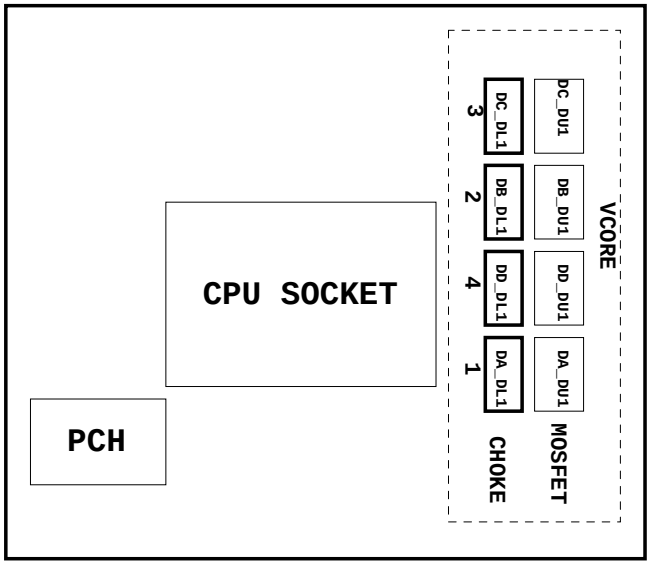
Model Name: GA-P85-D3 2.0

SHEET	TITLE
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1150-A
05	CPU_LGA1150-B
06	CPU_LGA1150-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE
10	PCH_RGB,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCIEX4 SLOT
16	ITE8892 PCI BRIDGE
17	PCI SLOT 1~4
18	I/O ITE8620
19	COM, -PROHOT, R_USB
20	Dual BIOS / LPT
21	ALC887 CODEC
22	REAR AUDIO JACK
23	VCORE_ ISL95820_1
24	VCORE_ ISL95820_2
25	DDR15V / M3 POWER
26	NCP3933 OVER VOLTAGE
27	DISCRETE POWER

SHEET	TITLE
28	F_PANEL , F_USB2.0/3.0
29	ATX POWER, CLOCK GEN
30	HWM , KB/MS , FAN CTRL
31	Realtek 8111F-VL
32	HDMI
33	TABLE LIST
34	
35	
36	
37	
38	
39	
40	



Gigabyte Technology

Title	Cover Sheet	
Size: Custom	Document Number: GA-P85-D3	Rev: 2.0
Date: Wednesday, February 26, 2014	Sheet 1 of 33	

GA-P85-D3

Component value change history

Data	Change Item	Reason
2013/08/29 EBOM:15A	1.由Z87P-D3-1.5修改成P85-D3-1.6	
2013/10/16 EBOM:20A	1.NX1 25MHZ/20PF --->25MHZ/12PF;NC7,NC8 27PF ------>10PF FOR CRYSTAL 干擾ISSUE	
2014/02/21 PBOM:20B	1.DEL R82 ,ADD OR29	
	2.NC7,NC8 10PF ------>12PF FOR RTC TIMING	
	3.ALC887 換成加強版,CESD1 移除	
2014/02/26 PBOM:20C	1.DEL MF1,MR3,MR16 ,ADD MR17	
	2.8620 BX --->CX	

Circuit or PCB layout change

DATE	Change Item	Reason
2013/08/09 PCB:1.5	1.由Z87P-D3-1.5修改成P85-D3-1.5	2.add HBD1 防漏電
2013/08/30 PCB:2.0	1.R676 0402---->0603	
	SATA3_4/5 ------------>SATA2_4/5	
	修改CRYSTAL NX1,NX2 REF GND,4 MIL	
	UAFB1,UAFB2,UBF5,UBF6 UPDATE 1206 polyfuse footprint	
	所有的PPAK footprint改爲Q_TDSON8-GDS-T (增加NXP相容)	
	update 3941S-A footprint	
	PCIEX4 CLOCK(PE_SRCCLK_3GIO1)由PIN R6,R7 換成PIN W7,W6 避免跟CRYSTAL 25MHZ干擾	

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Title: BOM & PCB MODIFY HISTORY

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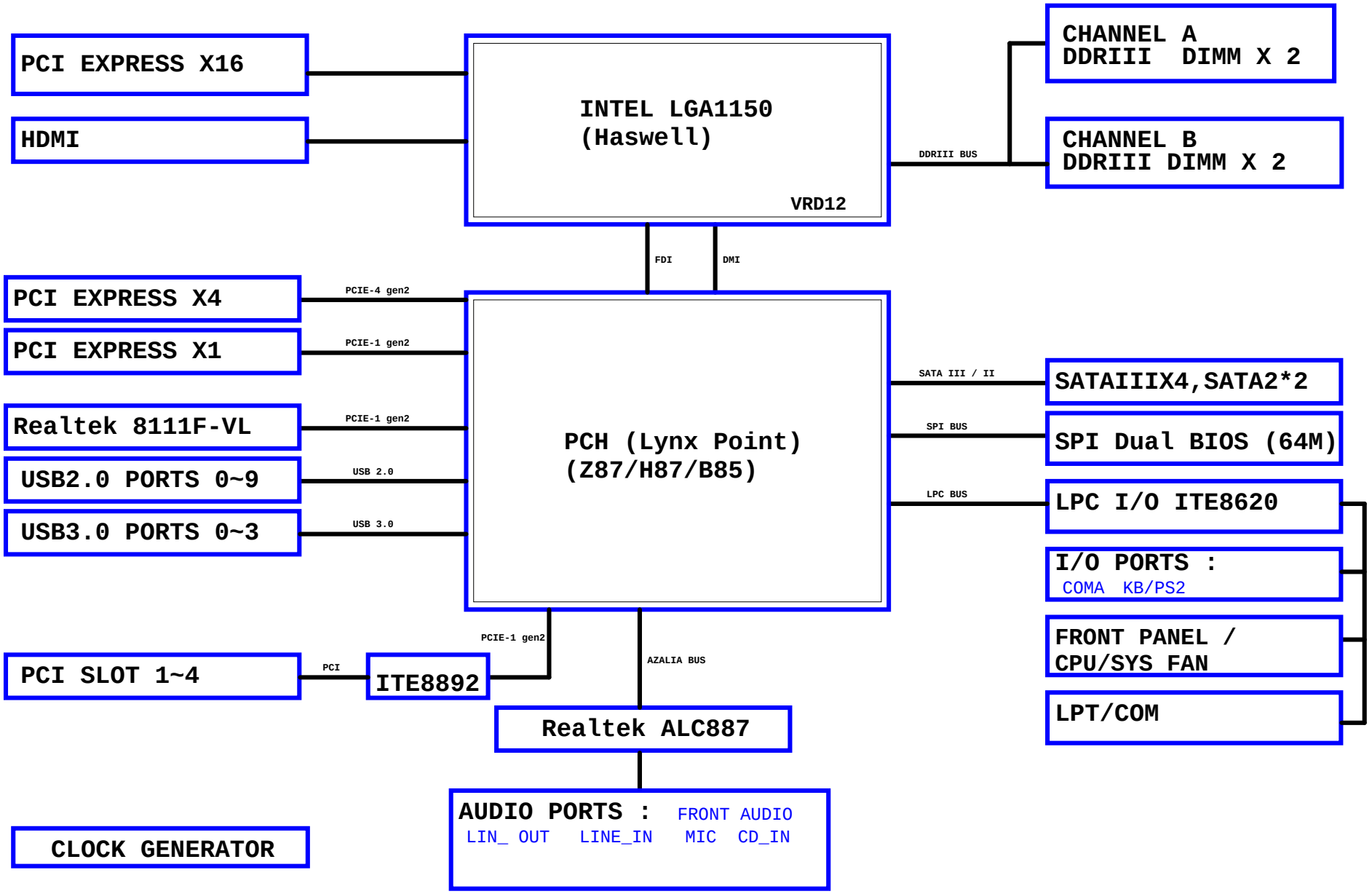
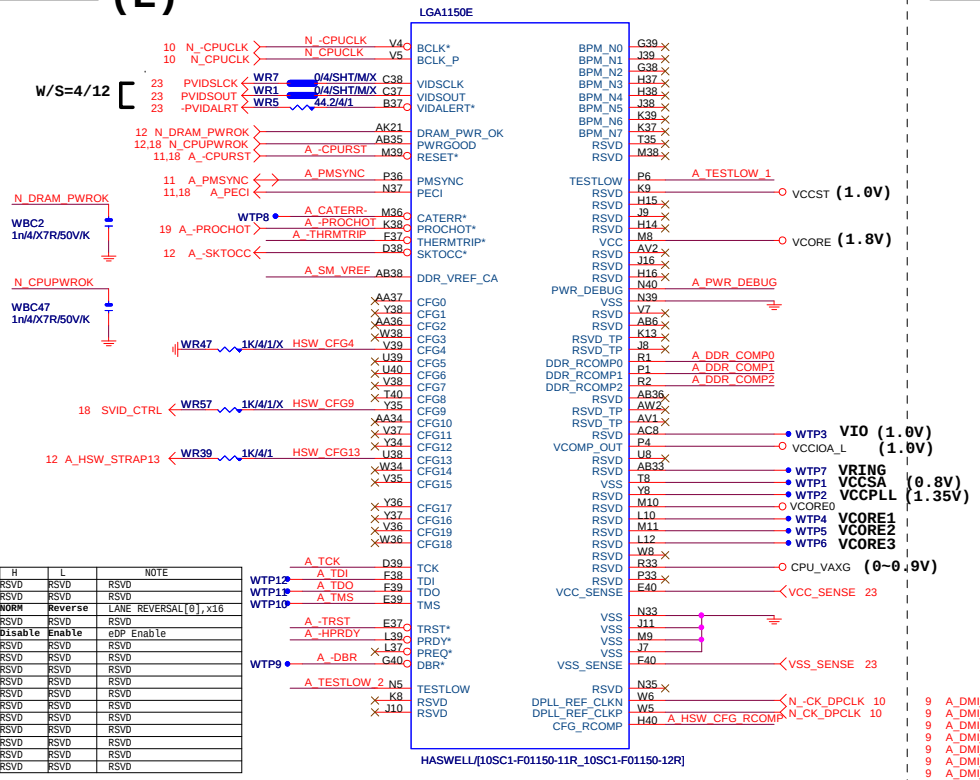
BLOCK DIAGRAM



Gigabyte Technology			
Title: BLOCK DIAGRAM			
Size: C	Document Number: GA-P85-D3		Rev: 2.0
Date: Wednesday, February 26, 2014	Sheet 3 of 33		

LGA1150 (E)

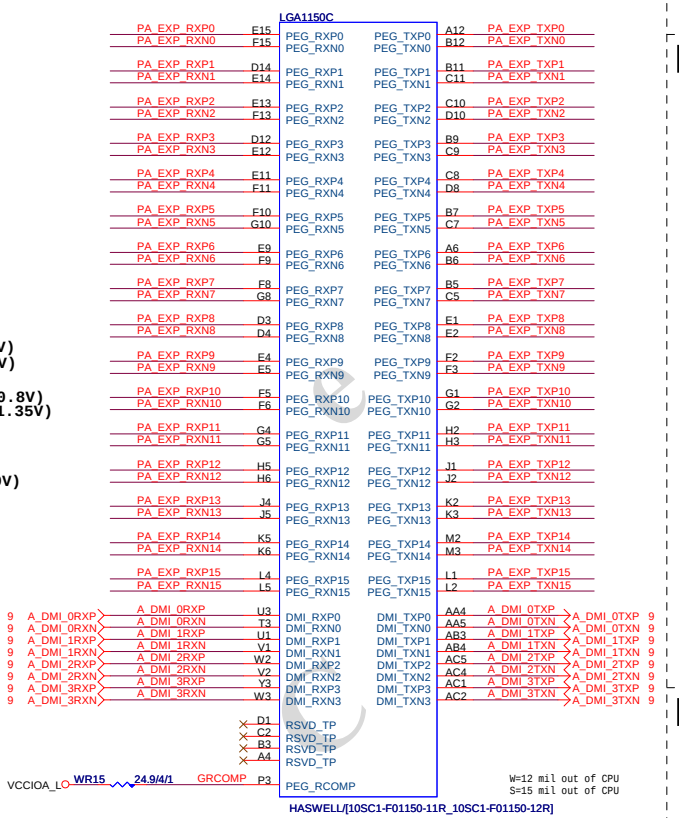


CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	**NORM**	**Reverse**	LANE REVERSAL[0],x16
3	RSVD	RSVD	RSVD
4	**Disable**	**Enable**	eDP Enable
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD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

LGA1155 (C)

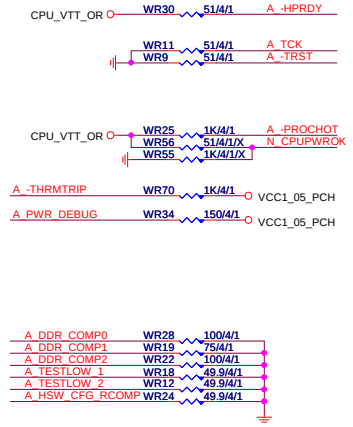


CPU PEG 5/5/5//20 Impedance=80 +- 15%

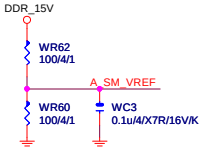
DMI 4/4/4//15 Impedance=85 +- 15%

CPU SVID

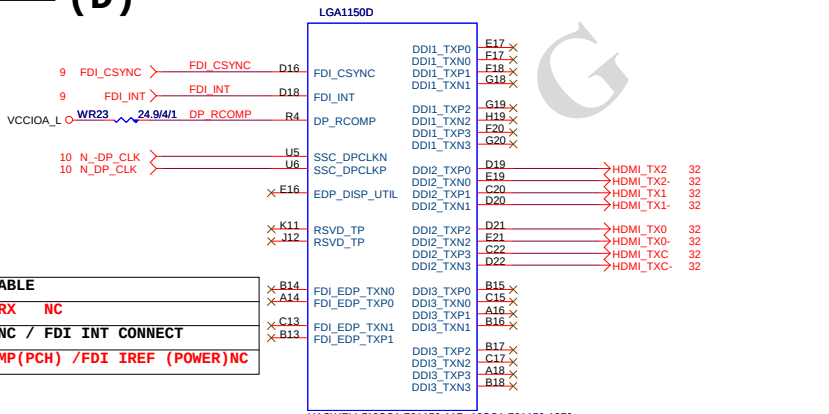
CPU PU/PD



SM REF



LGA1150 (D)



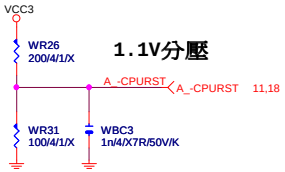
FDI DISABLE
FDI TX/RX NC
FDI CSYNC / FDI INT CONNECT
FDI RCOMP(PCH) /FDI IREF (POWER)NC

DP/HDMI 4/4/4//20 FDI 4/4/4/12

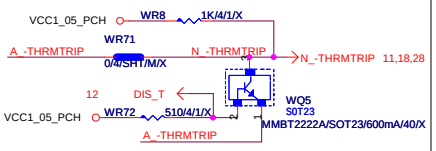
Impedance=85 +- 15%

FDI:4/4/4//15(breakout min 4/4/4//8)
Impedance=85 +- 15%

-CPURST



THRMTRIP DISABLE FOR Z87 OVERCLOCK



Gigabyte Technology

Title	CPU LGA1150-A	
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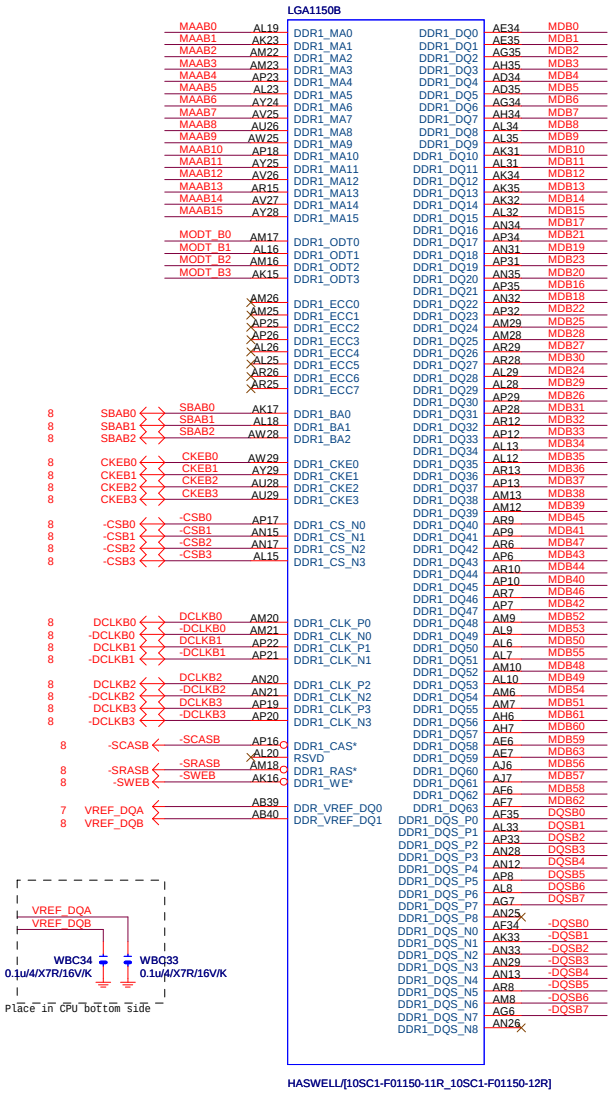
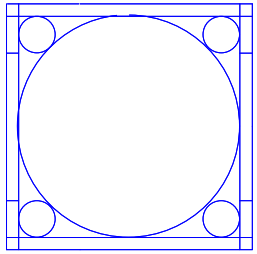
LGA1150 (A)

LGA1150 (B)

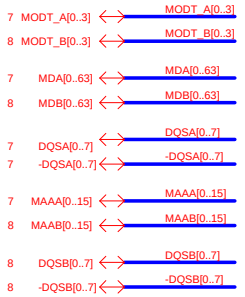


LGA1150 (CR)

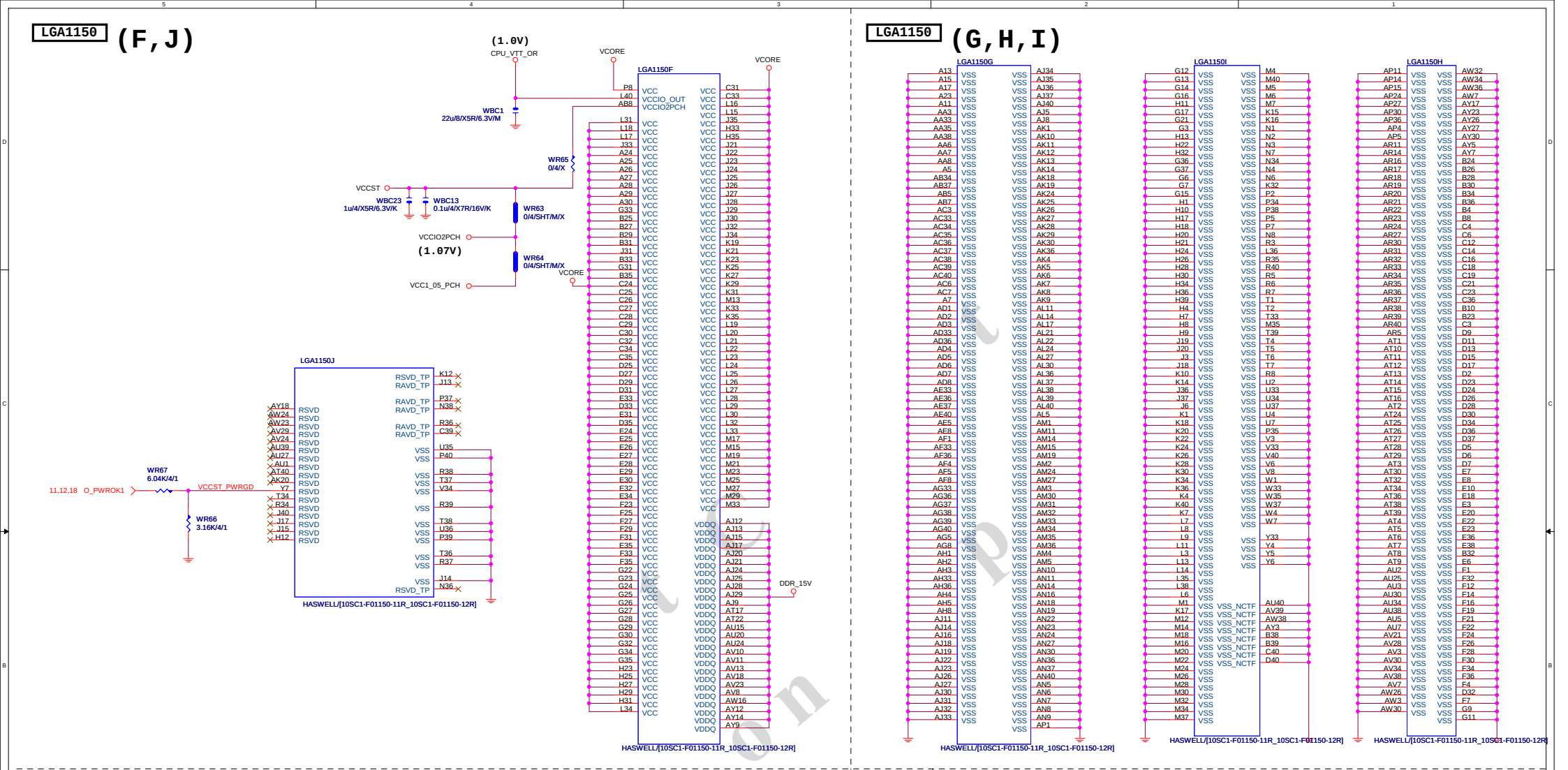
LGA1150
ILM_BP/1156/CSP/[12KRC-0F0001-52R_12KRC-0F0001-51R]



DDR BUS



Gigabyte Technology			
Title: CPU LGA1150-B			
Size: Custom	Document Number: GA-P85-D3		Rev: 2.0
Date: Wednesday, February 26, 2014	Sheet 5 of 33		


LGA1150 (F,J)
(1.0V)
CPU_VTT_OR
VCORE
LGA1150F
WBC1
22u/8/X5R/6.3V/M
WR65
0/4/X
VCCST
WBC23
1u/4/X5R/6.3V/K
WBC13
0.1u/4/X7R/16V/K
WR63
0/4/SHT/M/X
VCCIO2PCH
(1.07V)
WR64
0/4/SHT/M/X
VCC1_05_PCH
LGA1150J
WR67
6.04K/4/1
11,12,18 O_PWROK1
VCCST_PWRGD
WR66
3.16K/4/1
HASWELL/[10SC1-F01150-11R_10SC1-F01150-12R]
DDR_15V
LGA1150 (G,H,I)
LGA1150G
LGA1150I
LGA1150H
VCore CAP
(X30)
WBC35 22u/8/X5R/6.3V/M/X
WBC42 22u/8/X5R/6.3V/M/X
WBC36 22u/8/X5R/6.3V/M/X
WBC43 22u/8/X5R/6.3V/M/X
WBC44 22u/8/X5R/6.3V/M/X
WBC38 22u/8/X5R/6.3V/M/X
WBC37 22u/8/X5R/6.3V/M/X
WBC46 22u/8/X5R/6.3V/M/X
WBC39 22u/8/X5R/6.3V/M/X
WBC41 22u/8/X5R/6.3V/M/X
WBC40 22u/8/X5R/6.3V/M/X
WBC19 22u/8/X5R/6.3V/M/X
WBC21 22u/8/X5R/6.3V/M/X
WBC6 22u/8/X5R/6.3V/M
WBC9 22u/8/X5R/6.3V/M
WBC20 22u/8/X5R/6.3V/M/X
WBC7 22u/8/X5R/6.3V/M
WBC11 22u/8/X5R/6.3V/M
WBC8 22u/8/X5R/6.3V/M
WBC4 22u/8/X5R/6.3V/M
WBC5 22u/8/X5R/6.3V/M
WBC10 22u/8/X5R/6.3V/M
WBC12 22u/8/X5R/6.3V/M
WBC22 22u/8/X5R/6.3V/M
WBC45 22u/8/X5R/6.3V/M/X
WBC14 22u/8/X5R/6.3V/M
WBC15 22u/8/X5R/6.3V/M/X
WBC16 22u/8/X5R/6.3V/M/X
WBC17 22u/8/X5R/6.3V/M/X
WBC18 22u/8/X5R/6.3V/M/X
DDR CAP
(X15)
WBC24 22u/8/X5R/6.3V/M
WBC25 22u/8/X5R/6.3V/M
WBC26 22u/8/X5R/6.3V/M
WBC27 22u/8/X5R/6.3V/M
WBC28 22u/8/X5R/6.3V/M
WBC29 22u/8/X5R/6.3V/M
WBC30 22u/8/X5R/6.3V/M
WBC31 22u/8/X5R/6.3V/M
WBC32 22u/8/X5R/6.3V/M
SBC1 22u/8/X5R/6.3V/M/X
SBC2 22u/8/X5R/6.3V/M/X
MBC50 22u/8/X5R/6.3V/M/X
MBC51 22u/8/X5R/6.3V/M/X
MBC48 1u/4/X5R/6.3V/K/X
MBC49 1u/4/X5R/6.3V/K/X
Gigabyte Technology
Title
CPU LGA1150-C
Size Custom
Document Number GA-P85-D3
Rev 2.0
Date: Wednesday, February 26, 2014
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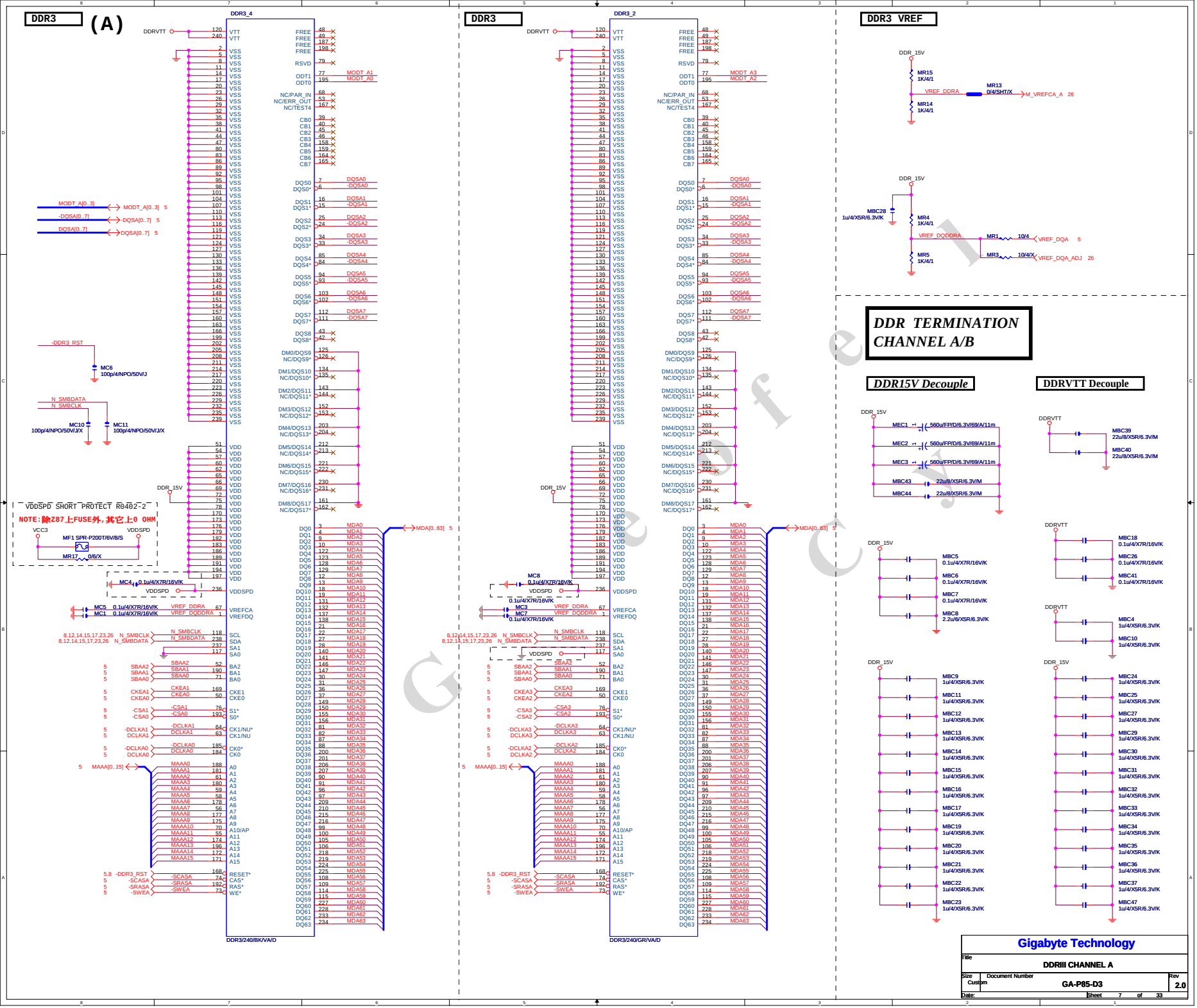
DDR3
(A)
DDR3_4
DDRVTT
DDR_15V
VDDSPD
VREFCA
VREFDQ
VREF_DDRA
VREF_DQDDRA
MODT_A[0..3]
-DQSA[0..7]
DQSA[0..7]
-DDR3_RST
N_SMBDATA
N_SMBCLK
MC6 100p/4/NPO/50V/J
MC10 100p/4/NPO/50V/J/X
MC11 100p/4/NPO/50V/J/X
VDDSPD SHORT PROTECT R0402-2
NOTE:除Z87上FUSE外,其它上0 OHM
VCC3
MF1 SPR-P200T/6V/8/S
MR17 0/6/X
MC4 0.1u/4/X7R/16V/K
MC5 0.1u/4/X7R/16V/K
MC1 0.1u/4/X7R/16V/K
MDA[0..63]
MAAA[0..15]
DDR3/240/BK/VA/D
DDR3
DDR3_2
MODT_A3
MODT_A2
MC8 0.1u/4/X7R/16V/K
MC3 0.1u/4/X7R/16V/K
MC7 0.1u/4/X7R/16V/K
DDR3/240/GR/VA/D
DDR3 VREF
MR15 1K/4/1
MR13 0/4/SHT/X
MR14 1K/4/1
VREF_DDRA
M_VREFCA_A
MBC28 1u/4/X5R/6.3V/K
MR4 1K/4/1
MR5 1K/4/1
VREF_DQDDRA
MR1 10/4
MR3 10/4/X
VREF_DQA
VREF_DQA_ADJ
DDR TERMINATION
CHANNEL A/B
DDR15V Decouple
DDRVTT Decouple
MEC1 560u/FP/D/6.3V/69/A/11m
MEC2 560u/FP/D/6.3V/69/A/11m
MEC3 560u/FP/D/6.3V/69/A/11m
MBC43 22u/8/X5R/6.3V/M
MBC44 22u/8/X5R/6.3V/M
MBC39 22u/8/X5R/6.3V/M
MBC40 22u/8/X5R/6.3V/M
MBC5 0.1u/4/X7R/16V/K
MBC6 0.1u/4/X7R/16V/K
MBC7 0.1u/4/X7R/16V/K
MBC8 2.2u/6/X5R/6.3V/K
MBC18 0.1u/4/X7R/16V/K
MBC26 0.1u/4/X7R/16V/K
MBC41 0.1u/4/X7R/16V/K
MBC4 1u/4/X5R/6.3V/K
MBC10 1u/4/X5R/6.3V/K
MBC9 1u/4/X5R/6.3V/K
MBC11 1u/4/X5R/6.3V/K
MBC12 1u/4/X5R/6.3V/K
MBC13 1u/4/X5R/6.3V/K
MBC14 1u/4/X5R/6.3V/K
MBC15 1u/4/X5R/6.3V/K
MBC16 1u/4/X5R/6.3V/K
MBC17 1u/4/X5R/6.3V/K
MBC19 1u/4/X5R/6.3V/K
MBC20 1u/4/X5R/6.3V/K
MBC21 1u/4/X5R/6.3V/K
MBC22 1u/4/X5R/6.3V/K
MBC23 1u/4/X5R/6.3V/K
MBC24 1u/4/X5R/6.3V/K
MBC25 1u/4/X5R/6.3V/K
MBC27 1u/4/X5R/6.3V/K
MBC29 1u/4/X5R/6.3V/K
MBC30 1u/4/X5R/6.3V/K
MBC31 1u/4/X5R/6.3V/K
MBC32 1u/4/X5R/6.3V/K
MBC33 1u/4/X5R/6.3V/K
MBC34 1u/4/X5R/6.3V/K
MBC35 1u/4/X5R/6.3V/K
MBC36 1u/4/X5R/6.3V/K
MBC37 1u/4/X5R/6.3V/K
MBC47 1u/4/X5R/6.3V/K
Gigabyte Technology
DDRIII CHANNEL A
Size Custom
Document Number GA-P85-D3
Rev 2.0
Date:
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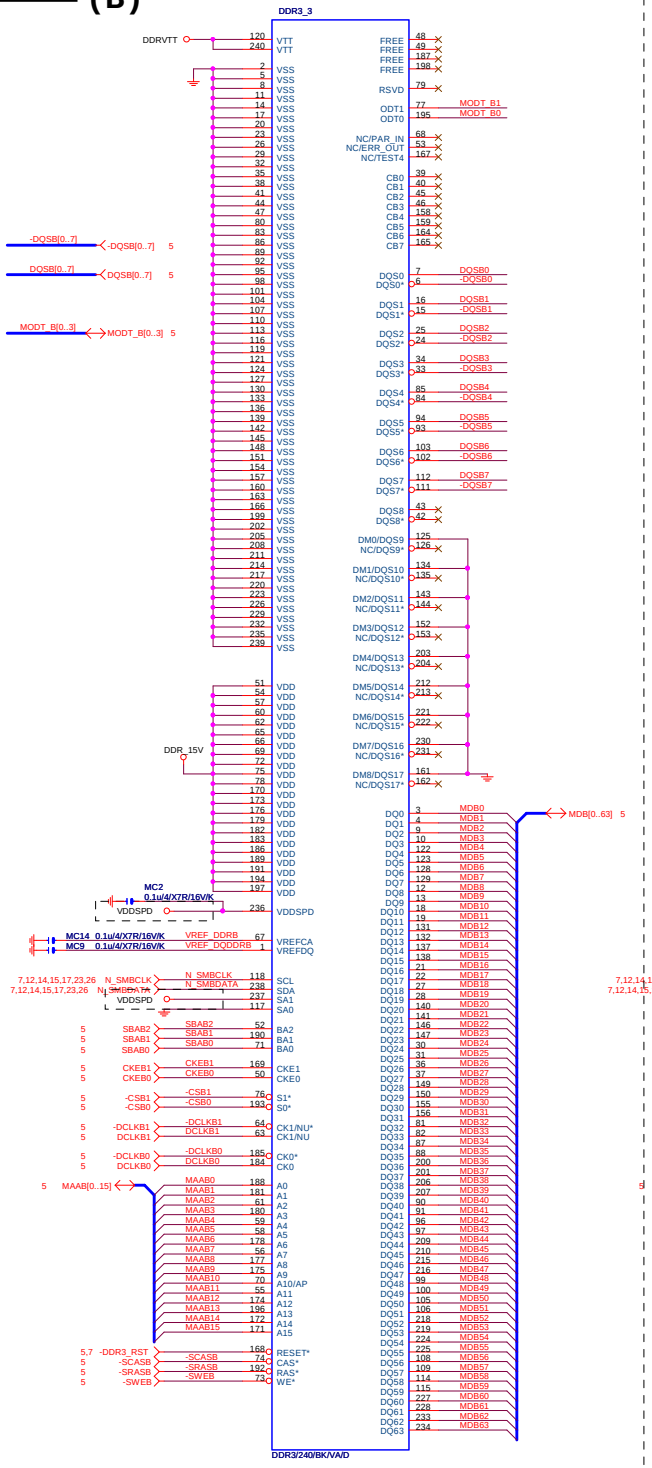
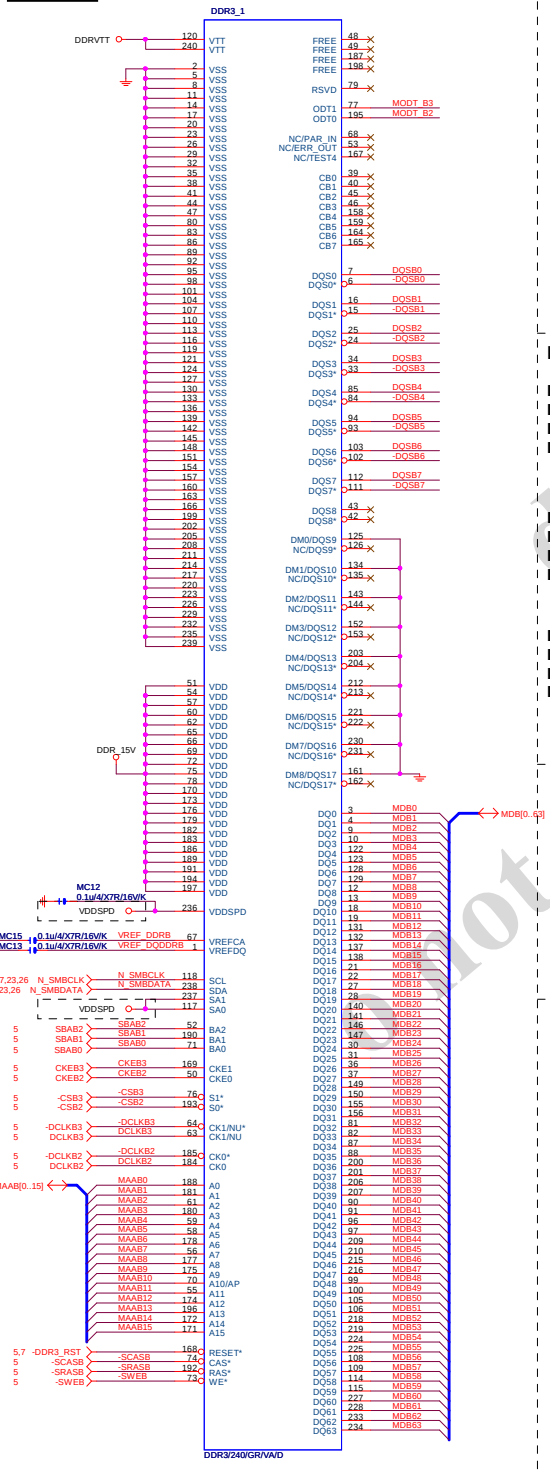
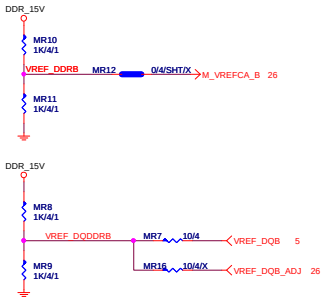
DDR3 (B)





DDR3 VREF



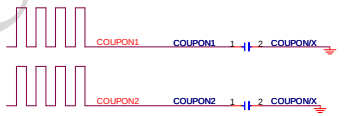
DDR3 1066,1333,1600MHZ BANDWIDTH

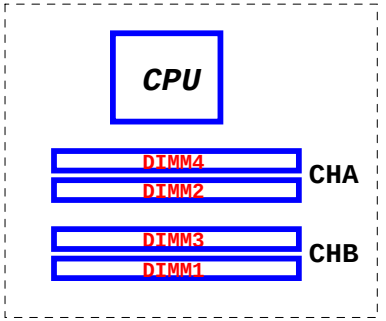
DDR3 1066MHZ
DDR3 clock=533MHZ
DDR3 single channel bandwidth=533x2x8Byte=8.5GB/s
DDR3 dual channel bandwidth=533x2x2x8Byte=17GB/s

DDR3 1333MHZ
DDR3 clock=667MHZ
DDR3 single channel bandwidth=10.6GB/s
DDR3 dual channel bandwidth=21GB/s

DDR3 1600MHZ
DDR3 clock=800MHZ
DDR3 single channel bandwidth=12.8GB/s
DDR3 dual channel bandwidth=25.6GB/s

COUPON





Gigabyte Technology		
Title: DDRIII CHANNEL B		
Size: Custom	Document Number: GA-P85-D3	Rev: 2.0
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PCH (B)

DMI:12/4/4/4/12(breakout min 8/4/4/4/8)
Impedance=85 +- 17.5%

USB2.0 : 12/5/7/5/12 (breakout min 8/4/4/4/8)
Impedance=85 +- 15%

PCHB

DMI_RXN_0 DMI_RXP_0 DMI_TXN_0 DMI_TXP_0 DMI_RXN_1 DMI_RXP_1 DMI_TXN_1 DMI_TXP_1 DMI_RXN_2 DMI_RXP_2 DMI_TXN_2 DMI_TXP_2 DMI_RXN_3 DMI_RXP_3 DMI_TXN_3 DMI_TXP_3

DMI_RCOMP
PCIE_RCOMP
CLKIN_DMI_N
CLKIN_DMI_P

USBN_0 USBP_0 USBN_1 USBP_1 USBN_2 USBP_2 USBN_3 USBP_3 USBN_4 USBP_4 USBN_5 USBP_5 USBN_6 USBP_6 USBN_7 USBP_7 USBN_8 USBP_8 USBN_9 USBP_9 USBN_10 USBP_10 USBN_11 USBP_11 USBN_12 USBP_12 USBN_13 USBP_13

OC0B_GP59 OC1B_GP40 OC2B_GP41 OC3B_GP42 OC4B_GP43 OC5B_GP9 OC6B_GP10 OC7B_GP14

USBRBIASB USBRBIAS

CLKIN_DOT96N CLKIN_DOT96P

DH82B85/S/[10HB1-030B85-20R]

Port要對應

B85/H81: 6/7 N\A

H81:USB3.0 N\A

H81:12/13 N\A

N_-USBP0 N_+USBP0 N_-USBP1 N_+USBP1 N_-USBP2 N_+USBP2 N_-USBP3 N_+USBP3 N_-USBP4 N_+USBP4 N_-USBP5 N_+USBP5 N_-USBP8 N_+USBP8 N_-USBP9 N_+USBP9 N_-USBP10 N_+USBP10 N_-USBP11 N_+USBP11 N_-USBP12 N_+USBP12 N_-USBP13 N_+USBP13

N_-USBOC_F N_-USBOC_R N_GPIO14

USBRBIAS NR47 22.6/4/1
W=8 mil out of PCH
S=15 mil to other signals

CK_-DOTCLK CK_DOTCLK

N_GPIO14 NR130 8.2K/4/4 3VDUAL

NBC82 0.1u/4/X7R/16V/K
NBC83 0.1u/4/X7R/16V/K

VCC1_5_PCH NR50 7.5K/4/1 DMI_COMP
NR40 7.5K/4/1 PCIE_COMP
W=8 mil out of PCH
S=15 mil to other signals
CK_-SRCCLK_PCH
CK_SRCCLK_PCH

REAR USB3.0
B85/H81:USB N\A

LAN AR8161

ITE8892 PCI Bridge

PCIEX4 port1

PCIEX4 port2

PCIEX4 port3
PCIEX1_1

H81:PCIE 7/8X
PCIEX4 port4
PCIEX1_2

PA_PCIE_IN1 PA_PCIE_IP1 PA_PCIE_TN1 PA_PCIE_TP1
LB_ML_IN LB_ML_IP LB_ML_ON LB_ML_OP
G_PCIEBIN G_PCIEBIP G_PCIEBON G_PCIEBOP
PE_PCIE_IN1 PE_PCIE_IP1 PE_PCIE_TN1 PE_PCIE_TP1
PF_PCIE_IN2 PF_PCIE_IP2 PF_PCIE_TN2 PF_PCIE_TP2
PI_PCIE_IN3 PI_PCIE_IP3 PI_PCIE_TN3 PI_PCIE_TP3
PJ_PCIE_IN4 PJ_PCIE_IP4 PJ_PCIE_TN4 PJ_PCIE_TP4

PCIE_PERN_1_USB3_RXN_2 PCIE_PERP_1_USB3_RXP_2 PCIE_PETN_1_USB3_TXN_2 PCIE_PETP_1_USB3_TXP_2 PCIE_PERN_2_USB3_RXN_3 PCIE_PERP_2_USB3_RXP_3 PCIE_PETN_2_USB3_TXN_3 PCIE_PETP_2_USB3_TXP_3 PCIE_PERN_3 PCIE_PERP_3 PCIE_PETN_3 PCIE_PETP_3 PCIE_PERN_4 PCIE_PERP_4 PCIE_PETN_4 PCIE_PETP_4 PCIE_PERN_5 PCIE_PERP_5 PCIE_PETN_5 PCIE_PETP_5 PCIE_PERN_6 PCIE_PERP_6 PCIE_PETN_6 PCIE_PETP_6 PCIE_PERN_7 PCIE_PERP_7 PCIE_PETN_7 PCIE_PETP_7 PCIE_PERN_8 PCIE_PERP_8 PCIE_PETN_8 PCIE_PETP_8

放靠近 Device & PCI-E Slot

PCH PCIE ,DMI 4/4/4//15 Impedance=85 +- 15%

usb2.0 5/7/5//12
usb3.0 5/7/5//20 Impedance=85 +- 15%

PCH (F)

PCHF

USB3_RXN_0 USB3_RXP_0 USB3_TXN_0 USB3_TXP_0 USB3_RXN_1 USB3_RXP_1 USB3_TXN_1 USB3_TXP_1 USB3_RXN_4 USB3_RXP_4 USB3_TXN_4 USB3_TXP_4 USB3_RXN_5 USB3_RXP_5 USB3_TXN_5 USB3_TXP_5

FDI_RXN_0 FDI_RXP_0 FDI_RXN_1 FDI_RXP_1 FDI_CSYNC FDI_INT FDI_RCOMP

TACH6_GP70 TACH7_GP71

DH82B85/S/[10HB1-030B85-20R]

FDI_CSYNC FDI_INT

FDI:12/4/5/4/12
Impedance=85 +- 17.5%

PCH_USB3_RXN0 PCH_USB3_RXP0 PCH_USB3_TXN0 PCH_USB3_TXP0 PCH_USB3_RXN1 PCH_USB3_RXP1 PCH_USB3_TXN1 PCH_USB3_TXP1 PCH_USB3_RXN4 PCH_USB3_RXP4 PCH_USB3_TXN4 PCH_USB3_TXP4 PCH_USB3_RXN5 PCH_USB3_RXP5 PCH_USB3_TXN5 PCH_USB3_TXP5

NR62 8.2K/4 NR63 8.2K/4

USB3.0:20/5/7/5/20 (breakout min 8/4/4/4/8) ; ONLY 3 VIAS
Impedance=85 +- 17.5%
Back Panel < 10000 MILS
Front Panel < 6000 MILS

CK_SRCCLK_PCH NR89 8.2K/4
CK_-SRCCLK_PCH NR88 8.2K/4
Mount for integrated clock Generation Mode

CK_DOTCLK NR92 8.2K/4
CK_-DOTCLK NR91 8.2K/4
NR92 short to GND in non graphic SKU

PCH (J)

PCHJ

VSS_NCTF

DH82B85/S/[10HB1-030B85-20R]

PCH H/S

PCH_HS

HEAT SINK/N-BG/GBT MK/Z87/KWOG/[12SP2-S04208-61R_12SP2-S04208-62R_12SP2-S04208-63R]

USB TABLE

OC[3:0]# for Device 29 (ports 0-7)
OC[7:4]# for Device 26 (ports 8-13)

USB OC#	Configure
OC0#	USB0,1
OC1#	USB2,3
OC2#	USB4,5
OC3#	USB6,7
OC4#	USB8,9
OC5#	USB10,11
OC6#	USB12,13
OC7#	Not Use

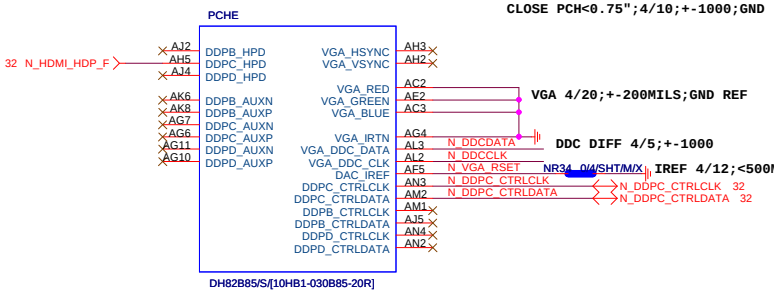
Gigabyte Technology

Title: PCH FDI,DMI,USB ,PCIE

Size: Custom | Document Number: GA-P85-D3 | Rev: 2.0

Date: Wednesday, February 26, 2014 | Sheet 9 of 33

PCH (E)



CLOSE PCH<0.75";4/10;+-1000;GND

VGA 4/20;+-200MILS;GND REF

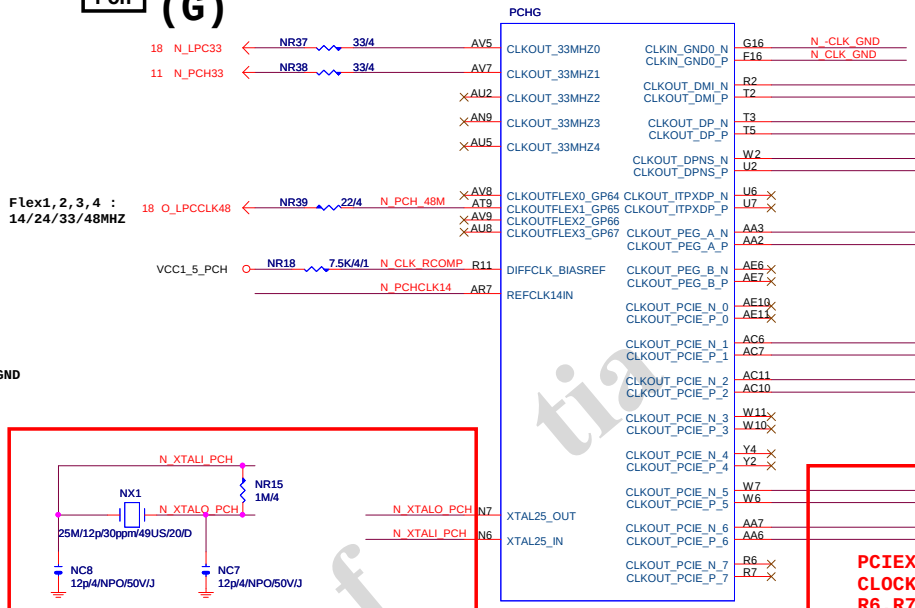
DDC DIFF 4/5;+-1000

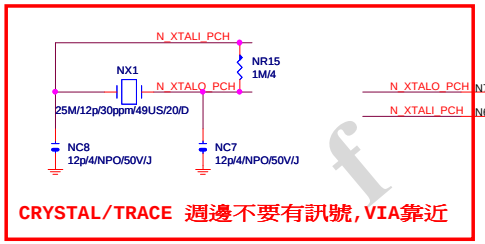
NR34 0/4/SHT/M/X

IREF 4/12;<500MILS;GND

VGA DISABLE
R,G,B NC OR GND
IRTN / IREF GND
VGA_HSYNC, VGA_VSYNC,DDC_CLK, DDC_DATA NC
POWER VCCADAC(AF2), VCCADACBG(AE1) GND

PCH (G)



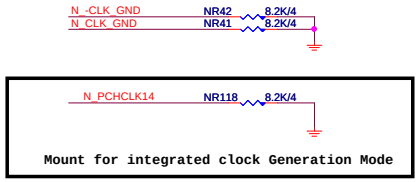


CRYSTAL/TRACE 週邊不要有訊號,VIA靠近

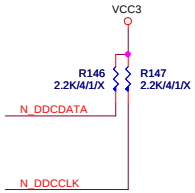
PCIEX4
CLOCK(PE_SRCCLK_3GIO1)由PIN R6,R7 換成PIN W7,W6
避免跟CRYSTAL 25MHZ干擾

Differential Clock:18/4/6/4/18
Impedance=90 +- 15%

PCH CLK PD



VGA DDC



VGA CONNECTOR

VGA DDC

Gigabyte Technology

Title: PCH DISPLAY ,CLK BUFFER

Size: Custom | Document Number: GA-P85-D3 | Rev: 2.0

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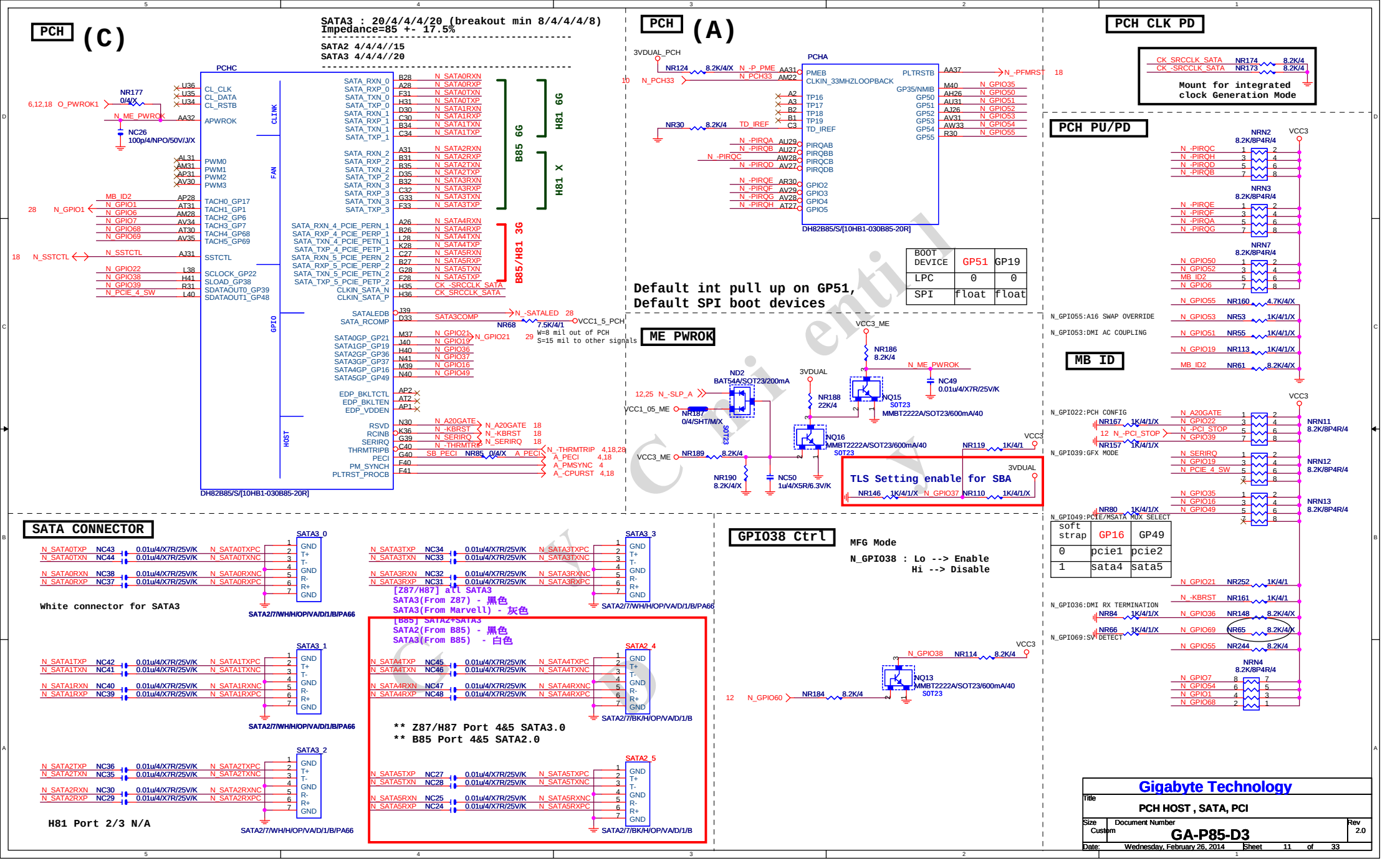
PCH (C)
SATA3 : 20/4/4/4/20 (breakout min 8/4/4/4/8)
Impedance=85 +- 17.5%
SATA2 4/4/4//15
SATA3 4/4/4//20
PCHC
CL_CLK
CL_DATA
CL_RSTB
APWROK
PWM0
PWM1
PWM2
PWM3
TACH0_GP17
TACH1_GP1
TACH2_GP6
TACH3_GP7
TACH4_GP68
TACH5_GP69
SSTCTL
SCLOCK_GP22
SLOAD_GP38
SDATAOUT0_GP39
SDATAOUT1_GP48
SATA_RXN_0
SATA_RXP_0
SATA_TXN_0
SATA_TXP_0
SATA_RXN_1
SATA_RXP_1
SATA_TXN_1
SATA_TXP_1
SATA_RXN_2
SATA_RXP_2
SATA_TXN_2
SATA_TXP_2
SATA_RXN_3
SATA_RXP_3
SATA_TXN_3
SATA_TXP_3
SATA_RXN_4_PCIE_PERN_1
SATA_RXP_4_PCIE_PERP_1
SATA_TXN_4_PCIE_PETN_1
SATA_TXP_4_PCIE_PETP_1
SATA_RXN_5_PCIE_PERN_2
SATA_RXP_5_PCIE_PERP_2
SATA_TXN_5_PCIE_PETN_2
SATA_TXP_5_PCIE_PETP_2
CLKIN_SATA_N
CLKIN_SATA_P
SATALEDB
SATA_RCOMP
SATA0GP_GP21
SATA1GP_GP19
SATA2GP_GP36
SATA3GP_GP37
SATA4GP_GP16
SATA5GP_GP49
EDP_BKLTCTL
EDP_BKLTEN
EDP_VDDEN
RSVD
RCINB
SERIRQ
THRMTRIPB
PECI
PM_SYNCH
PLTRST_PROCB
B85 6G
H81 6G
H81 X
B85/H81 3G
DH82B85/S/[10HB1-030B85-20R]
PCH (A)
3VDUAL_PCH
PCHA
PMEB
CLKIN_33MHZLOOPBACK
TP16
TP17
TP18
TP19
TD_IREF
PIRQAB
PIRQBB
PIRQCB
PIRQDB
GPIO2
GPIO3
GPIO4
GPIO5
PLTRSTB
GP35/NMIB
GP50
GP51
GP52
GP53
GP54
GP55
BOOT DEVICE | GP51 | GP19
LPC | 0 | 0
SPI | float | float
Default int pull up on GP51,
Default SPI boot devices
PCH CLK PD
Mount for integrated clock Generation Mode
PCH PU/PD
MB ID
ME PWROK
TLS Setting enable for SBA
GPIO38 Ctrl
MFG Mode
N_GPIO38 : Lo --> Enable
Hi --> Disable
SATA CONNECTOR
SATA3_0
SATA3_1
SATA3_2
SATA3_3
SATA2_4
SATA2_5
White connector for SATA3
[Z87/H87] all SATA3
SATA3(From Z87) - 黑色
SATA3(From Marvell) - 灰色
[B85] SATA2+SATA3
SATA2(From B85) - 黑色
SATA3(From B85) - 白色
** Z87/H87 Port 4&5 SATA3.0
** B85 Port 4&5 SATA2.0
H81 Port 2/3 N/A
SATA2/7/WH/H/OP/VA/D/1/B/PA66
SATA2/7/BK/H/OP/VA/D/1/B
Gigabyte Technology
PCH HOST , SATA, PCI
GA-P85-D3
Rev 2.0
Wednesday, February 26, 2014
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PCH (D)

PCHD

DH82B85/S/[10HB1-030B85-20R]

ACZ_SDOUT

C_ACZ_SDOUT : HI --> ME Enable
Lo --> ME Disable
HI:disable ME and override SPI Flash Access Permissions

PCH_DPWROK

At least 10ms delay after 3VDUAL_PCH stabel

For IT8620 Ctrl

PCH PU/PD

HSW_STRAP13

32.768KHZ

NX2-SHT SHW/D0.64*5.08*6.74

32.768K/12.5p/20ppm/TF38/35K/D

CLR_CMOS

BATTERY CR2032

BAT-SK/BK/P/S/D/SN

BATTERY-DUAL-4

RB 必須放在BAT外

Title	PCH GPIO , CTRL , AUDIO
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Gigabyte Technology

PCH (H)

PCHH

DH82B85/S/[10HB1-030B85-20R]

VCC1_05_PCH
VCC1_05_DCB
VCC1_05_ME
VCC1_5_PCH
VCC3
VCC3_DAC
3VDUAL
3VDUAL_PCH
VCC3_ME
N_RTCVDD 12,28
VCCIO2PCH
V_PROC_IO
V_1P05_DSW_IN
V_1P5_RTC_INT
V_1P5_INT
NTP1
NTP2
NTP3

NR71 5.1/4/1/[10RC4-00510B-26R]
NR249 0/4/SHT/X
NR250 0/4/SHT/X

NBC30 1u/4/X5R/6.3V/K
NBC33 1u/4/X5R/6.3V/K
NBC37 0.1u/4/X7R/16V/K
NBC35 1u/4/X5R/6.3V/K
NBC22 1u/4/X5R/6.3V/K
NBC38 0.1u/4/X7R/16V/K
NBC32 1u/4/X5R/6.3V/K
NBC12 1u/4/X5R/6.3V/K
NBC43 0.1u/4/X7R/16V/K
NBC55 1u/4/X5R/6.3V/K
NBC64 1u/4/X5R/6.3V/K
NBC62 0.1u/4/X7R/16V/K/X
NBC54 1u/4/X5R/6.3V/K
NBC52 1u/4/X5R/6.3V/K
NBC51 0.1u/4/X7R/16V/K
NBC47 0.1u/4/X7R/16V/K/X
NBC49 0.1u/4/X7R/16V/K

VCC3_DAC

CLOSE北橋(注意震盪水波紋)

+12V
NR185 8.2K/4
NQ17 2N7002/SOT23/25pF/5
NBC7 10u/6/X5R/6.3V/M
(3.3V/70mA+360uA)

3VDUAL_PCH

NQ9 L1117LGN/SOT223/1A
NR176 301/4/1
NR180 510/4/1
NBC66 22u/8/X5R/6.3V/M
NBC67 0.1u/4/X7R/16V/K
NBC68 1u/4/X5R/6.3V/K

SHT PWR

NRN5 0/8P4R/4/X
NRN1 0/8P4R/4/X

CAP

NBC58 1u/4/X5R/6.3V/K
NBC65 1u/4/X5R/6.3V/K

(3.3V)(X6)

NBC24 10u/6/X5R/6.3V/M
NBC25 1u/4/X5R/6.3V/K
NBC26 1u/4/X5R/6.3V/K
NBC27 1u/4/X5R/6.3V/K
NBC20 1u/4/X5R/6.3V/K
NBC59 1u/4/X5R/6.3V/K

(1.05V)(X5)

NBC8 10u/6/X5R/6.3V/M
NBC10 1u/4/X5R/6.3V/K
NBC14 0.1u/4/X7R/16V/K
SNBC3 1u/4/X5R/6.3V/K/X
SNBC4 1u/4/X5R/6.3V/K/X

(1.05V)(X6)

NBC39 10u/6/X5R/6.3V/M
NBC40 1u/4/X5R/6.3V/K
NBC41 0.1u/4/X7R/16V/K
NBC42 1u/4/X5R/6.3V/K
SNBC1 1u/4/X5R/6.3V/K/X
SNBC2 1u/4/X5R/6.3V/K/X

(1.05V)(X2)

NBC56 1u/4/X5R/6.3V/K
NBC57 0.1u/4/X7R/16V/K

(3.3V)(X2)

NBC60 1u/4/X5R/6.3V/K
NBC63 0.1u/4/X7R/16V/K

(1.5V) (X10)

NBC16 10u/6/X5R/6.3V/M
NBC29 10u/6/X5R/6.3V/M
NBC50 10u/6/X5R/6.3V/M
NBC53 10u/6/X5R/6.3V/M
NBC19 1u/4/X5R/6.3V/K
NBC23 0.1u/4/X7R/16V/K
NBC28 1u/4/X5R/6.3V/K
NBC44 1u/4/X5R/6.3V/K
NBC46 0.1u/4/X7R/16V/K
NBC48 1u/4/X5R/6.3V/K

PCH (I)

PCHI
DH82B85/S/[10HB1-030B85-20R]

Gigabyte Technology		
Title: PCH PWR ,GND		
Size: Custom	Document Number: GA-P85-D3	Rev: 2.0
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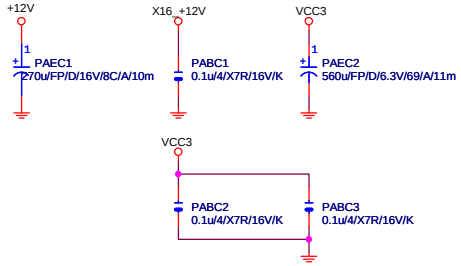
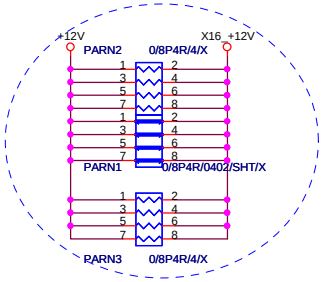
PCIEX16 CAP



PCIEX16 PROTECT SHT

+12 protect short-wire test



PCIEX16 AC CAP

PA_EXP_TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA_EXP_TXP0_C
PA_EXP_TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA_EXP_TXN0_C
PA_EXP_TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA_EXP_TXP1_C
PA_EXP_TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA_EXP_TXN1_C
PA_EXP_TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA_EXP_TXP2_C
PA_EXP_TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA_EXP_TXN2_C
PA_EXP_TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA_EXP_TXP3_C
PA_EXP_TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA_EXP_TXN3_C
PA_EXP_TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA_EXP_TXP4_C
PA_EXP_TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA_EXP_TXN4_C
PA_EXP_TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA_EXP_TXP5_C
PA_EXP_TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA_EXP_TXN5_C
PA_EXP_TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA_EXP_TXP6_C
PA_EXP_TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA_EXP_TXN6_C
PA_EXP_TXP7	PAC19	0.22u/4/X5R/6.3V/K	PA_EXP_TXP7_C
PA_EXP_TXN7	PAC18	0.22u/4/X5R/6.3V/K	PA_EXP_TXN7_C
PA_EXP_TXP8	PAC20	0.22u/4/X5R/6.3V/K	PA_EXP_TXP8_C
PA_EXP_TXN8	PAC21	0.22u/4/X5R/6.3V/K	PA_EXP_TXN8_C
PA_EXP_TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA_EXP_TXP9_C
PA_EXP_TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA_EXP_TXN9_C
PA_EXP_TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA_EXP_TXP10_C
PA_EXP_TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA_EXP_TXN10_C
PA_EXP_TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA_EXP_TXP11_C
PA_EXP_TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA_EXP_TXN11_C
PA_EXP_TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA_EXP_TXP12_C
PA_EXP_TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA_EXP_TXN12_C
PA_EXP_TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA_EXP_TXP13_C
PA_EXP_TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA_EXP_TXN13_C
PA_EXP_TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA_EXP_TXP14_C
PA_EXP_TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA_EXP_TXN14_C
PA_EXP_TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA_EXP_TXP15_C
PA_EXP_TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA_EXP_TXN15_C

PCI-E REV:1.1--> 2.5GHZ

PCE-E X1(單向) BANDWITH=2.5GHz*(8b/10b)=2Gb/s=250MB/s

PCE-E X1(雙向) BANDWITH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s

PCE-E X16(單向) BANDWITH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s

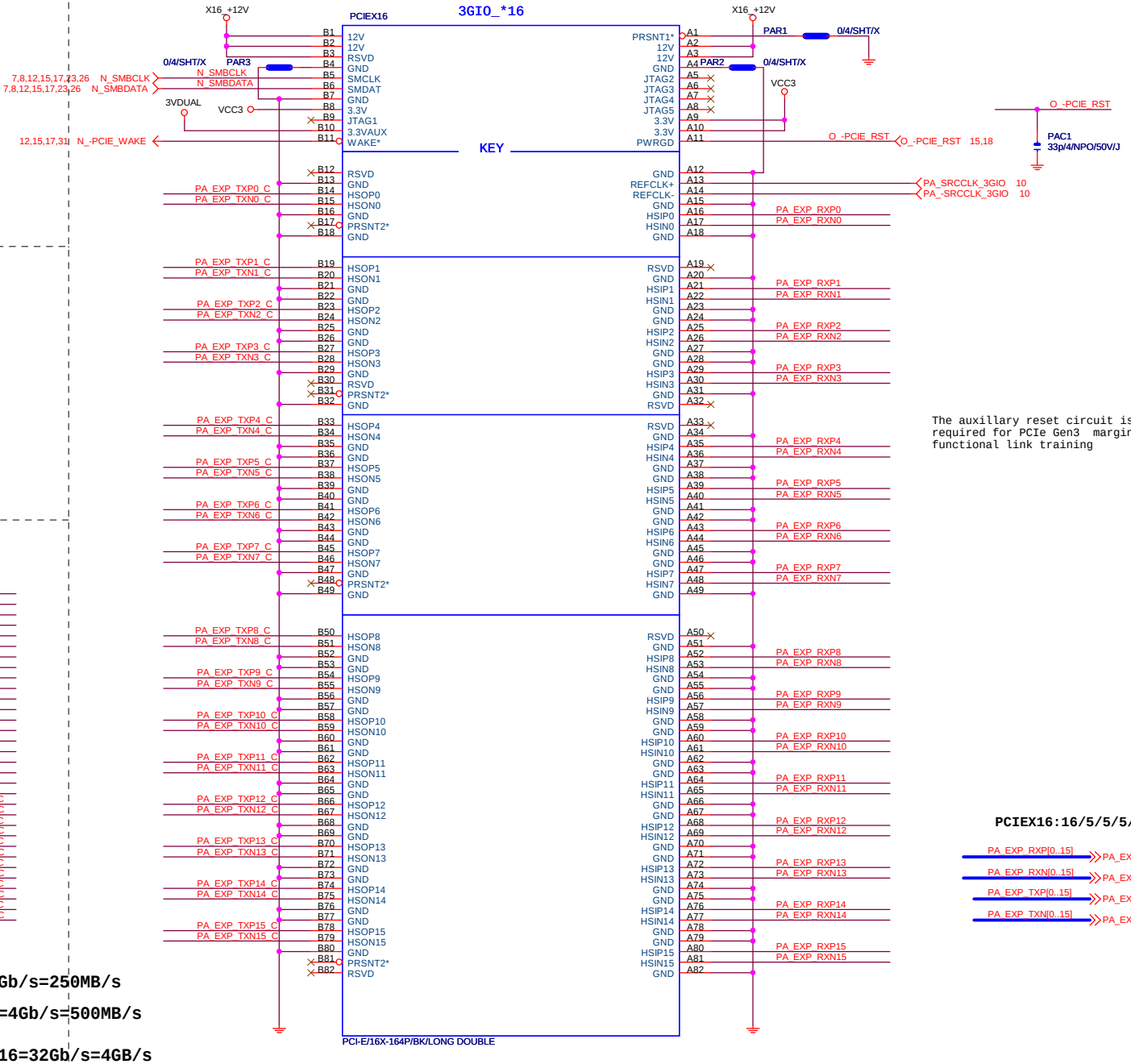
PCE-E X16(雙向) BANDWITH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--> 5GHZ

PCIEX16 SLOT

PCIESLOT-164DN-Q

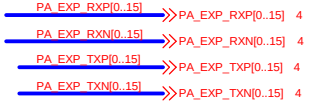
PCIEX16 3GIO_*16



PCI-E/16X-164P/BK/LONG DOUBLE

The auxillary reset circuit is only required for PCIe Gen3 margining and functional link training

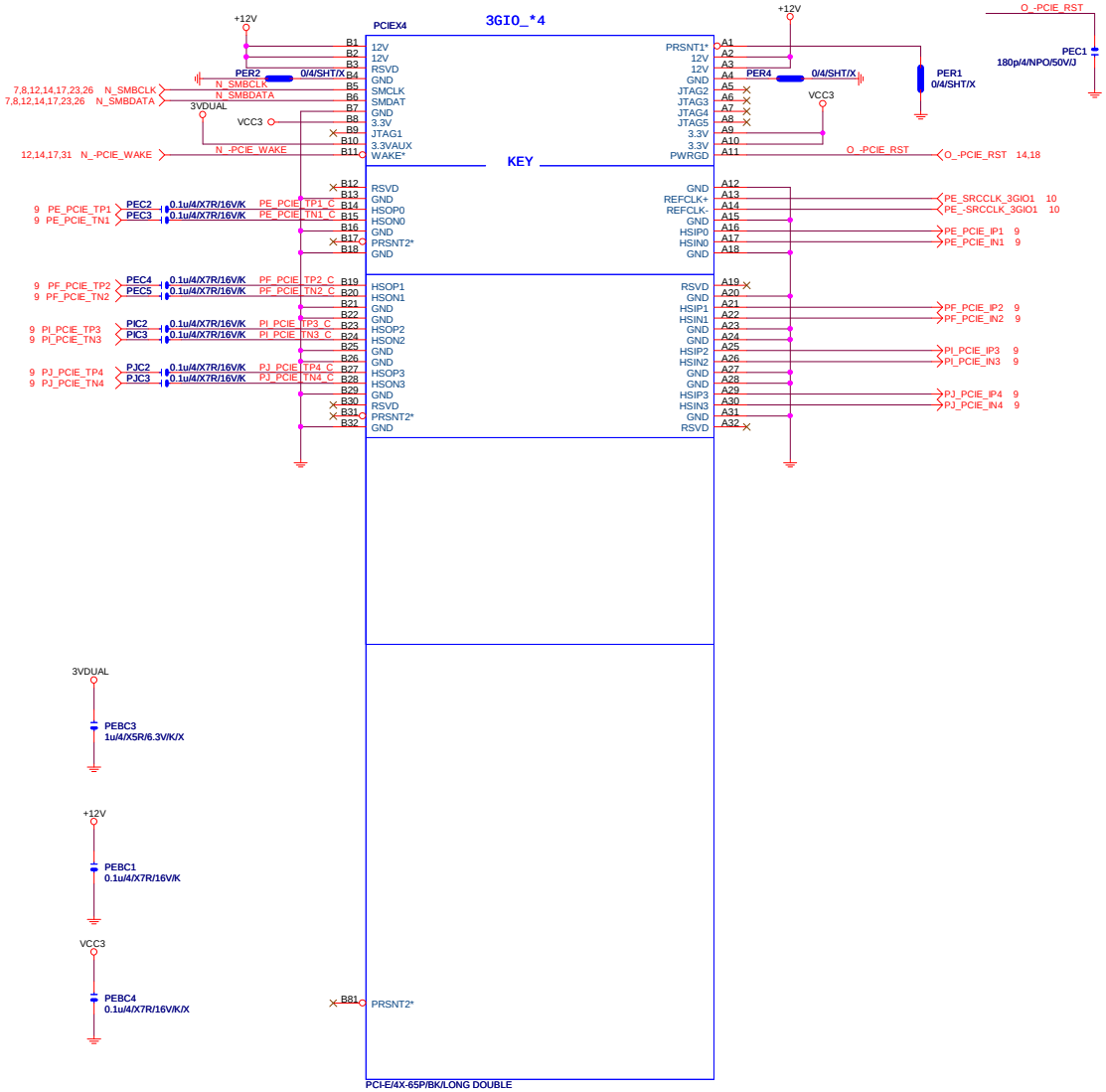
PCIEX16:16/5/5/5/16



Gigabyte Technology

Title	PCI EXPRESS * 16		
Size: Custom	Document Number: GA-P85-D3		Rev: 2.0
Date: Wednesday, February 26, 2014	Sheet 14 of 33		

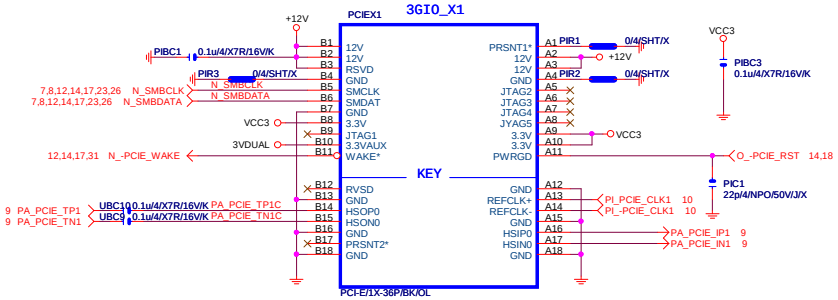
PCIEX4 SLOT



	N_PCIE_4_SW (PCH GPIO48)	PCIEX4_X1 (SIO_GPIO26)
PCIEX4 No devices	H	H
PCIEX4 -> X1	H	H
PCIEX4 Have devices	L	L
PCIEX4 -> X4		
PCIEX1_1/2 --> N/A		

PCIEX1 SLOT

PCIEX1_1



PCIEX4/X1 SWITCH

Function	SEL
xI--> x0a	L;PCIEX4 SLOT-->X1
xI--> x0b	H;PCIEX4 SLOT-->X4

Gigabyte Technology

Title: PCIE_X1 1,2

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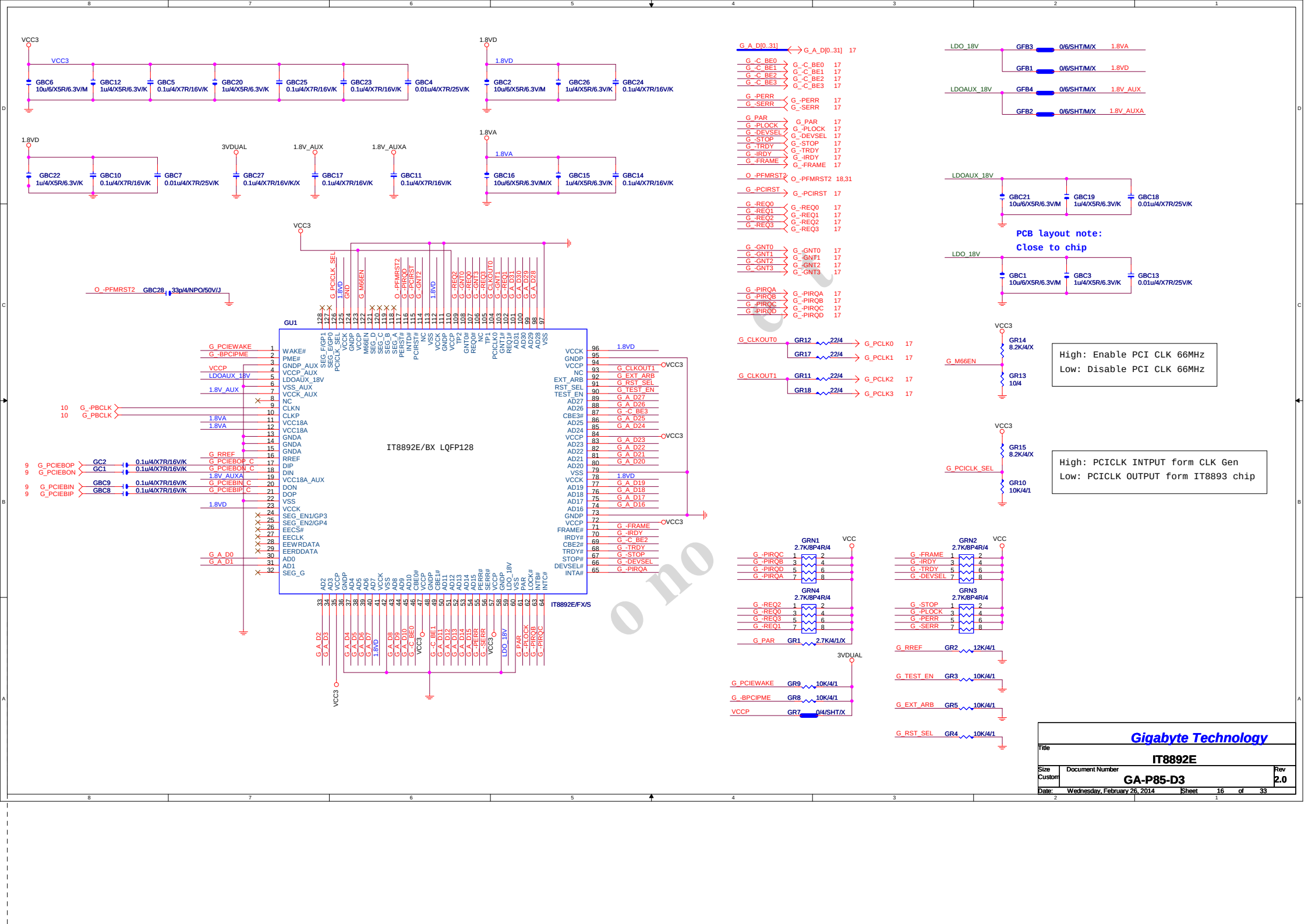
VCC3
GBC6 10u/6/X5R/6.3V/M
GBC12 1u/4/X5R/6.3V/K
GBC5 0.1u/4/X7R/16V/K
GBC20 1u/4/X5R/6.3V/K
GBC25 0.1u/4/X7R/16V/K
GBC23 0.1u/4/X7R/16V/K
GBC4 0.01u/4/X7R/25V/K
1.8VD
GBC2 10u/6/X5R/6.3V/M
GBC26 1u/4/X5R/6.3V/K
GBC24 0.1u/4/X7R/16V/K
GBC22 1u/4/X5R/6.3V/K
GBC10 0.1u/4/X7R/16V/K
GBC7 0.01u/4/X7R/25V/K
3VDUAL
GBC27 0.1u/4/X7R/16V/K/X
1.8V_AUX
GBC17 0.1u/4/X7R/16V/K
1.8V_AUXA
GBC11 0.1u/4/X7R/16V/K
1.8VA
GBC16 10u/6/X5R/6.3V/M/X
GBC15 1u/4/X5R/6.3V/K
GBC14 0.1u/4/X7R/16V/K
O_-PFMRST2
GBC28 33p/4/NPO/50V/J
GU1
IT8892E/BX LQFP128
IT8892E/F/X/S
G_PCIEWAKE
G_-BPCIPME
VCCP
LDOAUX_18V
1.8V_AUX
VCCK_AUX
10 G_-PBCLK
10 G_PBCLK
NC
CLKN
CLKP
1.8VA
VCC18A
GNDA
G_RREF
G_PCIEBOP_C
G_PCIEBON_C
1.8V_AUXA
G_PCIEBIN_C
G_PCIEBIP_C
DON
DOP
SEG_EN1/GP3
SEG_EN2/GP4
EECS#
EECLK
EEWRDATA
EERDDATA
AD0
AD1
SEG_G
9 G_PCIEBOP
9 G_PCIEBON
9 G_PCIEBIN
9 G_PCIEBIP
GC2 0.1u/4/X7R/16V/K
GC1 0.1u/4/X7R/16V/K
GBC9 0.1u/4/X7R/16V/K
GBC8 0.1u/4/X7R/16V/K
G_A_D0
G_A_D1
G_PCICLK_SEL
G_M66EN
G_-PFMRST2
G_-PIRQD
G_-PCIRST
G_-GNT2
G_-REQ2
G_-GNT0
G_-REQ0
G_-GNT3
G_-REQ3
G_CLKOUT0
G_-REQ1
G_A_D31
G_A_D30
G_A_D29
G_A_D28
G_CLKOUT1
G_EXT_ARB
G_RST_SEL
G_TEST_EN
G_A_D27
G_A_D26
G_-C_BE3
G_A_D25
G_A_D24
G_A_D23
G_A_D22
G_A_D21
G_A_D20
G_A_D19
G_A_D18
G_A_D17
G_A_D16
G_-FRAME
G_-IRDY
G_-C_BE2
G_-TRDY
G_-STOP
G_-DEVSEL
G_-PIRQA
G_A_D2
G_A_D3
G_A_D4
G_A_D5
G_A_D6
G_A_D7
G_A_D8
G_A_D9
G_A_D10
G_-C_BE0
G_-C_BE1
G_A_D11
G_A_D12
G_A_D13
G_A_D14
G_A_D15
G_-PERR
G_-SERR
G_PAR
G_-PLOCK
G_-PIRQB
G_-PIRQC
G_A_D[0..31]
G_-C_BE0
G_-C_BE1
G_-C_BE2
G_-C_BE3
G_-PERR
G_-SERR
G_PAR
G_-PLOCK
G_-DEVSEL
G_-STOP
G_-TRDY
G_-IRDY
G_-FRAME
O_-PFMRST2 18,31
G_-PCIRST
G_-REQ0
G_-REQ1
G_-REQ2
G_-REQ3
G_-GNT0
G_-GNT1
G_-GNT2
G_-GNT3
G_-PIRQA
G_-PIRQB
G_-PIRQC
G_-PIRQD
G_CLKOUT0
G_CLKOUT1
GR12 22/4
GR17 22/4
GR11 22/4
GR18 22/4
G_PCLK0
G_PCLK1
G_PCLK2
G_PCLK3
LDO_18V
GFB3 0/6/SHT/M/X 1.8VA
GFB1 0/6/SHT/M/X 1.8VD
LDOAUX_18V
GFB4 0/6/SHT/M/X 1.8V_AUX
GFB2 0/6/SHT/M/X 1.8V_AUXA
GBC21 10u/6/X5R/6.3V/M
GBC19 1u/4/X5R/6.3V/K
GBC18 0.01u/4/X7R/25V/K
PCB layout note:
Close to chip
GBC1 10u/6/X5R/6.3V/M
GBC3 1u/4/X5R/6.3V/K
GBC13 0.01u/4/X7R/25V/K
GR14 8.2K/4/X
GR13 10/4
High: Enable PCI CLK 66MHz
Low: Disable PCI CLK 66MHz
GR15 8.2K/4/X
GR10 10K/4/1
High: PCICLK INTPUT form CLK Gen
Low: PCICLK OUTPUT form IT8893 chip
GRN1 2.7K/8P4R/4
GRN2 2.7K/8P4R/4
GRN4 2.7K/8P4R/4
GRN3 2.7K/8P4R/4
VCC
G_-PIRQC
G_-PIRQB
G_-PIRQD
G_-PIRQA
G_-REQ2
G_-REQ0
G_-REQ3
G_-REQ1
G_-FRAME
G_-IRDY
G_-TRDY
G_-DEVSEL
G_-STOP
G_-PLOCK
G_-PERR
G_-SERR
G_PAR GR1 2.7K/4/1/X
G_RREF GR2 12K/4/1
G_TEST_EN GR3 10K/4/1
G_EXT_ARB GR5 10K/4/1
G_RST_SEL GR4 10K/4/1
3VDUAL
G_PCIEWAKE GR9 10K/4/1
G_-BPCIPME GR8 10K/4/1
VCCP GR7 0/4/SHT/X
Gigabyte Technology
Title
IT8892E
Size Custom
Document Number
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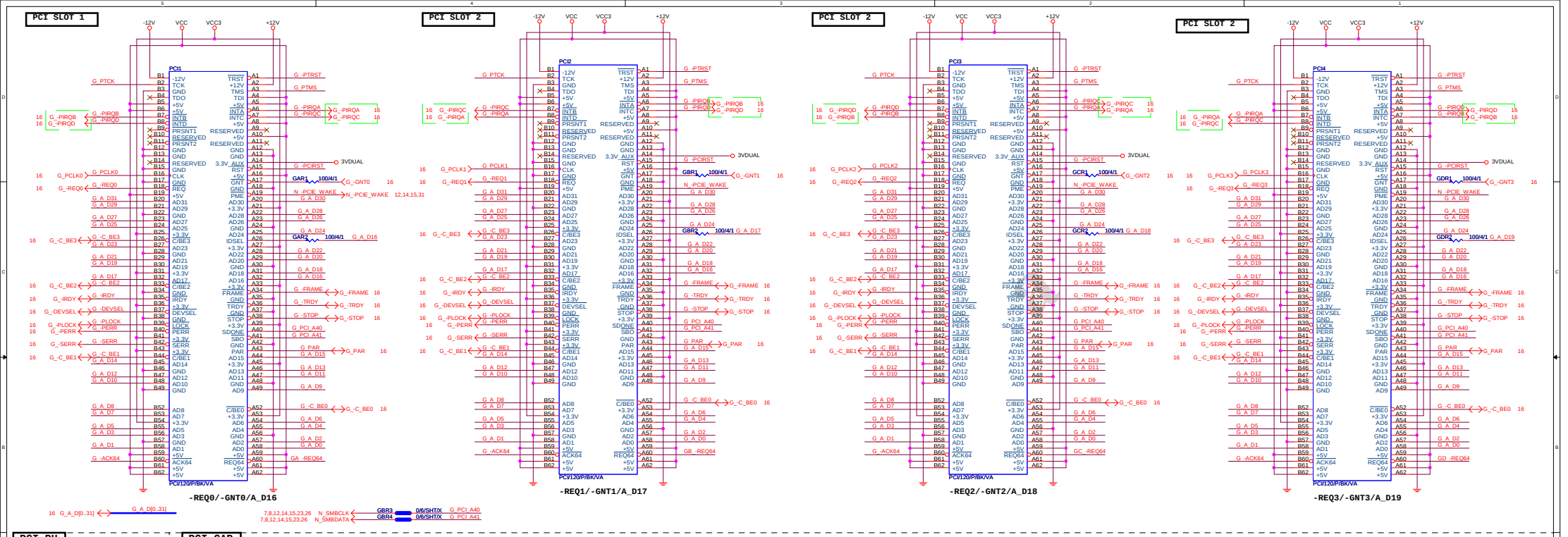
PCI SLOT 1
PCI SLOT 2
PCI SLOT 2
PCI SLOT 2
-REQ0/-GNT0/A_D16
-REQ1/-GNT1/A_D17
-REQ2/-GNT2/A_D18
-REQ3/-GNT3/A_D19
PCI PU
PCI CAP
GBRN1
8.2K/8P4R/4
GBRN2
1K/8P4R/4
GIGABYTE
PCI SLOT 1&2
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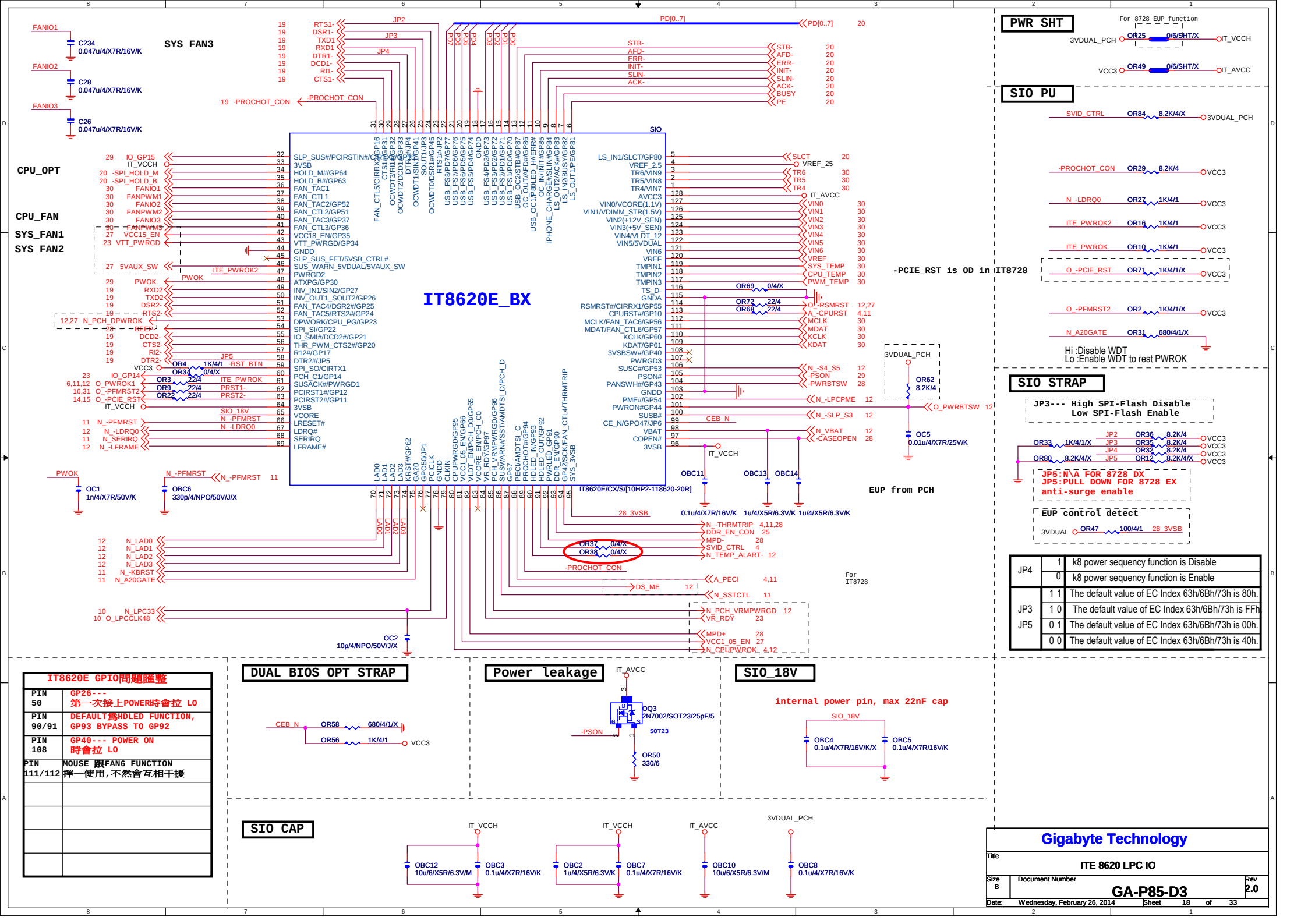
IT8620E_BX
SIO
SYS_FAN3
CPU_OPT
CPU_FAN
SYS_FAN1
SYS_FAN2
FANIO1
FANIO2
FANIO3
C234 0.047u/4/X7R/16V/K
C28 0.047u/4/X7R/16V/K
C26 0.047u/4/X7R/16V/K
-PROCHOT_CON
PD[0..7]
STB-
AFD-
ERR-
INIT-
SLIN-
ACK-
BUSY
PE
SLP_SUS#/PCIRSTIN#/GP16
3VSB
HOLD_M#/GP64
HOLD_B#/GP63
FAN_TAC1
FAN_CTL1
FAN_TAC2/GP52
FAN_CTL2/GP51
FAN_TAC3/GP37
FAN_CTL3/GP36
VCC18_EN/GP35
VTT_PWRGD/GP34
GNDD
SLP_SUS_FET/5VSB_CTRL#
SUS_WARN_5VDUAL/5VAUX_SW
PWRGD2
ATXPG/GP30
INV_IN1/SIN2/GP27
INV_OUT1_SOUT2/GP26
FAN_TAC4/DSR2#/GP25
FAN_TAC5/RTS2#/GP24
DPWORK/CPU_PG/GP23
SPI_SI/GP22
IO_SMI#/DCD2#/GP21
THR_PWM_CTS2#/GP20
R12#/GP17
DTR2#/JP5
SPI_SO/CIRTX1
PCH_C1/GP14
SUSACK#/PWRGD1
PCIRST1#/GP12
PCIRST2#/GP11
3VSB
VCORE
LRESET#
LDRQ#
SERIRQ
LFRAME#
LS_IN1/SLCT/GP80
VREF_2.5
TR6/VIN9
TR5/VIN8
TR4/VIN7
AVCC3
VIN0/VCORE(1.1V)
VIN1/VDIMM_STR(1.5V)
VIN2(+12V_SEN)
VIN3(+5V_SEN)
VIN4/VLDT_12
VIN5/5VDUAL
VIN6
VREF
TMPIN1
TMPIN2
TMPIN3
TS_D-
GNDA
RSMRST#/CIRRX1/GP55
CPURST#/GP10
MCLK/FAN_TAC6/GP56
MDAT/FAN_CTL6/GP57
KCLK/GP60
KDAT/GP61
3VSBSW#/GP40
PWRGD3
SUSC#/GP53
PSON#
PANSWH#/GP43
GNDD
PME#/GP54
PWRON#/GP44
SUSB#
CE_N/GPO47/JP6
VBAT
COPEN#
3VSB
SLCT
VREF_25
TR6
TR5
TR4
IT_AVCC
VIN0
VIN1
VIN2
VIN3
VIN4
VIN5
VIN6
VREF
SYS_TEMP
CPU_TEMP
PWM_TEMP
O_-RSMRST
A_-CPURST
MCLK
MDAT
KCLK
KDAT
N_-S4_S5
-PSON
-PWRBTSW
N_-LPCPME
N_-SLP_S3
N_VBAT
-CASEOPEN
IT_VCCH
-PCIE_RST is OD in IT8728
OR69 0/4/X
OR72 22/4
OR68 22/4
βVDUAL_PCH
OR62 8.2K/4
OC5 0.01u/4/X7R/25V/K
O_PWRBTSW
OBC11 0.1u/4/X7R/16V/K
OBC13 1u/4/X5R/6.3V/K
OBC14 1u/4/X5R/6.3V/K
EUP from PCH
IT8620E/CX/S/[10HP2-118620-20R]
PWOK
N_-PFMRST
OC1 1n/4/X7R/50V/K
OBC6 330p/4/NPO/50V/J/X
N_LAD0
N_LAD1
N_LAD2
N_LAD3
N_-KBRST
N_A20GATE
N_LPC33
O_LPCCLK48
OC2 10p/4/NPO/50V/J/X
28_3VSB
N_-THRMTRIP 4,11,28
DDR_EN_CON 25
MPD- 28
SVID_CTRL 4
N_TEMP_ALART- 12
OR37 0/4/X
OR38 0/4/X
-PROCHOT_CON
DS_ME 12
A_PECI 4,11
N_SSTCTL 11
N_PCH_VRMPWRGD 12
VR_RDY 23
MPD+ 28
VCC1_05_EN 27
N_CPUPWROK 4,12
For IT8728
PWR SHT
For 8728 EUP function
3VDUAL_PCH
OR25 0/6/SHT/X
IT_VCCH
VCC3
OR49 0/6/SHT/X
IT_AVCC
SIO PU
SVID_CTRL
OR84 8.2K/4/X
3VDUAL_PCH
-PROCHOT_CON
OR29 8.2K/4
VCC3
N_-LDRQ0
OR27 1K/4/1
ITE_PWROK2
OR16 1K/4/1
ITE_PWROK
OR10 1K/4/1
O_-PCIE_RST
OR71 1K/4/1/X
O_-PFMRST2
OR2 1K/4/1/X
N_A20GATE
OR31 680/4/1/X
Hi :Disable WDT
Lo :Enable WDT to rest PWROK
SIO STRAP
JP3--- High SPI-Flash Disable
Low SPI-Flash Enable
JP2 OR36 8.2K/4
JP3 OR35 8.2K/4
JP4 OR32 8.2K/4
JP5 OR12 8.2K/4/X
OR33 1K/4/1/X
OR80 8.2K/4/X
JP5:N\A FOR 8728 DX
JP5:PULL DOWN FOR 8728 EX
anti-surge enable
EUP control detect
3VDUAL
OR47 100/4/1
28_3VSB
JP4 1 k8 power sequency function is Disable
0 k8 power sequency function is Enable
JP3 JP5 1 1 The default value of EC Index 63h/6Bh/73h is 80h.
1 0 The default value of EC Index 63h/6Bh/73h is FFh
0 1 The default value of EC Index 63h/6Bh/73h is 00h.
0 0 The default value of EC Index 63h/6Bh/73h is 40h.
IT8620E GPIO問題匯整
PIN 50 GP26--- 第一次接上POWER時會拉 LO
PIN 90/91 DEFAULT爲HDLED FUNCTION, GP93 BYPASS TO GP92
PIN 108 GP40--- POWER ON 時會拉 LO
PIN 111/112 MOUSE 跟FAN6 FUNCTION 擇一使用,不然會互相干擾
DUAL BIOS OPT STRAP
CEB_N
OR58 680/4/1/X
OR56 1K/4/1
VCC3
Power leakage
IT_AVCC
OQ3 2N7002/SOT23/25pF/5
SOT23
-PSON
OR50 330/6
SIO_18V
internal power pin, max 22nF cap
SIO_18V
OBC4 0.1u/4/X7R/16V/K/X
OBC5 0.1u/4/X7R/16V/K
SIO CAP
IT_VCCH
OBC12 10u/6/X5R/6.3V/M
OBC3 0.1u/4/X7R/16V/K
IT_VCCH
OBC2 1u/4/X5R/6.3V/K
OBC7 0.1u/4/X7R/16V/K
IT_AVCC
OBC10 10u/6/X5R/6.3V/M
3VDUAL_PCH
OBC8 0.1u/4/X7R/16V/K
Gigabyte Technology
Title
ITE 8620 LPC IO
Size B
Document Number
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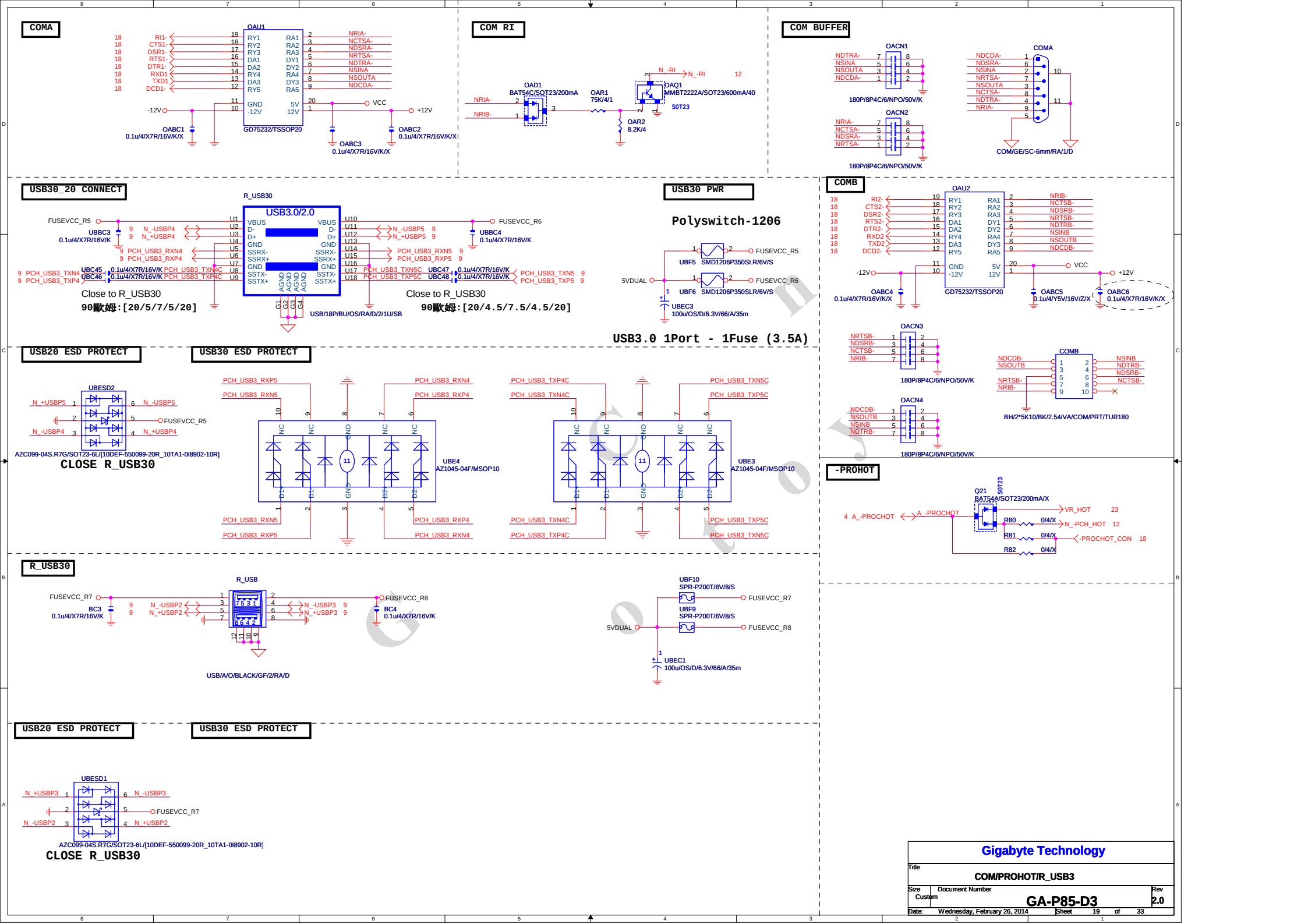
COMA
OAU1
GD75232/TSSOP20
OABC1 0.1u/4/X7R/16V/K/X
OABC2 0.1u/4/X7R/16V/K/X
OABC3 0.1u/4/X7R/16V/K/X
COM RI
OAD1 BAT54C/SOT23/200mA
OAR1 75K/4/1
OAR2 8.2K/4
OAQ1 MMBT2222A/SOT23/600mA/40
S0T23
COM BUFFER
OACN1
OACN2
180P/8P4C/6/NPO/50V/K
COMA
COM/GE/SC-6mm/RA/1/D
USB30_20 CONNECT
R_USB30
USB3.0/2.0
UBBC3 0.1u/4/X7R/16V/K
UBBC4 0.1u/4/X7R/16V/K
UBC45 0.1u/4/X7R/16V/K
UBC46 0.1u/4/X7R/16V/K
UBC47 0.1u/4/X7R/16V/K
UBC48 0.1u/4/X7R/16V/K
Close to R_USB30
90歐姆:[20/5/7/5/20]
Close to R_USB30
90歐姆:[20/4.5/7.5/4.5/20]
USB/18P/BU/OS/RA/D/2/1U/SB
USB30 PWR
Polyswitch-1206
UBF5 SMD1206P350SLR/6V/S
UBF6 SMD1206P350SLR/6V/S
UBEC3 100u/OS/D/6.3V/66/A/35m
USB3.0 1Port - 1Fuse (3.5A)
COMB
OACN3
OACN4
180P/8P4C/6/NPO/50V/K
BH/2*5K10/BK/2.54/VA/COM/PRT/TUR180
-PROHOT
Q21 BAT54A/SOT23/200mA/X
S0T23
R80 0/4/X
R81 0/4/X
R82 0/4/X
USB20 ESD PROTECT
UBESD2
AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10R]
CLOSE R_USB30
USB30 ESD PROTECT
UBE4 AZ1045-04F/MSOP10
UBE3 AZ1045-04F/MSOP10
R_USB30
R_USB
BC3 0.1u/4/X7R/16V/K
BC4 0.1u/4/X7R/16V/K
USB/A/O/BLACK/GF/2/RA/D
UBF10 SPR-P200T/6V/8/S
UBF9 SPR-P200T/6V/8/S
UBEC1 100u/OS/D/6.3V/66/A/35m
USB20 ESD PROTECT
UBESD1
AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10R]
CLOSE R_USB30
USB30 ESD PROTECT
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Title
COM/PROHOT/R_USB3
Size Custom
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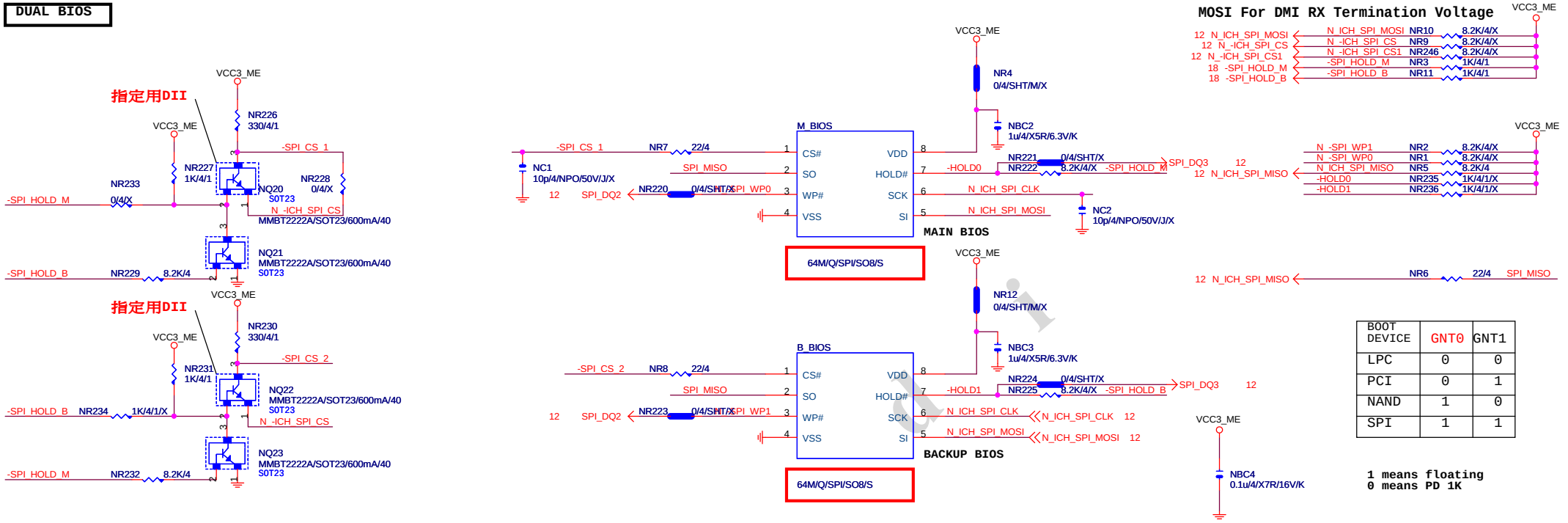
DUAL BIOS

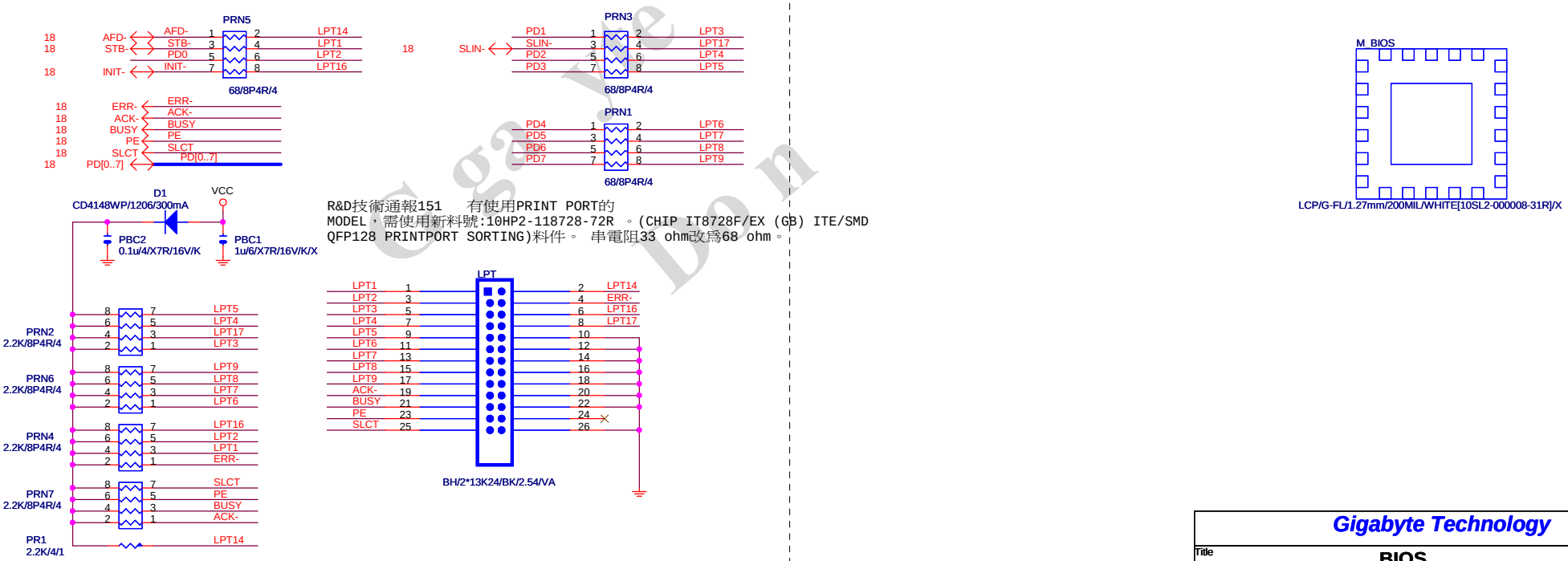
MOSI For DMI RX Termination Voltage



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

1 means floating
0 means PD 1K

LPT PORT



R&D技術通報151　有使用PRINT PORT的
MODEL，需使用新料號:10HP2-118728-72R 。(CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。 串電阻33 ohm改爲68 ohm。

Gigabyte Technology		
Title: BIOS		
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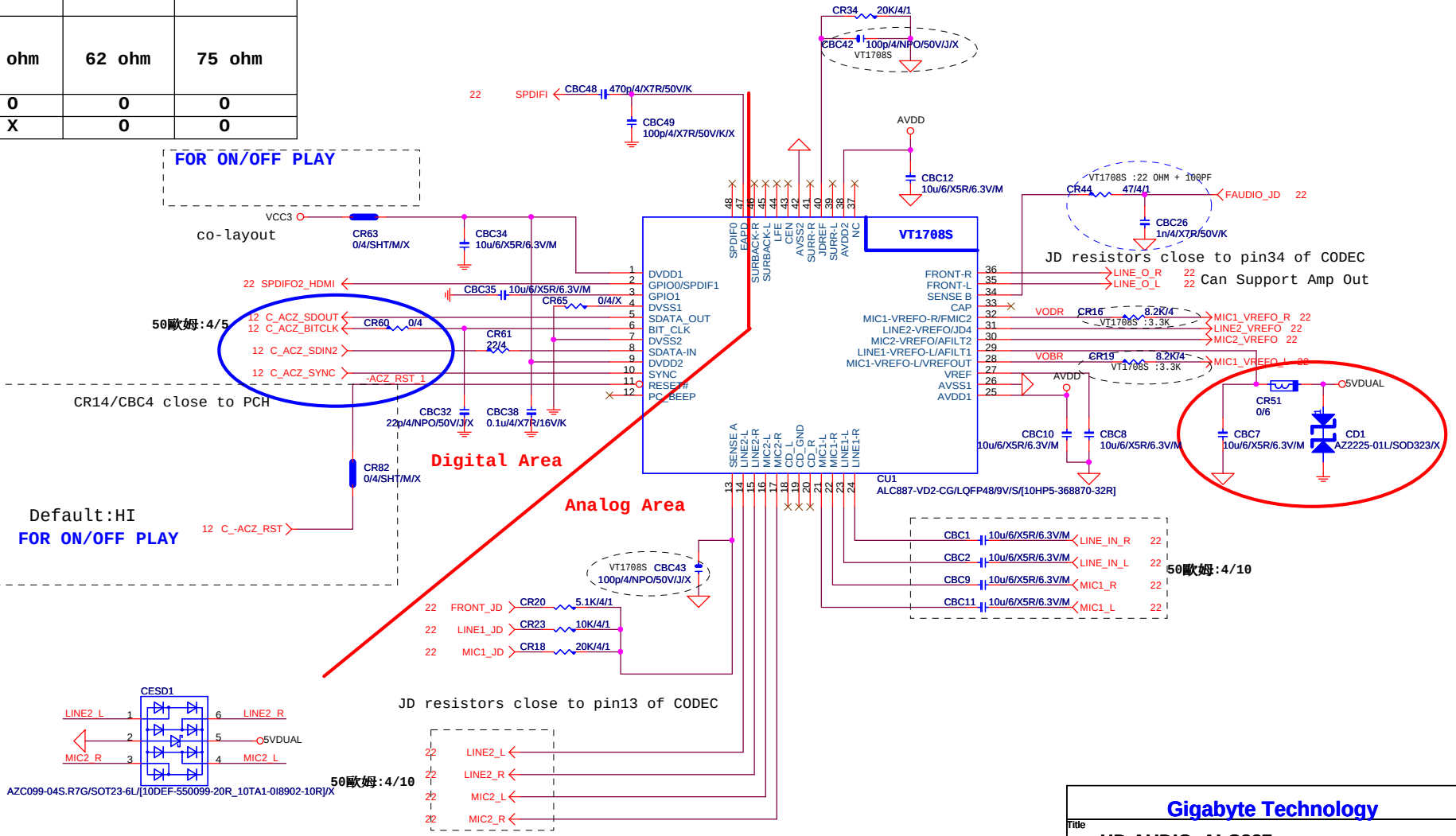
AZALIA CODEC

ALC892/ALC887-VD2/VT1708-CE Colay

	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR16/CR19 CR52/CR56/CR10/CR9	8.2K/4	8.2K/4	3.3K/4/1
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7	0	0	0
CESD1	X	0	0



Gigabyte Technology

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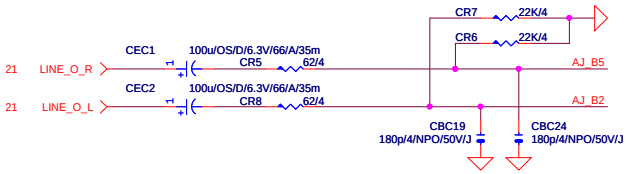
CR49 0/6/SHT/M/X → Close F_AUDIO

CR50 0/6/SHT/M/X → Close Codec

CR21 2.2/6 → Audio jack <--> USB_LAN

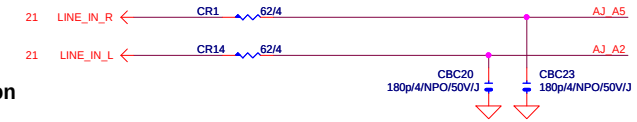
CR24 0/6/X → Under Audio jack

LINE-OUT



Only reserved for ALC888

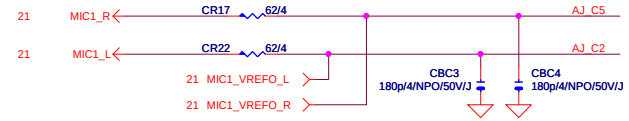
LINE-IN



Verify MIC function in LINE-in

For 889A/888

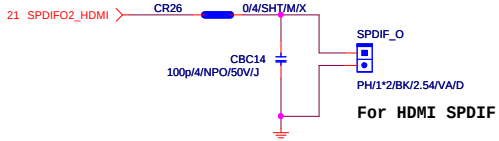
MIC-IN



SURROUND

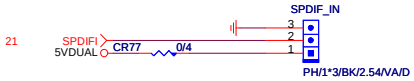
CEN/LFE

SPDIF_OUT

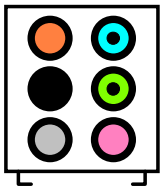


For HDMI SPDIF

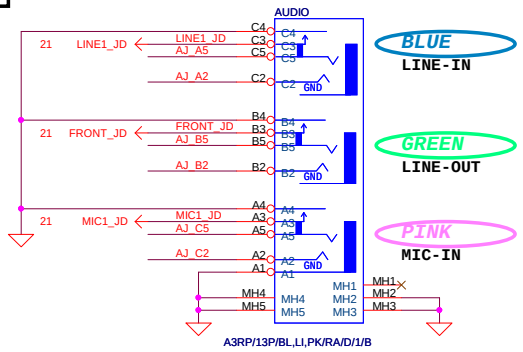
SPDIF_IN



AZALIA JACK



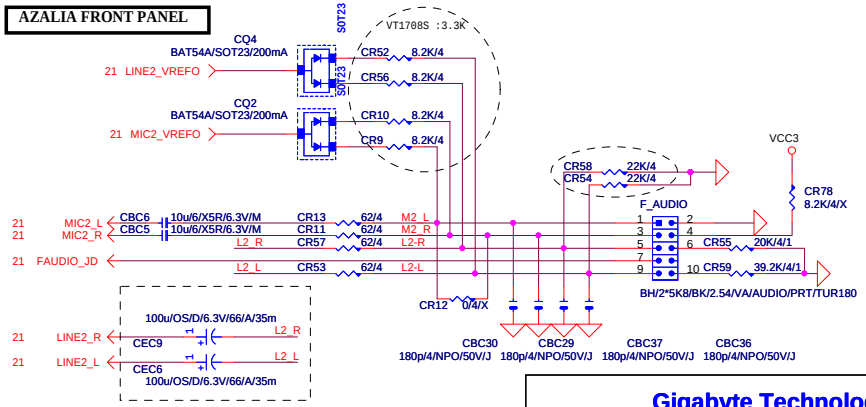
AZALIA JACK



A3RP/13P/BL,LI,PK/RA/D/1/B

SURR BACK

AZALIA FRONT PANEL



Gigabyte Technology

Title: AUDIO JACK

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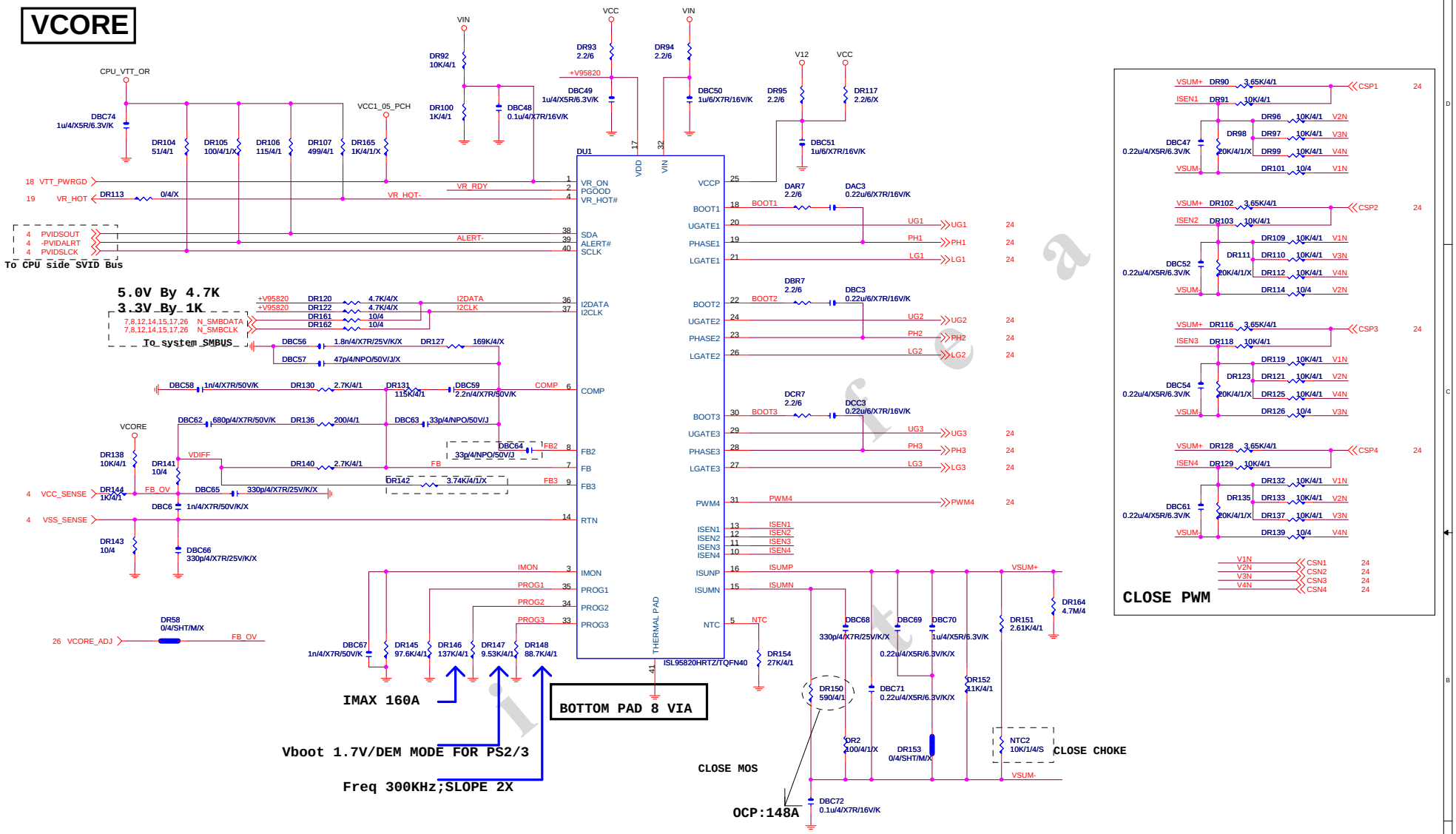
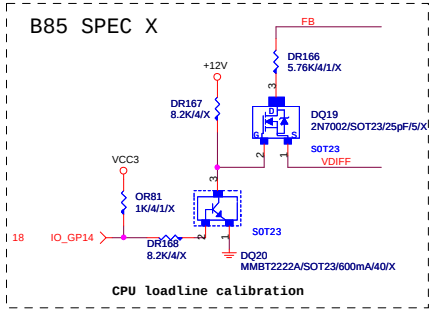
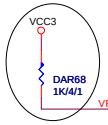
VCORE







Gigabyte Technology	
Title	VCORE_ ISL95820
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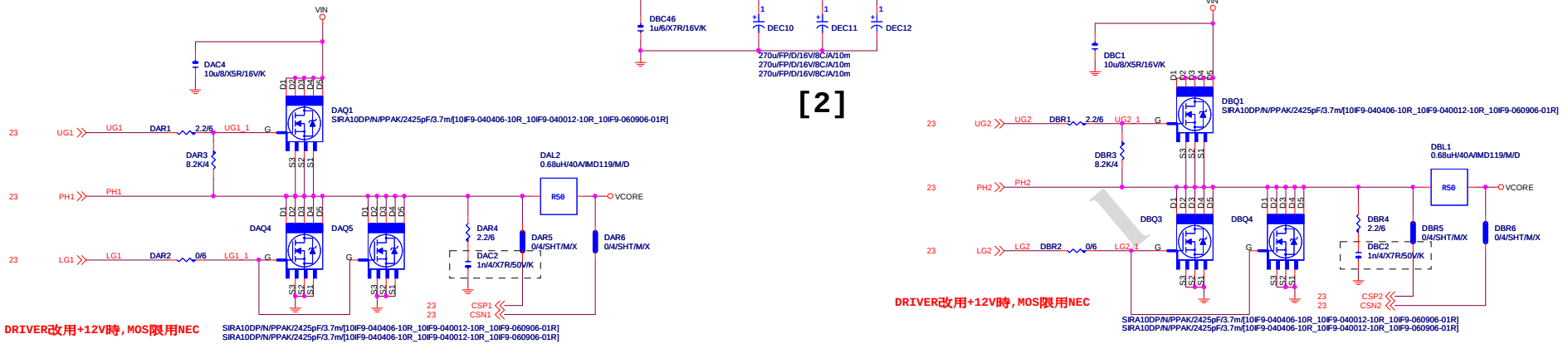
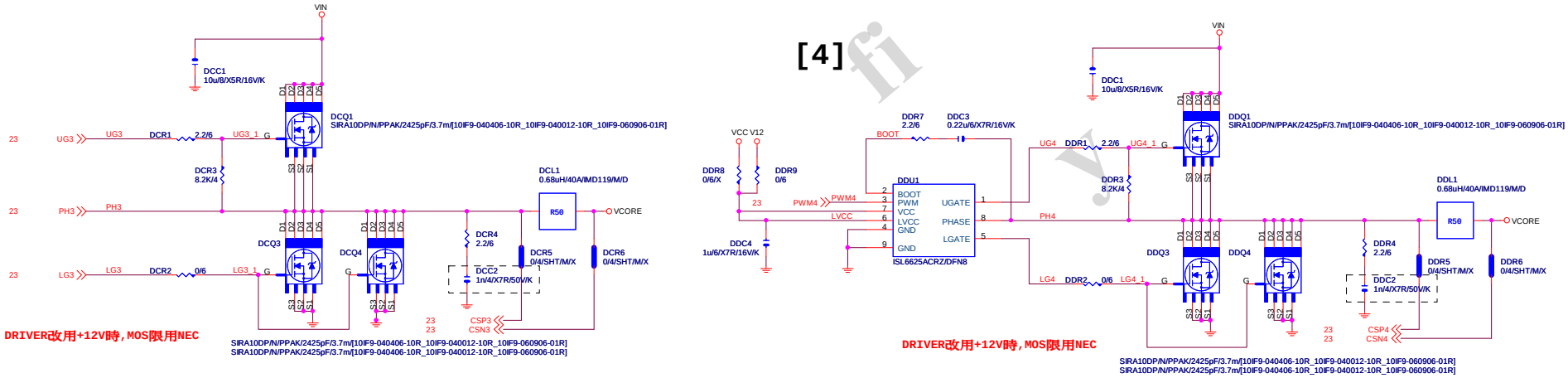
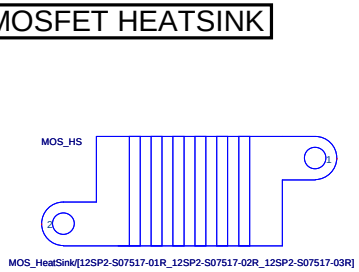
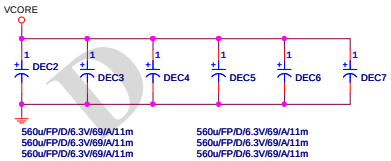
VCORE





MOSFET HEATSINK





Gigabyte Technology			
Title: ISL95820_2			
Size: Custom	Document Number: GA-P85-D3		Rev: 2.0
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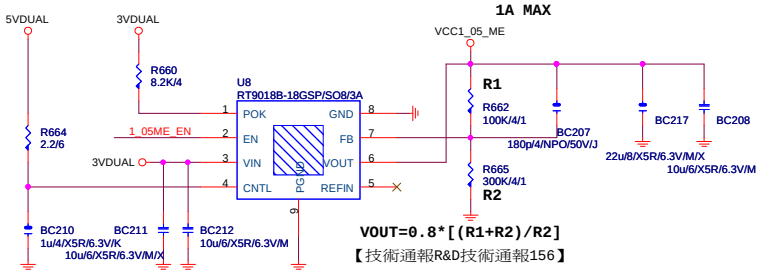
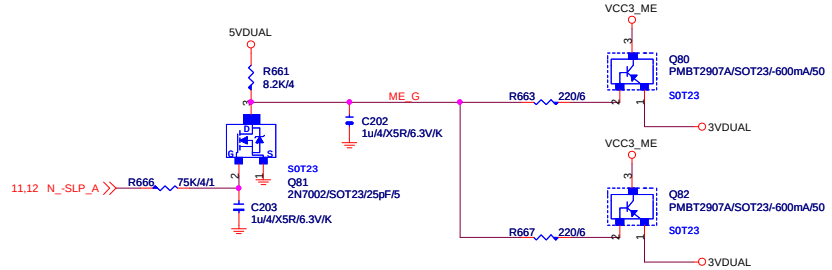
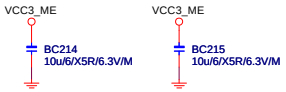
VCC1_05_ME

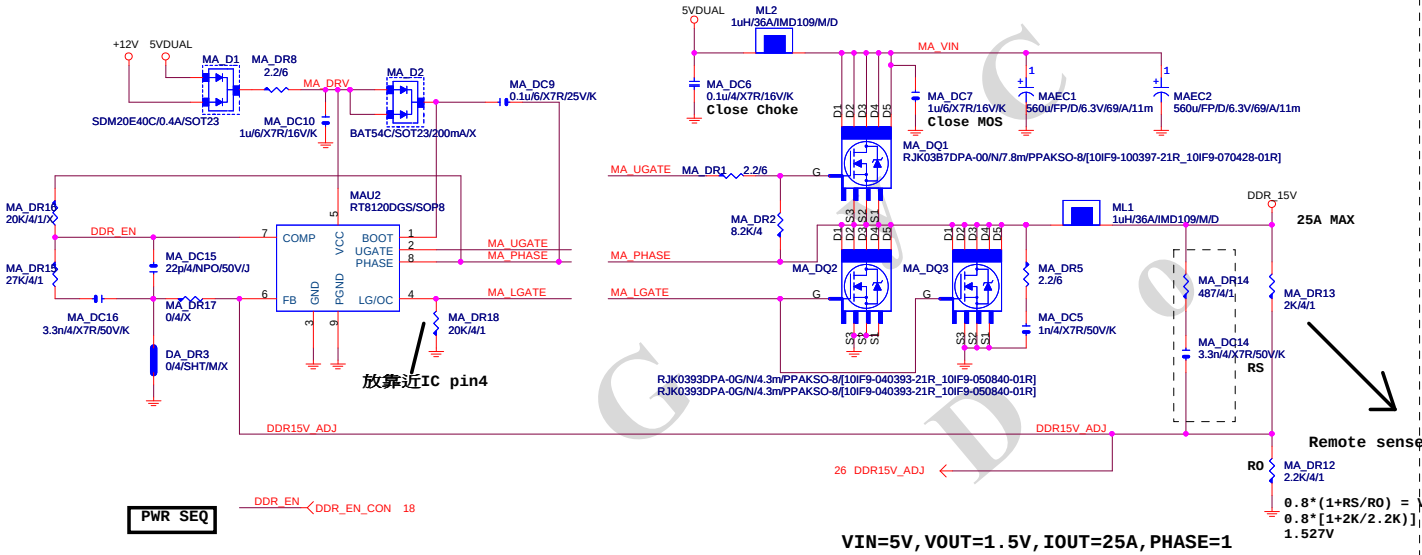


VCC3_ME





DDR_15V



PWR SEQ

DDR_EN — DDR_EN_CON 18

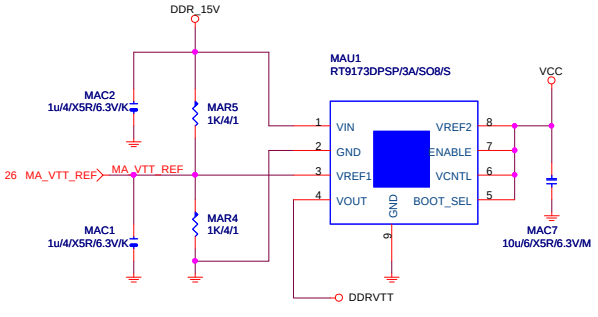
VIN=5V,VOUT=1.5V,IOUT=25A,PHASE=1
IRMS=11.45A

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:35.82A for Rds=6.7m for vishay@4.5V
OCP:72.727A for Rds=3.3m for renesas@10V
OCP:48A=Roset*Iocset / Rds(on)
=12K*10uA / [5//5]

DDRVTT



Title	DDR15V / M3 POWER
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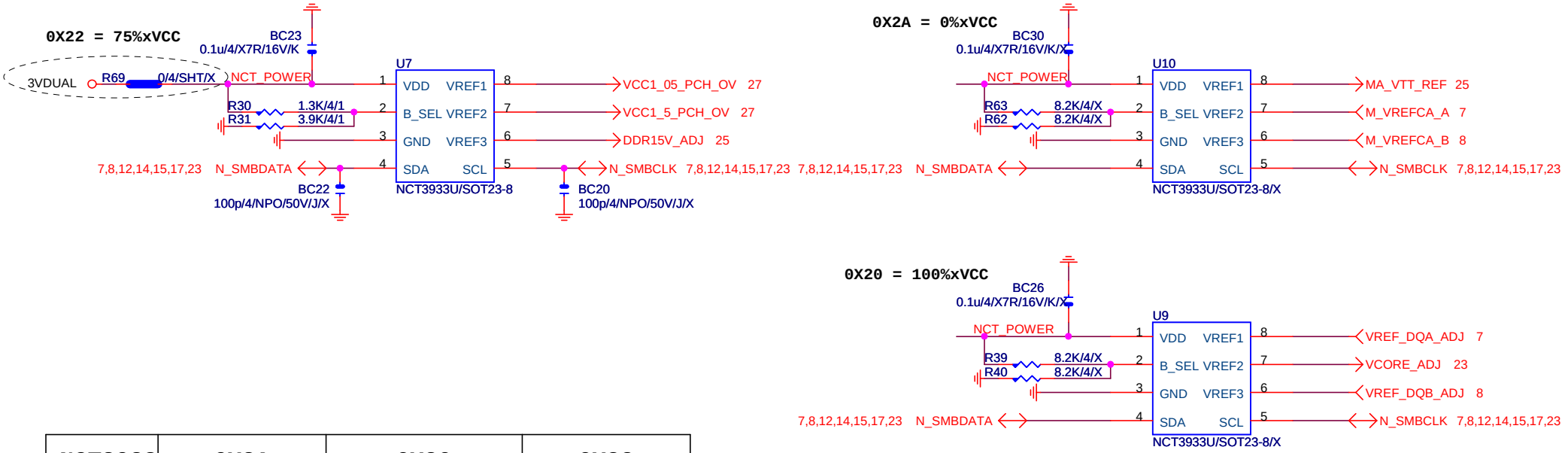
OVER VOLTAGE



NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

Gigabyte Technology

Title: CPU CORE VR-2

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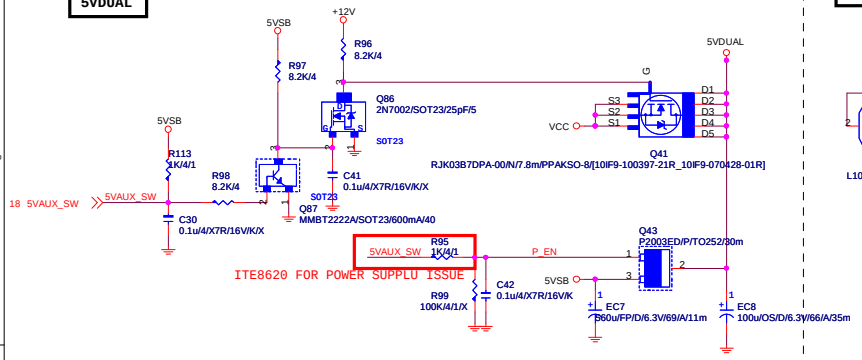
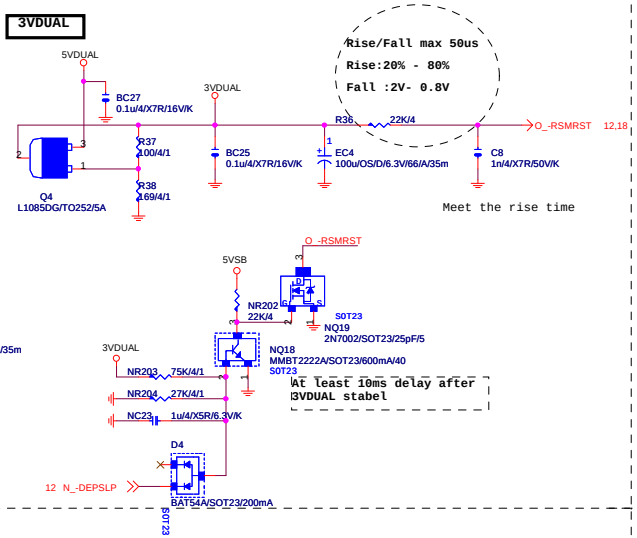
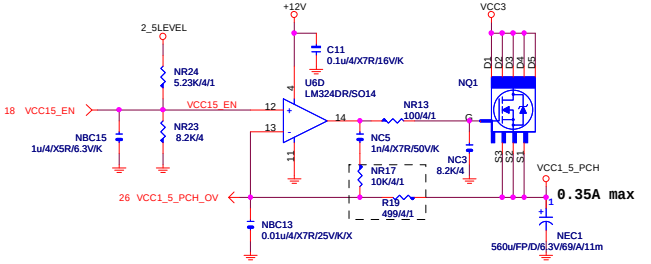
5VDUAL



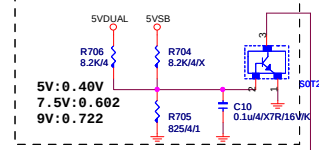
3VDUAL



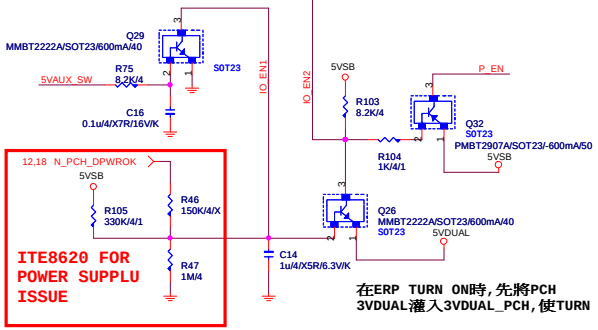
VCC1_5_PCH



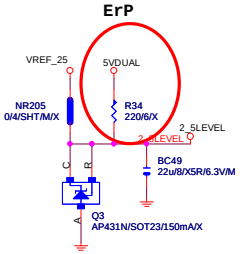
5VSB OVP:7.5V protection



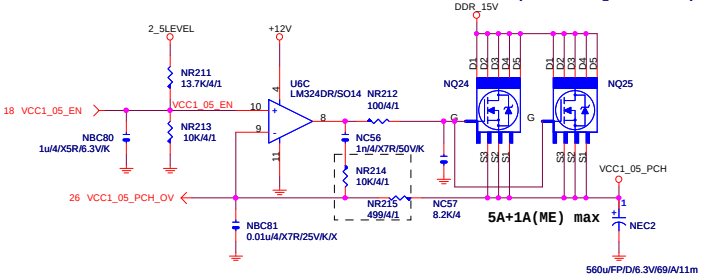
5VDUAL SHORT PROTECT



2_5LEVEL



VCC1_05_PCH



PWR SEQ

PCH ERP

Gigabyte Technology			
Title: DISCRETE POWER			
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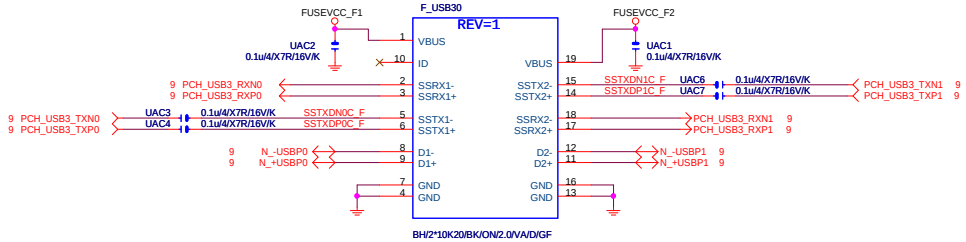
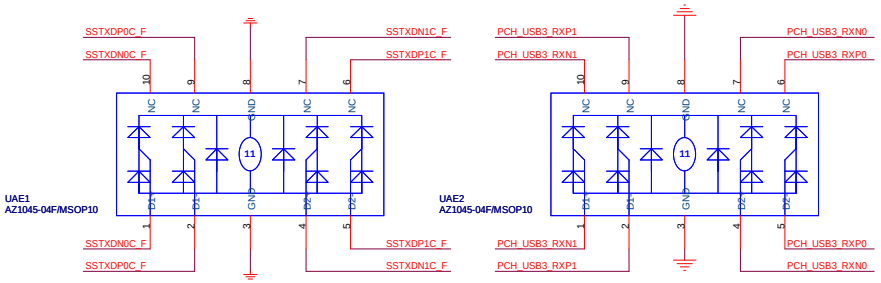
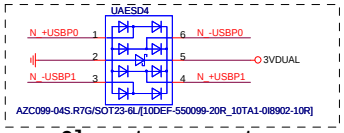
Front USB3.0



F_USB30 ESD PROTECT

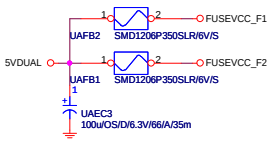


BLUE

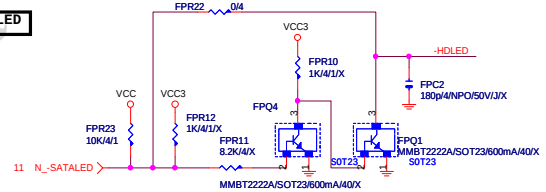


Close to connector

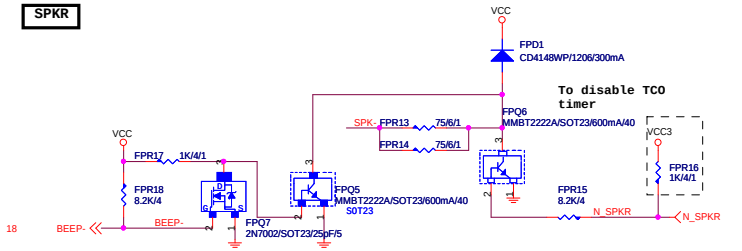
F_USB30 PWR



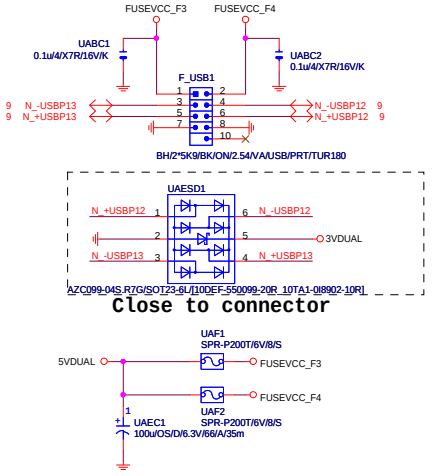
SATA LED



SPKR

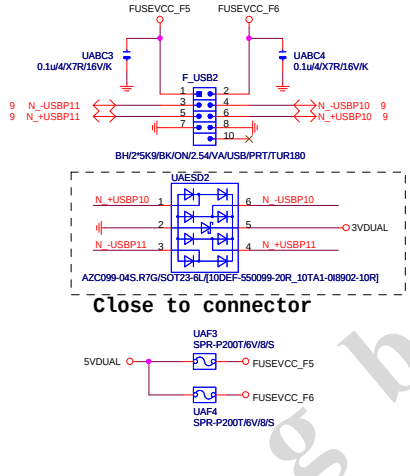


FRONT USB1



Close to connector

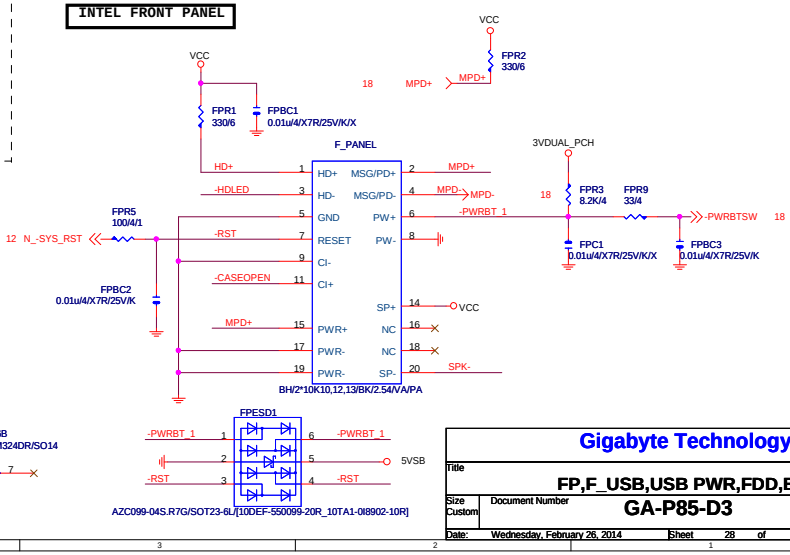
FRONT USB2



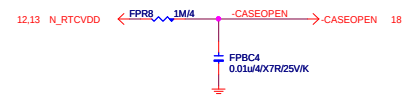
Close to connector

FRONT USB3

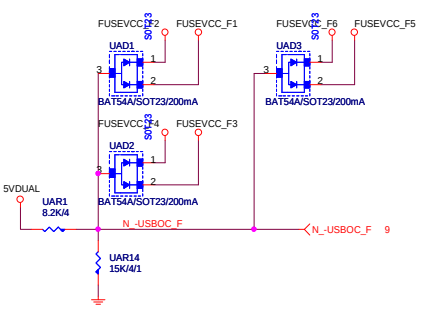
INTEL FRONT PANEL



CASE OPEN



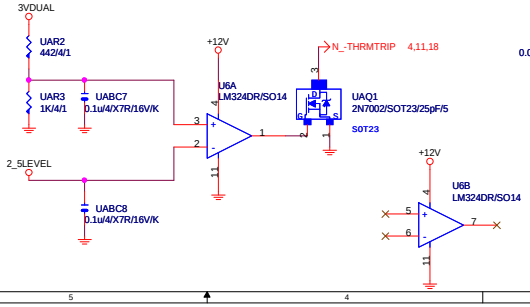
-USBOC_F



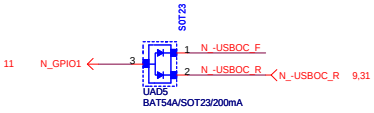
USB2.0 Signal & power short protection

USB2.0 Signal > 4.85V

Enable --> 3VUUAL=3.75V



F_USB POWER PROTECT



Title	FP,F_USB,USB PWR,FDD,BZ
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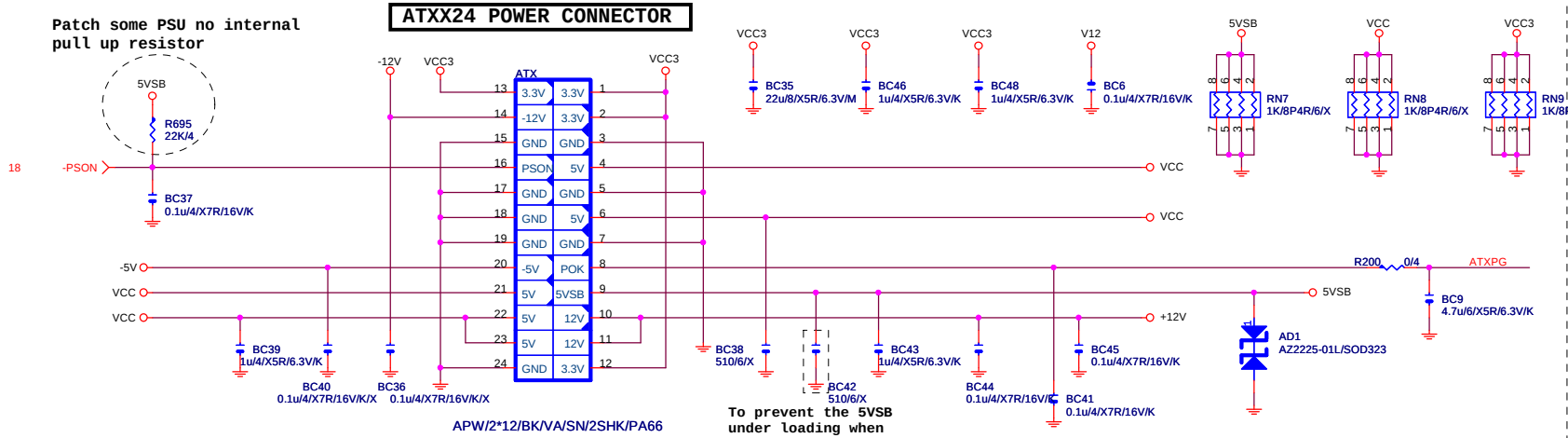
ATXX24 POWER CONNECTOR

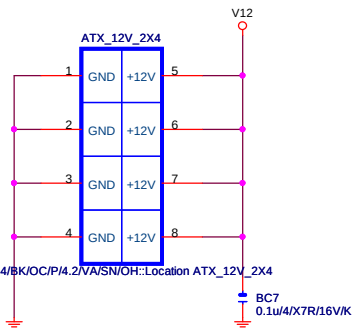
Patch some PSU no internal pull up resistor

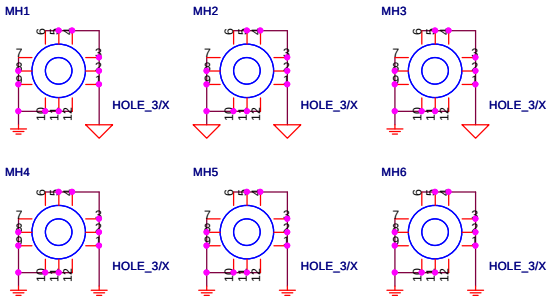


APW/2*12/BK/VA/SN/2SHK/PA66

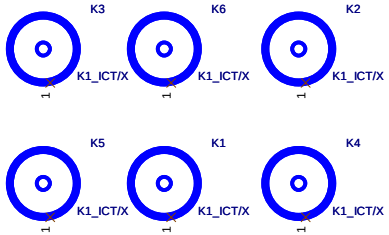
To prevent the 5VSB under loading when boot

ATXX4 POWER CONNECTOR

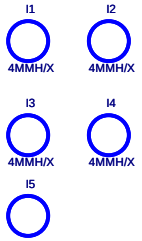




HOLE_4-RH-1



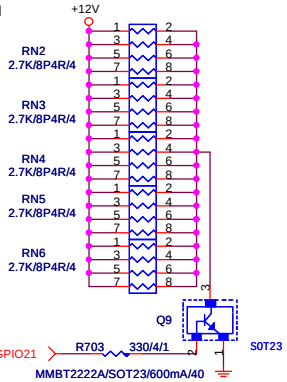
K1-ICT



4MMH

【技術通報R&D技術通報153】

To fix 12V light load abnromal issue



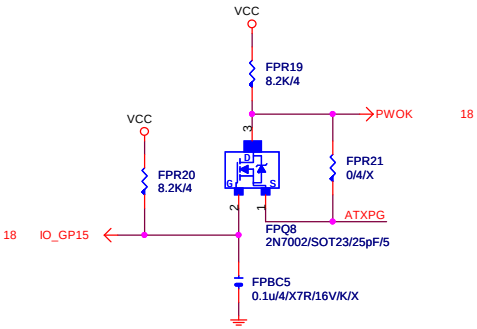
CLK GEN

CPU Frequency Selection

FSLB	FSLA	CPU
0	0	100M <Default>
0	1	133M
1	0	200M
1	1	166M

PWOK PATCH

【技術通報R&D技術通報154】



Gigabyte Technology

Title: ATX POWER CONNECTOR

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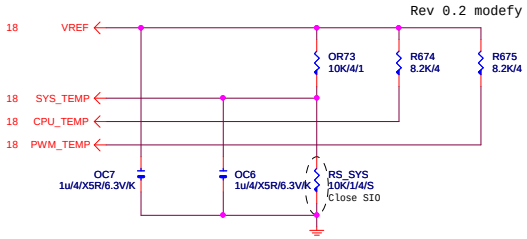
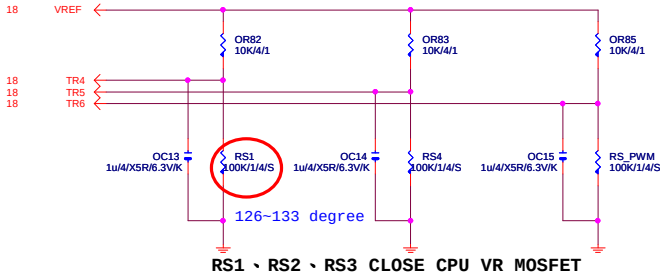
TEMP H/W MONITOR

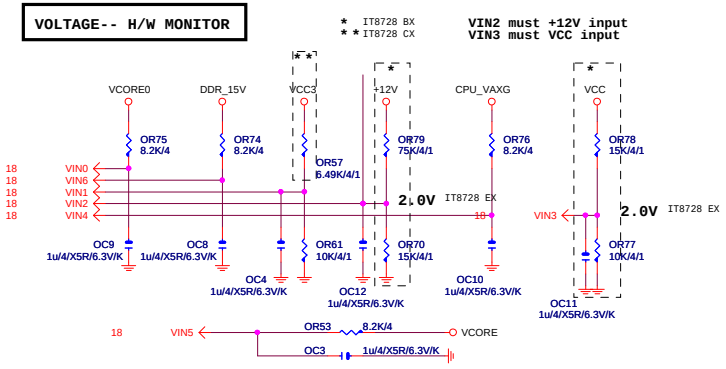


-PROCHOT:有mos heartsink不用prochot function



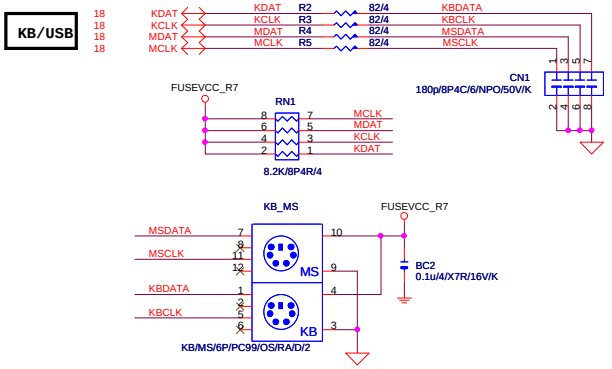
RS1、RS2、RS3 CLOSE CPU VR MOSFET

VOLTAGE-- H/W MONITOR

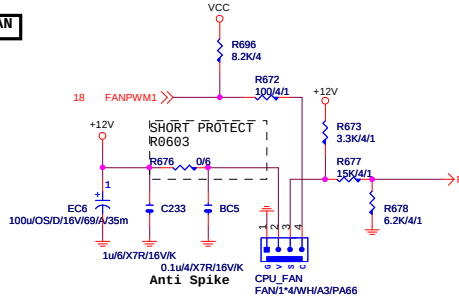


The division voltage of VIN2 & VIN3 must be around 2.9V

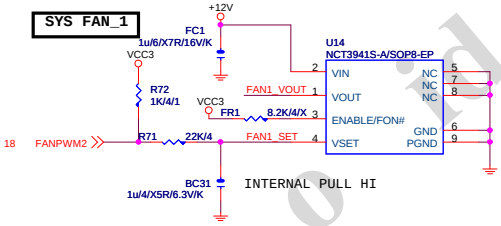
KB/USB

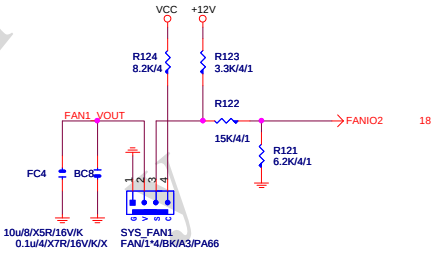


CPU SMART FAN

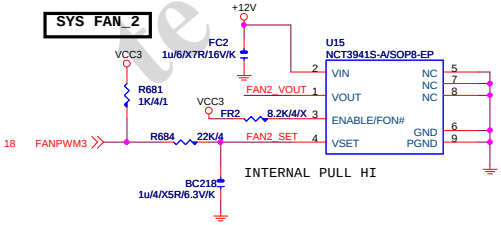


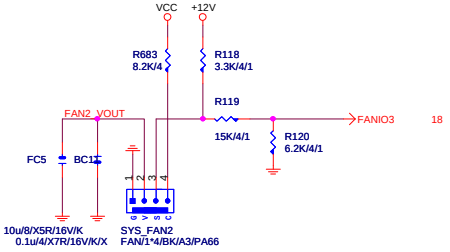
SYS FAN_1





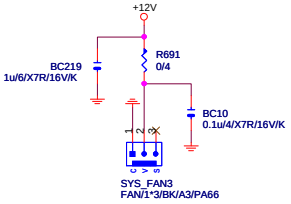
SYS FAN_2

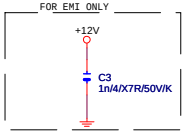


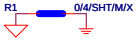


SYS FAN_3

Linear SYS_FAN







Gigabyte Technology		
Title: HWM,KB/MS, FAN CTRL		
Size: Custom	Document Number: GA-P85-D3	Rev: 2.0
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LAN:INTEL I217

VDD33

LR12 1K/4/1

LR18 2.49K/4/1

FOR DSM MODE

(DEEP SLUMBER MODE)

VDD33

LR16 0/6/SHT/M/X

ENSWREG

ENABLE SW

Dual Color LED

D4 D3 Green

D4 D3 Orange

Single Color LED

D2 D1 Yellow

LU1

GND

MDIP0 MDIN0 AVDD10 MDIP1 MDIN1 AVDD10(NC) MDIP2(NC) MDIN2(NC) AVDD10(NC) MDIP3(NC) MDIN3(NC) AVDD33(NC)

REGOUT VDDREG VDDREG ENSWREG EEDI LED3/EEDO EECS DVDD10 LANWAKEB DVDD33 ISOLATEB PERSTB

RTL8111F-VL-CG/QFN48

100歐姆:[20/4/8/4/20]

LB_MDI0+ LB_MDI0- DVDD10 LB_MDI1+ LB_MDI1- DVDD10 LB_MDI2+ LB_MDI2- DVDD10 LB_MDI3+ LB_MDI3- VDD33

REGOUT AVDD33_REG LR15 1/6 VDD33

ENSWREG LR13 8.2K/4 LB_LED_LINK1000 LR6 8.2K/4 DVDD10 N_-PCIE_WAKE 12,14,15,17 VDD33 ISOLATEB O_-PFMRST2 16,18

LBC23 LBC24 22u/8/5R/6.3V/M 0.1u/4/X7R/16V/K

LBC2 100p/4/NPO/50V/J

VCC3

LR4 1K/4/1

LR5 15K/4/1

XTALI_P XTALO_P LX1 25M/20p/30ppm/49US/20/D LC3 27p/4/NPO/50V/J LC4 27p/4/NPO/50V/J

DVDD10 SMBCLK(NC) SMBDATA(NC) CLKREQ0B HSIP HSIN REFCLK_P REFCLK_N EVDD10 HSOP HSON GND

DVDD10 LR2 8.2K/4 LR7 2.2K/4/X EVDD10

80歐姆:[15/5/5/5/15]

VDD33

LB_ML_OP LB_ML_ON LB_SRCCLK_LAN LB_SRCCLK_LAN LB_ML_IP LB_ML_IN

LBC12 LBC16 LBC6 LBC8 0.1u/4/X7R/16V/K LB_RP LB_RN LB_TP LB_TN

離IC近越好

SRCCLK 50歐姆:[18/4/10/4/18]

P35-152-19W9

U4 U3 U2 U1 U8 U7 U6 U5 (-,+)

L1 L3 L5 L7 L9 L2 L4 L6 L8 L10 D1 D2 D3 D4

YELLOW ORANGE GREEN

3VDUAL VDD33

LBC29 22u/8/X5R/6.3V/M LBC7 LBC17 LBC15 LBC4 LBC22 LBC14 0.1u/4/X7R/16V/K

(CLOSE LU1)

DVDD10

LBC11 LBC10 LBC13 LBC5 LBC19 LBC18 LBC9 0.1u/4/X7R/16V/K

(PIN3,6,9,13,29,41,45)

LL1 4.7uH/1210/1250mA/0.1/S REGOUT

CLOSE LL2

DVDD10 LBC20 22u/8/X5R/6.3V/M LBC21 0.1u/4/X7R/16V/K

EVDD10 LFB1 0/6/SHT/M/X EVDD10 LBC3 1u/4/X5R/6.3V/K LBC1 0.1u/4/X7R/16V/K

(PIN21)

USB30_LAN CONNECTOR

LBESD1 LB_LED_LINK100 LB_D2 LB_D2_1 LB_LED_LINK1000 LB_LED_ACT_TXRX

AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10R]/X

LBESD2 LB_MDI1- LB_MDI1+ FUSEVCC_R1 LB_MDI0+ LB_MDI0-

AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10R]

LBESD3 LB_MDI3- LB_MDI3+ FUSEVCC_R1 LB_MDI2+ LB_MDI2-

AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10R]

100歐姆:[20/4/8/4/20]

1u/4/X5R/6.3V/K/X LBC25 LB_MDI0+ LB_MDI0- LB_MDI1+ LB_MDI1- LB_MDI2+ LB_MDI2- LB_MDI3+ LB_MDI3- 0.1u/4/X7R/16V/K LBC26

USB_LAN

UP DOWN

D1 LB_LED_ACT_TXRX

D2 LB_D2 LR10 150/6/1 LB_D2_1 3VDUAL

D3 LB_LED_LINK100

D4 LB_LED_LINK1000

U1 U2 N_-USBP9 9 U3 N_+USBP9 9 U4 U5 U6 N_-USBP8 9 U7 N_+USBP8 9 U8

FUSEVCC_R2 LBC30 0.1u/4/X7R/16V/K

FUSEVCC_R1 LBC31 0.1u/4/X7R/16V/K

USB+LAN/1G/GO,Y/OS/RA/D/12C/ES/[11NR6-702009-96R]

90歐姆:[12/5/7/5/12]

ESD2 N_+USBP9 N_-USBP9 FUSEVCC_R2 N_-USBP8 N_+USBP8

AZC099-04S.R7G/SOT23-6L/[10DEF-550099-20R_10TA1-0I8902-10R]

5VDUAL UBF7 SPR-P200T/6V/8/S FUSEVCC_R1 FUSEVCC_R2 UBF8 SPR-P200T/6V/8/S

-USBOC_R

SOT23 FUSEVCC_R1 FUSEVCC_R2 UBD1 BAT54A/SOT23/200mA

SOT23 FUSEVCC_R5 FUSEVCC_R6 UBD3 BAT54A/SOT23/200mA

SOT23 FUSEVCC_R7 FUSEVCC_R8 UBD4 BAT54A/SOT23/200mA

5VDUAL UBR7 8.2K/4 N_-USBOC_R N_-USBOC_R 9,28 UBR9 15K/4/1

LR1 0/4/SHT/M/X

LAN

RBR20 0/4/SHT/M/X

USB_LAN <--> R_USB30_1

Gigabyte Technology

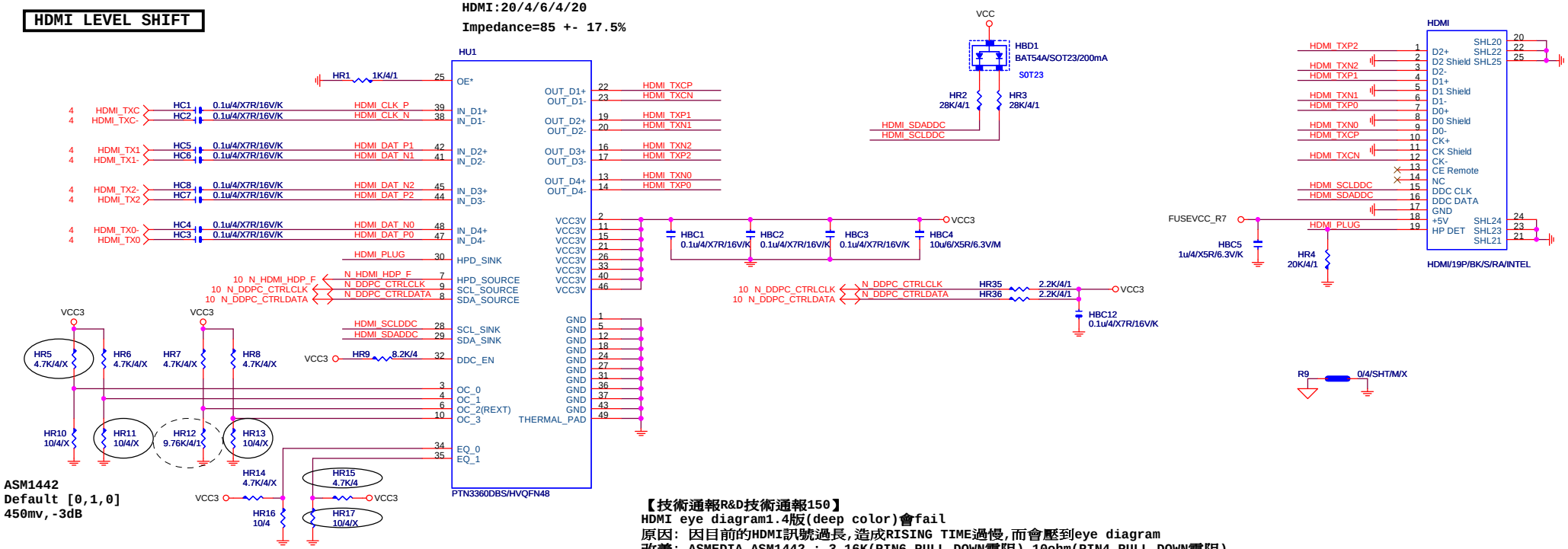
Title: **REALTEK 8111F-VL**

Size: Custom | Document Number: **GA-P85-D3** | Rev: 2.0

Date: Wednesday, February 26, 2014 | Sheet 31 of 33

HDMI LEVEL SHIFT

HDMI:20/4/6/4/20
Impedance=85 +- 17.5%



ASM1442
Default [0,1,0]
450mv,-3dB

ASM1442 Default [0,0] 3dB
[0,1]6dB

【技術通報R&D技術通報150】
HDMI eye diagram1.4版(deep color)會fail
原因: 因目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram
改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

GIGABYTE™

Title: HDMI		
Size: Custom	Document Number: GA-P85-D3	Rev: 2.0
Date: Wednesday, February 26, 2014	Sheet 32 of 33	

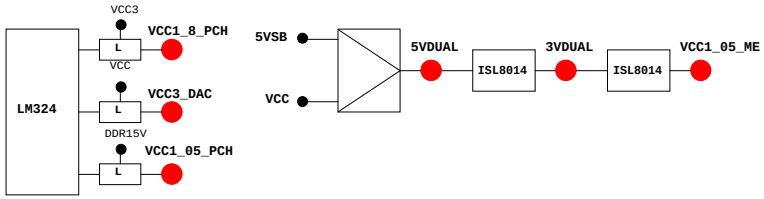
PCH GPIO LIST TABLE

PIN NAME	PWR	AFTER/PLTRST	Default	USAGE	NOTE
GP0	MAIN	H-Z	GPI	GPIO0	N/A
GP1/TACH1	MAIN		GPI	GPIO1	N/A
GP2/PIRQE#	MAIN		GPI	-PIRQE	P/U 8.2K VCC3
GP3/PIRQF#	MAIN		GPI	-PIRQF	P/U 8.2K VCC3
GP4/PIRQG#	MAIN		GPI	-PIRQG	P/U 8.2K VCC3
GP5/PIRQH#	MAIN		GPI	-PIRQH	P/U 8.2K VCC3
GP6/TACH2	MAIN		GPI	PCIEX1 Detect	P/U 8.2K VCC3
GP7/TACH3	MAIN		GPI	GPIO7	P/U 8.2K VCC3
GP8	STBY	H	GPI	GPIO8	N/A
GP9/OC5#	STBY		NATIVE	USB OC5#	N/A
GP10/OC6#	STBY		NATIVE	USB OC6#	N/A
GP11/SMBALERT#	STBY		NATIVE	USB PWR protect	P/U 8.2K 3VDUAL
GP12	STBY	L	GPI	GPIO12	N/A
GP13	STBY	L	GPI	LPCPME#	P/U 8.2K 3VDUAL
GP14/OC7#	STBY		NATIVE	USB OC7#	N/A
GP15	STBY	L	GPI	GPIO15(TLS Enable)	P/U 8.2K 3VDUAL
GP16	MAIN		GPI	GPIO16	P/U 8.2K VCC3
GP17/TACH0	MAIN		GPI	GPIO17	P/U 8.2K VCC3
GP18	MAIN		GPI	Mobile Only	N/A
GP19	MAIN		GPI	GPIO19	P/U 8.2K VCC3
GP20	MAIN		GPI	GPIO20	P/U 8.2K VCC3
GP21	MAIN		GPI	GPIO21	P/U 8.2K VCC3
GP22	MAIN	H-Z	GPI	GPIO22	P/U 8.2K VCC3
GP23	MAIN		GPI	GPIO23	N/A
GP24	STBY	L	GPI	SKTOCC#	N/A
GP25	STBY			Mobile Only	N/A
GP26	STBY			Mobile Only	N/A
GP27	STBY	H	GPO	GPIO27	P/U 8.2K 3VDUAL
GP28	STBY	H	GPO	PWR LED	P/U 8.2K 3VDUAL
GP29	STBY	L	GPI	GPIO29	N/A
GP30	STBY	H-Z	GPI	Mobile Only	N/A
GP31	STBY	H-Z	GPI	Mobile Only	N/A
GP32	MAIN	H	GPO	N/A	N/A
GP33	MAIN	H	GPO	N/A	N/A
GP34	MAIN	H-Z	GPI	-PCI_STOP	P/U 8.2K VCC3
GP35	MAIN	L	GPO	-ACZ_DET	P/U 8.2K VCC3
GP36	MAIN		GPI	N/A	N/A
GP37	MAIN		GPI	N/A	N/A
GP38	MAIN	H-Z	GPI	PCIEX4 Detect	P/U 8.2K VCC3
GP39	MAIN	H-Z	GPI	GPIO39	P/U 8.2K VCC3
GP40	STBY		NATIVE	USB OC1#	N/A
GP41	STBY		NATIVE	USB OC2#	N/A
GP42	STBY		NATIVE	USB OC3#	N/A
GP43	STBY		NATIVE	USB OC4#	N/A
GP44	STBY	L	NATIVE	GPIO44	P/U 8.2K 3VDUAL
GP45	STBY		NATIVE	GPIO45	P/U 8.2K 3VDUAL
GP46	STBY	L	NATIVE	GPIO46	P/U 8.2K 3VDUAL
GP47	STBY			Mobile Only	N/A
GP48	MAIN	H-Z	IN	GPIO48	P/U 8.2K 3VDUAL
GP49	MAIN	H-Z	IN	GPIO49	P/U 8.2K 3VDUAL
GP50	MAIN		NATIVE	-REQ1	P/U 2.2K VCC
GP51	MAIN	H	NATIVE	-GNT1	N/A
GP52	MAIN		NATIVE	-REQ2	P/U 2.2K VCC
GP53	MAIN	H	NATIVE	-GNT2	N/A
GP54	MAIN		NATIVE	-REQ3	P/U 2.2K VCC
GP55	MAIN	H	NATIVE	-GNT3	N/A
GP56	STBY		NATIVE	Mobile Only	N/A
GP57	STBY	H-Z	IN	VCORE_OV1	P/U 8.2K 3VDUAL
GP58	STBY	H-Z	NATIVE	F_USB_OC	P/U 8.2K 3VDUAL
GP59	STBY		NATIVE	USB_OC0#	N/A
GP60	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL
GP61	STBY	L	NATIVE	-SUSTAT	N/A
GP62	STBY	L	NATIVE	SUSCLK	N/A
GP63	STBY	L	NATIVE	GPIO63	N/A
GP64	MAIN	L	NATIVE	CLKOUTFLEX0	N/A
GP65	MAIN	L	NATIVE	CLKOUTFLEX1	N/A
GP66	MAIN	L	NATIVE	CLKOUTFLEX2	N/A
GP67	MAIN	L	NATIVE	CLKOUTFLEX3	N/A
GP72	STBY	H-Z	NATIVE	VCORE_OV4	P/U 8.2K 3VDUAL
GP73	STBY			Mobile Only	N/A
GP74	STBY	H-Z	NATIVE	1_05V_OV2	P/U 8.2K 3VDUAL
GP75	STBY	H-Z	NATIVE	N/A(Reverse)	P/U 8.2K 3VDUAL

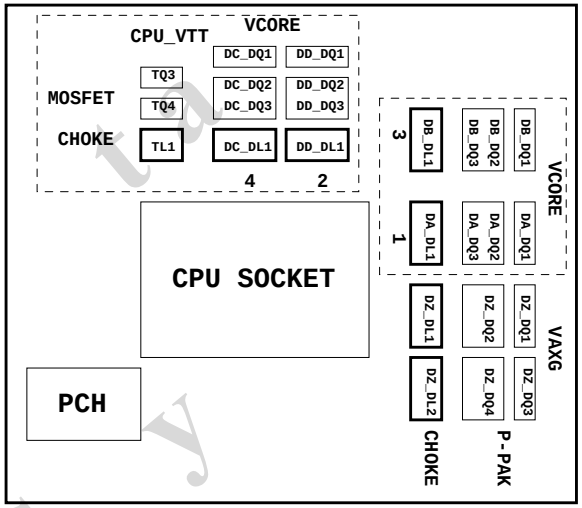
Super I/O ITE8720 GPIO Table

PIN NAME	USAGE	NOTE
SVC/PECI_RQT/GP14	-PECI_REQ	
PWROK1/GP13	PWROK1/ITE_PWROK	
KRST#/GP62	-KBRST	
SO/GP50	-ICH_SPI_CS	
IRTX/GP47/CE2_N/JP7	CEB_N	
GP46/IRRX	-LAN2_DSM	
PSION#/GP42	-PSON	
PWROK2#/GP41	PECI_CTL	
PCIRST3#/GP10/VDIMM_STR_EN	-PCIE_RST	
RSMRST#CIRRX1/GP55	-RSMRST	
PME#/GP54	-LPCPME	
PD5/GP75/BUSSO0	N/A	

PIN NAME	USAGE	NOTE
FAN_TAC2/GP52	FANIO2	
FAN_TAC3/GP37	FANIO3	
VIDO3/FAN_TAC4/GP25/DSR2#	FANIO4	
FAN_CTL2/GP51	FANPWM2	
FAN_CTL3/GP36	FANPWM3	
VID4/GP34	BEEP-	
VID3/GP33	TURBO1	
VID2/GP32	TURBO0	
VCORE_GOOD/VID6/GP63	CPUT_LED1_C	
VID5/GP35	CPUT_LED2_C	
VID1/GP31	CPUT_LED3_C	
VID0/GP30	-LAN1_DSM	NBT_LED1_C
SLCT/GP80	CPU_LED1_C	
PE/GP81	CPU_LED2_C	
BUSY/GP82	CPU_LED3_C	
PD3/GP73/BUSSI1	SB_LED1_C	
PD4/GP74/BUSSI2	SB_LED2_C	
VCORE_EN/VID7/GP64	IT_GP64	SB_LED3_C
PD0/GP70	NB_LED1_C	
PD1/GP71	NB_LED2_C	
PD2/GP72/BUSSI0	NB_LED3_C	
GP22/SCK	LOW_PWR_1	
VIDO5/GP27/SIN2	LOW_PWR_2	
PCIRST2#/GP11	-PFMRST1	
PCIRST1#/GP12	-PFMRST2	
3VSBSW#/GP40	CSI_F0	BSEL166_1
SUSC#/GP53	CSI_F1	BSEL166_2
GP23/SI	BSEL166_3/CSISBSL	
VIDO0/GP20/CTS2#	CPUT_LED1_C	BSEL166_4
GP65/VDDA_EN/GB_01	MB_ID2	
PD6/GP76/BUSSO1	MB_ID3	
PD7/GP77/BUSSO2	MB_ID4	
AFD#/GP86/SMBC_R	空 PIN	FST_2X8
INIT#/GP85/SMBD_M	SEC_2x8	GTLREF_AD2
ACK#/GP83	DDR_LED1_C	
VIDO1/GP21/DCD2#	DDR_LED2_C	
STB#/GP87/SMBC_M	DDR_LED3_C	
PWRON#GP44	VCORE_OV1	
PANSWH#/GP43	PWRBTSW	
KDAT/GP61	-PWRBTSW	
KCLK/GP60	KDAT	
MDAT/GP57	KCLK	
MACL/GP56	MDAT	
GP66/VLDT_EN/GB_02	NBT_LED1_C	MCLK
SVD/PCIRSTIN#/CIRTX/GP15	PWM2_CR	
KDAT/GP61	PWM2_CR	
GP67/CPU_PG/GB_03	EN_LOADLINE	IT_GP67/-EN_PWM2
SLIN#/GP84/SMBD_R	-EN_PWM2	
PSI_L/FAN_CLT5/CIRRX2/GP16	-THERM	
VIDO4/GP26/SOUT2	DDR18V_PH2_EN	
VIDO2/FAN_TAC5/GP24/DSR2#	DDR18V_LED	
VIDO6/GP17/RI2#	1_1V_PH_EN	
VIDO7/JP6/DTR2#	JP6	
PD5/GP75/BUSSO0	SB_LED3_C	



PWM各相位的擺法如下：



BIOS超電壓對應表：

線路圖名稱	BIOS選項
Vcore	CPU Vcore
CPU_VTT	CPU Termination
CPU_VAXG	CPU Graphic Core
VCC1_8_PCH	CPU PLL
VCC1_05_PCH	PCH core
3VDUAL	3VDUAL
DDR15V	DRAM voltage
DDRVTT	DRAM Terminatio
VREF_CA_A/VREF_CA_B	DRAM Address Ref
VREF_DQ_A/VREF_DQ_B	DRAM Data Ref

散熱模組料號：

Z77-D3H :
PCH :
12SP2-S05511-01R/02R/03R
MOSFET :
12SP2-S08924-01R/02R/03R

	3 pin FAN control	4 pin FAN control	FAN speed	Controller
CPU FAN	FANPWM1	FANPWM3	FANIO1	IT8720
	ICH_FAN_PWM2	ICH_FAN_PWM0	ICH_FAN_TACH0	PCH
SYS FAN	FANPWM2	N/A	FANIO2	IT8720
	ICH_FAN_PWM1	N/A	ICH_FAN_TACH1	PCH
PWR FAN	N/A	N/A	FANIO3	IT8720
			ICH_FAN_TACH2	PCH

Gigabyte Technology

Title: TABLE LIST

Size: C | Document Number: GA-Z87P-D3 | Rev: 1.5

Date: Wednesday, February 26, 2014 | Sheet 33 of 33