Model Name: GA-B75M-D3V

Revision 1.11

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*1 X2 SLOT
16	PCI SLOT1
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, M3 POWER
27	RT8120_CPU_VTT

SHEET	TITLE
28	VCORE ISL95836_1
29	VCORE ISL95836_2
30	RT8120_DDR POWER
31	LPT
32	DVI

Gigabyte Technology

Title	Cover Sheet	
Size: Custom	Document Number: GA-B75M-D3V	Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 1 of 32	

Model Name: GA-B75M-D3V

Revision 1.11

Component value change history

2012/03/14

Data	Change Item	Reason
2011/11/16	SWAP NET	
2011/11/28	MODIFY SATA3_0,SATA2_1 CONNECTOR 90.	
2011/12/22	Modifly to R0.2	
	ADD M3 Power	
2012/01/16	Modifly to R1.0	
2012/02/20	Update to R1.1	
	LAN Change to Realtek RTL8111F	
2012/03/12	FIX USB_LAN USB Power	

Circuit or PCB layout change

DATE	Change Item	Reason

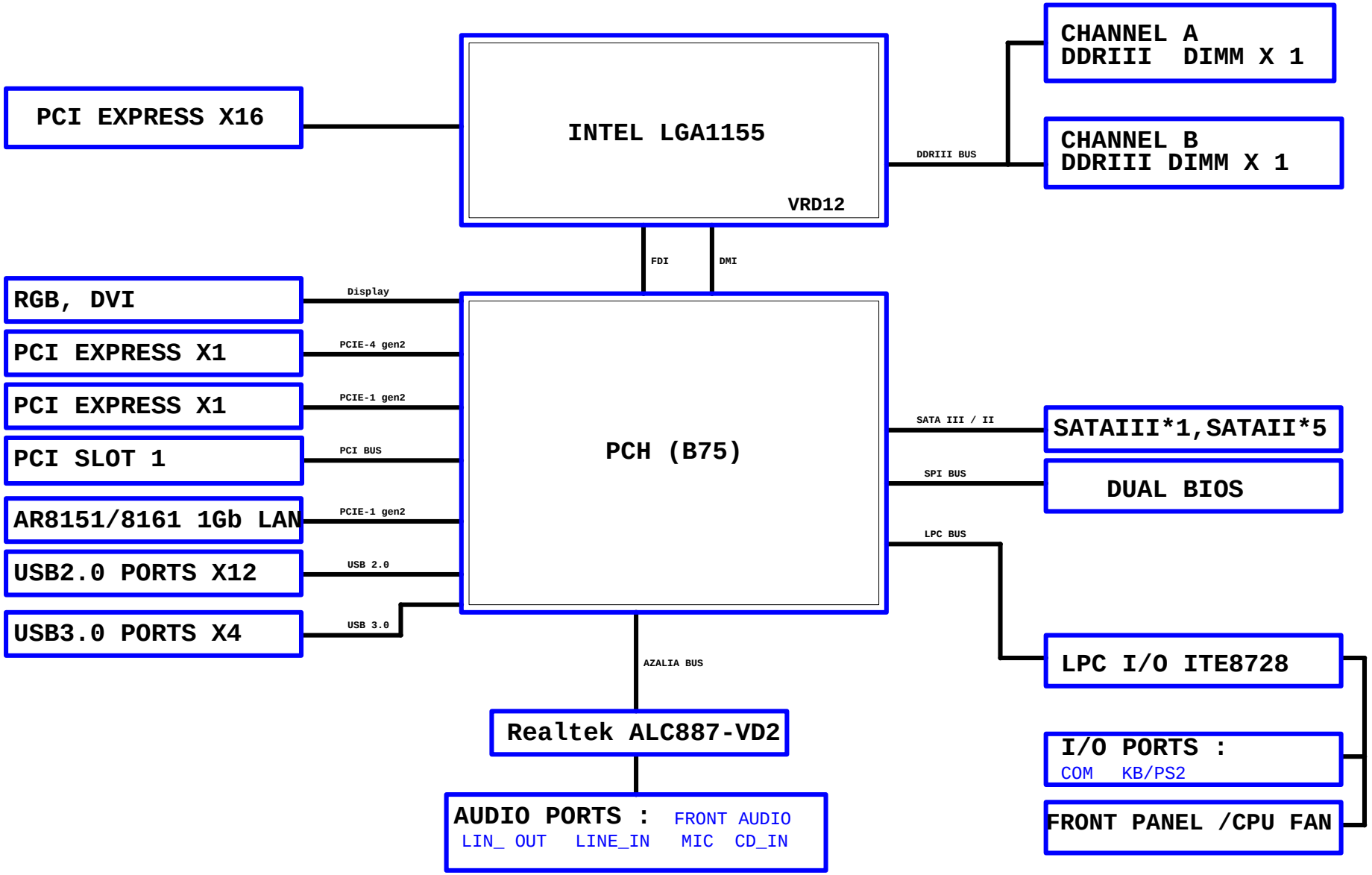
Gigabyte Technology

Title: BOM & PCB MODIFY HISTORY

Size: Custom | Document Number: GA-B75M-D3V | Rev: 1.11

Date: Wednesday, March 14, 2012 | Sheet 2 of 32

BLOCK DIAGRAM



Gigabyte Technology		
Title: BLOCK DIAGRAM		
Size: C	Document Number: GA-B75M-D3V	Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 3 of 32	

LGA1155 (E)

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

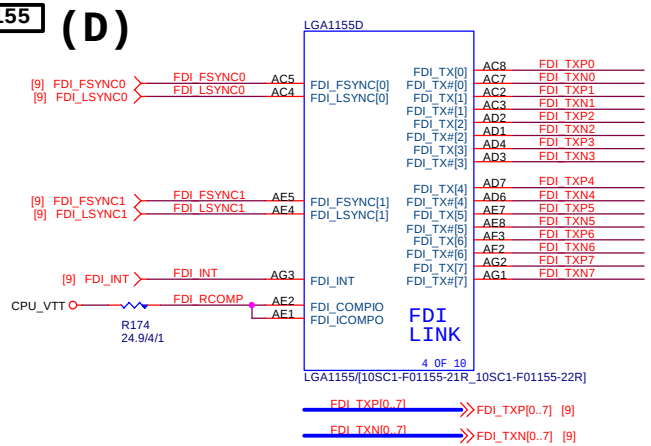
CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	**NORM**	**Reverse**	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD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

LGA1155 (D)



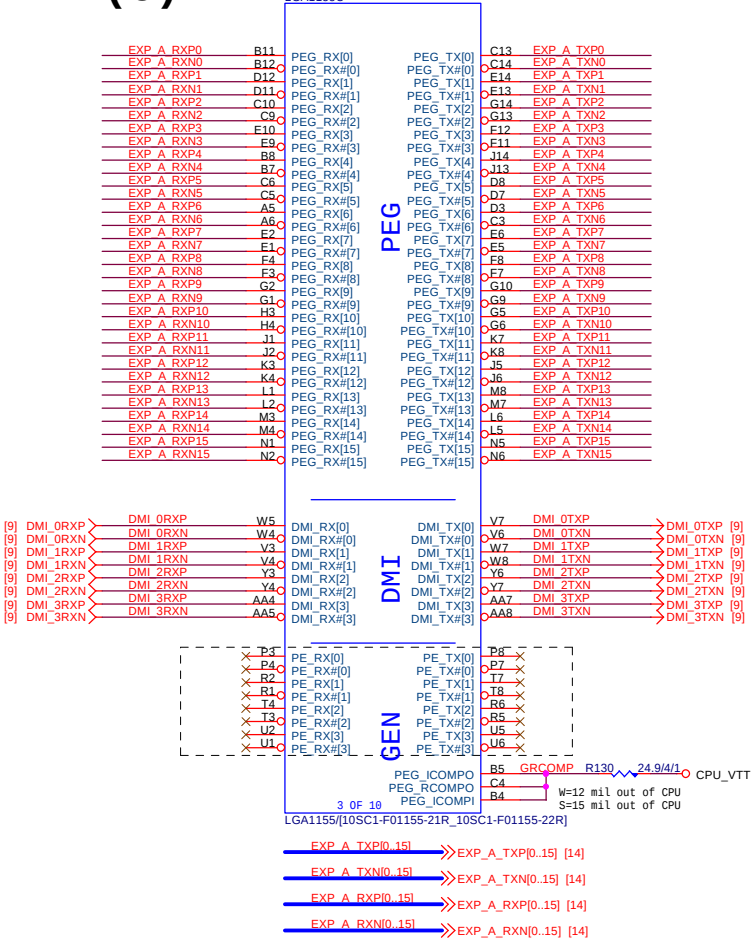
CPU_VTT — R174 24.9/4/1

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

FDI_TXP[0..7] [9] → FDI_TXP[0..7] [9]

FDI_TXN[0..7] [9] → FDI_TXN[0..7] [9]

LGA1155 (C)



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

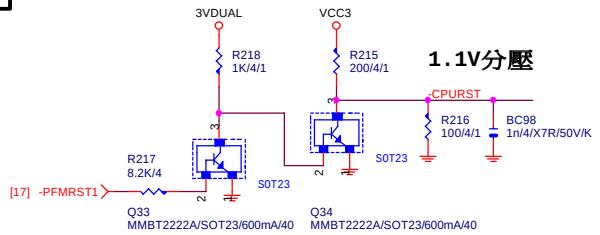
EXP_A_TXP[0..15] → EXP_A_TXP[0..15] [14]

EXP_A_TXN[0..15] → EXP_A_TXN[0..15] [14]

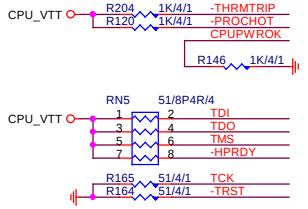
EXP_A_RXP[0..15] → EXP_A_RXP[0..15] [14]

EXP_A_RXN[0..15] → EXP_A_RXN[0..15] [14]

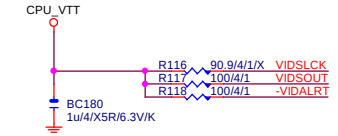
-CPURST



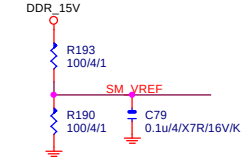
CPU PU/PD



CPU SVID



SM REF



Title	CPU LGA1155-A		
Size: Custom	Document Number: GA-B75M-D3V		Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 4 of 32		

Gigabyte Technology

LGA1155 (A)

LGA1155A

DDR_0

1 OF 10

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)

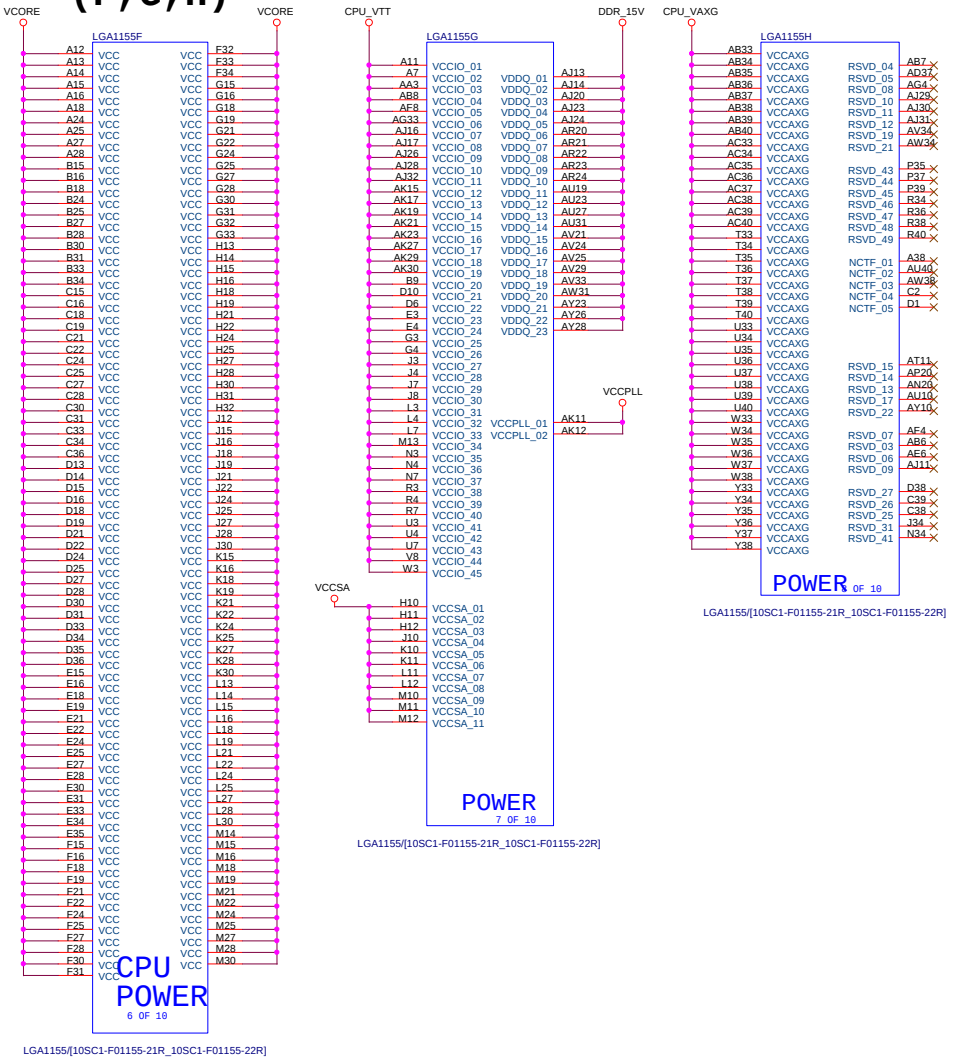
CR
CPU RETAINTION/X

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-D3V		Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 5 of 32		

LGA1155 (F,G,H)

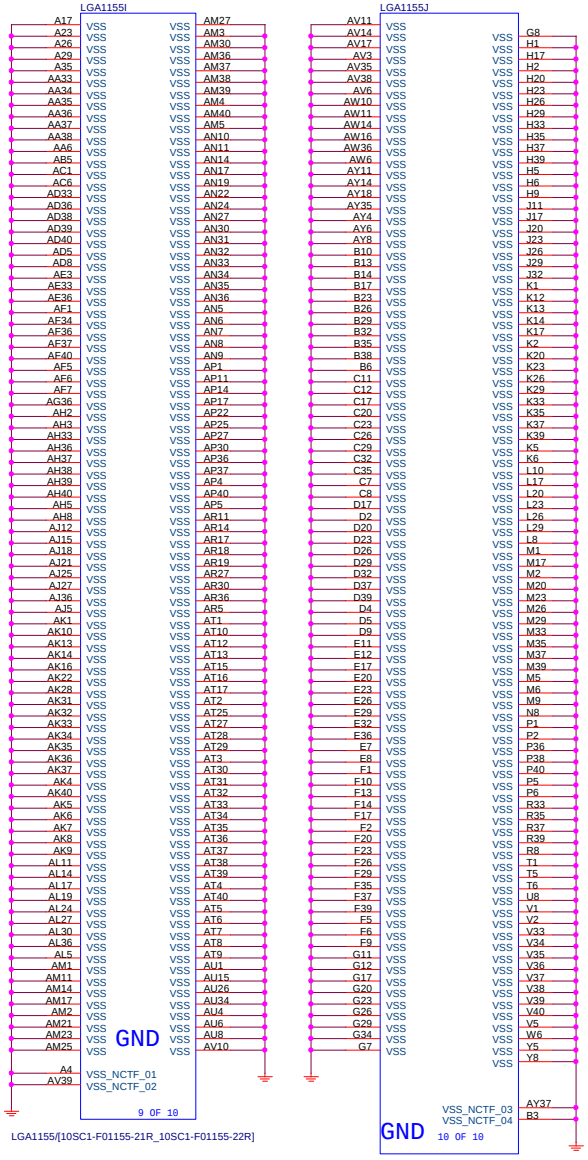


LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]

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

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

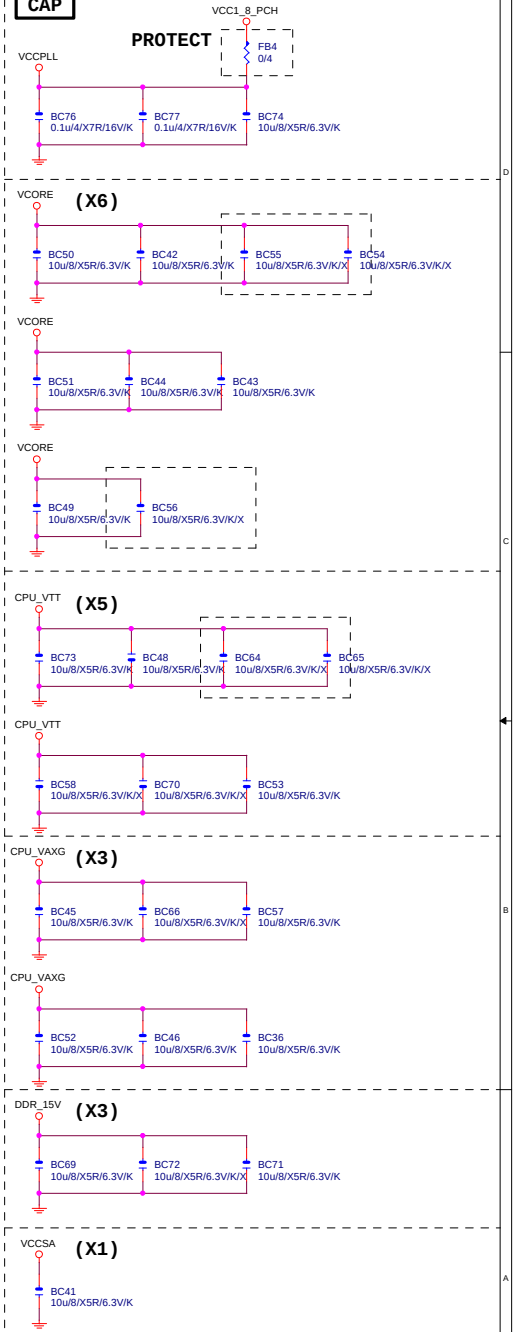
LGA1155 (I,J)



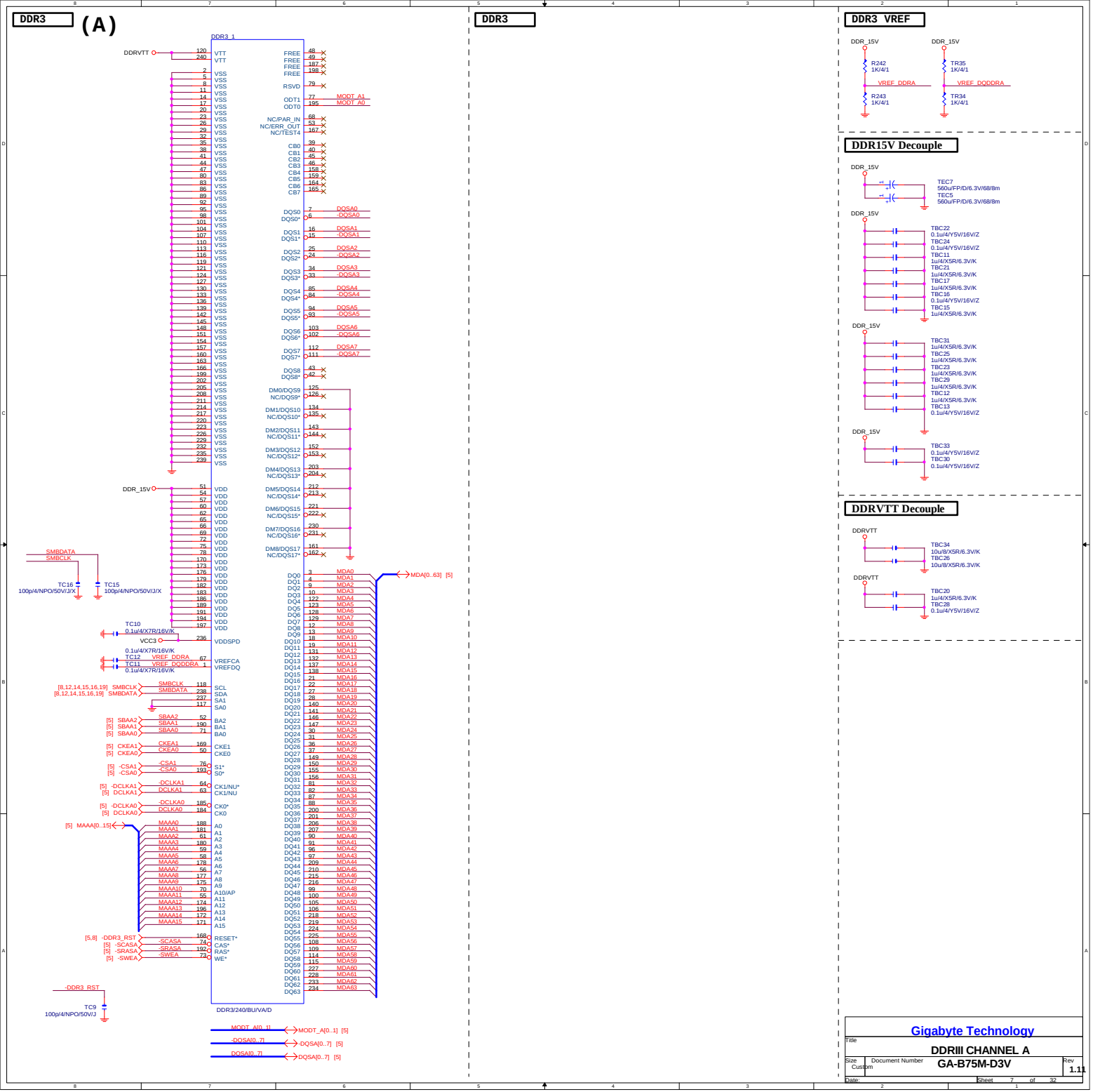
LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]

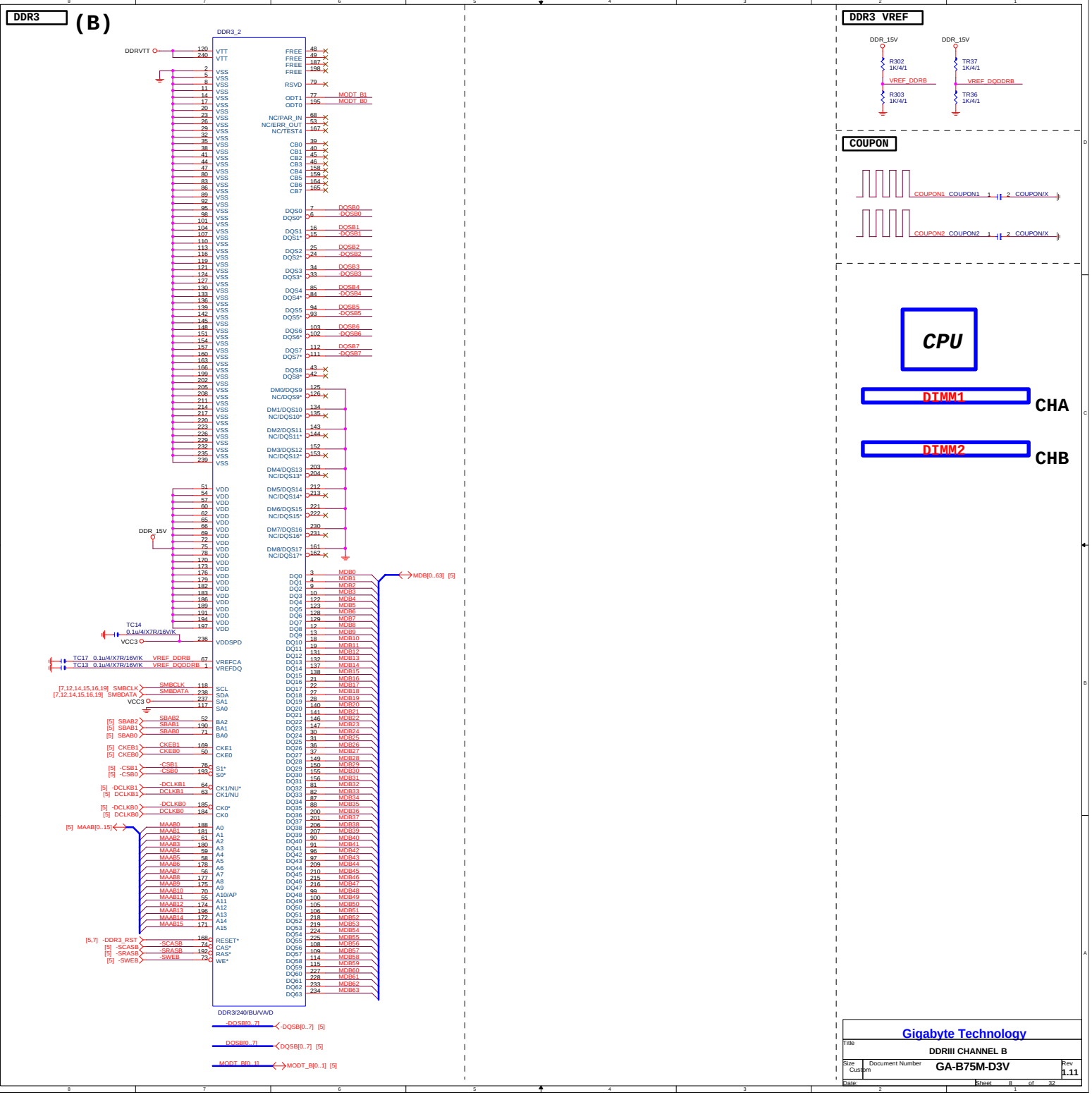
LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]

CAP



Gigabyte Technology		
Title: CPU LGA1156-C		
Size: Custom	Document Number: GA-B75M-D3V	Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 6 of 32	


DDR3
(A)
DDR3_1
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
VREF_DDRA
TC11
VREF_DDDRA
0.1u/4/X7R/16V/K
[8,12,14,15,16,19] SMBCLK
[8,12,14,15,16,19] 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
-DDR3_RST
TC9
100p/4/NPO/50V/J
DDR3/240/BU/VA/D
MDA[0..63] [5]
MODT_A[0..1]
MODT_A[0..1] [5]
-DQSA[0..7]
-DQSA[0..7] [5]
DQSA[0..7]
DQSA[0..7] [5]
DDR3
DDR3_VREF
DDR_15V
R242
1K/4/1
VREF_DDRA
R243
1K/4/1
TR35
1K/4/1
VREF_DDDRA
TR34
1K/4/1
DDR15V Decouple
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/8/X5R/6.3V/K
TBC26
10u/8/X5R/6.3V/K
DDRVTT
TBC20
1u/4/X5R/6.3V/K
TBC28
0.1u/4/Y5V/16V/Z
Gigabyte Technology
Title
DDRIII CHANNEL A
Size
Custom
Document Number
GA-B75M-D3V
Rev
1.11
Date:
Sheet 7 of 32


DDR3
(B)
DDR3_2
DDRVTT
DDR_15V
TC14
0.1u/4/X7R/16V/K
VCC3
TC17 0.1u/4/X7R/16V/K
TC13 0.1u/4/X7R/16V/K
VREF_DDRB
VREF_DQDDRB
VDDSPD
VREFCA
VREFDQ
SMBCLK
SMBDATA
SCL
SDA
SA1
SA0
BA2
BA1
BA0
CKE1
CKE0
S1*
S0*
CK1/NU*
CK1/NU
CK0*
CK0
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10/AP
A11
A12
A13
A14
A15
RESET*
CAS*
RAS*
WE*
VTT
VSS
RSVD
ODT1
ODT0
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
NC/DQS12*
DM4/DQS13
NC/DQS13*
DM5/DQS14
NC/DQS14*
DM6/DQS15
NC/DQS15*
DM7/DQS16
NC/DQS16*
DM8/DQS17
NC/DQS17*
VDD
DQ0
DQ1
DQ2
DQ3
DQ4
DQ5
DQ6
DQ7
DQ8
DQ9
DQ10
DQ11
DQ12
DQ13
DQ14
DQ15
DQ16
DQ17
DQ18
DQ19
DQ20
DQ21
DQ22
DQ23
DQ24
DQ25
DQ26
DQ27
DQ28
DQ29
DQ30
DQ31
DQ32
DQ33
DQ34
DQ35
DQ36
DQ37
DQ38
DQ39
DQ40
DQ41
DQ42
DQ43
DQ44
DQ45
DQ46
DQ47
DQ48
DQ49
DQ50
DQ51
DQ52
DQ53
DQ54
DQ55
DQ56
DQ57
DQ58
DQ59
DQ60
DQ61
DQ62
DQ63
MDB[0..63] [5]
DDR3/240/BU/VA/D
-DQSB[0..7]
DQSB[0..7]
MODT_B[0..1]
-DQSB[0..7] [5]
DQSB[0..7] [5]
MODT_B[0..1] [5]
DDR3 VREF
DDR_15V
R302 1K/4/1
R303 1K/4/1
TR37 1K/4/1
TR36 1K/4/1
VREF_DDRB
VREF_DQDDRB
COUPON
COUPON1 COUPON1
COUPON2 COUPON2
COUPON/X
CPU
DIMM1
CHA
DIMM2
CHB
Gigabyte Technology
Title
DDRIII CHANNEL B
Size
Custom
Document Number
GA-B75M-D3V
Rev
1.11
Date:
Sheet 8 of 32

PCH (B)

PCHB

DMI_0TXN / DMI_0TXP / DMI_0RXN / DMI_0RXP / DMI_1TXN / DMI_1TXP / DMI_1RXN / DMI_1RXP / DMI_2TXN / DMI_2TXP / DMI_2RXN / DMI_2RXP / DMI_3TXN / DMI_3TXP / DMI_3RXN / DMI_3RXP

VCC1_05_PCH — R232 49.9/4/1

DMI_IRCOMP

DMI_ZCOMP

-SRCCLK_PCH P33

SRCCLK_PCH R33

CLKIN_DMI_N

CLKIN_DMI_P

DMI

PCIEX1_2

[15] PCIE_IN1 J20

[15] PCIE_IP1 L20

[15] PCIE_TN1 — 0.1u/4/X7R/16V/K C170 PET_N1 F25

[15] PCIE_TP1 — 0.1u/4/X7R/16V/K C171 PET_P1 F23

PERN1 / PERP1 / PETN1 / PETP1 / PERN2 / PERP2 / PETN2 / PETP2 / PERN3 / PERP3 / PETN3 / PETP3 / PERN4 / PERP4 / PETN4 / PETP4

PCIEX1_1 LAN

[24] LA_ML_IN N15

[24] LA_ML_IP M15

[24] LA_ML_ON B17

[24] LA_ML_OP C16

[15] PCIE_IN6 J15

[15] PCIE_IP6 L15

[15] PCIE_TN6 — 0.1u/4/X7R/16V/K C33 PET_N6 A16

[15] PCIE_TP6 — 0.1u/4/X7R/16V/K C31 PET_P6 B15

PERN5 / PERP5 / PETN5 / PETP5 / PERN6 / PERP6 / PETN6 / PETP6 / PERN7 / PERP7 / PETN7 / PETP7 / PERN8 / PERP8 / PETN8 / PETP8

PCI-E

USB

USBP0N BF36 -USBP0 → -USBP0 [21]

USBP0P BD36 +USBP0 → +USBP0 [21]

USBP1N BC33 -USBP1 → -USBP1 [21]

USBP1P BA33 +USBP1 → +USBP1 [21]

USBP2N BM33 -USBP2 → -USBP2 [18]

USBP2P BM35 +USBP2 → +USBP2 [18]

USBP3N BT33 -USBP3 → -USBP3 [18]

USBP3P BU32 +USBP3 → +USBP3 [18]

USBP4N BR32 -USBP4 → -USBP4 [21]

USBP4P BT31 +USBP4 → +USBP4 [21]

USBP5N BN29 -USBP5 → -USBP5 [21]

USBP5P BM30 +USBP5 → +USBP5 [21]

USBP6N BK33

USBP6P BJ33

USBP7N BF31

USBP7P BD31

B75: USB2.0 X12 [6/7 PORT-->N/A]

USBP8N BN27 -USBP8 → -USBP8 [21]

USBP8P BR29 +USBP8 → +USBP8 [21]

USBP9N BR26 -USBP9 → -USBP9 [21]

USBP9P BT27 +USBP9 → +USBP9 [21]

USBP10N BK25 -USBP10 → -USBP10 [24]

USBP10P BJ25 +USBP10 → +USBP10 [24]

USBP11N BJ31 -USBP11 → -USBP11 [24]

USBP11P BK31 +USBP11 → +USBP11 [24]

USBP12N BF27 -USBP12 → -USBP12 [24]

USBP12P BD27 +USBP12 → +USBP12 [18]

USBP13N BJ27 -USBP13 → -USBP13 [18]

USBP13P BK27 +USBP13 → +USBP13 [18]

OC0#/GPIO59 BM43 -USBOC_F → -USBOC_F [21]

OC1#/GPIO40 BD41

OC2#/GPIO41 BG41

OC3#/GPIO42 BK43

OC4#/GPIO43 BP43 -USBOC_R → -USBOC_R [18]

OC5#/GPIO9 BJ41

OC6#/GPIO10 BT45

OC7#/GPIO14 BM45 GPIO14

BC121 0.1u/4/X7R/16V/K

BC126 0.1u/4/X7R/16V/K

USBRBIAS# BP25 USBRBIAS R229 22.6/4/1

USBRBIAS BM25

CLKIN_DOT_96N BD38 -DOTCLK

CLKIN_DOT_96P BF38 DOTCLK

DMI2RBIAS A32 R233 750/4/1

2 0F 11

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

PCH (G)

PCHG

FDILINK

[21] PCH_USB3_RXN1 H31 — USB3_RXN1 — FDI_RXN0 C42 FDI_TXN0 B43 FDI_TXP0

[21] PCH_USB3_RXP1 J31 — USB3_RXP1 — FDI_RXP0 F45 FDI_TXN1 F43 FDI_TXP1

[21] PCH_USB3_TXN1 C29 — USB3_TXN1 — FDI_RXN1 H41 FDI_TXN2 J41 FDI_TXP2

[21] PCH_USB3_TXP1 E29 — USB3_TXP1 — FDI_RXP1 C46 FDI_TXN3 D47 FDI_TXP3

[21] PCH_USB3_RXN2 J27 — USB3_RXN2 — FDI_RXP2 B45 FDI_TXN4 A46 FDI_TXP4

[21] PCH_USB3_RXP2 L27 — USB3_RXP2 — FDI_RXN2 B47 FDI_TXN5 C49 FDI_TXP5

[21] PCH_USB3_TXN2 F28 — USB3_TXN2 — FDI_RXP2 J43 FDI_TXN6 H43 FDI_TXP6

[21] PCH_USB3_TXP2 E27 — USB3_TXP2 — FDI_RXN3 M43 FDI_TXN7 P43 FDI_TXP7

[18] PCH_USB3_RXN3 J25 — USB3_RXN3 — FDI_RXP3

[18] PCH_USB3_RXP3 L25 — USB3_RXP3 — FDI_RXN4

[18] PCH_USB3_TXN3 C26 — USB3_TXN3 — FDI_RXP4

[18] PCH_USB3_TXP3 B27 — USB3_TXP3 — FDI_RXN5

[18] PCH_USB3_RXN4 L22 — USB3_RXN4 — FDI_RXP5

[18] PCH_USB3_RXP4 J22 — USB3_RXP4 — FDI_RXN6

[18] PCH_USB3_TXN4 B25 — USB3_TXN4 — FDI_RXP6

[18] PCH_USB3_TXP4 D25 — USB3_TXP4 — FDI_RXN7

FDI_RXP7

FDI_FSYNC0 B51 FDI_FSYNC0 → FDI_FSYNC0 [4]

FDI_LSYNC0 E49 FDI_LSYNC0 → FDI_LSYNC0 [4]

FDI_FSYNC1 C52 FDI_FSYNC1 → FDI_FSYNC1 [4]

FDI_LSYNC1 D51 FDI_LSYNC1 → FDI_LSYNC1 [4]

FDI_INT H46 FDI_INT → FDI_INT [4]

7 0F 11

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

FDI_TXP[0..7] → FDI_TXP[0..7] [4]

FDI_TXN[0..7] → FDI_TXN[0..7] [4]

-USBOC F/R PROTECT

[12] GPIO11 — D4 SOT23 BAT54A/SOT23/200mA — -USBOC_F / -USBOC_R

R238 8.2K/4 GPIO14 — 3VDUAL

PCH CLK PD

SRCCLK_PCH R414 8.2K/4

-SRCCLK_PCH R416 8.2K/4

DOTCLK R417 8.2K/4

-DOTCLK R419 8.2K/4

short to GND in non graphic SKU

PCH H/S

LOW COST ICH7 HEATSINK

BGAHSINK_SB-N

SB_HEATSIN

1 2

PCH_HS **GRAY HS**

PCH_HS/[12SP2-030005-41R_12SP2-030005-42R_12SP2-030005-43R]

PCH (E)

PCHE

NV_CLE M48

RESERVED_29 R47

DF_TVS Y41

RESERVED_6 M50

RESERVED_4 M49

RESERVED_3 U43

RESERVED_2 J57

RESERVED_1

RESERVED_22 AB50

RESERVED_21 Y50

RESERVED_14 AB49

RESERVED_13 AB44

RESERVED_12 U49

RESERVED_11 R44

RESERVED_10 U50

RESERVED_9 U46

RESERVED_8 U44

RESERVED_7 H50

RESERVED_20 K46

RESERVED_19 L56

RESERVED_18 J55

RESERVED_17 F53

RESERVED_16 H52

RESERVED_15 E52

RESERVED_28 K50

RESERVED_27 K49

RESERVED_26 AB46

RESERVED_25 G56

RESERVED_24 Y44

RESERVED_23 L53

RESERVED_5 R50 NV_RCOMP R256 33/4

32.4/4/1 for ONFI enable

NVRAM

5 0F 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-D3V | Rev: 1.11

Date: Wednesday, March 14, 2012 | Sheet 9 of 32

PCH (F)

PCHF

[32] DVI_HDP_F — DVI_HDP_F — T1 — DDPB_HPD
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
D5 — DDPD_0P
B5 — DDPD_0N
C6 — DDPD_1P
D7 — DDPD_1N
B7 — DDPD_2P
C9 — DDPD_2N
E11 — DDPD_3P
B11 — DDPD_3N

U2 — SDVO_INTP — DDPC_CTRLCLK — AL12
T3 — SDVO_INTN — DDPC_CTRLDATA — AL14
W3 — SDVO_STALLP — DDPD_CTRLCLK — AL9
U5 — SDVO_STALLN — DDPD_CTRLDATA — AL8
U8 — SDVO_TVCLKINP — SDVO_CTRLCLK — AL15 — DDPB_CTRLCLK — DDPB_CTRLCLK [32]
U9 — SDVO_TVCLKINN — SDVO_CTRLDATA — AL17 — DDPB_CTRLDATA — DDPB_CTRLDATA [32]

6 0F 11

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

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

PCH (F)

PCHH

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

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

[17] LPCCLK48 — R209 — 33/4 — native 48Mhz — PCH_48M — AT9 — CLKOUTFLEX0/GPIO64
BA5 — CLKOUTFLEX1/GPIO65
AW5 — CLKOUTFLEX2/GPIO66
BA2 — CLKOUTFLEX3/GPIO67

VCC1_05_PCH — R206 — 90.9/4/1 — CLK_RCOMP — AL2 — XCLK_RCOMP
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

8 0F 11

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

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 — -SRCCLK0 — -SRCCLK_PCIEX11 [15]
CLKOUT_PCIE0P — AC6 — SRCCLK0 — SRCCLK_PCIEX11 [15] — **PCIEX1_1**
CLKOUT_PCIE1N — AA5 — -SRCCLK1 — -SRCCLK_PCIEX12 [15]
CLKOUT_PCIE1P — W5 — SRCCLK1 — SRCCLK_PCIEX12 [15] — **PCIEX1_2**
CLKOUT_PCIE2N — AB12
CLKOUT_PCIE2P — AB14
CLKOUT_PCIE3N — AB9 — -SRCCLK3 — LA_-SRCCLK_LAN [24]
CLKOUT_PCIE3P — AB8 — SRCCLK3 — LA_SRCCLK_LAN [24] — **LAN**
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] — **PCIEX16 FOR OC**
CLKOUT_PEG_B_N — AE12
CLKOUT_PEG_B_P — AE11

PCH CLK PD

PCHCLK14 R210 8.2K/4
-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
VCC — R68 1K/4/1 — Q2 2N7002/SOT23/25pF/5 — R69 2.2K/4/1 — R72 2.2K/4/1 — VGADDCDATA
GVSYNC — C22 100p/4/NPO/50V/J
Q3 2N7002/SOT23/25pF/5 — VGADDCCLK
DDCCLK
GHSYNC — C20 100p/4/NPO/50V/J
R71 1K/4/1
SOT23

VGA CONNECTOR

FUSEVCC_R
BC9 0.1u/4/X7R/16V/K/X
VGA
VGA_R — VGADDCDATA
VGA_G — GHSYNC
VGA_B — GVSYNC
VGADDCCLK
VGA/BU/SC-11/RA/D/L/[11NR6-101015-3FR]

VGA ESD

ESD3
VGADDCDATA — VGADDCCLK
VCC
GHSYNC — GVSYNC
AOZ8902CIL/SOT23-6
SSOP6_ESD

ESD4
R
VCC3
B — G
AOZ8902CIL/SOT23-6

VGA DDC

R — FB1 — 60/6/3A/S — VGA_R
G — FB2 — 60/6/3A/S — VGA_G
B — FB3 — 60/6/3A/S — VGA_B
R53 75/4/1 — R55 75/4/1 — R54 75/4/1
C17 C18 C19 — 10p/4/NPO/50V/J
C13 C14 C15 — 22p/4/NPO/50V/J

Close to Filter

Gigabyte Technology

Title	PCH DISPLAY ,CLK BUFFER		
Size: Custom	Document Number: GA-B75M-D3V		Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 10 of 32		

PCH (C)

B75 SATA3.0 ONLY PORT0
B75 Not Support RAID

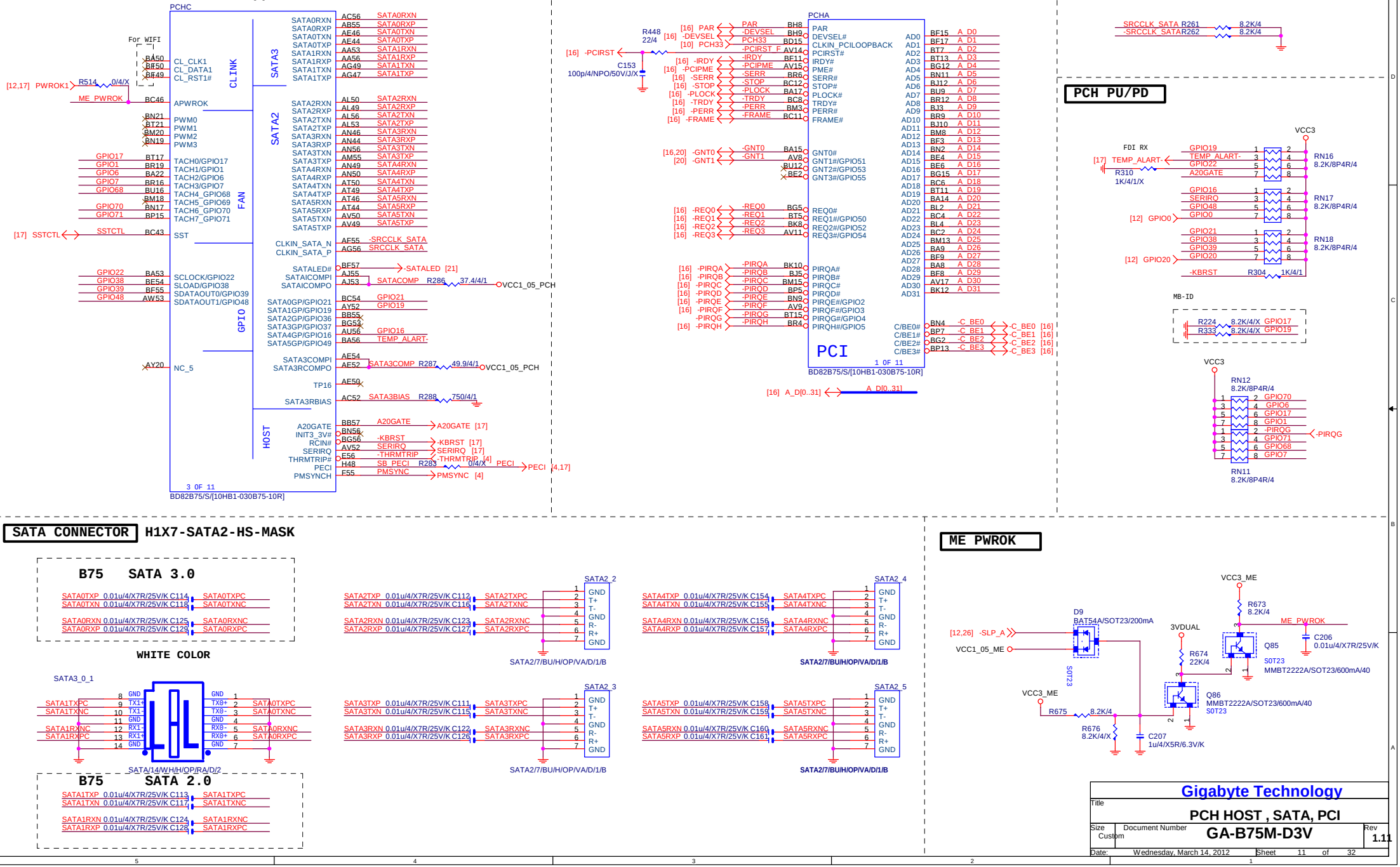
PCH (A)

PCH CLK PD

PCH PU/PD

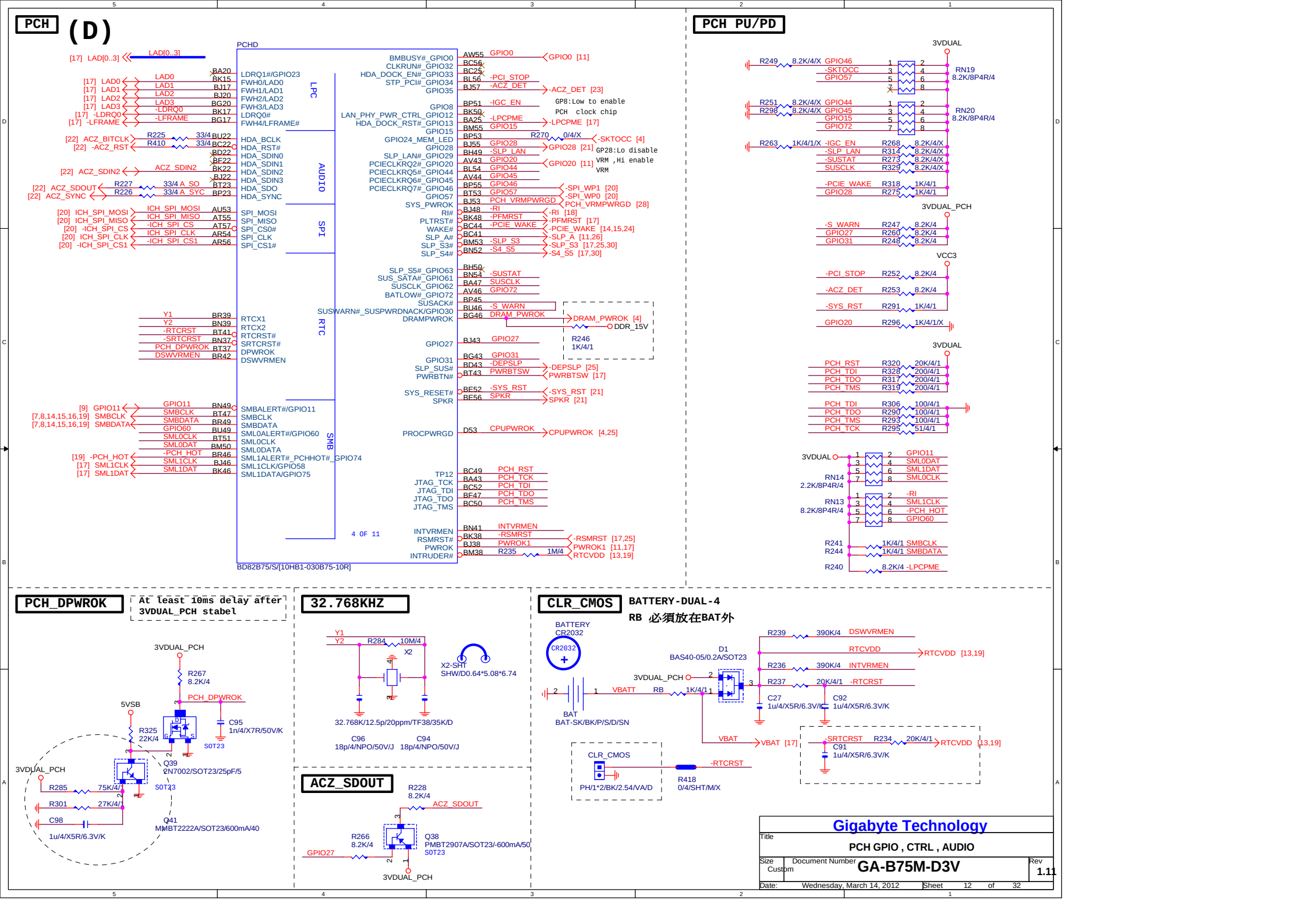
SATA CONNECTOR H1X7-SATA2-HS-MASK

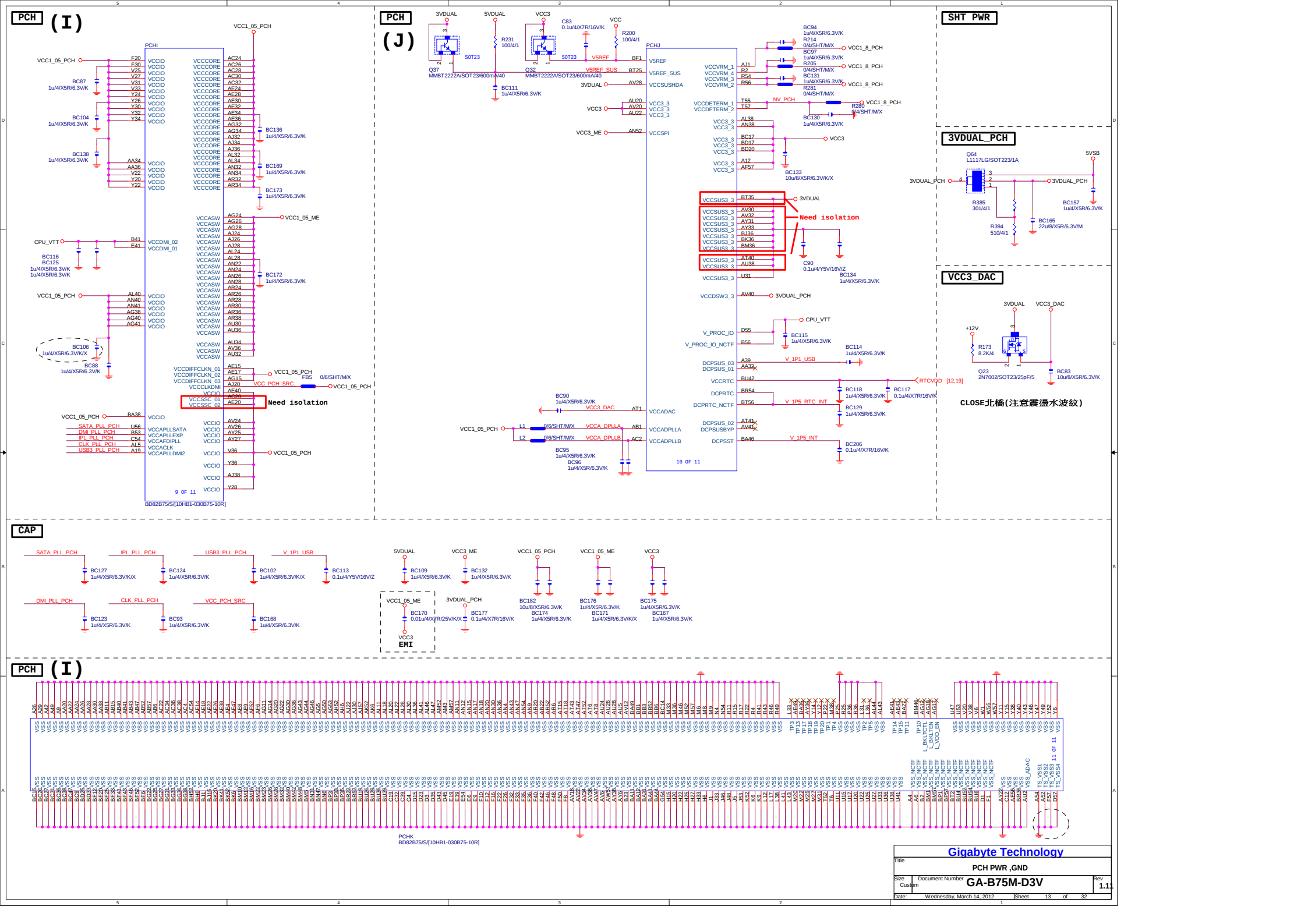
ME PWROK



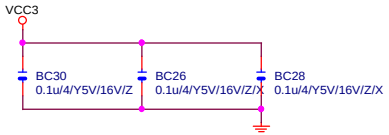
Gigabyte Technology

Title	PCH HOST , SATA, PCI	
Size: Custom	Document Number: GA-B75M-D3V	Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 11 of 32	

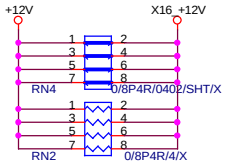

PCH (D)
PCHD
LAD[0..3]
LDRQ1#/GPIO23
FWH0/LAD0
FWH1/LAD1
FWH2/LAD2
FWH3/LAD3
LDRQ0#
FWH4/LFRAME#
LPC
HDA_BCLK
HDA_RST#
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDO
HDA_SYNC
AUDIO
SPI_MOSI
SPI_MISO
SPI_CS0#
SPI_CLK
SPI_CS1#
SPI
RTCX1
RTCX2
RTCRST#
SRTCRST#
DPWROK
DSWVRMEN
RTC
SMBALERT#/GPIO11
SMBCLK
SMBDATA
SML0ALERT#/GPIO60
SML0CLK
SML0DATA
SML1ALERT#_PCHHOT#_GPIO74
SML1CLK/GPIO58
SML1DATA/GPIO75
SMB
4 OF 11
BD82B75/S/[10HB1-030B75-10R]
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#
GPIO0 [11]
-PCI_STOP
-ACZ_DET [23]
GP8:Low to enable PCH clock chip
-IGC_EN
-LPCPME
-LPCPME [17]
GPIO15
R270 0/4/X
-SKTOCC [4]
GPIO28
-SLP_LAN
GPIO28 [21]
GP28:Lo disable VRM ,Hi enable VRM
GPIO20
GPIO20 [11]
GPIO44
GPIO45
GPIO46
GPIO57
-SPI_WP1 [20]
-SPI_WP0 [20]
PCH_VRMPWRGD
PCH_VRMPWRGD [28]
-RI
-RI [18]
-PFMRST
-PFMRST [17]
-PCIE_WAKE
-PCIE_WAKE [14,15,24]
-SLP_A [11,26]
-SLP_S3
-SLP_S3 [17,25,30]
-SLP_S5 [17,30]
-SUSTAT
SUSCLK
GPIO72
-S_WARN
DRAM_PWROK
DRAM_PWROK [4]
DDR_15V
R246 1K/4/1
-DEPSLP
-DEPSLP [25]
PWRBTSW
PWRBTSW [17]
-SYS_RST
-SYS_RST [21]
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]
RTCVDD
RTCVDD [13,19]
1M/4
R235
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
R268 8.2K/4/X
R314 8.2K/4/X
R273 8.2K/4/X
R329 8.2K/4/X
R318 1K/4/1
R275 1K/4/1
3VDUAL_PCH
-S_WARN R247 8.2K/4
GPIO27 R260 8.2K/4
GPIO31 R248 8.2K/4
VCC3
-PCI_STOP R252 8.2K/4
-ACZ_DET R253 8.2K/4
-SYS_RST R291 1K/4/1
GPIO20 R296 1K/4/1/X
3VDUAL
PCH_RST R320 20K/4/1
PCH_TDI R328 200/4/1
PCH_TDO R317 200/4/1
PCH_TMS R319 200/4/1
PCH_TDI R306 100/4/1
PCH_TDO R290 100/4/1
PCH_TMS R293 100/4/1
PCH_TCK R295 51/4/1
3VDUAL
RN14 2.2K/8P4R/4
GPIO11
SML0DAT
SML1DAT
SML0CLK
RN13 8.2K/8P4R/4
-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 必須放在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-D3V
Rev 1.11
Date: Wednesday, March 14, 2012
Sheet 12 of 32


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)
EMI
Gigabyte Technology
PCH PWR ,GND
GA-B75M-D3V
1.11
Wednesday, March 14, 2012

PCIEX16 CAP



PCIEX16 PROTECT SHT



PCIEX16 AC CAP

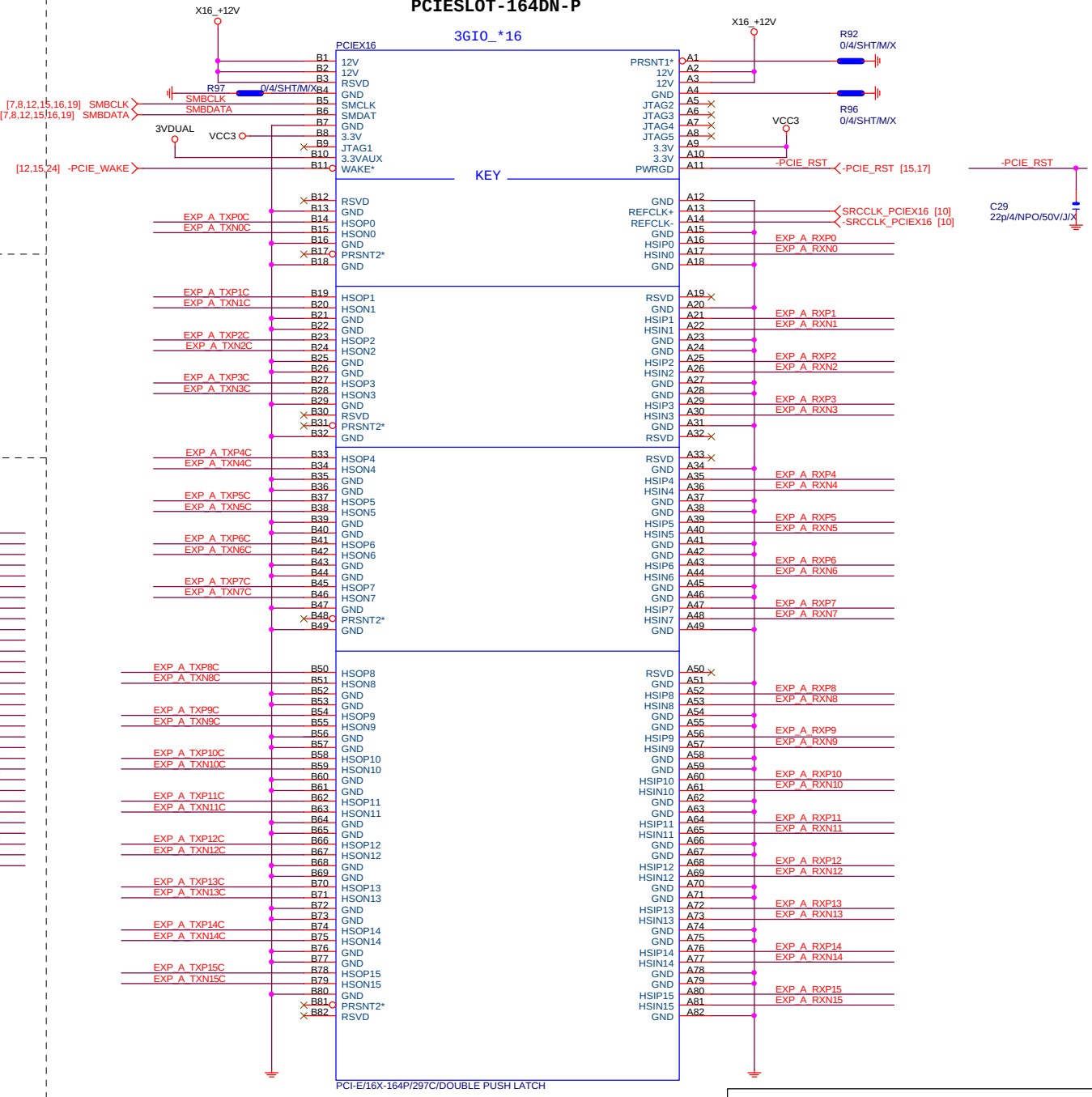
EXP_A_TXP0	C32	0.22u/4/X5R/6.3V/K	EXP_A_TXP0C
EXP_A_TXN0	C30	0.22u/4/X5R/6.3V/K	EXP_A_TXN0C
EXP_A_TXP1	C35	0.22u/4/X5R/6.3V/K	EXP_A_TXP1C
EXP_A_TXN1	C37	0.22u/4/X5R/6.3V/K	EXP_A_TXN1C
EXP_A_TXP2	C39	0.22u/4/X5R/6.3V/K	EXP_A_TXP2C
EXP_A_TXN2	C41	0.22u/4/X5R/6.3V/K	EXP_A_TXN2C
EXP_A_TXP3	C43	0.22u/4/X5R/6.3V/K	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

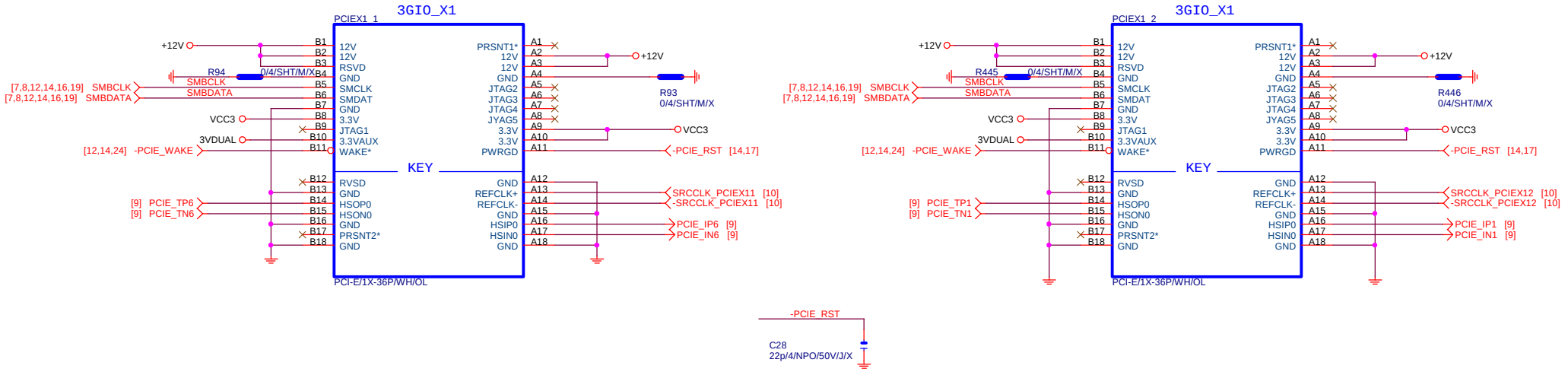
3GIO_*16



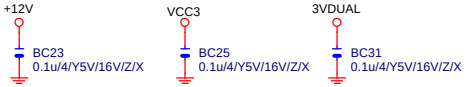
PCI-E/16X-164P/297C/DOUBLE PUSH LATCH

Gigabyte Technology		
Title	PCI EXPRESS * 16	
Size: Custom	Document Number: GA-B75M-D3V	Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 14 of 32	

PCIEX1 SLOT



PCIEX1 CAP



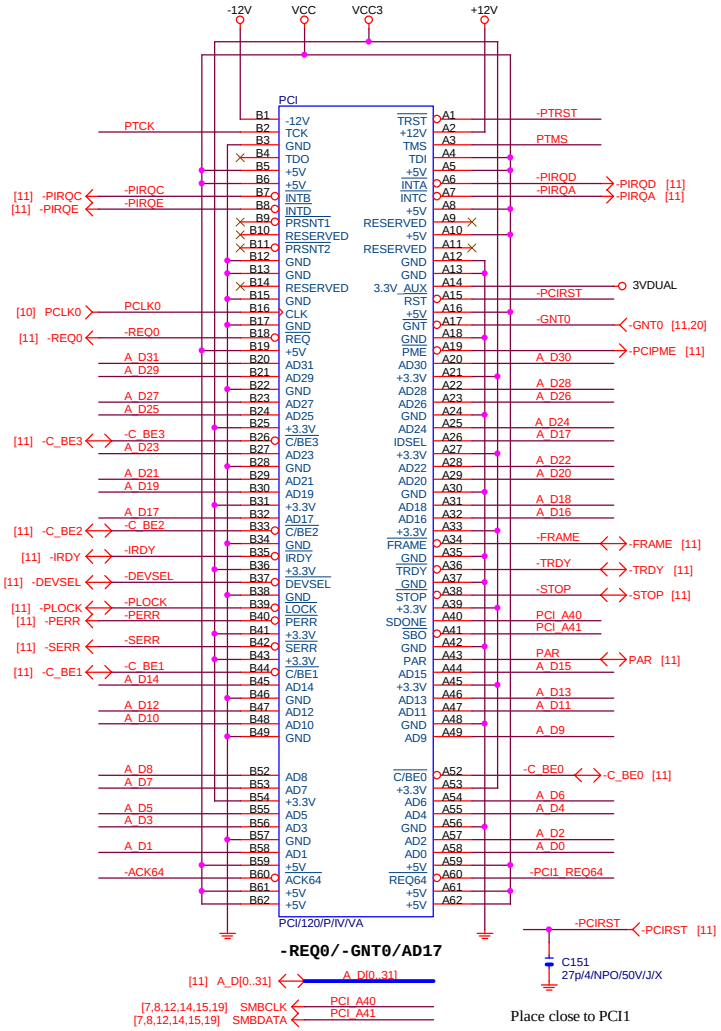
Gigabyte Technology

Title: PCI EXPRESS X 1 PORT

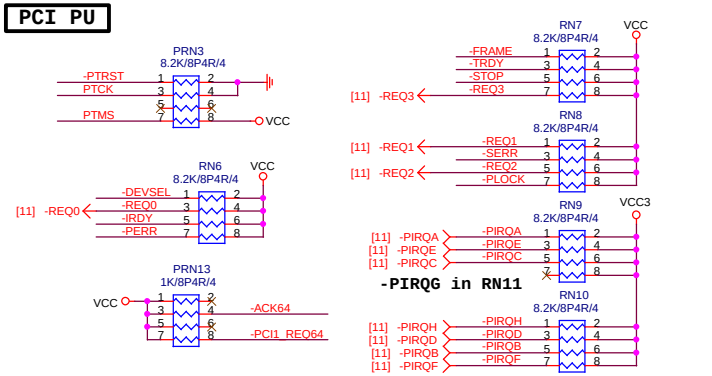
Size: Custom | Document Number: GA-B75M-D3V | Rev: 1.11

Date: Wednesday, March 14, 2012 | Sheet 15 of 32

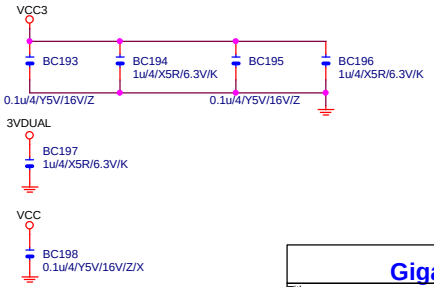
PCI SLOT



PCI PU



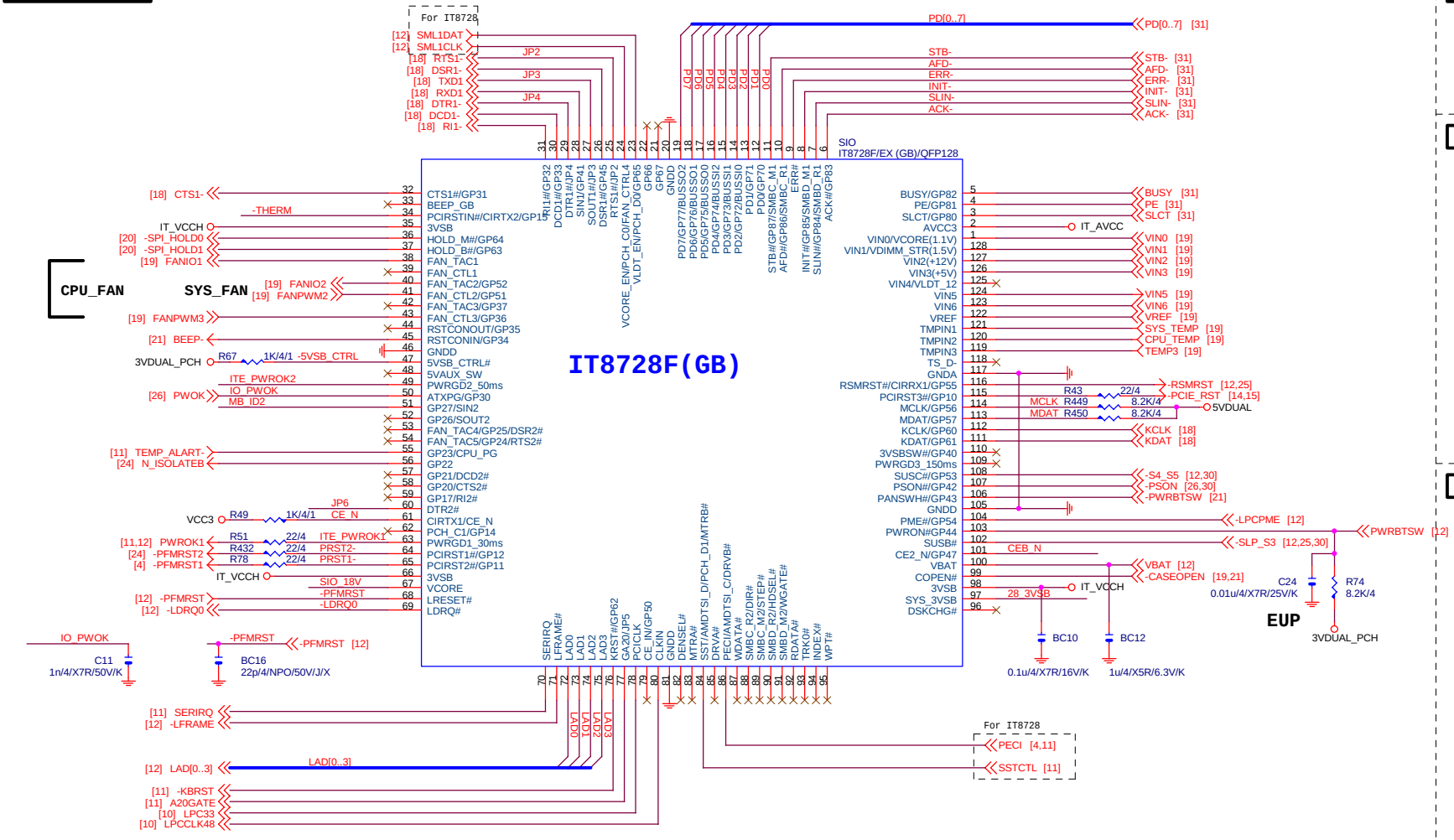
PCI CAP



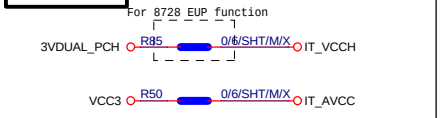
Gigabyte Technology

Title	PCI SLOT 1&2	
Size: Custom	Document Number: GA-B75M-D3V	Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 16 of 32	

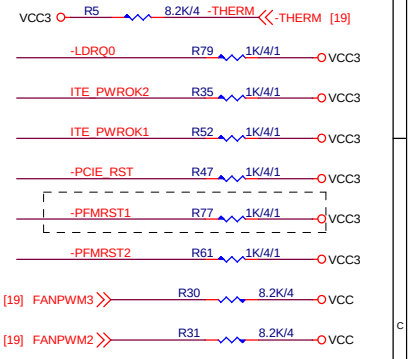
SIO IT8728F



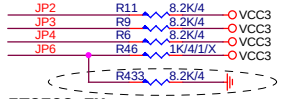
PWR SHT



SIO PU



SIO STRAP

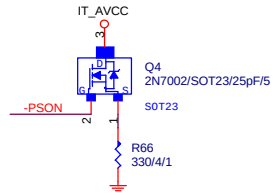


IT8728F NOTE

	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

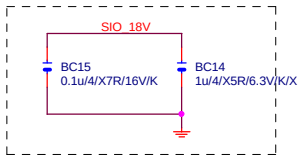
Power leakage



For IT8721 Power leakage

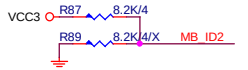
SIO_18V

internal power pin, max 22nF cap

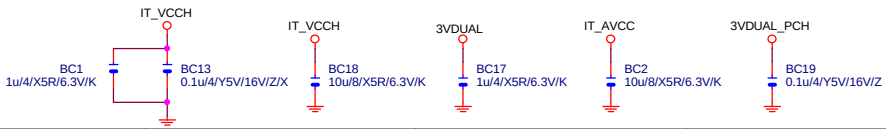


FOR LOW TEMP POWER ON INTO TEST MODE ISSUE

MB ID



SIO CAP



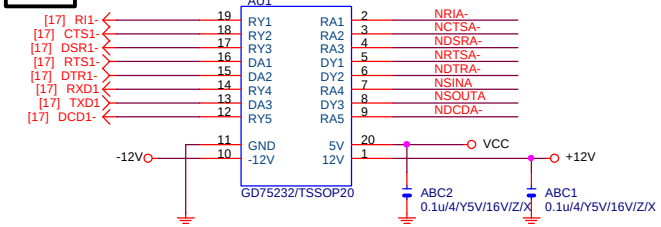
Gigabyte Technology

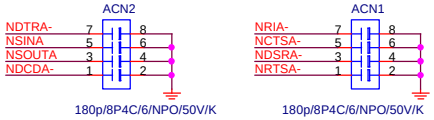
Title: ITE 8728 LPC IO

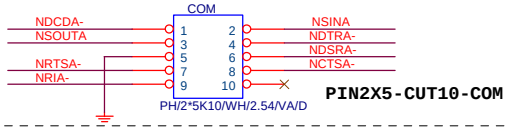
Size: Custom | Document Number: GA-B75M-D3V | Rev: 1.11

Date: Wednesday, March 14, 2012 | Sheet 17 of 32

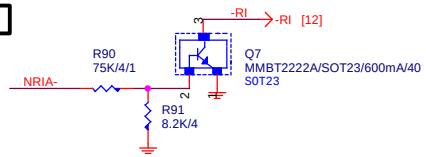
COM



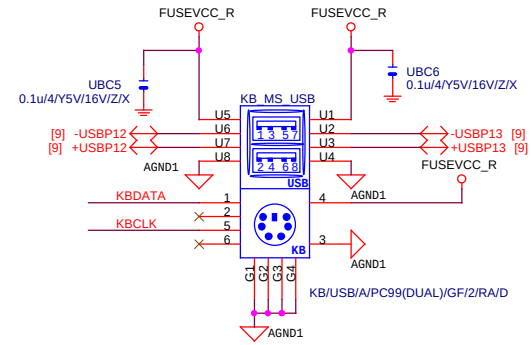


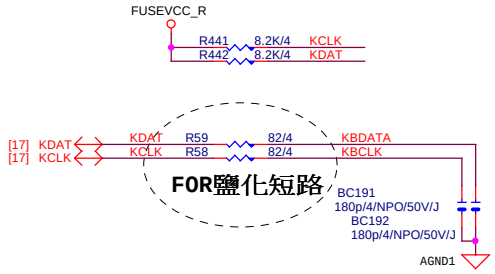


COM RI

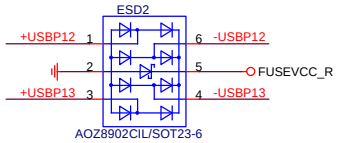


KB/MS



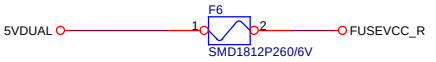


USB2.0 ESD



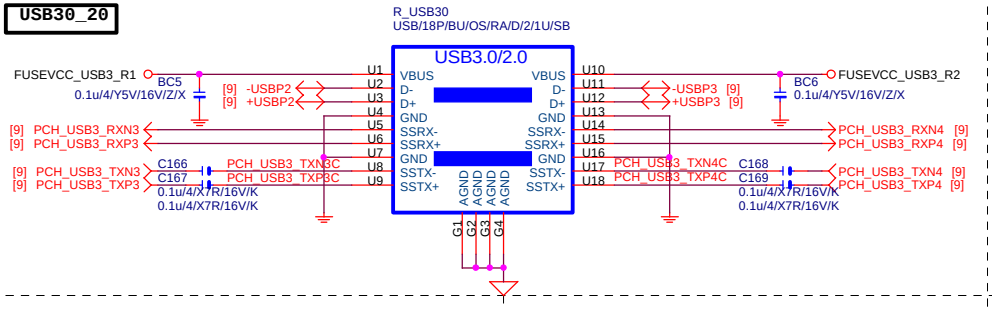
USB2.0 PWR

USB_LAN, KB_USB 4-Port 2.6A

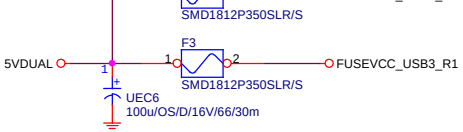


Close to connector

USB30_20



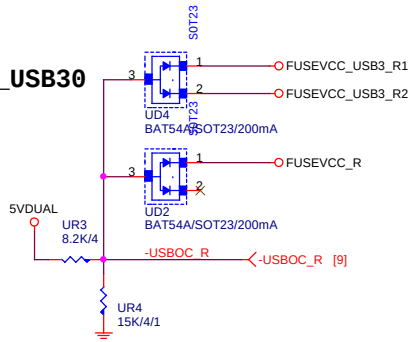
USB30_20 PWR



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

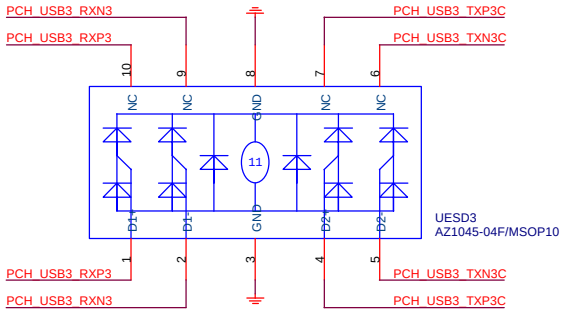
-USBOC_R

R_USB30

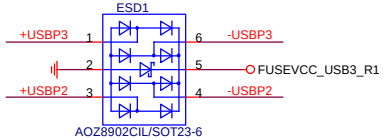


USB30_20 ESD PROCTECT

USB3.0 ESD

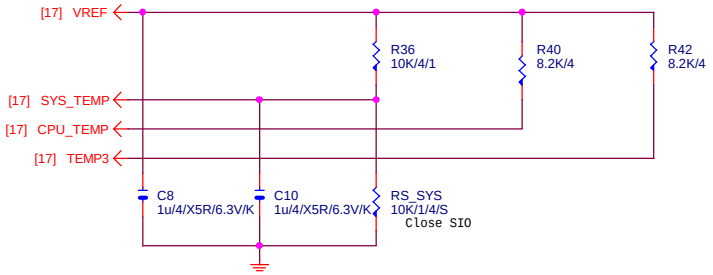


USB2.0 ESD

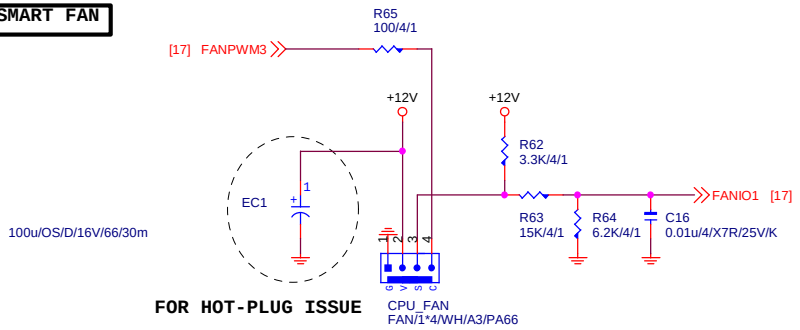


Gigabyte Technology			
Title: COM,-RI,KB_USB,USB_ESATA,-PROCHOT			
Size: Custom	Document Number: GA-B75M-D3V		Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 18 of 32		

TEMP H/W MONITOR

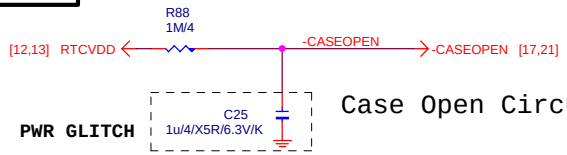


CPU SMART FAN



FOR HOT-PLUG ISSUE

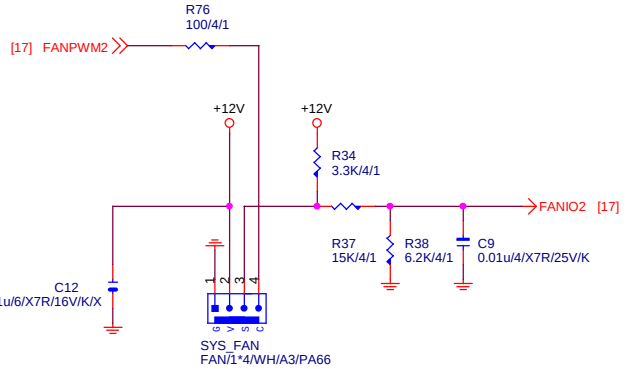
CASE OPEN



PWR GLITCH

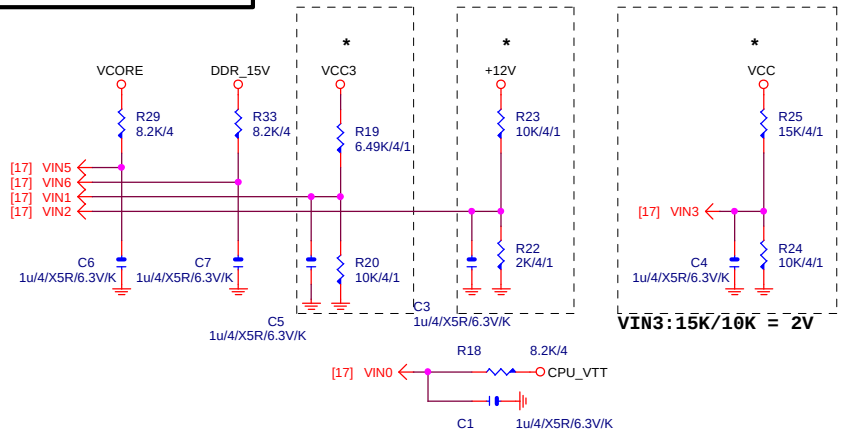
Case Open Circuits

SYS SMART FAN



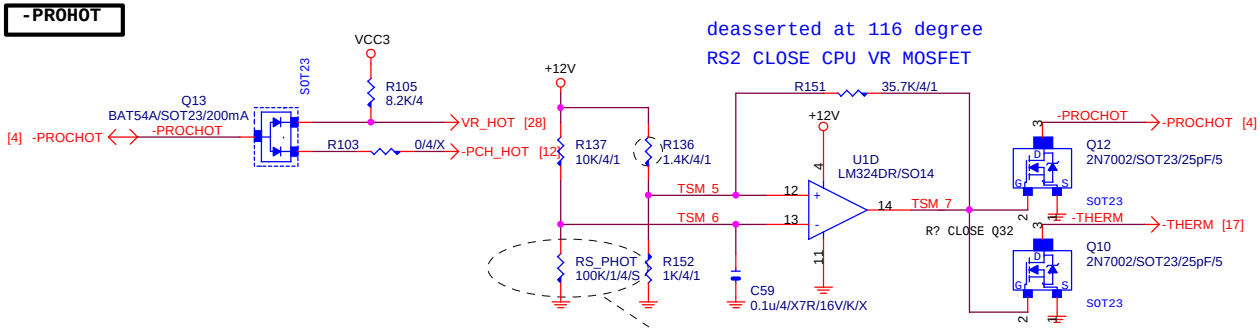
VOLTAGE-- H/W MONITOR

VIN2:10K/2K = 2V



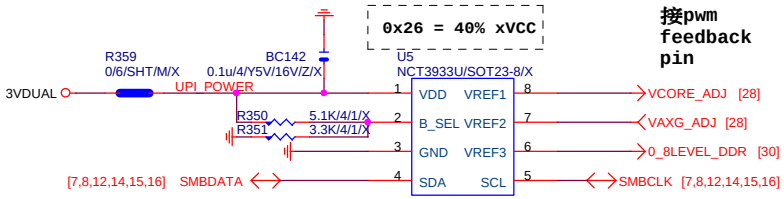
VIN3:15K/10K = 2V

-PROHOT



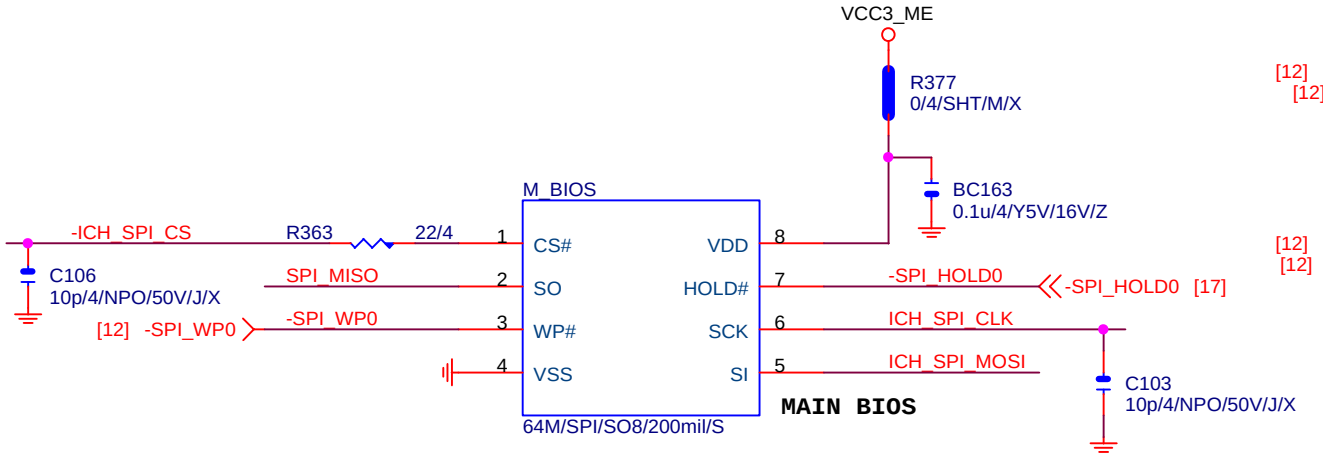
CLOSE PWM HOT MOSFET

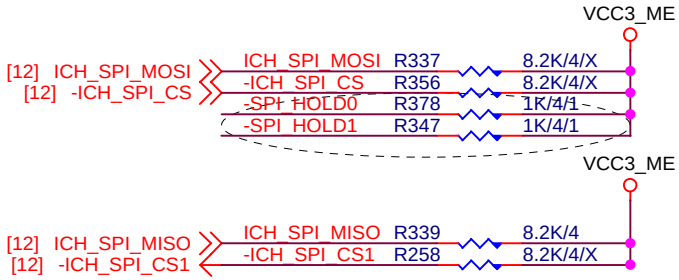
OV NCT3933

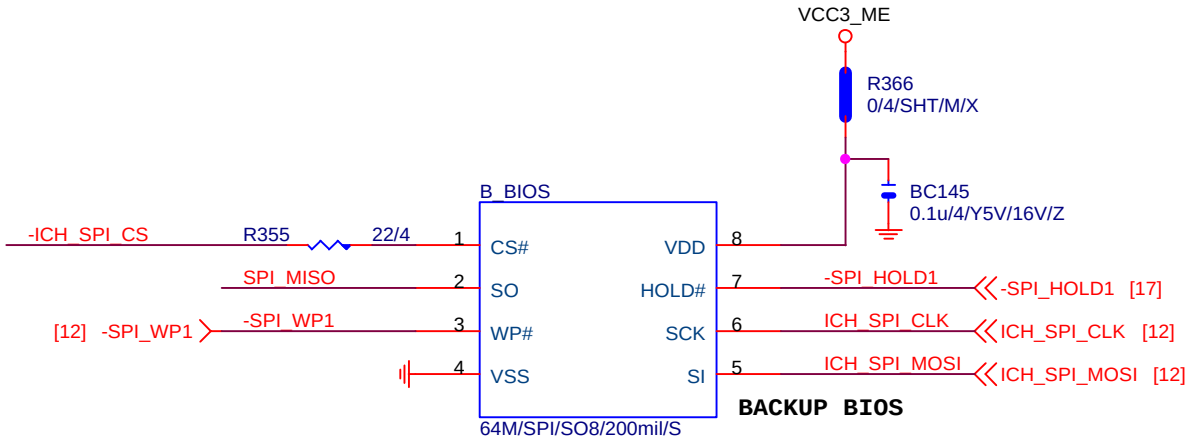


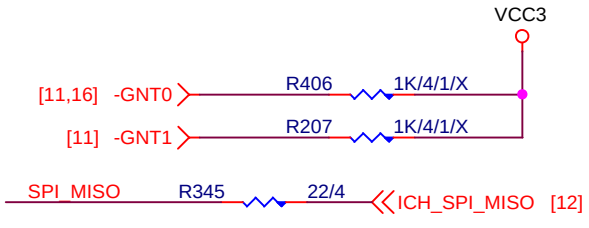
Gigabyte Technology		
Title: HWM,FAN CTRL,OV		
Size: Custom	Document Number: GA-B75M-D3V	Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 19 of 32	

DUAL BIOS









B65使用64M BIOS

使用H67暫用32M

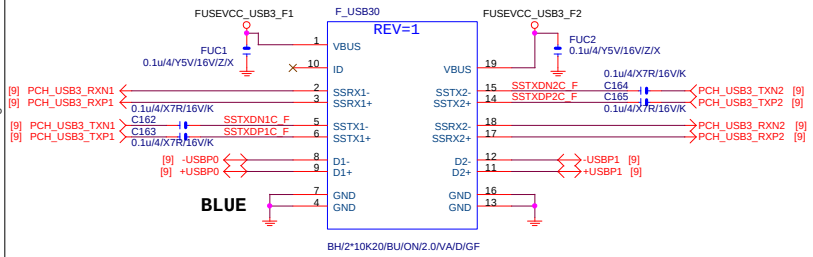
H61使用32M BIOS

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

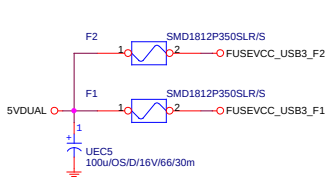
1 means floating
0 means PD 1K

Gigabyte Technology		
Title: DUAL BIOS		
Size: A	Document Number: GA-B75M-D3V	Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 20 of 32	

F_USB30

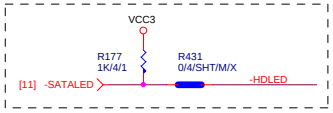


F_USB30 PWR

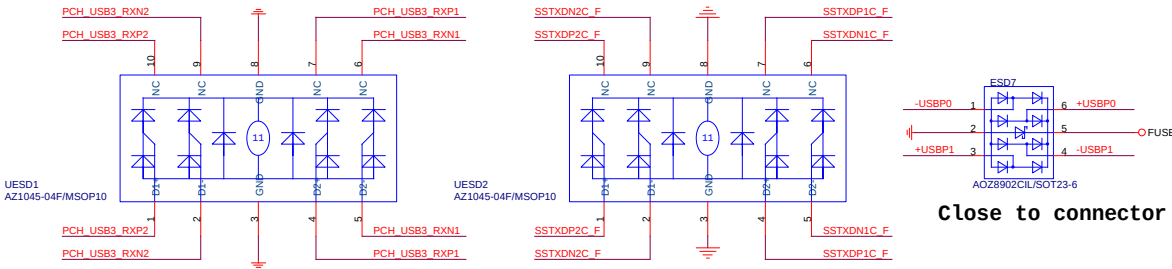


USB3.0 1Port - 1Fuse (3.5A)

SATA LED

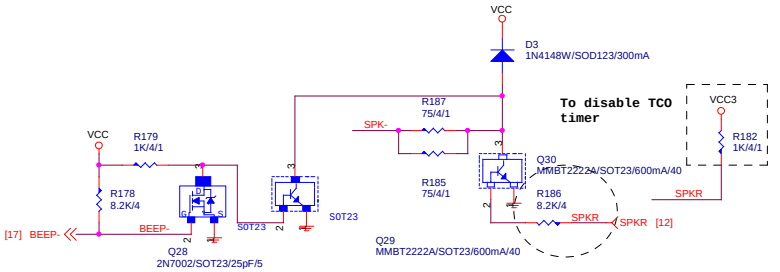


F_USB30 ESD PROTECT

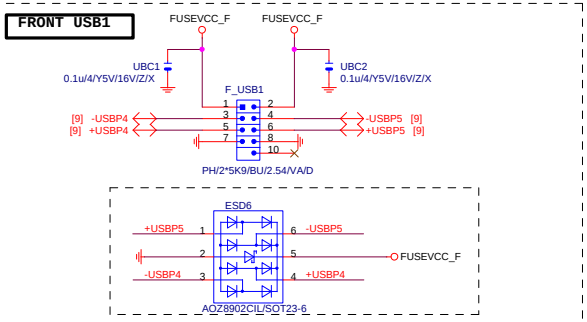


Close to connector

SPKR

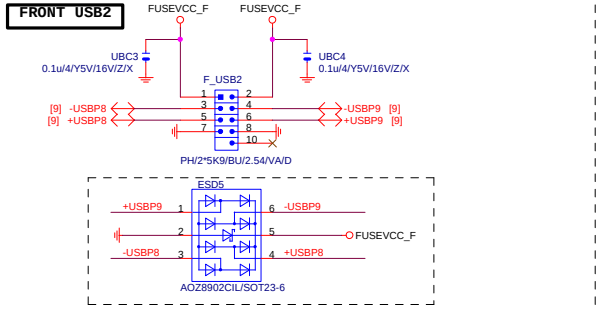


FRONT USB1



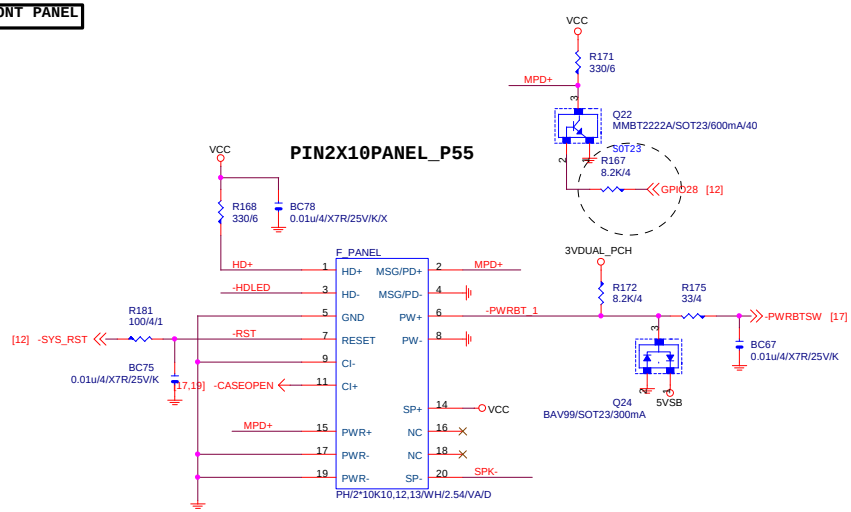
Close to connector

FRONT USB2



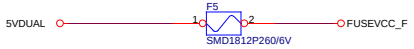
Close to connector

INTEL FRONT PANEL

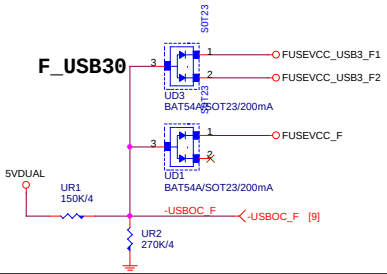


FUSEVCC_F

F_USB1, F_USB2 4-Port 2.6A



-USBOC_F



Gigabyte Technology

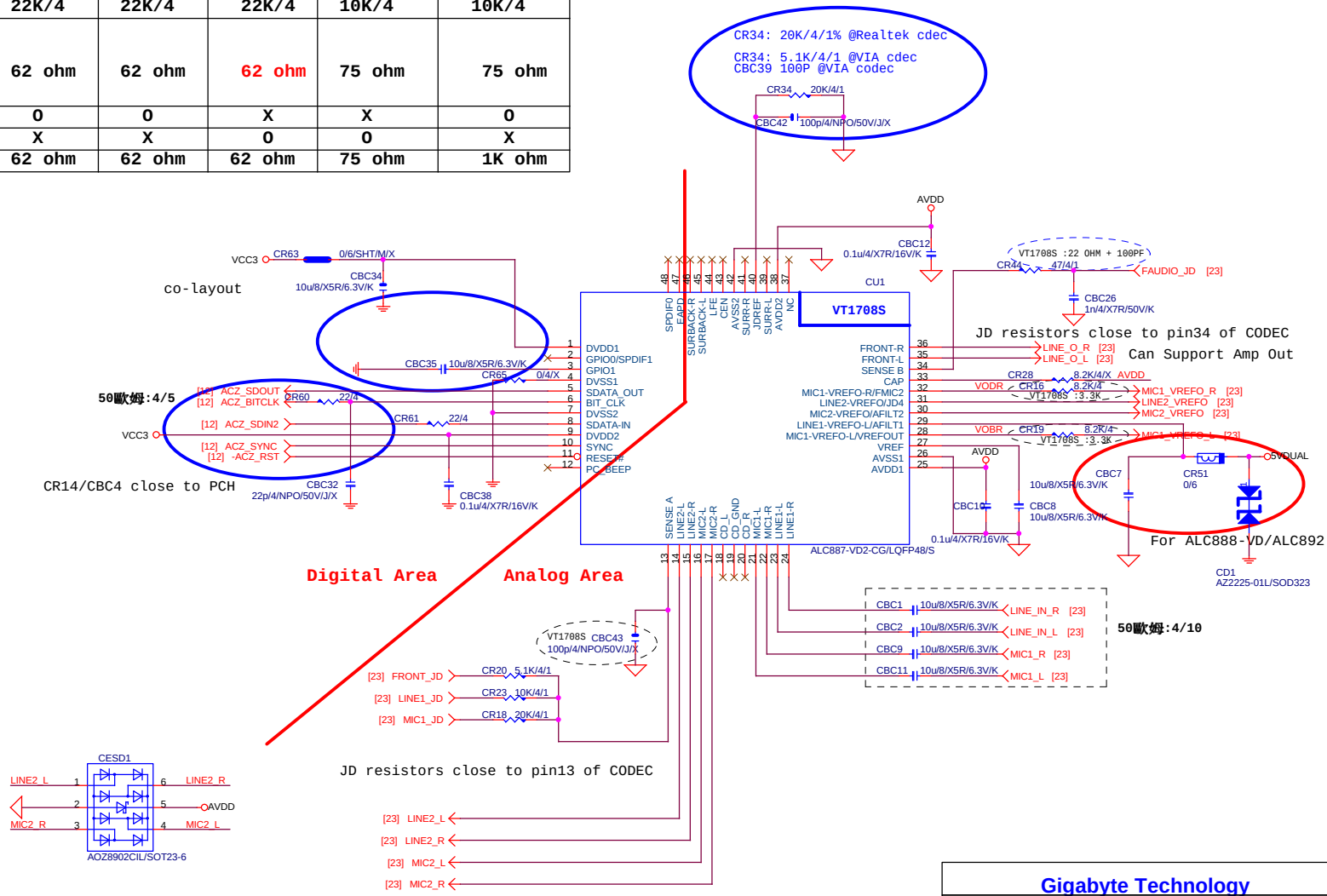
Title: FP,F_USB,USB PWR,SPKR,SATA LED

Size: Custom | Document Number: GA-B75M-D3V | Rev: 1.11

Date: Wednesday, March 14, 2012 | Sheet 21 of 32

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



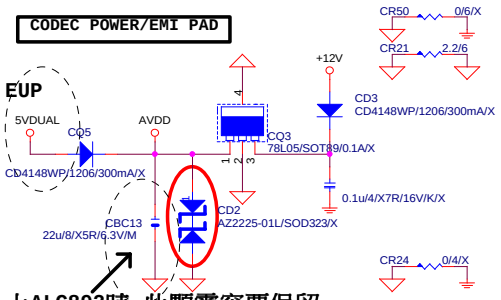
Gigabyte Technology

Title: HD AUDIO ALC887B-VD2/VT1708S/VT2021

Size: Custom | Document Number: GA-B75M-D3V | Rev: 1.11

Date: Wednesday, March 14, 2012 | Sheet 22 of 32

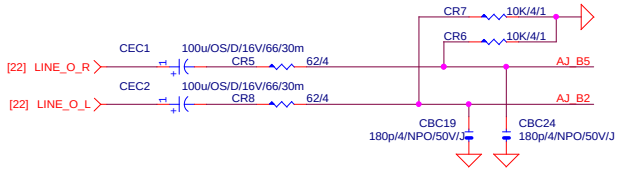
CODEC POWER/EMI PAD



上ALC892時,此顆電容要保留

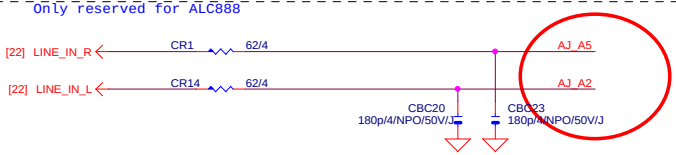
ADD CD2 For ESD PROTECT DIODE

LINE-OUT



Only reserved for ALC888

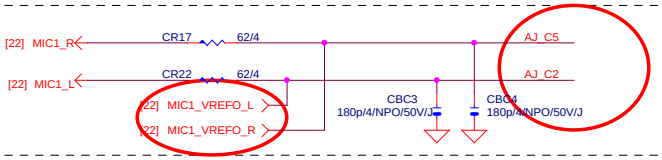
LINE-IN



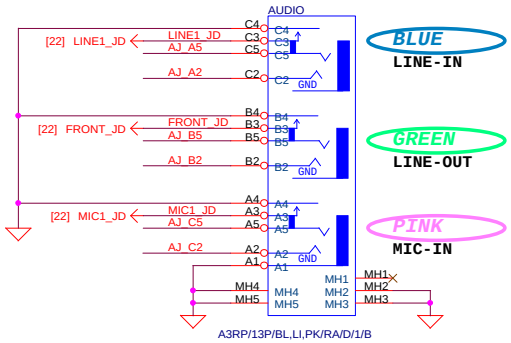
Verify MIC function in LINE-in

For 889A/888

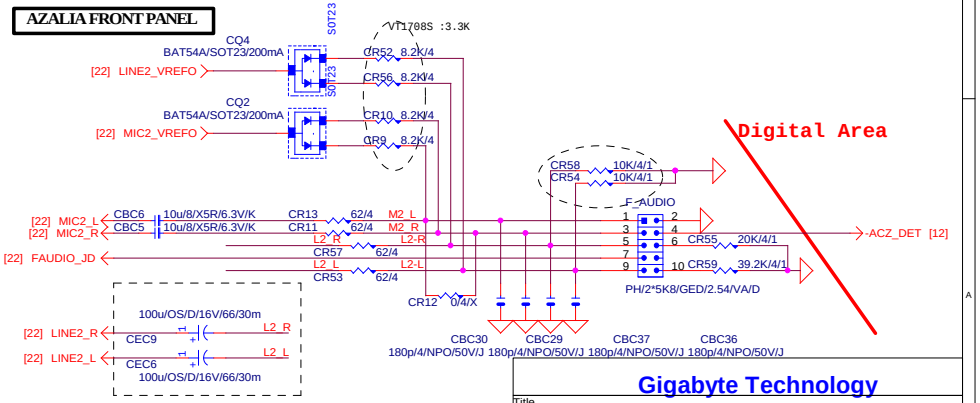
MIC-IN



SPDIF_OUT



AZALIA FRONT PANEL



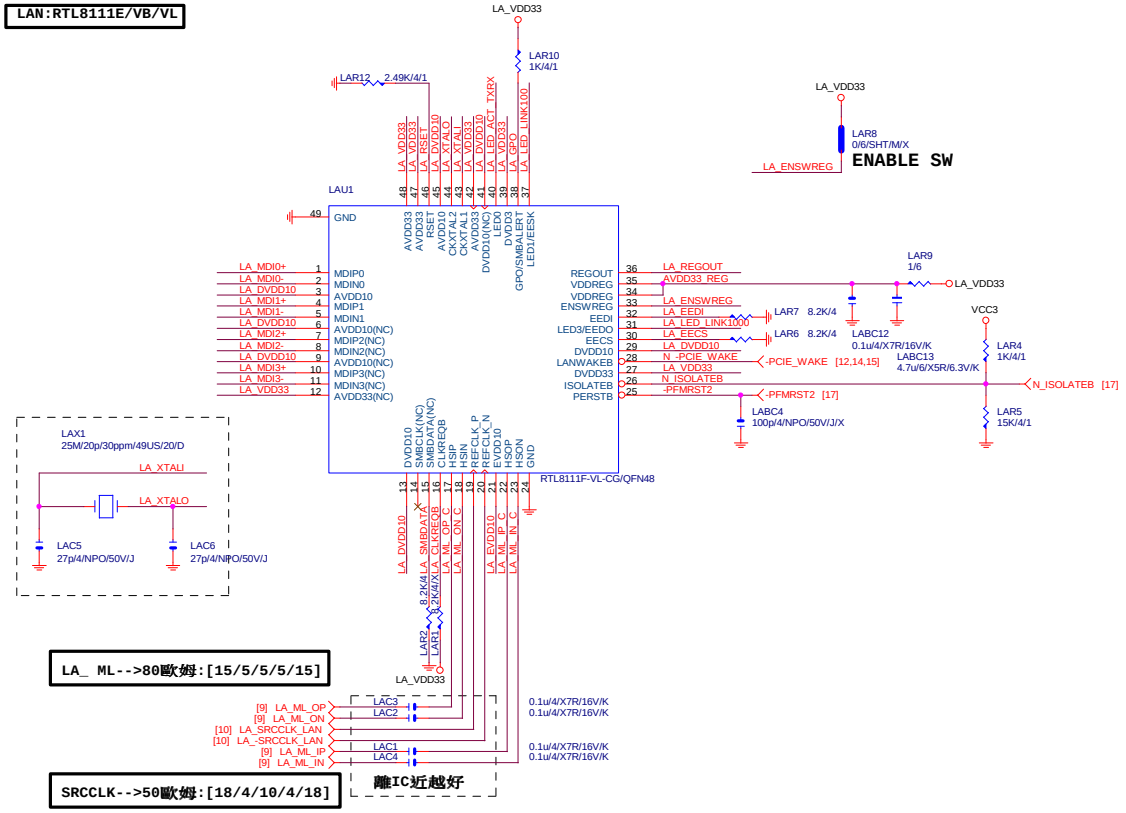
Gigabyte Technology

Title: AUDIO JACK

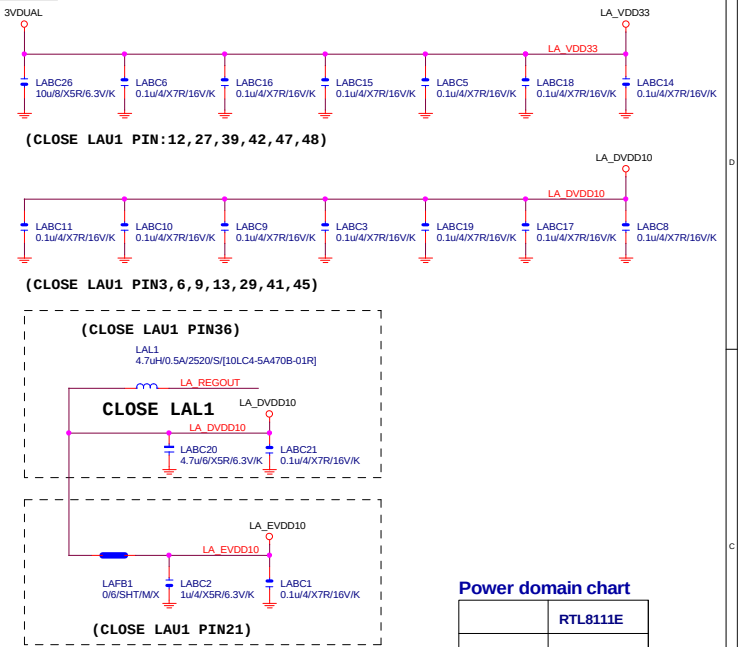
Size: Custom | Document Number: GA-B75M-D3V | Rev: 1.11

Date: Wednesday, March 14, 2012 | Sheet 23 of 32

LAN:RTL8111E/VB/VL



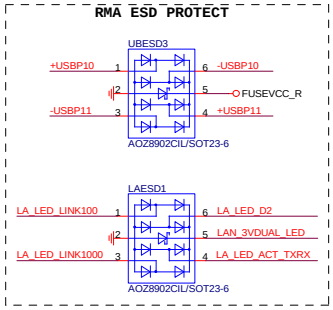
LAN POWER



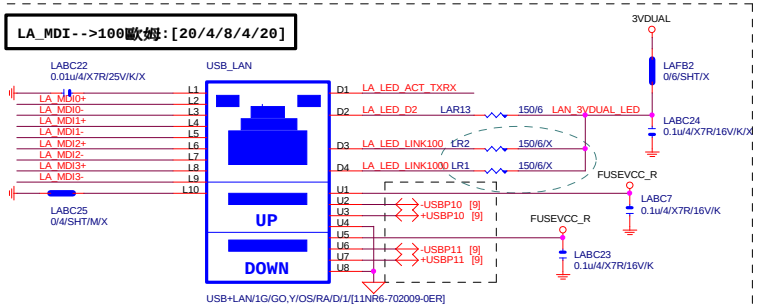
Power domain chart

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

USB_LAN CONNECTOR



LA_MDI-->100歐姆:[20/4/8/4/20]

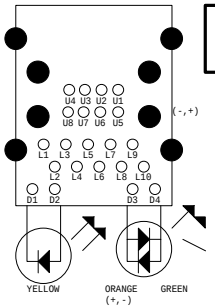


USB X3 POWER

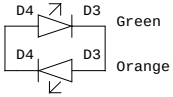
EMI SHORT PAD

PS:視EMI需求

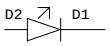
注意:LAN LED PROTECT:(CO-LAYOUT)
1.ESD(6PIN):AOZ8902CIL/SOT23-6(DEFAULT)
2.SURGE(5PIN):AZ2025-04S/SOT23-5L



Dual Color LED



Single Color LED



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:

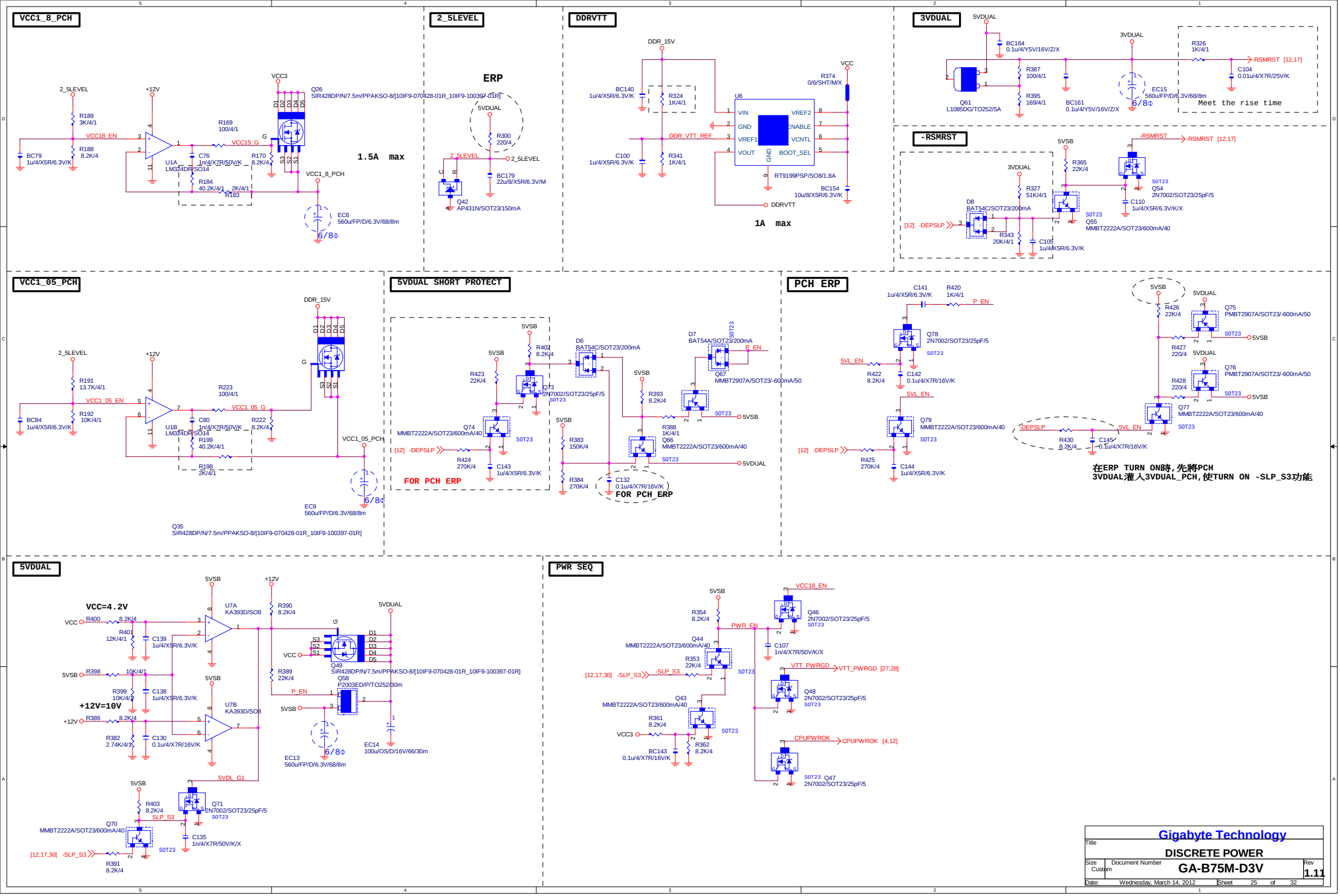
1.(紅色/12CORE/三倍):USB+LAN/1G/GO,Y/OS/RA/D/1/RED
2.(黑色/12CORE):USB+LAN/1G/GO,Y/OS/RA/D/1
3.(黑色/8CORE):USB+LAN/1G/GO,Y/OS/RA/D/8C

Gigabyte Technology

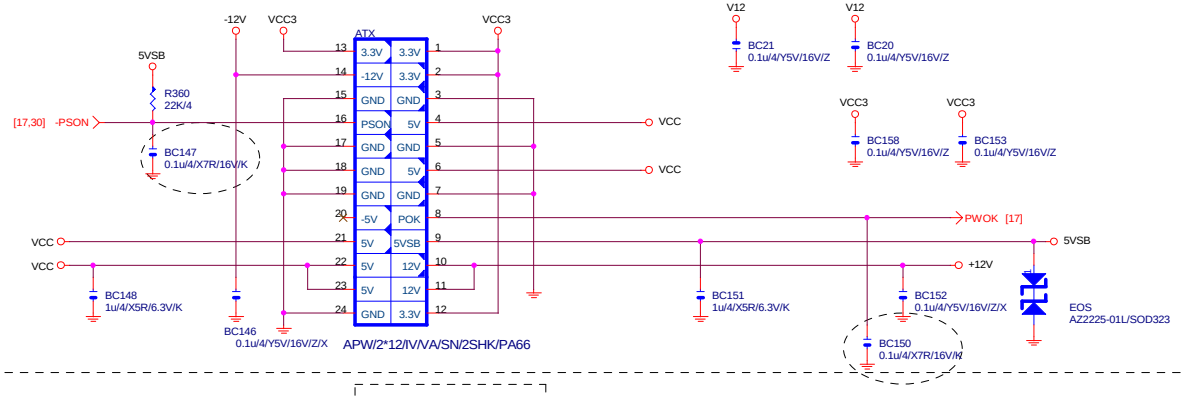
Title: ARTHEROS AR8151/AR8161

Size: Custom | Document Number: GA-B75M-D3V | Rev: 1.11

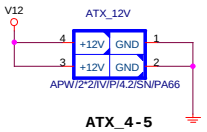
Date: Wednesday, March 14, 2012 | Sheet 24 of 32

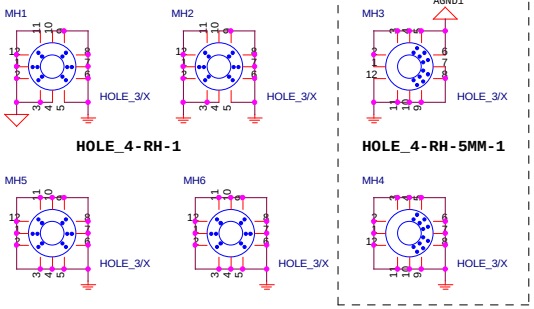

VCC1_8_PCH
2_5LEVEL
DDRVTT
3VDUAL
-RSMRST
VCC1_05_PCH
5VDUAL_SHORT_PROTECT
PCH_ERP
5VDUAL
PWR_SEQ
ERP
1.5A max
1A max
Meet the rise time
FOR PCH_ERP
在ERP TURN ON時,先將PCH 3VDUAL灌入3VDUAL_PCH,使TURN ON -SLP_S3功能
VCC=4.2V
+12V=10V
Gigabyte Technology
DISCRETE POWER
GA-B75M-D3V
1.11
Wednesday, March 14, 2012
25 of 32

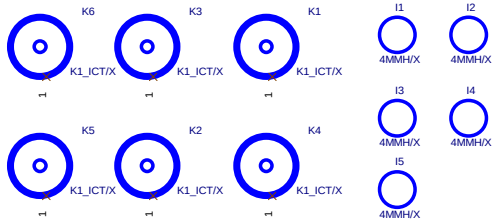
ATXX24 POWER CONNECTOR



ATXX4 POWER CONNECTOR

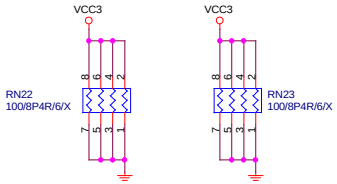




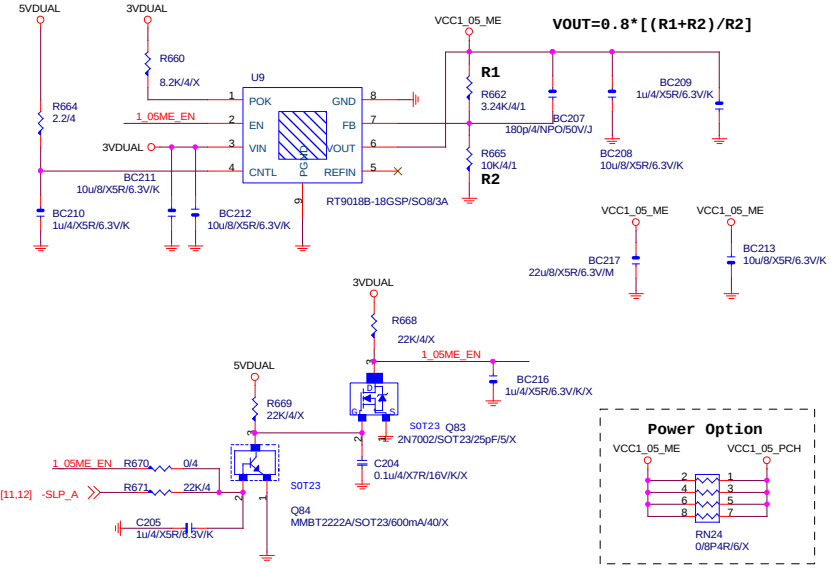


To prevent the 5VSB under loading when boot

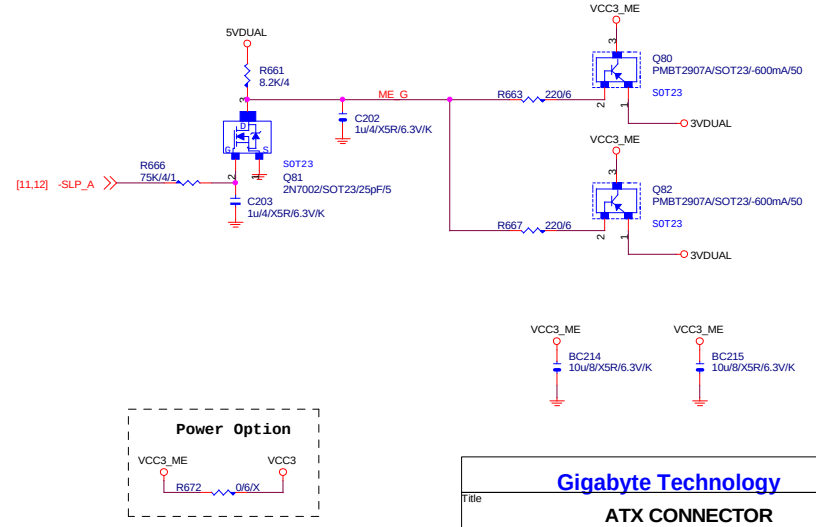
FIX PWR MINMUN LOAD



VCC1_05_ME



VCC3_ME



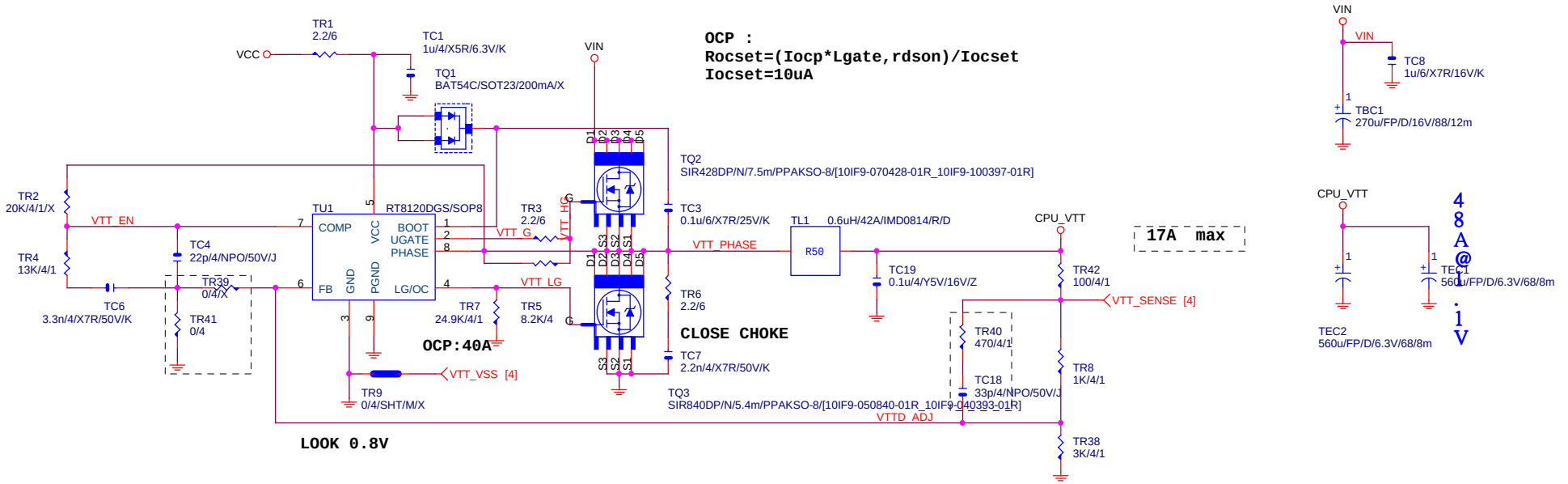
Gigabyte Technology

Title: **ATX CONNECTOR**

Size: Custom | Document Number: **GA-B75M-D3V** | Rev: **1.11**

Date: Wednesday, March 14, 2012 | Sheet 26 of 32

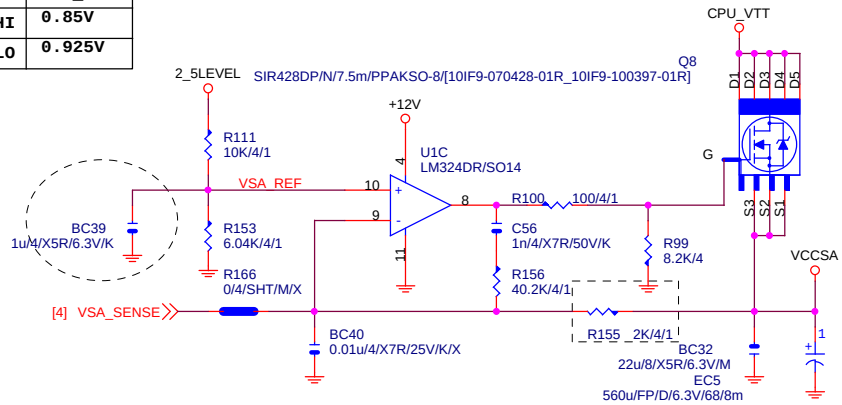
CPU_VTT



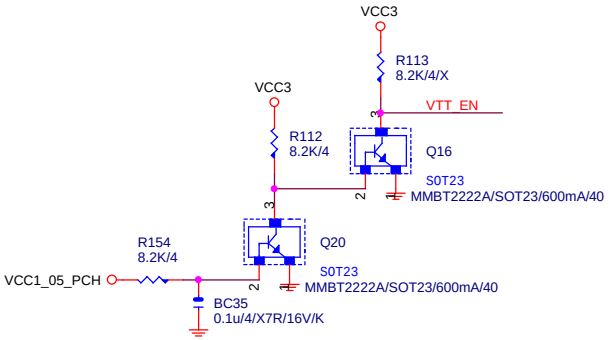
VCCSA

PDG 0.8

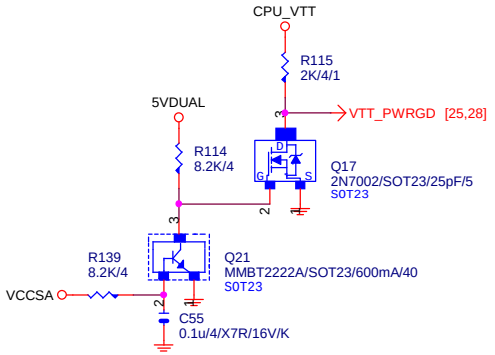
	VSA_SEL
HI	0.85V
LO	0.925V



CPU_VTT PWR SEQ



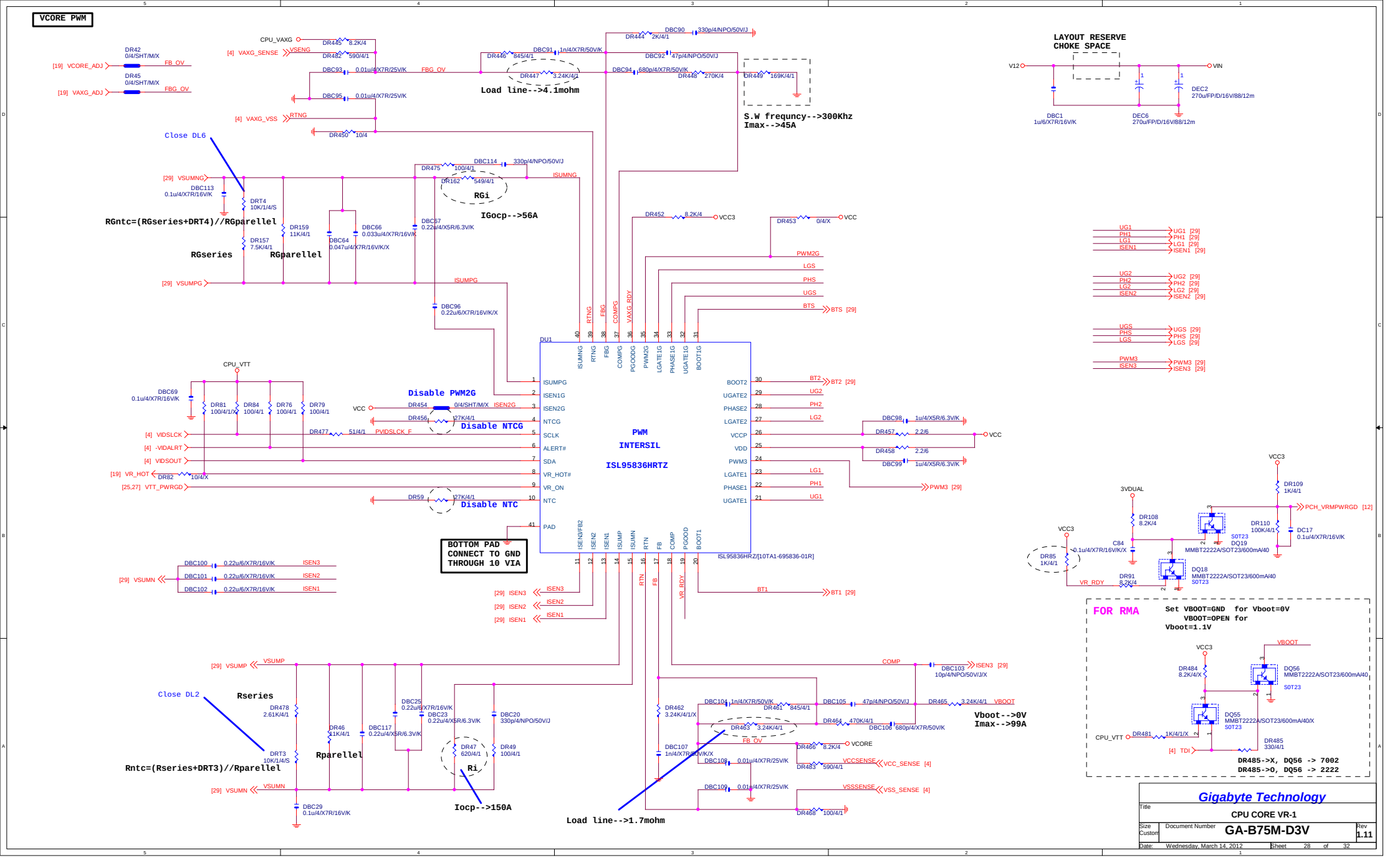
VTT_PWRGD



GIGABYTE™

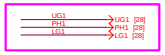
Title	CPU_VTT PWM_RT8120	
Size: Custom	Document Number: GA-B75M-D3V	Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 27 of 32	

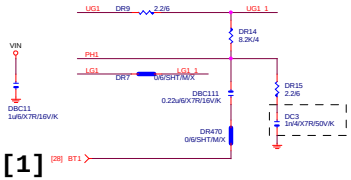
VCORE PWM



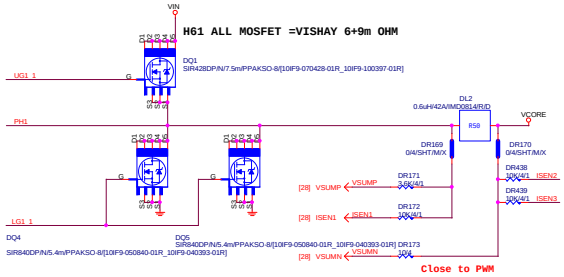
Gigabyte Technology			
Title	CPU CORE VR-1		
Size Custom	Document Number GA-B75M-D3V		Rev 1.11
Date: Wednesday, March 14, 2012	Sheet 28 of 32		

PHASE 1

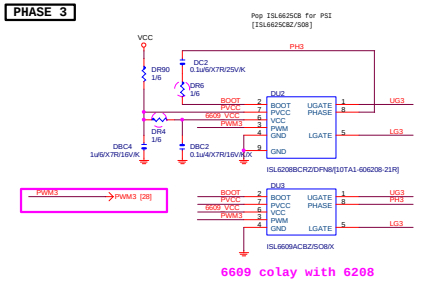




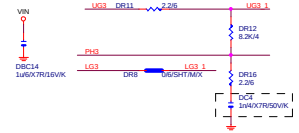
[1]



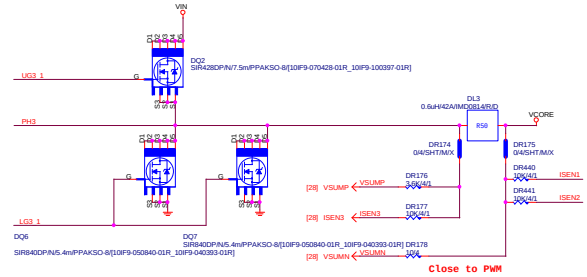
PHASE 3



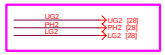
6609 colay with 6208

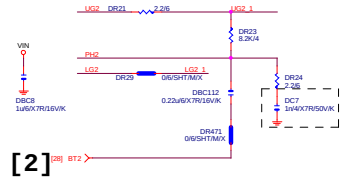


[3]

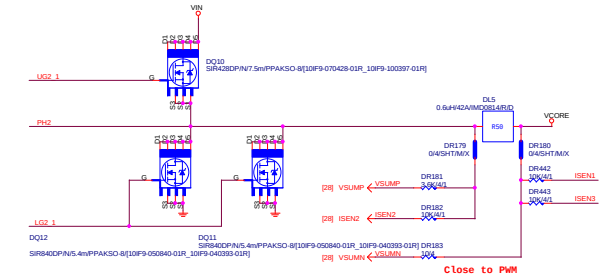


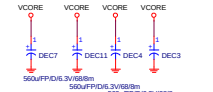
PHASE 2



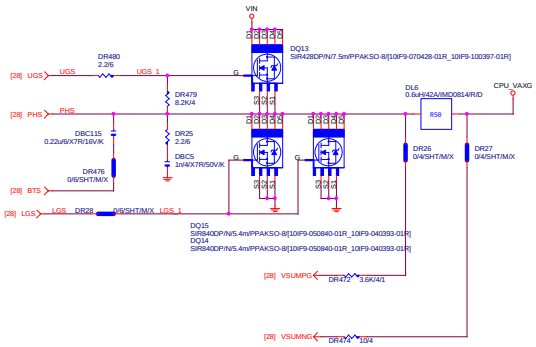


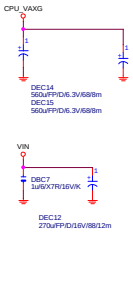
[2]





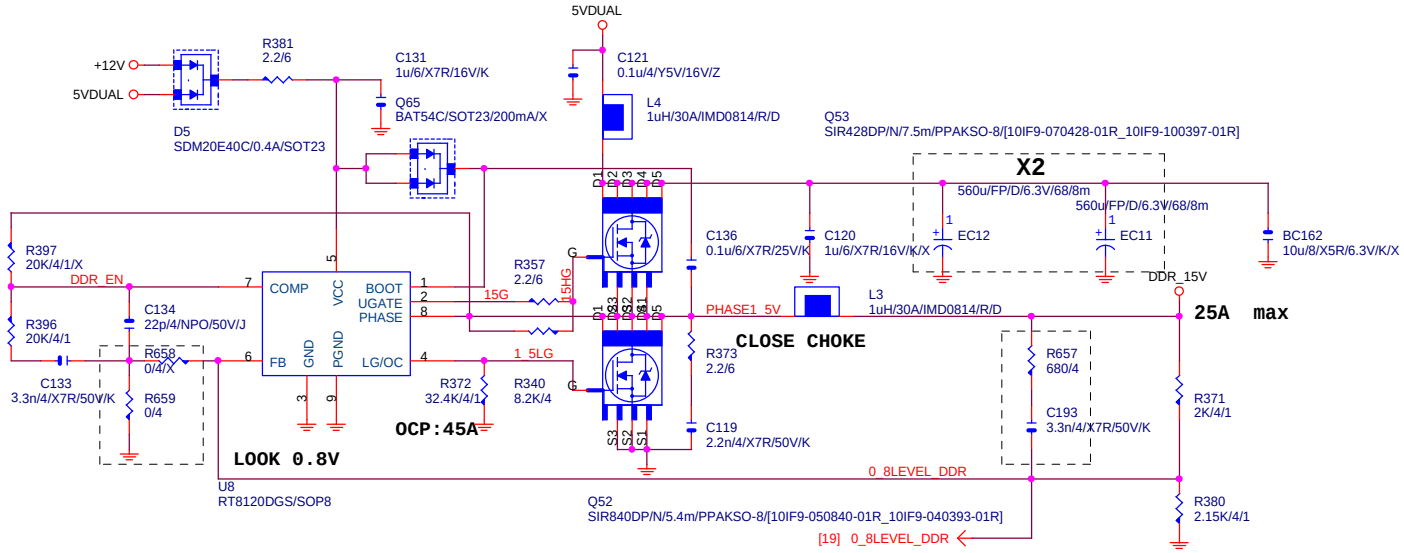
VAXG



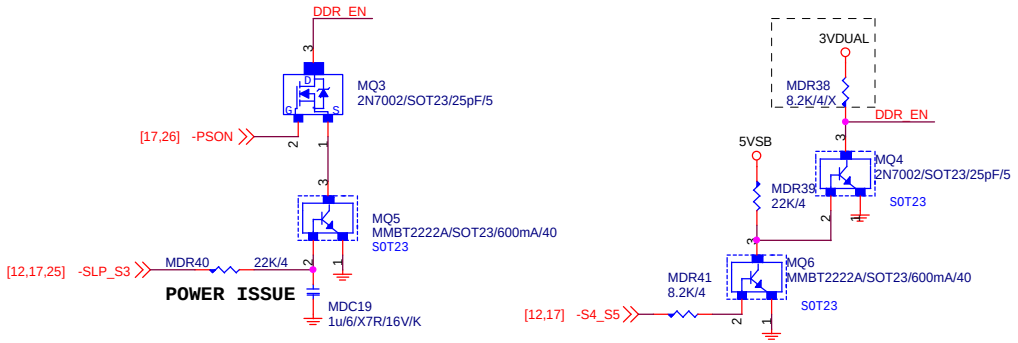


Gigabyte Technology			
Title: CPU CORE VR-2			
Size: Custom	Document Number: GA-B75M-D3V		Rev: 1.11
Date: Wednesday, March 14, 2012		Sheet 29 of 32	

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℃)

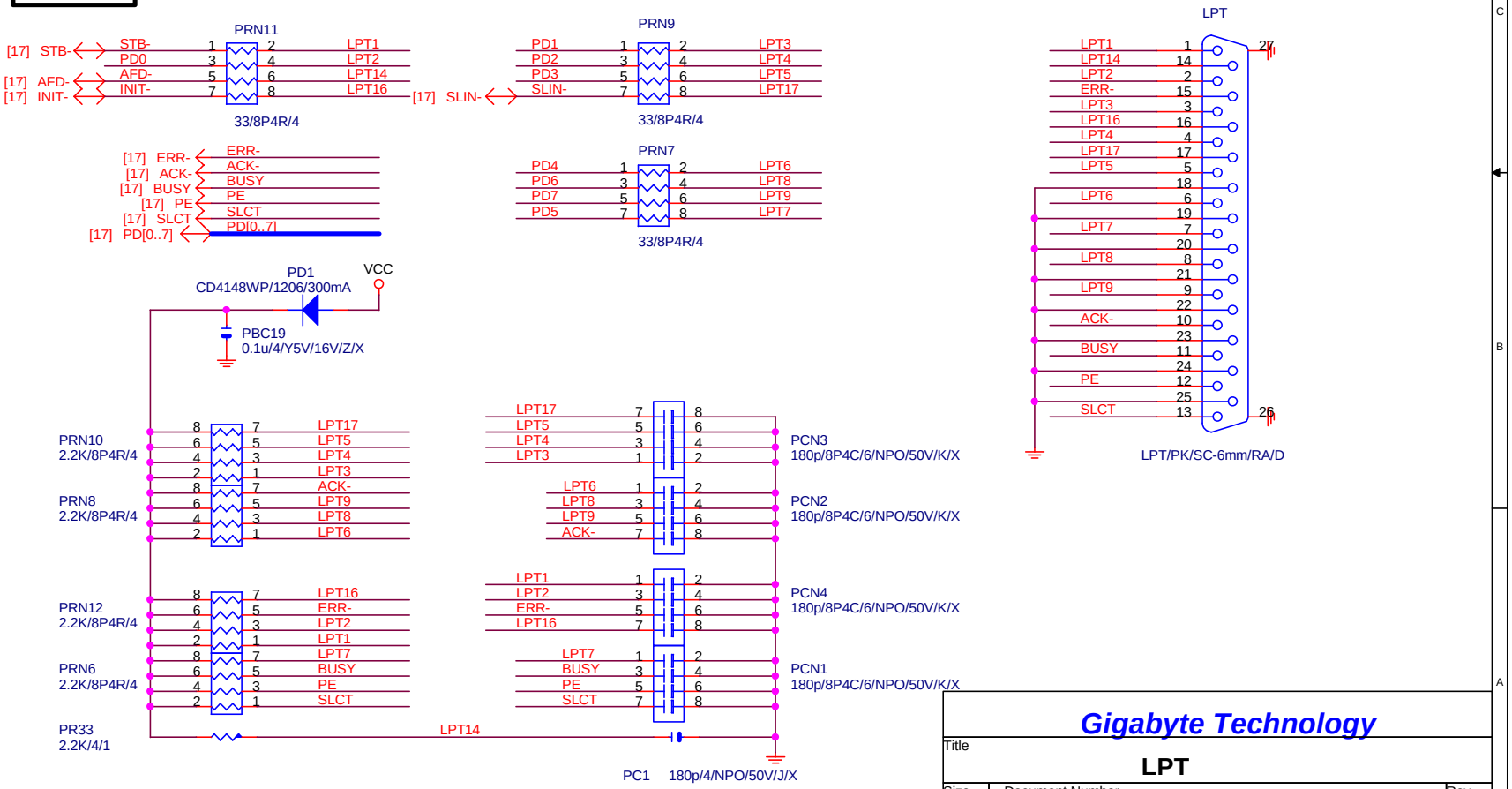
VIN Ripple current=4.7X1.7=7.99A(85℃)
-->故固態電容須2X7.99=15.98>11.45A

Rocset=(Iocp*Lgate,rdson)/Iocset
Rocset=(45A*6.7mOhm)/10uA = 30K
Iocset=10uA

Gigabyte Technology			
Title: DDR POWER			
Size: Custom	Document Number: GA-B75M-D3V		Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 30 of 32		

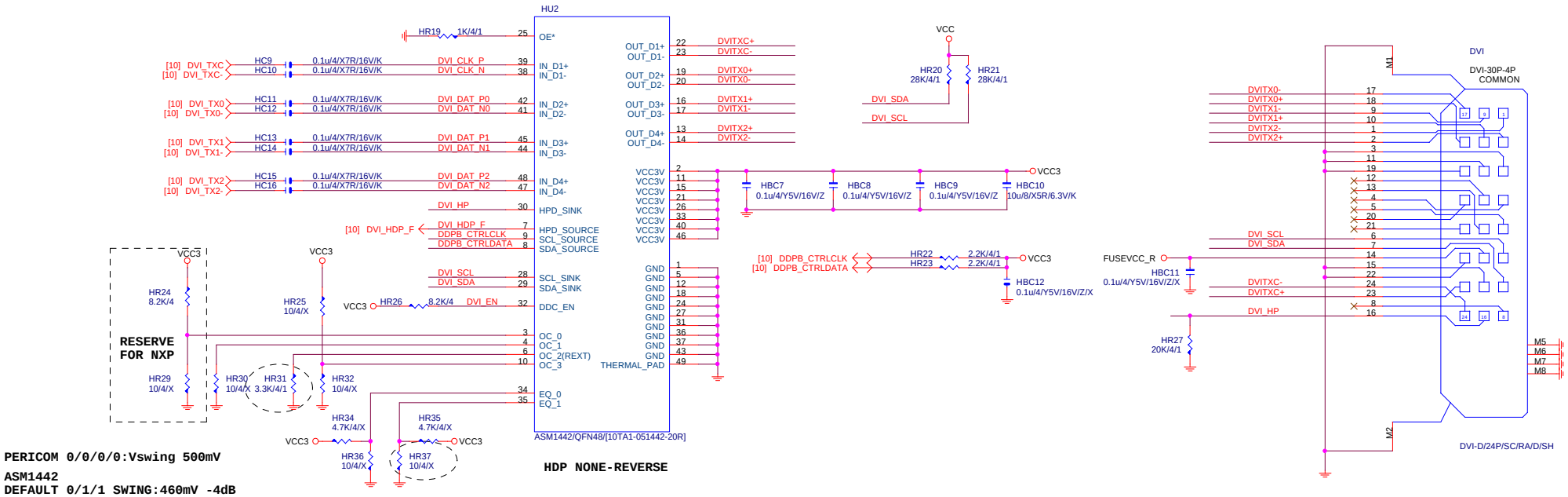
TPM

LPT PORT



Gigabyte Technology		
Title: **LPT**		
Size: Custom	Document Number: **GA-B75M-D3V**	Rev: **1.11**
Date: Wednesday, March 14, 2012	Sheet 31 of 32	

DVI LEVEL SHIFT



PERICOM 0/0/0/0:Vswing 500mV

ASM1442
DEFAULT 0/1/1 SWING:460mV -4dB

HDP NONE-REVERSE

PI3DV411 0 0:3dB
ASM1442 1 1:3dB

Gigabyte Technology			
Title: DVI			
Size: Custom	Document Number: GA-B75M-D3V		Rev: 1.11
Date: Wednesday, March 14, 2012	Sheet 32 of 32		