

Model Name: GA-B85M-D2V

Revision 1.1

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


Cover Sheet

Size Custom	Document Number	GA-B85M-D2V	Rev 1.1
Date:	Wednesday, October 16, 2013	Sheet 1 of 33	

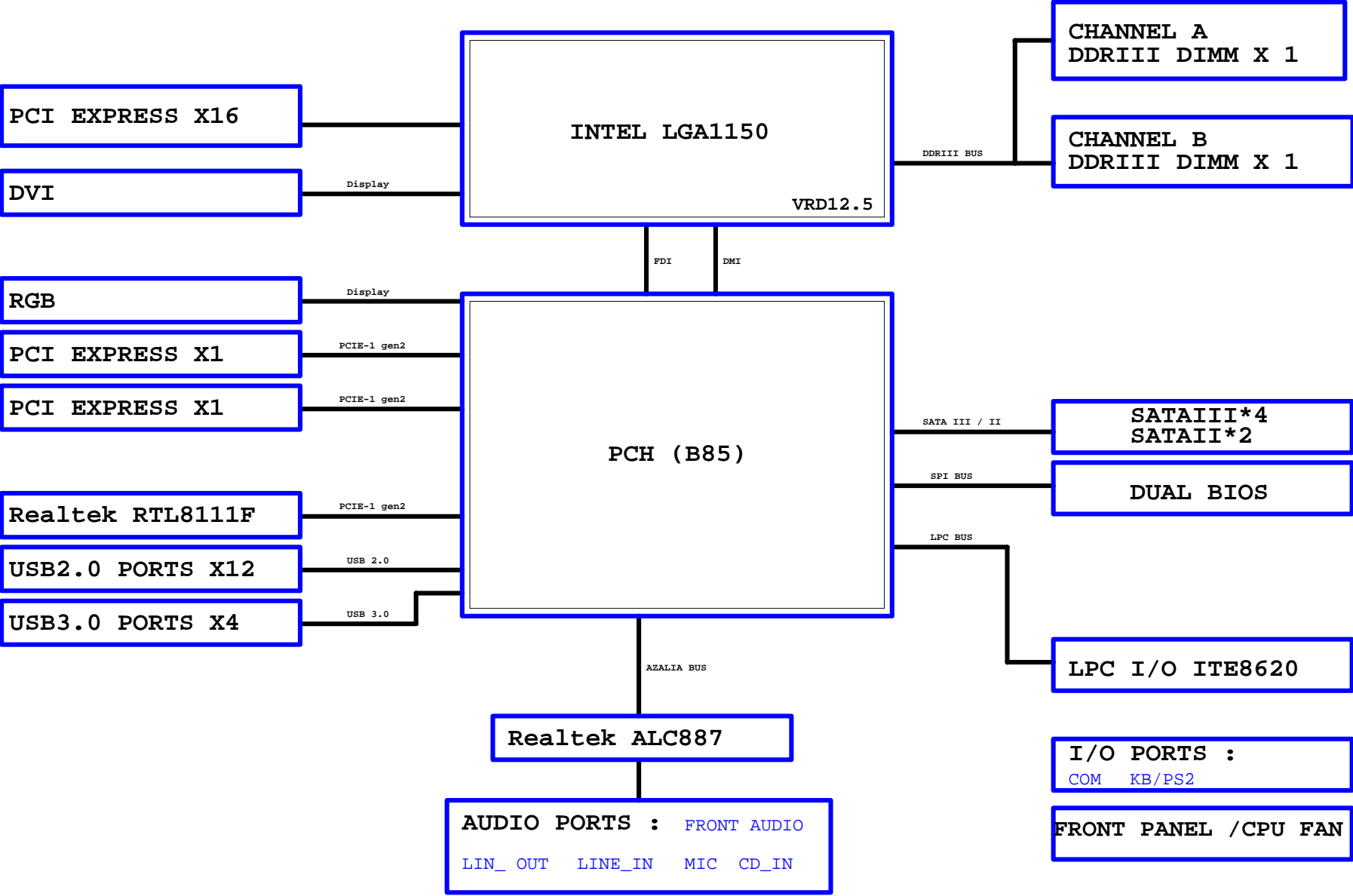
Component value change history

[illegible][illegible]

S:單文
4:四層板
V:第二層是VCC
N:咖啡色
B:製程

			
Title			
BOM & PCB MODIFY HISTORY			
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BLOCK DIAGRAM



[illegible][illegible]

PCIEX16:16/5/5/16(breakout min 10/4/4/4/10)									
Impedance=80 +- 17.5%									
LGA1150C									
PA EXP RXP0	F18	PEG_RXP0	A12	PA EXP TXP0					
PA EXP RXN0	F19	PEG_RXN0	B12	PA EXP TXN0					
PA EXP RXP1	D14	PEG_RXP1	B11	PA EXP TXP1					
PA EXP RXN1	E14	PEG_RXN1	C11	PA EXP TXN1					
PA EXP RXP2	E13	PEG_RXP2	C10	PA EXP TXP2					
PA EXP RXN2	F13	PEG_RXN2	D10	PA EXP TXN2					
PA EXP RXP3	D12	PEG_RXP3	B9	PA EXP TXP3					
PA EXP RXN3	E12	PEG_RXN3	C9	PA EXP TXN3					
PA EXP RXP4	F11	PEG_RXP4	C8	PA EXP TXP4					
PA EXP RXN4	F11	PEG_RXN4	D8	PA EXP TXN4					
PA EXP RXP5	F10	PEG_RXP5	B7	PA EXP TXP5					
PA EXP RXN5	G10	PEG_RXN5	C7	PA EXP TXN5					
PA EXP RXP6	E9	PEG_RXP6	A6	PA EXP TXP6					
PA EXP RXN6	F9	PEG_RXN6	B6	PA EXP TXN6					
PA EXP RXP7	F8	PEG_RXP7	B5	PA EXP TXP7					
PA EXP RXN7	G8	PEG_RXN7	C5	PA EXP TXN7					
PA EXP RXP8	D3	PEG_RXP8	E1	PA EXP TXP8					
PA EXP RXN8	D4	PEG_RXN8	F2	PA EXP TXN8					
PA EXP RXP9	E4	PEG_RXP9	F2	PA EXP TXP9					
PA EXP RXN9	E5	PEG_RXN9	F3	PA EXP TXN9					
PA EXP RXP10	F5	PEG_RXP10	G1	PA EXP TXP10					
PA EXP RXN10	F6	PEG_RXN10	G2	PA EXP TXN10					
PA EXP RXP11	G4	PEG_RXP11	H2	PA EXP TXP11					
PA EXP RXN11	G5	PEG_RXN11	H3	PA EXP TXN11					
PA EXP RXP12	H5	PEG_RXP12	J1	PA EXP TXP12					
PA EXP RXN12	H6	PEG_RXN12	J2	PA EXP TXN12					
PA EXP RXP13	J4	PEG_RXP13	K2	PA EXP TXP13					
PA EXP RXN13	J5	PEG_RXN13	K3	PA EXP TXN13					
PA EXP RXP14	K5	PEG_RXP14	M2	PA EXP TXP14					
PA EXP RXN14	K6	PEG_RXN14	M3	PA EXP TXN14					
PA EXP RXP15	L4	PEG_RXP15	L1	PA EXP TXP15					
PA EXP RXN15	L5	PEG_RXN15	L2	PA EXP TXN15					
A DMI_0RXP	U3	DMI_RXP0	AA4	A DMI_0TXP	→ A				
A DMI_0RXN	T3	DMI_RXN0	AA5	A DMI_0TXN	→ A				
A DMI_1RXP	U1	DMI_RXP1	AB3	A DMI_1TXP	→ A				
A DMI_1RXN	V1	DMI_RXN1	AB4	A DMI_1TXN	→ A				
A DMI_2RXP	W2	DMI_RXP2	AC5	A DMI_2TXP	→ A				
A DMI_2RXN	V2	DMI_RXN2	AC4	A DMI_2TXN	→ A				
A DMI_3RXP	Y3	DMI_RXP3	AC1	A DMI_3TXP	→ A				
A DMI_3RXN	W3	DMI_RXN3	AC2	A DMI_3TXN	→ A				
	D1	RSVD_TP							
	C2	RSVD_TP							
	B3	RSVD_TP							
	A4	RSVD_TP							
W=12 mil out of CPU									
S=15 mil out of CPU									
VCCIOA LO	WR15	GRMCOMP	F3	PEG_RCOMP					

1.1V分壓

VCC3

WR26
2K/4/1/X

WR31
1K/4/1/X

A_CPURST

BC102
1n/40X7R/50V/K

A_CPURST 11,17

For IT8620 Ctrl

Title			
CPU LGA1150-A			
Size	Document Number		Rev
Custom	GA-B85M-D2V		1.1
Date:	Wednesday, October 16, 2013	Sheet	4 of 33

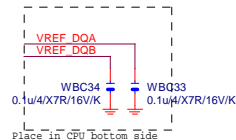
LGA1150 (A)

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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				
AW8		DDR0_ODT2	DDR0_D18	AP38	MDA18				
AW8		DDR0_ODT3	DDR0_D19	AP39	MDA19				
AW33			DDR0_D20	AM37	MDA20				
AW33			DDR0_D21	AM38	MDA16				
AU31			DDR0_D22	AP37	MDA22				
AU31			DDR0_D23	AP40	MDA23				
AT33			DDR0_D24	AW37	MDA29				
AT33			DDR0_D25	AU35	MDA26				
AT33			DDR0_D26	AU35	MDA27				
AT31			DDR0_D27	AT37	MDA28				
AW31			DDR0_D28	AU37	MDA24				
AW31			DDR0_D29	AT35	MDA30				
SBAA0	← SBAA0	DDR0_BA0	DDR0_D30	AW35	MDA31				
SBAA1	← SBAA1	DDR0_BA1	DDR0_D31	AY6	MDA33				
SBAA2	← SBAA2	DDR0_BA2	DDR0_D32	AU6	MDA37				
CKEA0	← CKEA0	DDR0_CKE0	DDR0_D33	AW4	MDA34				
CKEA1	← CKEA1	DDR0_CKE1	DDR0_D34	AU4	MDA35				
CSA0	← CSA0	DDR0_CS_N0	DDR0_D35	AW6	MDA32				
CSA1	← CSA1	DDR0_CS_N1	DDR0_D36	AW4	MDA38				
DCLKA0	← DCLKA0	DDR0_CLK_P0	DDR0_D37	AW4	MDA39				
DCLKA1	← DCLKA1	DDR0_CLK_P1	DDR0_D38	AR1	MDA41				
DCLKA2	← DCLKA2	DDR0_CLK_P2	DDR0_D39	AR4	MDA45				
DCLKA3	← DCLKA3	DDR0_CLK_P3	DDR0_D40	AN3	MDA42				
DCLKA4	← DCLKA4	DDR0_CLK_N0	DDR0_D41	AN4	MDA43				
DCLKA5	← DCLKA5	DDR0_CLK_N1	DDR0_D42	AR2	MDA44				
DCLKA6	← DCLKA6	DDR0_CLK_N2	DDR0_D43	AR3	MDA40				
DCLKA7	← DCLKA7	DDR0_CLK_N3	DDR0_D44	AN2	MDA46				
DCLKA8	← DCLKA8	DDR0_CLK_P0	DDR0_D45	AN1	MDA47				
DCLKA9	← DCLKA9	DDR0_CLK_N0	DDR0_D46	AL1	MDA49				
DCLKA10	← DCLKA10	DDR0_CLK_P1	DDR0_D47	AL4	MDA53				
DCLKA11	← DCLKA11	DDR0_CLK_P2	DDR0_D48	AL3	MDA50				
DCLKA12	← DCLKA12	DDR0_CLK_P3	DDR0_D49	AJ4	MDA51				
DCLKA13	← DCLKA13	DDR0_CLK_N0	DDR0_D50	AL2	MDA52				
DCLKA14	← DCLKA14	DDR0_CLK_P1	DDR0_D51	AJ2	MDA54				
DCLKA15	← DCLKA15	DDR0_CLK_P2	DDR0_D52	AJ1	MDA55				
DCLKA16	← DCLKA16	DDR0_CLK_P3	DDR0_D53	AG1	MDA57				
DCLKA17	← DCLKA17	DDR0_CLK_N0	DDR0_D54	AG4	MDA61				
DCLKA18	← DCLKA18	DDR0_CLK_P1	DDR0_D55	AE3	MDA58				
DCLKA19	← DCLKA19	DDR0_CLK_P2	DDR0_D56	E4	MDA59				
DCLKA20	← DCLKA20	DDR0_CLK_P3	DDR0_D57	AG2	MDA60				
DCLKA21	← DCLKA21	DDR0_CLK_N0	DDR0_D58	AG3	MDA56				
DCLKA22	← DCLKA22	DDR0_CLK_P1	DDR0_D59	AE2	MDA63				
DCLKA23	← DCLKA23	DDR0_CLK_P2	DDR0_D60	AE1	MDA62				
DCLKA24	← DCLKA24	DDR0_CLK_P3	DDR0_D61	AE39	DQSA0				
DCLKA25	← DCLKA25	DDR0_CLK_N0	DDR0_D62	AJ39	DQSA1				
DCLKA26	← DCLKA26	DDR0_CLK_P1	DDR0_D63	AN39	DQSA2				
DCLKA27	← DCLKA27	DDR0_CLK_P2	DDR0_D64	AV36	DQSA3				
DCLKA28	← DCLKA28	DDR0_CLK_P3	DDR0_D65	AV5	DQSA4				
DCLKA29	← DCLKA29	DDR0_CLK_N0	DDR0_D66	AP3	DQSA5				
DCLKA30	← DCLKA30	DDR0_CLK_P1	DDR0_D67	AK3	DQSA6				
DCLKA31	← DCLKA31	DDR0_CLK_P2	DDR0_D68	AF3	DQSA7				
DCLKA32	← DCLKA32	DDR0_CLK_P3	DDR0_D69	AV32	DQSA8				
DCLKA33	← DCLKA33	DDR0_CLK_N0	DDR0_D70	AE38	DQSA0				
DCLKA34	← DCLKA34	DDR0_CLK_P1	DDR0_D71	AJ38	DQSA1				
DCLKA35	← DCLKA35	DDR0_CLK_P2	DDR0_D72	AN38	DQSA2				
DCLKA36	← DCLKA36	DDR0_CLK_P3	DDR0_D73	AJ36	DQSA3				
DCLKA37	← DCLKA37	DDR0_CLK_N0	DDR0_D74	AW5	DQSA4				
DCLKA38	← DCLKA38	DDR0_CLK_P1	DDR0_D75	AP2	DQSA5				
DCLKA39	← DCLKA39	DDR0_CLK_P2	DDR0_D76	AK2	DQSA6				
DCLKA40	← DCLKA40	DDR0_CLK_P3	DDR0_D77	AF2	DQSA7				
DCLKA41	← DCLKA41	DDR0_CLK_N0	DDR0_D78	AJ32	DQSA8				

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

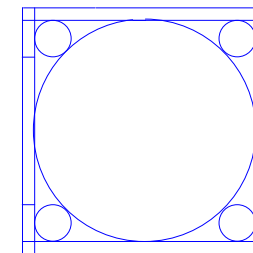
LGA1150 (B)

LGA1150B									
MAAB0	AL19	DDR1_MA0	DDR1_D00	AE34	MDB0				
MAAB1	AK23	DDR1_MA1	DDR1_D01	AE35	MDB1				
MAAB2	AM22	DDR1_MA2	DDR1_D02	AG35	MDB2				
MAAB3	AM23	DDR1_MA3	DDR1_D03	AH35	MDB3				
MAAB4	AP23	DDR1_MA4	DDR1_D04	AD34	MDB4				
MAAB5	AL23	DDR1_MA5	DDR1_D05	AD35	MDB5				
MAAB6	AY24	DDR1_MA6	DDR1_D06	AG34	MDB6				
MAAB7	AV25	DDR1_MA7	DDR1_D07	AH34	MDB7				
MAAB8	AU26	DDR1_MA8	DDR1_D08	AL34	MDB8				
MAAB9	AV25	DDR1_MA9	DDR1_D09	AL35	MDB9				
MAAB10	AP18	DDR1_MA10	DDR1_D10	AK31	MDB10				
MAAB11	AY25	DDR1_MA11	DDR1_D11	AL31	MDB11				
MAAB12	AV26	DDR1_MA12	DDR1_D12	AK34	MDB12				
MAAB13	AR15	DDR1_MA13	DDR1_D13	AK35	MDB13				
MAAB14	AV27	DDR1_MA14	DDR1_D14	AK32	MDB14				
MAAB15	AY28	DDR1_MA15	DDR1_D15	AL32	MDB15				
MODT_B0	AM17	DDR1_ODT0	DDR1_D16	AP34	MDB17				
MODT_B1	AL16	DDR1_ODT1	DDR1_D17	AP34	MDB21				
AM16		DDR1_ODT2	DDR1_D18	AK31	MDB19				
AK15		DDR1_ODT3	DDR1_D19	AP31	MDB23				
AM26		DDR1_ECC0	DDR1_D20	AP35	MDB20				
AM25		DDR1_ECC1	DDR1_D21	AP35	MDB16				
AP25		DDR1_ECC2	DDR1_D22	AN32	MDB18				
AP26		DDR1_ECC3	DDR1_D23	AP32	MDB22				
AL26		DDR1_ECC4	DDR1_D24	AM29	MDB25				
AL25		DDR1_ECC5	DDR1_D25	AM28	MDB28				
AR26		DDR1_ECC6	DDR1_D26	AR29	MDB27				
AR25		DDR1_ECC7	DDR1_D27	AR28	MDB30				
AK17		DDR1_BA0	DDR1_D28	AL28	MDB29				
AK18		DDR1_BA1	DDR1_D29	AP29	MDB26				
AK19		DDR1_BA2	DDR1_D30	AP28	MDB31				
AW29		DDR1_CKE0	DDR1_D31	AR12	MDB32				
AKEB1		DDR1_CKE1	DDR1_D32	AL12	MDB35				
AKEB1		DDR1_CKE2	DDR1_D33	AR13	MDB36				
AKEB1		DDR1_CKE3	DDR1_D34	AP13	MDB37				
AP17		DDR1_CS_N0	DDR1_D35	AM13	MDB38				
CSB1		DDR1_CS_N1	DDR1_D36	AM12	MDB39				
CSB1		DDR1_CS_N2	DDR1_D37	AR9	MDB45				
CSB1		DDR1_CS_N3	DDR1_D38	AP9	MDB41				
AM15		DDR1_CLK_P0	DDR1_D39	AR6	MDB47				
AM17		DDR1_CLK_N0	DDR1_D40	AP6	MDB43				
AL15		DDR1_CLK_P1	DDR1_D41	AR10	MDB44				
AM20		DDR1_CLK_N1	DDR1_D42	AP10	MDB40				
AM21		DDR1_CLK_P2	DDR1_D43	AP7	MDB42				
AM22		DDR1_CLK_N2	DDR1_D44	AM9	MDB52				
AM21		DDR1_CLK_P3	DDR1_D45	AL9	MDB53				
AM21		DDR1_CLK_N3	DDR1_D46	AL6	MDB50				
AM20		DDR1_CLK_P0	DDR1_D47	AL7	MDB55				
AM21		DDR1_CLK_N0	DDR1_D48	AM10	MDB48				
AM22		DDR1_CLK_P1	DDR1_D49	AL10	MDB49				
AM21		DDR1_CLK_N1	DDR1_D50	AM7	MDB54				
AM20		DDR1_CLK_P2	DDR1_D51	AM6	MDB51				
AM21		DDR1_CLK_N2	DDR1_D52	AH6	MDB61				
AM20		DDR1_CLK_P3	DDR1_D53	AH7	MDB60				
AM20		DDR1_CLK_N3	DDR1_D54	AE6	MDB59				
AP16		DDR1_CAS*	DDR1_D55	AE7	MDB63				
AL20		DDR1_RAS*	DDR1_D56	AJ6	MDB56				
AM18		DDR1_WE*	DDR1_D57	AJ7	MDB57				
AK16		DDR1_VREF_DQ0	DDR1_D58	AF7	MDB58				
AK16		DDR1_VREF_DQ1	DDR1_D59	AF7	MDB62				
AK16		DDR1_VREF_DQ2	DDR1_D60	AF35	DQSB0				
AK16		DDR1_VREF_DQ3	DDR1_D61	AL33	DQSB1				
AK16		DDR1_VREF_DQ4	DDR1_D62	AP33	DQSB2				
AK16		DDR1_VREF_DQ5	DDR1_D63	AN28	DQSB3				
AK16		DDR1_VREF_DQ6	DDR1_D64	AN12	DQSB4				
AK16		DDR1_VREF_DQ7	DDR1_D65	AP8	DQSB5				
AK16		DDR1_VREF_DQ8	DDR1_D66	AL8	DQSB6				
AK16		DDR1_VREF_DQ9	DDR1_D67	AG7	DQSB7				
AK16		DDR1_VREF_DQ10	DDR1_D68	AN25	DQSB8				
AK16		DDR1_VREF_DQ11	DDR1_D69	AF34	DQSB9				
AK16		DDR1_VREF_DQ12	DDR1_D70	AK33	DQSB1				
AK16		DDR1_VREF_DQ13	DDR1_D71	AN33	DQSB2				
AK16		DDR1_VREF_DQ14	DDR1_D72	AN29	DQSB3				
AK16		DDR1_VREF_DQ15	DDR1_D73	AN13	DQSB4				
AK16		DDR1_VREF_DQ16	DDR1_D74	AR8	DQSB5				
AK16		DDR1_VREF_DQ17	DDR1_D75	AM8	DQSB6				
AK16		DDR1_VREF_DQ18	DDR1_D76	AG6	DQSB7				
AK16		DDR1_VREF_DQ19	DDR1_D77	AN26	DQSB8				
AK16		DDR1_VREF_DQ20	DDR1_D78	AN26	DQSB9				



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

LGA1150 (CR)

CR
CPU RETENTION/X

LGA1150

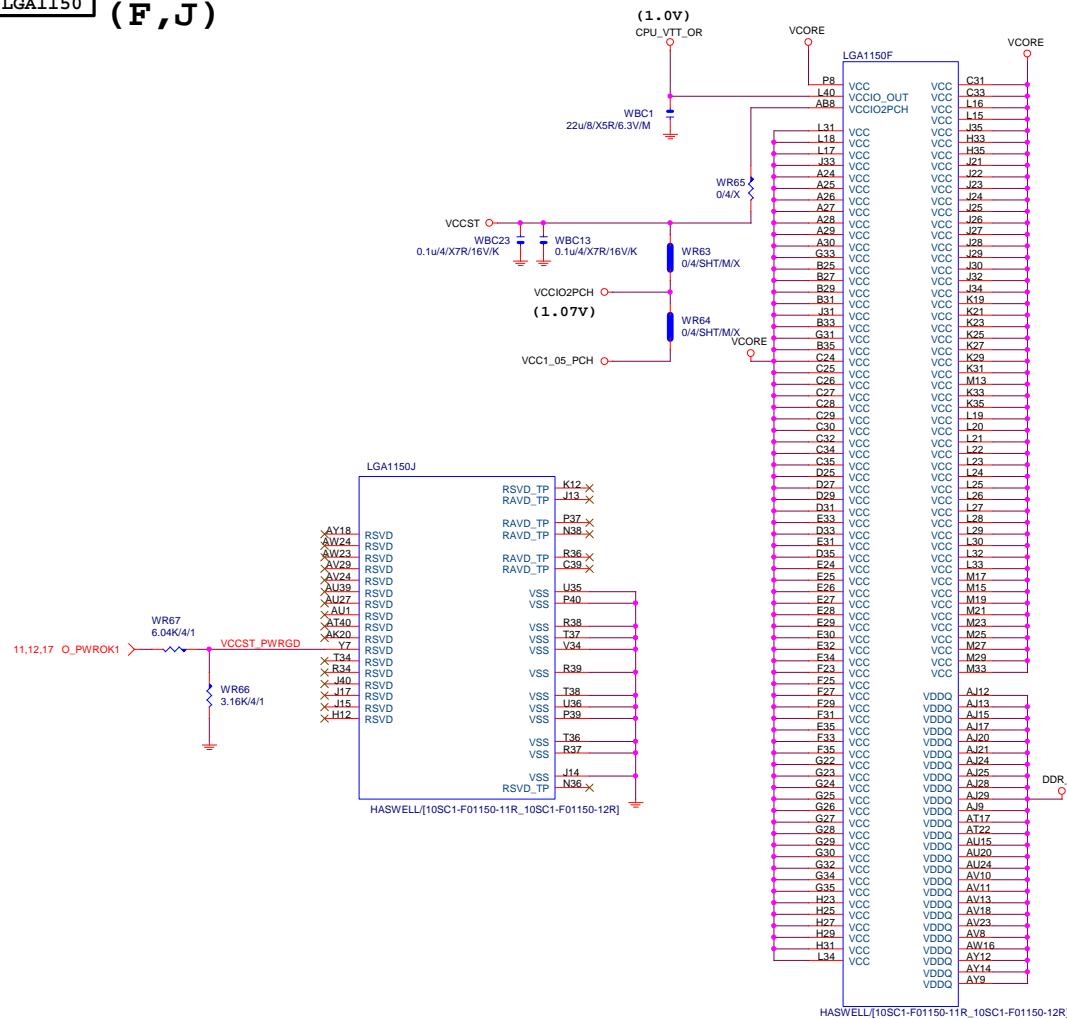


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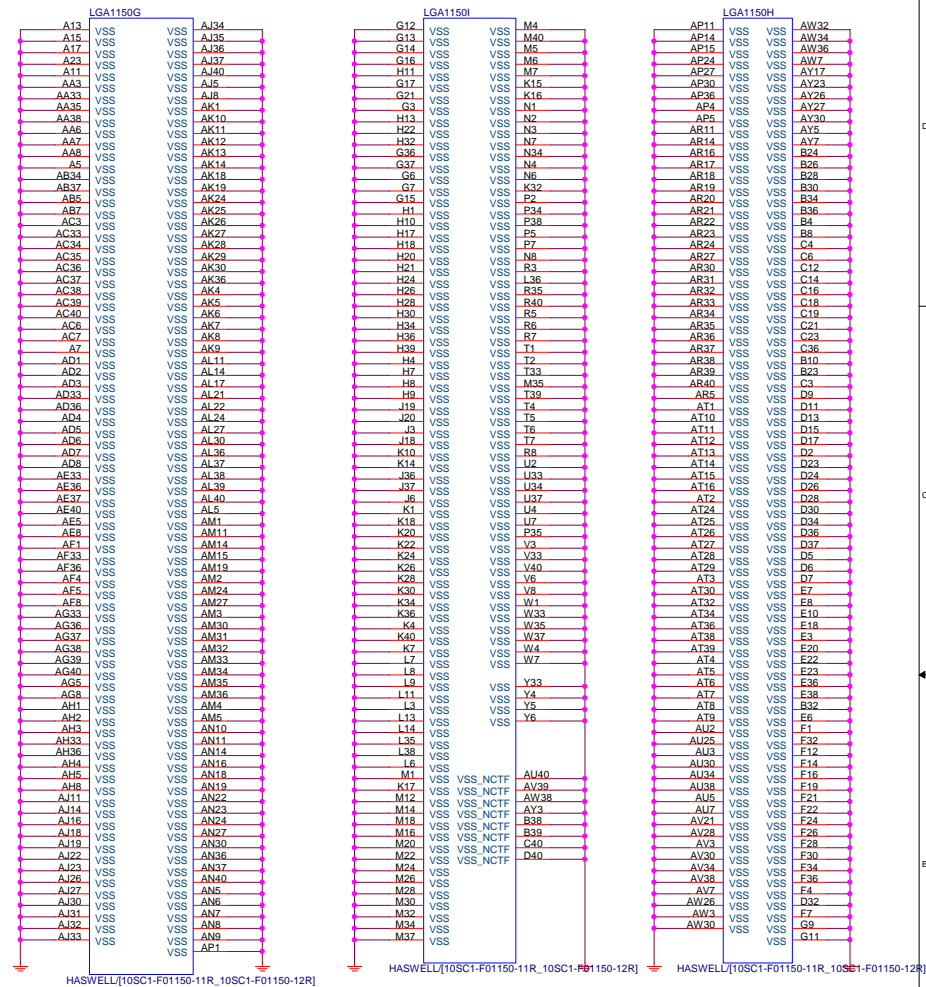
DDR BUS

7	MODT_A[0..1]	←	MODT_A0..1
8	MODT_B[0..1]	←	MODT_B0..1
7	MDA[0..63]	←	MDA0..63
8	MDB[0..63]	←	MDB0..63
7	DQSA[0..7]	←	DQSA0..7

LGA1150 (F,J)

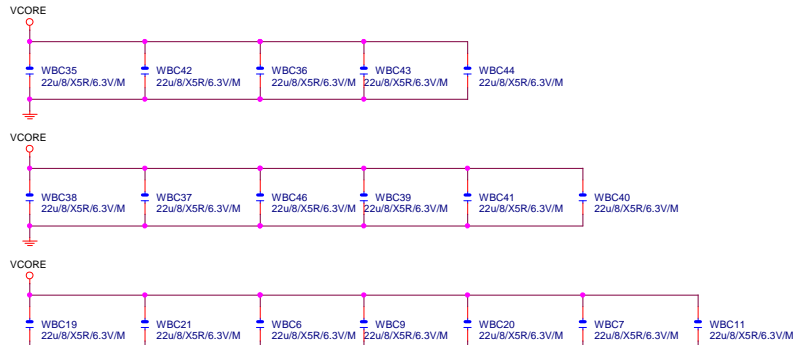


LGA1155 (G,H,I)



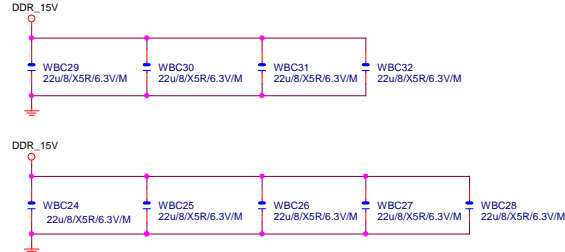
VCore CAP

(X18)



DDR CAP

(x9)



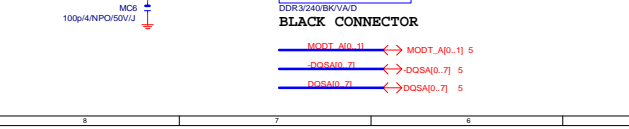
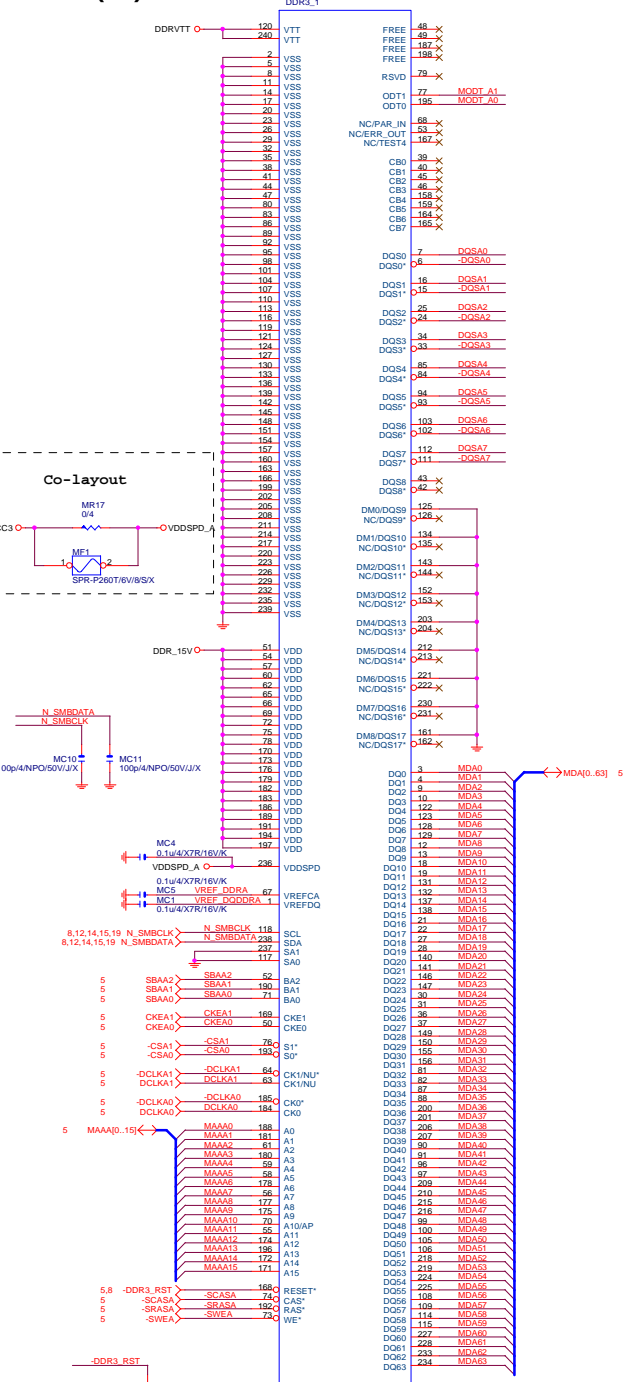
Gigabyte Technology

Title	CPU LGA1150-C
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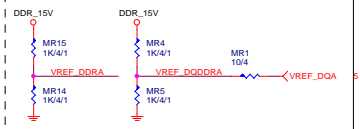
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DDR3

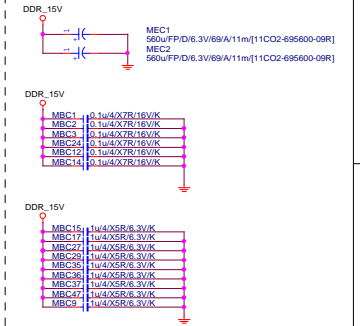
(A)



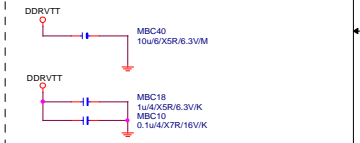
DDR3 VREF

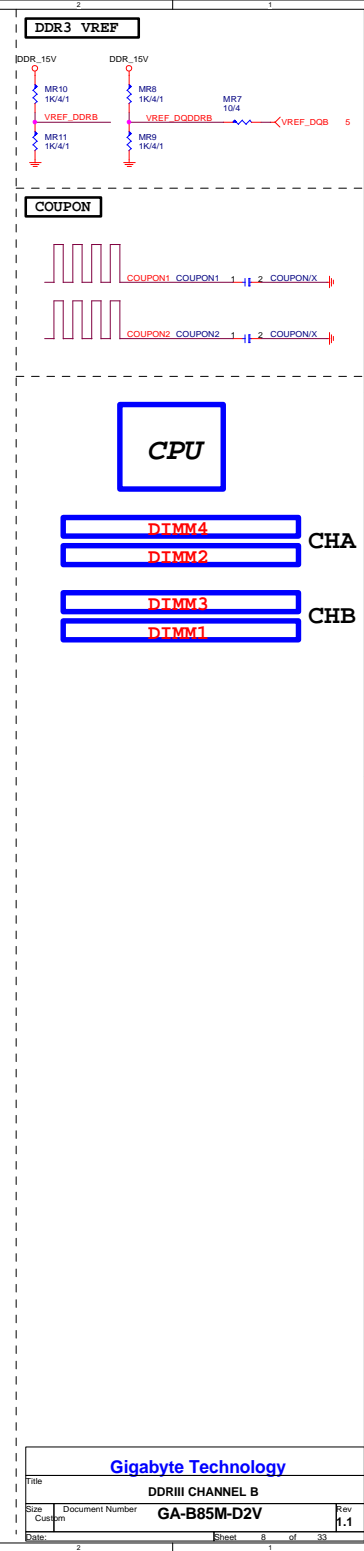


DDR15V Decouple

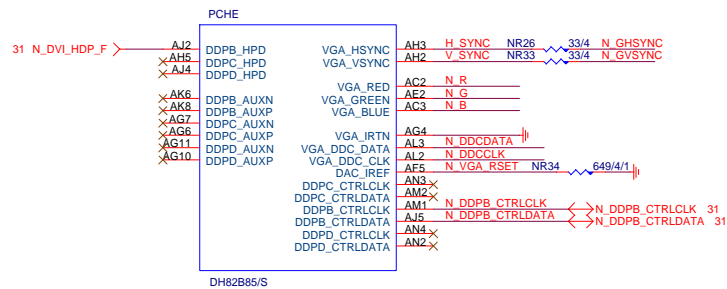


DDRVTT Decouple

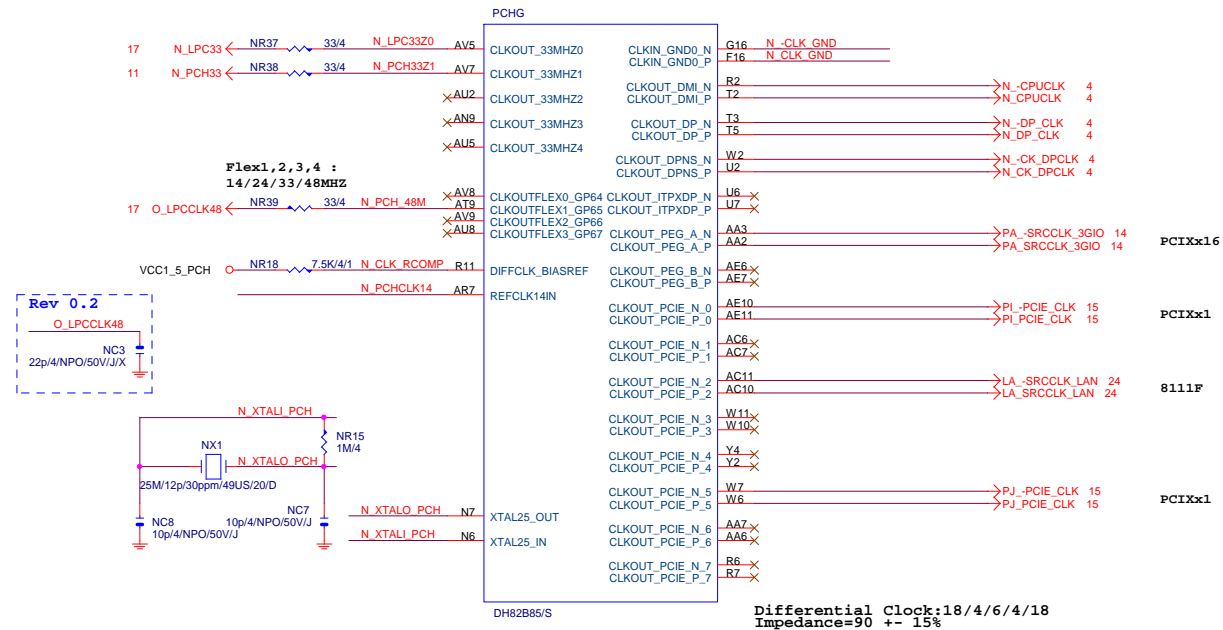




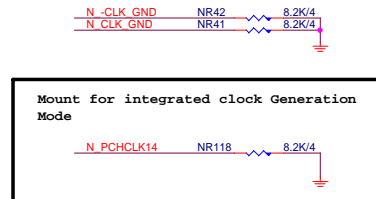
PCH (E)



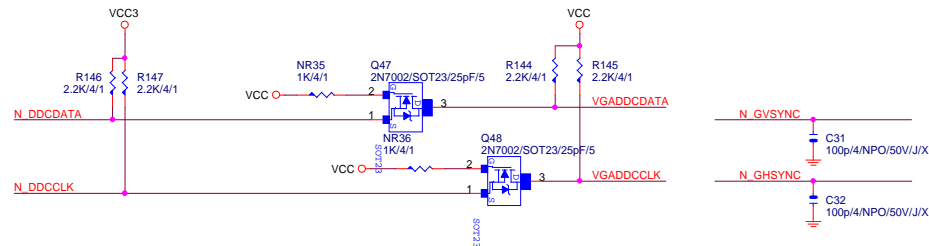
PCH (G)



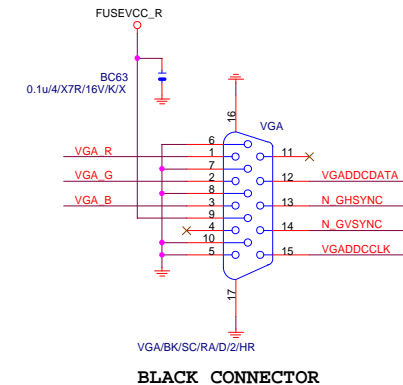
PCH CLK PD



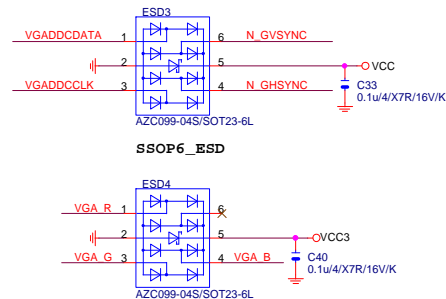
VGA DDC



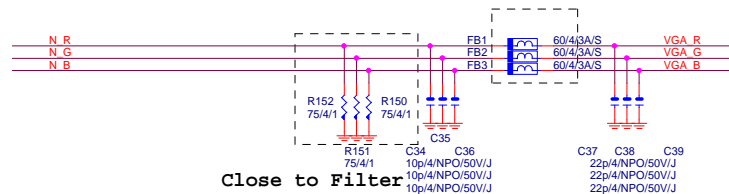
VGA CONNECTOR



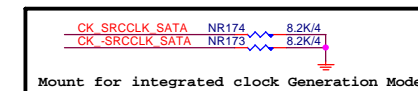
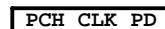
VGA ESD



VGA DDC



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%

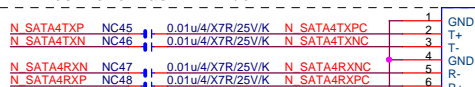


The schematic diagram illustrates the architecture of a 16-channel 100-Gbit/s optical receiver. It is organized into three main sections, each corresponding to a different NR (NR2, NR3, and NR7) component. Each section contains a parallel arrangement of four channels. The input to each channel is a 100-Gbit/s optical signal, which is converted to an electrical signal by a 100-Gbit/s optical-to-electrical converter. This electrical signal is then converted back to an optical signal by a 100-Gbit/s electrical-to-optical converter, resulting in a 100-Gbit/s optical output. The NR2 section uses NR2C and NR2S components, the NR3 section uses NR3C and NR3S components, and the NR7 section uses NR7C and NR7S components. The diagram also shows the power supply and ground connections for each path, with VCC3 and GND labels.

Diagram illustrating the 8-channel multiplexed microfluidic system. The system consists of two input channels (N_SATA0TXP and N_SATA0TXN) and two output channels (N_SATA0RXN and N_SATA0RXP). Each input channel is connected to a 4-to-1 multiplexer (NC44, NC43, NC38, NC37) which is then connected to a 4-to-1 demultiplexer (NC44, NC43, NC38, NC37). The output channels are connected to a 4-to-1 multiplexer (NC44, NC43, NC38, NC37) which is then connected to a 4-to-1 demultiplexer (NC44, NC43, NC38, NC37). The output channels are connected to a 4-to-1 multiplexer (NC44, NC43, NC38, NC37) which is then connected to a 4-to-1 demultiplexer (NC44, NC43, NC38, NC37). The output channels are connected to a 4-to-1 multiplexer (NC44, NC43, NC38, NC37) which is then connected to a 4-to-1 demultiplexer (NC44, NC43, NC38, NC37).

N SATA2TXP	0.01u/4/X7R/25V/K	NC36	N SATA2TXPC	1	GND
N SATA2TXN	0.01u/4/X7R/25V/K	NC35	N SATA2TXNC	2	T+
				3	T-
				4	GND
N SATA2RXN	0.01u/4/X7R/25V/K	NC30	N SATA2RXNC	5	R+
N SATA2RXP	0.01u/4/X7R/25V/K	NC29	N SATA2RXP	6	R-

```
* Z87/H87 Port 4&5 SATA3.0
* B85 Port 4&5 SATA2.0
```

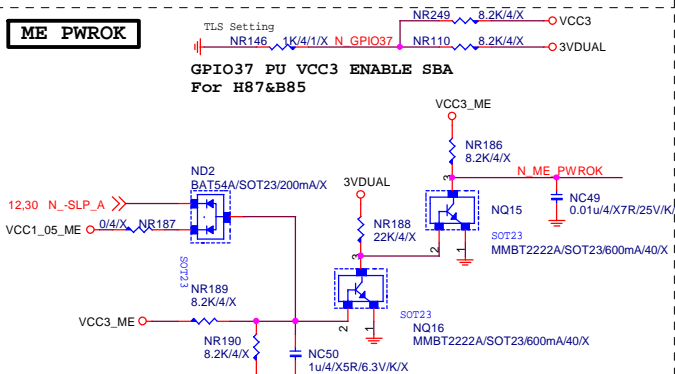


N_SATA1TXP	0.01u/4/X7R/25V/K	NC42	N_SATA1TXPC	1	GND
N_SATA1TXN	0.01u/4/X7R/25V/K	NC41	N_SATA1TXNC	2	T+
				3	T-
				4	GND
N_SATA1RXN	0.01u/4/X7R/25V/K	NC40	N_SATA1RXNC	5	R-
N_SATA1RXP	0.01u/4/X7R/25V/K	NC39	N_SATA1RXP	6	R+
				7	GND

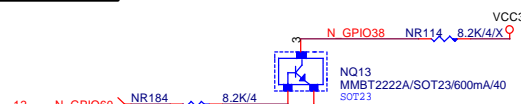
N SATA3TXP	0.01u/4/X7R/25V/K	NC34	N SATA3TXPC	1	GND
N SATA3TXN	0.01u/4/X7R/25V/K	NC33	N SATA3TXNC	2	T+
				3	T-
				4	GND
N SATA3RXN	0.01u/4/X7R/25V/K	NC32	N SATA3RXNC	5	R-
N SATA3RXP	0.01u/4/X7R/25V/K	NC31	N SATA3RXPNC	6	

N SATA5TXP	NC57	0.01u4/X7R/25V/K	N SATA5TXPC	1	
N SATA5TXN	NC56	0.01u4/X7R/25V/K	N SATA5TXNC	2	
				3	
				4	
N SATA5RXN	NC55	0.01u4/X7R/25V/K	N SATA5RXNC	5	
N SATA5RXP	NC54	0.01u4/X7R/25V/K	N SATA5RXPNC	6	

ME PWROK



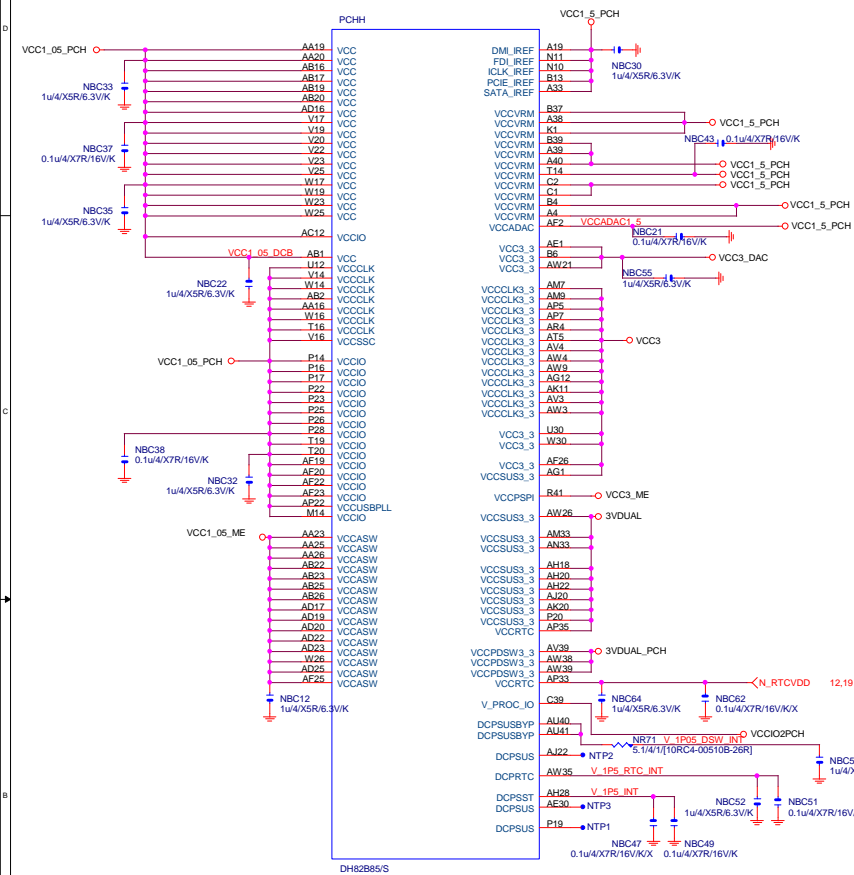
GPI038 Ctrl



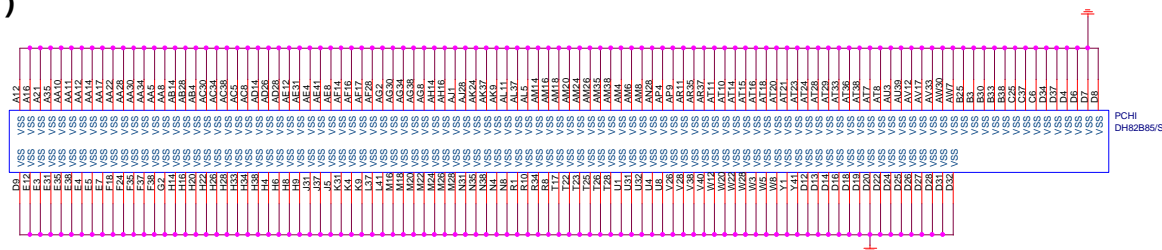
Gigabyte Technology

Title			
PCH HOST , SATA, PCI			
Size	Document Number	Rev	
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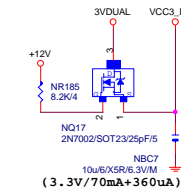
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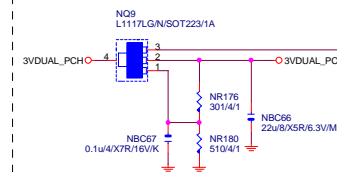
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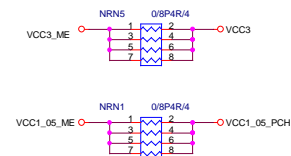
VCC3_DAC



3VDUAL_PCH

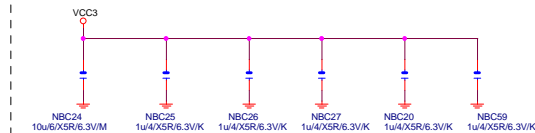


SHT PWR

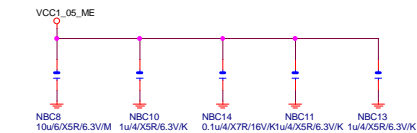


CAP

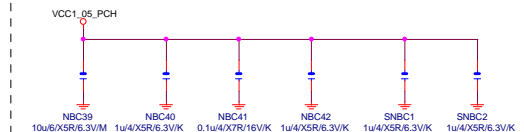
(3.3V) (X6)



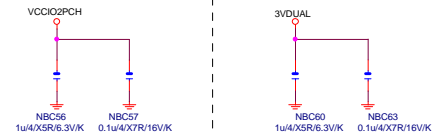
(1.05V) (x5)



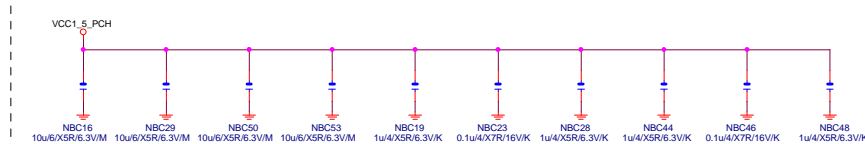
(1.05V) (x6)



(1.05V)(x2) (3.3V)(x2)



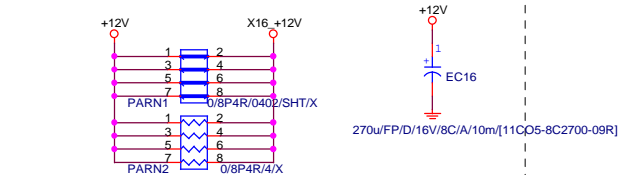
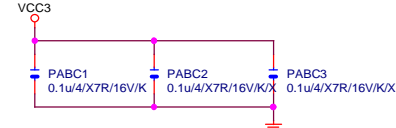
(1.05V) (x10)



PCIEX16 CAP

PCIEX16 PROTECT SHT

PCIEX16 AC CAP



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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

PA EXP RXP0.[15] >> PA_EXP_RXP[0..15] 4

PA EXP RXN0.[15] >> PA_EXP_RXN[0..15] 4

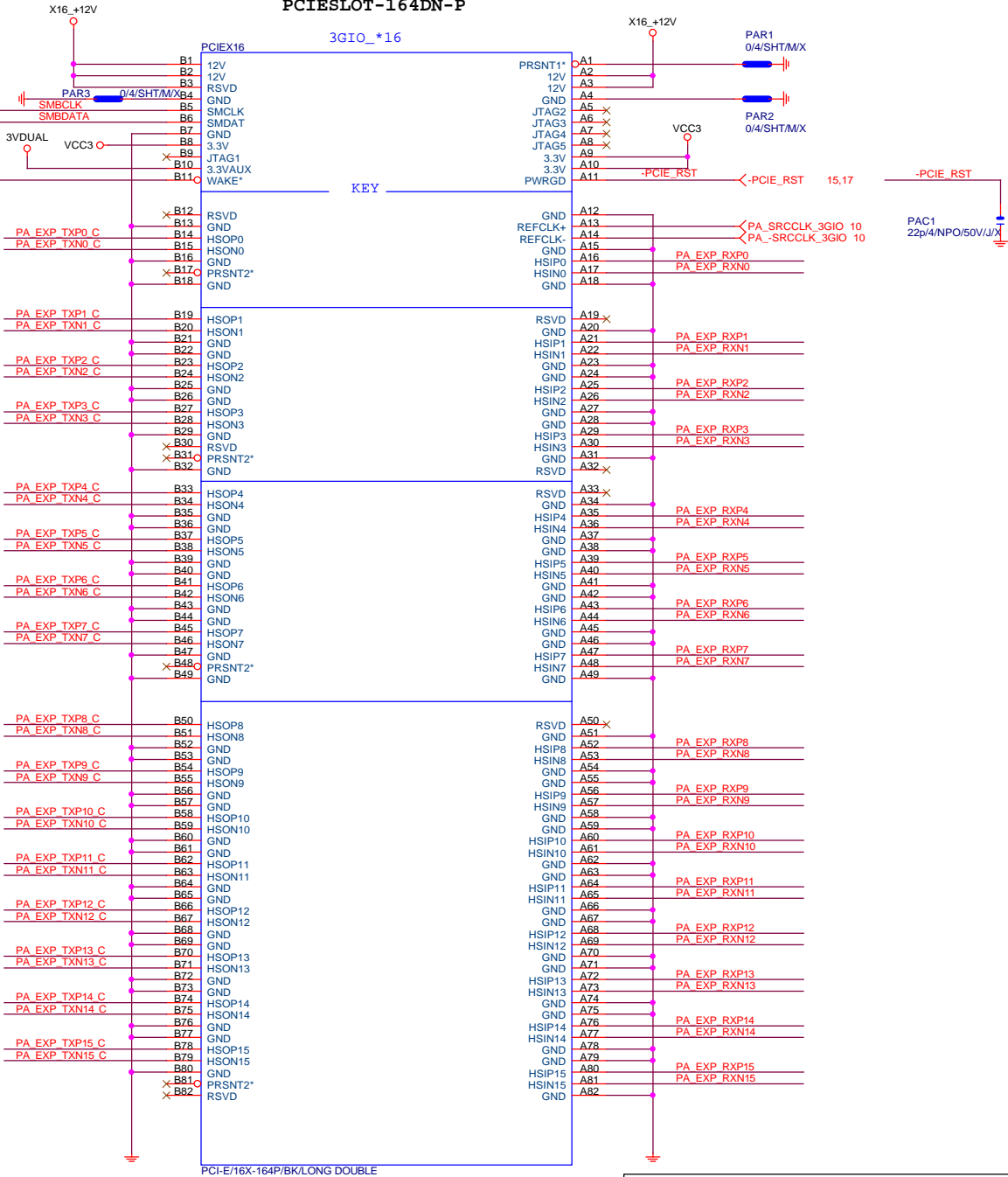
PA EXP TXP0.[15] >> PA_EXP_TXP[0..15] 4

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

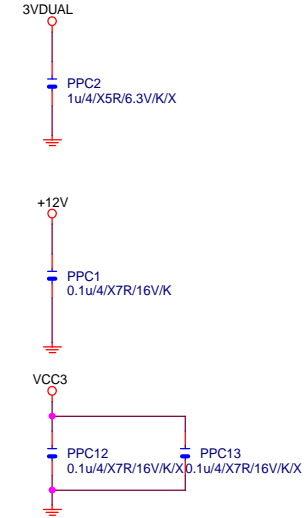
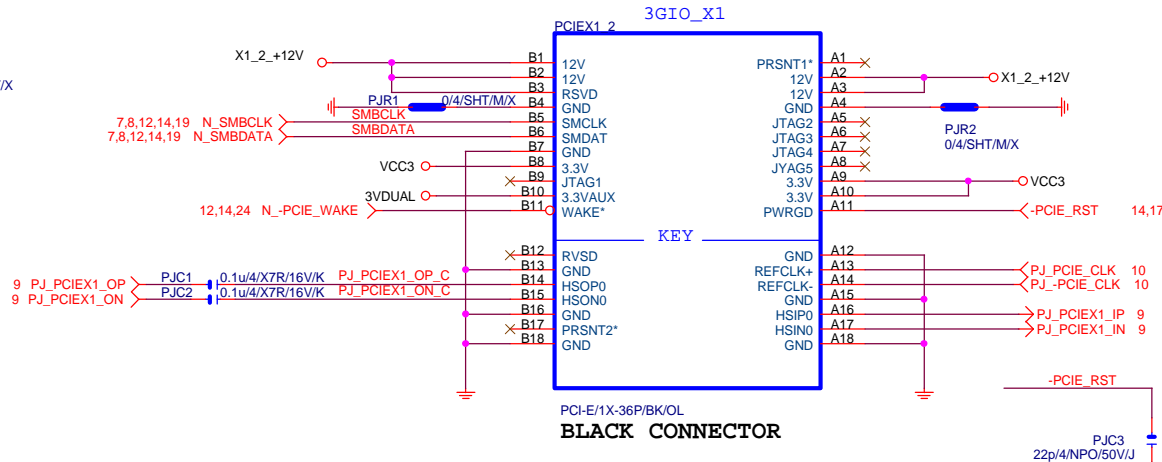
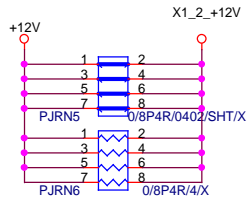
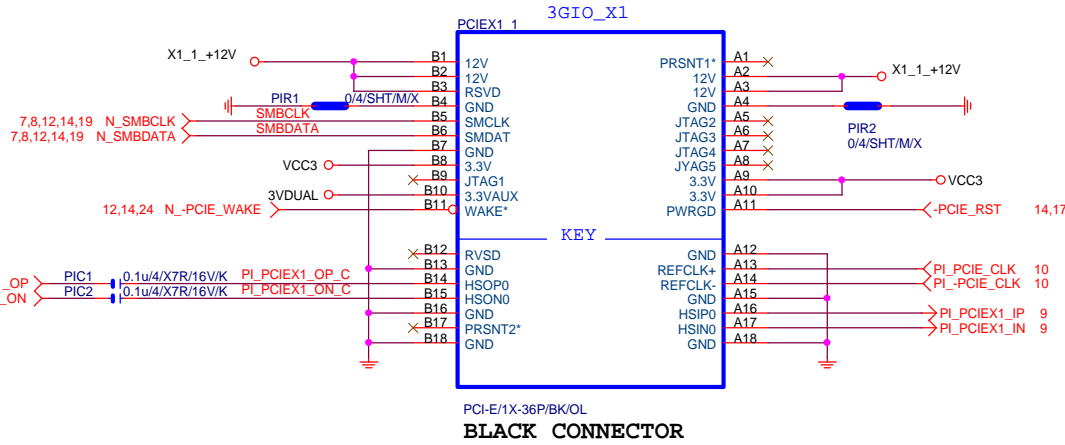
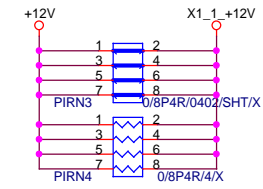
PCIESLOT-164DN-P



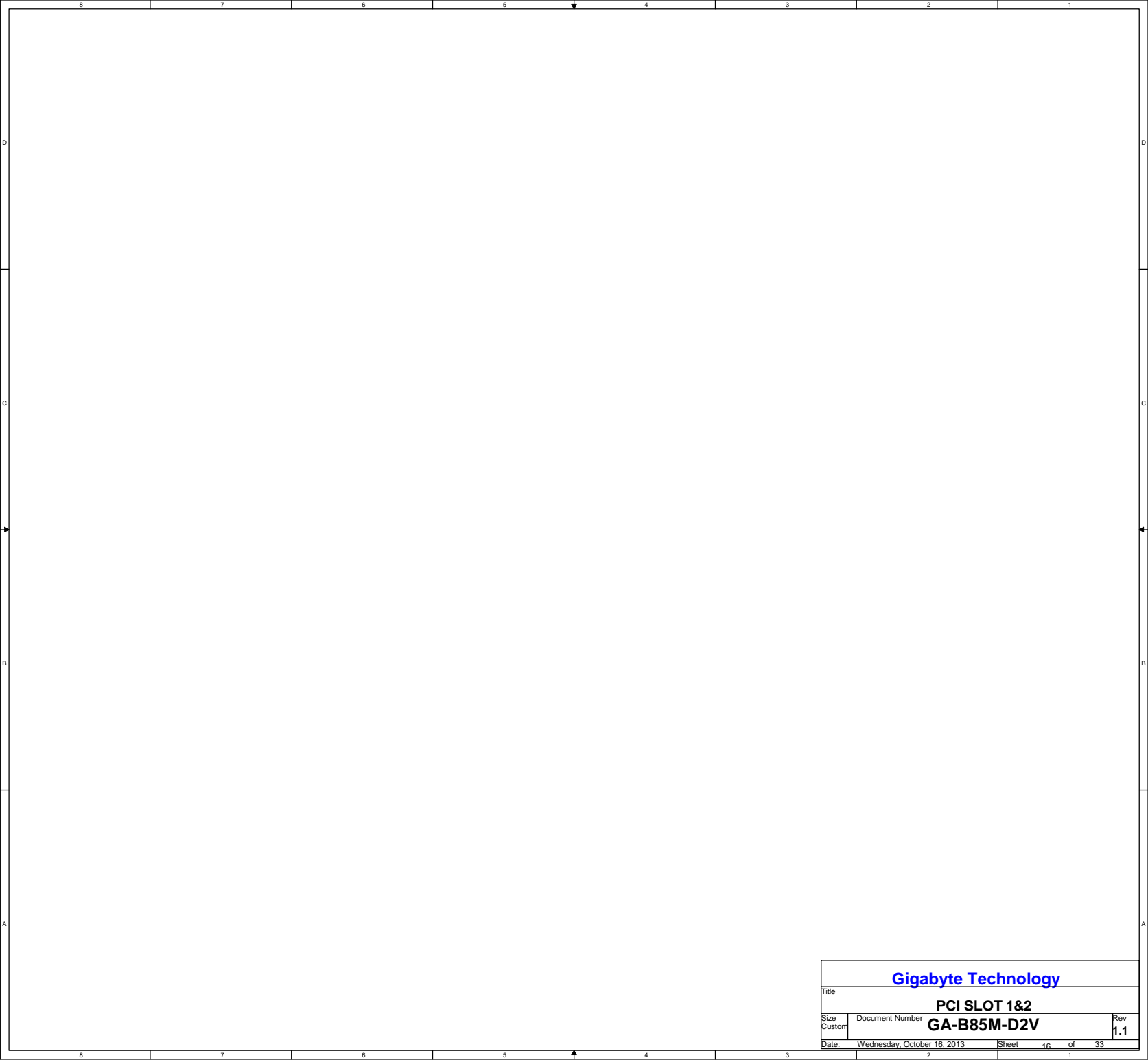
BLACK CONNECTOR

Gigabyte Technology		
PCI EXPRESS * 16		
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Size	Document Number	Rev
Custom	GA-B85M-D2V	1.1
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PCIEX1 SLOT

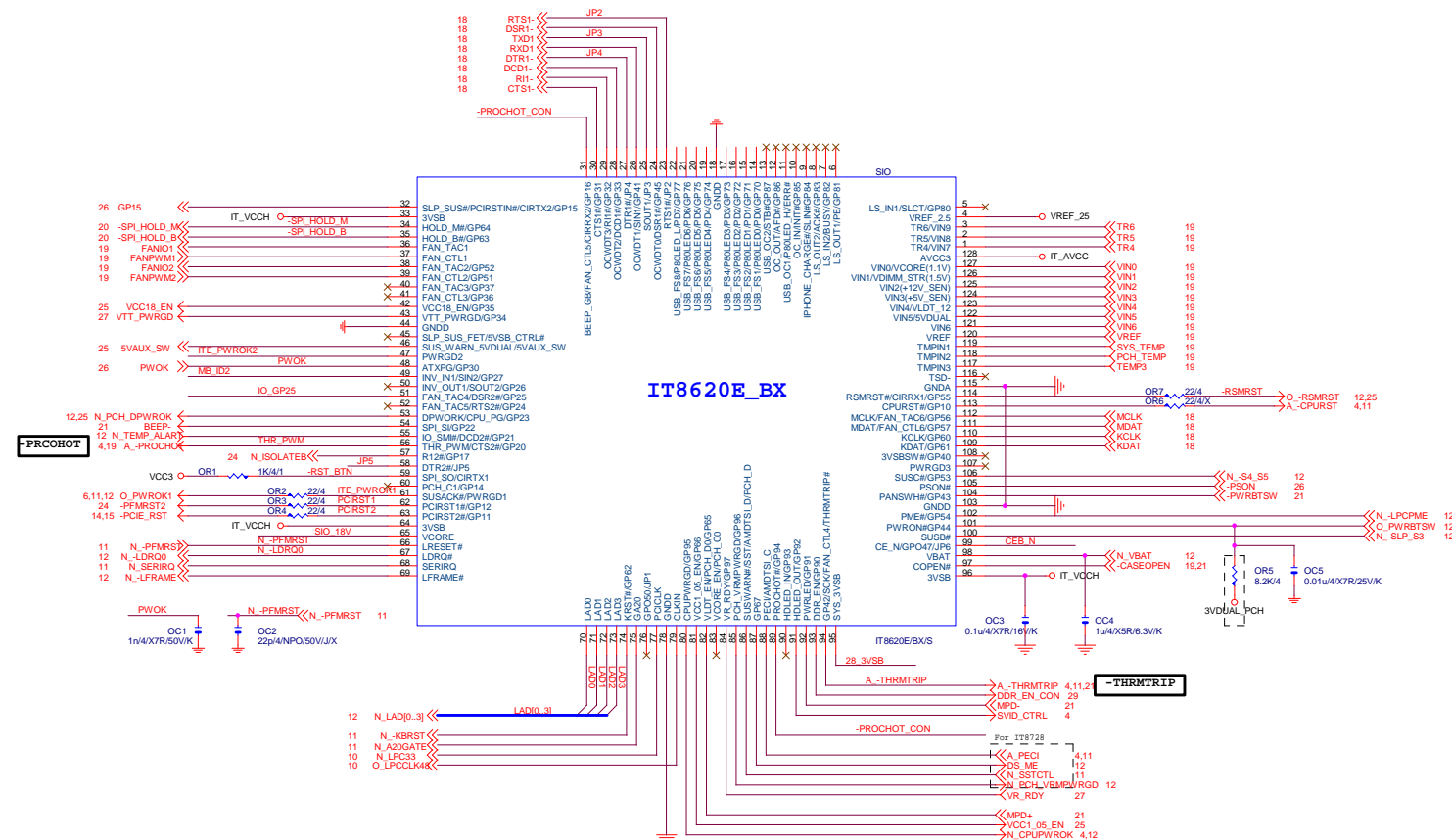


Gigabyte Technology			
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Date:	Wednesday, October 16, 2013	Sheet	15 of 33

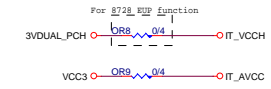


Gigabyte Technology			
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Date:	Wednesday, October 16, 2013	Sheet	16 of 33

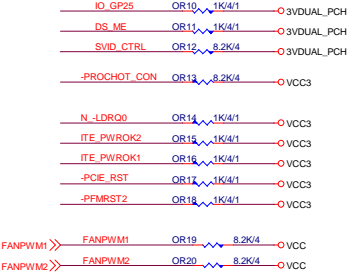
SIO IT8620



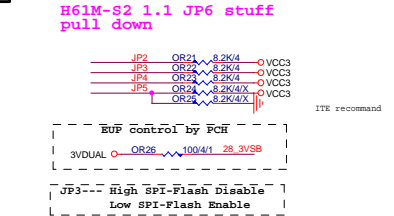
PWR SHT



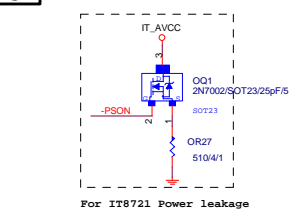
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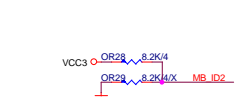
SIO STRAP



Power leakage



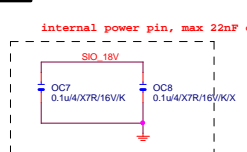
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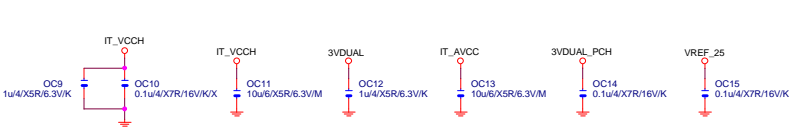
DUAL BIOS OPT STRAP



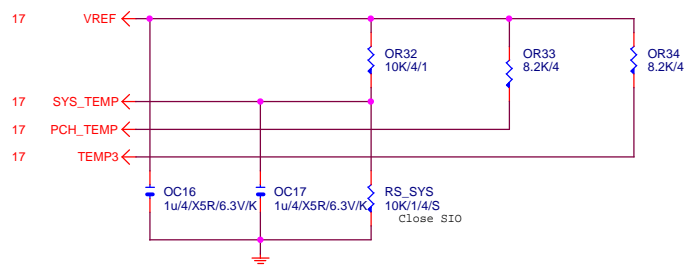
SIO_18V



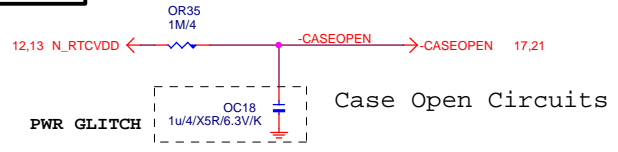
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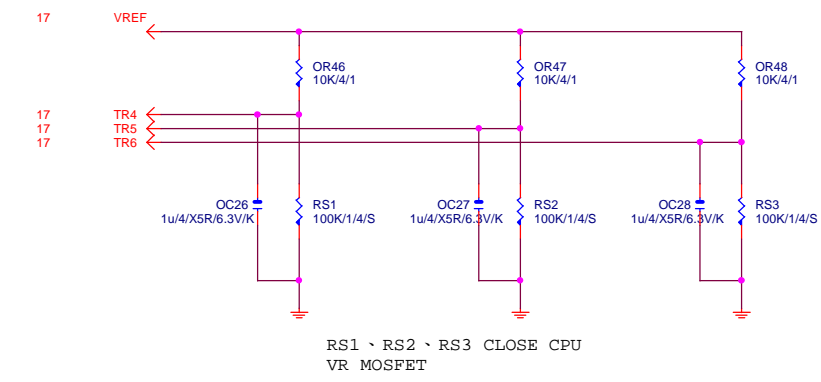
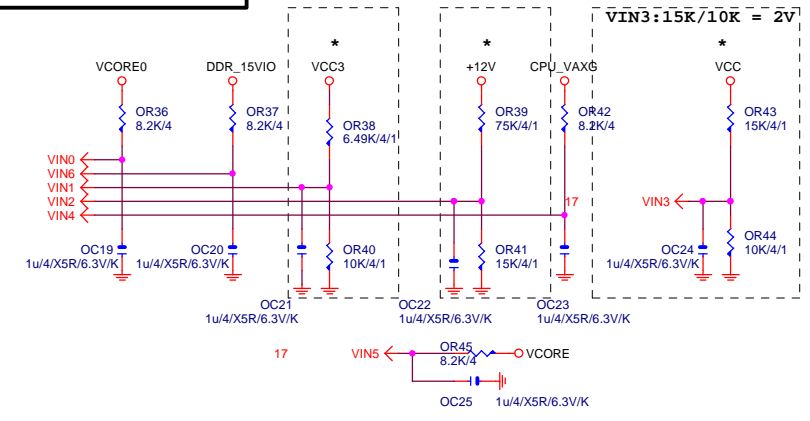
TEMP H/W MONITOR



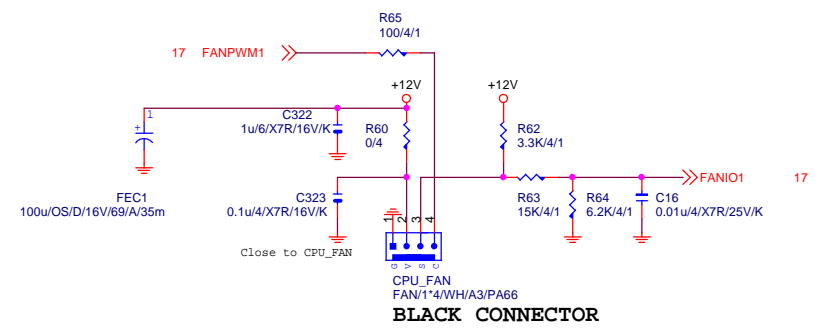
CASE OPEN



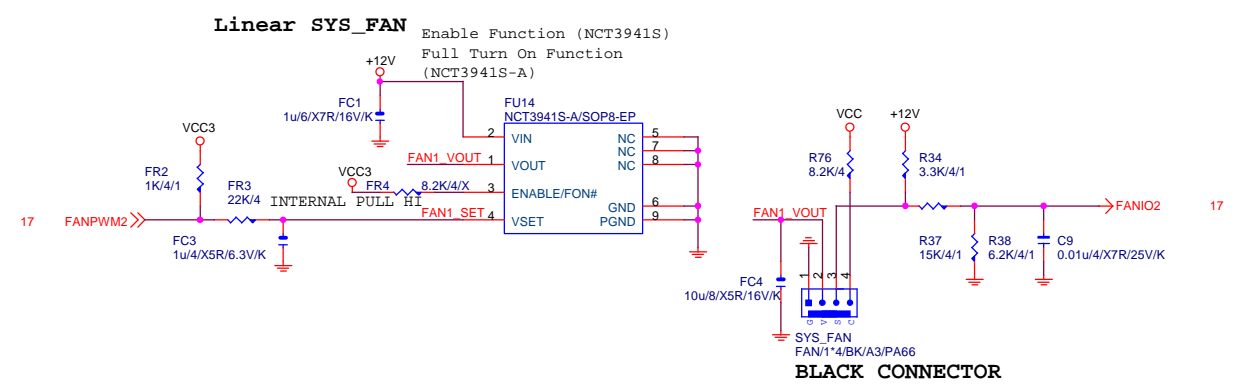
VOLTAGE-- H/W MONITOR



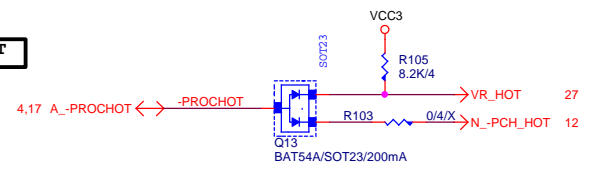
CPU SMART FAN



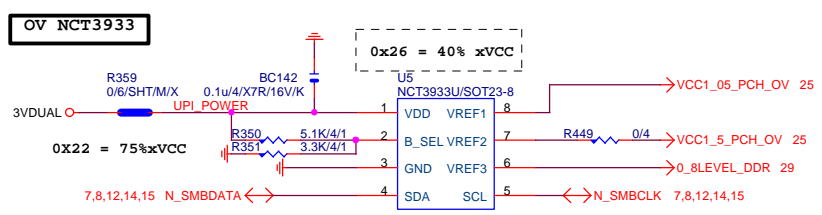
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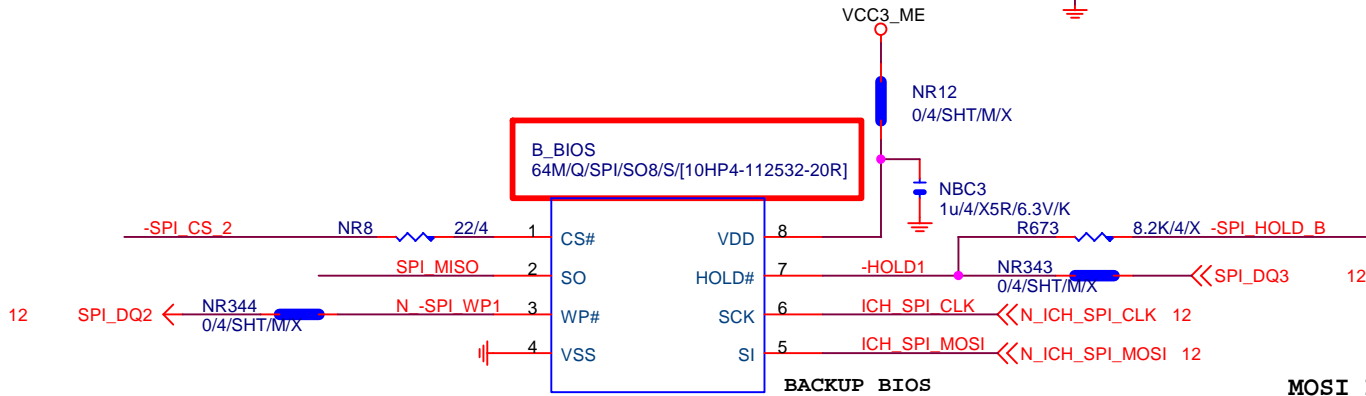
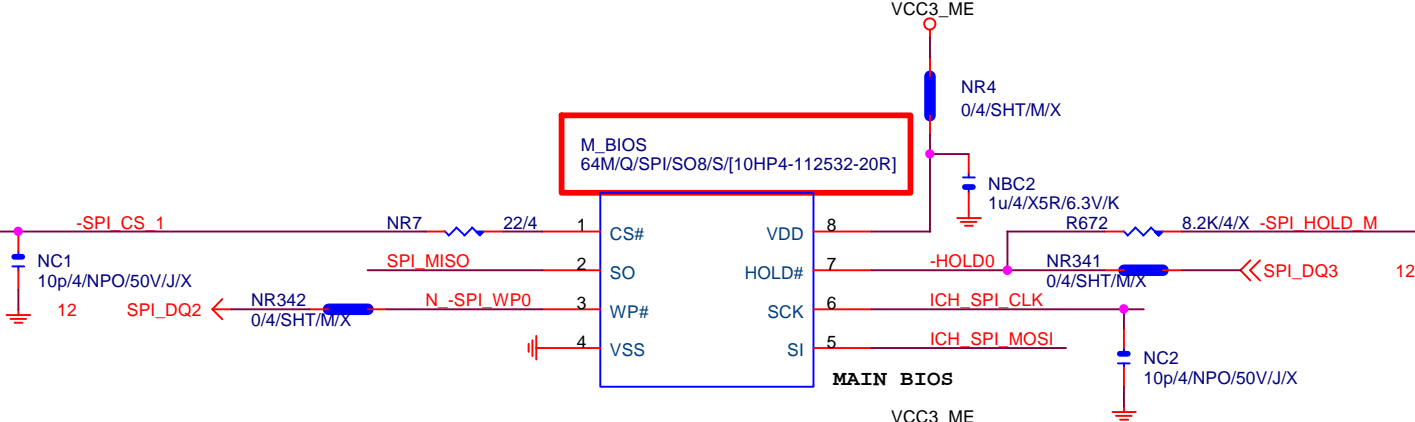
-PROHOT



接pwm feedback pin



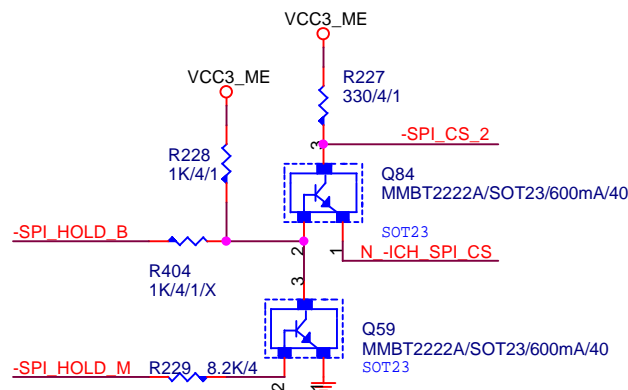
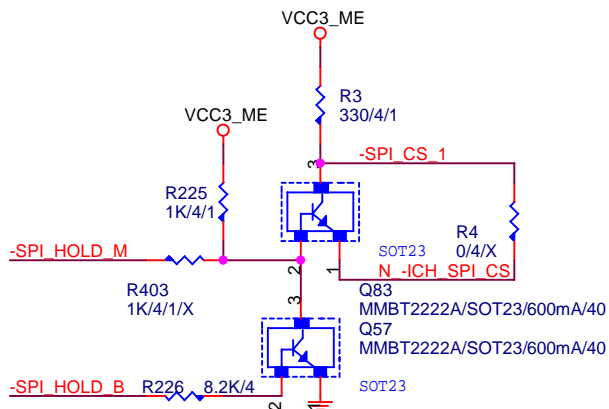
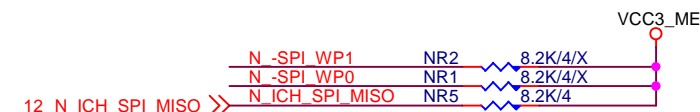
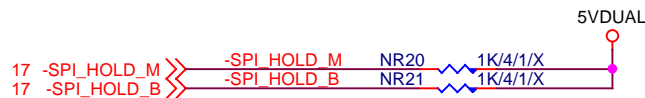
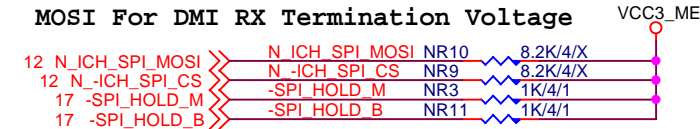
NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF



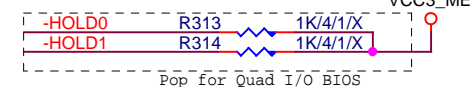
BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

1 means floating
0 means PD 1K

MOSI For DMI RX Termination Voltage



CHECK



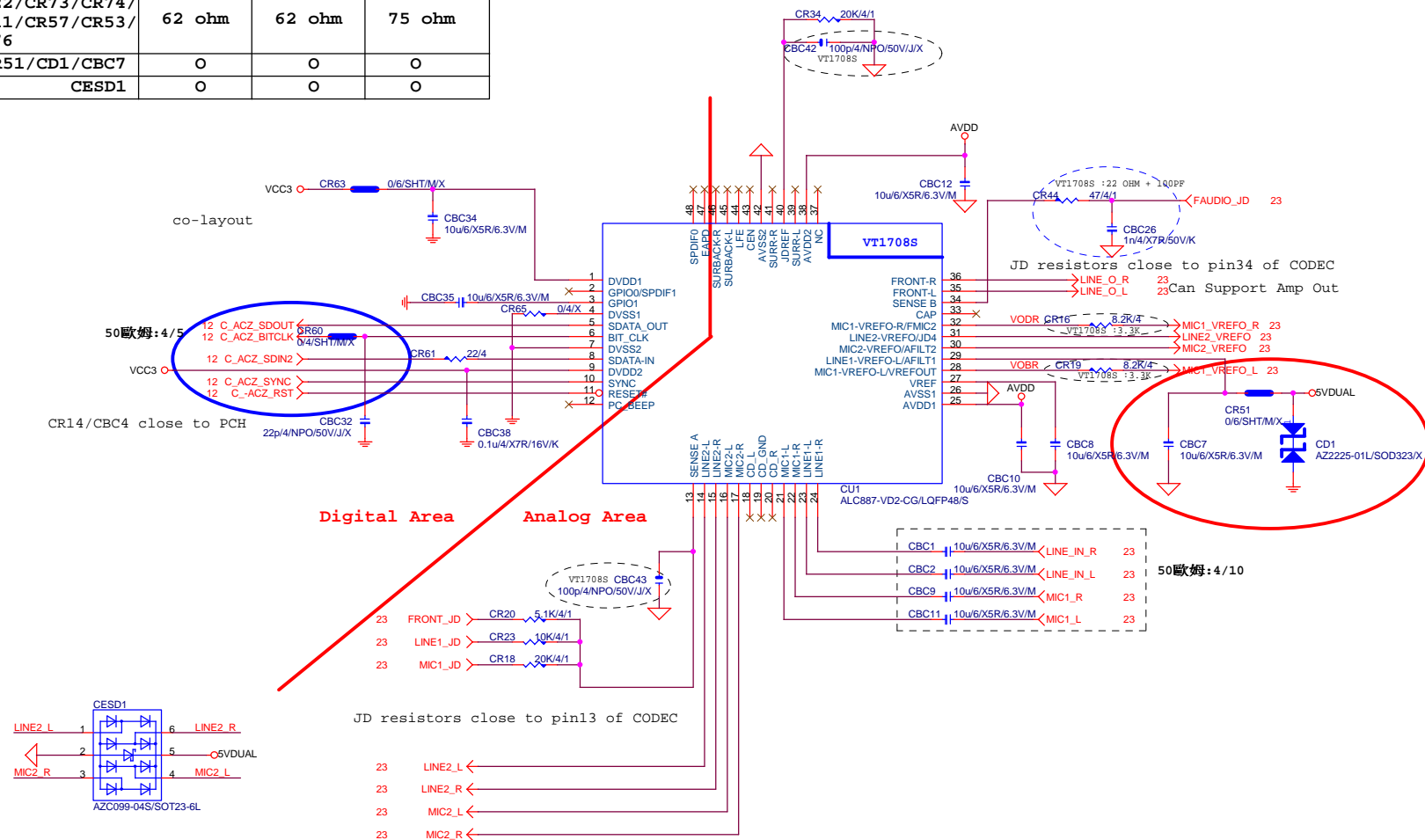
Gigabyte Technology

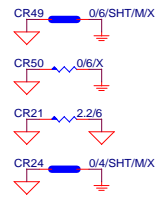
DUAL BIOS

GA-B85M-D2V

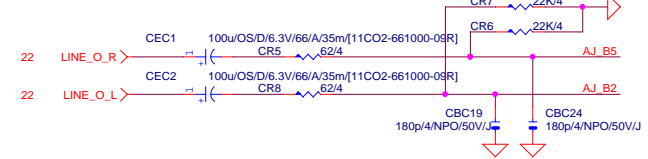
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	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7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



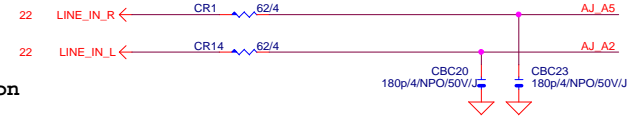


LINE-OUT



Only reserved for ALC888

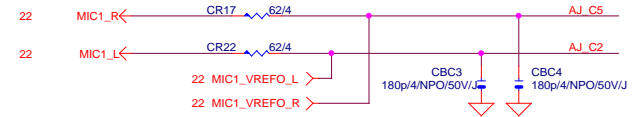
LINE-IN



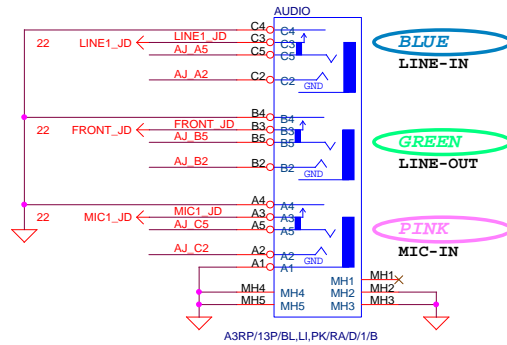
Verify MIC function
in LINE-in

For 889A/888

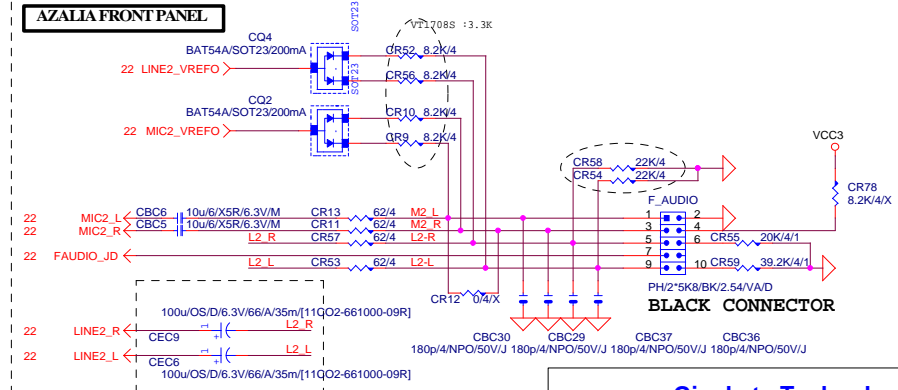
MIC-IN



SPDIF_OUT



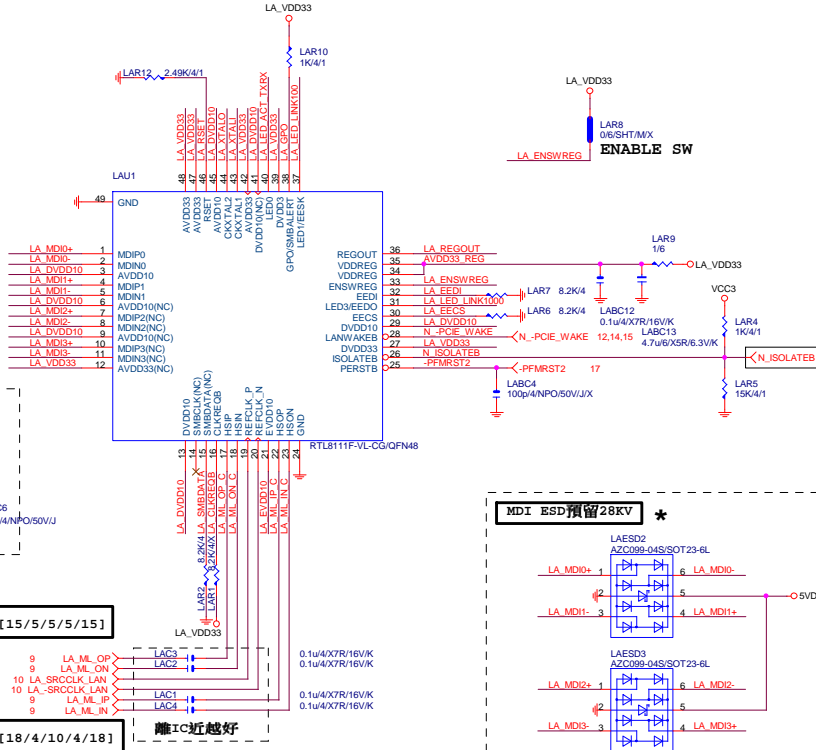
AZALIAFRONT PANEL



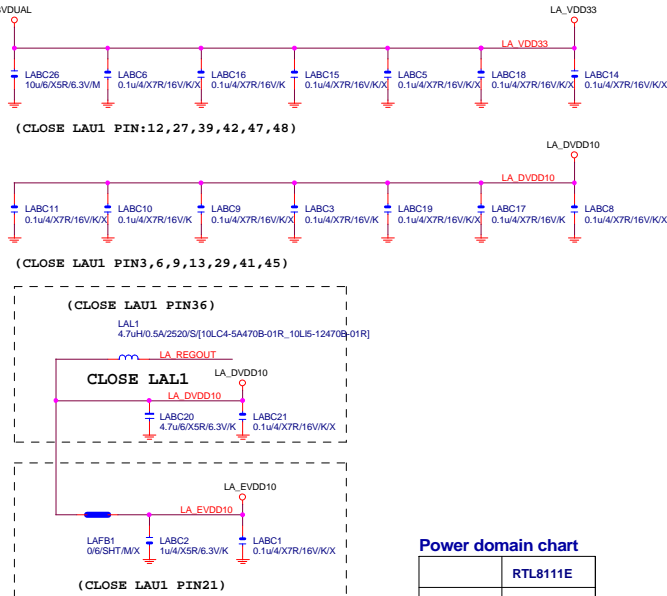
Gigabyte Technology

Title			
AUDIO JACK			
Size	Document Number		Rev
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LAN:RTL8111F/VB/VL



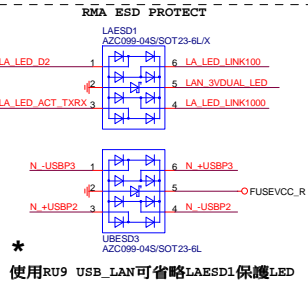
LAN POWER



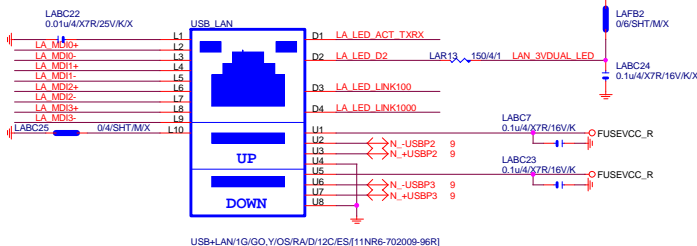
Power domain chart

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

USB LAN CONNECTOR



LA_MDI-->100歐姆:[20/4/8/4/20]

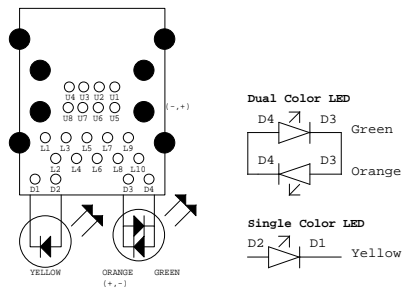


USB X3 POWER



EMI SHORT PAD

PS:視EMI需求

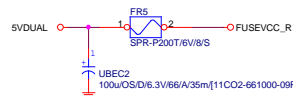


注意:USB PORT(目前:暫代6,7PORT)
USB-->90歐姆:[15/4.5/7.5/4.5/15]

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		

FUSE-0805

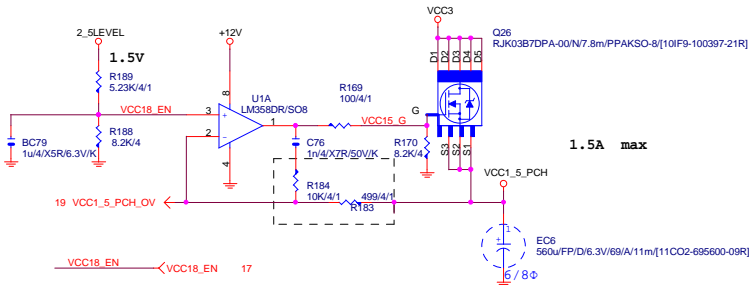


Close to connector

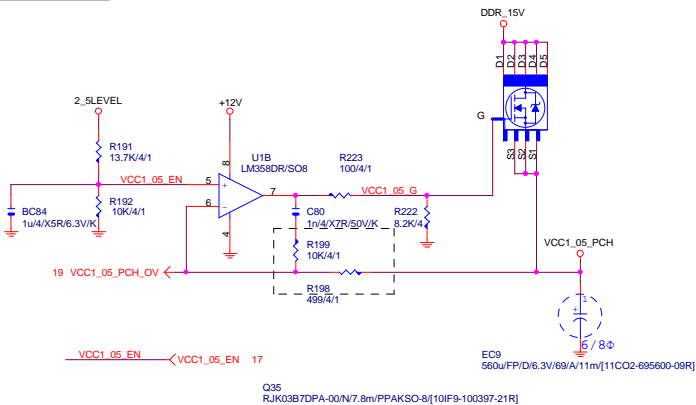
Gigabyte Technology

Title		Realtek RTL8111G	
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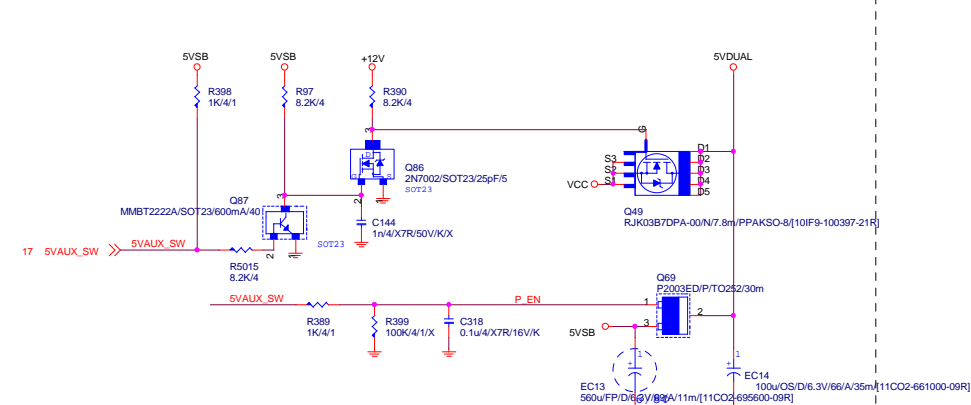
VCC1_8_PCH



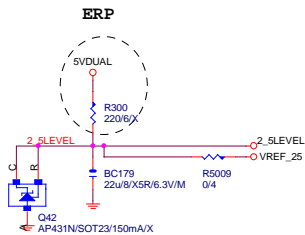
VCC1_05_PCH



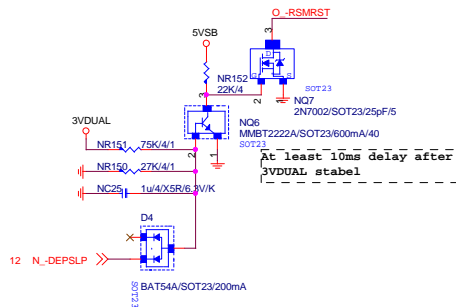
5VDUAL



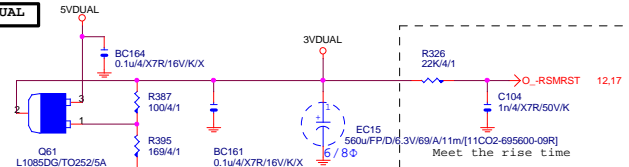
2_5LEVEL



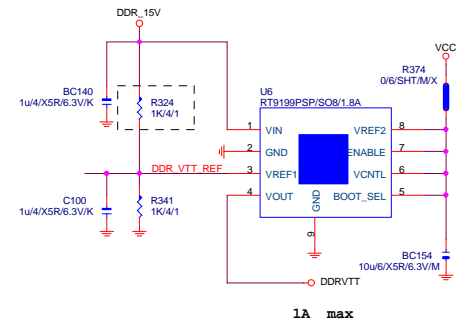
5VDUAL SHORT PROTECT



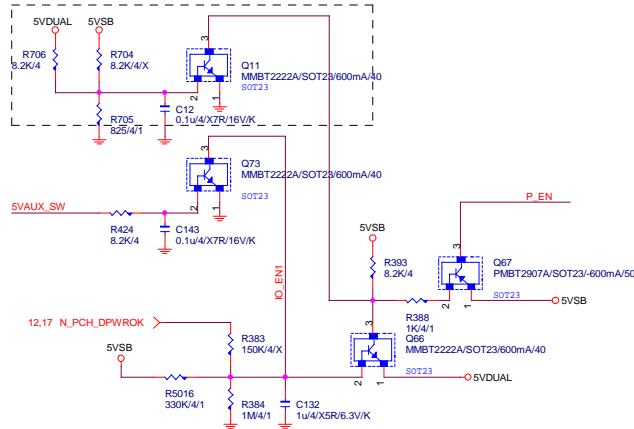
3VDUAL



DDRVTT

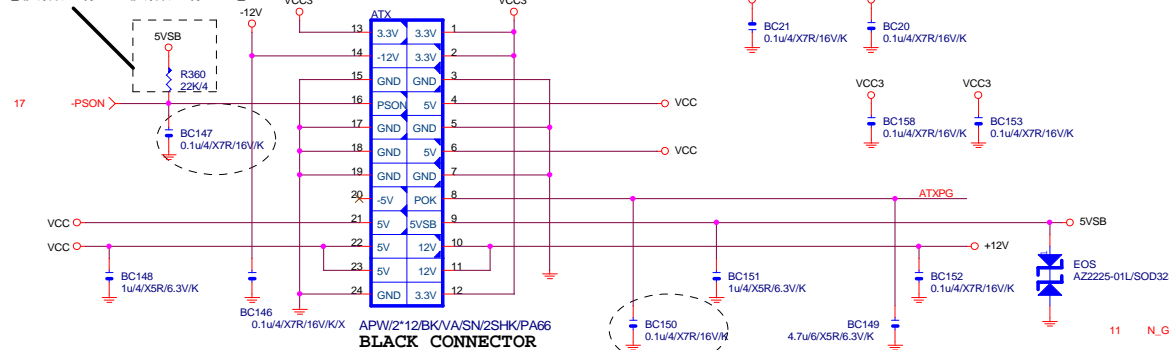


5VSB OVP:7.5V protection

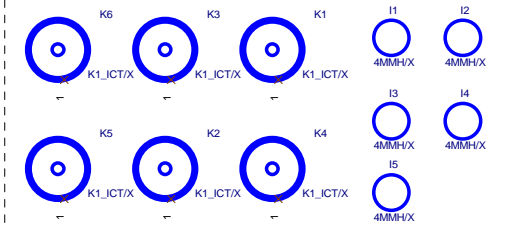
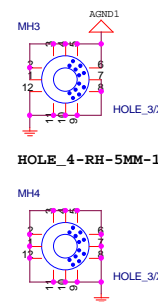
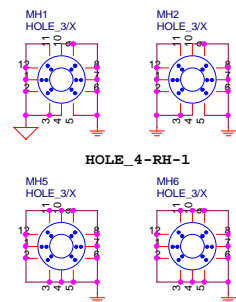


ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】



BLACK CONNECTOR

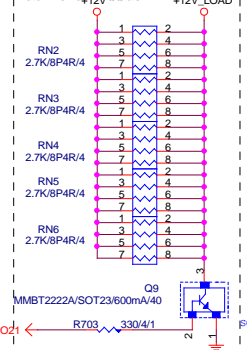


To prevent the 5VSB under loading when boot

TPM

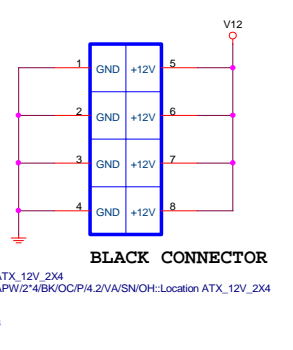
【技術通報R&D技術通報153】

To fix 12V light load abnormality issue



ATXX4 POWER CONNECTOR

To fix 12V light load abnormality issue

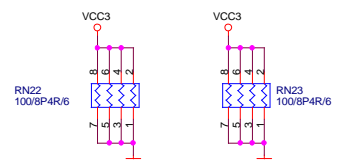
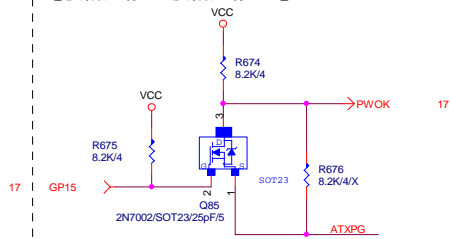


BLACK CONNECTOR

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

PWOK PATCH

【技術通報R&D技術通報154】



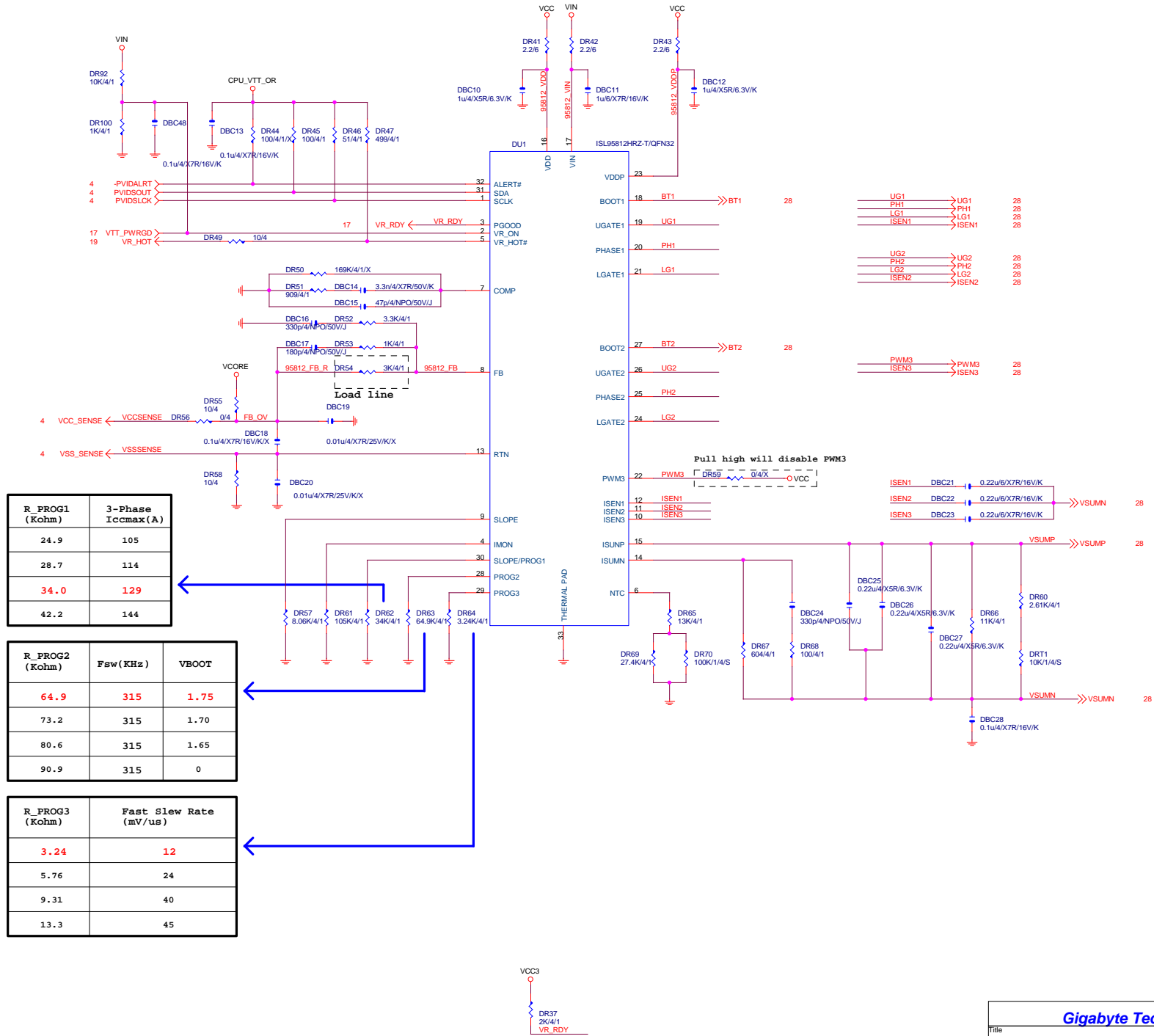
FIX PWR MINMUN LOAD

Gigabyte Technology

ATX CONNECTOR

GA-B85M-D2V

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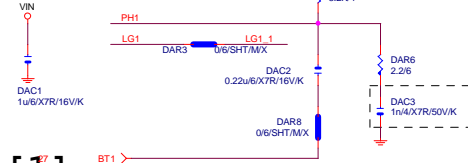
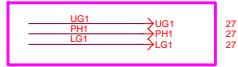


R_PROG1 (Kohm)	3-Phase Iccmax(A)
24.9	105
28.7	114
34.0	129
42.2	144

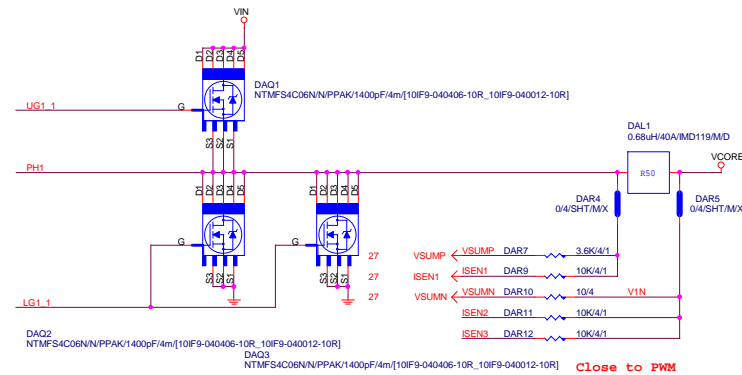
R_PROG2 (Kohm)	Fsw(KHz)	VBOOT
64.9	315	1.75
73.2	315	1.70
80.6	315	1.65
90.9	315	0

R_PROG3 (Kohm)	Fast Slew Rate (mV/us)
3.24	12
5.76	24
9.31	40
13.3	45

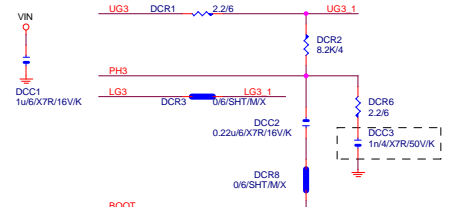
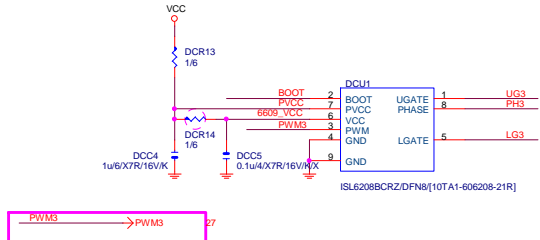
PHASE 1



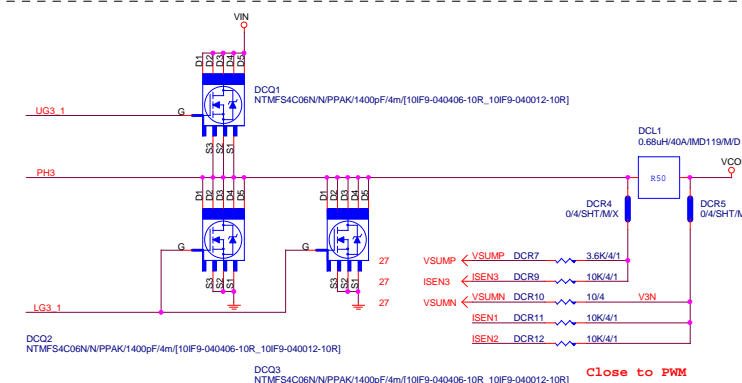
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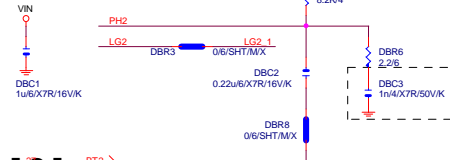
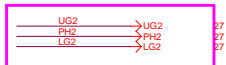
PHASE 3



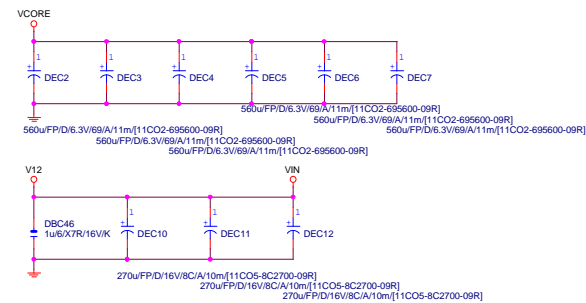
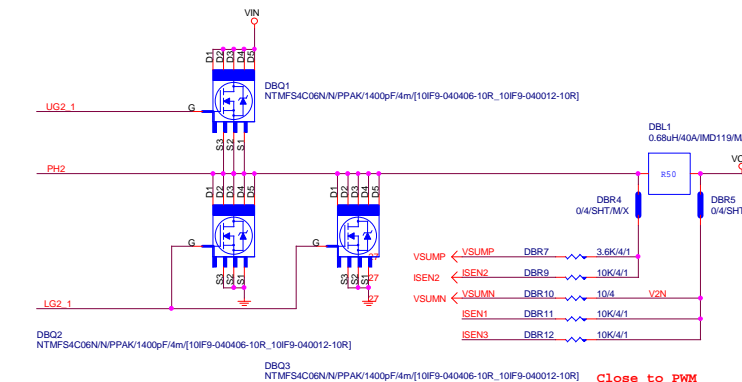
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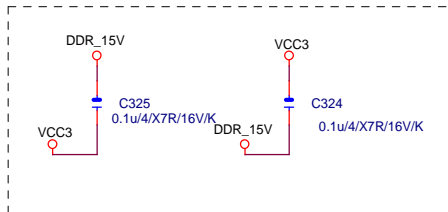
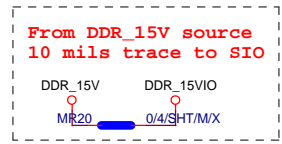
PHASE 2



[2]



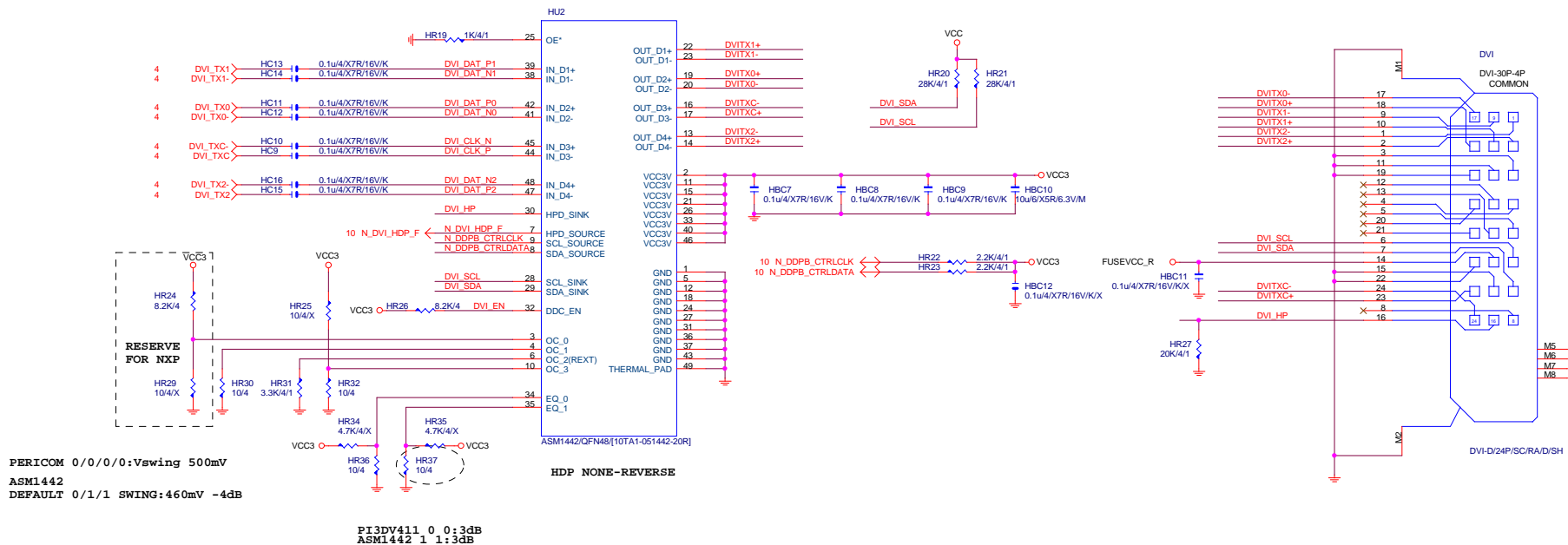
Gigabyte Technology			
Title		CPU CORE VR-2	
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DVI LEVEL SHIFT



HDMI LEVEL SHIFT

5	4	3	2	1
D				D
C				C
B				B
A				A

Gigabyte Technology			
Title USB3 EJ188			
Size C	Document Number GA-B85M-D2V		Rev 1.1
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