

Model Name: GA-B85M-DS3H

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 1,2
08	DDR III CHANNEL B 1,2
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS X1 *2 SLOT
16	ITE 8620 LPC IO
17	COM,KB_MS_USB,USB30_20
18	HWM,FAN CTRL,OV,-PROCHOT
19	DUAL BIOS
20	FP,FUSB,SPK,SATALED
21	Realtek ALC887-VD2
22	REAR AUDIO JACK
23	REALTEK RTL8111F
24	DISCRETE POWER
25	ATX
26	VCORE ISL95812_1
27	VCORE ISL95812_2

www.xinxunwei.com 400-800-9990

Revision 2.01

SHEET

TITLE

28	RT8120_DDR POWER
29	LPT, M3 POWER
30	DVI

Gigabyte Technology

Cover Sheet

Size Custom	Document Number	GA-B85M-DS3H	Rev 2.01
Date:	Wednesday, June 18, 2014	Sheet 1 of 30	

Component value change history

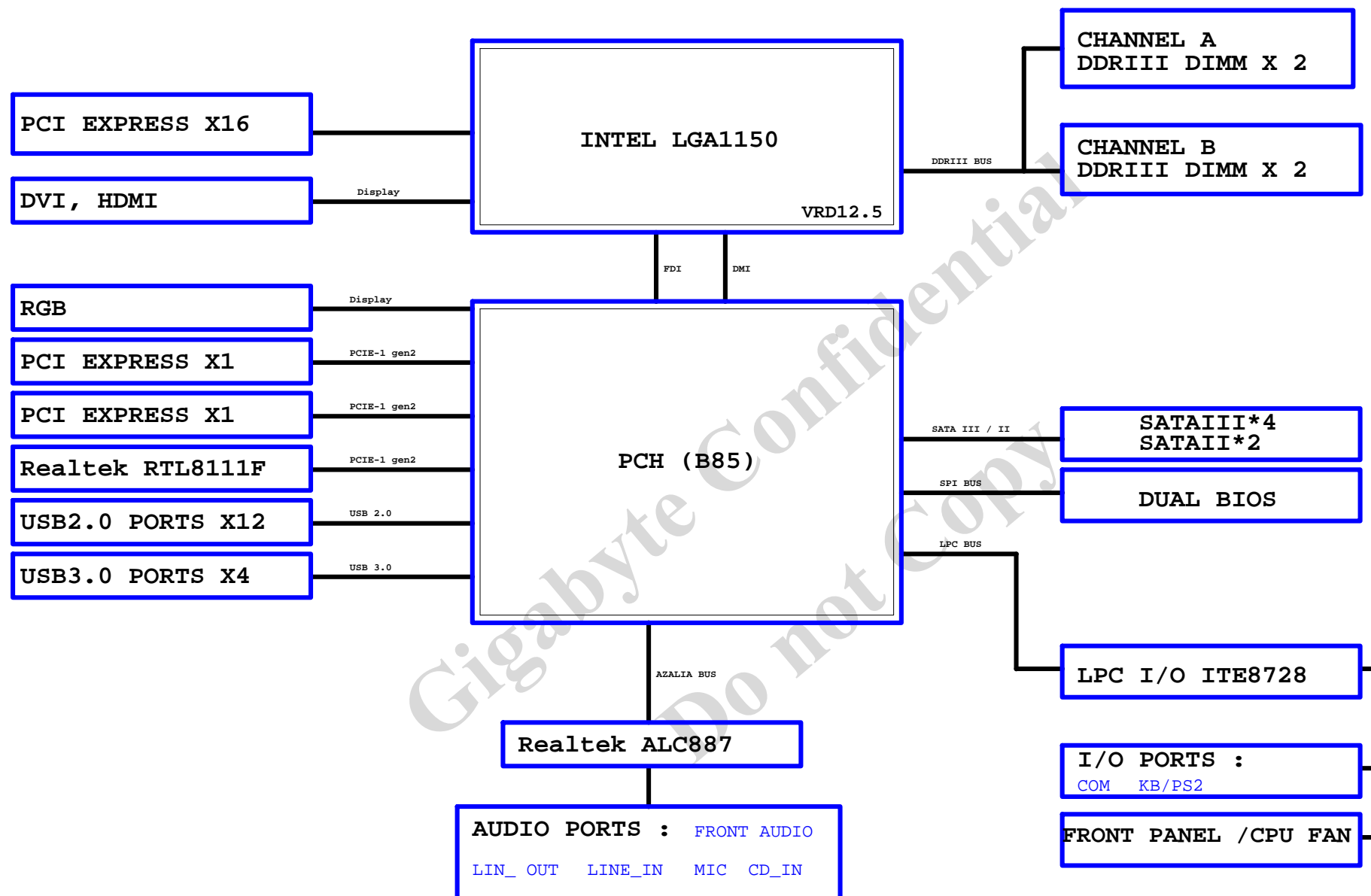
2014/06/18

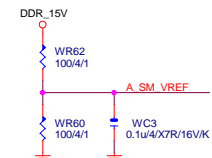
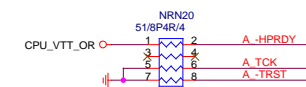
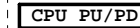
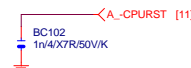
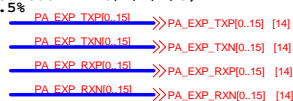
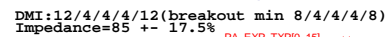
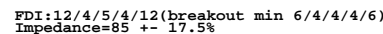
Data	Change Item	Reason
2013/06/28	ADD RSMRST DELAY	
2013/08/13	Update Rev to 1.1	
	PCIE X16 New Footprint "PCIESLOT-164DN-Q-1"	
2013/08/23		EBOM: 9M85MDS3H-00-11A
2013/09/13	Update to R1.11	
	Follow Crystal Trace Rule	
	SYS_FAN, DDR 0ohm 0402 -> 0603	
	Update Fuse 1206 Footprint "POLYSWITCH-1206-1"	
	Update PPAK Footprint "Q_TDS0N8-GDS-T"	
2013/10/22	NX1: 25M/20p -> 12p	PBOM: 9M85MDS3H-00-11B
	NC7, NX8: 27p -> 10p	
2013/11/04	NC7, NX8: 10p -> 15p	PBOM: 9M85MDS3H-00-11C
2013/11/05	Update to R1.12	PBOM: 9M85MDS3H-00-11D
	Modify NX1 Trace	
2013/11/27	MR17 0ohm -> 0603 FUSE(10FP5-06100B-00R)	PBOM: 9M85MDS3H-00-11E
	ALC887 強壯版 (10HP5-368870-32R)	
2014/02/17	Sales Costdown Rev2.0	
	CPU Power ISL95820 1U2D -> ISL95812 1U1D	
	DVI Non-Level Shift	
	BIOS Size 64M -> 32M	
2014/02/20	SBA線路OPTION,整合電阻成排阻,精簡線路	
2014/02/24	整合電阻成排阻	
2014/02/27	MASK/DEL CAP	
2014/03/07	ADD ESD : NC3,NC4 (22P)	
2014/03/11	NR6改SHT PAD	
2014/03/12	WBC28,30,25,27,31解開MASK	
	COM:BLACK,F_AUDIO:GRAY	
	DEL後窗AUDIO 180P	

Circuit or PCB layout change

[illegible]

BLOCK DIAGRAM





LGA1150 (A)

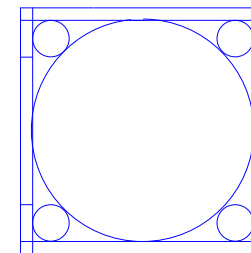
LGA1150 (B)

LGA1150 (CR)

LGA1150A

LGA1150B

CR
CPU RETAINTION/X



LGA1150_P



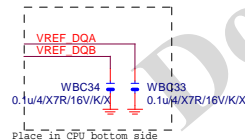
ILM_BP/1156/CSP/ILM_BP/1156/CSP/[12KRC-0F0001-52R_12KRC-0F0001-51R]

DDR BUS

- [7] MODT_A[0..3] <=> MODT_A10..31
- [8] MODT_B[0..3] <=> MODT_B10..31
- [7] MDA[0..63] <=> MDA10..631
- [8] MDB[0..63] <=> MDB10..631
- [7] DQSA[0..7] <=> DQSA10..71
- [7] -DQSA[0..7] <=> -DQSA10..71
- [7] MAA[A0..15] <=> MAA10..151
- [8] MAB[A0..15] <=> MAB10..151
- [8] DQSB[0..7] <=> DQSB10..71
- [8] -DQSB[0..7] <=> -DQSB10..71

HASWELL[10SC1-F01150-11R_10SC1-F01150-12R]

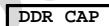
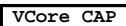
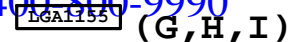
HASWELL[10SC1-F01150-11R_10SC1-F01150-12R]



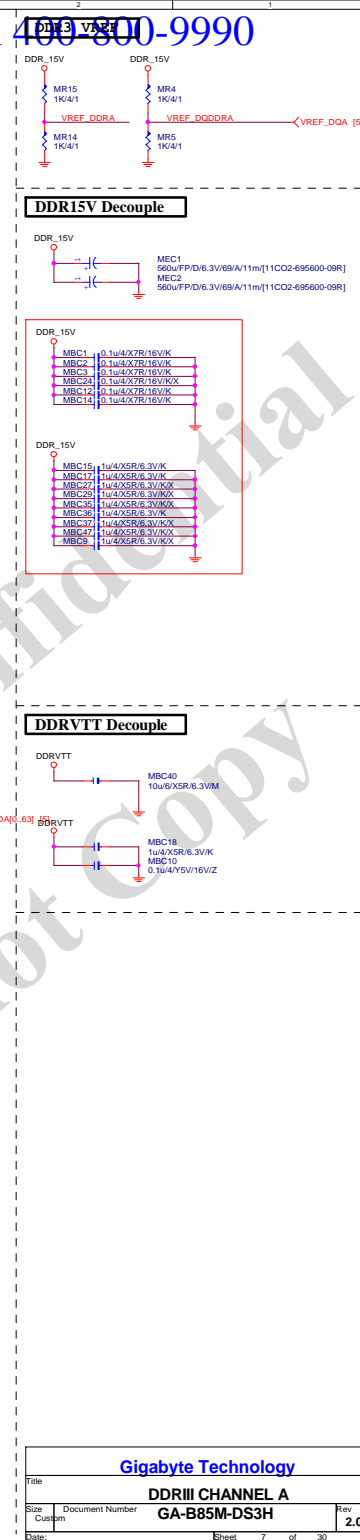
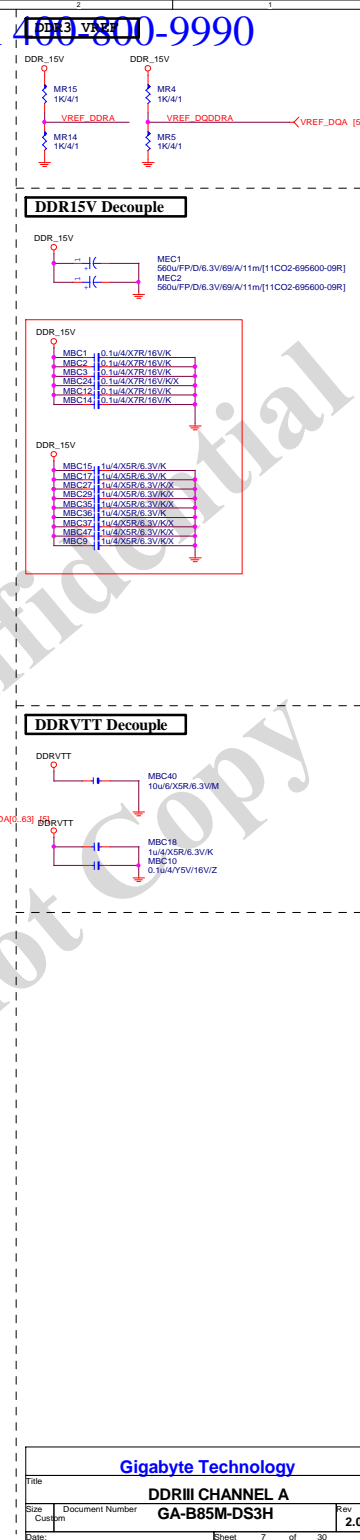
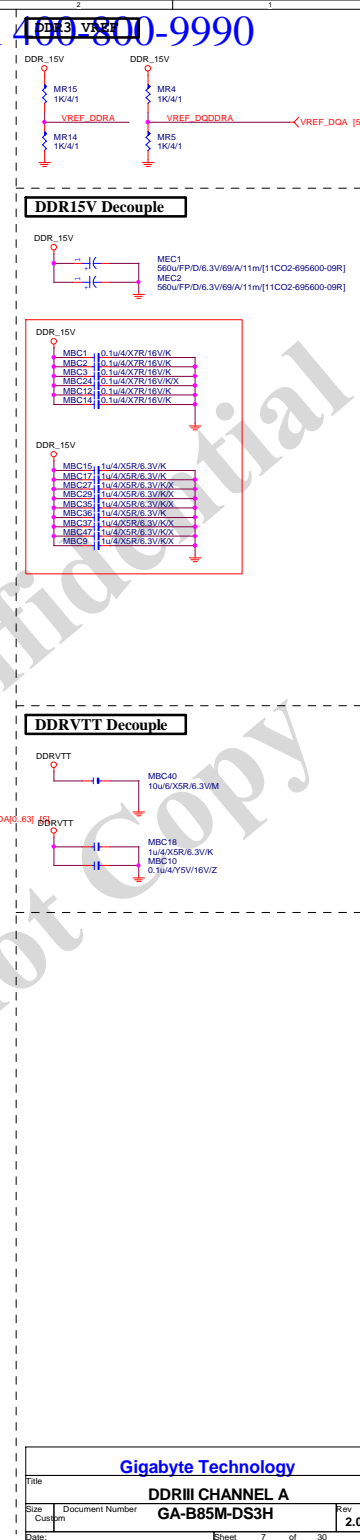
MAAA0	AU13	DDR0_MA0	DDR0_D00	AD38	MDA0
MAAA1	AV16	DDR0_MA1	DDR0_D01	AD39	MDA1
MAAA2	AU16	DDR0_MA2	DDR0_D02	AF38	MDA2
MAAA3	AW17	DDR0_MA3	DDR0_D03	AF39	MDA3
MAAA4	AU17	DDR0_MA4	DDR0_D04	AD37	MDA4
MAAA5	AW18	DDR0_MA5	DDR0_D05	AD40	MDA5
MAAA6	AV17	DDR0_MA6	DDR0_D06	AE37	MDA6
MAAA7	AT18	DDR0_MA7	DDR0_D07	AF40	MDA7
MAAA8	AU18	DDR0_MA8	DDR0_D08	AH40	MDA9
MAAA9	AT19	DDR0_MA9	DDR0_D09	AH39	MDA10
MAAA10	AW11	DDR0_MA10	DDR0_D10	AK38	MDA10
MAAA11	AV19	DDR0_MA11	DDR0_D11	AK39	MDA11
MAAA12	AU19	DDR0_MA12	DDR0_D12	AH37	MDA12
MAAA13	AY10	DDR0_MA13	DDR0_D13	AH38	MDA13
MAAA14	AT20	DDR0_MA14	DDR0_D14	AK37	MDA14
MAAA15	AU21	DDR0_MA15	DDR0_D15	AK40	MDA15
MODT_A0	AW10	DDR0_ODT0	DDR0_D16	AM40	MDA17
MODT_A1	AY8	DDR0_ODT1	DDR0_D17	AM39	MDA21
MODT_A2	AW9	DDR0_ODT2	DDR0_D18	AP38	MDA18
MODT_A3	AU8	DDR0_ODT3	DDR0_D19	AP39	MDA19
			DDR0_D20	AM37	MDA20
			DDR0_D21	AM38	MDA16
			DDR0_D22	AP37	MDA22
			DDR0_D23	AP40	MDA23
			DDR0_D24	AW37	MDA29
			DDR0_D25	AU35	MDA26
			DDR0_D26	AW35	MDA27
			DDR0_D27	AT37	MDA28
			DDR0_D28	AU37	MDA24
			DDR0_D29	AT35	MDA30
			DDR0_D30	AW35	MDA31
			DDR0_D31	AY6	MDA33
			DDR0_D32	AU6	MDA37
			DDR0_D33	AV4	MDA34
			DDR0_D34	AW6	MDA35
			DDR0_D35	AW6	MDA36
			DDR0_D36	AW6	MDA32
			DDR0_D37	AW4	MDA38
			DDR0_D38	AW4	MDA39
			DDR0_D39	AR1	MDA41
			DDR0_D40	AR4	MDA45
			DDR0_D41	AN3	MDA42
			DDR0_D42	AN4	MDA43
			DDR0_D43	AR2	MDA44
			DDR0_D44	AR3	MDA40
			DDR0_D45	AN2	MDA46
			DDR0_D46	AN1	MDA47
			DDR0_D47	AL1	MDA49
			DDR0_D48	AL4	MDA53
			DDR0_D49	AL4	MDA50
			DDR0_D50	AJ4	MDA51
			DDR0_D51	AJ2	MDA52
			DDR0_D52	AJ2	MDA48
			DDR0_D53	AJ2	MDA54
			DDR0_D54	AJ1	MDA55
			DDR0_D55	AG1	MDA57
			DDR0_D56	AG4	MDA61
			DDR0_D57	AE3	MDA58
			DDR0_D58	AE4	MDA59
			DDR0_D59	AG2	MDA60
			DDR0_D60	AG3	MDA56
			DDR0_D61	AE2	MDA62
			DDR0_D62	AE1	MDA63
			DDR0_D63	AE39	DQSA0
			DDR0_D64	AJ39	DQSA1
			DDR0_D65	AN39	DQSA2
			DDR0_D66	AV36	DQSA3
			DDR0_D67	AV5	DQSA4
			DDR0_D68	AP3	DQSA5
			DDR0_D69	AK3	DQSA6
			DDR0_D70	AF3	DQSA7
			DDR0_D71	AV32	DQSA8
			DDR0_D72	AE38	DQSA0
			DDR0_D73	AJ38	DQSA1
			DDR0_D74	AN38	DQSA2
			DDR0_D75	AJ36	DQSA3
			DDR0_D76	AW5	DQSA4
			DDR0_D77	AP2	DQSA5
			DDR0_D78	AK2	DQSA6
			DDR0_D79	AF2	DQSA7
			DDR0_D80	AU32	DQSA8

MAAB0	AL19	DDR1_MA0	AE34	MDB0
MAAB1	AK23	DDR1_MA1	AE35	MDB1
MAAB2	AM22	DDR1_MA2	AG35	MDB2
MAAB3	AM23	DDR1_MA3	AH35	MDB3
MAAB4	AP23	DDR1_MA4	AD34	MDB4
MAAB5	AL23	DDR1_MA5	AD35	MDB5
MAAB6	AY24	DDR1_MA6	AG34	MDB6
MAAB7	AV25	DDR1_MA7	AH34	MDB7
MAAB8	AU26	DDR1_MA8	AL34	MDB8
MAAB9	AW25	DDR1_MA9	AL35	MDB9
MAAB10	AP18	DDR1_MA10	AK31	MDB10
MAAB11	AY28	DDR1_MA11	AL31	MDB11
MAAB12	AV28	DDR1_MA12	AK34	MDB12
MAAB13	AR15	DDR1_MA13	AK35	MDB13
MAAB14	AV27	DDR1_MA14	AK32	MDB14
MAAB15	AY28	DDR1_MA15	AL32	MDB15
MODT_B0	AM17	DDR1_ODT0	AP34	MDB17
MODT_B1	AL16	DDR1_ODT1	AN31	MDB19
MODT_B2	AM16	DDR1_ODT2	AP31	MDB23
MODT_B3	AK15	DDR1_ODT3	AP35	MDB20
			AP35	MDB16
			AN32	MDB18
			AP32	MDB22
			AM29	MDB25
			AM28	MDB28
			AR29	MDB27
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			AL23	MDB24
			AR28	MDB29
			AP29	MDB26
			AP28	MDB31
			AR12	MDB32
			AL13	MDB33
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			AP13	MDB37
			AM13	MDB38
			AM12	MDB39
			AR9	MDB45
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			AM10	MDB48
			AL10	MDB49
			AM6	MDB51
			AM2	MDB54
			AH6	MDB61
			AH7	MDB60
			AE6	MDB59
			AE7	MDB63
			AJ6	MDB56
			AJ7	MDB57
			AF6	MDB58
			AF7	MDB62
			AF35	DQSB0
			AL33	DQSB1
			AN28	DQSB2
			AN29	DQSB3
			AN12	DQSB4
			AR8	DQSB5
			AM8	DQSB6
			AG6	DQSB7
			AN25	DQSB8
			AK33	DQSB1
			AN33	DQSB2
			AN29	DQSB3
			AN13	DQSB4
			AR8	DQSB5
			AM8	DQSB6
			AG6	DQSB7
			AN25	DQSB8

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- [7] DCLKA159 <=> DCLKA159
- [7] DCLKA160 <=> DCLKA160
- [7] DCLKA161 <=> DCLKA161
- [7] DCLKA162 <=> DCLKA162
- [7] DCLKA163 <=> DCLKA163
- [7] DCLKA164 <=> DCLKA164
- [7] DCLKA165 <=>



Title			
CPU LGA1150-C			
Size	Document Number	Rev	
Custom	GA-B85M-DS3H	2.0	
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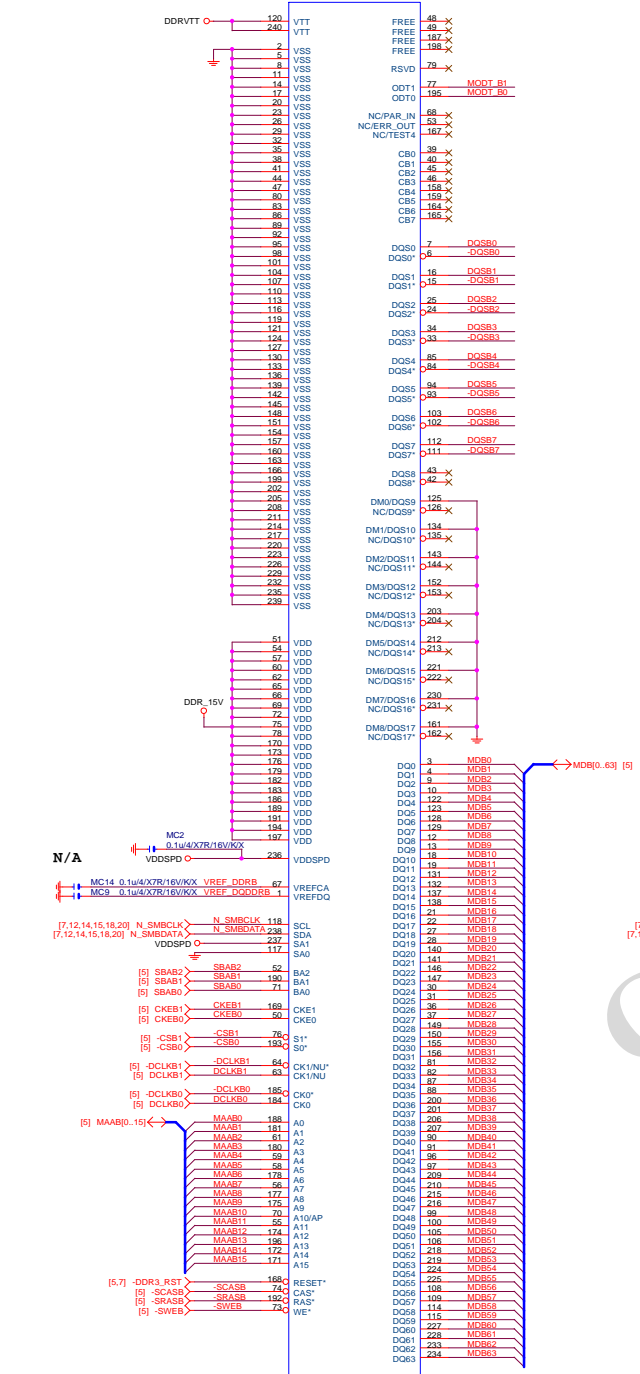


DDR3

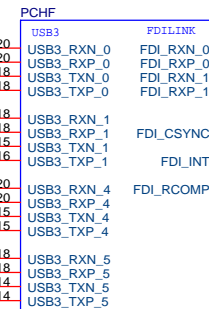
(B)

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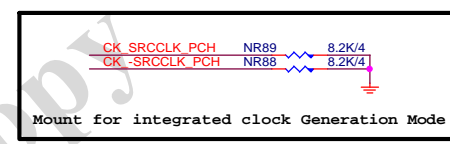
DDR3 VREF



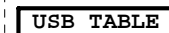
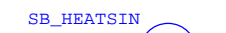
[20] BCH USB2



pend



PCH H/S



USB OC#	Configure
OC0#	F_USB30
OC1#	USB_LAN
OC2#	R_USB30
OC3#	N/A
OC4#	F_USB1
OC5#	F_USB2
OC6#	KB_MS_USB
OC7#	Not Use

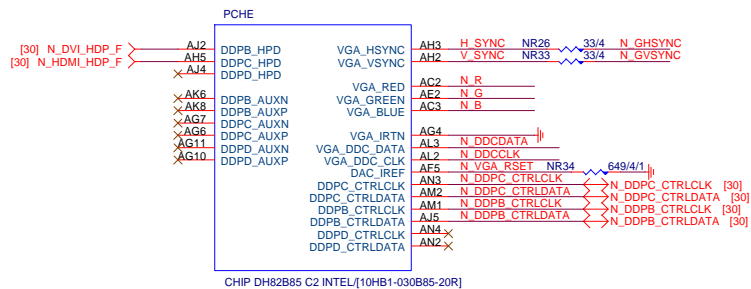
Title			
PCH FDI,DMI,USB ,PCIE,NVRAM			
Size	Document Number		Rev
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PCH

(E)

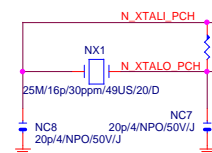
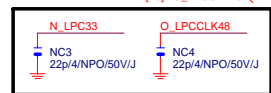
PCH

(G)

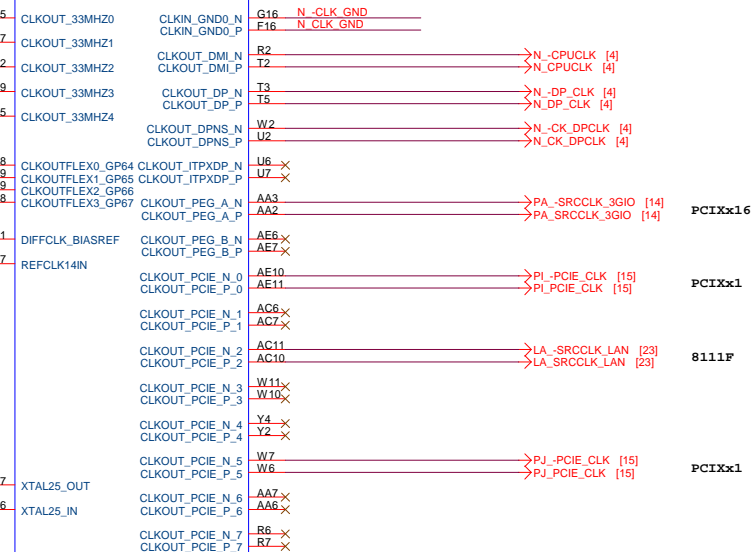


FOR ESD

P.D排組PAGE 9

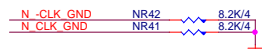


PCHG

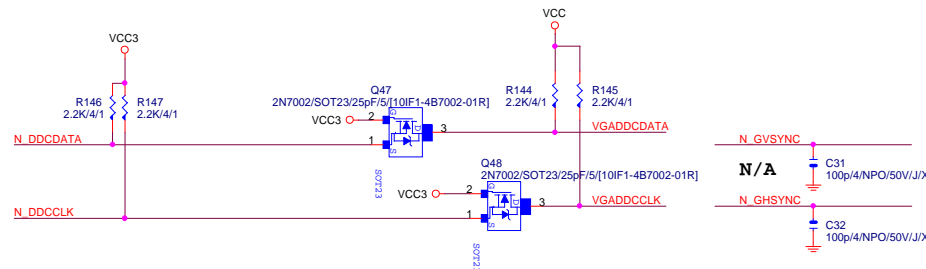


Differential Clock:18/4/6/4/18
Impedance=90 +- 15%

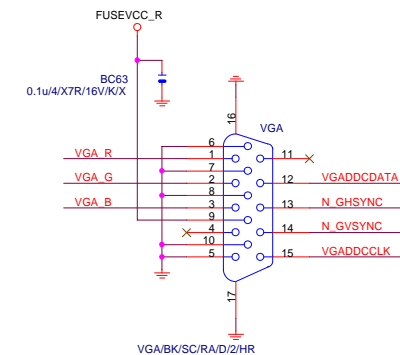
PCH CLK PD



VGA DDC

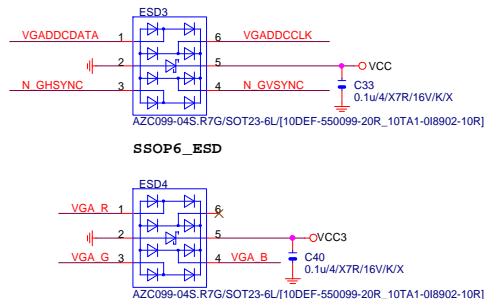


VGA CONNECTOR

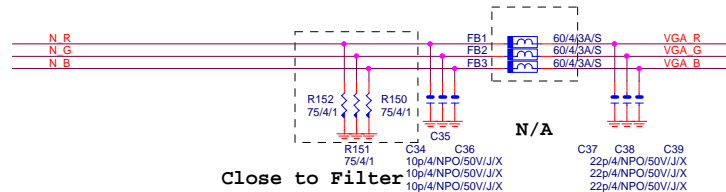


BLACK CONNECTOR

VGA ESD



VGA DDC



Gigabyte Technology

PCH DISPLAY_CLK BUFFER

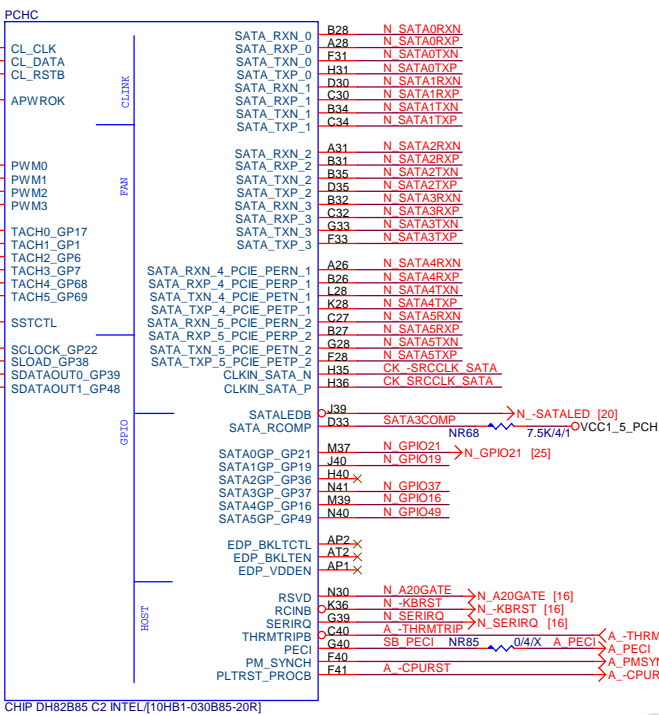
GA-B85M-DS3H

Rev 2.01

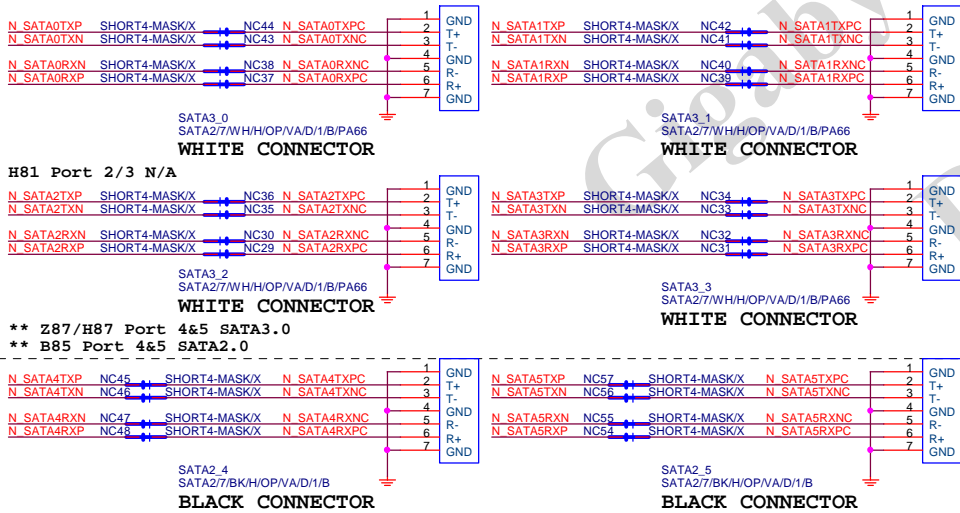
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PCH (C)

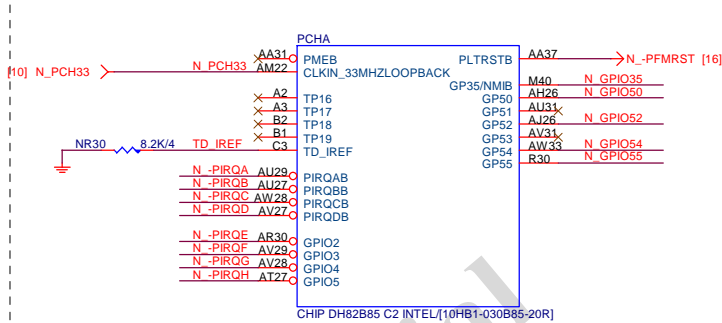
SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%



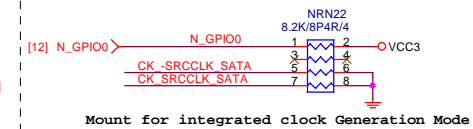
SATA CONNECTOR Remove SATA MLCC [Footprint: C0402-SHORT4-MASK]



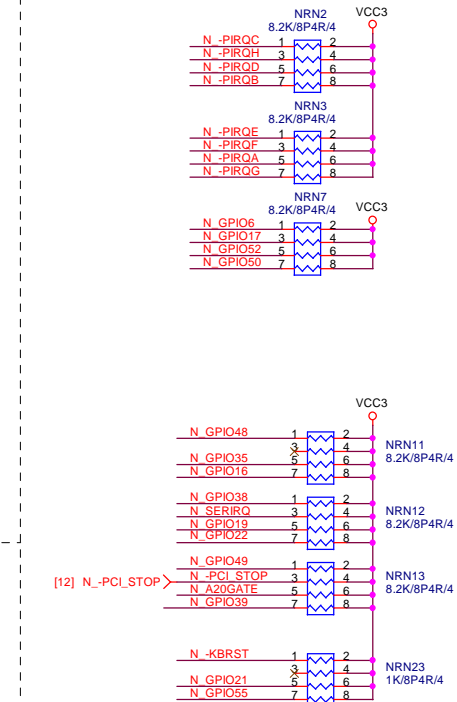
PCH (A)



PCH CLK PD

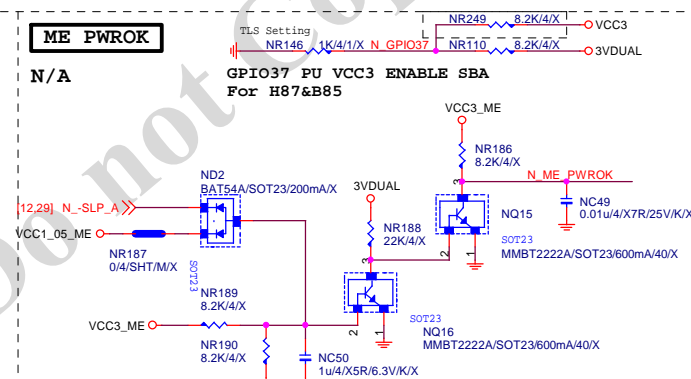


PCH PU/PD



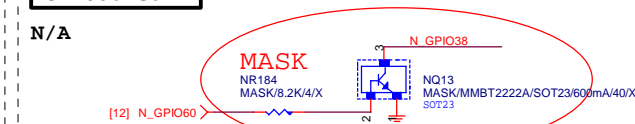
ME PWROK

N/A



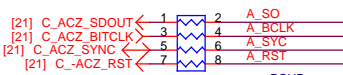
GPIO38 Ctrl

N/A



PCH

(D)



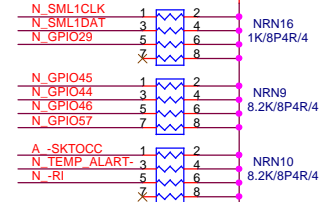
[16] N_LAD[0..3] << N_LAD[0..3]

ACZ_SDOUT

N/A

PCH PU/PD

3VDUAL



GP8:Low to enable

PCH clock chip

NR106 1K/4/1 N -IGC_EN

NR153 1K/4/1X N SUSCLK

SUSCLK:Low to OD

PLL VR

GP28:Lo disable

VRM ,Hi enable

VRM

-D_GPIO_HRST NR51 1K/4/1

N_GPIO28 NR144 1K/4/1

3VDUAL_PCH

N_GPIO31 N_PCH_DPWRK 3 4

N_GPIO72 5 6

N_S_WARN 7 8

N_GPIO27 NR60 8.2K/4

N -PCIE_WAKE NR76 1K/4/1

VCC3

N_GPIO20 NR109 1K/4/1

N -SYS_RST NR164 8.2K/4

N_GPIO33 NR49 8.2K/4

3VDUAL

N_PCH_RST NR172 20K/4/1

N_PCH_TDI 3 4

NRN18 5 6

N_PCH_TMS 7 8

N_PCH_TDO 5 6

200/8P4R/4

N_PCH_TDI 3 4

NRN19 5 6

N_PCH_TMS 7 8

NRN24 5 6

8.2K/8P4R/4

N_GPIO18 1 2

N_GPIO73 3 4

NRN24 5 6

N_GPIO25 7 8

N -SYS_RST NC58 1n/4/X/7R/50V/K

N_DRAM_PWROK NC59 1n/4/X/7R/50V/K

NRN6 8.2K/8P4R/4

3VDUAL

1 2

N -LPCPME 3 4

N_GPIO60 5 6

N_SML0CLK 7 8

NR122 499/4/1

NR123 499/4/1

NR121 1K/4/1

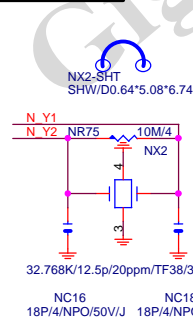
NR97 1K/4/1

N_SMBDATA

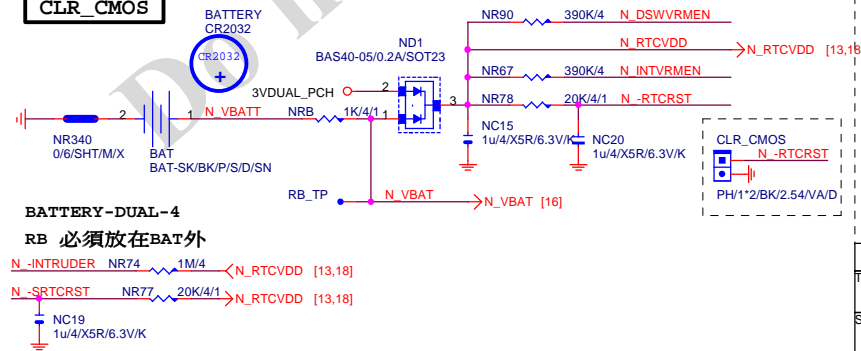
HSW_STRAP13

N/A

32.768KHZ



CLR_CMOS



BATTERY-DUAL-4

RB 必須放在BAT外

N -INTRUDER NR74 1M/4

N -SRTCST NR77 20K/4/1

N_RTCVDD [13,18]

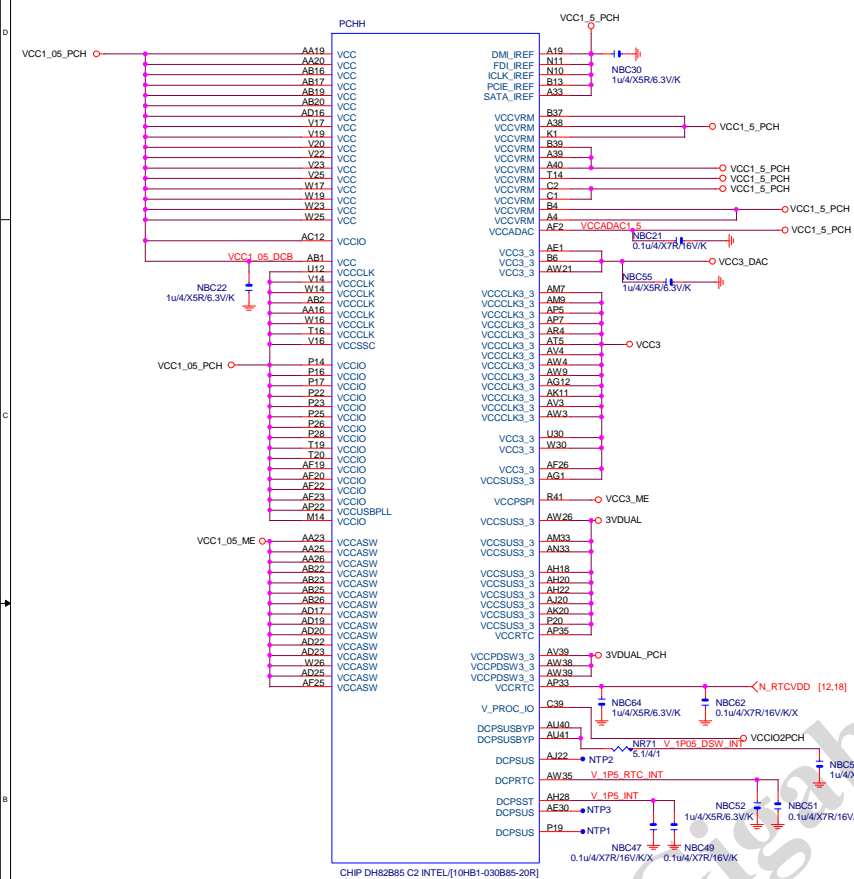
N_RTCVDD [13,18]

NC19 1u/4/X5R/6.3V/K

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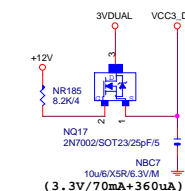
Title		PCH GPIO , CTRL , AUDIO	
Size	Document Number	GA-B85M-DS3H	
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PCH (H)

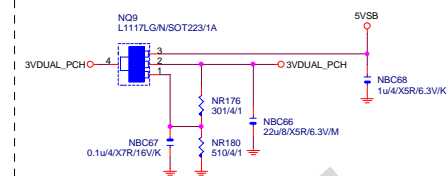


VCC3_DAC

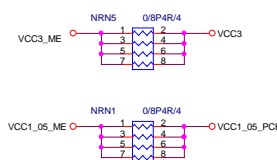
CLOSE北橋(注意震盪水波紋)



3VDUAL_PCH

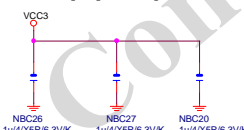


SHT PWR

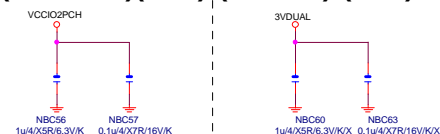


CAP

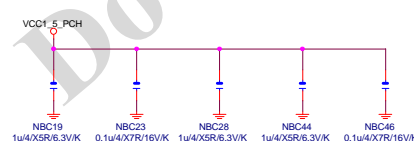
(3.3V) (X3)



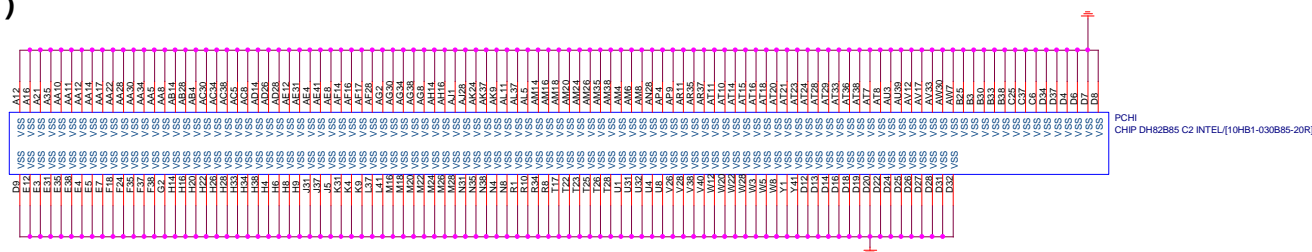
→ (1.05V)(x2) (3.3V) (x2)



(1.5V) (x5)

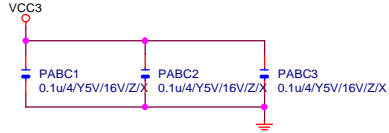


PCH (I)

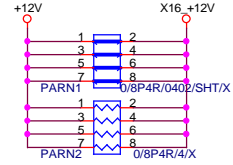


PCIEX16 CAP

N/A



PCIEX16 PROTECT SHT



PCIEX16 AC CAP

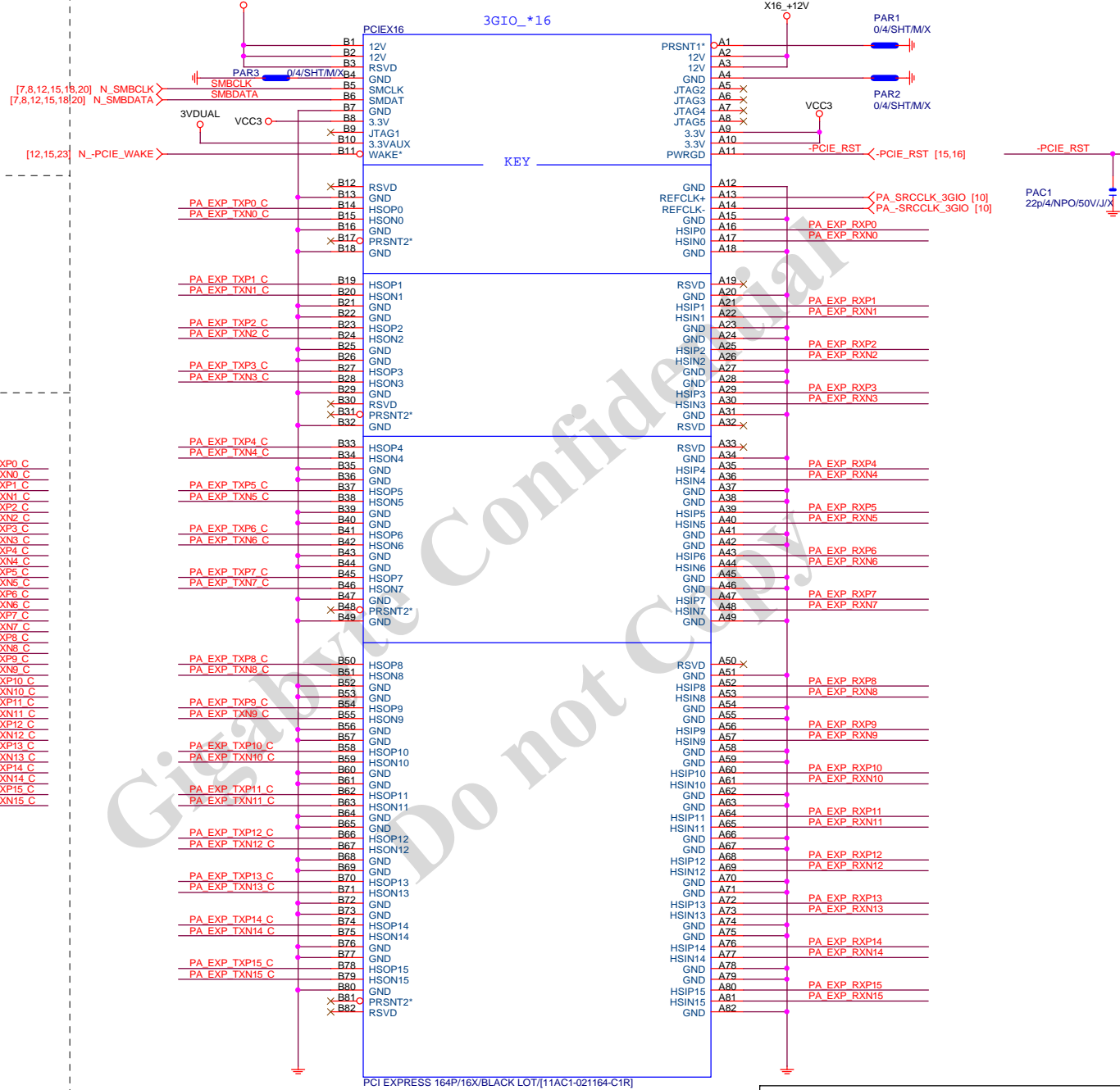
PA EXP TXP0	PAC5	0.22u4/X5R/6.3V/K	PA EXP TXP0 C
PA EXP TXN0	PAC4	0.22u4/X5R/6.3V/K	PA EXP TXN0 C
PA EXP TXP1	PAC6	0.22u4/X5R/6.3V/K	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22u4/X5R/6.3V/K	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22u4/X5R/6.3V/K	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u4/X5R/6.3V/K	PA EXP TXN2 C
PA EXP TXP3	PAC10	0.22u4/X5R/6.3V/K	PA EXP TXP3 C
PA EXP TXN3	PAC11	0.22u4/X5R/6.3V/K	PA EXP TXN3 C
PA EXP TXP4	PAC12	0.22u4/X5R/6.3V/K	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22u4/X5R/6.3V/K	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22u4/X5R/6.3V/K	PA EXP TXP5 C
PA EXP TXN5	PAC15	0.22u4/X5R/6.3V/K	PA EXP TXN5 C
PA EXP TXP6	PAC16	0.22u4/X5R/6.3V/K	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22u4/X5R/6.3V/K	PA EXP TXN6 C
PA EXP TXP7	PAC19	0.22u4/X5R/6.3V/K	PA EXP TXP7 C
PA EXP TXN7	PAC18	0.22u4/X5R/6.3V/K	PA EXP TXN7 C
PA EXP TXP8	PAC20	0.22u4/X5R/6.3V/K	PA EXP TXP8 C
PA EXP TXN8	PAC21	0.22u4/X5R/6.3V/K	PA EXP TXN8 C
PA EXP TXP9	PAC22	0.22u4/X5R/6.3V/K	PA EXP TXP9 C
PA EXP TXN9	PAC23	0.22u4/X5R/6.3V/K	PA EXP TXN9 C
PA EXP TXP10	PAC24	0.22u4/X5R/6.3V/K	PA EXP TXP10 C
PA EXP TXN10	PAC25	0.22u4/X5R/6.3V/K	PA EXP TXN10 C
PA EXP TXP11	PAC26	0.22u4/X5R/6.3V/K	PA EXP TXP11 C
PA EXP TXN11	PAC27	0.22u4/X5R/6.3V/K	PA EXP TXN11 C
PA EXP TXP12	PAC28	0.22u4/X5R/6.3V/K	PA EXP TXP12 C
PA EXP TXN12	PAC29	0.22u4/X5R/6.3V/K	PA EXP TXN12 C
PA EXP TXP13	PAC30	0.22u4/X5R/6.3V/K	PA EXP TXP13 C
PA EXP TXN13	PAC31	0.22u4/X5R/6.3V/K	PA EXP TXN13 C
PA EXP TXP14	PAC32	0.22u4/X5R/6.3V/K	PA EXP TXP14 C
PA EXP TXN14	PAC33	0.22u4/X5R/6.3V/K	PA EXP TXN14 C
PA EXP TXP15	PAC34	0.22u4/X5R/6.3V/K	PA EXP TXP15 C
PA EXP TXN15	PAC35	0.22u4/X5R/6.3V/K	PA EXP TXN15 C

PA EXP RXP0.[15] >>> PA_EXP_RXP[0..15] [4]
PA EXP RXN0.[15] >>> PA_EXP_RXN[0..15] [4]
PA EXP TXP0.[15] >>> PA_EXP_TXP[0..15] [4]
PA EXP TXN0.[15] >>> PA_EXP_TXN[0..15] [4]

PCIEX16 SLOT

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PCIESLOT-164DN-Q-1



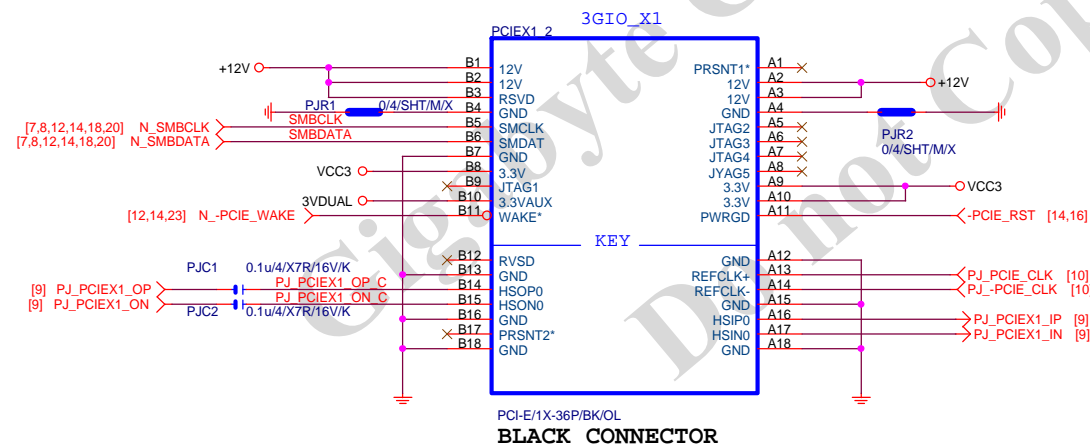
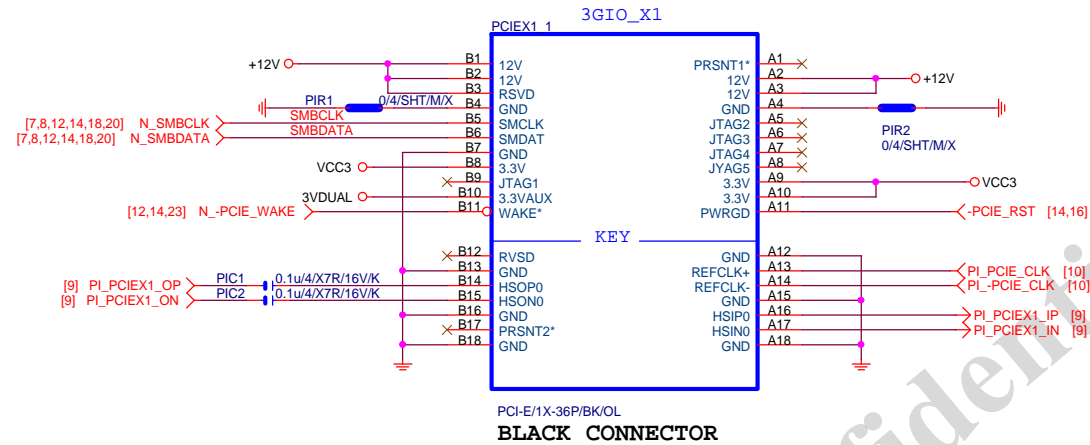
PCI EXPRESS 164P/16X/BLACK LOT/[11AC1-021164-C1R]

BLACK CONNECTOR

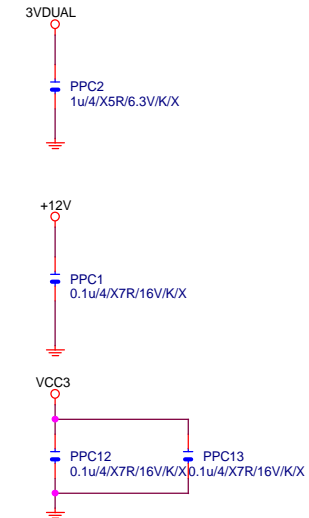
Gigabyte Technology

Title		
PCI EXPRESS * 16		
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PCIEX1 SLOT



N/A



Gigabyte Technology

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PCI EXPRESS X 1 PORT

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SIO IT8620

PWR_SHT

SIO_PU

SIO_STRAP

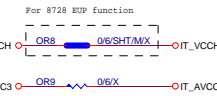
Power leakage

MB_ID

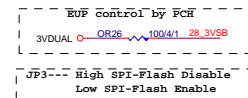
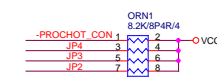
SIO_CAP

Gigabyte Technology

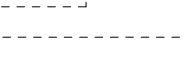
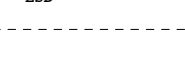
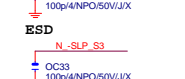
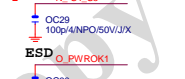
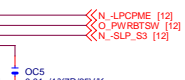
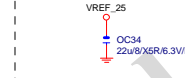
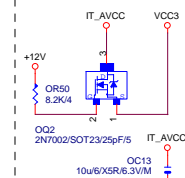
File			ITE 8728 LPC IO
Size	Document Number	GA-B85M-DS3H	
C			Rev 2.01
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DO8:N/A

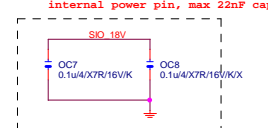


FIX MX 插拔漏电

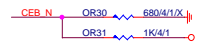


internal power pin, max 22nF cap

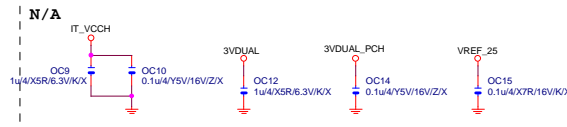
SIO_18V



DUAL BIOS OPT STRAP



SIO_CAP



IT8620E_BX

IT8620E_BX

IT8620E_BX

IT8620E_BX

IT8620E_BX

IT8620E_BX

IT8620E_BX

IT8620E_BX

IT8620E_BX

IT8620E_BX

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IT8620E_BX

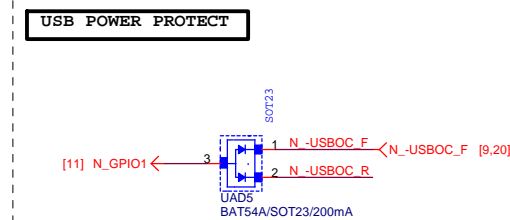
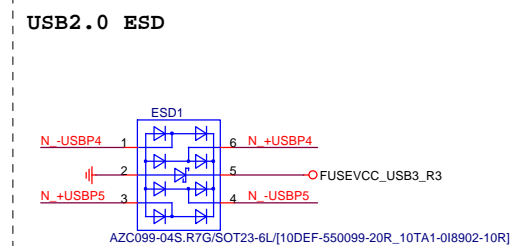
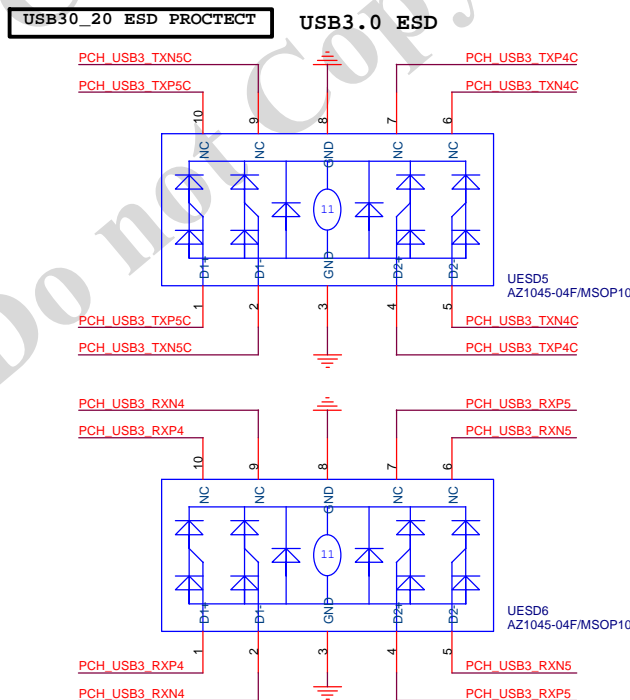
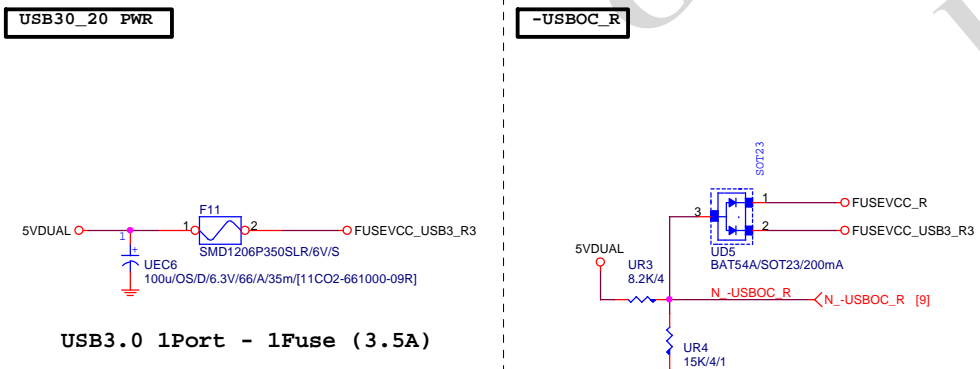
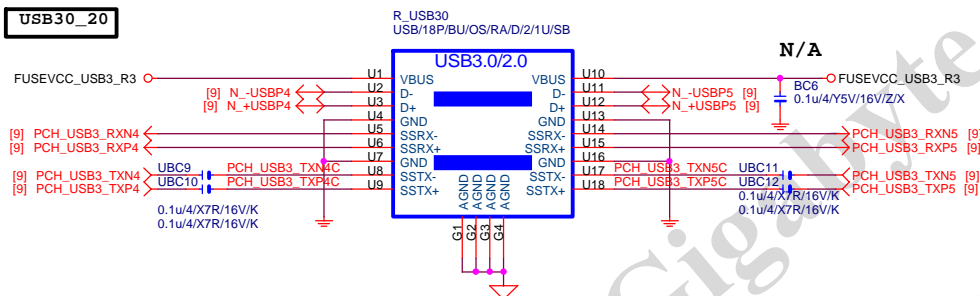
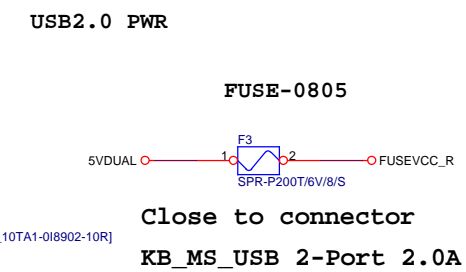
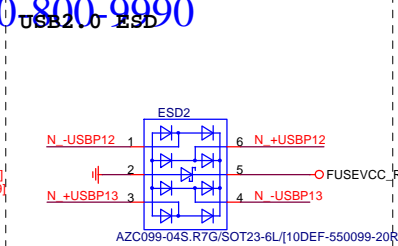
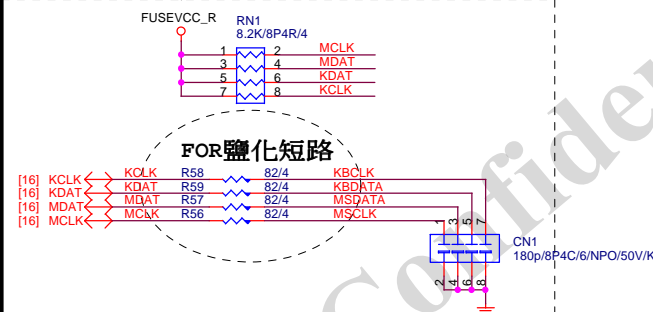
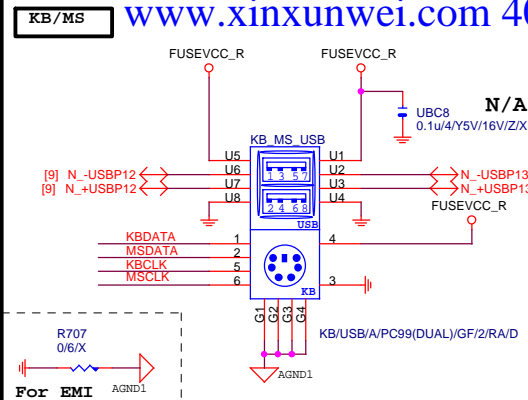
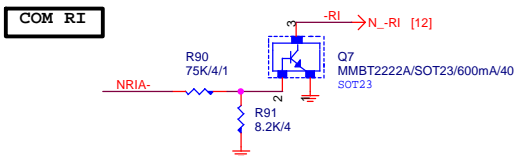
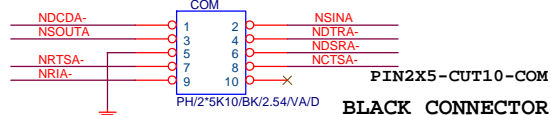
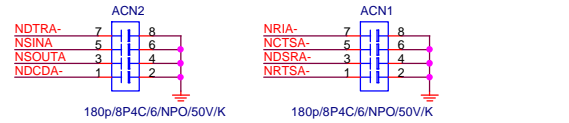
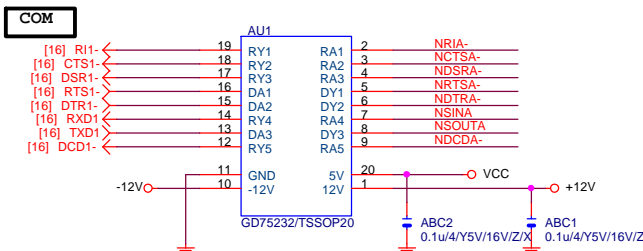
IT8620E_BX

IT8620E_BX

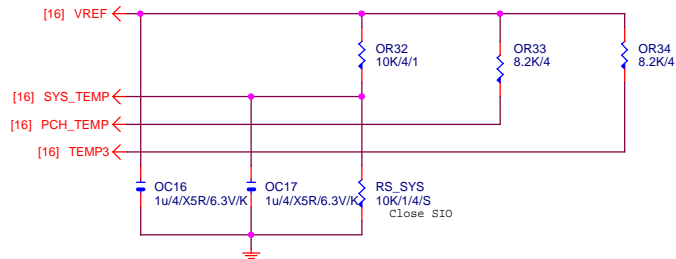
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IT8620E_BX

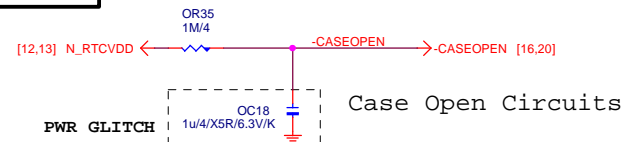
IT8620E_BX



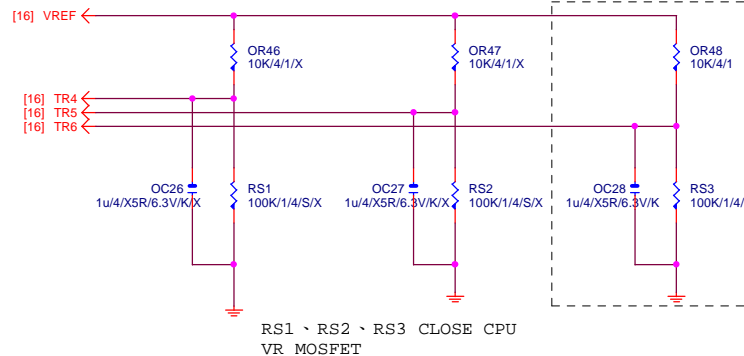
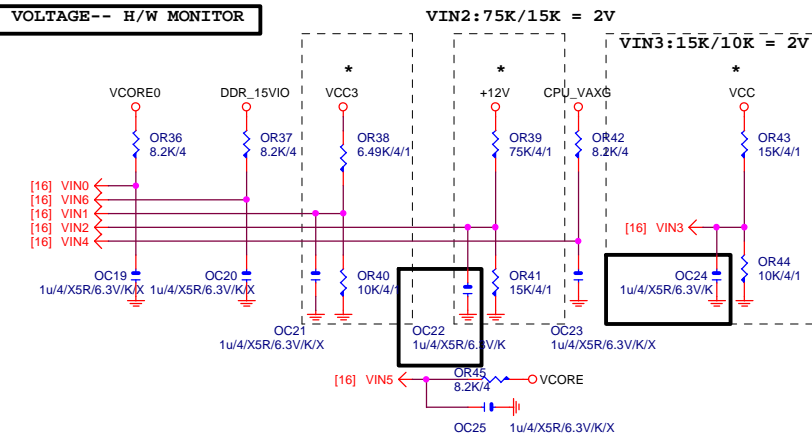
TEMP H/W MONITOR



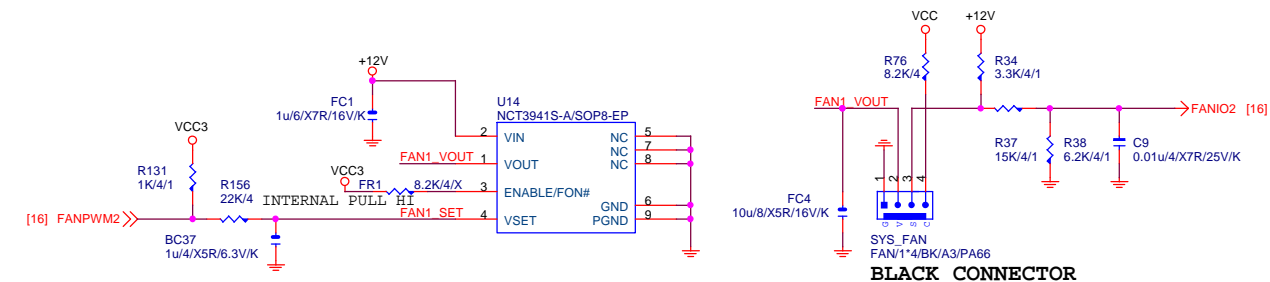
CASE OPEN



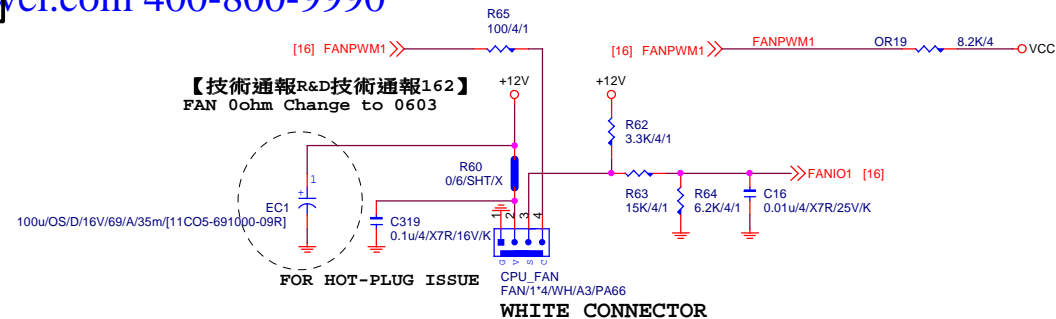
VOLTAGE-- H/W MONITOR



SYS SMART FAN



【技術通報R&D技術通報162】 FAN 0ohm Change to 0603

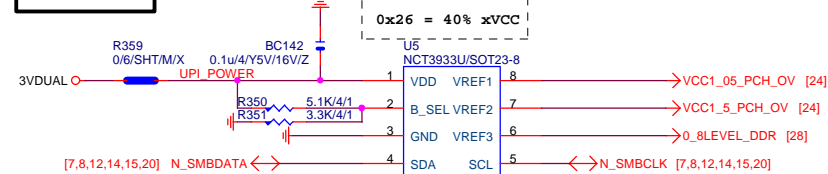


WHITE CONNECTOR

BLACK CONNECTOR

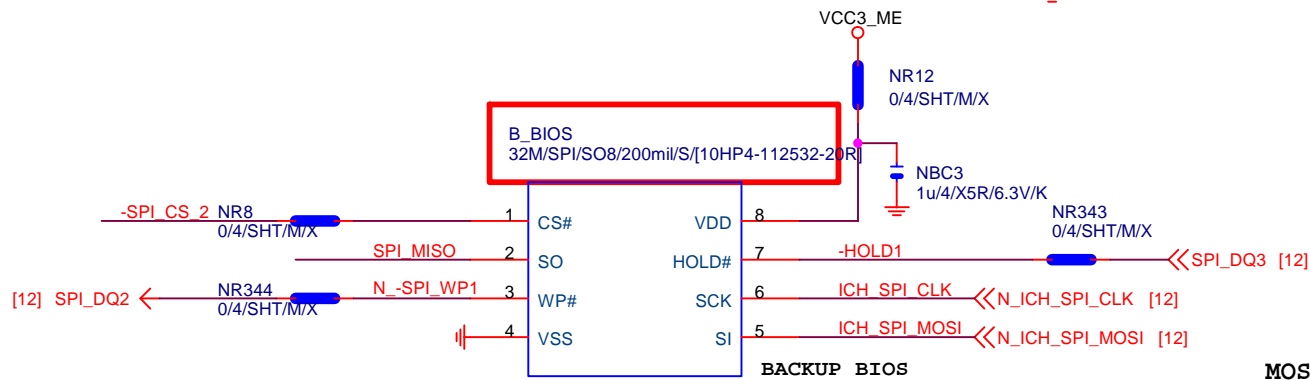
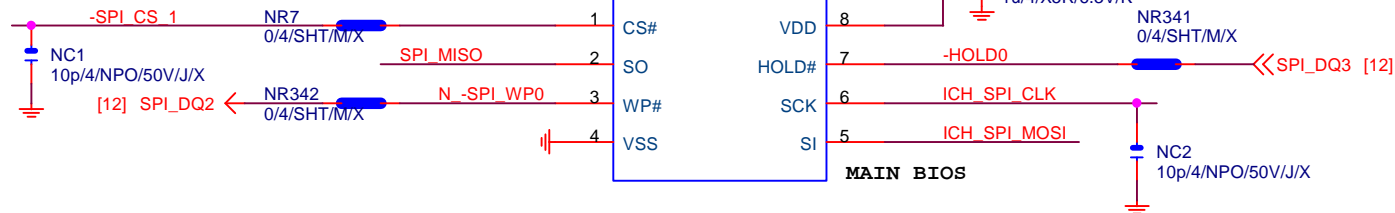
接pwm feedback pin

OV NCT3933



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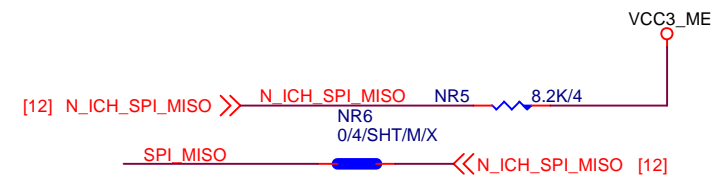
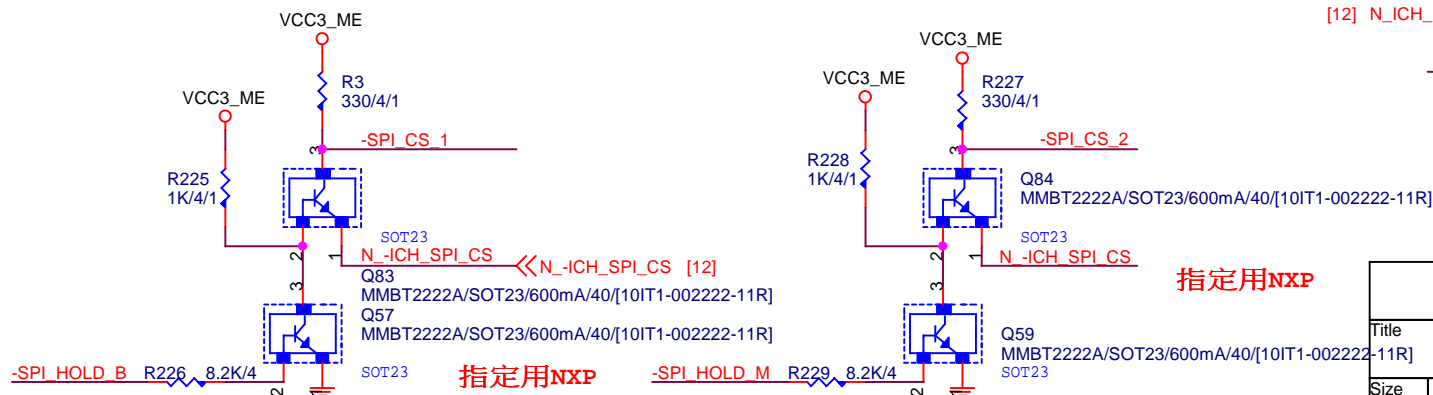
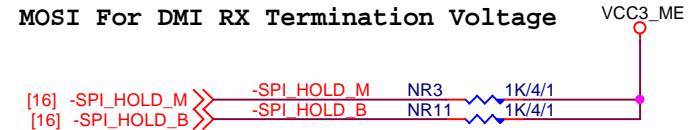
Title			HWM,FAN CTRL,OV		
Size			Document Number		
Custom			GA-B85M-DS3H		
Date:			Rev		
Wednesday, June 18, 2014			2.01		
Sheet			18 of 30		



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

1 means floating
0 means PD 1K

MOSI For DMI RX Termination Voltage



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DUAL BIOS

GA-B85M-DS3H

Rev
2.01

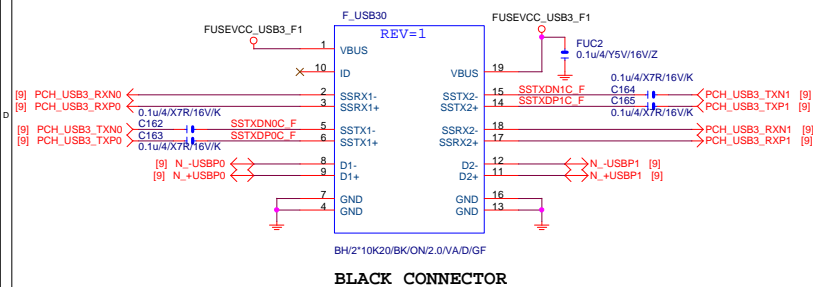
Title

Size
Custom

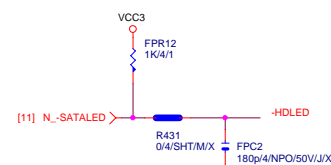
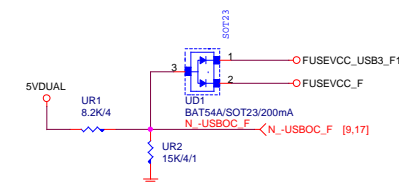
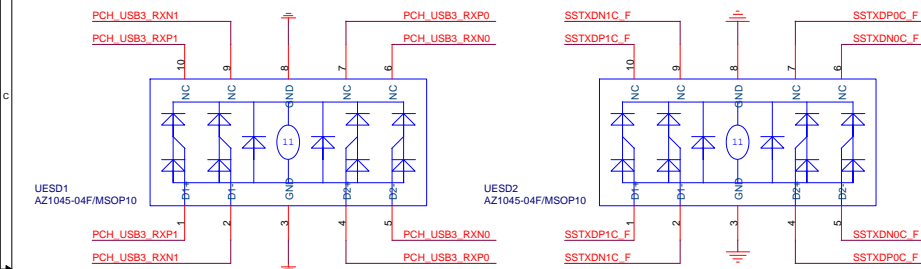
Document Number

Date: Wednesday, June 18, 2014

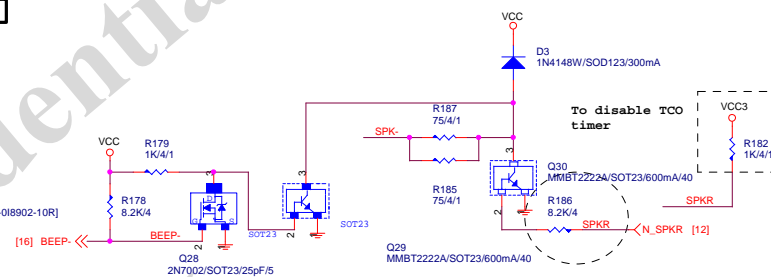
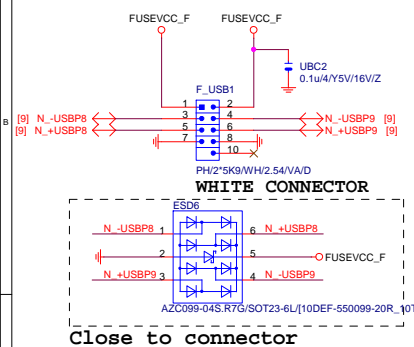
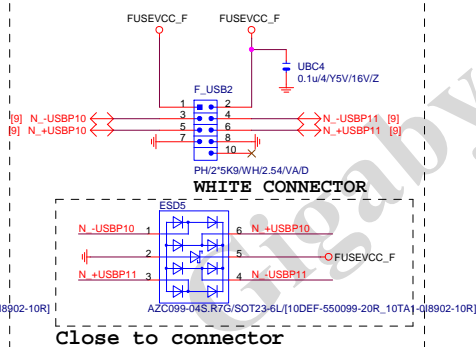
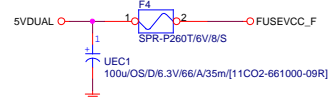
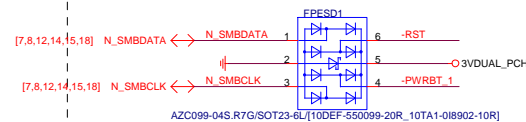
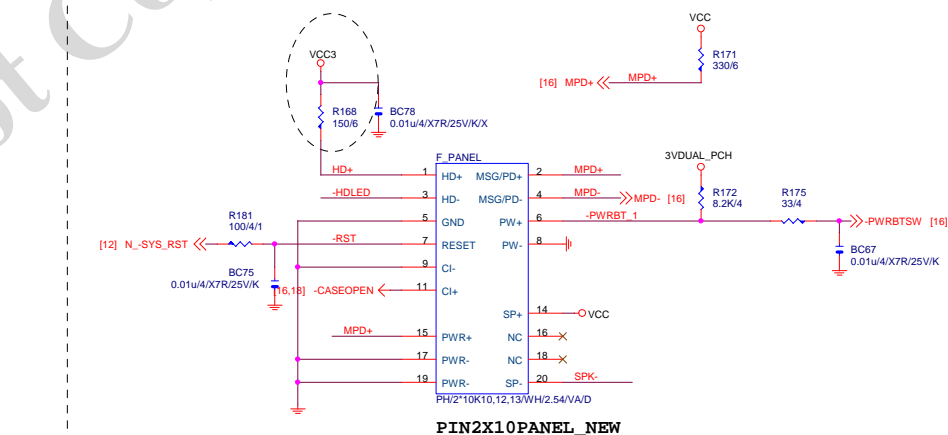
Sheet 19 of 30

F_USB30

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

SATA_35P**-USBOC_F****F_USB30 ESD PROTECT**

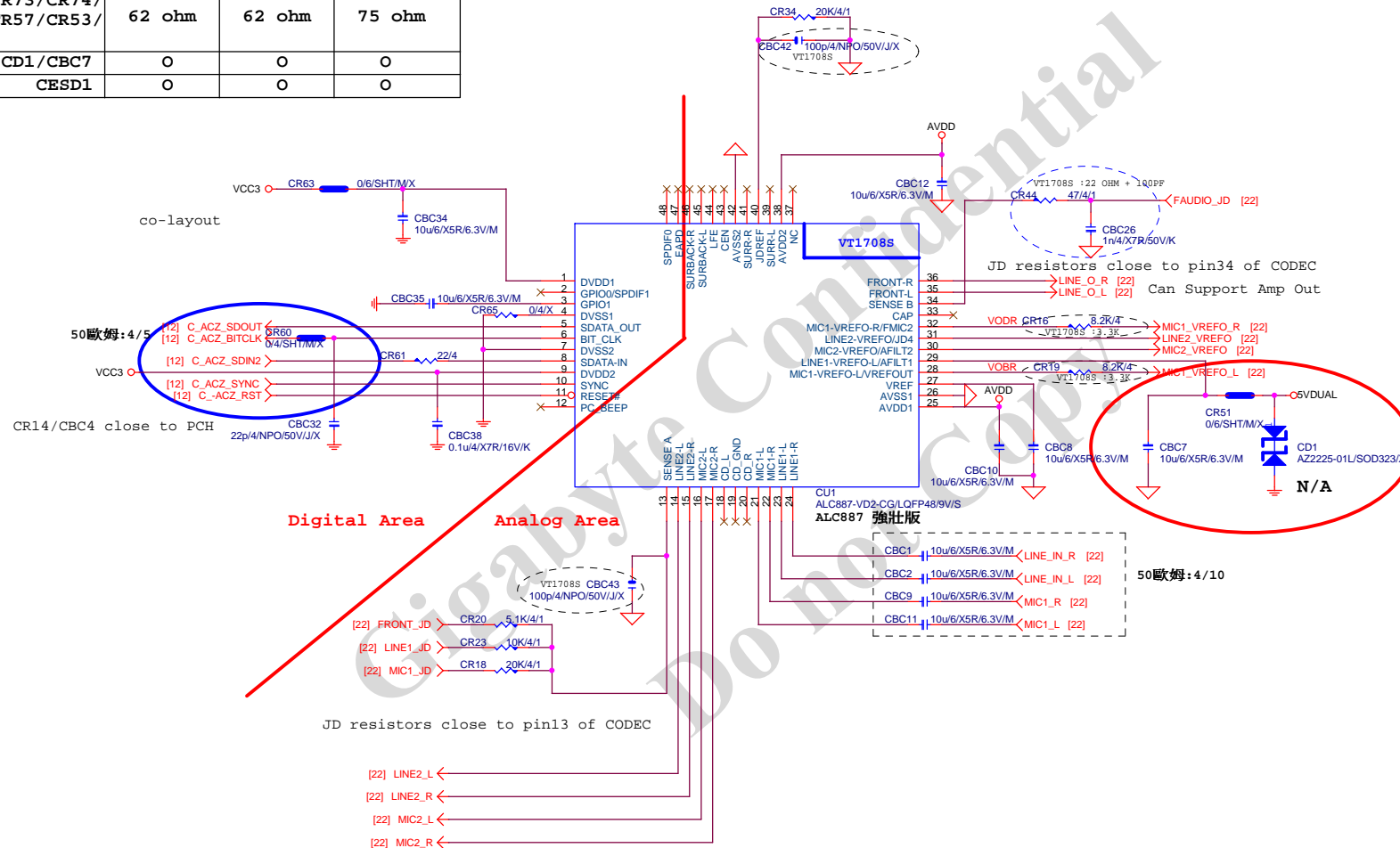
Close to connector

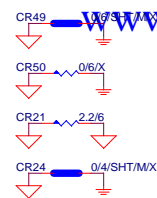
SPKR**FRONT USB1****FRONT USB2**FUSE-0805
F_USB1, F_USB2 4-Port 2.6A**INTEL FRONT PANEL**

Gigabyte Technology			
Title	FP,F_USB,USB PWR,SPKR,SATA LED		
Size	Custom	Document Number	GA-B85M-DS3H
Date	Wednesday, June 18, 2014	Sheet	20 of 30

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
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	O	O	O
CESD1	O	O	O



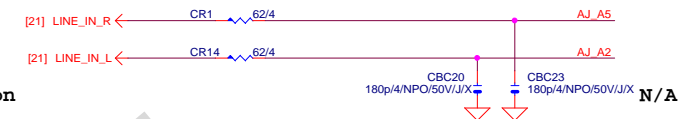


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LINE-IN

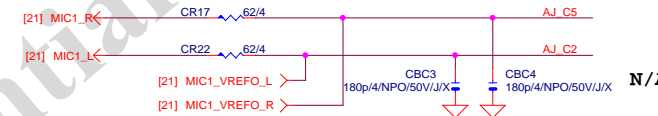
Verify MIC function
in LINE-in

Only reserved for ALC888

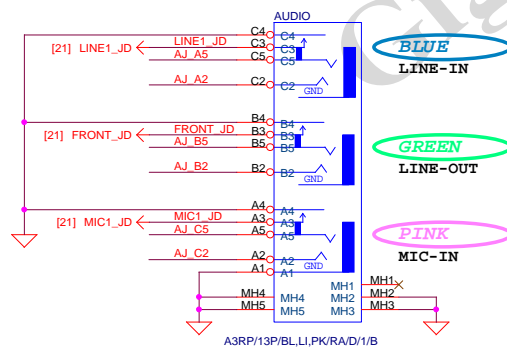


For 889A/888

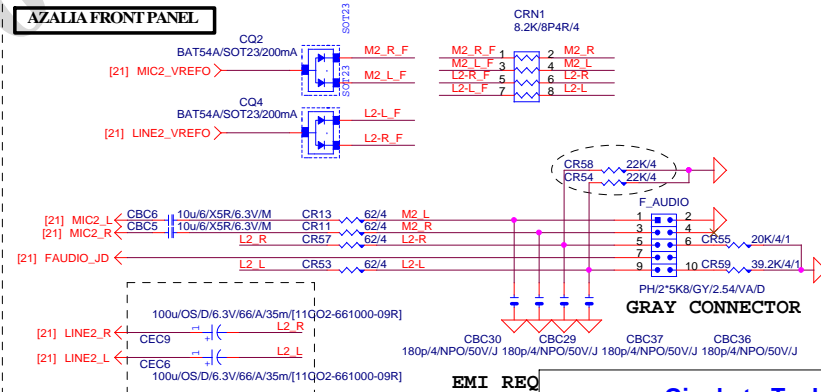
MIC-IN



SPDIF_OUT



AZALIA FRONT PANEL



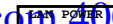
Gigabyte Technology

AUDIO JACK

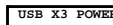
GA-B85M-DS3H

Rev 2.01

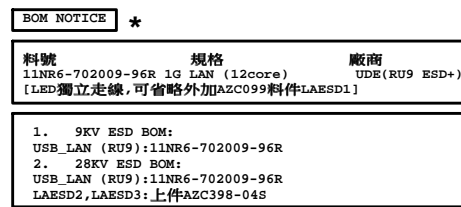
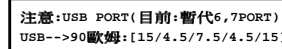
Date: Wednesday, June 18, 2014 Sheet 22 of 30



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

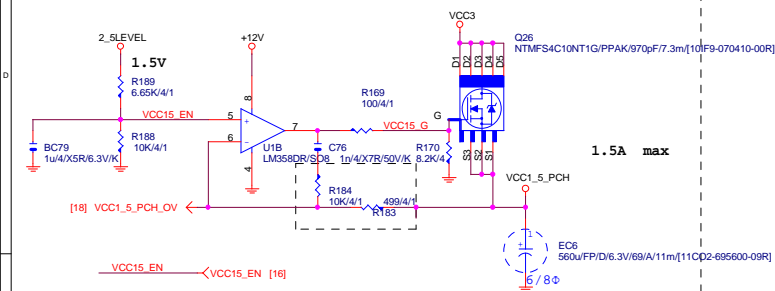


PS:視EMI需求



Gigabyte Technology			
Title			
Realtek RTL8111G			
Size Custom	Document Number	GA-B85M-DS3H	Rev 2.01
Date:	Wednesday, June 18, 2014	Sheet	23 of 30

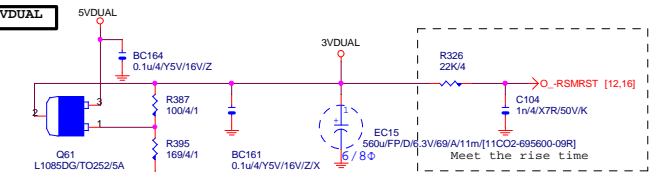
VCC1_5_PCH



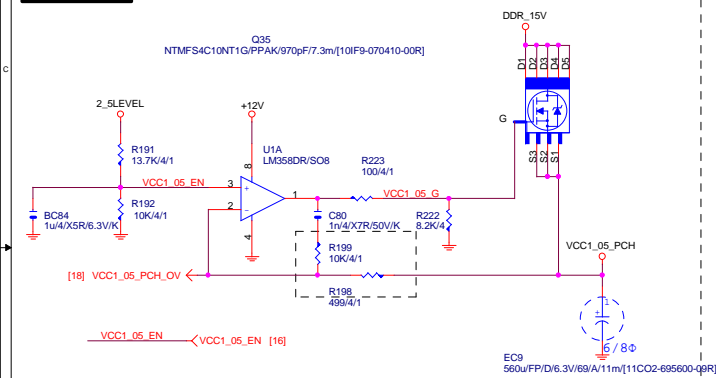
2_5LEVEL



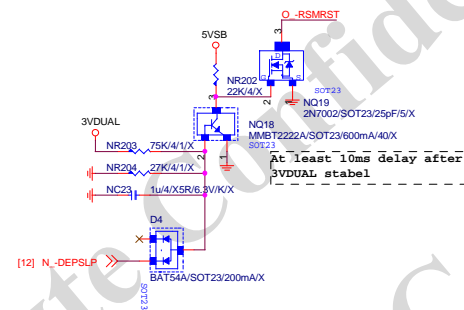
3VDUAL



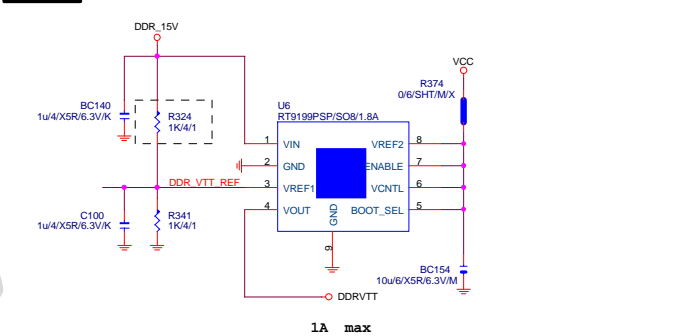
VCC1_05_PCH



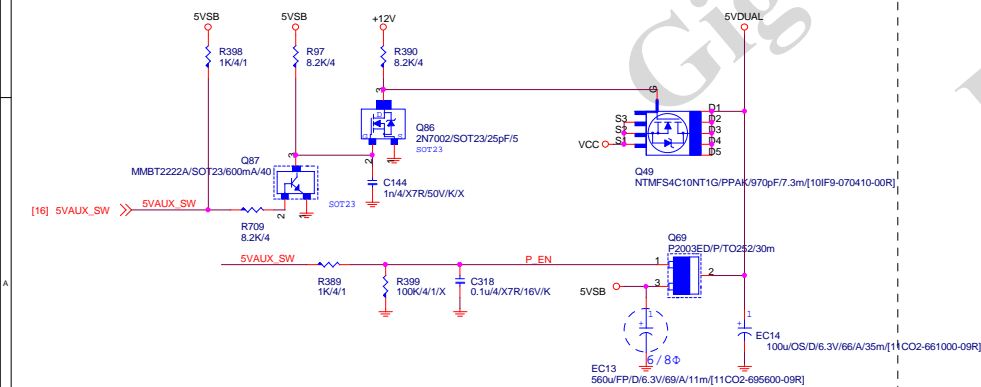
N/A



DDR_VTT

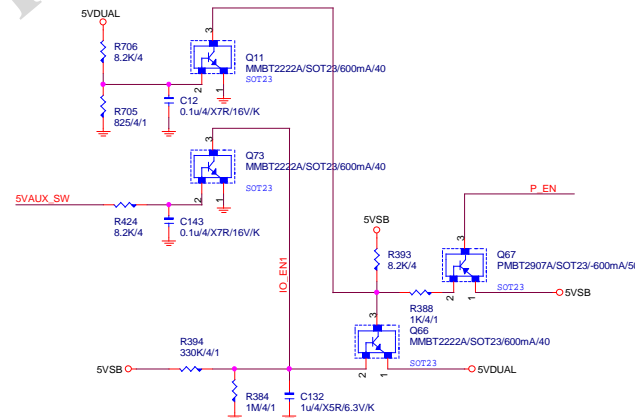


5VDUAL



5VDUAL SHORT PROTECT

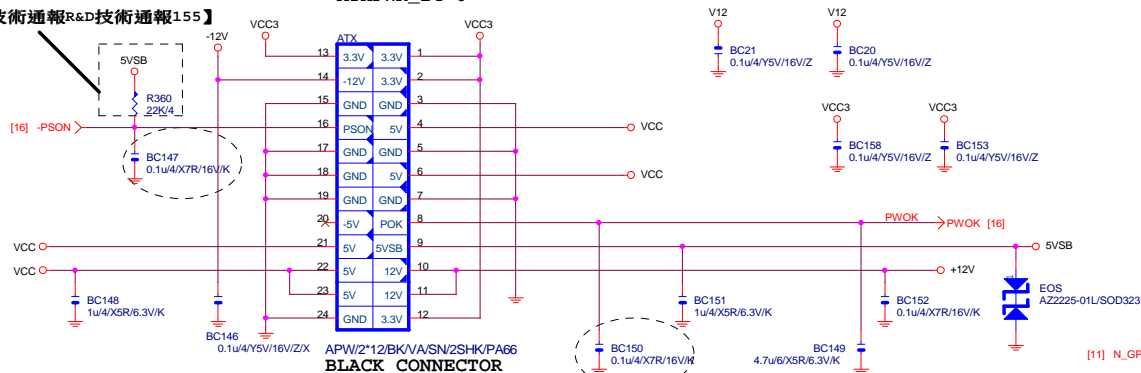
5VSB OVP:7.5V protection



ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】

ATXPWR_24-6

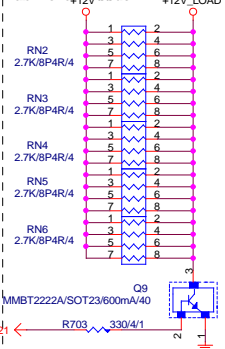


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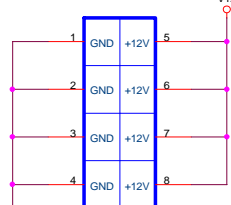
ATXX4 POWER CONNECTOR

【技術通報R&D技術通報155】

To fix 12V light load abnormal issue



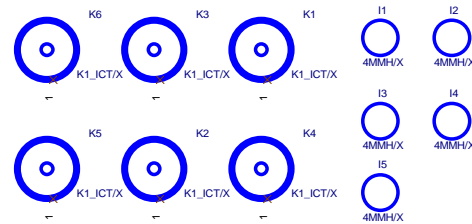
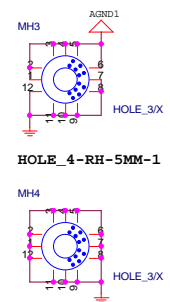
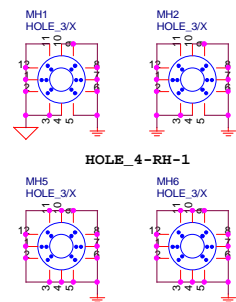
ATXPW2X4-6



BLACK CONNECTOR

ATX_12V_2X4
APW/2'4/BK/OC/P/4.2V/A/SN/OH

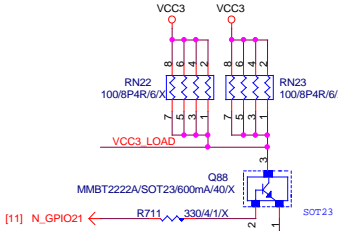
TPM



To prevent the 5VSB under loading when boot

FIX PWR MINMUN LOAD

N/A



PWOK PATCH

【技術通報R&D技術通報154】

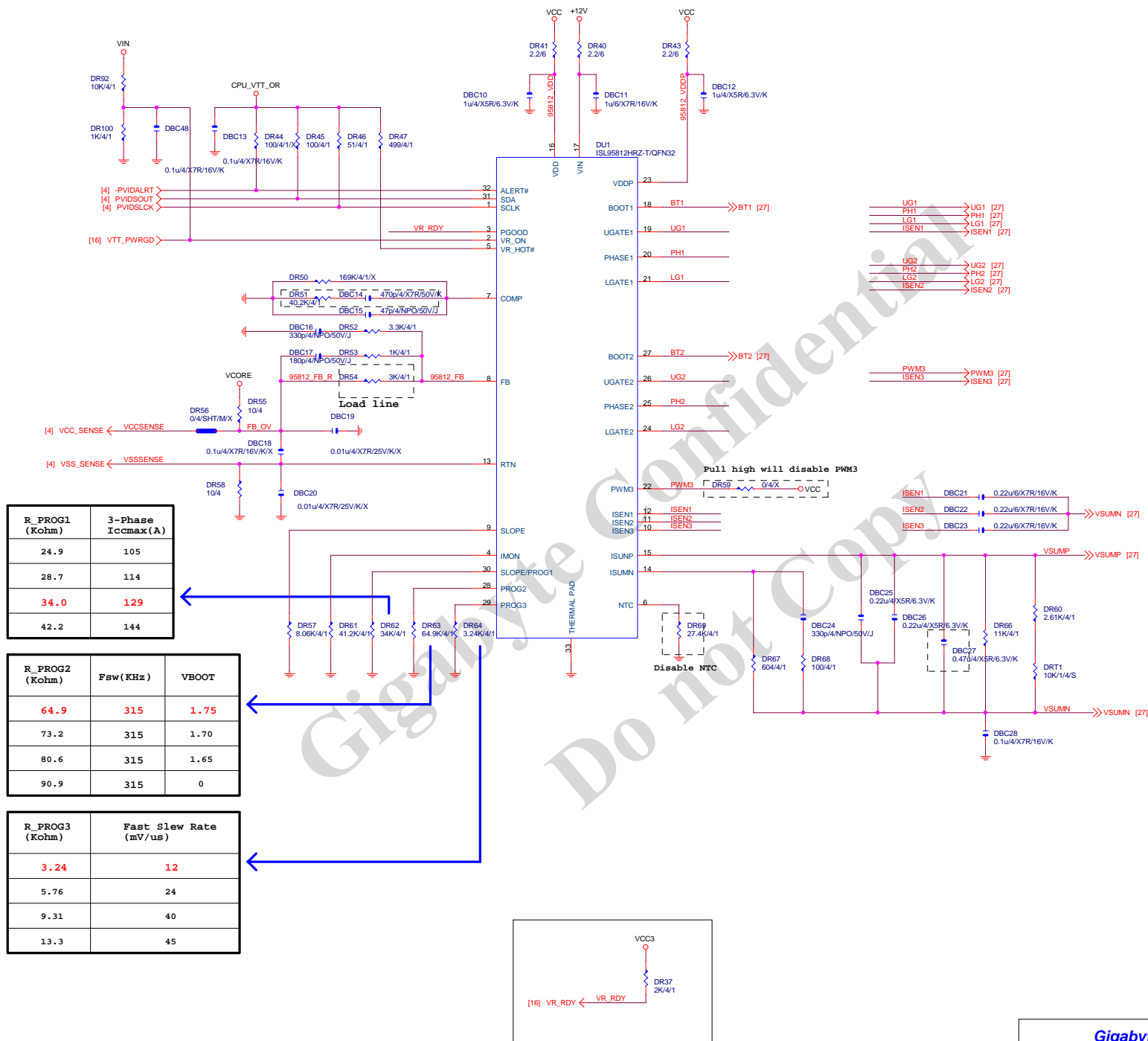
Gigabyte Technology

ATX CONNECTOR

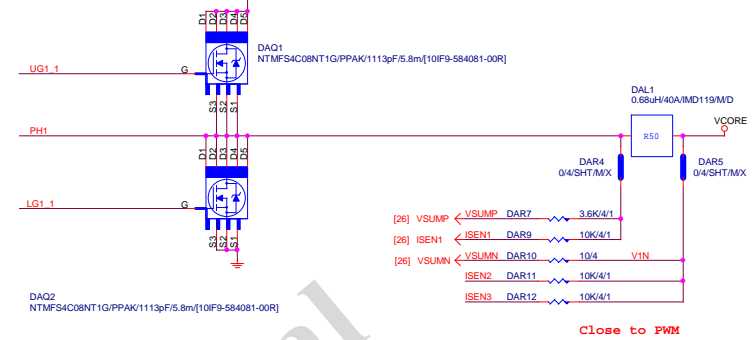
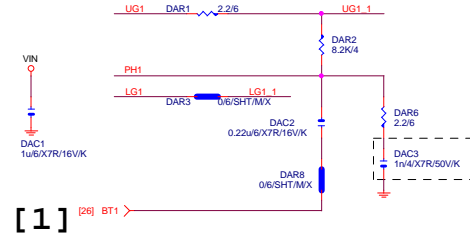
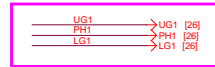
GA-B85M-DS3H

Rev 2.01

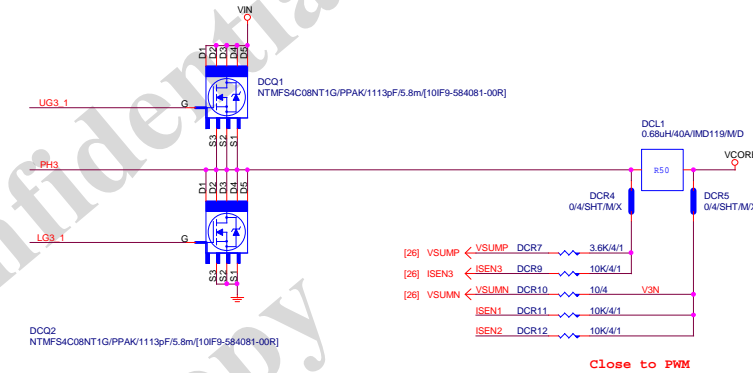
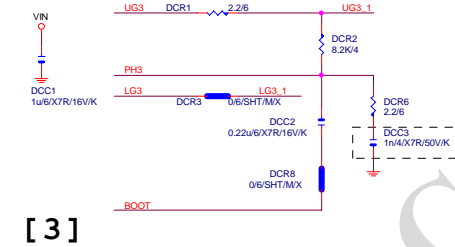
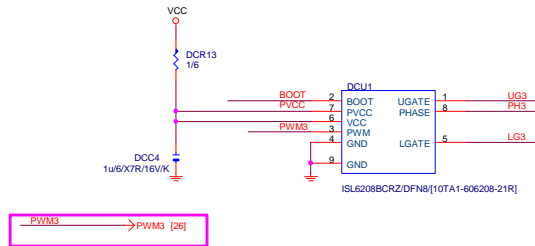
Date: Wednesday, June 18, 2014 Sheet 25 of 30



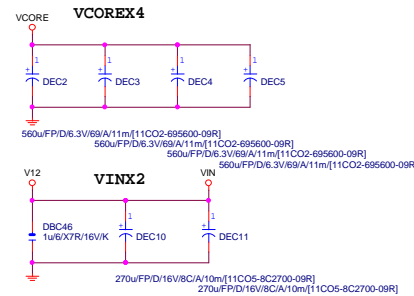
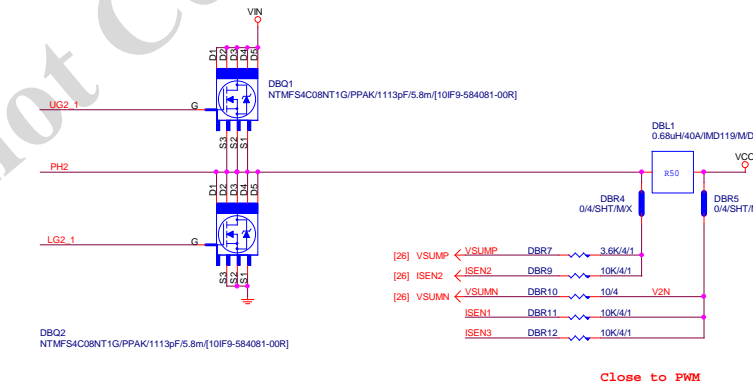
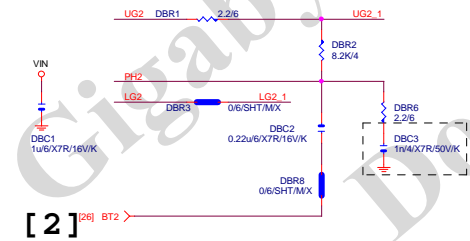
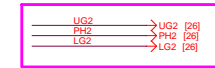
PHASE 1



PHASE 3



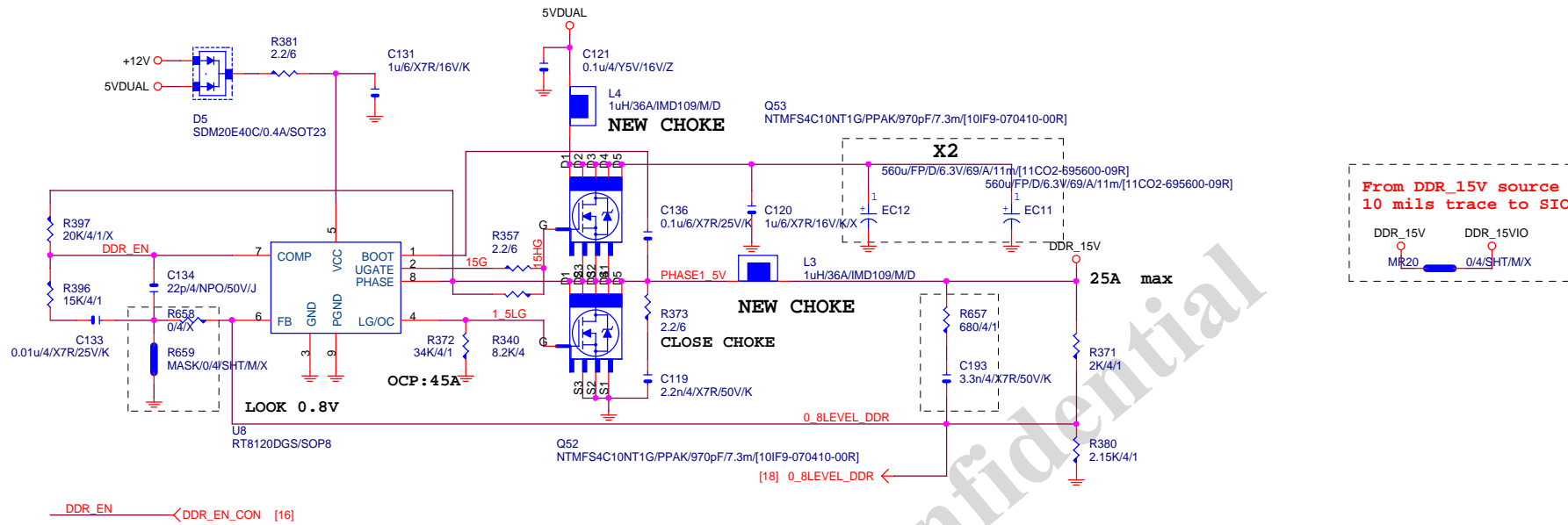
PHASE 2



Gigabyte Technology

Title		CPU CORE VR-2	
Size	Document Number	GA-B85M-DS3H	
Custom			Rev 2.01
Date	Wednesday, June 18, 2014	Sheet	27 of 30

DDR15V



PWR_SEQ

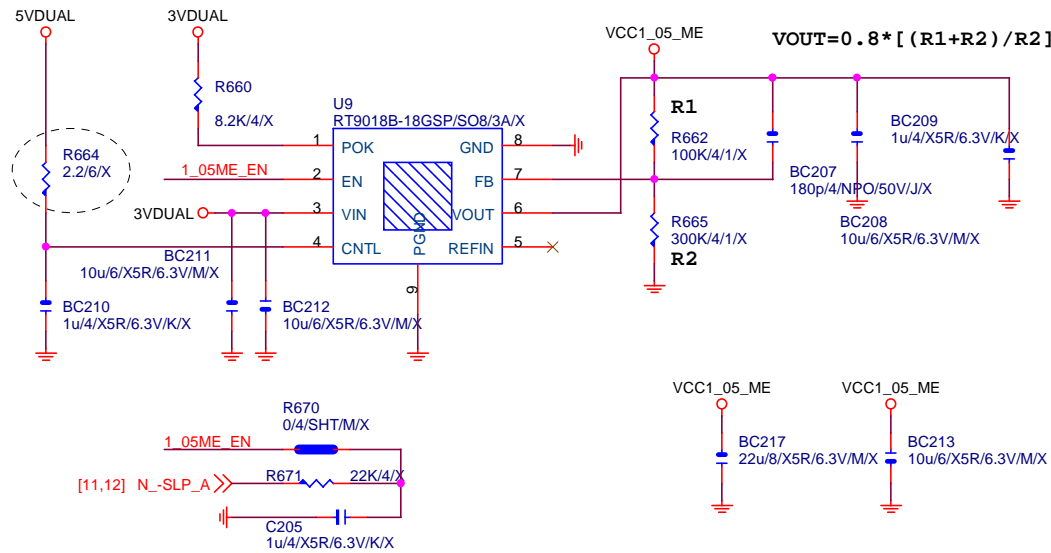
VIN=5V, VOUT=1.5V, IOUT=25A, PHASE=1
 IRMS=11.45A
 560u/FP/D/6.3V/68/8m RIPPLE CURRENT=4.7A
 Coefficient=1.7(85°C), 1(105°C)
 VIN Ripple current=4.7X1.7=7.99A(85°C)
 -->故固態電容須2X7.99=15.98>11.45A

$Rocset = (I_{ocp} * L_{gate, rdson}) / I_{ocset}$
 $Rocset = (45A * 6.7m\Omega) / 10uA = 30K$
 $I_{ocset} = 10uA$

Gigabyte Technology

Title			
DDR POWER			
Size	Document Number	GA-B85M-DS3H	
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Date:	Wednesday, June 18, 2014	Sheet	28 of 30

N/A



Second source

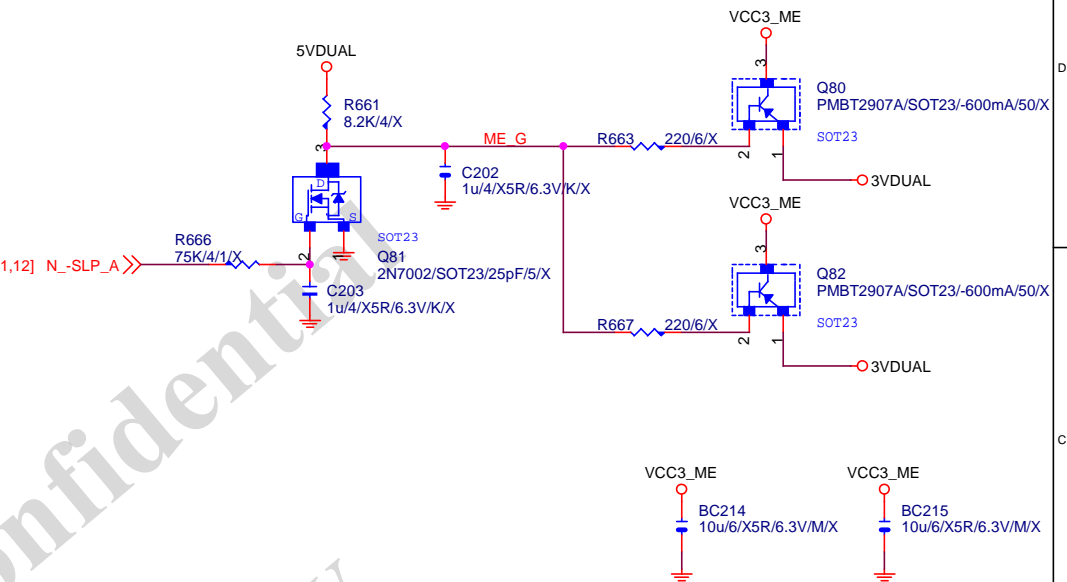
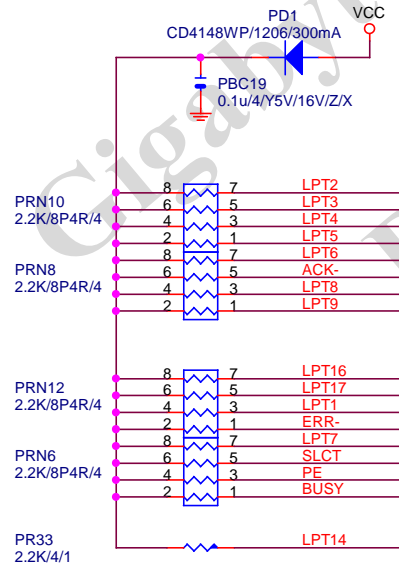
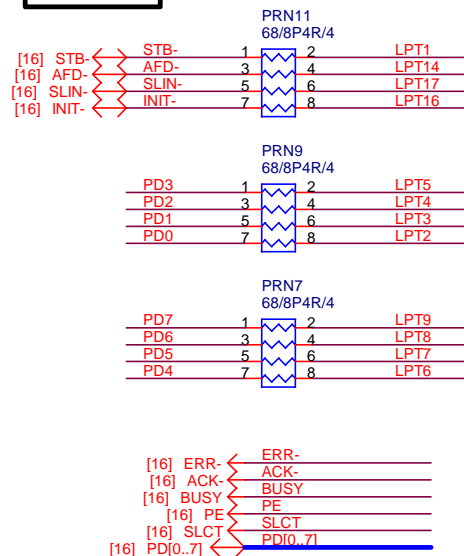
EM5103 - 10GL2-305103-01R

NCT3730S -

10GL2-303730-01R

【技術通報R&D技術通報151】
33ohm Change to 68ohm

LPT PORT



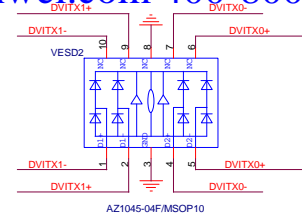
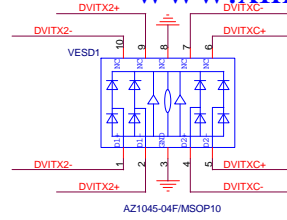
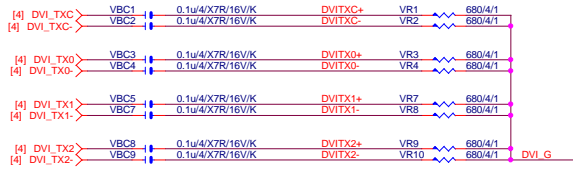
LPT			
LPT1	1	STB#	2 LPT14
LPT2	3	PPD0	4 ERR#
LPT3	5	PPD1	6 LPT16
LPT4	7	PPD2	8 LPT17
LPT5	9	PPD3	10
LPT6	11	PPD4	12
LPT7	13	PPD5	14
LPT8	15	PPD6	16
LPT9	17	PPD7	18
ACK-	19	ACK#	20
BUSY	21	BUSY	22
PE	23	PE	
SLCT	25	SLCT#	26

PH/2*13K24/BK/2.54/VA/D

Gigabyte Technology

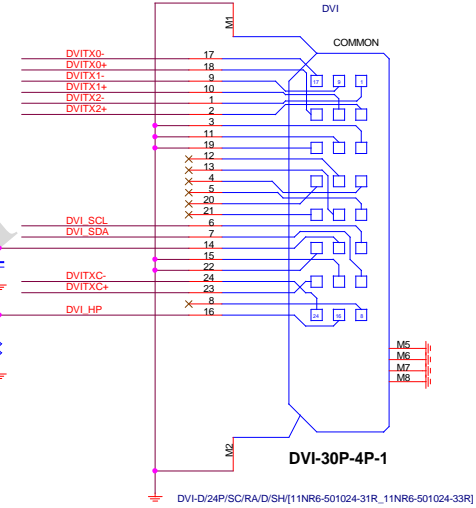
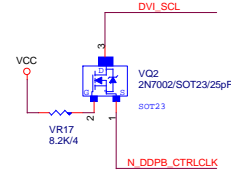
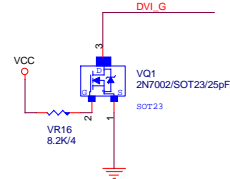
Title			
LPT			
Size	Document Number		Rev
Custom	GA-B85M-DS3H		2.01
Date:	Wednesday, June 18, 2014	Sheet	29 of 30

DVI



Close to connector

Close to connector



HDMI LEVEL SHIFT

