

| | |
|------------------------|--------|
| Cover Sheet | 1 |
| Block Diagram | 2 |
| Power On Sequence | 3 |
| Power Delivery Map | 4 |
| CPU 1-6 | 5 -10 |
| DDR3 CHA - B | 11 -14 |
| PCH 1 - 9 SPI ,PCIRST | 15 -23 |
| SPI/PCIRST | 24 |
| PCIE X16_SLOT 1 | 25 |
| PCIE X1 SLOT | 26 |
| PCI SLOT1 | 27 |
| PCI bridge | 28 |
| LAN | 29 |
| LAN/USB Connector4-5 | 30 |
| VGA Conn | 31 |
| DVI/HDMI | 32 |
| FOX3 | 33-34 |
| Super I/O IT8772 | 35 |
| AUDIO:ALC892 | 36-37 |
| FP1 USB HEADER | 38-40 |
| KB /USB connector | 41 |
| SATA Conn /TPM | 42 |
| mSATA | 43 |
| ATX/FP/BUZ/VFD | 44 |
| ISL6367 | 45-46 |
| 5V_DUAL | 47 |
| 3D3VSB/1D8VPLL/VTT_DDR | 48 |
| 1D5V_STR | 49 |
| 1D1V_CPU_VTT/VCCSA/PCH | 50 |
| EMI | 51 |
| XDP | 52 |

Z75A01 Fab.A

CPU:

Intel Sandy/IVy Bridge LGA1155 Package

System Chipset:

PCH Z75

Main Memory:

Dual Channel / DDR-III * 4 (Max 32GB)

On Board Device:

FOX3

LAN1:Realtek 8111F

HDA Codec:ALC892/ALC662D

BIOS:SPI Flash ROM 32M

Expansion Slots:

PCI EXPRESS 16X SLOT *1

PCI EXPRESS 1X SLOT *2

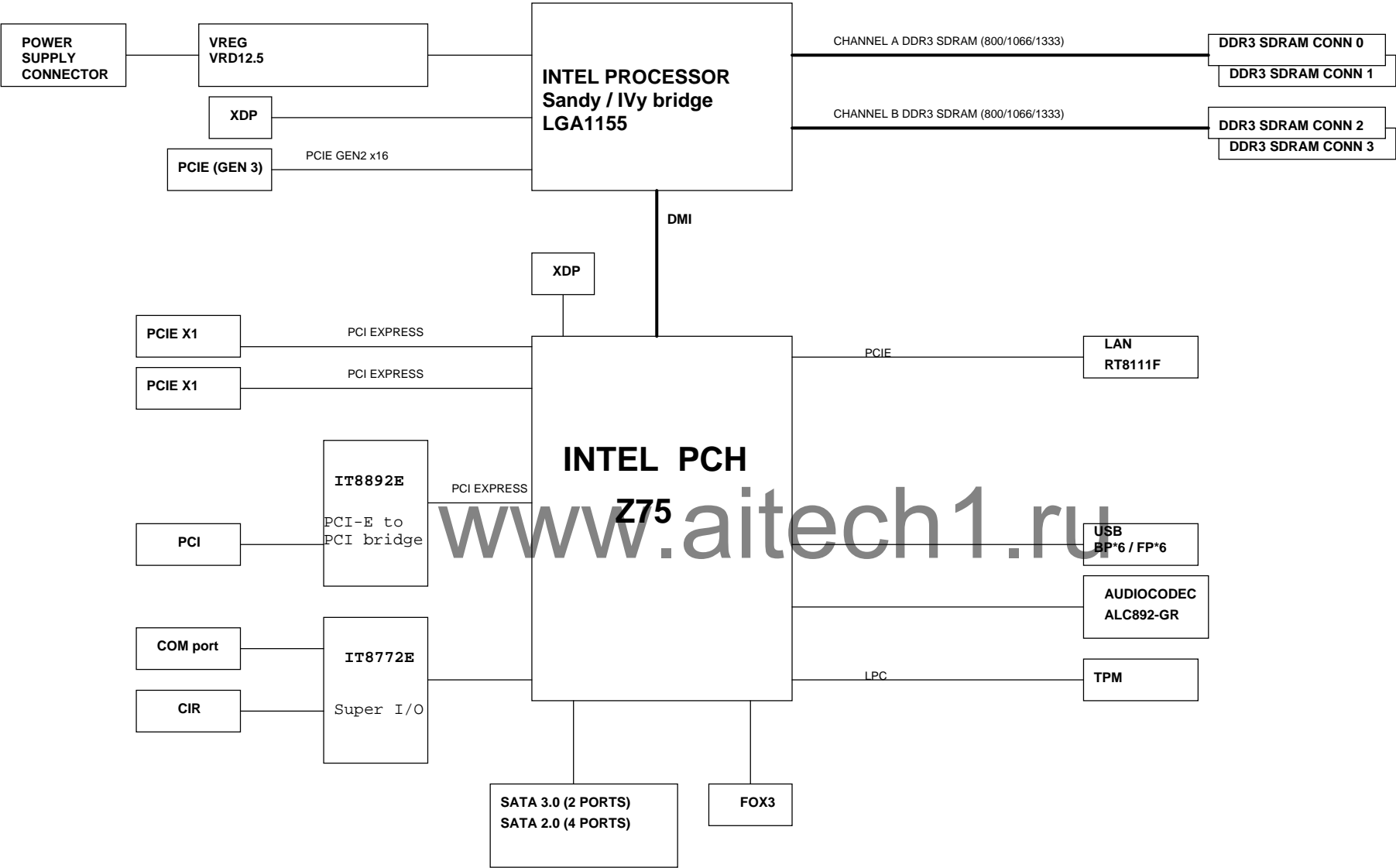
PCI SLOT * 1




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| Size A3 | Document Number Z75A01 | Rev A | |
| Date: | Thursday, February 23, 2012 | Sheet 1 | of 52 |

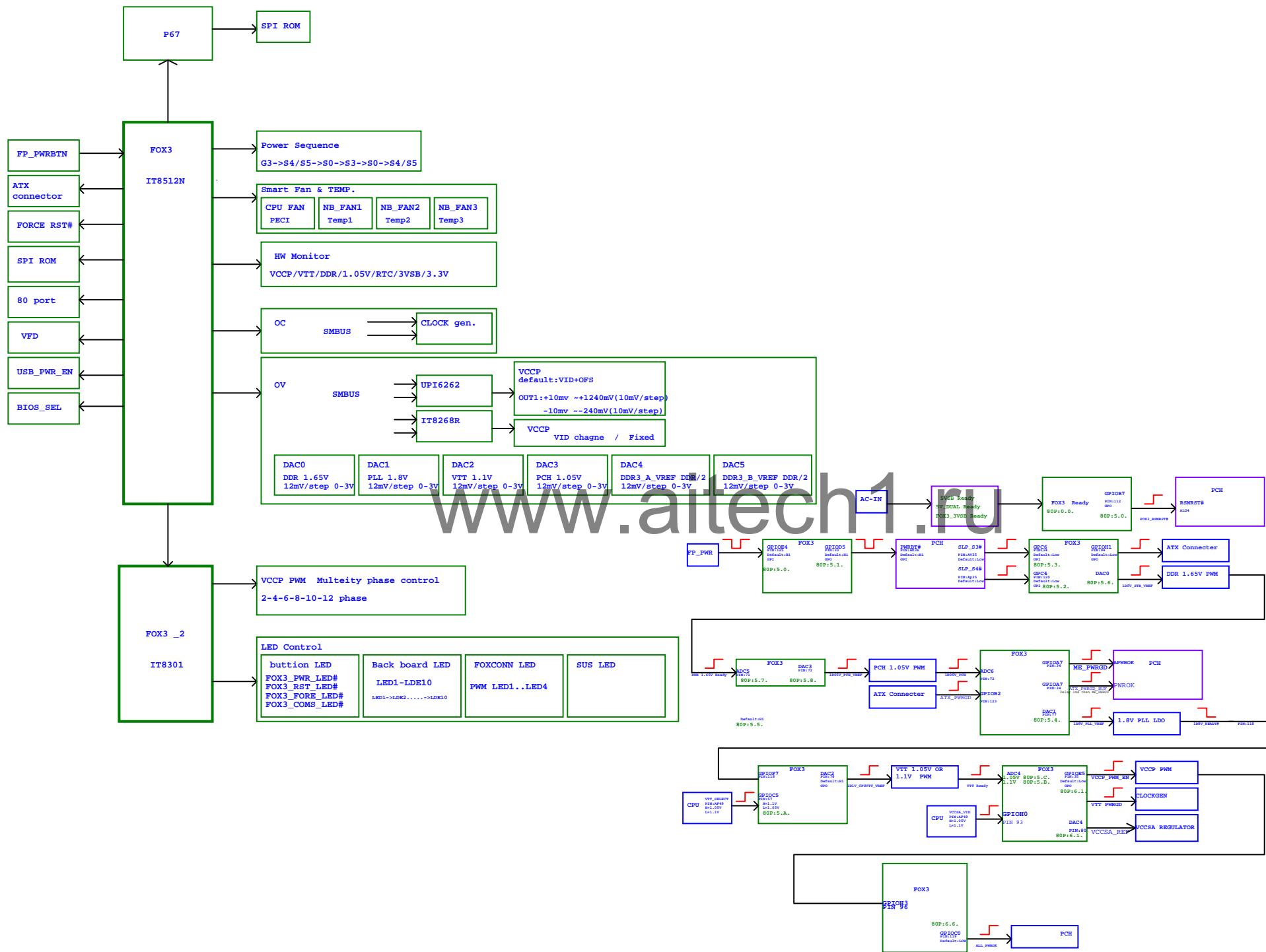
BLOCK DIAGRAM



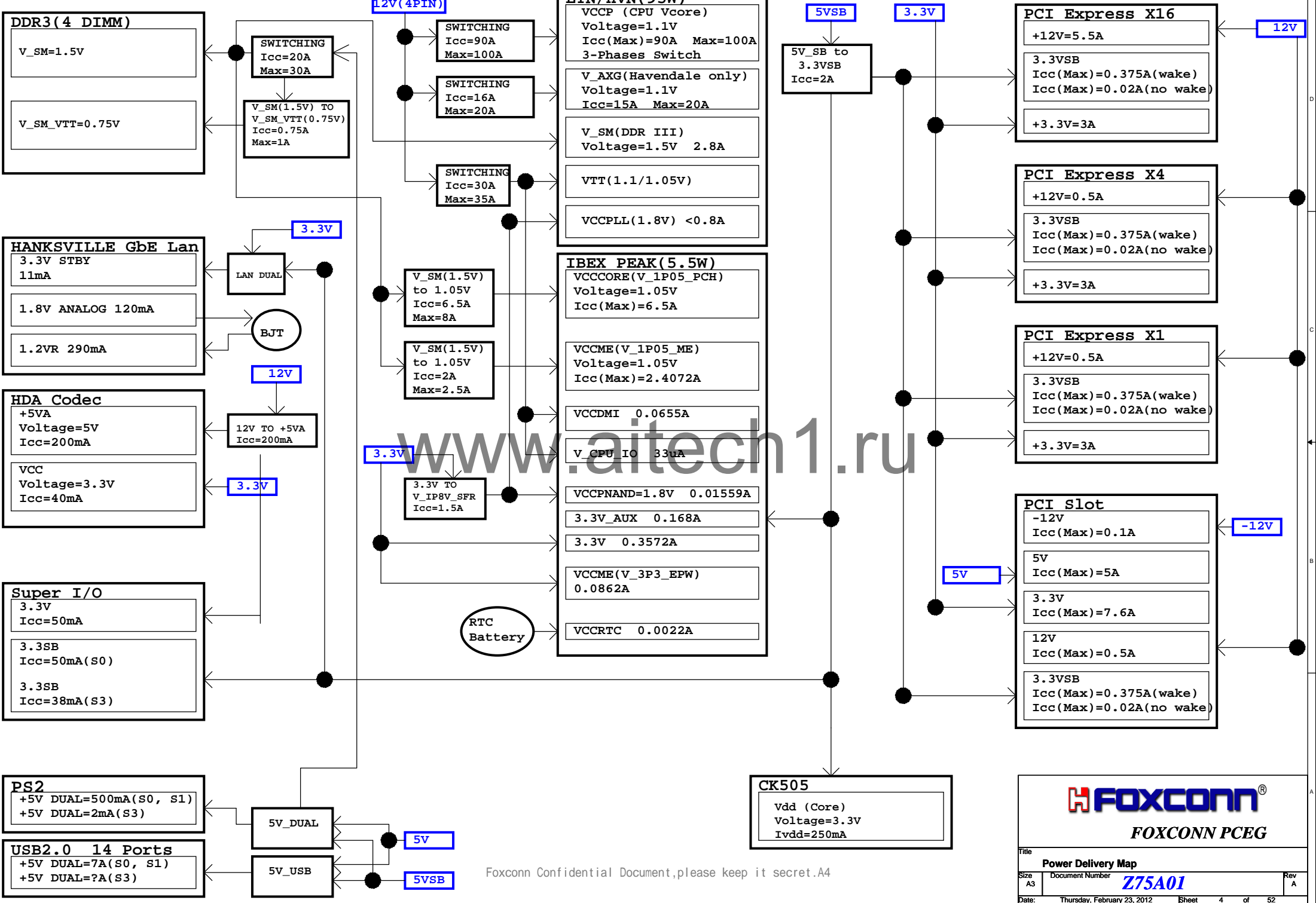


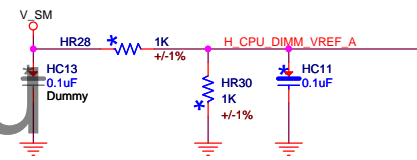
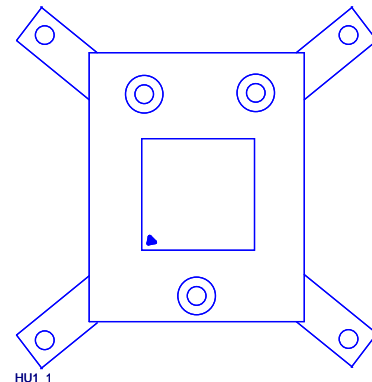
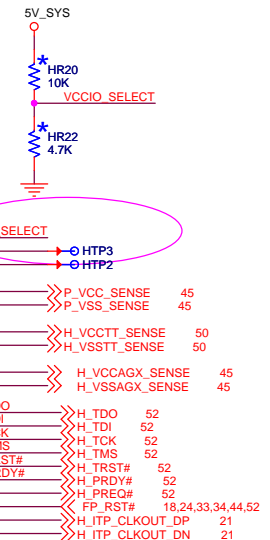
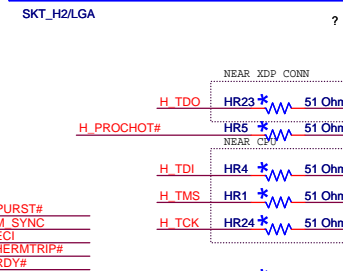
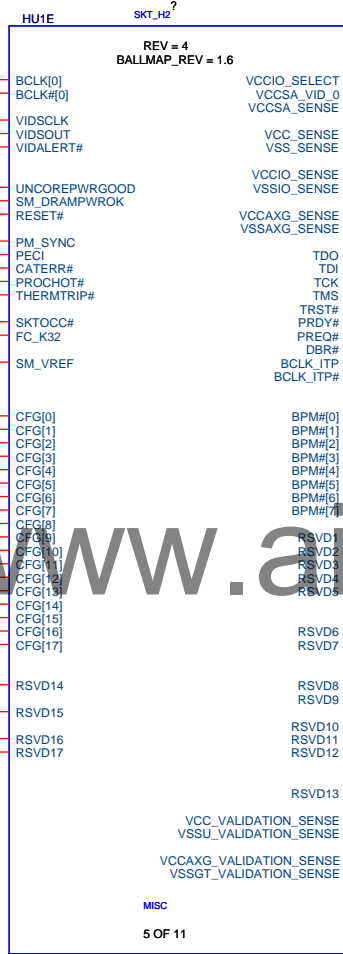
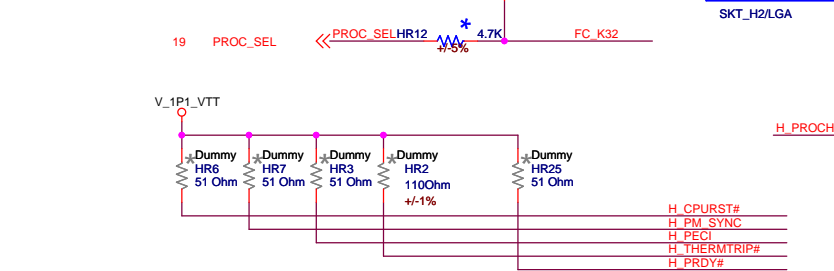
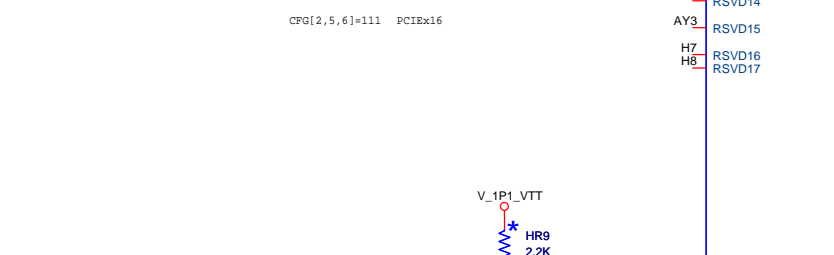
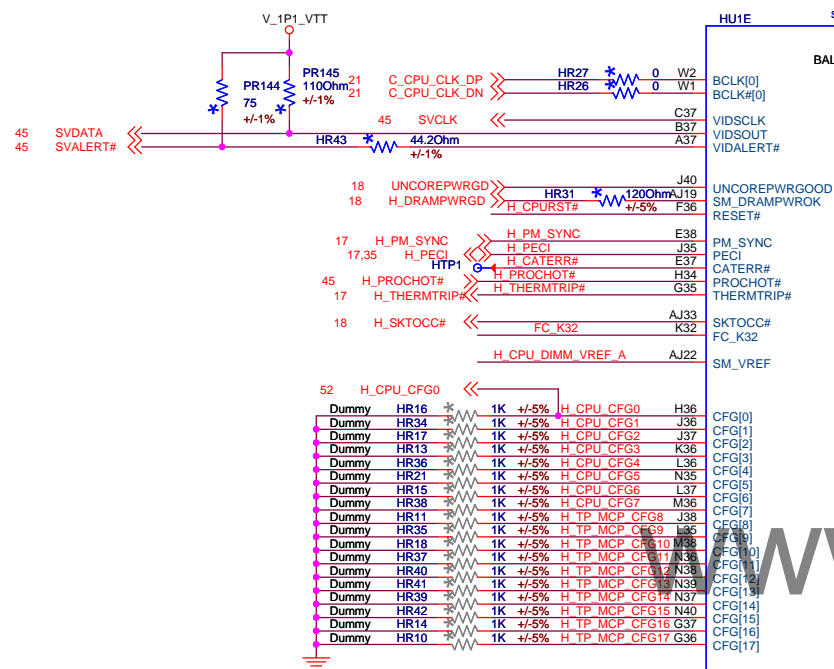
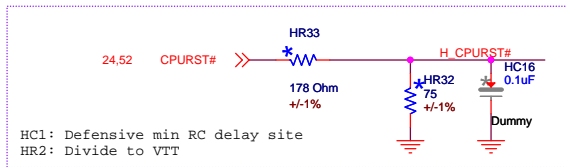
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| Title Block Diagram | | |
| Size A3 | Document Number Z75A01 | Rev A |
| Date: Thursday, February 23, 2012 | Sheet 2 | of 52 |



POWER DELIVERY MAP





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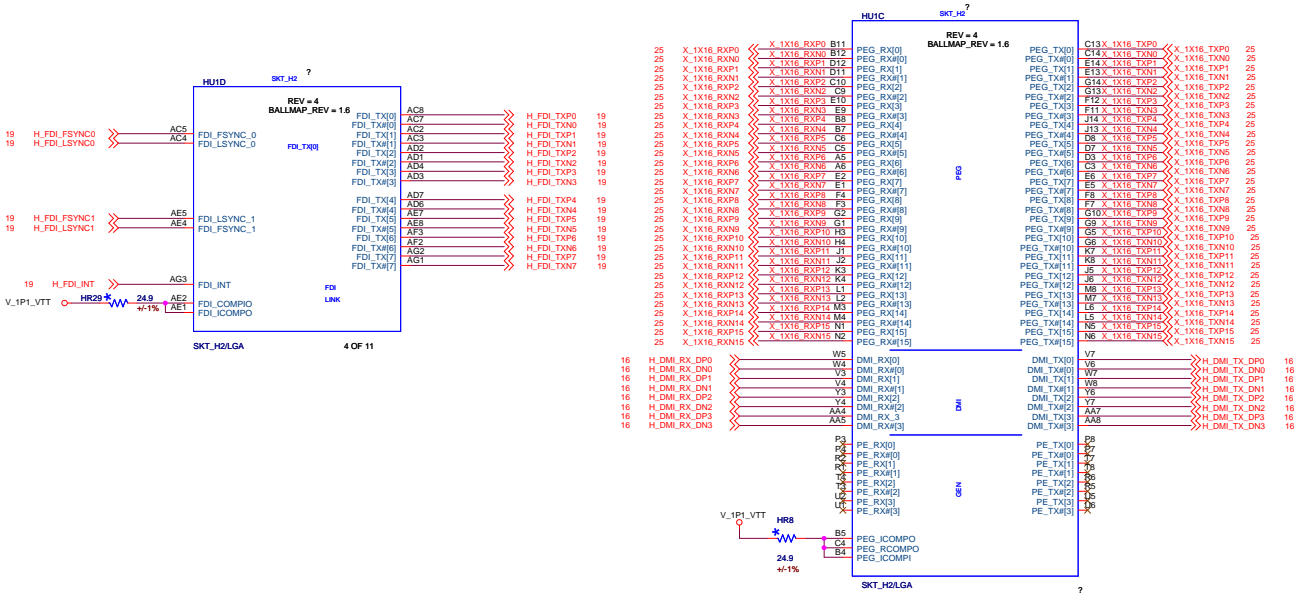
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Title
CPU-1:MISC

Size A3 Document Number
Z75A01

Date: Thursday, February 23, 2012 Sheet 5 of 52

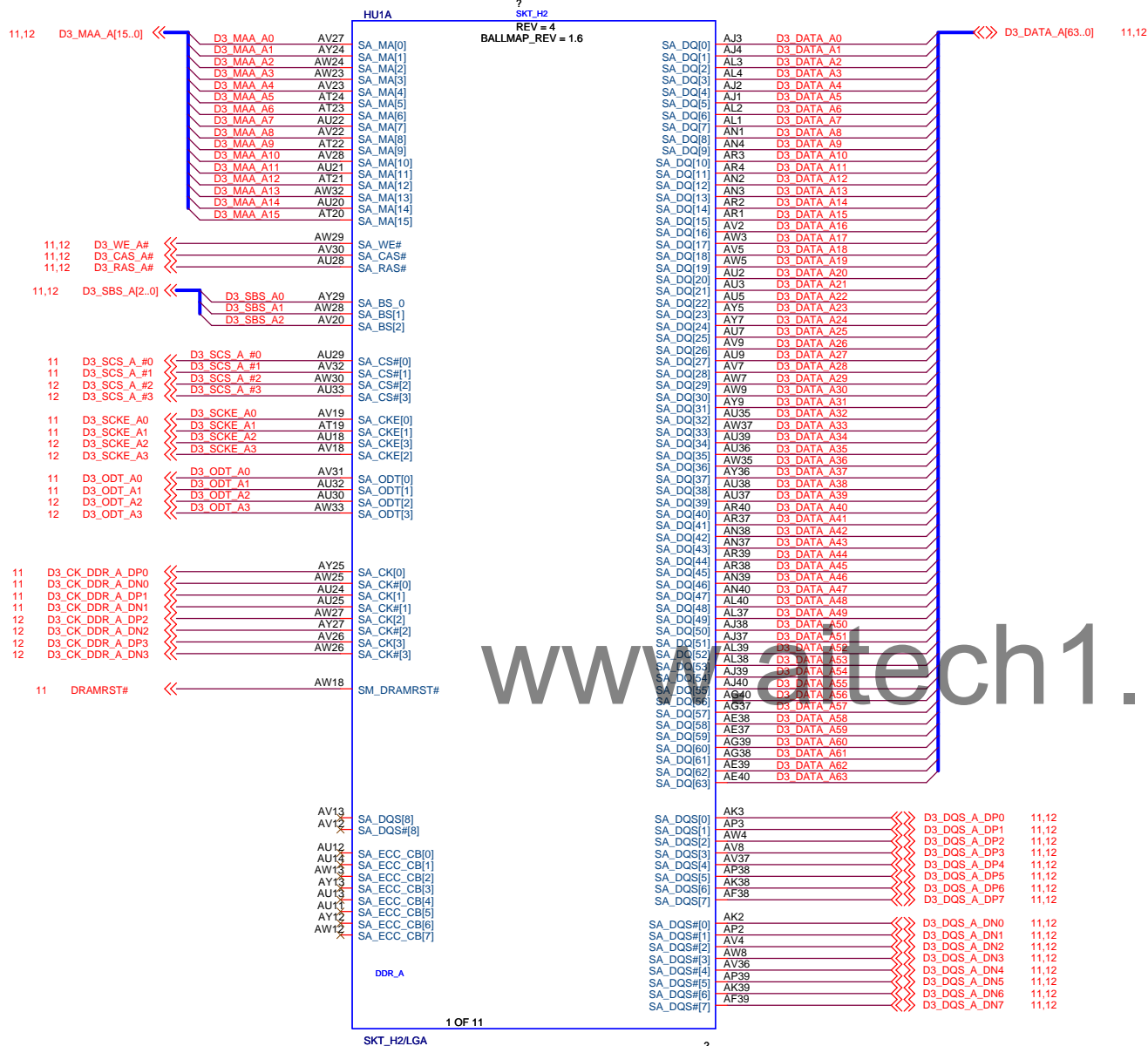
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| CPU-2:FD/PCIE/DMI | | |
| Size A2 | Document Number Z75A01 | Rev A |
| Date | Thursday, February 23, 2012 | Sheet 6 of 52 |

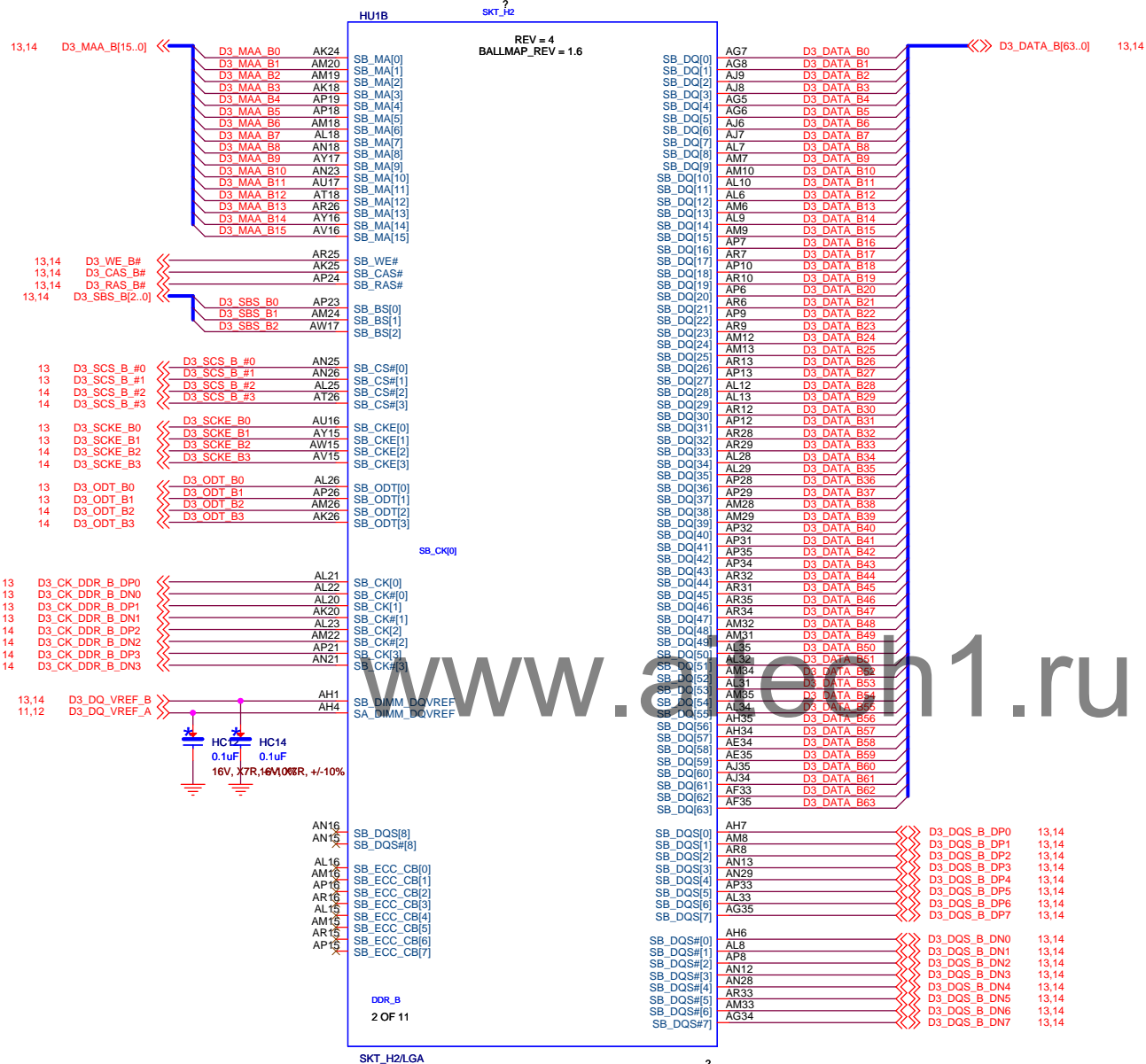


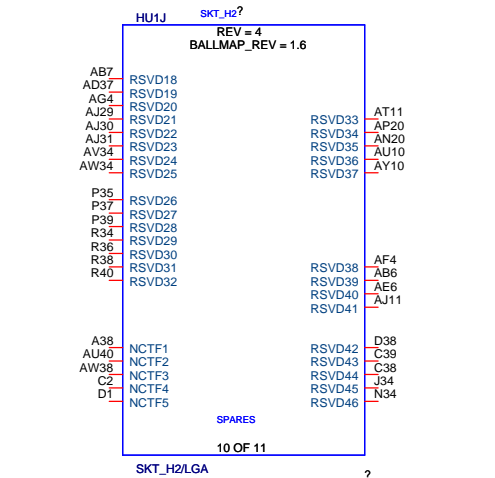
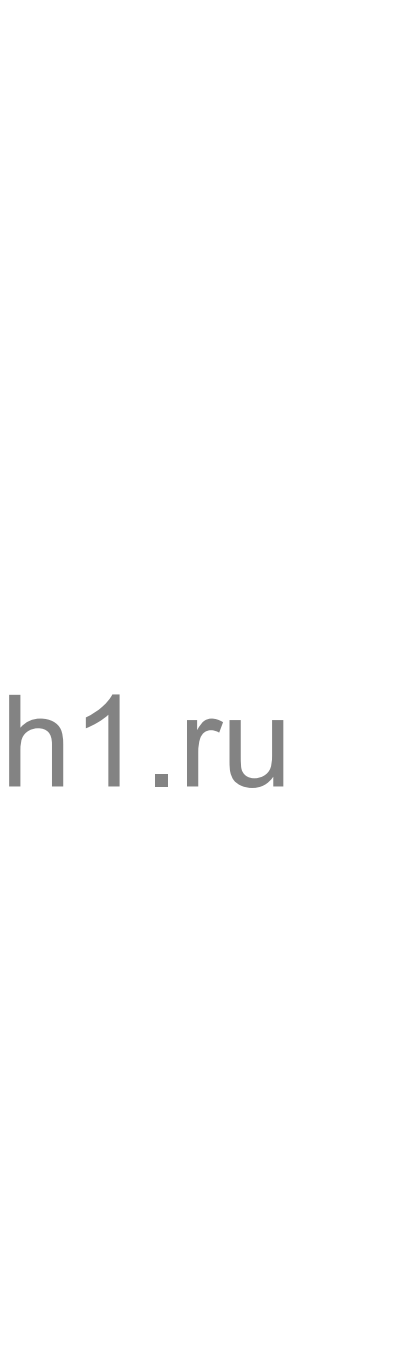
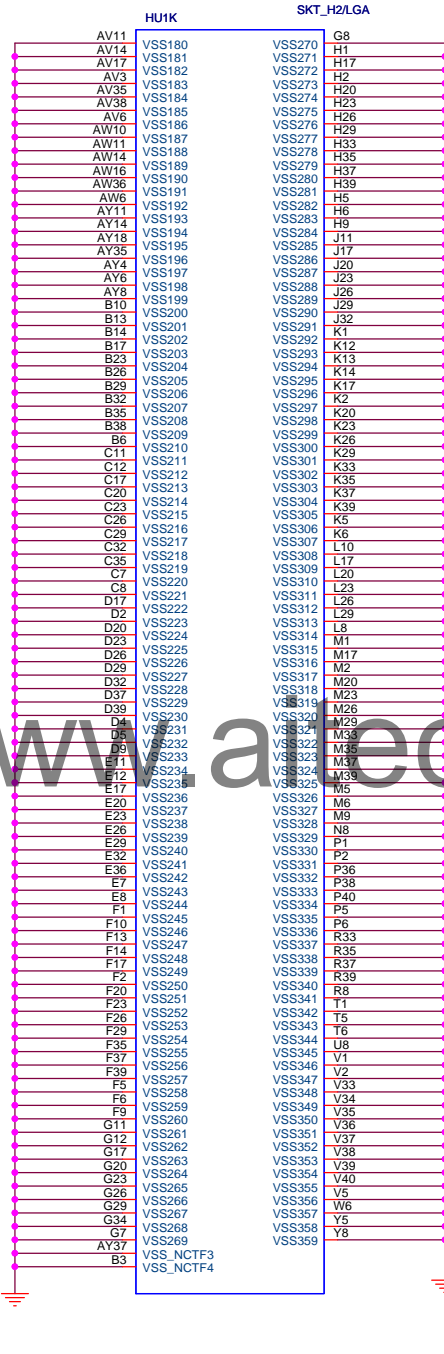
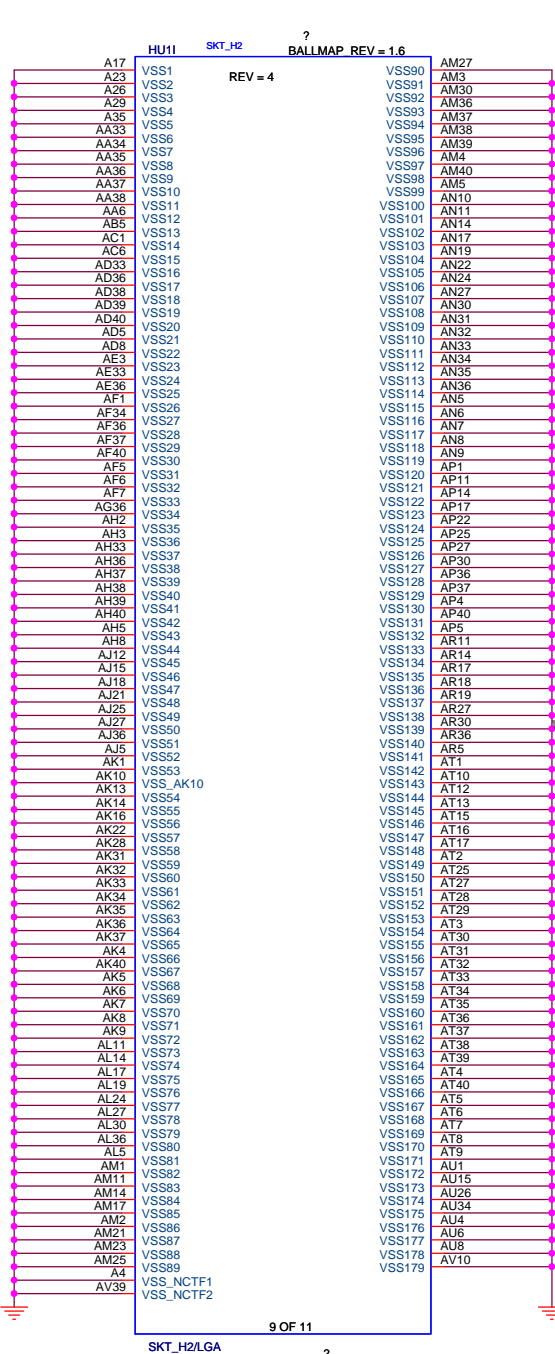
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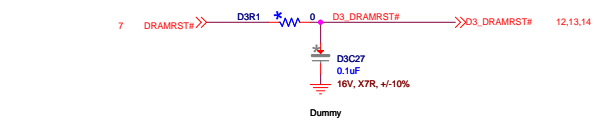
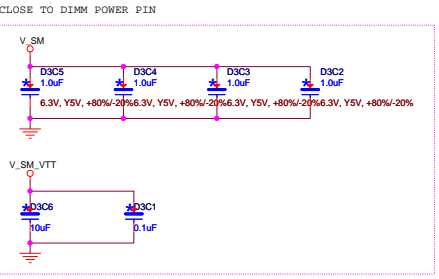
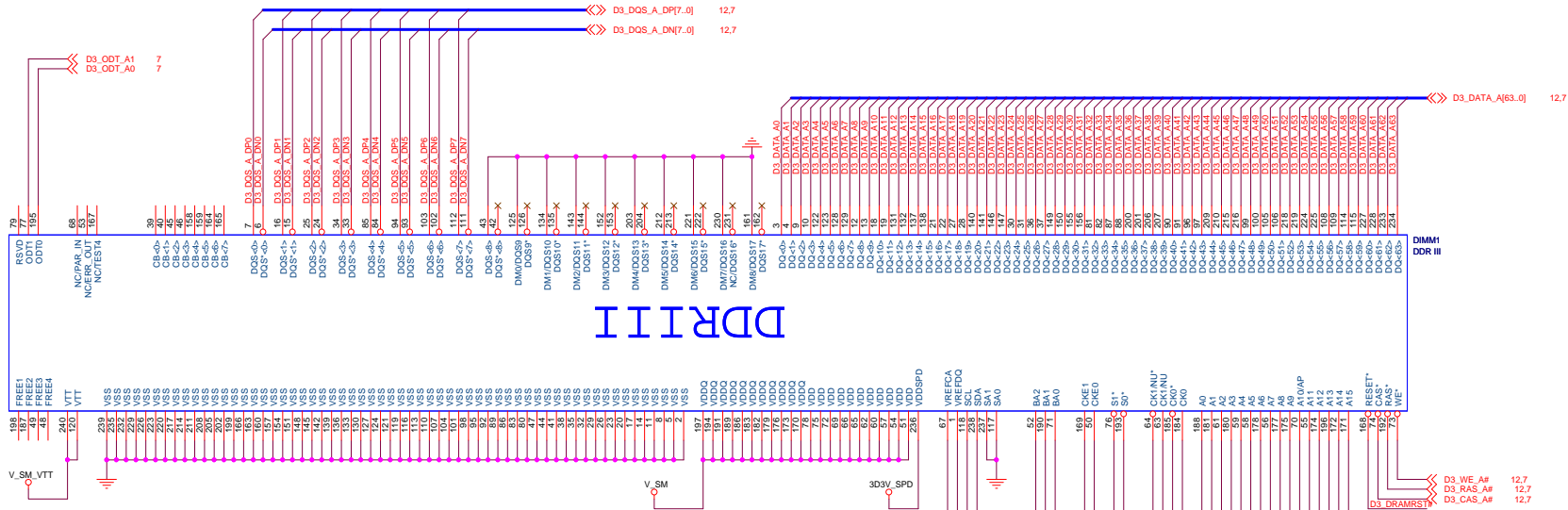
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| CPU-3:DDR3_CHA | | |
| Size | Document Number | Rev |
| A3 | Z75A01 | A |
| Date: Thursday, February 23, 2012 | | |
| Sheet 7 of 52 | | |

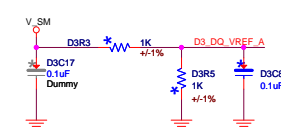
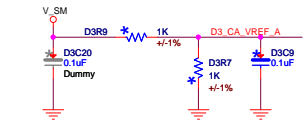


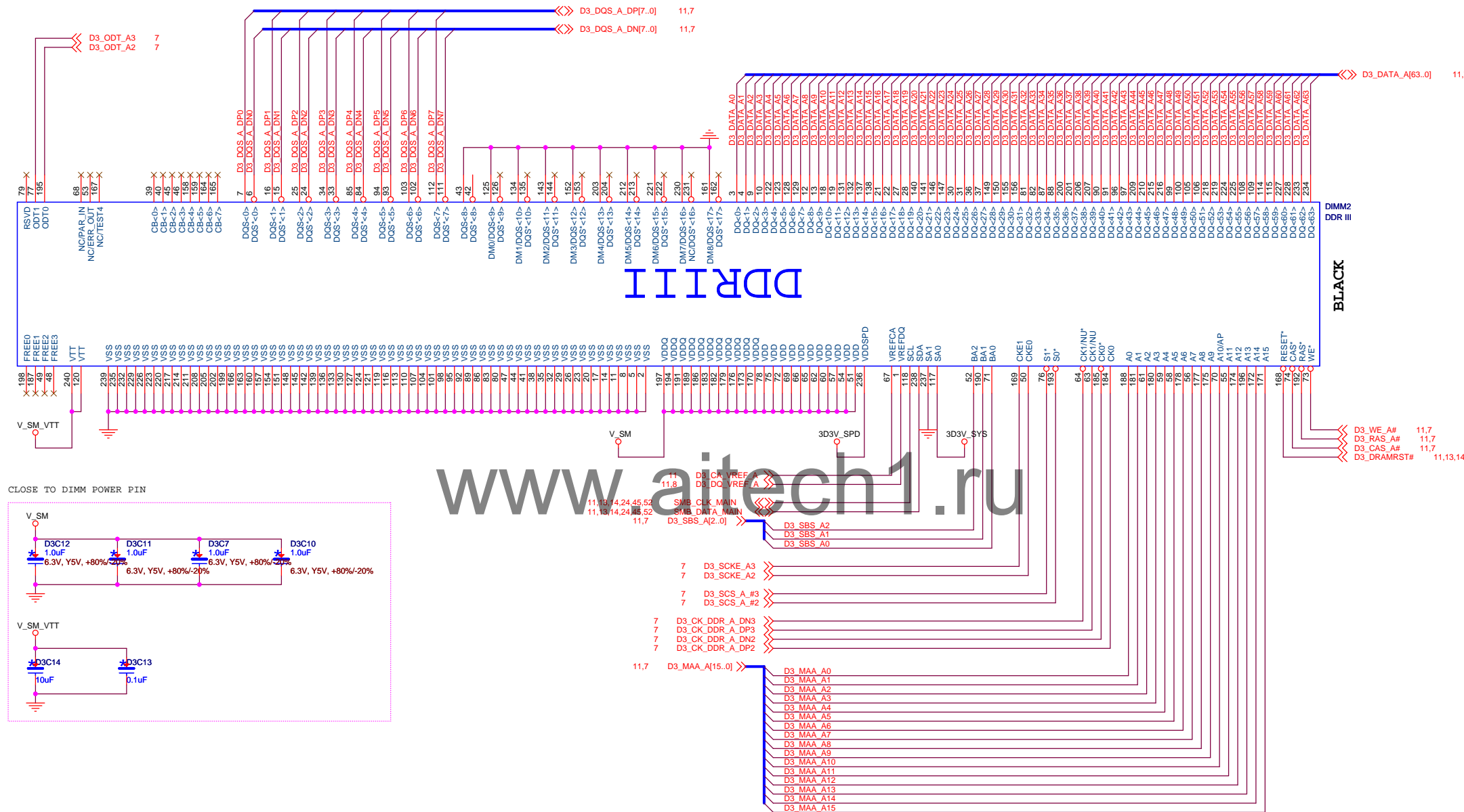


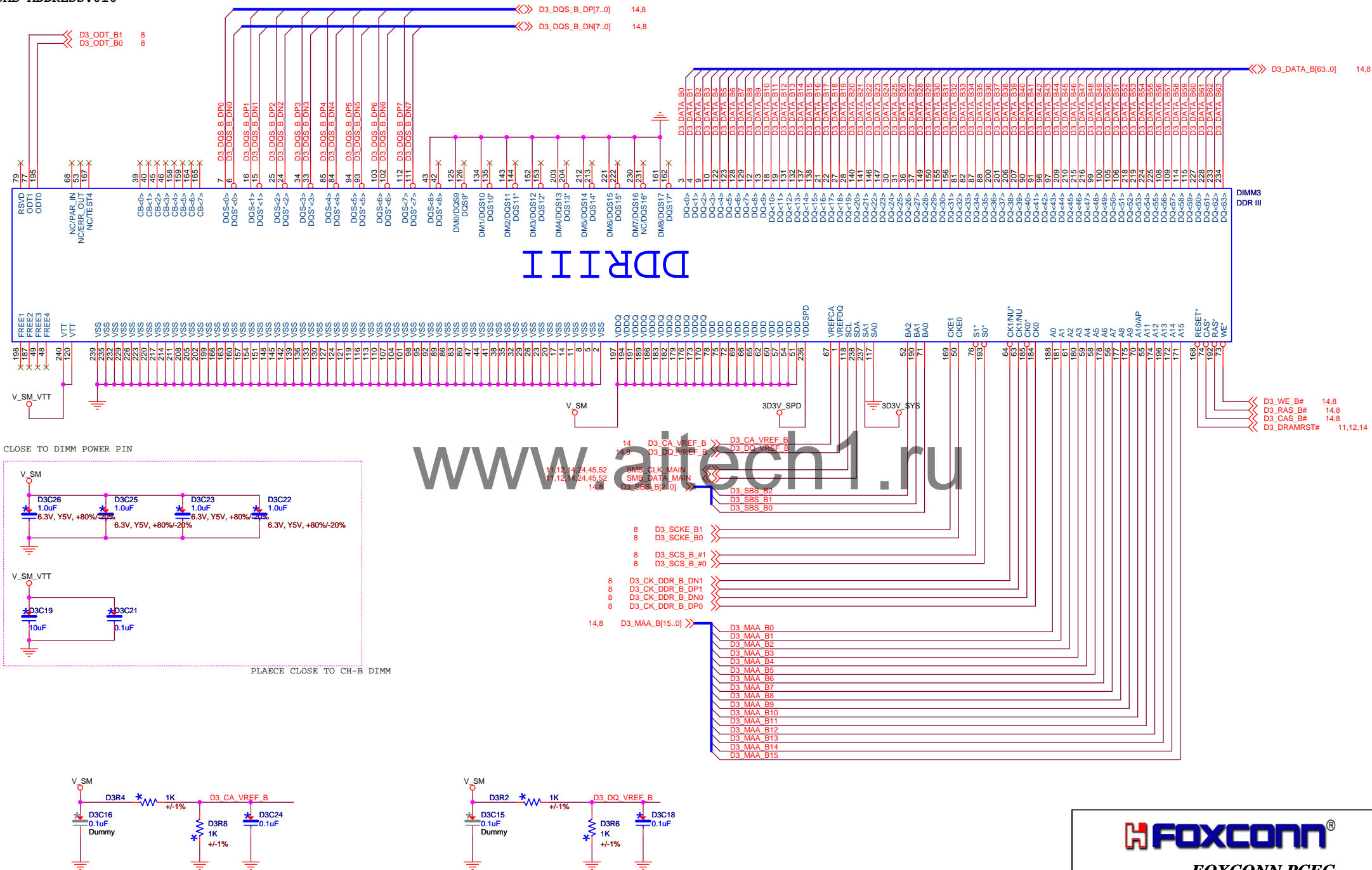
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SMB ADDRESS:000

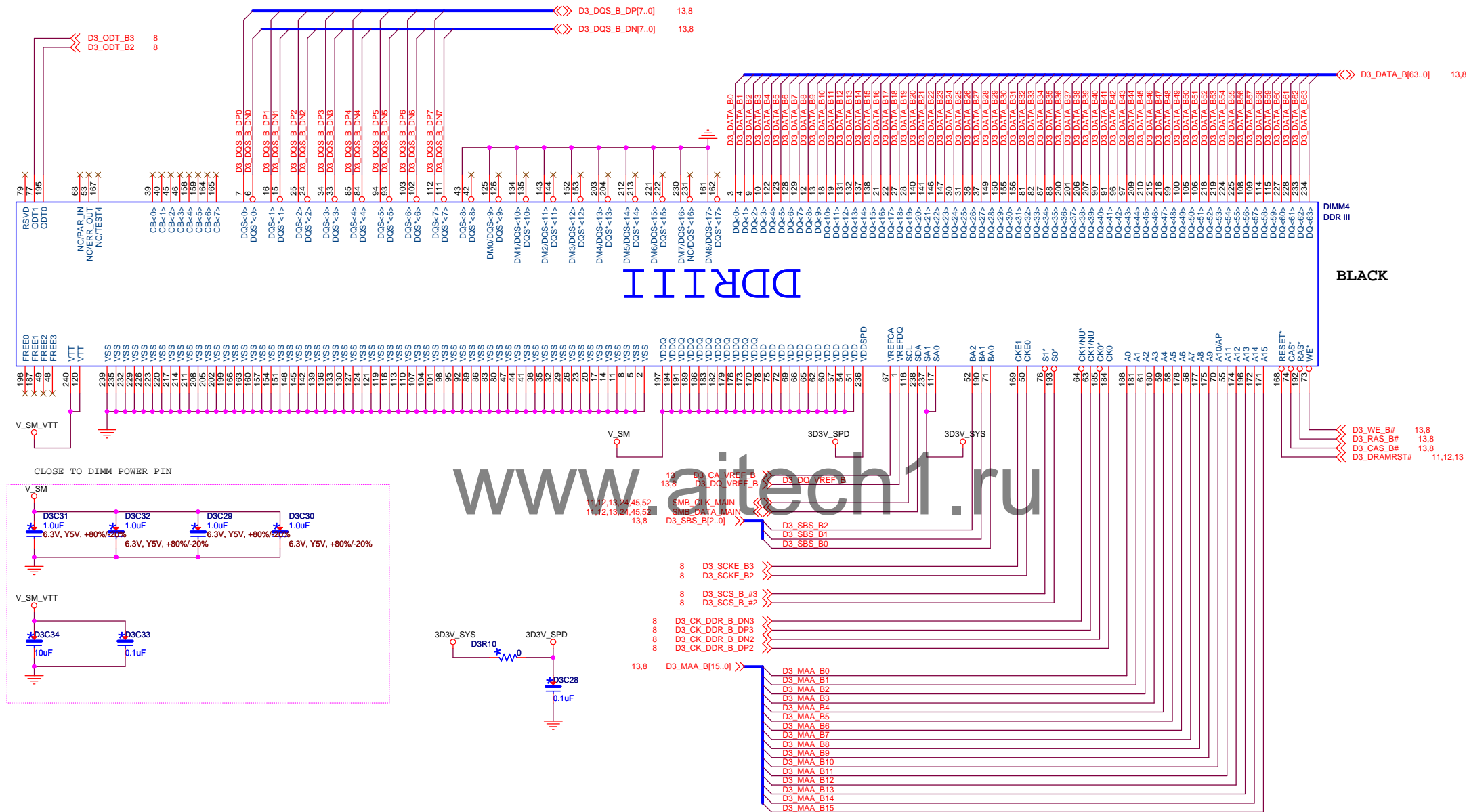


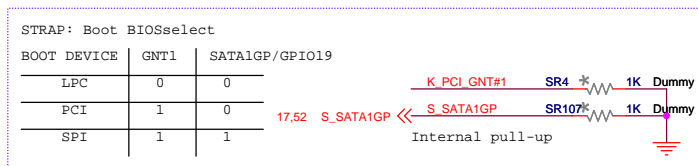
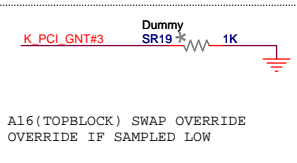
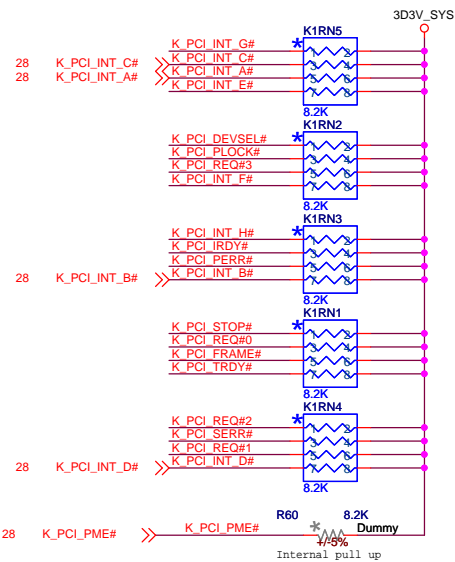
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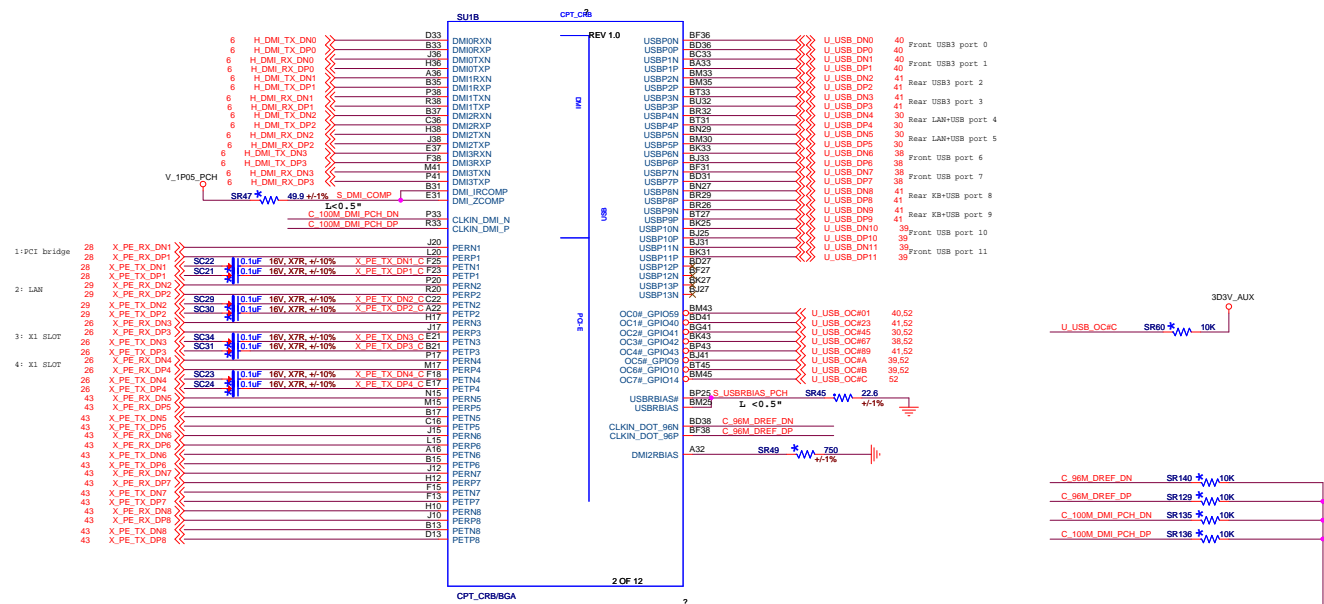








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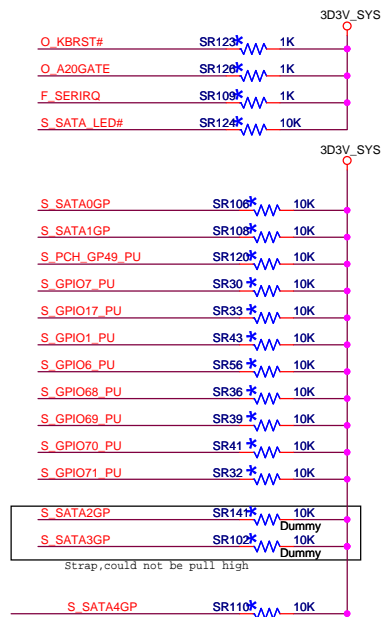
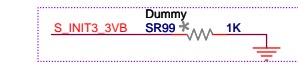
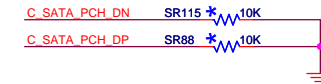
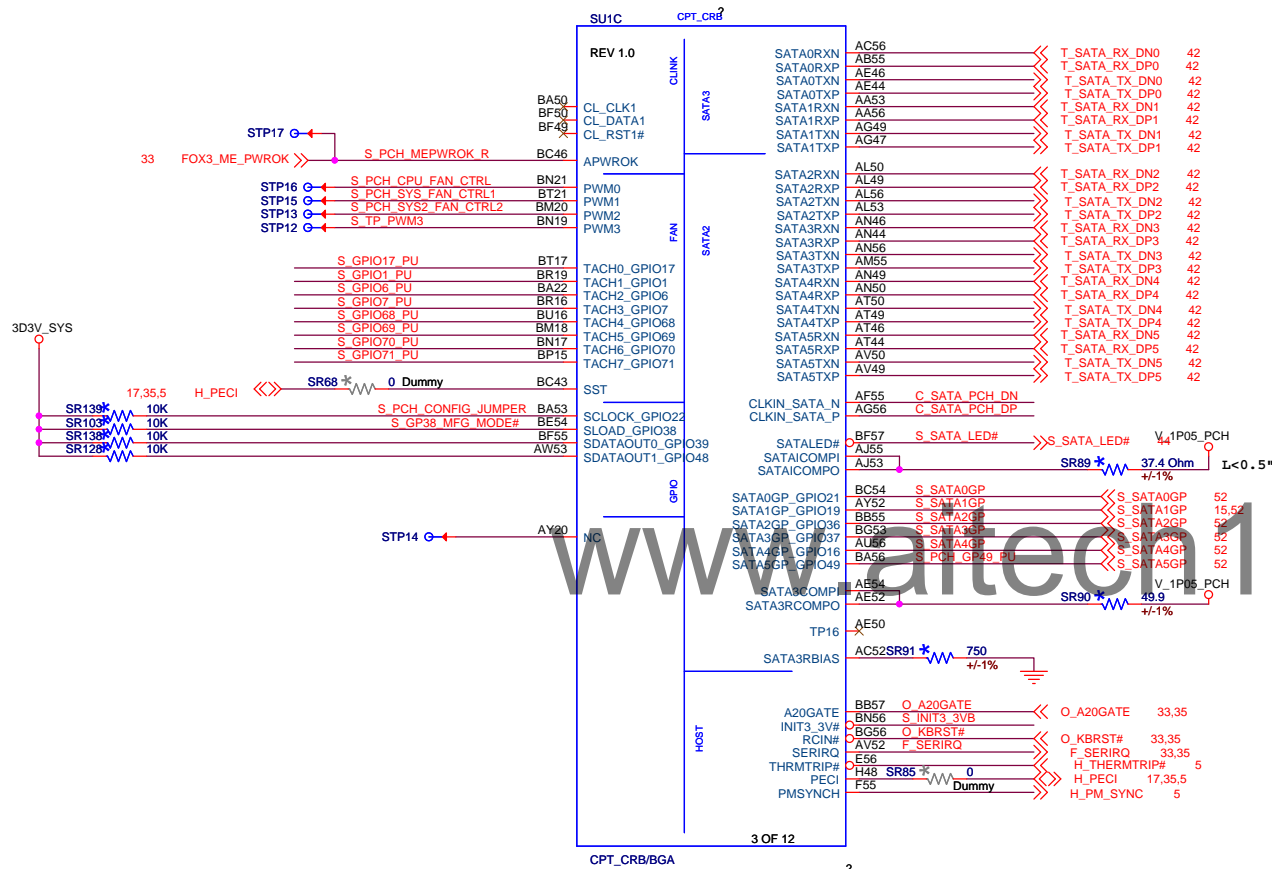


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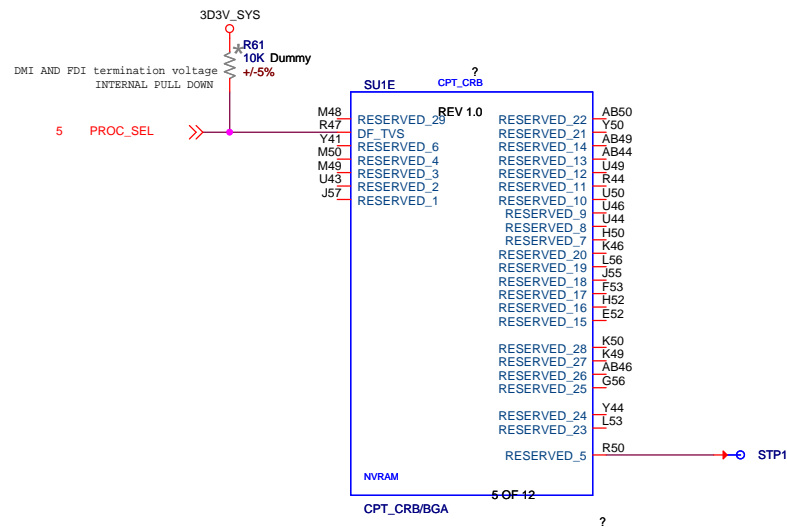
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| File | | |
| PCH-2:DMI/PCIE/USB | | |
| Size | Document Number | Rev |
| A2 | Z75A01 | A |
| Date | Thursday, February 23, 2012 | Sheet 16 of 52 |

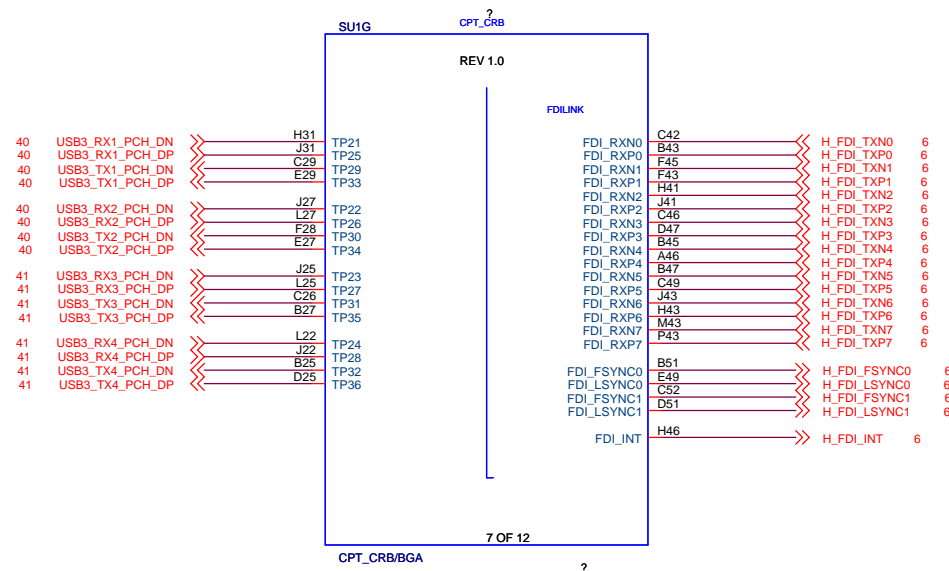


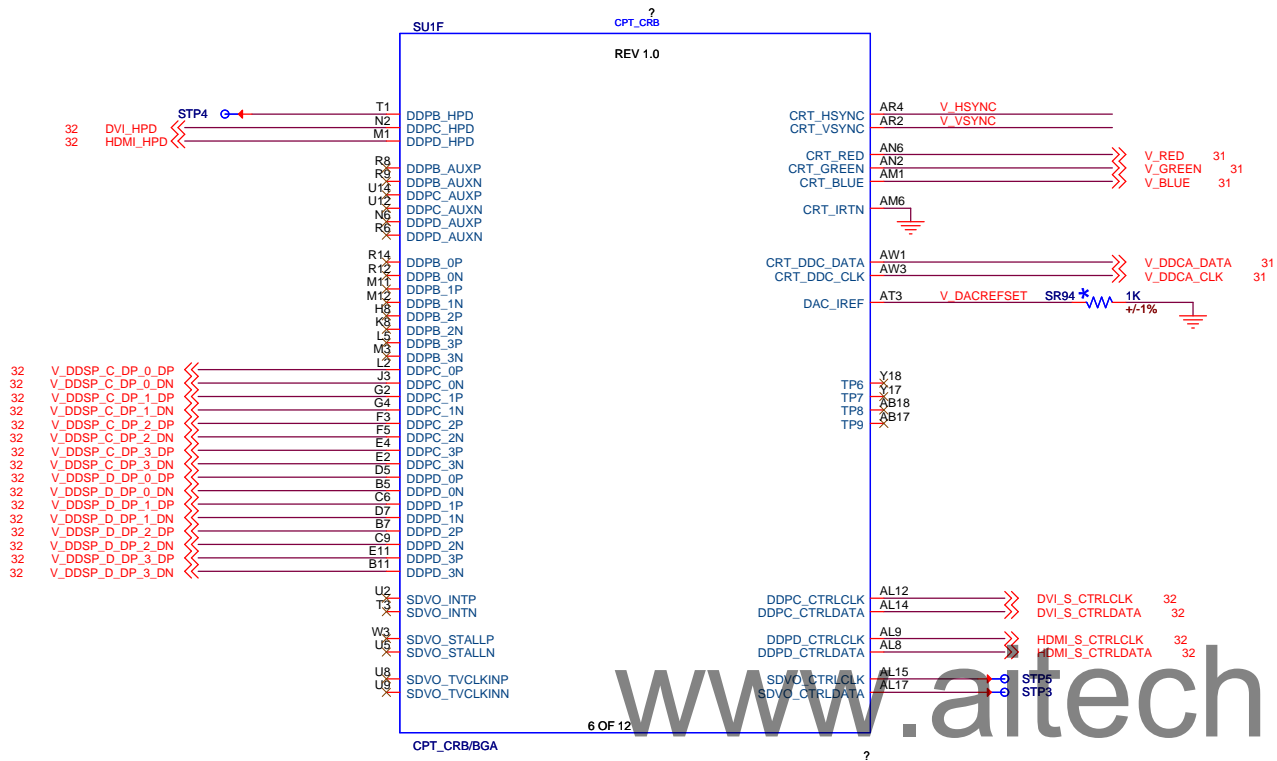
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| Size | Document Number | Z75A01 |
| A3 | | Rev A |
| Date: | Thursday, February 23, 2012 | Sheet 17 of 52 |

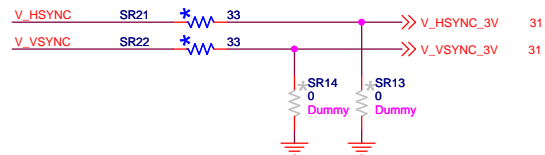
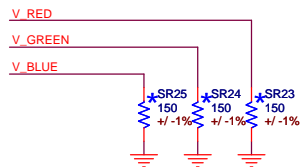


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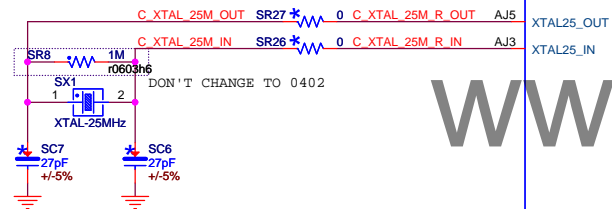
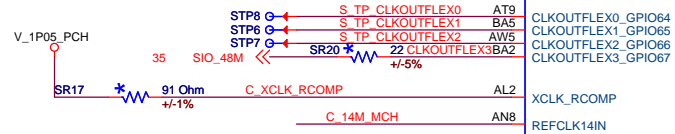
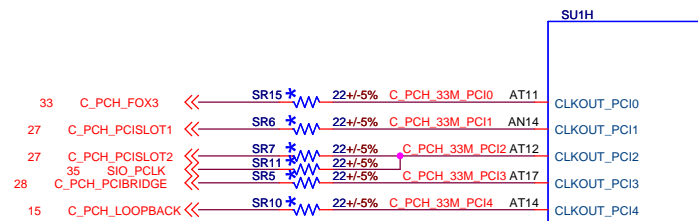


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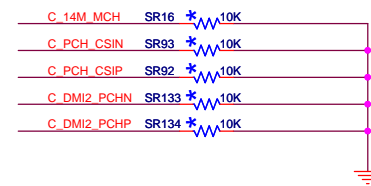
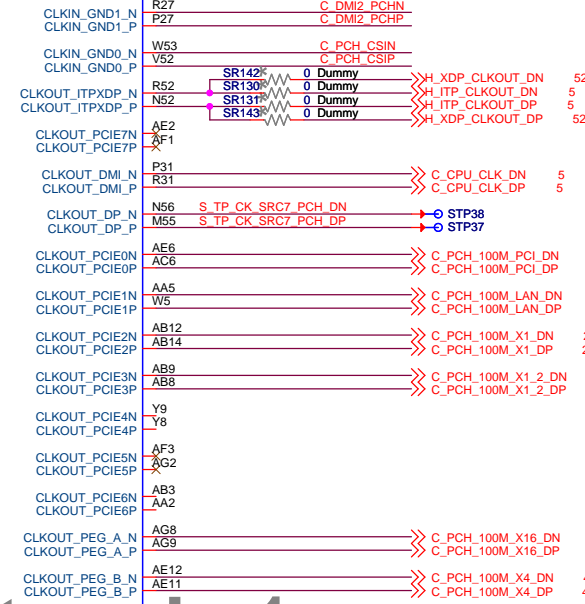
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| Title | |
| PCH-6:DISPLAY | |
| Size | Document Number |
| A3 | Z75A01 |
| Date: | Thursday, February 23, 2012 |
| Sheet | 20 of 52 |
| Rev | A |



STUFF ALWAYS

REV 1.0

8 OF 12

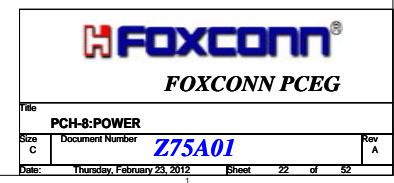


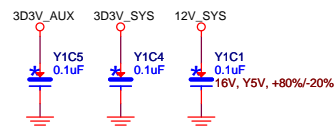
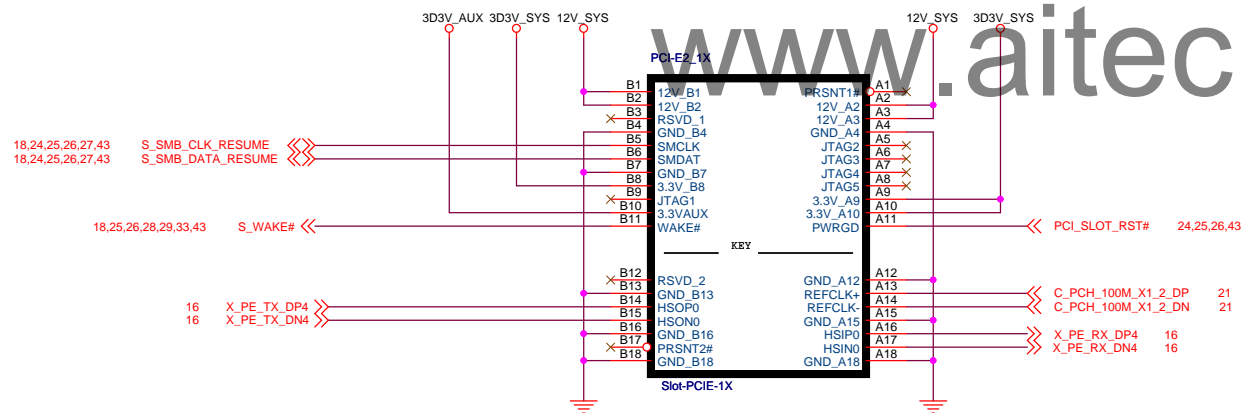
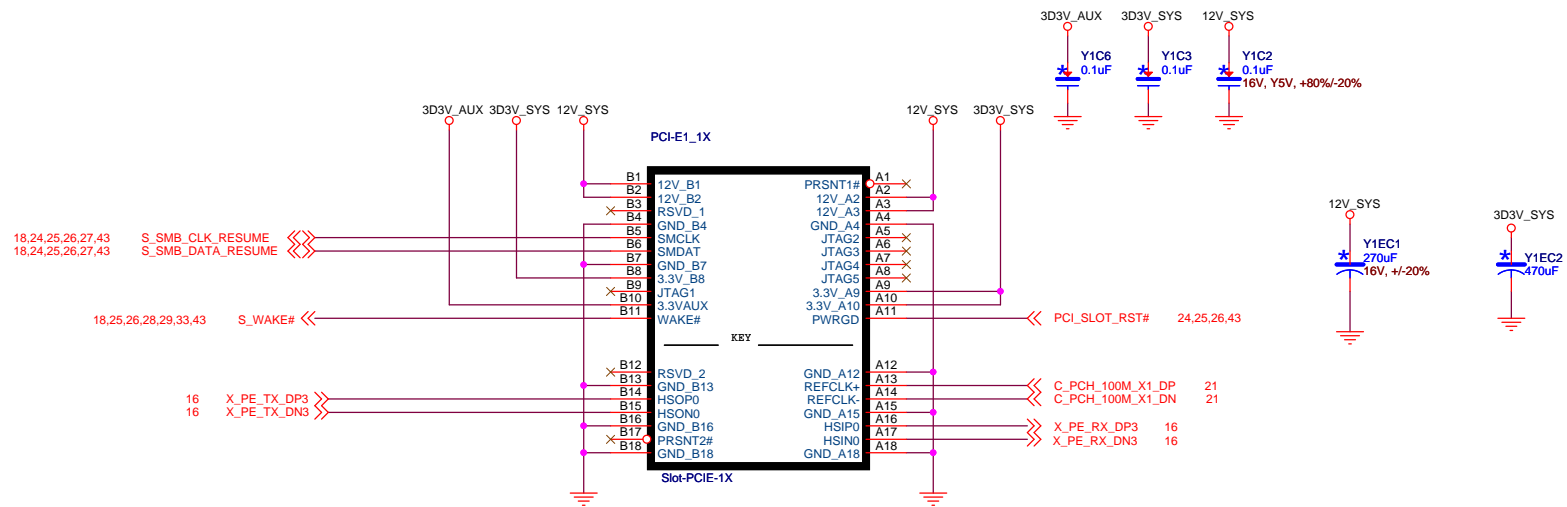
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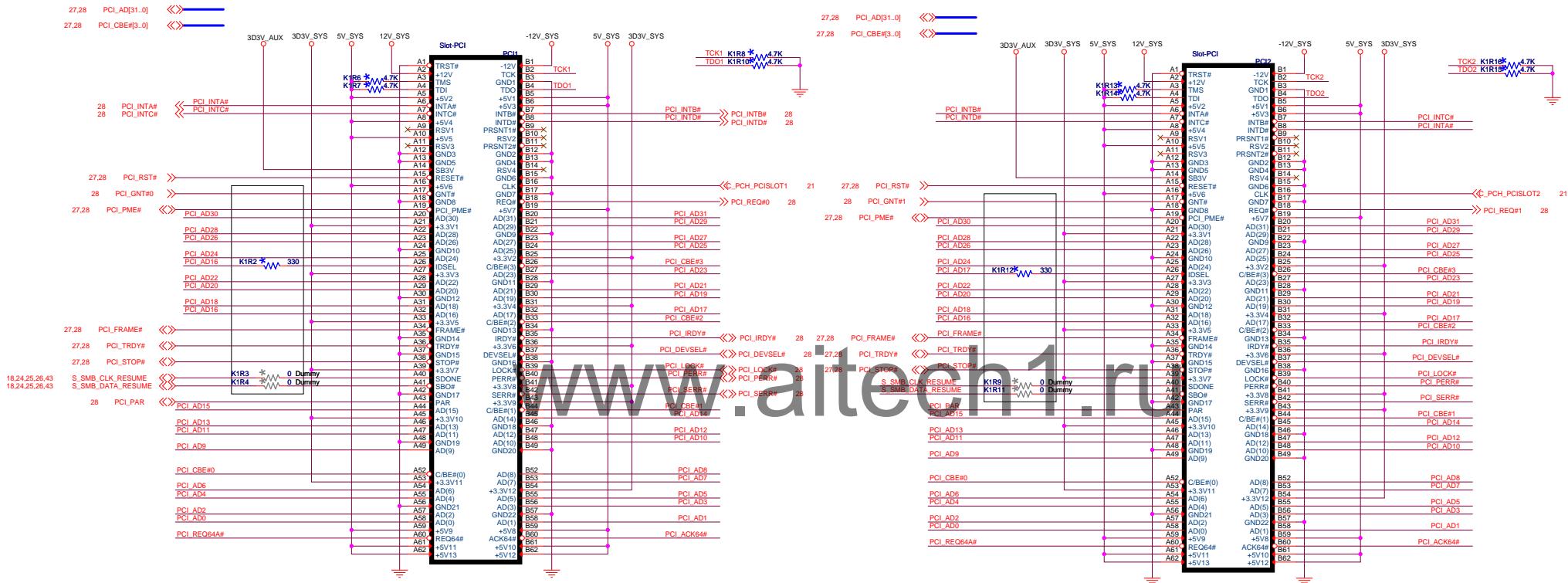


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| Size | A3 | Document Number | Z75A01 |
| Date: | Thursday, February 23, 2012 | Sheet | 21 of 52 |

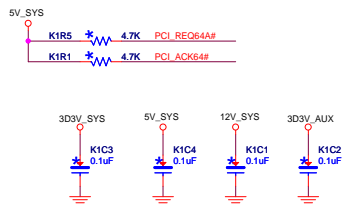




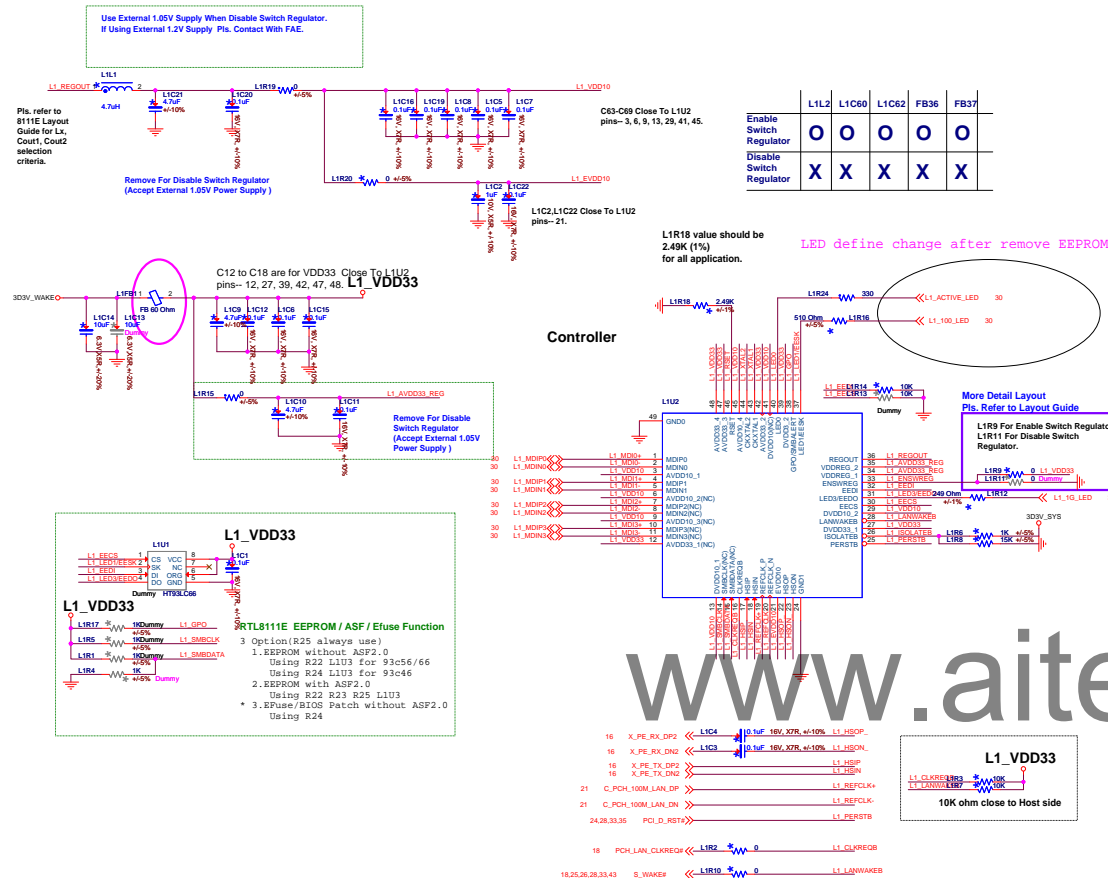


IRQ: ABCD
 IDSEL: AD16
 REQ/GNT: 0

IRQ: BCDA
 IDSEL: AD17
 REQ/GNT: 1







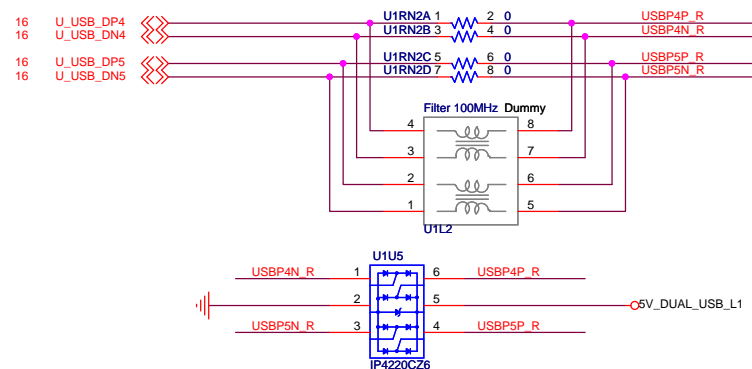
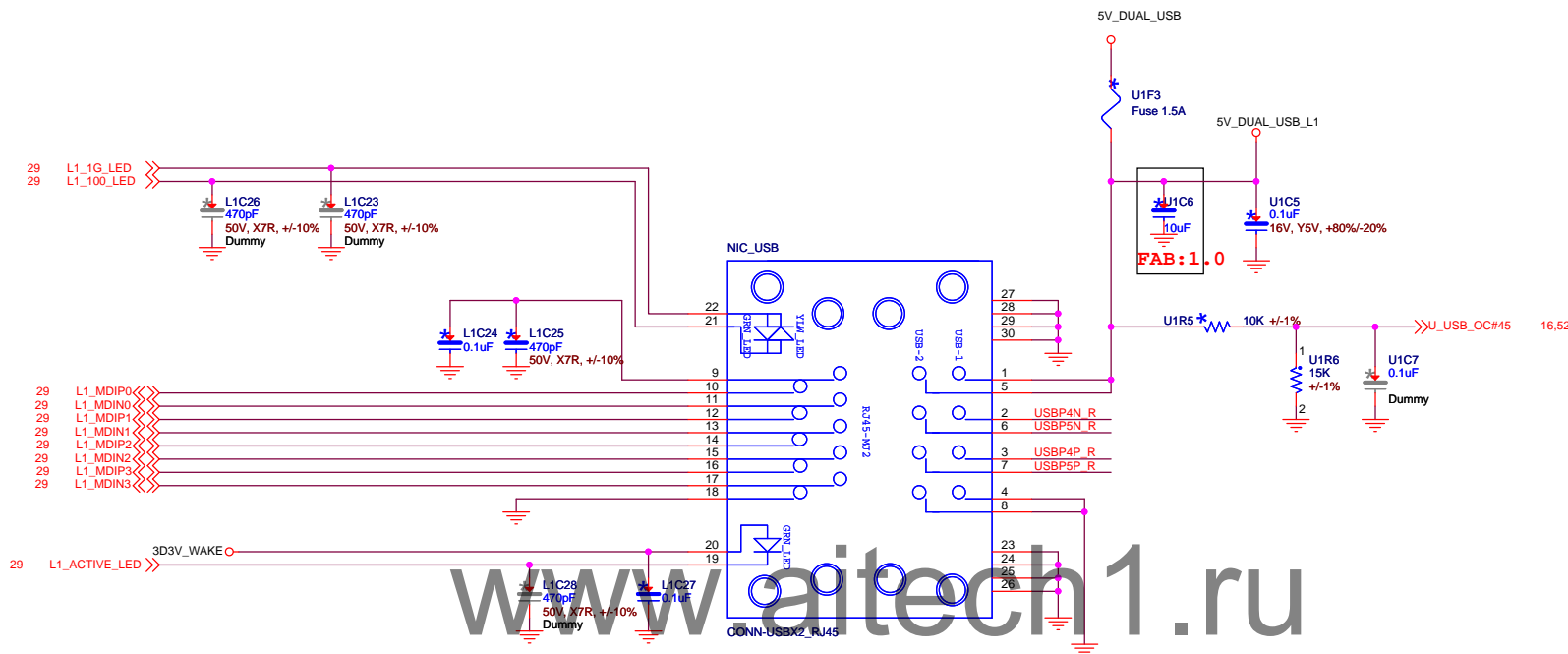
| | L1L2 | L1C60 | L1C52 | FB36 | FB37 |
|--------------------------|------|-------|-------|------|------|
| Enable Switch Regulator | O | O | O | O | O |
| Disable Switch Regulator | X | X | X | X | X |

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BACK PANEL (LAN 1+ 2 USB Connector)

| SPEED LED | |
|------------|--------|
| LINK 10M | OFF |
| LINK 100M | GREEN |
| LINK 1000M | YELLOW |

ACTIVE LED
GREEN = LINK UP
BLINKING = TX/RX ACTIVITY



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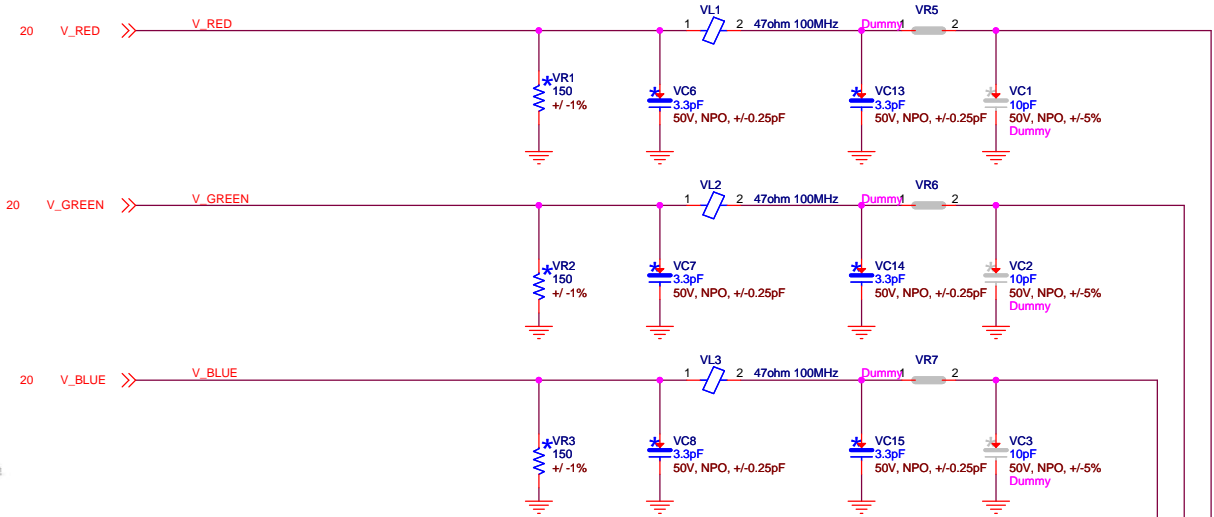
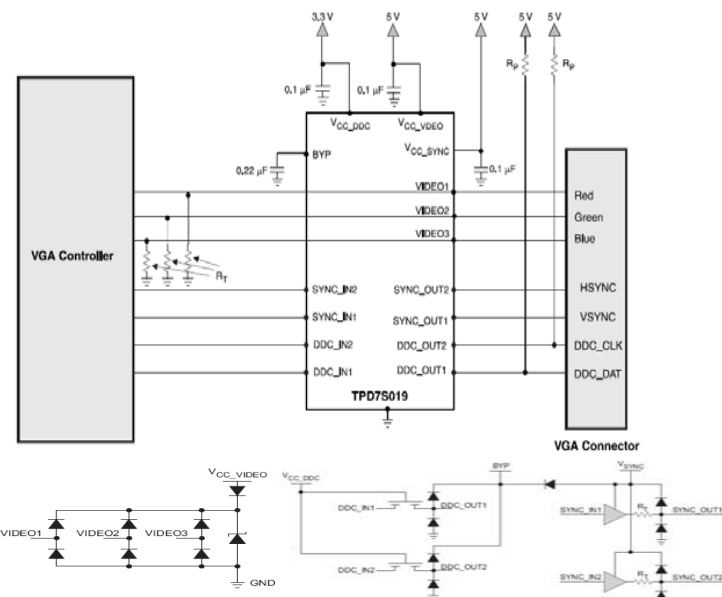
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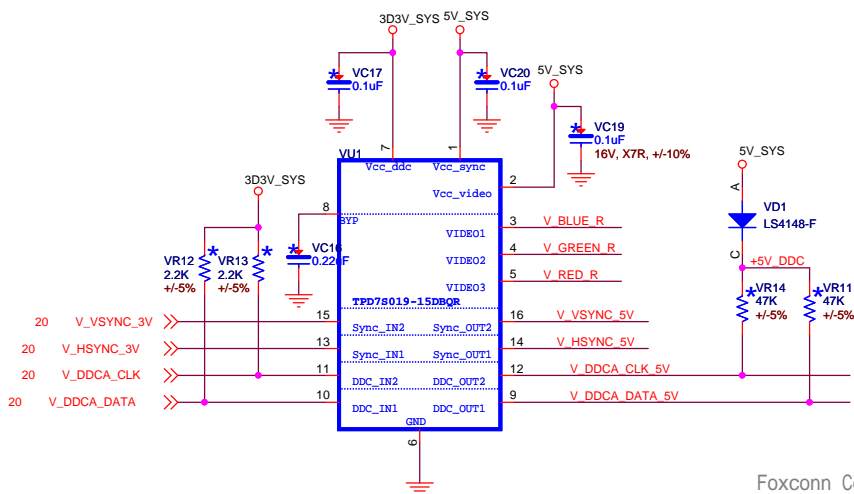
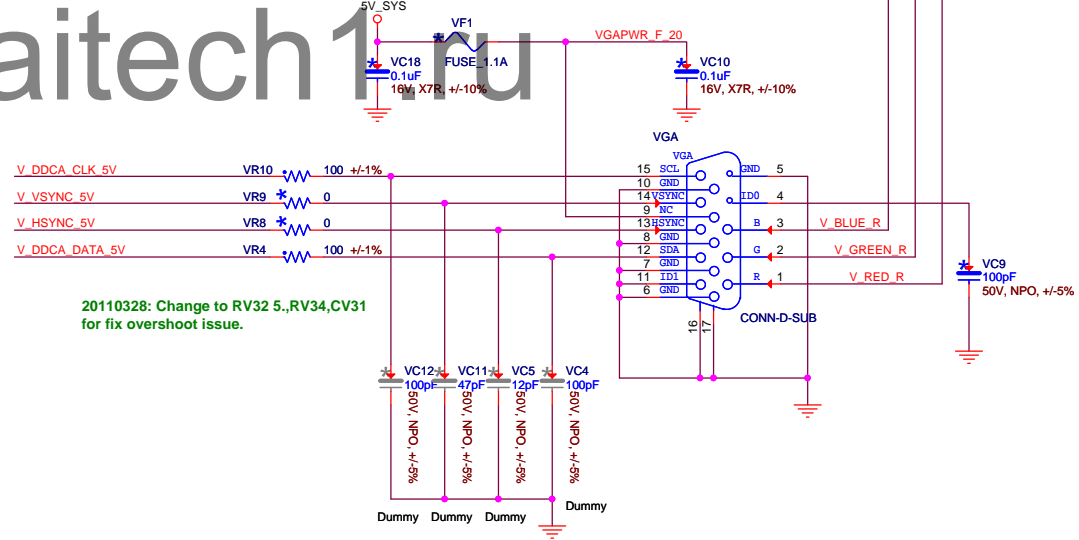
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| Title | | LAN1 / USB Connectors | |
| Size | A3 | Document Number | Z75A01 |
| Date: | Thursday, February 23, 2012 | Sheet | 30 of 52 |
| Rev | A | | |

VGA Connector

APPLICATION INFORMATION



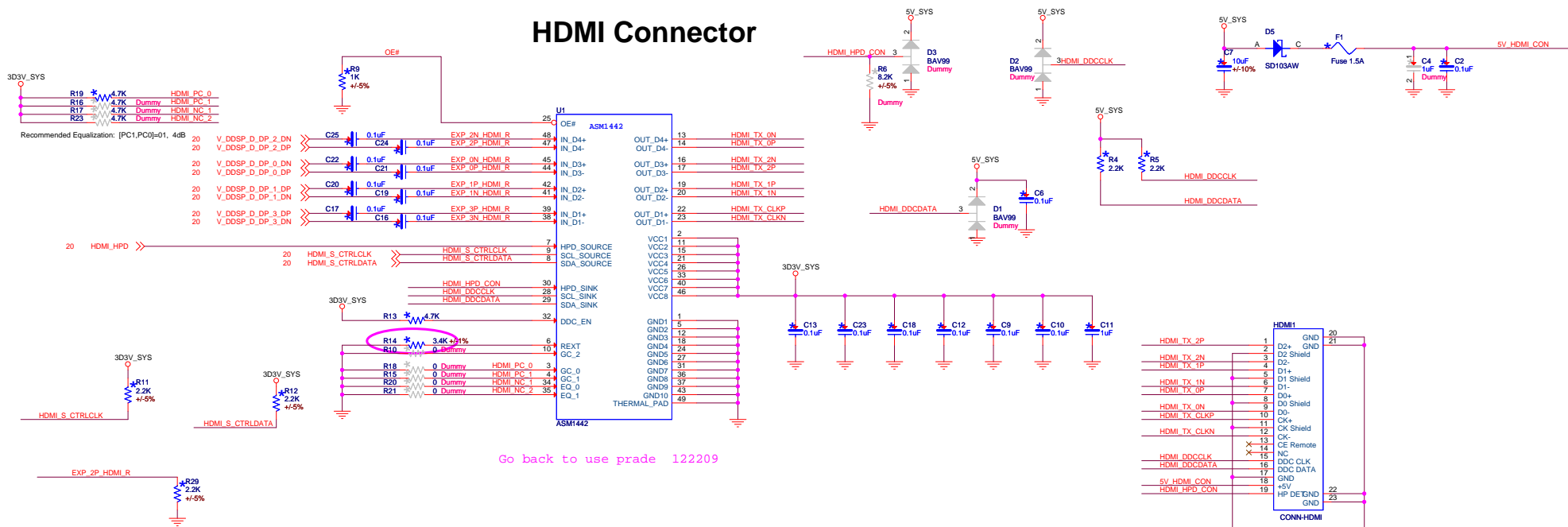
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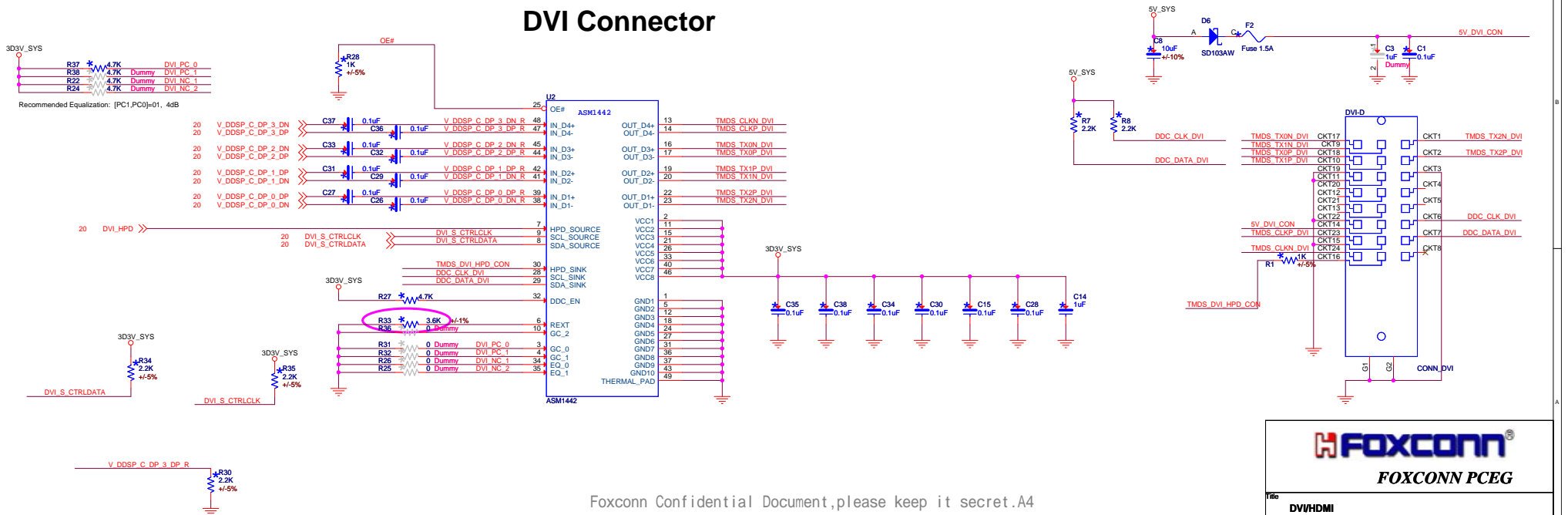
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|-------|-----------------------------|-----------------|----------------|
| Title | | VGA | |
| Size | A3 | Document Number | Z75A01 |
| Date: | Thursday, February 23, 2012 | | Sheet 31 of 52 |

HDMI Connector



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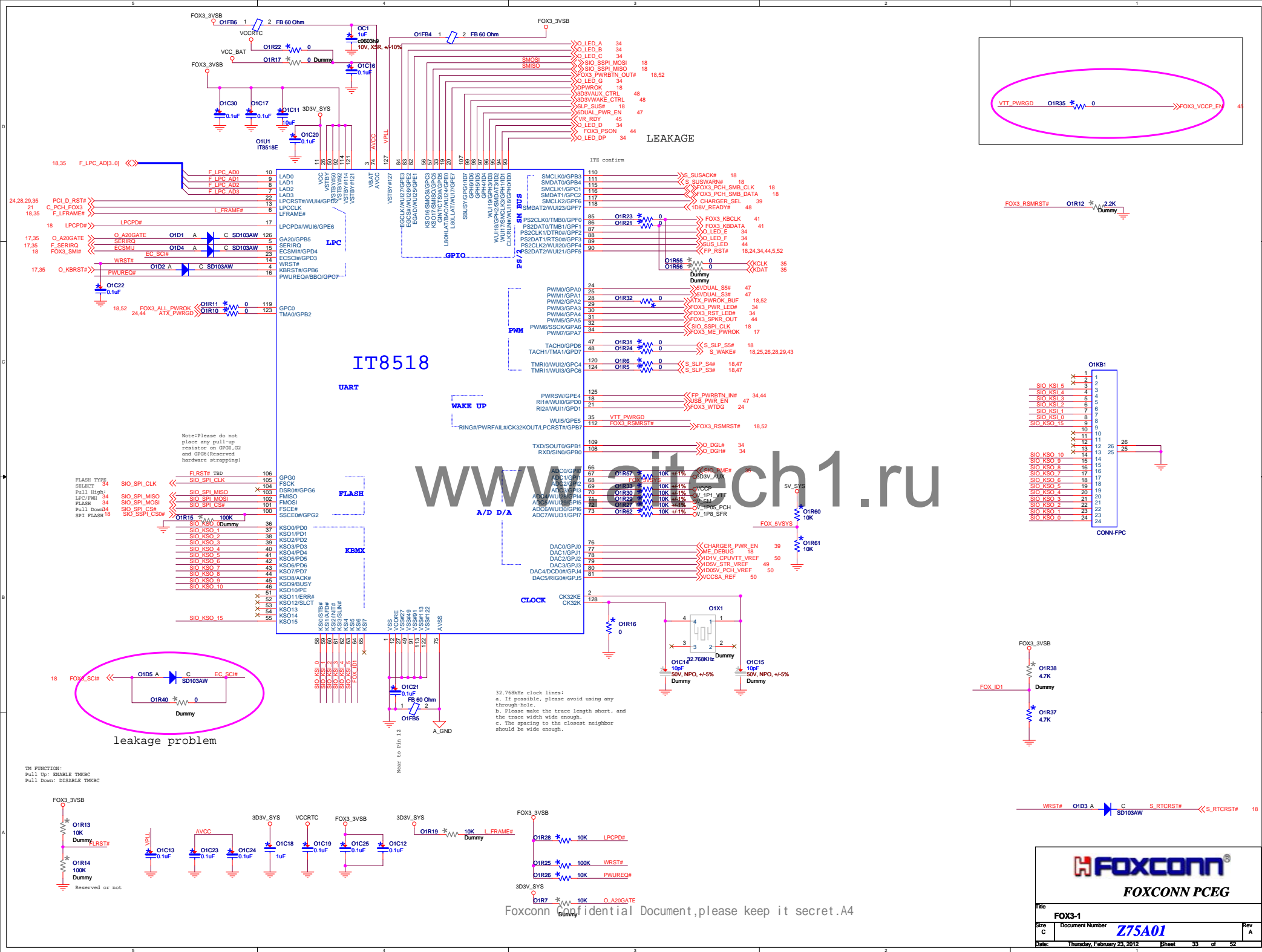
DVI Connector



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|-----------------|-----------------------------|
| File | DVI/HDMI |
| Size | C |
| Document Number | 775A01 |
| Date | Thursday, February 23, 2012 |
| Sheet | 32 of 52 |
| Rev | A |

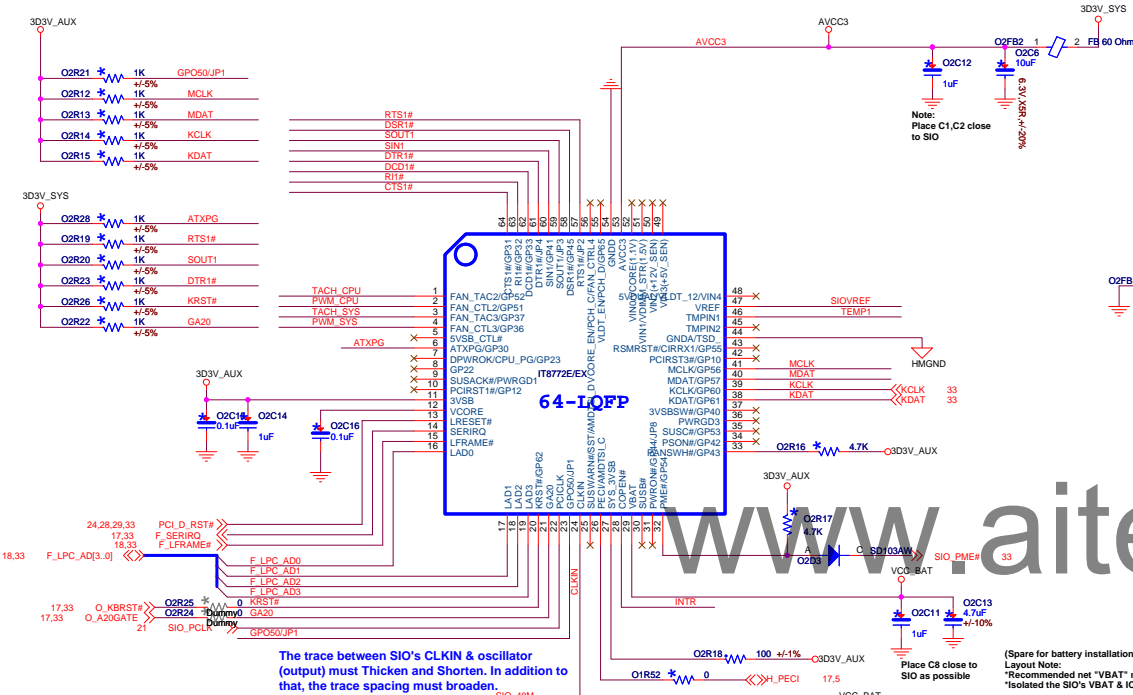


Power-On Strapping

| JP1 | Symbol | Value | Description |
|--------|-------------|-------|-------------------------------------|
| Pin-23 | DSW_EUP_SEL | 0 | RIP(default) |
| JP2 | WDT_EN | 1 | Disable WDT to reset PWROK(default) |
| Pin-57 | | 0 | Enable WDT to reset PWROK |
| JP3 | FAN_CTL_SEL | 1 | EC Index 6bh/73h default = 80h |
| Pin-59 | | 0 | EC Index 6bh/73h default = 60h |
| JP4 | K8PWR_EN | 1 | Disable K8 Power Sequence(default) |
| Pin-61 | | 0 | Enable K8 Power Sequence |

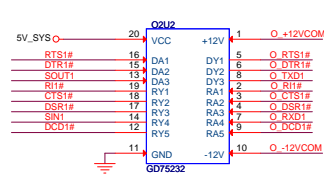
If without use these pins, Please pull-up. Don't let it floating

- 1.Pin 6:ATXPG
- 2.Pin 30:SYSB#
- 3.Pin Pin 23 / Pin 57/ Pin 59/ Pin61
- 4.Pin38-41 KCLK/KDAT/MCLK/MDAT
- 5.Pin 63 pull high to 3VSB

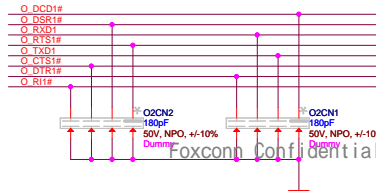
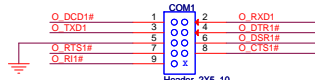
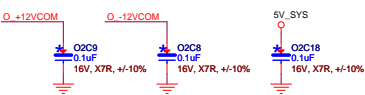


The trace between SIO's CLKIN & oscillator (output) must Thicken and Shorten. In addition to that, the trace spacing must broaden.

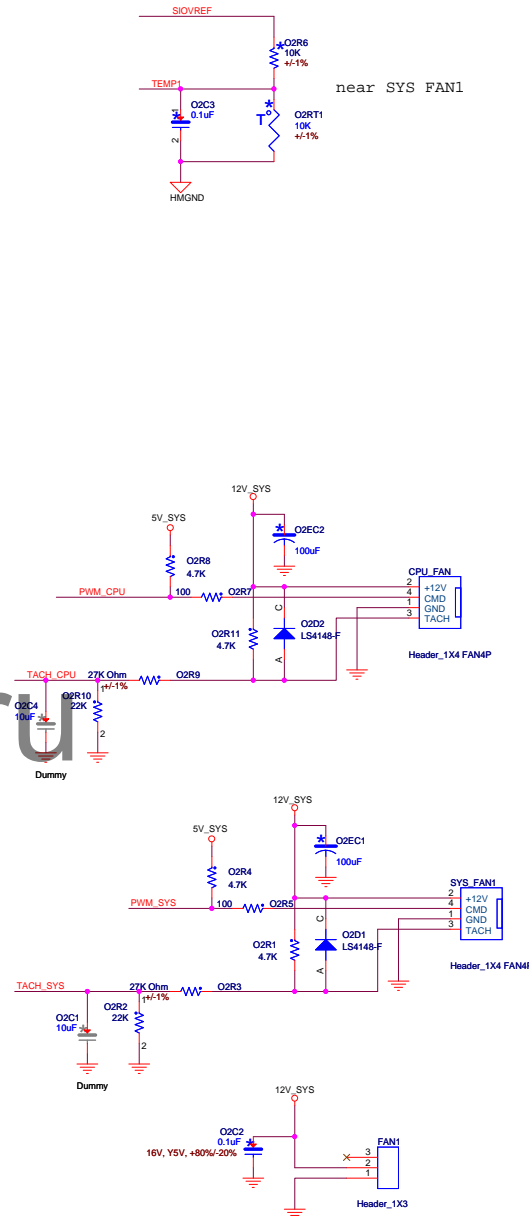
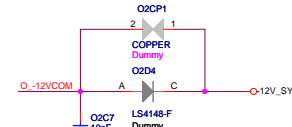
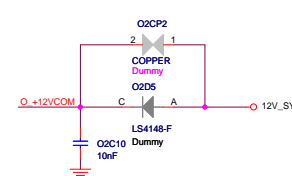
Serial Port



placed near GD75232



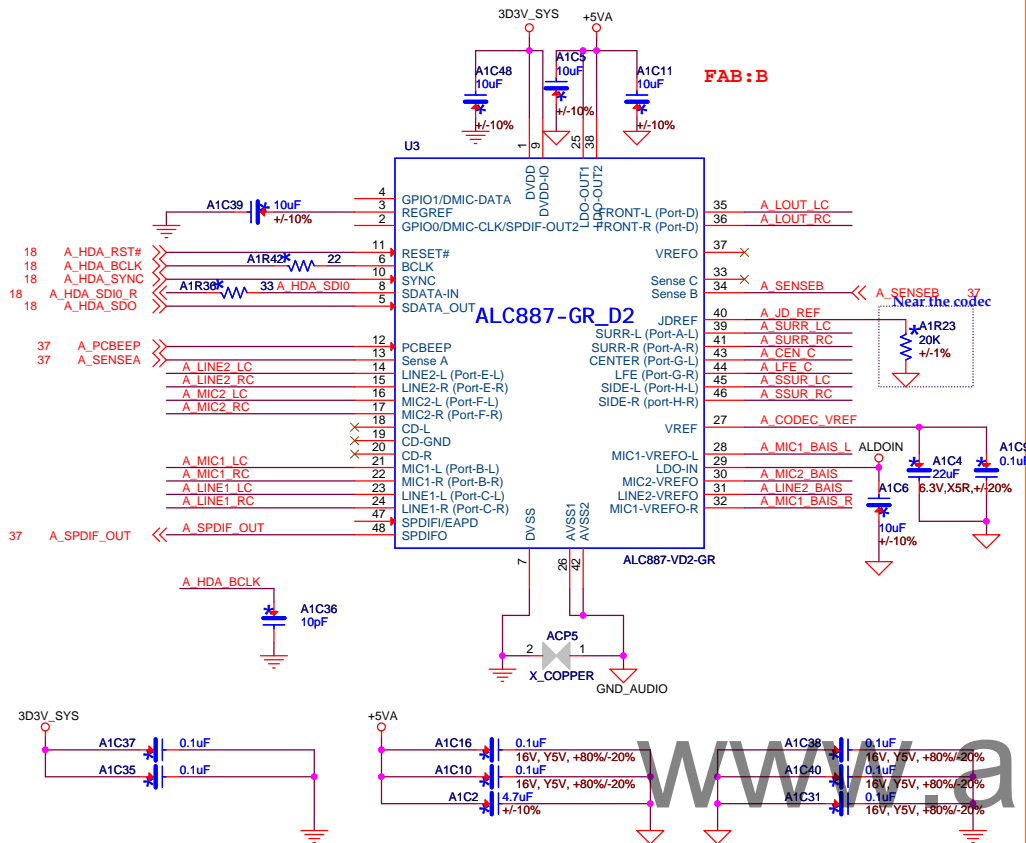
(Spare for battery installation glitch)
Layout Note:
*Recommended net "VBAT" minimum trace width 12mils.
*Isolated the SIO's VBAT & ICH's VCCRTC pin



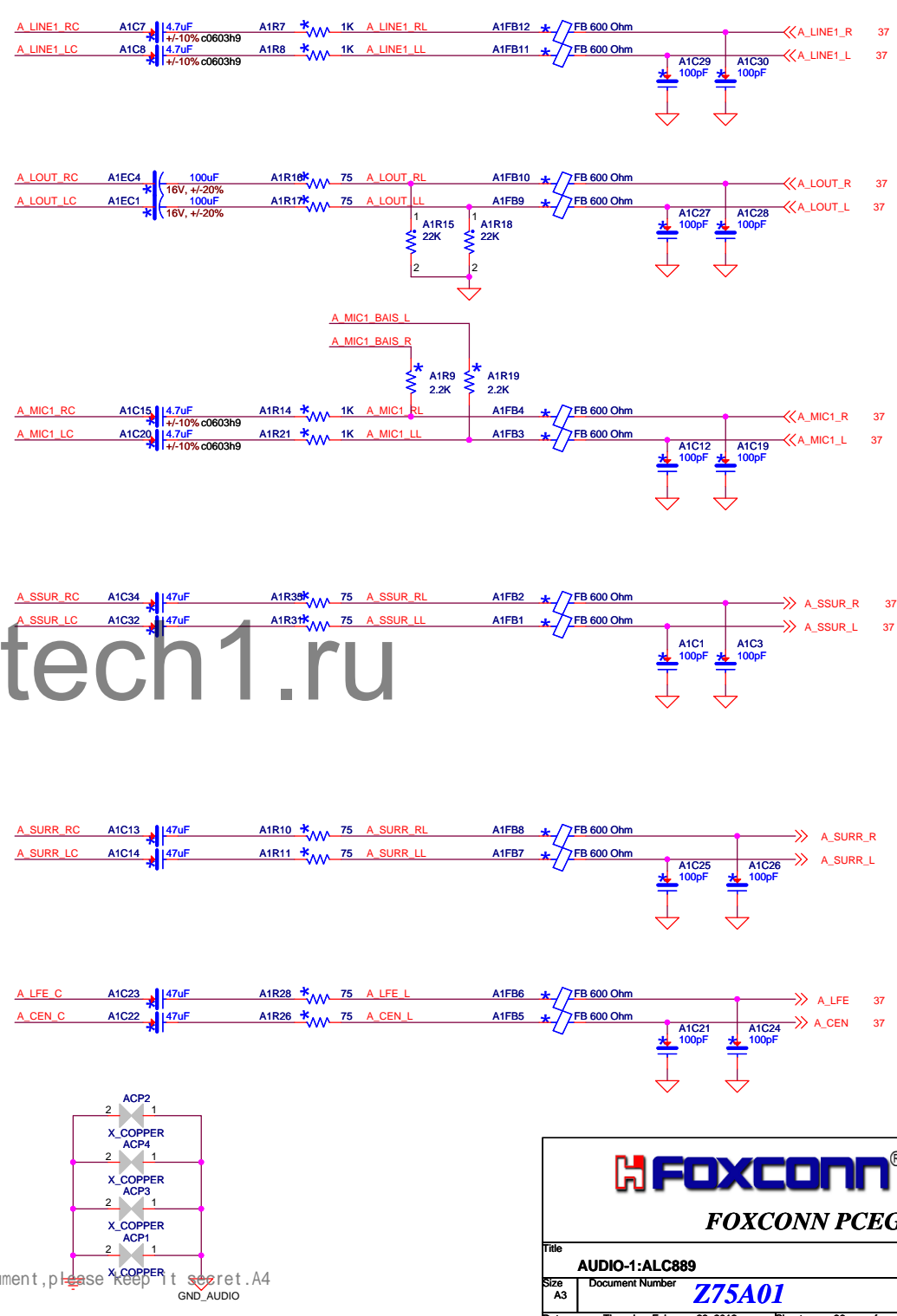
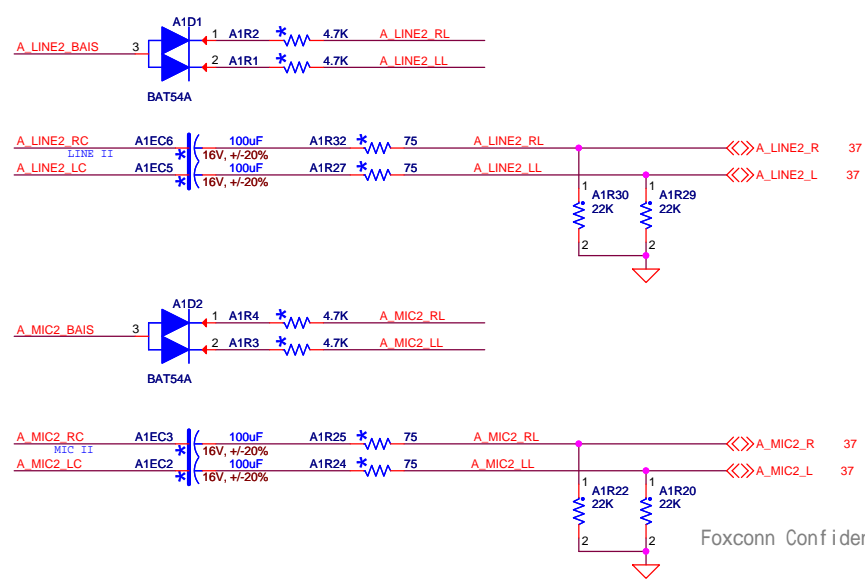
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| File | Super I/O IT8772 |
| Size | Document Number |
| C | 75A01 |
| Date | Thursday, February 23, 2012 |
| Sheet | 35 of 52 |

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FRONT PANEL



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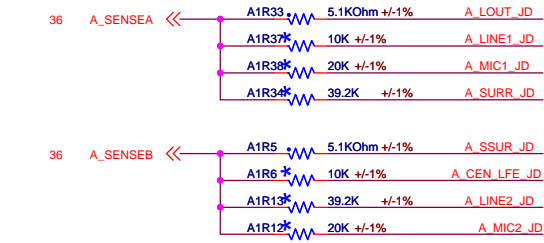
FOXCONN PCEG

Title: **AUDIO-1:ALC889**

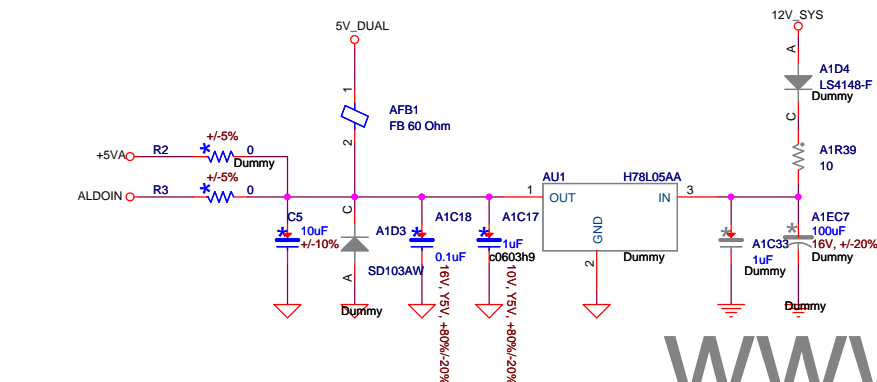
Size A3: Document Number **Z75A01**

Date: Thursday, February 23, 2012 Sheet 36 of 52

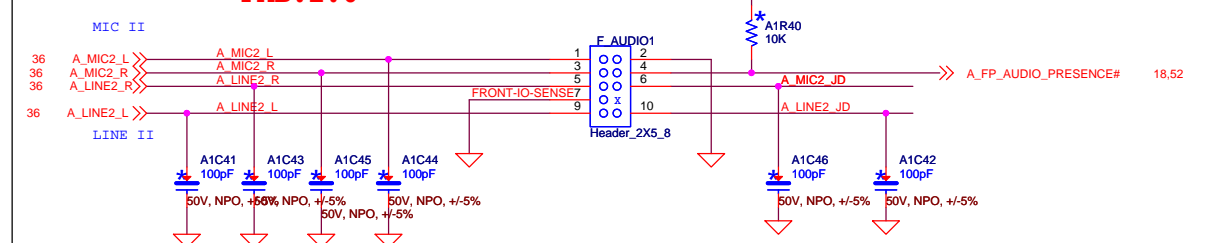
JACK SENSE



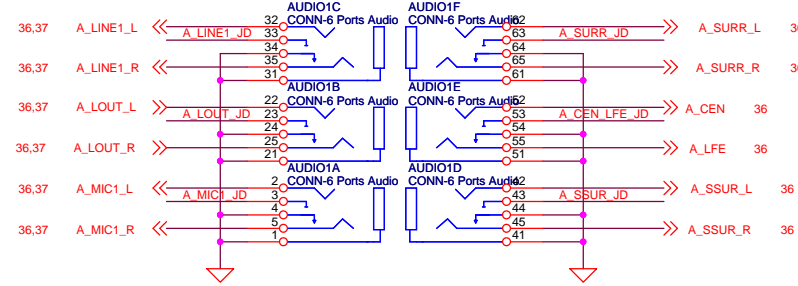
+5VA for AUDIO



Front_Audio



Audio Jack

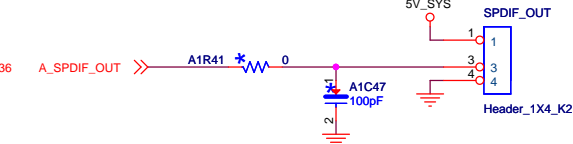


ALC892

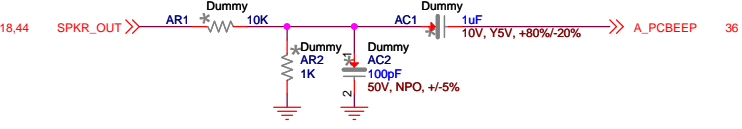
Audio Jack

| | | | | | |
|---|--|------------------|---|--|-----------------------|
| C | | LINE IN (U.A.J) | F | | SURR OUT (U.A.J) |
| B | | LINE OUT (U.A.J) | E | | CEN/LFE (U.A.J) |
| A | | MIC IN (U.A.J) | D | | SIDE SURR OUT (U.A.J) |

SPDIF Header



PC BEEP

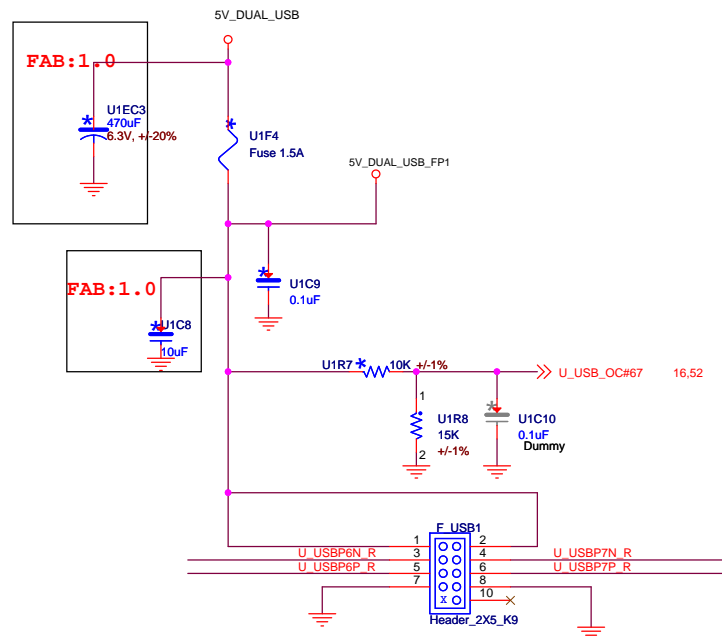


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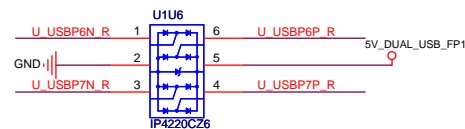
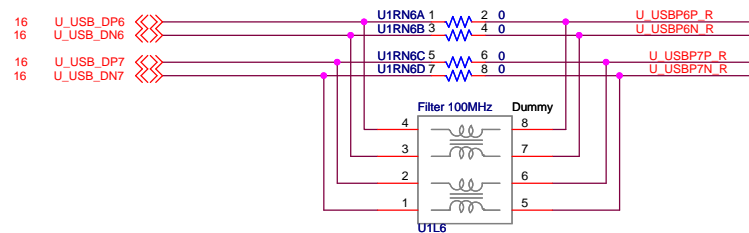
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| | |
|-------------------|-----------------------------|
| Title | |
| AUDIO-2:CONNECTOR | |
| Size | Document Number |
| A3 | Z75A01 |
| Date: | Thursday, February 23, 2012 |
| Sheet | 37 of 52 |

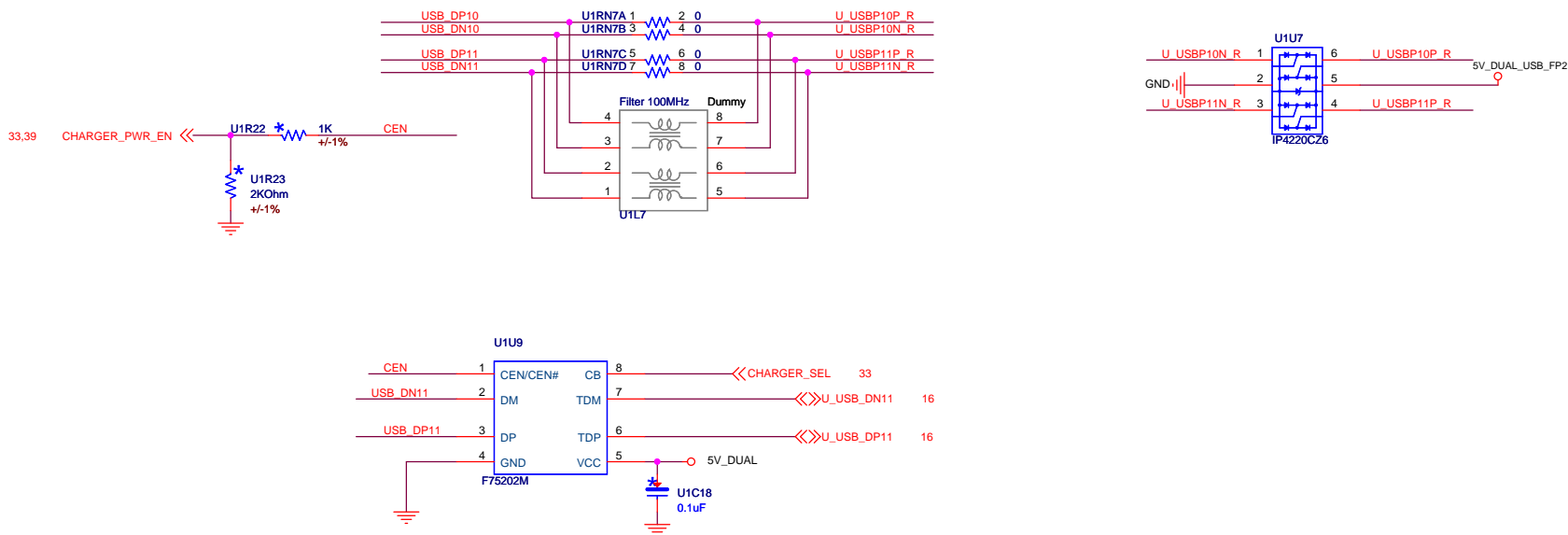
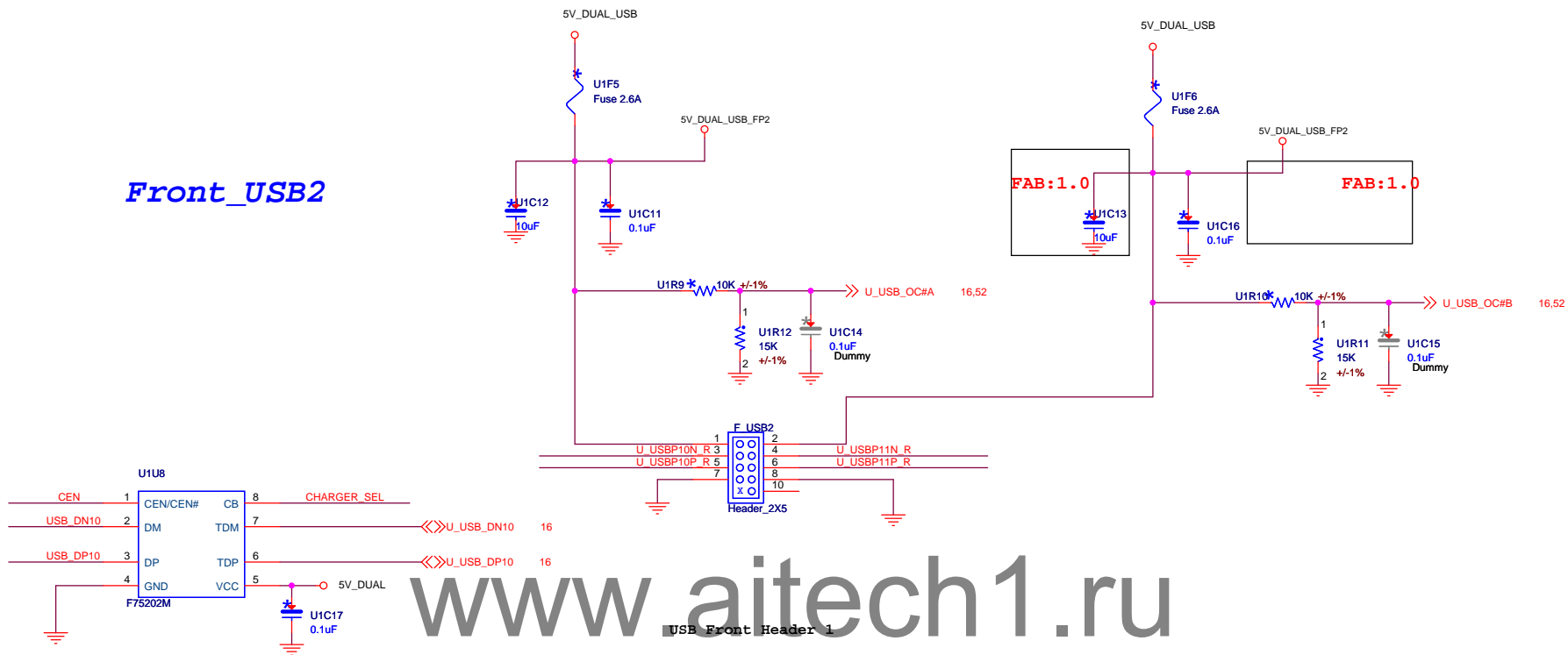
Front_USB1



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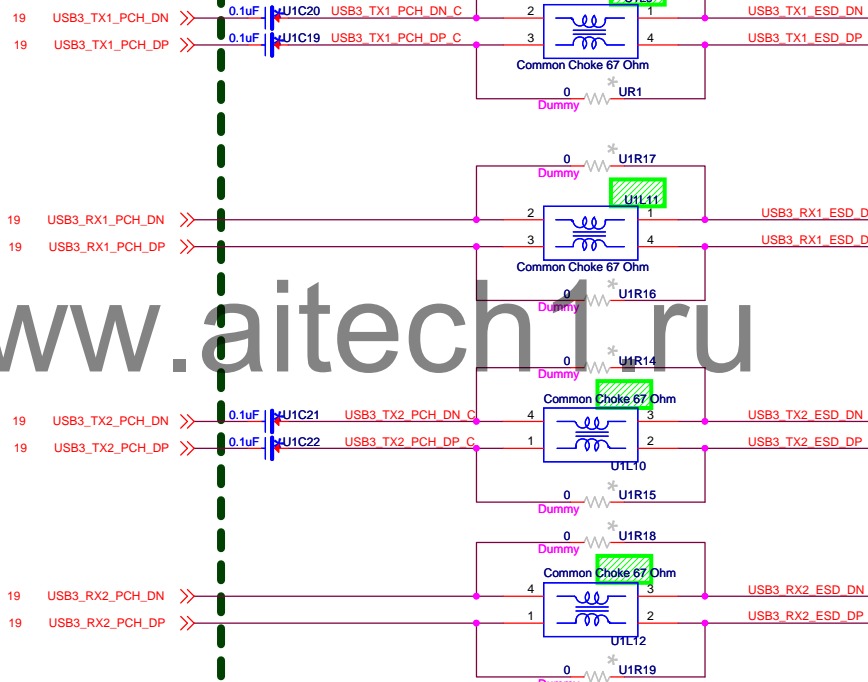
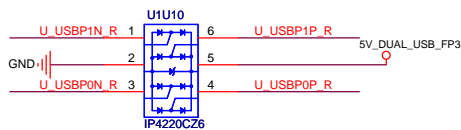
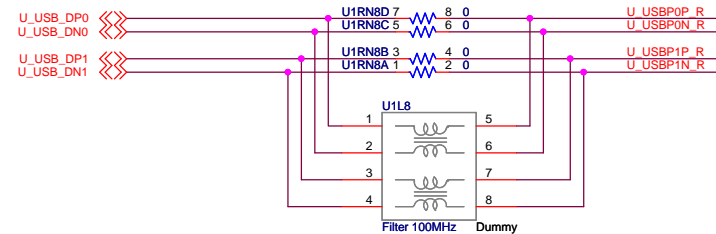
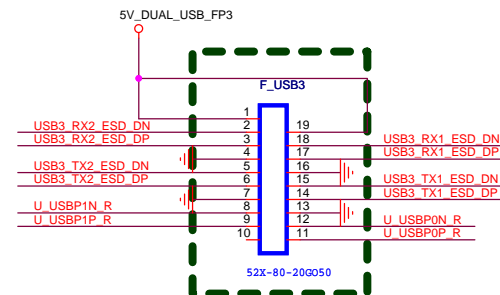
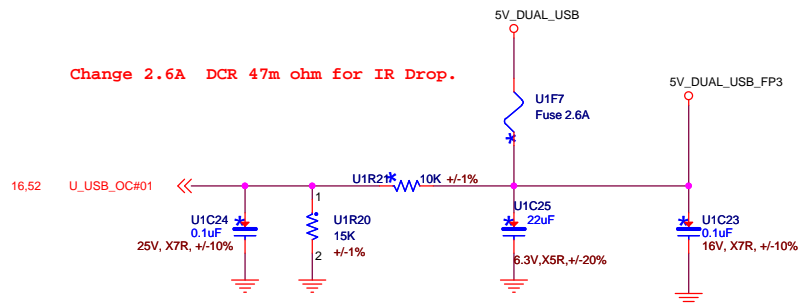


Front_USB2



Front USB

Change 2.6A DCR 47m ohm for IR Drop.



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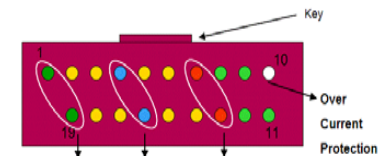
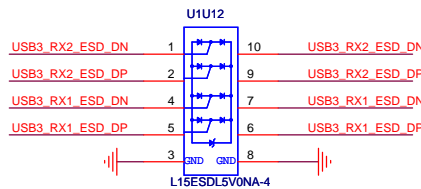
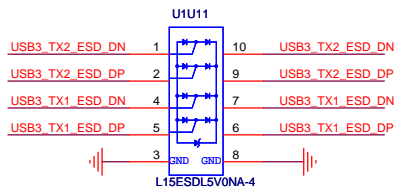
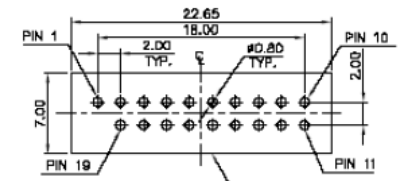
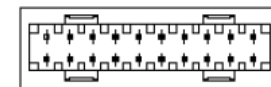


Figure 2-1: USB3 ICC pin numbering



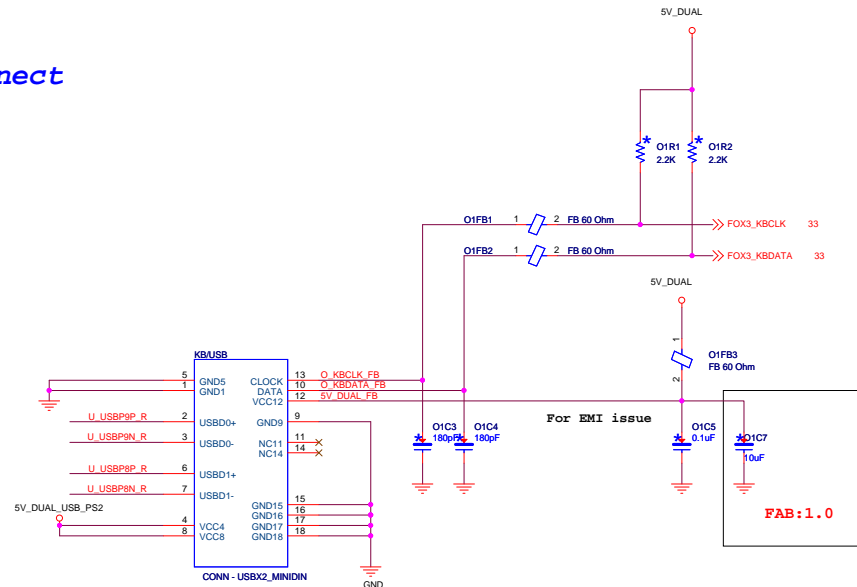
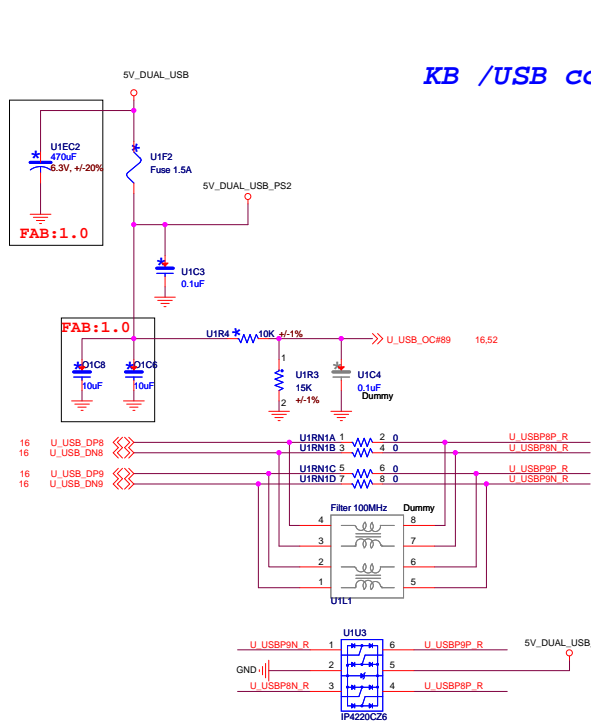
RECOMMENDED P.C.B. LAYOUT
TOLERANCE IS ± 0.05

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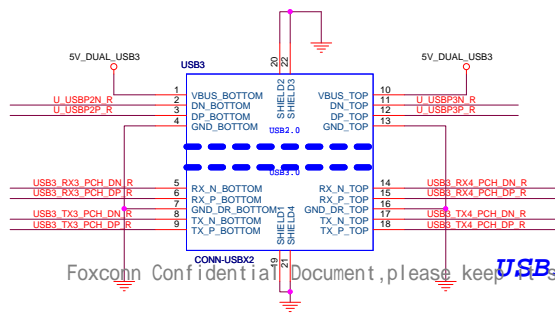
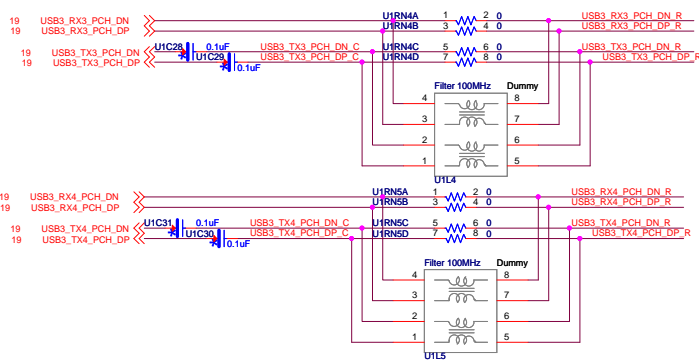
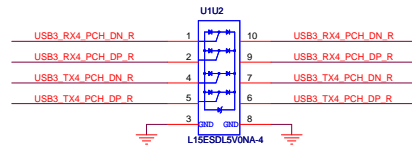
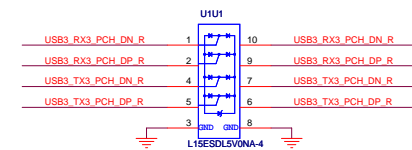
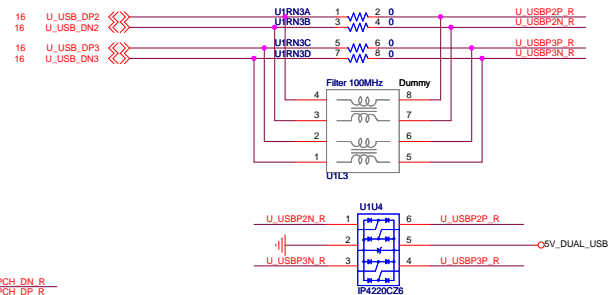
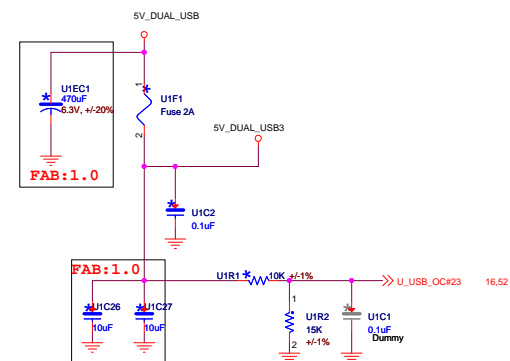
FOXCONN PCEG

| | | | |
|-------|-----------------------------|-----------------|----------|
| Title | | Front USB3.0 | |
| Size | A3 | Document Number | Z75A01 |
| Date: | Thursday, February 23, 2012 | Sheet | 40 of 52 |

KB /USB connect



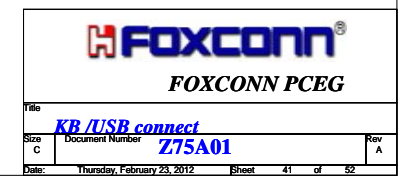
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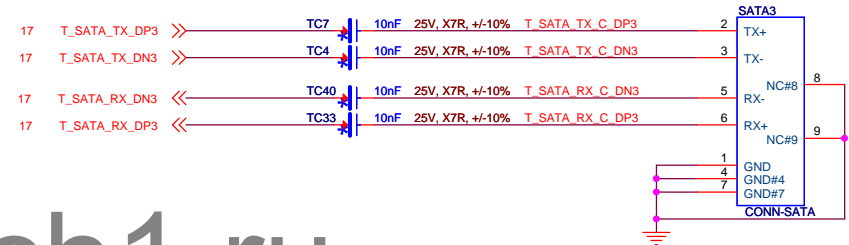
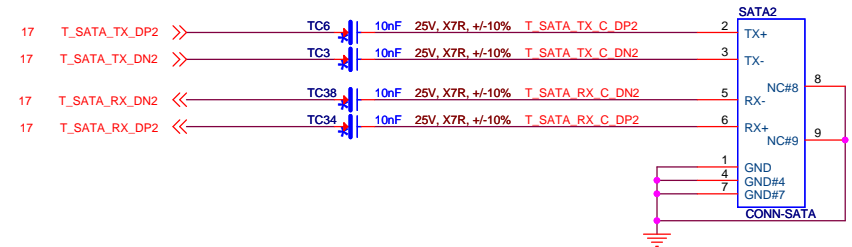
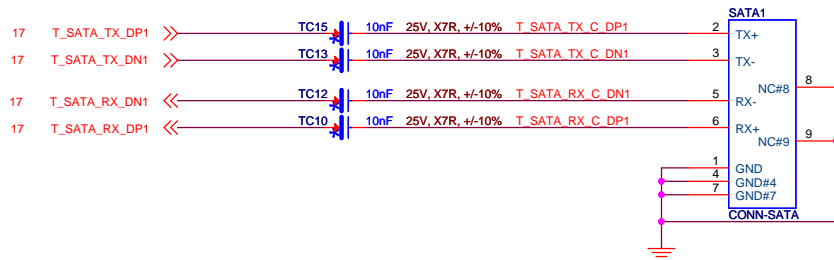
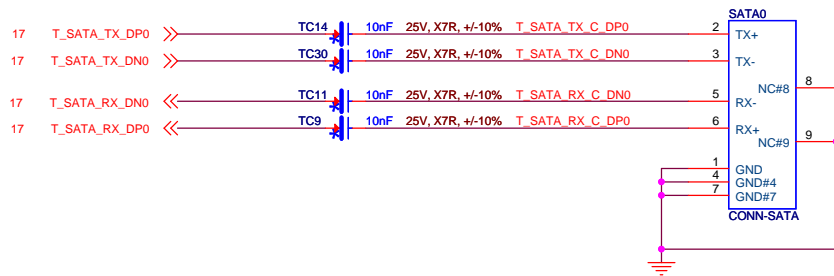
CONN-USBX2

USB3 connect

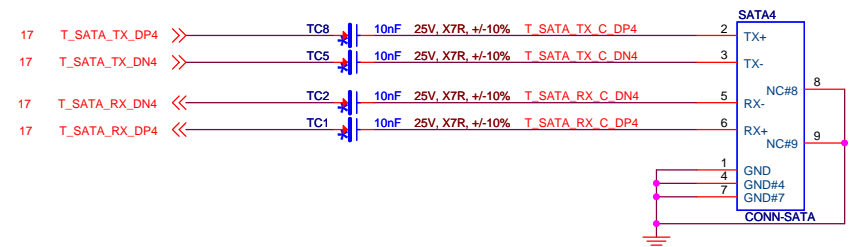
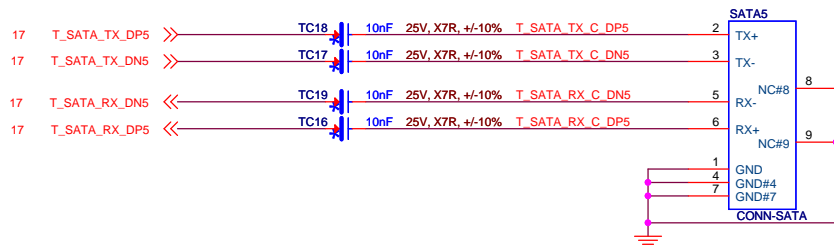
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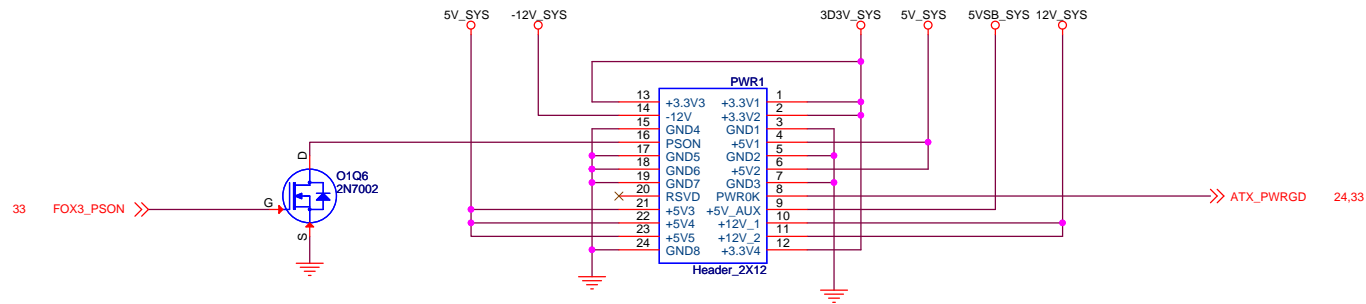
SATA Gen.3



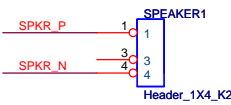
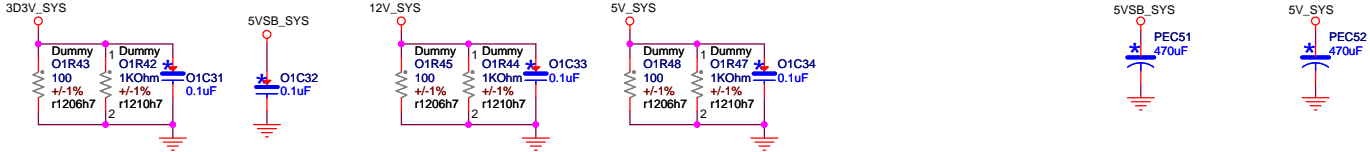
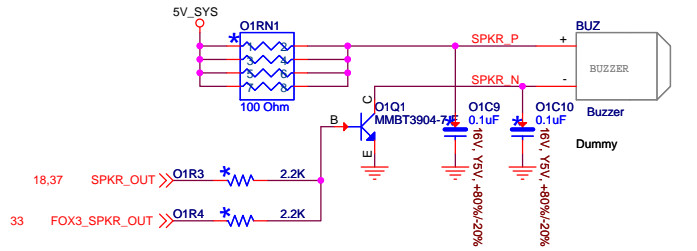
Just SATA port 0/1 support Gen3 ; PDG0.7



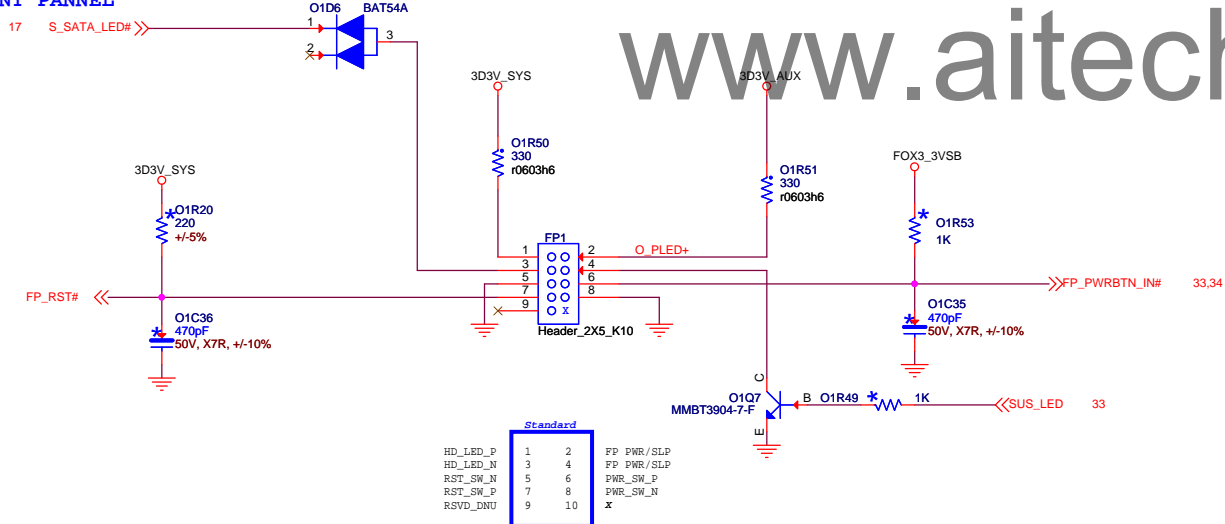
ATX POWER CONNECTOR



SPEAKER HEADER / BUZZER



FRONT PANNEL



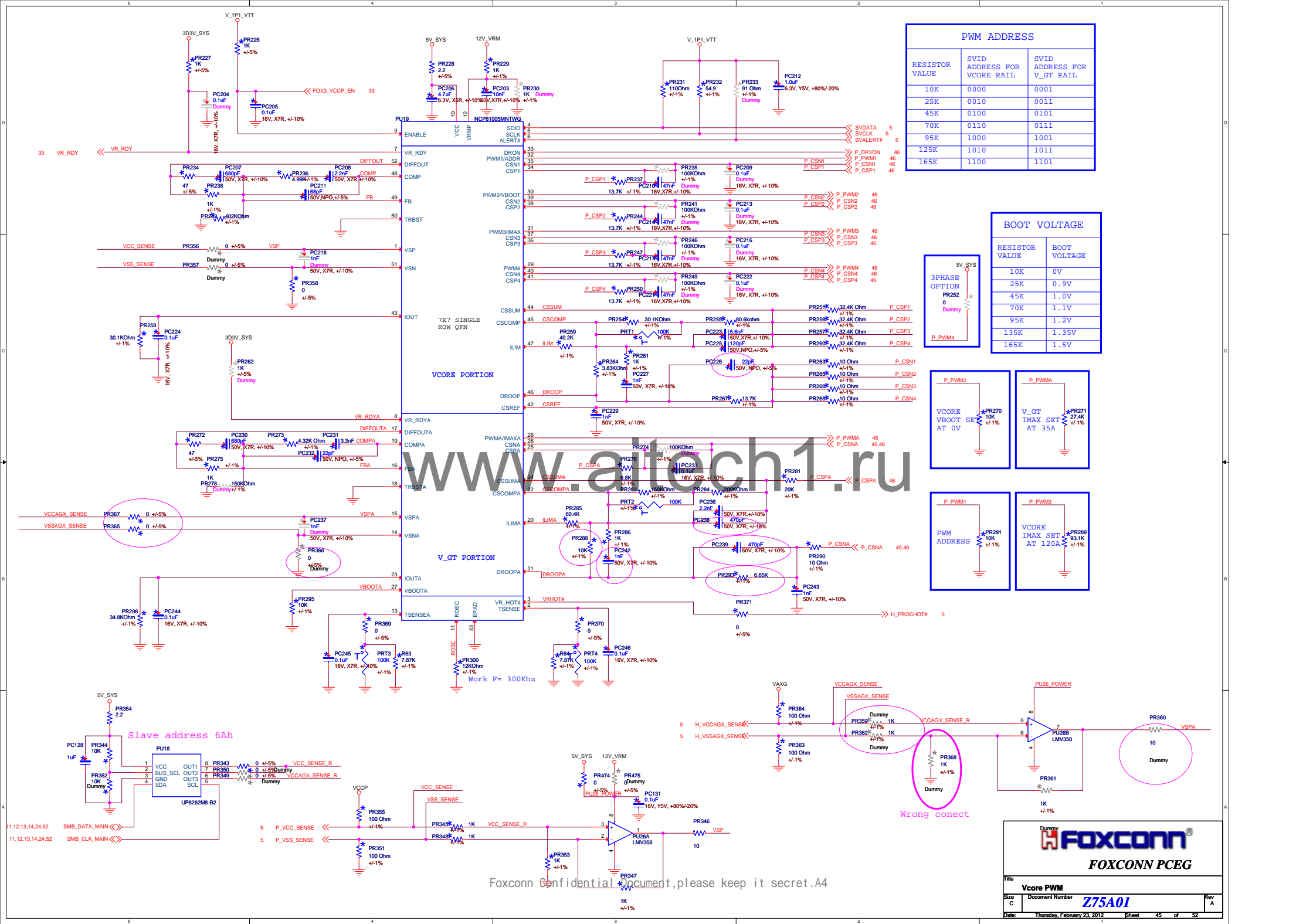
| Standard | | |
|----------|---|----|
| HD_LED_P | 1 | 2 |
| HD_LED_N | 3 | 4 |
| RST_SW_N | 5 | 6 |
| RST_SW_P | 7 | 8 |
| RSVD_DNU | 9 | 10 |
| | | X |

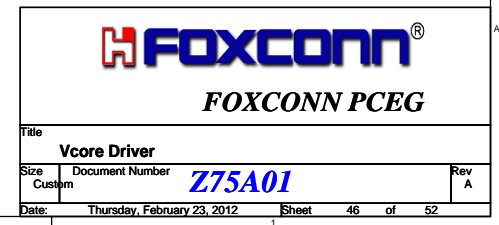
S0 : Power LED is on;
S1 : Power LED is blinking;
S3-S5: Power LED is off.

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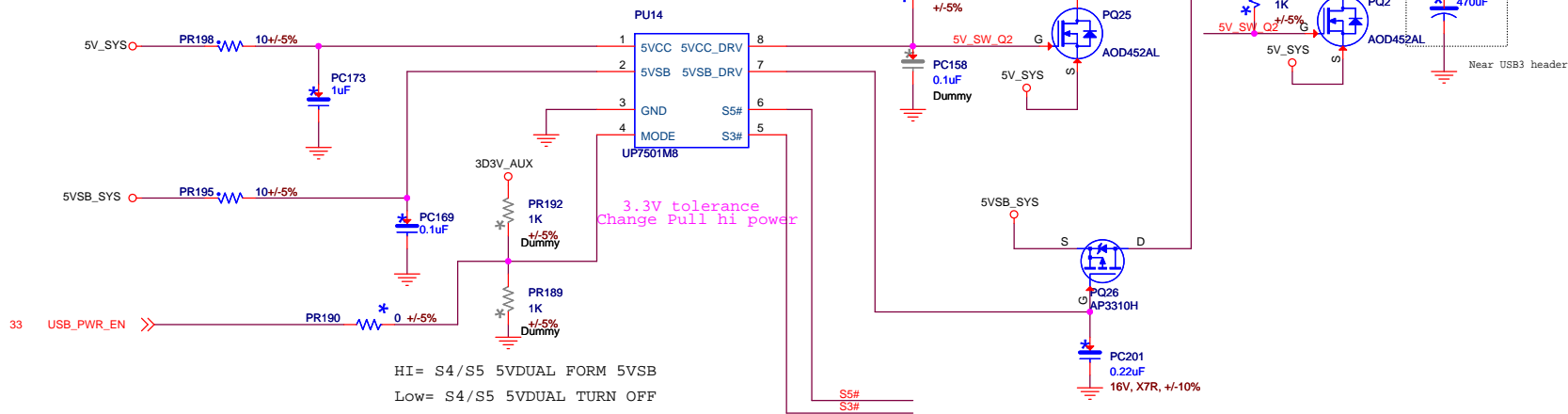


| | | |
|-------|----|-----------------------------|
| Title | | ATX/FP/BUZ/VFD |
| Size | A3 | Document Number |
| Date: | | Thursday, February 23, 2012 |
| Sheet | 44 | of 52 |
| Rev | A | |



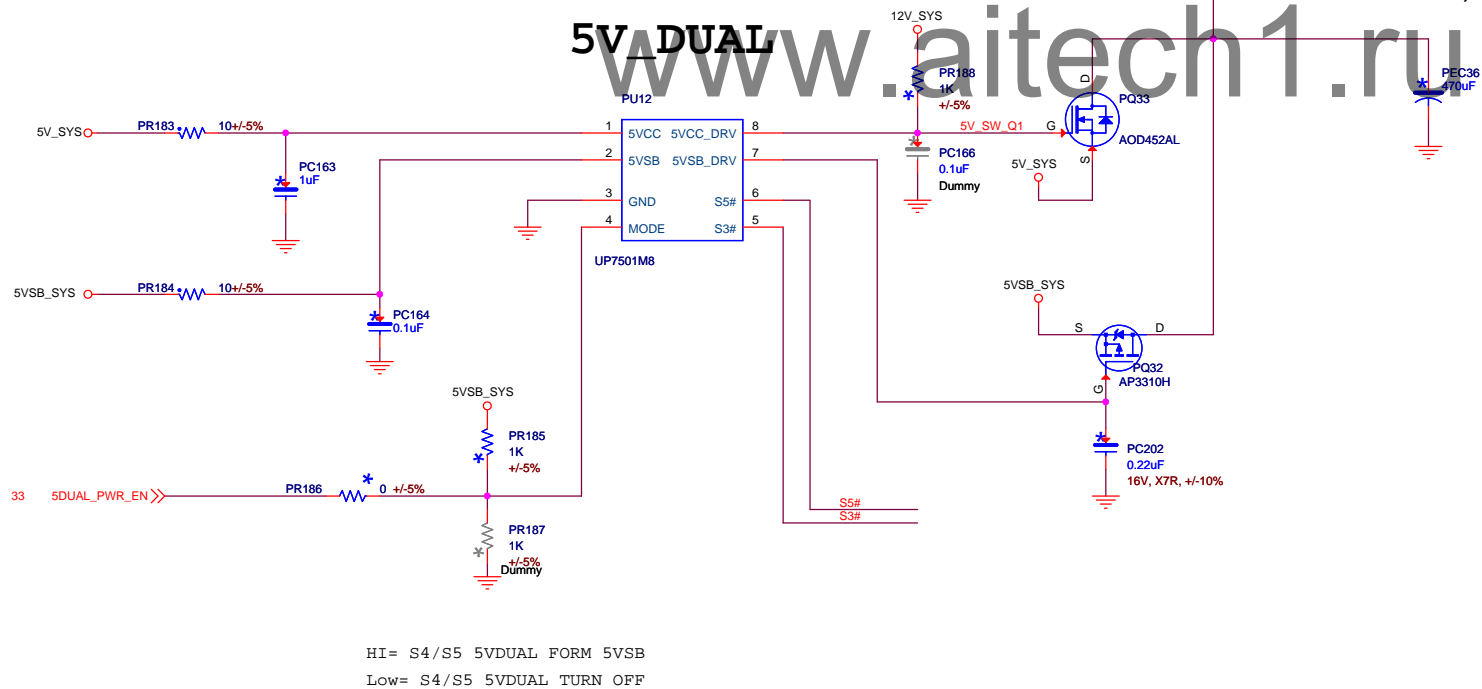


5V_DUAL_USB



| S5 | S3 | NODE | 5VDUAL |
|----|----|------|----------|
| H | H | X | 5VCC |
| H | L | X | 5VSB |
| L | X | H | 5VSB |
| L | X | L | Shutdown |

5V_DUAL

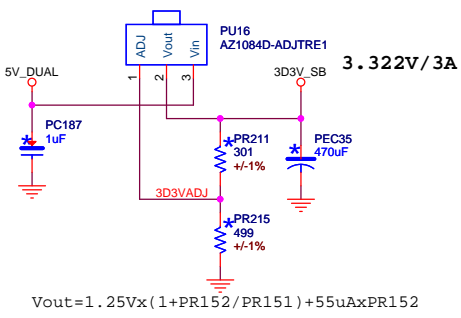


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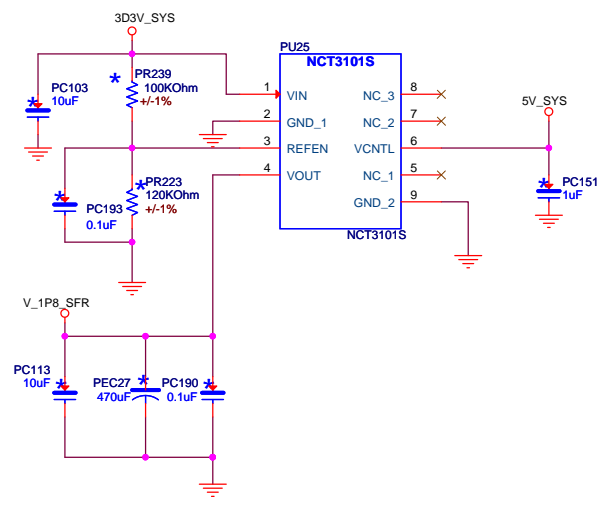
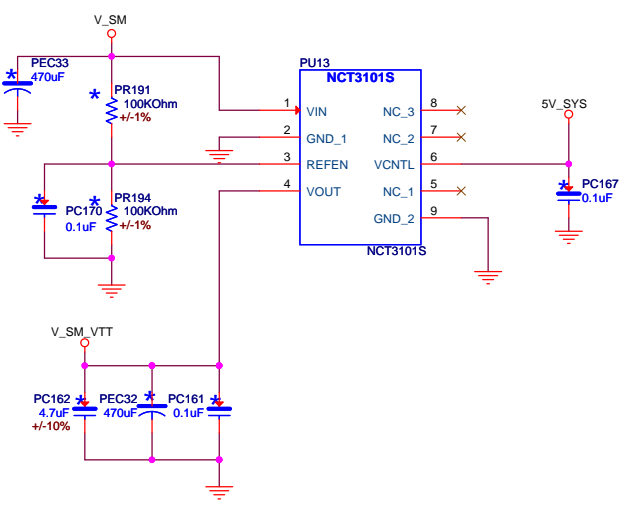
FOXCONN PCEG

| | | | |
|---------|-----------------------------|--------|----------|
| Title | 5V_DUAL/1D5V_IJCH | | |
| Size A3 | Document Number | Z75A01 | |
| Date: | Thursday, February 23, 2012 | Sheet | 47 of 52 |

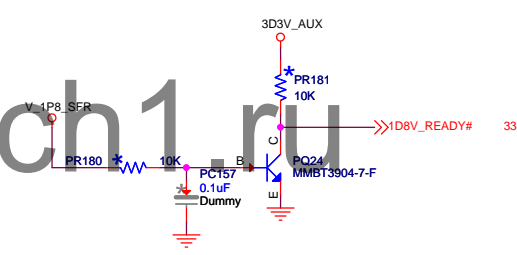
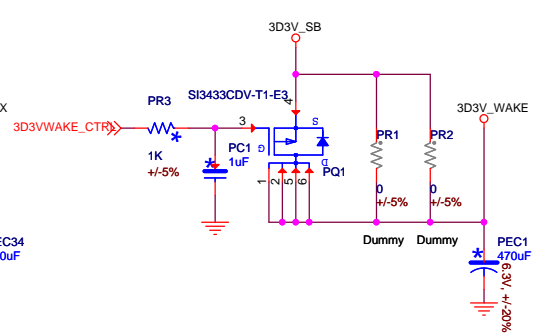
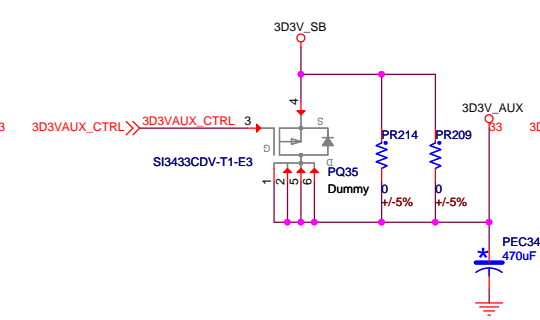
3D3V_SB



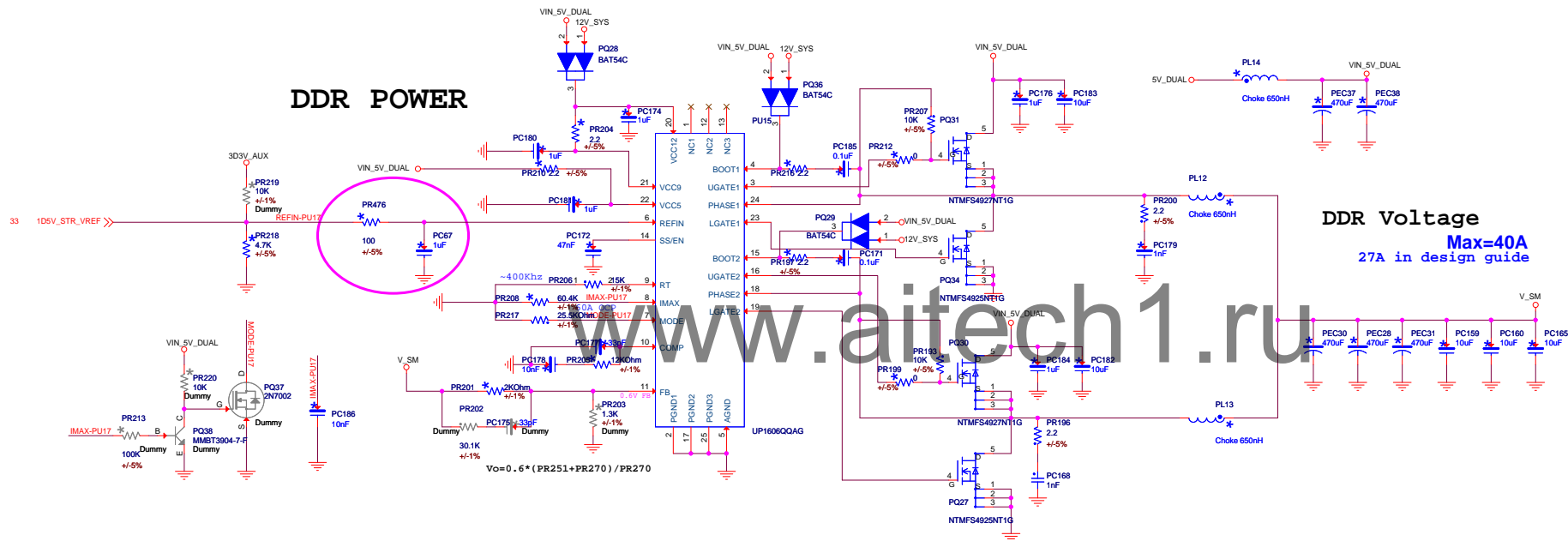
VTT_DDR



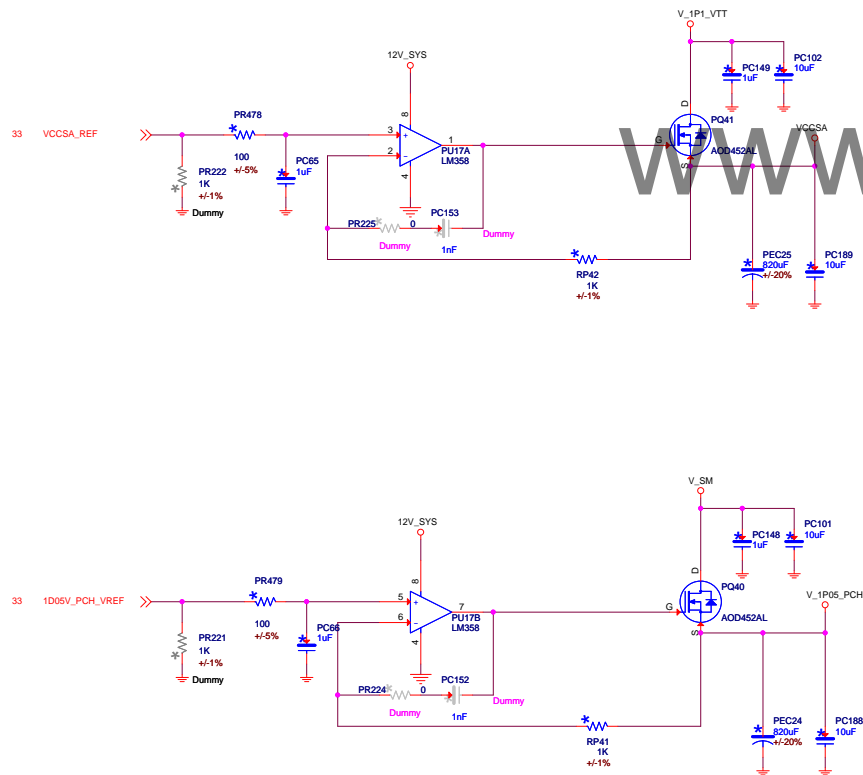
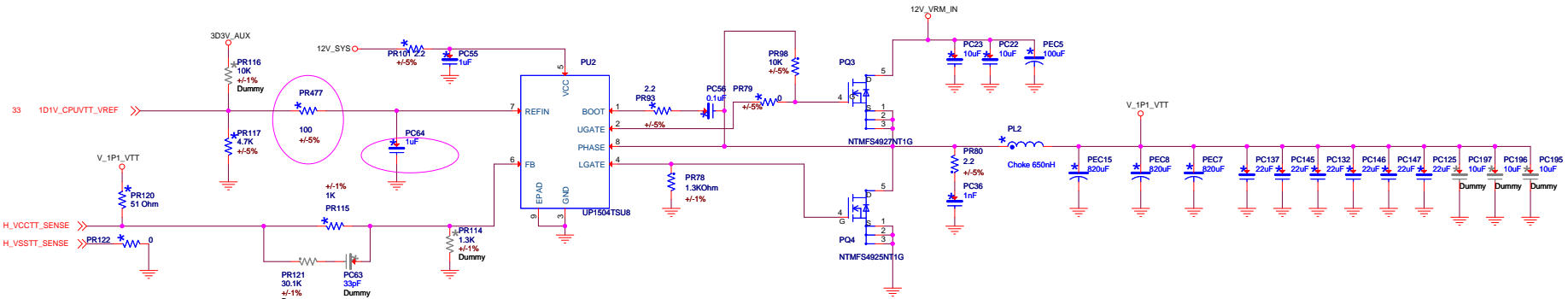
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DDR POWER



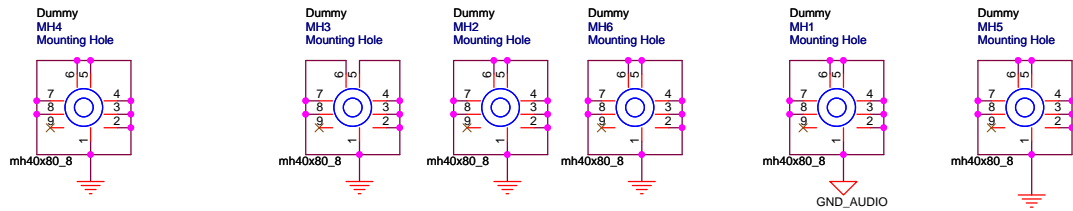
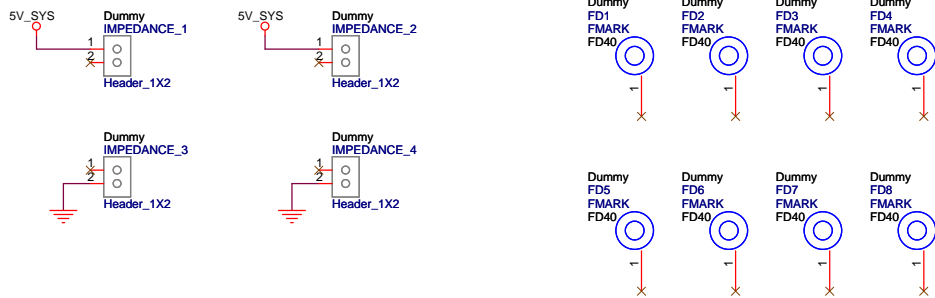
1D1V_CPU_VTTD Voltage
Max=8.5A



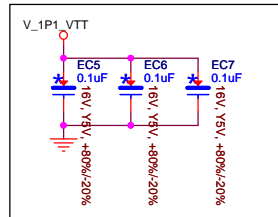
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**FOXCONN PCEG**

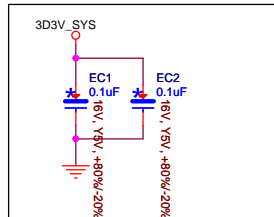
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| Title | | | |
| 1D1V_CPU_VTT/VCCSA/PCH | | | |
| Size | Document Number | | Rev |
| C | | Z75A01 | A |
| Date: | Thursday, February 23, 2012 | Sheet | 50 of 52 |



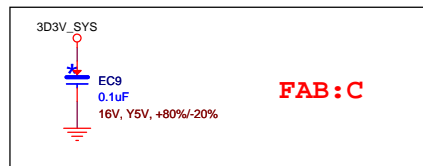
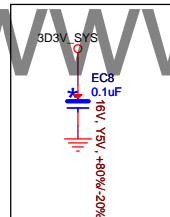
Stitch for DMI reference plane



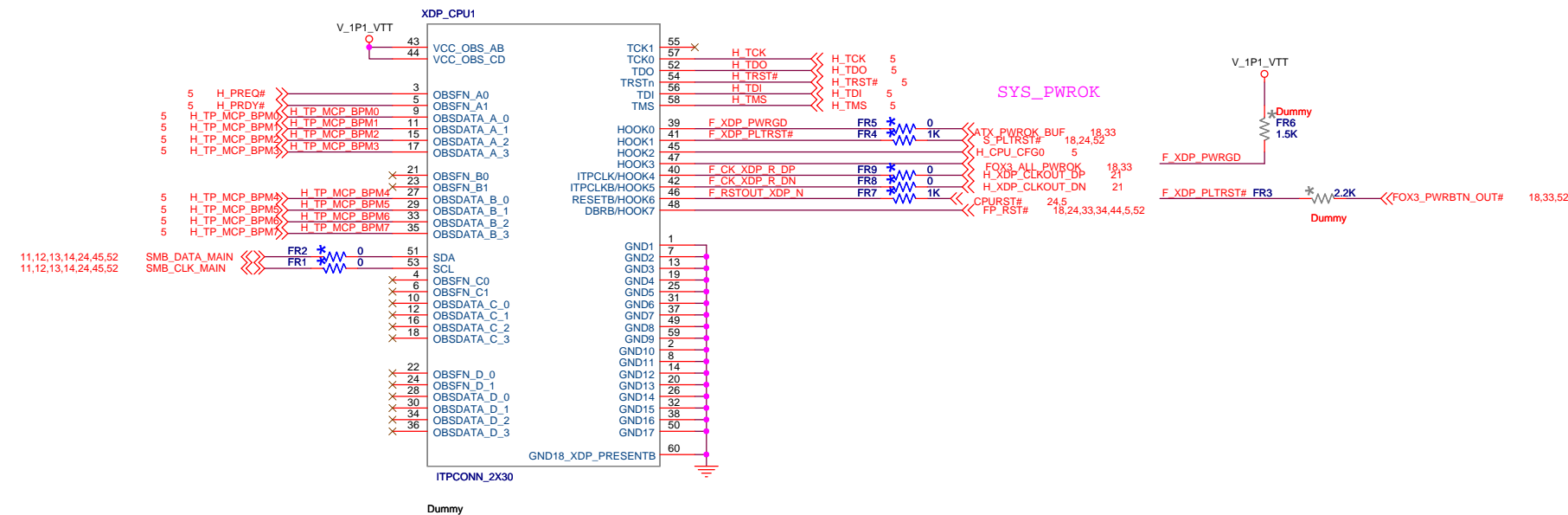
Stitch for 96M clock reference plane



Stitch for PCICLK



XDP Connector - CPU



XDP Connector - PCH

