

Model Name: GA-H81M-DS2V

Revision 1.0

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1150-A
05	CPU_LGA1150-B
06	CPU_LGA1150-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS X1 *3 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

Gigabyte Technology

Cover Sheet

Size Custom	Document Number <b>GA-H81M-DS2V</b>	Rev <b>1.0</b>
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**Model Name:**  
**GA-H81M-DS2V**

## Component value change history

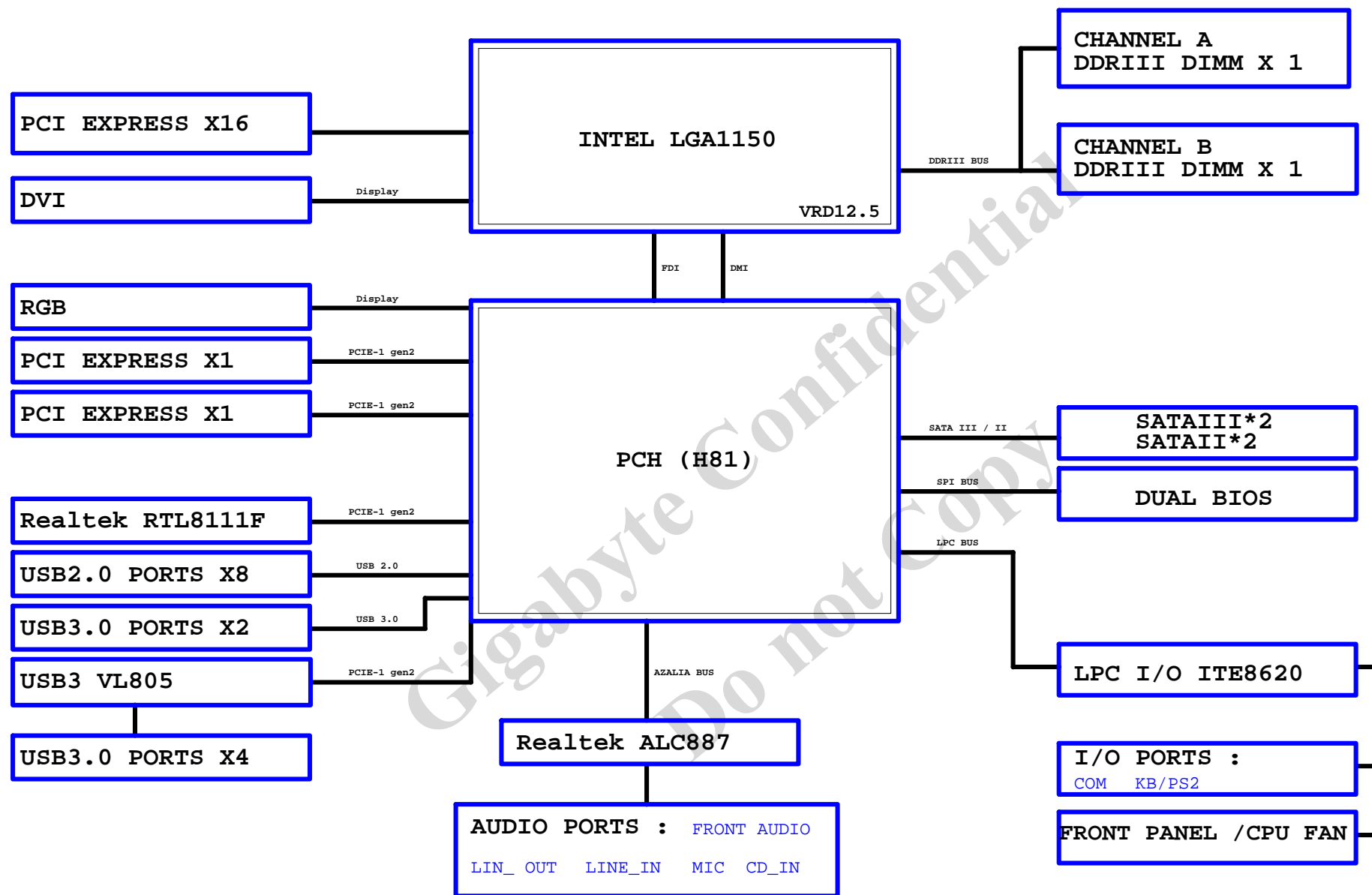
2013/05/17

[illegible]

## Circuit or PCB layout change

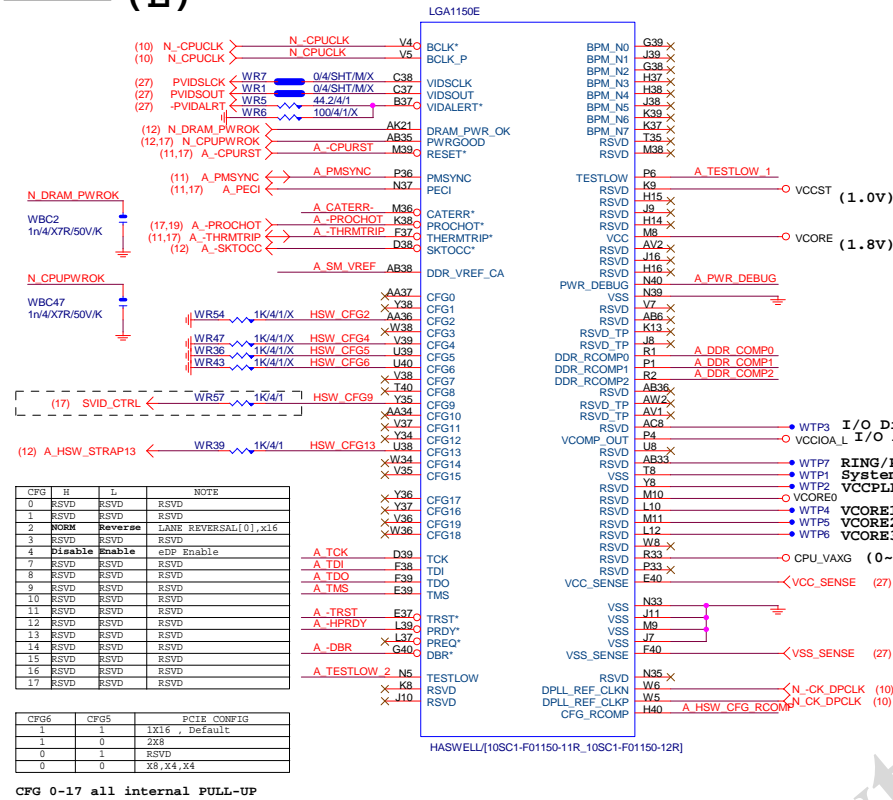
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## BLOCK DIAGRAM



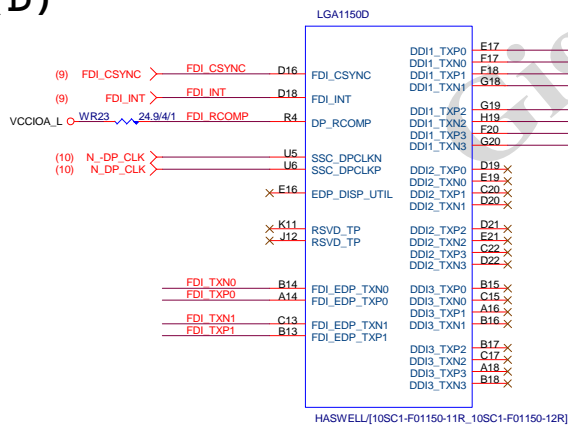
## LGA1150

(E)



## LGA1150

(D)

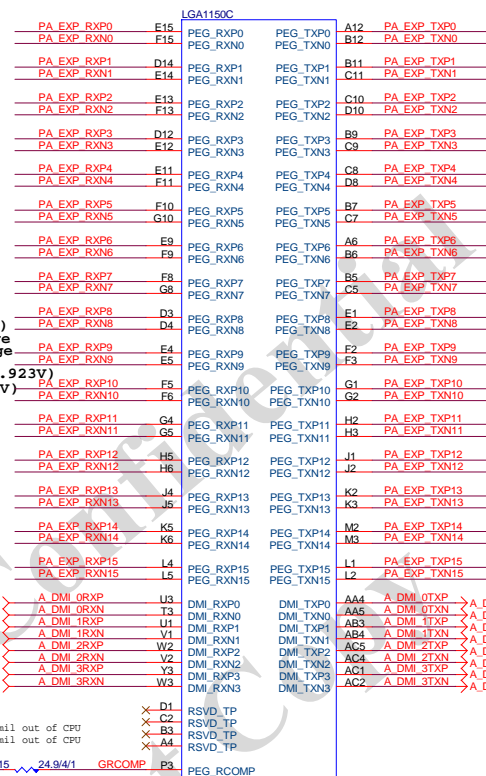


FDI:12/4/5/4/12(breakout min 6/4/4/4/6)  
Impedance=85 +- 17.5%

## LGA1155

(C)

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



LGA1150

(A)

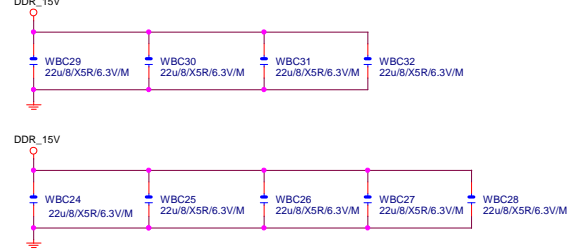
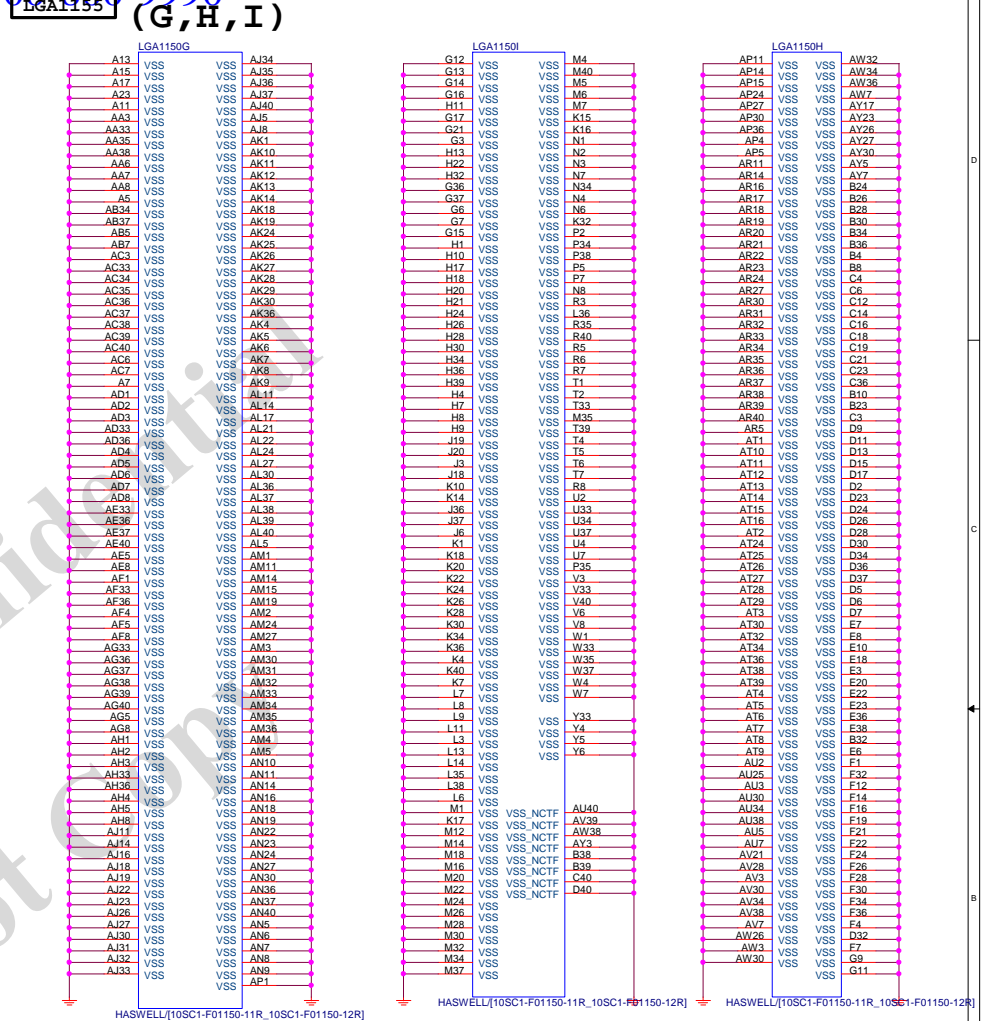
LGA1150

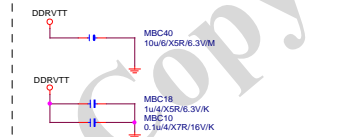
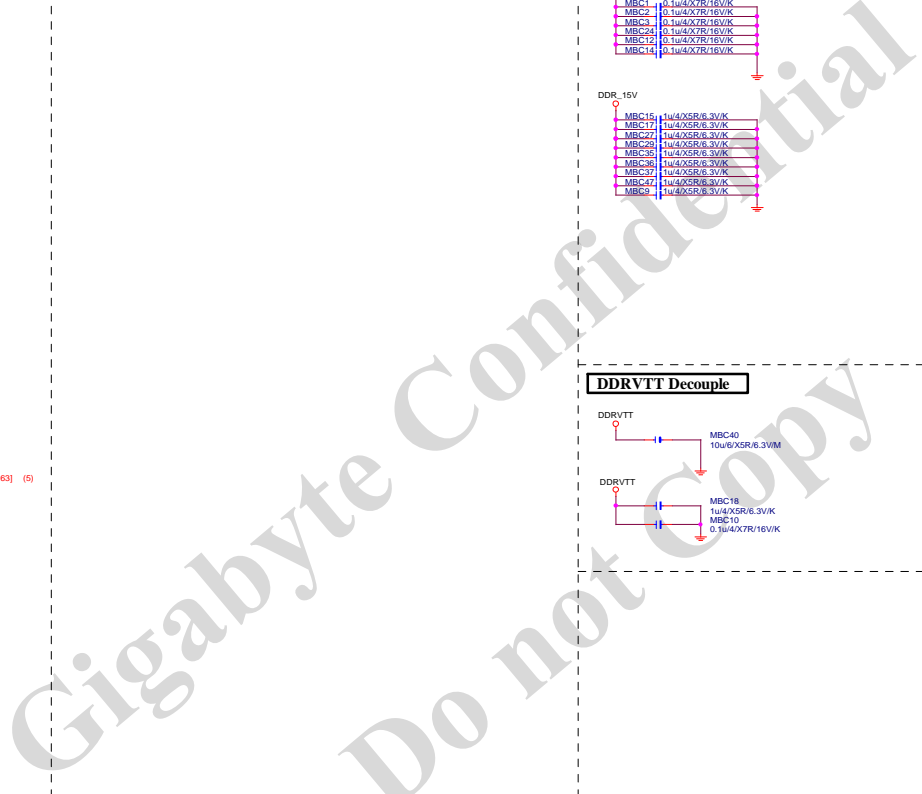
(B)

LGA1150

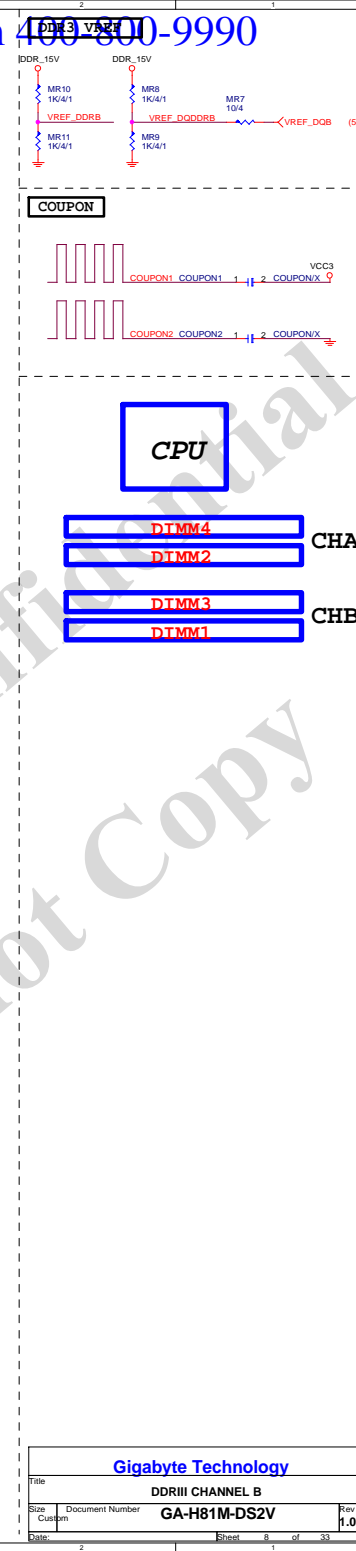
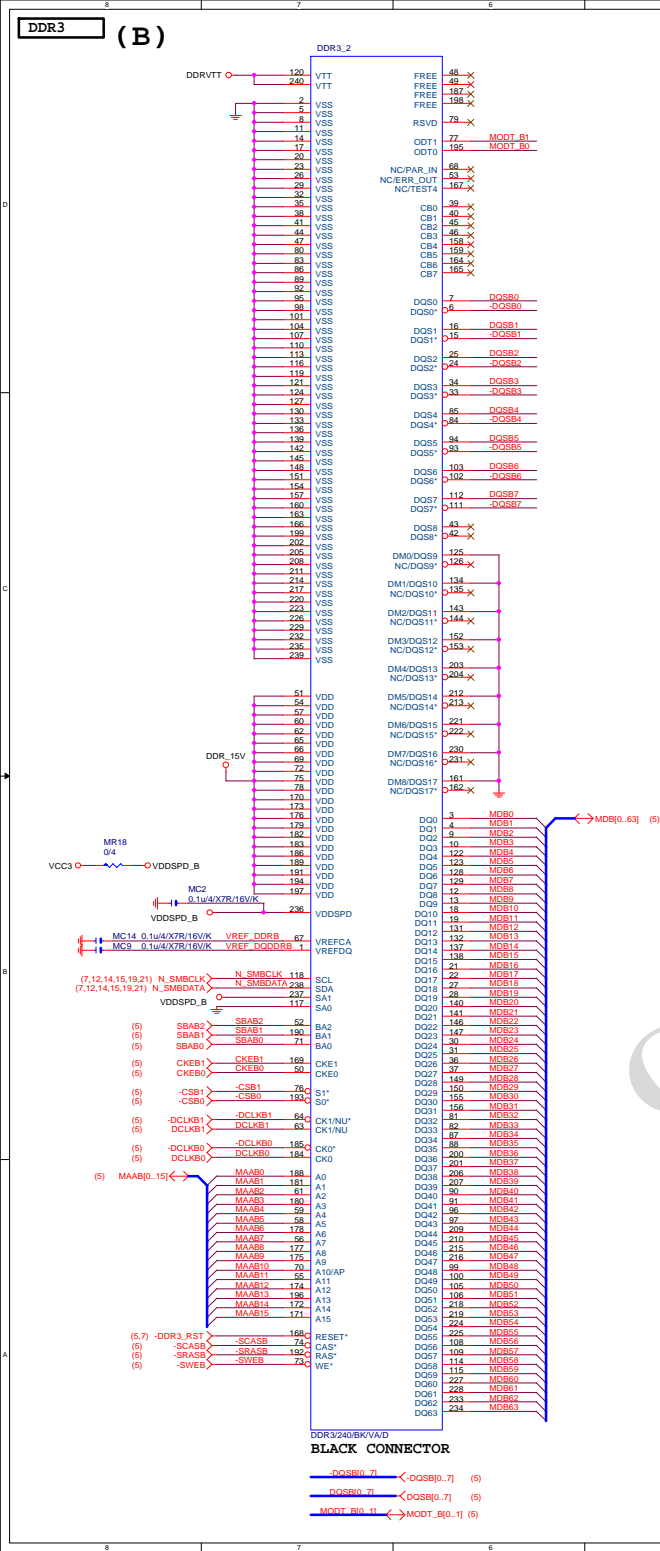
(CR)

LGA1150A		DDR0_MA0	DDR0_D00	AD38	MDA0
MAAA0	AU13	DDR0_MA1	DDR0_D01	AD39	MDA1
MAAA1	AV16	DDR0_MA2	DDR0_D02	AF38	MDA2
MAAA2	AU16	DDR0_MA3	DDR0_D03	AF39	MDA3
MAAA3	AW17	DDR0_MA4	DDR0_D04	AD37	MDA4
MAAA4	AU17	DDR0_MA5	DDR0_D05	AD40	MDA5
MAAA5	AW18	DDR0_MA6	DDR0_D06	AE37	MDA6
MAAA6	AV17	DDR0_MA7	DDR0_D07	AF40	MDA7
MAAA7	AT18	DDR0_MA8	DDR0_D08	AH40	MDA9
MAAA8	AU18	DDR0_MA9	DDR0_D09	AH39	MDA10
MAAA9	AT19	DDR0_MA10	DDR0_D10	AK38	MDA10
MAAA10	AW11	DDR0_MA11	DDR0_D11	AK39	MDA11
MAAA11	AV19	DDR0_MA12	DDR0_D12	AH37	MDA12
MAAA12	AU19	DDR0_MA13	DDR0_D13	AH38	MDA13
MAAA13	AT20	DDR0_MA14	DDR0_D14	AK37	MDA14
MAAA14	AW21	DDR0_MA15	DDR0_D15	AK40	MDA15
MAAA15	AU21	DDR0_MA16	DDR0_D16	AM40	MDA17
MODT_A0	AW10	DDR0_ODT0	DDR0_D17	AM39	MDA21
MODT_A1	AY8	DDR0_ODT1	DDR0_D18	AP38	MDA18
AW9		DDR0_ODT2	DDR0_D19	AP39	MDA19
AW8		DDR0_ODT3	DDR0_D20	AM37	MDA20
AW33		DDR0_D21	DDR0_D21	AM38	MDA16
AW33		DDR0_D22	DDR0_D22	AM26	MDA22
AU31		DDR0_D23	DDR0_D23	AM25	MDA25
AW31		DDR0_D24	DDR0_D24	AP28	MDA28
AU33		DDR0_D25	DDR0_D25	AL26	MDA26
AT33		DDR0_D26	DDR0_D26	AL25	MDA25
AU33		DDR0_D27	DDR0_D27	AR26	MDA26
AT31		DDR0_D28	DDR0_D28	AR25	MDA25
AW31		DDR0_D29	DDR0_D29	AK17	MDA31
AW31		DDR0_D30	DDR0_D30	AK18	MDA32
AW31		DDR0_D31	DDR0_D31	AK19	MDA33
AW31		DDR0_D32	DDR0_D32	AK20	MDA34
AW31		DDR0_D33	DDR0_D33	AK21	MDA35
AW31		DDR0_D34	DDR0_D34	AK22	MDA36
AW31		DDR0_D35	DDR0_D35	AK23	MDA37
AW31		DDR0_D36	DDR0_D36	AK24	MDA38
AW31		DDR0_D37	DDR0_D37	AK25	MDA39
AW31		DDR0_D38	DDR0_D38	AK26	MDA40
AW31		DDR0_D39	DDR0_D39	AK27	MDA41
AW31		DDR0_D40	DDR0_D40	AK28	MDA42
AW31		DDR0_D41	DDR0_D41	AK29	MDA43
AW31		DDR0_D42	DDR0_D42	AK30	MDA44
AW31		DDR0_D43	DDR0_D43	AK31	MDA45
AW31		DDR0_D44	DDR0_D44	AK32	MDA46
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AW31		DDR0_D48	DDR0_D48	AK36	MDA50
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AW31		DDR0_D50	DDR0_D50	AK38	MDA52
AW31		DDR0_D51	DDR0_D51	AK39	MDA53
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AW31		DDR0_D54	DDR0_D54	AK42	MDA56
AW31		DDR0_D55	DDR0_D55	AK43	MDA57
AW31		DDR0_D56	DDR0_D56	AK44	MDA58
AW31		DDR0_D57	DDR0_D57	AK45	MDA59
AW31		DDR0_D58	DDR0_D58	AK46	MDA60
AW31		DDR0_D59	DDR0_D59	AK47	MDA61
AW31		DDR0_D60	DDR0_D60	AK48	MDA62
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AW31		DDR0_D183	DDR0_D183	AK171	MDA185
AW31		DDR0_D184	DDR0_D184	AK172	MDA186
AW31		DDR0_D185	DDR0_D185	AK173	MDA187
AW31		DDR0_D186	DDR0_D186	AK174	MDA188
AW31		DDR0_D187	DDR0_D187	AK175	MDA189
AW31		DDR0_D188	DDR0_D188	AK176	MDA190
AW31		DDR0_D189	DDR0_D189	AK177	MDA191
AW31		DDR0_D190	DDR0_D190	AK178	MDA192
AW31		DDR0_D191	DDR0_D191	AK179	MDA193
AW31		DDR0_D192	DDR0_D192	AK180	MDA194
AW31		DDR0_D193	DDR0_D193	AK181	MDA195
AW31		DDR0_D194	DDR0_D194	AK182	MDA196
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AW31		DDR0_D199	DDR0_D199	AK187	MDA201
AW31		DDR0_D200	DDR0_D200	AK188	MDA202
AW31		DDR0_D201	DDR0_D201	AK189	MDA203
AW31		DDR0_D202	DDR0_D202	AK190	MDA204
AW31		DDR0_D203	DDR0_D203	AK191	MDA205
AW31		DDR0_D204	DDR0_D204	AK192	MDA206
AW31		DDR0_D205	DDR0_D205	AK193	MDA207
AW31		DDR0_D206	DDR0_D206	AK194	MDA208
AW31		DDR0_D207	DDR0_D207	AK195	MDA209
AW31		DDR0_D208	DDR0_D208	AK196	MDA210
AW31		DDR0_D209	DDR0_D209	AK197	MDA211
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AW31		DDR0_D211	DDR0_D211	AK199	MDA213</





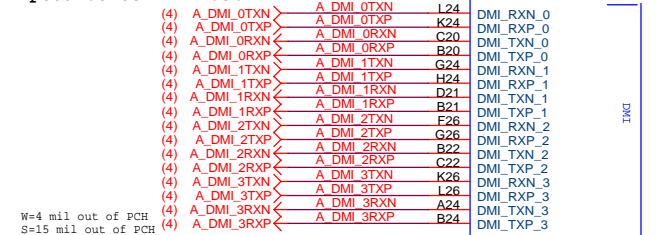






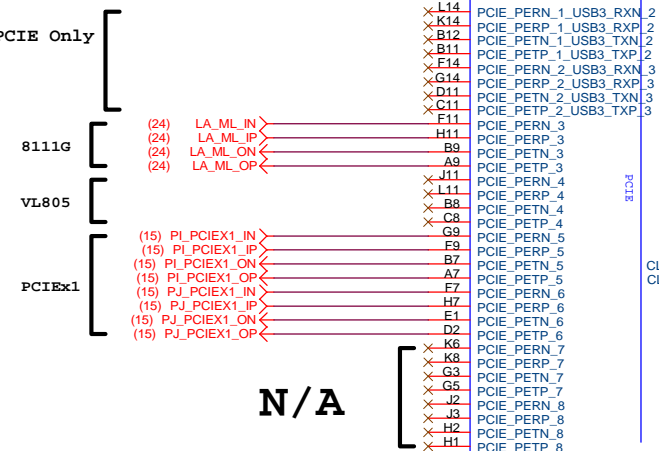
**PCH (B)**

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  
VCC1\_5 PCH

PCIE Only



**N/A**

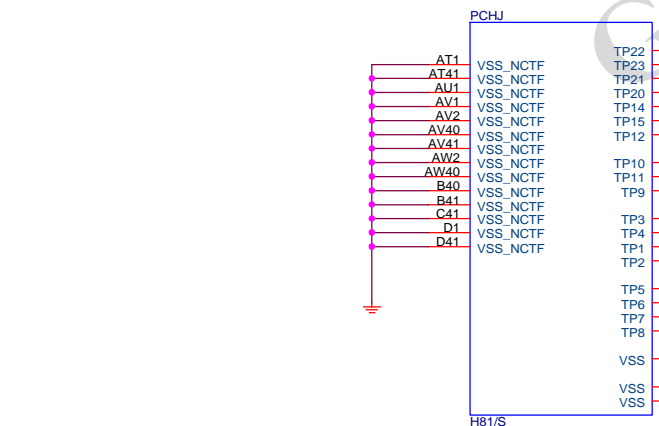
放靠近 Device & PCI-E Slot  
Impedance=80 +- 17.5%

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_PCIEX1:16/5/5/5/16 (breakout_min_8/4/4/4/8)

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**PCH (J)**

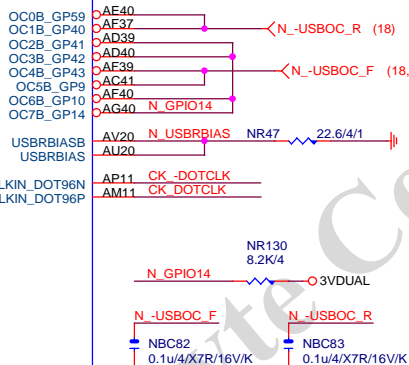


H81/S

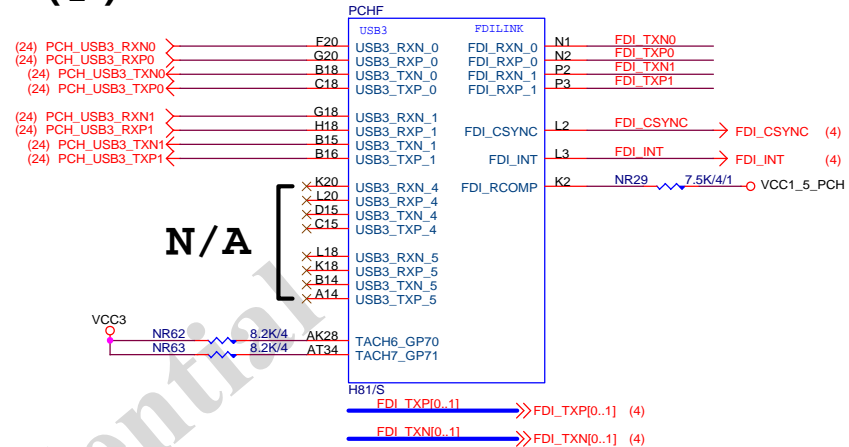
B85: Port 6/7 N/A  
H81: Port 6/7/12/13 N/A

USBN_0	AV10	N_USBP0	N_USBP0	(24)
USBN_1	AV10	N_USBP0	N_USBP0	(24)
USBN_1	AV11	N_USBP1	N_USBP1	(24)
USBP_1	AV11	N_USBP1	N_USBP1	(24)
USBN_2	AP14	N_USBP2	N_USBP2	(18)
USBN_3	AP16	N_USBP2	N_USBP2	(18)
USBP_3	AK16	N_USBP3	N_USBP3	(18)
USBN_4	AV15			
USBP_4	AV15			
USBN_5	AV12			
USBP_5	AV12			
USBN_6	AV14			
USBP_6	AV14			
USBN_7	AV17			
USBP_7	AV17			
USBN_8	AV16	N_USBP8	N_USBP8	(21)
USBP_8	AV16	N_USBP8	N_USBP8	(21)
USBN_9	AN16	N_USBP9	N_USBP9	(21)
USBP_9	AN16	N_USBP9	N_USBP9	(21)
USBN_10	AK18	N_USBP10	N_USBP10	(21)
USBP_10	AK18	N_USBP10	N_USBP10	(21)
USBN_11	AP18	N_USBP11	N_USBP11	(21)
USBP_11	AN18	N_USBP11	N_USBP11	(21)

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



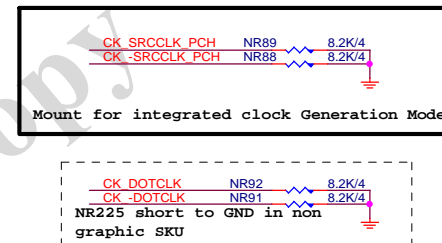
**PCH (F)**



**N/A**

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

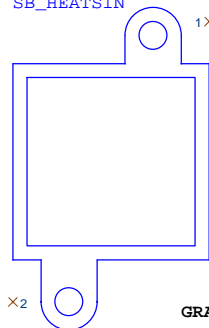
PCH	CLK	PD
-----	-----	----



PCH H/S

# LOW COST ICH7 HEATSINK

SB\_HEATSIN

 $\times 2$ 

GRAY HS

PCH\_HS  
PCH\_HS/[12SP2-030005-41R]

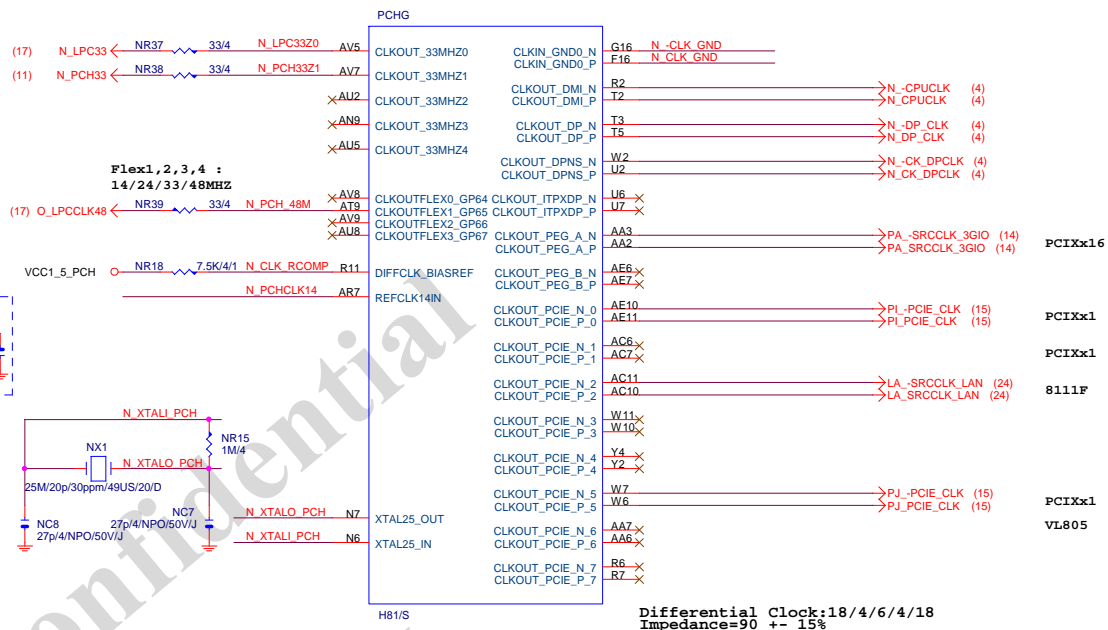
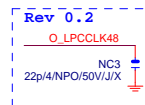
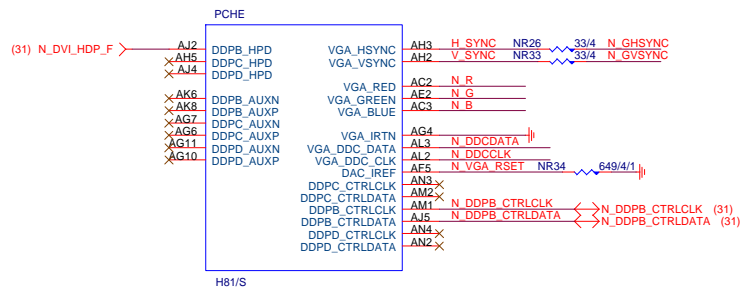
## USB TABLE

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

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

## Gigabyte Technology

Title			
PCH FDI,DMI,USB ,PCIE,NVRAM			
Size	Document Number		Rev
Custom	GA-H81M-DS2V		1.0
Date:	Friday, August 16, 2013	Sheet	9 of 33



Differential Clock:18/4/6/4/18

Impedance=90 +- 15%

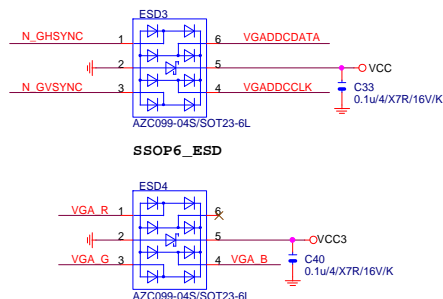
## PCH CLK PD



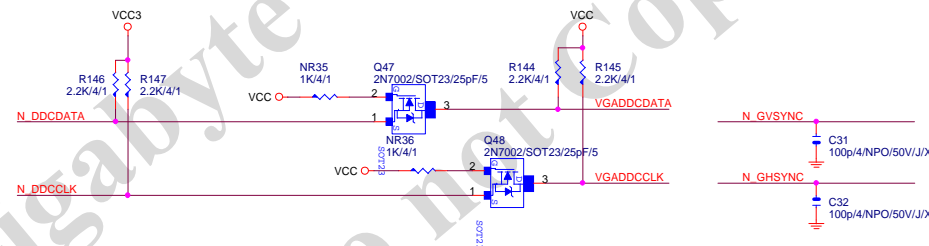
Mount for integrated clock Generation Mode



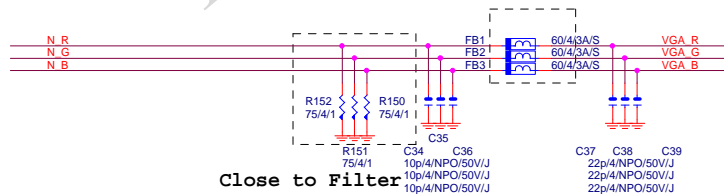
## VGA ESD



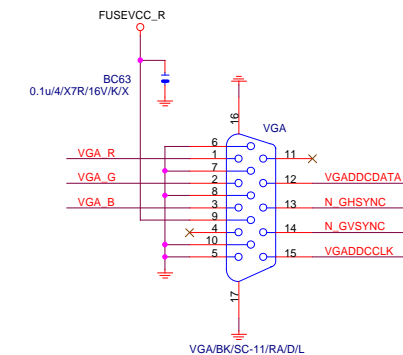
## VGA DDC



## VGA DDC



## VGA CONNECTOR



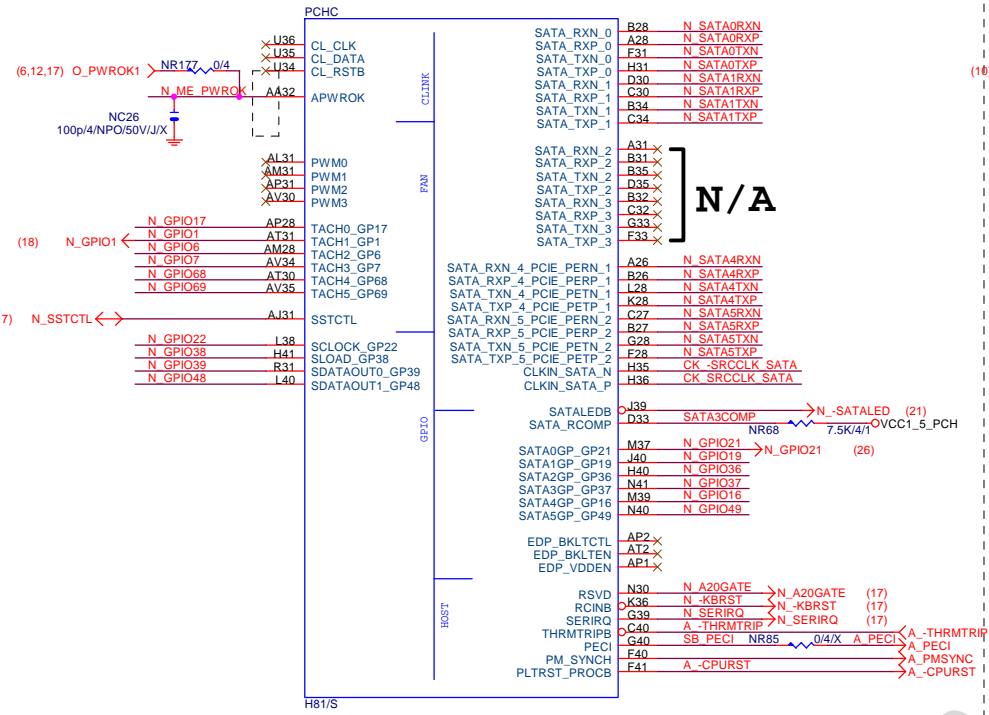
BLACK CONNECTOR

Gigabyte Technology

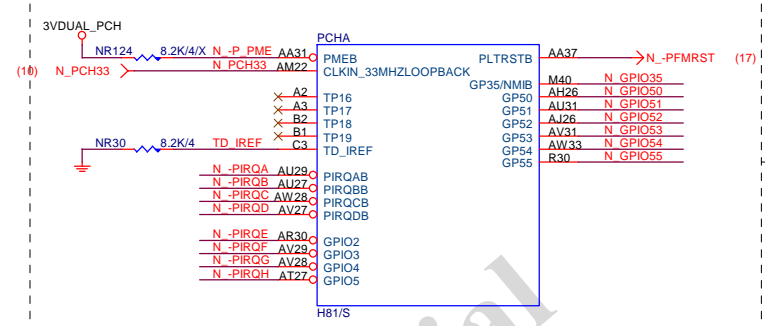
Title		
PCH DISPLAY,CLK BUFFER		
Size		
Custom	Document Number	Rev
GA-H81M-DS2V		
Date: Friday, August 16, 2013		
Sheet 10 of 33		
1.0		

PCH (C)

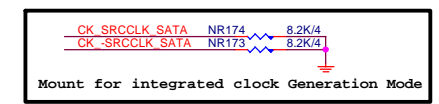
SATA3 : 20/7.5/4.5/7.5/20 (breakout min 8/4/4/4/8)  
Impedance=90 +- 17.5%  
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)  
Impedance=90 +- 17.5%



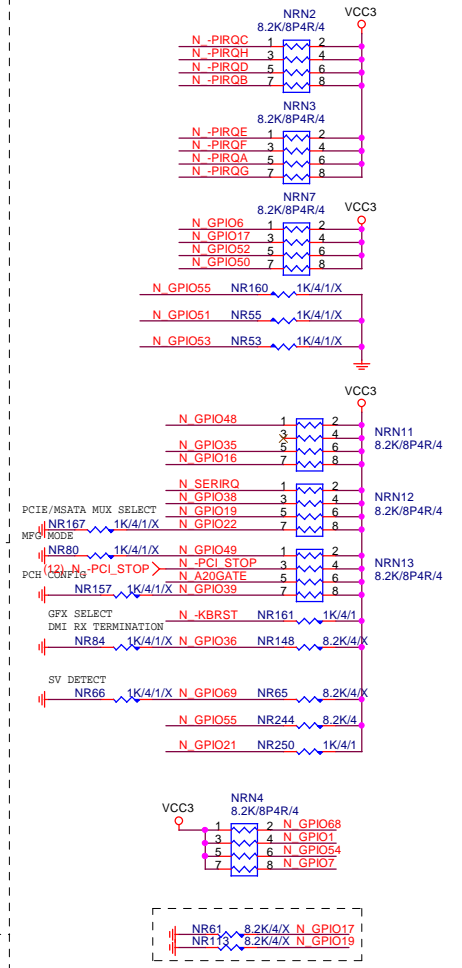
PCH (A)



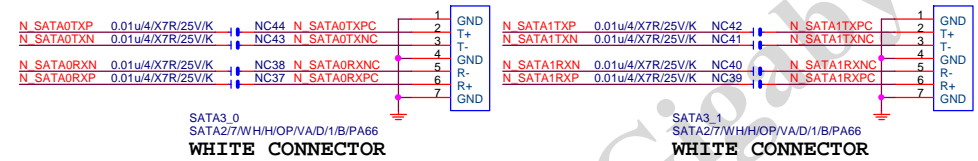
PCH CLK PD



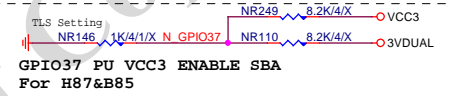
PCH PU/PD



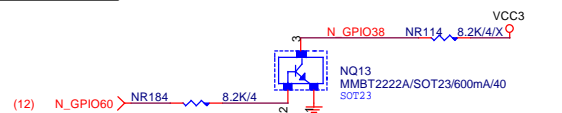
SATA CONNECTOR



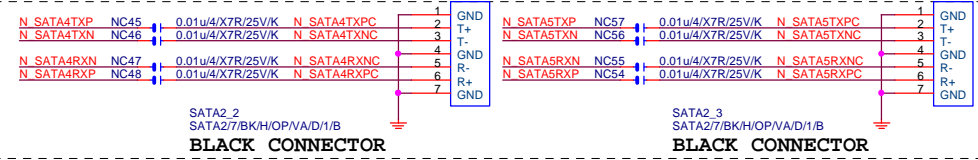
ME PWROK



GPIO38 Ctrl



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



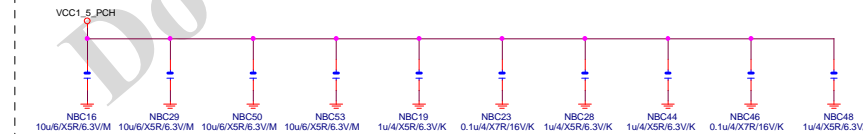
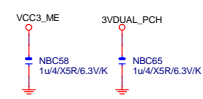
## HSW\_STRAP13

32.768KHZ

CLR_CMOS
----------

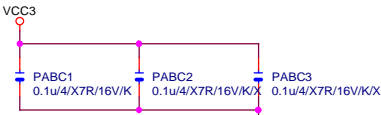
## PCH\_DPWROK

Title			
PCH GPIO , CTRL , AUDIO			
Size	Document Number		Rev
Custom	GA-H81M-DS2V		1.0
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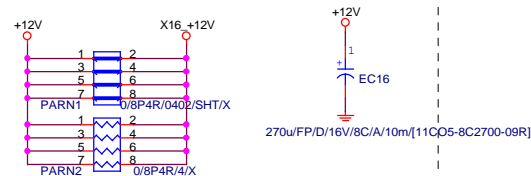




## PCIEX16 CAP



## PCIEX16 PROTECT SHT



PCIEX16	AC	CAP
---------	----	-----

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

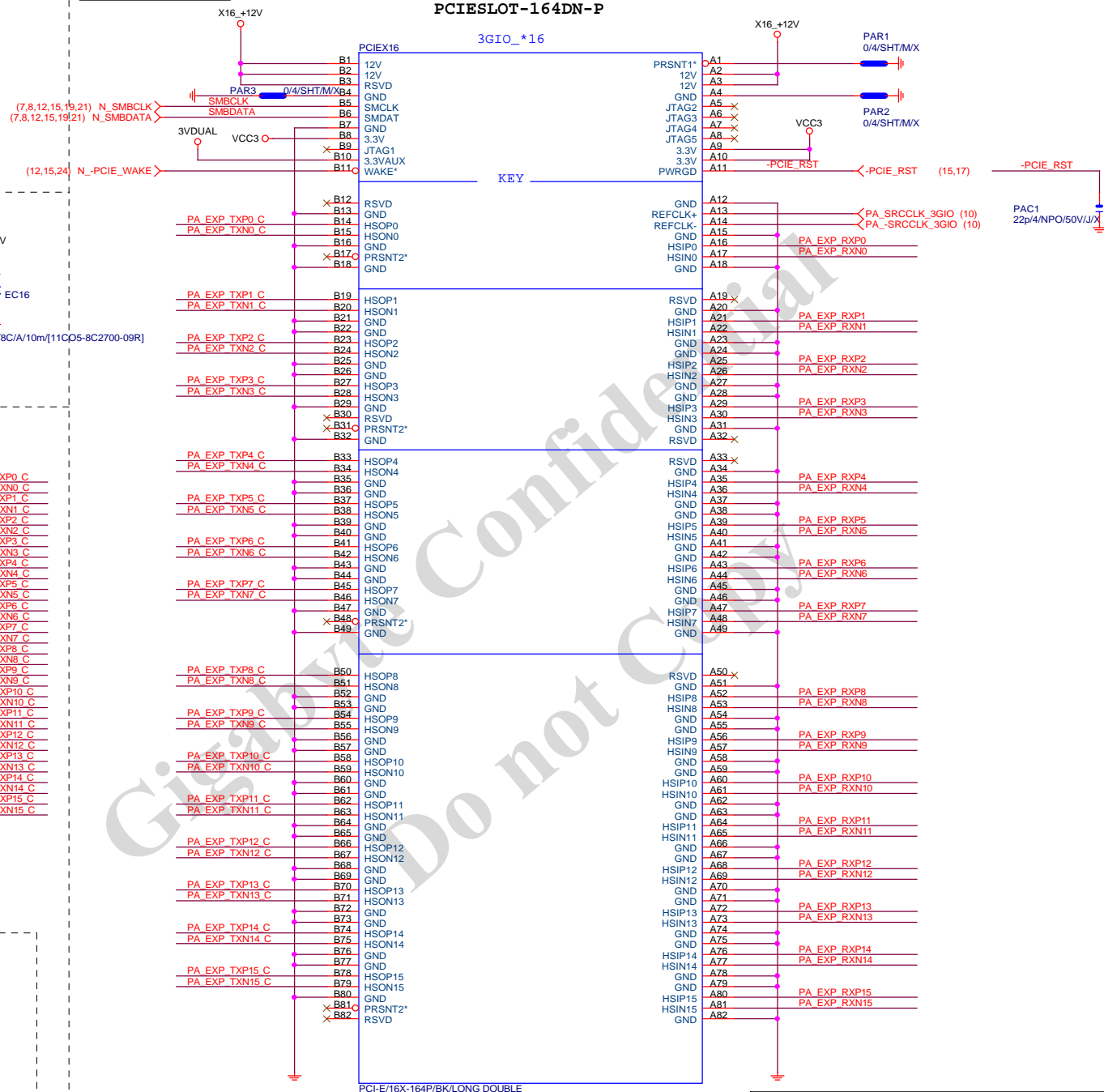
PA\_EXP\_RXP[0..15] >> PA\_EXP\_RXP[0..15] (4)  
PA\_EXP\_RXN[0..15] >> PA\_EXP\_RXN[0..15] (4)  
PA\_EXP\_TXP[0..15] >> PA\_EXP\_TXP[0..15] (4)  
PA\_EXP\_TXN[0..15] >> PA\_EXP\_TXN[0..15] (4)

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

PCIEX16 SLOT

www.xinxunwei.com 400-800-9990

## PCIESLOT-164DN-P



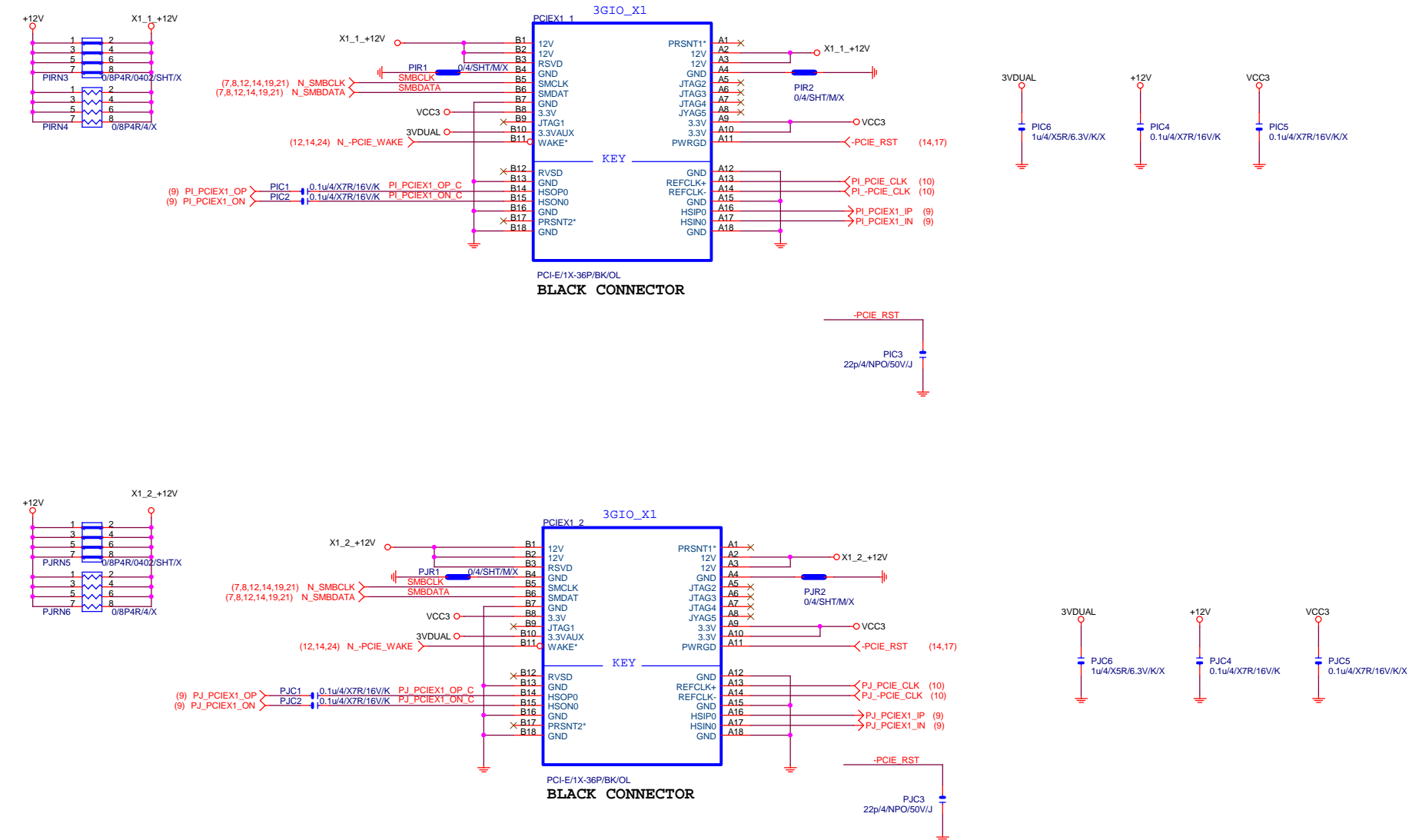
PCI-E/16X-164P/BK/LONG DOUBLE

BLACK CONNECTOR

## Gigabyte Technology

Title			
PCI EXPRESS * 16			
Size	Document Number		
Custom	GA-H81M-DS2V		
Date:	Friday, August 16, 2013	Sheet	14 of 33

## PCIEX1 SLOT



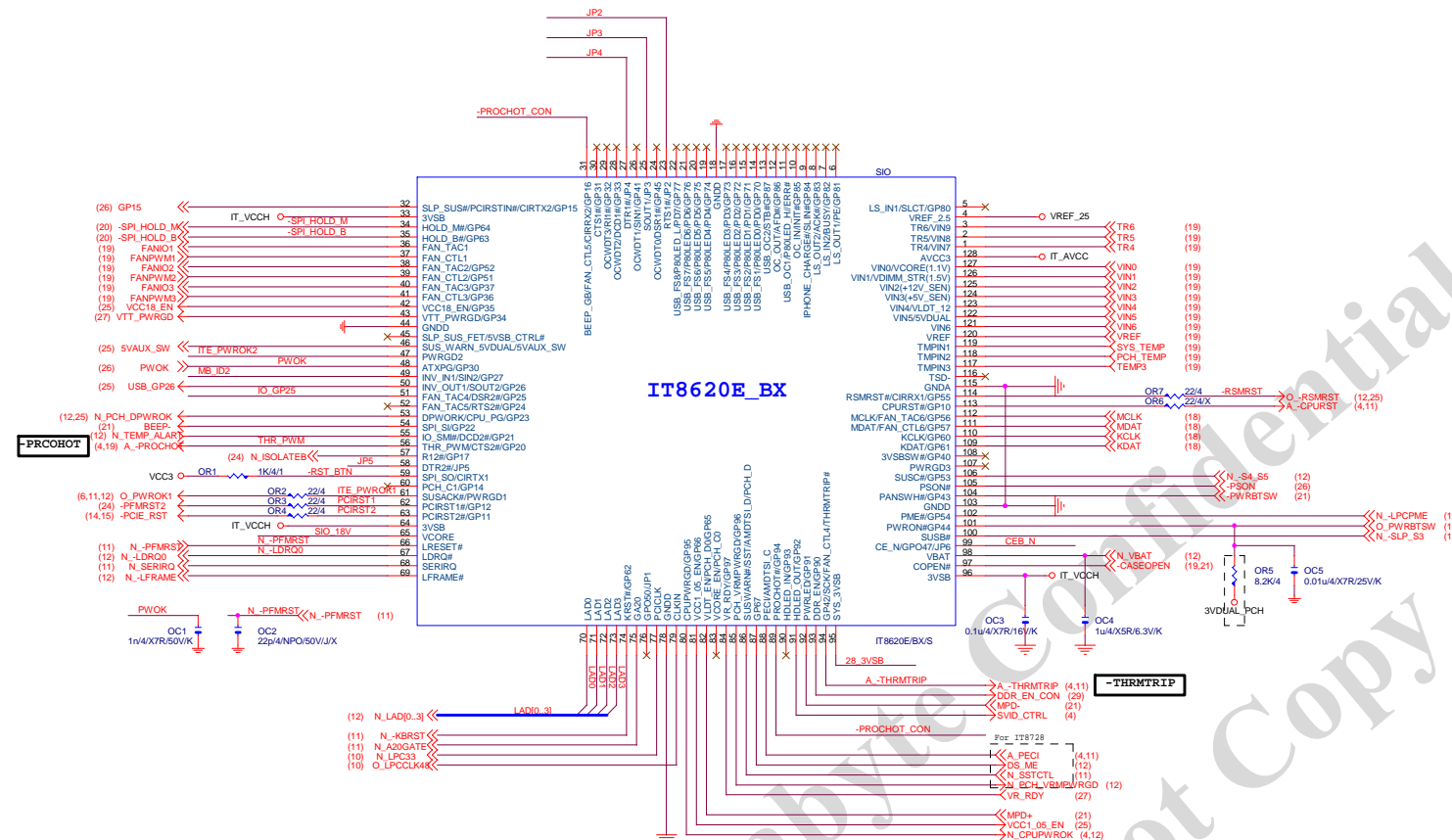
Gigabyte Technology

Title		
PCI EXPRESS X 1 PORT		
Size	Document Number	Rev
Custom	GA-H81M-DS2V	1.0
Date:	Friday, August 16, 2013	Sheet 15 of 33

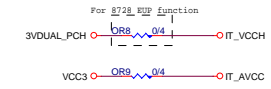


8	7	6	5	4	3	2	1
D							
C							
B							
A							
8	7	6	5	4	3	2	1

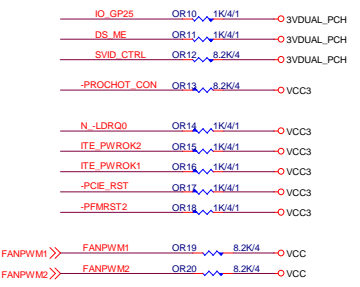
Gigabyte Technology			
Title			
PCI SLOT 1&2			
Size	Document Number		Rev
Custom	GA-H81M-DS2V		1.0
Date:	Friday, August 16, 2013	Sheet	16 of 33
		2	1



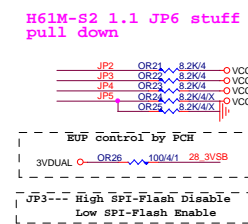
## PWR SHT



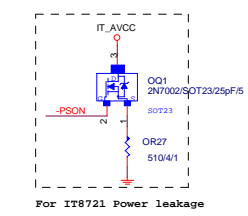
## SIO PU



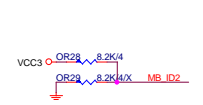
## SIO STRAP



## Power leakage



## MB ID



## SIO CAP



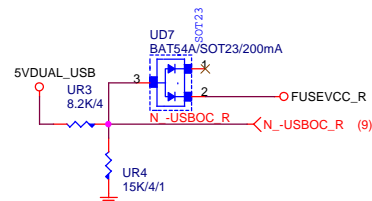
COM

COM RI

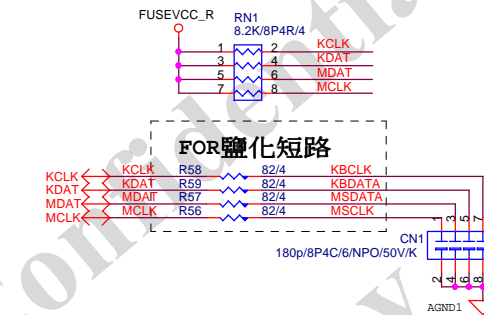
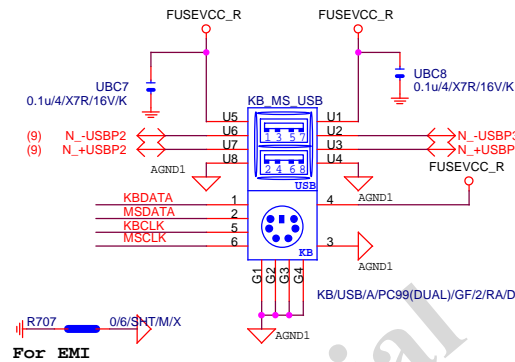
USB30\_20

USB30\_20 PWR

-USBOC\_R



KB/MS

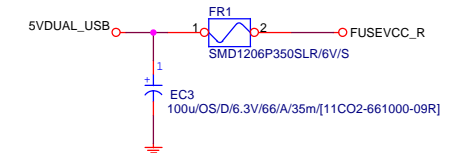


USB30\_20 ESD PROTECT

USB3.0 ESD

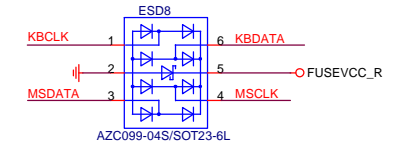
USB2.0 PWR

FUSE-0805  
KB\_MS\_USB 2-Port 2.0A

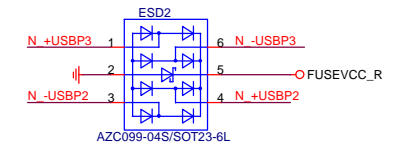


Close to connector

KB/MS ESD

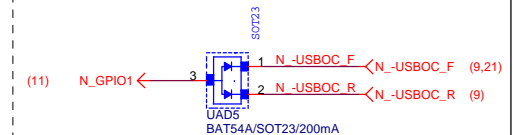


USB2.0 ESD



USB2.0 ESD

USB POWER PROTECT



Gigabyte Technology

Title				COM,-RI,KB_USB,USB_ESATA,-PROCHOT	
Size	Custom	Document Number	GA-H81M-DS2V		Rev
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1.0

(17) VREF

(17) SYS\_TEMP

(17) PCH\_TEMP

(17) TEMP2

OC16 1u4/XSR/6.3V/K

OC17 1u4/XSR/6.3V/K

RS\_SYS 10K114/S Close S10

OR32 10K4/1

OR33 8.2K/4

OR34 8.2K/4

[illegible]

RS1、RS2、RS3 CLOSE CPU  
VR MOSFET

(17) FANPWM1

FEC1  
100µF/OSD16V/B9A35m

C322  
1µF/4X7R16V/K

R60  
0/4

C323  
0.1µF/4X7R16V/K

C16  
0.01µF/4X7R25V/K

Close to CPU\_FAN

CPU\_FAN  
FAN1\*4/WH/A3/PA66

FANIO1

(17)

White Connect

FAN/1\*4/WH/A3/PA66

PROCHOT  $\leftrightarrow$  -PROCHOT

Q13  
BAT54A/SOT23/200mA

R103  $\frac{Q/4}{X}$

VR\_HOT (27)

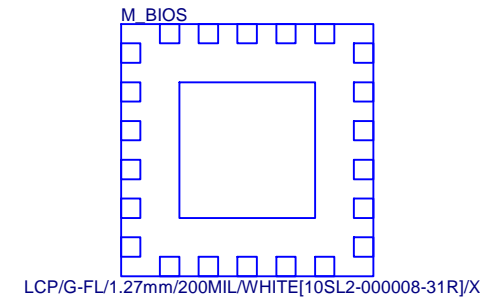
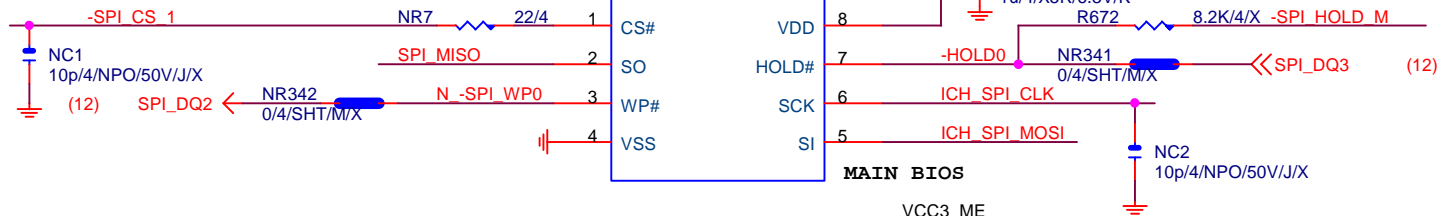
N\_PCH\_HOT (12)

[illegible]

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

Title			
HWM,FAN CTRL,OV			
Size	Document Number	Rev	
Custom	GA-H81M-DS2V	1.0	
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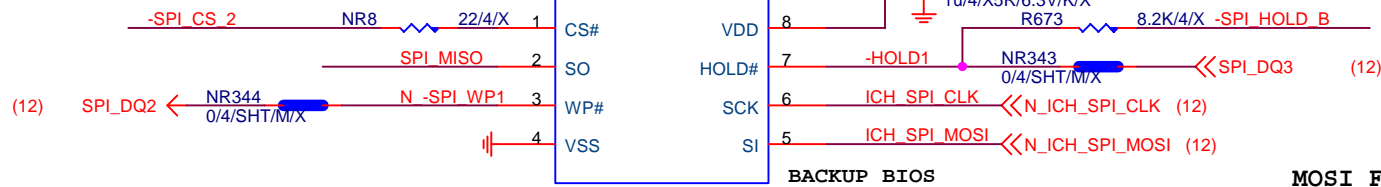
M\_BIOS  
64M/Q/SPI/SO8/S



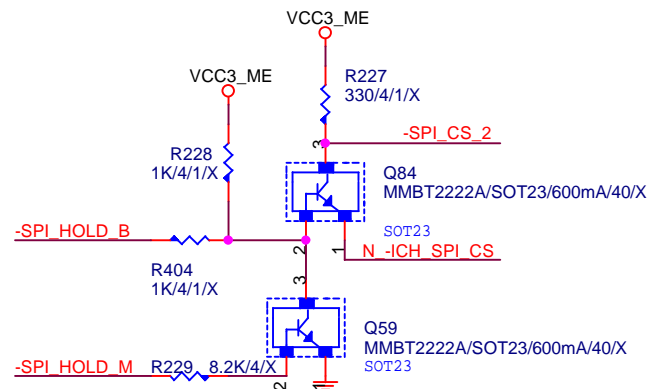
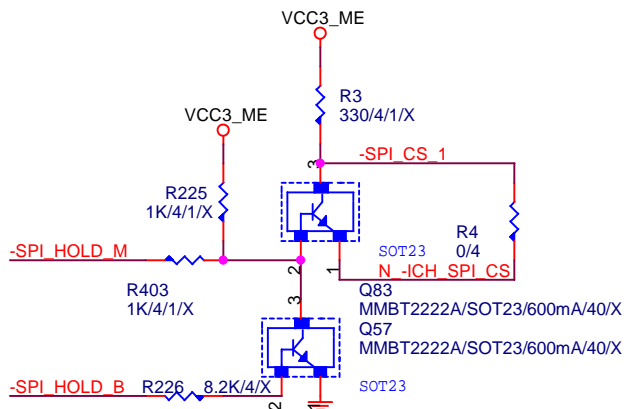
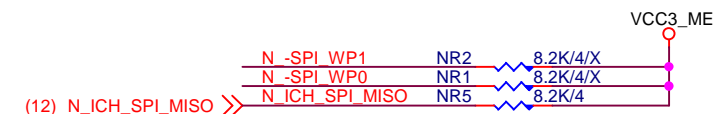
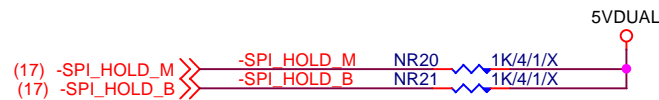
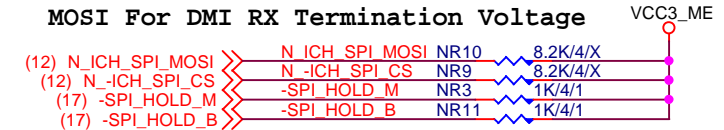
BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

1 means floating  
0 means PD 1K

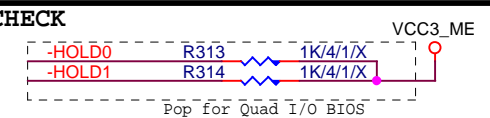
B\_BIOS  
64M/Q/SPI/SO8/S/X



#### MOSI For DMI RX Termination Voltage



#### CHECK



Gigabyte Technology

#### DUAL BIOS

GA-H81M-DS2V

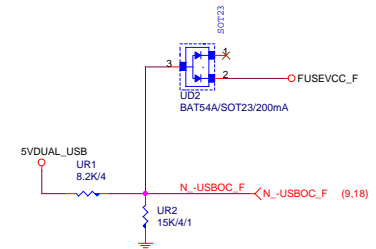
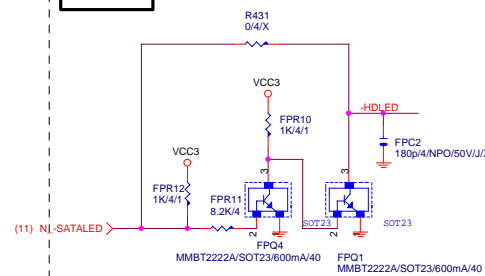
Title		Rev
Size	Document Number	1.0
Custom		
Date:	Friday, August 16, 2013	Sheet 20 of 33

## F\_USB30

## F\_USB30 PWR

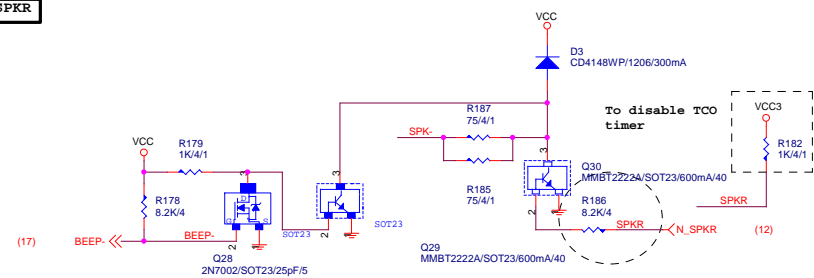
## SATA\_LED

## -USB0C\_F



## F\_USB30 ESD PROTECT

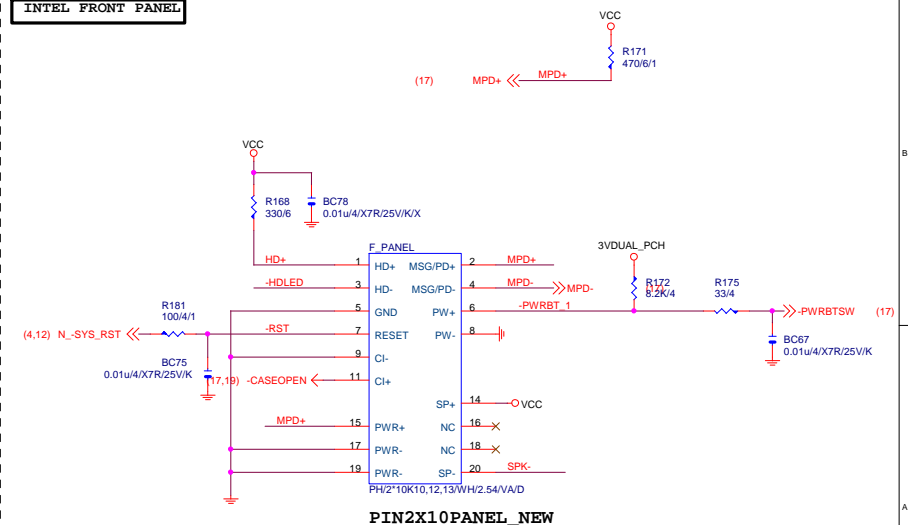
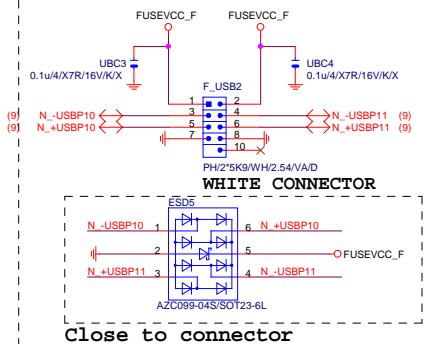
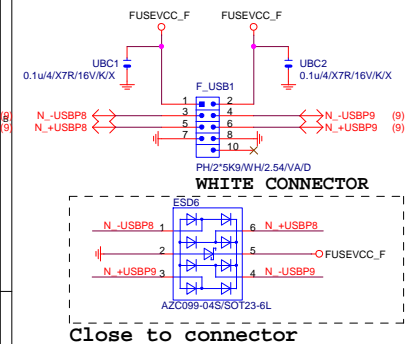
## SPKR



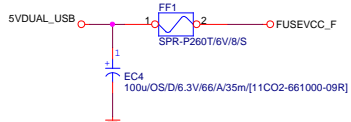
## FRONT USB1

## FRONT USB2

## INTEL FRONT PANEL



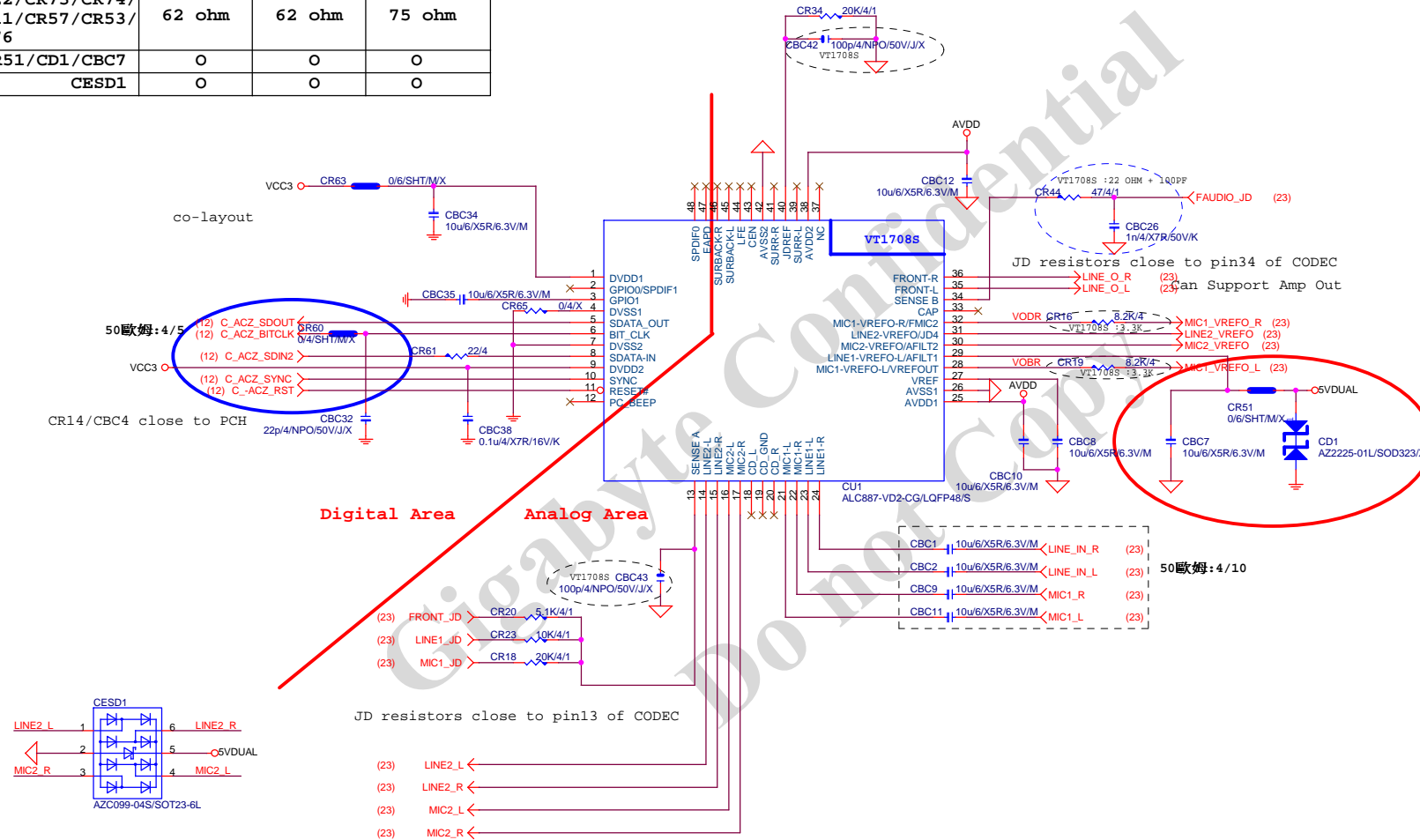
**FUSE-0805**  
**F\_USB1, F\_USB2 4-Port 2.6A**



Gigabyte Technology			
Title			
FP,F_USB,USB PWR,SPKR,SATA LED			
Size			
Custom			
Date			
Friday, August 16, 2013			
Sheet			
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Rev			
1.0			

## AZALIA CODEC ALC892/ALC887-VD2/VT1708-CE Colay

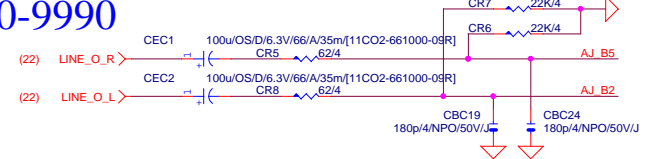
	ALC892	ALC887-VD2	VT1708S-CE
CR44/CBC26	47ohm+1nF	47ohm+1nF	22ohm+100P
CBC42/CBC43	X	X	100P/4
CR6/CR7/CR58/CR54/ CR67/CR68/CR69/CR70	22K/4	22K/4	10K/4/1
CR5/CR8/CR1/CR14/ CR17/CR22/CR73/CR74/ CR13/CR11/CR57/CR53/ CR75/CR76	62 ohm	62 ohm	75 ohm
CR51/CD1/CBC7	O	O	O
CESD1	O	O	O



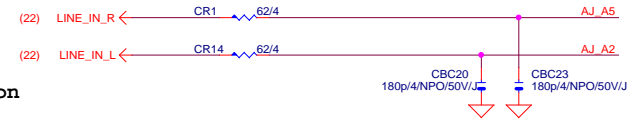
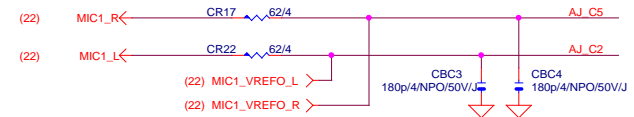
## Gigabyte Technology

Title	HD AUDIO ALC887B-VD2/VT1708S/VT2021
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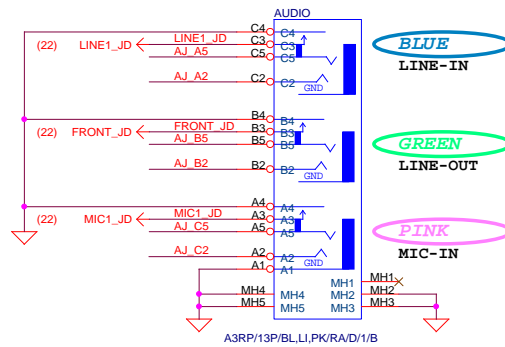




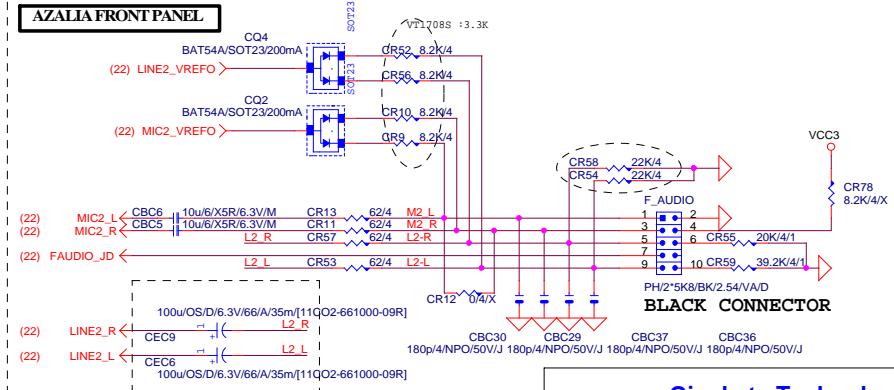
**LINE-IN**

**MIC-IN**

## SPDIF\_OUT

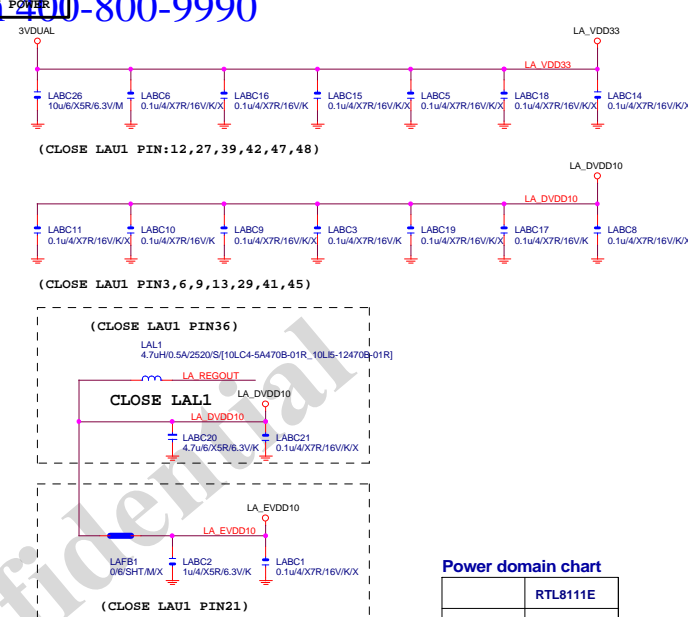


### AZALIA FRONT PANEL

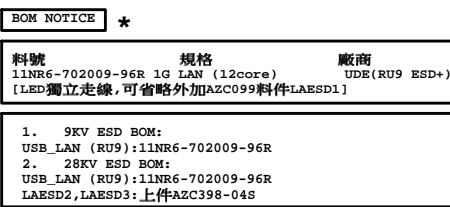
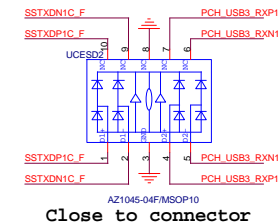
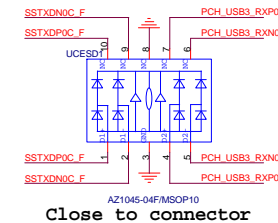
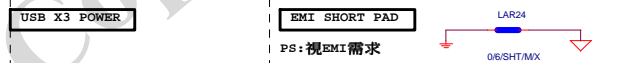


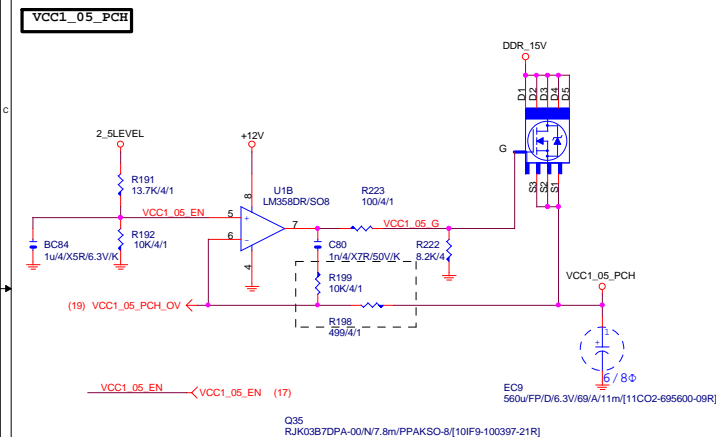
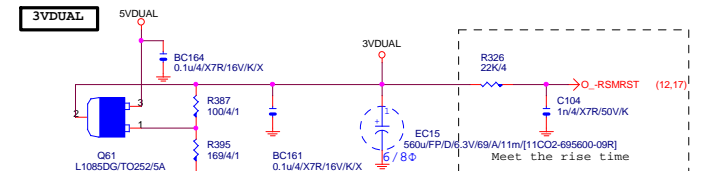
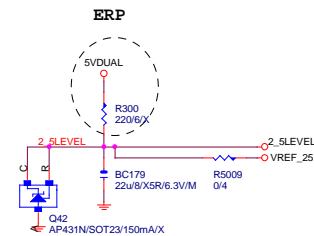
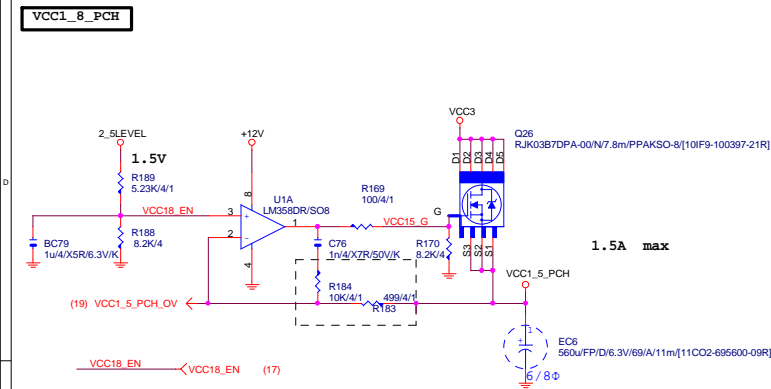
## Gigabyte Technology

Title			
AUDIO JACK			
Size	Document Number		Rev
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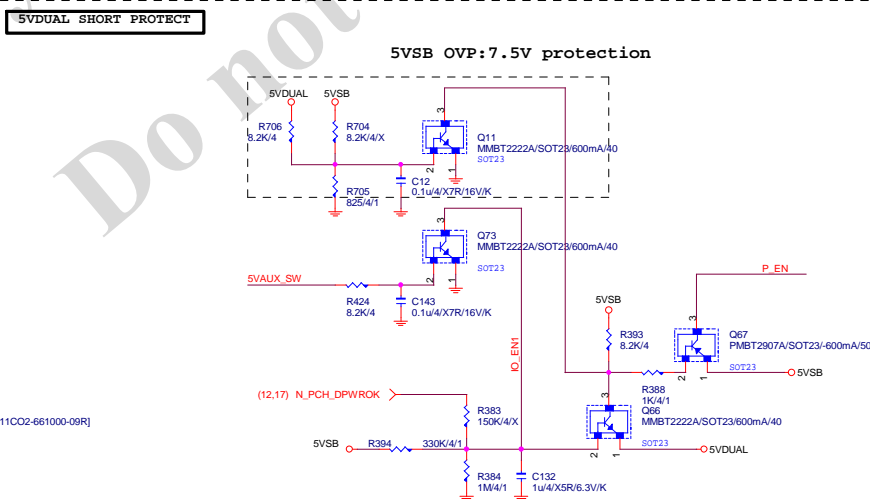
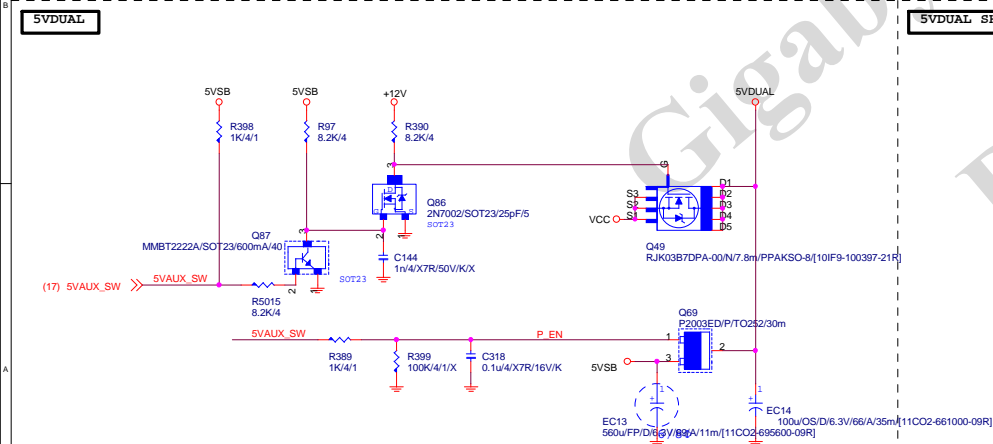
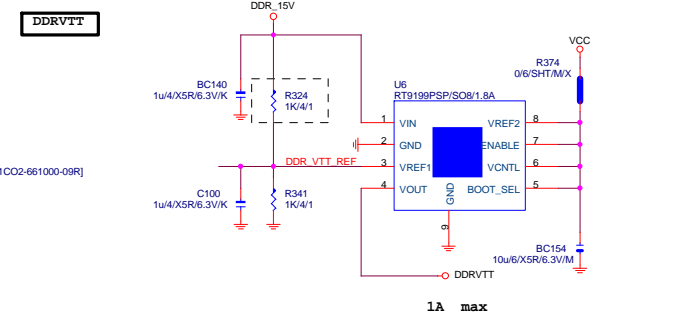
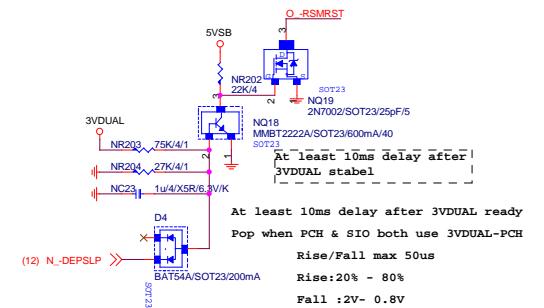
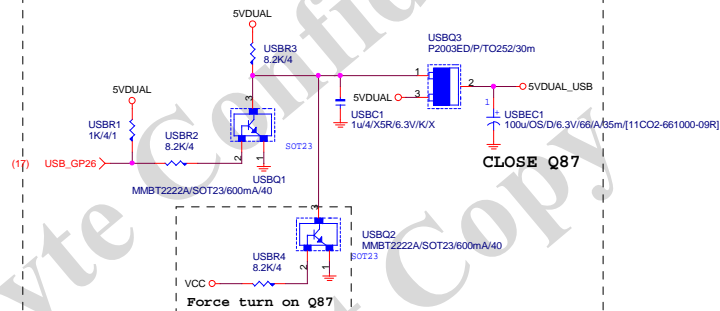


	RTL8111E
AVDD33	3.3V
DVDD33	3.3V
VDDREG	3.3V
DVDD10	1.05V



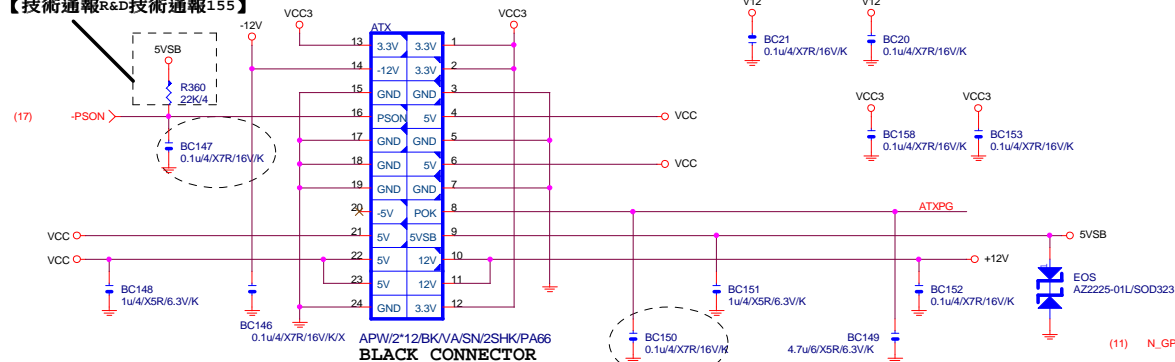


5VDUAL_USB Ctrl	GPIO	5VDUAL_USB
KB_USB, R_USB30,	High	Power ON
USB_LAN_F_USB30,	Low	Power OFF
F_USB2 Power		

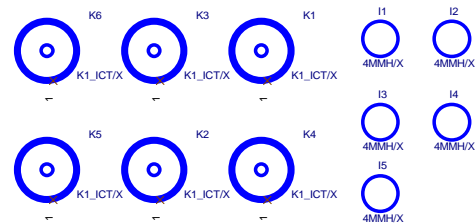
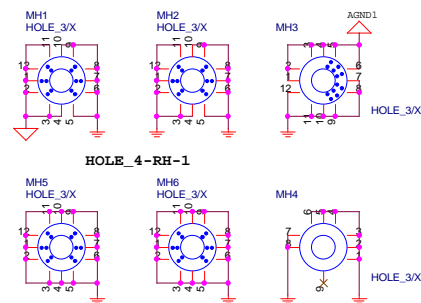


# ATXX24 POWER CONNECTOR

【技術通報R&D技術通報155】



BLACK CONNECTOR

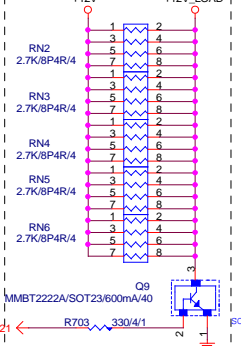


To prevent the 5VSB under loading when boot

www.xinxunwei.com 400-800-9990

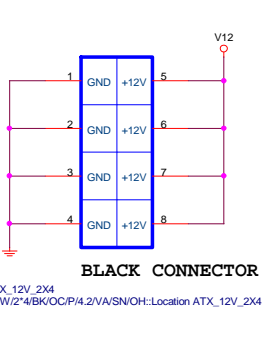
【技術通報R&D技術通報155】

To fix 12V light load abnormal issue



# ATXX4 POWER CONNECTOR

【技術通報R&D技術通報154】

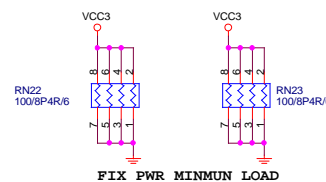
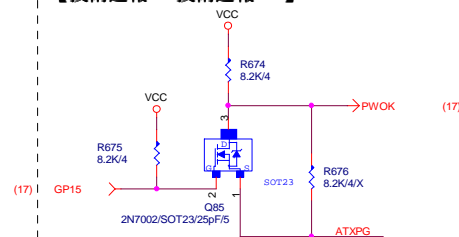


BLACK CONNECTOR

ATXX4 connector pins: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24.

# PWOK PATCH

【技術通報R&D技術通報154】



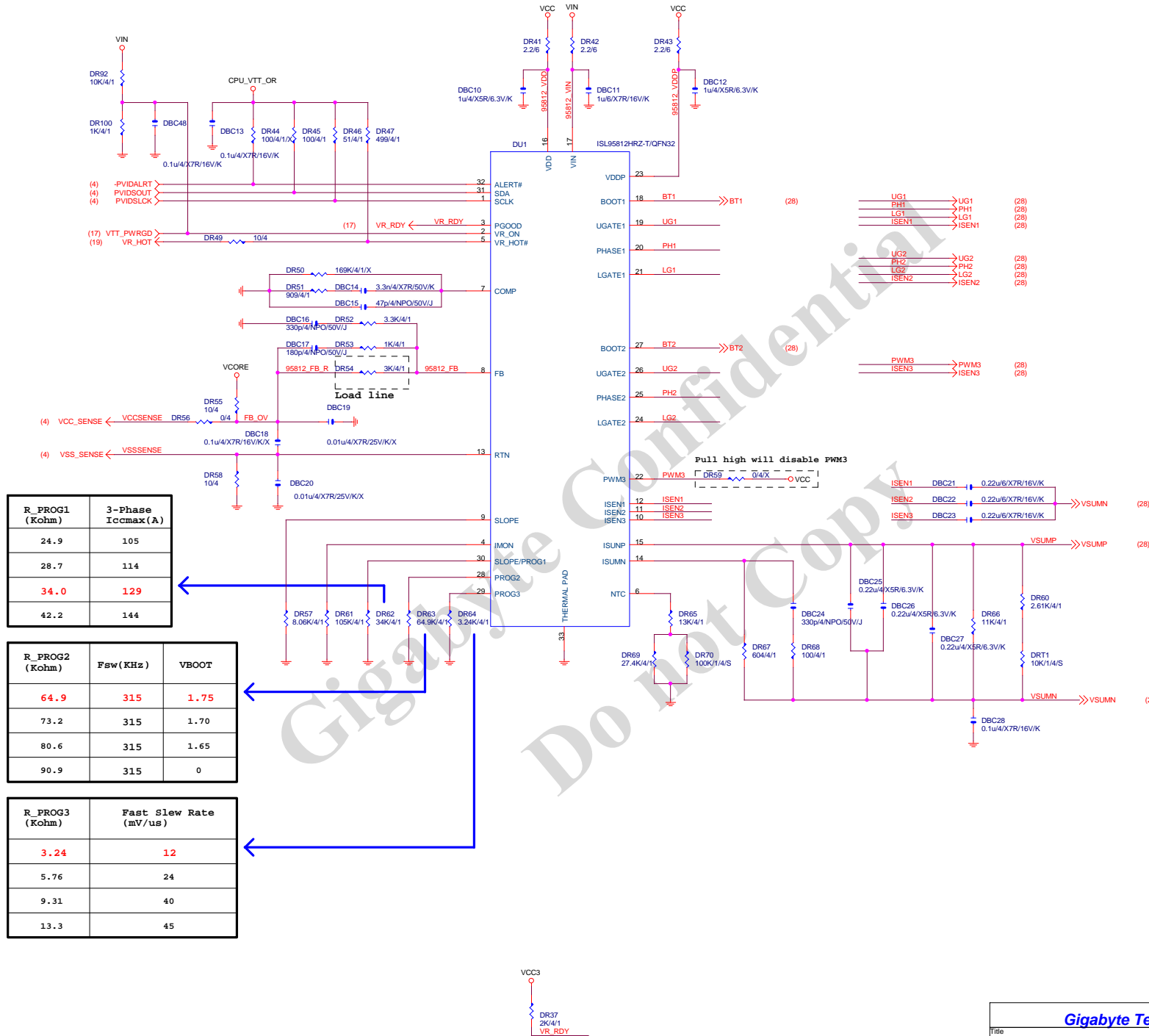
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ATX CONNECTOR

GA-H81M-DS2V

Rev 1.0

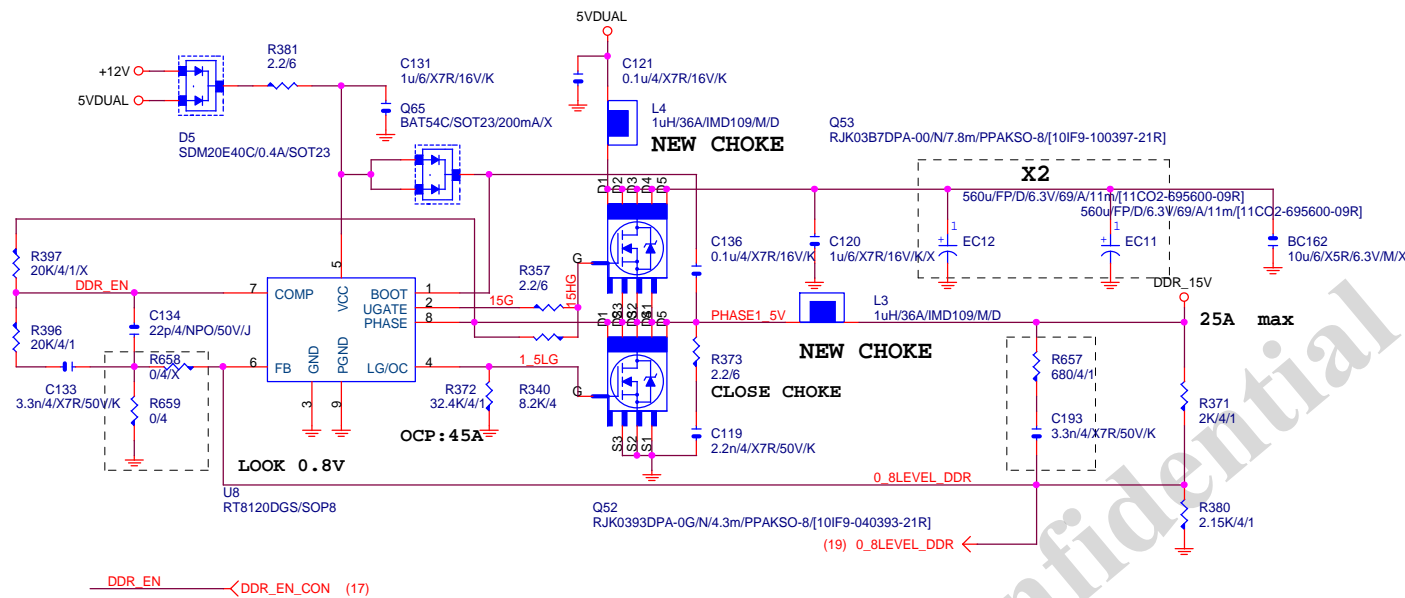
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File		
CPU CORE VR-1		
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From DDR\_15V source  
10 mils trace to SIO

DDR\_15V      DDR\_15VIO

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

$$\begin{aligned} \text{Rocset} &= (\text{Iocp} * \text{Lgate}, \text{rdson}) / \text{Iocset} \\ \text{Rocset} &= (45\text{A} * 6.7\text{mOhm}) / 10\text{uA} = 30\text{K} \\ \text{Iocset} &= 10\text{uA} \end{aligned}$$

<b><i>Gigabyte Technology</i></b>			
Title			
<b>DDR POWER</b>			
Size	Document Number	<b>GA-H81M-DS2V</b>	Rev
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VCC1\_05\_ME

【技術通報R&D技術通報156】  
(RICHTEK), (NUVOTON), (EMC)做共用  
PIN7分壓阻值須做修改為100K以上電阻值

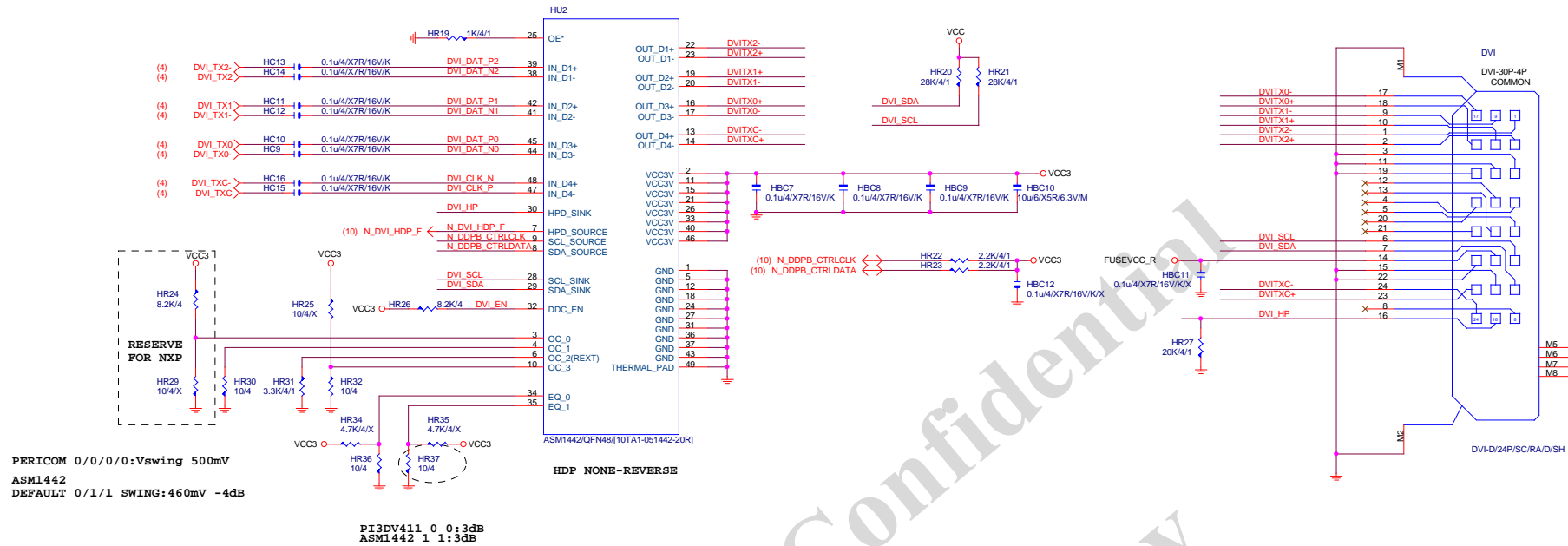
VCC3\_ME

www.xinxunwei.com 400-800-9990

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Title LPT			
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## DVI LEVEL SHIFT



## HDMI LEVEL SHIFT

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ITE IT8892E			
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