

Model Name: GA-H81M-S2PH

Revision 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,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	ITE 8620 LPC IO
16	COM,KB_MS,USB PWR
17	IT8892E
18	PCI SLOT 1,2
19	PCI EXPRESS*1 SLOT.LPT
20	HWM,FAN CTRL,OV,-PROCHOT
21	DUAL BIOS
22	FP,F_USB,SPK,SATALED
23	Realtek ALC887-VD2
24	REAR AUDIO JACK
25	REALTEK RTL8111F
26	DISCRETE POWER
27	ATX,DUMMY LOAD

SHEET

TITLE

28	RT8120_DDR POWER
29	VCORE ISL95812_1
30	VCORE ISL95812_2
31	HDMI

Gigabyte Technology

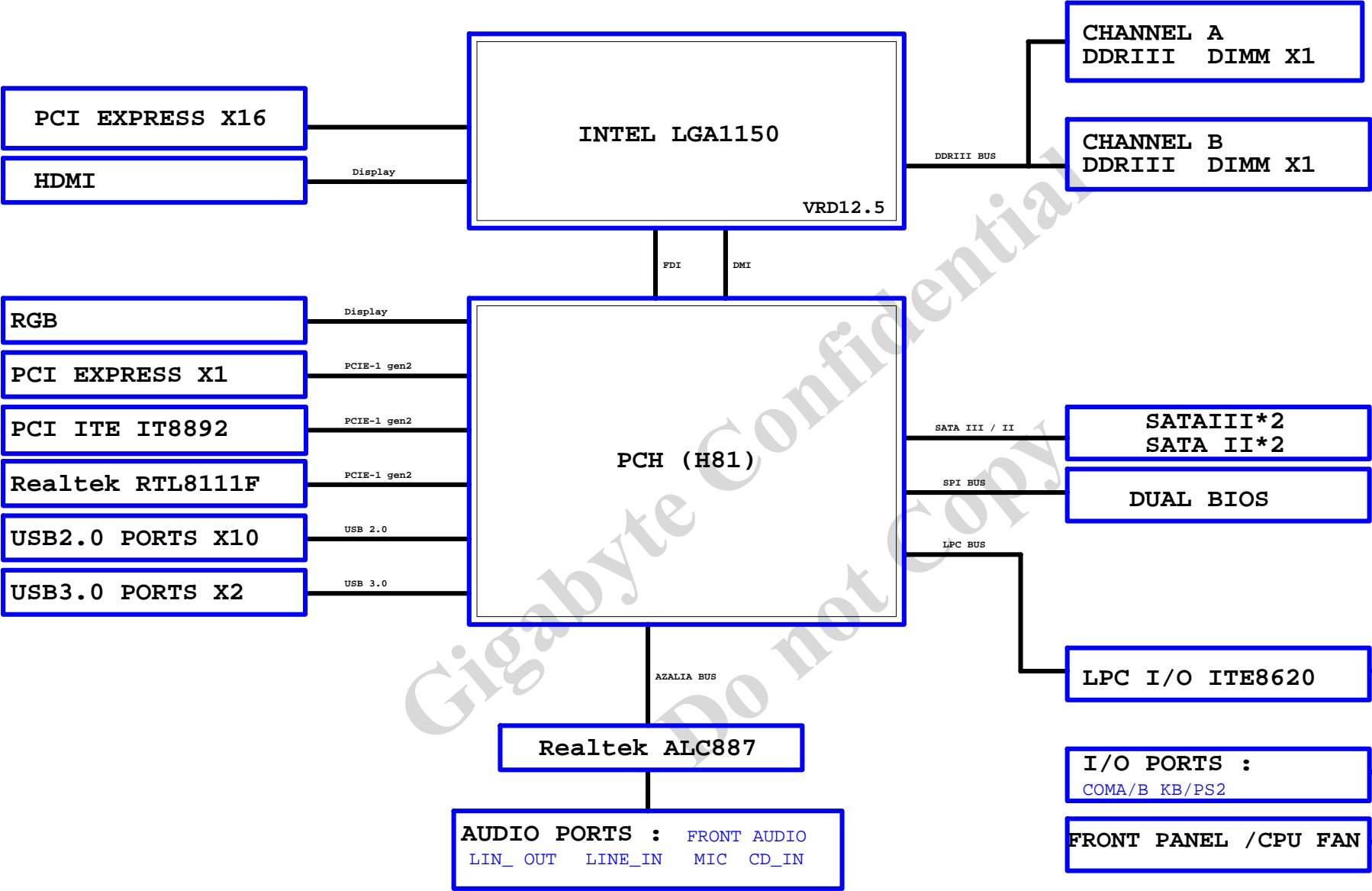
Title Cover Sheet		
Size Custom	Document Number GA-H81M-S2PH	Rev 2.0
Date: Wednesday, April 09, 2014	Sheet 1	of 31

Revision 2.0

2014/04/08

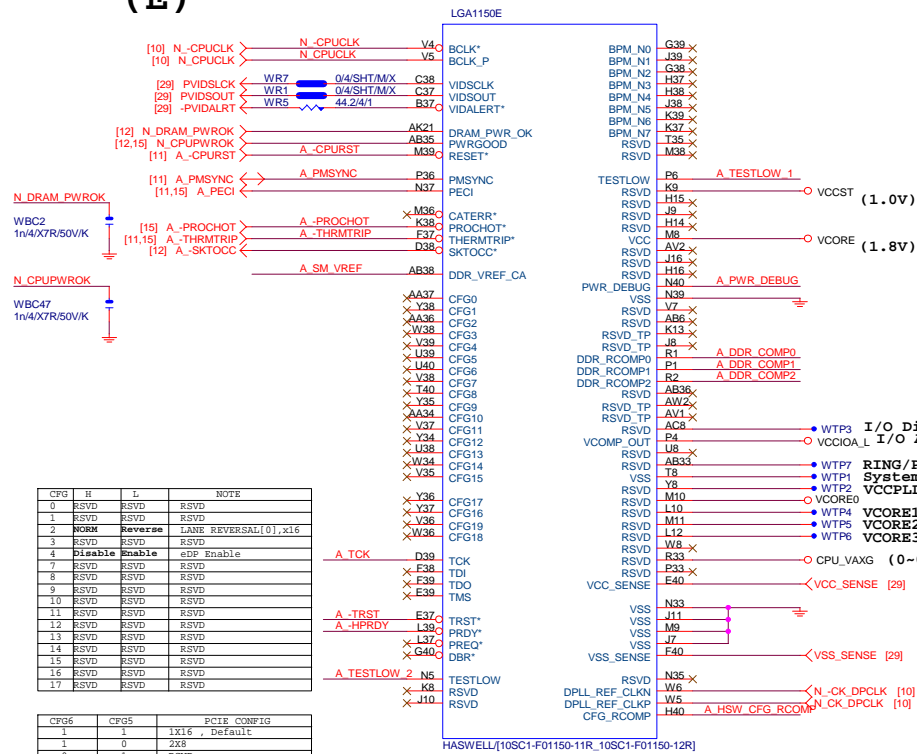
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BLOCK DIAGRAM



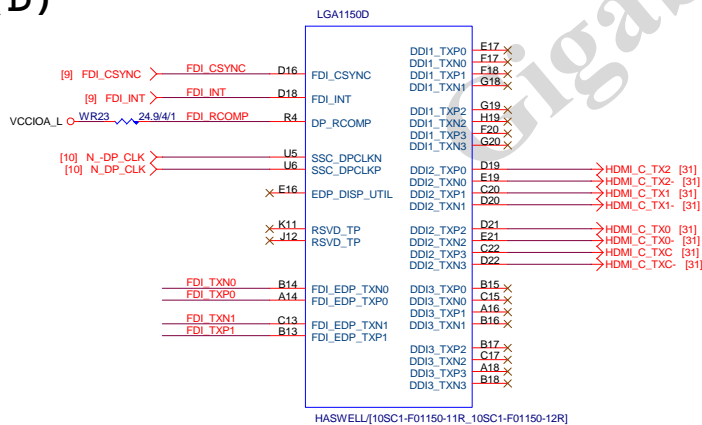
LGA1150

(E)



LGA1150

(D)



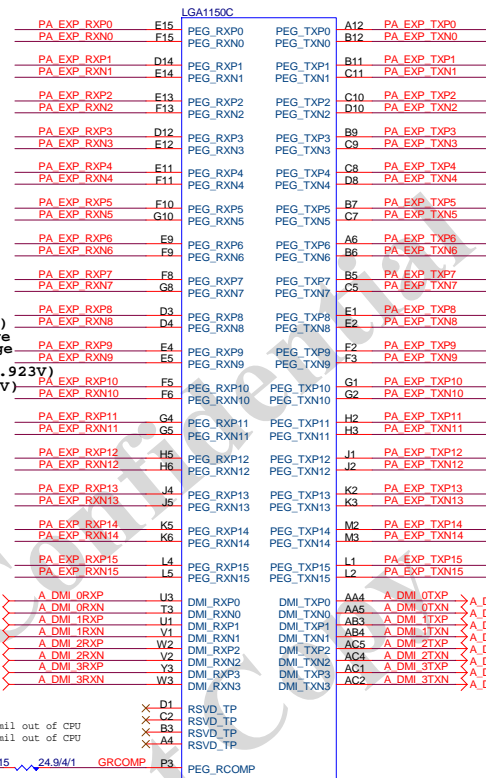
FDI:12/4/5/4/12(breakout min 6/4/4/4/6)
Impedance=85 +- 17.5%

FDI_TXP0_11 >>> FDI_TXP0_11 [9]
FDI_TXN0_11 >>> FDI_TXN0_11 [9]

LGA155

(C)

PCIEX16:16/5/5/5/16(breakout min 10/4/4/4/10)
Impedance=80 +- 17.5%



W=12 mil out of CPU

S=16 mil out of CPU

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

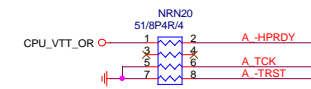
-CPURST

A-CPURST <<< A-CPURST [11]
BC102 1n4/4X7R/50V/K

CPU SVID



CPU PU/PD



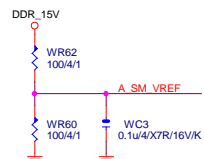
CPU_VTT_OR <<< WR25 1K/4/1 A-PROCHOT

A-THRMTRIP WR8 1K/4/1 VCC1_05_PCH

A-PWR_DEBUG WR34 150/4/1 VCC1_05_PCH

A-DDR_COMP0 WR28 100/4/1
A-DDR_COMP1 WR19 75/4/1
A-DDR_COMP2 WR22 100/4/1
A-TESTLOW_1 WR18 49.9/4/1
A-TESTLOW_2 WR12 49.9/4/1
A-HSW_CFG_RCOMP WR24 49.9/4/1

SM REF



THRMTRIP DISABLE

Gigabyte Technology

CPU LGA1150-A

Size Custom Document Number **GA-H81M-S2PH** Rev **2.0**
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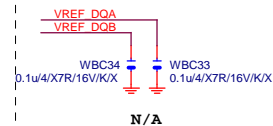
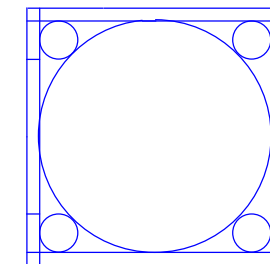
LGA1150A			
MAAA0	AU13	DDR0_M0	DDR0_DQ0
MAAA1	AV16	DDR0_M1	DDR0_DQ1
MAAA2	AU16	DDR0_M2	DDR0_DQ2
MAAA3	AW17	DDR0_M3	DDR0_DQ3
MAAA4	AU17	DDR0_M4	DDR0_DQ4
MAAA5	AU18	DDR0_M5	DDR0_DQ5
MAAA6	AV17	DDR0_M6	DDR0_DQ6
MAAA7	AT18	DDR0_M7	DDR0_DQ7
MAAA8	AU18	DDR0_M8	DDR0_DQ8
MAAA9	AT19	DDR0_M9	DDR0_DQ9
MAAA10	AW11	DDR0_M10	DDR0_DQ10
MAAA11	AV19	DDR0_M11	DDR0_DQ11
MAAA12	AU19	DDR0_M12	DDR0_DQ12
MAAA13	AY10	DDR0_M13	DDR0_DQ13
MAAA14	AT20	DDR0_M14	DDR0_DQ14
MAAA15	AU21	DDR0_M15	DDR0_DQ15
MODT_A0	AW10	DDR0_ODT0	DDR0_ODT0
MODT_A1	AY8	DDR0_ODT1	DDR0_ODT1
AW9	AW9	DDR0_ODT2	DDR0_ODT2
AW8	AW8	DDR0_ODT3	DDR0_ODT3
AW33	AW33	DDR0_ECC0	DDR0_ECC0
AW33	AW33	DDR0_ECC1	DDR0_ECC1
AU31	AU31	DDR0_ECC2	DDR0_ECC2
AT33	AT33	DDR0_ECC3	DDR0_ECC3
AU33	AU33	DDR0_ECC4	DDR0_ECC4
AT31	AT31	DDR0_ECC5	DDR0_ECC5
AW31	AW31	DDR0_ECC6	DDR0_ECC6
AW31	AW31	DDR0_ECC7	DDR0_ECC7
SBA00	SBA00	DDR0_BA0	DDR0_BA0
SBA01	SBA01	DDR0_BA1	DDR0_BA1
SBA02	SBA02	DDR0_BA2	DDR0_BA2
CKEA0	CKEA0	DDR0_CKE0	DDR0_CKE0
CKEA1	CKEA1	DDR0_CKE1	DDR0_CKE1
CSA0	CSA0	DDR0_CS_N0	DDR0_CS_N0
CSA1	CSA1	DDR0_CS_N1	DDR0_CS_N1
DCLKA0	DCLKA0	DDR0_CLK_P0	DDR0_CLK_P0
DCLKA0	DCLKA0	DDR0_CLK_N0	DDR0_CLK_N0
DCLKA1	DCLKA1	DDR0_CLK_P1	DDR0_CLK_P1
DCLKA1	DCLKA1	DDR0_CLK_N1	DDR0_CLK_N1
AV14	AV14	DDR0_CLK_P2	DDR0_CLK_P2
AV14	AV14	DDR0_CLK_N2	DDR0_CLK_N2
AV13	AV13	DDR0_CLK_P3	DDR0_CLK_P3
AV13	AV13	DDR0_CLK_N3	DDR0_CLK_N3
RSVD	RSVD	DDR0_RSVD	DDR0_RSVD
SRASA	SRASA	DDR0_RAS*	DDR0_RAS*
SWEA	SWEA	DDR0_WE*	DDR0_WE*
SCASA	SCASA	DDR0_CAS*	DDR0_CAS*
DDR3_RST	DDR3_RST	DDR0_RESET*	DDR0_RESET*

HASWELL(10SC1-F01150-11R_10SC1-F01150-12R)

LGA1150B			
MAAB0	AL19	DDR1_M0	DDR1_DQ0
MAAB1	AK23	DDR1_M1	DDR1_DQ1
MAAB2	AM22	DDR1_M2	DDR1_DQ2
MAAB3	AM23	DDR1_M3	DDR1_DQ3
MAAB4	AP23	DDR1_M4	DDR1_DQ4
MAAB5	AL23	DDR1_M5	DDR1_DQ5
MAAB6	AL24	DDR1_M6	DDR1_DQ6
MAAB7	AV25	DDR1_M7	DDR1_DQ7
MAAB8	AL26	DDR1_M8	DDR1_DQ8
MAAB9	AW25	DDR1_M9	DDR1_DQ9
MAAB10	AP18	DDR1_M10	DDR1_DQ10
MAAB11	AV26	DDR1_M11	DDR1_DQ11
MAAB12	AL25	DDR1_M12	DDR1_DQ12
MAAB13	AL15	DDR1_M13	DDR1_DQ13
MAAB14	AV27	DDR1_M14	DDR1_DQ14
MAAB15	AY28	DDR1_M15	DDR1_DQ15
MODT_B0	AM17	DDR1_ODT0	DDR1_ODT0
MODT_B1	AL16	DDR1_ODT1	DDR1_ODT1
AM16	AM16	DDR1_ODT2	DDR1_ODT2
AK15	AK15	DDR1_ODT3	DDR1_ODT3
AM26	AM26	DDR1_ECC0	DDR1_ECC0
AM25	AM25	DDR1_ECC1	DDR1_ECC1
AP26	AP26	DDR1_ECC2	DDR1_ECC2
AL26	AL26	DDR1_ECC3	DDR1_ECC3
AL25	AL25	DDR1_ECC4	DDR1_ECC4
AR26	AR26	DDR1_ECC5	DDR1_ECC5
AR25	AR25	DDR1_ECC6	DDR1_ECC6
AR25	AR25	DDR1_ECC7	DDR1_ECC7
SBA00	SBA00	DDR1_BA0	DDR1_BA0
SBA01	SBA01	DDR1_BA1	DDR1_BA1
SBA02	SBA02	DDR1_BA2	DDR1_BA2
CKEB0	CKEB0	DDR1_CKE0	DDR1_CKE0
CKEB1	CKEB1	DDR1_CKE1	DDR1_CKE1
CSB0	CSB0	DDR1_CS_N0	DDR1_CS_N0
CSB1	CSB1	DDR1_CS_N1	DDR1_CS_N1
DCLKB0	DCLKB0	DDR1_CLK_P0	DDR1_CLK_P0
DCLKB0	DCLKB0	DDR1_CLK_N0	DDR1_CLK_N0
DCLKB1	DCLKB1	DDR1_CLK_P1	DDR1_CLK_P1
DCLKB1	DCLKB1	DDR1_CLK_N1	DDR1_CLK_N1
AN20	AN20	DDR1_CLK_P2	DDR1_CLK_P2
AN21	AN21	DDR1_CLK_N2	DDR1_CLK_N2
AP19	AP19	DDR1_CLK_P3	DDR1_CLK_P3
AP20	AP20	DDR1_CLK_N3	DDR1_CLK_N3
SCASB	SCASB	DDR1_CAS*	DDR1_CAS*
SRASB	SRASB	DDR1_RAS*	DDR1_RAS*
SWEB	SWEB	DDR1_WE*	DDR1_WE*
VREF_DQA	VREF_DQA	DDR1_VREF_DQ0	DDR1_VREF_DQ0
VREF_DQB	VREF_DQB	DDR1_VREF_DQ1	DDR1_VREF_DQ1
DQS_P0	DQS_P0	DDR1_DQS_P0	DDR1_DQS_P0
DQS_P1	DQS_P1	DDR1_DQS_P1	DDR1_DQS_P1
DQS_P2	DQS_P2	DDR1_DQS_P2	DDR1_DQS_P2
DQS_P3	DQS_P3	DDR1_DQS_P3	DDR1_DQS_P3
DQS_P4	DQS_P4	DDR1_DQS_P4	DDR1_DQS_P4
DQS_P5	DQS_P5	DDR1_DQS_P5	DDR1_DQS_P5
DQS_P6	DQS_P6	DDR1_DQS_P6	DDR1_DQS_P6
DQS_P7	DQS_P7	DDR1_DQS_P7	DDR1_DQS_P7
DQS_P8	DQS_P8	DDR1_DQS_P8	DDR1_DQS_P8
DQS_N0	DQS_N0	DDR1_DQS_N0	DDR1_DQS_N0
DQS_N1	DQS_N1	DDR1_DQS_N1	DDR1_DQS_N1
DQS_N2	DQS_N2	DDR1_DQS_N2	DDR1_DQS_N2
DQS_N3	DQS_N3	DDR1_DQS_N3	DDR1_DQS_N3
DQS_N4	DQS_N4	DDR1_DQS_N4	DDR1_DQS_N4
DQS_N5	DQS_N5	DDR1_DQS_N5	DDR1_DQS_N5
DQS_N6	DQS_N6	DDR1_DQS_N6	DDR1_DQS_N6
DQS_N7	DQS_N7	DDR1_DQS_N7	DDR1_DQS_N7
DQS_N8	DQS_N8	DDR1_DQS_N8	DDR1_DQS_N8

HASWELL(10SC1-F01150-11R_10SC1-F01150-12R)

Place in CPU bottom side

CR
CPU RETENTION/X

LGA1150_P



ILM_BP/1156/CSP/ILM_BP/1156/CSP(12KRC-0F0001-52R_12KRC-0F0001-51R)

DDR BUS

[7] MODT_A[0..1]	MODT_A[0..1]
[8] MODT_B[0..1]	MODT_B[0..1]
[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] MAAA[0..15]	MAAA[0..15]
[8] MAAB[0..15]	MAAB[0..15]
[8] DQSB[0..7]	DQSB[0..7]
[8] -DQSB[0..7]	-DQSB[0..7]

Gigabyte Technology

CPU LGA1156-B

Title		CPU LGA1156-B	
Size	Document Number	GA-H81M-S2PH	
Custom		Rev 2.0	
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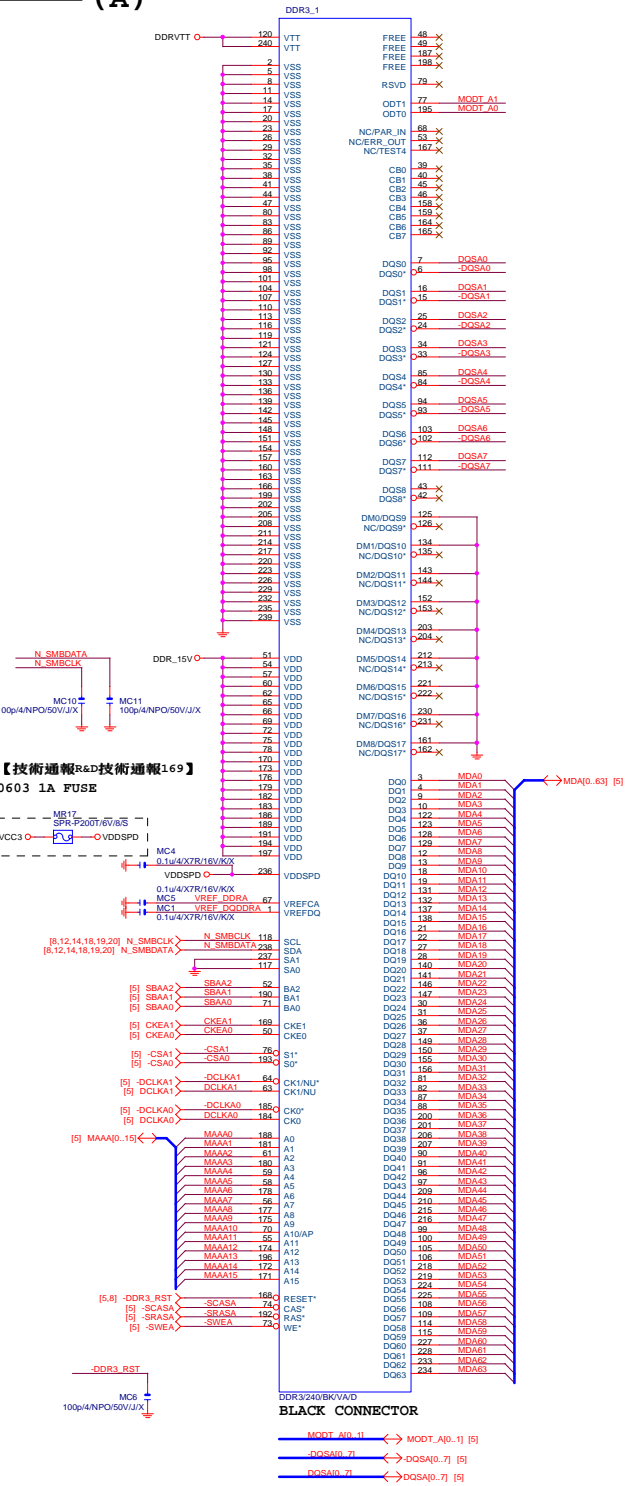
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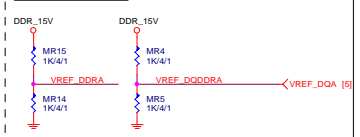
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CPU LGA1150-C			
Size	Document Number		Rev
Custom	GA-H81M-S2PH		2.0
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DDR3

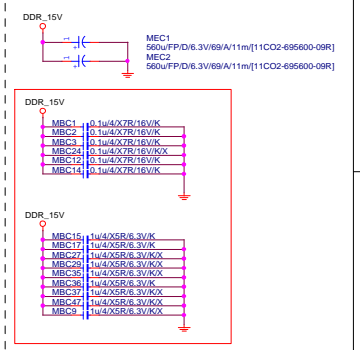
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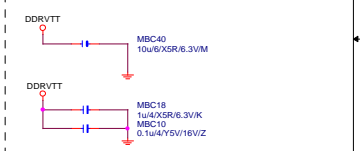
DDR3 VREF



DDR15V Decouple

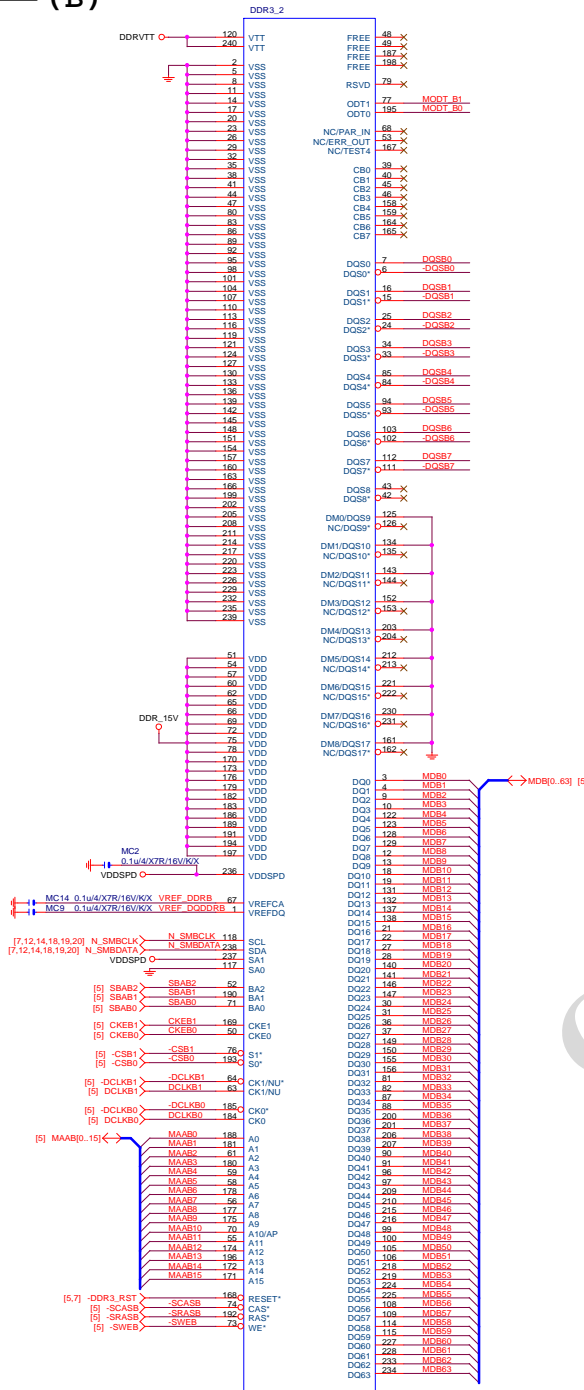


DDRVTT Decouple

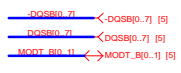


DDR3

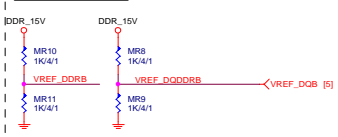
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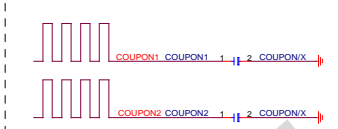
DDR3/240/BK/VA/D
BLACK CONNECTOR



DDR3 VREF



COUPON



CPU

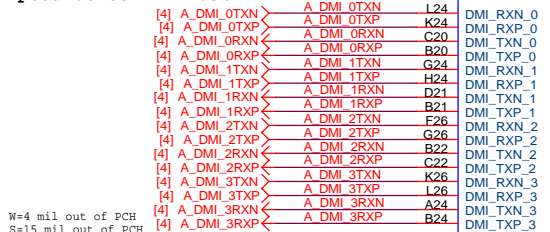
DIMM1 CHA

DIMM2 CHB

PCH

(B)

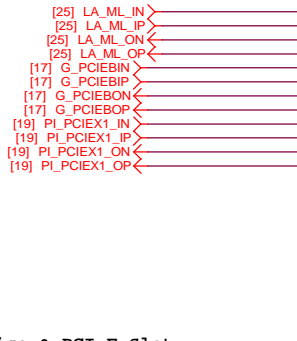
DMI:12/4/4/4/12(breakout min 8/4/4/4/8)
Impedance=85 +/- 17.5%



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

H81: USB3 only Port 0/1

PCIEx1 8892 LAN



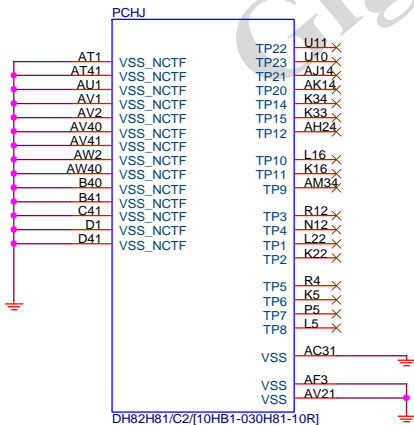
放靠近 Device & PCI-E Slot

Impedance=80 +/- 17.5%

PCIEx1:16/5/5/5/16 (breakout min 8/4/4/4/8)

PCH

(J)

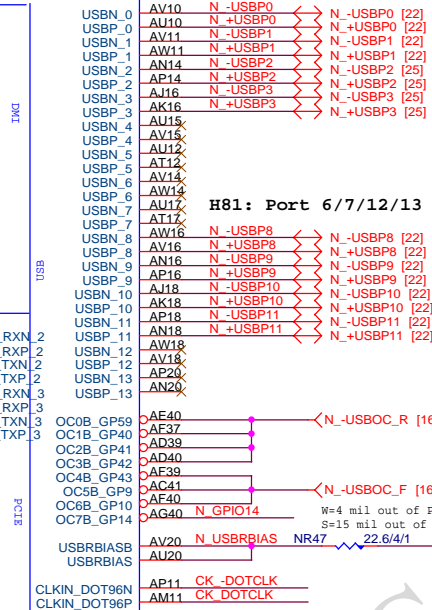


DH82H81/C2/[10HB1-030H81-10R]

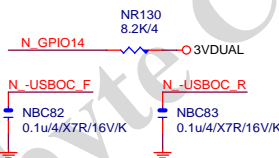
USB2.0 : 12/4.5/7.5/4.5/12 (breakout min 8/4/4/4/8)

Impedance=90 +/- 17.5%

PCHB



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

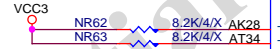


PCH

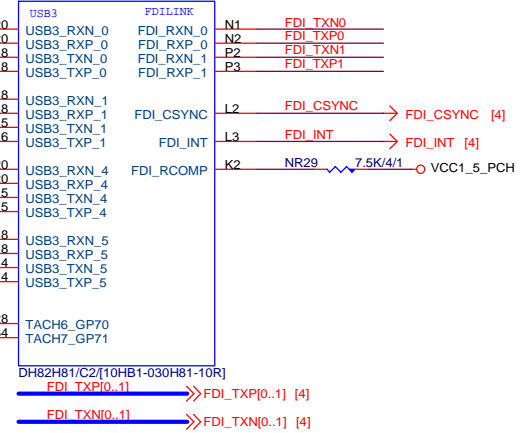
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H81: USB3 only Port 0/1

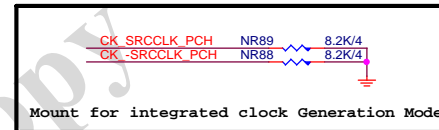


PCHF

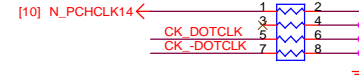


USB3.0:20/5/7/5/20 (breakout min 8/4/4/4/8) ; ONLY 3 VIAS
Impedance=85 +/- 17.5%
Back Panel < 10000 MILS
Front Panel < 6000 MILS

PCH CLK PD



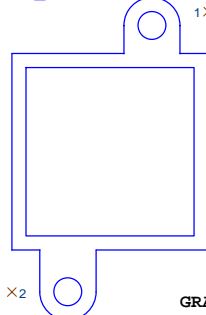
Mount for integrated clock Generation Mode



PCH H/S

LOW COST ICH7 HEATSINK

SB_HEATSIN



PCH_HS
PCH_HS/[12SP2-030005-43R_12SP2-030005-41R_12SP2-030005-42R]

USB TABLE

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

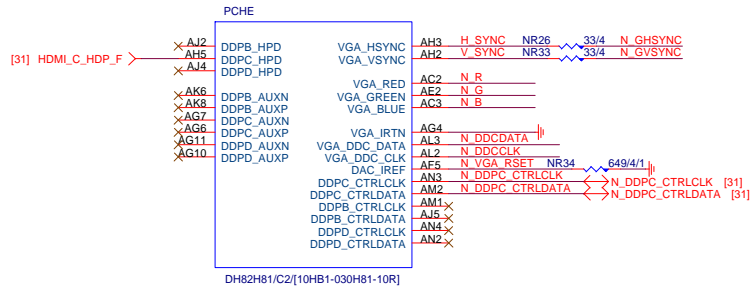
USB OC#	Configure
OC0#	USB30_HDMI
OC1#	R_USB
OC2#	N/A
OC3#	N/A
OC4#	F_USB1
OC5#	F_USB2
OC6#	N/A
OC7#	Not Use

Gigabyte Technology

Title	PCH FDI,DMI,USB ,PCIE,NVRAM		
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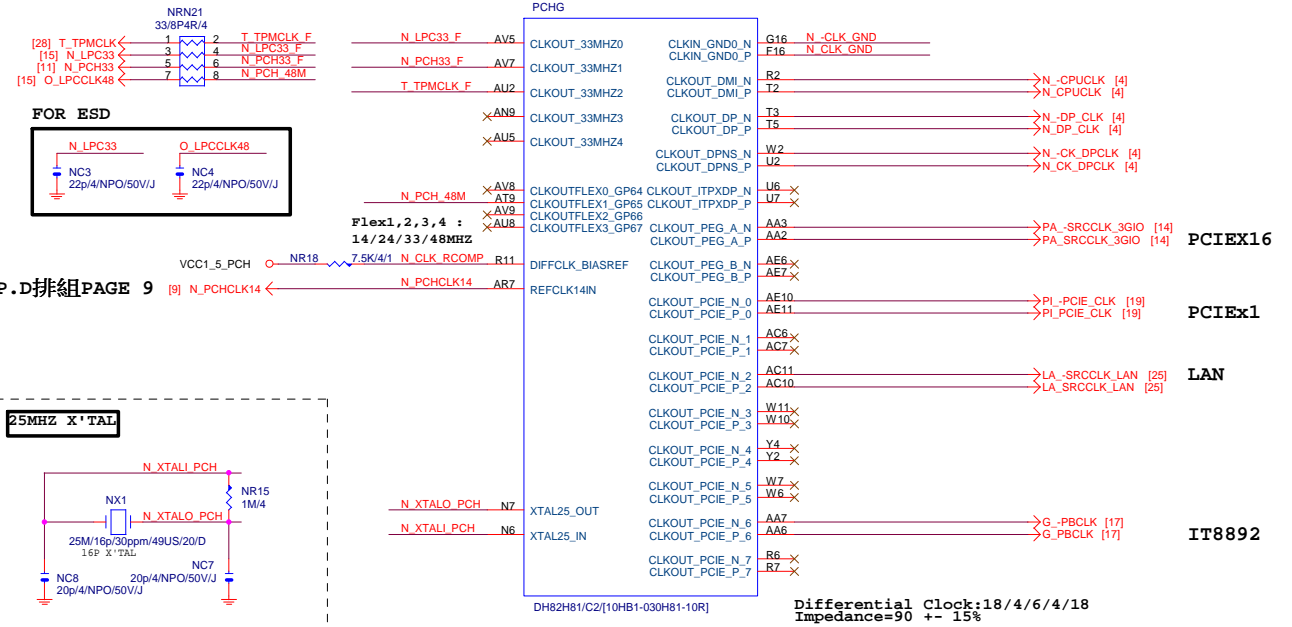
PCH

(E)

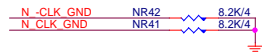


PCH

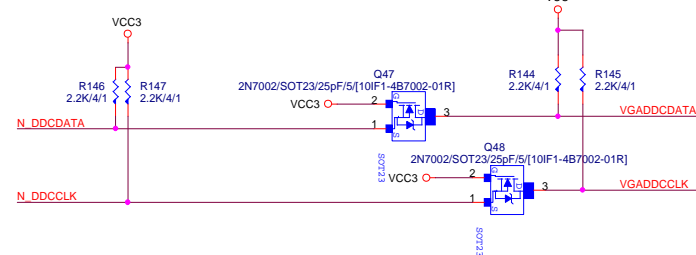
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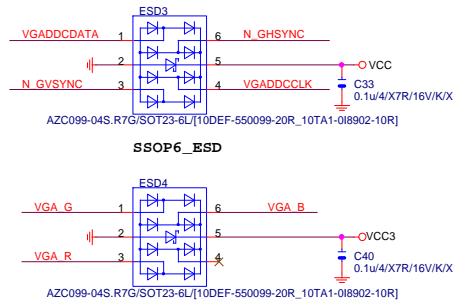
PCH CLK PD



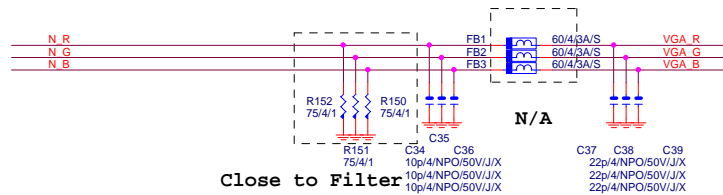
VGA DDC



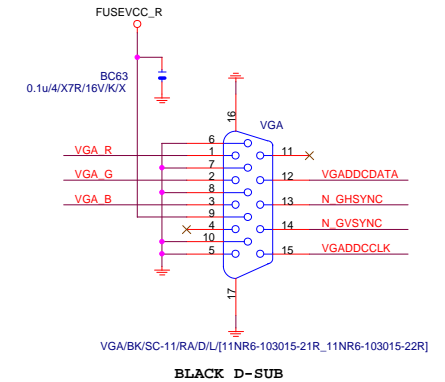
VGA ESD



VGA DDC



VGA CONNECTOR

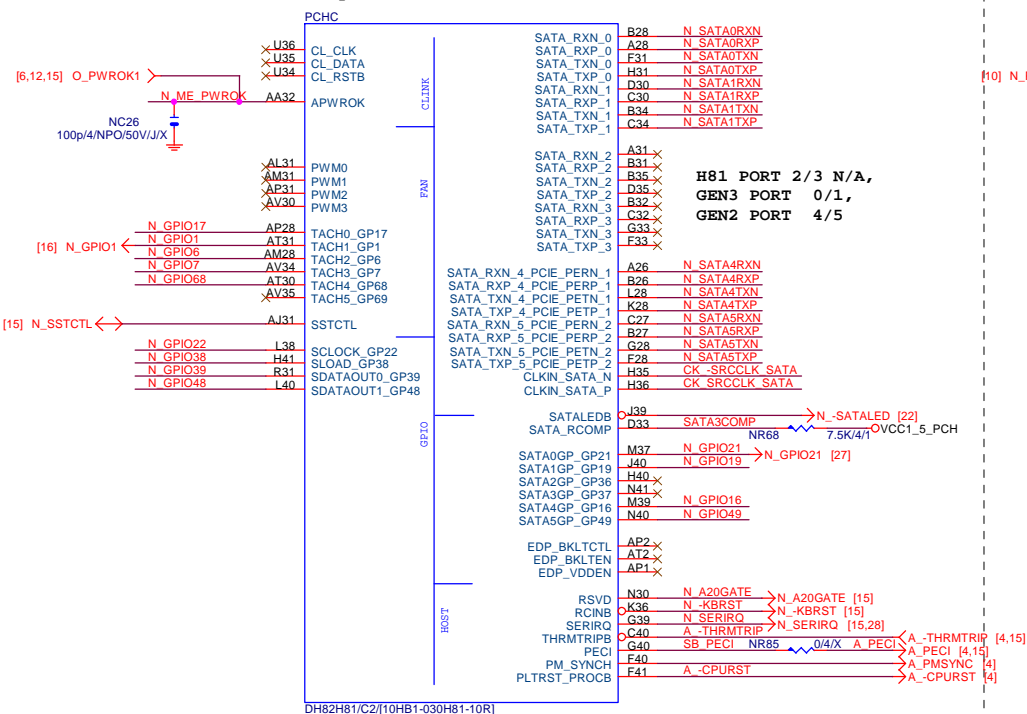


Gigabyte Technology

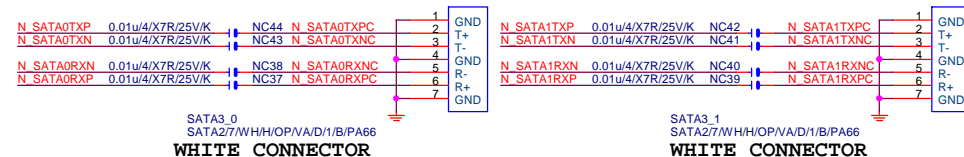
Title			
PCH DISPLAY ,CLK BUFFER			
Size	Document Number		Rev
Custom	GA-H81M-S2PH		2.0
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(C)

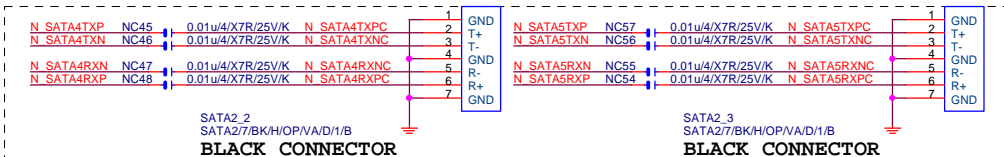
SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)
Impedance=90 +- 17.5%



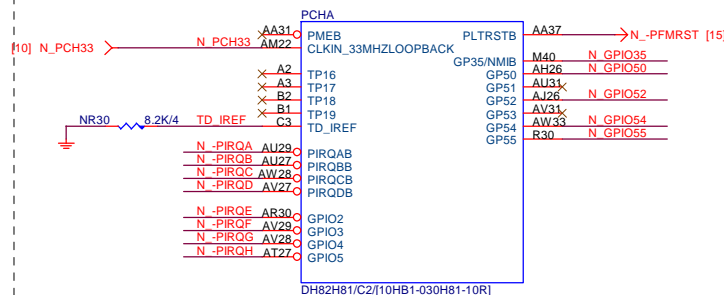
SATA CONNECTOR



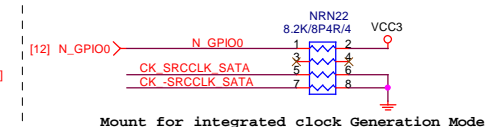
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** Z87/H87 Port 4&5 SATA3.0
** B85 Port 4&5 SATA2.0
```



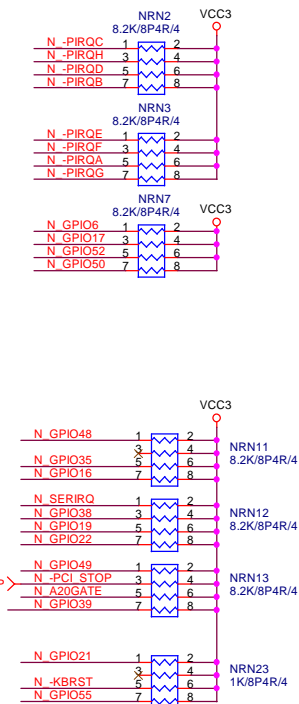
PCH (A)



PCH	CLK	PD
-----	-----	----



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

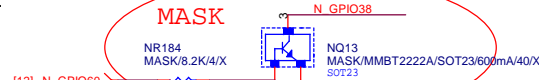


ME PWROK

H81 N/A

GPIO38 Ctrl

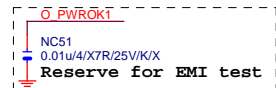
N/A



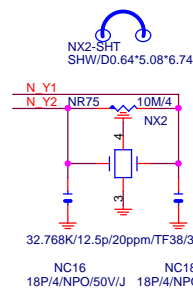
(D)



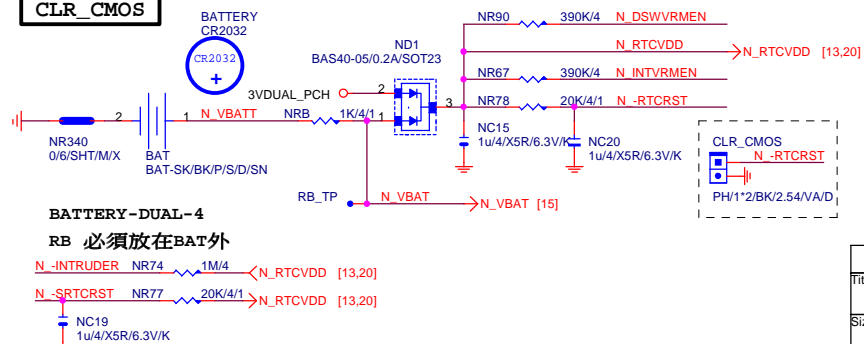
FOR ESD



32.768KHZ



CLR CMOS



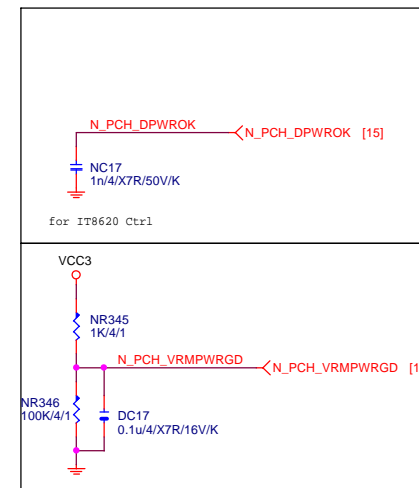
ACZ SDOUT

N/A

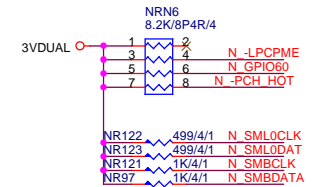
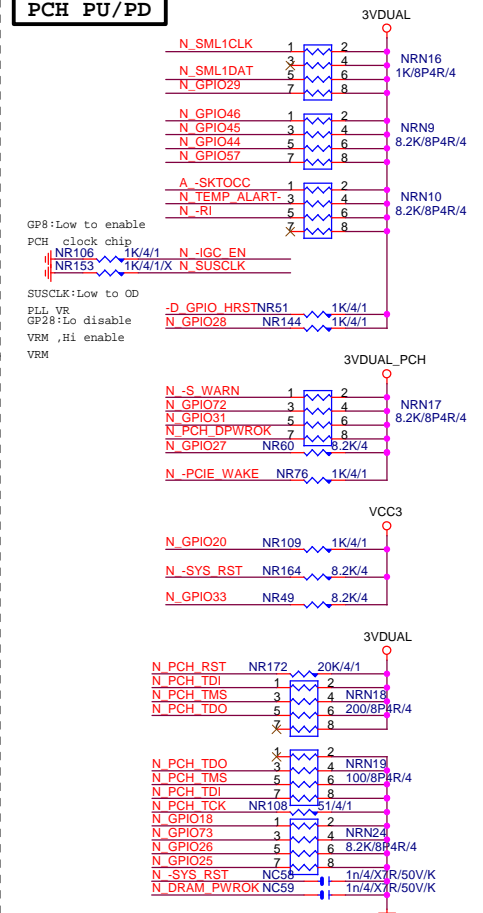
HSW STRAP1:

N/A

PCH DPWROK



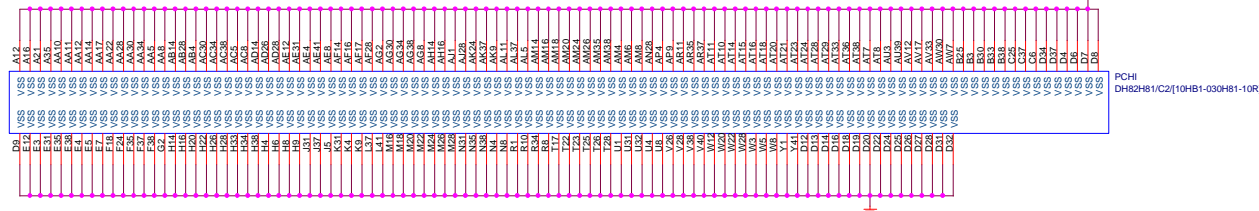
PCH PU/PD



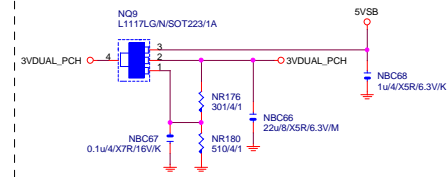
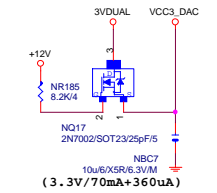
Gigabyte Technology

Title			
PCH GPIO , CTRL , AUDIO			
Size	Document Number		Rev
Custom	GA-H81M-S2PH		2.0
Date:	Wednesday, April 09, 2014	Sheet	12 of 31

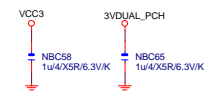
PCH (I)



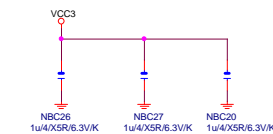
3VDUAL_PCH



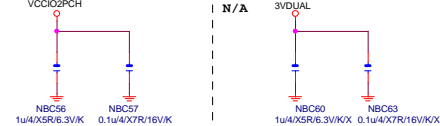
M3 POWER



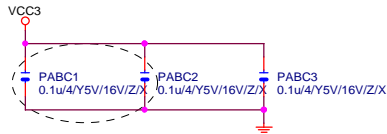
(1.05V) N/A



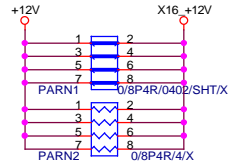
(1.05V)(x2) (3.3V)(x2)



PCIEX16 CAP



PCIEX16 PROTECT SHT

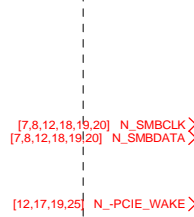


PCIEX16 AC CAP

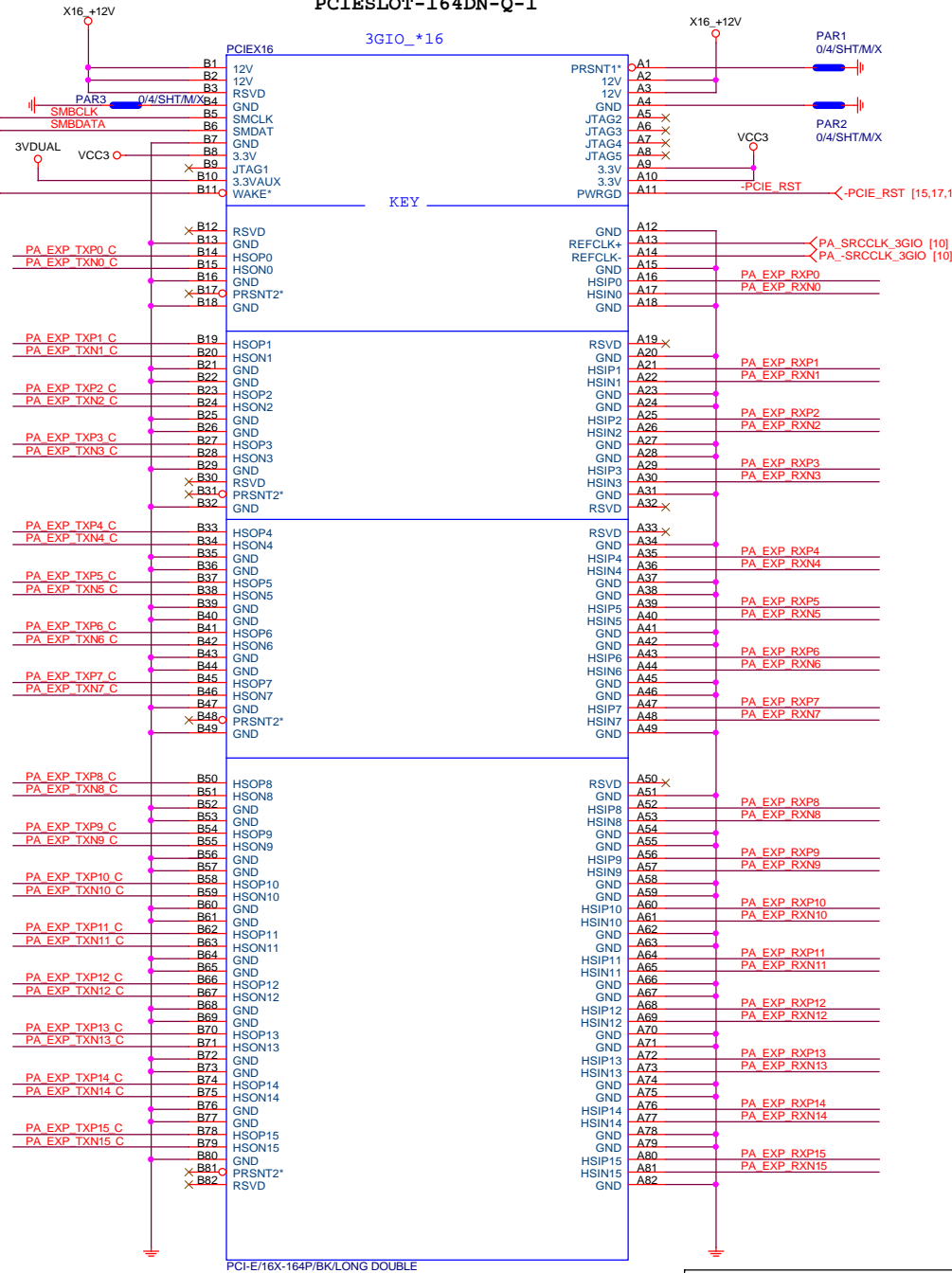
PA EXP TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA EXP TXP0 C
PA EXP TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA EXP TXN0 C
PA EXP TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA EXP TXP1 C
PA EXP TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA EXP TXN1 C
PA EXP TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA EXP TXP2 C
PA EXP TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA EXP TXN2 C
PA 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	PAC18	0.22u/4/X5R/6.3V/K	PA EXP TXP7 C
PA EXP TXN7	PAC19	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[0..15] >>> PA_EXP_RXP[0..15] [4]
PA EXP RXN0[0..15] >>> PA_EXP_RXN[0..15] [4]
PA EXP TXP0[0..15] >>> PA_EXP_TXP[0..15] [4]
PA EXP TXN0[0..15] >>> PA_EXP_TXN[0..15] [4]

PCIEX16 SLOT



PCIESLOT-164DN-Q-1



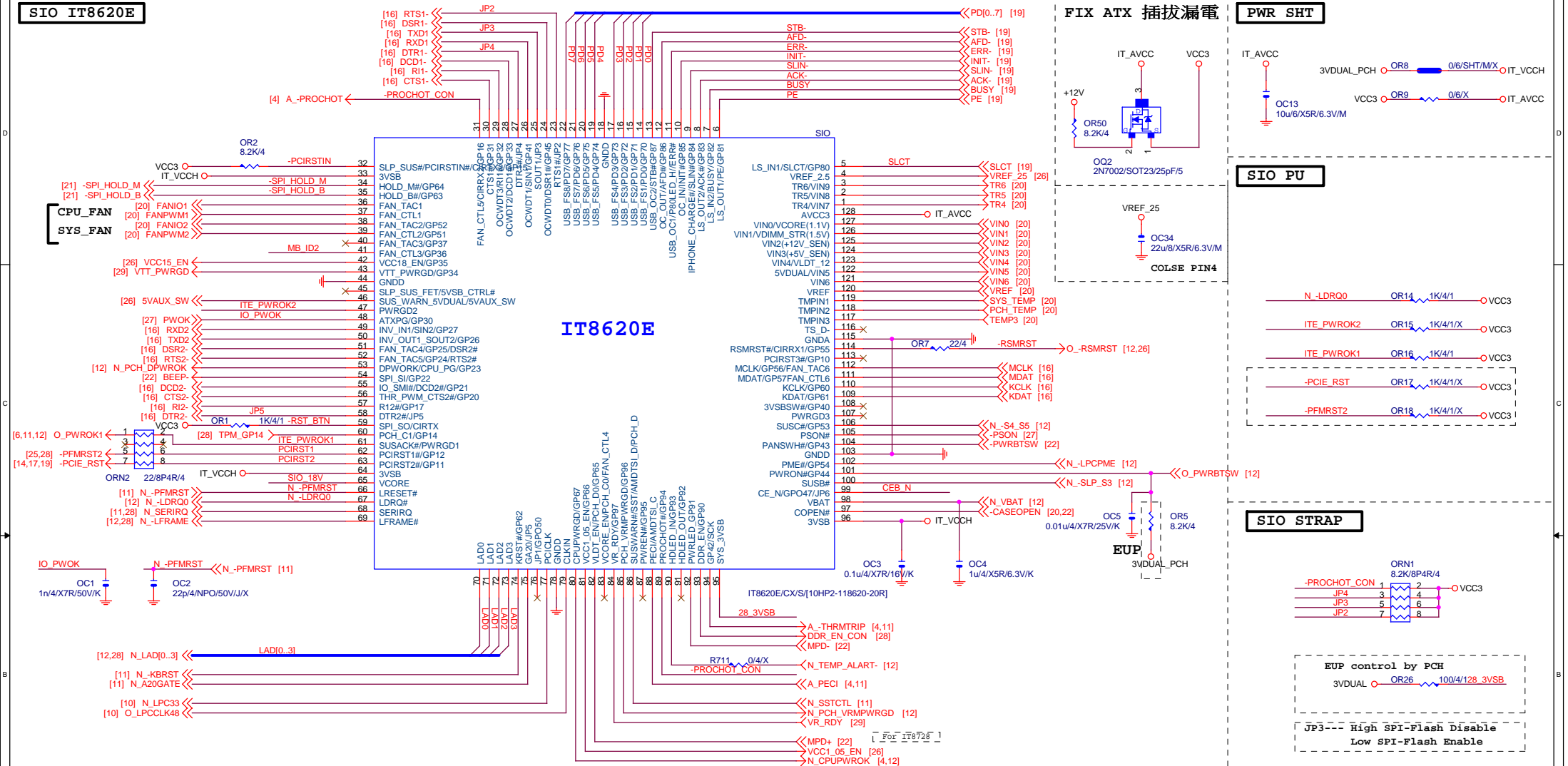
PCI-E16X-164P/BK/LONG DOUBLE

BLACK CONNECTOR

Gigabyte Technology

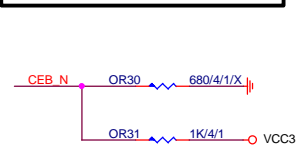
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Size			GA-H81M-S2PH		
Custom			Rev 2.0		
Date: Wednesday, April 09, 2014			Sheet 14 of 31		

SIO IT8620E

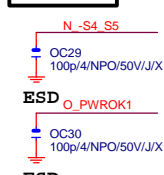


IT8620 NOTE	
	IT8728
PIN121	VCORE_EN/PCH_C0
PIN120	VLDT_EN/PCH_D0
PIN19	ATXPG
PIN31	PCH_C1
PIN53	SST/AMDTSI_D/MTRB#/PCH_D1
PIN55	PECI/AMDTSI_C/DRV#
PIN66	SYS_V3VB
PIN70	GP47
PIN95	VIN2(VCC5)
PIN96	VIN1(VCC12)
PIN97	VIN1/VDIMM_STR(1.5V)
PIN98	VIN0/VCORE(1.1V)/NC

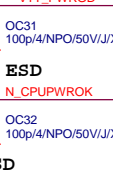
DUAL BIOS OPT STRAP



FOR ESD



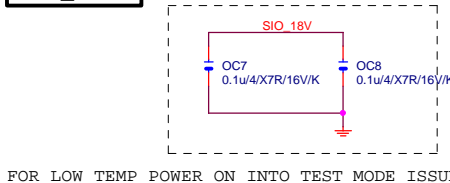
VTT_PWRGD



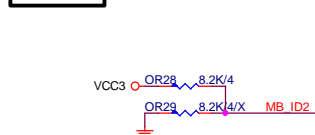
VR RDY



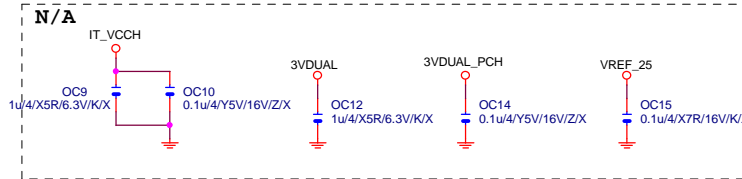
SIO_18V



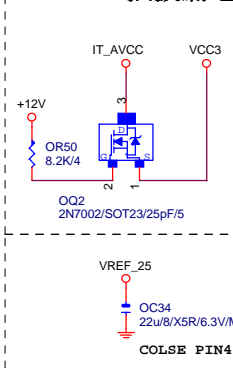
MB ID



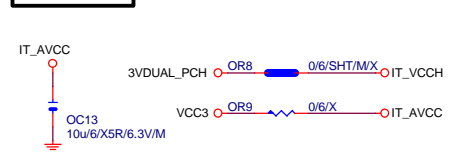
SIO CAP



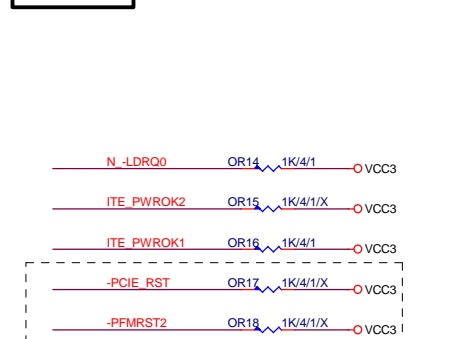
FIX ATX 插拔漏電



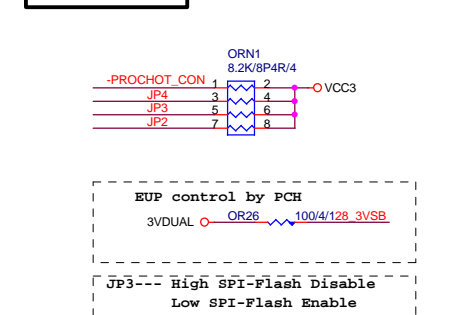
PWR SHT



SIO PU



SIO STRAP



Gigabyte Technology

Title		ITE 8620 LPC IO		
Size	Document Number	GA-H81M-S2PH		Rev
Custom				2.0
Date:	Wednesday, April 09, 2014	Sheet	15 of 31	

KB/MS



-USBOC_R

USB POWER PROTECT

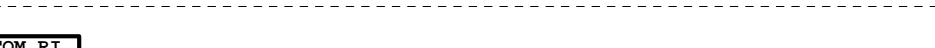
R_USB PWR



COMA



COMB

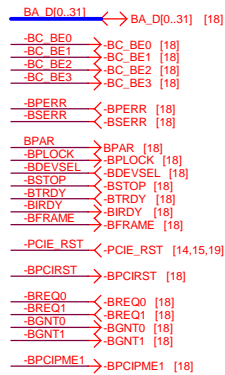


COM RI



PCI TO PCI

PCI:5/4/5 Impedance=50 +- 15%



High: Enable PCI CLK 66MHz
Low: Disable PCI CLK 66MHz

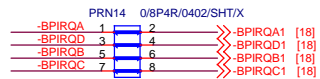


High: PCICLK INPUT form CLK Gen
Low: PCICLK OUTPUT form IT8893 chip



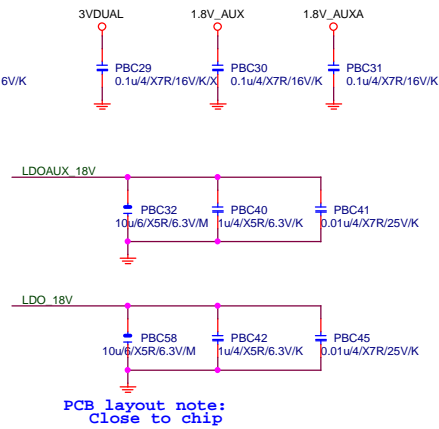
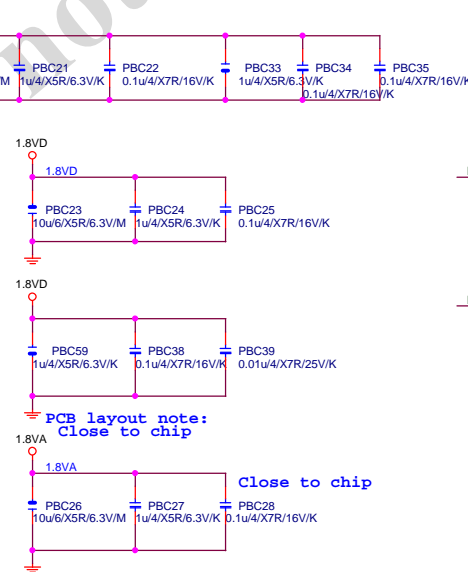
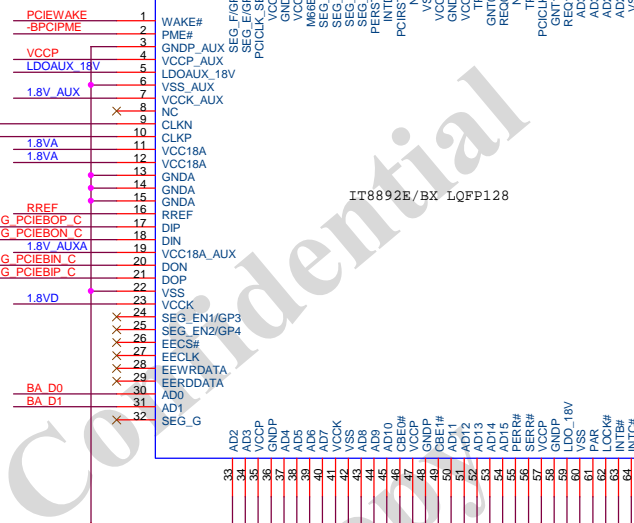
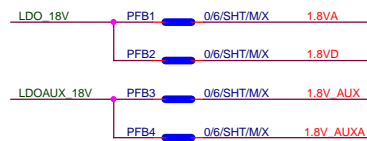
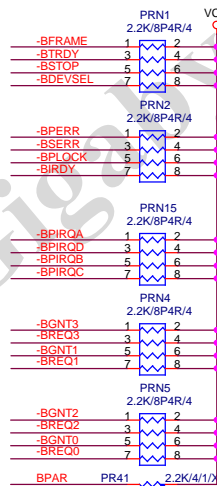
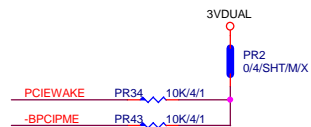
IT8892

PCI slot



PCI slot

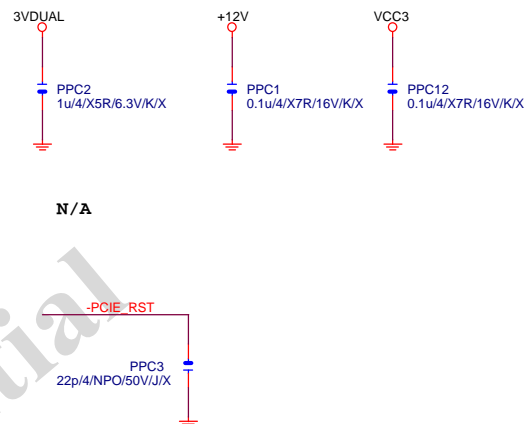
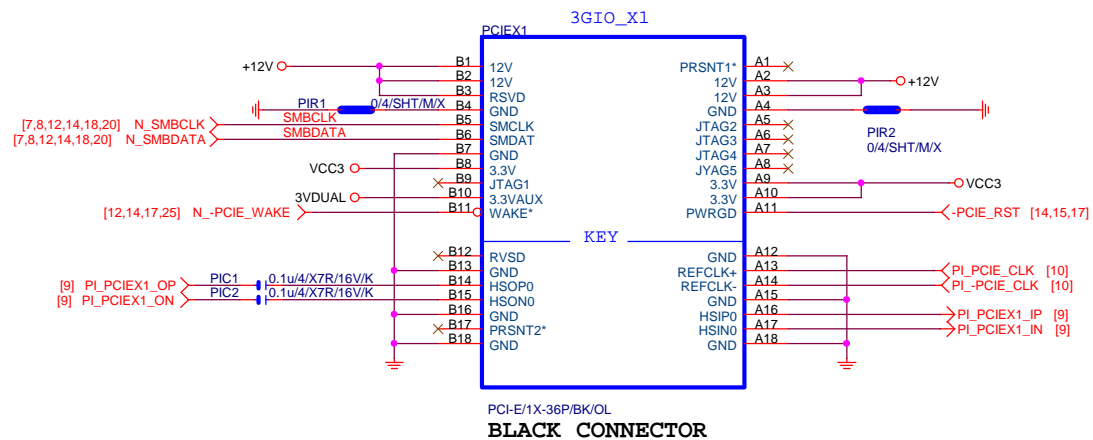
chipset side



Gigabyte Technology

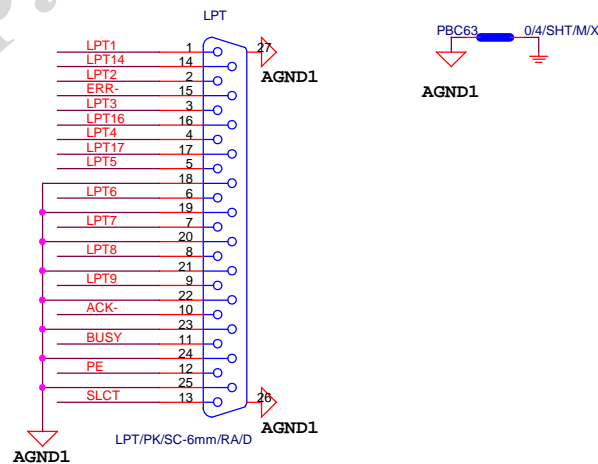
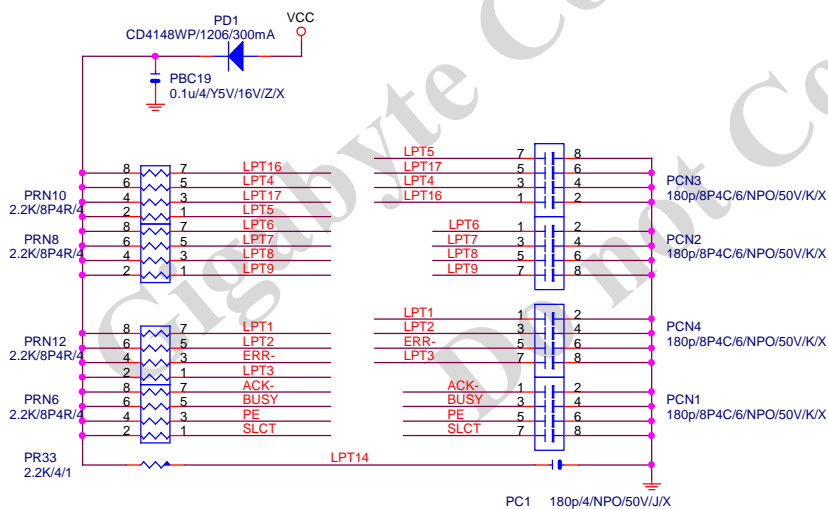
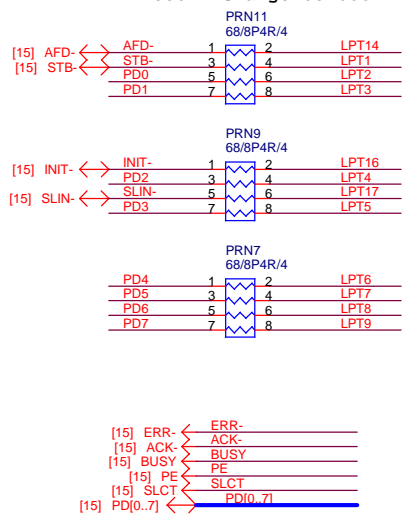
Title				
ITE IT8892E				
Size	Document Number			Rev
Custom	GA-H81M-S2PH			2.0
Date:	Wednesday, April 09, 2014		Sheet	17 of 31

PCIEX1 SLOT



LPT PORT

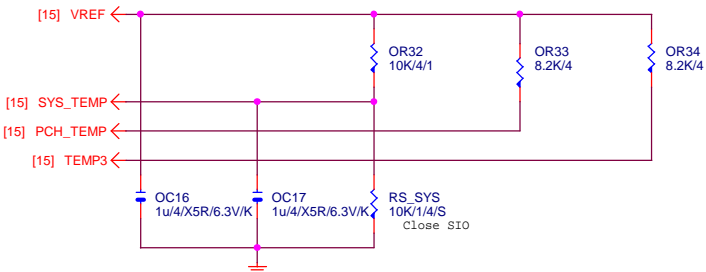
【技術通報R&D技術通報151】
33ohm Change to 68ohm



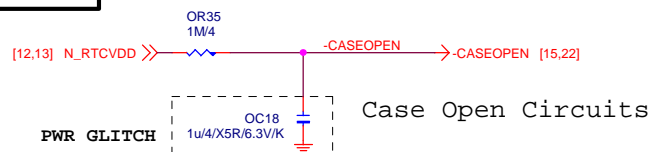
Gigabyte Technology

Title			
LPT			
Size B	Document Number	GA-H81M-S2PH	Rev 2.0
Date:	Wednesday, April 09, 2014	Sheet 19 of 31	

TEMP H/W MONITOR



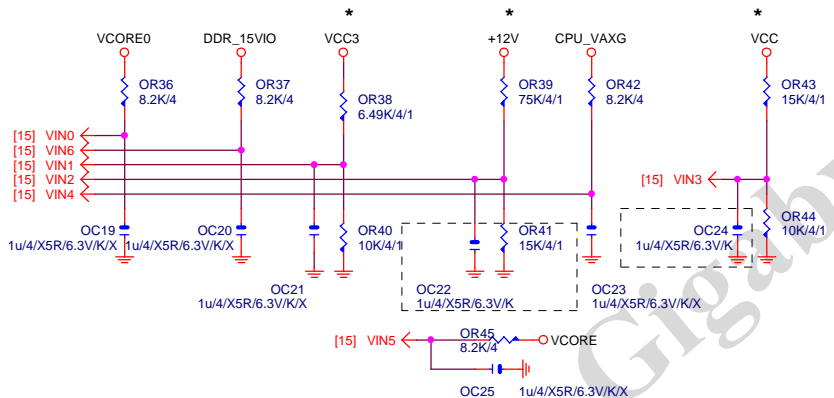
CASE OPEN



VOLTAGE-- H/W MONITOR

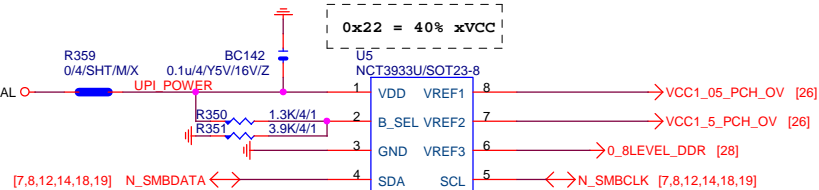
$$\text{VIN2: } 75\text{K}/15\text{K} = 2\text{V}$$

$$\text{VIN3: } 15\text{K}/10\text{K} = 2\text{V}$$

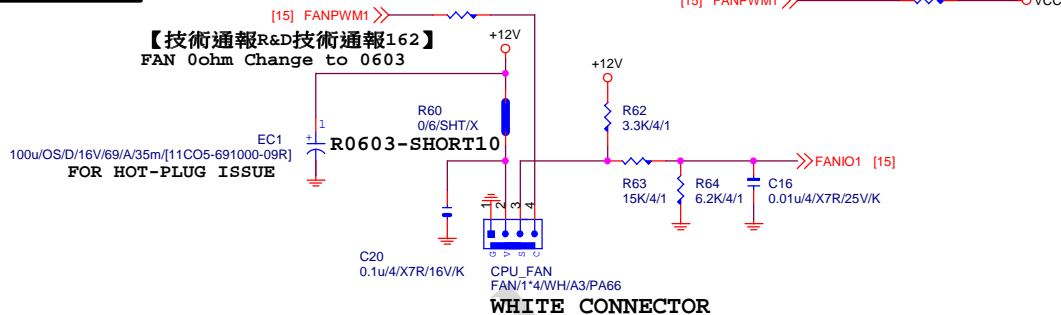


OV NCT3933

接pwm feedback pin

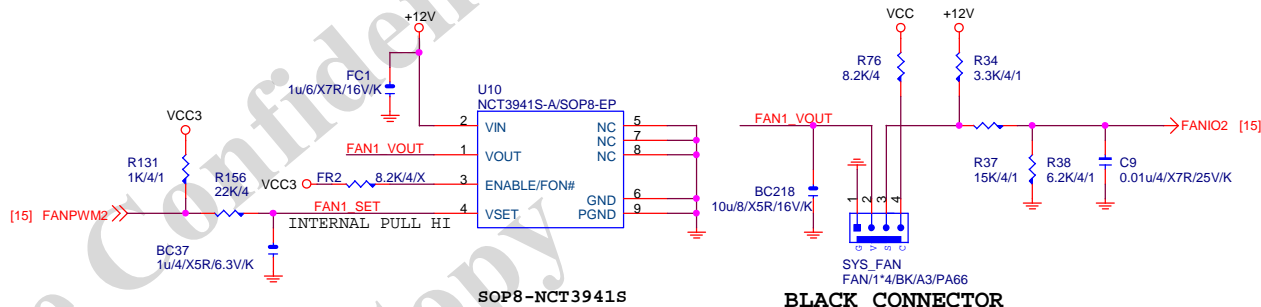


CPU SMART FAN

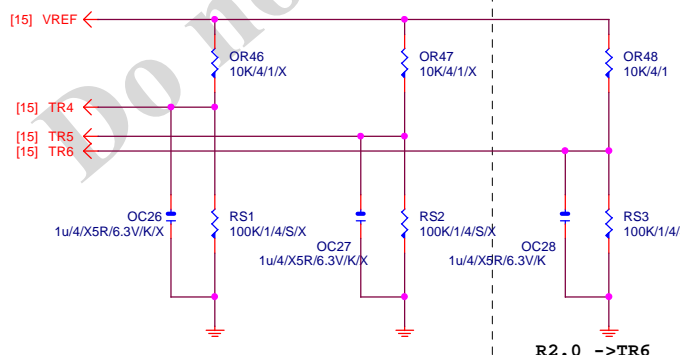


SYS SMART FAN

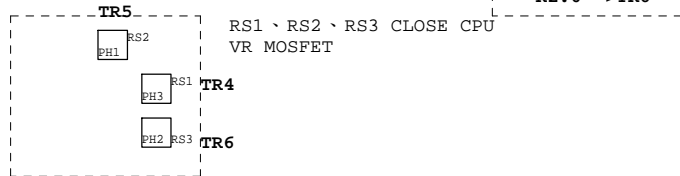
Linear SYS_FAN



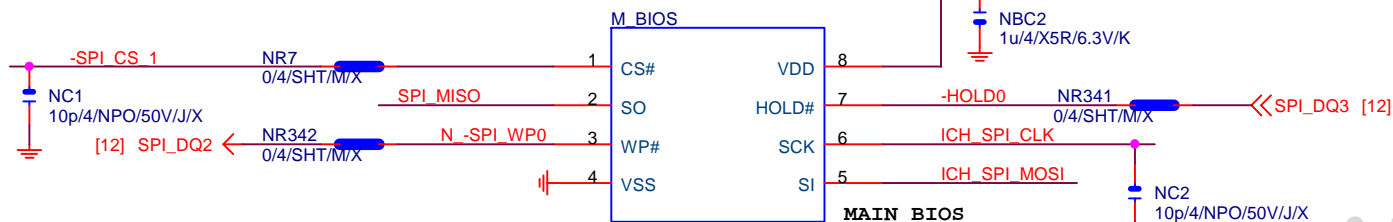
THERMISTOR MONITOR



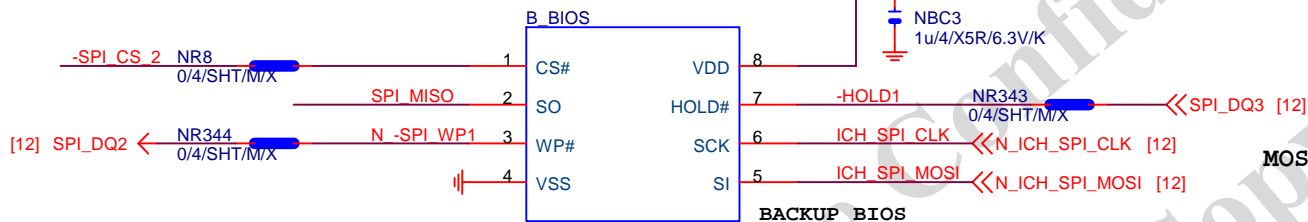
-PROHOT



Gigabyte Technology			
Title			
HWM,FAN CTRL,OV			
Size	Document Number	Rev	
Custom	GA-H81M-S2PH	2.0	
Date:	Wednesday, April 09, 2014	Sheet	20 of 31



32M/SPI/SO8/200mil/S/[10HP4-112532-20R]

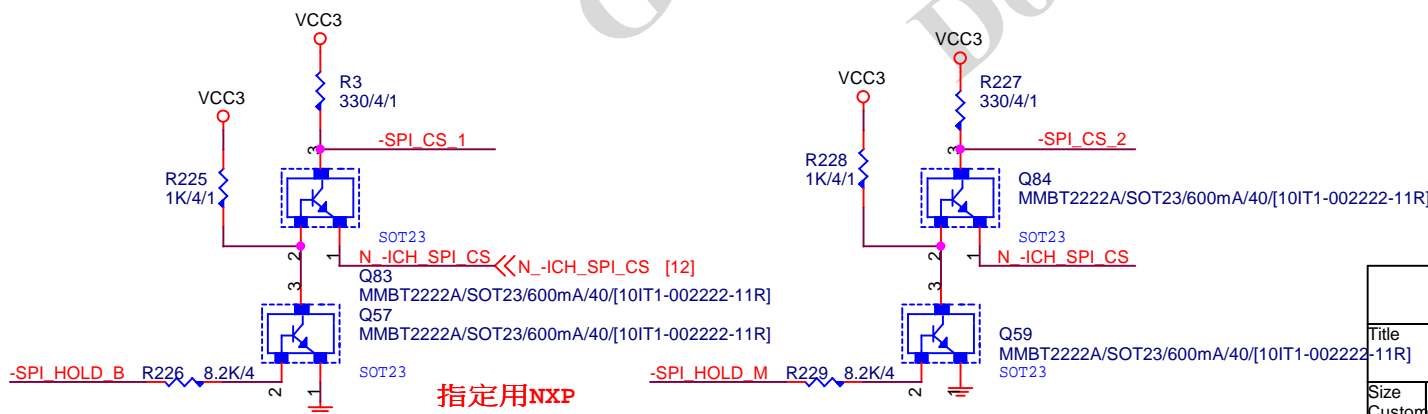
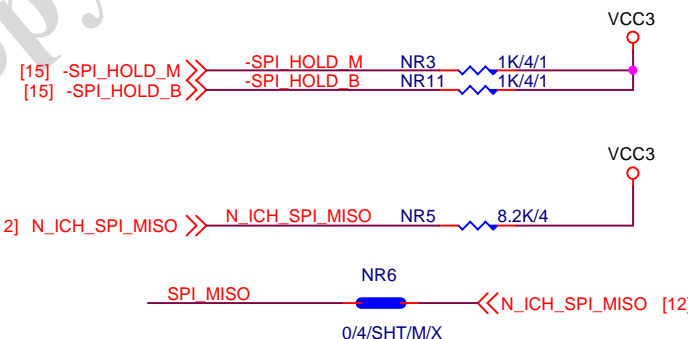


32M/SPI/SO8/200mil/S/[10HP4-112532-20R]

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



指定用NXP

Gigabyte Technology

DUAL BIOS

GA-H81M-S2PH

Rev 2.0

Title

Size Custom

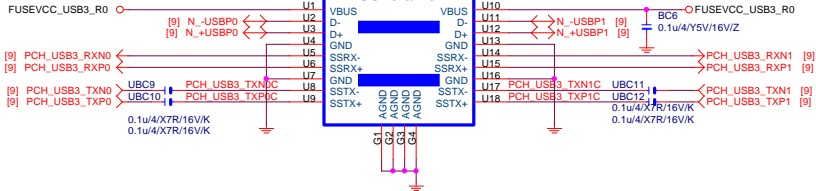
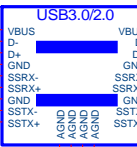
Document Number

Date: Wednesday, April 09, 2014

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R_USB30

USB30+HDMI 一體式

R_USB30
USB3.0+HDMI/18P+19P/BK/OS/RA[11NR6-H03037-01R]

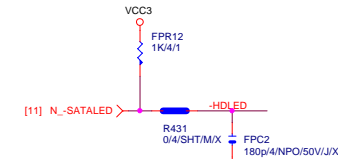
R_USB30 PWR

POLY SWITCH-1206-1

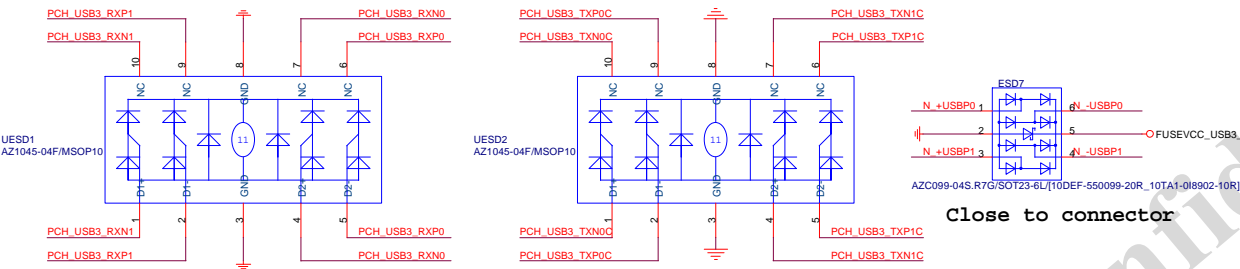


USB3.0 2Port - 1Fuse (3.5A)

SATA LED

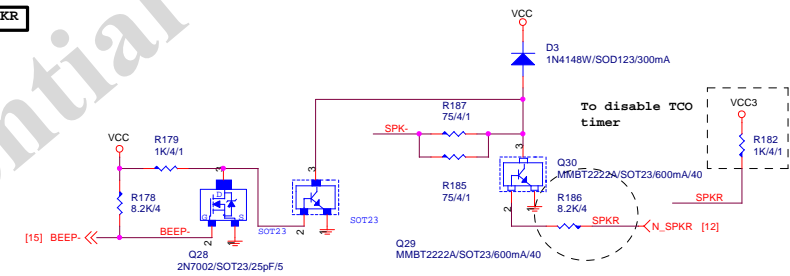


USB30_HDMI ESD PROTECT

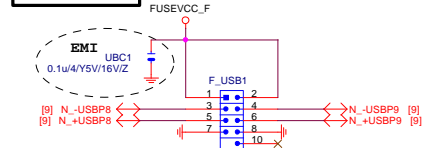


Close to connector

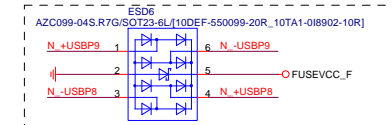
SPKR



FRONT USB1

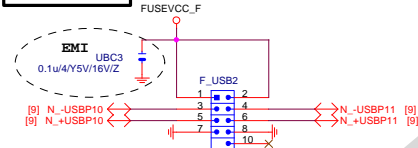


WHITE CONNECTOR

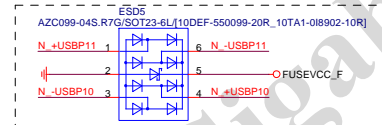


Close to connector

FRONT USB2

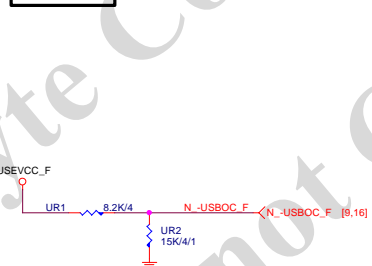


WHITE CONNECTOR

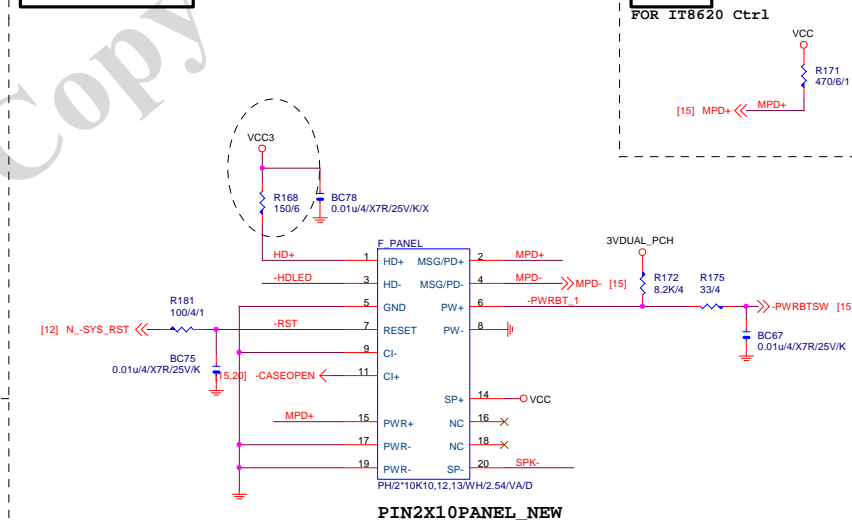


Close to connector

-USBOC_F

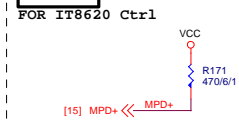


INTEL FRONT PANEL



PIN2X10PANEL_NEW

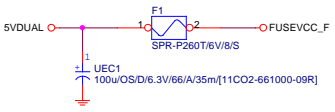
PWR LED



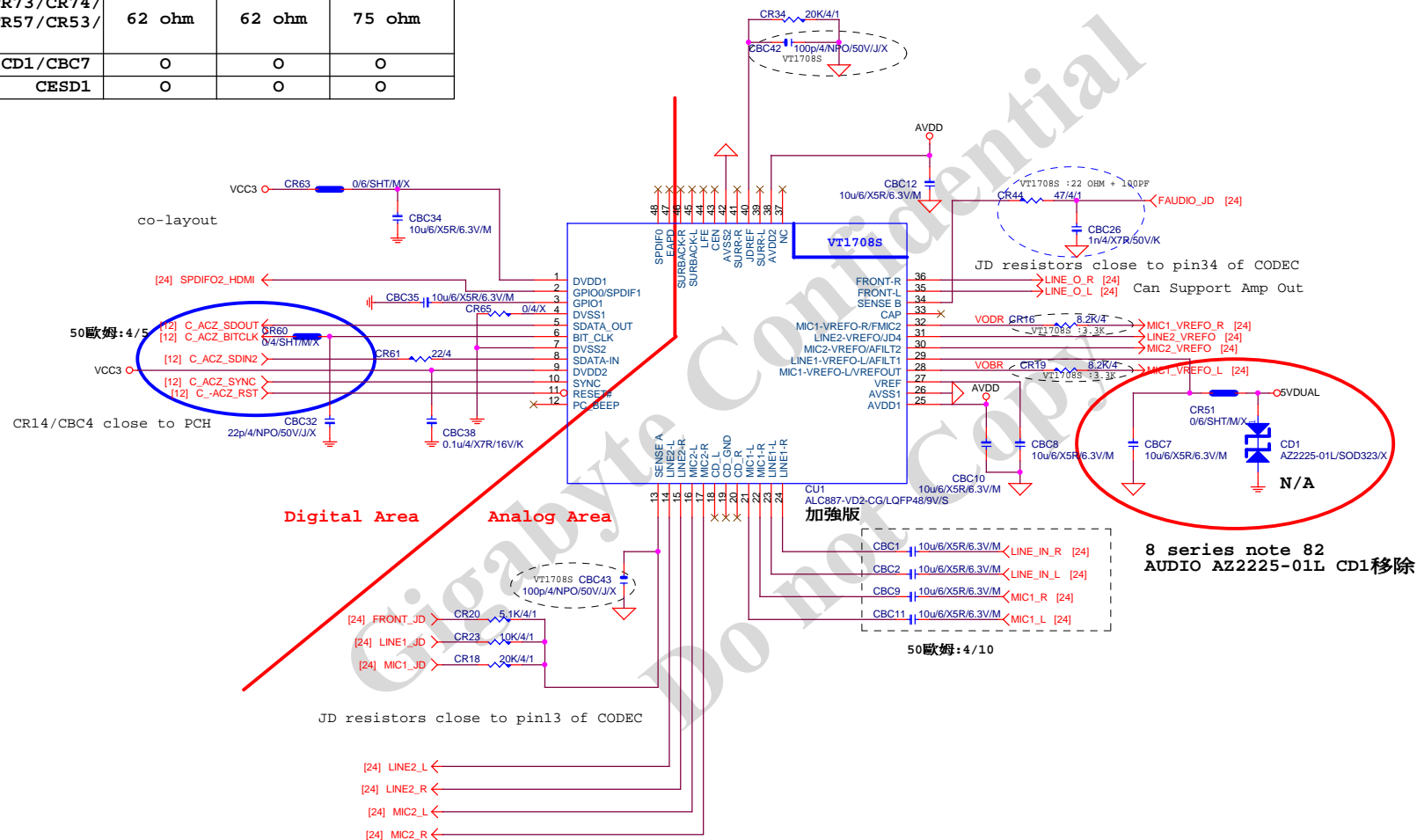
FUSEVCC_F

FUSE-0805

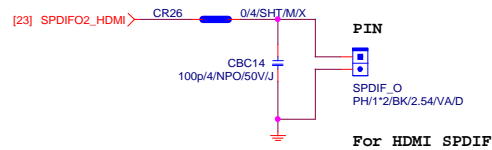
F_USB1, F_USB2 4-Port 2.6A



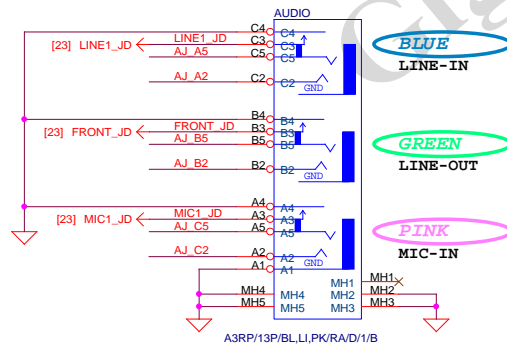
	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7	O	O	O
CESD1	O	O	O



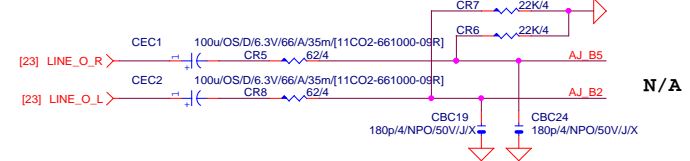
SPDIF_OUT



SPDIF_OUT

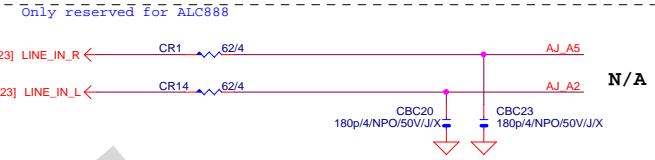


LINE-OUT

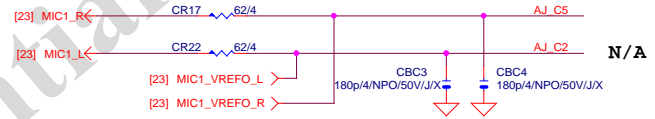


LINE-IN

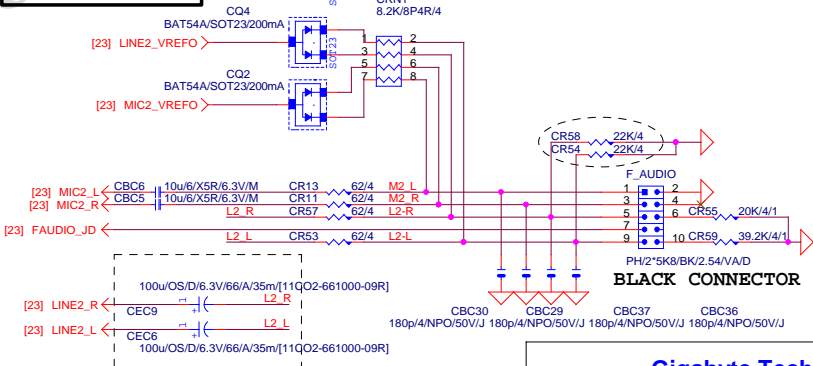
Verify MIC function
in LINE-in



MIC-IN



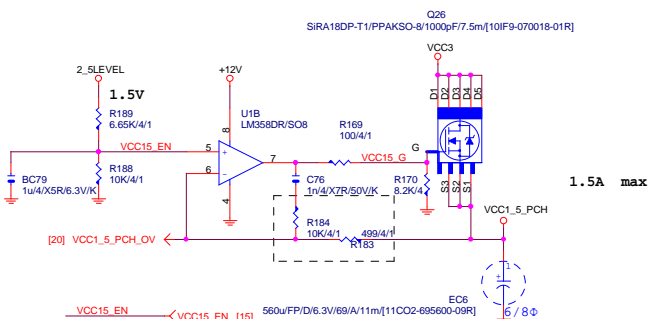
AZALIA FRONT PANEL



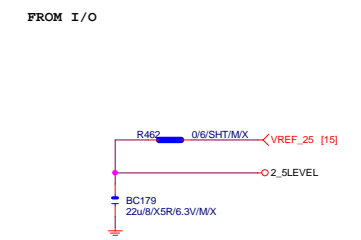
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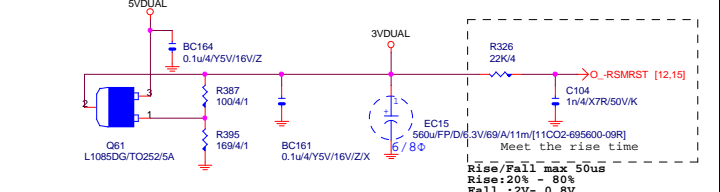
VCC1_5_PCH



2_SLEVEL



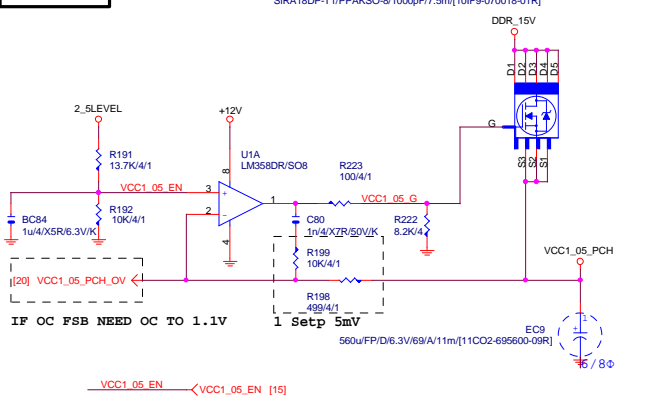
3VDUAL



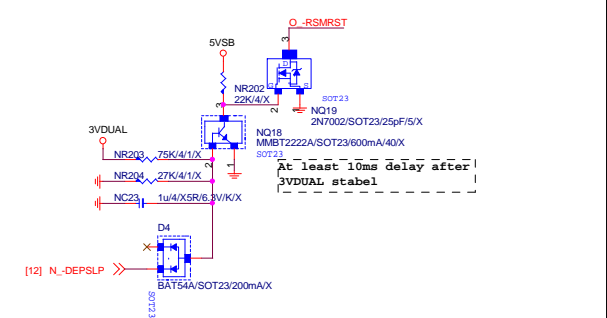
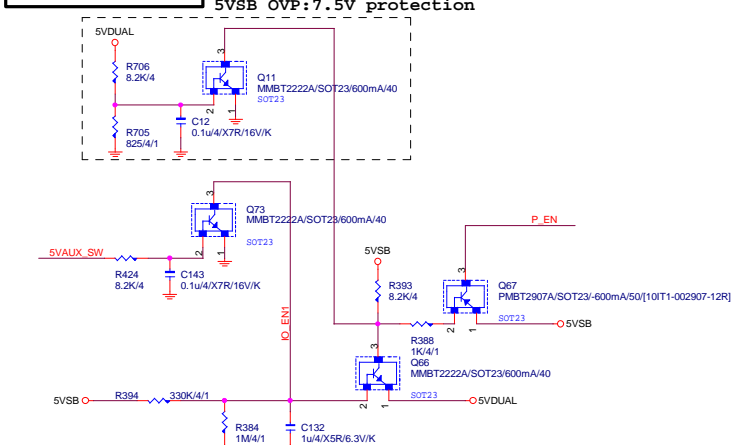
-RSMRST

N/A

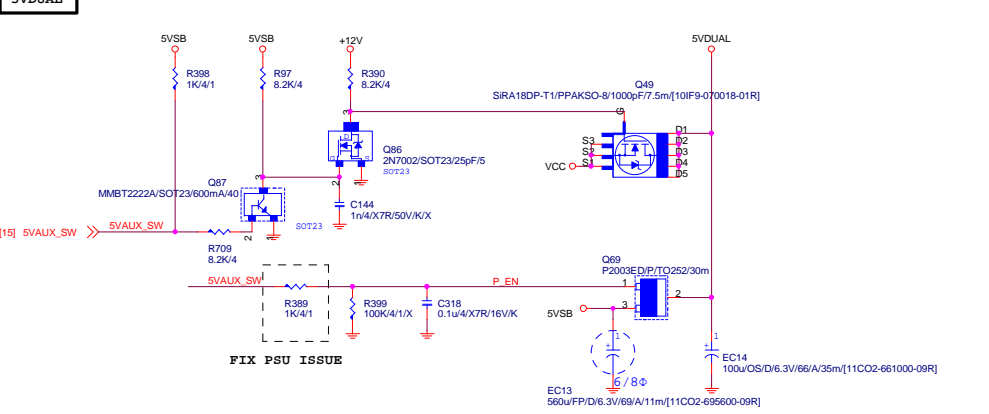
VCC1_05_PCH



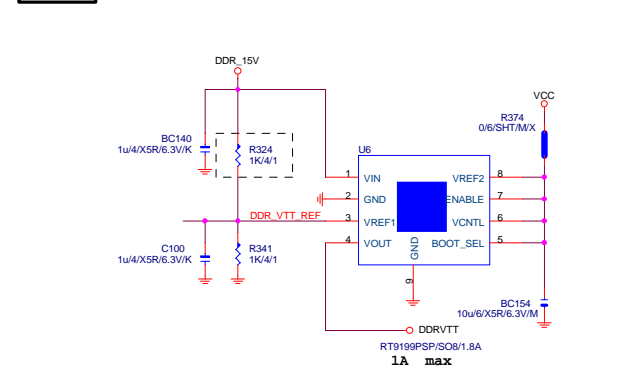
5VDUAL SHORT PROTECT



5VDUAL

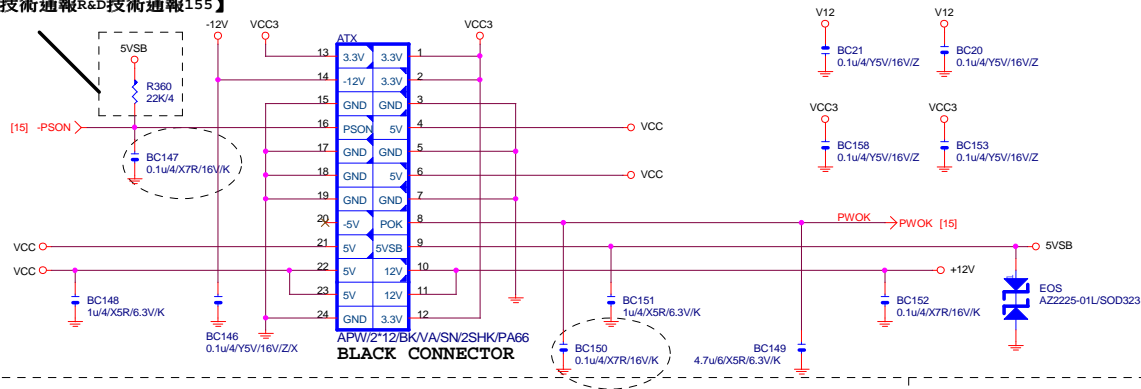


DDR_VTT

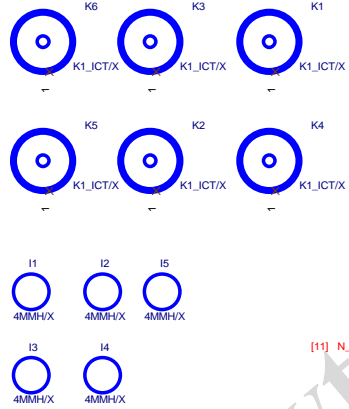
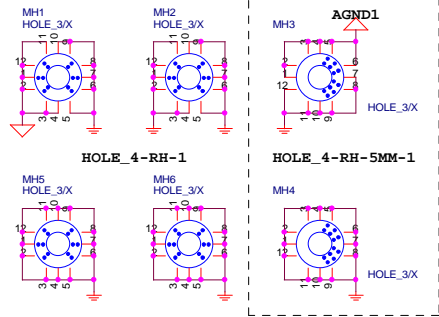


ATXX24 POWER CONNECTOR

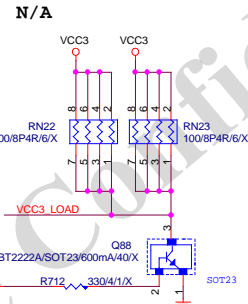
【技術通報R&D技術通報155】



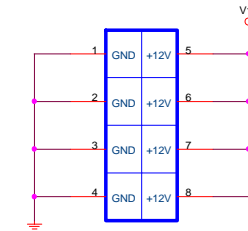
MB LOCATION



FIX PWR MINMUN LOAD



ATXX4 POWER CONNECTOR



ATX_12V_2X4
APW/Z*4/BK/OC/P4.2VA/SN/OH:Location ATX_12V_2X4

BLACK CONNECTOR

PWOK PATCH

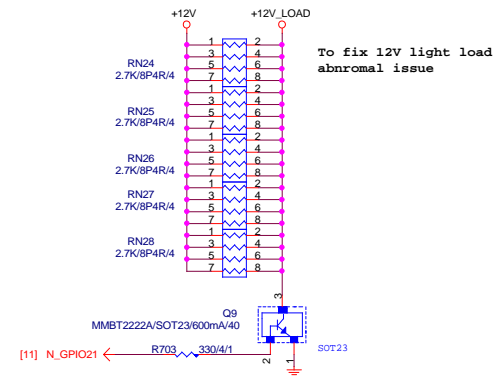
【技術通報R&D技術通報154】

N/A

CLK GEN

N/A

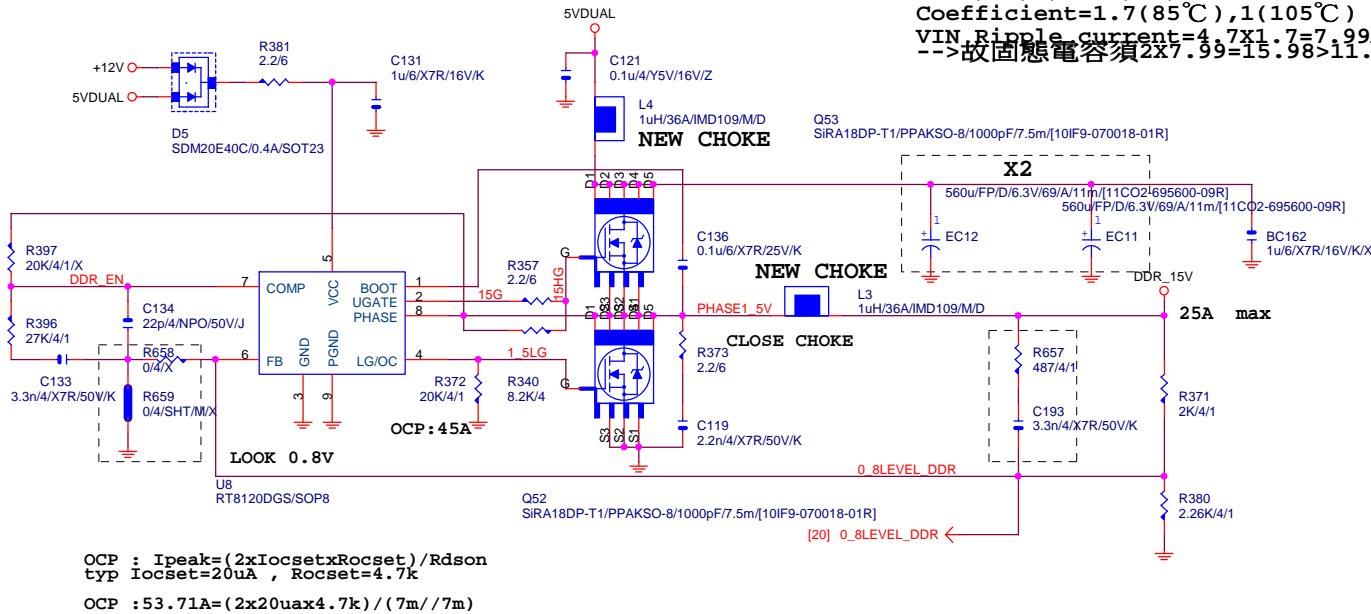
【技術通報R&D技術通報153】



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ATX CONNECTOR		
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DDR15V



PWR SEQ

DDR_EN < DDR_EN_CON [15]

From DDR_15V source
 10 mils trace to SIO

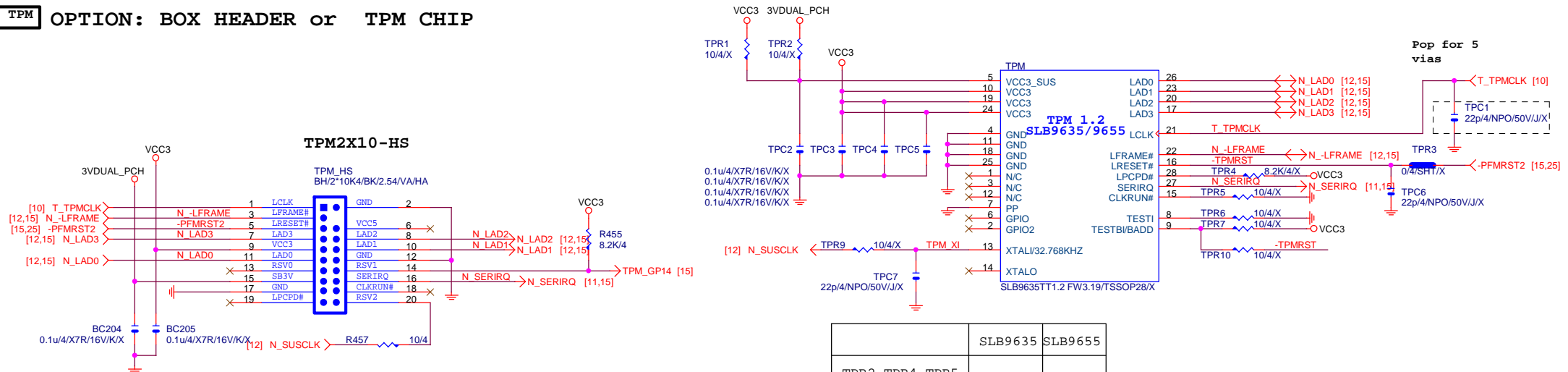
DDR_15V DDR_15VIO
 MR20 0/4/SHT/M/X

VCC3_ME

VCC1_05_ME

H81 N/A

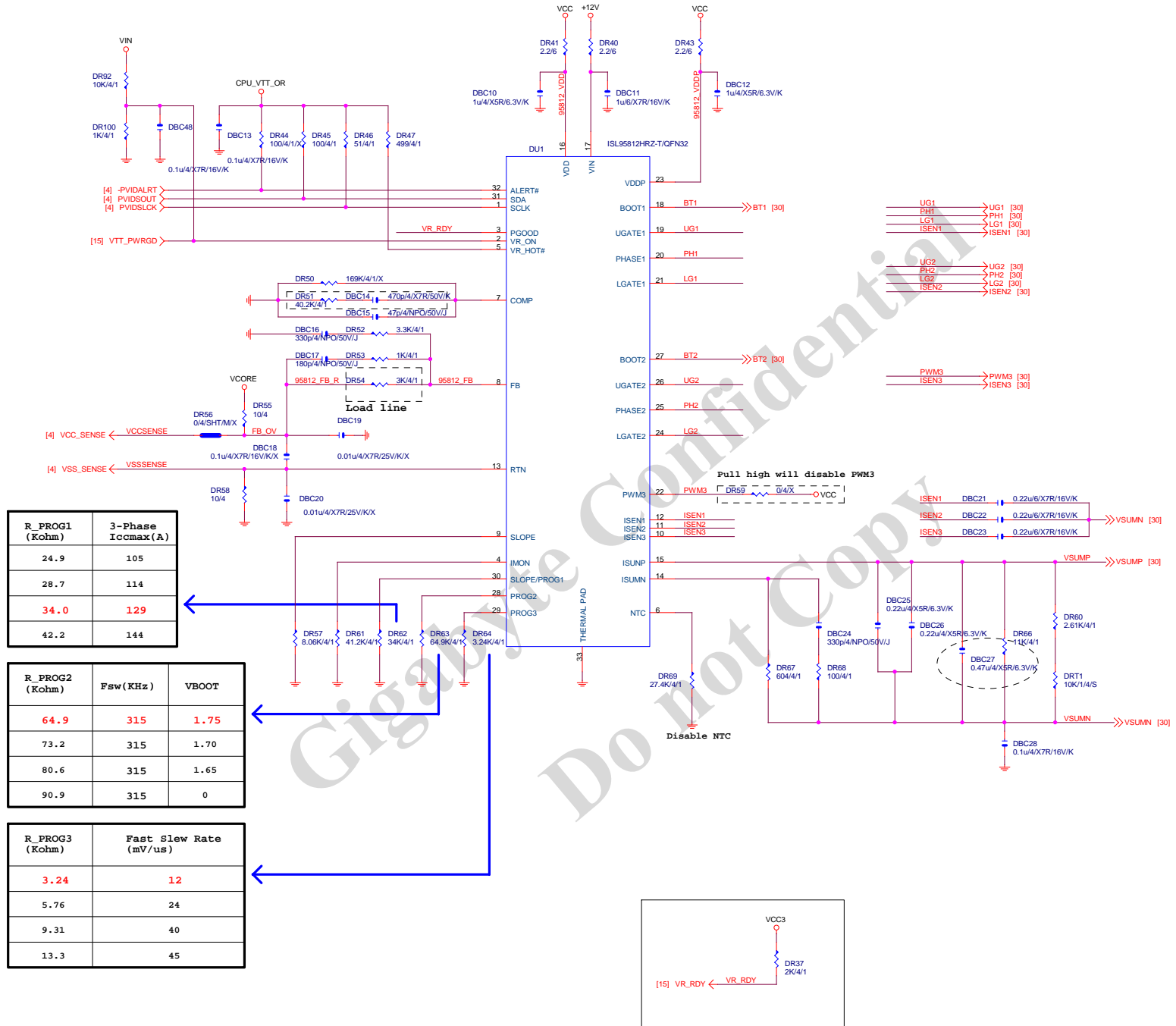
TPM OPTION: BOX HEADER or TPM CHIP



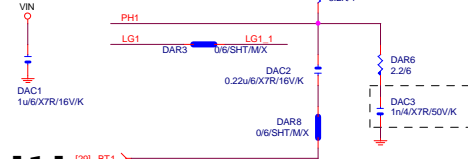
	SLB9635	SLB9655
TPR2, TPR4, TPR5, TPR6, TPR7, TPR9	MOUNT	N/A
TPR1, TPR10	N/A	MOUNT

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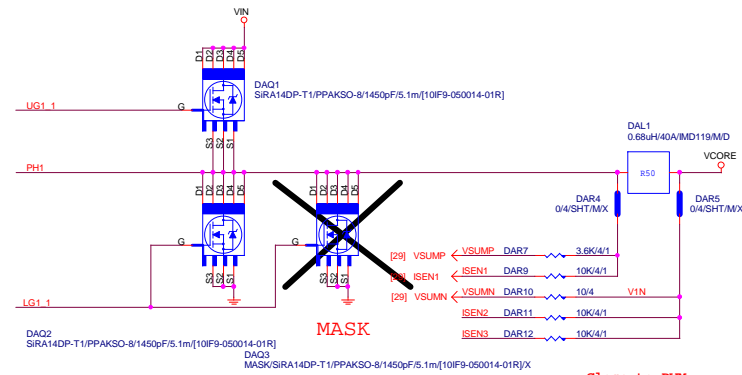
Title			DDR & M3 POWER & TPM
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PHASE 1



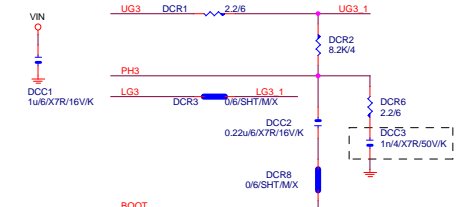
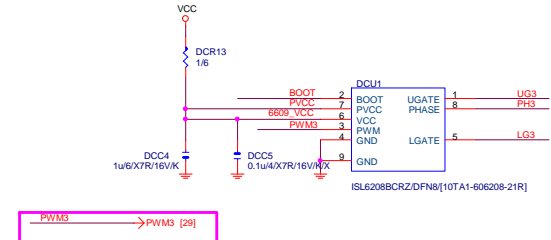
[1]



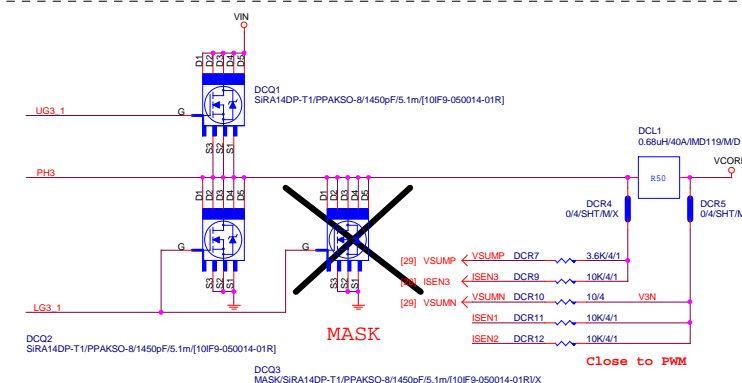
MASK

Close to PWM

PHASE 3



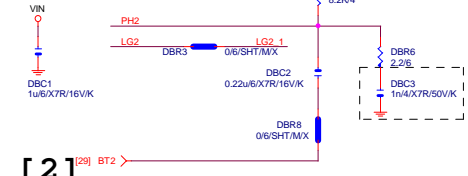
[3]



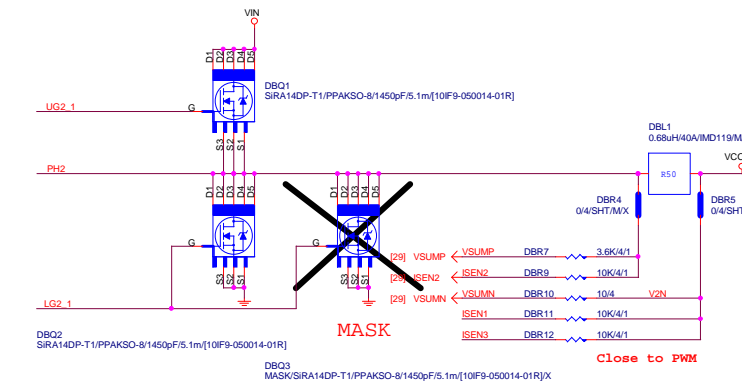
MASK

Close to PWM

PHASE 2

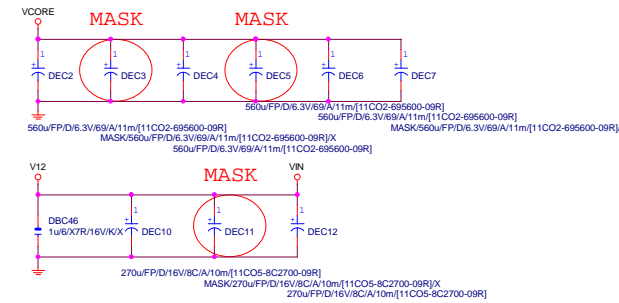


[2]



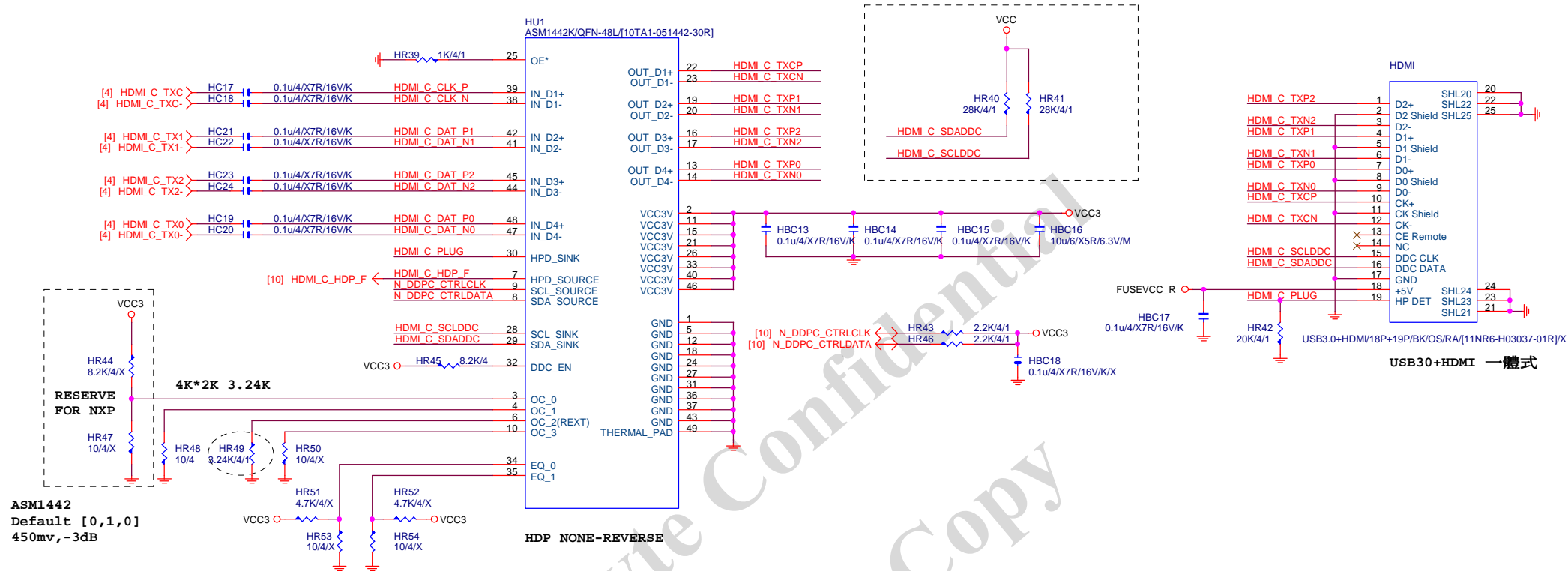
MASK

Close to PWM



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CPU CORE VR-2		
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HDMI LEVEL SHIFT



SINGLE END --> REXT加大,VL變大
4K/2K --> REXT加大,EYE變小