

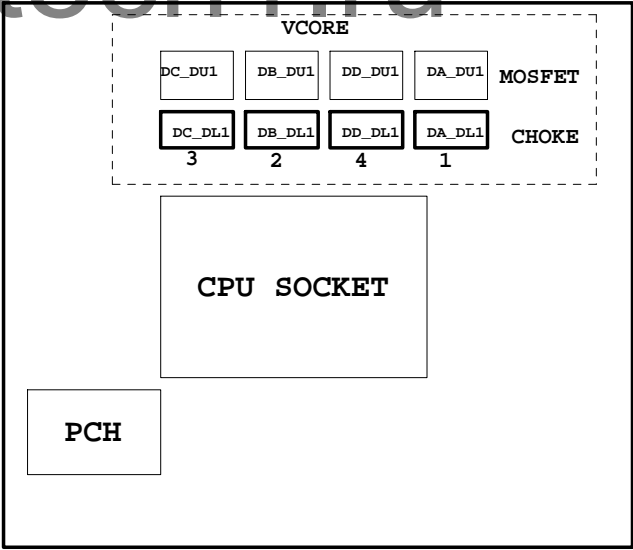
Model Name: G1.Sniper H6 1.0

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
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	PCIEX1*2 , PCIEX4 SLOT
16	ITE8892 PCI BRIDGE
17	PCI SLOT 1&2
18	I/O ITE8728
19	COM, -PROHOT, R_USB
20	Dual BIOS / LPT
21	ALC892 CODEC
22	REAR AUDIO JACK
23	VCORE_ ISL95820_1
24	VCORE_ ISL95820_2
25	DDR15V / M3 POWER
26	NCP3933 OVER VOLTAGE
27	DISCRETE POWER

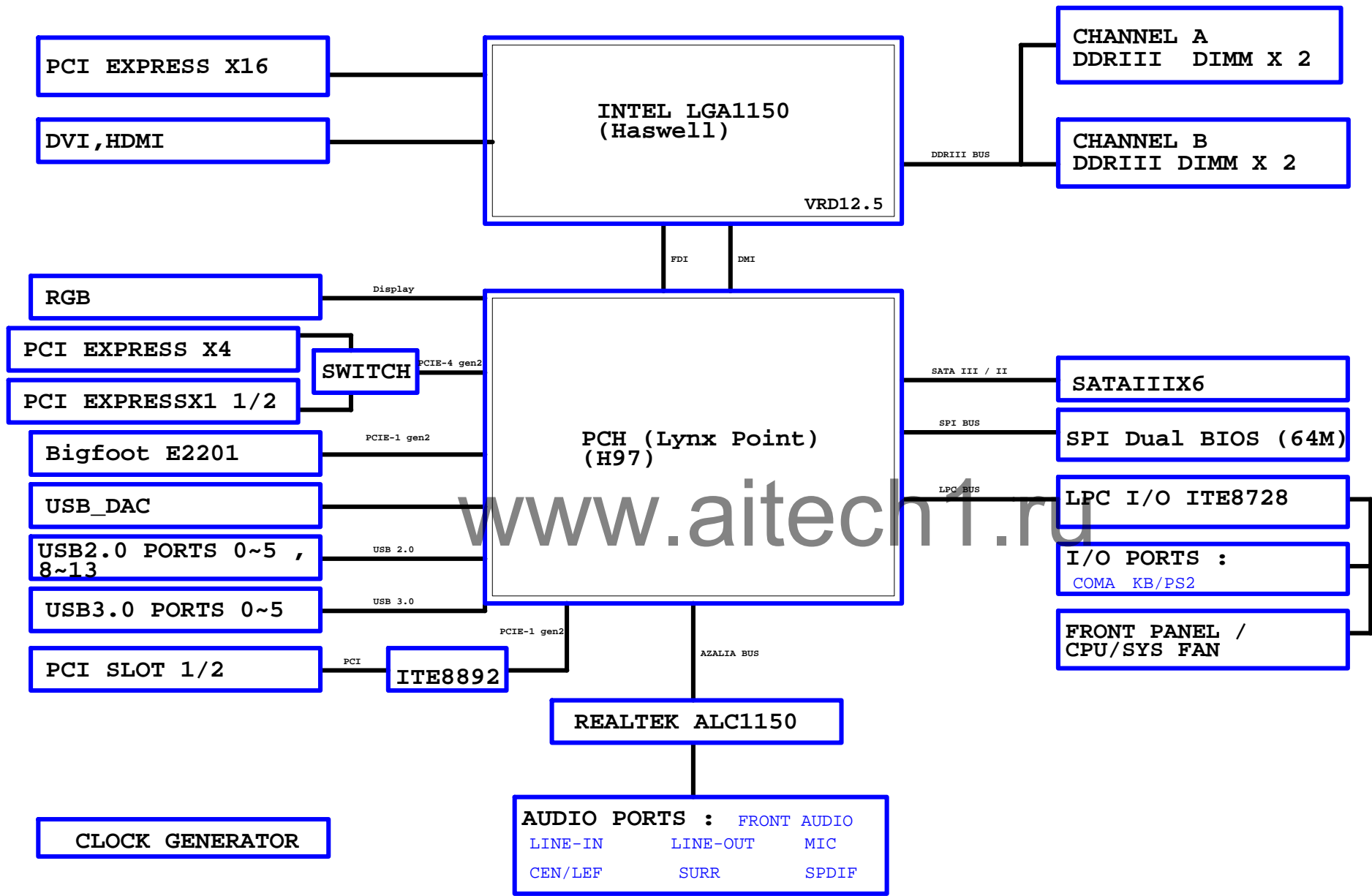
SHEET TITLE

28	F_PANEL , F_USB2.0/3.0
29	ATX POWER, CLOCK GEN
30	HWM , KB/MS , FAN CTRL
31	Realtek 8111F-VL
32	DVI
33	HDMI
34	TABLE LIST
35	
36	
37	
38	
39	
40	



[illegible][illegible][illegible][illegible][illegible]

BLOCK DIAGRAM

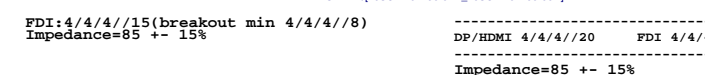


LGA1150 (E)



7 all internal PULL-UP

LGA1150 (D)

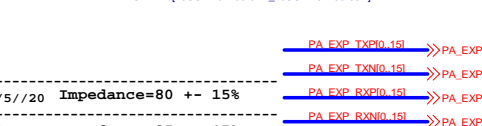


FDI:4/4/4//15(breakout min 4/4/4//8)
Impedance=85 +- 15%

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

Impedance=85 +- 15%

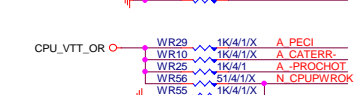
LGA1155 (C)



-CPURST

CPU SVID

CPU	PU/PD
-----	-------



SM REF

```
| THRMTRIP DISABLE FOR Z87 OVERCLOCK
```

Gigabyte Technology

CPU LGA1150-A

Size	Document Number	G1.Sniper H6
Custom		

Date: Tuesday, May 13, 2014 Sheet 4 of 36

Rev	1.0
-----	-----

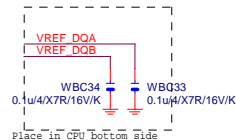
LGA1150A

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	AE37	MDA6
MAAA7	AT18	DDR0_MA7	DDR0_D07	AF40	MDA7
MAAA8	AU18	DDR0_MA8	DDR0_D08	AH40	MDA9
MAAA9	AT19	DDR0_MA9	DDR0_D09	AH39	MDA10
MAAA10	AW11	DDR0_MA10	DDR0_D10	AK38	MDA10
MAAA11	AV19	DDR0_MA11	DDR0_D11	AK39	MDA11
MAAA12	AU19	DDR0_MA12	DDR0_D12	AH37	MDA12
MAAA13	AY10	DDR0_MA13	DDR0_D13	AH38	MDA13
MAAA14	AT20	DDR0_MA14	DDR0_D14	AK37	MDA14
MAAA15	AU21	DDR0_MA15	DDR0_D15	AK40	MDA15
MODT_A0	AW10	DDR0_ODT0	DDR0_D16	AM40	MDA17
MODT_A1	AY8	DDR0_ODT1	DDR0_D17	AM39	MDA21
MODT_A2	AW9	DDR0_ODT2	DDR0_D18	AP38	MDA18
MODT_A3	AU8	DDR0_ODT3	DDR0_D19	AP39	MDA19
			DDR0_D20	AM37	MDA20
			DDR0_D21	AM38	MDA16
			DDR0_D22	AP37	MDA22
			DDR0_D23	AP40	MDA23
			DDR0_D24	AW37	MDA29
			DDR0_D25	AU35	MDA26
			DDR0_D26	AW35	MDA27
			DDR0_D27	AT37	MDA28
			DDR0_D28	AU37	MDA24
			DDR0_D29	AT35	MDA30
			DDR0_D30	AW35	MDA31
			DDR0_D31	AY6	MDA33
			DDR0_D32	AU6	MDA37
			DDR0_D33	AW4	MDA34
			DDR0_D34	AU4	MDA35
			DDR0_D35	AW6	MDA36
			DDR0_D36	AW6	MDA32
			DDR0_D37	AW4	MDA38
			DDR0_D38	AW4	MDA39
			DDR0_D39	AR1	MDA41
			DDR0_D40	AR4	MDA45
			DDR0_D41	AN3	MDA42
			DDR0_D42	AN4	MDA43
			DDR0_D43	AR2	MDA44
			DDR0_D44	AR3	MDA40
			DDR0_D45	AN2	MDA46
			DDR0_D46	AN1	MDA47
			DDR0_D47	AL1	MDA49
			DDR0_D48	AL4	MDA53
			DDR0_D49	AL4	MDA50
			DDR0_D50	AJ4	MDA51
			DDR0_D51	AJ2	MDA52
			DDR0_D52	AJ2	MDA48
			DDR0_D53	AJ2	MDA54
			DDR0_D54	AJ1	MDA55
			DDR0_D55	AG1	MDA57
			DDR0_D56	AG4	MDA61
			DDR0_D57	AE3	MDA58
			DDR0_D58	AE4	MDA59
			DDR0_D59	AG2	MDA60
			DDR0_D60	AG3	MDA56
			DDR0_D61	AE2	MDA62
			DDR0_D62	AE1	MDA63
			DDR0_D63	AE39	DQSA0
			DDR0_D64	AJ39	DQSA1
			DDR0_D65	AN39	DQSA2
			DDR0_D66	AV36	DQSA3
			DDR0_D67	AV5	DQSA4
			DDR0_D68	AP3	DQSA5
			DDR0_D69	AK3	DQSA6
			DDR0_D70	AF3	DQSA7
			DDR0_D71	AV32	
			DDR0_D72	AE38	-DQSA0
			DDR0_D73	AJ38	-DQSA1
			DDR0_D74	AN38	-DQSA2
			DDR0_D75	AJ36	-DQSA3
			DDR0_D76	AW5	-DQSA4
			DDR0_D77	AP2	-DQSA5
			DDR0_D78	AK2	-DQSA6
			DDR0_D79	AF2	-DQSA7
			DDR0_D80	AU32	

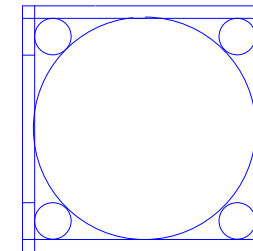
HASWELL[10SC1-F01150-01R_10SC1-F01150-03R]

LGA1150B

MAAB0	AL19	DDR1_MA0	AE34	MDB0
MAAB1	AK23	DDR1_MA1	AE35	MDB1
MAAB2	AM22	DDR1_MA2	AG35	MDB2
MAAB3	AM23	DDR1_MA3	AH35	MDB3
MAAB4	AP23	DDR1_MA4	AD34	MDB4
MAAB5	AL23	DDR1_MA5	AD35	MDB5
MAAB6	AY24	DDR1_MA6	AG34	MDB6
MAAB7	AV25	DDR1_MA7	AH34	MDB7
MAAB8	AU26	DDR1_MA8	AL34	MDB8
MAAB9	AW25	DDR1_MA9	AL35	MDB9
MAAB10	AP18	DDR1_MA10	AK31	MDB10
MAAB11	AY25	DDR1_MA11	AL31	MDB11
MAAB12	AV26	DDR1_MA12	AK34	MDB12
MAAB13	AR15	DDR1_MA13	AK35	MDB13
MAAB14	AV27	DDR1_MA14	AK32	MDB14
MAAB15	AY28	DDR1_MA15	AL32	MDB15
MODT_B0	AM17	DDR1_ODT0	AP34	MDB17
MODT_B1	AL16	DDR1_ODT1	AN31	MDB19
MODT_B2	AM16	DDR1_ODT2	AP31	MDB23
MODT_B3	AK15	DDR1_ODT3	AP35	MDB20
			AP35	MDB16
			AN32	MDB18
			AP32	MDB22
			AM29	MDB25
			AM28	MDB28
			AR29	MDB27
			AR28	MDB30
			AL28	MDB24
			AL28	MDB29
			AP29	MDB26
			AP28	MDB31
			AR12	MDB32
			AL13	MDB33
			AL12	MDB35
			AR13	MDB36
			AP13	MDB37
			AM13	MDB38
			AM12	MDB39
			AR9	MDB45
			AP9	MDB41
			AR6	MDB47
			AP6	MDB43
			AR10	MDB44
			AP10	MDB40
			AR7	MDB46
			AP7	MDB42
			AM9	MDB52
			AL9	MDB53
			AL6	MDB50
			AL7	MDB55
			AM10	MDB48
			AL10	MDB49
			AM6	MDB54
			AM7	MDB51
			AH6	MDB61
			AH7	MDB60
			AE6	MDB59
			AE7	MDB63
			AJ6	MDB56
			AJ7	MDB57
			AG6	MDB58
			AF7	MDB62
			AF35	DQSB0
			AL33	DQSB1
			AN28	DQSB2
			AN28	DQSB3
			AN12	DQSB4
			AP8	DQSB5
			AL8	DQSB6
			AG7	DQSB7
			AN25	
			AF34	-DQSB0
			AK33	-DQSB1
			AN33	-DQSB2
			AN29	-DQSB3
			AN13	-DQSB4
			AR8	-DQSB5
			AM8	-DQSB6
			AG6	-DQSB7
			AN26	



HASWELL[10SC1-F01150-01R_10SC1-F01150-03R]

LGA1150
ILM_BP/1156/CSP

DDR BUS

7	MODT_A[0..3]	MODT_AIO_3I
8	MODT_B[0..3]	MODT_BIO_3I
7	MDA[0..63]	MDAIO_63I
8	MDB[0..63]	MDBIO_63I
7	DQSA[0..7]	DQSAIO_7I
7	-DQSA[0..7]	-DQSAIO_7I
7	MAAA[0..15]	MAAAIO_15I
8	MAAB[0..15]	MAABIO_15I
8	DQSB[0..7]	DQSBIO_7I
8	-DQSB[0..7]	-DQSBIO_7I

Gigabyte Technology

Title			CPU LGA1150-B
Size	Document Number	G1.Sniper H6	
Custom			Rev 1.0
Date:	Tuesday, May 13, 2014	Sheet	5 of 36

(F, J)



(G,H,I)



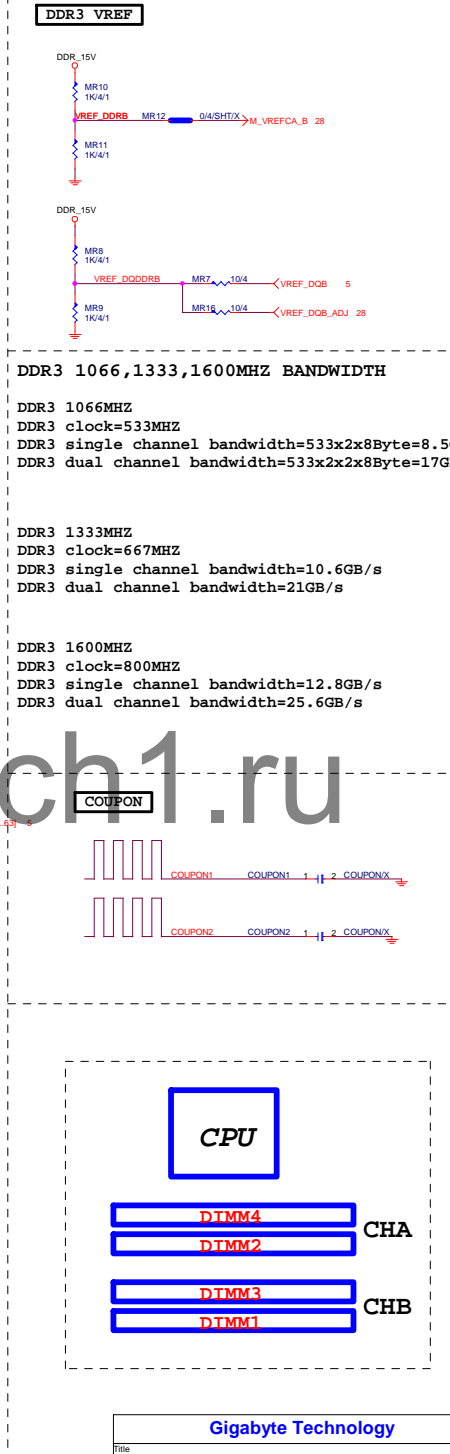
(X30)



(X15)

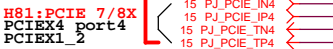


Rev	1.0
-----	-----

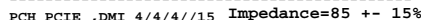


(B)

USB2.0 : 12/5/7/5/12 (breakout min 8/4/4/4/8)
Impedance=85 +- 15%

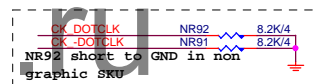
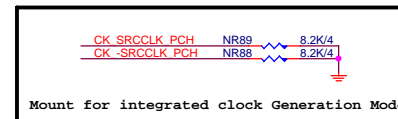
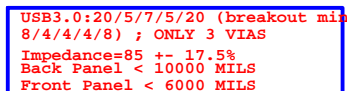


放靠近 Device & PCI-E Slot



usb2.0 5/7/5//12
usb3.0 5/7/5//20 Impedance=85 +- 15%

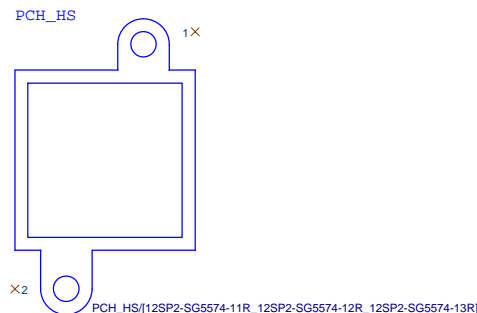
PCH (F)



(J)



PCH H/S



USB	TABLE
-----	-------

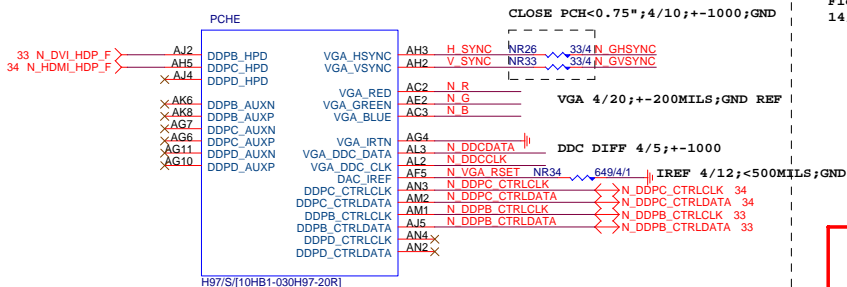
```
OC[3:0]# for Device 29 (ports 0-7)
OC[7:4]# for Device 26 (ports 8-13)
```

USB OC#	Configure
OC0#	USB0,1
OC1#	USB2,3
OC2#	USB4,5
OC3#	USB6,7
OC4#	USB8,9
OC5#	USB10,11
OC6#	USB12,13
OC7#	Not Use

Gigabyte Technology

Title			
PCH FDI,DMI,USB ,PCIE			
Size	Document Number	Rev	
Custom	G1.Sniper H6	1.0	
Date:	Tuesday, May 13, 2014	Sheet	9 of 36

PCH (E)



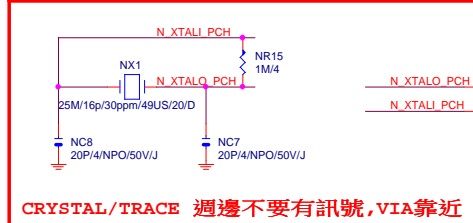
VGA DISABLE	
R,G,B	NC OR GND
IRTN / IREF	GND
VGA_HSYNC, VGA_VSYNC, DDC_CLK, DDC_DATA	NC
POWER VCCADAC(AF2), VCCADACBG(AE1)	GND

PCH (G)

Flex1,2,3,4 : 18 N_LPC33
11 N_PCH33

18 O_LPCCLK48
31 N_PCHCLK14

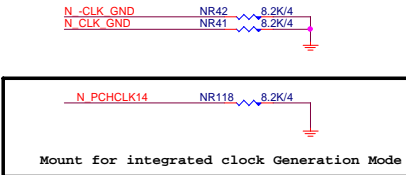
VCC1_5_PCH
N_PCHCLK14



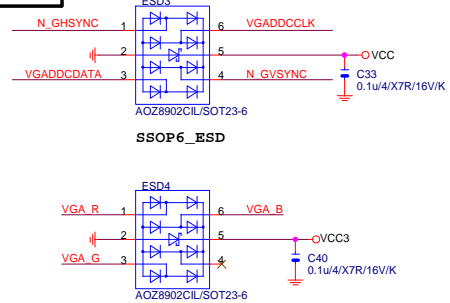
PCIEX4
CLOCK(PE_SRCCLK_3GIO1)由PIN R6,R7 換成PIN W7,W6 避免跟CRYSTAL 25MHZ干擾

Differential Clock:18/4/6/4/18
Impedance=90 +- 15%

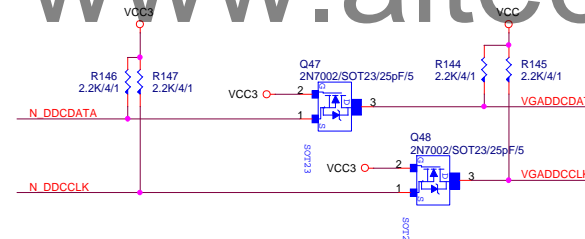
PCH CLK PD



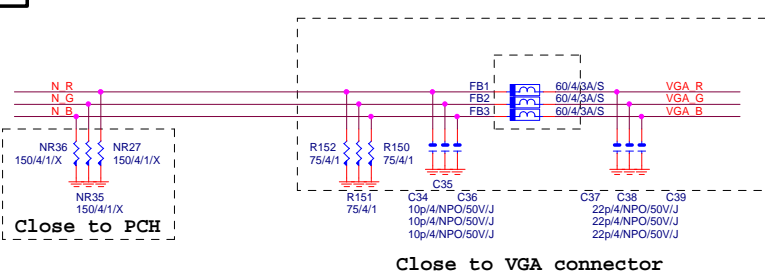
VGA ESD



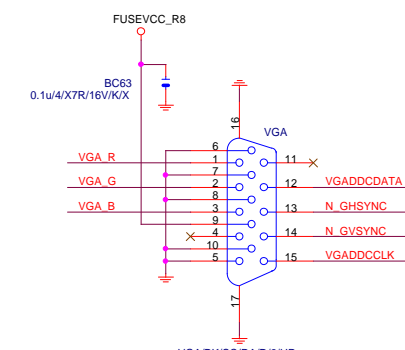
VGA DDC



VGA DDC



VGA CONNECTOR



Gigabyte Technology			
Title			
PCH DISPLAY ,CLK BUFFER			
Size	Document Number	Rev 1.0	
Custom	G1.Sniper H6		
Date:	Tuesday, May 13, 2014	Sheet 10 of 36	

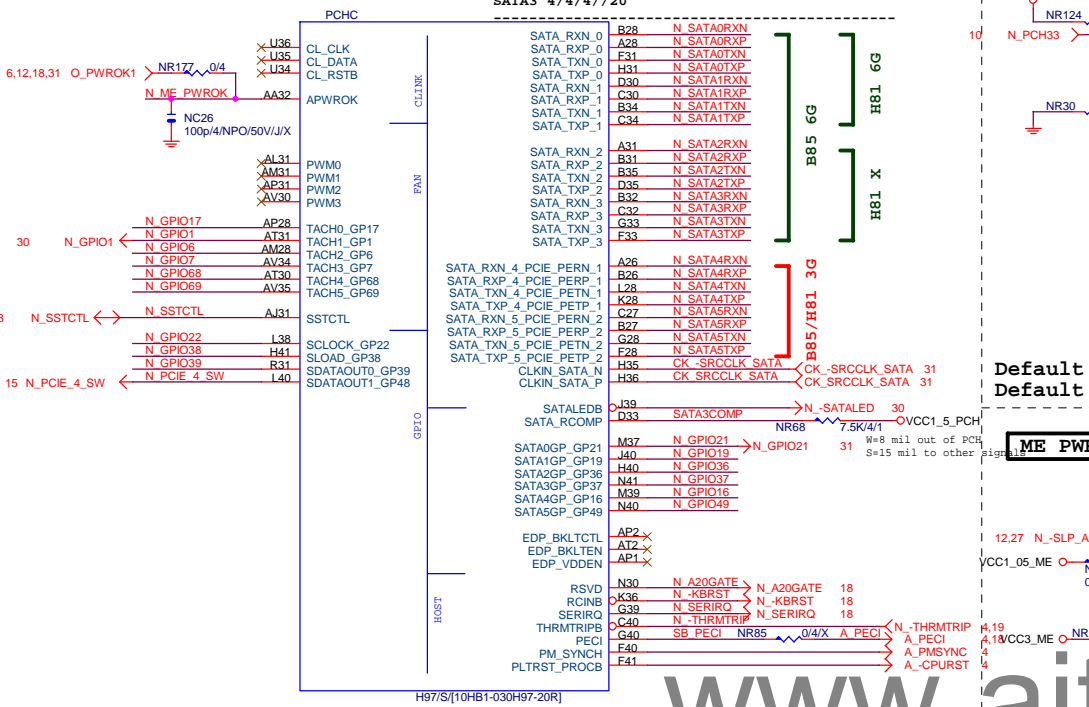
PCH (C)

SATA3 : 20/4/4/20 (breakout min 8/4/4/4/8)

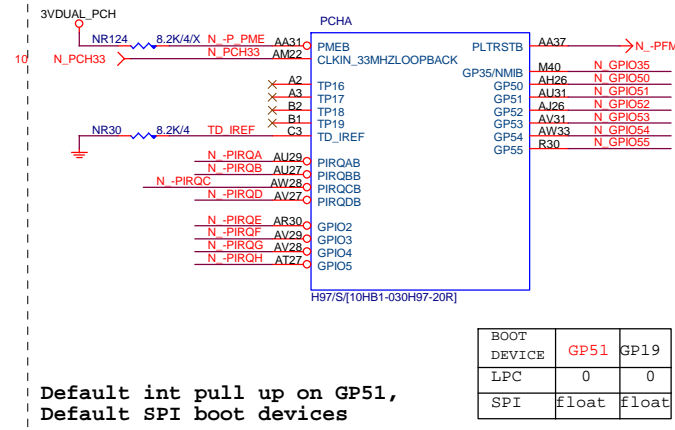
Impedance=85 +- 17.5%

SATA2 4/4/4/15

SATA3 4/4/4/20

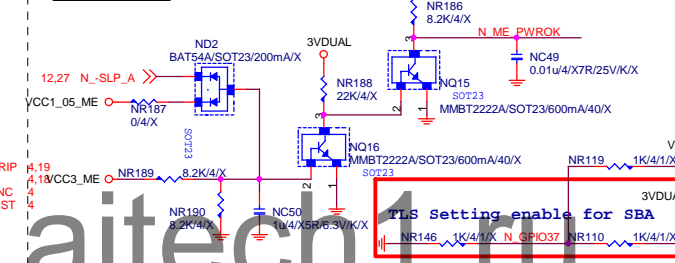


PCH (A)

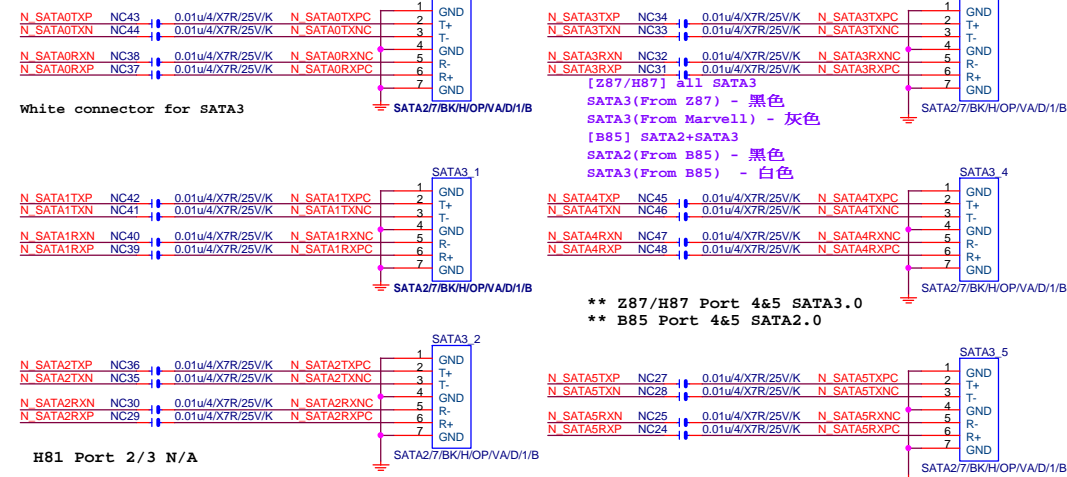


Default int pull up on GP51, Default SPI boot devices

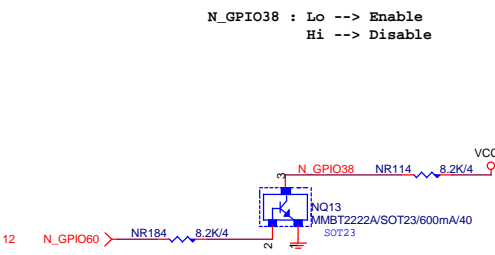
ME PWROK



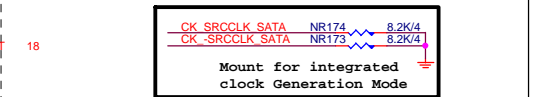
SATA CONNECTOR



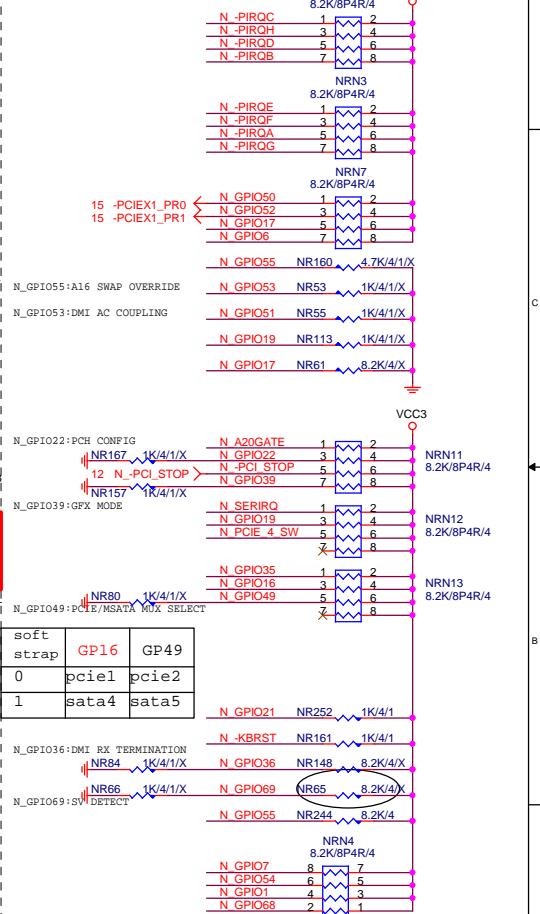
GPIO38 Ctrl



PCH CLK PD



PCH PU/PD



Gigabyte Technology

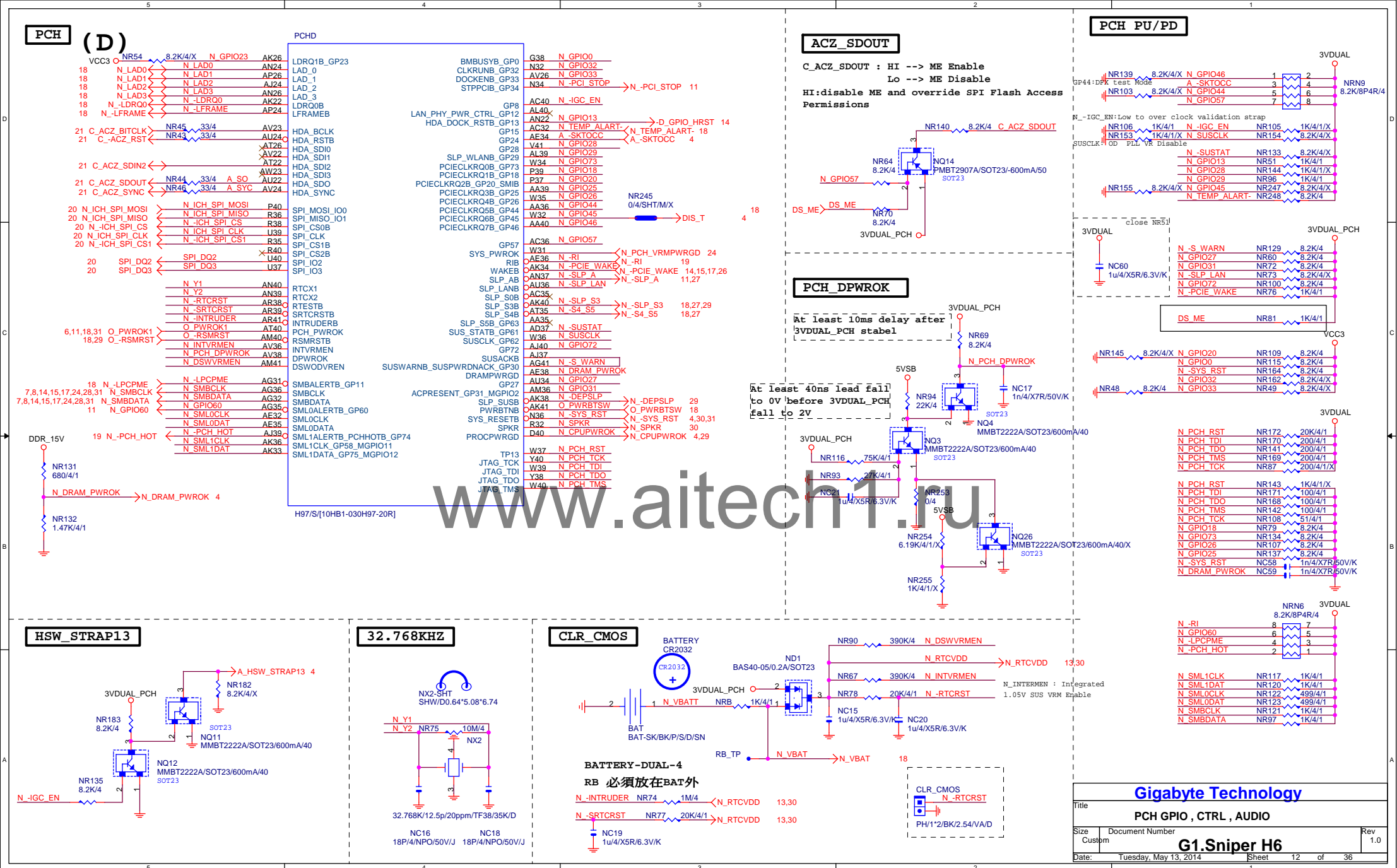
Title: PCH HOST , SATA, PCI

Size: Document Number

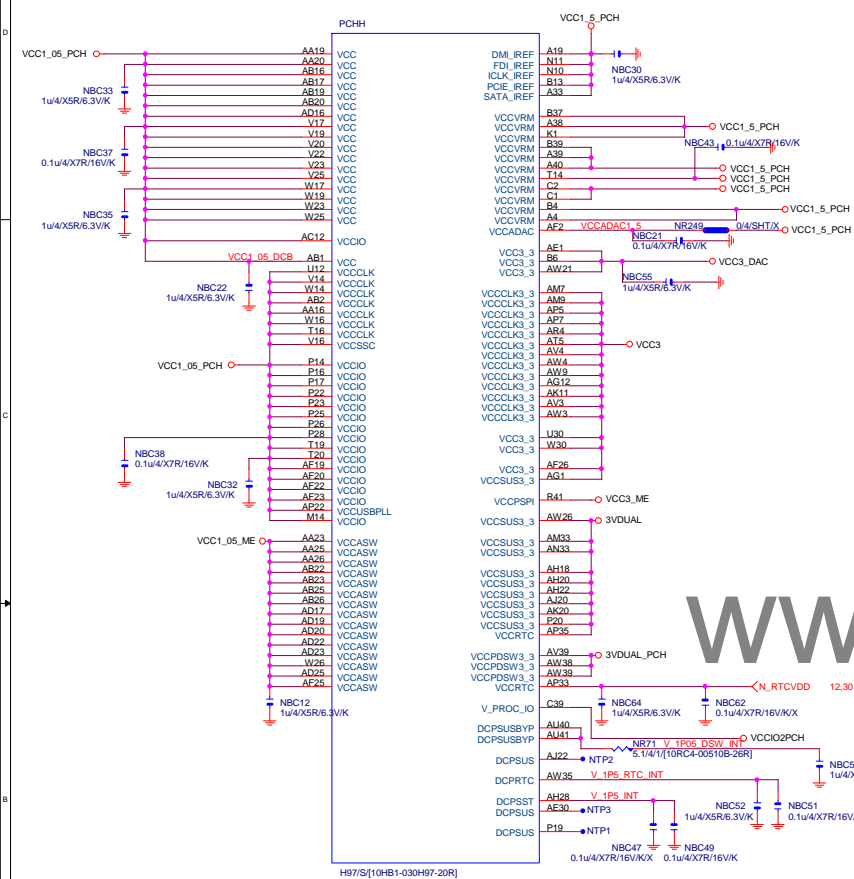
Custom: G1.Sniper H6

Date: Tuesday, May 13, 2014

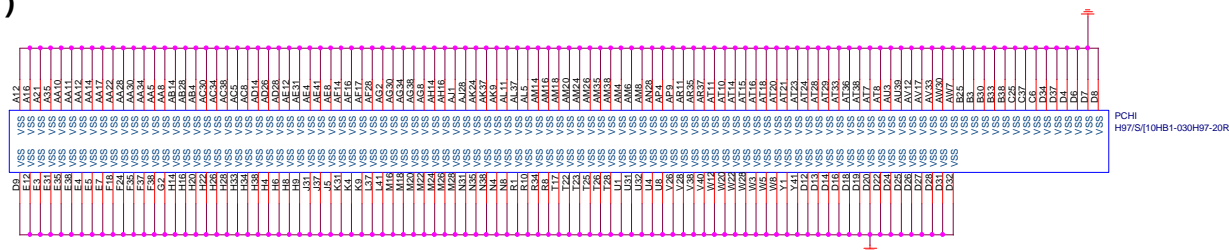
Sheet: 11 of 36



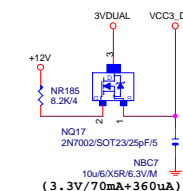
PCH (H)



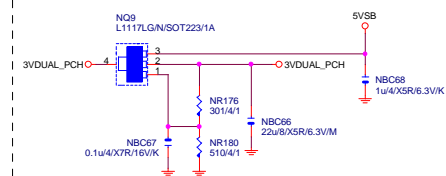
PCH (I)



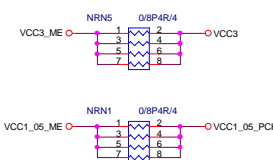
VCC3_DAC



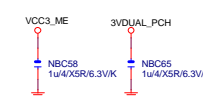
3VDUAL_PCH



SHT PWR



CAP



(3.3V) (X6)

(1.05V) (x5)

(1.05V) (x6)

$$(1.05V)(x_2) - (3.3V)(x_2)$$

(1.5V) (x10)

VCC1_5_PCH

NBC16 10uF/6X25V/3V/K

NBC29 10uF/6X25V/3V/K

NBC50 10uF/6X25V/3V/K

NBC53 10uF/6X25V/3V/K

NBC19 1uF/4X25V/3V/K

NBC23 0.1uF/4X77/16V/K

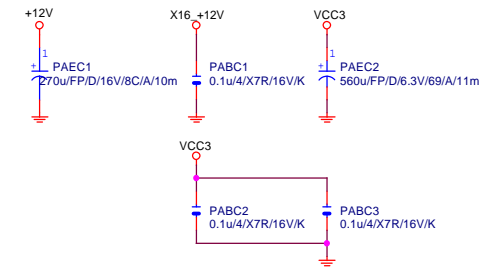
NBC28 1uF/4X25V/3V/K

NBC44 1uF/4X25V/3V/K

NBC46 0.1uF/4X77/16V/K

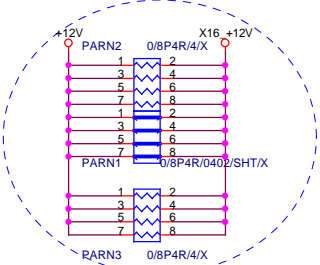
NBC48 1uF/4X25V/3V/K

PCIEX16 CAP



PCIEX16 PROTECT SHT

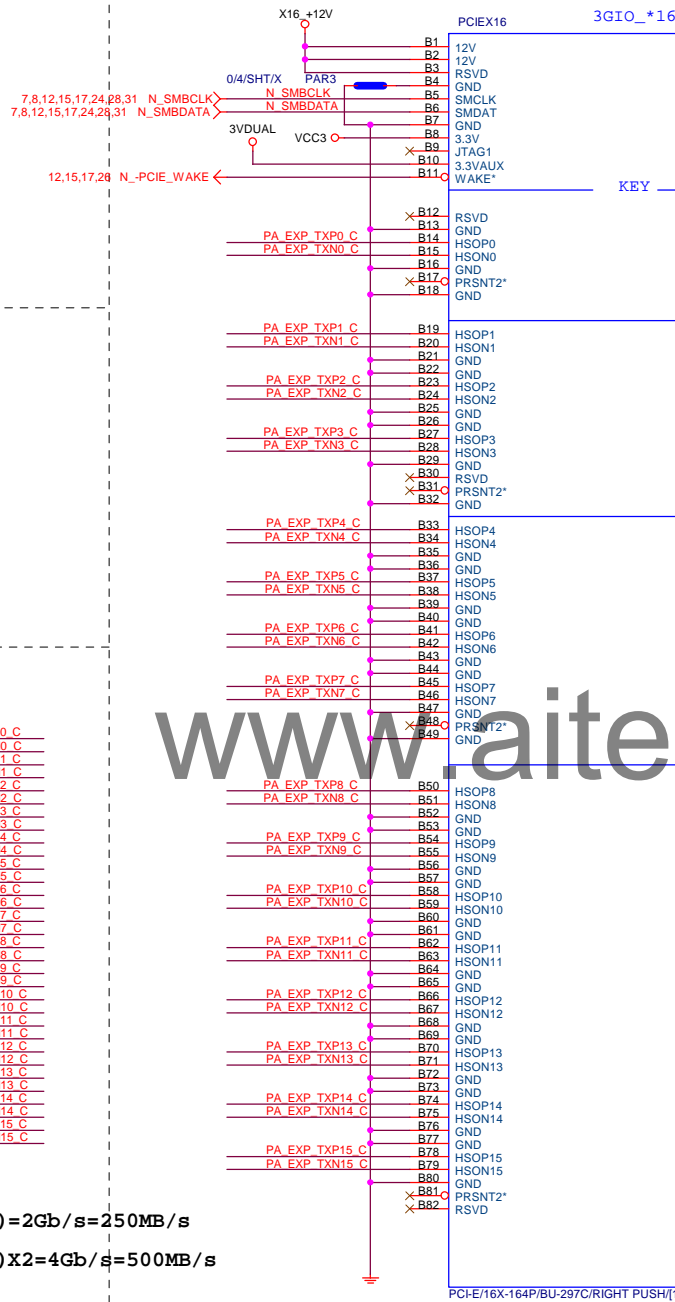
+12 protect short-wire test



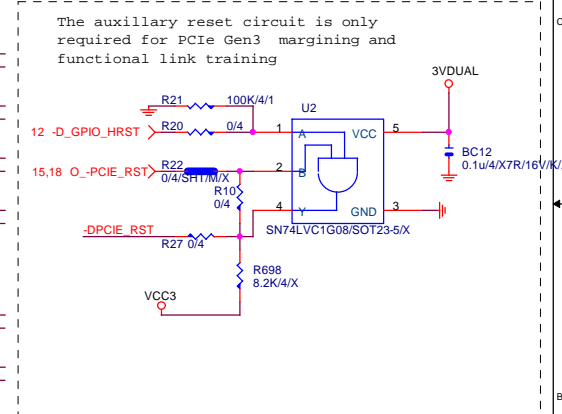
PCIEX16 AC CAP

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	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

PCIEX16 SLOT



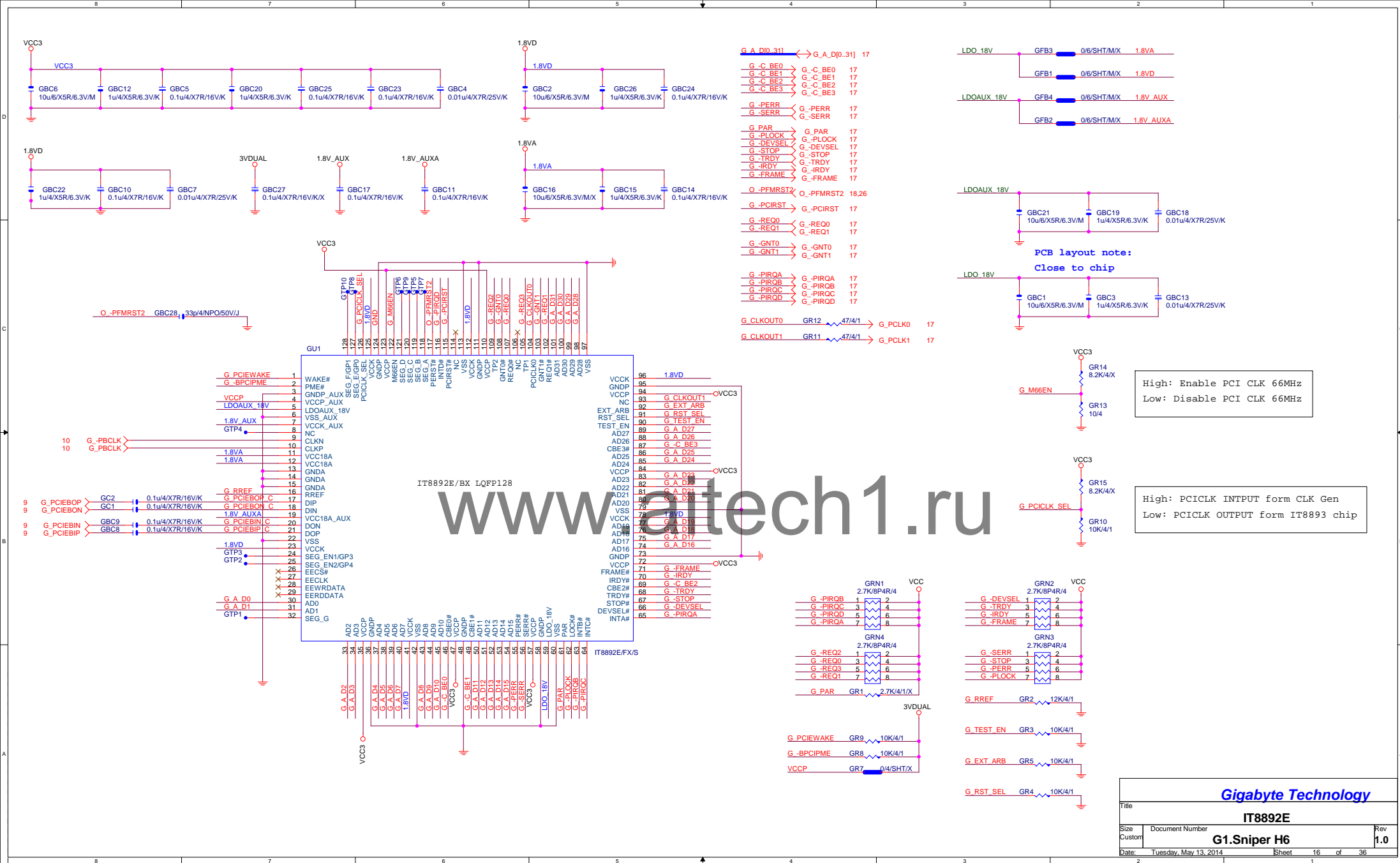
PCIESLOT-164DN-Q



PCIEX16:16/5/5/5/16

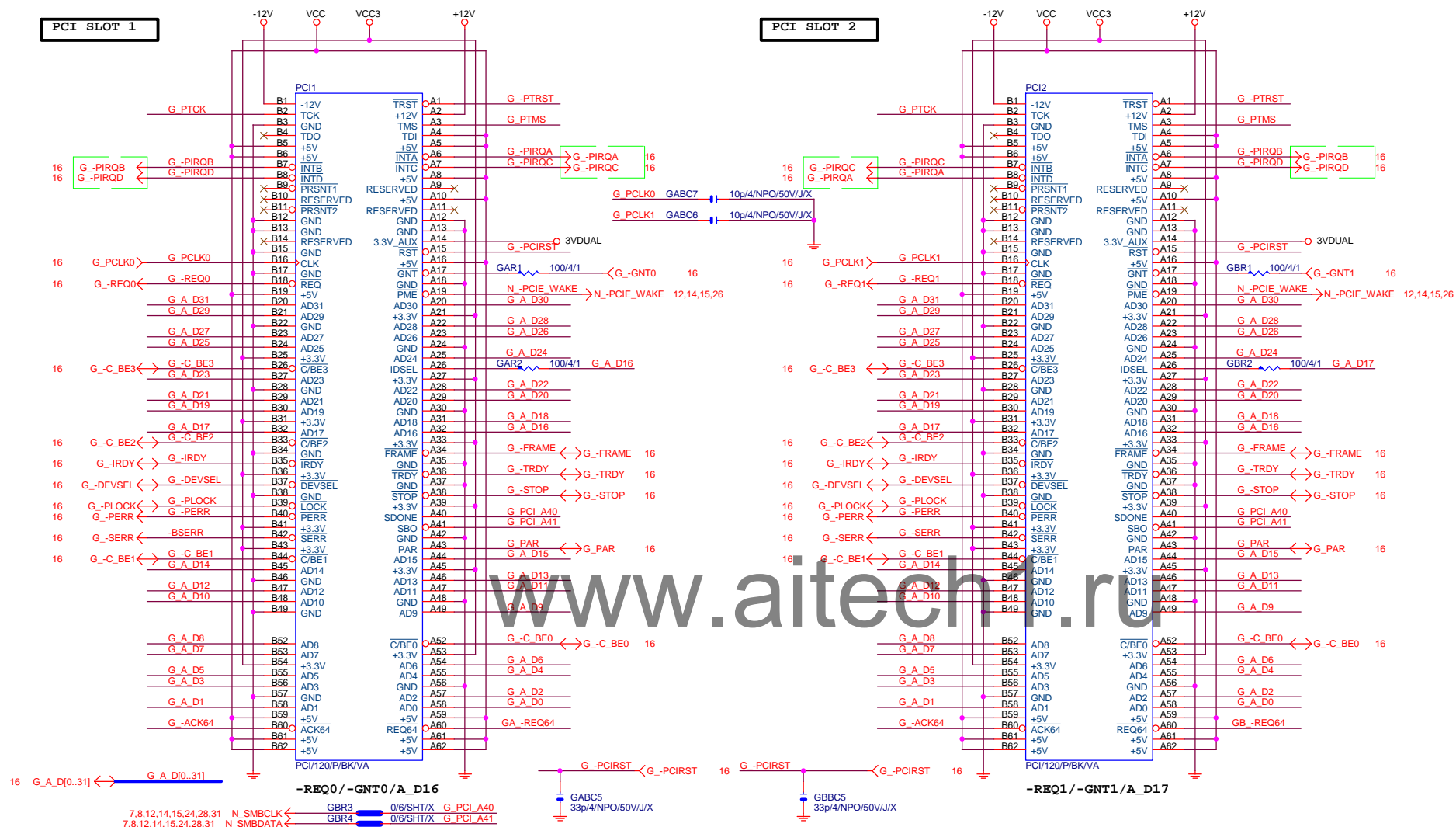
PA EXP RXP0.15I >>> PA_EXP_RXP[0..15] 4
PA EXP RXN0.15I >>> PA_EXP_RXN[0..15] 4
PA EXP TXP0.15I >>> PA_EXP_TXP[0..15] 4
PA EXP TXN0.15I >>> PA_EXP_TXN[0..15] 4

Gigabyte Technology			
PCI EXPRESS * 16			
G1.Sniper H6			
Rev 1.0			
Date: Tuesday, May 13, 2014			
Sheet 14 of 36			



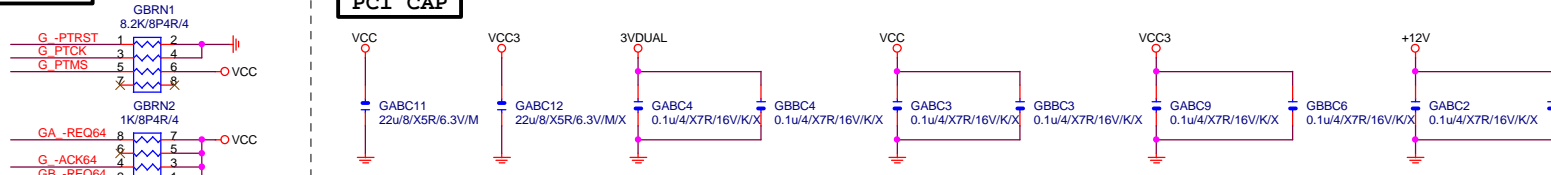
PCI SLOT 1

PCI SLOT 2



PCI PU

PCI CAP

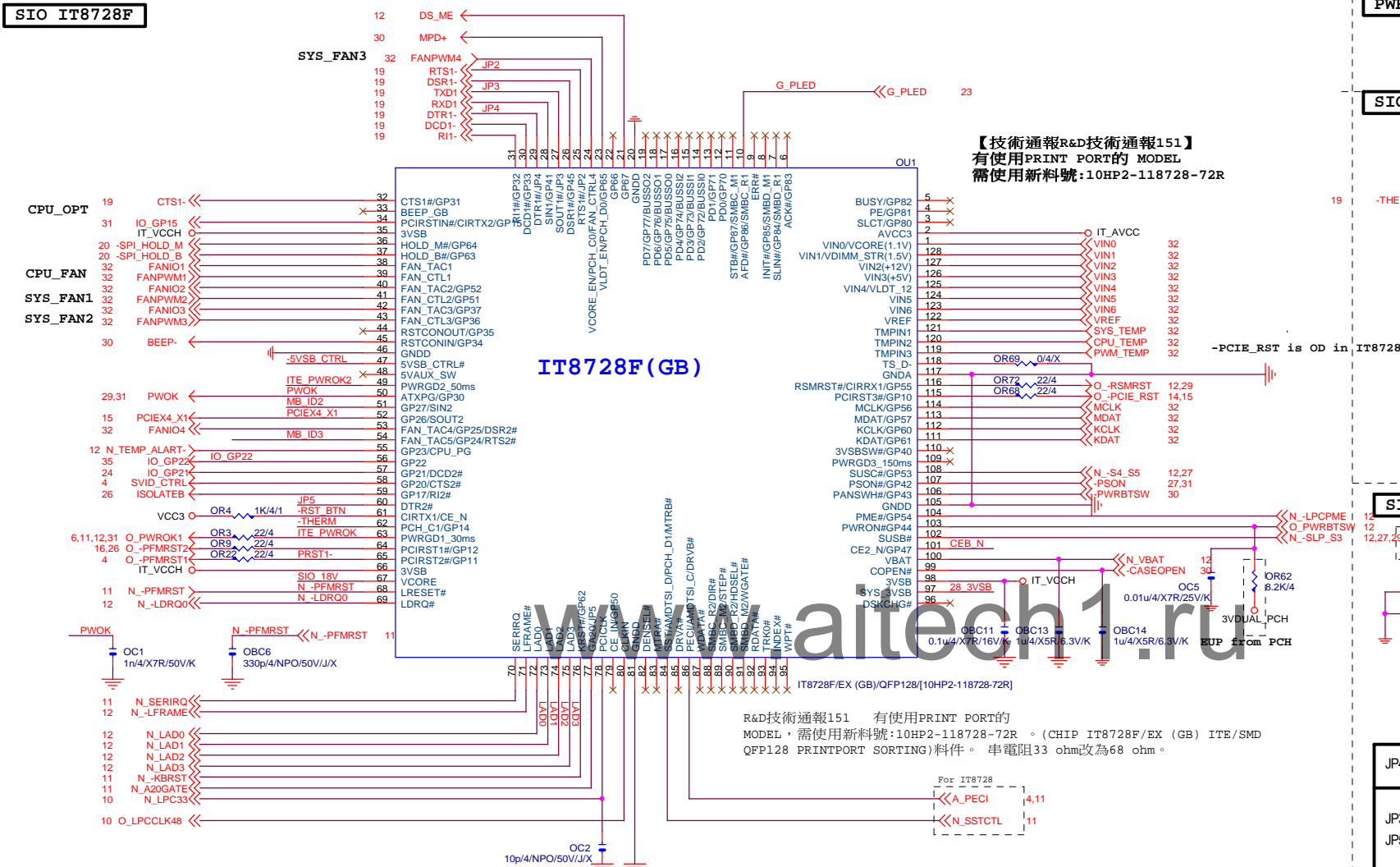


PCI SLOT 1&2

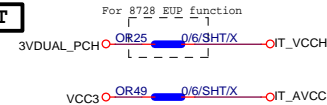
Size: Custom Document Number: **G1.Sniper H6** Rev: **1.0**

Date: Tuesday, May 13, 2014 Sheet: 17 of 36

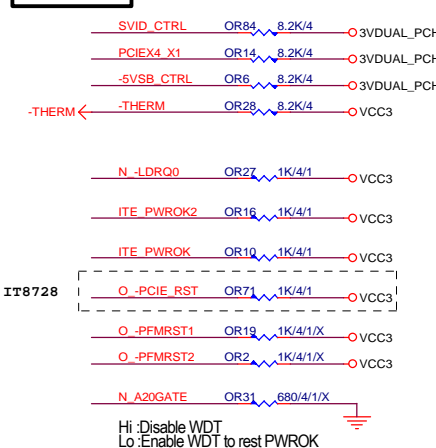
SIO IT8728F



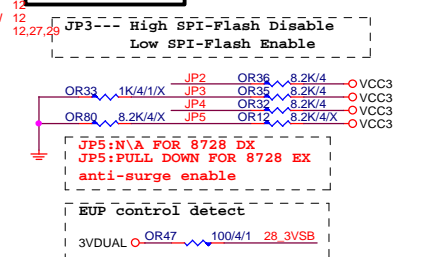
PWR	SHT
-----	-----



SIO	PU
-----	----



SIO STRAP

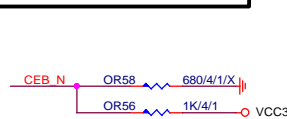


JP4	1	k8 power sequency function is Disable
	0	k8 power sequency function is Enable
JP3	1 1	The default value of EC Index 63h/6Bh/73h is 80h
	1 0	The default value of EC Index 63h/6Bh/73h is FFh
	0 1	The default value of EC Index 63h/6Bh/73h is 00h
	0 0	The default value of EC Index 63h/6Bh/73h is 40h

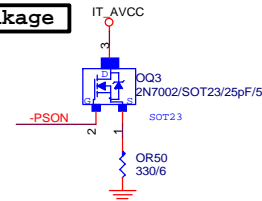
IT8728F NOTE

	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_3VSB
PIN70	GP47
PIN95	VIN2(VCC5)
PIN96	VIN1(VCC12)
PIN97	VINI/VDIMM_STR(1.5V)
PIN98	VINO/VCORE(1.1V)/NC

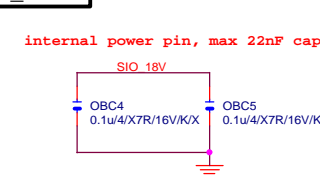
DUAL BIOS OPT STRAP



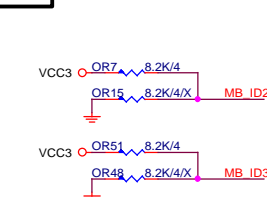
Power leakage



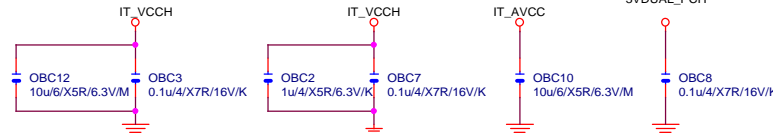
SIO 18V



MB ID



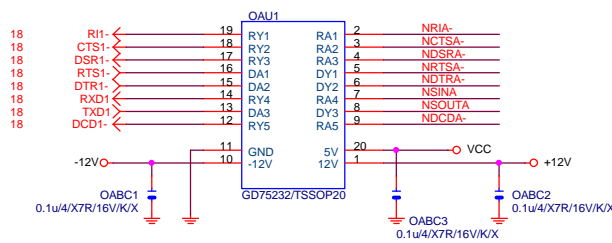
SIO CAP



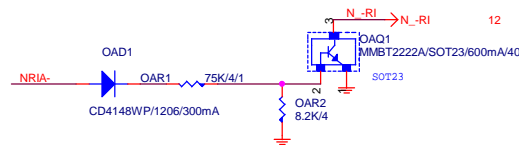
Gigabyte Technology

Title			
ITE 8728 LPC IO			
Size B	Document Number		Revision 1.
G1.Sniper H6			
Date:	Tuesday, May 13, 2014	Sheet	18 of 36

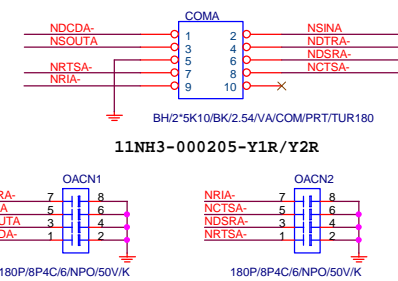
COMA



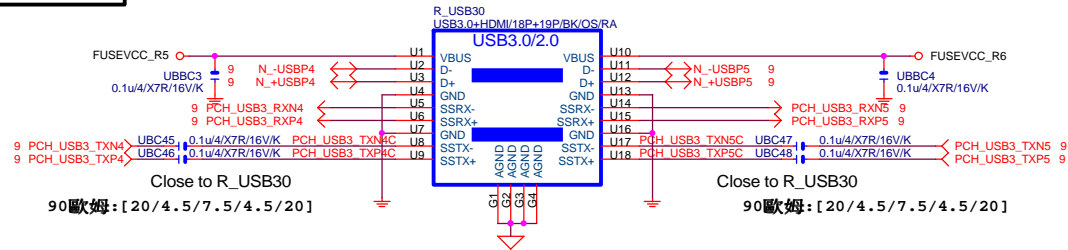
COM RI



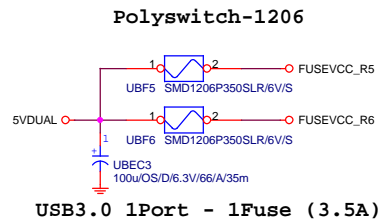
COM BUFFER



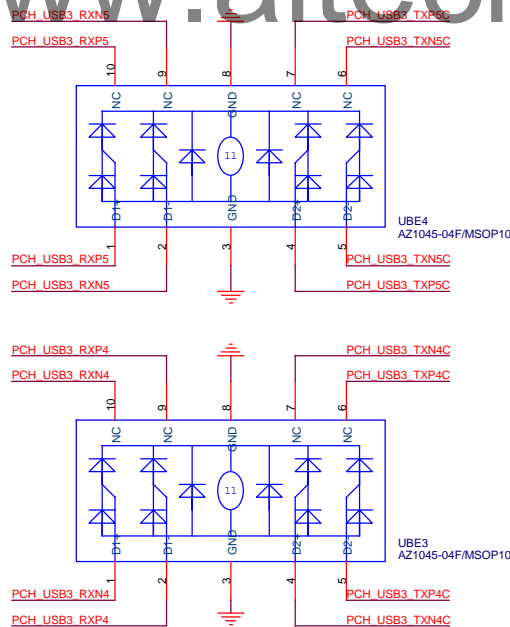
USB30_20 CONNECT



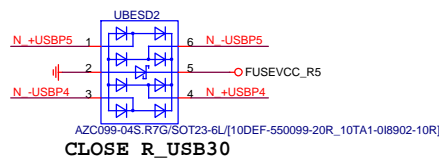
USB30 PWR



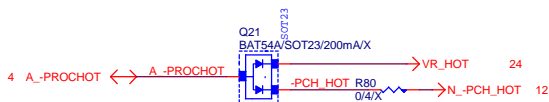
USB30 ESD PROTECT



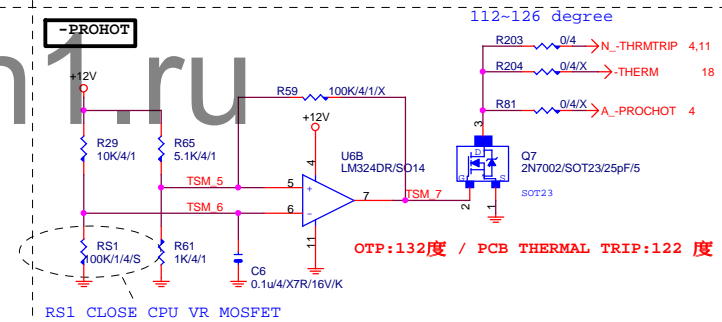
USB20 ESD PROTECT



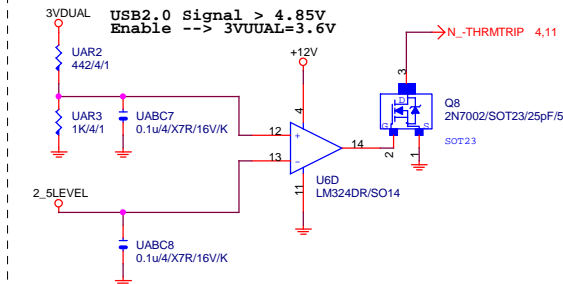
-PROHOT



-PROHOT



USB2.0 Signal & power short protection



Gigabyte Technology

Title			COM/ PROHOT/ R_USB
Size	Document Number	Rev	
Custom		G1.Sniper H6	
Date:	Tuesday, May 13, 2014	Sheet	19 of 36

DUAL BIOS

MOSI For DMI RX Termination Voltage

12 N_ICH_SPI_MOSI< N_ICH_SPI_CS NR10 8.2K/4/X
 12 N_ICH_SPI_CS< N_ICH_SPI_CS NR9 8.2K/4/X
 12 N_ICH_SPI_CS1< N_ICH_SPI_CS1 NR246 8.2K/4/X
 18 -SPI_HOLD_M< -SPI_HOLD_M NR3 1K/4/1
 18 -SPI_HOLD_B< -SPI_HOLD_B NR11 1K/4/1

N_-SPI_WP1 NR2 8.2K/4/X
 N_-SPI_WP0 NR1 8.2K/4/X
 N_ICH_SPI_MISO NR5 8.2K/4
 -HOLD0 NR235 1K/4/1/X
 -HOLD1 NR236 1K/4/1/X

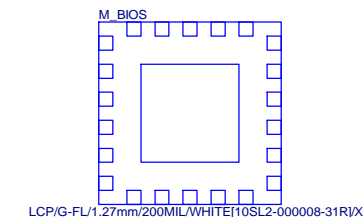
18 -SPI_HOLD_M< -SPI_HOLD_M NR237 1K/4/1/X
 18 -SPI_HOLD_B< -SPI_HOLD_B NR238 1K/4/1/X
 12 N_ICH_SPI_MISO< NR6 22/4 SPI_MISO

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

1 means floating
 0 means PD 1K

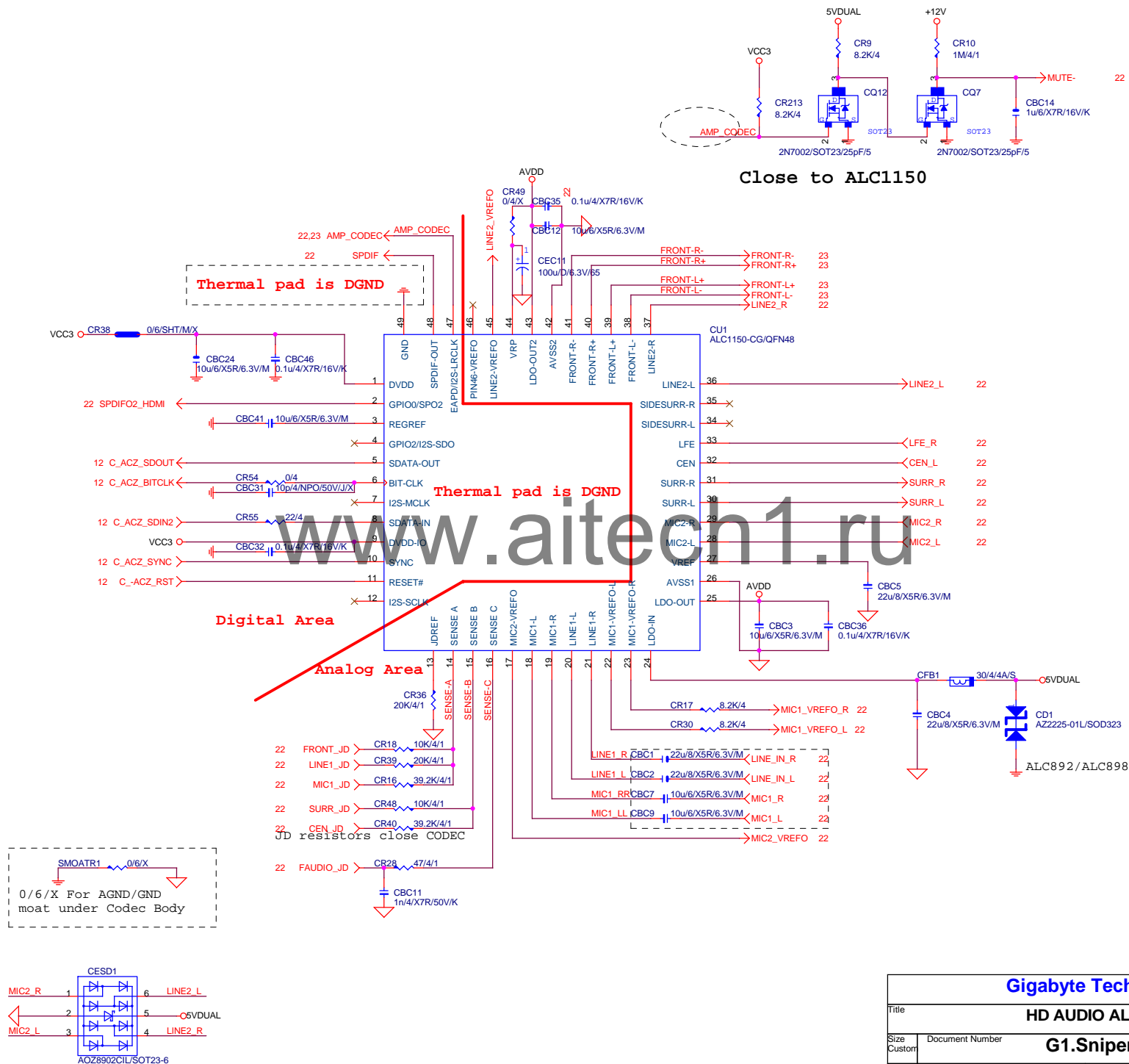
LPT PORT

www.aitech1.ru



Gigabyte Technology

Title	BIOS		
Size	Document Number	G1.Sniper H6	Rev 1.0
Date:	Tuesday, May 13, 2014	Sheet 20 of 36	2



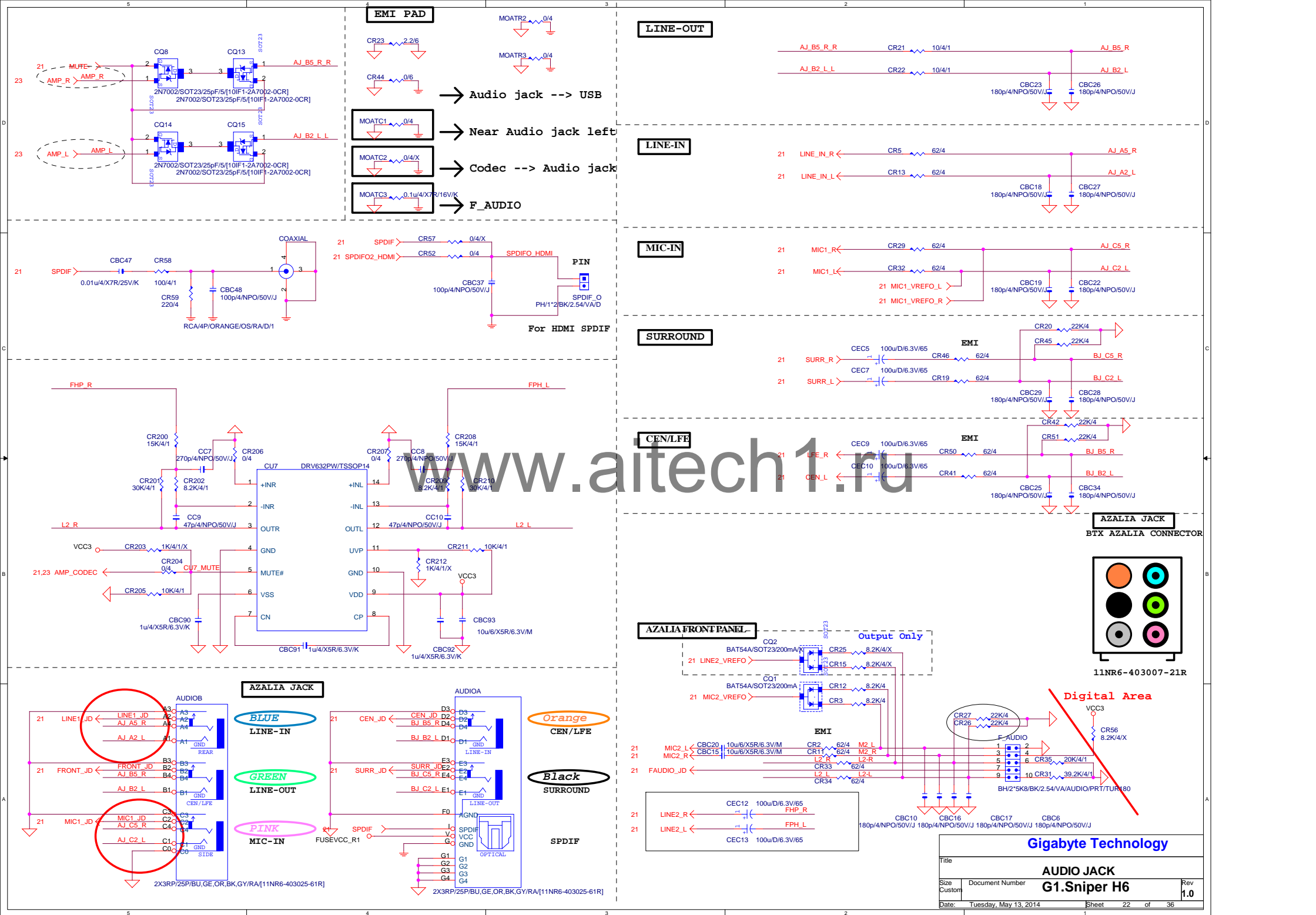
Gigabyte Technology

Title HD AUDIO ALC887

Size Custom Document Number G1.Sniper H6

Rev 1.0

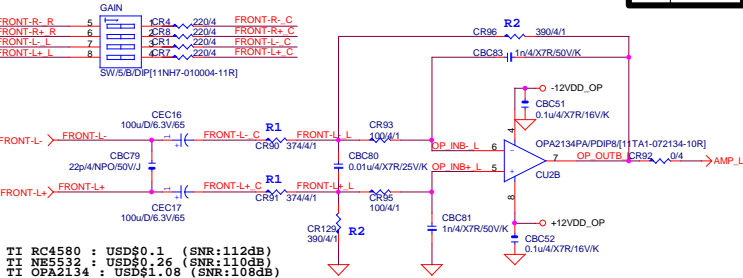
Date: Tuesday, May 13, 2014 Sheet 21 of 36



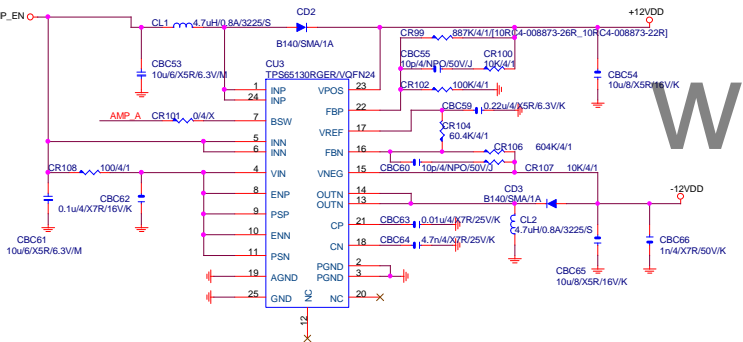
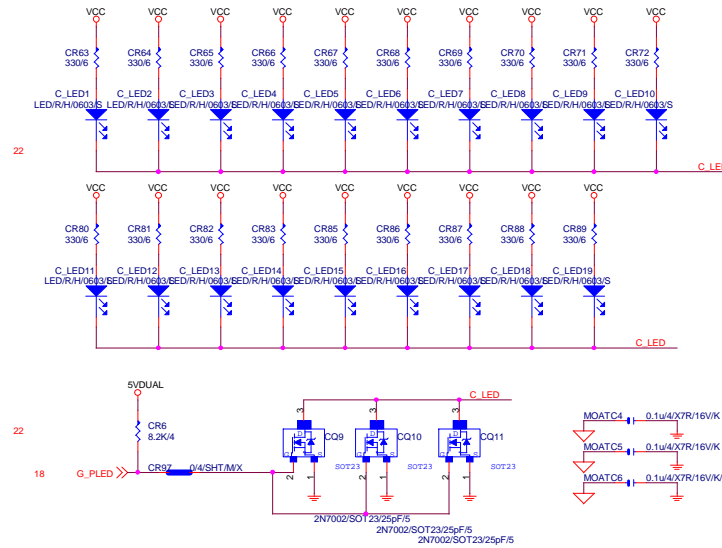
放大倍率： $V_{OUT} = (R_2 * (V_+ - V_-)) / R_1$

GAIN	
OFF	X2.5
ON	X6

放大倍率 : $V_{OUT} = (R_2 * (V_+ - V_-)) / R_1$

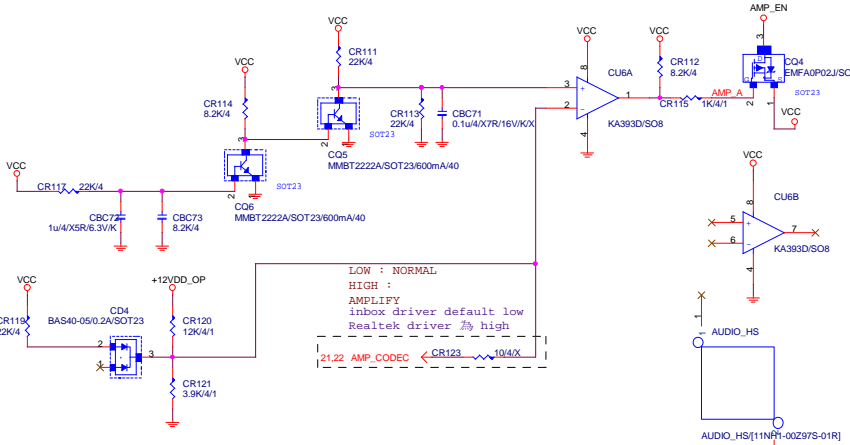
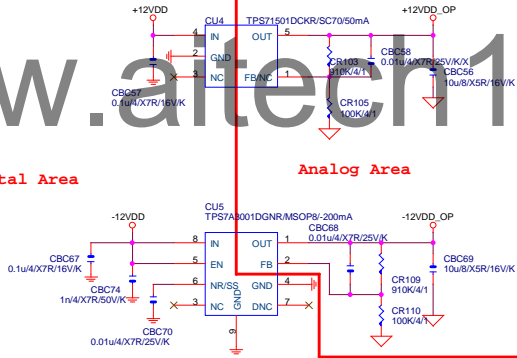


Analog Area



Digital Area

Analog Area



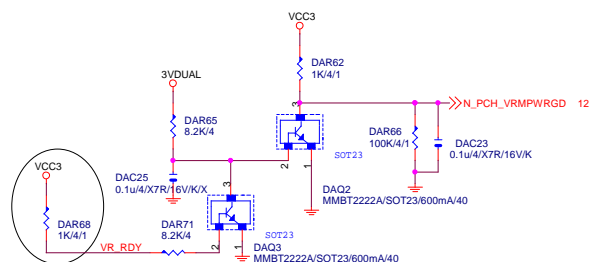
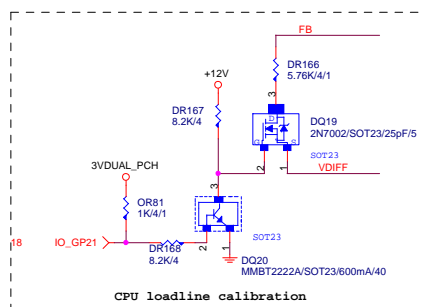
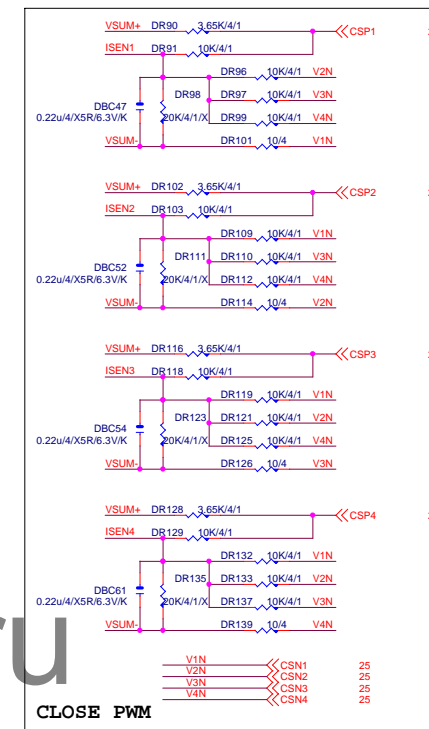
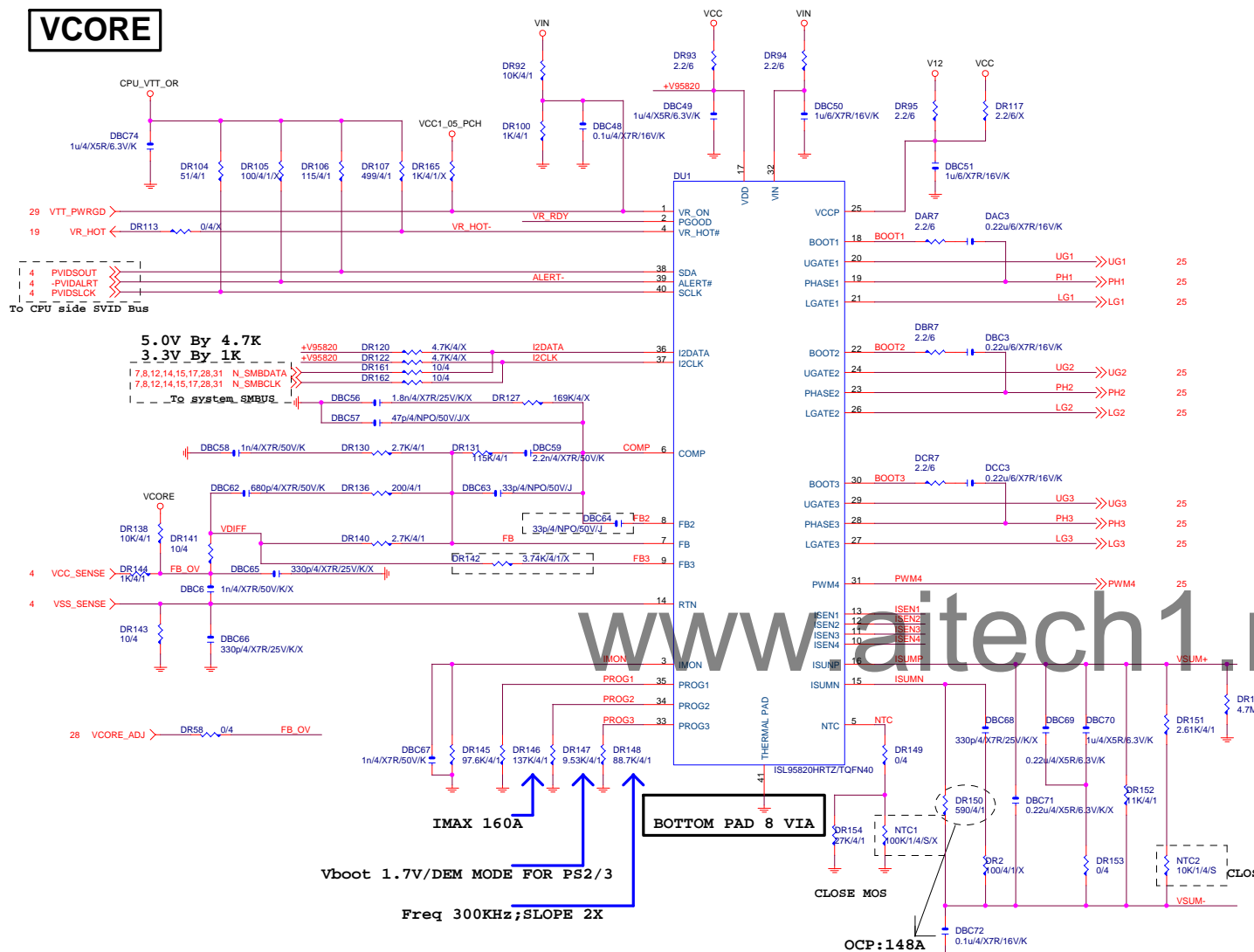
LOW : NORMAL
HIGH :
AMPLIFY
inbox driver default low
Realtek driver 為 high

AMP_CODEC ← CR123 104/X

AUDIO_HS/[11NH1-00Z97S-01R]

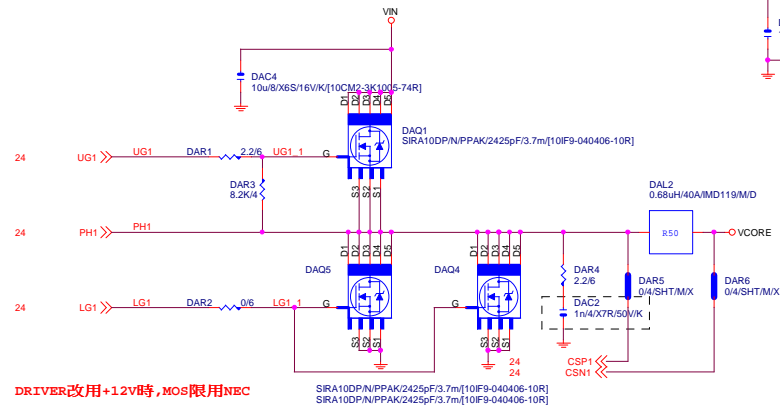
GIGABYTE

<div> <div>Title</div> <div>Audio Amplifier</div> </div>			
Size	Document Number	Rev	
Custom	G1.Sniper H6	1.0	
Date:	Tuesday, May 13, 2014	Sheet	23 of 36

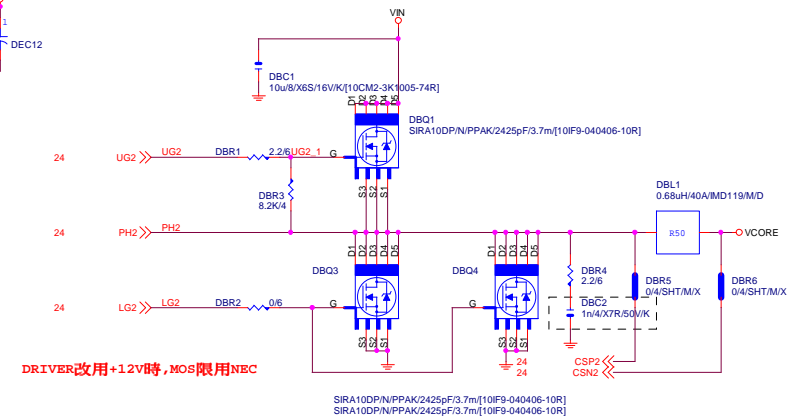
VCORE

VCORE

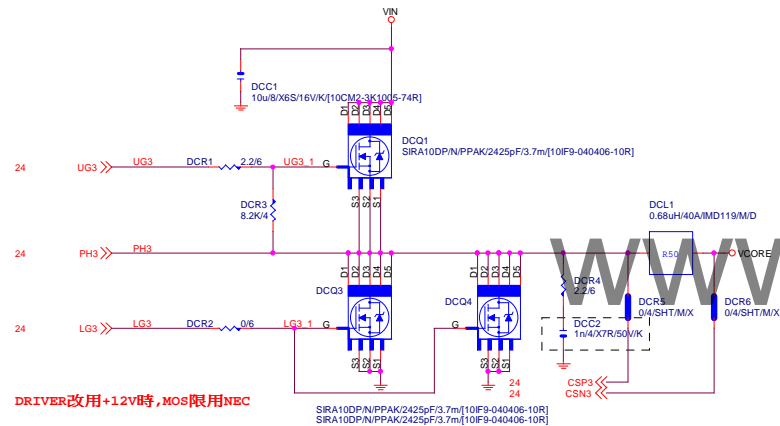
[1]



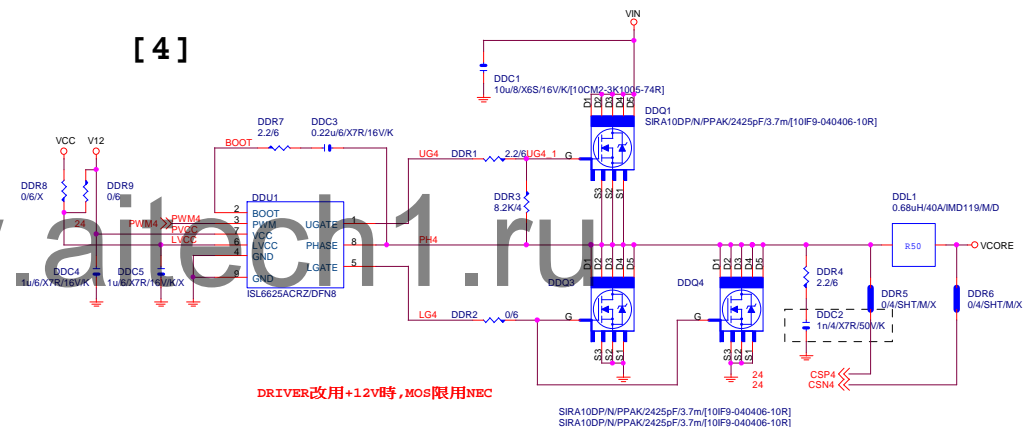
[2]



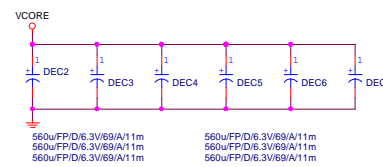
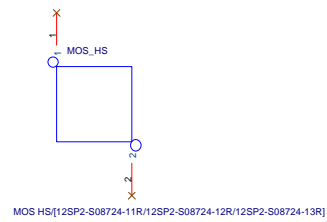
[3]



[4]

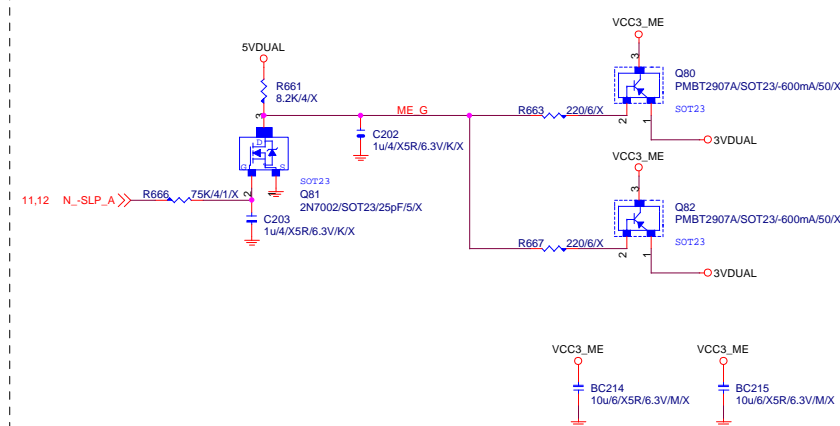


MOSFET HEATSINK

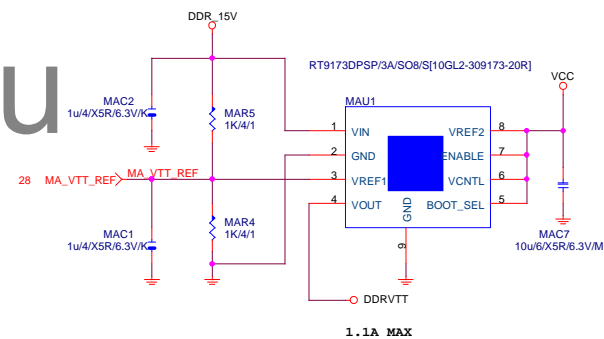


Gigabyte Technology			
Title			
ISL95820_2			
Size			
Document Number			
G1.Sniper H6			
Date			
Tuesday, May 13, 2014			
Sheet			
25 of 36			
Rev			
1.0			

VCC3_ME



DDRVTT



Remote sense請從最重的負載端點拉回

$$0.8 \cdot [1 + 2K / 2.2K] = 1.527V$$

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

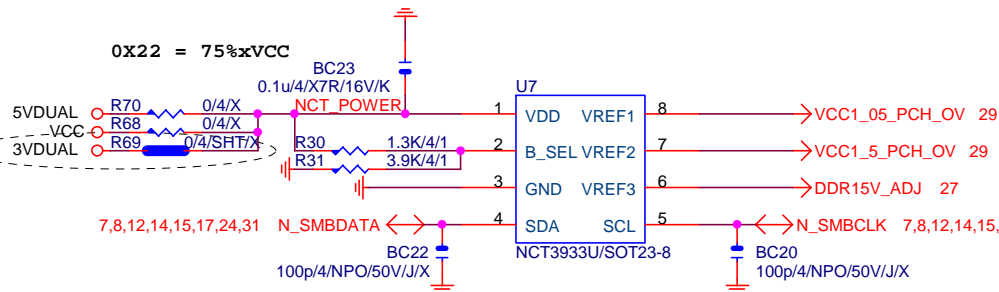
```
OCP:35.82A for Rds=6.7m for vishay@4.5V
OCP:72.727A for Rds=3.3m for renesas@10V
OCP:48A=Roset*Iocset / Rds(on)
      =12K*10uA / [5//5]
```

GIGABYTE™

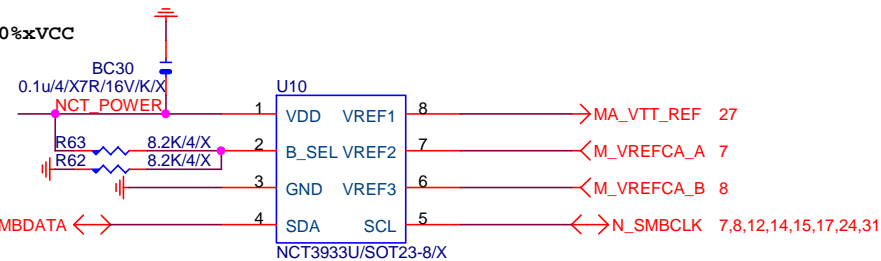
DDR15V / M3 POWER

Size Custom	Document Number G1.Sniper H6	Rev 1.0
Date: Tuesday, May 13, 2014	Sheet 27 of 36	

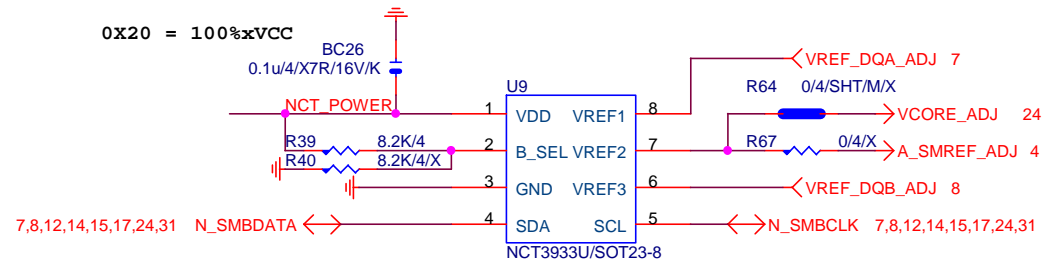
OVER VOLTAGE



0X2A = 0%xVCC



0X20 = 100%xVCC

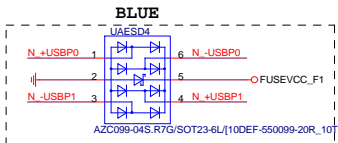
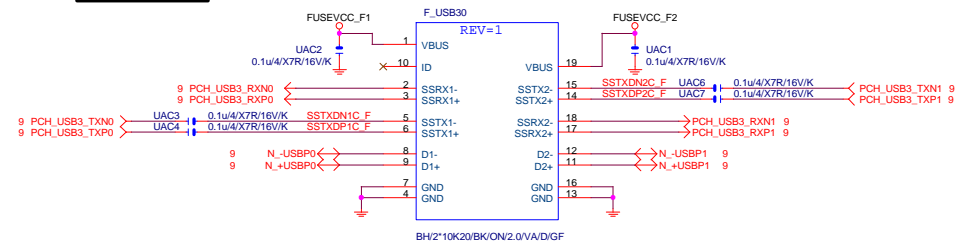


NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCC1_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

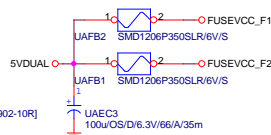
Gigabyte Technology

Title		
CPU CORE VR-2		
Size	Document Number	Rev
Custom	G1.Sniper H6	1.0
Date:	Tuesday, May 13, 2014	Sheet 28 of 36

Front USB3.0

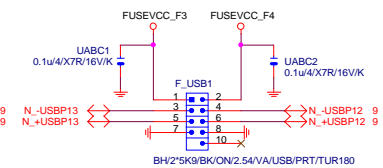


F_USB30 PWR

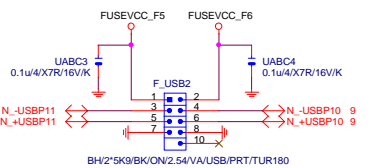


Close to connector

FRONT USB1

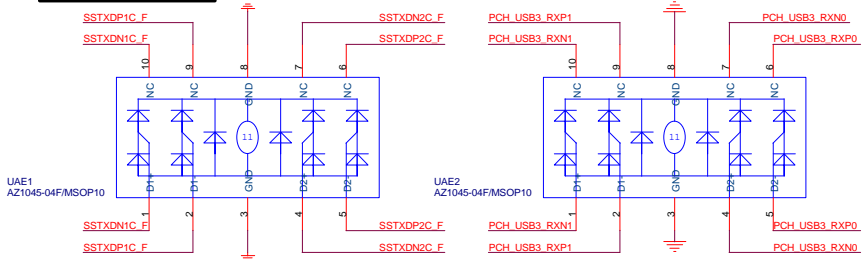


FRONT USB2

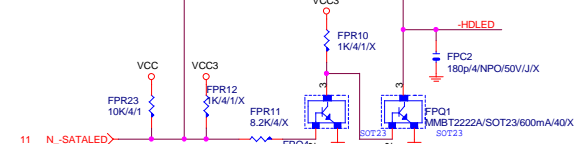


Close to connector

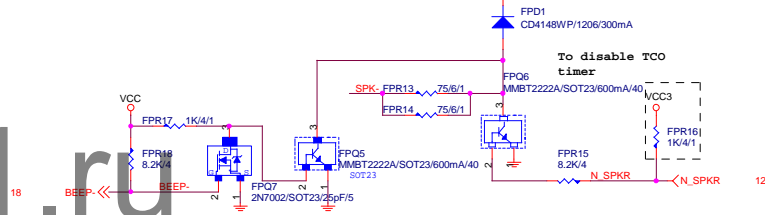
F_USB30 ESD PROTECT



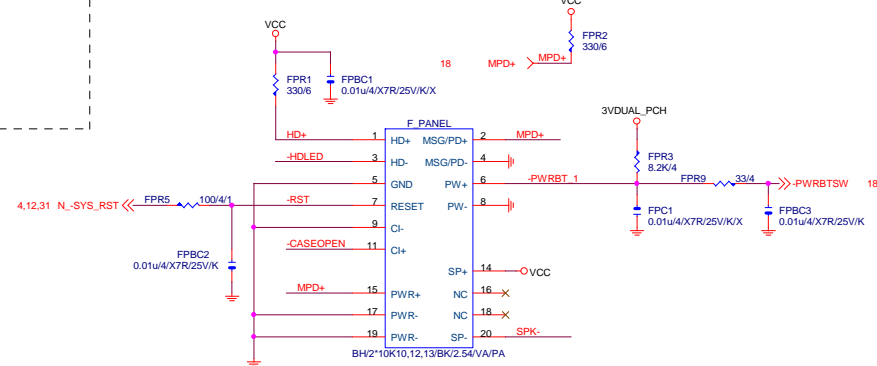
SATA LED



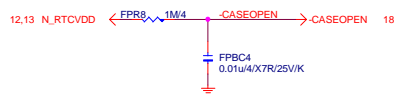
SPKR



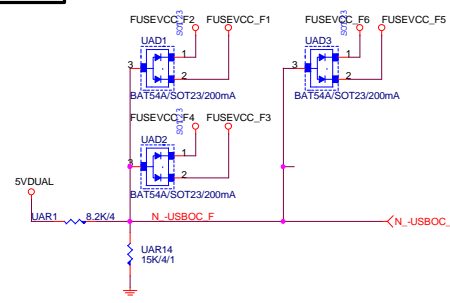
INTEL FRONT PANEL



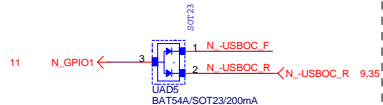
CASE OPEN



-USBOC_F

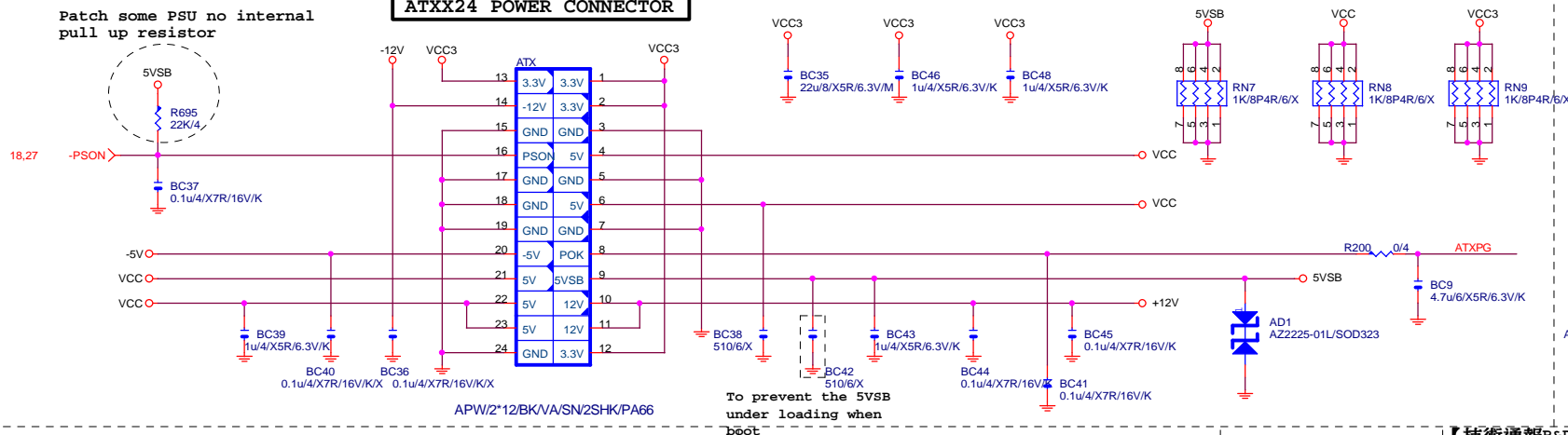


F_USB POWER PROTECT



Gigabyte Technology			
FP,F_USB,USB PWR,FDD,BZ			
Size	Document Number	Rev	
Custom		1.0	
Date:	Tuesday, May 13, 2014	Sheet	30 of 36

Patch some PSU no internal
pull up resistor

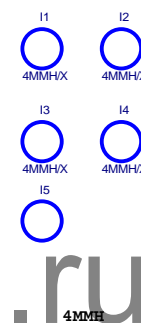
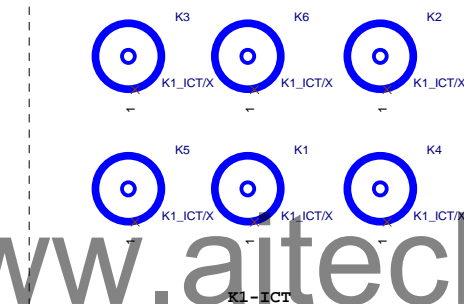
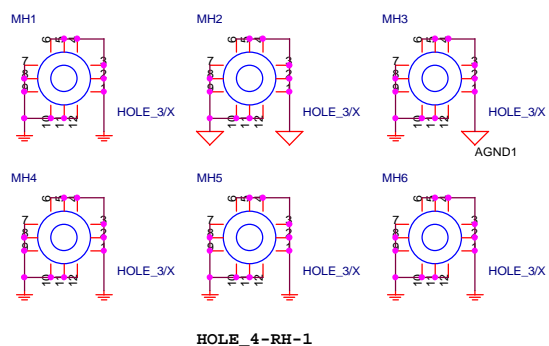


ATX_12V_2X4

1	GND	+12V	5
2	GND	+12V	6
3	GND	+12V	7
4	GND	+12V	8

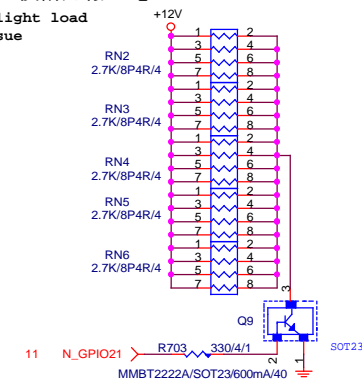
APW2*4/BK/OC/P/4.2V/A/SN/OH:Location ATX_12V_2X4

BC7
0.1u4/XTR/16V/K



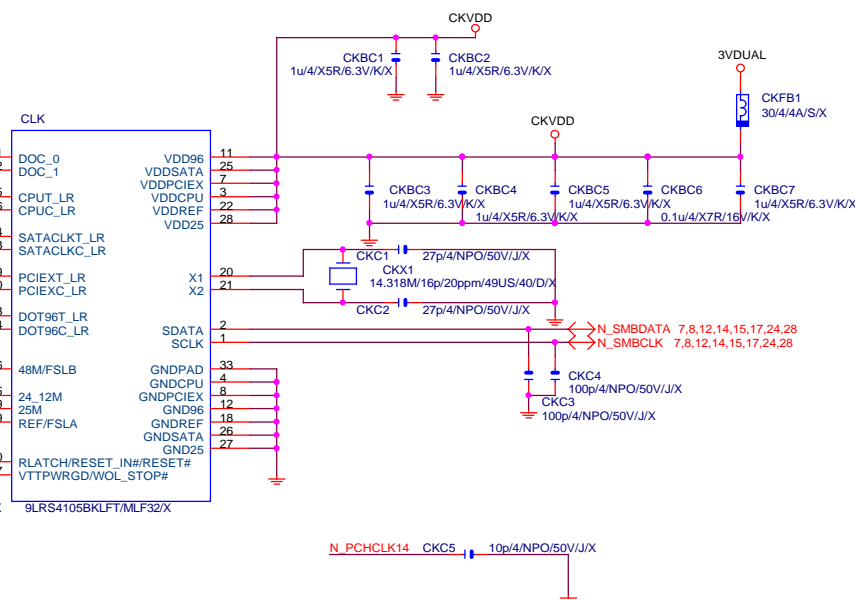
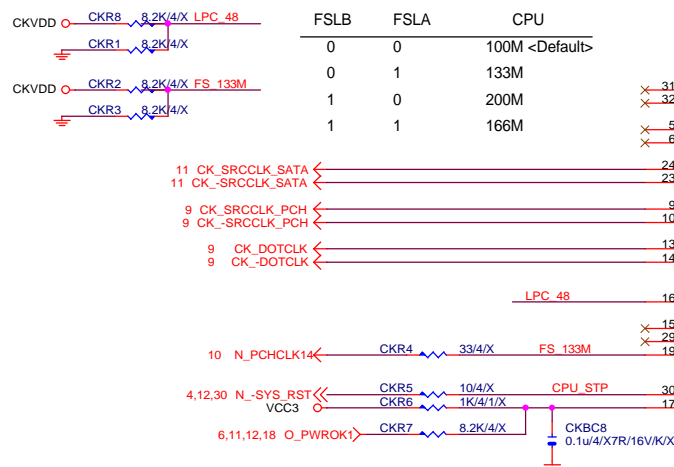
【技術通報R&D技術通報153】

To fix 12V light load
abnromal issue

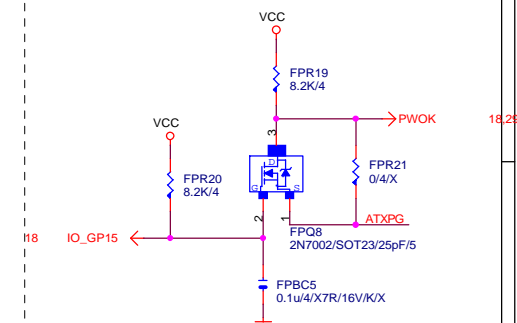


CPU Frequency Selection

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



【技術通報R&D技術通報154】

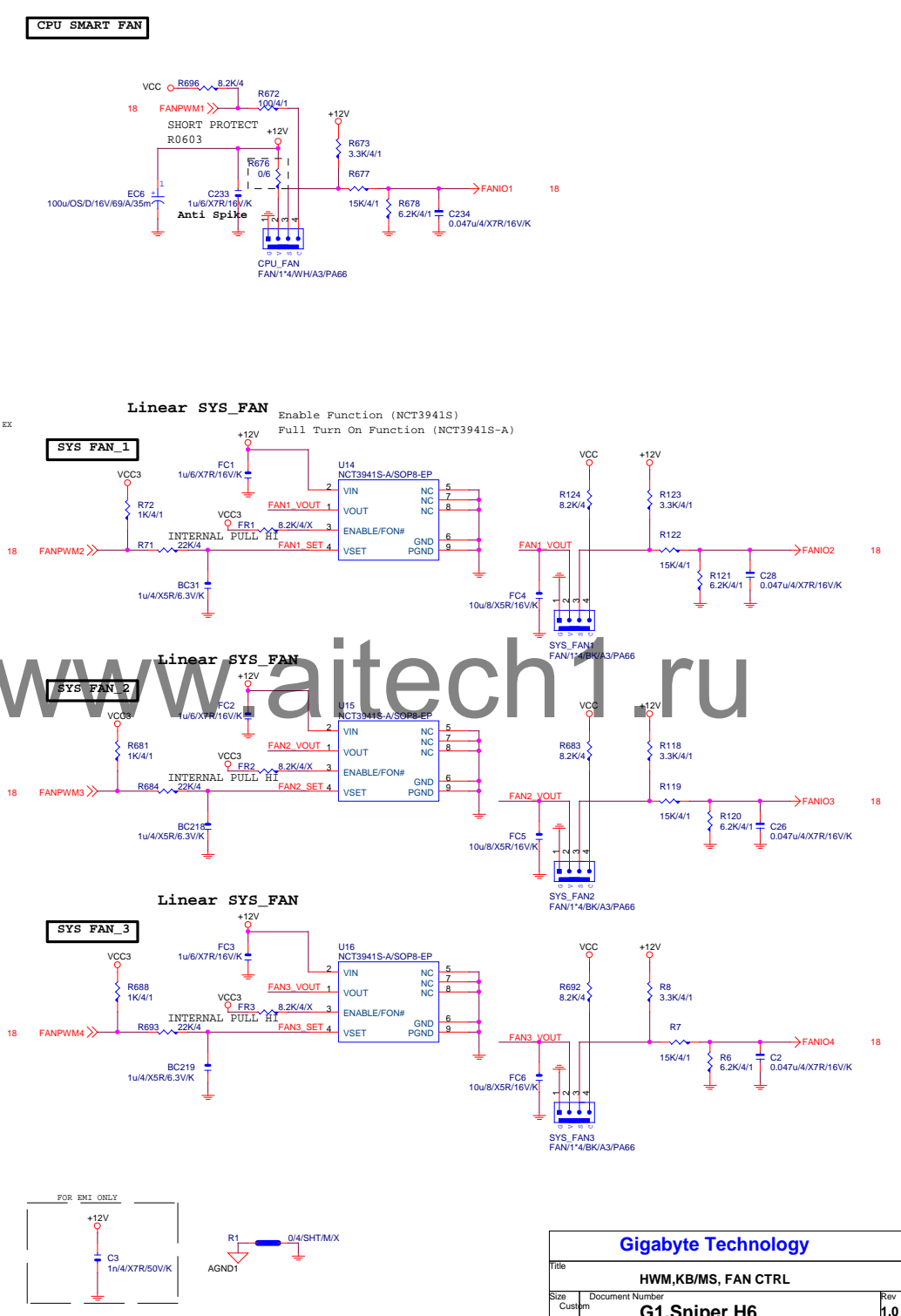
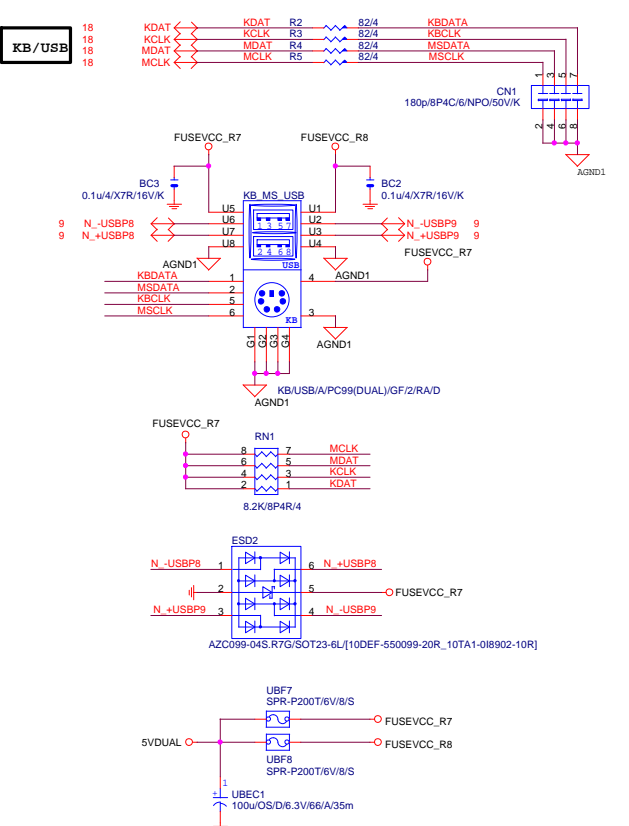
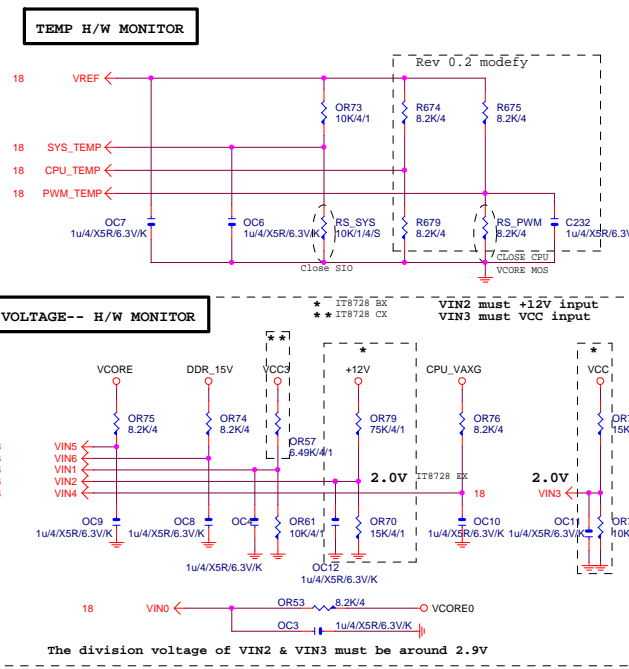


Gigabyte Technology

Title	ATX POWER CONNECTOR
-------	---------------------

Size	Document Number
Custom	G1.Sniper H6

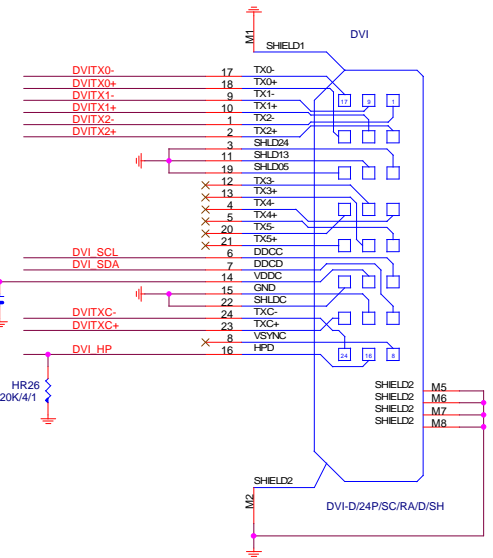
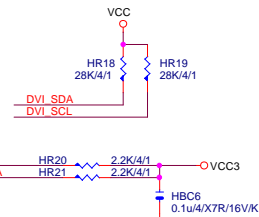
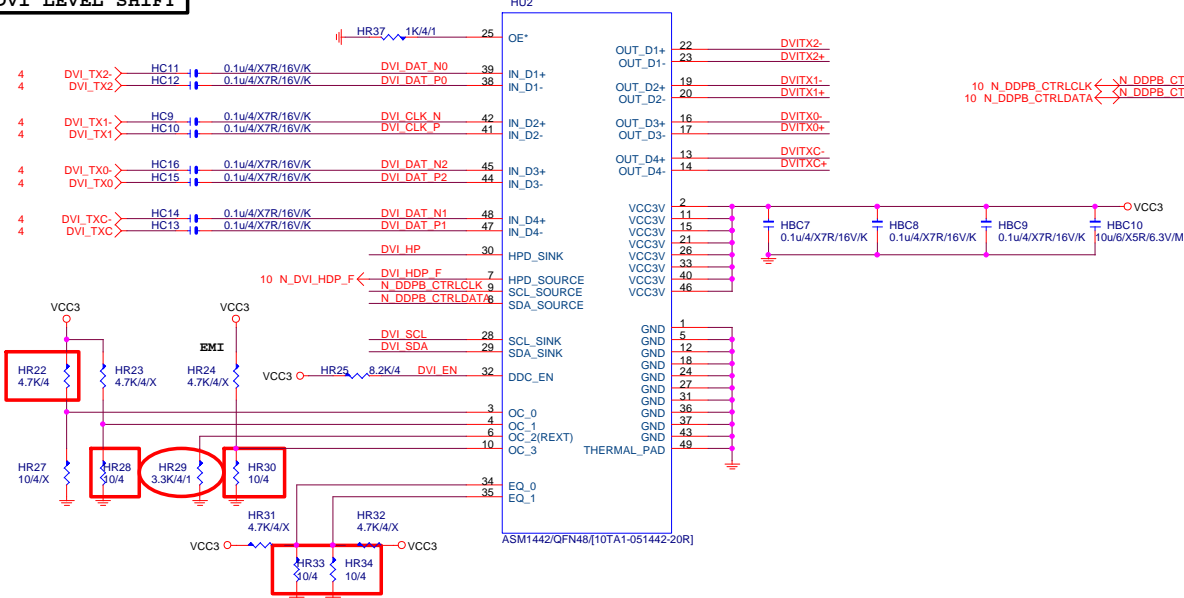
Date: Tuesday, May 13, 2014 Sheet 31 of 36



DVI LEVEL SHIFT

DVI:20/4/6/4/20

Impedance=85 +- 17.5%



PTN3360:PIN 4/10/34/35 NC PIN,都不上值;只上HR29:10K

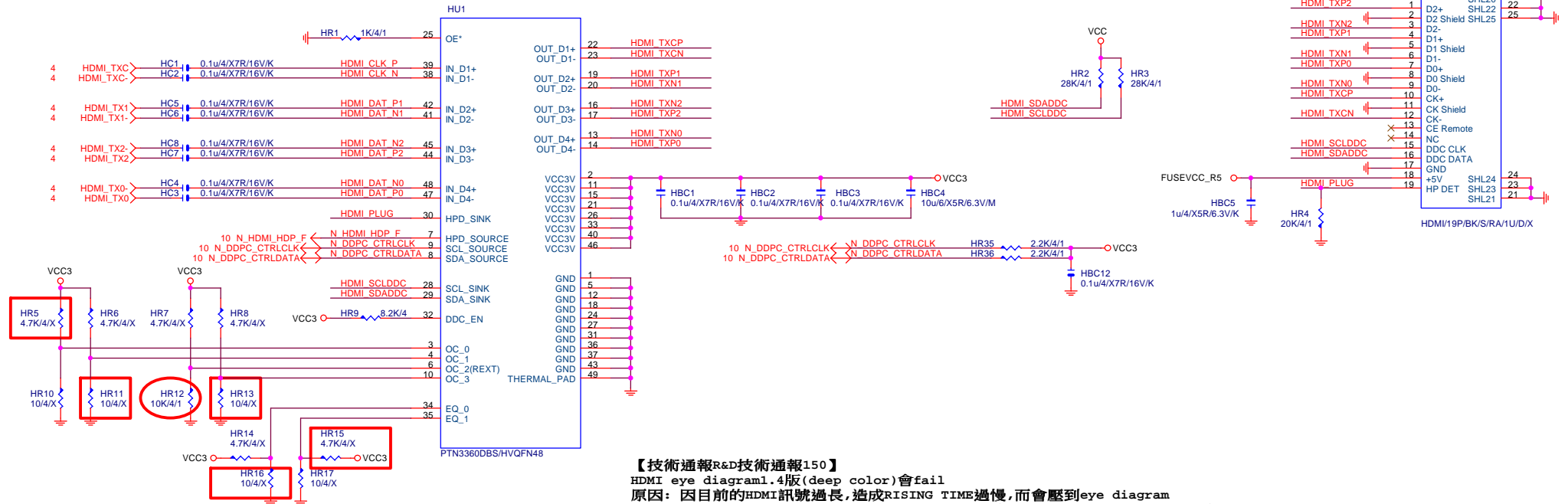
ASM1442:紅色框要上,HR29:3.3K

www.aitech1.ru

Gigabyte Technology		
Title		
DVI		
Size	Document Number	Rev
Custom	G1.Sniper H6	1.0
Date:	Tuesday, May 13, 2014	Sheet 33 of 36

HDMI LEVEL SHIFT

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



PTN3360:PIN 4/10/34/35 NC PIN,都不上值;只上HR12:10K
ASM1442:紅色框要上,HR12:3.16K

【技術通報R&D技術通報150】

HDMI eye diagram 1.4版(deep color)會fail

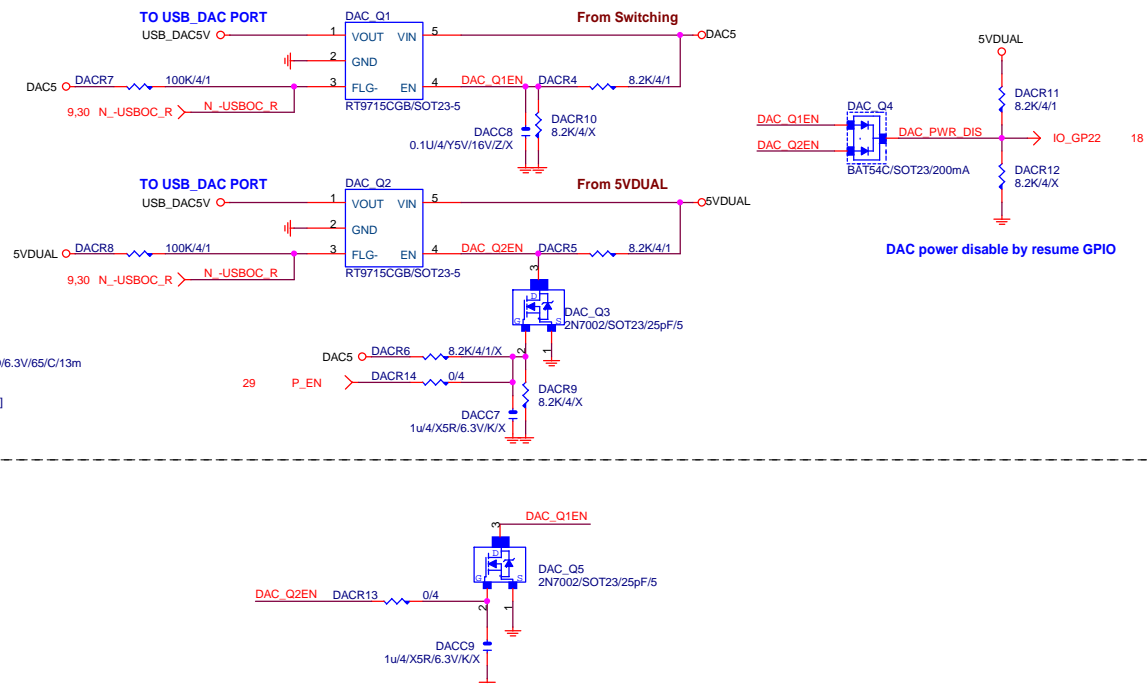
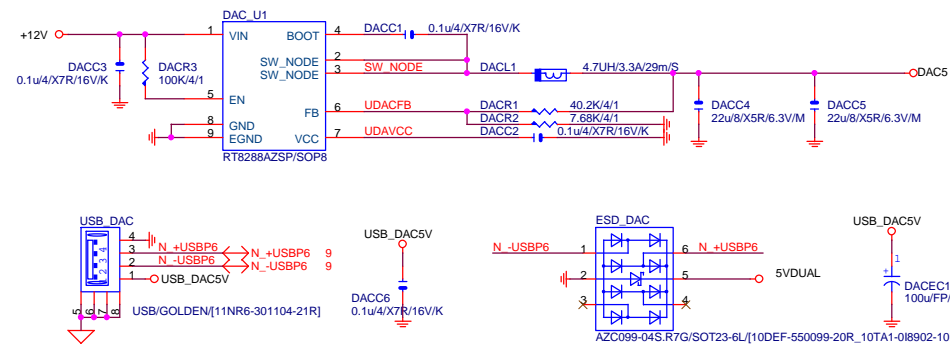
原因：因目前的HDMI訊號過長，造成RISING TIME過慢，而會壓到eye diagram

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

改番: ASME B1.1-2013 3.16k (P16 FULL DOWN) 108mm (P16)

GIGABYTE™

Title			
HDMI			
Size	Document Number	Rev	
Custom	G1.Sniper H6	1.0	
Date:	Tuesday, May 13, 2014	Sheet	34 of 36



www.aitech1.ru

5



散熱模組料號:

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

Gigabyte Technology

TABLE LIST

Document Number	Rev
G1.Sniper H6	1.0
Tuesday, May 13, 2014	Sheet 36 of 36