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H61MX

Fab A

Micro ATX 9.6X8.0

CPU:

Intel Sandy Bridge processors in LGA1155 Package

System Chipset:

PCH

Main Memory:

Dual Channel / DDR-III * 2 (Max 8GB)

On Board Device:

PCI Bridge :IT8893E/BX

SIO:IT8728F/CX

LAN:RealTek RTL8111E-VB-GR

HDA Codec:ALC888/ALC662

BIOS:SPI Flash ROM 4M

Expansion Slots:

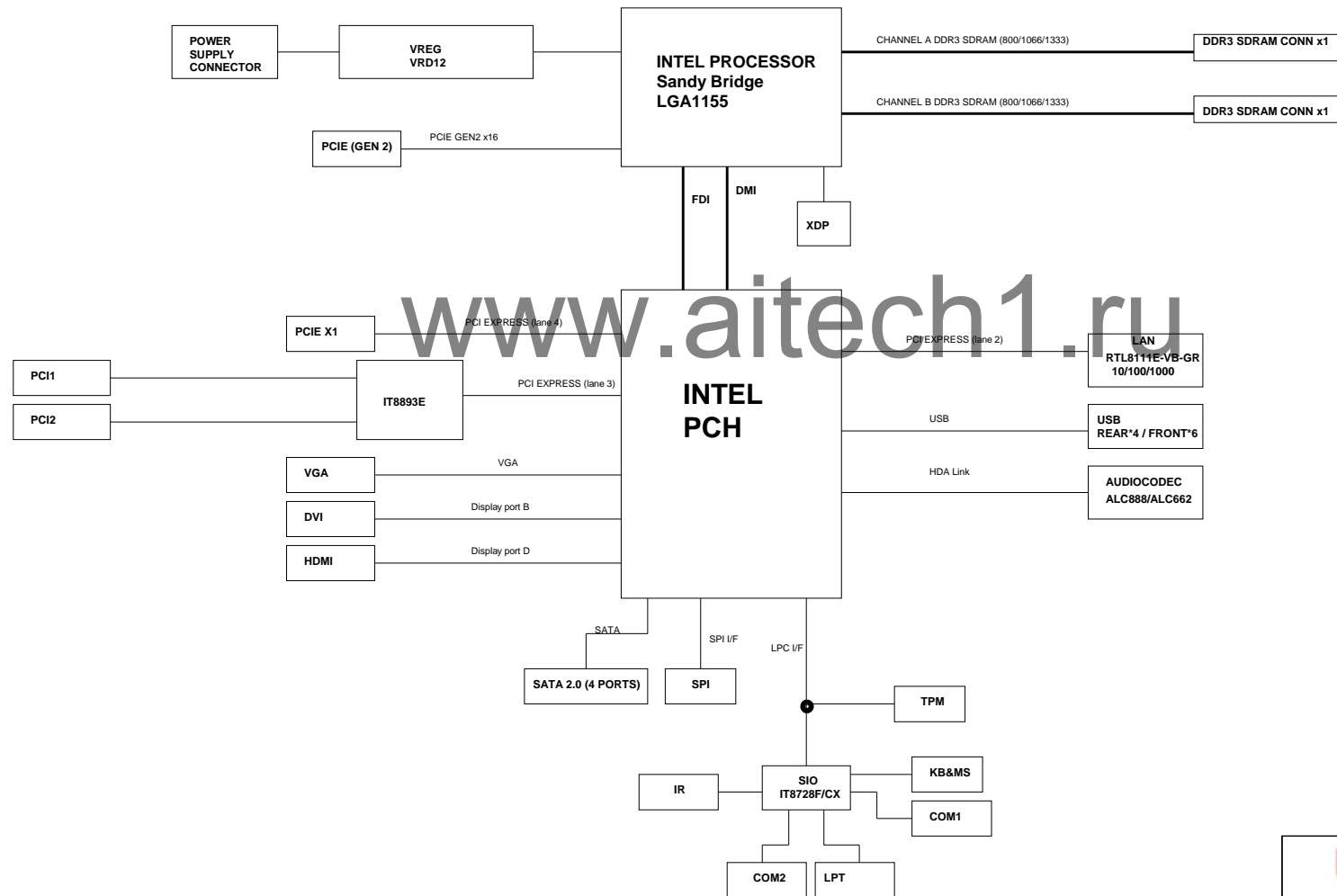
PCI EXPRESS 16X SLOT *1
PCI EXPRESS 1X SLOT *1
PCI SLOT *2

Version	Function	SKU	BOM
Fab. A			



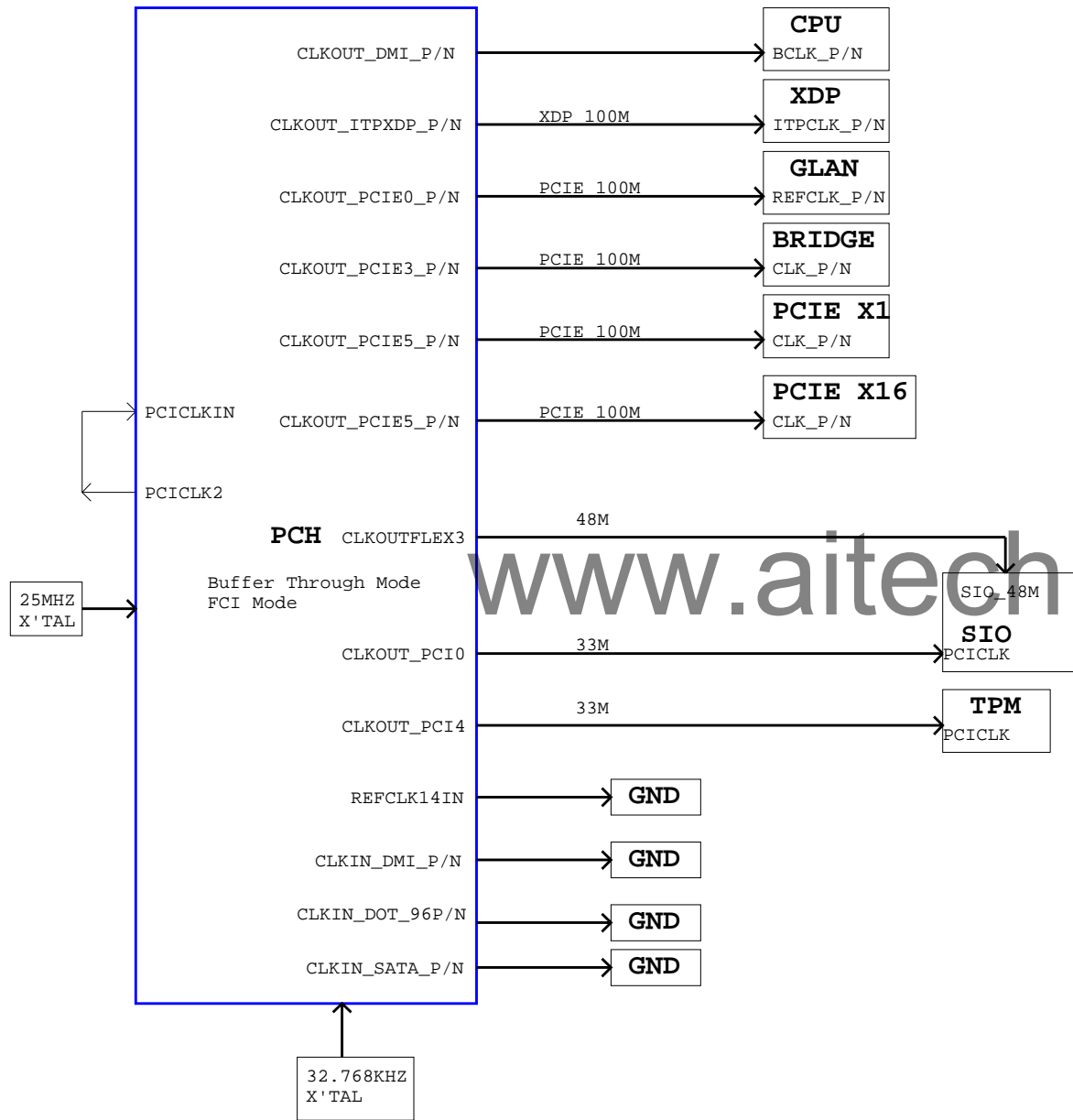
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BLOCK DIAGRAM

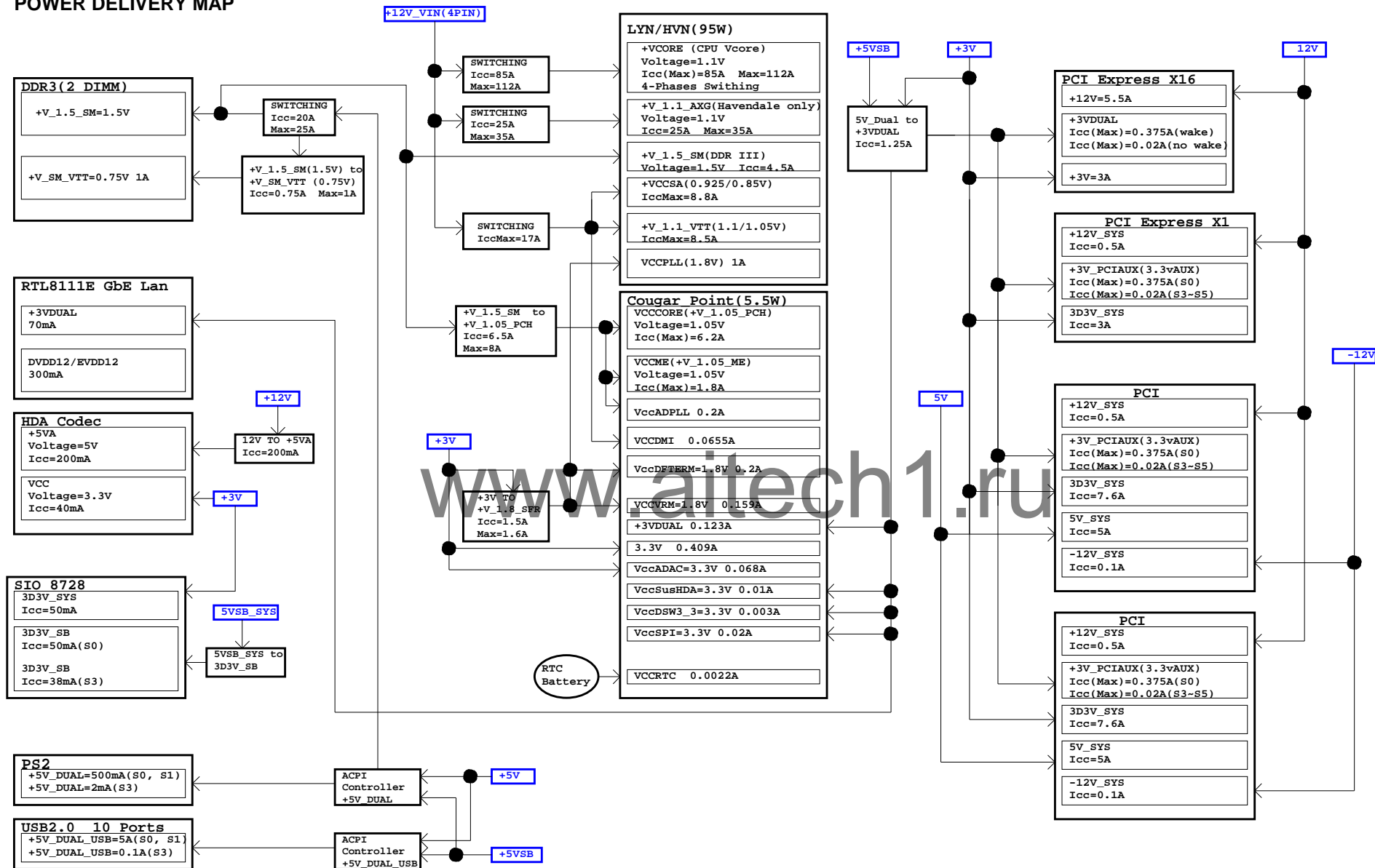


 FOXCONN PCEG		
File Block Diagram		
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CLOCK DISTRIBUTION



POWER DELIVERY MAP



POWER ON SEQUENCE

G3 w/RTC Loss to S4/S5 (Without Deep S4/S5 Support) Timing Diagram

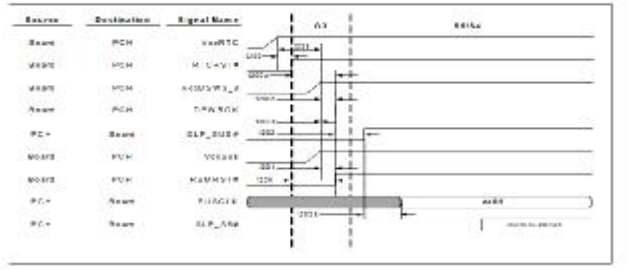


Figure 8-4. S3/M3 to S0 Timing Diagram

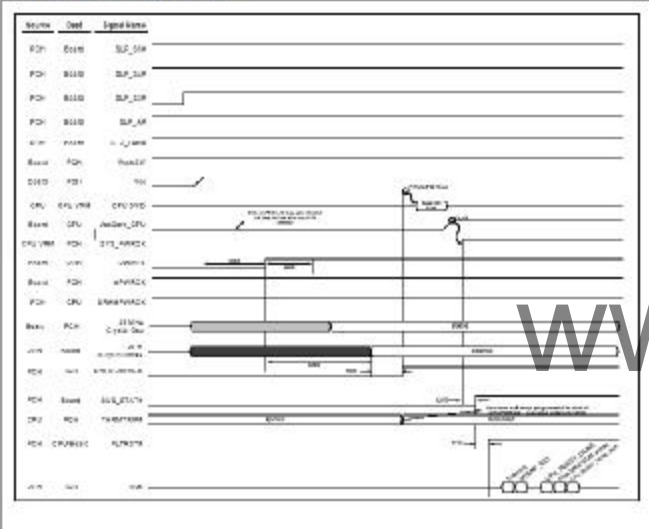


Figure 8-6. DRAMPWROK Timing Diagram

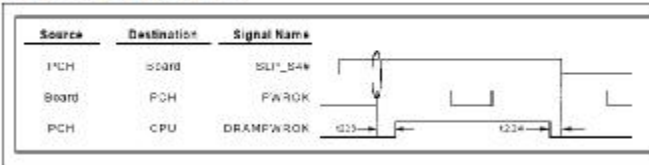


Figure 8-3. S5 to S0 Timing Diagram

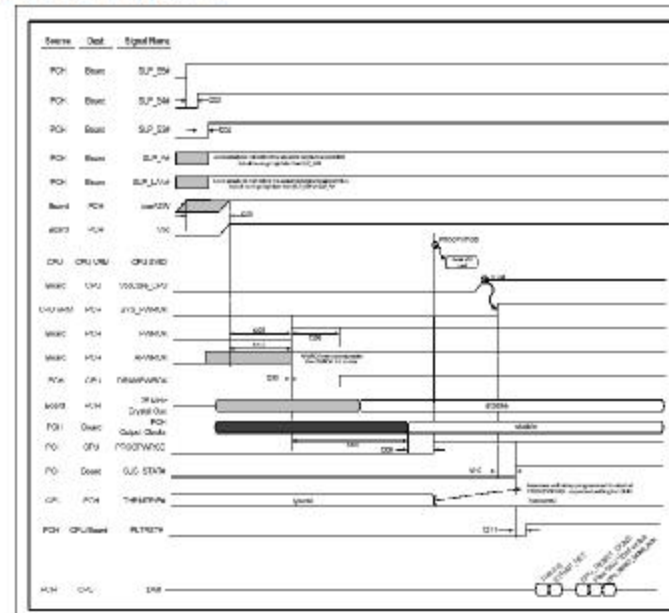
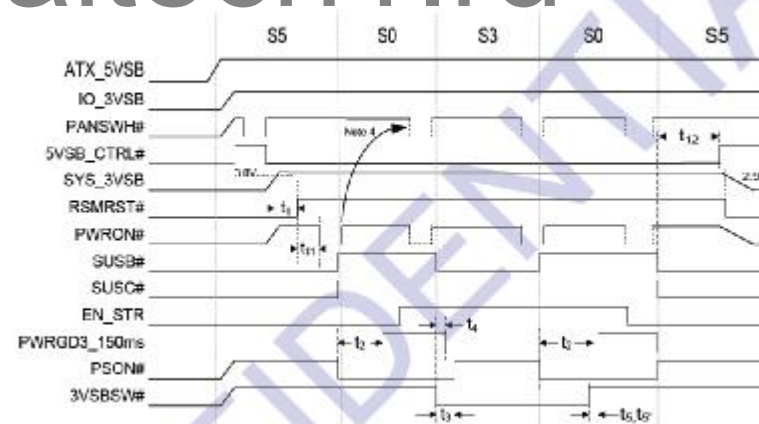
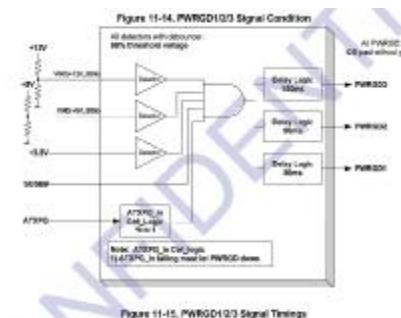
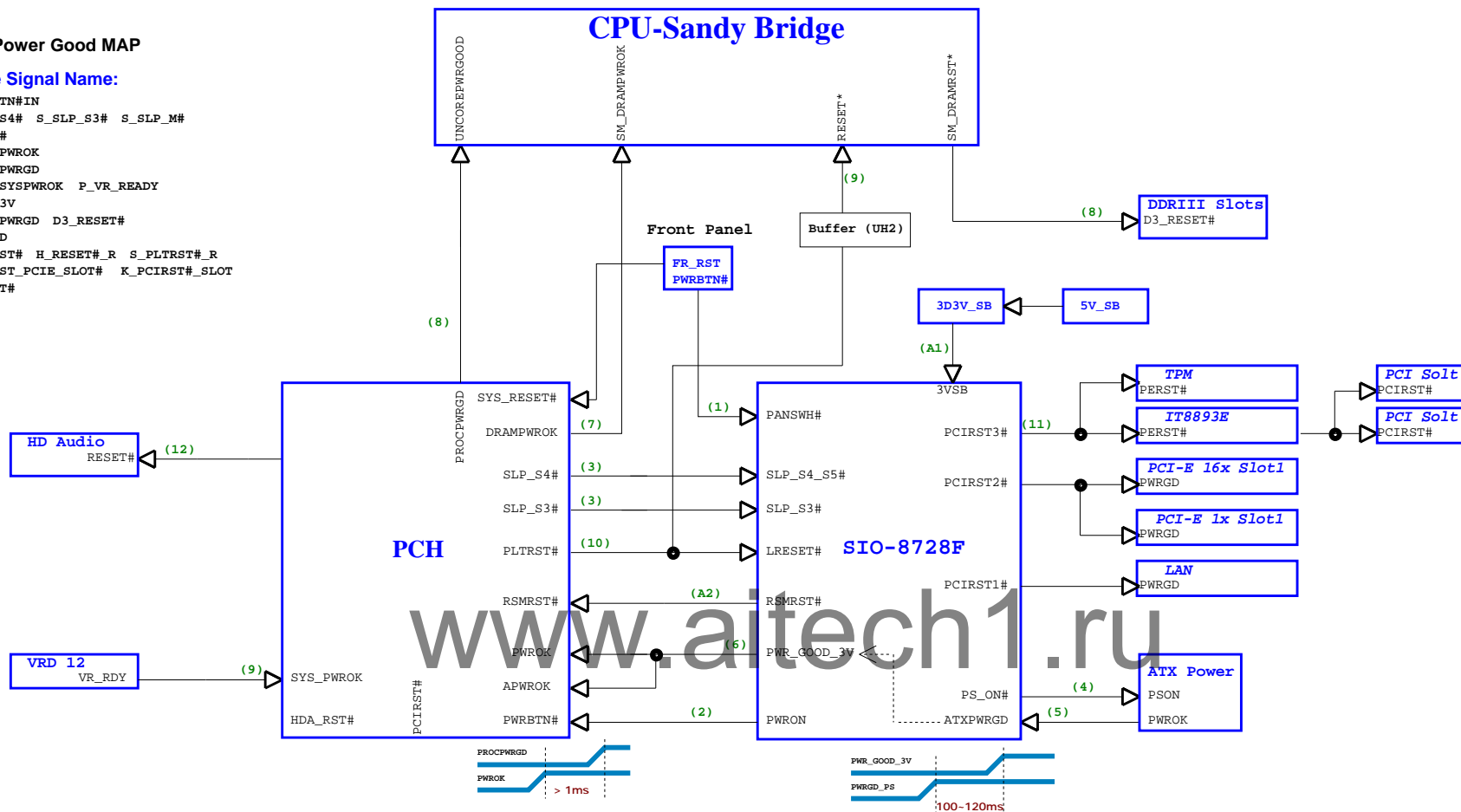


Figure 11-16. EuP Function Signal Timings



Sequence Signal Name:

- (1) O_PWRBTN#IN
- (2) S_SLP_S4# S_SLP_S3# S_SLP_M#
- (3) O_PSON#
- (4) B_ATX_PWROK
- (5) PCH_MEPWRGD
- (6) S_PCH_SYSPWROK P_VR_READY
- (7) PWROGD_3V
- (8) H_DRAMPWRGD D3_RESET#
- (9) H_PWRGD
- (10) S_PLTRST# H_RESET#_R S_PLTRST#_R
- (11) X_PLTRST_PCIE_SLOT# K_PCIRST#_SLOT
- (12) A_Z_RST#



IRQ Routing Table

	INTA#	INTB#	INTC#	INTD#	IDSEL	REQn#	GNTn#
Slot1	A	B	C	D	16	0	0

	INTA#	INTB#	INTC#	INTD#	IDSEL	REQn#	GNTn#
Slot2	B	C	D	A	17	2	2

STRAPPING Table

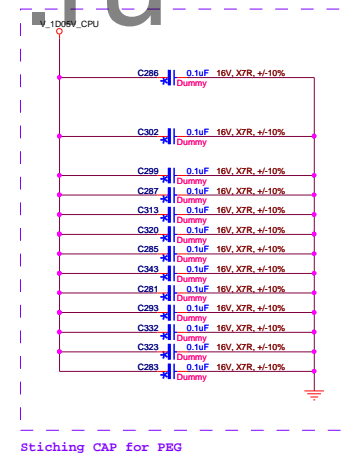
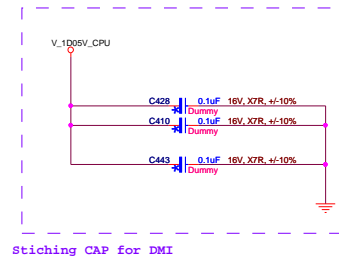
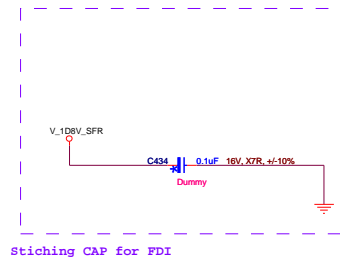
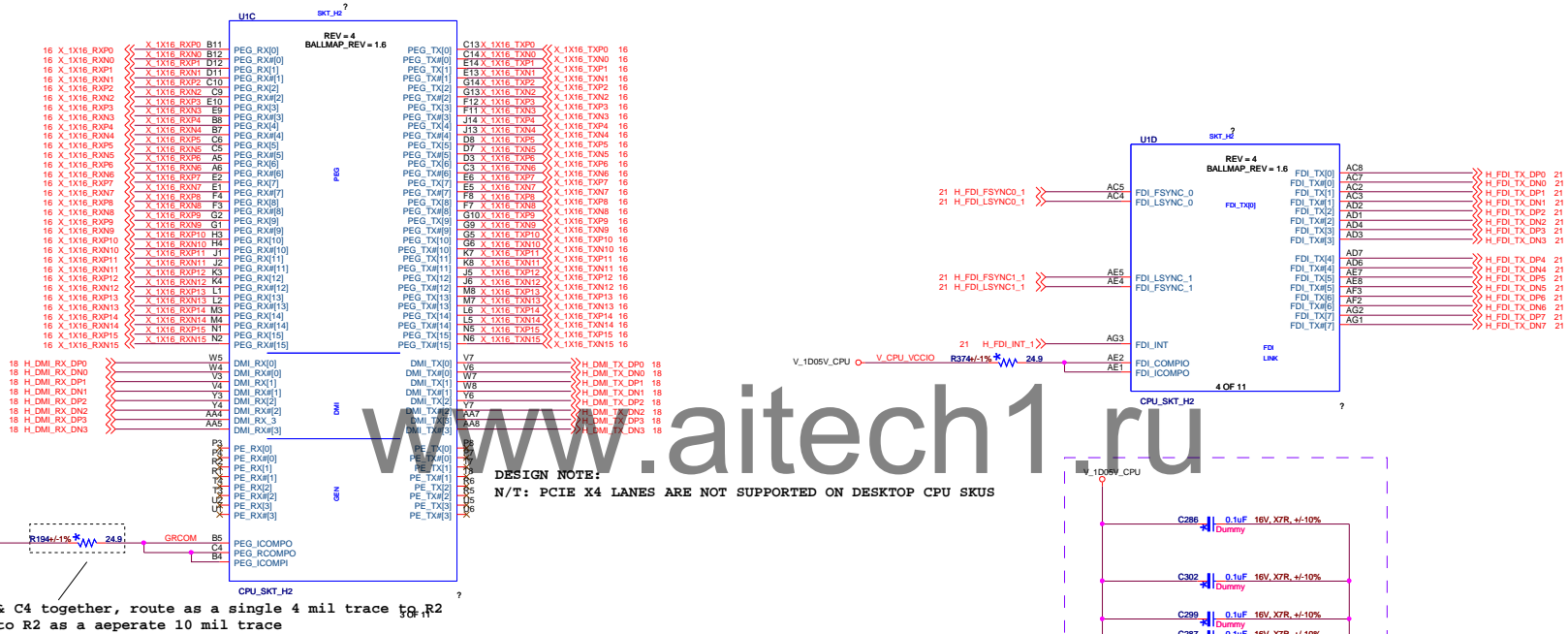
CPU side

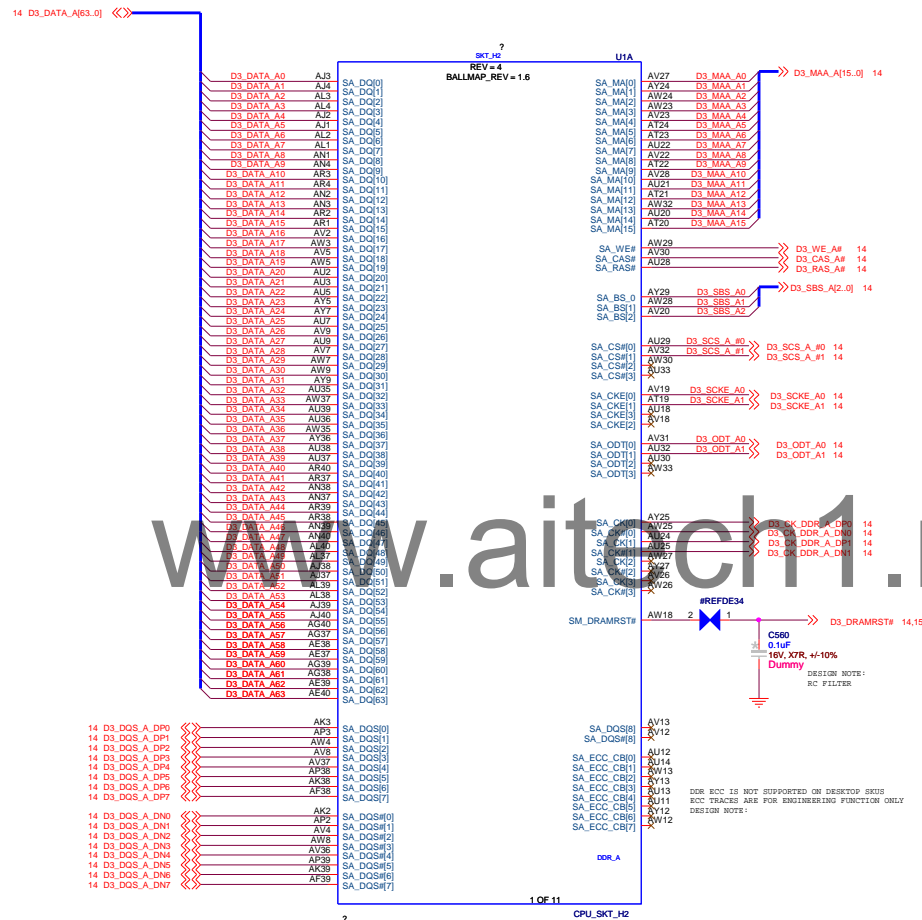
CFG[17:0]	Description	
[2]	PCI Express static x16 lane numbering reversal	1: normal Default 0: lane numbers reversed
[6:5]	PCI Express Bifurcation	00: 1x8, 2x4 PCI Express 01: reserved 10: 2x8 PCI Express 11: 1x16 PCI Express Default

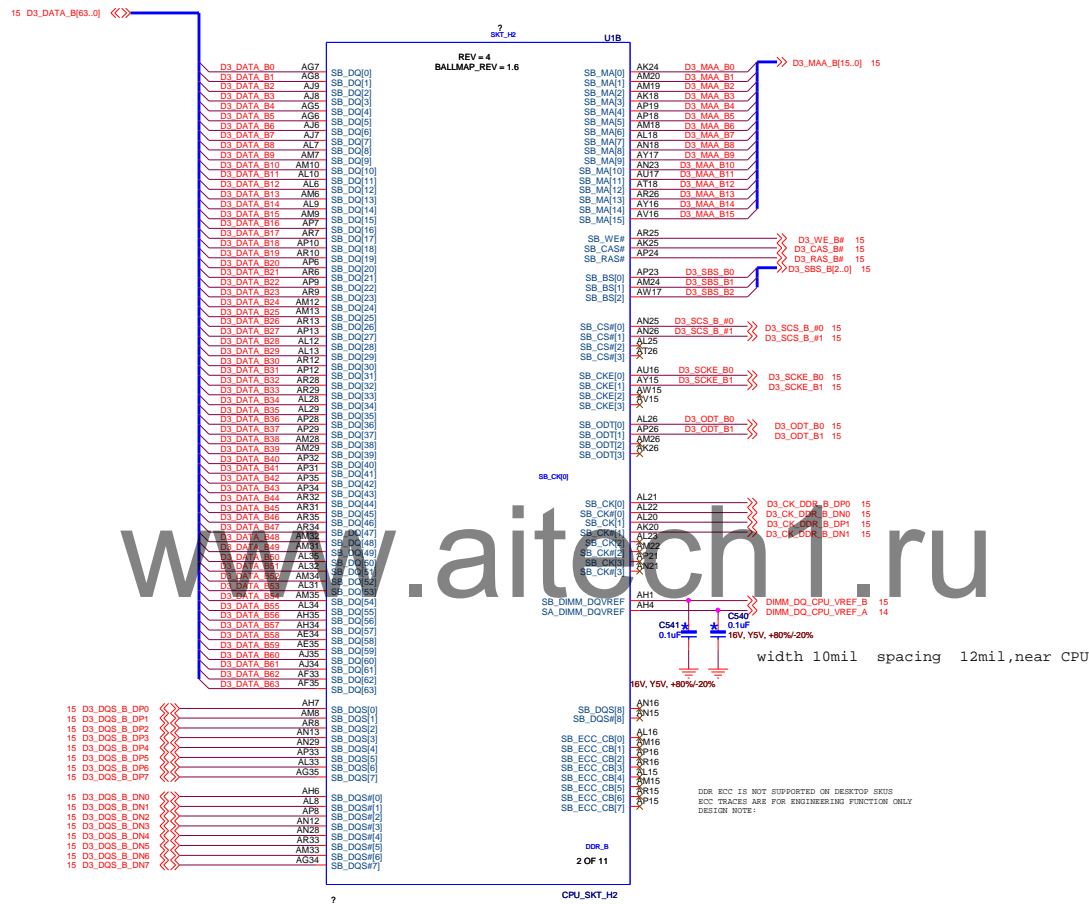
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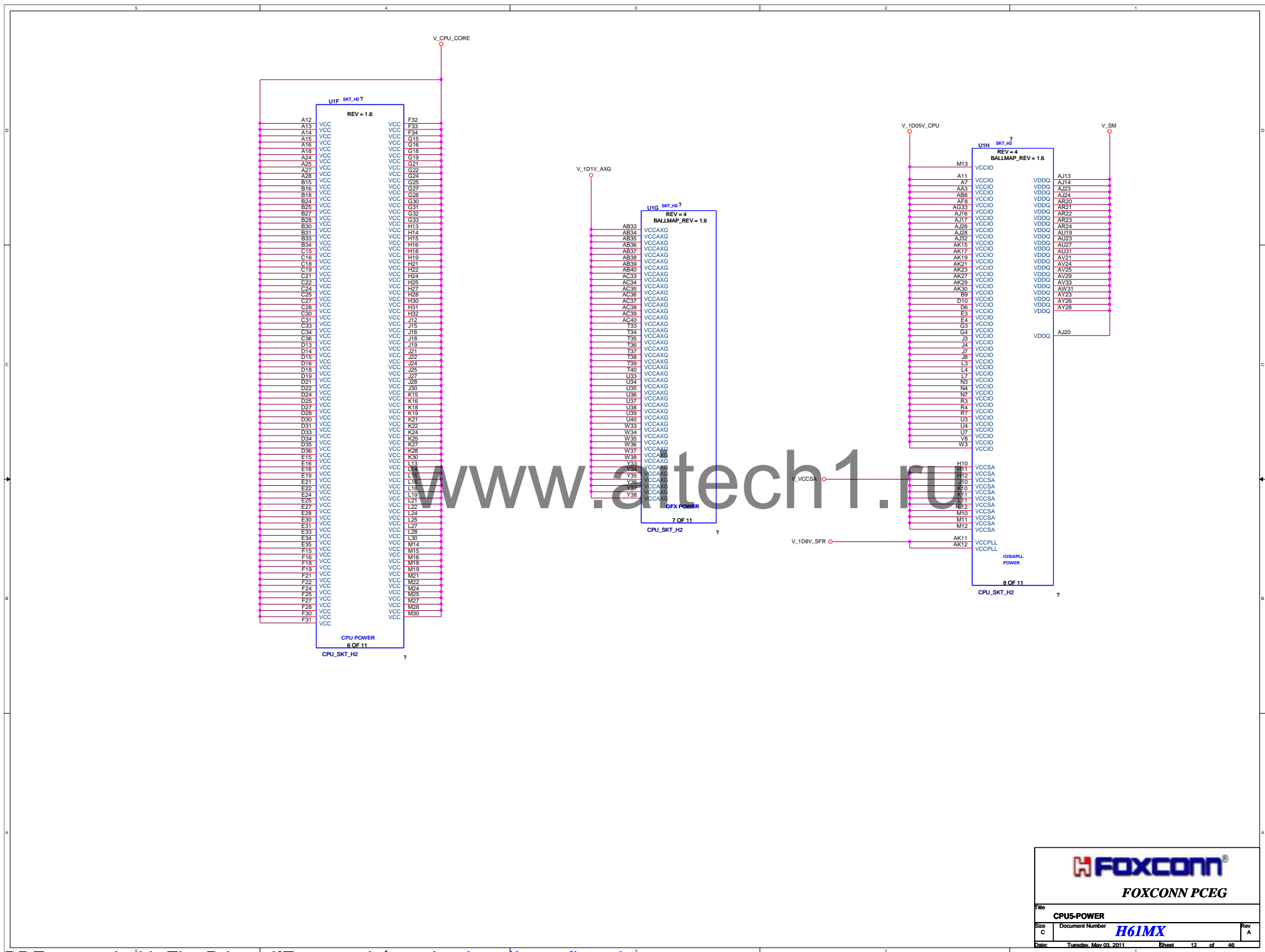
 FOXCONN PCEG		
File STRAP		
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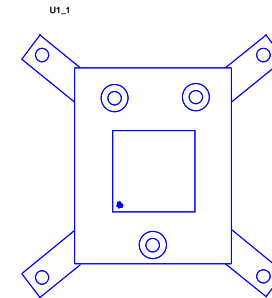
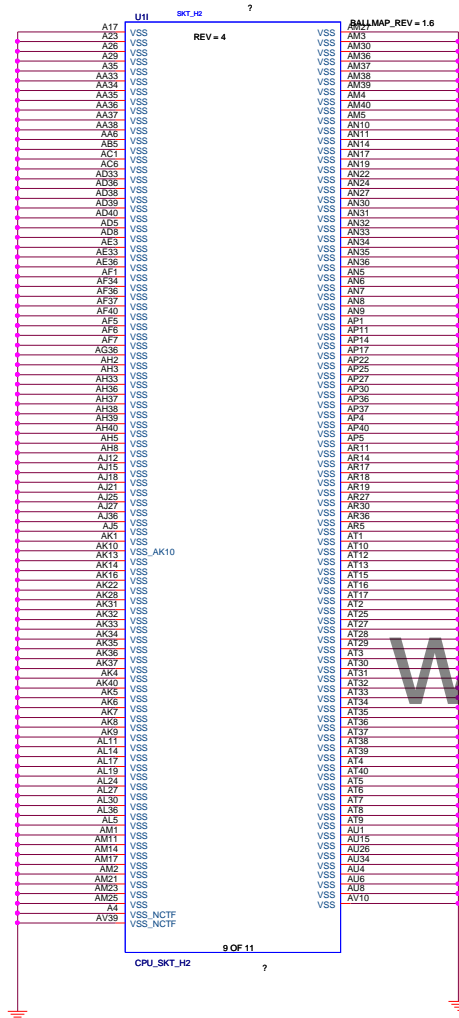




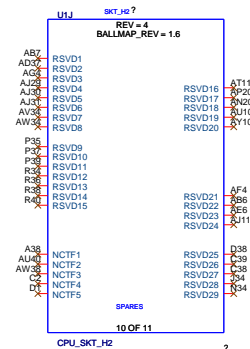








PT44A11-6401



FOXCONN

FOXCONN PCEG

File: CPU6-GND

Size: C

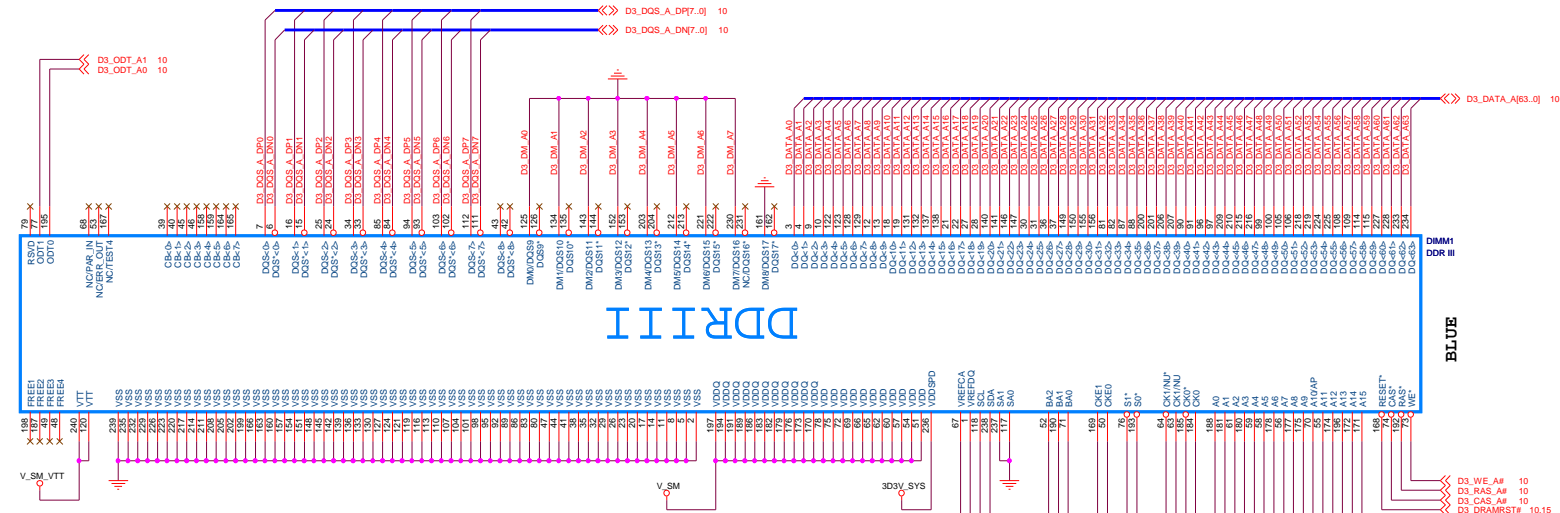
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Date: Tuesday, May 03, 2011

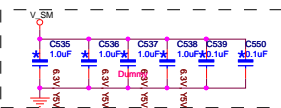
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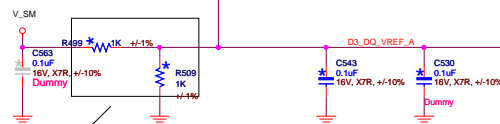
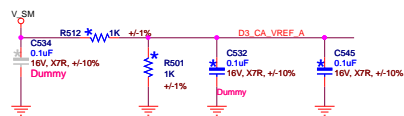
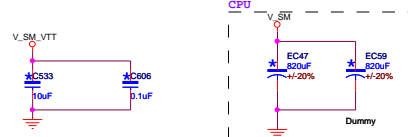
CHANNEL A DIMM 1
SMB ADDRESS:000



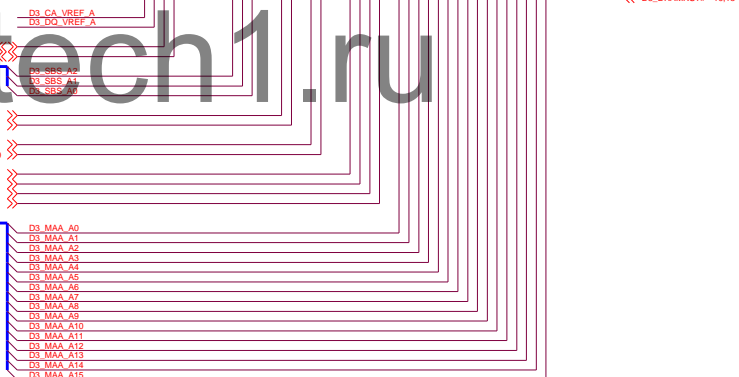
CLOSE TO DIMM POWER PIN



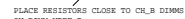
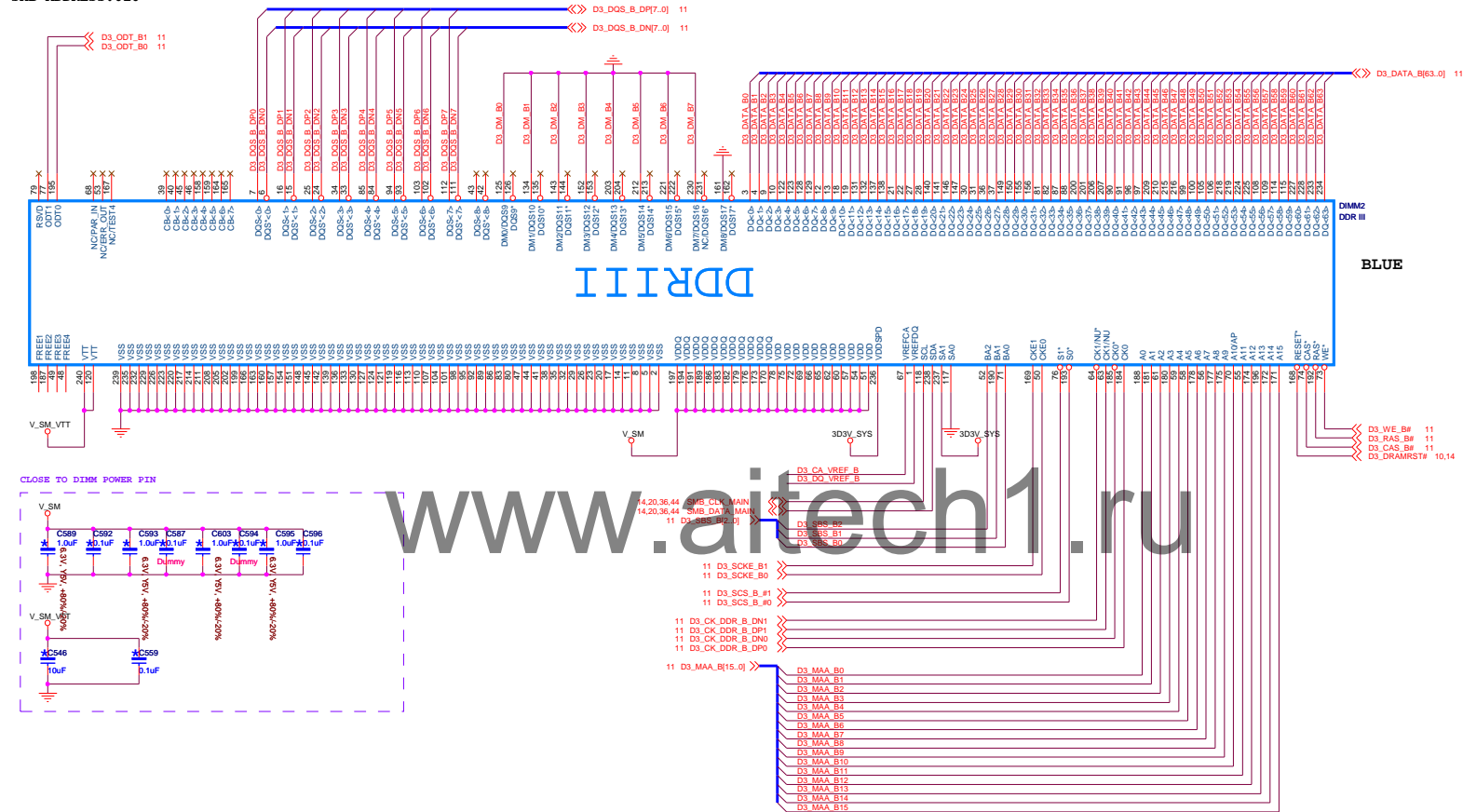
PLACE BETWEEN DIMM1 AND

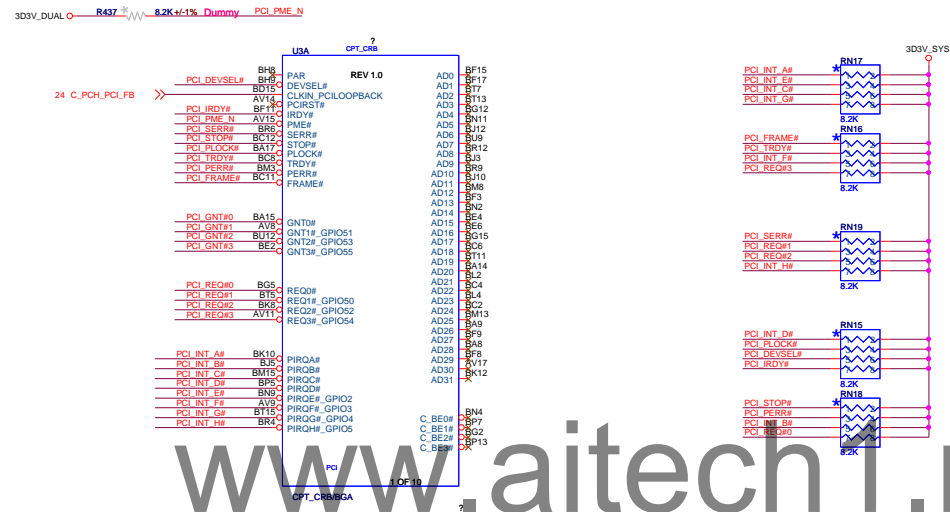


PLACE RESISTORS CLOSE TO CH_A DIMMS
ON DIMM_VREF_A



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STRAP: Boot BIOSselect check whether GNT1 or SATA1GP(GPIO19)

BOOT DEVICE	GNT1	SATA1GP
LPC	0	0
NAND	0	1
PCI	1	0
SPI	1	1

PCI_GNT#0 R445 \rightarrow 1K Dummy

PCI_GNT#1 R438 \rightarrow 1K Dummy

Internal pull-up

PCI_GNT#3 R446 \rightarrow 1K Dummy

PCI_GNT#2 R454 \rightarrow 1K Dummy

DG 0.7

GNT3 is top block swap mode:
connect to ground with 4.7k ohm weak
pull down resistor for top block swap mode

GNT2#/GPIO53:ESI strap for server platform
ONLY.Do not pull low.

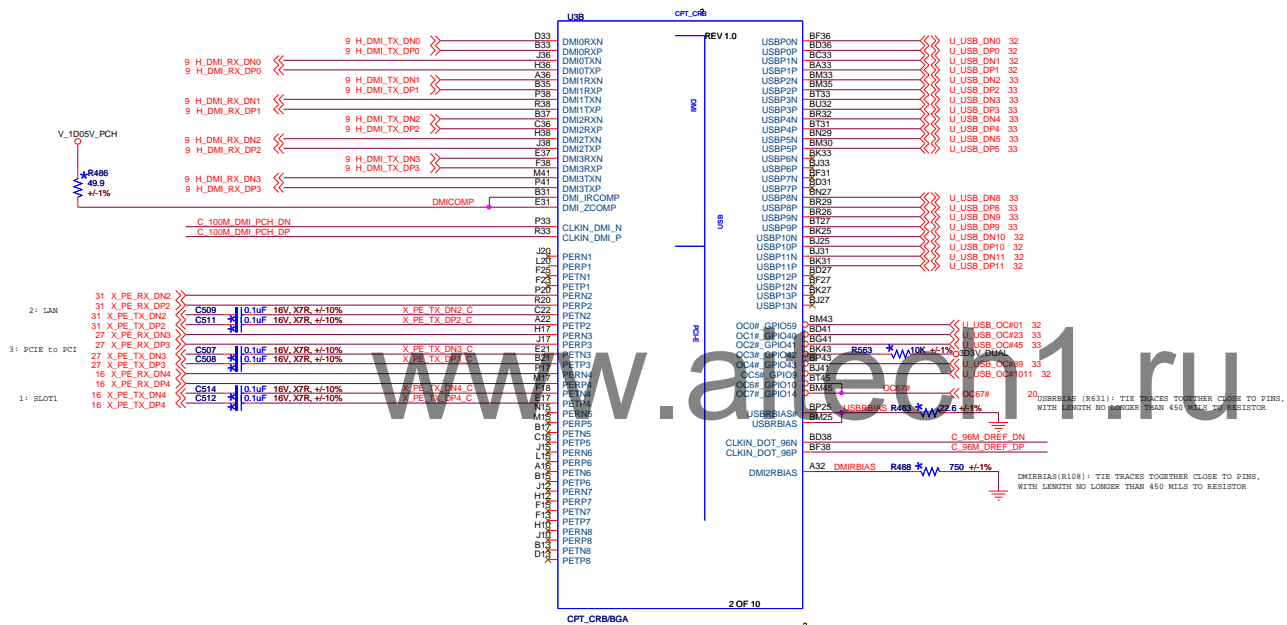


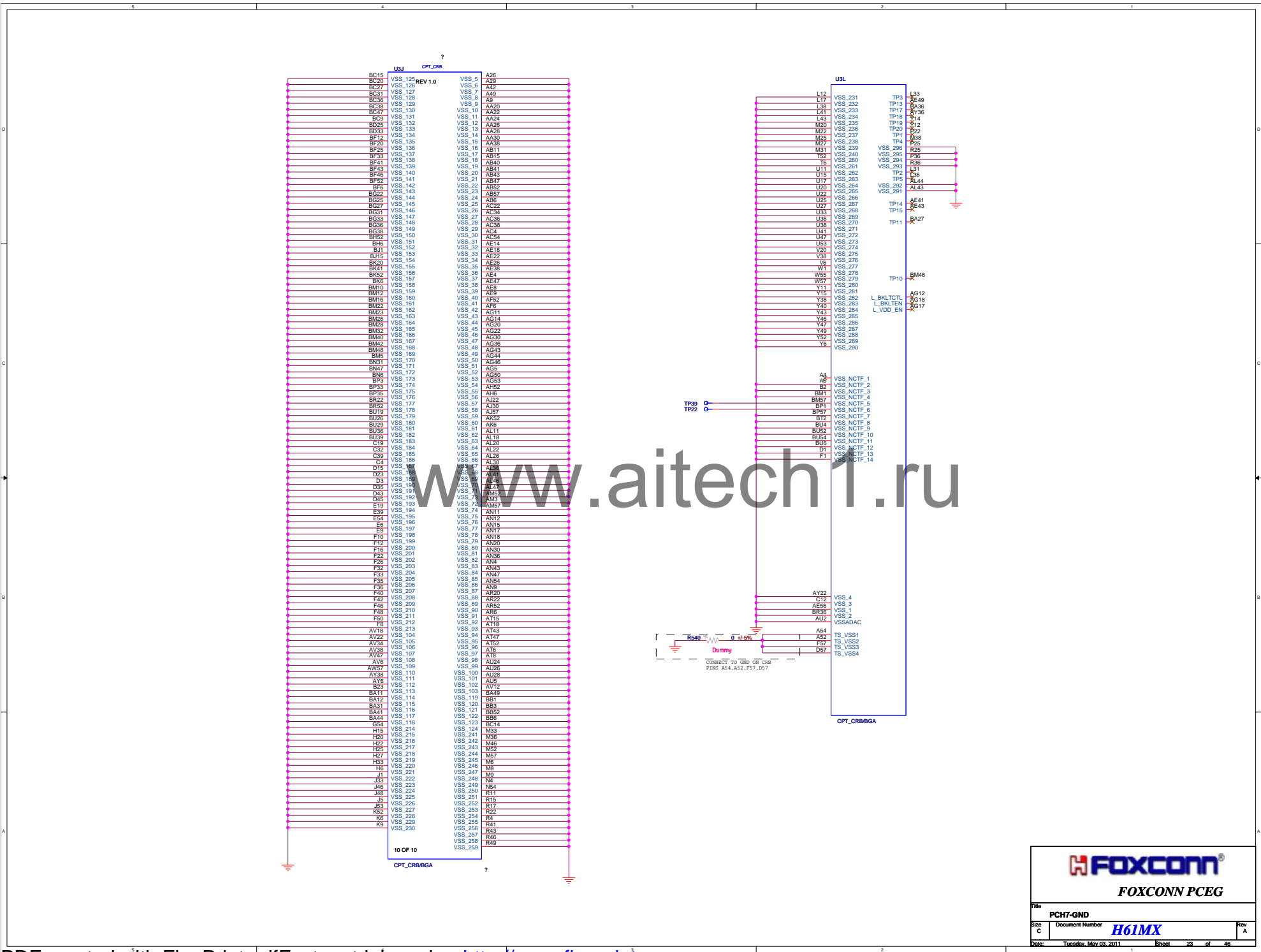
FOXCONN
FOXCONN PCEG

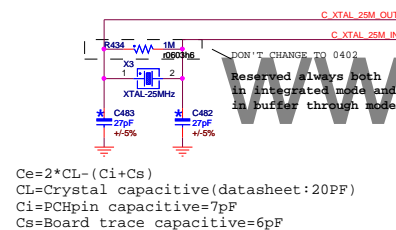
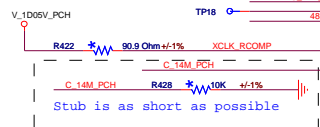
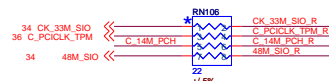
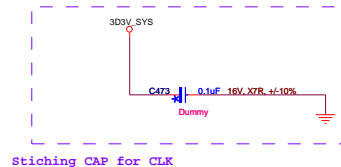
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Size C Document Number H61MX

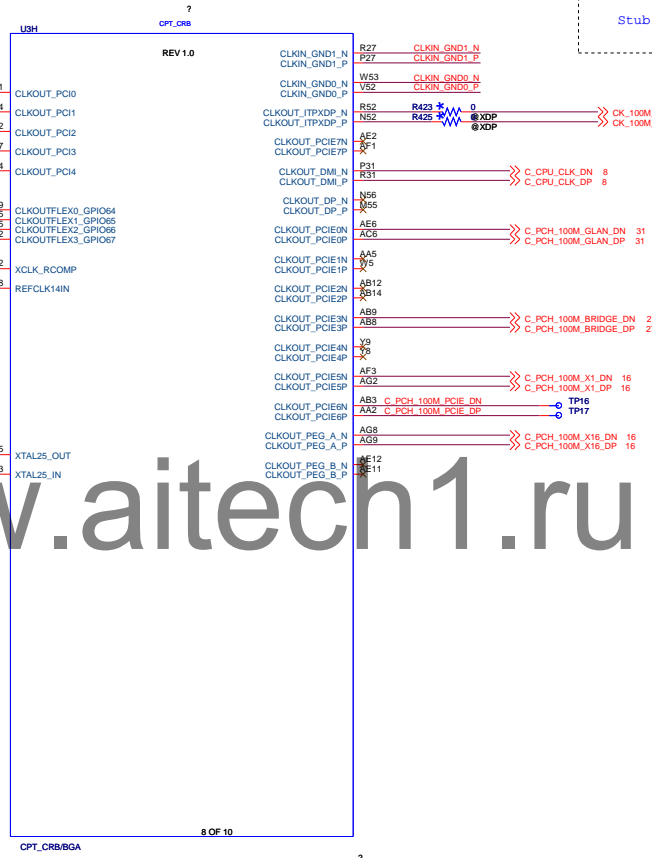
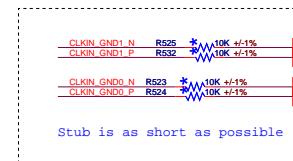
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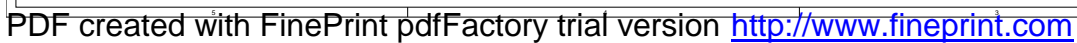




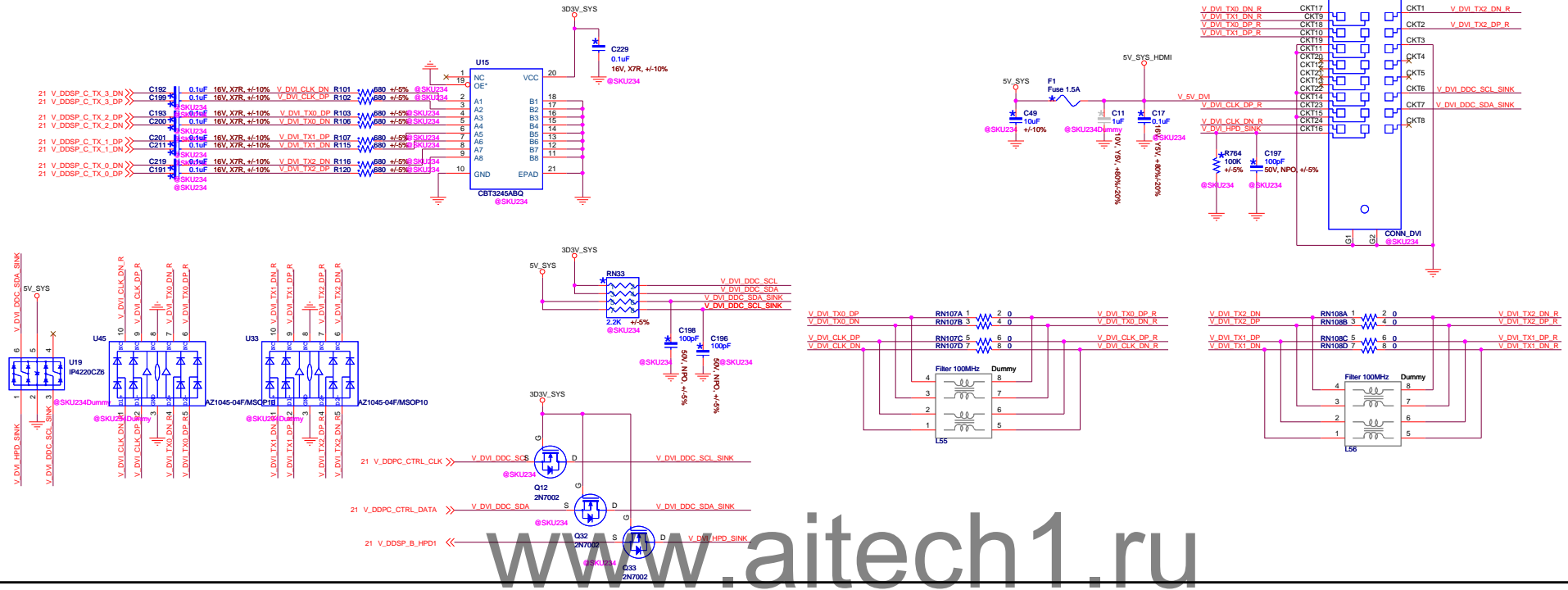
$C_e = 2 * C_L - (C_i + C_s)$
 C_L = Crystal capacitance (datasheet: 20pF)
 C_i = PCH pin capacitance = 7pF
 C_s = Board trace capacitance = 6pF



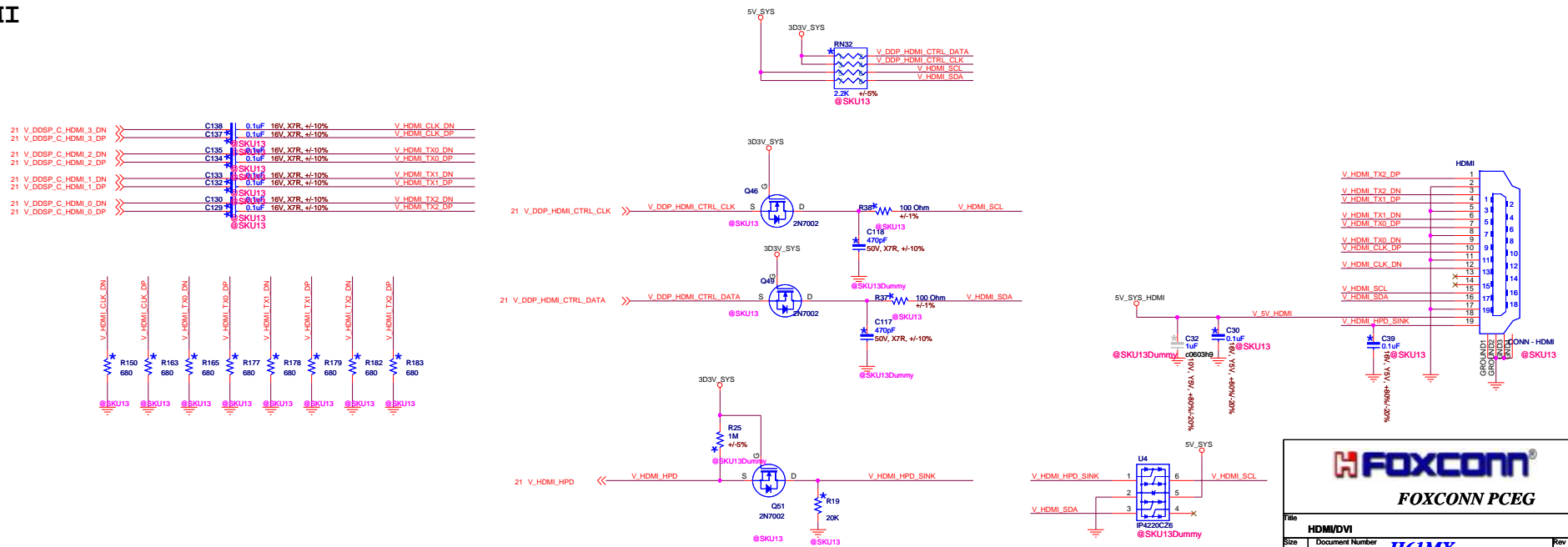
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DVI-D



HDMI



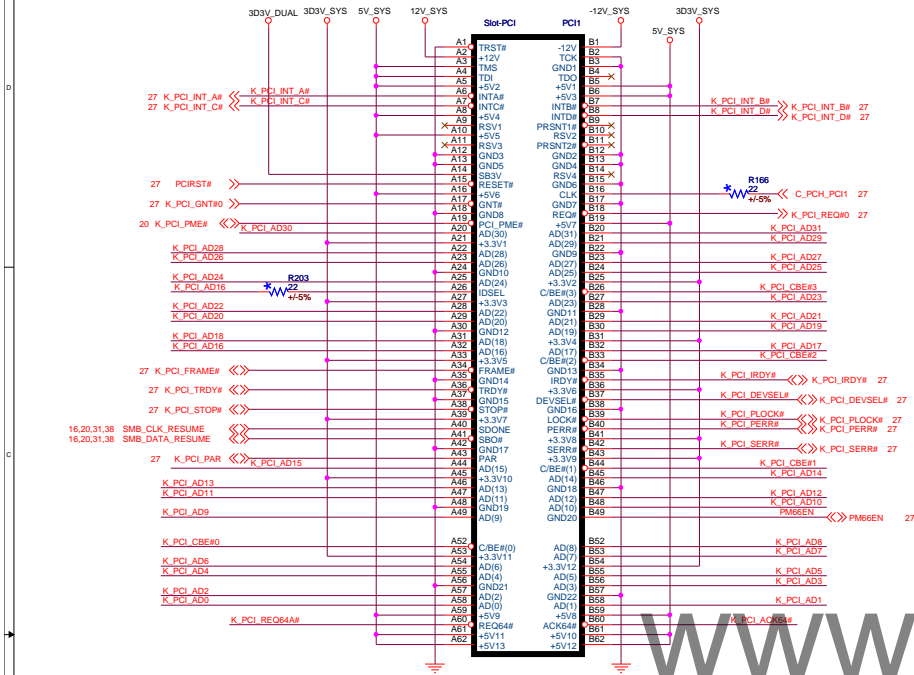
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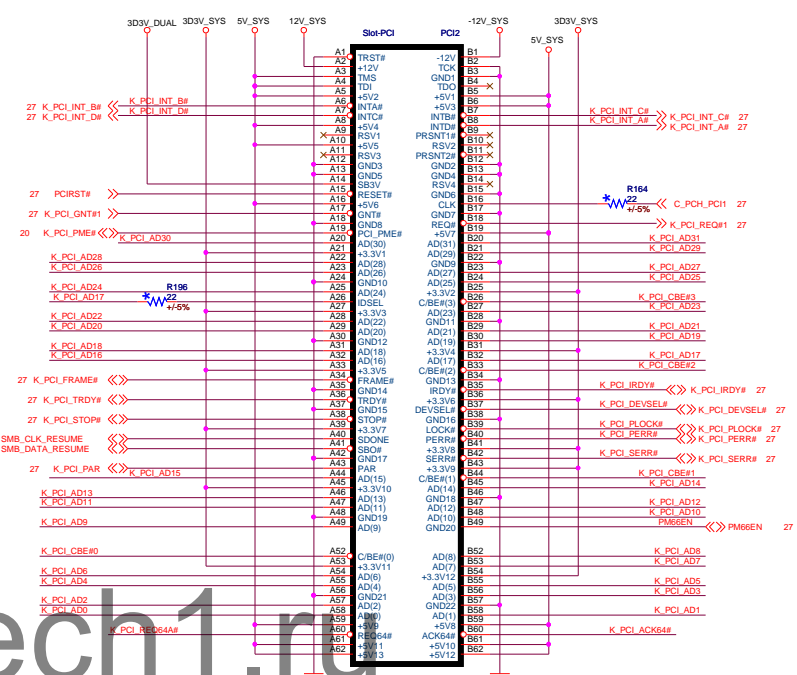
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PCI 1

PCI 2

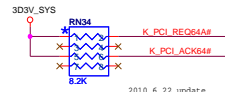


IRQ: A B C D
IDSEL: AD16
REQ/GNT: 0

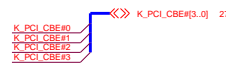
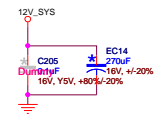
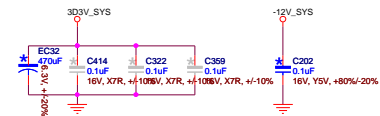
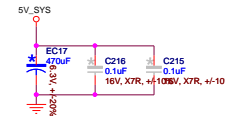


IRQ: B C D A
IDSEL: AD17
REQ/GNT: 1

PCI BUS if use 5V external pull up resistor is 2.7K

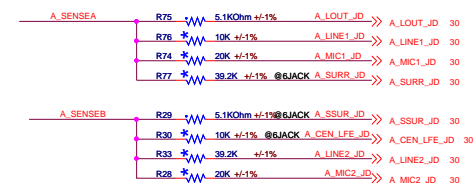
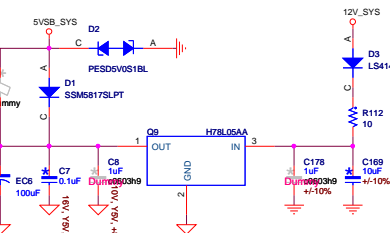
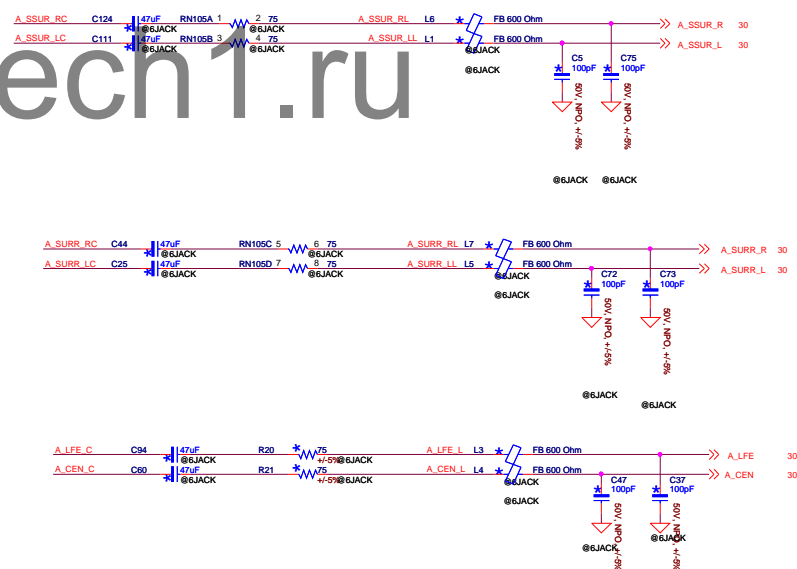
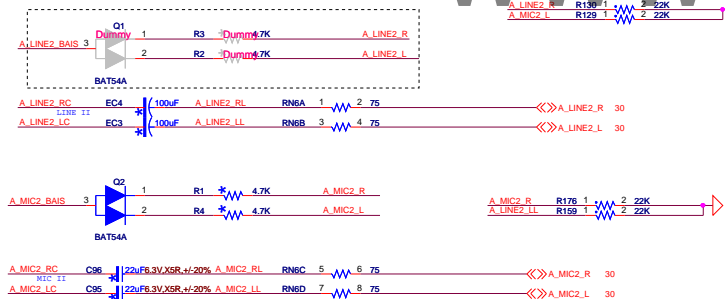
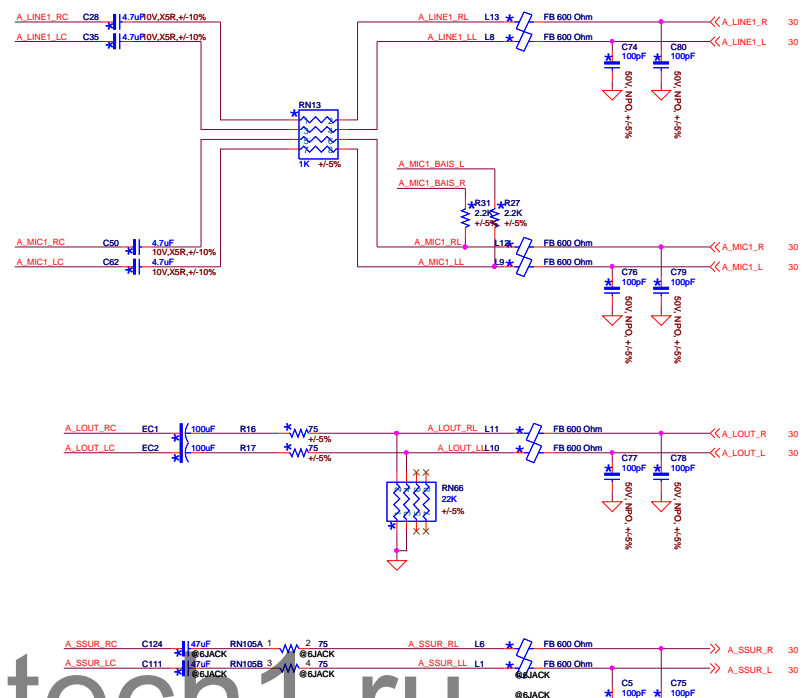


2010.6.22 update



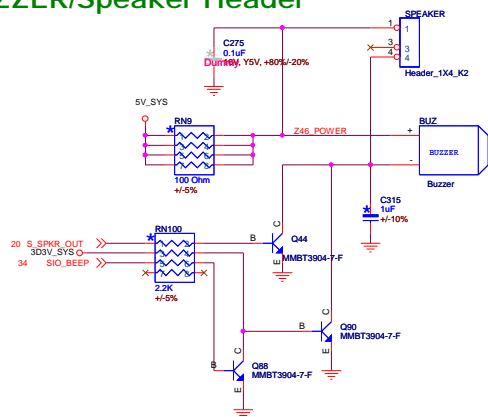
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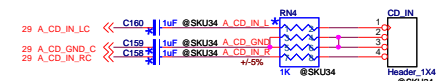
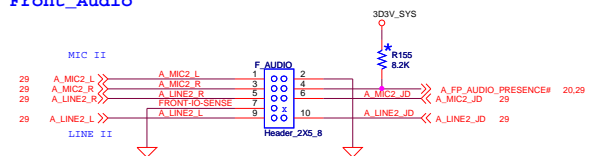


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Size C	Document Number	<i>H61MX</i>	
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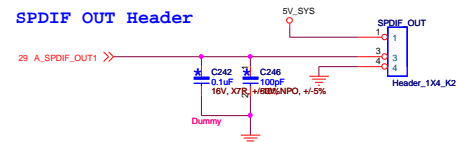
BUZZER/Speaker Header



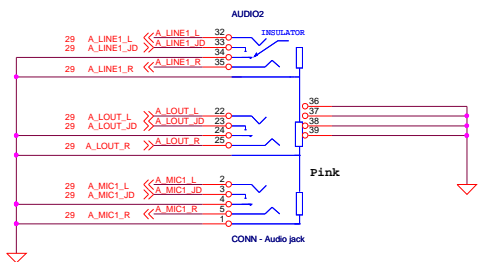
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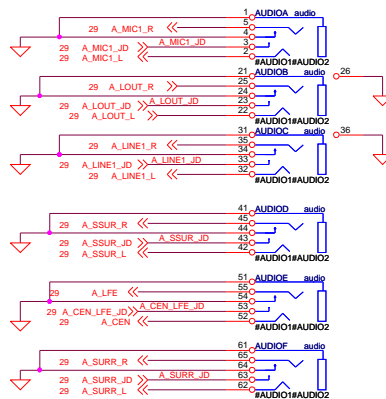
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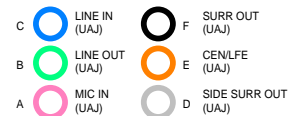
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Colay



Audio Jack

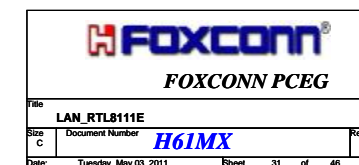


CONN-6 Ports Audio
@6JACK



FOXCONN PCEG

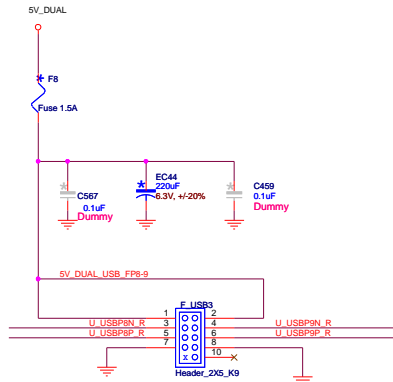
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AUDIO CONN/SPDIF/CD-IN			
Size	Document Number	Rev	
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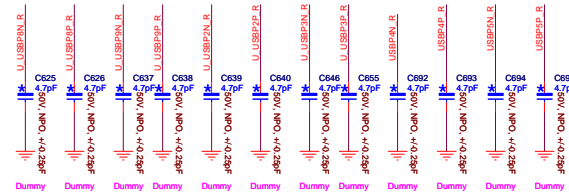
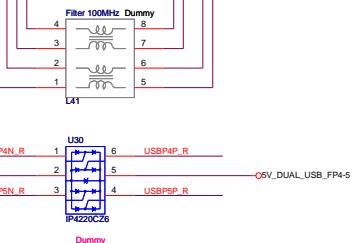
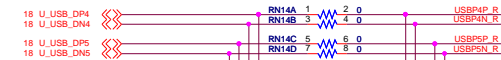
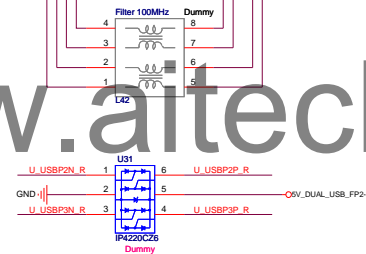
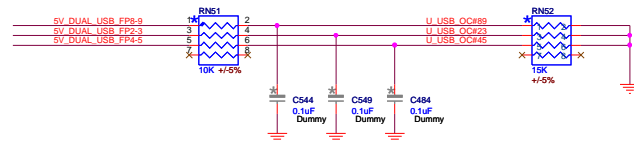
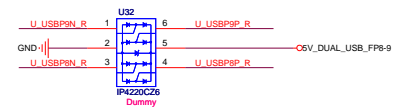
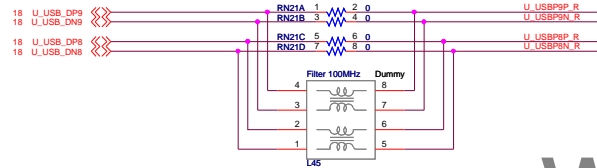
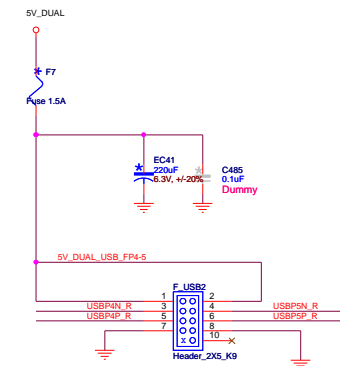
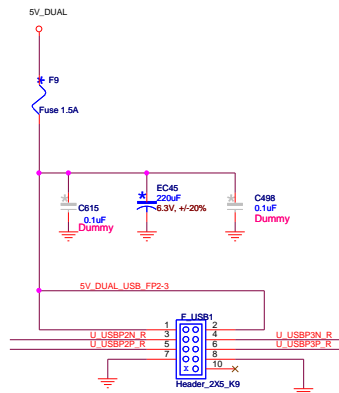


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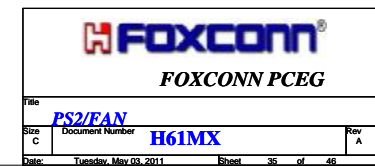
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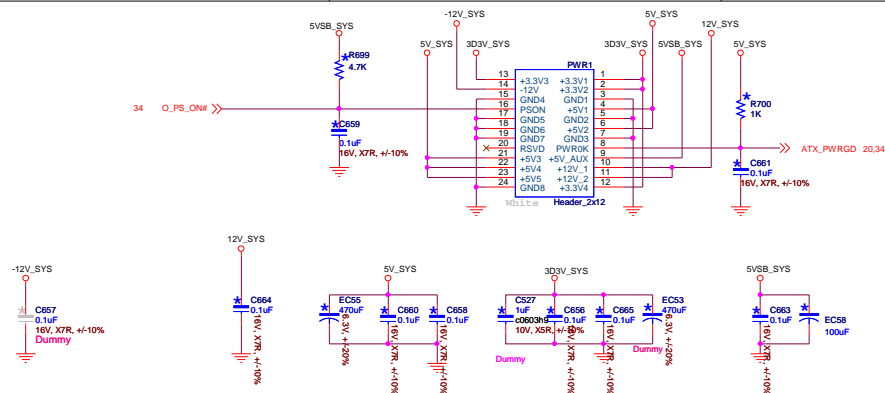
Front_USB2



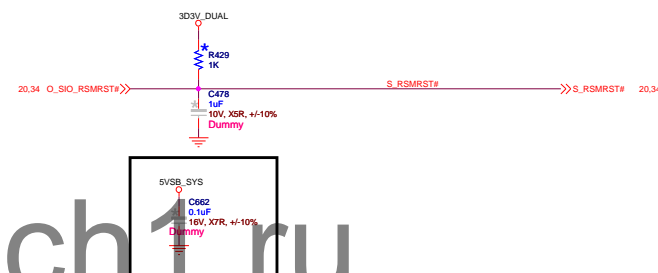
Title		Front USB2.0 Header	
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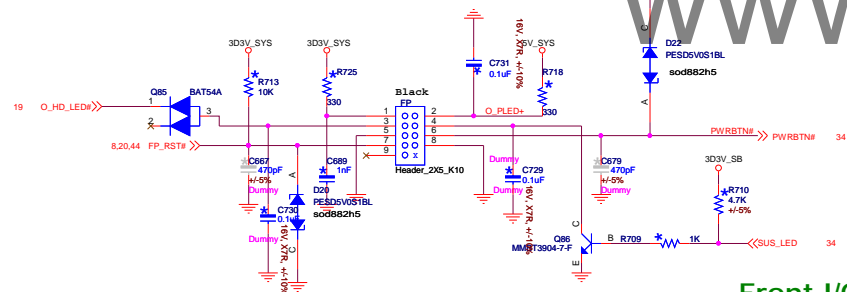
ATX POWER CONNECTOR



RESUME RESET LOGIC



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S0 : Power LED is on;
S1 : Power LED is blinking;
S3-S5: Power LED is off.

Front Panel Switch/LED

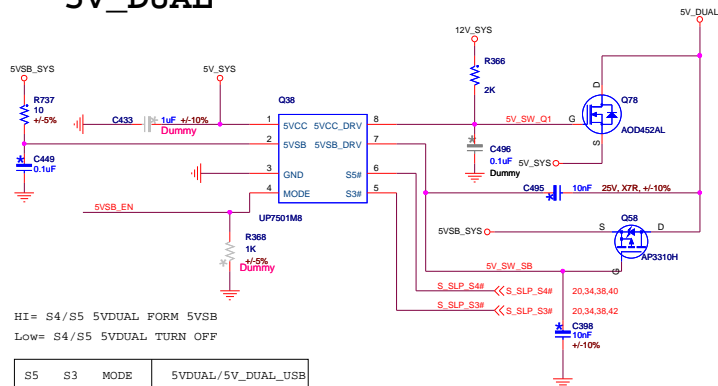
HD_LED+	1	2	Power
HD_LED-	3	4	Power LED(green)
CMC	5	6	Power button
Reset button	7	8	Detect pin
Detect pin	9	10	Key

Front I/O Header

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File
ATX CONN/FP PANEL/RSMRST
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5V_DUAL

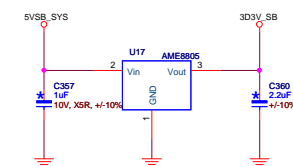


HI= S4/S5 5VDUAL FORM 5VSB
Low= S4/S5 5VDUAL TURN OFF

S5	S3	MODE	5VDUAL/5V_DUAL_USB
H	H	X	5VCC
H	L	X	5VSB
L	X	H	5VSB
L	X	L	Shutdown

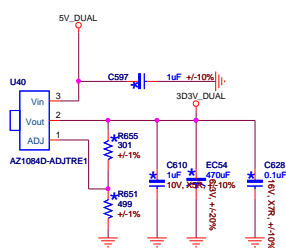
3D3V_SB

Max. output current = 3A



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3D3V_DUAL



$V_{out} = V_{ref}(1 + R2/R1) + I_{adj}R2$
R1 is Up Resistor.
 $I_{adj} = 50\mu A$
 $V_{ref} = 1.25V$

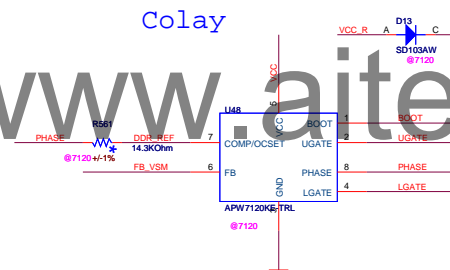
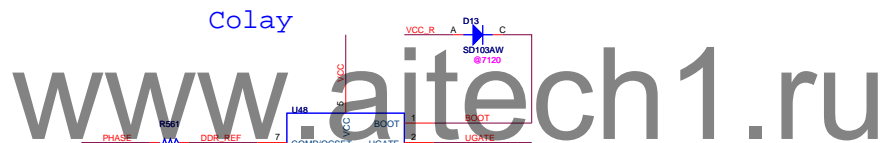
FOXCONN
FOXCONN PCEG

File: 5V_DUAL/3.3V_SB/3.3V_DUAL

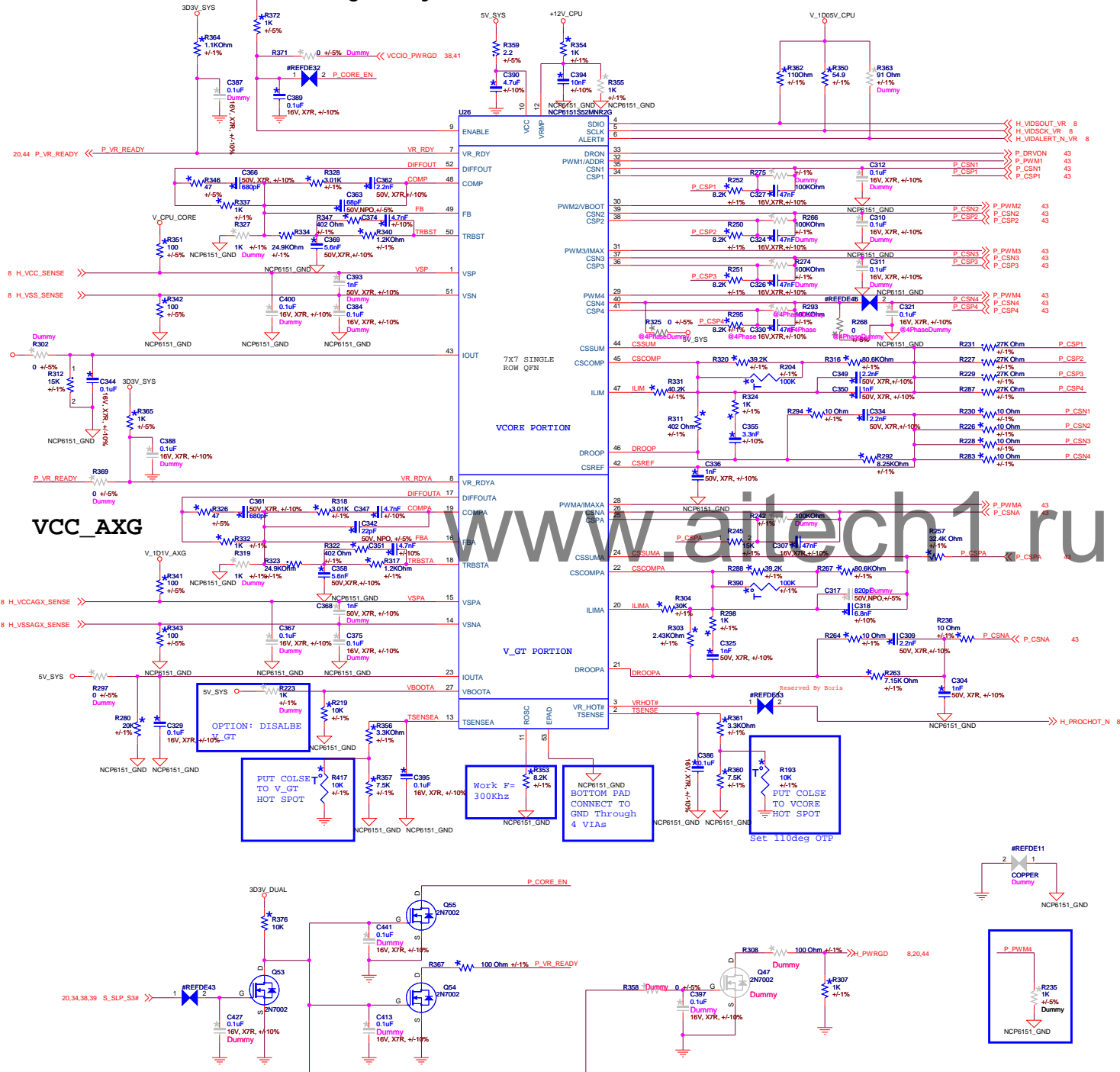
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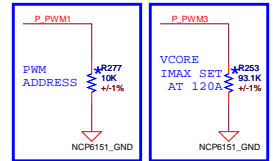
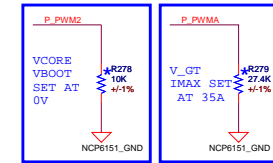
Max=40A
27A in design guide



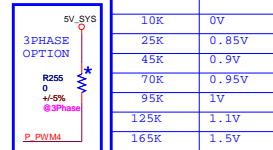
Sugar Bay VR12 POWER 4+1 PHASE



VCC_CORE



BOOT VOLTAGE



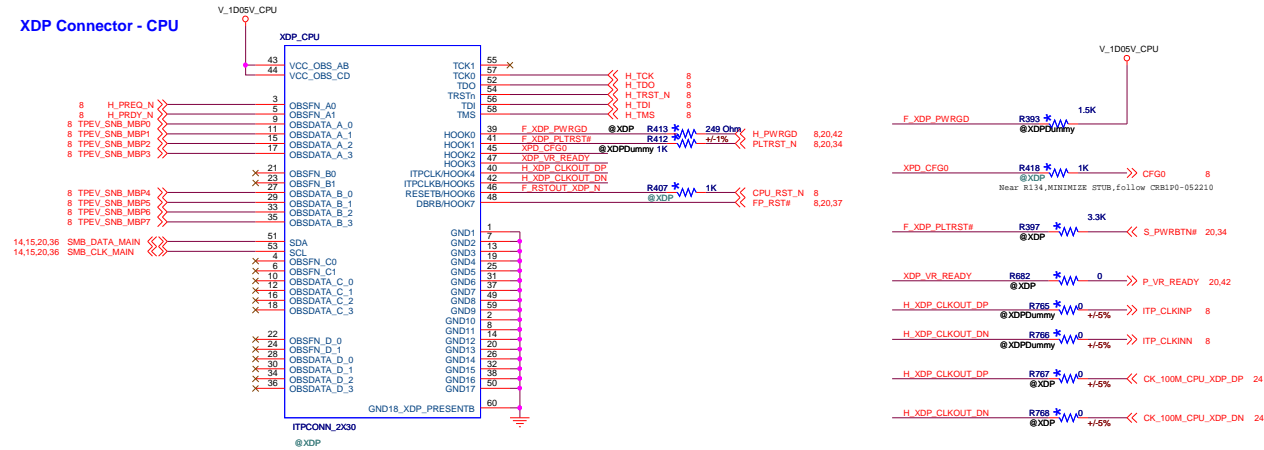
PWM ADDRESS

RESISTOR VALUE	SVID ADDRESS FOR VCORE RAIL	SVID ADDRESS FOR VGT RAIL
10K	0000	0001
25K	0010	0011
45K	0100	0101
70K	0110	0111
95K	1000	1001
125K	1010	1011
165K	1100	1101

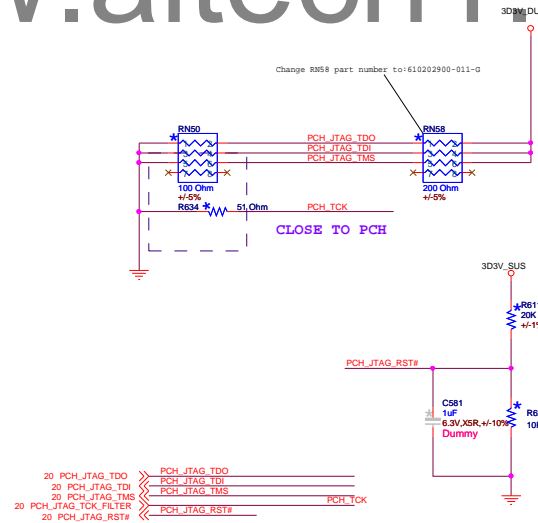
FOXCONN
FOXCONN PCEG

File: VCORE/AXG PWM
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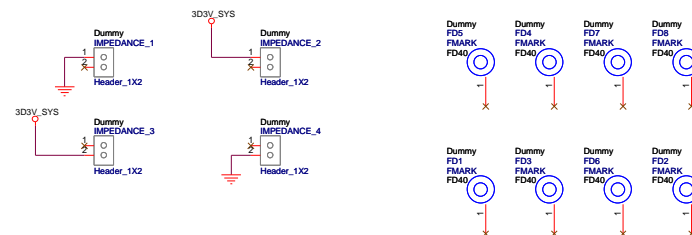
XDP Connector - CPU



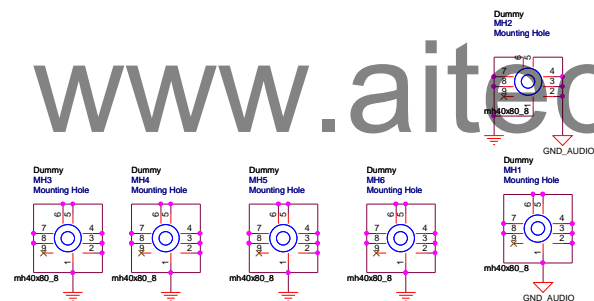
XDP Connector - PCH



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