

Model Name: GA-B85M-D2V-SI Revision 3.0

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,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	PCI SLOT (NA)
17	ITE 8620 LPC IO
18	COM,KB_MS_USB,USB30_20
19	HWM,FAN CTRL,OV
20	DUAL BIOS
21	FP,FUSB,SPK,SATALED
22	Realtek ALC887-VD2
23	REAR AUDIO JACK
24	REALTEK RTL8111F
25	DISCRETE POWER
26	ATX
27	VCORE ISL95812_1

SHEET

TITLE

28	VCORE ISL95812_2
29	RT8120_DDR POWER
30	LPT
31	DVI
32	IT8892E (NA)
33	USB3 VL805 (NA)

Gigabyte Technology			
Title			
Cover Sheet			
Size	Document Number	GA-B85M-D2V-SI	Rev
Custom			3.0
Date:	Tuesday, December 16, 2014	Sheet	1 of 33

Model Name: GA-B85M-D2V-SI

Component value change history

[illegible]

Circuit or PCB layout change

[illegible]

PCB : S4VNB (精成,全成信,伊利安達)


S:單文

4:四層板

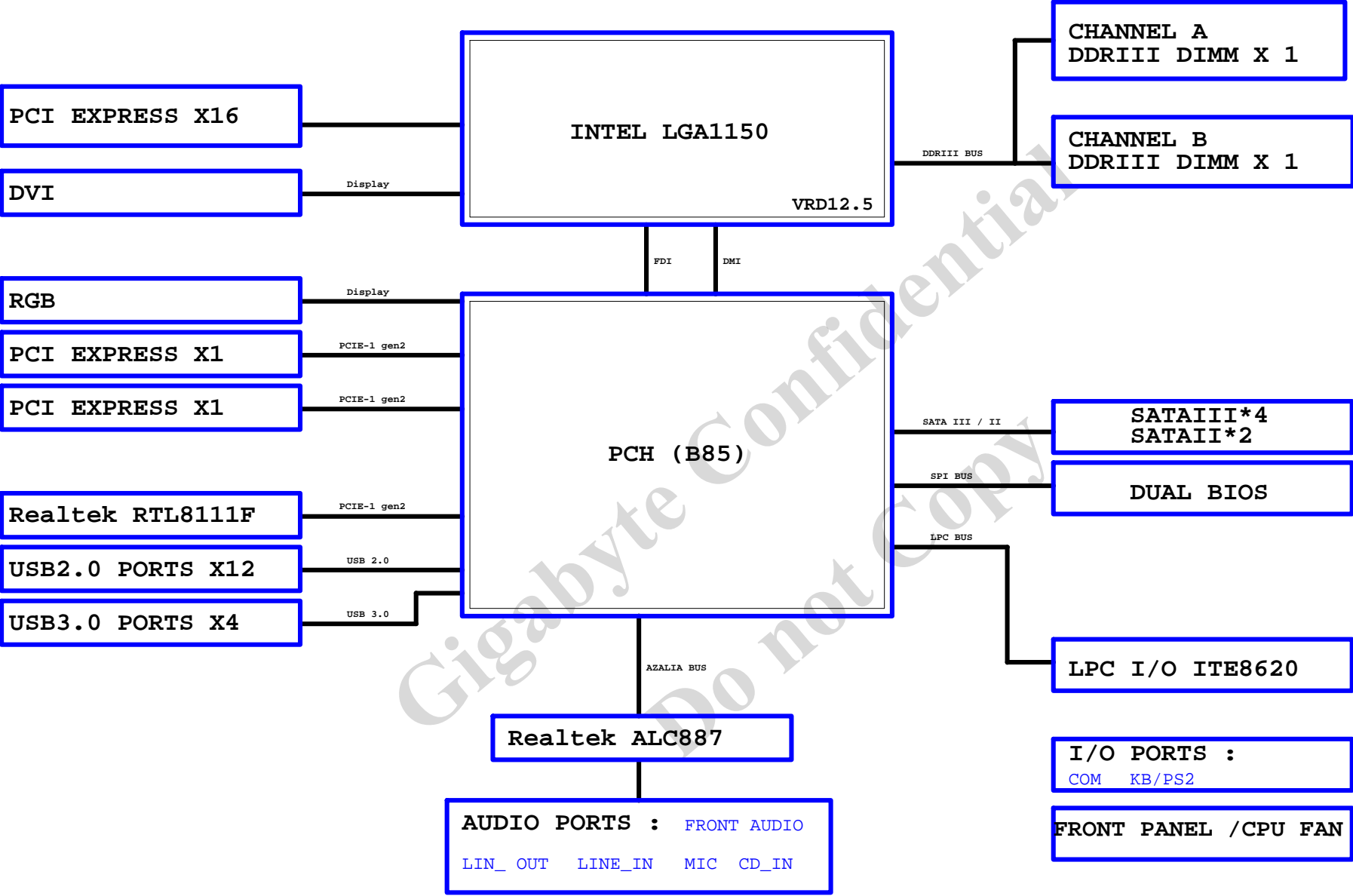
v:第二層是VCC

N:咖啡色

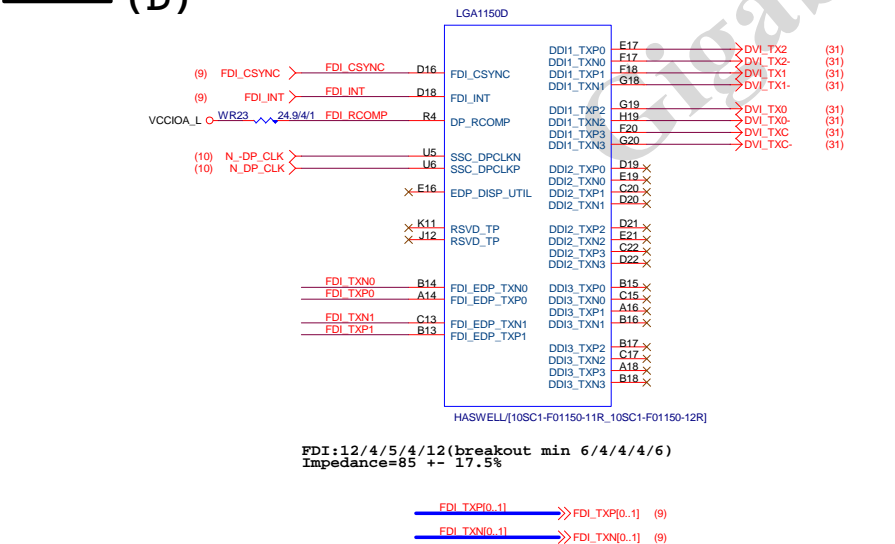
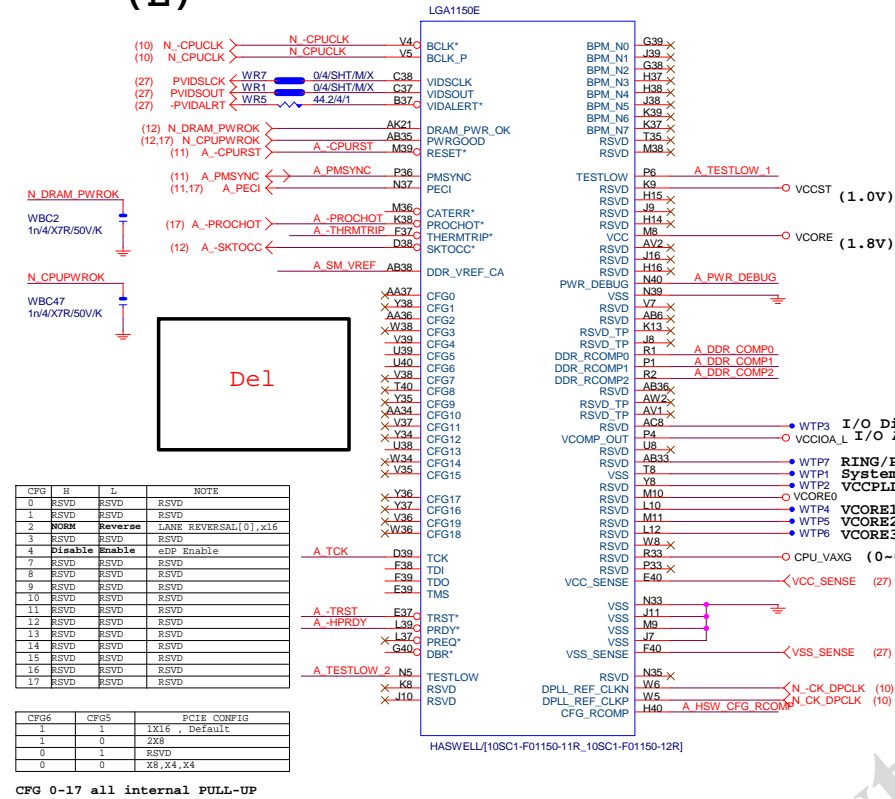
B:製程

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BOM & PCB MODIFY HISTORY			
Size Custom	Document Number	GA-B85M-D2V-SI	Rev 3.0
Date:	Tuesday, December 16, 2014	Sheet	2 of 33

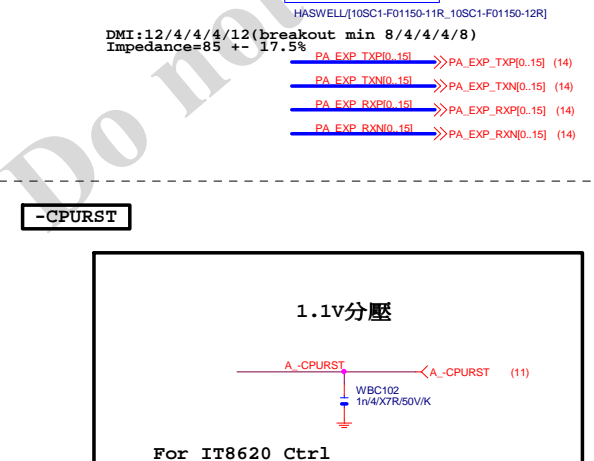
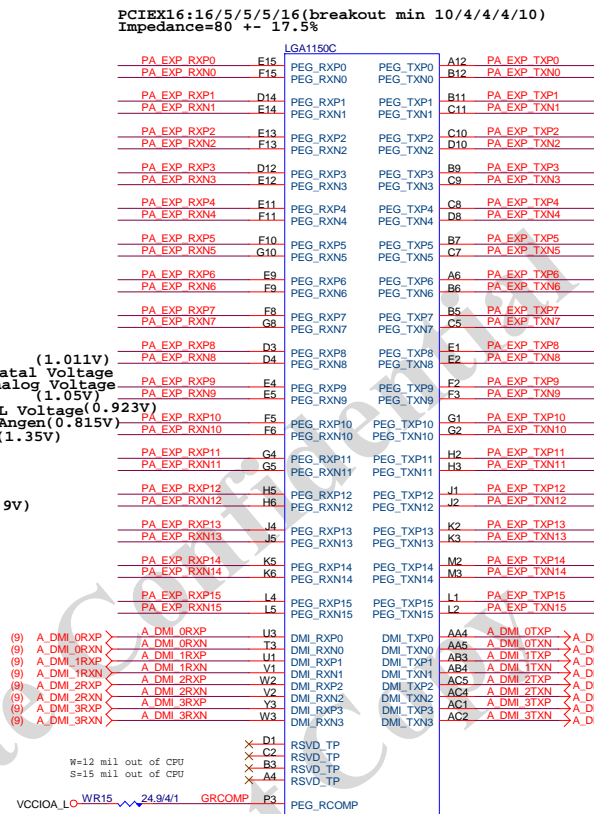
BLOCK DIAGRAM



LGA1150 (D)



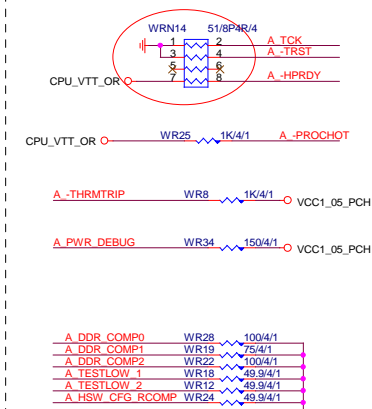
LGA1155 (C)



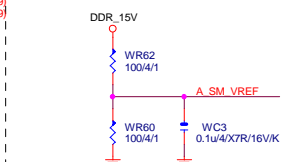
CPU SVID



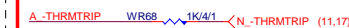
CPU PU/PD



SM REF



新增



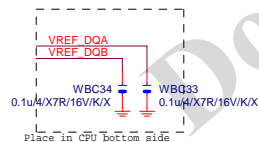
LGA1150 (A)

LGA1150A		DDR0_MA0	DDR0_D00	AD38	MDA0
MAAA0	AU13	DDR0_MA1	DDR0_D01	AD39	MDA1
MAAA1	AV16	DDR0_MA2	DDR0_D02	AF38	MDA2
MAAA2	AU16	DDR0_MA3	DDR0_D03	AF39	MDA3
MAAA3	AW17	DDR0_MA4	DDR0_D04	AD37	MDA4
MAAA4	AU17	DDR0_MA5	DDR0_D05	AD40	MDA5
MAAA5	AW18	DDR0_MA6	DDR0_D06	AE37	MDA6
MAAA6	AV17	DDR0_MA7	DDR0_D07	AF40	MDA7
MAAA7	AT18	DDR0_MA8	DDR0_D08	AH40	MDA9
MAAA8	AU18	DDR0_MA9	DDR0_D09	AH39	MDA10
MAAA9	AT19	DDR0_MA10	DDR0_D10	AK38	MDA11
MAAA10	AW11	DDR0_MA11	DDR0_D11	AK39	MDA12
MAAA11	AV19	DDR0_MA12	DDR0_D12	AH37	MDA13
MAAA12	AU19	DDR0_MA13	DDR0_D13	AH38	MDA14
MAAA13	AT20	DDR0_MA14	DDR0_D14	AK37	MDA15
MAAA14	AW21	DDR0_MA15	DDR0_D15	AK40	MDA16
MAAA15	AU21	DDR0_MA16	DDR0_D16	AM40	MDA17
MODT_A0	AW10	DDR0_ODT0	DDR0_D17	AM39	MDA21
MODT_A1	AY8	DDR0_ODT1	DDR0_D18	AP38	MDA18
AW9		DDR0_ODT2	DDR0_D19	AP39	MDA19
AW8		DDR0_ODT3	DDR0_D20	AM37	MDA20
AW33		DDR0_ECC0	DDR0_D21	AM38	MDA16
AW33		DDR0_ECC1	DDR0_D22	AP37	MDA22
AU31		DDR0_ECC2	DDR0_D23	AP40	MDA23
AW31		DDR0_ECC3	DDR0_D24	AW37	MDA29
AU33		DDR0_ECC4	DDR0_D25	AU35	MDA26
AT33		DDR0_ECC5	DDR0_D26	AW35	MDA27
AT31		DDR0_ECC6	DDR0_D27	T37	MDA28
AW31		DDR0_ECC7	DDR0_D28	AU37	MDA24
AW31			DDR0_D29	AT35	MDA30
AW31			DDR0_D30	AW35	MDA31
AW12			DDR0_D31	AY6	MDA33
AW12			DDR0_D32	AU6	MDA37
AW12			DDR0_D33	AW6	MDA36
AW12			DDR0_D34	AW4	MDA38
AW12			DDR0_D35	AW4	MDA39
AW12			DDR0_D36	AR1	MDA41
AW12			DDR0_D37	AR4	MDA45
AW12			DDR0_D38	AN3	MDA42
AW12			DDR0_D39	AN4	MDA43
AW12			DDR0_D40	AR2	MDA44
AW12			DDR0_D41	AR3	MDA40
AW12			DDR0_D42	AN2	MDA46
AW12			DDR0_D43	AN1	MDA47
AW12			DDR0_D44	AL1	MDA49
AW12			DDR0_D45	AL4	MDA53
AW12			DDR0_D46	AL4	MDA50
AW12			DDR0_D47	AJ4	MDA51
AW12			DDR0_D48	AL2	MDA52
AW12			DDR0_D49	AJ2	MDA48
AW12			DDR0_D50	AJ2	MDA54
AW12			DDR0_D51	AJ1	MDA55
AW12			DDR0_D52	AG1	MDA57
AW12			DDR0_D53	AG4	MDA61
AW12			DDR0_D54	AE3	MDA58
AW12			DDR0_D55	E4	MDA59
AW12			DDR0_D56	AG2	MDA60
AW12			DDR0_D57	AG3	MDA56
AW12			DDR0_D58	AE2	MDA62
AW12			DDR0_D59	AE1	MDA63
AW12			DDR0_D60	AE39	DQSA0
AW12			DDR0_D61	AJ39	DQSA1
AW12			DDR0_D62	AN39	DQSA2
AW12			DDR0_D63	AV36	DQSA3
AW12			DDR0_D64	AV5	DQSA4
AW12			DDR0_D65	AP3	DQSA5
AW12			DDR0_D66	AK3	DQSA6
AW12			DDR0_D67	AF3	DQSA7
AW12			DDR0_D68	AV32	DQSA0
AW12			DDR0_D69	AE38	DQSA1
AW12			DDR0_D70	AJ38	DQSA2
AW12			DDR0_D71	AN38	DQSA3
AW12			DDR0_D72	AJ36	DQSA4
AW12			DDR0_D73	AW5	DQSA5
AW12			DDR0_D74	AP2	DQSA6
AW12			DDR0_D75	AK2	DQSA7
AW12			DDR0_D76	AF2	DQSA7
AW12			DDR0_D77	AU32	DQSA7

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

LGA1150 (B)

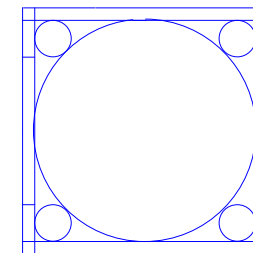
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MAAB1	AK23	DDR1_MA2	DDR1_D02	AG35	MDB2
MAAB2	AM22	DDR1_MA3	DDR1_D03	AH35	MDB3
MAAB3	AM23	DDR1_MA4	DDR1_D04	AD34	MDB4
MAAB4	AP23	DDR1_MA5	DDR1_D05	AD35	MDB5
MAAB5	AL23	DDR1_MA6	DDR1_D06	AG34	MDB6
MAAB6	AY24	DDR1_MA7	DDR1_D07	AH34	MDB7
MAAB7	AV25	DDR1_MA8	DDR1_D08	AL34	MDB8
MAAB8	AU26	DDR1_MA9	DDR1_D09	AL35	MDB9
MAAB9	AW25	DDR1_MA10	DDR1_D10	AK31	MDB10
MAAB10	AP18	DDR1_MA11	DDR1_D11	AL31	MDB11
MAAB11	AY25	DDR1_MA12	DDR1_D12	AK34	MDB12
MAAB12	AV26	DDR1_MA13	DDR1_D13	AK35	MDB13
MAAB13	AR15	DDR1_MA14	DDR1_D14	AK32	MDB14
MAAB14	AV27	DDR1_MA15	DDR1_D15	AL32	MDB15
MAAB15	AY28	DDR1_MA16	DDR1_D16	AP34	MDB17
MODT_B0	AM17	DDR1_ODT0	DDR1_D17	AP34	MDB21
MODT_B1	AL16	DDR1_ODT1	DDR1_D18	AK31	MDB19
AM16		DDR1_ODT2	DDR1_D19	AP31	MDB23
AK15		DDR1_ODT3	DDR1_D20	AP35	MDB20
AK15			DDR1_D21	AP35	MDB16
AK15			DDR1_D22	AK32	MDB18
AK15			DDR1_D23	AP32	MDB22
AK15			DDR1_D24	AM29	MDB25
AK15			DDR1_D25	AM28	MDB28
AK15			DDR1_D26	AR29	MDB27
AK15			DDR1_D27	AR28	MDB30
AK15			DDR1_D28	AL28	MDB29
AK15			DDR1_D29	AP29	MDB26
AK15			DDR1_D30	AP28	MDB31
AK15			DDR1_D31	AR12	MDB32
AK15			DDR1_D32	AP12	MDB33
AK15			DDR1_D33	AL13	MDB34
AK15			DDR1_D34	AL12	MDB35
AK15			DDR1_D35	AR13	MDB36
AK15			DDR1_D36	AP13	MDB37
AK15			DDR1_D37	AM13	MDB38
AK15			DDR1_D38	AM12	MDB39
AK15			DDR1_D39	AR9	MDB45
AK15			DDR1_D40	AP9	MDB41
AK15			DDR1_D41	AR6	MDB47
AK15			DDR1_D42	AP6	MDB43
AK15			DDR1_D43	AR10	MDB44
AK15			DDR1_D44	AP10	MDB40
AK15			DDR1_D45	AR7	MDB46
AK15			DDR1_D46	AP7	MDB42
AK15			DDR1_D47	AM9	MDB52
AK15			DDR1_D48	AL9	MDB53
AK15			DDR1_D49	AL6	MDB50
AK15			DDR1_D50	AL7	MDB55
AK15			DDR1_D51	AM10	MDB48
AK15			DDR1_D52	AL10	MDB49
AK15			DDR1_D53	AM6	MDB54
AK15			DDR1_D54	AM7	MDB51
AK15			DDR1_D55	AH6	MDB61
AK15			DDR1_D56	AH7	MDB60
AK15			DDR1_D57	AE6	MDB59
AK15			DDR1_D58	AE7	MDB63
AK15			DDR1_D59	AJ6	MDB56
AK15			DDR1_D60	AJ7	MDB57
AK15			DDR1_D61	AG6	MDB58
AK15			DDR1_D62	AF7	MDB62
AK15			DDR1_D63	AF35	DQSB0
AK15			DDR1_D64	AL33	DQSB1
AK15			DDR1_D65	AN28	DQSB2
AK15			DDR1_D66	AN28	DQSB3
AK15			DDR1_D67	AN12	DQSB4
AK15			DDR1_D68	AP8	DQSB5
AK15			DDR1_D69	AL8	DQSB6
AK15			DDR1_D70	AG7	DQSB7
AK15			DDR1_D71	AN25	DQSB0
AK15			DDR1_D72	AE34	DQSB0
AK15			DDR1_D73	AK33	DQSB1
AK15			DDR1_D74	AN33	DQSB2
AK15			DDR1_D75	AN29	DQSB3
AK15			DDR1_D76	AL13	DQSB4
AK15			DDR1_D77	AR8	DQSB5
AK15			DDR1_D78	AM8	DQSB6
AK15			DDR1_D79	AG6	DQSB7
AK15			DDR1_D80	AN26	DQSB7



未上件

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

LGA1150 (CR)

CR
CPU RETENTION/X

LGA1150



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

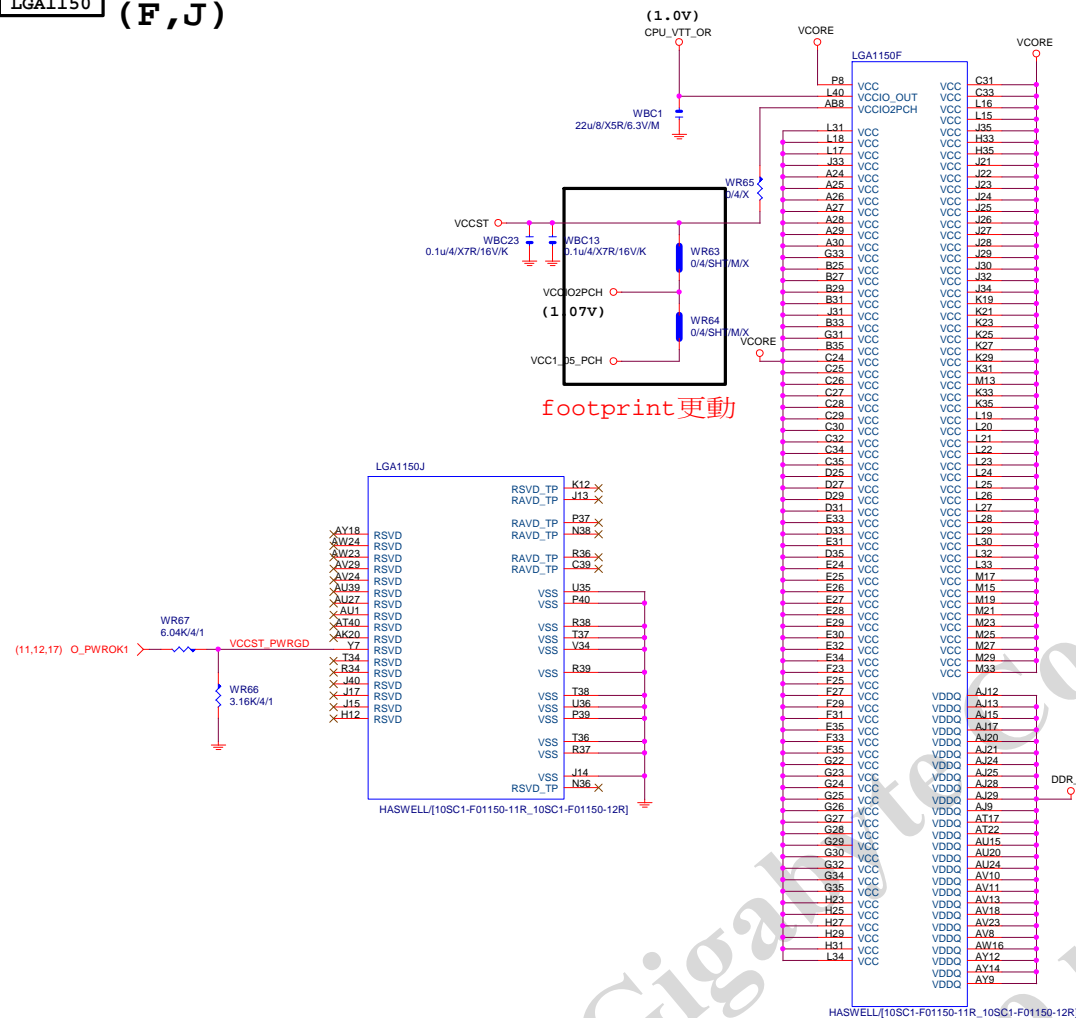
DDR BUS

(7)	MODT_A[0..1]	MODT_A10..11
(8)	MODT_B[0..1]	MODT_B10..11
(7)	MDA[0..63]	MDA10..63
(8)	MDB[0..63]	MDB10..63
(7)	DQSA[0..7]	DQSA10..71
(7)	DQSA[0..7]	DQSA10..71
(7)	MAAA[0..15]	MAAA10..15
(8)	MAAB[0..15]	MAAB10..15
(8)	DQSB[0..7]	DQSB10..71
(8)	DQSB[0..7]	DQSB10..71

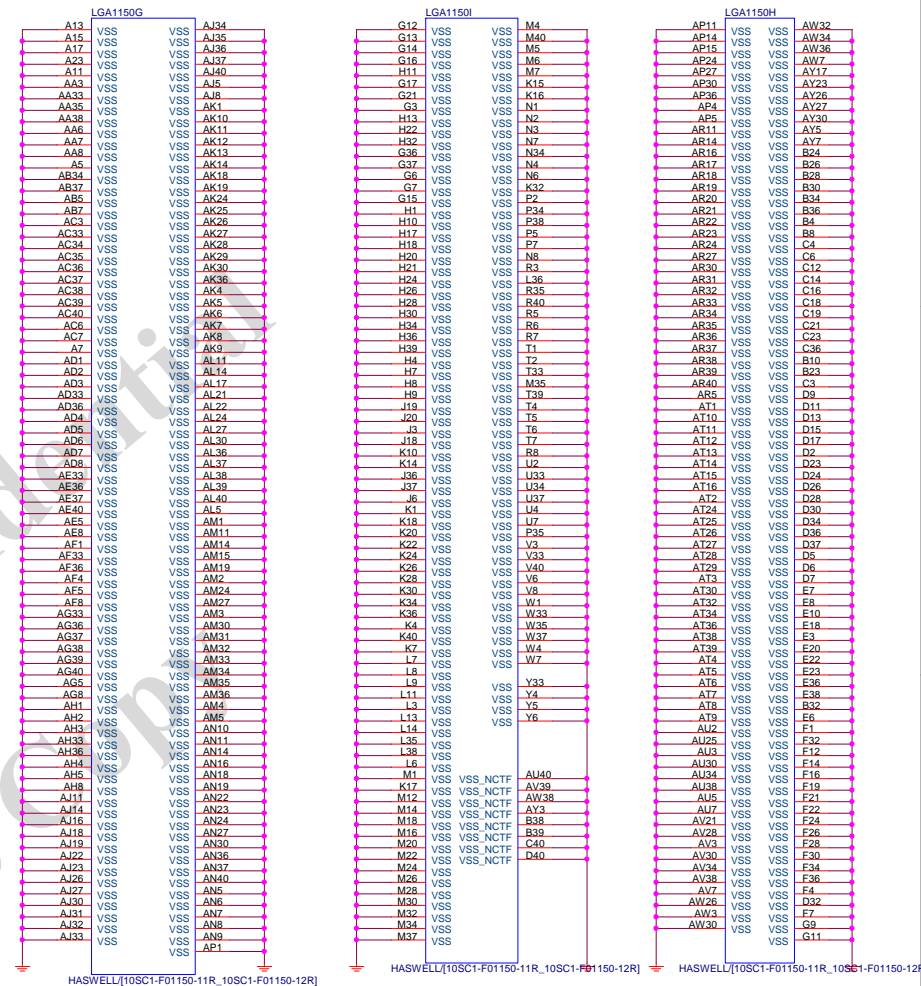
Gigabyte Technology

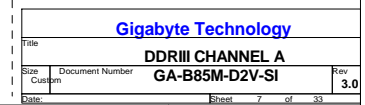
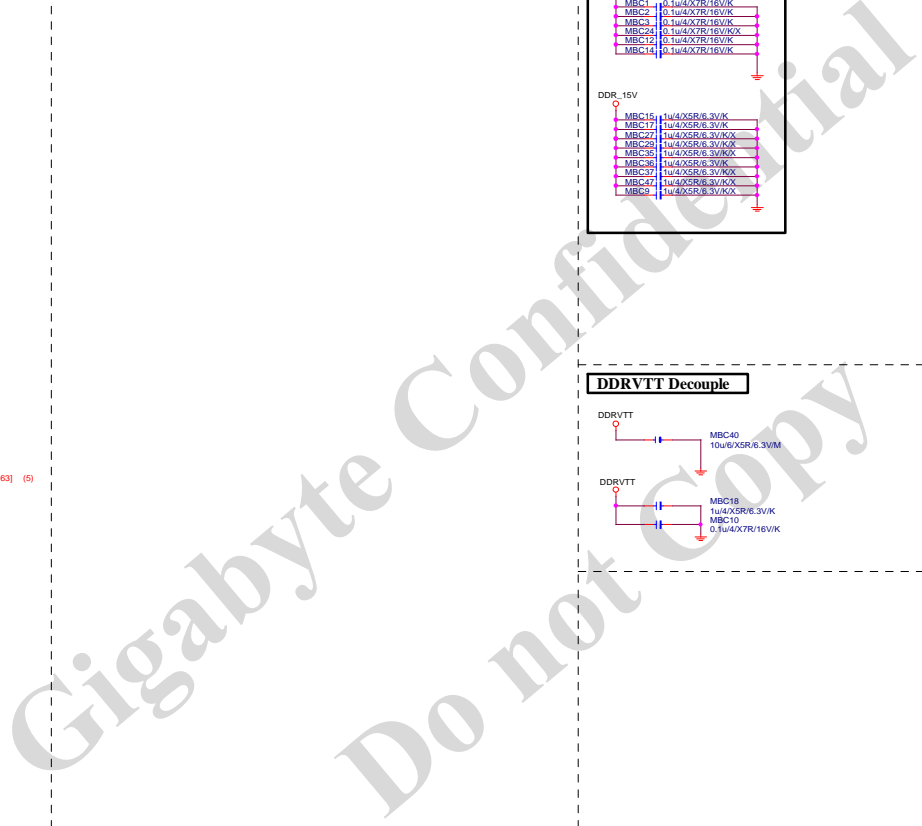
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Size				GA-B85M-D2V-SI	
Date:				Rev 3.0	
Tuesday, December 16, 2014				Sheet 5 of 33	

LGA1150 (F,J)

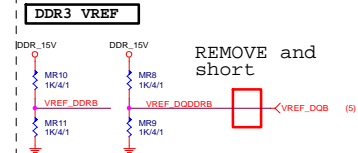
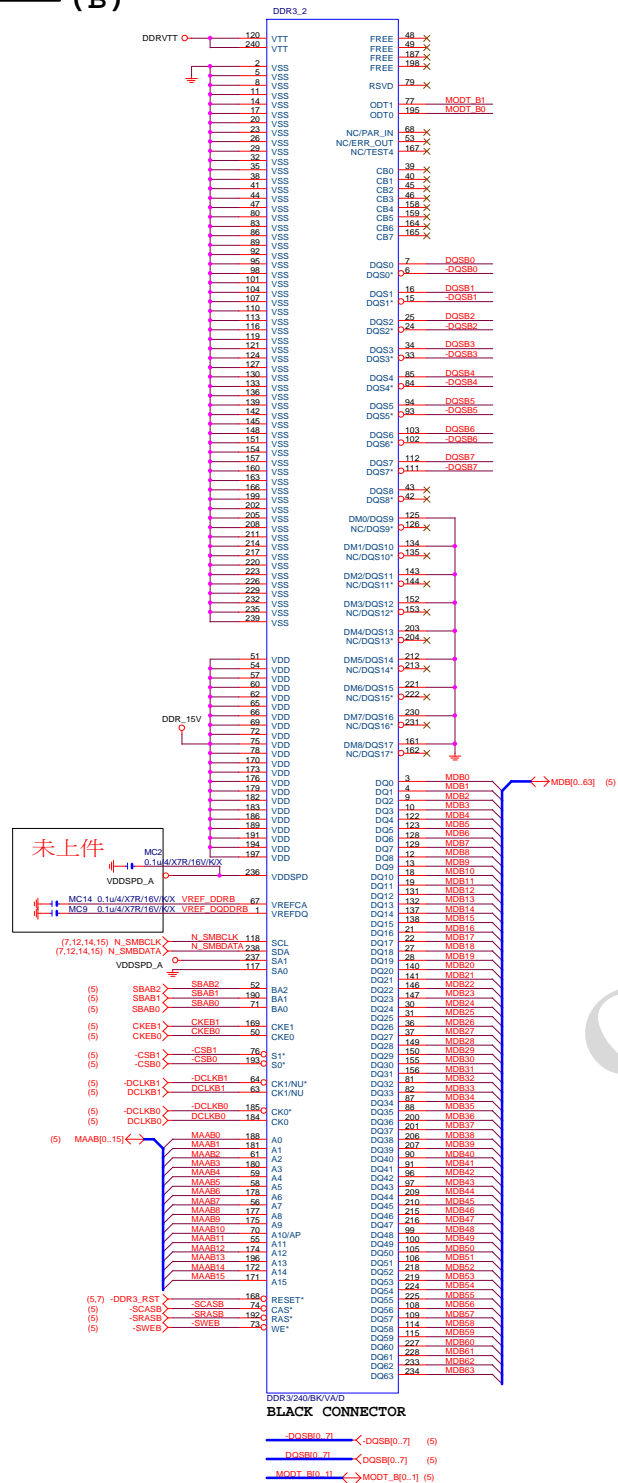


LGA1155 (G,H,I)

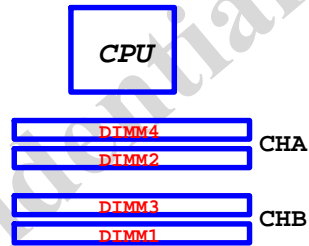
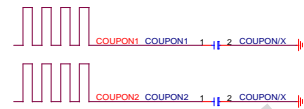




(B)



COUPON



PCH

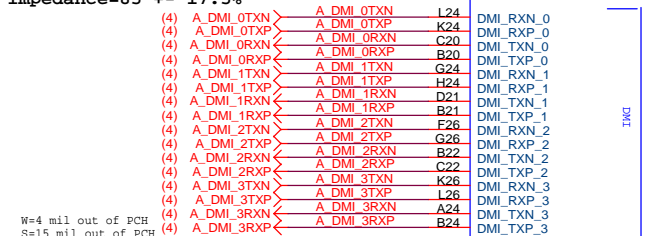
(B)

DMI:12/4/4/4/12(breakout min 8/4/4/4/8)
Impedance=85 +/- 17.5%USB2.0 : 12/4.5/7.5/4.5/12 (breakout min 8/4/4/4/8)
Impedance=90 +/- 17.5%

PCHB

B85: Port 6/7 N/A

H81: Port 6/7/12/13 N/A

W=4 mil out of PCH
S=15 mil out of PCH

VCC1_5_PCH

(10) CK_SRCCLK_PCH
(10) CK_SRCLK_PCH

PCIE Only

8111G

PCIEx1

(24) LA_ML_IN
(24) LA_ML_IP
(24) LA_ML_ON
(24) LA_ML_OP(15) PL_PCIE1_IN
(15) PL_PCIE1_IP
(15) PL_PCIE1_ON
(15) PL_PCIE1_OP
(15) PJ_PCIE1_IN
(15) PJ_PCIE1_IP
(15) PJ_PCIE1_ON
(15) PJ_PCIE1_OP

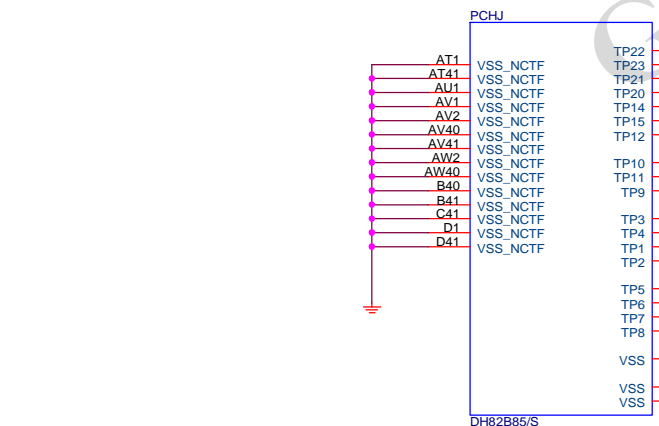
N/A

放靠近 Device & PCI-E Slot
Impedance=80 +/- 17.5%

PCIEX1:16/5/5/5/16 (breakout min 8/4/4/4/8)

PCH

(J)

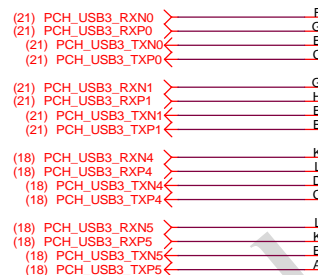


PCHJ

DH82B85/S

PCH

(F)



PCHF

USB3

FDILINK

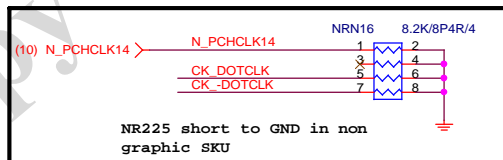
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USB3_RXP_0
USB3_TXN_0
USB3_TXP_0FDI_RXN_0
FDI_RXP_0
FDI_RXN_1
FDI_RXP_1USB3_RXN_1
USB3_RXP_1
USB3_TXN_1
USB3_TXP_1FDI_CSXNC
FDI_INT
FDI_RCOMPUSB3_RXN_4
USB3_RXP_4
USB3_TXN_4
USB3_TXP_4FDI_CSXNC
FDI_INT
FDI_RCOMPUSB3_RXN_5
USB3_RXP_5
USB3_TXN_5
USB3_TXP_5FDI_CSXNC
FDI_INT
FDI_RCOMPTACH6_GP70
TACH7_GP71FDI_TXP0_11
FDI_TXN0_11

DH82B85/S

FDI_TXP0_11
FDI_TXN0_11FDI_TXP0_11
FDI_TXN0_11FDI_TXP0_11
FDI_TXN0_11FDI_TXP0_11
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FDI_TXN0_11

PCH CLK PD

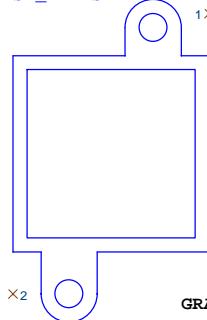
新增

N_USBOC_F1
NBC84
0.1u/4/X7R/16V/K

PCH H/S

LOW COST ICH7 HEATSINK

SB_HEATSINK



X2

GRAY HS

PCH_HS
PCH_HS[12SP2-030005-51R_12SP2-030005-52R_12SP2-030005-53R]

USB TABLE

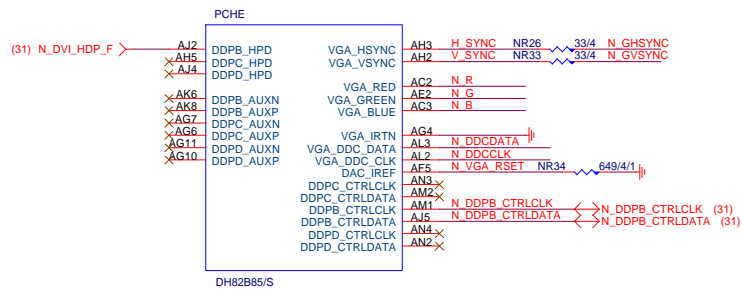
OC[3:0]# for Device 29 (ports 0-7)
OC[7:4]# for Device 26 (ports 8-13)

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

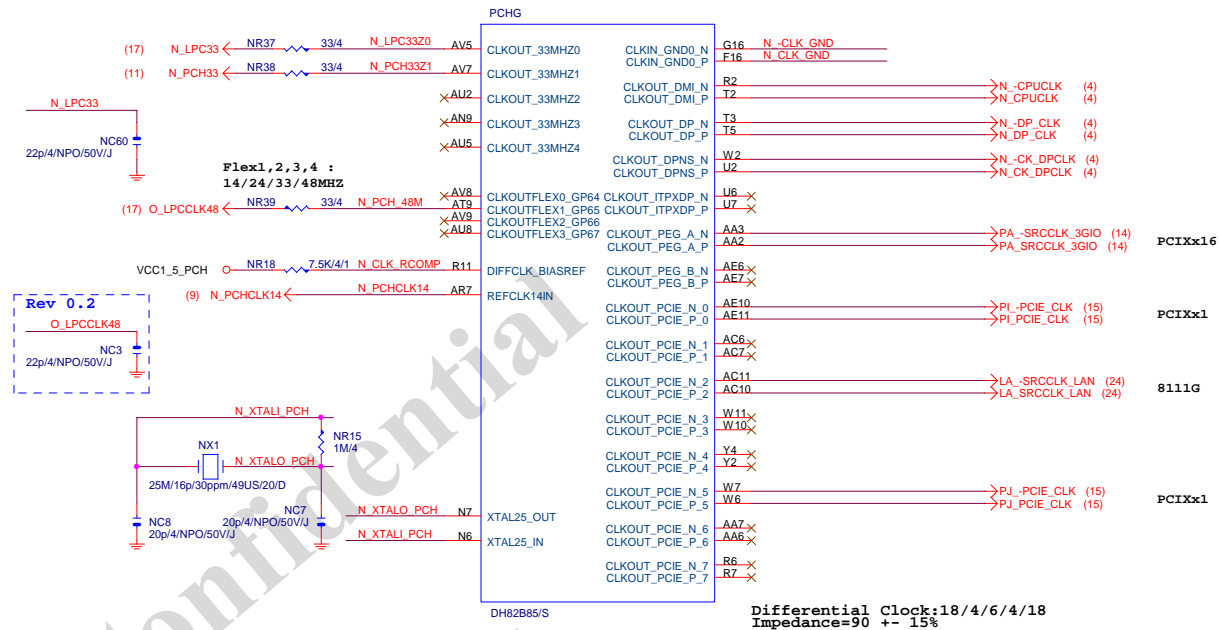
Gigabyte Technology

Title	PCH FDI,DMI,USB,PCIE,NVRAM	Rev	3.0
Size	Document Number	GA-B85M-D2V-SI	
Date:	Tuesday, December 16, 2014	Sheet	9 of 33

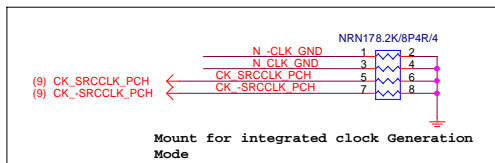
PCH (E)



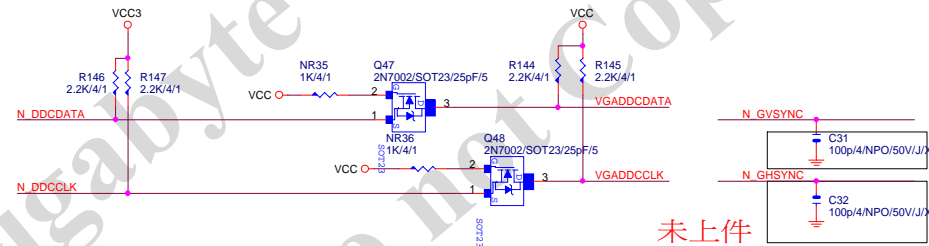
PCH (G)



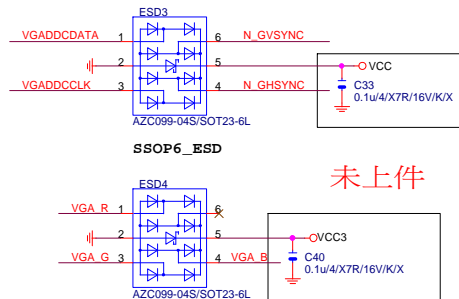
PCH CLK PD



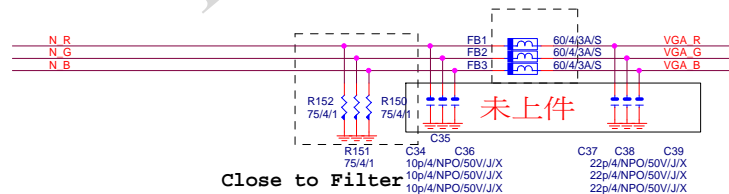
VGA DDC



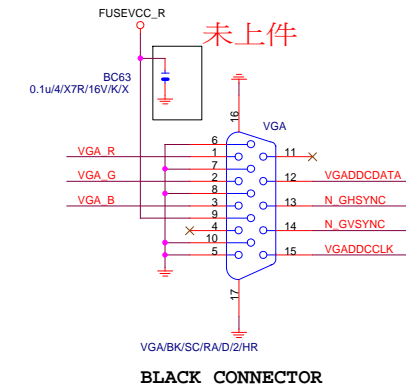
VGA ESD



VGA DDC

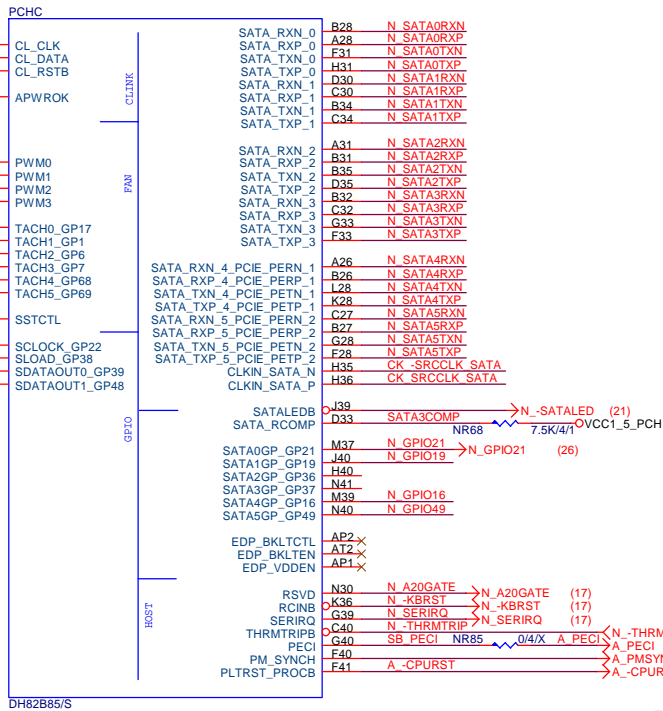


VGA CONNECTOR

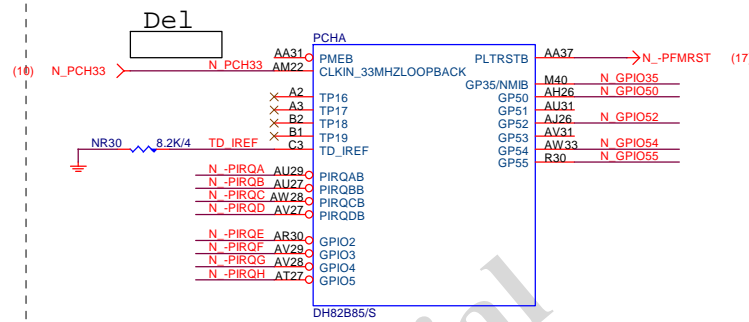


PCH (C)

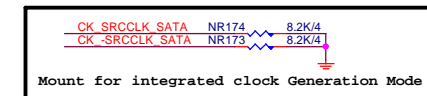
SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%



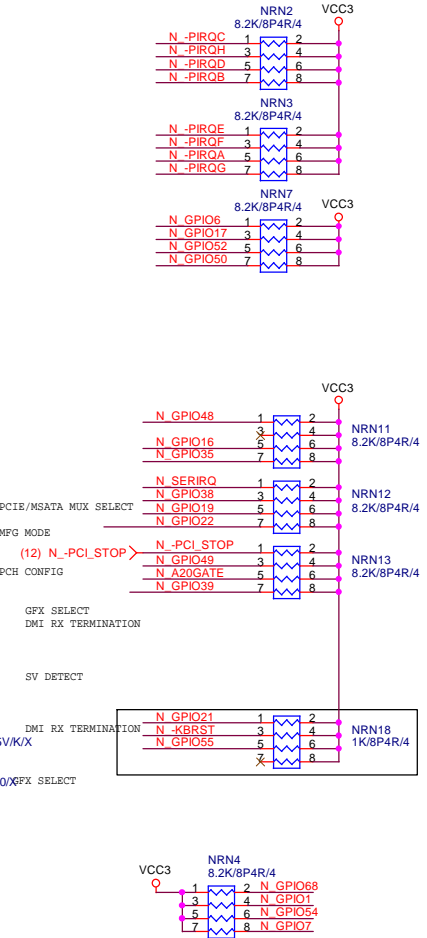
PCH (A)



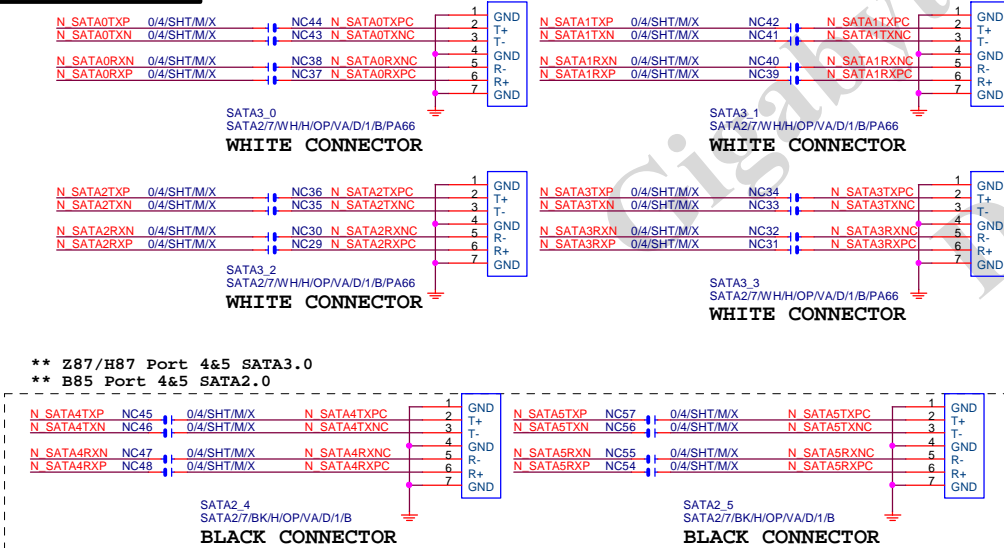
PCH CLK PD



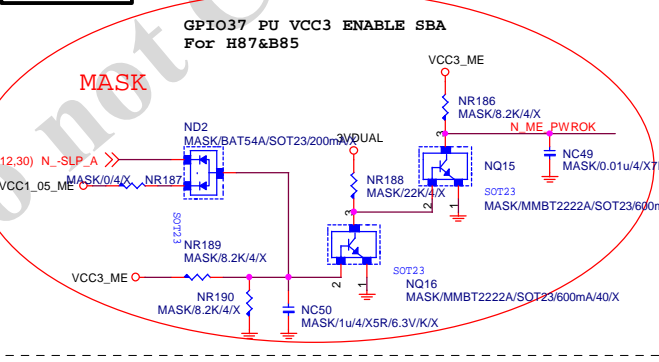
PCH PU/PD



SATA CONNECTOR



ME PWROK



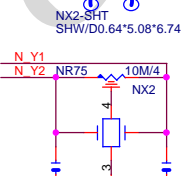
(D)



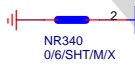
HSW STRAP13

REMOVE

32.768KHZ



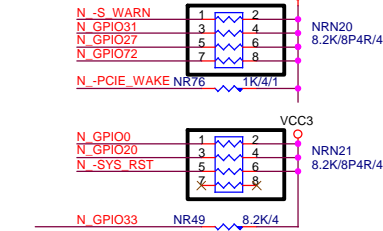
CLR CMOS



ACZ SDOUT



PCH	PU/PD
-----	-------



Pin 1-8 connections for the NRN24 component:

- Pin 1: N_PCH_TCK
- Pin 2: S14/1
- Pin 3: N_GPIO18
- Pin 4: NRN24
- Pin 5: N_GPIO73
- Pin 6: 8.2K/8P4/R4
- Pin 7: N_GPIO26
- Pin 8: N_GPIO25

Pin 9-10 connections for the NC59 component:

- Pin 9: N_SYS_RST
- Pin 10: 1n4/X/R/50V/K
- Pin 11: N_DRAM_PWROK
- Pin 12: NC59
- Pin 13: 1n4/X/R/50V/K

The diagram shows two components, NRN6 and NRN25, with their pin connections. NRN6 is labeled '8.2K/8P4R/4' and has pins 1 through 8. Pins 1, 3, 5, and 7 are connected to a 3VDUAL supply. Pins 2, 4, 6, and 8 are connected to various signals: N_LPCPME, N_GPIO6, N_PCH_HOT, N_SML0CLK, and N_SML0DAT. NRN25 is labeled '1K/8P4R/4' and has pins 1 through 8. Pins 1, 3, 5, and 7 are connected to various signals: N_SML1DAT, N_SMLTCLK, N_SMBCLK, and N_SMBDATA. Pin 2 is connected to N_SML1DAT, pin 4 to N_SMLTCLK, pin 6 to N_SMBCLK, and pin 8 to N_SMBDATA.

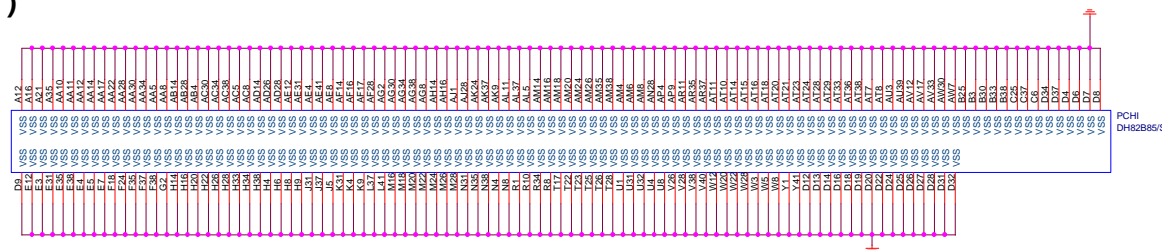
Gigabyte Technology

PCH GPIO , CTRL , AUDIO

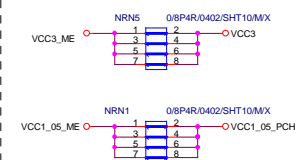
Size Custom	Document Number GA-B85M-D2V-SI	Rev 3.0
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Date: Tuesday, December 16, 2014 Sheet 12 of 33

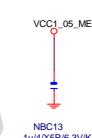
PCH (I)



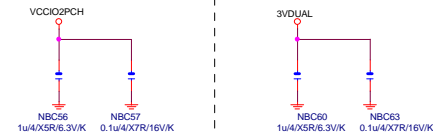
SHT PWR



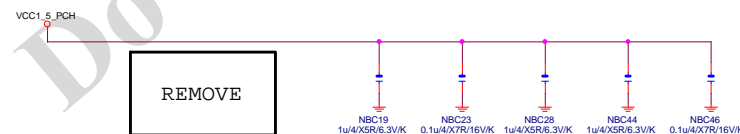
(1.05V) (x5)



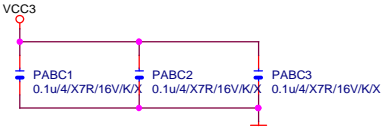
► $(1.05V)(x2) \quad (3.3V)(x2)$



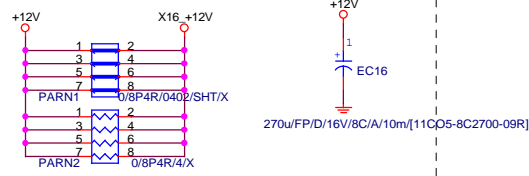
REMOVE



PCIEX16 CAP



PCIEX16 PROTECT SHT



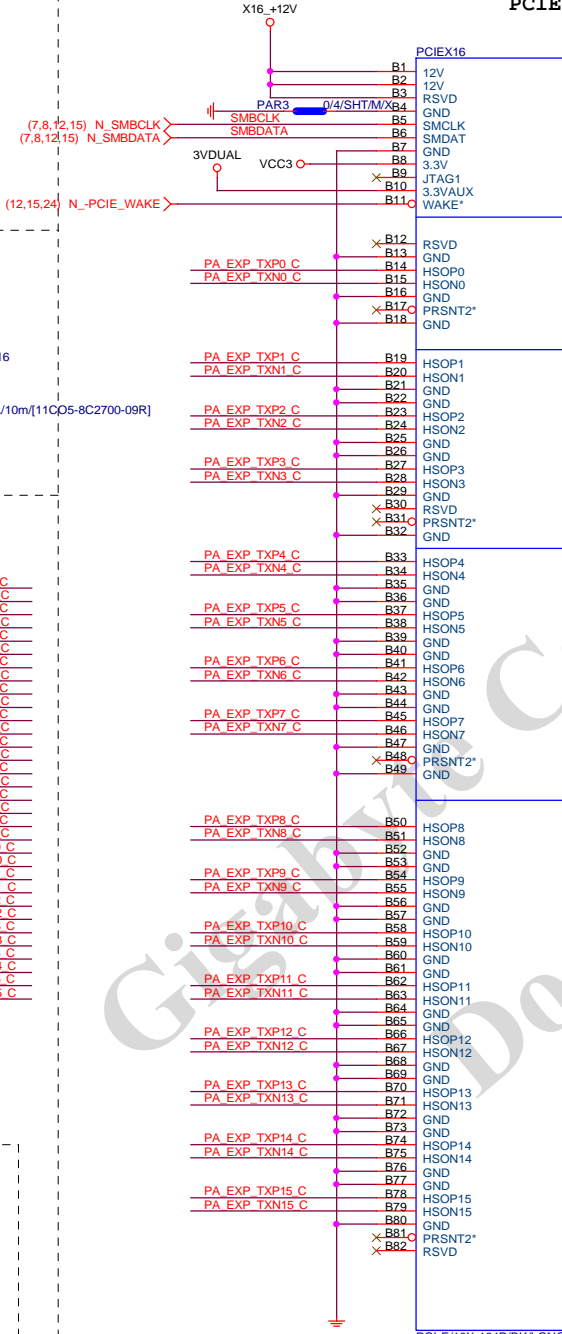
PCIEX16 AC CAP

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

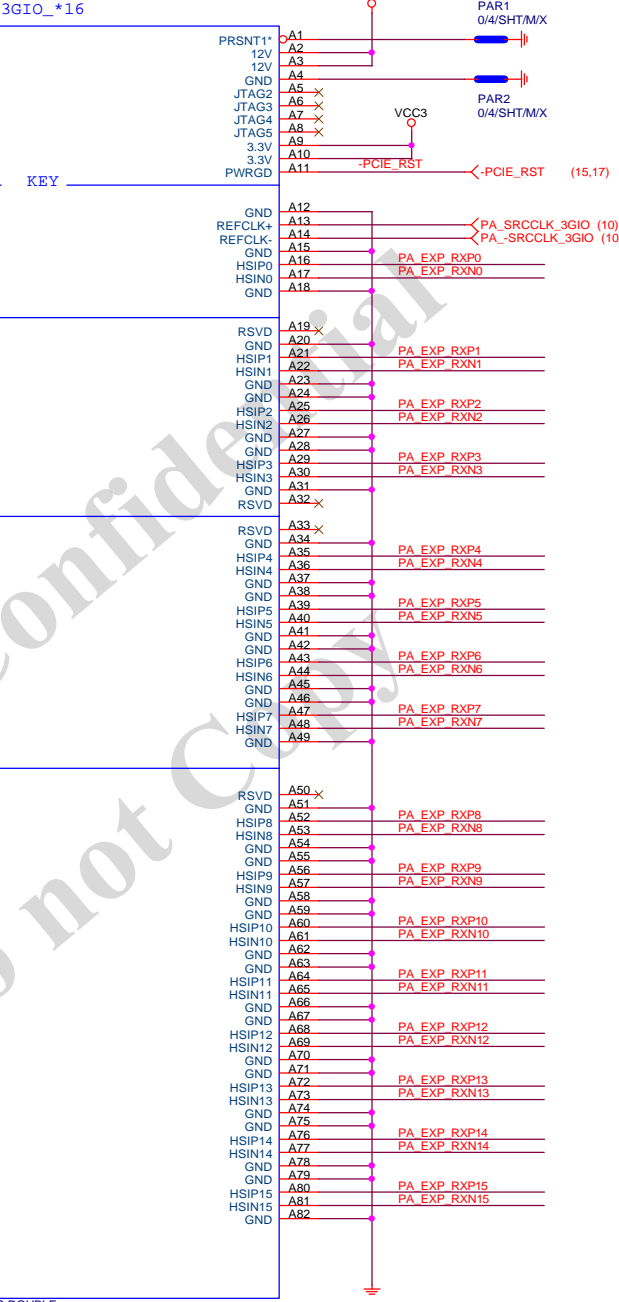
PA EXP RXP0.[15] >>> PA_EXP_RXP[0..15] (4)
 PA EXP RXN0.[15] >>> PA_EXP_RXN[0..15] (4)
 PA EXP TXP0.[15] >>> PA_EXP_TXP[0..15] (4)
 PA EXP TXN0.[15] >>> PA_EXP_TXN[0..15] (4)

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

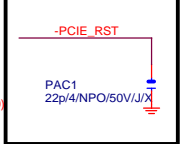
PCIEX16 SLOT



PCIESLOT-164DN-P



未上件



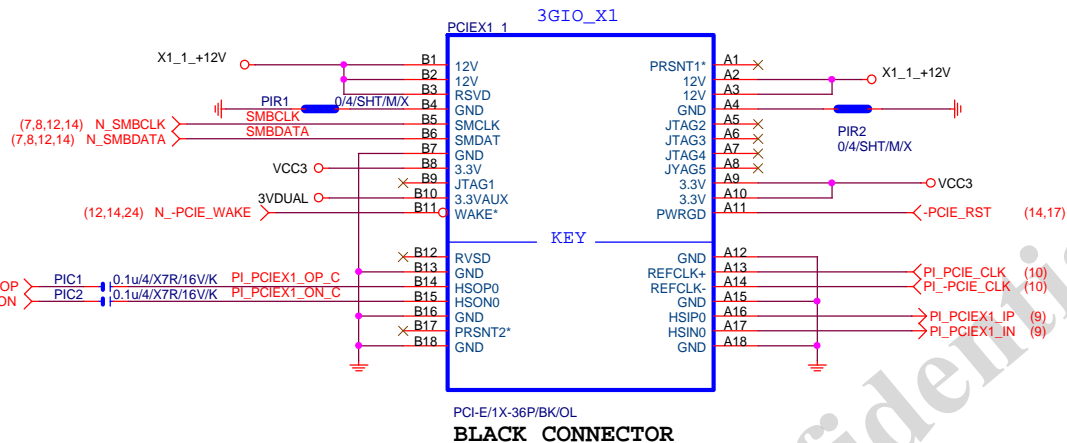
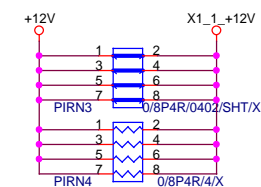
PCI-E/16X-164P/BK/LONG DOUBLE

BLACK CONNECTOR

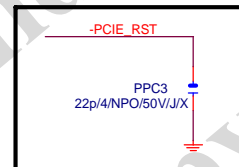
Gigabyte Technology

Title			PCI EXPRESS * 16	
Size			GA-B85M-D2V-SI	
Custom			Rev 3.0	
Date:		Tuesday, December 16, 2014	Sheet 14	of 33

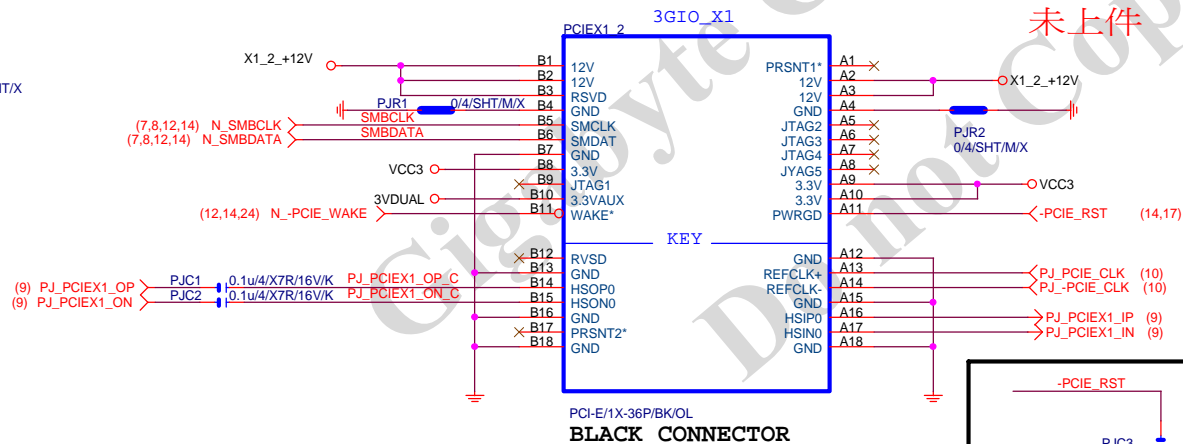
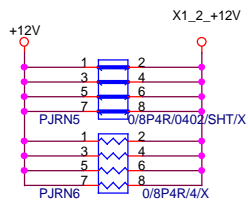
PCIEX1 SLOT



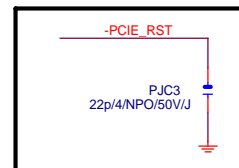
PCI-E1X-36P/BK/OL
BLACK CONNECTOR



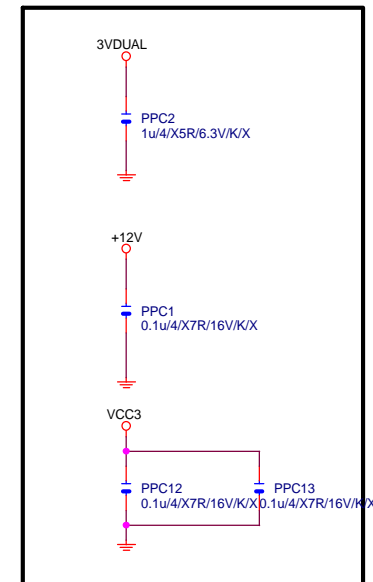
未上件



PCI-E1X-36P/BK/OL
BLACK CONNECTOR



未上件



未上件

Gigabyte Technology

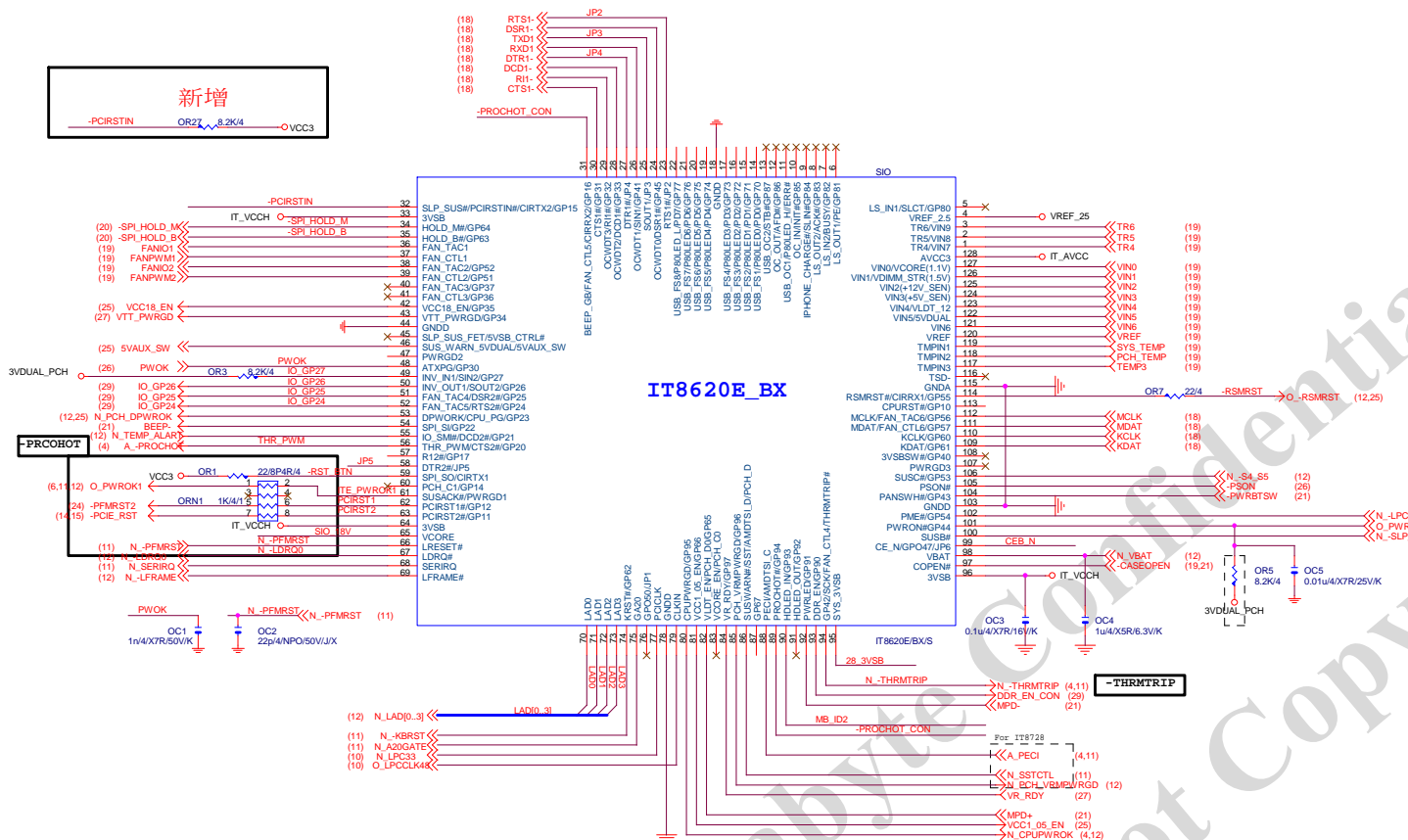
PCI EXPRESS X 1 PORT

Title	Document Number	Rev
	GA-B85M-D2V-SI	3.0
Date:	Tuesday, December 16, 2014	Sheet 15 of 33

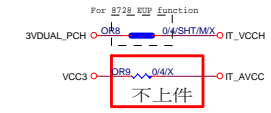
Gigabyte Confidential
Do not Copy

Gigabyte Technology		
Title		
PCI SLOT 1&2		
Size	Document Number	Rev
Custom	GA-B85M-D2V-SI	3.0
Date:	Tuesday, December 16, 2014	Sheet 16 of 33

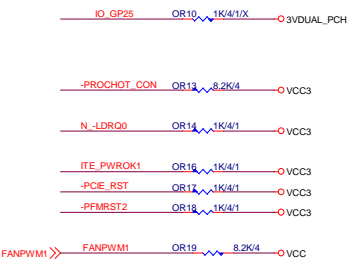
SIO IT8620



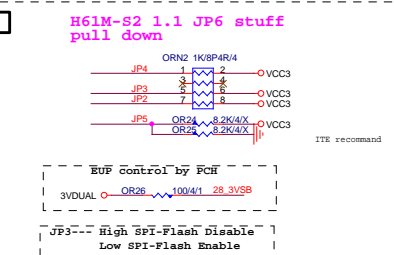
PWR SHT



SIO PU



SIO STRAP



Power leakage



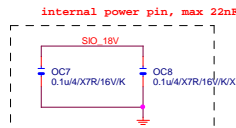
MB ID



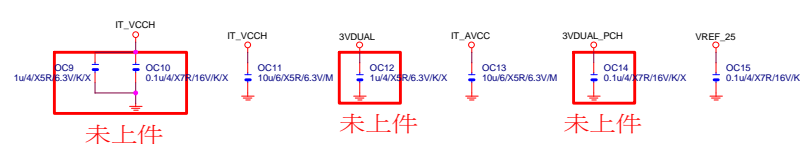
DUAL BIOS OPT STRAP



SIO_18V

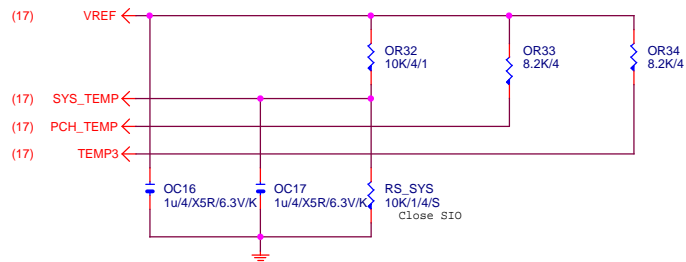


SIO CAP

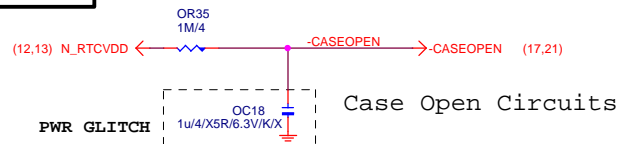


Gigabyte Technology			
PCH GPIO , CTRL , AUDIO			
Size C	Document Number	GA-B85M-D2V-SI	
Date:	Tuesday, December 16, 2014	Sheet	17 of 33

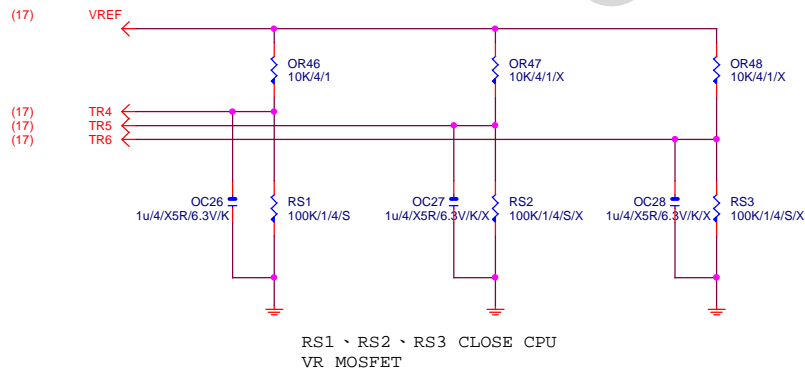
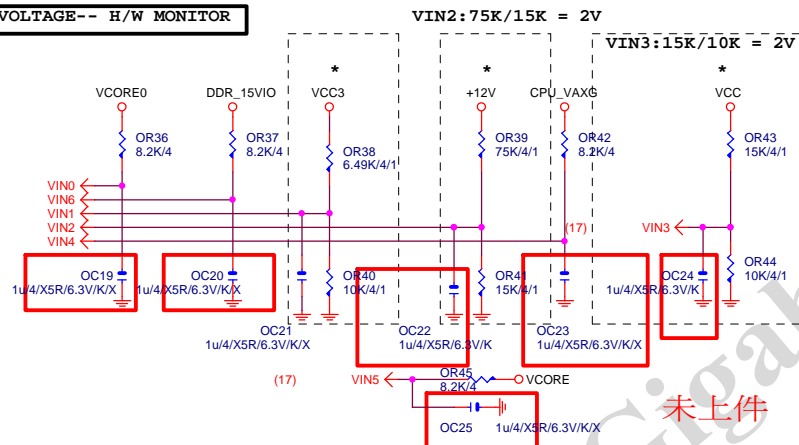
TEMP H/W MONITOR



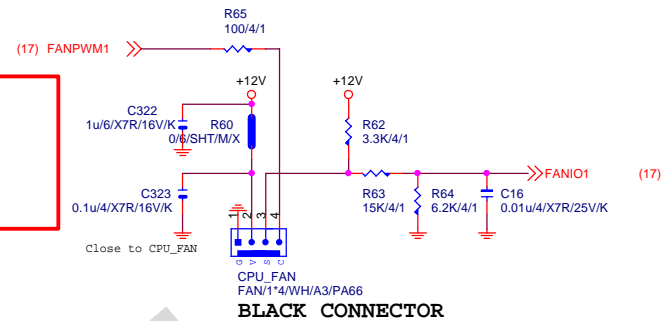
CASE OPEN



VOLTAGE-- H/W MONITOR



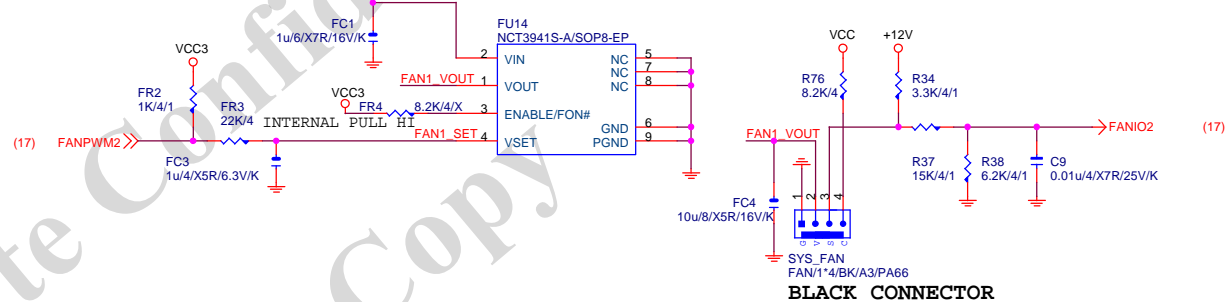
CPU SMART FAN



SYS SMART FAN

Linear SYS_FAN

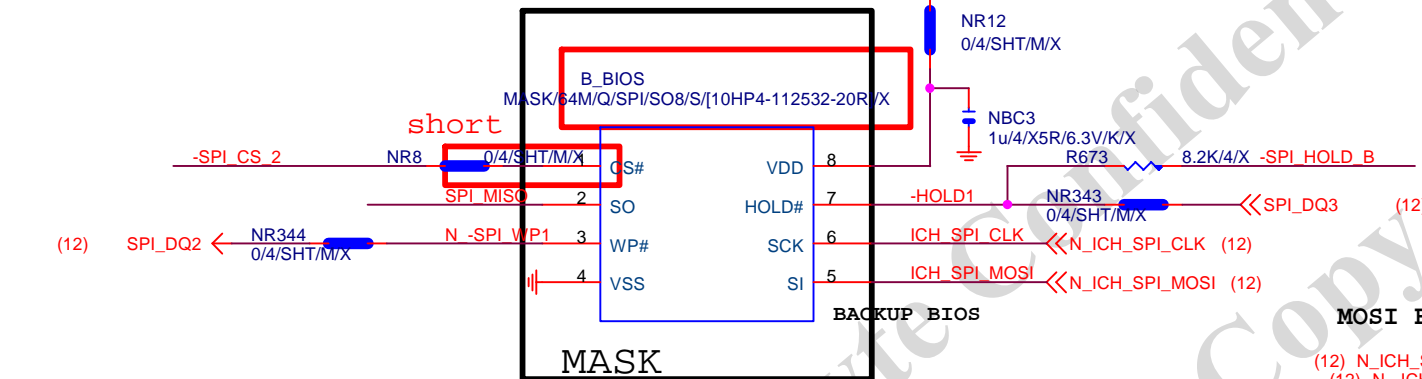
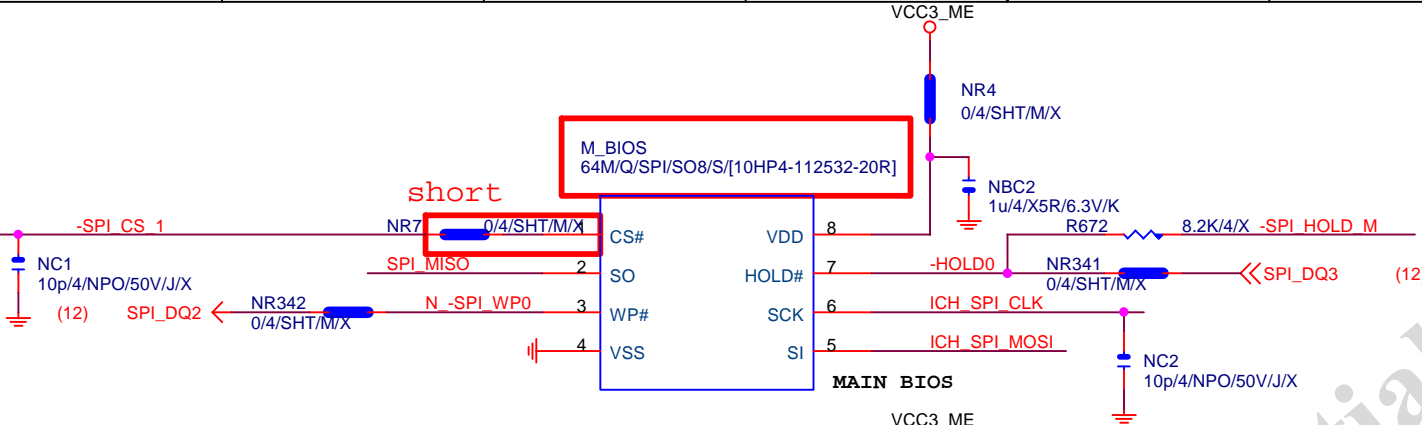
Enable Function (NCT3941S)
Full Turn On Function
(NCT3941S-A)



PROHOT

Gigabyte Technology

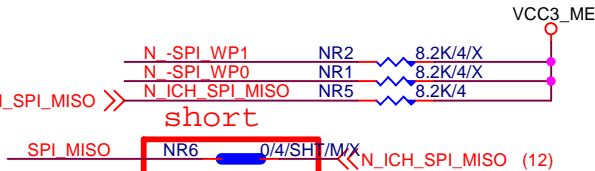
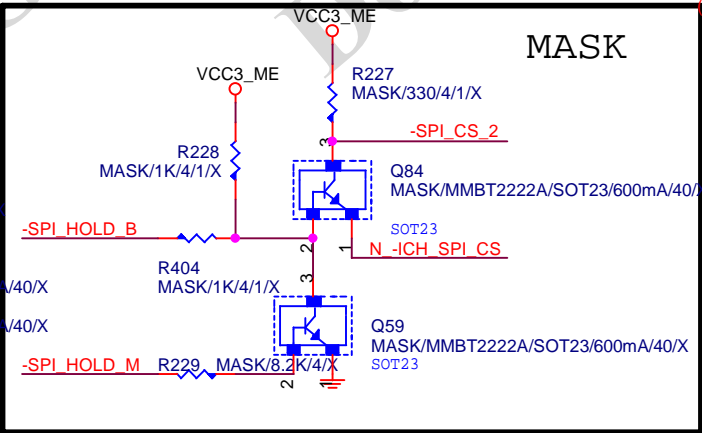
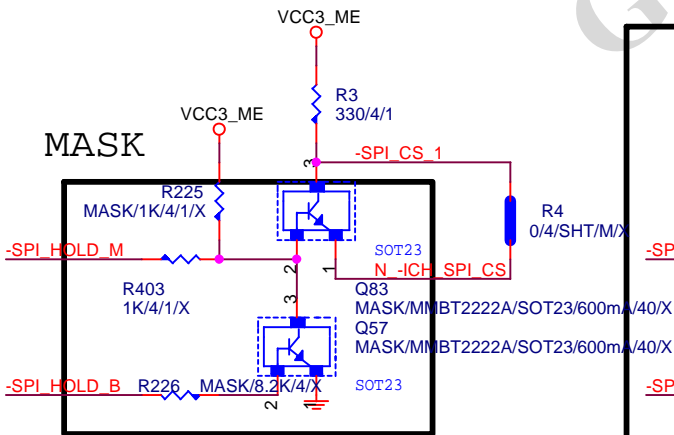
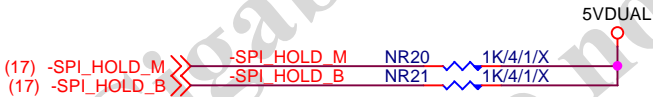
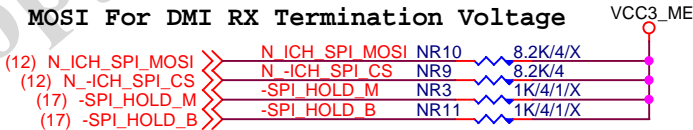
Title			HWM,FAN CTRL,OV
Size	Document Number	GA-B85M-D2V-SI	
Custom		Rev 3.0	
Date:	Tuesday, December 16, 2014	Sheet	19 of 33



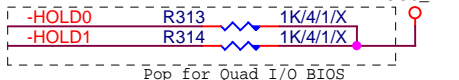
BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

1 means floating
0 means PD 1K

MOSI For DMI RX Termination Voltage



CHECK



Gigabyte Technology

DUAL BIOS

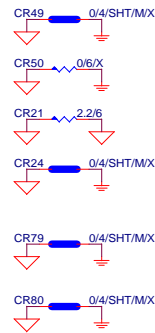
GA-B85M-D2V-SI

Rev 3.0

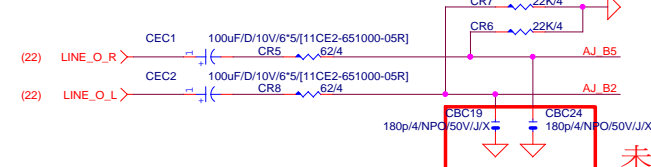
ALC892/ALC887-VD2/VT1708-CE Colay



ALC892/ALC887-VD2/VT1708-CE Colay



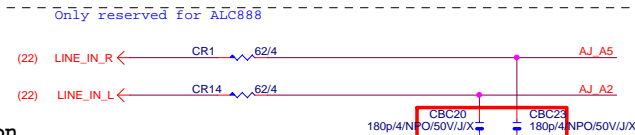
LINE-OUT



未上件

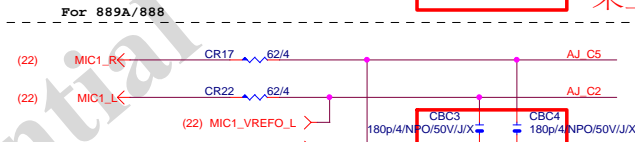
LINE-IN

Verify MIC function
in LINE-in



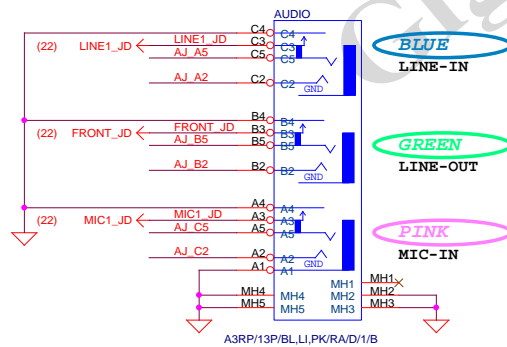
未上件

MIC-IN

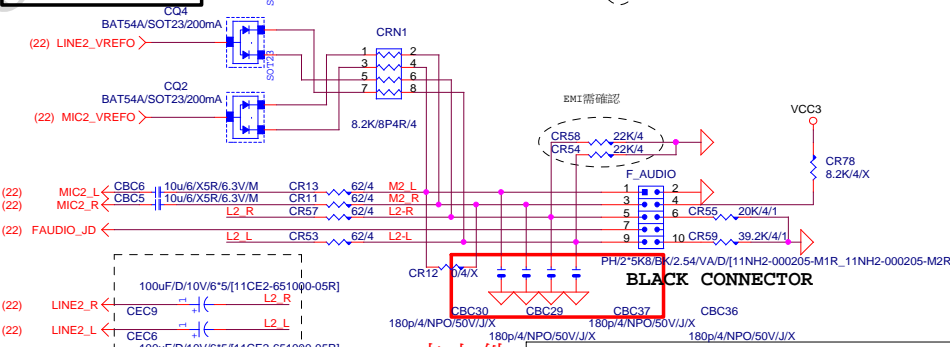


未上件

SPDIF_OUT



AZALIA FRONT PANEL

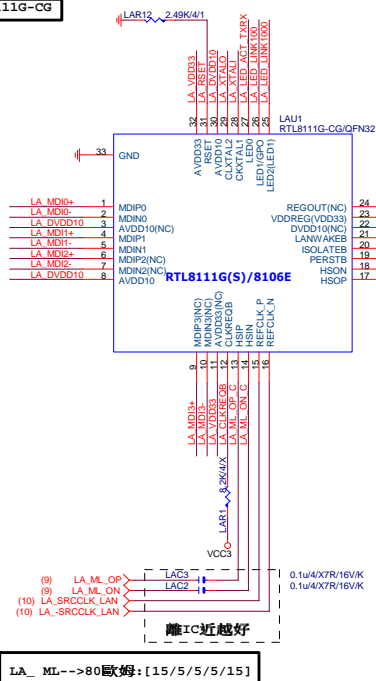


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Gigabyte Technology

Title			AUDIO JACK
Size			GA-B85M-D2V-SI
Date			Tuesday, December 16, 2014
Sheet			23 of 33

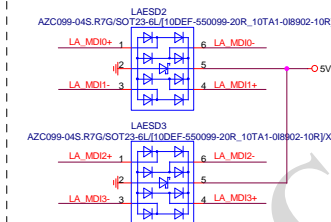
LAN RTL8111G-CG



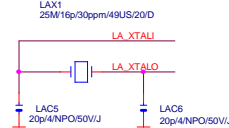
SRCCLK-->50歐姆:[18/4/10/4/18]

LA_ML-->80歐姆:[15/5/5/15]

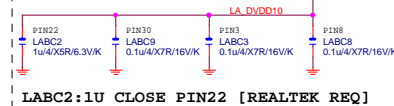
MDI ESD預留28KV *



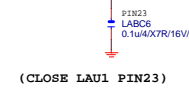
LAN POWER



(CLOSE LAU1 PIN22,30,3,8)



(CLOSE LAU1 PIN23)



(CLOSE LAU1 PIN:11,32)



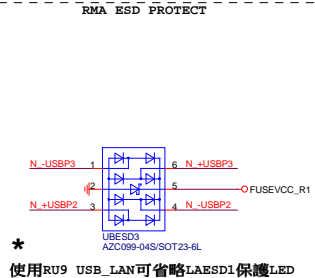
NOTE:
RT8106E:PIN3,11,22,24-->NC
LABC2LABC3,LABC5,LABC18,LABC27-->N/A

BOM NOTICE *

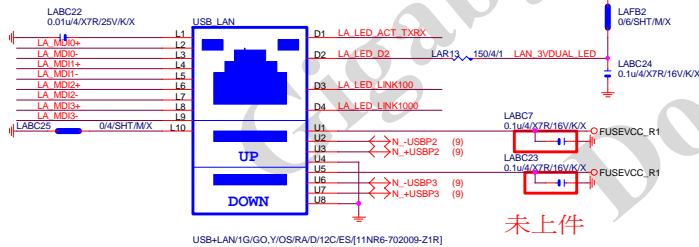
料號 規格 廠商
11NR6-702009-96R 1G LAN (12core) UDE(RU9 ESD+)
[LED獨立走線,可省略外加AZC099料件LAESD1]

1. 9KV ESD BOM:
USB_LAN (RU9):11NR6-702009-96R
2. 28KV ESD BOM:
USB_LAN (RU9):11NR6-702009-96R
LAESD2,LAESD3:上件AZC398-04S

USB LAN CONNECTOR



LA_MDI-->100歐姆:[20/4/8/4/20]



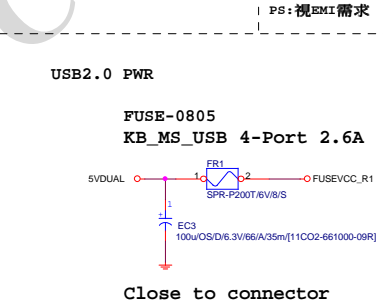
注意:USB PORT(目前:暫代6,7PORT)
USB-->90歐姆:[15/4.5/7.5/4.5/15]

BOM NOTICE *

料號 規格 廠商
11NR6-702009-96R 1G LAN (12core) UDE(RU9 ESD+)
[LED獨立走線,可省略外加AZC099料件LAESD1]

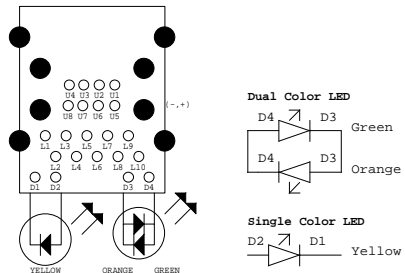
1. 9KV ESD BOM:
USB_LAN (RU9):11NR6-702009-96R
2. 28KV ESD BOM:
USB_LAN (RU9):11NR6-702009-96R
LAESD2,LAESD3:上件AZC398-04S

USB X3 POWER

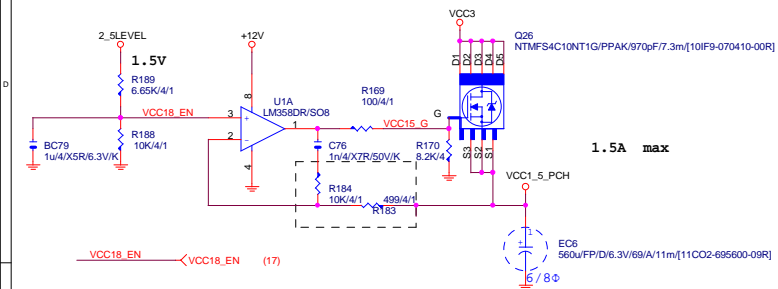


EMI SHORT PAD

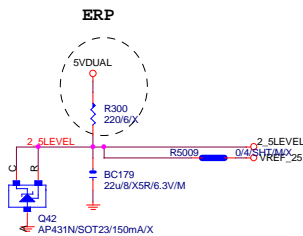
PS:視EMI需求



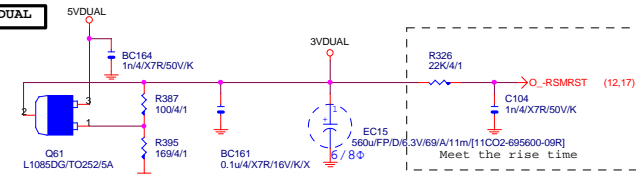
VCC1_5_PCH



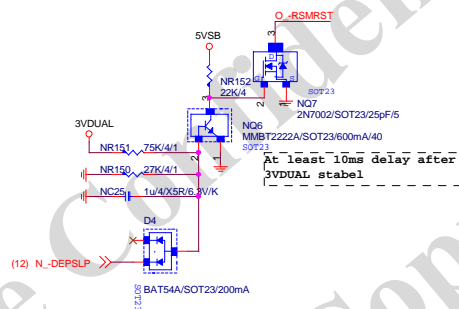
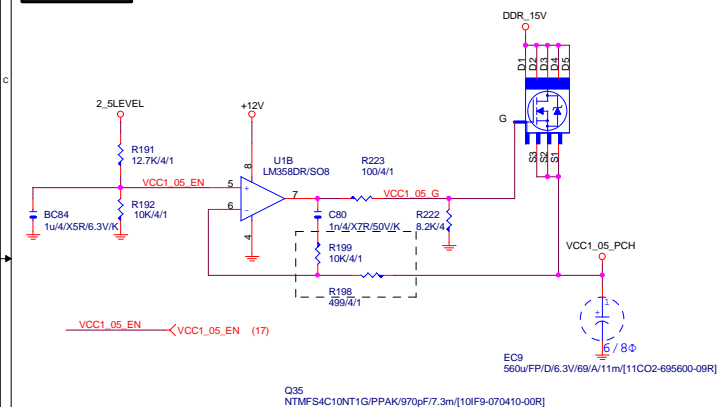
2_5LEVEL



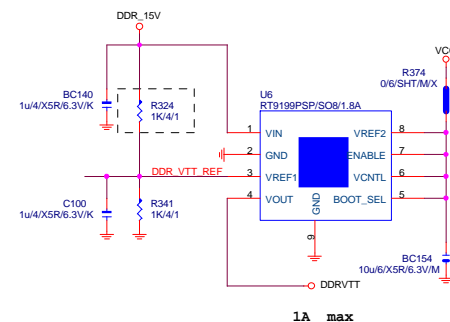
3VDUAL



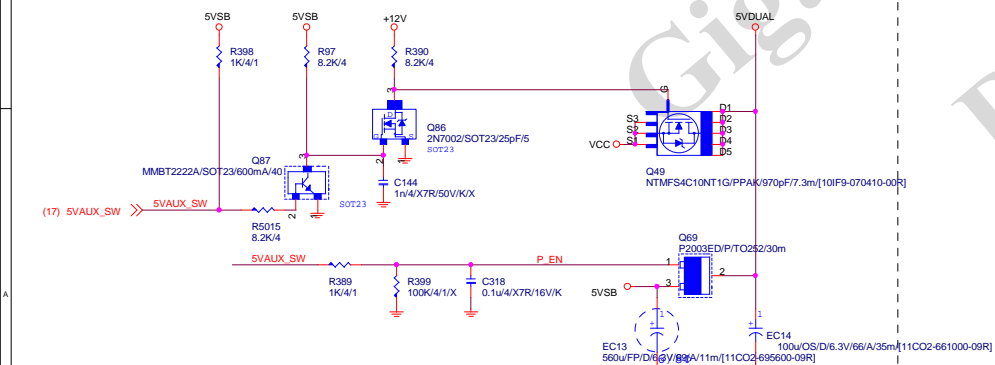
VCC1_05_PCH



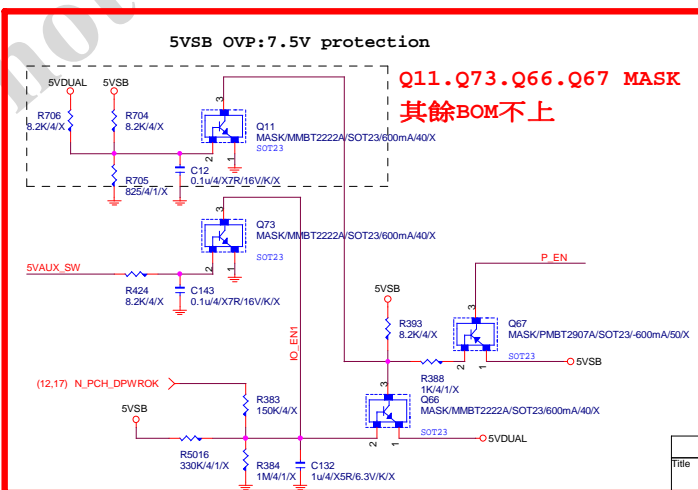
DDRVTT



5VDUAL

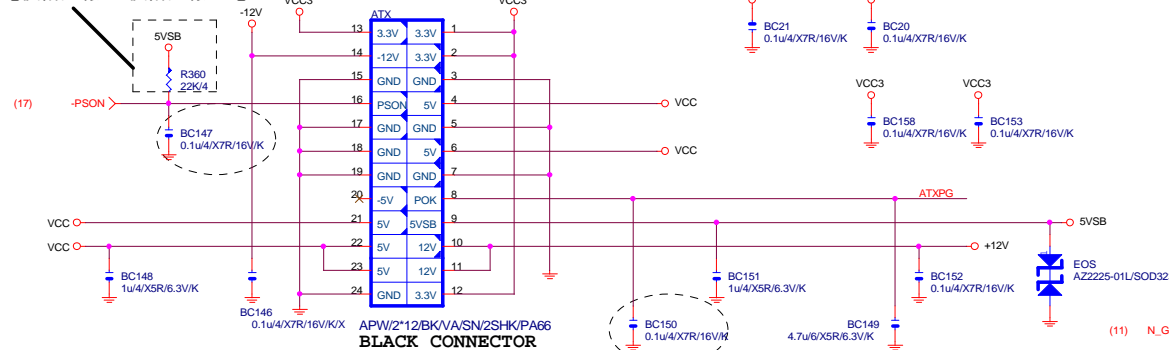


5VDUAL SHORT PROTECT

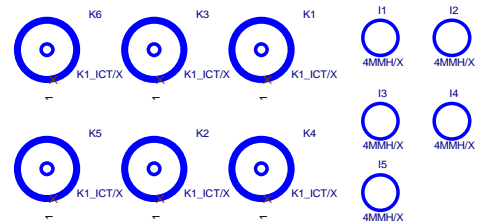
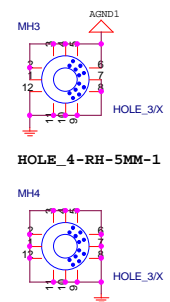
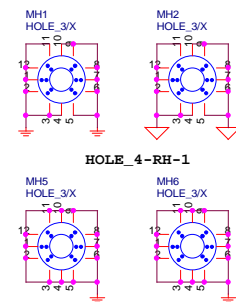


ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】



BLACK CONNECTOR

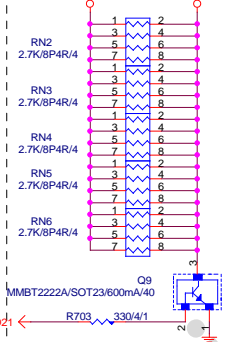


To prevent the 5VSB under loading when boot

TPM

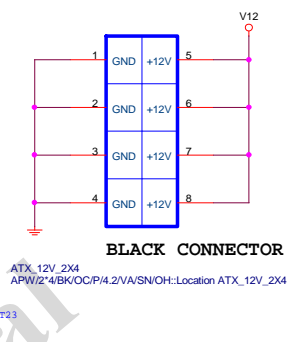
【技術通報R&D技術通報158】

To fix 12V light load abnormality issue



ATXX4 POWER CONNECTOR

To fix 12V light load abnormality issue

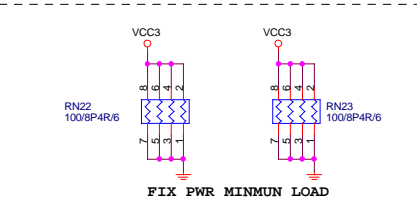
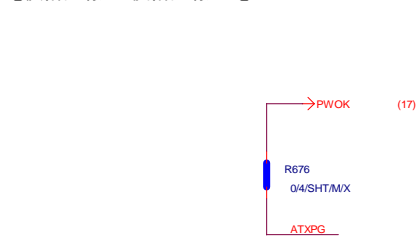


BLACK CONNECTOR

ATXX 12V 2X4
APW/2 4BK/OC/P/4.2V/A/SN/OH: Location ATXX_12V_2X4

PWOK PATCH

【技術通報R&D技術通報154】



FIX PWR MINMUN LOAD

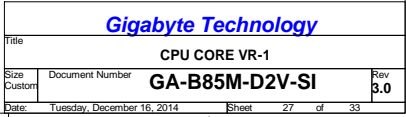
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ATX CONNECTOR

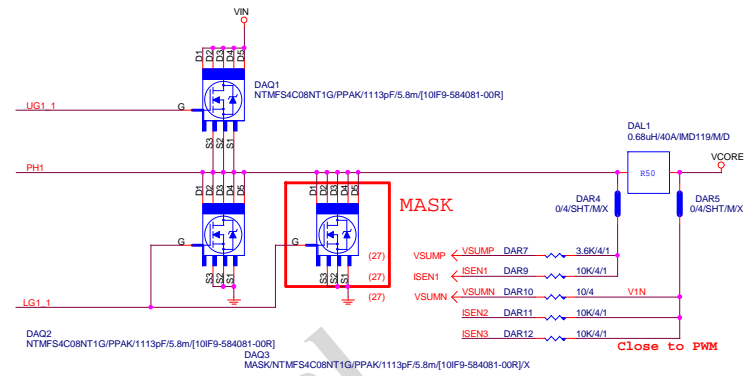
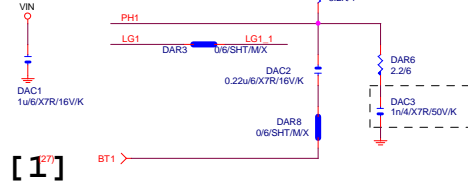
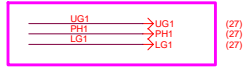
GA-B85M-D2V-SI

Rev 3.0

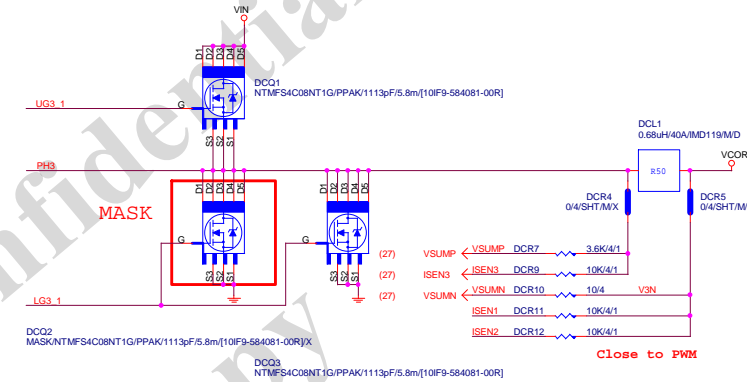
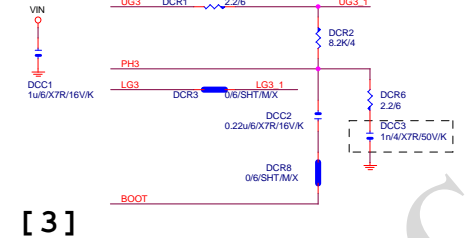
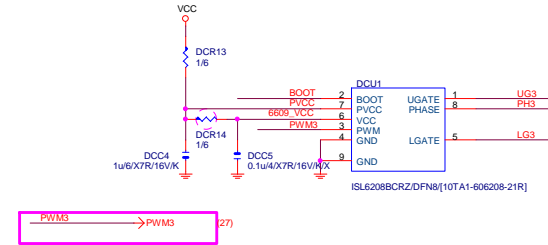
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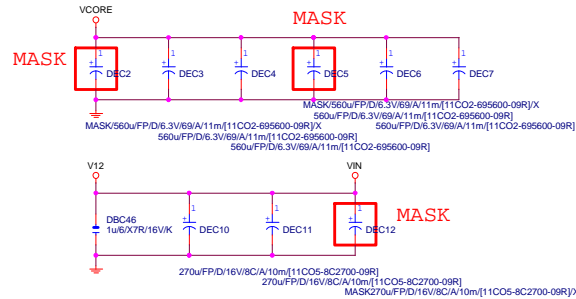
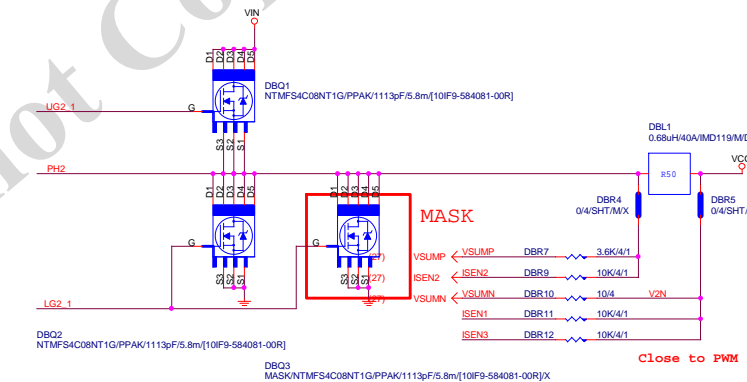
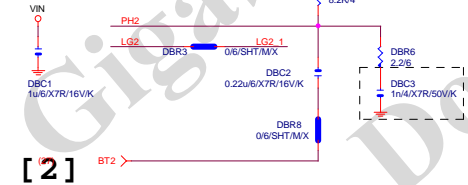
PHASE 1

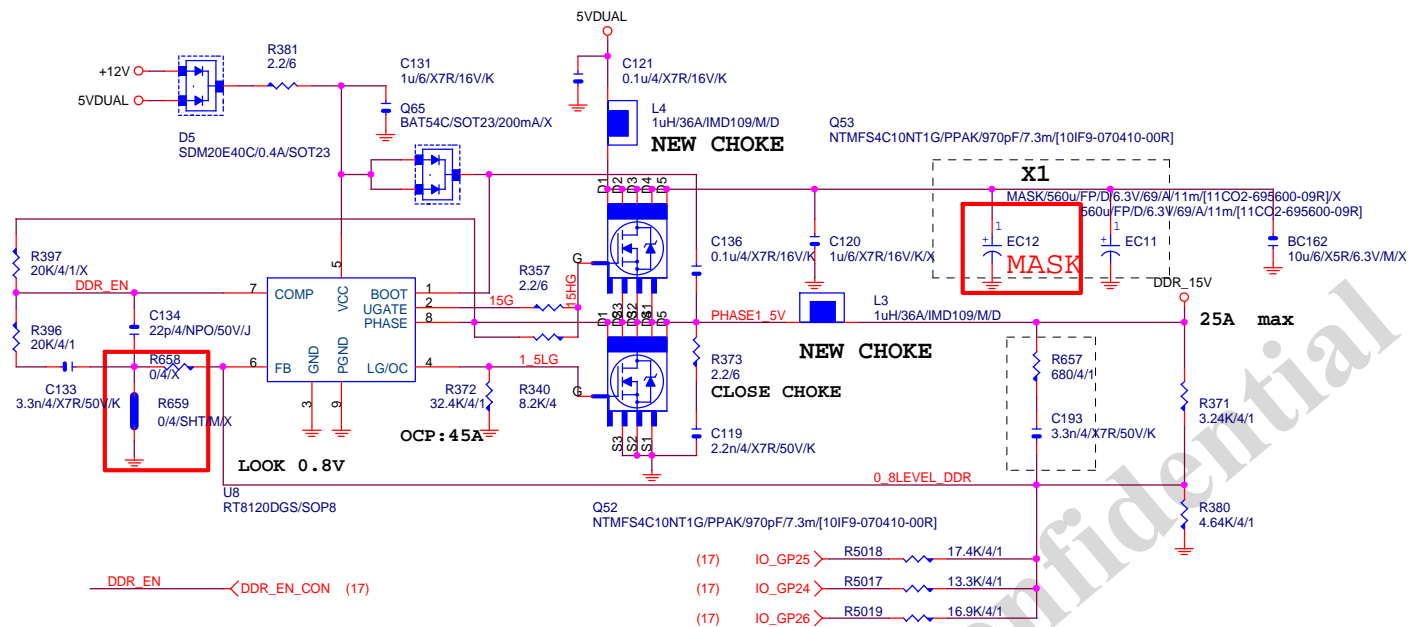


PHASE 3



PHASE 2



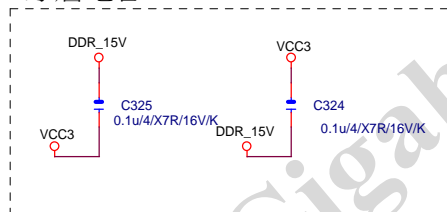


From DDR_15V source
10 mils trace to SIO

DDR_15V
MR20

DDR_15VIO
Q4/SHT/M/X

穿層電容



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

IRMS=11.45A

560uF/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

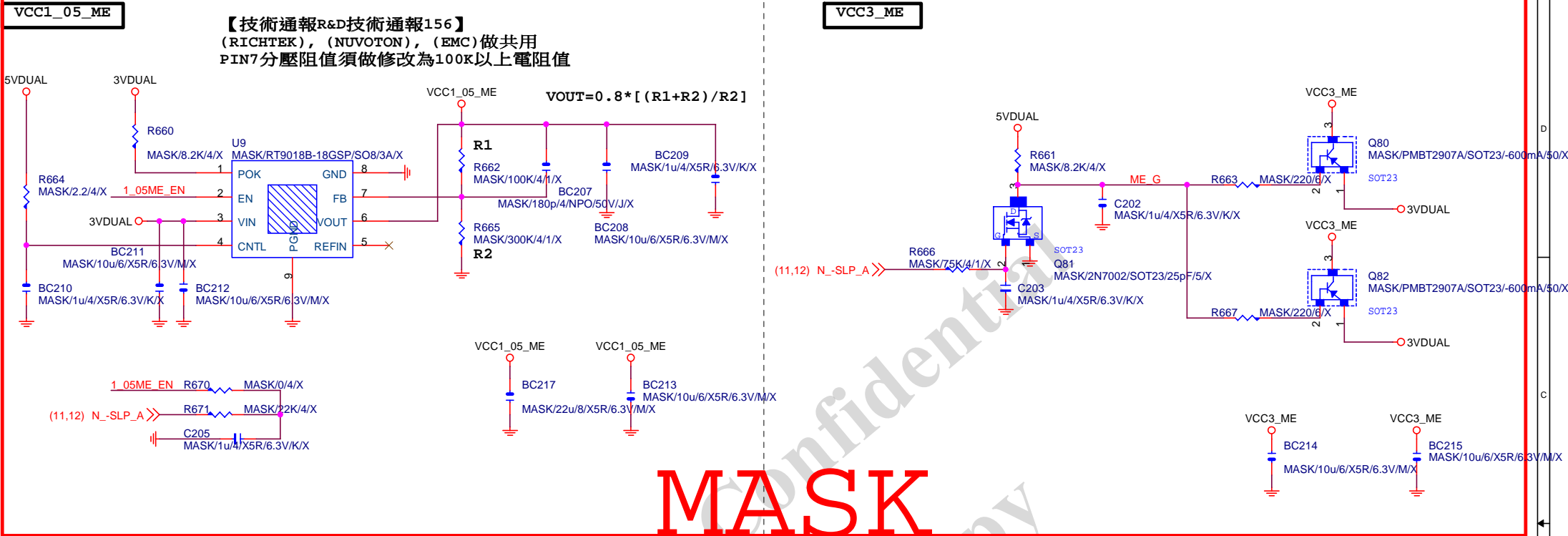
$R_{ocset} = (I_{ocp} \cdot L_{gate, rdson}) / I_{ocset}$

$R_{ocset} = (45A \cdot 6.7m\Omega) / 10uA = 30K$

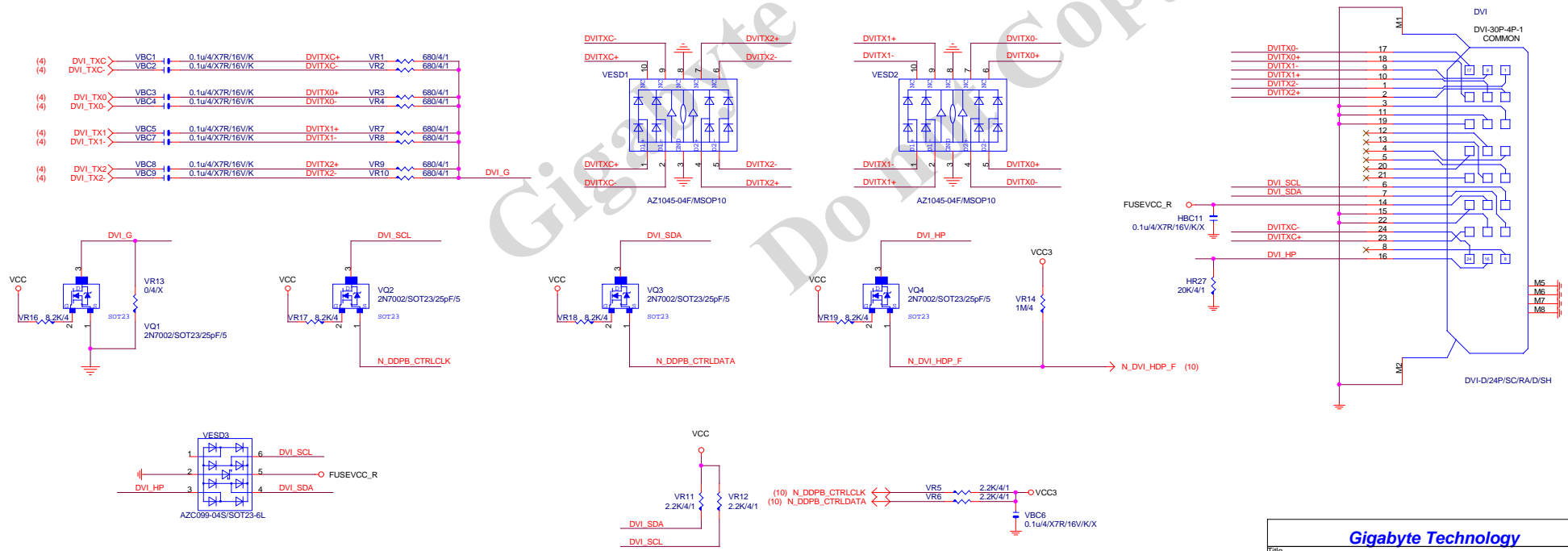
$I_{ocset} = 10uA$

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Title			
DDR POWER			
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DVI



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DVI		
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ITE IT8892E			
Size	Document Number	Rev	
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		1	

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Title USB3 EJ188		
Size C	Document Number GA-B85M-D2V-SI	Rev 3.0
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