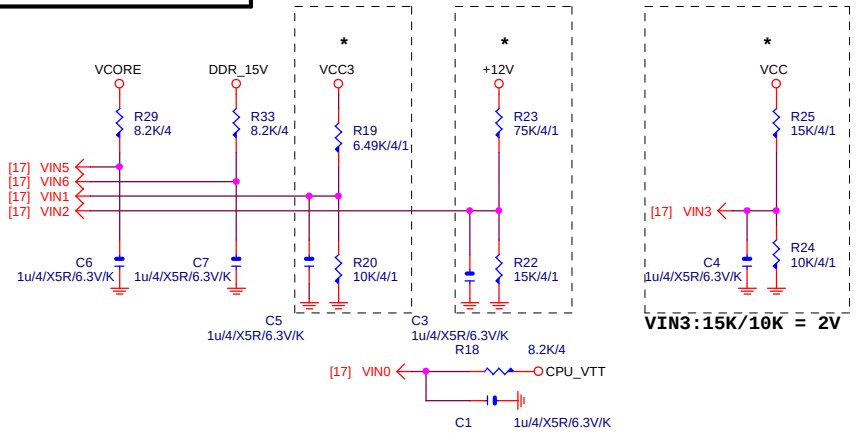


PWR GLITCH

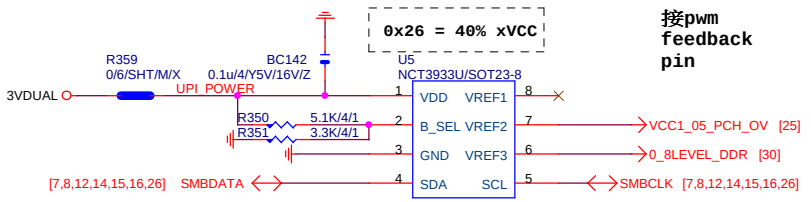
Case Open Circuits

VOLTAGE-- H/W MONITOR

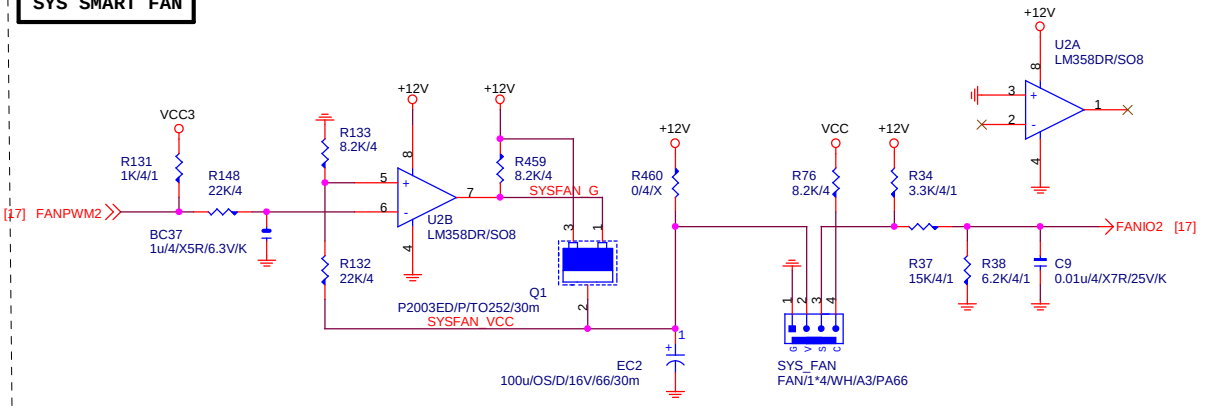
VIN2:75K/15K = 2V



OV NCT3933



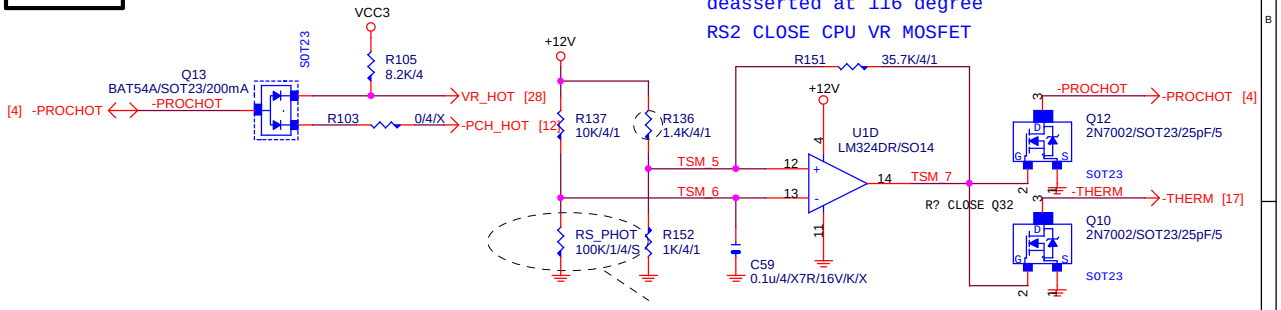
SYS SMART FAN



-PROHOT

deasserted at 116 degree

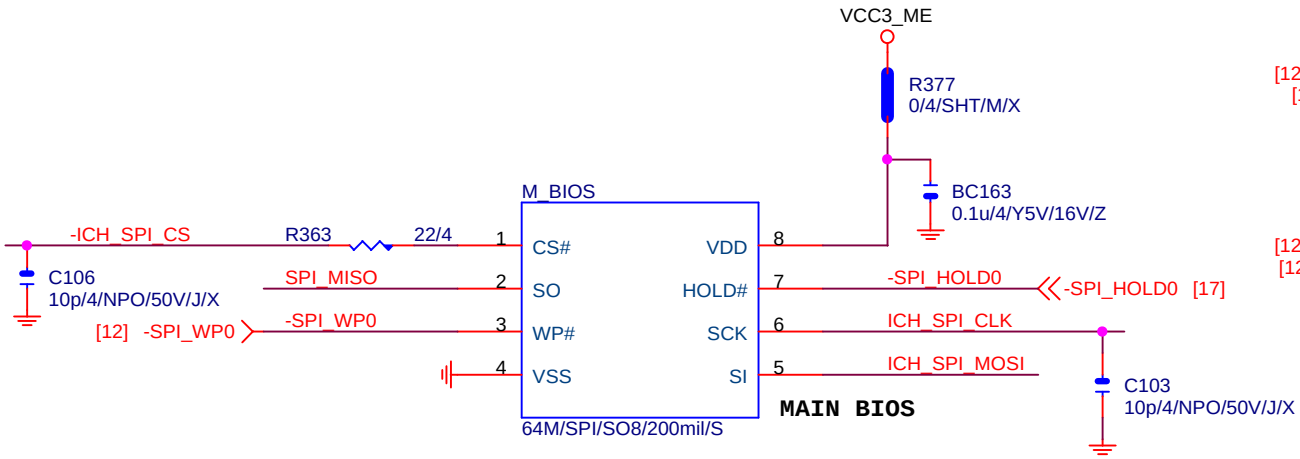
RS2 CLOSE CPU VR MOSFET

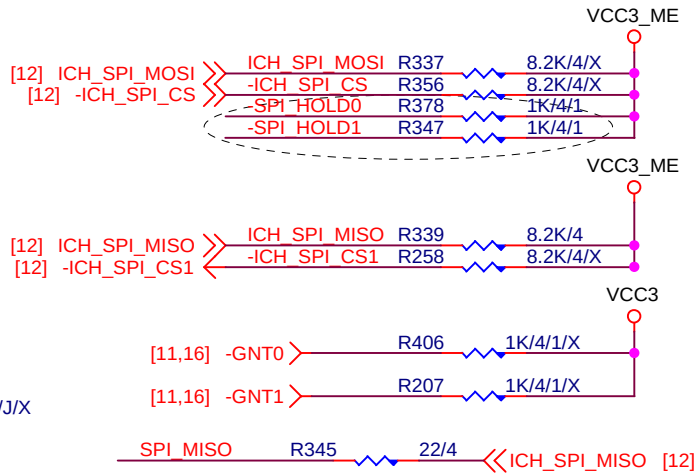


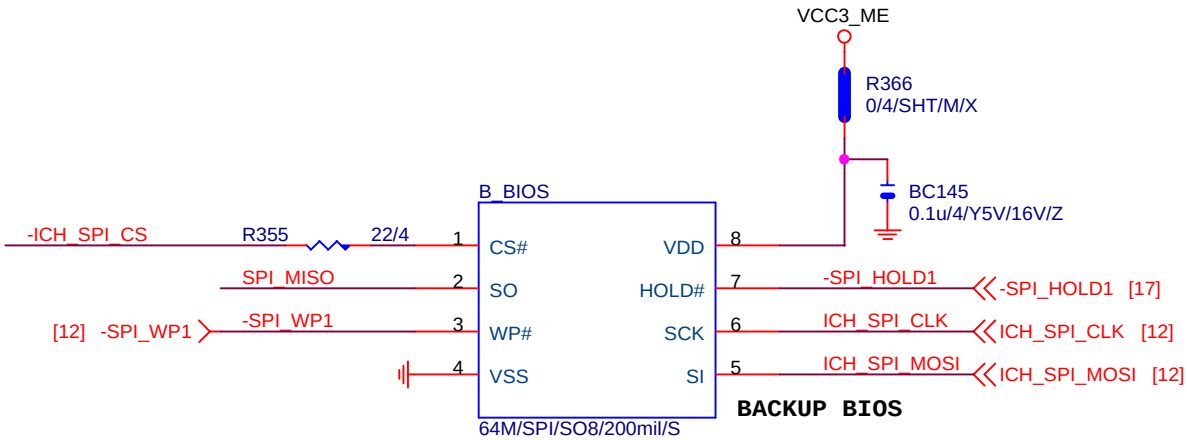
CLOSE PWM HOT MOSFET

Gigabyte Technology			
Title: HWM,FAN CTRL,OV			
Size: Custom	Document Number: GA-B75M-D3H		Rev: 1.1
Date: Friday, June 08, 2012		Sheet 19 of 33	

DUAL BIOS







B65使用64M BIOS

使用H67暫用32M

H61使用32M 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: GA-B75M-D3H | Rev: 1.1

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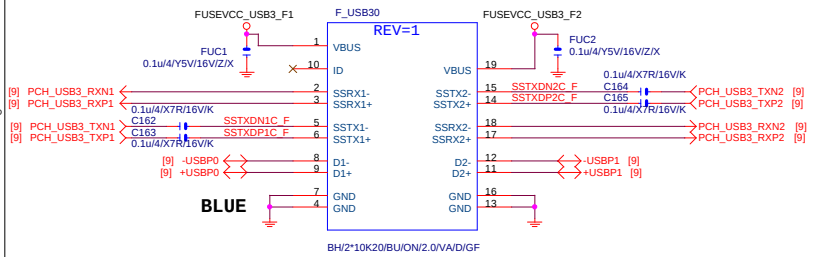
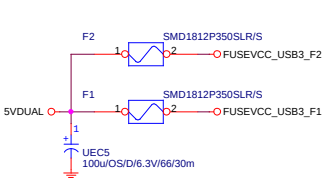
F_USB30

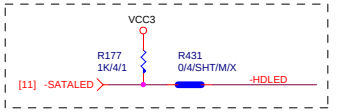


F_USB30 PWR

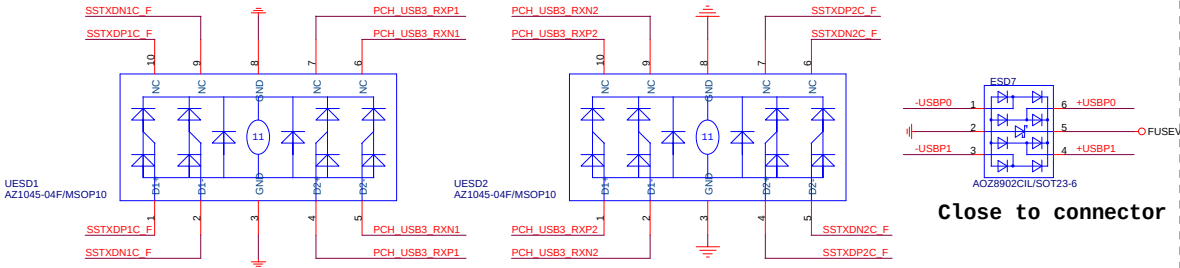


USB3.0 1Port - 1Fuse (3.5A)

SATA LED

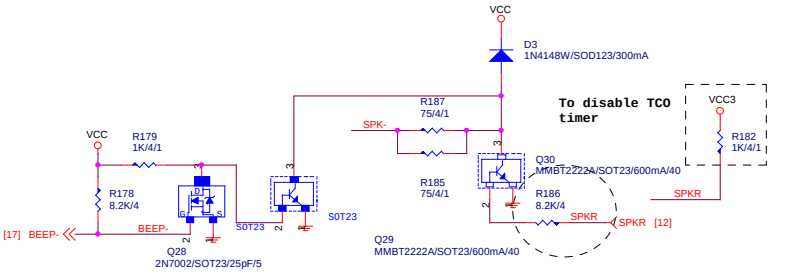


F_USB30 ESD PROTECT

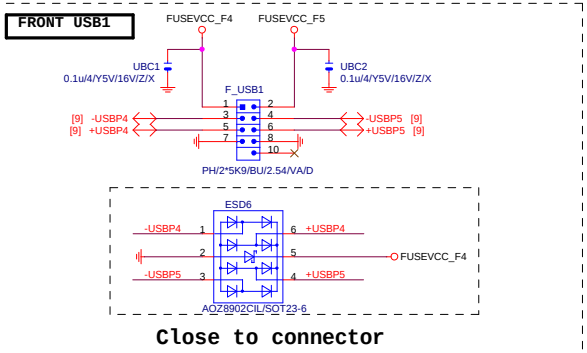


Close to connector

SPKR

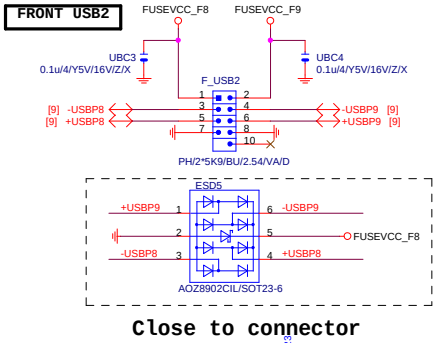


FRONT USB1



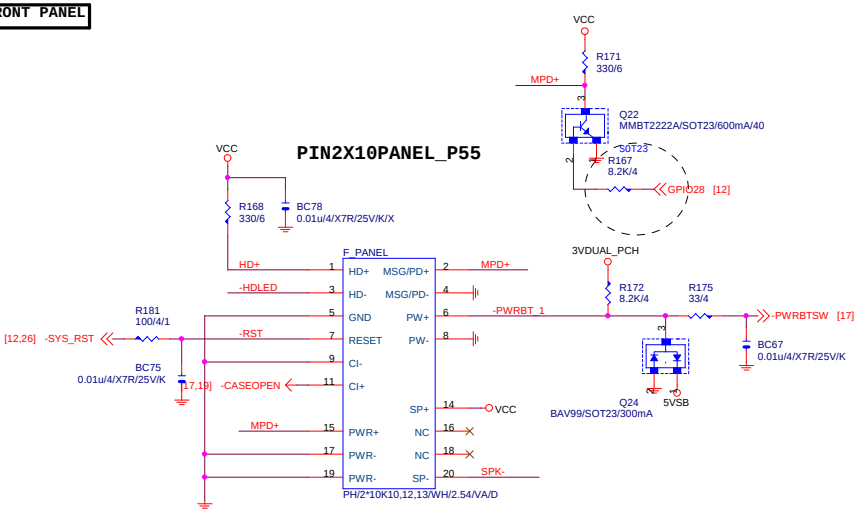
Close to connector

FRONT USB2

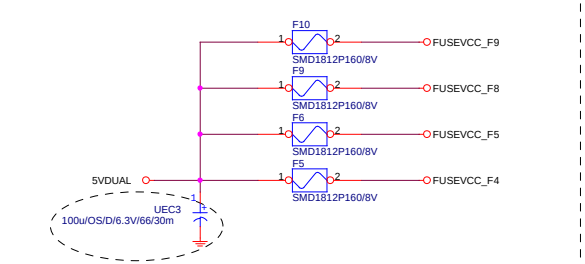


Close to connector

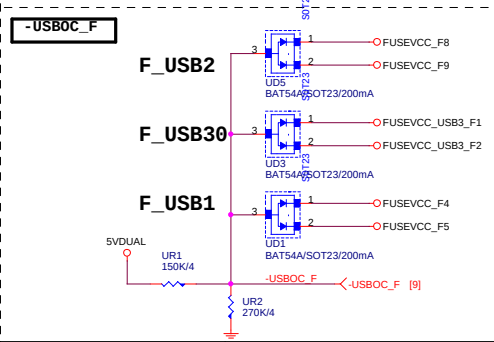
INTEL FRONT PANEL



FUSEVCC_F



-USBOC_F

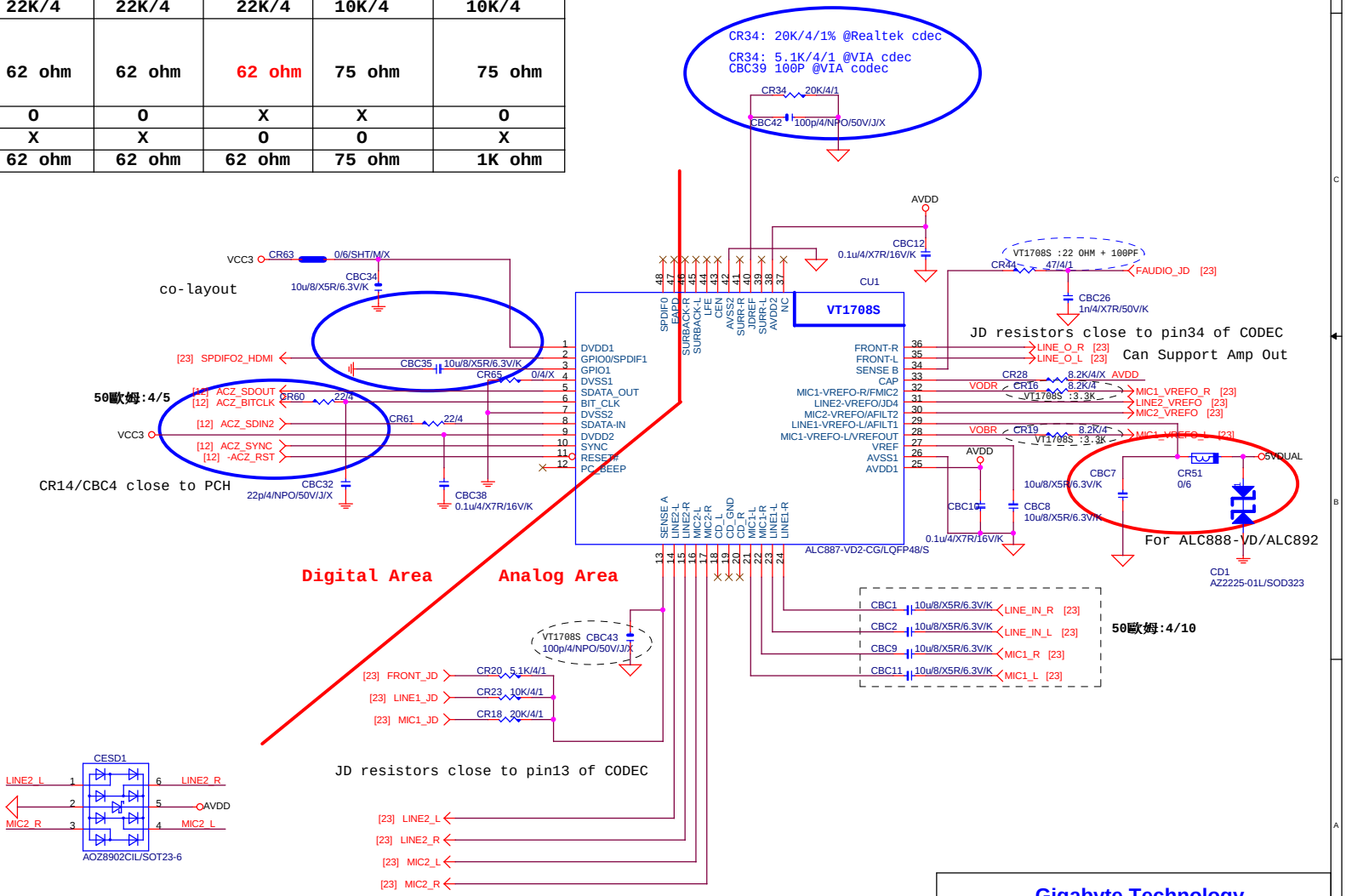


Gigabyte Technology		
Title: FP,F_USB,USB PWR,SPKR,SATA LED		
Size: Custom	Document Number: GA-B75M-D3H	Rev: 1.1
Date: Friday, June 08, 2012	Sheet 21 of 33	

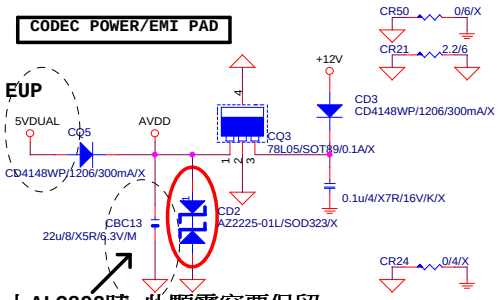
AZALIA CODEC

ALC887-VD2/ALC889/VT1708S/VT1708SCE Colay

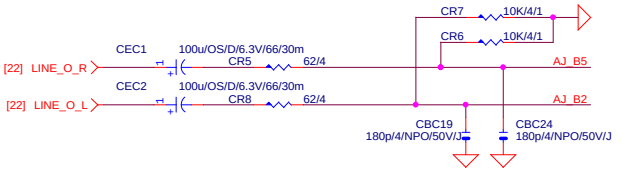
	ALC662	ALC887-VD2	ALC889	VT1708S	VT1708SCE
CR65	X	X	O	O	X
CR64	X	X	X	X	0.1u/4
CBC35	O	O	X	X	O
CR44/CBC6	47ohm+1nF	47ohm+1nF	47ohm+1nF	22ohm+100P	22ohm+100P
CR31	X	O	O	O	O
CR30	O	X	X	X	X
CBC1/CBC2	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R	22uF/X5R
CR20	5.11K/4/1	5.11K/4/1	5.11K/4/1	5.1K/4/1	5.1K/4/1
CR34	20K/4/1	20K/4/1	20K/4/1	5.1K/4/1	20K/4/1
CBC39/CBC40	N/A	N/A	N/A	100P/4	100P/4
CR6/CR7/CR54/CR58	22K/4	22K/4	22K/4	10K/4	10K/4
CR5/CR8/CR11/CR4/ CR17/CR22/CR45/CR33/ CR47/CR40/CR26/CR37/ CR13/CR11/CR57/CR53	62 ohm	62 ohm	62 ohm	75 ohm	75 ohm
CR51/CD1/CBC7	O	O	X	X	O
CD2/CD3/CQ3/CQ5	X	X	O	O	X
CR1/CR14/CR17/CR22	62 ohm	62 ohm	62 ohm	75 ohm	1K ohm



CODEC POWER/EMI PAD

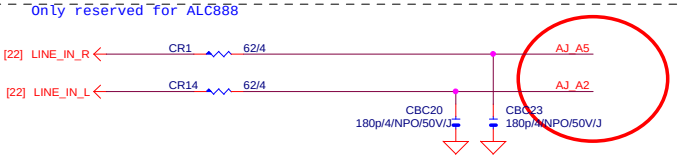


LINE-OUT



Only reserved for ALC888

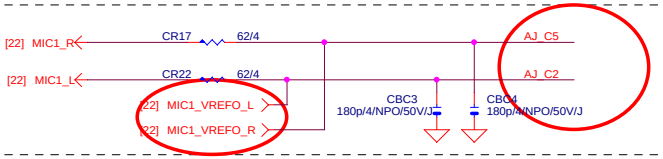
LINE-IN



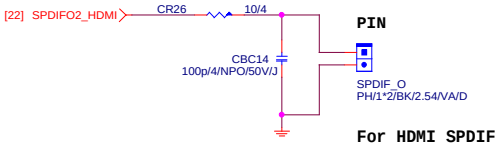
Verify MIC function in LINE-in

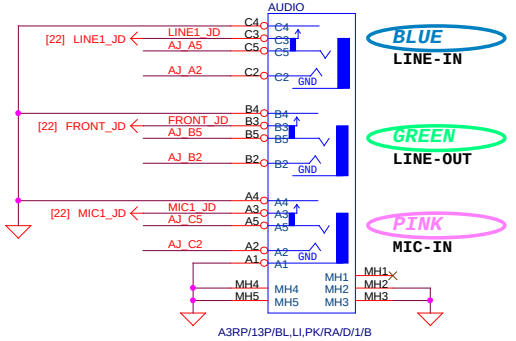
For 889A/888

MIC-IN

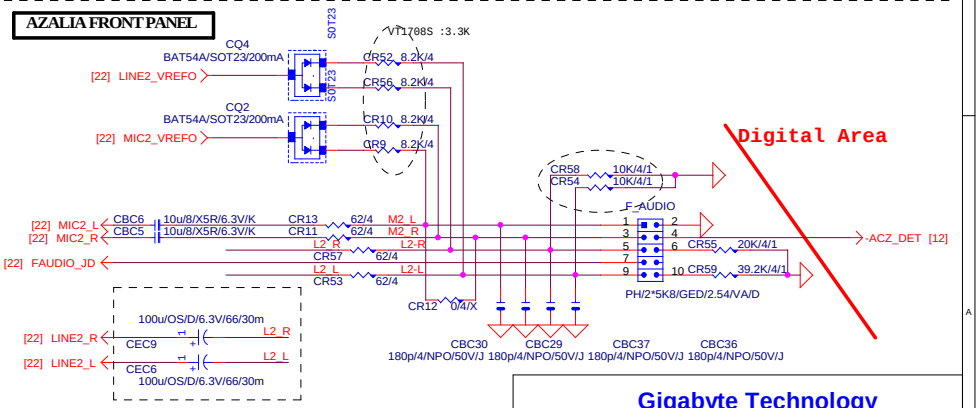


SPDIF_OUT





AZALIA FRONT PANEL



Gigabyte Technology

Title: AUDIO JACK

Size: Custom | Document Number: GA-B75M-D3H | Rev: 1.1

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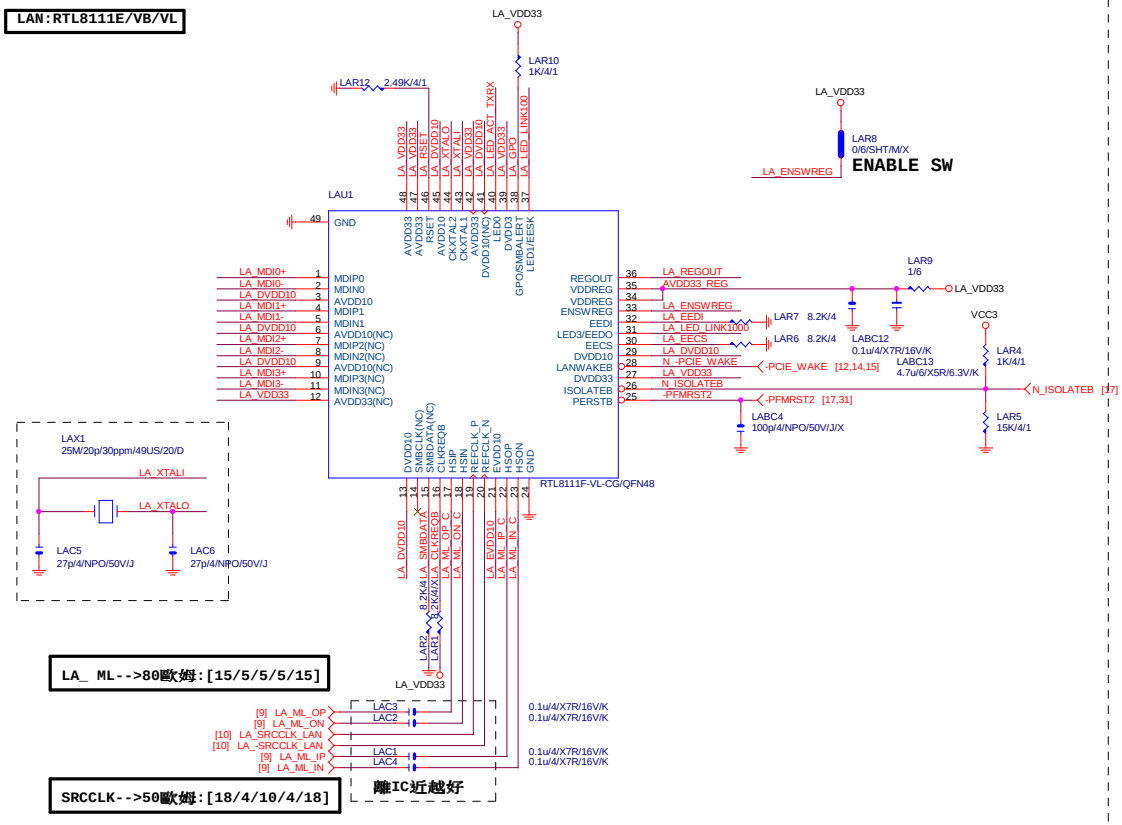
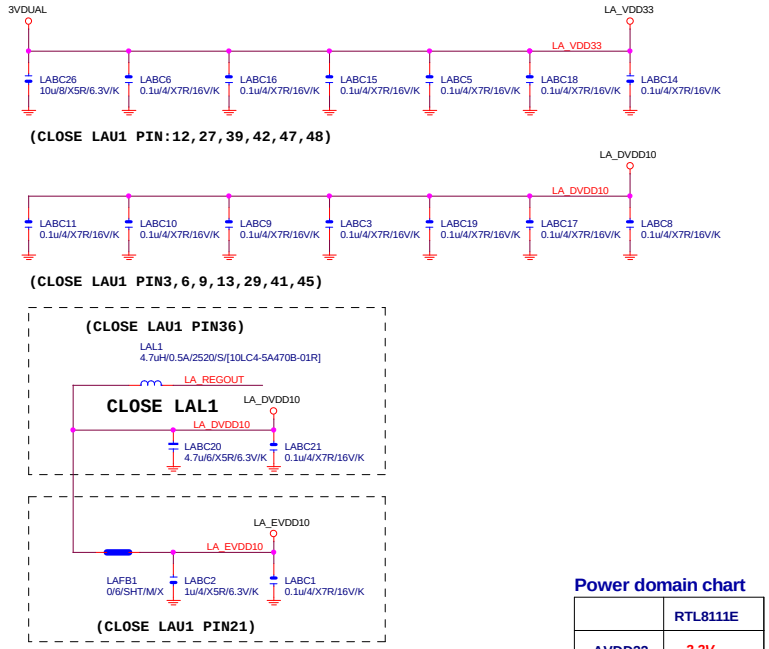
LAN:RTL8111E/VB/VL



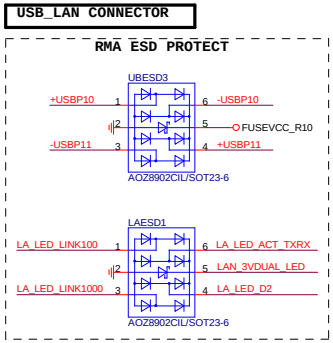
LAN POWER

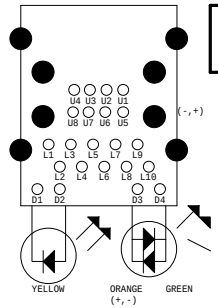


Power domain chart

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

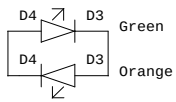
USB_LAN CONNECTOR



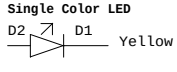


注意:LAN LED PROTECT:(CO-LAYOUT)
1.ESD(6PIN):AOZ8902CIL/SOT23-6(DEFAULT)
2.SURGE(5PIN):AZ2025-04S/SOT23-5L

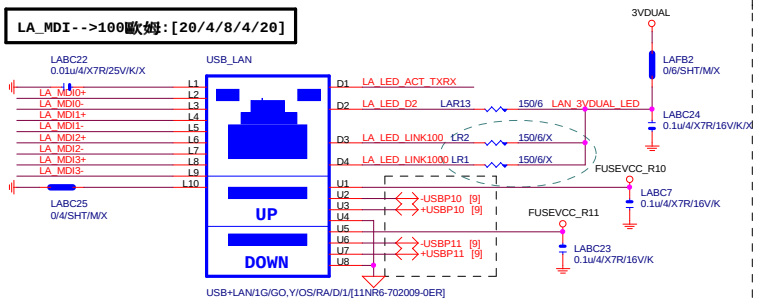
Dual Color LED



Single Color LED



LA_MDI-->100歐姆:[20/4/8/4/20]



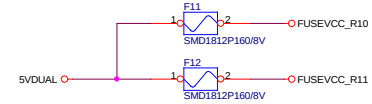
注意:USB PORT(目前:暫代6,7PORT)
USB-->90歐姆:[15/4.5/7.5/4.5/15]

料號	規格	廠商
11NR6-702009-0ER	1G LAN (12core)	UDE
11NR6-702009-91R	1G LAN(8 core)	FOXCONN
11NR6-702009-92R	1G LAN(8 core)	UDE
11NR6-702009-11R	1G LAN(12core/RED)	UDE
11NR6-702009-12R	1G LAN(8 core/RED)	FOXCONN

USB_LAN BOM區分:

1.(紅色/12CORE/三倍):USB+LAN/1G/GO,Y/OS/RA/D/1/RED
2.(黑色/12CORE):USB+LAN/1G/GO,Y/OS/RA/D/1
3.(黑色/8CORE):USB+LAN/1G/GO,Y/OS/RA/D/8C

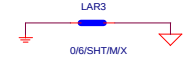
USB X3 POWER



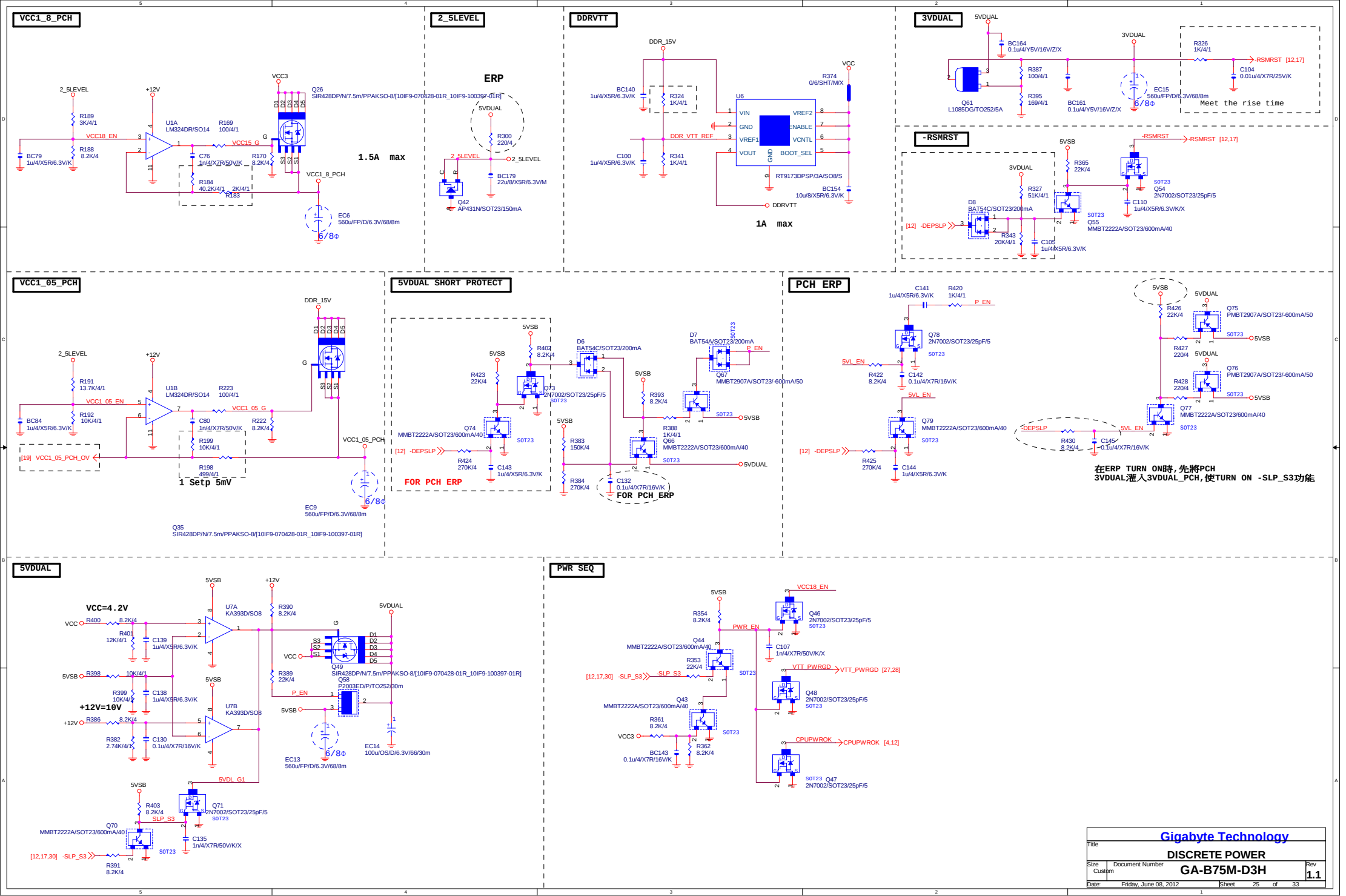
Close to connector

EMI SHORT PAD

PS:視EMI需求



Gigabyte Technology		
Title	ARTHEROS AR8151/AR8161	
Size: Custom	Document Number: GA-B75M-D3H	Rev: 1.1
Date: Friday, June 08, 2012	Sheet 24 of 33	


VCC1_8_PCH
2_5LEVEL
DDRVTT
3VDUAL
-RSMRST
VCC1_05_PCH
5VDUAL_SHORT_PROTECT
PCH_ERP
5VDUAL
PWR_SEQ
ERP
1.5A max
1A max
Meet the rise time
1 Setp 5mV
FOR PCH ERP
FOR PCH_ERP
VCC=4.2V
+12V=10V
在ERP TURN ON時,先將PCH
3VDUAL灌入3VDUAL_PCH,使TURN ON -SLP_S3功能
Gigabyte Technology
DISCRETE POWER
GA-B75M-D3H
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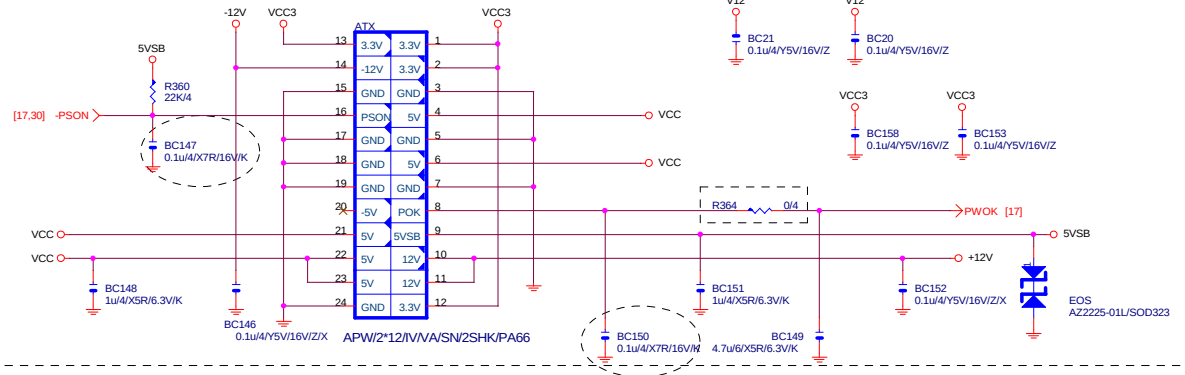
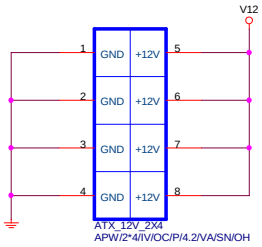
ATXX24 POWER CONNECTOR

ATXPWR_24-6

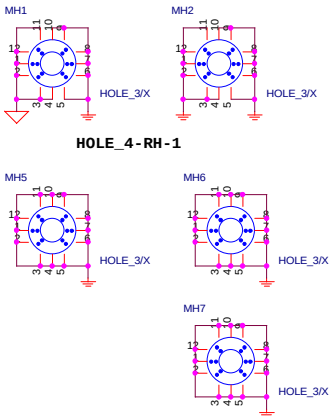


ATXX4 POWER CONNECTOR

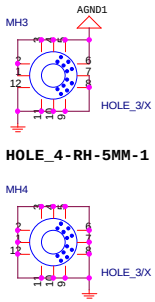


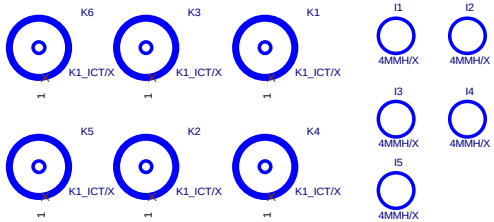
ATXPW2X4-6

HOLE_4-RH-1



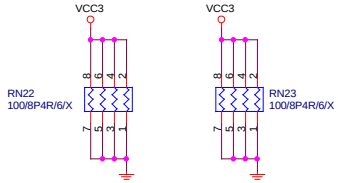
HOLE_4-RH-5MM-1



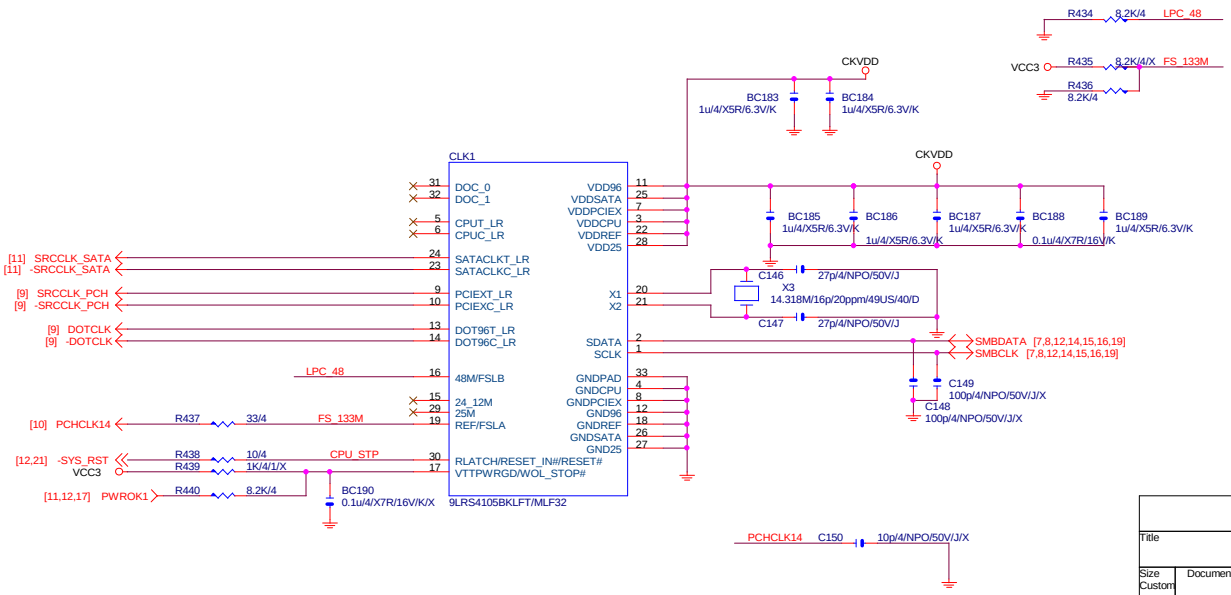


To prevent the 5VSB under loading when boot

FIX PWR MINMUN LOAD



CLK GEN



CPU Frequency Selection

FS	CPU
0	100M <Default>
1	133M

Title	ATX CONNECTOR
Size: Custom	Document Number: GA-B75M-D3H
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Date:	Friday, June 08, 2012
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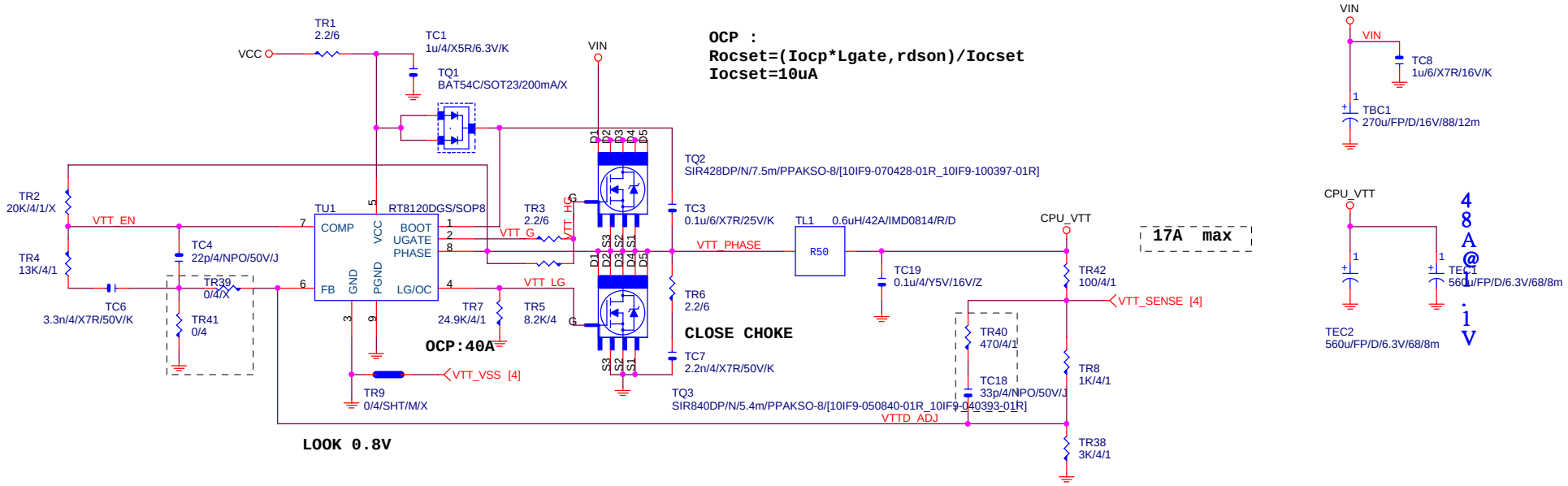
Gigabyte Technology

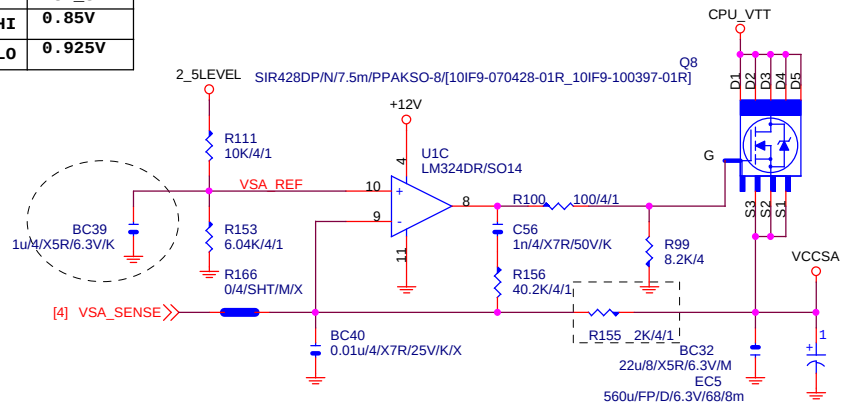
CPU_VTT



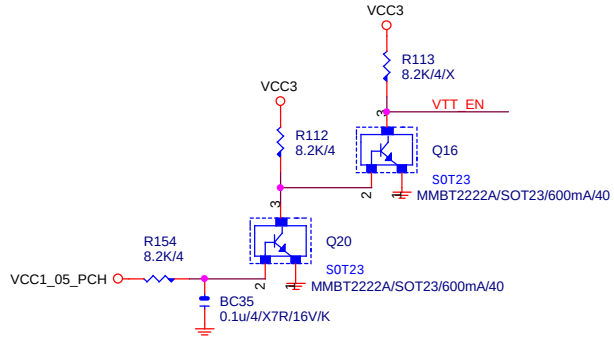
VCCSA

PDG 0.8

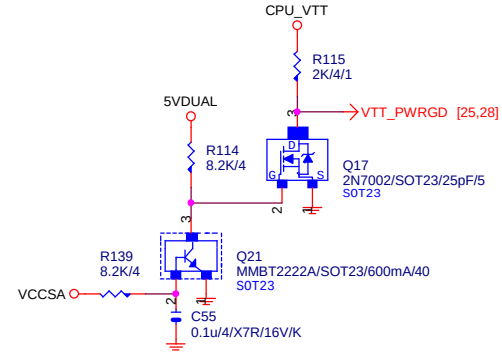
	VSA_SEL
HI	0.85V
LO	0.925V



CPU_VTT PWR SEQ



VTT_PWRGD



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Title	CPU_VTT PWM_ISL95870CRZ	
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VCORE PWM

Intersil Original Design

CPU_VAXG
[4] VAXG_SENSE VSENG
DR445 100/4/1
DR482 0/4/SHT/M/X
DBC93 0.01u/4/X7R/25V/K FBG_OV
DBC95 0.01u/4/X7R/25V/K
[4] VAXG_VSS RTNG
DR450 10/4

DR446 845/4/1
DBC91 1n/4/X7R/50V/K
DR447 3.6K/4/1
Load line-->4.1mohm
DBC90 330p/4/NPO/50V/J
DR444 2K/4/1
DBC92 47p/4/NPO/50V/J
DBC94 680p/4/X7R/50V/K
DR448 270K/4
DR449 169K/4/1
S.W frequncy-->300Khz
Imax-->45A

LAYOUT RESERVE
CHOKE SPACE
V12
VIN
DBC1 1u/6/X7R/16V/K
DEC6 270u/FP/D/16V/88/12m
DEC2 270u/FP/D/16V/88/12m

Close DL6
[29] VSUMNG
DBC113 0.1u/4/X7R/16V/K
DRT4 10K/1/4/S
RGntc=(RGseries+DRT4)//RGparellel
DR157 7.5K/4/1
RGseries
DR159 11K/4/1
RGparellel
DBC64 0.047u/4/X7R/16V/K/X
DBC66 0.033u/4/X7R/16V/K
DBC67 0.22u/4/X5R/6.3V/K
DR475 100/4/1
DBC114 330p/4/NPO/50V/J
DR162 549/4/1
RGi
IGocp-->56A
ISUMNG
[29] VSUMPG
ISUMPG
DBC96 0.22u/6/X7R/16V/K/X

DR452 8.2K/4
VCC3
DR453 0/4/X
VCC
PWM2G
LGS
PHS
UGS
BTS
BTS [29]

UG1
PH1
LG1
ISEN1
UG1 [29]
PH1 [29]
LG1 [29]
ISEN1 [29]
UG2
PH2
LG2
ISEN2
UG2 [29]
PH2 [29]
LG2 [29]
ISEN2 [29]
UGS
PHS
LGS
UGS [29]
PHS [29]
LGS [29]
PWM3
ISEN3
PWM3 [29]
ISEN3 [29]

DU1
ISUMNG RTNG FBG COMPG VAXG_RDY PGOODG PWM2G LGATE1G PHASE1G UGATE1G BOOT1G
40 39 38 37 36 35 34 33 32 31

CPU_VTT
DBC69 0.1u/4/X7R/16V/K
DR81 100/4/1/X
DR84 100/4/1
DR76 100/4/1
DR79 100/4/1
[4] VIDSLCK
[4] -VIDALRT
[4] VIDSOUT
[19] VR_HOT DR82 10/4/X
[25,27] VTT_PWRGD

Disable PWM2G
VCC
DR454 0/4/SHT/M/X ISEN2G
DR456 27K/4/1
Disable NTCG
DR477 51/4/1 PVIDSLCK_F
DR59 27K/4/1
Disable NTC

1 ISUMPG
2 ISEN1G
3 ISEN2G
4 NTCG
5 SCLK
6 ALERT#
7 SDA
8 VR_HOT#
9 VR_ON
10 NTC
41 PAD

PWM
INTERSIL
ISL95836HRTZ

30 BOOT2 BT2 BT2 [29]
29 UGATE2 UG2
28 PHASE2 PH2
27 LGATE2 LG2
26 VCCP
25 VDD
24 PWM3 PWM3 [29]
23 LGATE1 LG1
22 PHASE1 PH1
21 UGATE1 UG1

DBC98 1u/4/X5R/6.3V/K
DR457 2.2/6
VCC
DR458 2.2/6
DBC99 1u/4/X5R/6.3V/K

BOTTOM PAD
CONNECT TO GND
THROUGH 10 VIA

ISL95836HRZ/[10TA1-695836-01R]

11 ISEN3/FB2 ISEN3 [29] ISEN3
12 ISEN2 [29] ISEN2
13 ISEN1 [29] ISEN1
14 ISUMP
15 ISUMN
16 RTN
17 FB
18 COMP
19 PGOOD VR_RDY
20 BOOT1 BT1 BT1 [29]

DBC100 0.22u/6/X7R/16V/K ISEN3
[29] VSUMN DBC101 0.22u/6/X7R/16V/K ISEN2
DBC102 0.22u/6/X7R/16V/K ISEN1

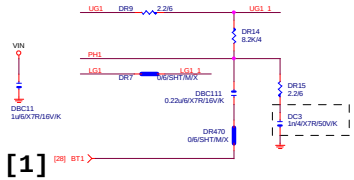
VCC3
3VDUAL
DR108 8.2K/4
C84 0.1u/4/X7R/16V/K/X
DR85 1K/4/1
VR_RDY
DR91 8.2K/4
DQ18 MMBT2222A/SOT23/600mA/40
SOT23
DR109 1K/4/1
PCH_VRMPWRGD [12]
DR110 100K/4/1
DC17 0.1u/4/X7R/16V/K
SOT23
DQ19 MMBT2222A/SOT23/600mA/40

FOR RMA
Set VBOOT=GND for Vboot=0V
VBOOT=OPEN for
Vboot=1.1V
VCC3
VBOOT
DR484 8.2K/4/X
DQ56 MMBT2222A/SOT23/600mA/40
SOT23
DQ55 MMBT2222A/SOT23/600mA/40/X
SOT23
CPU_VTT
DR481 1K/4/1/X
[4] TDI
DR485 330/4/1
DR485->X, DQ56 -> 7002
DR485->O, DQ56 -> 2222

[29] VSUMP VSUMP
Close DL2
Rseries
DR478 2.61K/4/1
DRT3 10K/1/4/S
Rntc=(Rseries+DRT3)//Rparellel
DR46 11K/4/1
Rparellel
DBC25 0.22u/6/X7R/16V/K
DBC23 0.22u/4/X5R/6.3V/K
DBC117 0.22u/4/X5R/6.3V/K
DBC20 330p/4/NPO/50V/J
DR47 620/4/1
DR49 100/4/1
Ri
Iocp-->150A
[29] VSUMN VSUMN
DBC29 0.1u/4/X7R/16V/K

COMP
DBC103 10p/4/NPO/50V/J/X
ISEN3 [29]
DR462 3.24K/4/1/X
DBC104 1n/4/X7R/50V/K
DR461 845/4/1
DBC105 47p/4/NPO/50V/J
DR465 3.24K/4/1 VBOOT
Vboot-->0V
Imax-->99A
DR463 4.02K/4/1
DR464 470K/4/1
DBC106 680p/4/X7R/50V/K
FB_OV
DBC107 1n/4/X7R/50V/K/X
DR466 100/4/1
VCORE
Intersil Original Design
DBC108 0.01u/4/X7R/25V/K
VDCSENSE
DR483 0/4/SHT/M/X
VCC_SENSE [4]
DBC109 0.01u/4/X7R/25V/K
VSSSENSE
VSS_SENSE [4]
DR468 100/4/1
Load line-->1.7mohm

PHASE 1



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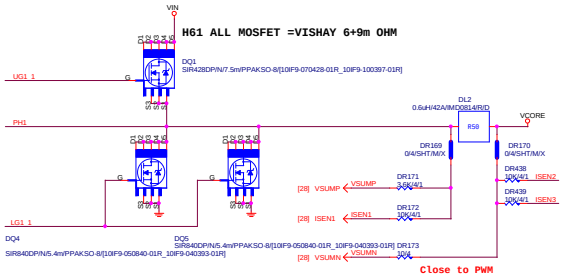
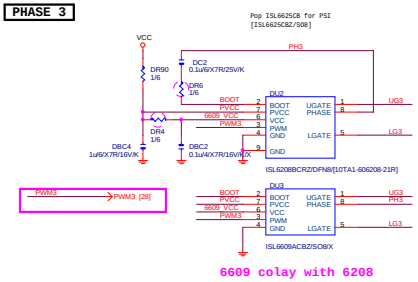
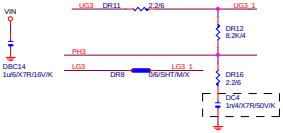


PHASE 3





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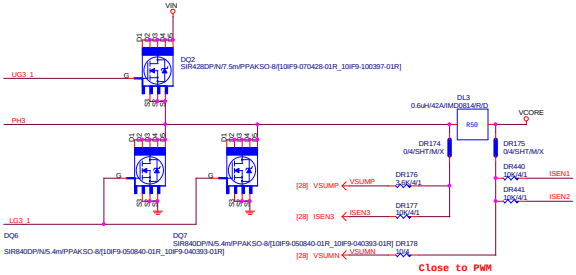
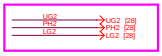
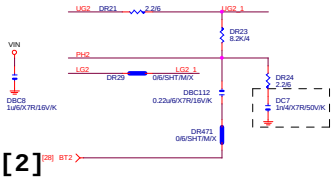


PHASE 2





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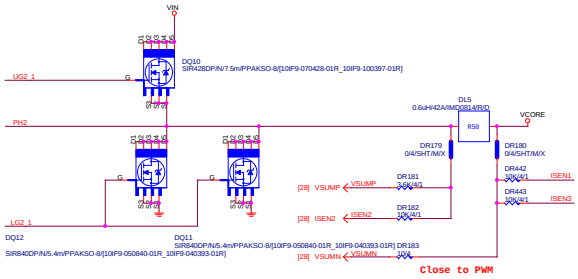
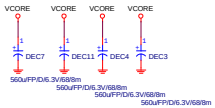
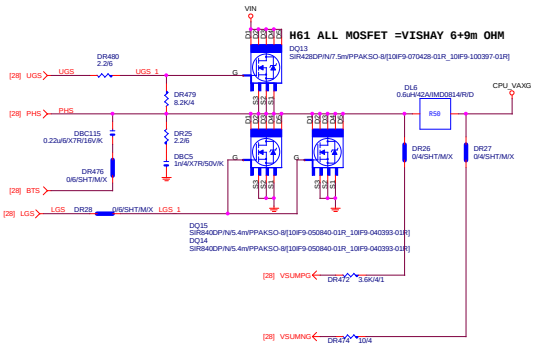
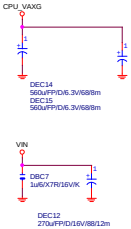




VAXG





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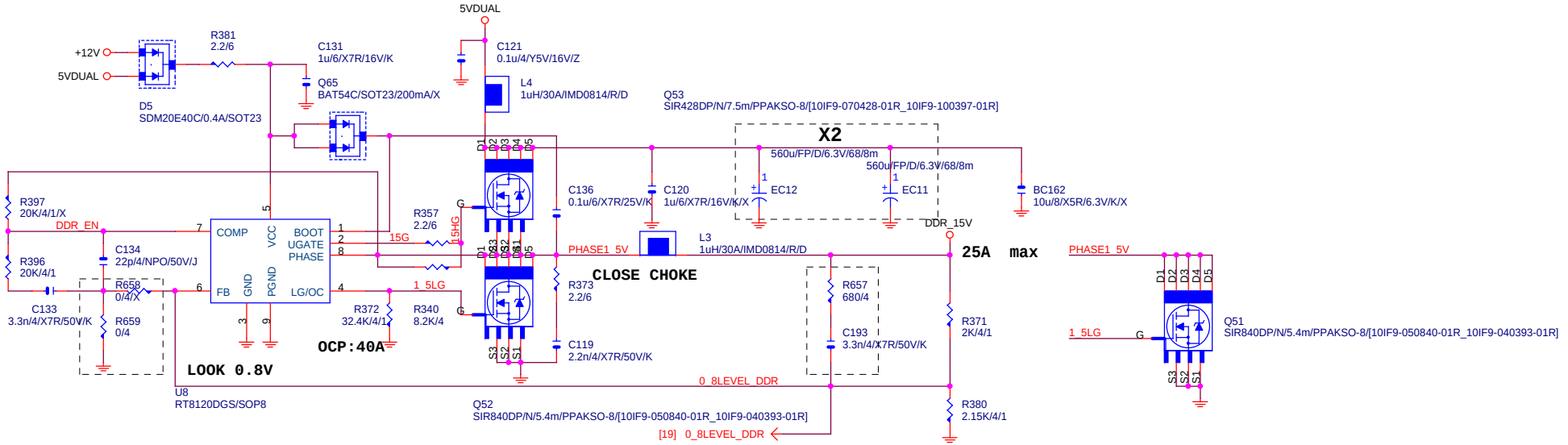
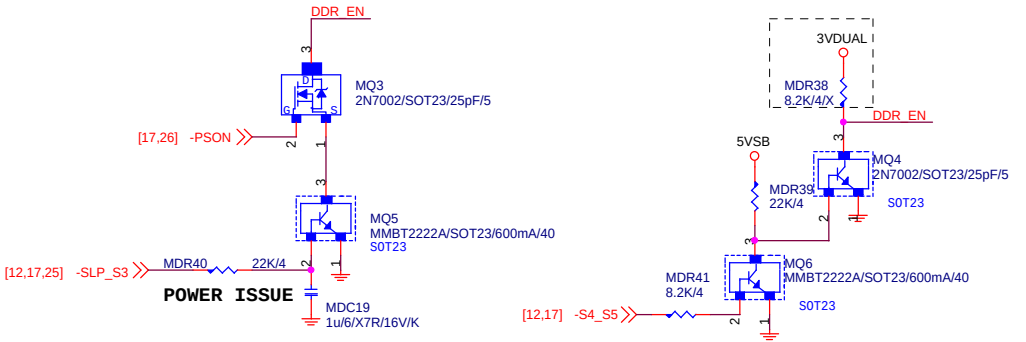
DDR15V



PWR SEQ



VIN=5V,VOUT=1.5V,IOUT=25A,PHASE=1
IRMS=11.45A

560u/FP/D/6.3V/68/8m RIPPLE CURRENT=4.7A
Coefficient=1.7(85℃),1(105℃)

VIN Ripple current=4.7X1.7=7.99A(85℃)
-->故固態電容須2X7.99=15.98>11.45A

OCP : Ipeak=(2xIocsetxRocset)/Rdson
typ Iocset=20uA , Rocset=4.7k

OCP :53.71A=(2x20uax4.7k)/(7m//7m)

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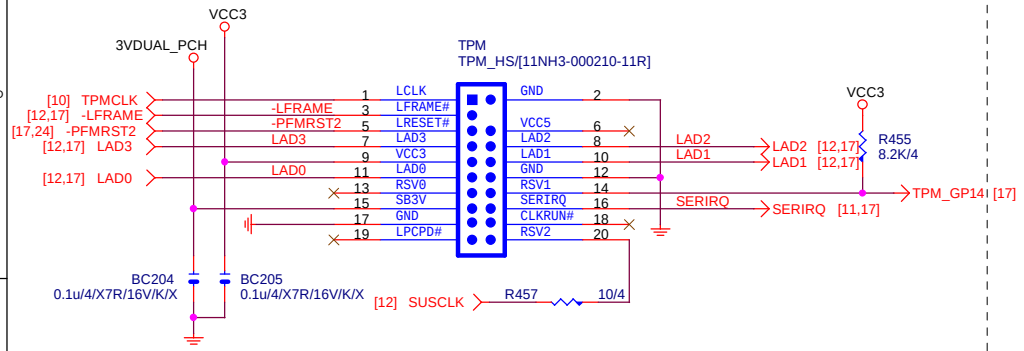
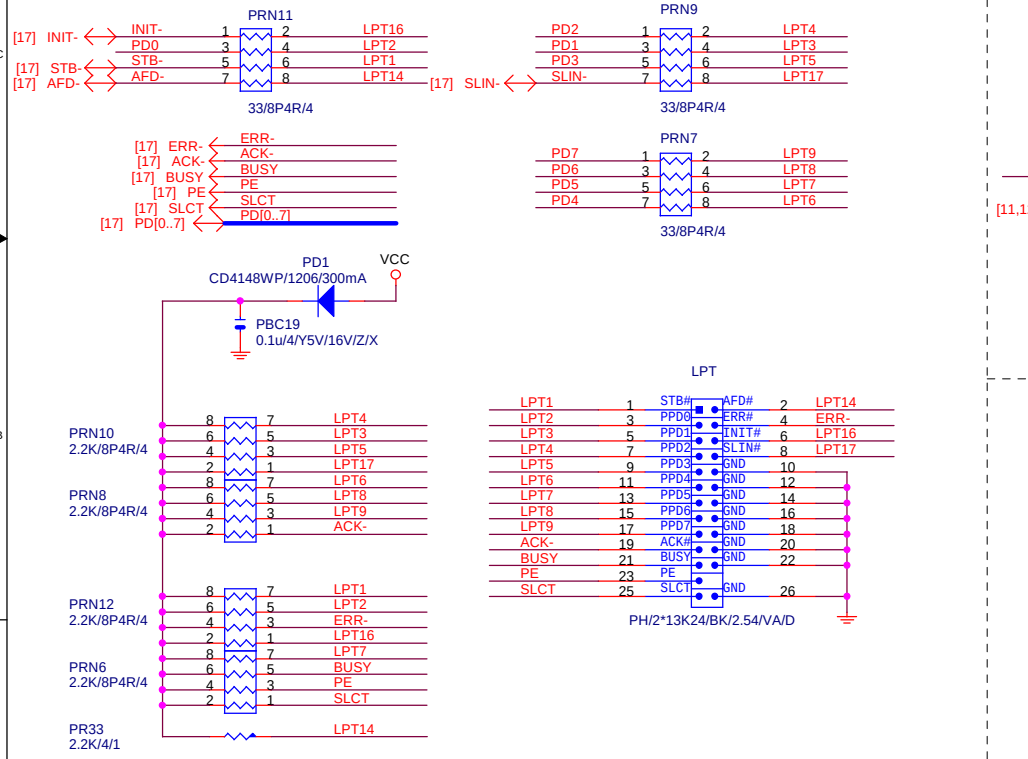
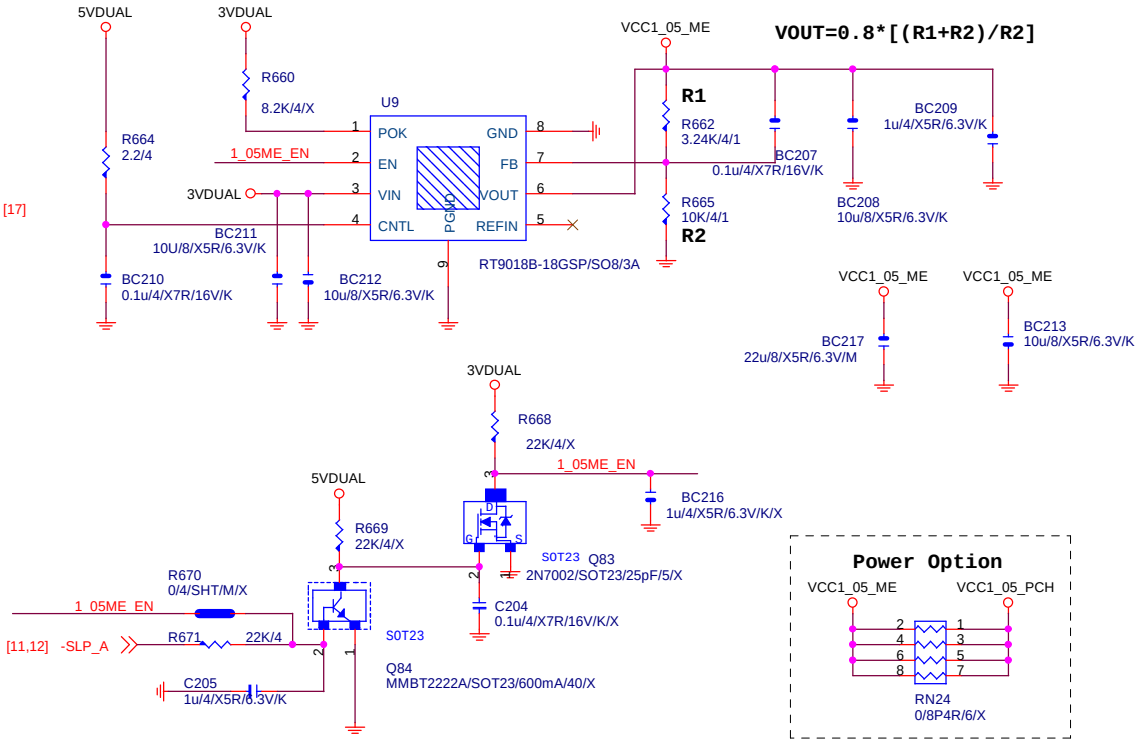
TPM



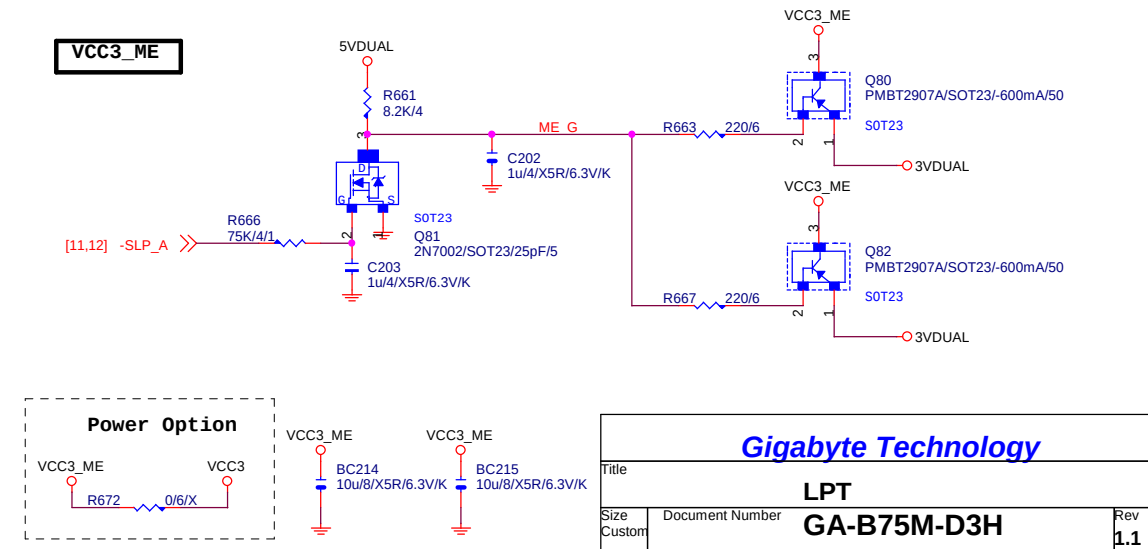
LPT PORT



VCC1_05_ME



VCC3_ME



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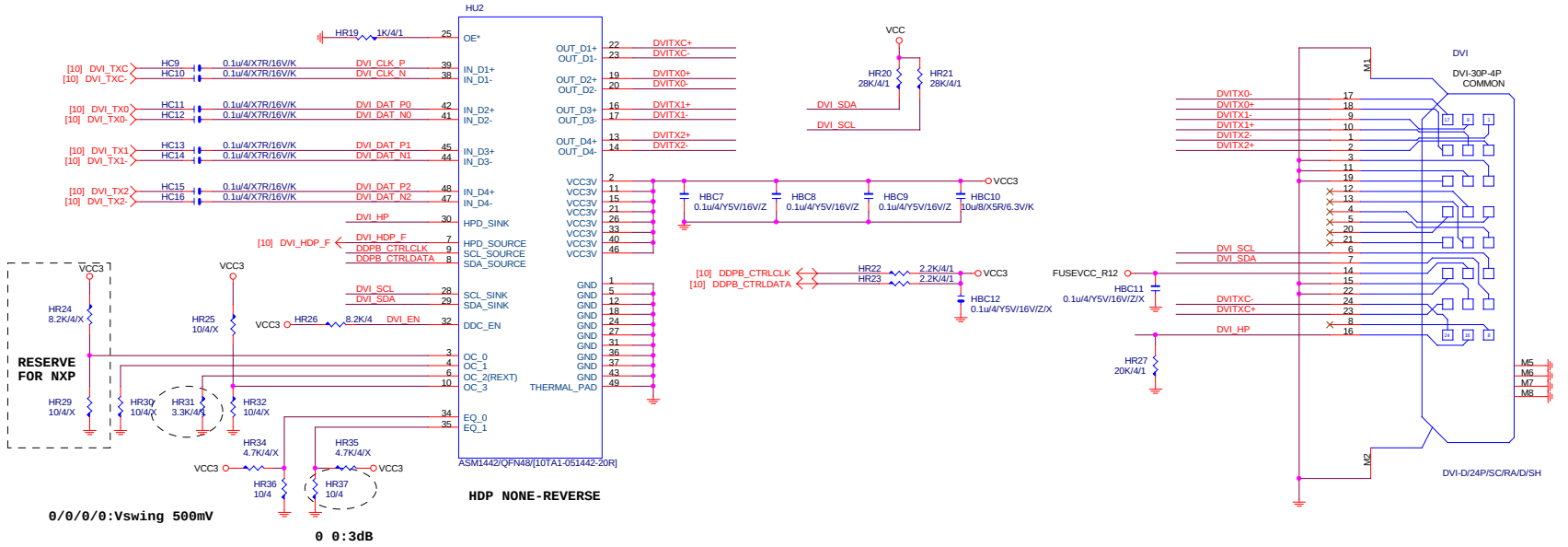
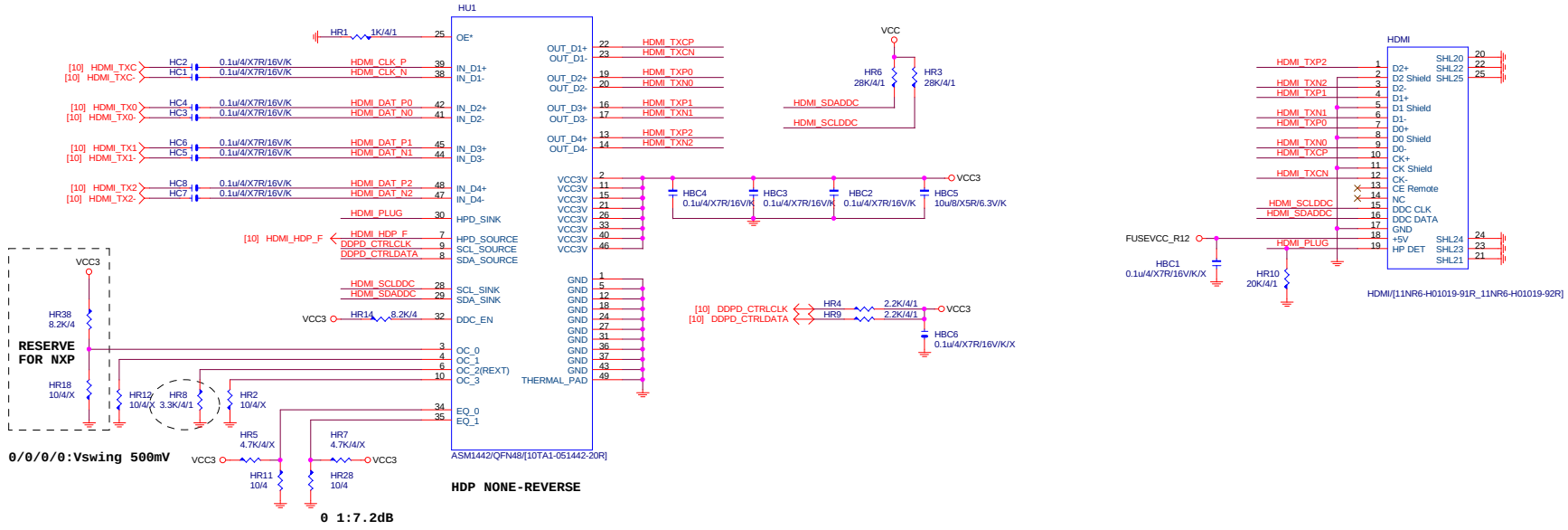
DVI LEVEL SHIFT



HDMI LEVEL SHIFT



Gigabyte Technology		
Title: DVI		
Size: Custom	Document Number: GA-B75M-D3H	Rev: 1.1
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