

Model Name: GA-P85-D3

2.0

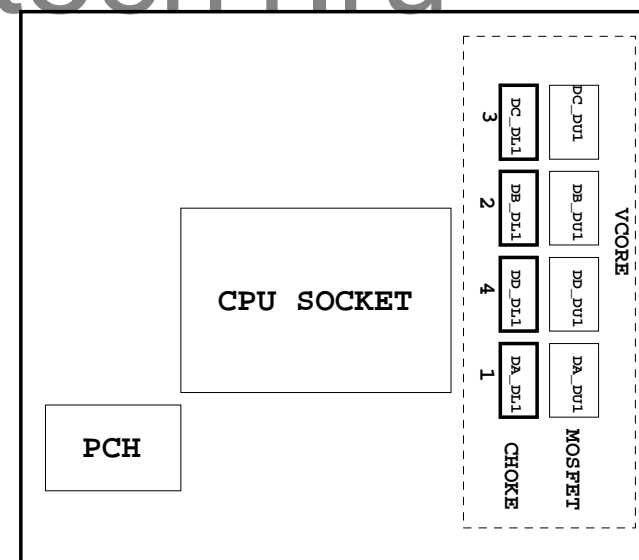
SHEET TITLE

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

SHEET TITLE

28	F_PANEL , F_USB2.0/3.0
29	ATX POWER, CLOCK GEN
30	HWM , KB/MS , FAN CTRL
31	Realtek 8111F-VL
32	HDMI
33	TABLE LIST
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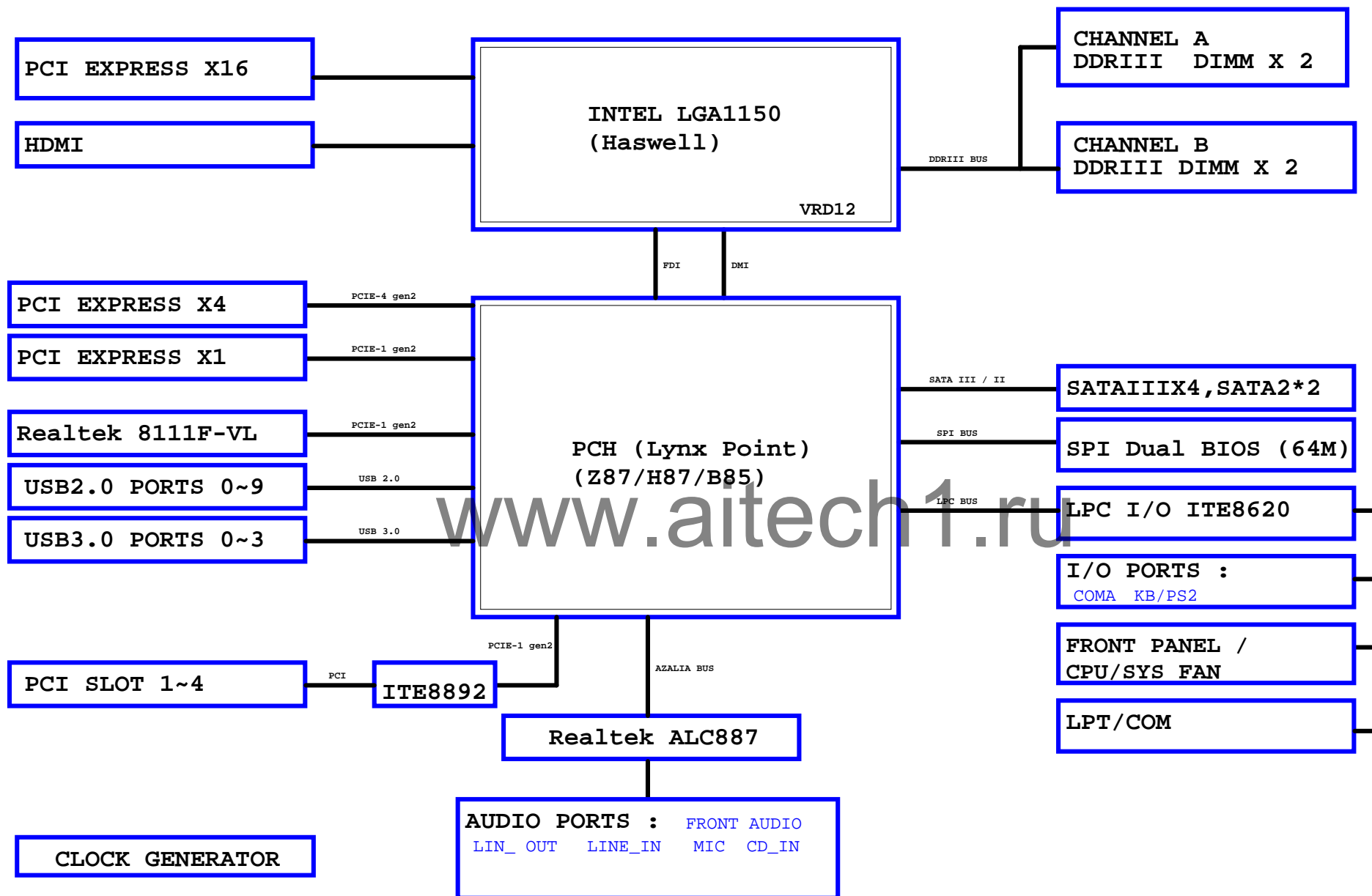


Gigabyte Technology			
Title			
Cover Sheet			
Size	Document Number	GA-P85-D3	Rev
Custom			2.0
Date	Wednesday, February 26, 2014	Sheet	1 of 33

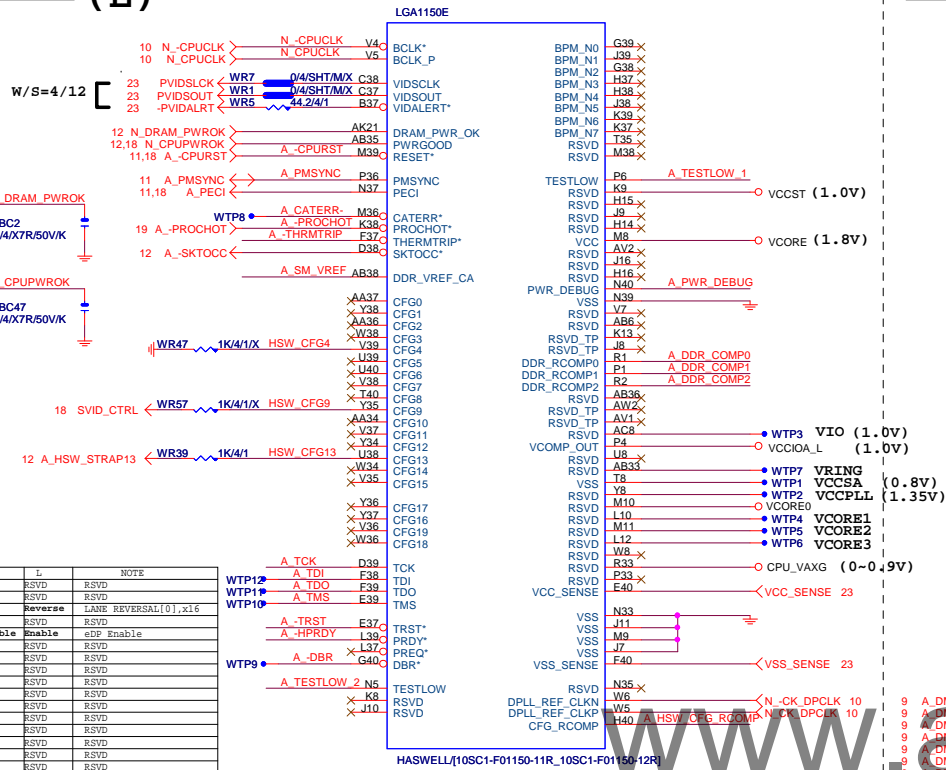
Component value change history

[illegible][illegible]

BLOCK DIAGRAM



LGA1150 (E)

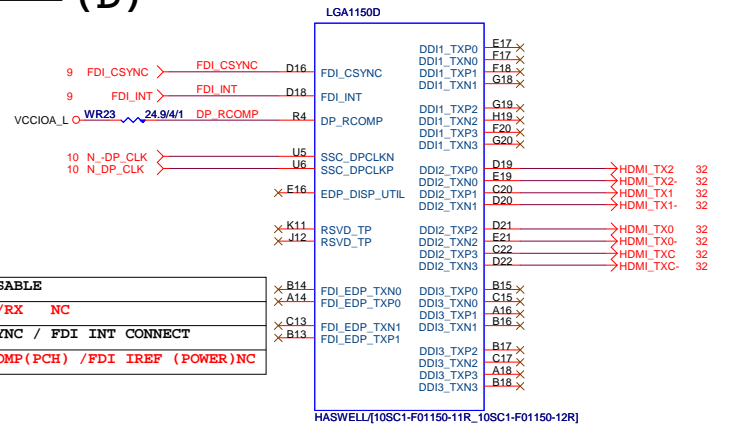


CFG	H	L	NOTE
0	RSPD	RSPD	RSPD
1	RSPD	RSPD	RSPD
2	RRM	Reverse	LANE REVERSAL[0,x16]
3	RSPD	RSPD	RSPD
4	Disable	Enable	eDP Enable
7	RSPD	RSPD	RSPD
8	RSPD	RSPD	RSPD
9	RSPD	RSPD	RSPD
10	RSPD	RSPD	RSPD
11	RSPD	RSPD	RSPD
12	RSPD	RSPD	RSPD
13	RSPD	RSPD	RSPD
14	RSPD	RSPD	RSPD
15	RSPD	RSPD	RSPD
16	RSPD	RSPD	RSPD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

CFG6	CFG5	PCIE CONFIG
1	1	1x16 , Default
1	0	2x8
0	1	RSVD
0	0	X8,X4,X4

CFG 0-17 all internal PULL-UP

LGA1150 (D)



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

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

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

Impedance=85 +- 15%

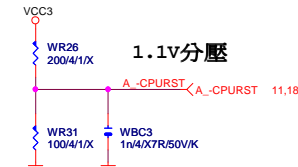
LGA1155 (C)



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

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

-CPURST



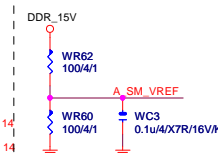
CPU SVID



CPU	PU/PD
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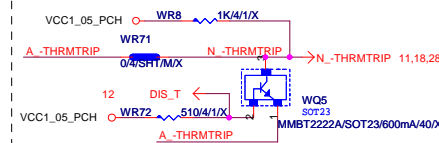
SM REF



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| THRMTRIP DISABLE FOR Z87 OVERCLOCK

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Gigabyte Technology

Title			
CPU LGA1150-A			
Size	Document Number		Rev
Custom	GA-P85-D3		2.0
Date:	Wednesday, February 26, 2014	Sheet	4 of 33

LGA1150 (A)

LGA1150A									
		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	AF37	MDA6		
		MAAA7	AU18	DDR0_MA7	DDR0_D07	AF40	MDA7		
		MAAA8	AV19	DDR0_MA8	DDR0_D08	AD39	MDA13		
		MAAA9	AU18	DDR0_MA9	DDR0_D09	AD40	MDA9		
		MAAA10	AW11	DDR0_MA10	DDR0_D10	AD38	MDA11		
		MAAA11	AU19	DDR0_MA11	DDR0_D11	AD39	MDA12		
		MAAA12	AV19	DDR0_MA12	DDR0_D12	AD38	MDA8		
		MAAA13	AV19	DDR0_MA13	DDR0_D13	AD37	MDA14		
		MAAA14	AT20	DDR0_MA14	DDR0_D14	AK40	MDA15		
		MAAA15	AT21	DDR0_MA15	DDR0_D15	MDA17			
				DDR0_D16	PM38	MDA21			
		MODT_A0	AW10	DDR0_ODT0	DDR0_D17	PM39	MDA18		
		MODT_A1	AY8	DDR0_ODT1	DDR0_D18	AP39	MDA19		
		MODT_A2	AU9	DDR0_ODT2	DDR0_D19	AM37	MDA20		
		MODT_A3	AW8	DDR0_ODT3	DDR0_D20	AM38	MDA16		
					DDR0_D21	AP37	MDA22		
					DDR0_D22	PM37	MDA25		
			AW33	DDR0_ECC0	DDR0_D23	AV35	MDA29		
			AU31	DDR0_ECC1	DDR0_D24	AW37	MDA29		
			AV31	DDR0_ECC2	DDR0_D25	AV35	MDA26		
			AU33	DDR0_ECC3	DDR0_D26	AV37	MDA27		
			AT33	DDR0_ECC4	DDR0_D27	AT35	MDA27		
			AT31	DDR0_ECC5	DDR0_D28	AV37	MDA28		
			AW31	DDR0_ECC6	DDR0_D29	AT35	MDA30		
				DDR0_ECC7	DDR0_D30	AW35	MDA31		
		SBA0	AV12	DDR0_D31	DDR0_D31	AY6	MDA33		
7		SBA01	SBA1	DDR0_BA0	DDR0_D32	AY6	MDA37		
7		SBA01	AT21	DDR0_BA1	DDR0_D33	AD40	MDA37		
7		SBA02	SBA2	DDR0_BA2	DDR0_D34	AW4	MDA35		
				DDR0_BA2	DDR0_D35	AW6	MDA36		
		CKE0	CKE0	DDR0_CK0	DDR0_C36	AN1	MDA32		
7		CKE0	CKE1	DDR0_CK1	DDR0_C37	AW4	MDA38		
7		CKE1	CKE2	DDR0_CK2	DDR0_C38	AW4	MDA39		
7		CKE2	CKE3	DDR0_CK3	DDR0_C39	AN1	MDA41		
7				DDR0_CK3	DDR0_D40	AN1	MDA42		
7		-CSA0	-CSA1	DDR0_CS_N0	DDR0_D41	AN2	MDA43		
7		-CSA1	AV9	DDR0_CS_N1	DDR0_D42	AN2	MDA44		
7		-CSA2	AW10	DDR0_CS_N2	DDR0_D43	AN4	MDA44		
7		-CSA3	-CSA3	DDR0_CS_N3	DDR0_D44	AN2	MDA45		
7				DDR0_CS_N3	DDR0_D45	AN2	MDA46		
7		DCLKA0	DCLKA0	DDR0_CLK_P0	DDR0_D46	AN1	MDA47		
7		-DCLKA0	-DCLKA0	DDR0_CLK_N0	DDR0_D47	AN1	MDA49		
7		DCLKA1	DCLKA1	DDR0_CLK_P1	DDR0_D48	AN1	MDA49		
7		-DCLKA1	-DCLKA1	DDR0_CLK_N1	DDR0_D49	AN3	MDA50		
7		DCLKA2	DCLKA2	DDR0_CLK_P2	DDR0_D50	AL2	MDA51		
7		-DCLKA2	-DCLKA2	DDR0_CLK_N2	DDR0_D51	AL2	MDA52		
7		DCLKA3	DCLKA3	DDR0_CLK_P3	DDR0_D52	AL2	MDA53		
7		-DCLKA3	-DCLKA3	DDR0_CLK_N3	DDR0_D53	AL2	MDA54		
			AW12	RSVD	DDR0_D54	AL2	MDA55		
					DDR0_D55	AG1	MDA57		
					DDR0_D56	AG4	MDA61		
					DDR0_D57	AE3	MDA58		
					DDR0_D58	AE4	MDA59		
					DDR0_D59	AE2	MDA60		
					DDR0_D60	AE3	MDA56		
					DDR0_D61	AE3	MDA62		
7		-SRASA	-SRASA	DDR0_RAS*	DDR0_D62	AE1	MDA63		
7		-SWEA	-SWEA	DDR0_WE*	DDR0_D63	AE39	DSQA0		
					DDR0_D64	AN39	DSQA2		
			AW20	RSVD	DDR0_D65	AV36	DSQA3		
			AW27C	RSVD	DDR0_D66	AP3	DSQA4		
					DDR0_D67	AP3	DSQA5		
7		-SCASA	-SCASA	DDR0_CAS*	DDR0_D68	AE2	DSQA7		
					DDR0_D69	AE2	DSQA7		
7.8		-DDR3_RST	WR61 D4/SH/TMX	AK22C	DDR0_RESET*	AV32	DSQA0		
			WC4			AE38	DSQA1		
			0.1uA/XCTR/16V/KX			AN38	DSQA2		
						AN36	DSQA3		
						AW5	DSQA4		
						AE2	DSQA5		
						AE2	DSQA6		
						AE2	DSQA7		
						AK22C			

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

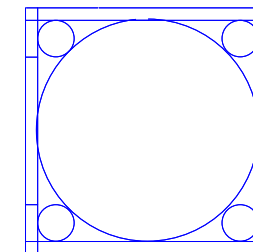
LGA1150 (B)

LGA1150B			
MAA80	AL19	DDR1_MA0	DDR1_D00
MAA81	AK23	DDR1_MA1	DDR1_D01
MAA82	AM22	DDR1_MA2	DDR1_D02
MAA83	AM23	DDR1_MA3	DDR1_D03
MAA84	AP23	DDR1_MA4	DDR1_D04
MAA85	AL23	DDR1_MA5	DDR1_D05
MAA86	AY24	DDR1_MA6	DDR1_D06
MAA87	AV25	DDR1_MA7	DDR1_D07
MAA88	AU26	DDR1_MA8	DDR1_D08
MAA89	AP18	DDR1_MA9	DDR1_D09
MAA90	AW25	DDR1_MA10	DDR1_D10
MAA91	AY15	DDR1_MA11	DDR1_D11
MAA92	AV26	DDR1_MA12	DDR1_D12
MAA93	AR25	DDR1_MA13	DDR1_D13
MAA94	AV27	DDR1_MA14	DDR1_D14
MAA95	AZ28	DDR1_MA15	DDR1_D15
MODT_B0	AM17	DDR1_ODT0	DDR1_D16
MODT_B1	AM16	DDR1_ODT1	DDR1_D17
MODT_B2	AM16	DDR1_ODT2	DDR1_D18
MODT_B3	AK15	DDR1_ODT3	DDR1_D19
			DDR1_D20
			DDR1_D21
			DDR1_D22
	AM26	DDR1_ECC0	DDR1_D23
	AM25	DDR1_ECC1	DDR1_D24
	AP26	DDR1_ECC2	DDR1_D25
	AP26	DDR1_ECC3	DDR1_D26
	AR26	DDR1_ECC4	DDR1_D27
	AR25	DDR1_ECC5	DDR1_D28
	AR26	DDR1_ECC6	DDR1_D29
	AR25	DDR1_ECC7	DDR1_D30
SBA80	AK17	DDR1_BA0	DDR1_D31
SBA81	AL18	DDR1_BA1	DDR1_D32
SBA82	AW28	DDR1_BA2	DDR1_D33
			DDR1_D34
CKE80	AW29	DDR1_CKE0	DDR1_D35
CKE81	AY29	DDR1_CKE1	DDR1_D36
CKE82	AY29	DDR1_CKE2	DDR1_D37
CKE83	AU29	DDR1_CKE3	DDR1_D38
			DDR1_D39
CS80	AN17	DDR1_CS_0	DDR1_D40
CS81	AP15	DDR1_CS_N1	DDR1_D41
CS82	AN17	DDR1_CS_N2	DDR1_D42
CS83	AL15	DDR1_CS_N3	DDR1_D43
			DDR1_D44
			DDR1_D45
			DDR1_D46
			DDR1_D47
CLK80	AM20	DDR1_CLK_P0	DDR1_D48
CLK81	AM21	DDR1_CLK_N0	DDR1_D49
CLK82	AN17	DDR1_CLK_P1	DDR1_D50
CLK83	AP20	DDR1_CLK_N1	DDR1_D51
			DDR1_D52
CLK84	AN20	DDR1_CLK_P2	DDR1_D53
CLK85	AP21	DDR1_CLK_N2	DDR1_D54
CLK86	AP20	DDR1_CLK_P3	DDR1_D55
		DDR1_CLK_N3	DDR1_D56
SCASB	AP16	DDR1_CAS*	DDR1_D57
	AM20	RSVD	DDR1_D58
SRASB	AM18	DDR1_RAS*	DDR1_D59
SWEB	AK16	DDR1_WE*	DDR1_D60
			DDR1_D61
			DDR1_D62
	AB39	DDR_VREF_DQ0	DDR1_D63
	AB40	DDR_VREF_DQ1	DDR1_D64
			DDR1_D65
			DDR1_D66
			DDR1_D67
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			DDR1_D118
			DDR1_D119
			DDR1_D120
			DDR1_D121
			DDR1_D

HASWELL/10SC1-F01150-11R_10SC1-F01150-12R

LGA1150 (CR)

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



DDR BUS

7 MODT_A[0..3] ↔ MODT_A[0..3]
 8 MODT_B[0..3] ↔ MODT_B[0..3]
 7 MDA[0..63] ↔ MDA[0..63]
 8 MDB[0..63] ↔ MDB[0..63]
 7 DQSA[0..7] ↔ DQSA[0..7]
 7 -DQSA[0..7] ↔ -DQSA[0..7]
 7 MAAB[0..15] ↔ MAAB[0..15]
 8 MAAB[0..15] ↔ MAAB[0..15]
 8 DQSB[0..7] ↔ DQSB[0..7]
 8 -DQSB[0..7] ↔ -DQSB[0..7]

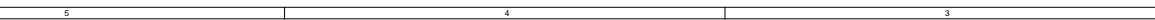
(F, J)



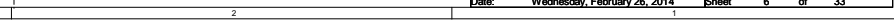
(G,H,I)



(X30)

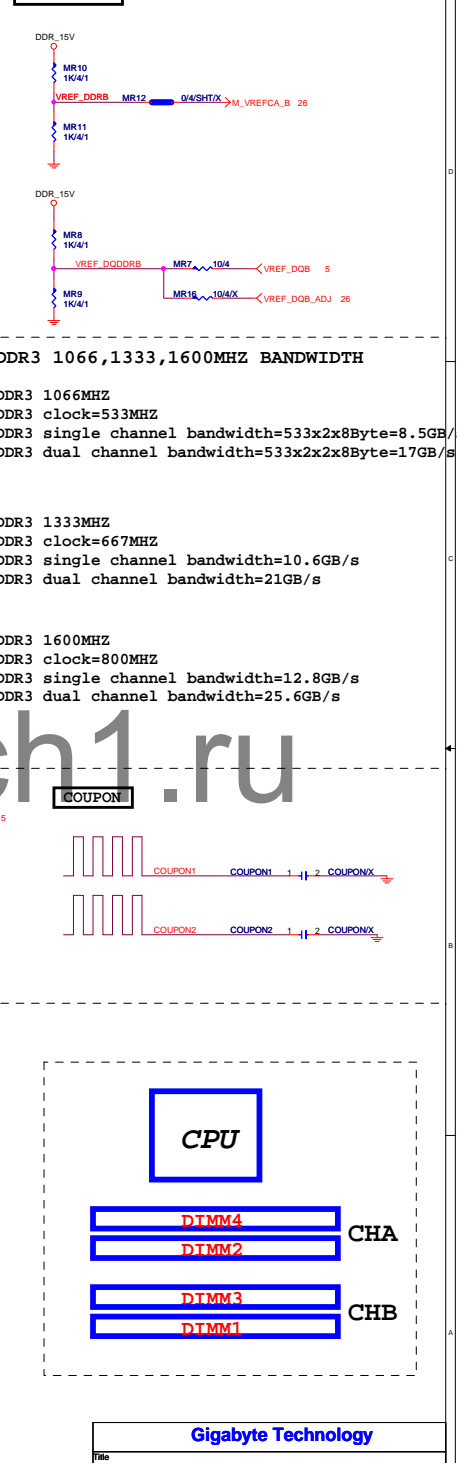
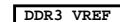
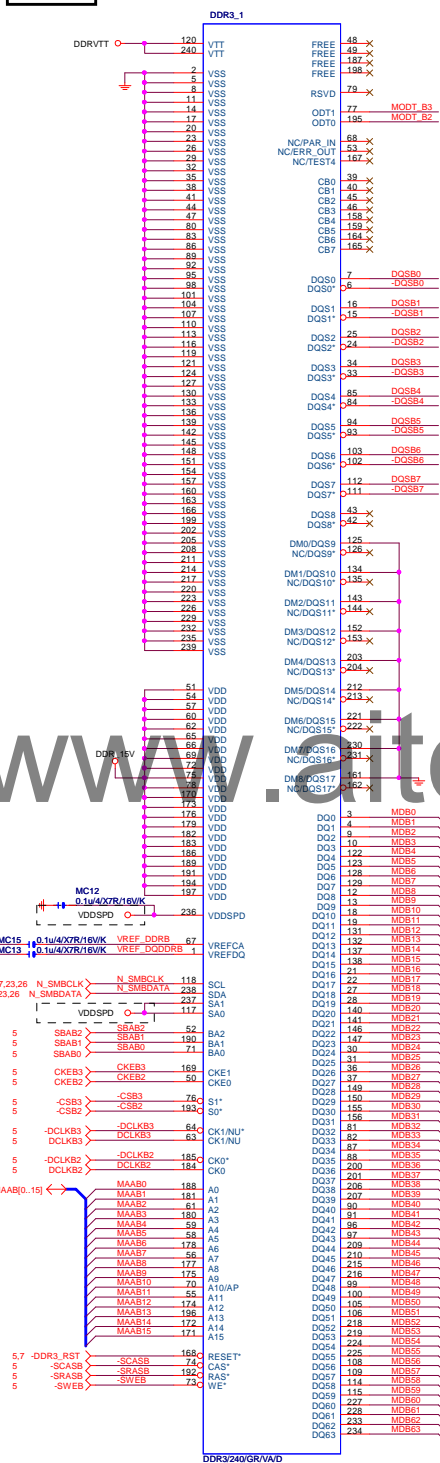
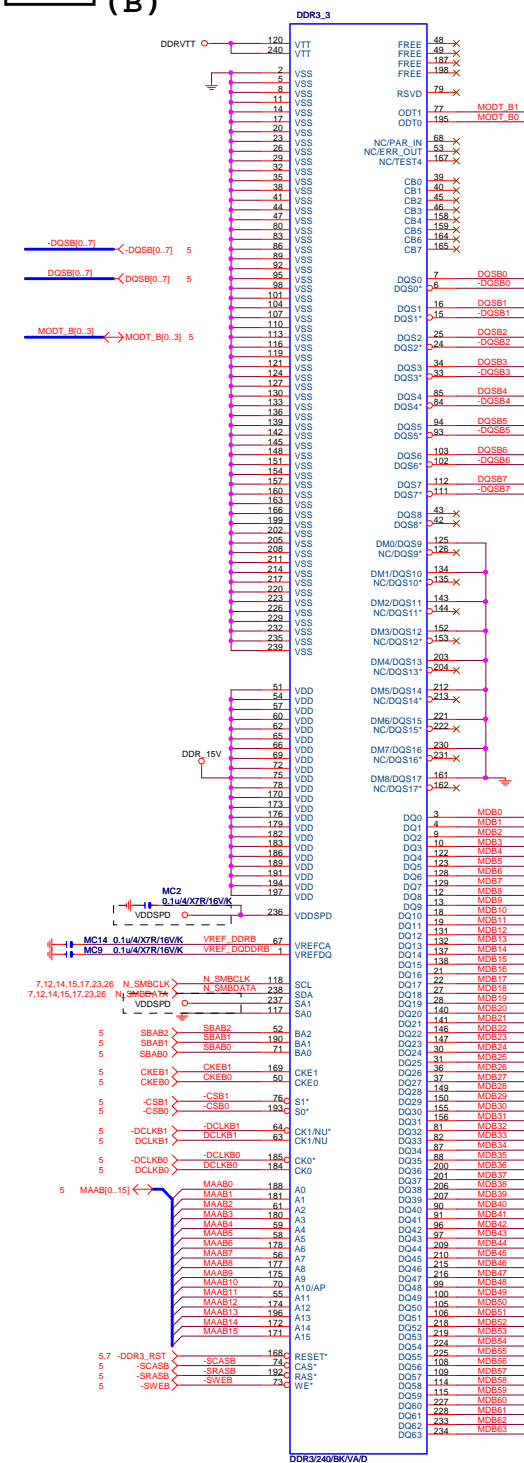


(X15)





(B)



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

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



28 PO

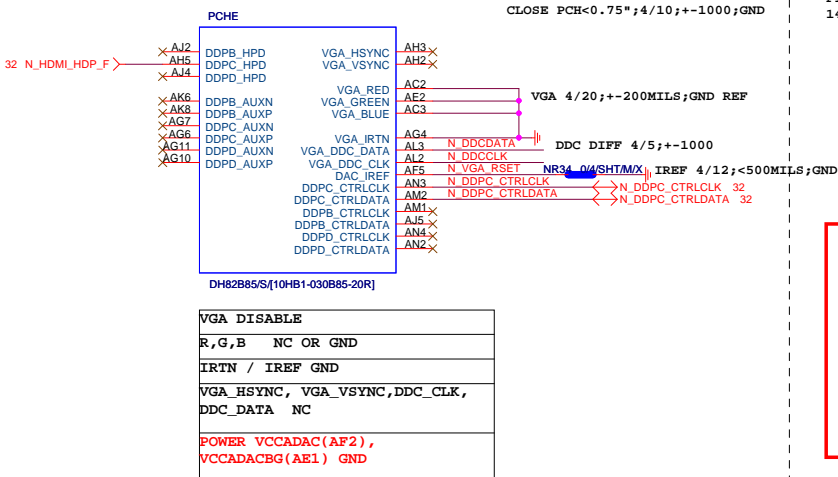




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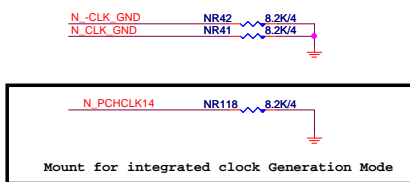
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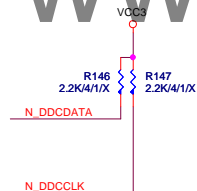
PCH (G)



PCH CLK PD



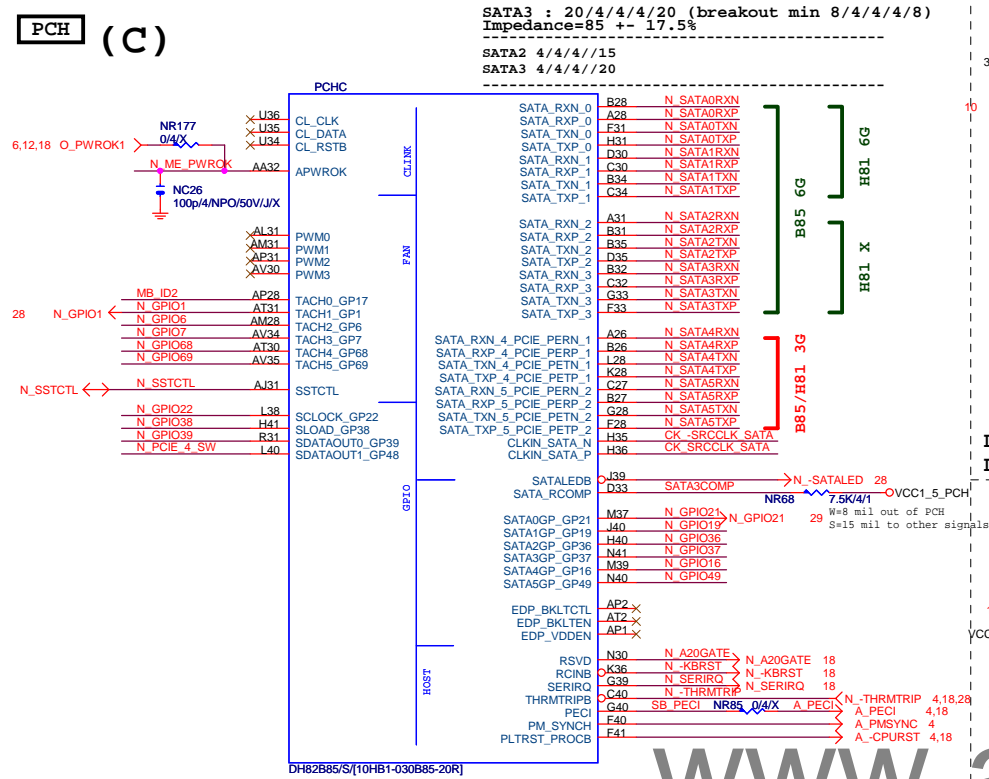
VGA DDC



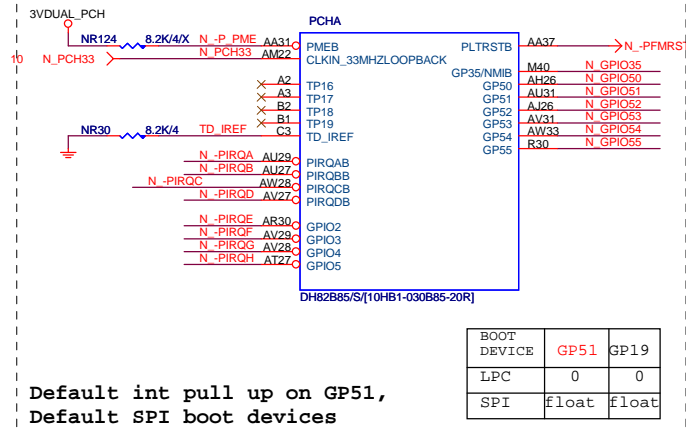
VGA DDC

VGA CONNECTOR

PCH (C)



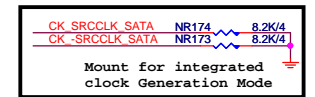
PCH (A)



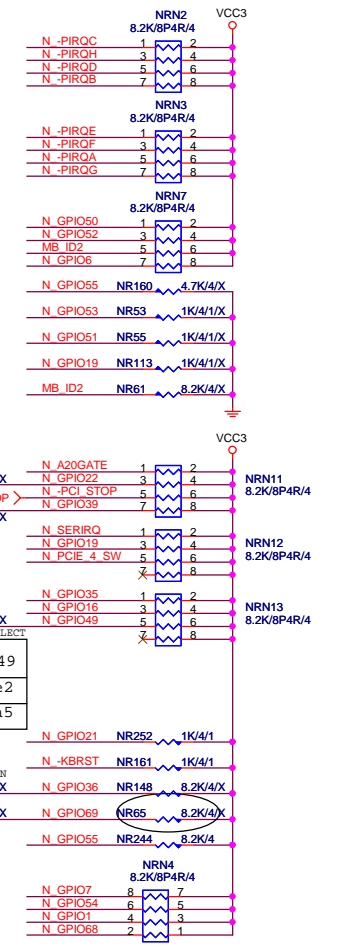
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Default int pull up on GP51,  
Default SPI boot devices
```

BOOT DEVICE	GP51	GP19
LPC	0	0
SPI	float	float

PCH CLK PD



PCH PU/PD



MB ID

H_GPI055:A16 SWAP OVERRIDE

N_GPI053:DMI AC COUPLING

MB ID

H_GPI022:PCH CONFIG

NR167 **1K/4/1X**

12 N_GPI_STOP

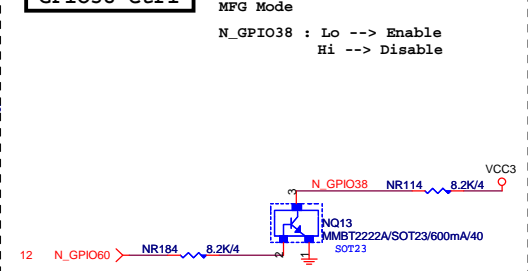
NR157 **1K/4/1X**

N_GPI039:GFX MODE

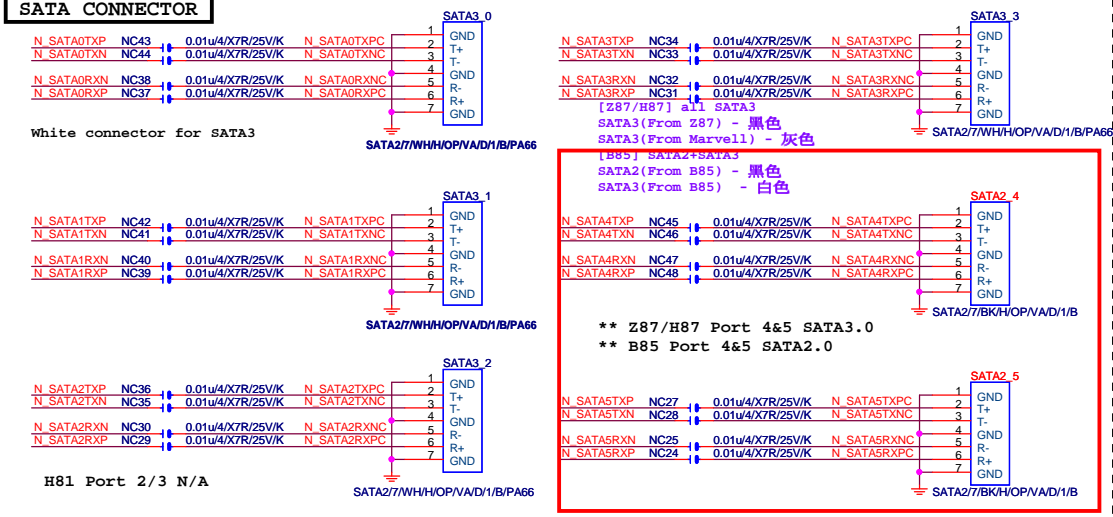
NR80 **1K/4/1X**

N_GPI049:PCIE/MSATA MIX SELE	soft	GP4
0	pcie1	pcie2
1	sata4	sata5

GPIO38 Ctrl



SATA CONNECTOR



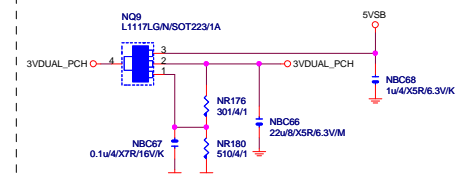
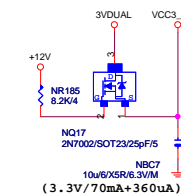
Gigabyte Technology

Gigabyte Technology			
Title			
PCH HOST , SATA, PCI			
Size	Document Number	Rev	
Custom	GA-P85-D3	2.0	
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PCH (I)

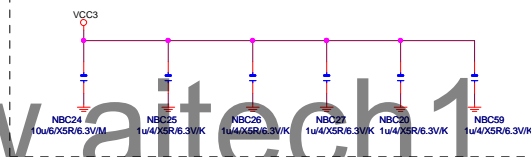


3VDUAL_PCH

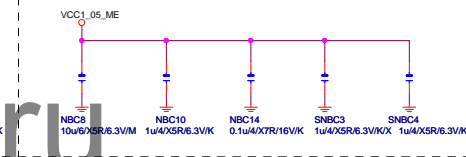


The top diagram shows the NRN5 component connected between VCC3_ME and VCC3. The bottom diagram shows the NRN1 component connected between VCC1_05_ME and VCC1_05_PCH.

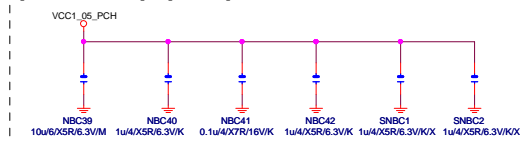
(3.3V) (X6)



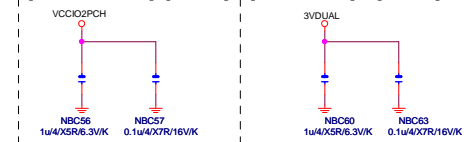
(1.05V) (x5)



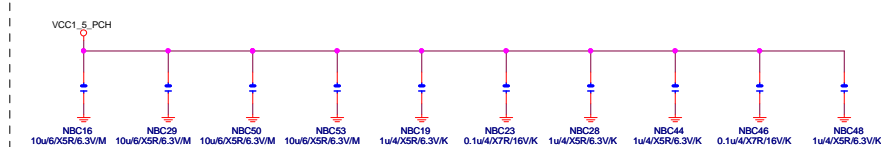
(1.05V) (X6)



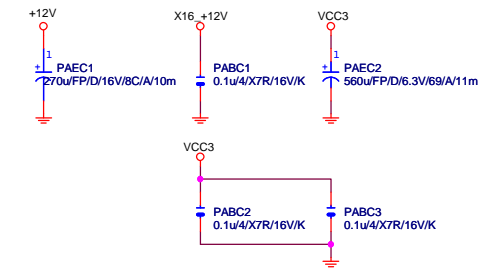
(1.05V)(x2) (3.3V) (x2)



(1.5V) (x10)

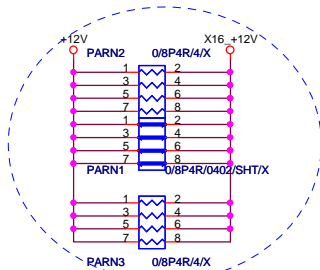


PCIEX16 CAP



PCIEX16 PROTECT SHT

+12 protect short-wire test



PCIEX16 AC CAP

PA EXP TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA EXP TXP0 C
PA EXP TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA EXP TXN0 C
PA EXP TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA EXP TXN2 C
PA EXP TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA EXP TXP3 C
PA EXP TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA EXP TXN3 C
PA EXP TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA EXP TXP4 C
PA EXP TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA EXP TXN4 C
PA EXP TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA EXP TXP5 C
PA EXP TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA EXP TXN5 C
PA EXP TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA EXP TXP6 C
PA EXP TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA EXP TXN6 C
PA EXP TXP7	PAC19	0.22u/4/X5R/6.3V/K	PA EXP TXP7 C
PA EXP TXN7	PAC18	0.22u/4/X5R/6.3V/K	PA EXP TXN7 C
PA EXP TXP8	PAC20	0.22u/4/X5R/6.3V/K	PA EXP TXP8 C
PA EXP TXN8	PAC21	0.22u/4/X5R/6.3V/K	PA EXP TXN8 C
PA EXP TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA EXP TXP9 C
PA EXP TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA EXP TXN9 C
PA EXP TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA EXP TXP10 C
PA EXP TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA EXP TXN10 C
PA EXP TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA EXP TXP11 C
PA EXP TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA EXP TXN11 C
PA EXP TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA EXP TXP12 C
PA EXP TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA EXP TXN12 C
PA EXP TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA EXP TXP13 C
PA EXP TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA EXP TXN13 C
PA EXP TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA EXP TXP14 C
PA EXP TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA EXP TXN14 C
PA EXP TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA EXP TXP15 C
PA EXP TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA EXP TXN15 C

PCI-E REV:1.1--> 2.5GHZ

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

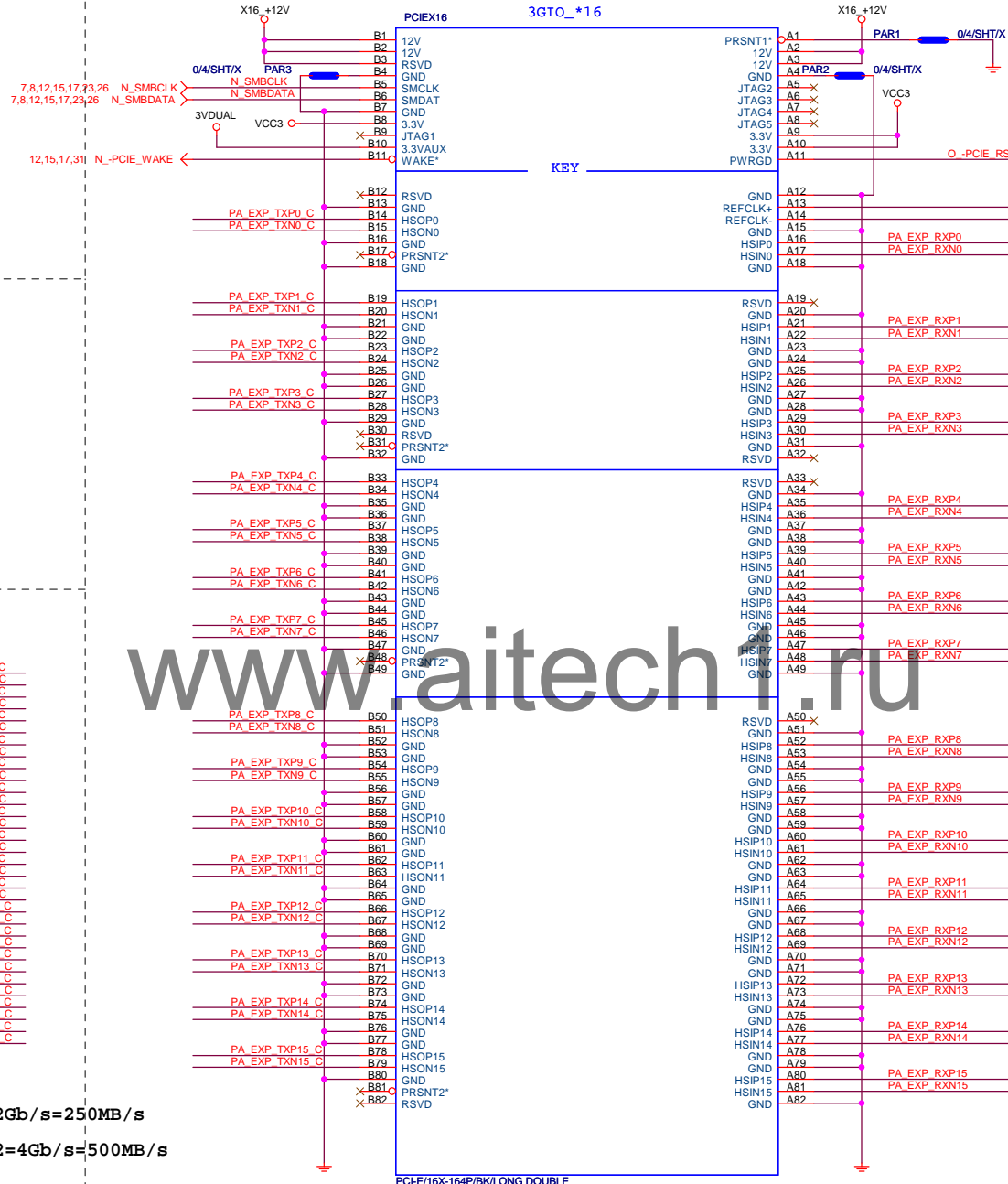
PCE-E X1(雙向) BANDWITH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s

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

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

PCI-E REV:2.0--> 5GHZ

PCIEX16 SLOT



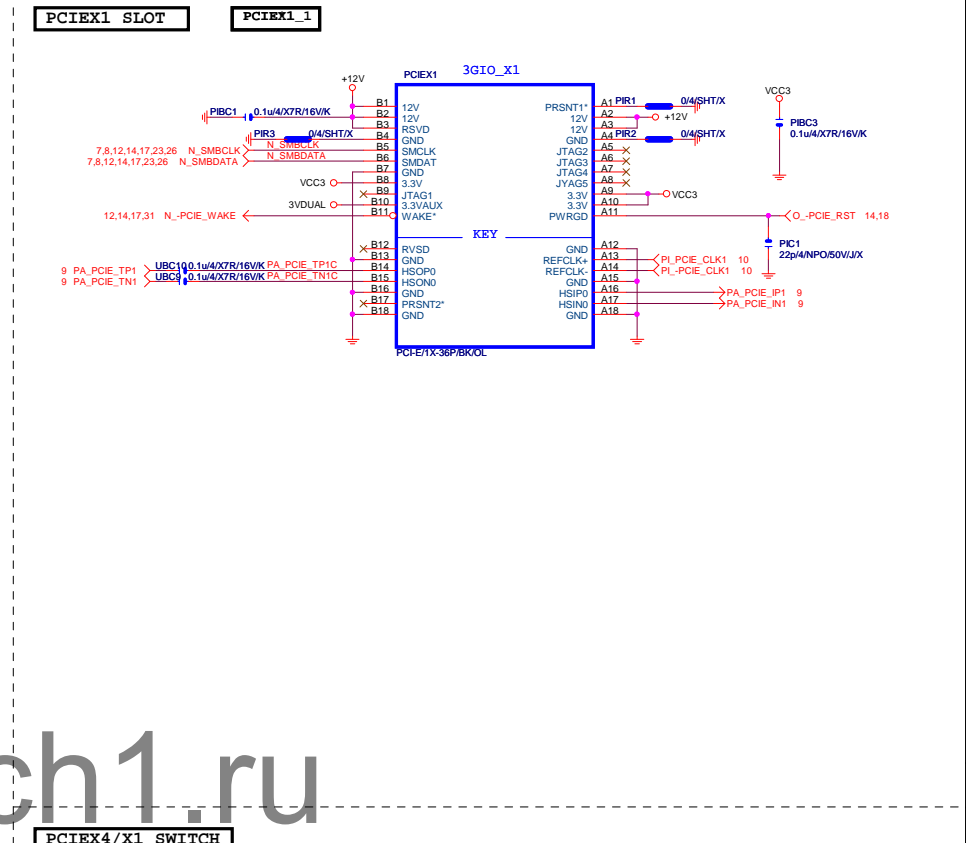
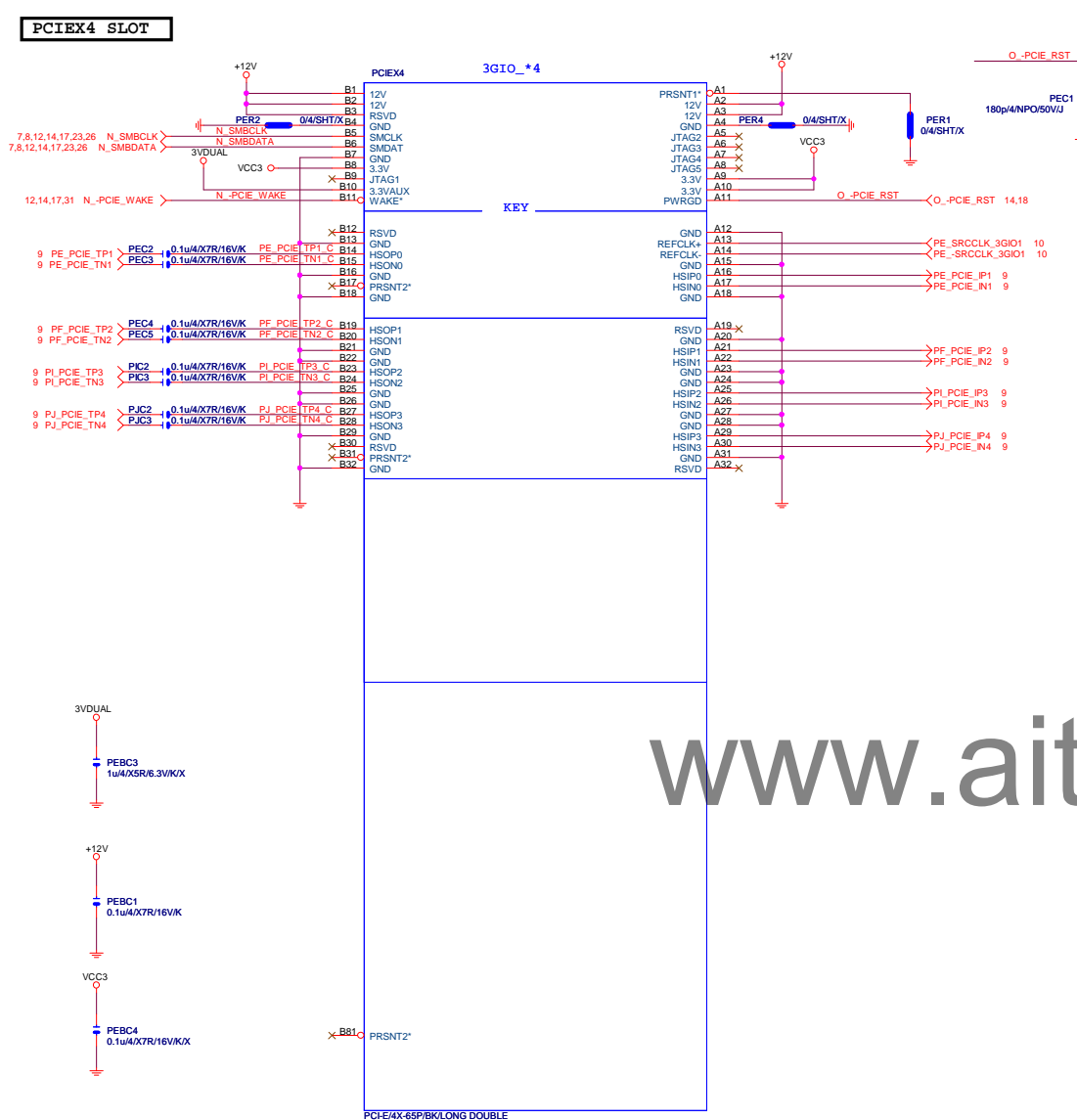
The auxiliary reset circuit is only required for PCIe Gen3 margining and functional link training

PCIEX16:16/5/5/5/16

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

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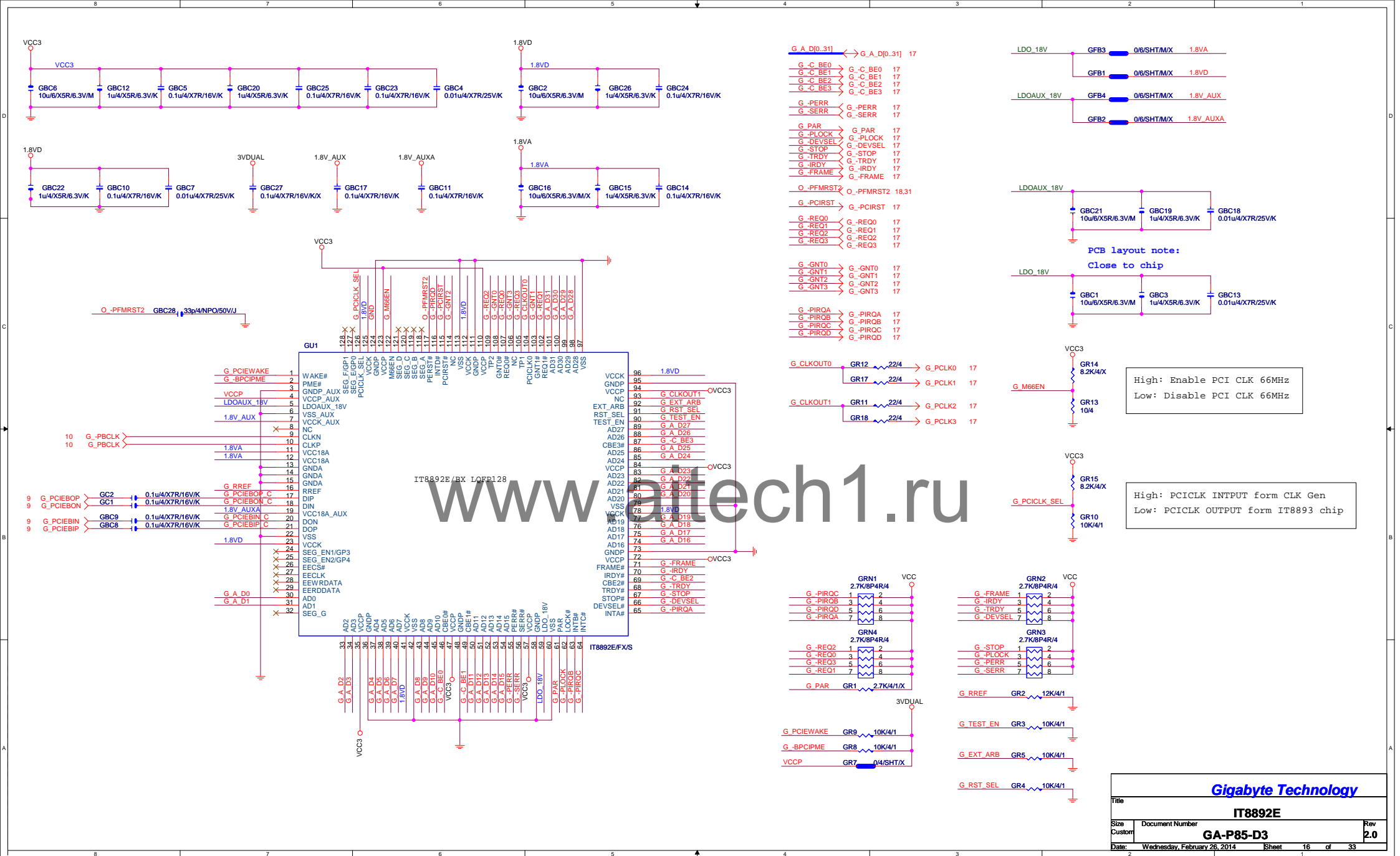
PCI EXPRESS * 16			
Title	Document Number	GA-P85-D3	Rev 2.0
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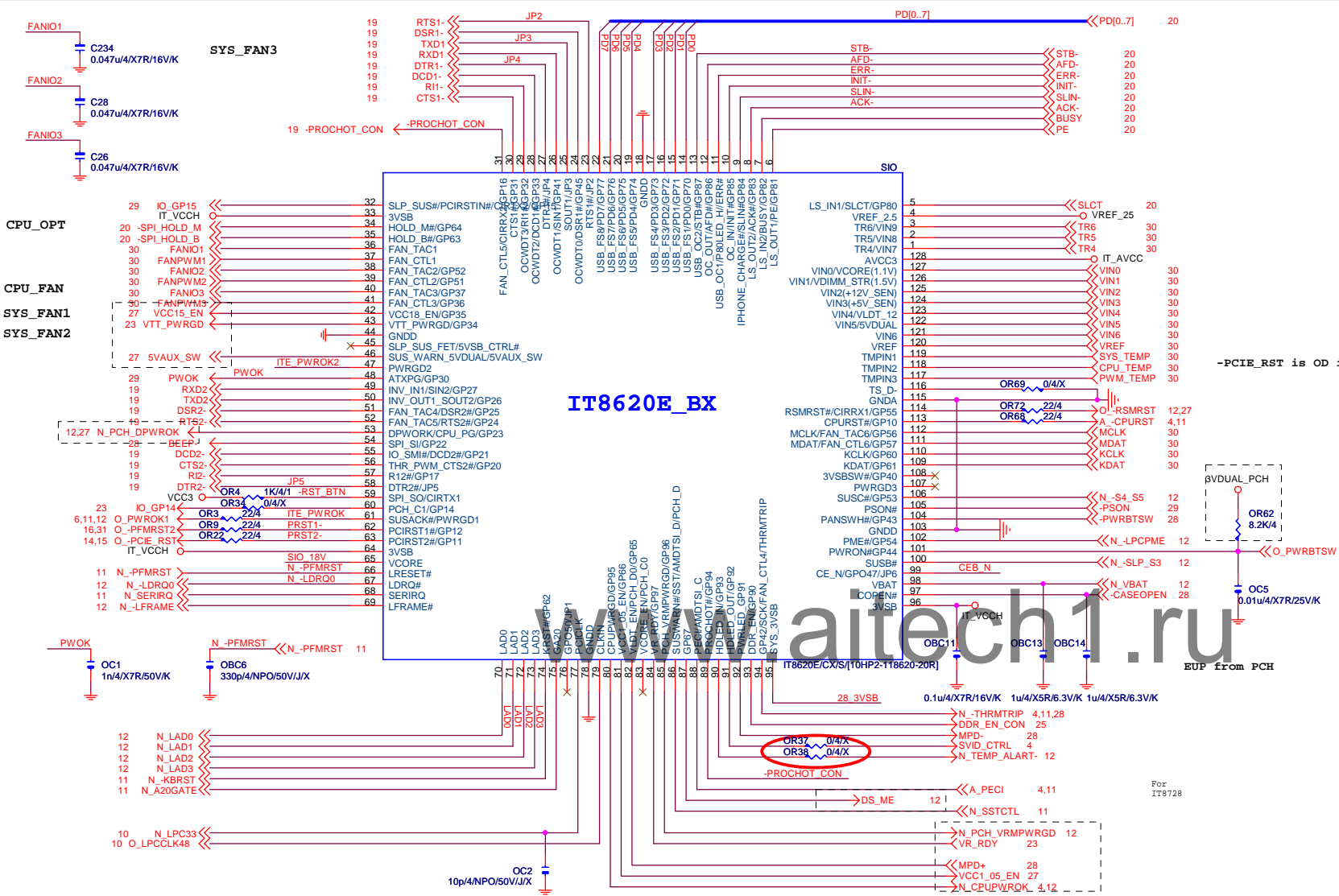


PCIEX4/X1 SWITCH

	N_PCIE_4_SW (PCH_GPIO48)	PCIEX4_X1 (SIO_GPIO26)
PCIEX4 No devices	H	H
PCIEX4 --> X1	H	H
PCIEX4 Have devices	L	L
PCIEX4 --> X4	L	L
PCIEX1_1/2 --> N/A		

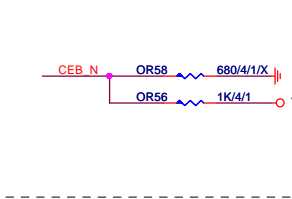
Function	SEL
xI--> x0a	L;PCIEX4 SLOT-->X1
xI--> x0b	H;PCIEX4 SLOT-->X4



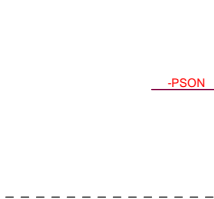


IT8620E GPIO問題匯整	
PIN 50	GP26--- 第一次接上POWER時會拉 LO
PIN 90/91	DEFAULT為HDLED FUNCTION, GP93 BYPASS TO GP92
PIN 108	GP40--- POWER ON 時會拉 LO
PIN 111/112	MOUSE 跟FAN6 FUNCTION 擇一使用, 不然會互相干擾

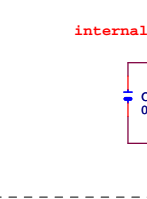
DUAL BIOS OPT STRAP



Power leakage



SIO_18V



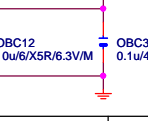
SIO CAP



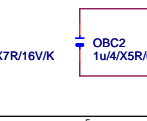
IT_VCC



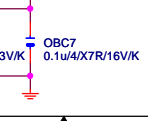
IT_VCC



IT_AVCC



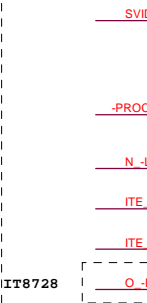
3VDUAL_PCH



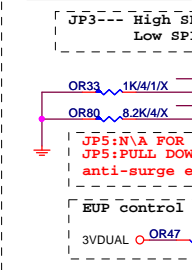
PWR SHT



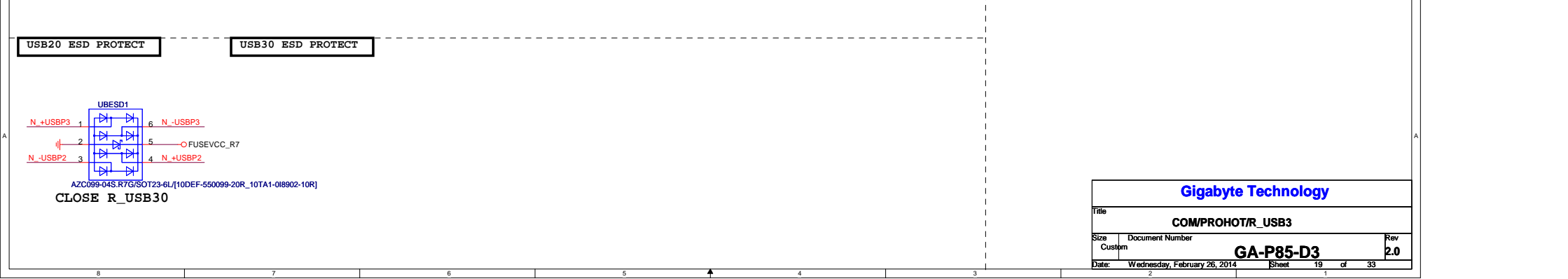
SIO PU



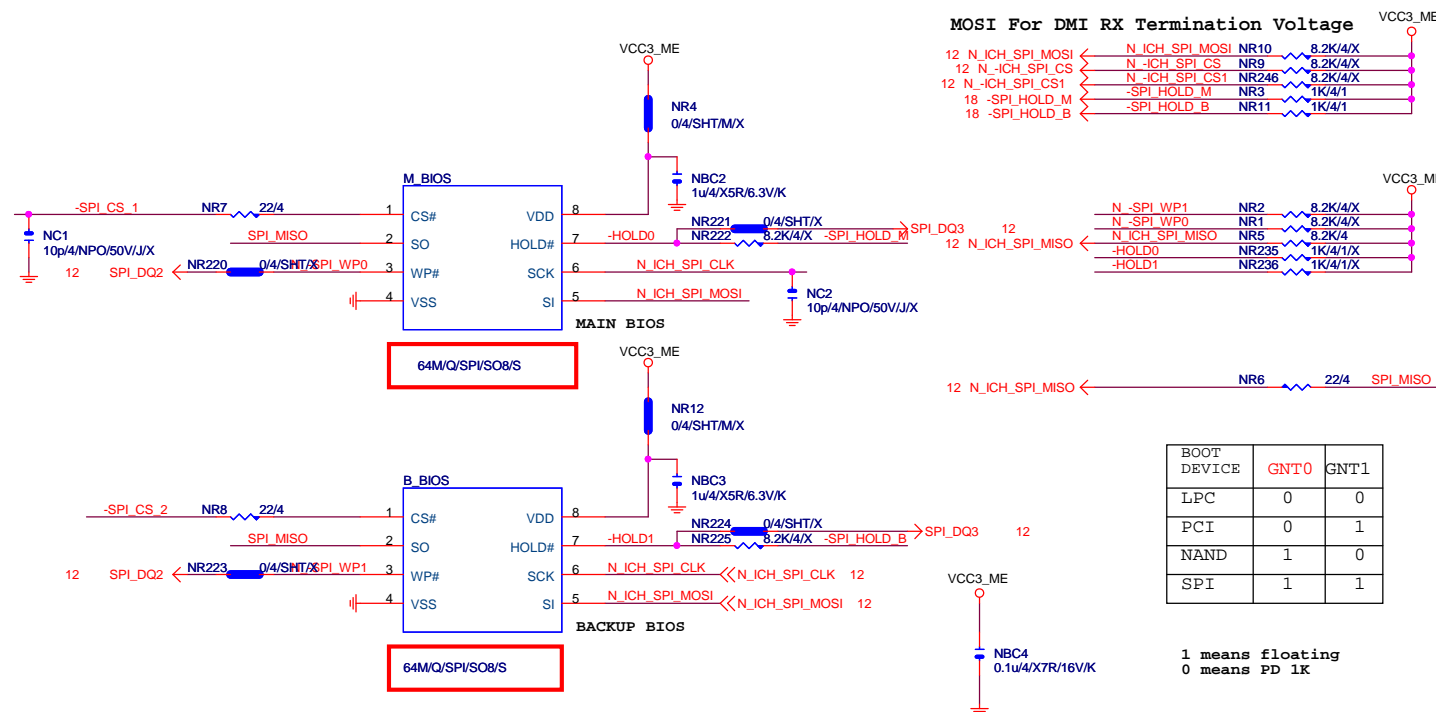
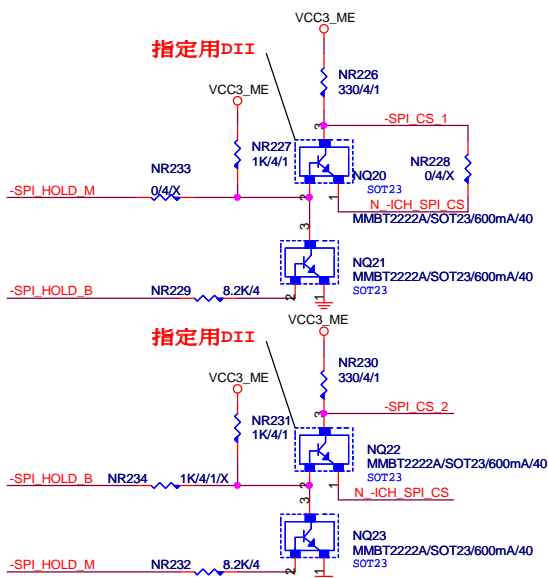
SIO STRAP



JP4	1	k8 power sequency function is Disable
JP4	0	k8 power sequency function is Enable
JP3	1 1	The default value of EC Index 63h/6Bh/73h is 80h.
JP3	0 1	The default value of EC Index 63h/6Bh/73h is FFh.
JP5	1 0	The default value of EC Index 63h/6Bh/73h is 00h.
JP5	0 0	The default value of EC Index 63h/6Bh/73h is 40h.



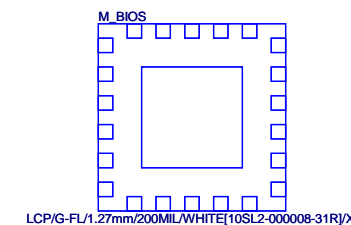
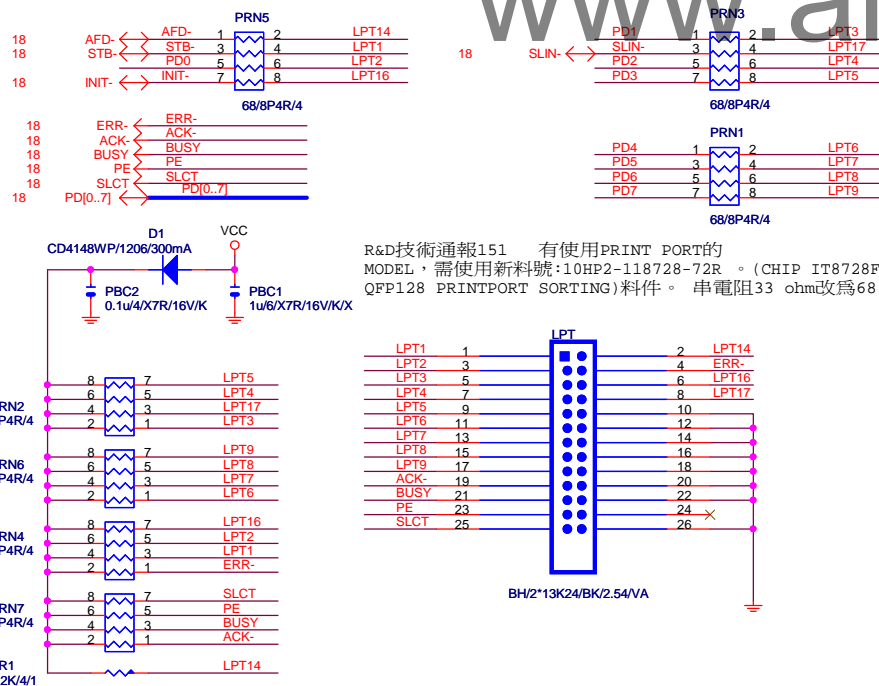
DUAL BIOS



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

1 means floating
0 means PD 1K

LPT PORT



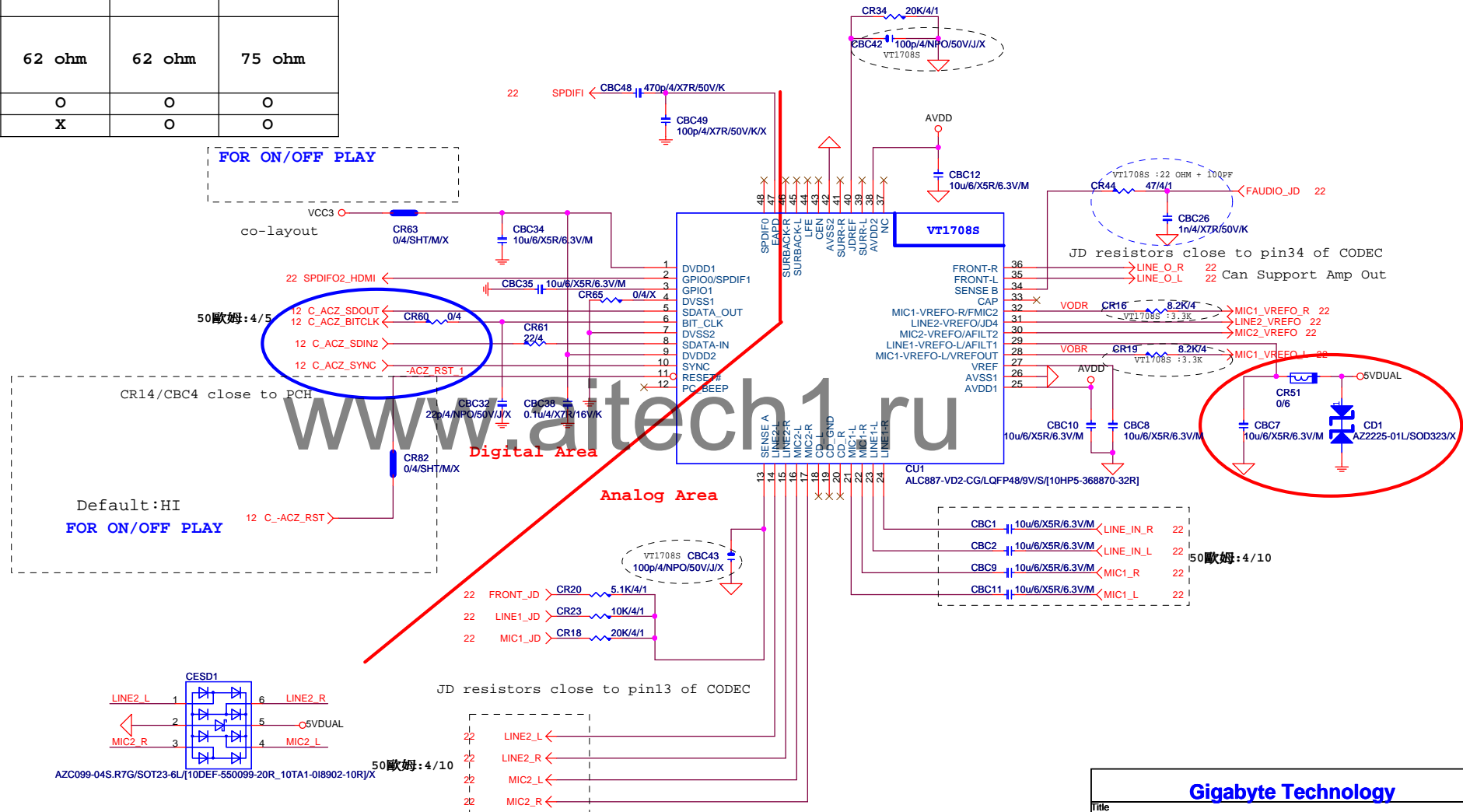
R&D技術通報151 有使用PRINT PORT的
MODEL, 需使用新料號:10HP2-118728-72R。(CHIP IT8728F/EX (GB) ITE/SMD
QFP128 PRINTPORT SORTING)料件。串電阻33 ohm改為68 ohm。

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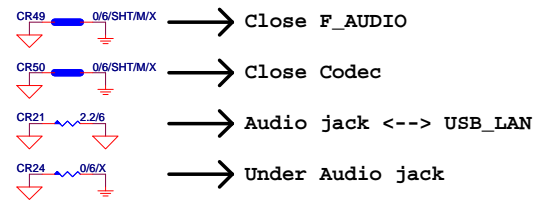
Title		BIOS	
Size Custom	Document Number	GA-P85-D3	Rev 2.0
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	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR16/CR19 CR52/CR56/CR10/CR9	8.2K/4	8.2K/4	3.3K/4/1
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7	O	O	O
CESD1	X	O	O

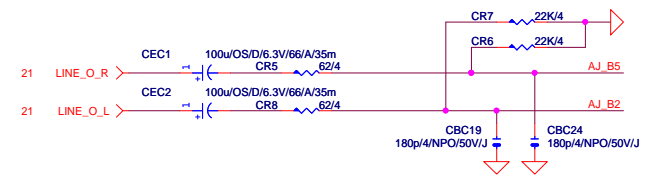


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Title	HD AUDIO ALC887	
Size	Document Number	GA-P85-D3
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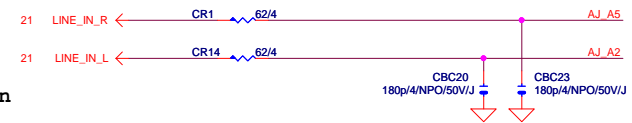
LINE-OUT



LINE-IN

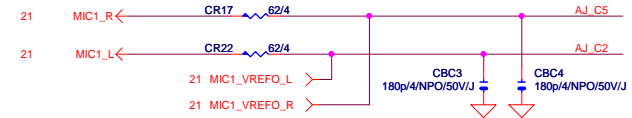
Verify MIC function
 in LINE-in

Only reserved for ALC888



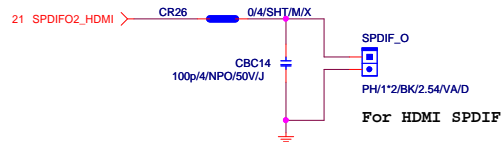
For 889A/888

MIC-IN

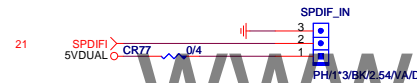


SURROUND

SPDIF_OUT



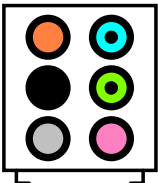
SPDIF_IN



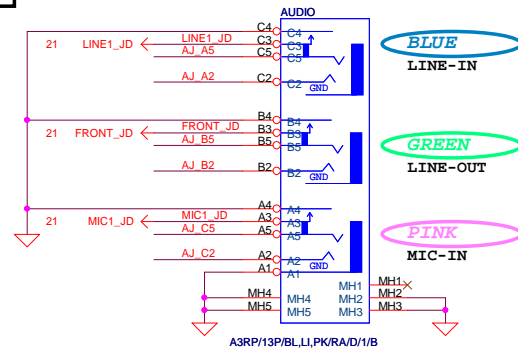
CEN/LFE

SURR BACK

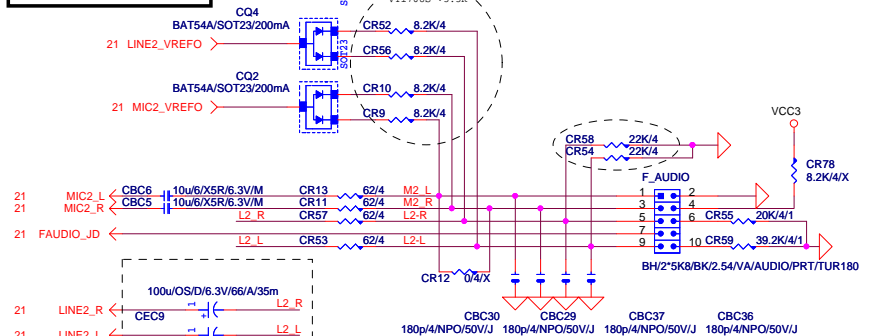
AZALIA JACK



AZALIA JACK



AZALIA FRONT PANEL



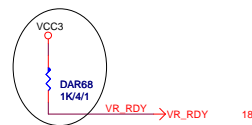
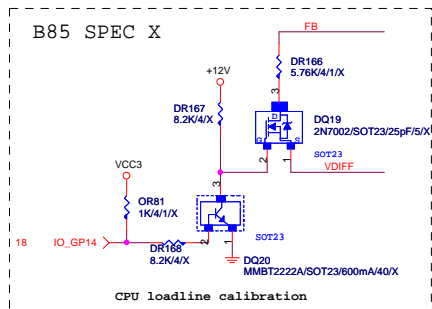
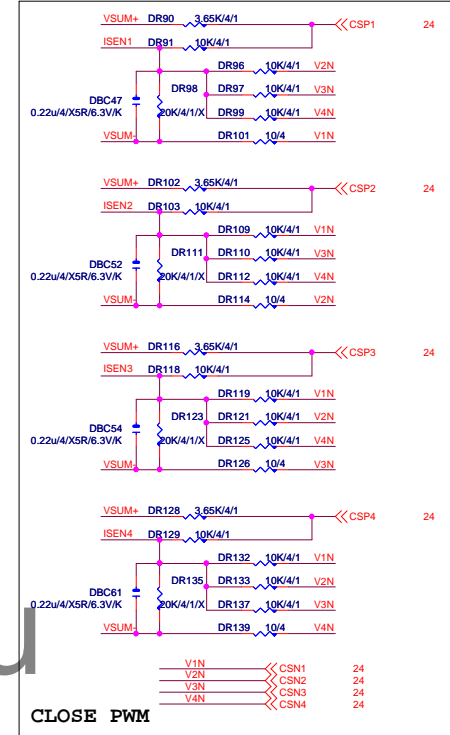
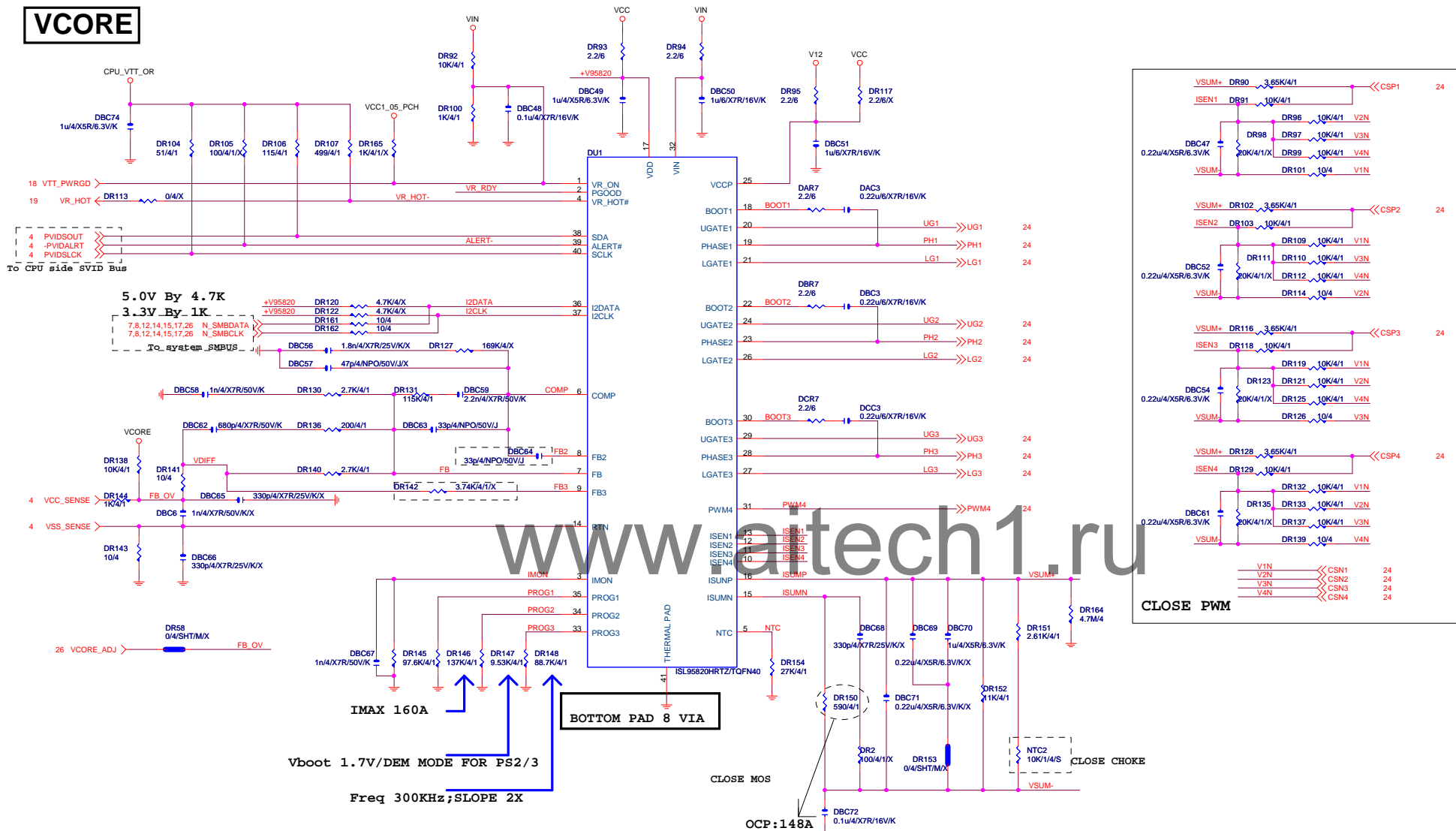
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AUDIO JACK

GA-P85-D3

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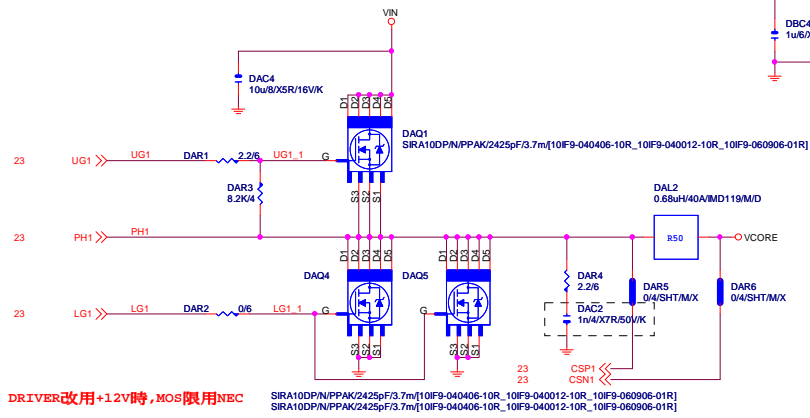
VCORE



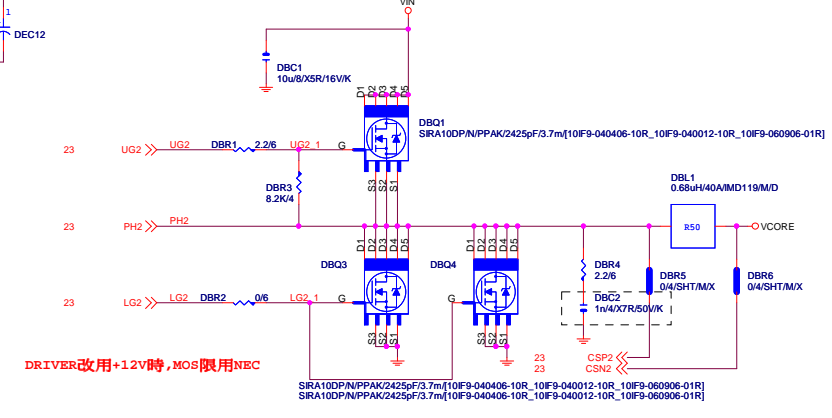
Gigabyte Technology			
File	VCORE_ISL95820		
Size	Document Number	Rev	
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VCORE

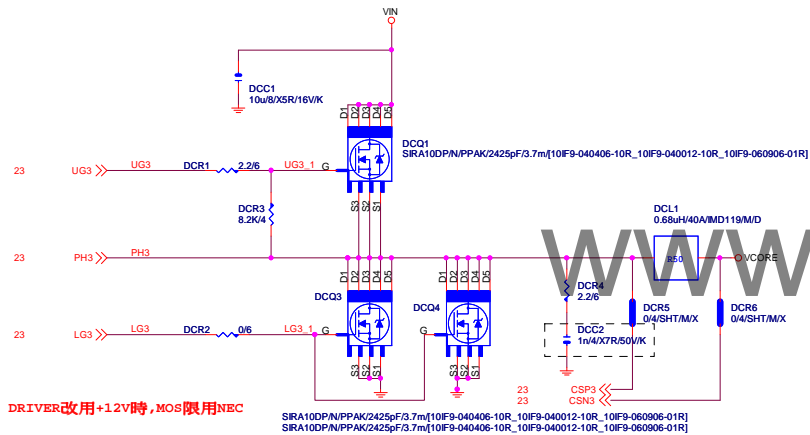
[1]



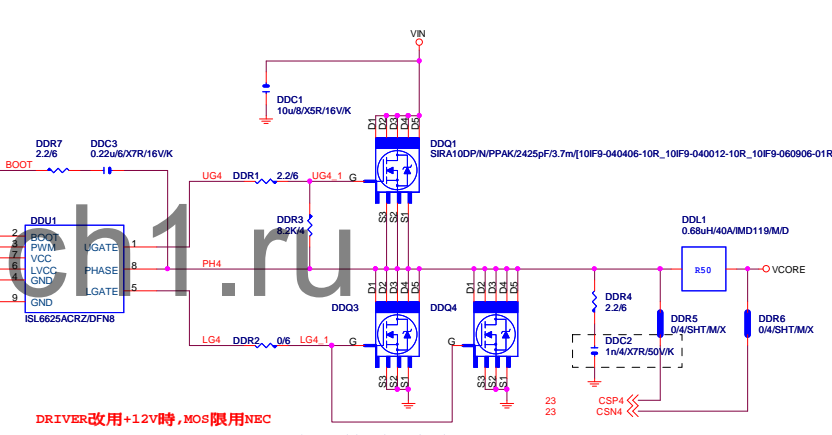
[2]



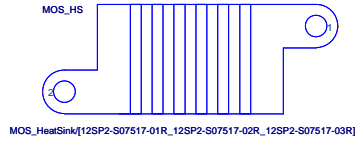
[3]



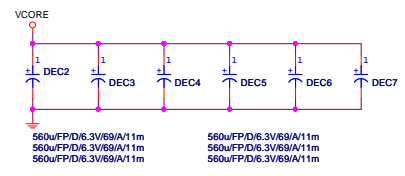
[4]



MOSFET HEATSINK

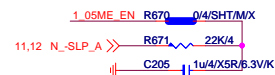
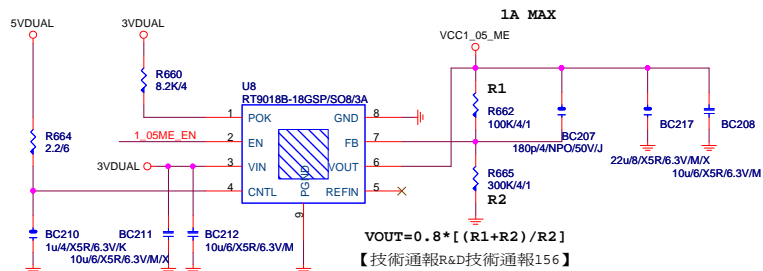


MOS_HeatSink[12SP2-S07517-01R_12SP2-S07517-02R_12SP2-S07517-03R]

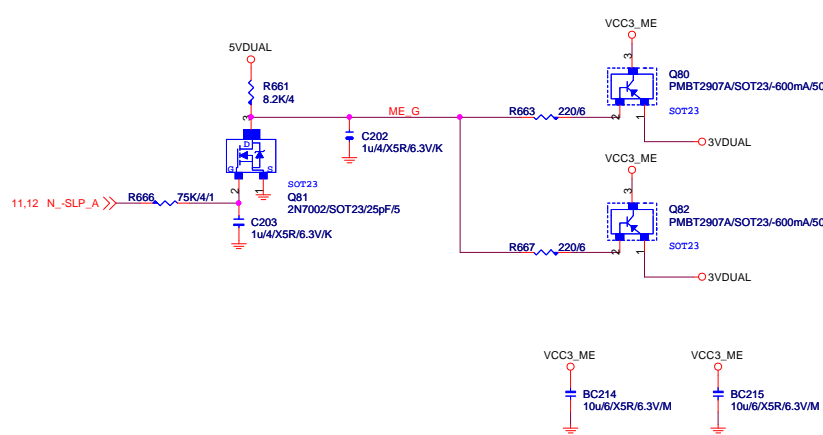


Gigabyte Technology			
Title		ISL95820_2	
Size		Document Number	
Custom		GA-P85-D3	
Date		Wednesday, February 26, 2014	
		Sheet 24 of 33	
		Rev 2.0	

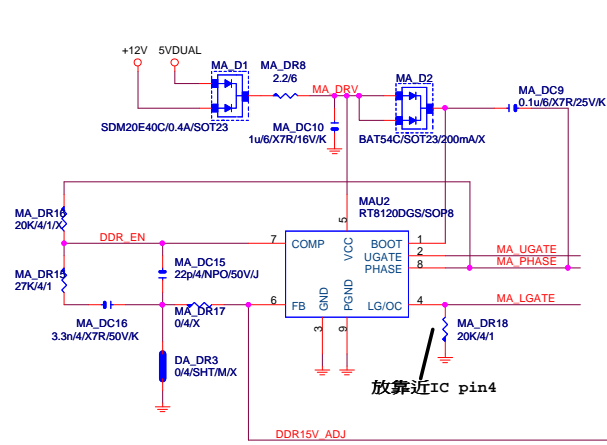
VCC1_05_ME



VCC3_ME



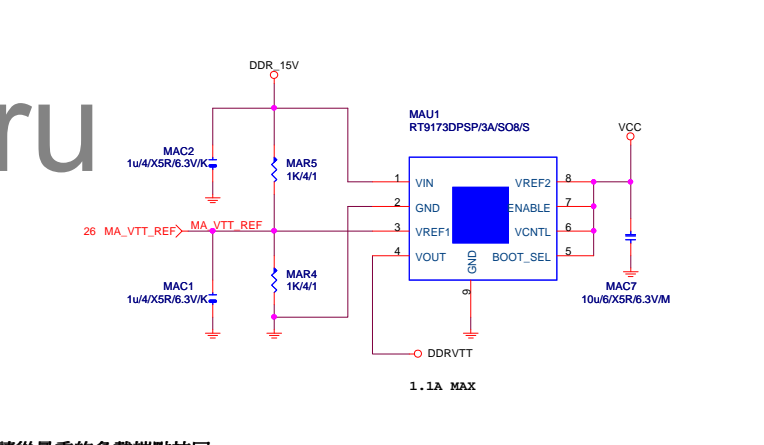
DDR_15V



PWR SEQ DDR_EN < DDR_EN_CON 18

VIN=5V, VOUT=1.5V, IOUT=25A, PHASE=1
 IRMS=11.45A
 560uF/FP/D/6.3V/68/8m RIPPLE CURRENT=4.7A
 Coefficient=1.7(85℃), 1(105℃)
 VIN Ripple current=4.7X1.7=7.99A(85℃)
 -->故固態電容須2X7.99=15.98>11.45A
 OCP:35.82A for Rds=6.7m for vishay@4.5V
 OCP:72.727A for Rds=3.3m for renesas@10V
 OCP:48A=Roset*Iocset / Rds(on)
 =12K*10uA / [5//5]

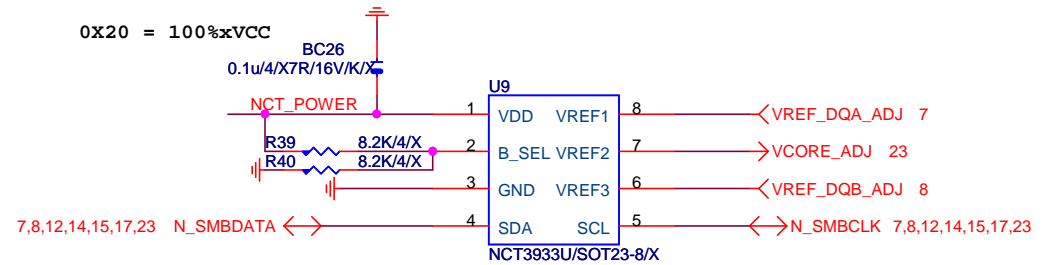
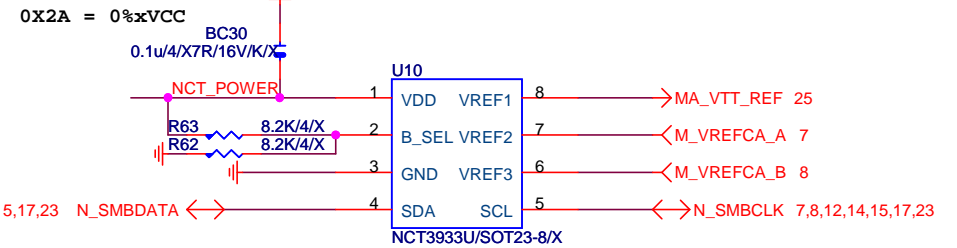
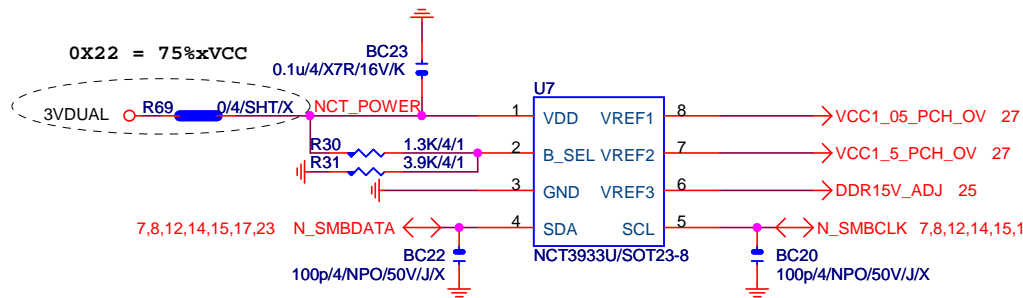
DDRVTT



Remote sense請從最重的負載端點拉回

GIGABYTE™			
Title			
DDR15V / M3 POWER			
Size	Document Number	Rev	
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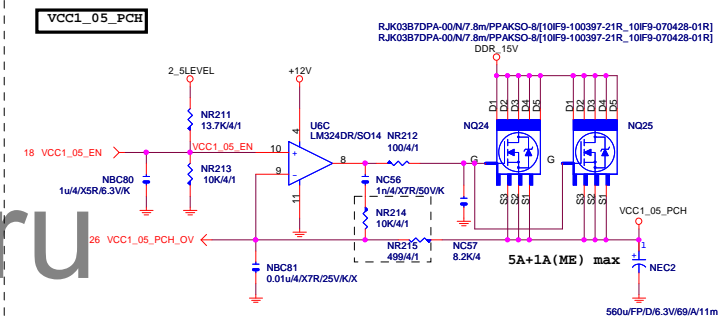
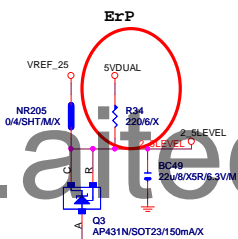
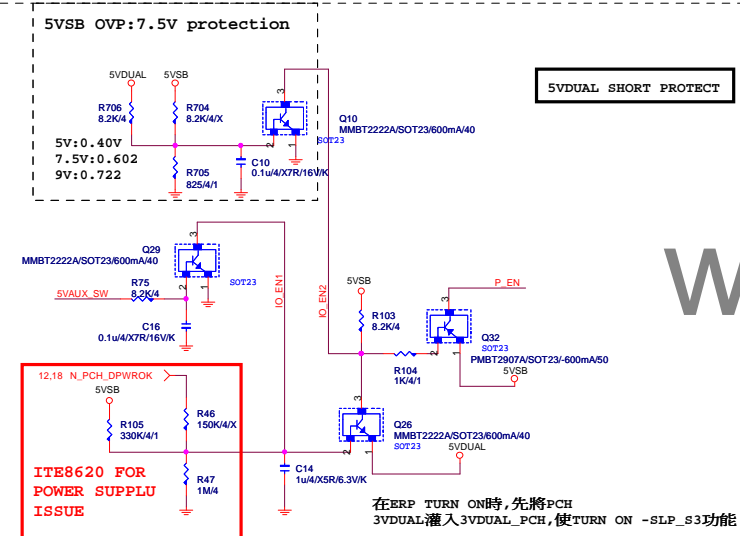
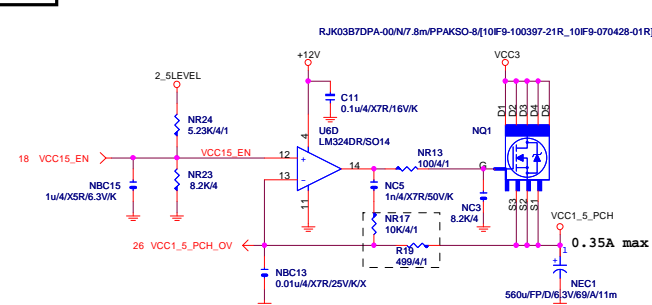
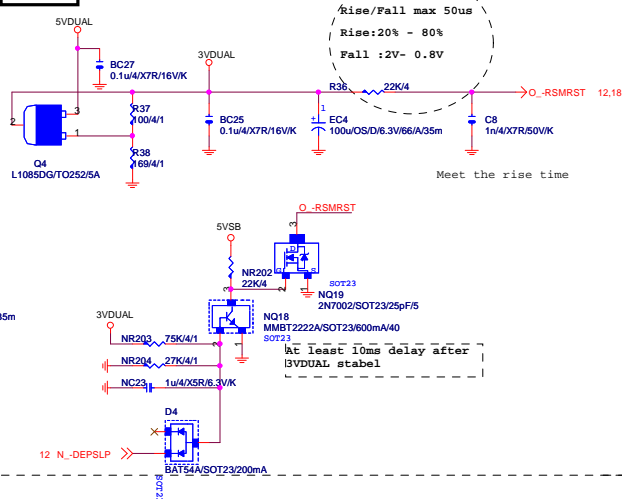
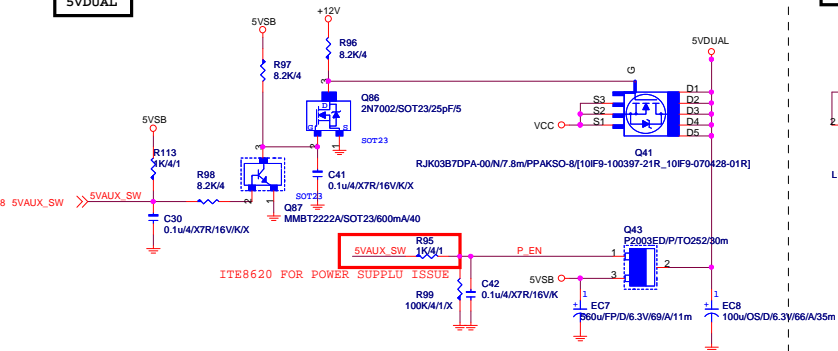
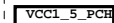
OVER VOLTAGE



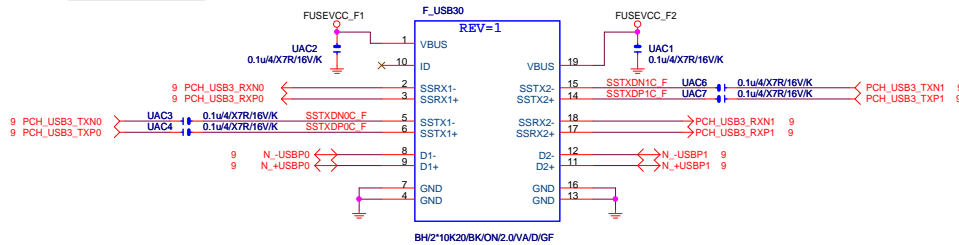
NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

Gigabyte Technology

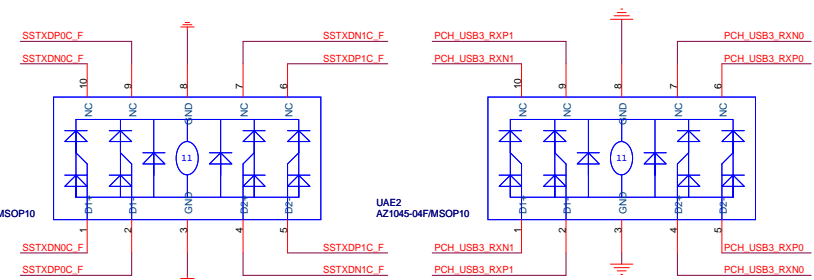
Title		
CPU CORE VR-2		
Size	Document Number	Rev
Custom	GA-P85-D3	2.0
Date:	Wednesday, February 26, 2014	Sheet 26 of 33



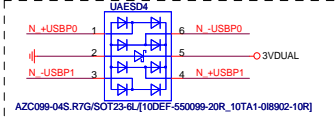
Front USB3.0



F_USB30 ESD PROTECT

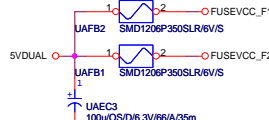


BLUE

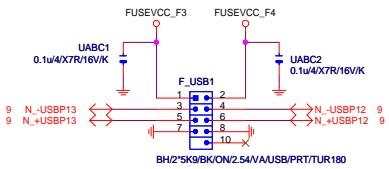


Close to connector

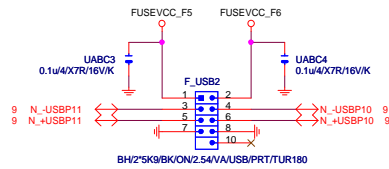
F_USB30 PWR



FRONT USB1



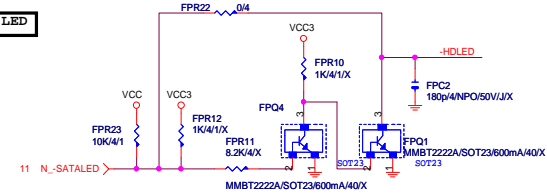
FRONT USB2



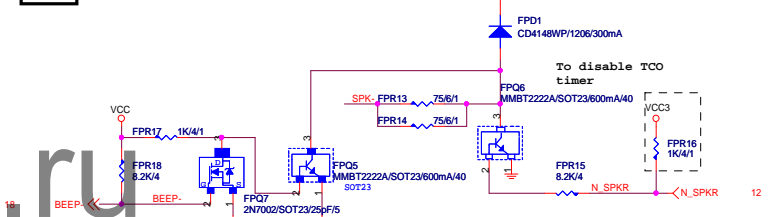
FRONT USB3



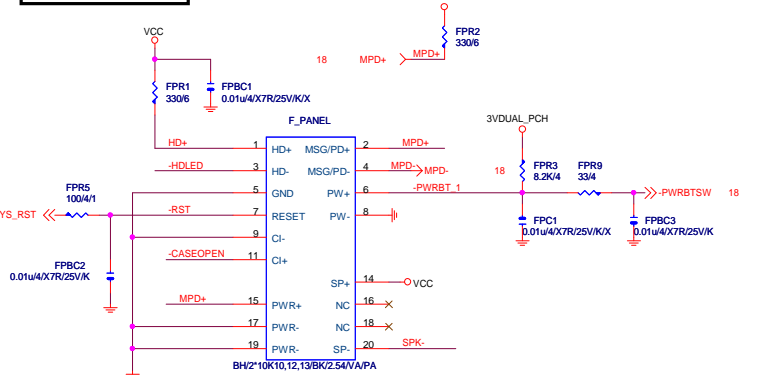
SATA LED



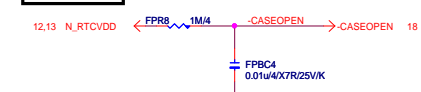
SPKR



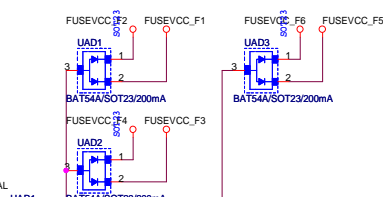
INTEL FRONT PANEL



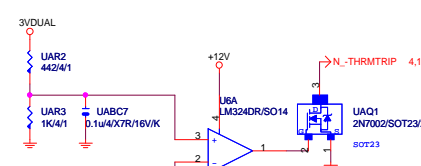
CASE OPEN



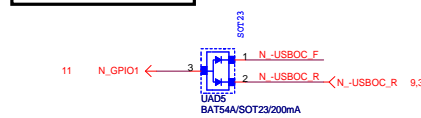
-USBOC_F



USB2.0 Signal & power short protection
USB2.0 Signal > 4.85V
Enable --> 3VUUAL=3.75V



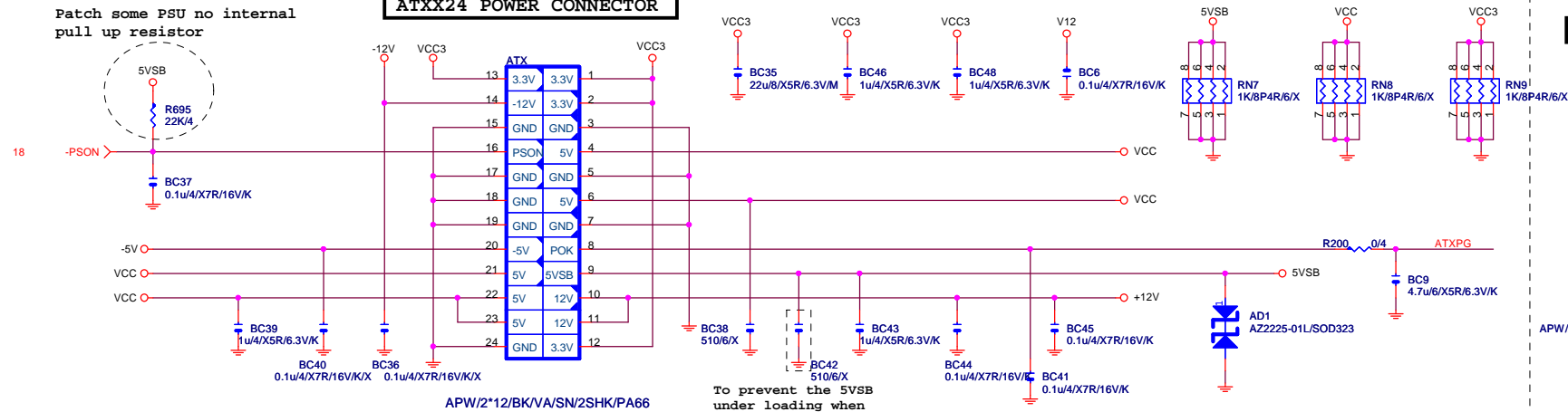
F_USB POWER PROTECT



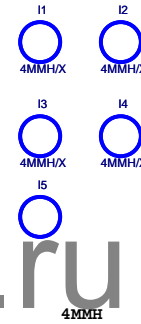
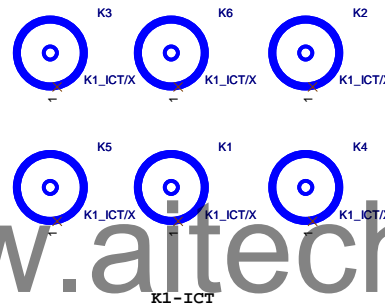
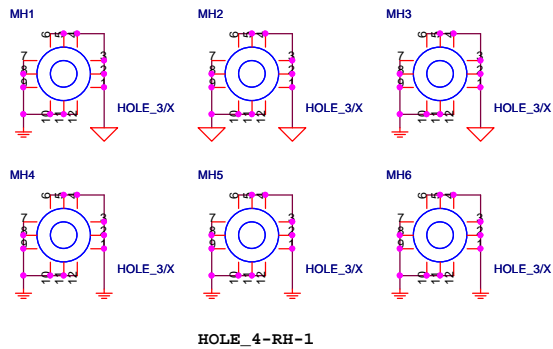
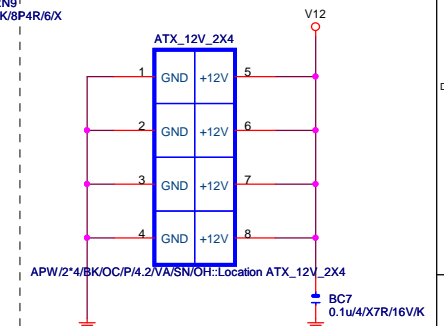
Gigabyte Technology			
FP,F_USB,USB PWR,FDD,BZ			
GA-P85-D3			
Rev	2.0		
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Patch some PSU no internal pull up resistor

ATXX24 POWER CONNECTOR

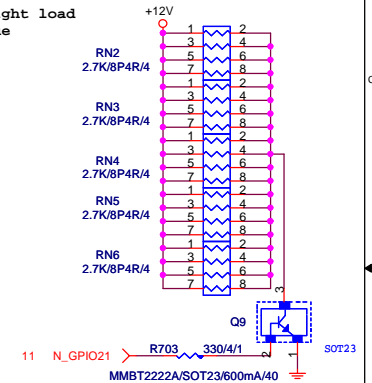


ATXX4 POWER CONNECTOR



【技術通報R&D技術通報153】

To fix 12V light load abnormal issue



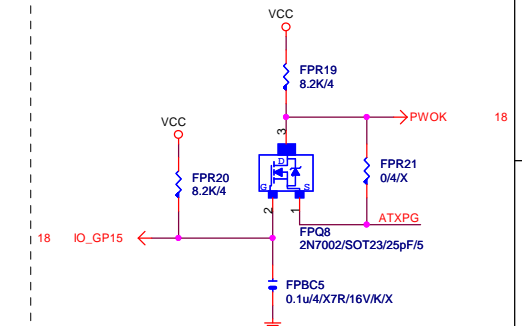
CLK GEN

CPU Frequency Selection

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

PWOK PATCH

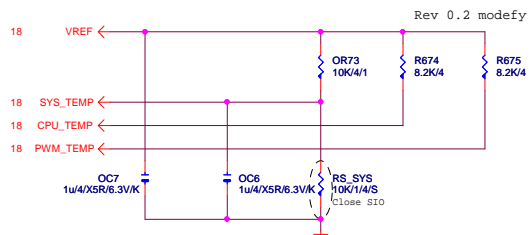
【技術通報R&D技術通報154】



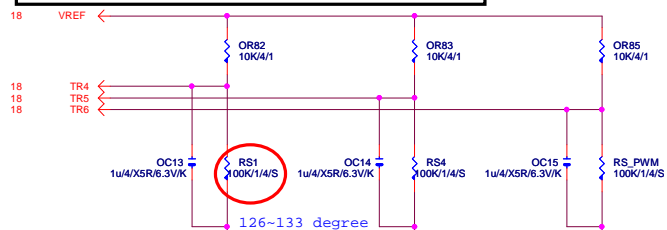
Gigabyte Technology

Title		
ATX POWER CONNECTOR		
Size	Document Number	Rev
Custom	GA-P85-D3	2.0
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TEMP H/W MONITOR

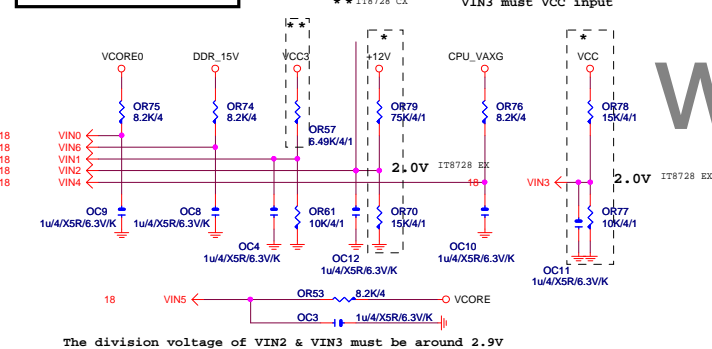


-PROCHOT:有mos heatsink不用prochot function

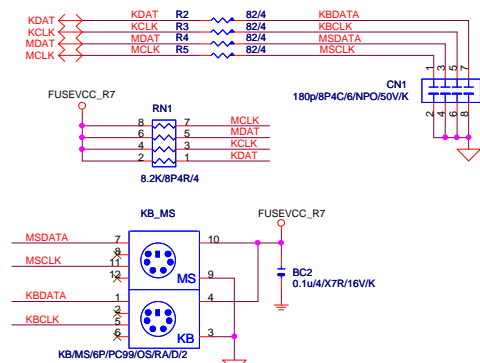


RS1、RS2、RS3 CLOSE CPU VR MOSFET

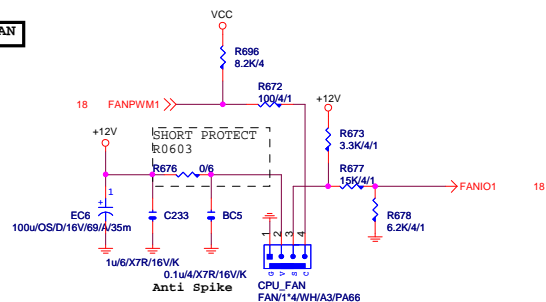
VOLTAGE-- H/W MONITOR



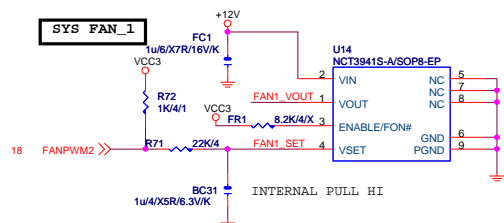
KB/USB



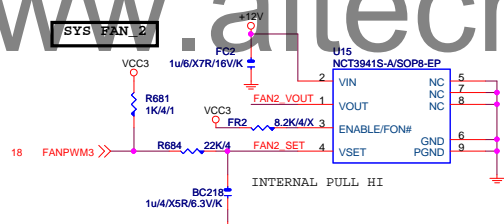
CPU SMART FAN



SYS_FAN_1

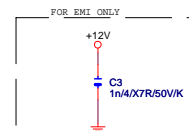
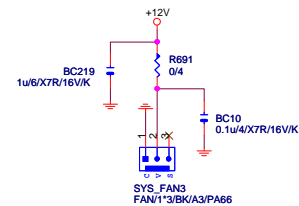


SYS_FAN_2



SYS_FAN_3

Linear SYS_FAN

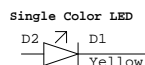
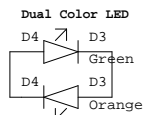
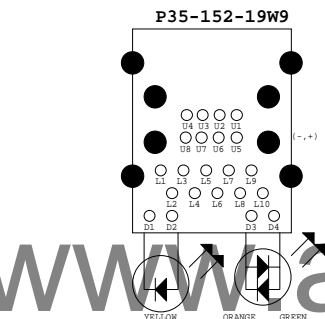
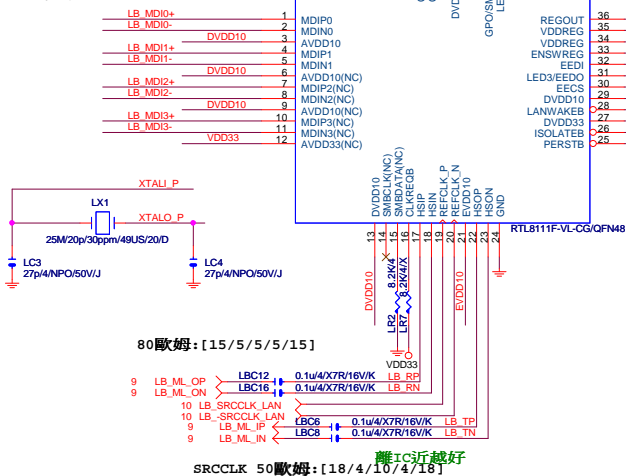


Gigabyte Technology

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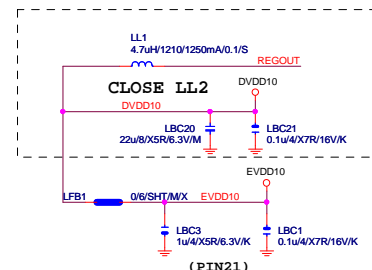
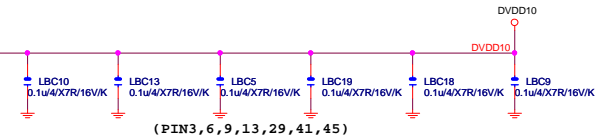
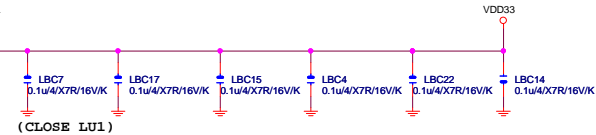
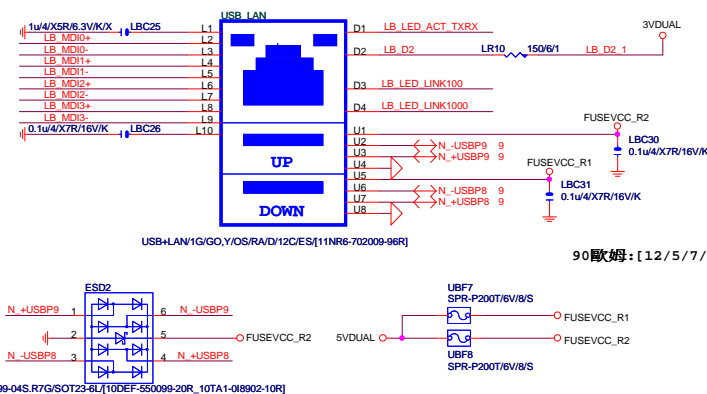
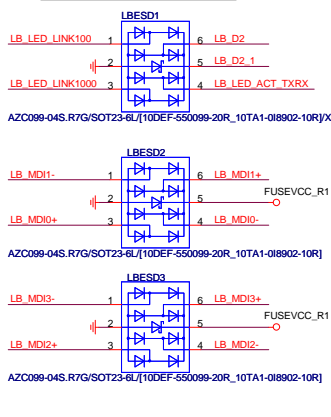
LAN:INTEL I217

100歐姆:[20/4/8/4/20]

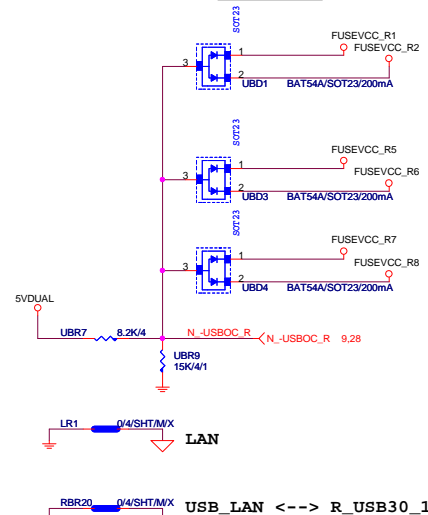


USB30_LAN CONNECTOR

100歐姆:[20/4/8/4/20]



-USB0C_R

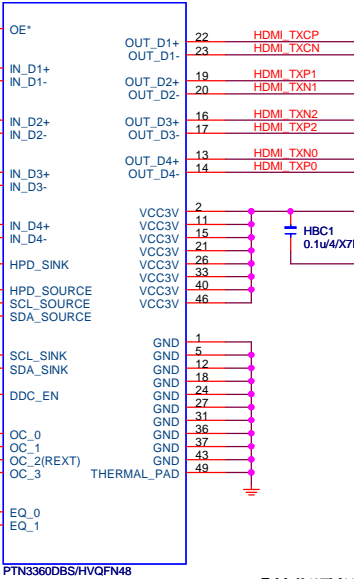


Gigabyte Technology			
Title	REALTEK 8111F-VL		
Size	Document Number	Rev	
Custom		GA-P85-D3	
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HDMI LEVEL SHIFT

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

HU1



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

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

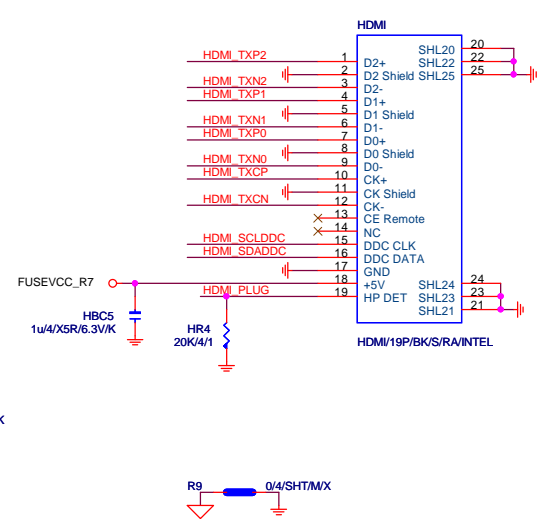
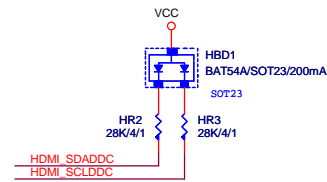
【技術通報R&D技術通報150】

HDMI eye diagram1.4版(deep color)會fail

原因: 因目前的HDMI訊號過長,造成RISING TIME過慢,而會壓到eye diagram

改善: ASMEDIA ASM1442 : 3.16K(PIN6 PULL DOWN電阻) 10ohm(PIN4 PULL DOWN電阻)

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GIGABYTE™			
Title HDMI			
Size Custom	Document Number GA-P85-D3		Rev 2.0
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Super I/O ITE8720 GPIO Table

3

PWM各相位的擺法如下：



散熱模組料號:

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

Gigabyte Technology
