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CPU:

Intel Lynnfield/Havendale processors in LGA1156 Package

System Chipset:

PCH(Ibex Peak)

Main Memory:

Dual Channel/DDR- III* 4(Max 16GB)

Onboard Device:

Clock Generator:RTM885N- 926

Super I/O:ITE8721

LAN:Realtek 8111DL

HD Codec:ALC888S

IDE Host controller:JMB368

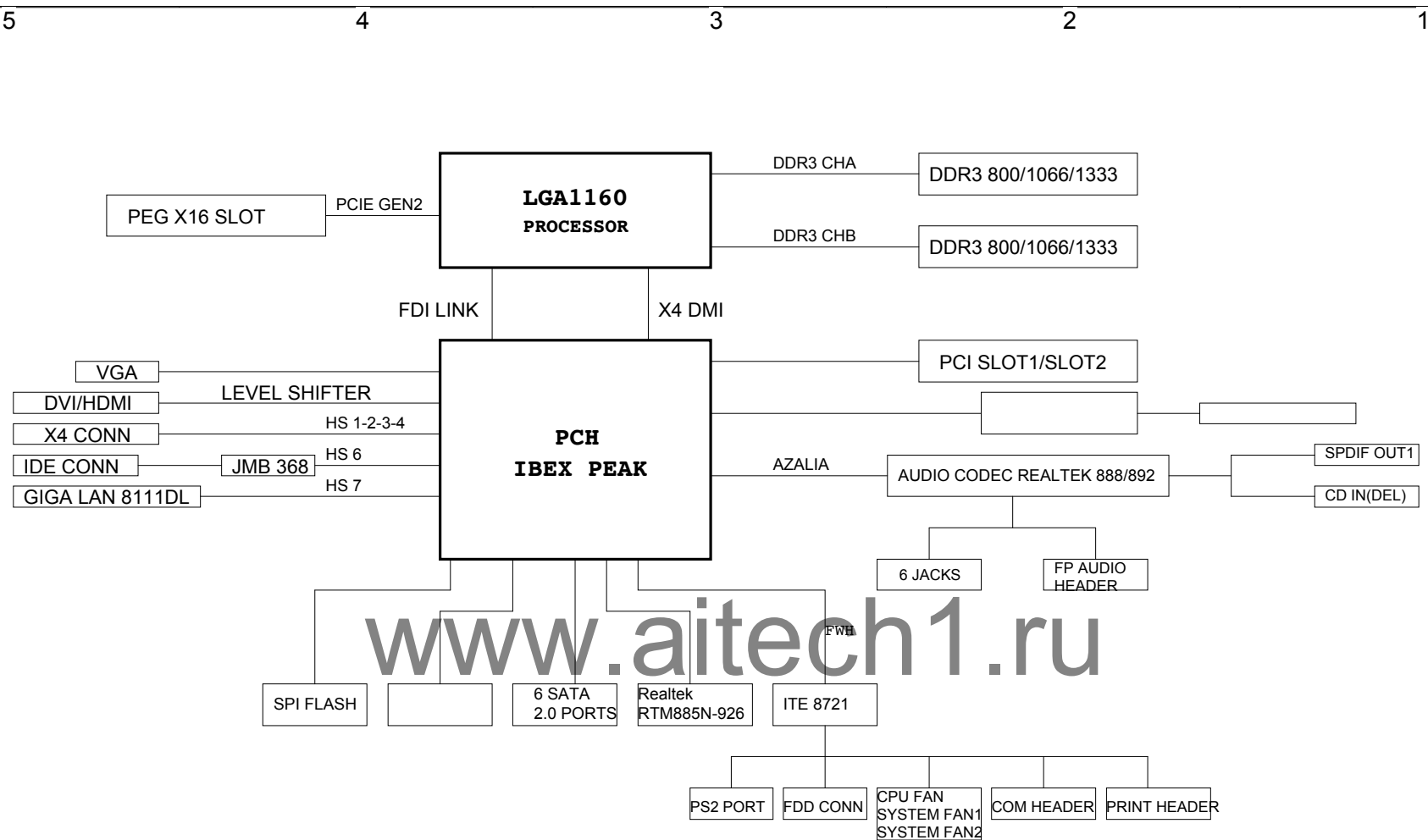
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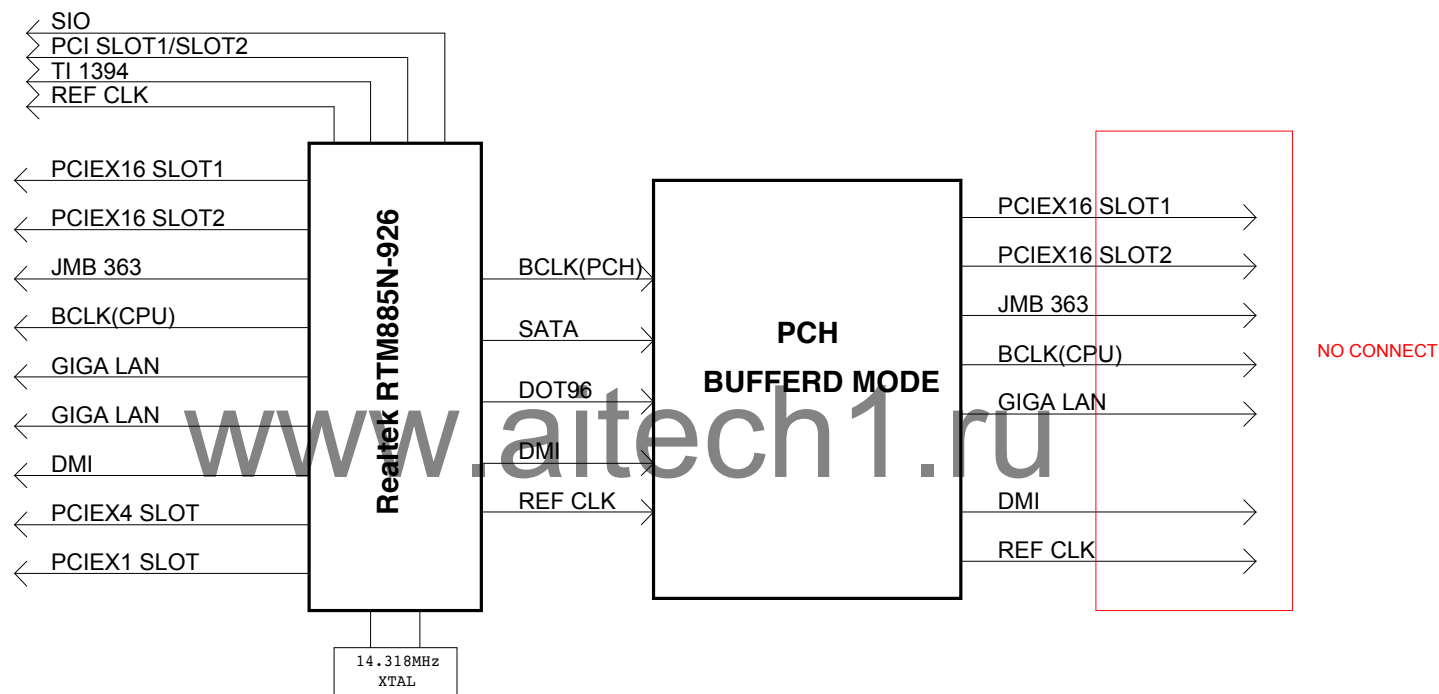
PCI EXPRESS 16X SLOT* 1

PCI EXPRESS 4X SLOT* 1

PCI SLOT* 2

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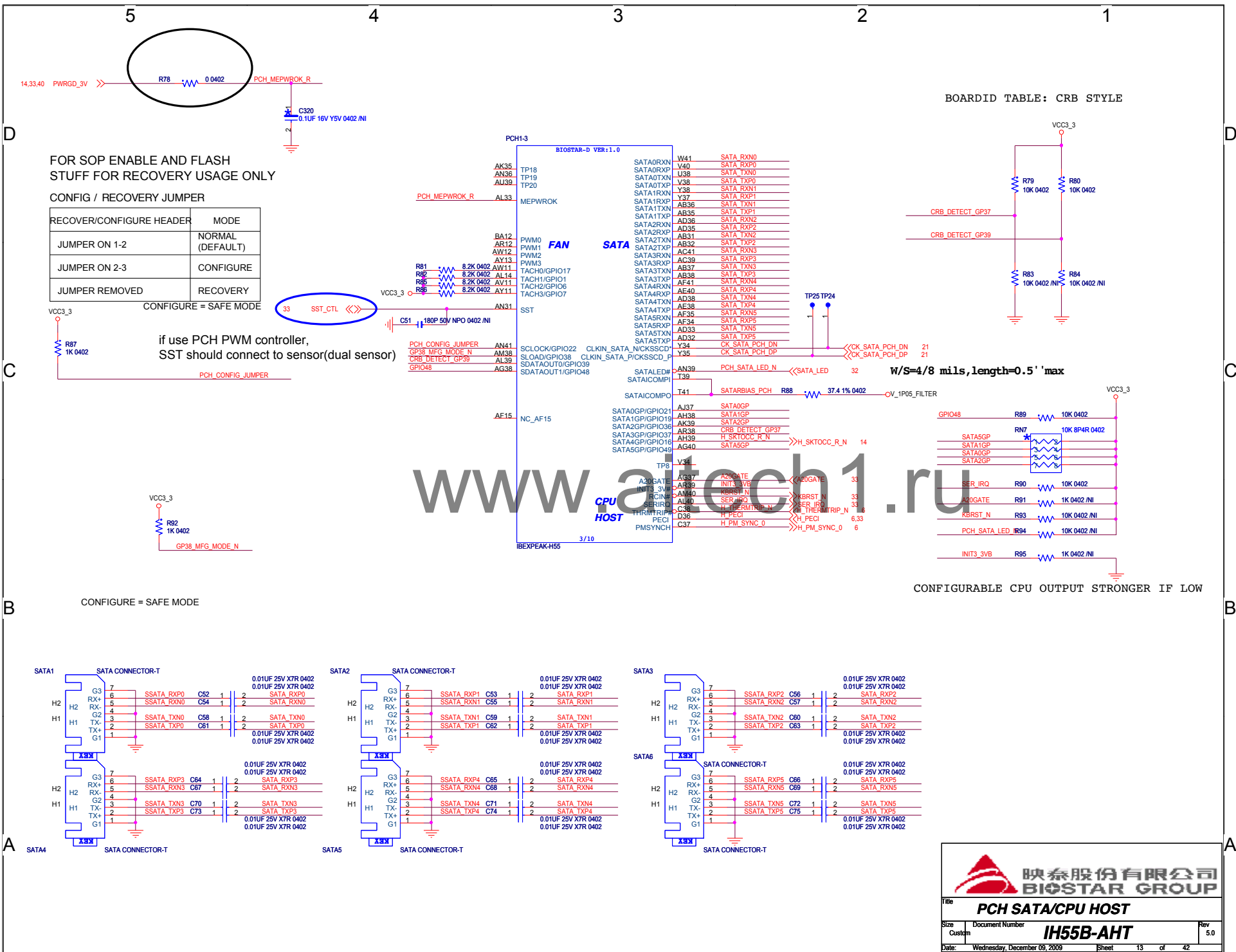
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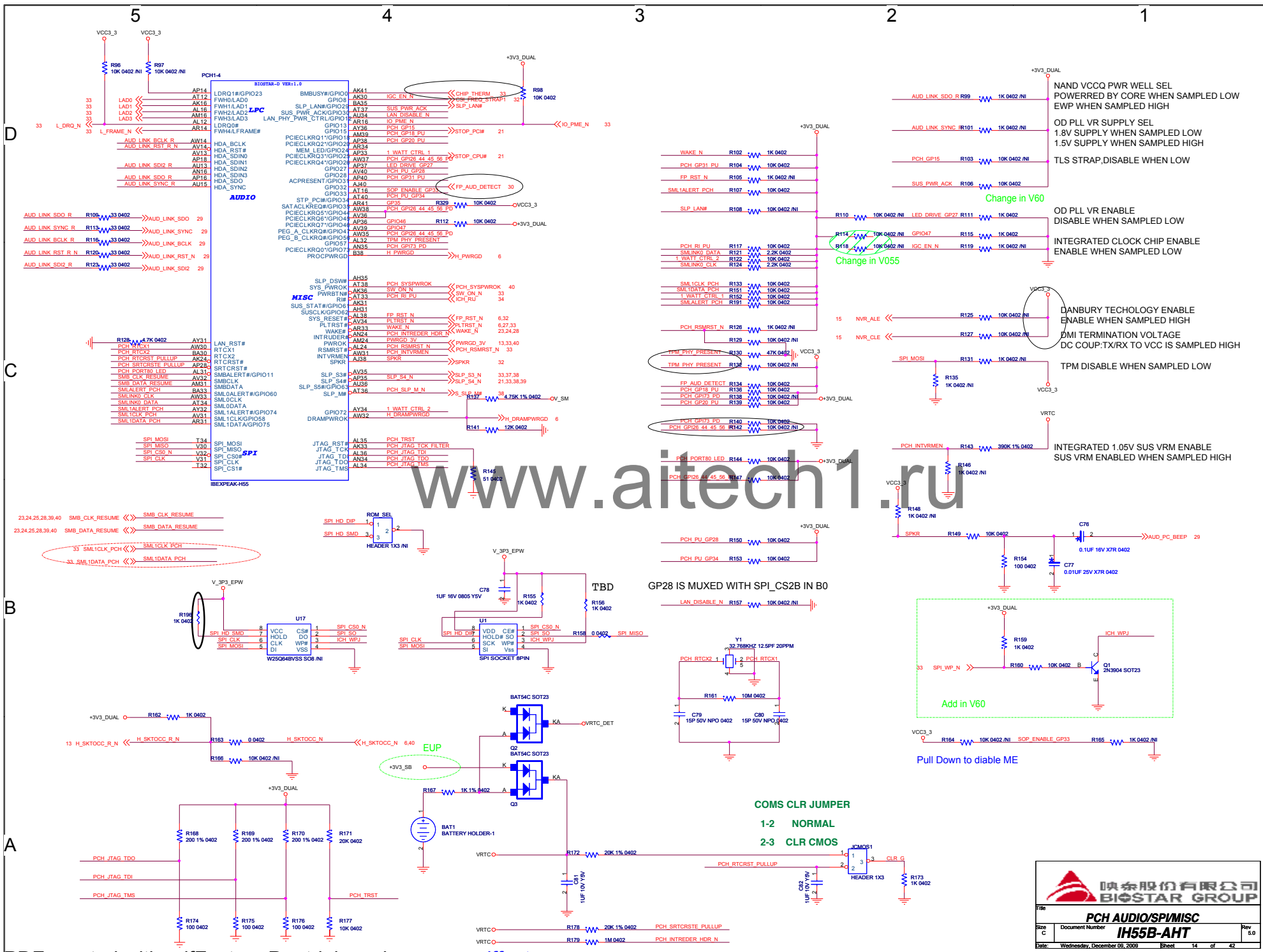
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5

4

3

2

1

D

D

C

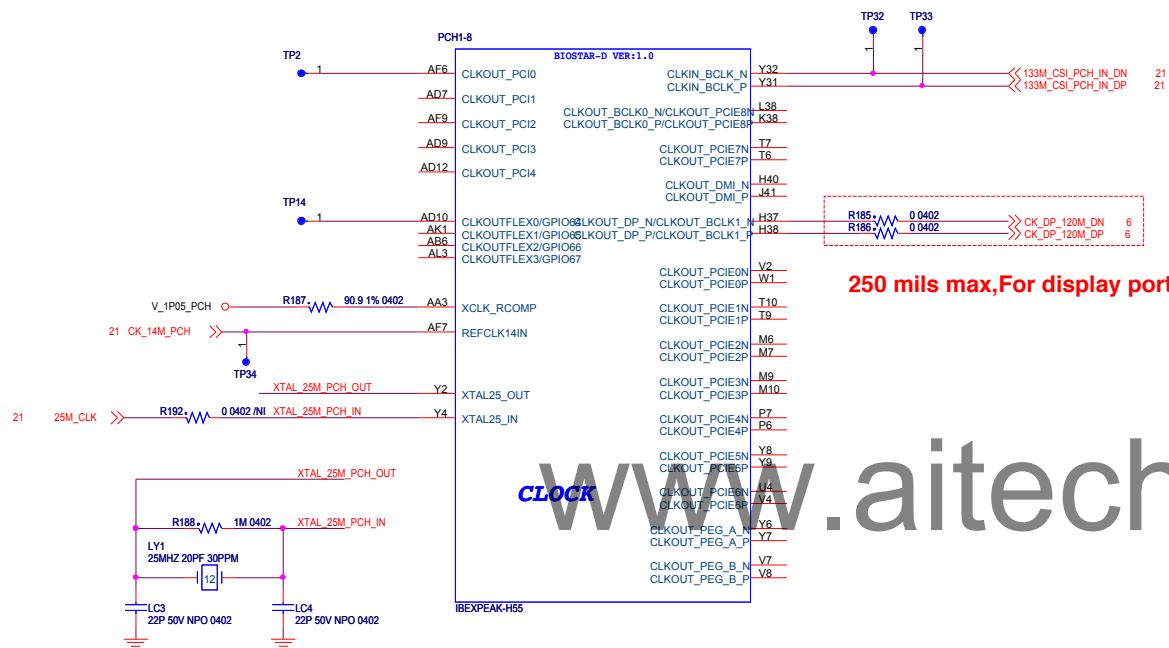
C

B

B

A

A



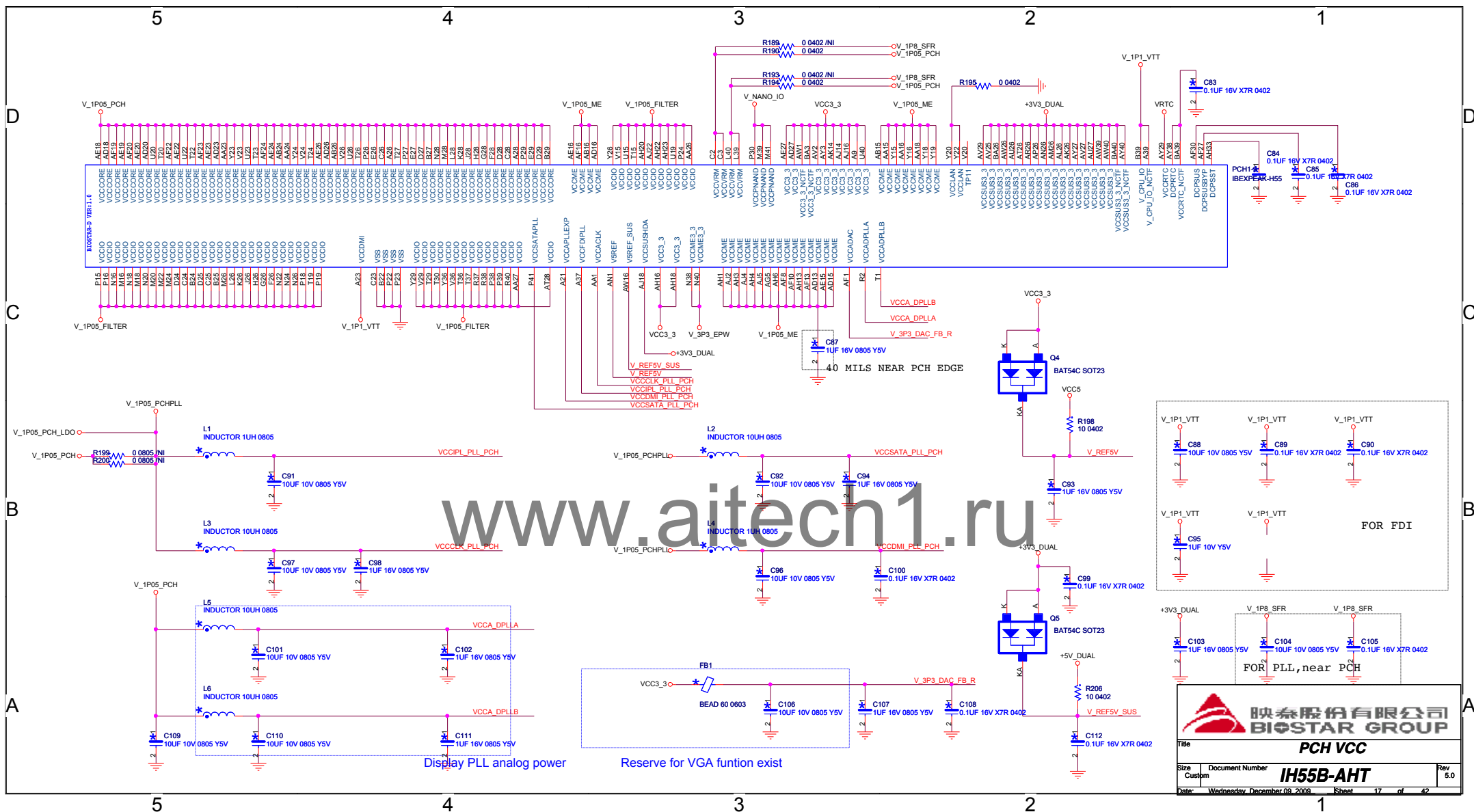
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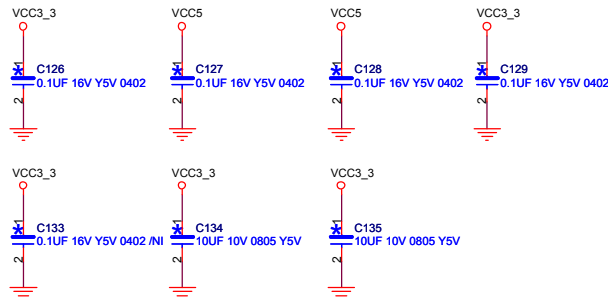
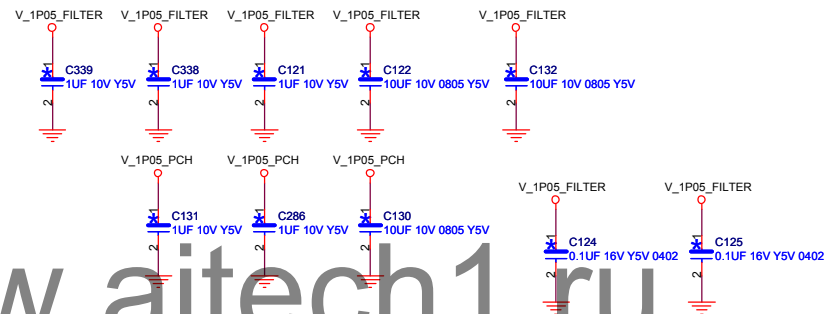
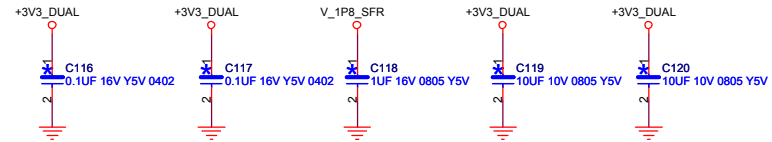
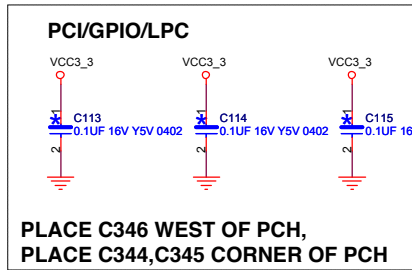
$$C_e = 2 * CL - (C_s + C_i)$$

Ci: PIN CAPACITANCE IS 3-6 pF


Cs: trace capacitance is 3 to 10

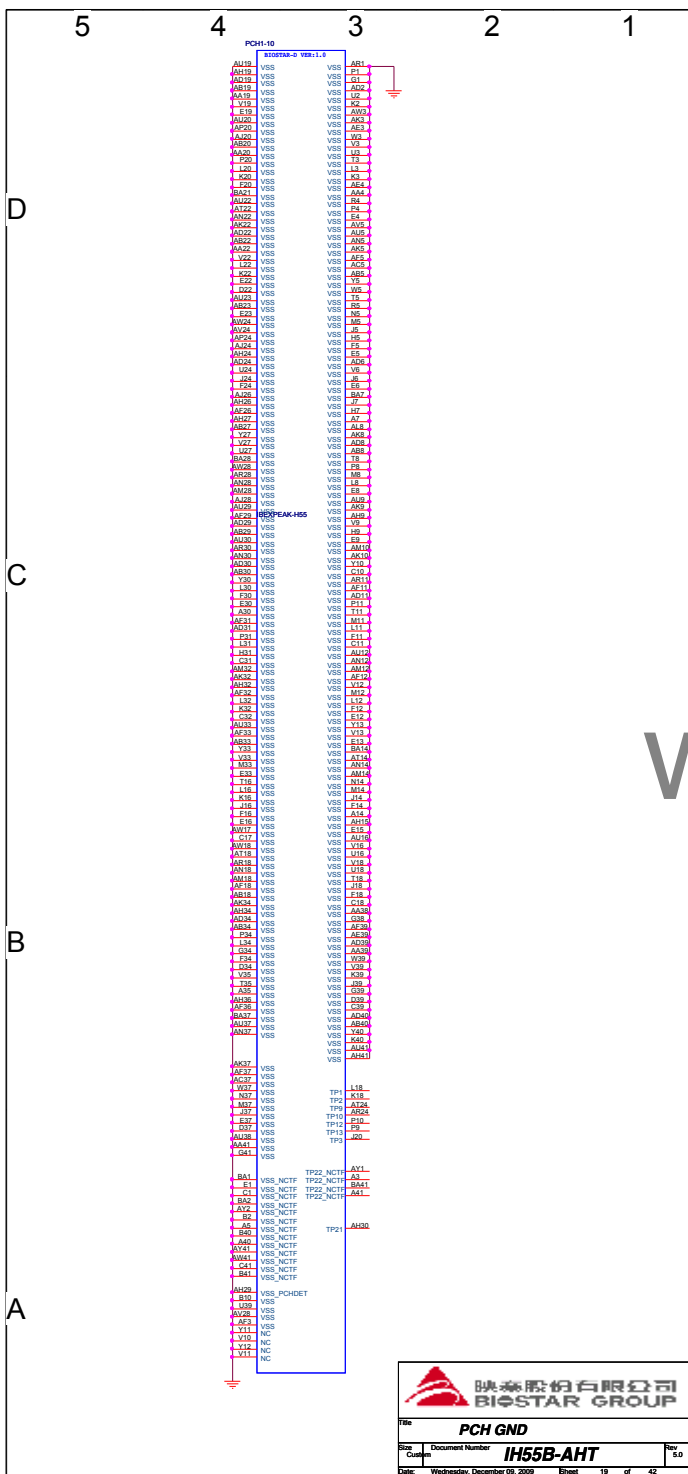
 映泰股份有限公司 BIOSSTAR GROUP	
PCH CLOCKS	
Title Size Custom	Document Number IH55B-AHT
Date Wednesday, December 09, 2009	Rev 5.0
Sheet 16 of 42	



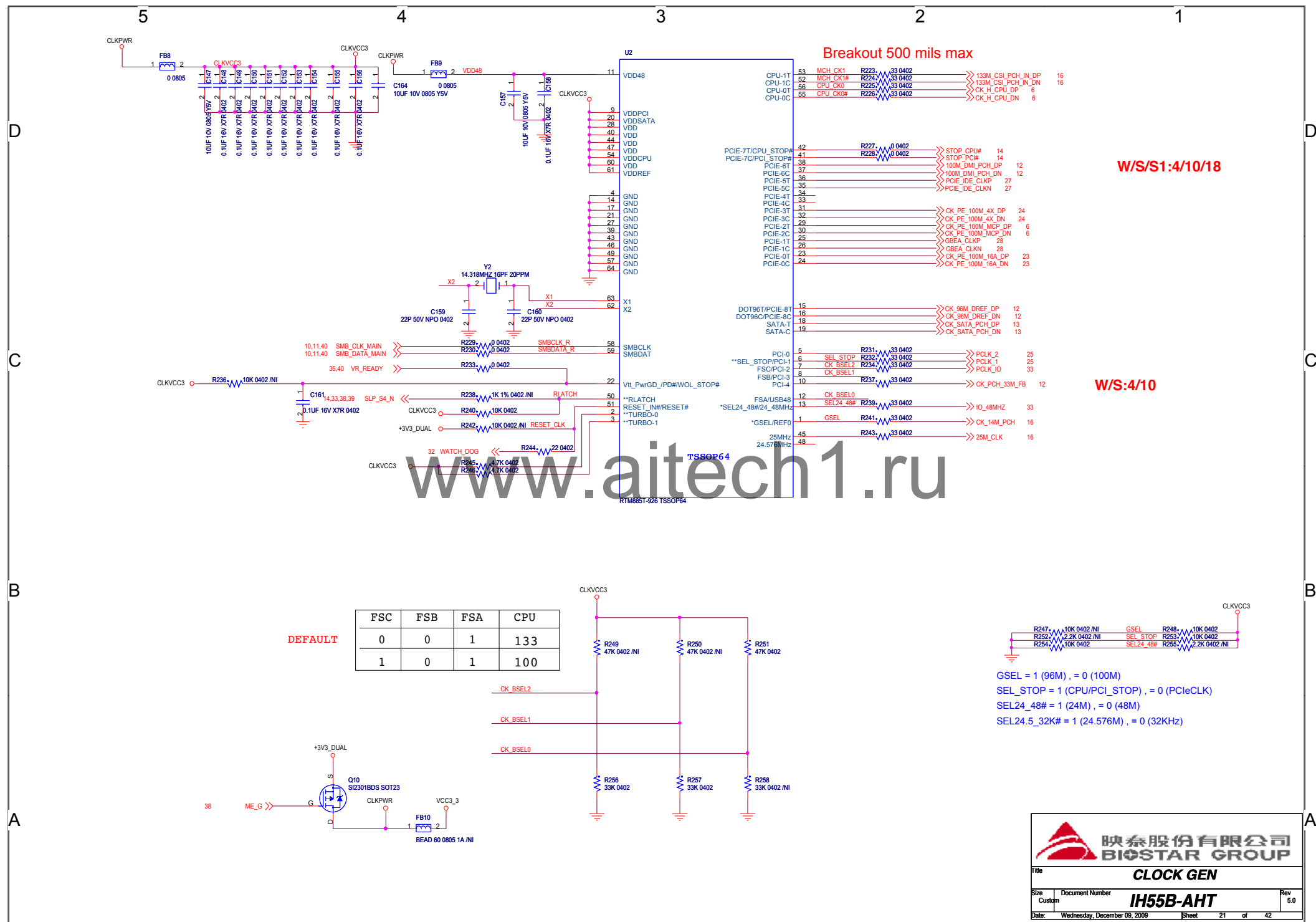


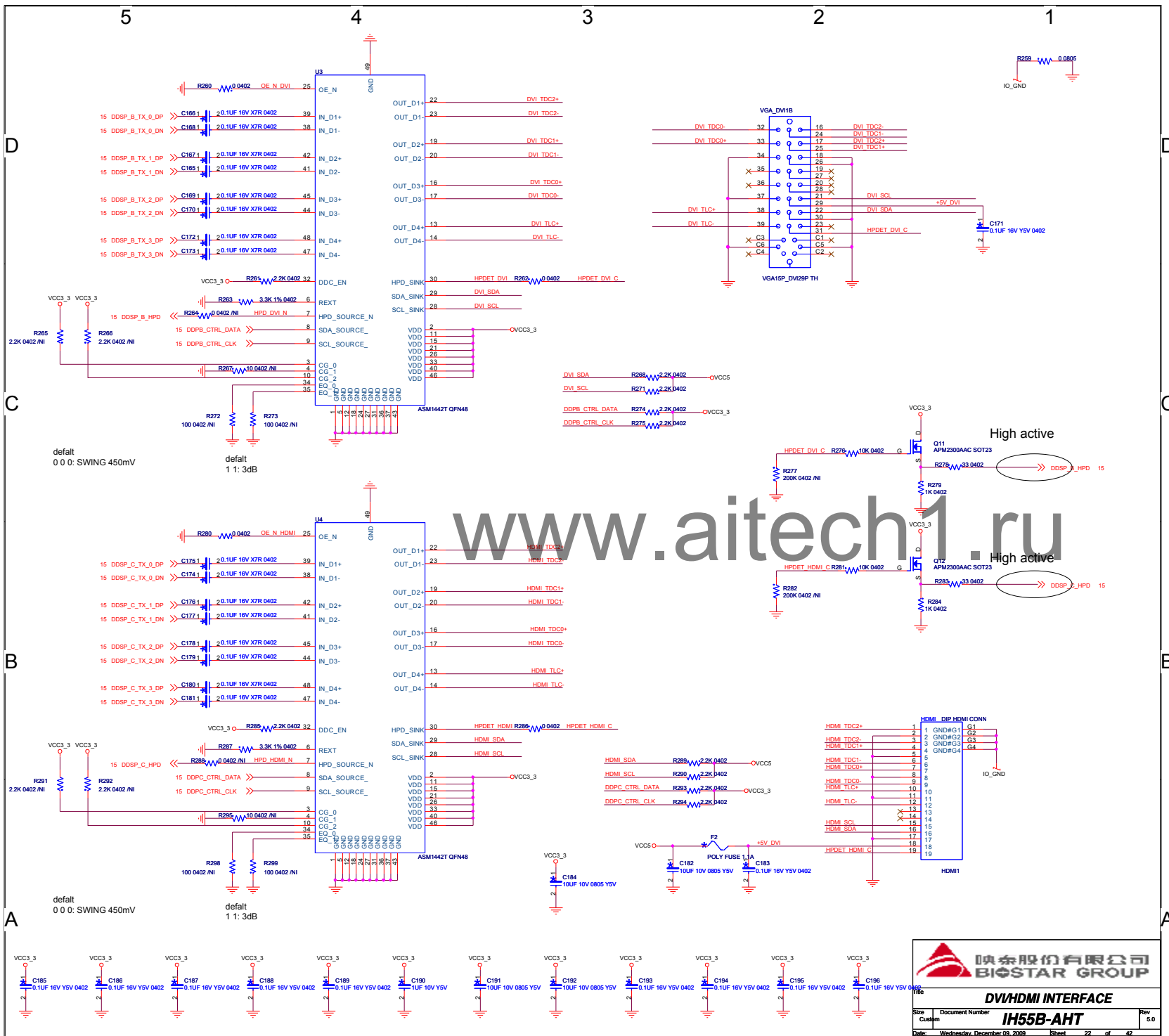
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Title PCH DECOUPLING CAPS			
Size Custom	Document Number IH55B-AHT		Rev 5.0
Date: Wednesday, December 09, 2009 Sheet 18 of 42			

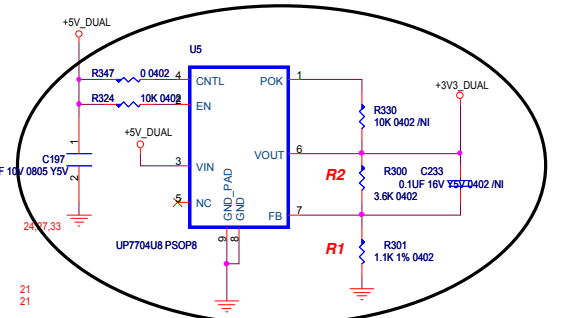
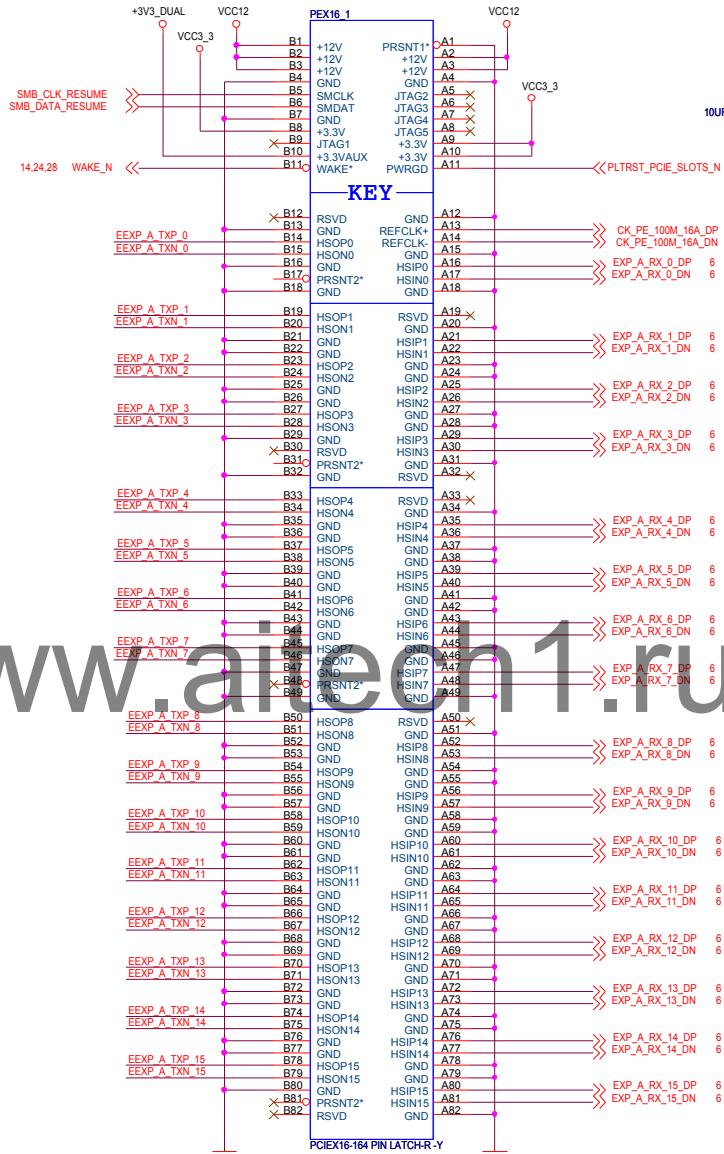


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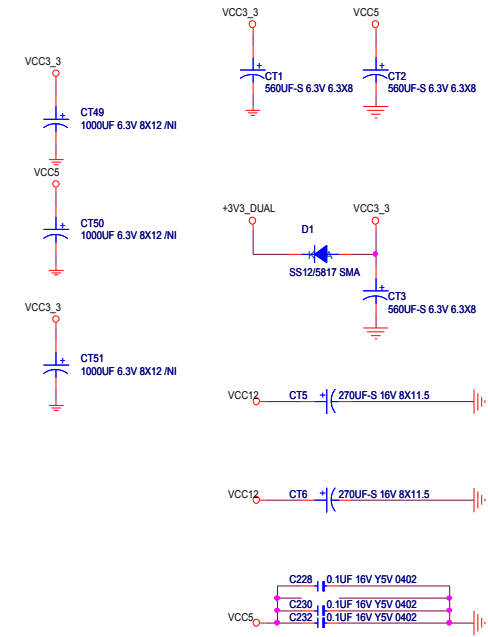
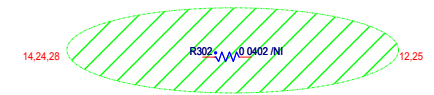


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6	EXP_A_TX_1_DN	EXP_A_TXN_1	C201	1	2	0.1UF 16V X7R 0402	EEXP_A_TXN_1
6	EXP_A_TX_2_DP	EXP_A_TXN_2	C202	1	2	0.1UF 16V X7R 0402	EEXP_A_TXP_2
6	EXP_A_TX_2_DN	EXP_A_TXN_2	C203	1	2	0.1UF 16V X7R 0402	EEXP_A_TXN_2
6	EXP_A_TX_3_DP	EXP_A_TXN_3	C204	1	2	0.1UF 16V X7R 0402	EEXP_A_TXP_3
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$$V_{out} = V_{ref} (0.8V) \times (R2/R1 + 1) = 3.42V$$

Pre-reserve in V60

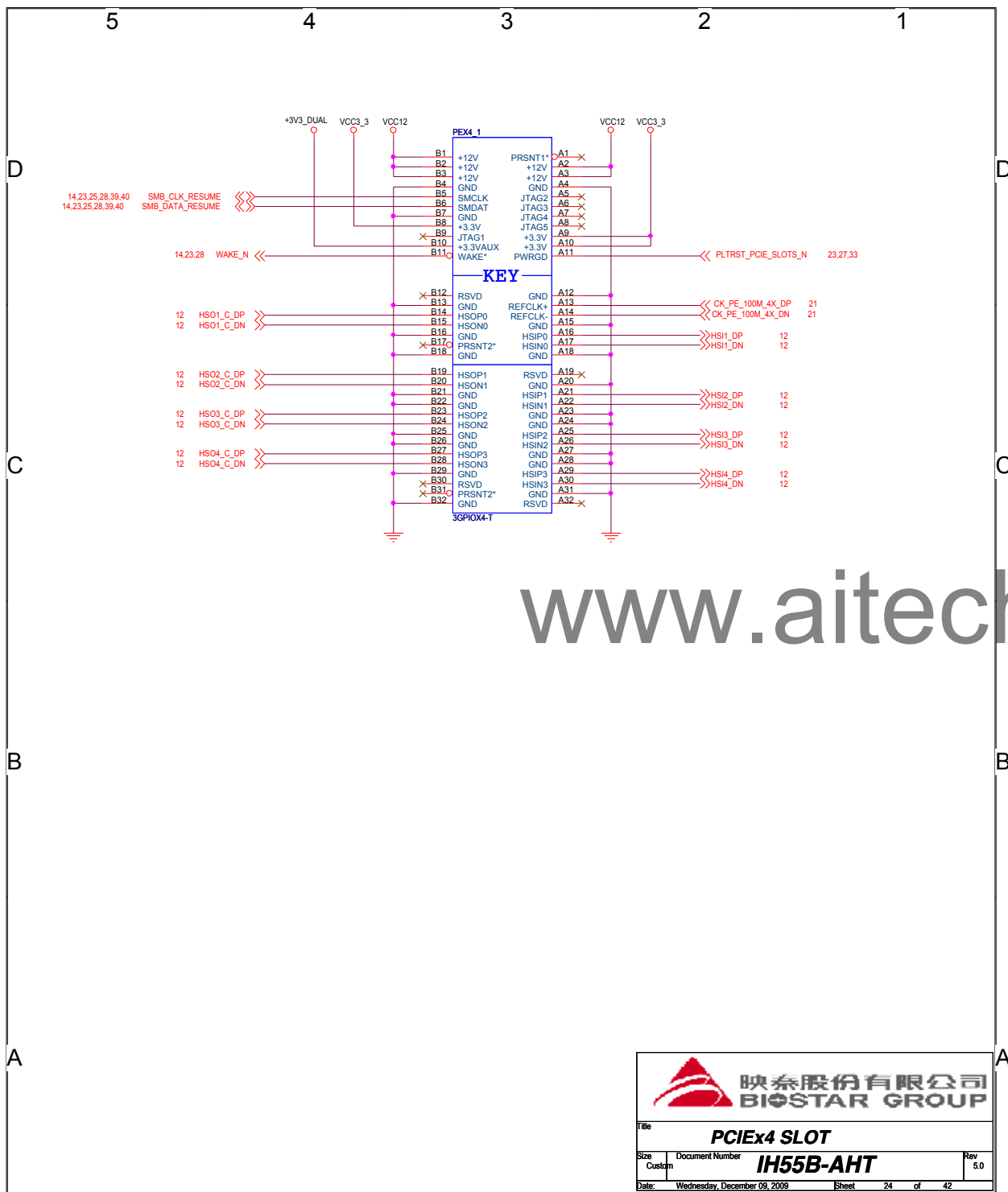


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Title: **PCI-E 16 SLOT**

Size: Custom Document Number: **IH55B-AHT** Rev: 5.0

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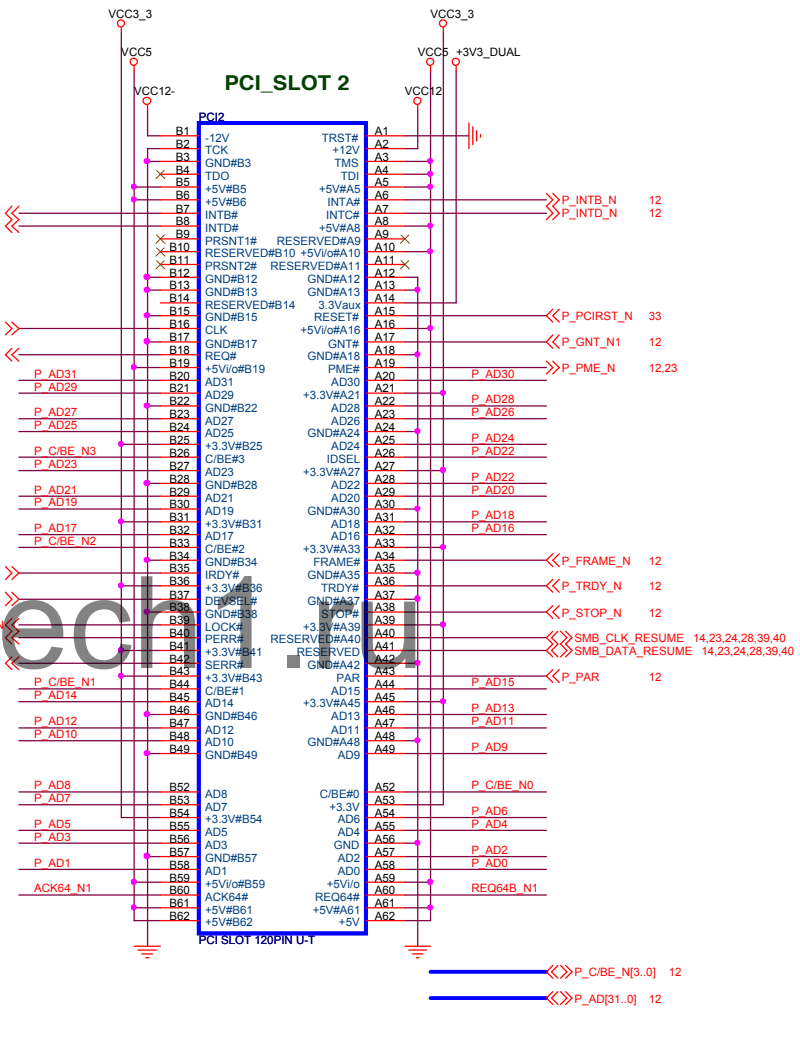
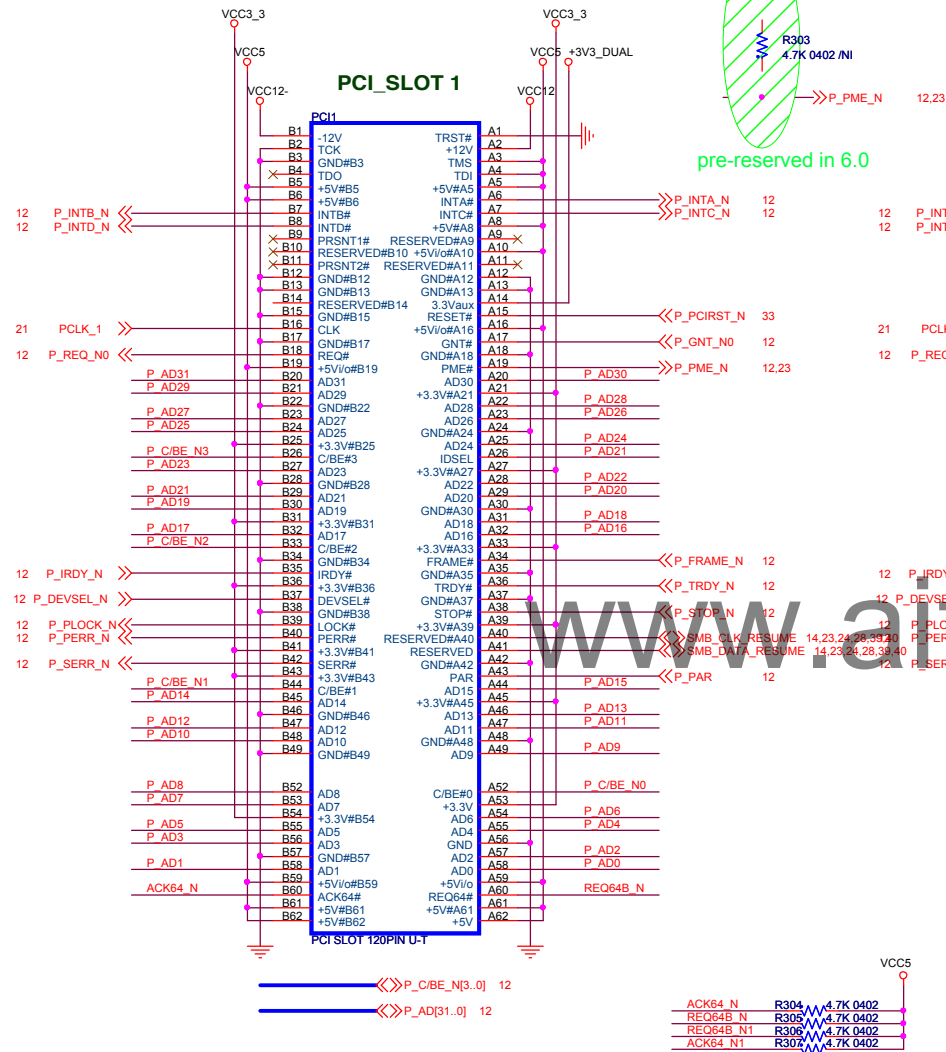
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Size: Custom Document Number: **IH55B-AHT** Rev: 5.0

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IDSEL:AD21 , INT:ABCD , REQ0 & GNT0 , PCI_CLK1

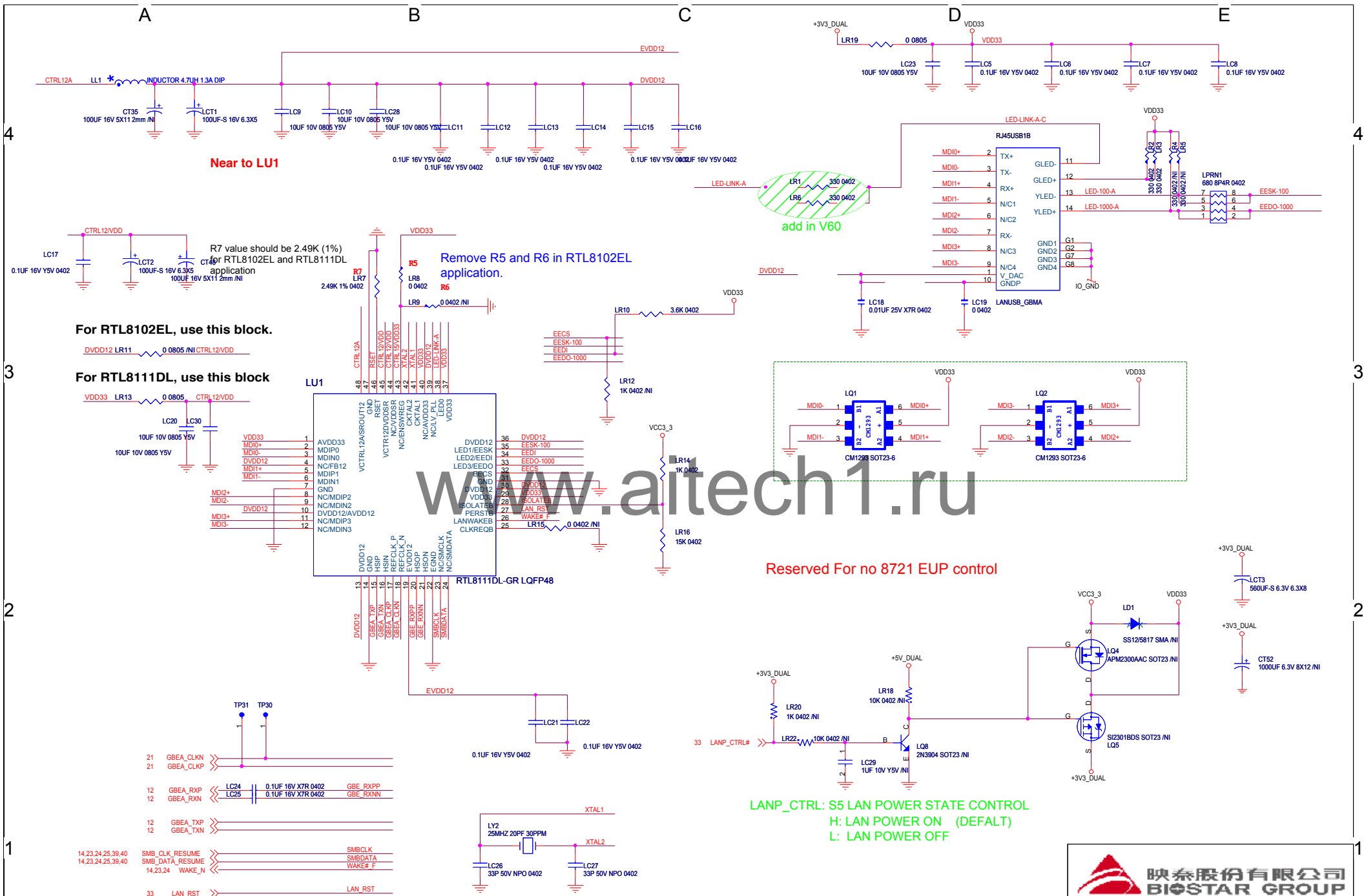
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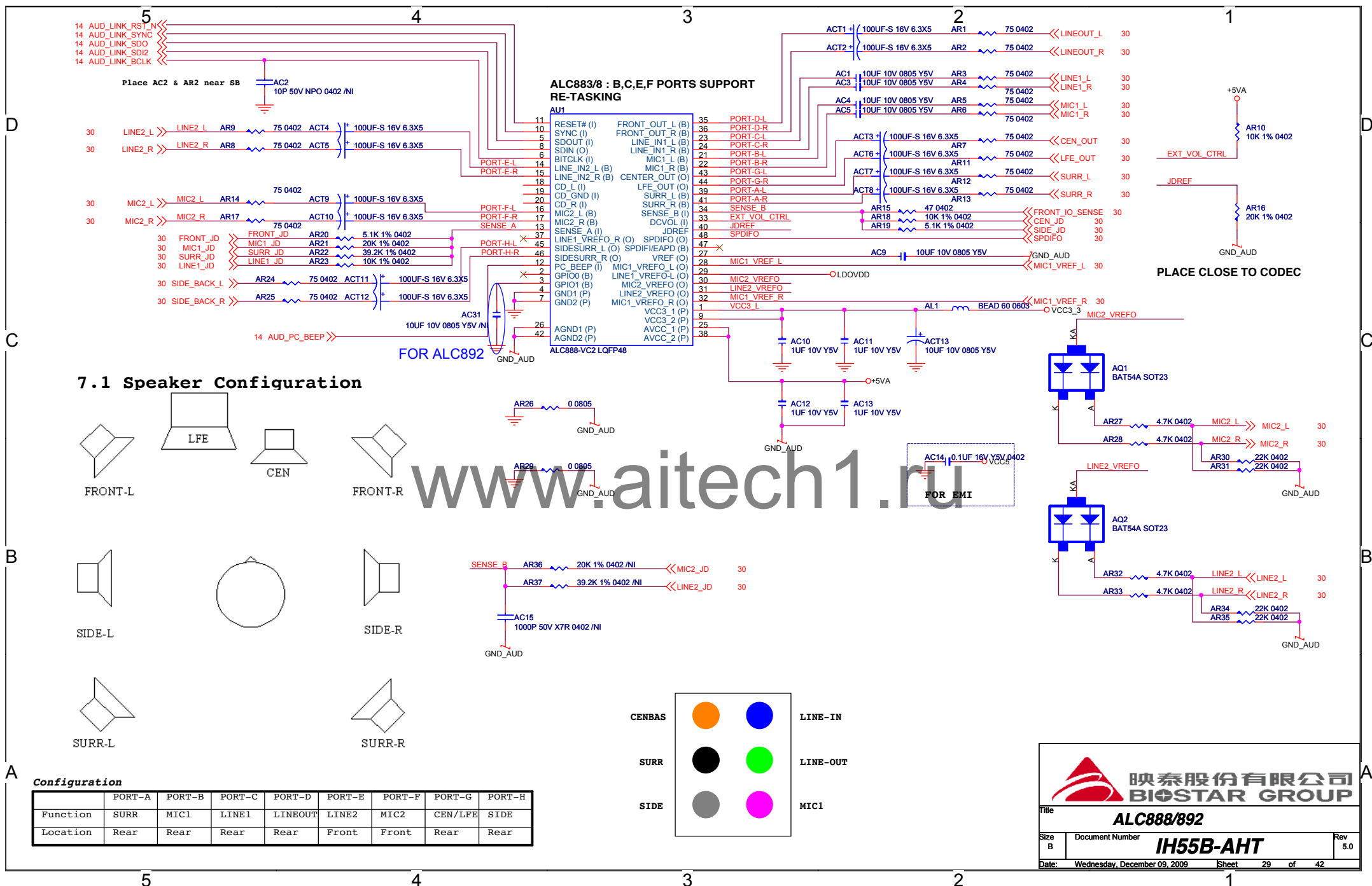
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Size	Document Number	Rev
Custom	IH55B-AHT	5.0
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Title RESERVED FOR 1394		
Size Custom	Document Number IH55B-AHT	Rev 5.0
Date: Wednesday, December 09, 2009	Sheet 26 of 42	



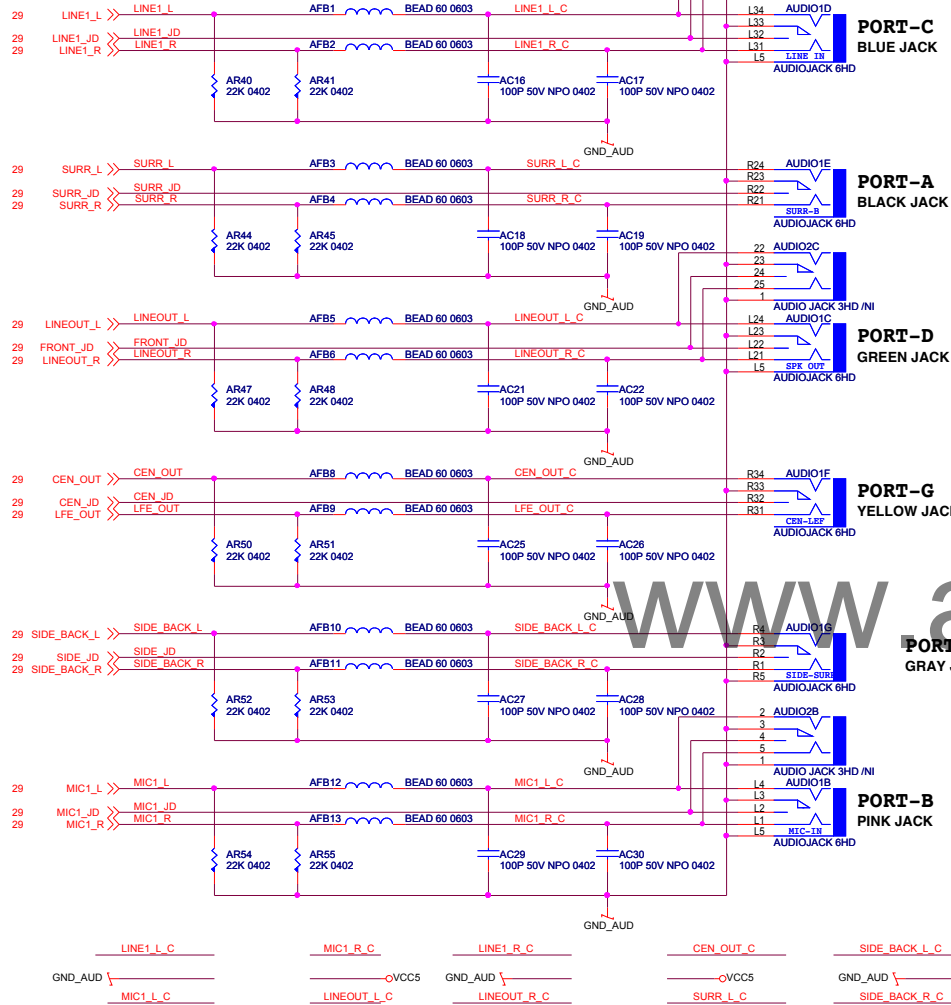
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Title: RTL8111DL/RTL8102EL			
Size:	Document Number	Rev	
	Custom	IH55B-AHT	
Date:	Wednesday, December 09, 2009	Sheet	28 of 42



Rear Panel Onboard Analog I/O P07 : 3-Port & 6-Port Co-lay

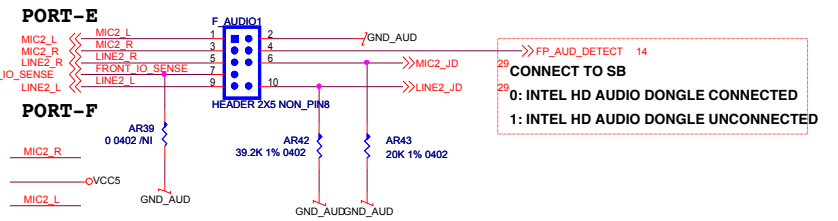
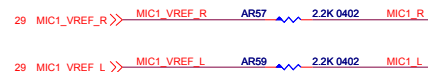
ALC883/888:B,C,E,F ports support I/P & O/P function.

But A,D,G,H ports not support MIC function.

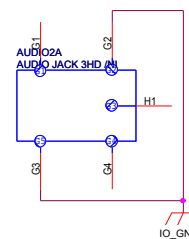
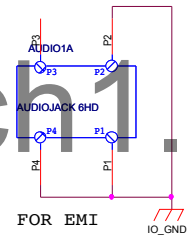
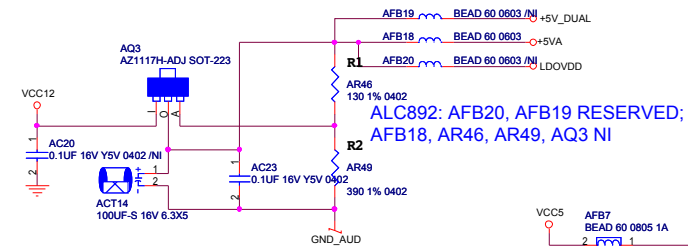


Place near Audio conn.

FOR ALC88X/861



Place near JAUDIOF1. AUDIO ANALOG POWER $V_{OUT}=1.25(1+R2/R1)$



	ALC883/8	ALC861VD
HDA Interface	Yes	Yes
DAC	5 DAC	4 DAC
	7.1Ch + 2 Ch	7.1Ch
DAC SNR	95dB	90dB
GPIO for Vref	None	None
SPDIF-I	Yes	No
SPDIF-O	Yes	Yes
Re-Tasking	4-PORTS	Port D,E,F

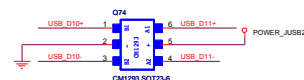
V0.51 Add EMI component CM1293 S0223-6

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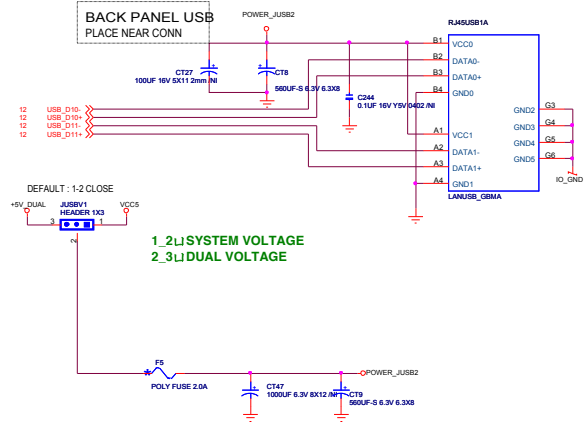
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Size: Custom Document Number: **IH55B-AHT** Rev: 5.0

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BACK PANEL USB
PLACE NEAR CONN



1.2u SYSTEM VOLTAGE
2.3u DUAL VOLTAGE

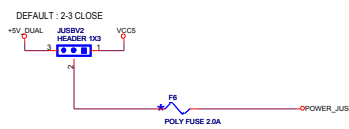
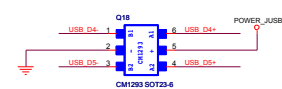
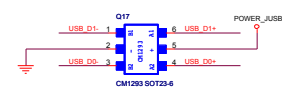
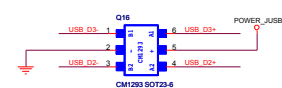
REAR USB PORT

FRONT USB PORT

FRONT PANEL USB

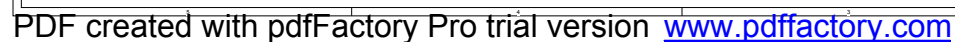
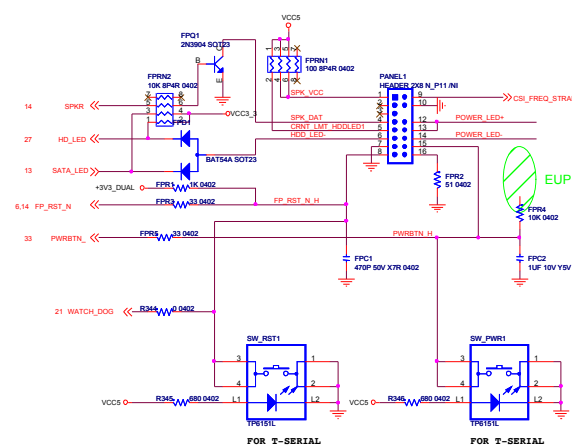
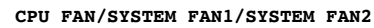
FRONT PANEL USB

FRONT PANEL USB




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 Drawn: **IH55B-AHT**
 Checked: **IH55B-AHT**
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POWER CONNECTOR

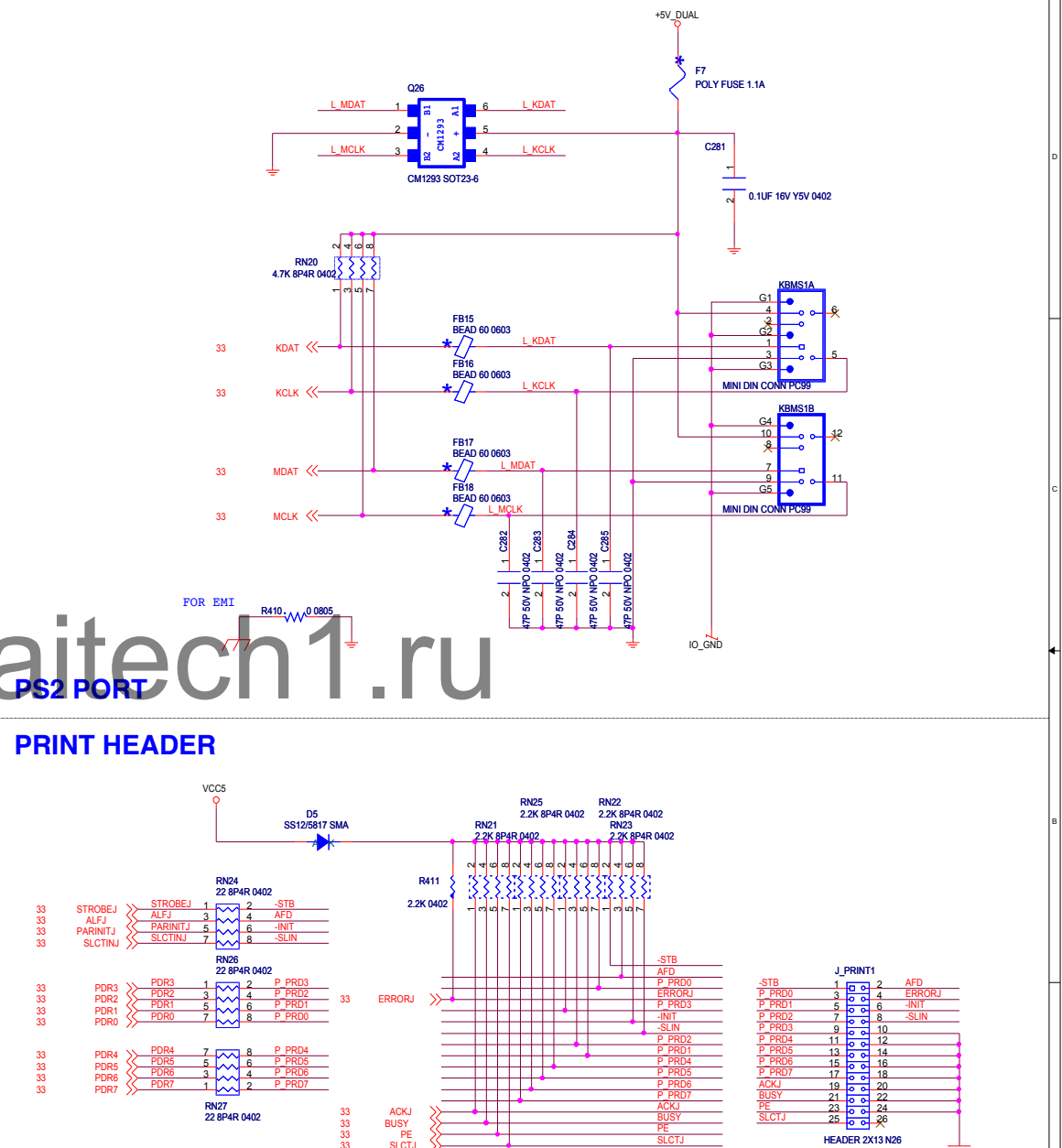
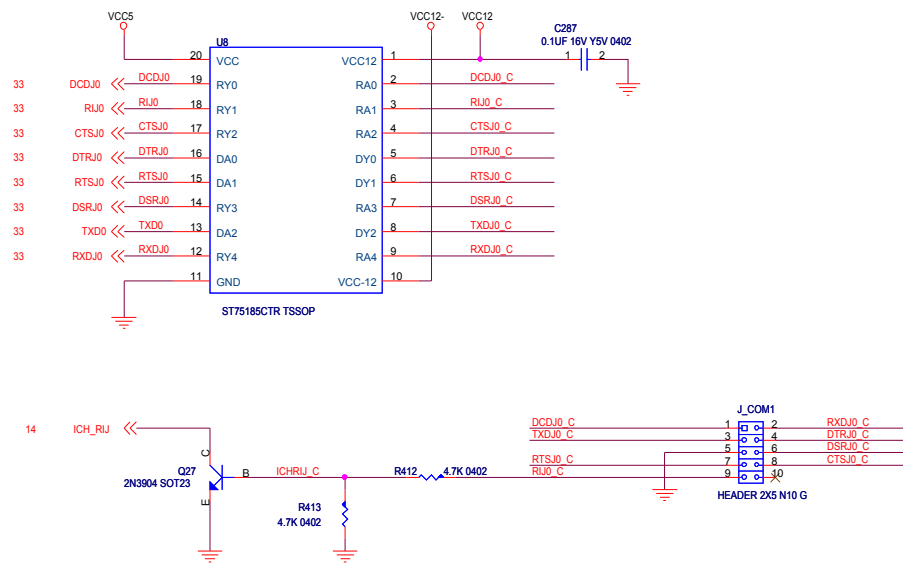


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FLOPPY CONNECTOR PS2 PORT

COM HEADER

PRINT HEADER

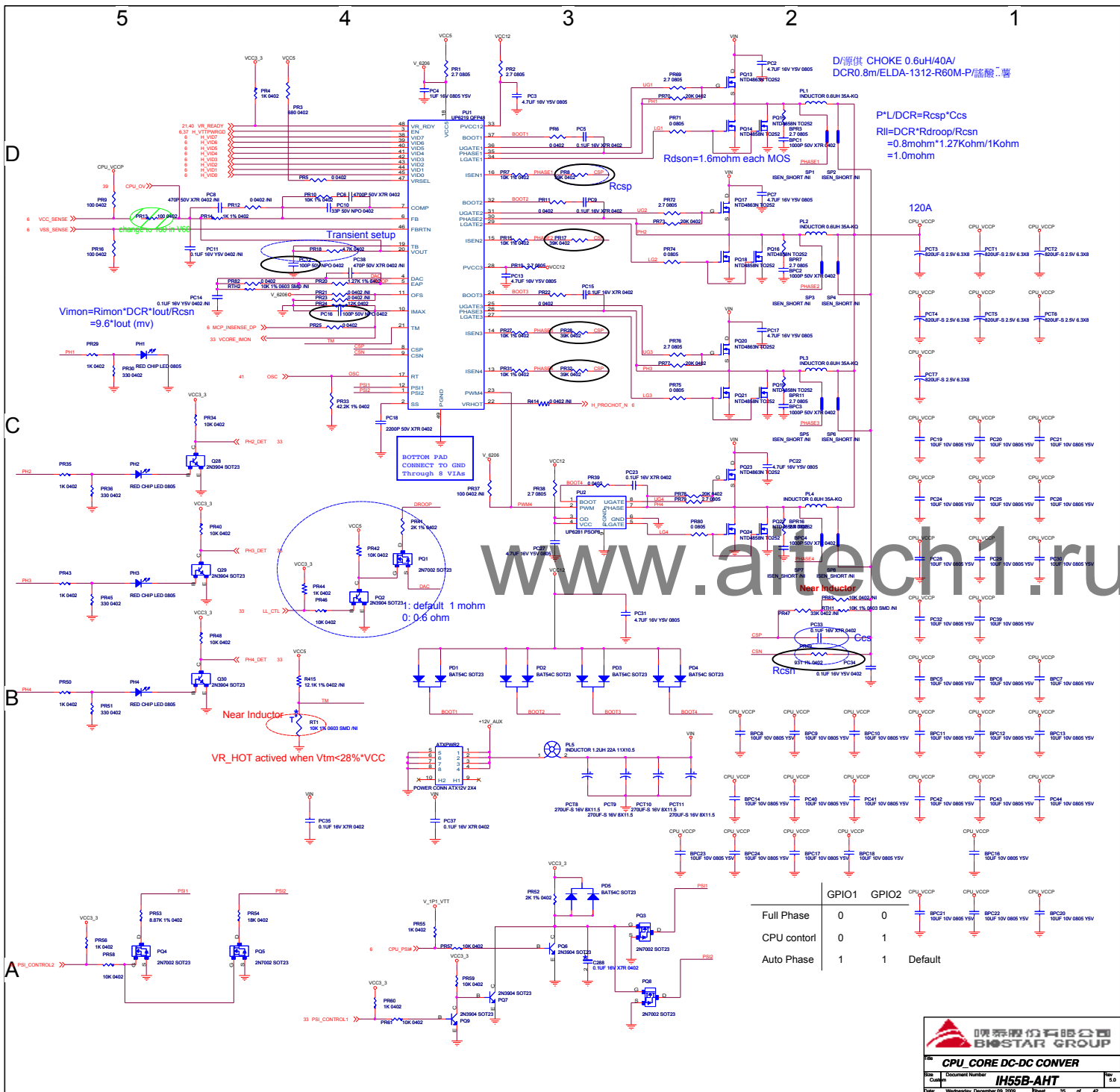


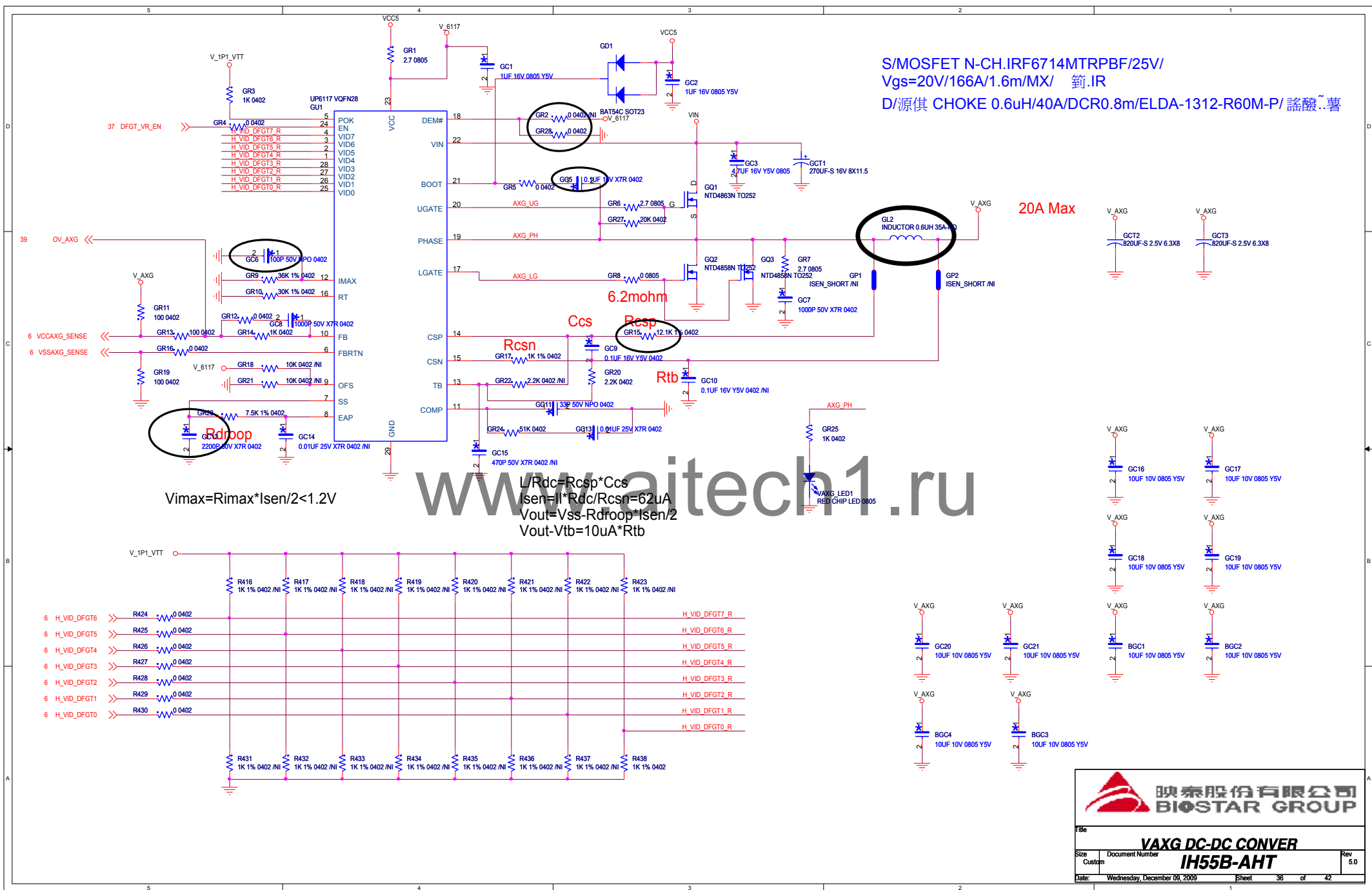
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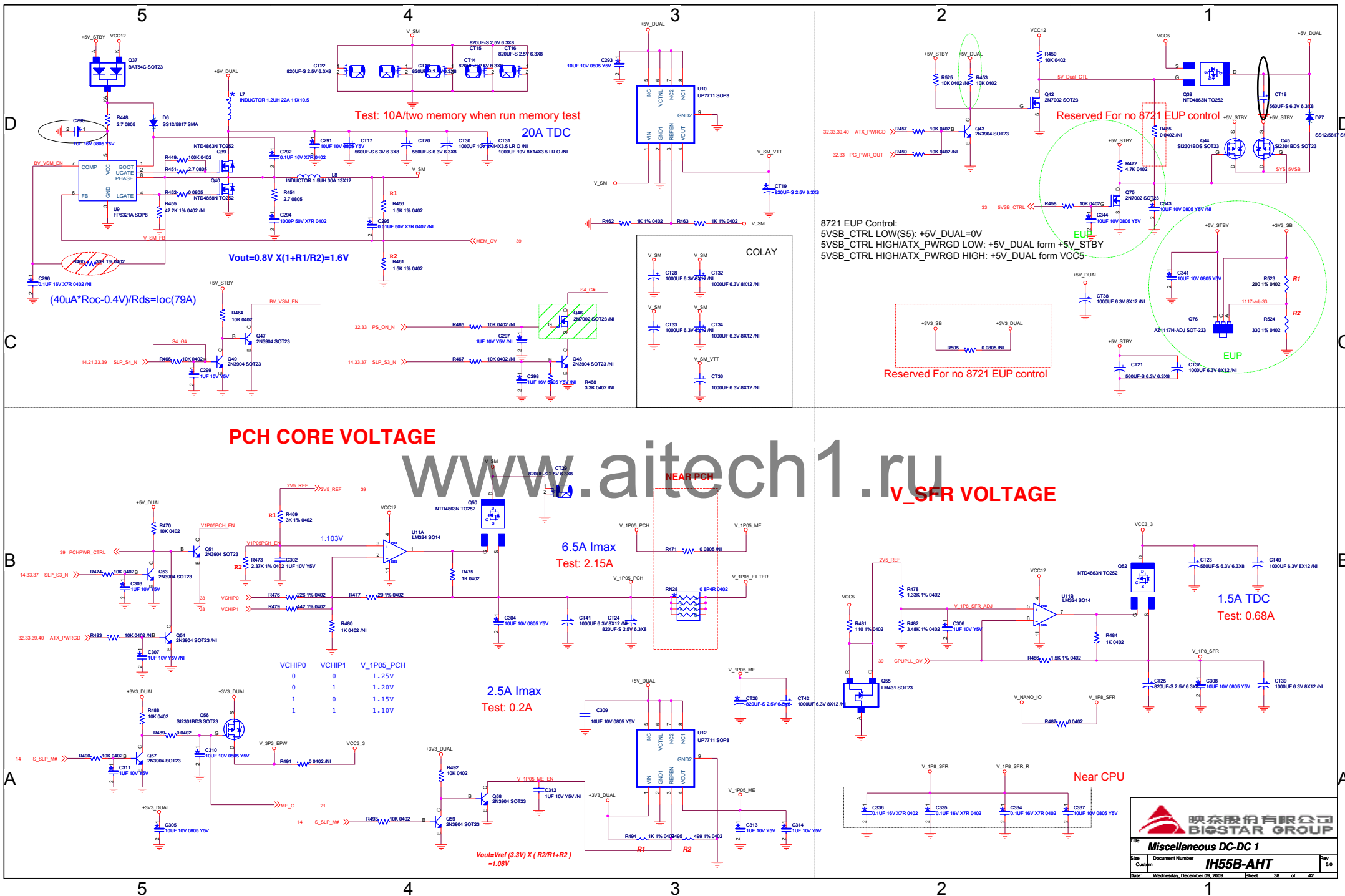
FDD / PS2 CONN

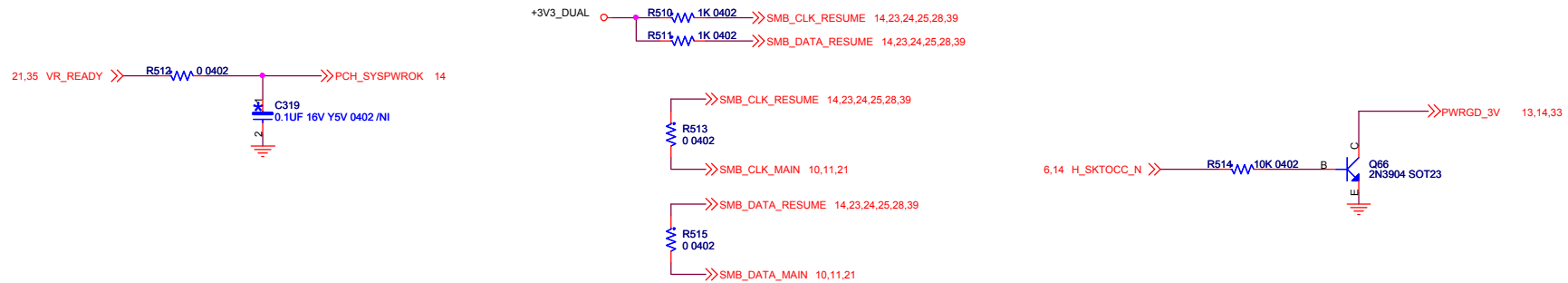
Size: Custom Document Number: **IH55B-AHT** Rev: 5.0

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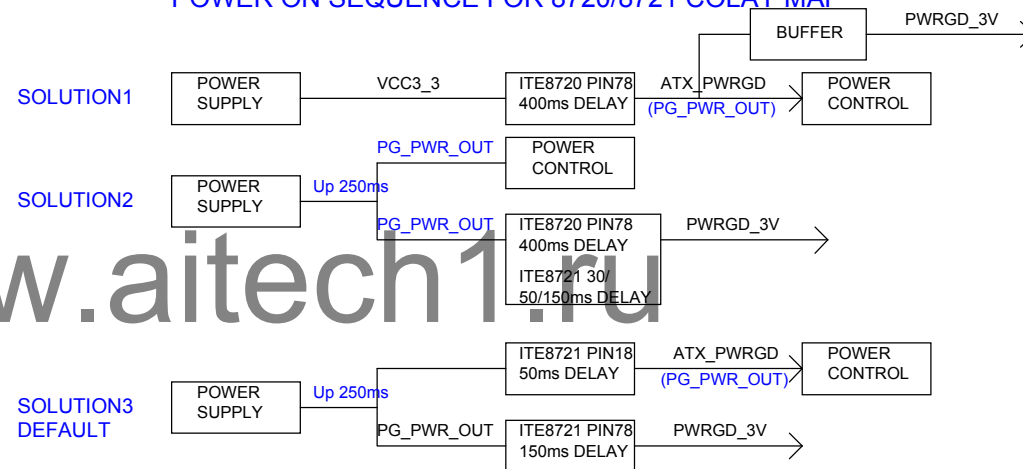




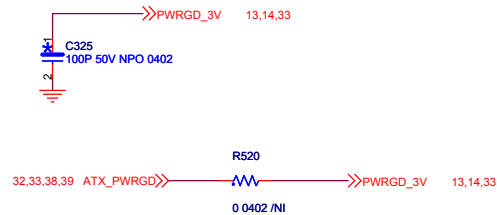




POWER ON SEQUENCE FOR 8720/8721 COLAY MAP



FALL TIME:40mv/us



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Title **RESET BUFFER AND SEQUENCE**

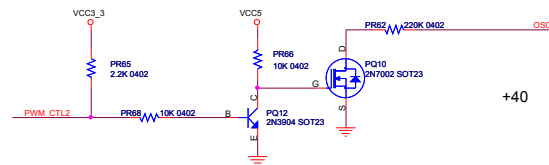
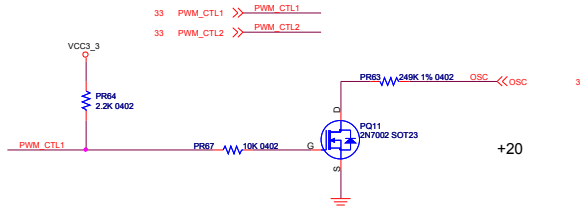
Size Custom Document Number **IH55B-AHT** Rev 5.0

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PWM Frequency Control

6206: $F_{sw} = 1000 / R_{osc}(\text{Kohm})$
 $= 200\text{kHz}$
 6219: $F_{sw} = 300 * (24\text{K} / R_{osc})^{0.92}$
 $= 200\text{kHz}$

PWM_CTL1	PWM_CTL2	FREQUENCY
0	0	220K
0	1	180K
1	0	240K
1	1	200K default



Turbo Control

Preserved for GPIO control

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SIO_TC1	SIO_TC0	Pin_72 Turbo-1	Pin_71 Turbo-0
1	1	0	0
1	0	0	1
0	1	1	0
0	0	1	1

Turbo Table

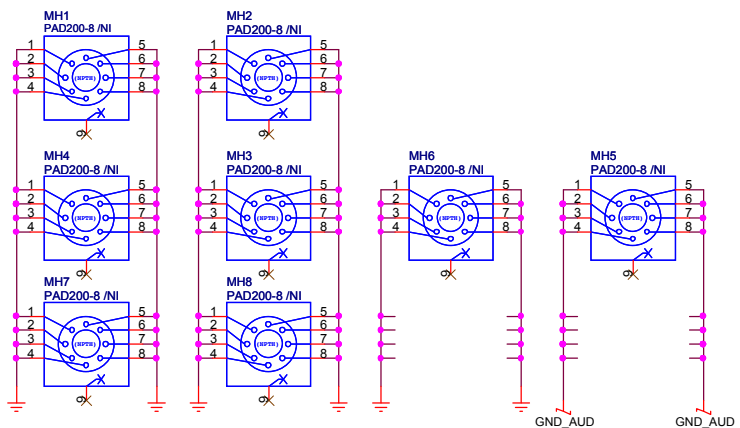
CPU STATUS	Pin_72 Turbo-1	Pin_71 Turbo-0	OUTPUT STATUS	PLL1	PLL3
DEFAULT	0	0	Power on default	CR11 / 13h	CR12 / 13h
I>50A	0	1	Turbo_Code_0	{CR0eh[6:4], CR0ch[7:0]}	{CR0eh[2:0], CR0dh[7:0]}
30A<I<50A	1	0	Turbo_Code_1	{CR14h[6:4], CR0fh[7:0]}	{CR14h[2:0], CR10h[7:0]}
I<30A	1	1	Turbo_Code_2	{CR17h[6:4], CR15h[7:0]}	{CR17h[2:0], CR16h[7:0]}

TURBO_EN	TURBO_FUNCTION
0	ENABLE
1	DISABLE DEFAULT

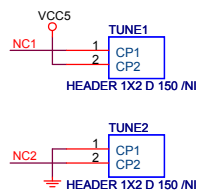

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PWM Control
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Impedance Testing Coupon



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