

## SHEET

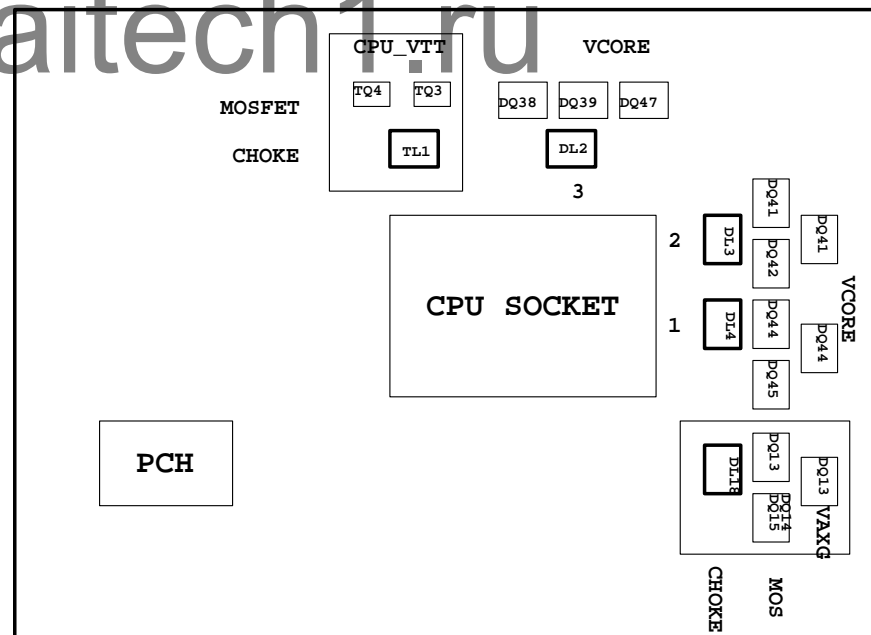
## TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE
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 EXPRESSX4 SLOT / PCIE X1 SLOT
16	PCI SLOT 1~2
17	I/O ITE8728
18	COM, LPT, TPM
19	Dual BIOS
20	VIA2021
21	REAR AUDIO JACK
22	ISL95836_VCORE_1
23	ISL95836_VCORE_2
24	DISCRETE POWER
25	PCH CORE / VOLTAGE CONSOLE
26	RT8120_CPU_VTT
27	VCCSA POWER

## SHEET

## TITLE

28	F_PANEL , F_USB
29	ATX POWER, CLOCK GEN
30	HWM,KB/MS , FAN CTRL
31	ARTHEROS AR8161/AR8151
32	mSATA
33	RT8120_DDR POWER
34	DVI
35	
36	
37	
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Gigabyte Technology

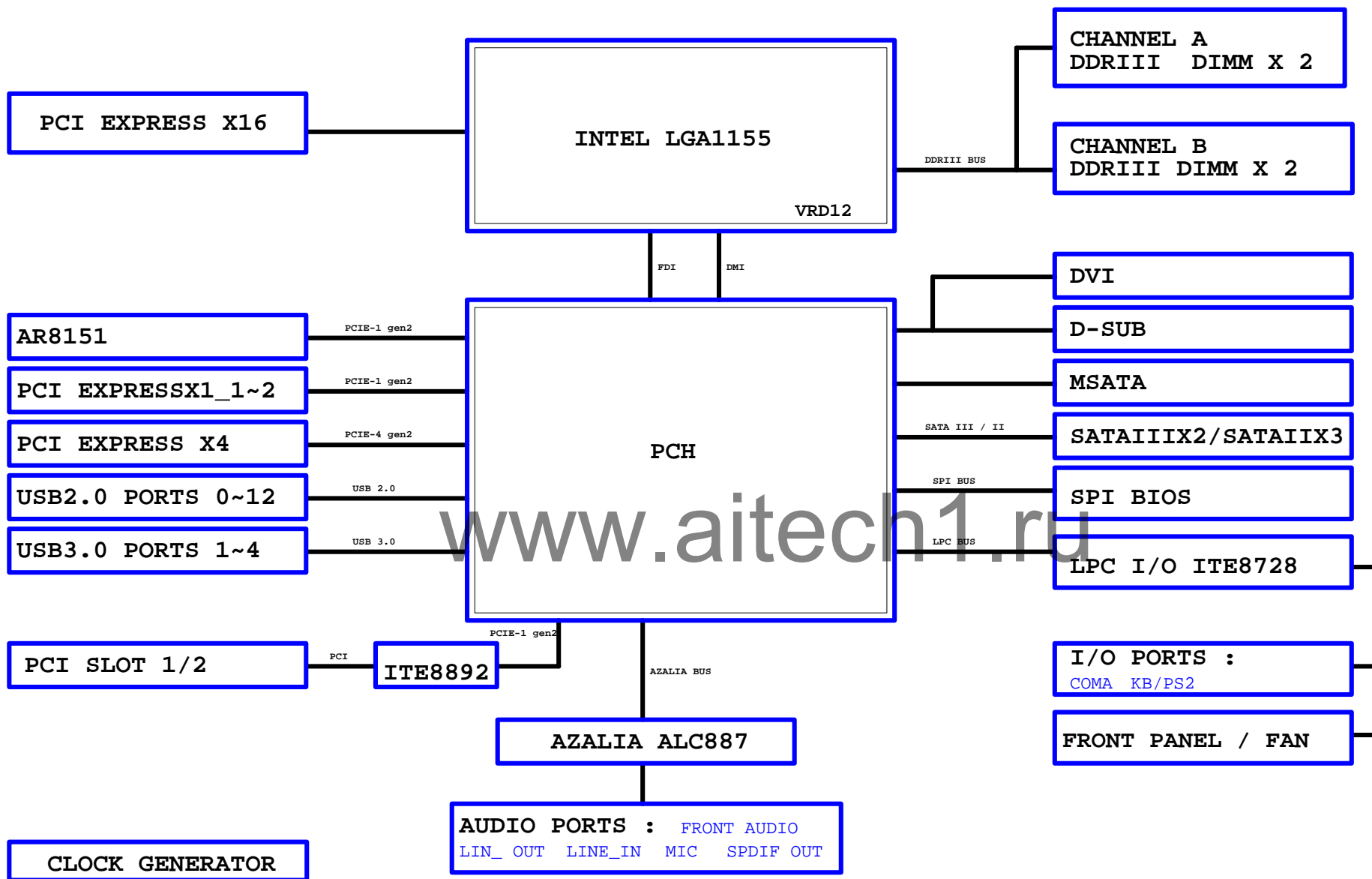
Title		Cover Sheet	
Size	Document Number	GA-H77-DS3H	Rev
Custom			1.0
Date:	Tuesday, February 21, 2012	Sheet	1 of 35

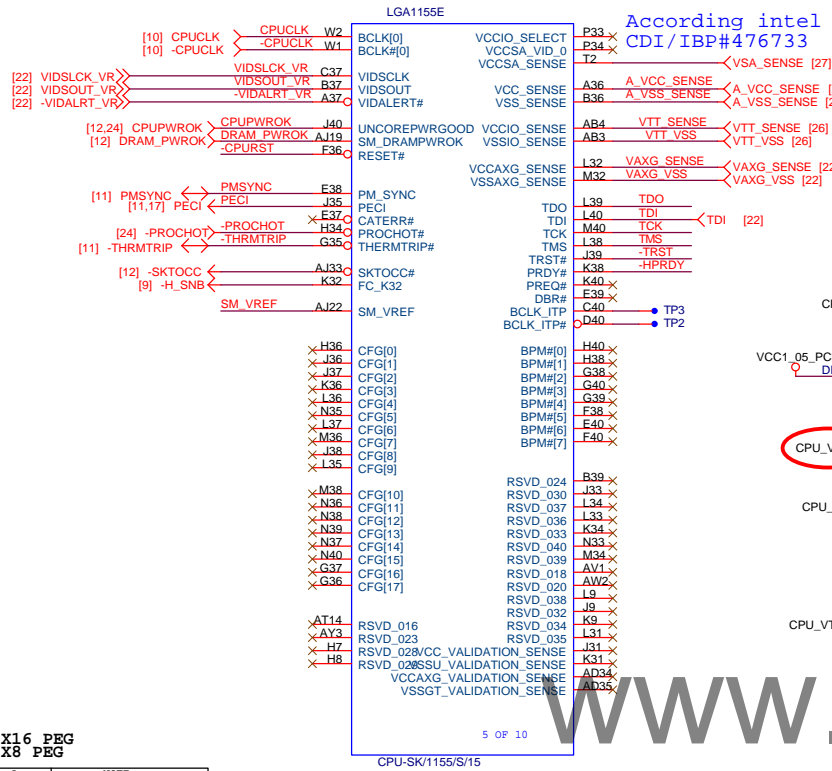
### Component value change history

www.aitech1.ru

[illegible]

# BLOCK DIAGRAM



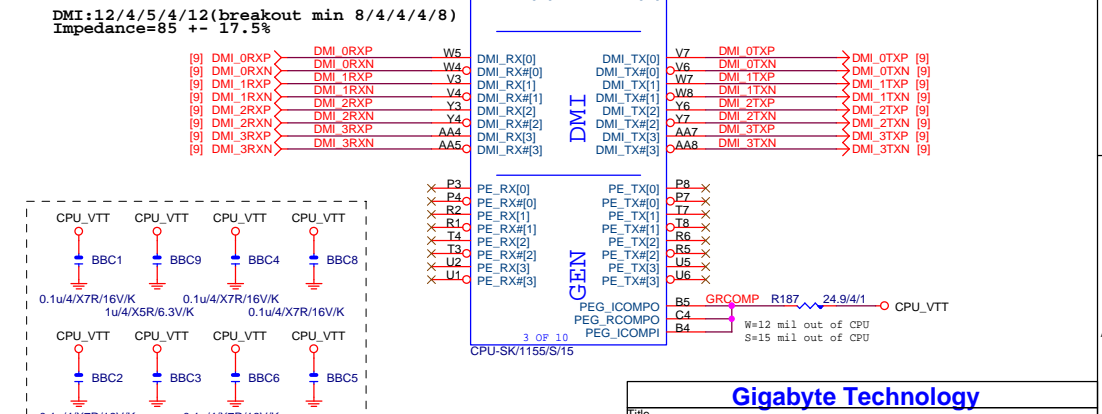
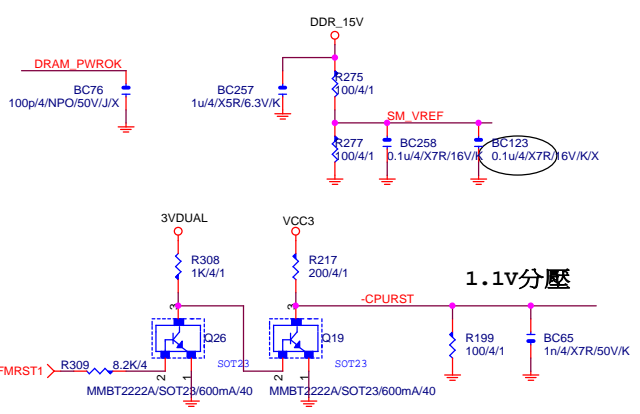
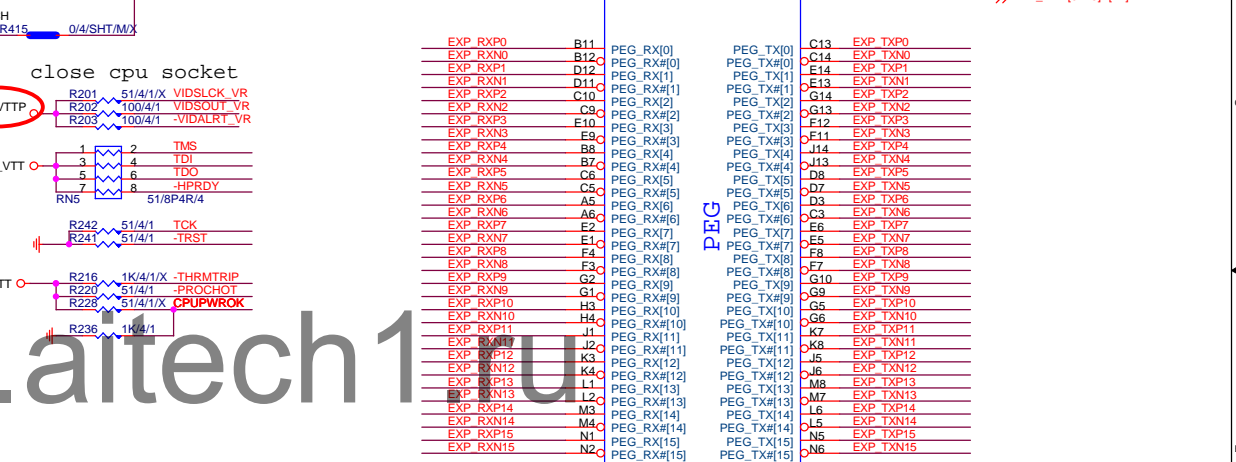
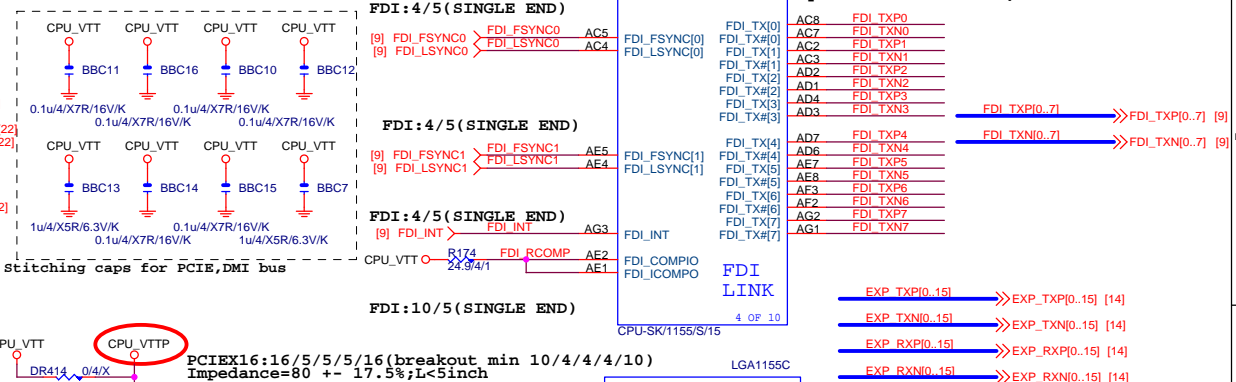


CFG5:1: 1X16 PEG  
CFG5:0: 2X8 PEG

CFG	H	L	NOTE
0	RSVD	RSVD	RSVD
1	RSVD	RSVD	RSVD
2	NORM	Reverse	LANE REVERSAL(0)_x16
3	RSVD	RSVD	RSVD
4	RSVD	RSVD	RSVD
7	RSVD	RSVD	RSVD
8	RSVD	RSVD	RSVD
9	RSVD	RSVD	RSVD
10	RSVD	RSVD	RSVD
11	RSVD	RSVD	RSVD
12	RSVD	RSVD	RSVD
13	RSVD	RSVD	RSVD
14	RSVD	RSVD	RSVD
15	RSVD	RSVD	RSVD
16	RSVD	RSVD	RSVD
17	RSVD	RSVD	RSVD

CFG6	CFG5	PCIE CONFIG
1	1	1X16, Default
1	0	2X8
0	1	RSVD
0	0	X8_X4_X4

CFG 0-17 all internal PULL-UP



Gigabyte Technology		
Title	Document Number	Rev
CPU LGA1155-A	GA-H77-DS3H	1.0
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## LGA1155A

MAAA0	AV27	SA_MA[0]	SA_DQS[0]	AK3	DQSA0
MAAA1	AY24	SA_MA[1]	SA_DQS[0]	AK2	-DQSA0
MAAA2	AW24	SA_MA[2]			
MAAA3	AW23	SA_MA[3]			
MAAA4	AV23	SA_MA[4]	SA_DQ[0]	AJ3	MDA0
MAAA5	AT24	SA_MA[5]	SA_DQ[1]	AJ4	MDA1
MAAA6	AT23	SA_MA[6]	SA_DQ[2]	AL3	MDA2
MAAA7	AU22	SA_MA[7]	SA_DQ[3]	AL4	MDA3
MAAA8	AV22	SA_MA[8]	AJ2	MDA4	
MAAA9	AT22	SA_MA[9]	AJ1	MDA5	
MAAA10	AV28	SA_MA[10]	AL2	MDA6	
MAAA11	AU21	SA_MA[11]	AL1	MDA7	
MAAA12	AU21	SA_MA[12]			
MAAA13	AW32	SA_MA[13]	SA_DQS[1]	AP3	DQSA1
MAAA14	AU20	SA_MA[14]	SA_DQS[1]	AP2	-DQSA1
MAAA15	AT20	SA_MA[15]			
[7] -SWEA	-SCASA	SA_WE#	SA_DQ[8]	AN1	MDA8
[7] -SCASA	-SRASA	SA_CAS#	SA_DQ[9]	AN4	MDA9
[7] -SRASA		SA_RAS#	SA_DQ[10]	AR3	MDA10
			SA_DQ[11]	AR4	MDA12
[7] SBAA0	SBAA0	SA_BS[0]	AN2	MDA11	
[7] SBAA1	SBAA1	SA_BS[1]	SA_DQ[12]	AN3	MDA13
[7] SBAA2	SBAA2	SA_BS[2]	SA_DQ[13]	AR2	MDA14
			SA_DQ[14]	AR1	MDA15
			SA_DQ[15]		
[7] -CSA0	-CSA1	SA_CS#	SA_DQS[2]	AW4	DQSA2
[7] -CSA1	-CSA2	SA_CS#	SA_DQS[2]	AW4	-DQSA2
[7] -CSA2	-CSA3	SA_CS#	SA_DQS[2]		
[7] -CSA3					
[7] CKEA0	CKEA0	SA_CKE[0]	SA_DQ[16]	AV2	MDA16
[7] CKEA1	CKEA1	SA_CKE[1]	SA_DQ[17]	AW3	MDA17
[7] CKEA2	CKEA2	SA_CKE[2]	SA_DQ[18]	AV5	MDA18
[7] CKEA3	CKEA3	SA_CKE[3]	SA_DQ[19]	AW5	MDA19
			SA_DQ[20]	AU2	MDA20
			SA_DQ[21]	AU3	MDA21
			SA_DQ[22]	AY5	MDA22
			SA_DQ[23]	AY5	MDA23
			SA_DQS[3]	AV8	DQSA3
			SA_DQS[3]	AW8	-DQSA3
[7] DCLKA0	DCLKA0	SA_CK[0]	SA_DQ[24]	AY7	MDA24
[7] -DCLKA0	-DCLKA0	SA_CK#	SA_DQ[25]	AU7	MDA25
[7] DCLKA1	DCLKA1	SA_CK[1]	SA_DQ[26]	AU9	MDA26
[7] -DCLKA1	-DCLKA1	SA_CK#	SA_DQ[27]	AV7	MDA27
[7] DCLKA2	DCLKA2	SA_CK[2]	SA_DQ[28]	AW7	MDA28
[7] -DCLKA2	-DCLKA2	SA_CK#	SA_DQ[29]	AW9	MDA30
[7] DCLKA3	DCLKA3	SA_CK[3]	SA_DQ[30]	AY9	MDA31
[7] -DCLKA3	-DCLKA3	SA_CK#	SA_DQ[31]		
			SA_DQS[4]	AV37	DQSA4
			SA_DQS[4]	AV36	-DQSA4
			SA_DQ[32]	AU35	MDA32
			SA_DQ[33]	AW37	MDA33
			SA_DQ[34]	AU39	MDA34
			SA_DQ[35]	AU36	MDA35
			SA_DQ[36]	AW35	MDA36
			SA_DQ[37]	AY36	MDA37
			SA_DQ[38]	AU38	MDA38
			SA_DQ[39]	AU37	MDA39
			SA_DQS[5]	AP38	DQSA5
			SA_DQS[5]	AP39	-DQSA5
			SA_DQ[40]	AR40	MDA40
			SA_DQ[41]	AR37	MDA41
			SA_DQ[42]	AN38	MDA42
			SA_DQ[43]	AN37	MDA43
			SA_DQ[44]	AR39	MDA44
			SA_DQ[45]	AR38	MDA45
			SA_DQ[46]	AN39	MDA46
			SA_DQ[47]	AN40	MDA47
			SA_DQS[6]	AK38	DQSA6
			SA_DQS[6]	AK39	-DQSA6
			SA_DQ[48]	AL40	MDA48
			SA_DQ[49]	AL37	MDA49
			SA_DQ[50]	AJ38	MDA50
			SA_DQ[51]	AJ37	MDA51
			SA_DQ[52]	AL39	MDA52
			SA_DQ[53]	AL38	MDA53
			SA_DQ[54]	AJ39	MDA54
			SA_DQ[55]	AJ40	MDA55
			SA_DQS[7]	AF38	DQSA7
			SA_DQS[7]	AF39	-DQSA7
			SA_DQ[56]	AG40	MDA56
			SA_DQ[57]	AG37	MDA57
			SA_DQ[58]	AE38	MDA58
			SA_DQ[59]	AE37	MDA59
			SA_DQ[60]	AG39	MDA60
			SA_DQ[61]	AG38	MDA61
			SA_DQ[62]	AE39	MDA62
			SA_DQ[63]	AE40	MDA63

DDR\_0

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CPU-SK/1155/S/15

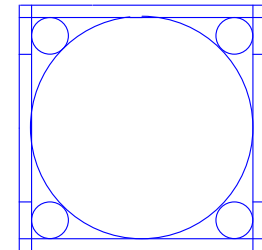
## LGA1155B

MAAB0	AK24	SB_MA[0]	SB_DQS[0]	AH7	DQSB0
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MAAB2	AM19	SB_MA[2]			
MAAB3	AK18	SB_MA[3]			
MAAB4	AP19	SB_MA[4]	SB_DQ[0]	AG7	MDB0
MAAB5	AP18	SB_MA[5]	SB_DQ[1]	AG8	MDB1
MAAB6	AM18	SB_MA[6]	SB_DQ[2]	AJ9	MDB2
MAAB7	AL18	SB_MA[7]	SB_DQ[3]	AJ8	MDB3
MAAB8	AY17	SB_MA[8]	SB_DQ[4]	AG5	MDB4
MAAB9	AN18	SB_MA[9]	SB_DQ[5]	AJ6	MDB5
MAAB10	AN23	SB_MA[10]	SB_DQ[6]	AJ6	MDB6
MAAB11	AU17	SB_MA[11]	SB_DQ[7]	AJ7	MDB7
MAAB12	AT18	SB_MA[12]			
MAAB13	AR26	SB_MA[13]	SB_DQS[1]	AM8	DQSB1
MAAB14	AY16	SB_MA[14]	SB_DQS[1]	AL8	-DQSB1
MAAB15	AV16	SB_MA[15]			
[8] -SWEB	-SCASB	SB_WE#	SB_DQ[8]	AM7	MDB8
[8] -SCASB	-SRASB	SB_CAS#	SB_DQ[9]	AM7	MDB9
[8] -SRASB		SB_RAS#	SB_DQ[10]	AM10	MDB10
			SB_DQ[11]	AL10	MDB11
[8] SBAB0	SBAB0	SB_BS[0]	SB_DQ[12]	AL6	MDB12
[8] SBAB1	SBAB1	SB_BS[1]	SB_DQ[13]	AL9	MDB13
[8] SBAB2	SBAB2	SB_BS[2]	SB_DQ[14]	AM9	MDB15
			SB_DQ[15]		
[8] -CSB0	-CSB1	SB_CS#	SB_DQS[2]	AR8	DQSB2
[8] -CSB1	-CSB2	SB_CS#	SB_DQS[2]	AP8	-DQSB2
[8] -CSB2	-CSB3	SB_CS#	SB_DQS[2]		
[8] -CSB3					
[8] CKEB0	CKEB0	SB_CKE[0]	SB_DQ[16]	AP7	MDB16
[8] CKEB1	CKEB1	SB_CKE[1]	SB_DQ[17]	AR7	MDB17
[8] CKEB2	CKEB2	SB_CKE[2]	SB_DQ[18]	AR10	MDB18
[8] CKEB3	CKEB3	SB_CKE[3]	SB_DQ[19]	AR10	MDB19
			SB_DQ[20]	AP6	MDB20
			SB_DQ[21]	AP6	MDB21
			SB_DQ[22]	AP9	MDB22
			SB_DQ[23]	AR9	MDB23
			SB_DQS[3]	AN13	DQSB3
			SB_DQS[3]	AN12	-DQSB3
[8] DCLKB0	DCLKB0	SB_CK[0]	SB_DQ[24]	AM12	MDB24
[8] -DCLKB0	-DCLKB0	SB_CK#	SB_DQ[25]	AM13	MDB25
[8] DCLKB1	DCLKB1	SB_CK[1]	SB_DQ[26]	AR13	MDB26
[8] -DCLKB1	-DCLKB1	SB_CK#	SB_DQ[27]	AR13	MDB27
[8] DCLKB2	DCLKB2	SB_CK[2]	SB_DQ[28]	AL12	MDB28
[8] -DCLKB2	-DCLKB2	SB_CK#	SB_DQ[29]	AL13	MDB29
[8] DCLKB3	DCLKB3	SB_CK[3]	SB_DQ[30]	AR12	MDB30
[8] -DCLKB3	-DCLKB3	SB_CK#	SB_DQ[31]	AP12	MDB31
			SB_DQ[32]	AN28	DQSB4
			SB_DQ[33]	AN28	-DQSB4
			SB_DQ[34]	AR28	MDB32
			SB_DQ[35]	AR23	MDB33
			SB_DQ[36]	AL28	MDB34
			SB_DQ[37]	AL29	MDB35
			SB_DQ[38]	AP28	MDB36
			SB_DQ[39]	AP29	MDB37
			SB_DQ[40]	AM28	MDB38
			SB_DQ[41]	AM29	MDB39
			SB_DQS[5]	AP33	DQSB5
			SB_DQS[5]	AR33	-DQSB5
			SB_DQ[42]	AP32	MDB40
			SB_DQ[43]	AP31	MDB41
			SB_DQ[44]	AP35	MDB42
			SB_DQ[45]	AP34	MDB43
			SB_DQ[46]	AR32	MDB44
			SB_DQ[47]	AR31	MDB45
			SB_DQ[48]	AR35	MDB46
			SB_DQ[49]	AR34	MDB47
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			SB_DQ[48]	AM32	MDB48
			SB_DQ[49]	AM31	MDB49
			SB_DQ[50]	AL35	MDB50
			SB_DQ[51]	AL32	MDB51
			SB_DQ[52]	AM34	MDB52
			SB_DQ[53]	AL31	MDB53
			SB_DQ[54]	AM35	MDB54
			SB_DQ[55]	AL34	MDB55
			SB_DQS[7]	AG35	DQSB7
			SB_DQS[7]	AG34	-DQSB7
			SB_DQ[56]	AH35	MDB56
			SB_DQ[57]	AH34	MDB57
			SB_DQ[58]	AE34	MDB58
			SB_DQ[59]	AE35	MDB59
			SB_DQ[60]	AJ35	MDB60
			SB_DQ[61]	AJ34	MDB61
			SB_DQ[62]	AE33	MDB62
			SB_DQ[63]	AE33	MDB63

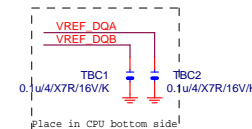
DDR\_1

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CPU-SK/1155/S/15

LGA1155  
ILM\_BP/1156/CSP

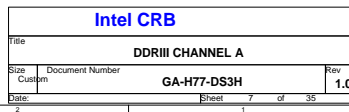
Need check the new CPU ME

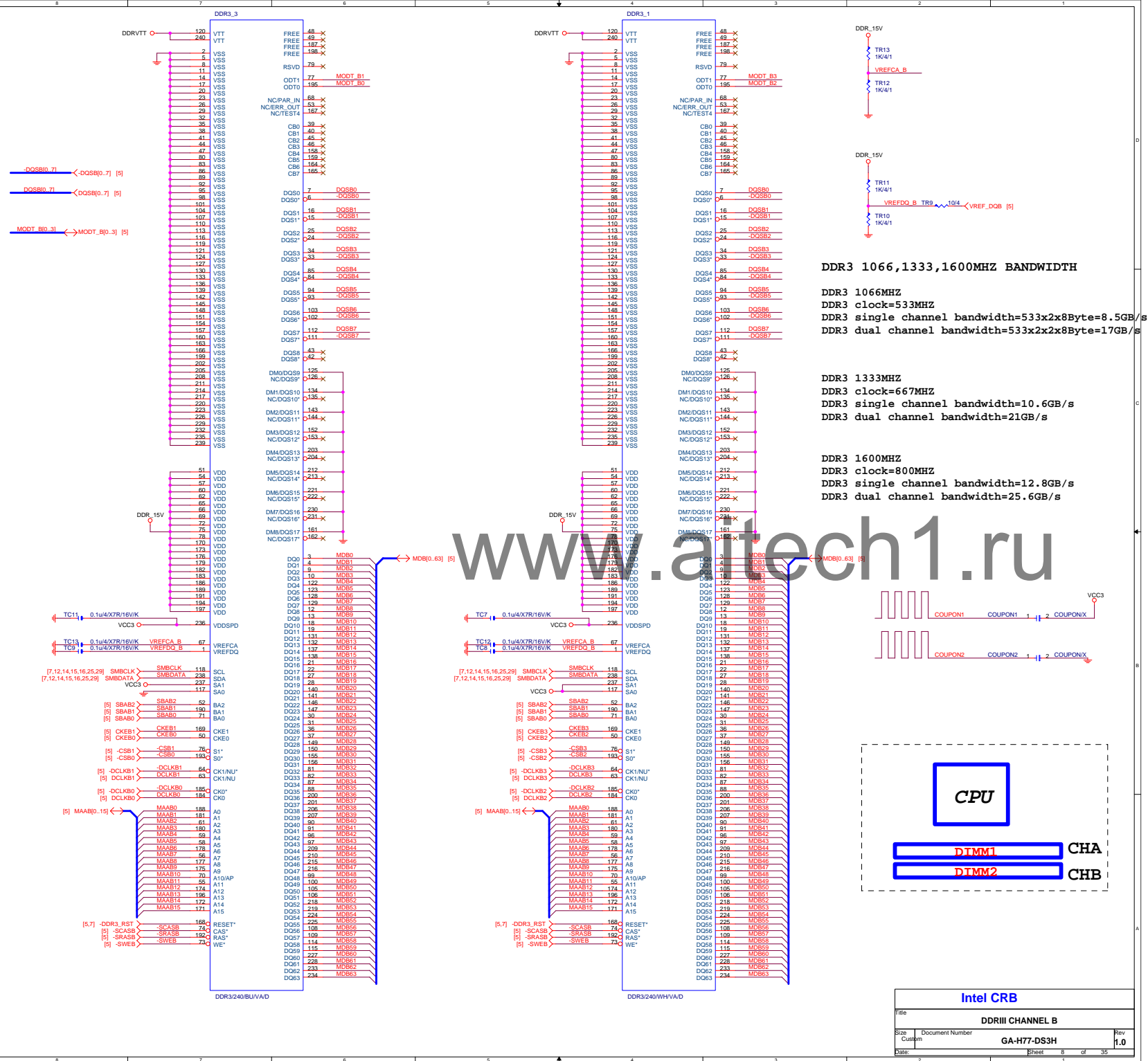


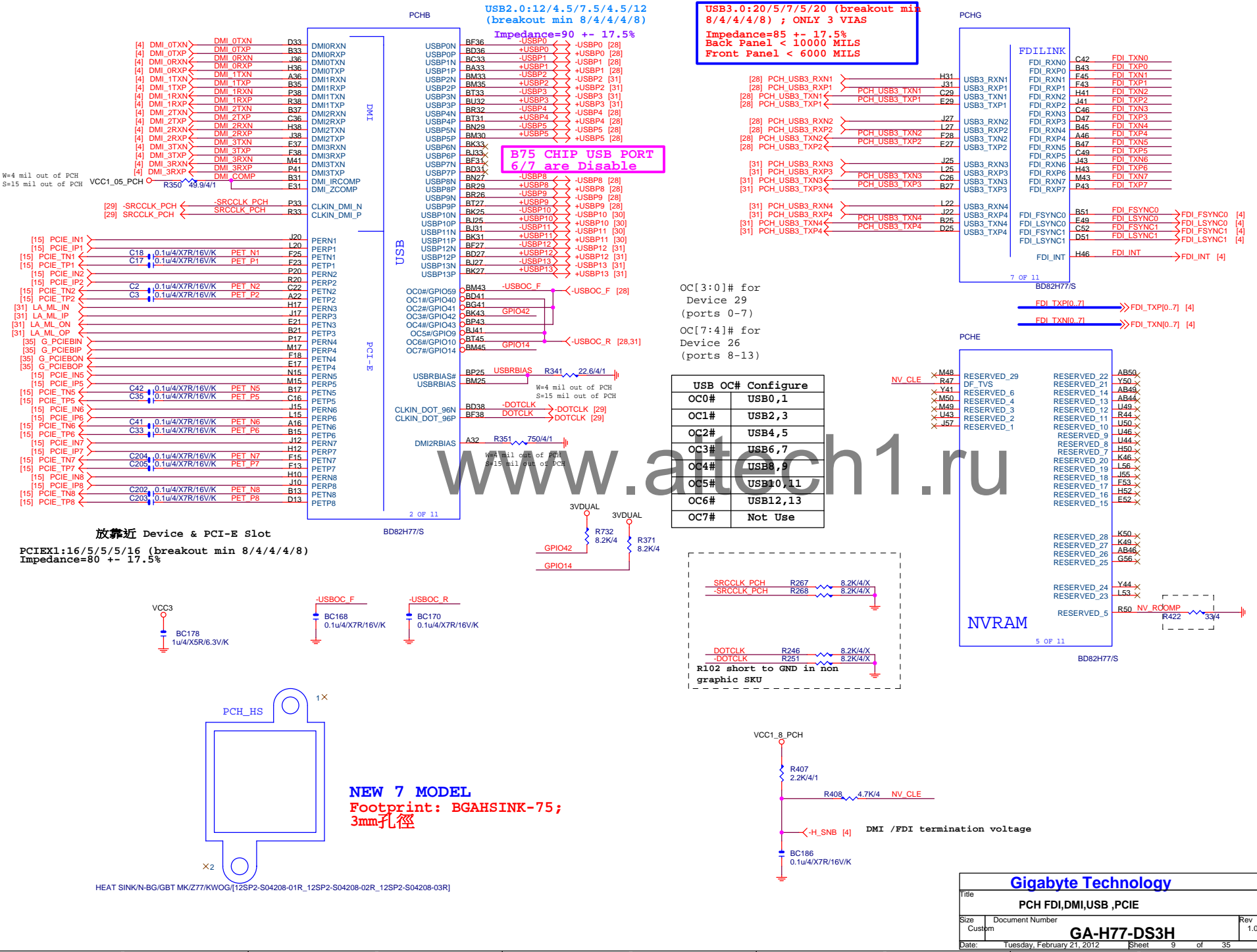
## Intel CRB

Title			CPU LGA1155-B		
Size			Document Number		
Custom			GA-H77-DS3H		
Date:			Tuesday, February 21, 2012		
Sheet			5 of 35		
Rev			1.0		









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

B75 CHIP USB PORT  
6/7 are Disable

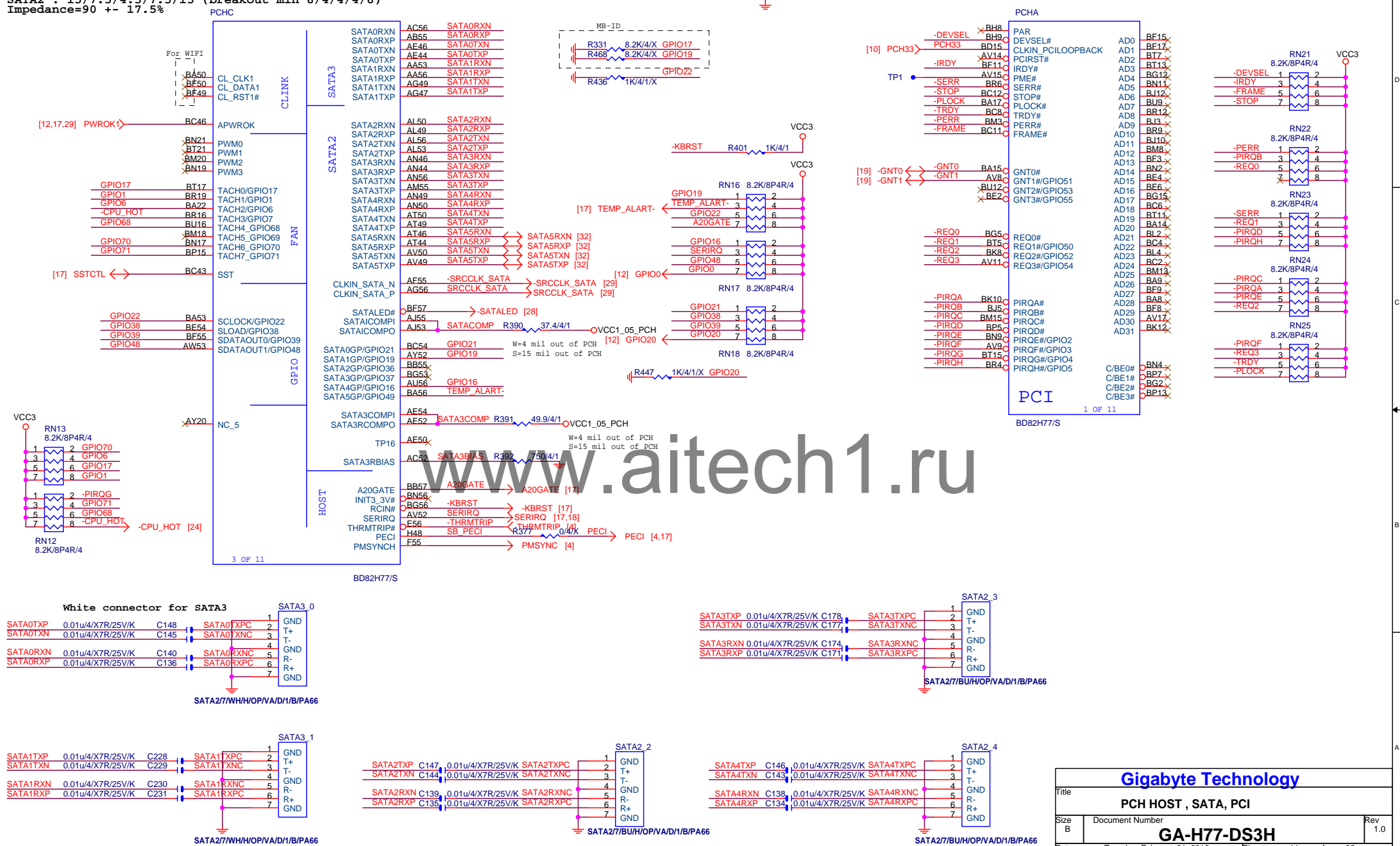
OC[3:0]# for Device 29  
(ports 0-7)  
OC[7:4]# for Device 26  
(ports 8-13)

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

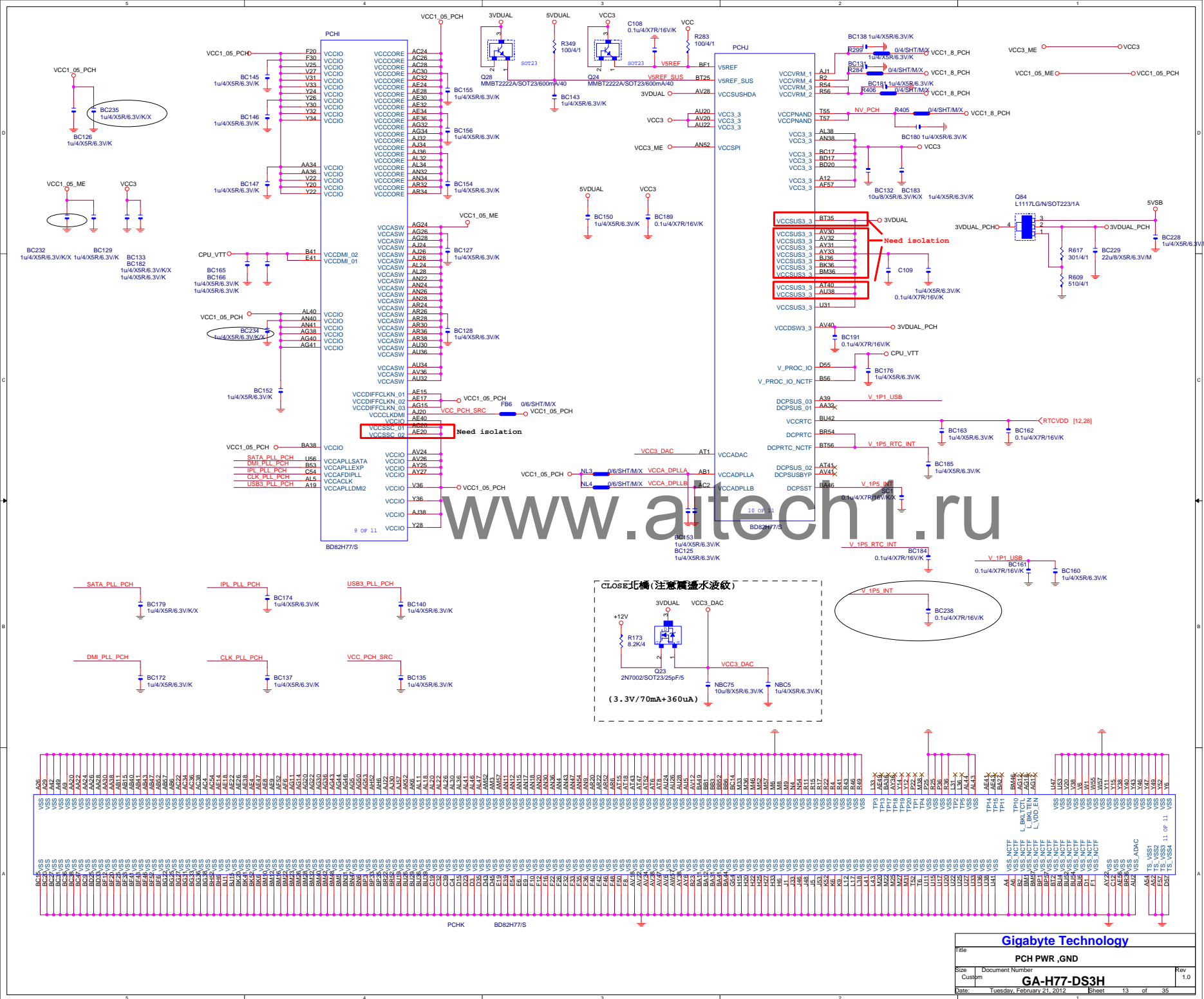
Gigabyte Technology			
Title			
PCH FDI,DMI,USB,PCIE			
Size	Document Number	Rev	1.0
Custom			
GA-H77-DS3H			
Date:	Tuesday, February 21, 2012	Sheet	9 of 35



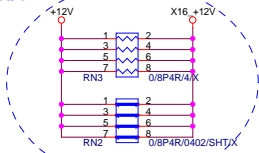
SATA2 : 15/7.5/4.5/7.5/15 (breakout min 8/4/4/4/8)  
Impedance=90 +- 17.5% PCHC







+12 protect  
short-wire  
test



PCIE16:16/5/5/16

EXP\_RXP0\_15] >>> EXP\_RXP0\_15] [4]  
EXP\_RXN0\_15] >>> EXP\_RXN0\_15] [4]  
EXP\_TXP0\_15] >>> EXP\_TXP0\_15] [4]  
EXP\_TXN0\_15] >>> EXP\_TXN0\_15] [4]

EXP_TXP0	C43	0.22u/4X5R/6.3V/K	EXP_TXP0C
EXP_TXN0	C36	0.22u/4X5R/6.3V/K	EXP_TXN0C
EXP_TXP1	C47	0.22u/4X5R/6.3V/K	EXP_TXP1C
EXP_TXN1	C49	0.22u/4X5R/6.3V/K	EXP_TXN1C
EXP_TXP2	C52	0.22u/4X5R/6.3V/K	EXP_TXP2C
EXP_TXN2	C54	0.22u/4X5R/6.3V/K	EXP_TXN2C
EXP_TXP3	C57	0.22u/4X5R/6.3V/K	EXP_TXP3C
EXP_TXN3	C59	0.22u/4X5R/6.3V/K	EXP_TXN3C
EXP_TXP4	C62	0.22u/4X5R/6.3V/K	EXP_TXP4C
EXP_TXN4	C64	0.22u/4X5R/6.3V/K	EXP_TXN4C
EXP_TXP5	C65	0.22u/4X5R/6.3V/K	EXP_TXP5C
EXP_TXN5	C67	0.22u/4X5R/6.3V/K	EXP_TXN5C
EXP_TXP6	C69	0.22u/4X5R/6.3V/K	EXP_TXP6C
EXP_TXN6	C71	0.22u/4X5R/6.3V/K	EXP_TXN6C
EXP_TXP7	C76	0.22u/4X5R/6.3V/K	EXP_TXP7C
EXP_TXN7	C75	0.22u/4X5R/6.3V/K	EXP_TXN7C
EXP_TXP8	C79	0.22u/4X5R/6.3V/K	EXP_TXP8C
EXP_TXN8	C80	0.22u/4X5R/6.3V/K	EXP_TXN8C
EXP_TXP9	C81	0.22u/4X5R/6.3V/K	EXP_TXP9C
EXP_TXN9	C82	0.22u/4X5R/6.3V/K	EXP_TXN9C
EXP_TXP10	C86	0.22u/4X5R/6.3V/K	EXP_TXP10C
EXP_TXN10	C87	0.22u/4X5R/6.3V/K	EXP_TXN10C
EXP_TXP11	C90	0.22u/4X5R/6.3V/K	EXP_TXP11C
EXP_TXN11	C91	0.22u/4X5R/6.3V/K	EXP_TXN11C
EXP_TXP12	C92	0.22u/4X5R/6.3V/K	EXP_TXP12C
EXP_TXN12	C93	0.22u/4X5R/6.3V/K	EXP_TXN12C
EXP_TXP13	C95	0.22u/4X5R/6.3V/K	EXP_TXP13C
EXP_TXN13	C96	0.22u/4X5R/6.3V/K	EXP_TXN13C
EXP_TXP14	C97	0.22u/4X5R/6.3V/K	EXP_TXP14C
EXP_TXN14	C98	0.22u/4X5R/6.3V/K	EXP_TXN14C
EXP_TXP15	C99	0.22u/4X5R/6.3V/K	EXP_TXP15C
EXP_TXN15	C100	0.22u/4X5R/6.3V/K	EXP_TXN15C

PCI-E REV:1.1--> 2.5GHZ

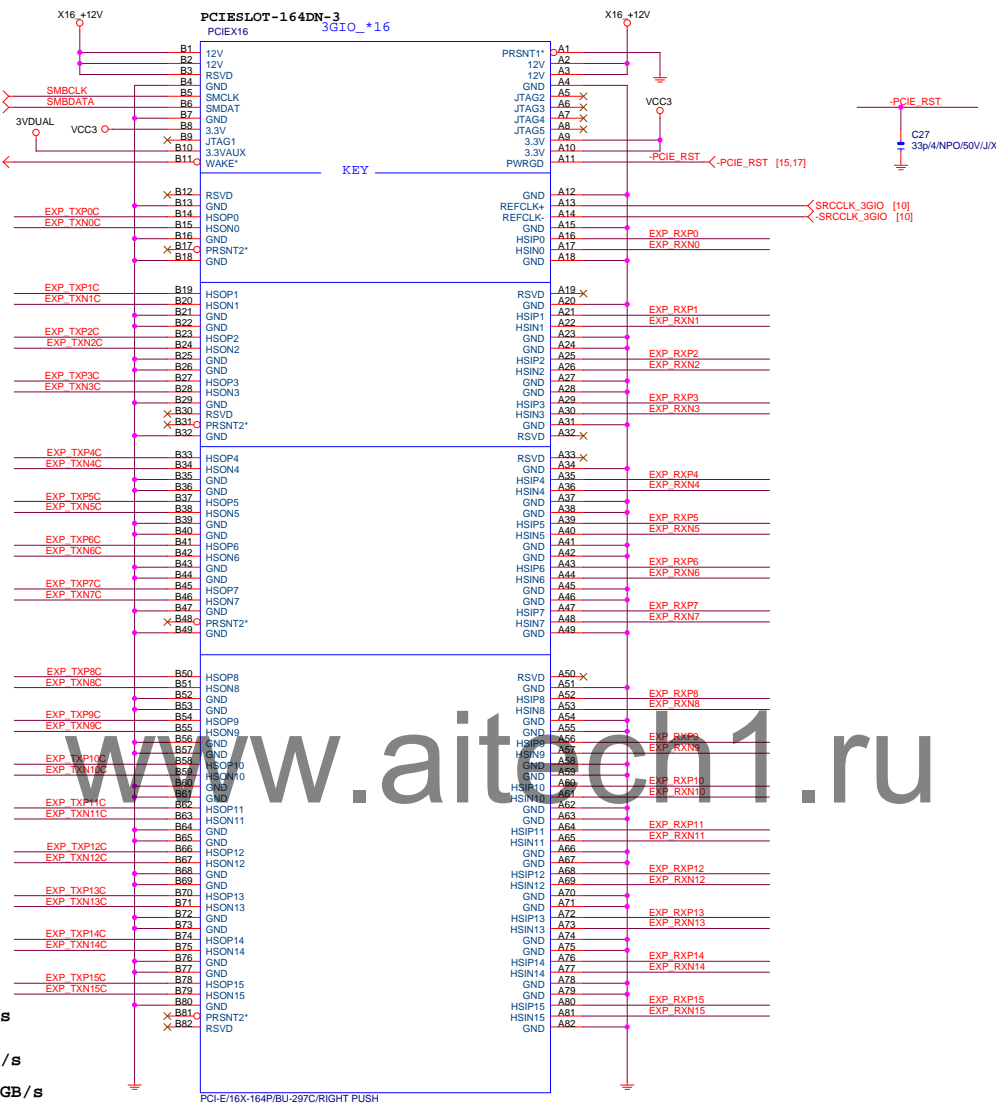
PCE-E X1(單向) BANDWITH=2.5GHZ\*(8b/10b)=2Gb/s=250MB/s

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

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

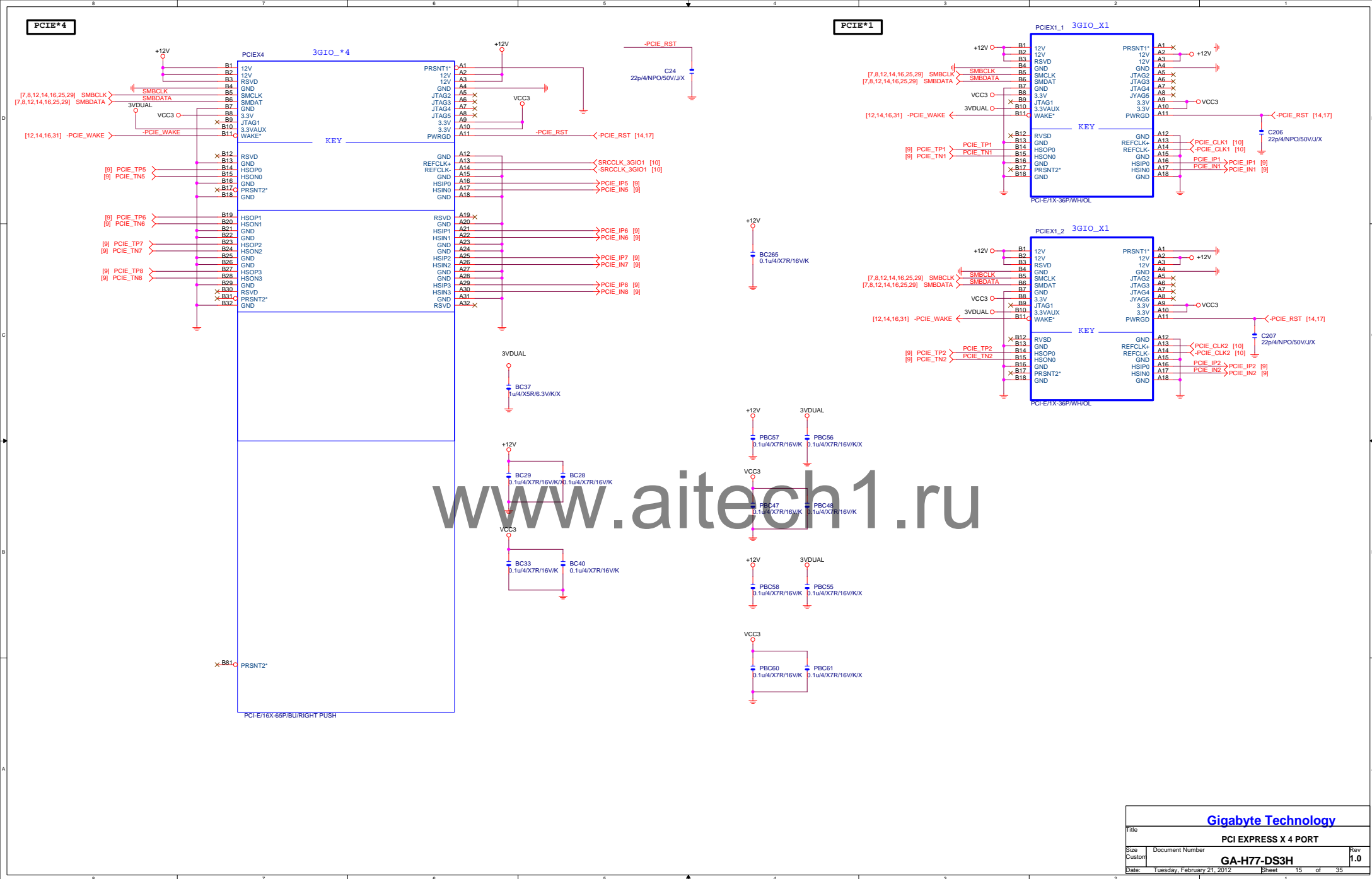
PCE-E X16(雙向) BANDWITH=2.5GHZ\*(8b/10b)X16X2=64Gb/s=8GB/s

PCI-E REV:2.0--> 5GHZ



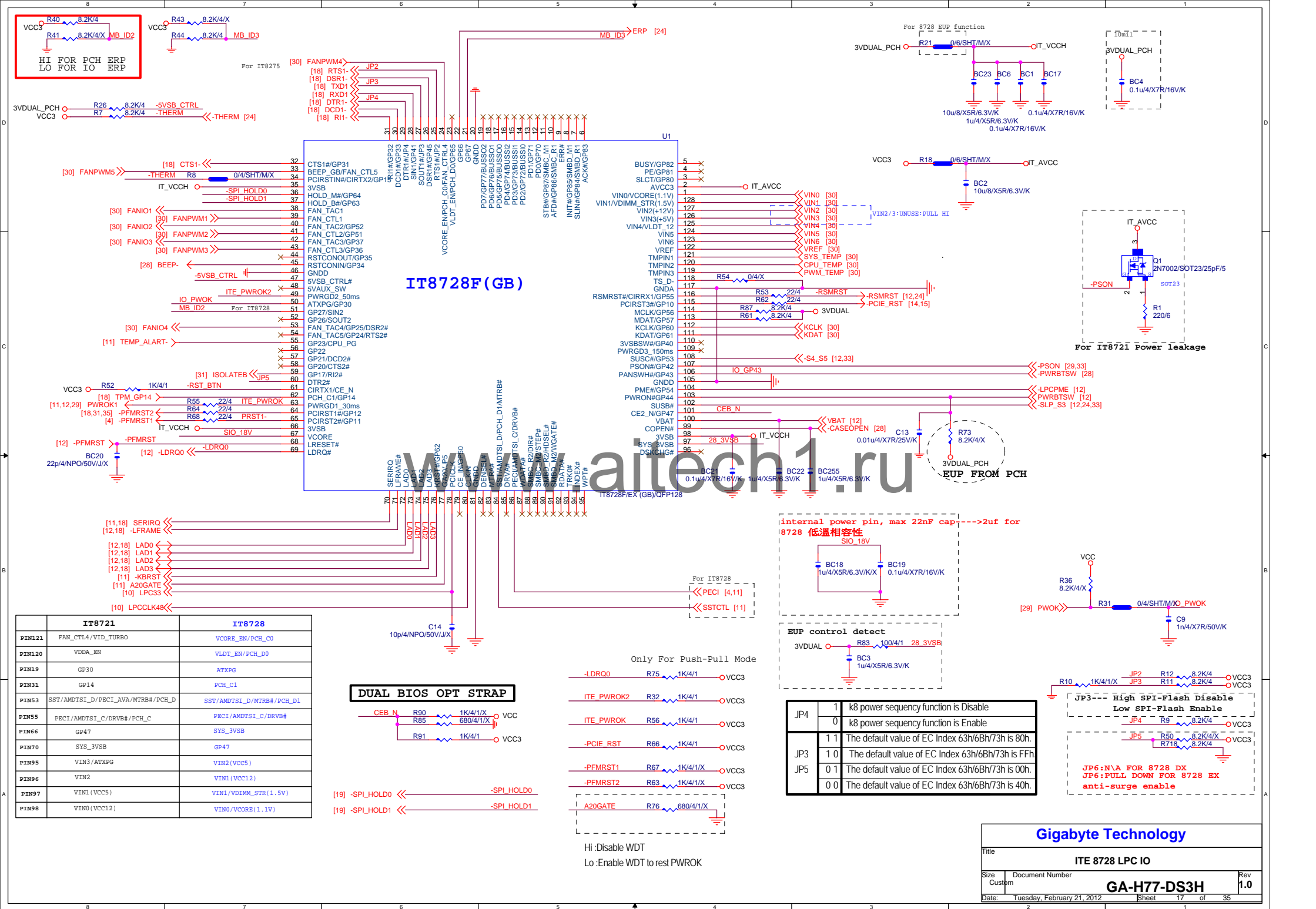
Gigabyte Technology

Title			PCI EXPRESS * 16
Size	Document Number	GA-H77-DS3H	
Custom			Rev 1.0
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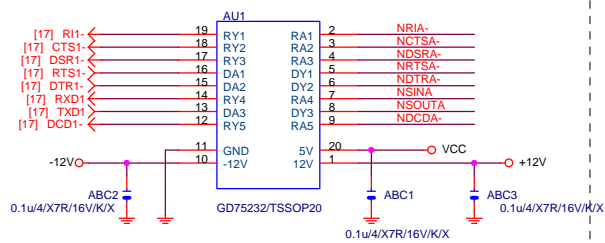




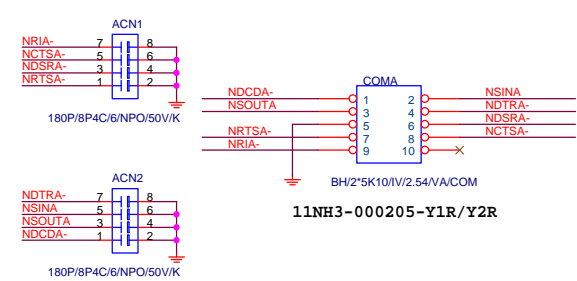
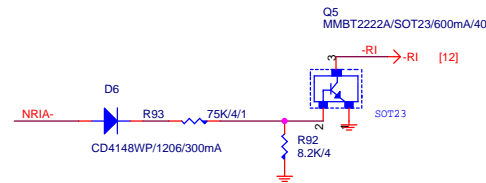
			
Title <b>PCI SLOT 1&amp;2</b>			
Size	Document Number	Rev	
Custom	<b>GA-H77-DS3H</b>	<b>1.0</b>	
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## COMA

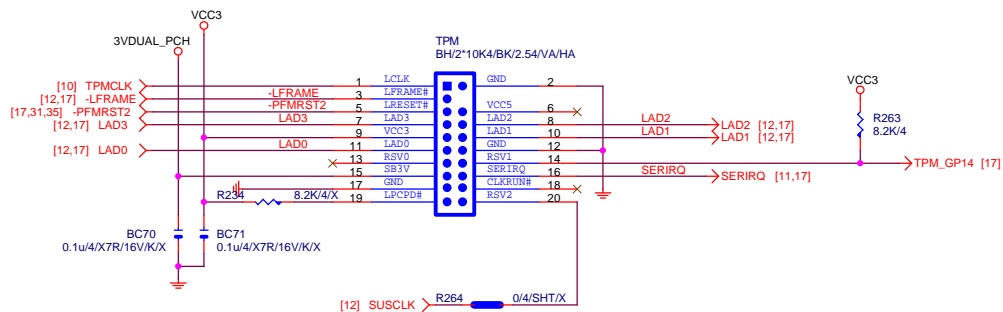


## COM RI



## LPT PORT

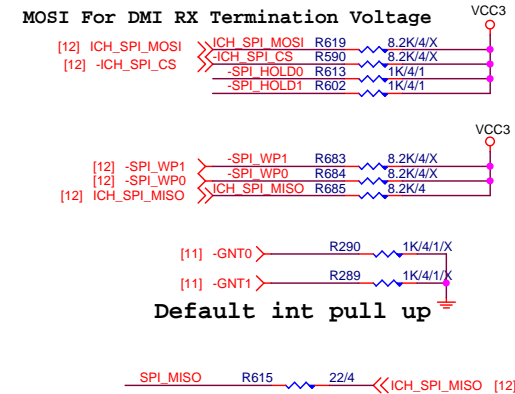
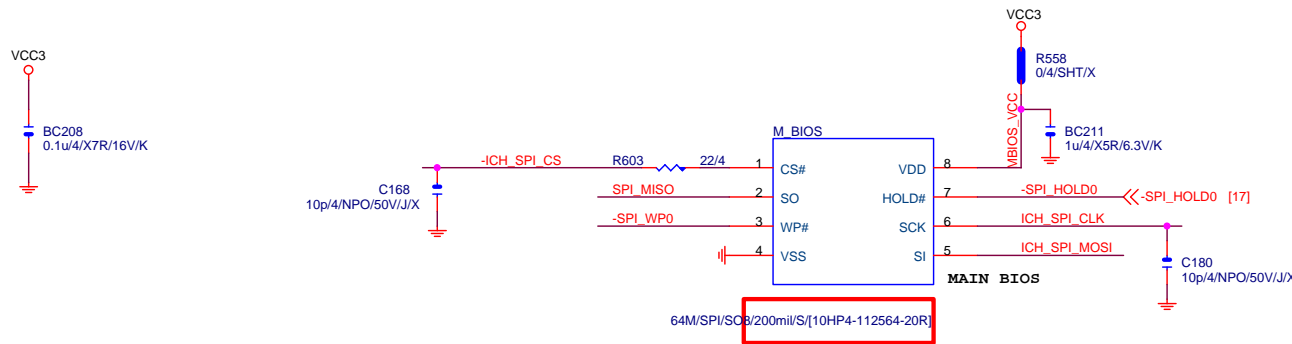
## TPM



Gigabyte Technology

Title			
COM & Print			
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BOOT DEVICE	GNT0	GNT1
LPC	0	0
PCI	0	1
NAND	1	0
SPI	1	1

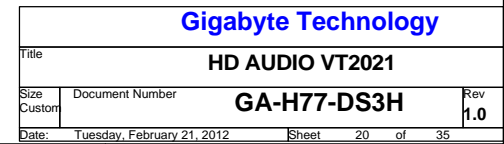
1 means floating  
0 means PD 1K

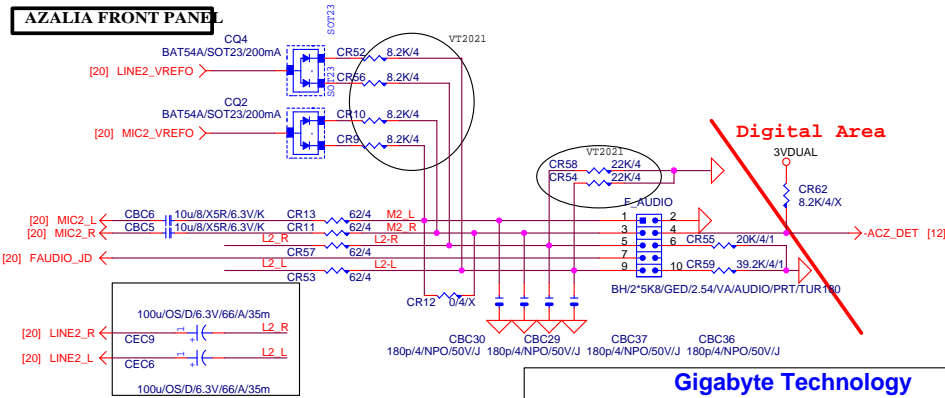
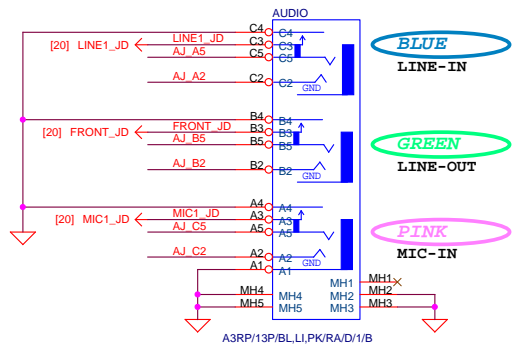
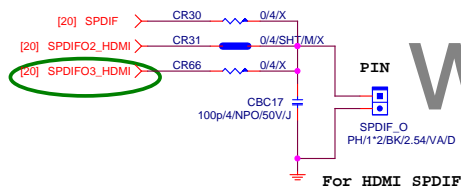
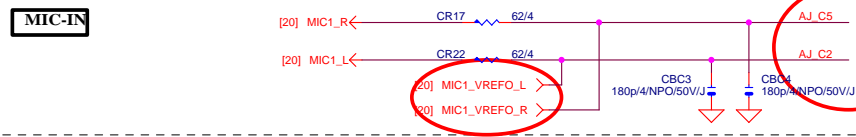
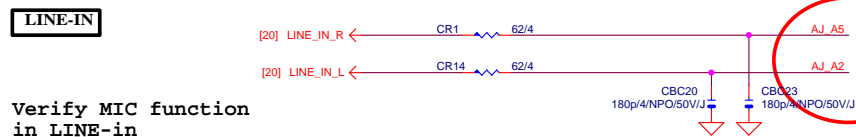
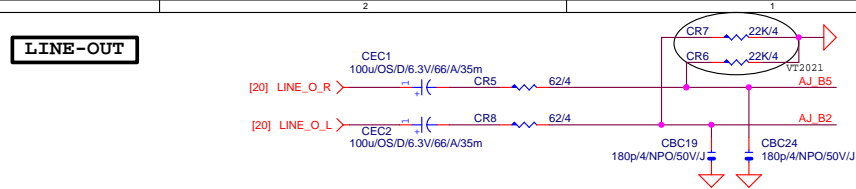
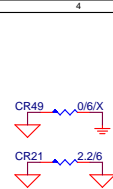
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Gigabyte Technology			
Title		BIOS	
Size	Document Number	GA-H77-DS3H	
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CR26: 20K/4/0.1% @ALC889A  
CR26: 20K/4/1% @others

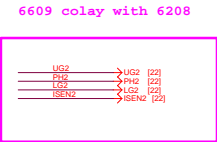
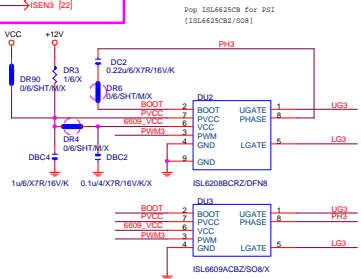
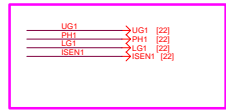
CR34 20K/4/1 VT1708S :5.1K + 100PF  
CBC40 100p/4/NF0/50V/J/X



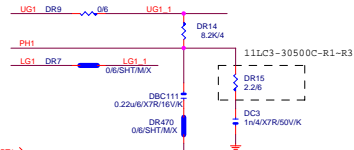


<b>Gigabyte Technology</b>			
Title			
<b>AUDIO JACK</b>			
Size Custom	Document Number	<b>GA-H77-DS3H</b>	Rev <b>1.0</b>
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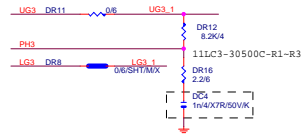




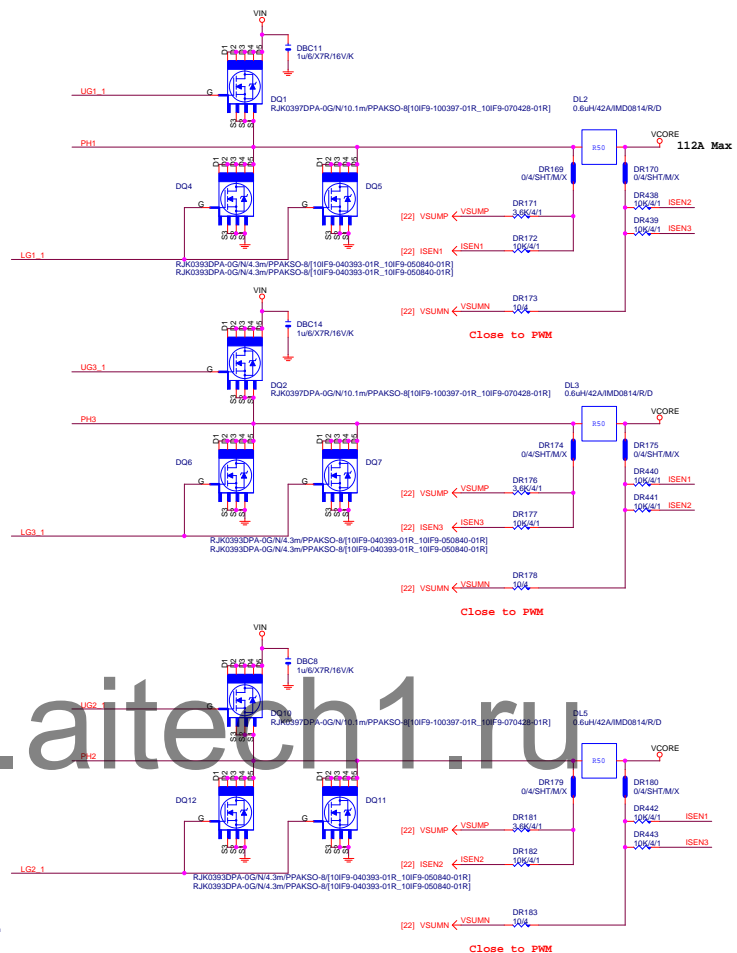
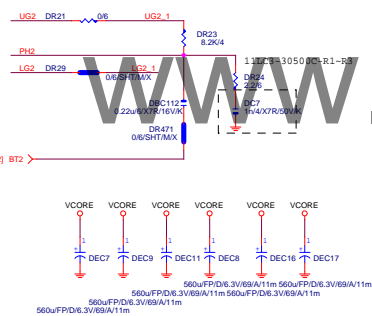
[1] [22] BT1



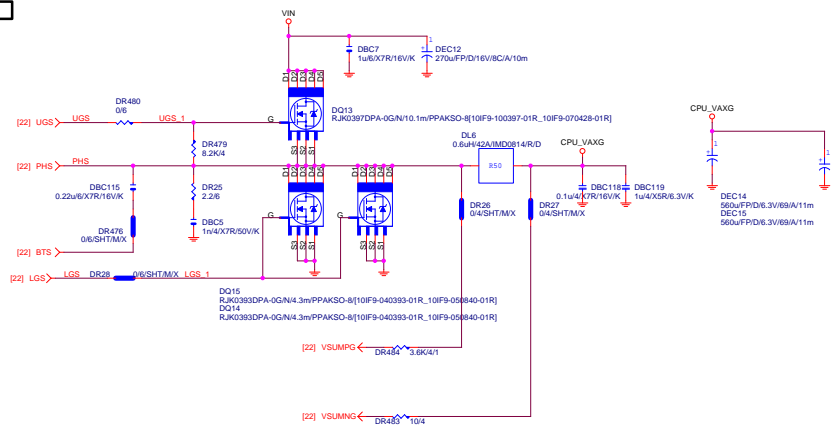
[3]

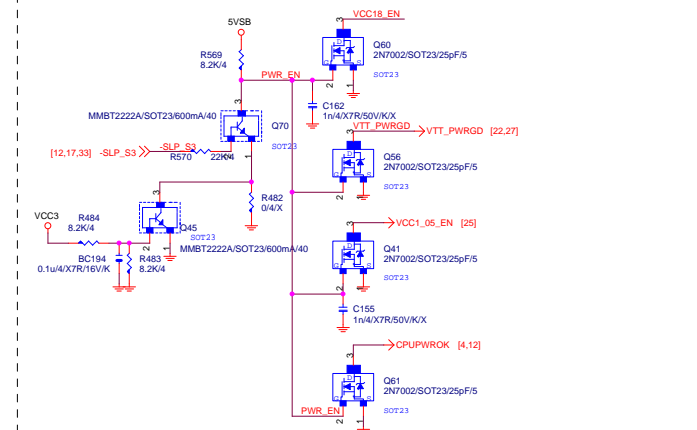
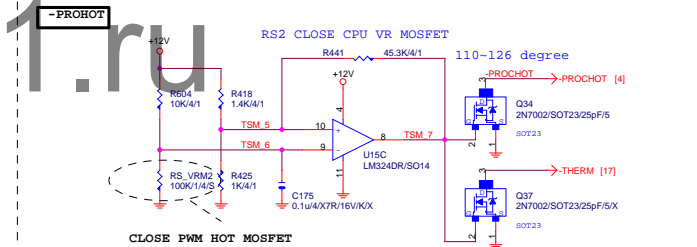
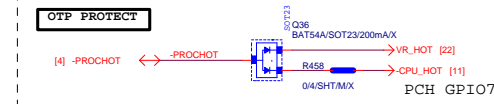
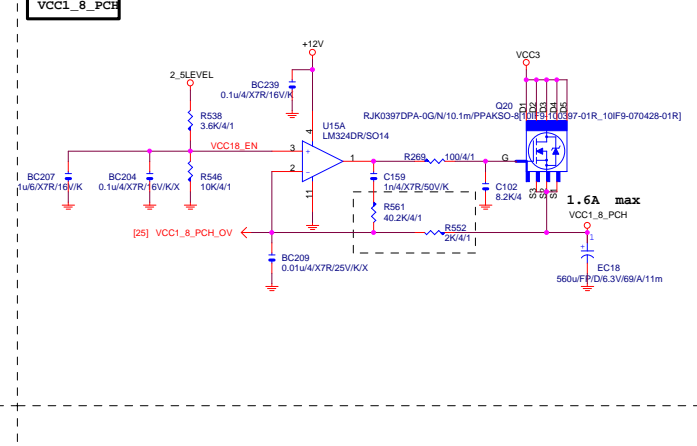


[2] [22] BT2

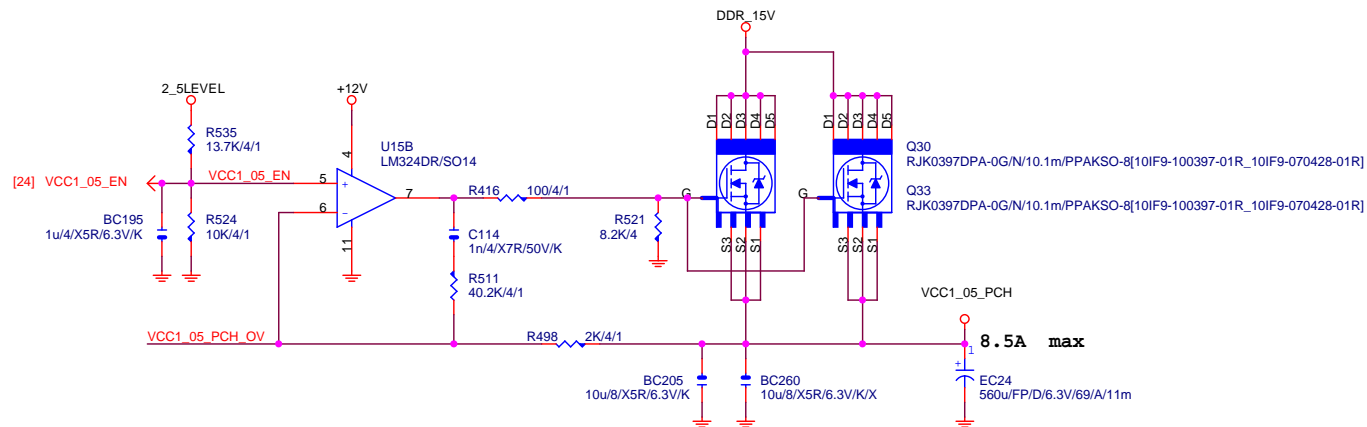


VAXG



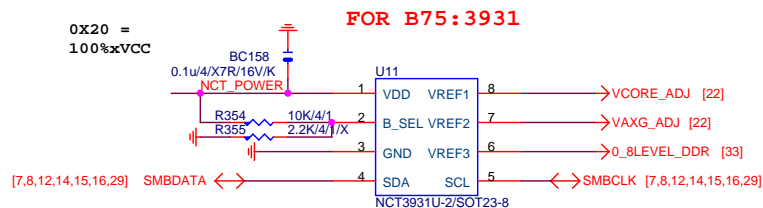
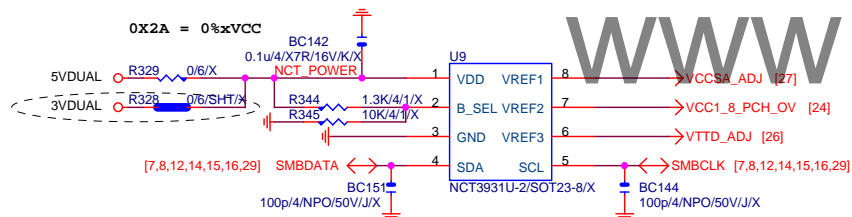


# VCC1\_05\_PCH



# Voltage console

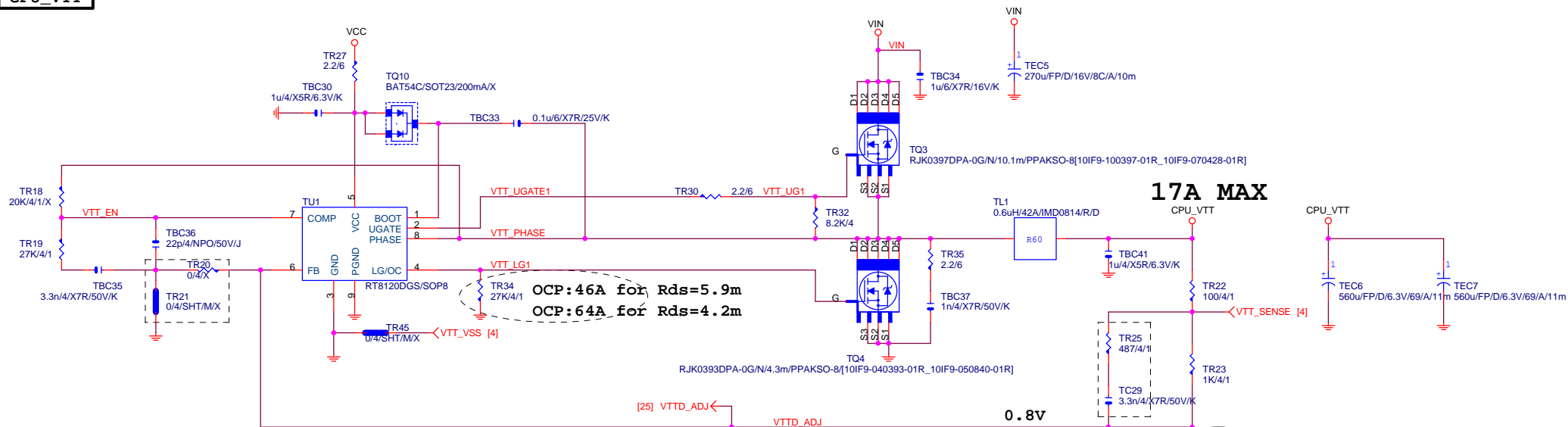
ADDRESS	0X2A	0X20	0X22	0X26
R1 (K)	OPEN	10	1.3	3
R2 (K)	10	OPEN	3.9	2.2
%VCC	0	100	75	42



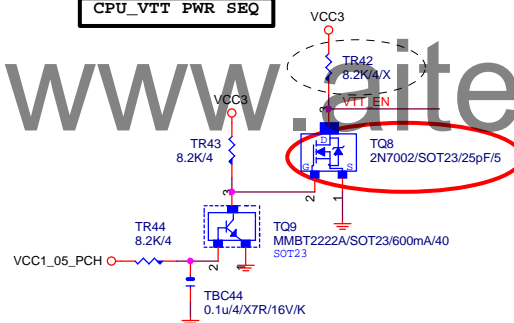
up6262	0X2A	0X20
VREF1	VCC1_05_PCH	VCORE
VREF2	VCC1_8_PCH	VCCSA
VREF3	CPU_VTT	DDR

Gigabyte Technology		
Title		
PCH CORE / VOLTAGE CONSOLE		
Size	Document Number	Rev
B	GA-H77-DS3H	1.0
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# CPU\_VTT



## CPU\_VTT PWR SEQ



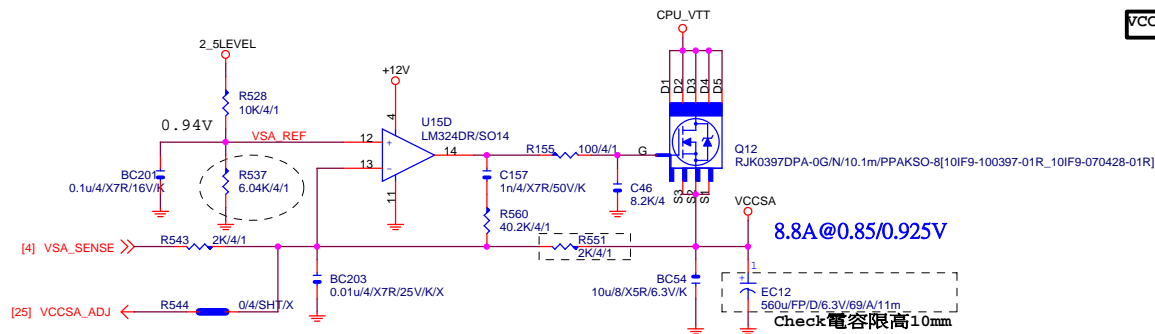
VTT_SEL	
HI	1.05V
LO	1.0V

According intel  
 CDI/IBP#476733, 固定1.05v

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Title	RT8120_CPU_VTT		
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VCC\_SA

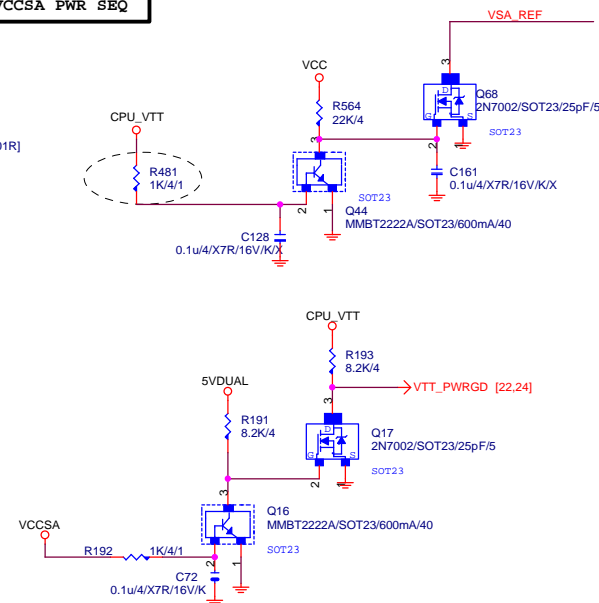


PDG 1.01

	VSA_SEL
HI	0.85V
LO	0.925V

According intel  
CDI/IBP#476733, 固定0.925v

VCCSA PWR SEQ

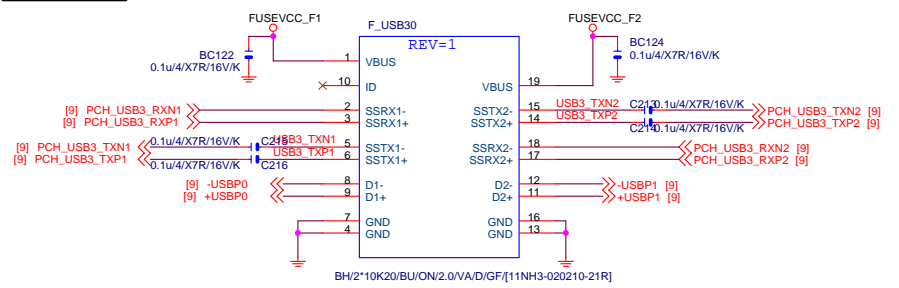


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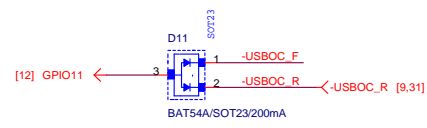
Gigabyte Technology

Title		
VCCSA POWER		
Size	Document Number	Rev
Custom	GA-H77-DS3H	1.0
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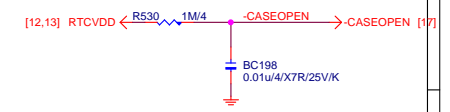
# FRONT USB1



# F\_USB POWER PROTECT

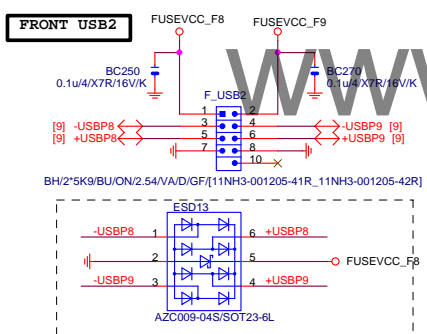
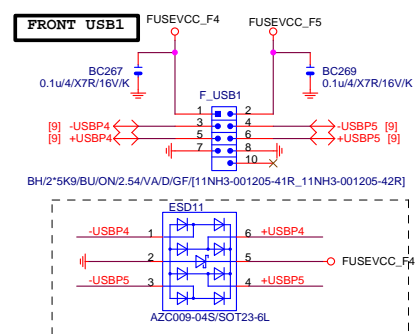


# CASE OPEN



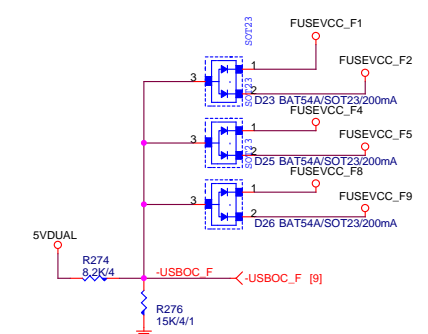
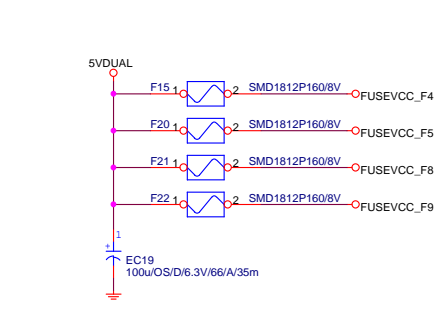
# ESD Close to connector

# ESD Close to connector

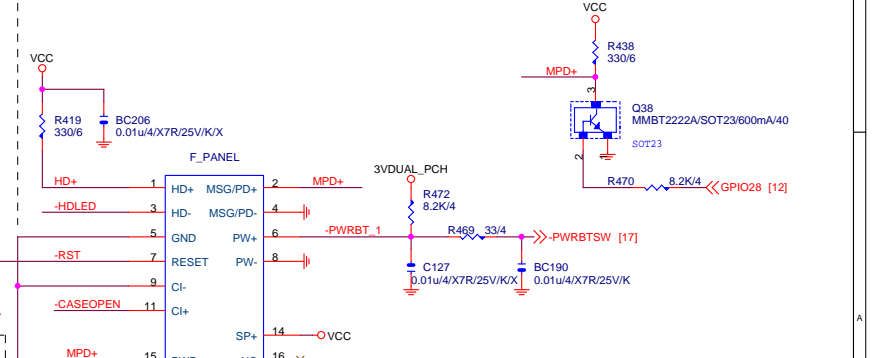
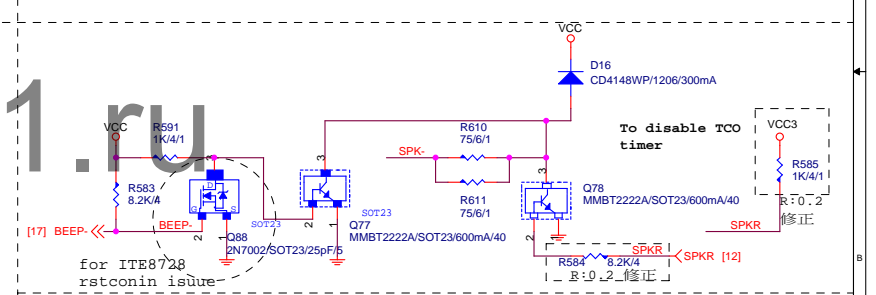
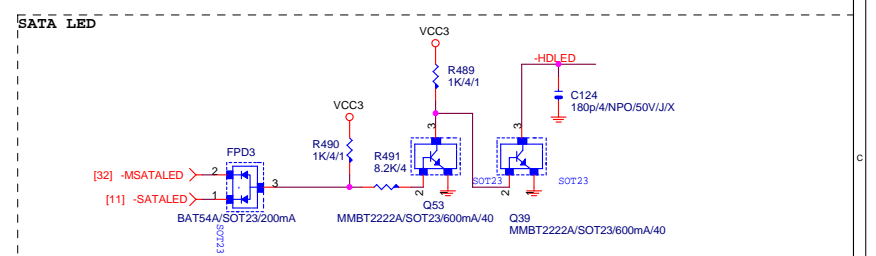
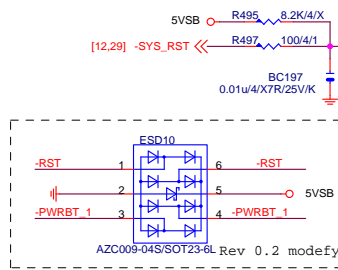


# ESD Close to connector

# ESD Close to connector



# INTEL FRONT PANEL



Gigabyte Technology			
Title			
FF, F_USB, USB PWR, FDD, BZ			
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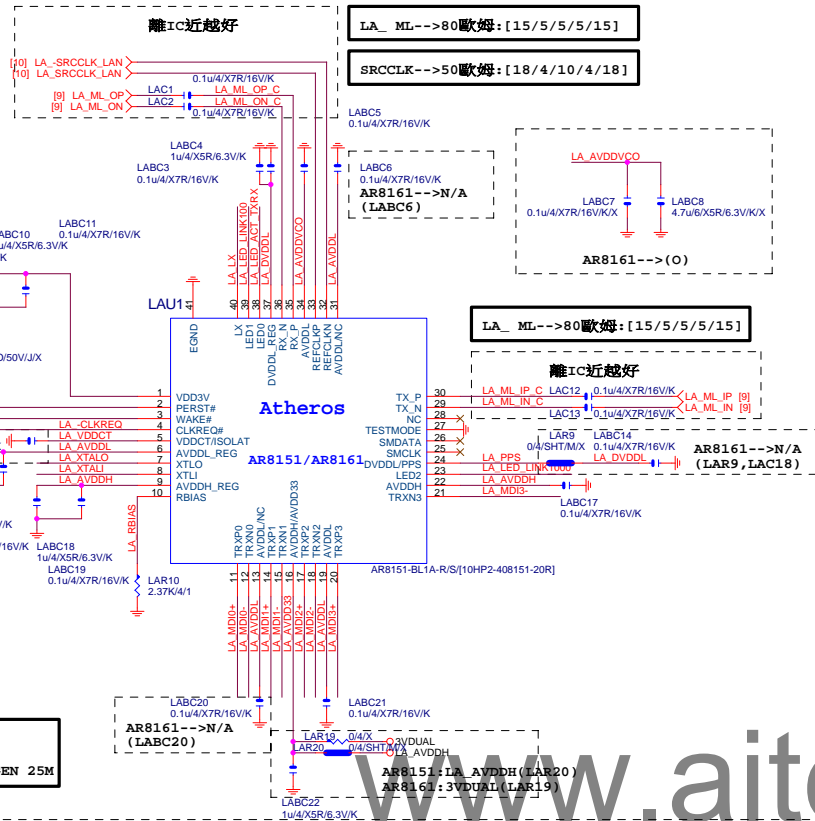


FS	CPU
0	100M <Default>
1	133M

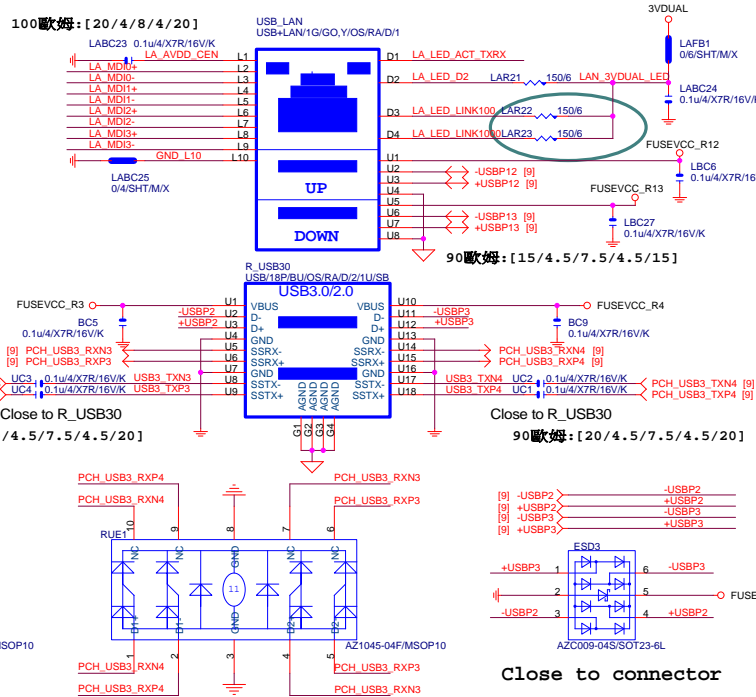
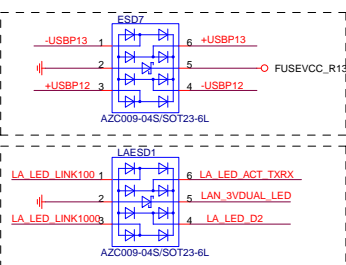
Title			
<b>ATX POWER CONNECTOR</b>			
Size	Document Number	Re	
Custom	<b>GA-H77-DS3H</b>	1.	
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## PCIE-1G LAN

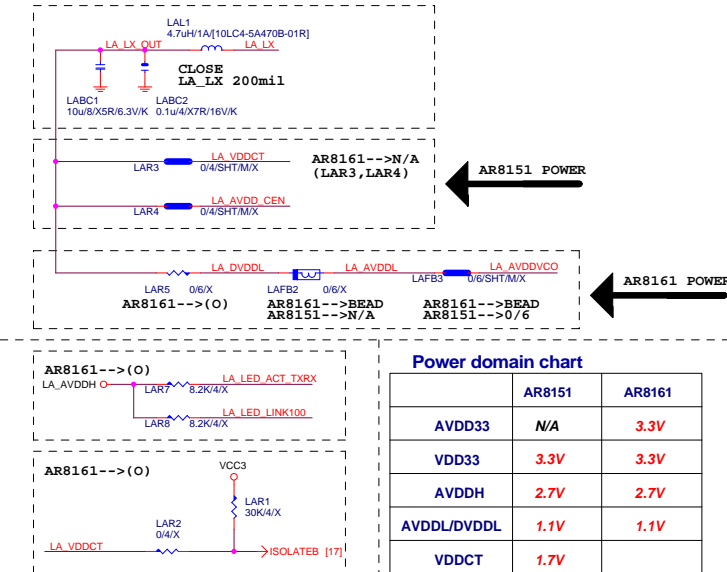


## USB30\_LAN CONNECTOR

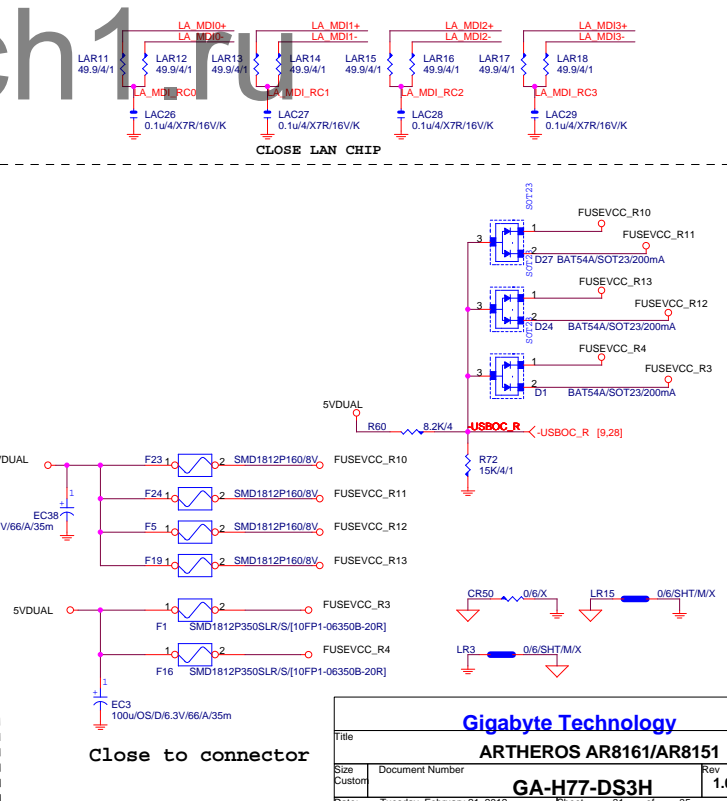


## LAN POWER

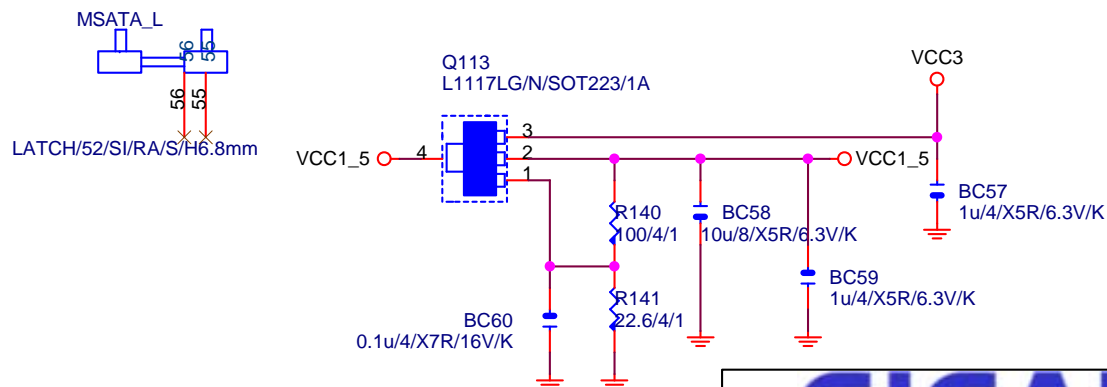
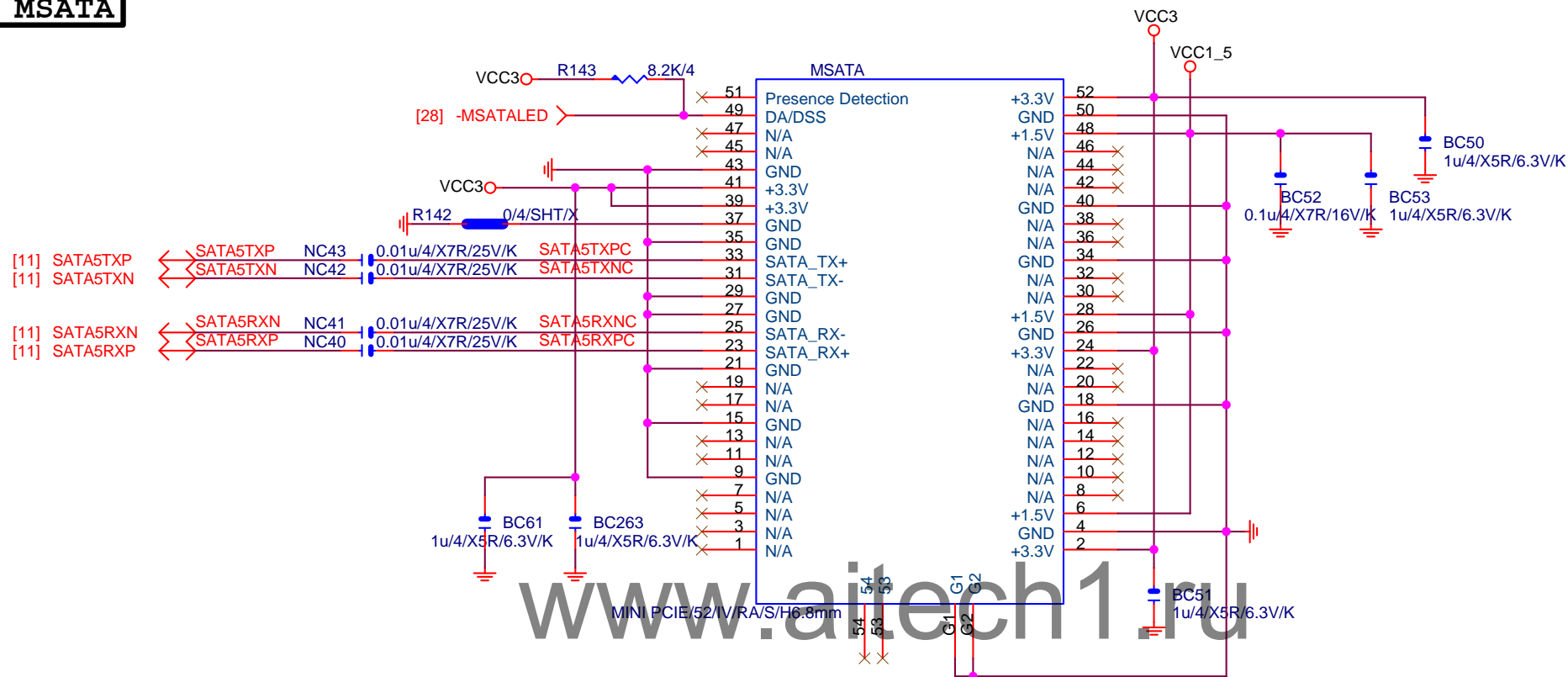
```
NEW DESIGN ONLY FOR INTERNAL SWR
AR8151:LAR3(O),LAR5(X)
AR8161:LAR5(O),LAR3/LAR4(X)
```



MDI : AR8161--&gt;N/A

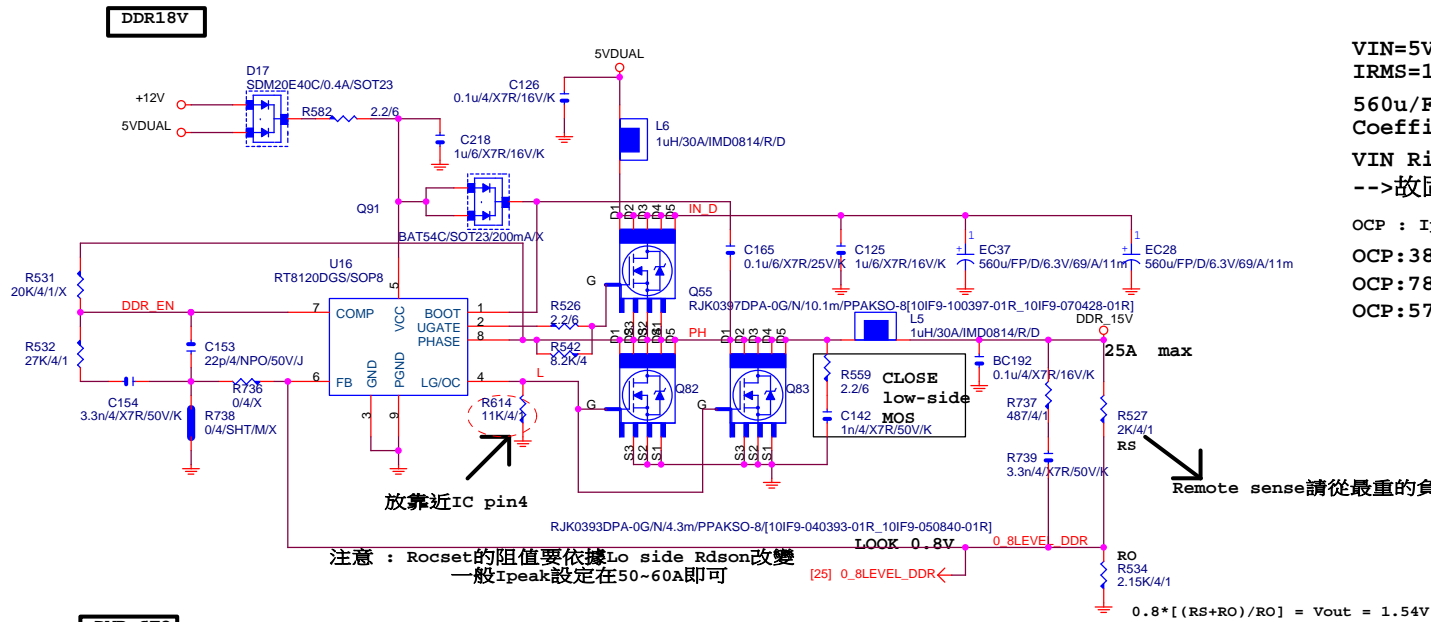


# MSATA



# GIGABYTE™

Title		
MSATA		
Size A	Document Number GA-H77-DS3H	Rev 1.0
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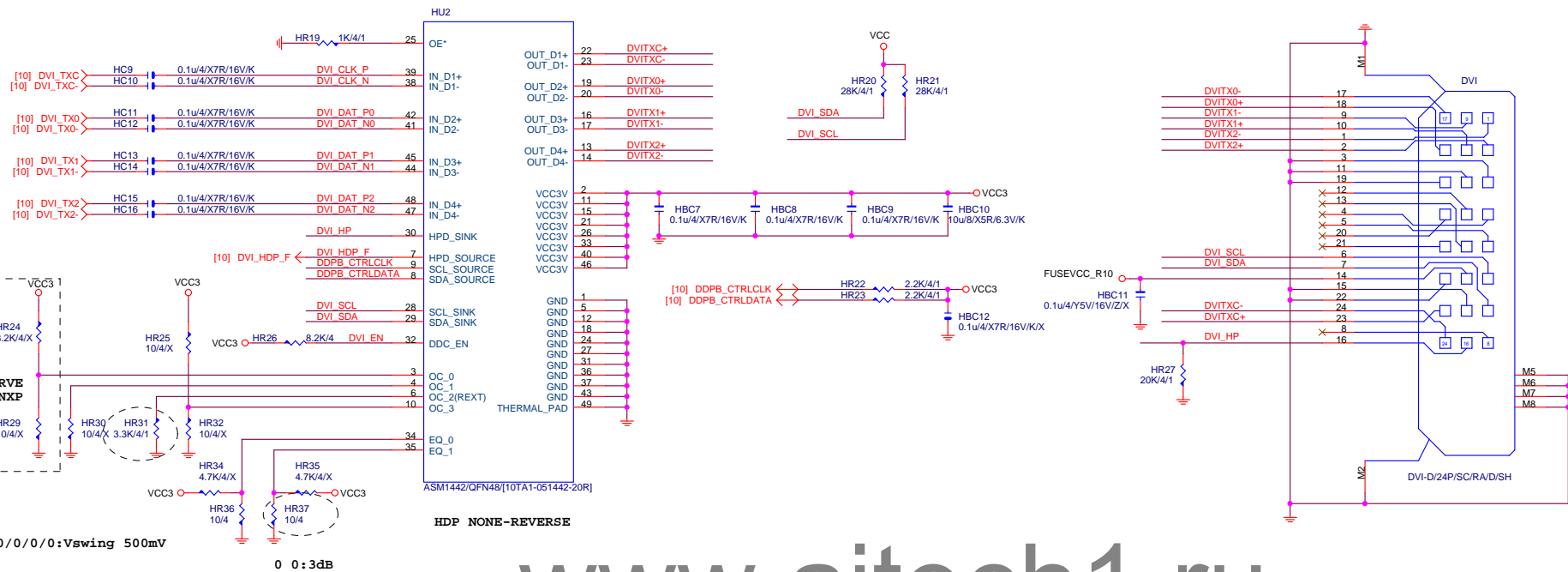


VIN=5V, VOUT=1.5V, IOUT=25A, PHASE=1  
IRMS=11.45A  
560u/FP/D/6.3V/68/8m RIPPLE CURRENT=4.7A  
Coefficient=1.7(85°C), 1(105°C)  
VIN Ripple current=4.7X1.7=7.99A(85°C)  
-->故固態電容須2X7.99=15.98>11.45A  
OCF :  $I_{peak} = (2 \times I_{ocset} \times R_{ocset}) / R_{dson}$   
OCF: 38.31A for Rds=6.7m for vishay@4.5V  
OCF: 78.78A for Rds=3.3m for renesas@10V  
OCF: 57A =  $R_{ocset} \times I_{ocset} / R_{ds(on)}$   
= 11K \* 10uA / [5//5]



GIGABYTE™			
Title			
RT8120			
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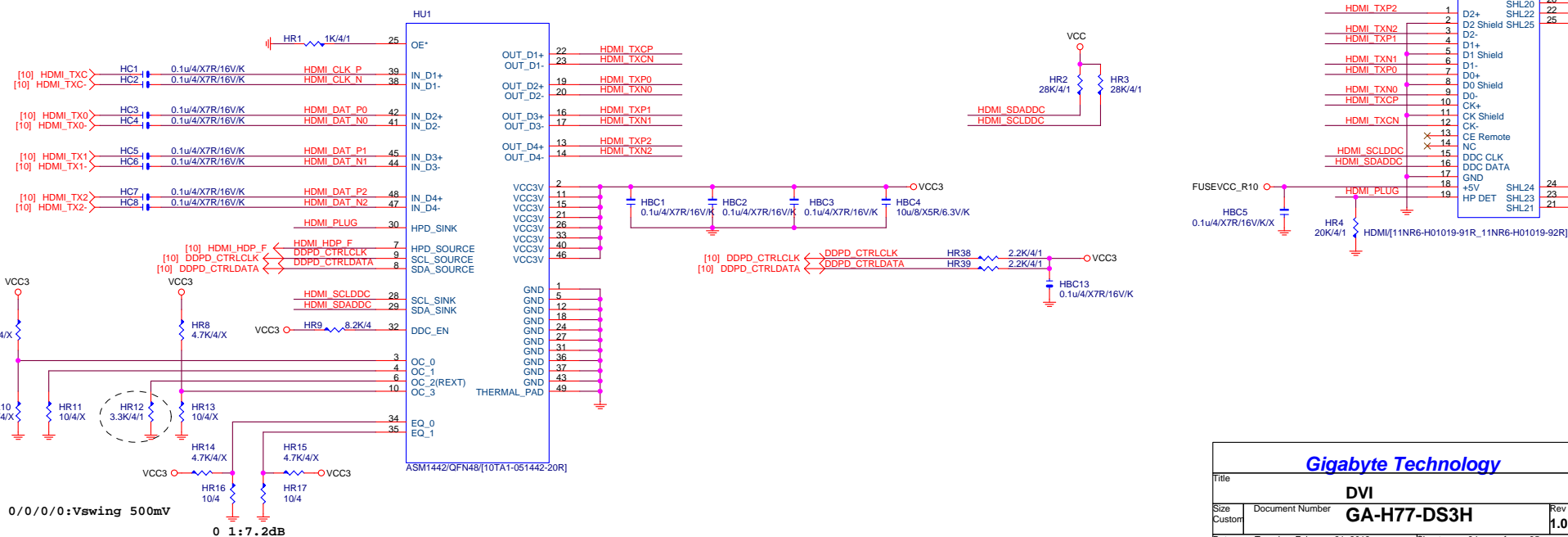
## DVI LEVEL SHIFT



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## HDMI LEVEL SHIFT

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



Gigabyte Technology

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